

Eviron Road Quarry Landfill
Annual Environmental Management Review 2016
Stage 1 (Application No.08_0068)

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Executive Summary

In December 2012, Council sought an approval from the Department of Planning and Environment (DoPE) (formerly known as the Department of Planning and Infrastructure (DoPI)) to develop new waste infrastructure at Eviron Road, Eviron. Approval was granted (Project Approval 08_0068) following an environmental assessment prepared by GHD Pty Ltd (GHD) in accordance with the requirements of Part 3A of the Environmental Planning and Assessment Act 1979 (EP&A Act). This approval includes:

- A landfill within the void space created by Quirks Quarry,
- Development of two further quarries to be used as landfills after exhaustion of quarry resources, and
- Operational infrastructure such as haul roads, an acid sulphate soil treatment area and other service buildings/storage facilities as required.

Works carried out at the site to date have been minimal, however, Council is currently preparing to commence Stage 1 of the project which will include:

- Construction of a Haul Road from the existing Stott's Creek Resource Recovery Centre to the new landfill at Quirks Quarry
- Construction of a new landfill in the void of the existing Quirks Quarry; and
- Construction of a new quarry at the site known as the West Valley.

The purpose of this report is to satisfy the requirements of Schedule 6, Condition 6 of Project Approval 08_0068 which requires that an Annual Review be produced detailing the works carried out in the previous twelve months, being the reporting period from 1 January 2016 to 31 December 2016. As a summary, the works carried out during this period are summarised as follows:

Management Plans

In the 2016 reporting period, no new management plans were prepared or submitted for approval and no approvals of outstanding management plans previously submitted to the DoPE were received.

General Activities

During the 2016 reporting period, the following general works activities were carried out at the site:

- Quarrying of the Quirks Quarry was finalised in 2015. Final quarry levels have now been established which will become the future Quirks/Eviron landfill site.
- Some remaining stockpiles are located in the quarry and are in the process of being removed.
- Environmental baseline monitoring continues to be undertaken as per the Environmental Assessment recommendations.
- Environmental site inductions have continued for site personnel.

- Vegetation protection areas have been signposted and taped off restricting access
- Biodiversity offset restoration works have commenced. Procurement of revegetation and restoration works has been undertaken and a suitable contractor has been engaged to complete these works at an approximate cost of \$130,000.

Meteorological Station

Data capture issues that occurred with the meteorological station in the 2015 reporting period have now been resolved and the system is functioning as designed.

Haul Road

Pre-construction and design works for the proposed haul road were undertaken. A detailed design of the haul road was completed and the road alignment has been surveyed and pegged out on site.

Design works for the section of road between CH800 and CH1100 that requires preloading has been finalised and survey settlement plates are now in place.

In addition, stormwater drainage infrastructure for the haul road has been procured and delivered to the site ready for installation.

Complaints

During the 2016 reporting period, no complaints were received relating to the project.

1. Project Overview

Residents within the Tweed Shire Council (the Council) Local Government Area (LGA) currently generate approximately 100,000 tonnes of waste annually which is largely recycled or reused. A component of this waste, however, cannot currently be reused and therefore must be safely managed in landfill.

Waste within the Tweed is currently landfilled at Council's Stott's Creek Resource Recovery Centre, however, this facility is nearing its design capacity. In planning for the shires future landfill requirements, Council sought an approval from the Department of Planning and Environment (DoPE) (formerly known as the Department of Planning and Infrastructure (DoPI)) in December 2012 to develop new waste infrastructure at Eviron Road, Eviron (Project Approval 08_0068). Approval was granted following an environmental assessment prepared by GHD Pty Ltd (GHD) in accordance with the requirements of Part 3A of the Environmental Planning and Assessment Act 1979 (EP&A Act). This approval includes:

- A landfill within the void space created by Quirks Quarry,
- Development of two further quarries to be used as landfills after exhaustion of quarry resources, and
- Operational infrastructure such as haul roads, an acid sulphate soil treatment area and other service buildings/storage facilities as required.

Construction works under this approval have not yet started, however, Council is currently preparing to commence Stage 1 of the project which will include:

- Construction of a Haul Road from the existing Stott's Creek Resource Recovery Centre to the new landfill at Quirks Quarry
- Construction of a new landfill in the void of the existing Quirks Quarry; and
- Construction of a new quarry at the site known as the West Valley.

Works carried out at the site to date have been minimal, however, in preparing to commence Stage 1 of works, a number of management plans have been prepared along with necessary site investigations and monitoring works. Concrete drainage infrastructure has recently been procured and is currently located on the site ready for installation. Pre-loading requirements for the haul road have been developed which include waste reduction strategies that aim to utilise excavated natural material for pre-loading requirements.

2. Location

The subject site is located at Eviron Road, Eviron, within the Tweed LGA. The site is approximately 16km north east of Murwillumbah and adjoins the existing Stott's Creek Resource Recovery Centre which is located to the north west of the site.

The Council owned site has an area of 136 hectares (excluding Stott's Creek Resource Recovery Centre) which previously comprised Lot 1 of DP 34555, Lot 26 of DP 615931, and Lot 602 DP 1001049. Following a series of property acquisitions and boundary adjustments, the subject site now comprises Lot 1 DP 1159352, Lot 2 DP 1170442, Lot 1 DP 1170442, Lot 30 DP 820048, Lot 1 DP 34555, Lot 1 DP 783802 and Lot 25 DP 615931 (refer Appendix A)

3. Scope of This Report

The purpose of this report is to satisfy the requirements of Schedule 6, Condition 6 of Project Approval 08_0068 which requires that an Annual Review be produced detailing the works carried out in the previous twelve months.

This Review covers the reporting period from 1 January 2016 to 31 December 2016.

The requirements of Condition 6 are provided in Table 1 below, with specific section references for each relevant section addressed in this document.

Table 1: Annual Review requirements (Condition 6 of Schedule 6 of Project Approval 08_0068)

	Annual Review Requirement	Specific Section
(a)	Describe the development (including rehabilitation) that was carried out in the previous calendar year, and the development that is proposed to be carried out over the current calendar year	Section 4 and Section 5
(b)	Include a comprehensive review of the monitoring results and complaints records of the project over the previous calendar year, which includes a comparison of these results against: <ul style="list-style-type: none"> <li data-bbox="213 976 951 1037">• The relevant statutory requirements, limits or performance measures/criteria; <li data-bbox="213 1048 799 1077">• The monitoring results of previous years; and <li data-bbox="213 1088 671 1117">• The relevant predictions in the EA; 	Section 6 and Appendix B
(c)	Identify any non-compliance over the last year, and describe what actions were (or are being) taken to ensure compliance	Section 7
(d)	Identify any trends in the monitoring data over the life of the project	Section 6
(e)	Identify any discrepancies between the predicted and actual impacts of the project, and analyse the potential cause of any significant discrepancies	Section 8
(f)	Describe what measures will be implemented over the current calendar year to improve the environmental performance of the project	Section 9

4. Summary of Works Undertaken in 2016

4.1 Management Plans

A number of management plans which are required under the project approval have been previously prepared and submitted to the Director General for necessary approval. A summary of these plans and their progress is presented in Table 2 below.

In the 2016 reporting period, no new management plans were prepared or submitted for approval and no approvals of outstanding management plans previously submitted to the DoPE were received.

Table 2: Status summary of management plans submitted under Project Approval 08_0068.

Management Plan	Summary	Status
Environmental Management Strategy	<p>Schedule 6, Condition 3 of Project Approval 08_0068, requires that an Environmental Management Strategy be prepared and implemented for the project to the satisfaction of the Director-General.</p> <p>The Environmental Management Strategy outlines all plans required under the approval, who is responsible for preparation of each plan, who is responsible for implementing each plan and who audits each plan within recommended timeframes.</p> <p>The Environmental Management Strategy was prepared and submitted to the Director General on 27 May 2014 and was granted approval by DoPE on 4 June 2014.</p>	<p>✓ Completed - 27 May 2014</p> <p>✓ Approved - 4 June 2014</p>
Heritage Management Plan	<p>A Heritage Management Plan is required as per Schedule 4, Condition 28 of Project Approval 08_0068. This plan was prepared in consultation with the TBLALC and included a Heritage Awareness Induction for all those involved. To date any personnel attending the site have been inducted prior to commencement of any activities.</p> <p>The Heritage Management Plan was submitted to the Director General on 8 January 2014 and approved by the DoPE on 4 June 2014.</p>	<p>✓ Completed - 8 January 2014</p> <p>✓ Approved - 4 June 2014</p>
Biodiversity Offset Plan	<p>The Biodiversity Offset Plan is a requirement of Schedule 4, Condition 29 of Project Approval 08_0068. This plan was submitted to the Director General on 18 December 2013 and in DoPE's letter dated 4 June 2014 it stated they would review its adequacy in consultation with relevant agencies and would be in contact shortly regarding their findings. Council is unable to locate any further response from DoPE.</p> <p>A number of key commitments within the submitted plan have been undertaken in 2016 which include:</p> <ul style="list-style-type: none"> (i) Delineation of Vegetation Protection Areas on the site with bunting and signage that restricts access from site operations (refer Figure 1). (ii) Eviron Quarry & Landfill Bio Offset Restoration plan finalised and procurement of significant vegetation 	<p>✓ Completed - 18 December 2013</p> <p>X Awaiting Approval</p>

Management Plan	Summary	Status
	works that will be implemented under the plan.	
White Laceflower Translocation Plan	<p>This plan is required as per Schedule 4, Condition 30 of Project Approval 08_0068. This plan was submitted 28 August 2013 and approved by DoPE 4 June 2014. Work to date has been carried out in accordance with the plan.</p> <p>Despite ongoing monitoring of white lace flower seeds on the site, no white lace flower seeds have propagated on the site since the approval of this plan. Ongoing monitoring of white lace flowers continues locally with the aim of utilising white lace flower seedlings from the site as soon as they become available. Failing this, alternative White Lace seedlings may have to be sourced from an alternative source.</p>	<p>✓ Completed - 28 August 2013</p> <p>✓ Approved - 4 June 2014</p>
Landscape Management Plan	<p>A Landscape Management Plan (LMP) is a requirement of Schedule 4, Condition 31 of Project Approval 08_0068. This plan was submitted to DoPE 4 April 2014. DoPE advised that further discussions would be required with the Office of Environment and Heritage. Council is unable to locate any further correspondence or approval relating to the submitted LMP.</p> <p>Under the provision of Condition 32, Schedule 4, a conservation and rehabilitation bond is to be lodged within six (6) months of the approval of the Landscape Management Plan. Once approval has been received, necessary arrangements will be made for lodgement of this bond.</p>	<p>✓ Completed - 4 April 2014</p> <p>X Awaiting Approval</p>

4.2 General

During the 2016 reporting period, the following general works activities were carried out at the site:

- Quarrying of the Quirks Quarry was finalised in 2015. Final quarry levels have now been established which will become the future Quirks/Eviron landfill site.
- Some remaining stockpiles are located in the quarry and are in the process of being removed.
- Environmental baseline monitoring continues to be undertaken as per the Environmental Assessment recommendations.
- Environmental site inductions have continued for site personnel.
- Vegetation protection areas have been signposted and taped off restricting access (refer Figure 1 and Appendix A)

- Biodiversity offset restoration works have commenced. Procurement of revegetation and restoration works has been undertaken and a suitable contractor has been engaged to complete these works at an approximate cost of \$130,000 (refer Appendix A).



Figure 1 – Vegetation Protection Area.

4.3 Meteorological Station

Condition 9 of Schedule 3 of Project Approval 08_0068 requires that a meteorological station be situated on the site to continuously monitor air temperature, wind direction, wind speed, rainfall and relative humidity (refer Figure 2 and Appendix A). Data capture issues that occurred with the meteorological station in 2015 have now been resolved and the system is functioning as designed. Meteorological data captured for the 2016 reporting period is summarised in Appendix B.



Figure 2 – Meteorological Station.

4.4 Haul Road

Pre-construction and design works for the proposed haul road were undertaken in 2016. A detailed design of the haul road was completed and the road alignment has been surveyed and pegged out on site.

Design works for the section of road between CH800 and CH1100 that requires preloading has been finalised and survey settlement plates are now in place.

In addition, stormwater drainage infrastructure for the haul road has been procured and delivered to the site ready for installation (refer Figure 3 and Appendix A).



Figure 3 – Stormwater drainage on site ready for installation.

5. Forward Works Planned for 2017

5.1 Haul Road Construction

Pre-loading of the haul road is to commence in 2017 with works to be undertaken by Council. The pre-loading works would utilise VENM or ENM material primarily obtained from on-site, but also from spoil left over from Council road construction projects.

Once the pre-load material has compacted and settlement has been completed as per the design requirements, construction of Stage 1 of the haul road would commence.

Installation of stormwater and drainage infrastructure for the haul road will commence during 2017, however specific timelines are yet to be finalised and are dependent on necessary compaction of pre-load areas as described above.

5.2 Environmental

Environmental monitoring and recording will continue at the site in accordance with the Environmental Management Plans submitted to date.

Continual reviews of the timelines for activities will be carried out to ensure they align with the Environmental Management Strategy.

Significant vegetation works outlined in the Eviron Quarry and Landfill Bio Offset Restoration Plan are scheduled to be undertaken in 2017. Works would include planting of approximately 13,000 plants that would connect Koala corridors at the site as well as ongoing maintenance to ensure long term restoration (refer Appendix A).

6. Monitoring Results Review

6.1 Surface Water Quality

In 2008 Council implemented a baseline surface water monitoring program which occurs in the main drainage channel on the northern boundary of the site, adjacent to Quirks Quarry. This monitoring program comprises three (3) monitoring sites (SW1, SW2 and SW4) (refer Figure 4) which are sampled on a quarterly basis. A suite of parameters are tested during each monitoring event which are outlined in Table 9-7 of the Environmental Assessment. This suite of parameters is generally consistent with the requirements of the Environmental Guidelines: Solid Waste Landfills (EPA 1996).

For the suite of parameters that are monitored, there are currently no specific trigger values, however, the ANZECC/ARMCANZ freshwater guidelines continue to be used as a point of reference. Upon commencement of significant construction works, a range of operational trigger values will be developed for each site based on the collected baseline data. These trigger values would be applicable during quarrying and landfill activities and would feed into the Quarry Plan of Management and Landfill Environmental Plan. It is anticipated that once operations commence, the surface water monitoring program will be a specific requirement in the Environmental Protection Licences for the site.

The results of surface water monitoring and their graphs are provided in Appendix C and D. Surface water monitoring data continues to be considered baseline at this stage as no significant project works have been undertaken at the site. Nonetheless, a summary analysis of data trends to date for each monitoring site has been undertaken which is provided below. A more detailed analysis of data will be undertaken once substantial construction works are undertaken at the site.

SW1

SW1 is a surface water monitoring site with baseline data indicating that surface water in this location is fresh. The pH of surface water at this site varies between slightly acidic and neutral ranging between 5.6 and 6.7. Nutrient values at the site are typically low, however, a spike in BOD, total nitrogen and total phosphorus has been previously recorded in the past which extended over three monitoring periods between 09/08/2011 and 06/02/2012. This period coincides with a similar spike in suspended solids which is likely the result of significant rainfall during this period. The concentration of metals at the site are generally low, however, similar to that described above, a spike in total arsenic, total cadmium, total copper, total manganese and total nickel were all recorded the same rain event period. It is also noted that elevated levels of total phosphorus have recently been recorded during the 2016 reporting period.

SW2

SW2 is a surface water monitoring site with baseline data indicating that surface water in this location is fresh. The pH of surface water at this site varies between strongly acidic and neutral ranging between 5.4 and 7.1. Nutrient values at the site are generally low with total nitrogen ranging between 0.3 and 2.7mg/L throughout the monitoring period. The concentration of metals at the site are generally low and consistent with baseline monitoring data in the other surface water monitoring sites.

SW4

SW4 is a surface water monitoring site with baseline data indicating that surface water in this location is fresh. The pH of surface water at this site varies between slightly acidic and neutral ranging between 6.2 and 7.0. Nutrient values at the site are generally low with total nitrogen ranging between 0.2 and 2.2mg/L throughout the monitoring period. The concentration of metals at the site are generally low and consistent with baseline monitoring data in the other surface water monitoring sites. It is noted, however, that concentrations of manganese and calcium are slightly elevated at this site.

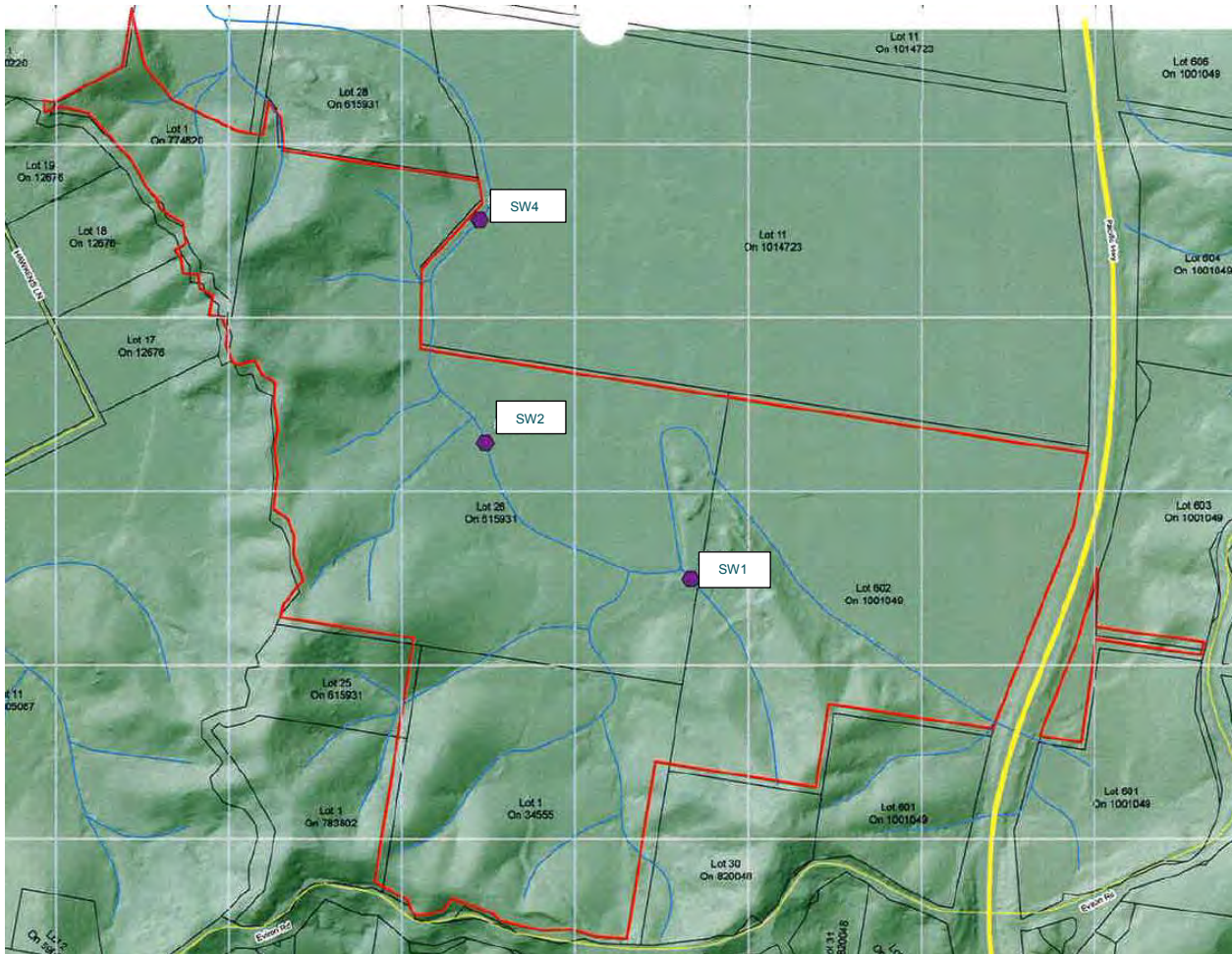


Figure 4 – Eviron surface water monitoring bores

6.2 Groundwater Water Quality

There are currently nineteen (19) groundwater monitoring bores (refer Figure 5) located on the site which are monitored on a quarterly basis, measuring both groundwater levels and groundwater quality.

Similar to the surface water monitoring program, there are currently no specific trigger values for groundwater at the site, however, the ANZECC/ARMCANZ freshwater guidelines continue to be used as a point of reference. Upon commencement of significant construction works, a range of operational trigger values will be developed for each site based on the collected baseline data. These trigger values would be applicable during quarrying and landfill activities and would feed into the Quarry Plan of Management and Landfill Environmental Plan. It is anticipated that once operations commence, the groundwater monitoring program will be a specific requirement in the Environmental Protection Licences for the site.

The results of groundwater monitoring and their graphs are provided in Appendix C and D. Groundwater monitoring data continues to be considered baseline at this stage as no significant project works have been undertaken at the site. Nonetheless, a summary analysis of data trends to date for each monitoring site has been undertaken which is provided below. A more detailed analysis of data will be undertaken once substantial construction works are undertaken at the site.



Figure 5 – Eviron Groundwater Monitoring Bore locations

GW1

GW1 is a bedrock monitoring site with baseline data indicating that groundwater at this site is fresh. This is reflected in the low conductivity and alkalinity values which are recorded at the site. The pH of groundwater is slightly acidic ranging between 4.9 and 6. Nutrient values at the site are typically low with total nitrogen concentrations ranging between 0.1 and 1.8mg/L. The concentration of metals at this site are also considered to be generally low and stable. Notwithstanding, one monitoring event on the 14/11/2012 recorded a significant spike in total chromium, total copper, total iron, total lead, total aluminium, total calcium, total manganese, total nickel and total zinc. It is noted that the total aluminium, total copper and total iron, total lead, total nickel concentrations were very high during this event reaching 498mg/L, 1.08mg/L and 612mg/L respectively.

GW2

GW2 is an alluvial monitoring site with baseline monitoring data indicating that groundwater in this location is brackish. This is reflected in the relatively high concentration of conductivity, alkalinity, bicarbonate, total sodium, total chloride, and total calcium recorded at the site. Given the brackish nature of the groundwater, pH values at this site are generally neutral and stable, ranging between 7.1 and 6.9 throughout the monitoring period. Nutrient values at the site are generally low and stable, however, one moderate spike in concentration was recorded on the 09/02/2015 which is reflected in the results for ammonia, BOD, TKN and total nitrogen. The concentrations of metals at the site are generally characteristic of soils in this location and are consistent with the surrounding baseline monitoring data.

GW4

GW4 is an alluvial monitoring site with baseline monitoring data indicating that groundwater in this location is brackish. This is reflected in the relatively high concentration of conductivity, alkalinity, bicarbonate, total sodium, total chloride, and total calcium recorded at the site. Given the brackish nature of the groundwater, pH values at this site are generally neutral to slightly alkaline, ranging between 6.9 and 7.5 throughout the monitoring period. Nutrient values at the site are generally low and stable, however, one significant spike in concentration was recorded on the 09/02/2015 which is shown in the results for ammonia, BOD, TKN, total nitrogen and total phosphorus. An additional moderate spike in nutrient values was also recorded at this site during the 2016 monitoring period. The concentrations of metals at the site are generally characteristic of soils in this location and are consistent with the surrounding baseline monitoring data.

GW5

GW5 is a bedrock monitoring site with baseline data indicating that groundwater at this site is fresh. This is reflected in the low conductivity, alkalinity and bicarbonate values which are recorded at the site. The pH of groundwater is strongly to extremely acidic ranging between 3.8 and 5.4. Nutrient values at the site are typically low with Total Nitrogen concentrations ranging between 0.3 and 1.8mg/L. The concentrations of metals at the site are generally characteristic of soils in this location and are consistent with the surrounding baseline monitoring data. Notwithstanding, the concentration of manganese at this location is considered to be high.

GW6

GW6 is an alluvial monitoring site with baseline data indicating that groundwater at this site is fresh. This is reflected in the low conductivity, alkalinity and bicarbonate values which are recorded at the site. The pH of groundwater varies between strongly acidic to slightly acidic ranging between 5.2 and 6.3. Nutrient values at the site are generally low and stable, however, one moderate spike in concentration was recorded on the 09/02/2015 which is reflected in the results for ammonia, BOD, TOC, TKN and total nitrogen. The concentrations of metals at the site are generally characteristic of soils in this location and are consistent with the surrounding baseline monitoring data. Notwithstanding, the concentration of nickel and zinc at this location appear high relative to background levels.

GW7

GW7 is an alluvial monitoring site with baseline data indicating that groundwater at this site is fresh. This is reflected in the low conductivity, alkalinity and bicarbonate values which are recorded at the site. The pH of groundwater varies between strongly acidic to extremely acidic ranging between 4.2 and 5.5. Nutrient values at the site are generally low and stable, however, one moderate spike in concentration was recorded on the 13/02/2013 which is reflected in the results for BOD, nitrate, oxidised nitrogen, TOC, TKN and total nitrogen. The concentrations of metals at the site are generally characteristic of soils in this location and are consistent with the surrounding baseline monitoring data. Notwithstanding, a significant spike the concentration zinc was recorded on the 10/11/2015 (80mg/L), however, this is thought to be an error in the data entry and should be further investigated.

GW8

GW8 is an alluvial monitoring site with baseline data indicating that groundwater at this site is fresh. This is reflected in the low conductivity, alkalinity and bicarbonate values which are recorded at the site. The pH of groundwater varies between moderately acidic and neutral ranging between 5.7 and 6.6. Nutrient values at the site are generally low and stable, with total nitrogen ranging between 0.6 and 3.1mg/L throughout the monitoring period. The concentrations of metals at the site are generally characteristic of soils in this location and are consistent with the surrounding baseline monitoring data. Notwithstanding, a significant spike the concentration nickel was recorded on the 13/11/2012 at this location which was high relative to background levels.

An anomaly is observed in temperature data which shows a spike of 218 degrees on the 13/02/1013. This is a data entry error and the correct value should be 21.8.

GW9

GW9 is an alluvial monitoring site with baseline data indicating that groundwater at this site ranges between fresh and brackish. This is reflected in the elevated conductivity, sodium and chloride levels, however, it is noted that the alkalinity and bicarbonate values are generally low. The pH of groundwater varies between very strongly acidic and slightly acidic ranging between 4.8 and 6.2. Nutrient values at the site are generally low and stable, with total nitrogen ranging between 0.2 and 1.1mg/L throughout the monitoring period. The concentration of metals at the site are generally consistent with baseline monitoring data in the surrounding area, however, it is noted that total lead concentrations were slightly elevated at this site.

GW10

GW10 is an alluvial monitoring site with baseline data indicating that groundwater at this site is fresh. This is reflected in the low conductivity levels recorded during the monitoring period. The pH of groundwater varies between very strongly acidic and slightly acidic ranging between 4.8 and 6.3. Nutrient values at the site are generally low although slightly elevated against other surrounding baseline monitoring sites with total nitrogen ranging between 0.2 and 4.4mg/L throughout the monitoring period. The concentration of metals at the site are generally low and consistent with baseline monitoring data in the surrounding area, however, a spike was recorded at the site which occurred on the 12/11/2013 and saw temporary elevated levels of chromium, aluminium, arsenic, copper, iron, lead, nickel and zinc. In addition, it is also noted that a significant spike in conductivity occurred on the 11/08/2015 which also coincided with spikes in chloride, sulfate, calcium, magnesium, manganese, nickel and sodium, and a drop in pH.

GW11

GW11 is an alluvial monitoring site with baseline data indicating that groundwater at this site is fresh. This is reflected in the low conductivity and alkalinity levels recorded during the monitoring period. The pH of groundwater varies between very strongly acidic and moderately acidic ranging between 4.8 and 5.7. Nutrient values at the site are generally low although slightly elevated against other surrounding baseline monitoring sites with total nitrogen ranging between 0.4 and 3.06mg/L throughout the monitoring period. The concentration of metals at the site are generally low and consistent with baseline monitoring data in the surrounding area, however, a low level spike was recorded at the site on the 14/05/2014 which saw a short-term spike in the level of total aluminium, total chromium, total copper, total iron, total lead, total manganese, total nickel and zinc.

GW14

GW14 is a bedrock monitoring site with baseline data indicating that groundwater at this site is fresh. This is reflected in the low conductivity and alkalinity levels recorded during the monitoring period. The pH of groundwater at this site is the lowest of all monitoring sites varying between extremely acidic and very strongly acidic ranging between 3.7 and 4.9. Nutrient values at the site are generally low with total nitrogen ranging between 0.5 and 1.7mg/L throughout the monitoring period. The concentration of metals at the site are generally low and consistent with baseline monitoring data in the surrounding area, however, slightly elevated levels of total aluminium, total chromium, total lead, total iron and total copper were recorded at the site during a low level spike that occurred on the 14/11/2012.

GW15

GW15 is a bedrock monitoring site with baseline data indicating that groundwater at this site is fresh. This is reflected in the low conductivity and alkalinity levels recorded during the monitoring period. The pH of groundwater at this site varies between moderately acidic and slightly acidic ranging between 5.6 and 6.2. Nutrient values at the site are generally low although two slightly elevated spikes were recorded on the 14/05/2014 and 11/11/2015. Total nitrogen concentrations at the site ranged between 0.2 and 6.4mg/L throughout the monitoring period. The concentration of metals at the site are generally low and consistent with baseline monitoring data in the surrounding area.

GW16

GW16 is a bedrock monitoring site with baseline data indicating that groundwater at this site is fresh. This is reflected in the low conductivity and alkalinity levels recorded during the monitoring period. The pH of groundwater at this site varies between very strongly acidic and neutral ranging between 4.6 and 6.8. Nutrient values at the site are generally low although slightly elevated against other surrounding baseline monitoring sites with total nitrogen ranging between 0.2 and 5.2mg/L throughout the monitoring period. The concentration of metals at the site are generally low and consistent with baseline monitoring data in the surrounding area. It is noted that the concentration of calcium is generally very low, although a very high spike in concentration was recorded on the 08/11/2011.

GW17

GW17 is an alluvial monitoring site with baseline data indicating that groundwater at this site is fresh. The pH of groundwater at this site varies between strongly acidic and slightly acidic ranging between 5.3 and 6.2. Nutrient values at the site are generally low with total nitrogen ranging between 1.1 and 2.4mg/L throughout the monitoring period. The concentration of metals at the site are generally low and consistent with baseline monitoring data in the surrounding area, however, it is noted that total arsenic, total chromium and calcium concentrations are slightly elevated.

GW19

GW19 is an alluvial monitoring site with baseline data indicating that groundwater at this site is fresh. The pH of groundwater at this site varies between moderately acidic and slightly alkaline ranging between 6.0 and 7.5. Nutrient values at the site are generally very low with total nitrogen ranging between 0.4 and 0.7mg/L throughout the monitoring period. The concentration of metals at the site are generally low and consistent with baseline monitoring data in the surrounding area.

GW20

GW20 is a bedrock monitoring site with baseline data indicating that groundwater at this site is fresh, although close to approaching brackish. This is reflected in the slightly elevated conductivity, alkalinity and bicarbonate levels recorded at the site. The pH of groundwater at this site varies between neutral and slightly alkaline ranging between 6.8 and 7.6. Nutrient values at the site are generally very low with total nitrogen ranging between 0.07 and 0.9mg/L throughout the monitoring period. The concentration of metals at the site are generally low and consistent with baseline monitoring data in the surrounding area. It is noted that the concentration of anions and cations are moderately elevated at this site including calcium, fluoride, zinc, sodium, sulfate and potassium.

GW21

GW21 is an alluvial monitoring site with baseline data indicating that groundwater at this site is fresh which is reflected in the low conductivity levels recorded at the site. The pH of groundwater at this site varies between strongly acidic and neutral ranging between 5.3 and 6.6. Nutrient values at the site are very low with total nitrogen ranging between 0.05 and 0.2mg/L throughout the monitoring period. The concentration of metals at the site are also generally low and consistent with baseline monitoring data in the surrounding area. Of note at this site is the short term spike in alkalinity and bicarbonates recorded at the site during the 08/02/2016. This spike is in the order of 10 times that of the typical baseline levels and may be the result of an error in data entry.

GW22

GW22 is a bedrock monitoring site with baseline data indicating that groundwater at this site is slightly brackish as reflected in the elevated conductivity, alkalinity and bicarbonate levels recorded at the site. The pH of groundwater at this site is neutral, ranging between 6.7 and 7.0. Nutrient values at the site are generally very low with total nitrogen ranging between 0.2 and 1.05mg/L throughout the monitoring period. The concentration of metals at the site are also generally low and consistent with baseline monitoring data in the surrounding area. It is noted that elevated concentration of anions and cations are present at site including calcium, fluoride, sodium, sulfate and potassium.

GW23

GW23 is an alluvial monitoring site with baseline data indicating that groundwater at this site is fresh. The pH of groundwater at this site varies between moderately acidic and neutral ranging between 6.0 and 6.8. Nutrient values at the site are very low with total nitrogen ranging between 0.05 and 0.2mg/L throughout the monitoring period. The concentration of metals at the site are also generally low and consistent with baseline monitoring data in the surrounding area. It is noted that the concentration of some anions and cations at the site are slightly elevated above other baseline sites, including calcium, chloride, fluoride and sodium.

6.3 Meteorological Station

Data capture from the meteorological station located on the site continued throughout 2016 in accordance with Schedule 3, Condition 9 of Project Approval 08_0068.

This meteorological station records air temperature, wind direction, wind speed, rainfall and relative humidity, with the data used to identify any impacts that weather has on other parameters being monitored for the project. This data is also useful for assisting in reviewing ways to minimise potential impacts.

A summary of weather data captured by the meteorological station is provided in Appendix B.

6.4 Complaints

To date there have been no complaints related to the project.

7. Identification of Non-Compliance and Actions

A summary of non-compliance and actions is provided below.

Condition	Non-Compliance	Discussion and Actions
Schedule 6 Condition 6	Failure to submit annual reviews for reporting periods 2012, 2013 and 2014.	Council interpreted the applicable condition as not being required until approved activities had commenced. It is acknowledged that this interpretation of the condition was not correct and the first annual review was subsequently submitted for the 2014 reporting period to reflect the concept and design phase of the project.
Schedule 6 Condition 6	Failure to submit 2015 annual review by March 30 2016.	Environmental management system oversight. Review was submitted on 29 April 2016. The existing environmental management system has been reviewed and substantially improved to ensure this non-compliance does not re-occur.
Schedule 6 Condition 10	Independent Environmental Audit	This condition requires that an independent environmental audit is to be undertaken one year after approval and every subsequent three years. At this stage substantial works have not commenced and therefore there is no potential risk to the environment. Correspondence was sent to DoPE in 2016 and 2017 seeking that this condition be relaxed to require that an independent audit be undertaken within 12 months of commencement of Stage 1 of the project, being the construction of the haul road.
Schedule 6 Condition 12	Access to information	Environmental management system oversight. Tweed Shire Council has undertaken steps to make available the required information on the public website. This work was completed on the 19 April 2016.

8. Impact Assessment

Substantial works are yet to be carried out at the site, therefore no discrepancies have been identified against the relevant predictions in the Environmental Assessment.

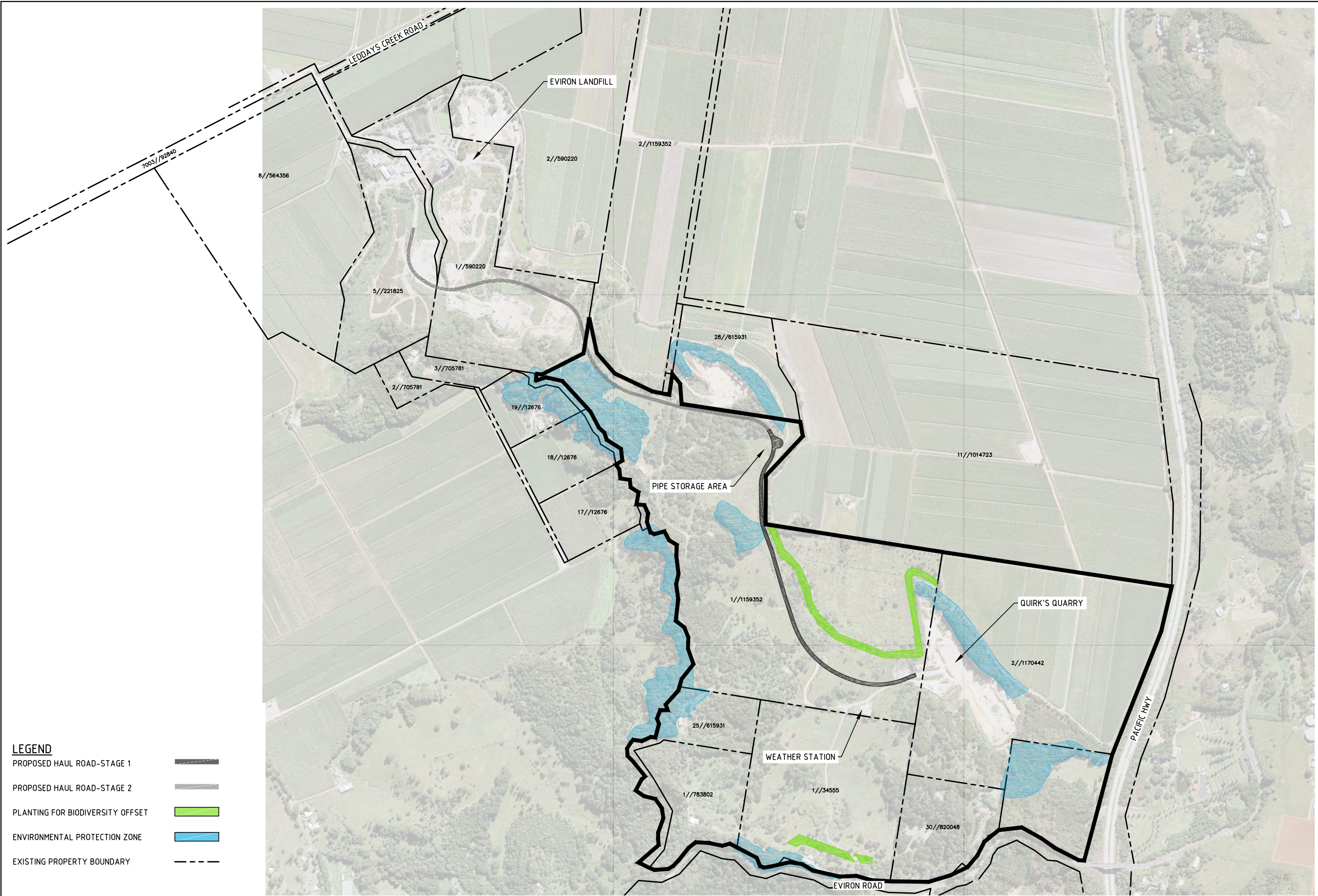
9. Improvement Program

Administrative improvements were made to the Environmental Management System in 2016 to minimise the risk of legislative non-compliance and include the following key elements.






- Compliance/Obligations Register
- Monitoring Results Database
- Compliance Calendar
- Communications Register

As the project moves from a concept and design phase to construction and operation, a detailed analysis of operational data will be undertaken against baseline data for assessment against predictions of the Environmental Assessment.

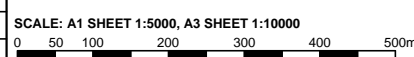
Appendix A – Site Plan



LEGEND

PROPOSED HAUL ROAD-STAGE 1	
PROPOSED HAUL ROAD-STAGE 2	
PLANTING FOR BIODIVERSITY OFFSET	
ENVIRONMENTAL PROTECTION ZONE	
EXISTING PROPERTY BOUNDARY	

PRELIMINARY
NOT FOR CONSTRUCTION



DESIGN UNIT
COUNCIL OFFICES
TUMBULGUM ROAD,
MURWILLUMBAH NSW 2484.
PHONE 02 66702400
FAX 02 66727513
WEBSITE www.tweed.nsw.gov.au



DESIGNED	A.D.	22.03.17	COORDS ADOPTED	PM 124179
CHECKED	W.K.	22.03.17	EASTING	548869.775
HORIZONTAL DATUM	MGA	NORTHING	6869228.643	
VERTICAL DATUM	AHD	R.L.	1.252	

PROJECT: **EVIRON ROAD, EVIRON QUIRKS QUARRY TO STOTTS LANDFILL HAUL ROAD**

PLAN TITLE: **SITE PLAN**

PROJECT NUMBER:	INF7
DRAWING NUMBER	INF7-SK-10
ISSUE	A

ACAD FILE No: G:\AAA DESIGN PROJECTS\INF7-STOTTS TO QUIRKS HAUL ROAD\Drawings\Misc Dwgs\INF7-Overall Site Details.dwg

Appendix B – 2016 Meteorological Data

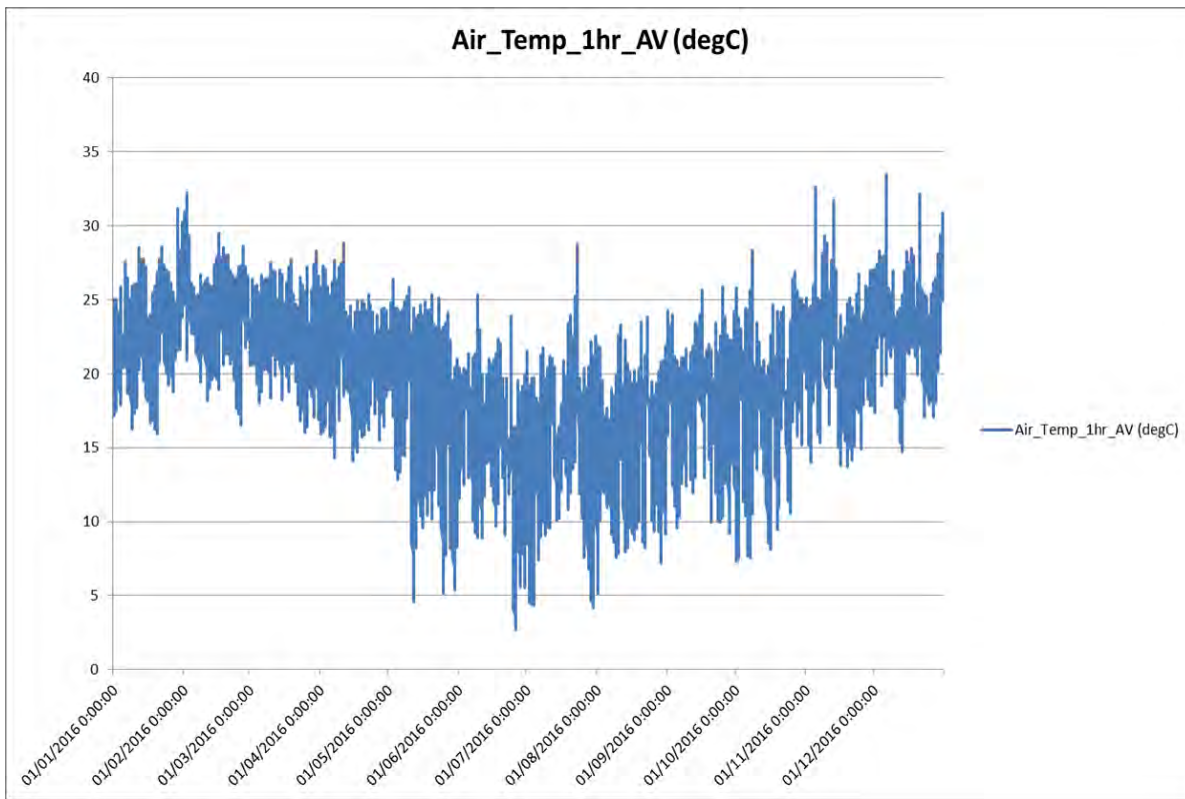


Figure A.1 – Eviron Air Temperature 2016

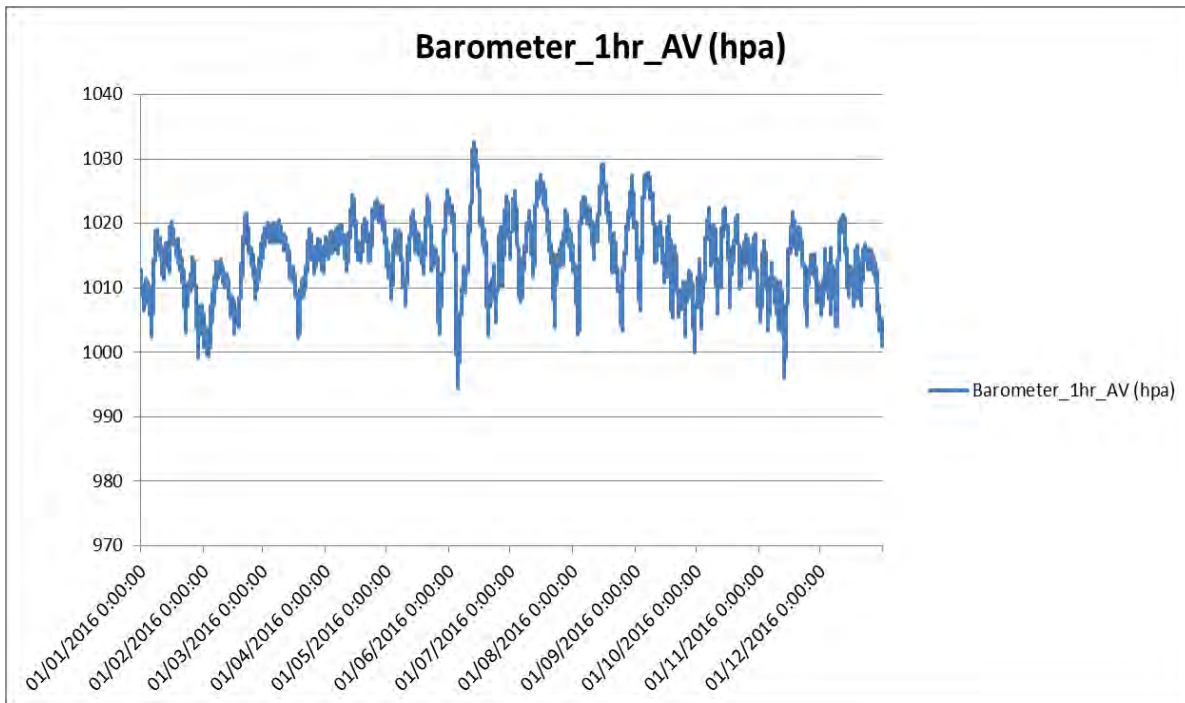


Figure A.2 – Eviron Barometer Readings 2016

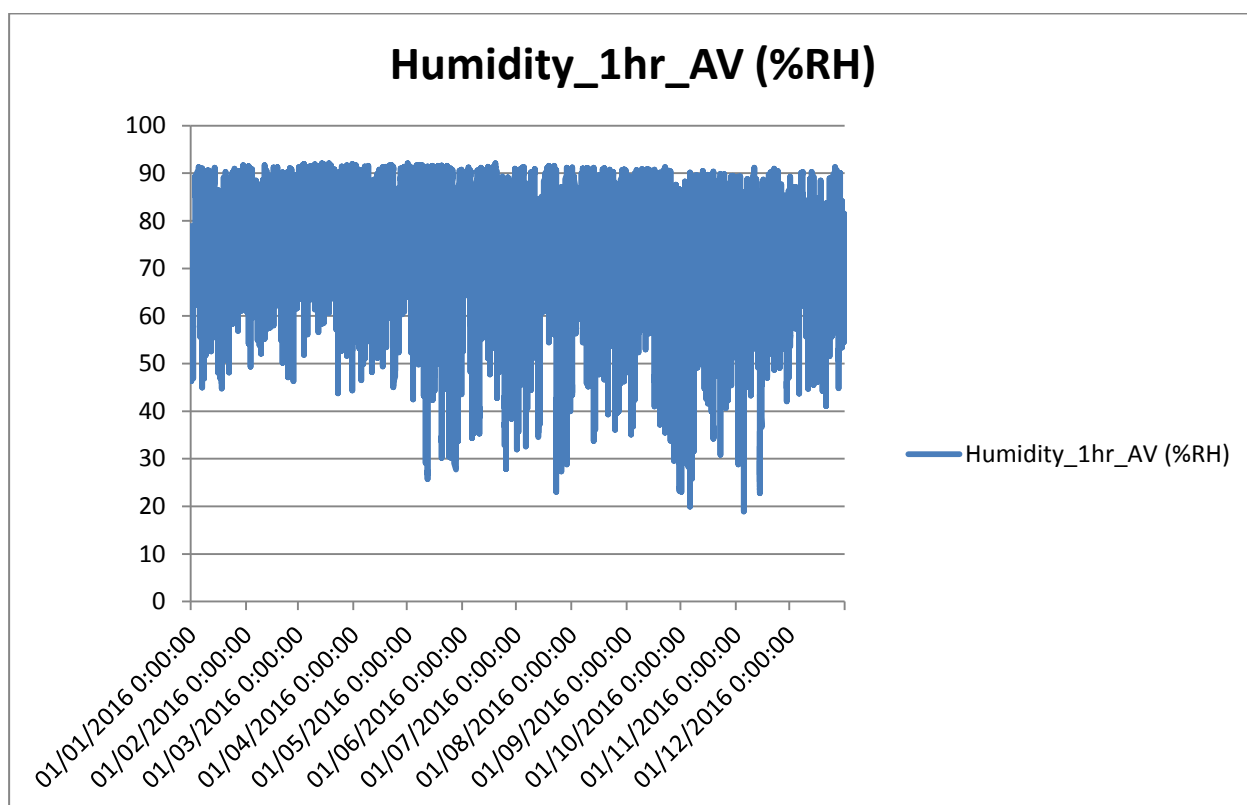


Figure A.3 – Eviron Humidity 2016

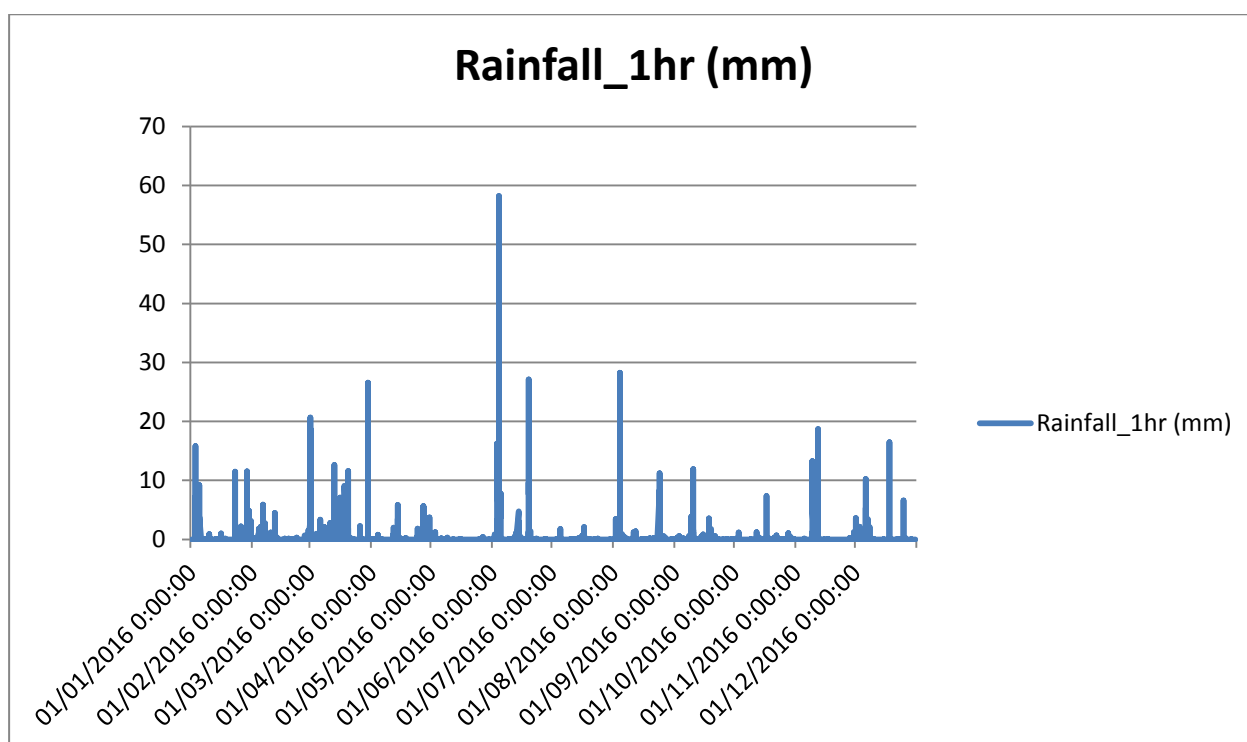
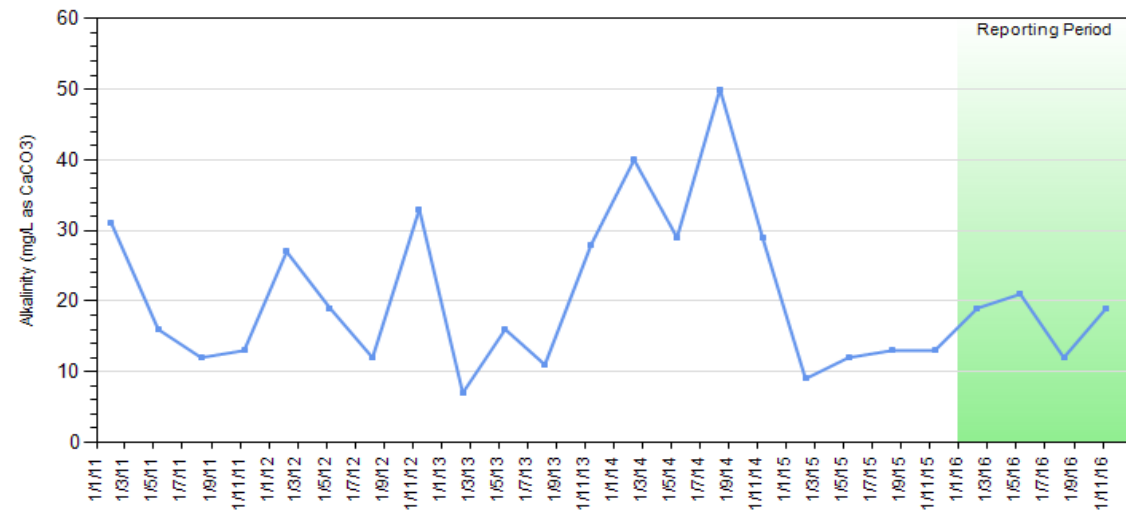


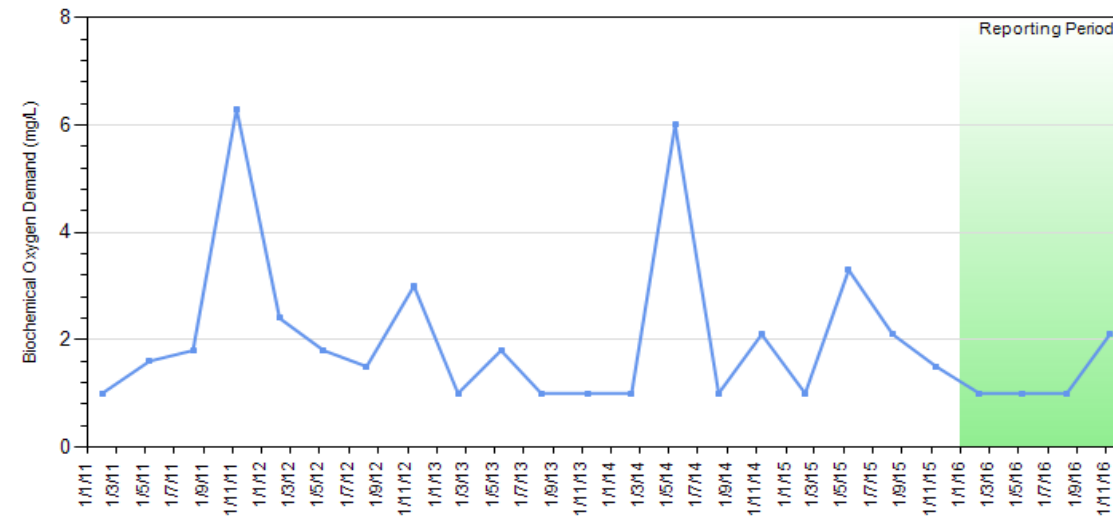
Figure A.4 – Eviron Rainfall 2016

Appendix C – Monitoring Data

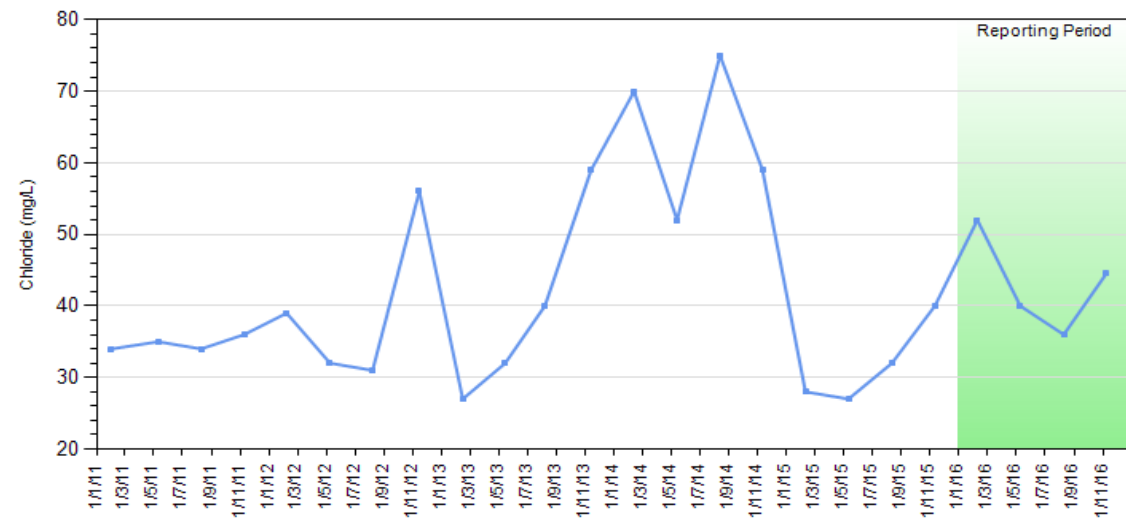
GW1 - Alkalinity (mg/L as CaCO₃)



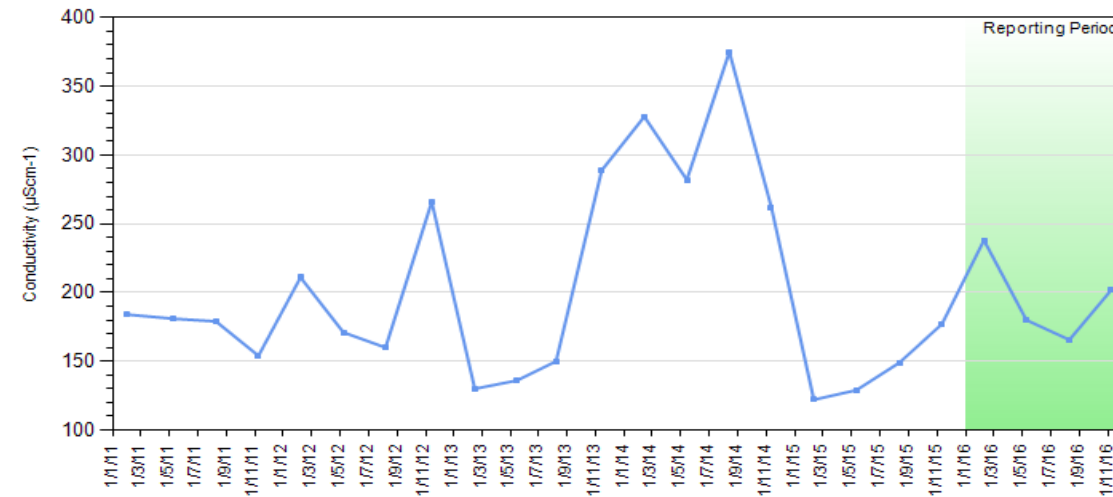
GW1 - Biochemical Oxygen Demand (mg/L)



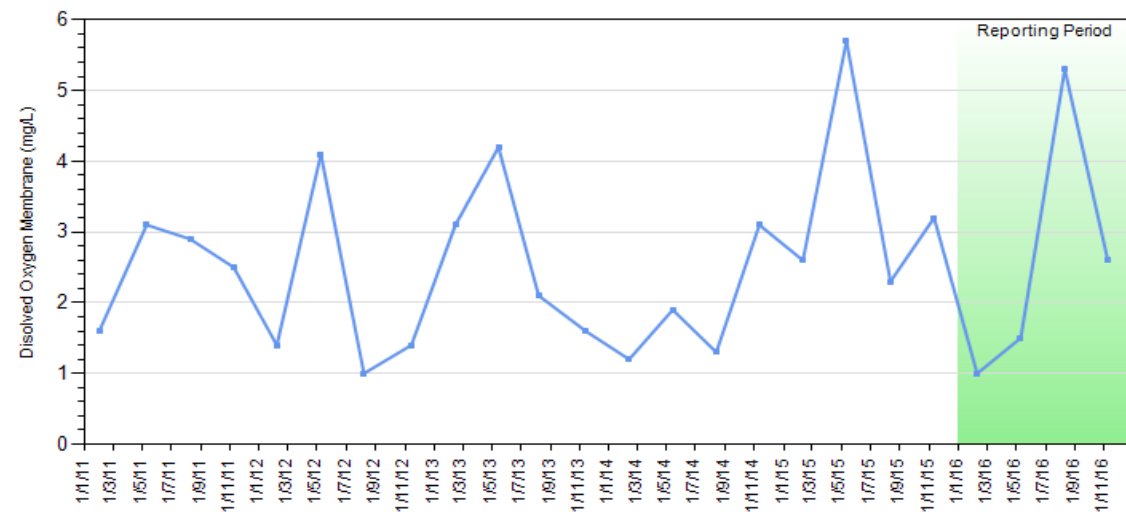
GW1 - Chloride (mg/L)



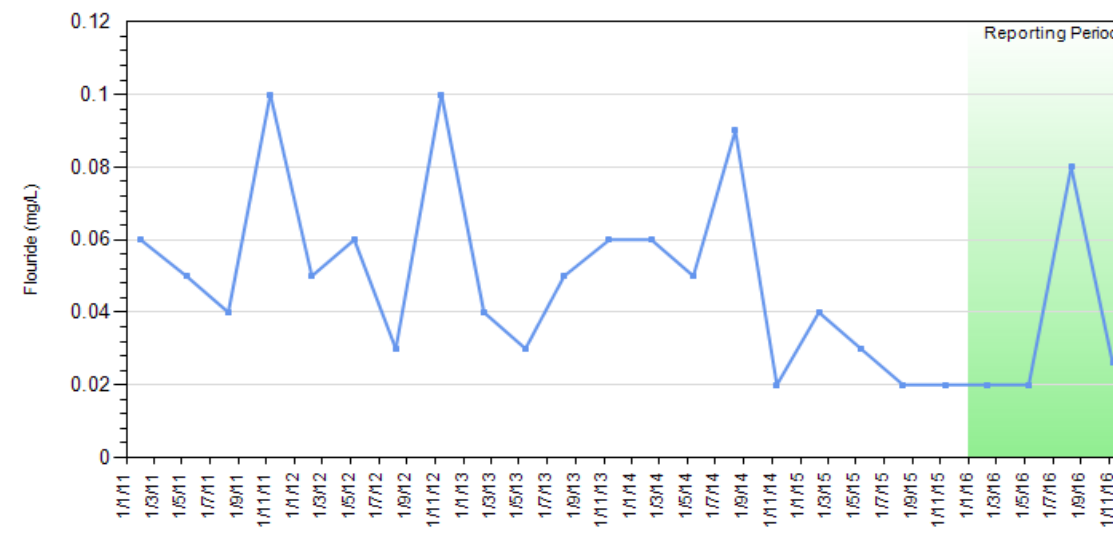
GW1 - Conductivity (µScm-1)



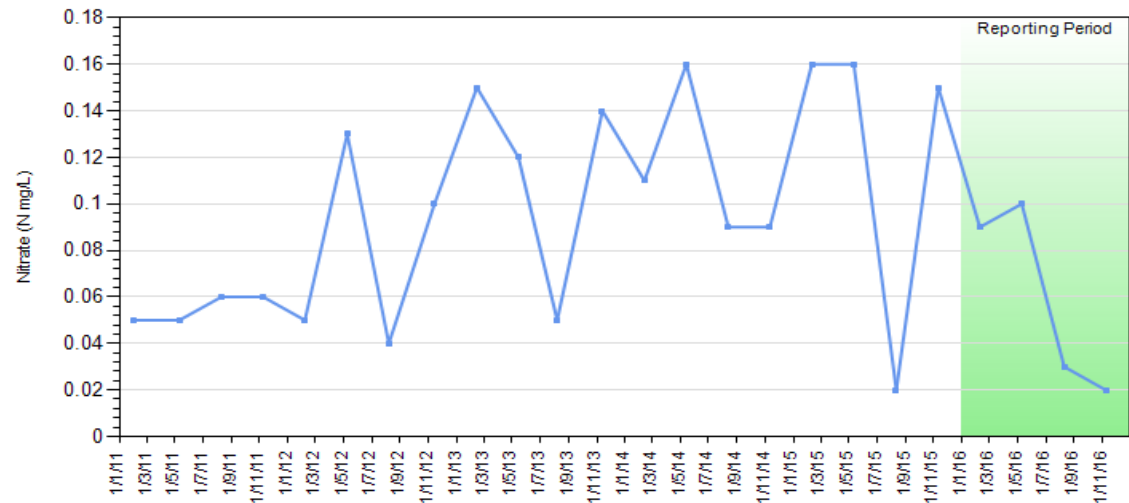
GW1 - Dissolved Oxygen Membrane (mg/L)



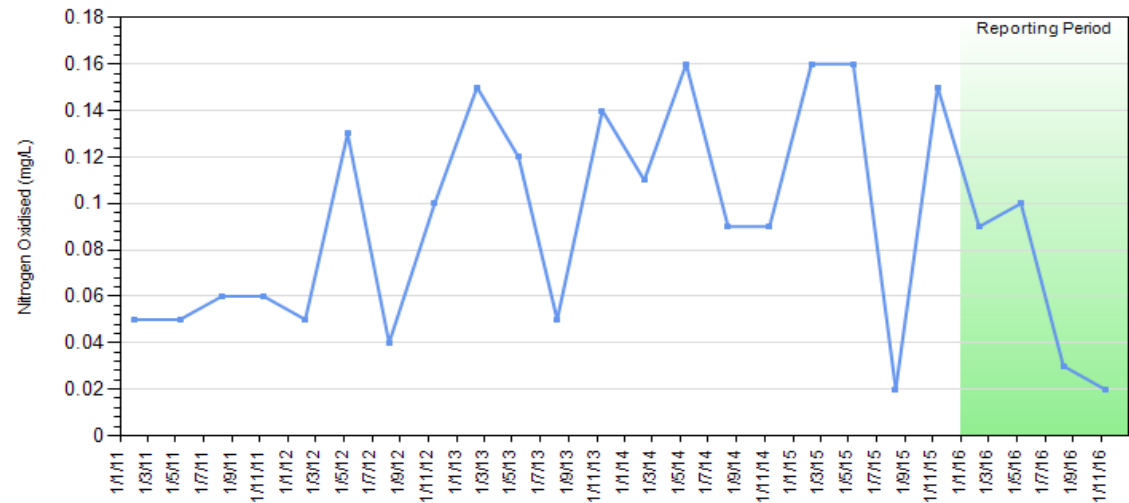
GW1 - Flouride (mg/L)



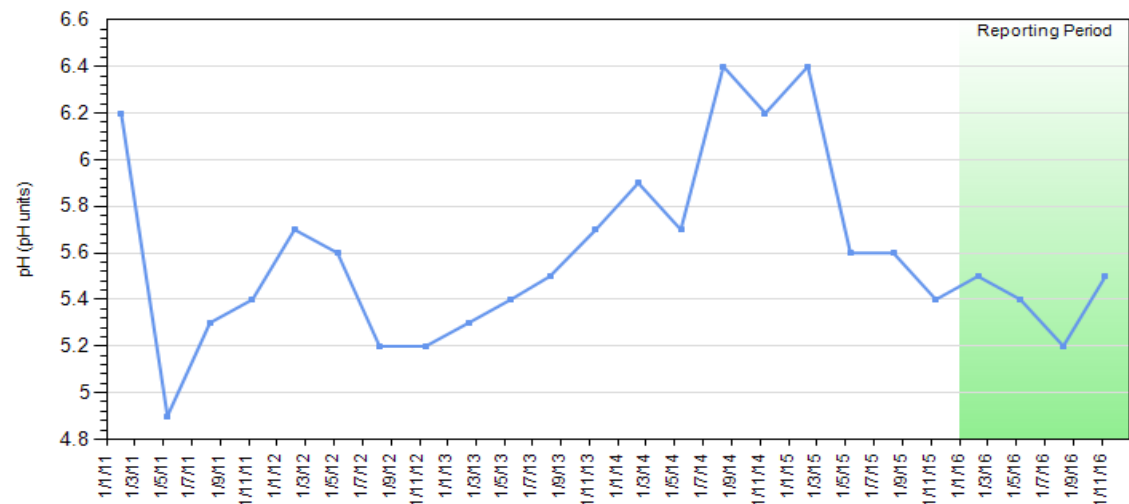
GW1 - Nitrate (N mg/L)



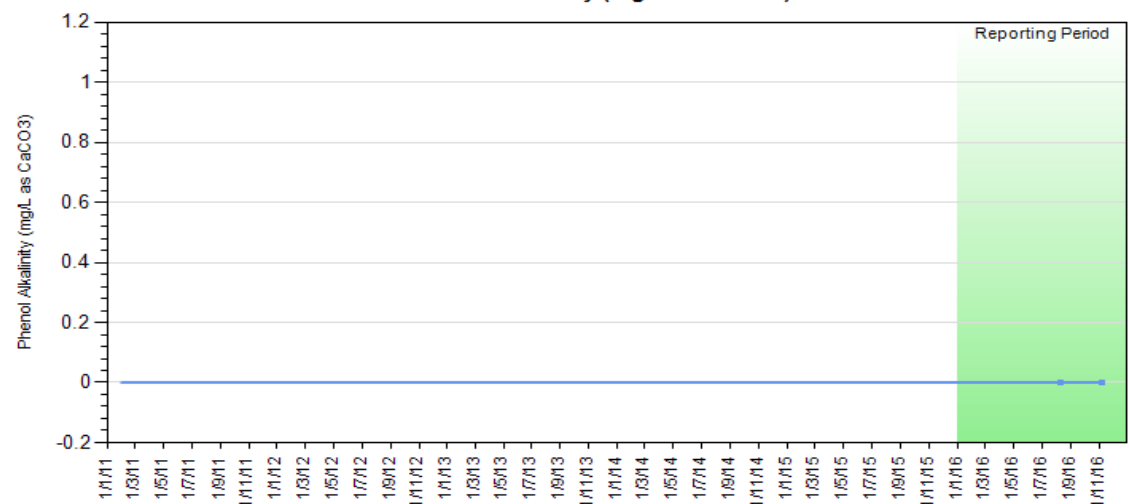
GW1 - Nitrogen Oxidised (mg/L)



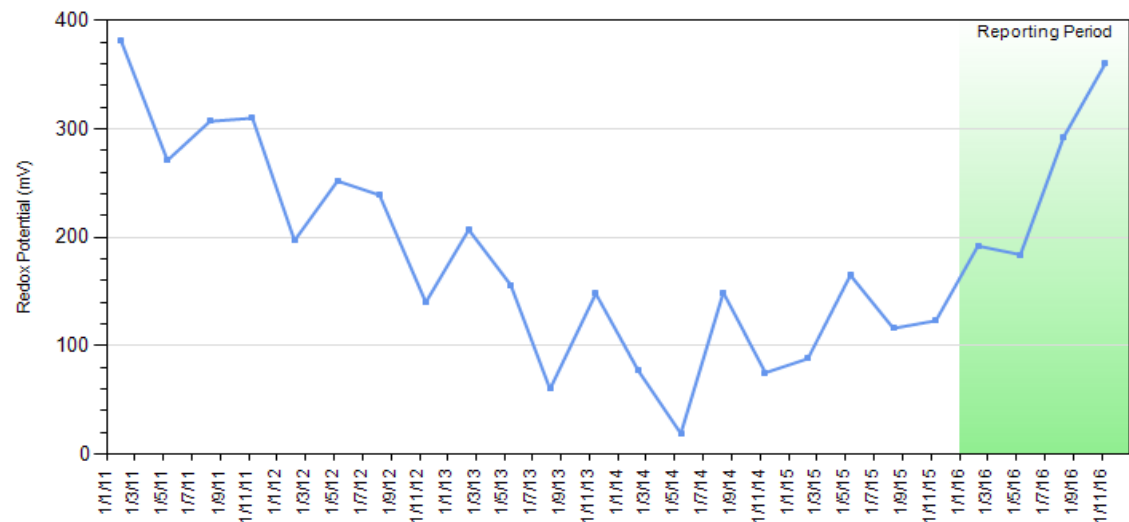
GW1 - pH (pH units)



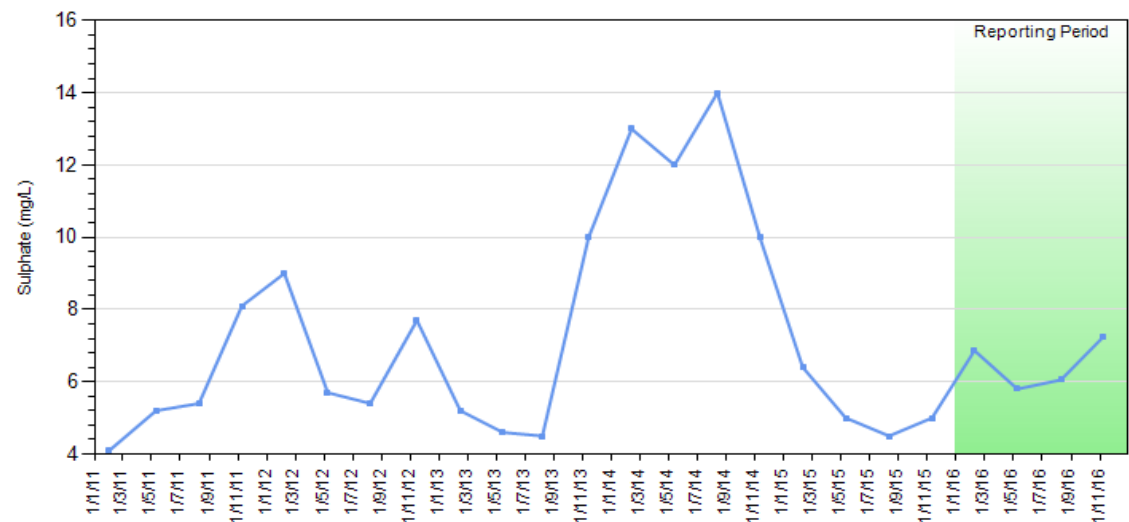
GW1 - Phenol Alkalinity (mg/L as CaCO3)



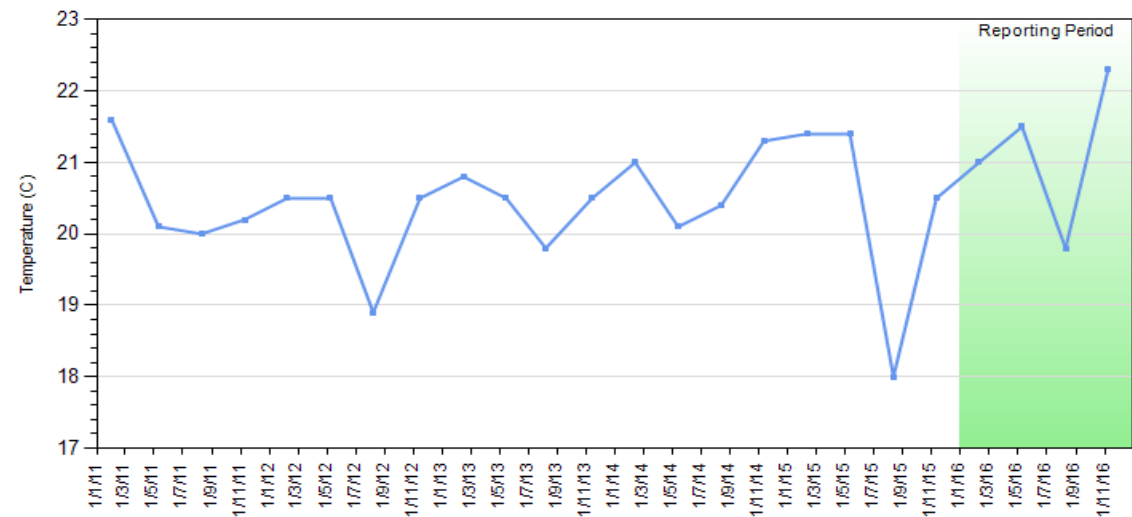
GW1 - Redox Potential (mV)



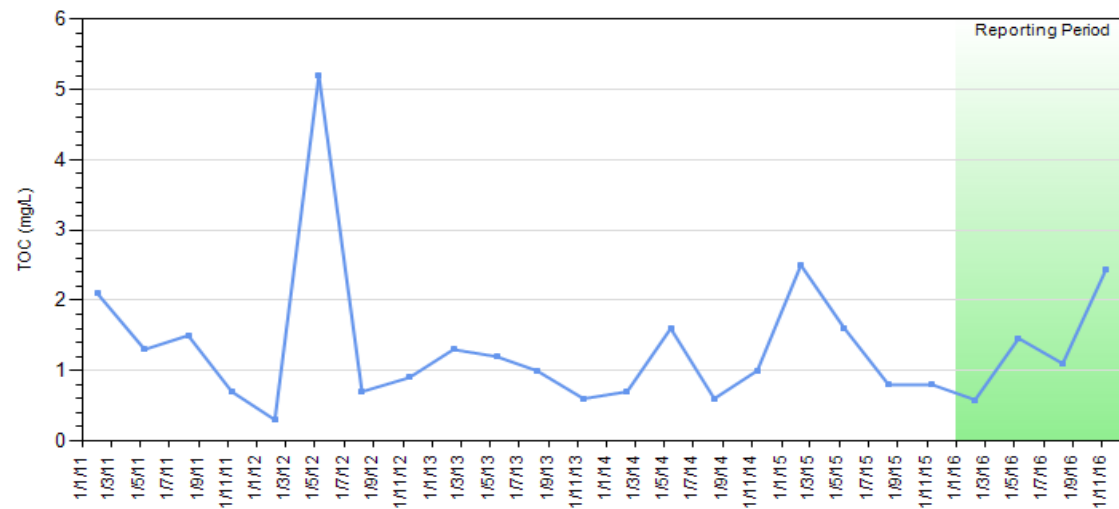
GW1 - Sulphate (mg/L)



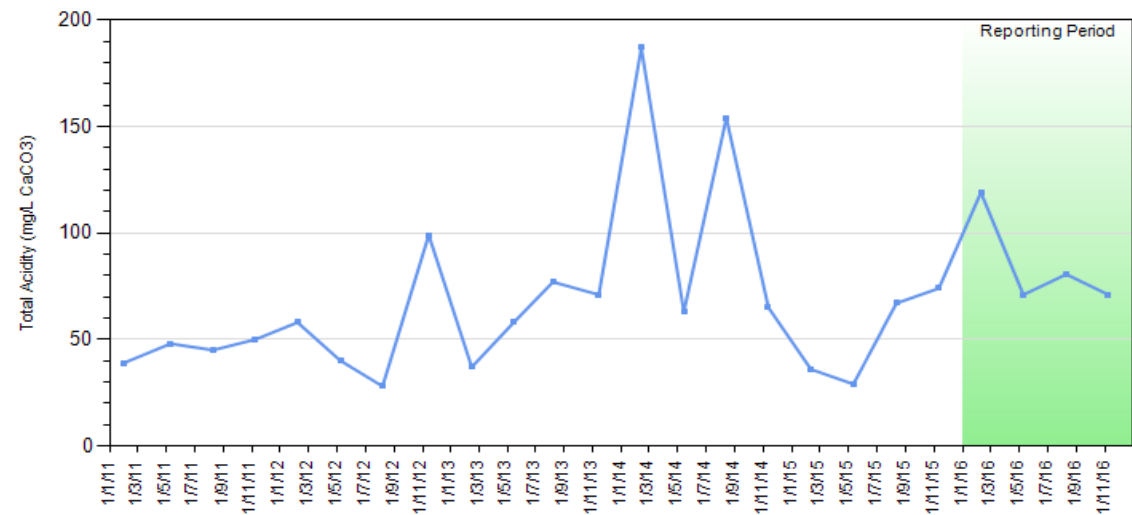
GW1 - Temperature (C)



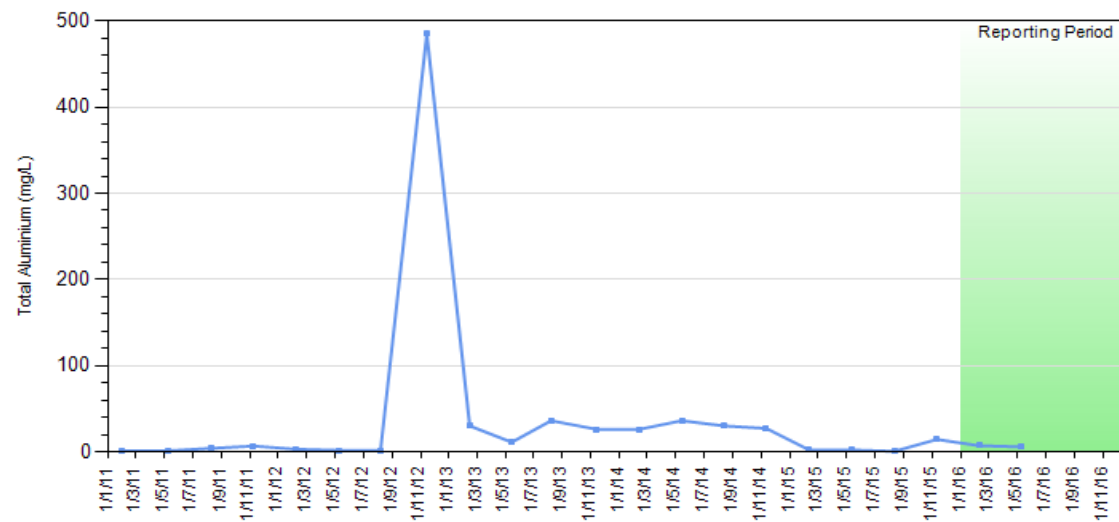
GW1 - TOC (mg/L)



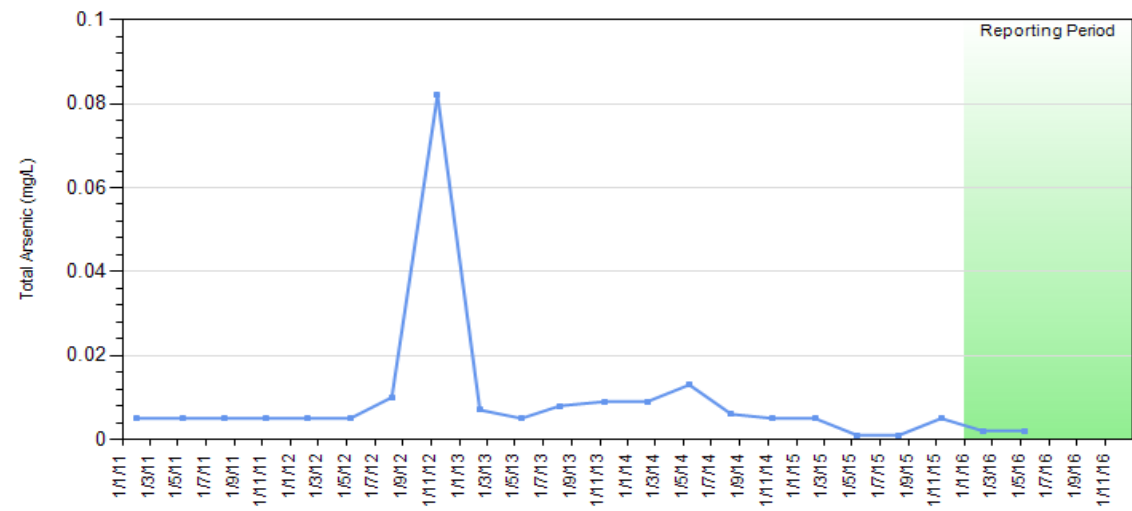
GW1 - Total Acidity (mg/L CaCO3)



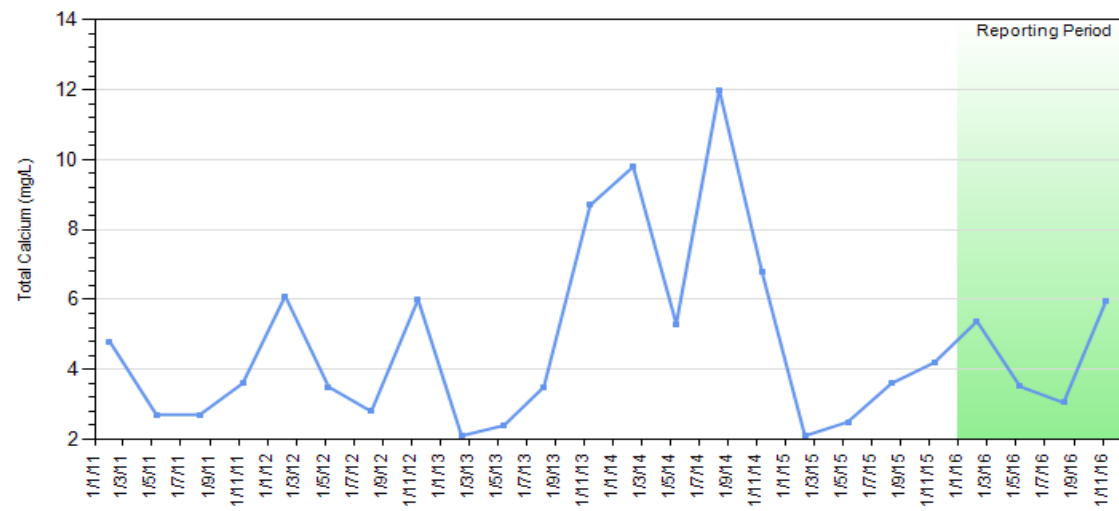
GW1 - Total Aluminium (mg/L)

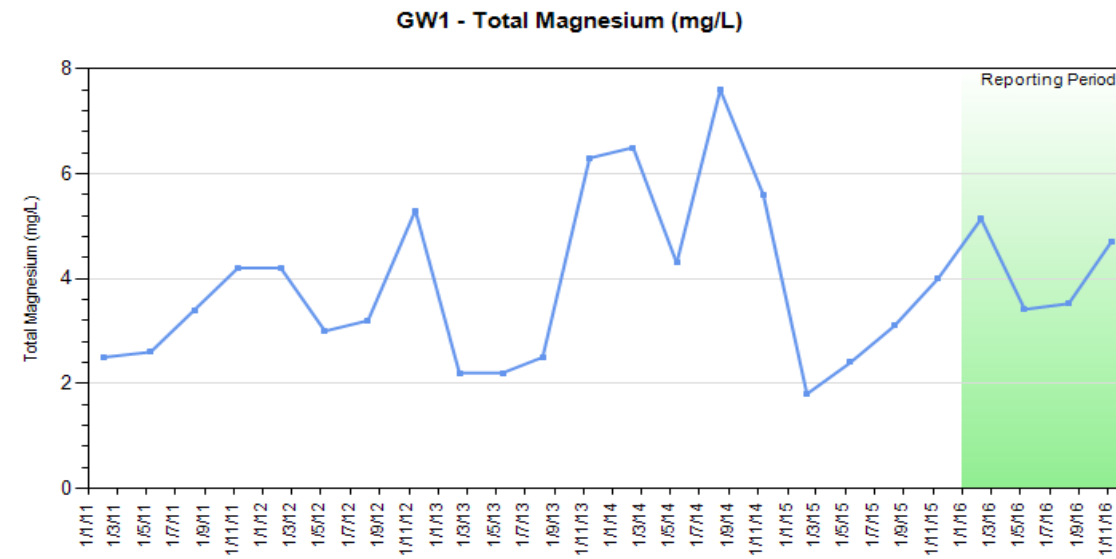
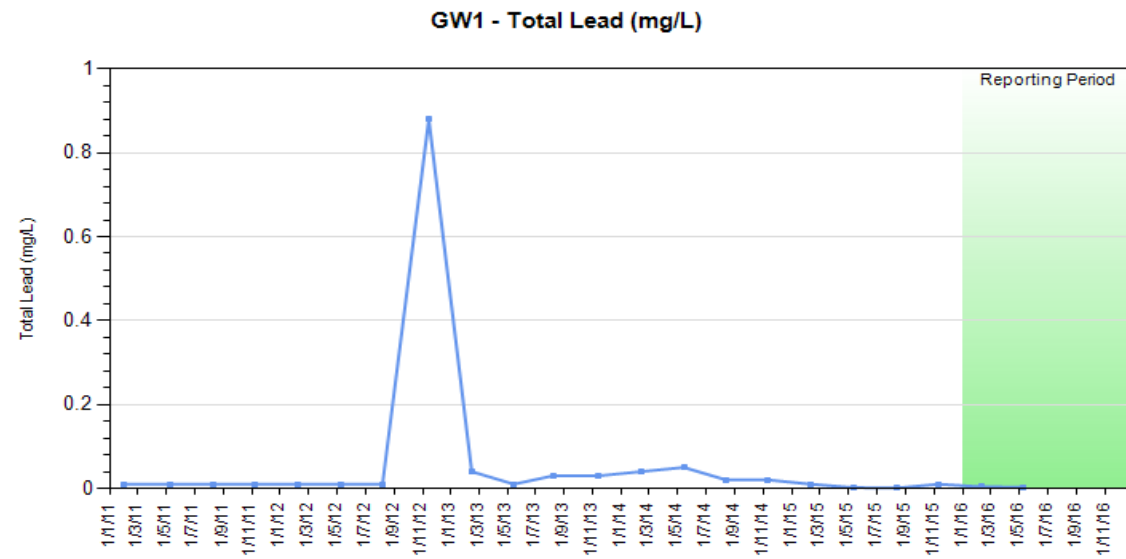
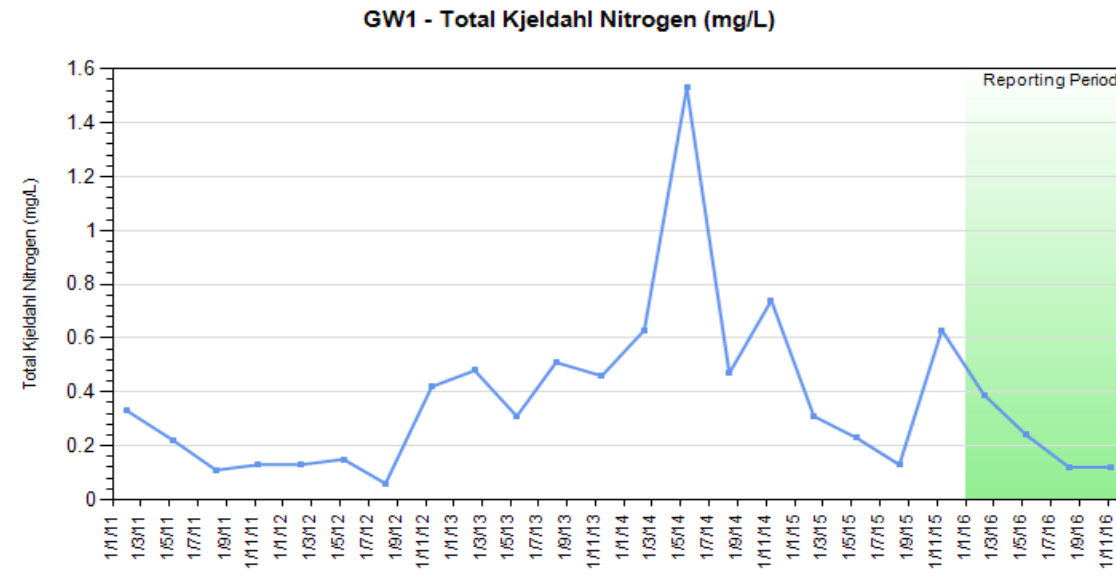
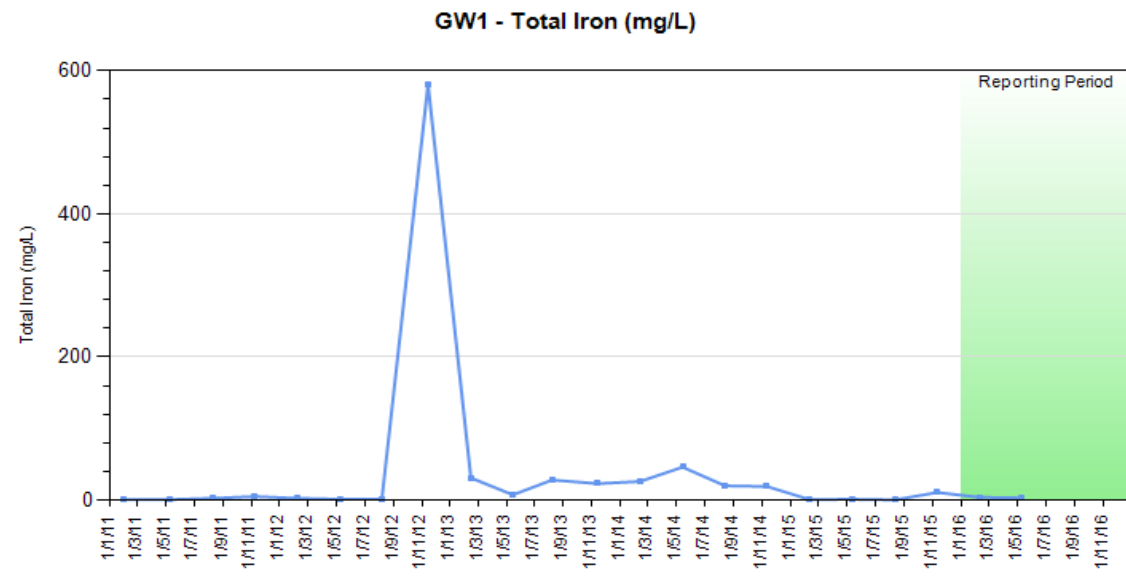
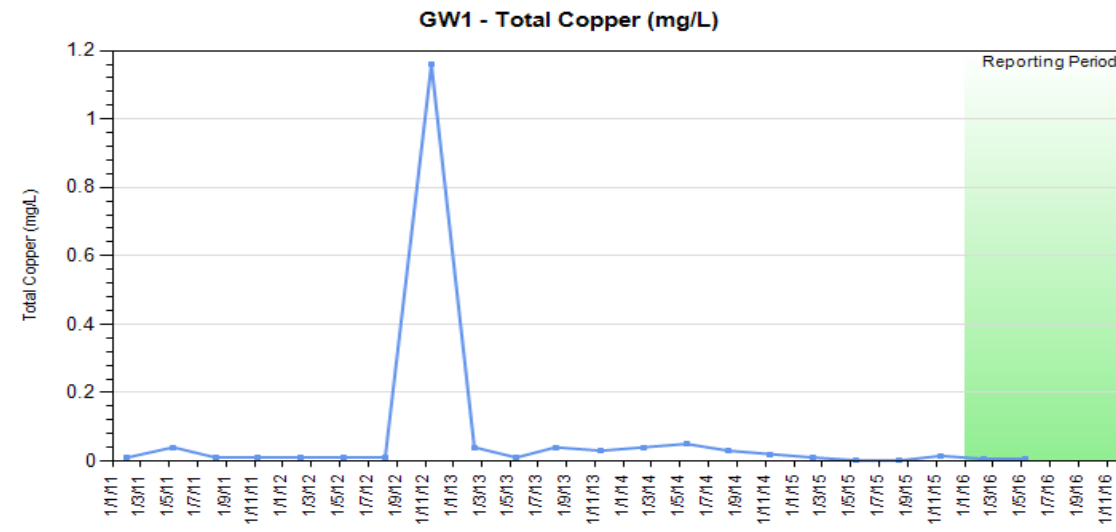
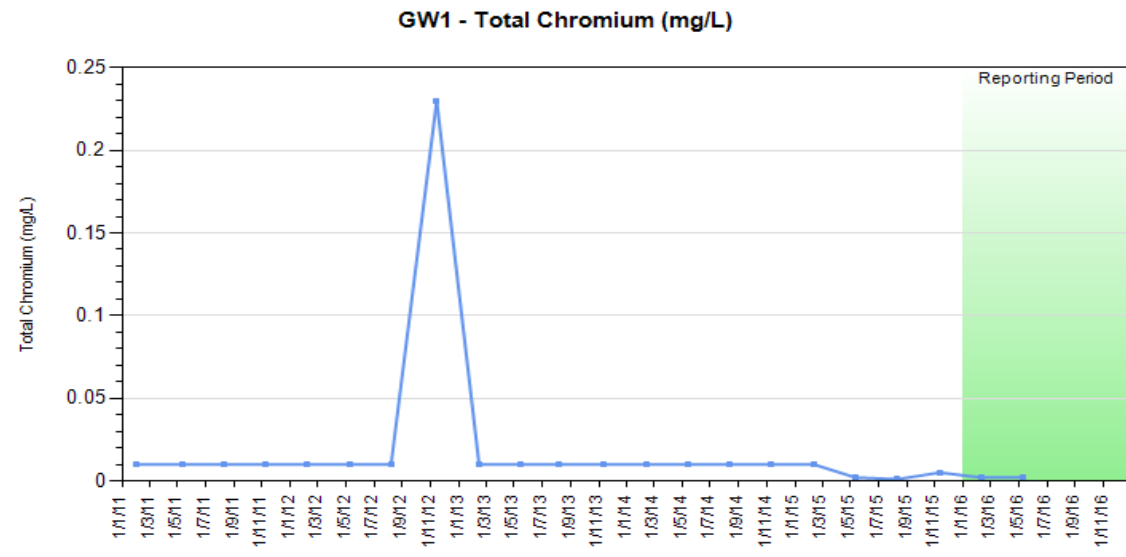


GW1 - Total Arsenic (mg/L)

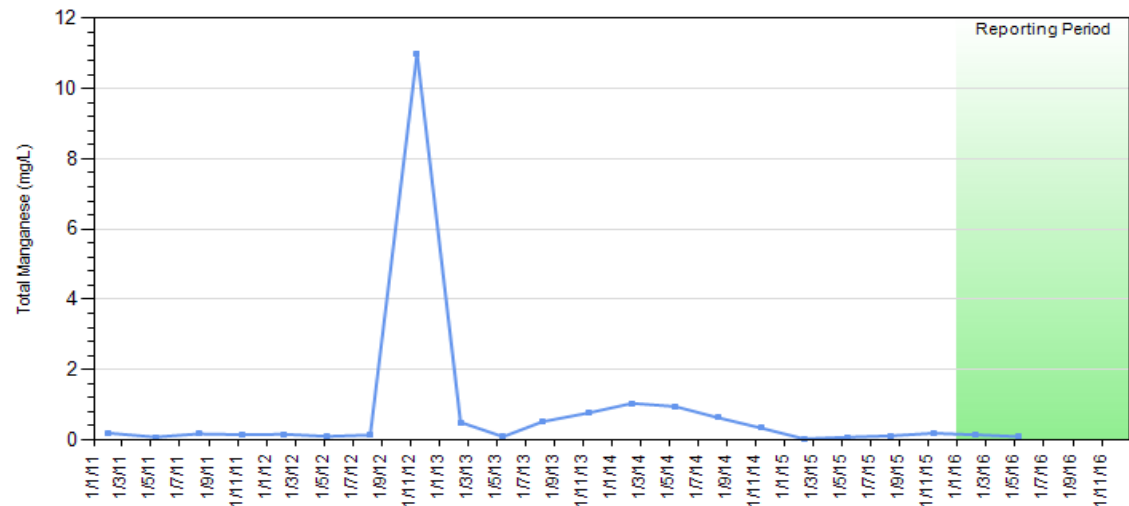


GW1 - Total Calcium (mg/L)

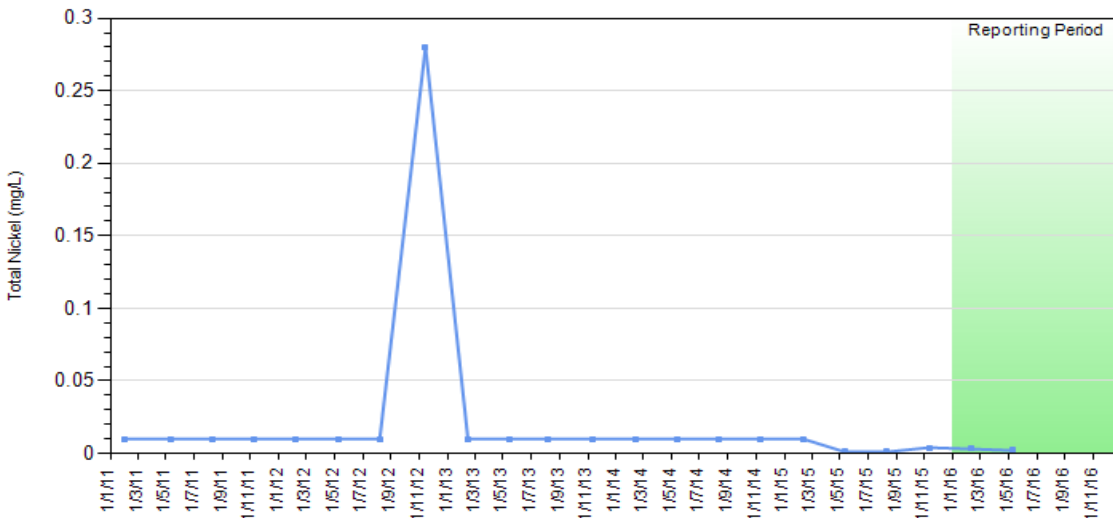




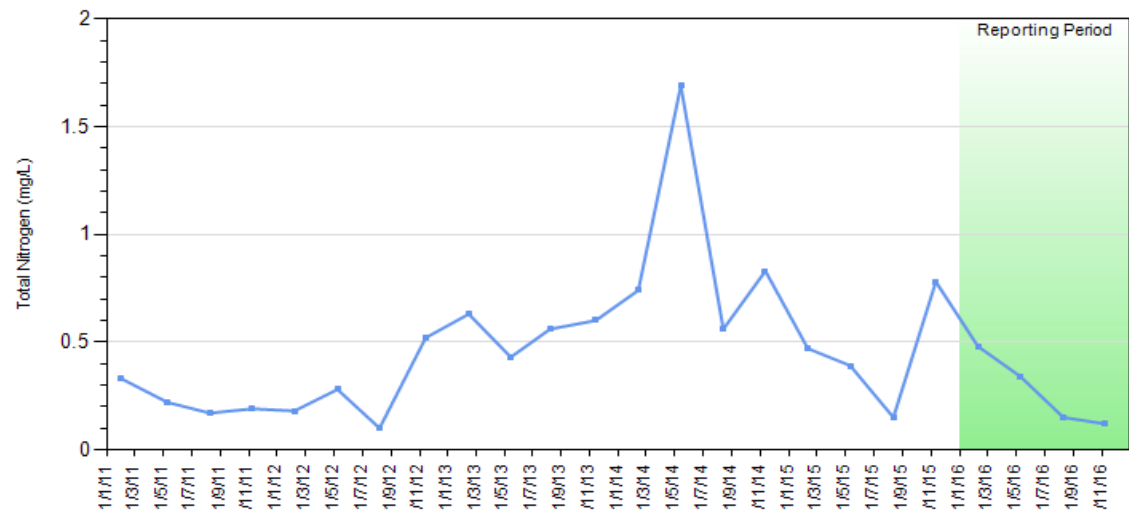
GW1 - Total Manganese (mg/L)



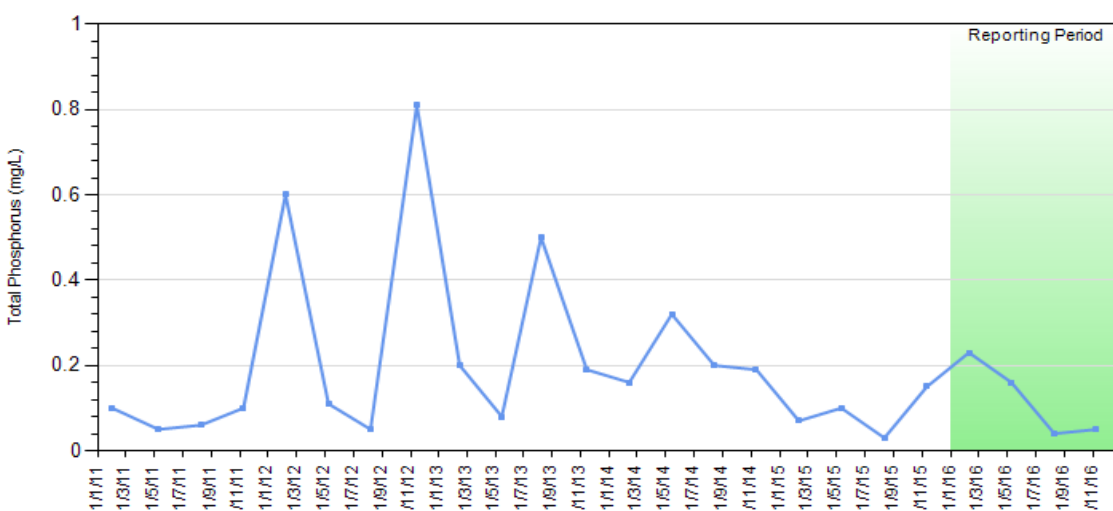
GW1 - Total Nickel (mg/L)



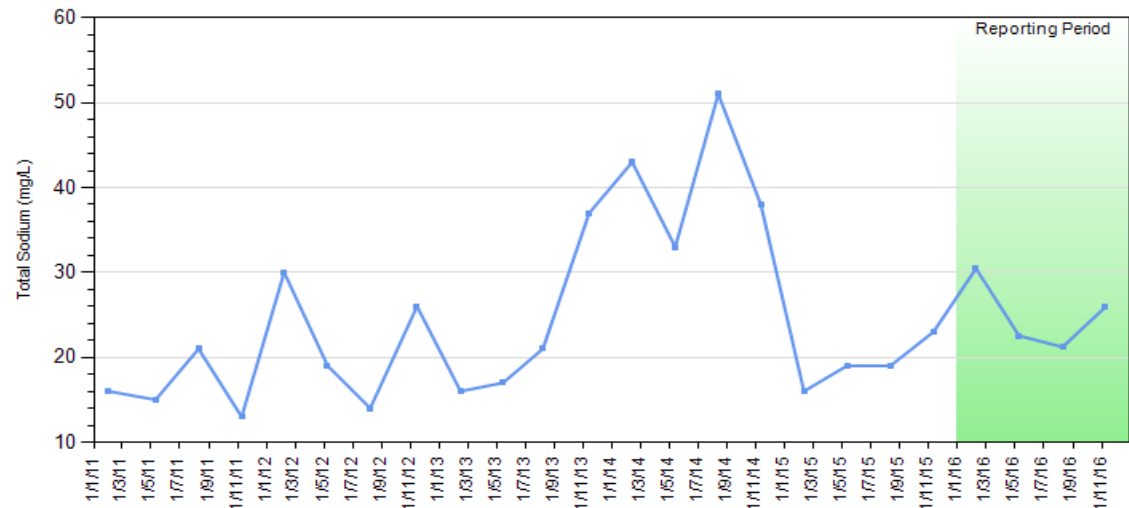
GW1 - Total Nitrogen (mg/L)



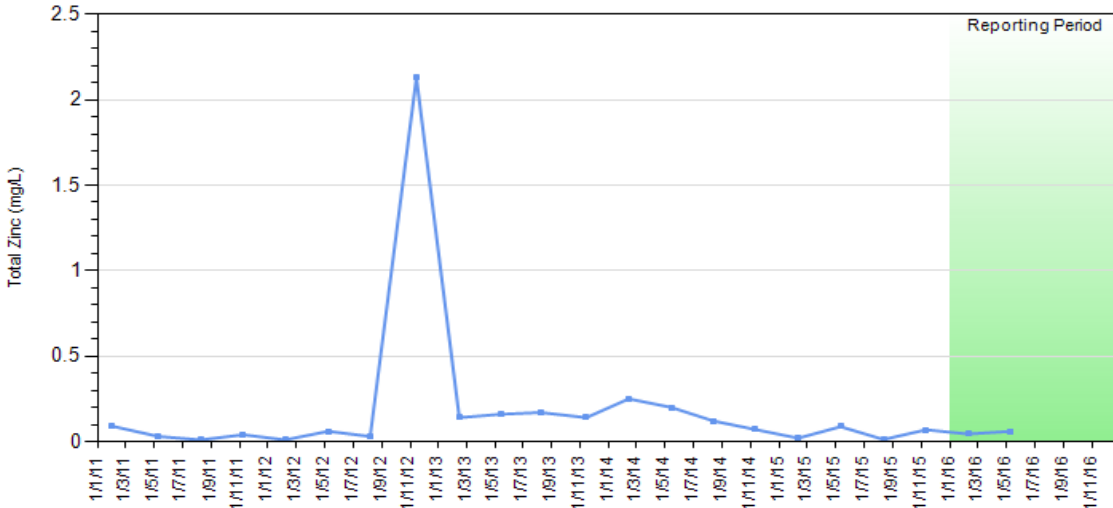
GW1 - Total Phosphorus (mg/L)



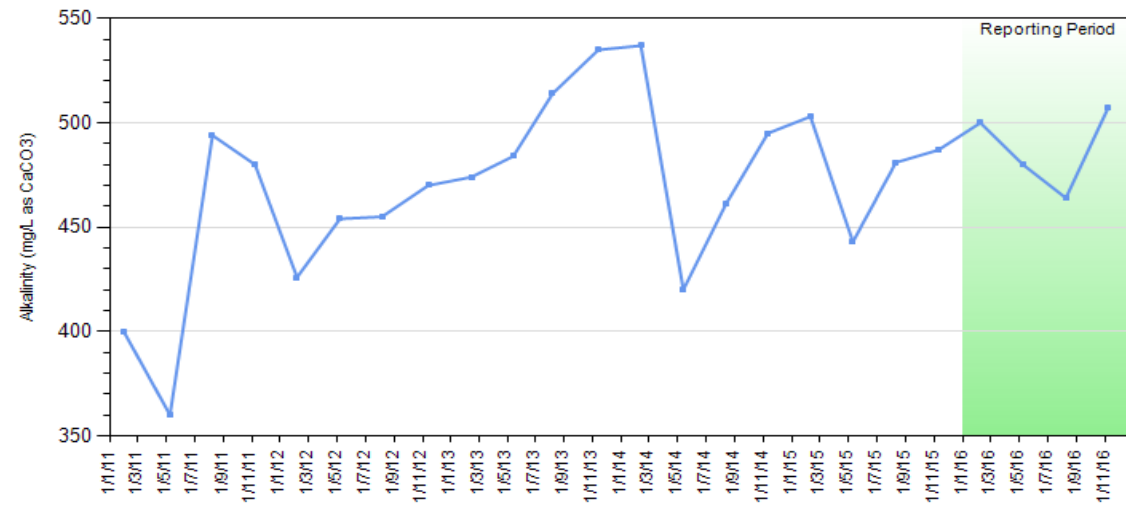
GW1 - Total Sodium (mg/L)



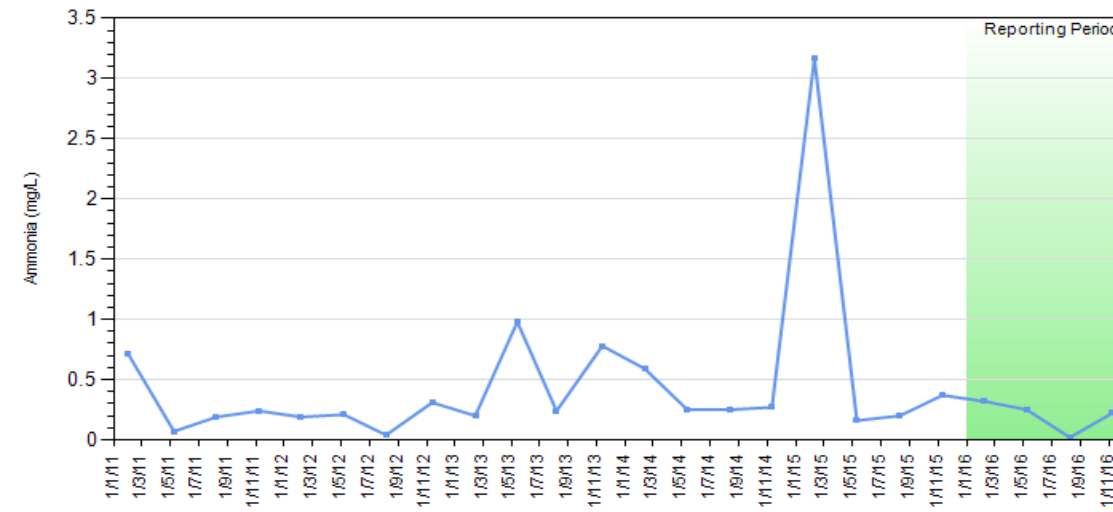
GW1 - Total Zinc (mg/L)



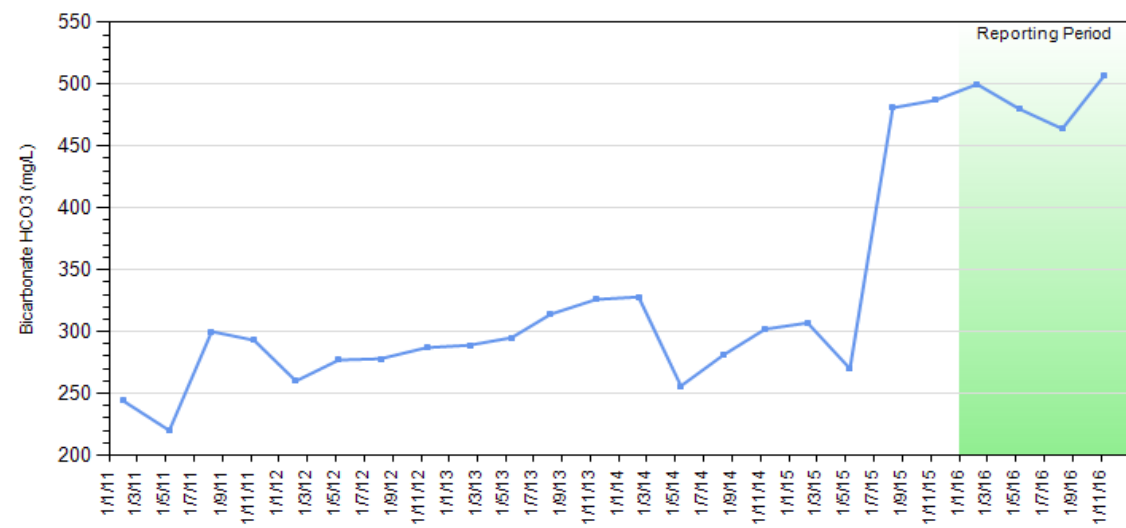
GW2 - Alkalinity (mg/L as CaCO3)



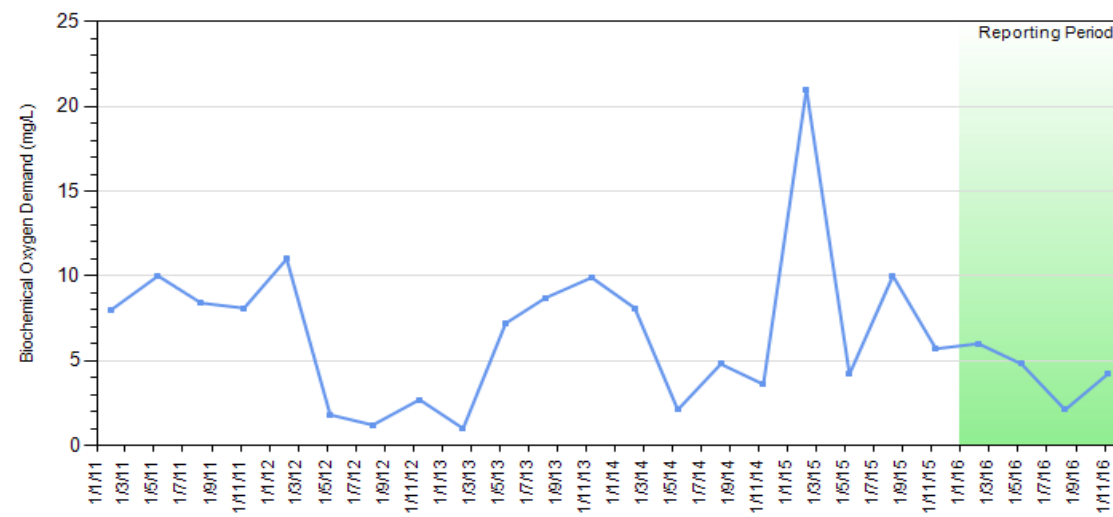
GW2 - Ammonia (mg/L)



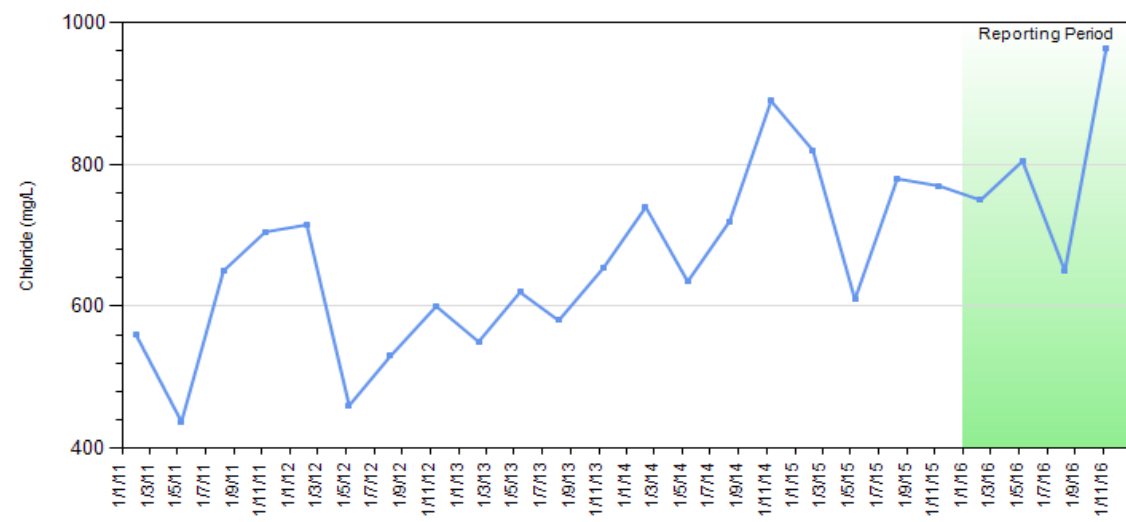
GW2 - Bicarbonate HCO3 (mg/L)



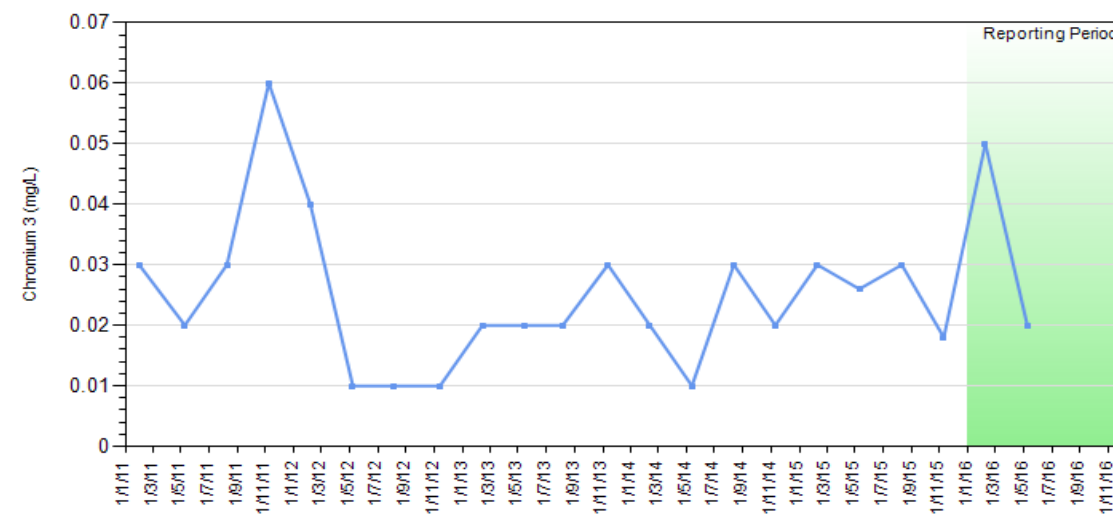
GW2 - Biochemical Oxygen Demand (mg/L)



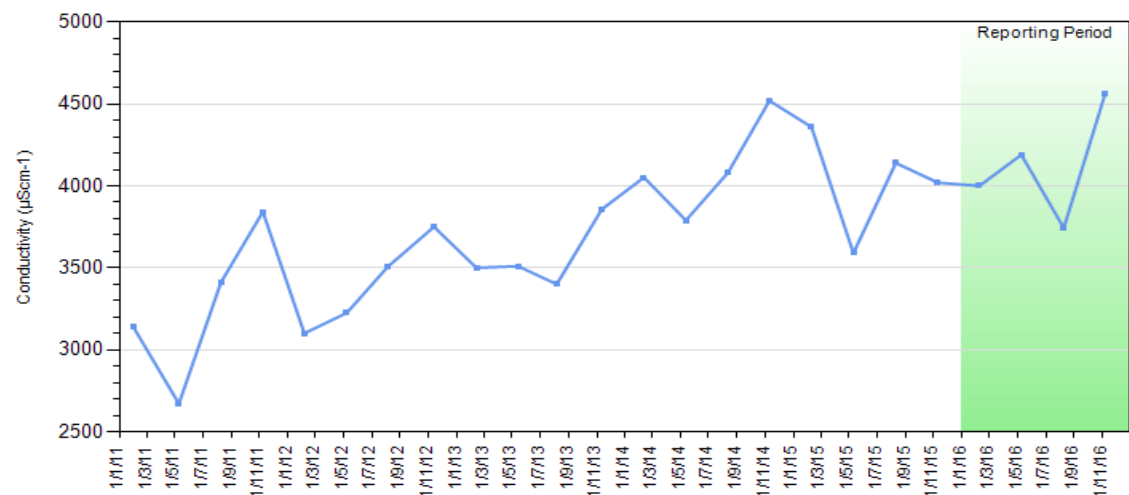
GW2 - Chloride (mg/L)



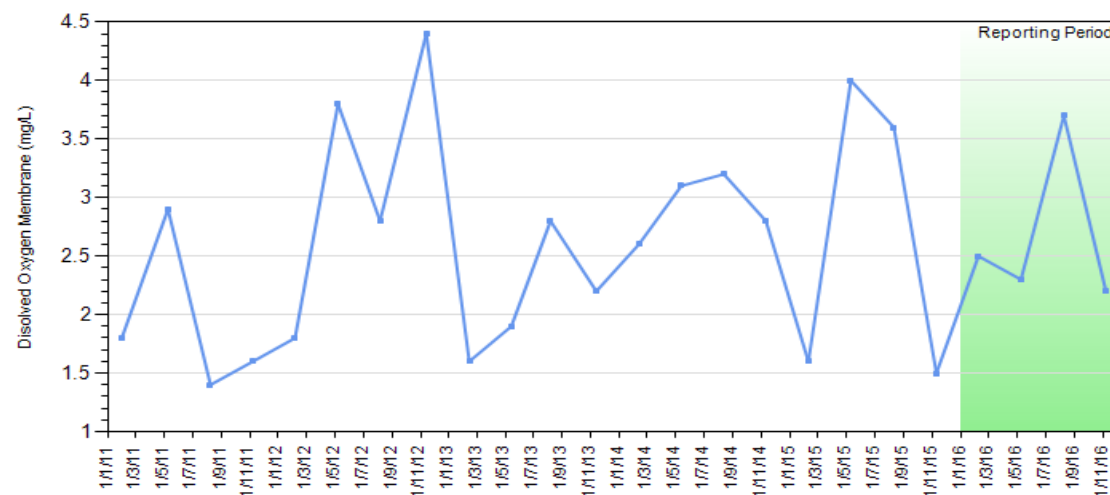
GW2 - Chromium 3 (mg/L)



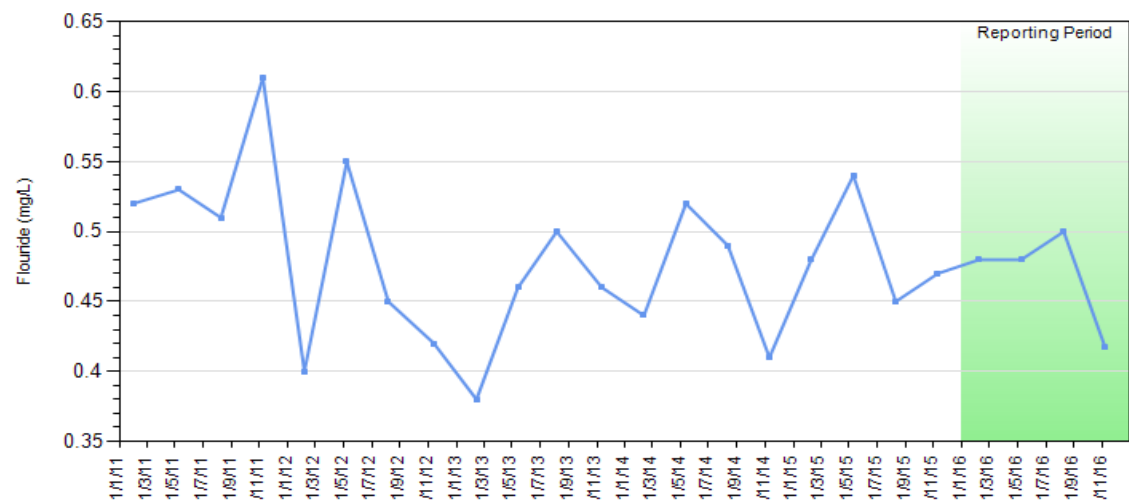
GW2 - Conductivity (μScm^{-1})



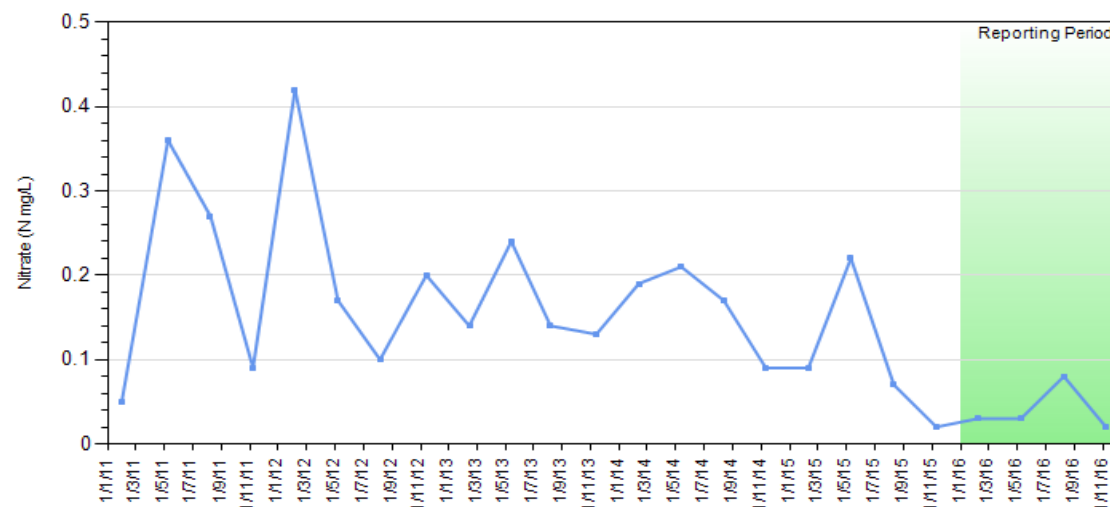
GW2 - Dissolved Oxygen Membrane (mg/L)



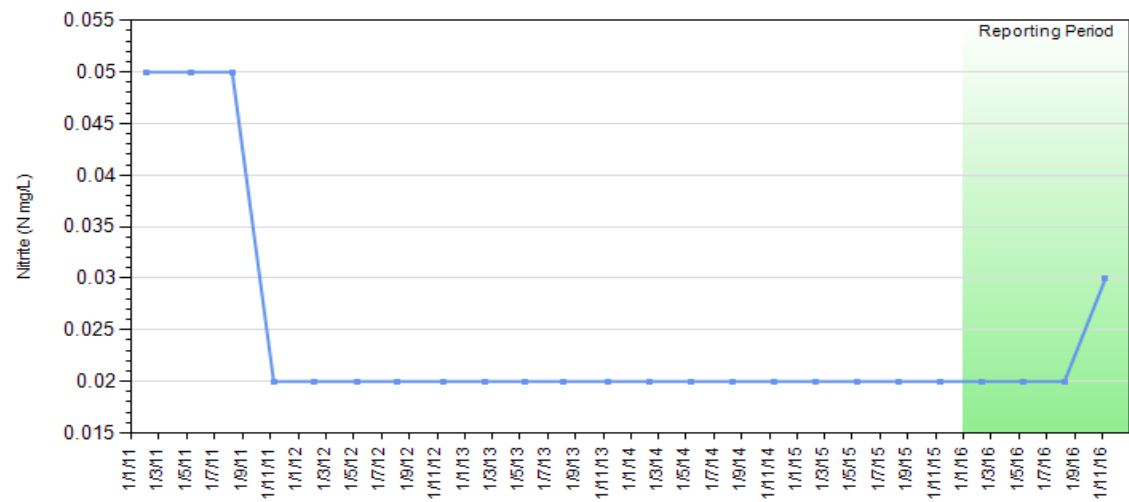
GW2 - Flouride (mg/L)



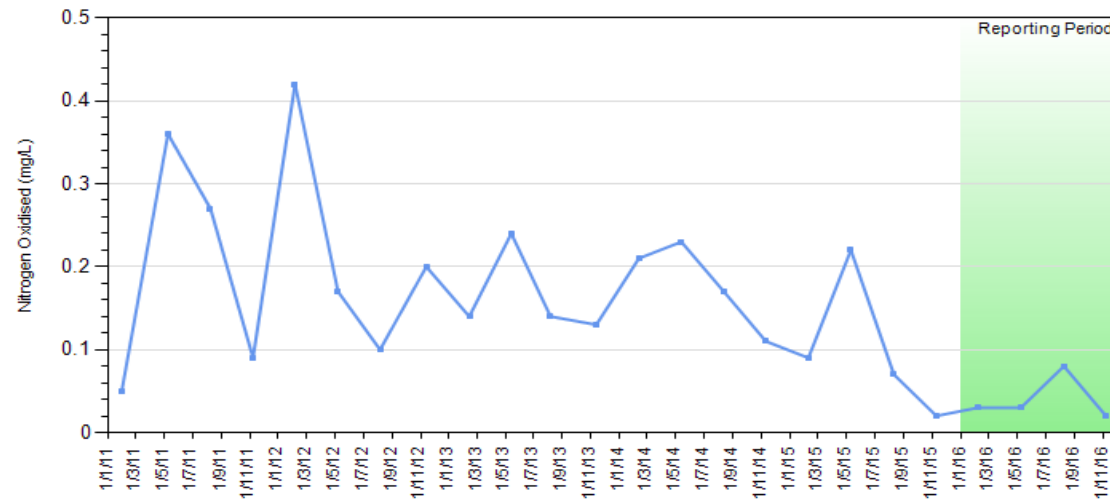
GW2 - Nitrate (N mg/L)

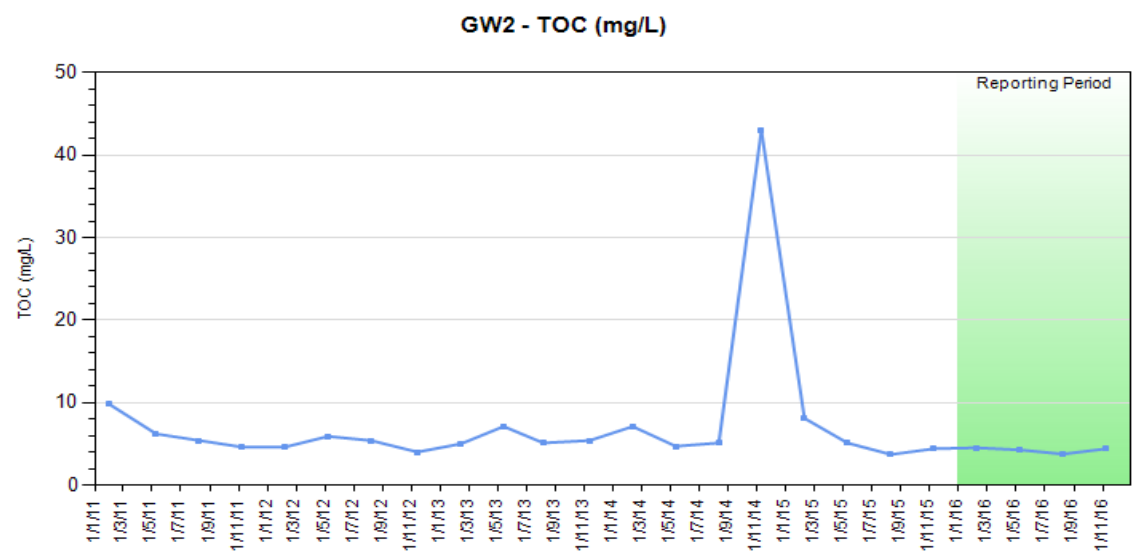
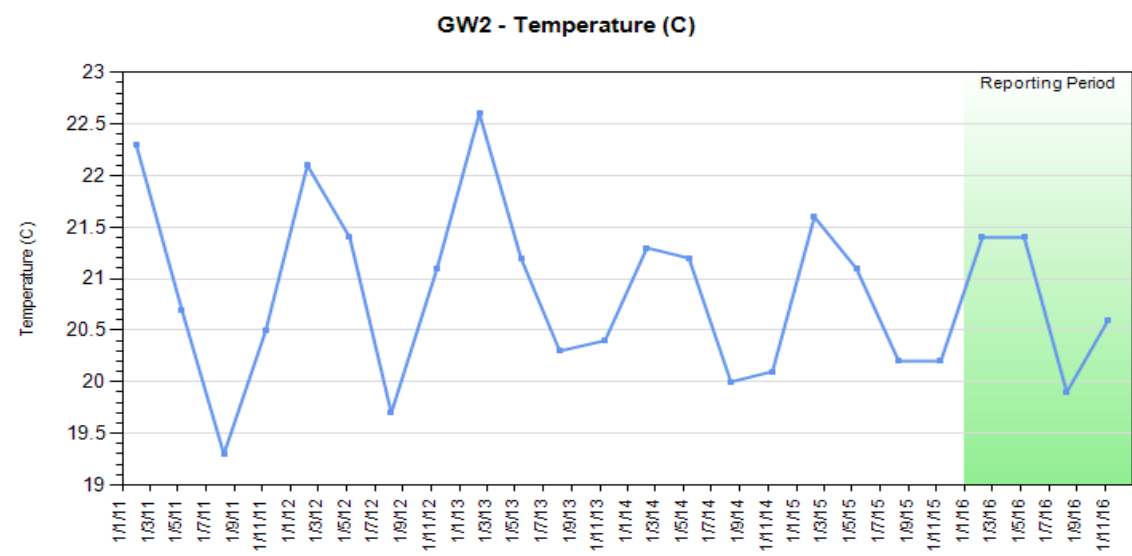
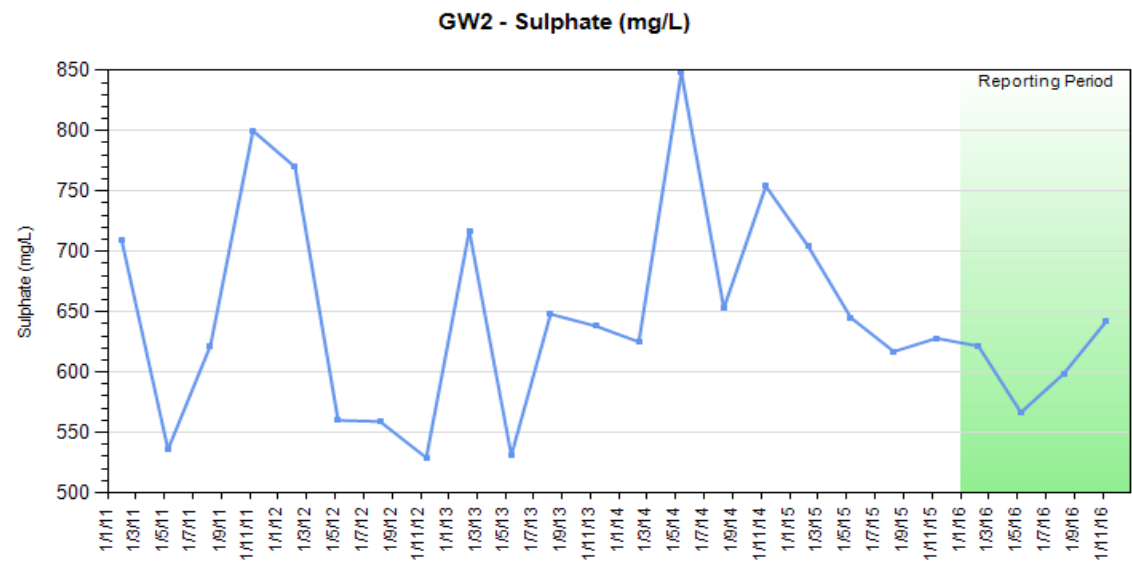
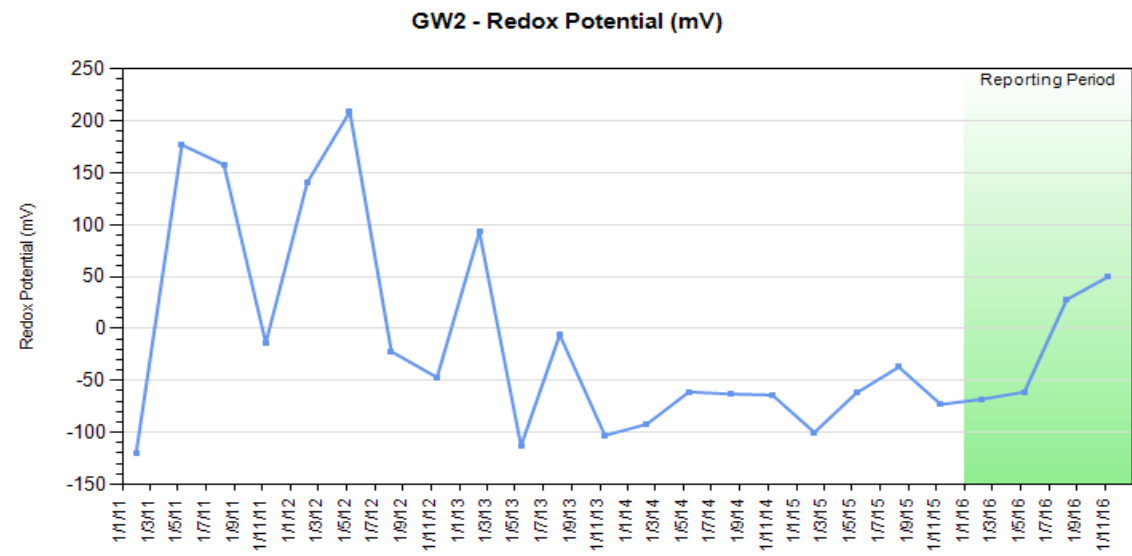
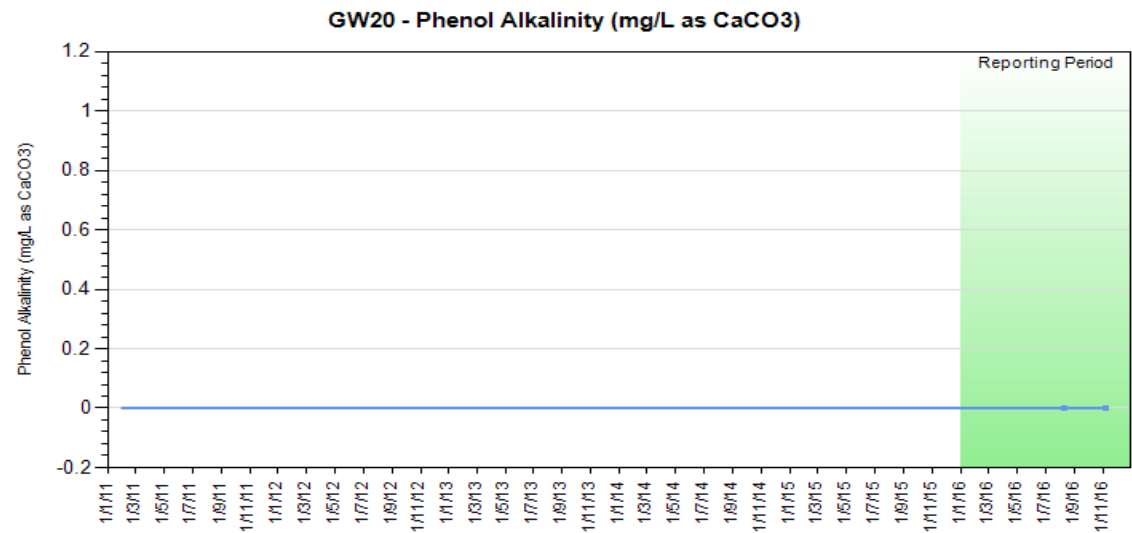
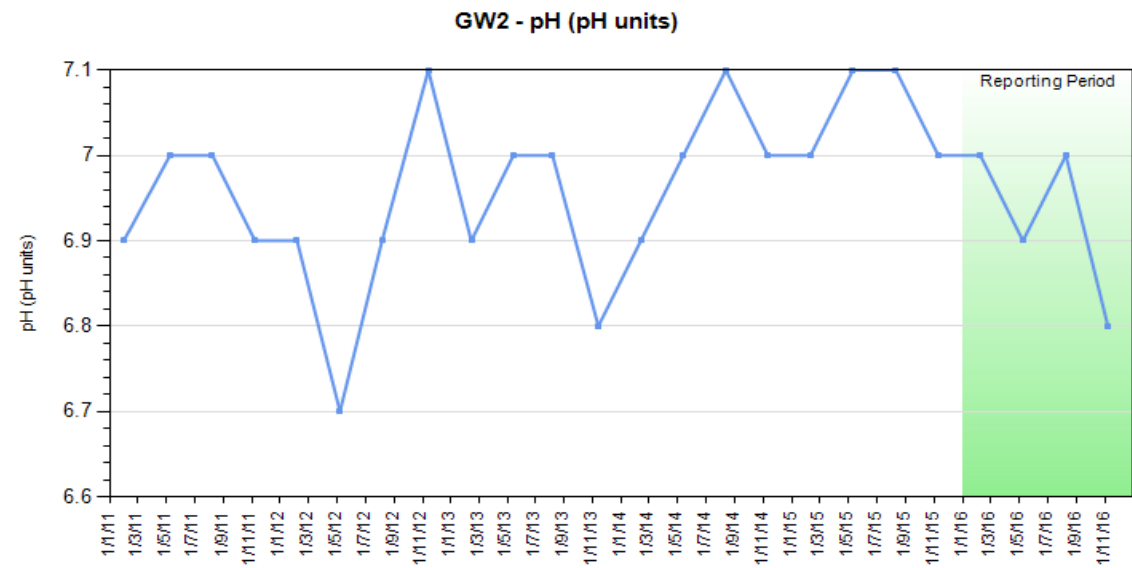


GW2 - Nitrite (N mg/L)

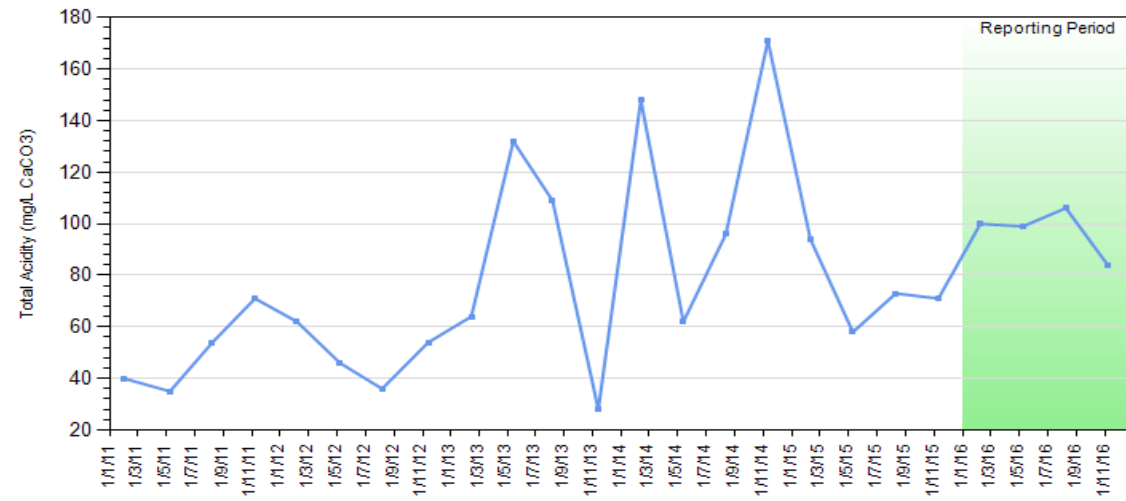


GW2 - Nitrogen Oxidised (mg/L)

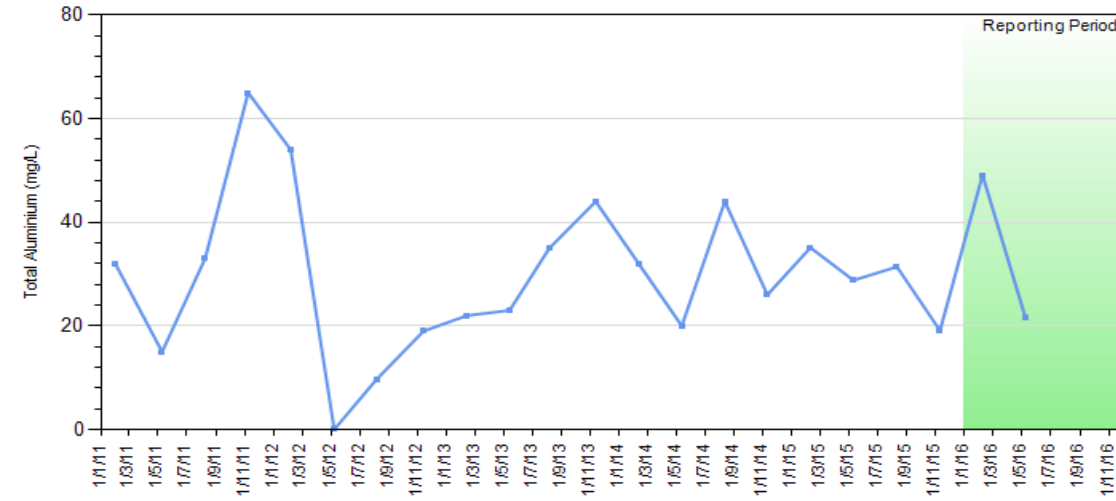




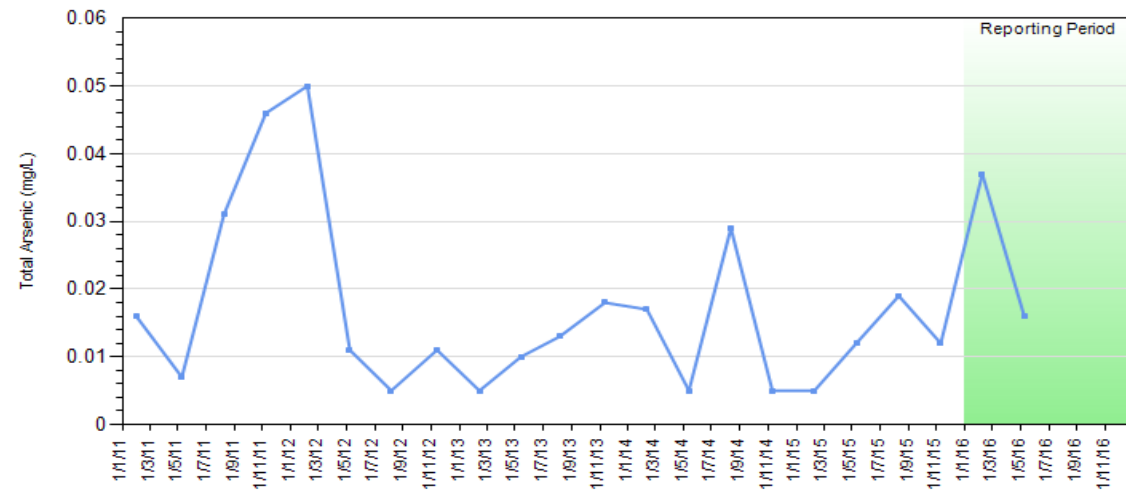
GW2 - Total Acidity (mg/L CaCO3)



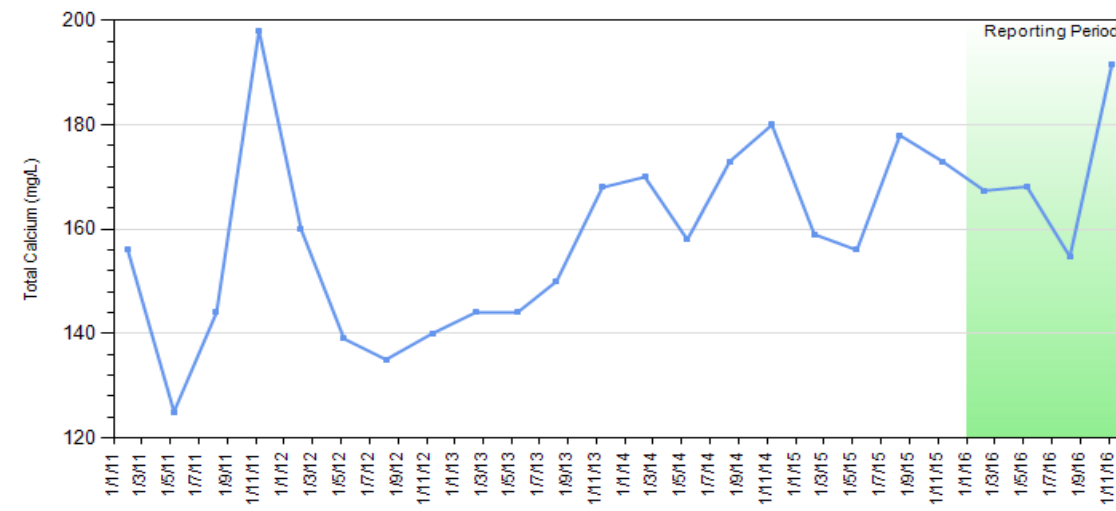
GW2 - Total Aluminium (mg/L)



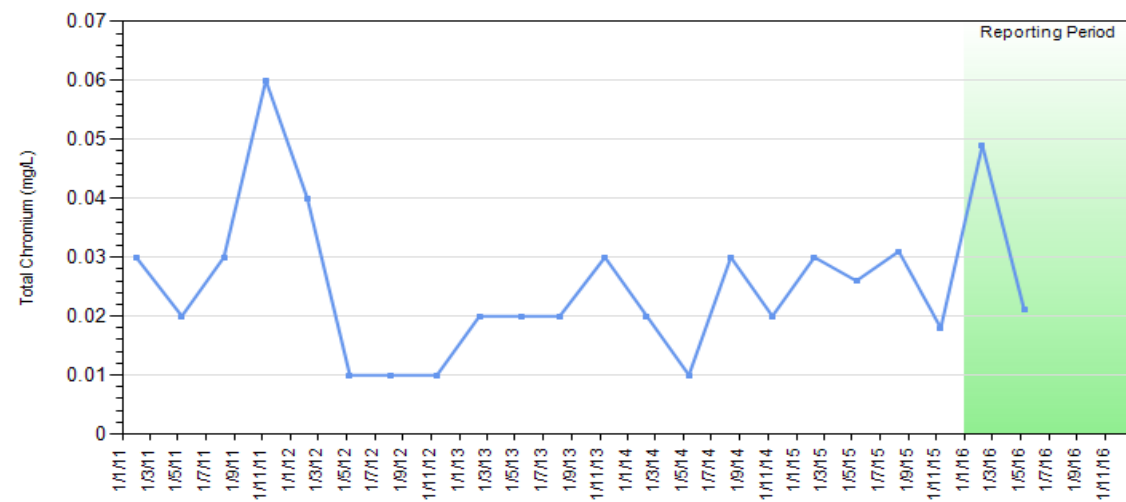
GW2 - Total Arsenic (mg/L)



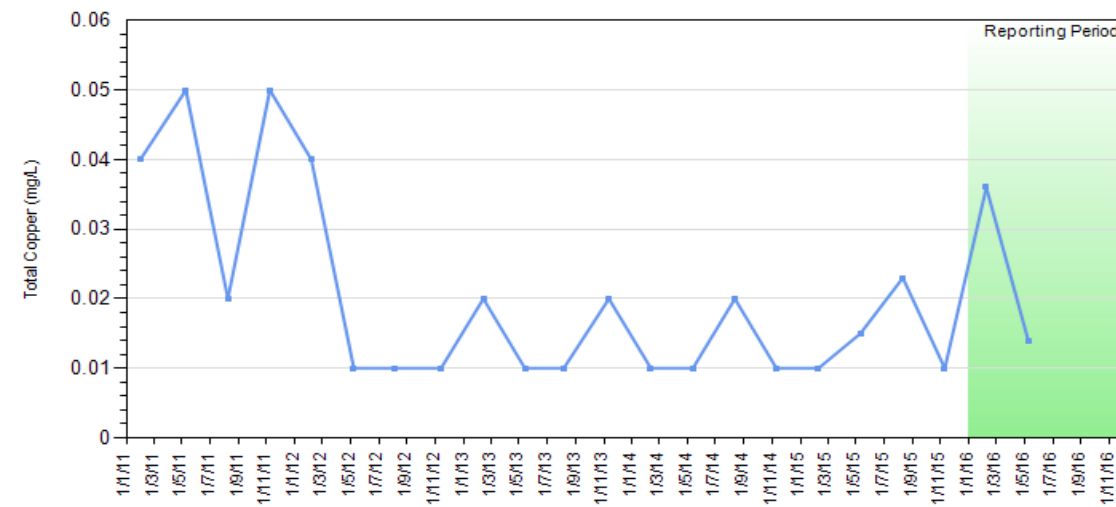
GW2 - Total Calcium (mg/L)



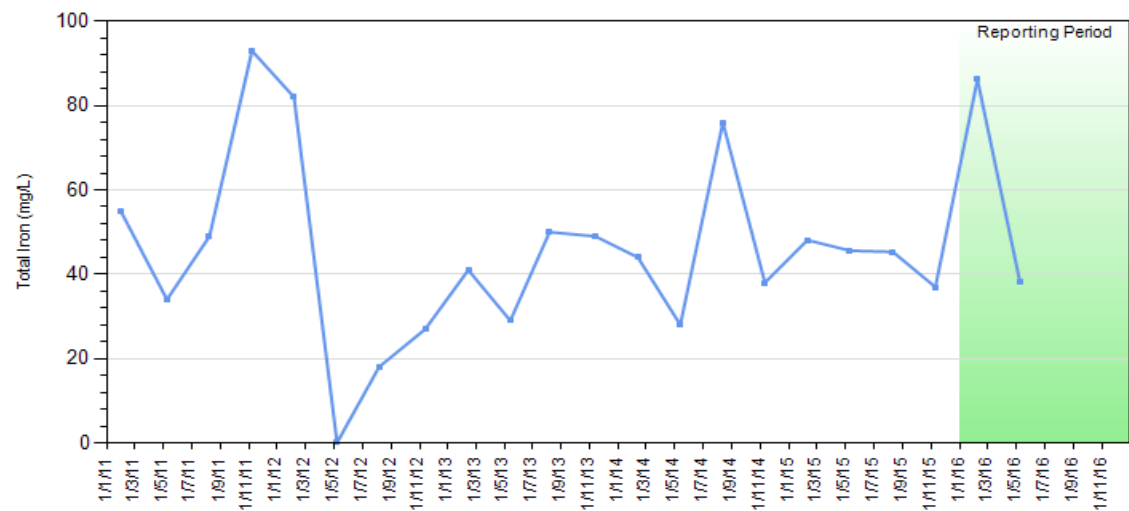
GW2 - Total Chromium (mg/L)



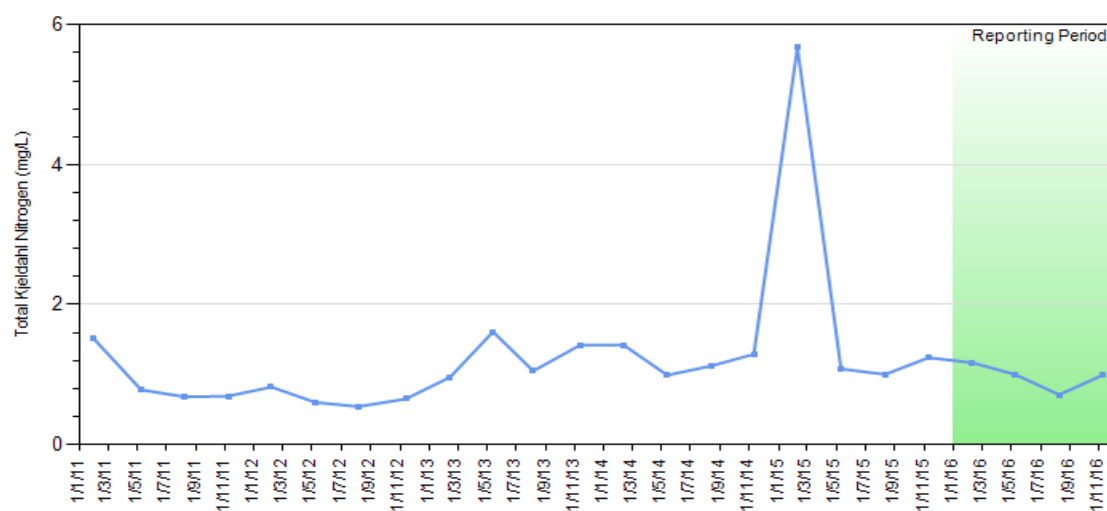
GW2 - Total Copper (mg/L)



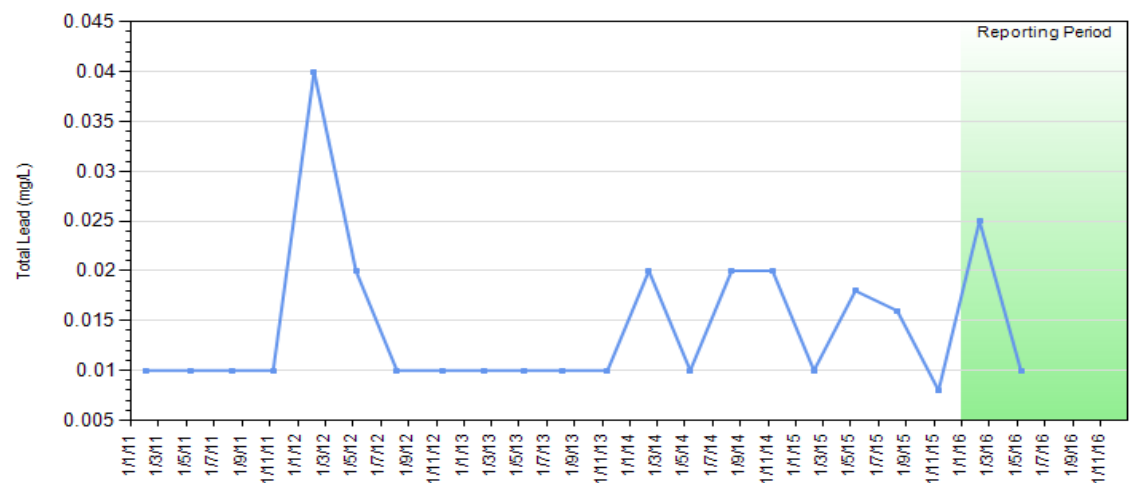
GW2 - Total Iron (mg/L)



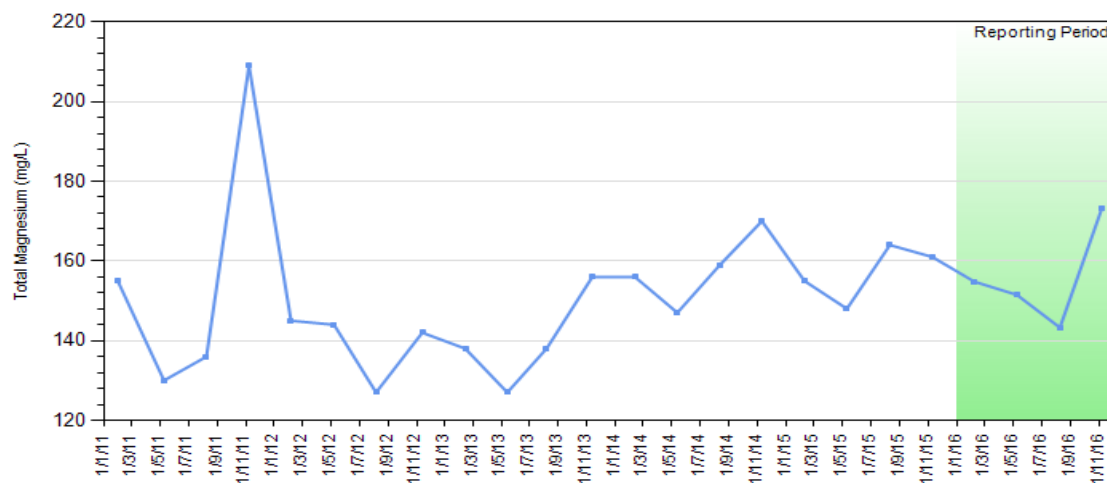
GW2 - Total Kjeldahl Nitrogen (mg/L)



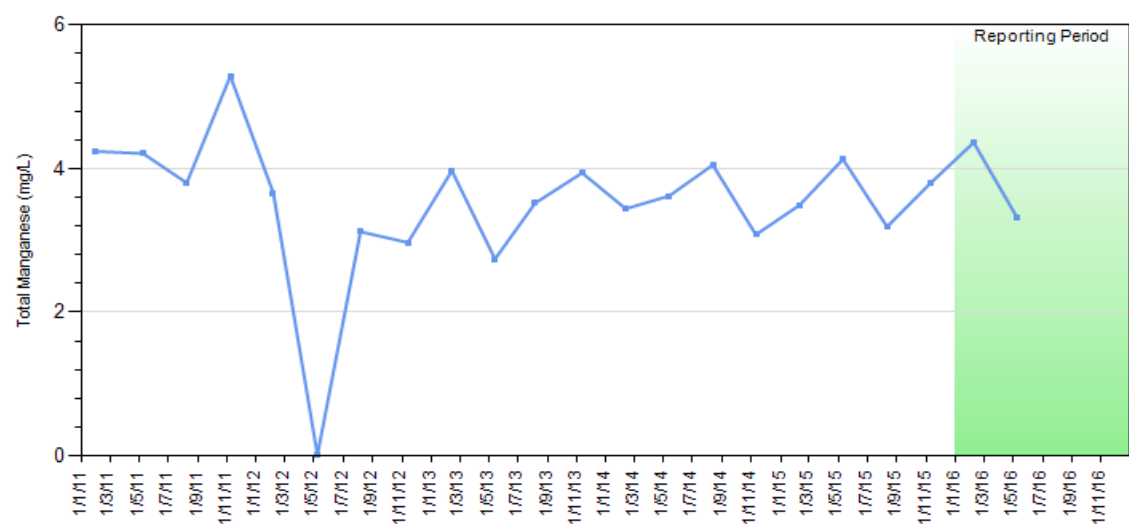
GW2 - Total Lead (mg/L)



