

Brunner Island, LLC
REGULATORY DELIVERABLE
SUBMITTAL COVER SHEET

Date:		Transmittal No.:	
DOCUMENT DESCRIPTION:			
CONSENT DECREE REFERENCE:		Paragraph No.:	
BRIEF DESCRIPTION OF OUTLINED REQUIREMENT:			
RECIPIENT(S):			
NAME:		ORGANIZATION:	
Brunner Island, LLC Contact Name:			
Brunner Island, LLC Contact Phone:			
Mailing Address: Brunner Island, LLC P. O. Box 221 York Haven, PA 17370		Street Address: Brunner Island, LLC 1400 Wago Road Mt. Wolf, PA 17347	



Martin E. Mengel, PG • Project Manager – Environmental Services
Talen Energy Supply, LLC
600 Hamilton Street, Suite 600 • Allentown, PA 18101
(610) 248-9665 • Martin.Mengel@TalenEnergy.com

March 23, 2020

Mr. Kurt Fritz
Pennsylvania Department of Environmental Protection
Waste Management Program
909 Elmerton Ave.
Harrisburg, Pennsylvania 17110

**RE: Quarterly Groundwater Report: 1st Quarter 2020
Basin 5, Disposal Area 8, and Pyrite Tomb Area
Brunner Island, LLC**

Dear Mr. Fritz:

Please accept this letter and attachments as the quarterly report for Basin 5 at the Brunner Island Steam Electric Station.

Note that a data table (water depth and pH) and associated trend plots for pyrite tomb standpipe monitoring have been added to this Basin 5 report, beginning with the second quarter 2017 groundwater report.

The analytical results are provided on Form 14Rs (enclosed) in accordance with the Basin 5 closure plan approved by the PADEP in December 2000. A summary table of results, an Excel spreadsheet file (on CD), and maps showing well locations are also enclosed.

Please call or email me with any questions. Thank you.

Sincerely,

A handwritten signature in black ink that reads "M. E. Mengel". The signature is written in a cursive, flowing style.

Martin E. Mengel, PG/CHMM

Attachments: Report, Data Table, Pyrite Tomb Standpipe Monitoring Results, Maps, CD containing LandLinks EDD, trend plots, 14Rs, and a PDF of this report

Cc: Marcia Thiess (w/atts.) – Brunner Island, LLC
Tom Weissinger (w/atts.) – Talen Energy Supply, LLC
Citizens (w/atts.)

Groundwater Monitoring Report – First Quarter 2020

Brunner Island, LLC - Basin 5

Brunner Island Steam Electric Station

BACKGROUND

The Brunner Island Steam Electric Station (Brunner Island SES) is located in York Haven, York County, Pennsylvania. An overall Brunner Island SES map and a basin specific map are attached (Attachments 3 and 4).

The PADEP issued Residual Waste Permit # 301337 on December 28, 2000, approving the Basin 5 closure plan. The residual waste permit expired on December 27, 2007 and was not renewed by the PADEP. Talen believes that Mandatory Abatement Trigger Levels (MATLs) no longer apply to Basin 5, as a result of the permit expiration, and therefore, Talen no longer uses MATLs as the primary data screening tool for Basin 5 groundwater results.

Disposal Area 8 (a Class 2 residual waste landfill) was constructed on top of Basin 5. Construction was completed and disposal into the landfill began in late 2008. The permitted area for the landfill encompasses approximately 20 acres, however, currently only 9 acres have been constructed and only 4 acres are actively utilized. The existing groundwater monitoring network for Basin 5 was chosen and approved by the PADEP to serve as the monitoring network for Area 8 as well.

In accordance with Talen's PADEP-approved *Workplan – Groundwater Risk Evaluation – Ash Basin 4 and Pyrite Tomb* dated September 29, 2016, a downgradient monitoring well MW-PT-1 was installed in January 2017 to help assess potential impacts from the pyrite tomb. Additionally, pH and liquid depth monitoring data and associated trend plots for water within the pyrite tomb standpipe have been added to this Basin 5 report, beginning with the second quarter of 2017.

In accordance with the closure/ post closure use plan, construction of the rail extension on Basin 5 was completed in 2013. As a result, moderate subsurface disturbance has occurred in the area.

Groundwater monitoring in the vicinity of Basin 5 is currently conducted quarterly as required in accordance with the approved Basin 5 closure plan. This groundwater monitoring generally includes sampling wells upgradient and downgradient of Basin 5 for indicator parameters of fly ash such as arsenic, boron, lithium, selenium, strontium, and total dissolved solids. Other parameters are routinely monitored in the vicinity of Basin 5 in accordance with permit requirements and are listed on the attached summary table of quarterly groundwater monitoring results (Attachment 1). Talen reviews current and historical data (approximately the past 10 years) to identify trends and to compare data with Pennsylvania Act 2 residential Statewide Health Standards for used aquifers and/or EPA National Drinking Water Standards.

GROUNDWATER MONITORING PROGRAM

Monitoring Locations – Basin 5

Downgradient and upgradient monitoring wells for Basin 5 are listed below and shown on the attached Site Plan of Basin 5 (Attachment 4).

- Background monitoring well – MW-19
- Upgradient monitoring well – MW-4-7A
- Downgradient monitoring wells – MW-4-10, MW-8-1N, MW-8-2, MW-8-3A, MW-8-3B, MW-8-4, MW-8-5A, MW-8-5B, MW-8-10A, MW-8-10B, MW-8-10C, MW-8-12C, and MW-PT-1
- Pyrite tomb standpipe (lab analytical concluded in 2017; field pH and water elevation monitoring to continue)

Monitoring Schedule

For all the monitoring wells listed above, except MW-8-10C and MW-8-12C, quarterly sampling of field parameters, non-metals, and metals are performed. For MW-8-10C and MW-8-12C, these parameters are only required to be sampled annually during the second calendar quarter. All the monitoring parameters are listed on the attached Summary Table of Basin 5 Groundwater Monitoring Results (Attachment 1). Additionally, for quality assurance/quality control (QA/QC), field blanks and duplicates are routinely collected during each sampling event.

QA/QC Results

For the site-wide monitoring event conducted at Brunner Island SES for the first quarter of 2020, Talen samplers collected seven field blanks (all groundwater field blanks) and seven duplicate samples. The duplicate samples were collected from six groundwater wells (including MW-4-6A, MW-8-5A, MW-6-6, MW-7-3, EQ-2, and GC-1N) and one surface water monitoring point (MP-B4). These field blanks and duplicates were analyzed by the laboratory along with the routinely collected groundwater samples. For the seven field blanks, four water quality parameters were detected above respective limits of quantification (chromium, iron, molybdenum, and total dissolved solids) for a total of seven analyses. In Talen's opinion, analysis of the field blanks indicated no significant evidence of sample contamination related to field sampling procedures or sample containers. For the seven duplicates, a total of 403 paired analyses were performed with 17 paired analyses exceeding Talen's acceptable level of less than 20% relative percent difference (RPD) between duplicates. Based on these QA/QC results, Talen believes that the laboratory precision is reasonable, and the monitoring results are acceptable for reporting to the PADEP.

GROUNDWATER MONITORING RESULTS

The groundwater sampling results for this quarter are summarized on Attachment 1, Summary Table of Basin 5 Groundwater Monitoring Results. Upgradient and downgradient wells are indicated in the headings at the top of this table. Any groundwater concentrations that exceeded the listed regulatory standards are indicated in red text color. Groundwater monitoring results are also reported on the 14R forms for each well (Attachment 5).

Below are the findings for each Basin 5 monitoring well:

Upgradient Monitoring Well (MW-4-7A)

Upgradient monitoring well MW-4-7A is located near the northwest corner of Basin 5 and serves as an upgradient well to the basin. Key results for this quarter and trends for MW-4-7A are as follows:

- pH is consistently near neutral.
- Total dissolved solids concentration of 1,140 mg/L exceeded the Secondary Drinking Water Standard of 500 mg/L and exhibits a slightly increasing trend.
- Sulfate concentration of 634 mg/L exceeded the Secondary Drinking Water Standard of 250 mg/L but exhibits a slightly increasing trend.
- Boron concentrations exhibit a gradual long-term increasing trend since 2004. After being stable from 2012 to 2018 at about 1,500 µg/L (which meets the Act 2 residential Statewide Health Standard of 6,000 µg/L), boron concentrations slightly fluctuated upward in 2019.
- Calcium concentrations historically exhibit a stable long-term trend, but concentrations have exhibited increased variability since the fourth quarter of 2018.
- Lithium (dissolved) concentration of 168 µg/L exceeded the Act 2 residential Statewide Health Standard of 83 µg/L. Lithium concentrations at MW-4-7A have exhibited an increasing trend since 2011, after historically averaging approximately 30 µg/L.
- Manganese (dissolved) concentration of 188 µg/L exceeded the Secondary Drinking Water Standard of 50 µg/L, but did not exceed the Act 2 residential Statewide Health Standard of 300 µg/L. Manganese concentrations are seasonally variable at MW-4-7A with peak concentrations typically exceeding the Secondary Drinking Water Standard and occasionally exceeding the Act 2 standard.
- Sodium concentrations demonstrate a gradual long-term increasing trend, but appear to be stabilizing at about 60 mg/L. There are no EPA drinking water or PA Act 2 standards for sodium.

Downgradient Monitoring Wells

1. MW-4-10 - Monitoring well MW-4-10 is located on the dike between Basin 4 and Basin 5 and would be expected to be more representative of basin leachate than the groundwater surrounding the basin. Relatively significant ash-related impact would be expected and is observed, as compared to monitoring wells which are not bounded by ash on both sides. The general area around MW-4-10 has periodically experienced earth disturbance related to wastewater treatment plant construction. This disturbance has apparently impacted groundwater/leachate quality in MW-4-10. Key results for this quarter and trends for MW-4-10 are as follows:

- Recent (since mid-2018) substantial upward fluctuations (beyond respective historical ranges in many cases) for numerous parameters (including total dissolved solids, sulfate,

boron, calcium, selenium, specific conductance, and strontium) appear to be related to recent increased groundwater elevations. These parameters remain elevated, except for selenium which has decreased to within the prior historical range.

- Field pH (6.06 S.U.) is below the Secondary Drinking Water Standard range of 6.5 to 8.5 S.U. The historical pH range for this well is approximately 4 to 6.5.
- Total dissolved solids concentration of 1,400 mg/L exceeded the Secondary Drinking Water Standard of 500 mg/L. Historically, total dissolved solids concentrations typically vary from about 700 to 1,300 mg/L but generally exhibit a long-term stable trend. However, since the first quarter of 2019, total dissolved solids have been higher than the typical historical range (due to the upward fluctuations noted above).
- Sulfate concentration of 883 mg/L exceeded the Secondary Drinking Water Standard of 250 mg/L. Sulfate concentrations typically vary from about 400 to 1,050 mg/L, but generally exhibit a long-term stable trend.
- Concentrations of aluminum, arsenic, beryllium, cadmium, fluoride, nickel, and zinc have exhibited similar elevated and variable concentration trends for the past few years, with noticeable peaks in 2011, 2014, 2016, and 2018, resulting in some exceedances of respective regulatory standards. Elevated concentrations of these metals are likely related to low pH occurrences when groundwater elevations are high.
- Boron concentrations are elevated and variable (ranging from about 1,000 to 4,500 µg/L) relative to the other Basin 5 wells, but meet the Act 2 residential Statewide Health Standard of 6,000 µg/L. Boron exhibits a general decreasing trend since 2012 (except for upward fluctuations since mid-2018 as noted above).
- Iron is present at low concentrations, and typically is below the Secondary Drinking Water Standard. Iron (total) occasionally exceeds the standard
- Lithium (dissolved) concentration of 1,200 µg/L exceeded the Act 2 residential Statewide Health Standard of 83 µg/L. Lithium concentrations at MW-4-10 are the most elevated of all Basin 5 wells and exhibit a general long-term increasing trend, which appears to be stabilizing/decreasing since 2012.
- Manganese (dissolved) concentration of 1,920 µg/L exceeded the Secondary Drinking Water Standard of 50 µg/L and the Act 2 residential Statewide Health Standard of 300 µg/L. Manganese concentrations are elevated and variable, but exhibit a relatively stable long-term trend.
- Molybdenum concentrations at MW-4-10 are the most elevated and variable of the Basin 5 wells, with peak concentrations in 2011/2012 of about 2,000 µg/L, but the long-term trend is decreasing.
- Potassium and sodium concentrations are elevated relative to the other Basin 5 wells. Potassium demonstrates an increasing trend, while sodium demonstrates a decreasing trend. There are no EPA drinking water or PA Act 2 standards for potassium and sodium.

- Selenium is seasonally variable and demonstrates a long-term increasing trend, similar to the increasing trend at background well MW-19, but more variable since 2014. Concentrations have been below the Act 2 residential Statewide Health Standard of 50 µg/L, except for the fourth quarter of 2018.
2. **MW-8-1N** - MW-8-1 was decommissioned on March 27, 2013, shortly after first quarter 2013 sampling was conducted, to accommodate the footprint of the railroad extension project. MW-8-1 was replaced by MW-8-1N (as installed on September 17, 2013) and quarterly sampling was initiated in the third quarter of 2013. Key results for this quarter and trends for MW-8-1N are as follows:
- pH is near neutral, but slightly acidic, sometimes below the Secondary Drinking Water Standard range of 6.5 to 8.5 S.U.
 - Total dissolved solids concentration of 742 mg/L exceeded the Secondary Drinking Water Standard of 500 mg/L. Total dissolved solids concentrations increased after the well was installed (in 2013) until the second quarter of 2015. Since then, concentrations have generally decreased. Specific conductance exhibits a similar trend. These trends for TDS and specific conductance are likely related to similar trends for calcium, magnesium, sodium, strontium, and sulfate at MW-8-1N.
 - Sulfate concentration of 340 mg/L exceeded the Secondary Drinking Water Standard of 250 mg/L. Like total dissolved solids, sulfate concentrations had increased until the second quarter of 2015, but concentrations have since decreased and are now below 400 mg/L.
 - Boron concentrations are well below the Act 2 residential Statewide Health Standard of 6,000 mg/L, and are the lowest of all Basin 5 wells.
 - Cadmium (total) was atypically detected (at 2.31 µg/L) this quarter, but was below the Primary Drinking Water Standard of 5 µg/L. Cadmium (dissolved) was not detected.
 - Calcium and magnesium concentrations were elevated (compared to most other Basin 5 wells) from 2015 to 2018, but recent concentrations have decreased similar to the trend for total dissolved solids (discussed above). There are no EPA drinking water or PA Act 2 standards for these parameters.
 - Chloride and sodium concentrations have historically been elevated and variable compared to the other Basin 5 wells, but chloride has always been below the Secondary Drinking Water Standard of 250 mg/L. Since 2014 and 2015 respectively, chloride and sodium concentrations have decreased significantly, and are now comparable to concentrations at several other Basin 5 wells.
 - Iron (dissolved) concentration of 0.40 mg/L exceeded the Secondary Drinking Water Standard of 0.3 mg/L. Iron concentrations are elevated and variable relative to most Basin 5 wells.
 - Manganese (dissolved) concentration of 1,320 µg/L exceeded the Secondary Drinking Water Standard of 50 µg/L and the Act 2 residential Statewide Health Standard of 300 µg/L.

Manganese concentrations are elevated, but exhibit a long-term stable trend with some variability.

- Strontium is usually the most elevated of all the Basin 5 wells (except for recent upward fluctuations at MW-4-10) and exhibits a decreasing trend since 2015 similar to total dissolved solids (discussed above). Strontium concentrations are below the Act 2 residential Statewide Health Standard of 4,000 µg/L.

3. MW-8-2 - Key results for this quarter and trends for MW-8-2 are as follows:

- pH is stable and near neutral, but is occasionally below the Secondary Drinking Water range of 6.5 to 8.5 S.U.
- Sulfate and total dissolved solids exhibit relatively stable trends, and concentrations are below respective Secondary Drinking Water Standards of 250 mg/L and 500 mg/L.
- Manganese (dissolved) concentration of 257 µg/L exceeded the Secondary Drinking Water Standard of 50 µg/L, but did not exceed the Act 2 residential Statewide Health Standard of 300 µg/L. Concentrations exhibit a long-term stable trend with some variability.
- Molybdenum (dissolved) concentration of 269 µg/L exceeded the Act 2 residential Statewide Health Standard of 40 µg/L. However, concentrations exhibit a fairly stable trend.
- Strontium concentrations had evidenced a slight long-term increasing trend, but have stabilized around 400 to 500 µg/L since 2011. Strontium concentrations are below the Act 2 residential Statewide Health Standard of 4,000 µg/L.

4. MW-8-3A and MW-8-3B - Key results for this quarter and trends for MW-8-3A and MW-8-3B are as follows:

- pH is stable and near neutral at both wells, but slightly lower at MW-8-3A. pH at MW-8-3A is sometimes slightly below the Secondary Drinking Water Standard range of 6.5 to 8.5 S.U.
- Total dissolved solids concentrations at both wells exhibit long-term stable trends with some variability. Concentrations are comparable in both wells, but tend to be slightly higher and more variable at MW-8-3A. The total dissolved solids concentration at MW-8-3A typically exceeds the Secondary Drinking Water Standard of 500 mg/L, while concentrations at MW-8-3B typically fluctuate around the standard.
- Sulfate concentrations in both wells exhibit long-term stable trends with some variability. Sulfate concentrations at MW-8-3A typically fluctuate around the Secondary Drinking Water Standard of 250 mg/L, while concentrations at MW-8-3B are typically below the standard.
- Arsenic (dissolved) concentrations at both wells exhibit stable/decreasing long-term trends with seasonal variability. Peak concentrations exceed the Primary Drinking Water Standard of 10 µg/L (not since 2011 at MW-8-3B). Dissolved arsenic concentrations at MW-8-3A range from 3 to 20 µg/L over the past 10 years. At MW-8-3B, arsenic concentrations exhibit a similar stable/decreasing trend at slightly lower concentrations. Arsenic (total) at MW-8-3A fluctuated above the historical range this quarter, possibly related to fluctuating

turbidity. Talen believes that relatively permeable material is associated with relic stream channels existing beneath Basin 5, potentially accounting for arsenic detections at wells MW-8-3A and MW-8-3B.

- Iron concentrations at MW-8-3A are variable and exceed the Secondary Drinking Water Standard of 0.3 mg/L (possibly due to impacts from historical pyritic material handling). Iron is present in MW-8-3B, but at a much lower concentrations than at MW-8-3A, suggesting possibly more impact in the upper part of the water-bearing zone (and/or possibly a higher iron concentration related to the high turbidity within MW-8-3A groundwater). Peak iron concentrations in MW-8-3B exceed the standard. This quarter, the iron (total) at MW-8-3A fluctuated upward beyond the historical range, possibly related to an upward fluctuation of turbidity.
- Manganese concentrations in both wells exceed the Secondary Drinking Water Standard of 50 µg/L and the Act 2 residential Statewide Health Standard of 300 µg/L but exhibit long-term stable trends with some variability.
- Molybdenum concentrations in both wells normally exceed the Act 2 residential Statewide Health Standard of 40 µg/L, but exhibit long-term stable/slight decreasing trends.
- Titanium (total) was atypically detected (at 6.16 µg/L) this quarter at MW-8-3A, Titanium (dissolved) was not detected. There is no EPA drinking water or PA Act 2 standard for this parameter. As mentioned above for other parameters, turbidity at MW-8-3A was also elevated this quarter.

5. MW-8-4 - Key results for this quarter and trends for MW-8-4 are as follows:

- Field pH (5.77 S.U.) remains below the Secondary Drinking Water Standard range of 6.5 to 8.5 S.U. The historical pH range for this well is approximately 4.5 to 6.0. Buffering capacity is typically minimal.
- Sulfate and total dissolved solids concentrations are elevated and variable at MW-8-4, and exceed Secondary Drinking Water Standards but exhibit fairly stable/slightly decreasing long-term trends.
- Aluminum concentrations are elevated and variable relative to most other Basin 5 wells, sometimes exceeding the Secondary Drinking Water Standard of 200 µg/L. Aluminum concentrations have decreased and become less variable since 2017. Dissolved concentrations have been below the standard since the second quarter of 2018.
- Beryllium, cadmium, nickel, and zinc concentrations are variable and elevated relative to other Basin 5 wells. However, since 2012, concentrations have generally decreased and have been less variable. Nickel concentrations fluctuate around the Act 2 standard, but the other parameters meet respective regulatory standards.
- Boron concentrations exhibit a gradual long-term increasing trend with variability, but concentrations remain low, well below the Act 2 residential Statewide Health Standard of 6,000 µg/L. Peak boron concentrations have not increased since 2012.

- Chloride concentrations are seasonally variable, but remain well below the Secondary Drinking Water Standard of 250 mg/L. Peak chloride concentrations have decreased since 2015.
 - Manganese concentrations remain elevated at 9,570 µg/L compared to the Secondary Drinking Water Standard of 50 µg/L and the Act 2 residential Statewide Health Standard of 300 µg/L. Manganese concentrations at MW-8-4 are the most elevated and variable of all the Basin 5 wells, but concentrations exhibit a gradual long-term downward trend with decreasing variability.
- 6. MW-8-5A and MW-8-5B** - These wells are located at the northwestern corner of Basin 5. Key results for this quarter and trends for MW-8-5A and MW-8-5B are as follows:
- pH is stable and near neutral at both wells.
 - Total dissolved solids concentrations are elevated in excess of the Secondary Drinking Water Standard in both wells, with increasing trends (current concentrations of 728 and 679 µg/L for MW-8-5A and MW-8-5B respectively). These increasing TDS trends are likely related to similar increasing trends for calcium, magnesium, and specific conductivity in both wells.
 - Sulfate concentrations demonstrate slight increasing trends in both MW-8-5A and MW-8-5B with current concentrations of 291 mg/L and 268 mg/L, respectively, compared to the Secondary Drinking Water Standard of 250 mg/L. Sulfate concentrations in these two wells appear to be stabilizing/decreasing since 2015.
 - Arsenic (dissolved) concentrations in MW-8-5A and MW-8-5B are elevated (presently at 89.7 µg/L and 257 µg/L, respectively) in excess of the Primary Drinking Water Standard of 10 µg/L. Arsenic concentrations at MW-8-5B exhibit a fairly stable trend with some variability, while concentrations at MW-8-5A exhibit a slight decreasing trend.
- Note: PPL's groundwater consultant, Ish Inc., confirmed that Basin 5 is the source of arsenic identified in MW-8-5A and MW-8-5B. As part of the assessment conducted to investigate the elevated arsenic in MW 8-5 area, Ish Inc. established that arsenic attenuates quickly and is not elevated in the new point of compliance wells MW-8-10A and MW 8-10B.
- Lithium concentrations exceed the Act 2 residential Statewide Health Standard of 83 µg/L, but demonstrate fairly stable trends at both wells. The current dissolved lithium concentration in MW-8-5A is 207 µg/L and is 162 µg/L in deeper MW-8-5B. However, the lithium (total) concentrations at MW-8-5A have atypically fluctuated well above the historical range over the past two quarters.
 - Manganese concentrations exceed the Secondary Drinking Water Standard of 50 µg/L and the Act 2 residential Statewide Health Standard of 300 µg/L in both wells (current concentrations of 375 and 385 µg/L for MW-8-5A and MW-8-5B respectively). Manganese exhibits a stable trend at MW-8-5A and a slight decreasing trend at MW-8-5B.

- Molybdenum concentrations exceed the Act 2 residential Statewide Health Standard of 40 µg/L in both wells (current concentrations of 384 and 294 µg/L for MW-8-5A and MW-8-5B respectively), but exhibit slightly decreasing long-term concentration trends with some variability.
 - Strontium concentrations exhibit increasing trends in both wells. Strontium concentrations are below the Act 2 residential Statewide Health Standard of 4,000 µg/L.
- 7. MW-8-10A, MW-8-10B, and MW-8-10C** - Monitoring wells MW-8-10A, MW-8-10B, and MW-8-10C were added to the monitoring program as part of Area 8 monitoring system located within Basin 5. These wells also serve as the point of compliance wells, downgradient of MW-8-5A and MW-8-5B. MW-8-10A and MW-8-10B are sampled quarterly while MW-8-10C is sampled annually during the second calendar quarter. Most importantly, arsenic concentrations in MW-8-10A, MW-8-10B, and MW-8-10C continue to meet the Primary Drinking Water Standard of 10 µg/L and exhibit stable/decreasing trends. Other key results and trends for these wells for this quarter are as follows:
- MW-8-10B demonstrates typically slightly alkaline pH (exhibiting a slight decreasing trend) and overall better and more stable water quality than MW-8-10A and MW-8-10C. pH at MW-8-10C is also slightly alkaline (and decreasing slightly).
 - pH at MW-8-10A is near neutral, but lower than pH at MW-8-10B and MW-8-10C. pH at MW-8-10A is sometimes slightly below the Secondary Drinking Water Standard range of 6.5 to 8.5 S.U.
 - Sulfate and total dissolved solids concentrations at MW-8-10A are elevated above Secondary Drinking Water Standards. Sulfate and total dissolved solids concentrations have been stable/decreasing since 2015, especially decreasing since early 2018 and are now only slightly above the respective standards. These trends appear to be related to trends for calcium, magnesium, specific conductivity, and strontium (which have also generally decreased since early 2018 following long-term increasing trends). At MW-8-10B, total dissolved solids concentrations are fairly stable and fluctuate around the 500 mg/L standard. Sulfate concentrations at MW-8-10B are below the 250 mg/L standard, and exhibit a slight decreasing trend.
 - Iron concentrations at MW-8-10C are variable and occasionally exceed the Secondary Drinking Water Standard of 0.3 mg/L.
 - Manganese concentrations at MW-8-10A are elevated and seasonally variable, exceeding the Secondary Drinking Water Standard of 50 µg/L and often exceeding the Act 2 residential Statewide Health Standard of 300 µg/L. However, peak manganese concentrations at MW-8-10A have decreased significantly since 2018. Manganese concentrations at MW-8-10C also normally exceed the both standards, but are less variable than at MW-8-10A.
 - Molybdenum concentrations at MW-8-10C exceed the Act 2 residential Statewide Health Standard of 40 µg/L, while concentrations at MW-8-10A and MW-8-10B sometimes exceed

the standard. Similar to manganese, peak molybdenum concentrations at MW-8-10A have decreased significantly since 2018.

- Vanadium concentrations at MW-8-10B fluctuate around the Act 2 residential Statewide Health Standard of 2.9 µg/L, which was lowered in 2016 along with the analytical limit of quantification.

8. MW-8-12C - Sampling is required at MW-8-12C annually in the second calendar quarter. Key results and trends for the second quarter of 2019 were as follows:

- Iron concentrations have decreased since 2016 and are now below the Secondary Drinking Water Standard of 0.3 mg/L.
- Manganese (dissolved) concentration of 137 µg/L exceeded the Secondary Drinking Water Standard of 50 µg/L, but did not exceed the Act 2 residential Statewide Health Standard of 300 µg/L. Manganese concentrations fluctuated downward significantly during the second quarter of 2019, but it is unclear yet whether this represents a new decreasing trend.
- Molybdenum (dissolved) concentration of 141 µg/L exceeded the Act 2 residential Statewide Health Standard of 40 µg/L. Molybdenum concentrations exhibit a decreasing trend since 2016, after exhibiting a long-term gradual increasing trend.
- Several parameters fluctuated downward during the second quarter of 2019 at MW-8-12C including boron, calcium, iron, magnesium, manganese, molybdenum, potassium, specific conductivity, sulfate, total dissolved solids, and total organic carbon. Barium and strontium fluctuated upward.

Pyrite Tomb Monitoring

- 1. Pyrite Tomb Standpipe** – The pyrite tomb is monitored at least monthly for water depth and field pH, and quarterly reporting (via this quarterly groundwater report) began in the 2nd quarter of 2017. Talen planned to collect two additional (last) samples from the pyrite tomb standpipe during the 3rd and 4th quarters of 2017 for laboratory analysis (as previously). However, on both quarterly sampling occasions, the standpipe contained too little water to sample (lack of water is a favorable condition). A summary table of the field monitoring results for 2017 thru current is provided in Attachment 2. Trend plots for the field parameters (pH, water depths, water elevations) are provided on the enclosed CD.
- 2. MW-PT-1** – Downgradient monitoring well MW-PT-1 was installed in January 2017 to help assess the Pyrite Tomb area. This well is located outside of the Basin 5 berm material in native alluvial sediments. Since monitoring of MW-PT-1 commenced, many parameters have exhibited significant variability with no defined trends yet. Analytical results for the pyrite tomb monitoring well MW-PT-1 are included on Attachment 1, *Summary Table of Basin 5 Groundwater Monitoring Results*, and trend plots for these parameters (as applicable) are provided on the enclosed CD. Key results for this quarter are as follows:

- pH (5.05 S.U.) was below the Secondary Drinking Water Standard range of 6.5 to 8.5 S.U. Lower pH and alkalinity values at MW-PT-1 appear to correlate with higher groundwater elevations.
- Sulfate concentration of 296 exceeded the Secondary Drinking Water Standard of 250 mg/L.
- Aluminum (total) concentration of 1,520 µg/L exceeded the Secondary Drinking Water Standard of 200 µg/L.
- Manganese (total) concentration of 2,200 µg/L exceeded the Secondary Drinking Water Standard of 50 µg/L and Act 2 residential Statewide Health Standard of 300 µg/L.

ATTACHMENTS

1. Summary Table of Groundwater Monitoring Results
2. Pyrite Tomb Standpipe Monitoring Results
3. Site Plan – Overall Map – Brunner Island SES
4. Site Plan – Brunner Island Basin 5
5. PADEP Form 14Rs (on enclosed CD)

Brunner Island, LLC
Basin No. 5 Groundwater Monitoring Results

PARAMETER	UNITS	REGULATORY CRITERIA LIMIT	GROUNDWATER MONITORING WELLS														
			Downgradient												Pyrite Tomb Monitoring	Upgradient	
Location ID			MW-4-10	MW-8-1N	MW-8-2	MW-8-3A	MW-8-3B	MW-8-4	MW-8-5A	MW-8-5B	MW-8-10A	MW-8-10B	MW-8-10C	MW-8-12C	MW-PT-1	MW-4-7A	MW-19
Sampling Date			2/4/2020	2/2/2020	2/3/2020	2/3/2020	2/3/2020	2/4/2020	2/5/2020	2/5/2020	2/2/2020	2/2/2020			2/4/2020	2/9/2020	2/6/2020
Field Parameters (monitored quarterly)																	
Well Depth	FT		38.60	26.40	22.30	26.50	46.80	21.80	40.28	60.50	37.30	57.00			21.20	39.80	45.30
Sampling Depth	FT		34.00	23.00	15.00	20.00	40.00	18.00	33.00	53.00	32.00	52.00			19.00	35.00	33.00
Well Purge Volume	L		3.25	2.75	4.50	3.00	3.00	3.30	3.00	4.00	3.00	3.00			3.10	4.50	3.00
Depth to Water	FT		22.15	11.84	2.91	9.18	11.61	12.39	23.02	15.91	16.54	16.45			10.62	25.67	17.43
Water Surface Elevation	FT		270.56	268.80	268.59	258.20	256.10	257.80	262.02	268.97	259.93	259.82			261.15	262.34	288.37
Temperature, field	°C		12.85	10.57	10.28	11.12	12.87	11.09	12.68	13.05	11.00	10.88			11.04	13.63	10.27
pH, field	S.U.	6.5 - 8.5 S	6.06	6.70	6.96	6.47	7.01	5.77	7.12	7.29	7.07	7.67			5.05	6.92	6.68
pH, lab	S.U.	6.5 - 8.5 S	6.17	6.86	6.69	6.62	7.13	5.98	7.31	7.52	7.16	7.66			5.02	7.19	7.03
Specific Conductance, field	umhos/cm		1,813.00	1,069.00	536.00	975.00	767.00	992.00	1,062.00	965.00	836.00	810.00			647.00	1,547.00	211.00
Specific Conductance, lab	umhos/cm		1,814.00	1,060.00	535.00	974.00	759.00	974.00	1,063.00	963.00	830.00	800.00			643.00	1,528.00	213.00
Turbidity, field	NTU		0.83	3.54	0.48	80.00	0.98	0.84	0.29	0.34	0.36	0.31			1.38	0.40	0.53
Dissolved Oxygen, field	mg/L		0.98	0.85	0.40	2.87	0.65	1.27	0.82	0.55	5.96	0.91			3.65	0.71	9.01
Redox, field	mV		304.70	-40.90	233.40	102.40	7.80	357.30	-27.70	-24.40	269.00	244.00			398.10	42.30	129.10
Non-Metals (monitored quarterly)																	
Alkalinity, total as CaCO3	mg/L		51.30	207.00	109.00	181.00	249.00	47.60	251.00	228.00	127.00	110.00			< 20	232.00	45.40
Total Organic Carbon	mg/L		0.65	0.99	0.75	2.05	0.88	0.89	0.55	0.54	< 0.5	< 0.5			1.49	1.07	< 0.5
Total Dissolved Solids	mg/L	500 S	1,400.00	742.00	328.00	678.00	465.00	747.00	728.00	679.00	574.00	497.00			450.00	1,140.00	119.00
Chemical Oxygen Demand	mg/L		< 20	< 20	5.3 ND	< 20	5.3 ND	< 20	5.3 ND	5.3 ND	5.3 ND	5.3 ND			< 20	< 20	5.3 ND
Bicarbonate	mg/L		51.30	207.00	109.00	181.00	249.00	47.60	251.00	228.00	127.00	110.00			< 20	232.00	45.40
Chloride, total as Cl	mg/L	250 S	9.33	21.70	26.40	34.80	13.50	18.00	28.10	17.70	31.70	62.40			3.23	15.50	8.24
Fluoride, total as F	mg/L	2 S, 4 M	< 0.2	0.25	1.04	0.74	0.52	0.32	0.98	0.74	< 0.2	< 0.2			0.29	< 0.2	< 0.2
Ammonia, as N	mg/L		0.83	1.07	0.34	0.35	0.27	0.109 ND	0.38	0.29	0.44	< 0.2			0.109 ND	0.22	0.109 ND
Nitrate, as N	mg/L	10 M	< 0.5	< 0.5	< 0.5	0.0115 ND	0.0115 ND	< 0.5	0.0115 ND	0.0115 ND	< 0.5	0.0115 ND			2.20	0.0115 ND	3.95
Sulfate, as SO4	mg/L	250 S	883.00	340.00	106.00	278.00	137.00	449.00	291.00	268.00	253.00	188.00			296.00	634.00	24.90
Metals (monitored quarterly)																	
Aluminum, total	ug/L	200 S	620.00	26.8 ND	26.8 ND	26.8 ND	26.8 ND	316.00	26.8 ND	< 100	26.8 ND	26.8 ND			1,520.00	26.8 ND	26.8 ND
Aluminum, dissolved	ug/L	200 S	< 100	26.8 ND	26.8 ND	26.8 ND	26.8 ND	122.00	26.8 ND	< 100	26.8 ND	26.8 ND				26.8 ND	26.8 ND
Antimony, total	ug/L	6 M	< 1	0.179 ND	< 1	0.179 ND	0.179 ND	0.179 ND	0.179 ND	0.179 ND	0.179 ND	0.179 ND			0.179 ND	0.179 ND	0.179 ND
Antimony, dissolved	ug/L	6 M	< 1	0.179 ND	0.179 ND	0.179 ND	0.179 ND	0.179 ND	0.179 ND	0.179 ND	0.179 ND	0.179 ND				0.179 ND	0.179 ND
Arsenic, total	µg/L	10 M	< 1	0.548 ND	0.548 ND	35.80	9.76	0.548 ND	89.30	197.00	0.548 ND	1.68			< 1	0.548 ND	0.548 ND
Arsenic, dissolved	µg/L	10 M	0.548 ND	0.548 ND	0.548 ND	0.548 ND	7.95	0.548 ND	89.70	257.00	0.548 ND	1.35				0.548 ND	0.548 ND
Barium, total	µg/L	2,000 M	20.80	19.90	24.00	51.30	62.50	16.30	45.00	69.30	30.00	46.80			15.00	21.20	236.00
Barium, dissolved	µg/L	2,000 M	15.10	20.10	23.70	22.70	61.70	14.00	43.10	69.40	16.10	46.20				20.70	228.00
Beryllium, total	ug/L	4 M	< 1	0.0706 ND	0.0706 ND	0.0706 ND	0.0706 ND	< 1	0.0706 ND	0.0706 ND	0.0706 ND	0.0706 ND			2.14	0.0706 ND	0.0706 ND
Beryllium, dissolved	ug/L	4 M	0.0706 ND	0.0706 ND	0.0706 ND	0.0706 ND	0.0706 ND	< 1	0.0706 ND	0.0706 ND	0.0706 ND	0.0706 ND				0.0706 ND	0.0706 ND
Boron, total	µg/L	6,000 A	2,230.00	< 100	395.00	416.00	356.00	317.00	818.00	776.00	309.00	283.00			< 100	1,770.00	< 100
Boron, dissolved	µg/L	6,000 A	2,340.00	< 100	371.00	381.00	343.00	298.00	819.00	808.00	316.00	279.00				1,650.00	101.00
Cadmium, total	µg/L	5 M	1.52	2.31	< 1	0.152 ND	< 1	1.31	< 1	< 1	0.152 ND	< 1			1.12	0.152 ND	0.152 ND
Cadmium, dissolved	µg/L	5 M	1.40	0.152 ND	< 1	0.152 ND	0.152 ND	1.28	< 1	< 1	0.152 ND	0.152 ND				0.152 ND	0.152 ND
Calcium, total	mg/L		230.00	162.00	74.70	151.00	154.00	124.00	164.00	148.00	149.00	142.00			95.20	254.00	23.80
Calcium, dissolved	mg/L		230.00	169.00	72.50	143.00	120.00	119.00	165.00	155.00	123.00	123.00				238.00	24.50
Chromium, total	µg/L	100 M	0.411 ND	0.411 ND	0.411 ND	0.411 ND	0.411 ND	0.411 ND	0.411 ND	0.411 ND	0.411 ND	0.411 ND			< 1	0.411 ND	0.411 ND
Chromium, dissolved	µg/L	100 M	0.411 ND	0.411 ND	0.411 ND	0.411 ND	0.411 ND	0.411 ND	0.411 ND	0.411 ND	0.411 ND	0.411 ND				0.411 ND	0.411 ND
Copper, total	µg/L	1,000 S, 1,300 M	6.52	< 1	1.02	1.94	< 1	3.53	3.42	1.37	1.19	1.28			3.63	2.39	1.98
Copper, dissolved	µg/L	1,000 S, 1,300 M	2.58	< 1	1.52	1.81	< 1	3.50	1.50	< 1	< 1	< 1				2.19	< 1
Iron, total	mg/L	0.3 S	0.70	0.76	< 0.02	22.20	0.51	< 0.02	< 0.02	< 0.02	0.30	< 0.02			0.24	0.001 ND	< 0.02
Iron, dissolved	mg/L	0.3 S	0.001 ND	0.40	< 0.02	0.20	0.34	< 0.02	0.001 ND	0.001 ND	0.001 ND	< 0.02				< 0.02	< 0.02

Brunner Island, LLC
Basin No. 5 Groundwater Monitoring Results

PARAMETER	UNITS	REGULATORY CRITERIA LIMIT	GROUNDWATER MONITORING WELLS														Pyrite Tomb Monitoring	Upgradient	
			Downgradient																
Location ID			MW-4-10	MW-8-1N	MW-8-2	MW-8-3A	MW-8-3B	MW-8-4	MW-8-5A	MW-8-5B	MW-8-10A	MW-8-10B	MW-8-10C	MW-8-12C	MW-PT-1	MW-4-7A	MW-19		
Sampling Date			2/4/2020	2/2/2020	2/3/2020	2/3/2020	2/3/2020	2/4/2020	2/5/2020	2/5/2020	2/2/2020	2/2/2020			2/4/2020	2/9/2020	2/6/2020		
Lead, total	µg/L	5 A, 15 M	< 1	0.229 ND	0.229 ND	0.229 ND	0.229 ND	0.229 ND	0.229 ND	0.229 ND	0.229 ND	0.229 ND			0.229 ND	0.229 ND	0.229 ND		
Lead, dissolved	µg/L	5 A, 15 M	0.229 ND	0.229 ND	< 1	0.229 ND	0.229 ND	0.229 ND	0.229 ND	0.229 ND	< 1	0.229 ND				0.229 ND	0.229 ND		
Lithium, total	µg/L	83 A	1,140.00	7.34	19.60	13.40	33.00	18.70	558.00	160.00	15.90	18.00			48.90	175.00	3.91		
Lithium, dissolved	µg/L	83 A	1,200.00	1.18	19.50	13.20	25.80	22.80	207.00	162.00	11.00	13.10				168.00	2.86		
Magnesium, total	mg/L		16.80	29.10	13.30	32.50	23.10	43.20	37.30	30.10	27.00	23.40			23.10	42.00	4.57		
Magnesium, dissolved	mg/L		17.20	30.30	12.80	30.10	23.10	41.20	37.00	31.40	27.80	23.40				40.50	4.58		
Manganese, total	µg/L	50 S, 300 A	1,890.00	1,250.00	264.00	6,290.00	1,170.00	9,660.00	371.00	369.00	55.00	6.39 ND			2,200.00	198.00	6.39 ND		
Manganese, dissolved	µg/L	50 S, 300 A	1,920.00	1,320.00	257.00	2,770.00	1,140.00	9,570.00	375.00	385.00	< 20	6.39 ND				188.00	6.39 ND		
Mercury, total	µg/L	2 M	0.717 ND	0.717 ND	0.717 ND	0.717 ND	0.717 ND	0.717 ND	0.717 ND	0.717 ND	0.717 ND	0.717 ND			0.717 ND	0.717 ND	0.717 ND		
Mercury, dissolved	µg/L	2 M	0.717 ND	0.717 ND	0.717 ND	0.717 ND	0.717 ND	0.717 ND	0.717 ND	0.717 ND	0.717 ND	0.717 ND				0.717 ND	0.717 ND		
Molybdenum, total	µg/L	40 A	795.00	< 1	275.00	74.90	161.00	< 1	429.00	340.00	24.80	34.70			15.80	17.90	0.3 ND		
Molybdenum, dissolved	µg/L	40 A	750.00	< 1	269.00	26.90	135.00	< 1	384.00	294.00	18.90	28.40				17.60	< 1		
Nickel, total	ug/L	100 A	20.00	1.06	5.28	7.96	< 1	90.90	8.45	< 1	< 1	< 1			59.20	14.00	0.1662 ND		
Nickel, dissolved	ug/L	100 A	19.10	< 1	5.14	8.28	< 1	82.30	9.06	< 1	0.1662 ND	0.1662 ND				13.20	0.1662 ND		
Potassium, total	mg/L		115.00	6.50	4.60	3.41	1.64	1.71	4.26	3.98	2.24	2.43			3.24	4.22	< 1		
Potassium, dissolved	mg/L		114.00	6.63	4.46	2.95	1.58	1.58	4.21	4.29	2.29	2.30				4.02	< 1		
Selenium, total	µg/L	50 M	10.10	0.632 ND	< 5	0.632 ND	0.632 ND	0.632 ND	0.632 ND	0.632 ND	0.632 ND	0.632 ND			0.632 ND	< 5	13.50		
Selenium, dissolved	µg/L	50 M	9.41	0.632 ND	< 5	0.632 ND	0.632 ND	0.632 ND	0.632 ND	0.632 ND	0.632 ND	0.632 ND				0.632 ND	13.90		
Silver, total	µg/L	100 A	0.132 ND	0.132 ND	0.132 ND	0.132 ND	0.132 ND	0.132 ND	0.132 ND	0.132 ND	0.132 ND	0.132 ND			0.132 ND	0.132 ND	0.132 ND		
Silver, dissolved	µg/L	100 A	0.132 ND	0.132 ND	0.132 ND	0.132 ND	0.132 ND	0.132 ND	0.132 ND	0.132 ND	0.132 ND	0.132 ND				0.132 ND	0.132 ND		
Sodium, total	mg/L		79.10	22.30	12.00	12.70	6.54	15.60	10.30	9.05	11.30	7.14			9.06	59.50	8.49		
Sodium, dissolved	mg/L		75.90	22.50	12.60	11.70	6.29	15.20	10.80	9.76	12.10	7.09				54.80	8.63		
Strontium, total	µg/L	4,000 A	1,870.00	988.00	436.00	874.00	352.00	307.00	695.00	808.00	216.00	250.00			276.00	360.00	48.00		
Strontium, dissolved	µg/L	4,000 A	1,920.00	995.00	419.00	772.00	328.00	290.00	705.00	876.00	232.00	240.00				345.00	48.00		
Titanium, total	µg/L		1.45 ND	1.45 ND	1.45 ND	6.16	1.45 ND	< 5	< 5	1.45 ND	1.45 ND	1.45 ND			1.45 ND	< 5	1.45 ND		
Titanium, dissolved	µg/L		1.45 ND	1.45 ND	1.45 ND	< 5	1.45 ND	< 5	< 5	1.45 ND	1.45 ND	1.45 ND				< 5	1.45 ND		
Vanadium, total	µg/L	2.9 A	2.35 ND	2.35 ND	2.35 ND	2.35 ND	2.35 ND	2.35 ND	2.35 ND	2.35 ND	2.35 ND	< 5			2.35 ND	2.35 ND	2.35 ND		
Vanadium, dissolved	µg/L	2.9 A	2.35 ND	2.35 ND	2.35 ND	2.35 ND	2.35 ND	2.35 ND	2.35 ND	2.35 ND	2.35 ND	< 5				2.35 ND	2.35 ND		
Zinc, total	µg/L	2,000 A, 5,000 S	42.10	2.24 ND	< 5	12.20	22.80	92.50	< 5	2.24 ND	7.29	5.04			104.00	< 5	< 5		
Zinc, dissolved	µg/L	2,000 A, 5,000 S	41.50	2.24 ND	< 5	5.15	< 5	73.50	< 5	< 5	< 5	2.24 ND				< 5	< 5		

Notes:

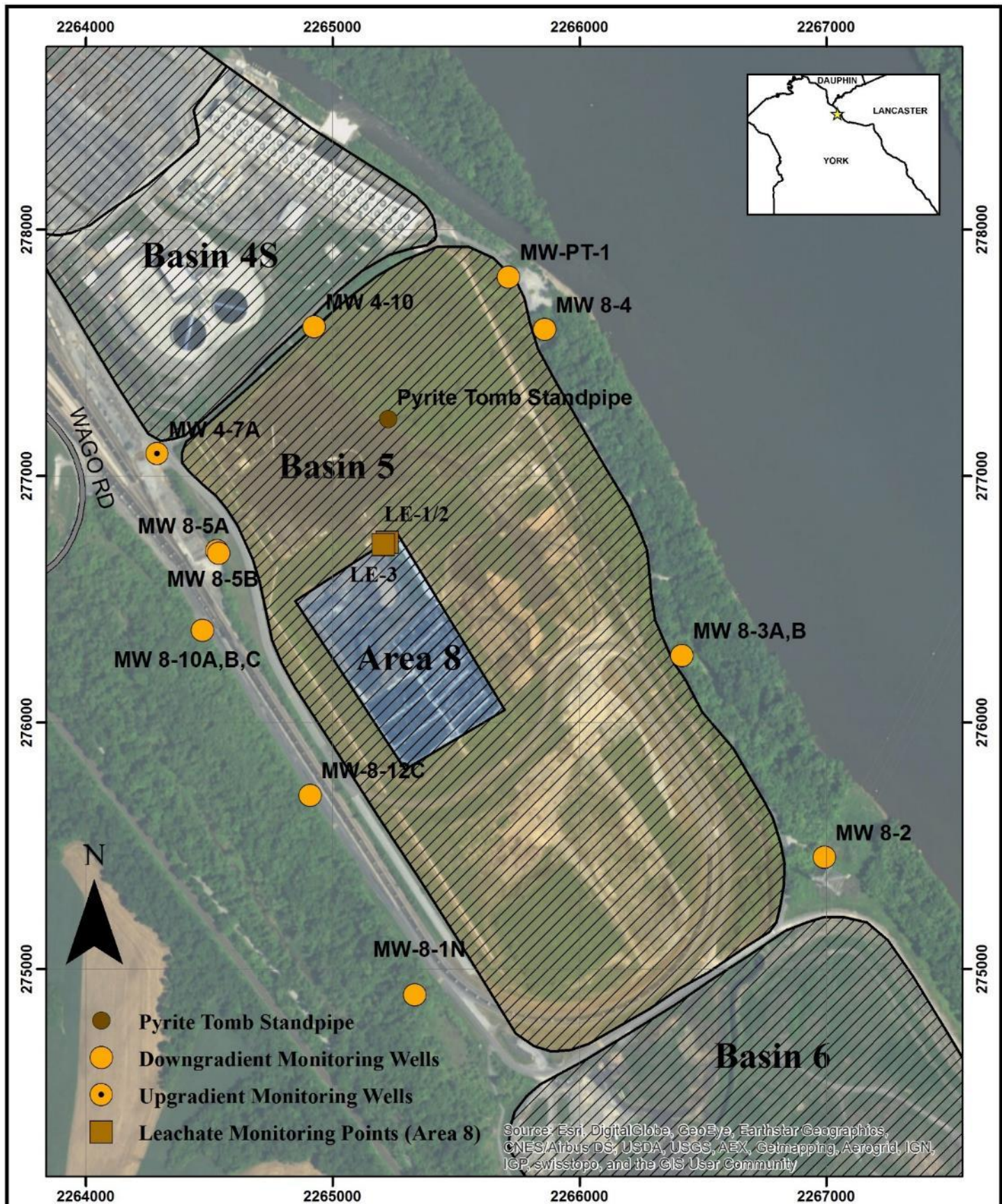
1. Regulatory qualifier codes: M = EPA Primary Drinking Water MCL/TT, S = EPA Secondary Drinking Water MCL, and A = Pennsylvania Act 2 residential Statewide Health Standard for used aquifers.
2. MW-19 was sampled for additional parameters (Ga, Ge, Rb, Y) pursuant to Basin No. 7 sampling requirements.
3. MW-4-7A, MW-4-10, and MW-19 are additionally sampled for organic parameters during the second and third calendar quarters pursuant to Basin No. 4 South sampling requirements.
4. MW-8-10C and MW-8-12C are sampled annually during the second calendar quarter.

Pyrite Tomb Standpipe Monitoring Results

	Pyrite Tomb Standpipe			
Date	Water Depth (ft)	Water Surface Elevation (ft)	pH (S.U.)	Comments
1/3/2017	25.85	269.60	7.61	
1/12/2017	26.00	269.45	7.54	
1/18/2017	29.03	266.42	8.88	Standpipe cleanout 1/17/2017
1/25/2017	28.79	266.66	7.84	Sampled the tomb (with bailer)
1/31/2017	28.79	266.66	8.25	
2/7/2017	28.78	266.67	7.97	
2/13/2017	28.85	266.60	7.41	
3/6/2017	28.70	266.75	7.11	
4/4/2017	28.62	266.83	7.49	
4/15/2017	28.57	266.88	7.11	
4/20/2017	30.71	264.74	7.70	
5/9/2017	29.08	266.37	7.77	
6/22/2017	27.72	267.73	7.43	Purged 24.5 gal.
6/23/2017	30.92	264.53	7.97	Sampled the tomb after recharging (17.5 hours)
8/3/2017	28.41	267.04	7.53	
9/1/2017	28.18	267.27	7.15	
9/21/2017	30.80	264.65	N/A	Sample attempted, but not enough water in standpipe.
9/28/2017	30.70	264.75	N/A	Sample attempted again, but not enough water in standpipe.
10/2/2017	30.65	264.80	7.18	
12/5/2017	30.21	265.24	7.48	
12/14/2017	N/A	N/A	N/A	Sample attempted again, but not enough water in standpipe.
<i>Lab analytical attempts discontinued in 2018; Attempts to purge water continuing quarterly.</i>				
1/25/2018	N/A	N/A	N/A	Water elevation not high enough to record depth to water.
2/19/2018	30.57	264.88	6.94	
3/4/2018	30.33	265.12	6.48	Purged 5.25 Liters
4/12/2018	31.20	264.25	7.24	
5/14/2018	31.16	264.29	6.96	Purged 1.7 liters. Wouldn't purge further.
5/29/2018	31.24	264.21	N/A	Not enough water in tomb to get a pH reading
6/7/2018	31.32	264.13	N/A	Not enough water in tomb to get a pH reading
7/7/2018	29.40	266.05	7.38	
8/2/2018	28.64	266.81	7.42	
8/13/2018	27.93	267.52	N/A	
9/13/2018	23.56	271.89	7.76	Pumped tomb down to 31.43'. Purged 35.25 L.
10/5/2018	22.22	273.23	7.69	
11/5/2018	22.15	273.30	8.2	Purged 52.5 L.
12/10/2018	19.55	275.90	7.95	

Pyrite Tomb Standpipe Monitoring Results

	Pyrite Tomb Standpipe			
Date	Water Depth (ft)	Water Surface Elevation (ft)	pH (S.U.)	Comments
1/10/19	19.75	275.70	7.62	
2/22/19	19.22	276.23	7.46	Purged 20 L. Water level was not dropping.
3/13/19	18.80	276.65	7.43	
4/2/2019	18.18	277.27	7.4	
5/16/2019	18.20	277.25	8.22	
6/18/2019	18.55	276.90	7.28	Purged 45 L. Water level was not dropping.
7/23/2019	18.58	276.87	7.35	
8/13/2019	19.00	276.45	7.39	Water level did not drop after 7 hours of pumping. Purged 91 L.
9/5/2019	19.71	275.74	7.24	
10/1/2019	20.32	275.13	7.43	
11/19/2019	21.14	274.31	7.88	Purged 42.5 L. Temp = 13.45°C, SpC = 2465 µmhos/cm, Redox = -85.5 mV, DO = 2.01 mg/L, Turb = 1.00 NTU.
12/19/2019	21.65	273.80	7.39	
1/16/2020	21.47	273.98	7.42	
2/24/2020	21.11	274.34	7.66	Purged 53.5 L. Water level did not drop during purge.
3/11/2020	21.21	274.24	7.07	



Talen Energy
Brunner Island SES
Basin No. 5

SITE MAP

North American Datum of 1983 (NAD83)
 State Plane Pennsylvania South
 0 250 500 1,000
 Feet


 Date Prepared/Revised
 03/12/2020

DEP USE ONLY

Date Received

FORM 14R

RESIDUAL WASTE LANDFILLS AND DISPOSAL IMPOUNDMENTS

QUARTERLY AND ANNUAL WATER QUALITY ANALYSES

This form must be fully and accurately completed. All required information must be typed or legibly printed in the spaces provided. If additional space is necessary, identify each attached sheet as Form 14R, reference the item number and identify the date prepared. The "date prepared/revised" on any attached sheets needs to match the "date prepared/revised" on this page.

General References: Section 288.254, 289.264

SECTION A. SITE IDENTIFIER

Applicant/permittee: Brunner Island, LLC - Basin No. 5

Site Name: Basin No. 5

Facility ID (as issued by DEP): 301309

SECTION B. FACILITY INFORMATION

Monitoring wells must be designed and constructed in accordance with Department standards. **INDICATE THE LATITUDE AND LONGITUDE TO THE NEAREST ONE TENTH OF A SECOND (DD° MM' SS.S").**

Monitoring Point Number: MW-19

☒ Well ☐ Spring ☐ Stream ☐ Other

☒ Upgradient/Upstream ☐ Downgradient/Downstream

Location: County York

Municipality: East Manchester Township

Sampling Point: Latitude: 40° 5' 26.55"

Longitude: 76° 41' 55.87"

Depth to Water Level: 17.43 ft.

 Measured from: ☐ Land Surface ☒ TOC

Casing Stick Up: 1.60 ft.

Elevation of Water Level: 288.37 ft./MSL

Sampling Depth: 33.00 ft.

Volume of Water Column: gal.

Total Well Depth: 45.40 ft.

 Sampling Method: ☒ Pumped ☐ Bailed ☐ Grab

 Well Purged: ☒ Yes ☐ No

Well Volumes Purged: 3 L

 Sample Field Filtered (must be 0.45 micron)? ☒ Yes ☐ No

Spring Flow Rate: GPM

Sample Date (mm/dd/yy): 02/06/2020

Sample Collection Time: 1:34PM

Sample Collector's Name: AM

Sample Collector's Affiliation: Talen Generation, LLC

Laboratory(ies) Performing Analysis: Hawk Mtn Labs, Inc.

 Were any holding times exceeded? ☐ Yes ☒ No. If yes, please explain in comments field.