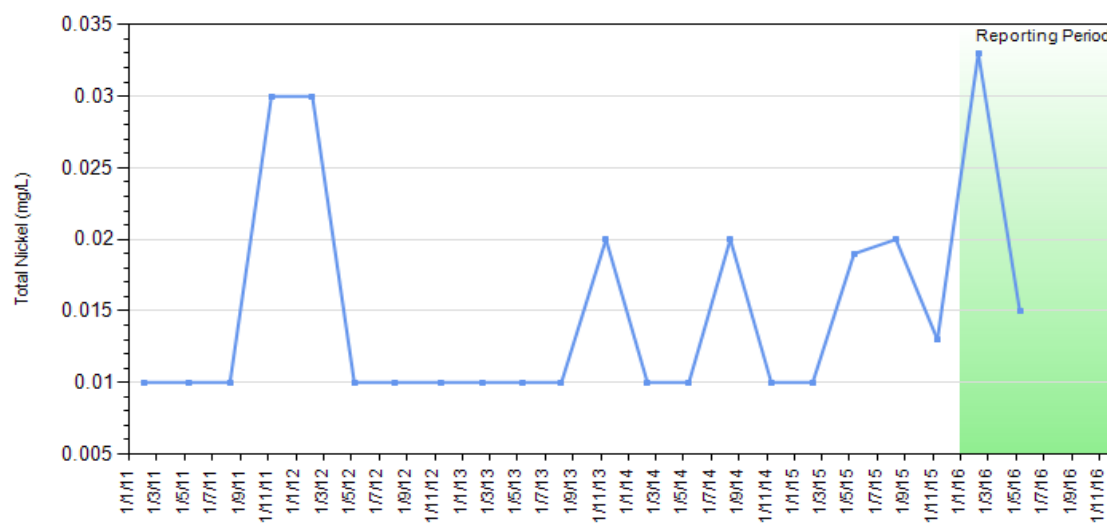
GW2 - Total Magnesium (mg/L)



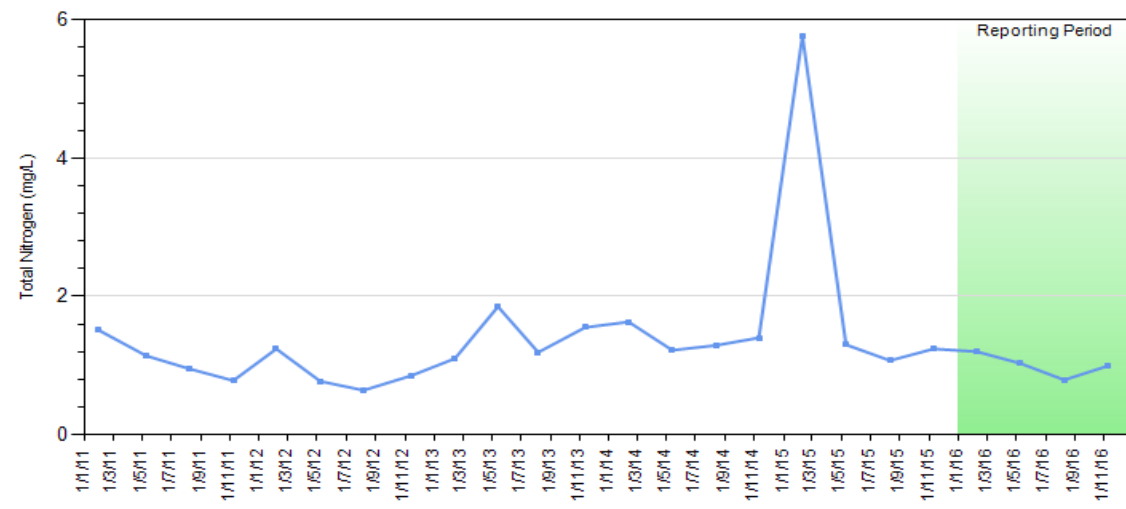
GW2 - Total Manganese (mg/L)



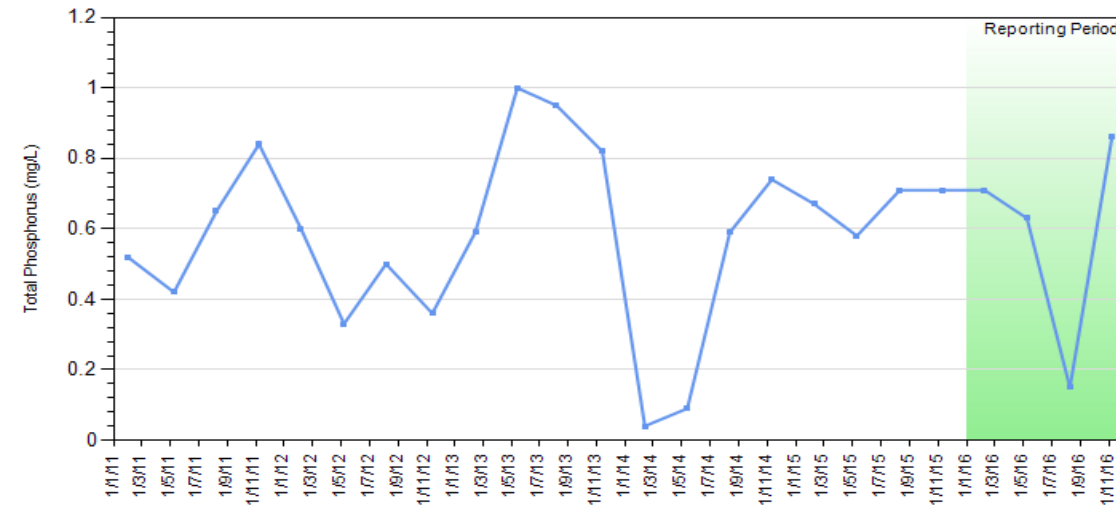
GW2 - Total Nickel (mg/L)



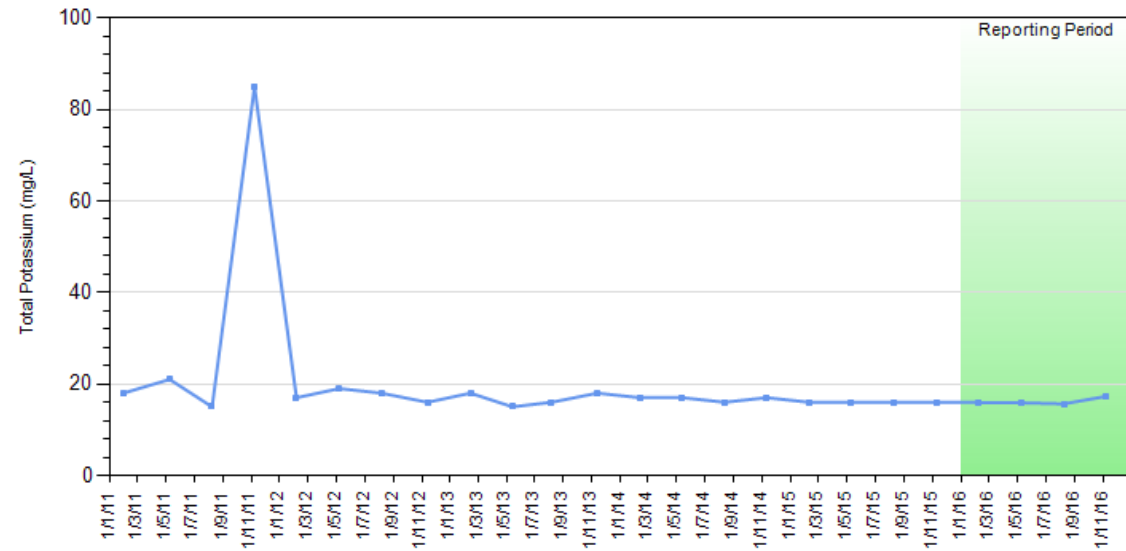
GW2 - Total Nitrogen (mg/L)



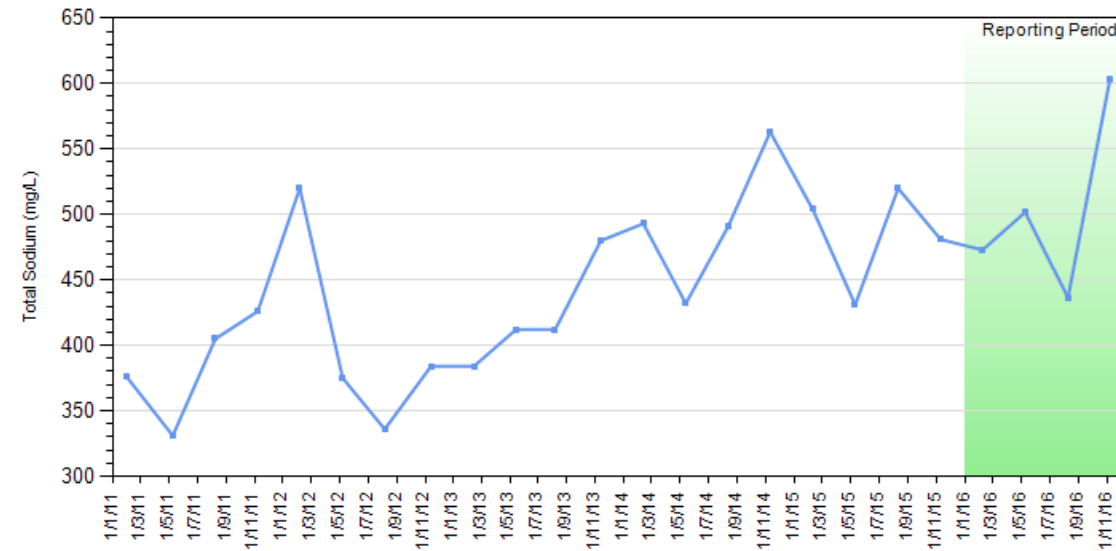
GW2 - Total Phosphorus (mg/L)



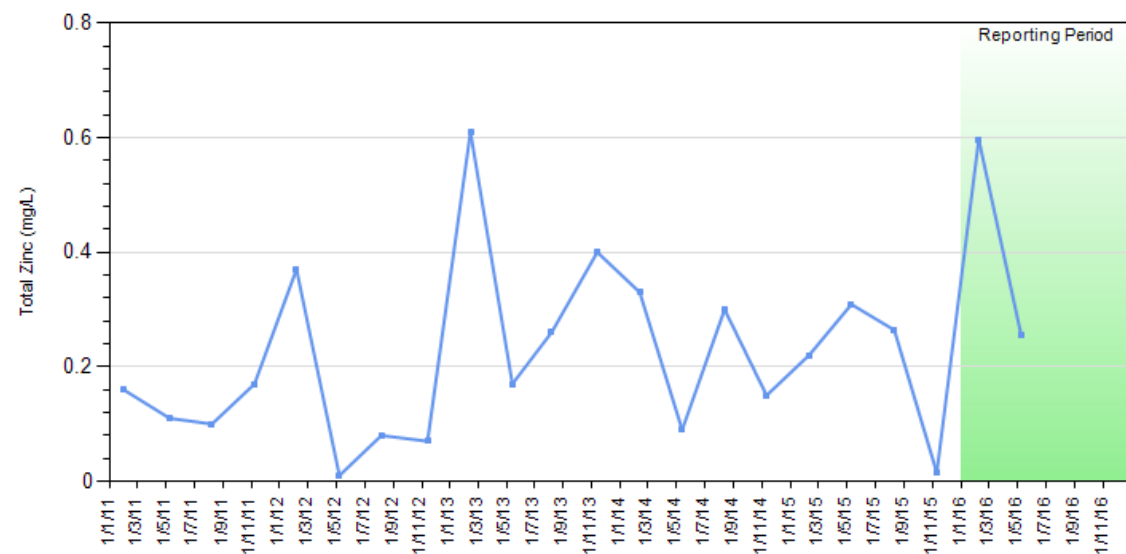
GW2 - Total Potassium (mg/L)

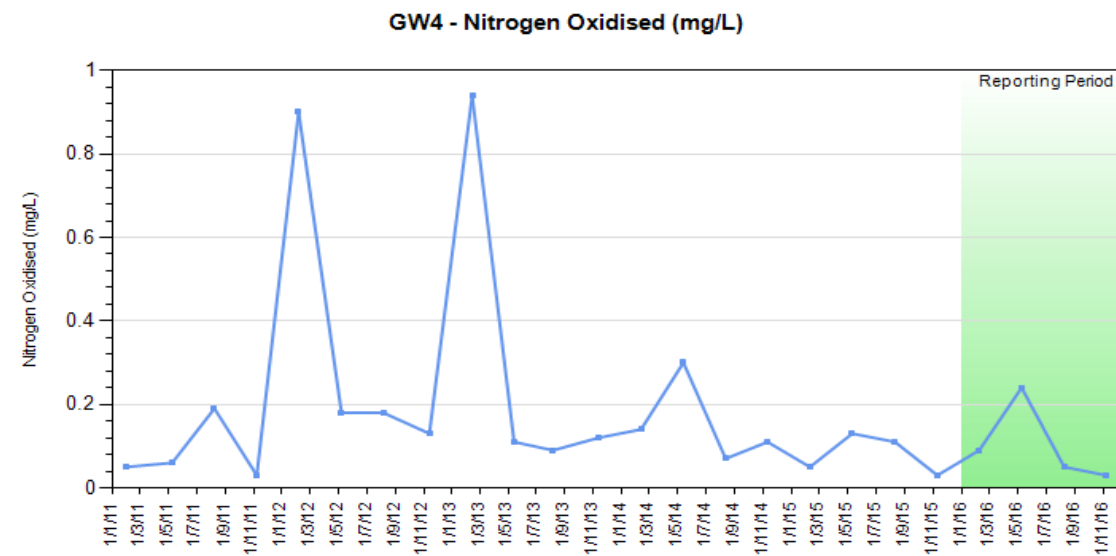
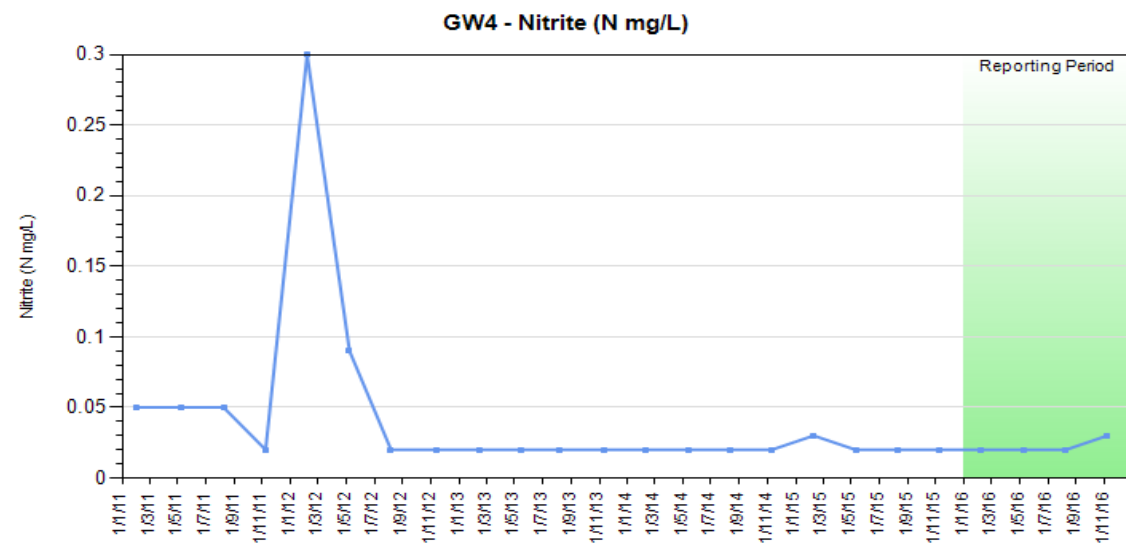
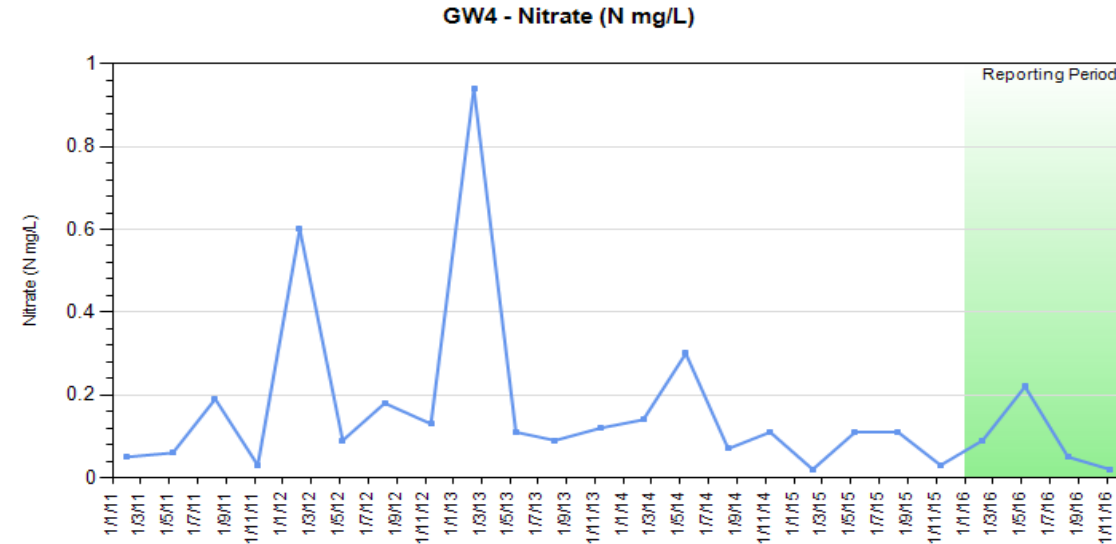
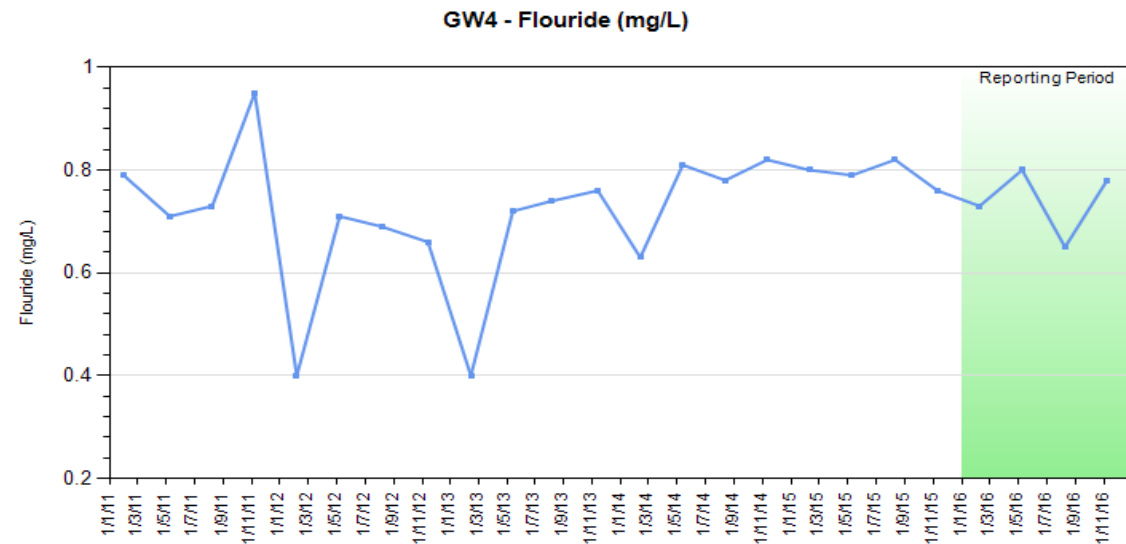
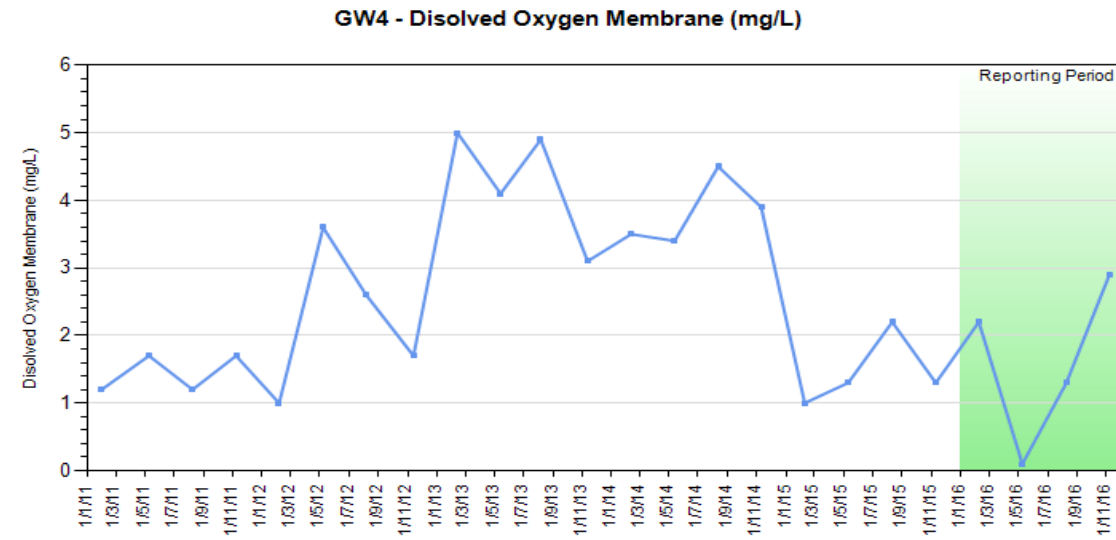
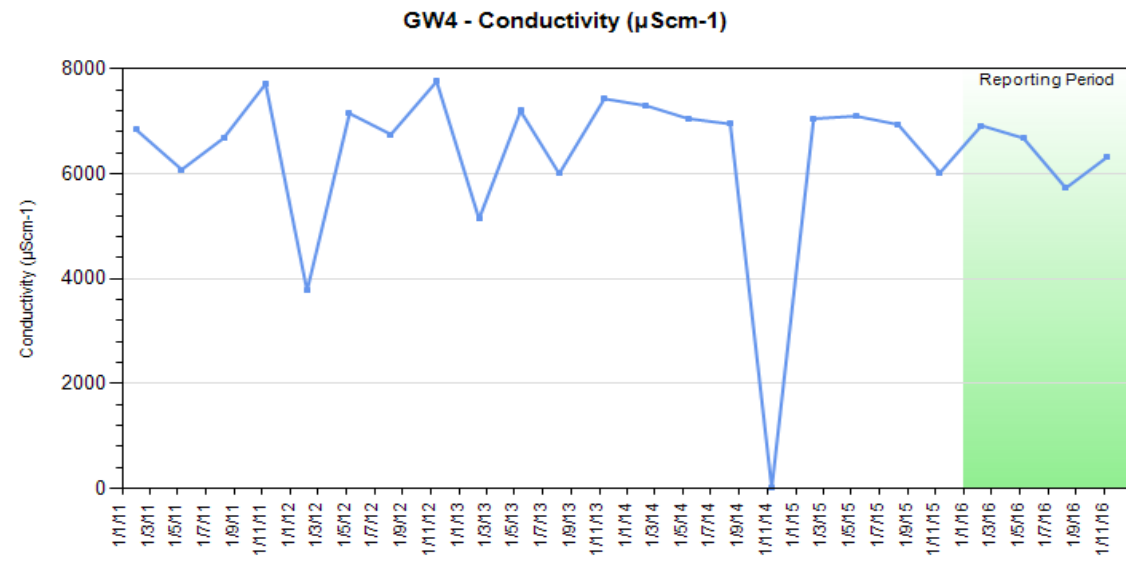


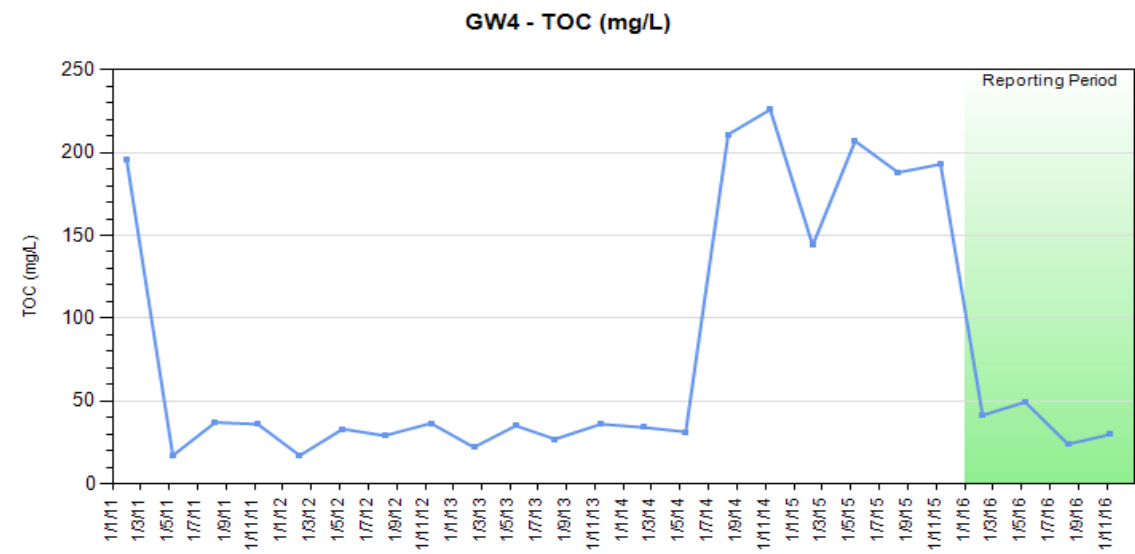
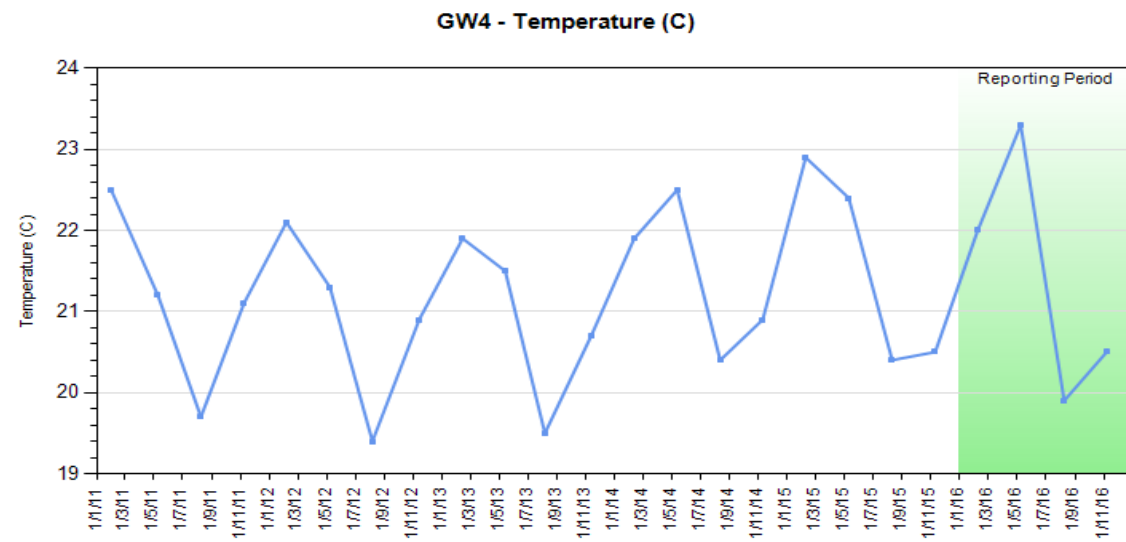
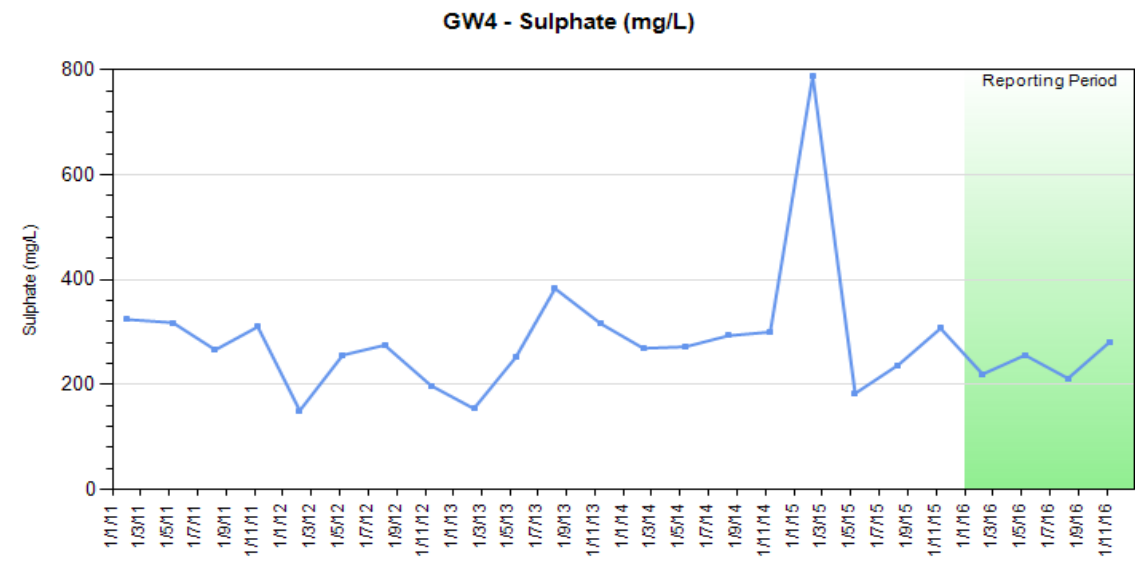
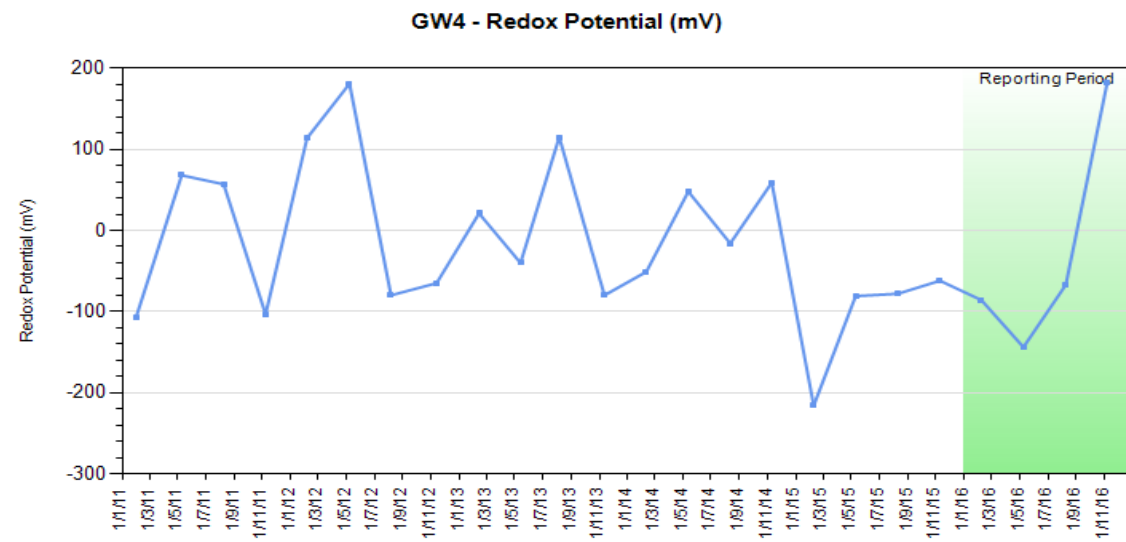
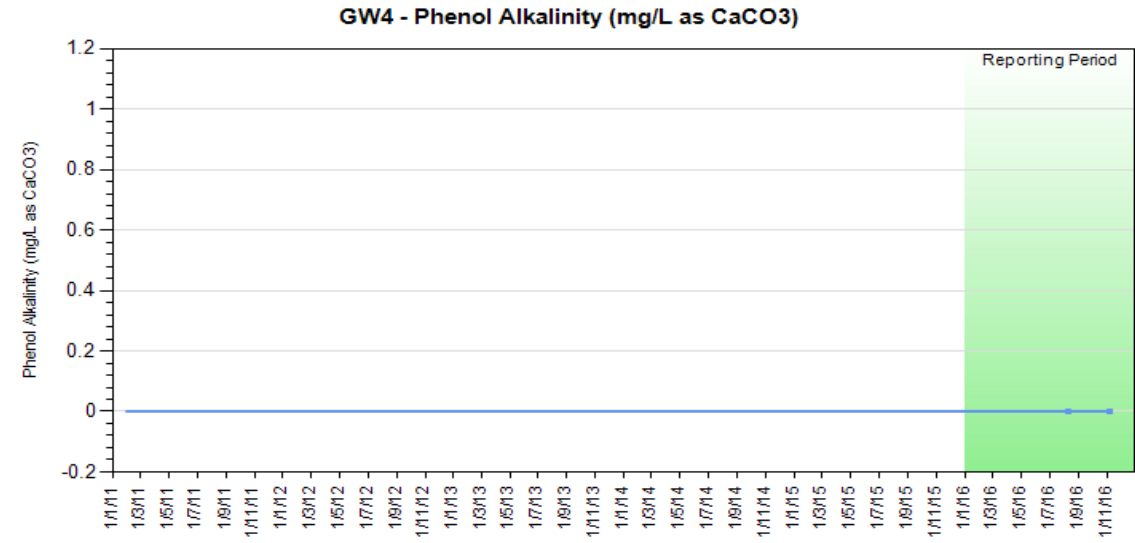
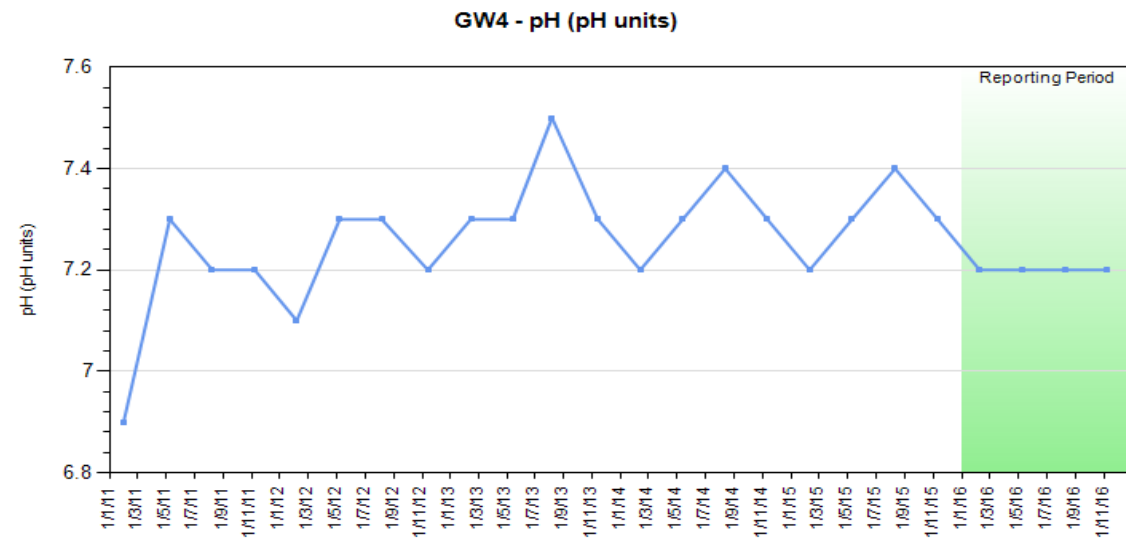
GW2 - Total Sodium (mg/L)



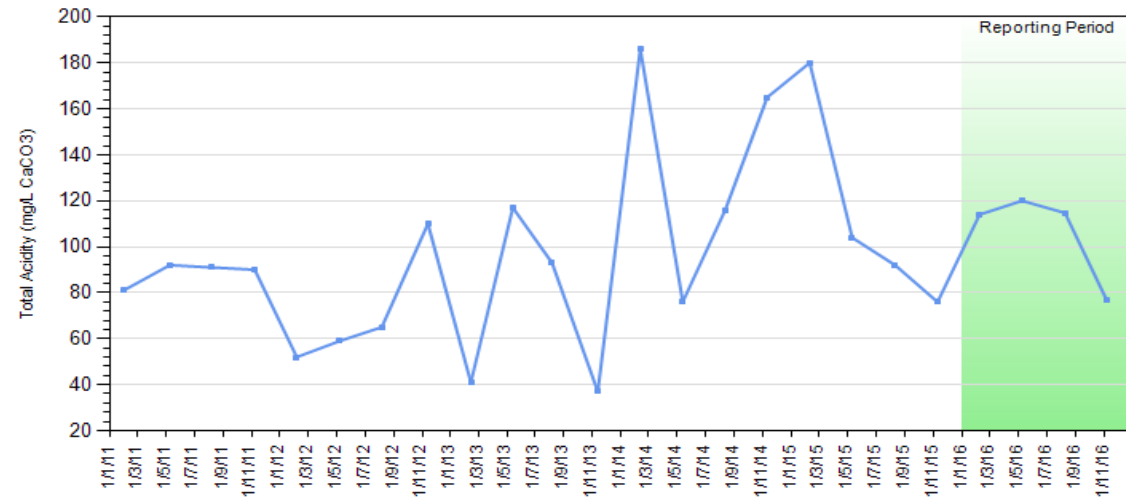
GW2 - Total Zinc (mg/L)



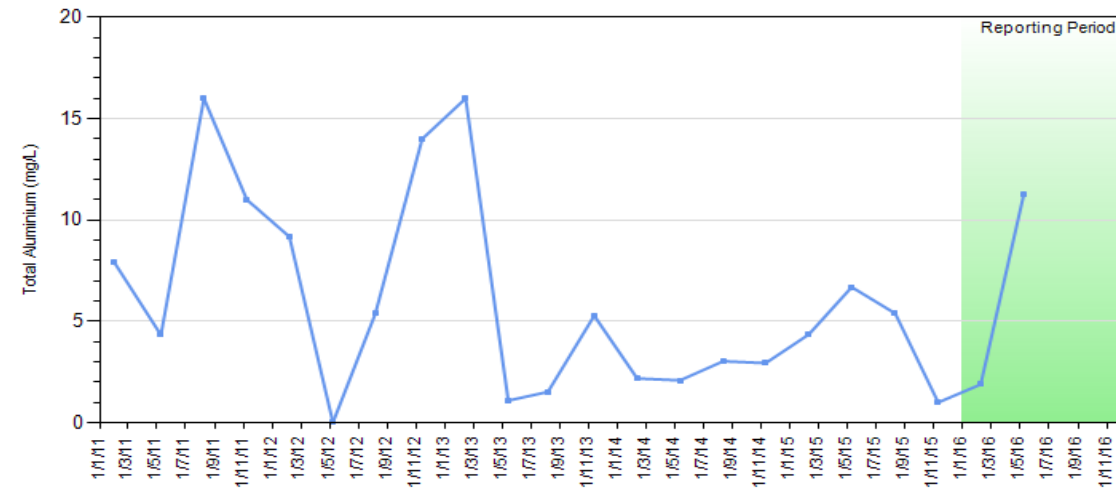




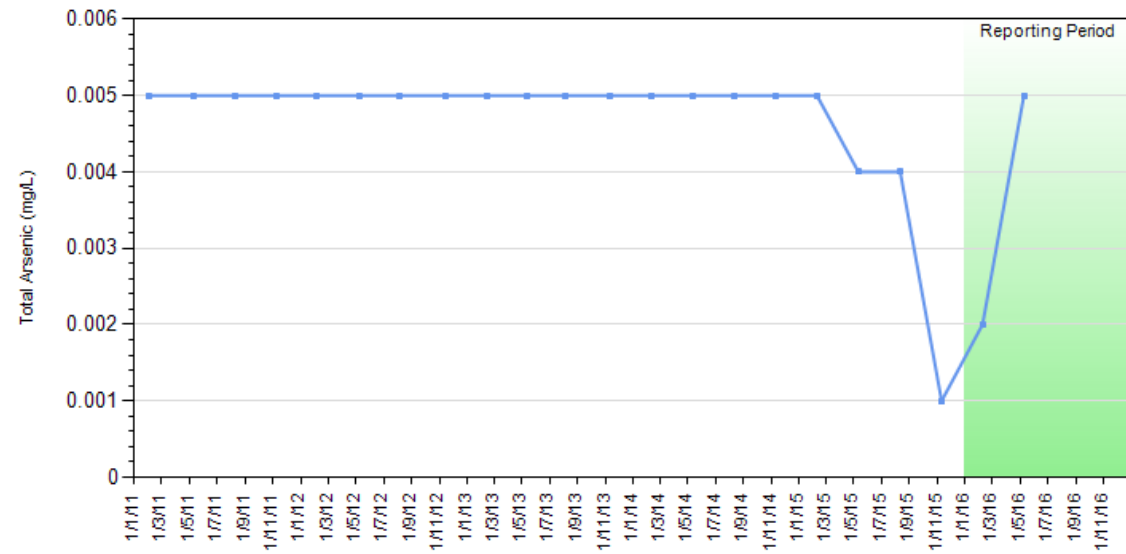
GW4 - Total Acidity (mg/L CaCO3)



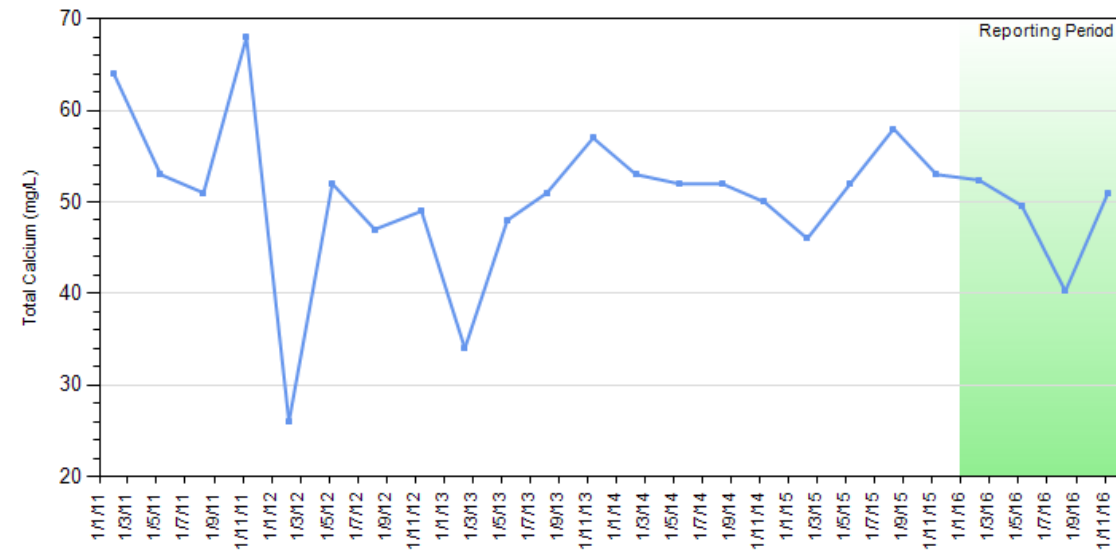
GW4 - Total Aluminium (mg/L)



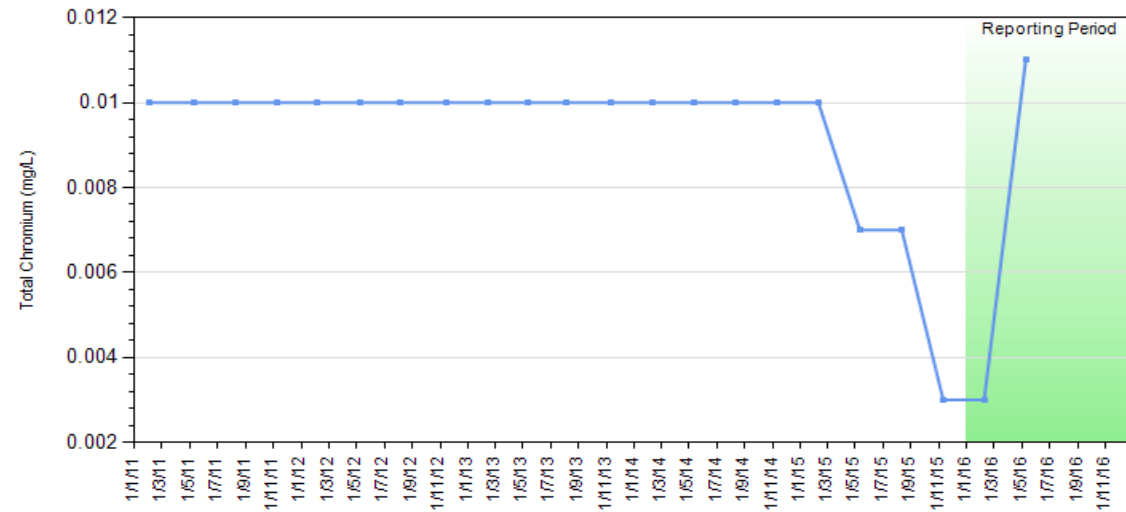
GW4 - Total Arsenic (mg/L)



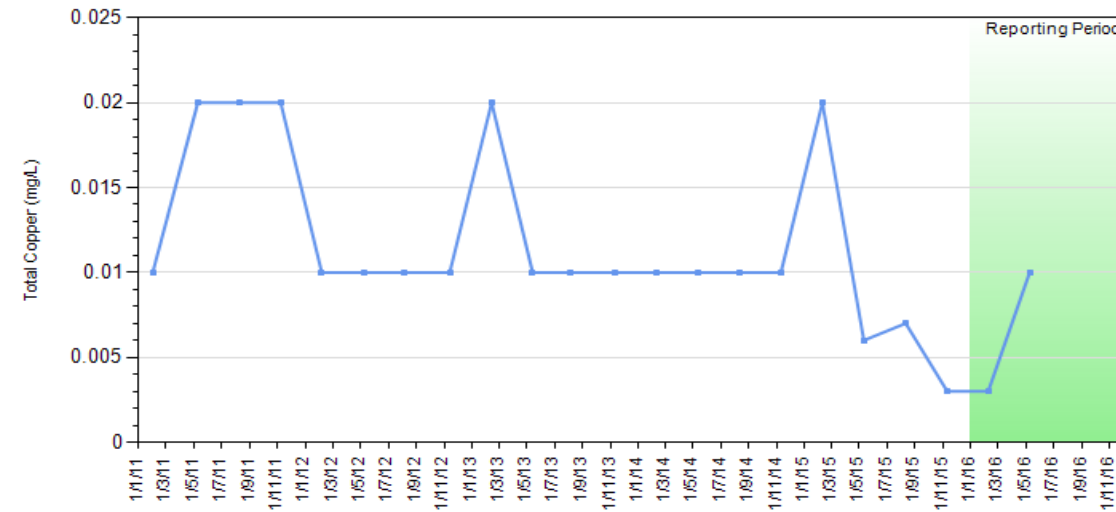
GW4 - Total Calcium (mg/L)



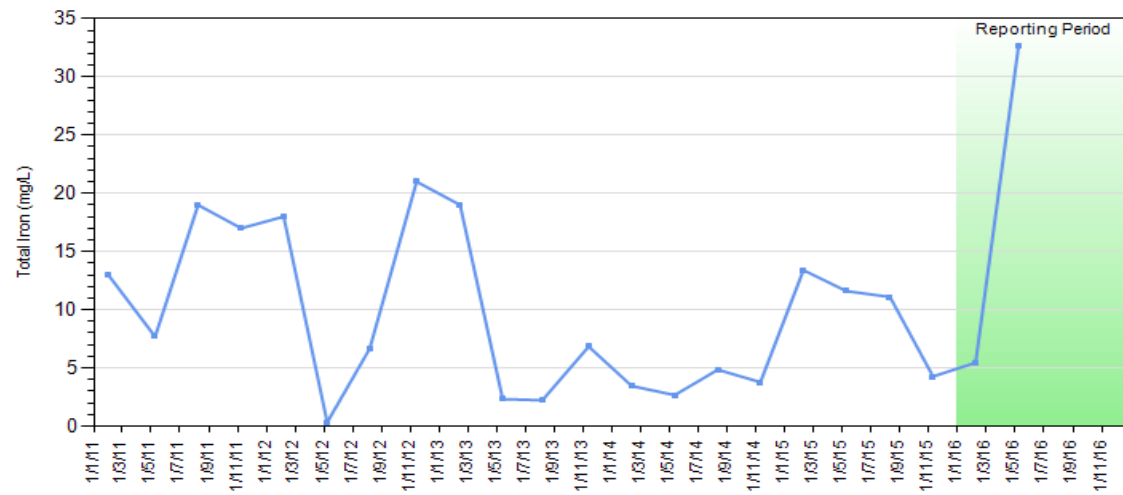
GW4 - Total Chromium (mg/L)



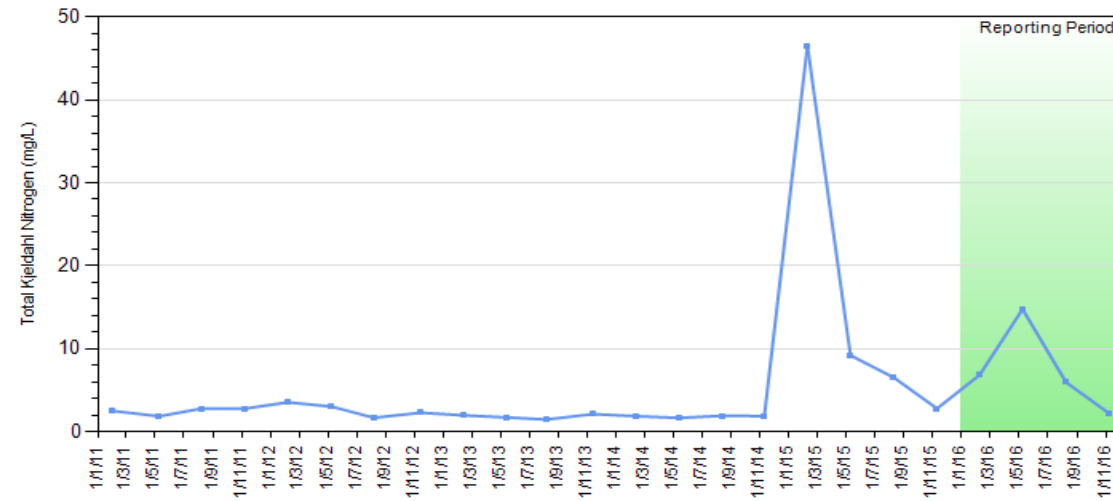
GW4 - Total Copper (mg/L)



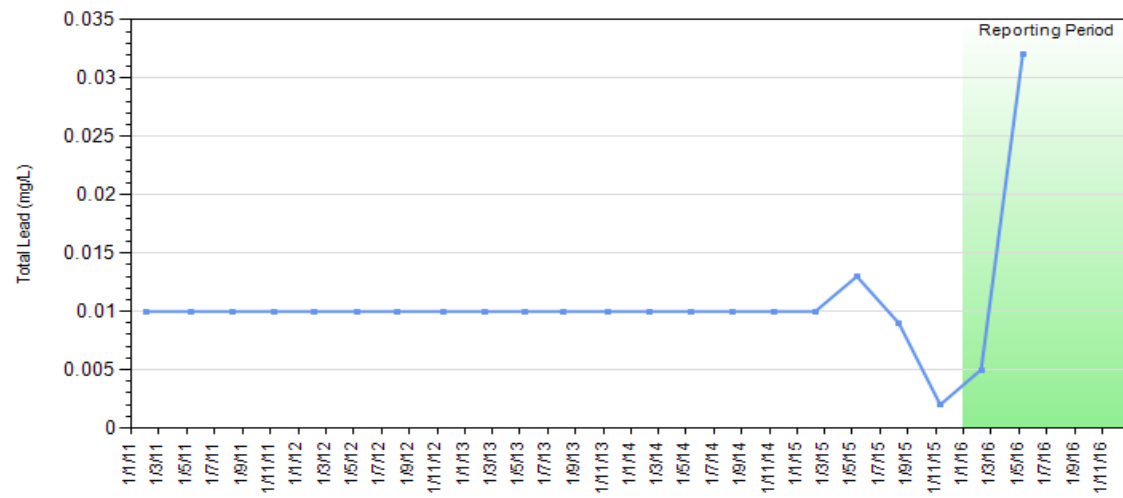
GW4 - Total Iron (mg/L)



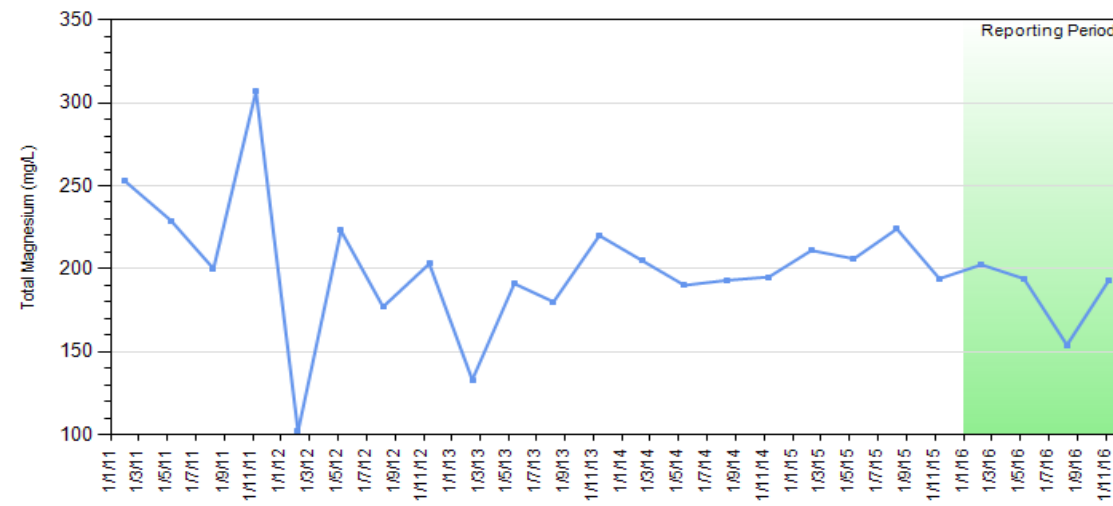
GW4 - Total Kjeldahl Nitrogen (mg/L)



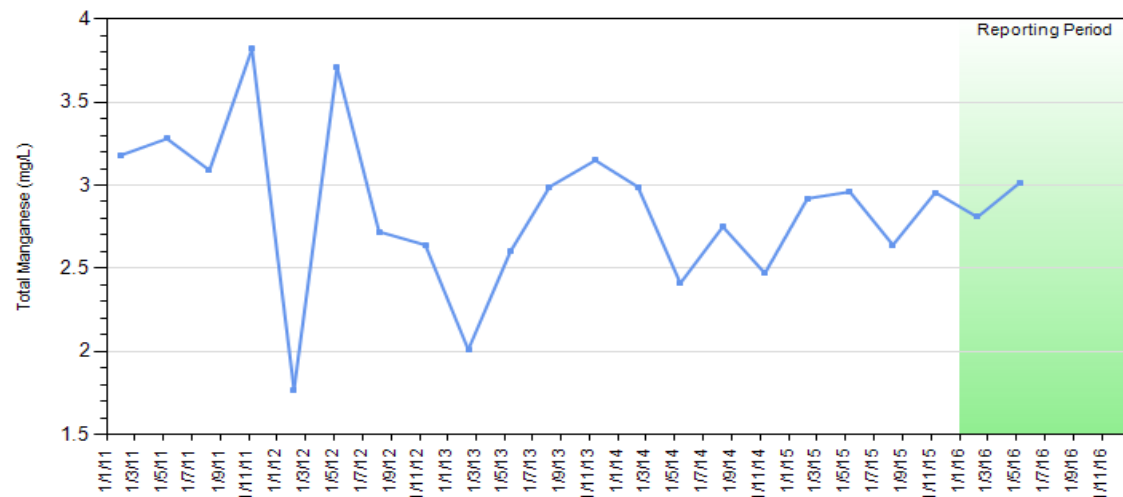
GW4 - Total Lead (mg/L)



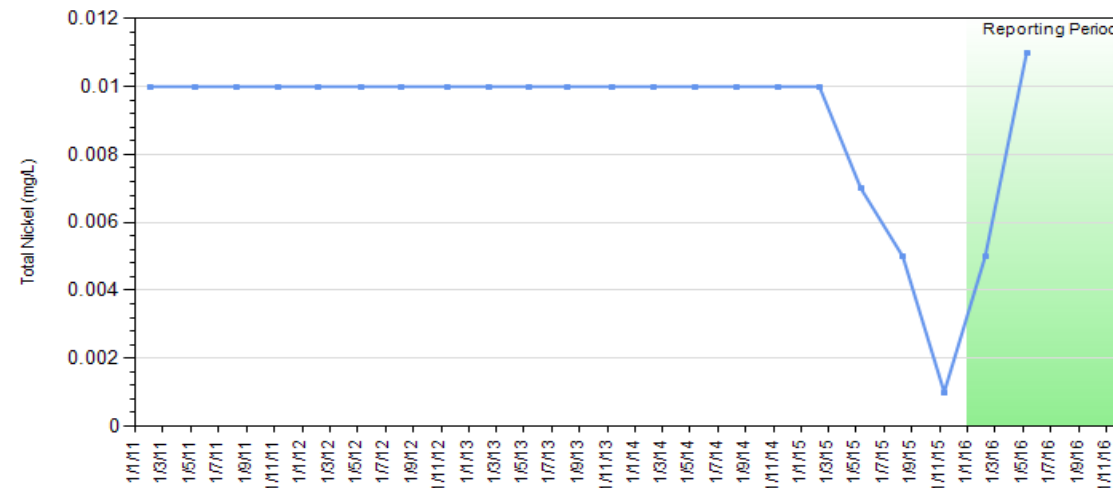
GW4 - Total Magnesium (mg/L)



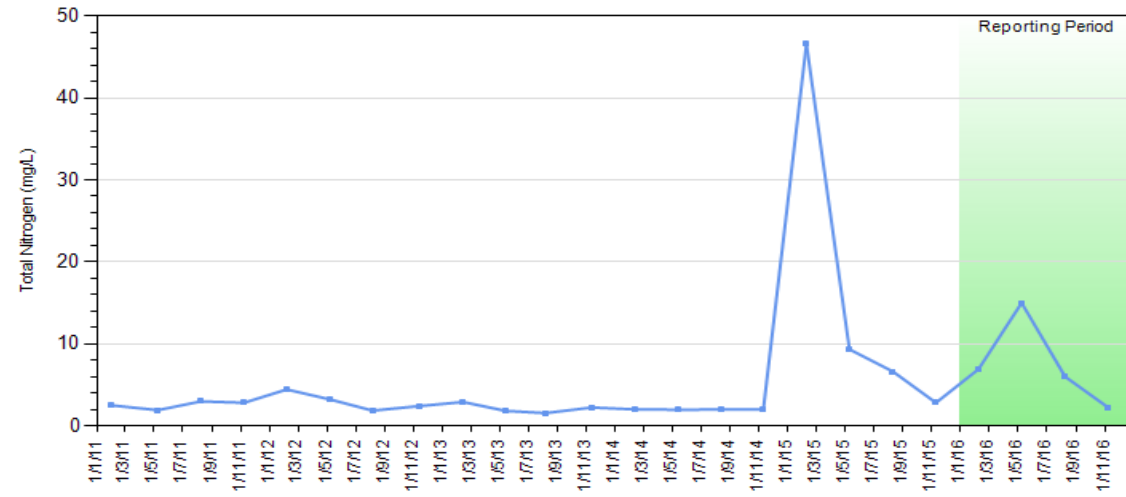
GW4 - Total Manganese (mg/L)



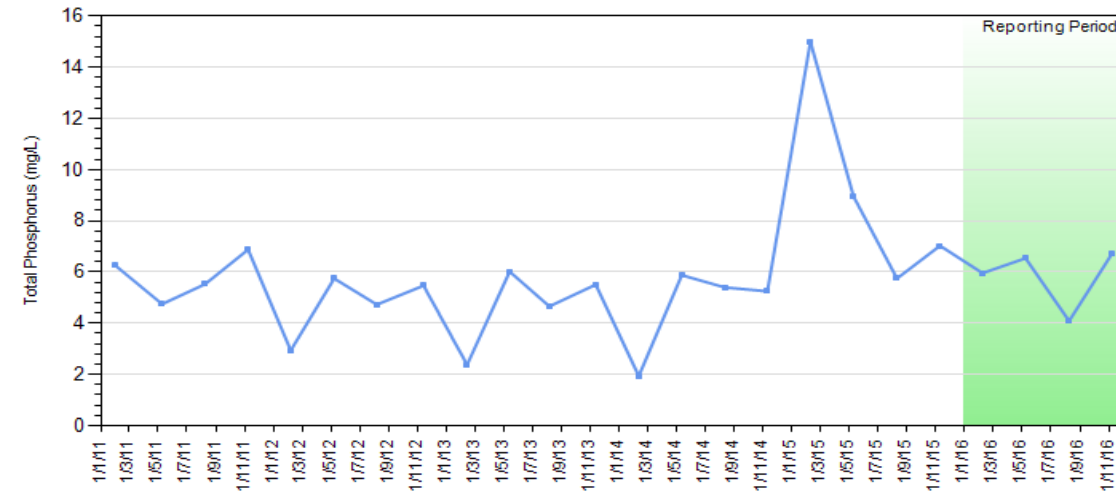
GW4 - Total Nickel (mg/L)



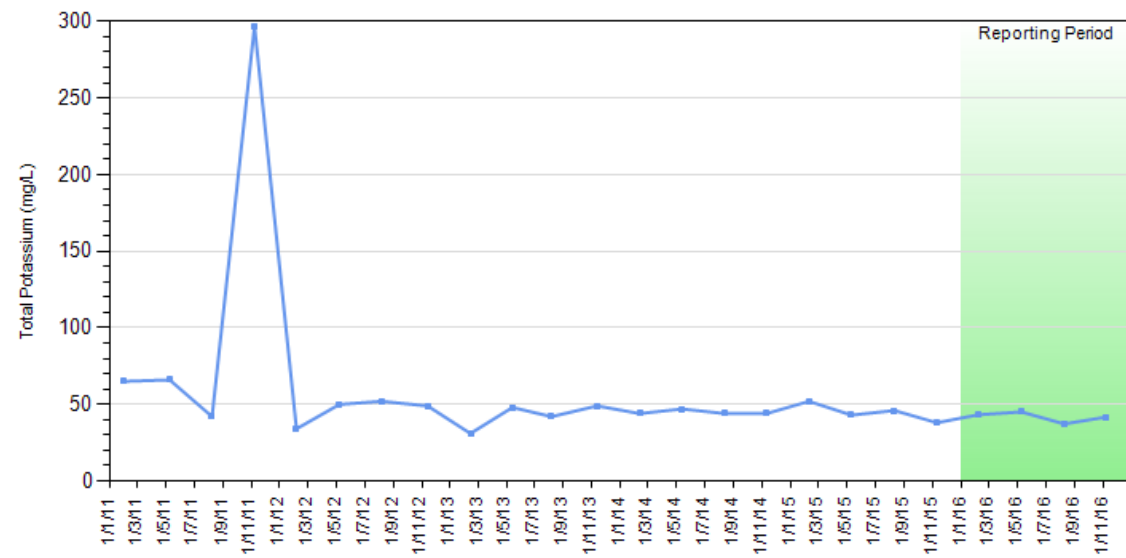
GW4 - Total Nitrogen (mg/L)



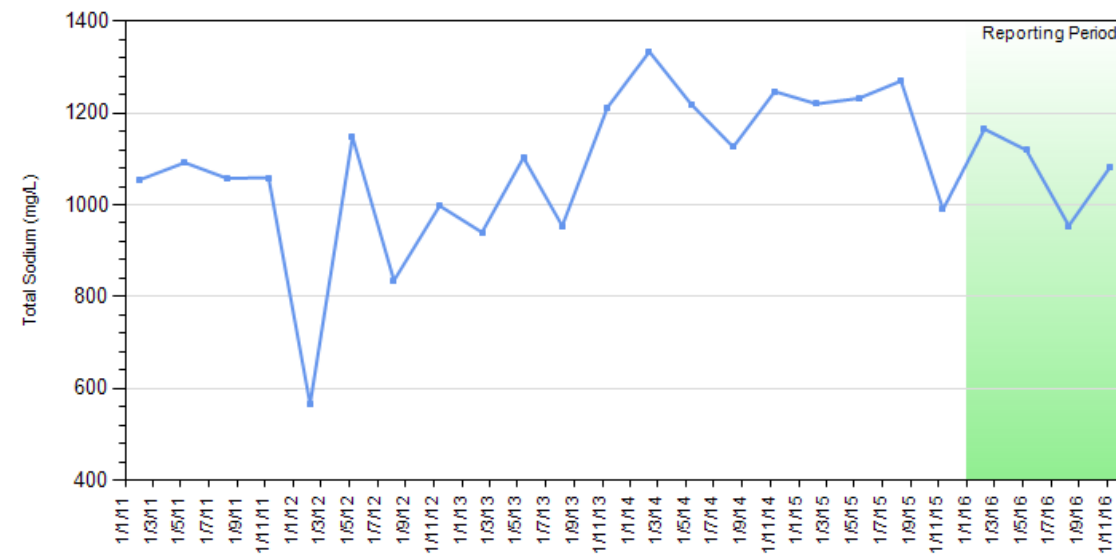
GW4 - Total Phosphorus (mg/L)



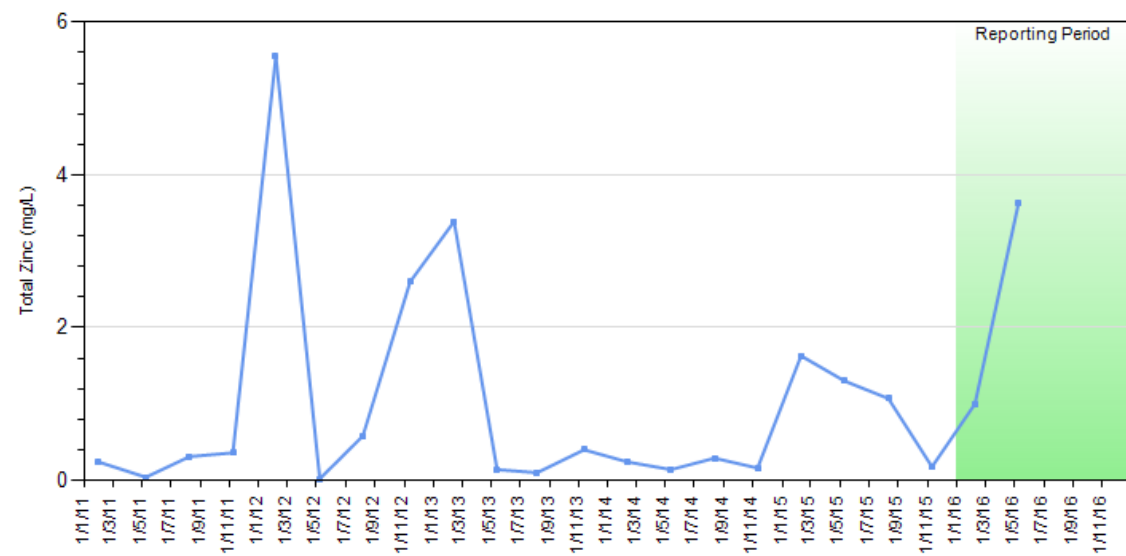
GW4 - Total Potassium (mg/L)



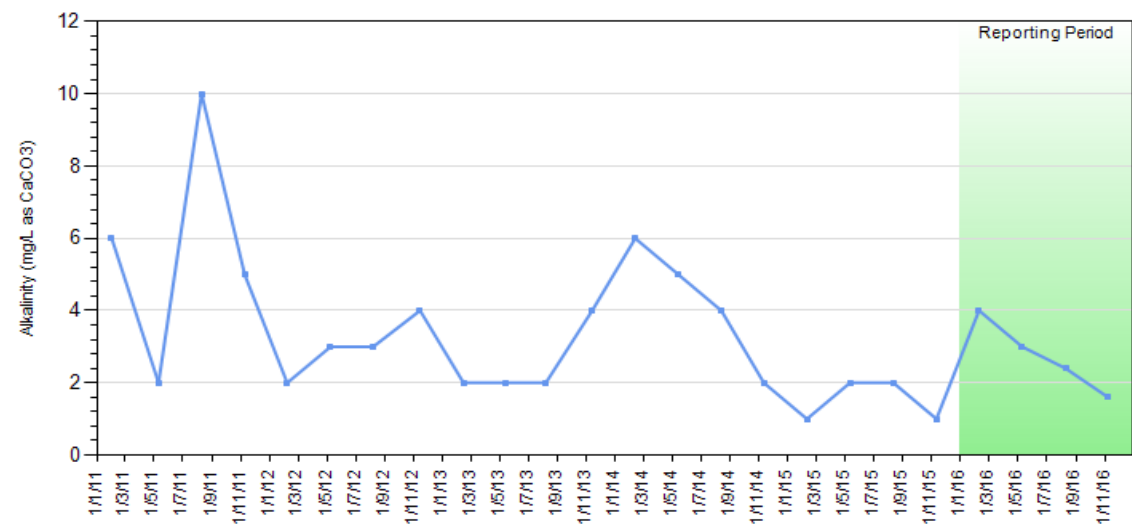
GW4 - Total Sodium (mg/L)



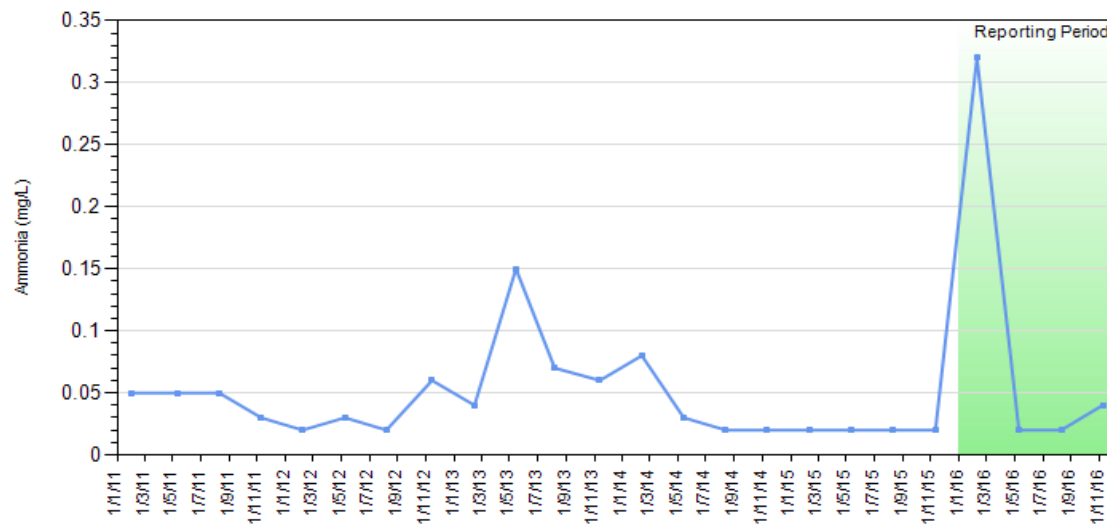
GW4 - Total Zinc (mg/L)



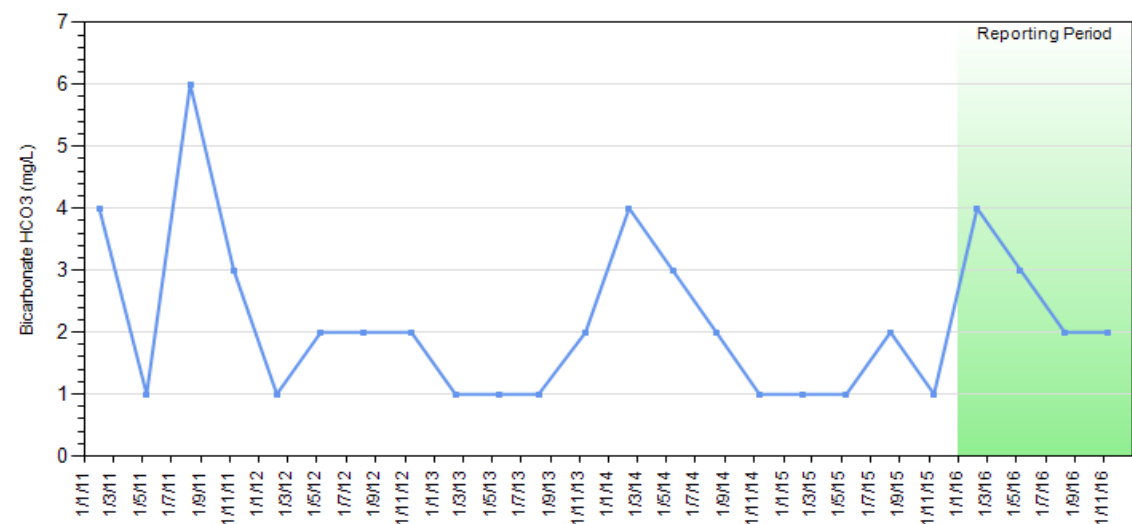
GW5 - Alkalinity (mg/L as CaCO3)



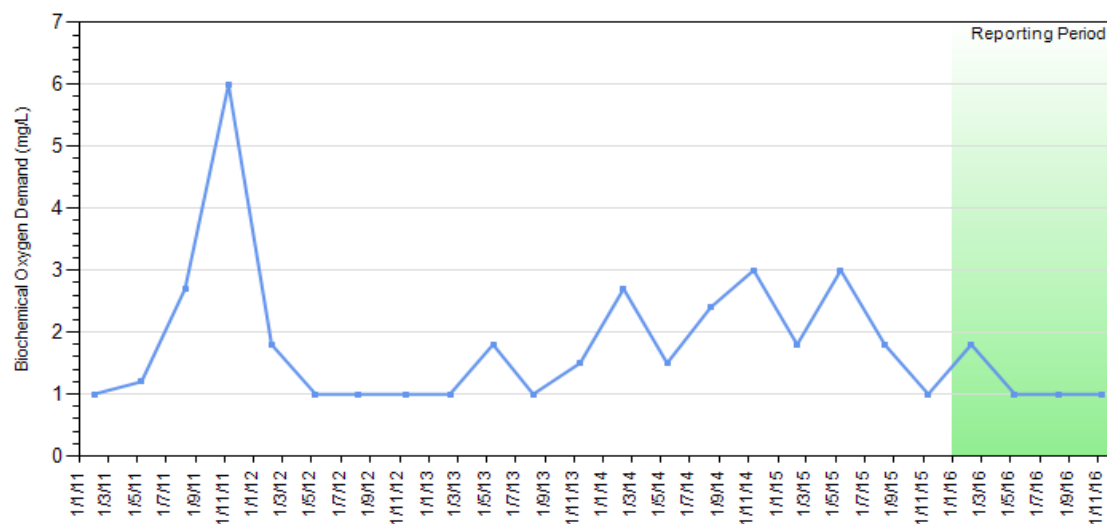
GW5 - Ammonia (mg/L)



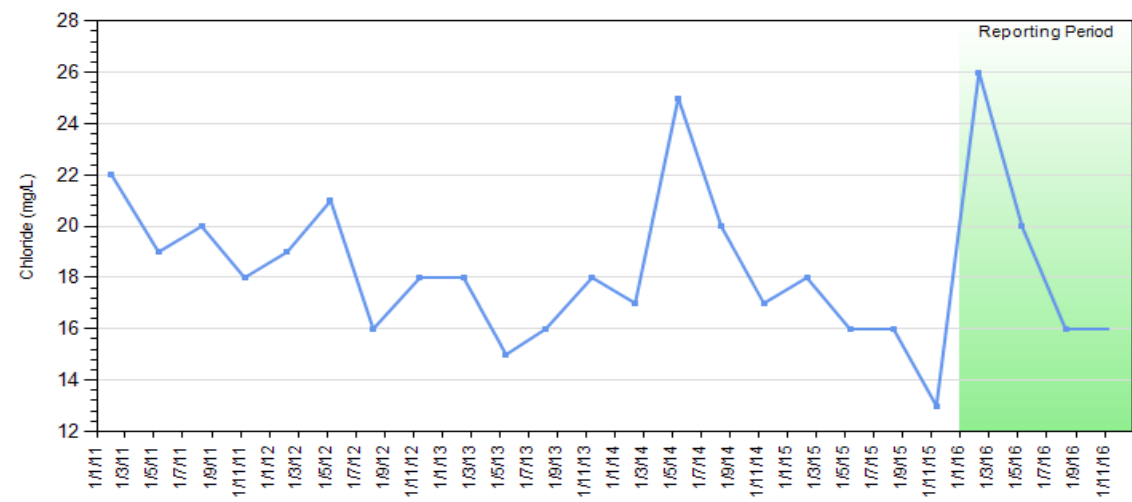
GW5 - Bicarbonate HCO3 (mg/L)



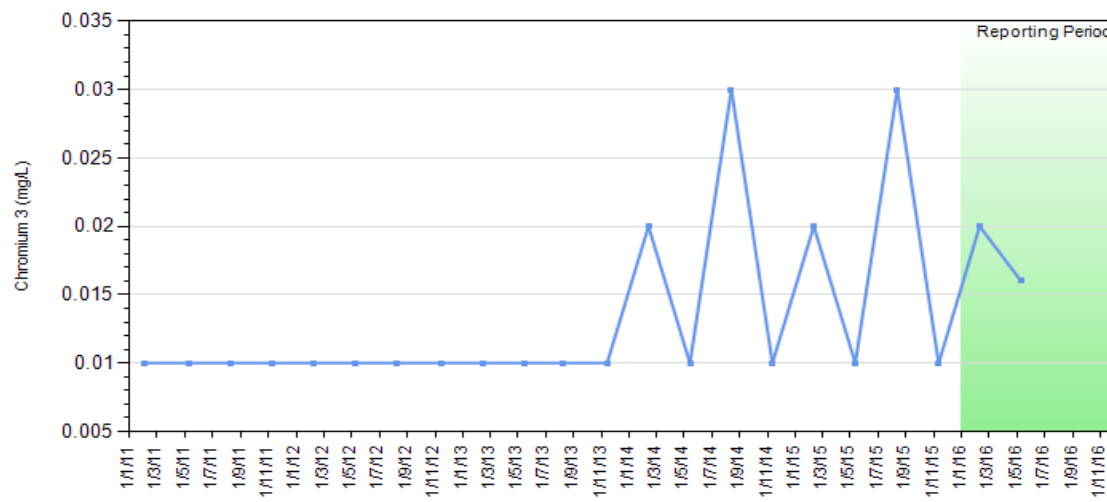
GW5 - Biochemical Oxygen Demand (mg/L)



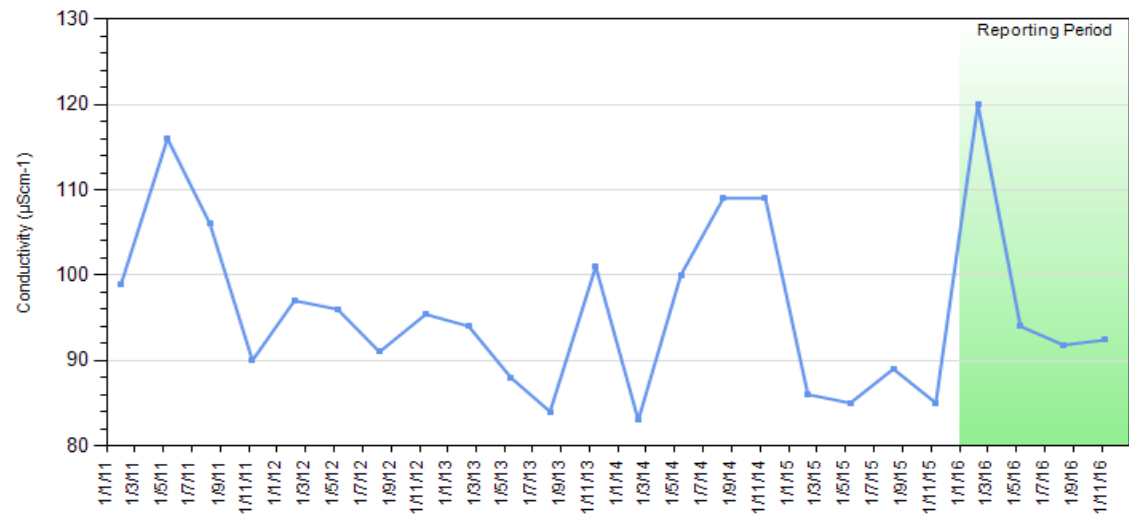
GW5 - Chloride (mg/L)



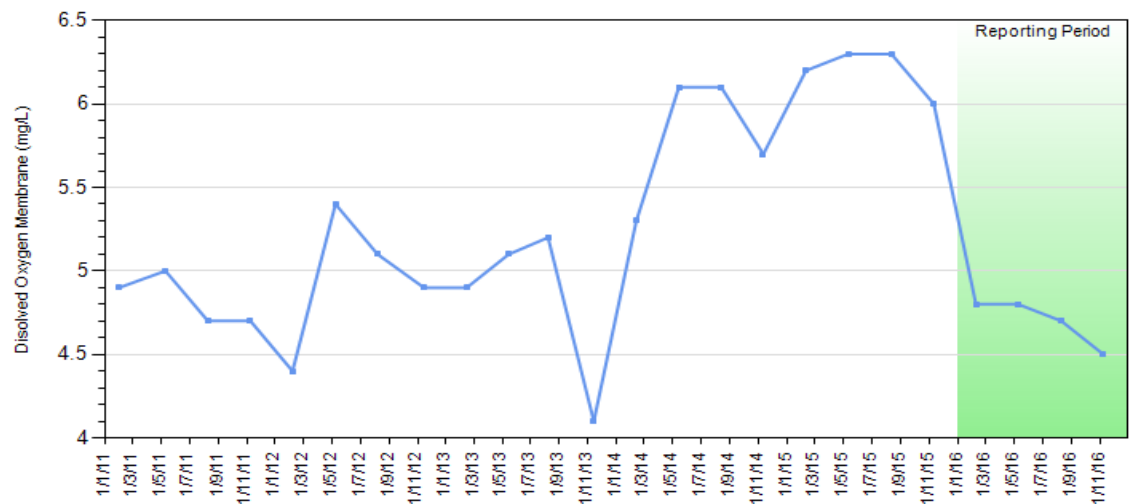
GW5 - Chromium 3 (mg/L)



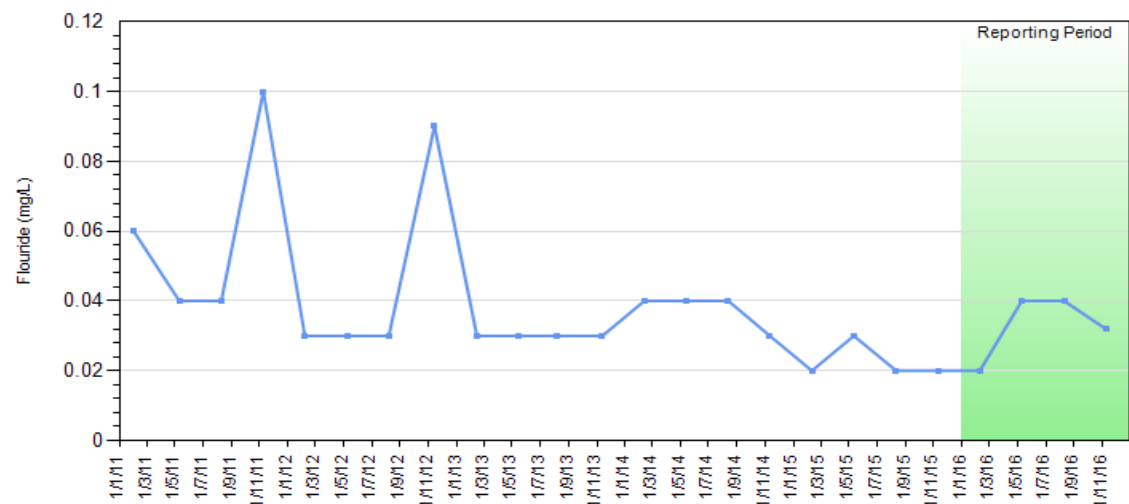
GW5 - Conductivity (μScm^{-1})



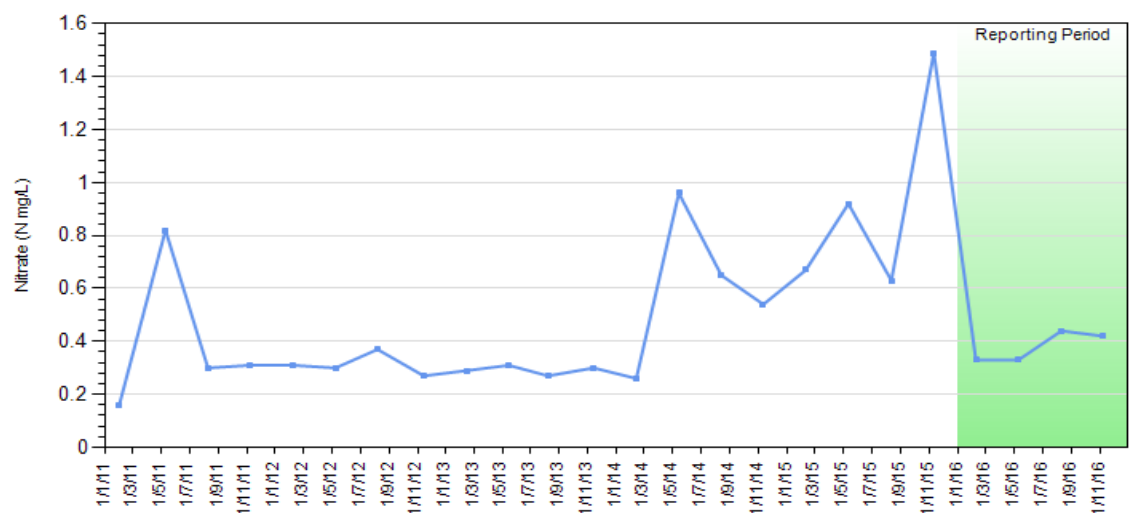
GW5 - Dissolved Oxygen Membrane (mg/L)



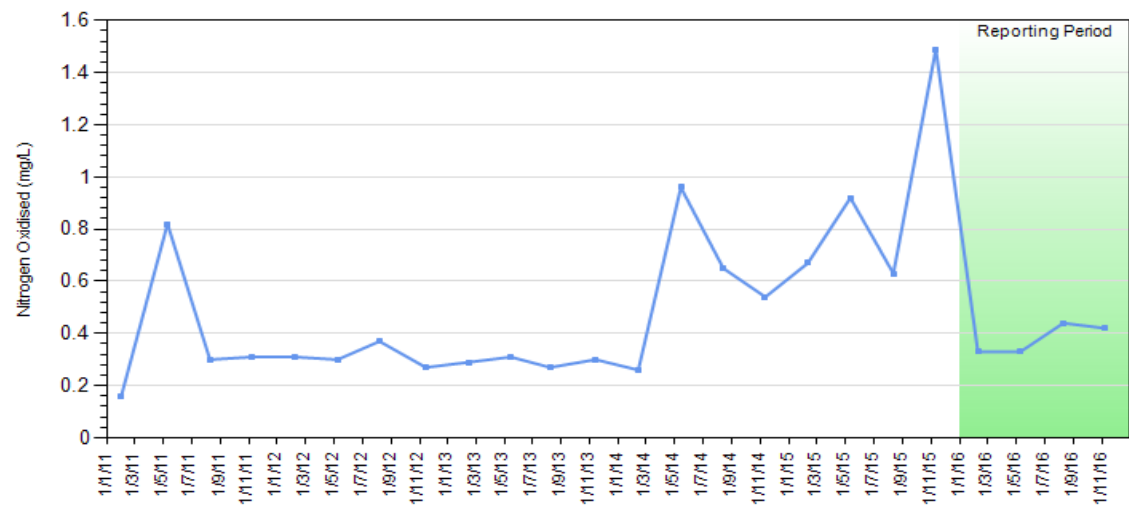
GW5 - Fluoride (mg/L)



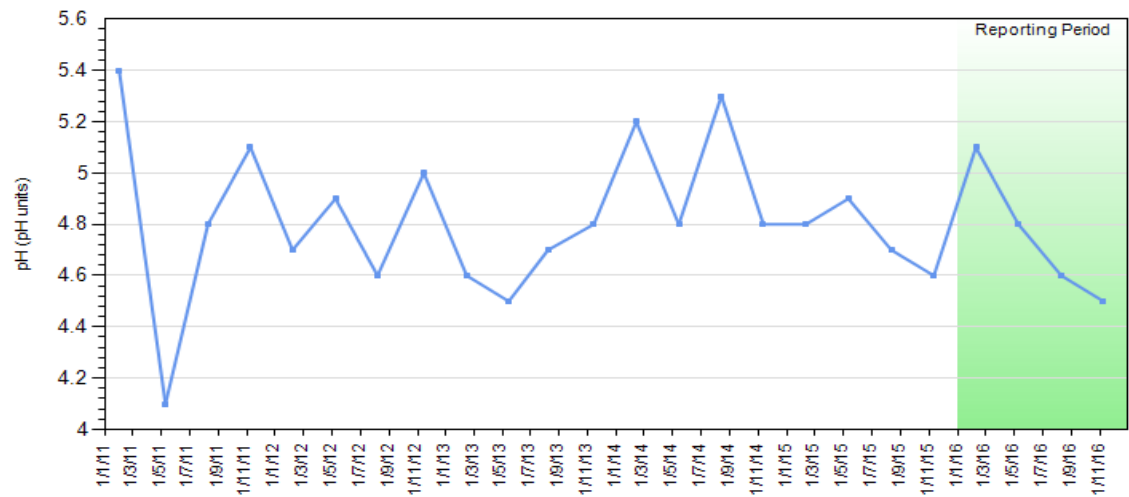
GW5 - Nitrate (N mg/L)

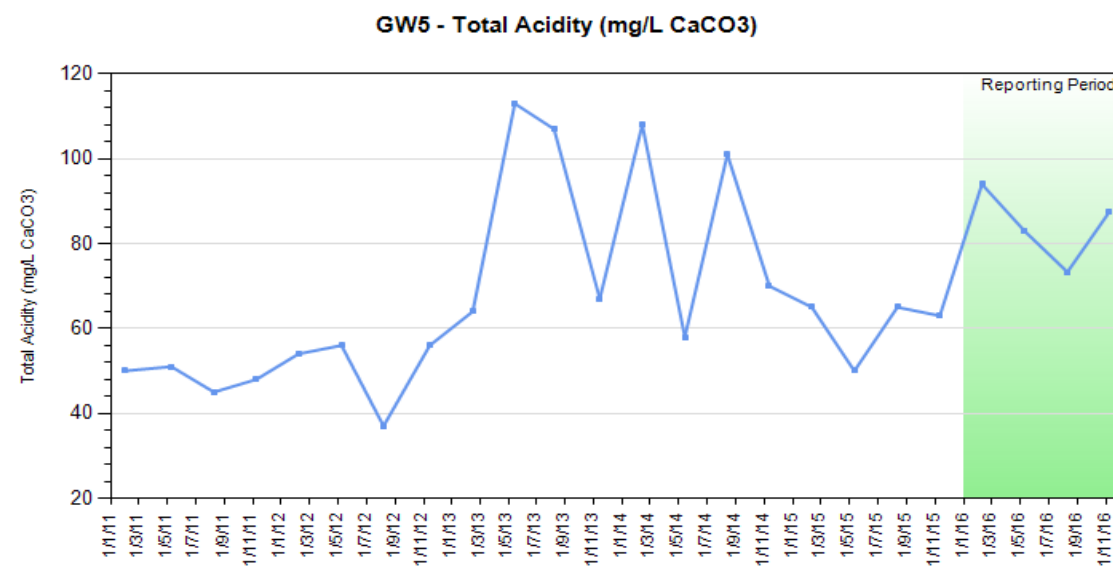
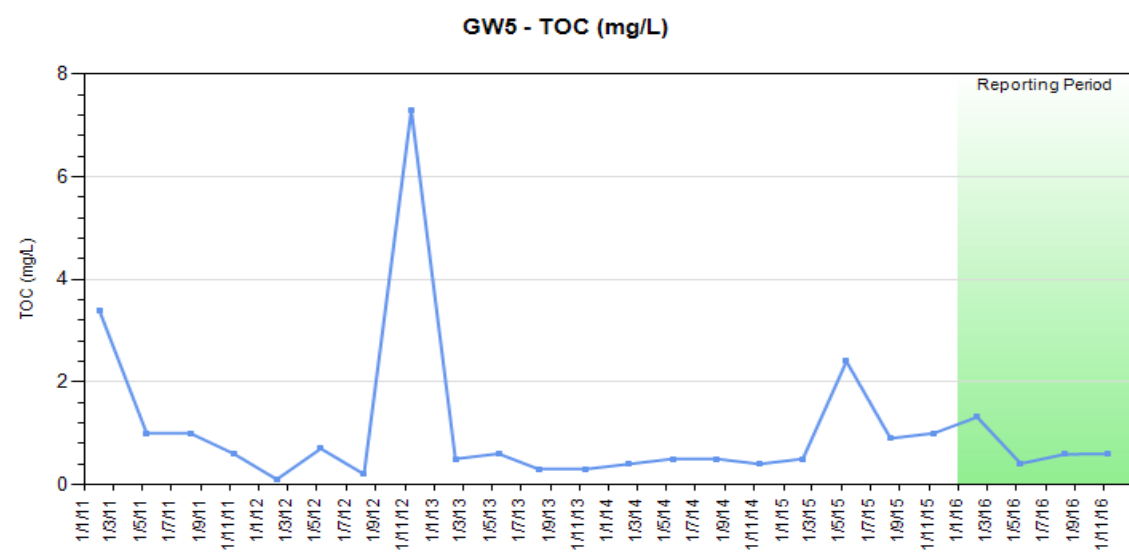
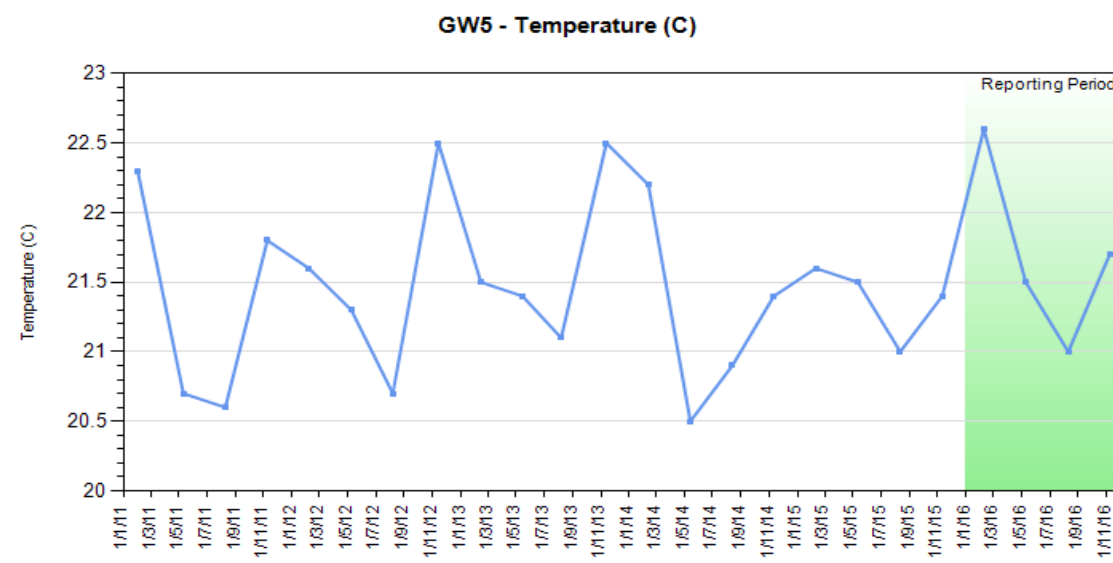
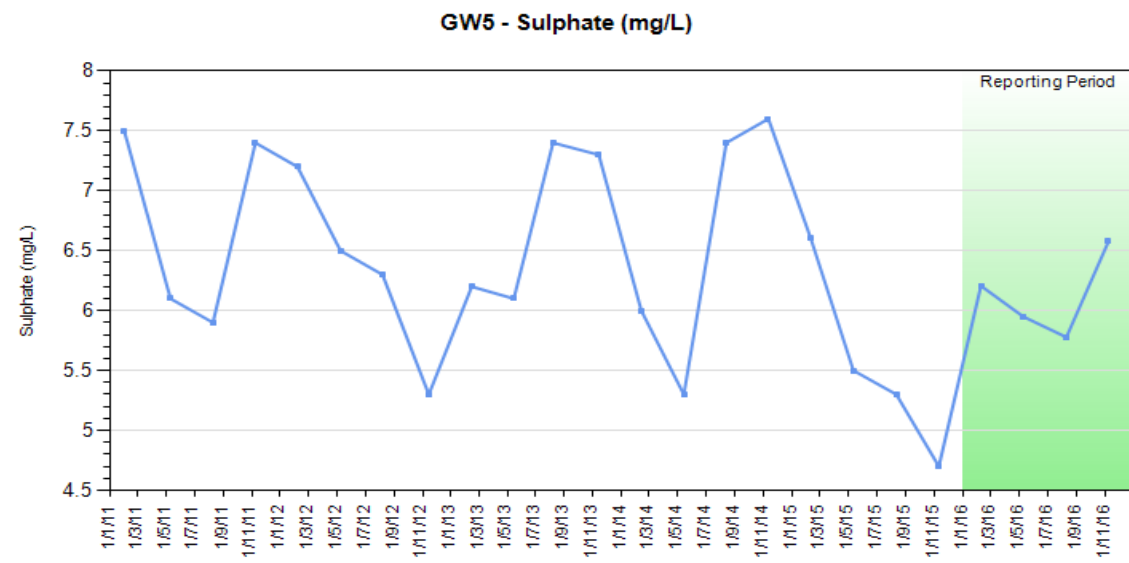
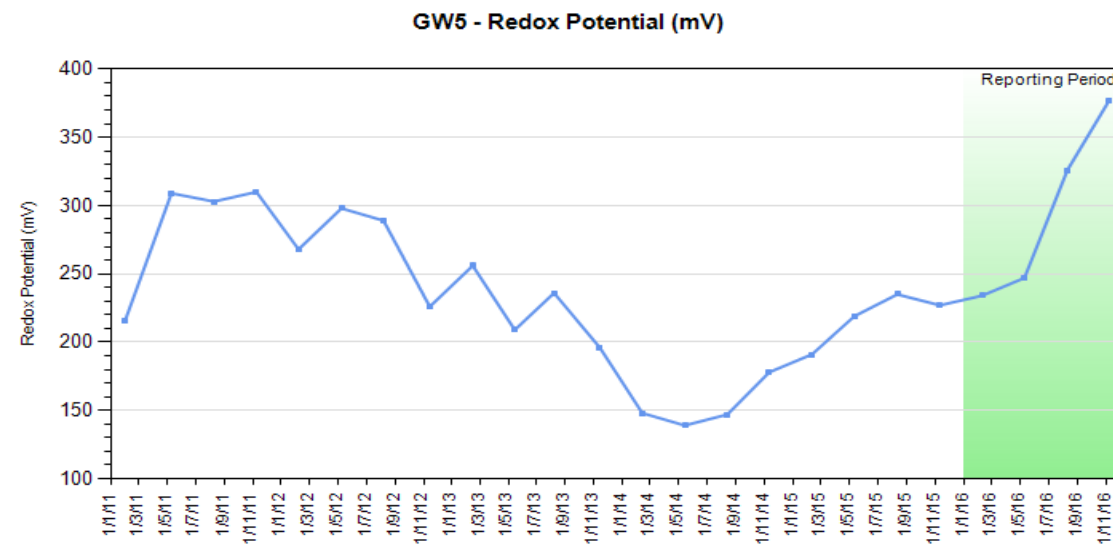
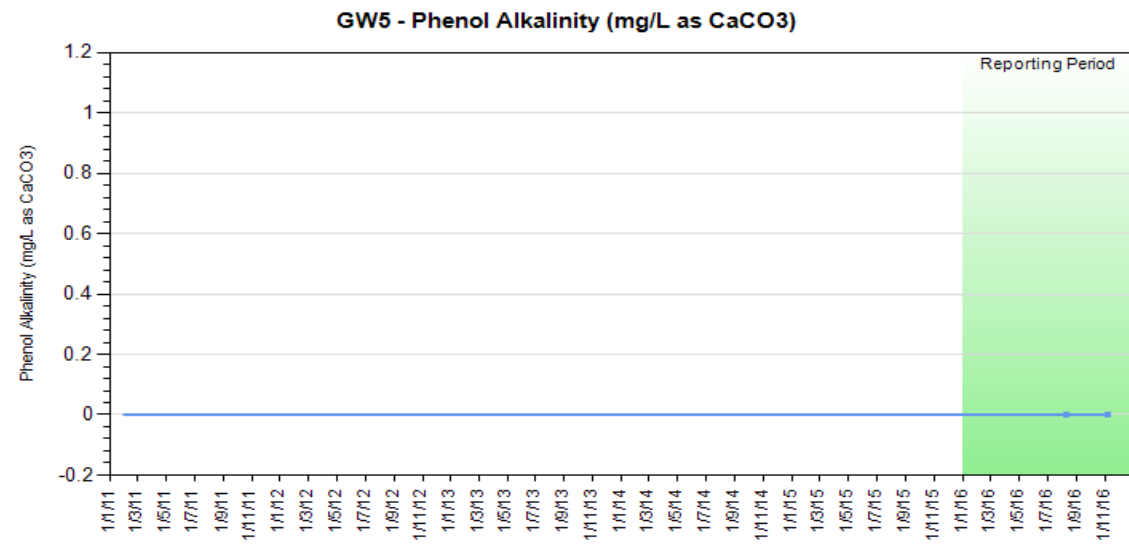


GW5 - Nitrogen Oxidised (mg/L)

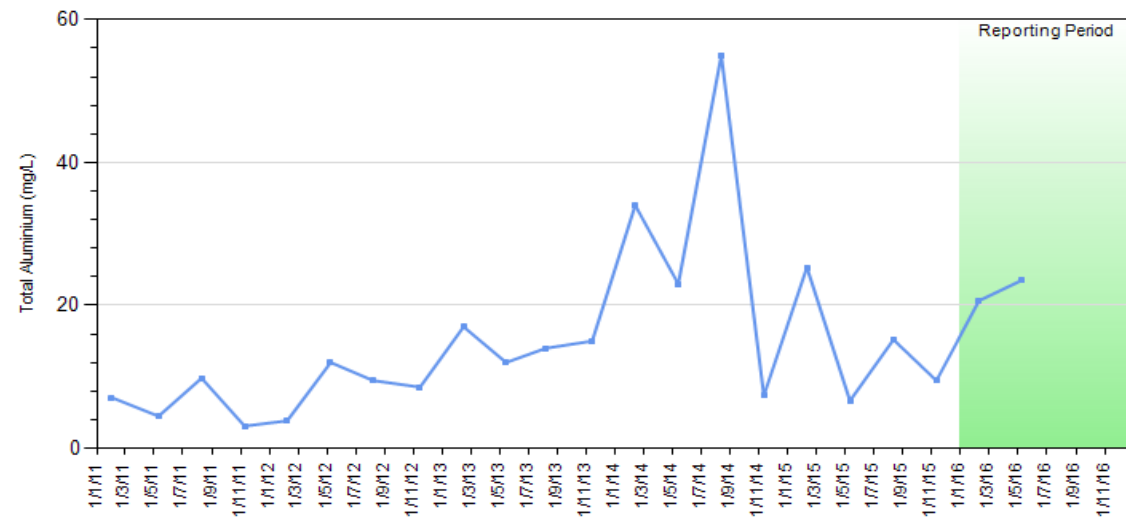


GW5 - pH (pH units)

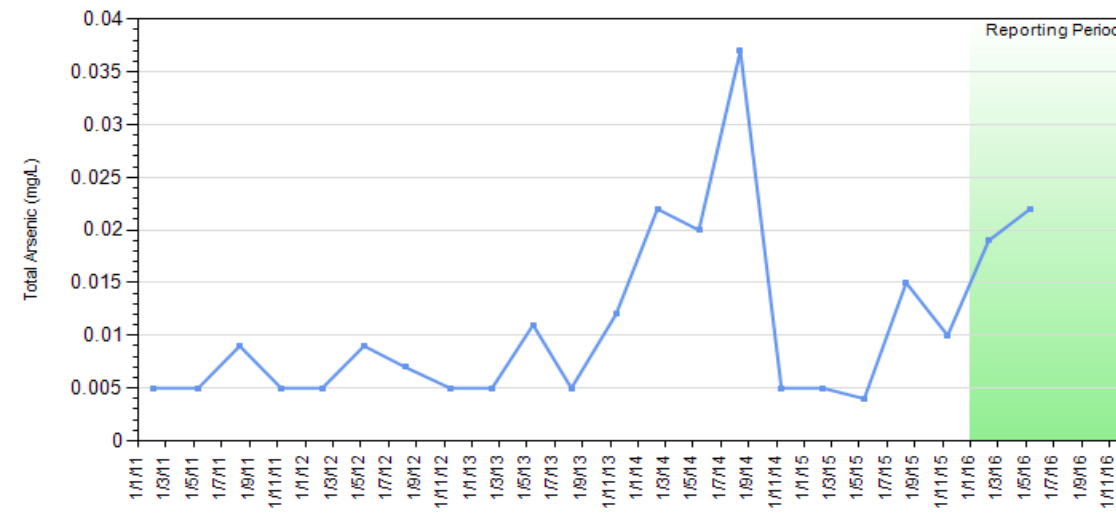




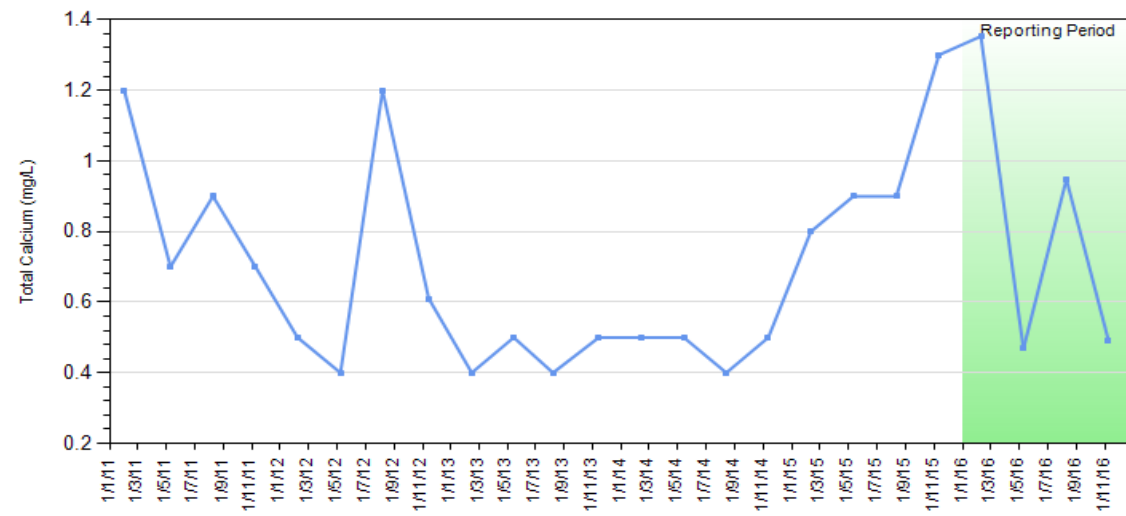
GW5 - Total Aluminium (mg/L)



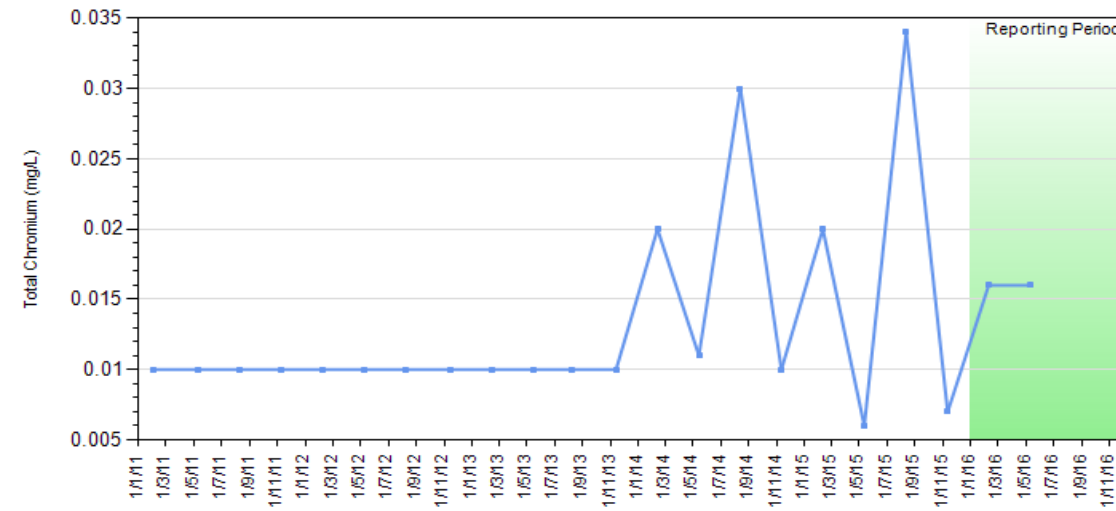
GW5 - Total Arsenic (mg/L)



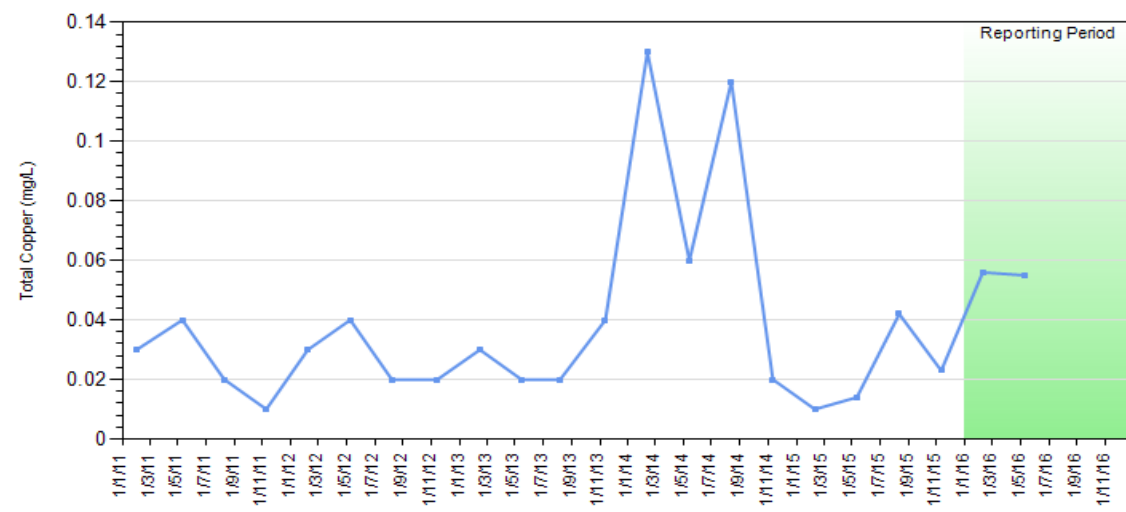
GW5 - Total Calcium (mg/L)



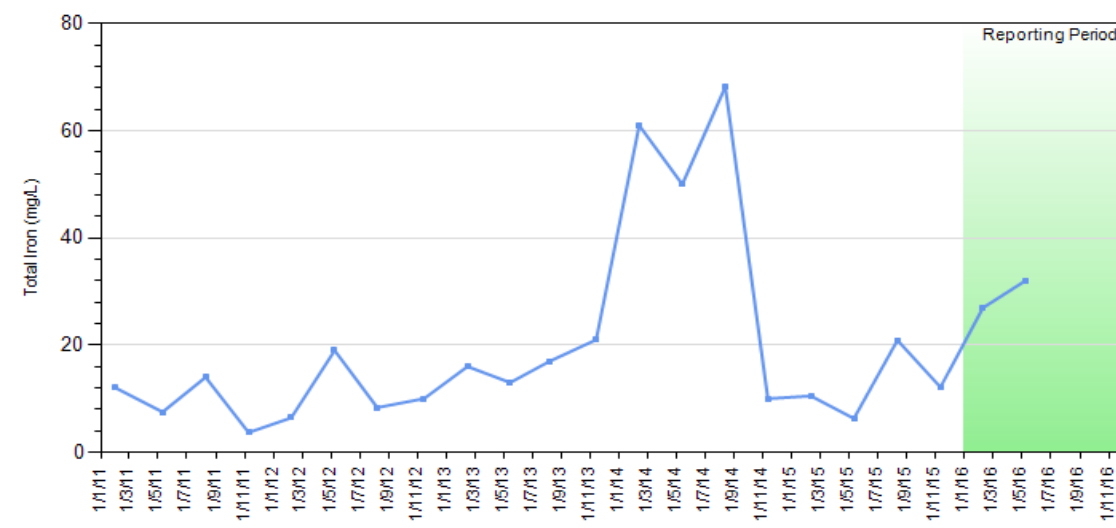
GW5 - Total Chromium (mg/L)



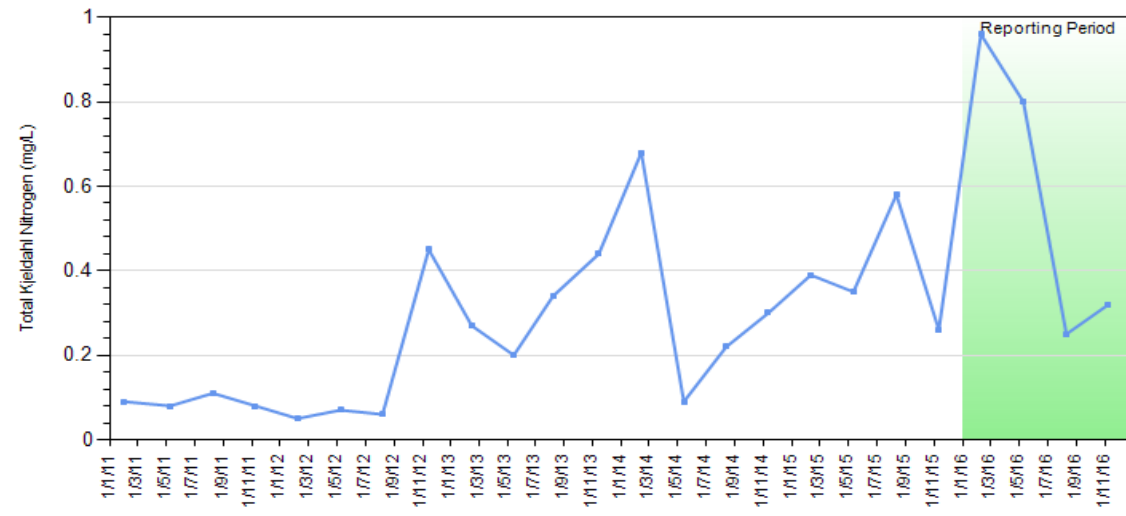
GW5 - Total Copper (mg/L)



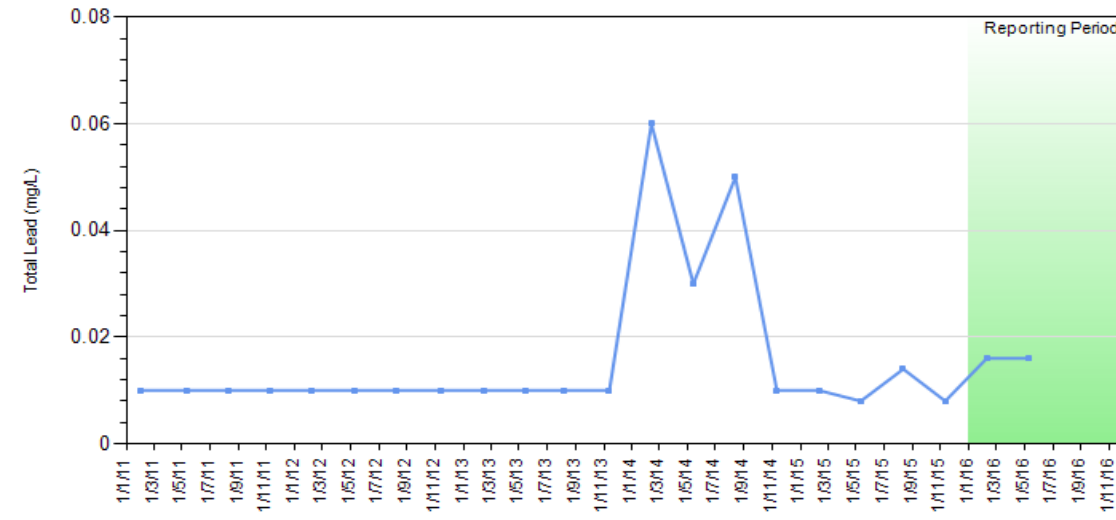
GW5 - Total Iron (mg/L)



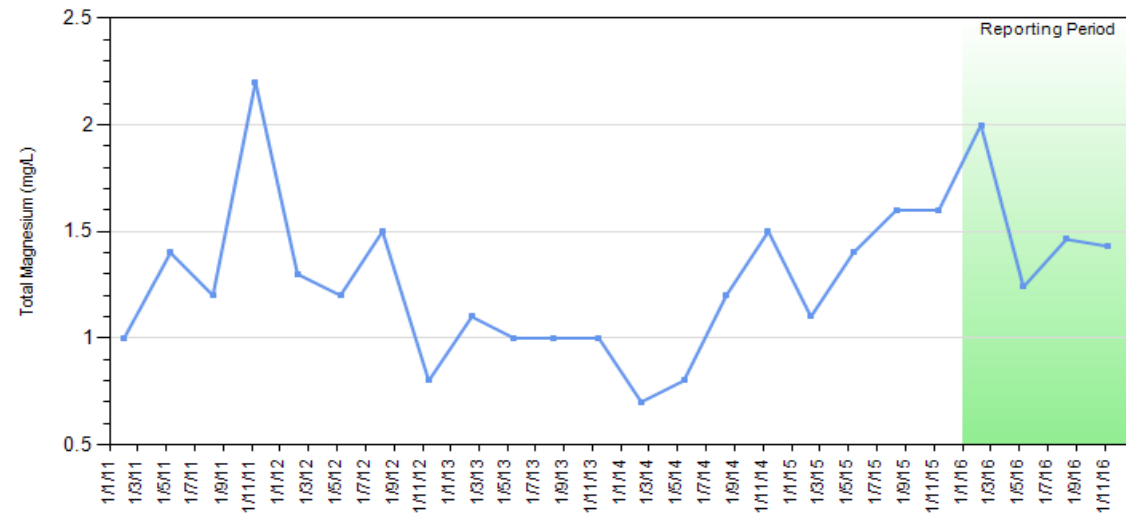
GW5 - Total Kjeldahl Nitrogen (mg/L)



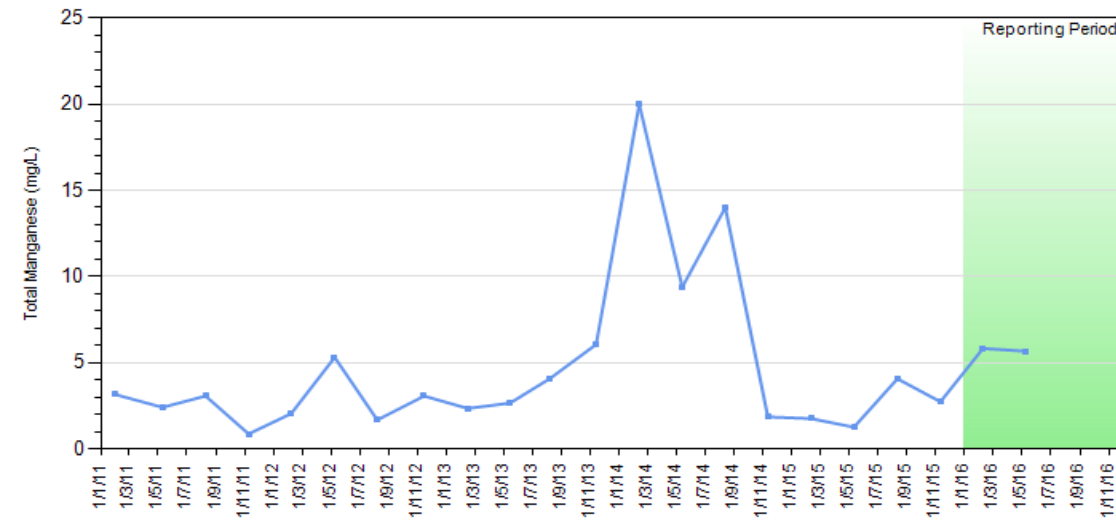
GW5 - Total Lead (mg/L)



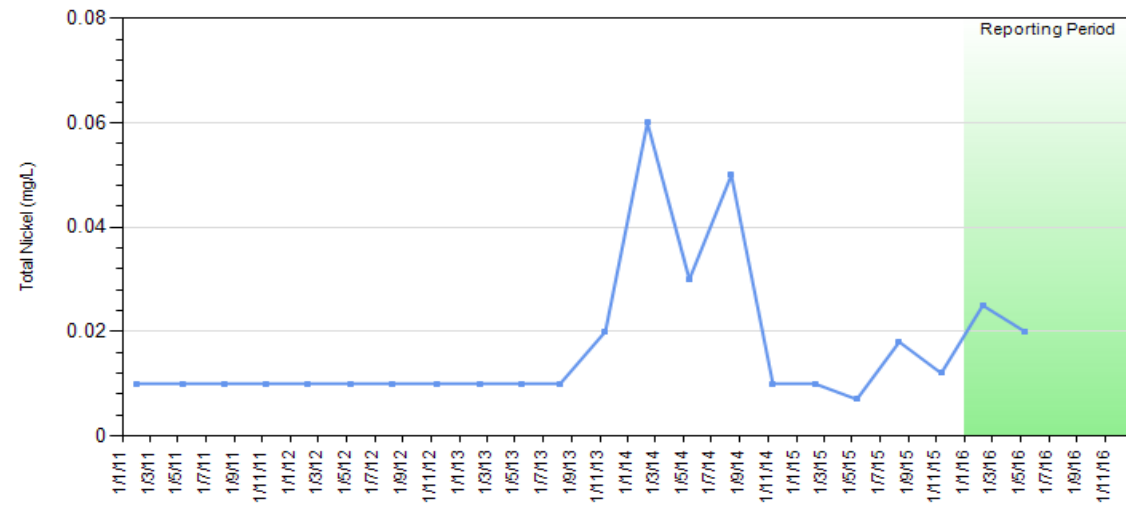
GW5 - Total Magnesium (mg/L)



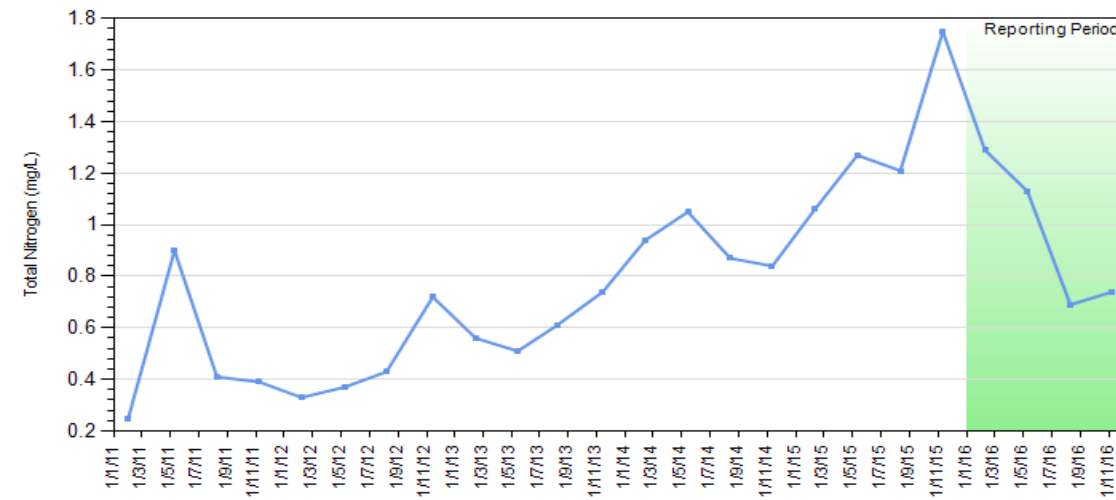
GW5 - Total Manganese (mg/L)



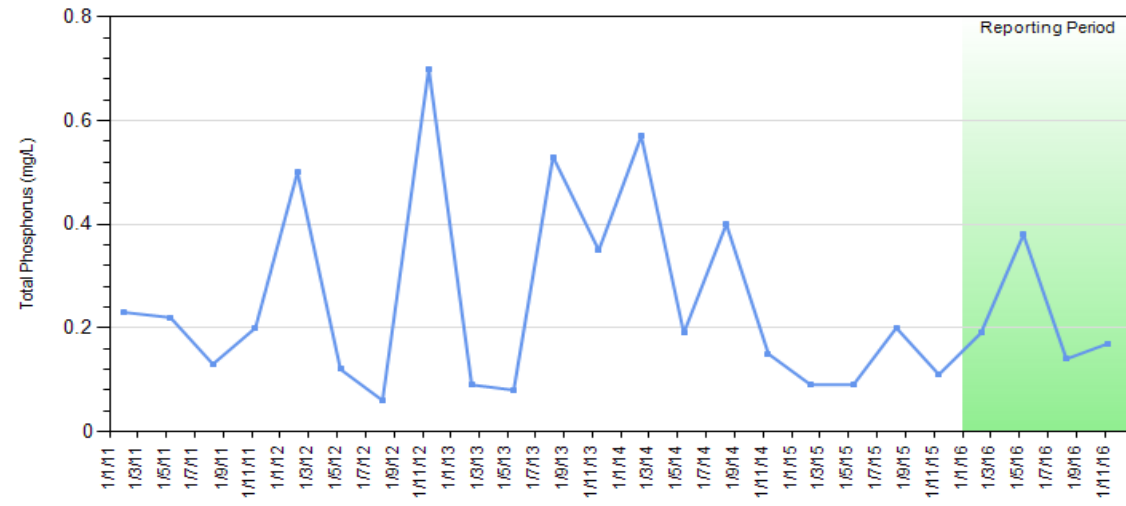
GW5 - Total Nickel (mg/L)



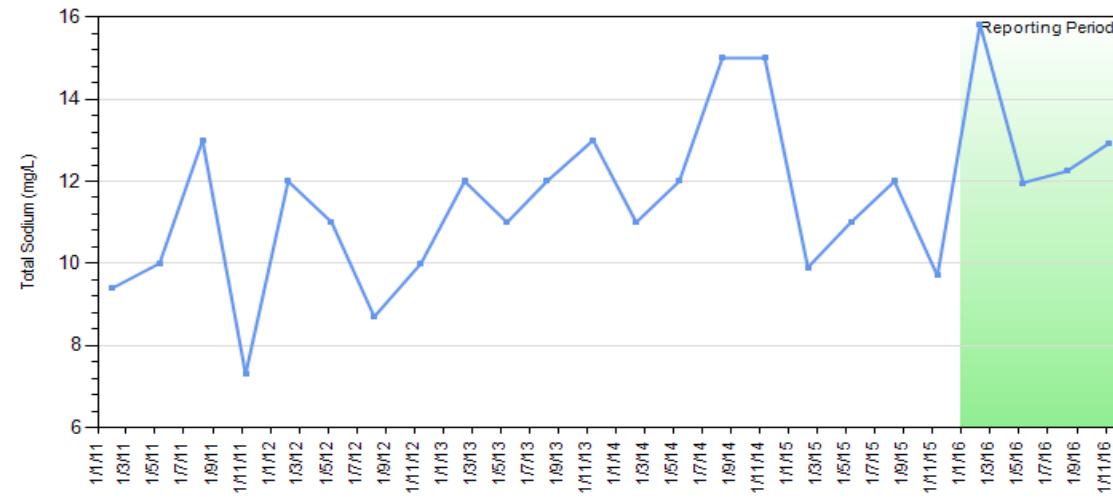
GW5 - Total Nitrogen (mg/L)



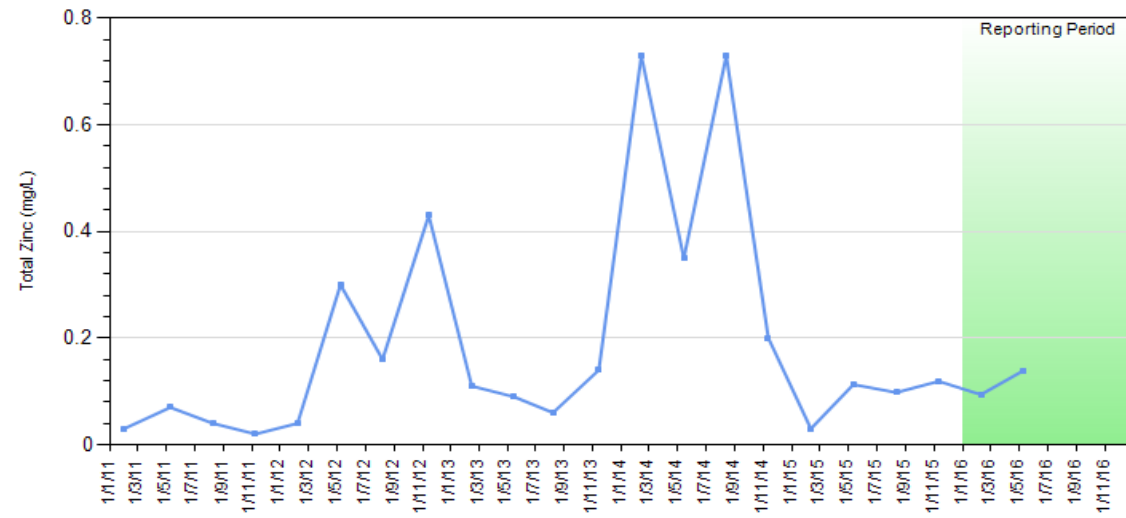
GW5 - Total Phosphorus (mg/L)



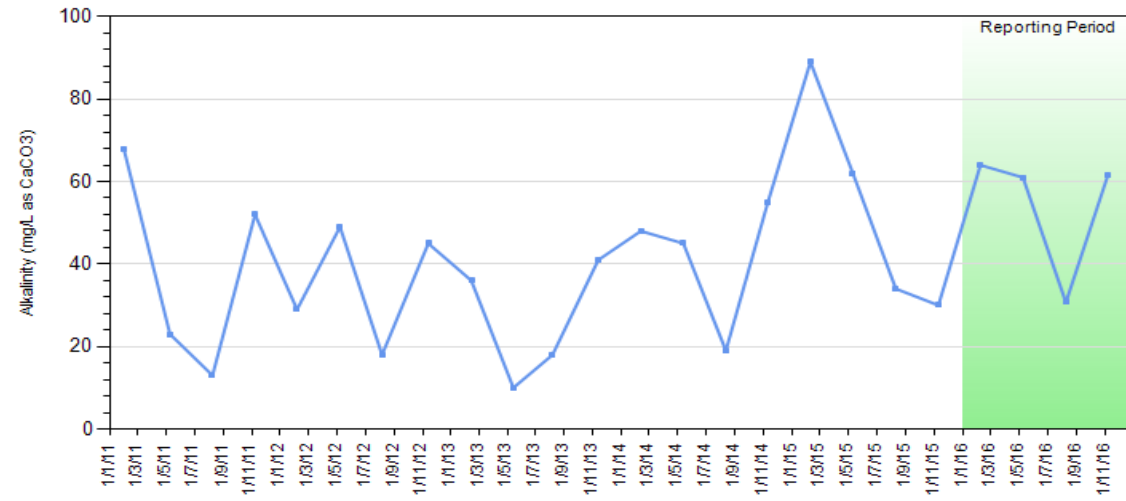
GW5 - Total Sodium (mg/L)



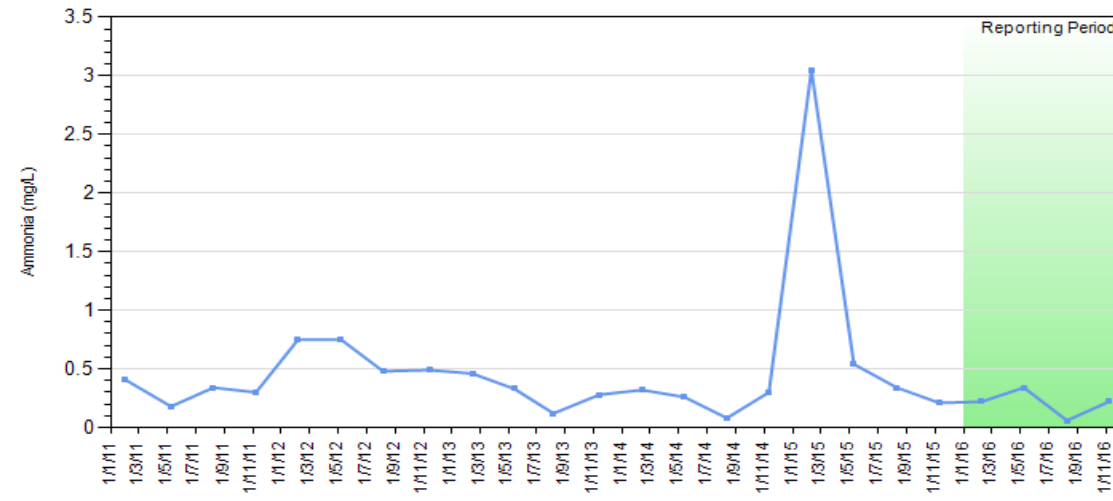
GW5 - Total Zinc (mg/L)



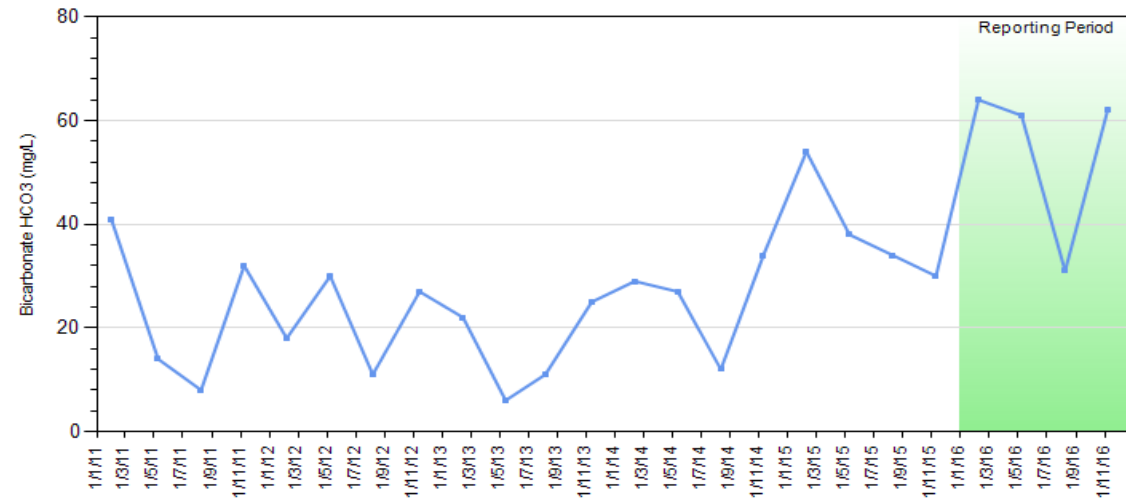
GW6 - Alkalinity (mg/L as CaCO3)



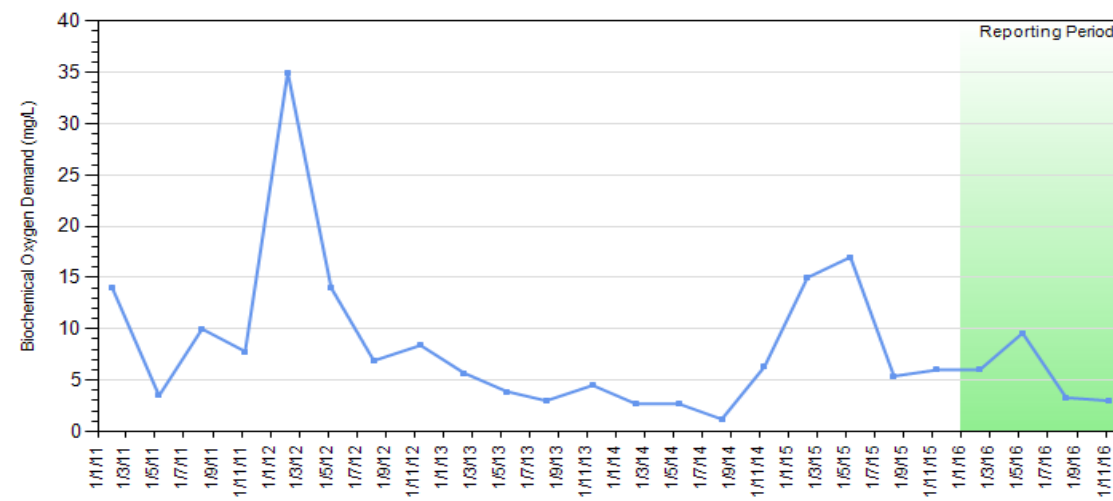
GW6 - Ammonia (mg/L)



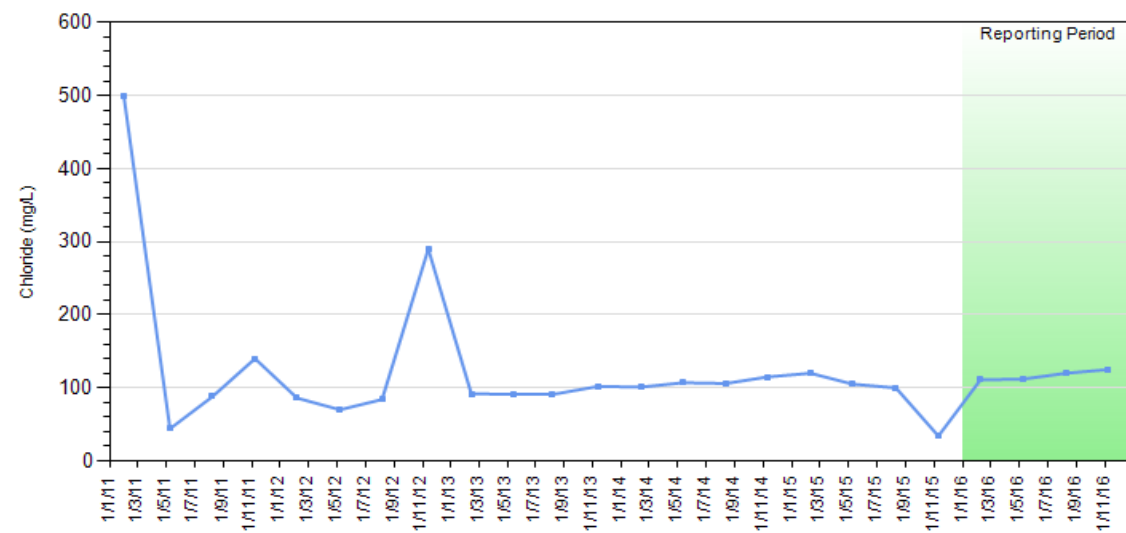
GW6 - Bicarbonate HCO3 (mg/L)



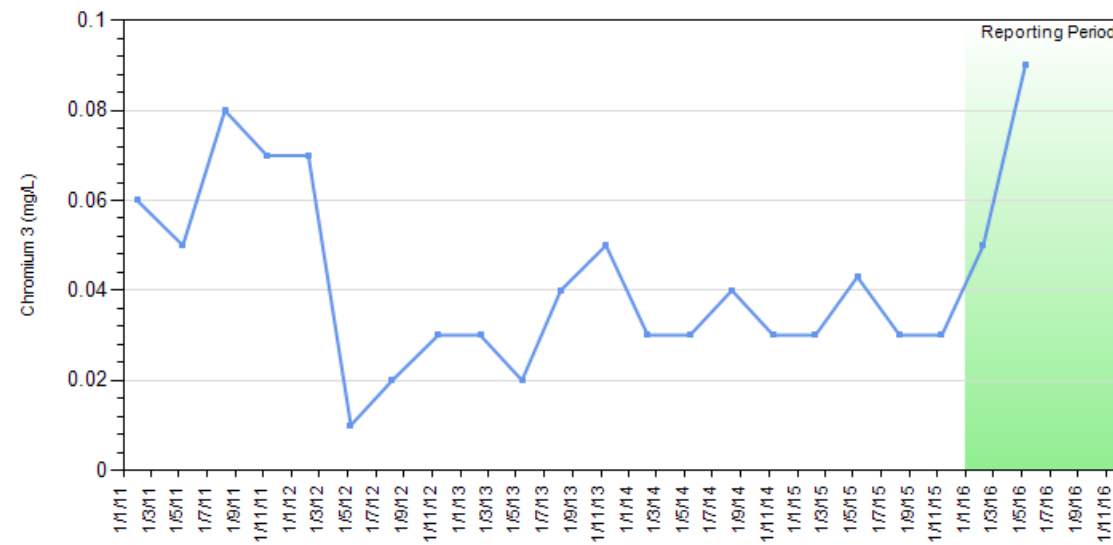
GW6 - Biochemical Oxygen Demand (mg/L)



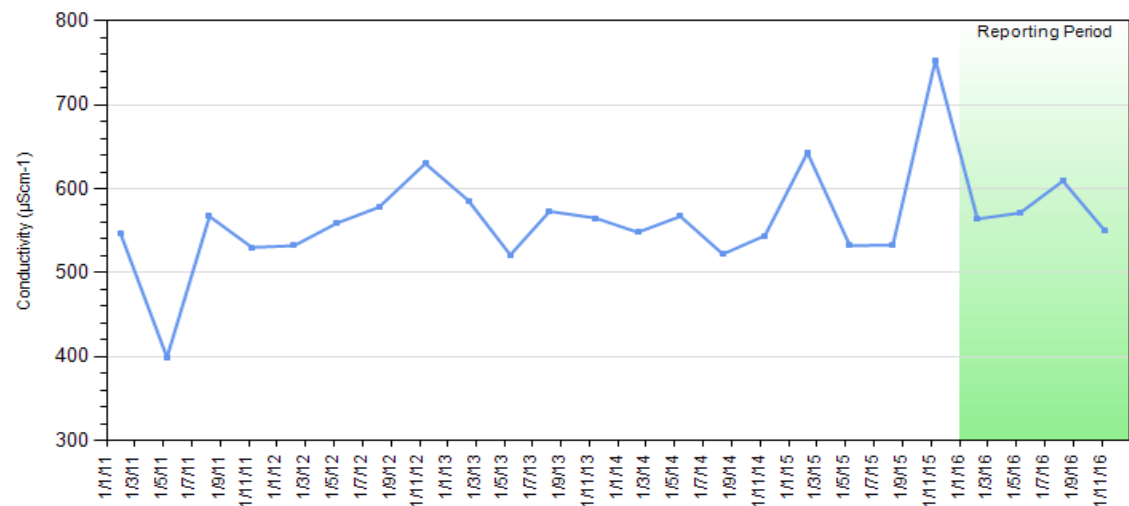
GW6 - Chloride (mg/L)



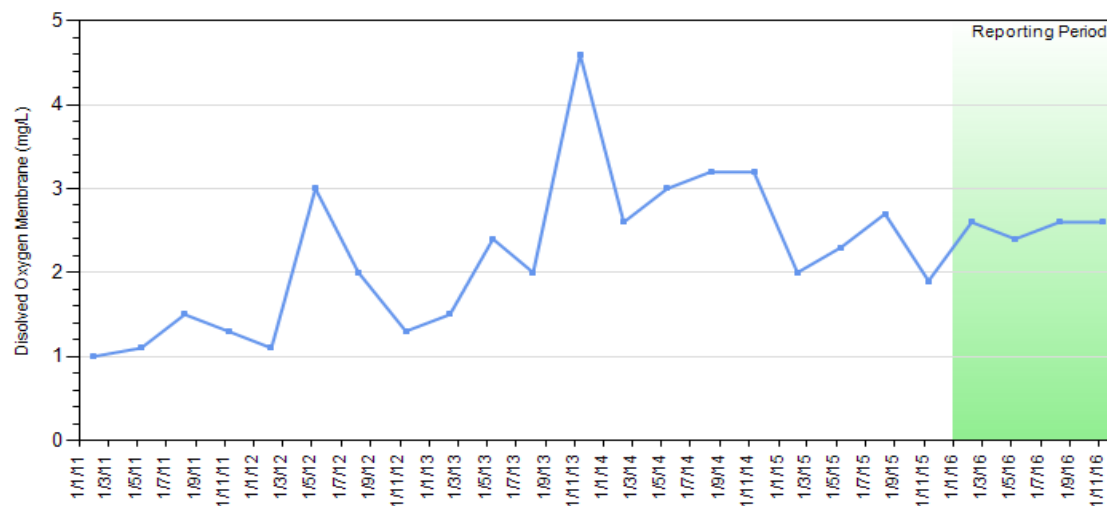
GW6 - Chromium 3 (mg/L)



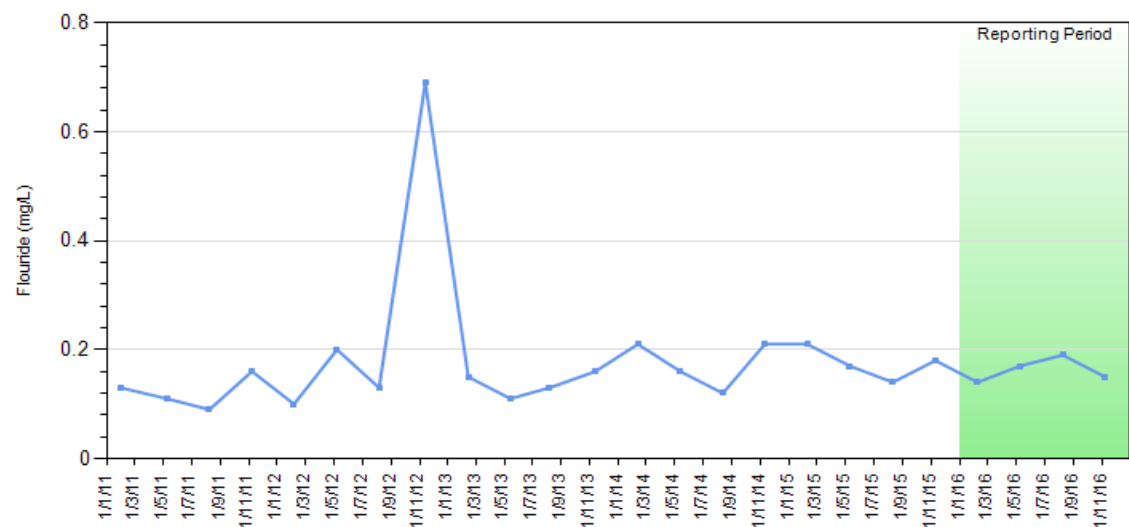
GW6 - Conductivity (μScm^{-1})



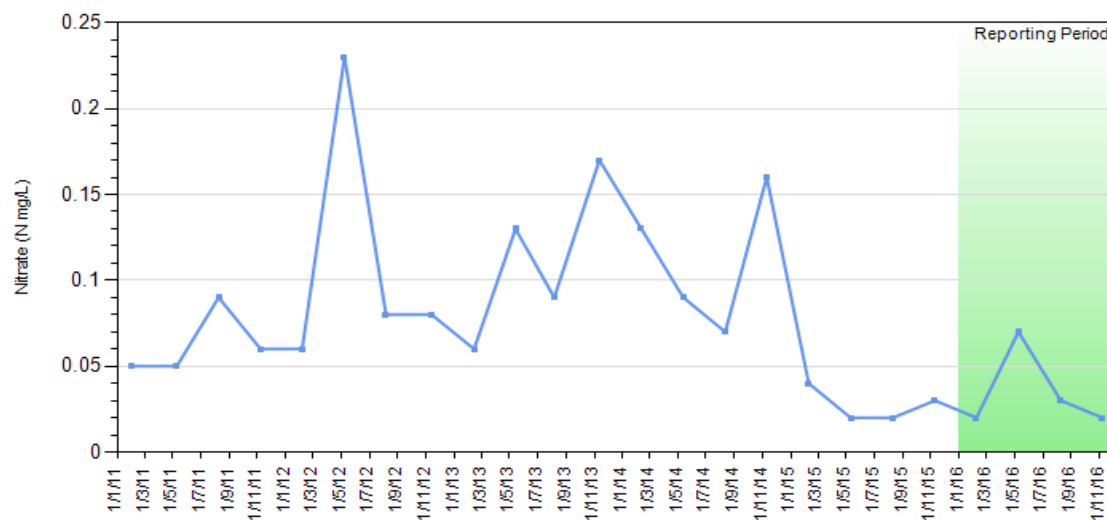
GW6 - Dissolved Oxygen Membrane (mg/L)



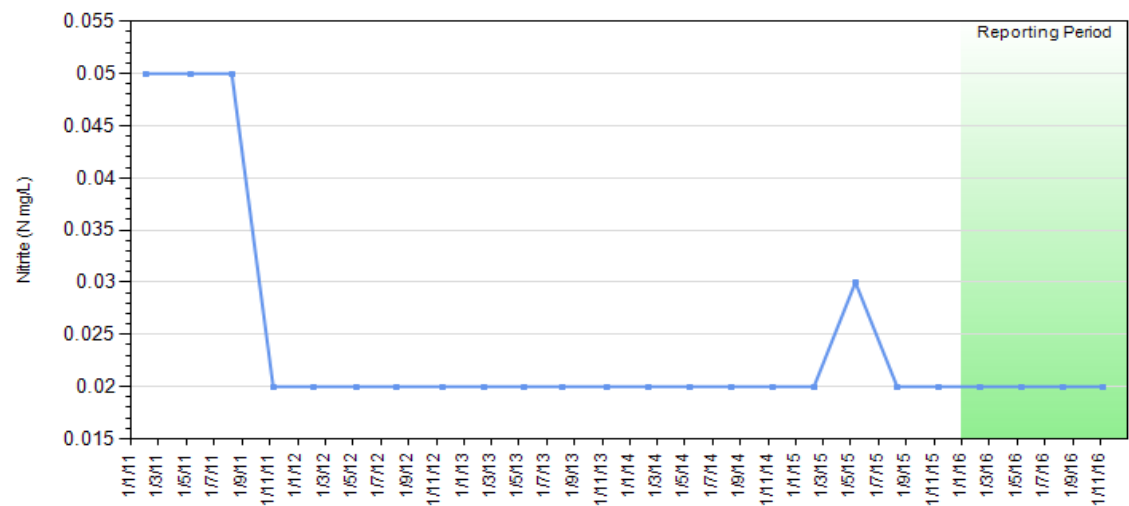
GW6 - Fluoride (mg/L)



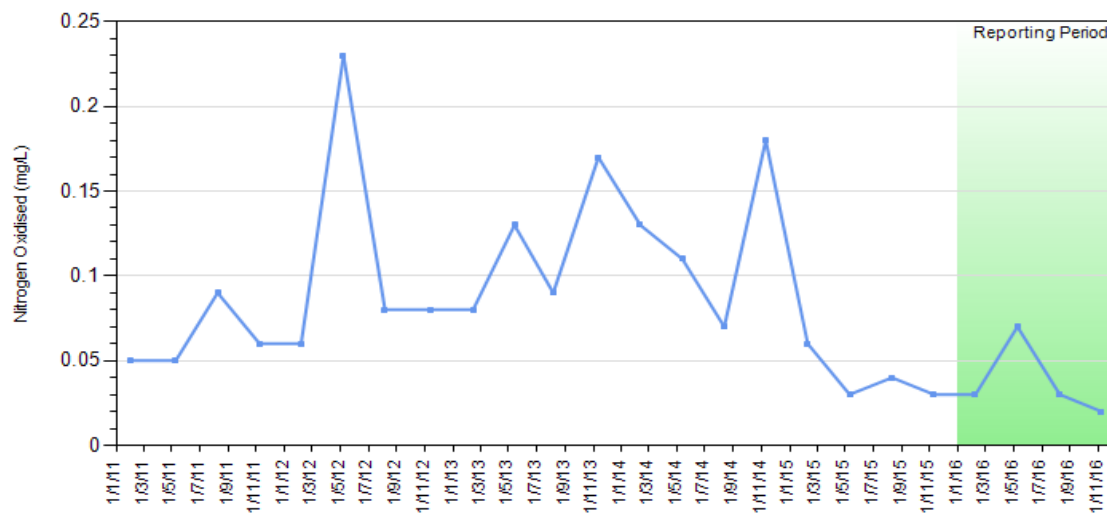
GW6 - Nitrate (N mg/L)

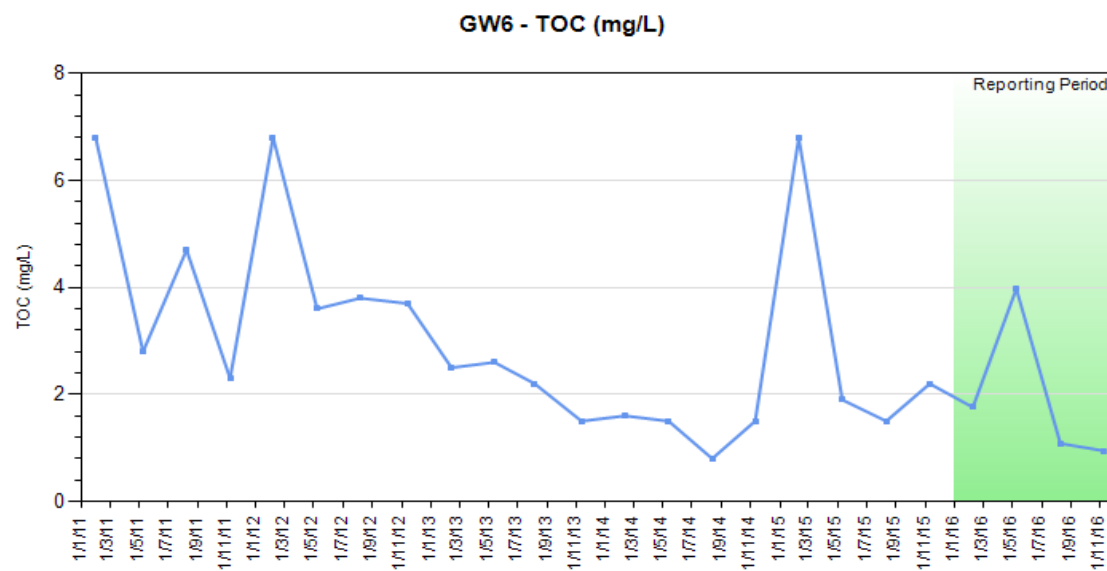
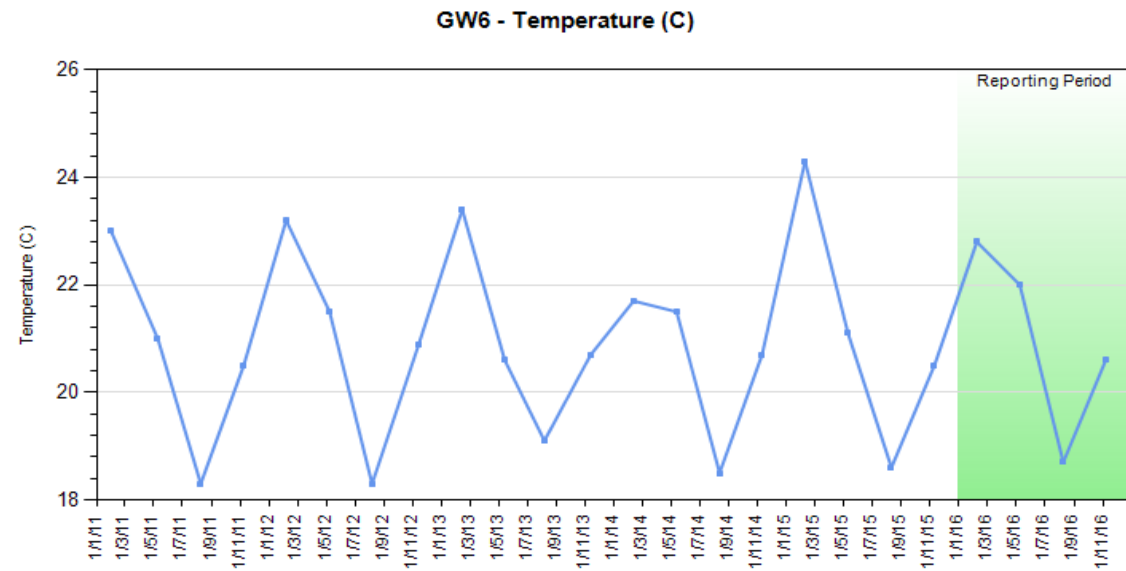
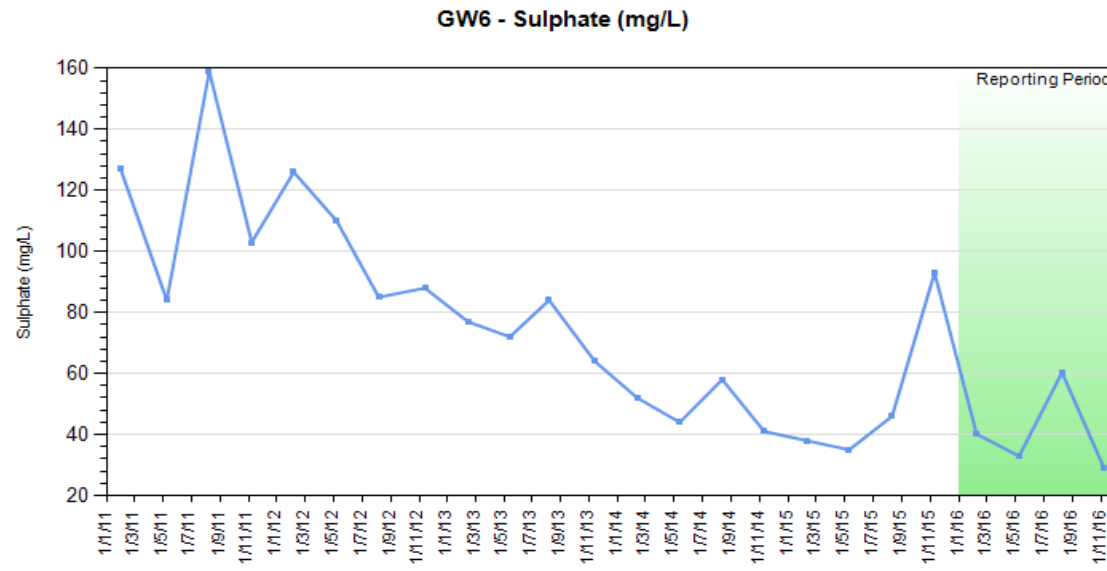
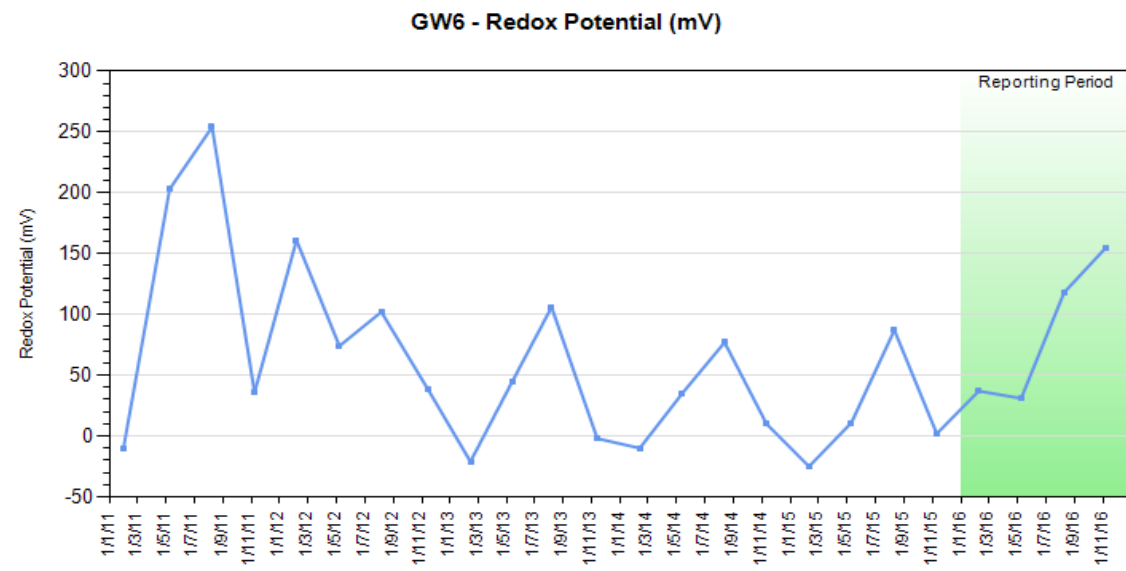
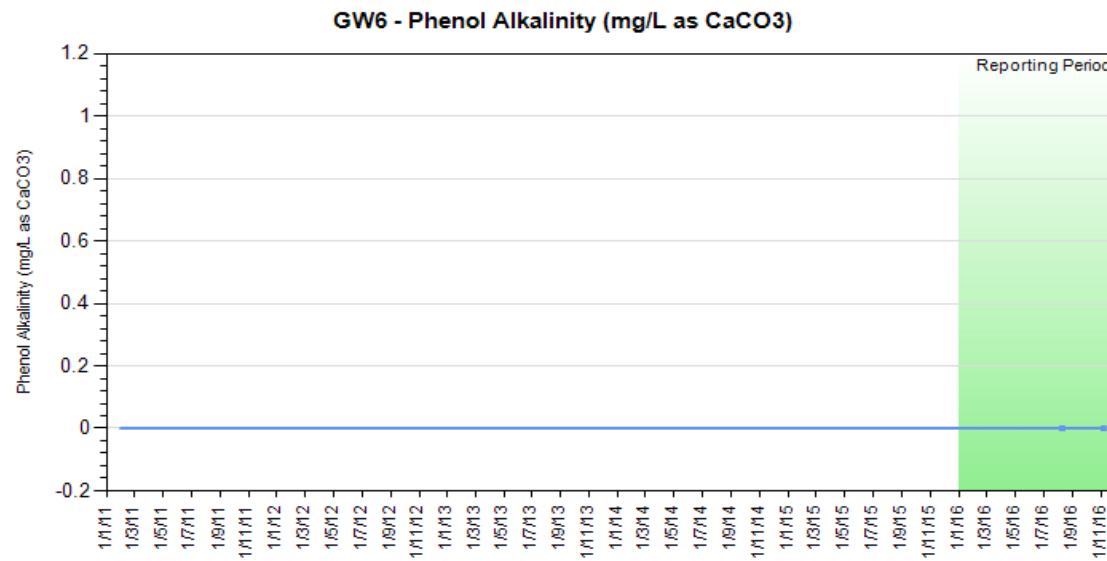
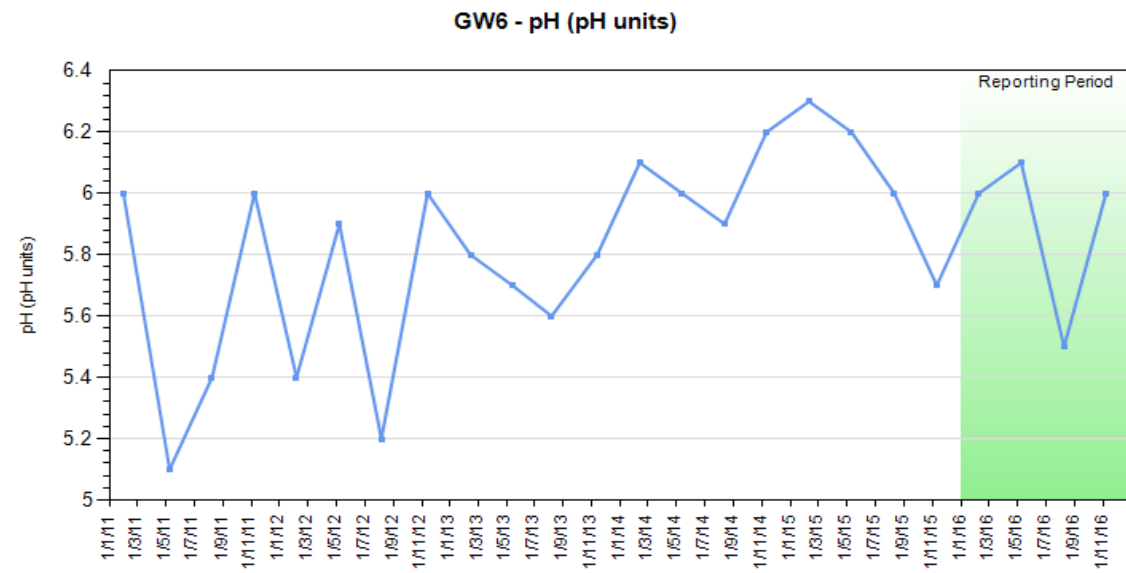