Lab Certification Number(s): 40-417

Lab Sample Number(s): 200101406-001

Final Lab Analysis Completion Date: 03/06/2020

Name/Affiliation of Person who Filled out Form Martin Mengel / Talen Energy Supply, LLC

Comments:

I.D. No.	301309
Monitoring Point No.	MW-19
Sample Date	02/06/2020

FORM 14 R
QUARTERLY AND ANNUAL WATER QUALITY ANALYSES
ANALYTES

1-Q. Inorganics (Enter all data in mg/l except as noted)

ANALYTE	VALUE (T)	ANALYSIS METHOD NUMBER
Ammonia, as N (mg/l)	0.109 ND	SM 4500-NH3-F
Bicarbonate (mg/l)	45.4	SM 2320B
Calcium, total (mg/l)	23.8	EPA 200.2/200.7/6010A
Calcium, dissolved (mg/l)	24.5	EPA 200.2/200.7/6010A
Chemical Oxygen Demand (mg/l)	5.3 ND	SM 5220D
Chloride, total as Cl (mg/l)	8.24	EPA 300.0
Fluoride, total as F (mg/l)	0.2 <	EPA 300.0
Iron, total (µg/l)	20 <	EPA 200.2/200.7/6010A
Iron, dissolved (µg/l)	20 <	EPA 200.2/200.7/6010A
Magnesium, total (mg/l)	4.57	EPA 200.2/200.7/6010A
Magnesium, dissolved (mg/l)	4.58	EPA 200.2/200.7/6010A
Manganese, total (µg/l)	6.39 ND	EPA 200.2/200.7/6010A
Manganese, dissolved (µg/l)	6.39 ND	EPA 200.2/200.7/6010A
Nitrate, as N (mg/l)	3.95	EPA 300.0
pH, field (su)	6.68	Field Meter
pH, lab (su)	7.03 H	SM 4500-H+B
Potassium, total (mg/l)	1 <	EPA 200.2/200.7/6010A
Potassium, dissolved (mg/l)	1 <	EPA 200.2/200.7/6010A
Sodium, total (mg/l)	8.49	EPA 200.2/200.7/6010A
Sodium, dissolved (mg/l)	8.63	EPA 200.2/200.7/6010A
Specific Conductance, field (umhos/cm)	211	Field Meter
Specific Conductance, lab (umhos/cm)	213	SM 2510 B
Sulfate, as SO4 (mg/l)	24.9	EPA 300.0
Alkalinity, total as CaCO3 (mg/l)	45.4	SM 2320B
Total Dissolved Solids (mg/l)	119	SM 2540B
Total Organic Carbon (mg/l)	0.5 <	SM 5310C
Turbidity, field (n.t.u.)	0.53	Field Meter
Dissolved O2, field (mg/l)	9.01	Field Meter
Redox, field (mv)	129.1	Field Meter
Temperature, field (°c)	10.27	Field Meter
Acidity, total as CaCO3 (mg/l)	0	SM 2310C

T Please indicate detection limit if analyte is not detected.

I.D. No.	301309
Monitoring Point No.	MW-19
Sample Date	02/06/2020

FORM 14 R
QUARTERLY AND ANNUAL WATER QUALITY ANALYSES

1-A. Organics (Enter all data in ug/l)

ANALYTE	VALUE (T)	ANALYSIS METHOD NUMBER
Benzene (µg/l)		
1,2-Dibromoethane (µg/l)		
1,1-Dichloroethane (µg/l)		
1,1-Dichloroethene (µg/l)		
1,2-Dichloroethane (µg/l)		
cis-1,2-Dichloroethene (µg/l)		
trans-1,2-Dichloroethene (µg/l)		
Ethylbenzene (µg/l)		
Methylene Chloride (µg/l)		
Tetrachloroethene (µg/l)		
Toluene (µg/l)		
1,1,1-Trichloroethane (µg/l)		
Trichloroethene (µg/l)		
Vinyl chloride (µg/l)		
Xylenes (µg/l)		

T Please indicate detection limit if analyte is not detected.

I.D. No.	301309
Monitoring Point No.	MW-19
Sample Date	02/06/2020

FORM 14 R

ANNUAL WATER QUALITY ANALYSES

2-A. Metals (Enter all data in ug/l) If initial background analyses of four consecutive analyses show essentially identical (within 5%) dissolved and total analyses, dissolved analyses may not be required, subject to written DEP approval.

ANALYTE	VALUE (T)	ANALYSIS METHOD NUMBER
Arsenic, total (µg/l)	0.548 ND	EPA 200.2/200.8/6020A
Arsenic, dissolved (µg/l)	0.548 ND	EPA 200.2/200.8/6020A
Barium, total (µg/l)	236	EPA 200.2/200.8/6020A
Barium, dissolved (µg/l)	228	EPA 200.2/200.8/6020A
Cadmium, total (µg/l)	0.152 ND	EPA 200.2/200.8/6020A
Cadmium, dissolved (µg/l)	0.152 ND	EPA 200.2/200.8/6020A
Chromium, total (µg/l)	0.411 ND	EPA 200.2/200.8/6020A
Chromium, dissolved (µg/l)	0.411 ND	EPA 200.2/200.8/6020A
Copper, total (µg/l)	1.98	EPA 200.2/200.8/6020A
Copper, dissolved (µg/l)	1 <	EPA 200.2/200.8/6020A
Lead, total (µg/l)	0.229 ND	EPA 200.2/200.8/6020A
Lead, dissolved (µg/l)	0.229 ND	EPA 200.2/200.8/6020A
Mercury, total (µg/l)	0.717 ND	EPA 200.8
Mercury, dissolved (µg/l)	0.717 ND	EPA 245.7
Selenium, total (µg/l)	13.5	EPA 200.2/200.8/6020A
Selenium, dissolved (µg/l)	13.9	EPA 200.2/200.8/6020A
Silver, total (µg/l)	0.132 ND	EPA 200.2/200.8/6020A
Silver, dissolved (µg/l)	0.132 ND	EPA 200.2/200.8/6020A
Zinc, total (µg/l)	5 <	EPA 200.0/200.8/6020
Zinc, dissolved (µg/l)	5 <	EPA 200.0/200.8/6020
Boron, total (µg/l)	100 <	EPA 200.2/200.7/6010A
Boron, dissolved (µg/l)	101	EPA 200.2/200.7/6010A
Lithium, total (µg/l)	3.91	EPA 200.2/200.8/6020A
Lithium, dissolved (µg/l)	2.86	EPA 200.2/200.8/6020A
Molybdenum, total (µg/l)	0.3 ND	EPA 200.2/200.8/6020A
Molybdenum, dissolved (µg/l)	1 <	EPA 200.2/200.8/6020A
Strontium, total (µg/l)	48	EPA 200.0/200.7/6010
Strontium, dissolved (µg/l)	48	EPA 200.0/200.7/6010

T Please indicate detection limit if analyte is not detected.

I.D. No.	301309
Monitoring Point No.	MW-19
Sample Date	02/06/2020

FORM 14 R

ANNUAL WATER QUALITY ANALYSES

2-A. Metals (Enter all data in ug/l) If initial background analyses of four consecutive analyses show essentially identical (within 5%) dissolved and total analyses, dissolved analyses may not be required, subject to written DEP approval.

ANALYTE	VALUE (T)	ANALYSIS METHOD NUMBER
Aluminum, total (µg/l)	26.8 ND	EPA 200.0/200.7/6010
Aluminum, dissolved (µg/l)	26.8 ND	EPA 200.0/200.7/6010
Antimony, total (µg/l)	0.179 ND	EPA 200.2/200.8/6020A
Antimony, dissolved (µg/l)	0.179 ND	EPA 200.2/200.8/6020A
Beryllium, total (µg/l)	0.071 ND	EPA 200.2/200.8/6020A
Beryllium, dissolved (µg/l)	0.071 ND	EPA 200.2/200.8/6020A
Cobalt, total (µg/l)		
Cobalt, dissolved (µg/l)		
Gallium, total (µg/l)	7.14	EPA 200.2/200.8
Gallium, dissolved (µg/l)	7.47	EPA 200.2/200.8
Germanium, total (µg/l)	1 ND	EPA 200.2/200.8
Germanium, dissolved (µg/l)	1 ND	EPA 200.2/200.8
Nickel, total (µg/l)	0.166 ND	EPA 200.8
Nickel, dissolved (µg/l)	0.166 ND	EPA 200.8
Rubidium, total (µg/l)	1 ND	EPA 200.2/200.8
Rubidium, dissolved (µg/l)	1 ND	EPA 200.2/200.8
Titanium, total (µg/l)	1.45 ND	EPA 200.2/200.8
Titanium, dissolved (µg/l)	1.45 ND	EPA 200.2/200.8
Vanadium, total (µg/l)	2.35 ND	EPA 200.8
Vanadium, dissolved (µg/l)	2.35 ND	EPA 200.8
Yttrium, total (µg/l)	1 ND	EPA 200.2/200.8
Yttrium, dissolved (µg/l)	1 ND	EPA 200.2/200.8

T Please indicate detection limit if analyte is not detected.

Date Prepared/Revised
03/12/2020

DEP USE ONLY

Date Received

FORM 14R

RESIDUAL WASTE LANDFILLS AND DISPOSAL IMPOUNDMENTS

QUARTERLY AND ANNUAL WATER QUALITY ANALYSES

This form must be fully and accurately completed. All required information must be typed or legibly printed in the spaces provided. If additional space is necessary, identify each attached sheet as Form 14R, reference the item number and identify the date prepared. The "date prepared/revised" on any attached sheets needs to match the "date prepared/revised" on this page.

General References: Section 288.254, 289.264

SECTION A. SITE IDENTIFIER

Applicant/permittee: Brunner Island, LLC - Basin No. 5

Site Name: Basin No. 5

Facility ID (as issued by DEP): 301309

SECTION B. FACILITY INFORMATION

Monitoring wells must be designed and constructed in accordance with Department standards. **INDICATE THE LATITUDE AND LONGITUDE TO THE NEAREST ONE TENTH OF A SECOND (DD° MM' SS.S").**

Monitoring Point Number: MW-4-10

☒ Well ☐ Spring ☐ Stream ☐ Other☐ Upgradient/Upstream ☒ Downgradient/Downstream

Location: County York

Municipality: East Manchester Township

Sampling Point: Latitude: 40° 5' 25.84"

Longitude: 76° 41' 25.83"

Depth to Water Level: 22.15 ft.

Measured from: ☐ Land Surface ☒ TOC

Casing Stick Up: 2.26 ft.

Elevation of Water Level: 270.56 ft./MSL

Sampling Depth: 34.00 ft.

Volume of Water Column: gal.

Total Well Depth: 38.60 ft.

Sampling Method: ☒ Pumped ☐ Bailed ☐ GrabWell Purged: ☒ Yes ☐ No

Well Volumes Purged: 3.25 L

Sample Field Filtered (must be 0.45 micron)? ☒ Yes ☐ No

Spring Flow Rate: GPM

Sample Date (mm/dd/yy): 02/04/2020

Sample Collection Time: 12:39PM

Sample Collector's Name: ST

Sample Collector's Affiliation: Talen Generation, LLC

Laboratory(ies) Performing Analysis: Hawk Mtn Labs, Inc.

Were any holding times exceeded? ☐ Yes ☒ No. If yes, please explain in comments field.

Lab Certification Number(s): 40-417

Lab Sample Number(s): 200101400-006

Final Lab Analysis Completion Date: 02/18/2020

Name/Affiliation of Person who Filled out Form Martin Mengel / Talen Energy Supply, LLC

Comments:

I.D. No.	301309
Monitoring Point No.	MW-4-10
Sample Date	02/04/2020

FORM 14 R
QUARTERLY AND ANNUAL WATER QUALITY ANALYSES
ANALYTES

1-Q. Inorganics (Enter all data in mg/l except as noted)

ANALYTE	VALUE (T)	ANALYSIS METHOD NUMBER
Ammonia, as N (mg/l)	0.826	SM 4500-NH3-F
Bicarbonate (mg/l)	51.3	SM 2320B
Calcium, total (mg/l)	230	EPA 200.2/200.7/6010A
Calcium, dissolved (mg/l)	230	EPA 200.2/200.7/6010A
Chemical Oxygen Demand (mg/l)	20 <	SM 5220D
Chloride, total as Cl (mg/l)	9.33	EPA 300.0
Fluoride, total as F (mg/l)	0.2 <	EPA 300.0
Iron, total (µg/l)	700	EPA 200.2/200.7/6010A
Iron, dissolved (µg/l)	1.02 ND	EPA 200.2/200.7/6010A
Magnesium, total (mg/l)	16.8	EPA 200.2/200.7/6010A
Magnesium, dissolved (mg/l)	17.2	EPA 200.2/200.7/6010A
Manganese, total (µg/l)	1,890	EPA 200.2/200.7/6010A
Manganese, dissolved (µg/l)	1,920	EPA 200.2/200.7/6010A
Nitrate, as N (mg/l)	0.5 <	EPA 300.0
pH, field (su)	6.06	Field Meter
pH, lab (su)	6.17 H	SM 4500-H+B
Potassium, total (mg/l)	115	EPA 200.2/200.7/6010A
Potassium, dissolved (mg/l)	114	EPA 200.2/200.7/6010A
Sodium, total (mg/l)	79.1	EPA 200.2/200.7/6010A
Sodium, dissolved (mg/l)	75.9	EPA 200.2/200.7/6010A
Specific Conductance, field (umhos/cm)	1,813	Field Meter
Specific Conductance, lab (umhos/cm)	1,814	SM 2510 B
Sulfate, as SO4 (mg/l)	883	EPA 300.0
Alkalinity, total as CaCO3 (mg/l)	51.3	SM 2320B
Total Dissolved Solids (mg/l)	1,400	SM 2540B
Total Organic Carbon (mg/l)	0.65	SM 5310C
Turbidity, field (n.t.u.)	0.83	Field Meter
Dissolved O2, field (mg/l)	0.98	Field Meter
Redox, field (mv)	304.7	Field Meter
Temperature, field (°c)	12.85	Field Meter
Acidity, total as CaCO3 (mg/l)		

T Please indicate detection limit if analyte is not detected.

I.D. No.	301309
Monitoring Point No.	MW-4-10
Sample Date	02/04/2020

FORM 14 R
QUARTERLY AND ANNUAL WATER QUALITY ANALYSES

1-A. Organics (Enter all data in ug/l)

ANALYTE	VALUE (T)	ANALYSIS METHOD NUMBER
Benzene (µg/l)		
1,2-Dibromoethane (µg/l)		
1,1-Dichloroethane (µg/l)		
1,1-Dichloroethene (µg/l)		
1,2-Dichloroethane (µg/l)		
cis-1,2-Dichloroethene (µg/l)		
trans-1,2-Dichloroethene (µg/l)		
Ethylbenzene (µg/l)		
Methylene Chloride (µg/l)		
Tetrachloroethene (µg/l)		
Toluene (µg/l)		
1,1,1-Trichloroethane (µg/l)		
Trichloroethene (µg/l)		
Vinyl chloride (µg/l)		
Xylenes (µg/l)		

T Please indicate detection limit if analyte is not detected.

I.D. No.	301309
Monitoring Point No.	MW-4-10
Sample Date	02/04/2020

FORM 14 R

ANNUAL WATER QUALITY ANALYSES

2-A. Metals (Enter all data in ug/l) If initial background analyses of four consecutive analyses show essentially identical (within 5%) dissolved and total analyses, dissolved analyses may not be required, subject to written DEP approval.

ANALYTE	VALUE (T)	ANALYSIS METHOD NUMBER
Arsenic, total (µg/l)	1 <	EPA 200.2/200.8/6020A
Arsenic, dissolved (µg/l)	0.548 ND	EPA 200.2/200.8/6020A
Barium, total (µg/l)	20.8	EPA 200.2/200.8/6020A
Barium, dissolved (µg/l)	15.1	EPA 200.2/200.8/6020A
Cadmium, total (µg/l)	1.52	EPA 200.2/200.8/6020A
Cadmium, dissolved (µg/l)	1.4	EPA 200.2/200.8/6020A
Chromium, total (µg/l)	0.411 ND	EPA 200.2/200.8/6020A
Chromium, dissolved (µg/l)	0.411 ND	EPA 200.2/200.8/6020A
Copper, total (µg/l)	6.52	EPA 200.2/200.8/6020A
Copper, dissolved (µg/l)	2.58	EPA 200.2/200.8/6020A
Lead, total (µg/l)	1 <	EPA 200.2/200.8/6020A
Lead, dissolved (µg/l)	0.229 ND	EPA 200.2/200.8/6020A
Mercury, total (µg/l)	0.717 ND	EPA 200.8
Mercury, dissolved (µg/l)	0.717 ND	EPA 245.7
Selenium, total (µg/l)	10.1	EPA 200.2/200.8/6020A
Selenium, dissolved (µg/l)	9.41	EPA 200.2/200.8/6020A
Silver, total (µg/l)	0.132 ND	EPA 200.2/200.8/6020A
Silver, dissolved (µg/l)	0.132 ND	EPA 200.2/200.8/6020A
Zinc, total (µg/l)	42.1	EPA 200.0/200.8/6020
Zinc, dissolved (µg/l)	41.5	EPA 200.0/200.8/6020
Boron, total (µg/l)	2,230	EPA 200.2/200.7/6010A
Boron, dissolved (µg/l)	2,340	EPA 200.2/200.7/6010A
Lithium, total (µg/l)	1,140	EPA 200.2/200.8/6020A
Lithium, dissolved (µg/l)	1,200	EPA 200.2/200.8/6020A
Molybdenum, total (µg/l)	795	EPA 200.2/200.8/6020A
Molybdenum, dissolved (µg/l)	750	EPA 200.2/200.8/6020A
Strontium, total (µg/l)	1,870	EPA 200.0/200.7/6010
Strontium, dissolved (µg/l)	1,920	EPA 200.0/200.7/6010

T Please indicate detection limit if analyte is not detected.

I.D. No.	301309
Monitoring Point No.	MW-4-10
Sample Date	02/04/2020

FORM 14 R

ANNUAL WATER QUALITY ANALYSES

2-A. Metals (Enter all data in ug/l) If initial background analyses of four consecutive analyses show essentially identical (within 5%) dissolved and total analyses, dissolved analyses may not be required, subject to written DEP approval.

ANALYTE	VALUE (T)	ANALYSIS METHOD NUMBER
Aluminum, total (µg/l)	620	EPA 200.0/200.7/6010
Aluminum, dissolved (µg/l)	100 <	EPA 200.0/200.7/6010
Antimony, total (µg/l)	1 <	EPA 200.2/200.8/6020A
Antimony, dissolved (µg/l)	1 <	EPA 200.2/200.8/6020A
Beryllium, total (µg/l)	1 <	EPA 200.2/200.8/6020A
Beryllium, dissolved (µg/l)	0.071 ND	EPA 200.2/200.8/6020A
Cobalt, total (µg/l)		
Cobalt, dissolved (µg/l)		
Gallium, total (µg/l)		
Gallium, dissolved (µg/l)		
Germanium, total (µg/l)		
Germanium, dissolved (µg/l)		
Nickel, total (µg/l)	20	EPA 200.8
Nickel, dissolved (µg/l)	19.1	EPA 200.8
Rubidium, total (µg/l)		
Rubidium, dissolved (µg/l)		
Titanium, total (µg/l)	1.45 ND	EPA 200.2/200.8
Titanium, dissolved (µg/l)	1.45 ND	EPA 200.2/200.8
Vanadium, total (µg/l)	2.35 ND	EPA 200.8
Vanadium, dissolved (µg/l)	2.35 ND	EPA 200.8
Yttrium, total (µg/l)		
Yttrium, dissolved (µg/l)		

T Please indicate detection limit if analyte is not detected.


 Date Prepared/Revised
 03/12/2020

DEP USE ONLY

Date Received

FORM 14R RESIDUAL WASTE LANDFILLS AND DISPOSAL IMPOUNDMENTS QUARTERLY AND ANNUAL WATER QUALITY ANALYSES

This form must be fully and accurately completed. All required information must be typed or legibly printed in the spaces provided. If additional space is necessary, identify each attached sheet as Form 14R, reference the item number and identify the date prepared. The "date prepared/revised" on any attached sheets needs to match the "date prepared/revised" on this page.

General References: Section 288.254, 289.264

SECTION A. SITE IDENTIFIER

Applicant/permittee: Brunner Island, LLC - Basin No. 5

Site Name: Basin No. 5

Facility ID (as issued by DEP): 301309

SECTION B. FACILITY INFORMATION

Monitoring wells must be designed and constructed in accordance with Department standards. **INDICATE THE LATITUDE AND LONGITUDE TO THE NEAREST ONE TENTH OF A SECOND (DD° MM' SS.S").**

Monitoring Point Number: MW-4-7A

☒ Well ☐ Spring ☐ Stream ☐ Other

☒ Upgradient/Upstream ☐ Downgradient/Downstream

Location: County York

Municipality: East Manchester Township

Sampling Point: Latitude: 40° 5' 20.84"

Longitude: 76° 41' 34.11"

Depth to Water Level: 25.67 ft.

 Measured from: ☐ Land Surface ☒ TOC

Casing Stick Up: 2.23 ft.

Elevation of Water Level: 262.34 ft./MSL

Sampling Depth: 35.00 ft.

Volume of Water Column: gal.

Total Well Depth: 39.90 ft.

 Sampling Method: ☒ Pumped ☐ Bailed ☐ Grab

 Well Purged: ☒ Yes ☐ No

Well Volumes Purged: 4.5 L

 Sample Field Filtered (must be 0.45 micron)? ☒ Yes ☐ No

Spring Flow Rate: GPM

Sample Date (mm/dd/yy): 02/09/2020

Sample Collection Time: 2:09PM

Sample Collector's Name: AM

Sample Collector's Affiliation: Talen Generation, LLC

Laboratory(ies) Performing Analysis: Hawk Mtn Labs, Inc.

 Were any holding times exceeded? ☐ Yes ☒ No. If yes, please explain in comments field.

Lab Certification Number(s): 40-417

Lab Sample Number(s): 200101400-003

Final Lab Analysis Completion Date: 02/17/2020

Name/Affiliation of Person who Filled out Form Martin Mengel / Talen Energy Supply, LLC

Comments:

I.D. No.	301309
Monitoring Point No.	MW-4-7A
Sample Date	02/09/2020

FORM 14 R
QUARTERLY AND ANNUAL WATER QUALITY ANALYSES
ANALYTES

1-Q. Inorganics (Enter all data in mg/l except as noted)

ANALYTE	VALUE (T)	ANALYSIS METHOD NUMBER
Ammonia, as N (mg/l)	0.219	SM 4500-NH3-F
Bicarbonate (mg/l)	232	SM 2320B
Calcium, total (mg/l)	254	EPA 200.2/200.7/6010A
Calcium, dissolved (mg/l)	238	EPA 200.2/200.7/6010A
Chemical Oxygen Demand (mg/l)	20 <	SM 5220D
Chloride, total as Cl (mg/l)	15.5	EPA 300.0
Fluoride, total as F (mg/l)	0.2 <	EPA 300.0
Iron, total (µg/l)	1.02 ND	EPA 200.2/200.7/6010A
Iron, dissolved (µg/l)	20 <	EPA 200.2/200.7/6010A
Magnesium, total (mg/l)	42	EPA 200.2/200.7/6010A
Magnesium, dissolved (mg/l)	40.5	EPA 200.2/200.7/6010A
Manganese, total (µg/l)	198	EPA 200.2/200.7/6010A
Manganese, dissolved (µg/l)	188	EPA 200.2/200.7/6010A
Nitrate, as N (mg/l)	0.012 ND	EPA 300.0
pH, field (su)	6.92	Field Meter
pH, lab (su)	7.19 H	SM 4500-H+B
Potassium, total (mg/l)	4.22	EPA 200.2/200.7/6010A
Potassium, dissolved (mg/l)	4.02	EPA 200.2/200.7/6010A
Sodium, total (mg/l)	59.5	EPA 200.2/200.7/6010A
Sodium, dissolved (mg/l)	54.8	EPA 200.2/200.7/6010A
Specific Conductance, field (umhos/cm)	1,547	Field Meter
Specific Conductance, lab (umhos/cm)	1,528	SM 2510 B
Sulfate, as SO4 (mg/l)	634	EPA 300.0
Alkalinity, total as CaCO3 (mg/l)	232	SM 2320B
Total Dissolved Solids (mg/l)	1,140	SM 2540B
Total Organic Carbon (mg/l)	1.07	SM 5310C
Turbidity, field (n.t.u.)	0.4	Field Meter
Dissolved O2, field (mg/l)	0.71	Field Meter
Redox, field (mv)	42.3	Field Meter
Temperature, field (°c)	13.63	Field Meter
Acidity, total as CaCO3 (mg/l)		

T Please indicate detection limit if analyte is not detected.

I.D. No.	301309
Monitoring Point No.	MW-4-7A
Sample Date	02/09/2020

FORM 14 R
QUARTERLY AND ANNUAL WATER QUALITY ANALYSES

1-A. Organics (Enter all data in ug/l)

ANALYTE	VALUE (T)	ANALYSIS METHOD NUMBER
Benzene (µg/l)		
1,2-Dibromoethane (µg/l)		
1,1-Dichloroethane (µg/l)		
1,1-Dichloroethene (µg/l)		
1,2-Dichloroethane (µg/l)		
cis-1,2-Dichloroethene (µg/l)		
trans-1,2-Dichloroethene (µg/l)		
Ethylbenzene (µg/l)		
Methylene Chloride (µg/l)		
Tetrachloroethene (µg/l)		
Toluene (µg/l)		
1,1,1-Trichloroethane (µg/l)		
Trichloroethene (µg/l)		
Vinyl chloride (µg/l)		
Xylenes (µg/l)		

T Please indicate detection limit if analyte is not detected.

I.D. No.	301309
Monitoring Point No.	MW-4-7A
Sample Date	02/09/2020

FORM 14 R

ANNUAL WATER QUALITY ANALYSES

2-A. Metals (Enter all data in ug/l) If initial background analyses of four consecutive analyses show essentially identical (within 5%) dissolved and total analyses, dissolved analyses may not be required, subject to written DEP approval.

ANALYTE	VALUE (T)	ANALYSIS METHOD NUMBER
Arsenic, total (µg/l)	0.548 ND	EPA 200.2/200.8/6020A
Arsenic, dissolved (µg/l)	0.548 ND	EPA 200.2/200.8/6020A
Barium, total (µg/l)	21.2	EPA 200.2/200.8/6020A
Barium, dissolved (µg/l)	20.7	EPA 200.2/200.8/6020A
Cadmium, total (µg/l)	0.152 ND	EPA 200.2/200.8/6020A
Cadmium, dissolved (µg/l)	0.152 ND	EPA 200.2/200.8/6020A
Chromium, total (µg/l)	0.411 ND	EPA 200.2/200.8/6020A
Chromium, dissolved (µg/l)	0.411 ND	EPA 200.2/200.8/6020A
Copper, total (µg/l)	2.39	EPA 200.2/200.8/6020A
Copper, dissolved (µg/l)	2.19	EPA 200.2/200.8/6020A
Lead, total (µg/l)	0.229 ND	EPA 200.2/200.8/6020A
Lead, dissolved (µg/l)	0.229 ND	EPA 200.2/200.8/6020A
Mercury, total (µg/l)	0.717 ND	EPA 200.8
Mercury, dissolved (µg/l)	0.717 ND	EPA 245.7
Selenium, total (µg/l)	5 <	EPA 200.2/200.8/6020A
Selenium, dissolved (µg/l)	0.632 ND	EPA 200.2/200.8/6020A
Silver, total (µg/l)	0.132 ND	EPA 200.2/200.8/6020A
Silver, dissolved (µg/l)	0.132 ND	EPA 200.2/200.8/6020A
Zinc, total (µg/l)	5 <	EPA 200.0/200.8/6020
Zinc, dissolved (µg/l)	5 <	EPA 200.0/200.8/6020
Boron, total (µg/l)	1,770	EPA 200.2/200.7/6010A
Boron, dissolved (µg/l)	1,650	EPA 200.2/200.7/6010A
Lithium, total (µg/l)	175	EPA 200.2/200.8/6020A
Lithium, dissolved (µg/l)	168	EPA 200.2/200.8/6020A
Molybdenum, total (µg/l)	17.9	EPA 200.2/200.8/6020A
Molybdenum, dissolved (µg/l)	17.6	EPA 200.2/200.8/6020A
Strontium, total (µg/l)	360	EPA 200.0/200.7/6010
Strontium, dissolved (µg/l)	345	EPA 200.0/200.7/6010

T Please indicate detection limit if analyte is not detected.

I.D. No.	301309
Monitoring Point No.	MW-4-7A
Sample Date	02/09/2020

FORM 14 R

ANNUAL WATER QUALITY ANALYSES

2-A. Metals (Enter all data in ug/l) If initial background analyses of four consecutive analyses show essentially identical (within 5%) dissolved and total analyses, dissolved analyses may not be required, subject to written DEP approval.

ANALYTE	VALUE (T)	ANALYSIS METHOD NUMBER
Aluminum, total (µg/l)	26.8 ND	EPA 200.0/200.7/6010
Aluminum, dissolved (µg/l)	26.8 ND	EPA 200.0/200.7/6010
Antimony, total (µg/l)	0.179 ND	EPA 200.2/200.8/6020A
Antimony, dissolved (µg/l)	0.179 ND	EPA 200.2/200.8/6020A
Beryllium, total (µg/l)	0.071 ND	EPA 200.2/200.8/6020A
Beryllium, dissolved (µg/l)	0.071 ND	EPA 200.2/200.8/6020A
Cobalt, total (µg/l)		
Cobalt, dissolved (µg/l)		
Gallium, total (µg/l)		
Gallium, dissolved (µg/l)		
Germanium, total (µg/l)		
Germanium, dissolved (µg/l)		
Nickel, total (µg/l)	14	EPA 200.8
Nickel, dissolved (µg/l)	13.2	EPA 200.8
Rubidium, total (µg/l)		
Rubidium, dissolved (µg/l)		
Titanium, total (µg/l)	5 <	EPA 200.2/200.8
Titanium, dissolved (µg/l)	5 <	EPA 200.2/200.8
Vanadium, total (µg/l)	2.35 ND	EPA 200.8
Vanadium, dissolved (µg/l)	2.35 ND	EPA 200.8
Yttrium, total (µg/l)		
Yttrium, dissolved (µg/l)		

T Please indicate detection limit if analyte is not detected.


 Date Prepared/Revised
 03/12/2020

DEP USE ONLY

Date Received

FORM 14R

RESIDUAL WASTE LANDFILLS AND DISPOSAL IMPOUNDMENTS

QUARTERLY AND ANNUAL WATER QUALITY ANALYSES

This form must be fully and accurately completed. All required information must be typed or legibly printed in the spaces provided. If additional space is necessary, identify each attached sheet as Form 14R, reference the item number and identify the date prepared. The "date prepared/revised" on any attached sheets needs to match the "date prepared/revised" on this page.

General References: Section 288.254, 289.264

SECTION A. SITE IDENTIFIER

Applicant/permittee: Brunner Island, LLC - Basin No. 5

Site Name: Basin No. 5

Facility ID (as issued by DEP): 301309

SECTION B. FACILITY INFORMATION

Monitoring wells must be designed and constructed in accordance with Department standards. **INDICATE THE LATITUDE AND LONGITUDE TO THE NEAREST ONE TENTH OF A SECOND (DD° MM' SS.S").**

Monitoring Point Number: MW-8-10A

☒ Well ☐ Spring ☐ Stream ☐ Other

☐ Upgradient/Upstream ☒ Downgradient/Downstream

Location: County York

Municipality: East Manchester Township

Sampling Point: Latitude: 40° 5' 13.72"

Longitude: 76° 41' 31.84"

Depth to Water Level: 16.54 ft.

Measured from: ☐ Land Surface ☒ TOC

Casing Stick Up: 1.62 ft.

Elevation of Water Level: 259.93 ft./MSL

Sampling Depth: 32.00 ft.

Volume of Water Column: _____ gal.

Total Well Depth: 37.30 ft.

Sampling Method: ☒ Pumped ☐ Bailed ☐ GrabWell Purged: ☒ Yes ☐ No

Well Volumes Purged: 3 L

Sample Field Filtered (must be 0.45 micron)? ☒ Yes ☐ No

Spring Flow Rate: _____ GPM

Sample Date (mm/dd/yy): 02/02/2020

Sample Collection Time: 11:28AM

Sample Collector's Name: JO

Sample Collector's Affiliation: Talen Generation, LLC

Laboratory(ies) Performing Analysis: Hawk Mtn Labs, Inc.

Were any holding times exceeded? ☐ Yes ☒ No. If yes, please explain in comments field.

Lab Certification Number(s): 40-417

Lab Sample Number(s): 200101403-009

Final Lab Analysis Completion Date: 02/19/2020

Name/Affiliation of Person who Filled out Form Martin Mengel / Talen Energy Supply, LLC

Comments:

I.D. No.	301309
Monitoring Point No.	MW-8-10A
Sample Date	02/02/2020

FORM 14 R
QUARTERLY AND ANNUAL WATER QUALITY ANALYSES
ANALYTES

1-Q. Inorganics (Enter all data in mg/l except as noted)

ANALYTE	VALUE (T)	ANALYSIS METHOD NUMBER
Ammonia, as N (mg/l)	0.439	SM 4500-NH3-F
Bicarbonate (mg/l)	127	SM 2320B
Calcium, total (mg/l)	149	EPA 200.2/200.7/6010A
Calcium, dissolved (mg/l)	123	EPA 200.2/200.7/6010A
Chemical Oxygen Demand (mg/l)	5.3 ND	SM 5220D
Chloride, total as Cl (mg/l)	31.7	EPA 300.0
Fluoride, total as F (mg/l)	0.2 <	EPA 300.0
Iron, total (µg/l)	296	EPA 200.2/200.7/6010A
Iron, dissolved (µg/l)	1.02 ND	EPA 200.2/200.7/6010A
Magnesium, total (mg/l)	27	EPA 200.2/200.7/6010A
Magnesium, dissolved (mg/l)	27.8	EPA 200.2/200.7/6010A
Manganese, total (µg/l)	55	EPA 200.2/200.7/6010A
Manganese, dissolved (µg/l)	20 <	EPA 200.2/200.7/6010A
Nitrate, as N (mg/l)	0.5 <	EPA 300.0
pH, field (su)	7.07	Field Meter
pH, lab (su)	7.16 H	SM 4500-H+B
Potassium, total (mg/l)	2.24	EPA 200.2/200.7/6010A
Potassium, dissolved (mg/l)	2.29	EPA 200.2/200.7/6010A
Sodium, total (mg/l)	11.3	EPA 200.2/200.7/6010A
Sodium, dissolved (mg/l)	12.1	EPA 200.2/200.7/6010A
Specific Conductance, field (umhos/cm)	836	Field Meter
Specific Conductance, lab (umhos/cm)	830	SM 2510 B
Sulfate, as SO4 (mg/l)	253	EPA 300.0
Alkalinity, total as CaCO3 (mg/l)	127	SM 2320B
Total Dissolved Solids (mg/l)	574	SM 2540B
Total Organic Carbon (mg/l)	0.5 <	SM 5310C
Turbidity, field (n.t.u.)	0.36	Field Meter
Dissolved O2, field (mg/l)	5.96	Field Meter
Redox, field (mv)	269	Field Meter
Temperature, field (°c)	11	Field Meter
Acidity, total as CaCO3 (mg/l)		

T Please indicate detection limit if analyte is not detected.

I.D. No. 301309

Monitoring Point No. MW-8-10A

Sample Date 02/02/2020

FORM 14 R
QUARTERLY AND ANNUAL WATER QUALITY ANALYSES

1-A. Organics (Enter all data in ug/l)

ANALYTE	VALUE (T)	ANALYSIS METHOD NUMBER
Benzene (µg/l)		
1,2-Dibromoethane (µg/l)		
1,1-Dichloroethane (µg/l)		
1,1-Dichloroethene (µg/l)		
1,2-Dichloroethane (µg/l)		
cis-1,2-Dichloroethene (µg/l)		
trans-1,2-Dichloroethene (µg/l)		
Ethylbenzene (µg/l)		
Methylene Chloride (µg/l)		
Tetrachloroethene (µg/l)		
Toluene (µg/l)		
1,1,1-Trichloroethane (µg/l)		
Trichloroethene (µg/l)		
Vinyl chloride (µg/l)		
Xylenes (µg/l)		

T Please indicate detection limit if analyte is not detected.

I.D. No.	301309
Monitoring Point No.	MW-8-10A
Sample Date	02/02/2020

FORM 14 R

ANNUAL WATER QUALITY ANALYSES

2-A. Metals (Enter all data in ug/l) If initial background analyses of four consecutive analyses show essentially identical (within 5%) dissolved and total analyses, dissolved analyses may not be required, subject to written DEP approval.

ANALYTE	VALUE (T)	ANALYSIS METHOD NUMBER
Arsenic, total (µg/l)	0.548 ND	EPA 200.2/200.8/6020A
Arsenic, dissolved (µg/l)	0.548 ND	EPA 200.2/200.8/6020A
Barium, total (µg/l)	30	EPA 200.2/200.8/6020A
Barium, dissolved (µg/l)	16.1	EPA 200.2/200.8/6020A
Cadmium, total (µg/l)	0.152 ND	EPA 200.2/200.8/6020A
Cadmium, dissolved (µg/l)	0.152 ND	EPA 200.2/200.8/6020A
Chromium, total (µg/l)	0.411 ND	EPA 200.2/200.8/6020A
Chromium, dissolved (µg/l)	0.411 ND	EPA 200.2/200.8/6020A
Copper, total (µg/l)	1.19	EPA 200.2/200.8/6020A
Copper, dissolved (µg/l)	1 <	EPA 200.2/200.8/6020A
Lead, total (µg/l)	0.229 ND	EPA 200.2/200.8/6020A
Lead, dissolved (µg/l)	1 <	EPA 200.2/200.8/6020A
Mercury, total (µg/l)	0.717 ND	EPA 200.8
Mercury, dissolved (µg/l)	0.717 ND	EPA 245.7
Selenium, total (µg/l)	0.632 ND	EPA 200.2/200.8/6020A
Selenium, dissolved (µg/l)	0.632 ND	EPA 200.2/200.8/6020A
Silver, total (µg/l)	0.132 ND	EPA 200.2/200.8/6020A
Silver, dissolved (µg/l)	0.132 ND	EPA 200.2/200.8/6020A
Zinc, total (µg/l)	7.29	EPA 200.0/200.8/6020
Zinc, dissolved (µg/l)	5 <	EPA 200.0/200.8/6020
Boron, total (µg/l)	309	EPA 200.2/200.7/6010A
Boron, dissolved (µg/l)	316	EPA 200.2/200.7/6010A
Lithium, total (µg/l)	15.9	EPA 200.2/200.8/6020A
Lithium, dissolved (µg/l)	11	EPA 200.2/200.8/6020A
Molybdenum, total (µg/l)	24.8	EPA 200.2/200.8/6020A
Molybdenum, dissolved (µg/l)	18.9	EPA 200.2/200.8/6020A
Strontium, total (µg/l)	216	EPA 200.0/200.7/6010
Strontium, dissolved (µg/l)	232	EPA 200.0/200.7/6010

T Please indicate detection limit if analyte is not detected.

I.D. No.	301309
Monitoring Point No.	MW-8-10A
Sample Date	02/02/2020

FORM 14 R

ANNUAL WATER QUALITY ANALYSES

2-A. Metals (Enter all data in ug/l) If initial background analyses of four consecutive analyses show essentially identical (within 5%) dissolved and total analyses, dissolved analyses may not be required, subject to written DEP approval.

ANALYTE	VALUE (T)	ANALYSIS METHOD NUMBER
Aluminum, total (µg/l)	26.8 ND	EPA 200.0/200.7/6010
Aluminum, dissolved (µg/l)	26.8 ND	EPA 200.0/200.7/6010
Antimony, total (µg/l)	0.179 ND	EPA 200.2/200.8/6020A
Antimony, dissolved (µg/l)	0.179 ND	EPA 200.2/200.8/6020A
Beryllium, total (µg/l)	0.071 ND	EPA 200.2/200.8/6020A
Beryllium, dissolved (µg/l)	0.071 ND	EPA 200.2/200.8/6020A
Cobalt, total (µg/l)		
Cobalt, dissolved (µg/l)		
Gallium, total (µg/l)		
Gallium, dissolved (µg/l)		
Germanium, total (µg/l)		
Germanium, dissolved (µg/l)		
Nickel, total (µg/l)	1 <	EPA 200.8
Nickel, dissolved (µg/l)	0.166 ND	EPA 200.8
Rubidium, total (µg/l)		
Rubidium, dissolved (µg/l)		
Titanium, total (µg/l)	1.45 ND	EPA 200.2/200.8
Titanium, dissolved (µg/l)	1.45 ND	EPA 200.2/200.8
Vanadium, total (µg/l)	2.35 ND	EPA 200.8
Vanadium, dissolved (µg/l)	2.35 ND	EPA 200.8
Yttrium, total (µg/l)		
Yttrium, dissolved (µg/l)		

T Please indicate detection limit if analyte is not detected.


 Date Prepared/Revised
 03/12/2020

DEP USE ONLY

Date Received

FORM 14R

RESIDUAL WASTE LANDFILLS AND DISPOSAL IMPOUNDMENTS

QUARTERLY AND ANNUAL WATER QUALITY ANALYSES

This form must be fully and accurately completed. All required information must be typed or legibly printed in the spaces provided. If additional space is necessary, identify each attached sheet as Form 14R, reference the item number and identify the date prepared. The "date prepared/revised" on any attached sheets needs to match the "date prepared/revised" on this page.

General References: Section 288.254, 289.264

SECTION A. SITE IDENTIFIER

Applicant/permittee: Brunner Island, LLC - Basin No. 5

Site Name: Basin No. 5

Facility ID (as issued by DEP): 301309

SECTION B. FACILITY INFORMATION

Monitoring wells must be designed and constructed in accordance with Department standards. **INDICATE THE LATITUDE AND LONGITUDE TO THE NEAREST ONE TENTH OF A SECOND (DD° MM' SS.S").**

Monitoring Point Number: MW-8-10B

☒ Well ☐ Spring ☐ Stream ☐ Other

☐ Upgradient/Upstream ☒ Downgradient/Downstream

Location: County York

Municipality: East Manchester Township

Sampling Point: Latitude: 40° 5' 13.72"

Longitude: 76° 41' 31.84"

Depth to Water Level: 16.45 ft.

 Measured from: ☐ Land Surface ☒ TOC

Casing Stick Up: 1.44 ft.

Elevation of Water Level: 259.82 ft./MSL

Sampling Depth: 52.00 ft.

Volume of Water Column: gal.

Total Well Depth: 57.00 ft.

 Sampling Method: ☒ Pumped ☐ Bailed ☐ Grab

 Well Purged: ☒ Yes ☐ No

Well Volumes Purged: 3 L

 Sample Field Filtered (must be 0.45 micron)? ☒ Yes ☐ No

Spring Flow Rate: GPM

Sample Date (mm/dd/yy): 02/02/2020

Sample Collection Time: 9:30AM

Sample Collector's Name: JO

Sample Collector's Affiliation: Talen Generation, LLC

Laboratory(ies) Performing Analysis: Hawk Mtn Labs, Inc.

 Were any holding times exceeded? ☐ Yes ☒ No. If yes, please explain in comments field.

Lab Certification Number(s): 40-417

Lab Sample Number(s): 200101403-010

Final Lab Analysis Completion Date: 02/19/2020

Name/Affiliation of Person who Filled out Form Martin Mengel / Talen Energy Supply, LLC

Comments:

I.D. No.	301309
Monitoring Point No.	MW-8-10B
Sample Date	02/02/2020

FORM 14 R
QUARTERLY AND ANNUAL WATER QUALITY ANALYSES
ANALYTES

1-Q. Inorganics (Enter all data in mg/l except as noted)

ANALYTE	VALUE (T)	ANALYSIS METHOD NUMBER
Ammonia, as N (mg/l)	0.2 <	SM 4500-NH3-F
Bicarbonate (mg/l)	110	SM 2320B
Calcium, total (mg/l)	142	EPA 200.2/200.7/6010A
Calcium, dissolved (mg/l)	123	EPA 200.2/200.7/6010A
Chemical Oxygen Demand (mg/l)	5.3 ND	SM 5220D
Chloride, total as Cl (mg/l)	62.4	EPA 300.0
Fluoride, total as F (mg/l)	0.2 <	EPA 300.0
Iron, total (µg/l)	20 <	EPA 200.2/200.7/6010A
Iron, dissolved (µg/l)	20 <	EPA 200.2/200.7/6010A
Magnesium, total (mg/l)	23.4	EPA 200.2/200.7/6010A
Magnesium, dissolved (mg/l)	23.4	EPA 200.2/200.7/6010A
Manganese, total (µg/l)	6.39 ND	EPA 200.2/200.7/6010A
Manganese, dissolved (µg/l)	6.39 ND	EPA 200.2/200.7/6010A
Nitrate, as N (mg/l)	0.012 ND	EPA 300.0
pH, field (su)	7.67	Field Meter
pH, lab (su)	7.66 H	SM 4500-H+B
Potassium, total (mg/l)	2.43	EPA 200.2/200.7/6010A
Potassium, dissolved (mg/l)	2.3	EPA 200.2/200.7/6010A
Sodium, total (mg/l)	7.14	EPA 200.2/200.7/6010A
Sodium, dissolved (mg/l)	7.09	EPA 200.2/200.7/6010A
Specific Conductance, field (umhos/cm)	810	Field Meter
Specific Conductance, lab (umhos/cm)	800	SM 2510 B
Sulfate, as SO4 (mg/l)	188	EPA 300.0
Alkalinity, total as CaCO3 (mg/l)	110	SM 2320B
Total Dissolved Solids (mg/l)	497	SM 2540B
Total Organic Carbon (mg/l)	0.5 <	SM 5310C
Turbidity, field (n.t.u.)	0.31	Field Meter
Dissolved O2, field (mg/l)	0.91	Field Meter
Redox, field (mv)	244	Field Meter
Temperature, field (°c)	10.88	Field Meter
Acidity, total as CaCO3 (mg/l)		

T Please indicate detection limit if analyte is not detected.

I.D. No.	301309
Monitoring Point No.	MW-8-10B
Sample Date	02/02/2020

FORM 14 R
QUARTERLY AND ANNUAL WATER QUALITY ANALYSES

1-A. Organics (Enter all data in ug/l)

ANALYTE	VALUE (T)	ANALYSIS METHOD NUMBER
Benzene (µg/l)		
1,2-Dibromoethane (µg/l)		
1,1-Dichloroethane (µg/l)		
1,1-Dichloroethene (µg/l)		
1,2-Dichloroethane (µg/l)		
cis-1,2-Dichloroethene (µg/l)		
trans-1,2-Dichloroethene (µg/l)		
Ethylbenzene (µg/l)		
Methylene Chloride (µg/l)		
Tetrachloroethene (µg/l)		
Toluene (µg/l)		
1,1,1-Trichloroethane (µg/l)		
Trichloroethene (µg/l)		
Vinyl chloride (µg/l)		
Xylenes (µg/l)		

T Please indicate detection limit if analyte is not detected.

I.D. No.	301309
Monitoring Point No.	MW-8-10B
Sample Date	02/02/2020

FORM 14 R

ANNUAL WATER QUALITY ANALYSES

2-A. Metals (Enter all data in ug/l) If initial background analyses of four consecutive analyses show essentially identical (within 5%) dissolved and total analyses, dissolved analyses may not be required, subject to written DEP approval.

ANALYTE	VALUE (T)	ANALYSIS METHOD NUMBER
Arsenic, total (µg/l)	1.68	EPA 200.2/200.8/6020A
Arsenic, dissolved (µg/l)	1.35	EPA 200.2/200.8/6020A
Barium, total (µg/l)	46.8	EPA 200.2/200.8/6020A
Barium, dissolved (µg/l)	46.2	EPA 200.2/200.8/6020A
Cadmium, total (µg/l)	1 <	EPA 200.2/200.8/6020A
Cadmium, dissolved (µg/l)	0.152 ND	EPA 200.2/200.8/6020A
Chromium, total (µg/l)	0.411 ND	EPA 200.2/200.8/6020A
Chromium, dissolved (µg/l)	0.411 ND	EPA 200.2/200.8/6020A
Copper, total (µg/l)	1.28	EPA 200.2/200.8/6020A
Copper, dissolved (µg/l)	1 <	EPA 200.2/200.8/6020A
Lead, total (µg/l)	0.229 ND	EPA 200.2/200.8/6020A
Lead, dissolved (µg/l)	0.229 ND	EPA 200.2/200.8/6020A
Mercury, total (µg/l)	0.717 ND	EPA 200.8
Mercury, dissolved (µg/l)	0.717 ND	EPA 245.7
Selenium, total (µg/l)	0.632 ND	EPA 200.2/200.8/6020A
Selenium, dissolved (µg/l)	0.632 ND	EPA 200.2/200.8/6020A
Silver, total (µg/l)	0.132 ND	EPA 200.2/200.8/6020A
Silver, dissolved (µg/l)	0.132 ND	EPA 200.2/200.8/6020A
Zinc, total (µg/l)	5.04	EPA 200.0/200.8/6020
Zinc, dissolved (µg/l)	2.24 ND	EPA 200.0/200.8/6020
Boron, total (µg/l)	283	EPA 200.2/200.7/6010A
Boron, dissolved (µg/l)	279	EPA 200.2/200.7/6010A
Lithium, total (µg/l)	18	EPA 200.2/200.8/6020A
Lithium, dissolved (µg/l)	13.1	EPA 200.2/200.8/6020A
Molybdenum, total (µg/l)	34.7	EPA 200.2/200.8/6020A
Molybdenum, dissolved (µg/l)	28.4	EPA 200.2/200.8/6020A
Strontium, total (µg/l)	250	EPA 200.0/200.7/6010
Strontium, dissolved (µg/l)	240	EPA 200.0/200.7/6010

T Please indicate detection limit if analyte is not detected.

I.D. No.	301309
Monitoring Point No.	MW-8-10B
Sample Date	02/02/2020

FORM 14 R

ANNUAL WATER QUALITY ANALYSES

2-A. Metals (Enter all data in ug/l) If initial background analyses of four consecutive analyses show essentially identical (within 5%) dissolved and total analyses, dissolved analyses may not be required, subject to written DEP approval.

ANALYTE	VALUE (T)	ANALYSIS METHOD NUMBER
Aluminum, total (µg/l)	26.8 ND	EPA 200.0/200.7/6010
Aluminum, dissolved (µg/l)	26.8 ND	EPA 200.0/200.7/6010
Antimony, total (µg/l)	0.179 ND	EPA 200.2/200.8/6020A
Antimony, dissolved (µg/l)	0.179 ND	EPA 200.2/200.8/6020A
Beryllium, total (µg/l)	0.071 ND	EPA 200.2/200.8/6020A
Beryllium, dissolved (µg/l)	0.071 ND	EPA 200.2/200.8/6020A
Cobalt, total (µg/l)		
Cobalt, dissolved (µg/l)		
Gallium, total (µg/l)		
Gallium, dissolved (µg/l)		
Germanium, total (µg/l)		
Germanium, dissolved (µg/l)		
Nickel, total (µg/l)	1 <	EPA 200.8
Nickel, dissolved (µg/l)	0.166 ND	EPA 200.8
Rubidium, total (µg/l)		
Rubidium, dissolved (µg/l)		
Titanium, total (µg/l)	1.45 ND	EPA 200.2/200.8
Titanium, dissolved (µg/l)	1.45 ND	EPA 200.2/200.8
Vanadium, total (µg/l)	5 <	EPA 200.8
Vanadium, dissolved (µg/l)	5 <	EPA 200.8
Yttrium, total (µg/l)		
Yttrium, dissolved (µg/l)		

T Please indicate detection limit if analyte is not detected.


 Date Prepared/Revised
 03/12/2020

DEP USE ONLY

Date Received

FORM 14R RESIDUAL WASTE LANDFILLS AND DISPOSAL IMPOUNDMENTS QUARTERLY AND ANNUAL WATER QUALITY ANALYSES

This form must be fully and accurately completed. All required information must be typed or legibly printed in the spaces provided. If additional space is necessary, identify each attached sheet as Form 14R, reference the item number and identify the date prepared. The "date prepared/revised" on any attached sheets needs to match the "date prepared/revised" on this page.

General References: Section 288.254, 289.264

SECTION A. SITE IDENTIFIER

Applicant/permittee: Brunner Island, LLC - Basin No. 5

Site Name: Basin No. 5

Facility ID (as issued by DEP): 301309

SECTION B. FACILITY INFORMATION

Monitoring wells must be designed and constructed in accordance with Department standards. **INDICATE THE LATITUDE AND LONGITUDE TO THE NEAREST ONE TENTH OF A SECOND (DD° MM' SS.S").**

Monitoring Point Number: MW-8-1N

☒ Well
 ☐ Spring
 ☐ Stream
 ☐ Other

☐ Upgradient/Upstream
 ☒ Downgradient/Downstream

Location: County York

Municipality: East Manchester Township

Sampling Point: Latitude: 40° 4' 59.01"

Longitude: 76° 41' 21.00"

Depth to Water Level: 11.84 ft.

Measured from: ☐ Land Surface ☒ TOC

Casing Stick Up: 1.95 ft.

Elevation of Water Level: 268.8 ft./MSL

Sampling Depth: 23.00 ft.

Volume of Water Column: gal.

Total Well Depth: 26.30 ft.

Sampling Method: ☒ Pumped ☐ Bailed ☐ GrabWell Purged: ☒ Yes ☐ No

Well Volumes Purged: 2.75 L

Sample Field Filtered (must be 0.45 micron)? ☒ Yes ☐ No

Spring Flow Rate: GPM

Sample Date (mm/dd/yy): 02/02/2020

Sample Collection Time: 1:14PM

Sample Collector's Name: AF

Sample Collector's Affiliation: Talen Generation, LLC

Laboratory(ies) Performing Analysis: Hawk Mtn Labs, Inc.

Were any holding times exceeded? ☐ Yes ☒ No. If yes, please explain in comments field.

Lab Certification Number(s): 40-417

Lab Sample Number(s): 200101403-001

Final Lab Analysis Completion Date: 02/18/2020

Name/Affiliation of Person who Filled out Form Martin Mengel / Talen Energy Supply, LLC

Comments:

I.D. No.	301309
Monitoring Point No.	MW-8-1N
Sample Date	02/02/2020

FORM 14 R
QUARTERLY AND ANNUAL WATER QUALITY ANALYSES
ANALYTES

1-Q. Inorganics (Enter all data in mg/l except as noted)

ANALYTE	VALUE (T)	ANALYSIS METHOD NUMBER
Ammonia, as N (mg/l)	1.07	SM 4500-NH3-F
Bicarbonate (mg/l)	207	SM 2320B
Calcium, total (mg/l)	162	EPA 200.2/200.7/6010A
Calcium, dissolved (mg/l)	169	EPA 200.2/200.7/6010A
Chemical Oxygen Demand (mg/l)	20 <	SM 5220D
Chloride, total as Cl (mg/l)	21.7	EPA 300.0
Fluoride, total as F (mg/l)	0.25	EPA 300.0
Iron, total (µg/l)	760	EPA 200.2/200.7/6010A
Iron, dissolved (µg/l)	402	EPA 200.2/200.7/6010A
Magnesium, total (mg/l)	29.1	EPA 200.2/200.7/6010A
Magnesium, dissolved (mg/l)	30.3	EPA 200.2/200.7/6010A
Manganese, total (µg/l)	1,250	EPA 200.2/200.7/6010A
Manganese, dissolved (µg/l)	1,320	EPA 200.2/200.7/6010A
Nitrate, as N (mg/l)	0.5 <	EPA 300.0
pH, field (su)	6.7	Field Meter
pH, lab (su)	6.86 H	SM 4500-H+B
Potassium, total (mg/l)	6.5	EPA 200.2/200.7/6010A
Potassium, dissolved (mg/l)	6.63	EPA 200.2/200.7/6010A
Sodium, total (mg/l)	22.3	EPA 200.2/200.7/6010A
Sodium, dissolved (mg/l)	22.5	EPA 200.2/200.7/6010A
Specific Conductance, field (umhos/cm)	1,069	Field Meter
Specific Conductance, lab (umhos/cm)	1,060	SM 2510 B
Sulfate, as SO4 (mg/l)	340	EPA 300.0
Alkalinity, total as CaCO3 (mg/l)	207	SM 2320B
Total Dissolved Solids (mg/l)	742	SM 2540B
Total Organic Carbon (mg/l)	0.99	SM 5310C
Turbidity, field (n.t.u.)	3.54	Field Meter
Dissolved O2, field (mg/l)	0.85	Field Meter
Redox, field (mv)	-40.9	Field Meter
Temperature, field (°c)	10.57	Field Meter
Acidity, total as CaCO3 (mg/l)		

T Please indicate detection limit if analyte is not detected.

I.D. No.	301309
Monitoring Point No.	MW-8-1N
Sample Date	02/02/2020

FORM 14 R
QUARTERLY AND ANNUAL WATER QUALITY ANALYSES

1-A. Organics (Enter all data in ug/l)

ANALYTE	VALUE (T)	ANALYSIS METHOD NUMBER
Benzene (µg/l)		
1,2-Dibromoethane (µg/l)		
1,1-Dichloroethane (µg/l)		
1,1-Dichloroethene (µg/l)		
1,2-Dichloroethane (µg/l)		
cis-1,2-Dichloroethene (µg/l)		
trans-1,2-Dichloroethene (µg/l)		
Ethylbenzene (µg/l)		
Methylene Chloride (µg/l)		
Tetrachloroethene (µg/l)		
Toluene (µg/l)		
1,1,1-Trichloroethane (µg/l)		
Trichloroethene (µg/l)		
Vinyl chloride (µg/l)		
Xylenes (µg/l)		

T Please indicate detection limit if analyte is not detected.

I.D. No.	301309
Monitoring Point No.	MW-8-1N
Sample Date	02/02/2020

FORM 14 R

ANNUAL WATER QUALITY ANALYSES

2-A. Metals (Enter all data in ug/l) If initial background analyses of four consecutive analyses show essentially identical (within 5%) dissolved and total analyses, dissolved analyses may not be required, subject to written DEP approval.