GW6 - Nitrite (N mg/L)

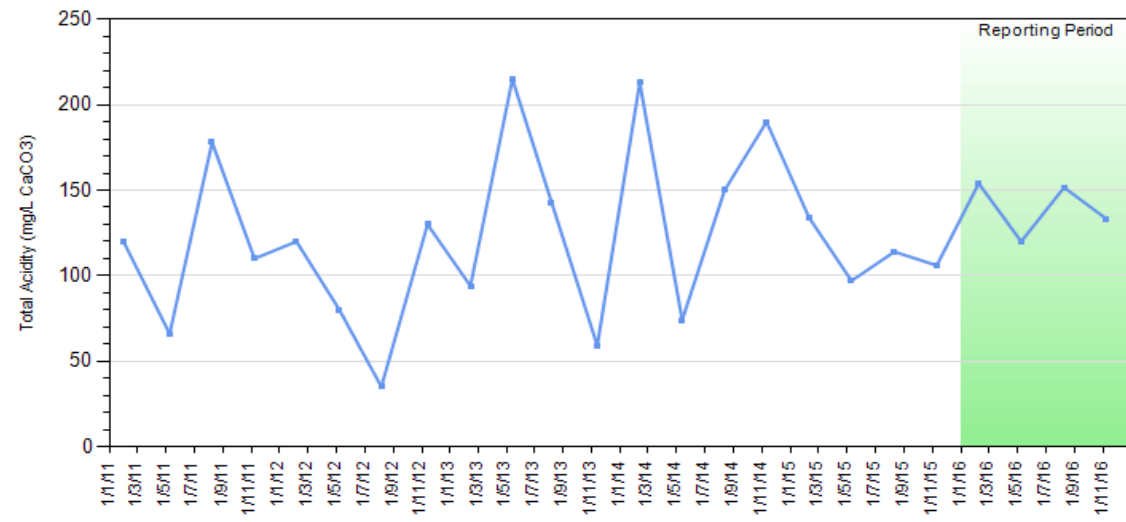


GW6 - Nitrogen Oxidised (mg/L)

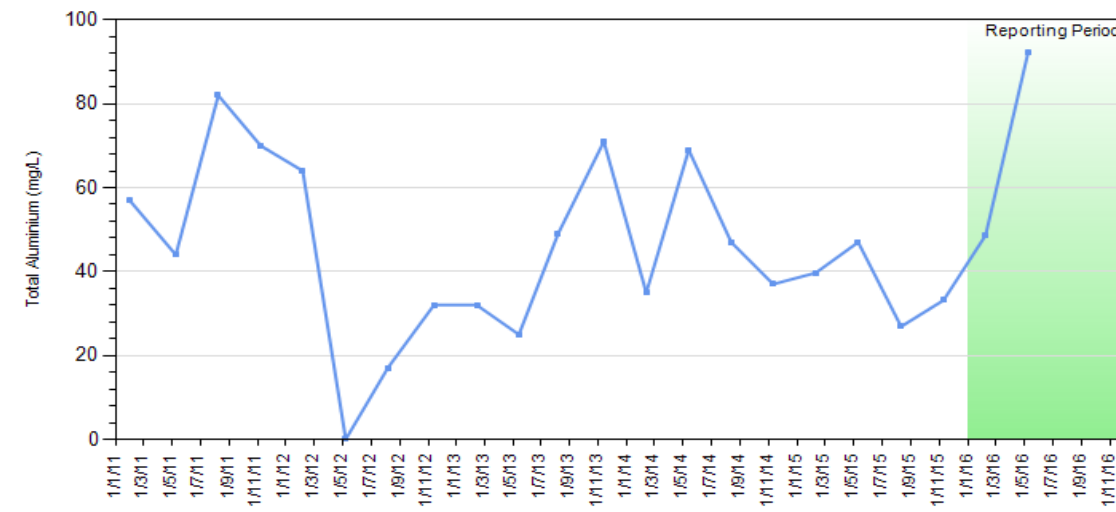




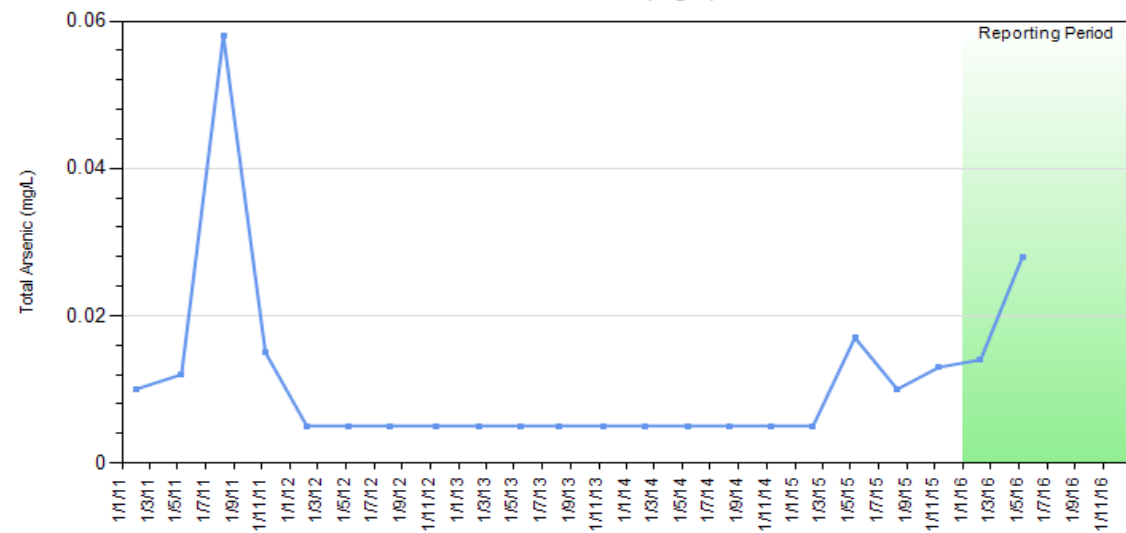
GW6 - Total Acidity (mg/L CaCO3)



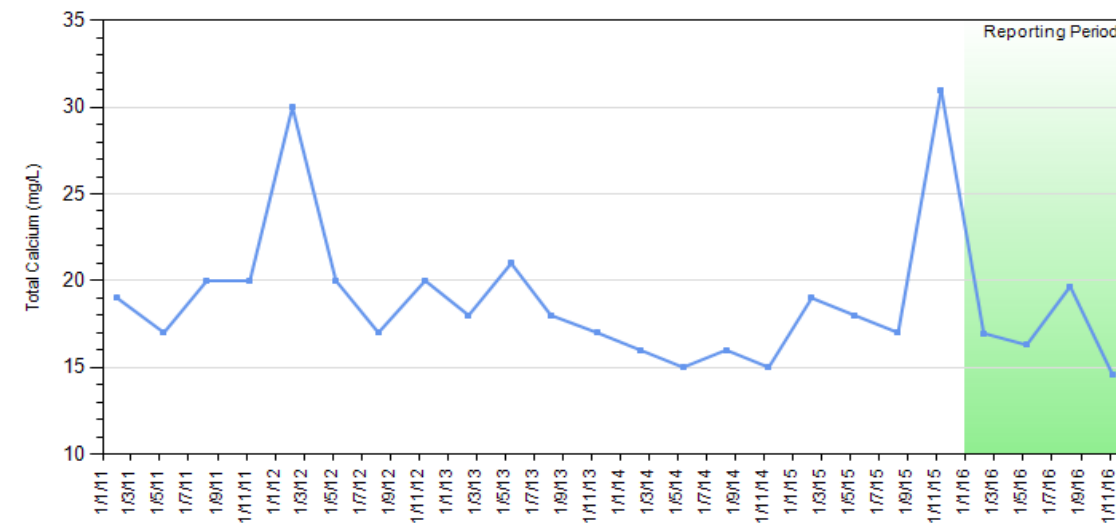
GW6 - Total Aluminium (mg/L)



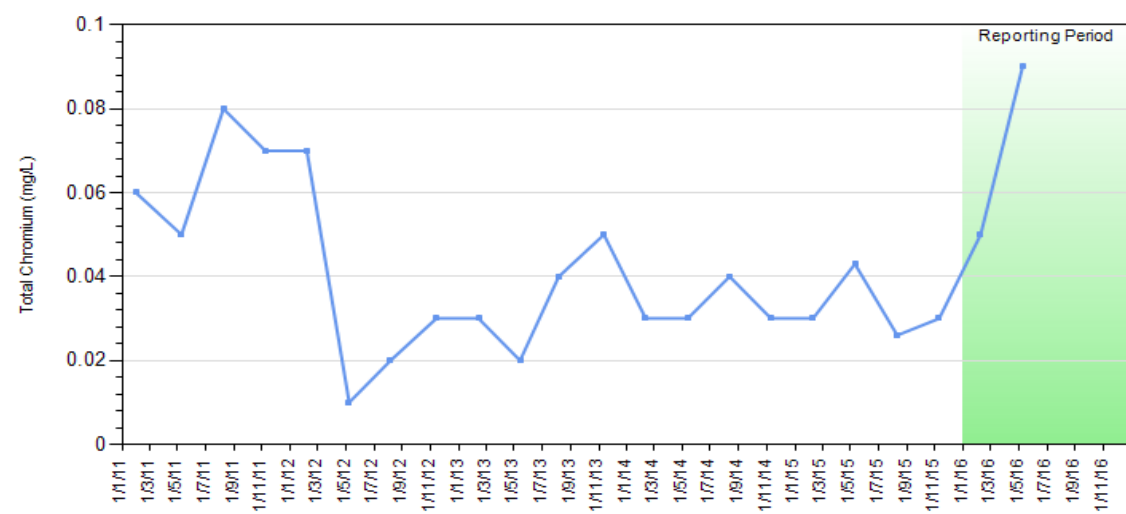
GW6 - Total Arsenic (mg/L)



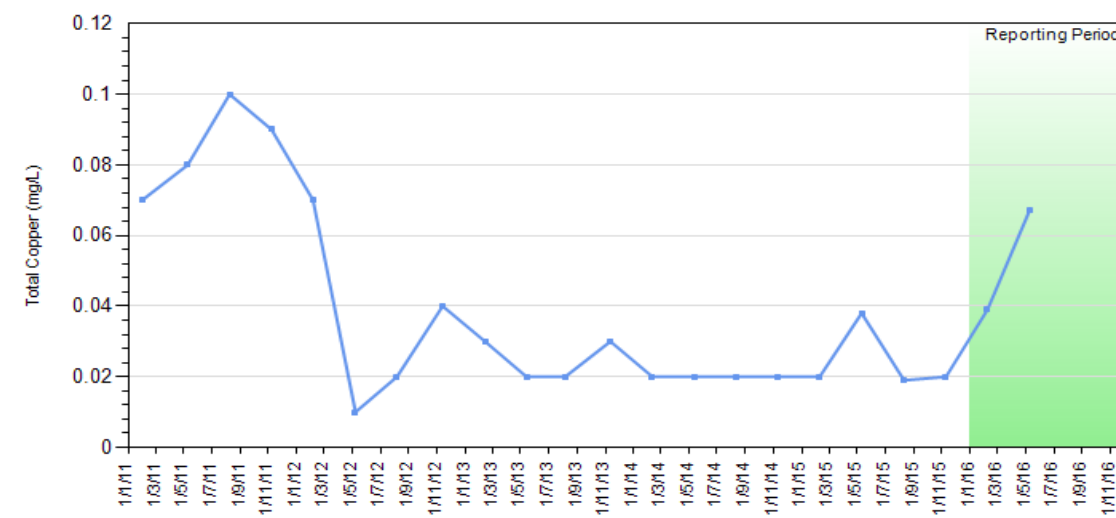
GW6 - Total Calcium (mg/L)



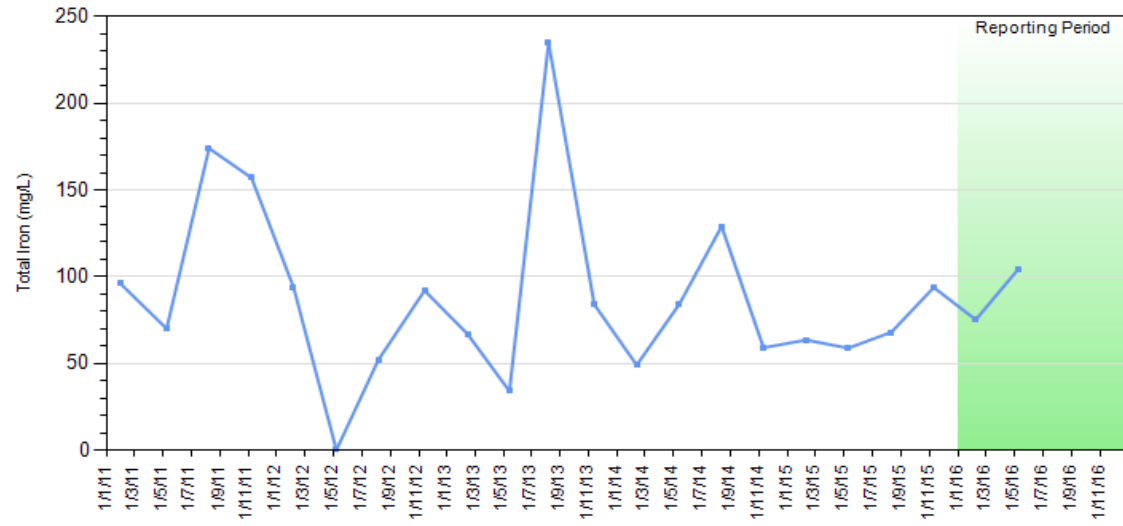
GW6 - Total Chromium (mg/L)



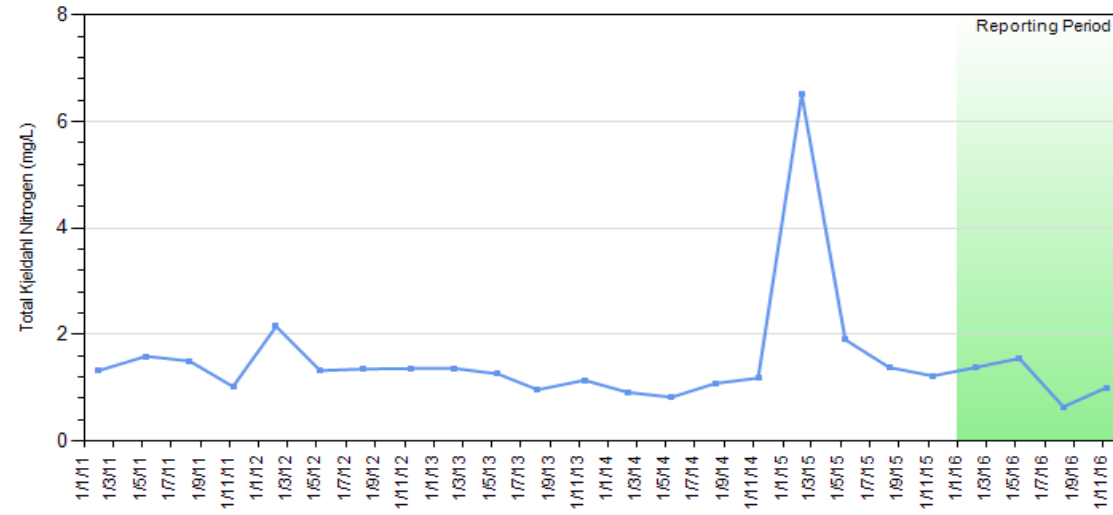
GW6 - Total Copper (mg/L)



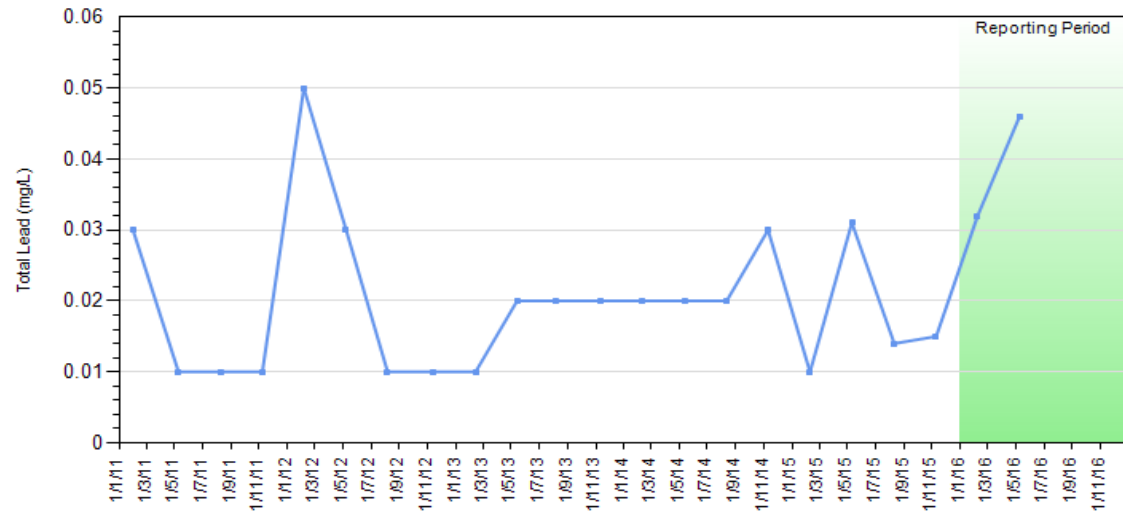
GW6 - Total Iron (mg/L)



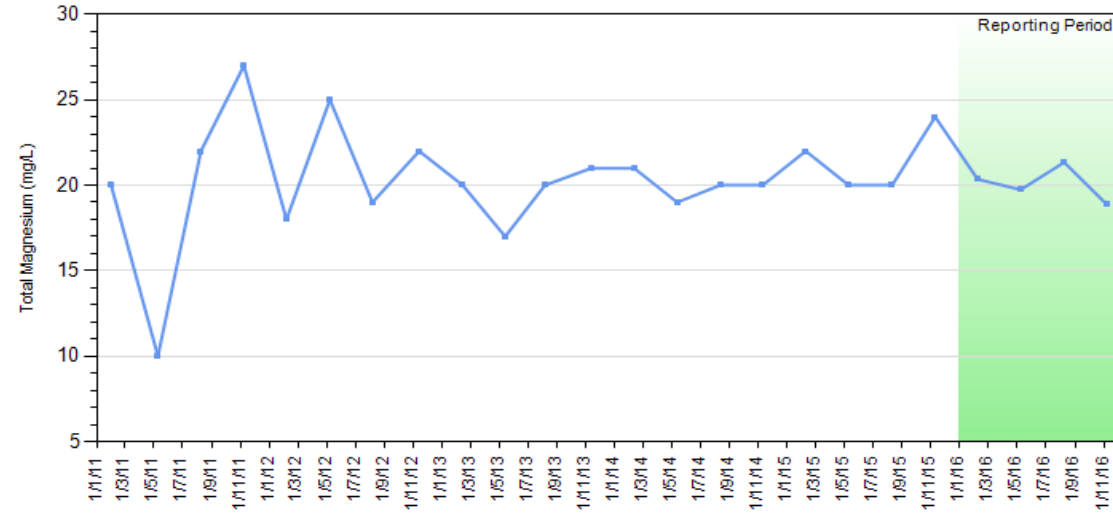
GW6 - Total Kjeldahl Nitrogen (mg/L)



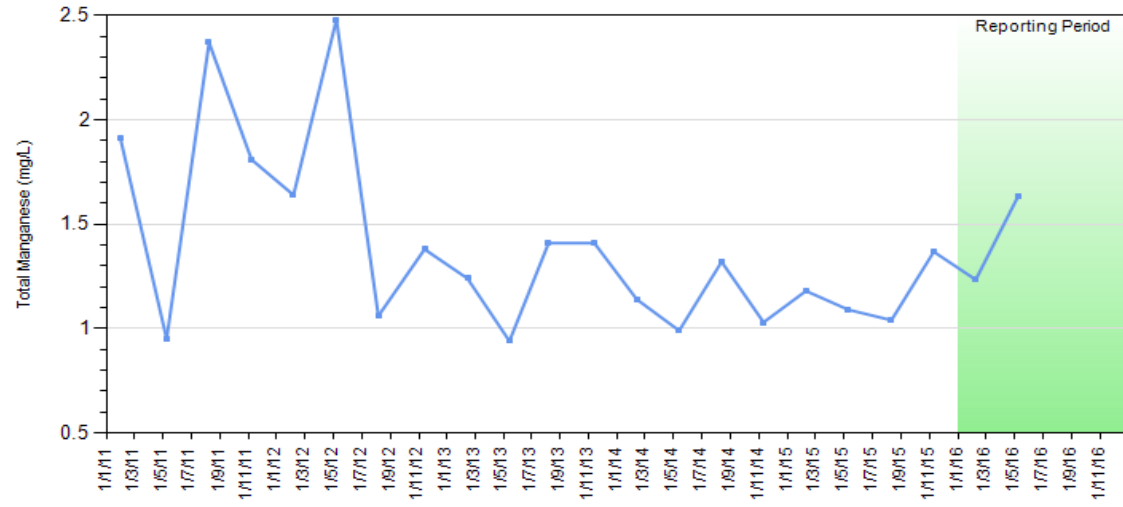
GW6 - Total Lead (mg/L)



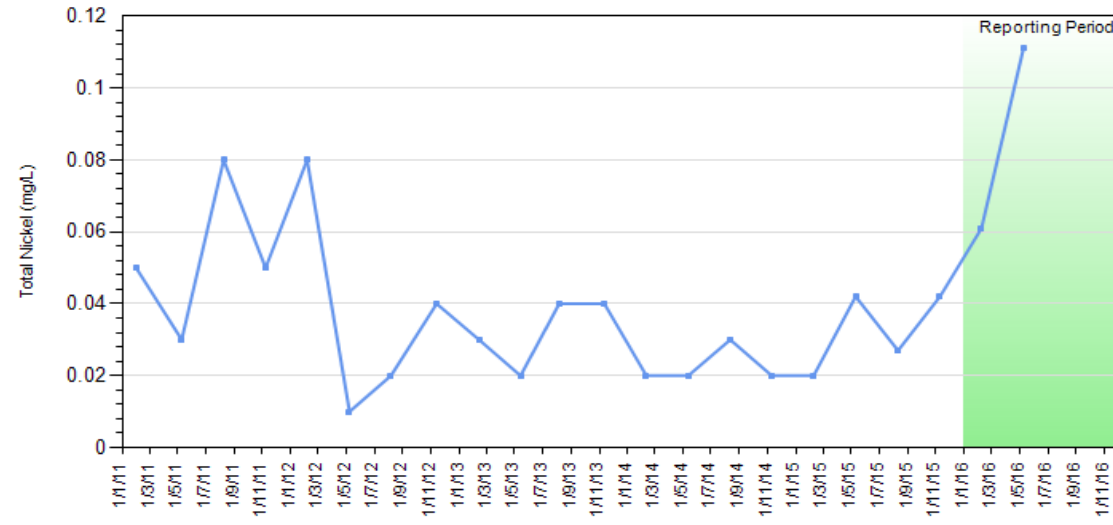
GW6 - Total Magnesium (mg/L)



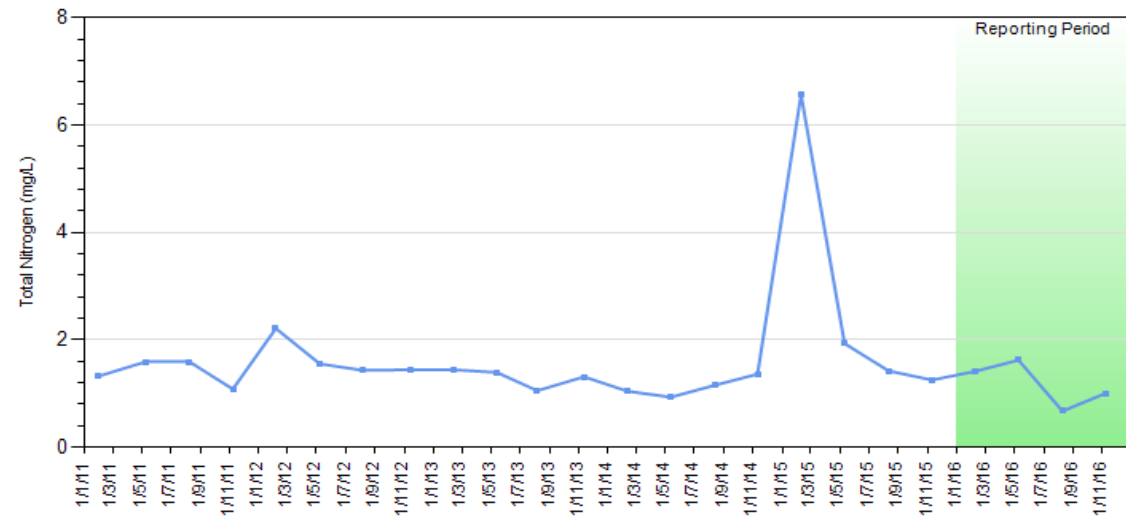
GW6 - Total Manganese (mg/L)



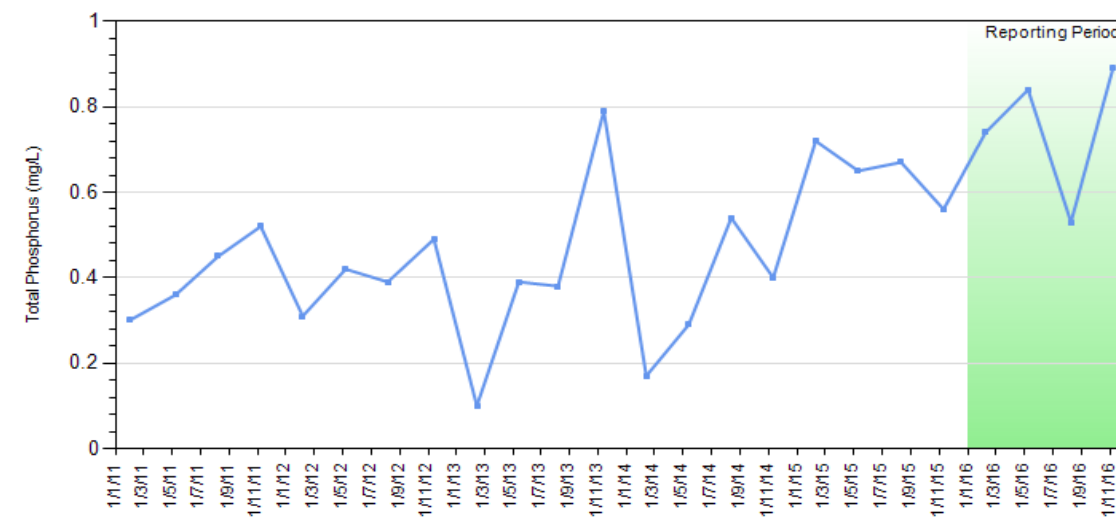
GW6 - Total Nickel (mg/L)



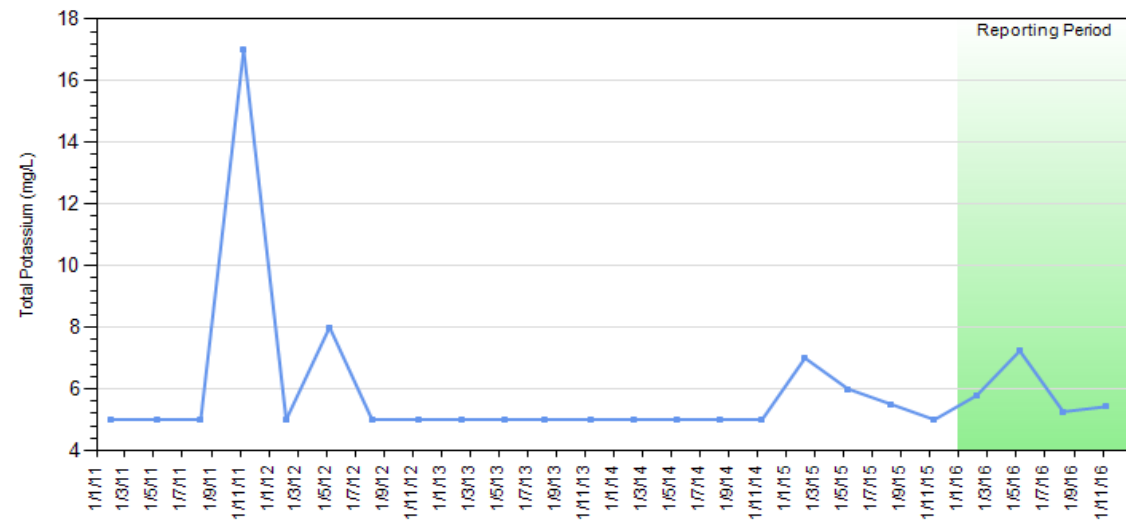
GW6 - Total Nitrogen (mg/L)



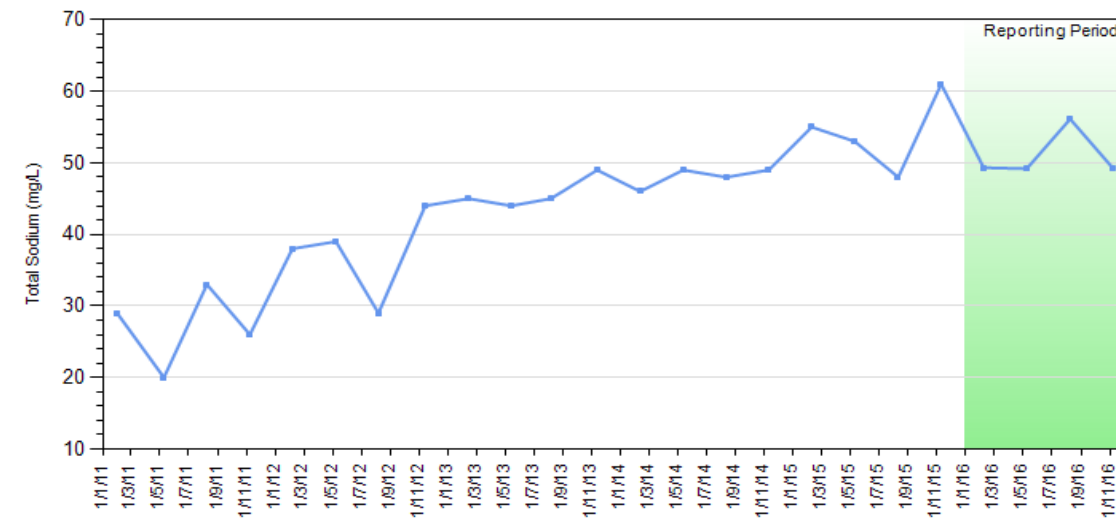
GW6 - Total Phosphorus (mg/L)



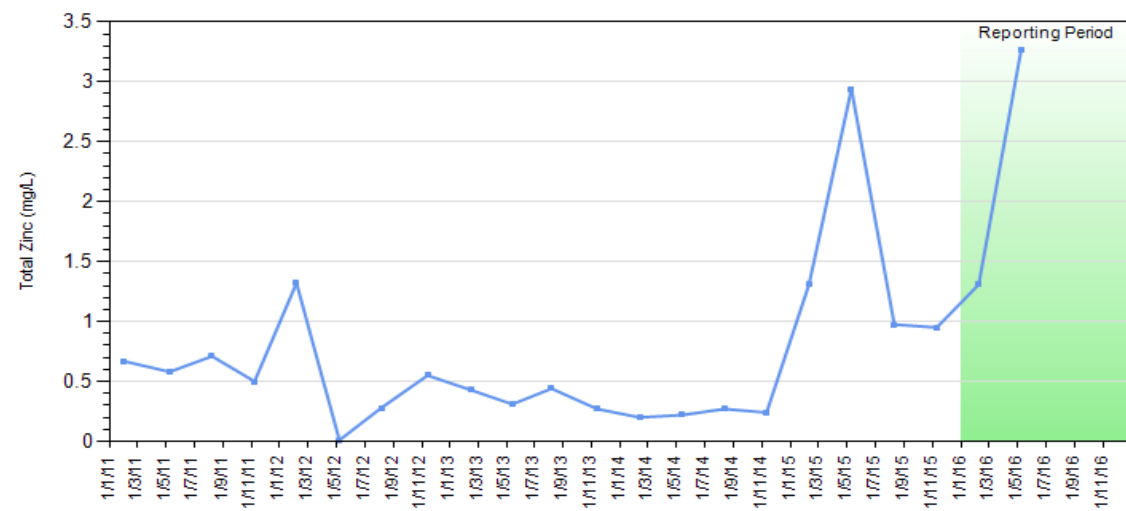
GW6 - Total Potassium (mg/L)



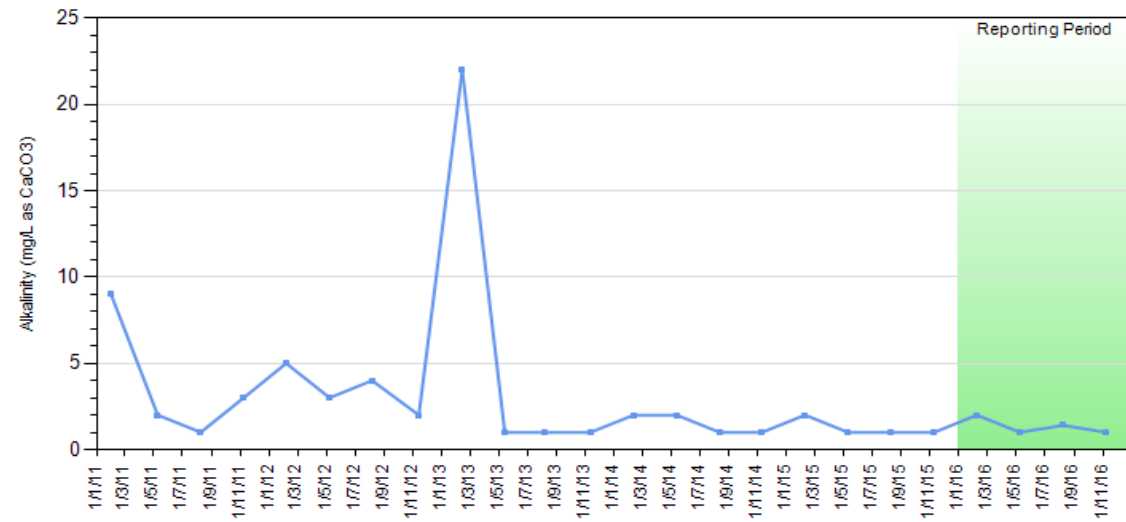
GW6 - Total Sodium (mg/L)



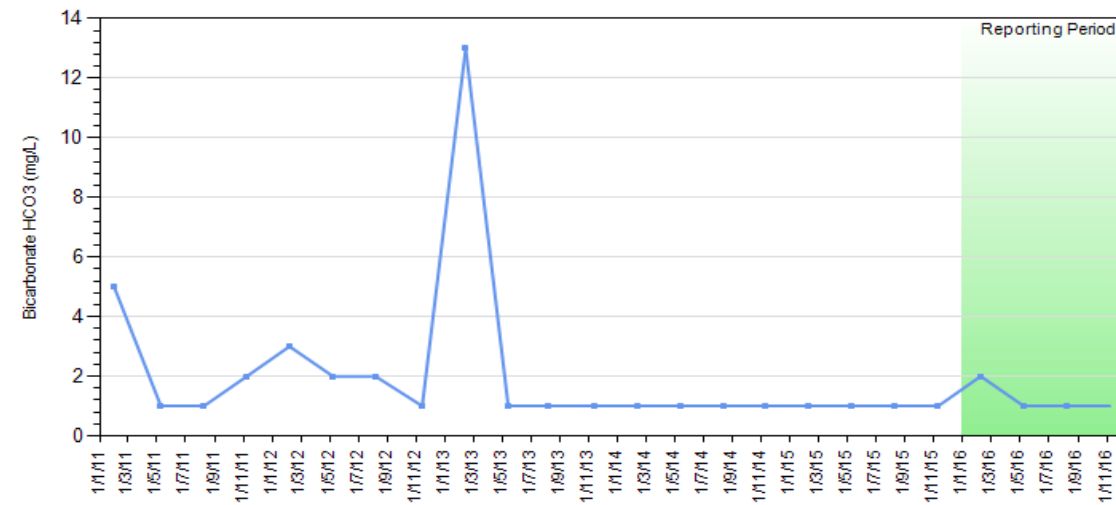
GW6 - Total Zinc (mg/L)



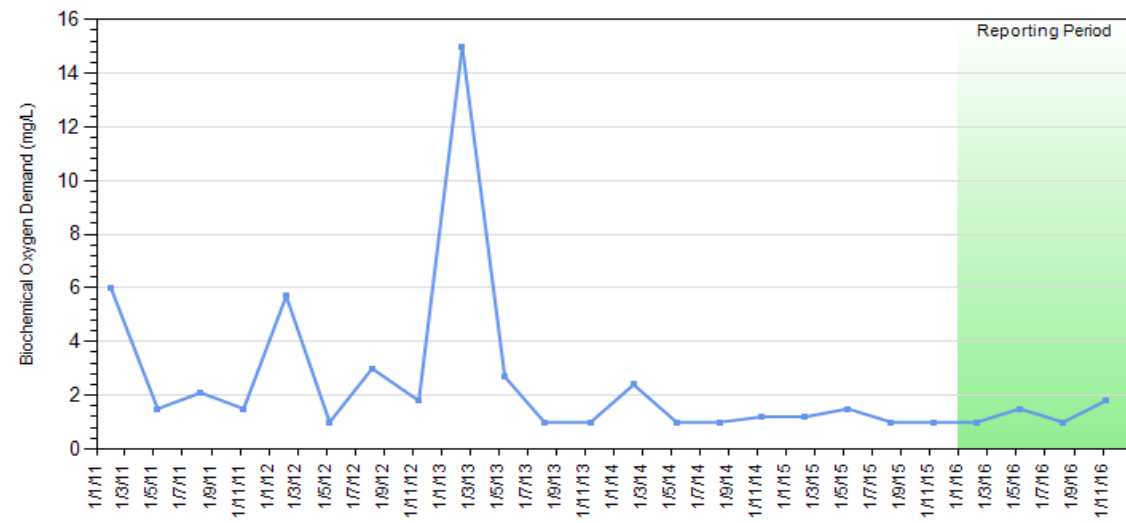
GW7 - Alkalinity (mg/L as CaCO3)



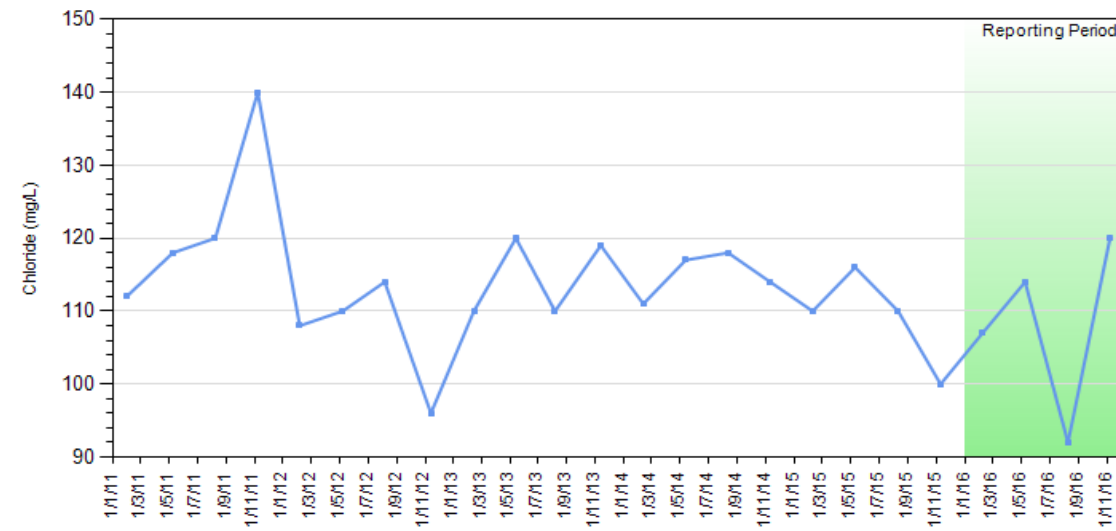
GW7 - Bicarbonate HCO3 (mg/L)



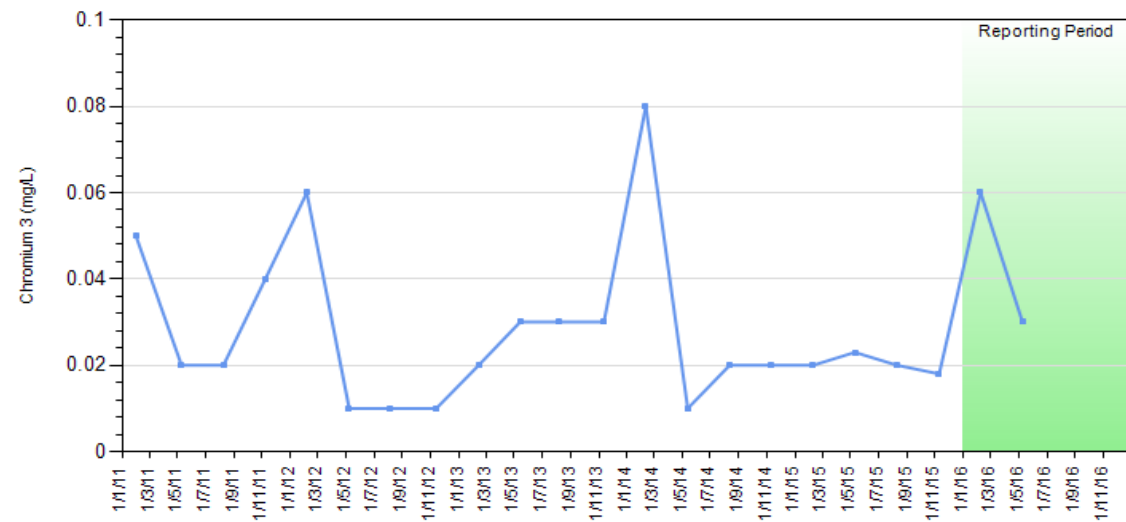
GW7 - Biochemical Oxygen Demand (mg/L)



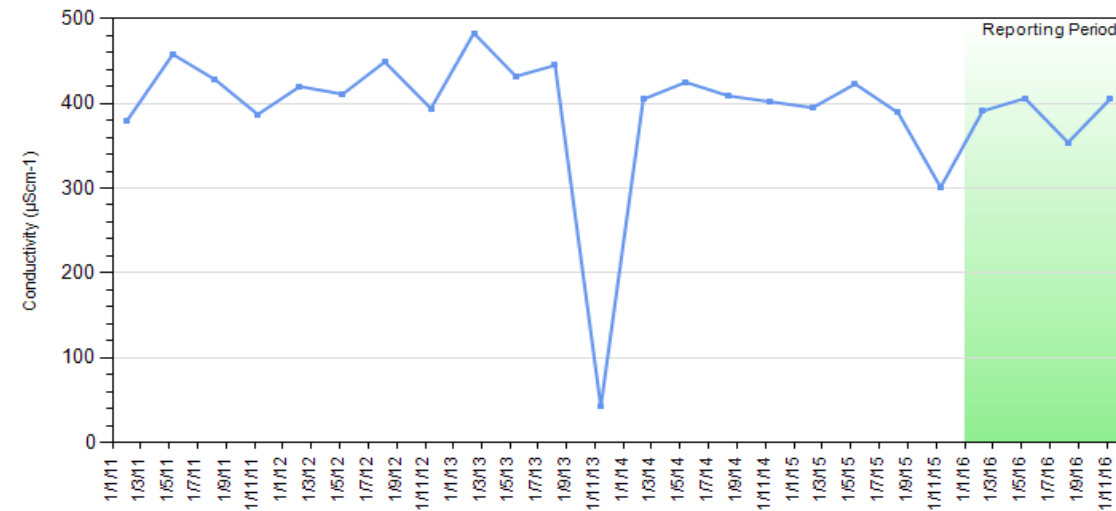
GW7 - Chloride (mg/L)



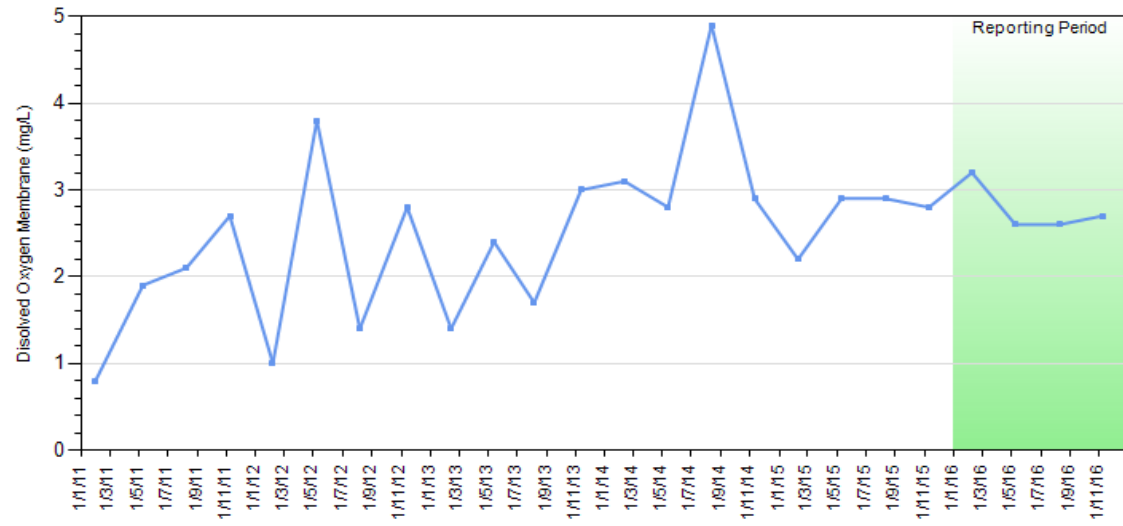
GW7 - Chromium 3 (mg/L)



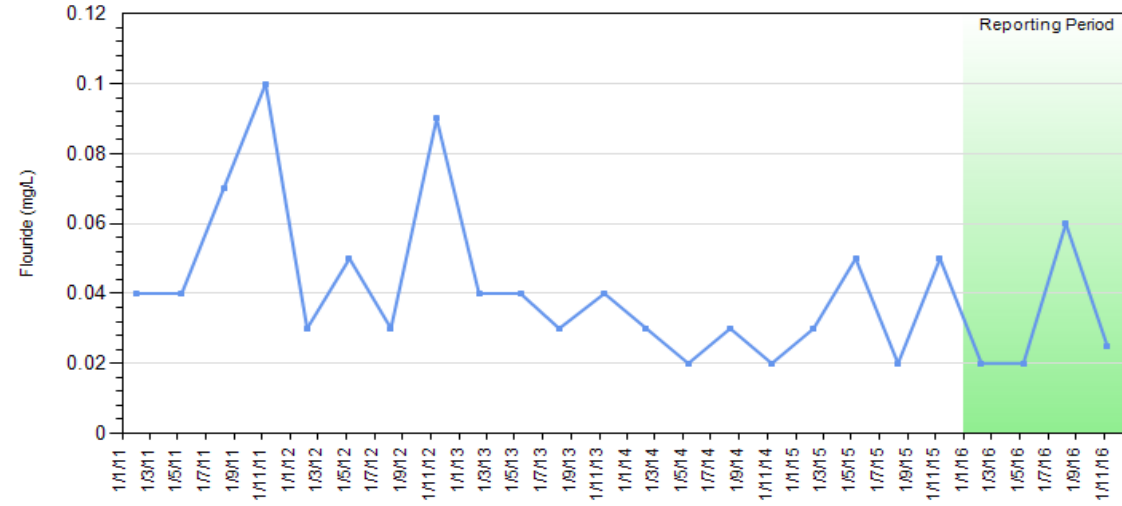
GW7 - Conductivity (µScm-1)



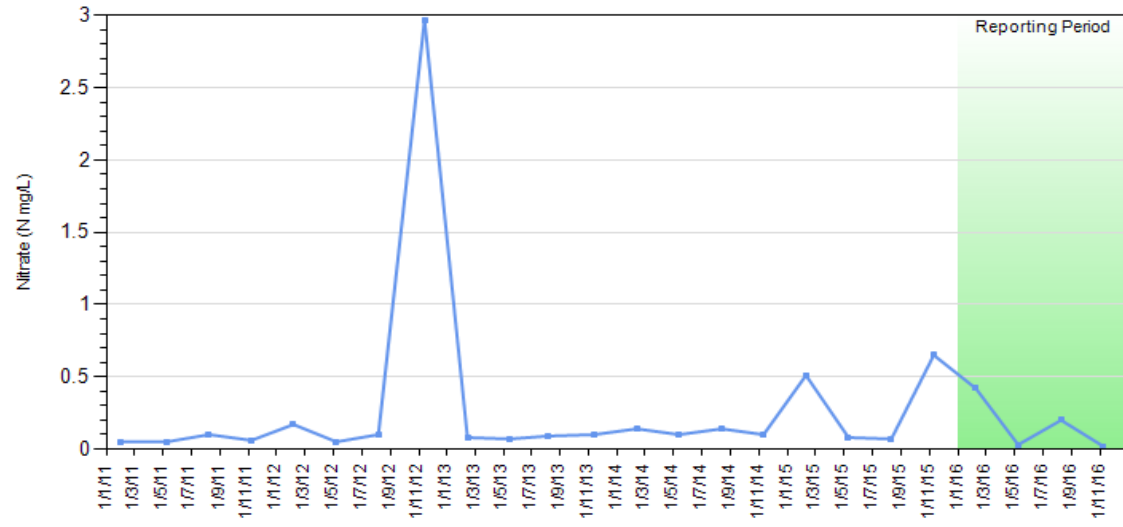
GW7 - Disolved Oxygen Membrane (mg/L)



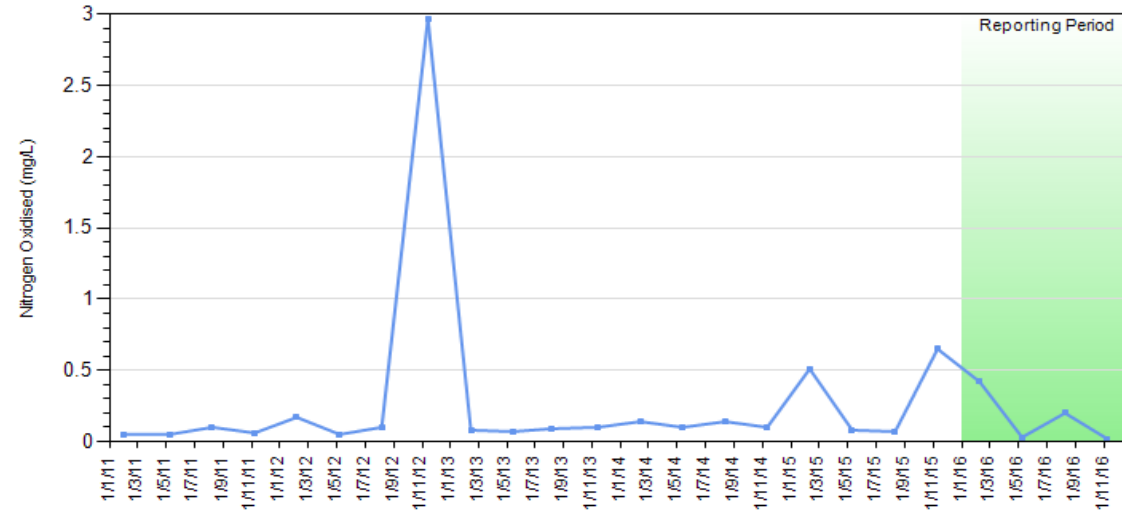
GW7 - Flouride (mg/L)



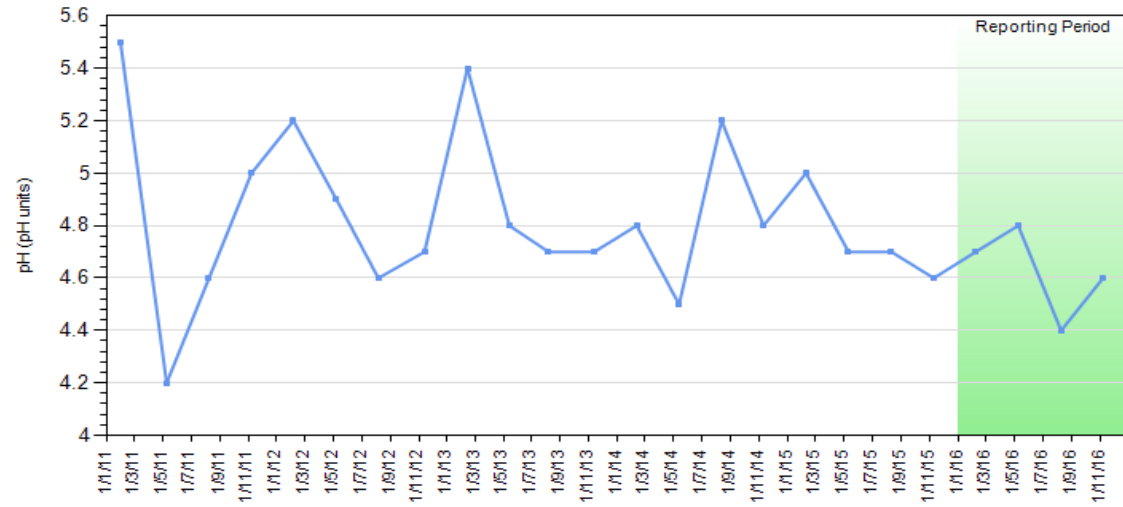
GW7 - Nitrate (N mg/L)



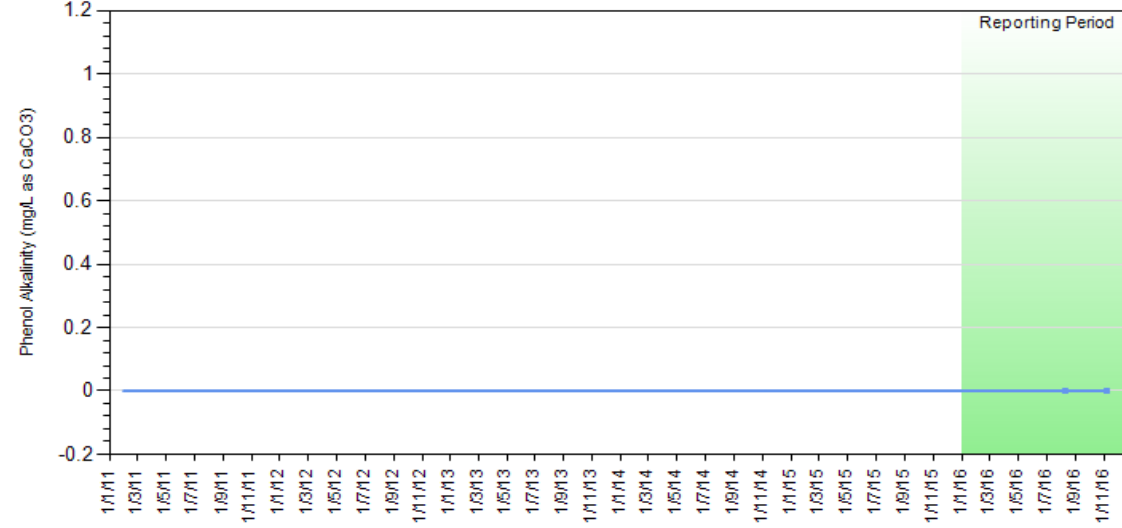
GW7 - Nitrogen Oxidised (mg/L)



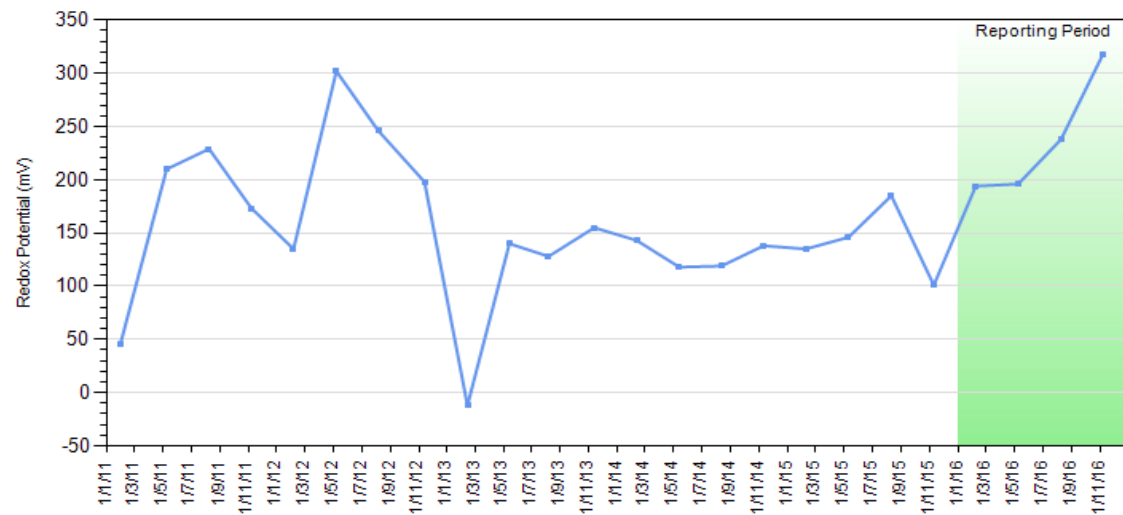
GW7 - pH (pH units)



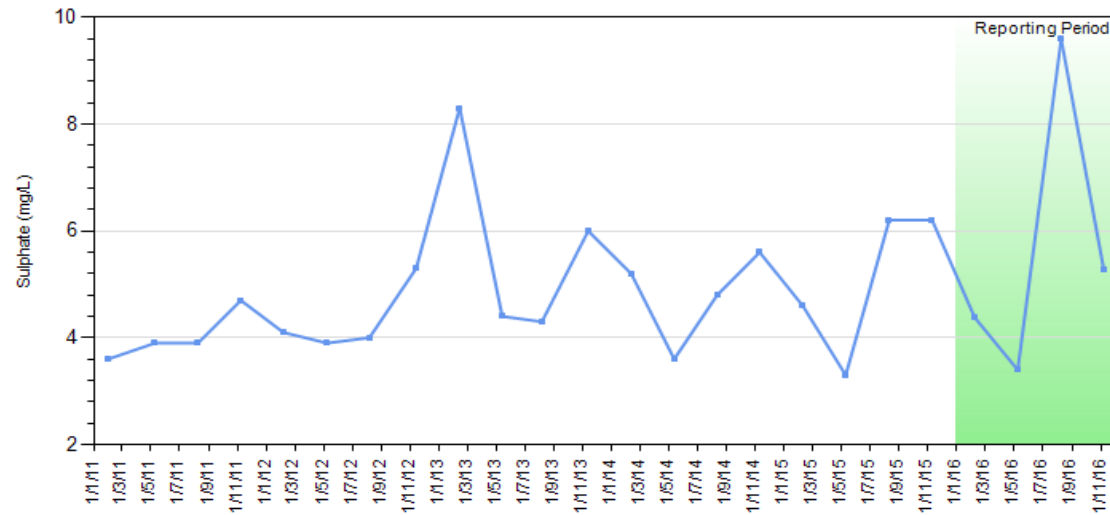
GW7 - Phenol Alkalinity (mg/L as CaCO3)



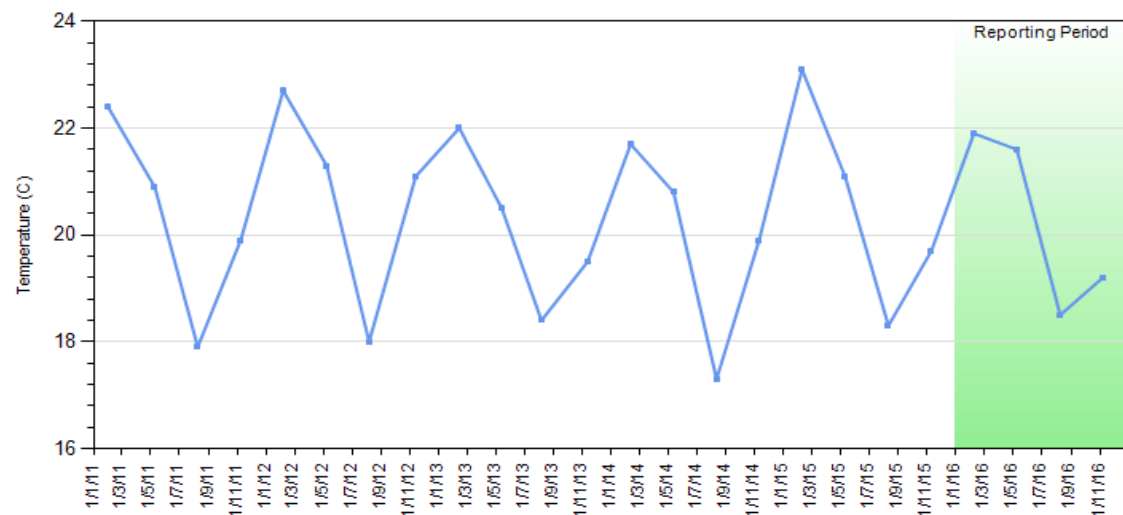
GW7 - Redox Potential (mV)



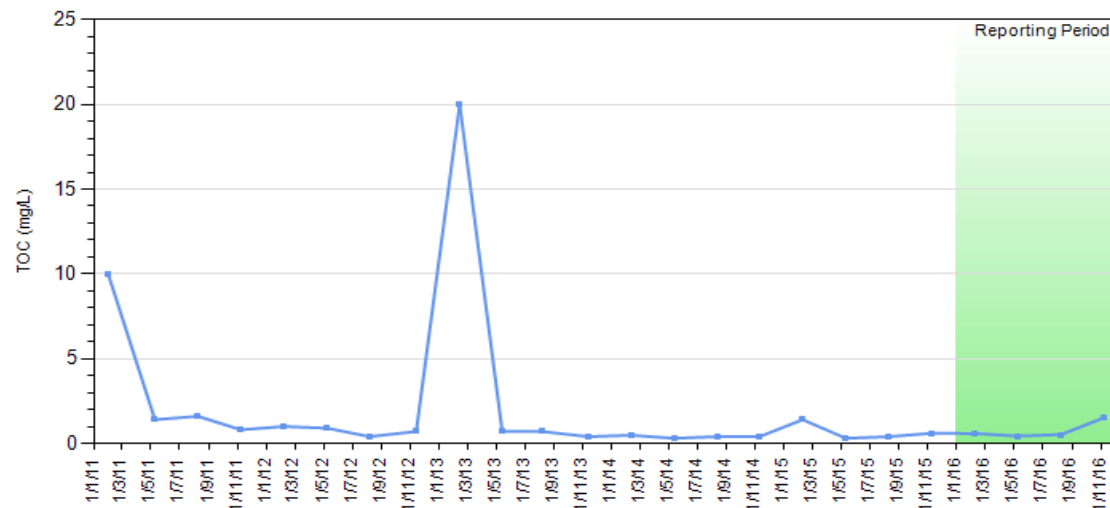
GW7 - Sulphate (mg/L)



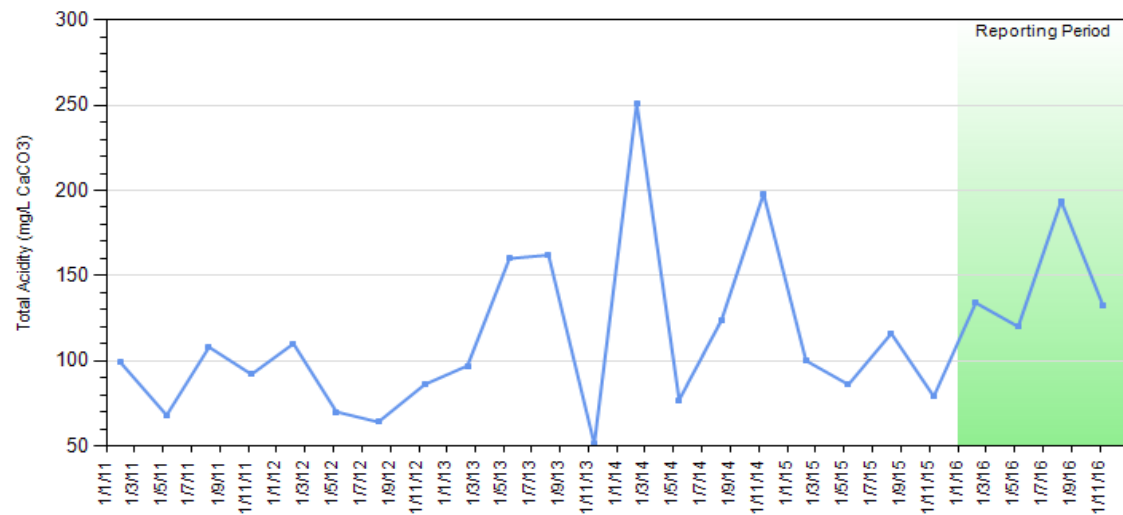
GW7 - Temperature (C)



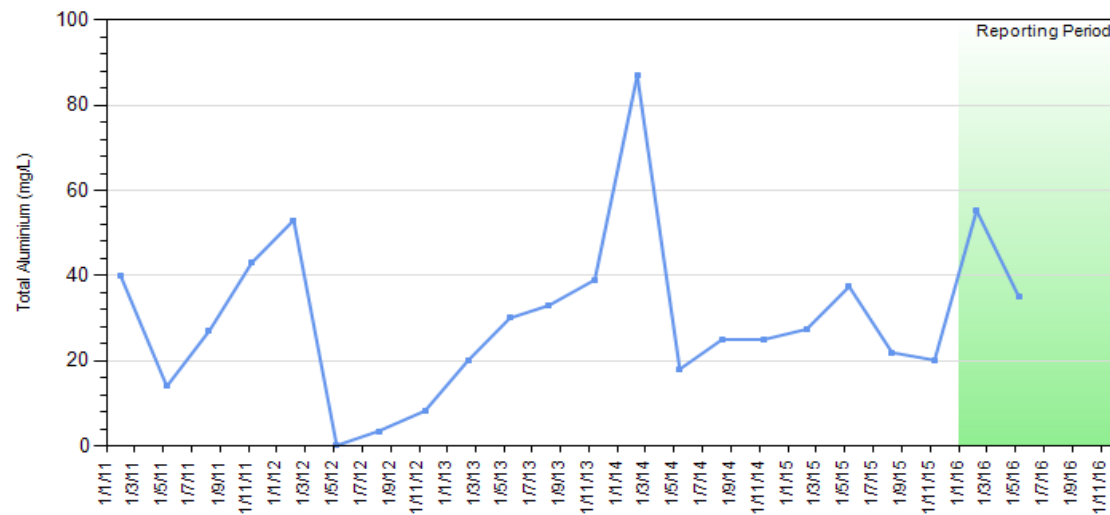
GW7 - TOC (mg/L)



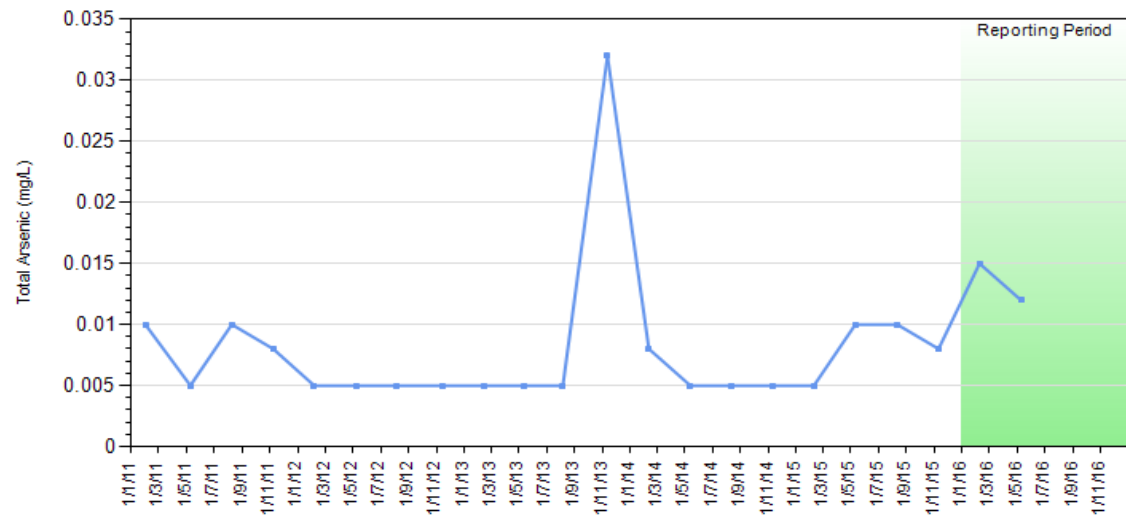
GW7 - Total Acidity (mg/L CaCO3)



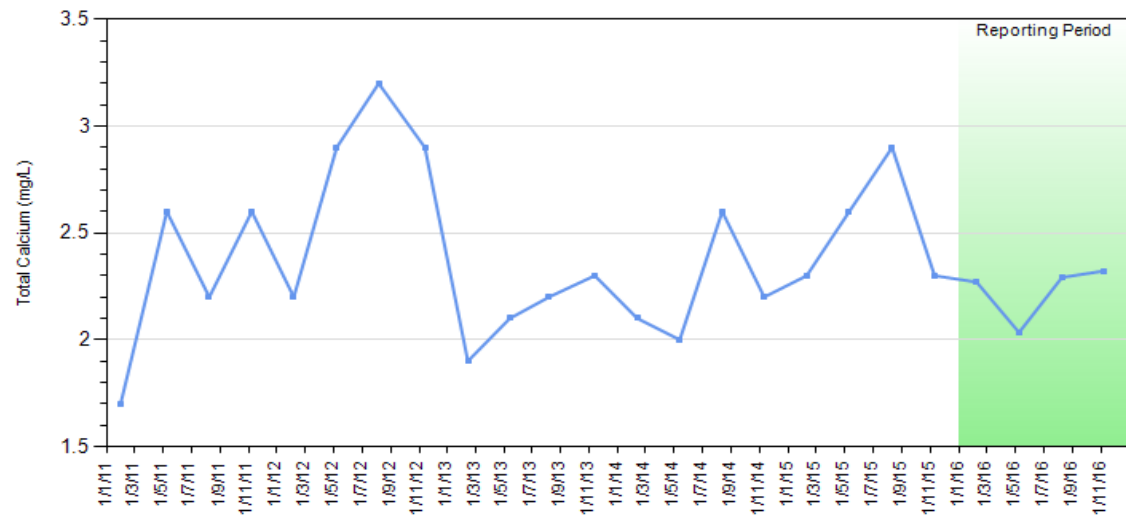
GW7 - Total Aluminium (mg/L)



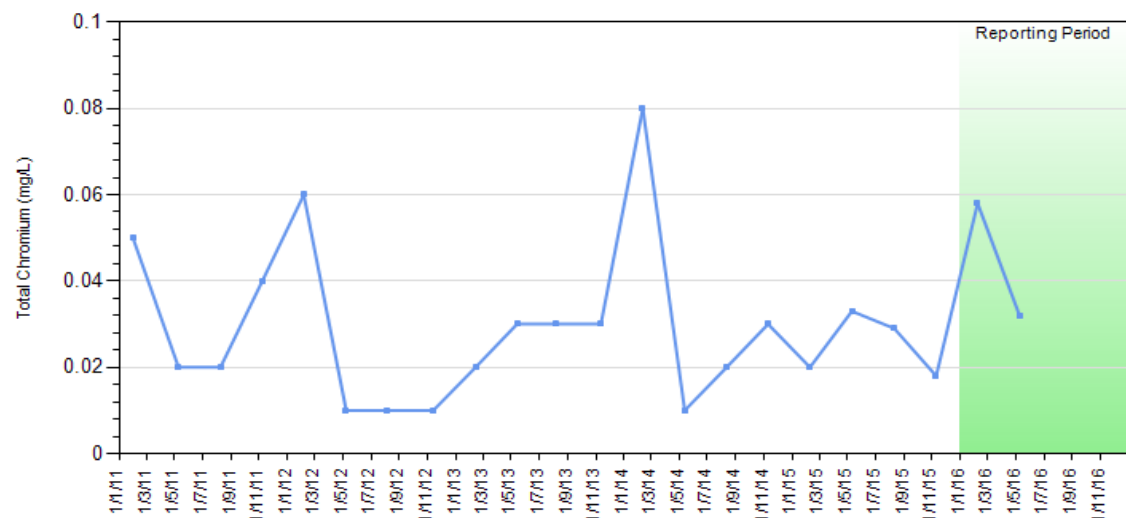
GW7 - Total Arsenic (mg/L)



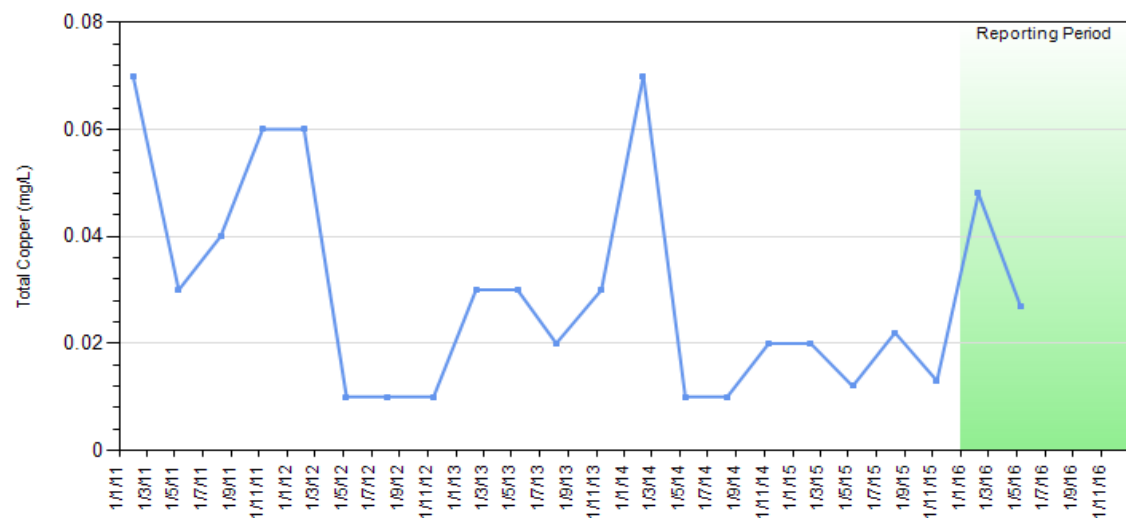
GW7 - Total Calcium (mg/L)



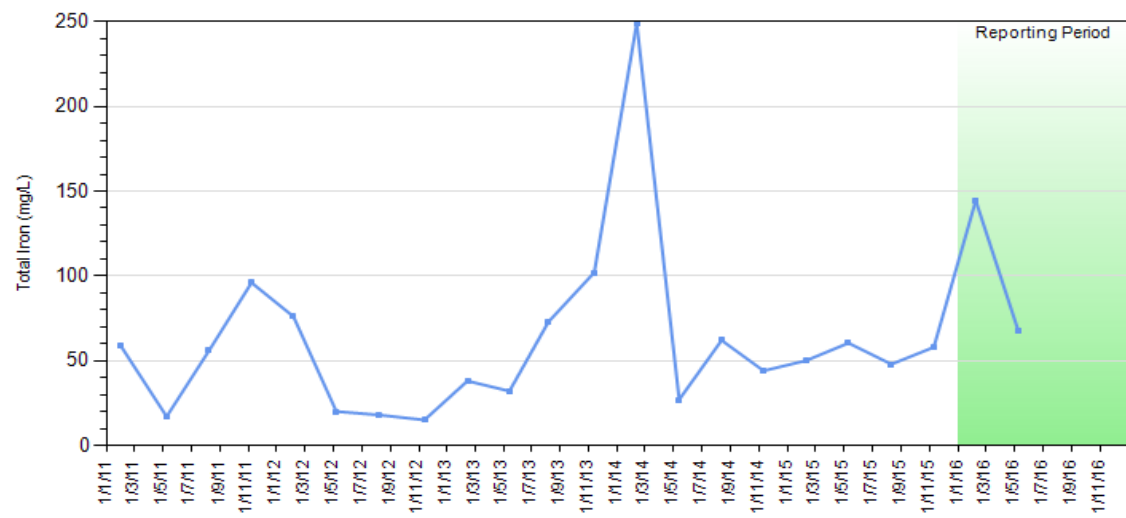
GW7 - Total Chromium (mg/L)



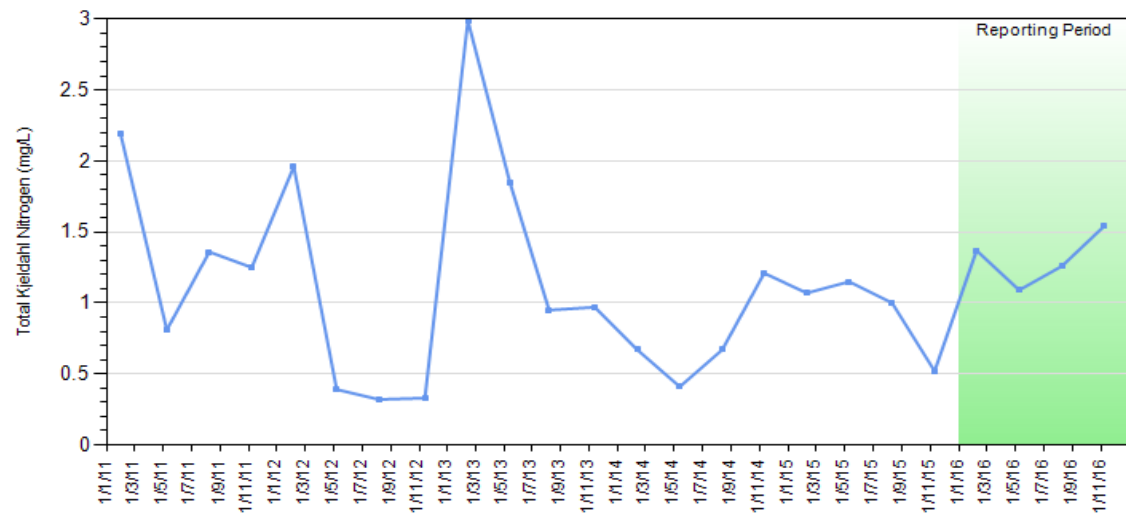
GW7 - Total Copper (mg/L)



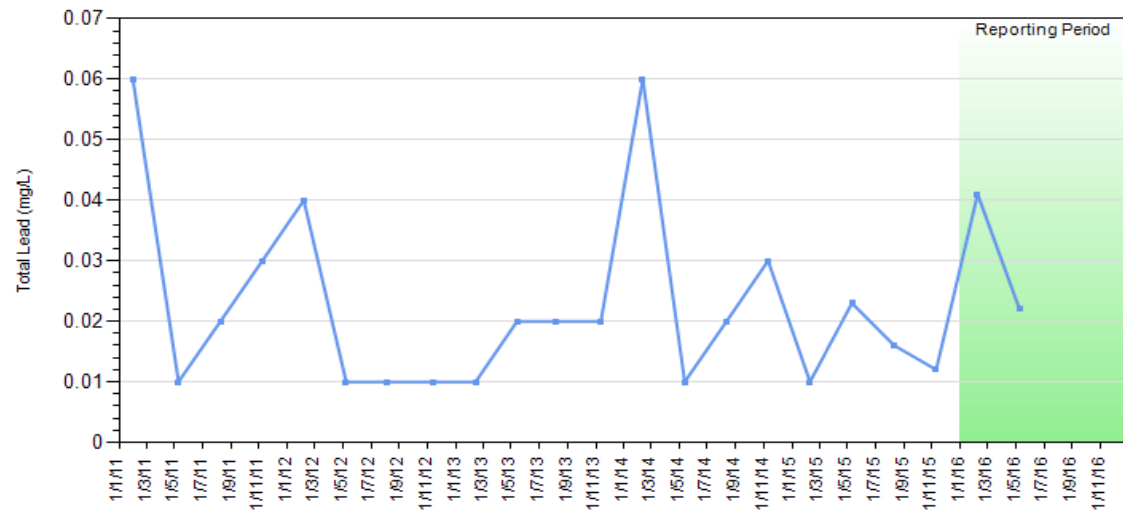
GW7 - Total Iron (mg/L)



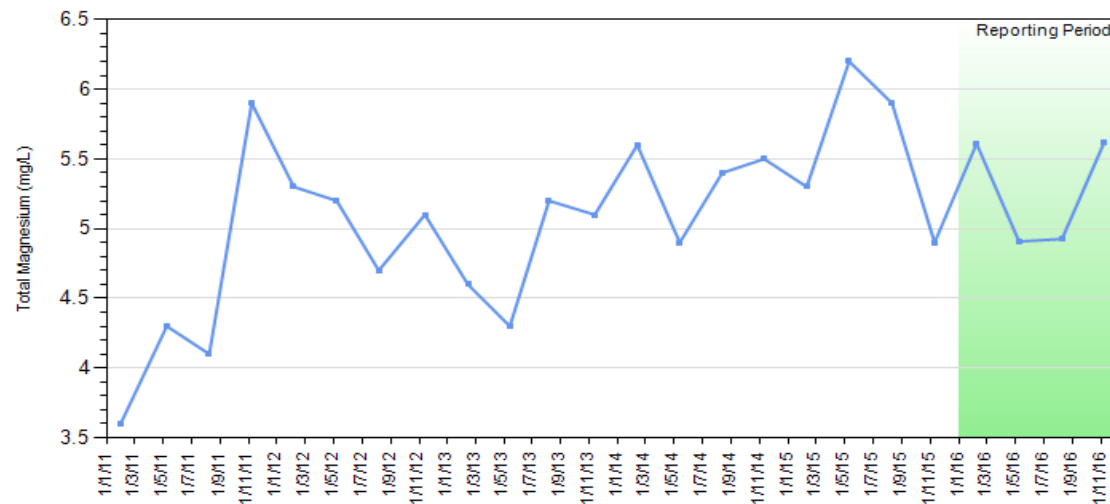
GW7 - Total Kjeldahl Nitrogen (mg/L)



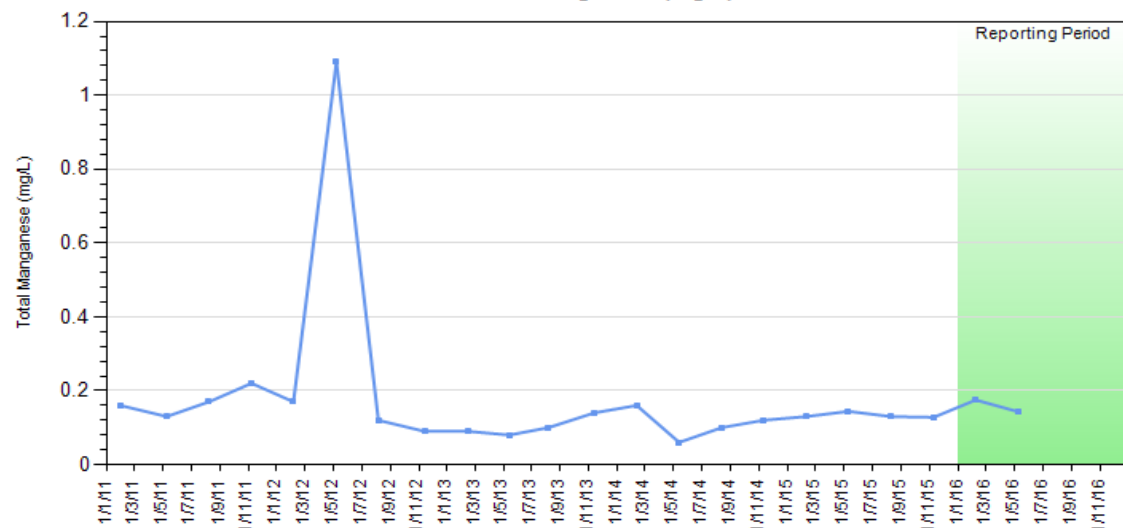
GW7 - Total Lead (mg/L)



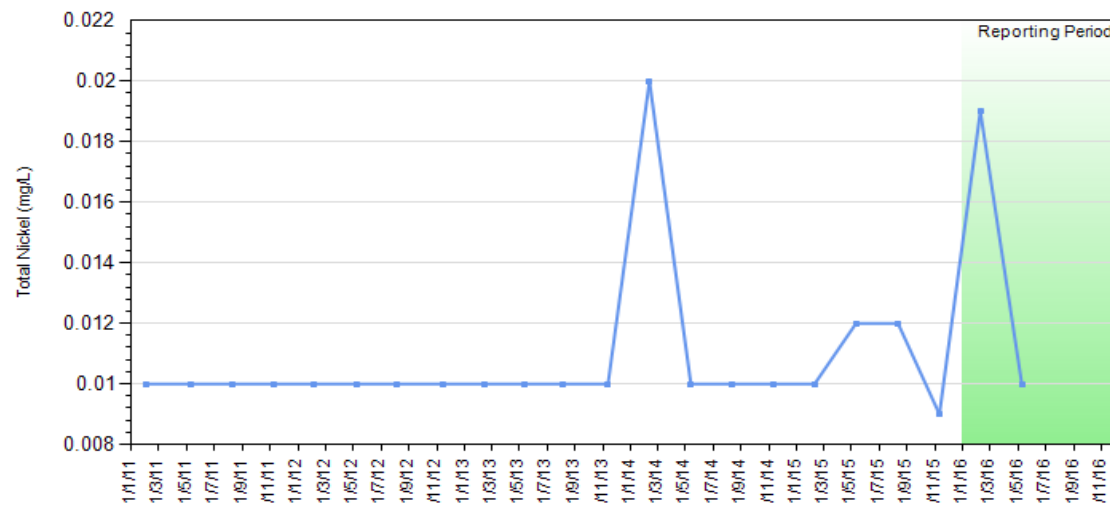
GW7 - Total Magnesium (mg/L)



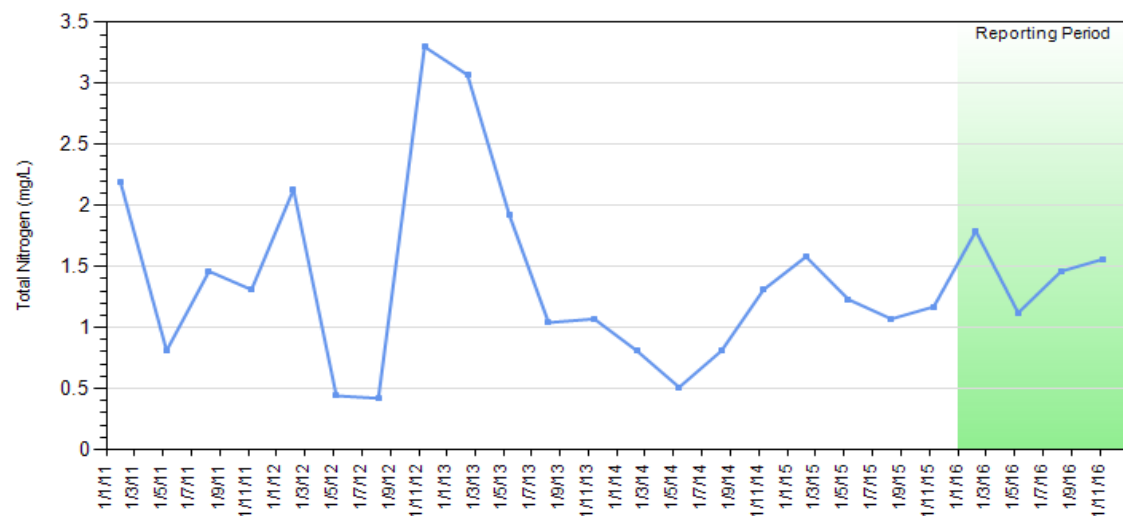
GW7 - Total Manganese (mg/L)



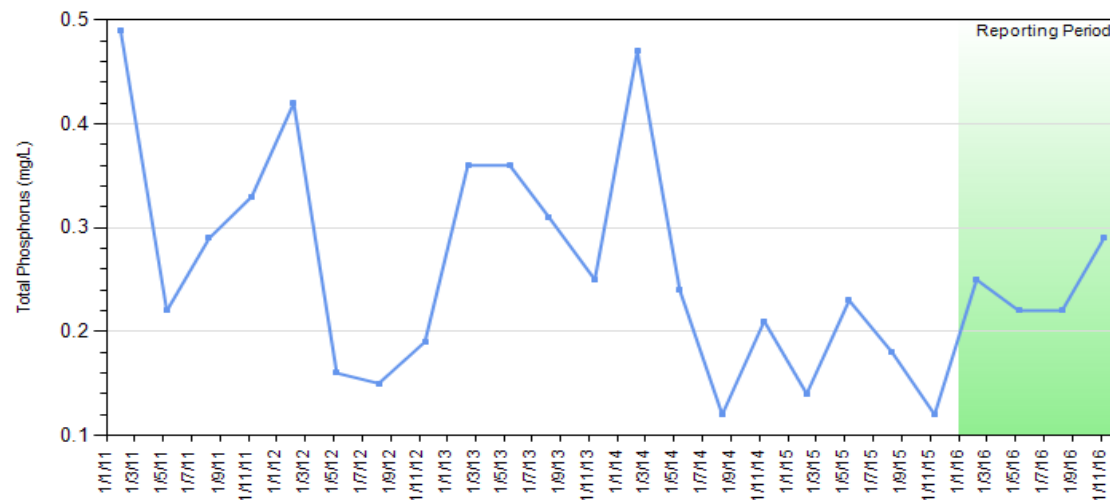
GW7 - Total Nickel (mg/L)



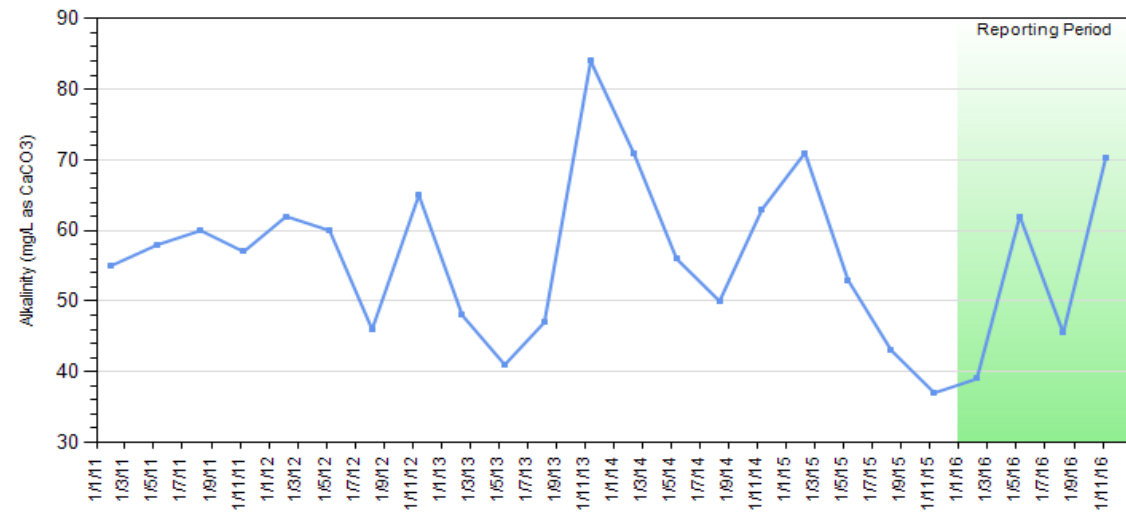
GW7 - Total Nitrogen (mg/L)



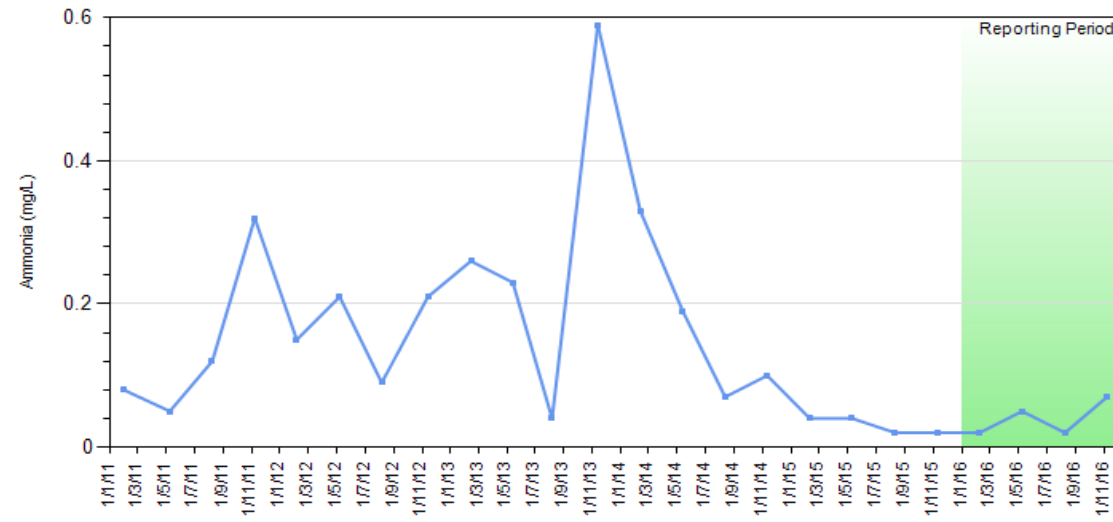
GW7 - Total Phosphorus (mg/L)



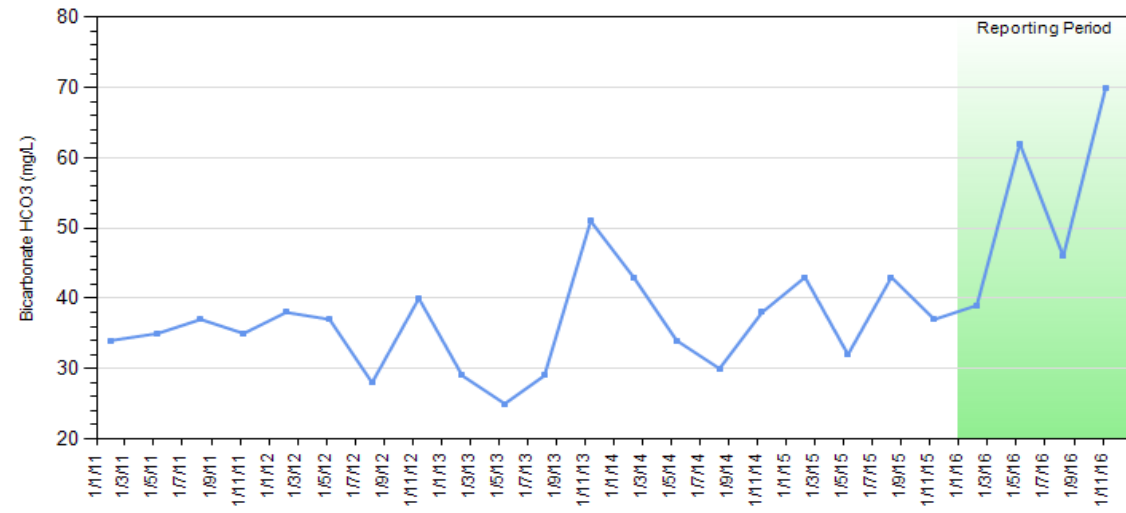
GW8 - Alkalinity (mg/L as CaCO3)



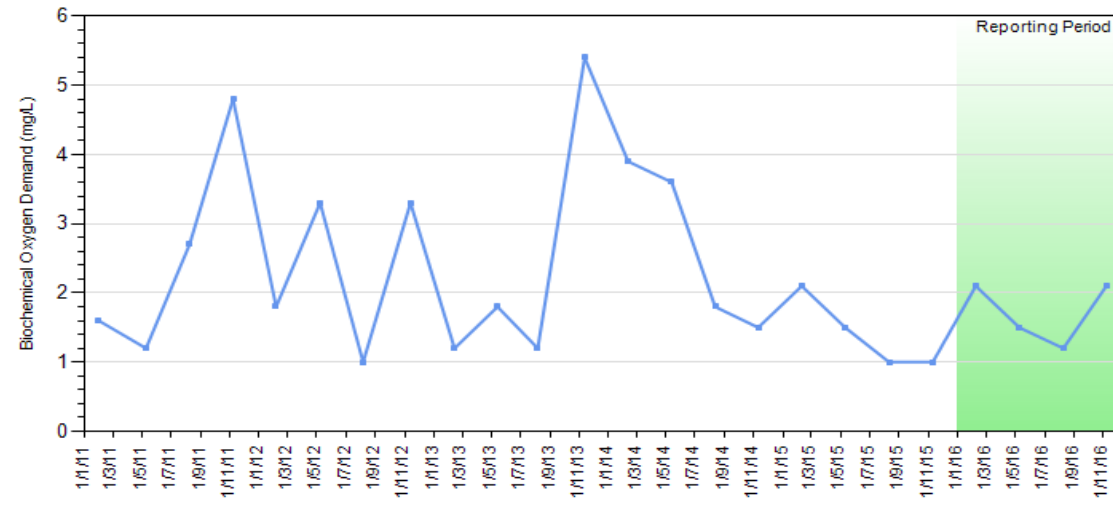
GW8 - Ammonia (mg/L)



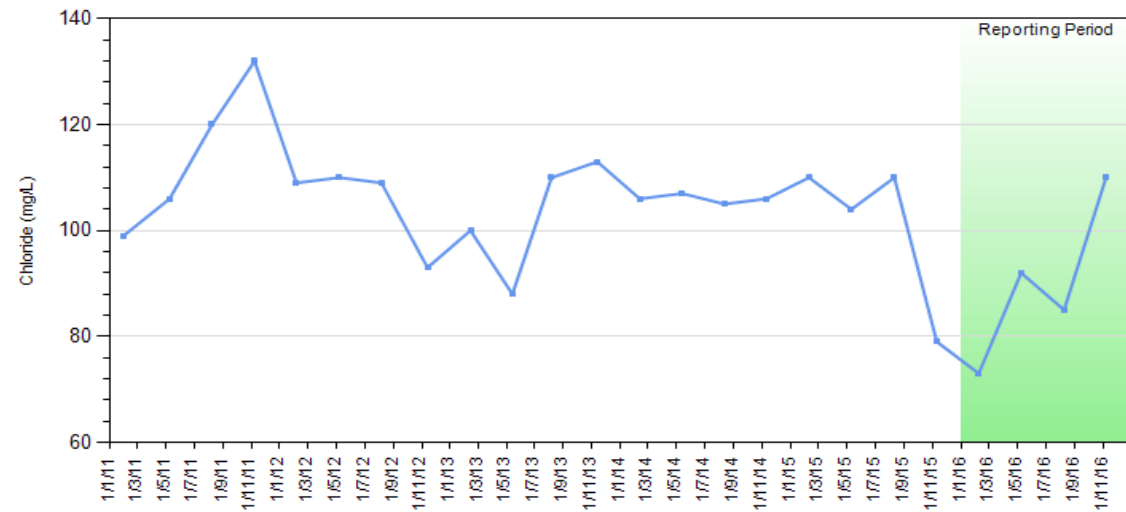
GW8 - Bicarbonate HCO3 (mg/L)



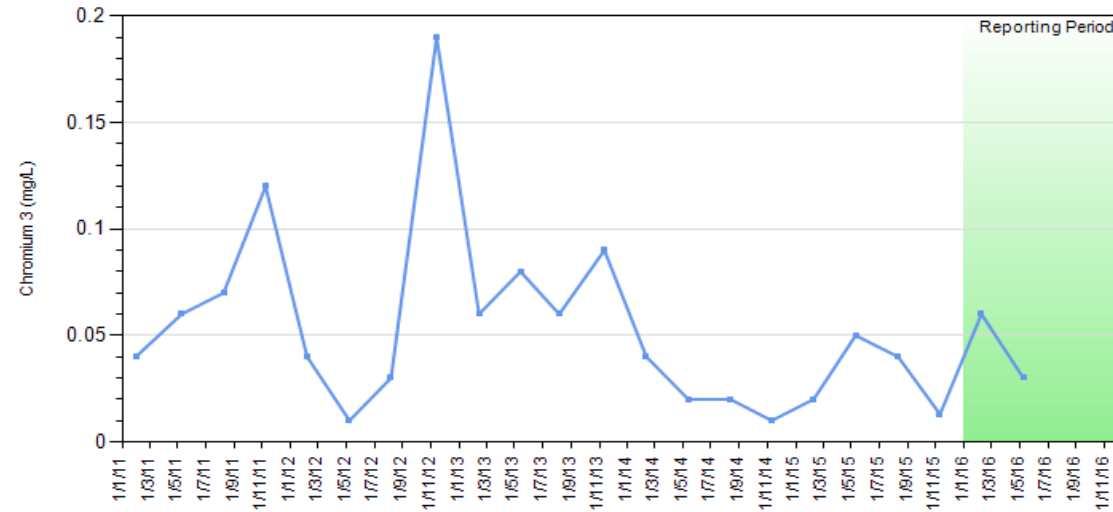
GW8 - Biochemical Oxygen Demand (mg/L)



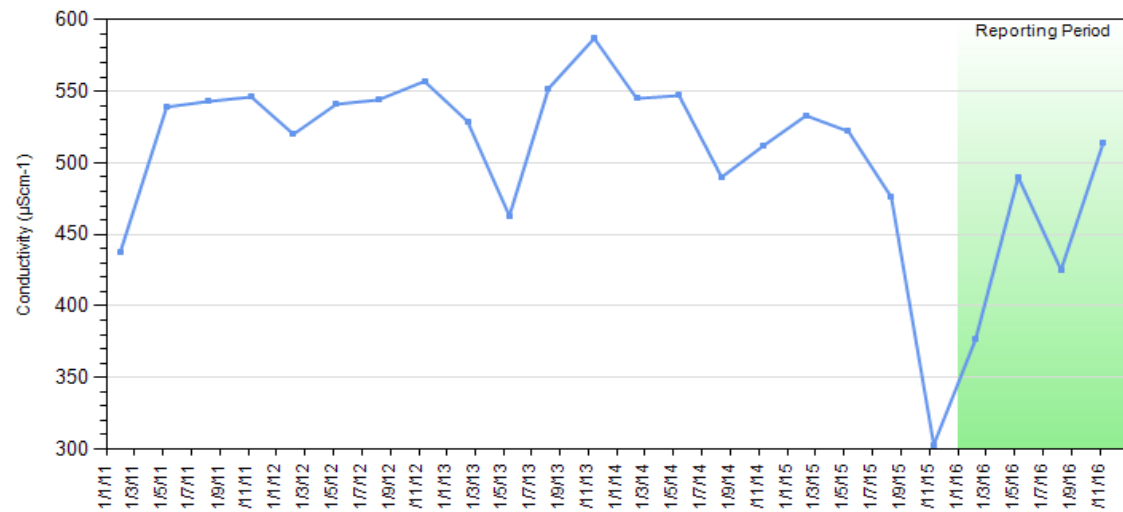
GW8 - Chloride (mg/L)



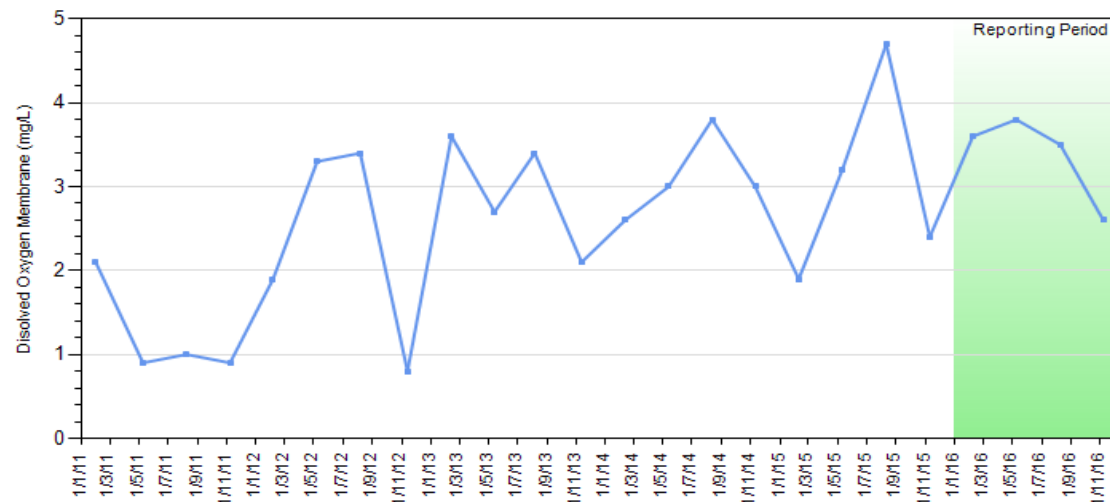
GW8 - Chromium 3 (mg/L)



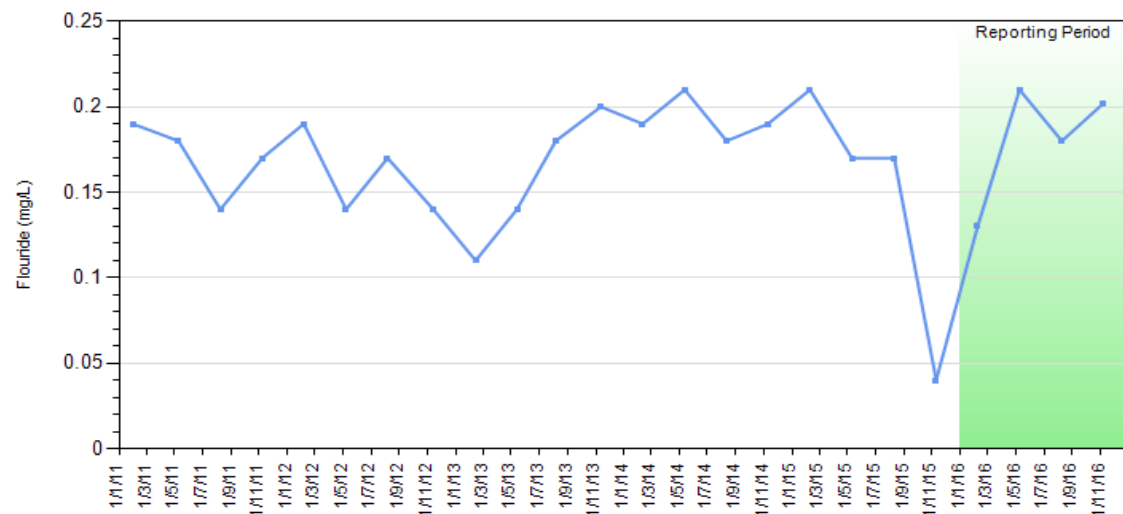
GW8 - Conductivity (μScm^{-1})



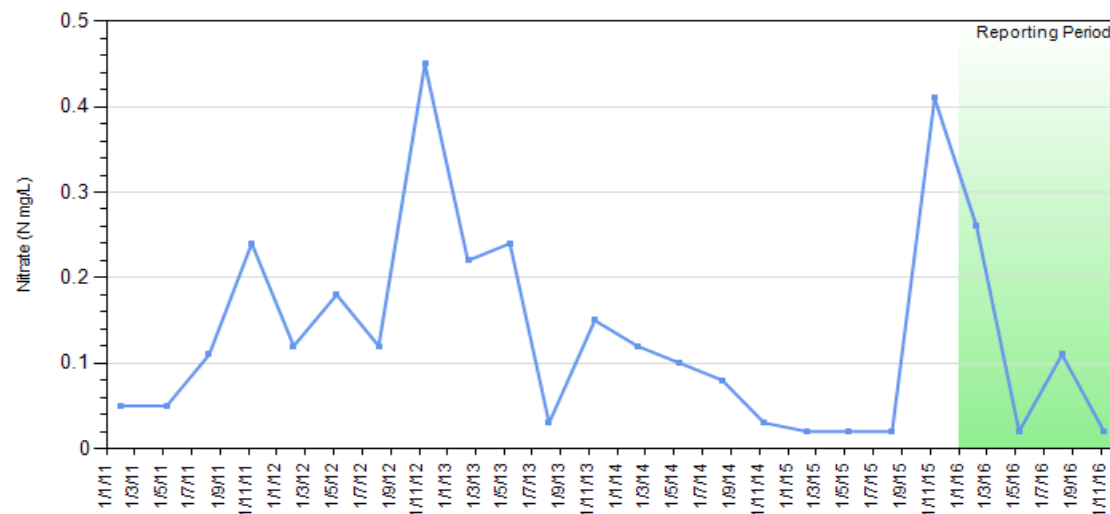
GW8 - Dissolved Oxygen Membrane (mg/L)



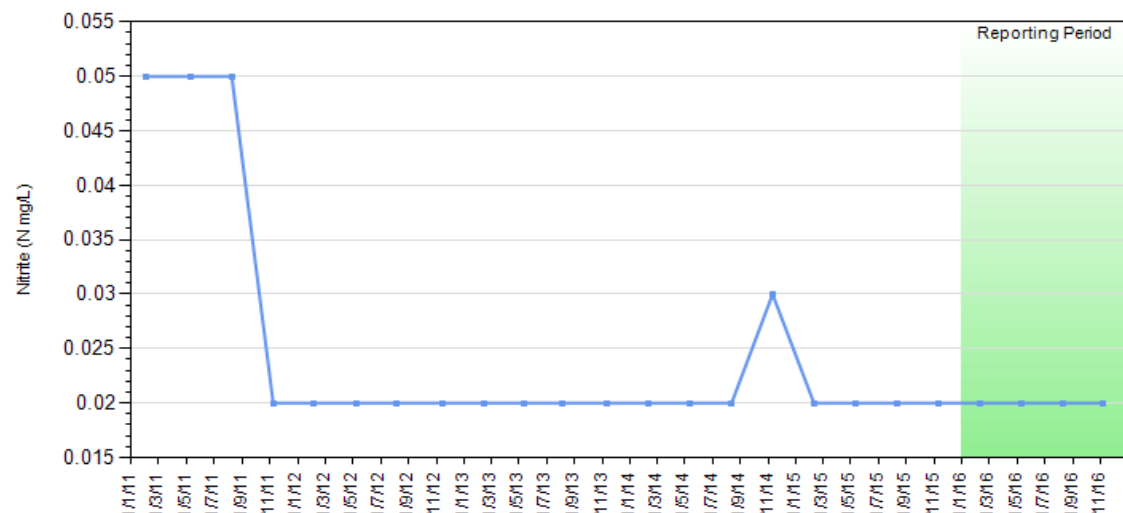
GW8 - Fluoride (mg/L)



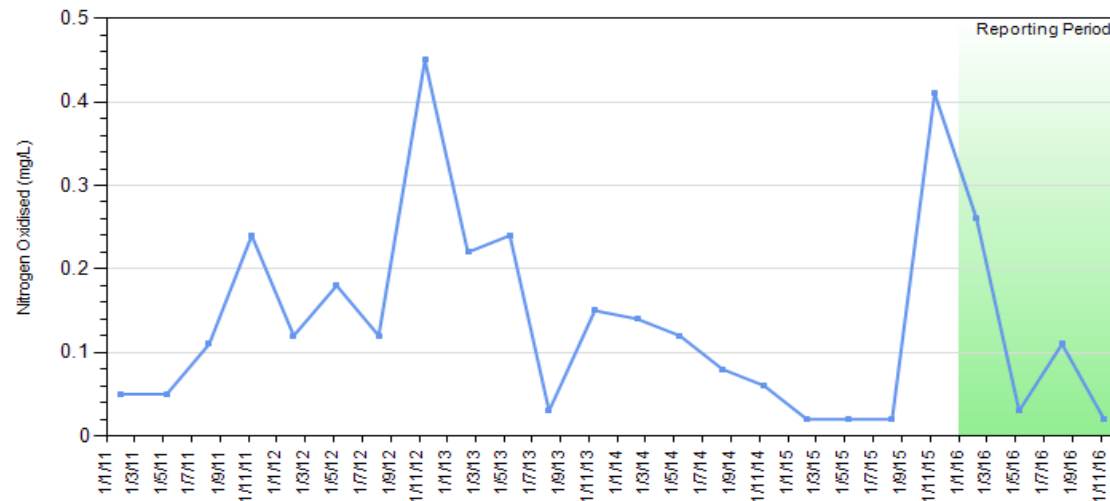
GW8 - Nitrate (N mg/L)

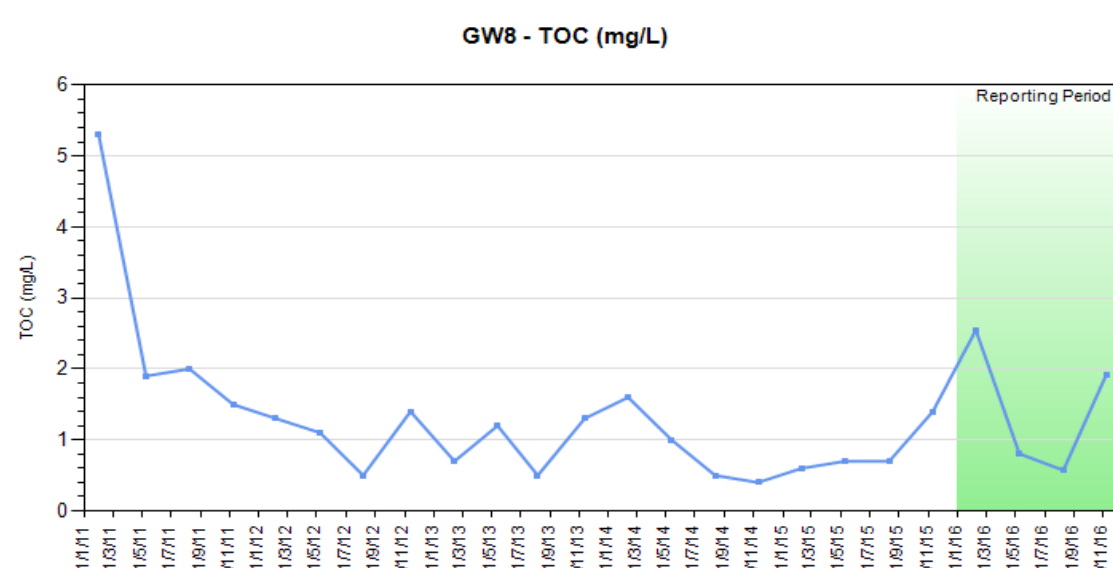
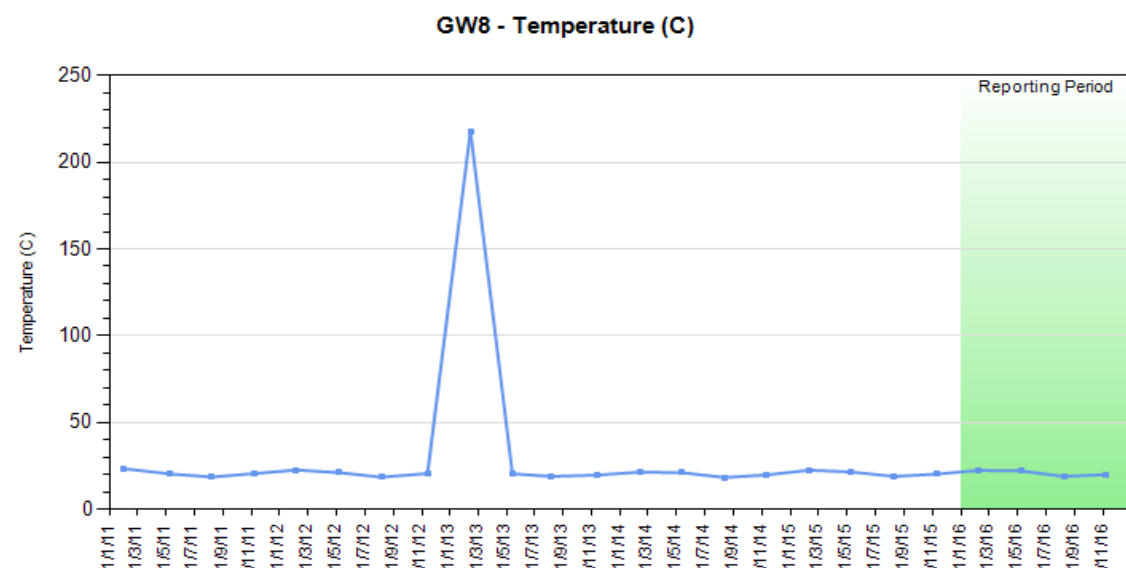
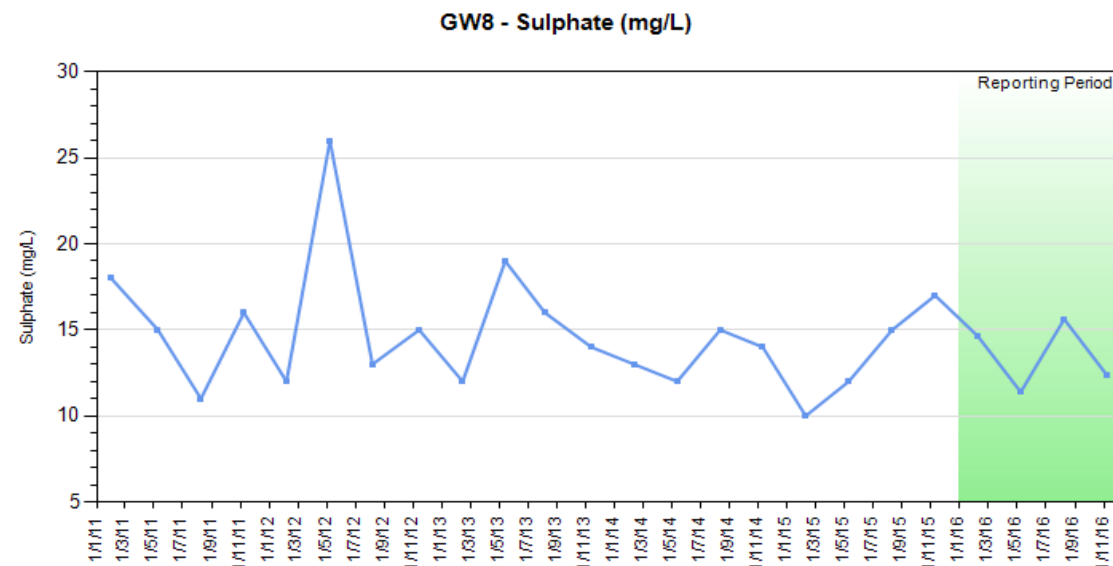
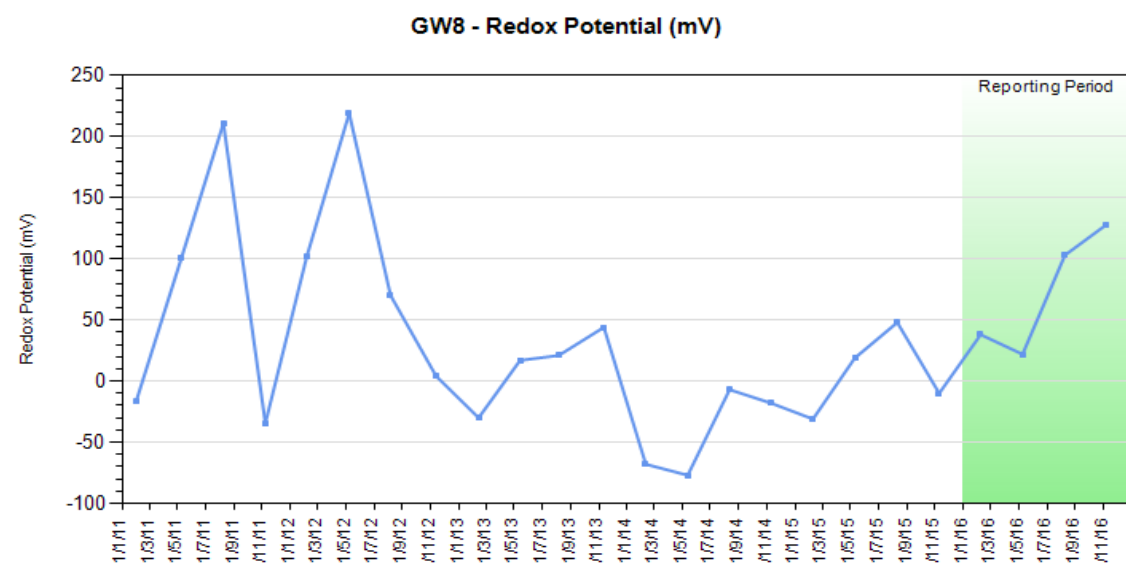
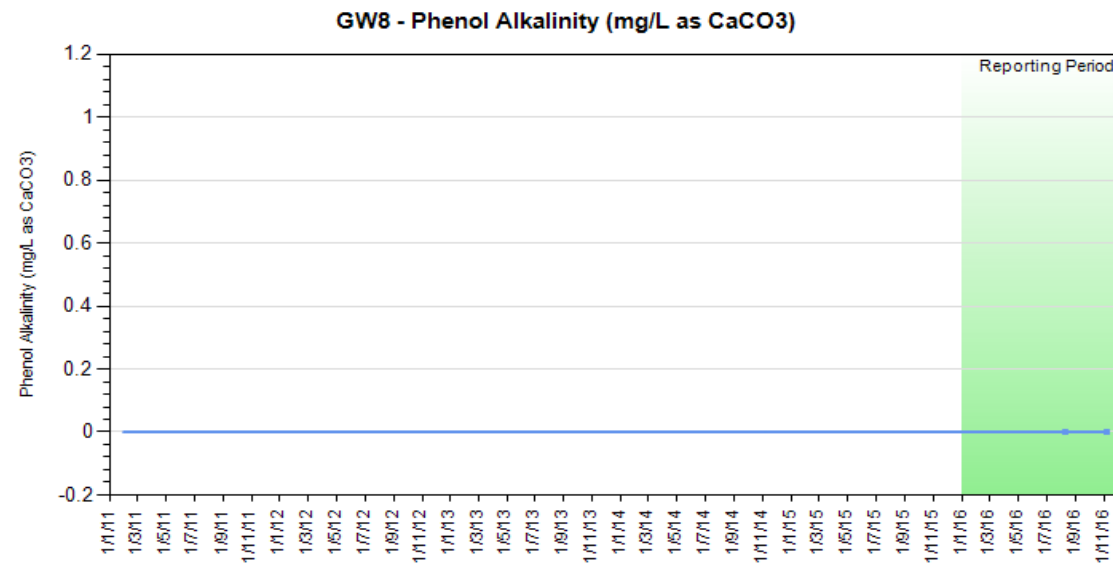
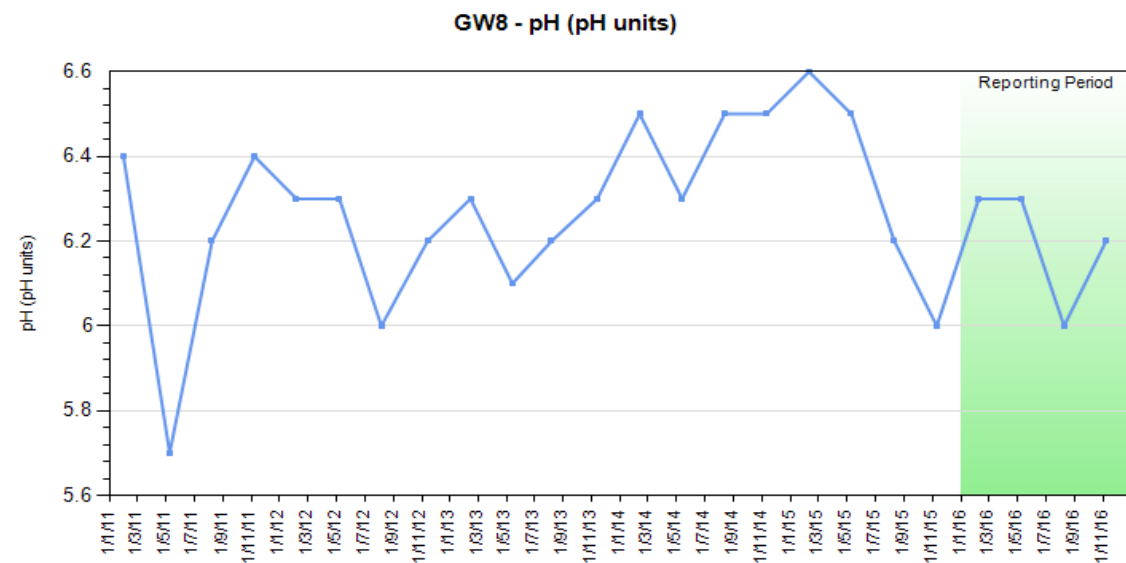


GW8 - Nitrite (N mg/L)

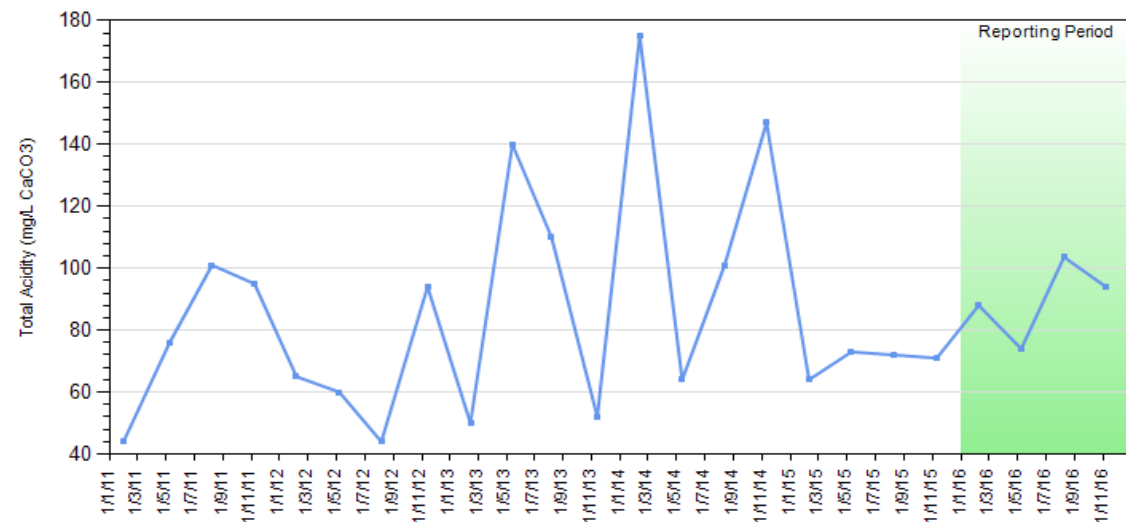


GW8 - Nitrogen Oxidised (mg/L)

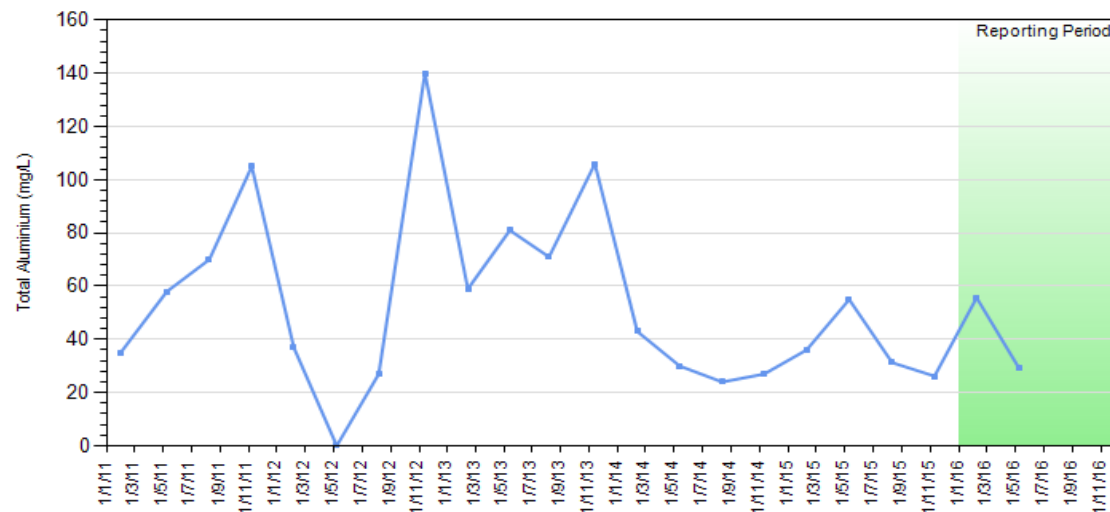




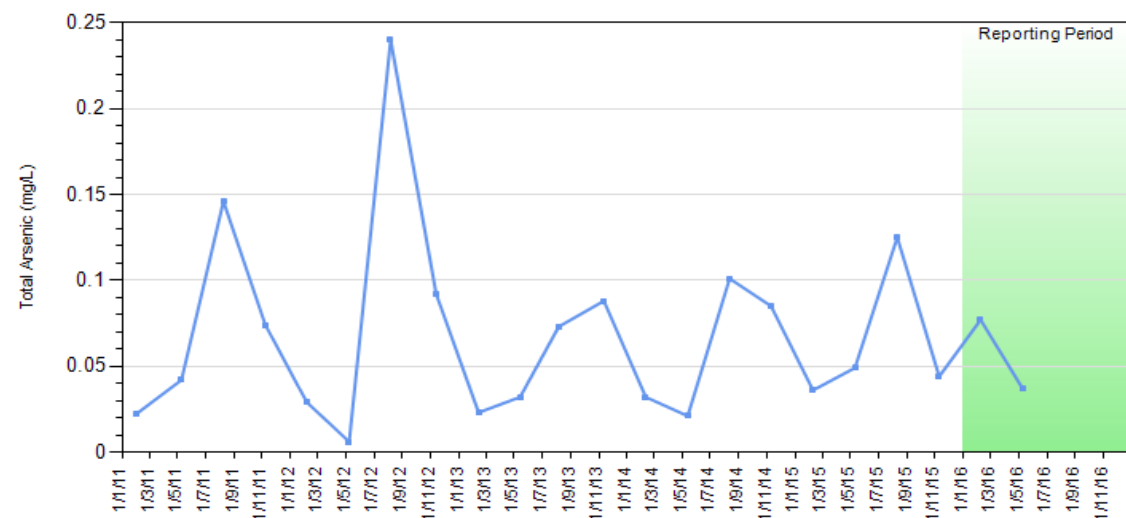
GW8 - Total Acidity (mg/L CaCO3)



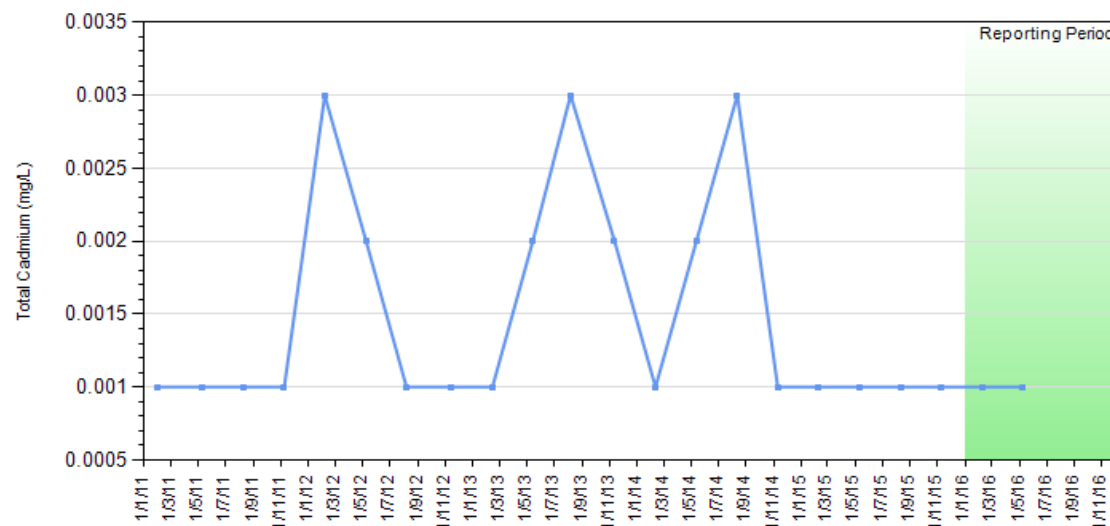
GW8 - Total Aluminium (mg/L)



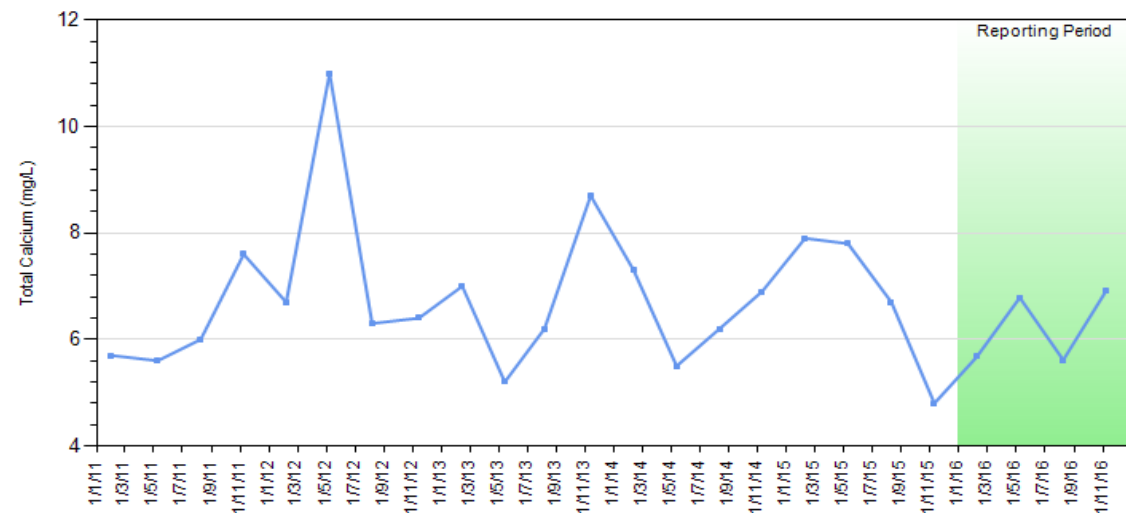
GW8 - Total Arsenic (mg/L)



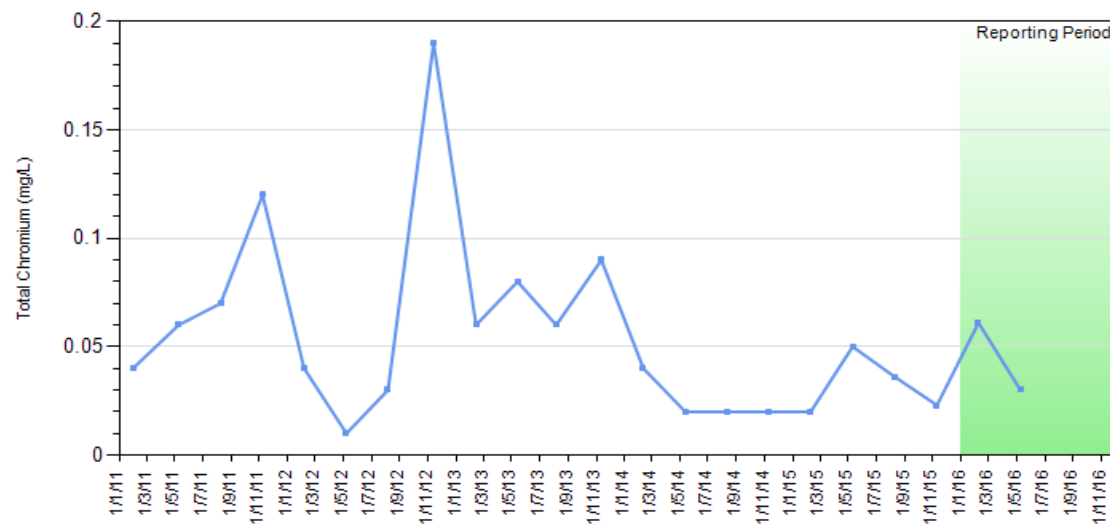
GW8 - Total Cadmium (mg/L)



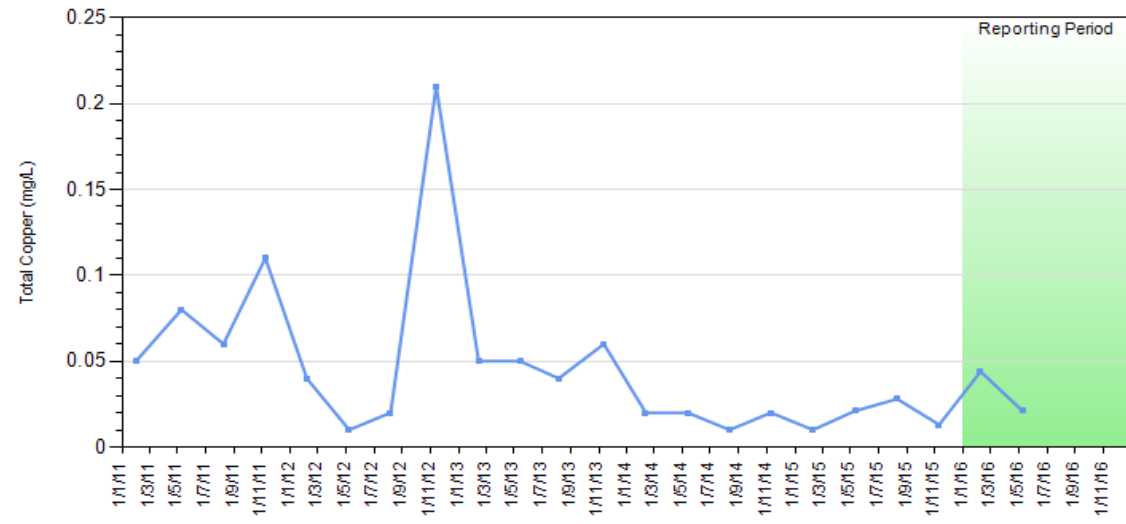
GW8 - Total Calcium (mg/L)



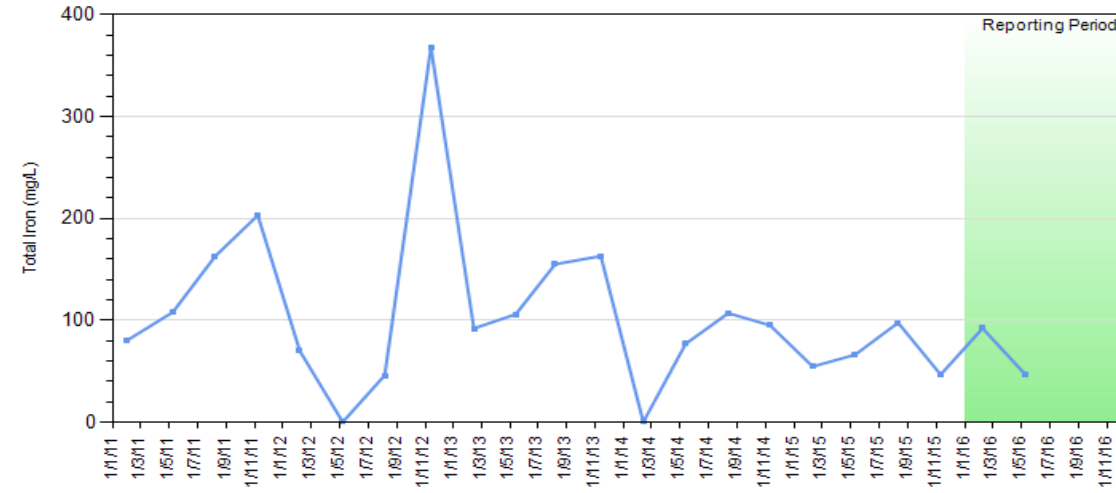
GW8 - Total Chromium (mg/L)



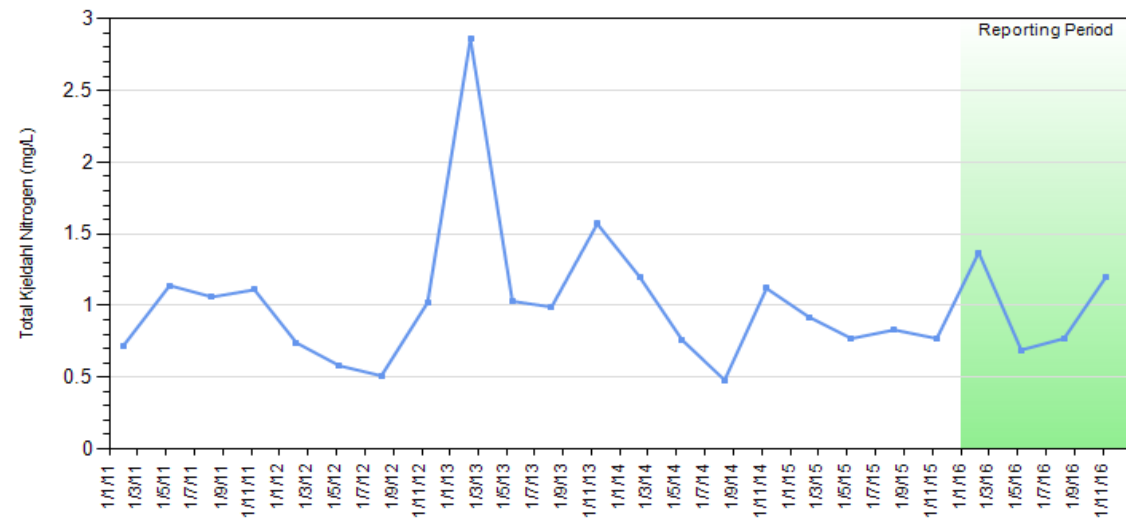
GW8 - Total Copper (mg/L)



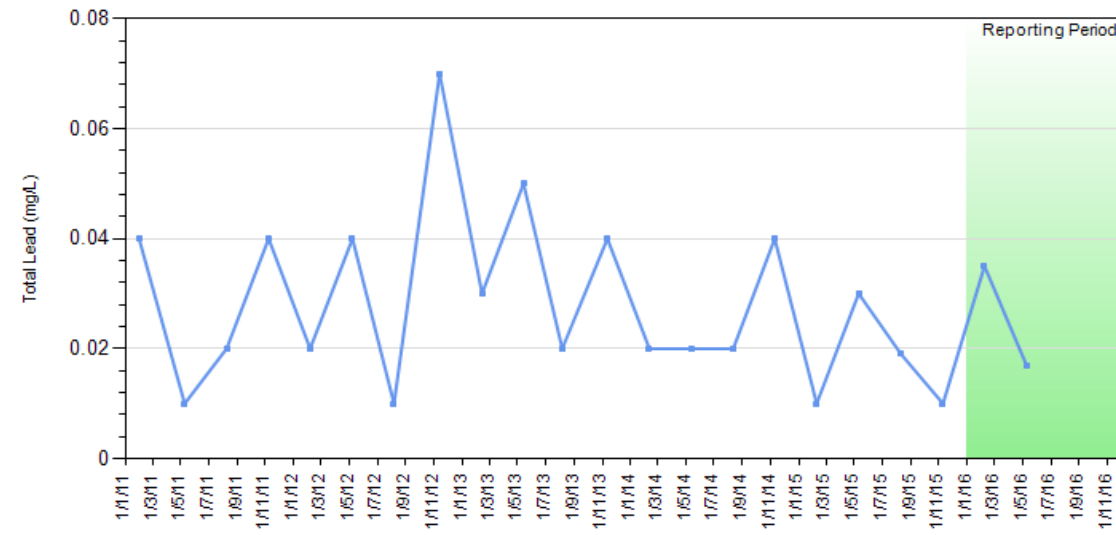
GW8 - Total Iron (mg/L)



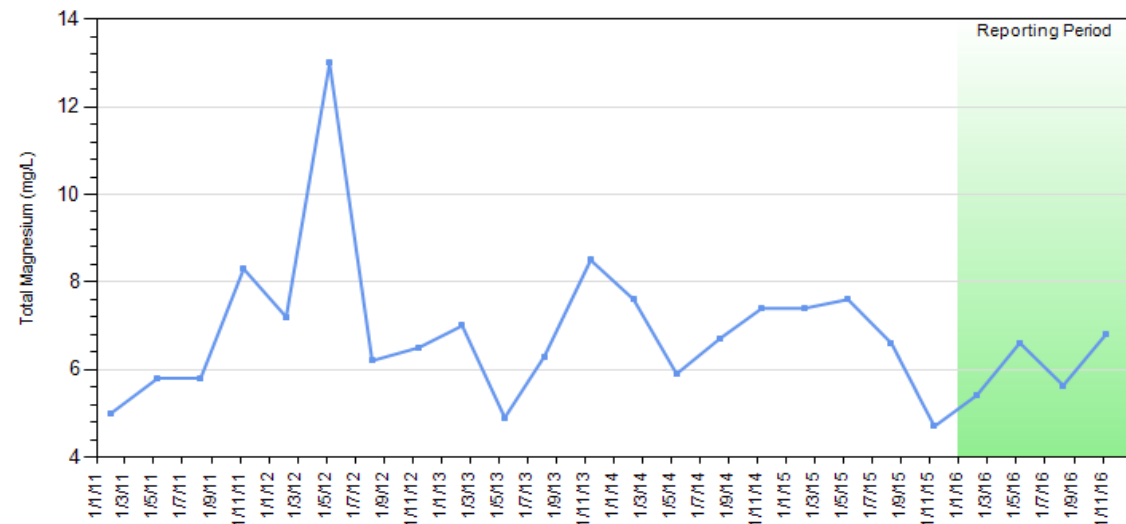
GW8 - Total Kjeldahl Nitrogen (mg/L)



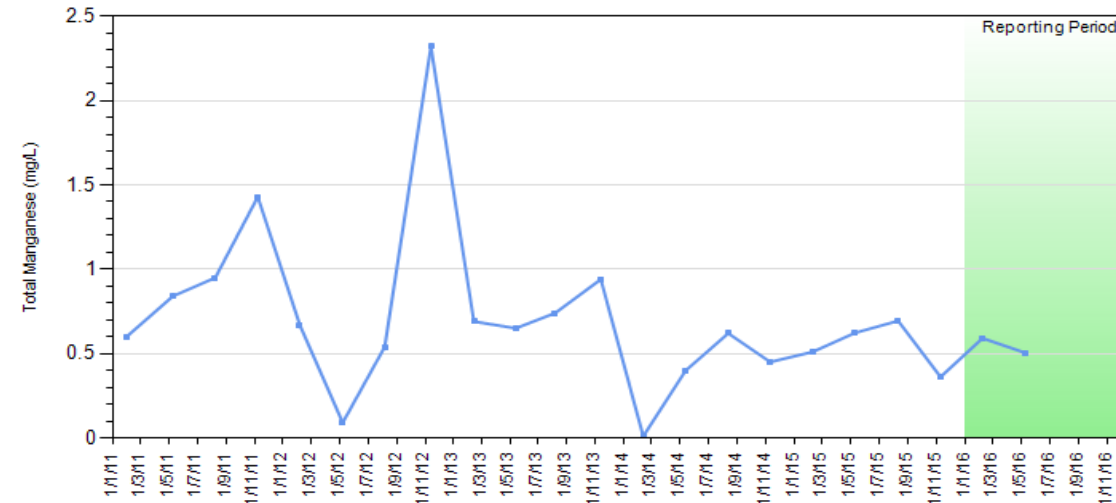
GW8 - Total Lead (mg/L)

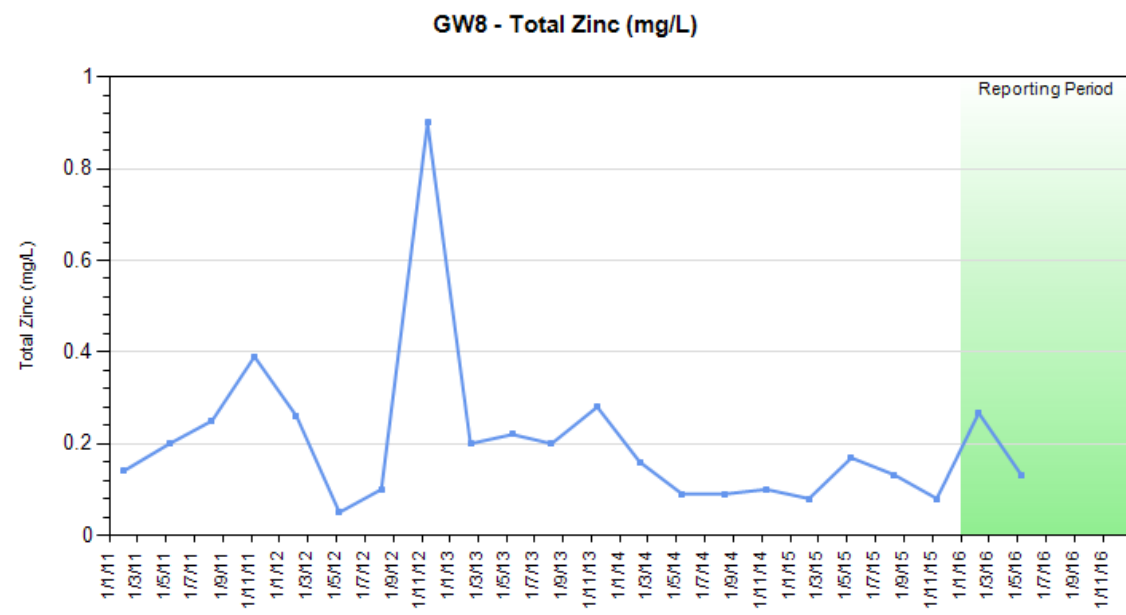
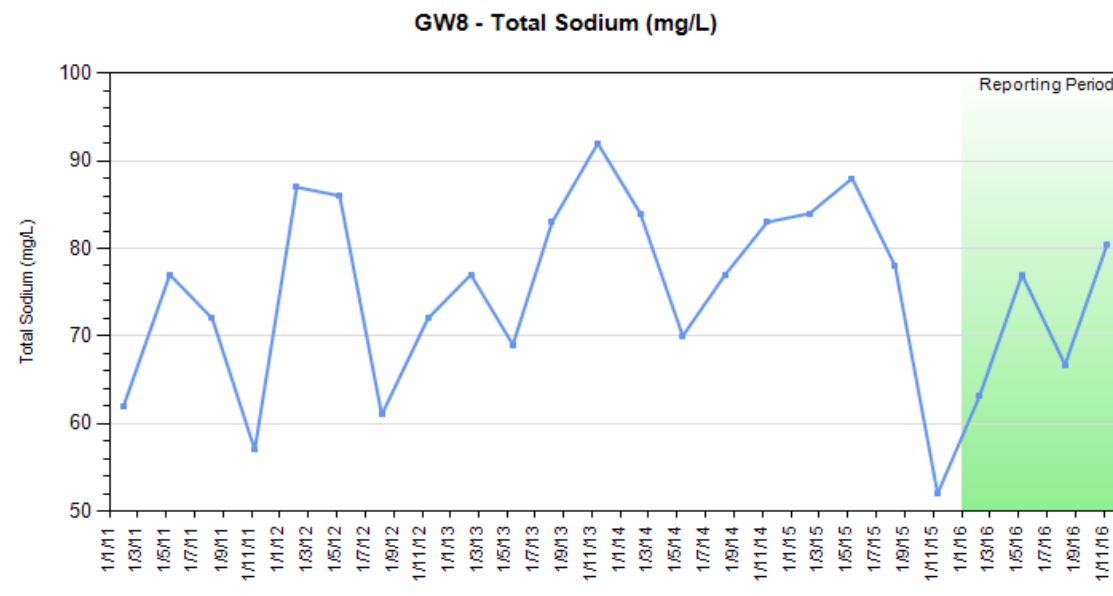
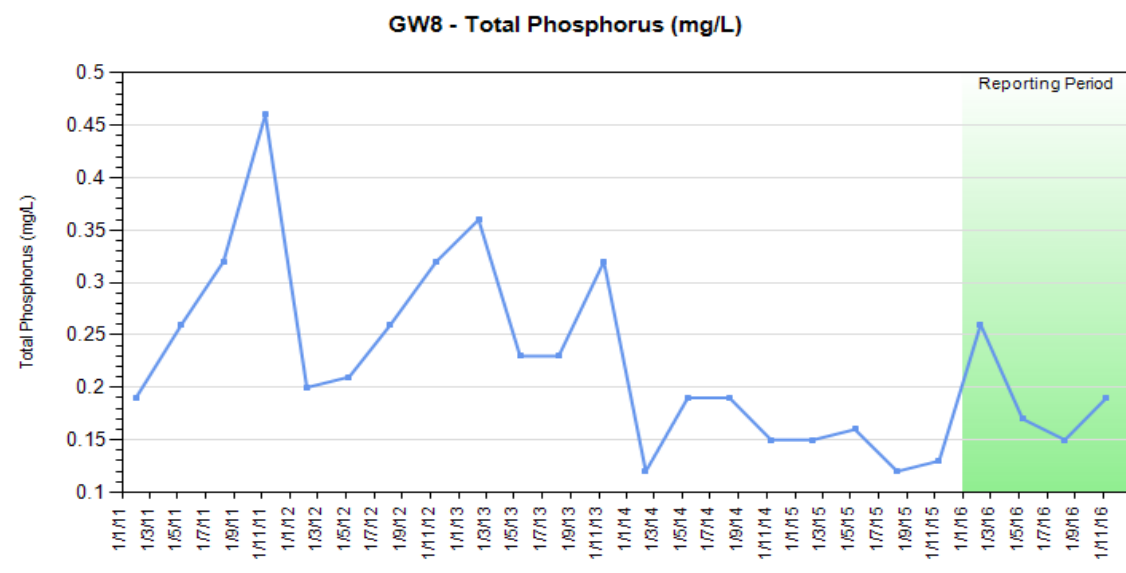
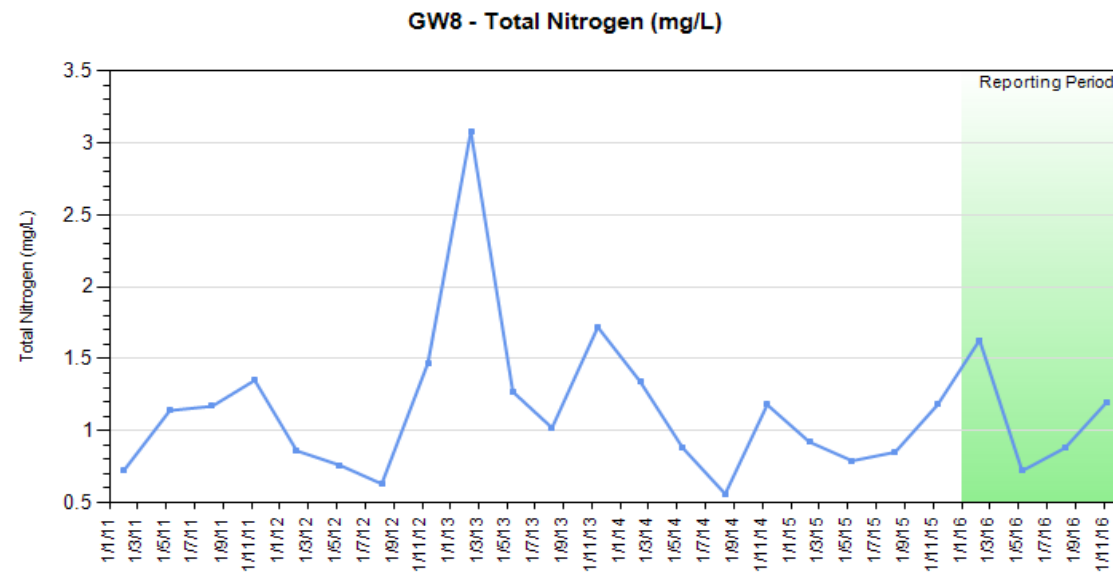
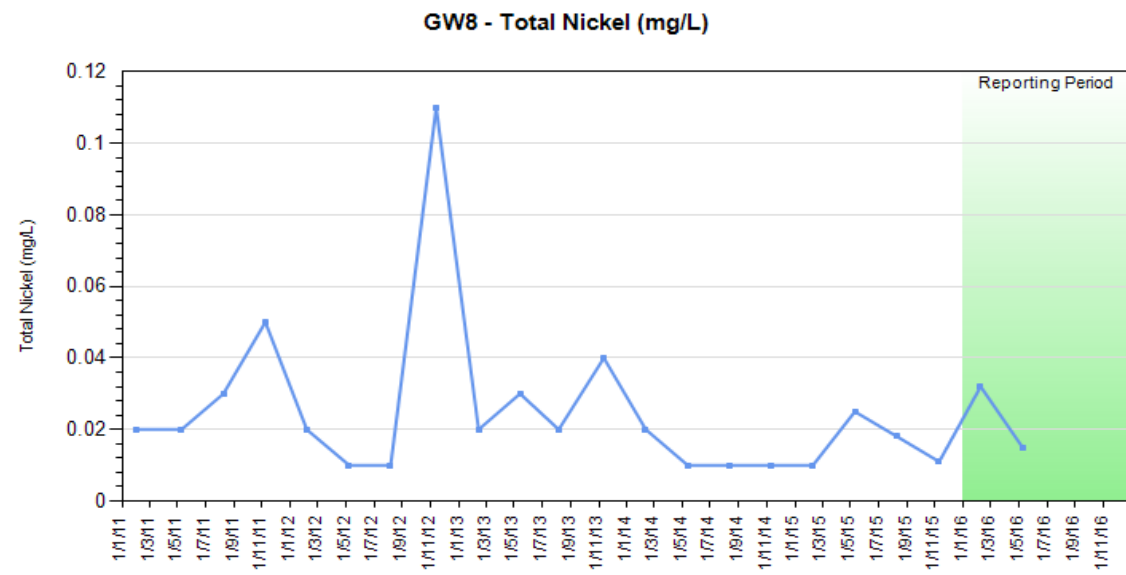


GW8 - Total Magnesium (mg/L)

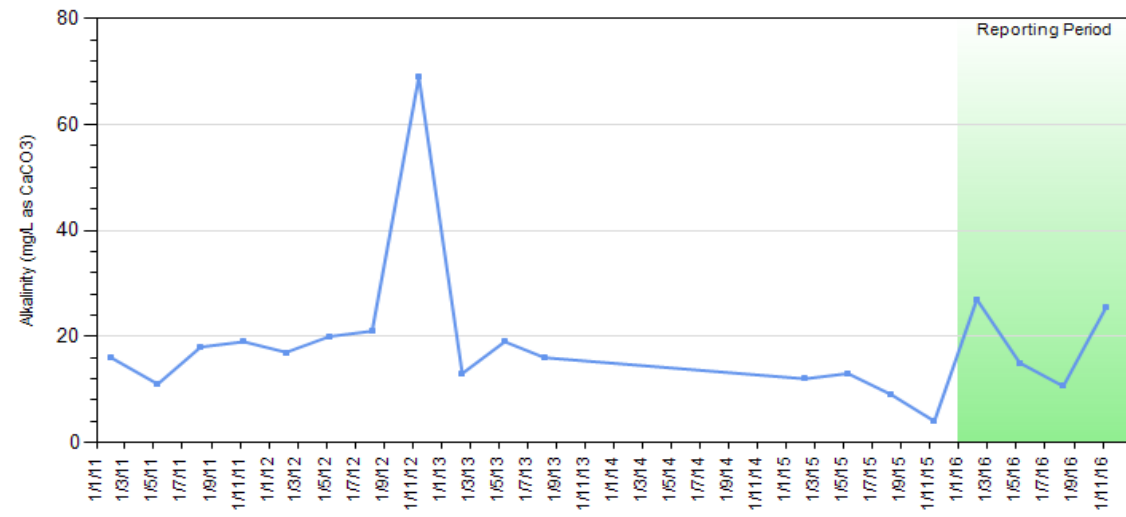


GW8 - Total Manganese (mg/L)

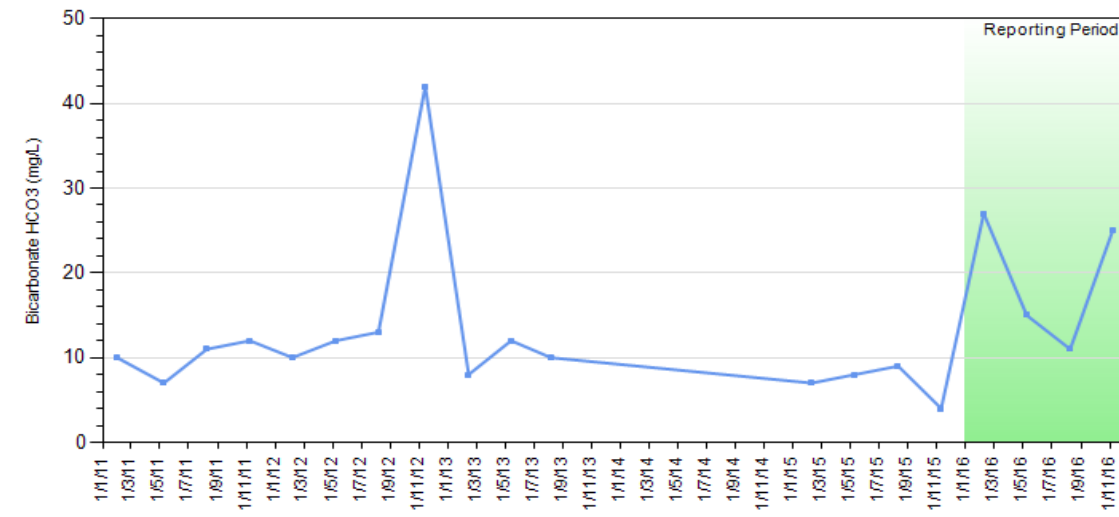




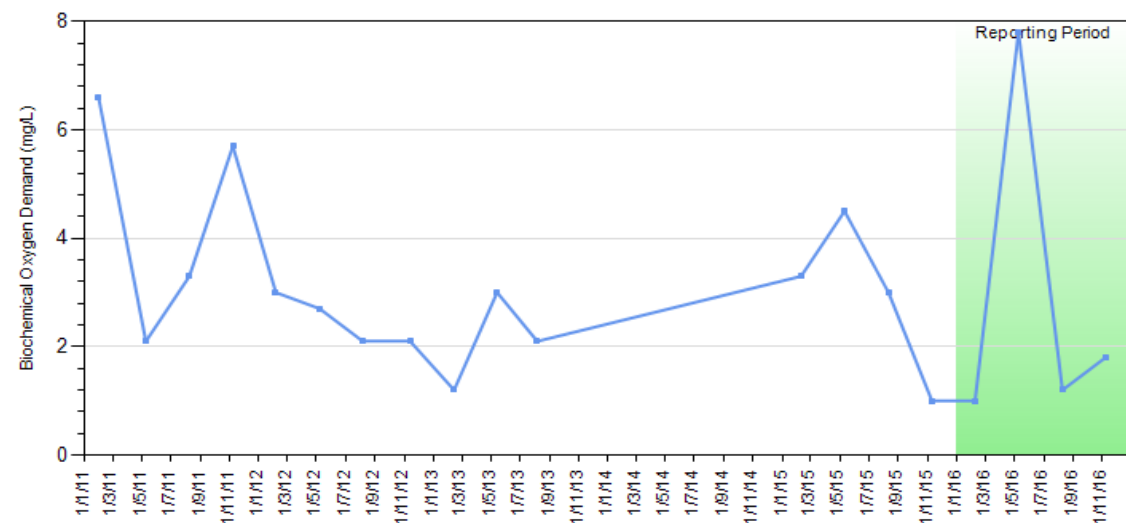
GW9 - Alkalinity (mg/L as CaCO3)



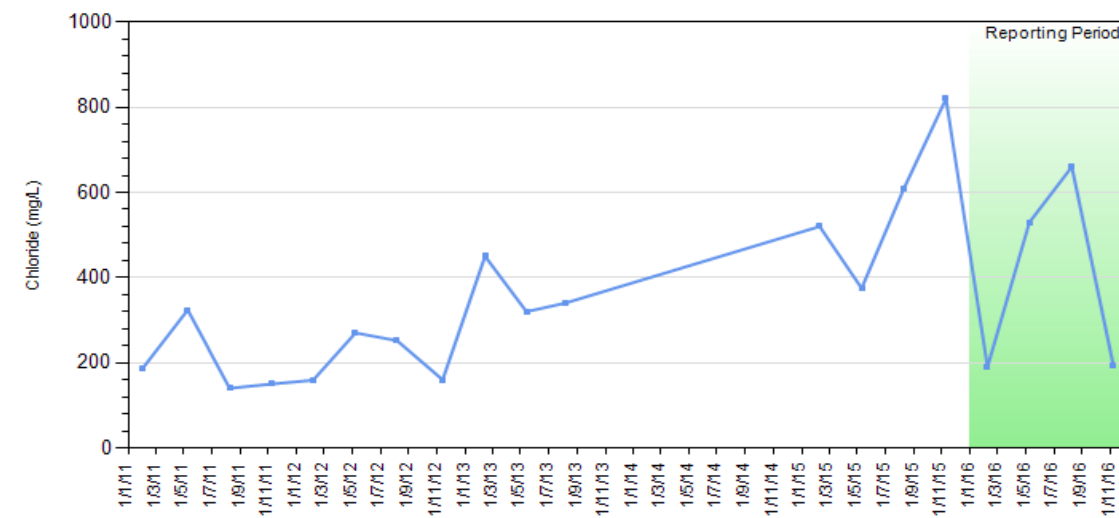
GW9 - Bicarbonate HCO3 (mg/L)