ANALYTE	VALUE (T)	ANALYSIS METHOD NUMBER
Arsenic, total (µg/l)	0.548 ND	EPA 200.2/200.8/6020A
Arsenic, dissolved (µg/l)	0.548 ND	EPA 200.2/200.8/6020A
Barium, total (µg/l)	19.9	EPA 200.2/200.8/6020A
Barium, dissolved (µg/l)	20.1	EPA 200.2/200.8/6020A
Cadmium, total (µg/l)	2.31	EPA 200.2/200.8/6020A
Cadmium, dissolved (µg/l)	0.152 ND	EPA 200.2/200.8/6020A
Chromium, total (µg/l)	0.411 ND	EPA 200.2/200.8/6020A
Chromium, dissolved (µg/l)	0.411 ND	EPA 200.2/200.8/6020A
Copper, total (µg/l)	1 <	EPA 200.2/200.8/6020A
Copper, dissolved (µg/l)	1 <	EPA 200.2/200.8/6020A
Lead, total (µg/l)	0.229 ND	EPA 200.2/200.8/6020A
Lead, dissolved (µg/l)	0.229 ND	EPA 200.2/200.8/6020A
Mercury, total (µg/l)	0.717 ND	EPA 200.8
Mercury, dissolved (µg/l)	0.717 ND	EPA 245.7
Selenium, total (µg/l)	0.632 ND	EPA 200.2/200.8/6020A
Selenium, dissolved (µg/l)	0.632 ND	EPA 200.2/200.8/6020A
Silver, total (µg/l)	0.132 ND	EPA 200.2/200.8/6020A
Silver, dissolved (µg/l)	0.132 ND	EPA 200.2/200.8/6020A
Zinc, total (µg/l)	2.24 ND	EPA 200.0/200.8/6020
Zinc, dissolved (µg/l)	2.24 ND	EPA 200.0/200.8/6020
Boron, total (µg/l)	100 <	EPA 200.2/200.7/6010A
Boron, dissolved (µg/l)	100 <	EPA 200.2/200.7/6010A
Lithium, total (µg/l)	7.34	EPA 200.2/200.8/6020A
Lithium, dissolved (µg/l)	1.18	EPA 200.2/200.8/6020A
Molybdenum, total (µg/l)	1 <	EPA 200.2/200.8/6020A
Molybdenum, dissolved (µg/l)	1 <	EPA 200.2/200.8/6020A
Strontium, total (µg/l)	988	EPA 200.0/200.7/6010
Strontium, dissolved (µg/l)	995	EPA 200.0/200.7/6010

T Please indicate detection limit if analyte is not detected.

I.D. No.	301309
Monitoring Point No.	MW-8-1N
Sample Date	02/02/2020

FORM 14 R

ANNUAL WATER QUALITY ANALYSES

2-A. Metals (Enter all data in ug/l) If initial background analyses of four consecutive analyses show essentially identical (within 5%) dissolved and total analyses, dissolved analyses may not be required, subject to written DEP approval.

ANALYTE	VALUE (T)	ANALYSIS METHOD NUMBER
Aluminum, total (µg/l)	26.8 ND	EPA 200.0/200.7/6010
Aluminum, dissolved (µg/l)	26.8 ND	EPA 200.0/200.7/6010
Antimony, total (µg/l)	0.179 ND	EPA 200.2/200.8/6020A
Antimony, dissolved (µg/l)	0.179 ND	EPA 200.2/200.8/6020A
Beryllium, total (µg/l)	0.071 ND	EPA 200.2/200.8/6020A
Beryllium, dissolved (µg/l)	0.071 ND	EPA 200.2/200.8/6020A
Cobalt, total (µg/l)		
Cobalt, dissolved (µg/l)		
Gallium, total (µg/l)		
Gallium, dissolved (µg/l)		
Germanium, total (µg/l)		
Germanium, dissolved (µg/l)		
Nickel, total (µg/l)	1.06	EPA 200.8
Nickel, dissolved (µg/l)	1 <	EPA 200.8
Rubidium, total (µg/l)		
Rubidium, dissolved (µg/l)		
Titanium, total (µg/l)	1.45 ND	EPA 200.2/200.8
Titanium, dissolved (µg/l)	1.45 ND	EPA 200.2/200.8
Vanadium, total (µg/l)	2.35 ND	EPA 200.8
Vanadium, dissolved (µg/l)	2.35 ND	EPA 200.8
Yttrium, total (µg/l)		
Yttrium, dissolved (µg/l)		

T Please indicate detection limit if analyte is not detected.

Date Prepared/Revised
03/12/2020

DEP USE ONLY

Date Received

FORM 14R

RESIDUAL WASTE LANDFILLS AND DISPOSAL IMPOUNDMENTS

QUARTERLY AND ANNUAL WATER QUALITY ANALYSES

This form must be fully and accurately completed. All required information must be typed or legibly printed in the spaces provided. If additional space is necessary, identify each attached sheet as Form 14R, reference the item number and identify the date prepared. The "date prepared/revised" on any attached sheets needs to match the "date prepared/revised" on this page.

General References: Section 288.254, 289.264

SECTION A. SITE IDENTIFIER

Applicant/permittee: Brunner Island, LLC - Basin No. 5

Site Name: Basin No. 5

Facility ID (as issued by DEP): 301309

SECTION B. FACILITY INFORMATION

Monitoring wells must be designed and constructed in accordance with Department standards. **INDICATE THE LATITUDE AND LONGITUDE TO THE NEAREST ONE TENTH OF A SECOND (DD° MM' SS.S").**

Monitoring Point Number: MW-8-2

☒ Well ☐ Spring ☐ Stream ☐ Other☐ Upgradient/Upstream ☒ Downgradient/Downstream

Location: County York

Municipality: East Manchester Township

Sampling Point: Latitude: 40° 5' 4.33"

Longitude: 76° 40' 59.57"

Depth to Water Level: 2.91 ft.

Measured from: ☐ Land Surface ☒ TOC

Casing Stick Up: 2.00 ft.

Elevation of Water Level: 268.59 ft./MSL

Sampling Depth: 15.00 ft.

Volume of Water Column: gal.

Total Well Depth: 22.30 ft.

Sampling Method: ☒ Pumped ☐ Bailed ☐ GrabWell Purged: ☒ Yes ☐ No

Well Volumes Purged: 4.5 L

Sample Field Filtered (must be 0.45 micron)? ☒ Yes ☐ No

Spring Flow Rate: GPM

Sample Date (mm/dd/yy): 02/03/2020

Sample Collection Time: 9:02AM

Sample Collector's Name: ST

Sample Collector's Affiliation: Talen Generation, LLC

Laboratory(ies) Performing Analysis: Hawk Mtn Labs, Inc.

Were any holding times exceeded? ☐ Yes ☒ No. If yes, please explain in comments field.

Lab Certification Number(s): 40-417

Lab Sample Number(s): 200101403-002

Final Lab Analysis Completion Date: 02/17/2020

Name/Affiliation of Person who Filled out Form Martin Mengel / Talen Energy Supply, LLC

Comments:

I.D. No.	301309
Monitoring Point No.	MW-8-2
Sample Date	02/03/2020

FORM 14 R
QUARTERLY AND ANNUAL WATER QUALITY ANALYSES
ANALYTES

1-Q. Inorganics (Enter all data in mg/l except as noted)

ANALYTE	VALUE (T)	ANALYSIS METHOD NUMBER
Ammonia, as N (mg/l)	0.336	SM 4500-NH3-F
Bicarbonate (mg/l)	109	SM 2320B
Calcium, total (mg/l)	74.7	EPA 200.2/200.7/6010A
Calcium, dissolved (mg/l)	72.5	EPA 200.2/200.7/6010A
Chemical Oxygen Demand (mg/l)	5.3 ND	SM 5220D
Chloride, total as Cl (mg/l)	26.4	EPA 300.0
Fluoride, total as F (mg/l)	1.04	EPA 300.0
Iron, total (µg/l)	20 <	EPA 200.2/200.7/6010A
Iron, dissolved (µg/l)	20 <	EPA 200.2/200.7/6010A
Magnesium, total (mg/l)	13.3	EPA 200.2/200.7/6010A
Magnesium, dissolved (mg/l)	12.8	EPA 200.2/200.7/6010A
Manganese, total (µg/l)	264	EPA 200.2/200.7/6010A
Manganese, dissolved (µg/l)	257	EPA 200.2/200.7/6010A
Nitrate, as N (mg/l)	0.5 <	EPA 300.0
pH, field (su)	6.96	Field Meter
pH, lab (su)	6.69 H	SM 4500-H+B
Potassium, total (mg/l)	4.6	EPA 200.2/200.7/6010A
Potassium, dissolved (mg/l)	4.46	EPA 200.2/200.7/6010A
Sodium, total (mg/l)	12	EPA 200.2/200.7/6010A
Sodium, dissolved (mg/l)	12.6	EPA 200.2/200.7/6010A
Specific Conductance, field (umhos/cm)	536	Field Meter
Specific Conductance, lab (umhos/cm)	535	SM 2510 B
Sulfate, as SO4 (mg/l)	106	EPA 300.0
Alkalinity, total as CaCO3 (mg/l)	109	SM 2320B
Total Dissolved Solids (mg/l)	328	SM 2540B
Total Organic Carbon (mg/l)	0.751	SM 5310C
Turbidity, field (n.t.u.)	0.48	Field Meter
Dissolved O2, field (mg/l)	0.4	Field Meter
Redox, field (mv)	233.4	Field Meter
Temperature, field (°c)	10.28	Field Meter
Acidity, total as CaCO3 (mg/l)		

T Please indicate detection limit if analyte is not detected.

I.D. No.	301309
Monitoring Point No.	MW-8-2
Sample Date	02/03/2020

FORM 14 R
QUARTERLY AND ANNUAL WATER QUALITY ANALYSES

1-A. Organics (Enter all data in ug/l)

ANALYTE	VALUE (T)	ANALYSIS METHOD NUMBER
Benzene (µg/l)		
1,2-Dibromoethane (µg/l)		
1,1-Dichloroethane (µg/l)		
1,1-Dichloroethene (µg/l)		
1,2-Dichloroethane (µg/l)		
cis-1,2-Dichloroethene (µg/l)		
trans-1,2-Dichloroethene (µg/l)		
Ethylbenzene (µg/l)		
Methylene Chloride (µg/l)		
Tetrachloroethene (µg/l)		
Toluene (µg/l)		
1,1,1-Trichloroethane (µg/l)		
Trichloroethene (µg/l)		
Vinyl chloride (µg/l)		
Xylenes (µg/l)		

T Please indicate detection limit if analyte is not detected.

I.D. No.	301309
Monitoring Point No.	MW-8-2
Sample Date	02/03/2020

FORM 14 R

ANNUAL WATER QUALITY ANALYSES

2-A. Metals (Enter all data in ug/l) If initial background analyses of four consecutive analyses show essentially identical (within 5%) dissolved and total analyses, dissolved analyses may not be required, subject to written DEP approval.

ANALYTE	VALUE (T)	ANALYSIS METHOD NUMBER
Arsenic, total (µg/l)	0.548 ND	EPA 200.2/200.8/6020A
Arsenic, dissolved (µg/l)	0.548 ND	EPA 200.2/200.8/6020A
Barium, total (µg/l)	24	EPA 200.2/200.8/6020A
Barium, dissolved (µg/l)	23.7	EPA 200.2/200.8/6020A
Cadmium, total (µg/l)	1 <	EPA 200.2/200.8/6020A
Cadmium, dissolved (µg/l)	1 <	EPA 200.2/200.8/6020A
Chromium, total (µg/l)	0.411 ND	EPA 200.2/200.8/6020A
Chromium, dissolved (µg/l)	0.411 ND	EPA 200.2/200.8/6020A
Copper, total (µg/l)	1.02	EPA 200.2/200.8/6020A
Copper, dissolved (µg/l)	1.52	EPA 200.2/200.8/6020A
Lead, total (µg/l)	0.229 ND	EPA 200.2/200.8/6020A
Lead, dissolved (µg/l)	1 <	EPA 200.2/200.8/6020A
Mercury, total (µg/l)	0.717 ND	EPA 200.8
Mercury, dissolved (µg/l)	0.717 ND	EPA 245.7
Selenium, total (µg/l)	5 <	EPA 200.2/200.8/6020A
Selenium, dissolved (µg/l)	5 <	EPA 200.2/200.8/6020A
Silver, total (µg/l)	0.132 ND	EPA 200.2/200.8/6020A
Silver, dissolved (µg/l)	0.132 ND	EPA 200.2/200.8/6020A
Zinc, total (µg/l)	5 <	EPA 200.0/200.8/6020
Zinc, dissolved (µg/l)	5 <	EPA 200.0/200.8/6020
Boron, total (µg/l)	395	EPA 200.2/200.7/6010A
Boron, dissolved (µg/l)	371	EPA 200.2/200.7/6010A
Lithium, total (µg/l)	19.6	EPA 200.2/200.8/6020A
Lithium, dissolved (µg/l)	19.5	EPA 200.2/200.8/6020A
Molybdenum, total (µg/l)	275	EPA 200.2/200.8/6020A
Molybdenum, dissolved (µg/l)	269	EPA 200.2/200.8/6020A
Strontium, total (µg/l)	436	EPA 200.0/200.7/6010
Strontium, dissolved (µg/l)	419	EPA 200.0/200.7/6010

T Please indicate detection limit if analyte is not detected.

I.D. No.	301309
Monitoring Point No.	MW-8-2
Sample Date	02/03/2020

FORM 14 R

ANNUAL WATER QUALITY ANALYSES

2-A. Metals (Enter all data in ug/l) If initial background analyses of four consecutive analyses show essentially identical (within 5%) dissolved and total analyses, dissolved analyses may not be required, subject to written DEP approval.

ANALYTE	VALUE (T)	ANALYSIS METHOD NUMBER
Aluminum, total (µg/l)	26.8 ND	EPA 200.0/200.7/6010
Aluminum, dissolved (µg/l)	26.8 ND	EPA 200.0/200.7/6010
Antimony, total (µg/l)	1 <	EPA 200.2/200.8/6020A
Antimony, dissolved (µg/l)	0.179 ND	EPA 200.2/200.8/6020A
Beryllium, total (µg/l)	0.071 ND	EPA 200.2/200.8/6020A
Beryllium, dissolved (µg/l)	0.071 ND	EPA 200.2/200.8/6020A
Cobalt, total (µg/l)		
Cobalt, dissolved (µg/l)		
Gallium, total (µg/l)		
Gallium, dissolved (µg/l)		
Germanium, total (µg/l)		
Germanium, dissolved (µg/l)		
Nickel, total (µg/l)	5.28	EPA 200.8
Nickel, dissolved (µg/l)	5.14	EPA 200.8
Rubidium, total (µg/l)		
Rubidium, dissolved (µg/l)		
Titanium, total (µg/l)	1.45 ND	EPA 200.2/200.8
Titanium, dissolved (µg/l)	1.45 ND	EPA 200.2/200.8
Vanadium, total (µg/l)	2.35 ND	EPA 200.8
Vanadium, dissolved (µg/l)	2.35 ND	EPA 200.8
Yttrium, total (µg/l)		
Yttrium, dissolved (µg/l)		

T Please indicate detection limit if analyte is not detected.


 Date Prepared/Revised
 03/12/2020

DEP USE ONLY

Date Received

FORM 14R RESIDUAL WASTE LANDFILLS AND DISPOSAL IMPOUNDMENTS QUARTERLY AND ANNUAL WATER QUALITY ANALYSES

This form must be fully and accurately completed. All required information must be typed or legibly printed in the spaces provided. If additional space is necessary, identify each attached sheet as Form 14R, reference the item number and identify the date prepared. The "date prepared/revised" on any attached sheets needs to match the "date prepared/revised" on this page.

General References: Section 288.254, 289.264

SECTION A. SITE IDENTIFIER

Applicant/permittee: Brunner Island, LLC - Basin No. 5

Site Name: Basin No. 5

Facility ID (as issued by DEP): 301309

SECTION B. FACILITY INFORMATION

Monitoring wells must be designed and constructed in accordance with Department standards. **INDICATE THE LATITUDE AND LONGITUDE TO THE NEAREST ONE TENTH OF A SECOND (DD° MM' SS.S").**

Monitoring Point Number: MW-8-3A

☒ Well
 ☐ Spring
 ☐ Stream
 ☐ Other

☐ Upgradient/Upstream
 ☒ Downgradient/Downstream

Location: County York

Municipality: East Manchester Township

Sampling Point: Latitude: 40° 5' 12.49"

Longitude: 76° 41' 6.87"

Depth to Water Level: 9.18 ft.

Measured from: ☐ Land Surface ☒ TOC

Casing Stick Up: 1.72 ft.

Elevation of Water Level: 258.2 ft./MSL

Sampling Depth: 20.00 ft.

Volume of Water Column: gal.

Total Well Depth: 26.90 ft.

Sampling Method: ☒ Pumped ☐ Bailed ☐ GrabWell Purged: ☒ Yes ☐ No

Well Volumes Purged: 3 L

Sample Field Filtered (must be 0.45 micron)? ☒ Yes ☐ No

Spring Flow Rate: GPM

Sample Date (mm/dd/yy): 02/03/2020

Sample Collection Time: 11:15AM

Sample Collector's Name: ST

Sample Collector's Affiliation: Talen Generation, LLC

Laboratory(ies) Performing Analysis: Hawk Mtn Labs, Inc.

Were any holding times exceeded? ☐ Yes ☒ No. If yes, please explain in comments field.

Lab Certification Number(s): 40-417

Lab Sample Number(s): 200101403-003

Final Lab Analysis Completion Date: 02/27/2020

Name/Affiliation of Person who Filled out Form Martin Mengel / Talen Energy Supply, LLC

Comments:

I.D. No.	301309
Monitoring Point No.	MW-8-3A
Sample Date	02/03/2020

FORM 14 R
QUARTERLY AND ANNUAL WATER QUALITY ANALYSES
ANALYTES

1-Q. Inorganics (Enter all data in mg/l except as noted)

ANALYTE	VALUE (T)	ANALYSIS METHOD NUMBER
Ammonia, as N (mg/l)	0.346	SM 4500-NH3-F
Bicarbonate (mg/l)	181	SM 2320B
Calcium, total (mg/l)	151	EPA 200.2/200.7/6010A
Calcium, dissolved (mg/l)	143	EPA 200.2/200.7/6010A
Chemical Oxygen Demand (mg/l)	20 <	SM 5220D
Chloride, total as Cl (mg/l)	34.8	EPA 300.0
Fluoride, total as F (mg/l)	0.74	EPA 300.0
Iron, total (µg/l)	22,200	EPA 200.2/200.7/6010A
Iron, dissolved (µg/l)	204	EPA 200.2/200.7/6010A
Magnesium, total (mg/l)	32.5	EPA 200.2/200.7/6010A
Magnesium, dissolved (mg/l)	30.1	EPA 200.2/200.7/6010A
Manganese, total (µg/l)	6,290	EPA 200.2/200.7/6010A
Manganese, dissolved (µg/l)	2,770	EPA 200.2/200.7/6010A
Nitrate, as N (mg/l)	0.012 ND	EPA 300.0
pH, field (su)	6.47	Field Meter
pH, lab (su)	6.62 H	SM 4500-H+B
Potassium, total (mg/l)	3.41	EPA 200.2/200.7/6010A
Potassium, dissolved (mg/l)	2.95	EPA 200.2/200.7/6010A
Sodium, total (mg/l)	12.7	EPA 200.2/200.7/6010A
Sodium, dissolved (mg/l)	11.7	EPA 200.2/200.7/6010A
Specific Conductance, field (umhos/cm)	975	Field Meter
Specific Conductance, lab (umhos/cm)	974	SM 2510 B
Sulfate, as SO4 (mg/l)	278	EPA 300.0
Alkalinity, total as CaCO3 (mg/l)	181	SM 2320B
Total Dissolved Solids (mg/l)	678	SM 2540B
Total Organic Carbon (mg/l)	2.05	SM 5310C
Turbidity, field (n.t.u.)	80	Field Meter
Dissolved O2, field (mg/l)	2.87	Field Meter
Redox, field (mv)	102.4	Field Meter
Temperature, field (°c)	11.12	Field Meter
Acidity, total as CaCO3 (mg/l)		

T Please indicate detection limit if analyte is not detected.

I.D. No.	301309
Monitoring Point No.	MW-8-3A
Sample Date	02/03/2020

FORM 14 R
QUARTERLY AND ANNUAL WATER QUALITY ANALYSES

1-A. Organics (Enter all data in ug/l)

ANALYTE	VALUE (T)	ANALYSIS METHOD NUMBER
Benzene (µg/l)		
1,2-Dibromoethane (µg/l)		
1,1-Dichloroethane (µg/l)		
1,1-Dichloroethene (µg/l)		
1,2-Dichloroethane (µg/l)		
cis-1,2-Dichloroethene (µg/l)		
trans-1,2-Dichloroethene (µg/l)		
Ethylbenzene (µg/l)		
Methylene Chloride (µg/l)		
Tetrachloroethene (µg/l)		
Toluene (µg/l)		
1,1,1-Trichloroethane (µg/l)		
Trichloroethene (µg/l)		
Vinyl chloride (µg/l)		
Xylenes (µg/l)		

T Please indicate detection limit if analyte is not detected.

I.D. No.	301309
Monitoring Point No.	MW-8-3A
Sample Date	02/03/2020

FORM 14 R

ANNUAL WATER QUALITY ANALYSES

2-A. Metals (Enter all data in ug/l) If initial background analyses of four consecutive analyses show essentially identical (within 5%) dissolved and total analyses, dissolved analyses may not be required, subject to written DEP approval.

ANALYTE	VALUE (T)	ANALYSIS METHOD NUMBER
Arsenic, total (µg/l)	35.8	EPA 200.2/200.8/6020A
Arsenic, dissolved (µg/l)	0.548 ND	EPA 200.2/200.8/6020A
Barium, total (µg/l)	51.3	EPA 200.2/200.8/6020A
Barium, dissolved (µg/l)	22.7	EPA 200.2/200.8/6020A
Cadmium, total (µg/l)	0.152 ND	EPA 200.2/200.8/6020A
Cadmium, dissolved (µg/l)	0.152 ND	EPA 200.2/200.8/6020A
Chromium, total (µg/l)	0.411 ND	EPA 200.2/200.8/6020A
Chromium, dissolved (µg/l)	0.411 ND	EPA 200.2/200.8/6020A
Copper, total (µg/l)	1.94	EPA 200.2/200.8/6020A
Copper, dissolved (µg/l)	1.81	EPA 200.2/200.8/6020A
Lead, total (µg/l)	0.229 ND	EPA 200.2/200.8/6020A
Lead, dissolved (µg/l)	0.229 ND	EPA 200.2/200.8/6020A
Mercury, total (µg/l)	0.717 ND	EPA 200.8
Mercury, dissolved (µg/l)	0.717 ND	EPA 245.7
Selenium, total (µg/l)	0.632 ND	EPA 200.2/200.8/6020A
Selenium, dissolved (µg/l)	0.632 ND	EPA 200.2/200.8/6020A
Silver, total (µg/l)	0.132 ND	EPA 200.2/200.8/6020A
Silver, dissolved (µg/l)	0.132 ND	EPA 200.2/200.8/6020A
Zinc, total (µg/l)	12.2	EPA 200.0/200.8/6020
Zinc, dissolved (µg/l)	5.15	EPA 200.0/200.8/6020
Boron, total (µg/l)	416	EPA 200.2/200.7/6010A
Boron, dissolved (µg/l)	381	EPA 200.2/200.7/6010A
Lithium, total (µg/l)	13.4	EPA 200.2/200.8/6020A
Lithium, dissolved (µg/l)	13.2	EPA 200.2/200.8/6020A
Molybdenum, total (µg/l)	74.9	EPA 200.2/200.8/6020A
Molybdenum, dissolved (µg/l)	26.9	EPA 200.2/200.8/6020A
Strontium, total (µg/l)	874	EPA 200.0/200.7/6010
Strontium, dissolved (µg/l)	772	EPA 200.0/200.7/6010

T Please indicate detection limit if analyte is not detected.

I.D. No.	301309
Monitoring Point No.	MW-8-3A
Sample Date	02/03/2020

FORM 14 R

ANNUAL WATER QUALITY ANALYSES

2-A. Metals (Enter all data in ug/l) If initial background analyses of four consecutive analyses show essentially identical (within 5%) dissolved and total analyses, dissolved analyses may not be required, subject to written DEP approval.

ANALYTE	VALUE (T)	ANALYSIS METHOD NUMBER
Aluminum, total (µg/l)	26.8 ND	EPA 200.0/200.7/6010
Aluminum, dissolved (µg/l)	26.8 ND	EPA 200.0/200.7/6010
Antimony, total (µg/l)	0.179 ND	EPA 200.2/200.8/6020A
Antimony, dissolved (µg/l)	0.179 ND	EPA 200.2/200.8/6020A
Beryllium, total (µg/l)	0.071 ND	EPA 200.2/200.8/6020A
Beryllium, dissolved (µg/l)	0.071 ND	EPA 200.2/200.8/6020A
Cobalt, total (µg/l)		
Cobalt, dissolved (µg/l)		
Gallium, total (µg/l)		
Gallium, dissolved (µg/l)		
Germanium, total (µg/l)		
Germanium, dissolved (µg/l)		
Nickel, total (µg/l)	7.96	EPA 200.8
Nickel, dissolved (µg/l)	8.28	EPA 200.8
Rubidium, total (µg/l)		
Rubidium, dissolved (µg/l)		
Titanium, total (µg/l)	6.16	EPA 200.2/200.8
Titanium, dissolved (µg/l)	5 <	EPA 200.2/200.8
Vanadium, total (µg/l)	2.35 ND	EPA 200.8
Vanadium, dissolved (µg/l)	2.35 ND	EPA 200.8
Yttrium, total (µg/l)		
Yttrium, dissolved (µg/l)		

T Please indicate detection limit if analyte is not detected.


 Date Prepared/Revised
 03/12/2020

DEP USE ONLY

Date Received

FORM 14R RESIDUAL WASTE LANDFILLS AND DISPOSAL IMPOUNDMENTS QUARTERLY AND ANNUAL WATER QUALITY ANALYSES

This form must be fully and accurately completed. All required information must be typed or legibly printed in the spaces provided. If additional space is necessary, identify each attached sheet as Form 14R, reference the item number and identify the date prepared. The "date prepared/revised" on any attached sheets needs to match the "date prepared/revised" on this page.

General References: Section 288.254, 289.264

SECTION A. SITE IDENTIFIER

Applicant/permittee: Brunner Island, LLC - Basin No. 5

Site Name: Basin No. 5

Facility ID (as issued by DEP): 301309

SECTION B. FACILITY INFORMATION

Monitoring wells must be designed and constructed in accordance with Department standards. **INDICATE THE LATITUDE AND LONGITUDE TO THE NEAREST ONE TENTH OF A SECOND (DD° MM' SS.S").**

Monitoring Point Number: MW-8-3B

☒ Well
 ☐ Spring
 ☐ Stream
 ☐ Other

☐ Upgradient/Upstream
 ☒ Downgradient/Downstream

Location: County York

Municipality: East Manchester Township

Sampling Point: Latitude: 40° 5' 12.49"

Longitude: 76° 41' 6.87"

Depth to Water Level: 11.61 ft.

Measured from: ☐ Land Surface ☒ TOC

Casing Stick Up: 1.90 ft.

Elevation of Water Level: 256.1 ft./MSL

Sampling Depth: 40.00 ft.

Volume of Water Column: gal.

Total Well Depth: 47.00 ft.

Sampling Method: ☒ Pumped ☐ Bailed ☐ GrabWell Purged: ☒ Yes ☐ No

Well Volumes Purged: 3 L

Sample Field Filtered (must be 0.45 micron)? ☒ Yes ☐ No

Spring Flow Rate: GPM

Sample Date (mm/dd/yy): 02/03/2020

Sample Collection Time: 1:44PM

Sample Collector's Name: ST

Sample Collector's Affiliation: Talen Generation, LLC

Laboratory(ies) Performing Analysis: Hawk Mtn Labs, Inc.

Were any holding times exceeded? ☐ Yes ☒ No. If yes, please explain in comments field.

Lab Certification Number(s): 40-417

Lab Sample Number(s): 200101403-004

Final Lab Analysis Completion Date: 02/19/2020

Name/Affiliation of Person who Filled out Form Martin Mengel / Talen Energy Supply, LLC

Comments:

I.D. No.	301309
Monitoring Point No.	MW-8-3B
Sample Date	02/03/2020

FORM 14 R
QUARTERLY AND ANNUAL WATER QUALITY ANALYSES
ANALYTES

1-Q. Inorganics (Enter all data in mg/l except as noted)

ANALYTE	VALUE (T)	ANALYSIS METHOD NUMBER
Ammonia, as N (mg/l)	0.27	SM 4500-NH3-F
Bicarbonate (mg/l)	249	SM 2320B
Calcium, total (mg/l)	154	EPA 200.2/200.7/6010A
Calcium, dissolved (mg/l)	120	EPA 200.2/200.7/6010A
Chemical Oxygen Demand (mg/l)	5.3 ND	SM 5220D
Chloride, total as Cl (mg/l)	13.5	EPA 300.0
Fluoride, total as F (mg/l)	0.52	EPA 300.0
Iron, total (µg/l)	507	EPA 200.2/200.7/6010A
Iron, dissolved (µg/l)	336	EPA 200.2/200.7/6010A
Magnesium, total (mg/l)	23.1	EPA 200.2/200.7/6010A
Magnesium, dissolved (mg/l)	23.1	EPA 200.2/200.7/6010A
Manganese, total (µg/l)	1,170	EPA 200.2/200.7/6010A
Manganese, dissolved (µg/l)	1,140	EPA 200.2/200.7/6010A
Nitrate, as N (mg/l)	0.012 ND	EPA 300.0
pH, field (su)	7.01	Field Meter
pH, lab (su)	7.13 H	SM 4500-H+B
Potassium, total (mg/l)	1.64	EPA 200.2/200.7/6010A
Potassium, dissolved (mg/l)	1.58	EPA 200.2/200.7/6010A
Sodium, total (mg/l)	6.54	EPA 200.2/200.7/6010A
Sodium, dissolved (mg/l)	6.29	EPA 200.2/200.7/6010A
Specific Conductance, field (umhos/cm)	767	Field Meter
Specific Conductance, lab (umhos/cm)	759	SM 2510 B
Sulfate, as SO4 (mg/l)	137	EPA 300.0
Alkalinity, total as CaCO3 (mg/l)	249	SM 2320B
Total Dissolved Solids (mg/l)	465	SM 2540B
Total Organic Carbon (mg/l)	0.878	SM 5310C
Turbidity, field (n.t.u.)	0.98	Field Meter
Dissolved O2, field (mg/l)	0.65	Field Meter
Redox, field (mv)	7.8	Field Meter
Temperature, field (°c)	12.87	Field Meter
Acidity, total as CaCO3 (mg/l)		

T Please indicate detection limit if analyte is not detected.

I.D. No.	301309
Monitoring Point No.	MW-8-3B
Sample Date	02/03/2020

FORM 14 R
QUARTERLY AND ANNUAL WATER QUALITY ANALYSES

1-A. Organics (Enter all data in ug/l)

ANALYTE	VALUE (T)	ANALYSIS METHOD NUMBER
Benzene (µg/l)		
1,2-Dibromoethane (µg/l)		
1,1-Dichloroethane (µg/l)		
1,1-Dichloroethene (µg/l)		
1,2-Dichloroethane (µg/l)		
cis-1,2-Dichloroethene (µg/l)		
trans-1,2-Dichloroethene (µg/l)		
Ethylbenzene (µg/l)		
Methylene Chloride (µg/l)		
Tetrachloroethene (µg/l)		
Toluene (µg/l)		
1,1,1-Trichloroethane (µg/l)		
Trichloroethene (µg/l)		
Vinyl chloride (µg/l)		
Xylenes (µg/l)		

T Please indicate detection limit if analyte is not detected.

I.D. No.	301309
Monitoring Point No.	MW-8-3B
Sample Date	02/03/2020

FORM 14 R

ANNUAL WATER QUALITY ANALYSES

2-A. Metals (Enter all data in ug/l) If initial background analyses of four consecutive analyses show essentially identical (within 5%) dissolved and total analyses, dissolved analyses may not be required, subject to written DEP approval.

ANALYTE	VALUE (T)	ANALYSIS METHOD NUMBER
Arsenic, total (µg/l)	9.76	EPA 200.2/200.8/6020A
Arsenic, dissolved (µg/l)	7.95	EPA 200.2/200.8/6020A
Barium, total (µg/l)	62.5	EPA 200.2/200.8/6020A
Barium, dissolved (µg/l)	61.7	EPA 200.2/200.8/6020A
Cadmium, total (µg/l)	1 <	EPA 200.2/200.8/6020A
Cadmium, dissolved (µg/l)	0.152 ND	EPA 200.2/200.8/6020A
Chromium, total (µg/l)	0.411 ND	EPA 200.2/200.8/6020A
Chromium, dissolved (µg/l)	0.411 ND	EPA 200.2/200.8/6020A
Copper, total (µg/l)	1 <	EPA 200.2/200.8/6020A
Copper, dissolved (µg/l)	1 <	EPA 200.2/200.8/6020A
Lead, total (µg/l)	0.229 ND	EPA 200.2/200.8/6020A
Lead, dissolved (µg/l)	0.229 ND	EPA 200.2/200.8/6020A
Mercury, total (µg/l)	0.717 ND	EPA 200.8
Mercury, dissolved (µg/l)	0.717 ND	EPA 245.7
Selenium, total (µg/l)	0.632 ND	EPA 200.2/200.8/6020A
Selenium, dissolved (µg/l)	0.632 ND	EPA 200.2/200.8/6020A
Silver, total (µg/l)	0.132 ND	EPA 200.2/200.8/6020A
Silver, dissolved (µg/l)	0.132 ND	EPA 200.2/200.8/6020A
Zinc, total (µg/l)	22.8	EPA 200.0/200.8/6020
Zinc, dissolved (µg/l)	5 <	EPA 200.0/200.8/6020
Boron, total (µg/l)	356	EPA 200.2/200.7/6010A
Boron, dissolved (µg/l)	343	EPA 200.2/200.7/6010A
Lithium, total (µg/l)	33	EPA 200.2/200.8/6020A
Lithium, dissolved (µg/l)	25.8	EPA 200.2/200.8/6020A
Molybdenum, total (µg/l)	161	EPA 200.2/200.8/6020A
Molybdenum, dissolved (µg/l)	135	EPA 200.2/200.8/6020A
Strontium, total (µg/l)	352	EPA 200.0/200.7/6010
Strontium, dissolved (µg/l)	328	EPA 200.0/200.7/6010

T Please indicate detection limit if analyte is not detected.

I.D. No.	301309
Monitoring Point No.	MW-8-3B
Sample Date	02/03/2020

FORM 14 R

ANNUAL WATER QUALITY ANALYSES

2-A. Metals (Enter all data in ug/l) If initial background analyses of four consecutive analyses show essentially identical (within 5%) dissolved and total analyses, dissolved analyses may not be required, subject to written DEP approval.

ANALYTE	VALUE (T)	ANALYSIS METHOD NUMBER
Aluminum, total (µg/l)	26.8 ND	EPA 200.0/200.7/6010
Aluminum, dissolved (µg/l)	26.8 ND	EPA 200.0/200.7/6010
Antimony, total (µg/l)	0.179 ND	EPA 200.2/200.8/6020A
Antimony, dissolved (µg/l)	0.179 ND	EPA 200.2/200.8/6020A
Beryllium, total (µg/l)	0.071 ND	EPA 200.2/200.8/6020A
Beryllium, dissolved (µg/l)	0.071 ND	EPA 200.2/200.8/6020A
Cobalt, total (µg/l)		
Cobalt, dissolved (µg/l)		
Gallium, total (µg/l)		
Gallium, dissolved (µg/l)		
Germanium, total (µg/l)		
Germanium, dissolved (µg/l)		
Nickel, total (µg/l)	1 <	EPA 200.8
Nickel, dissolved (µg/l)	1 <	EPA 200.8
Rubidium, total (µg/l)		
Rubidium, dissolved (µg/l)		
Titanium, total (µg/l)	1.45 ND	EPA 200.2/200.8
Titanium, dissolved (µg/l)	1.45 ND	EPA 200.2/200.8
Vanadium, total (µg/l)	2.35 ND	EPA 200.8
Vanadium, dissolved (µg/l)	2.35 ND	EPA 200.8
Yttrium, total (µg/l)		
Yttrium, dissolved (µg/l)		

T Please indicate detection limit if analyte is not detected.

Date Prepared/Revised
03/12/2020

DEP USE ONLY

Date Received

FORM 14R

RESIDUAL WASTE LANDFILLS AND DISPOSAL IMPOUNDMENTS

QUARTERLY AND ANNUAL WATER QUALITY ANALYSES

This form must be fully and accurately completed. All required information must be typed or legibly printed in the spaces provided. If additional space is necessary, identify each attached sheet as Form 14R, reference the item number and identify the date prepared. The "date prepared/revised" on any attached sheets needs to match the "date prepared/revised" on this page.

General References: Section 288.254, 289.264

SECTION A. SITE IDENTIFIER

Applicant/permittee: Brunner Island, LLC - Basin No. 5

Site Name: Basin No. 5

Facility ID (as issued by DEP): 301309

SECTION B. FACILITY INFORMATION

Monitoring wells must be designed and constructed in accordance with Department standards. **INDICATE THE LATITUDE AND LONGITUDE TO THE NEAREST ONE TENTH OF A SECOND (DD° MM' SS.S").**

Monitoring Point Number: MW-8-4

☒ Well ☐ Spring ☐ Stream ☐ Other☐ Upgradient/Upstream ☒ Downgradient/Downstream

Location: County York

Municipality: East Manchester Township

Sampling Point: Latitude: 40° 5' 25.61"

Longitude: 76° 41' 13.82"

Depth to Water Level: 12.39 ft.

Measured from: ☐ Land Surface ☒ TOC

Casing Stick Up: 1.81 ft.

Elevation of Water Level: 257.8 ft./MSL

Sampling Depth: 18.00 ft.

Volume of Water Column: gal.

Total Well Depth: 21.70 ft.

Sampling Method: ☒ Pumped ☐ Bailed ☐ GrabWell Purged: ☒ Yes ☐ No

Well Volumes Purged: 3.3 L

Sample Field Filtered (must be 0.45 micron)? ☒ Yes ☐ No

Spring Flow Rate: GPM

Sample Date (mm/dd/yy): 02/04/2020

Sample Collection Time: 8:55AM

Sample Collector's Name: ST

Sample Collector's Affiliation: Talen Generation, LLC

Laboratory(ies) Performing Analysis: Hawk Mtn Labs, Inc.

Were any holding times exceeded? ☐ Yes ☒ No. If yes, please explain in comments field.

Lab Certification Number(s): 40-417

Lab Sample Number(s): 200101403-005

Final Lab Analysis Completion Date: 02/18/2020

Name/Affiliation of Person who Filled out Form Martin Mengel / Talen Energy Supply, LLC

Comments:

I.D. No.	301309
Monitoring Point No.	MW-8-4
Sample Date	02/04/2020

FORM 14 R
QUARTERLY AND ANNUAL WATER QUALITY ANALYSES
ANALYTES

1-Q. Inorganics (Enter all data in mg/l except as noted)

ANALYTE	VALUE (T)	ANALYSIS METHOD NUMBER
Ammonia, as N (mg/l)	0.109 ND	SM 4500-NH3-F
Bicarbonate (mg/l)	47.6	SM 2320B
Calcium, total (mg/l)	124	EPA 200.2/200.7/6010A
Calcium, dissolved (mg/l)	119	EPA 200.2/200.7/6010A
Chemical Oxygen Demand (mg/l)	20 <	SM 5220D
Chloride, total as Cl (mg/l)	18	EPA 300.0
Fluoride, total as F (mg/l)	0.32	EPA 300.0
Iron, total (µg/l)	20 <	EPA 200.2/200.7/6010A
Iron, dissolved (µg/l)	20 <	EPA 200.2/200.7/6010A
Magnesium, total (mg/l)	43.2	EPA 200.2/200.7/6010A
Magnesium, dissolved (mg/l)	41.2	EPA 200.2/200.7/6010A
Manganese, total (µg/l)	9,660	EPA 200.2/200.7/6010A
Manganese, dissolved (µg/l)	9,570	EPA 200.2/200.7/6010A
Nitrate, as N (mg/l)	0.5 <	EPA 300.0
pH, field (su)	5.77	Field Meter
pH, lab (su)	5.98 H	SM 4500-H+B
Potassium, total (mg/l)	1.71	EPA 200.2/200.7/6010A
Potassium, dissolved (mg/l)	1.58	EPA 200.2/200.7/6010A
Sodium, total (mg/l)	15.6	EPA 200.2/200.7/6010A
Sodium, dissolved (mg/l)	15.2	EPA 200.2/200.7/6010A
Specific Conductance, field (umhos/cm)	992	Field Meter
Specific Conductance, lab (umhos/cm)	974	SM 2510 B
Sulfate, as SO4 (mg/l)	449	EPA 300.0
Alkalinity, total as CaCO3 (mg/l)	47.6	SM 2320B
Total Dissolved Solids (mg/l)	747	SM 2540B
Total Organic Carbon (mg/l)	0.894	SM 5310C
Turbidity, field (n.t.u.)	0.84	Field Meter
Dissolved O2, field (mg/l)	1.27	Field Meter
Redox, field (mv)	357.3	Field Meter
Temperature, field (°c)	11.09	Field Meter
Acidity, total as CaCO3 (mg/l)		

T Please indicate detection limit if analyte is not detected.

I.D. No.	301309
Monitoring Point No.	MW-8-4
Sample Date	02/04/2020

FORM 14 R
QUARTERLY AND ANNUAL WATER QUALITY ANALYSES

1-A. Organics (Enter all data in ug/l)

ANALYTE	VALUE (T)	ANALYSIS METHOD NUMBER
Benzene (µg/l)		
1,2-Dibromoethane (µg/l)		
1,1-Dichloroethane (µg/l)		
1,1-Dichloroethene (µg/l)		
1,2-Dichloroethane (µg/l)		
cis-1,2-Dichloroethene (µg/l)		
trans-1,2-Dichloroethene (µg/l)		
Ethylbenzene (µg/l)		
Methylene Chloride (µg/l)		
Tetrachloroethene (µg/l)		
Toluene (µg/l)		
1,1,1-Trichloroethane (µg/l)		
Trichloroethene (µg/l)		
Vinyl chloride (µg/l)		
Xylenes (µg/l)		

T Please indicate detection limit if analyte is not detected.

I.D. No.	301309
Monitoring Point No.	MW-8-4
Sample Date	02/04/2020

FORM 14 R

ANNUAL WATER QUALITY ANALYSES

2-A. Metals (Enter all data in ug/l) If initial background analyses of four consecutive analyses show essentially identical (within 5%) dissolved and total analyses, dissolved analyses may not be required, subject to written DEP approval.

ANALYTE	VALUE (T)	ANALYSIS METHOD NUMBER
Arsenic, total (µg/l)	0.548 ND	EPA 200.2/200.8/6020A
Arsenic, dissolved (µg/l)	0.548 ND	EPA 200.2/200.8/6020A
Barium, total (µg/l)	16.3	EPA 200.2/200.8/6020A
Barium, dissolved (µg/l)	14	EPA 200.2/200.8/6020A
Cadmium, total (µg/l)	1.31	EPA 200.2/200.8/6020A
Cadmium, dissolved (µg/l)	1.28	EPA 200.2/200.8/6020A
Chromium, total (µg/l)	0.411 ND	EPA 200.2/200.8/6020A
Chromium, dissolved (µg/l)	0.411 ND	EPA 200.2/200.8/6020A
Copper, total (µg/l)	3.53	EPA 200.2/200.8/6020A
Copper, dissolved (µg/l)	3.5	EPA 200.2/200.8/6020A
Lead, total (µg/l)	0.229 ND	EPA 200.2/200.8/6020A
Lead, dissolved (µg/l)	0.229 ND	EPA 200.2/200.8/6020A
Mercury, total (µg/l)	0.717 ND	EPA 200.8
Mercury, dissolved (µg/l)	0.717 ND	EPA 245.7
Selenium, total (µg/l)	0.632 ND	EPA 200.2/200.8/6020A
Selenium, dissolved (µg/l)	0.632 ND	EPA 200.2/200.8/6020A
Silver, total (µg/l)	0.132 ND	EPA 200.2/200.8/6020A
Silver, dissolved (µg/l)	0.132 ND	EPA 200.2/200.8/6020A
Zinc, total (µg/l)	92.5	EPA 200.0/200.8/6020
Zinc, dissolved (µg/l)	73.5	EPA 200.0/200.8/6020
Boron, total (µg/l)	317	EPA 200.2/200.7/6010A
Boron, dissolved (µg/l)	298	EPA 200.2/200.7/6010A
Lithium, total (µg/l)	18.7	EPA 200.2/200.8/6020A
Lithium, dissolved (µg/l)	22.8	EPA 200.2/200.8/6020A
Molybdenum, total (µg/l)	1 <	EPA 200.2/200.8/6020A
Molybdenum, dissolved (µg/l)	1 <	EPA 200.2/200.8/6020A
Strontium, total (µg/l)	307	EPA 200.0/200.7/6010
Strontium, dissolved (µg/l)	290	EPA 200.0/200.7/6010

T Please indicate detection limit if analyte is not detected.

I.D. No.	301309
Monitoring Point No.	MW-8-4
Sample Date	02/04/2020

FORM 14 R

ANNUAL WATER QUALITY ANALYSES

2-A. Metals (Enter all data in ug/l) If initial background analyses of four consecutive analyses show essentially identical (within 5%) dissolved and total analyses, dissolved analyses may not be required, subject to written DEP approval.

ANALYTE	VALUE (T)	ANALYSIS METHOD NUMBER
Aluminum, total (µg/l)	316	EPA 200.0/200.7/6010
Aluminum, dissolved (µg/l)	122	EPA 200.0/200.7/6010
Antimony, total (µg/l)	0.179 ND	EPA 200.2/200.8/6020A
Antimony, dissolved (µg/l)	0.179 ND	EPA 200.2/200.8/6020A
Beryllium, total (µg/l)	1 <	EPA 200.2/200.8/6020A
Beryllium, dissolved (µg/l)	1 <	EPA 200.2/200.8/6020A
Cobalt, total (µg/l)		
Cobalt, dissolved (µg/l)		
Gallium, total (µg/l)		
Gallium, dissolved (µg/l)		
Germanium, total (µg/l)		
Germanium, dissolved (µg/l)		
Nickel, total (µg/l)	90.9	EPA 200.8
Nickel, dissolved (µg/l)	82.3	EPA 200.8
Rubidium, total (µg/l)		
Rubidium, dissolved (µg/l)		
Titanium, total (µg/l)	5 <	EPA 200.2/200.8
Titanium, dissolved (µg/l)	5 <	EPA 200.2/200.8
Vanadium, total (µg/l)	2.35 ND	EPA 200.8
Vanadium, dissolved (µg/l)	2.35 ND	EPA 200.8
Yttrium, total (µg/l)		
Yttrium, dissolved (µg/l)		

T Please indicate detection limit if analyte is not detected.


 Date Prepared/Revised
 03/12/2020

DEP USE ONLY

Date Received

FORM 14R

RESIDUAL WASTE LANDFILLS AND DISPOSAL IMPOUNDMENTS

QUARTERLY AND ANNUAL WATER QUALITY ANALYSES

This form must be fully and accurately completed. All required information must be typed or legibly printed in the spaces provided. If additional space is necessary, identify each attached sheet as Form 14R, reference the item number and identify the date prepared. The "date prepared/revised" on any attached sheets needs to match the "date prepared/revised" on this page.

General References: Section 288.254, 289.264

SECTION A. SITE IDENTIFIER

Applicant/permittee: Brunner Island, LLC - Basin No. 5

Site Name: Basin No. 5

Facility ID (as issued by DEP): 301309

SECTION B. FACILITY INFORMATION

Monitoring wells must be designed and constructed in accordance with Department standards. **INDICATE THE LATITUDE AND LONGITUDE TO THE NEAREST ONE TENTH OF A SECOND (DD° MM' SS.S").**

Monitoring Point Number: MW-8-5A

☒ Well ☐ Spring ☐ Stream ☐ Other

☐ Upgradient/Upstream ☒ Downgradient/Downstream

Location: County York

Municipality: East Manchester Township

Sampling Point: Latitude: 40° 5' 16.91"

Longitude: 76° 41' 31.04"

Depth to Water Level: 23.02 ft.

 Measured from: ☐ Land Surface ☒ TOC

Casing Stick Up: 1.97 ft.

Elevation of Water Level: 262.02 ft./MSL

Sampling Depth: 33.00 ft.

Volume of Water Column: gal.

Total Well Depth: 39.20 ft.

 Sampling Method: ☒ Pumped ☐ Bailed ☐ Grab

 Well Purged: ☒ Yes ☐ No

Well Volumes Purged: 3 L

 Sample Field Filtered (must be 0.45 micron)? ☒ Yes ☐ No

Spring Flow Rate: GPM

Sample Date (mm/dd/yy): 02/05/2020

Sample Collection Time: 10:48AM

Sample Collector's Name: AF

Sample Collector's Affiliation: Talen Generation, LLC

Laboratory(ies) Performing Analysis: Hawk Mtn Labs, Inc.

 Were any holding times exceeded? ☐ Yes ☒ No. If yes, please explain in comments field.

Lab Certification Number(s): 40-417

Lab Sample Number(s): 200101403-006

Final Lab Analysis Completion Date: 02/18/2020

Name/Affiliation of Person who Filled out Form Martin Mengel / Talen Energy Supply, LLC

Comments:

I.D. No.	301309
Monitoring Point No.	MW-8-5A
Sample Date	02/05/2020

FORM 14 R
QUARTERLY AND ANNUAL WATER QUALITY ANALYSES
ANALYTES

1-Q. Inorganics (Enter all data in mg/l except as noted)

ANALYTE	VALUE (T)	ANALYSIS METHOD NUMBER
Ammonia, as N (mg/l)	0.381	SM 4500-NH3-F
Bicarbonate (mg/l)	251	SM 2320B
Calcium, total (mg/l)	164	EPA 200.2/200.7/6010A
Calcium, dissolved (mg/l)	165	EPA 200.2/200.7/6010A
Chemical Oxygen Demand (mg/l)	5.3 ND	SM 5220D
Chloride, total as Cl (mg/l)	28.1	EPA 300.0
Fluoride, total as F (mg/l)	0.98	EPA 300.0
Iron, total (µg/l)	20 <	EPA 200.2/200.7/6010A
Iron, dissolved (µg/l)	1.02 ND	EPA 200.2/200.7/6010A
Magnesium, total (mg/l)	37.3	EPA 200.2/200.7/6010A
Magnesium, dissolved (mg/l)	37	EPA 200.2/200.7/6010A
Manganese, total (µg/l)	371	EPA 200.2/200.7/6010A
Manganese, dissolved (µg/l)	375	EPA 200.2/200.7/6010A
Nitrate, as N (mg/l)	0.012 ND	EPA 300.0
pH, field (su)	7.12	Field Meter
pH, lab (su)	7.31 H	SM 4500-H+B
Potassium, total (mg/l)	4.26	EPA 200.2/200.7/6010A
Potassium, dissolved (mg/l)	4.21	EPA 200.2/200.7/6010A
Sodium, total (mg/l)	10.3	EPA 200.2/200.7/6010A
Sodium, dissolved (mg/l)	10.8	EPA 200.2/200.7/6010A
Specific Conductance, field (umhos/cm)	1,062	Field Meter
Specific Conductance, lab (umhos/cm)	1,063	SM 2510 B
Sulfate, as SO4 (mg/l)	291	EPA 300.0
Alkalinity, total as CaCO3 (mg/l)	251	SM 2320B
Total Dissolved Solids (mg/l)	728	SM 2540B
Total Organic Carbon (mg/l)	0.553	SM 5310C
Turbidity, field (n.t.u.)	0.29	Field Meter
Dissolved O2, field (mg/l)	0.82	Field Meter
Redox, field (mv)	-27.7	Field Meter
Temperature, field (°c)	12.68	Field Meter
Acidity, total as CaCO3 (mg/l)		

T Please indicate detection limit if analyte is not detected.

I.D. No.	301309
Monitoring Point No.	MW-8-5A
Sample Date	02/05/2020

FORM 14 R
QUARTERLY AND ANNUAL WATER QUALITY ANALYSES

1-A. Organics (Enter all data in ug/l)

ANALYTE	VALUE (T)	ANALYSIS METHOD NUMBER
Benzene (µg/l)		
1,2-Dibromoethane (µg/l)		
1,1-Dichloroethane (µg/l)		
1,1-Dichloroethene (µg/l)		
1,2-Dichloroethane (µg/l)		
cis-1,2-Dichloroethene (µg/l)		
trans-1,2-Dichloroethene (µg/l)		
Ethylbenzene (µg/l)		
Methylene Chloride (µg/l)		
Tetrachloroethene (µg/l)		
Toluene (µg/l)		
1,1,1-Trichloroethane (µg/l)		
Trichloroethene (µg/l)		
Vinyl chloride (µg/l)		
Xylenes (µg/l)		

T Please indicate detection limit if analyte is not detected.

I.D. No.	301309
Monitoring Point No.	MW-8-5A
Sample Date	02/05/2020

FORM 14 R

ANNUAL WATER QUALITY ANALYSES

2-A. Metals (Enter all data in ug/l) If initial background analyses of four consecutive analyses show essentially identical (within 5%) dissolved and total analyses, dissolved analyses may not be required, subject to written DEP approval.

ANALYTE	VALUE (T)	ANALYSIS METHOD NUMBER
Arsenic, total (µg/l)	89.3	EPA 200.2/200.8/6020A
Arsenic, dissolved (µg/l)	89.7	EPA 200.2/200.8/6020A
Barium, total (µg/l)	45	EPA 200.2/200.8/6020A
Barium, dissolved (µg/l)	43.1	EPA 200.2/200.8/6020A
Cadmium, total (µg/l)	1 <	EPA 200.2/200.8/6020A
Cadmium, dissolved (µg/l)	1 <	EPA 200.2/200.8/6020A
Chromium, total (µg/l)	0.411 ND	EPA 200.2/200.8/6020A
Chromium, dissolved (µg/l)	0.411 ND	EPA 200.2/200.8/6020A
Copper, total (µg/l)	3.42	EPA 200.2/200.8/6020A
Copper, dissolved (µg/l)	1.5	EPA 200.2/200.8/6020A
Lead, total (µg/l)	0.229 ND	EPA 200.2/200.8/6020A
Lead, dissolved (µg/l)	0.229 ND	EPA 200.2/200.8/6020A
Mercury, total (µg/l)	0.717 ND	EPA 200.8
Mercury, dissolved (µg/l)	0.717 ND	EPA 245.7
Selenium, total (µg/l)	0.632 ND	EPA 200.2/200.8/6020A
Selenium, dissolved (µg/l)	0.632 ND	EPA 200.2/200.8/6020A
Silver, total (µg/l)	0.132 ND	EPA 200.2/200.8/6020A
Silver, dissolved (µg/l)	0.132 ND	EPA 200.2/200.8/6020A
Zinc, total (µg/l)	5 <	EPA 200.0/200.8/6020
Zinc, dissolved (µg/l)	5 <	EPA 200.0/200.8/6020
Boron, total (µg/l)	818	EPA 200.2/200.7/6010A
Boron, dissolved (µg/l)	819	EPA 200.2/200.7/6010A
Lithium, total (µg/l)	558	EPA 200.2/200.8/6020A
Lithium, dissolved (µg/l)	207	EPA 200.2/200.8/6020A
Molybdenum, total (µg/l)	429	EPA 200.2/200.8/6020A
Molybdenum, dissolved (µg/l)	384	EPA 200.2/200.8/6020A
Strontium, total (µg/l)	695	EPA 200.0/200.7/6010
Strontium, dissolved (µg/l)	705	EPA 200.0/200.7/6010

T Please indicate detection limit if analyte is not detected.

I.D. No.	301309
Monitoring Point No.	MW-8-5A
Sample Date	02/05/2020

FORM 14 R

ANNUAL WATER QUALITY ANALYSES

2-A. Metals (Enter all data in ug/l) If initial background analyses of four consecutive analyses show essentially identical (within 5%) dissolved and total analyses, dissolved analyses may not be required, subject to written DEP approval.

ANALYTE	VALUE (T)	ANALYSIS METHOD NUMBER
Aluminum, total (µg/l)	26.8 ND	EPA 200.0/200.7/6010
Aluminum, dissolved (µg/l)	26.8 ND	EPA 200.0/200.7/6010
Antimony, total (µg/l)	0.179 ND	EPA 200.2/200.8/6020A
Antimony, dissolved (µg/l)	0.179 ND	EPA 200.2/200.8/6020A
Beryllium, total (µg/l)	0.071 ND	EPA 200.2/200.8/6020A
Beryllium, dissolved (µg/l)	0.071 ND	EPA 200.2/200.8/6020A
Cobalt, total (µg/l)		
Cobalt, dissolved (µg/l)		
Gallium, total (µg/l)		
Gallium, dissolved (µg/l)		
Germanium, total (µg/l)		
Germanium, dissolved (µg/l)		
Nickel, total (µg/l)	8.45	EPA 200.8
Nickel, dissolved (µg/l)	9.06	EPA 200.8
Rubidium, total (µg/l)		
Rubidium, dissolved (µg/l)		
Titanium, total (µg/l)	5 <	EPA 200.2/200.8
Titanium, dissolved (µg/l)	5 <	EPA 200.2/200.8
Vanadium, total (µg/l)	2.35 ND	EPA 200.8
Vanadium, dissolved (µg/l)	2.35 ND	EPA 200.8
Yttrium, total (µg/l)		
Yttrium, dissolved (µg/l)		

T Please indicate detection limit if analyte is not detected.


 Date Prepared/Revised
 03/12/2020

DEP USE ONLY

Date Received

FORM 14R

RESIDUAL WASTE LANDFILLS AND DISPOSAL IMPOUNDMENTS

QUARTERLY AND ANNUAL WATER QUALITY ANALYSES

This form must be fully and accurately completed. All required information must be typed or legibly printed in the spaces provided. If additional space is necessary, identify each attached sheet as Form 14R, reference the item number and identify the date prepared. The "date prepared/revised" on any attached sheets needs to match the "date prepared/revised" on this page.