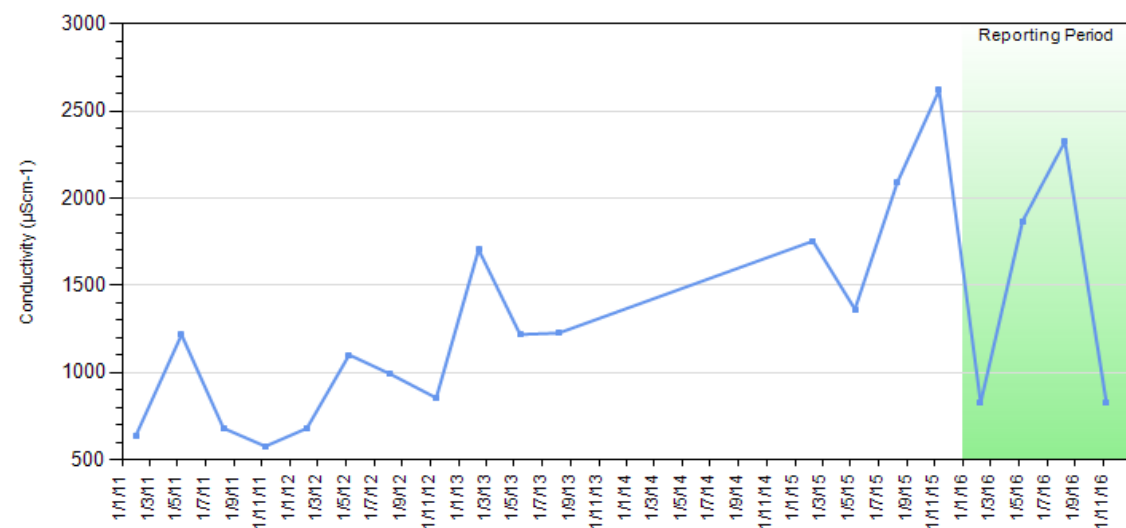
GW9 - Biochemical Oxygen Demand (mg/L)



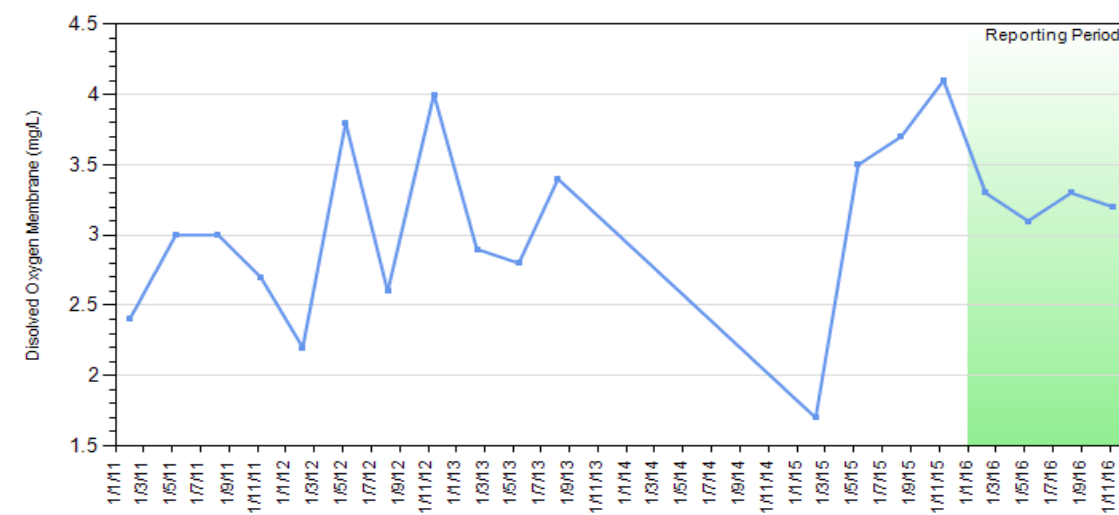
GW9 - Chloride (mg/L)



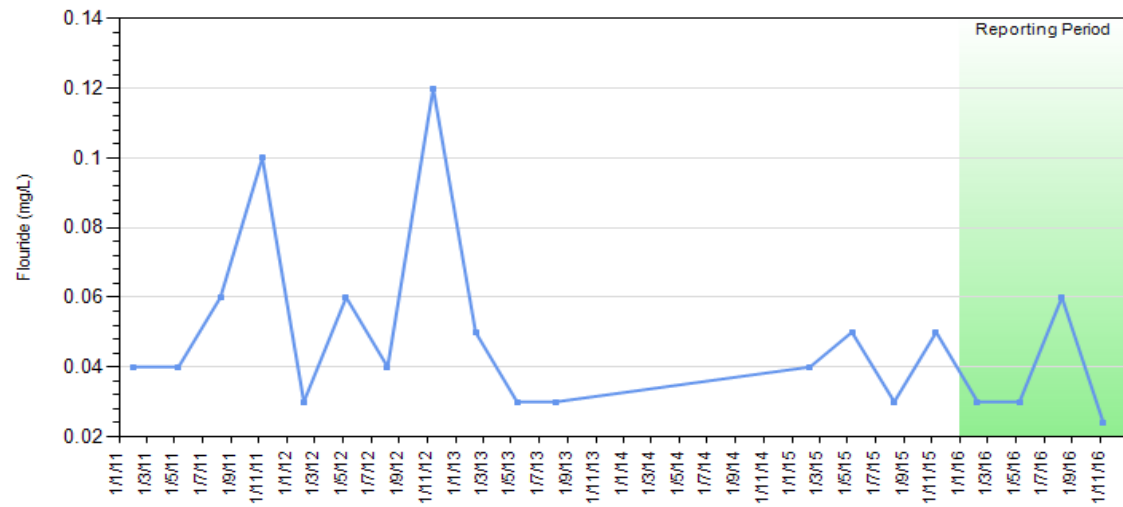
GW9 - Conductivity (µScm-1)



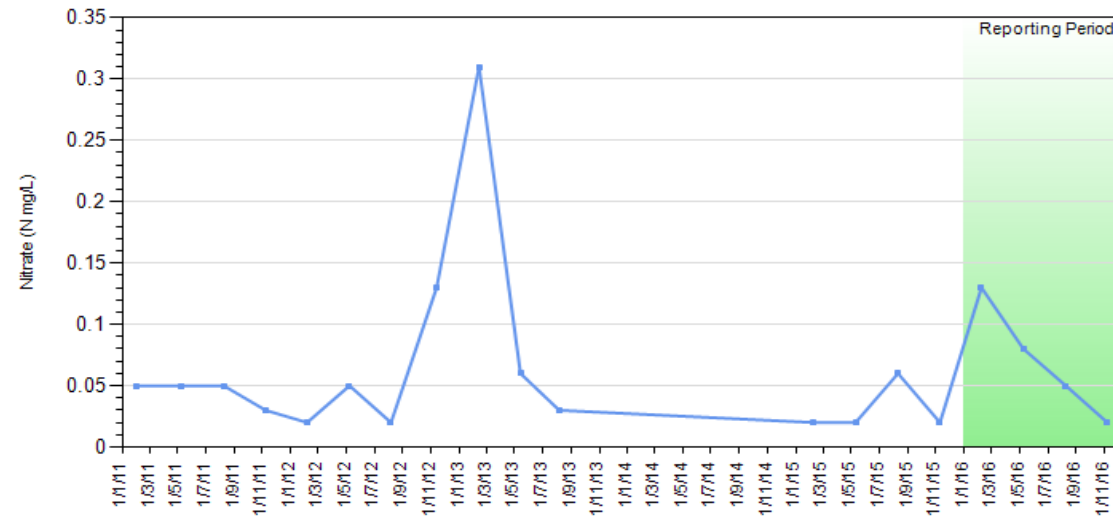
GW9 - Dissolved Oxygen Membrane (mg/L)



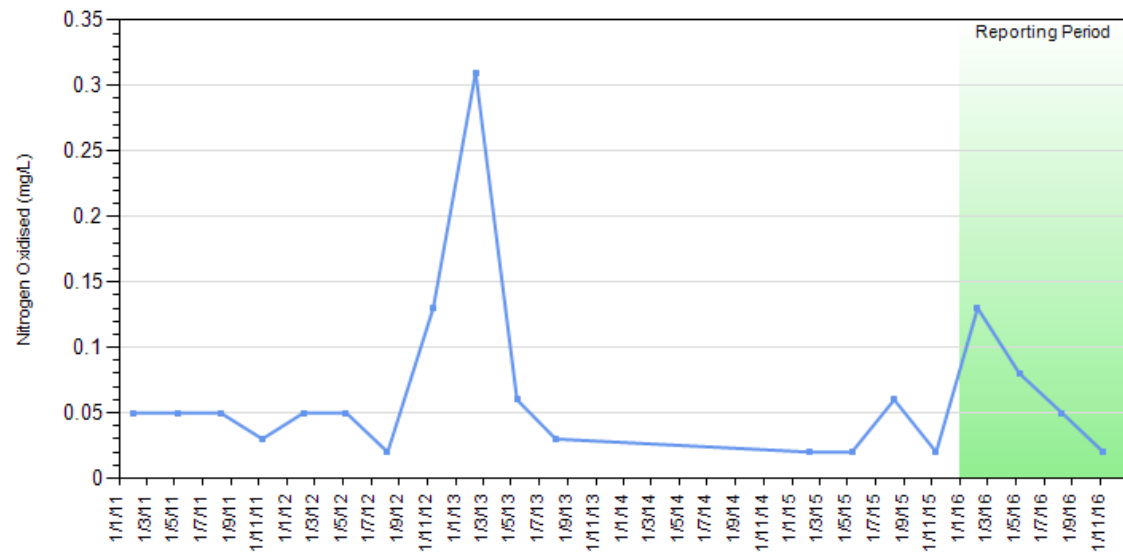
GW9 - Fluoride (mg/L)



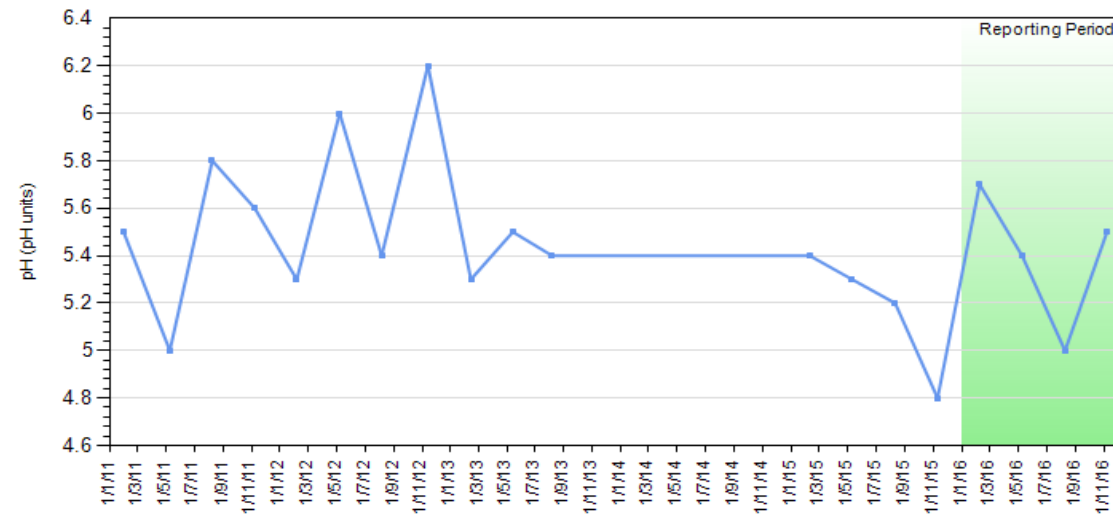
GW9 - Nitrate (N mg/L)



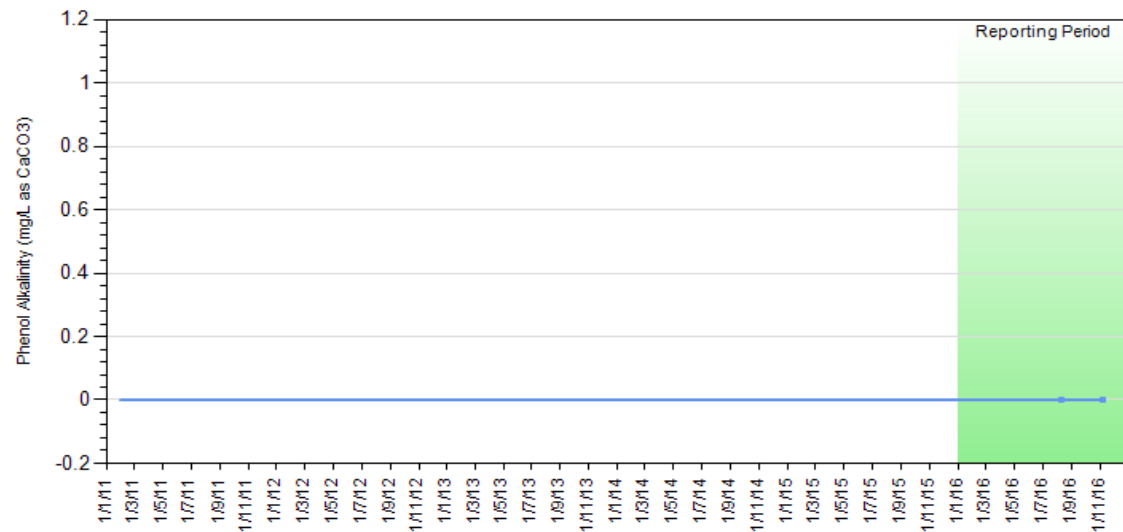
GW9 - Nitrogen Oxidised (mg/L)



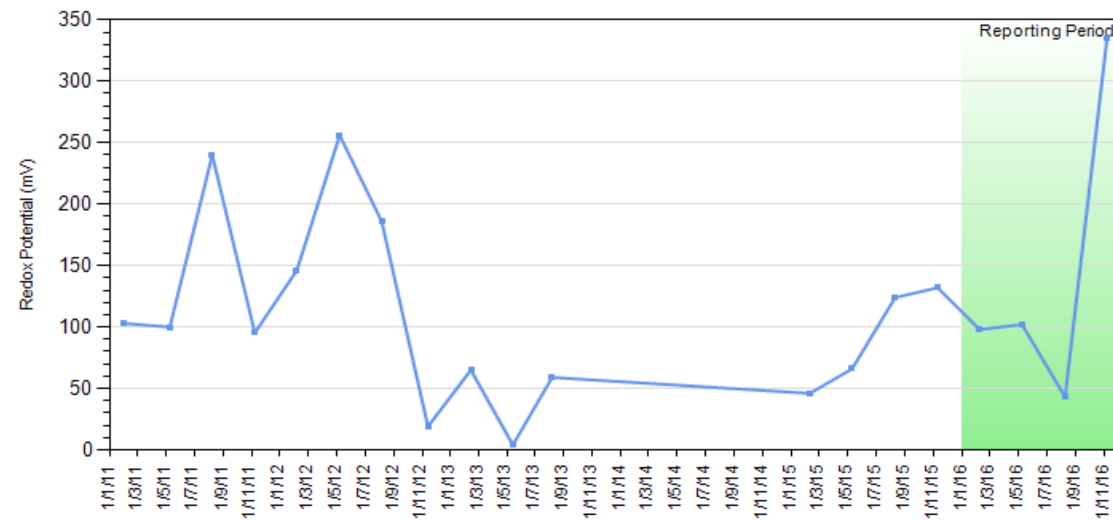
GW9 - pH (pH units)



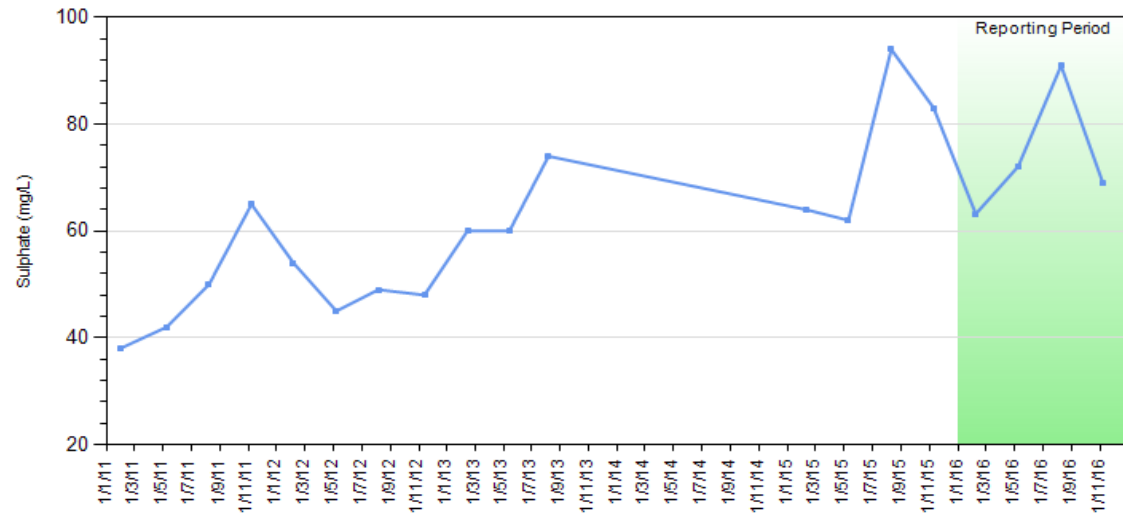
GW9 - Phenol Alkalinity (mg/L as CaCO3)



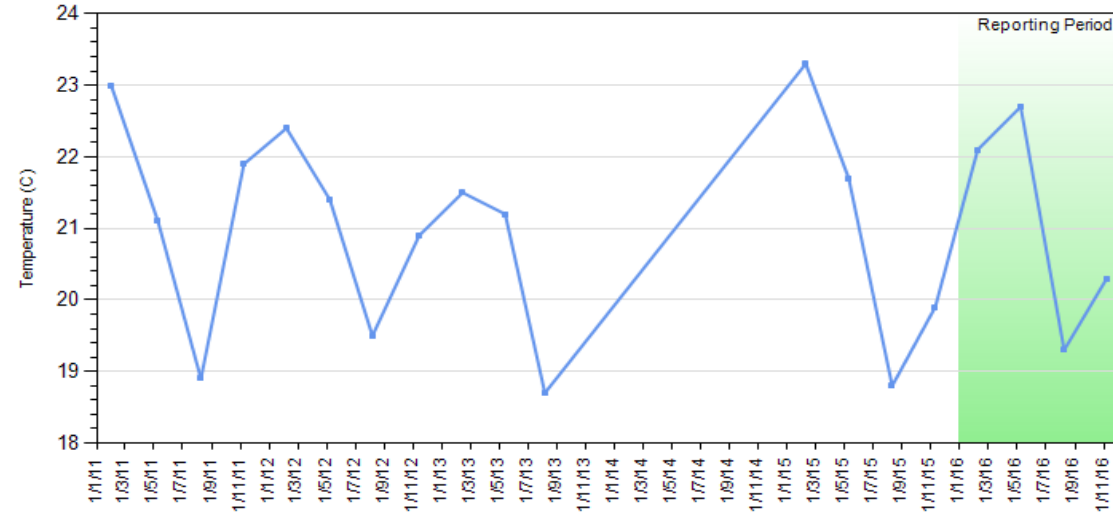
GW9 - Redox Potential (mV)



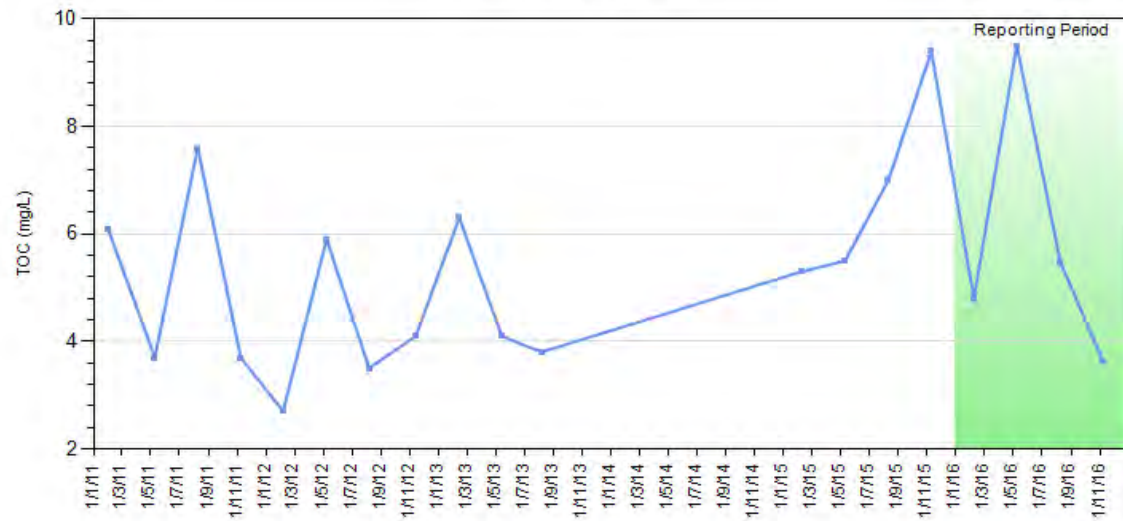
GW9 - Sulphate (mg/L)



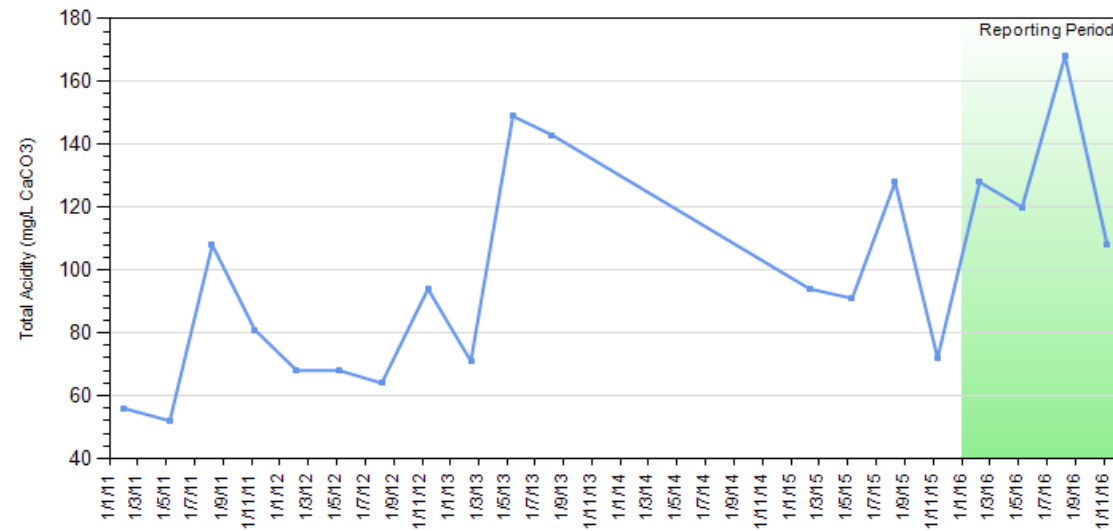
GW9 - Temperature (C)



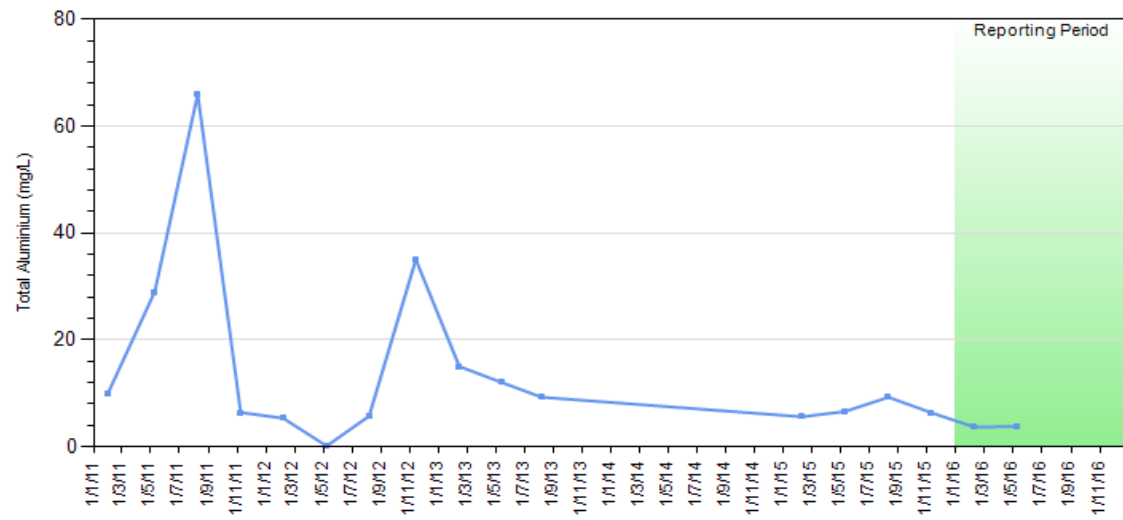
GW9 - TOC (mg/L)



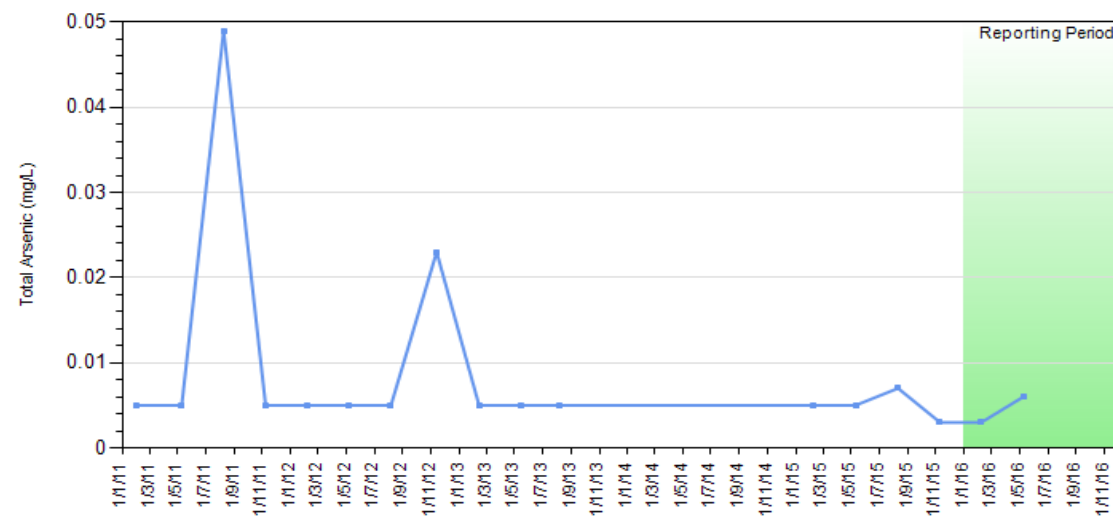
GW9 - Total Acidity (mg/L CaCO3)

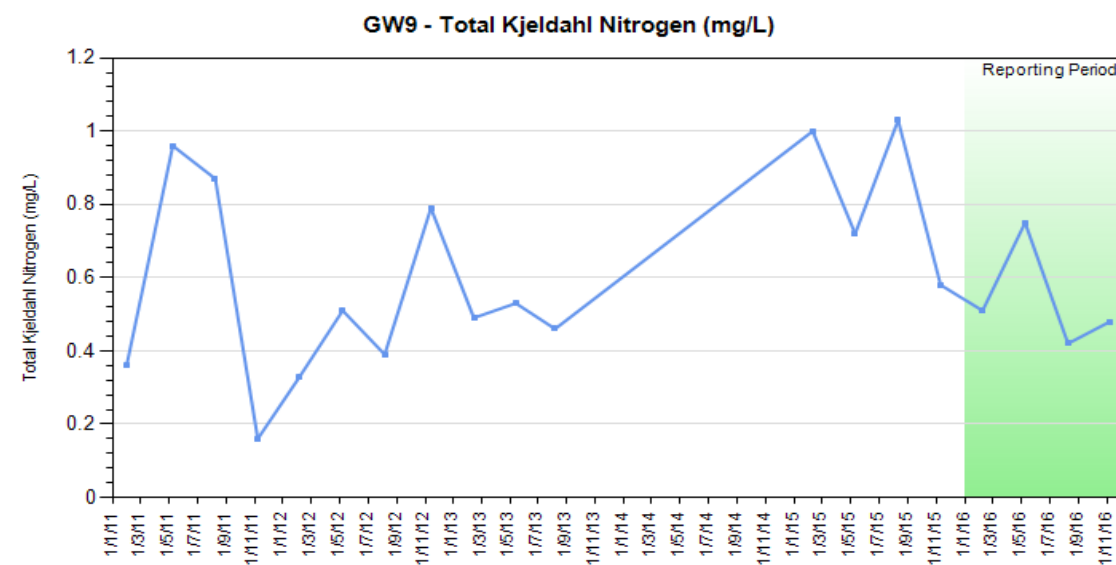
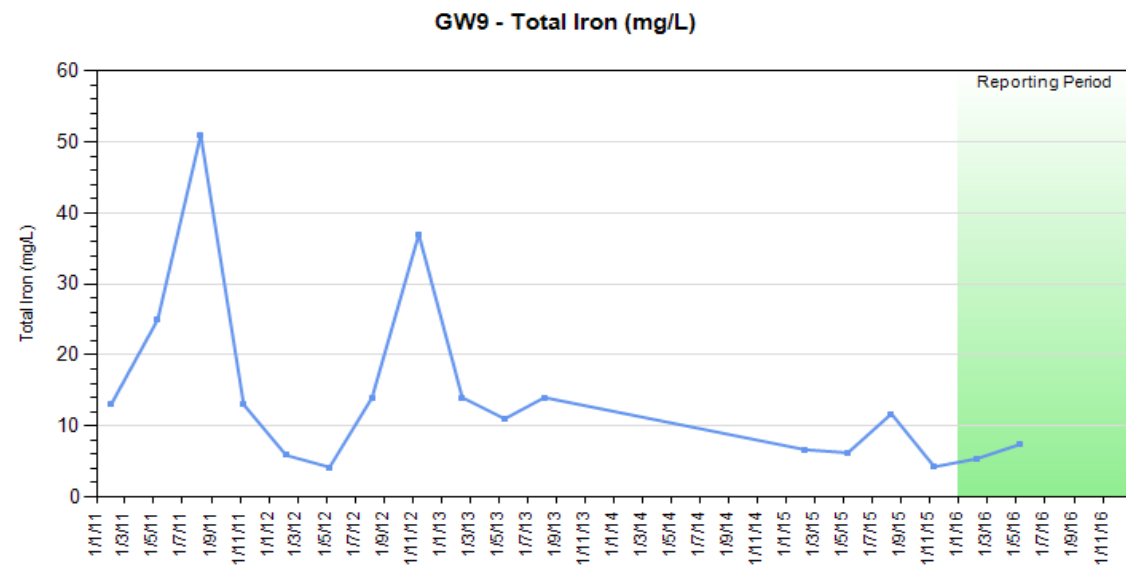
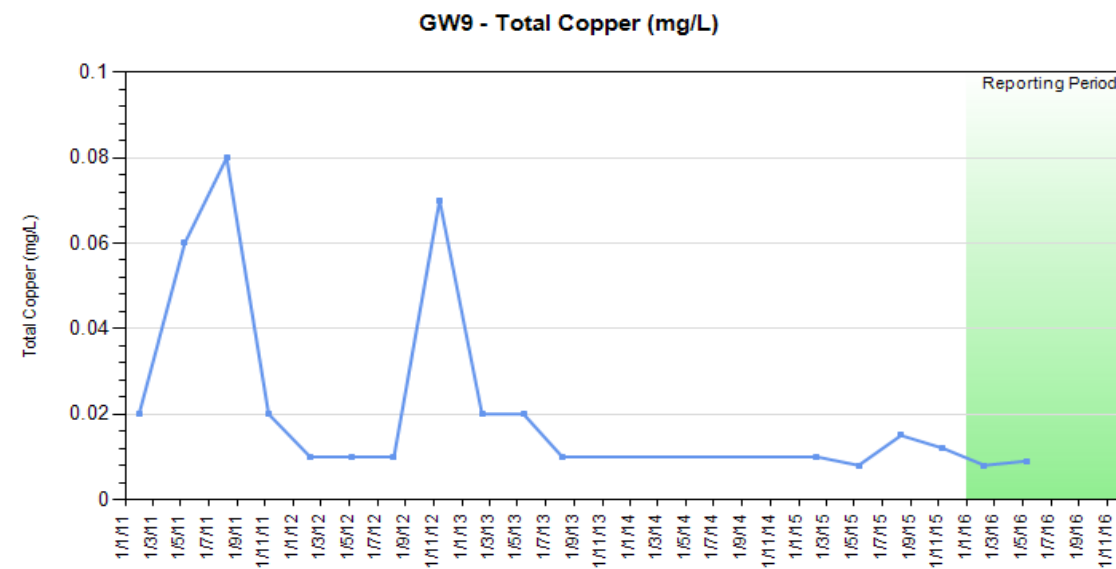
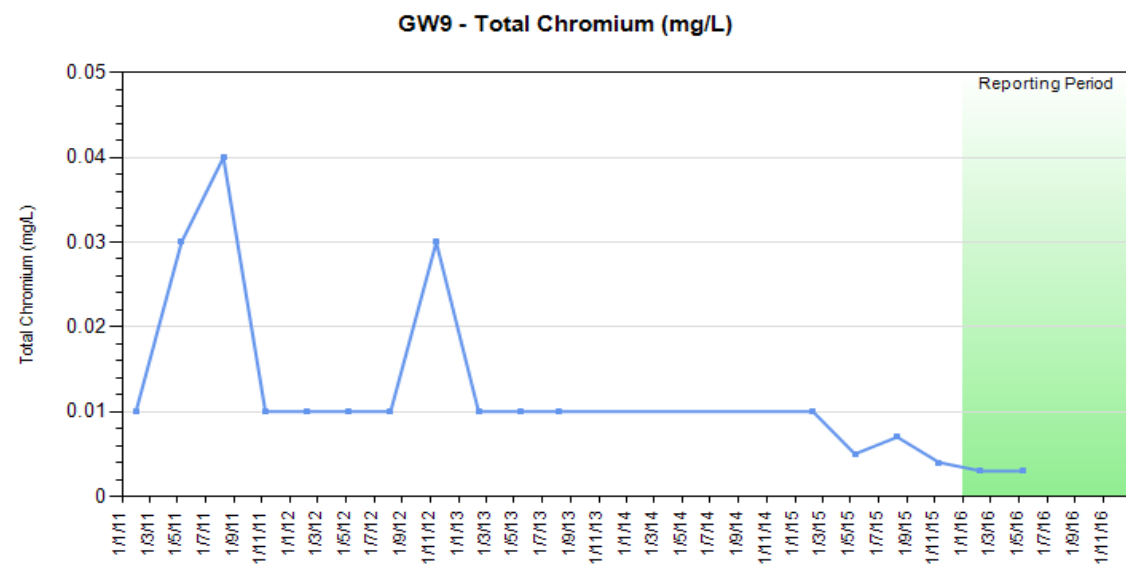
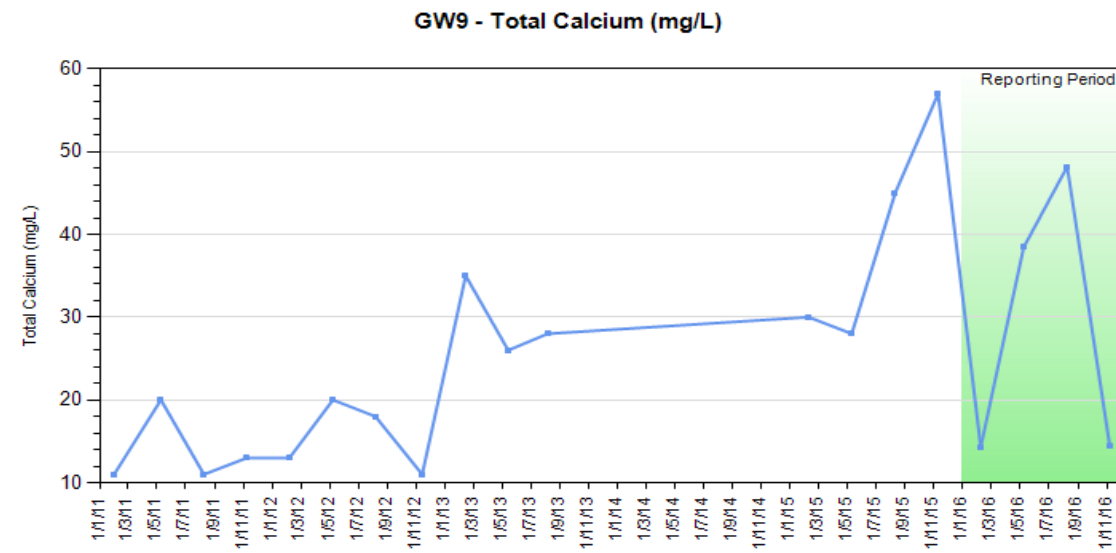
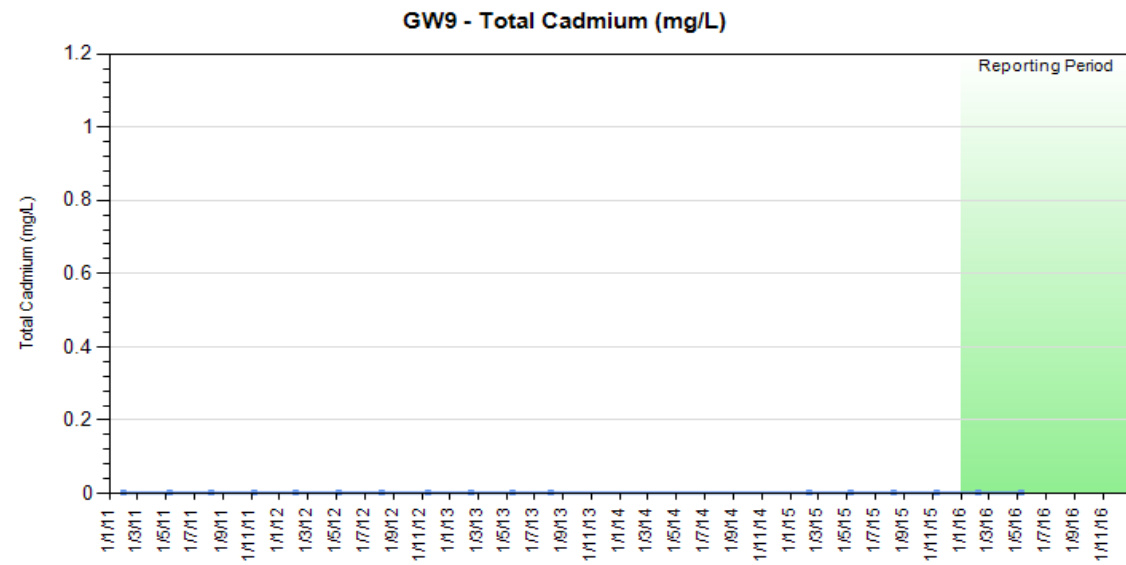


GW9 - Total Aluminium (mg/L)

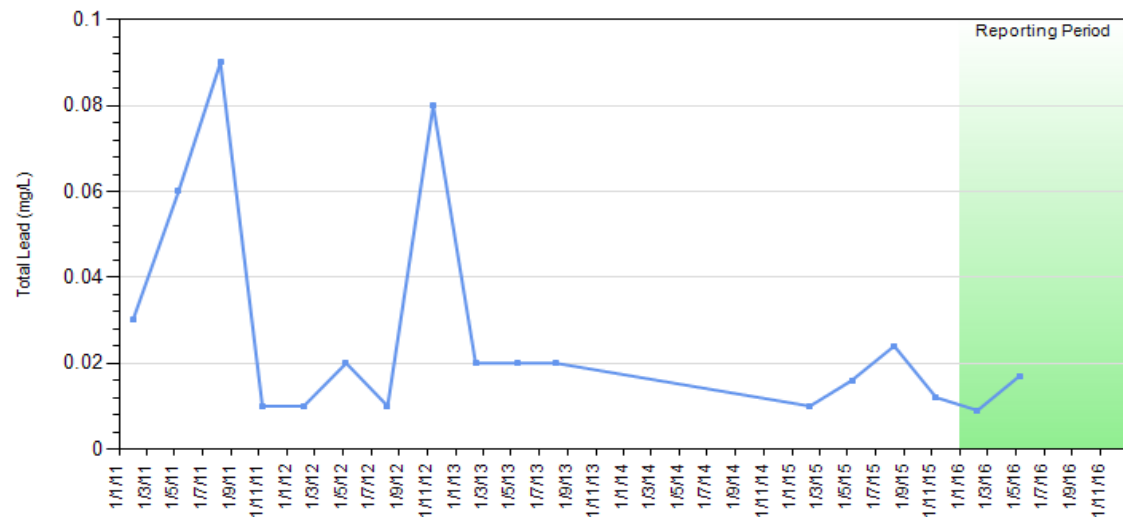


GW9 - Total Arsenic (mg/L)

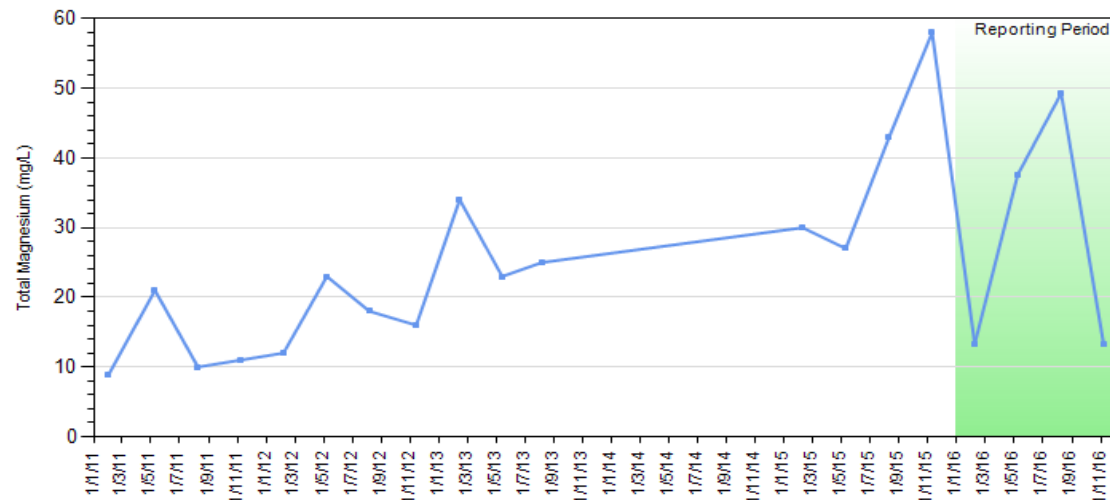




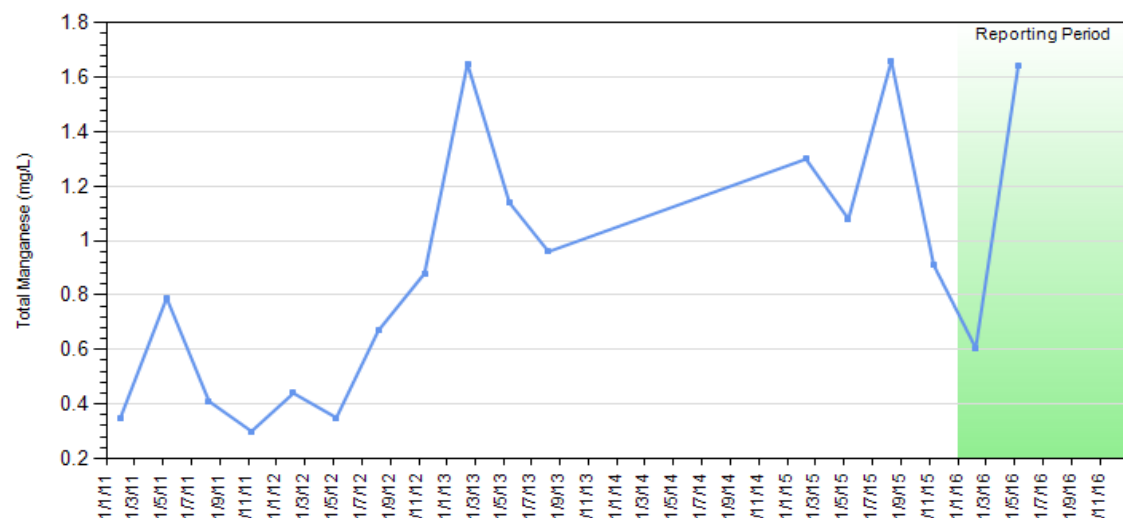
GW9 - Total Lead (mg/L)



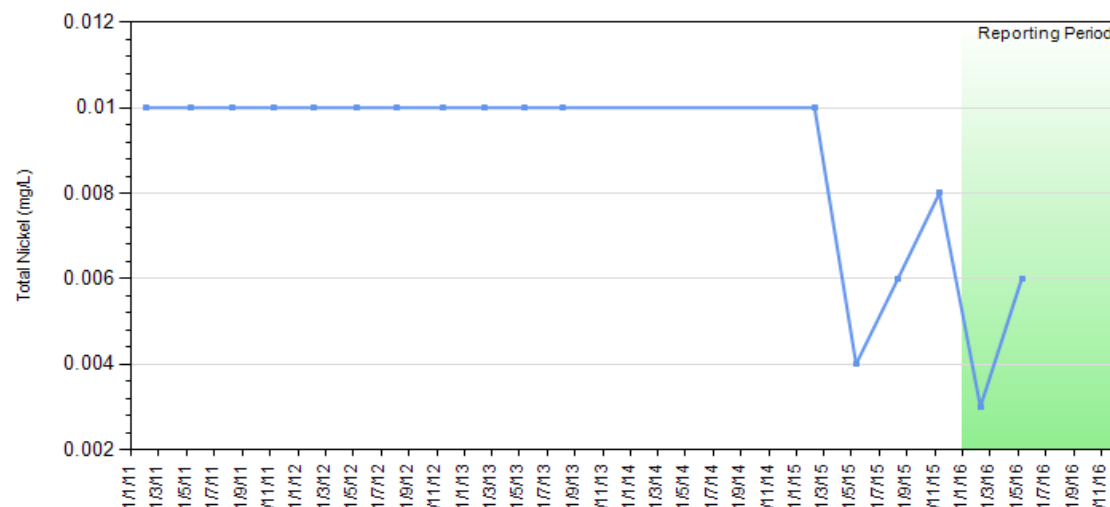
GW9 - Total Magnesium (mg/L)



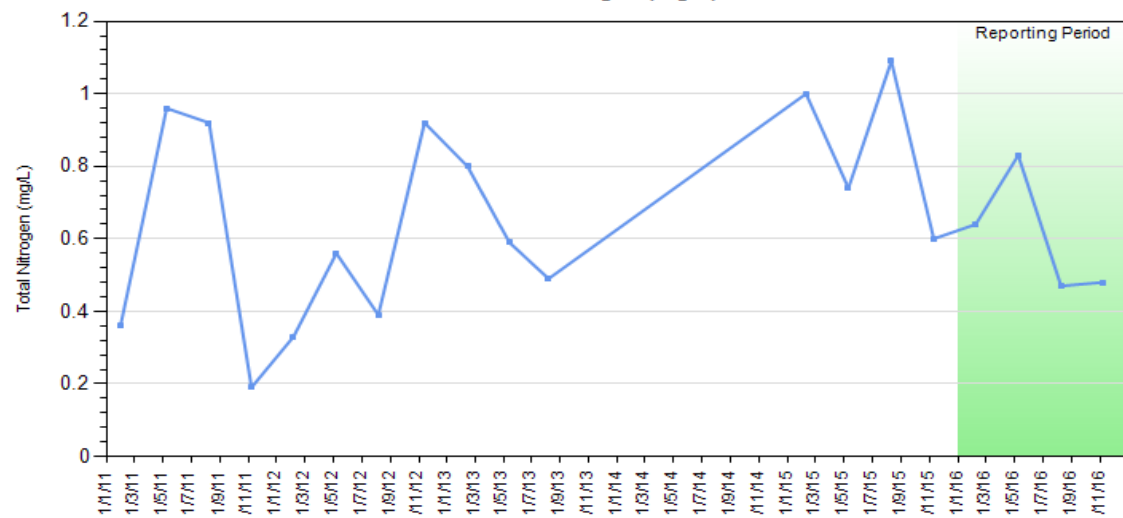
GW9 - Total Manganese (mg/L)



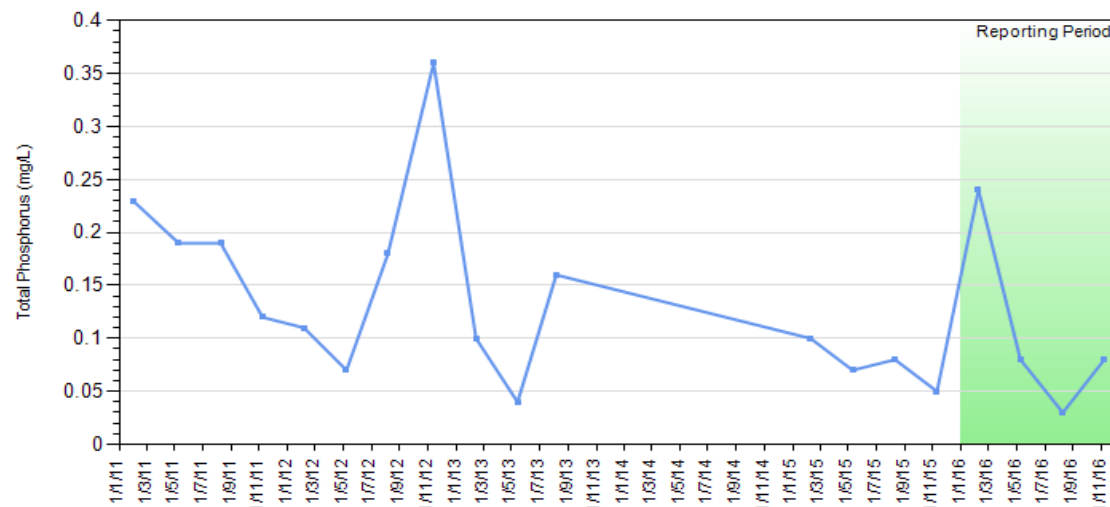
GW9 - Total Nickel (mg/L)



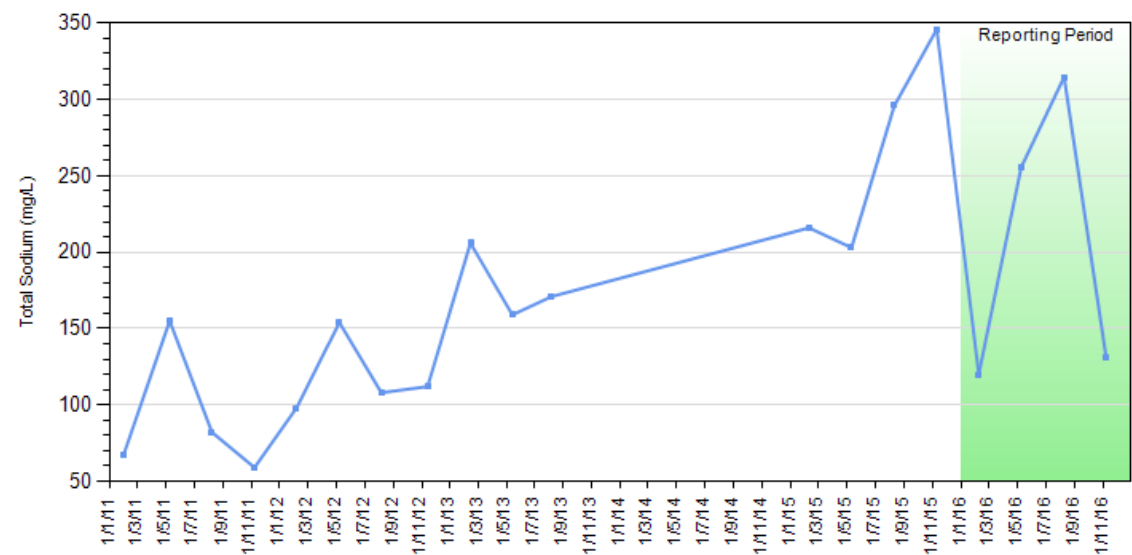
GW9 - Total Nitrogen (mg/L)



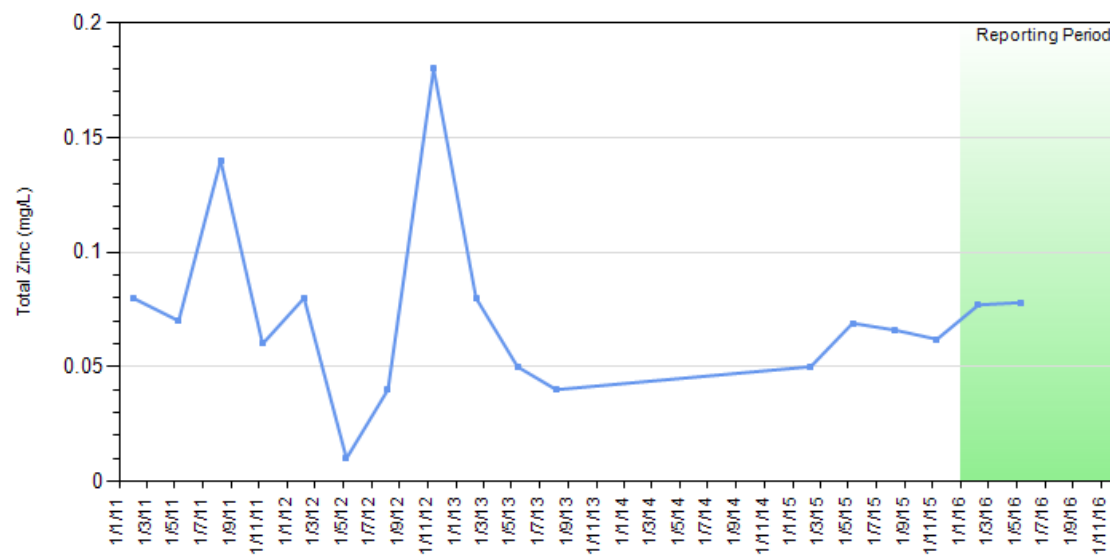
GW9 - Total Phosphorus (mg/L)



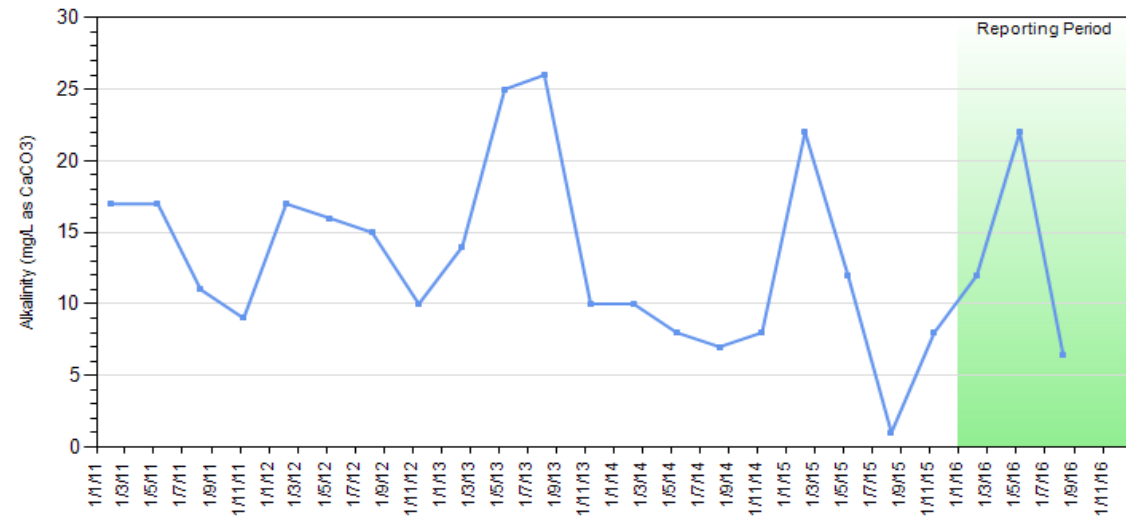
GW9 - Total Sodium (mg/L)



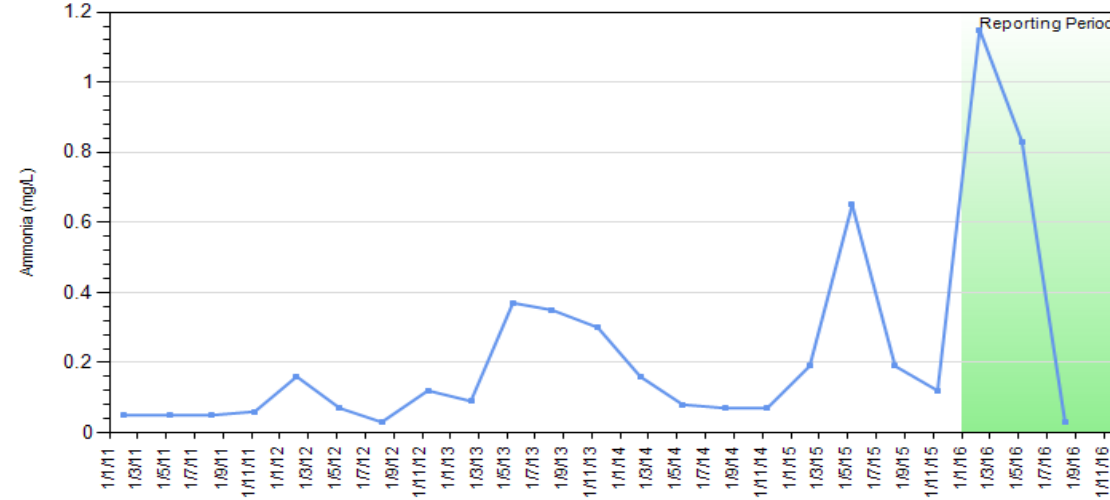
GW9 - Total Zinc (mg/L)



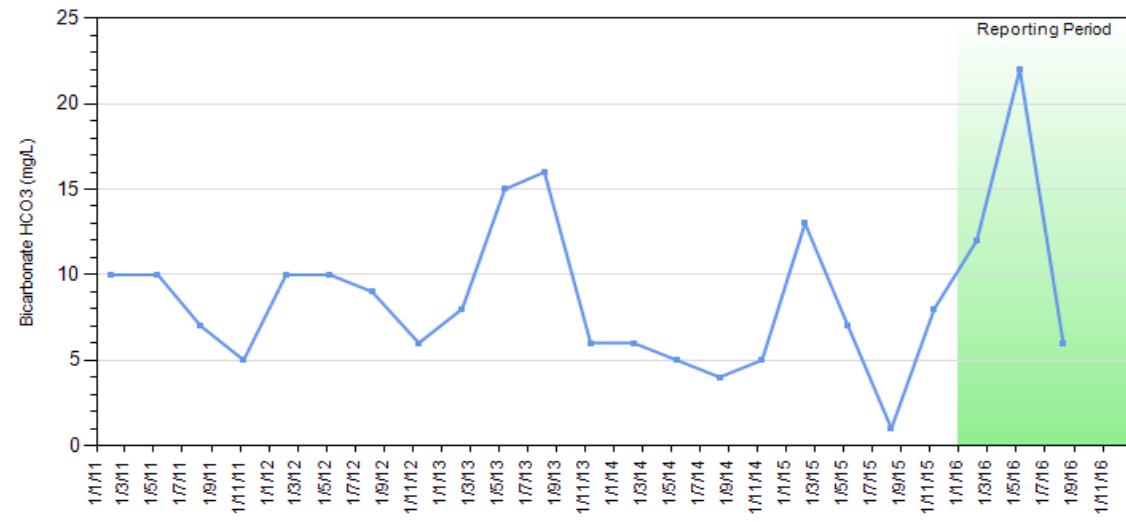
GW10 - Alkalinity (mg/L as CaCO3)



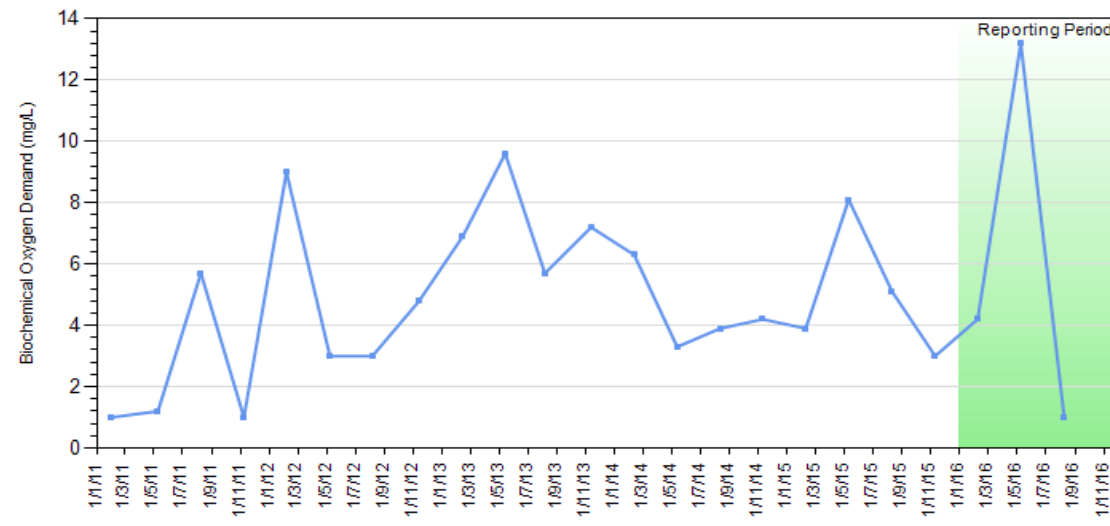
GW10 - Ammonia (mg/L)



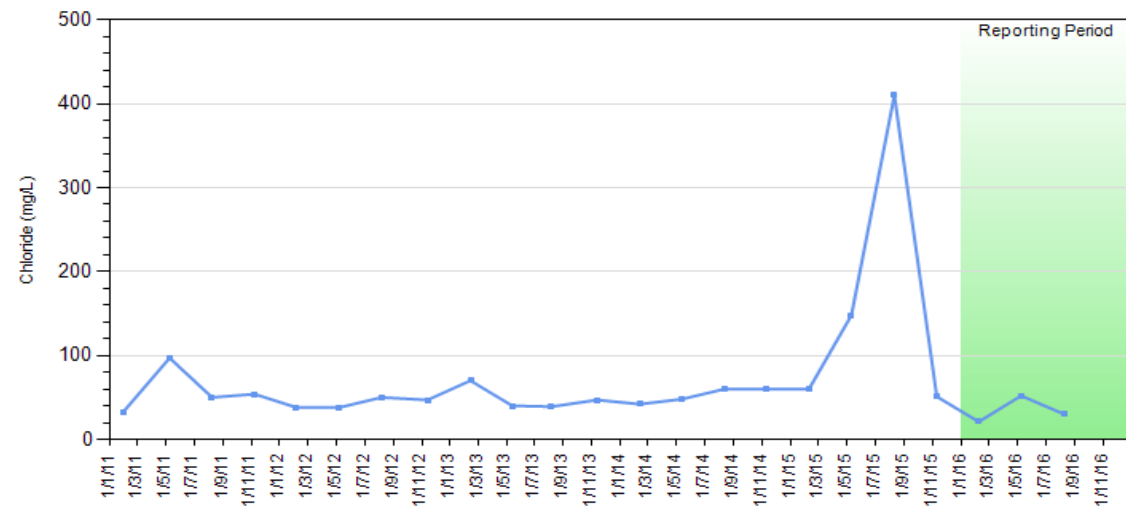
GW10 - Bicarbonate HCO3 (mg/L)



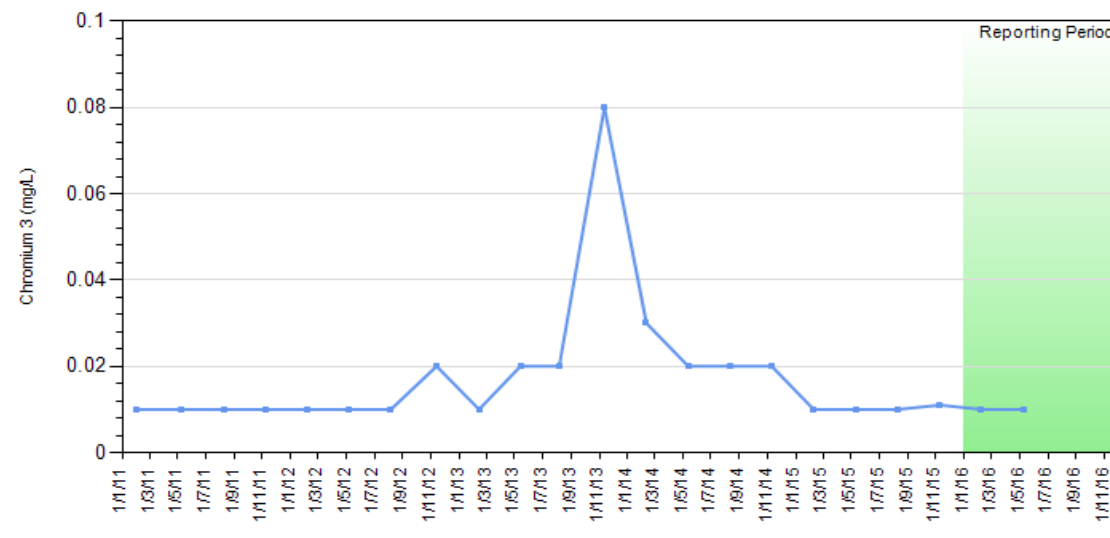
GW10 - Biochemical Oxygen Demand (mg/L)



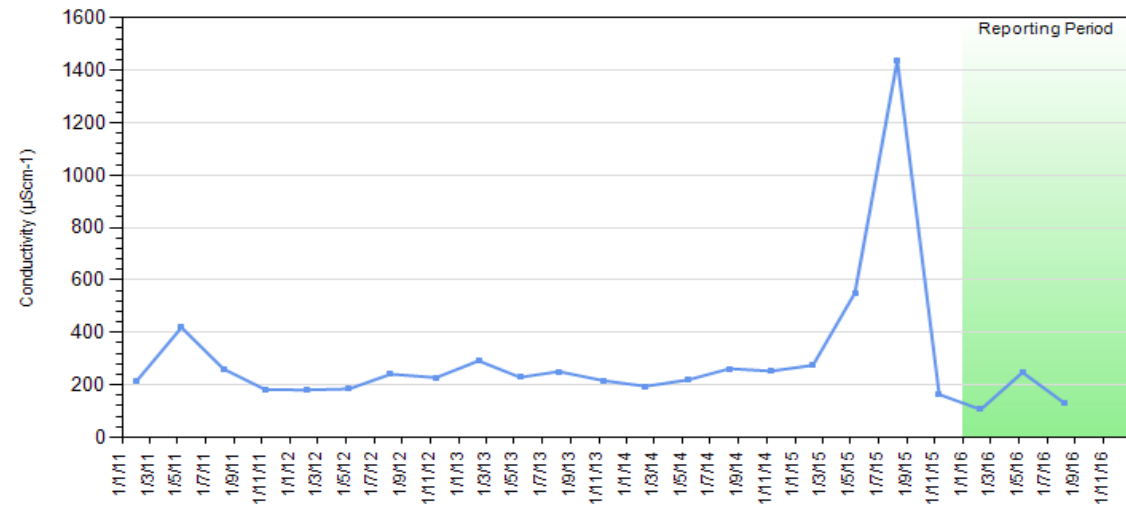
GW10 - Chloride (mg/L)



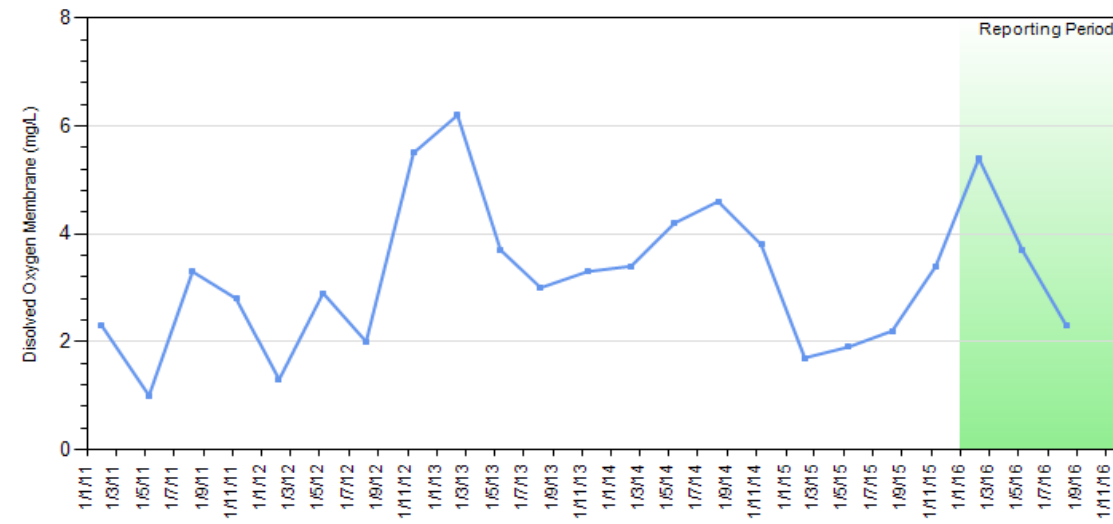
GW10 - Chromium 3 (mg/L)



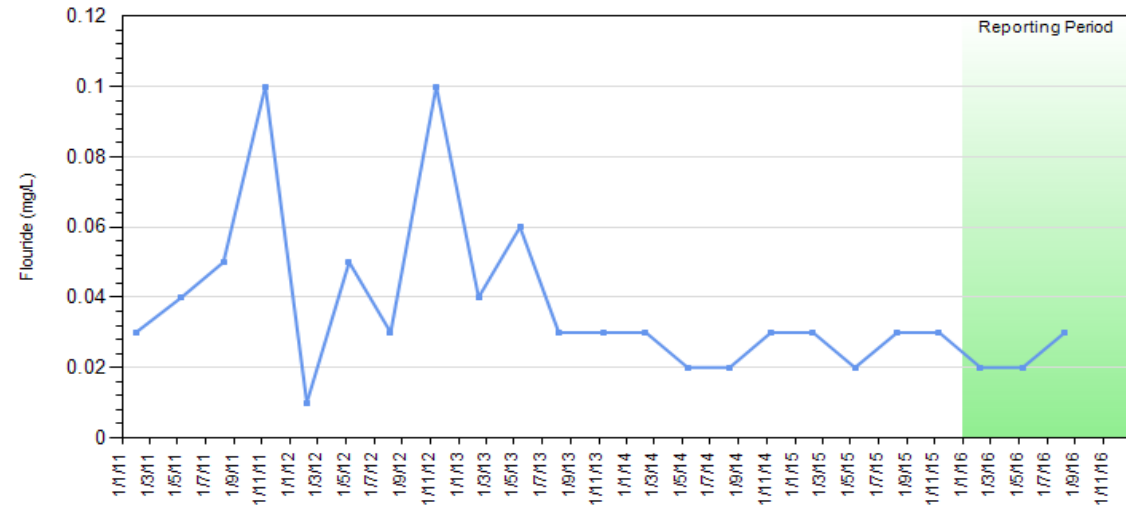
GW10 - Conductivity (μScm^{-1})



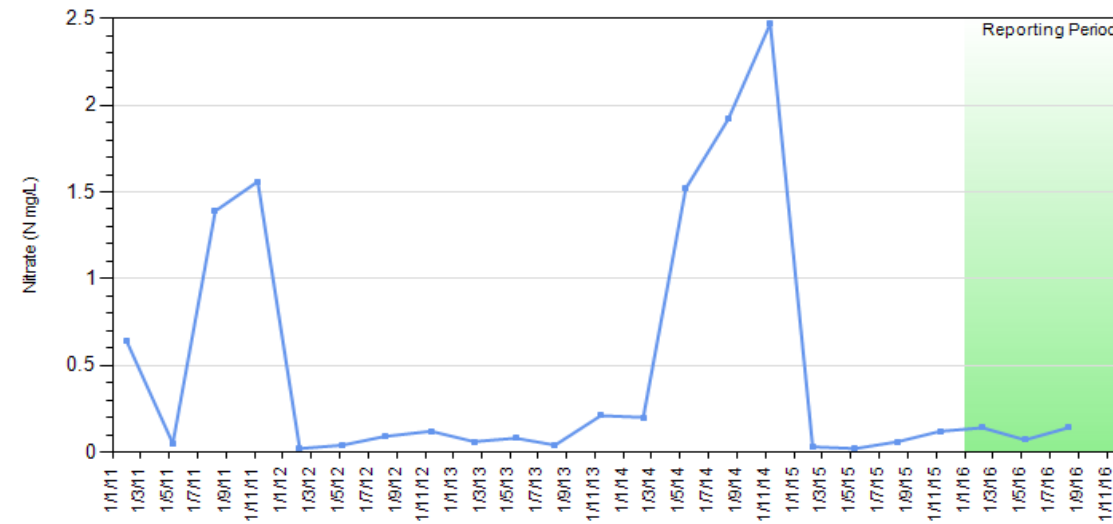
GW10 - Dissolved Oxygen Membrane (mg/L)



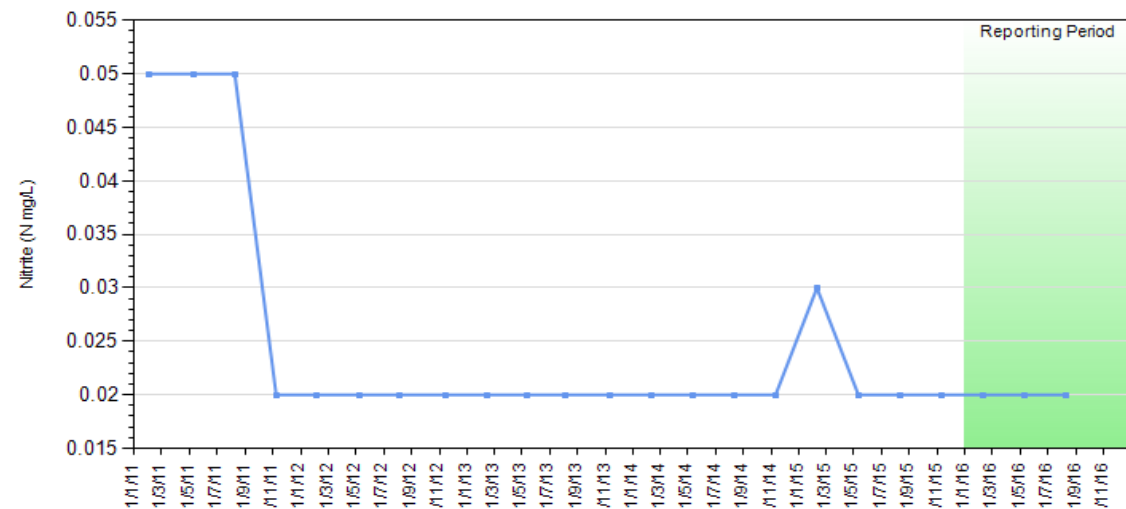
GW10 - Fluoride (mg/L)



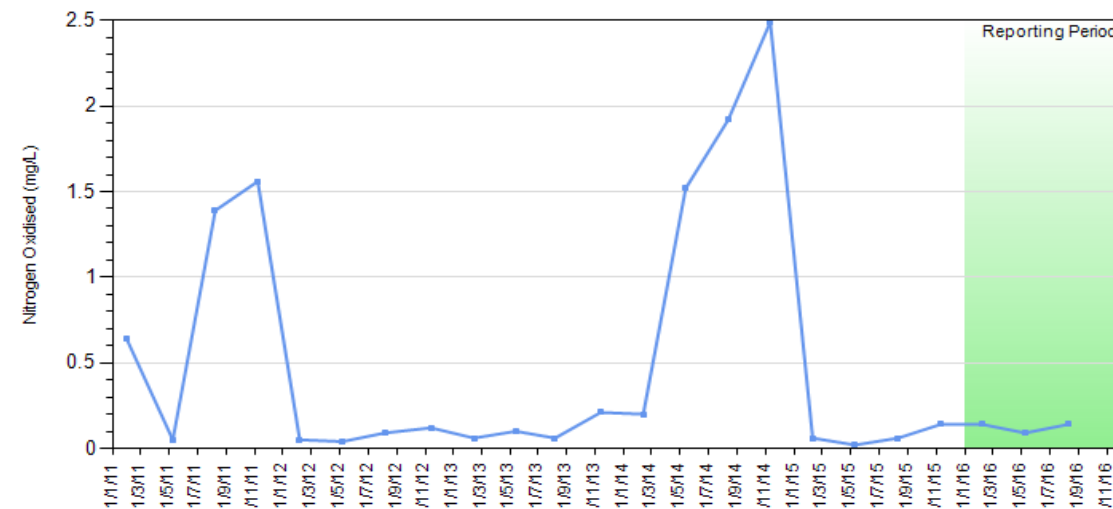
GW10 - Nitrate (N mg/L)

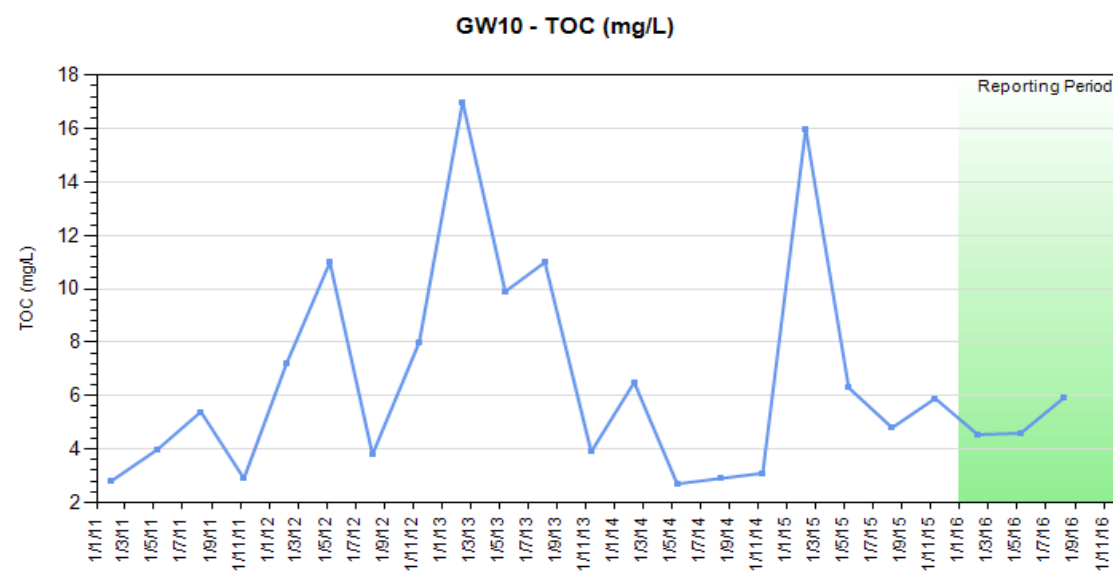
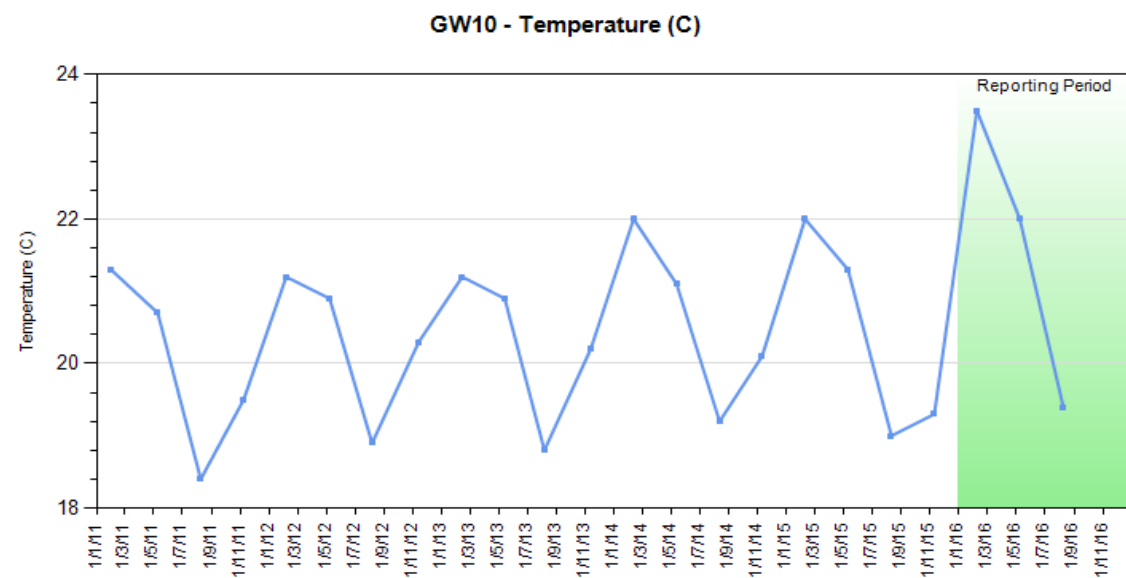
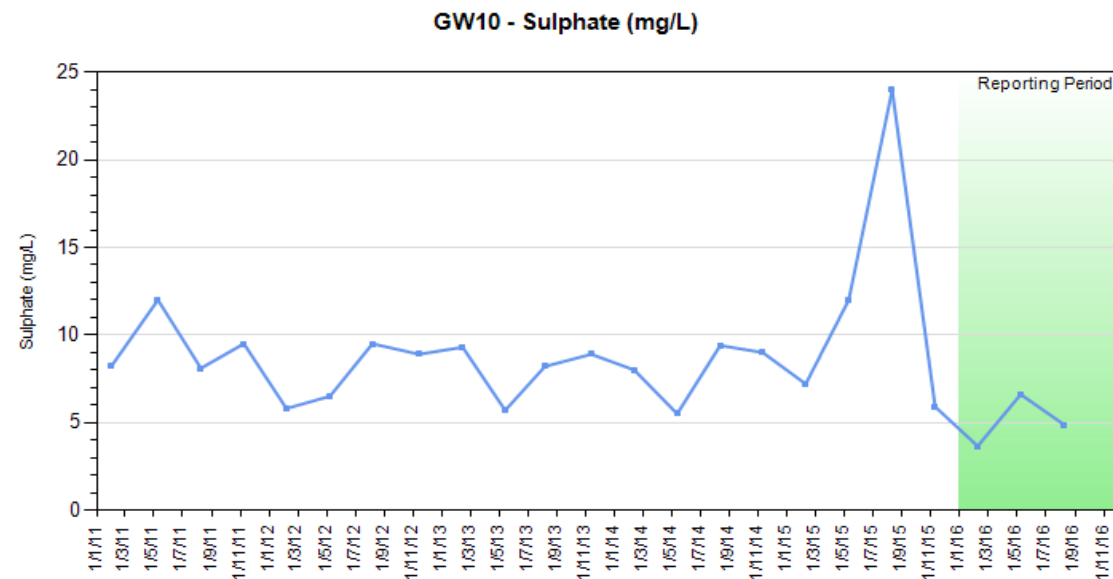
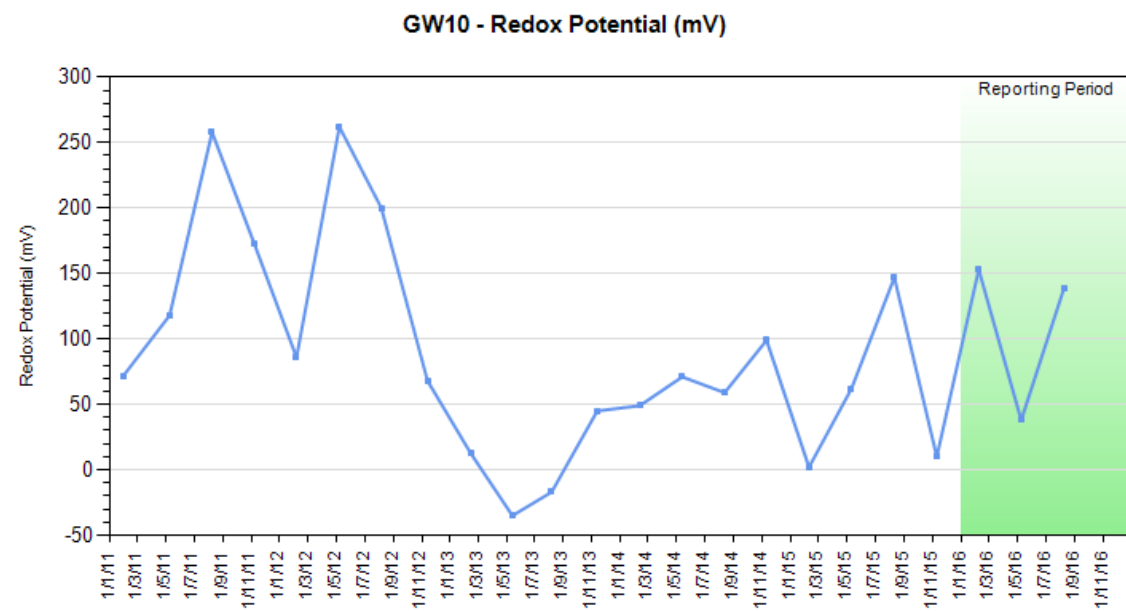
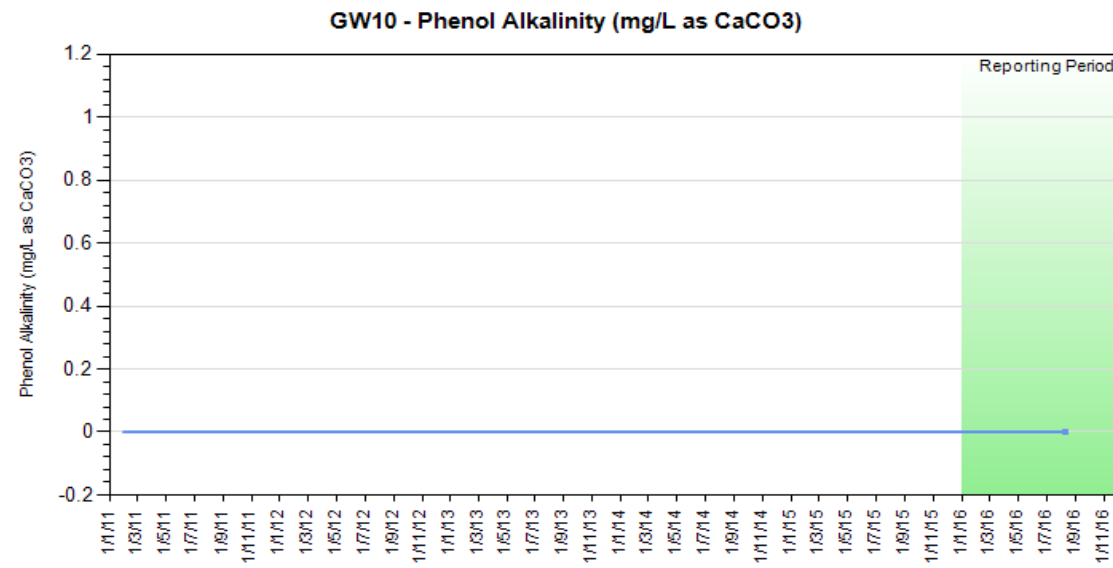
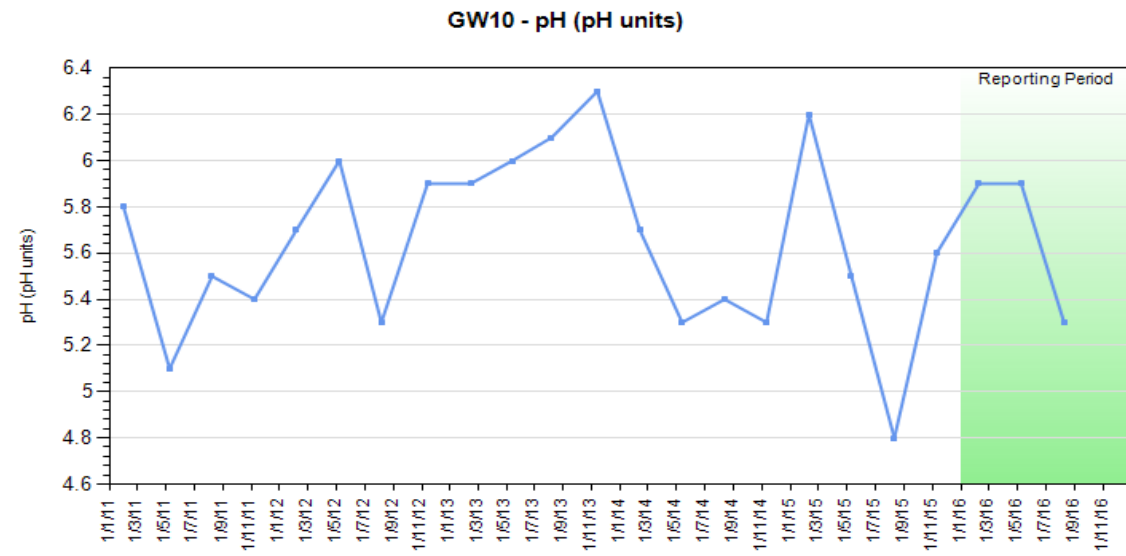


GW10 - Nitrite (N mg/L)

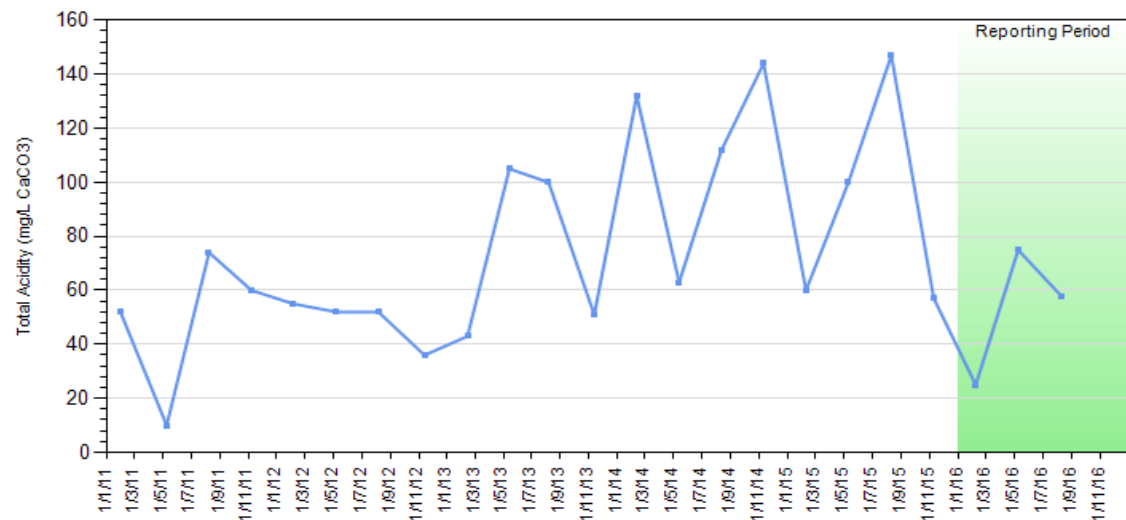


GW10 - Nitrogen Oxidised (mg/L)

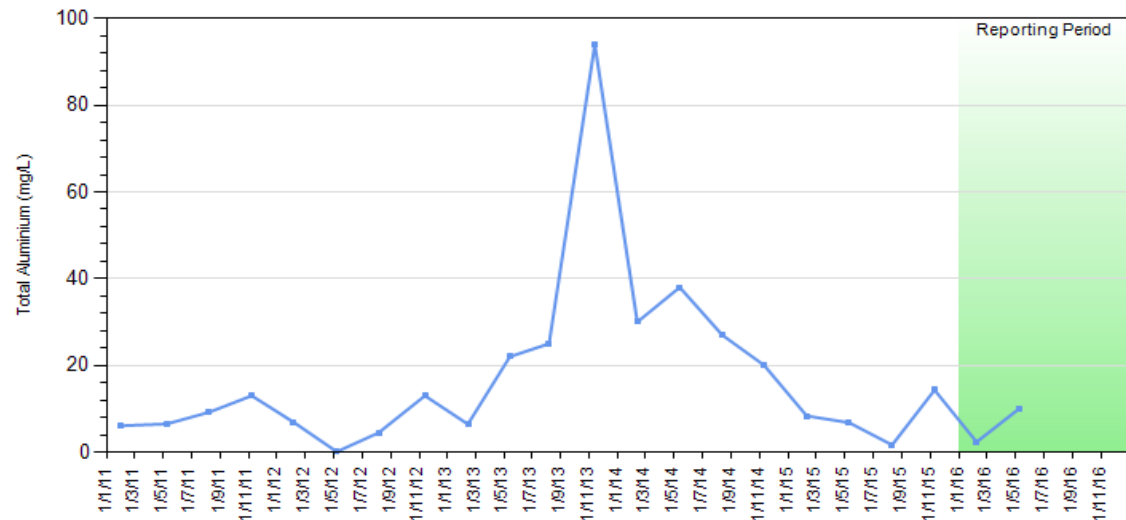




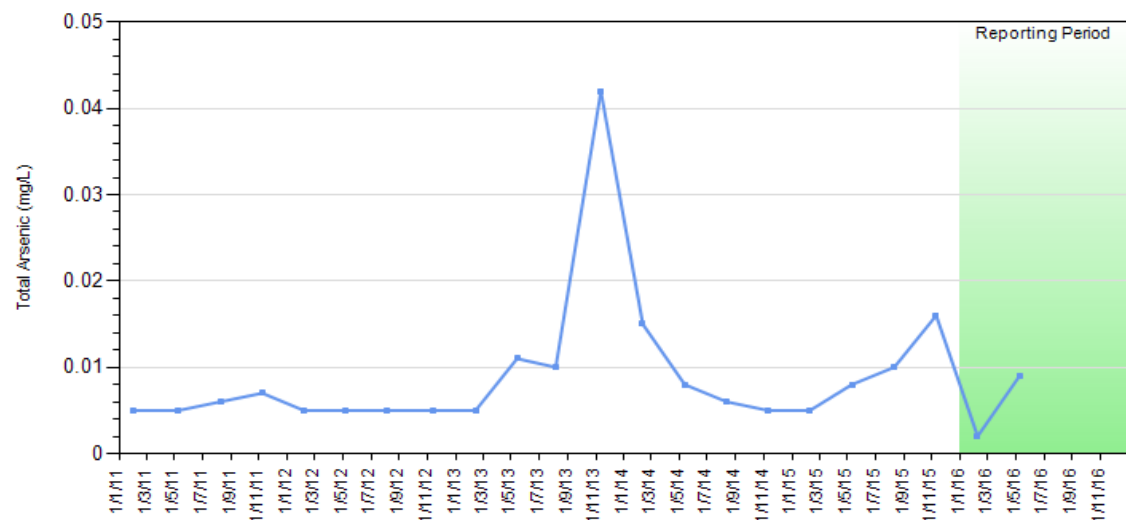
GW10 - Total Acidity (mg/L CaCO3)



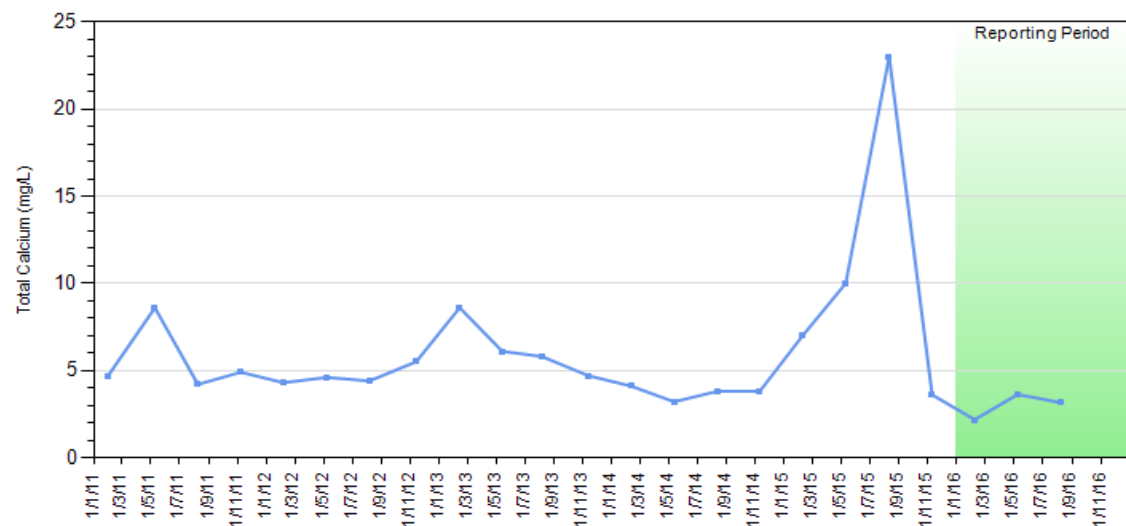
GW10 - Total Aluminium (mg/L)



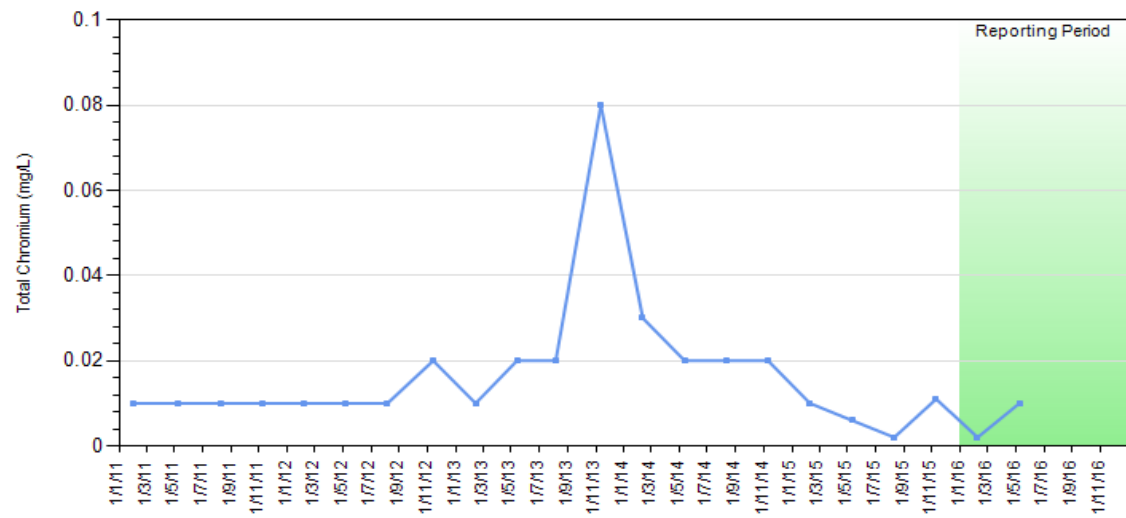
GW10 - Total Arsenic (mg/L)



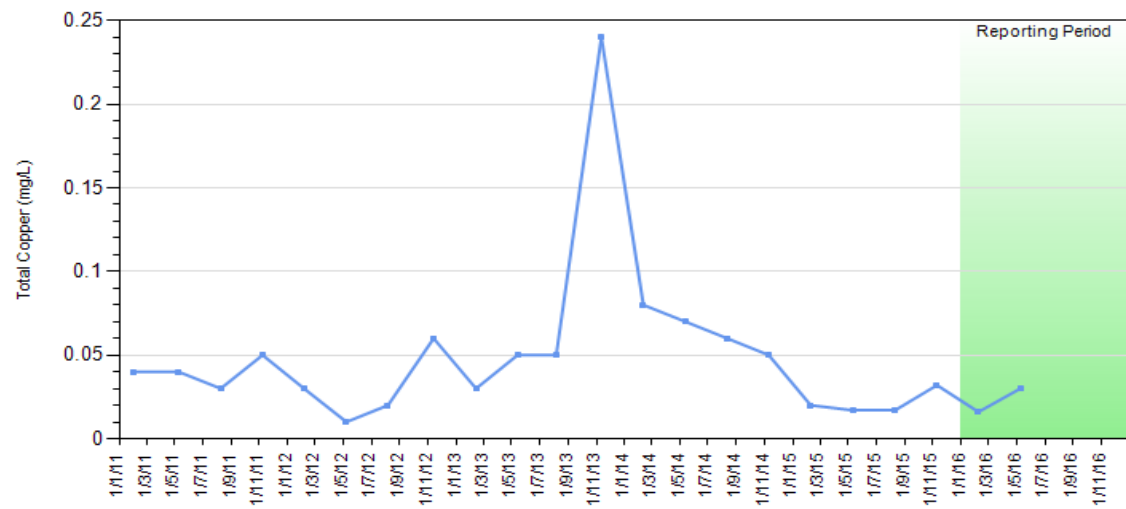
GW10 - Total Calcium (mg/L)



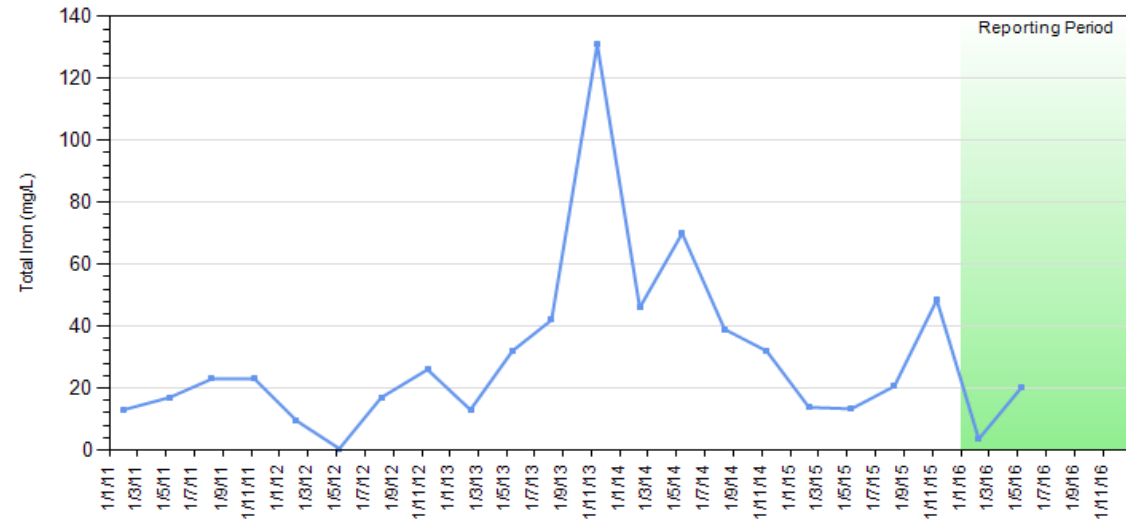
GW10 - Total Chromium (mg/L)



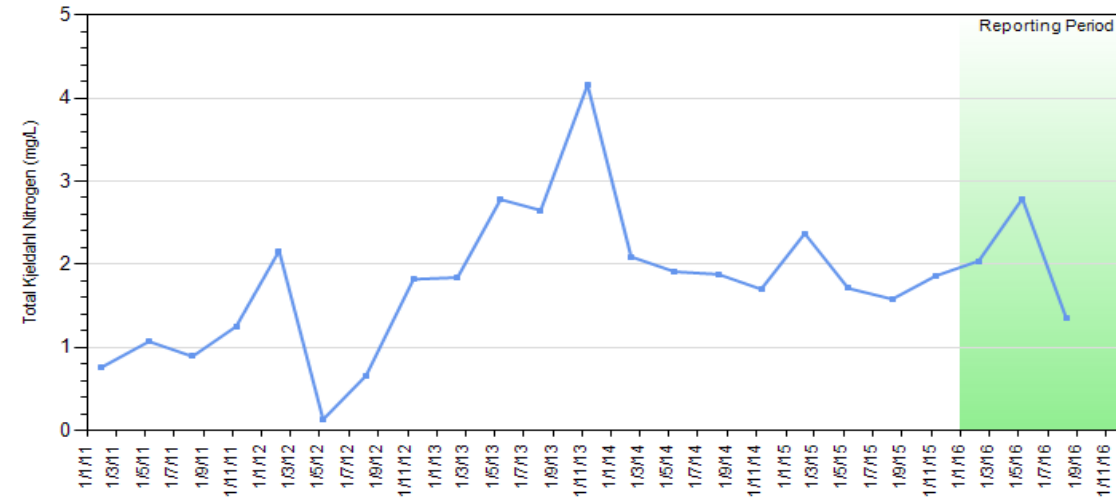
GW10 - Total Copper (mg/L)



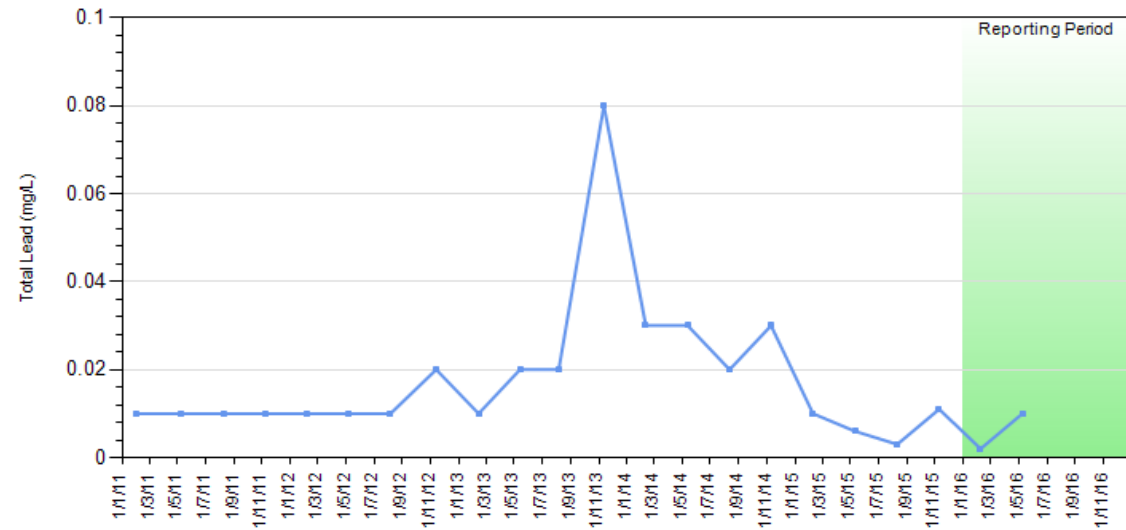
GW10 - Total Iron (mg/L)



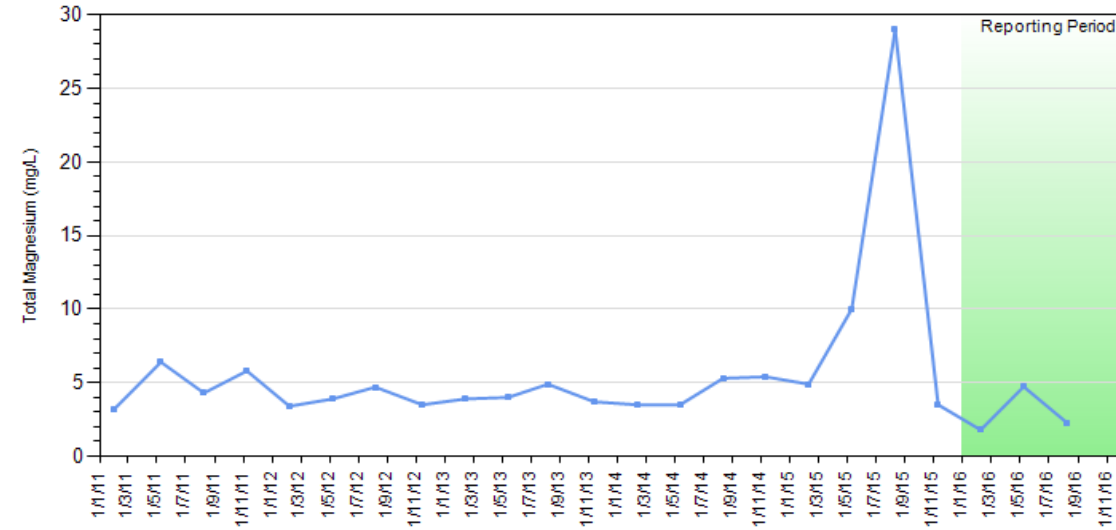
GW10 - Total Kjeldahl Nitrogen (mg/L)



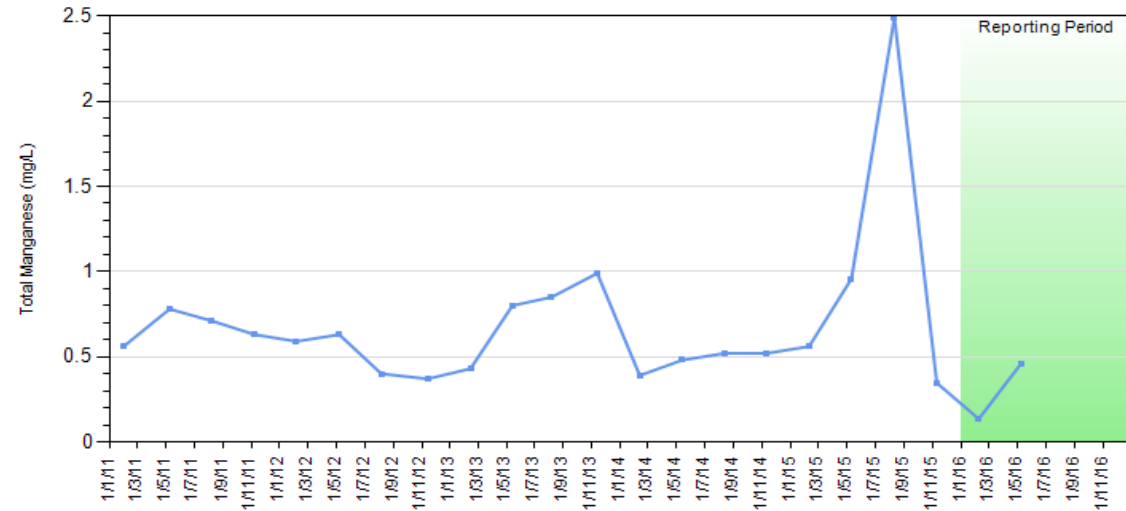
GW10 - Total Lead (mg/L)



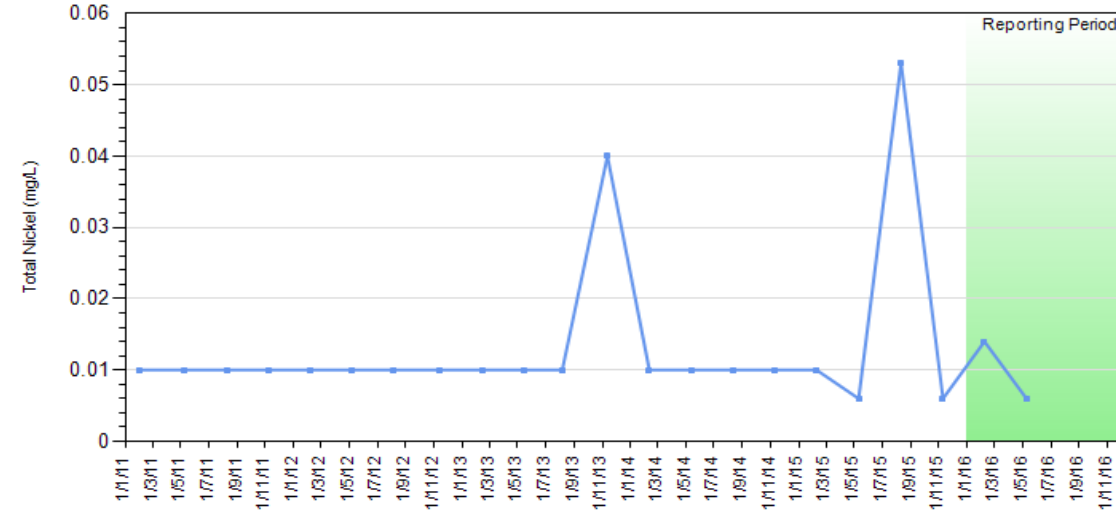
GW10 - Total Magnesium (mg/L)



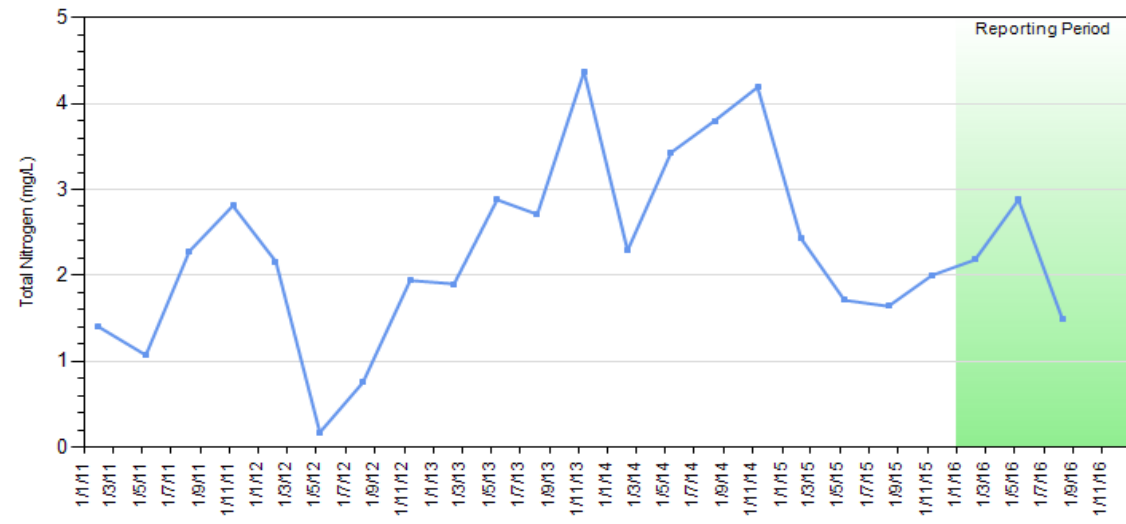
GW10 - Total Manganese (mg/L)



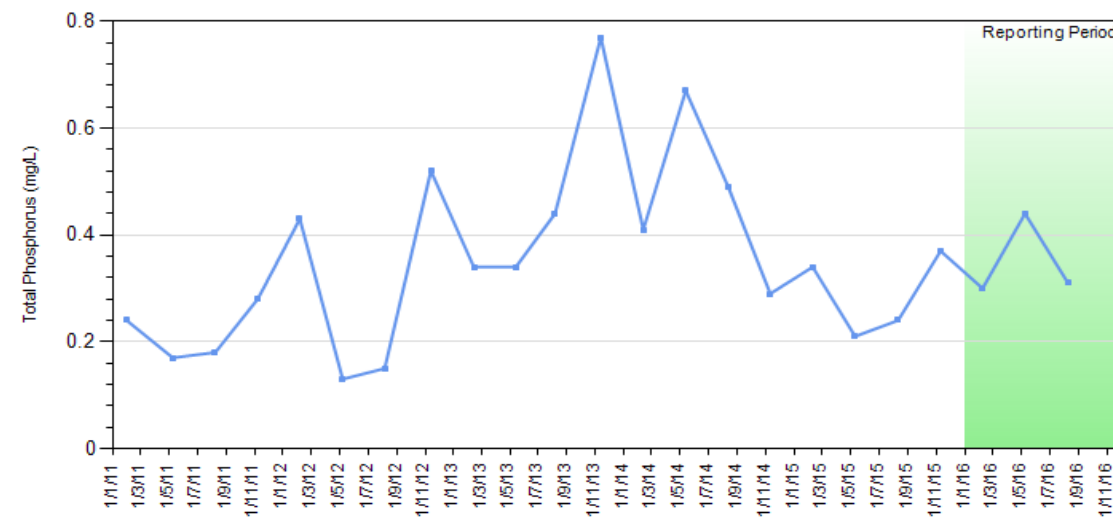
GW10 - Total Nickel (mg/L)



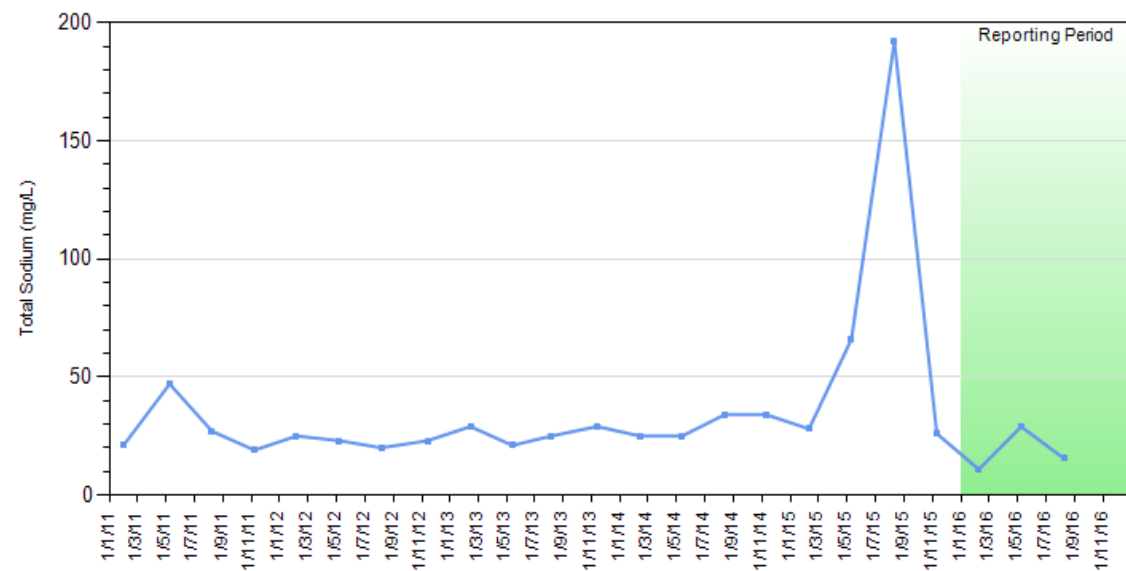
GW10 - Total Nitrogen (mg/L)



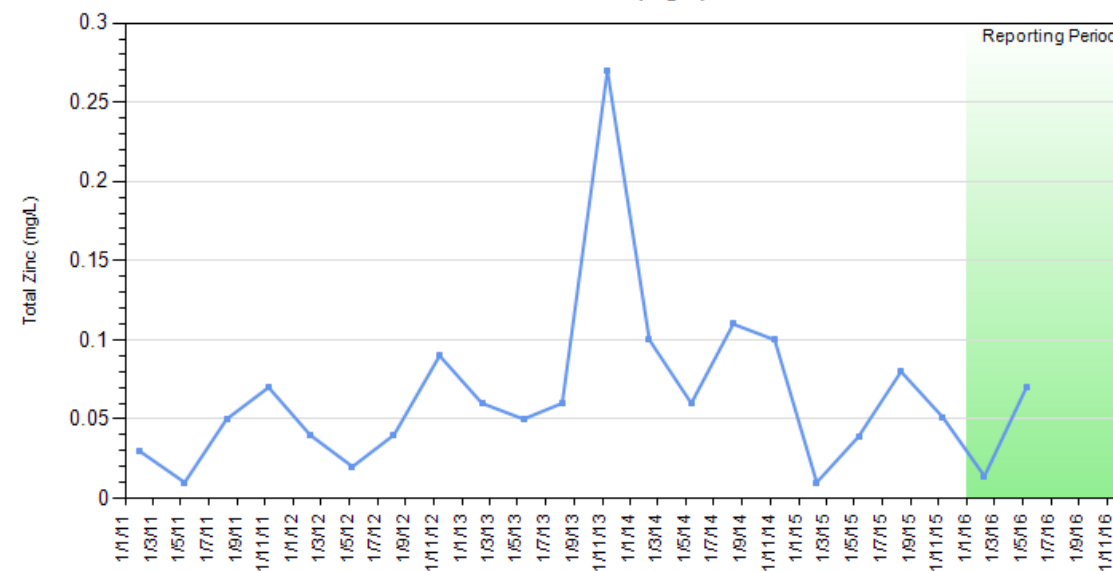
GW10 - Total Phosphorus (mg/L)



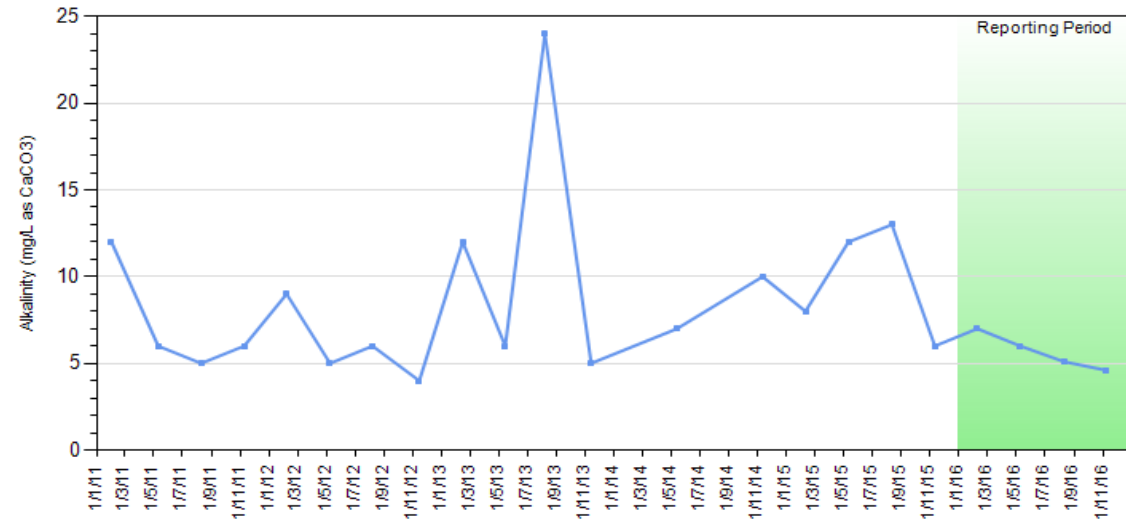
GW10 - Total Sodium (mg/L)



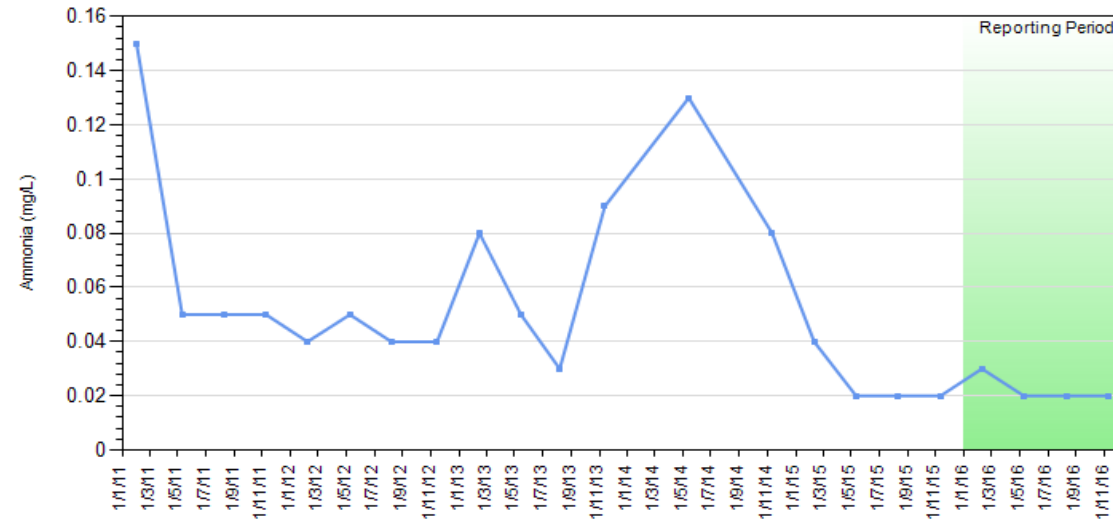
GW10 - Total Zinc (mg/L)



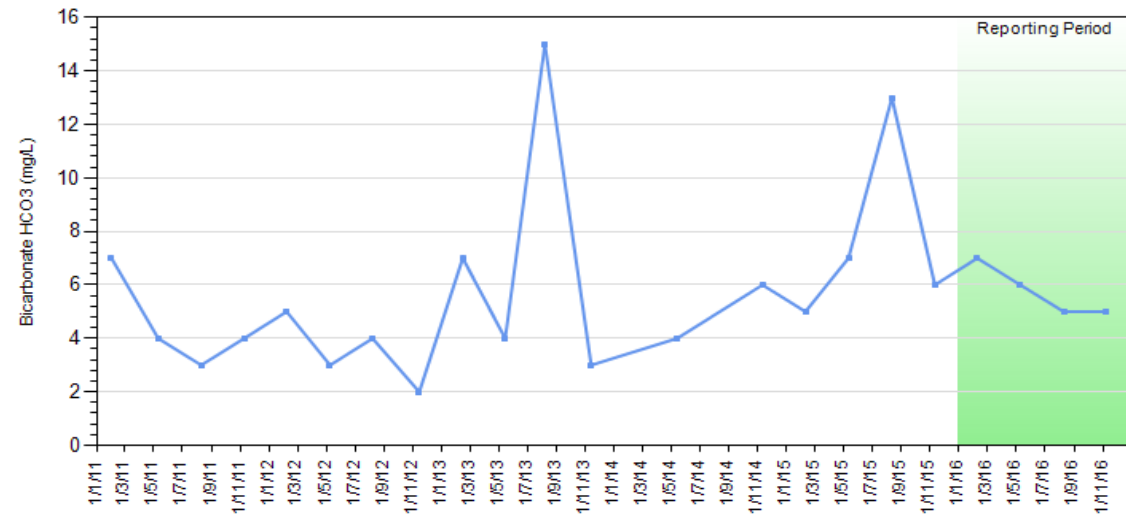
GW11 - Alkalinity (mg/L as CaCO3)



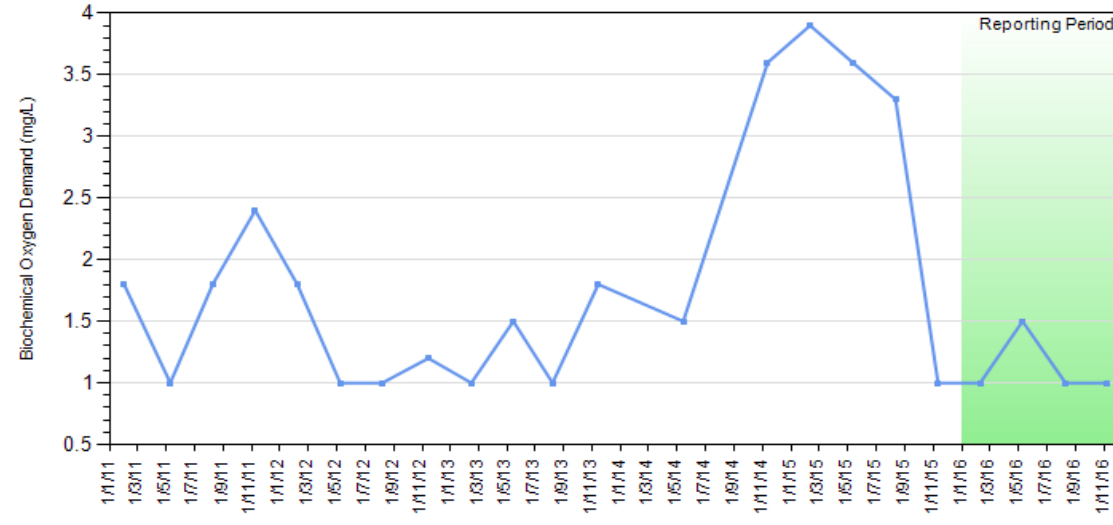
GW11 - Ammonia (mg/L)



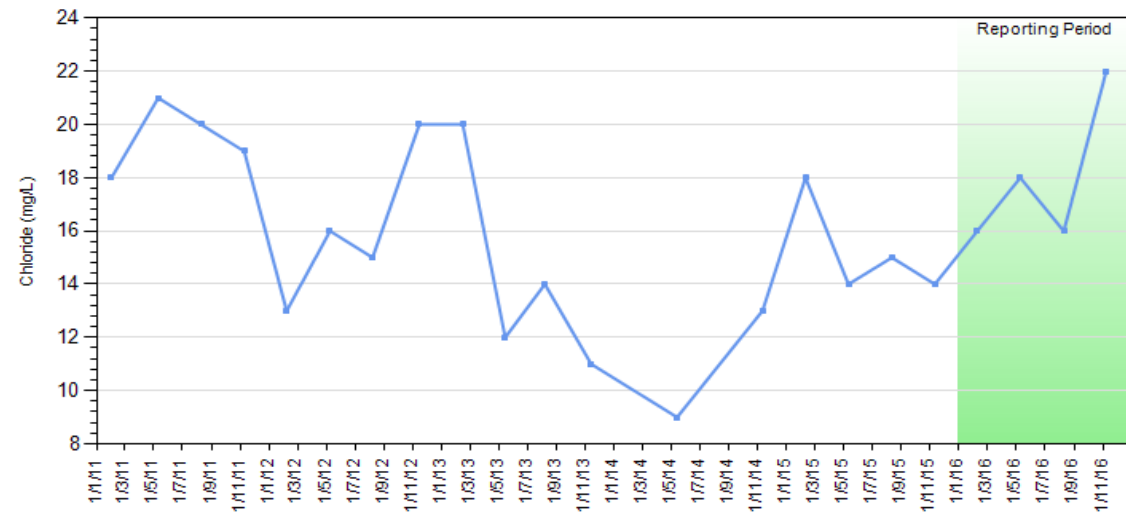
GW11 - Bicarbonate HCO3 (mg/L)



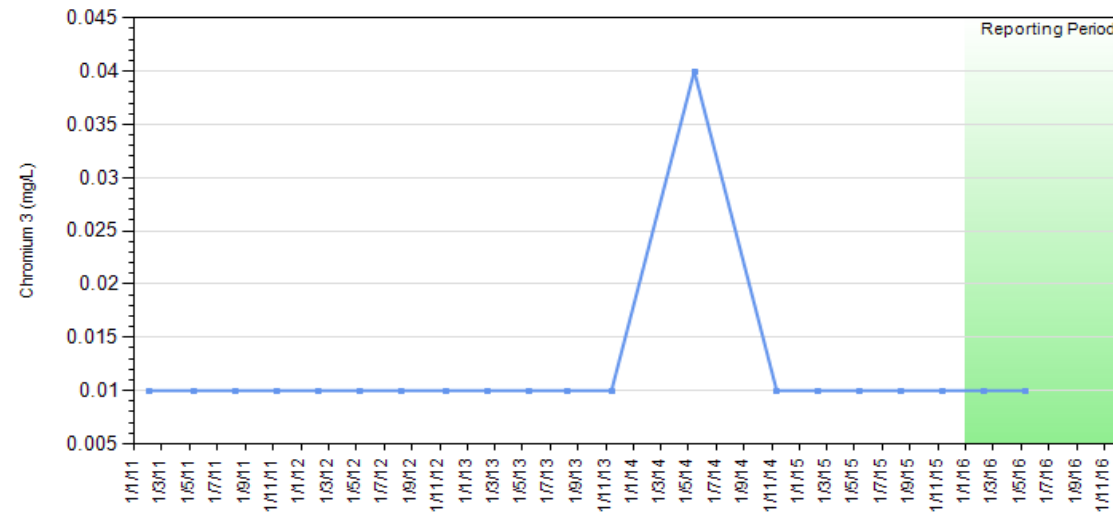
GW11 - Biochemical Oxygen Demand (mg/L)



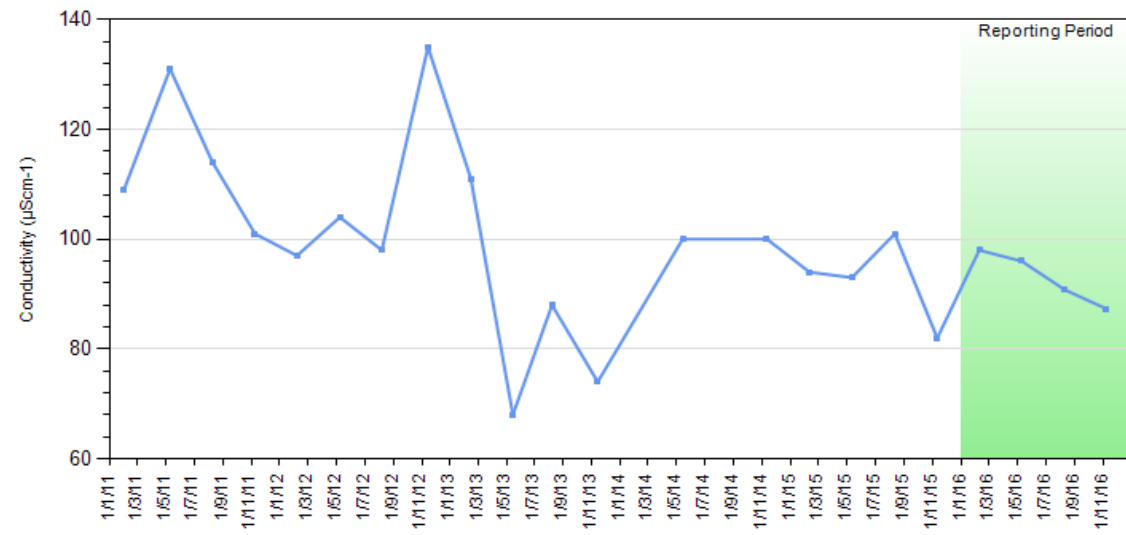
GW11 - Chloride (mg/L)



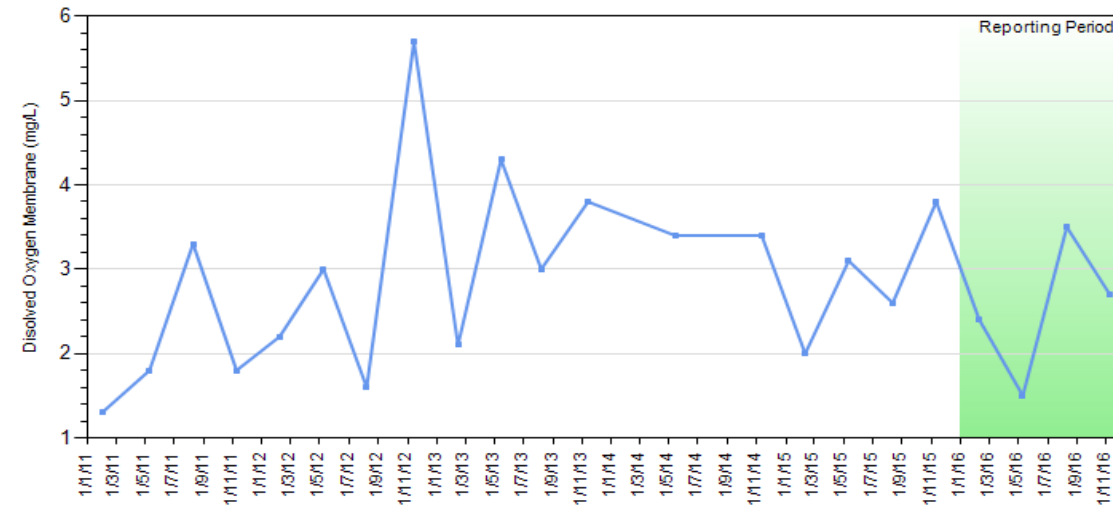
GW11 - Chromium 3 (mg/L)



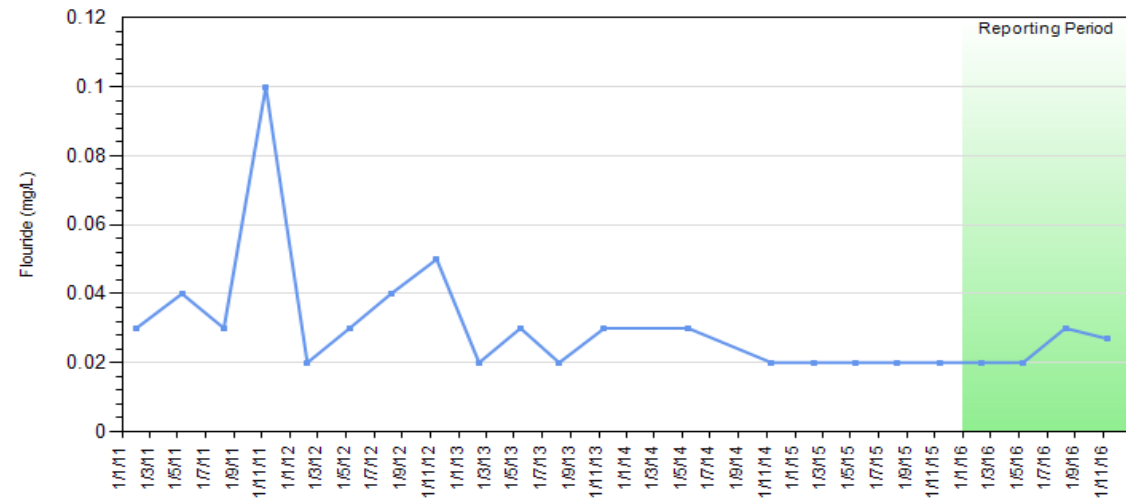
GW11 - Conductivity (μScm^{-1})



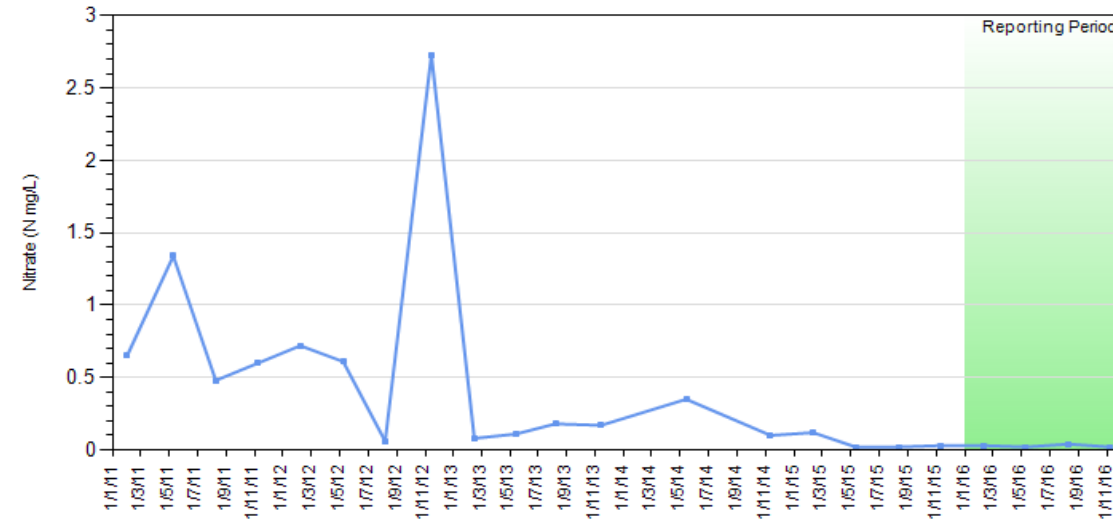
GW11 - Dissolved Oxygen Membrane (mg/L)



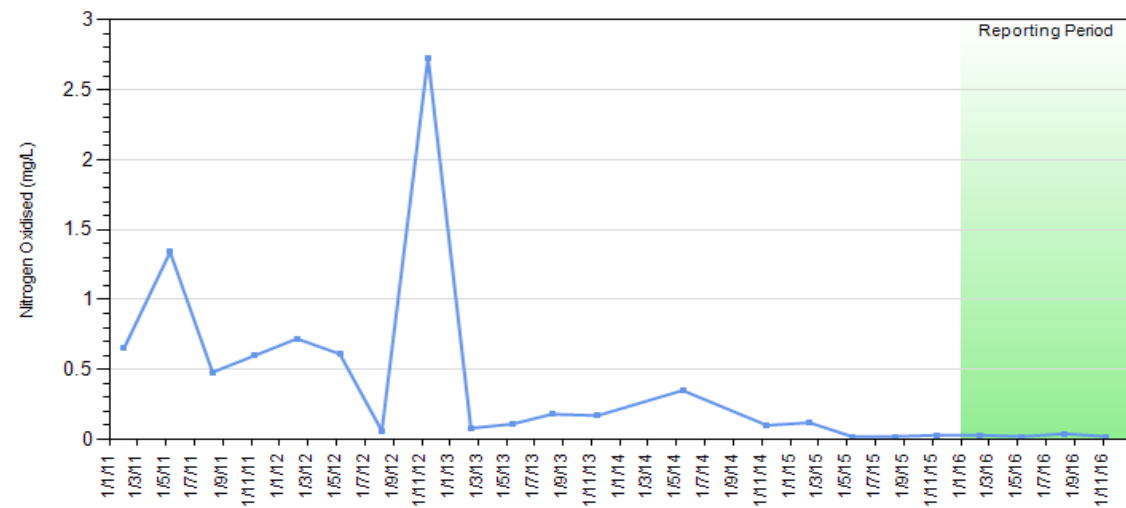
GW11 - Fluoride (mg/L)



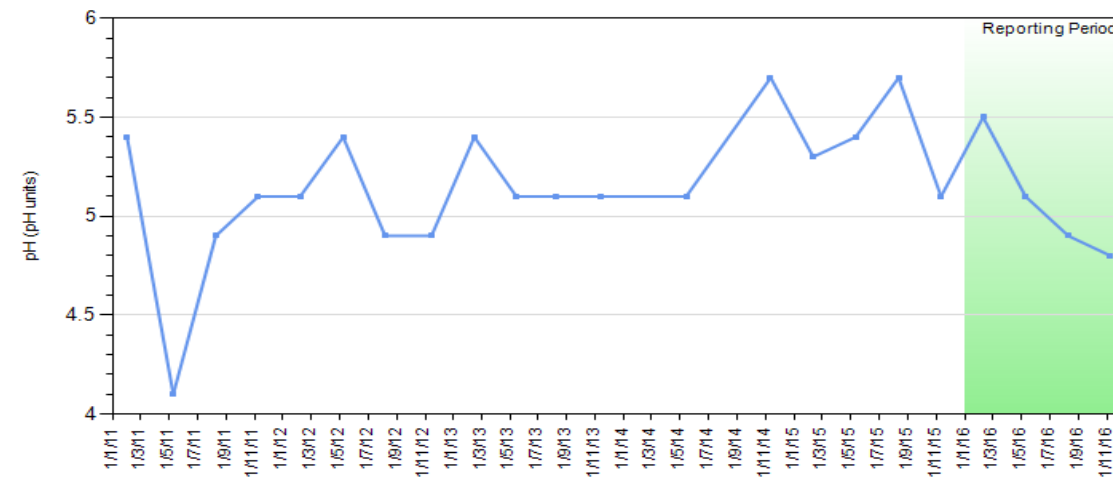
GW11 - Nitrate (N mg/L)



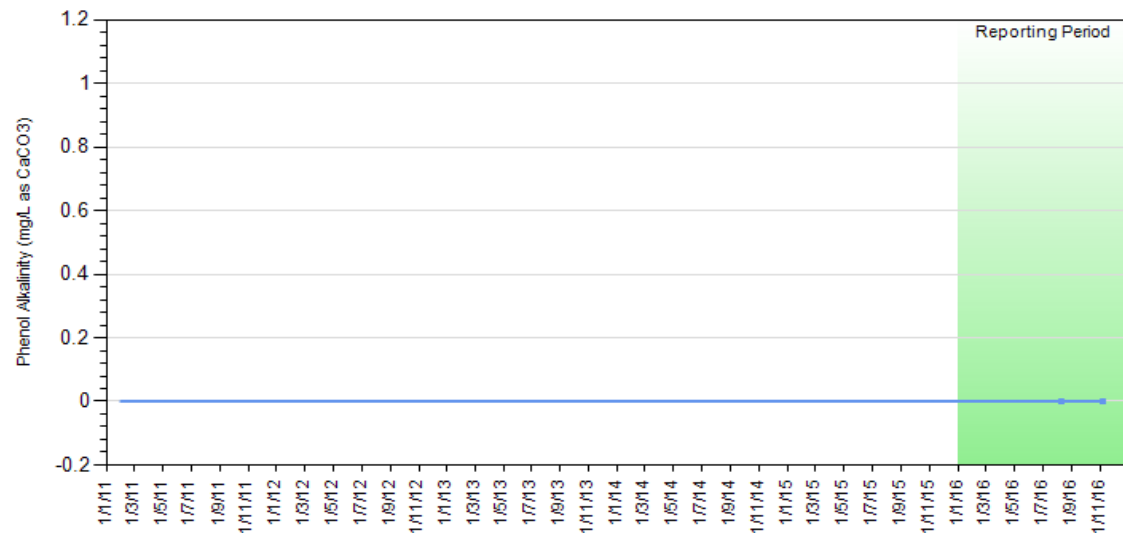
GW11 - Nitrogen Oxidised (mg/L)



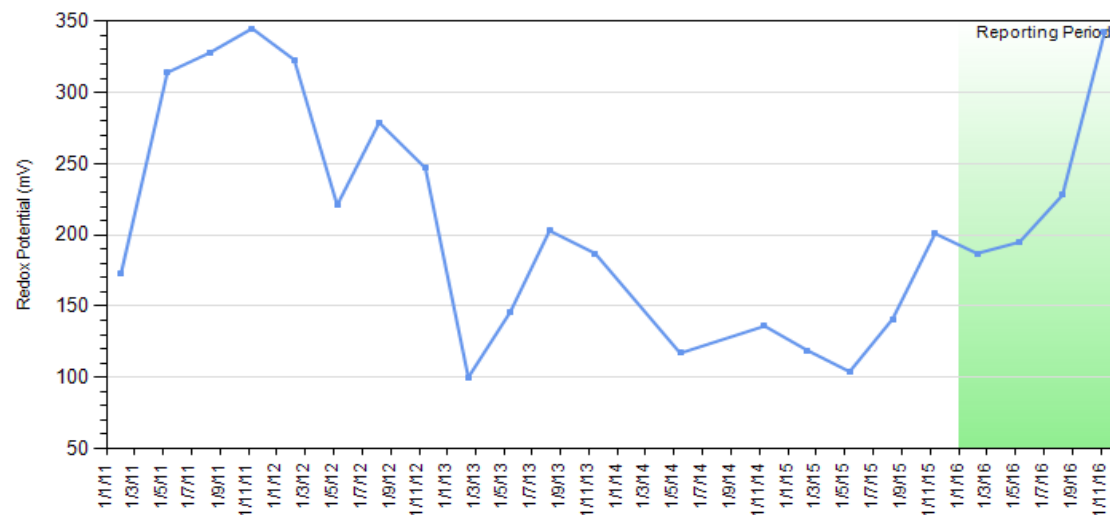
GW11 - pH (pH units)



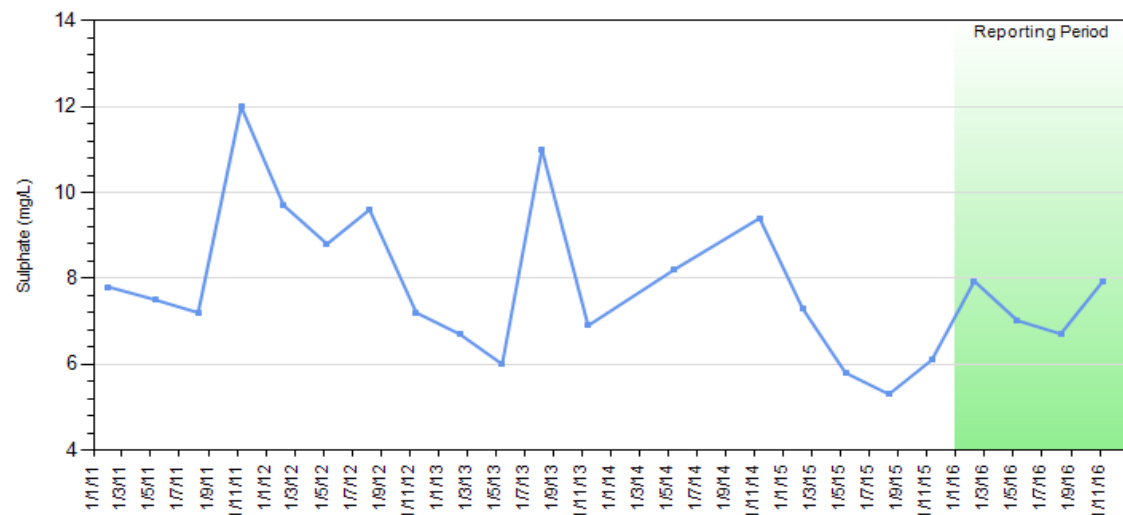
GW11 - Phenol Alkalinity (mg/L as CaCO3)



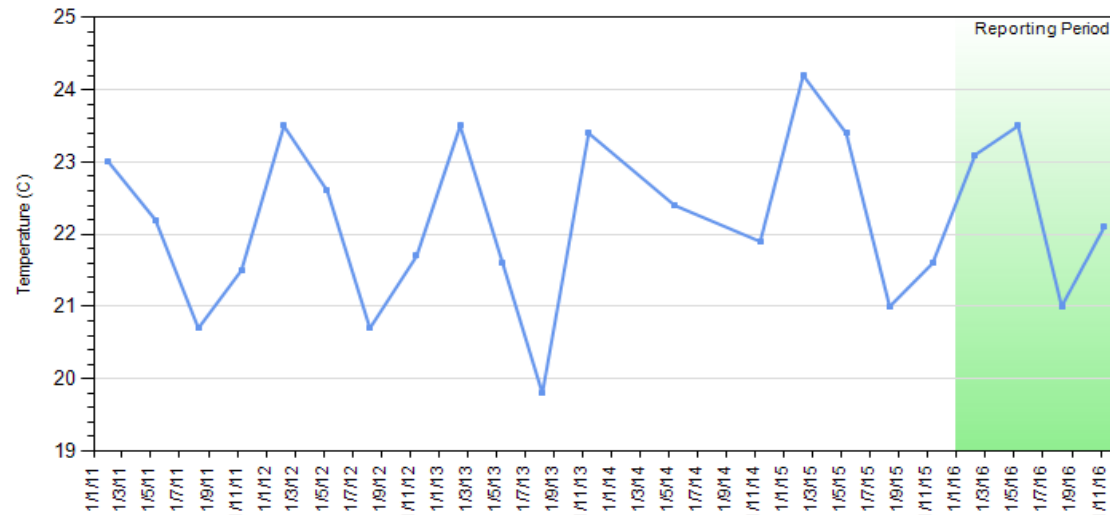
GW11 - Redox Potential (mV)



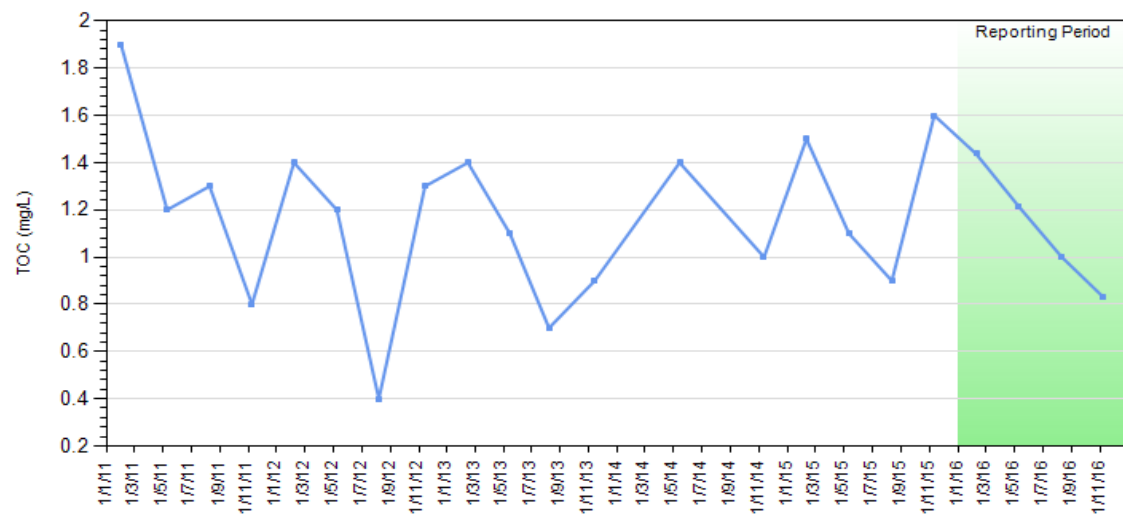
GW11 - Sulphate (mg/L)



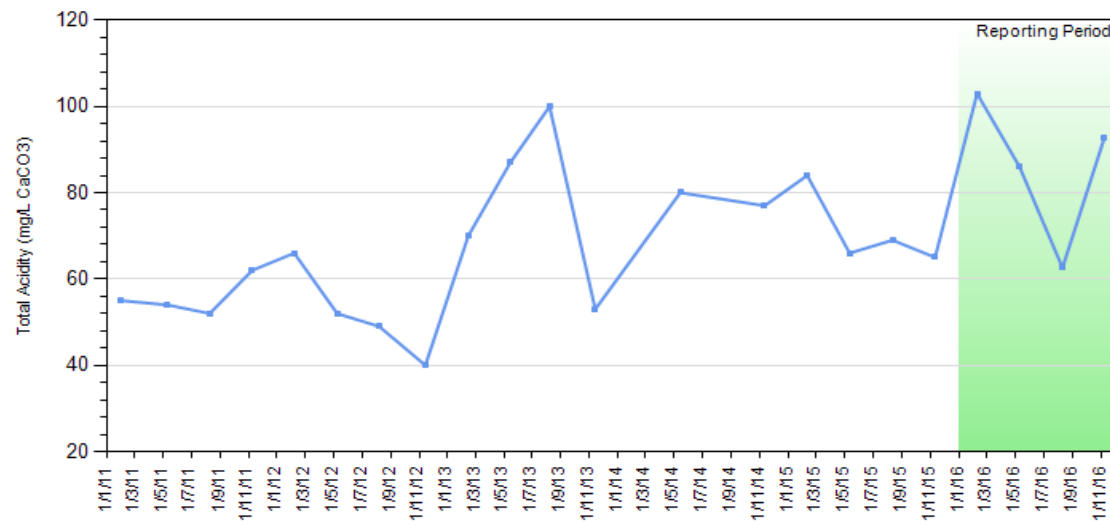
GW11 - Temperature (C)



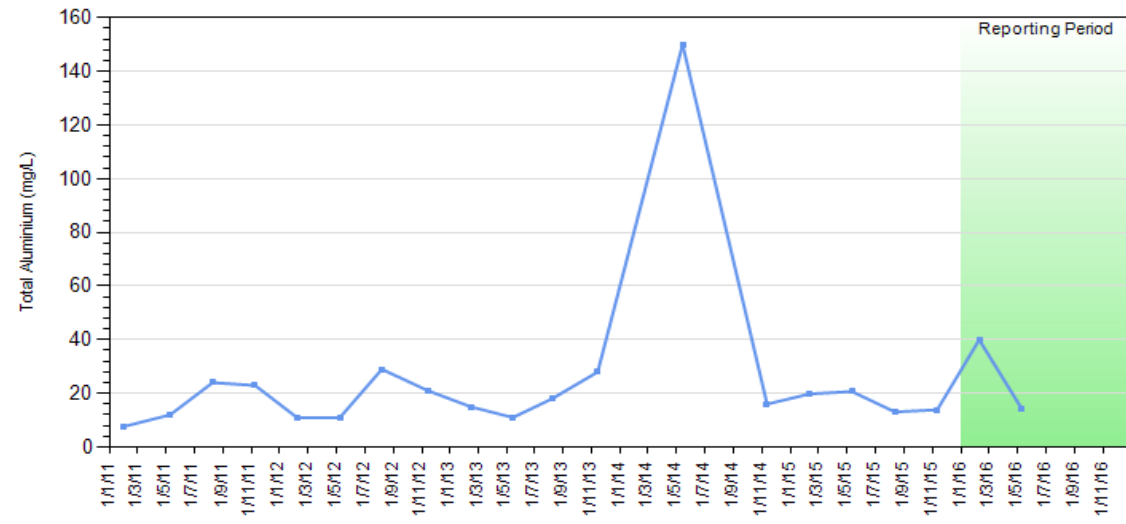
GW11 - TOC (mg/L)



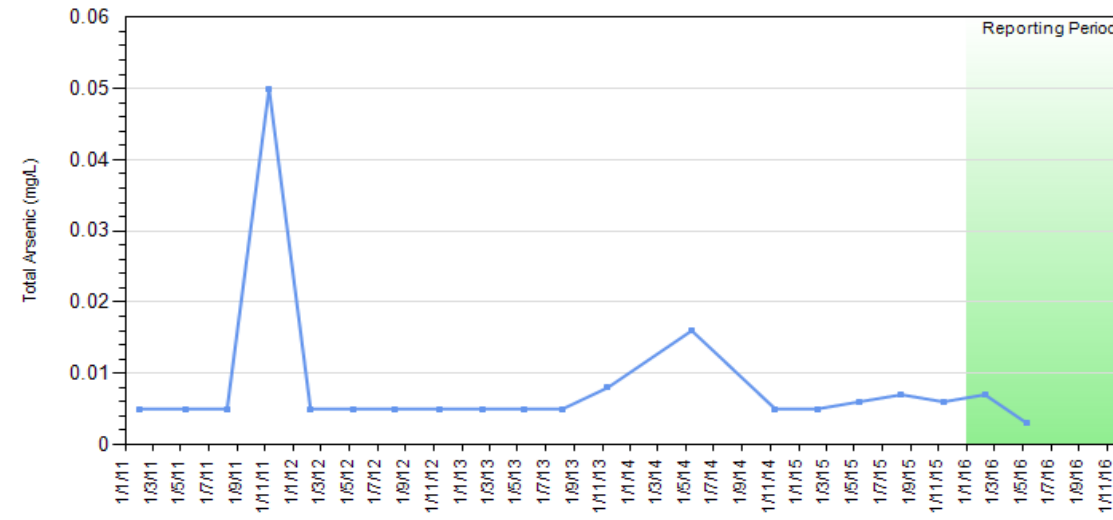
GW11 - Total Acidity (mg/L CaCO3)



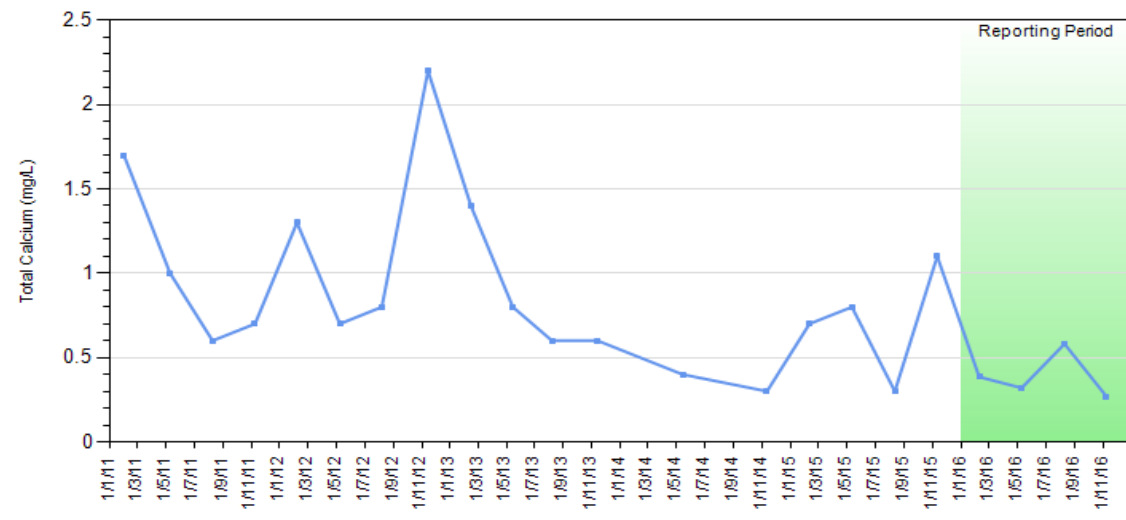
GW11 - Total Aluminium (mg/L)



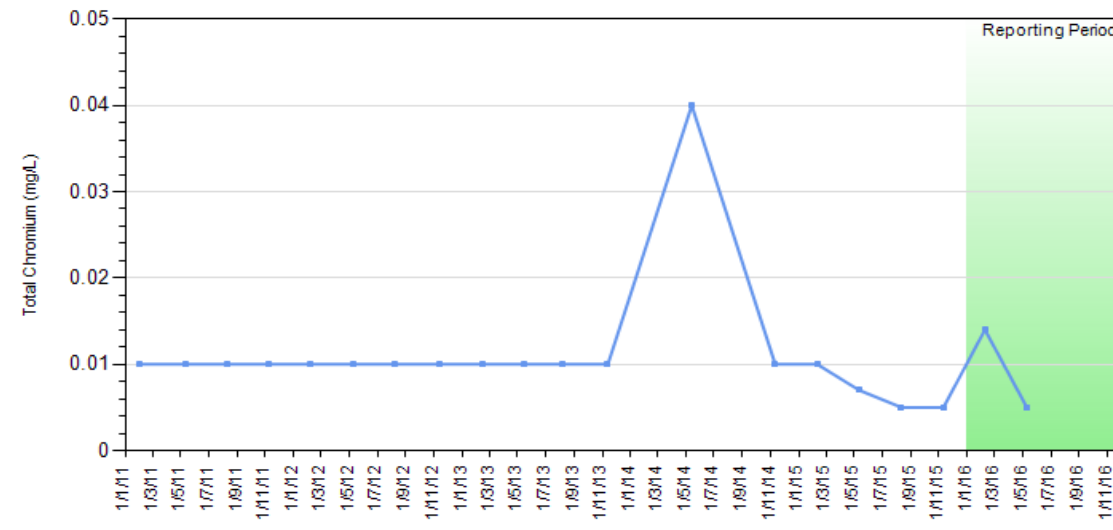
GW11 - Total Arsenic (mg/L)



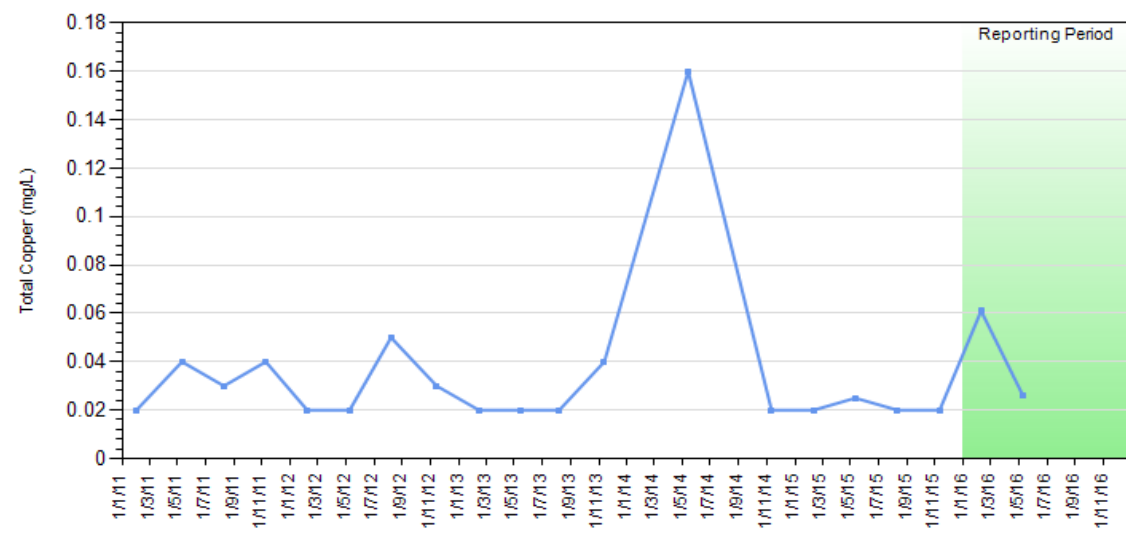
GW11 - Total Calcium (mg/L)