General References: Section 288.254, 289.264

SECTION A. SITE IDENTIFIER

Applicant/permittee: Brunner Island, LLC - Basin No. 5

Site Name: Basin No. 5

Facility ID (as issued by DEP): 301309

SECTION B. FACILITY INFORMATION

Monitoring wells must be designed and constructed in accordance with Department standards. **INDICATE THE LATITUDE AND LONGITUDE TO THE NEAREST ONE TENTH OF A SECOND (DD° MM' SS.S").**

Monitoring Point Number: MW-8-5B

☒ Well ☐ Spring ☐ Stream ☐ Other

☐ Upgradient/Upstream ☒ Downgradient/Downstream

Location: County York

Municipality: East Manchester Township

Sampling Point: Latitude: 40° 5' 16.81"

Longitude: 76° 41' 30.96"

Depth to Water Level: 15.91 ft.

 Measured from: ☐ Land Surface ☒ TOC

Casing Stick Up: 2.54 ft.

Elevation of Water Level: 268.97 ft./MSL

Sampling Depth: 53.00 ft.

Volume of Water Column: gal.

Total Well Depth: 59.60 ft.

 Sampling Method: ☒ Pumped ☐ Bailed ☐ Grab

 Well Purged: ☒ Yes ☐ No

Well Volumes Purged: 4 L

 Sample Field Filtered (must be 0.45 micron)? ☒ Yes ☐ No

Spring Flow Rate: GPM

Sample Date (mm/dd/yy): 02/05/2020

Sample Collection Time: 12:30PM

Sample Collector's Name: AF

Sample Collector's Affiliation: Talen Generation, LLC

Laboratory(ies) Performing Analysis: Hawk Mtn Labs, Inc.

 Were any holding times exceeded? ☐ Yes ☒ No. If yes, please explain in comments field.

Lab Certification Number(s): 40-417

Lab Sample Number(s): 200101403-008

Final Lab Analysis Completion Date: 02/19/2020

Name/Affiliation of Person who Filled out Form Martin Mengel / Talen Energy Supply, LLC

Comments:

I.D. No.	301309
Monitoring Point No.	MW-8-5B
Sample Date	02/05/2020

FORM 14 R
QUARTERLY AND ANNUAL WATER QUALITY ANALYSES
ANALYTES

1-Q. Inorganics (Enter all data in mg/l except as noted)

ANALYTE	VALUE (T)	ANALYSIS METHOD NUMBER
Ammonia, as N (mg/l)	0.287	SM 4500-NH3-F
Bicarbonate (mg/l)	228	SM 2320B
Calcium, total (mg/l)	148	EPA 200.2/200.7/6010A
Calcium, dissolved (mg/l)	155	EPA 200.2/200.7/6010A
Chemical Oxygen Demand (mg/l)	5.3 ND	SM 5220D
Chloride, total as Cl (mg/l)	17.7	EPA 300.0
Fluoride, total as F (mg/l)	0.74	EPA 300.0
Iron, total (µg/l)	20 <	EPA 200.2/200.7/6010A
Iron, dissolved (µg/l)	1.02 ND	EPA 200.2/200.7/6010A
Magnesium, total (mg/l)	30.1	EPA 200.2/200.7/6010A
Magnesium, dissolved (mg/l)	31.4	EPA 200.2/200.7/6010A
Manganese, total (µg/l)	369	EPA 200.2/200.7/6010A
Manganese, dissolved (µg/l)	385	EPA 200.2/200.7/6010A
Nitrate, as N (mg/l)	0.012 ND	EPA 300.0
pH, field (su)	7.29	Field Meter
pH, lab (su)	7.52 H	SM 4500-H+B
Potassium, total (mg/l)	3.98	EPA 200.2/200.7/6010A
Potassium, dissolved (mg/l)	4.29	EPA 200.2/200.7/6010A
Sodium, total (mg/l)	9.05	EPA 200.2/200.7/6010A
Sodium, dissolved (mg/l)	9.76	EPA 200.2/200.7/6010A
Specific Conductance, field (umhos/cm)	965	Field Meter
Specific Conductance, lab (umhos/cm)	963	SM 2510 B
Sulfate, as SO4 (mg/l)	268	EPA 300.0
Alkalinity, total as CaCO3 (mg/l)	228	SM 2320B
Total Dissolved Solids (mg/l)	679	SM 2540B
Total Organic Carbon (mg/l)	0.535	SM 5310C
Turbidity, field (n.t.u.)	0.34	Field Meter
Dissolved O2, field (mg/l)	0.55	Field Meter
Redox, field (mv)	-24.4	Field Meter
Temperature, field (°c)	13.05	Field Meter
Acidity, total as CaCO3 (mg/l)		

T Please indicate detection limit if analyte is not detected.

I.D. No.	301309
Monitoring Point No.	MW-8-5B
Sample Date	02/05/2020

FORM 14 R
QUARTERLY AND ANNUAL WATER QUALITY ANALYSES

1-A. Organics (Enter all data in ug/l)

ANALYTE	VALUE (T)	ANALYSIS METHOD NUMBER
Benzene (µg/l)		
1,2-Dibromoethane (µg/l)		
1,1-Dichloroethane (µg/l)		
1,1-Dichloroethene (µg/l)		
1,2-Dichloroethane (µg/l)		
cis-1,2-Dichloroethene (µg/l)		
trans-1,2-Dichloroethene (µg/l)		
Ethylbenzene (µg/l)		
Methylene Chloride (µg/l)		
Tetrachloroethene (µg/l)		
Toluene (µg/l)		
1,1,1-Trichloroethane (µg/l)		
Trichloroethene (µg/l)		
Vinyl chloride (µg/l)		
Xylenes (µg/l)		

T Please indicate detection limit if analyte is not detected.

I.D. No.	301309
Monitoring Point No.	MW-8-5B
Sample Date	02/05/2020

FORM 14 R

ANNUAL WATER QUALITY ANALYSES

2-A. Metals (Enter all data in ug/l) If initial background analyses of four consecutive analyses show essentially identical (within 5%) dissolved and total analyses, dissolved analyses may not be required, subject to written DEP approval.

ANALYTE	VALUE (T)	ANALYSIS METHOD NUMBER
Arsenic, total (µg/l)	197	EPA 200.2/200.8/6020A
Arsenic, dissolved (µg/l)	257	EPA 200.2/200.8/6020A
Barium, total (µg/l)	69.3	EPA 200.2/200.8/6020A
Barium, dissolved (µg/l)	69.4	EPA 200.2/200.8/6020A
Cadmium, total (µg/l)	1 <	EPA 200.2/200.8/6020A
Cadmium, dissolved (µg/l)	1 <	EPA 200.2/200.8/6020A
Chromium, total (µg/l)	0.411 ND	EPA 200.2/200.8/6020A
Chromium, dissolved (µg/l)	0.411 ND	EPA 200.2/200.8/6020A
Copper, total (µg/l)	1.37	EPA 200.2/200.8/6020A
Copper, dissolved (µg/l)	1 <	EPA 200.2/200.8/6020A
Lead, total (µg/l)	0.229 ND	EPA 200.2/200.8/6020A
Lead, dissolved (µg/l)	0.229 ND	EPA 200.2/200.8/6020A
Mercury, total (µg/l)	0.717 ND	EPA 200.8
Mercury, dissolved (µg/l)	0.717 ND	EPA 245.7
Selenium, total (µg/l)	0.632 ND	EPA 200.2/200.8/6020A
Selenium, dissolved (µg/l)	0.632 ND	EPA 200.2/200.8/6020A
Silver, total (µg/l)	0.132 ND	EPA 200.2/200.8/6020A
Silver, dissolved (µg/l)	0.132 ND	EPA 200.2/200.8/6020A
Zinc, total (µg/l)	2.24 ND	EPA 200.0/200.8/6020
Zinc, dissolved (µg/l)	5 <	EPA 200.0/200.8/6020
Boron, total (µg/l)	776	EPA 200.2/200.7/6010A
Boron, dissolved (µg/l)	808	EPA 200.2/200.7/6010A
Lithium, total (µg/l)	160	EPA 200.2/200.8/6020A
Lithium, dissolved (µg/l)	162	EPA 200.2/200.8/6020A
Molybdenum, total (µg/l)	340	EPA 200.2/200.8/6020A
Molybdenum, dissolved (µg/l)	294	EPA 200.2/200.8/6020A
Strontium, total (µg/l)	808	EPA 200.0/200.7/6010
Strontium, dissolved (µg/l)	876	EPA 200.0/200.7/6010

T Please indicate detection limit if analyte is not detected.

I.D. No.	301309
Monitoring Point No.	MW-8-5B
Sample Date	02/05/2020

FORM 14 R

ANNUAL WATER QUALITY ANALYSES

2-A. Metals (Enter all data in ug/l) If initial background analyses of four consecutive analyses show essentially identical (within 5%) dissolved and total analyses, dissolved analyses may not be required, subject to written DEP approval.

ANALYTE	VALUE (T)	ANALYSIS METHOD NUMBER
Aluminum, total (µg/l)	100	EPA 200.0/200.7/6010
Aluminum, dissolved (µg/l)	100 <	EPA 200.0/200.7/6010
Antimony, total (µg/l)	0.179 ND	EPA 200.2/200.8/6020A
Antimony, dissolved (µg/l)	0.179 ND	EPA 200.2/200.8/6020A
Beryllium, total (µg/l)	0.071 ND	EPA 200.2/200.8/6020A
Beryllium, dissolved (µg/l)	0.071 ND	EPA 200.2/200.8/6020A
Cobalt, total (µg/l)		
Cobalt, dissolved (µg/l)		
Gallium, total (µg/l)		
Gallium, dissolved (µg/l)		
Germanium, total (µg/l)		
Germanium, dissolved (µg/l)		
Nickel, total (µg/l)	1 <	EPA 200.8
Nickel, dissolved (µg/l)	1 <	EPA 200.8
Rubidium, total (µg/l)		
Rubidium, dissolved (µg/l)		
Titanium, total (µg/l)	1.45 ND	EPA 200.2/200.8
Titanium, dissolved (µg/l)	1.45 ND	EPA 200.2/200.8
Vanadium, total (µg/l)	2.35 ND	EPA 200.8
Vanadium, dissolved (µg/l)	2.35 ND	EPA 200.8
Yttrium, total (µg/l)		
Yttrium, dissolved (µg/l)		

T Please indicate detection limit if analyte is not detected.


 Date Prepared/Revised
 03/12/2020

DEP USE ONLY

Date Received

FORM 14R RESIDUAL WASTE LANDFILLS AND DISPOSAL IMPOUNDMENTS QUARTERLY AND ANNUAL WATER QUALITY ANALYSES

This form must be fully and accurately completed. All required information must be typed or legibly printed in the spaces provided. If additional space is necessary, identify each attached sheet as Form 14R, reference the item number and identify the date prepared. The "date prepared/revised" on any attached sheets needs to match the "date prepared/revised" on this page.

General References: Section 288.254, 289.264

SECTION A. SITE IDENTIFIER

Applicant/permittee: Brunner Island, LLC - Basin No. 5

Site Name: Basin No. 5

Facility ID (as issued by DEP): 301309

SECTION B. FACILITY INFORMATION

Monitoring wells must be designed and constructed in accordance with Department standards. **INDICATE THE LATITUDE AND LONGITUDE TO THE NEAREST ONE TENTH OF A SECOND (DD° MM' SS.S").**

Monitoring Point Number: MW-PT-1

☒ Well ☐ Spring ☐ Stream ☐ Other

☐ Upgradient/Upstream ☒ Downgradient/Downstream

Location: County York

Municipality: East Manchester Township

Sampling Point: Latitude: 40° 55' 26.53"

Longitude: 76° 40' 28.05"

Depth to Water Level: 10.62 ft.

 Measured from: ☐ Land Surface ☒ TOC

Casing Stick Up: 2.04 ft.

Elevation of Water Level: 261.146 ft./MSL

Sampling Depth: 19.00 ft.

Volume of Water Column: gal.

Total Well Depth: ft.

 Sampling Method: ☒ Pumped ☐ Bailed ☐ Grab

 Well Purged: ☒ Yes ☐ No

Well Volumes Purged: 3.1 L

 Sample Field Filtered (must be 0.45 micron)? ☒ Yes ☐ No

Spring Flow Rate: GPM

Sample Date (mm/dd/yy): 02/04/2020

Sample Collection Time: 11:12AM

Sample Collector's Name: ST

Sample Collector's Affiliation: Talen Generation, LLC

Laboratory(ies) Performing Analysis: Hawk Mtn Labs, Inc.

 Were any holding times exceeded? ☐ Yes ☒ No. If yes, please explain in comments field.

Lab Certification Number(s): 40-417

Lab Sample Number(s): 200101404-001

Final Lab Analysis Completion Date: 02/18/2020

Name/Affiliation of Person who Filled out Form Martin Mengel / Talen Energy Supply, LLC

Comments:

I.D. No.	301309
Monitoring Point No.	MW-PT-1
Sample Date	02/04/2020

FORM 14 R
QUARTERLY AND ANNUAL WATER QUALITY ANALYSES
ANALYTES

1-Q. Inorganics (Enter all data in mg/l except as noted)

ANALYTE	VALUE (T)	ANALYSIS METHOD NUMBER
Ammonia, as N (mg/l)	0.109 ND	SM 4500-NH3-F
Bicarbonate (mg/l)	20 <	SM 2320B
Calcium, total (mg/l)	95.2	EPA 200.2/200.7/6010A
Calcium, dissolved (mg/l)		
Chemical Oxygen Demand (mg/l)	20 <	SM 5220D
Chloride, total as Cl (mg/l)	3.23	EPA 300.0
Fluoride, total as F (mg/l)	0.29	EPA 300.0
Iron, total (µg/l)	236	EPA 200.2/200.7/6010A
Iron, dissolved (µg/l)		
Magnesium, total (mg/l)	23.1	EPA 200.2/200.7/6010A
Magnesium, dissolved (mg/l)		
Manganese, total (µg/l)	2,200	EPA 200.2/200.7/6010A
Manganese, dissolved (µg/l)		
Nitrate, as N (mg/l)	2.2	EPA 300.0
pH, field (su)	5.05	Field Meter
pH, lab (su)	5.02 H	SM 4500-H+B
Potassium, total (mg/l)	3.24	EPA 200.2/200.7/6010A
Potassium, dissolved (mg/l)		
Sodium, total (mg/l)	9.06	EPA 200.2/200.7/6010A
Sodium, dissolved (mg/l)		
Specific Conductance, field (umhos/cm)	647	Field Meter
Specific Conductance, lab (umhos/cm)	643	SM 2510 B
Sulfate, as SO4 (mg/l)	296	EPA 300.0
Alkalinity, total as CaCO3 (mg/l)	20 <	SM 2320B
Total Dissolved Solids (mg/l)	450	SM 2540B
Total Organic Carbon (mg/l)	1.49	SM 5310C
Turbidity, field (n.t.u.)	1.38	Field Meter
Dissolved O2, field (mg/l)	3.65	Field Meter
Redox, field (mv)	398.1	Field Meter
Temperature, field (°c)	11.04	Field Meter
Acidity, total as CaCO3 (mg/l)		

T Please indicate detection limit if analyte is not detected.

I.D. No.	301309
Monitoring Point No.	MW-PT-1
Sample Date	02/04/2020

FORM 14 R
QUARTERLY AND ANNUAL WATER QUALITY ANALYSES

1-A. Organics (Enter all data in ug/l)

ANALYTE	VALUE (T)	ANALYSIS METHOD NUMBER
Benzene (µg/l)		
1,2-Dibromoethane (µg/l)		
1,1-Dichloroethane (µg/l)		
1,1-Dichloroethene (µg/l)		
1,2-Dichloroethane (µg/l)		
cis-1,2-Dichloroethene (µg/l)		
trans-1,2-Dichloroethene (µg/l)		
Ethylbenzene (µg/l)		
Methylene Chloride (µg/l)		
Tetrachloroethene (µg/l)		
Toluene (µg/l)		
1,1,1-Trichloroethane (µg/l)		
Trichloroethene (µg/l)		
Vinyl chloride (µg/l)		
Xylenes (µg/l)		

T Please indicate detection limit if analyte is not detected.

I.D. No.	301309
Monitoring Point No.	MW-PT-1
Sample Date	02/04/2020

FORM 14 R

ANNUAL WATER QUALITY ANALYSES

2-A. Metals (Enter all data in ug/l) If initial background analyses of four consecutive analyses show essentially identical (within 5%) dissolved and total analyses, dissolved analyses may not be required, subject to written DEP approval.

ANALYTE	VALUE (T)	ANALYSIS METHOD NUMBER
Arsenic, total (µg/l)	1 <	EPA 200.2/200.8/6020A
Arsenic, dissolved (µg/l)		
Barium, total (µg/l)	15	EPA 200.2/200.8/6020A
Barium, dissolved (µg/l)		
Cadmium, total (µg/l)	1.12	EPA 200.2/200.8/6020A
Cadmium, dissolved (µg/l)		
Chromium, total (µg/l)	1 <	EPA 200.2/200.8/6020A
Chromium, dissolved (µg/l)		
Copper, total (µg/l)	3.63	EPA 200.2/200.8/6020A
Copper, dissolved (µg/l)		
Lead, total (µg/l)	0.229 ND	EPA 200.2/200.8/6020A
Lead, dissolved (µg/l)		
Mercury, total (µg/l)	0.717 ND	EPA 200.8
Mercury, dissolved (µg/l)		
Selenium, total (µg/l)	0.632 ND	EPA 200.2/200.8/6020A
Selenium, dissolved (µg/l)		
Silver, total (µg/l)	0.132 ND	EPA 200.2/200.8/6020A
Silver, dissolved (µg/l)		
Zinc, total (µg/l)	104	EPA 200.0/200.8/6020
Zinc, dissolved (µg/l)		
Boron, total (µg/l)	100 <	EPA 200.2/200.7/6010A
Boron, dissolved (µg/l)		
Lithium, total (µg/l)	48.9	EPA 200.2/200.8/6020A
Lithium, dissolved (µg/l)		
Molybdenum, total (µg/l)	15.8	EPA 200.2/200.8/6020A
Molybdenum, dissolved (µg/l)		
Strontium, total (µg/l)	276	EPA 200.0/200.7/6010
Strontium, dissolved (µg/l)		

T Please indicate detection limit if analyte is not detected.

I.D. No.	301309
Monitoring Point No.	MW-PT-1
Sample Date	02/04/2020

FORM 14 R

ANNUAL WATER QUALITY ANALYSES

2-A. Metals (Enter all data in ug/l) If initial background analyses of four consecutive analyses show essentially identical (within 5%) dissolved and total analyses, dissolved analyses may not be required, subject to written DEP approval.

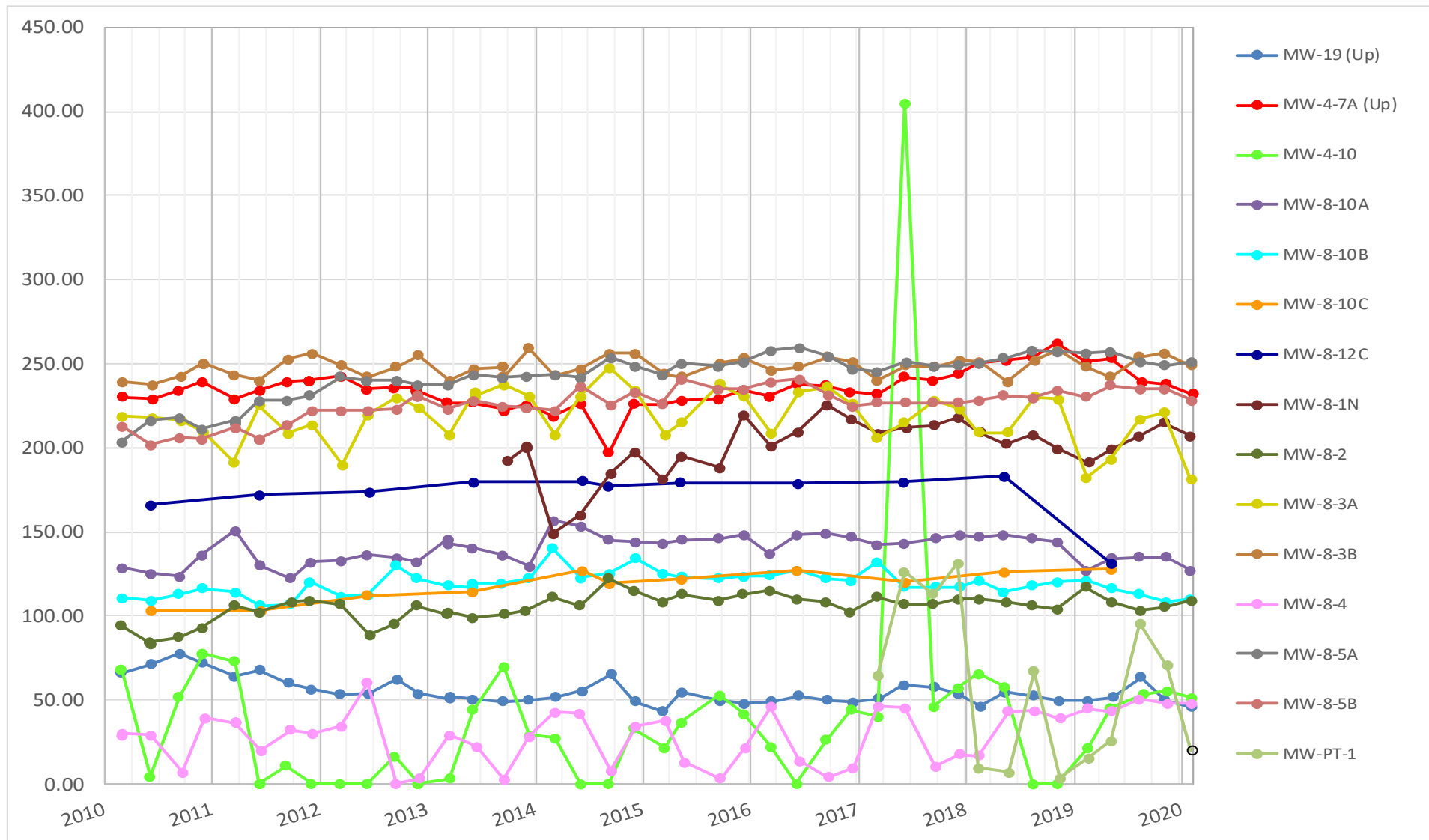
ANALYTE	VALUE (T)	ANALYSIS METHOD NUMBER
Aluminum, total (µg/l)	1,520	EPA 200.0/200.7/6010
Aluminum, dissolved (µg/l)		
Antimony, total (µg/l)	0.179 ND	EPA 200.2/200.8/6020A
Antimony, dissolved (µg/l)		
Beryllium, total (µg/l)	2.14	EPA 200.2/200.8/6020A
Beryllium, dissolved (µg/l)		
Cobalt, total (µg/l)		
Cobalt, dissolved (µg/l)		
Gallium, total (µg/l)		
Gallium, dissolved (µg/l)		
Germanium, total (µg/l)		
Germanium, dissolved (µg/l)		
Nickel, total (µg/l)	59.2	EPA 200.8
Nickel, dissolved (µg/l)		
Rubidium, total (µg/l)		
Rubidium, dissolved (µg/l)		
Titanium, total (µg/l)	1.45 ND	EPA 200.2/200.8
Titanium, dissolved (µg/l)		
Vanadium, total (µg/l)	2.35 ND	EPA 200.8
Vanadium, dissolved (µg/l)		
Yttrium, total (µg/l)		
Yttrium, dissolved (µg/l)		

T Please indicate detection limit if analyte is not detected.

Result Qualifier Codes

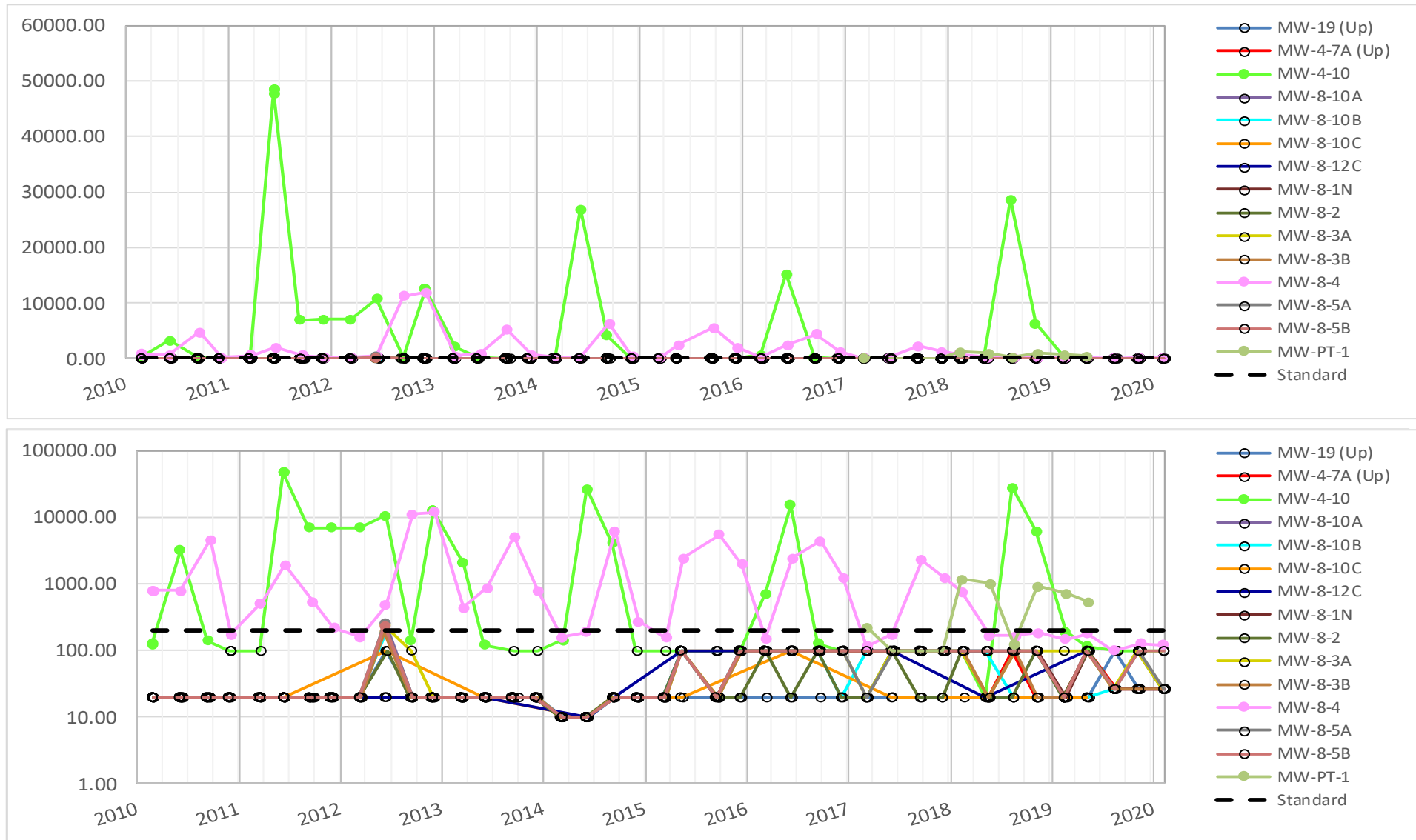
<u>CODE</u>	<u>DESCRIPTION</u>
*	Value exceeds Maximum Contaminant Level
B	Analyte detected in Method, Reagent, or Cal Blank
C	Calculated Value
E	Value above quantitation range
F	Required sample not collected
H	Holding times for preparation or analysis exceeded
I	Instrument failure, not recoverable
J	Analyte detected below quantitation limits
L	Analyzed by contract laboratory
LOD	Limit of Detection (LOD) = Laboratory Detection Limit
LOQ	Limit of Quantitation (LOQ) = Laboratory Reporting Limit
M	Value exceeds Monthly Avg. or MCL
NC	Analyte not certified in NELAC Scope of Accreditation
ND	Not Detected at the Detection Limit
NM	Analyte not measured
O	Result exceeds practical range of determination
P	Sample not preserved properly
Q	QC control standard failure
R	Replicate Recovery outside accepted recovery limits
S	Spike Recovery outside accepted recovery limits
T	Reporting error
V	Sample contamination suspected
X	Other (note required)

Alkalinity, total as CaCO3 [mg/l]

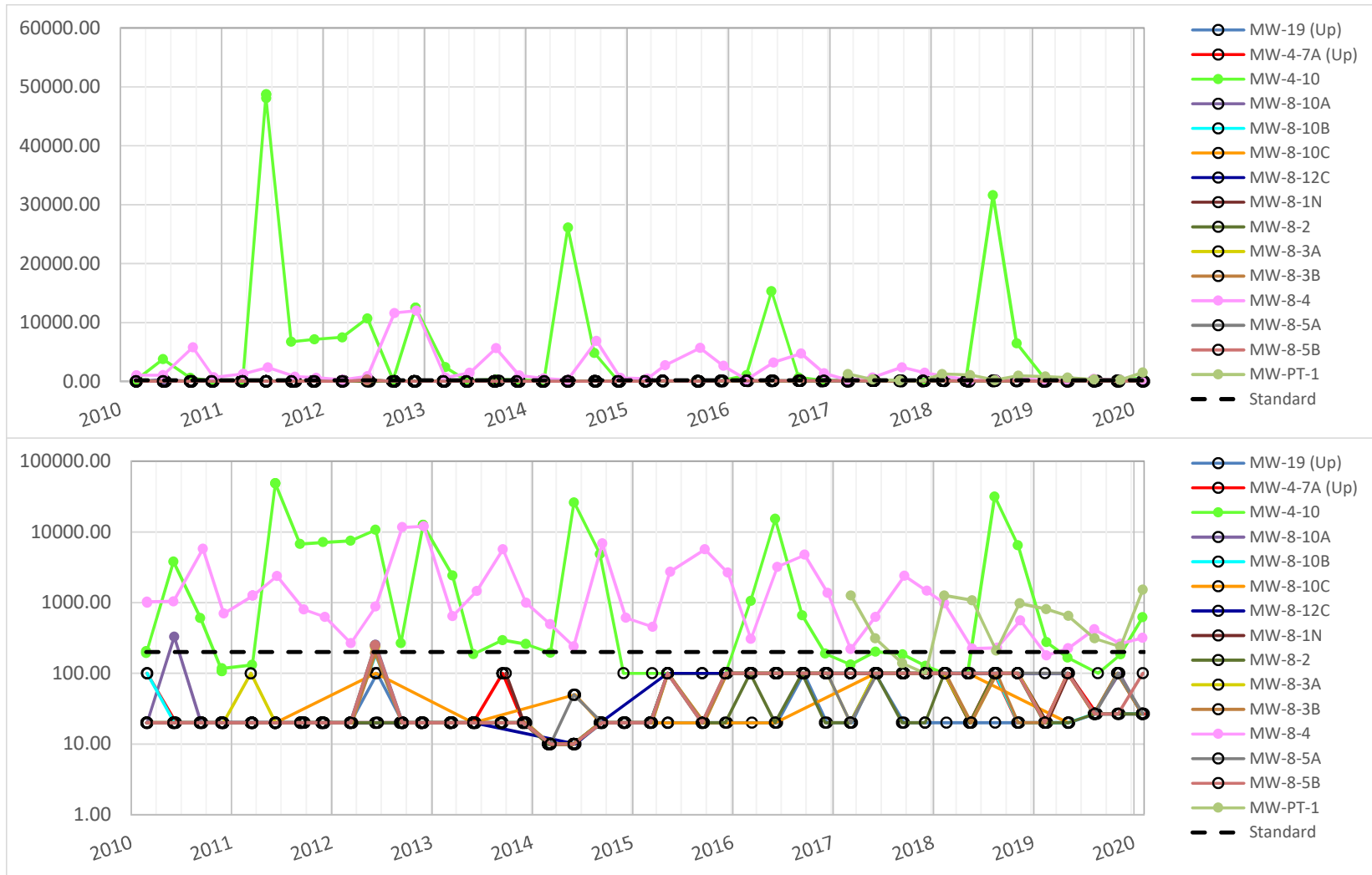


NOTE: There are no applicable standards for this parameter

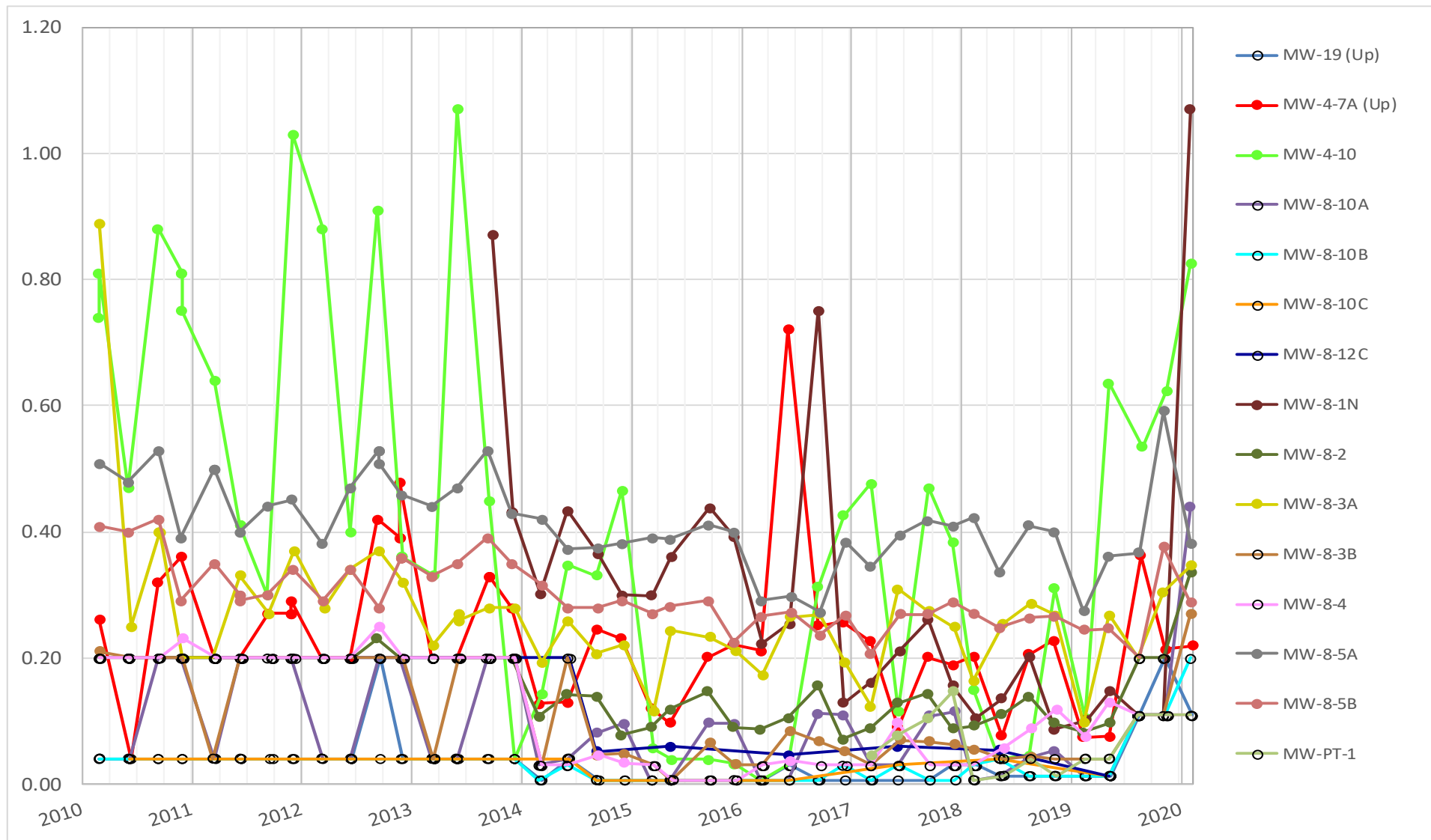
Aluminum, dissolved [$\mu\text{g/l}$]



Aluminum, total [µg/l]

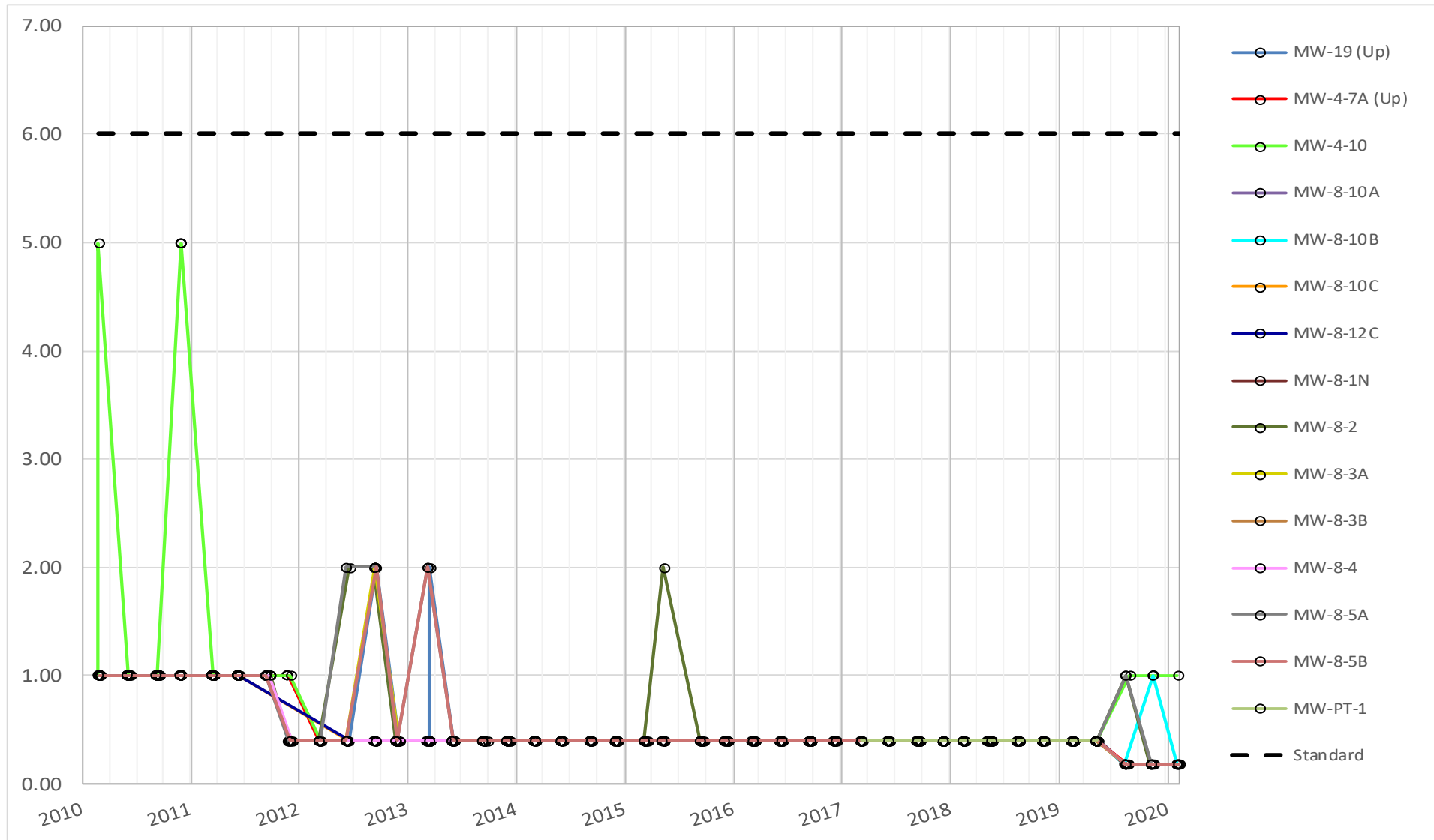


Ammonia, as N [mg/l]



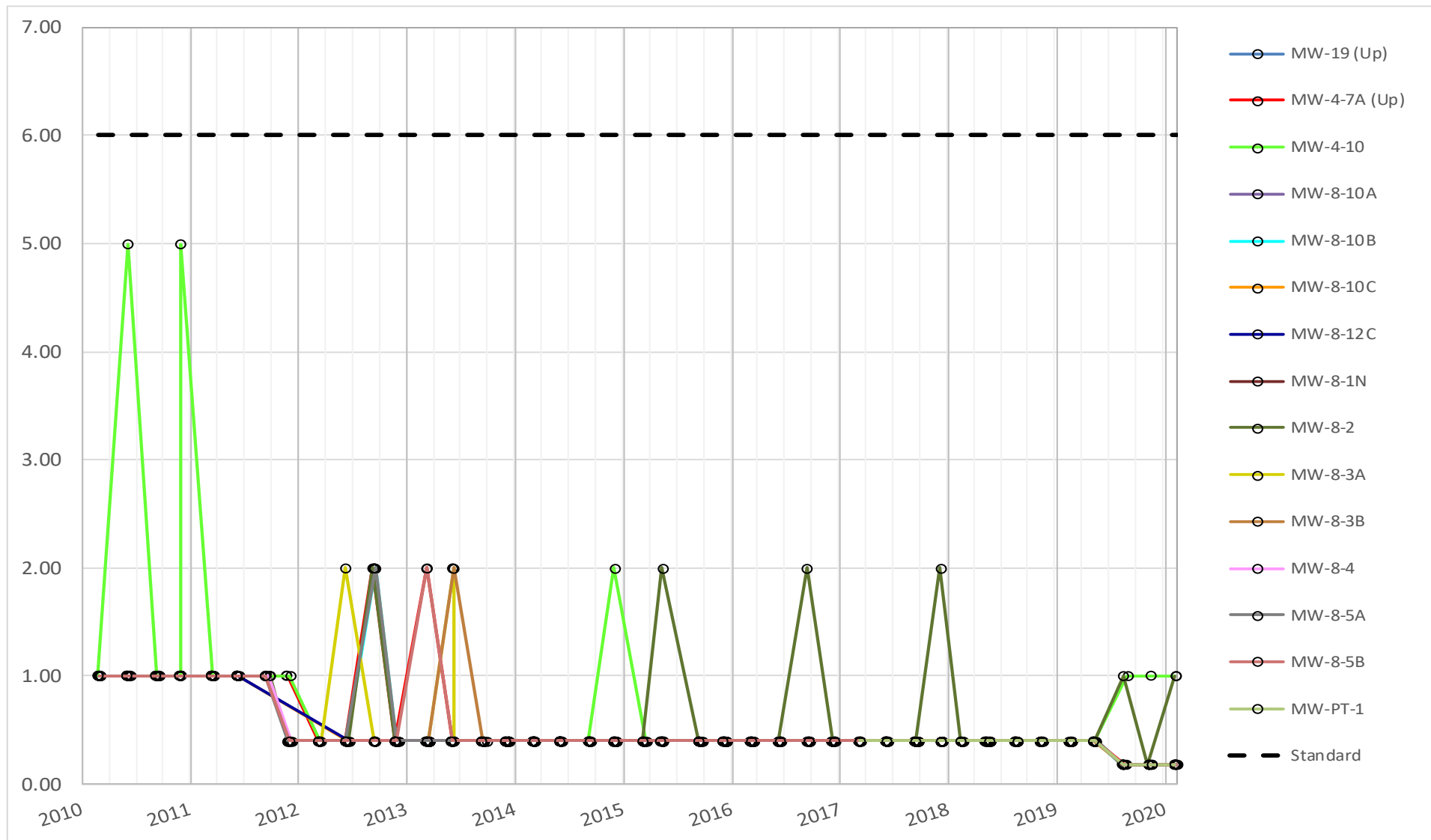
NOTE: There are no applicable standards for this parameter

Antimony, dissolved [$\mu\text{g/l}$]



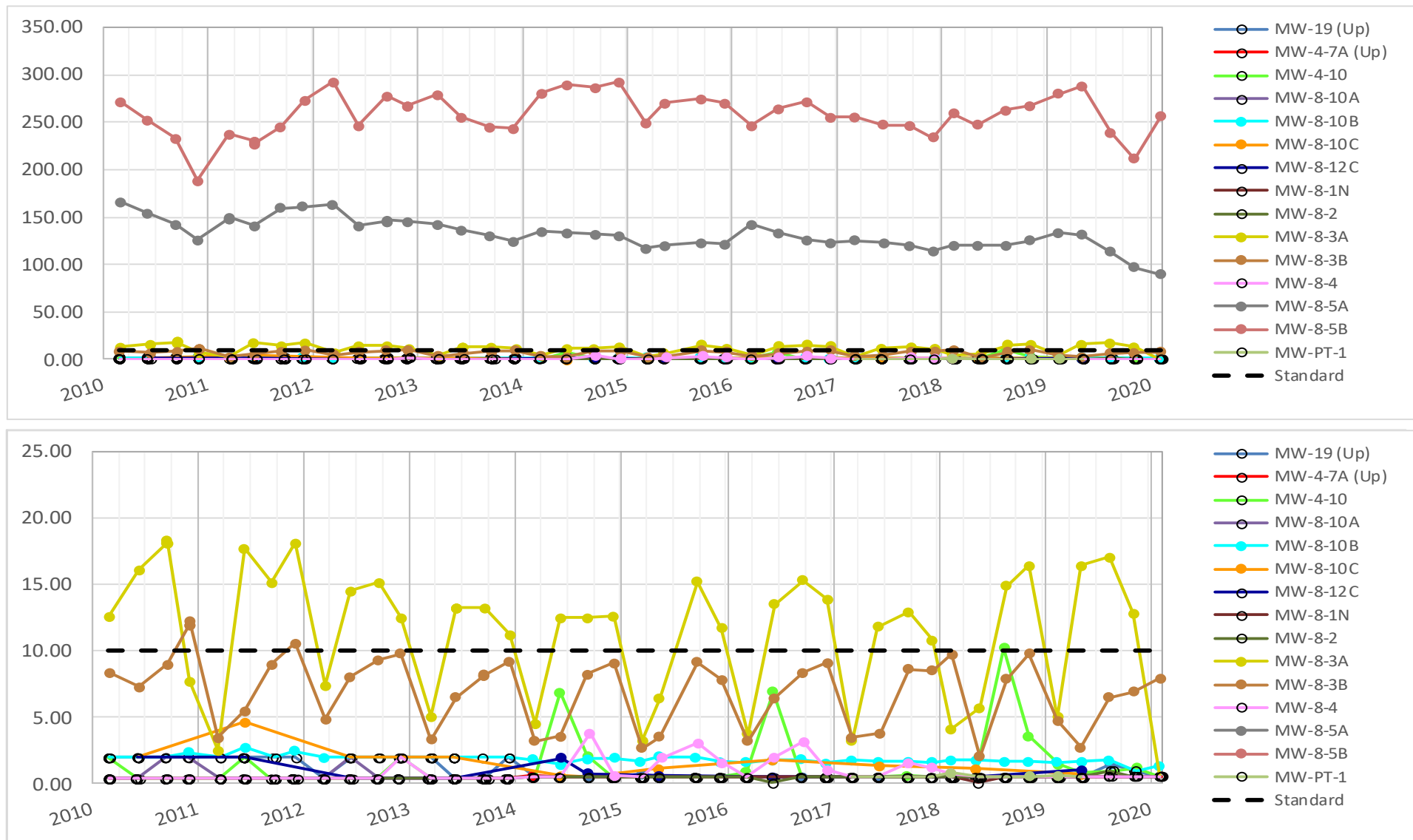
NOTE: Data does not exceed standard of 6 $\mu\text{g/l}$ during this time frame

Antimony, total [$\mu\text{g/l}$]

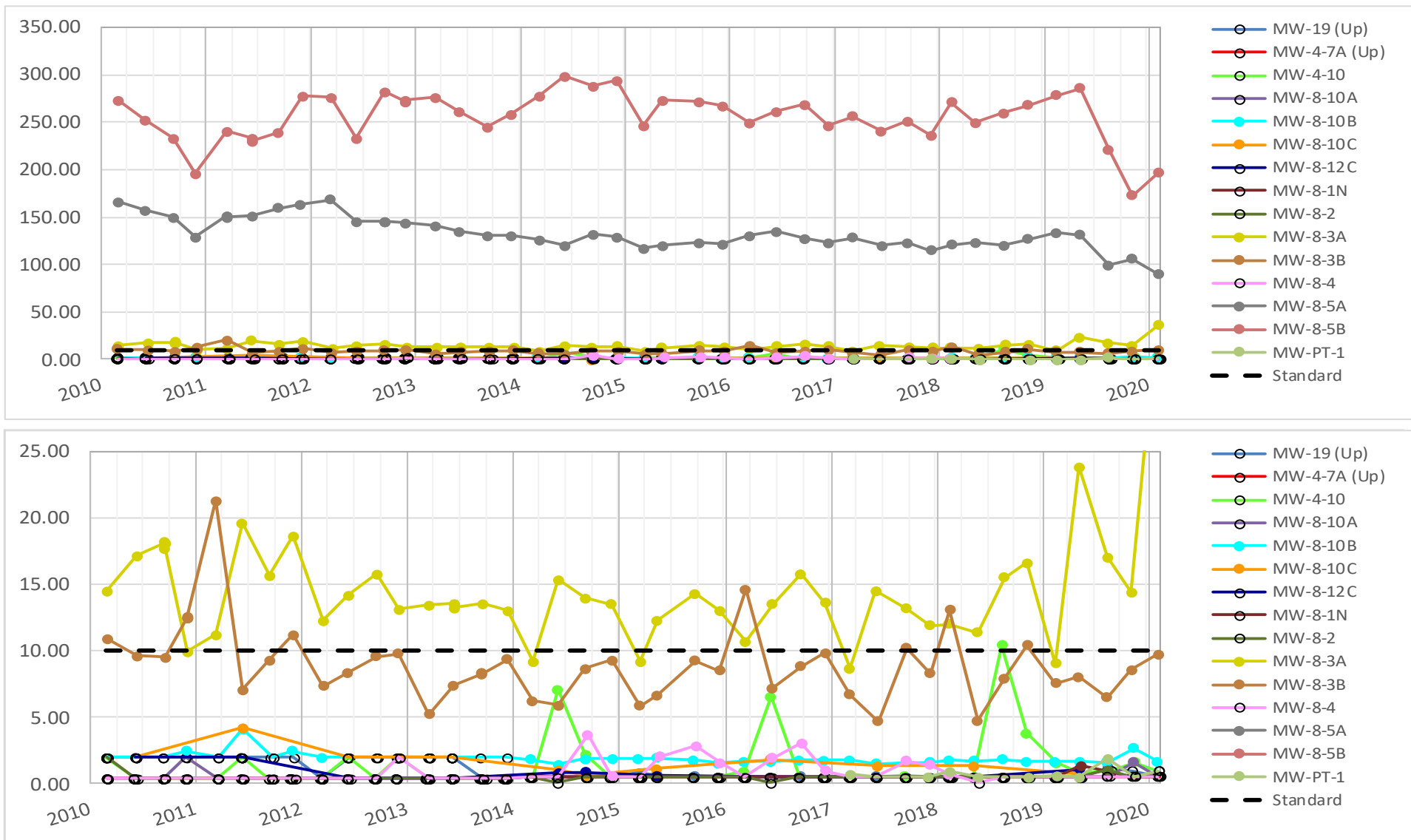


NOTE: Data does not exceed standard of 6 $\mu\text{g/l}$ during this time frame

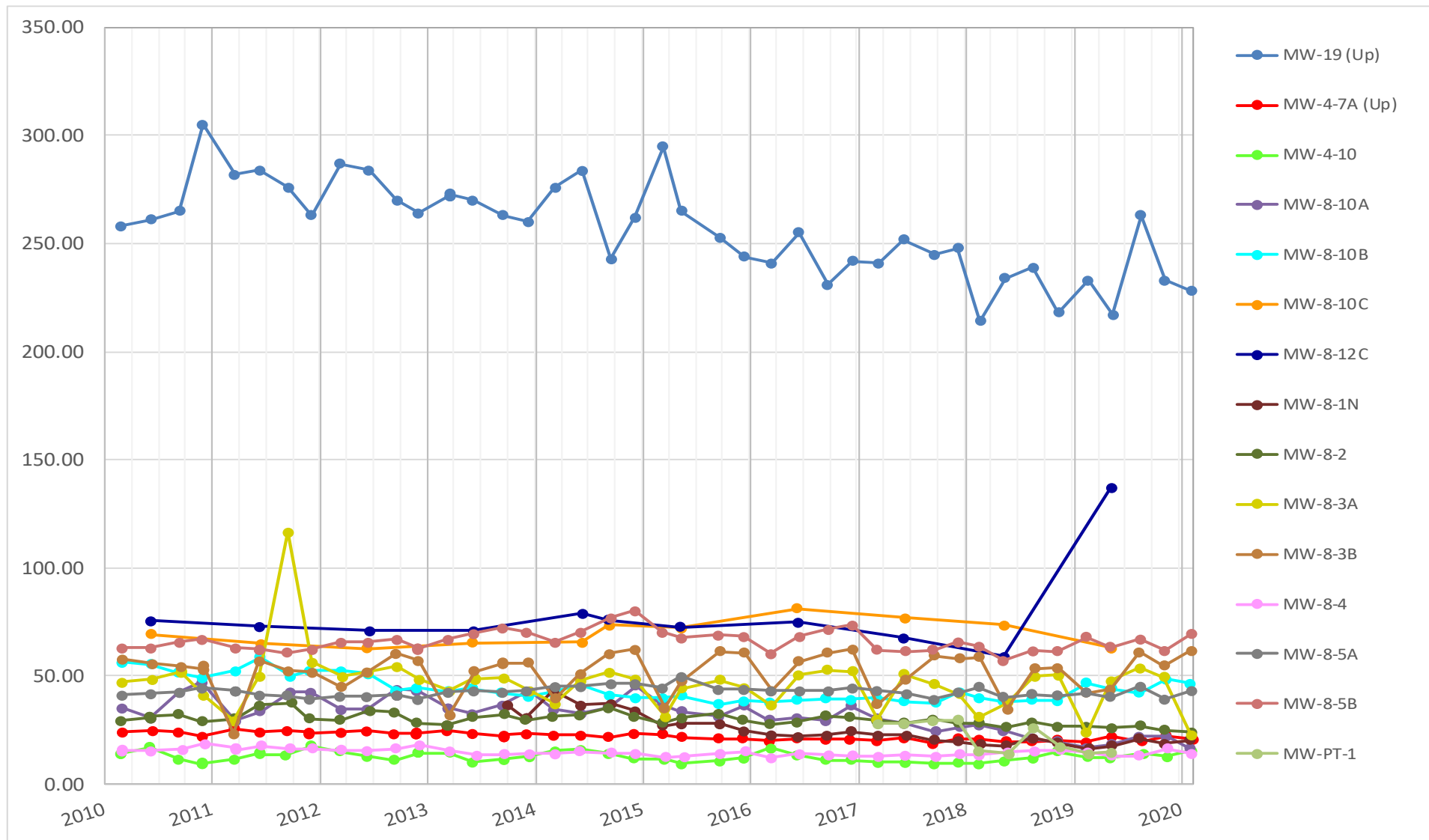
Arsenic, dissolved [$\mu\text{g/l}$]



Arsenic, total [$\mu\text{g/l}$]

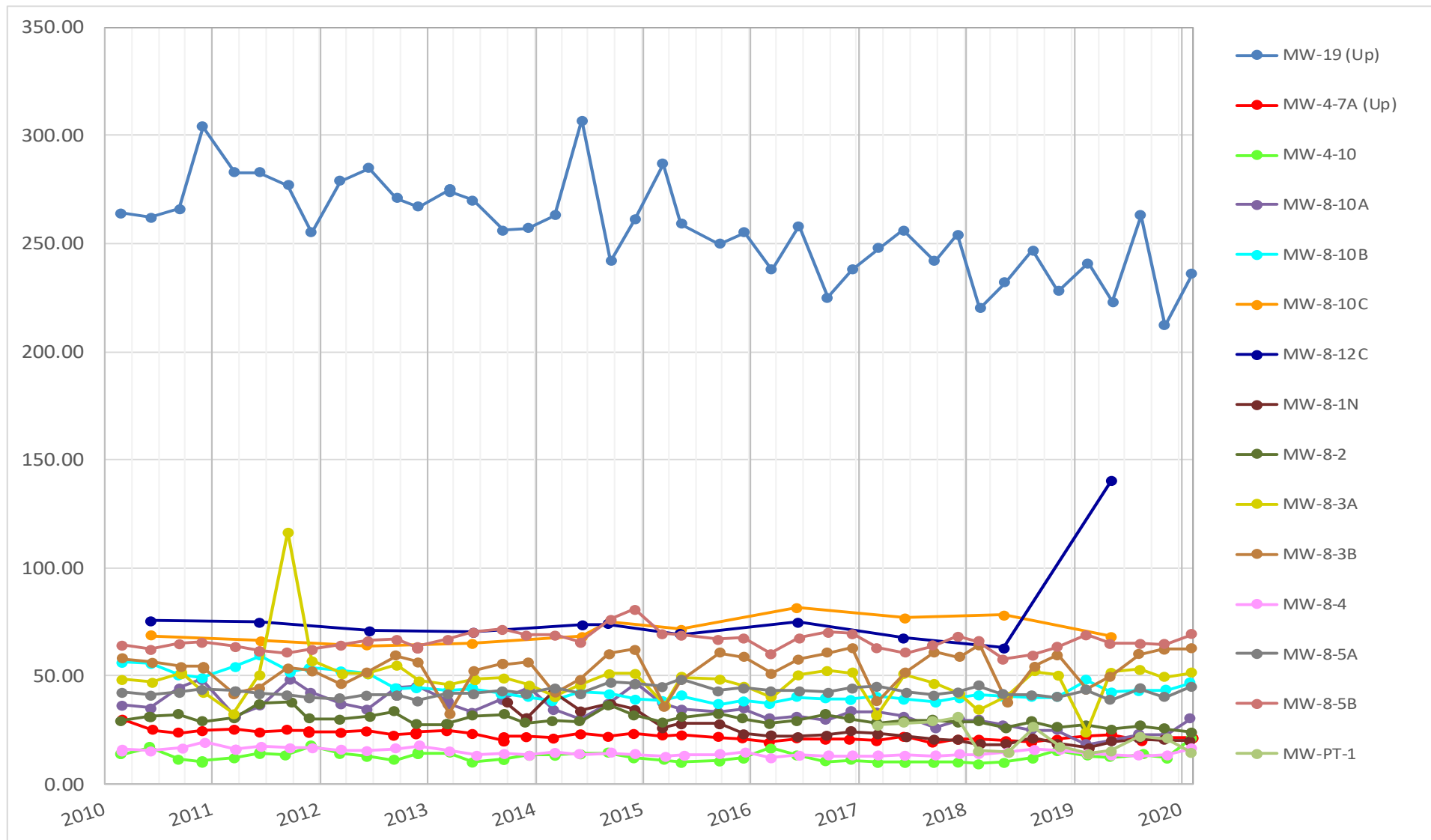


Barium, dissolved [$\mu\text{g/l}$]