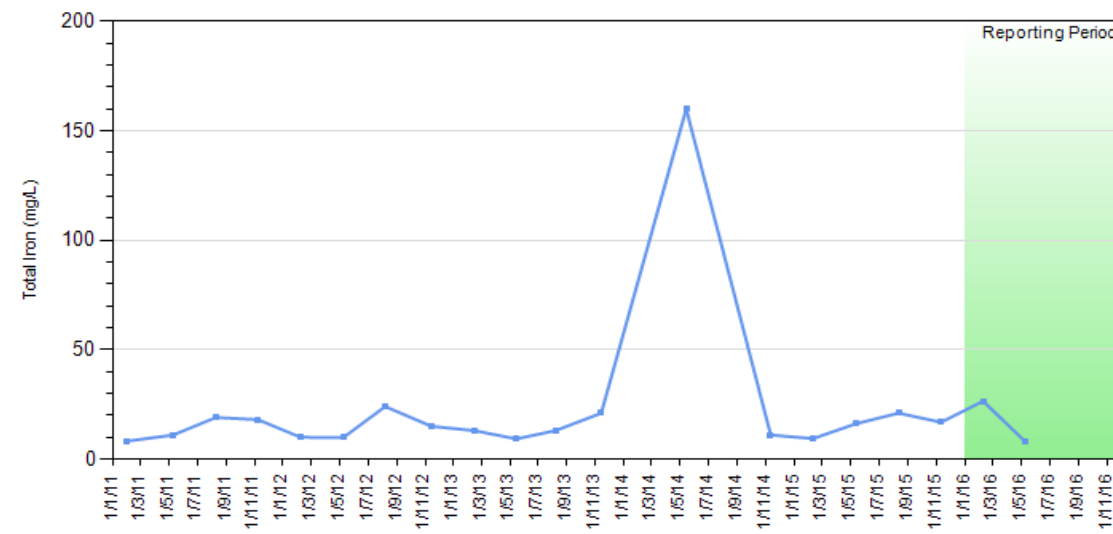
GW11 - Total Chromium (mg/L)



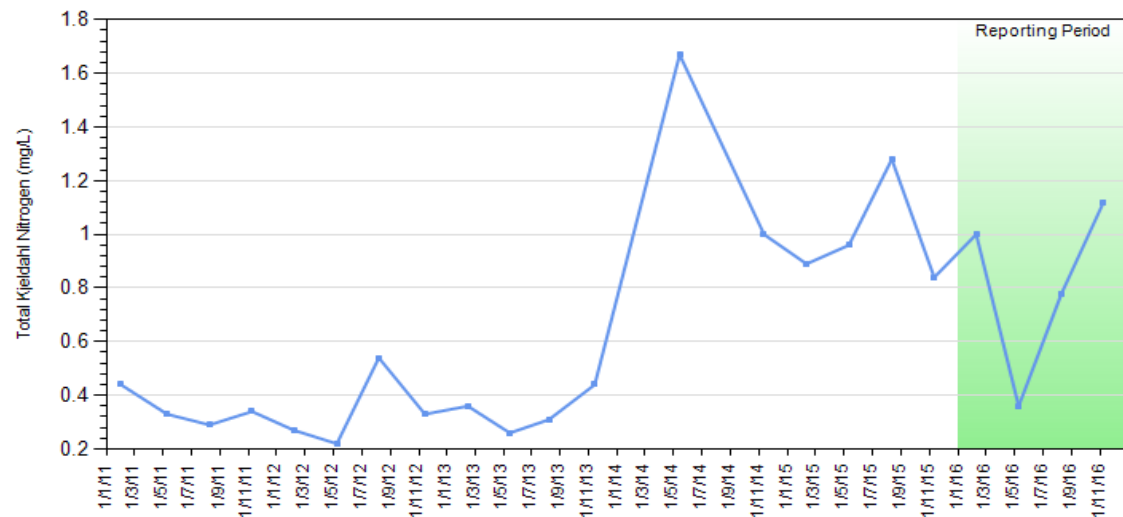
GW11 - Total Copper (mg/L)



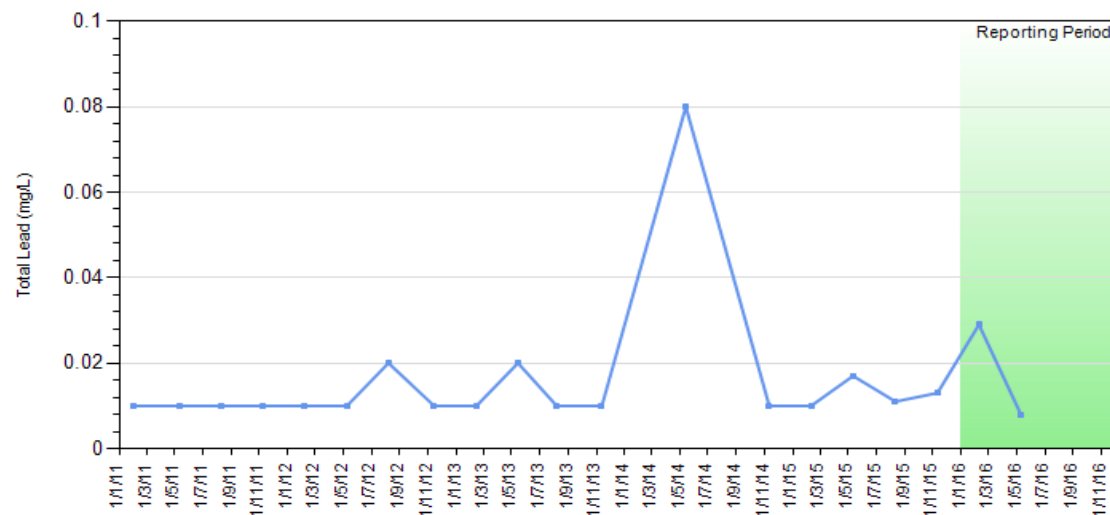
GW11 - Total Iron (mg/L)



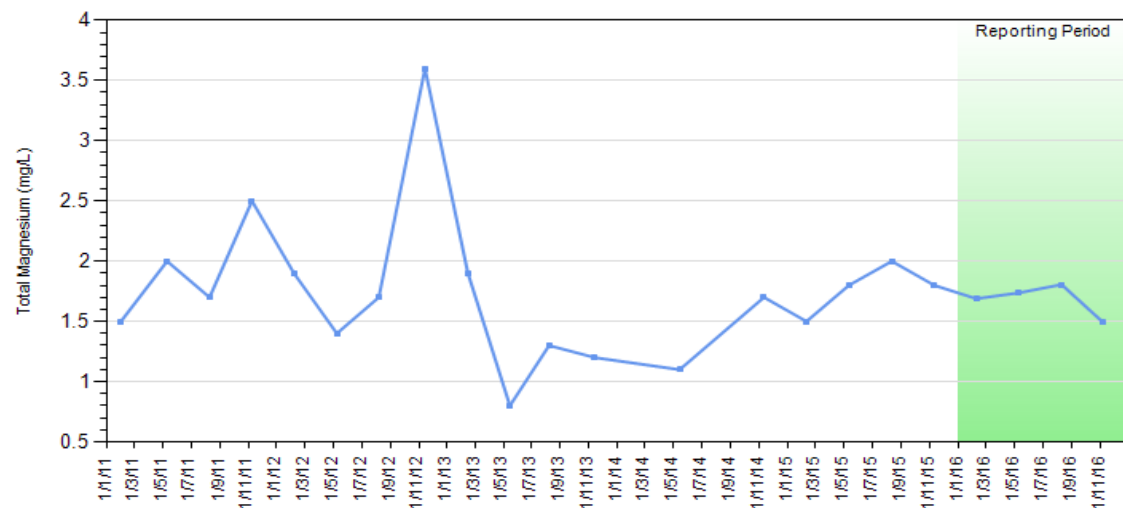
GW11 - Total Kjeldahl Nitrogen (mg/L)



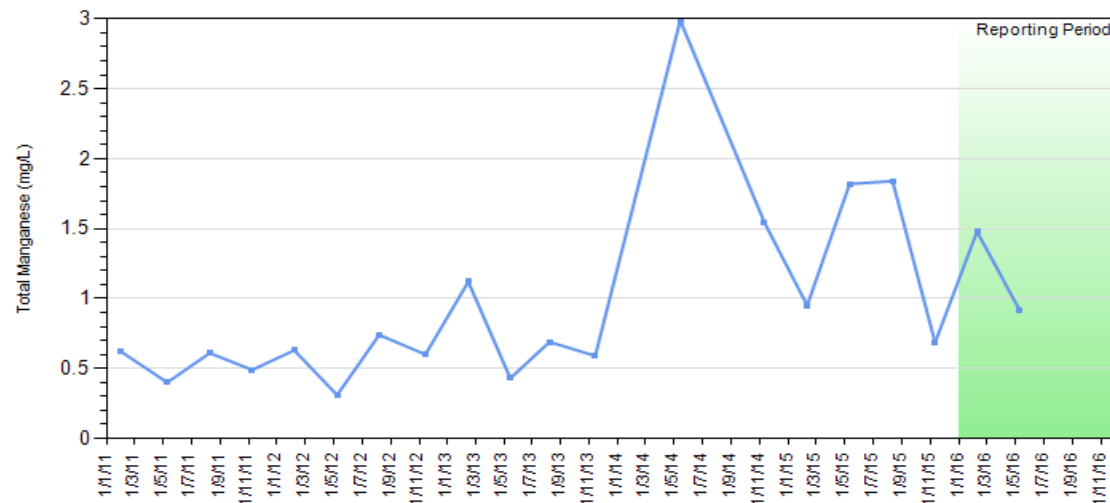
GW11 - Total Lead (mg/L)



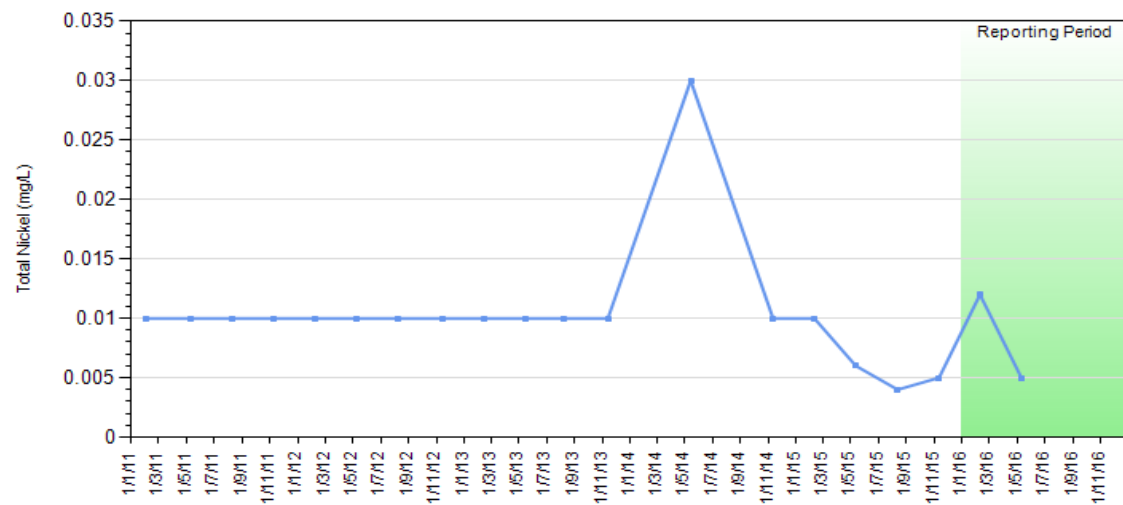
GW11 - Total Magnesium (mg/L)



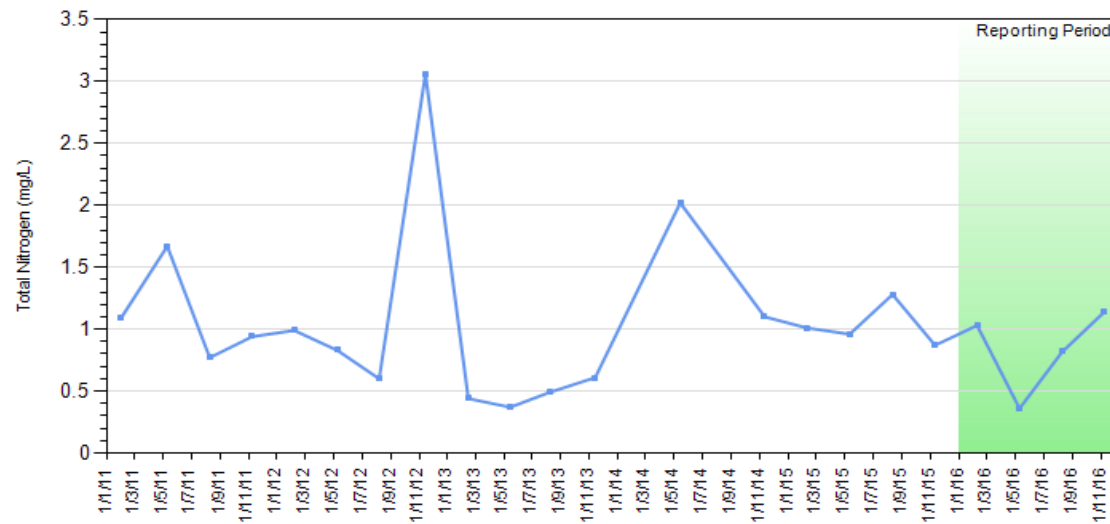
GW11 - Total Manganese (mg/L)



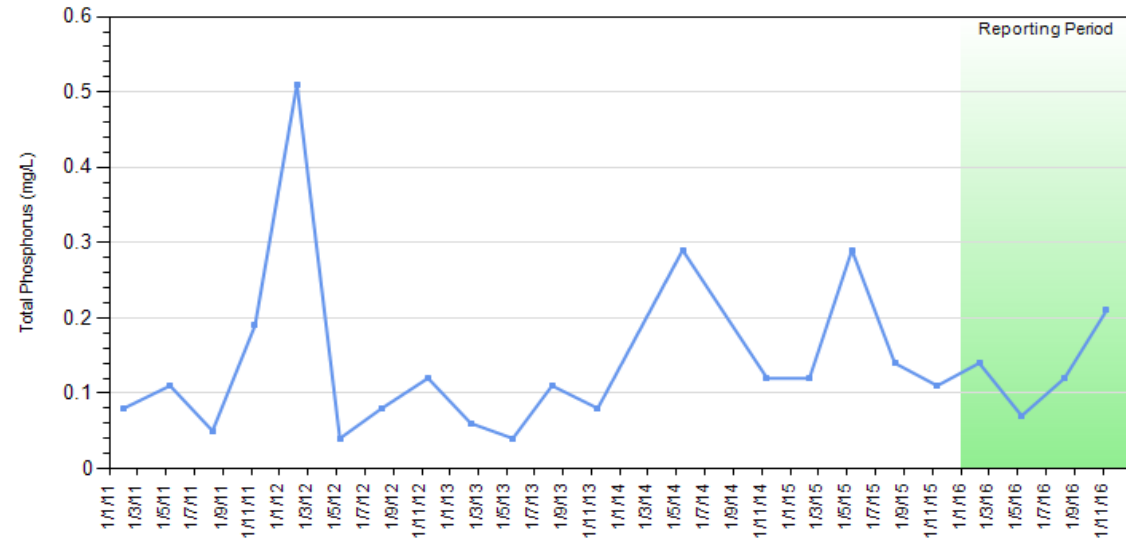
GW11 - Total Nickel (mg/L)



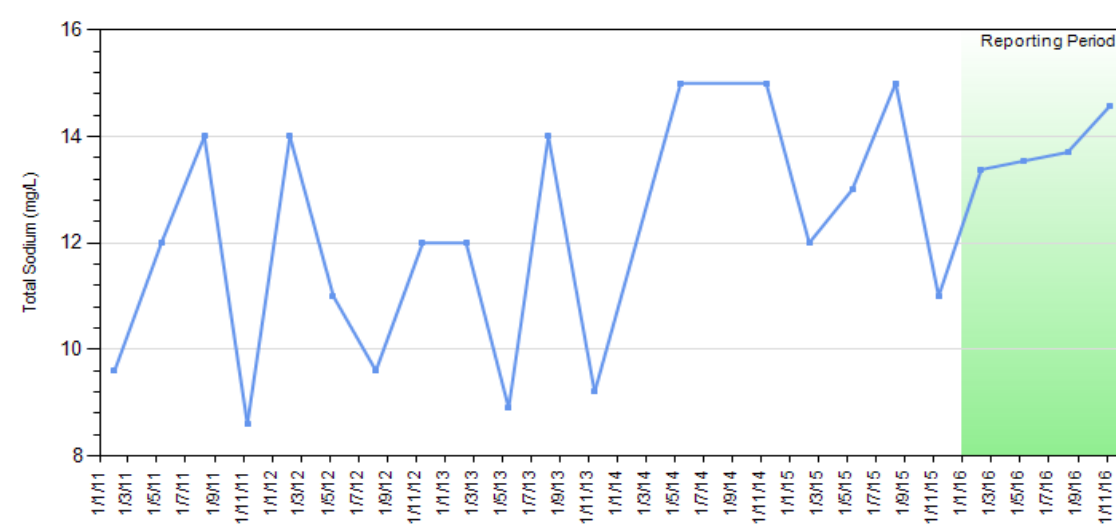
GW11 - Total Nitrogen (mg/L)



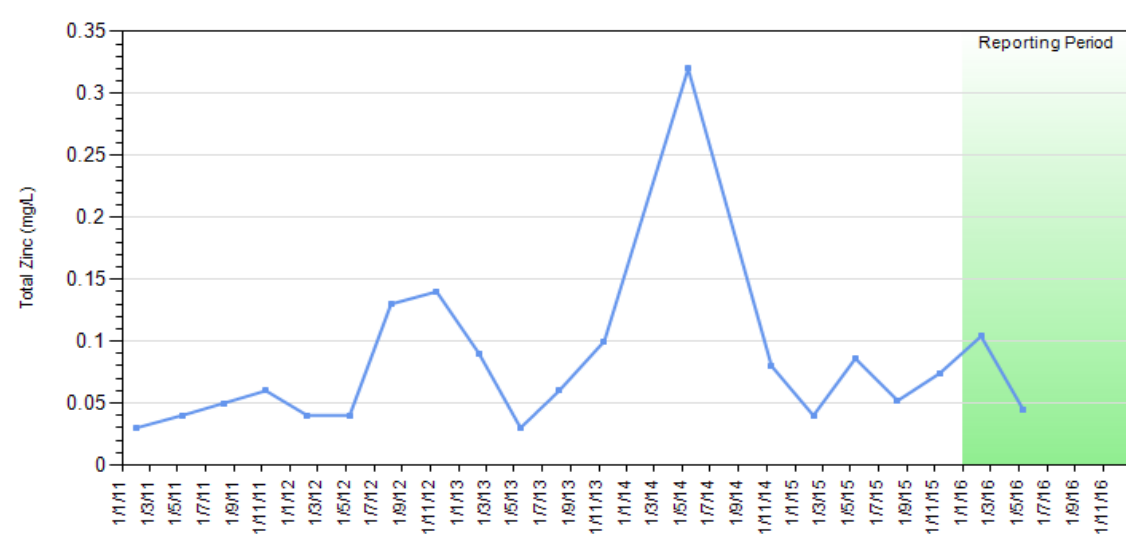
GW11 - Total Phosphorus (mg/L)



GW11 - Total Sodium (mg/L)



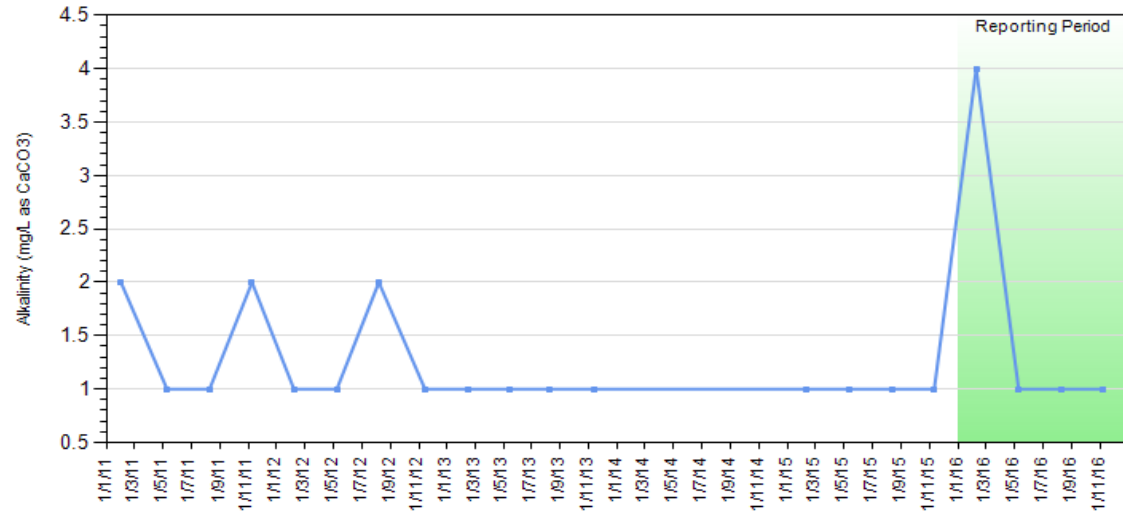
GW11 - Total Zinc (mg/L)



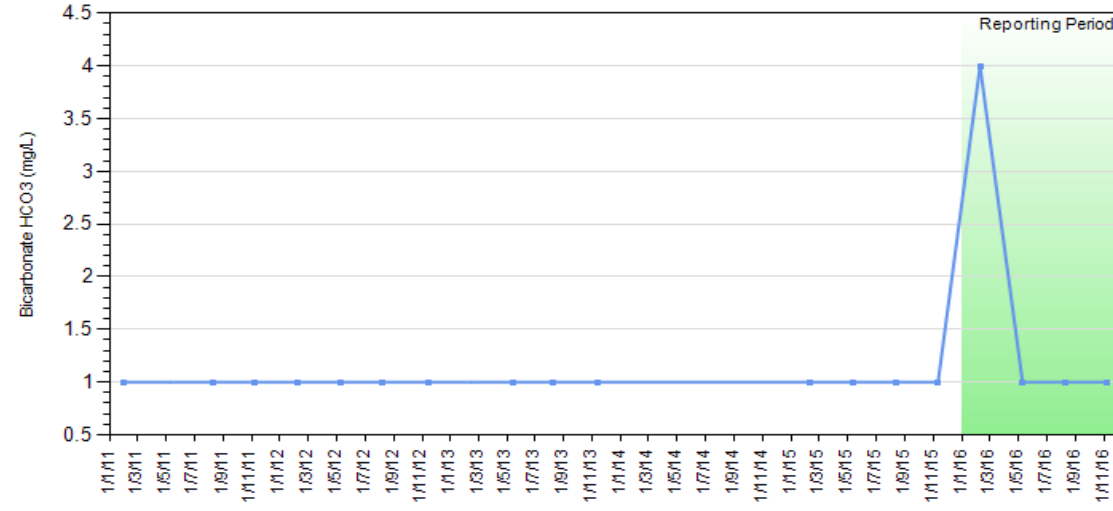
GW14

GW14	Alkalinity mg/L as CaCO ₃	Aluminium (Total) mg/L	Ammonia mg/L	Arsenic (Total) mg/L	Bicarbonate HCO ₃ mg/L	BOD5 mg/L	Cadmium (Total) mg/L	Calcium (Total) mg/L	Chloride mg/L	Chromium (Total) mg/L	Chromium 3 mg/L	Chromium 6 mg/L	Conductivity µS _{cm} -1	Copper (Total) mg/L	DO (Membrane Electrode) mg/L	Flouride mg/L	Iron Total mg/L	Lead (Total) mg/L	Magnesium (Total) mg/L	Manganese Total mg/L	Nickel (Total) mg/L	Nitrate N mg/L	Nitrite N mg/L	Nitrogen Oxidised mg/L	Nitrogen Total mg/L	pH pH units	Phenol Alkalinity mg/L as CaCO ₃	Phosphorus Total mg/L	Potassium Total mg/L	Redox Potential mV	Sodium (Total) mg/L	Sulphate mg/L	Temperature C	TKN mg/L	TOC mg/L	Total Acidity mg/L CaCO ₃	Zinc (Total) mg/L
1/02/2011	2.0	37.	0.09	0.006	1.0	1.0	0.001	0.8	35.	0.02	0.02	0.01	137.	0.03	3.9	0.03	45.	0.05	0.9	0.1	0.01	0.3	0.05	0.3	0.5	4.9		0.2	5.0	202.	13.	7.10	24.1	0.2	2.7	45.	0.03
11/05/2011	1.0	12.	0.05	0.005		1.0	0.001	0.6	36.	0.01	0.01	0.01	171.	0.03	3.1	0.03	14.	0.01	1.6	0.04	0.01	0.5	0.05	0.5	0.8	3.7		0.2	5.0	341.	19.	6.6	22.	0.3	1.0	73.	0.02
10/08/2011	1.0	28.	0.05	0.01	1.0	2.7	0.001	0.5	32.	0.01	0.01	0.01	156.	0.02	3.3	0.03	29.	0.02	1.4	0.03	0.01	0.5	0.05	0.5	0.6	4.4		0.05	5.0	357.	20.	6.2	20.	0.2	1.6	77.	0.03
9/11/2011	2.0	15.	0.06	0.005	1.0	5.4	0.001	21.	34.	0.01	0.01	0.01	133.	0.02	3.0	0.1	19.	0.01	20.	0.1	0.01	0.4	0.02	0.4	0.8	4.6		0.3	8.0	380.	96.	44.	22.1	0.4	0.7	72.	0.02
7/02/2012	1.0	9.5	0.04	0.005	1.0	1.8	0.001	0.7	33.	0.01	0.01	0.01	144.	0.01	3.8	0.01	11.	0.01	1.7	0.05	0.01	0.5	0.02	0.5	0.7	4.5		0.6	5.0	347.	23.	8.8	23.3	0.3	0.1	58.	0.01
9/05/2012	1.0	35.	0.04	0.01	1.0	1.0	0.001	0.6	30.	0.01	0.01	0.01	153.	0.03	4.5	0.04	40.	0.02	1.5	0.08	0.01	0.5	0.02	0.5	0.7	4.5		0.05	5.0	328.	17.	6.8	22.3	0.3	1.1	71.	0.09
7/08/2012	2.0	59.	0.04	0.02	1.0	1.0	0.001	1.0	30.	0.03	0.03	0.01	146.	0.06	3.0	0.05	70.	0.06	1.8	0.2	0.01	0.5	0.02	0.5	0.7	4.3		0.05	5.0	304.	15.	6.6	20.	0.2	0.6	76.	0.08
14/11/2012	1.0	96.	0.05	0.02	1.0	1.0	0.001	0.6	28.	0.04	0.04	0.01	131.	0.08	3.2	0.05	94.	0.1	1.4	0.2	0.01	0.2	0.02	0.2	0.8	4.5		0.3	5.0	280.	14.	6.2	22.1	0.5	0.5	269.	0.07
14/02/2013	1.0	3.5	0.08	0.005		1.0	0.001	0.6	25.	0.01	0.01	0.01	140.	0.01	3.6	0.02	3.4	0.01	1.3	0.03	0.01	0.9	0.02	0.9	1.1	4.4		0.2	5.0	278.	19.	8.0	24.1	0.2	1.1	58.	0.04
15/05/2013	1.0	19.	0.03	0.007	1.0	1.0	0.001	0.6	30.	0.01	0.01	0.01	139.	0.02	4.6	0.03	19.	0.02	1.1	0.09	0.01	0.5	0.02	0.5	0.7	4.5		0.06	5.0	192.	19.	6.6	22.2	0.3	0.4	111.	0.03
7/08/2013	1.0	19.	0.03	0.006	1.0	1.0	0.001	0.6	38.	0.01	0.01	0.01	139.	0.01	4.5	0.04	16.	0.01	1.3	0.03	0.01	0.5	0.02	0.5	0.7	4.5		0.3	5.0	250.	21.	8.3	19.9	0.2	0.6	120.	0.03
13/11/2013	1.0	19.	0.07	0.008	1.0	1.8	0.001	0.5	30.	0.01	0.01	0.01	145.	0.02	4.0	0.03	20.	0.01	1.5	0.08	0.01	0.4	0.02	0.4	1.0	4.6		0.09	5.0	243.	20.	7.6	21.3	0.5	0.9	67.	0.1
10/02/2015	1.0	18.9	0.02	0.005	1.0	1.2	0.001	0.6	31.	0.01	0.01	0.01	130.	0.01	4.3	0.02	17.3	0.01	1.3	0.08	0.01	0.6	0.02	0.6	1.4	4.6		0.1	5.0	213.	17.	8.10	23.3	0.8	0.7	66.	0.06
12/05/2015	1.0	33.3	0.02	0.01	1.0	2.1	0.001	0.6	29.	0.01	0.01	0.01	129.	0.03	5.3	0.02	25.4	0.03	1.5	0.1	0.005	0.5	0.02	0.5	1.2	4.5		0.1	5.0	226.	21.	6.0	22.1	0.7	0.3	68.	0.07
12/08/2015	1.0	18.3	0.02	0.006	1.0	1.0	0.001	0.6	30.	0.008	0.01	0.01	129.	0.02	4.9	0.02	15.10	0.01	1.5	0.08	0.005	0.4	0.02	0.4	0.8	4.6		0.06	5.0	232.	20.	5.8	19.8	0.4	0.4	74.	0.03
11/11/2015	1.0	14.1	0.02	0.003	1.0	1.0	0.001	0.8	23.	0.006	0.01	0.01	121.	0.008	4.8	0.01	10.06	0.007	1.4	0.07	0.002	1.4	0.02	1.4	1.6	4.5		0.05	5.0	222.	16.	6.2	20.8	0.3	0.6	64.	0.03
9/02/2016	4.0	53.2	0.02	0.01	4.0	1.0	0.001	0.5	26.	0.02	0.02	0.01	122.	0.03	3.9	0.02	44.2	0.04	1.4	0.1	0.004	0.7	0.02	0.7	1.7	4.5		0.1	5.0	245.	17.5	6.5	22.4	1.0	0.7	145.	0.04
10/05/2016	1.0	25.9	0.02	0.009	1.0	1.0	0.001	0.5	28.	0.01	0.01	0.01	127.	0.02	2.0	0.02	25.03	0.02	1.3	0.1	0.003	0.5	0.02	0.5	0.8	4.5		0.08	5.0	242.	17.1	6.003	22.6	0.3	0.4	86.	0.03
10/08/2016	1.0		0.02		1.0	1.0		0.6	26.				126.		4.2	0.03			1.3			0.7	0.02	0.7	1.6	4.4	0.0	0.1	5.0	250.	18.7	6.5	20.	0.9	0.5	103.	
8/11/2016	1.0		0.02		1.0	1.0		0.6	13.				124.		2.8	0.03			1.6			0.4	0.02	0.4	1.0	4.4	0.0	0.1	5.0	445.	19.5	6.3	21.2	0.6	1.0	119.	
2016 Min	1.0	25.9	0.02	0.009	1.0	1.0	0.001	0.5	13	0.01	0.01	0.01	122	0.02	2.0	0.02	25.03	0.02	1.3	0.1	0.003	0.4	0.02	0.4	0.8	4.4	0.0	0.08	5.0	242	17.1	6.003	20	0.3	0.4	86	0.03
2016 Max	4.0	53.2	0.02	0.01	4.0	1.0	0.001	0.6	28	0.02	0.02	0.01	127	0.03	4.2	0.03	44.2	0.04	1.6	0.1	0.004	0.7	0.02	0.7	1.7	4.5	0.0	0.1	5.0	445	19.5	6.5	22.6	1.0	1.0	145	0.04
2016 Mean	1.8	39.6	0.02	0.01	1.8	1.0	0.001	0.5	23.3	0.02	0.02	0.01	125	0.03	3.2	0.02	34.6	0.03	1.4	0.1	0.004	0.6	0.02	0.6	1.3	4.5	0.0	0.1	5.0	295	18.2	6.3	21.6	0.7	0.6	113	0.03

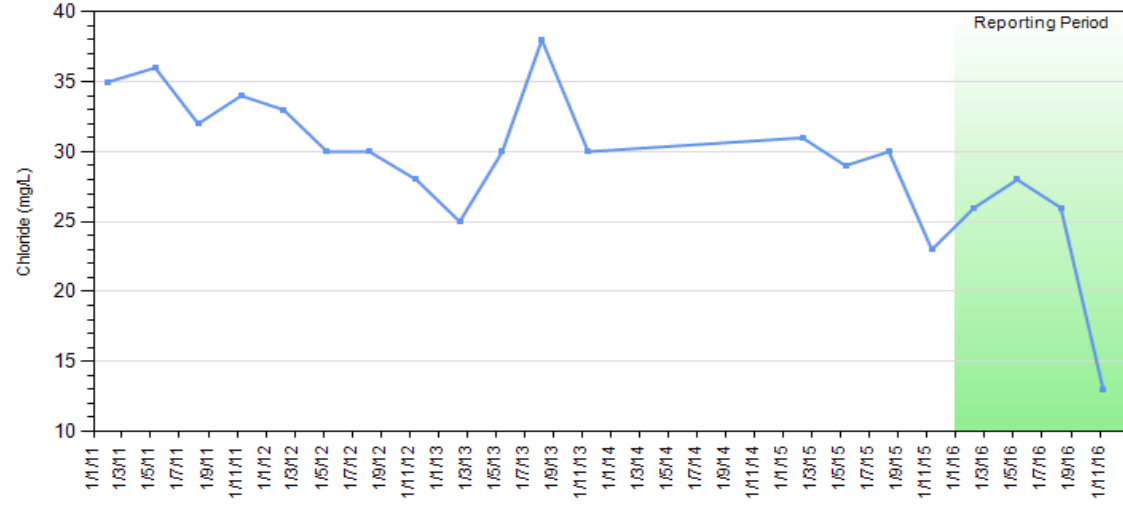
GW14 - Alkalinity (mg/L as CaCO3)



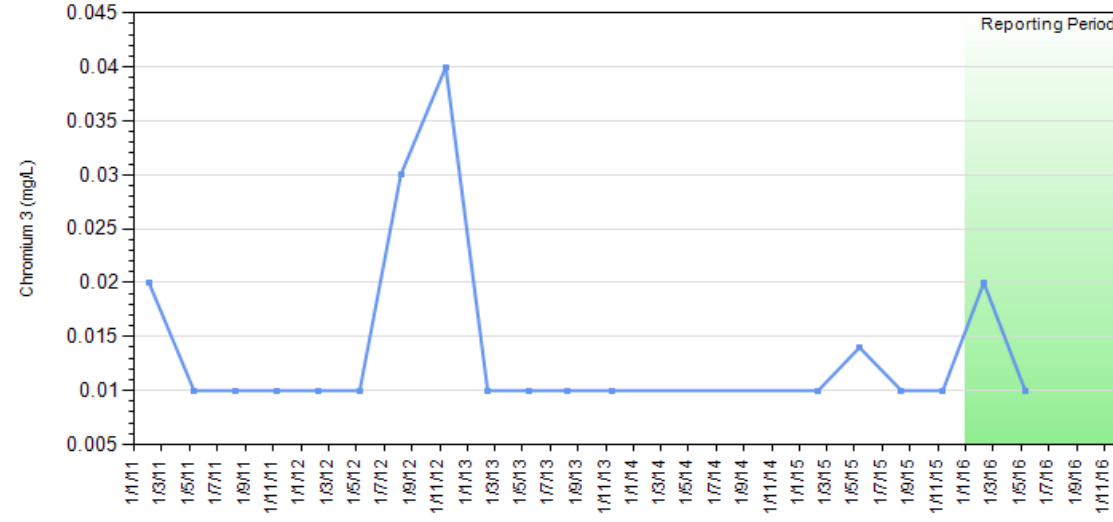
GW14 - Bicarbonate HCO3 (mg/L)



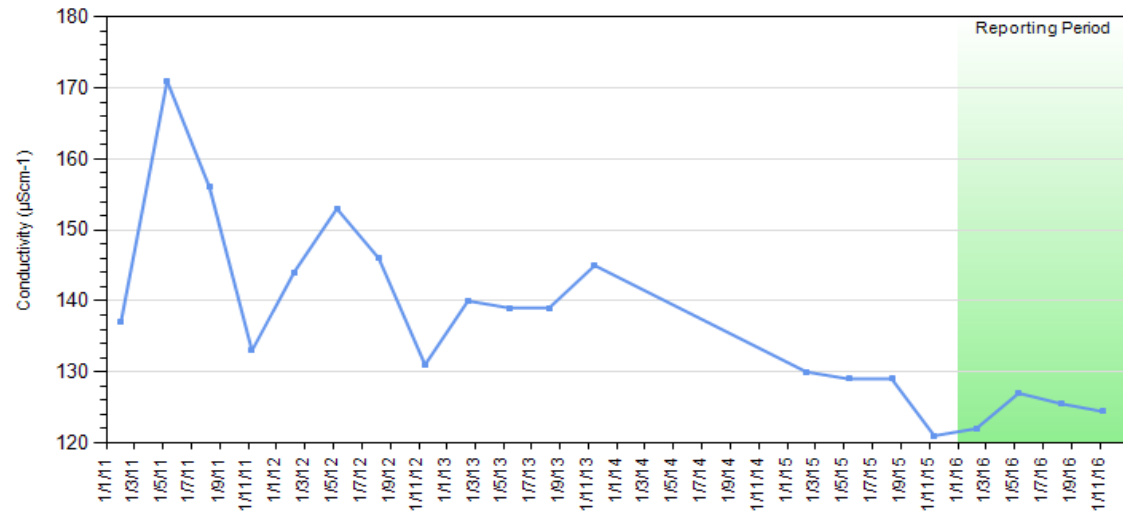
GW14 - Chloride (mg/L)



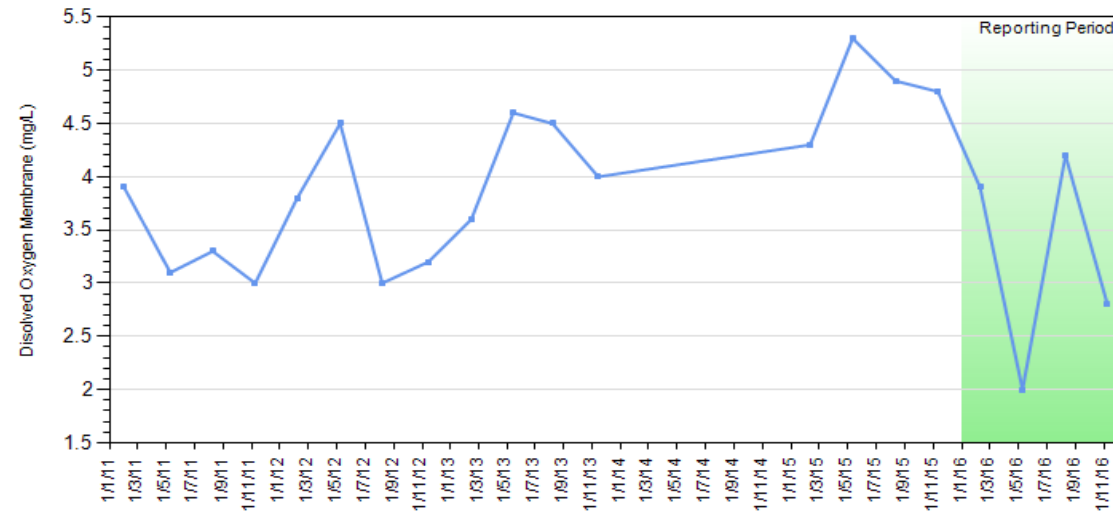
GW14 - Chromium 3 (mg/L)



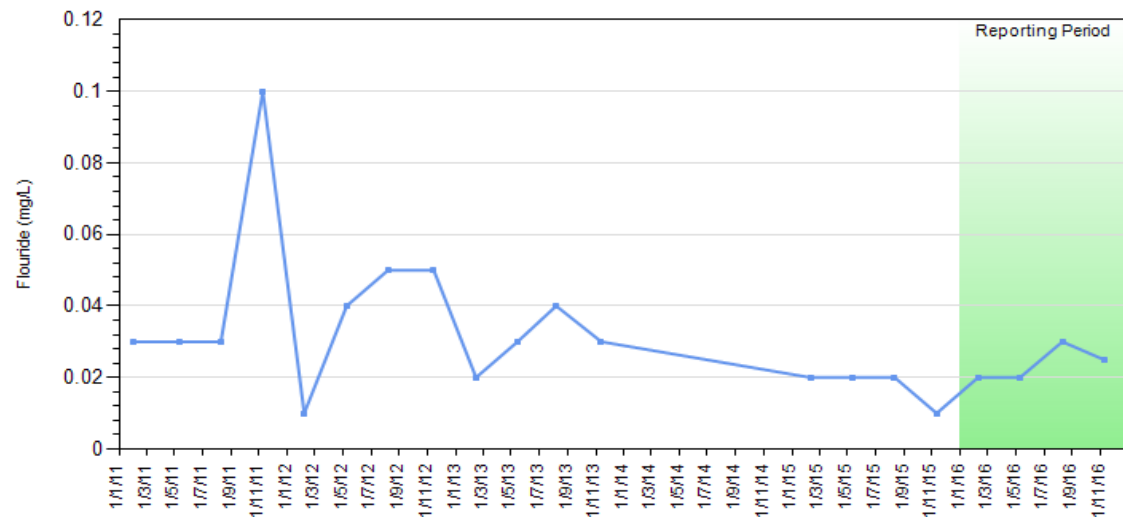
GW14 - Conductivity (µScm-1)



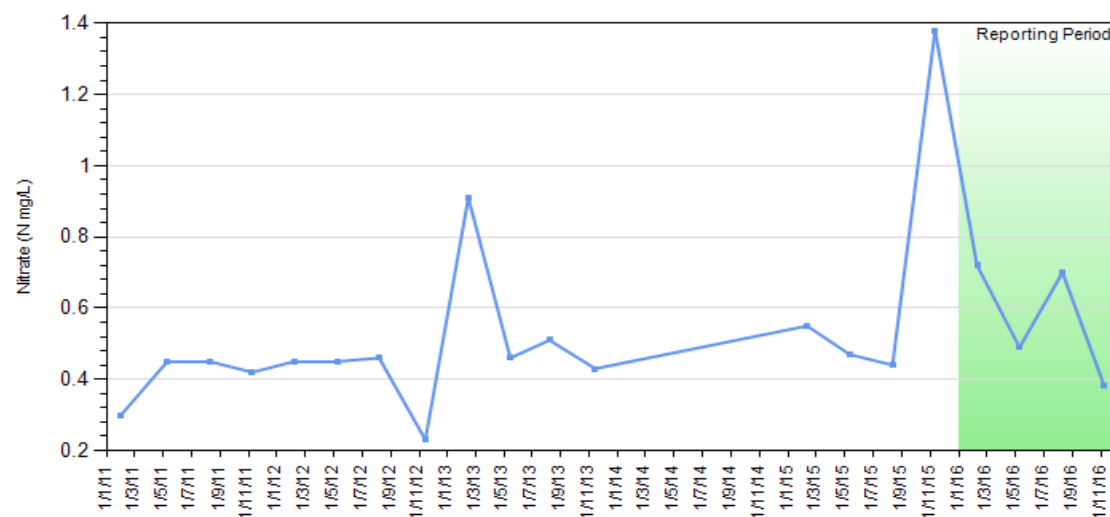
GW14 - Dissolved Oxygen Membrane (mg/L)



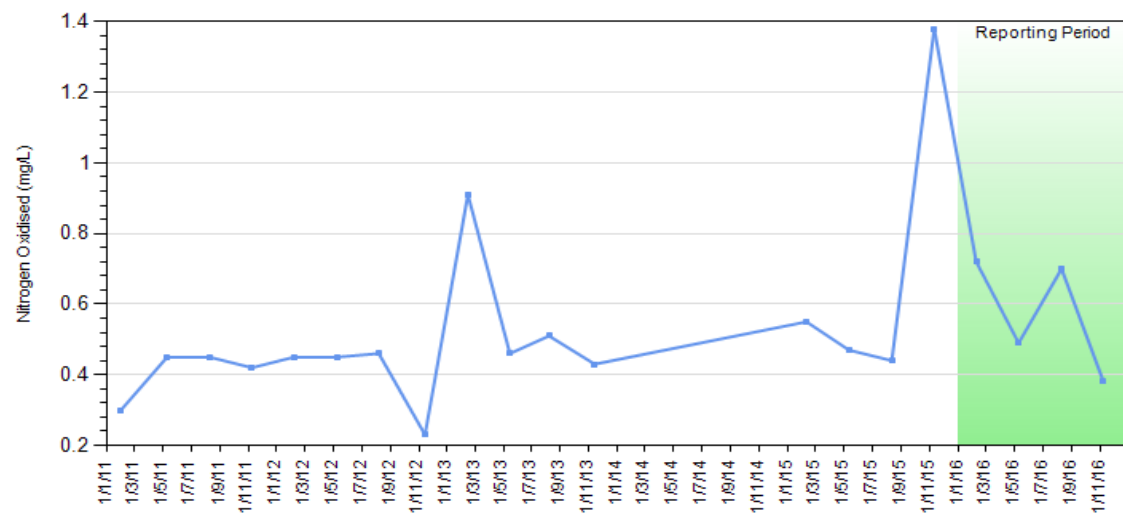
GW14 - Fluoride (mg/L)



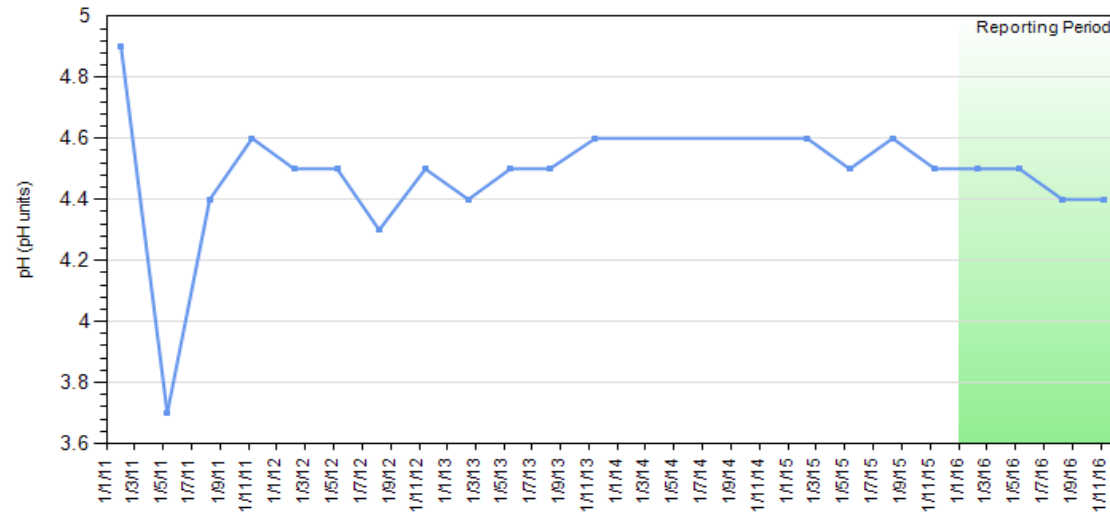
GW14 - Nitrate (N mg/L)



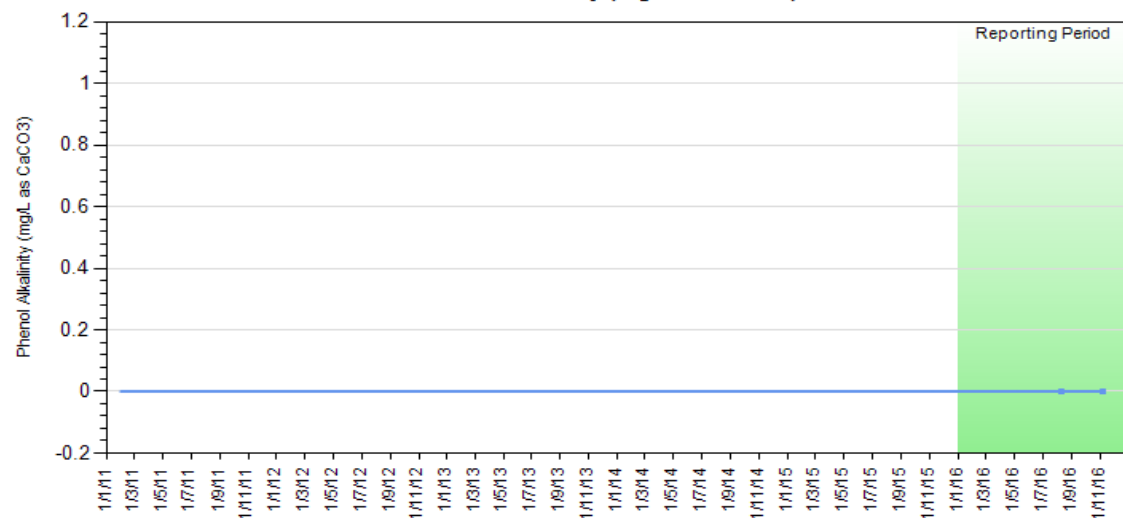
GW14 - Nitrogen Oxidised (mg/L)



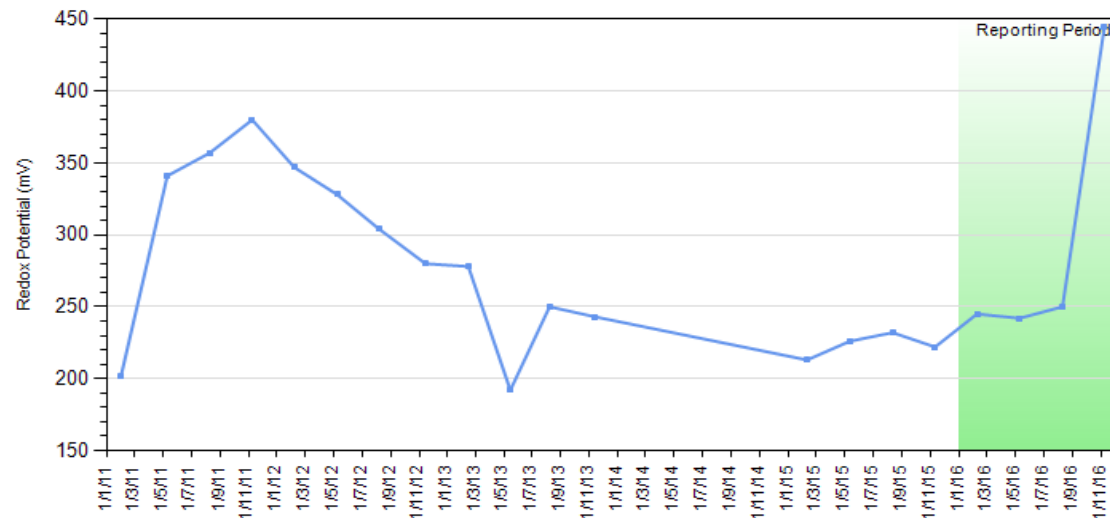
GW14 - pH (pH units)



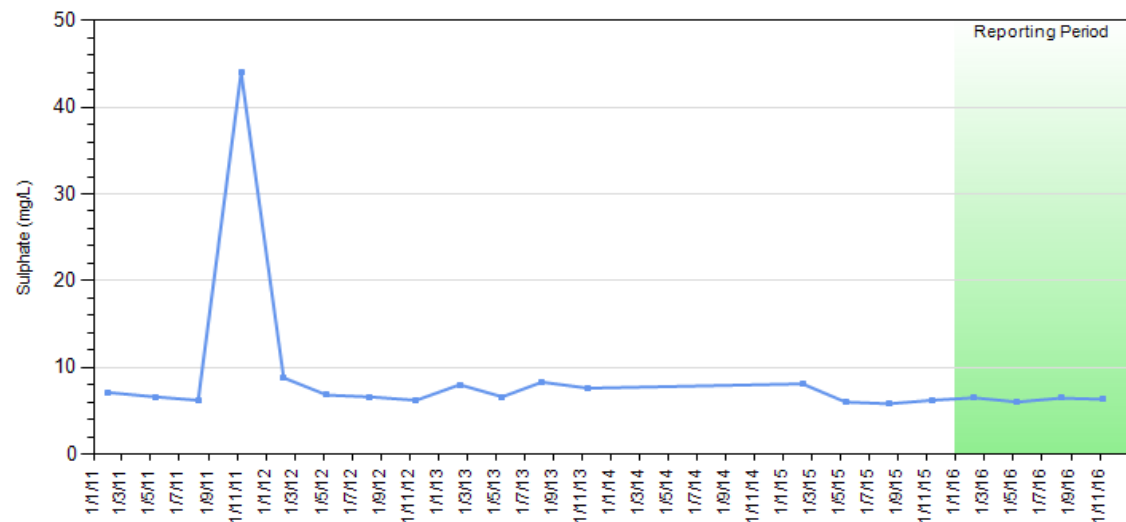
GW14 - Phenol Alkalinity (mg/L as CaCO3)



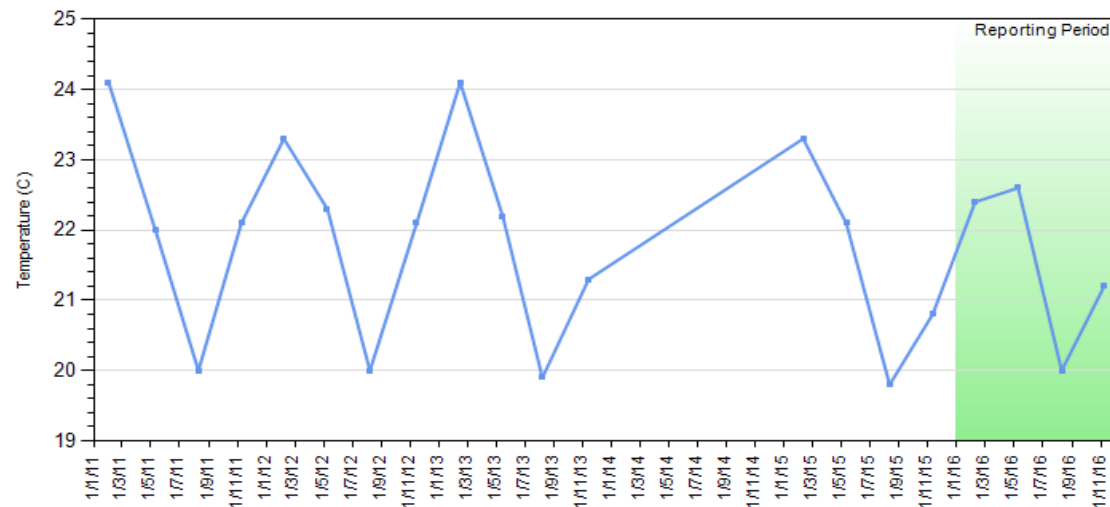
GW14 - Redox Potential (mV)



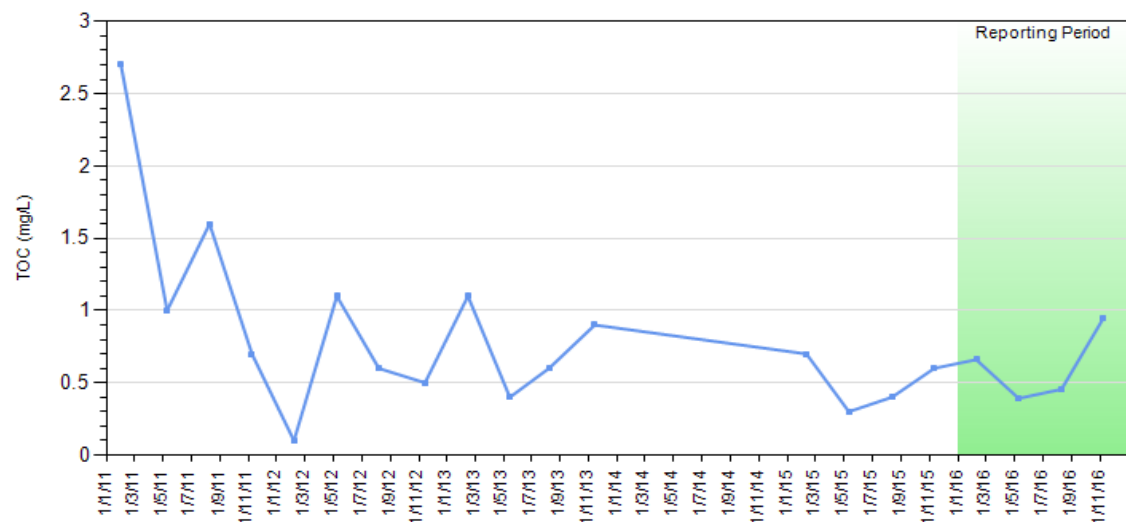
GW14 - Sulphate (mg/L)



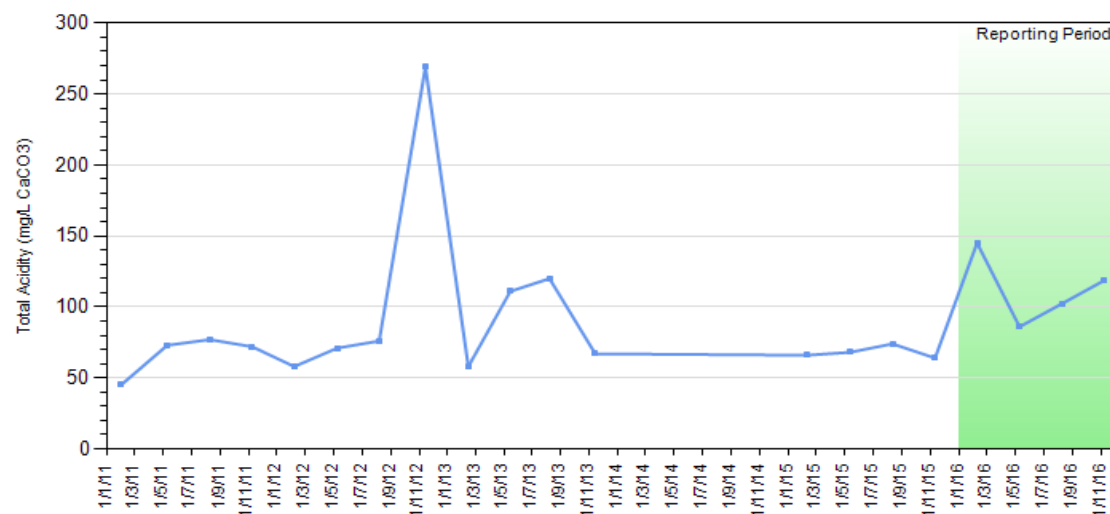
GW14 - Temperature (C)



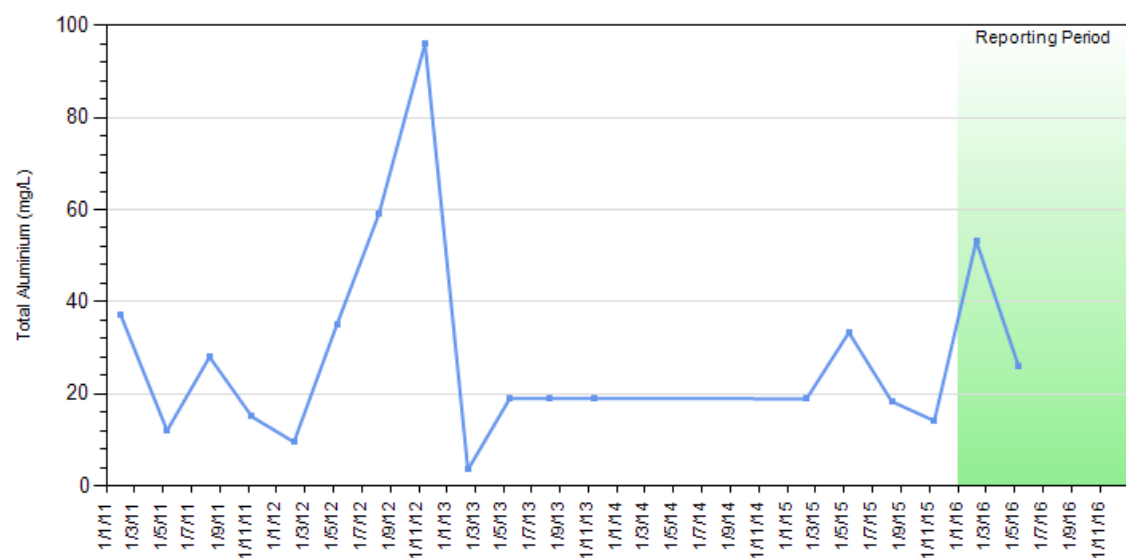
GW14 - TOC (mg/L)



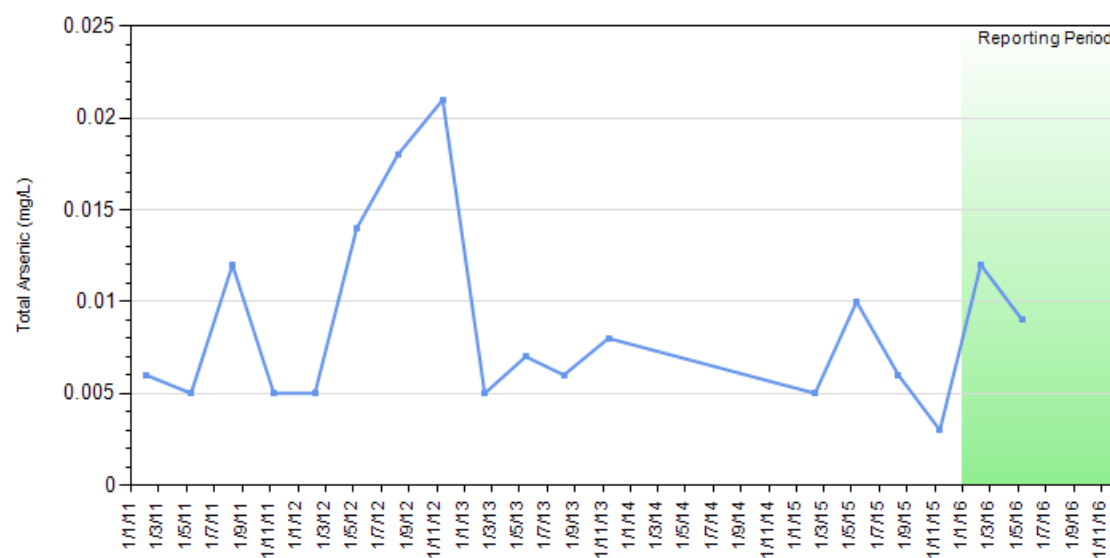
GW14 - Total Acidity (mg/L CaCO3)



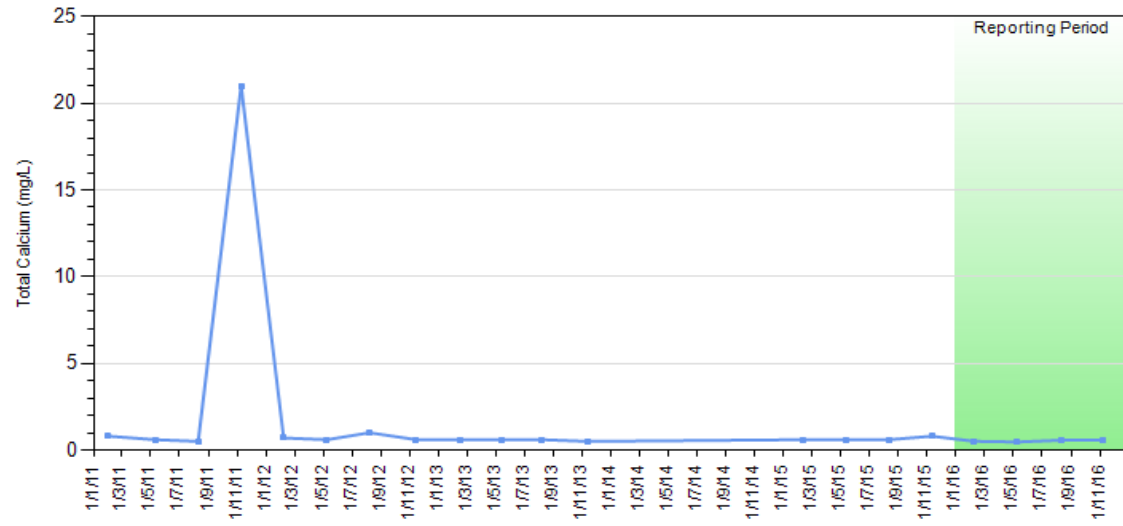
GW14 - Total Aluminium (mg/L)



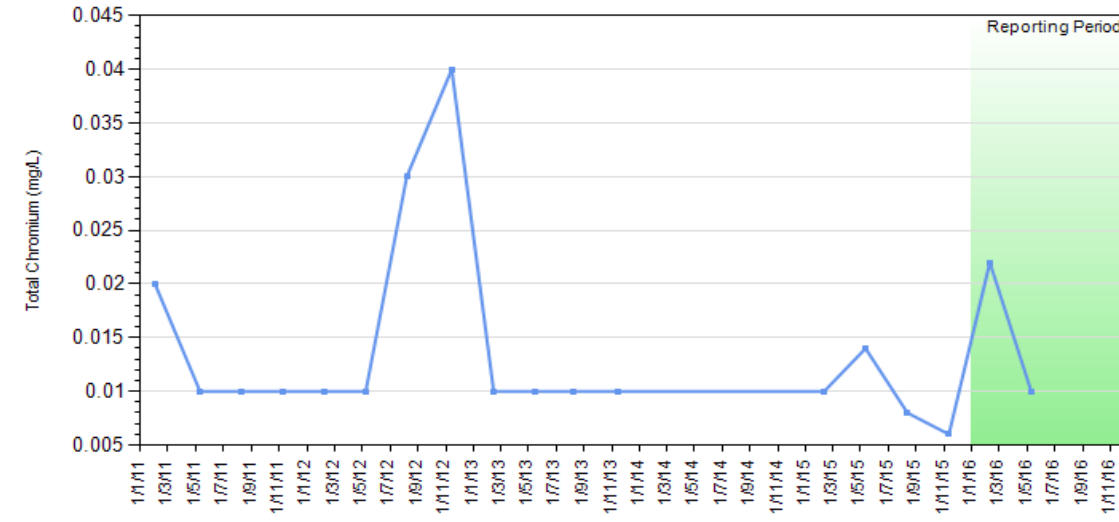
GW14 - Total Arsenic (mg/L)



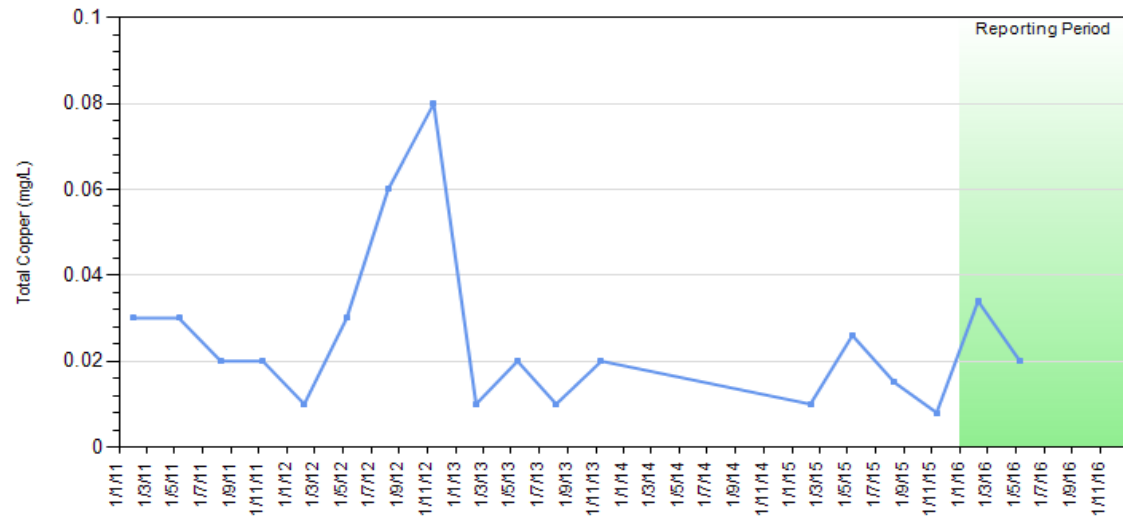
GW14 - Total Calcium (mg/L)



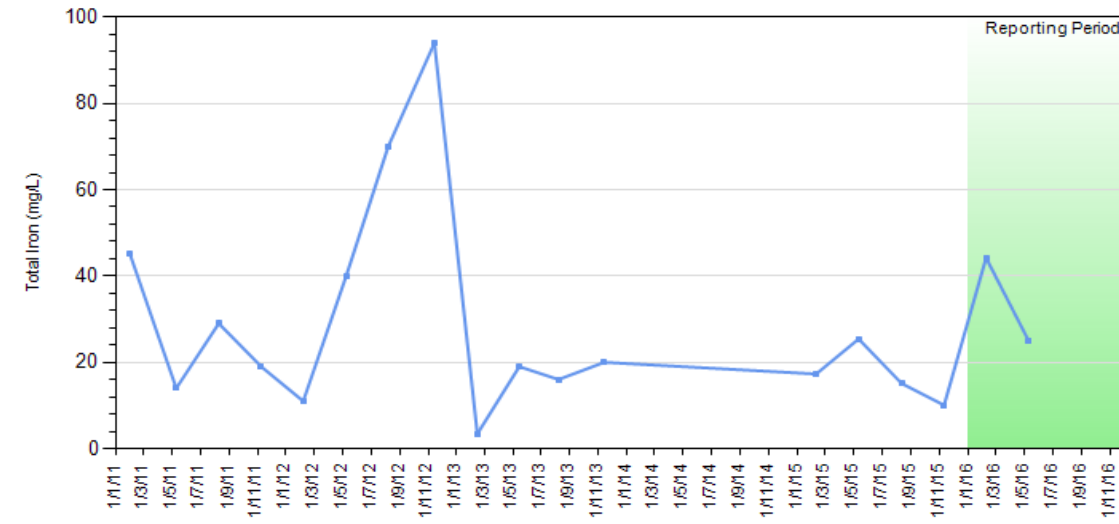
GW14 - Total Chromium (mg/L)



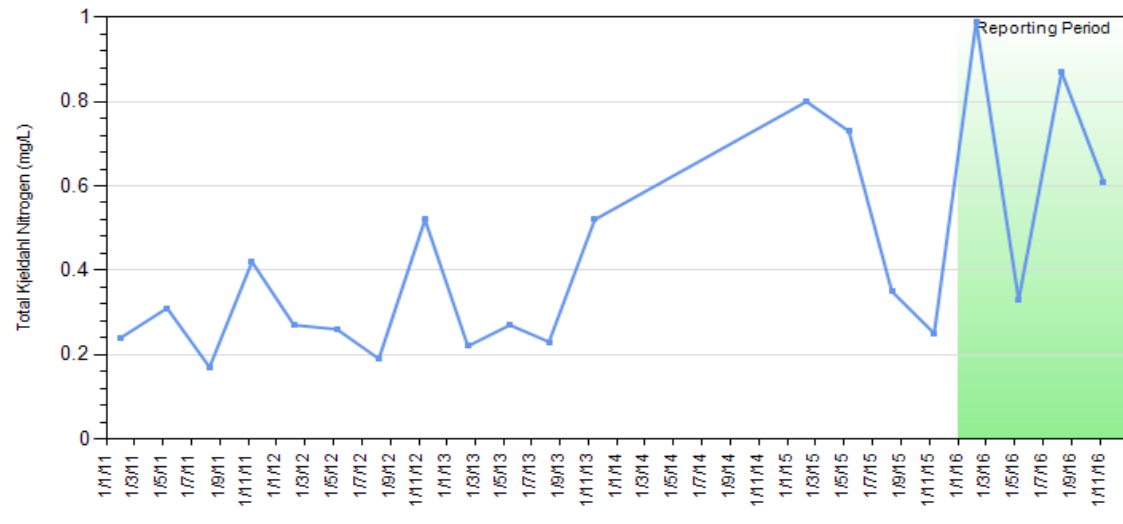
GW14 - Total Copper (mg/L)



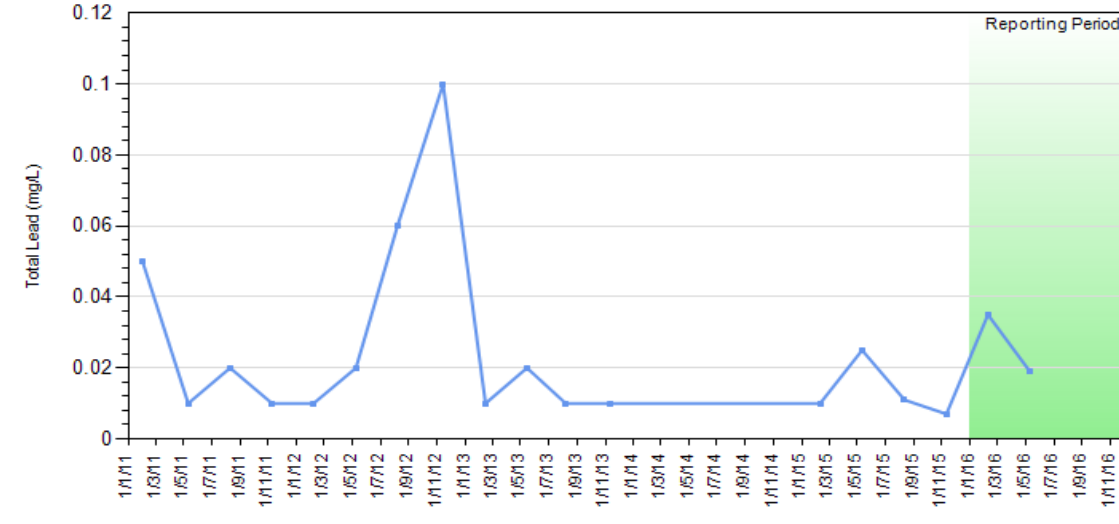
GW14 - Total Iron (mg/L)



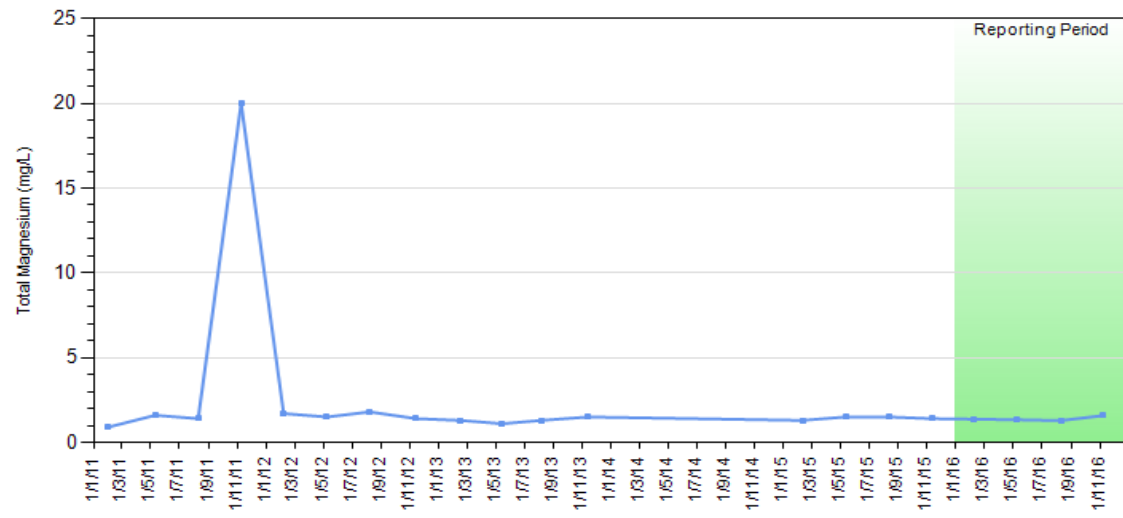
GW14 - Total Kjeldahl Nitrogen (mg/L)



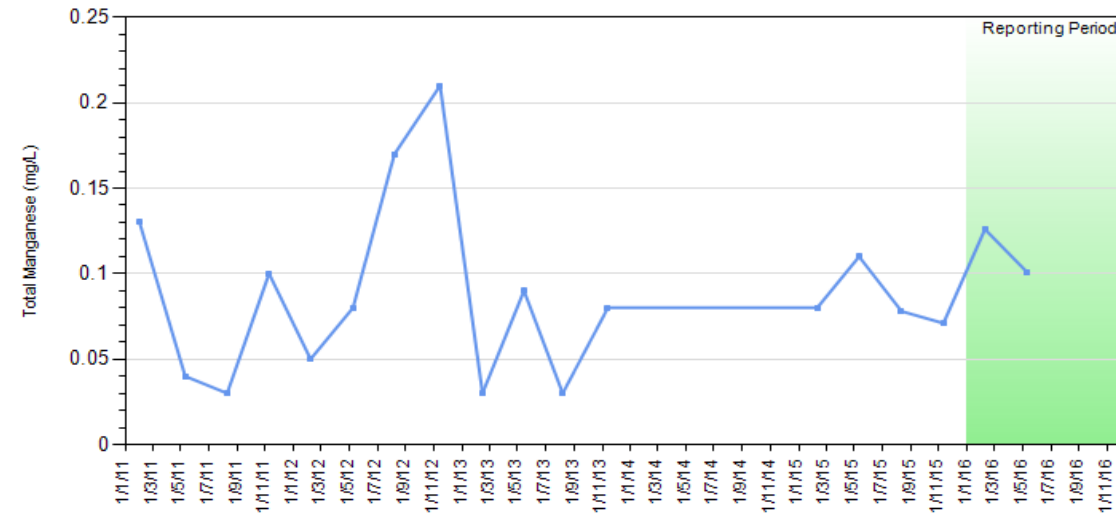
GW14 - Total Lead (mg/L)



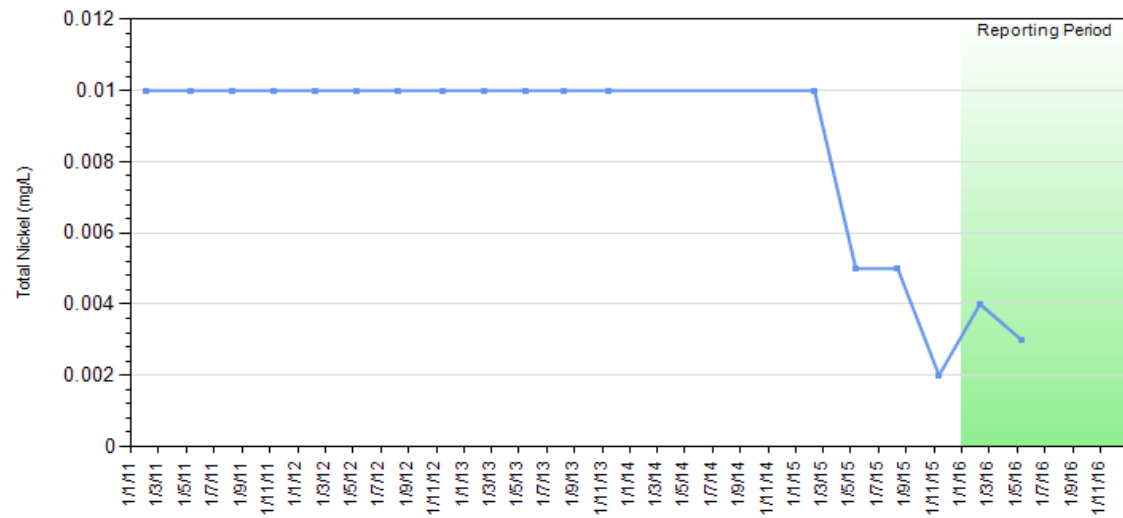
GW14 - Total Magnesium (mg/L)



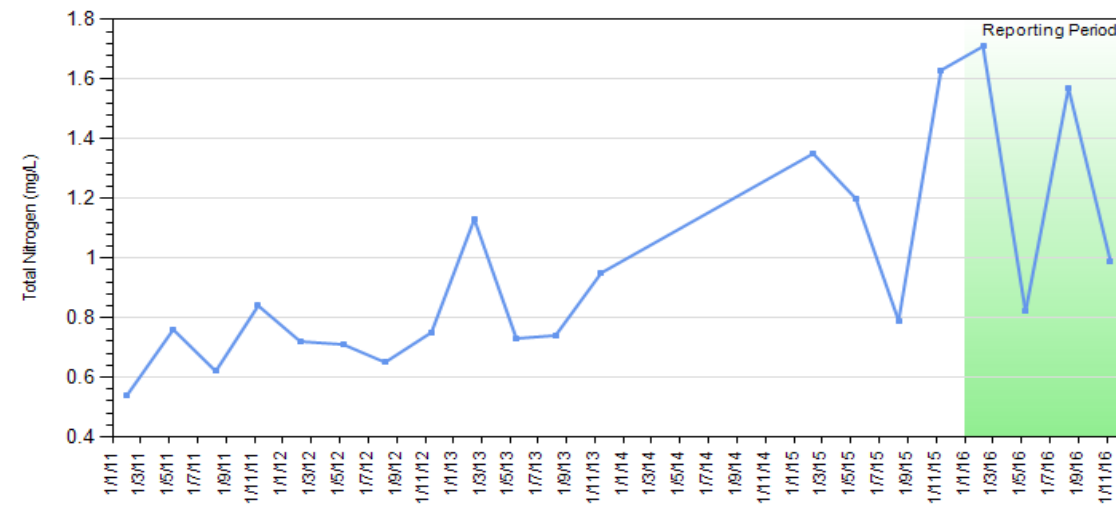
GW14 - Total Manganese (mg/L)



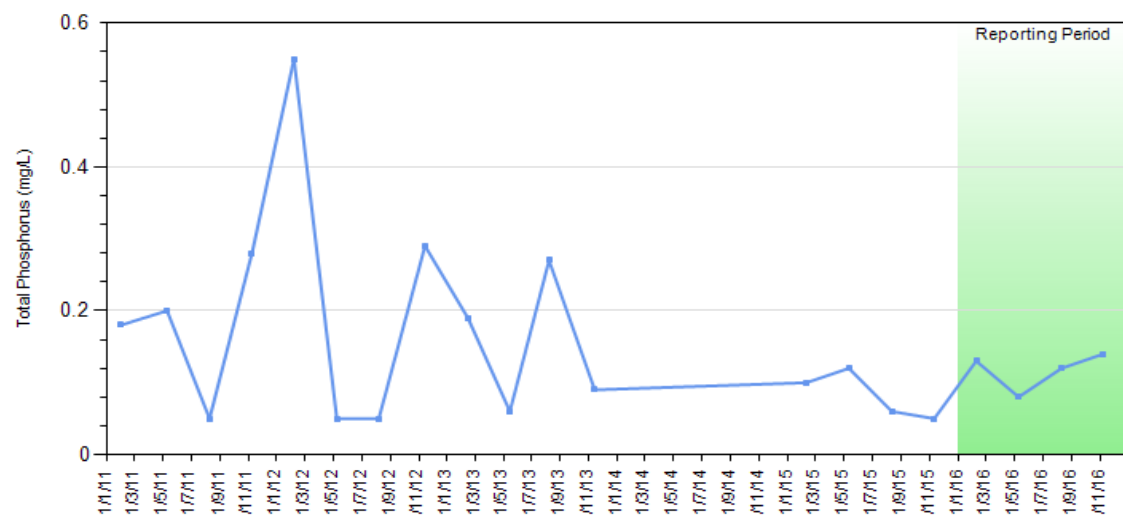
GW14 - Total Nickel (mg/L)



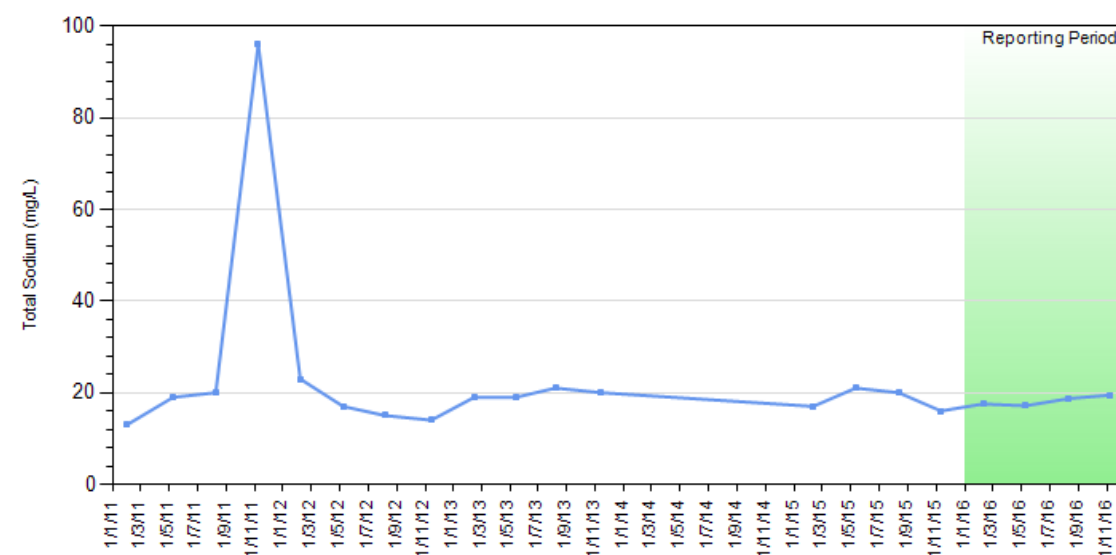
GW14 - Total Nitrogen (mg/L)



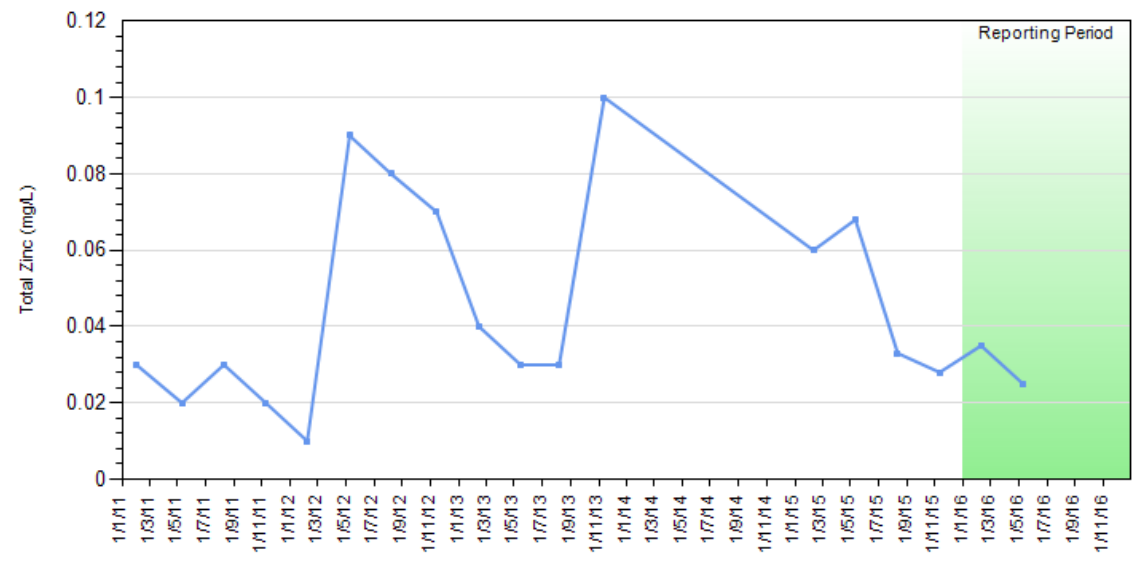
GW14 - Total Phosphorus (mg/L)



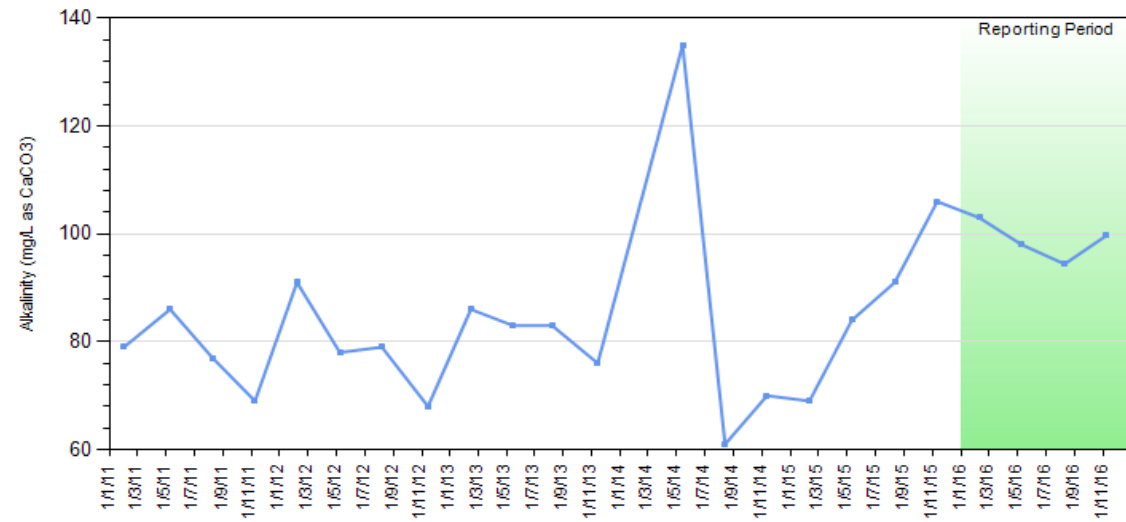
GW14 - Total Sodium (mg/L)



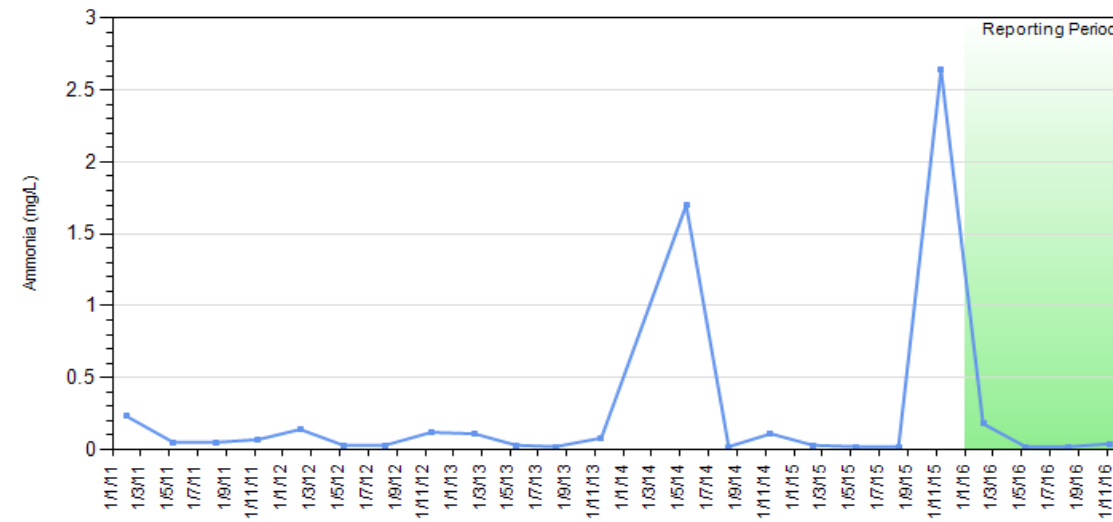
GW14 - Total Zinc (mg/L)



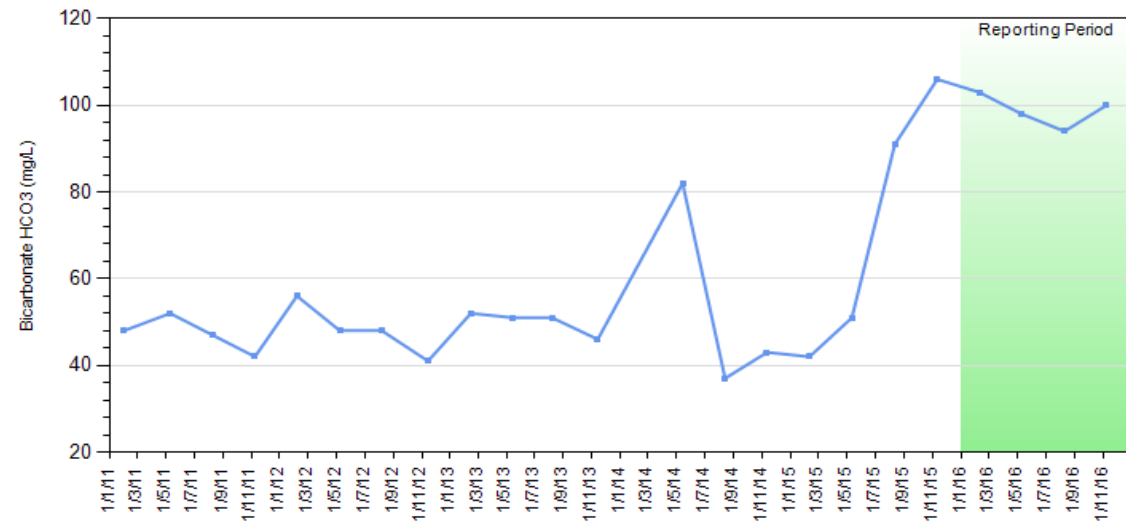
GW15 - Alkalinity (mg/L as CaCO3)



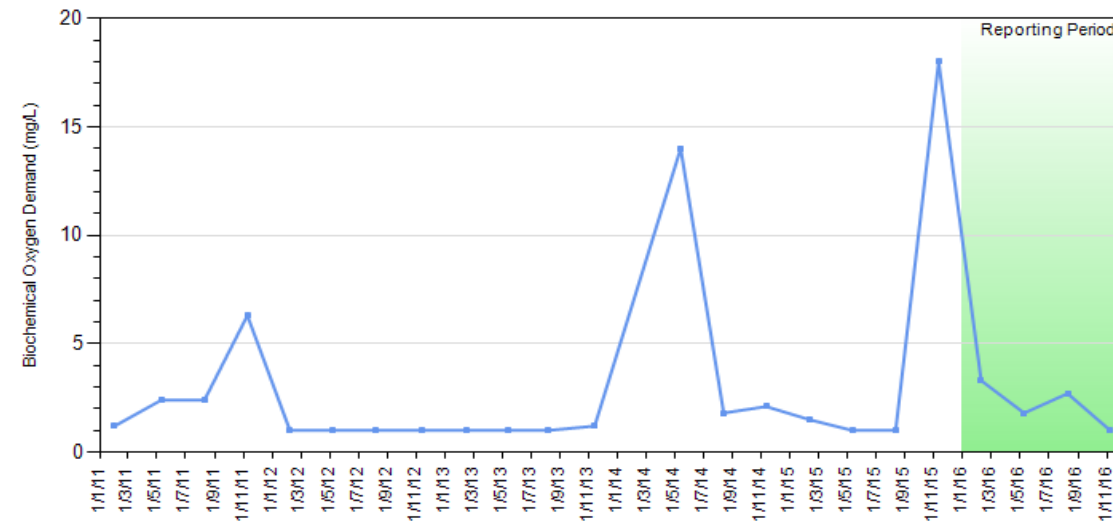
GW15 - Ammonia (mg/L)



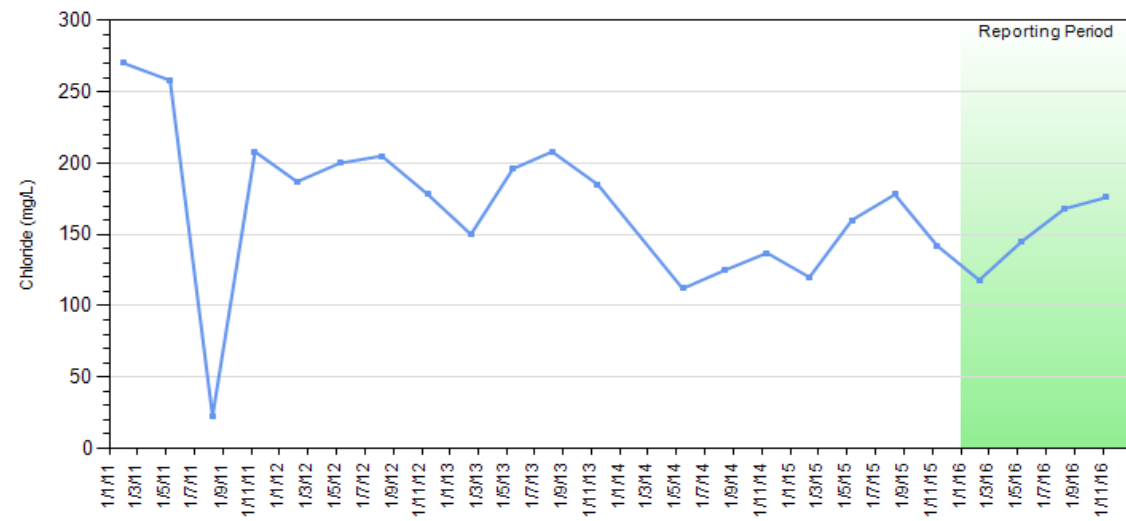
GW15 - Bicarbonate HCO3 (mg/L)



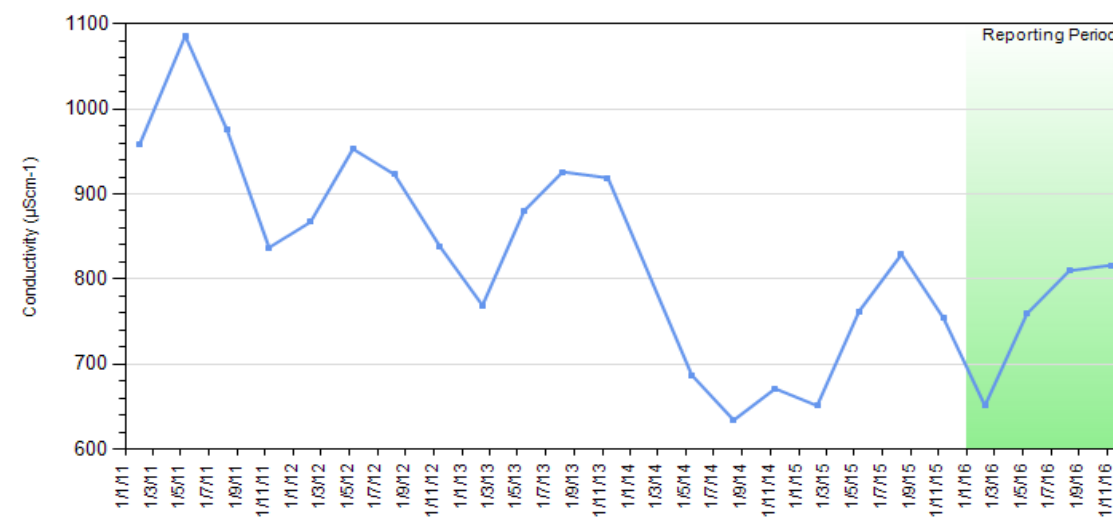
GW15 - Biochemical Oxygen Demand (mg/L)



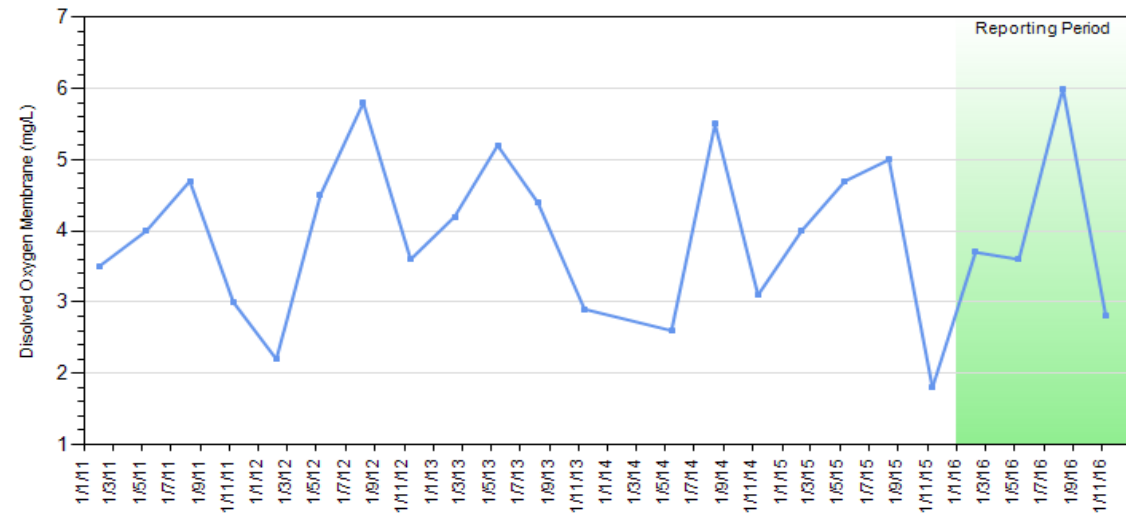
GW15 - Chloride (mg/L)



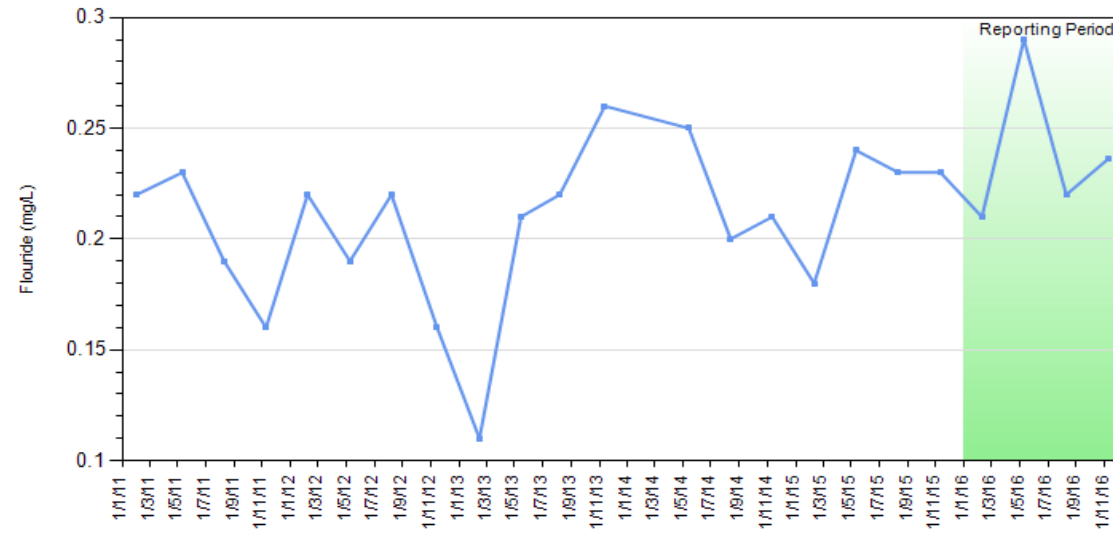
GW15 - Conductivity (µScm-1)



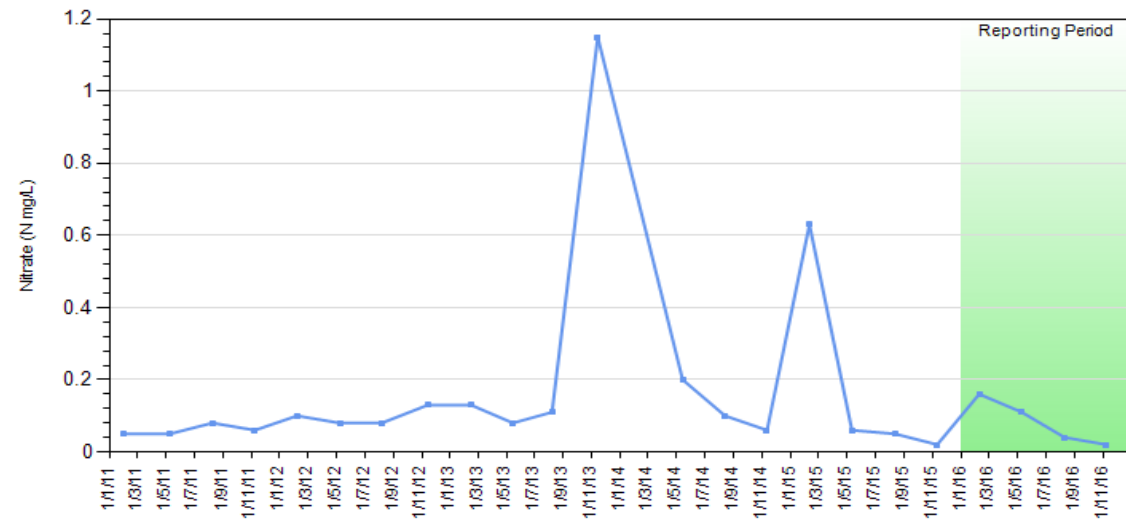
GW15 - Dissolved Oxygen Membrane (mg/L)



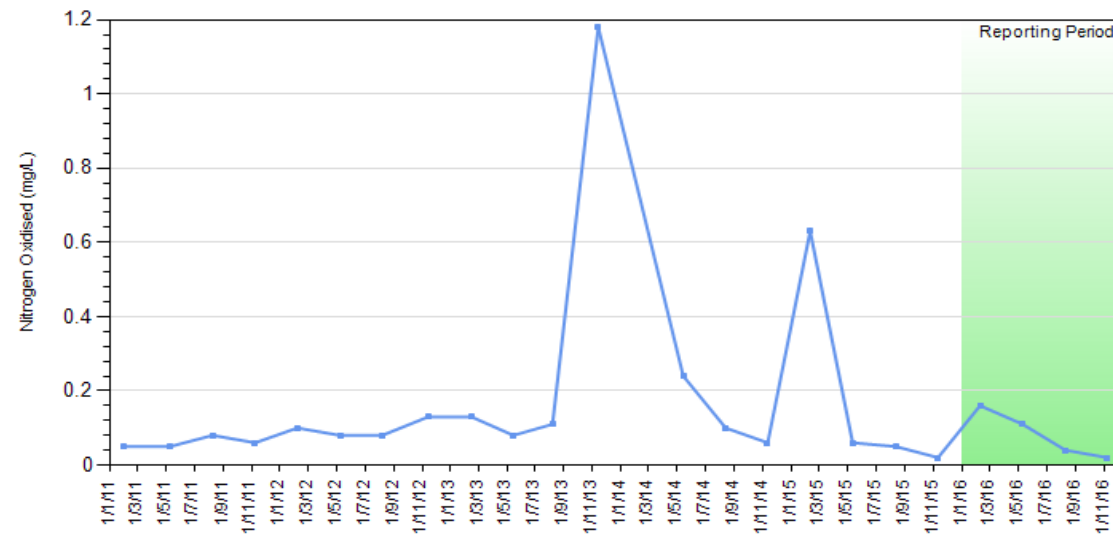
GW15 - Flouride (mg/L)



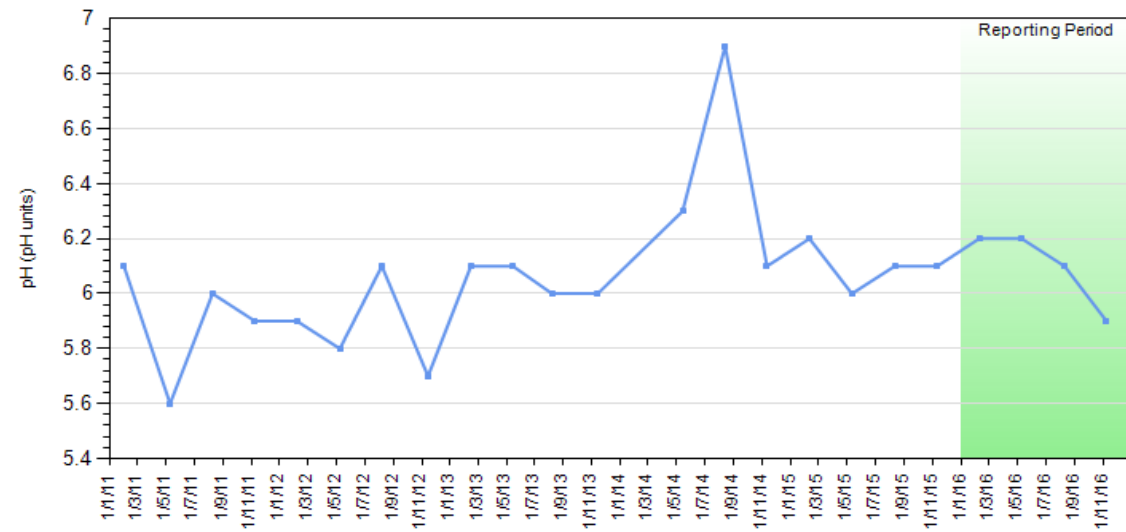
GW15 - Nitrate (N mg/L)



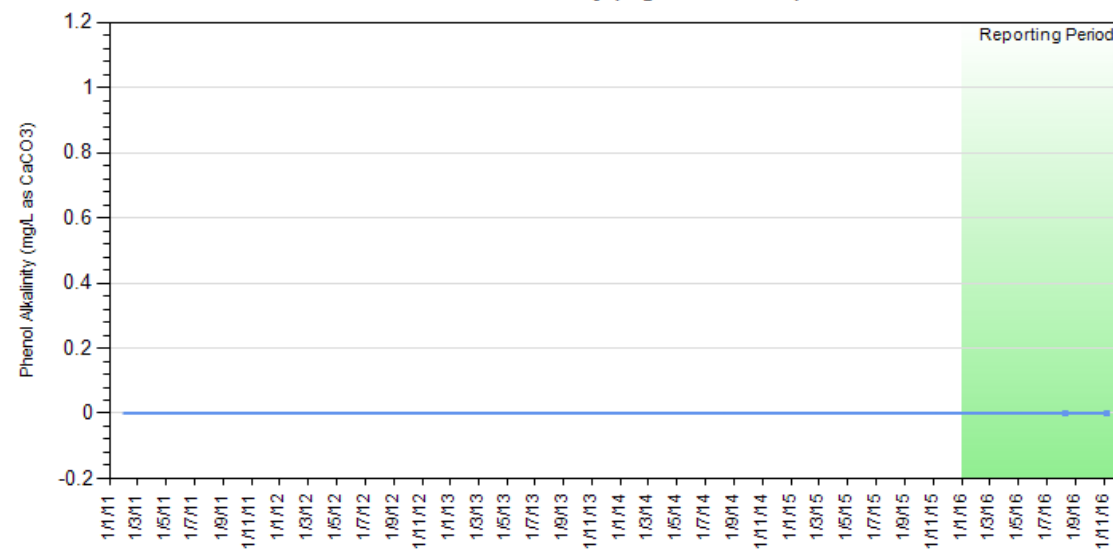
GW15 - Nitrogen Oxidised (mg/L)



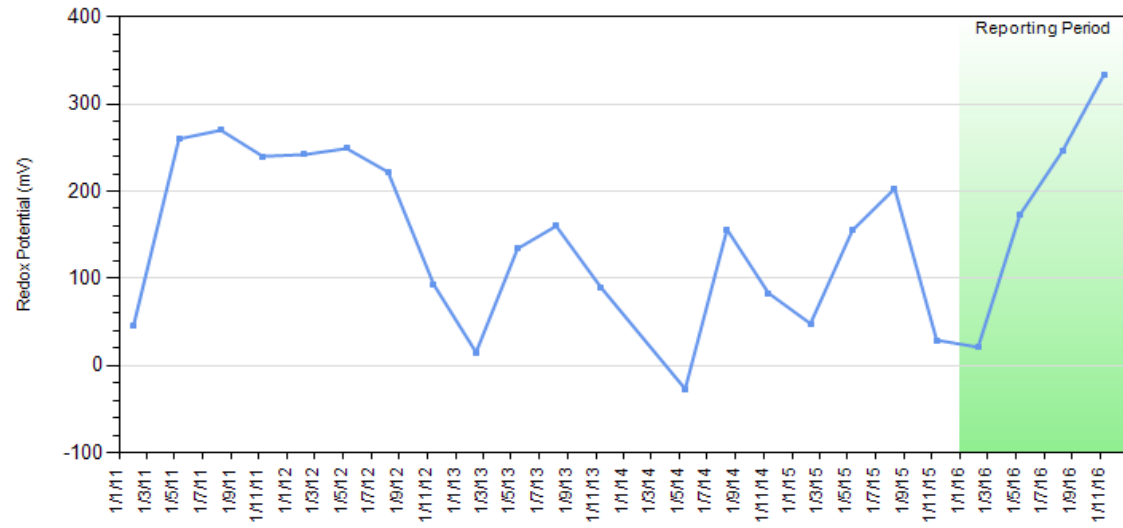
GW15 - pH (pH units)



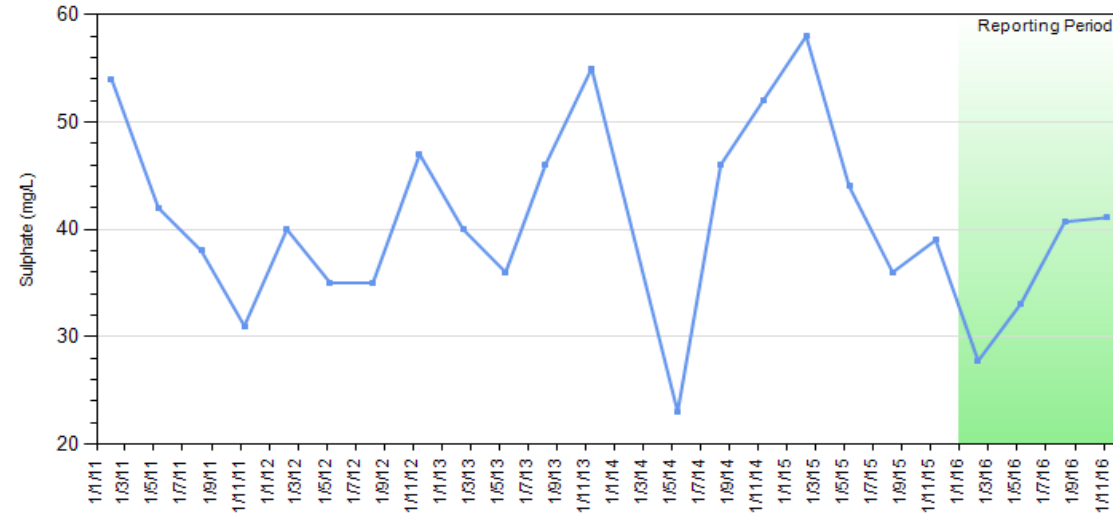
GW15 - Phenol Alkalinity (mg/L as CaCO3)



GW15 - Redox Potential (mV)



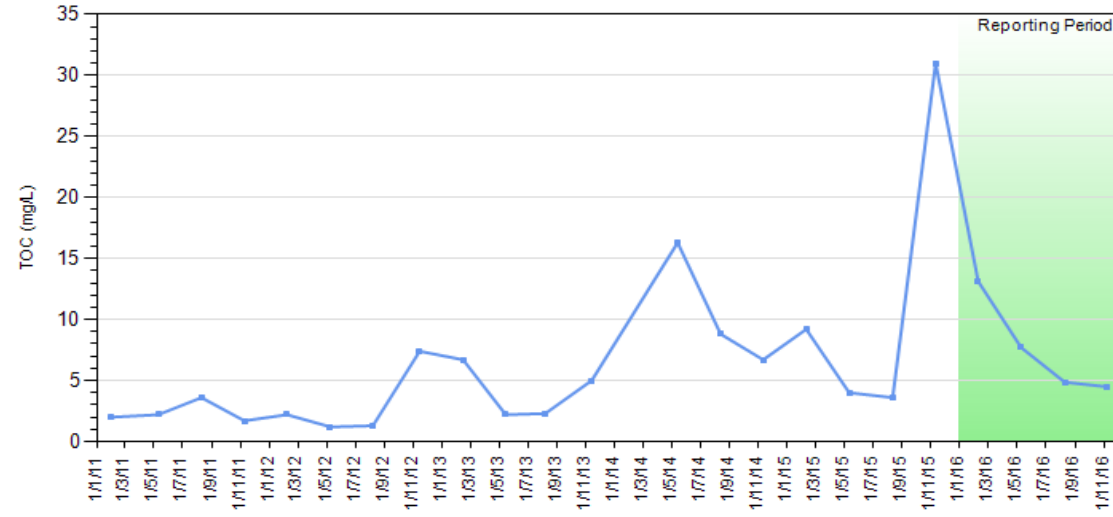
GW15 - Sulphate (mg/L)



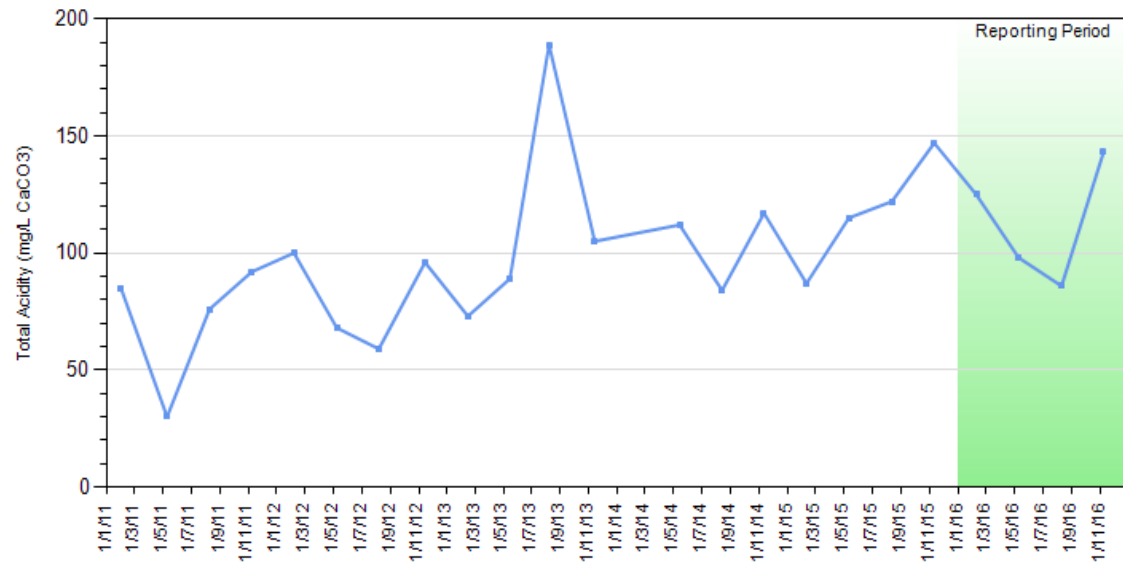
GW15 - Temperature (C)



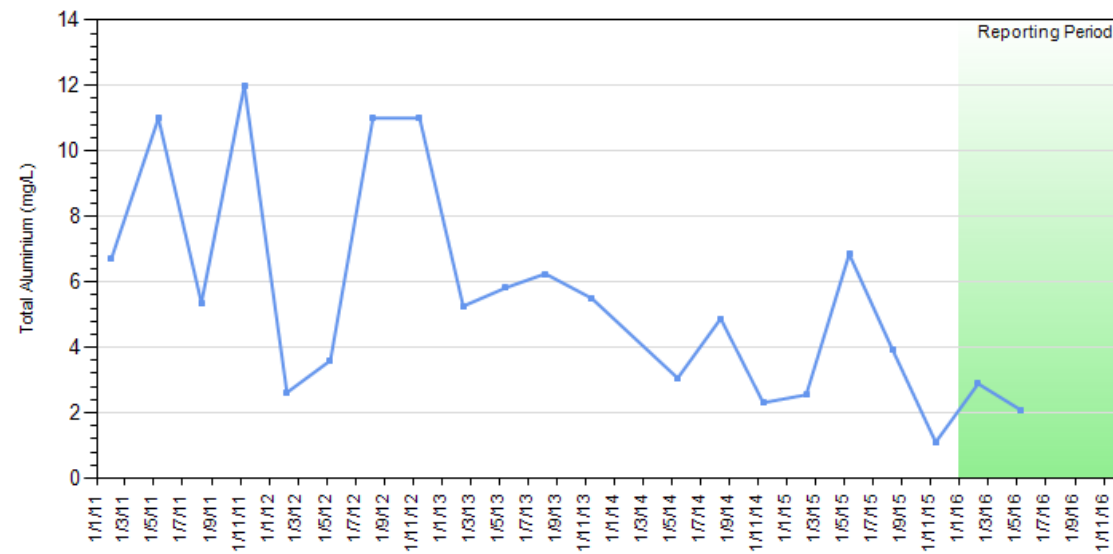
GW15 - TOC (mg/L)



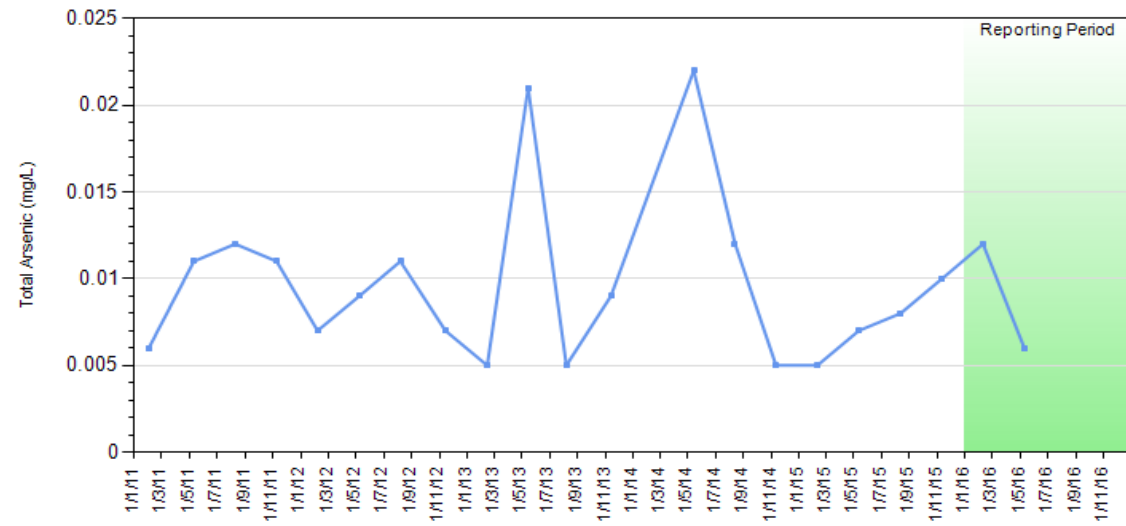
GW15 - Total Acidity (mg/L CaCO3)



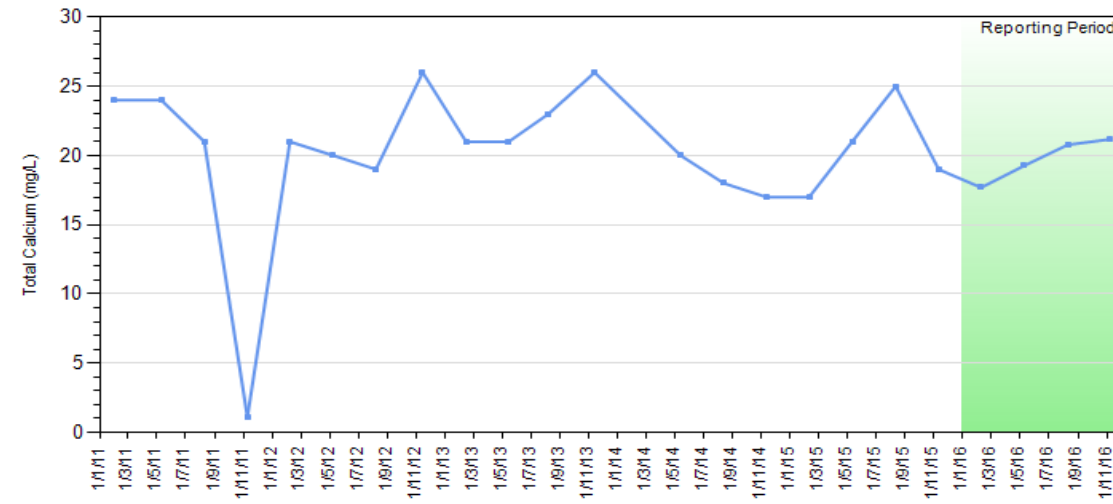
GW15 - Total Aluminium (mg/L)



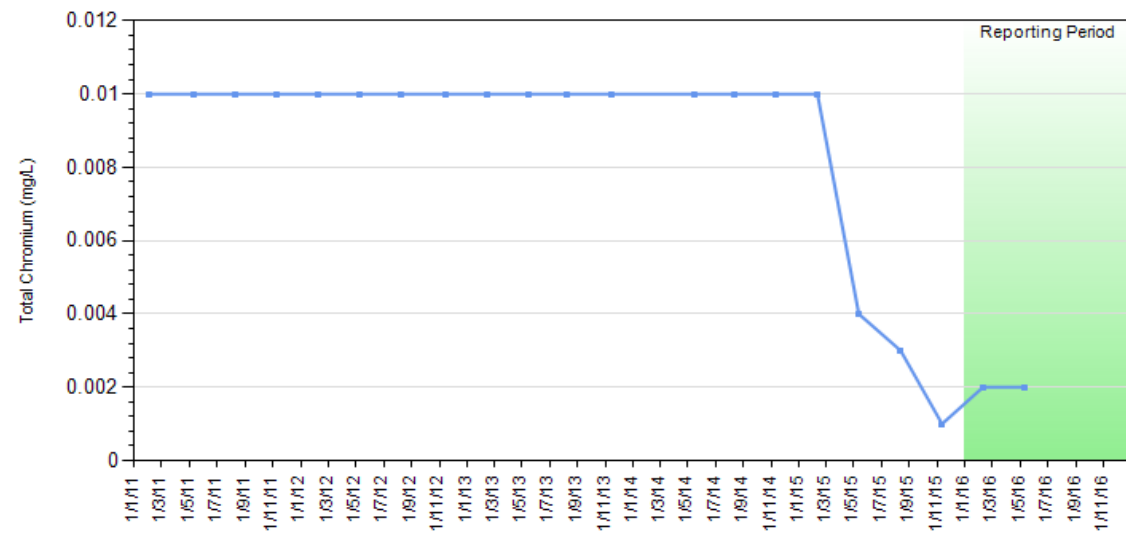
GW15 - Total Arsenic (mg/L)



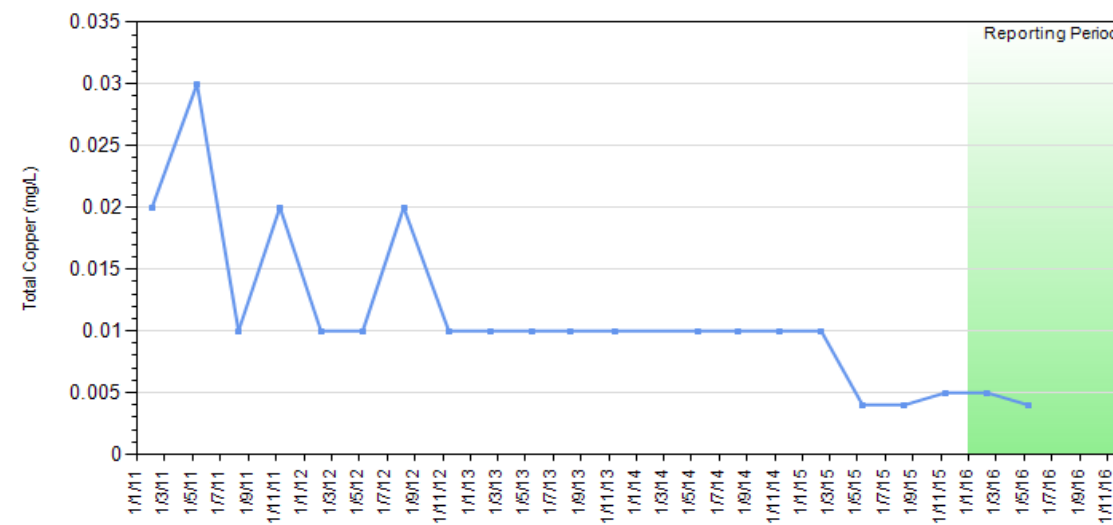
GW15 - Total Calcium (mg/L)



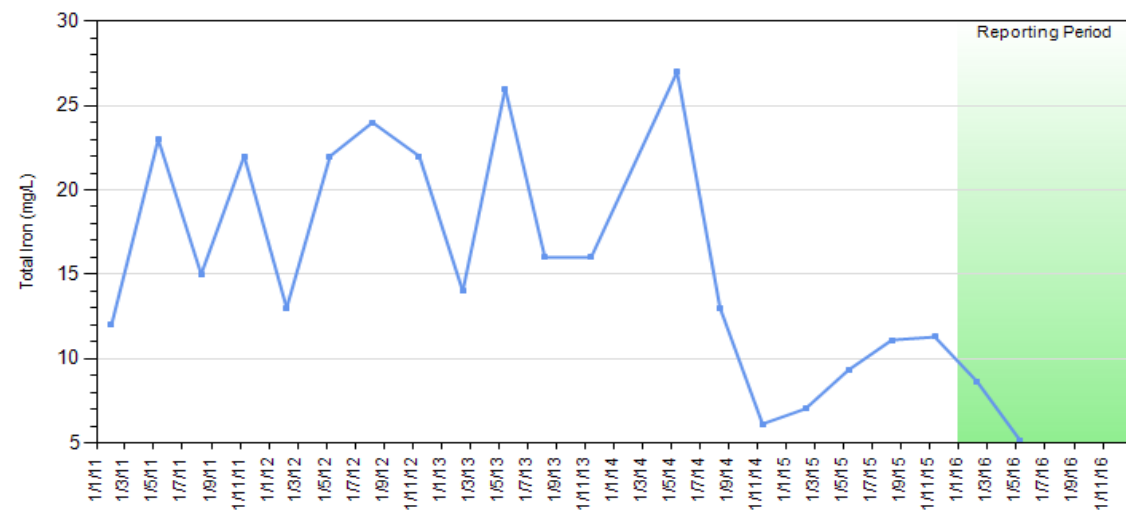
GW15 - Total Chromium (mg/L)



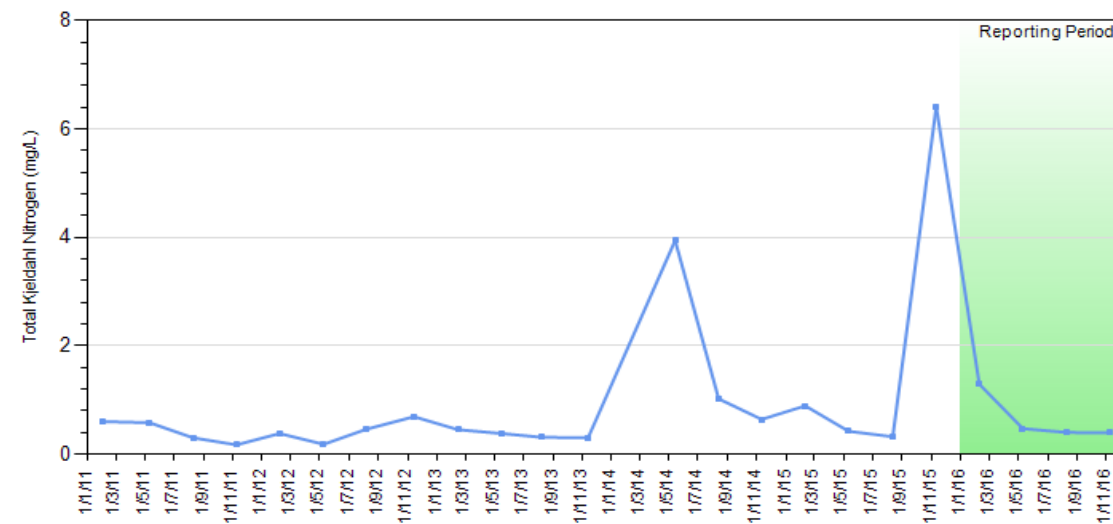
GW15 - Total Copper (mg/L)



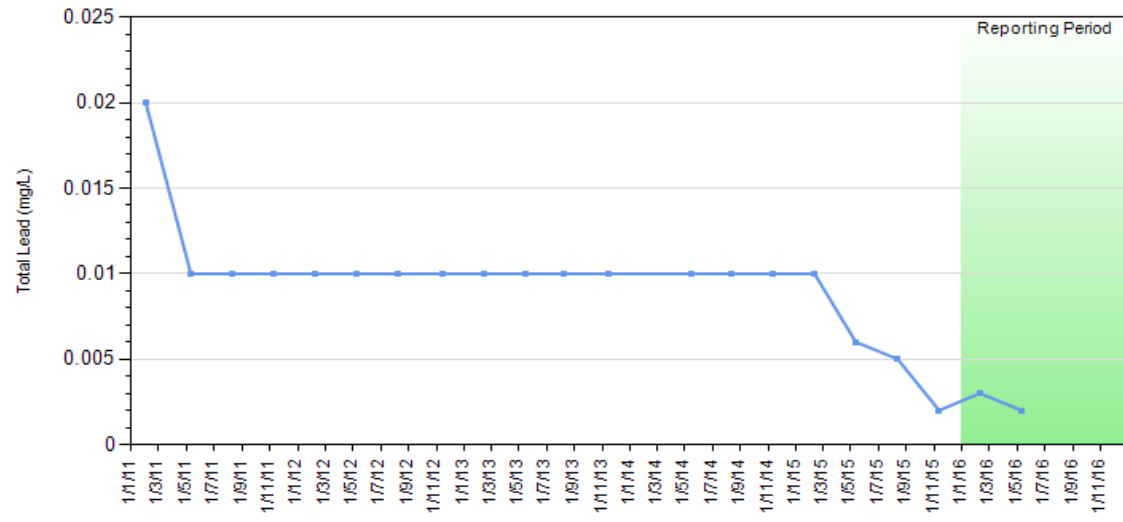
GW15 - Total Iron (mg/L)



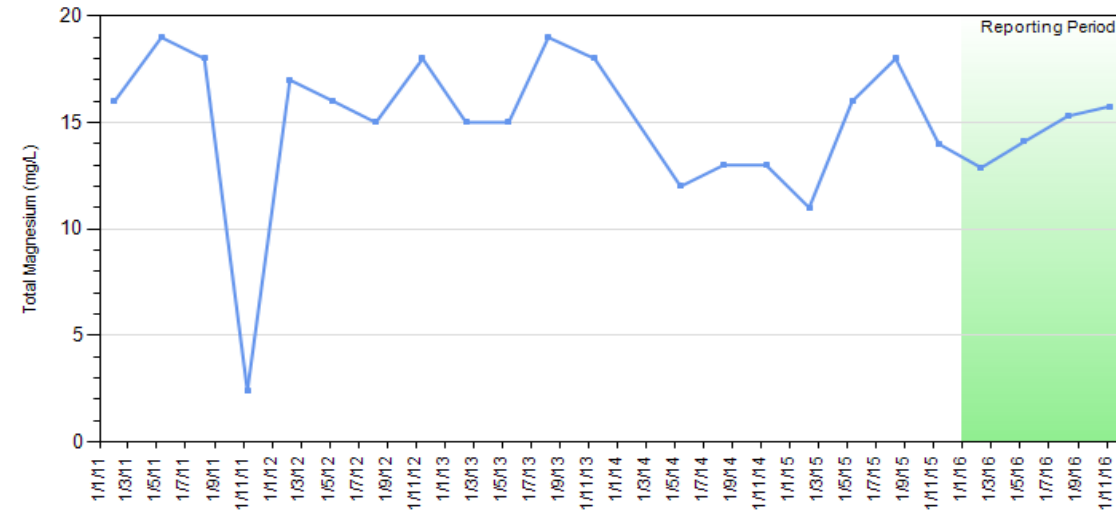
GW15 - Total Kjeldahl Nitrogen (mg/L)



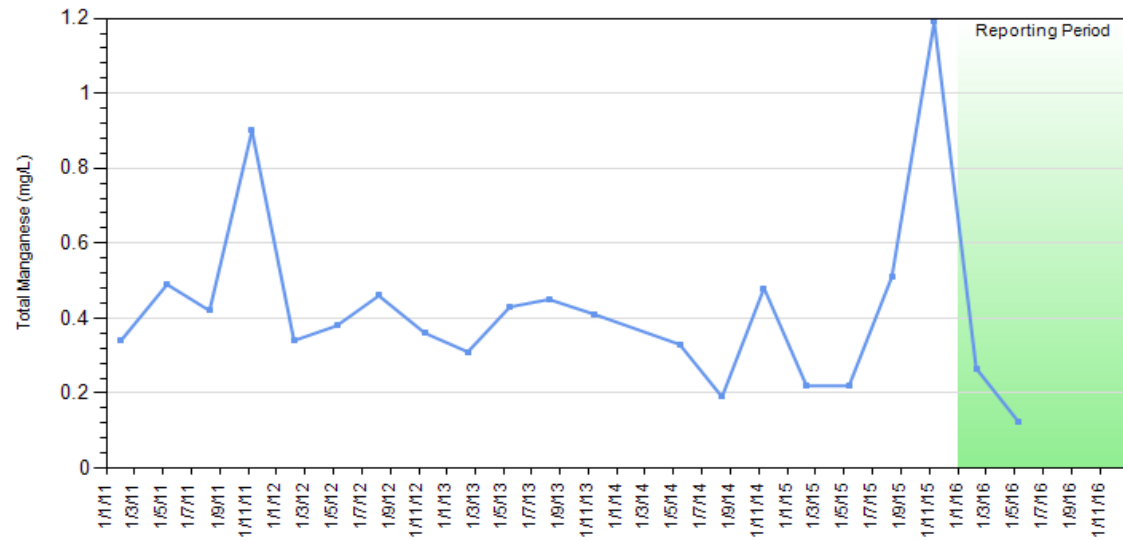
GW15 - Total Lead (mg/L)



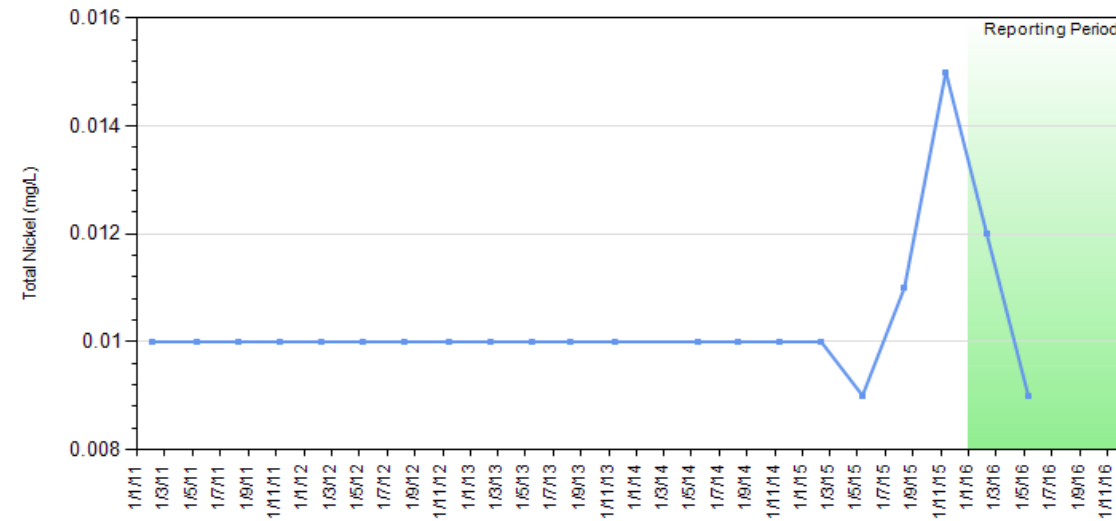
GW15 - Total Magnesium (mg/L)



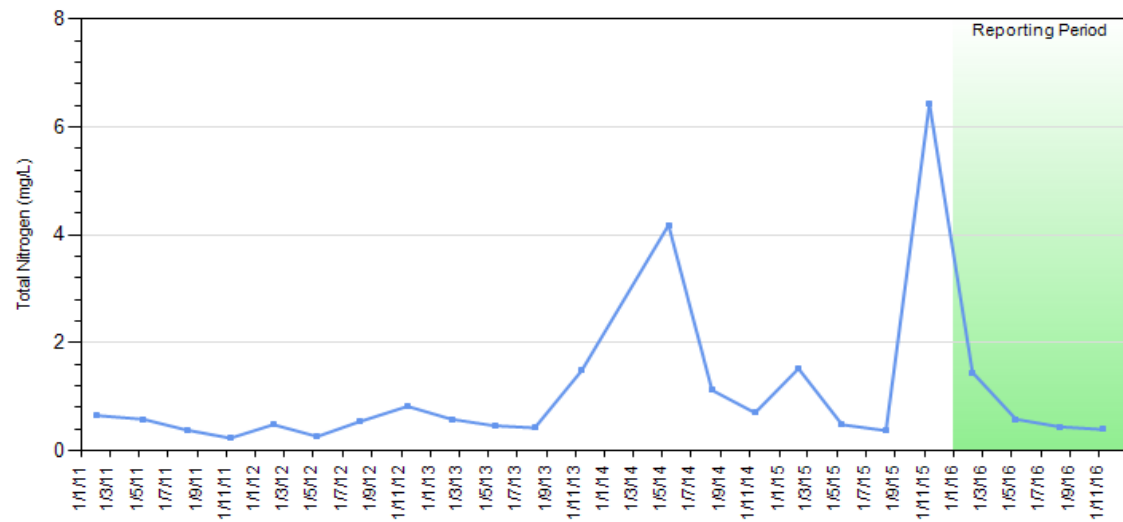
GW15 - Total Manganese (mg/L)



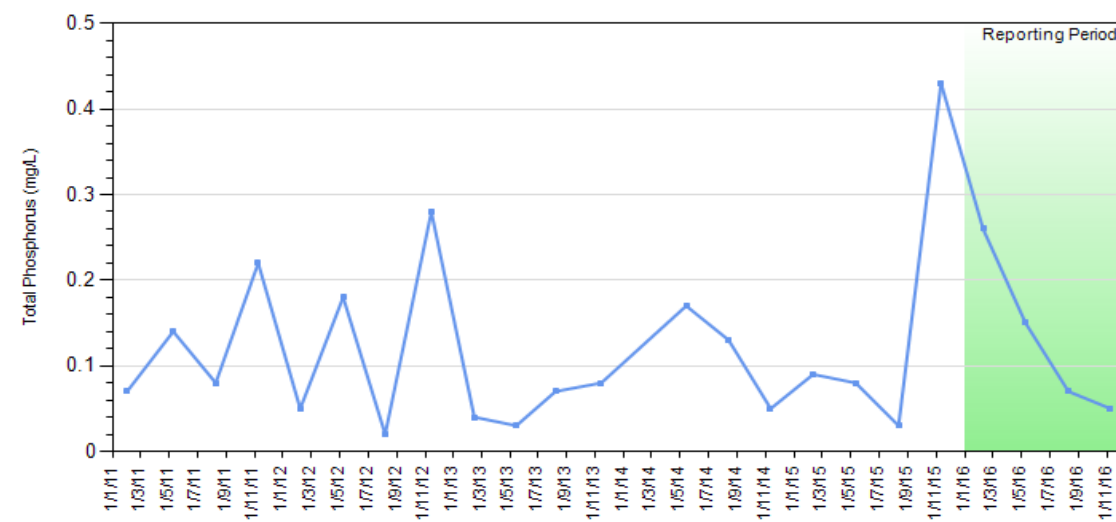
GW15 - Total Nickel (mg/L)



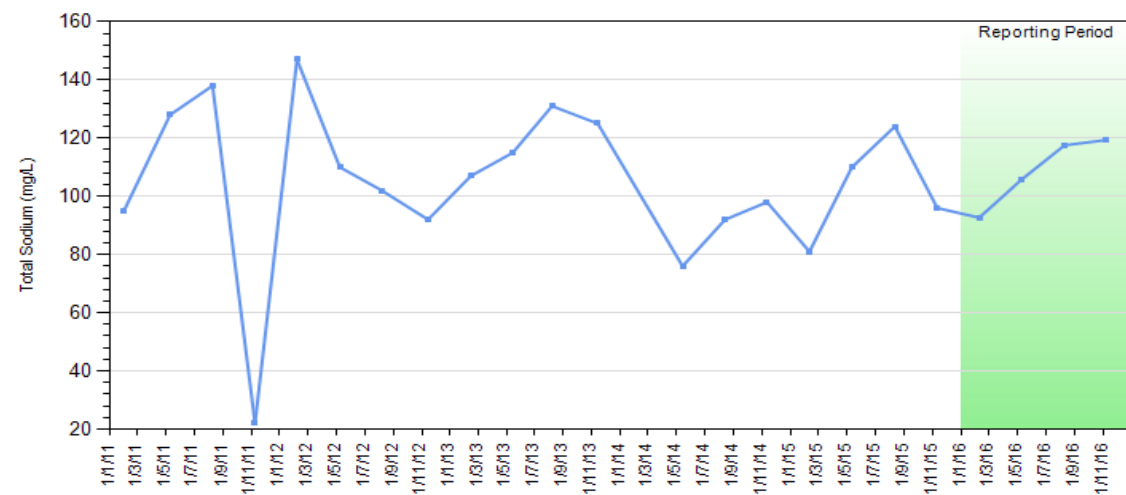
GW15 - Total Nitrogen (mg/L)



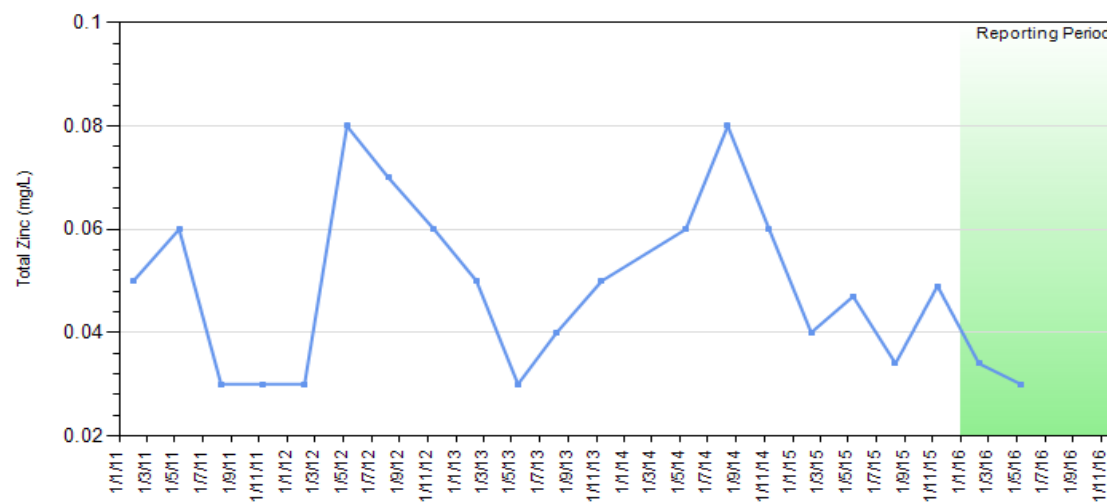
GW15 - Total Phosphorus (mg/L)



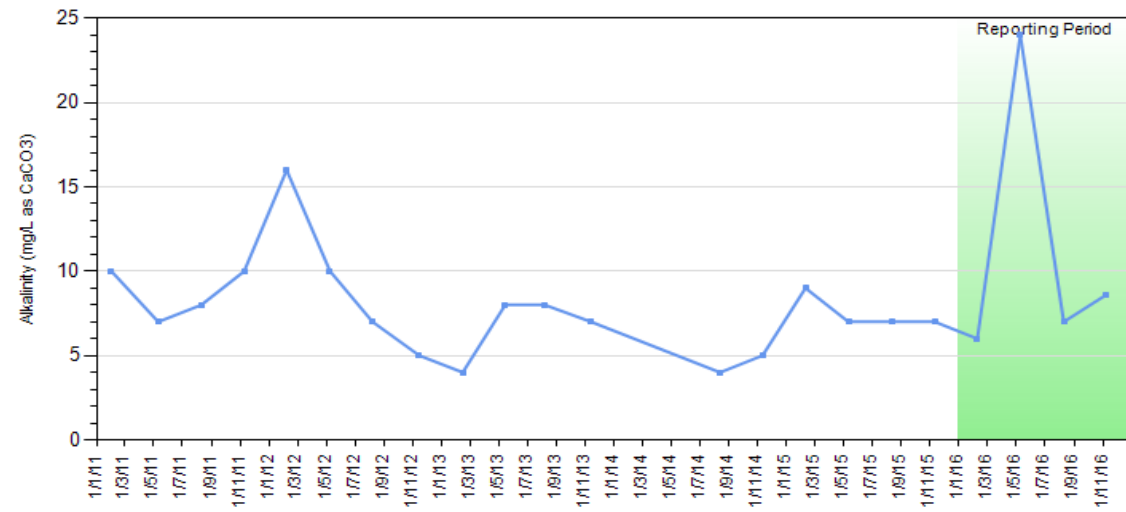
GW15 - Total Sodium (mg/L)



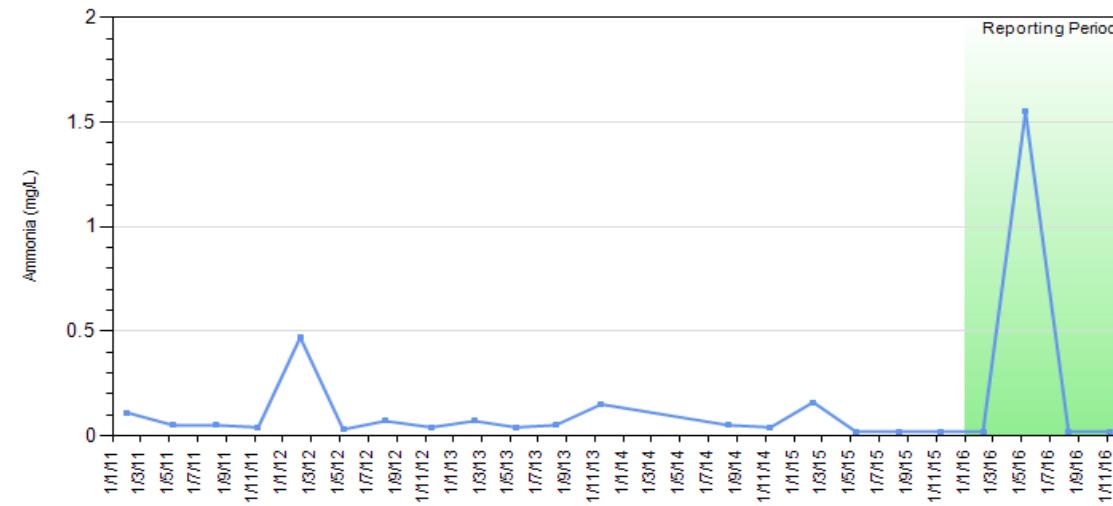
GW15 - Total Zinc (mg/L)



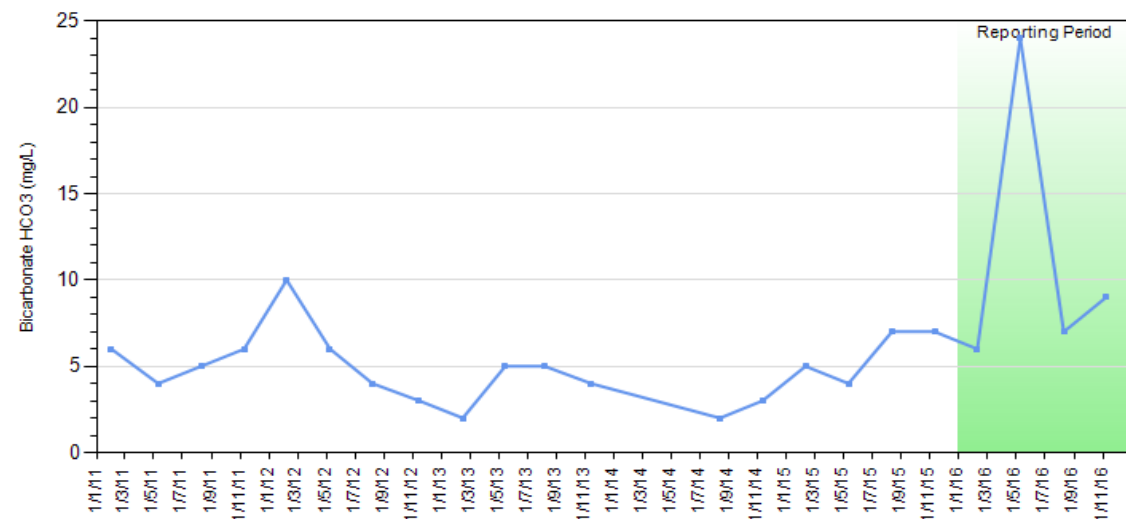
GW16 - Alkalinity (mg/L as CaCO3)



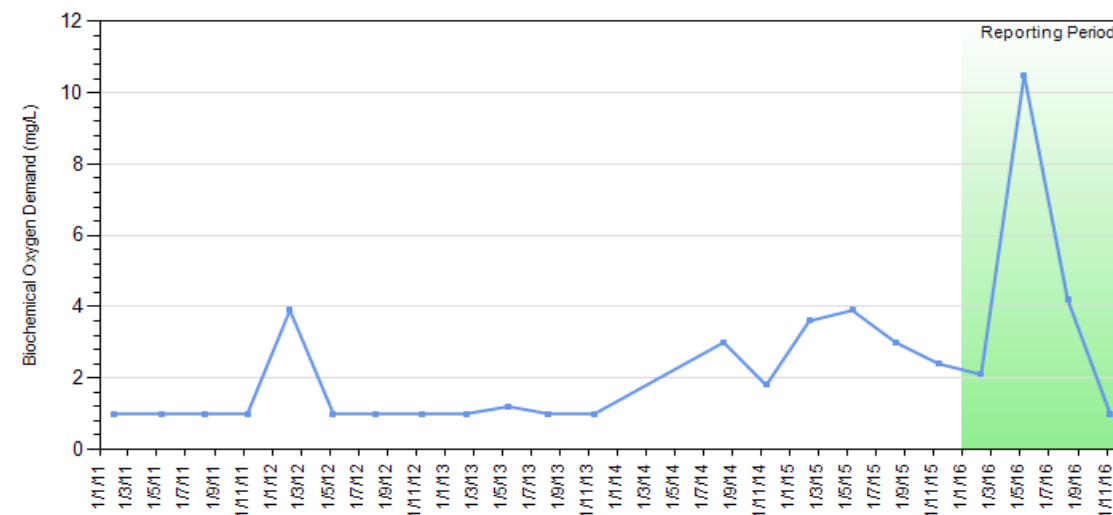
GW16 - Ammonia (mg/L)



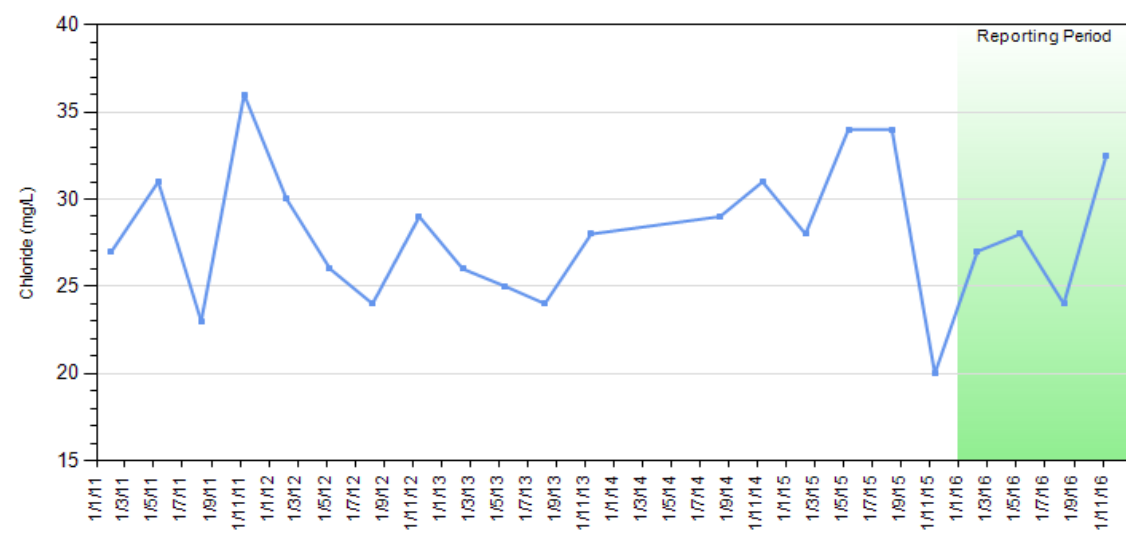
GW16 - Bicarbonate HCO3 (mg/L)



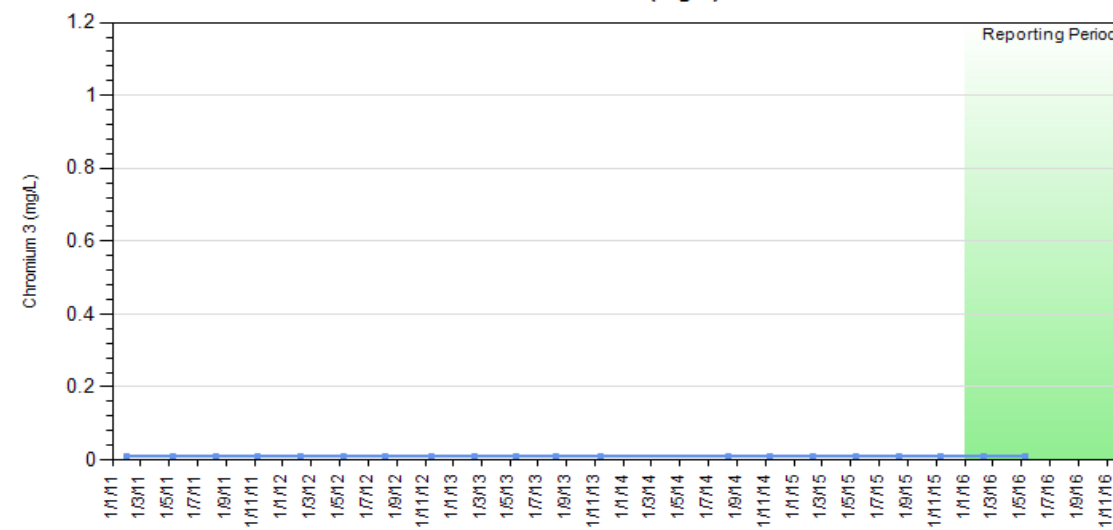
GW16 - Biochemical Oxygen Demand (mg/L)



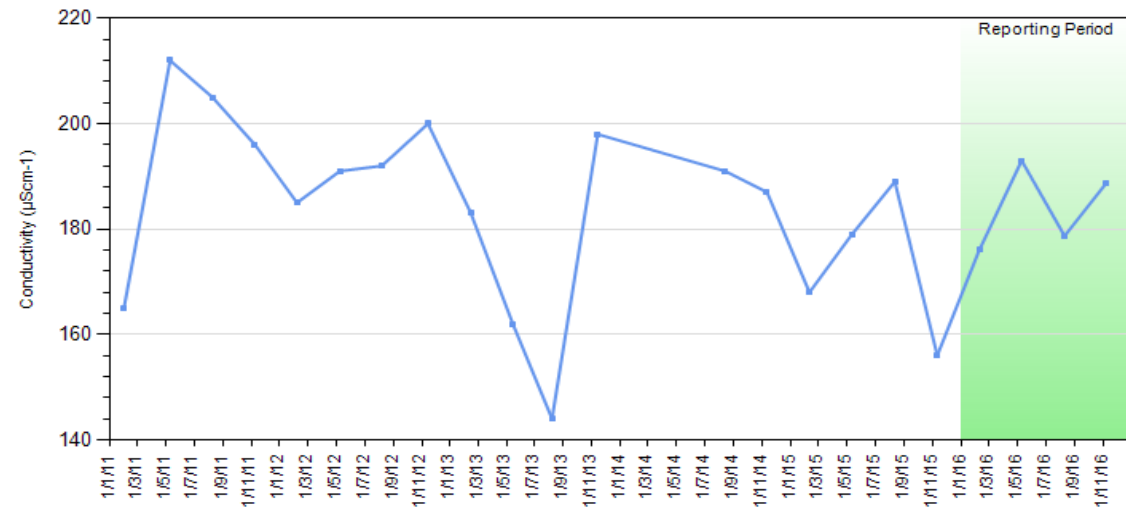
GW16 - Chloride (mg/L)



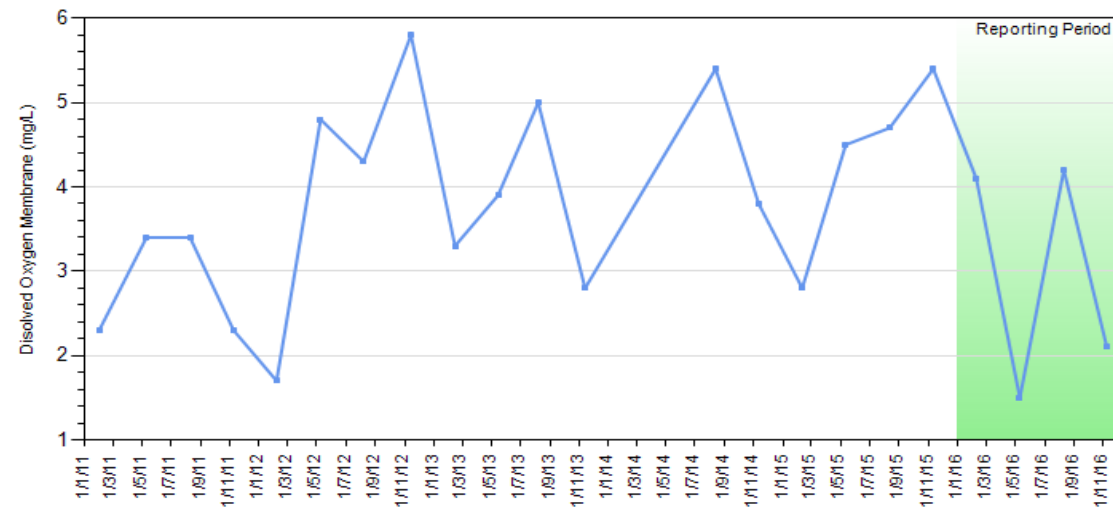
GW16 - Chromium 3 (mg/L)



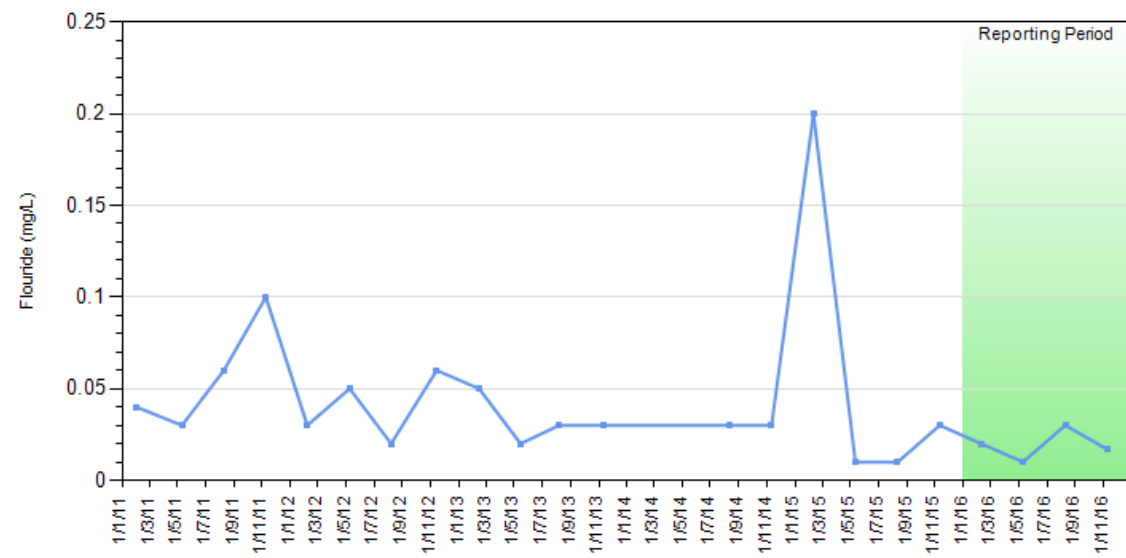
GW16 - Conductivity (μScm^{-1})