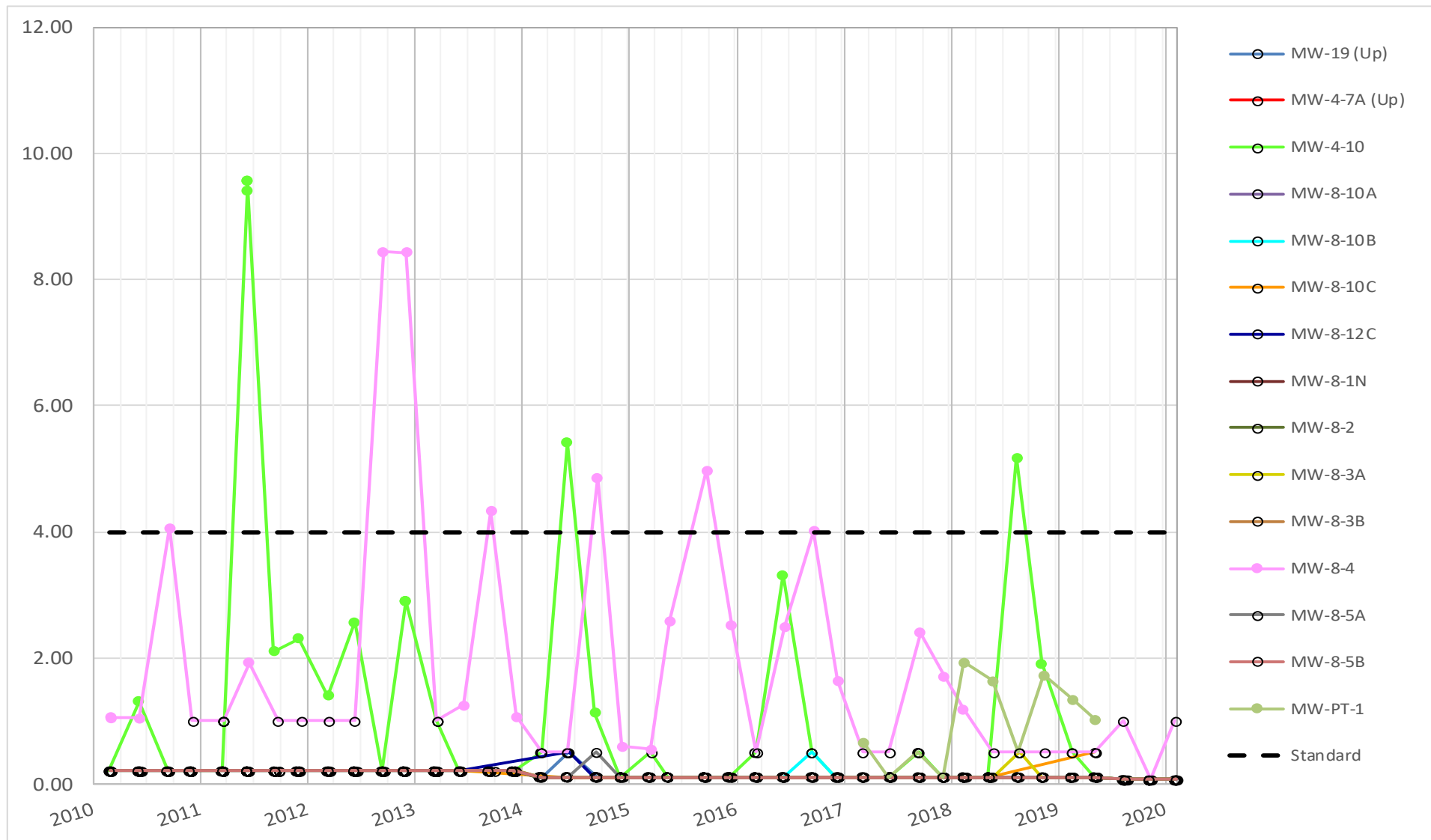
NOTE: Data does not exceed standard of 2000 $\mu\text{g/l}$ during this time frame

Barium, total [$\mu\text{g/l}$]

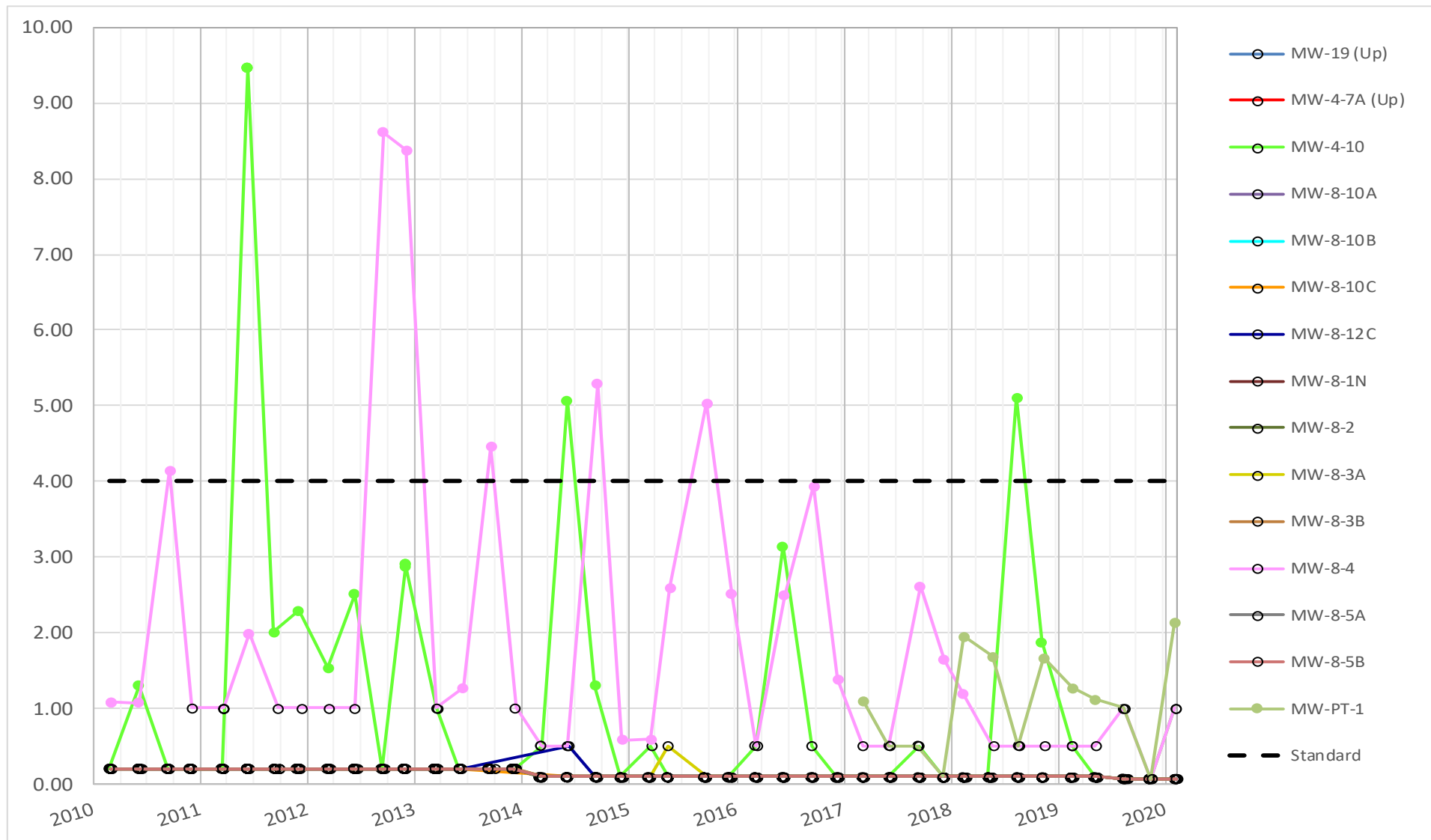


NOTE: Data does not exceed standard of 2000 $\mu\text{g/l}$ during this time frame

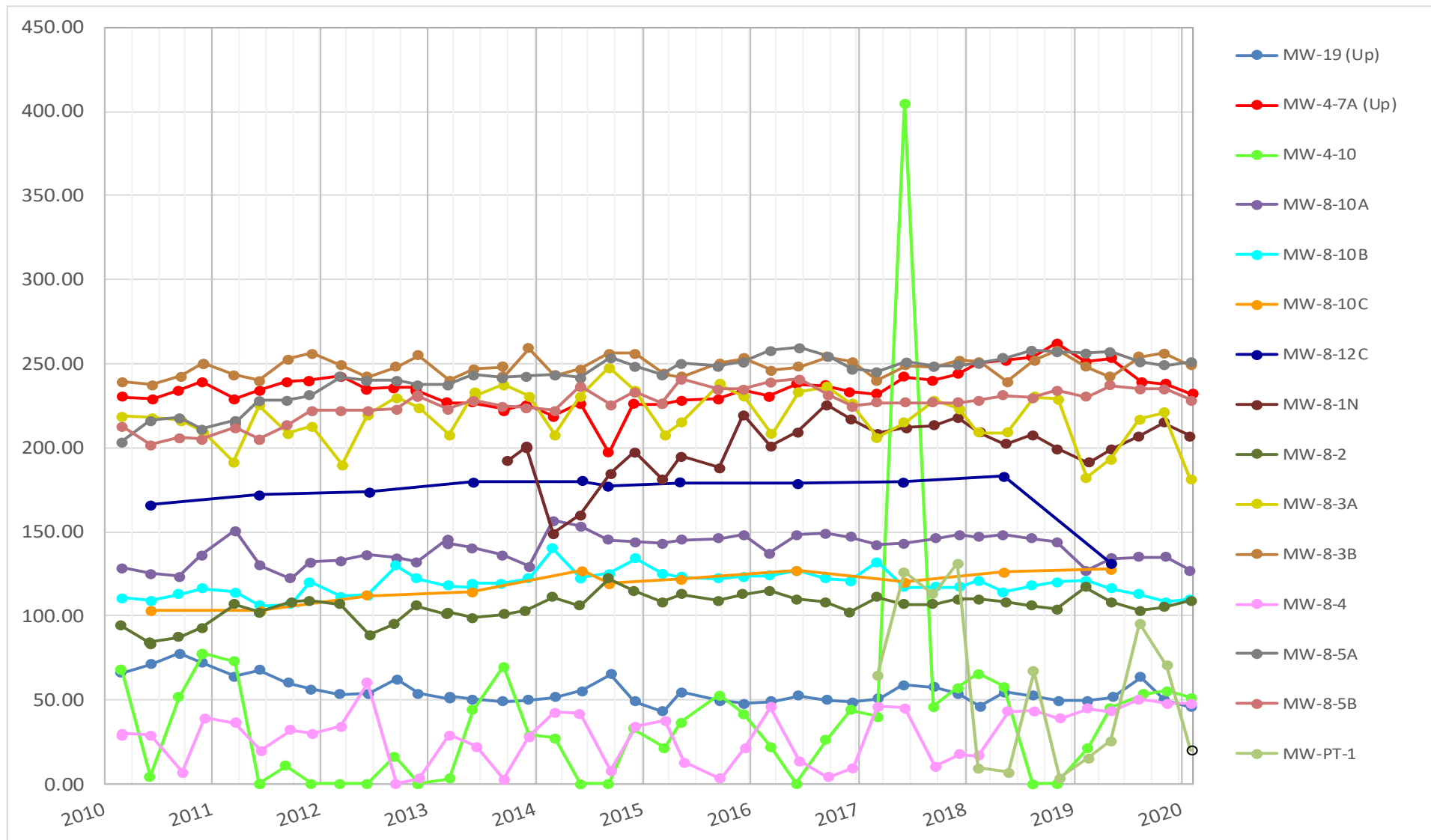
Beryllium, dissolved [$\mu\text{g/l}$]



Beryllium, total [$\mu\text{g}/\text{l}$]

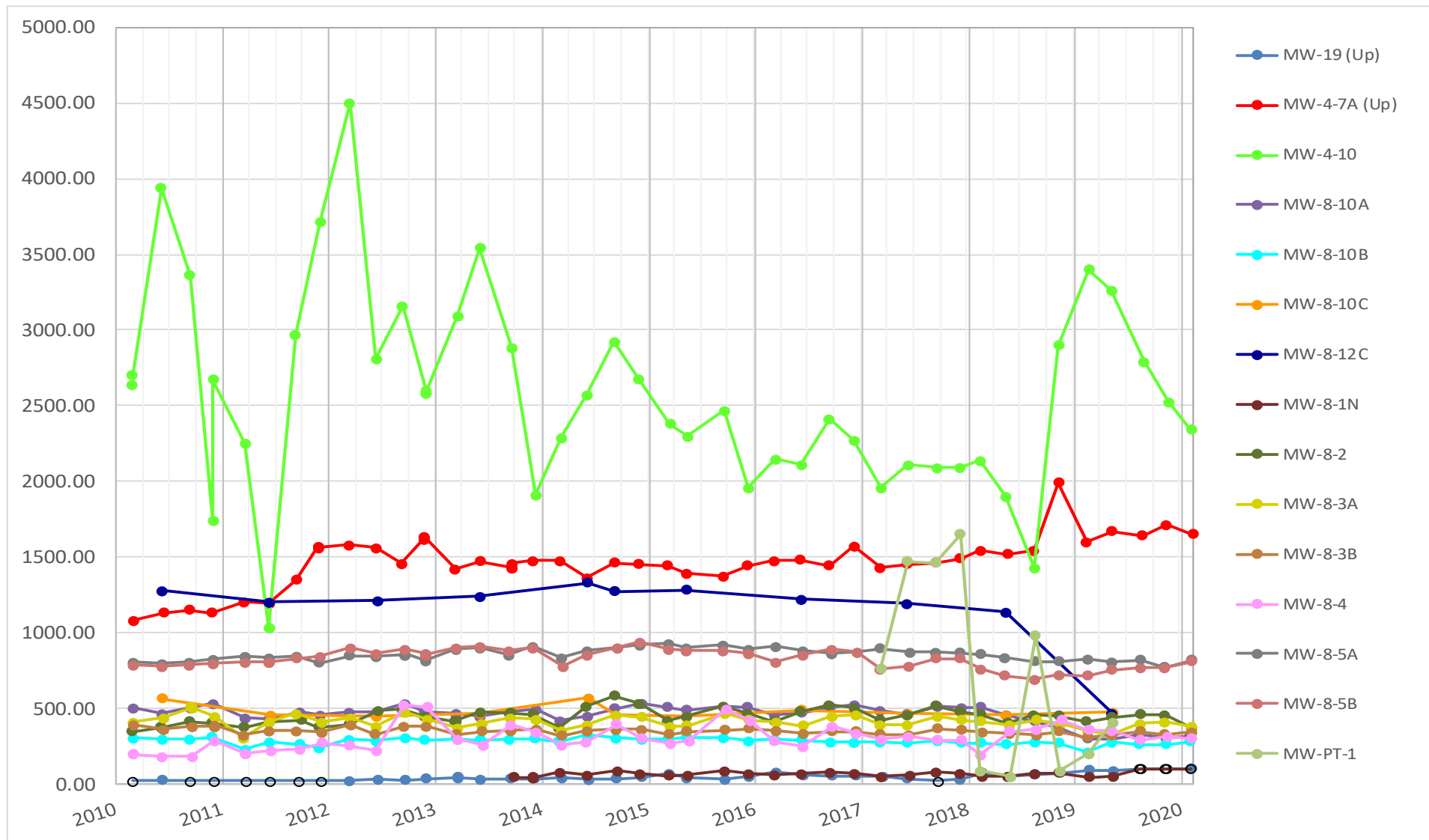


Bicarbonate [mg/l]



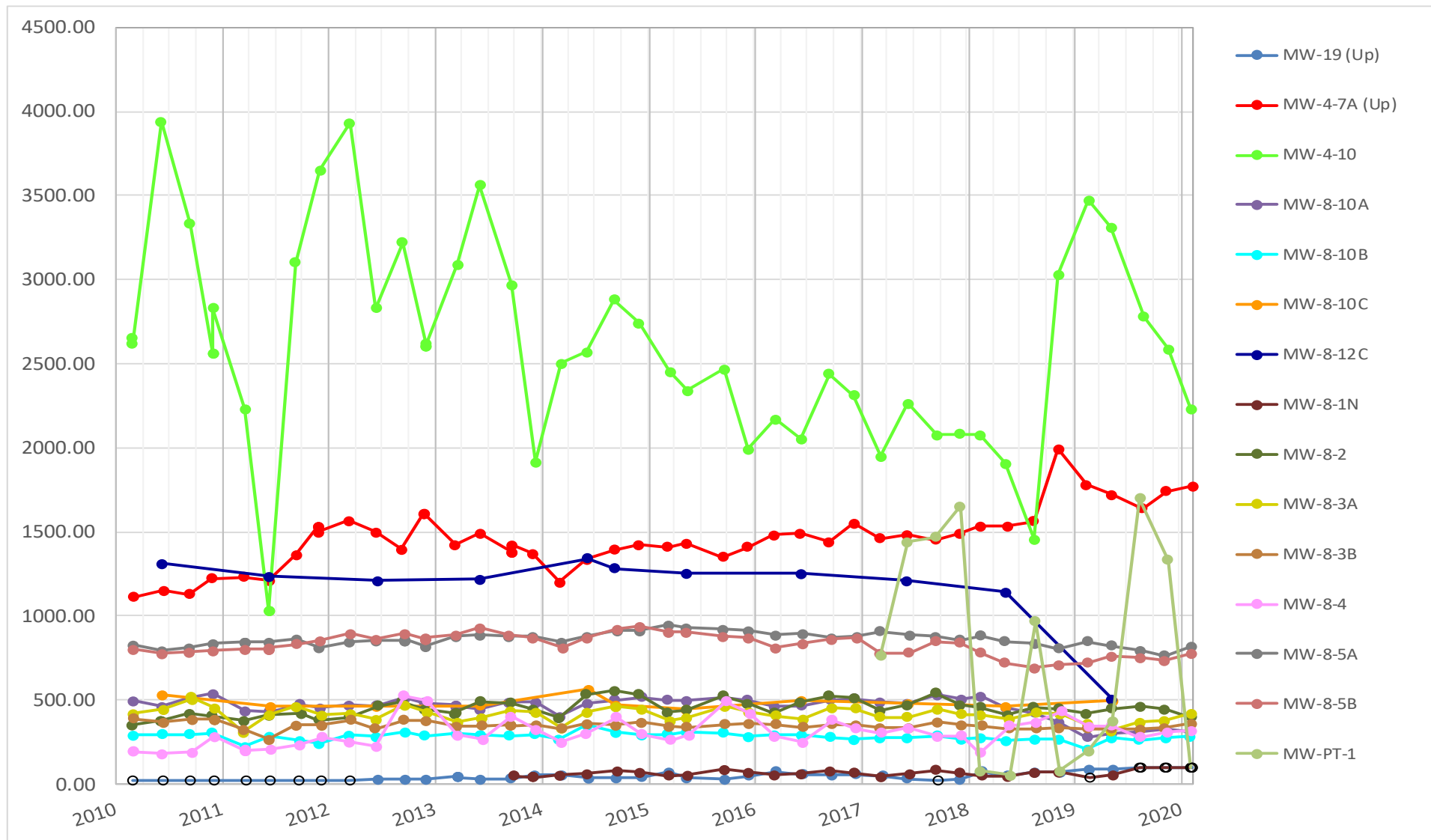
NOTE: There are no applicable standards for this parameter

Boron, dissolved [$\mu\text{g/l}$]



NOTE: Data does not exceed standard of 6000 $\mu\text{g/l}$ during this time frame

Boron, total [$\mu\text{g/l}$]

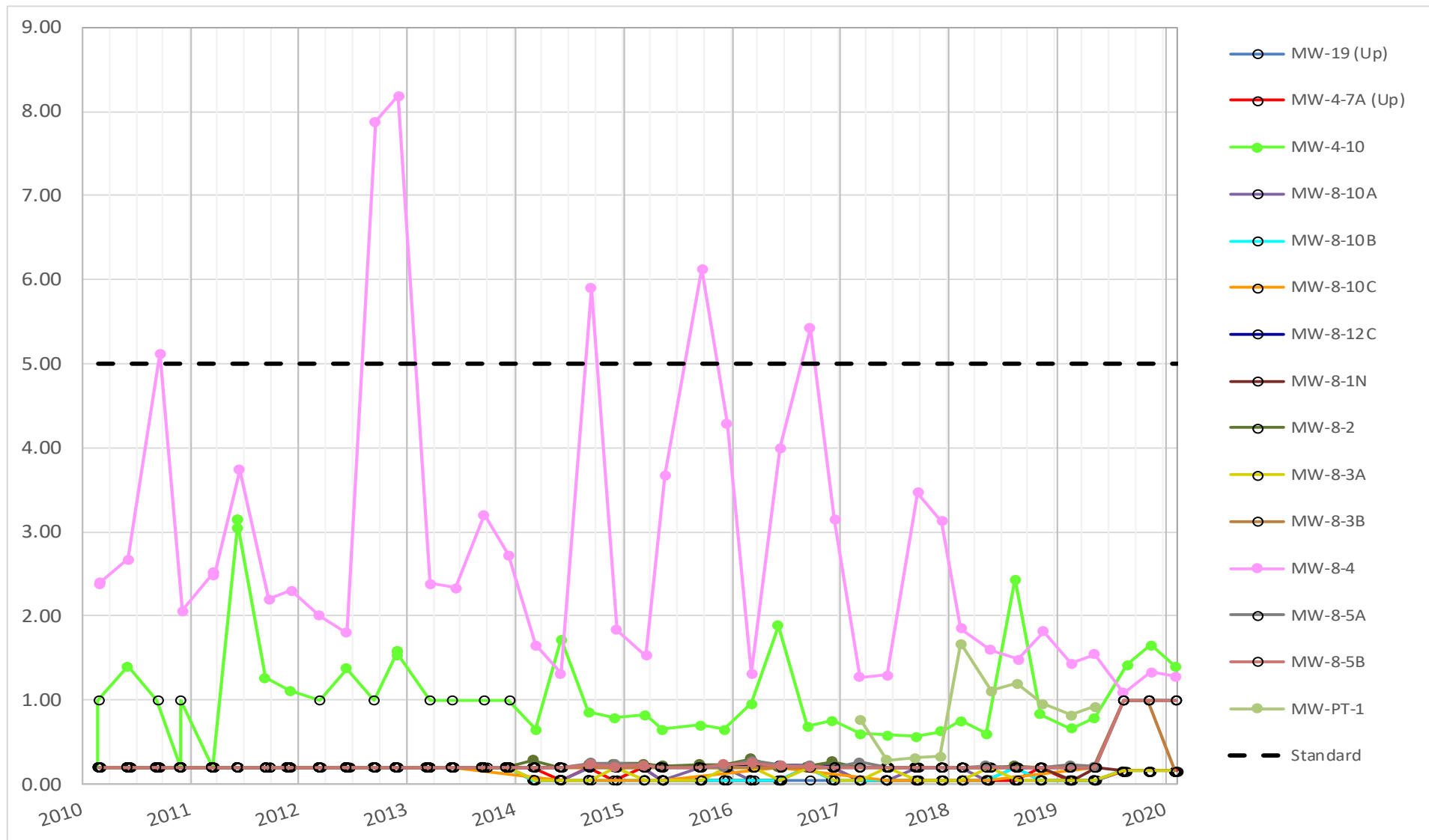


NOTE: Data does not exceed standard of 6000 $\mu\text{g/l}$ during this time frame

Brunner Island - Basin 5

1st Quarter 2020

Cadmium, dissolved [μg/l]

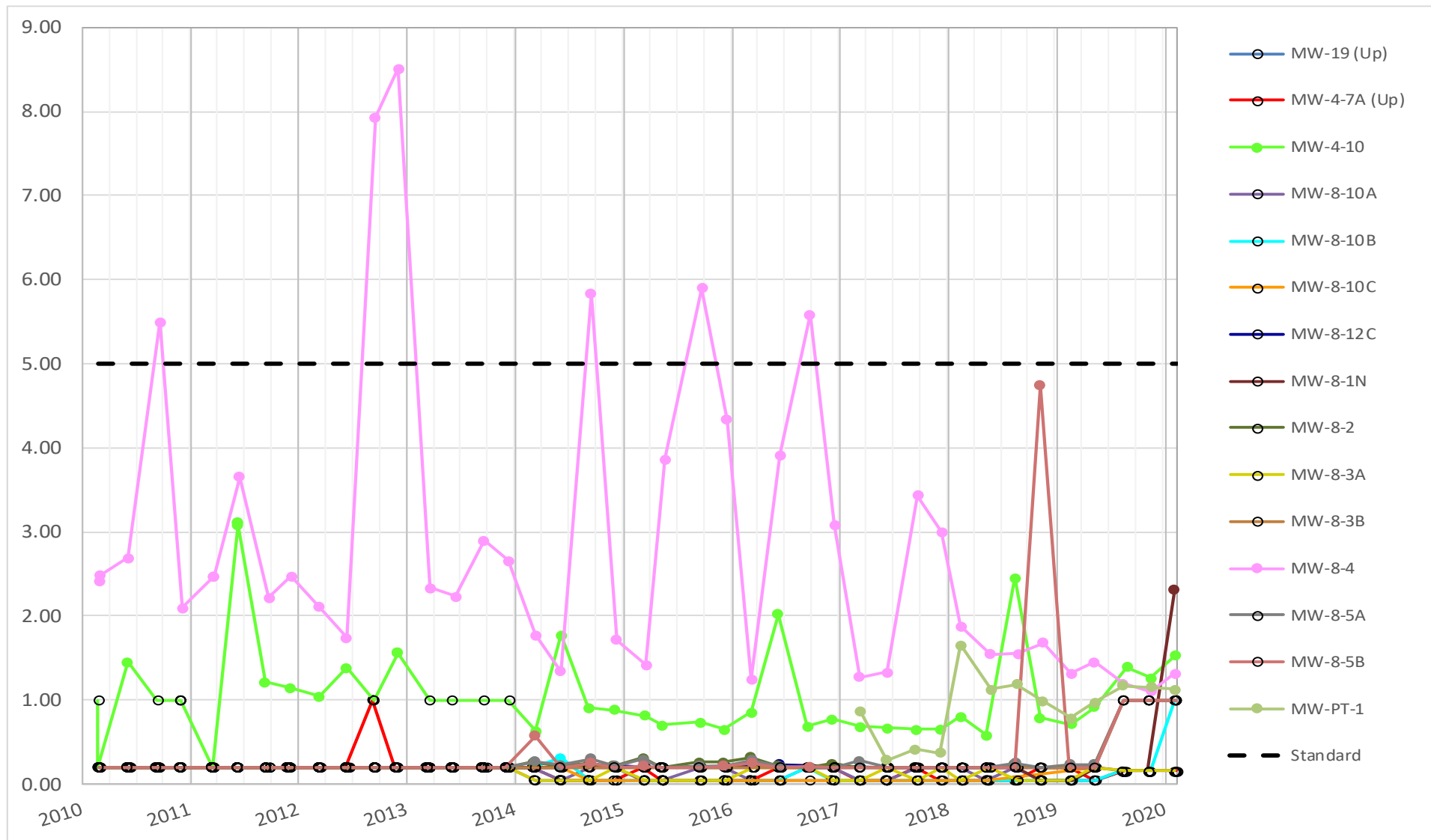


Talen Energy

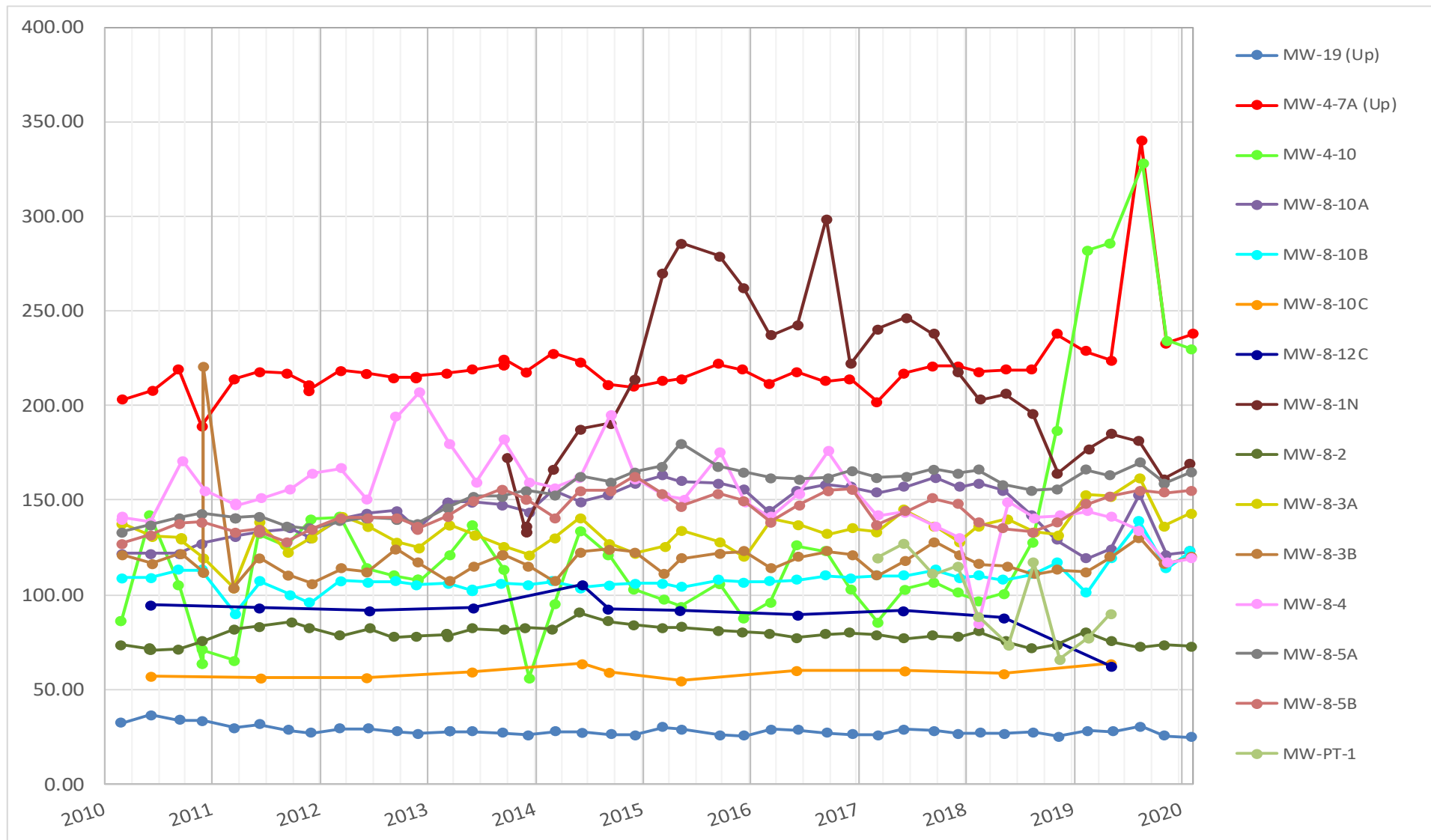
Brunner Island - Basin 5

1st Quarter 2020

Cadmium, total [μg/l]

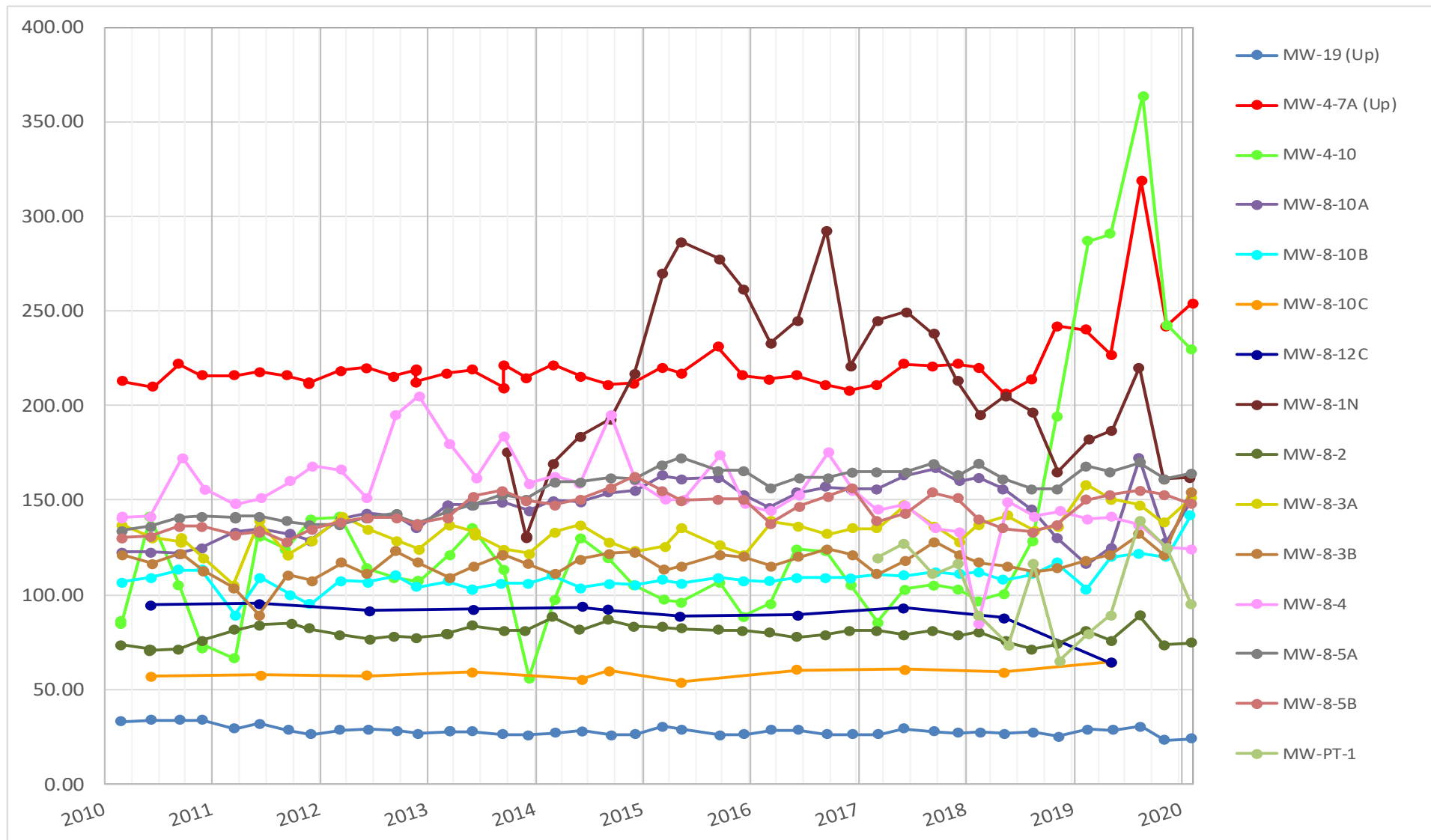


Calcium, dissolved [mg/l]



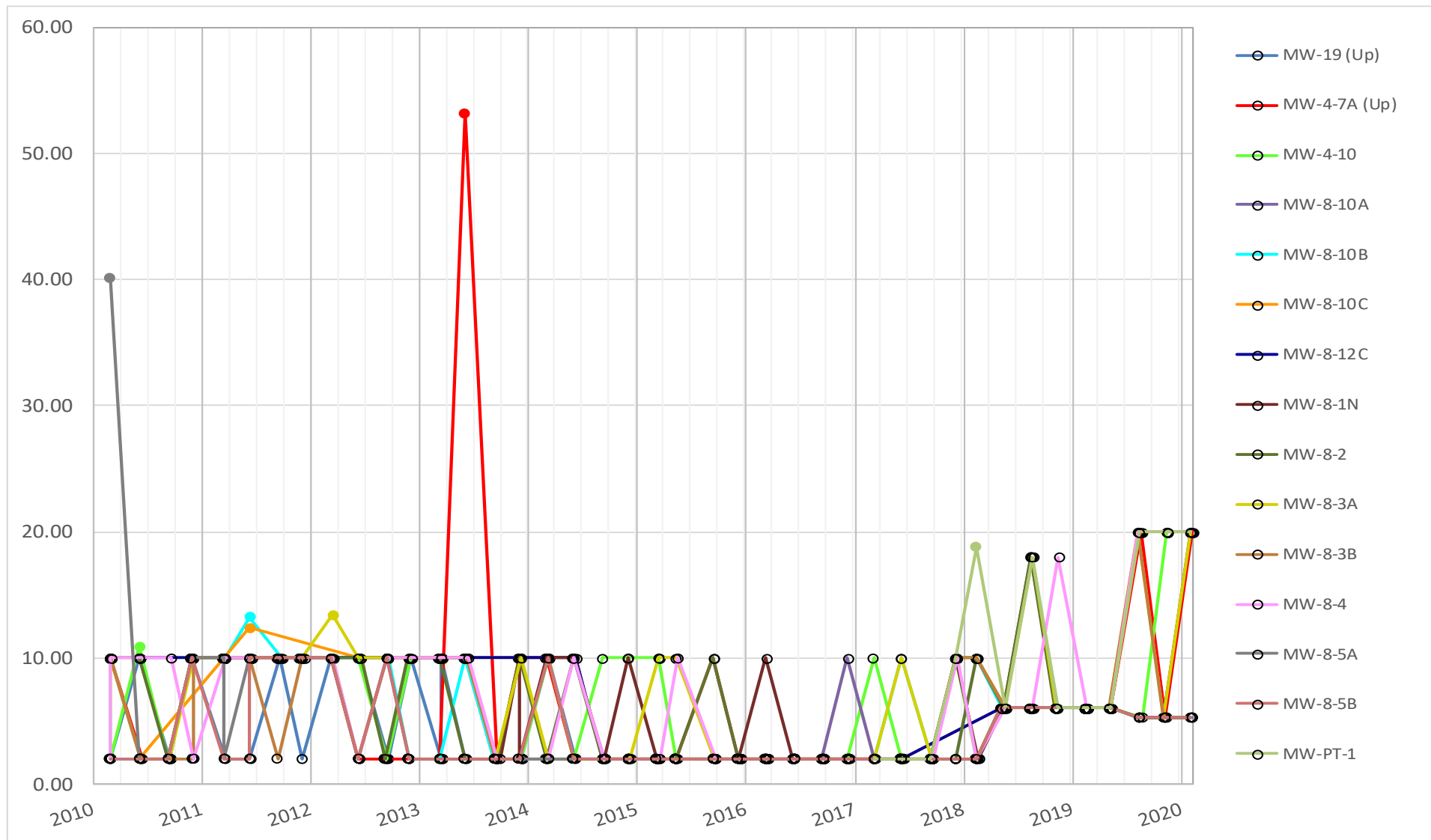
NOTE: There are no applicable standards for this parameter

Calcium, total [mg/l]



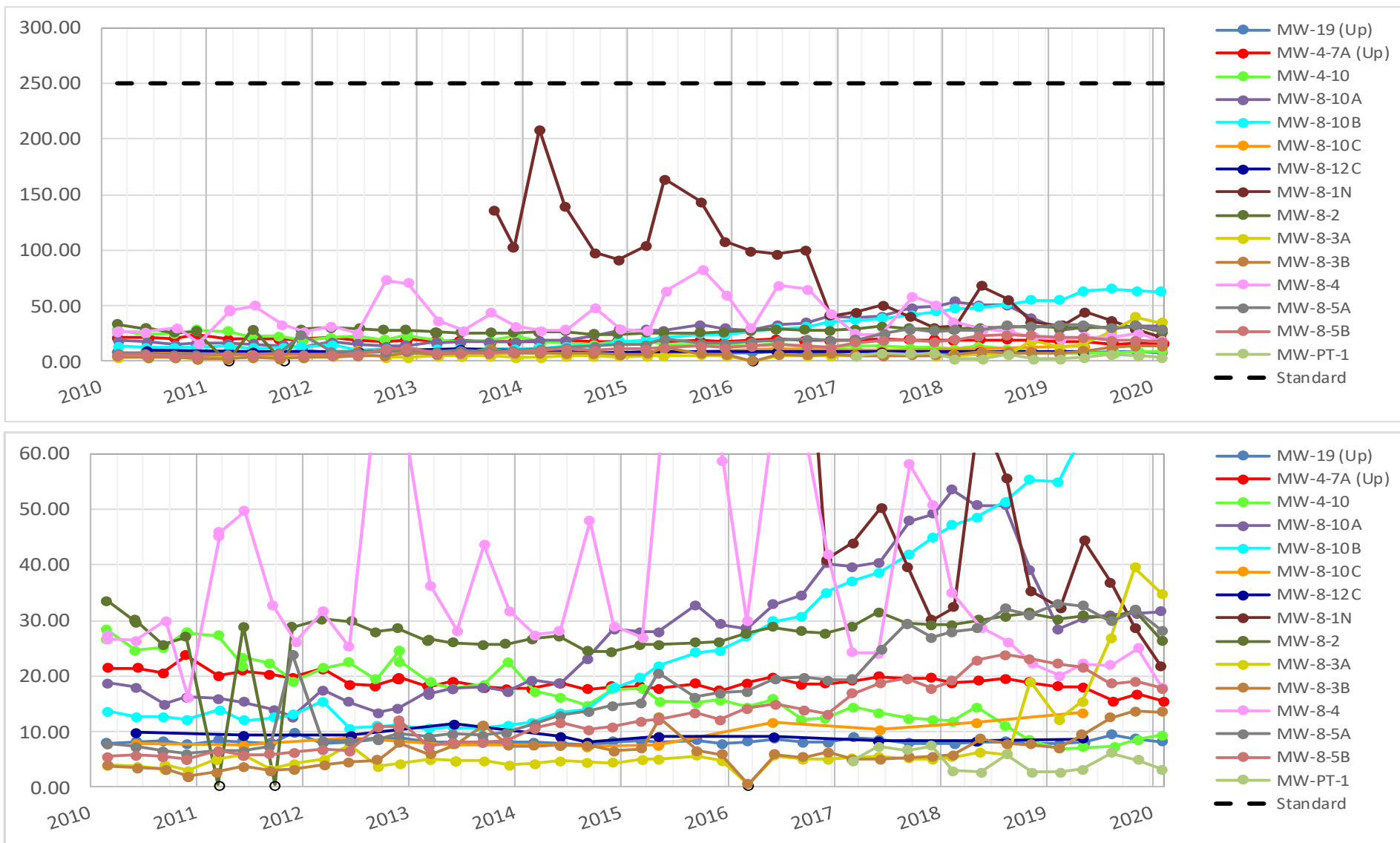
NOTE: There are no applicable standards for this parameter

Chemical Oxygen Demand [mg/l]



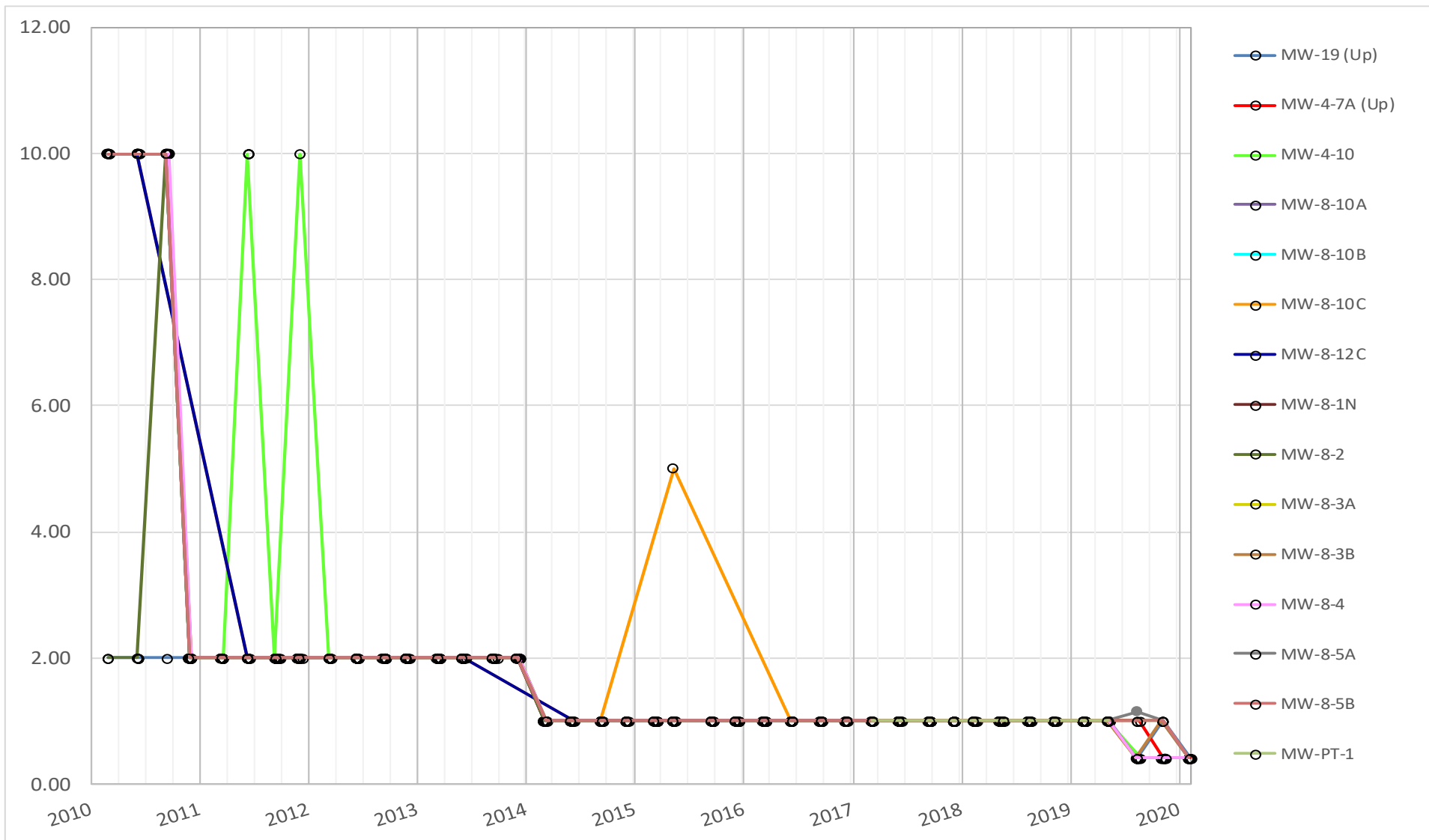
NOTE: There are no applicable standards for this parameter

Chloride, total as Cl [mg/l]



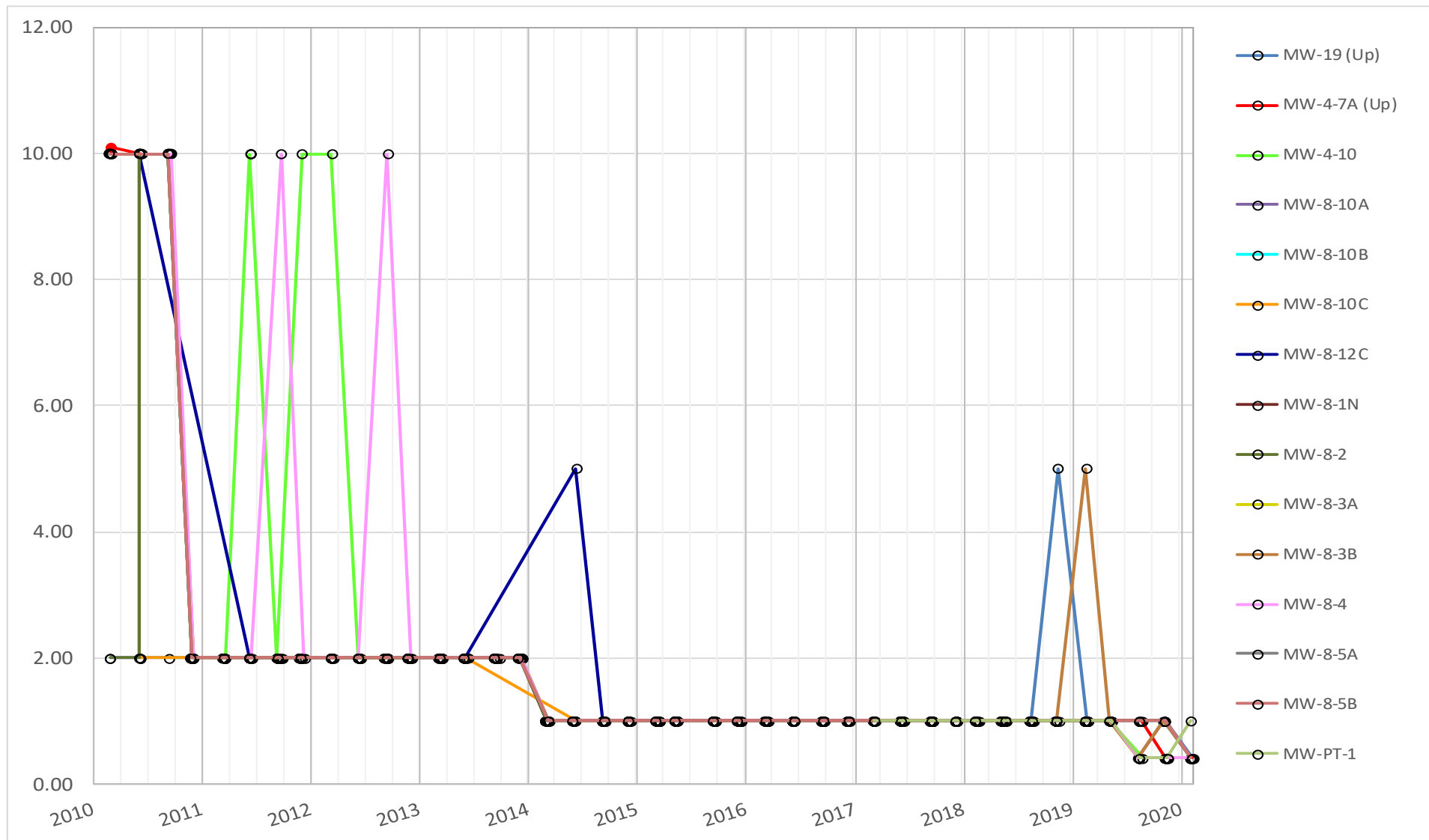
NOTE: Data does not exceed standard of 250 mg/l during this time frame

Chromium, dissolved [$\mu\text{g/l}$]



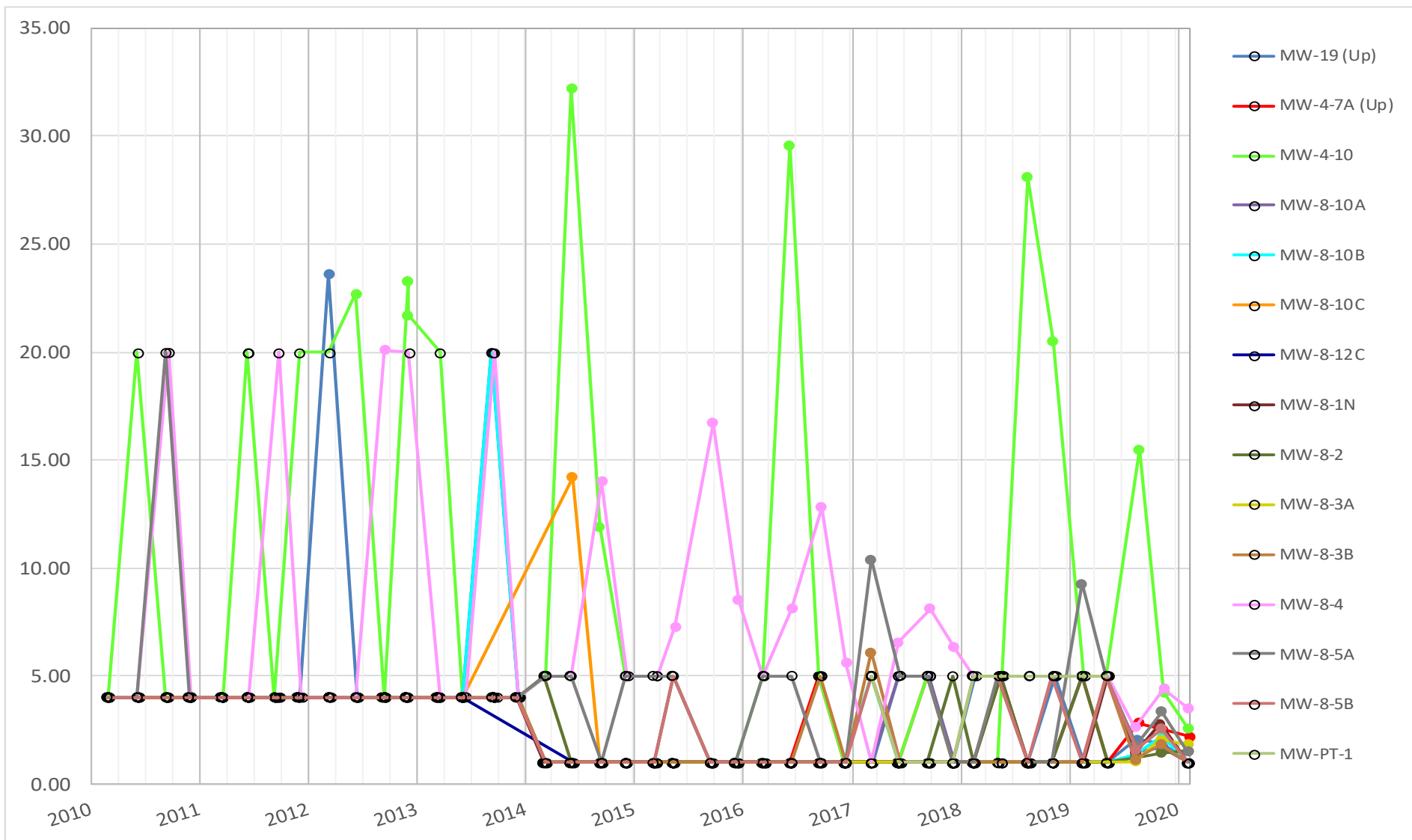
NOTE: Data does not exceed standard of 100 $\mu\text{g/l}$ during this time frame

Chromium, total [$\mu\text{g/l}$]



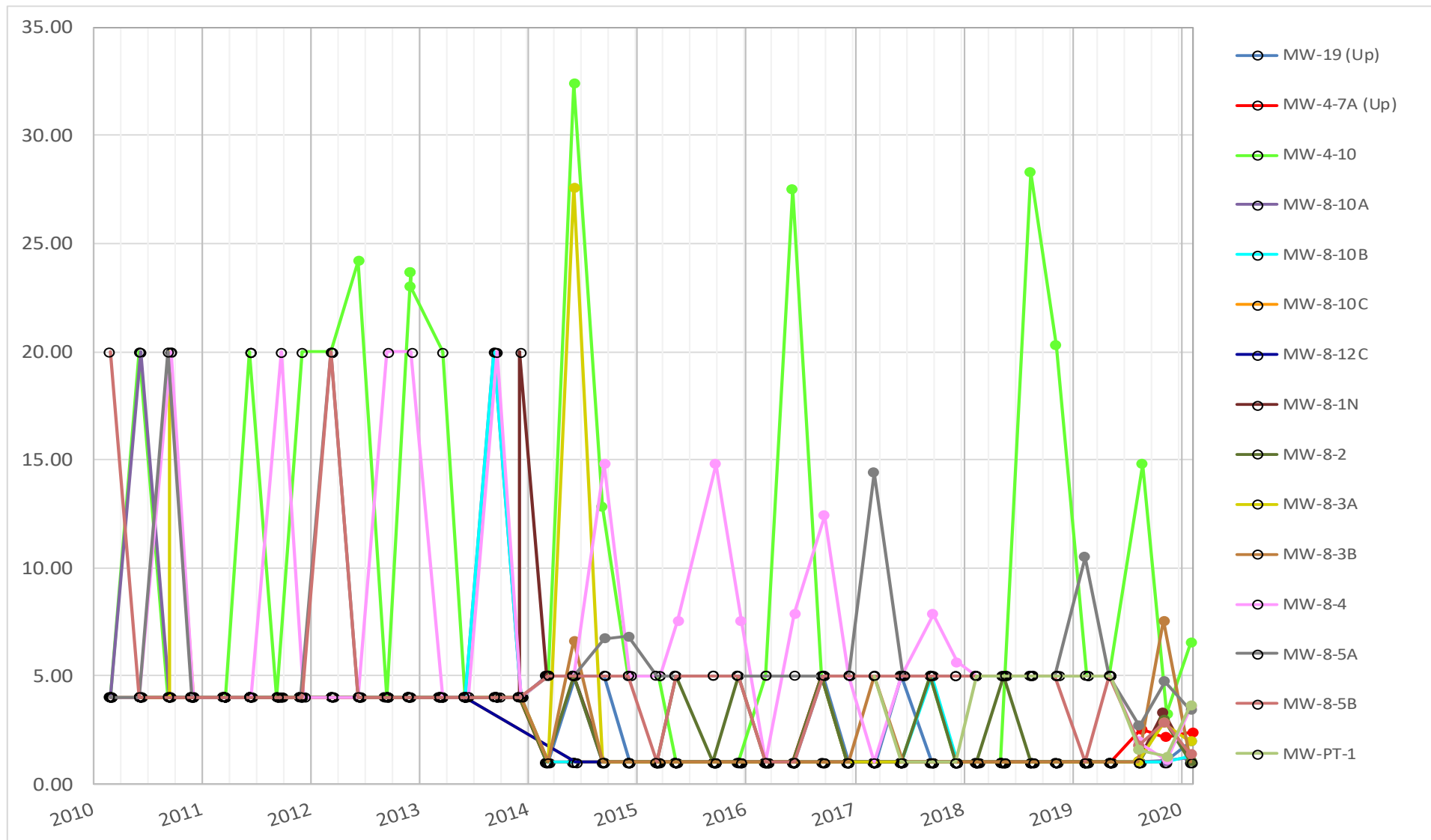
NOTE: Data does not exceed standard of 100 $\mu\text{g/l}$ during this time frame