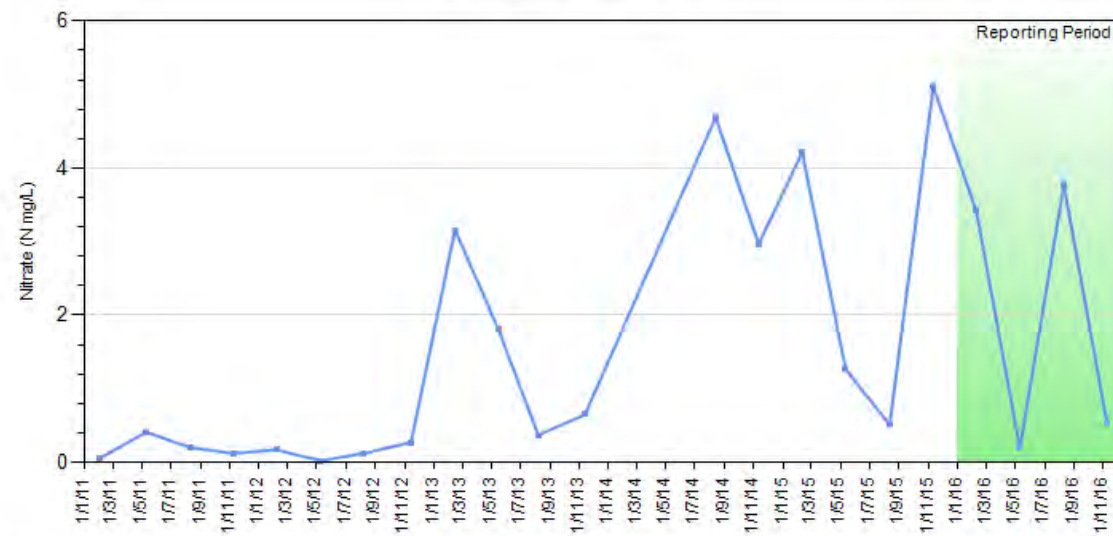
GW16 - Dissolved Oxygen Membrane (mg/L)



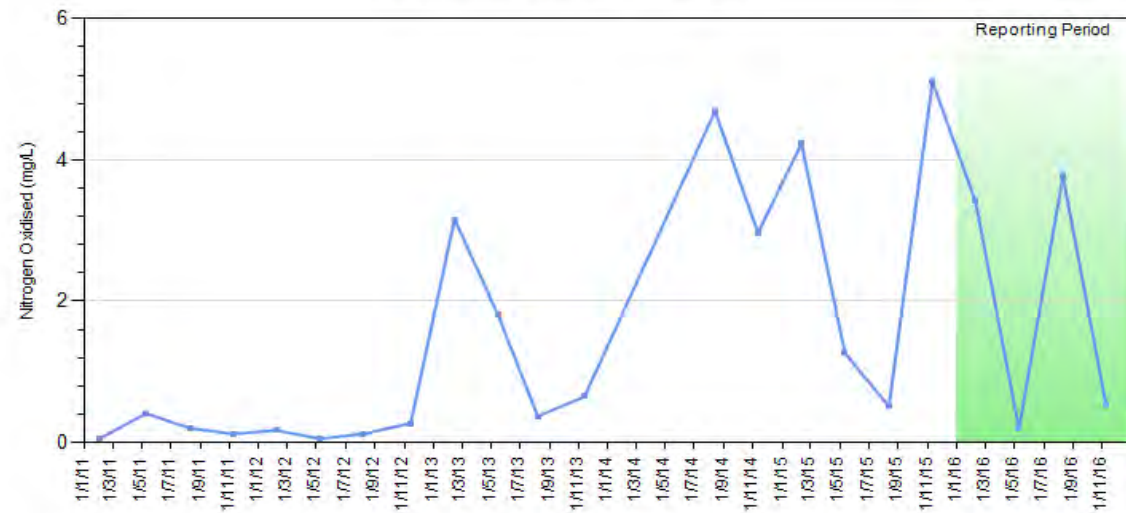
GW16 - Fluoride (mg/L)



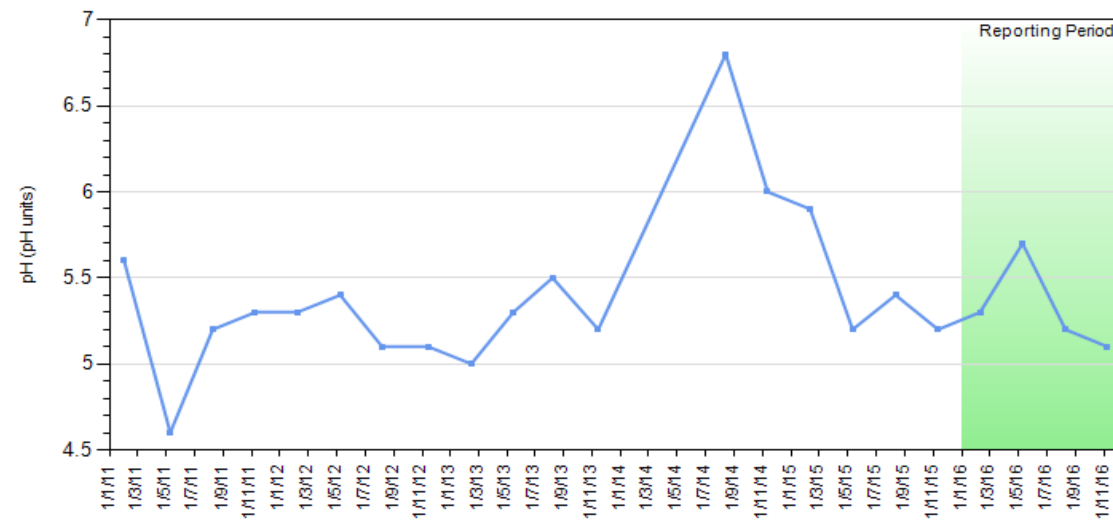
GW16 - Nitrate (N mg/L)



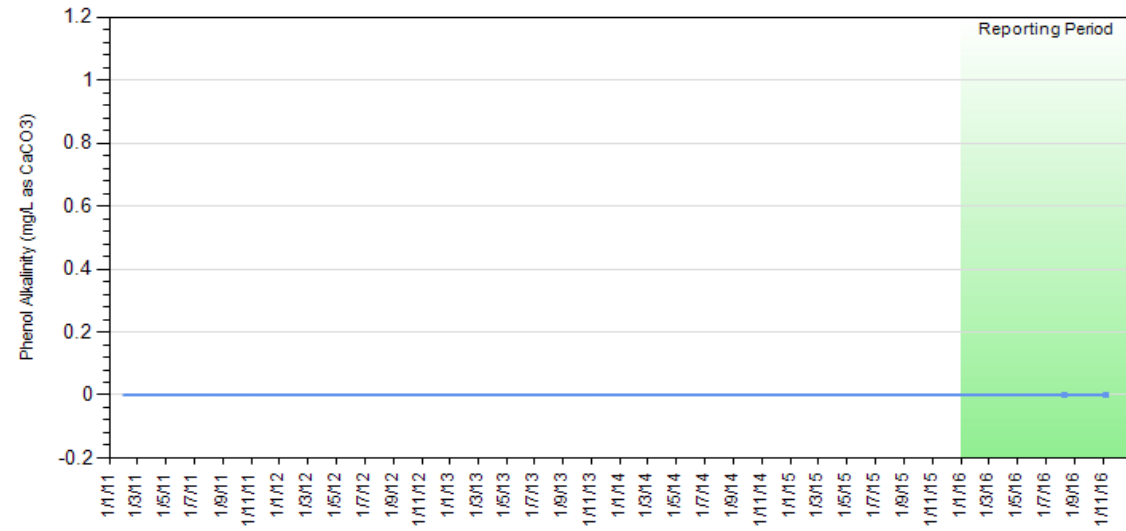
GW16 - Nitrogen Oxidised (mg/L)



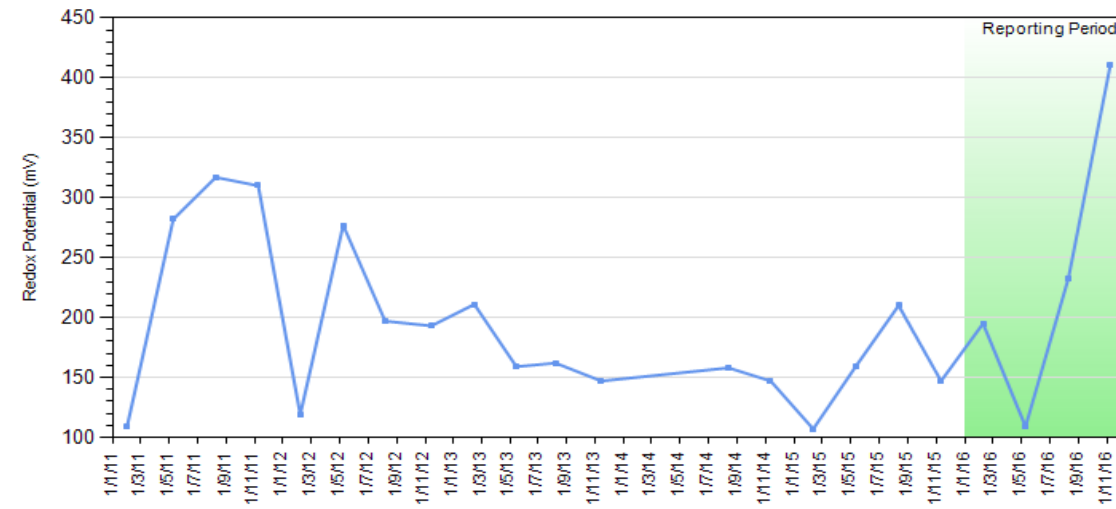
GW16 - pH (pH units)



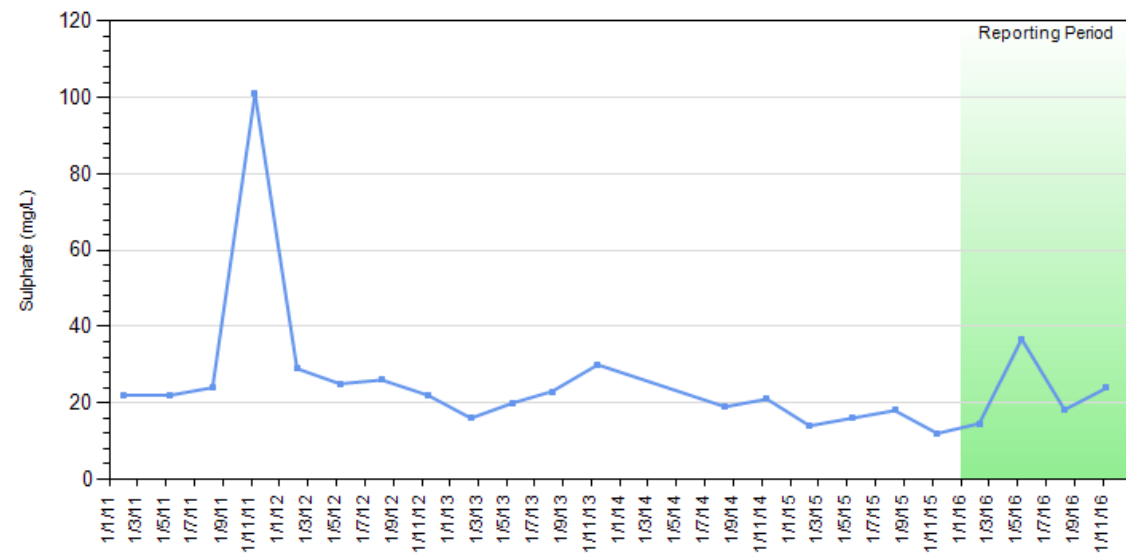
GW16 - Phenol Alkalinity (mg/L as CaCO3)



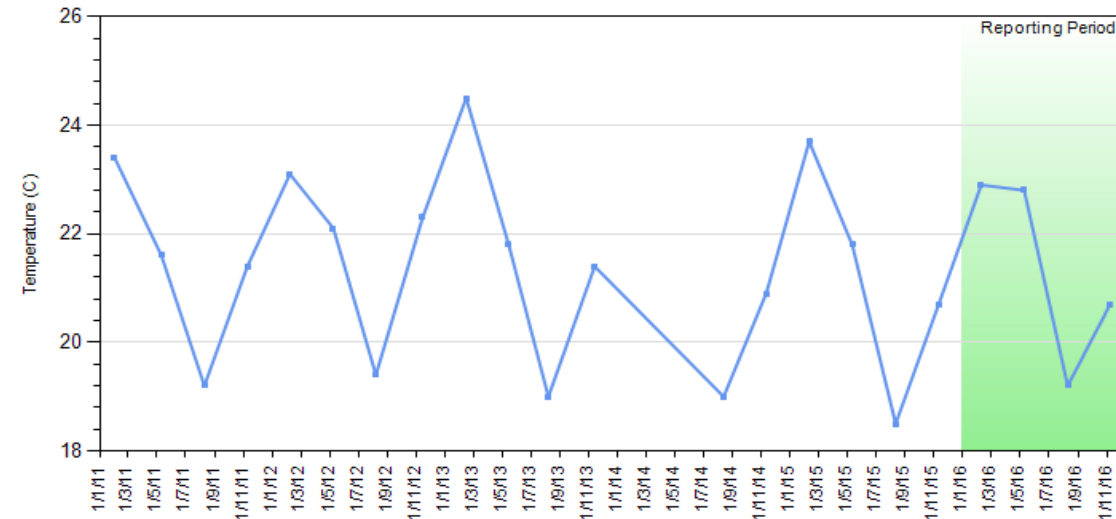
GW16 - Redox Potential (mV)



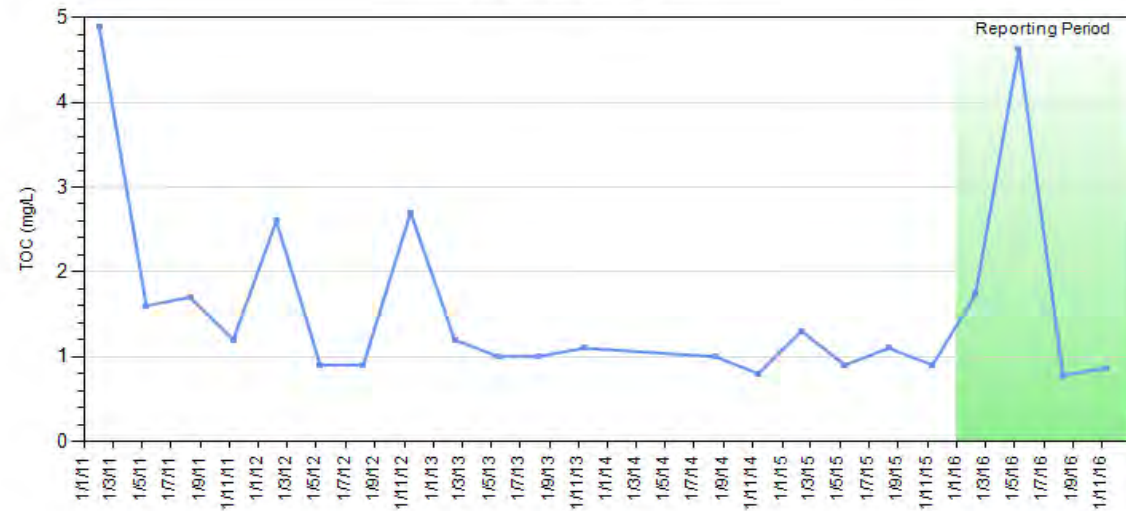
GW16 - Sulphate (mg/L)



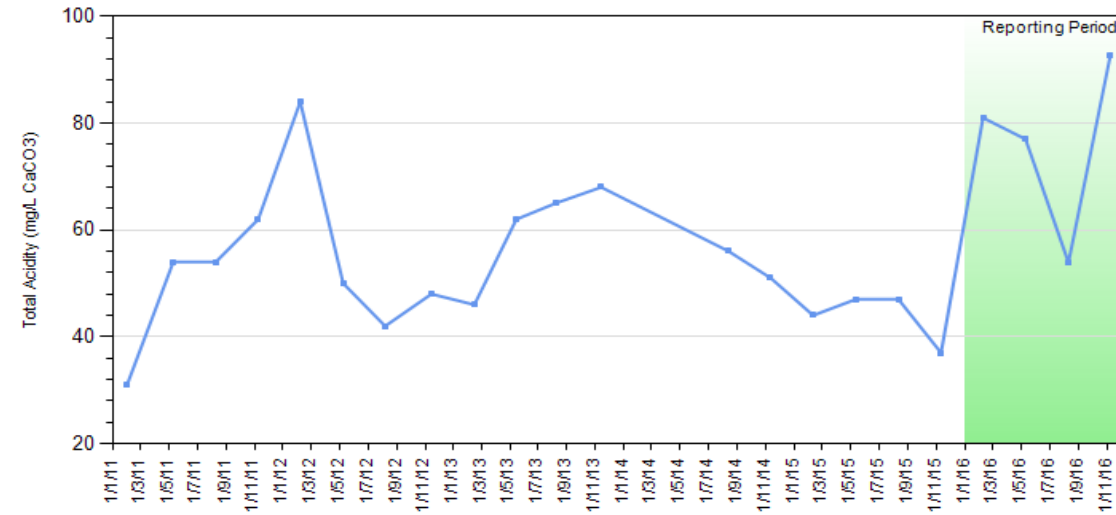
GW16 - Temperature (C)



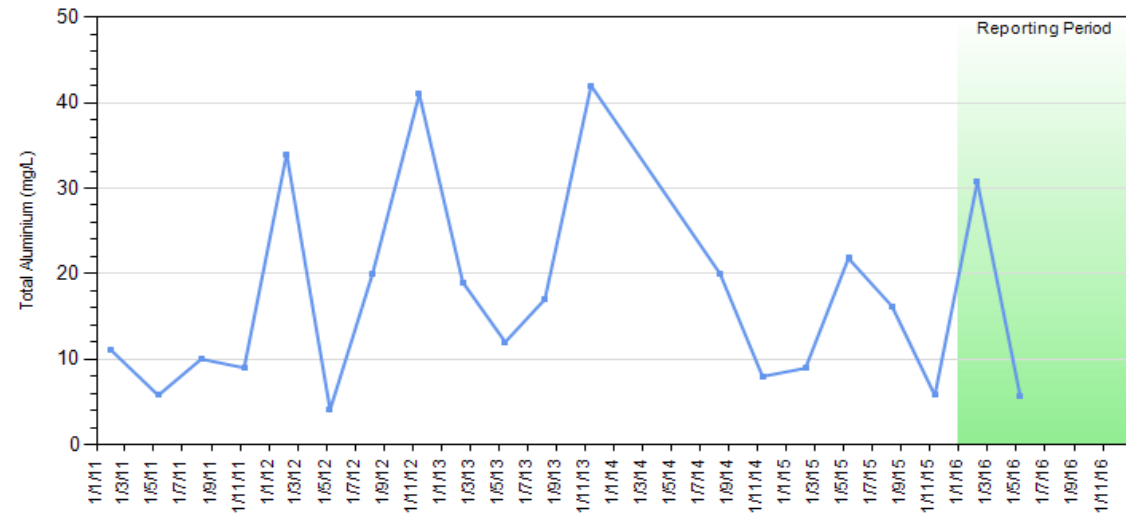
GW16 - TOC (mg/L)



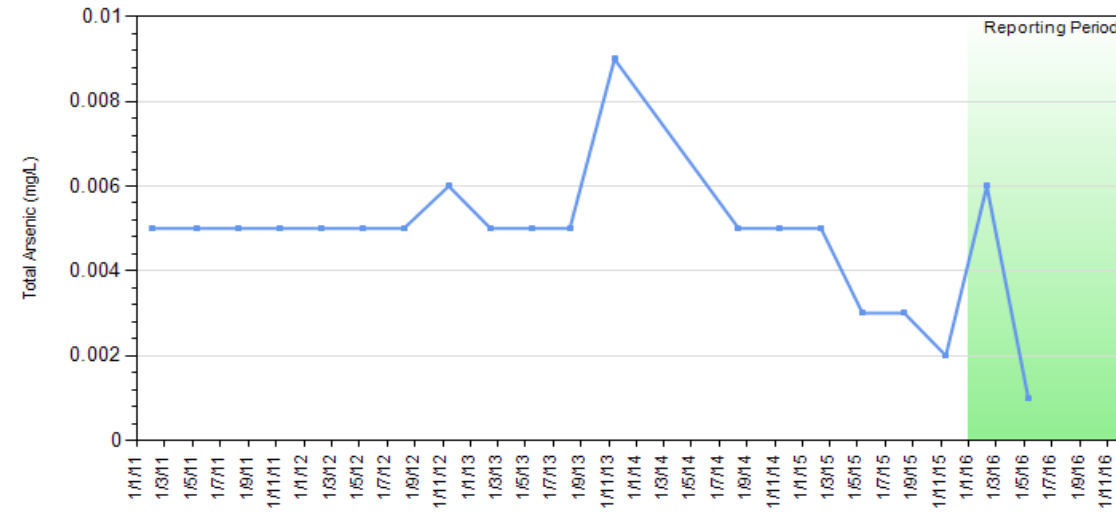
GW16 - Total Acidity (mg/L CaCO3)



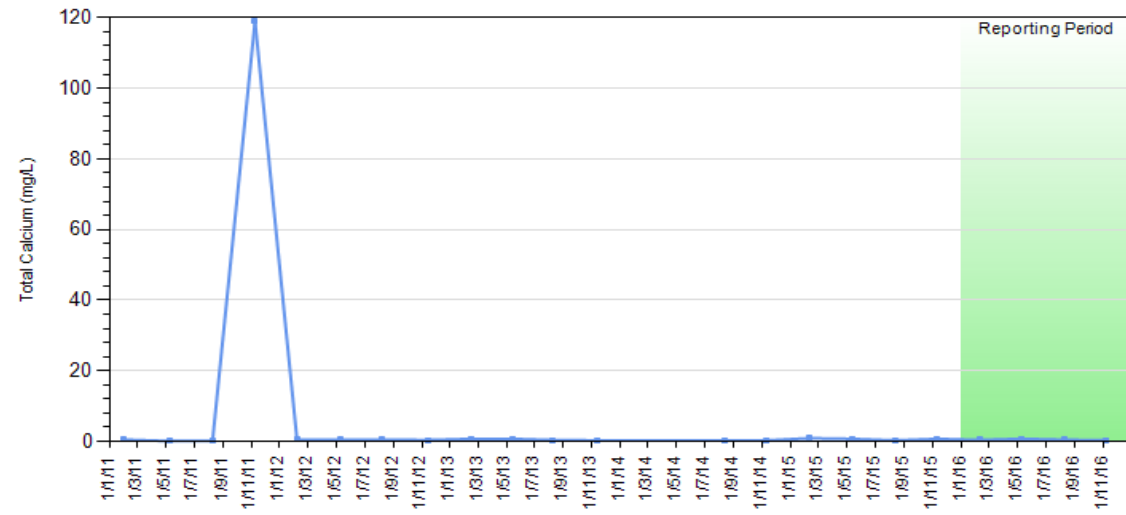
GW16 - Total Aluminium (mg/L)



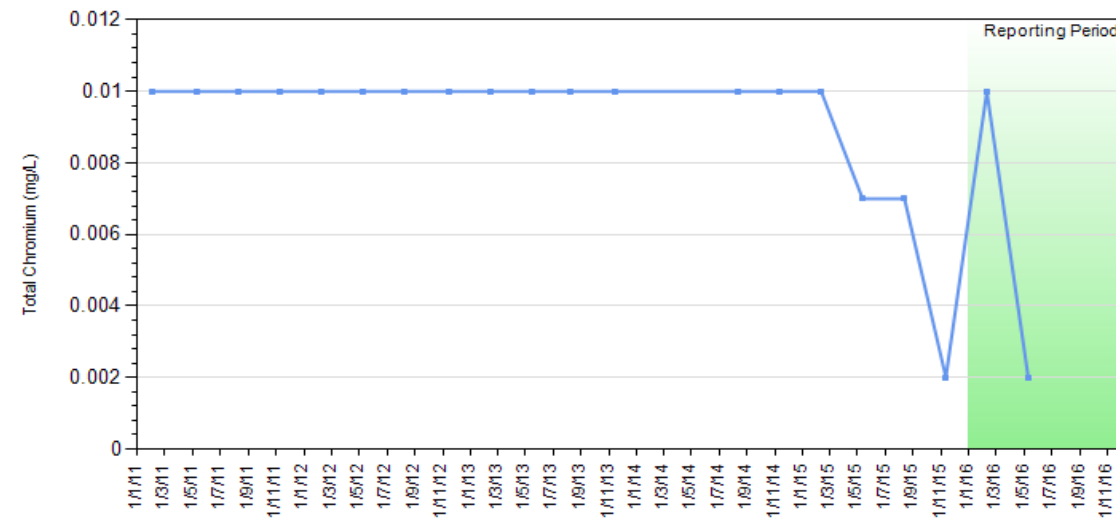
GW16 - Total Arsenic (mg/L)



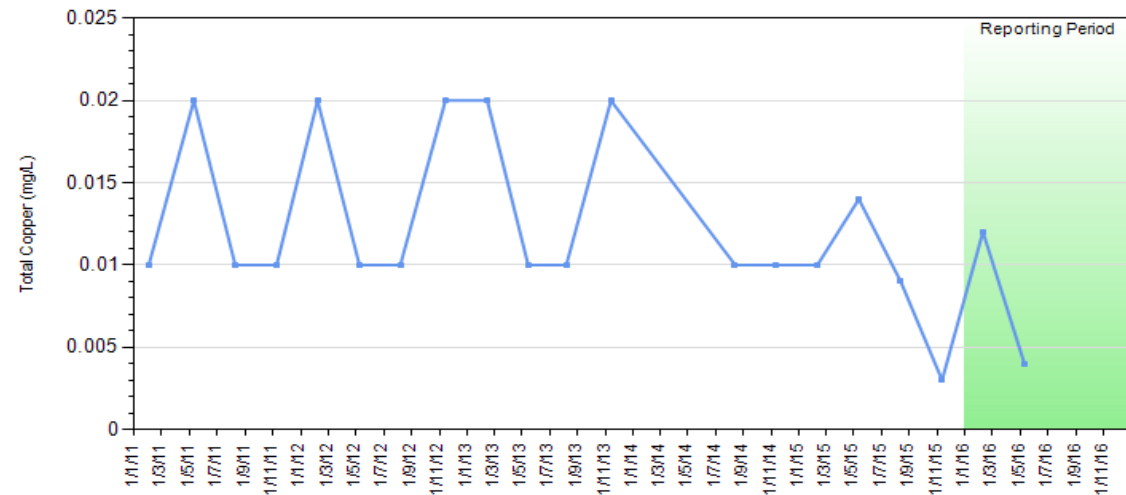
GW16 - Total Calcium (mg/L)



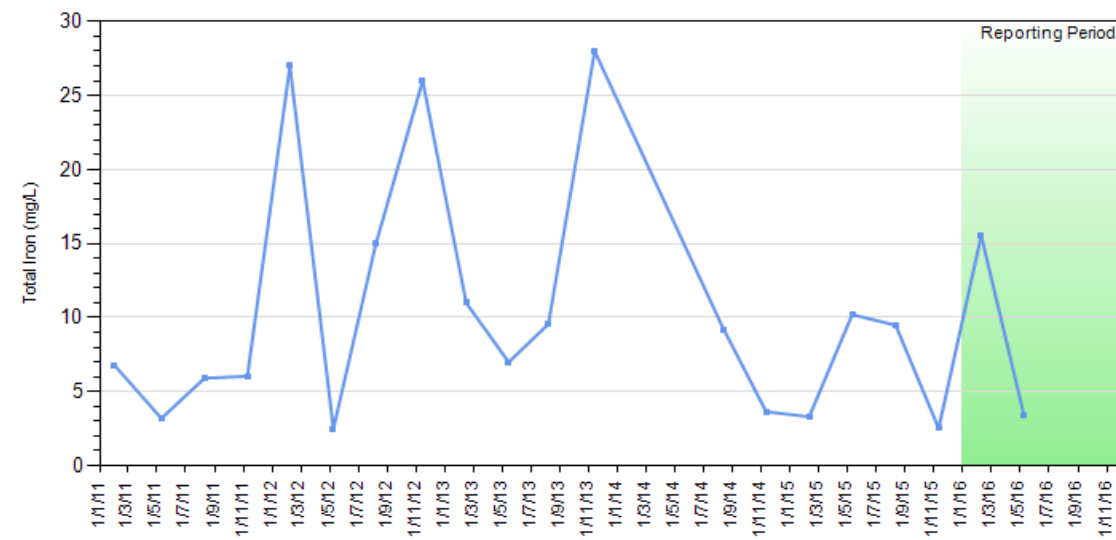
GW16 - Total Chromium (mg/L)



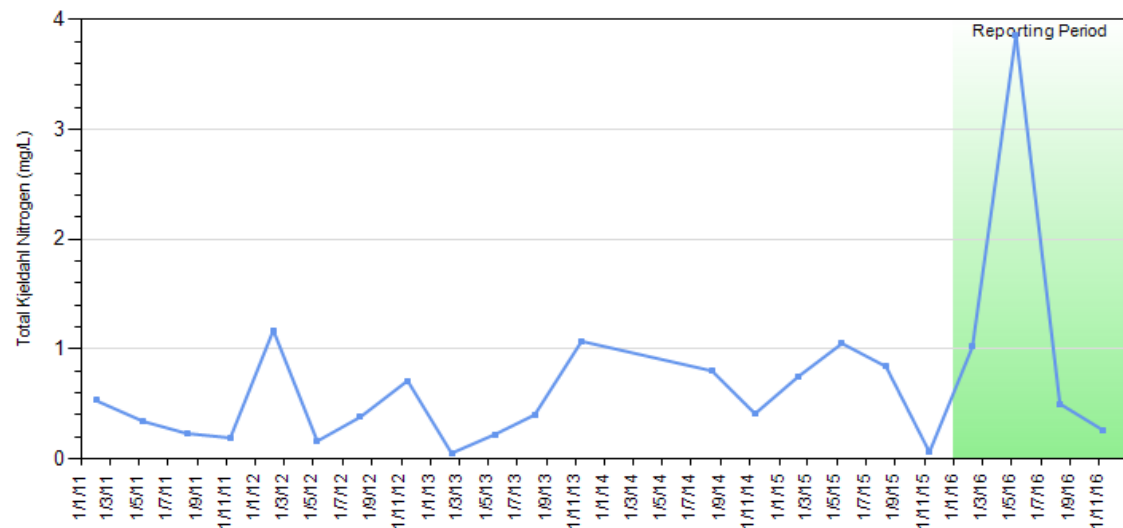
GW16 - Total Copper (mg/L)



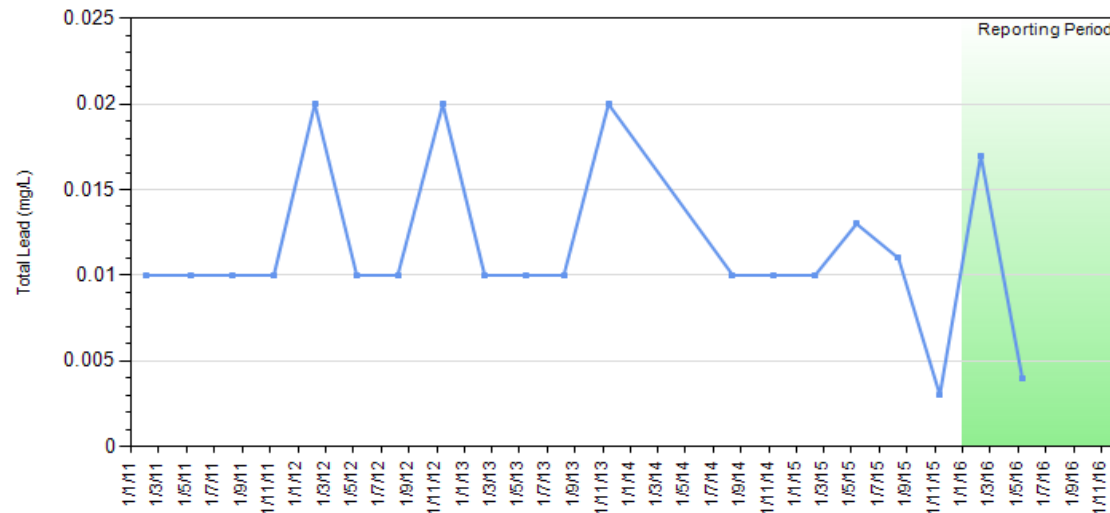
GW16 - Total Iron (mg/L)



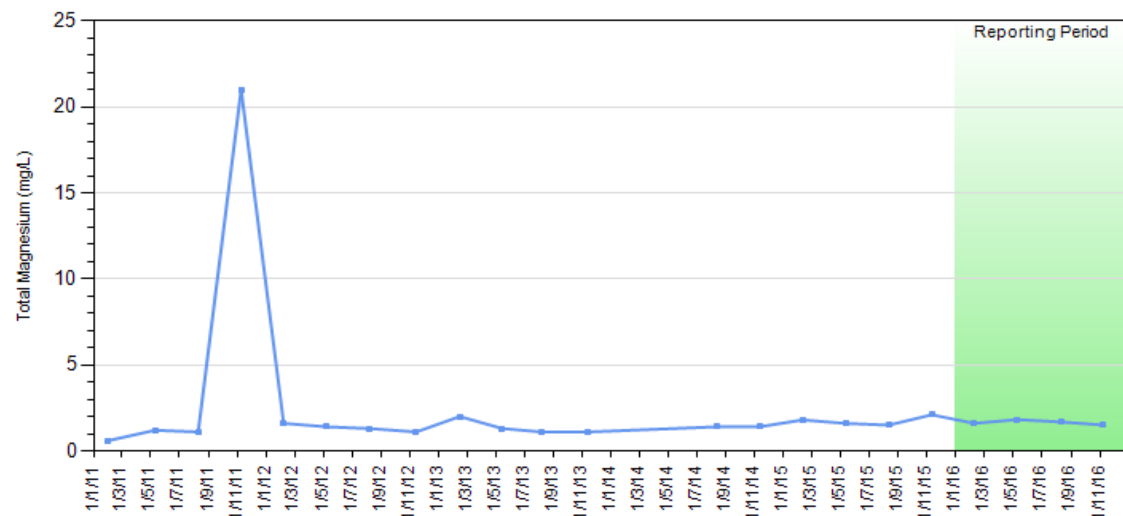
GW16 - Total Kjeldahl Nitrogen (mg/L)



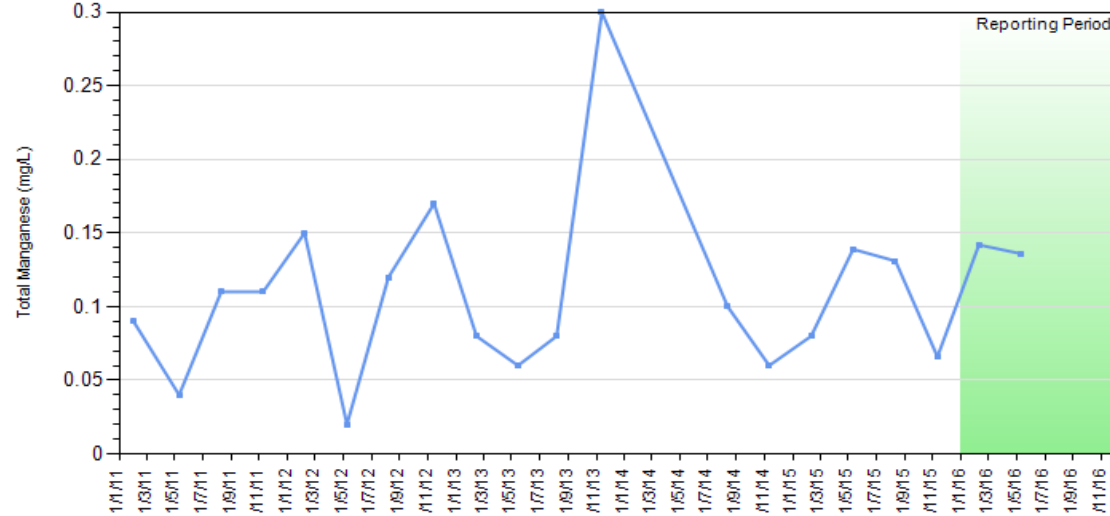
GW16 - Total Lead (mg/L)



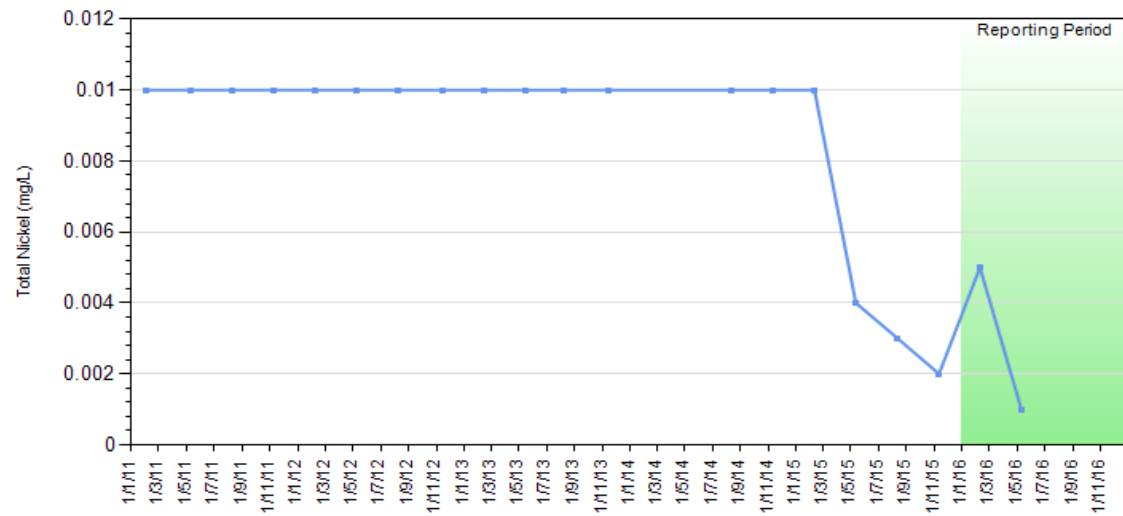
GW16 - Total Magnesium (mg/L)



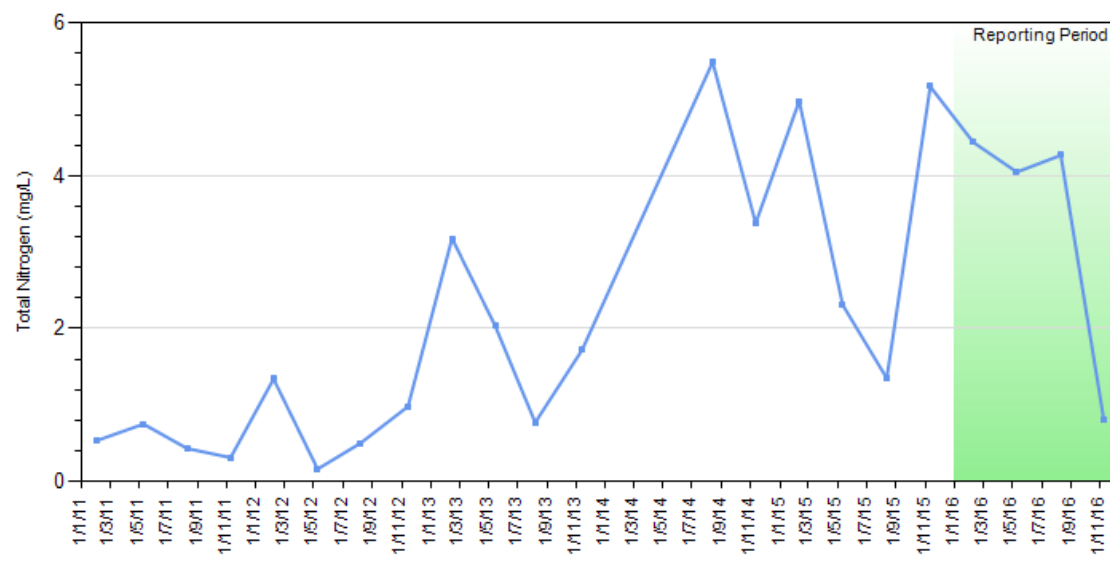
GW16 - Total Manganese (mg/L)



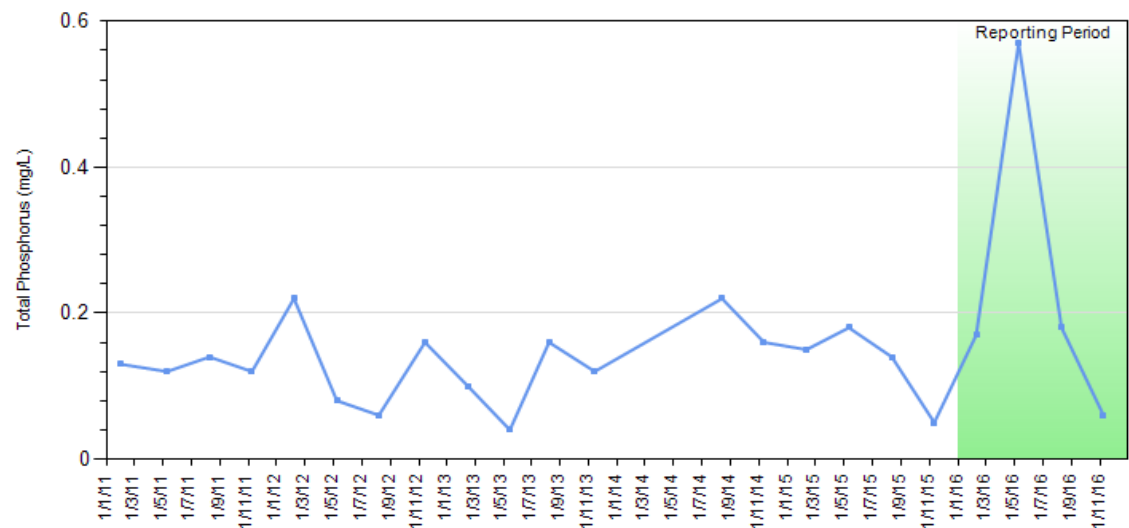
GW16 - Total Nickel (mg/L)



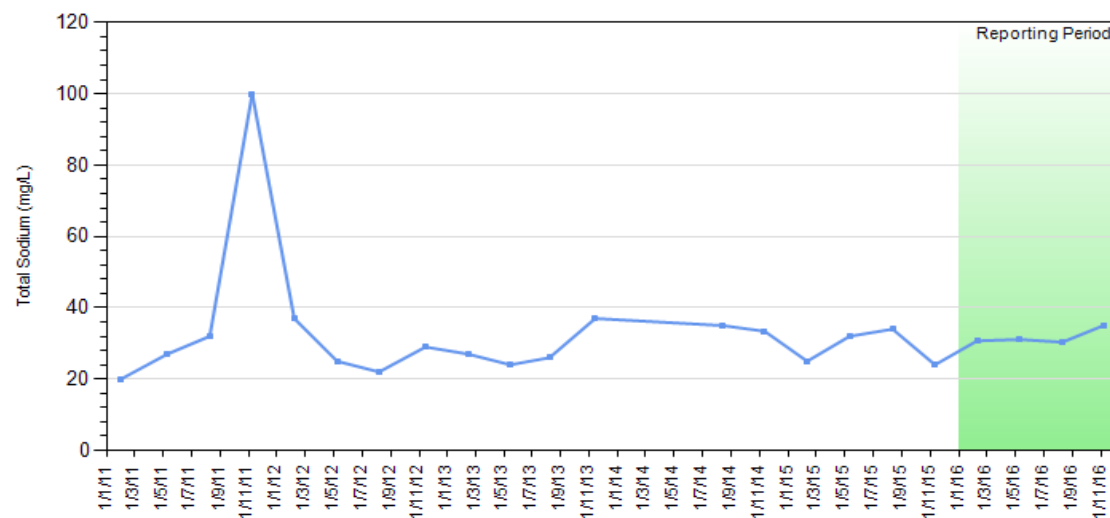
GW16 - Total Nitrogen (mg/L)



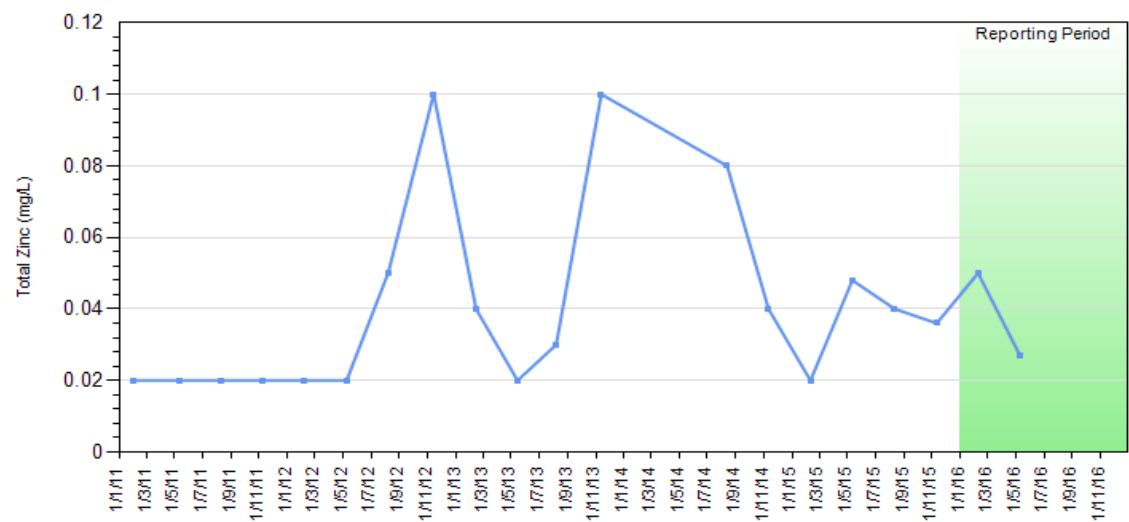
GW16 - Total Phosphorus (mg/L)



GW16 - Total Sodium (mg/L)



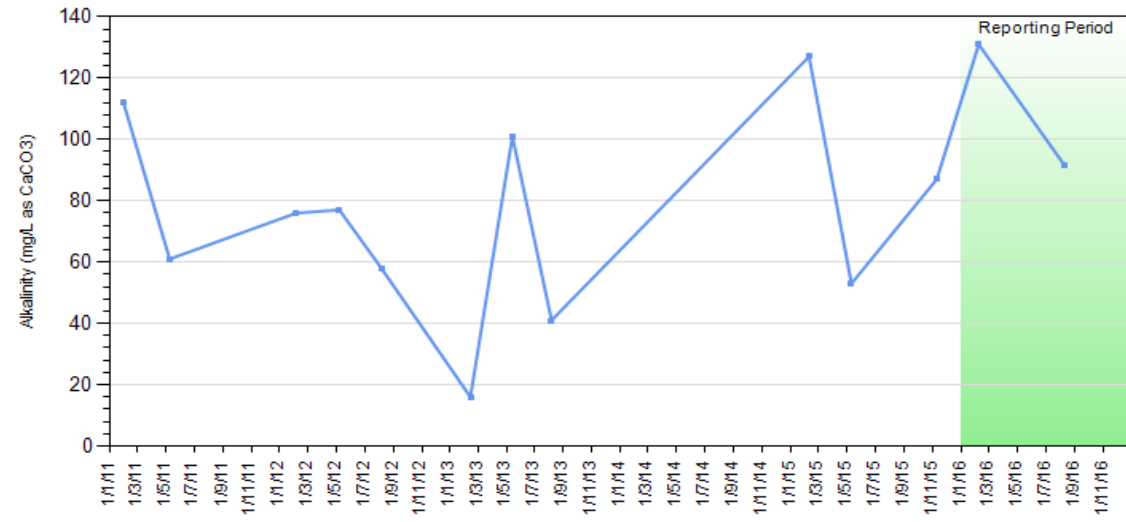
GW16 - Total Zinc (mg/L)



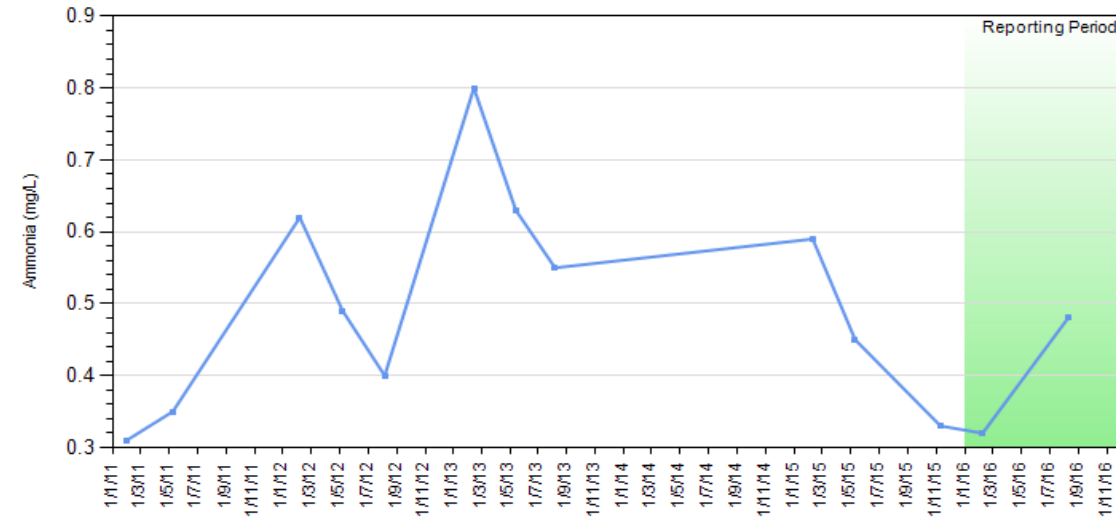
GW17

GW17	Alkalinity mg/L as CaCO3	Aluminium (Total) mg/L	Ammonia mg/L	Arsenic (Total) mg/L	Bicarbonate HCO3 mg/L	BOD5 mg/L	Cadmium (Total) mg/L	Calcium (Total) mg/L	Chloride mg/L	Chromium (Total) mg/L	Chromium 3 mg/L	Chromium 6 mg/L	Conductivity µS/cm-1	Copper (Total) mg/L	DO (Membrane Electrode) mg/L	Flouride mg/L	Iron Total mg/L	Lead (Total) mg/L	Magnesium (Total) mg/L	Manganese Total mg/L	Nickel (Total) mg/L	Nitrate N mg/L	Nitrite N mg/L	Nitrogen Oxidised mg/L	Nitrogen Total mg/L	pH pH units	Phenol Alkalinity mg/L as CaCO3	Phosphorus Total mg/L	Potassium Total mg/L	Redox Potential mV	Sodium (Total) mg/L	Sulphate mg/L	Temperature C	TKN mg/L	TOC mg/L	Total Acidity mg/L CaCO3	Zinc (Total) mg/L
31/01/2011	112.	24.	0.3	0.03	68.	3.4	0.001	51.	45.	0.04	0.04	0.01	677.	0.1	3.4	0.4	52.	0.03	17.	0.8	0.04	0.05	0.05	0.05	1.09	6.2		0.8	5.0	-30.	45.	174.	25.6	1.09	3.1	85.	0.1
10/05/2011	61.	9.3	0.4	0.01	37.	5.4	0.001	26.	36.	0.02	0.02	0.01	514.	0.04	3.6	0.2	26.	0.01	9.3	0.3	0.01	0.05	0.05	0.05	1.2	5.3		0.3	5.0	118.	35.	96.	21.3	1.2	6.3	37.	0.03
6/02/2012	76.	5.4	0.6	0.005	46.	10.	0.001	30.	36.	0.01	0.01	0.01	481.	0.04	3.1	0.1	21.	0.01	9.7	0.2	0.01	0.05	0.02	0.05	2.1	5.5		0.4	5.0	31.	45.	99.	24.9	2.09	25.	208.	0.02
8/05/2012	77.	0.2	0.5	0.005	47.	14.	0.001	14.	35.	0.01	0.01	0.01	406.	0.01	4.7	0.06	1.4	0.01	4.9	0.3	0.01	0.04	0.05	0.09	2.0	6.0		0.07	5.0	127.	24.	43.	22.	1.9	38.	338.	0.01
6/08/2012	58.	24.	0.4	0.1	35.	11.	0.001	19.	41.	0.05	0.05	0.01	504.	0.2	3.4	0.07	80.	0.02	6.0	0.4	0.02	0.08	0.07	0.2	2.3	5.6		0.4	5.0	29.	22.	19.	19.3	2.2	19.	260.	0.2
13/02/2013	16.	14.	0.8	0.02	10.	6.6	0.001	26.	35.	0.02	0.02	0.01	462.	0.04	4.4	0.03	28.	0.02	7.6	0.3	0.01	0.03	0.02	0.05	2.1	5.6		0.2	5.0	-21.	30.	69.	25.	2.06	14.	223.	0.1
14/05/2013	101.	5.3	0.6	0.01	62.	8.7	0.001	19.	50.	0.02	0.02	0.01	469.	0.02	3.0	0.08	51.	0.01	5.5	0.2	0.01	0.1	0.02	0.1	2.1	5.8		0.1	5.0	-35.	26.	44.	21.5	2.0	28.	182.	0.06
6/08/2013	41.	12.	0.6	0.09	25.	12.	0.001	16.	90.	0.02	0.02	0.01	430.	0.02	4.2	0.07	77.	0.01	4.3	0.2	0.01	0.02	0.04	0.06	2.0	5.8		0.2	5.0	6.0	28.	44.	18.9	1.9	22.	395.	0.08
9/02/2015	127.	8.5	0.6	0.02	77.	4.8	0.001	39.	40.	0.01	0.01	0.01	510.	0.02	3.6	0.3	23.2	0.01	9.4	0.3	0.01	0.05	0.02	0.05	2.3	6.2		0.8	5.0	-22.	32.	64.	24.7	2.2	12.	147.	0.08
11/05/2015	53.	8.9	0.5	0.03	32.	6.6	0.001	20.	30.	0.02	0.02	0.01	320.	0.02	3.9	0.1	24.2	0.007	4.8	0.2	0.007	0.02	0.02	0.02	1.7	5.8		0.4	5.0	37.	25.	39.	21.9	1.7	15.	212.	0.08
10/11/2015	87.	10.9	0.3	0.05	87.	3.3	0.001	24.	33.	0.02	0.02	0.01	334.	0.02	2.8	0.2	35.9	0.01	7.4	0.3	0.007	0.02	0.03	0.04	1.7	5.9		0.4	5.0	-15.	28.	48.	22.	1.7	10.5	191.	0.06
8/02/2016	131.	6.2	0.3	0.02	131.	2.1	0.001	43.4	34.	0.01	0.01	0.01	470.	0.02	3.2	0.2	17.2	0.006	8.7	0.3	0.005	0.02	0.03	0.03	1.5	6.10		0.7	5.0	24.	30.0	44.3	24.8	1.5	12.2	240.	0.04
9/08/2016	91.8		0.5		92.	1.0		31.8	30.				366.		2.7	0.2			6.6			0.02	0.02	0.02	2.4	5.8	0.0	0.6	5.0	86.	28.03	35.04	19.6	2.4	9.2	292.	
2016 Min	91.8	6.2	0.3	0.02	92	1.0	0.001	31.8	30	0.01	0.01	0.01	366	0.02	2.7	0.2	17.2	0.006	6.6	0.3	0.005	0.02	0.02	0.02	1.5	5.8	0.0	0.6	5.0	24	28.03	35.04	19.6	1.5	9.2	240	0.04
2016 Max	131	6.2	0.5	0.02	131	2.1	0.001	43.4	34	0.01	0.01	0.01	470	0.02	3.2	0.2	17.2	0.006	8.7	0.3	0.005	0.02	0.03	0.03	2.4	6.10	0.0	0.7	5.0	86	30.0	44.3	24.8	2.4	12.2	292	0.04
2016 Mean	111	6.2	0.4	0.02	112	1.6	0.001	37.6	32	0.01	0.01	0.01	418	0.02	3.0	0.2	17.2	0.006	7.6	0.3	0.005	0.02	0.03	0.03	1.9	6.0	0.0	0.6	5.0	55	29.01	39.7	22.2	1.9	10.7	266	0.04

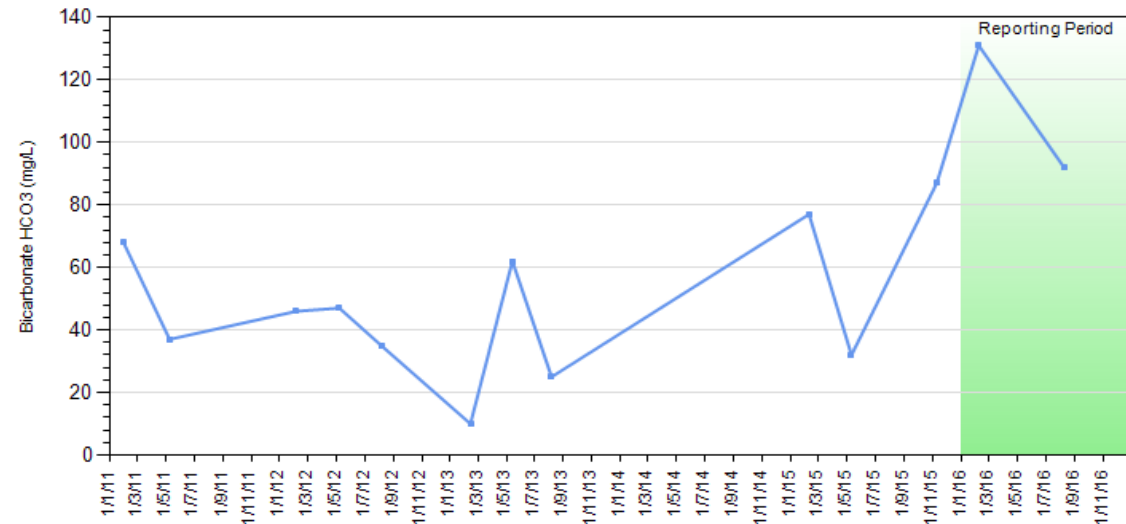
GW17 - Alkalinity (mg/L as CaCO3)



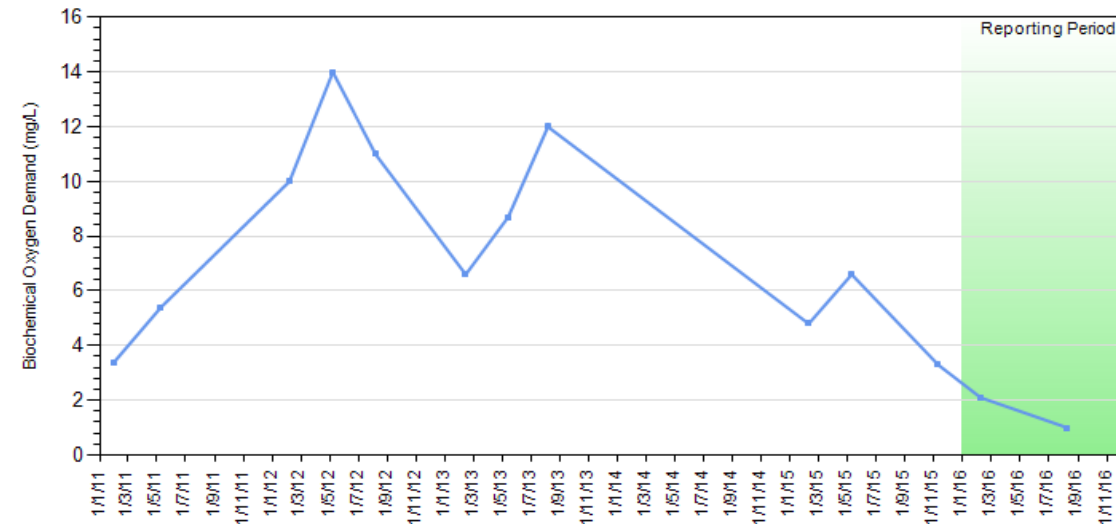
GW17 - Ammonia (mg/L)



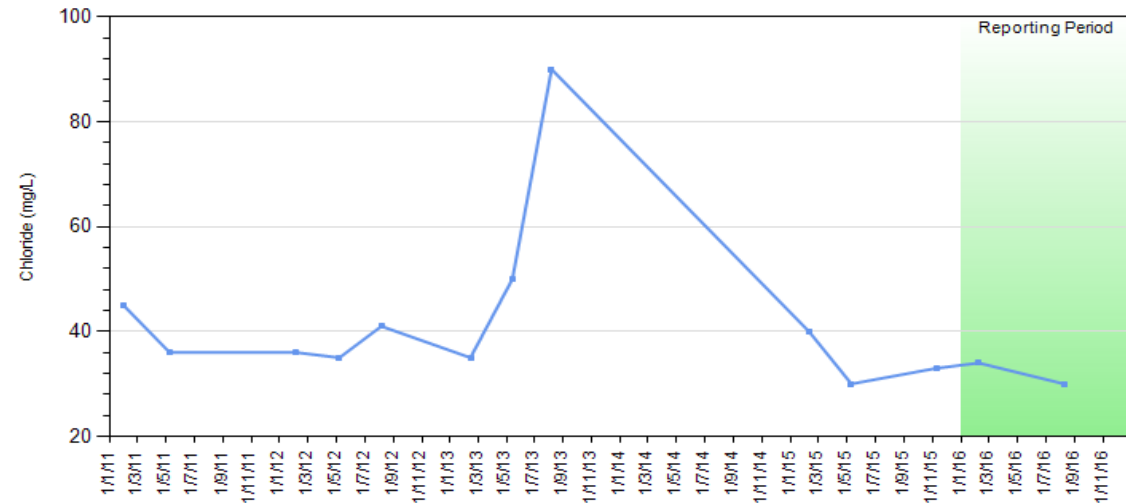
GW17 - Bicarbonate HCO3 (mg/L)



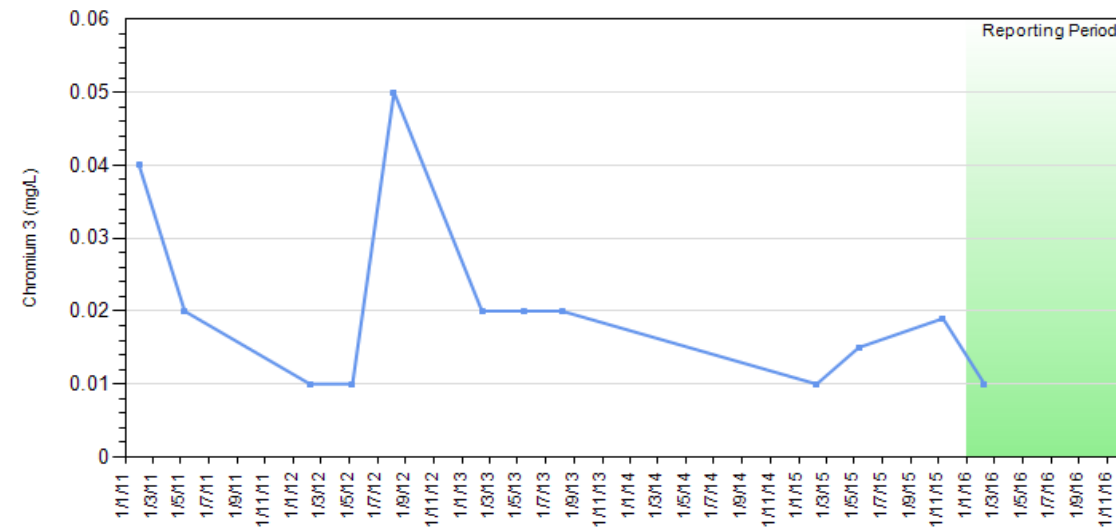
GW17 - Biochemical Oxygen Demand (mg/L)



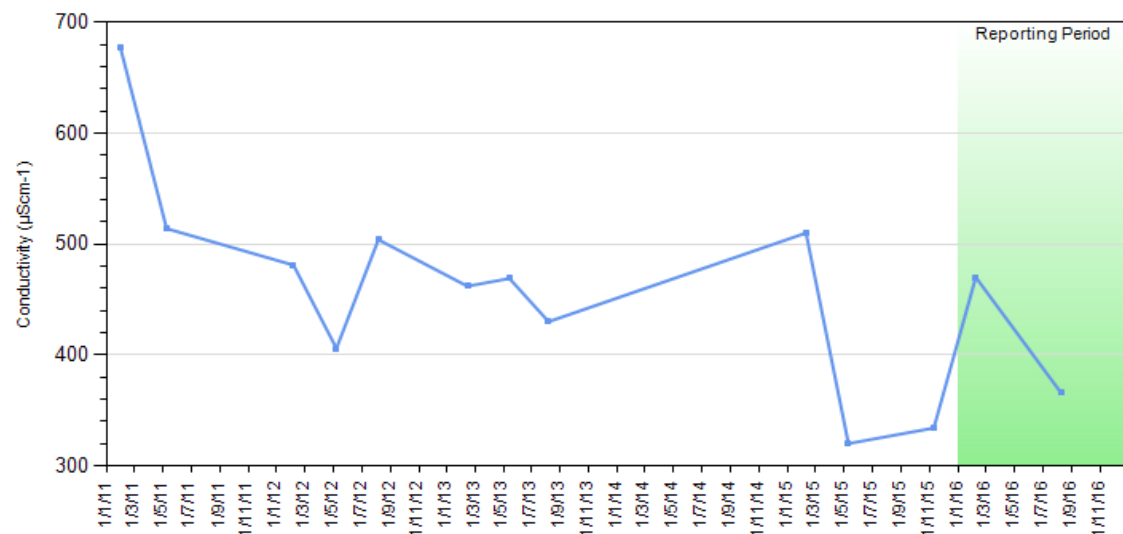
GW17 - Chloride (mg/L)



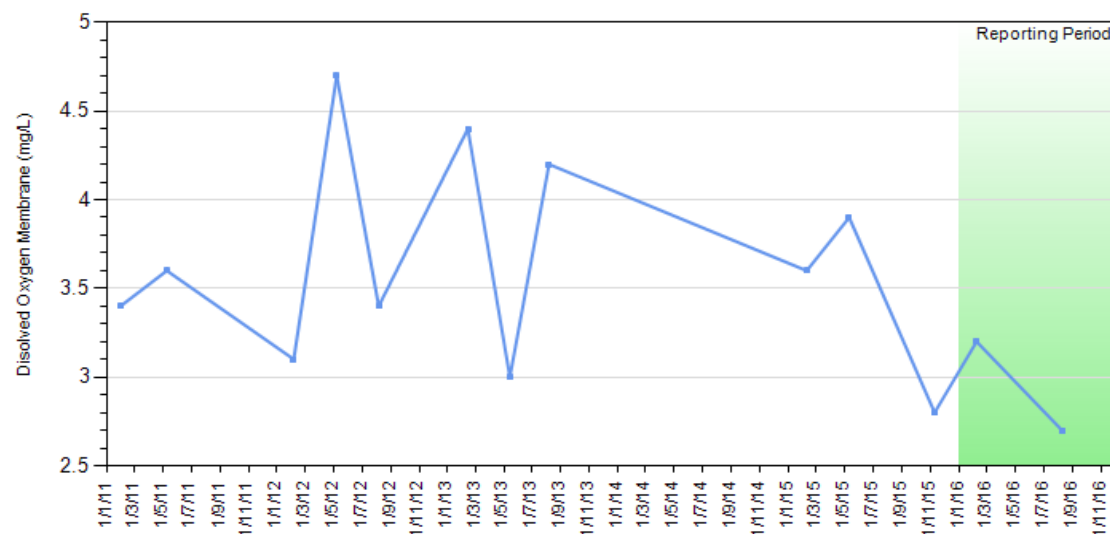
GW17 - Chromium 3 (mg/L)



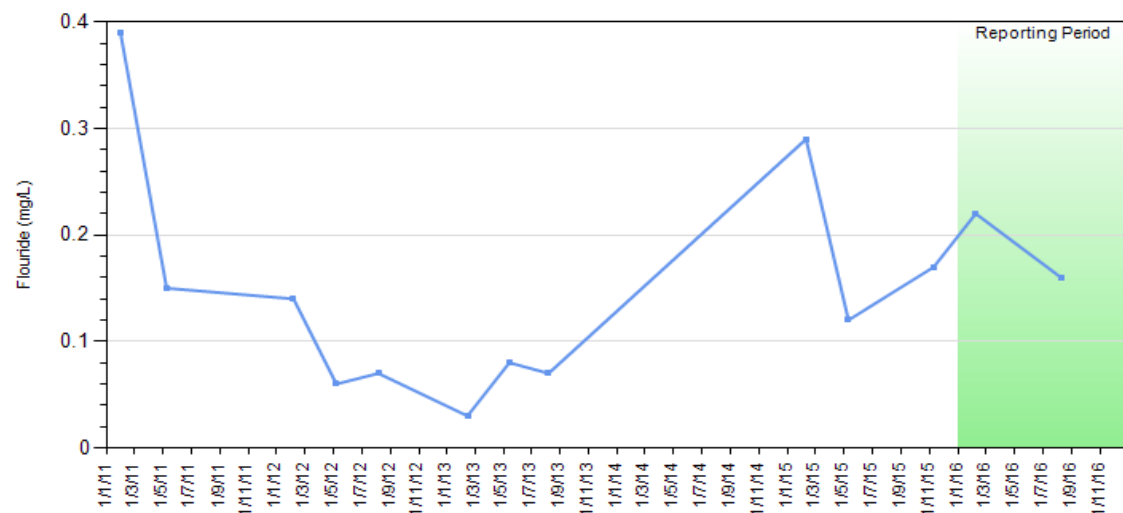
GW17 - Conductivity (μScm^{-1})



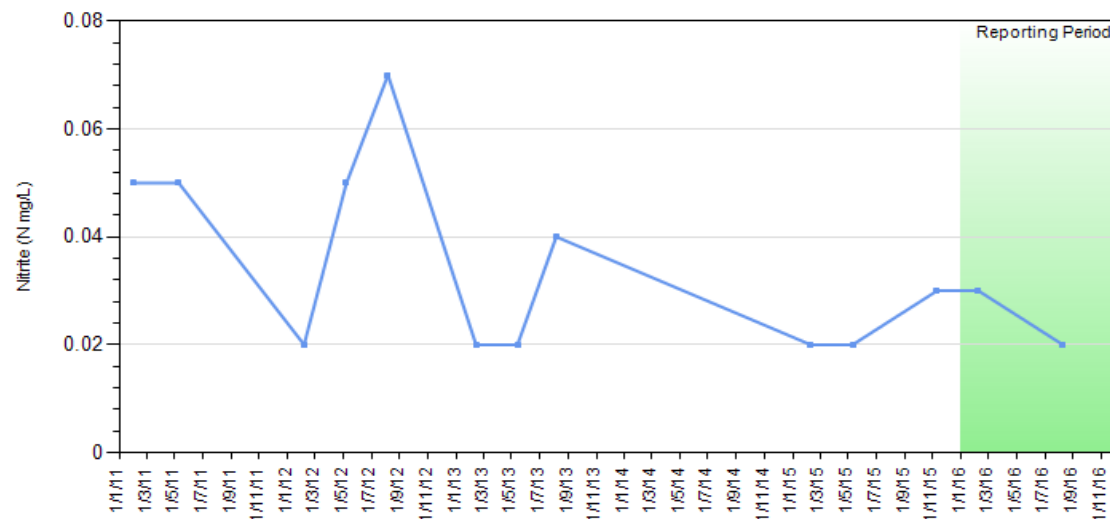
GW17 - Dissolved Oxygen Membrane (mg/L)



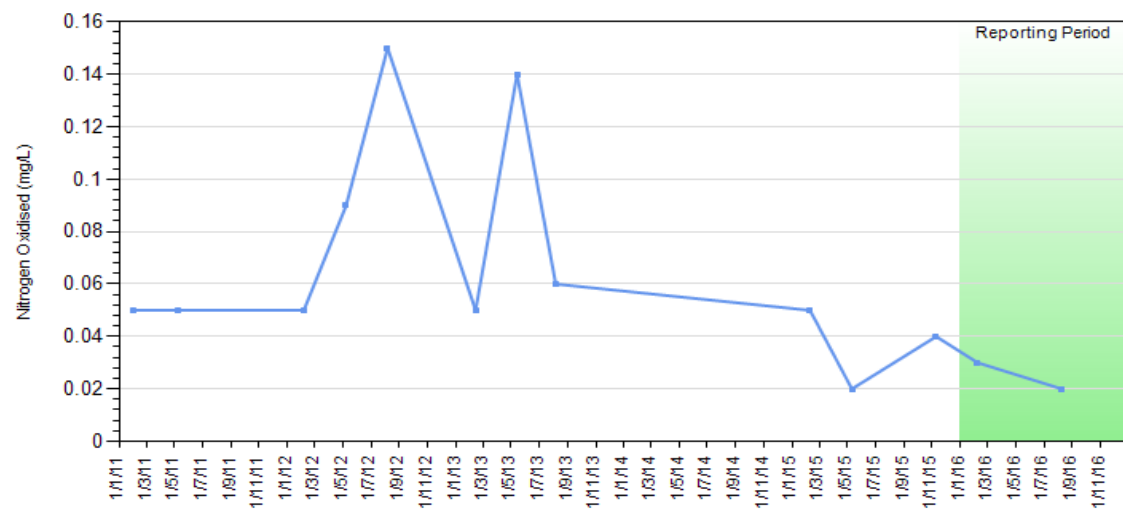
GW17 - Flouride (mg/L)



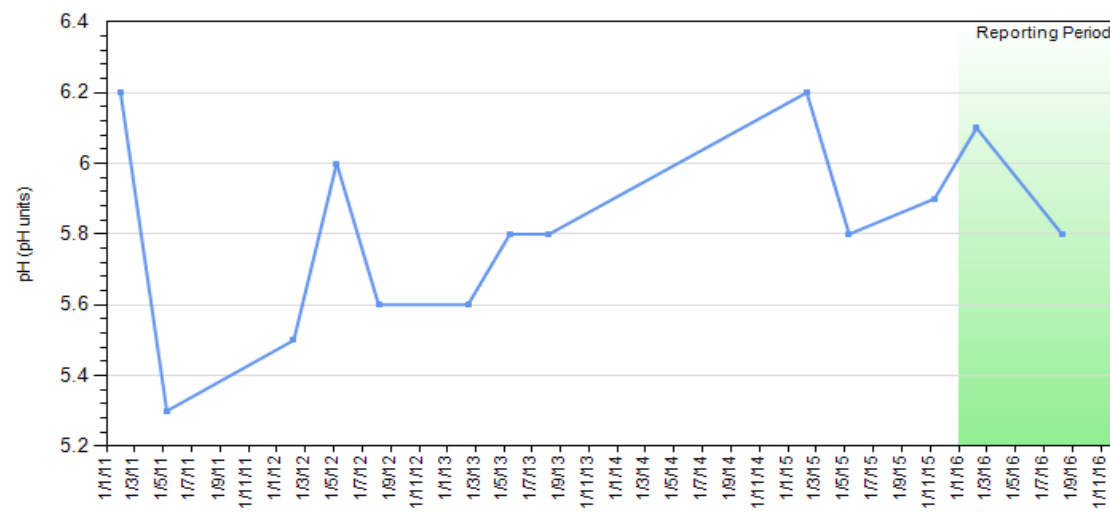
GW17 - Nitrite (N mg/L)

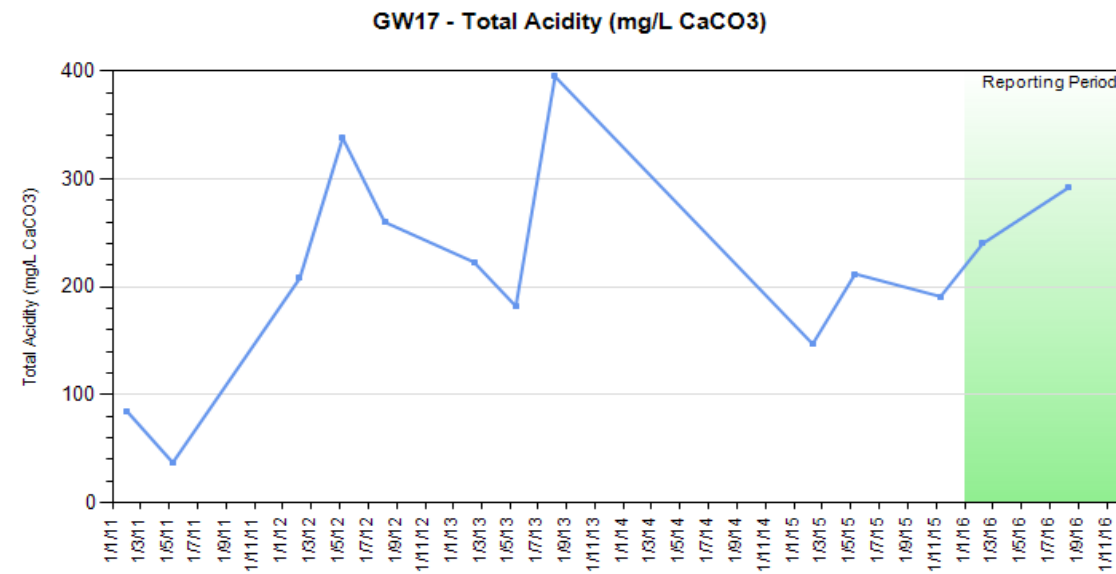
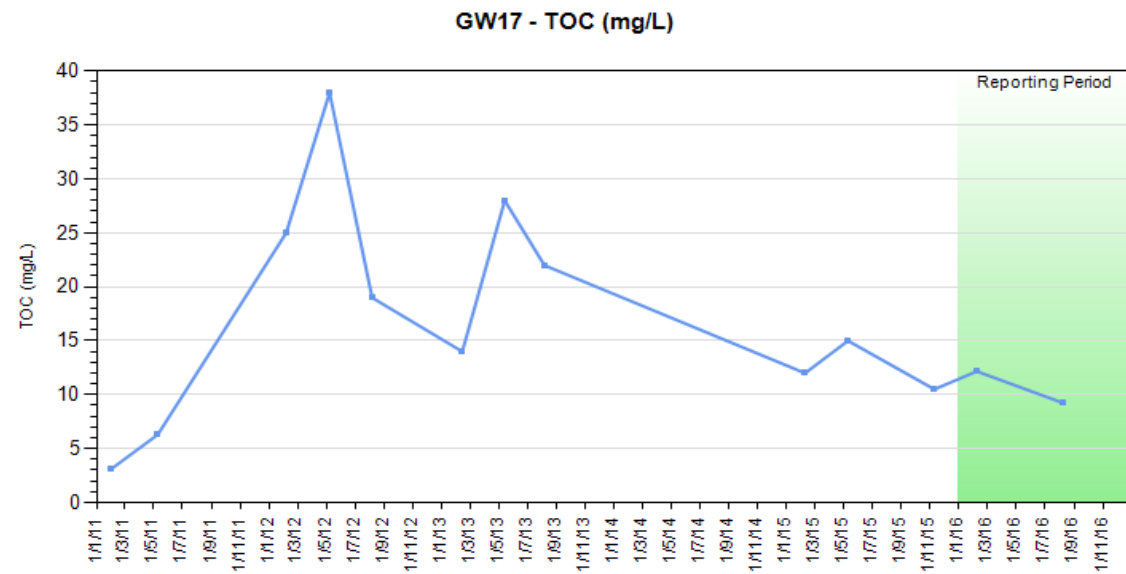
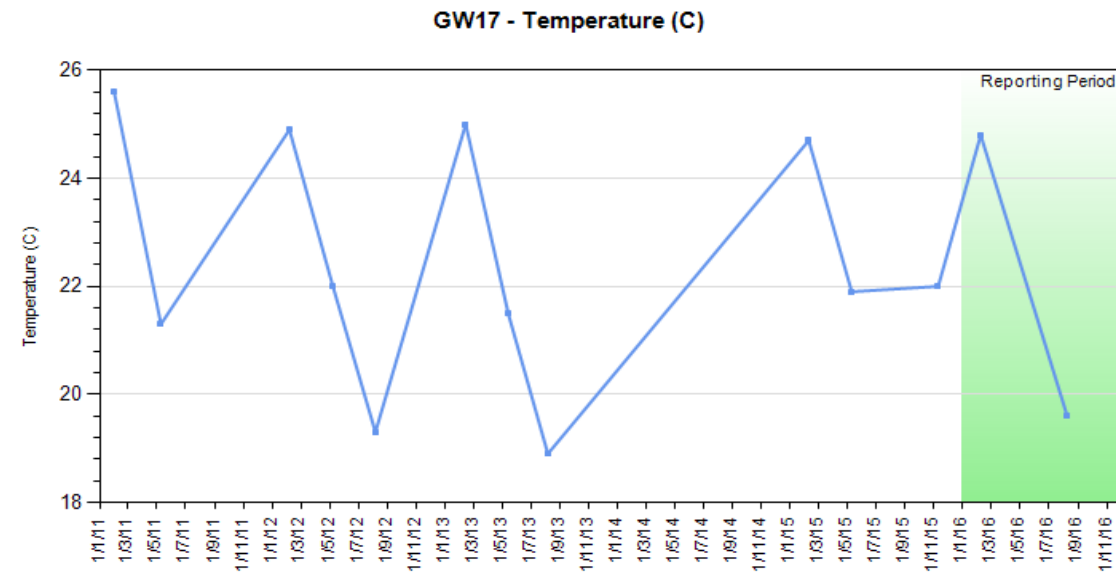
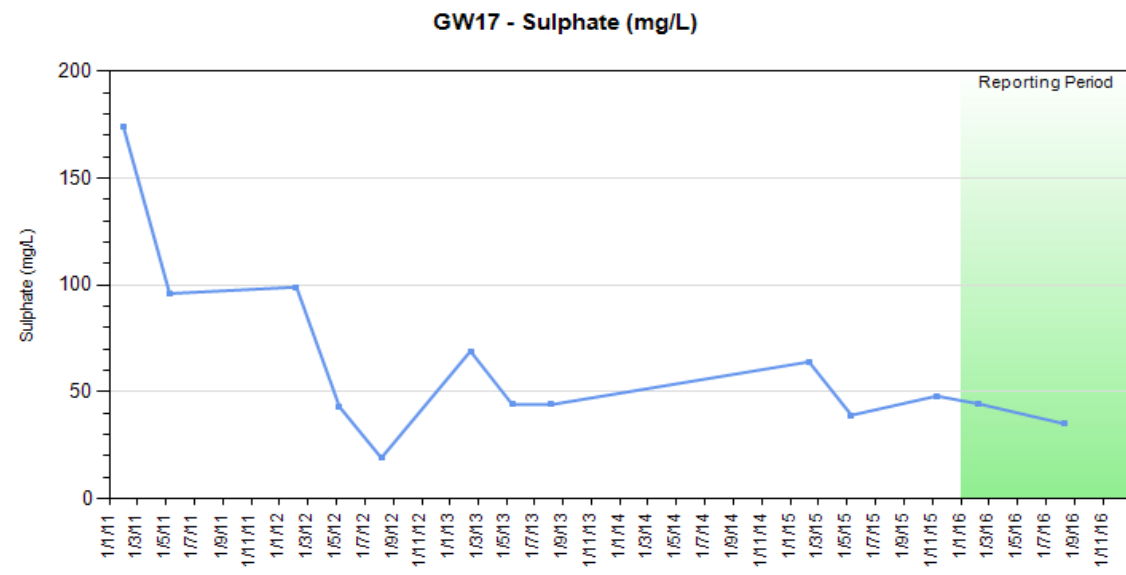
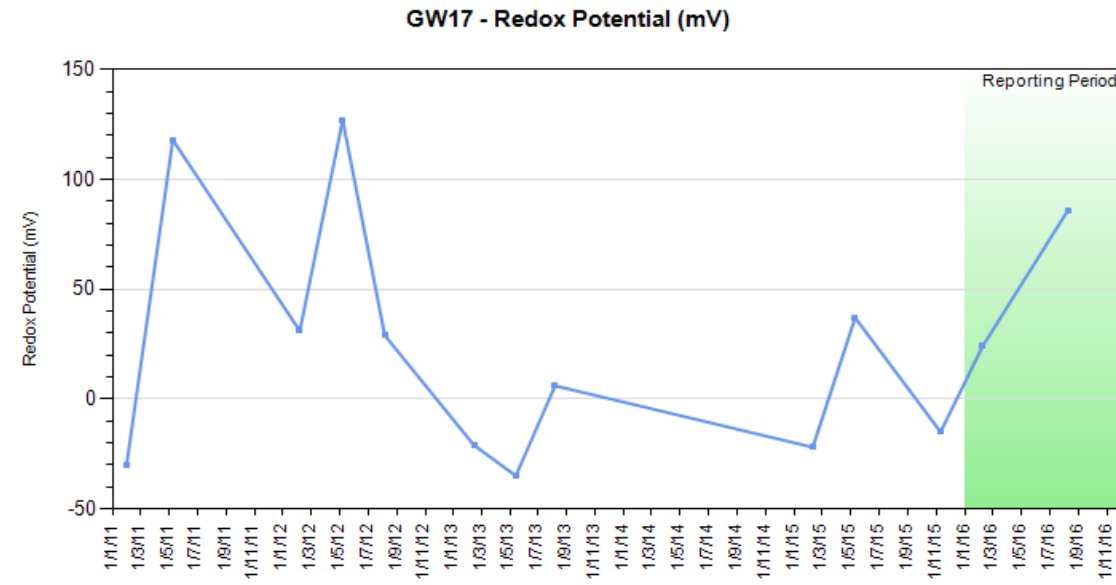
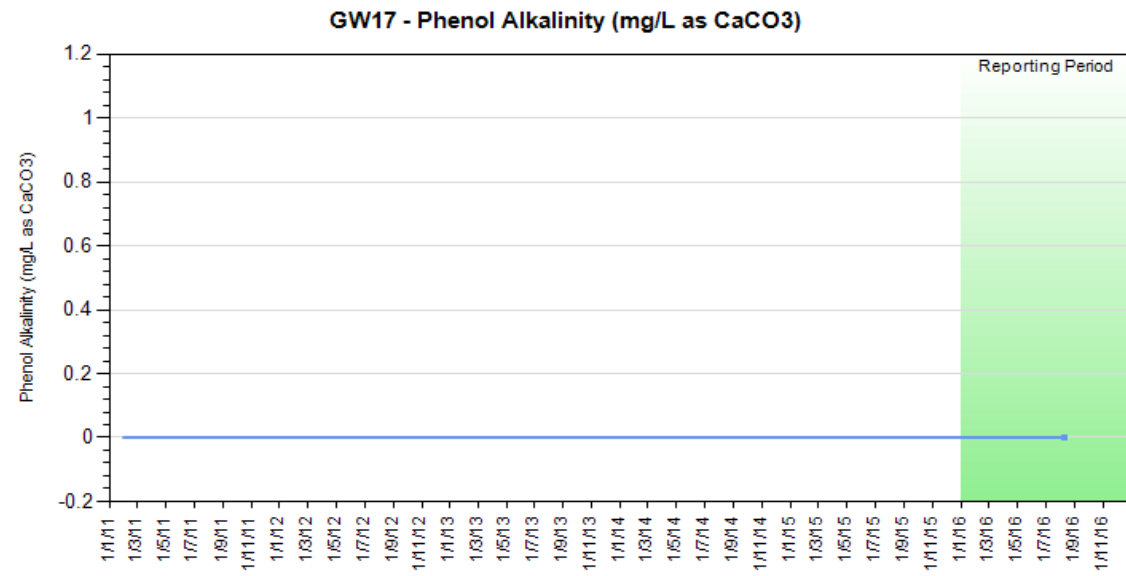


GW17 - Nitrogen Oxidised (mg/L)

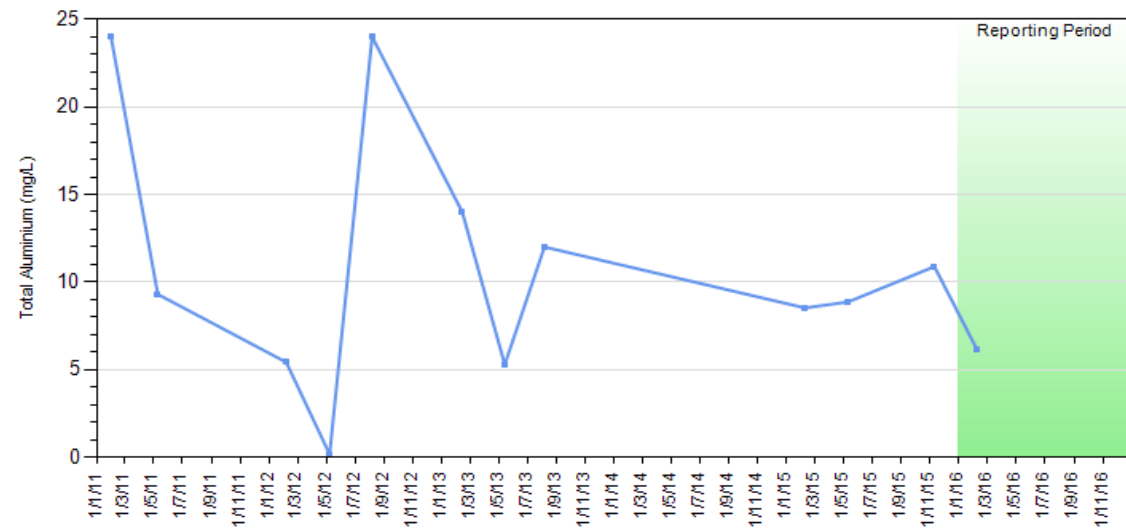


GW17 - pH (pH units)

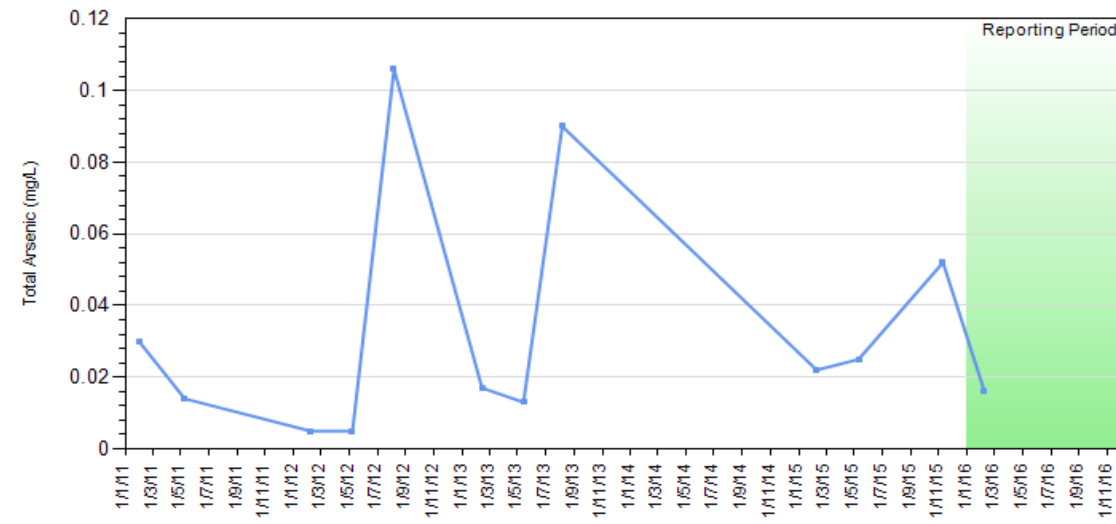




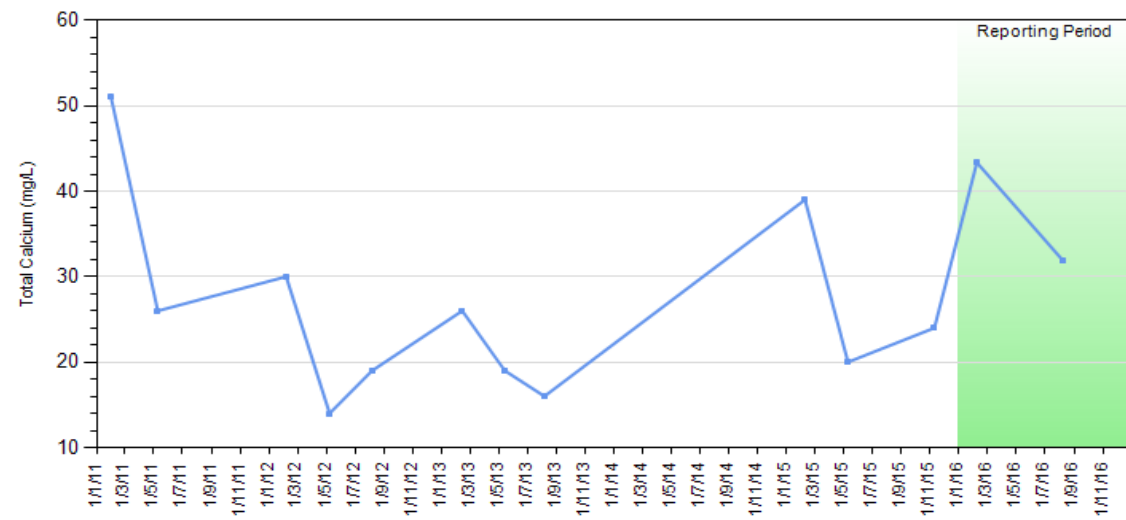
GW17 - Total Aluminium (mg/L)



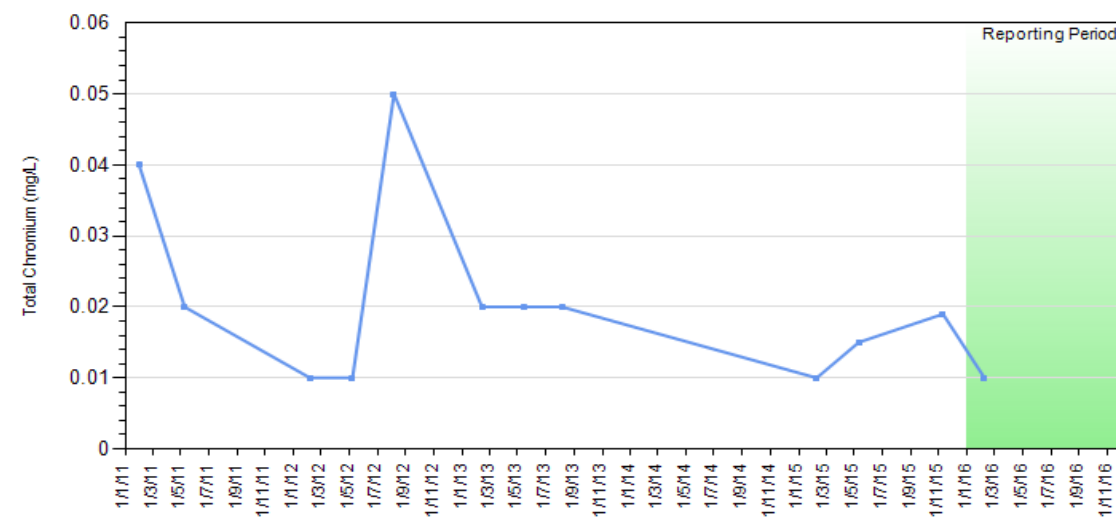
GW17 - Total Arsenic (mg/L)



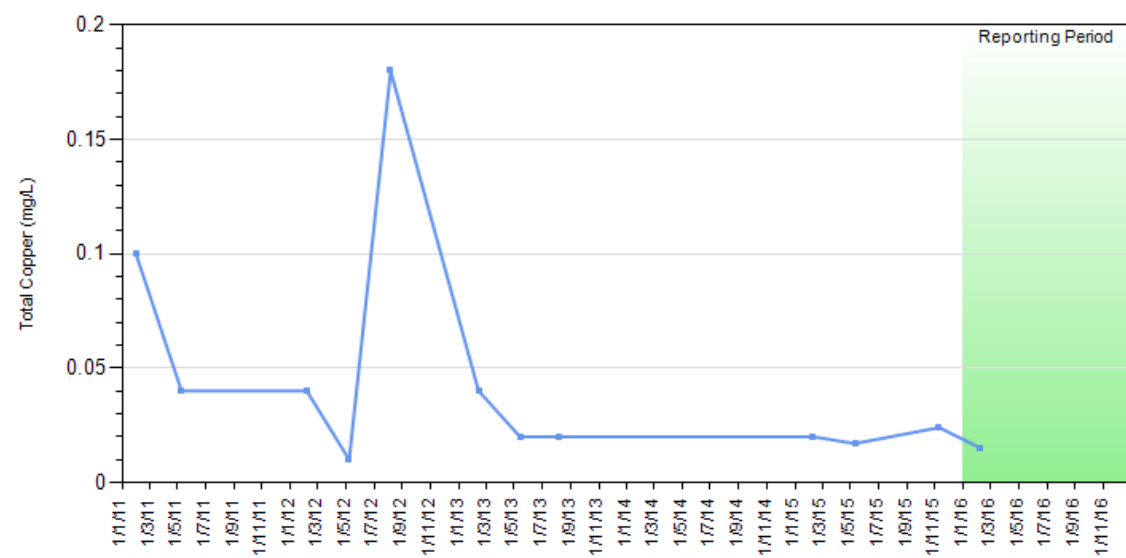
GW17 - Total Calcium (mg/L)



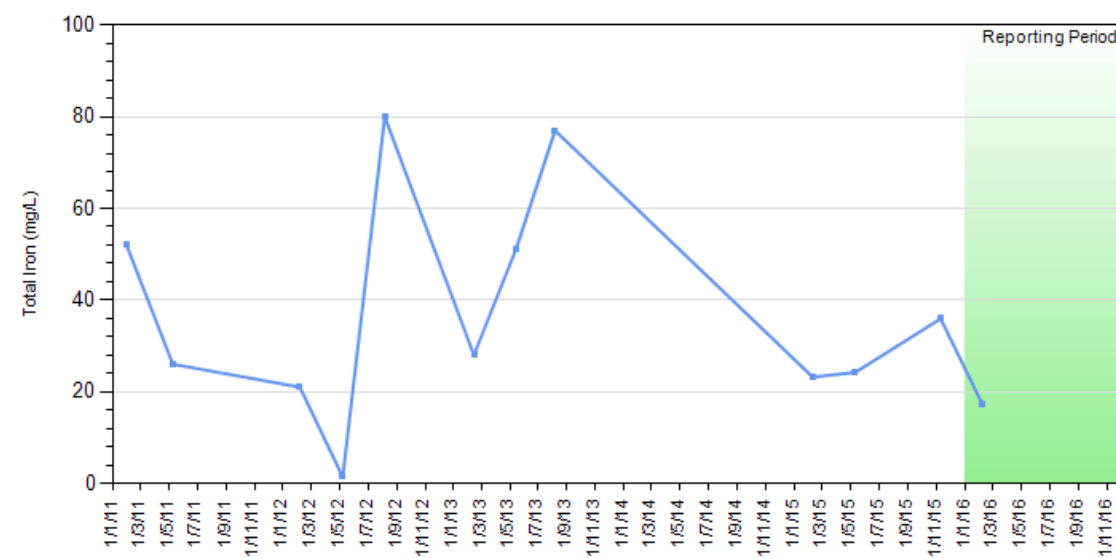
GW17 - Total Chromium (mg/L)



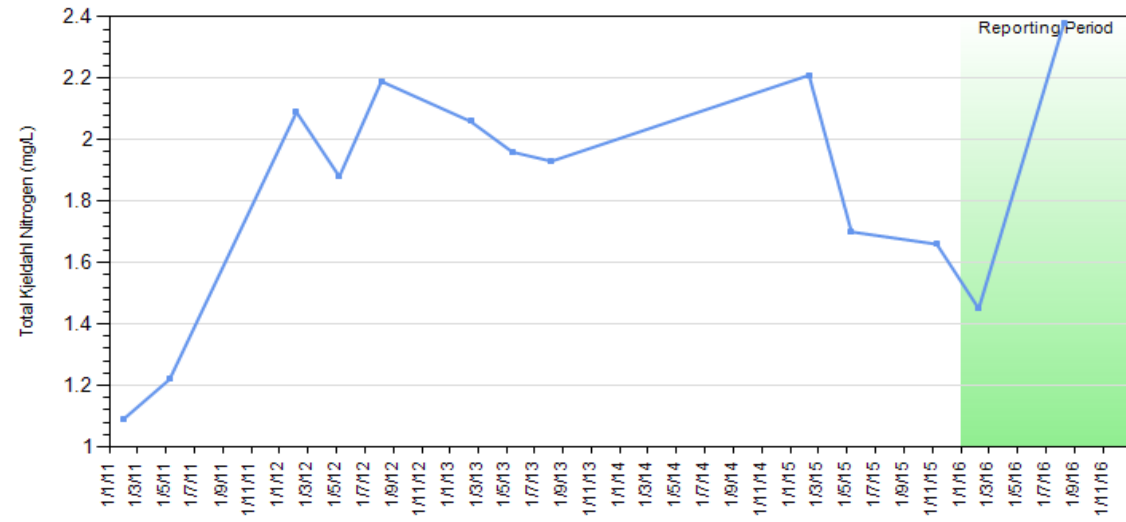
GW17 - Total Copper (mg/L)



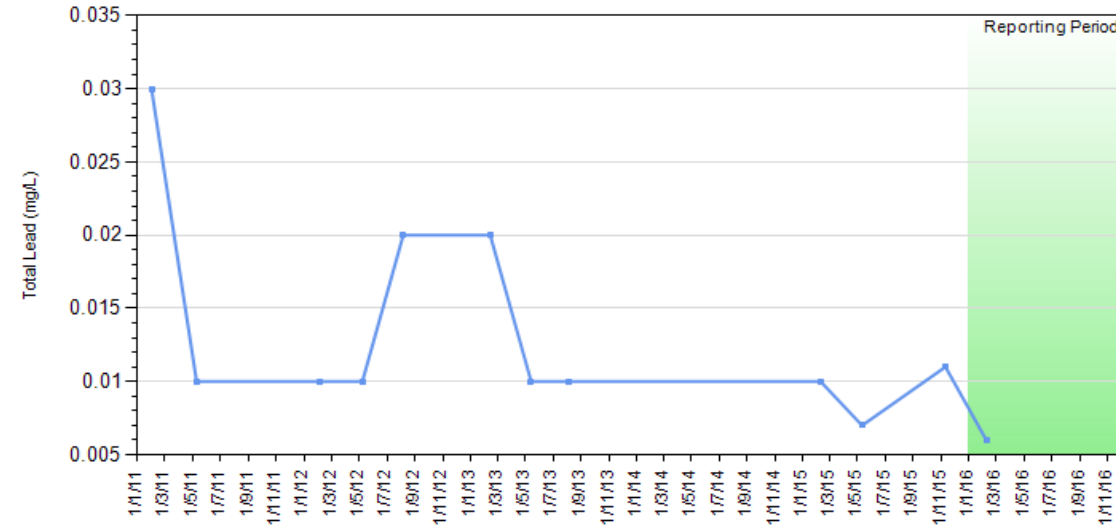
GW17 - Total Iron (mg/L)



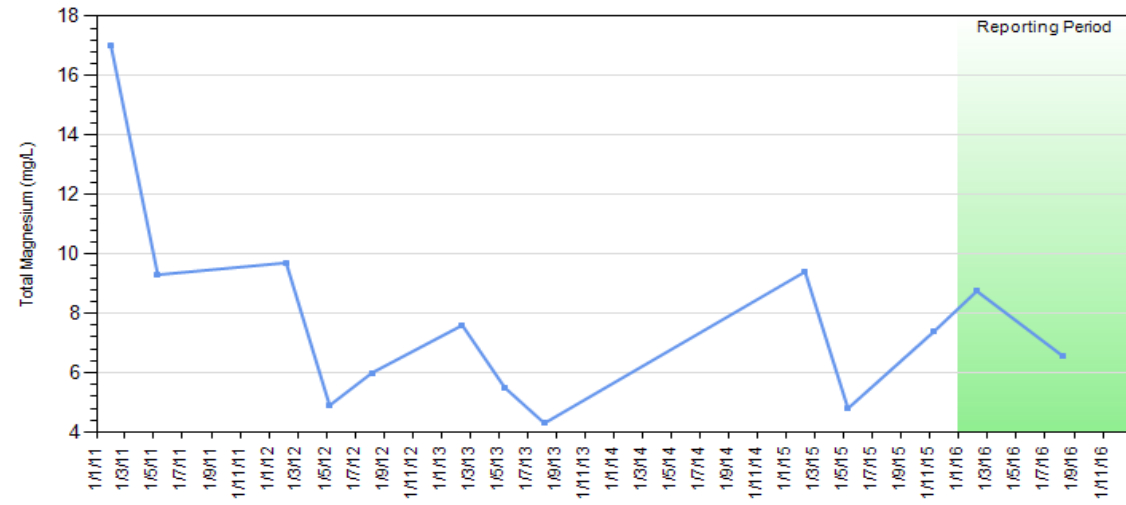
GW17 - Total Kjeldahl Nitrogen (mg/L)



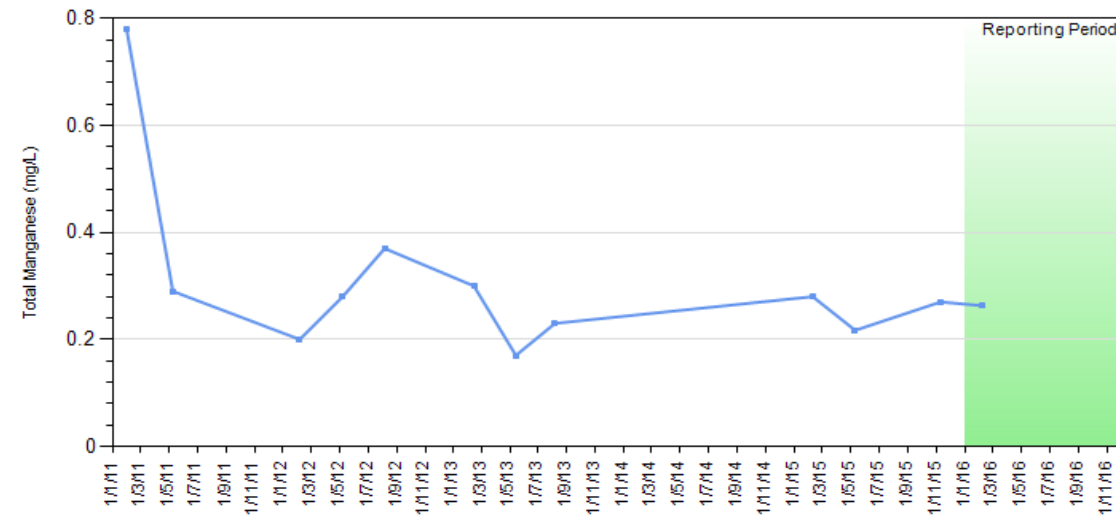
GW17 - Total Lead (mg/L)



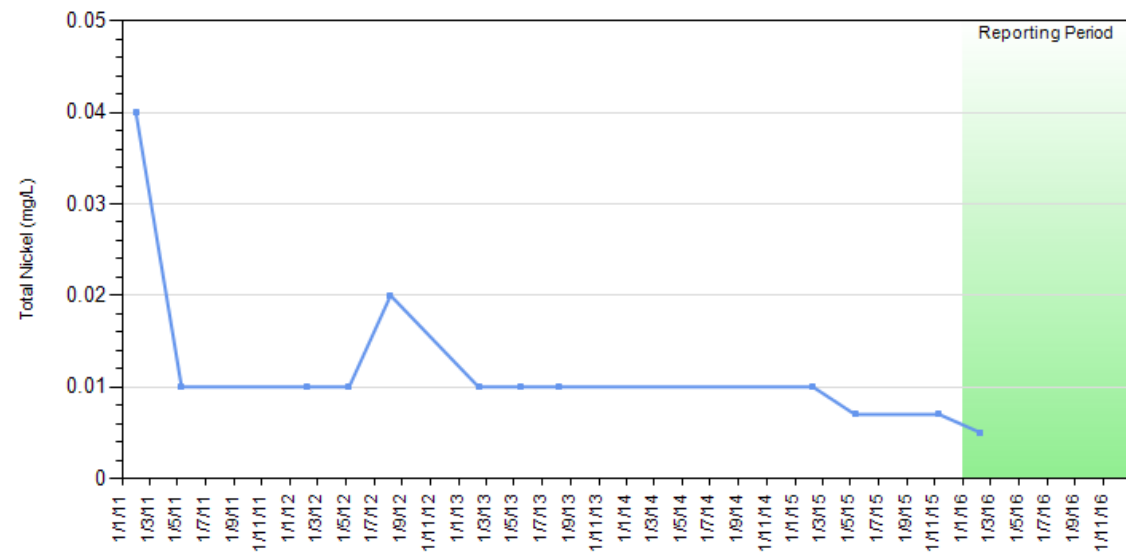
GW17 - Total Magnesium (mg/L)



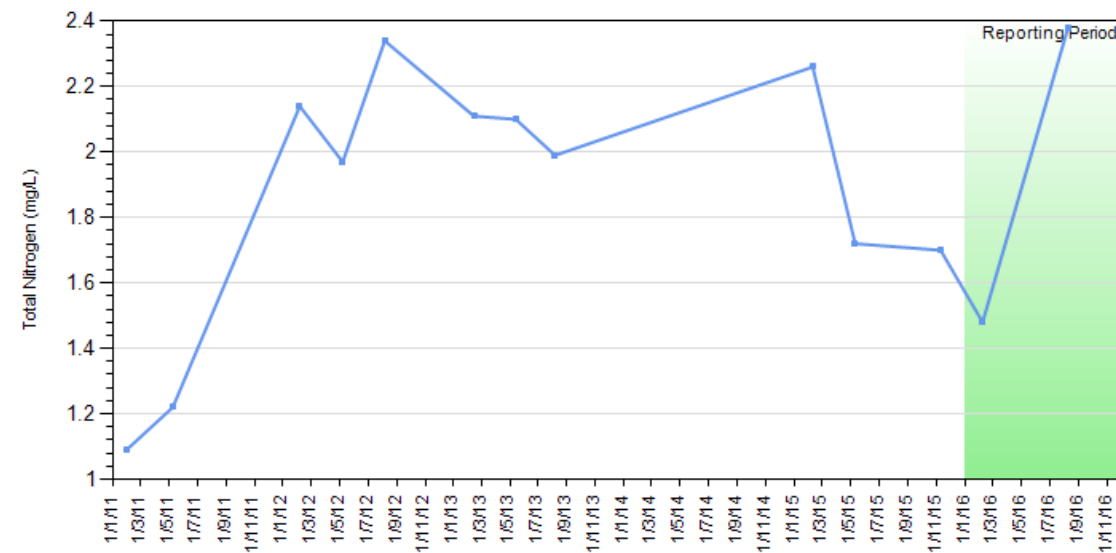
GW17 - Total Manganese (mg/L)



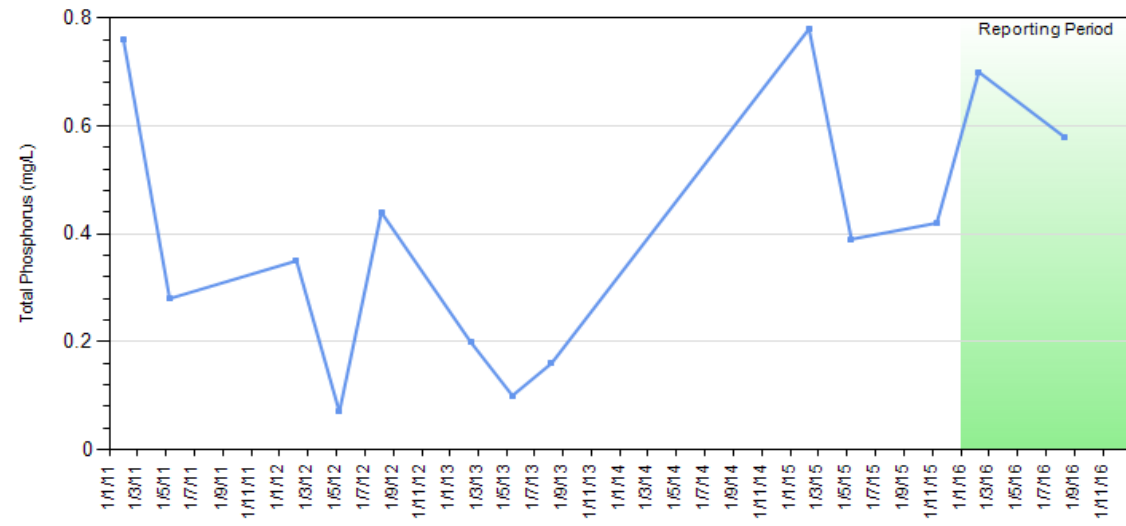
GW17 - Total Nickel (mg/L)



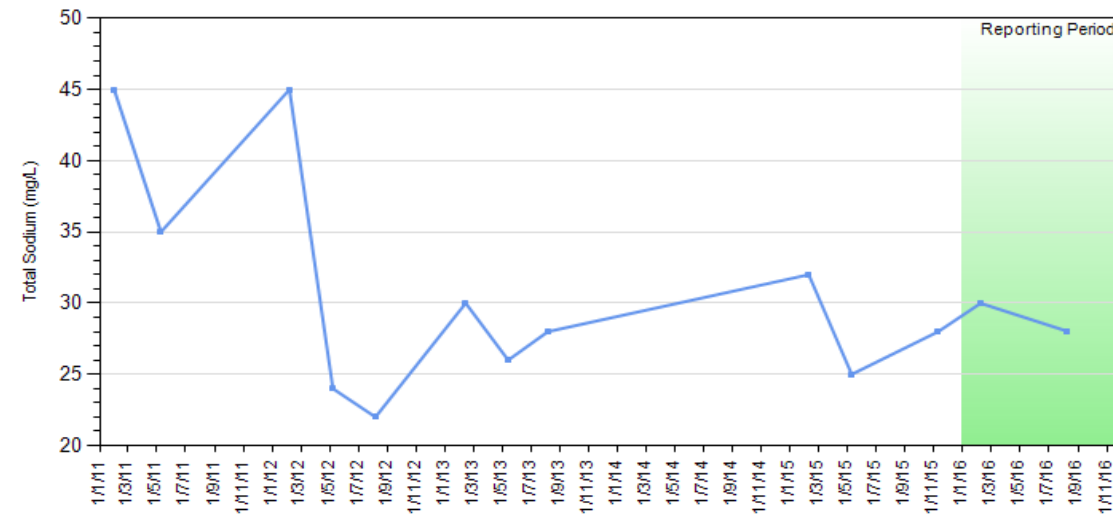
GW17 - Total Nitrogen (mg/L)



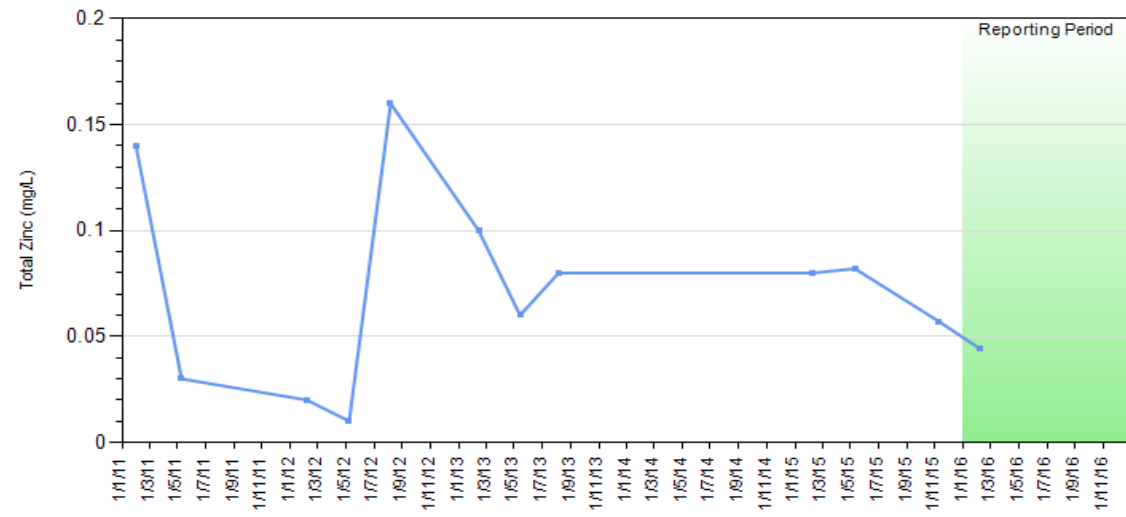
GW17 - Total Phosphorus (mg/L)



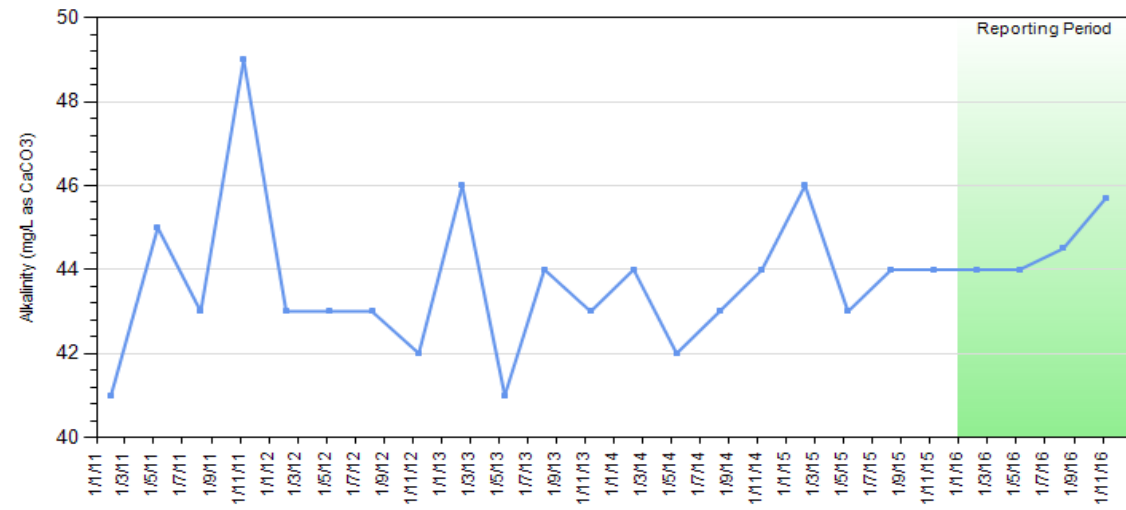
GW17 - Total Sodium (mg/L)



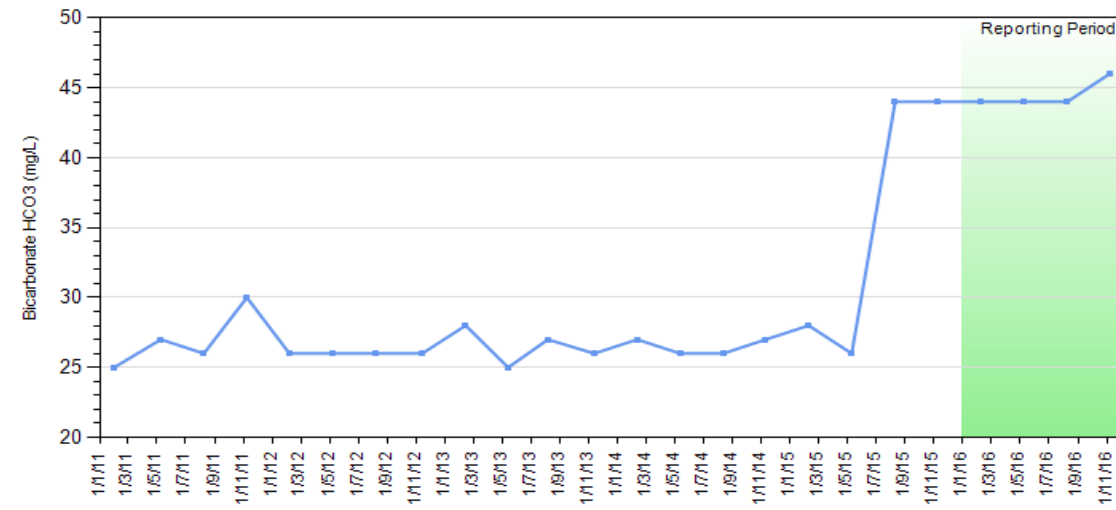
GW17 - Total Zinc (mg/L)



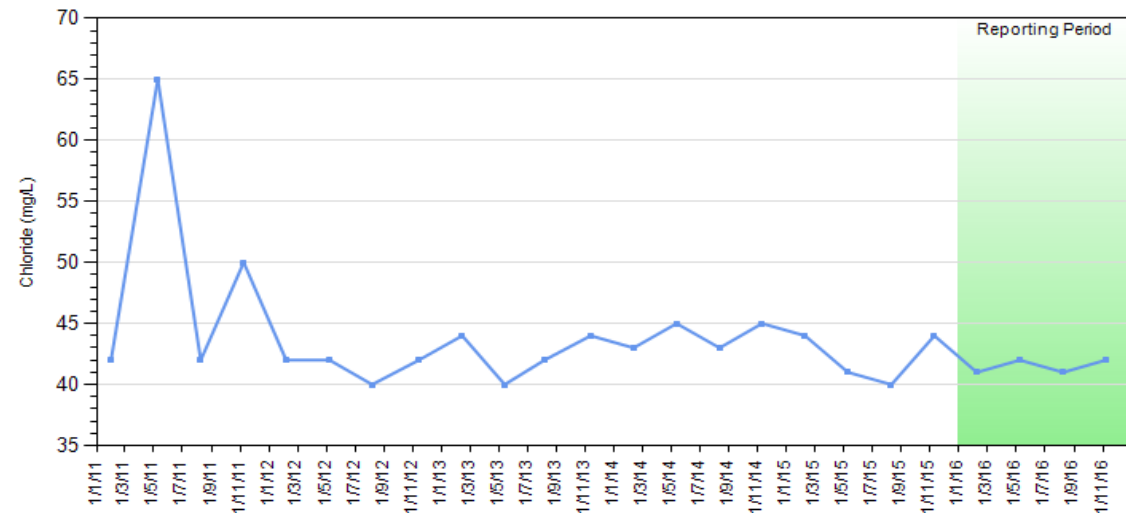
GW19 - Alkalinity (mg/L as CaCO3)



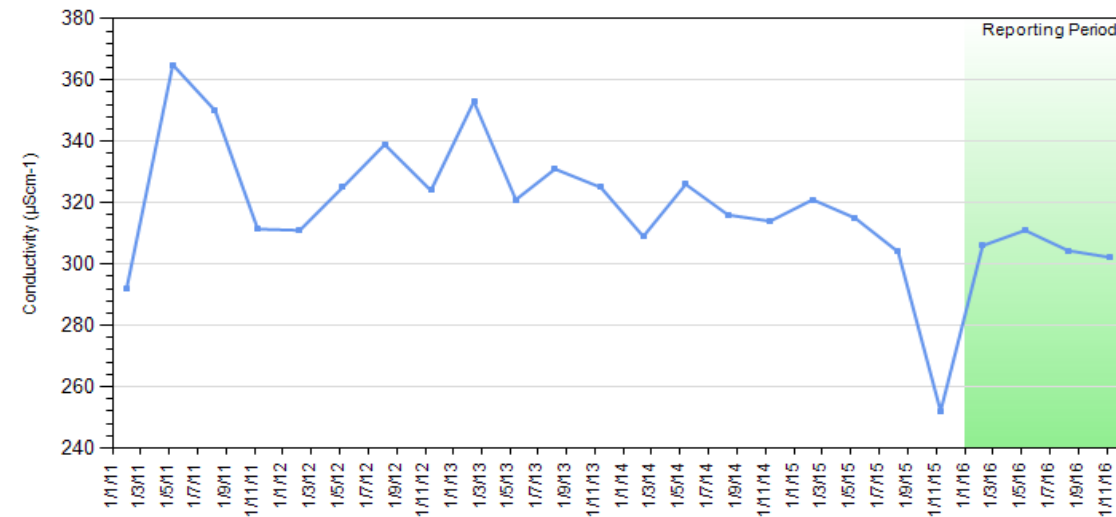
GW19 - Bicarbonate HCO3 (mg/L)



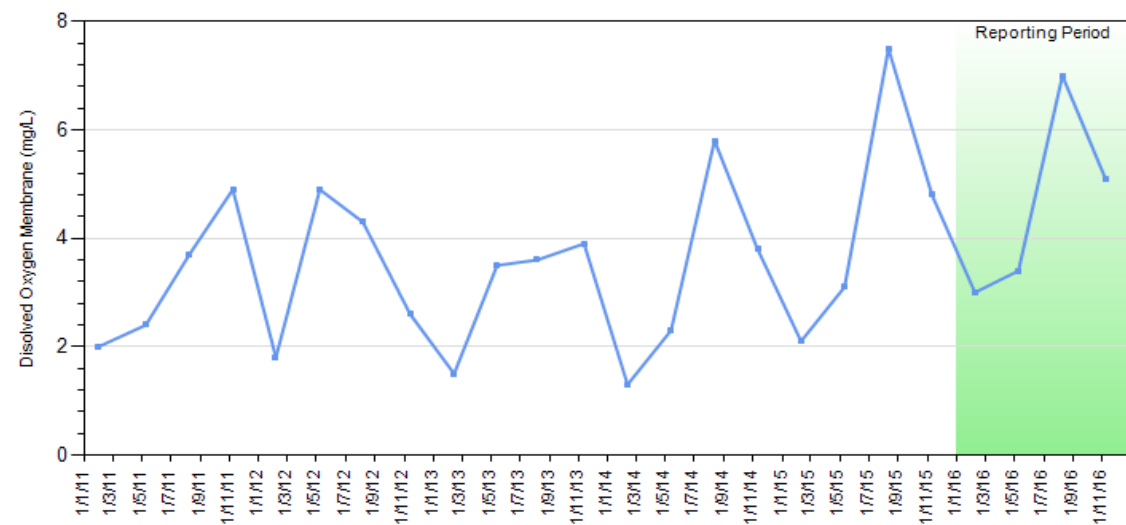
GW19 - Chloride (mg/L)



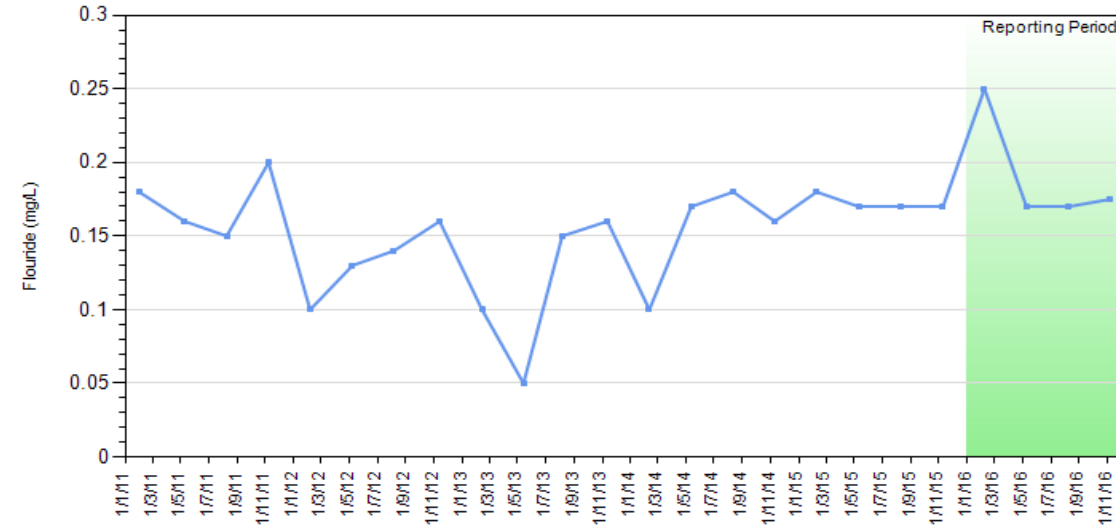
GW19 - Conductivity (µS/cm-1)



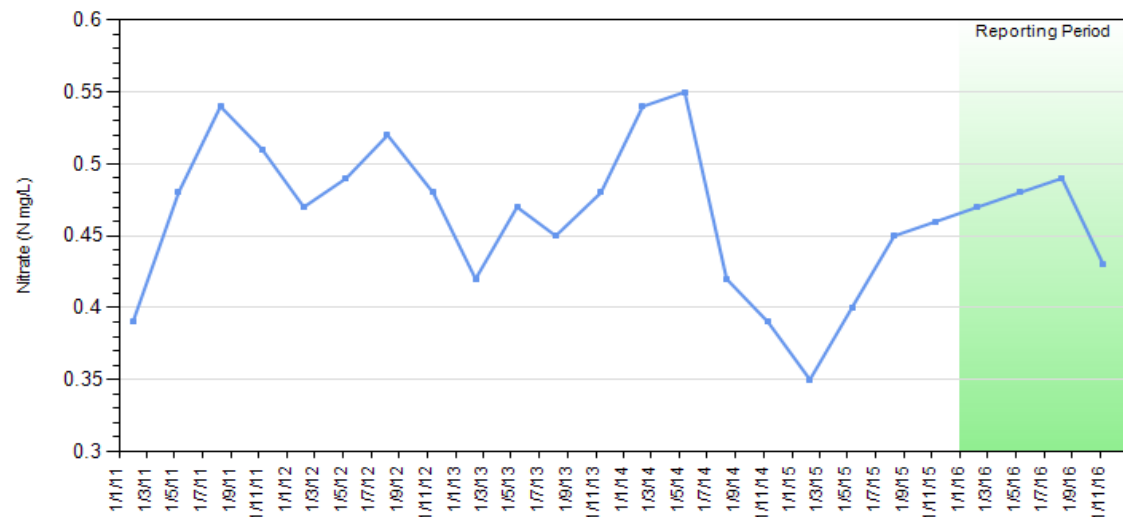
GW19 - Dissolved Oxygen Membrane (mg/L)



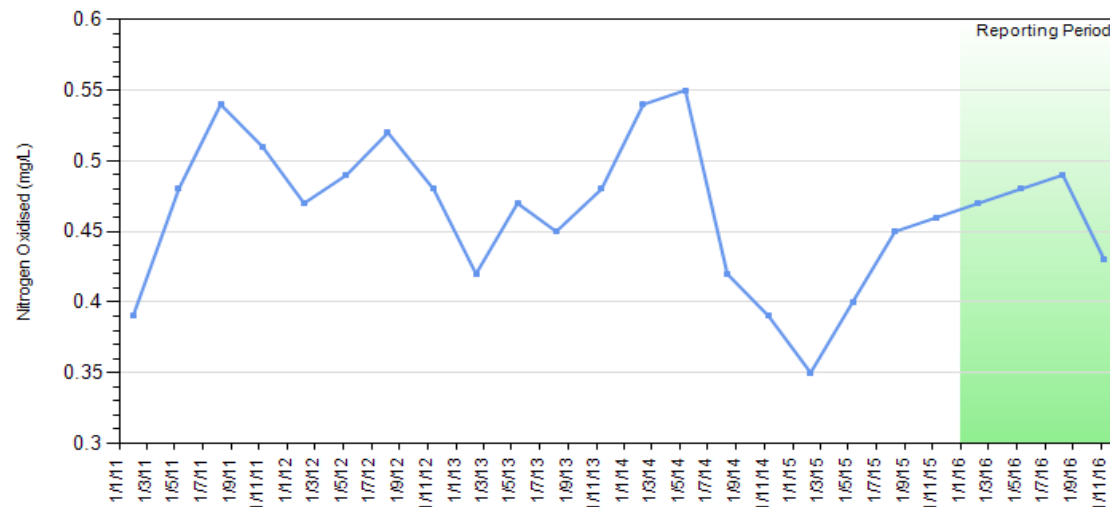
GW19 - Flouride (mg/L)



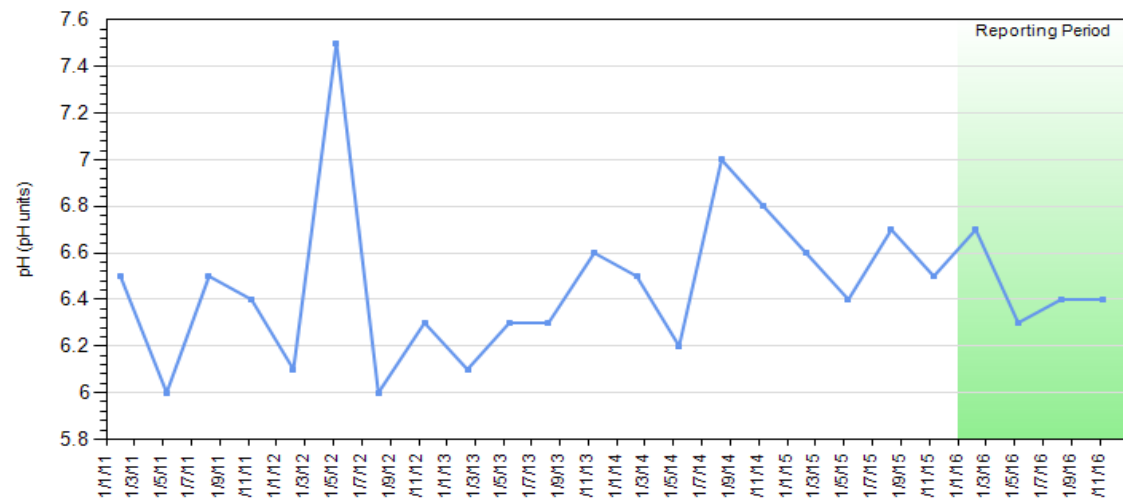
GW19 - Nitrate (N mg/L)



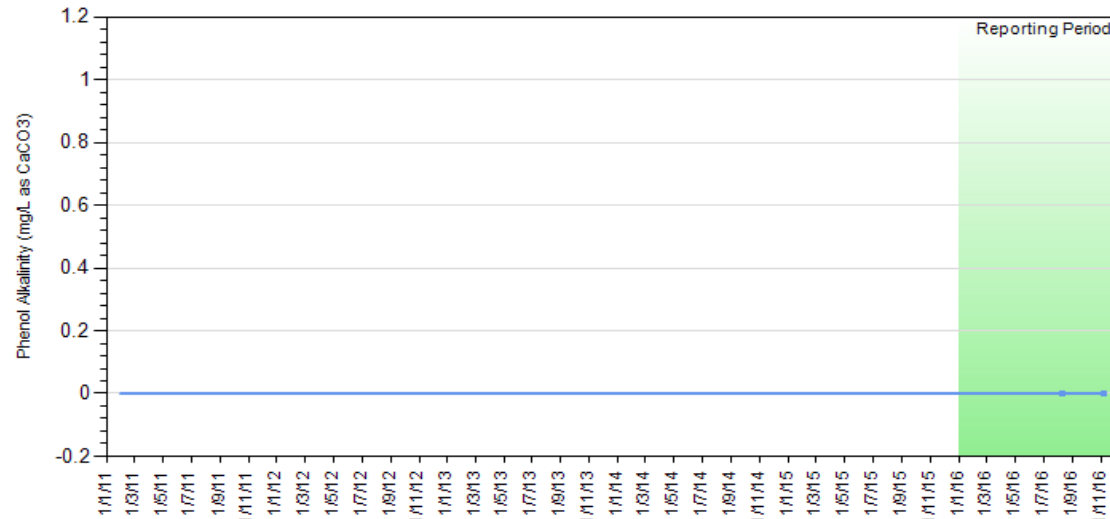
GW19 - Nitrogen Oxidised (mg/L)



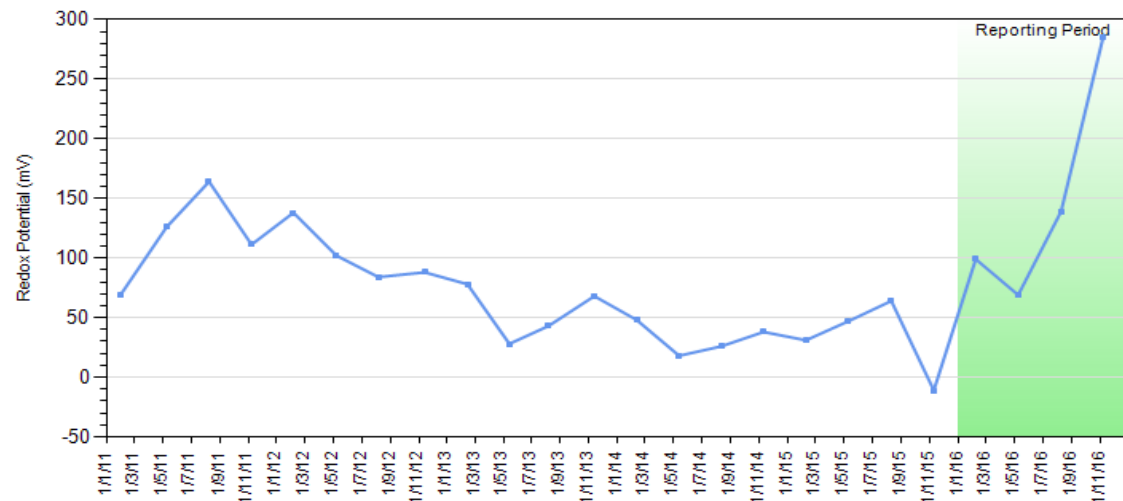
GW19 - pH (pH units)



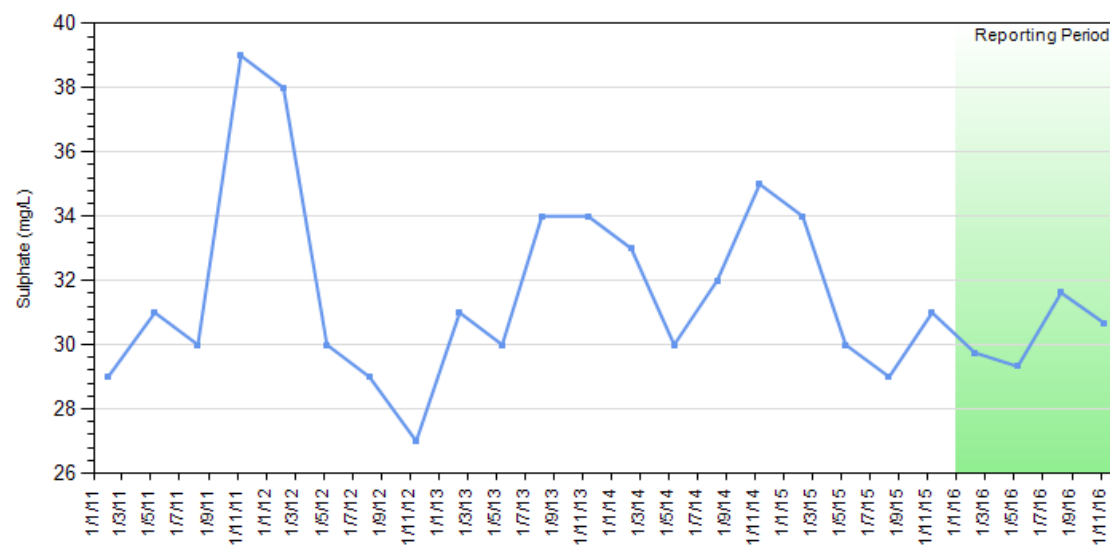
GW19 - Phenol Alkalinity (mg/L as CaCO3)



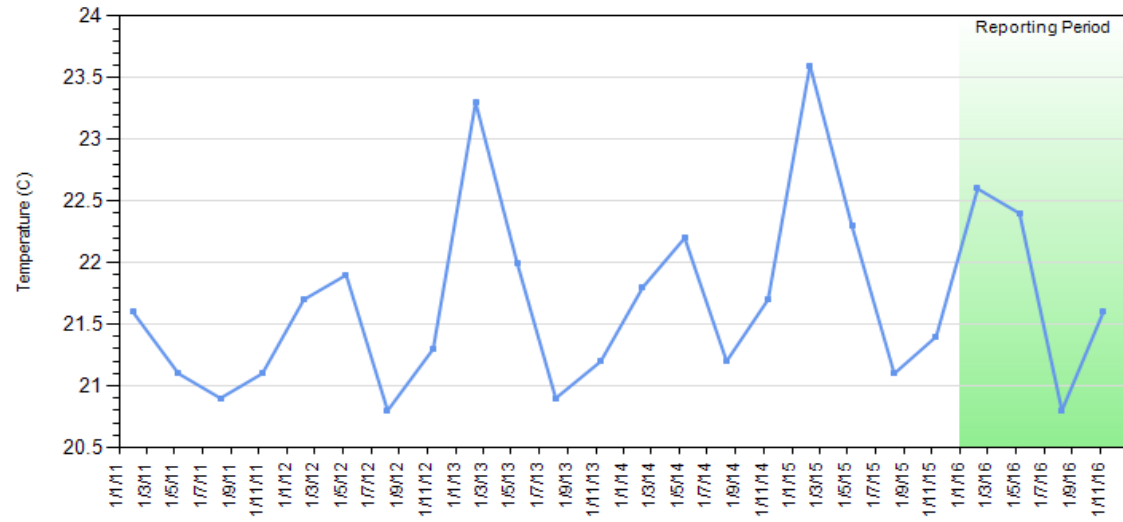
GW19 - Redox Potential (mV)



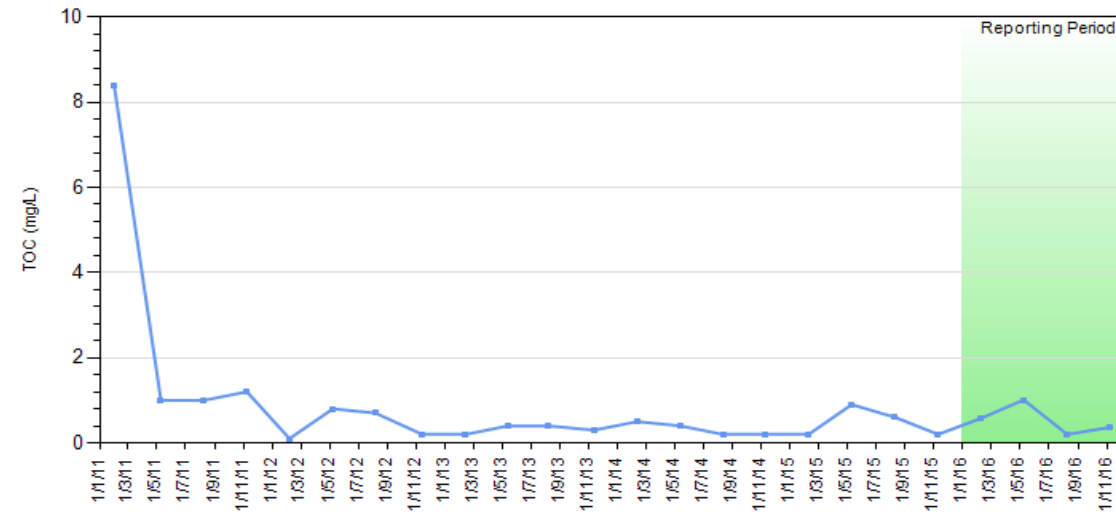
GW19 - Sulphate (mg/L)



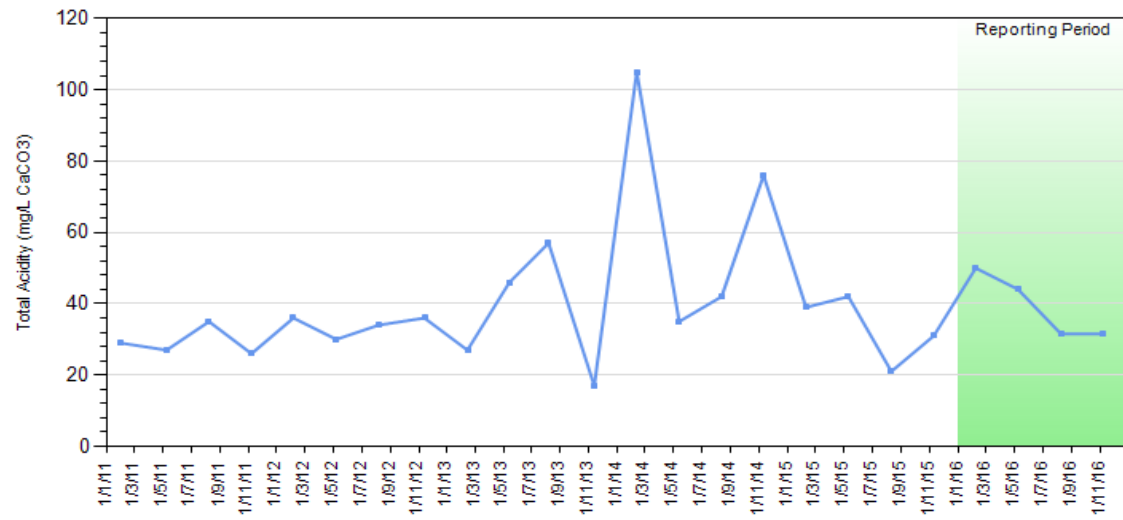
GW19 - Temperature (C)



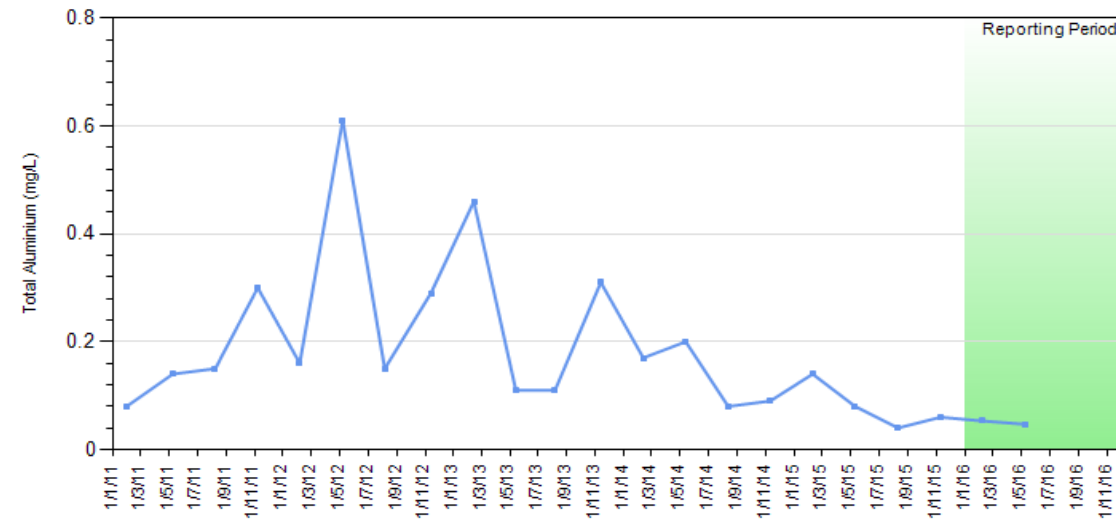
GW19 - TOC (mg/L)



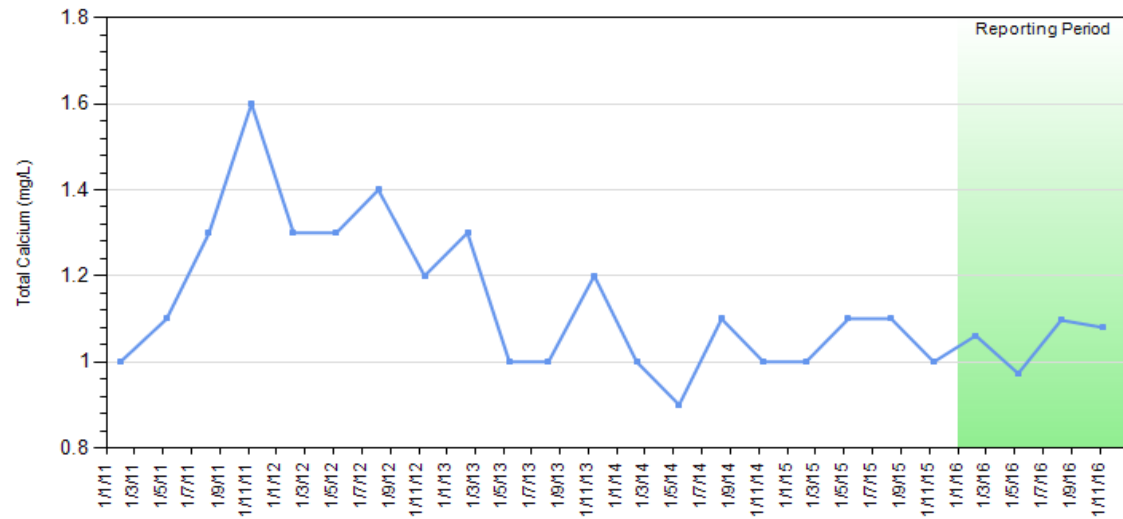
GW19 - Total Acidity (mg/L CaCO3)



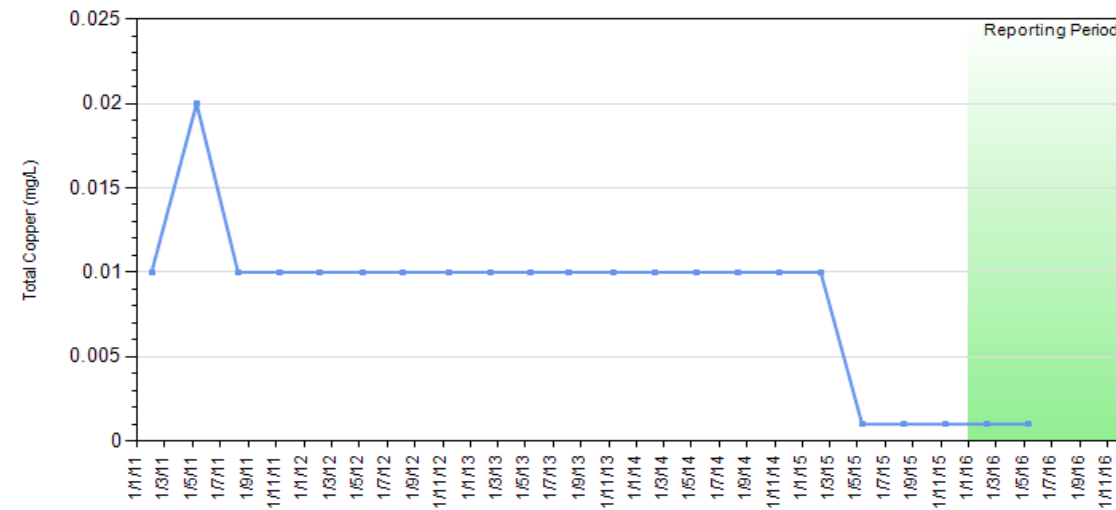
GW19 - Total Aluminium (mg/L)



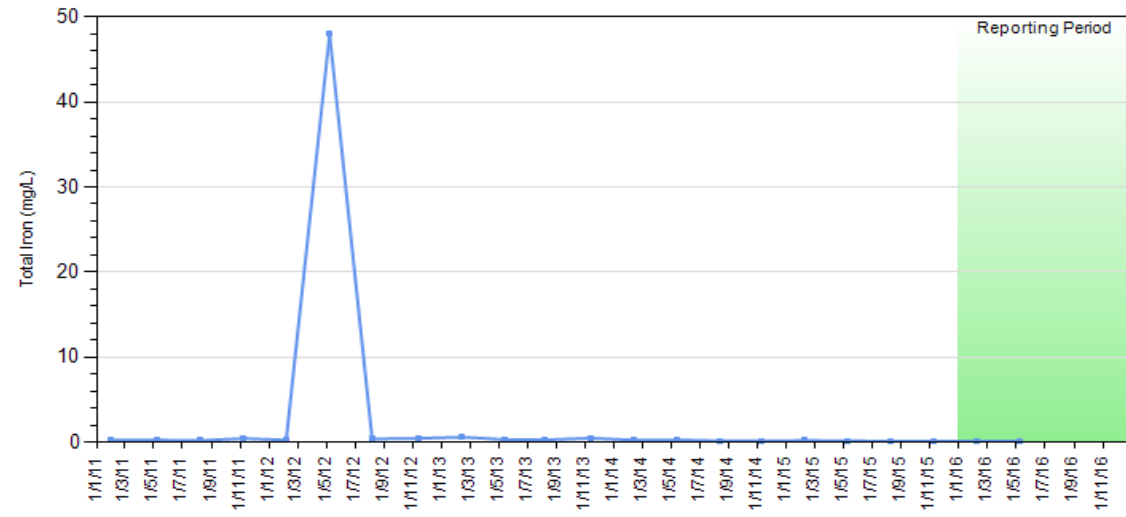
GW19 - Total Calcium (mg/L)



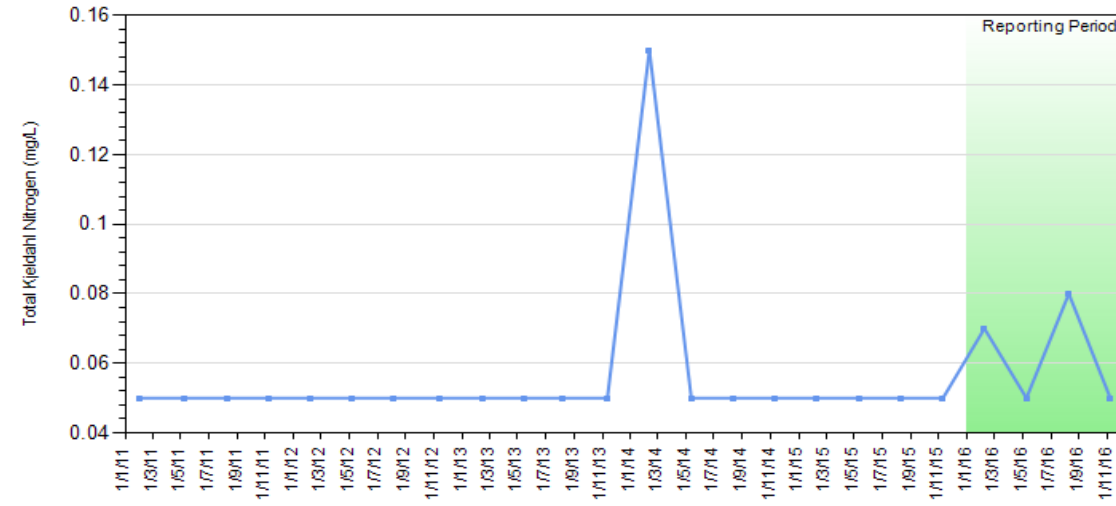
GW19 - Total Copper (mg/L)



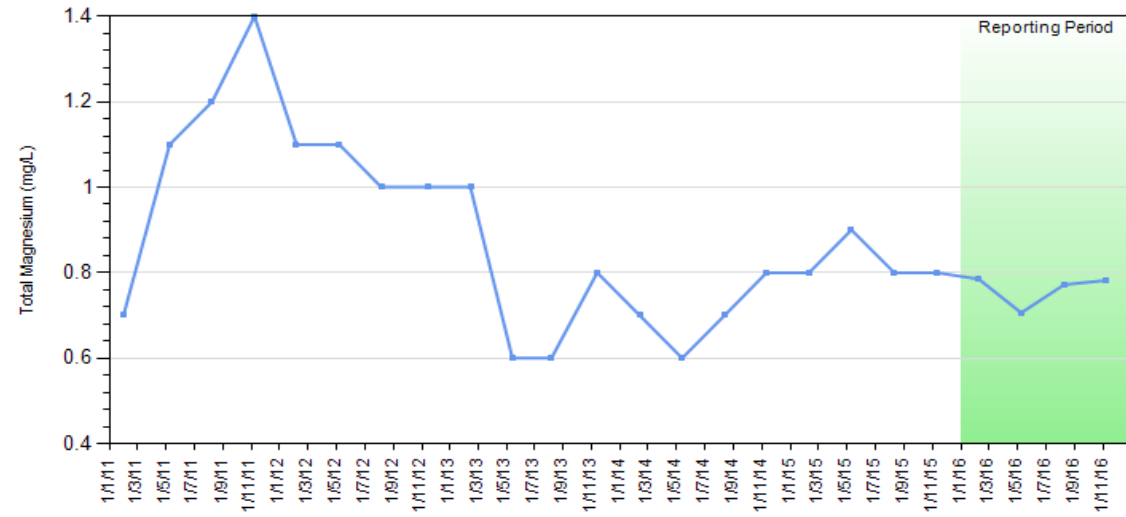
GW19 - Total Iron (mg/L)



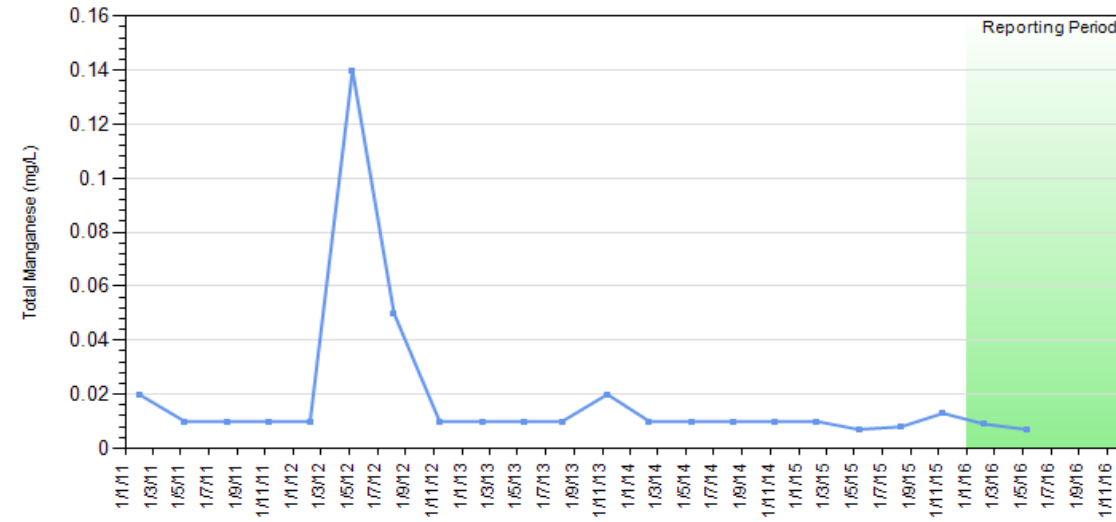
GW19 - Total Kjeldahl Nitrogen (mg/L)



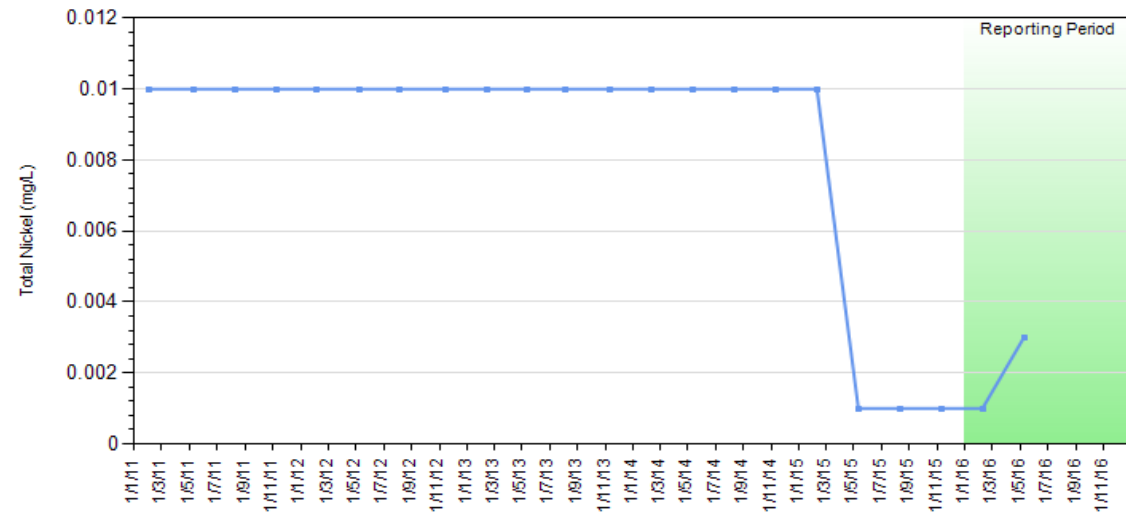
GW19 - Total Magnesium (mg/L)



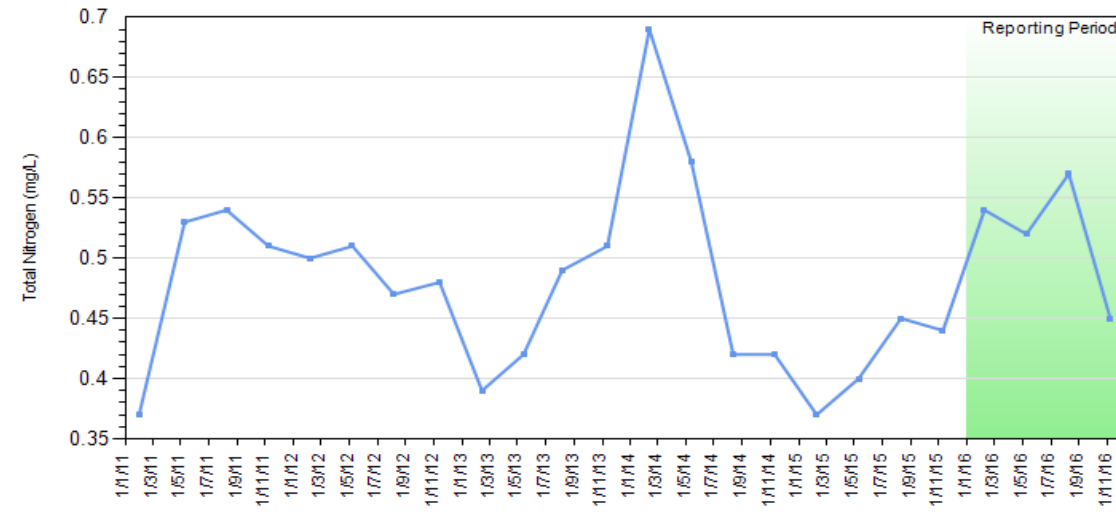
GW19 - Total Manganese (mg/L)



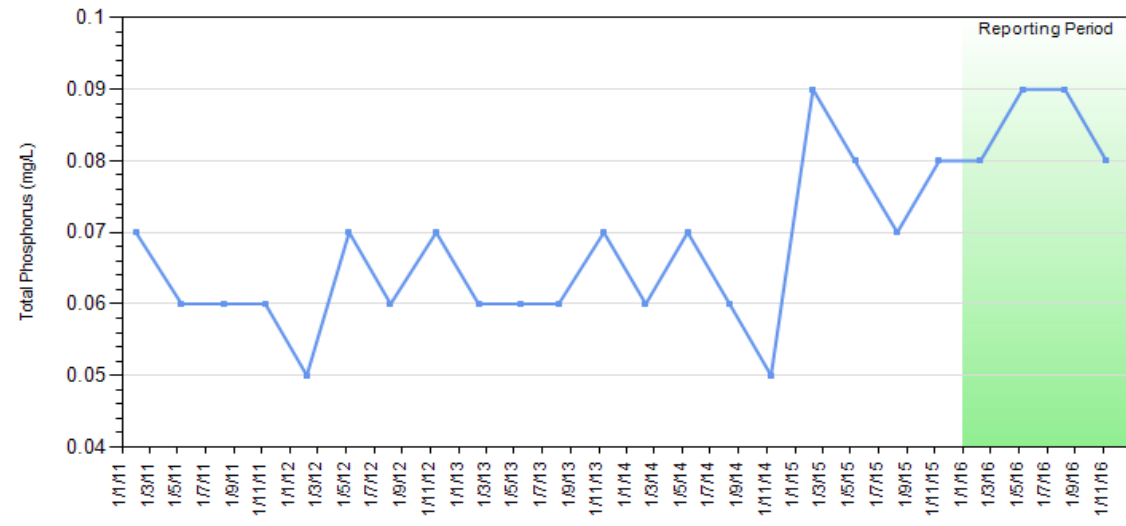
GW19 - Total Nickel (mg/L)



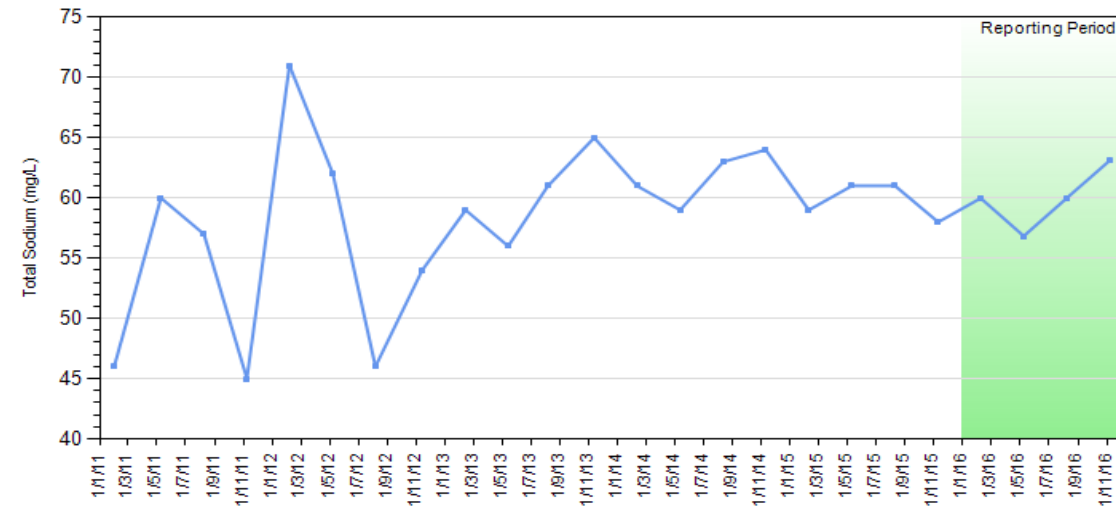
GW19 - Total Nitrogen (mg/L)