Copper, dissolved [$\mu\text{g/l}$]



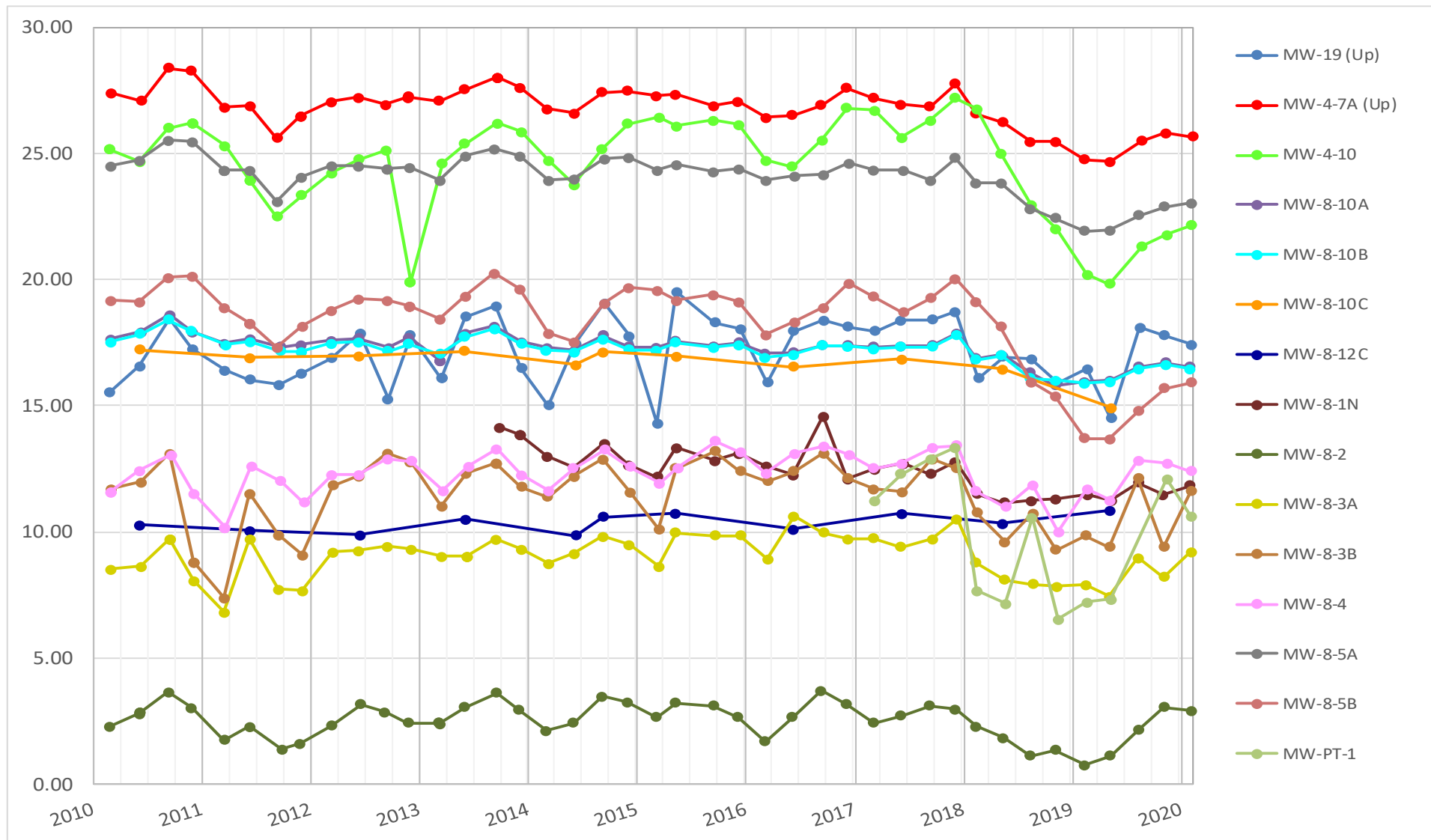
NOTE: Data does not exceed standard of 1000 $\mu\text{g/l}$ during this time frame

Copper, total [$\mu\text{g/l}$]



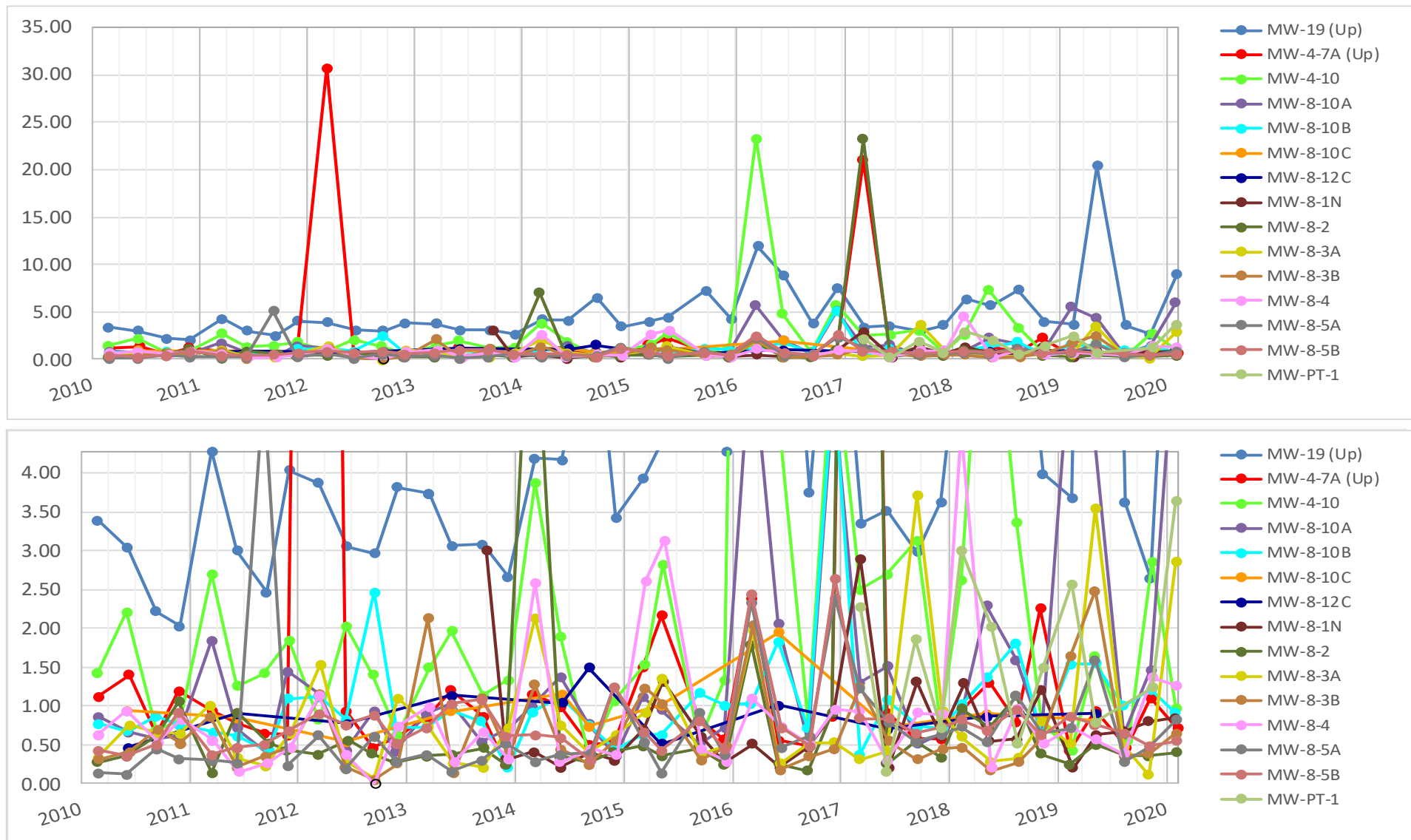
NOTE: Data does not exceed standard of 1000 $\mu\text{g/l}$ during this time frame

Depth to Water [ft]



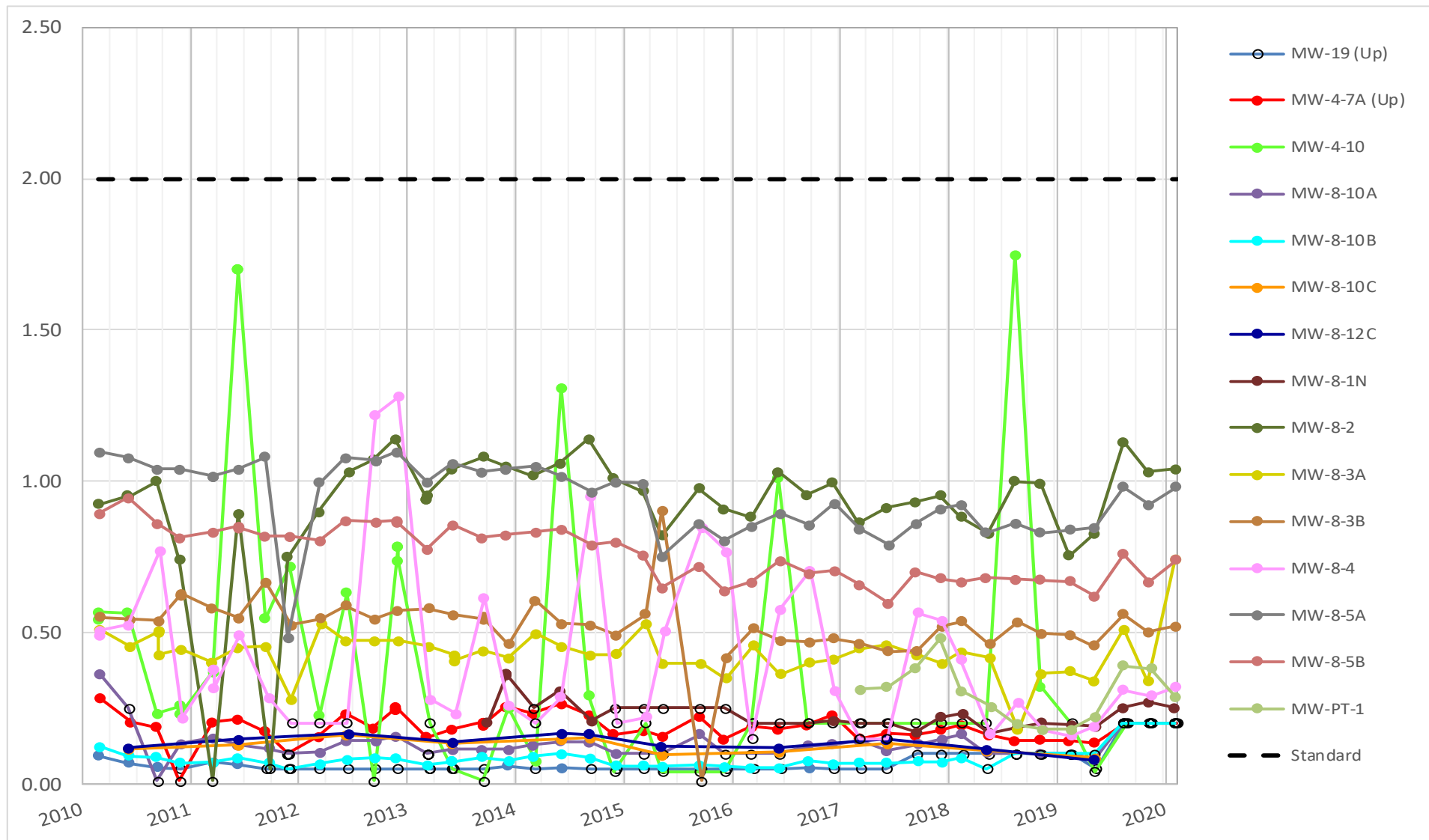
NOTE: There are no applicable standards for this parameter

Dissolved Oxygen, field [mg/l]



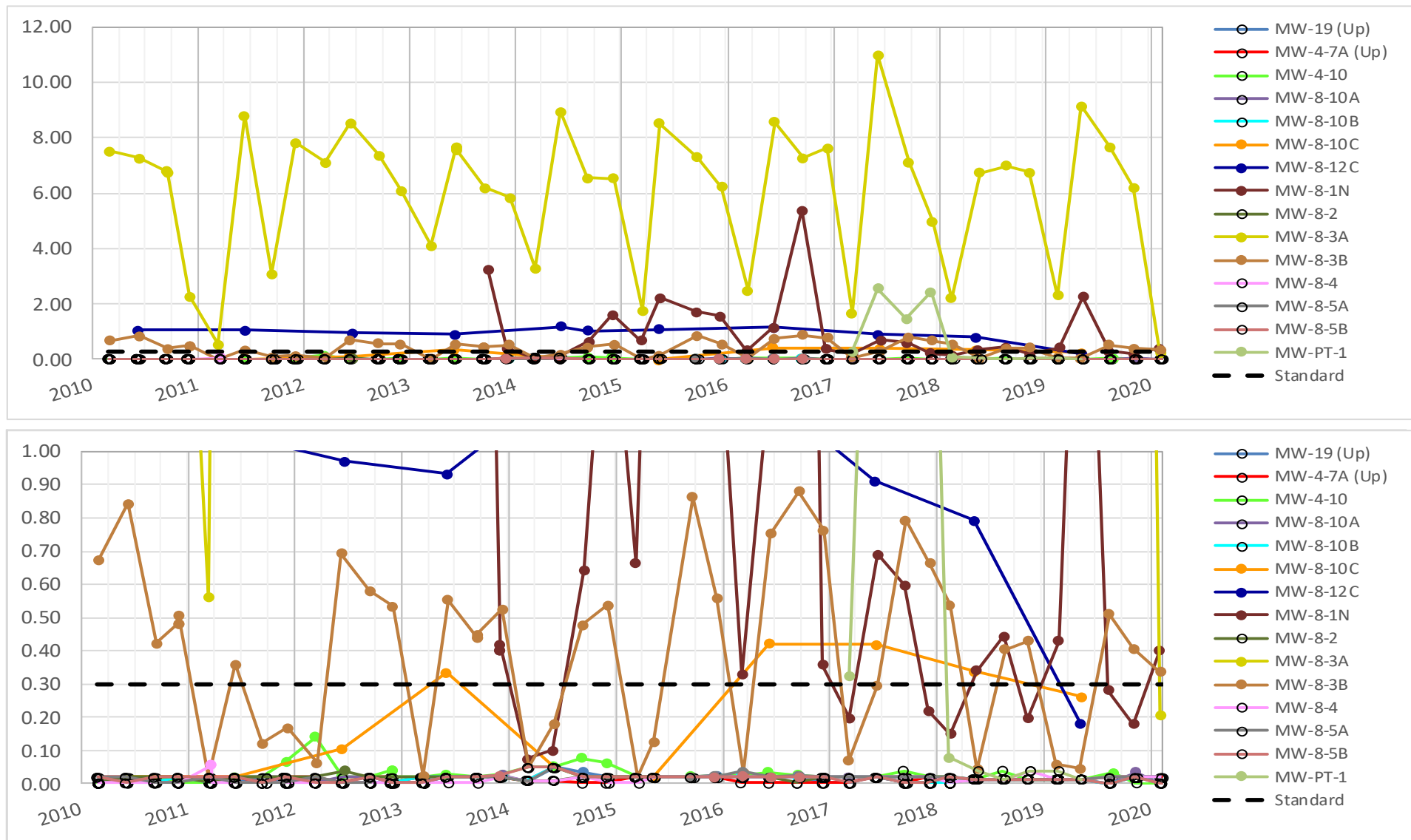
NOTE: There are no applicable standards for this parameter

Fluoride, total as F [mg/l]

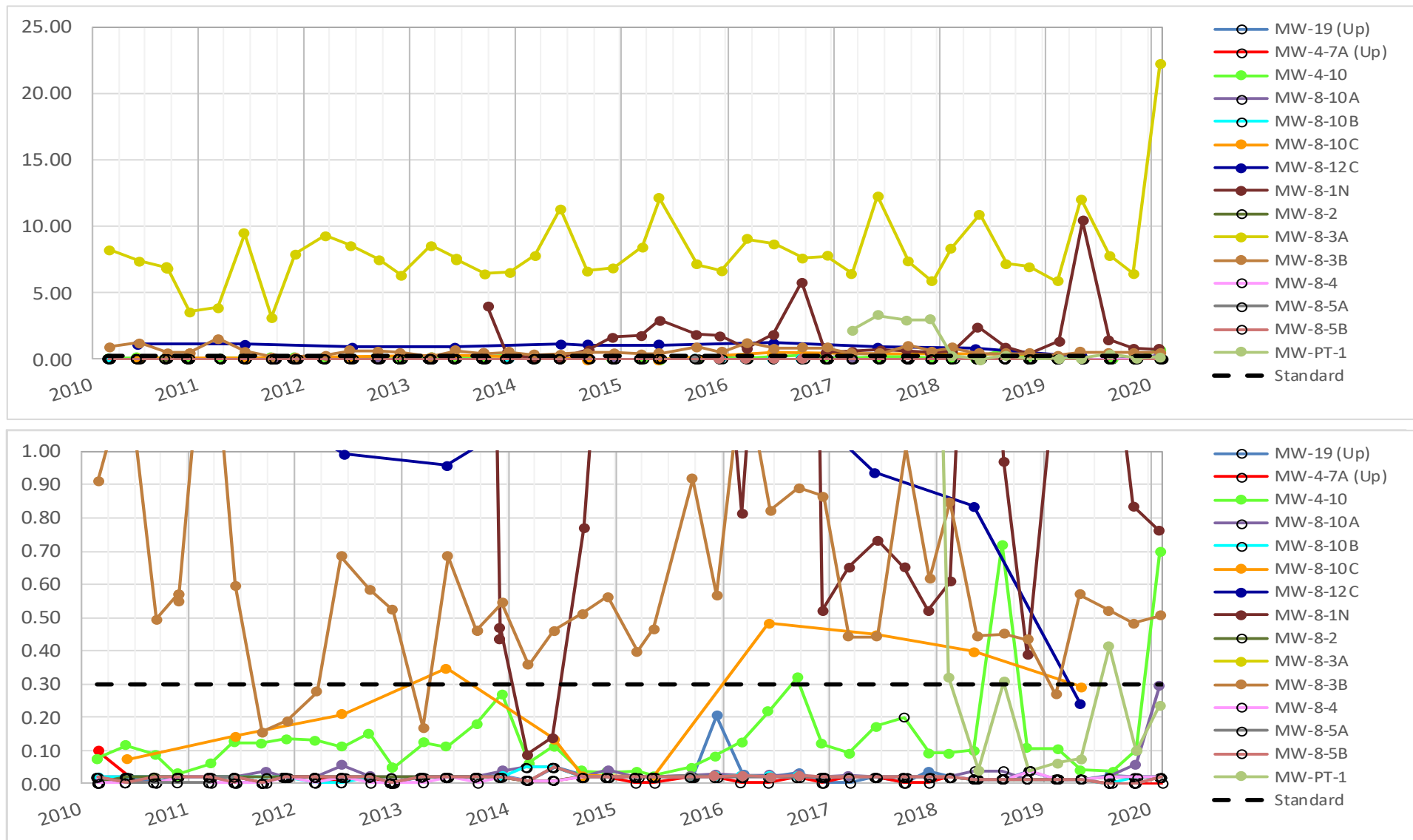


NOTE: Data does not exceed standard of 2 mg/l during this time frame

Iron, dissolved [mg/l]



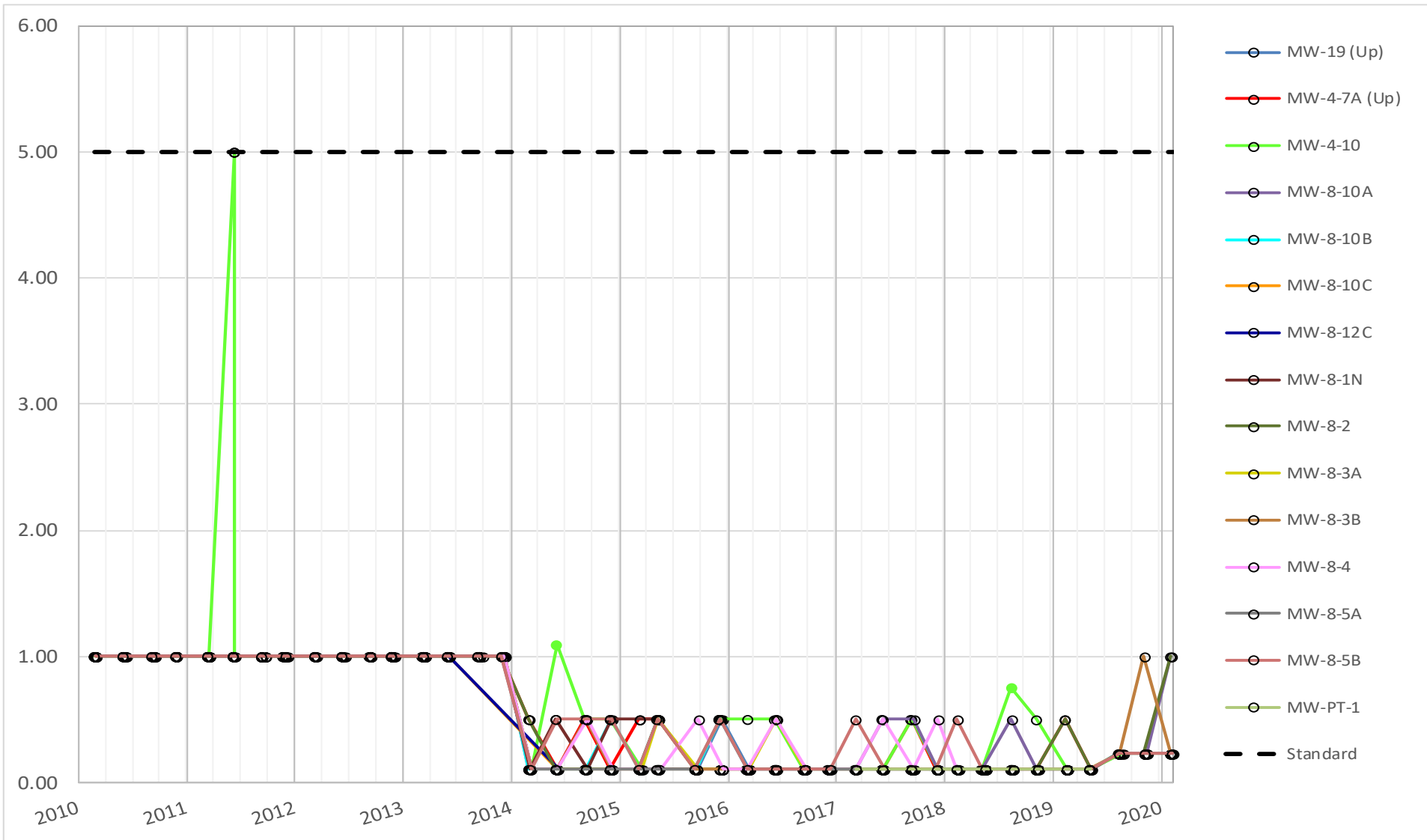
Iron, total [mg/l]



Brunner Island - Basin 5

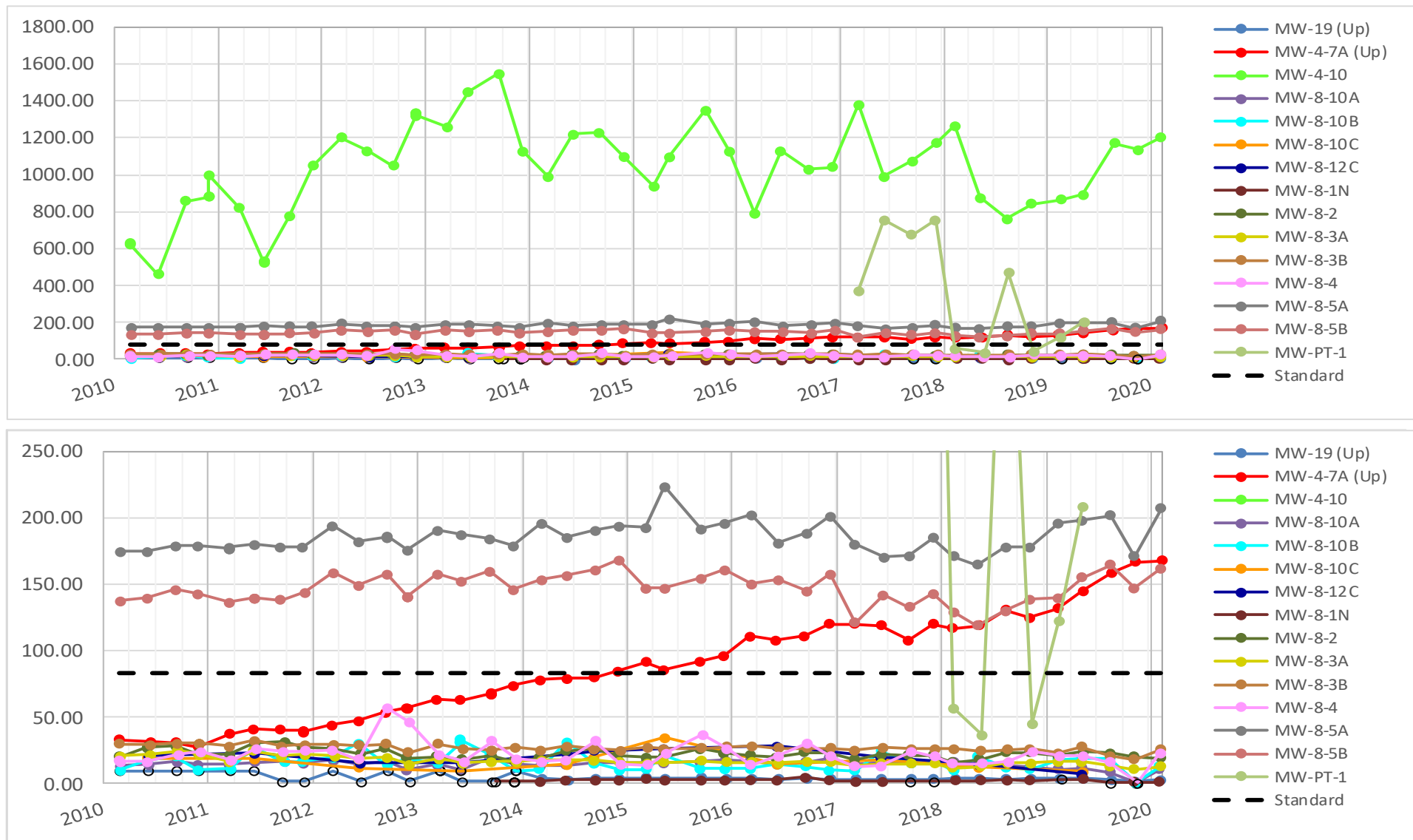
1st Quarter 2020

Lead, dissolved [µg/l]

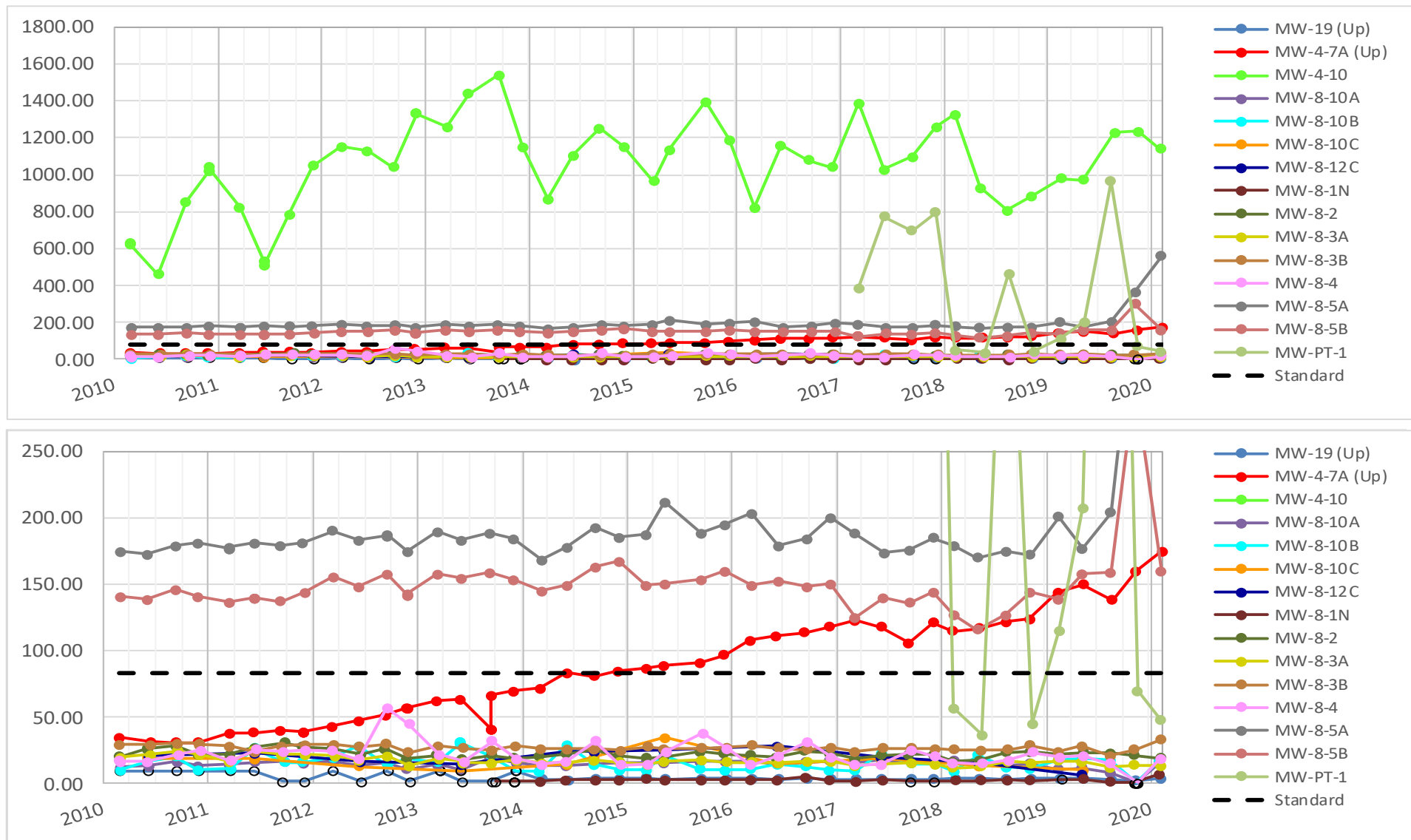


1st Quarter 2020

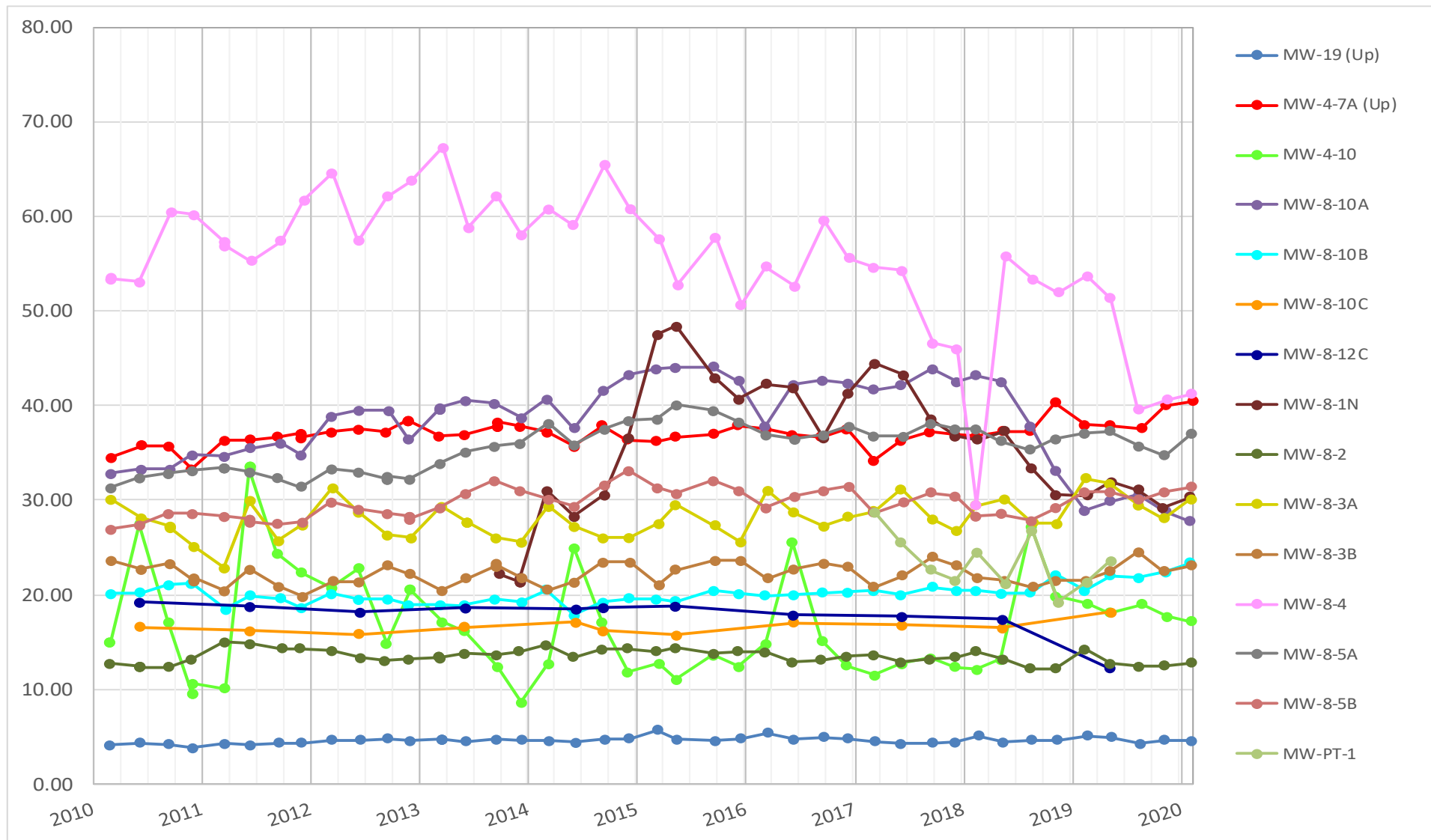
Lithium, dissolved [$\mu\text{g/l}$]



Lithium, total [$\mu\text{g/l}$]

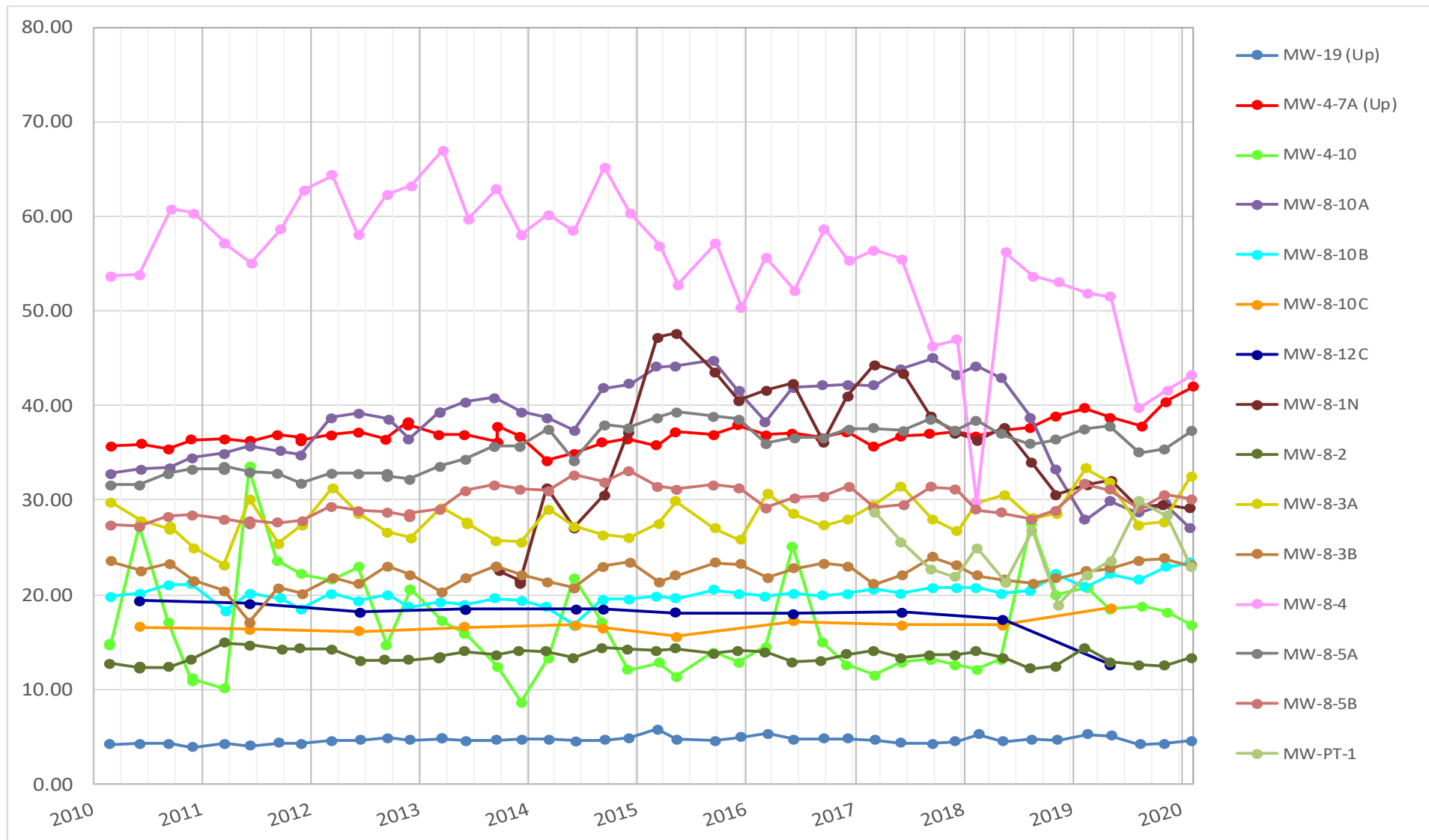


Magnesium, dissolved [mg/l]



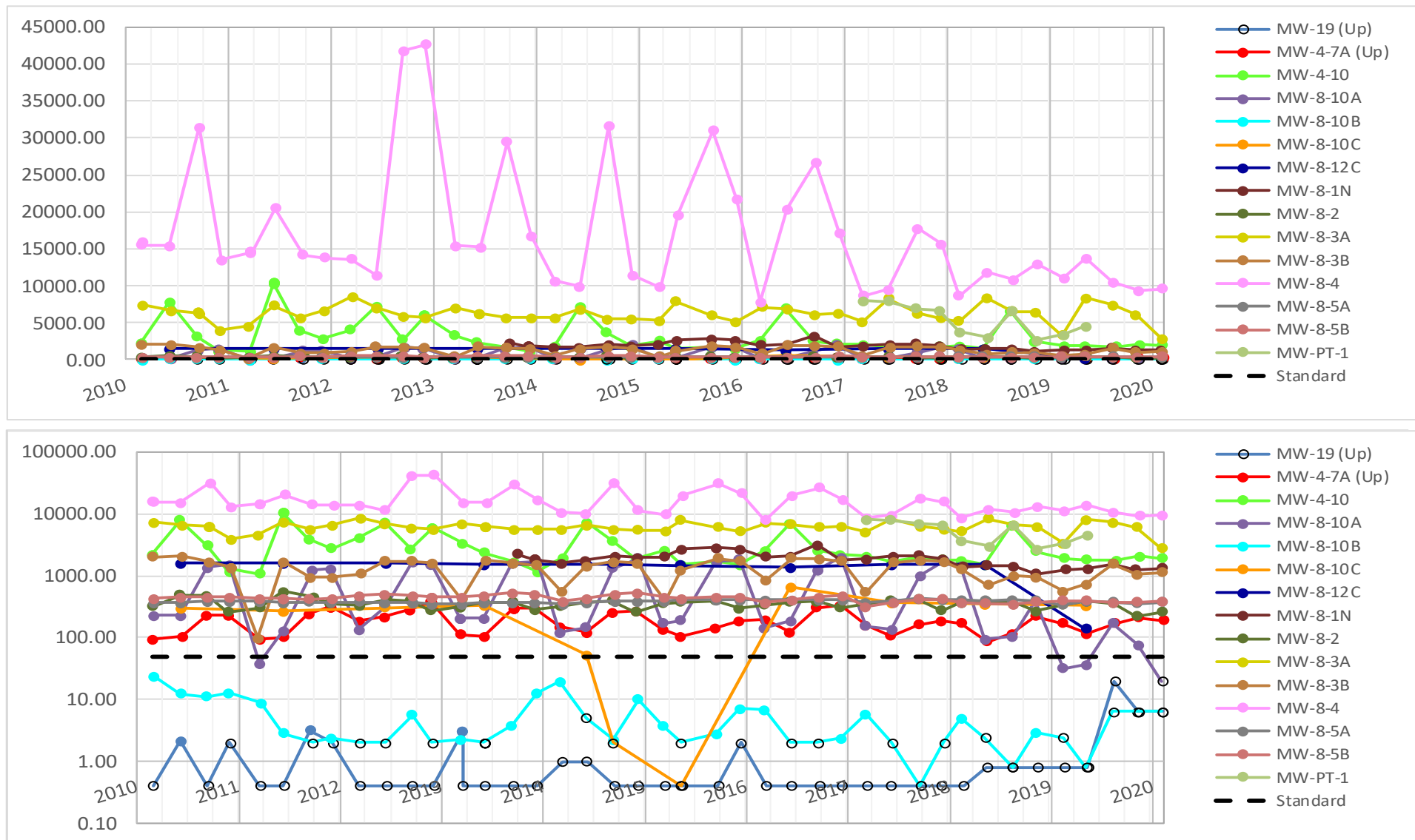
NOTE: There are no applicable standards for this parameter

Magnesium, total [mg/l]

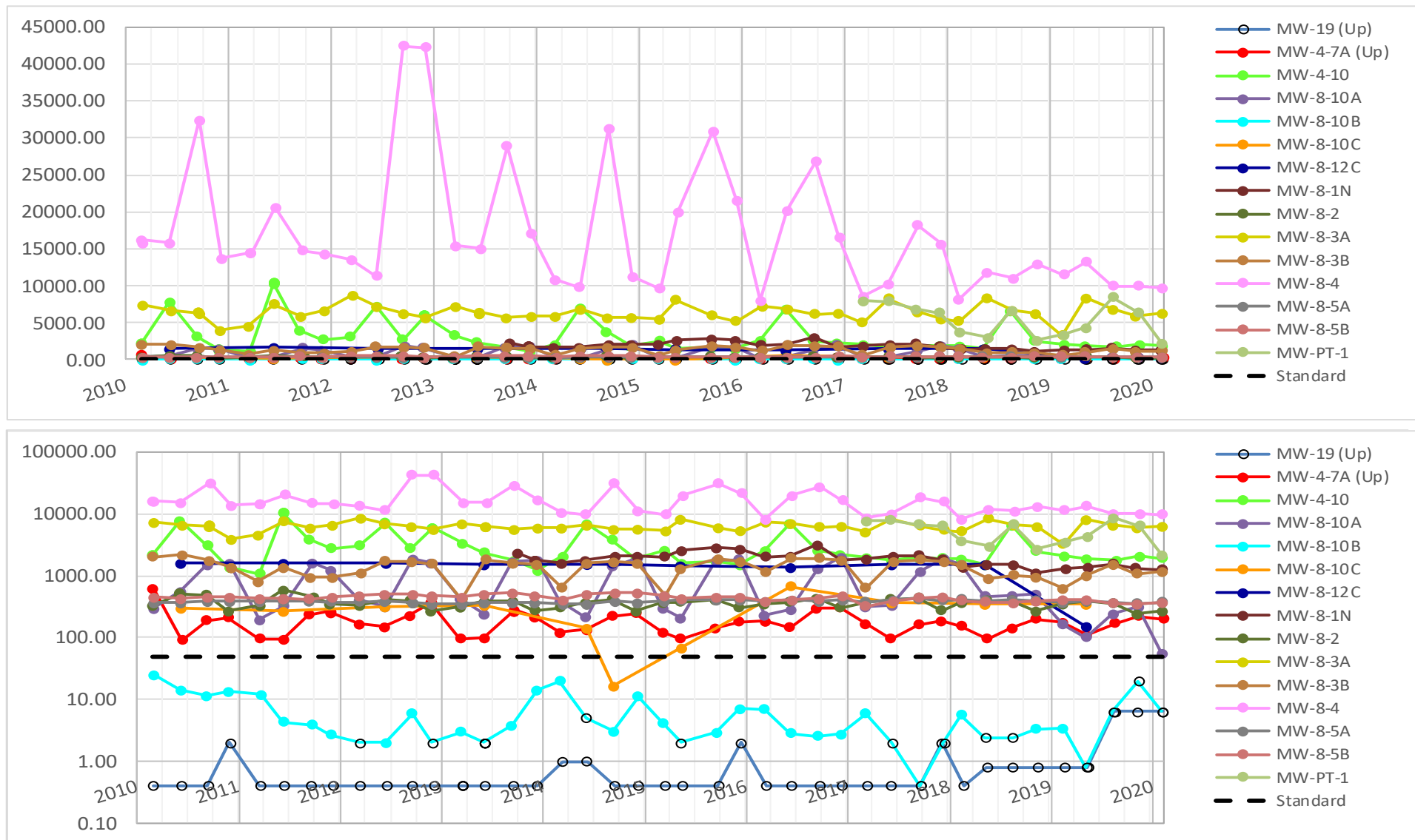


NOTE: There are no applicable standards for this parameter

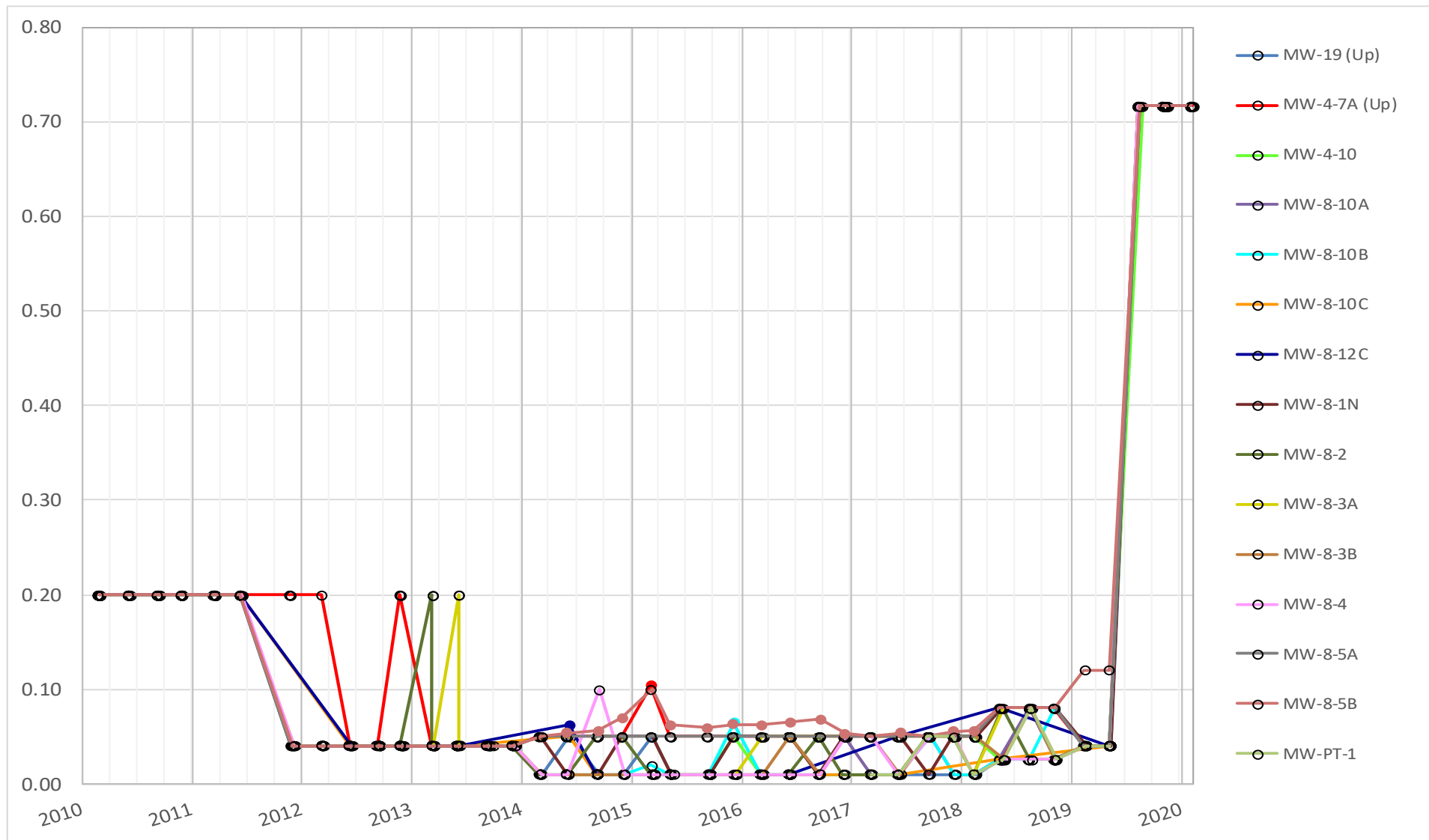
Manganese, dissolved [$\mu\text{g/l}$]



Manganese, total [$\mu\text{g/l}$]

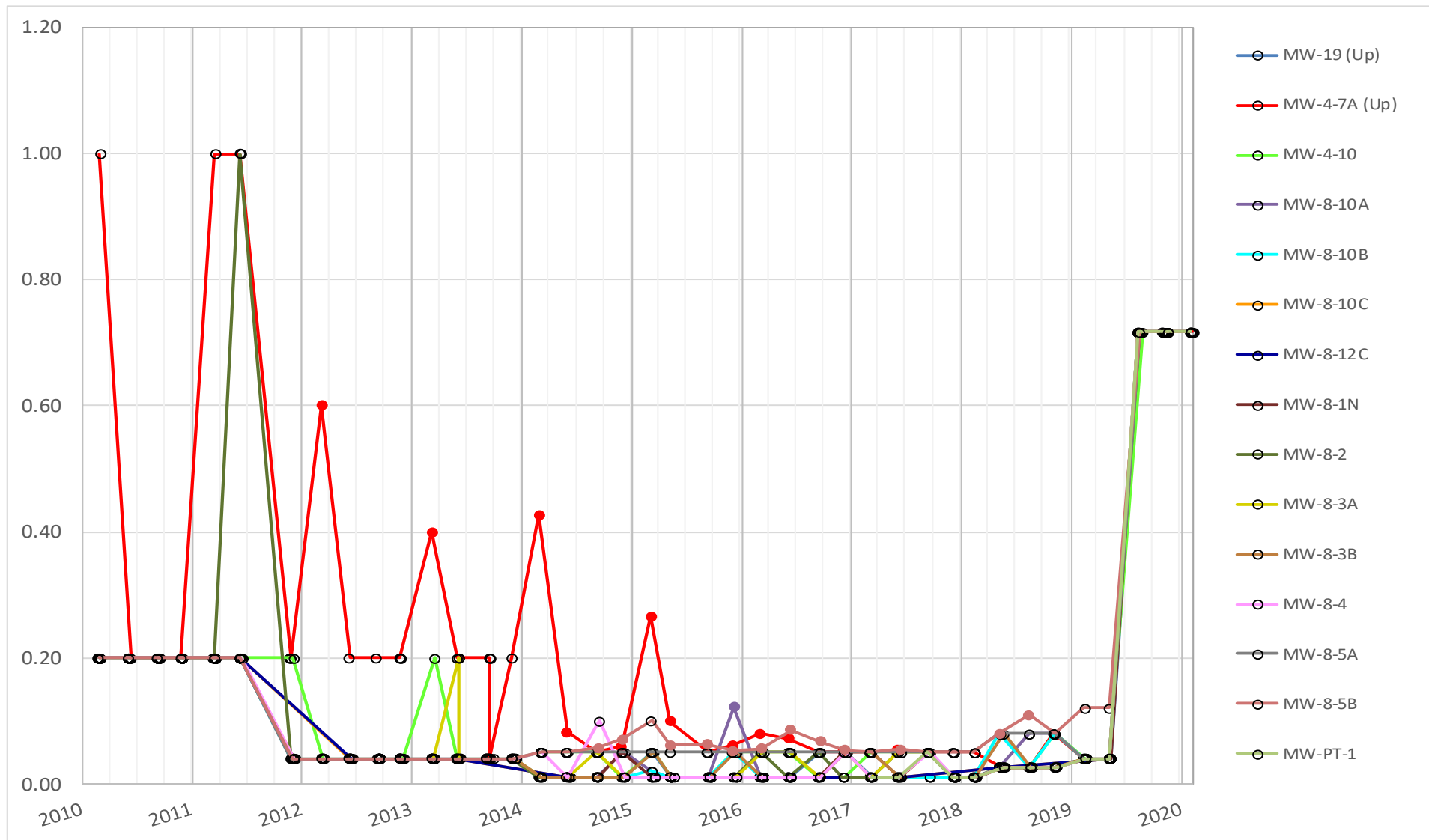


Mercury, dissolved [$\mu\text{g}/\text{l}$]



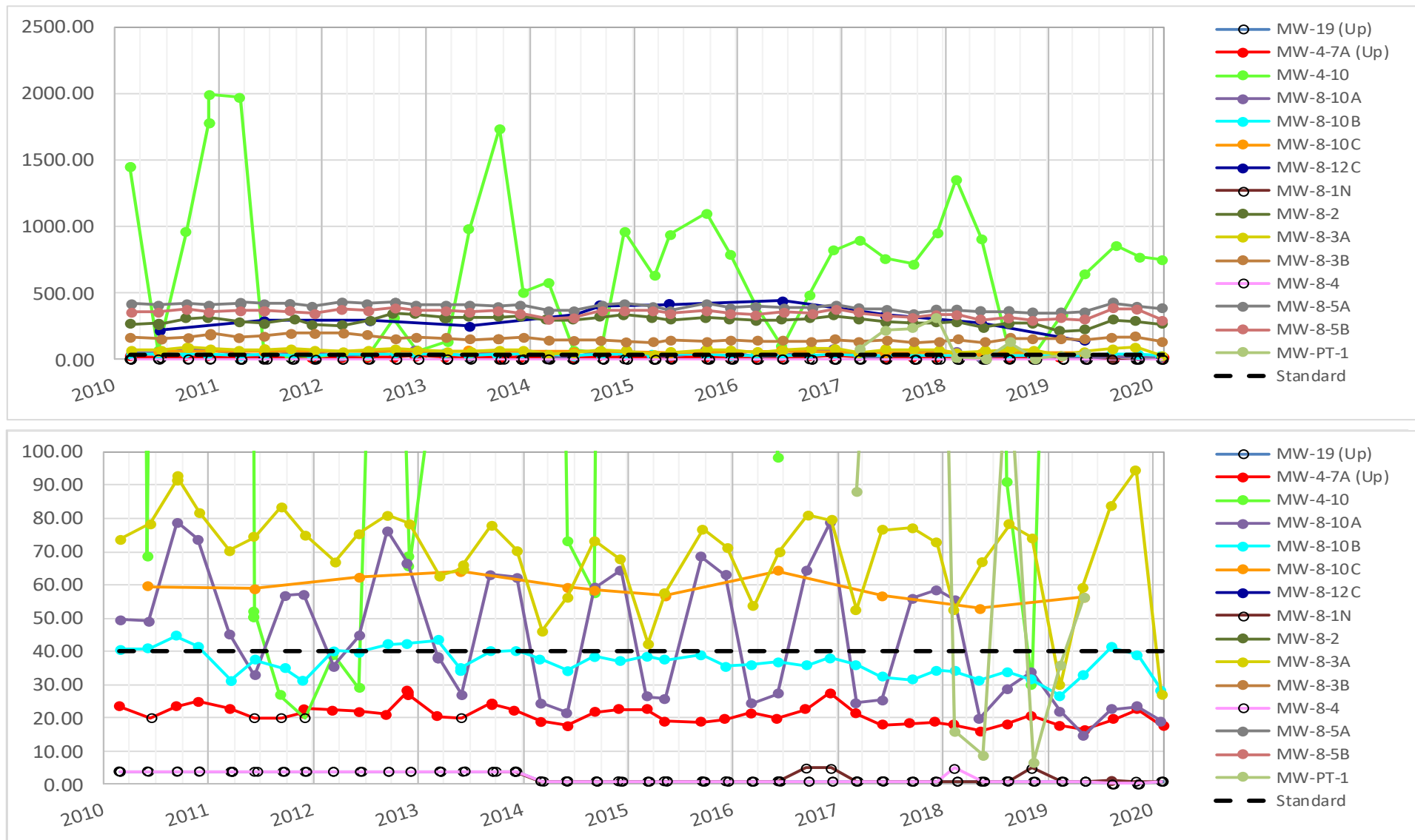
NOTE: Data does not exceed standard of 2 $\mu\text{g}/\text{l}$ during this time frame