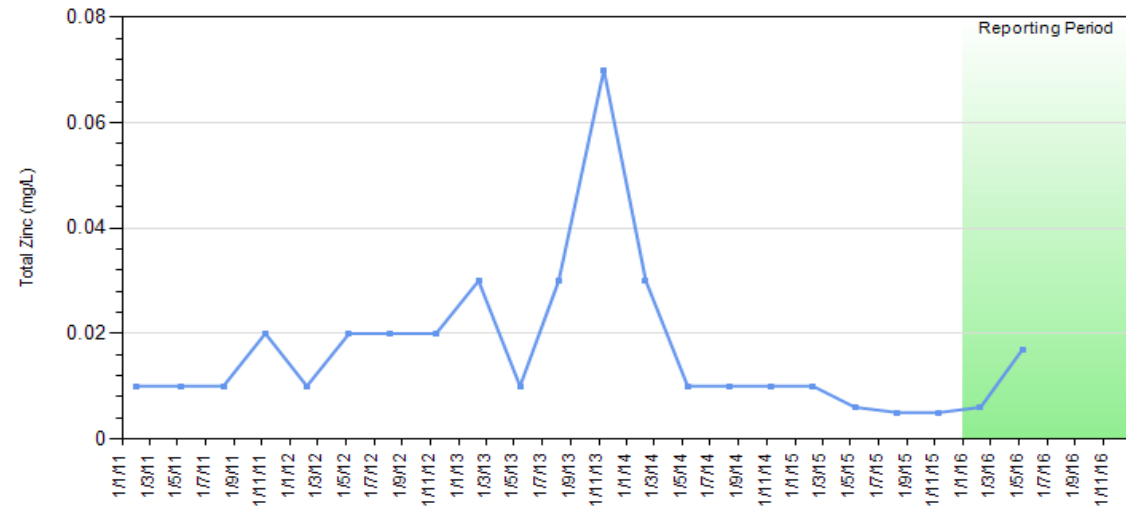
GW19 - Total Phosphorus (mg/L)



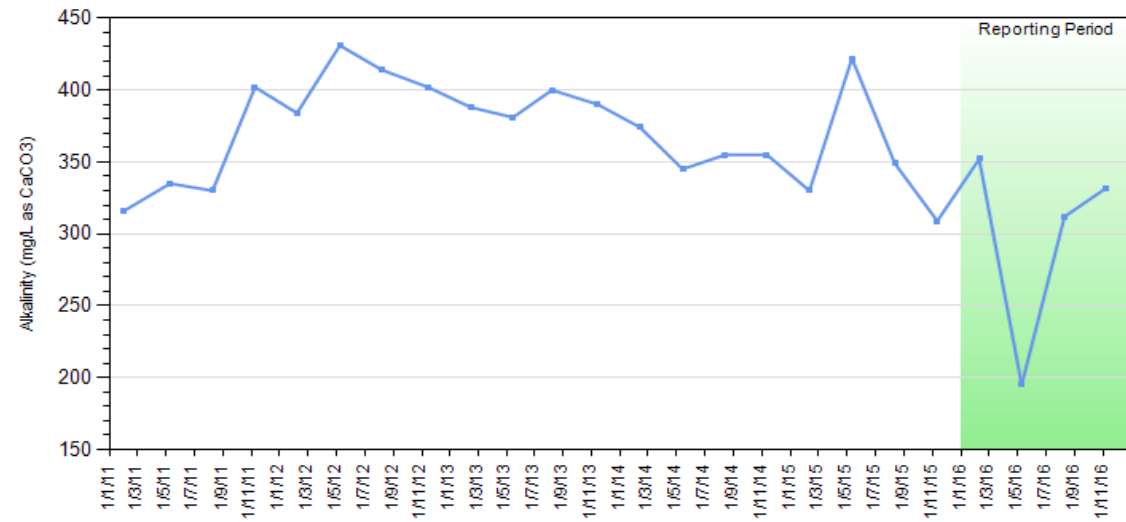
GW19 - Total Sodium (mg/L)



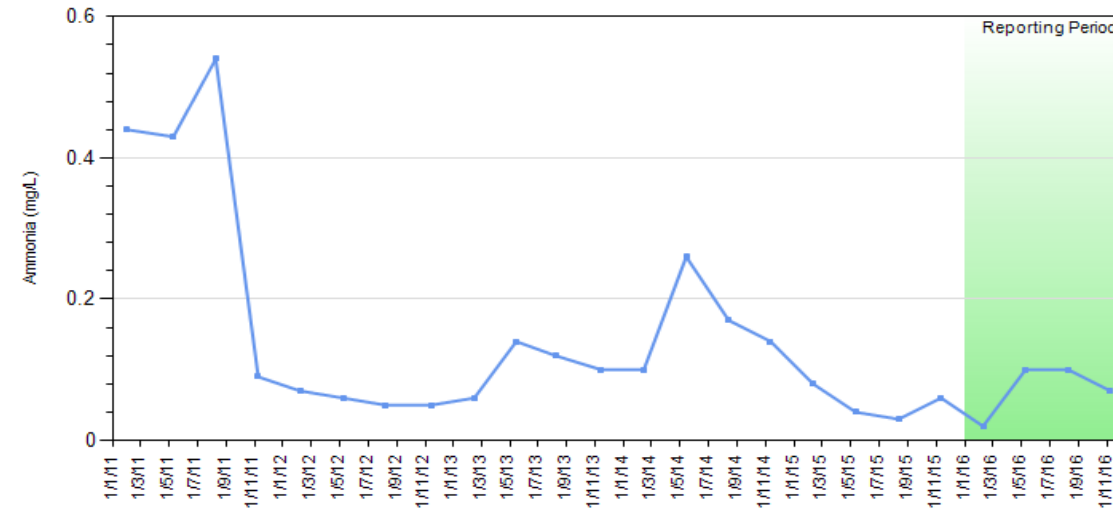
GW19 - Total Zinc (mg/L)



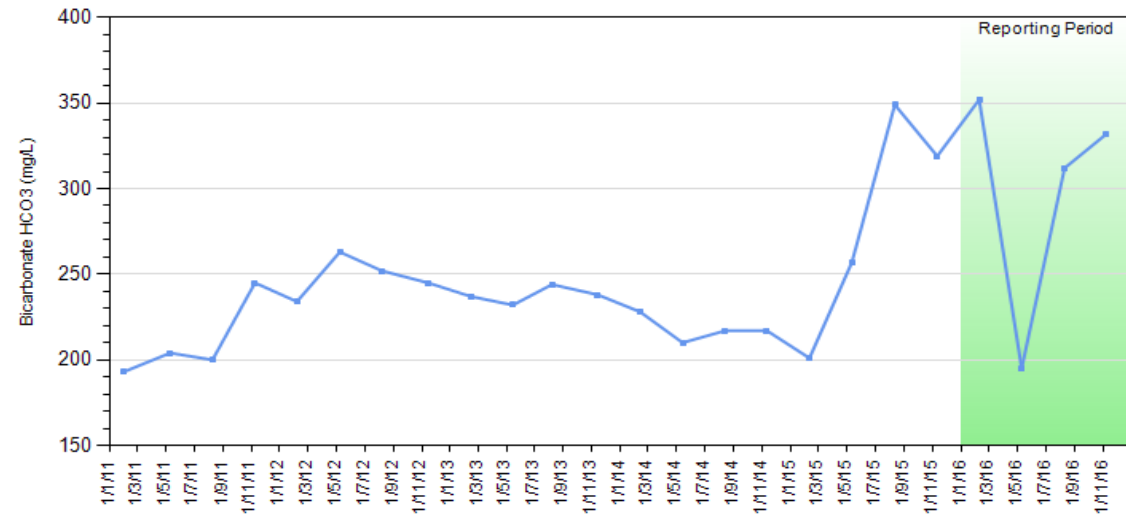
GW20 - Alkalinity (mg/L as CaCO3)



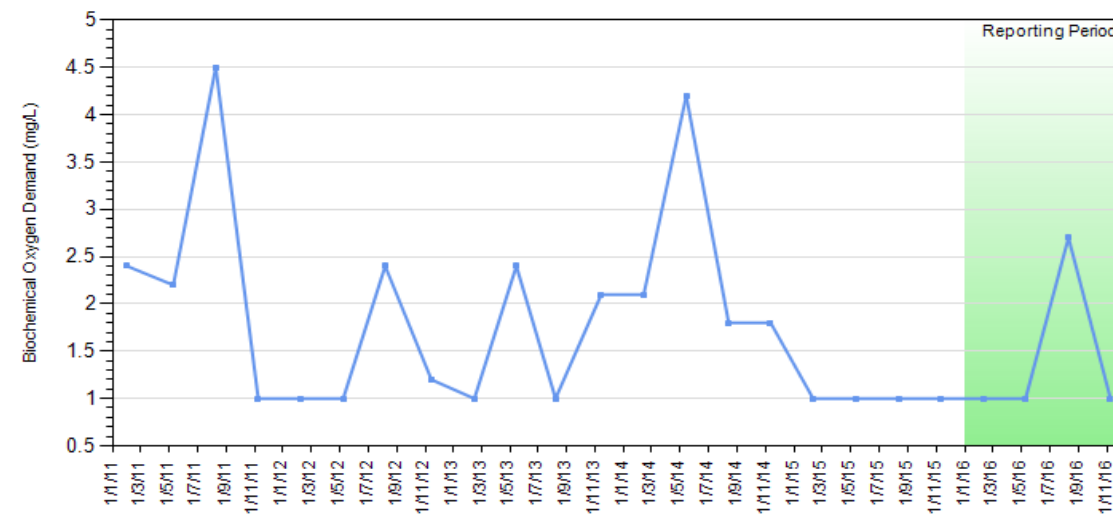
GW20 - Ammonia (mg/L)



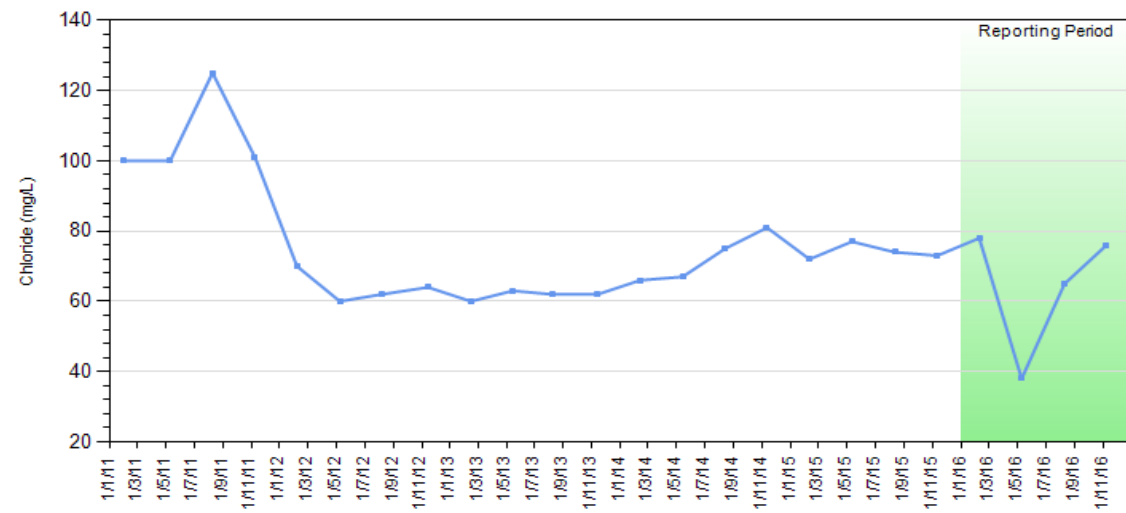
GW20 - Bicarbonate HCO3 (mg/L)



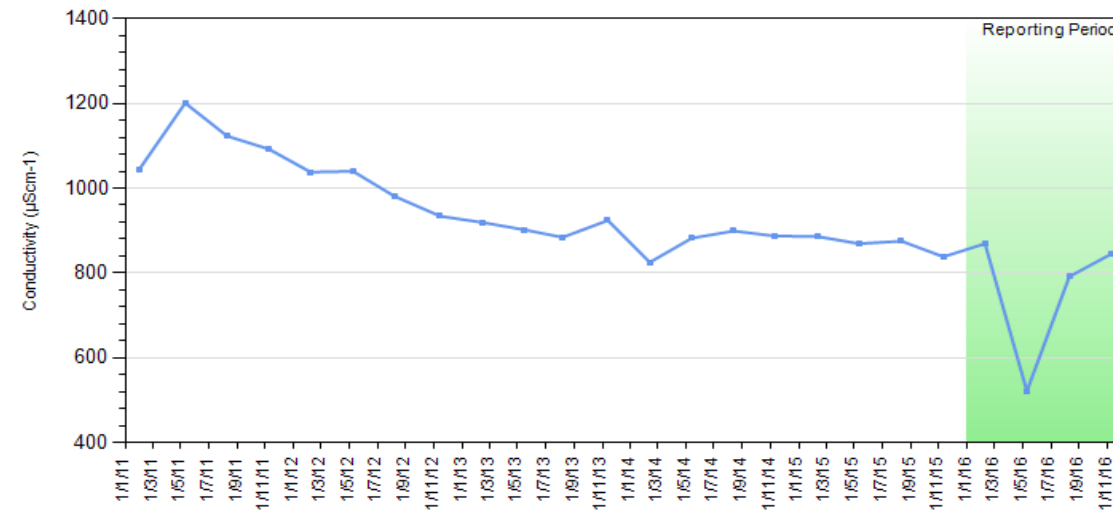
GW20 - Biochemical Oxygen Demand (mg/L)



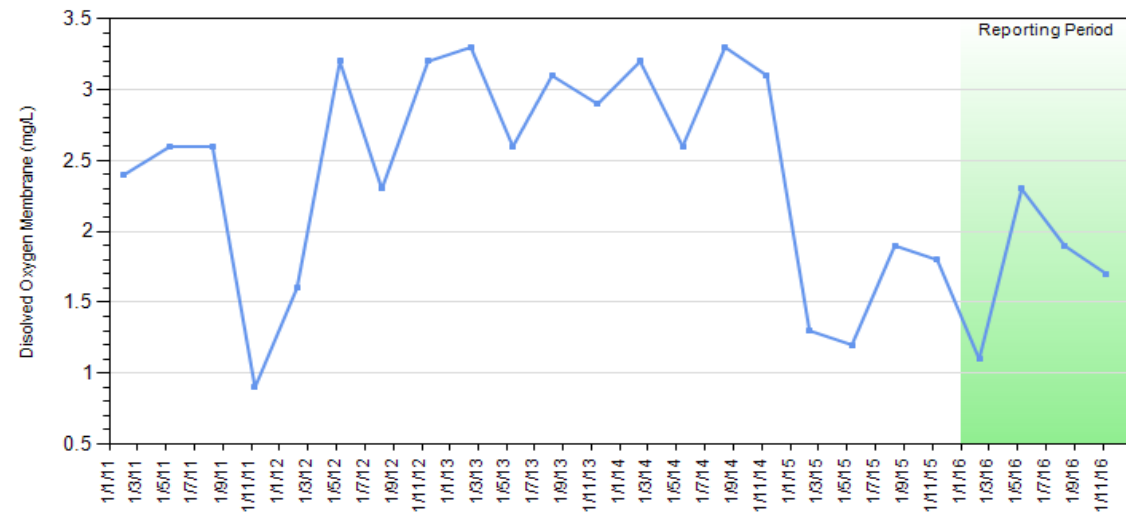
GW20 - Chloride (mg/L)



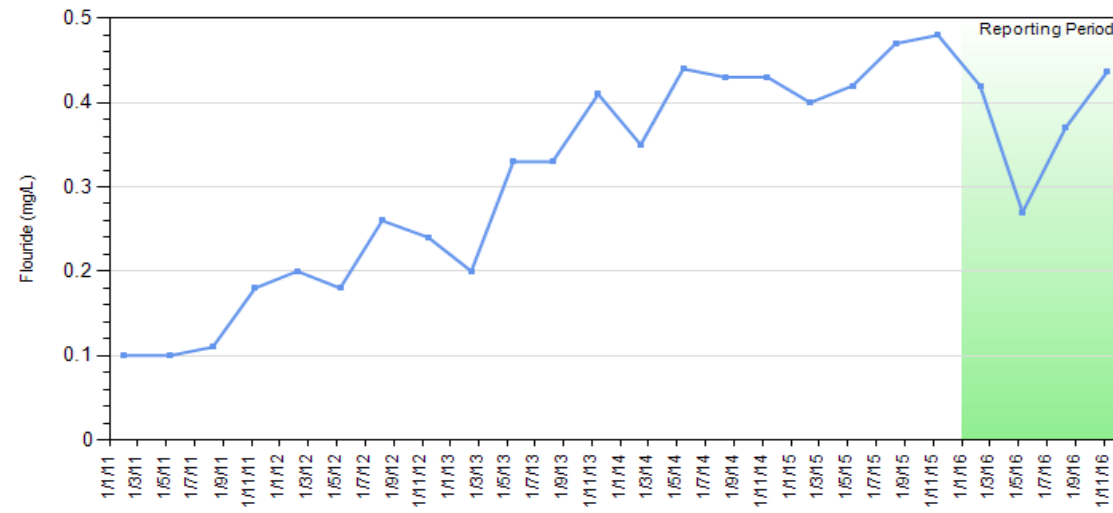
GW20 - Conductivity (µScm-1)



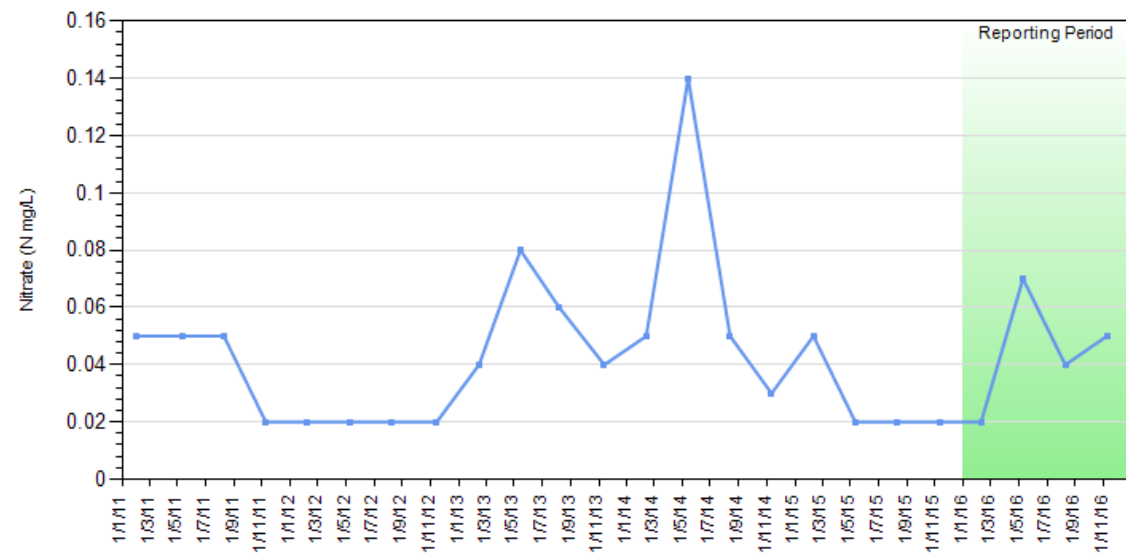
GW20 - Dissolved Oxygen Membrane (mg/L)



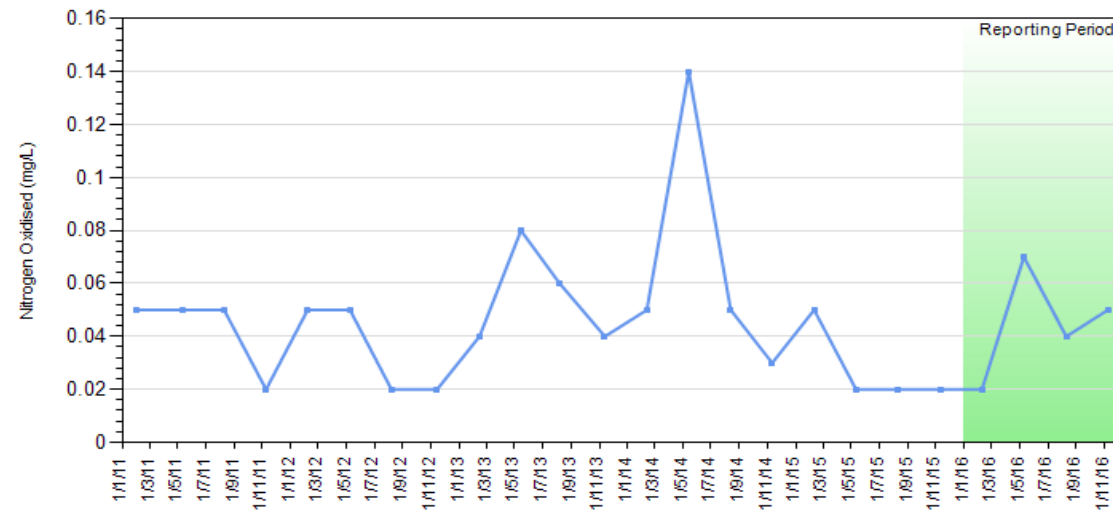
GW20 - Flouride (mg/L)



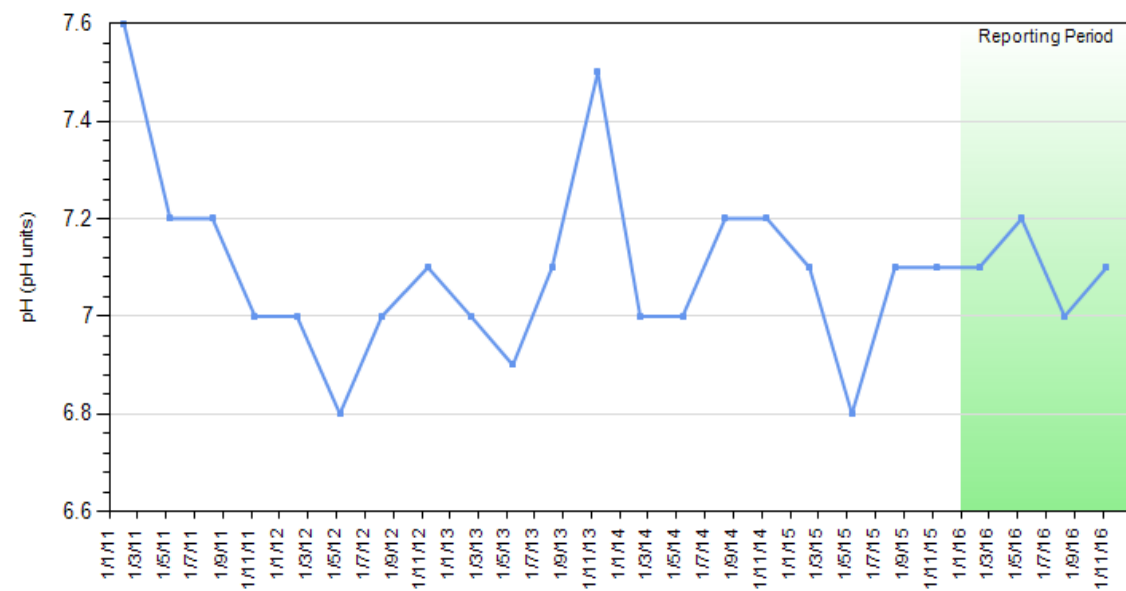
GW20 - Nitrate (N mg/L)



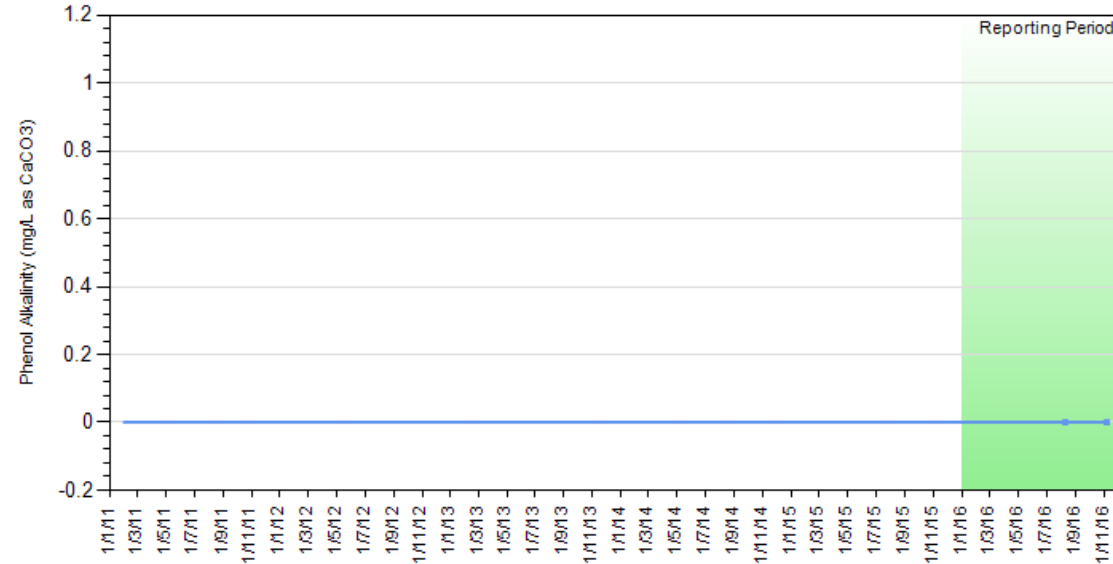
GW20 - Nitrogen Oxidised (mg/L)



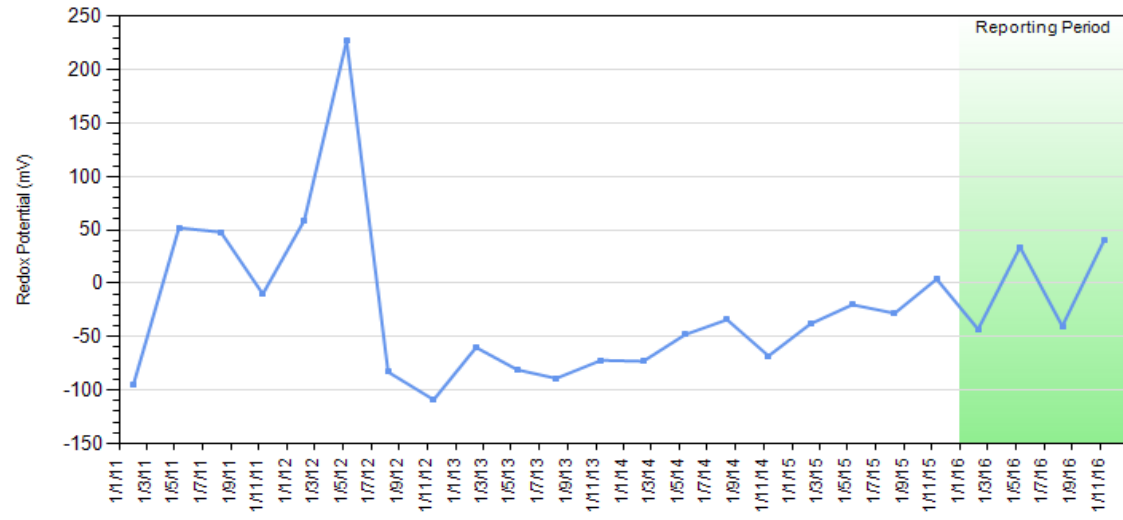
GW20 - pH (pH units)



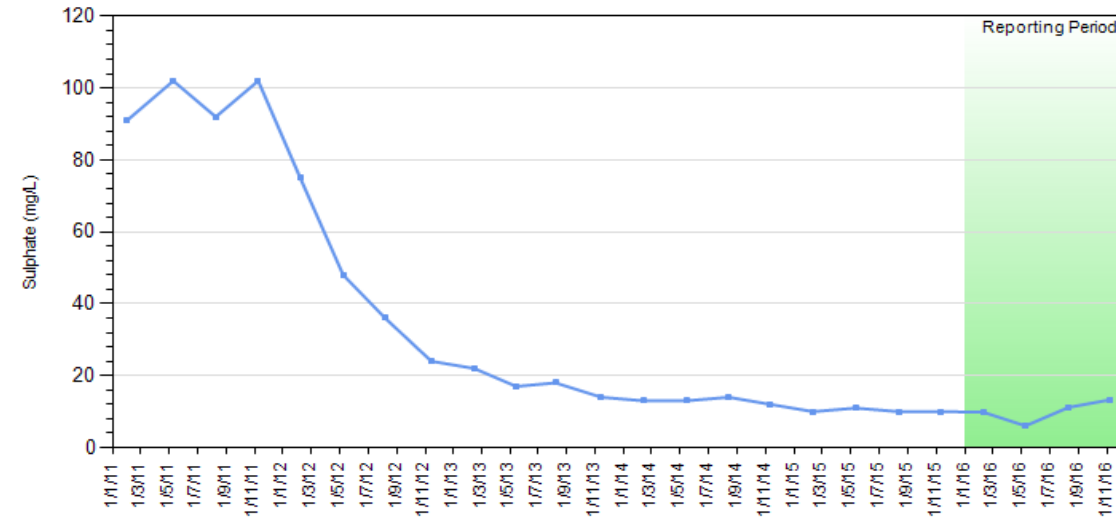
GW20 - Phenol Alkalinity (mg/L as CaCO3)



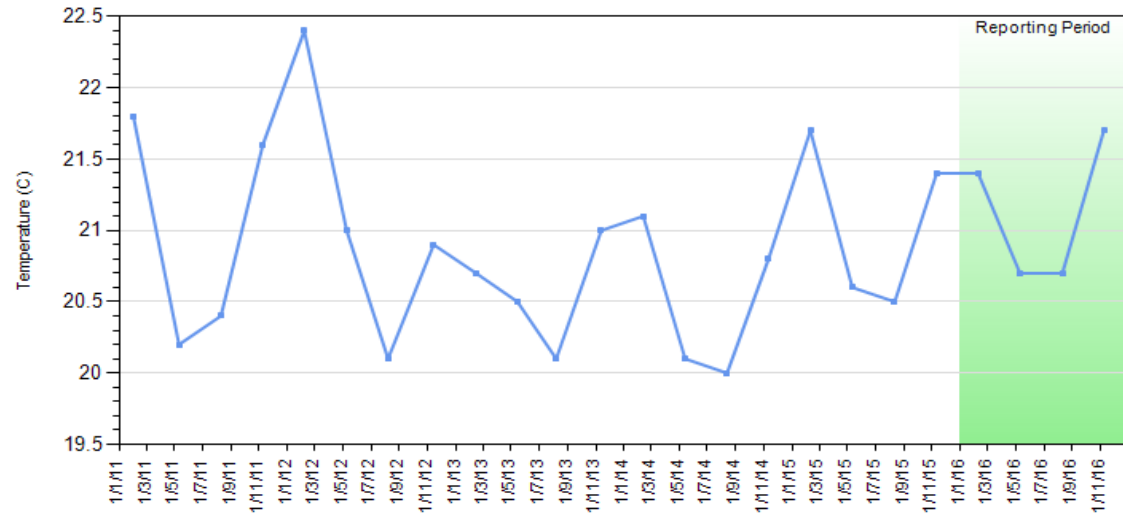
GW20 - Redox Potential (mV)



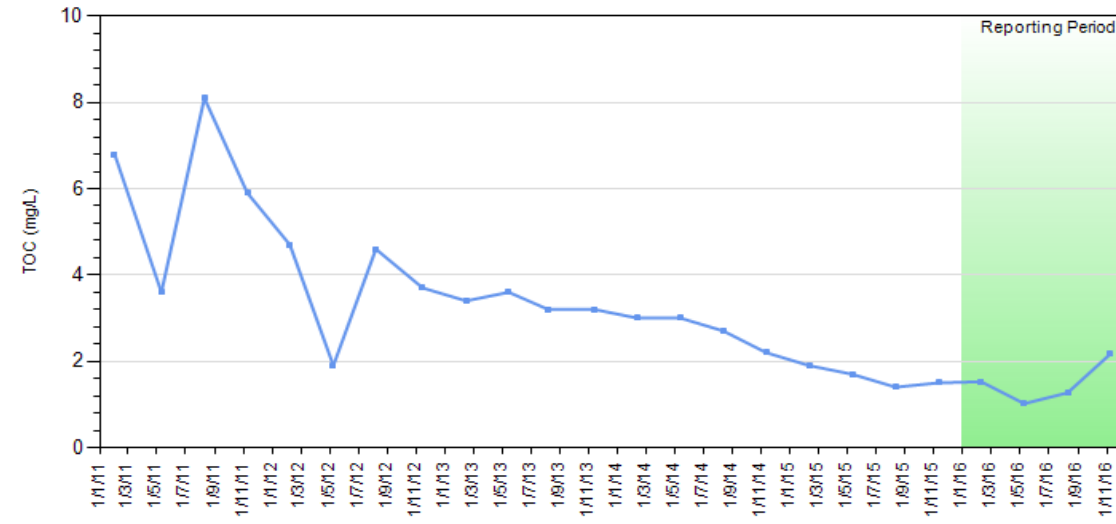
GW20 - Sulphate (mg/L)



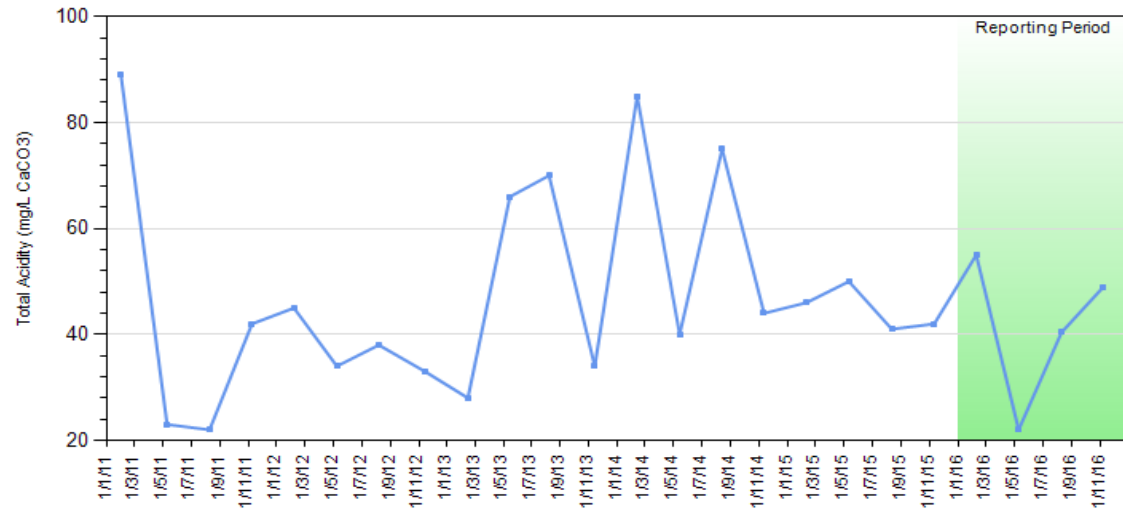
GW20 - Temperature (C)



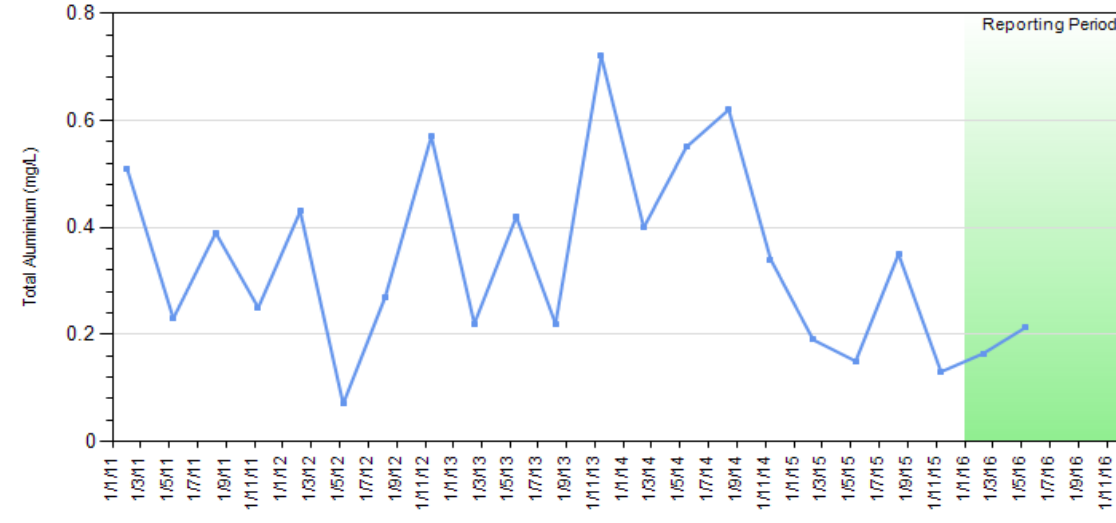
GW20 - TOC (mg/L)



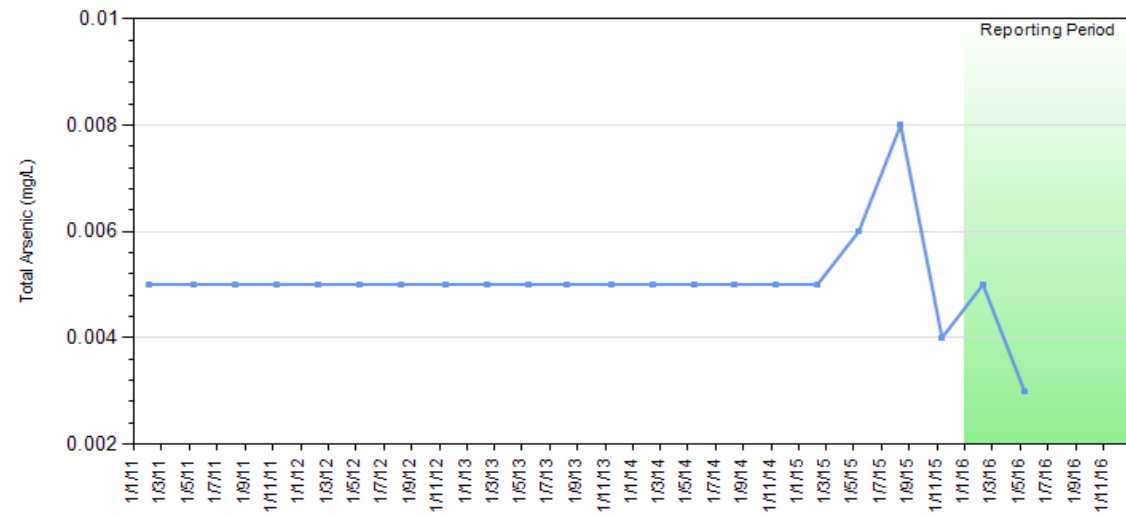
GW20 - Total Acidity (mg/L CaCO3)



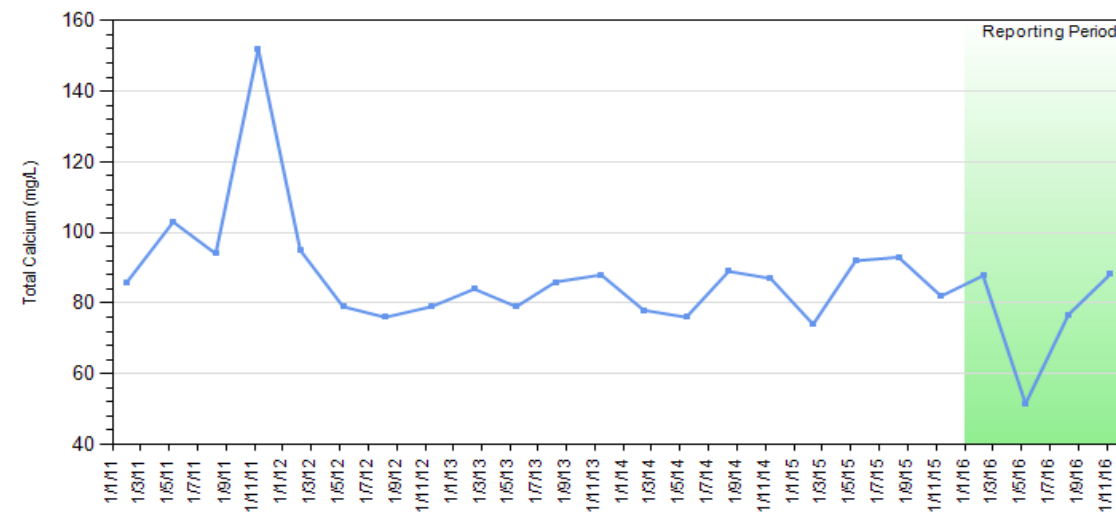
GW20 - Total Aluminium (mg/L)



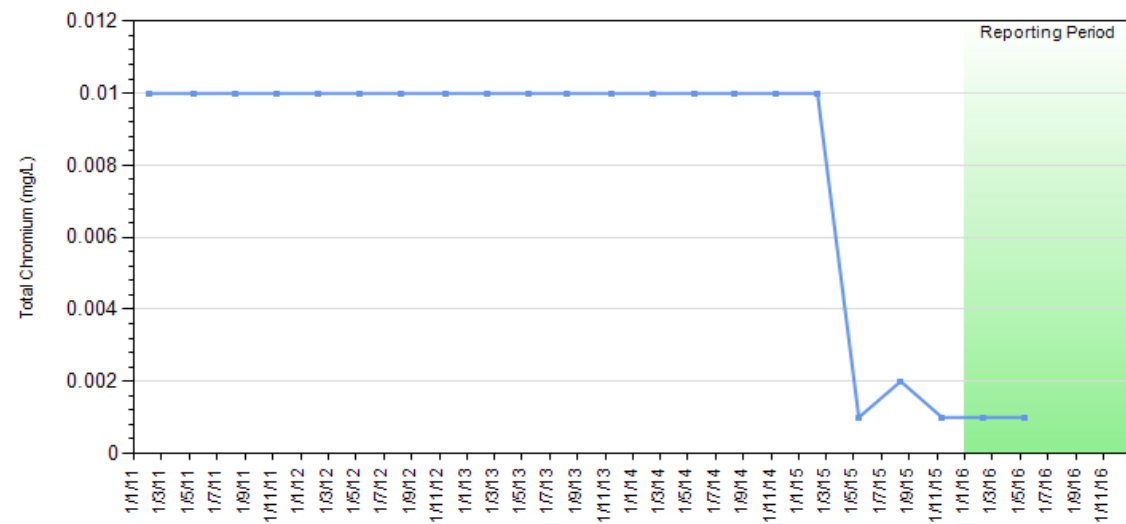
GW20 - Total Arsenic (mg/L)



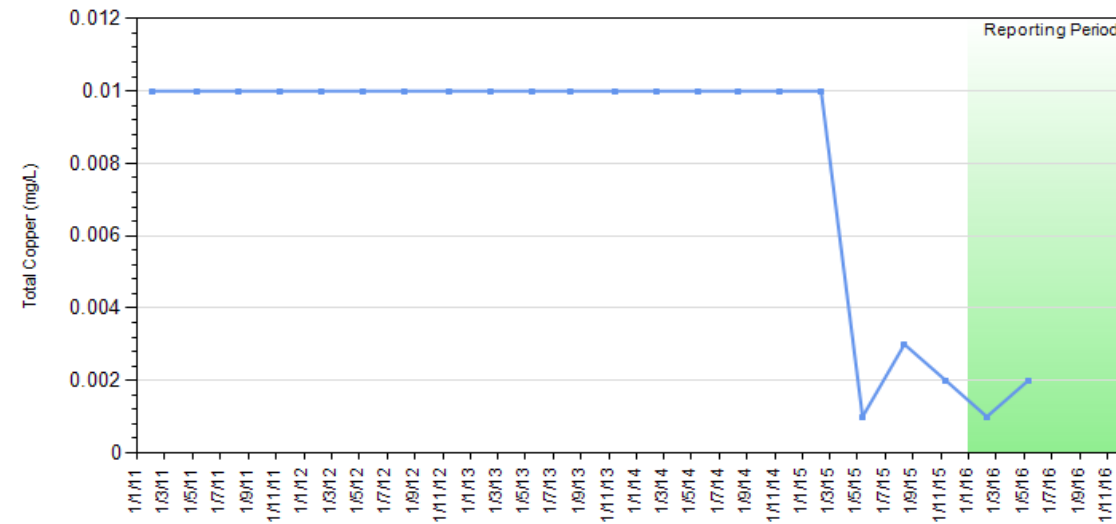
GW20 - Total Calcium (mg/L)



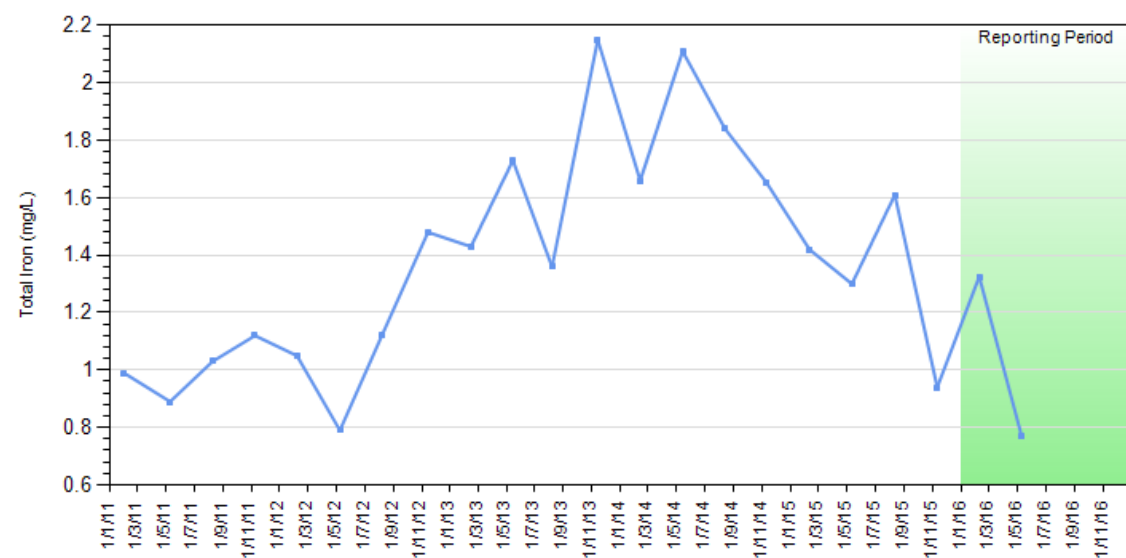
GW20 - Total Chromium (mg/L)



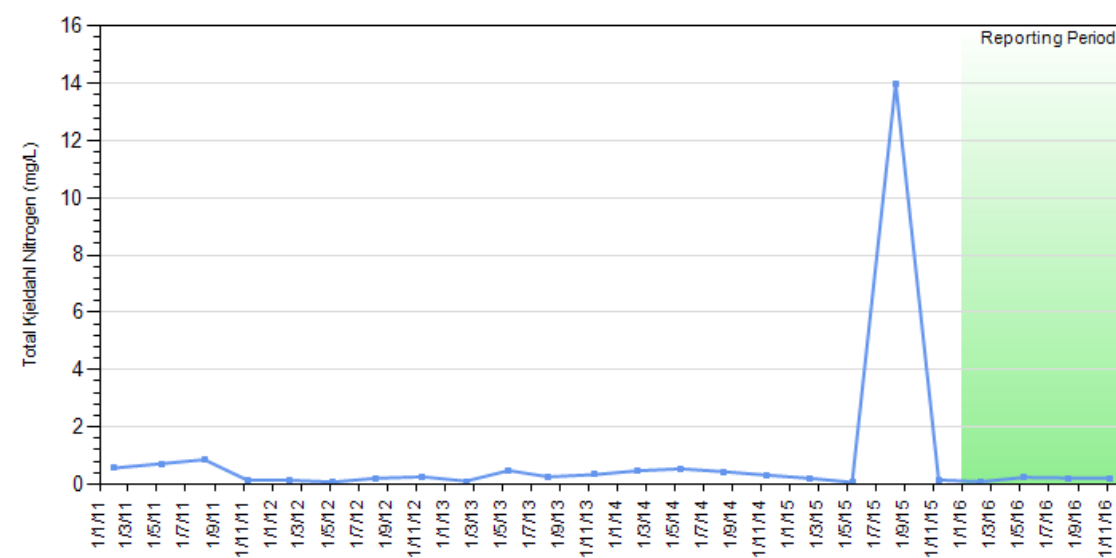
GW20 - Total Copper (mg/L)



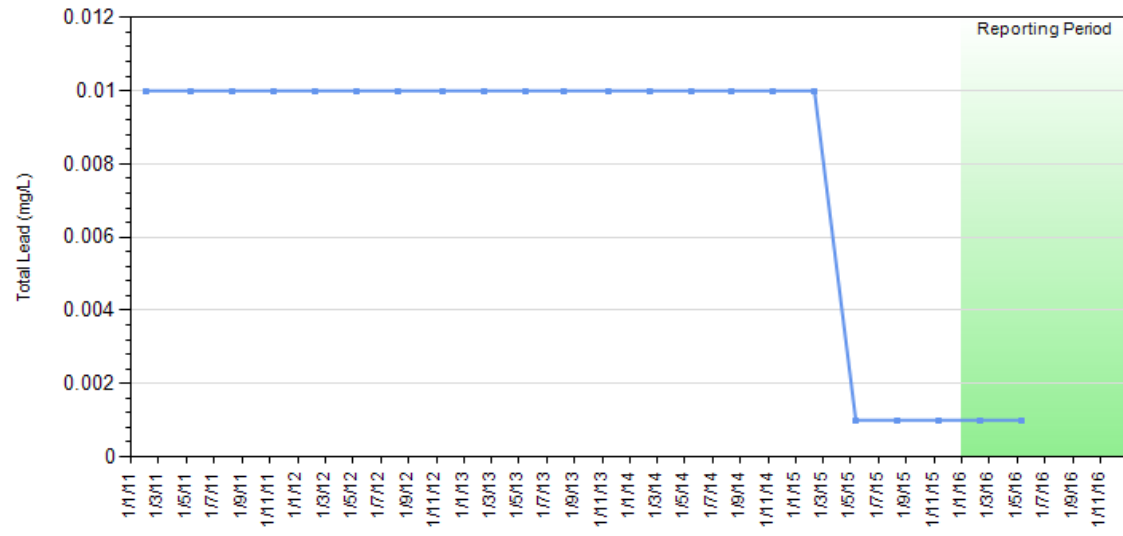
GW20 - Total Iron (mg/L)



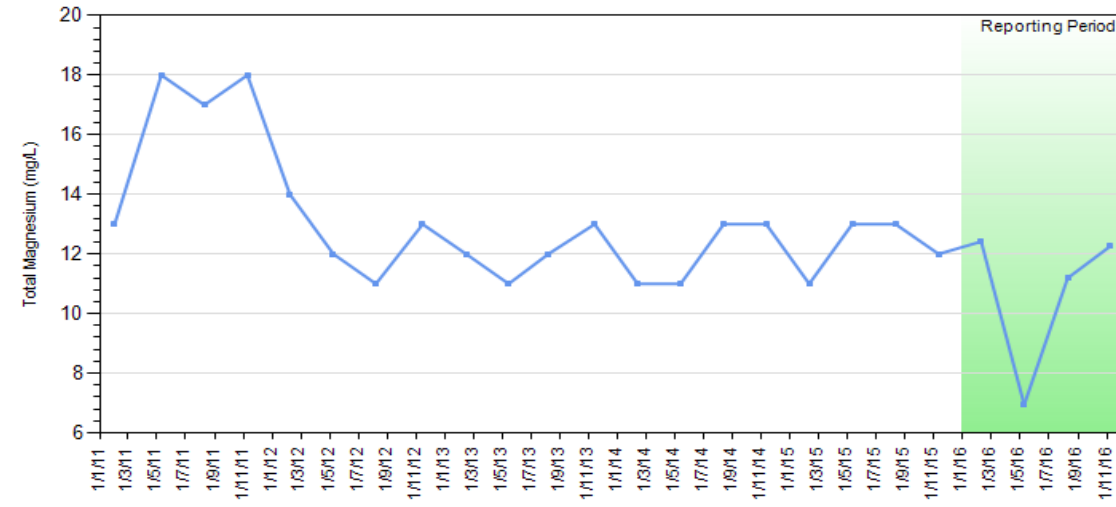
GW20 - Total Kjeldahl Nitrogen (mg/L)



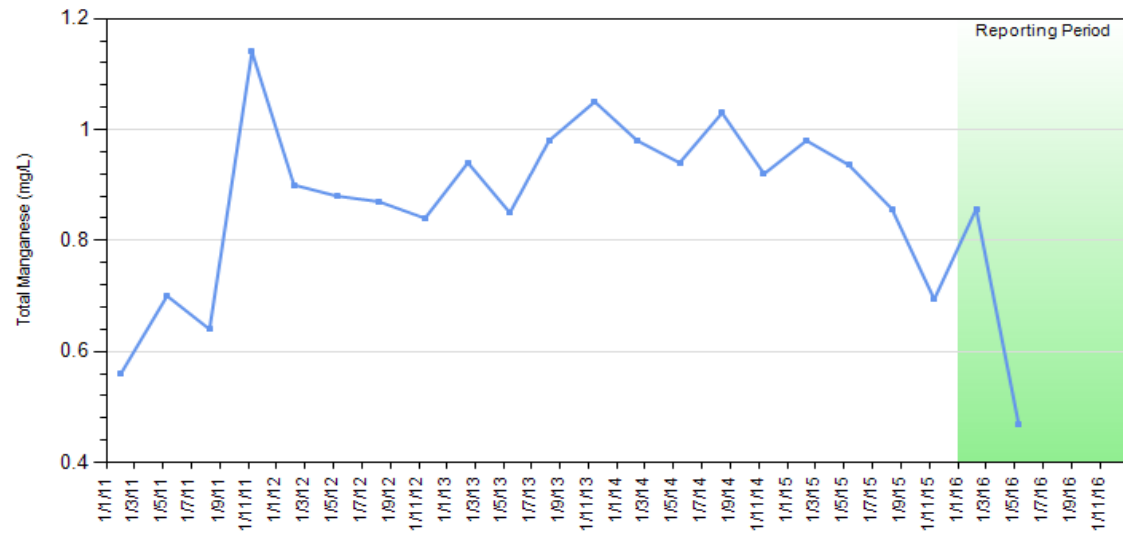
GW20 - Total Lead (mg/L)



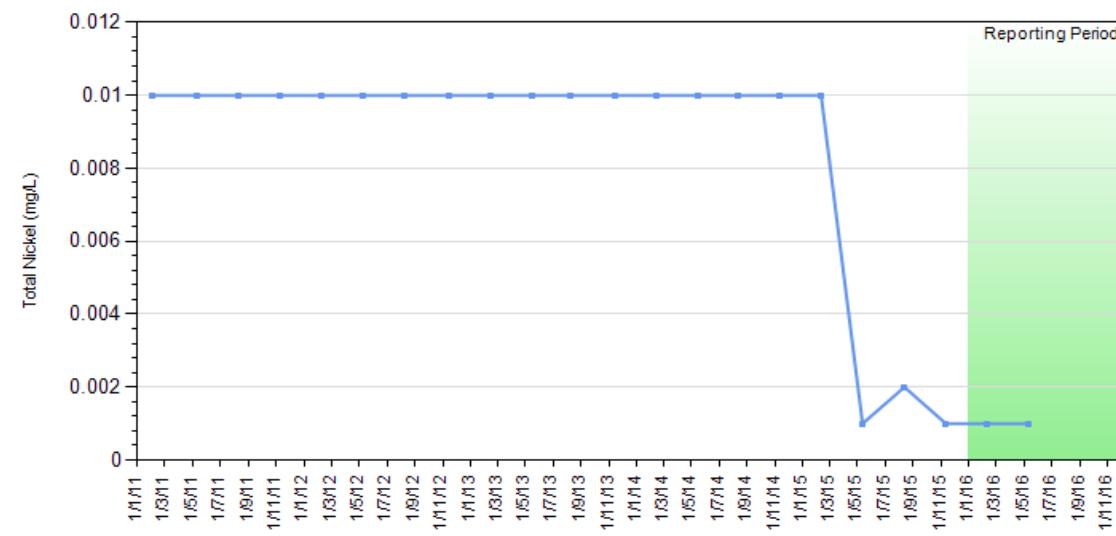
GW20 - Total Magnesium (mg/L)



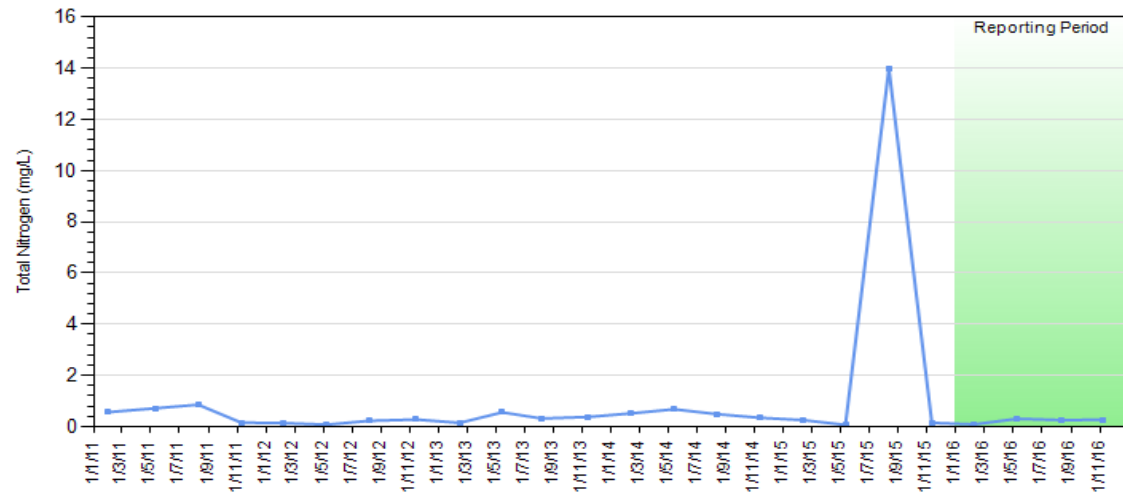
GW20 - Total Manganese (mg/L)



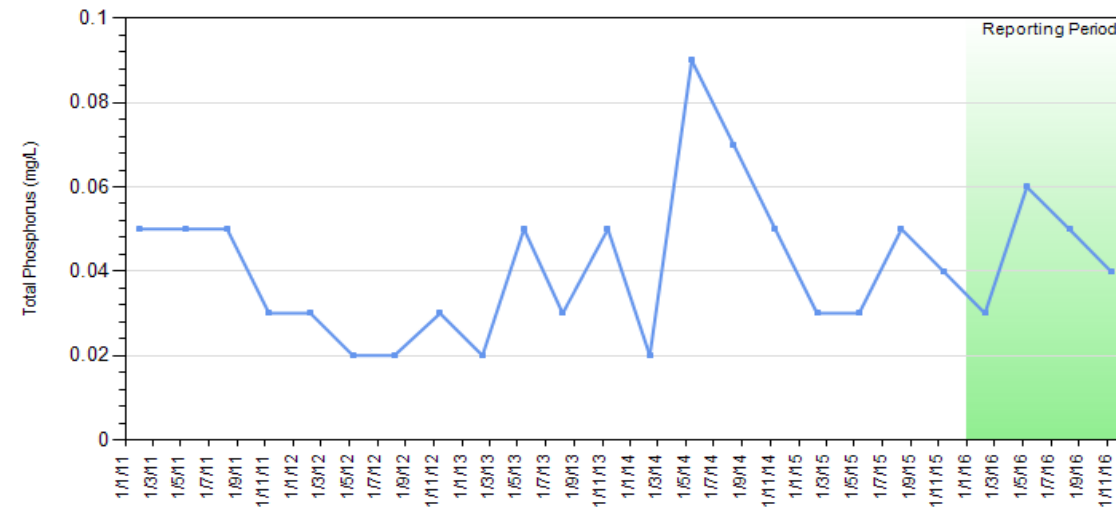
GW20 - Total Nickel (mg/L)



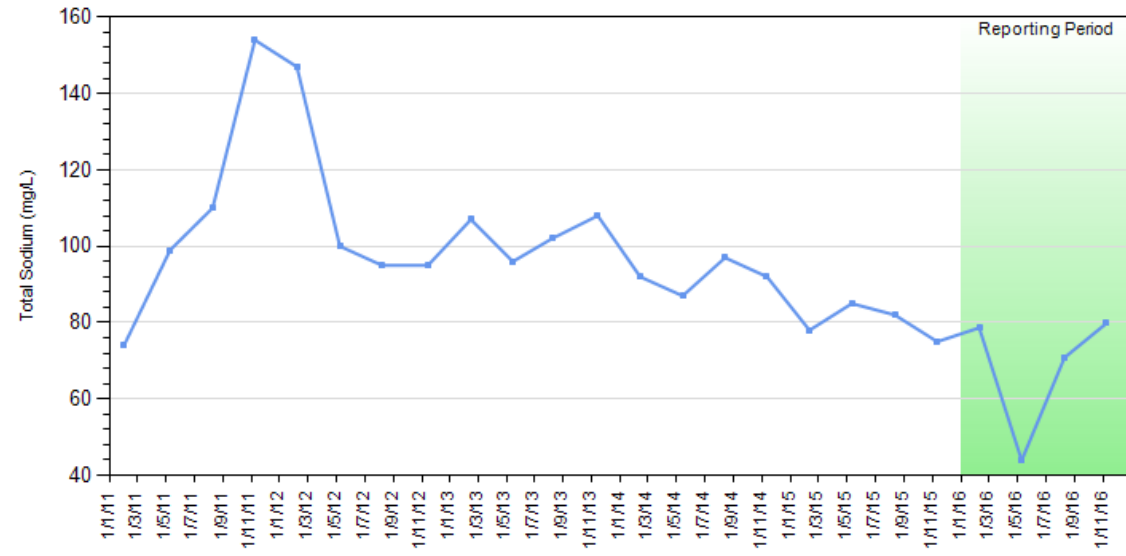
GW20 - Total Nitrogen (mg/L)



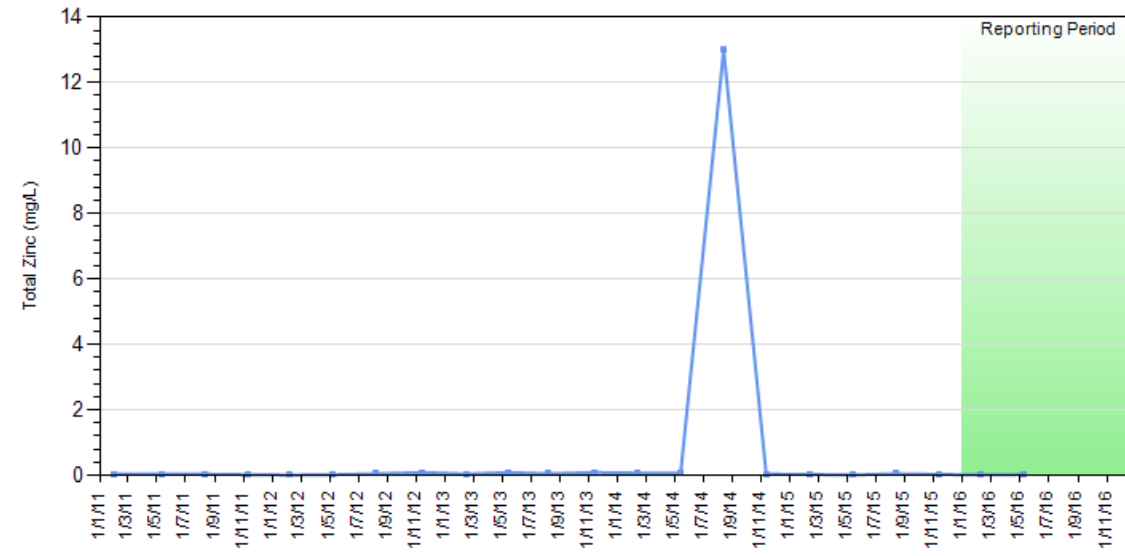
GW20 - Total Phosphorus (mg/L)



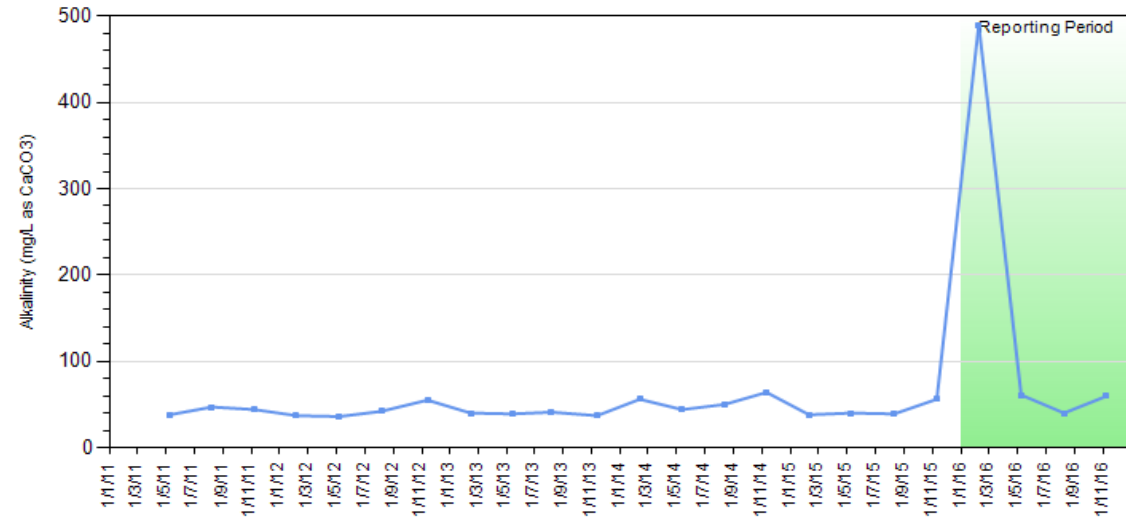
GW20 - Total Sodium (mg/L)



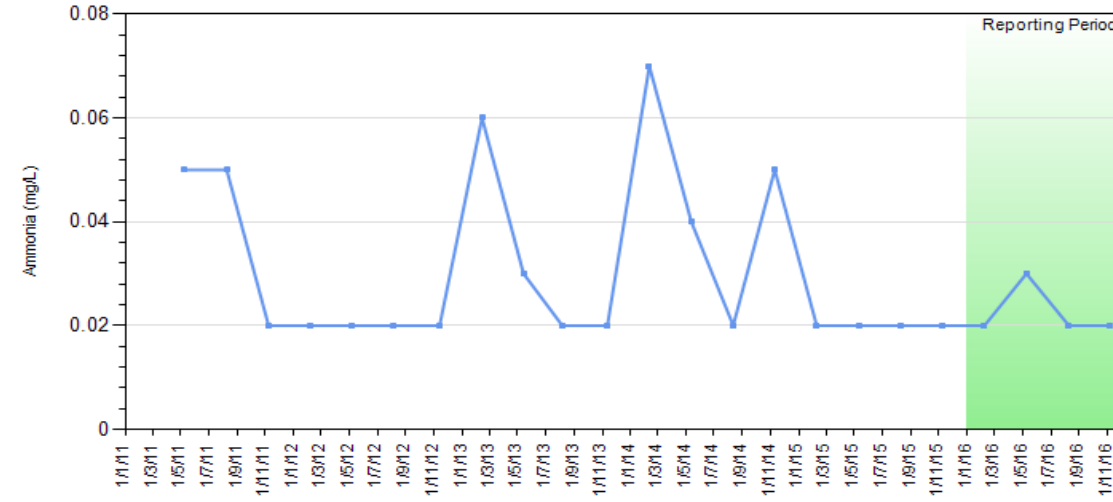
GW20 - Total Zinc (mg/L)



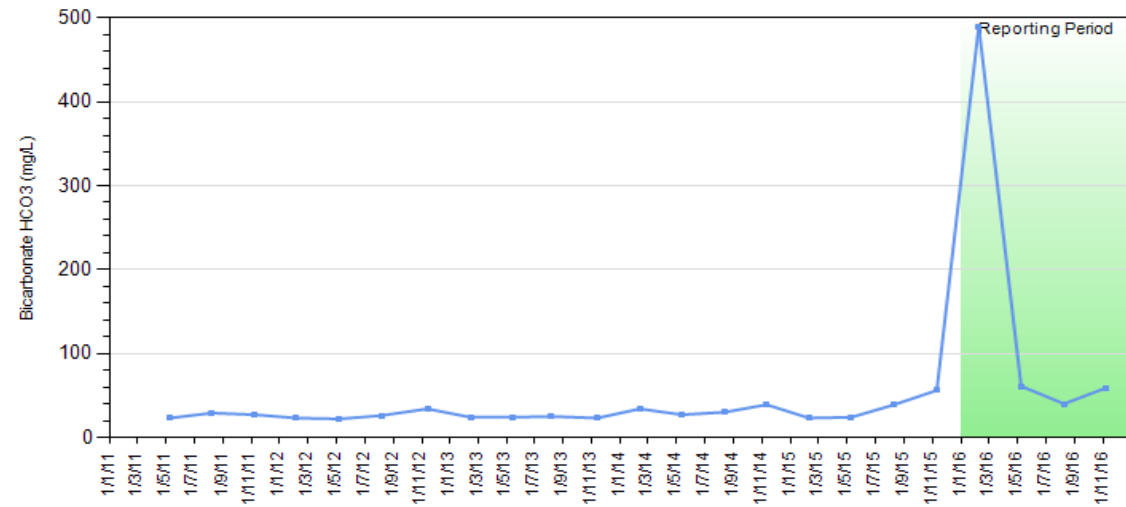
GW21 - Alkalinity (mg/L as CaCO3)



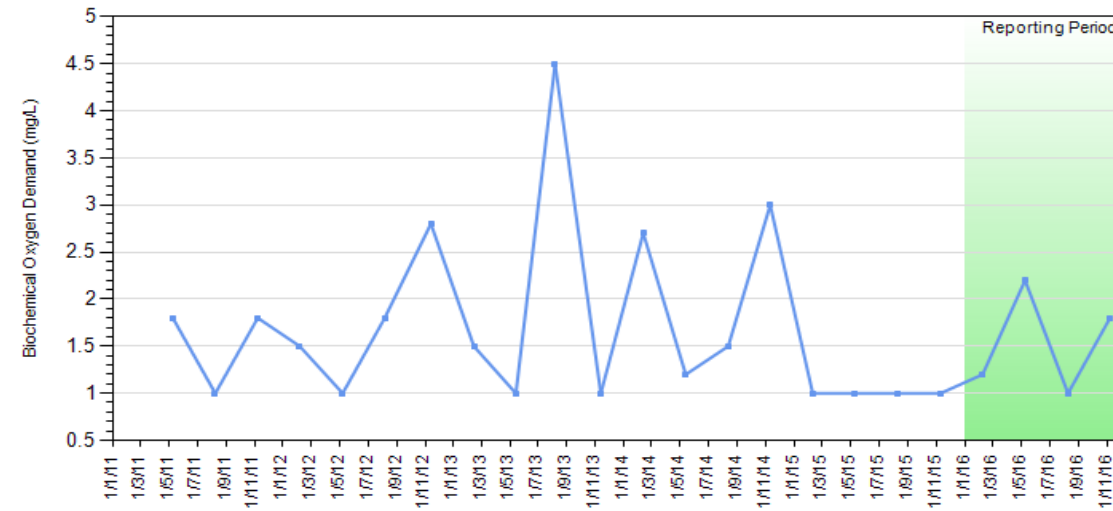
GW21 - Ammonia (mg/L)



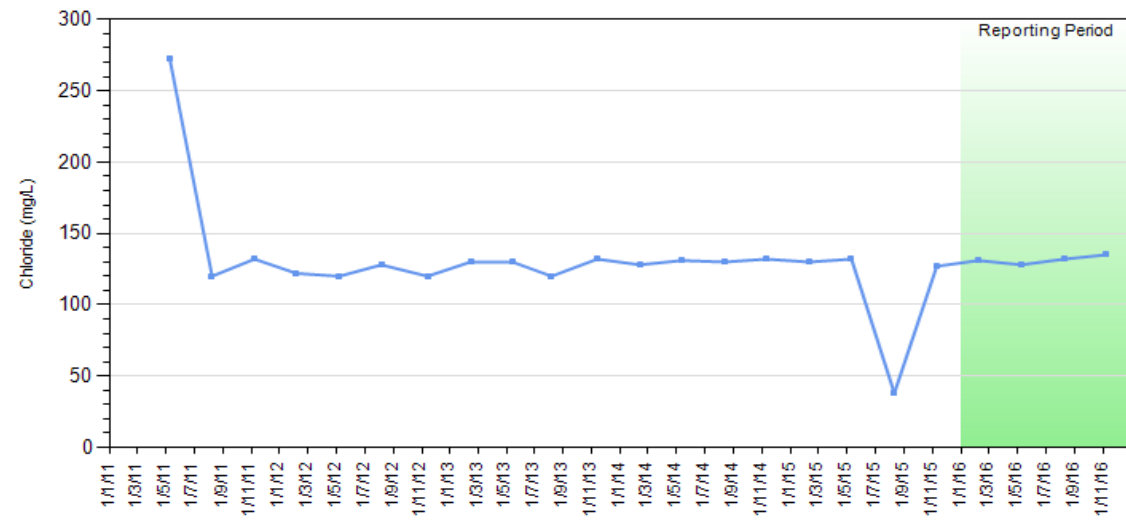
GW21 - Bicarbonate HCO3 (mg/L)



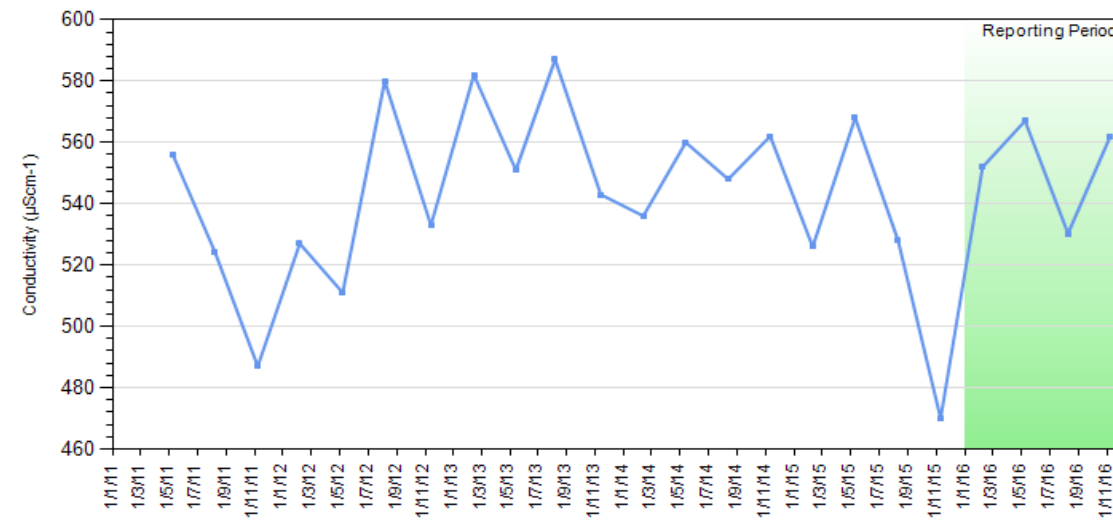
GW21 - Biochemical Oxygen Demand (mg/L)



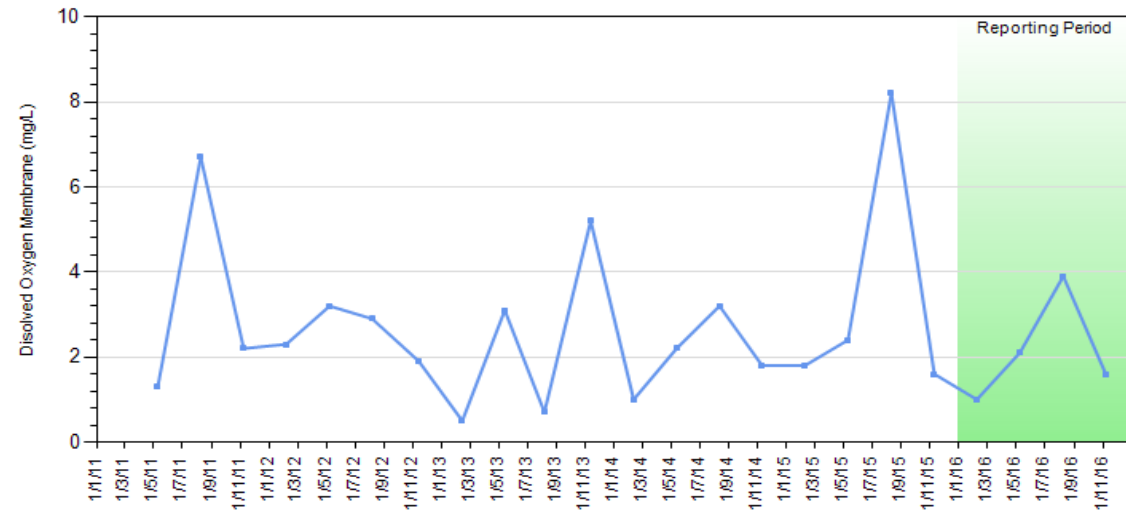
GW21 - Chloride (mg/L)



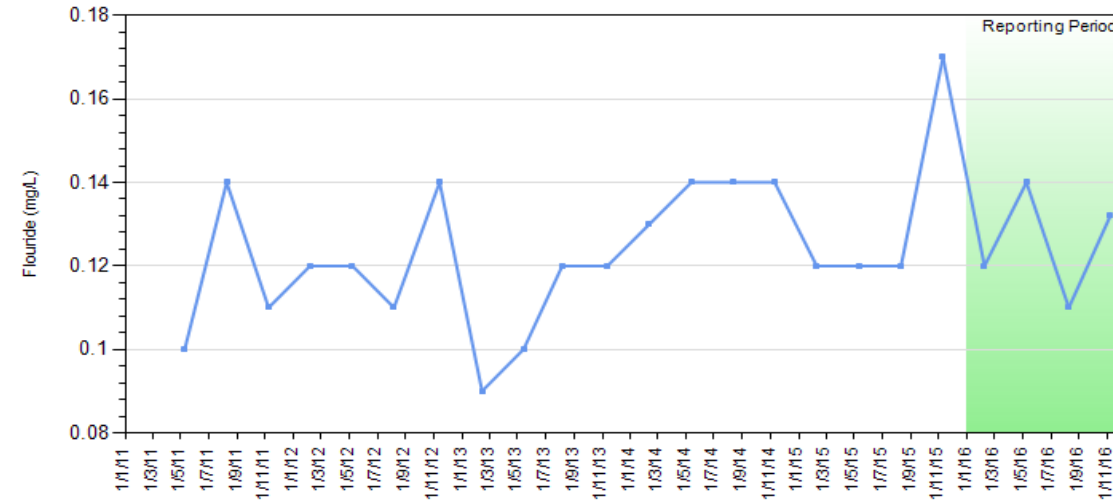
GW21 - Conductivity (µScm-1)



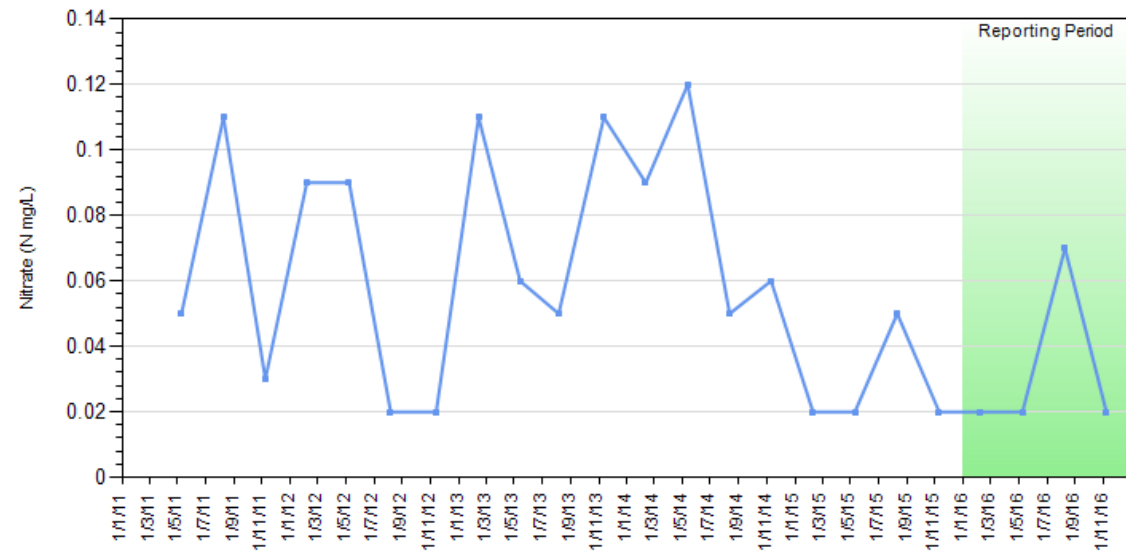
GW21 - Dissolved Oxygen Membrane (mg/L)



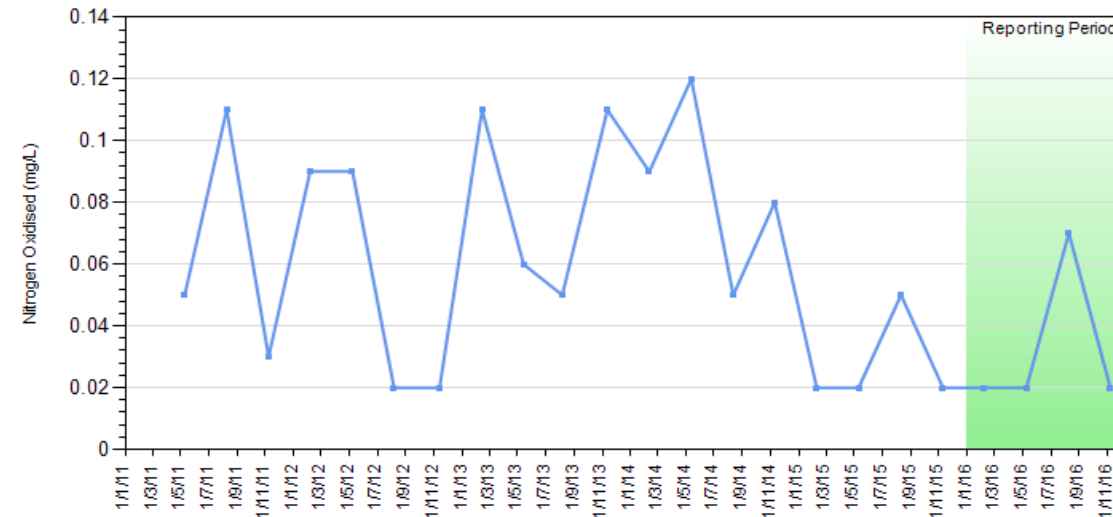
GW21 - Flouride (mg/L)



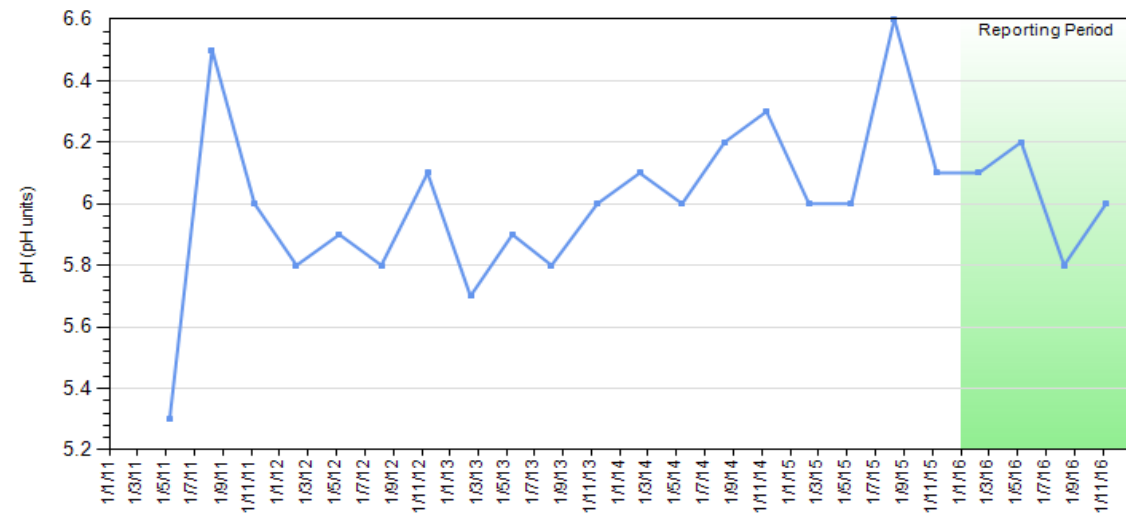
GW21 - Nitrate (N mg/L)



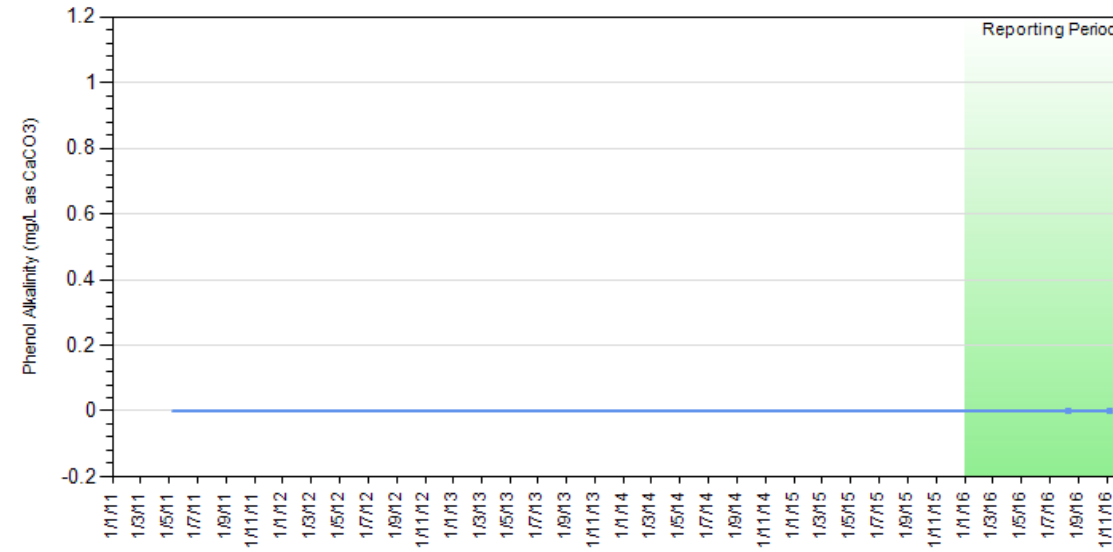
GW21 - Nitrogen Oxidised (mg/L)

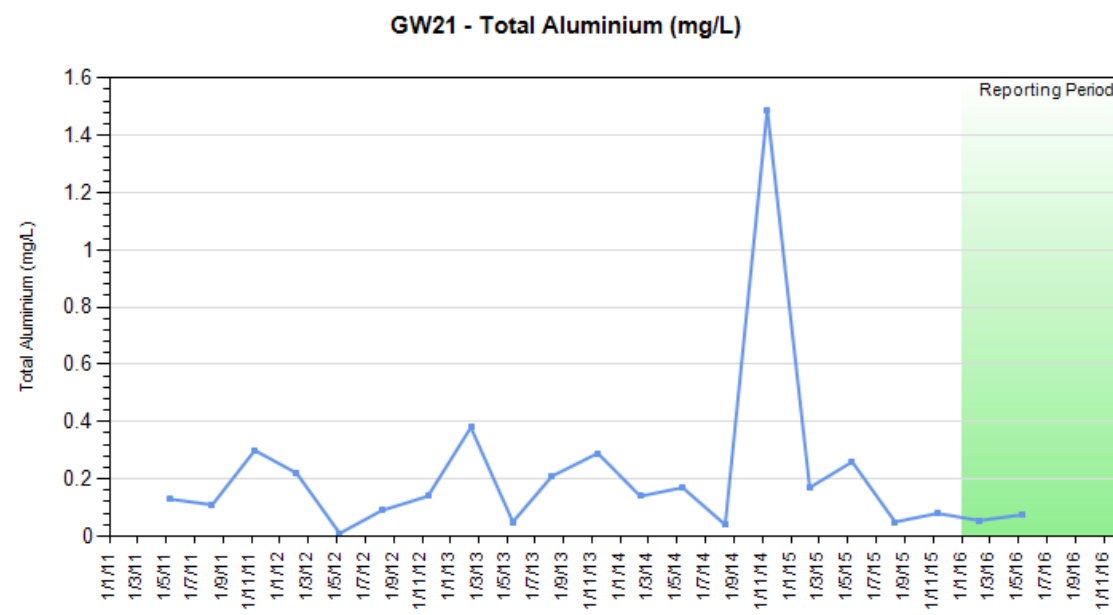
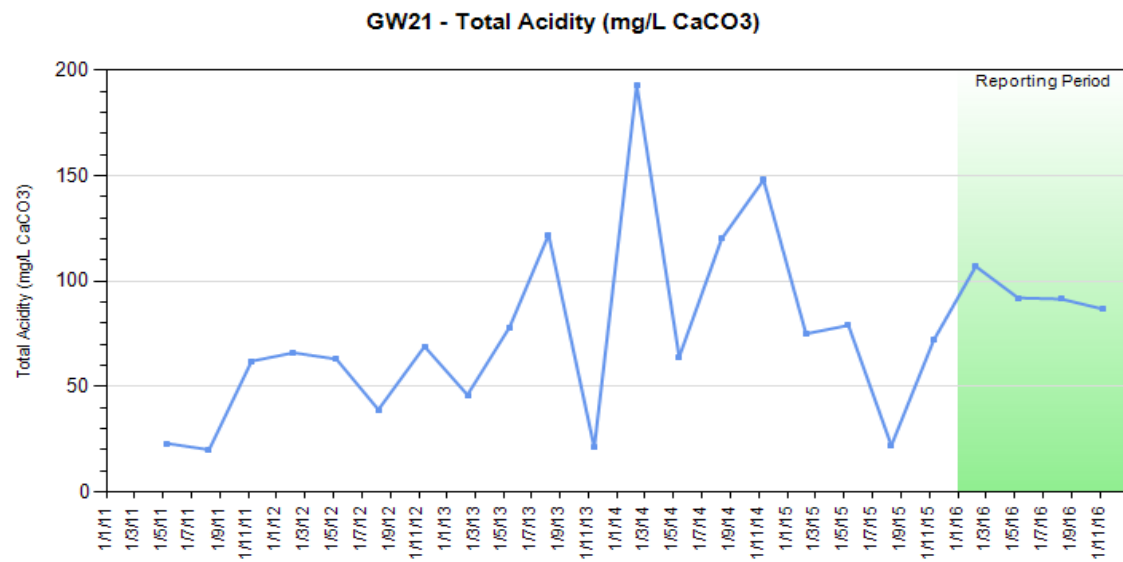
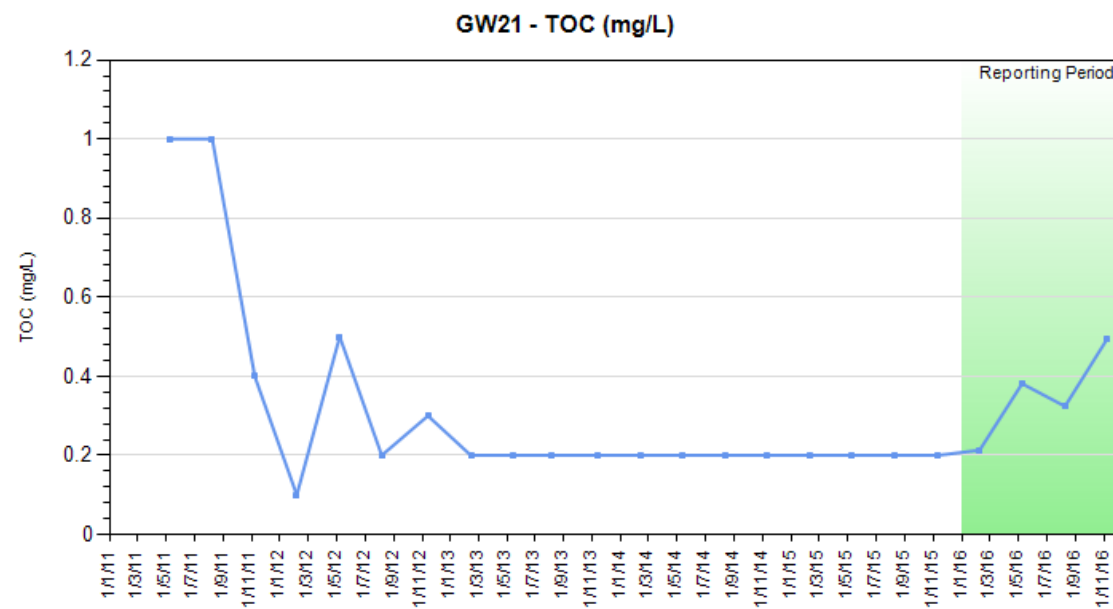
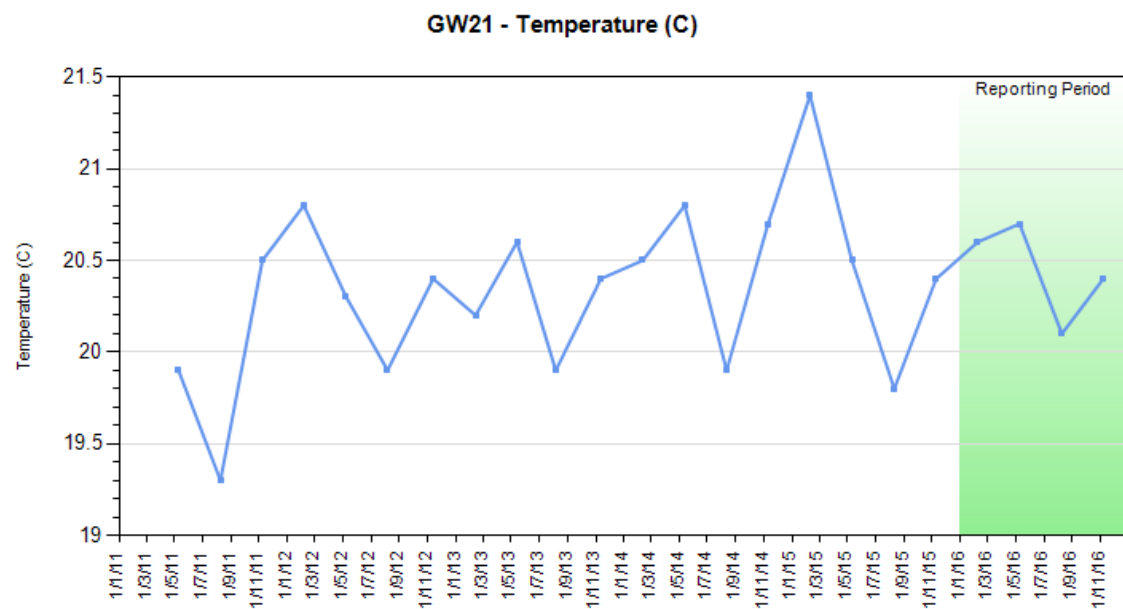
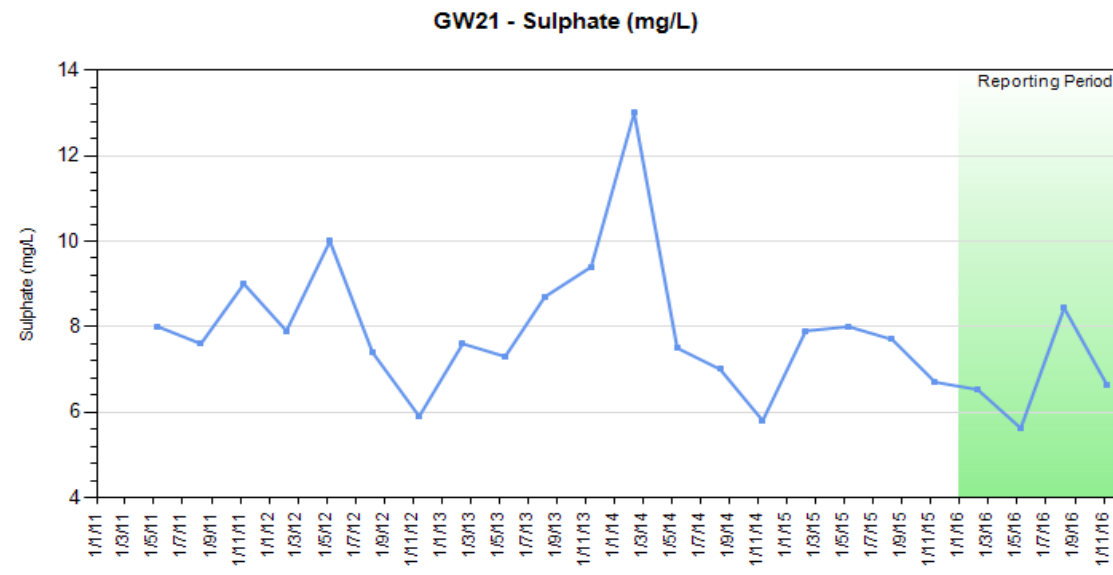
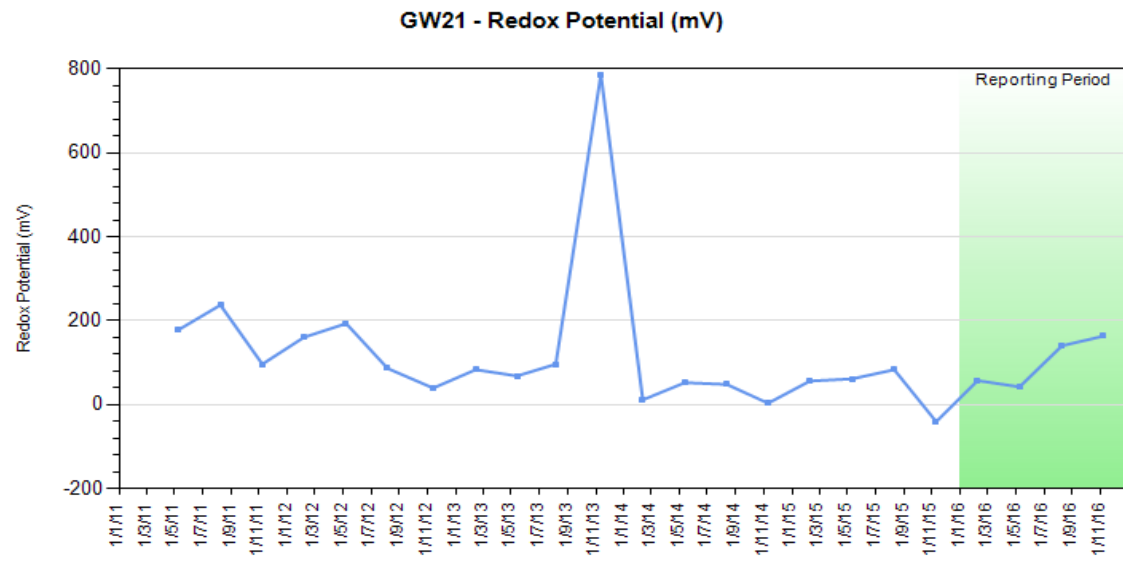


GW21 - pH (pH units)

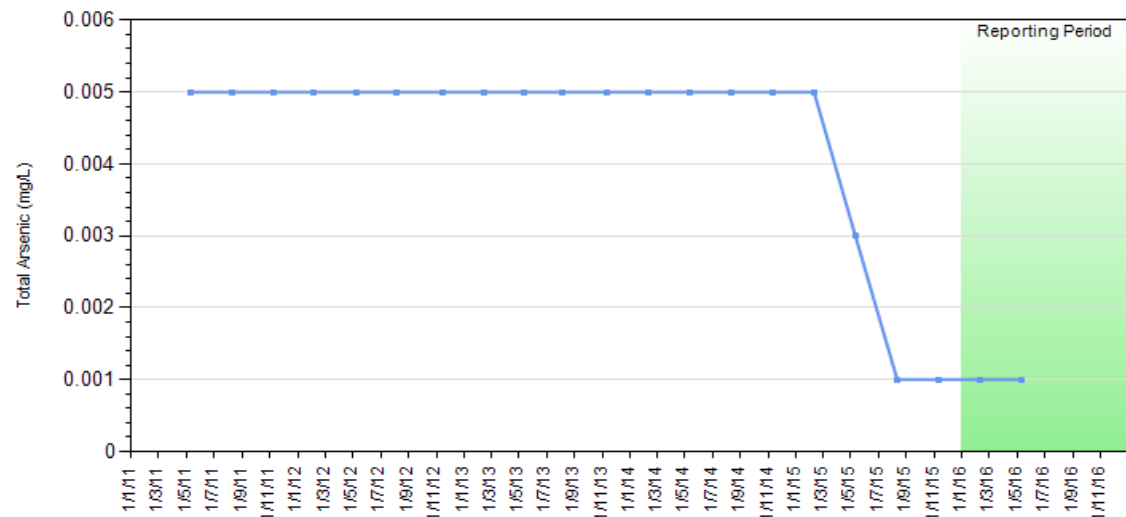


GW21 - Phenol Alkalinity (mg/L as CaCO3)

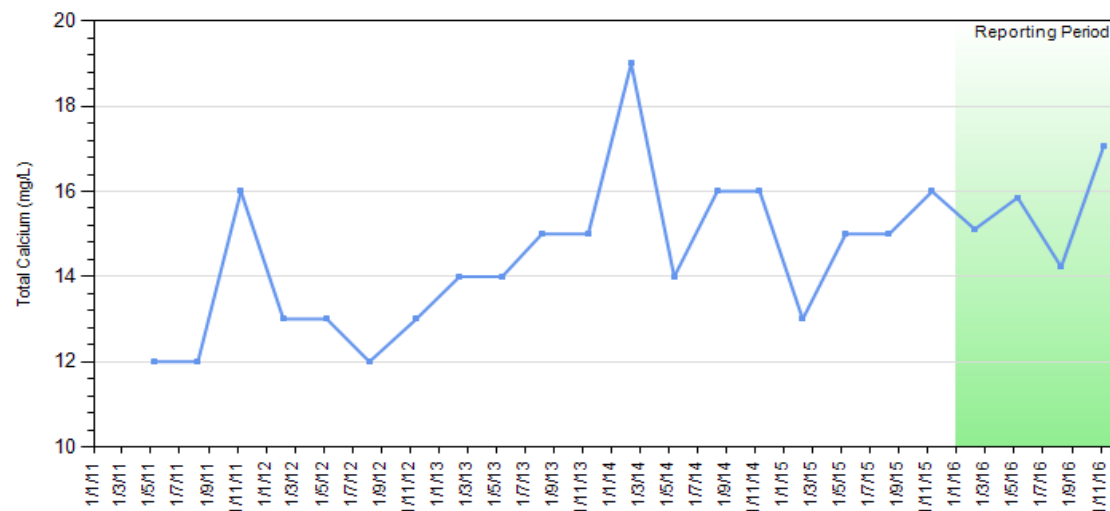




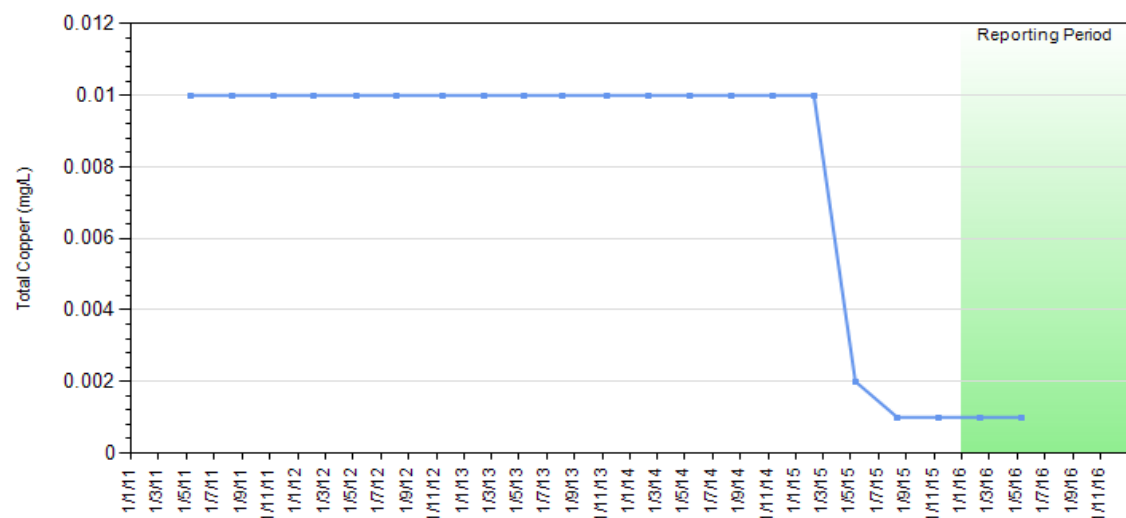
GW21 - Total Arsenic (mg/L)



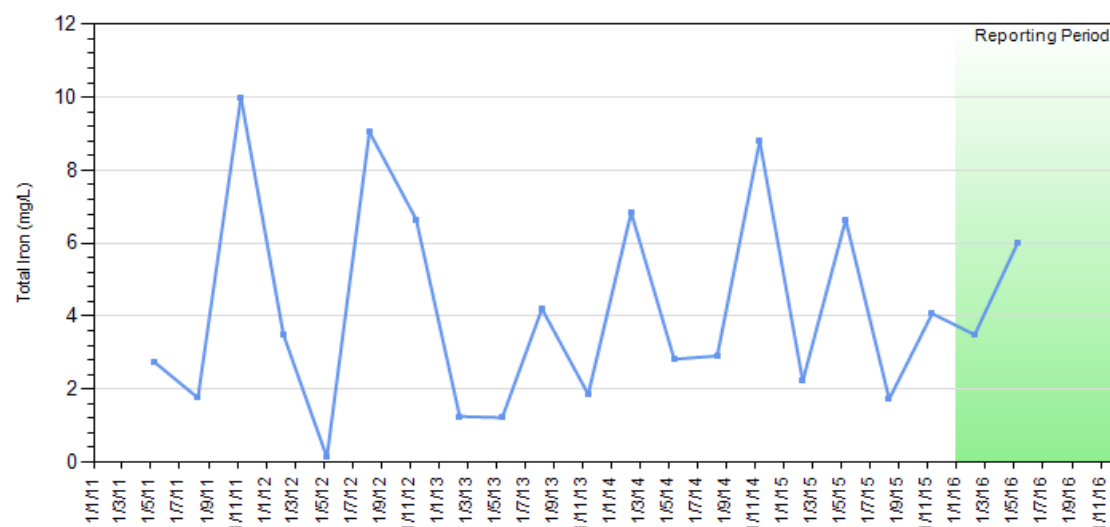
GW21 - Total Calcium (mg/L)



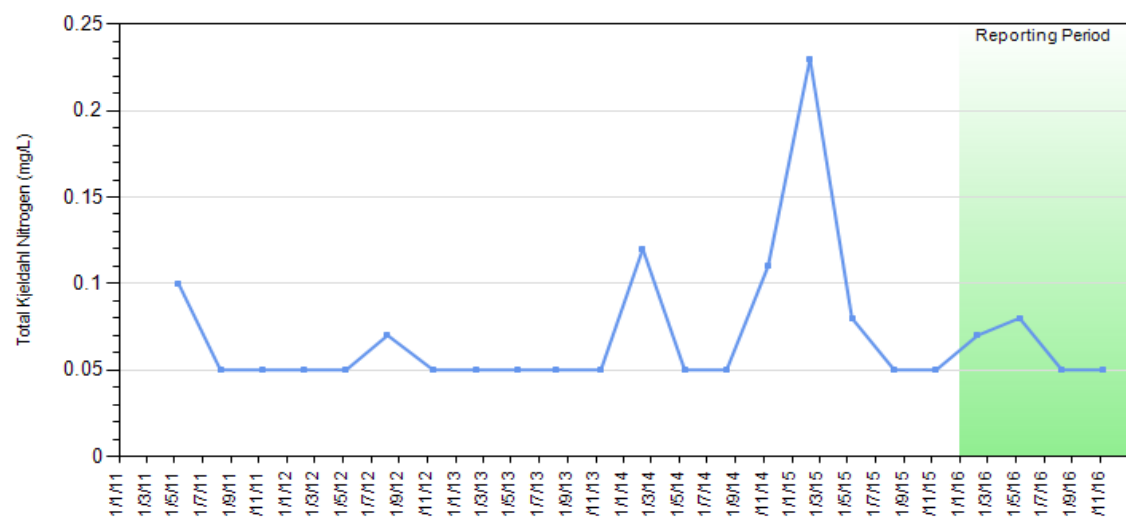
GW21 - Total Copper (mg/L)



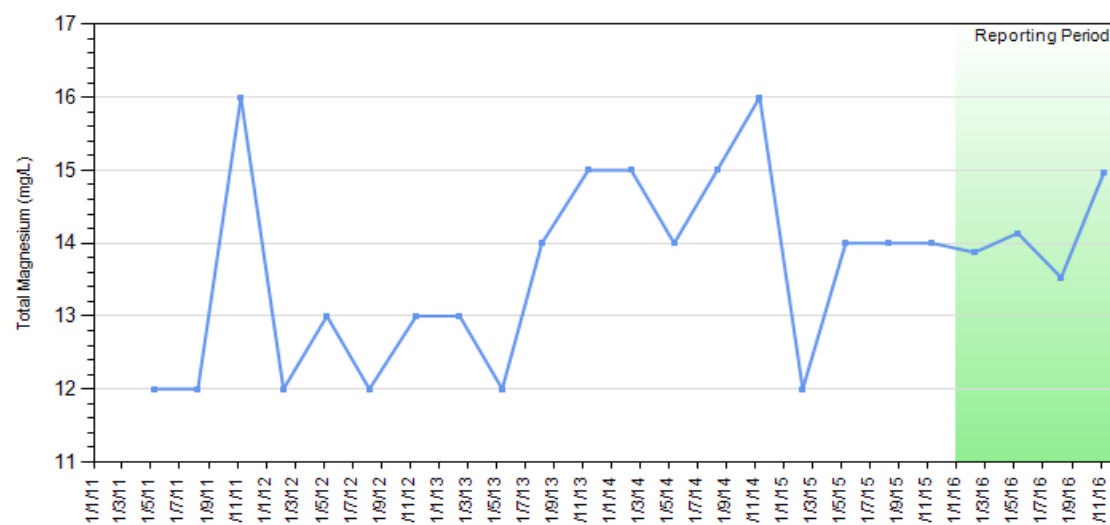
GW21 - Total Iron (mg/L)



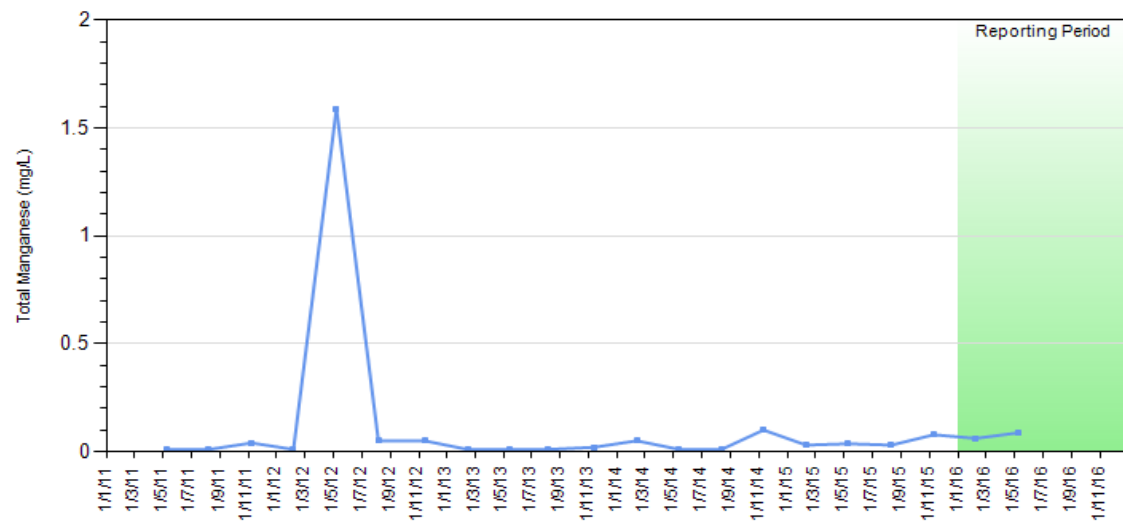
GW21 - Total Kjeldahl Nitrogen (mg/L)



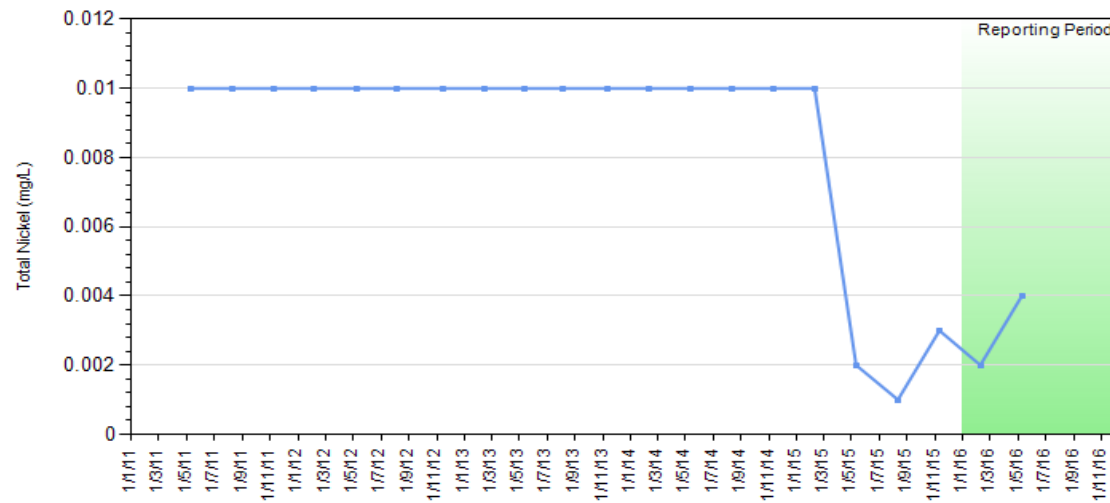
GW21 - Total Magnesium (mg/L)



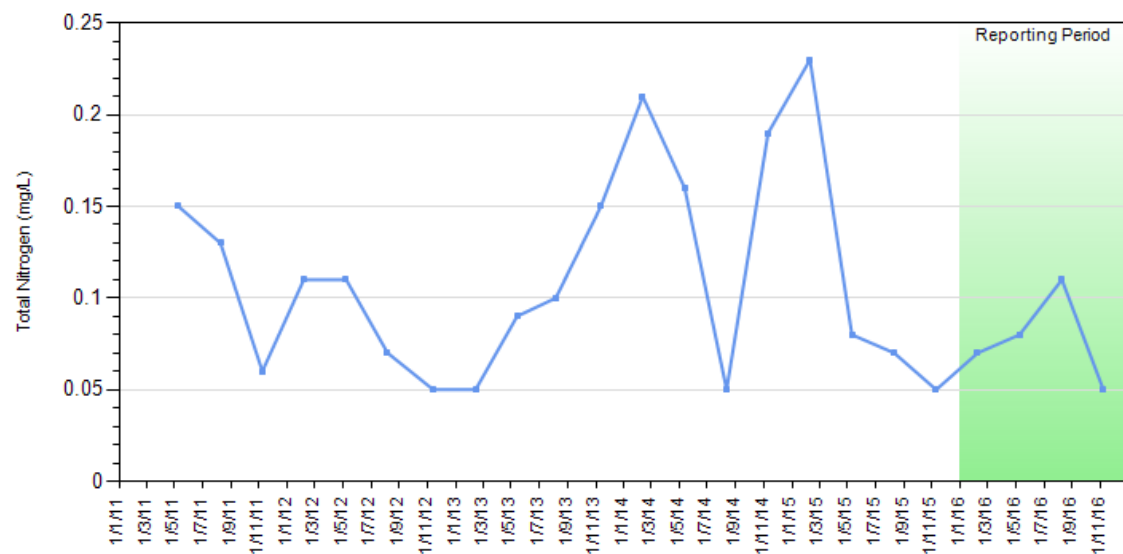
GW21 - Total Manganese (mg/L)



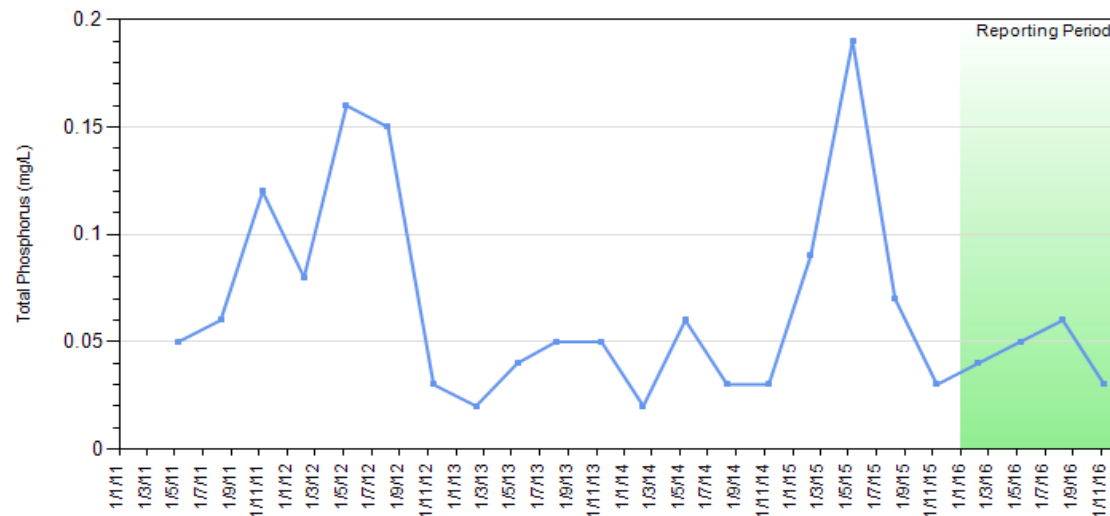
GW21 - Total Nickel (mg/L)



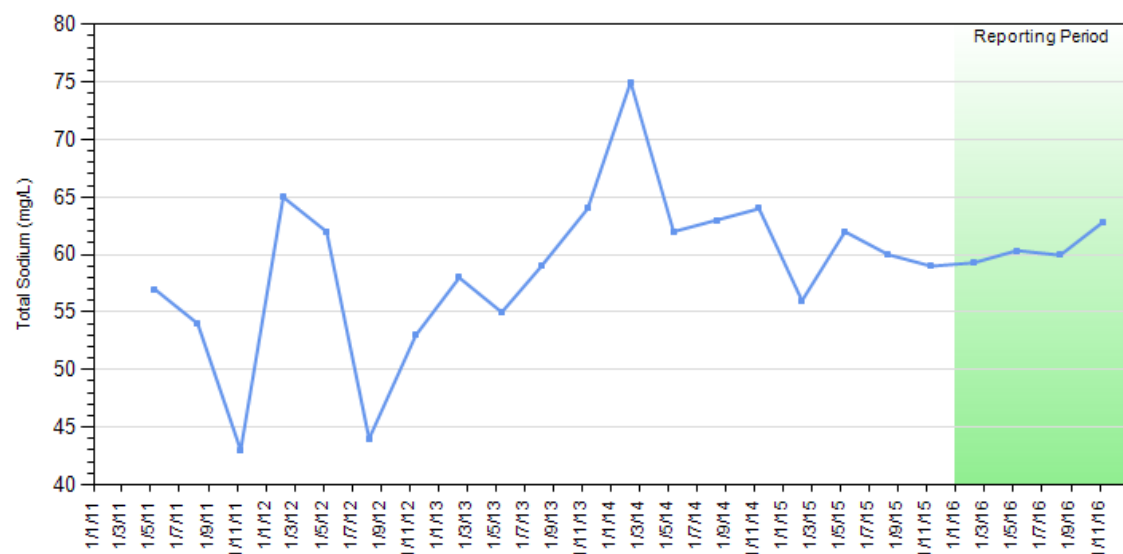
GW21 - Total Nitrogen (mg/L)



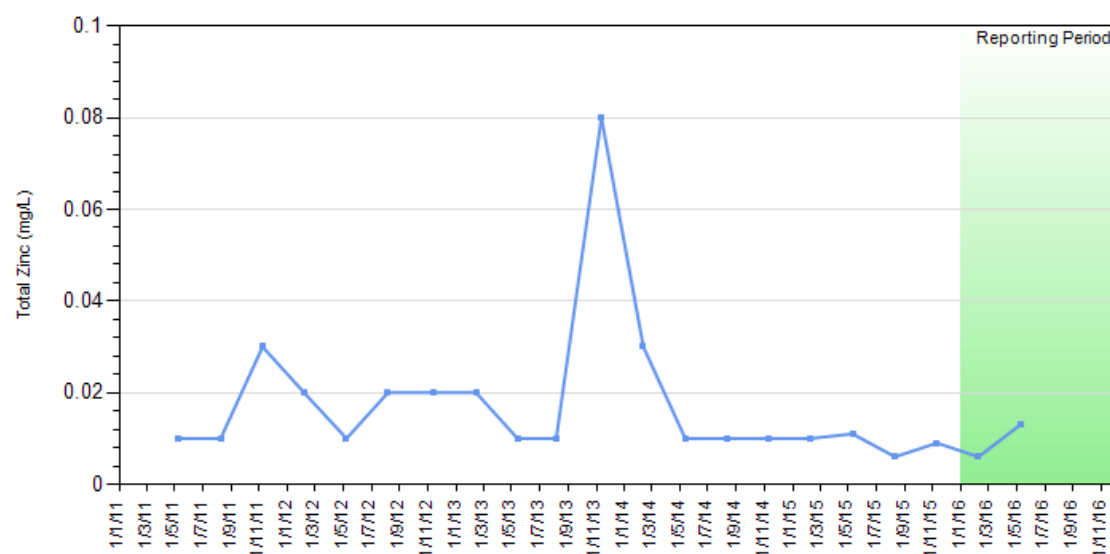
GW21 - Total Phosphorus (mg/L)



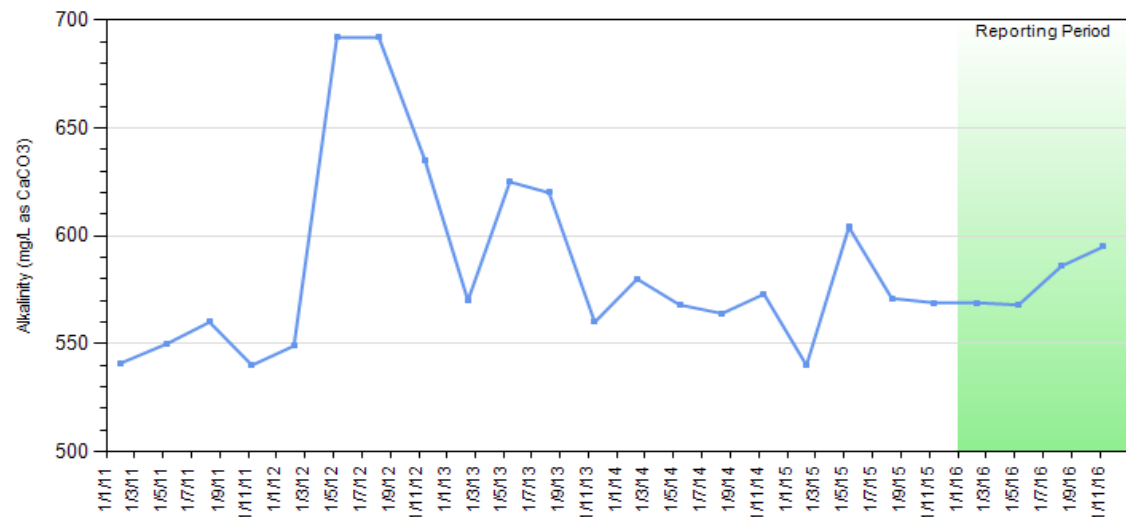
GW21 - Total Sodium (mg/L)



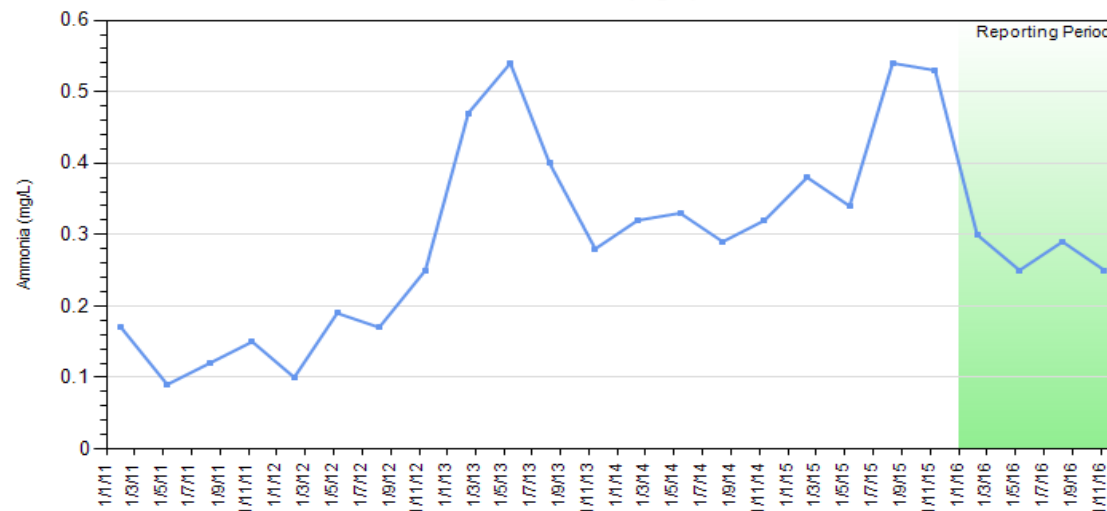
GW21 - Total Zinc (mg/L)



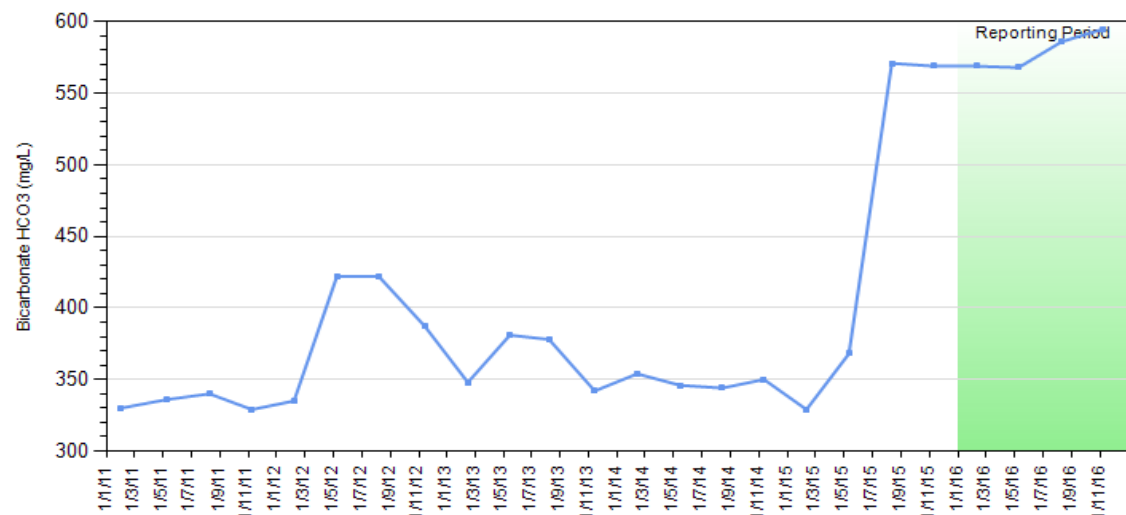
GW22 - Alkalinity (mg/L as CaCO3)



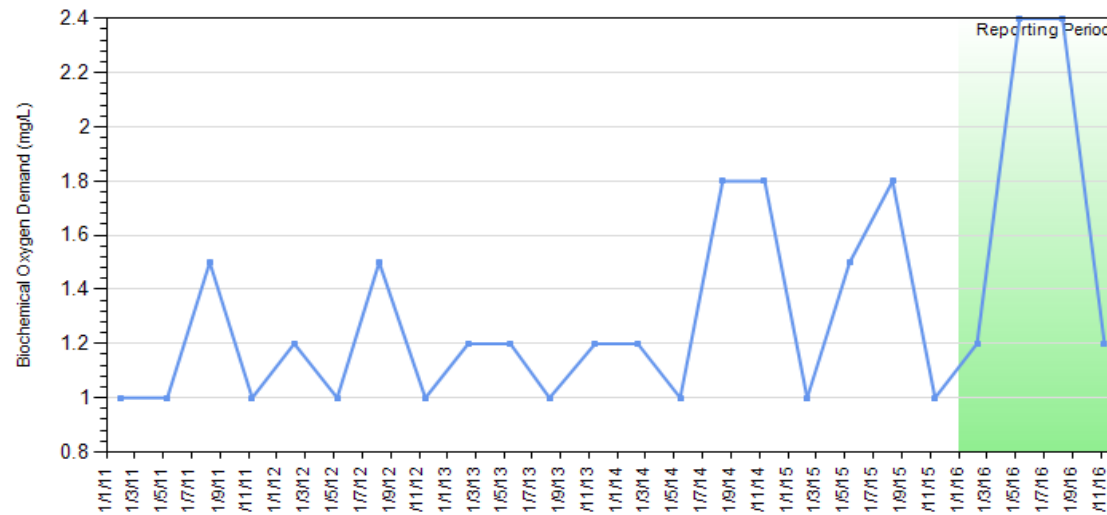
GW22 - Ammonia (mg/L)



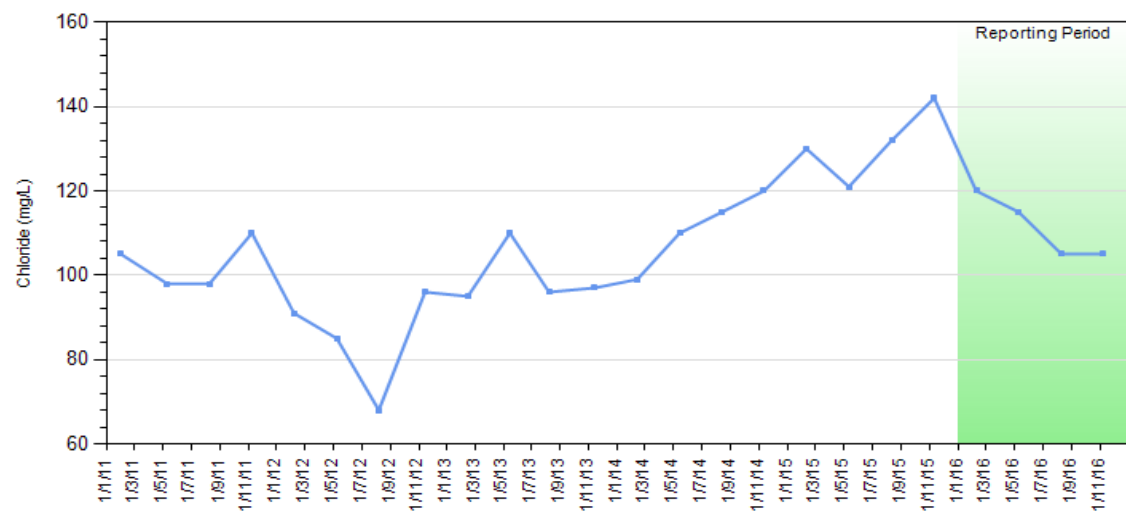
GW22 - Bicarbonate HCO3 (mg/L)



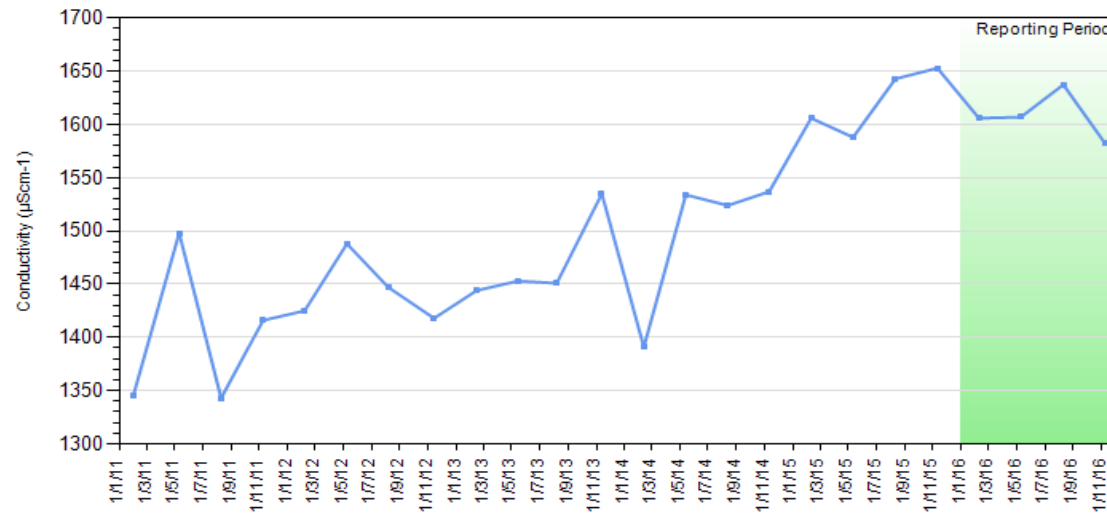
GW22 - Biochemical Oxygen Demand (mg/L)



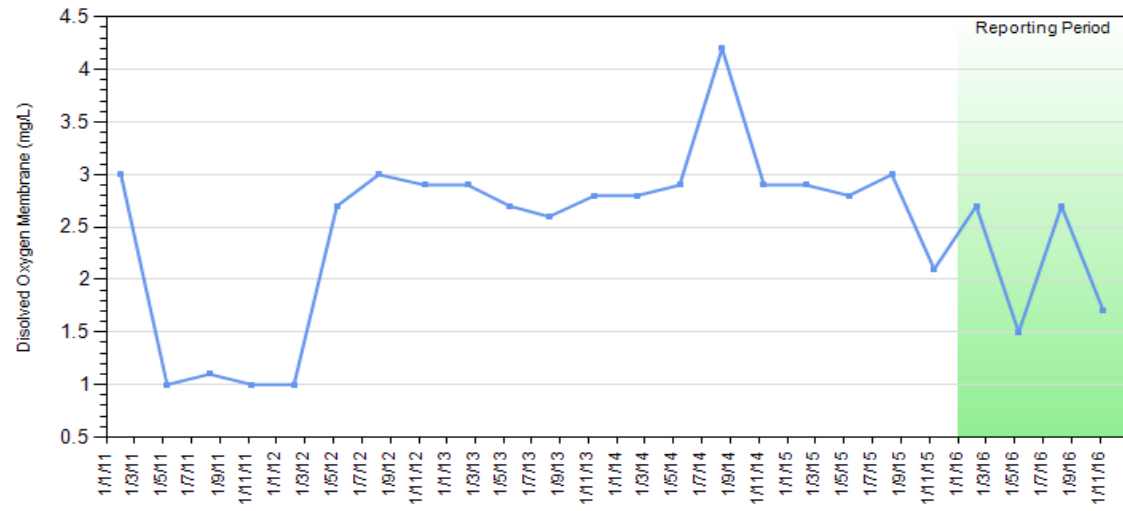
GW22 - Chloride (mg/L)



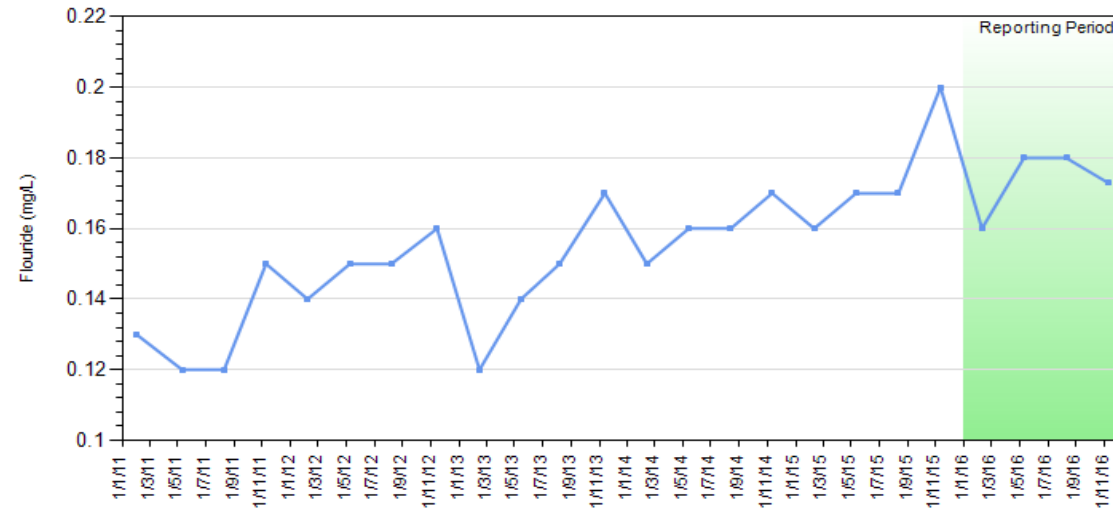
GW22 - Conductivity (µScm-1)



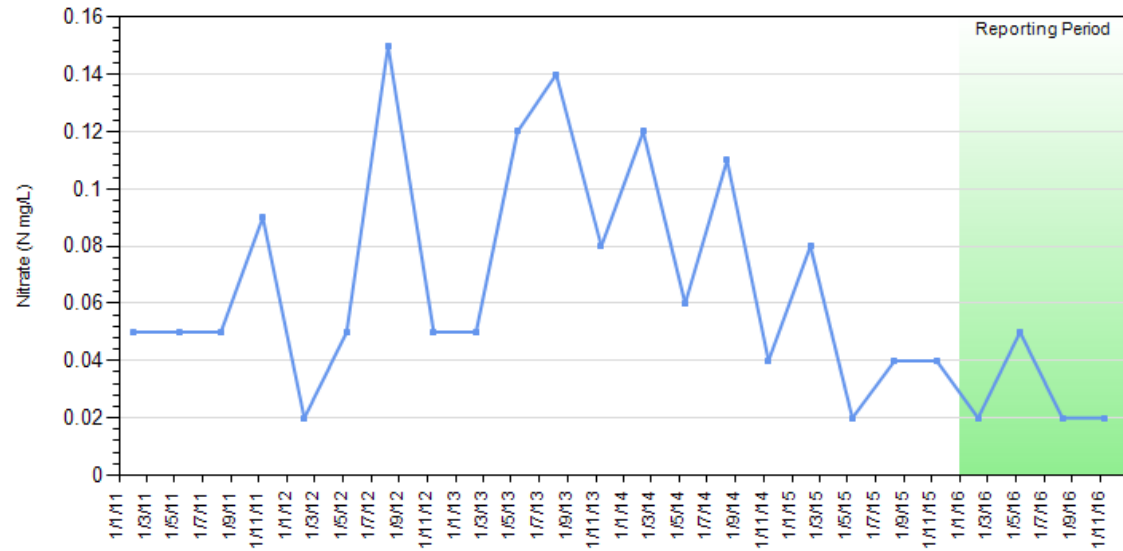
GW22 - Disolved Oxygen Membrane (mg/L)



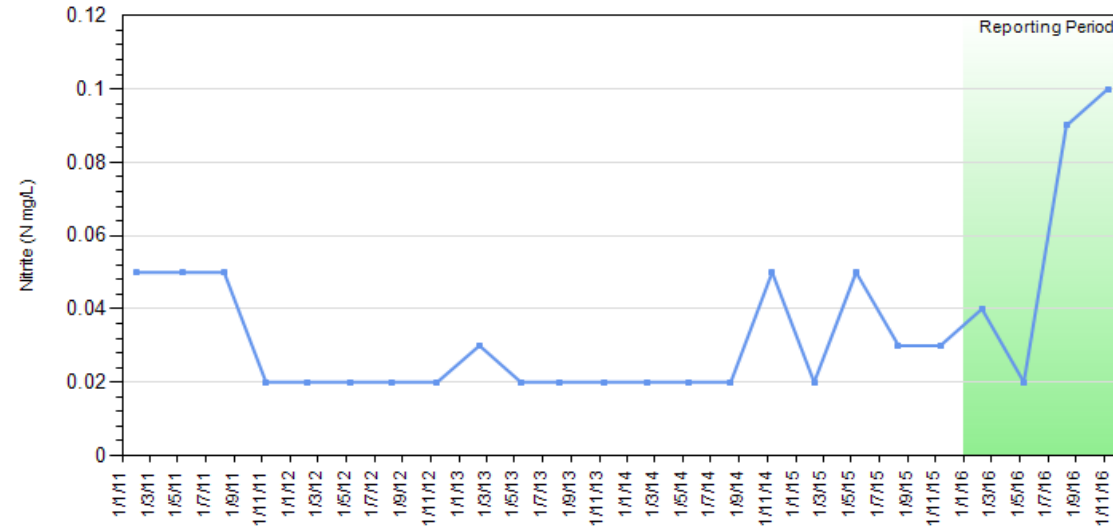
GW22 - Flouride (mg/L)



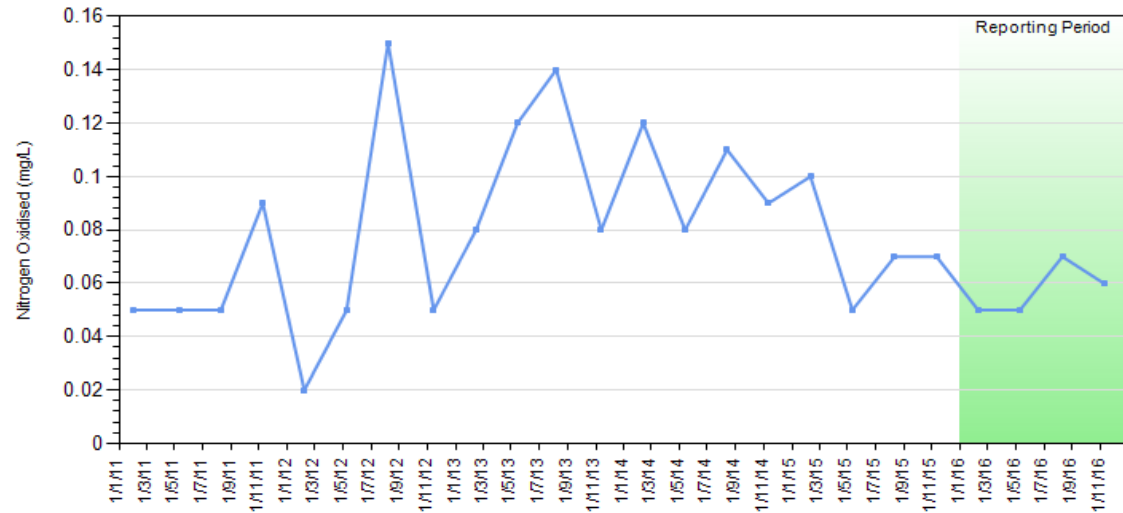
GW22 - Nitrate (N mg/L)



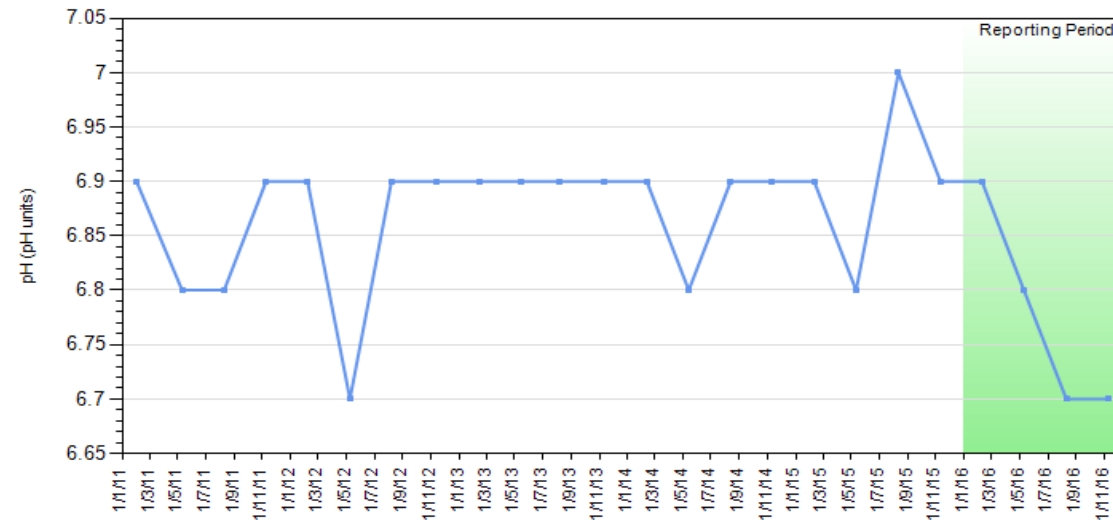
GW22 - Nitrite (N mg/L)



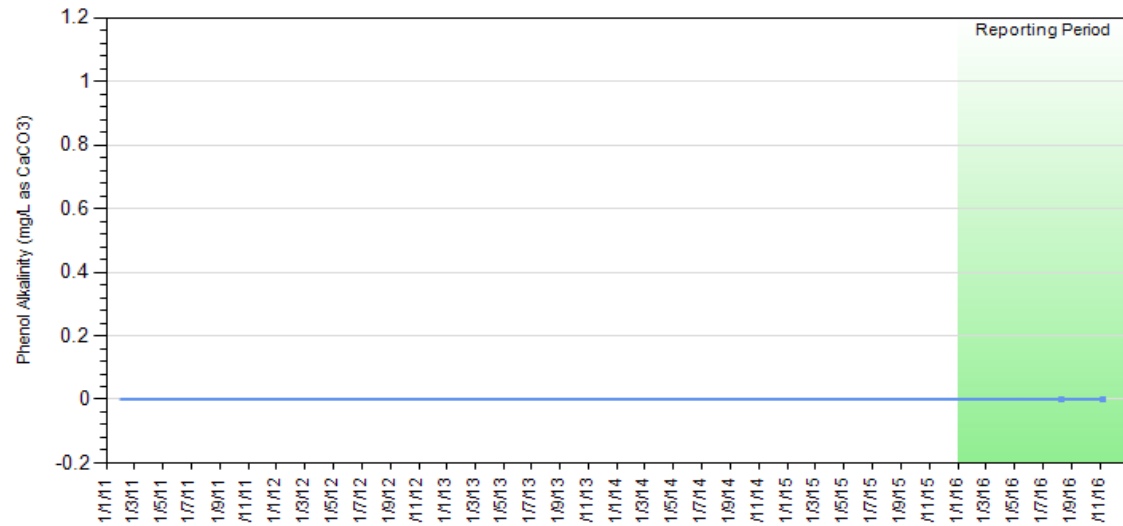
GW22 - Nitrogen Oxidised (mg/L)



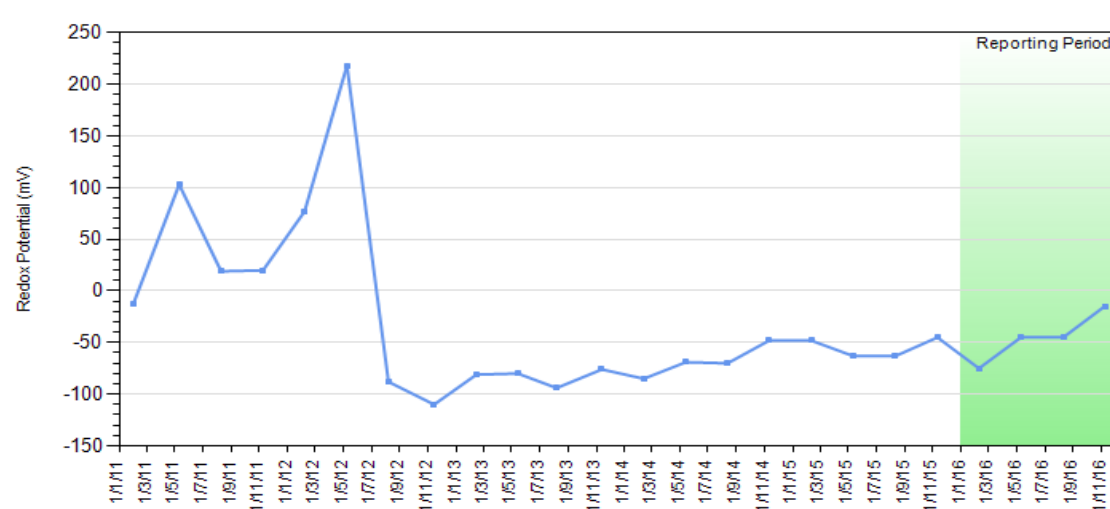
GW22 - pH (pH units)



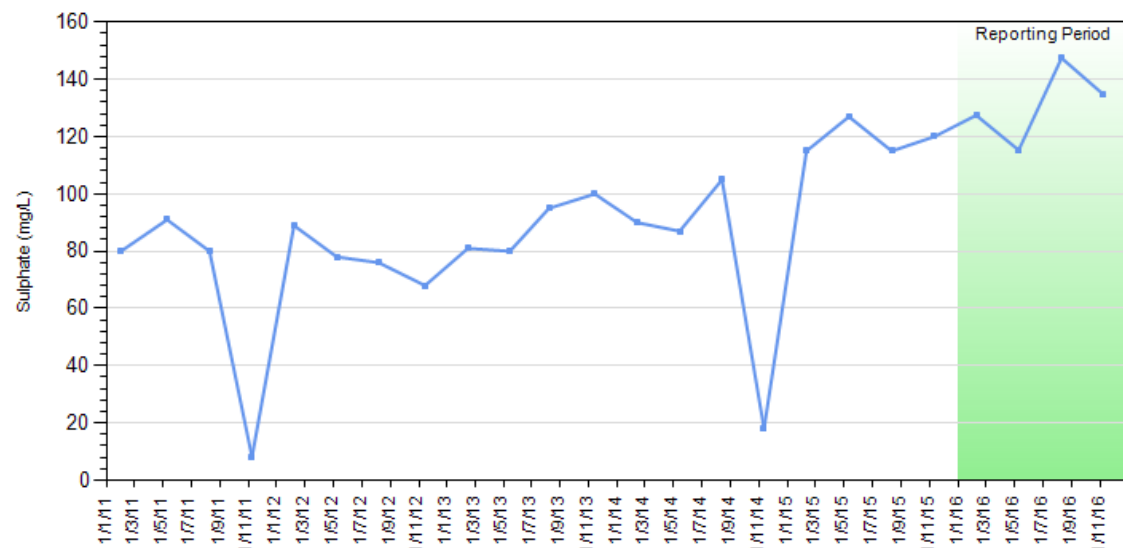
GW22 - Phenol Alkalinity (mg/L as CaCO3)



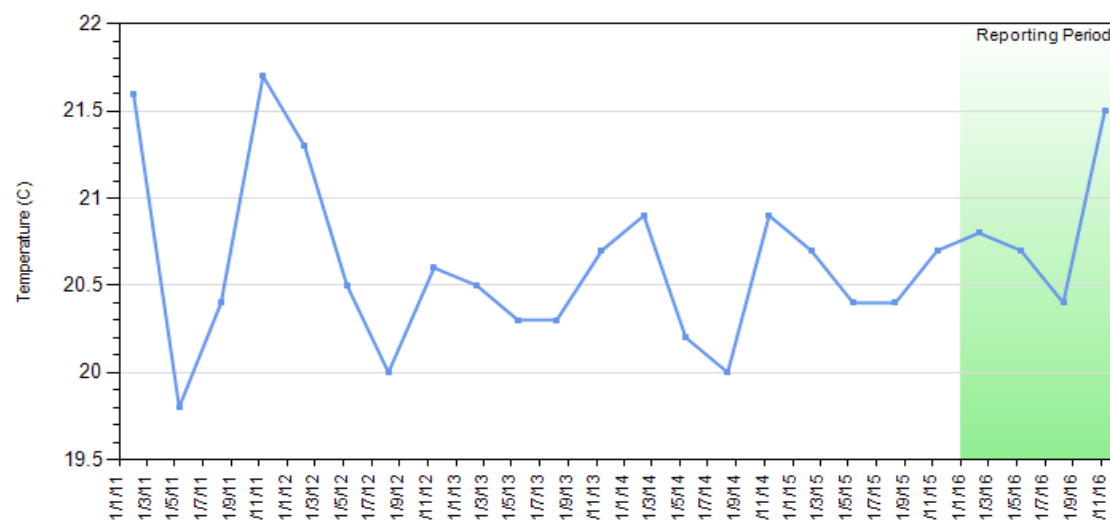
GW22 - Redox Potential (mV)



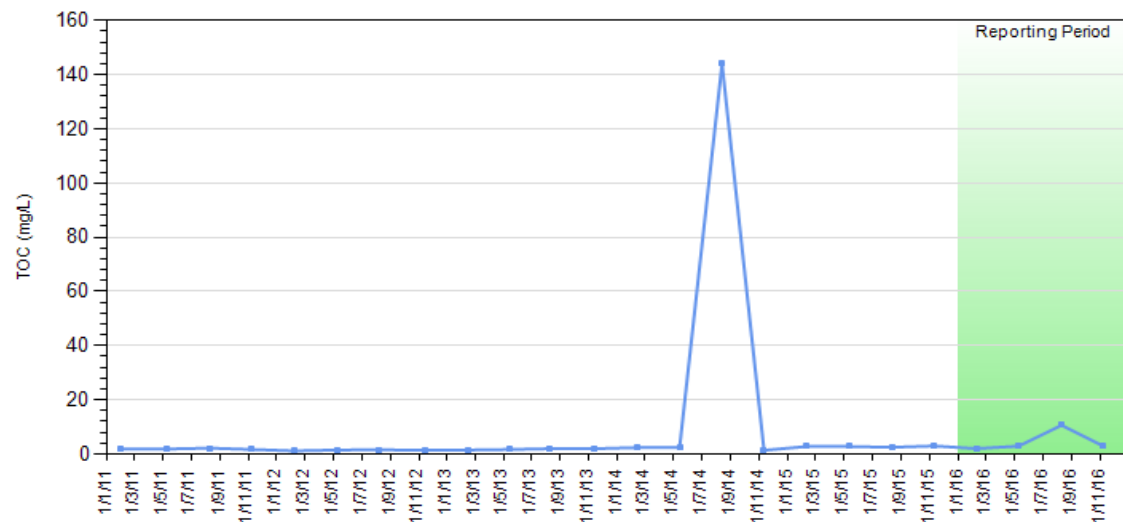
GW22 - Sulphate (mg/L)



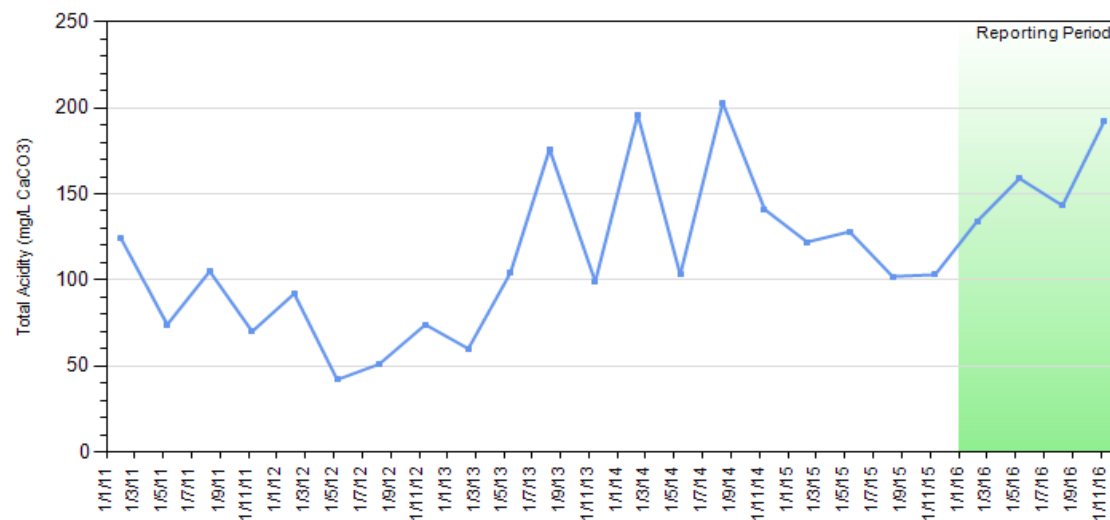
GW22 - Temperature (C)



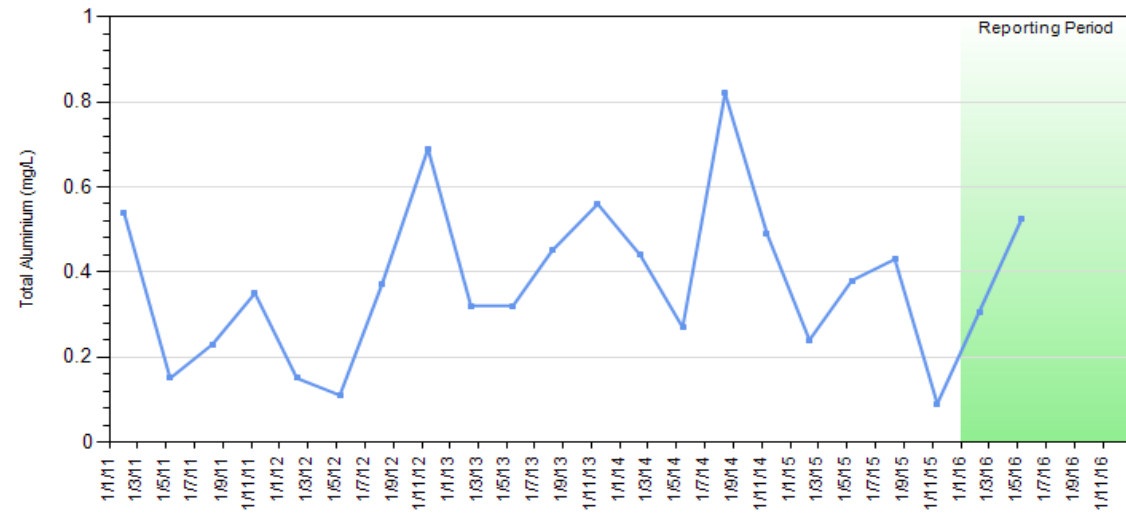
GW22 - TOC (mg/L)



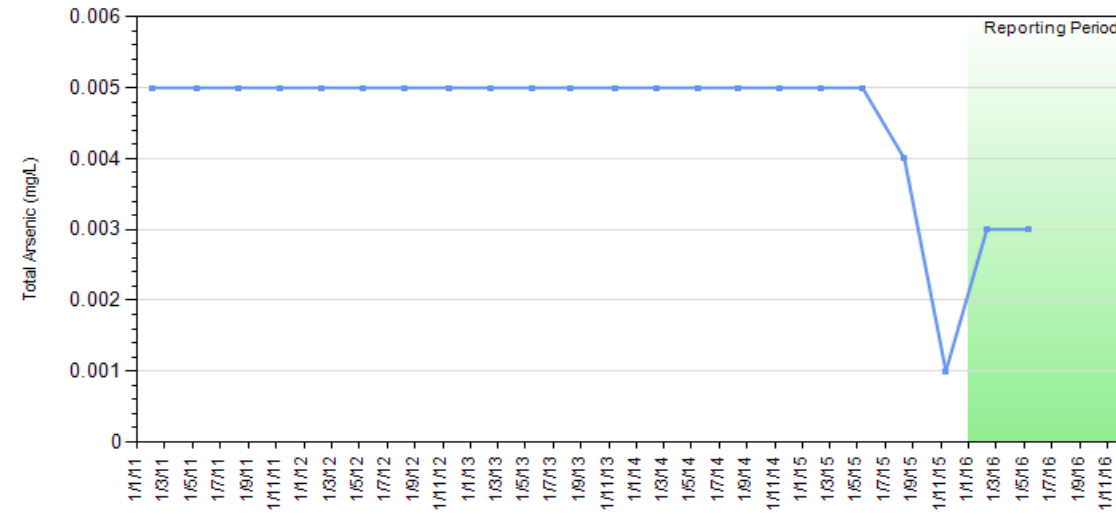
GW22 - Total Acidity (mg/L CaCO3)



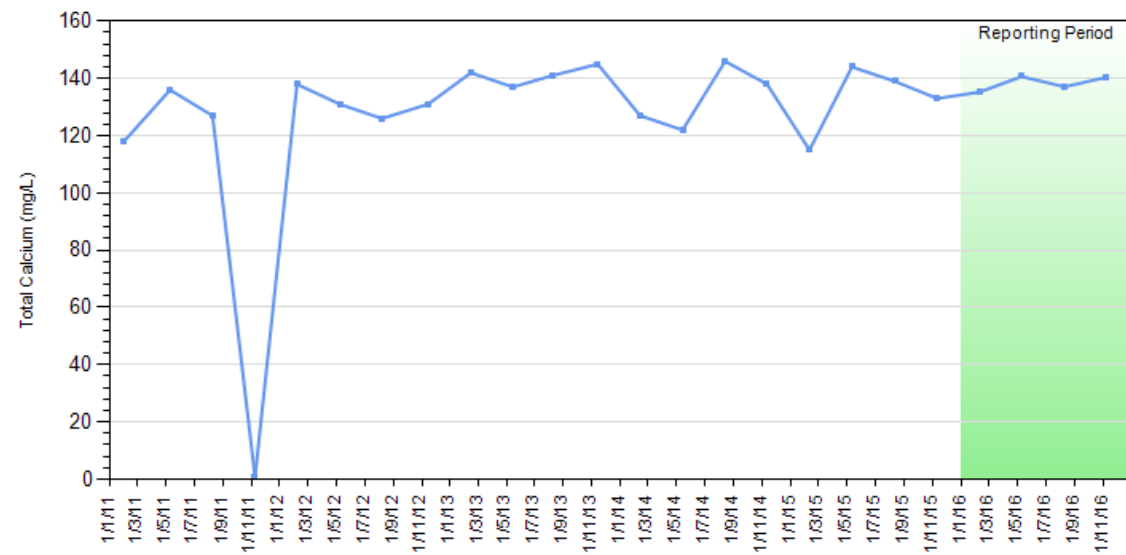
GW22 - Total Aluminium (mg/L)



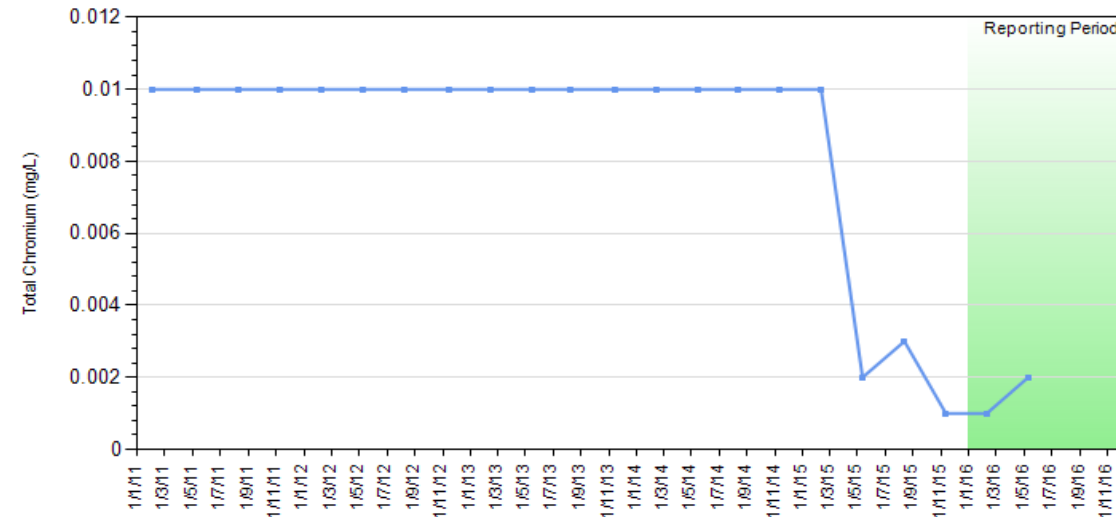
GW22 - Total Arsenic (mg/L)