Mercury, total [$\mu\text{g/l}$]

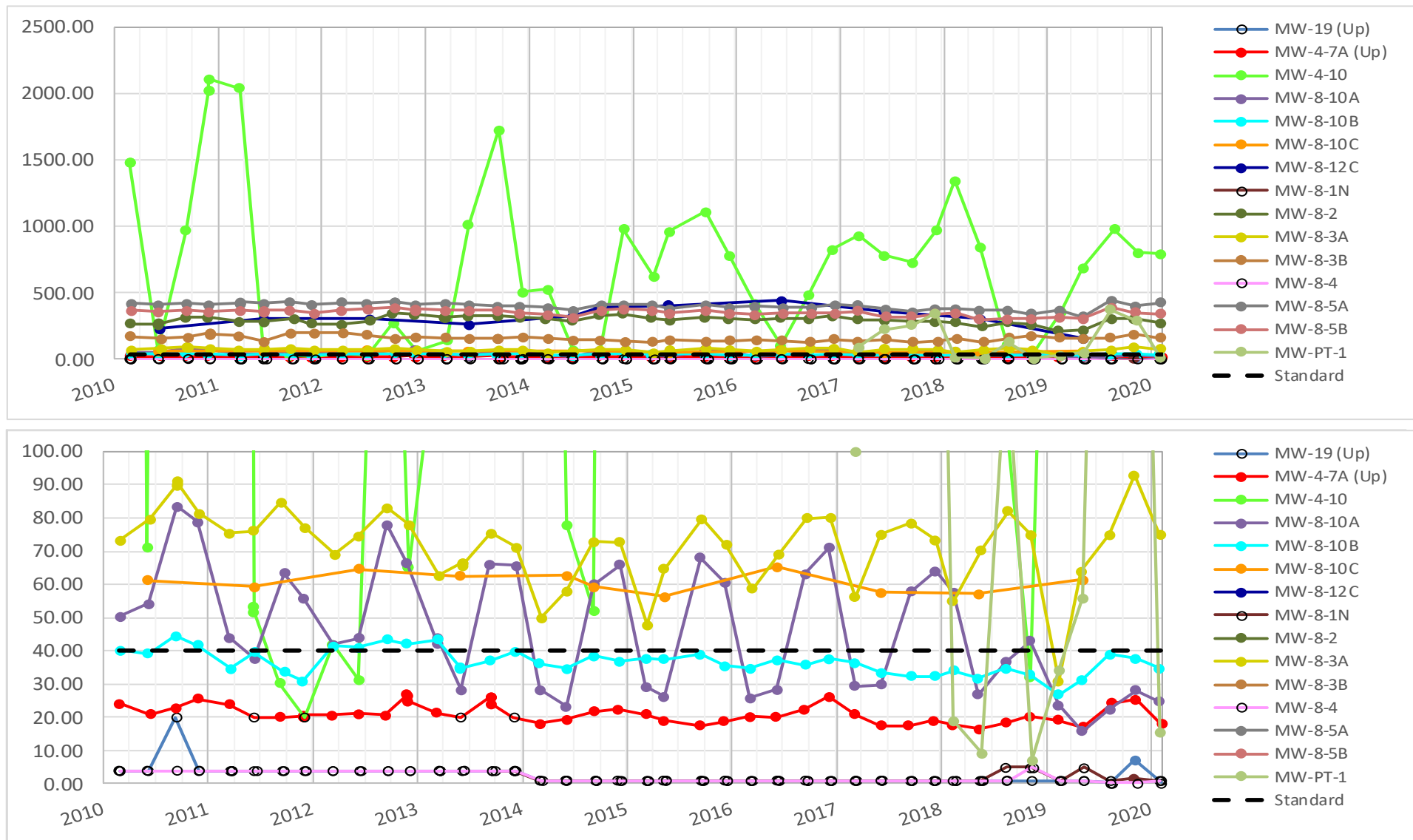


NOTE: Data does not exceed standard of 2 $\mu\text{g/l}$ during this time frame

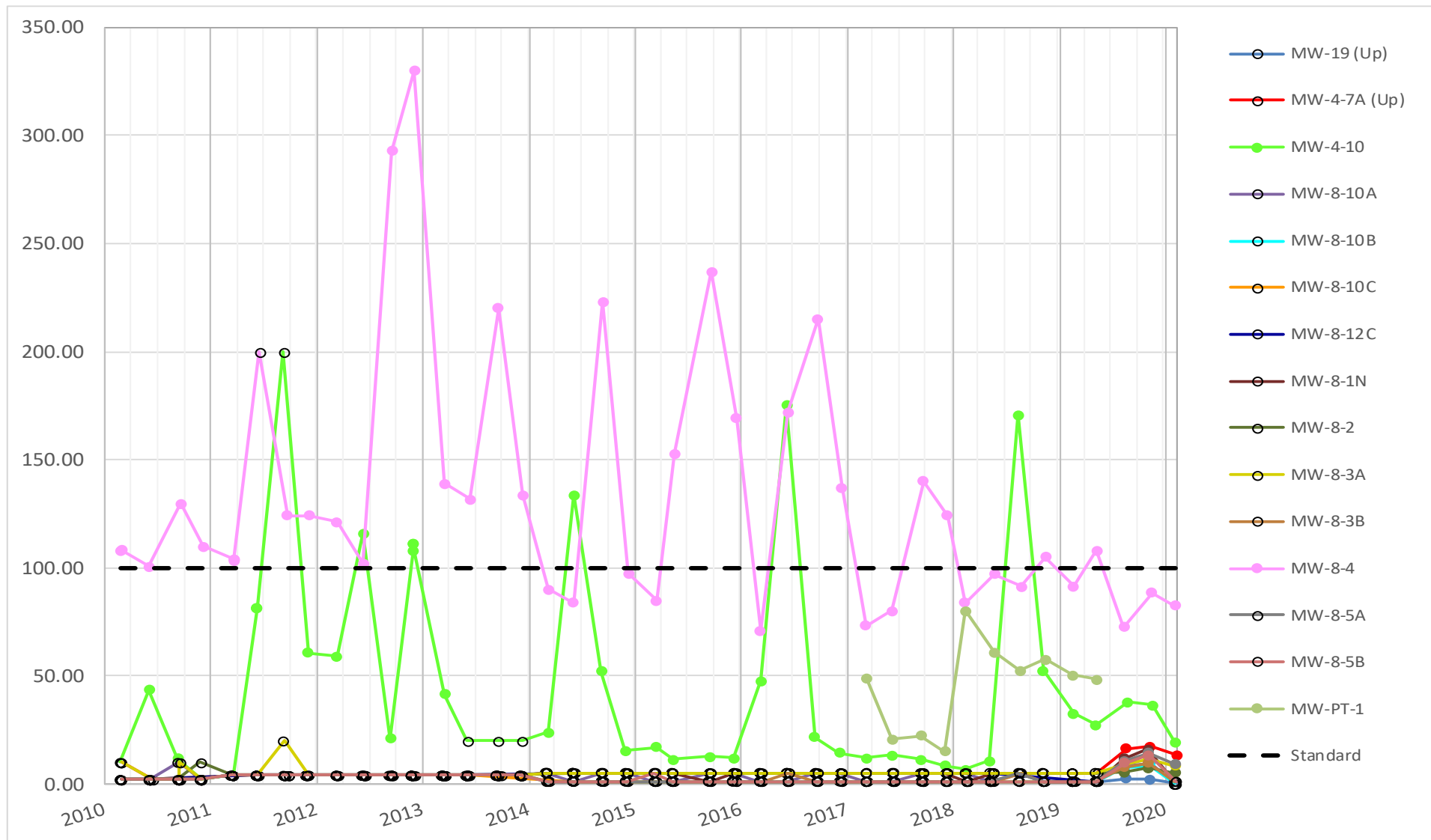
Molybdenum, dissolved [$\mu\text{g/l}$]



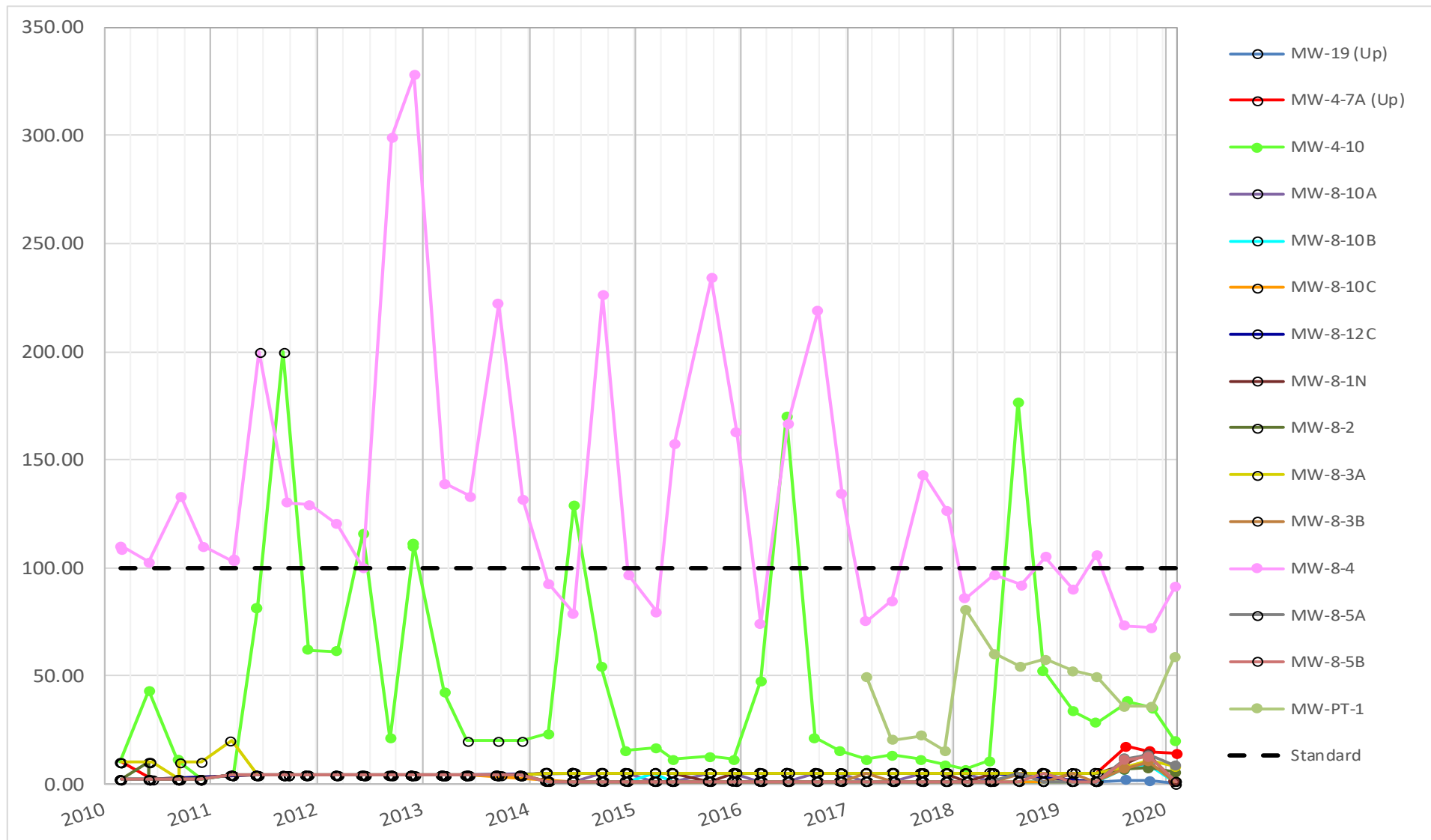
Molybdenum, total [$\mu\text{g/l}$]



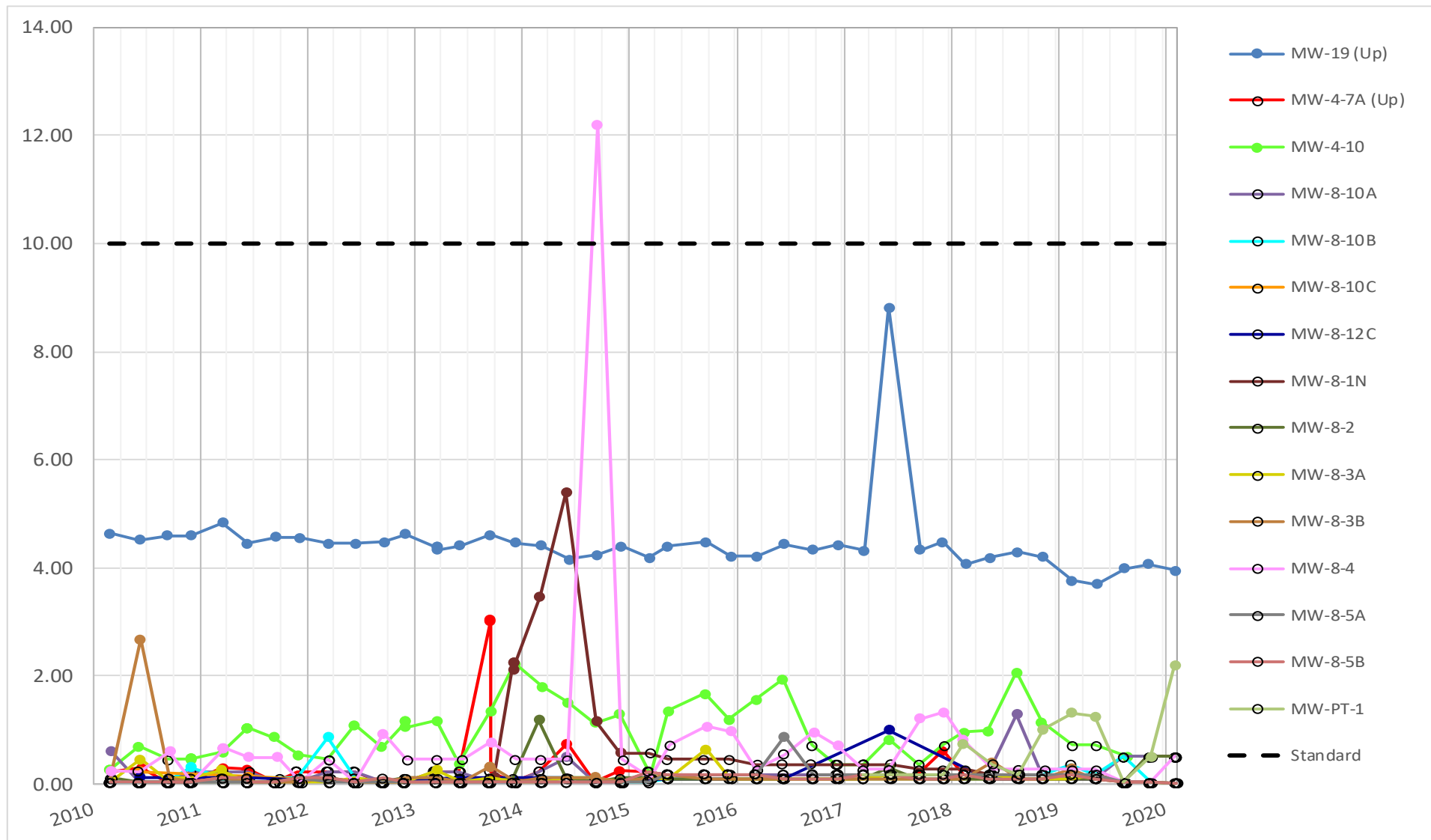
Nickel, dissolved [$\mu\text{g/l}$]



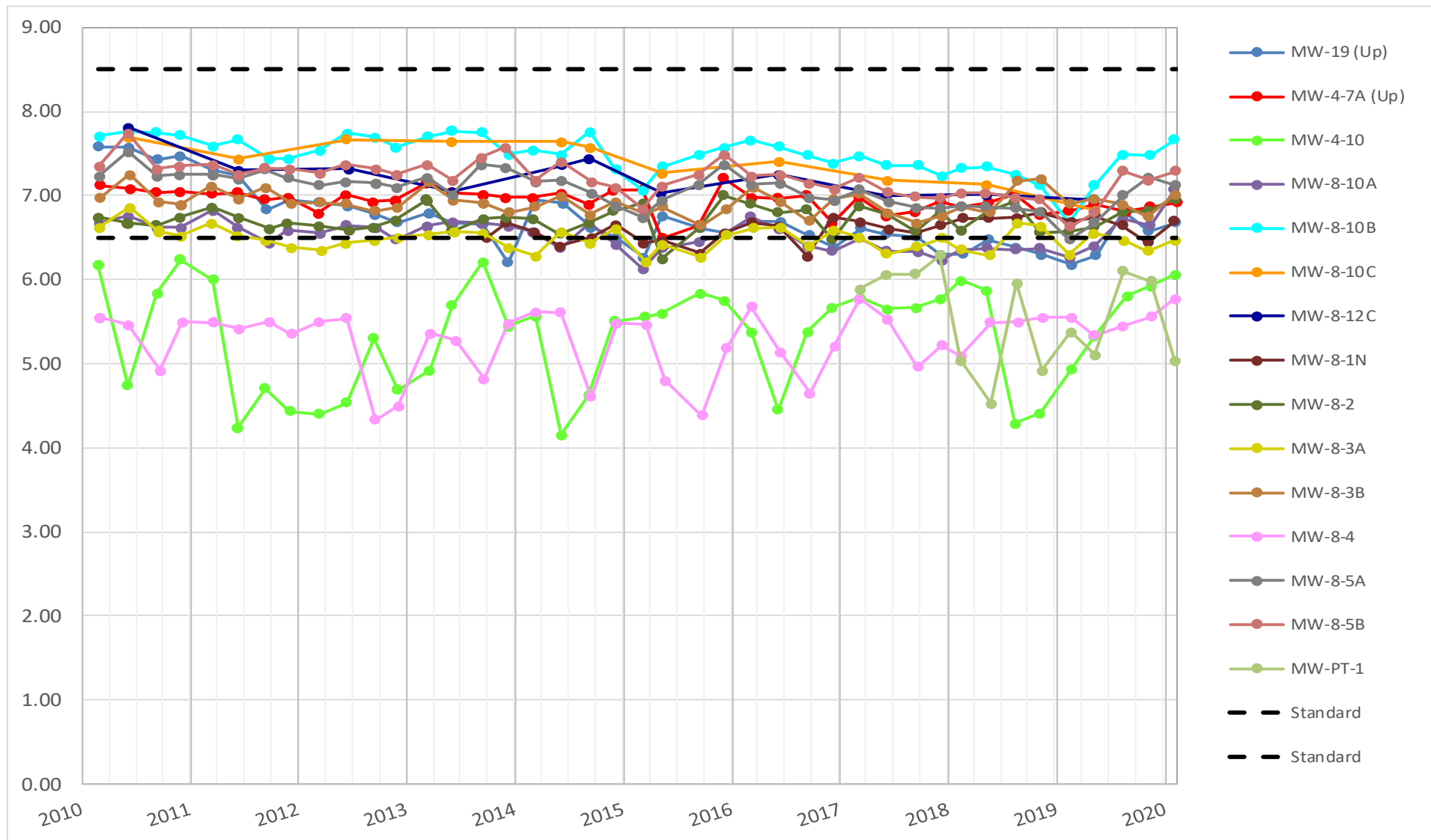
Nickel, total [$\mu\text{g/l}$]



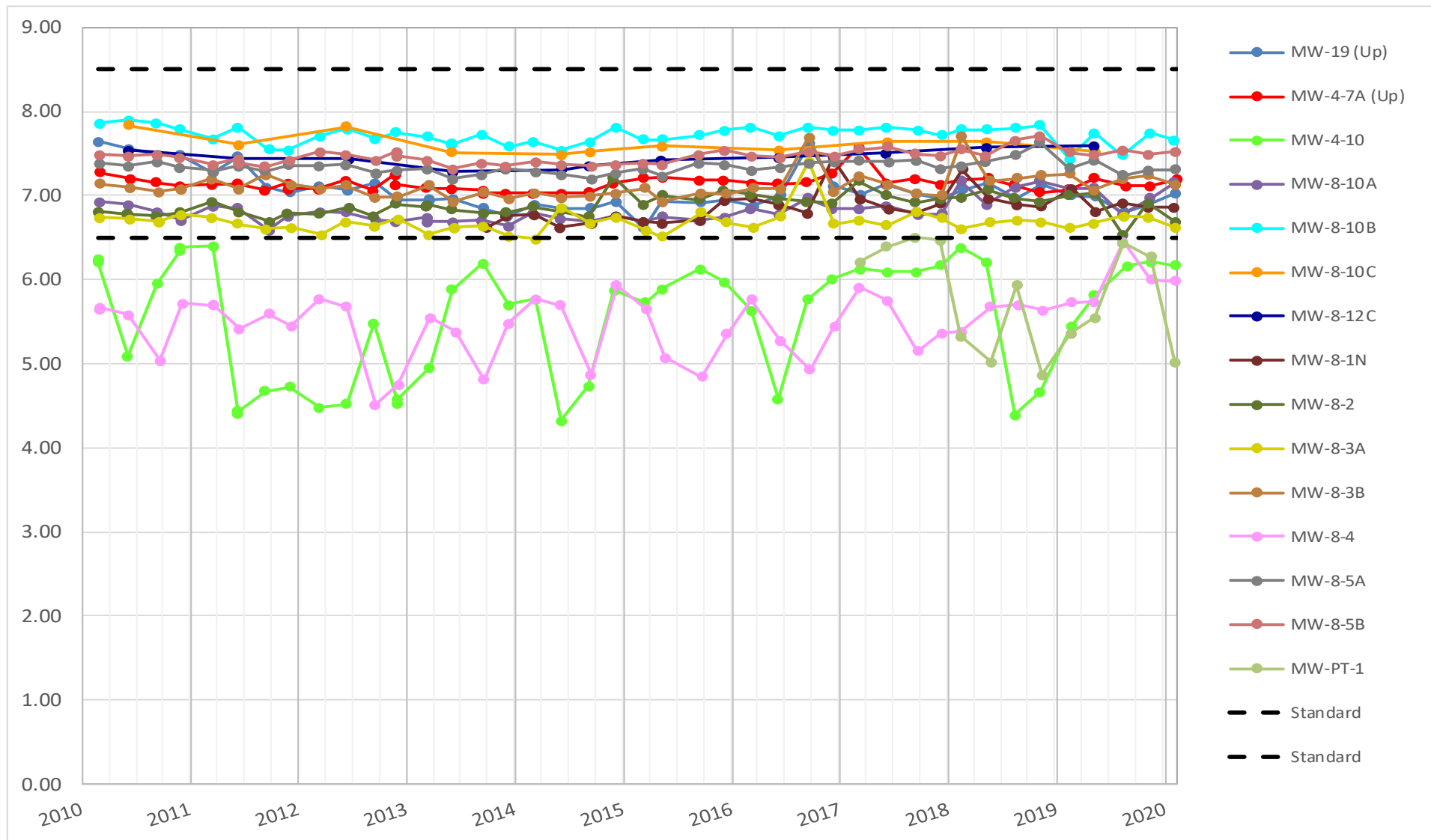
Nitrate, as N [mg/l]



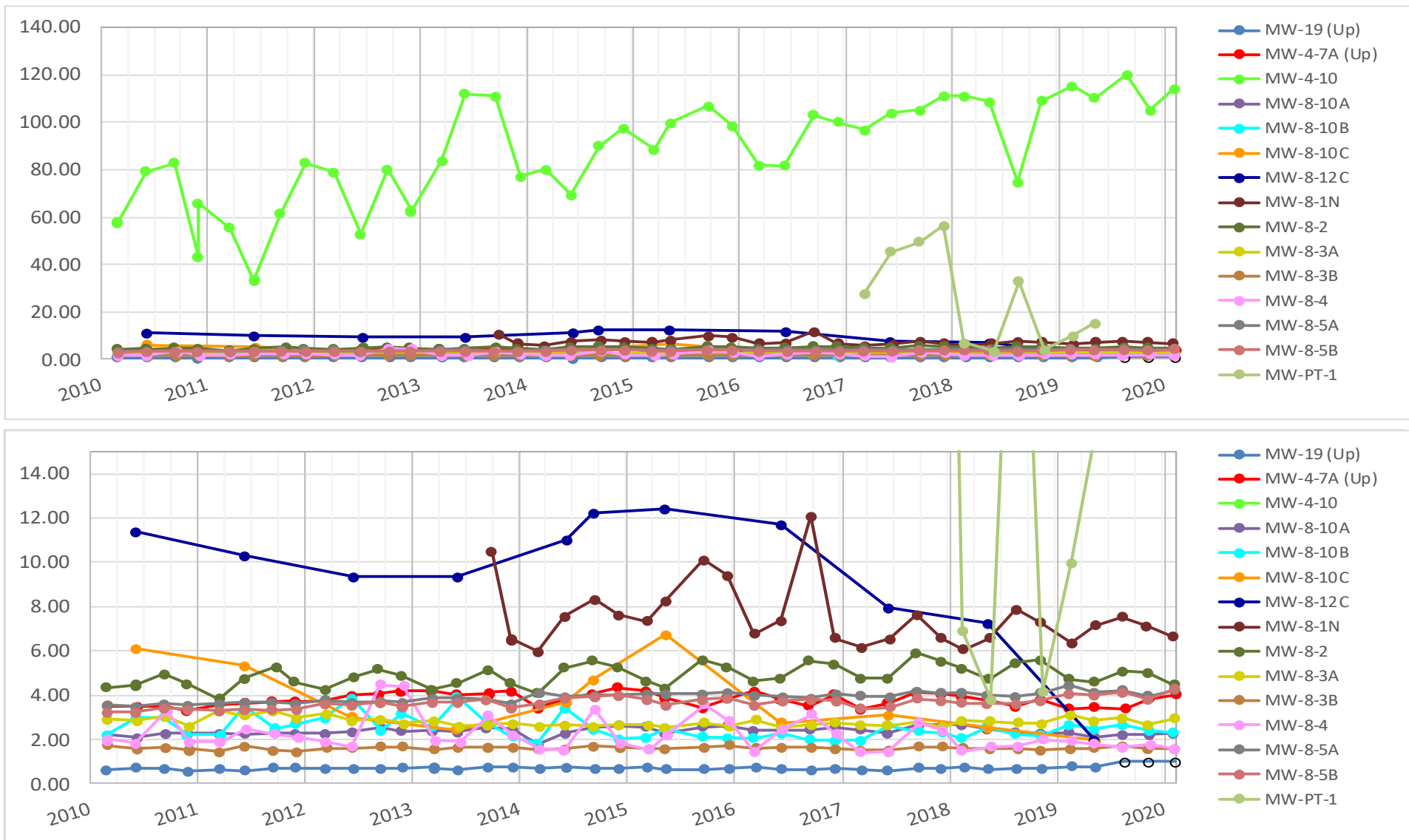
pH, field [s.u.]



pH, lab [s.u.]

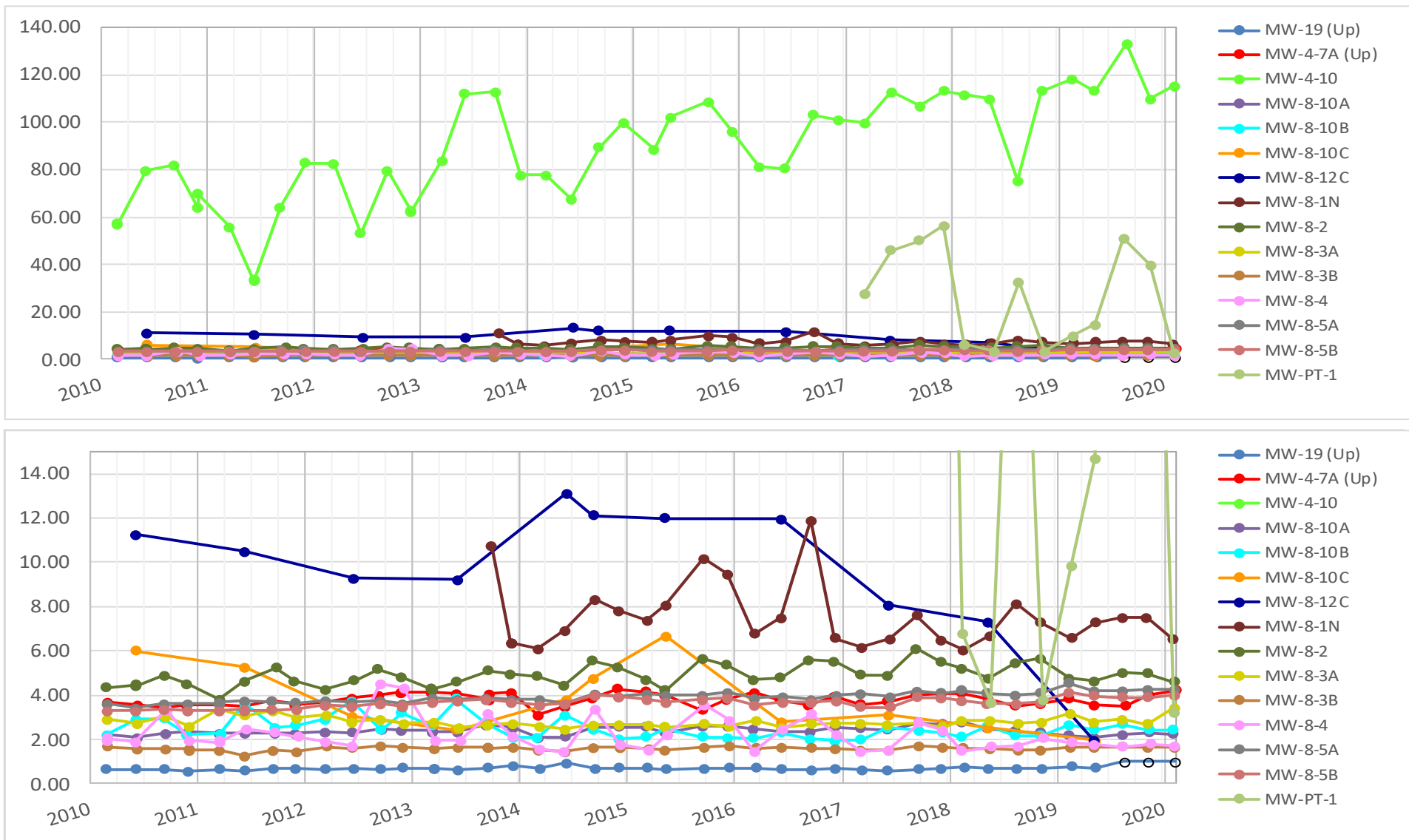


Potassium, dissolved [mg/l]



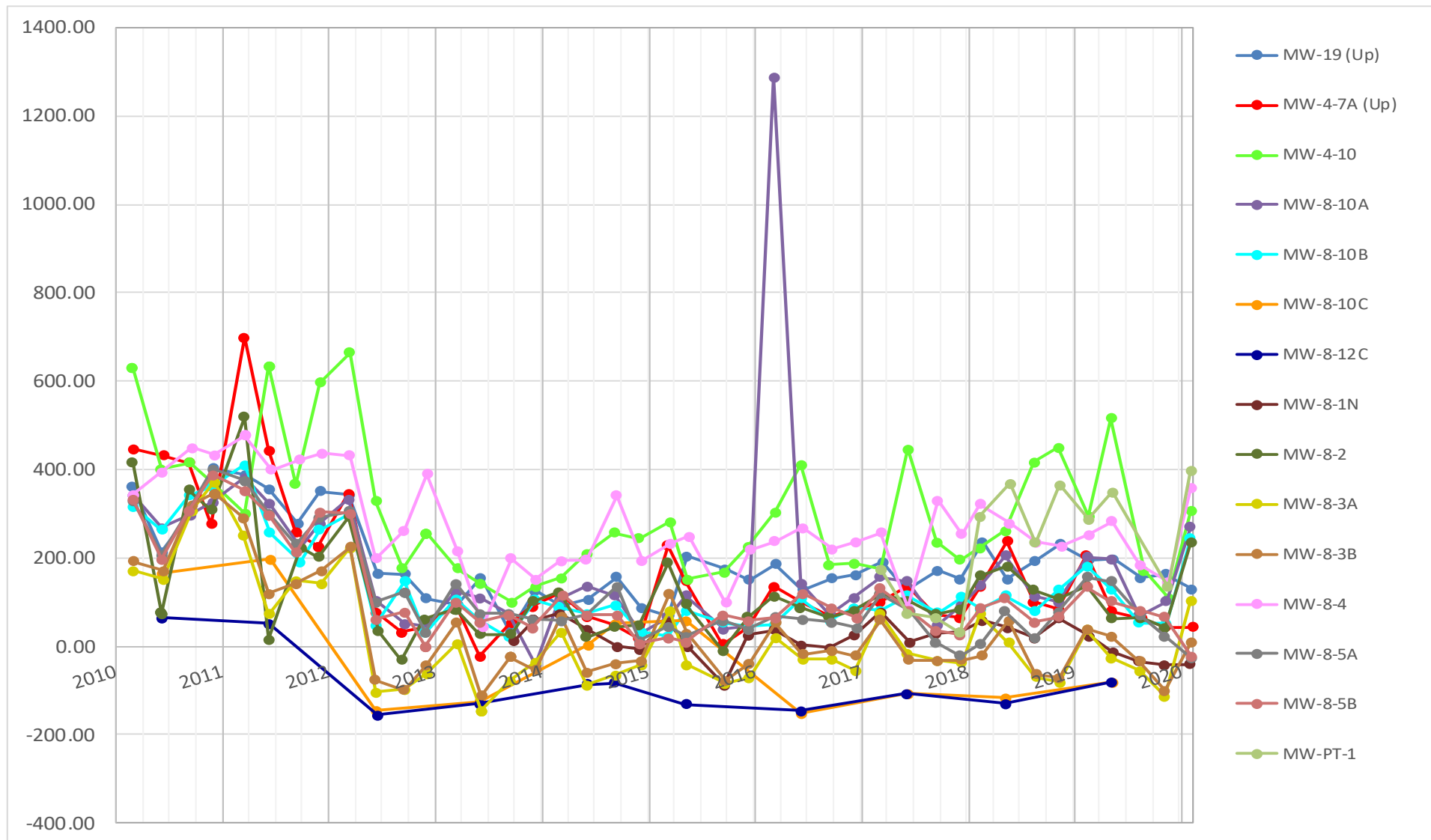
NOTE: There are no applicable standards for this parameter

Potassium, total [mg/l]



NOTE: There are no applicable standards for this parameter

Redox, field [mv]

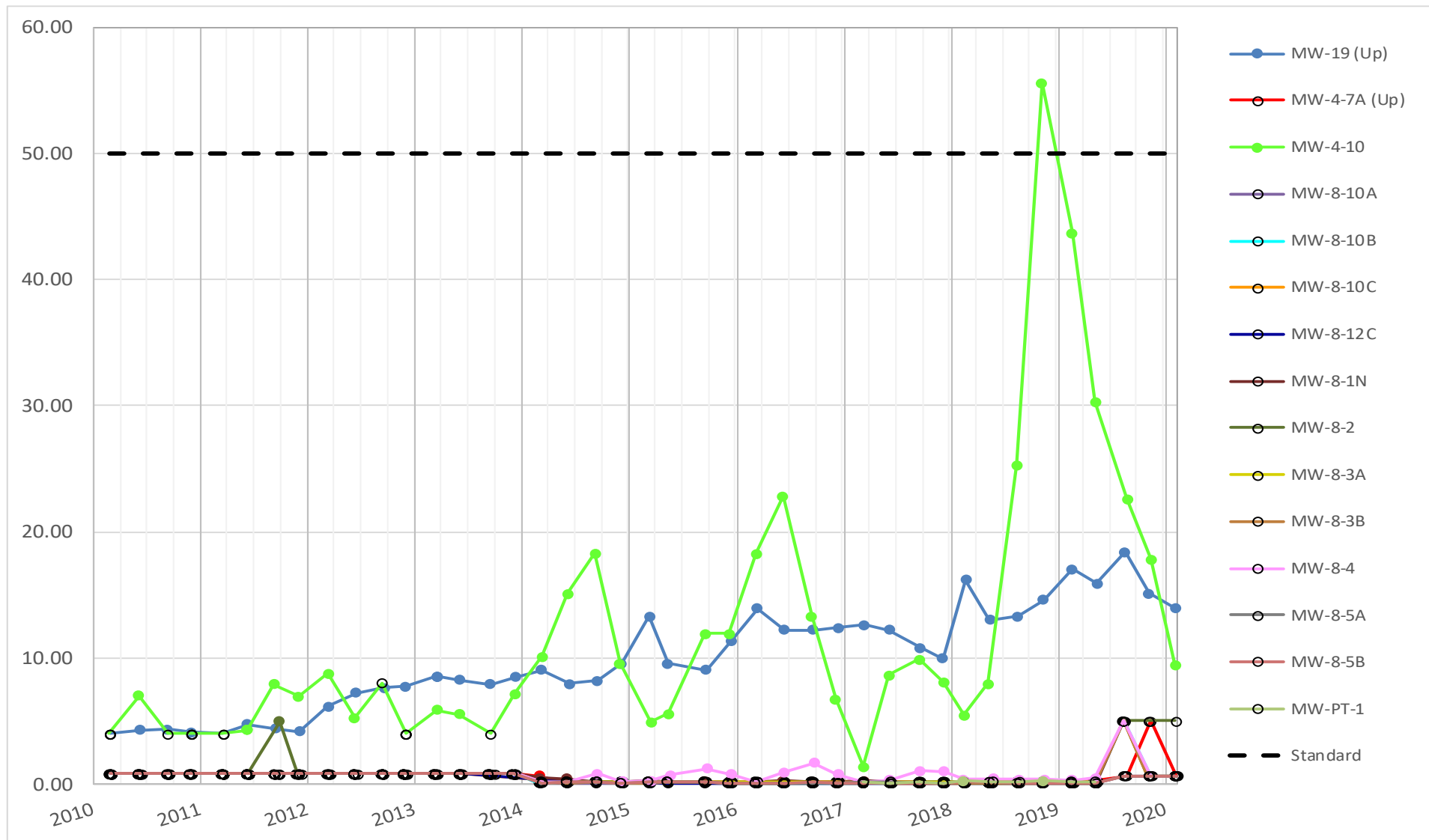


NOTE: There are no applicable standards for this parameter

Brunner Island - Basin 5

1st Quarter 2020

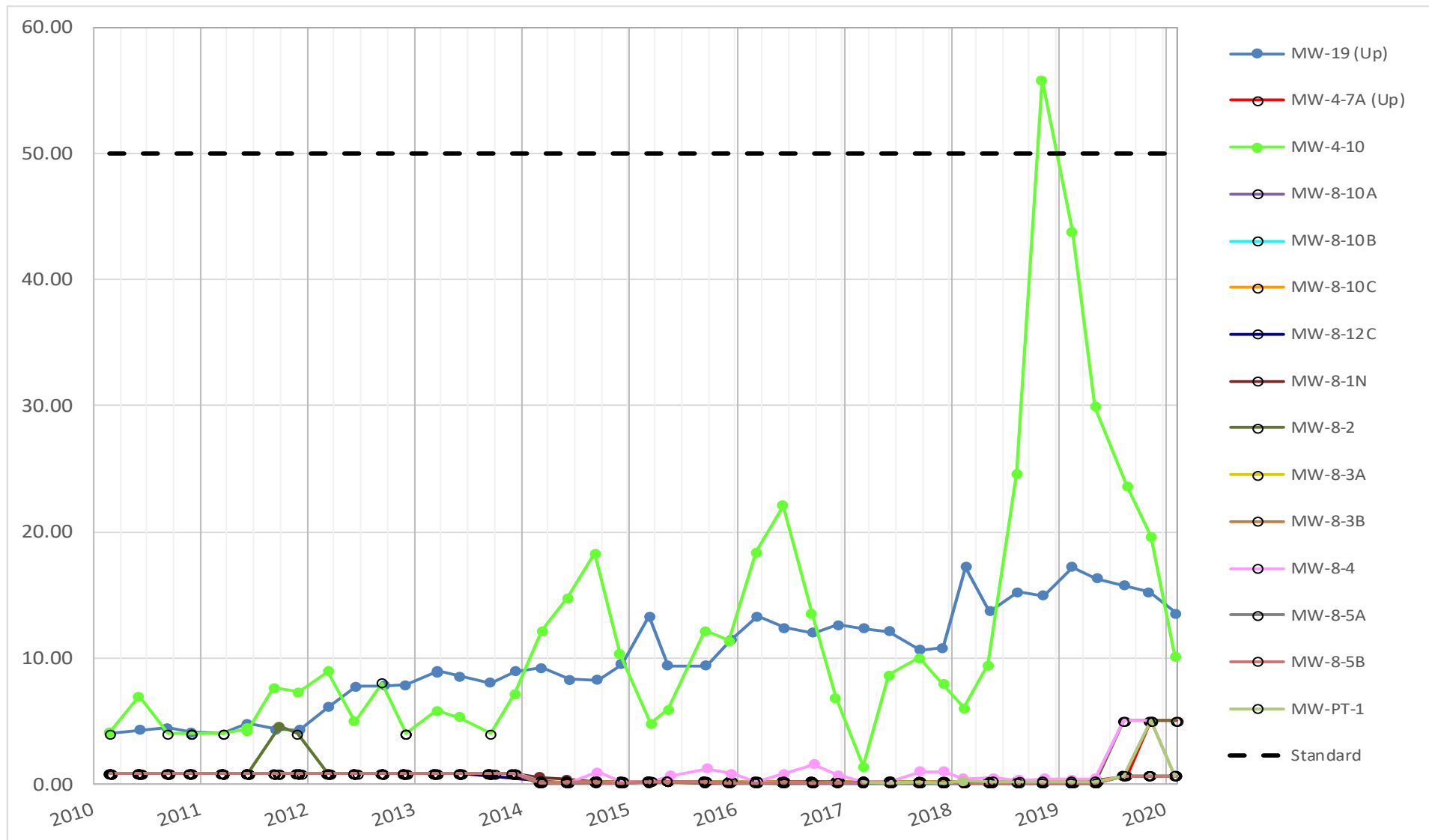
Selenium, dissolved [µg/l]



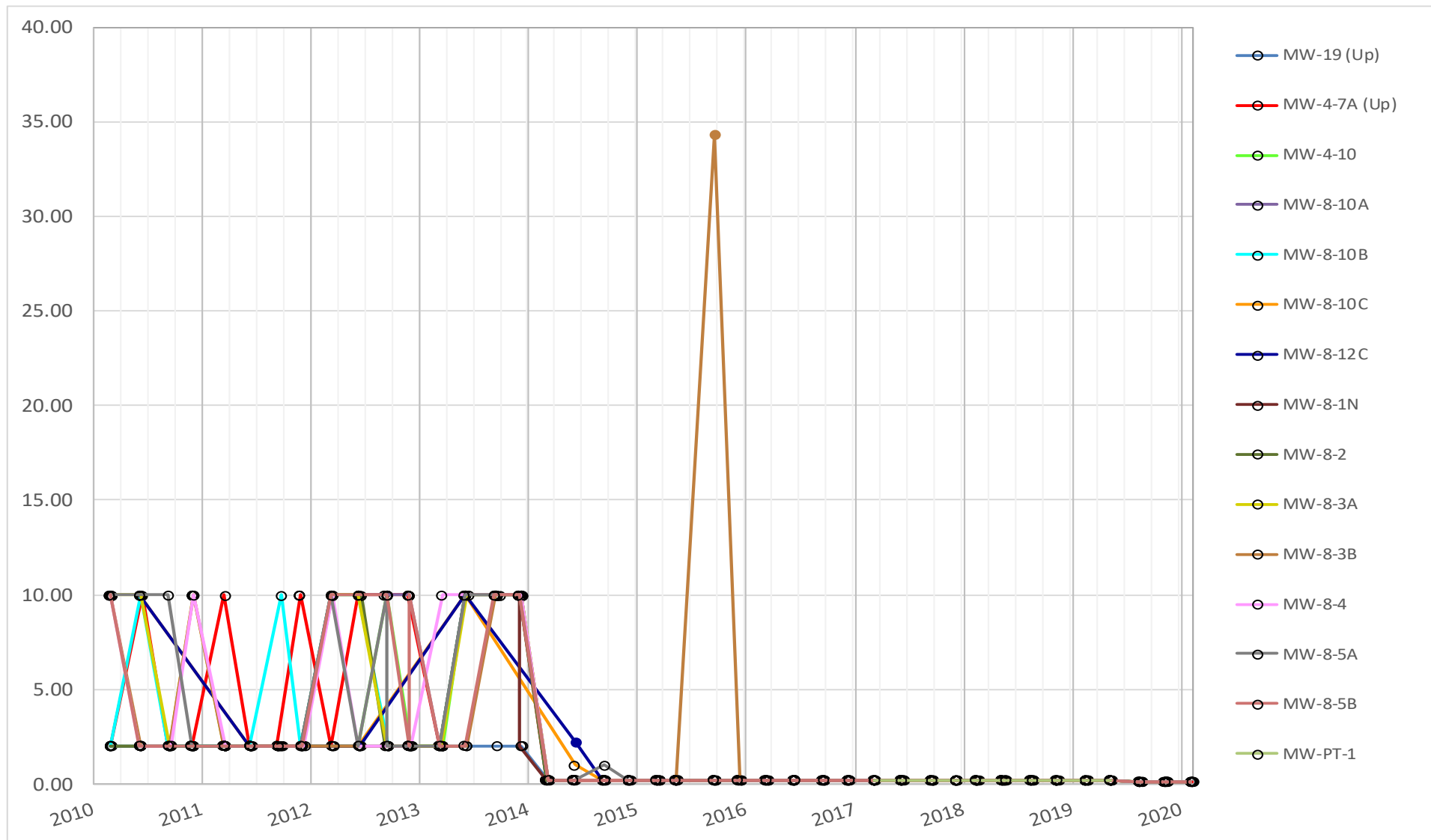
Brunner Island - Basin 5

1st Quarter 2020

Selenium, total [μg/l]

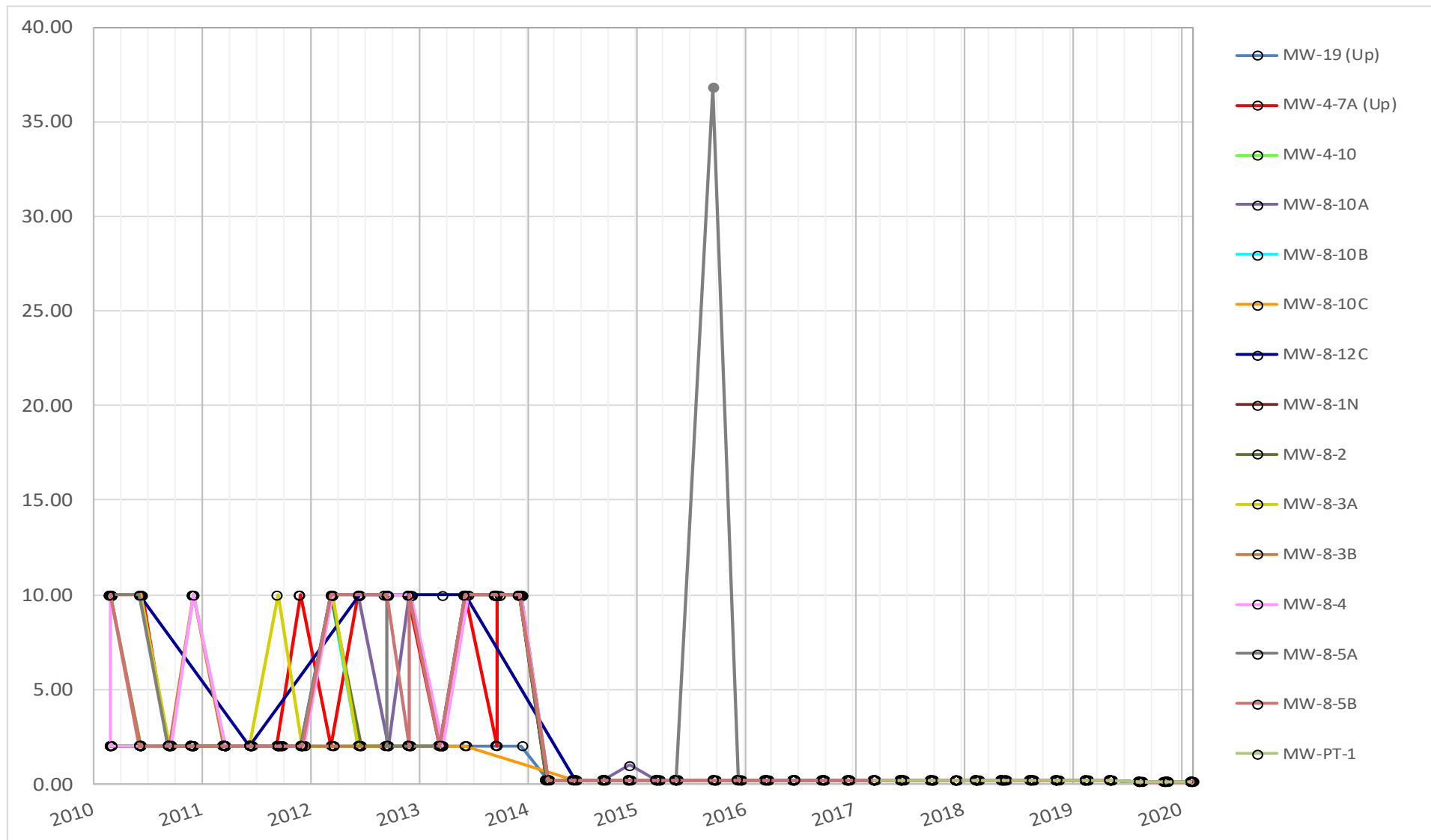


Silver, dissolved [$\mu\text{g/l}$]



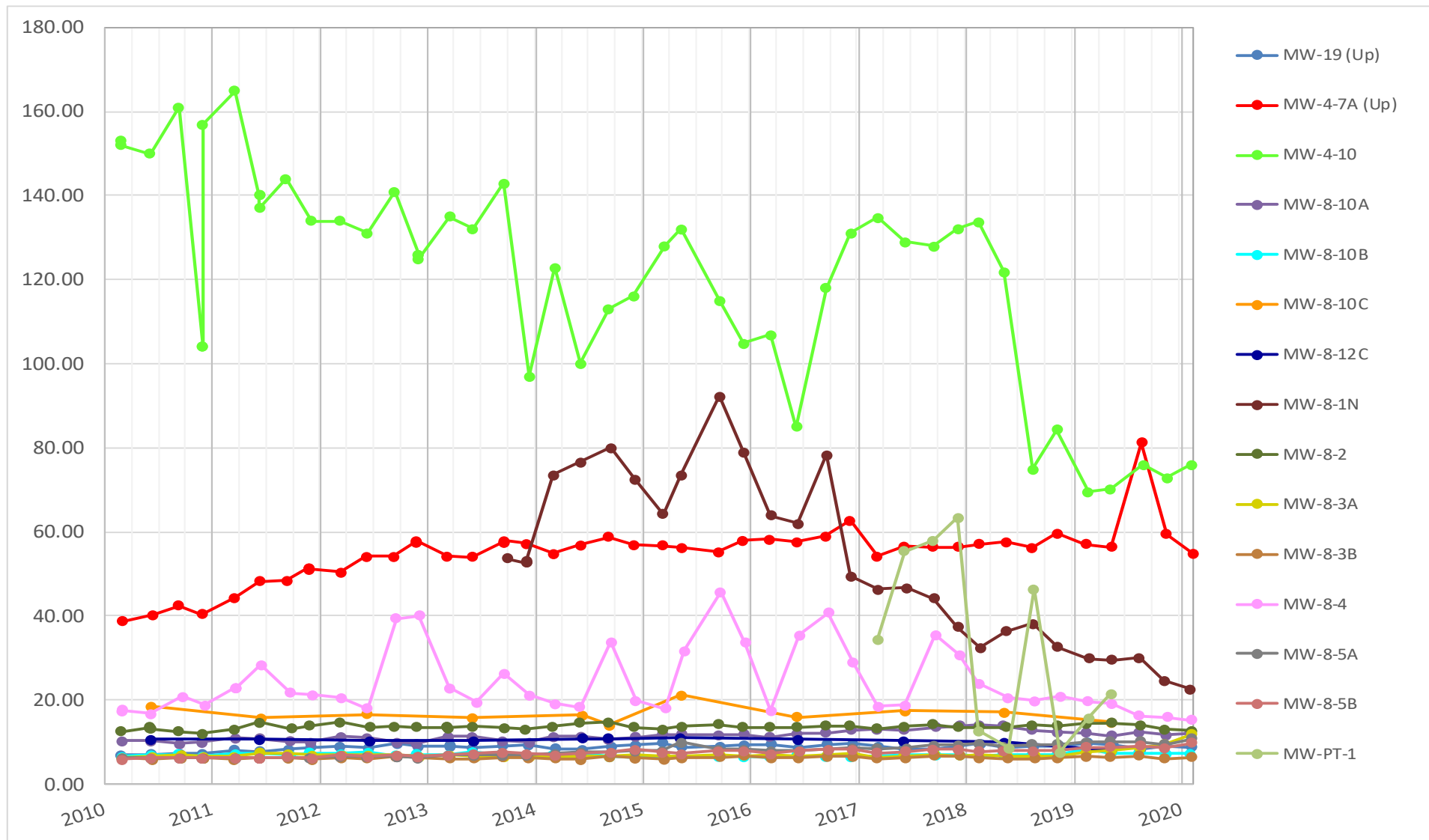
NOTE: Data does not exceed standard of 100 $\mu\text{g/l}$ during this time frame

Silver, total [$\mu\text{g/l}$]



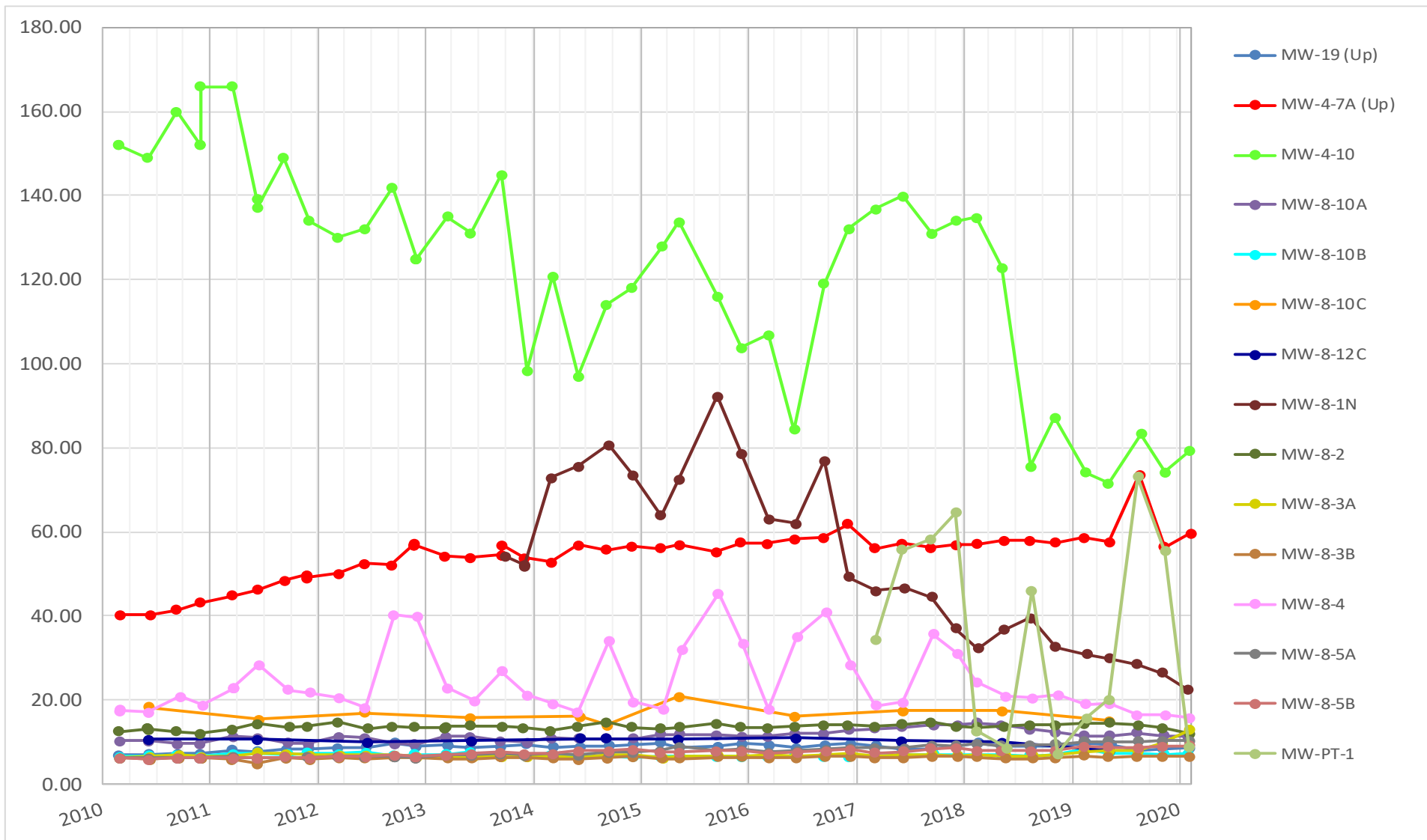
NOTE: Data does not exceed standard of 100 $\mu\text{g/l}$ during this time frame

Sodium, dissolved [mg/l]



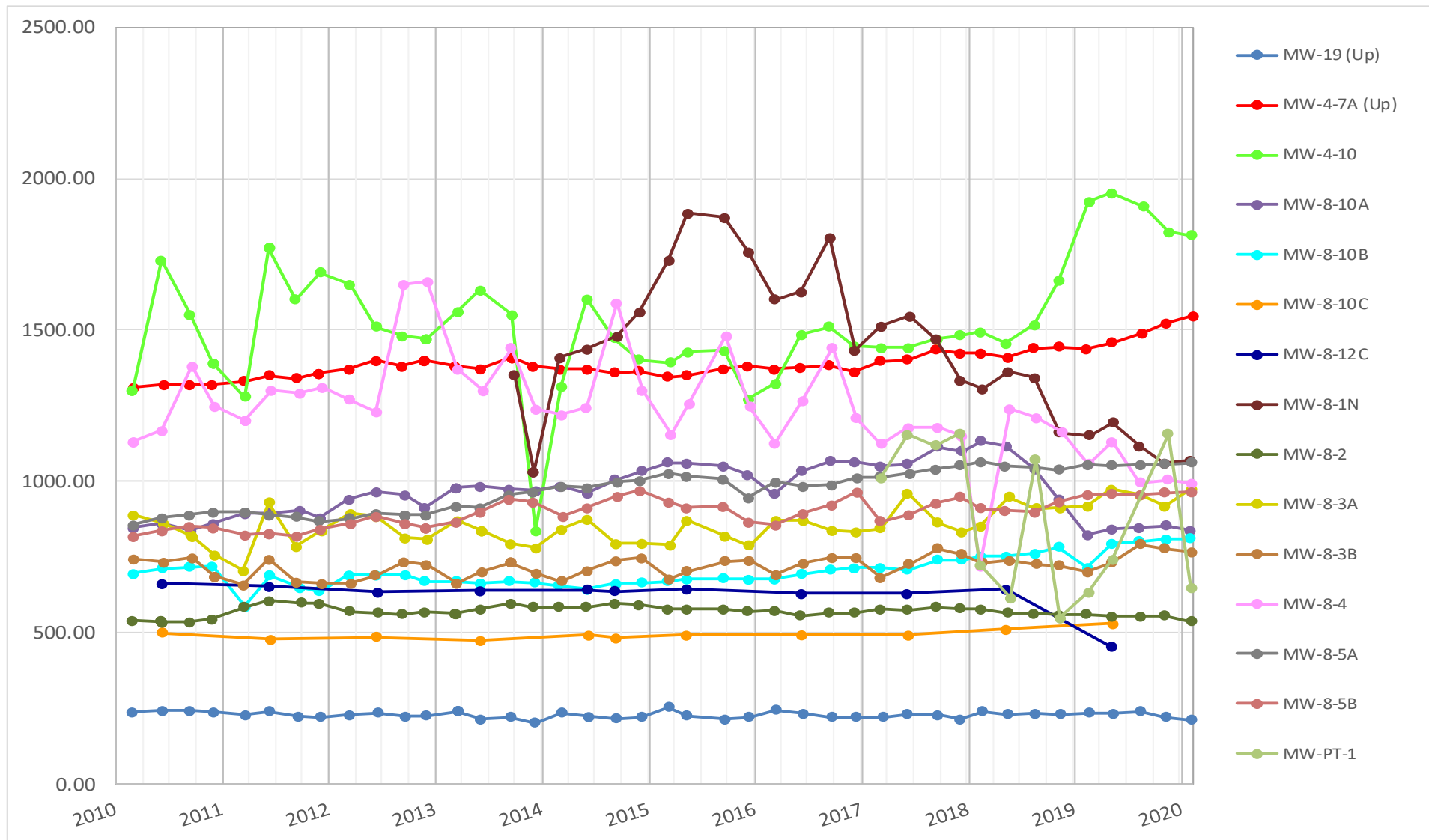
NOTE: There are no applicable standards for this parameter

Sodium, total [mg/l]



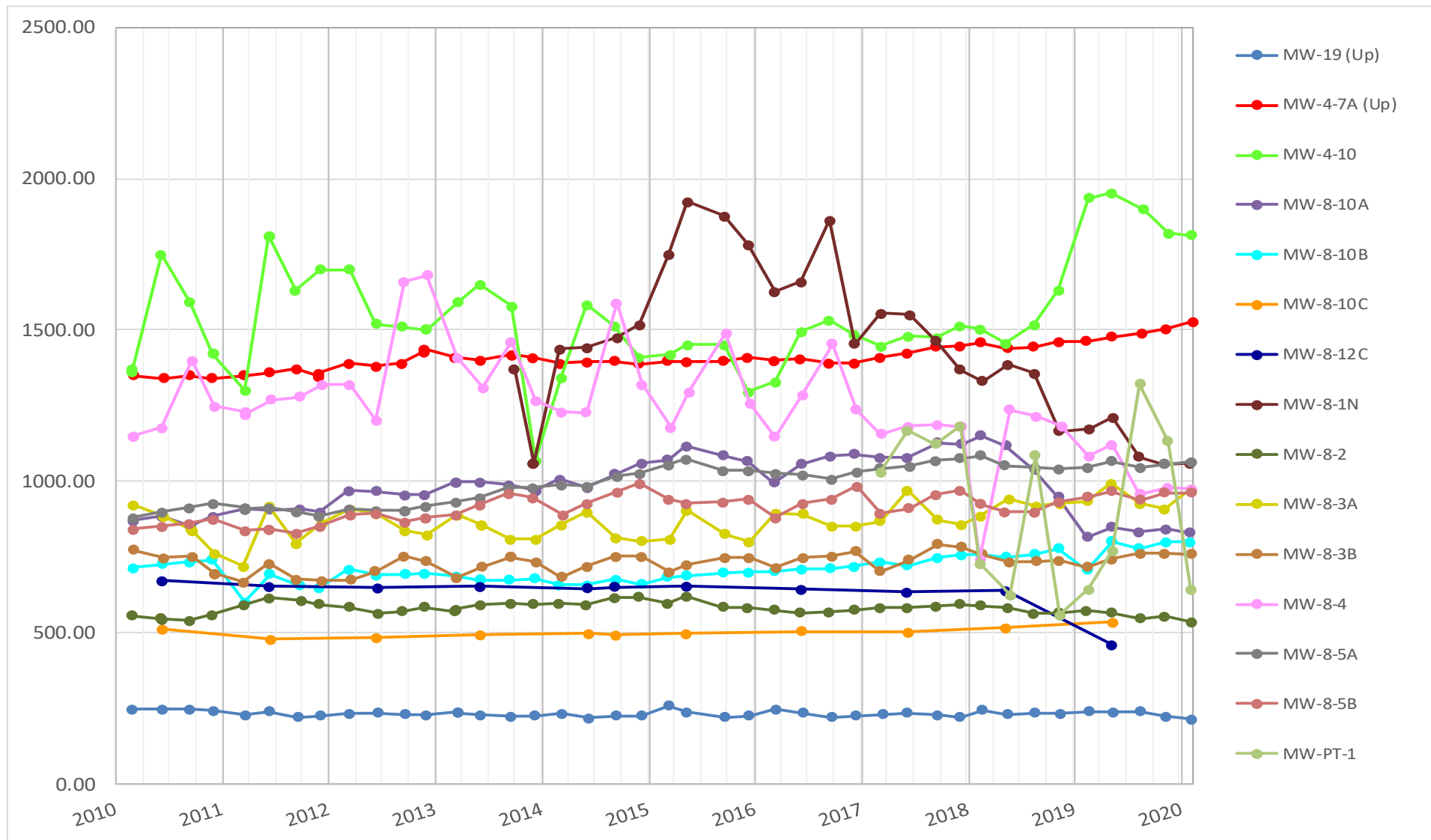
NOTE: There are no applicable standards for this parameter

Specific Conductance, field [umhos/cm]



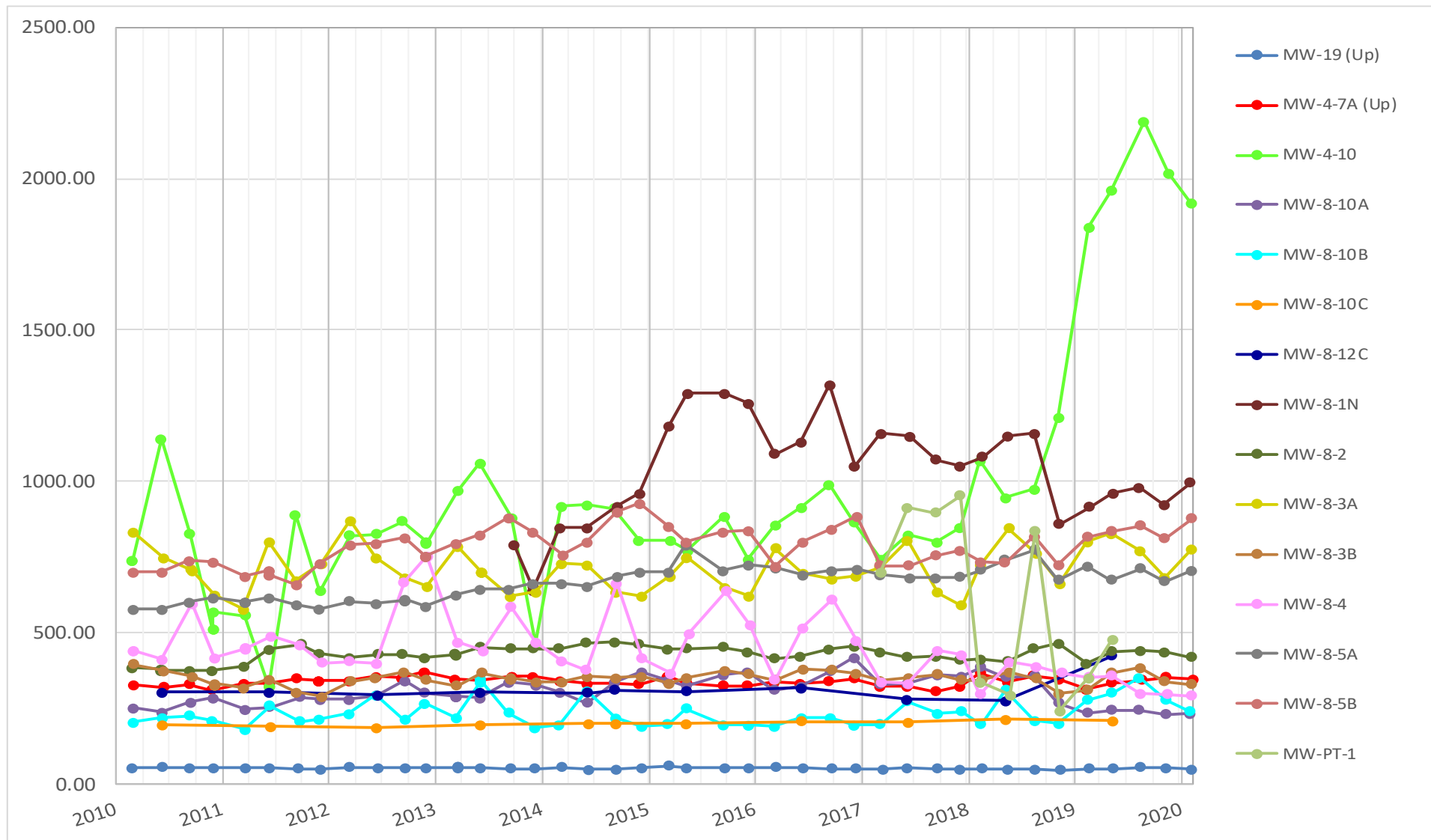
NOTE: There are no applicable standards for this parameter

Specific Conductance, lab [umhos/cm]



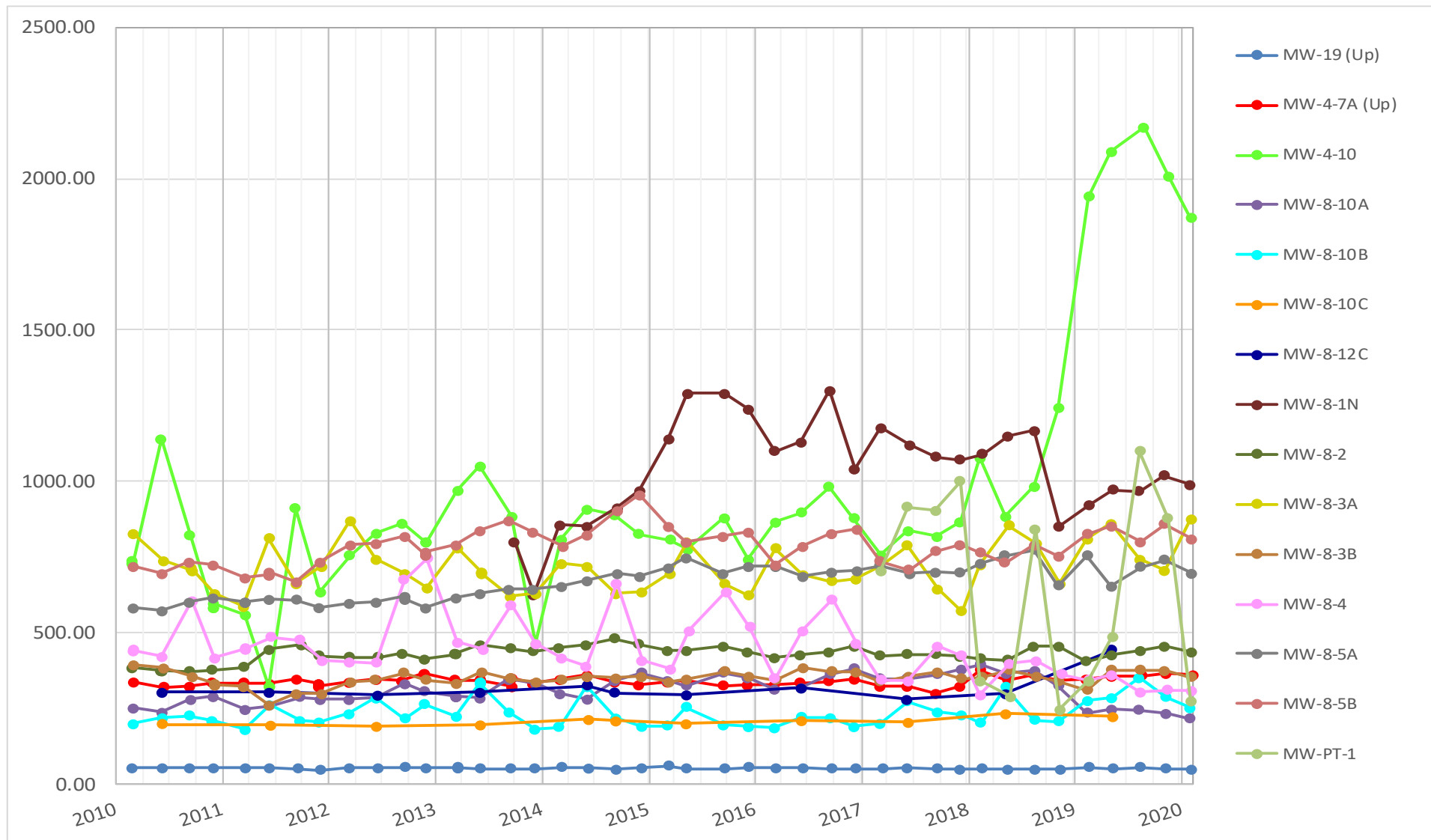
NOTE: There are no applicable standards for this parameter

Strontium, dissolved [$\mu\text{g/l}$]



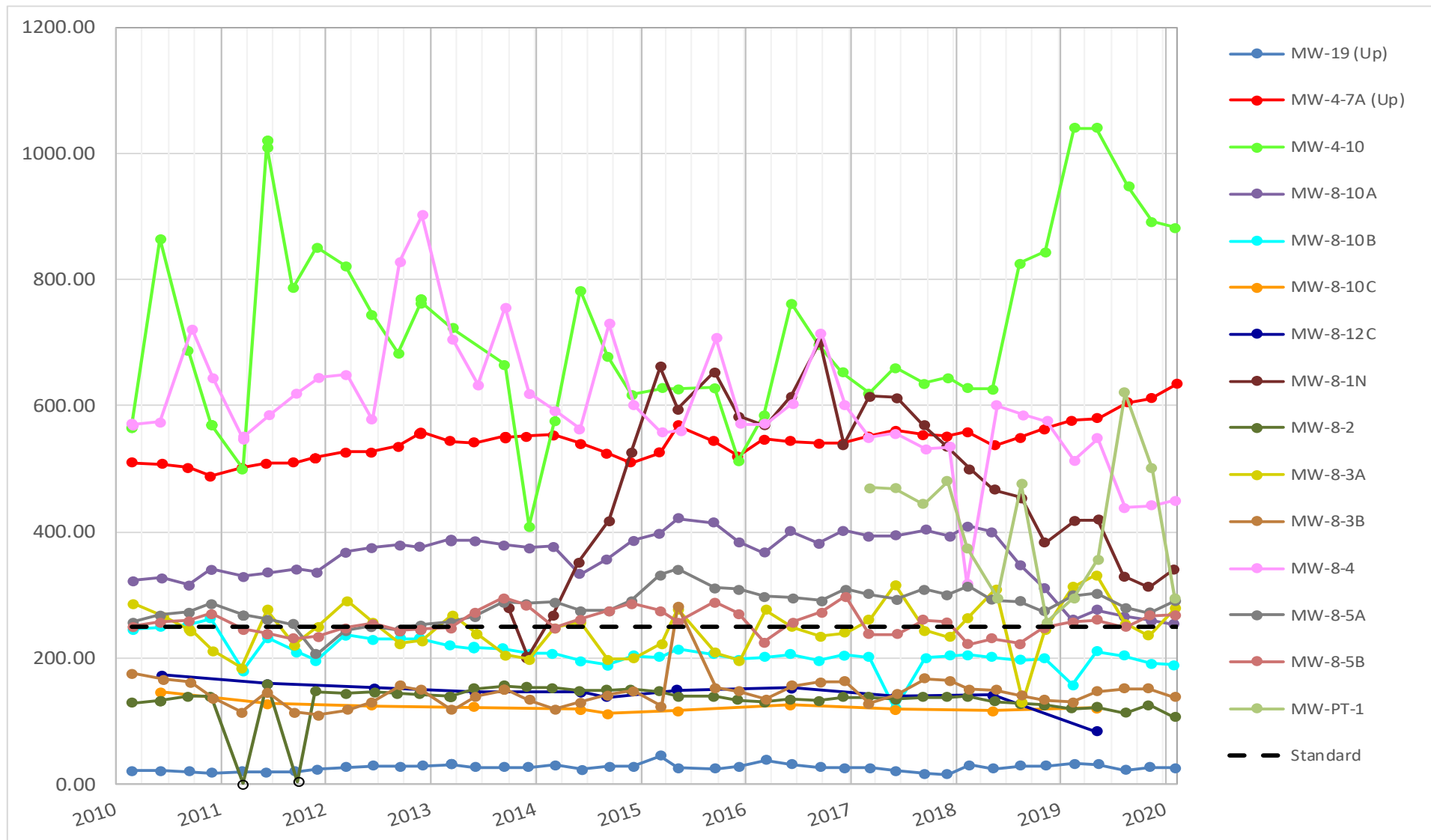
NOTE: Data does not exceed standard of 4000 $\mu\text{g/l}$ during this time frame

Strontium, total [$\mu\text{g/l}$]

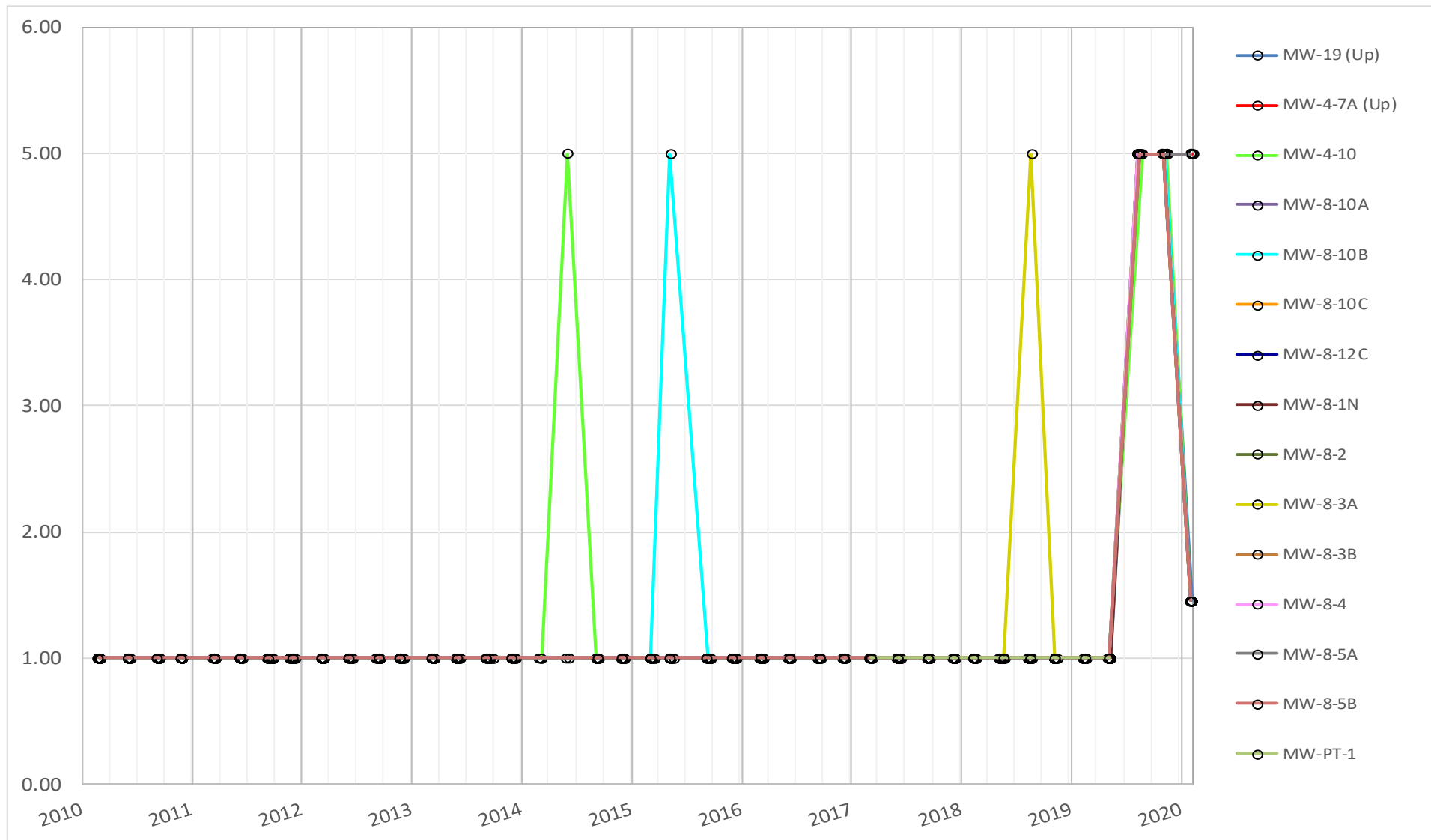


NOTE: Data does not exceed standard of 4000 $\mu\text{g/l}$ during this time frame

Sulfate, as SO₄ [mg/l]

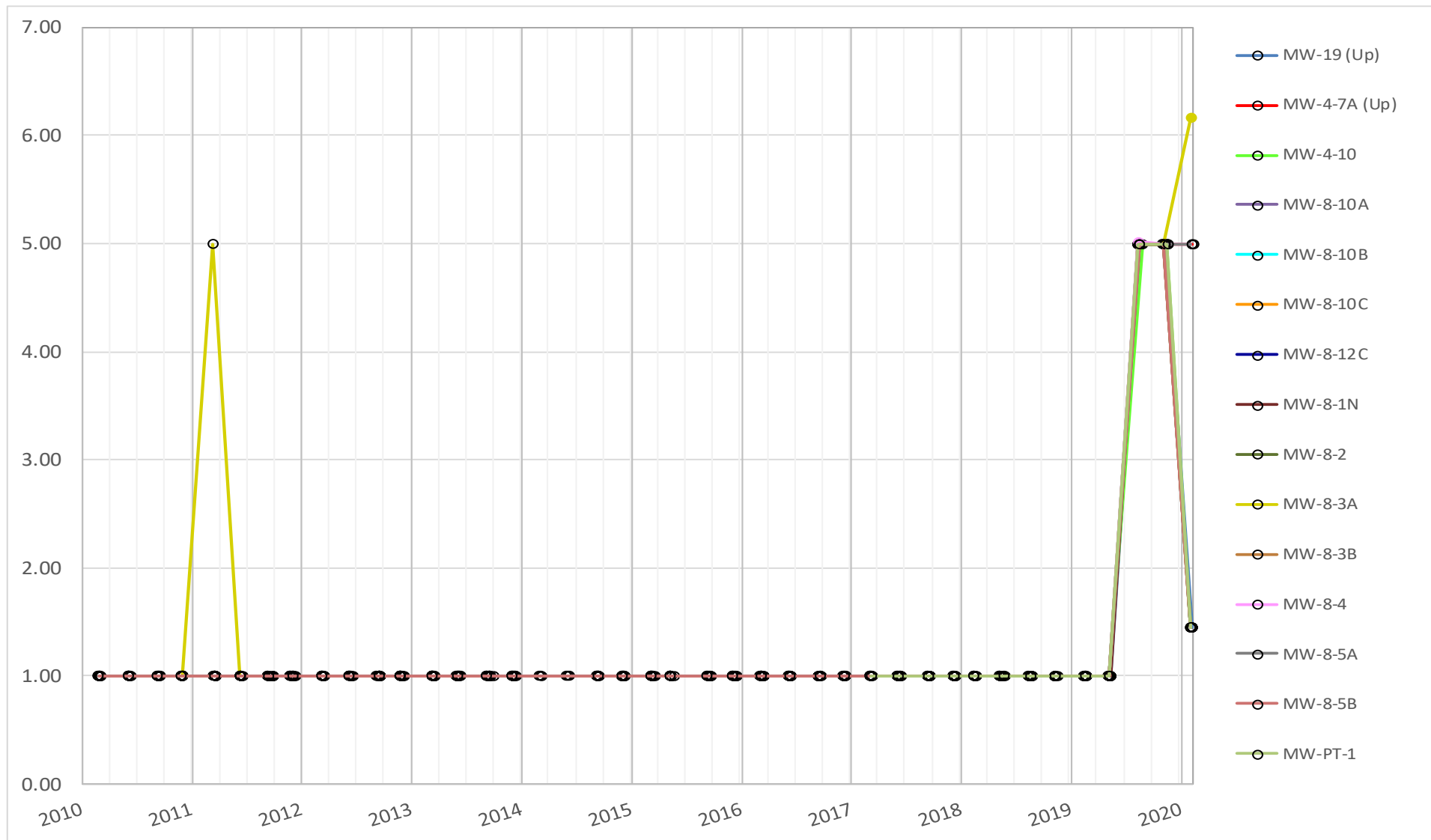


Titanium, dissolved [$\mu\text{g/l}$]



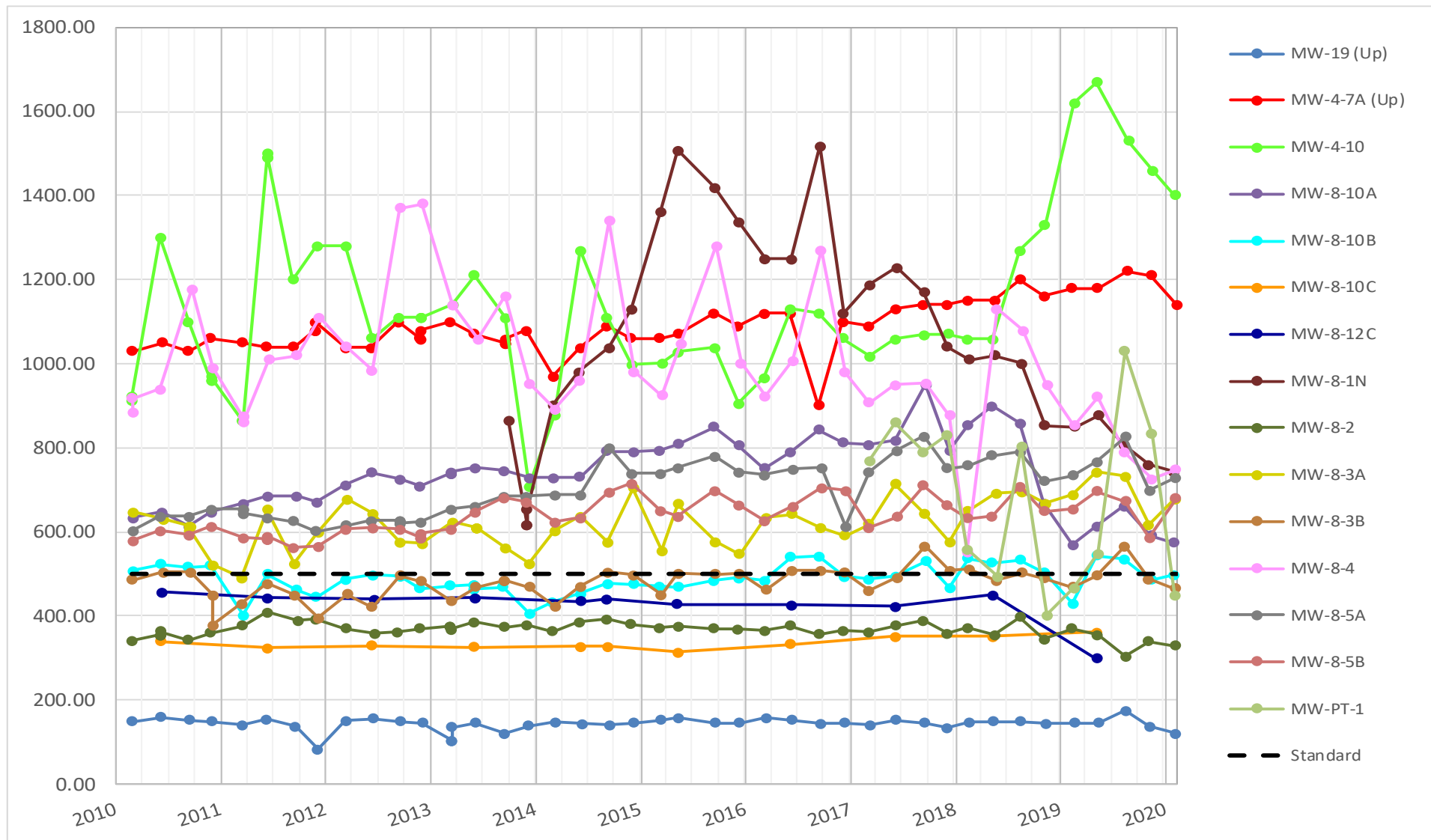
NOTE: There are no applicable standards for this parameter

Titanium, total [$\mu\text{g/l}$]

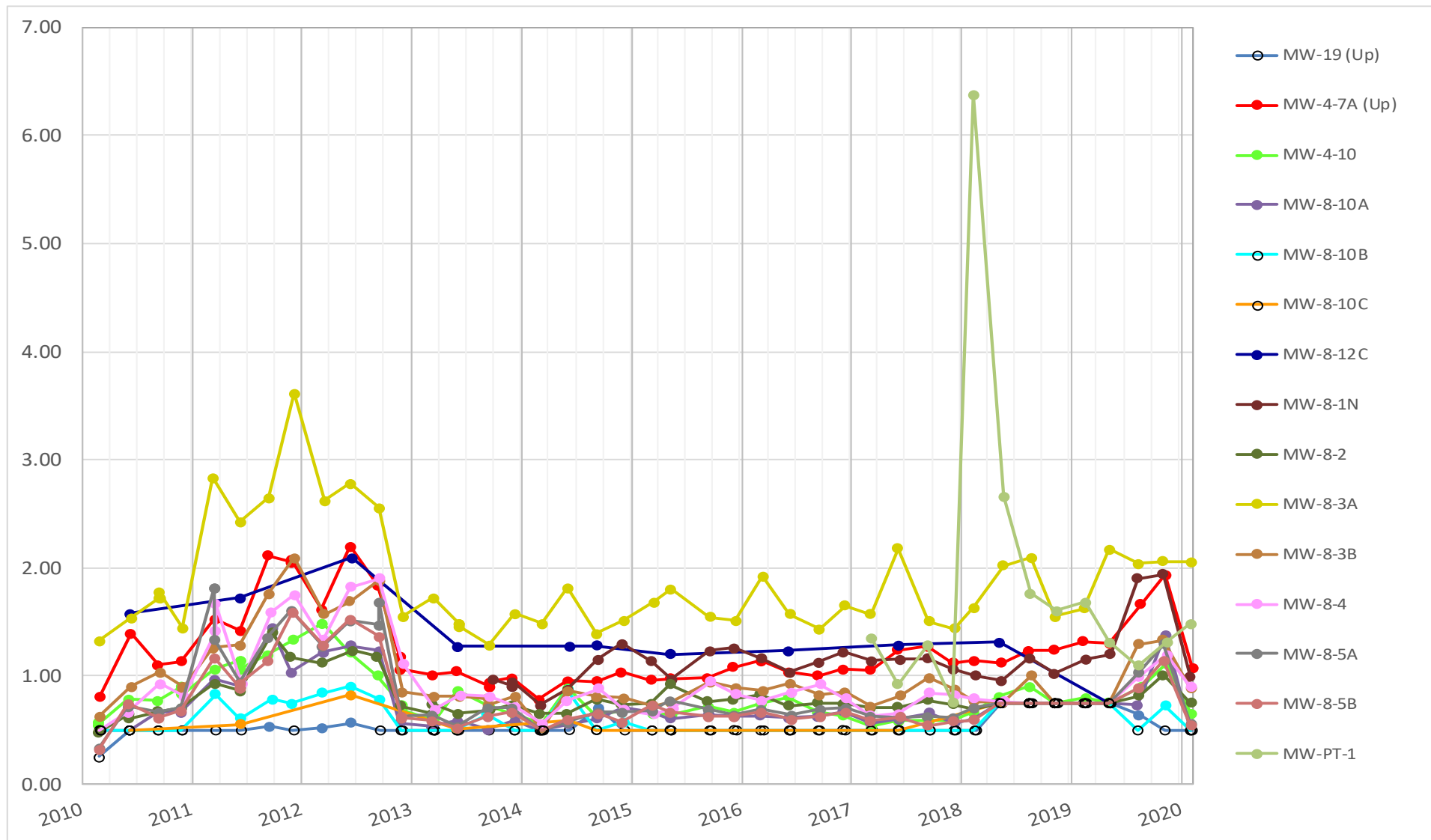


NOTE: There are no applicable standards for this parameter

Total Dissolved Solids [mg/l]

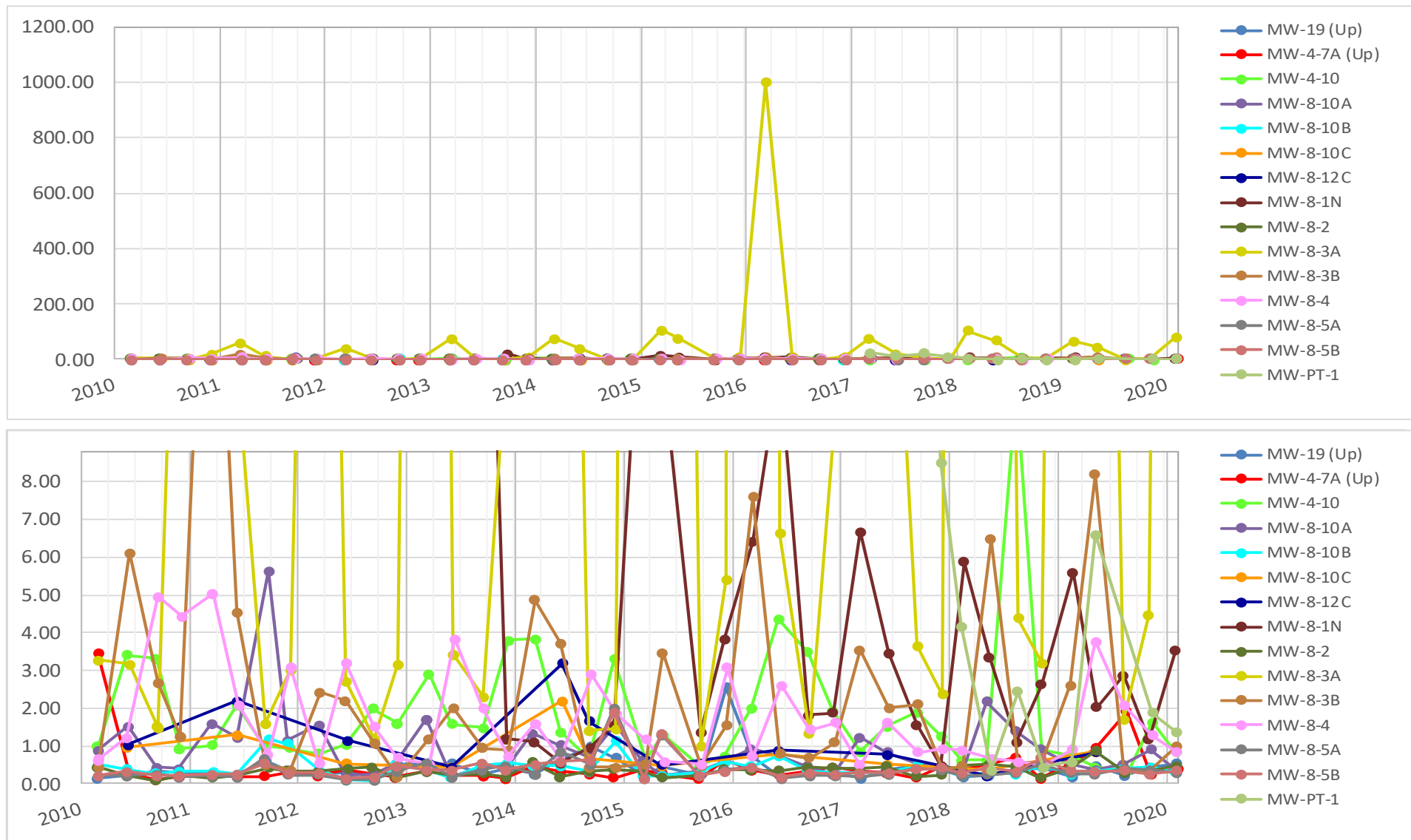


Total Organic Carbon [mg/l]



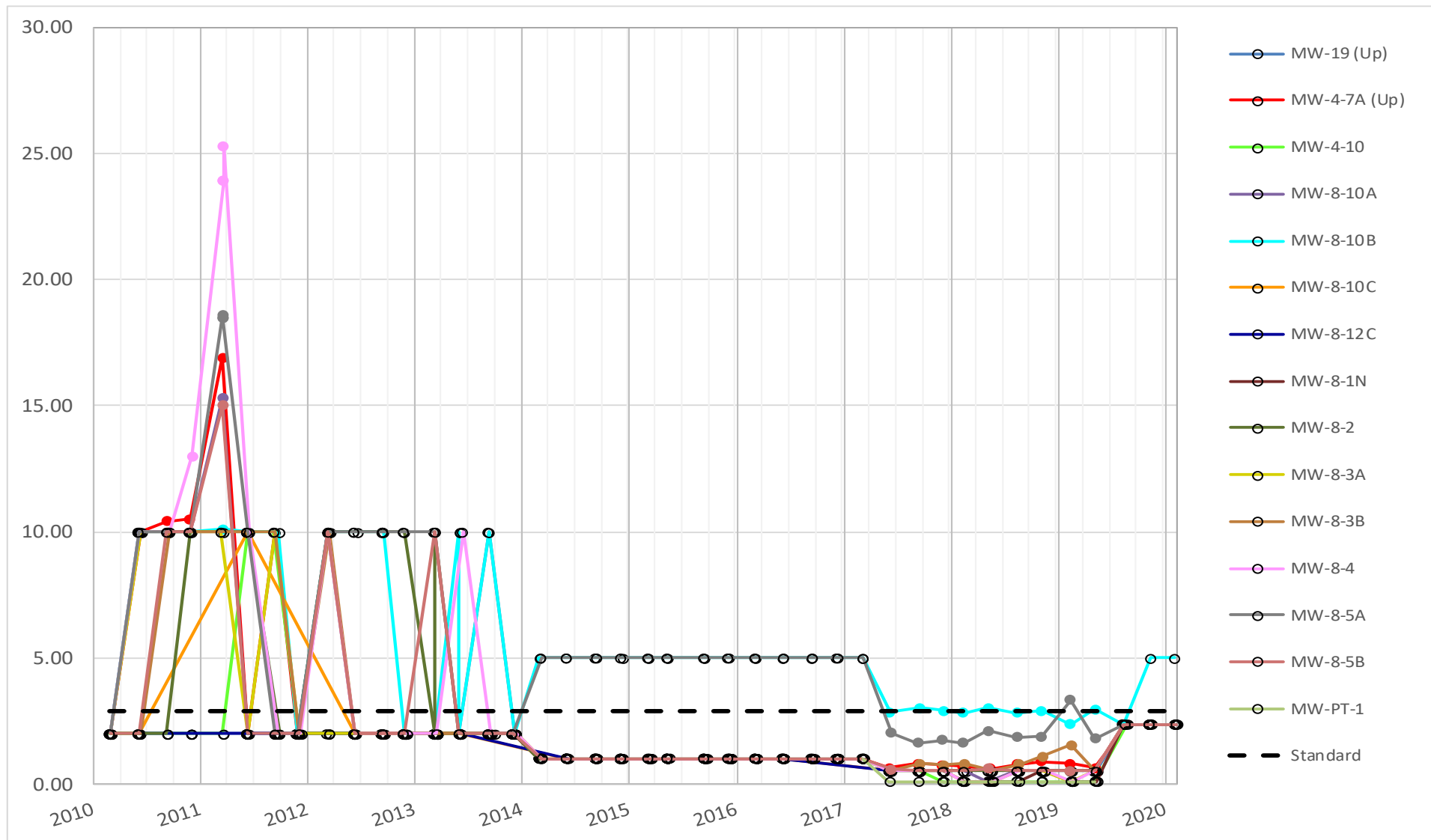
NOTE: There are no applicable standards for this parameter

Turbidity, field [ntu]

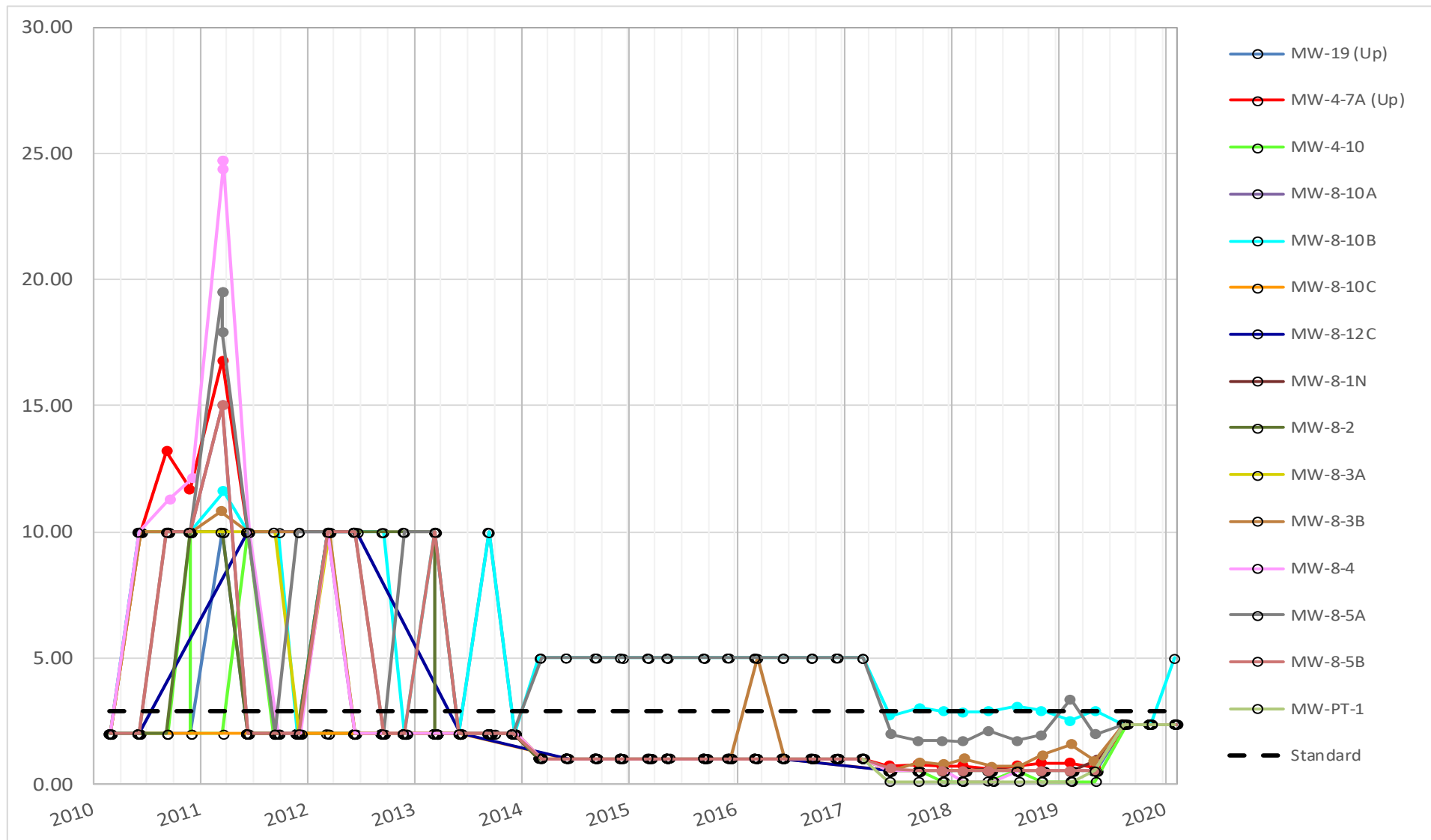


NOTE: There are no applicable standards for this parameter

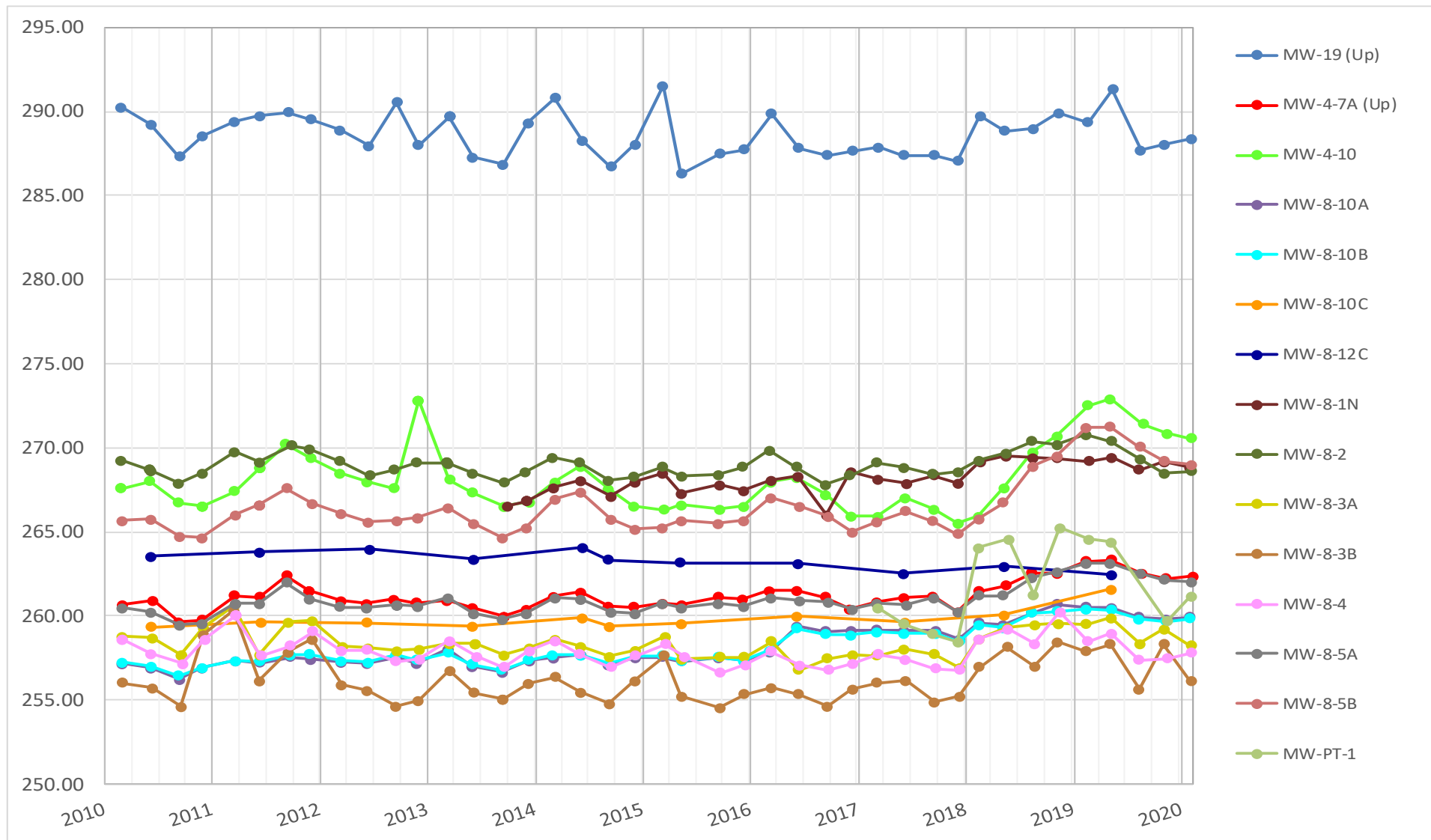
Vanadium, dissolved [$\mu\text{g/l}$]



Vanadium, total [$\mu\text{g/l}$]

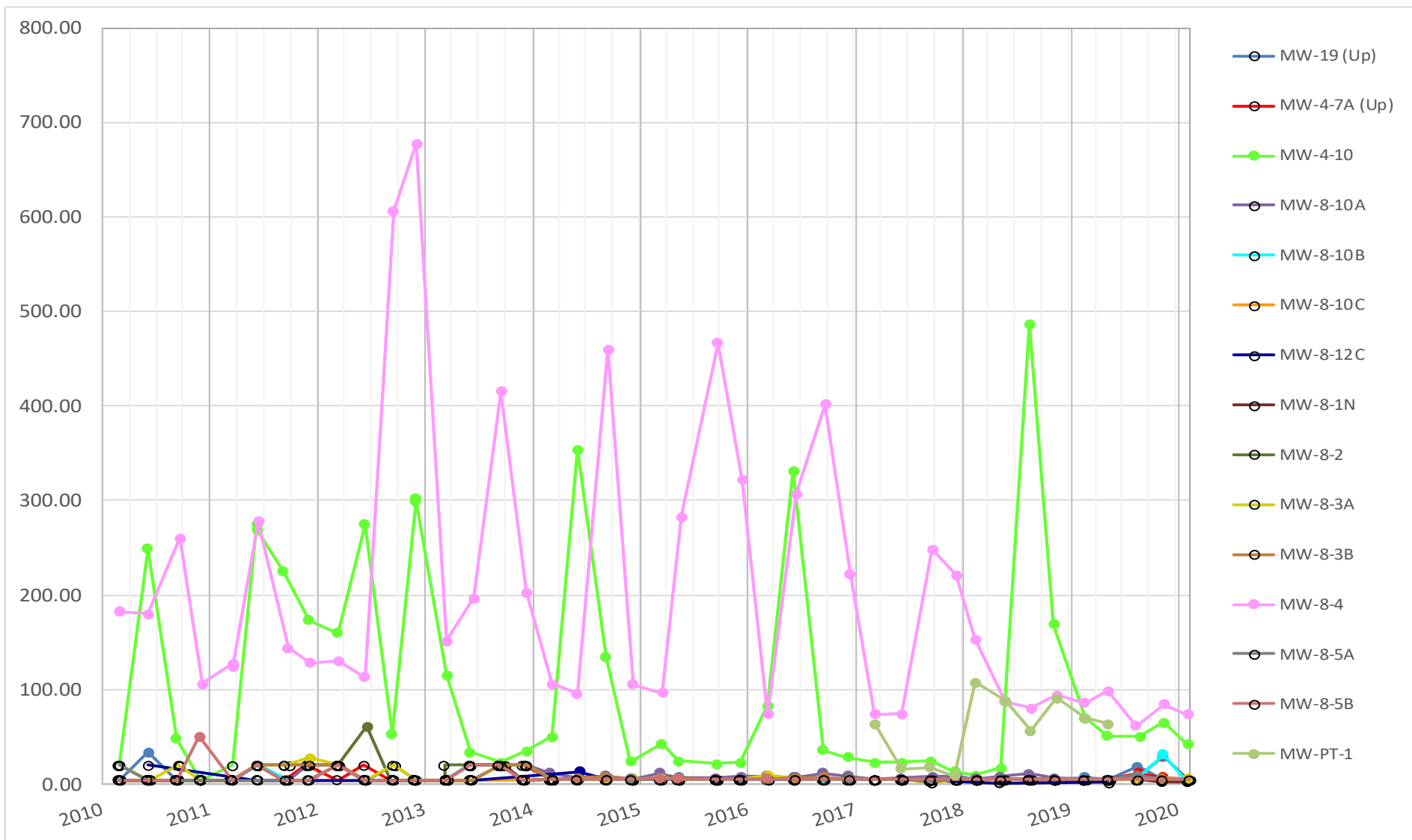


Water Surface Elevation [ft]



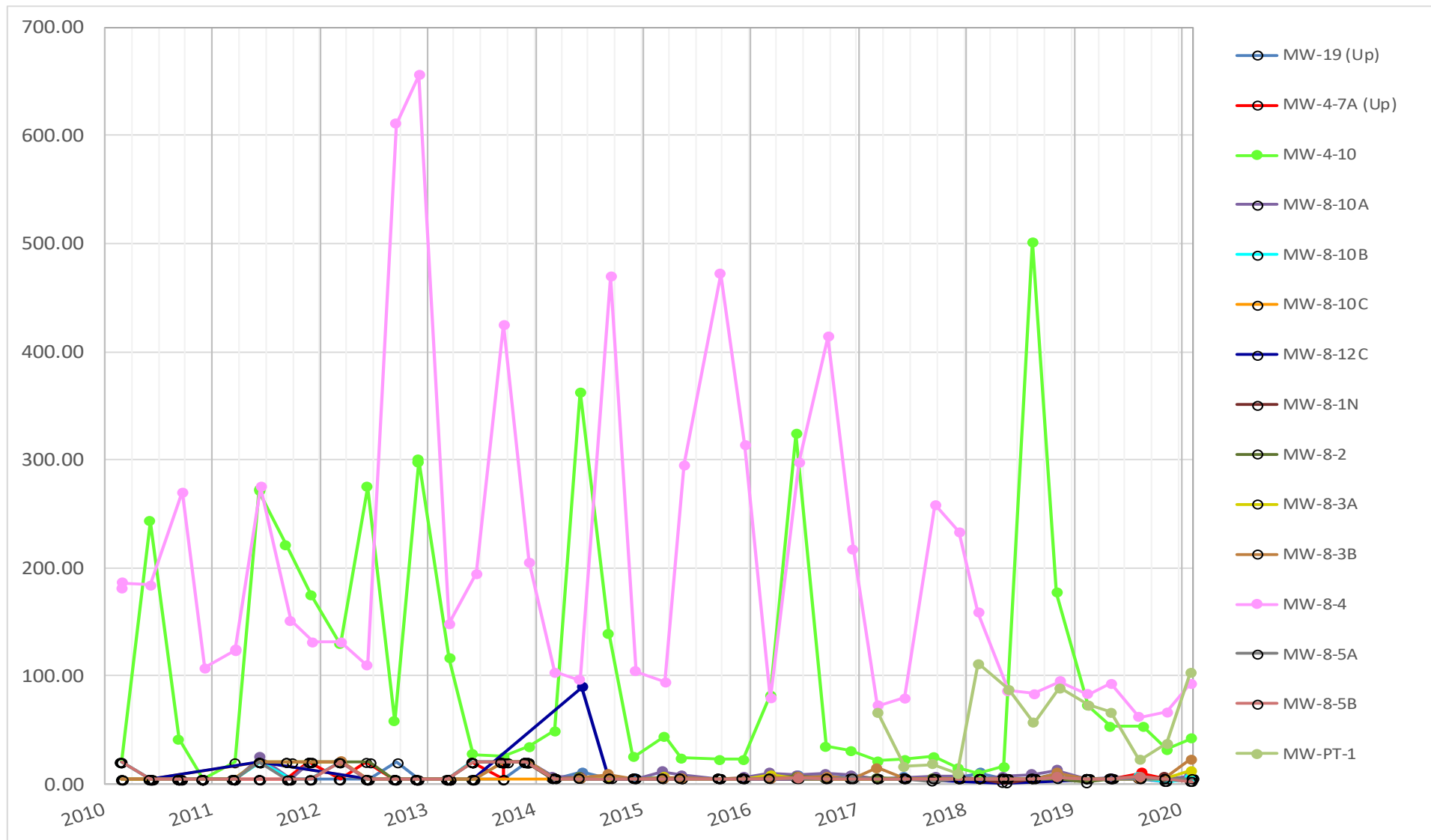
NOTE: There are no applicable standards for this parameter

Zinc, dissolved [$\mu\text{g/l}$]



NOTE: Data does not exceed standard of 2000 $\mu\text{g/l}$ during this time frame

Zinc, total [$\mu\text{g/l}$]



NOTE: Data does not exceed standard of 2000 $\mu\text{g/l}$ during this time frame