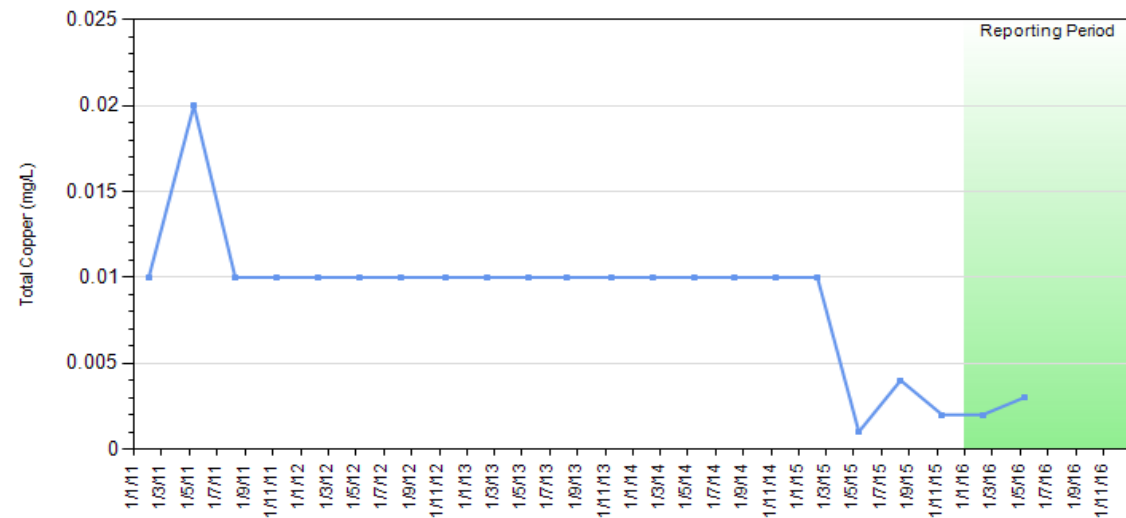
GW22 - Total Calcium (mg/L)



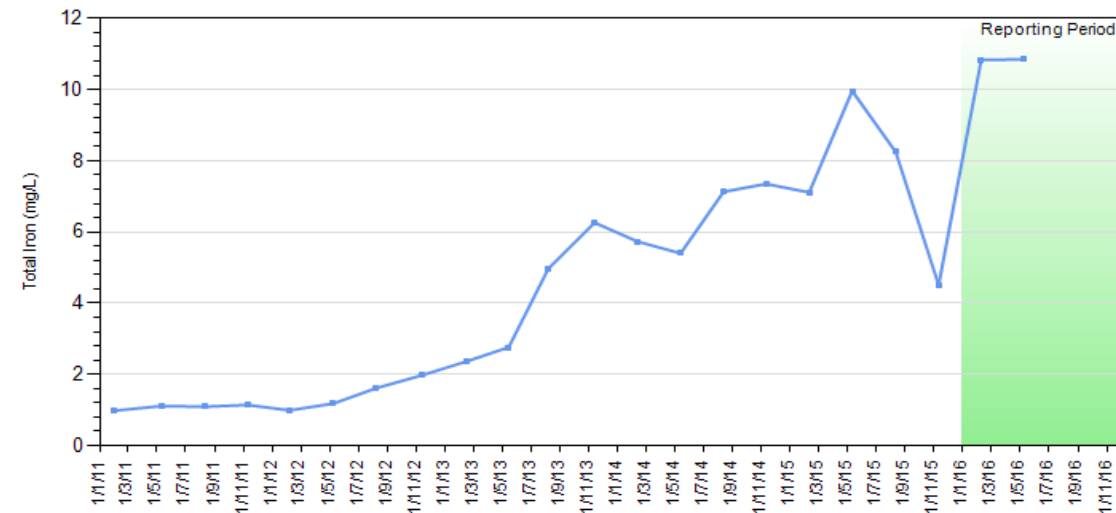
GW22 - Total Chromium (mg/L)



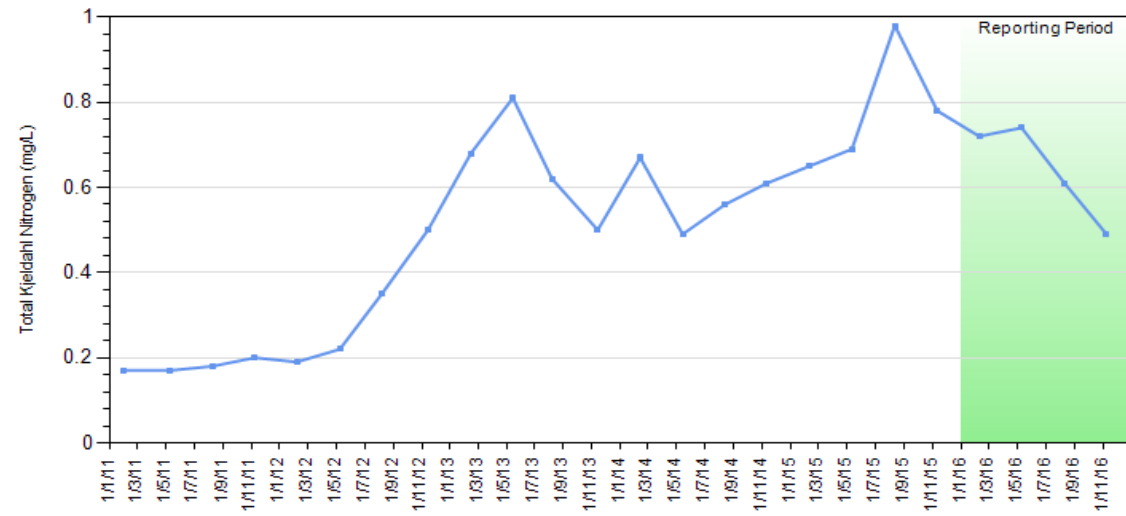
GW22 - Total Copper (mg/L)



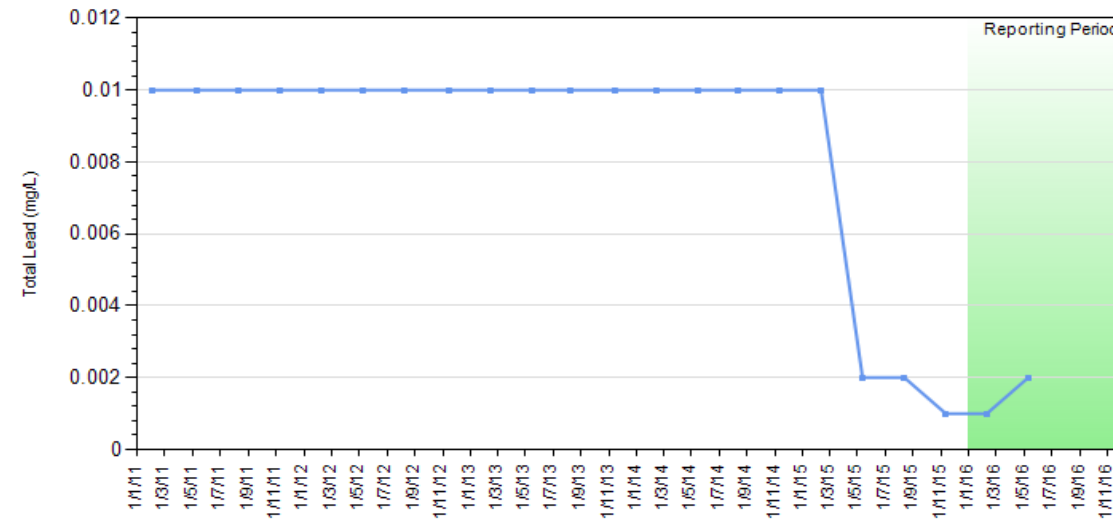
GW22 - Total Iron (mg/L)



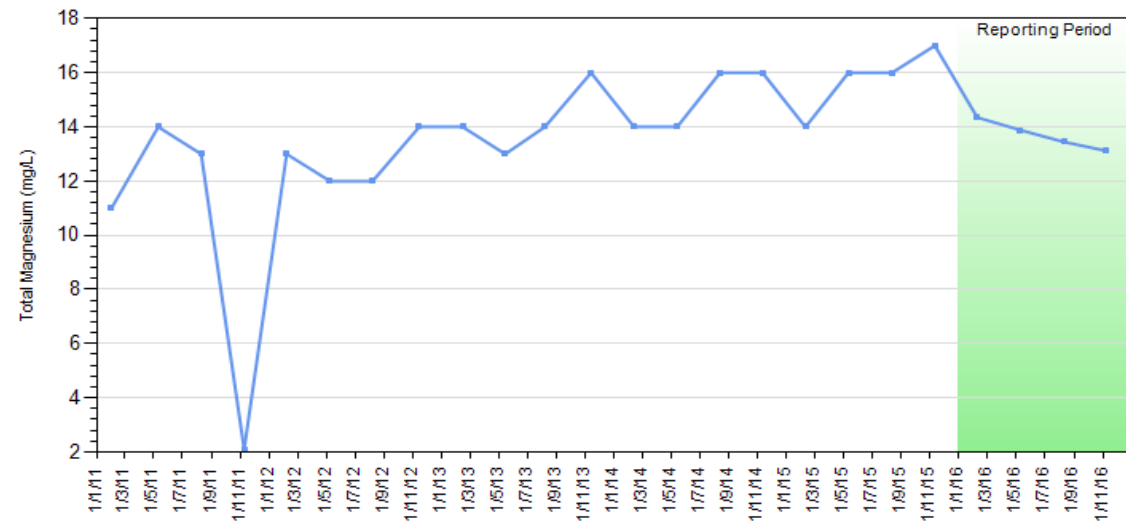
GW22 - Total Kjeldahl Nitrogen (mg/L)



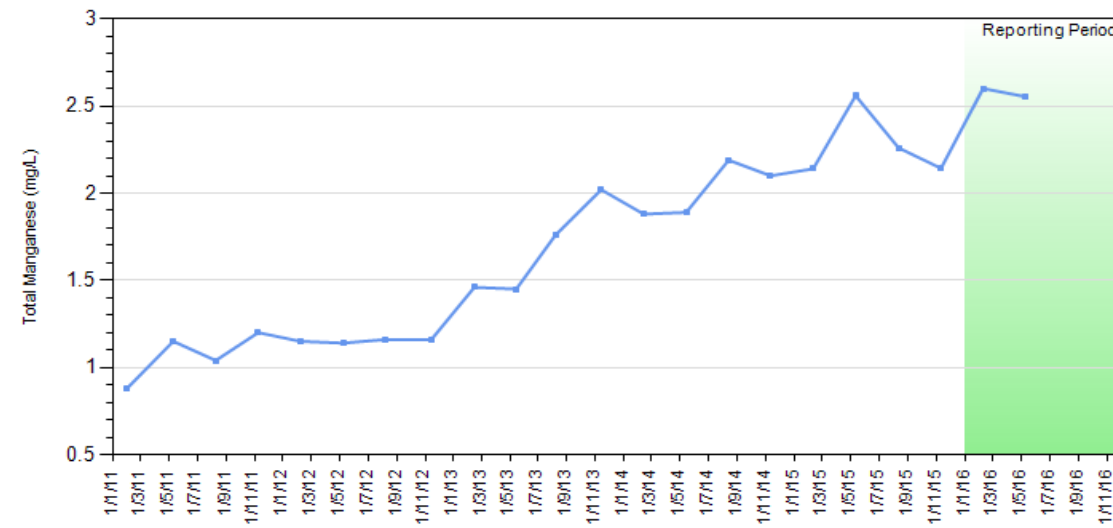
GW22 - Total Lead (mg/L)



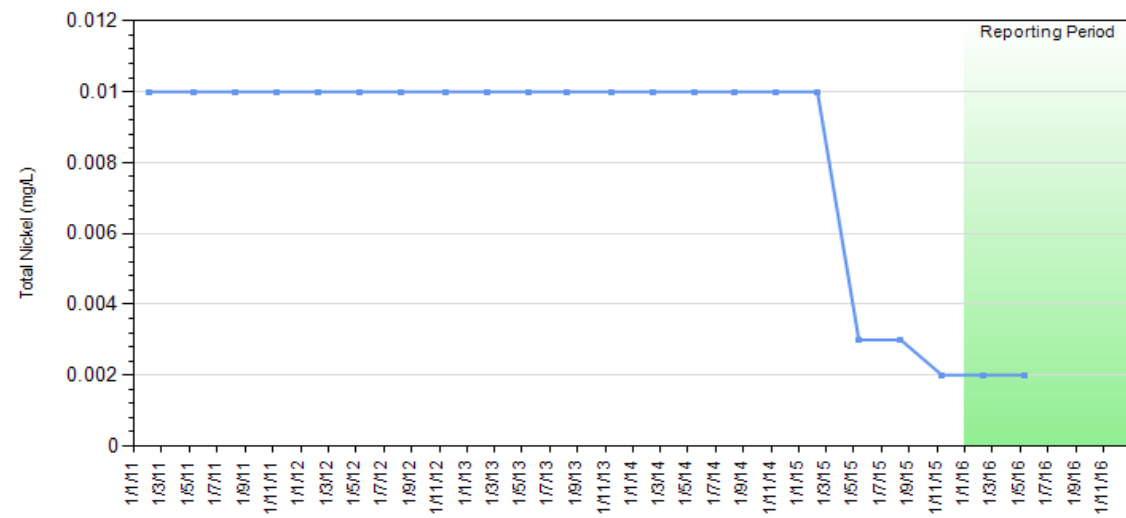
GW22 - Total Magnesium (mg/L)



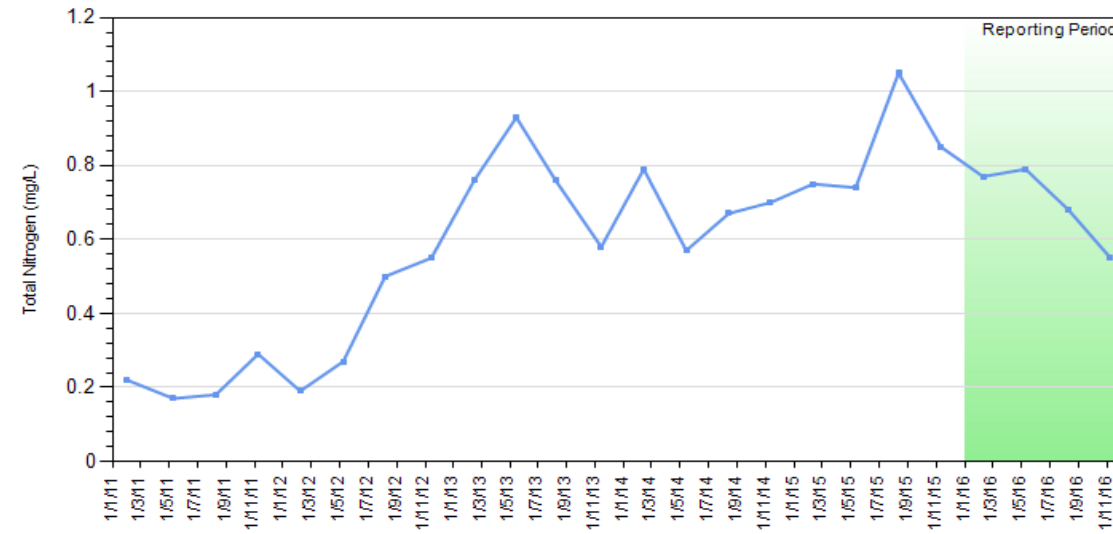
GW22 - Total Manganese (mg/L)



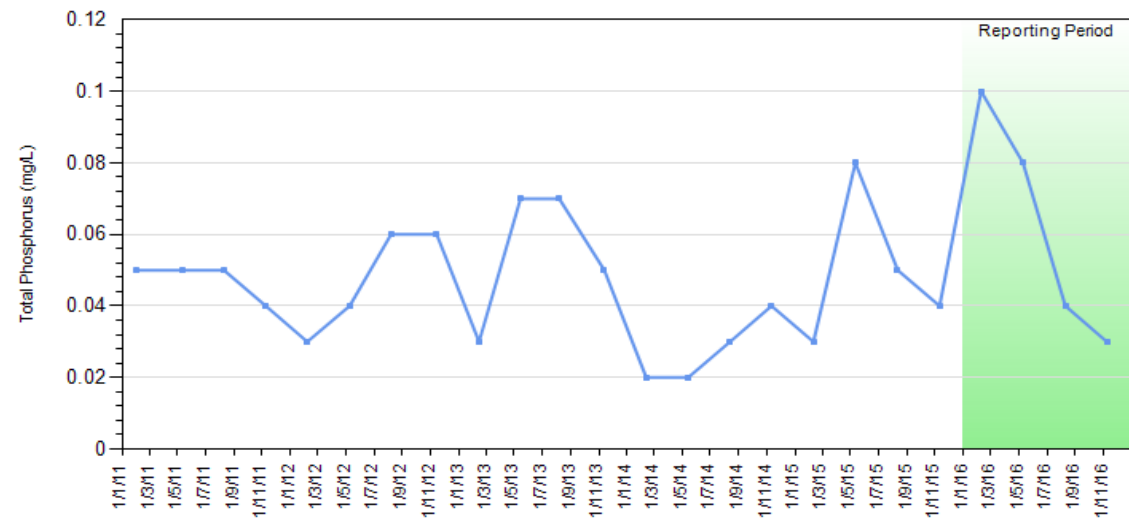
GW22 - Total Nickel (mg/L)



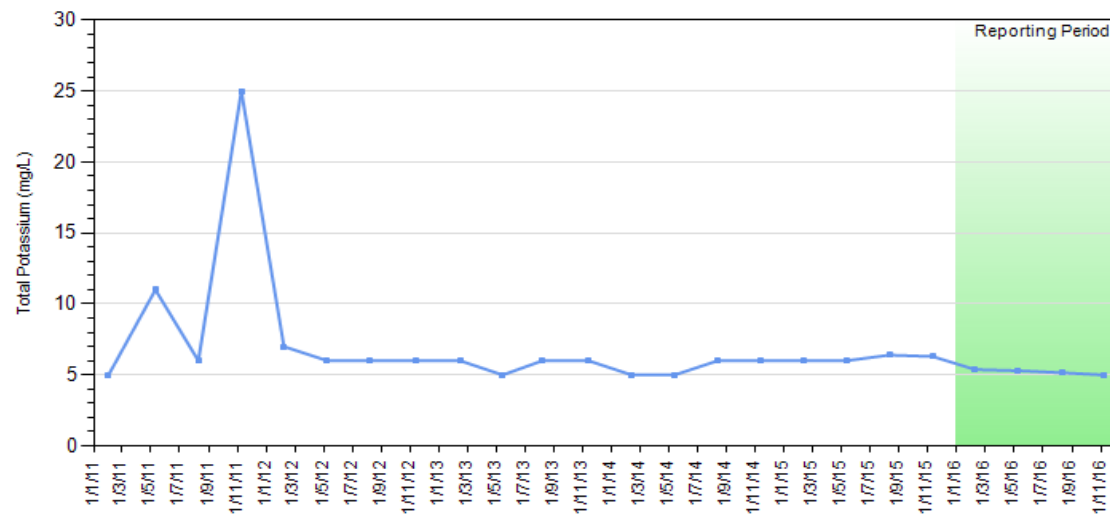
GW22 - Total Nitrogen (mg/L)



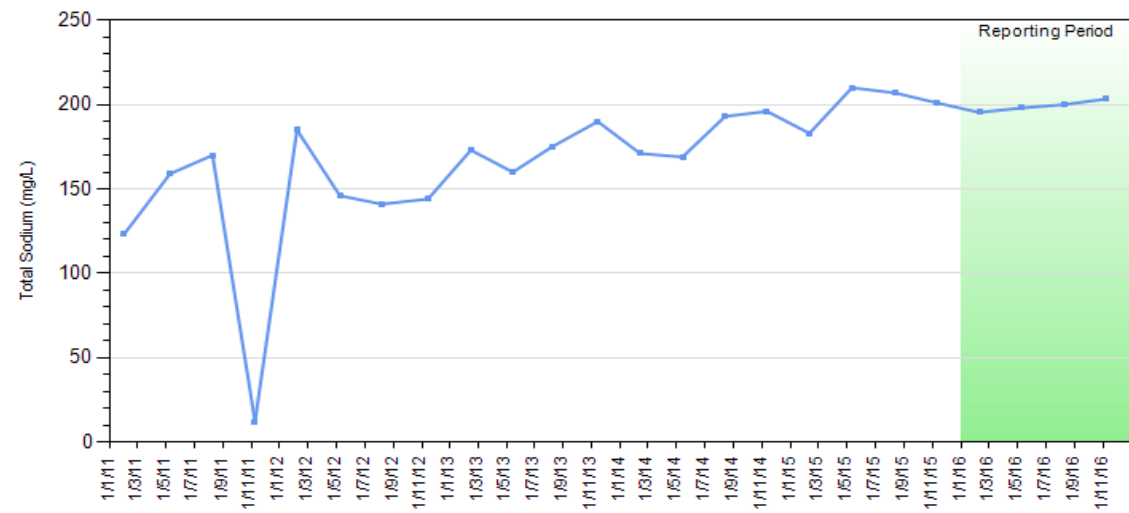
GW22 - Total Phosphorus (mg/L)



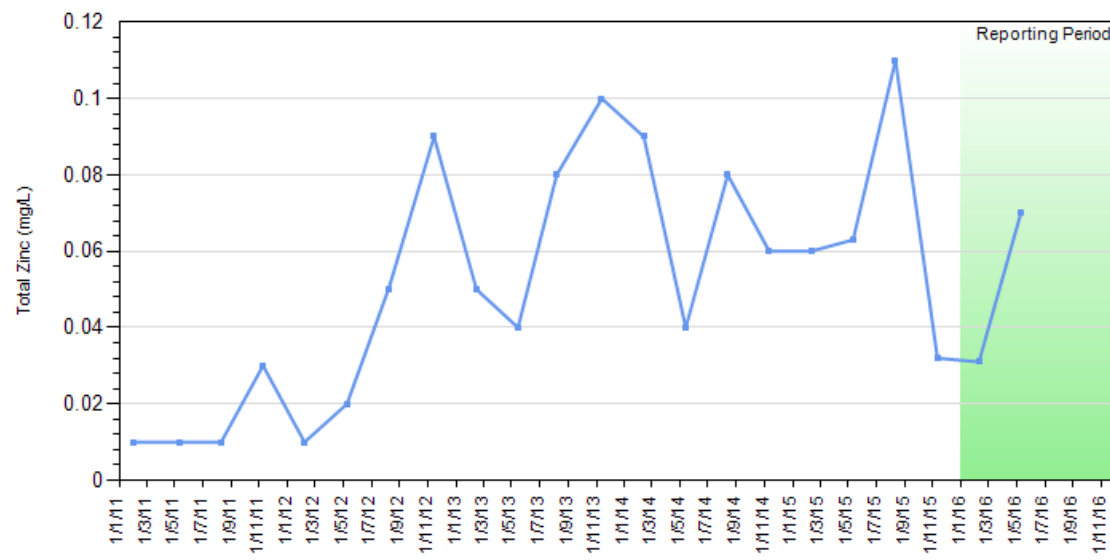
GW22 - Total Potassium (mg/L)



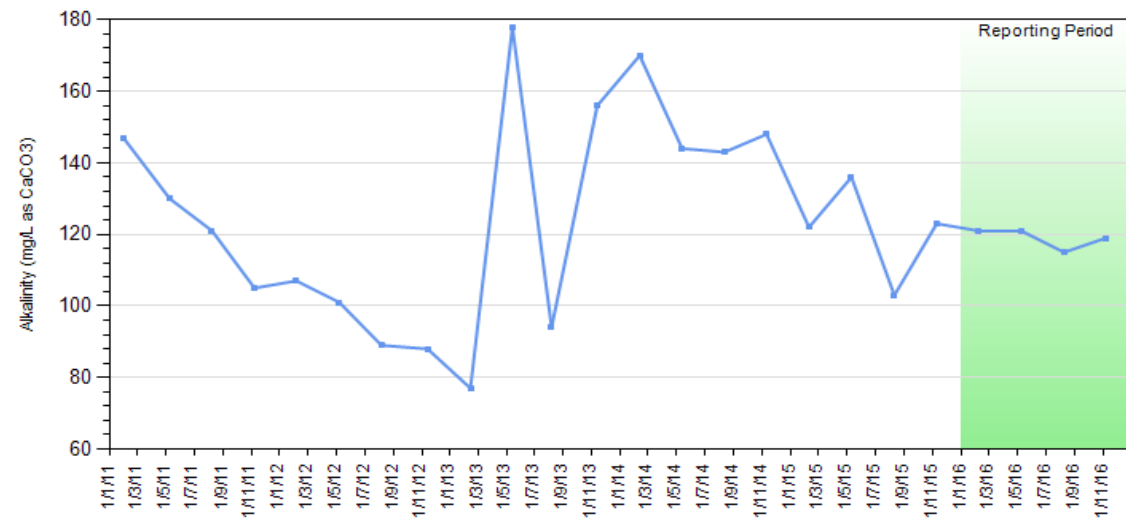
GW22 - Total Sodium (mg/L)



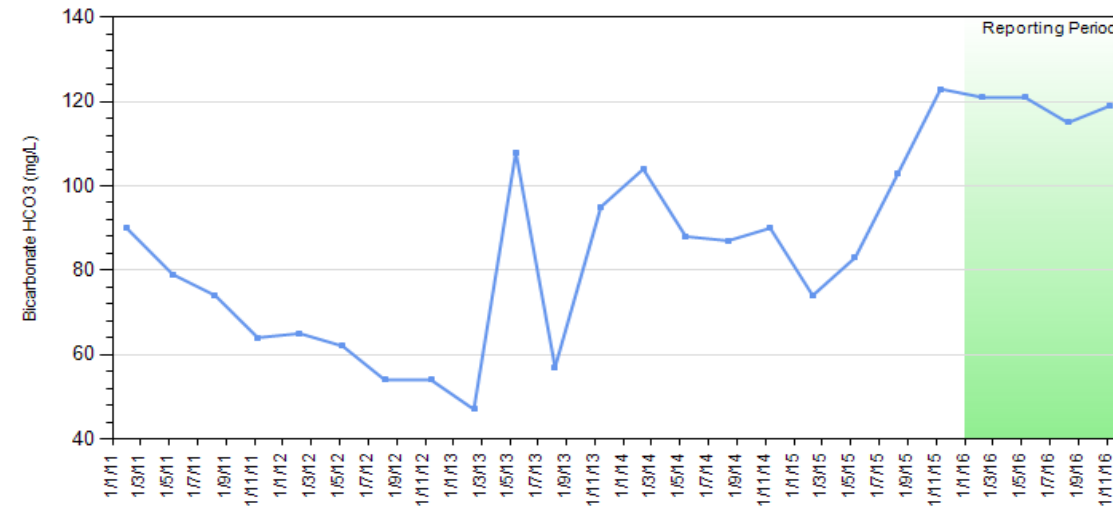
GW22 - Total Zinc (mg/L)



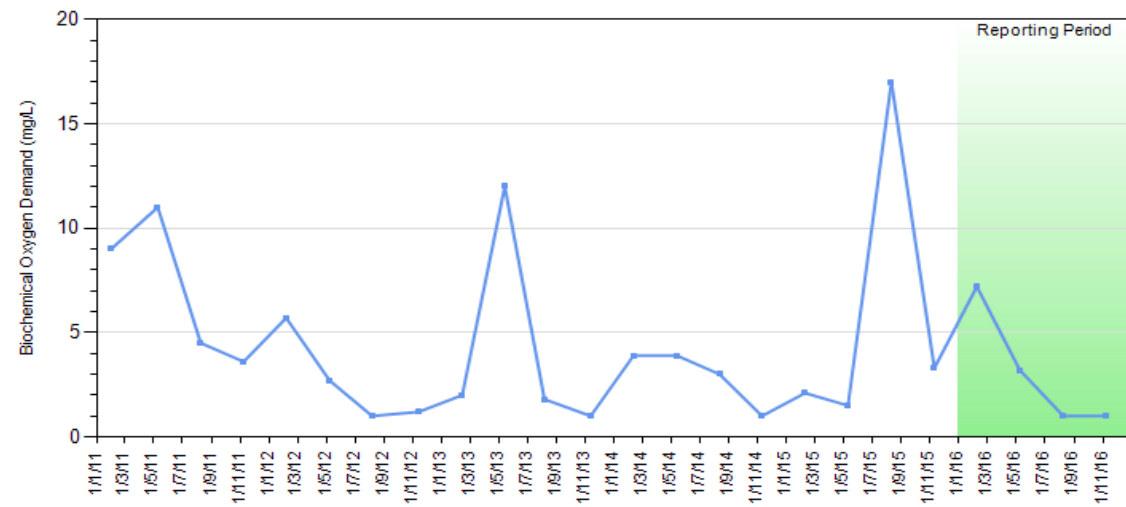
GW23 - Alkalinity (mg/L as CaCO3)



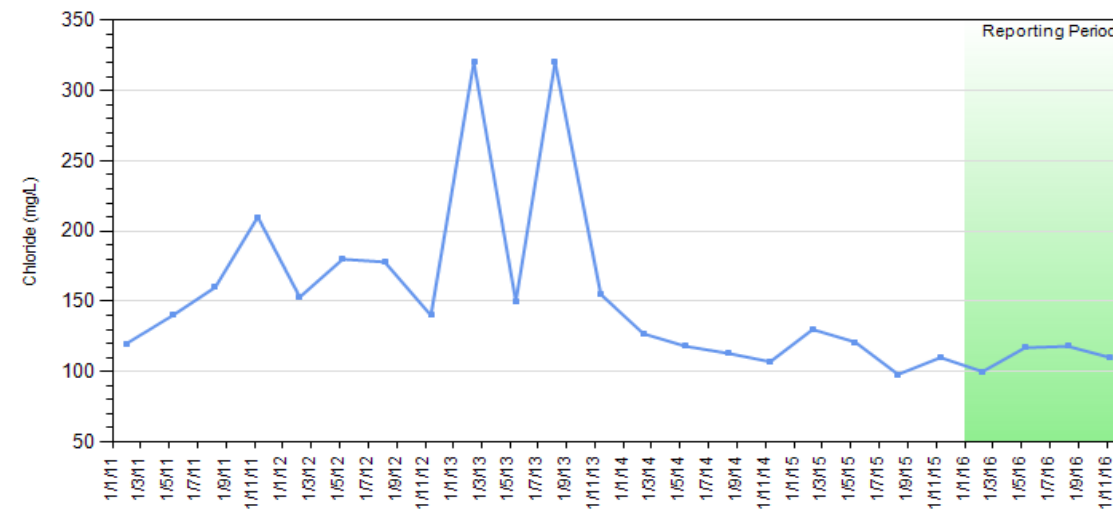
GW23 - Bicarbonate HCO3 (mg/L)



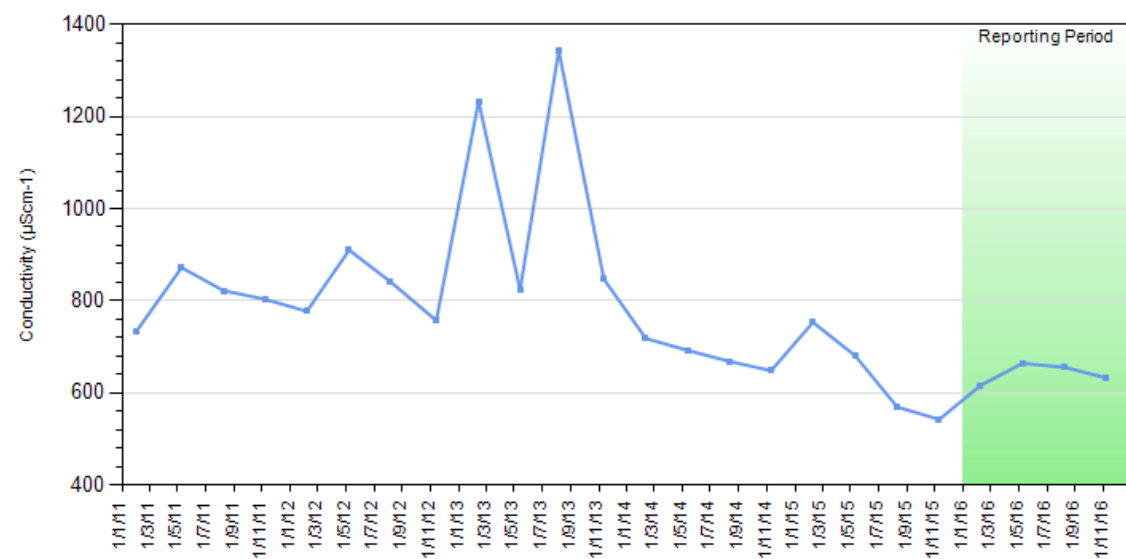
GW23 - Biochemical Oxygen Demand (mg/L)



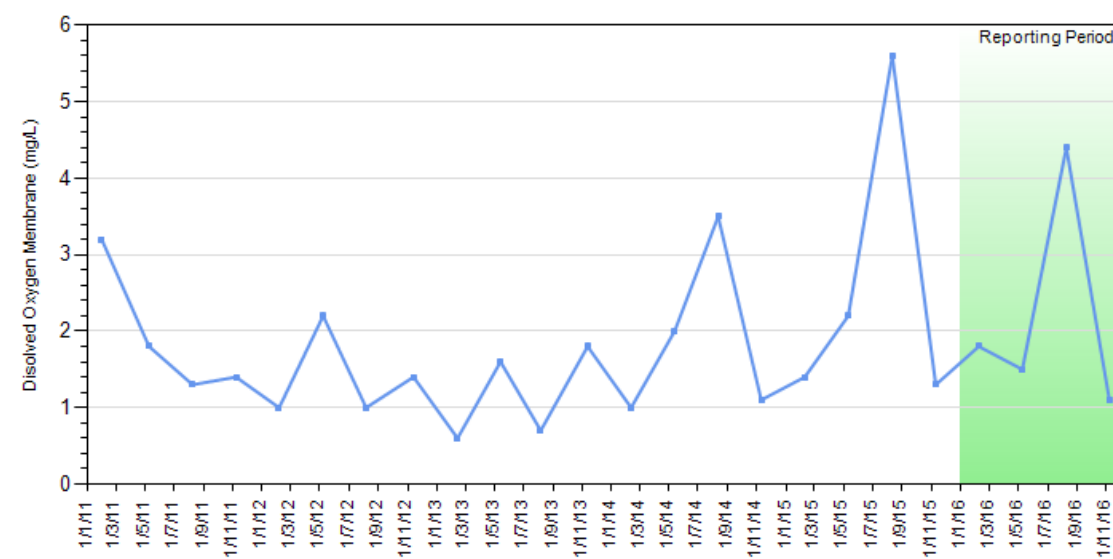
GW23 - Chloride (mg/L)



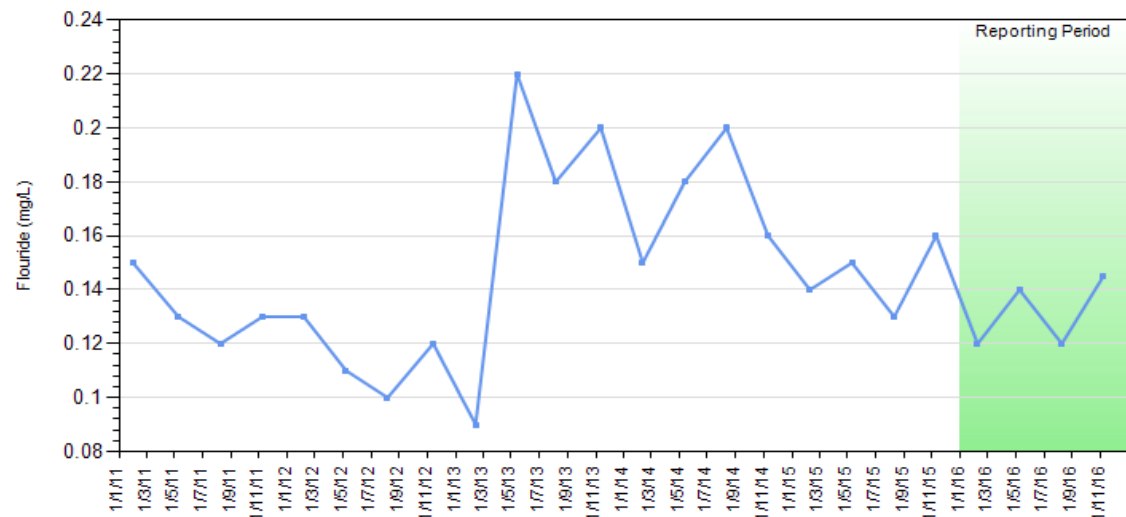
GW23 - Conductivity (µScm-1)



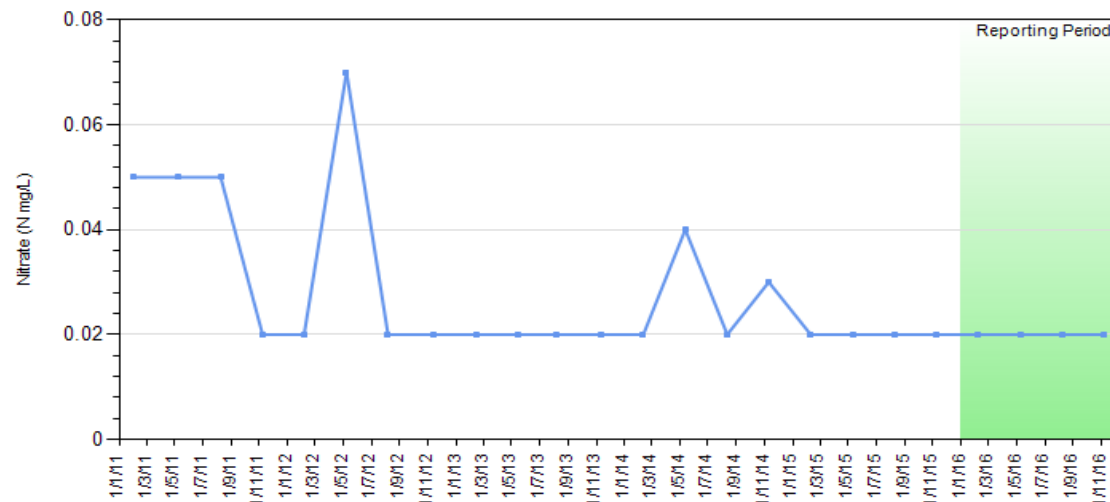
GW23 - Dissolved Oxygen Membrane (mg/L)



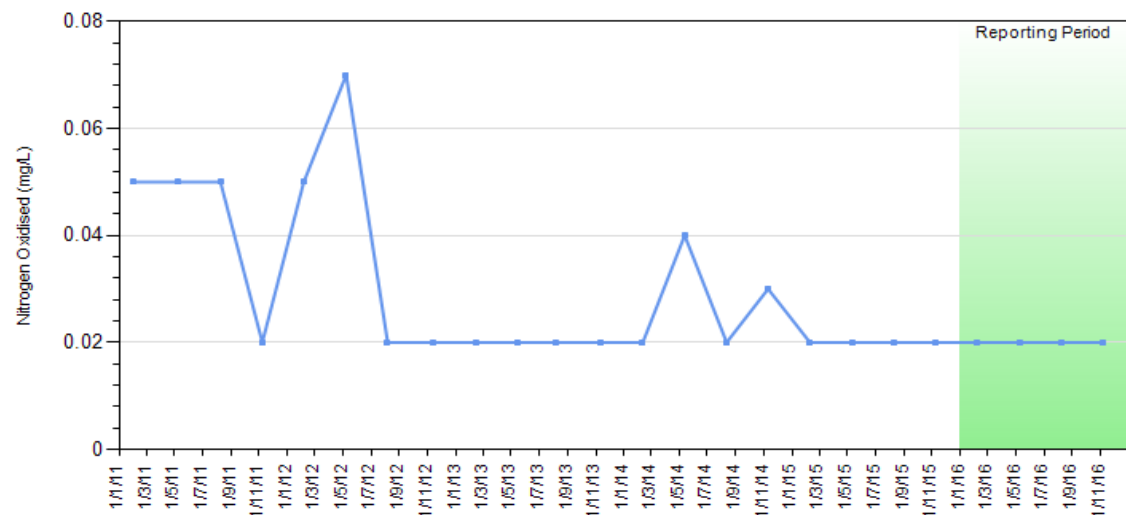
GW23 - Flouride (mg/L)



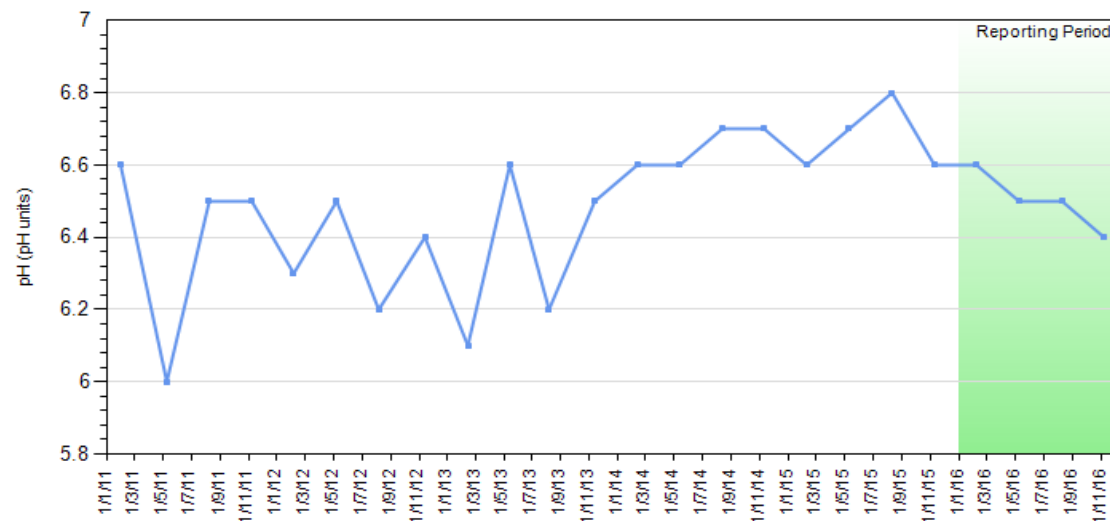
GW23 - Nitrate (N mg/L)



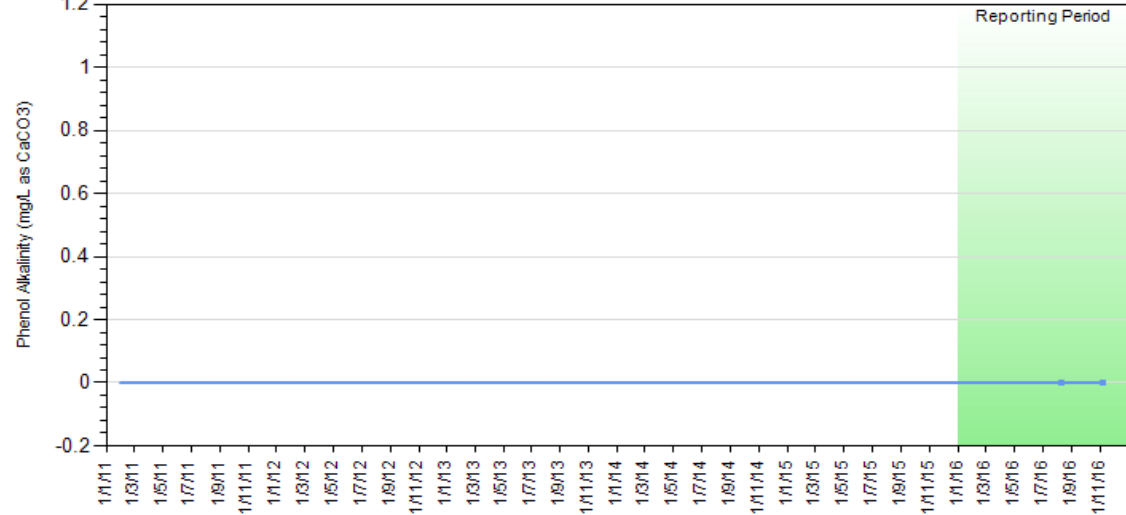
GW23 - Nitrogen Oxidised (mg/L)



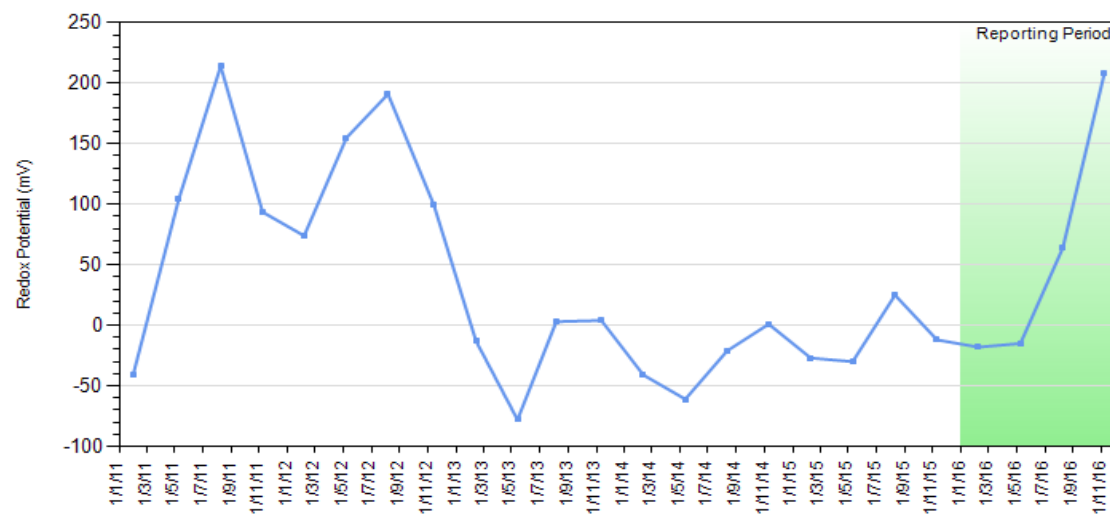
GW23 - pH (pH units)



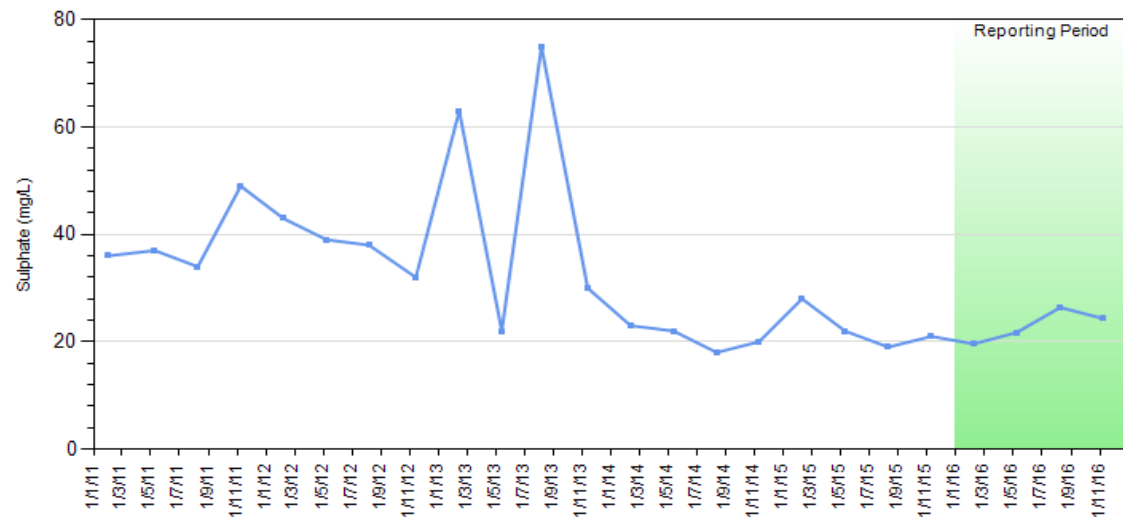
GW23 - Phenol Alkalinity (mg/L as CaCO3)



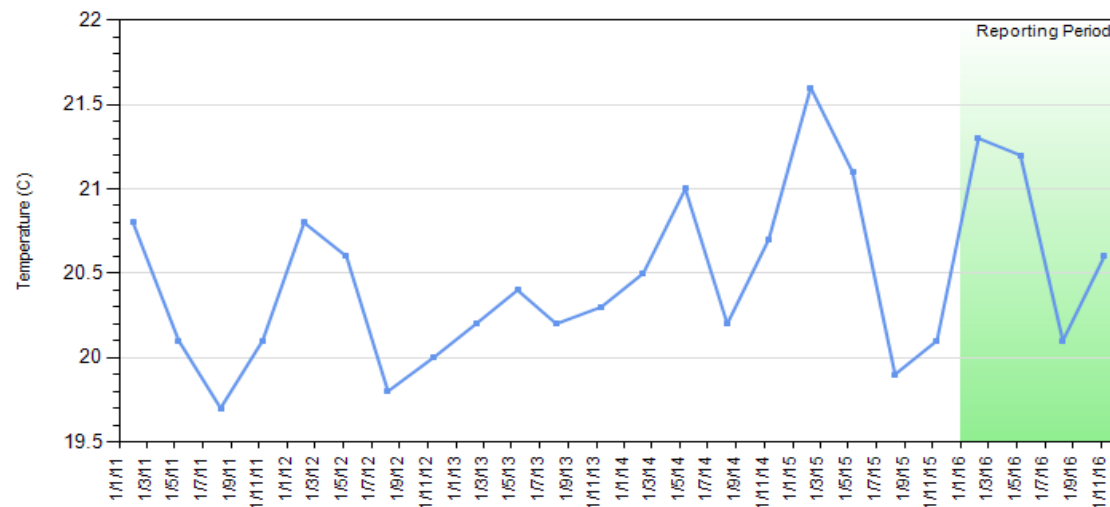
GW23 - Redox Potential (mV)



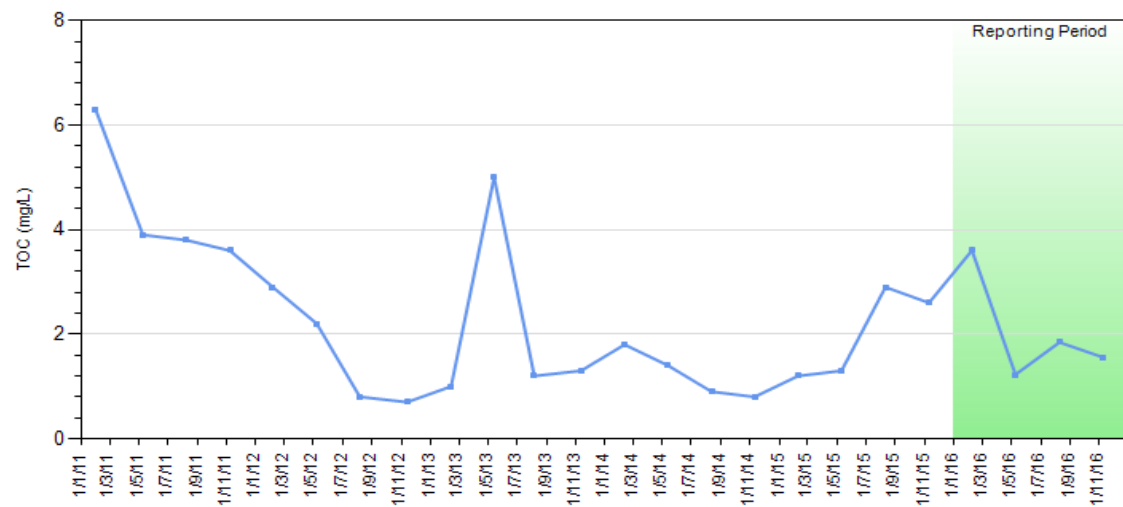
GW23 - Sulphate (mg/L)



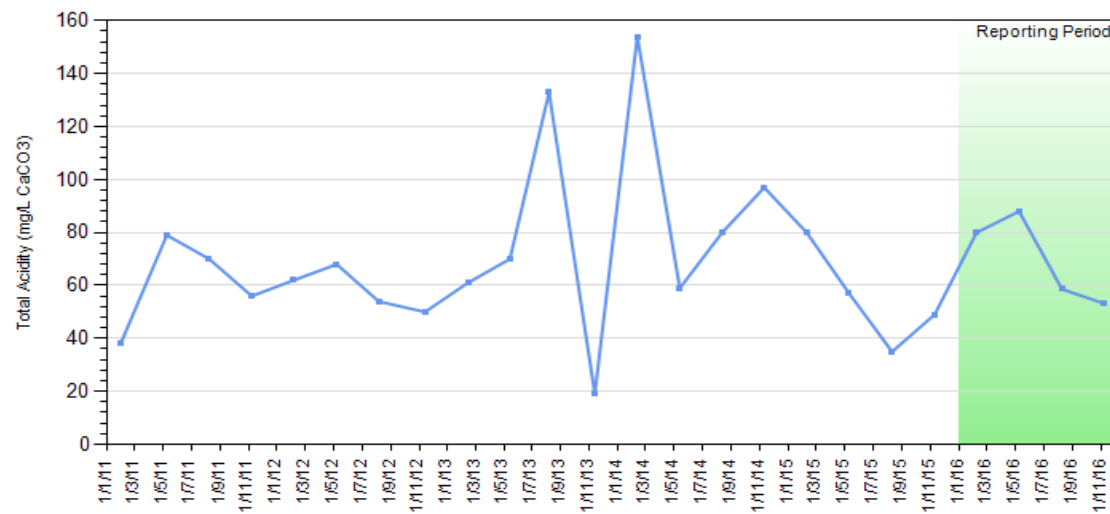
GW23 - Temperature (C)



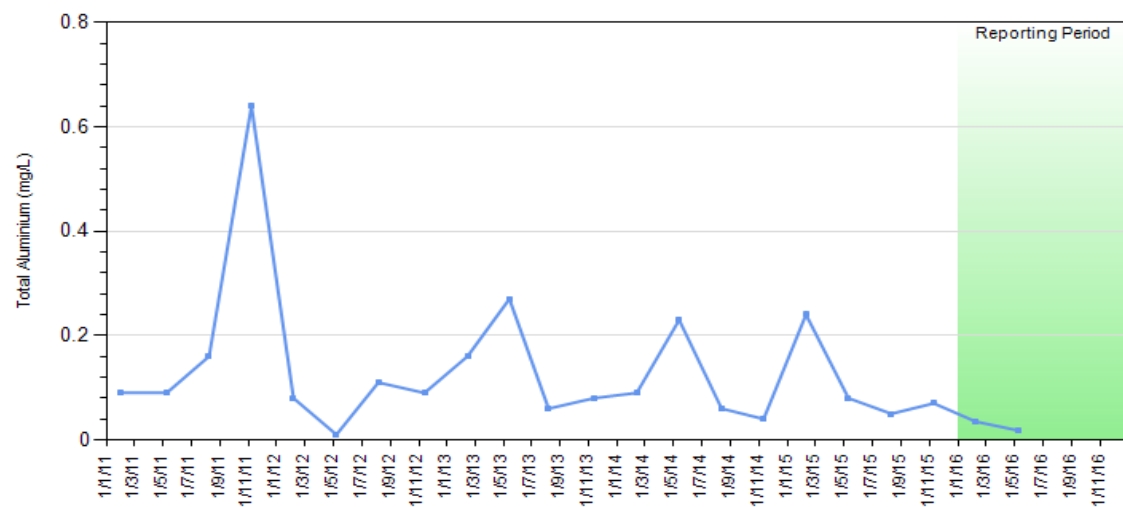
GW23 - TOC (mg/L)



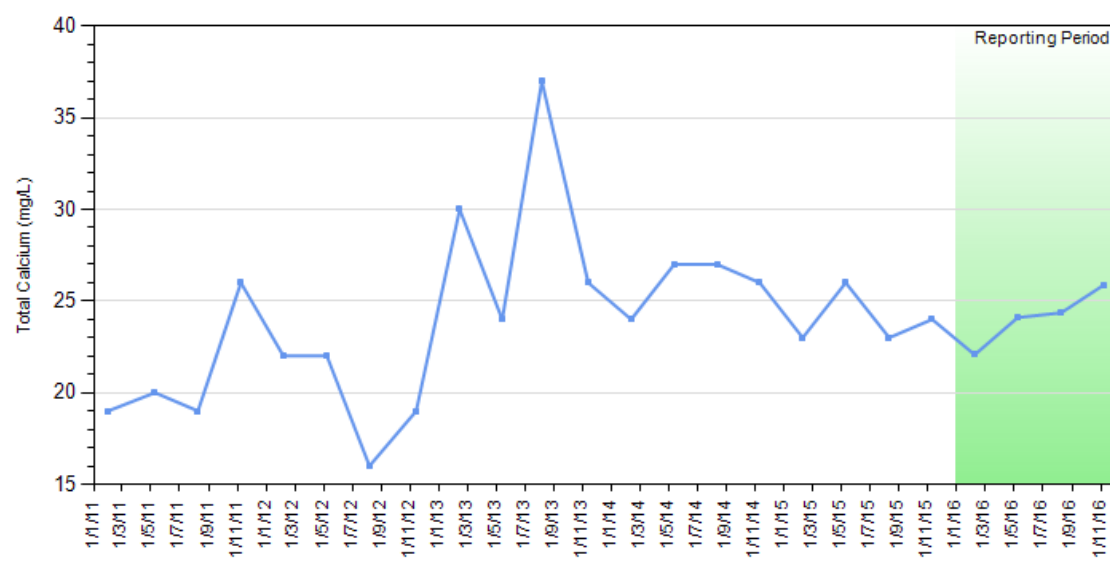
GW23 - Total Acidity (mg/L CaCO3)



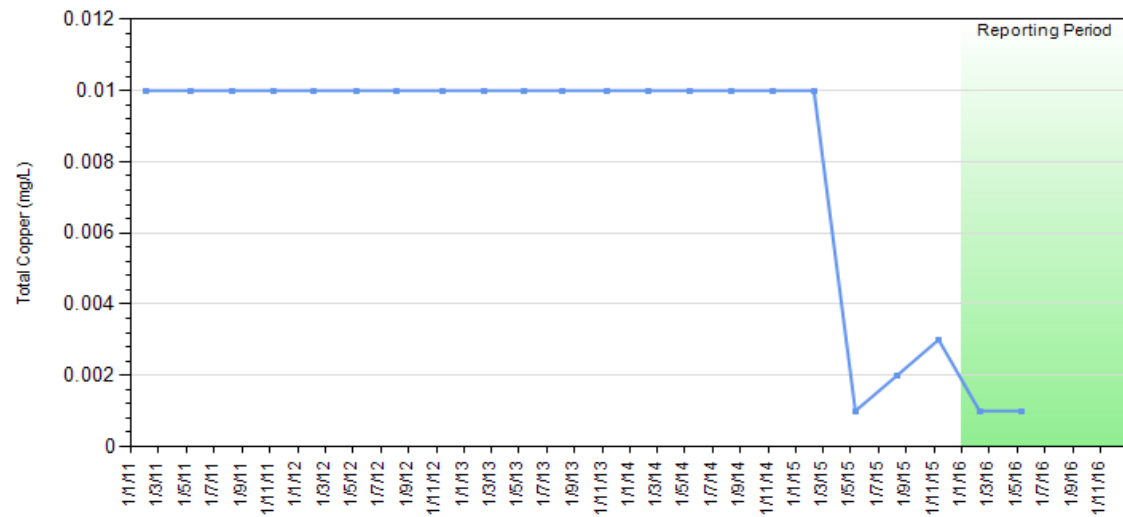
GW23 - Total Aluminium (mg/L)



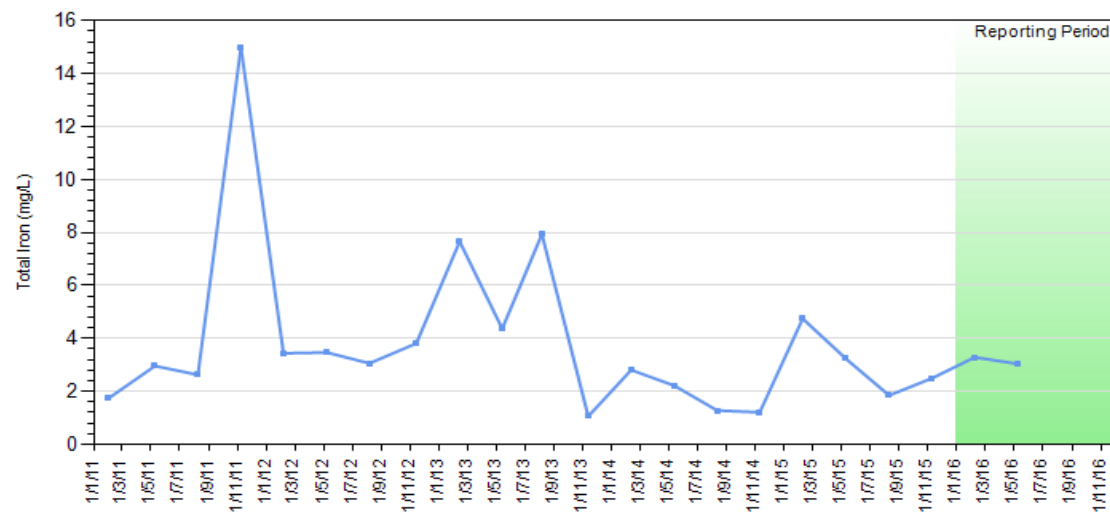
GW23 - Total Calcium (mg/L)



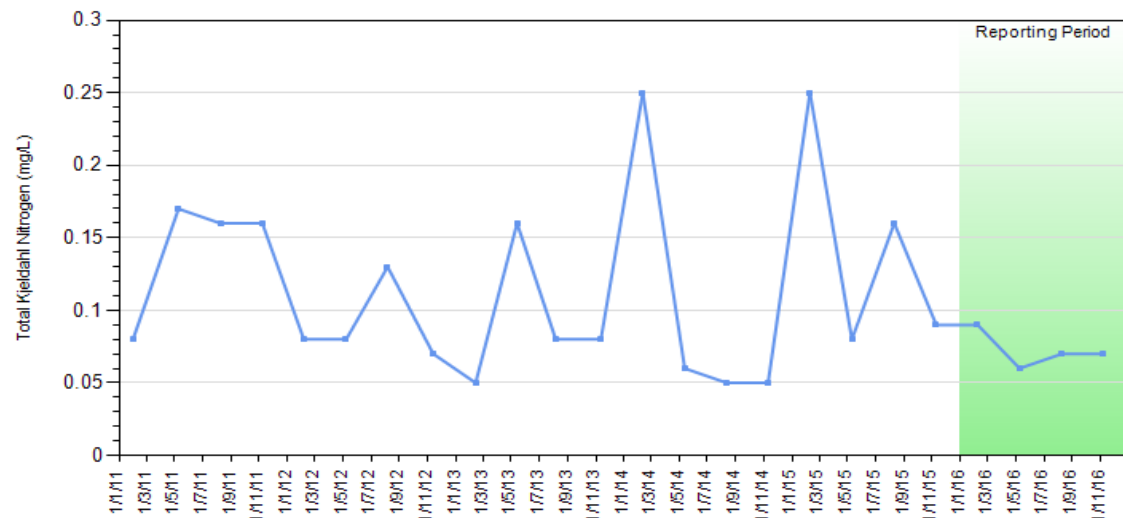
GW23 - Total Copper (mg/L)



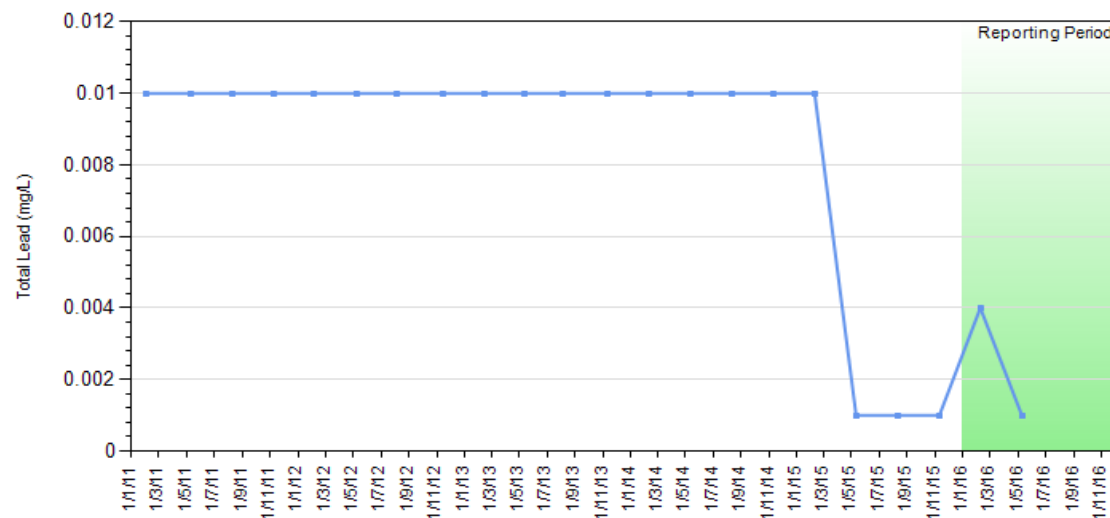
GW23 - Total Iron (mg/L)



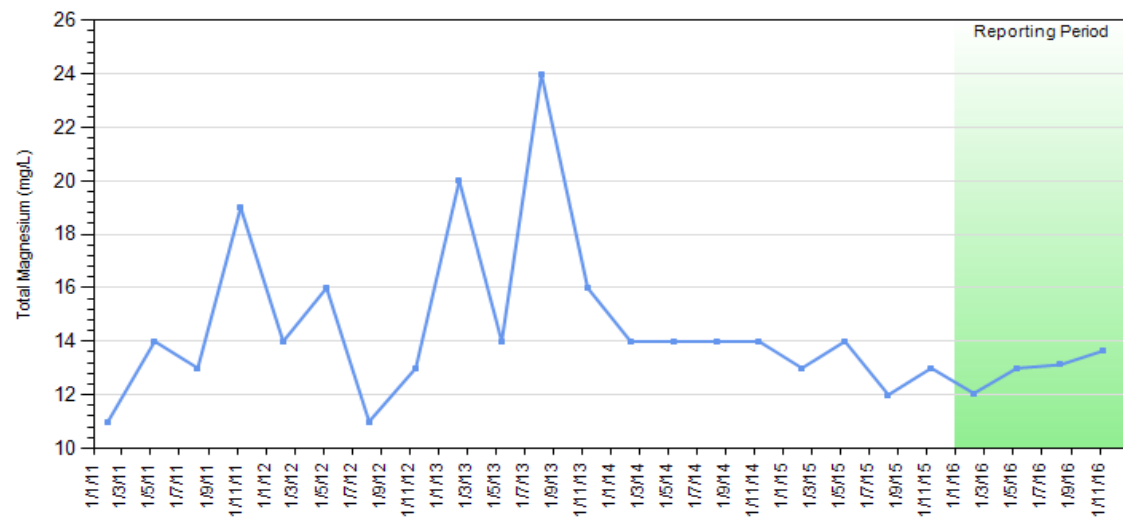
GW23 - Total Kjeldahl Nitrogen (mg/L)



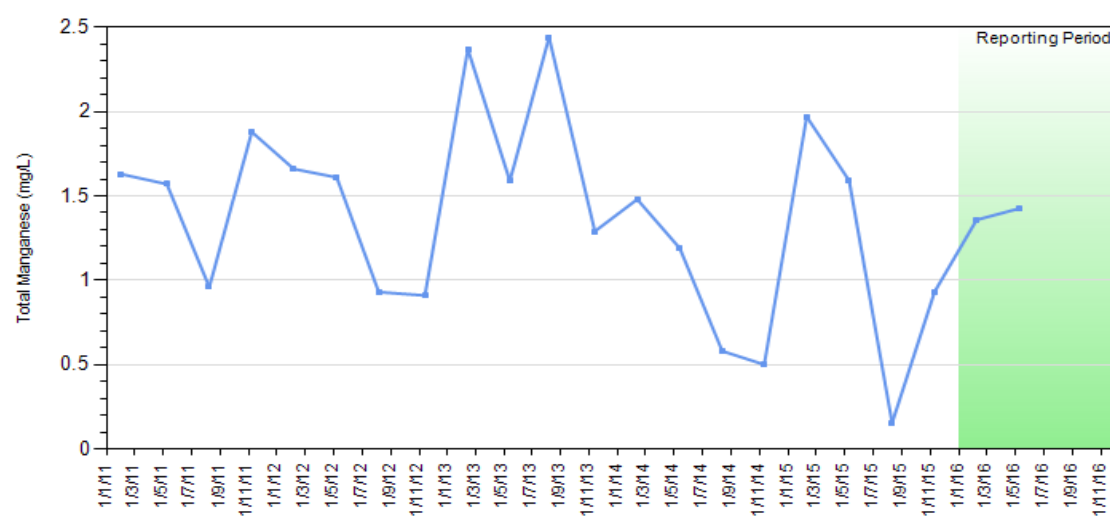
GW23 - Total Lead (mg/L)



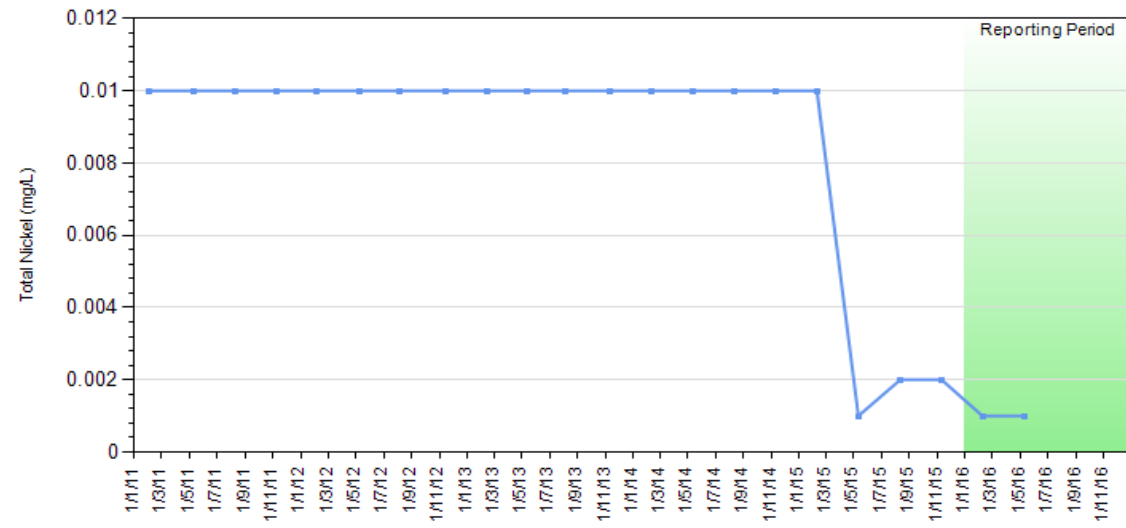
GW23 - Total Magnesium (mg/L)



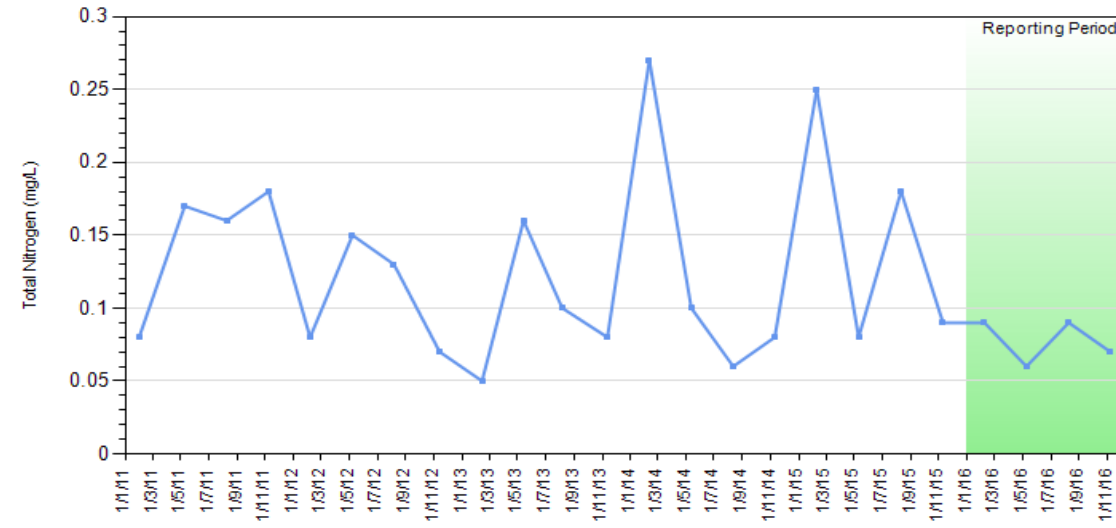
GW23 - Total Manganese (mg/L)



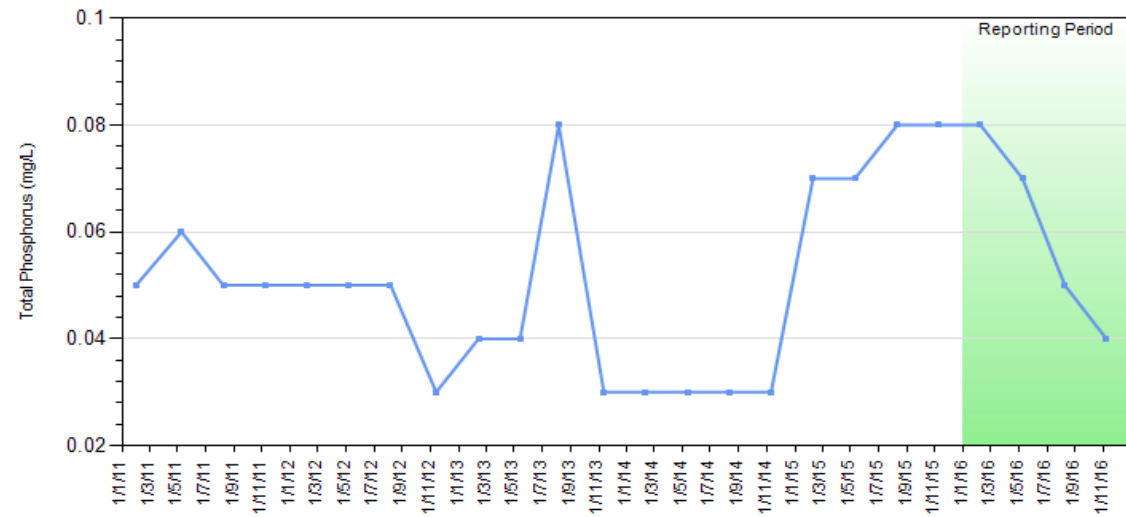
GW23 - Total Nickel (mg/L)



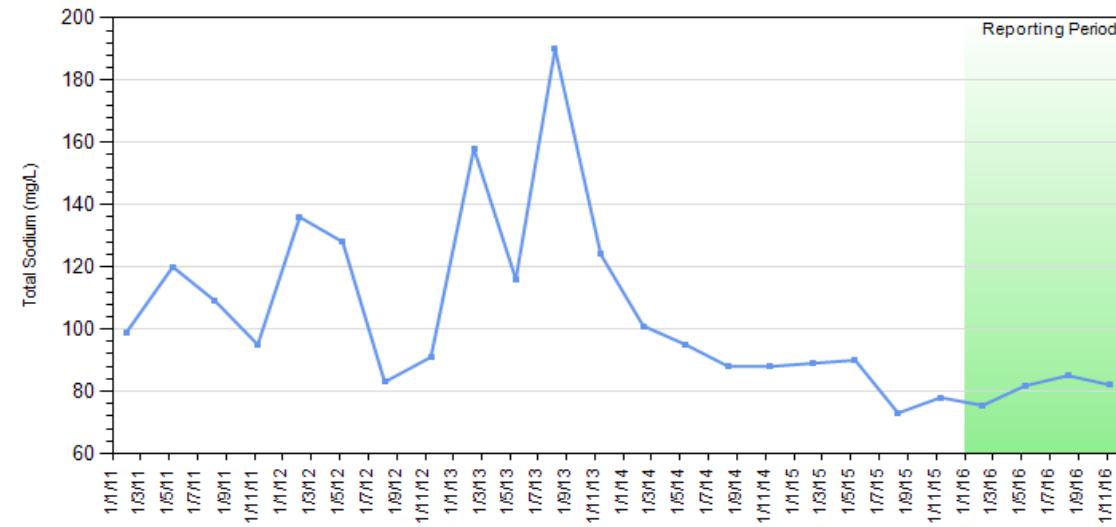
GW23 - Total Nitrogen (mg/L)



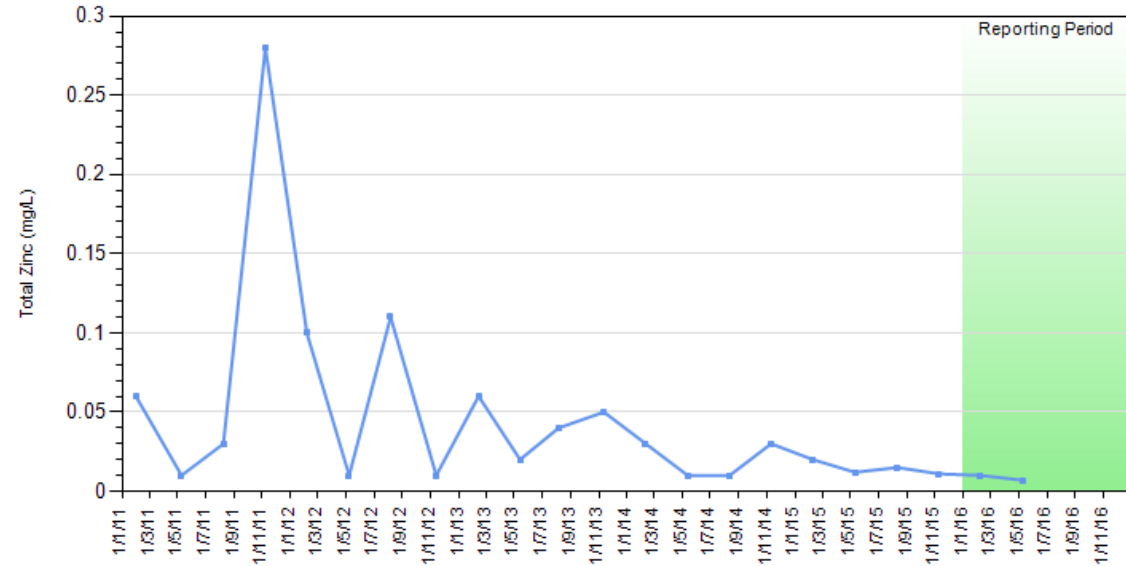
GW23 - Total Phosphorus (mg/L)



GW23 - Total Sodium (mg/L)

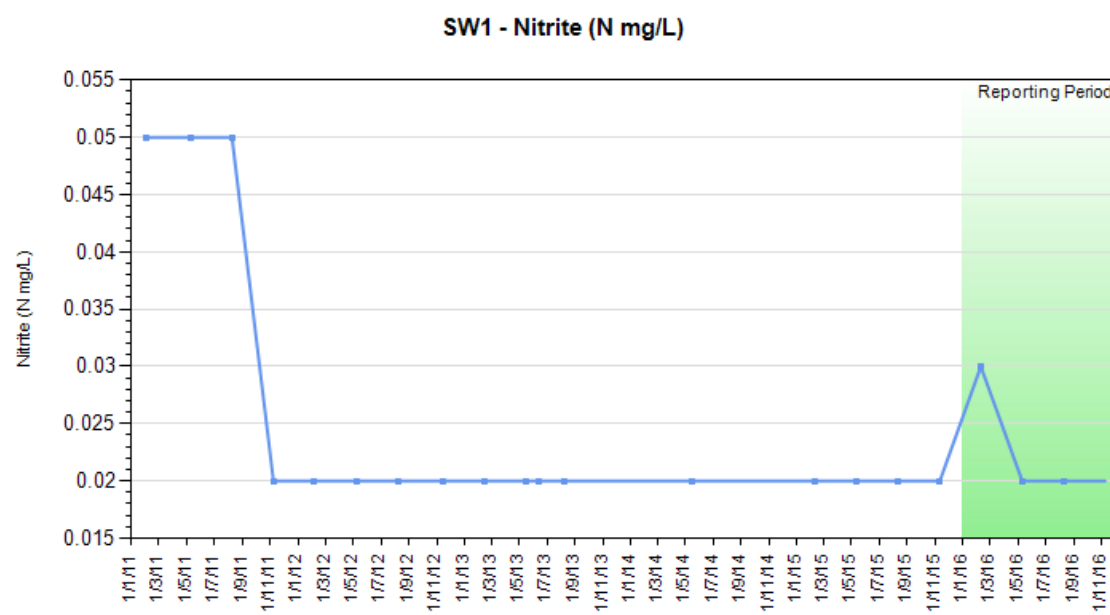
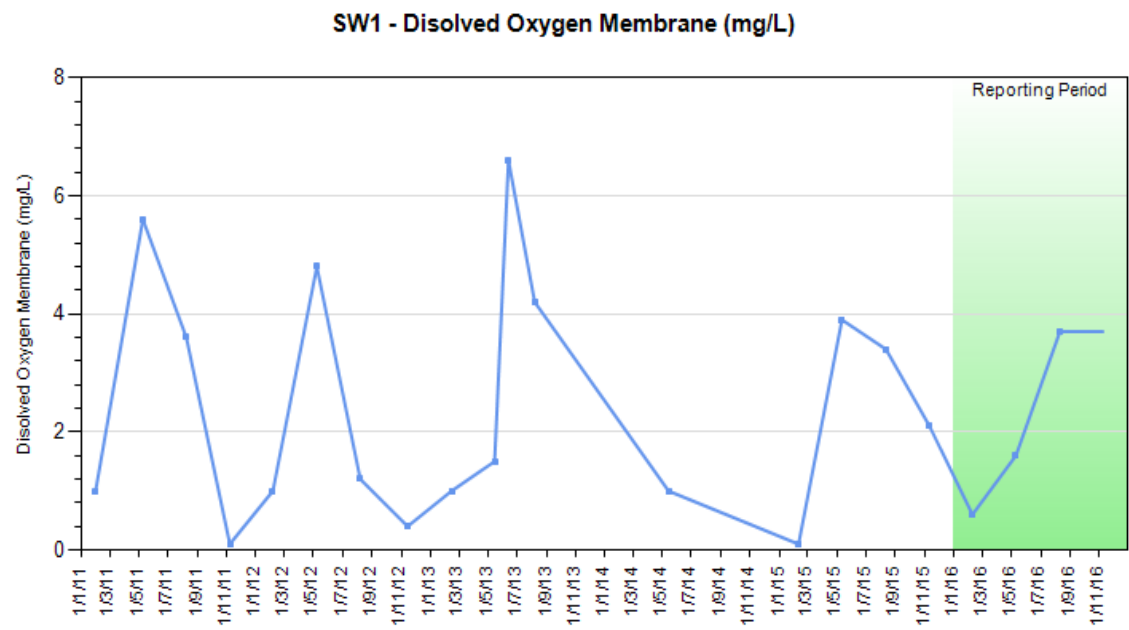
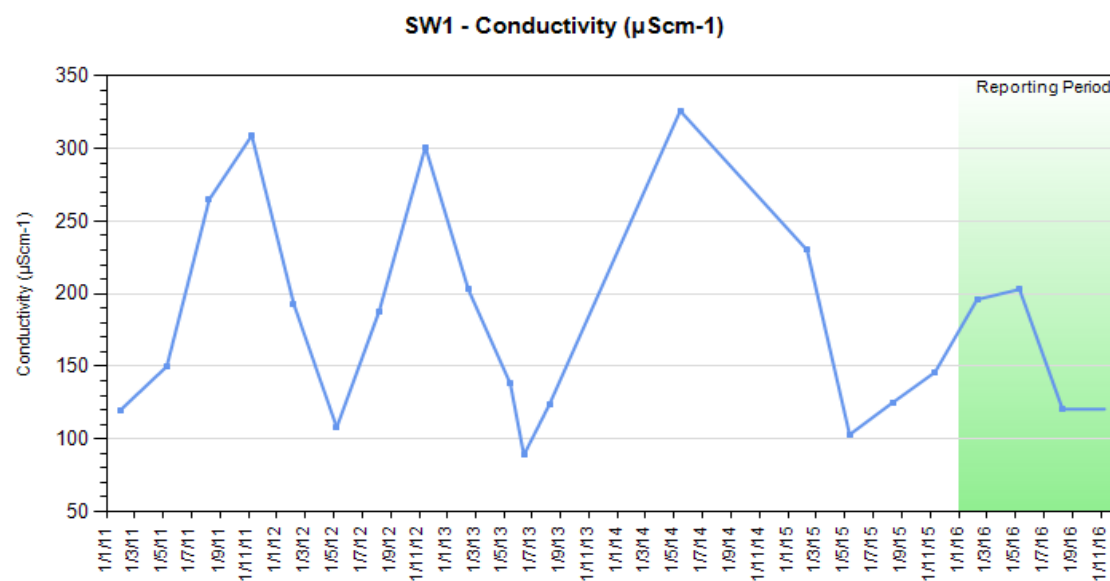
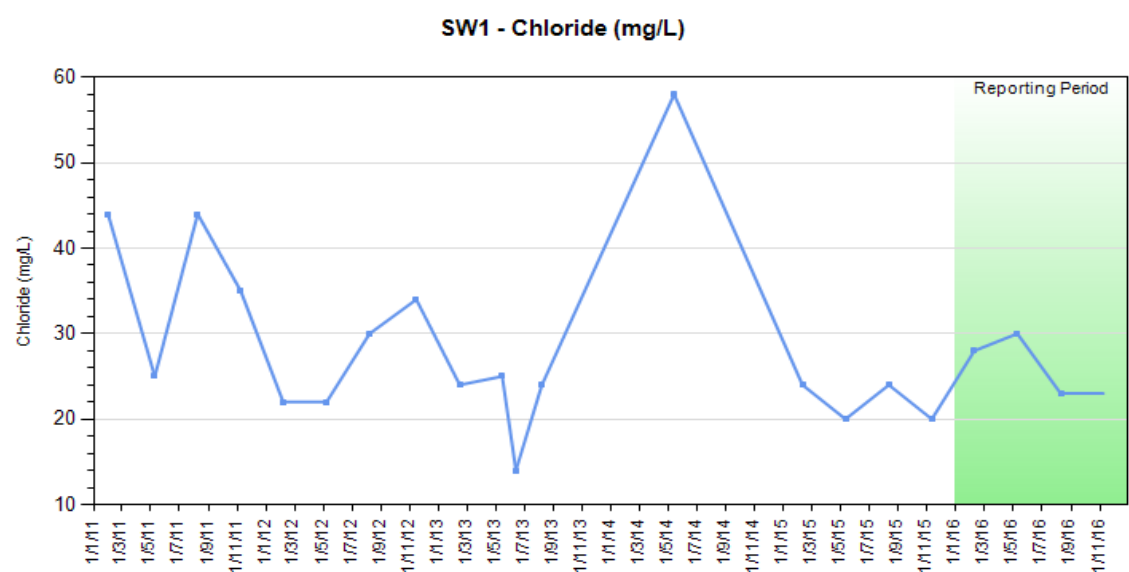
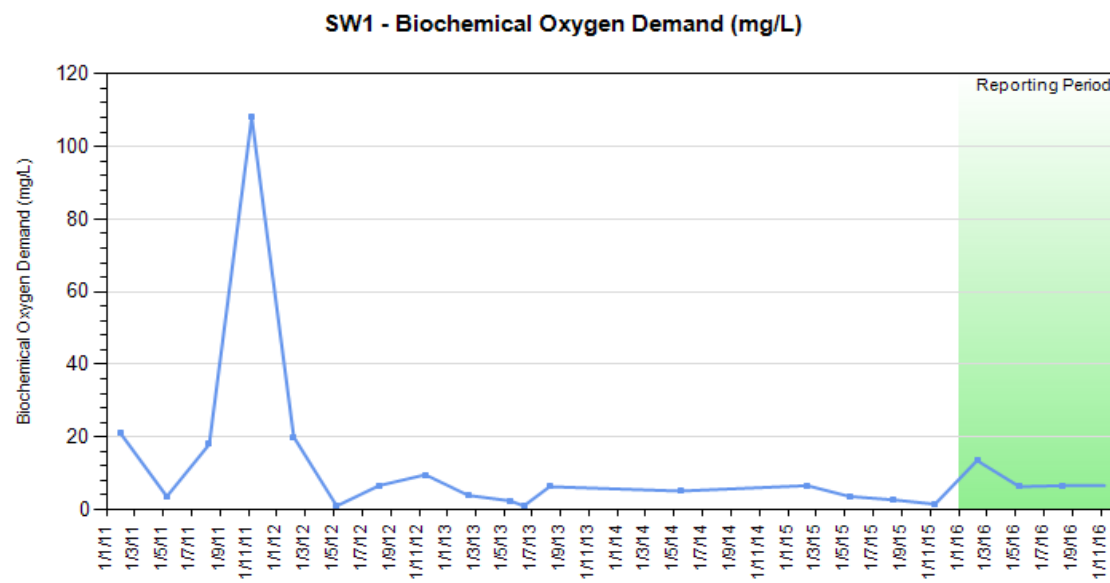
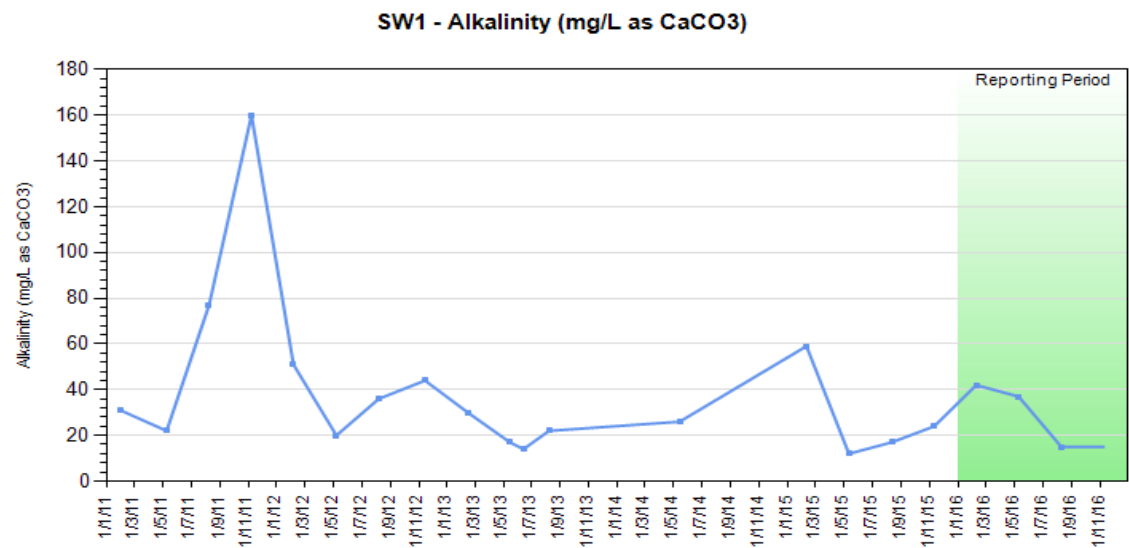


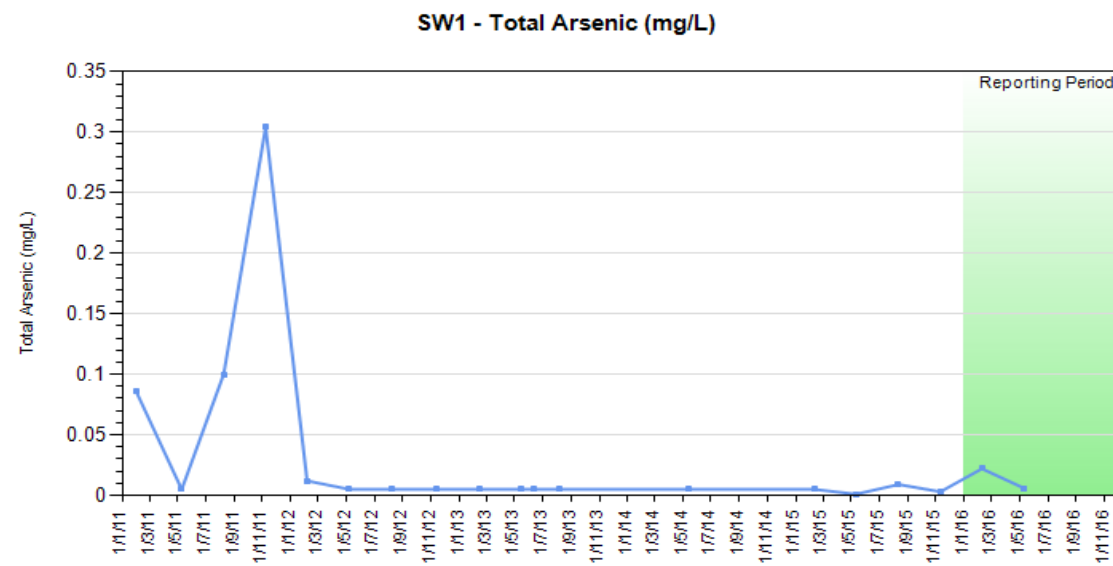
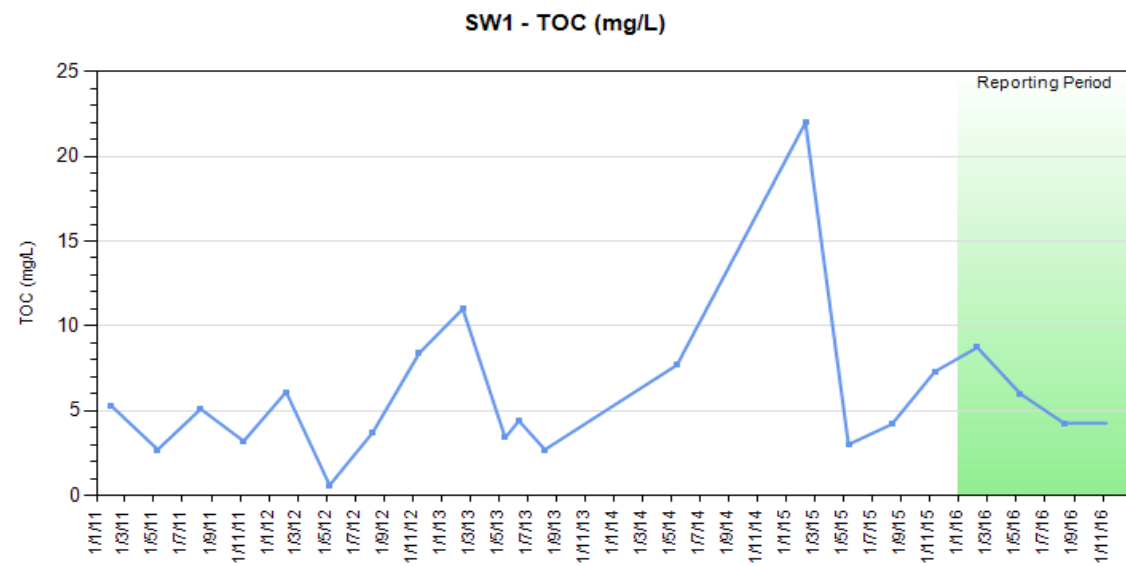
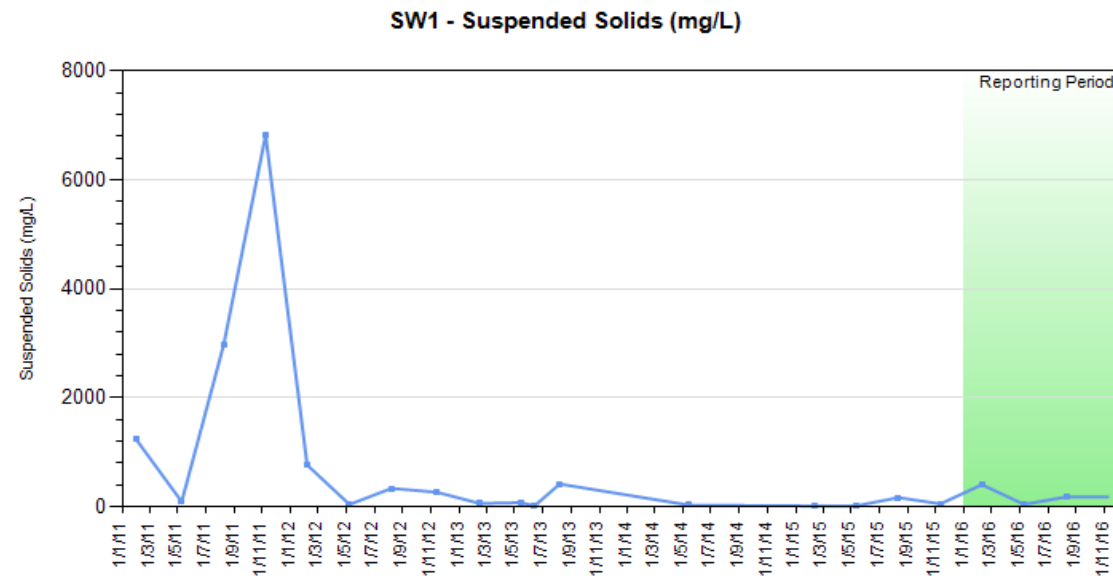
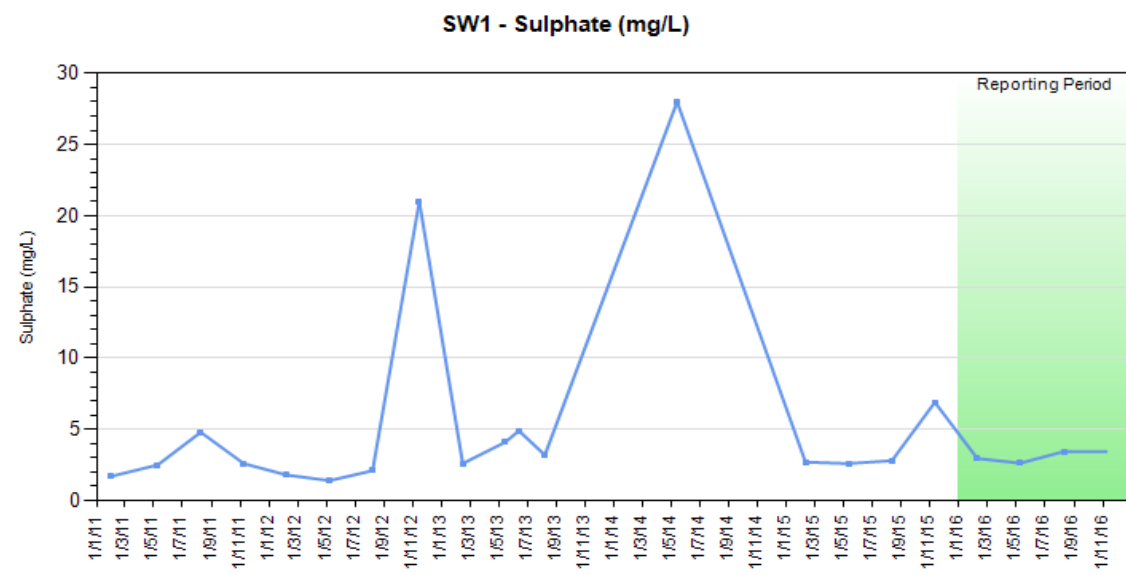
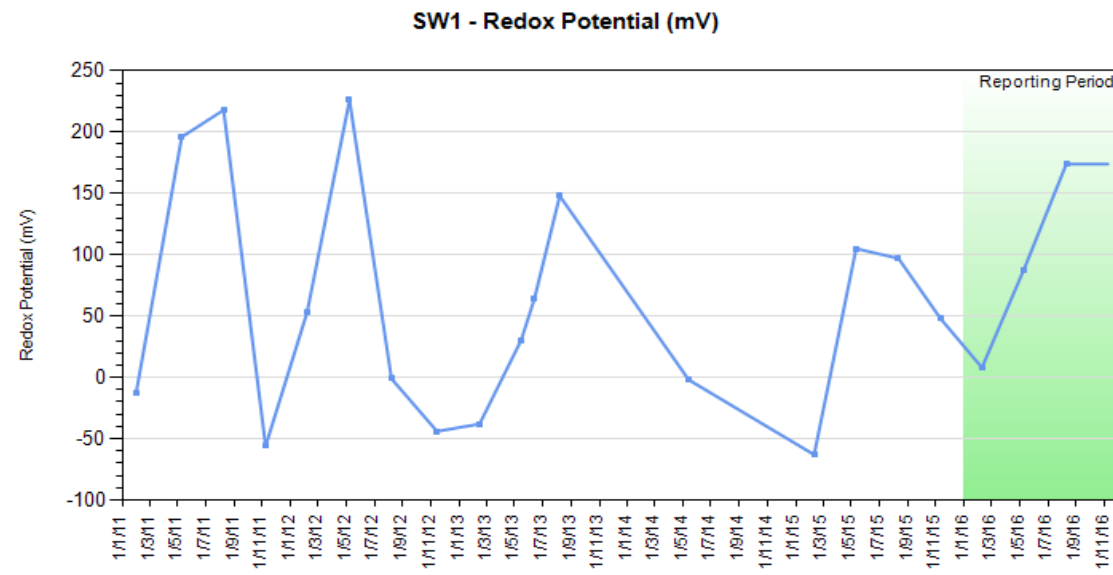
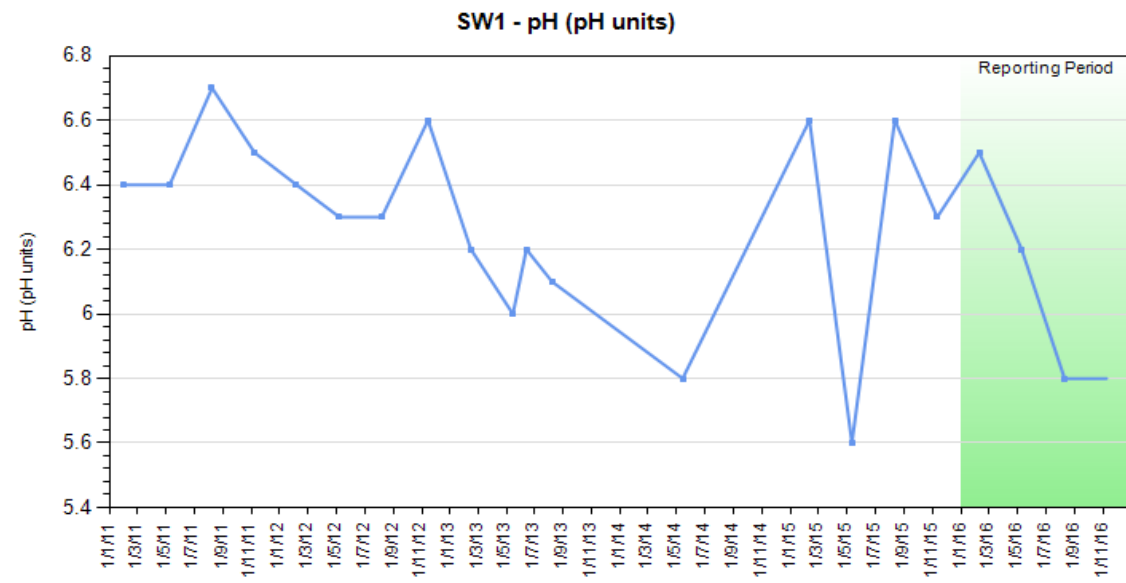
GW23 - Total Zinc (mg/L)



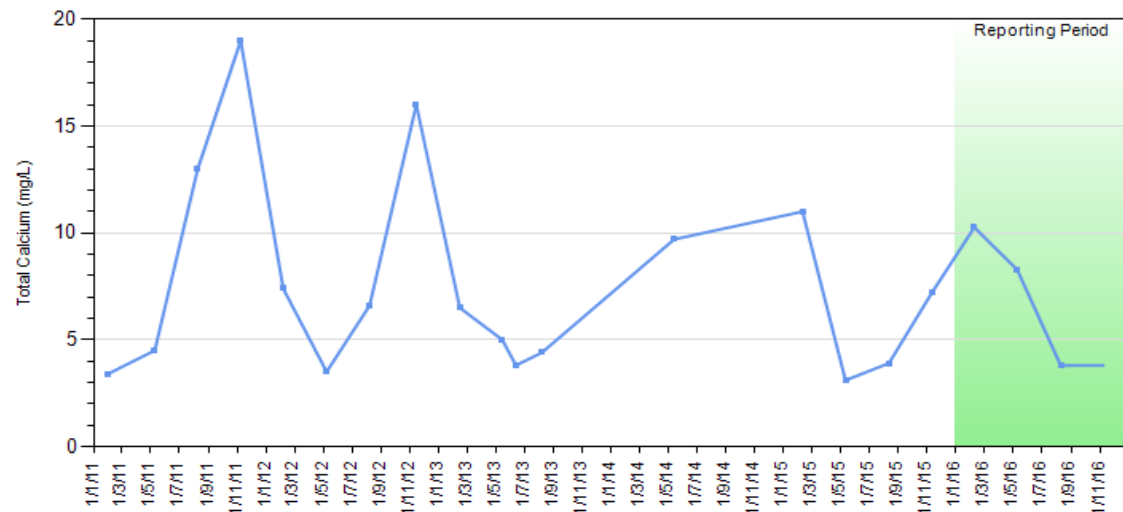
SW1

SW1	Alkalinity mg/L as CaCO3	Ammonia mg/L	Arsenic (Total) mg/L	BOD5 mg/L	Cadmium (Total) mg/L	Calcium (Total) mg/L	Chloride mg/L	Chromium (Total) mg/L	Conductivity µScm-1	Copper (Total) mg/L	DO (Membrane Electrode)	Lead (Total) mg/L	Magnesium (Total) mg/L	Manganese Total mg/L	Nickel (Total) mg/L	Nitrate N mg/L	Nitrite N mg/L	Nitrogen Oxidised mg/L	Nitrogen Total mg/L	Orthophosphate mg/L	pH pH units	Phosphorus Total mg/L	Potassium Total mg/L	Redox Potential mV	Sodium (Total) mg/L	Solids Suspended mg/L	Sulphate mg/L	TKN mg/L	TOC mg/L	Zinc (Total) mg/L		
31/01/2011	31.	0.05	0.09	21.	0.001	3.4	44.	0.01	120.	0.01	1.0	0.01	1.6	3.3	0.01	0.05	0.05	0.05	0.8	0.05	6.4	0.07	5.0	-13.	13.	1237.	1.7	0.8	5.3	0.01		
10/05/2011	22.	0.05	0.005	3.6	0.001	4.5	25.	0.01	150.	0.01	5.6	0.01	1.9	4.010	0.01	0.05	0.05	0.05	0.9	0.05	6.4	0.1	5.0	196.	16.	89.	2.5	0.9	2.7	0.01		
9/08/2011	77.	0.05	0.1	18.	0.001	13.	44.	0.02	265.	0.07	3.6	0.01	4.0	74.	0.02	0.05	0.05	0.05	10.0	0.05	6.7	0.6	5.0	218.	24.	2970.	4.8	10.0	5.10	0.1		
8/11/2011	160.	0.07	0.3	108.	0.001	19.	35.	0.01	309.	0.2	0.1	0.03	5.3	67.	0.04	0.06	0.02	0.06	11.	0.02	6.5	0.8	5.0	-56.	18.	6820.	2.6	10.9	3.2	0.3		
6/02/2012	51.	0.03	0.01	20.	0.002	7.4	22.	0.01	193.	0.01	1.0	0.04	4.8	4.10	0.01	0.02	0.02	0.05	5.1	0.02	6.4	0.2	5.0	53.	16.	764.	1.8	5.1	6.10	0.08		
8/05/2012	20.	0.02	0.005	1.0	0.001	3.5	22.	0.01	108.	0.1	4.8	0.01	2.0	0.01	0.01	0.02	0.02	0.02	0.5	0.02	6.3	0.07	5.0	226.	15.	38.	1.4	0.5	0.6	0.04		
7/08/2012	36.	0.03	0.005	6.6	0.001	6.6	30.	0.01	188.	0.01	1.2	0.01	2.6	1.6	0.01	0.03	0.02	0.03	0.4	0.02	6.3	0.02	5.0	-1.0	13.	334.	2.1	0.3	3.7	0.01		
14/11/2012	44.	0.07	0.005	9.6	0.001	16.	34.	0.01	301.	0.01	0.4	0.01	4.9	1.3	0.01	0.06	0.02	0.06	1.2	0.02	6.6	0.2	5.0	-44.	18.	263.	21.	1.1	8.4	0.02		
14/02/2013	30.	0.06	0.005	3.9	0.001	6.5	24.	0.01	203.	0.01	1.0	0.01	3.2	0.9	0.01	0.03	0.02	0.05	1.8	0.02	6.2	0.2	5.0	-38.	17.	58.	2.6	1.7	11.	0.02		
15/05/2013	17.	0.03	0.005	2.4	0.001	5.0	25.	0.01	138.	0.01	1.5	0.01	1.5	0.4	0.01	0.03	0.02	0.03	1.08	0.02	6.0	0.2	5.0	30.	15.	74.	4.10	1.05	3.4	0.01		
13/06/2013	14.	0.02	0.005	1.0	0.001	3.8	14.	0.01	89.	0.01	6.6	0.01	1.4	0.03	0.01	0.02	0.02	0.02	0.5	0.02	6.2	0.02	5.0	64.	11.	9.6	4.9	0.5	4.4	0.04		
7/08/2013	22.	0.03	0.005	6.3	0.001	4.4	24.	0.01	124.	0.01	4.2	0.01	1.8	0.07	0.01	0.03	0.02	0.03	0.5	0.02	6.10	0.1	5.0	148.	17.	414.	3.2	0.5	2.7	0.01		
14/05/2014	26.	0.04	0.005	5.10	0.001	9.7	58.	0.01	326.	0.01	1.0	0.01	4.3	0.4	0.01	0.04	0.02	0.04	0.7	0.03	5.8	0.1	5.0	-2.0	40.	28.	28.	0.7	7.7	0.02		
10/02/2015	59.	0.04	0.005	6.6	0.001	11.	24.	0.01	230.	0.01	0.1	0.01	4.4	1.7	0.01	0.03	0.02	0.05	1.3	0.02	6.6	0.06	5.0	-63.	14.	12.	2.7	1.3	22.	0.05		
12/05/2015	12.	0.02	0.001	3.6	0.001	3.1	20.	0.001	103.	0.001	3.9	0.001	1.4	0.1	0.001	0.02	0.02	0.02	0.2	0.02	5.6	0.04	5.0	105.	14.	13.	2.6	0.2	3.0	0.03		
12/08/2015	17.	0.02	0.009	2.7	0.001	3.9	24.	0.001	125.	0.002	3.4	0.001	1.8	0.6	0.001	0.02	0.02	0.02	1.4	0.02	6.6	0.3	5.0	97.	16.	165.	2.8	1.4	4.2	0.008		
11/11/2015	24.	0.02	0.003	1.5	0.001	7.2	20.	0.001	146.	0.003	2.1	0.001	2.3	0.6	0.001	0.02	0.02	0.02	1.5	0.02	6.3	0.2	5.0	48.	14.	50.	6.9	1.5	7.3	0.006		
9/02/2016	42.	0.02	0.02	13.5	0.001	10.3	28.	0.003	196.	0.006	0.6	0.002	3.3	1.2	0.003	0.02	0.03	0.02	4.07	0.02	6.5	0.7	5.0	8.0	#####	402.	3.0	4.07	8.7	0.02		
10/05/2016	37.	0.02	0.006	6.3	0.001	8.3	30.	0.001	203.	0.001	1.6	0.001	3.1	0.8	0.001	0.02	0.02	0.02	0.7	0.02	6.2	0.1	5.0	88.	19.1	40.	2.6	0.7	6.002	0.005		
10/08/2016	14.9	0.02		6.6		3.8	23.		121.		3.7		1.6			0.02	0.02	0.02	2.9	0.02	5.8	0.6	5.0	174.	16.9	178.	3.4	2.9	4.3			
8/11/2016																																
2016 Min	14.9	0.02	0.006	6.3	0.001	3.8	23	0.001	121	0.001	0.6	0.001	1.6	0.8	0.001	0.02	0.02	0.02	0.7	0.02	5.8	0.1	5.0	8.0	16.9	40	2.6	0.7	4.3	0.005		
2016 Max	42	0.02	0.02	13.5	0.001	10.3	30	0.003	203	0.006	3.7	0.002	3.3	1.2	0.003	0.02	0.03	0.02	4.07	0.02	6.5	0.7	5.0	174	19.1	402	3.4	4.07	8.7	0.02		
2016 Mean	31.3	0.02	0.01	8.8	0.001	7.4	27	0.002	173	0.004	2.0	0.002	2.7	1.0	0.002	0.02	0.02	0.02	2.5	0.02	6.2	0.5	5.0	90	17.7	207	3.007	2.5	6.3	0.01		

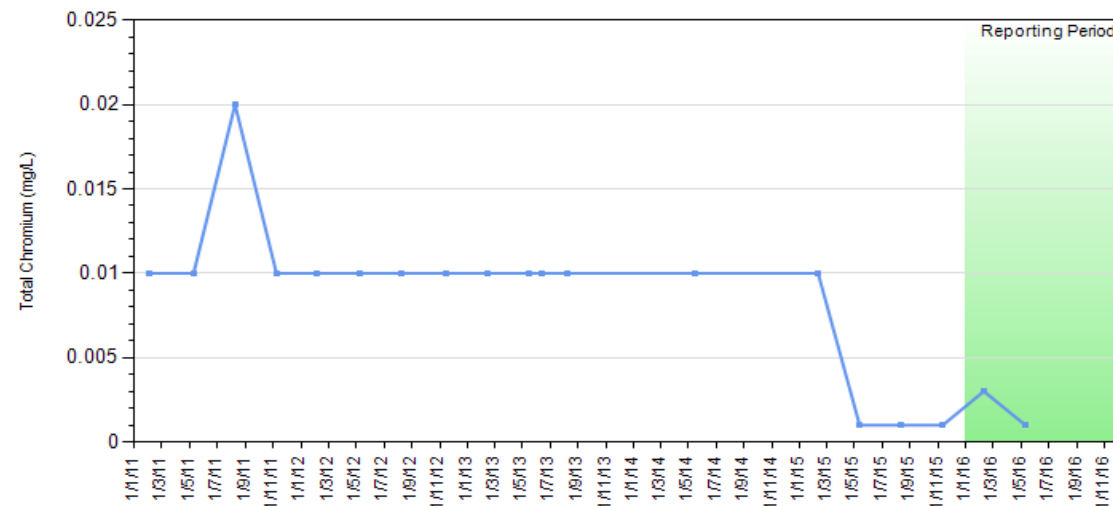




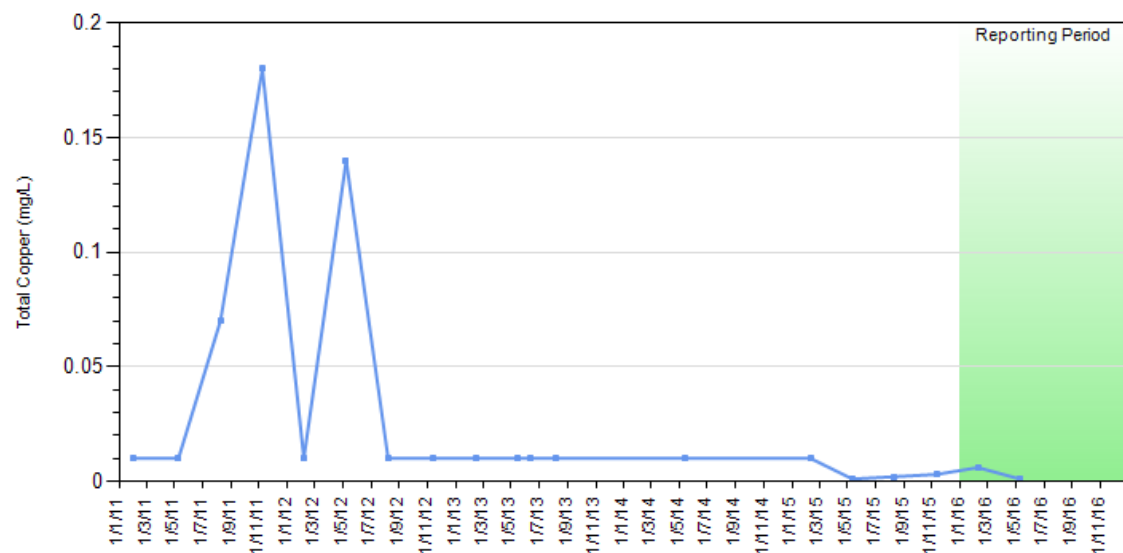
SW1 - Total Calcium (mg/L)



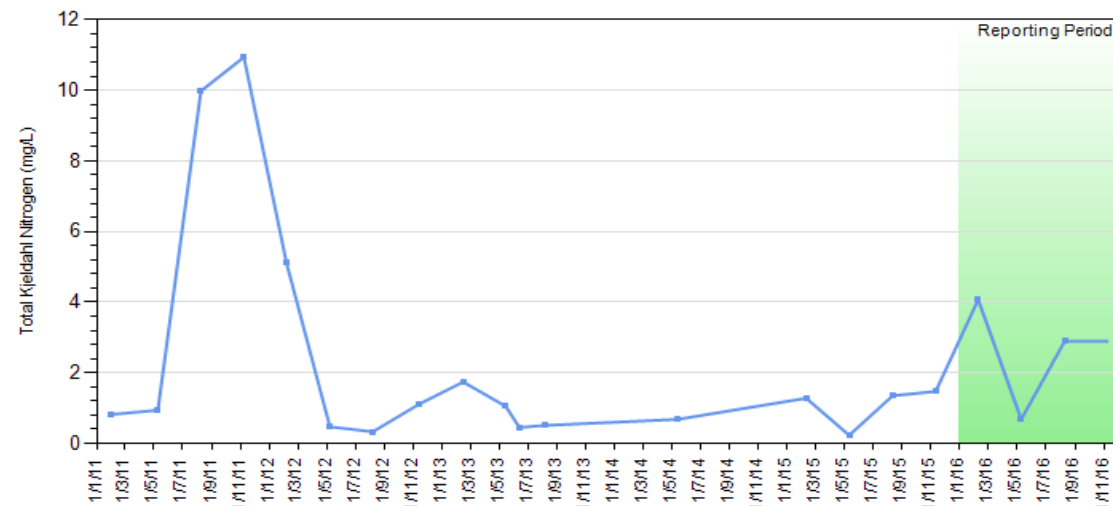
SW1 - Total Chromium (mg/L)



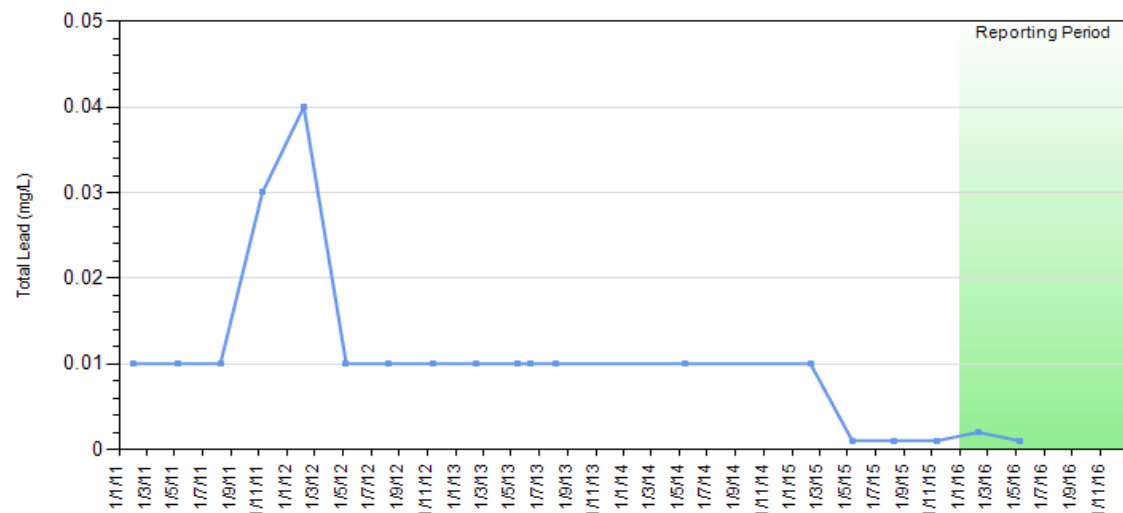
SW1 - Total Copper (mg/L)



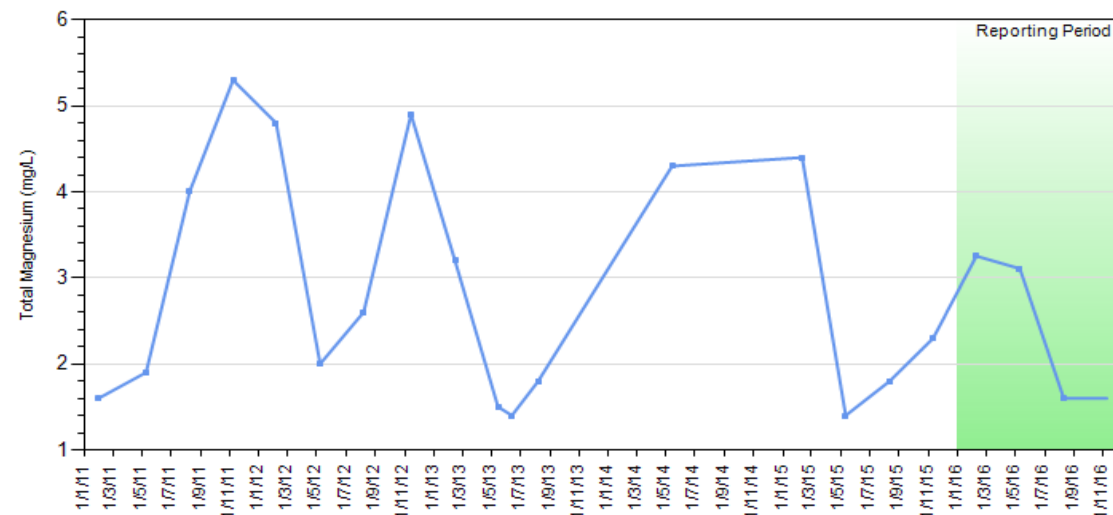
SW1 - Total Kjeldahl Nitrogen (mg/L)



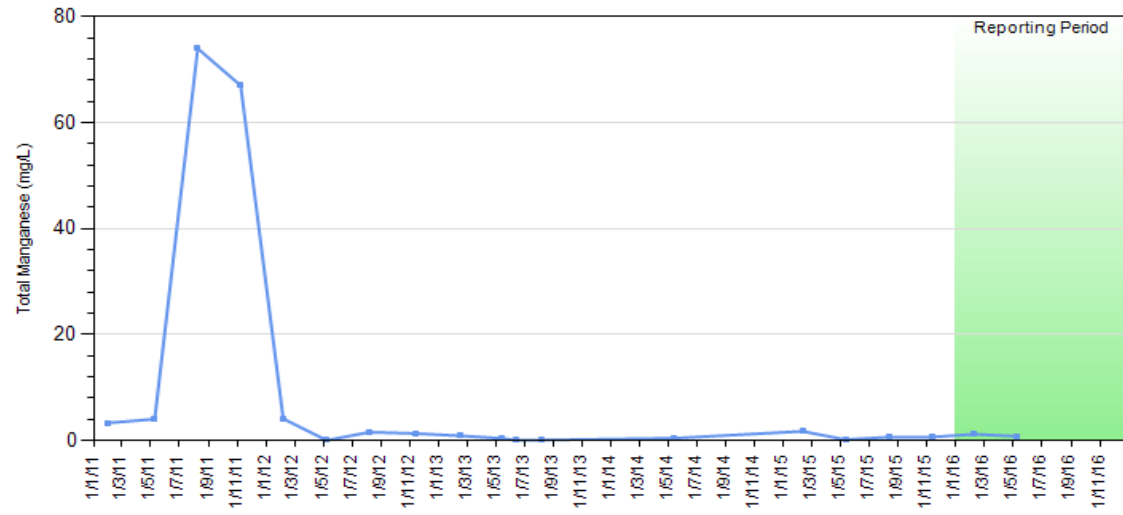
SW1 - Total Lead (mg/L)



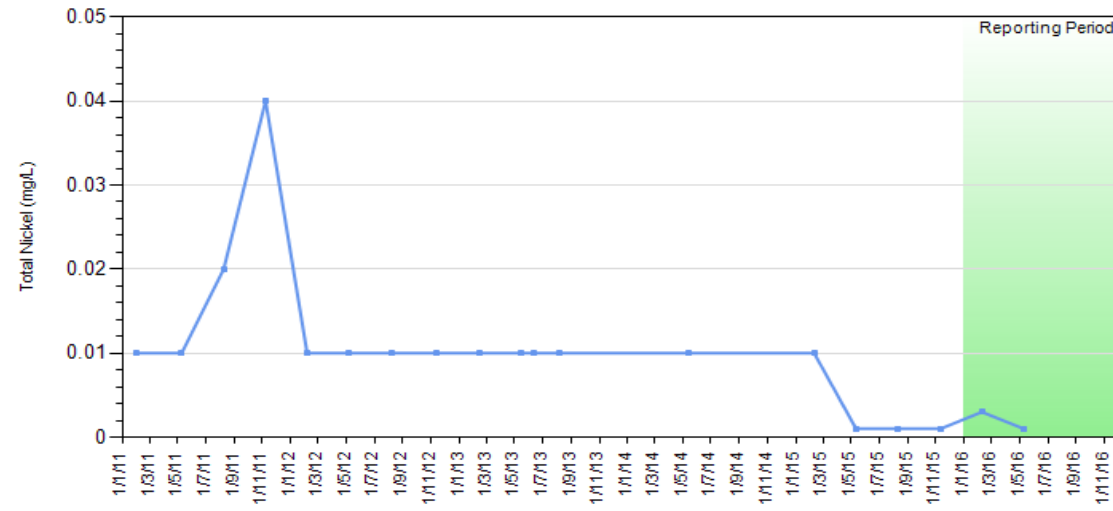
SW1 - Total Magnesium (mg/L)



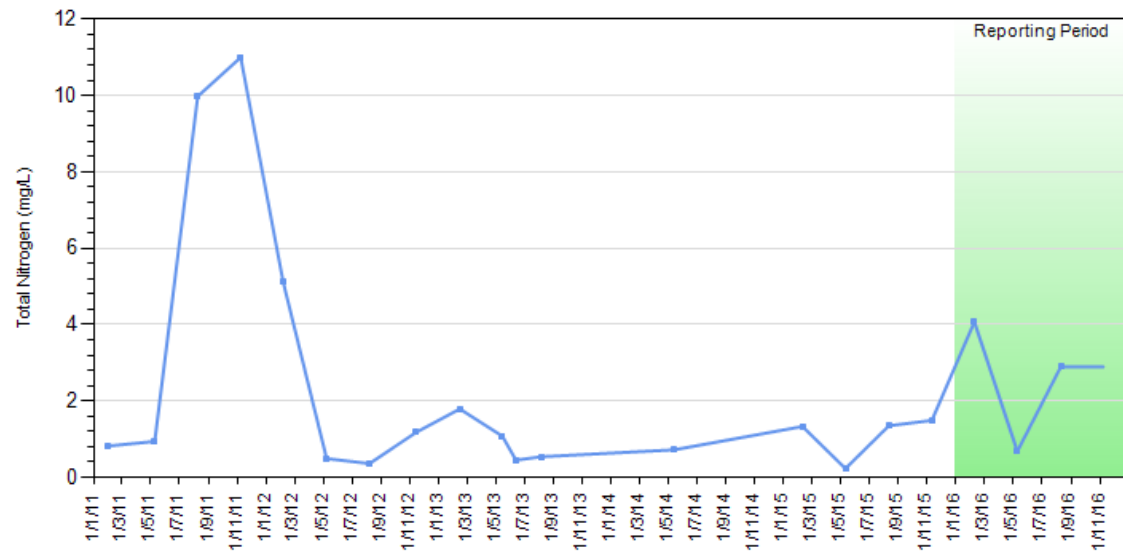
SW1 - Total Manganese (mg/L)



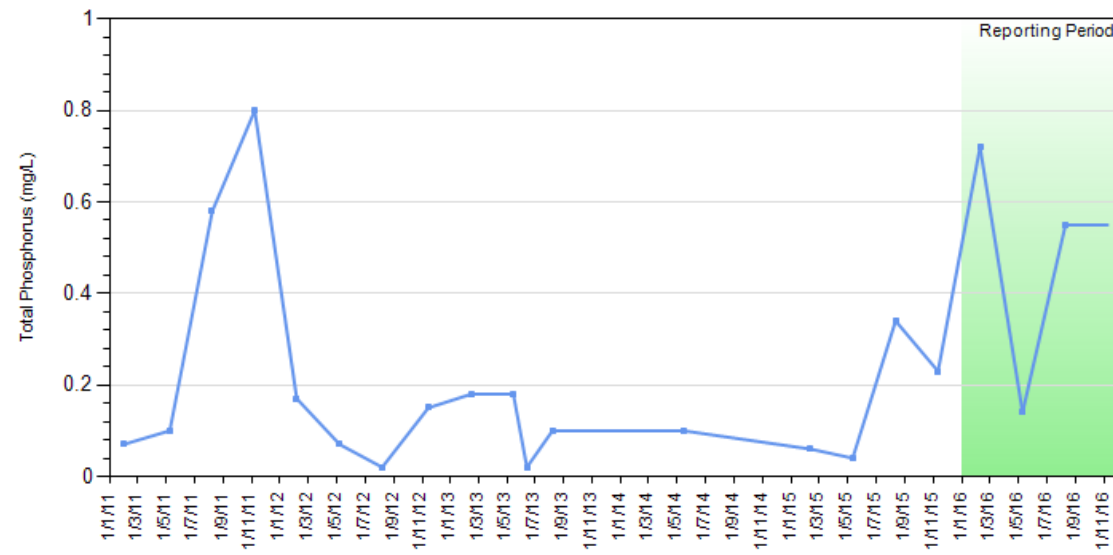
SW1 - Total Nickel (mg/L)



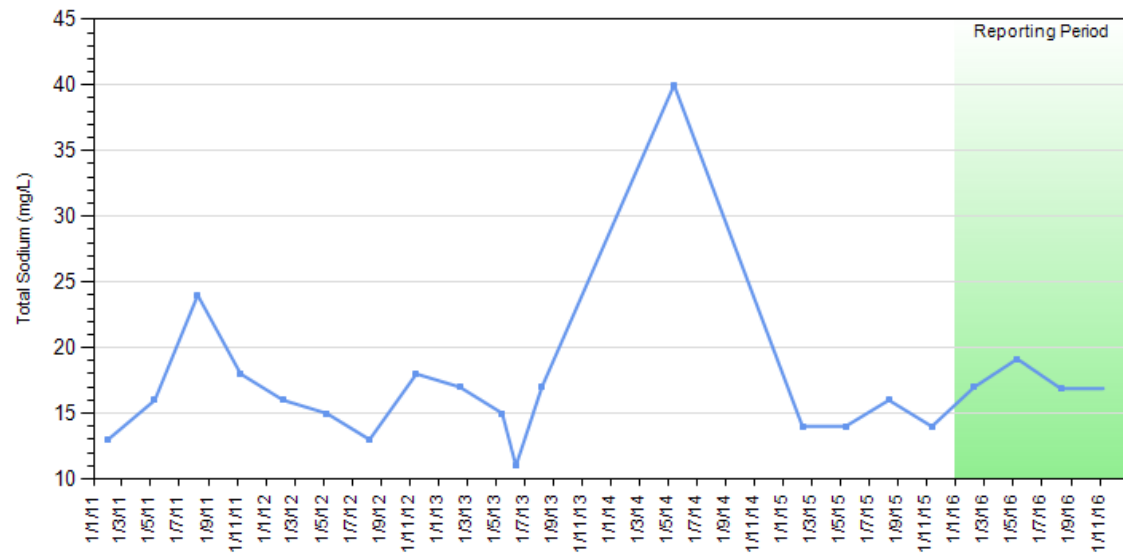
SW1 - Total Nitrogen (mg/L)



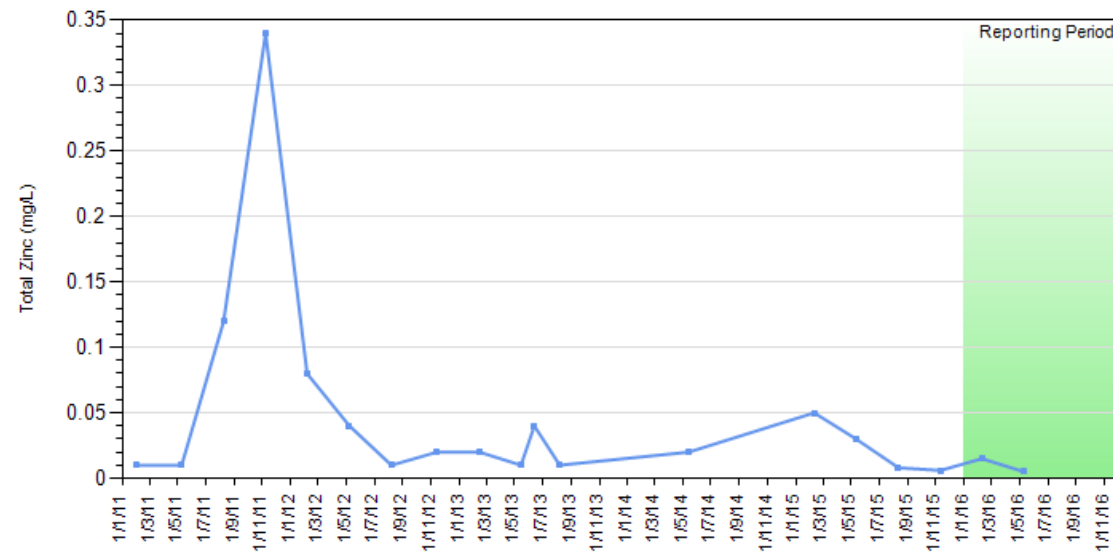
SW1 - Total Phosphorus (mg/L)



SW1 - Total Sodium (mg/L)



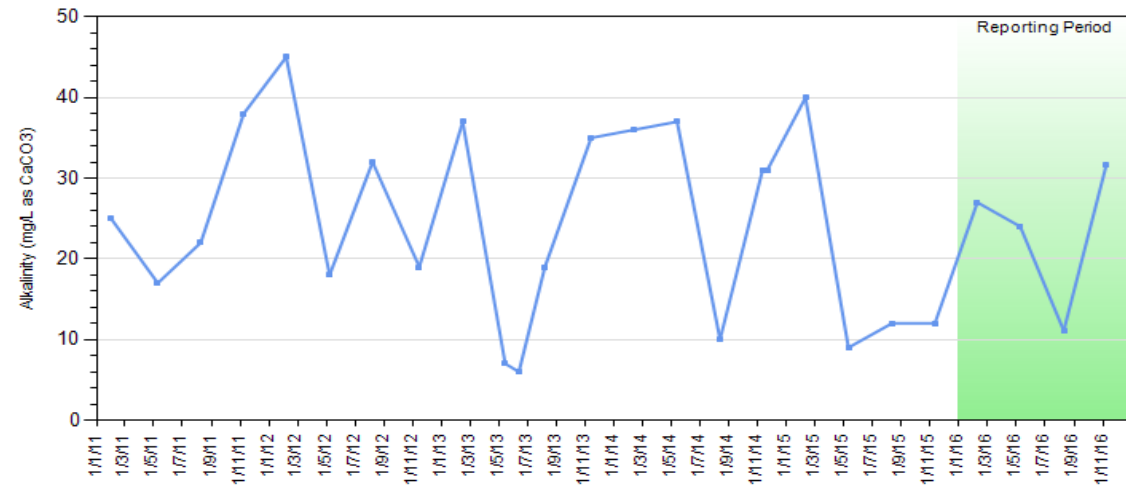
SW1 - Total Zinc (mg/L)



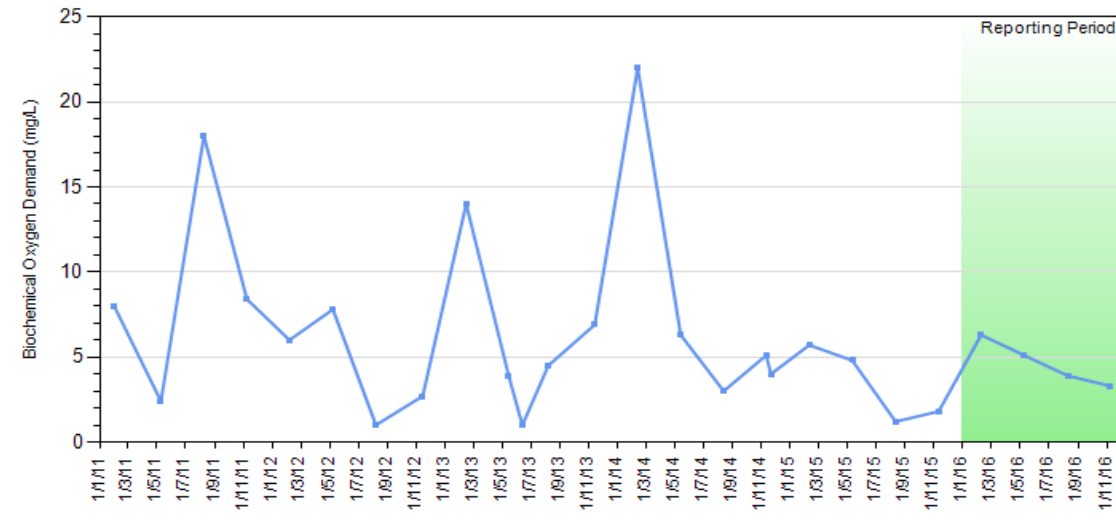
SW2

SW2	Alkalinity mg/L as CaCO ₃	Ammonia mg/L	Arsenic (Total) mg/L	BOD ₅ mg/L	Cadmium (Total) mg/L	Calcium (Total) mg/L	Chloride mg/L	Chromium (Total) mg/L	Conductivity µS/cm-1	Copper (Total) mg/L	DO (Membrane Electrode)	Lead (Total) mg/L	Magnesium (Total) mg/L	Manganese Total mg/L	Nickel (Total) mg/L	Nitrate N mg/L	Nitrite N mg/L	Nitrogen Oxidised mg/L	Nitrogen Total mg/L	Orthophosphate mg/L	pH pH units	Phosphorus Total mg/L	Potassium Total mg/L	Redox Potential mV	Sodium (Total) mg/L	Solids Suspended mg/L	Sulphate mg/L	TKN mg/L	TOC mg/L	Zinc (Total) mg/L
31/01/2011	25.	0.05	0.006	7.8	0.001	3.9	20.	0.01	142.	0.01	1.1	0.01	2.1	1.4	0.01	0.05	0.05	0.05	1.0	0.05	6.2	0.08	5.0	-18.	13.	82.	1.0	1.0	5.6	0.01
10/05/2011	17.	0.05	0.005	2.4	0.001	3.6	28.	0.01	163.	0.01	3.1	0.01	2.2	0.01	0.01	0.05	0.05	0.05	0.4	0.05	5.5	0.05	5.0	186.	19.	6.0	3.2	0.4	2.9	0.01
9/08/2011	22.	0.05	0.005	18.	0.001	5.9	44.	0.01	224.	0.01	6.9	0.01	3.1	0.7	0.01	0.05	0.05	0.05	0.7	0.05	6.0	0.07	5.0	244.	23.	167.	4.7	0.7	7.6	0.01
8/11/2011	38.	0.03	0.005	6.0	0.001	9.9	40.	0.01	229.	0.02	2.4	0.01	4.3	1.5	0.01	0.02	0.02	0.02	0.8	0.02	6.3	0.07	5.0	107.	13.	52.	1.8	0.8	5.4	0.03
6/02/2012	45.	0.04	0.005	6.0	0.001	9.0	24.	0.01	205.	0.01	1.0	0.01	5.4	2.9	0.01	0.05	0.02	0.05	1.2	0.02	6.4	0.5	5.0	34.	17.	44.	2.3	1.1	4.8	0.02
8/05/2012	18.	0.03	0.007	7.8	0.001	3.3	26.	0.01	123.	0.01	5.10	0.01	2.2	0.3	0.01	0.03	0.02	0.03	0.8	0.02	5.9	0.07	5.0	228.	17.	68.	1.9	0.7	0.7	0.01
7/08/2012	32.	0.02	0.005	1.0	0.001	5.3	32.	0.01	192.	0.01	3.1	0.01	4.2	0.05	0.01	0.02	0.02	0.02	0.3	0.02	6.10	0.02	5.0	114.	15.	3.7	1.8	0.3	4.4	0.01
14/11/2012	19.	0.04	0.005	2.7	0.001	7.5	56.	0.01	325.	0.01	1.5	0.01	5.2	1.6	0.01	0.04	0.02	0.04	0.8	0.02	6.2	0.05	5.0	41.	27.	52.	20.	0.8	7.0	0.03
14/02/2013	37.	0.07	0.005	14.	0.001	8.3	38.	0.01	272.	0.01	1.0	0.01	4.4	1.6	0.01	0.02	0.03	0.04	1.02	0.02	6.2	0.06	5.0	-47.	22.	39.	2.6	1.0	15.	0.02
15/05/2013	7.0	0.05	0.005	3.9	0.001	3.3	35.	0.01	149.	0.01	2.1	0.01	1.7	0.4	0.01	0.04	0.02	0.04	0.2	0.02	5.7	0.03	5.0	78.	18.	20.	4.0	0.2	2.7	0.01
13/06/2013	6.0	0.02	0.005	1.0	0.001	1.9	17.	0.01	89.	0.01	5.2	0.01	1.2	0.01	0.01	0.02	0.02	0.02	0.5	0.02	5.8	0.02	5.0	87.	12.	3.2	5.10	0.5	4.9	0.04
7/08/2013	19.	0.04	0.005	4.5	0.001	4.0	31.	0.01	144.	0.01	3.6	0.01	2.6	0.3	0.01	0.04	0.02	0.04	0.8	0.02	6.0	0.07	5.0	146.	20.	90.	1.5	0.7	4.3	0.02
13/11/2013	36.	0.04	0.005	7.2	0.001	8.4	51.	0.01	257.	0.01	4.5	0.01	4.9	1.0	0.01	0.03	0.02	0.03	1.2	0.02	6.5	0.1	5.0	90.	29.	35.	2.2	1.2	6.8	0.05
12/02/2014	36.	0.08	0.005	22.	0.001	9.0	56.	0.01	260.	0.01	3.6	0.01	5.2	0.7	0.01	0.09	0.02	0.09	2.7	0.02	6.4	0.2	5.0	145.	34.	64.	2.4	2.6	9.3	0.05
14/05/2014	37.	0.02	0.005	5.7	0.001	7.10	67.	0.01	321.	0.01	4.2	0.01	4.9	0.4	0.01	0.02	0.03	0.02	1.6	0.02	6.3	0.2	5.0	34.	38.	34.	4.4	1.6	12.10	0.01
13/08/2014	10.	0.03	0.005	2.7	0.001	6.2	59.	0.01	269.	0.01	3.8	0.01	4.0	0.1	0.01	0.03	0.02	0.03	0.4	0.02	5.8	0.05	5.0	153.	37.	10.	18.	0.4	5.0	0.03
11/11/2014	31.	0.05	0.005	5.4	0.001	7.5	60.	0.01	248.	0.01	3.9	0.01	4.6	0.4	0.01	0.04	0.02	0.04	1.2	0.02	7.10	0.2	5.0	79.	33.	23.	3.3	1.2	11.	0.03
21/11/2014	31.	0.06	0.005	4.0	0.001	10.	60.	0.01	264.	0.01	1.2	0.01	5.8	0.5	0.01	0.03	0.02	0.05	1.3	0.02	6.5	0.1	5.0	9.0	41.	26.	4.5	1.3	12.10	0.01
10/02/2015	40.	0.03	0.005	5.7	0.001	8.3	29.	0.01	196.	0.01	0.1	0.01	4.8	2.02	0.01	0.02	0.02	0.04	1.5	0.02	6.5	0.05	5.0	-1.0	16.	22.	2.6	1.4	20.	0.01
12/05/2015	9.0	0.02	0.002	4.8	0.001	2.3	24.	0.001	111.	0.001	1.5	0.001	1.5	0.2	0.001	0.02	0.02	0.02	0.4	0.02	5.4	0.06	5.0	124.	16.	21.	2.7	0.4	3.8	0.04
12/08/2015	12.	0.02	0.001	1.2	0.001	3.1	31.	0.001	140.	0.001	4.8	0.001	2.1	0.1	0.001	0.02	0.02	0.02	0.3	0.02	6.3	0.03	5.0	139.	20.	3.0	3.1	0.3	4.2	0.01
11/11/2015	12.	0.02	0.002	1.8	0.001	4.0	29.	0.001	148.	0.001	2.5	0.001	2.4	0.4	0.001	0.02	0.02	0.02	0.5	0.02	5.9	0.04	5.0	80.	18.	17.	9.8	0.5	6.5	0.006
9/02/2016	27.	0.02	0.002	6.3	0.001	6.08	39.	0.001	182.	0.001	1.1	0.001	3.007	0.5	0.001	0.02	0.02	0.02	0.7	0.02	6.4	0.07	5.0	84.	20.6	28.	3.03	0.7	8.6	0.005
10/05/2016	24.	0.02	0.002	6.3	0.001	5.8	37.	0.001	176.	0.001	2.5	0.001	3.2	0.6	0.001	0.02	0.02	0.02	1.1	0.02	6.2	0.1	5.0	116.	20.7	34.	1.9	1.1	6.2	0.005
10/08/2016	11.10	0.02		3.9		4.10	41.		181.		2.0		2.7			0.02	0.02	0.02	0.5	0.02	5.6	0.07	5.0	134.	22.3	15.5	6.4	0.5	4.3	
8/11/2016	31.4	0.02		3.6		7.2	39.5		191.		2.0		3.7			0.02	0.02	0.02	0.9	0.02	6.3	0.1	5.0	408.	25.4	16.	2.5	0.9	7.9	
2016 Min	11.10	0.02	0.002	3.6	0.001	4.10	37	0.001	176	0.001	1.1	0.001	2.7	0.5	0.001	0.02	0.02	0.02	0.5	0.02	5.6	0.07	5.0	84	20.6	15.5	1.9	0.5	4.3	0.005
2016 Max	31.4	0.02	0.002	6.3	0.001	7.2	41	0.001	191	0.001	2.5	0.001	3.7	0.6	0.001	0.02	0.02	0.02	1.1	0.02	6.4	0.1	5.0	408	25.4	34	6.4	1.1	8.6	0.005
2016 Mean	23.4	0.02	0.002	5.03	0.001	5.8	39.1	0.001	183	0.001	1.9	0.001	3.2	0.6	0.001	0.02	0.02	0.02	0.8	0.02	6.1	0.10	5.0	186	22.2	23.4	3.5	0.8	6.7	0.005

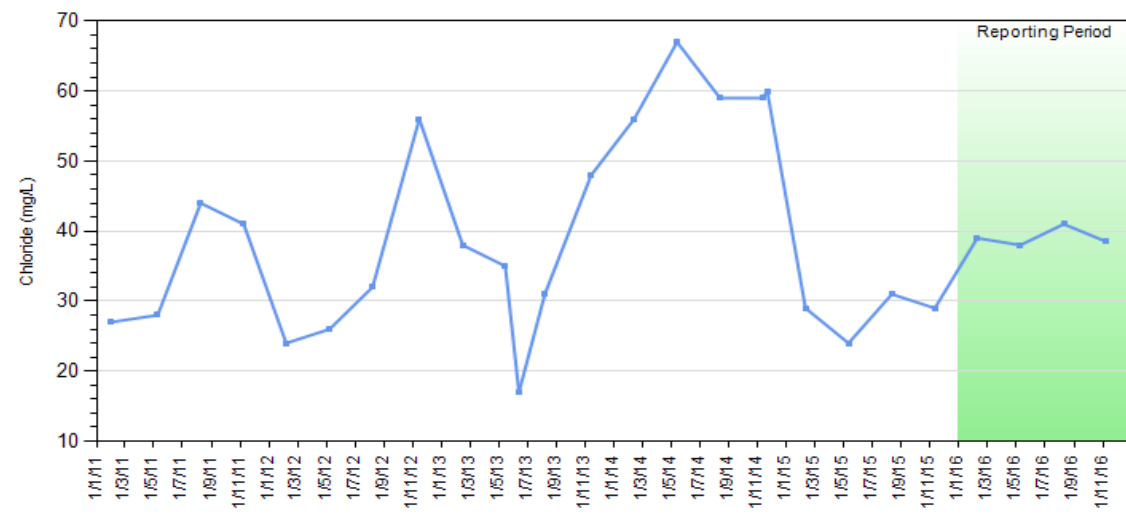
SW2 - Alkalinity (mg/L as CaCO3)



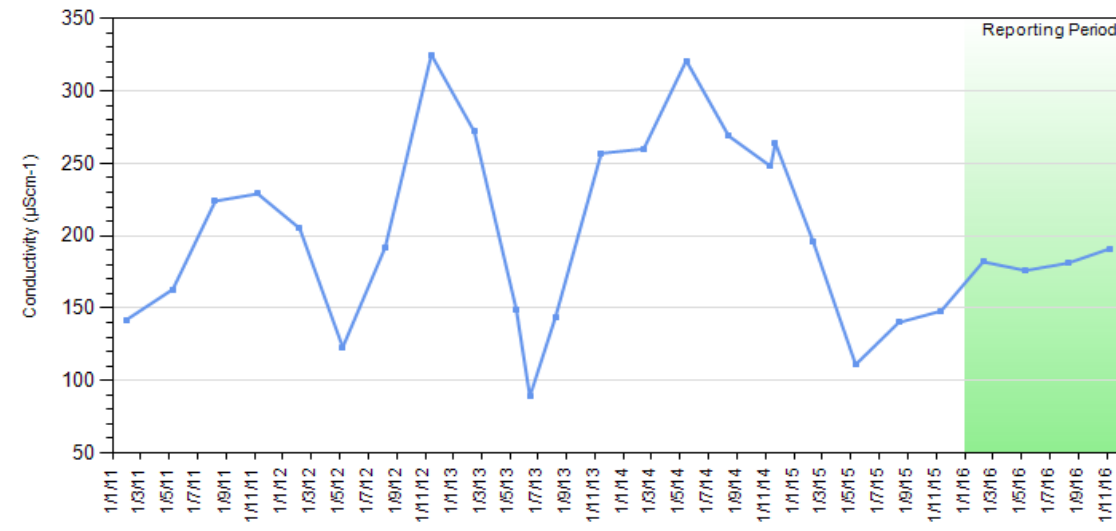
SW2 - Biochemical Oxygen Demand (mg/L)



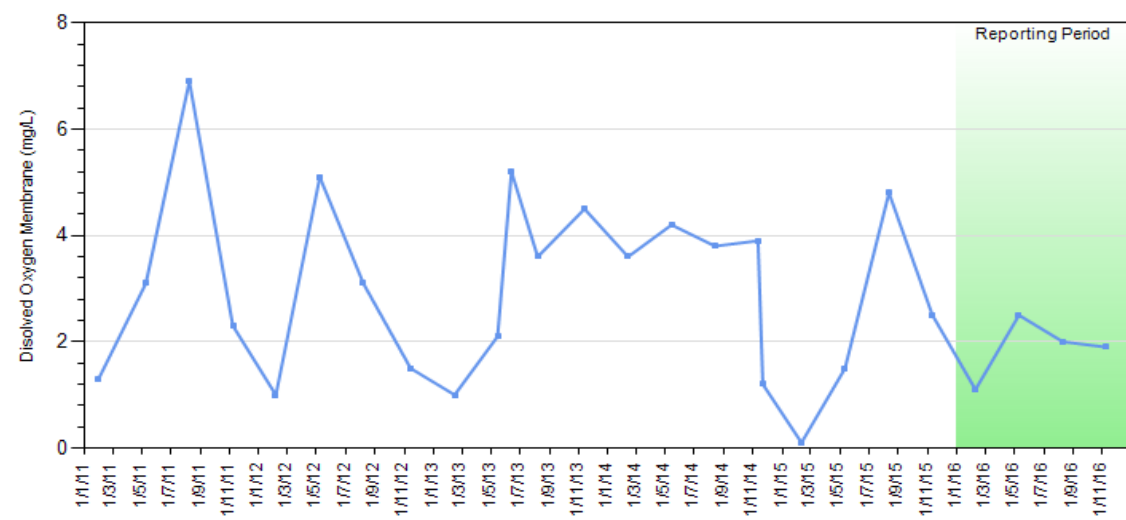
SW2 - Chloride (mg/L)



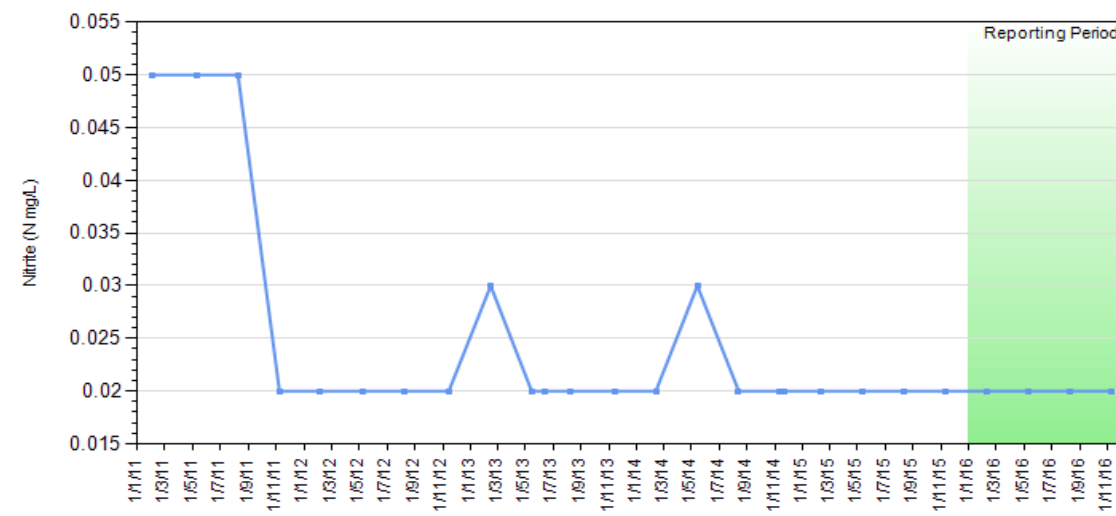
SW2 - Conductivity (µScm-1)



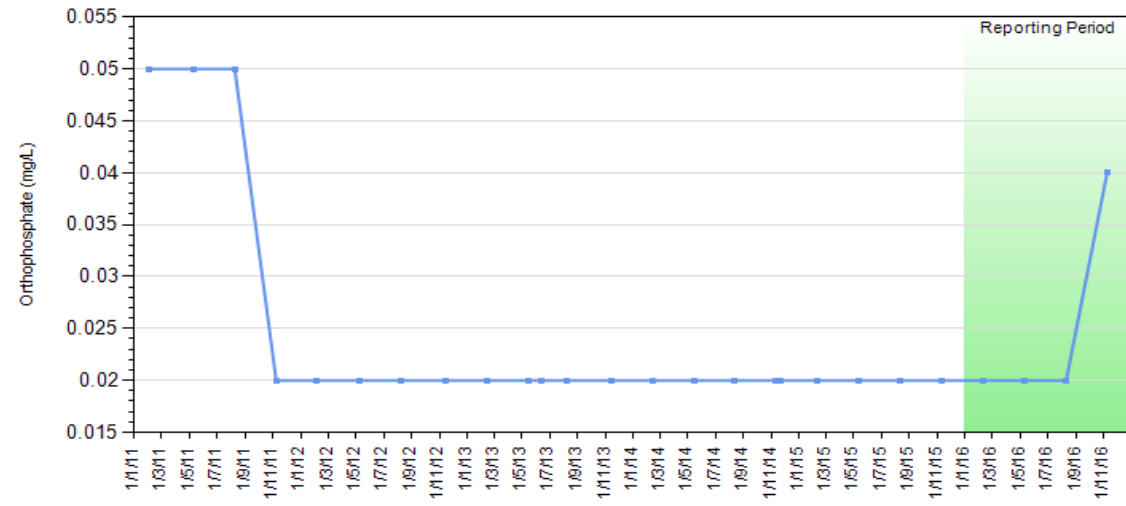
SW2 - Dissolved Oxygen Membrane (mg/L)



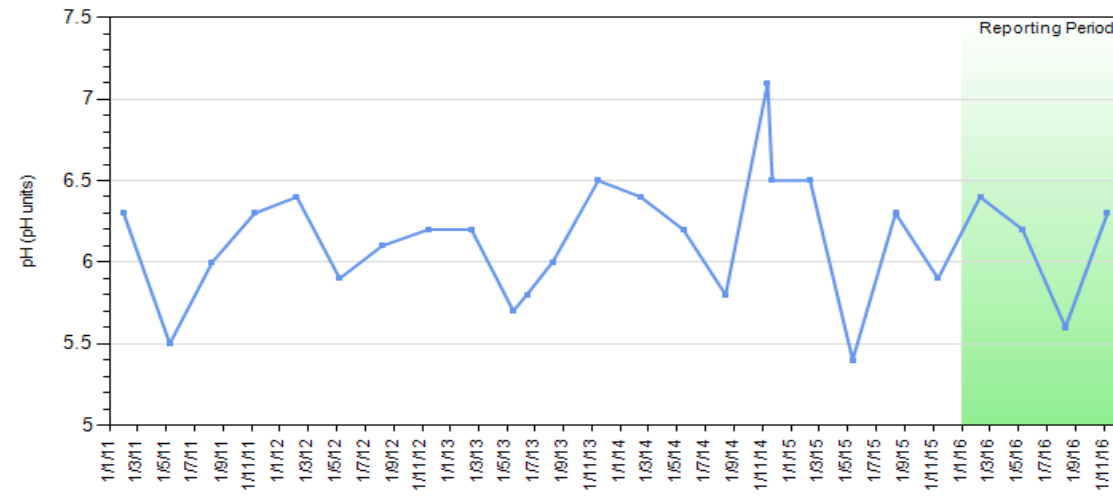
SW2 - Nitrite (N mg/L)



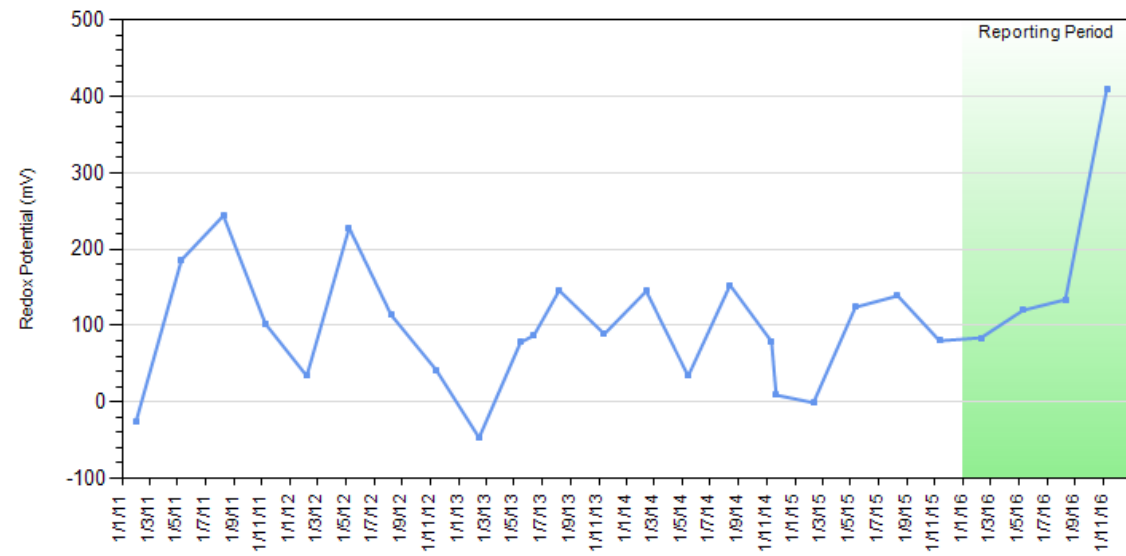
SW2 - Orthophosphate (mg/L)



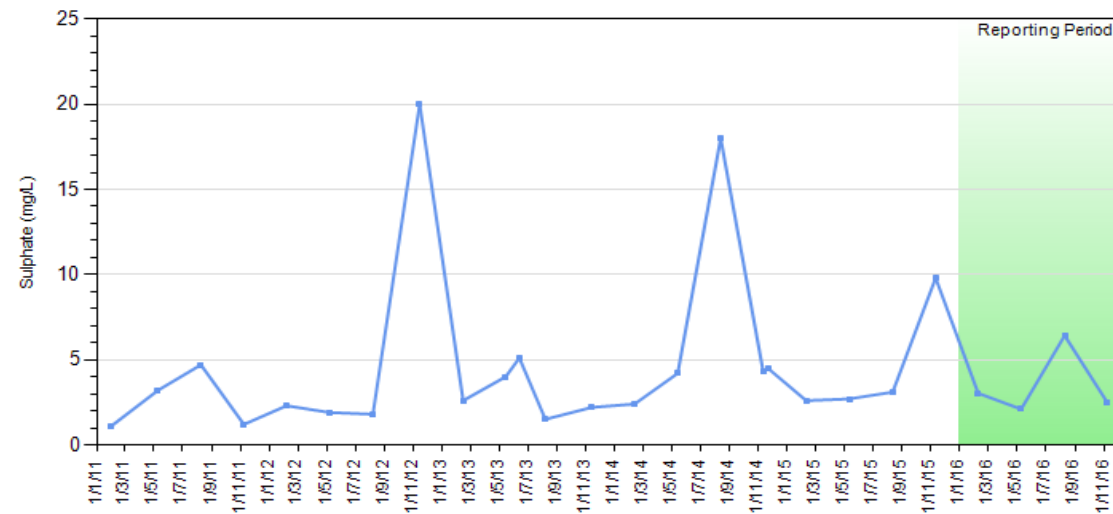
SW2 - pH (pH units)



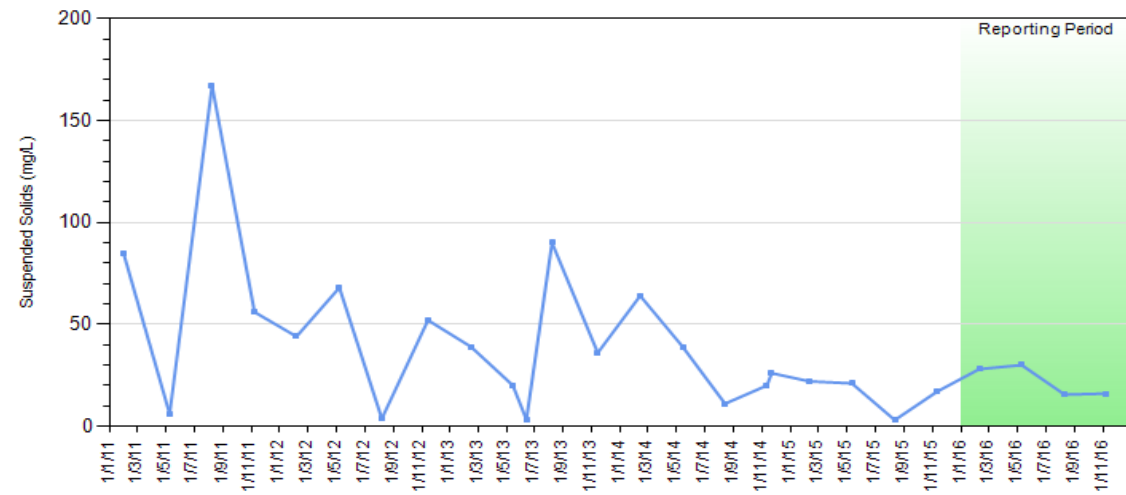
SW2 - Redox Potential (mV)



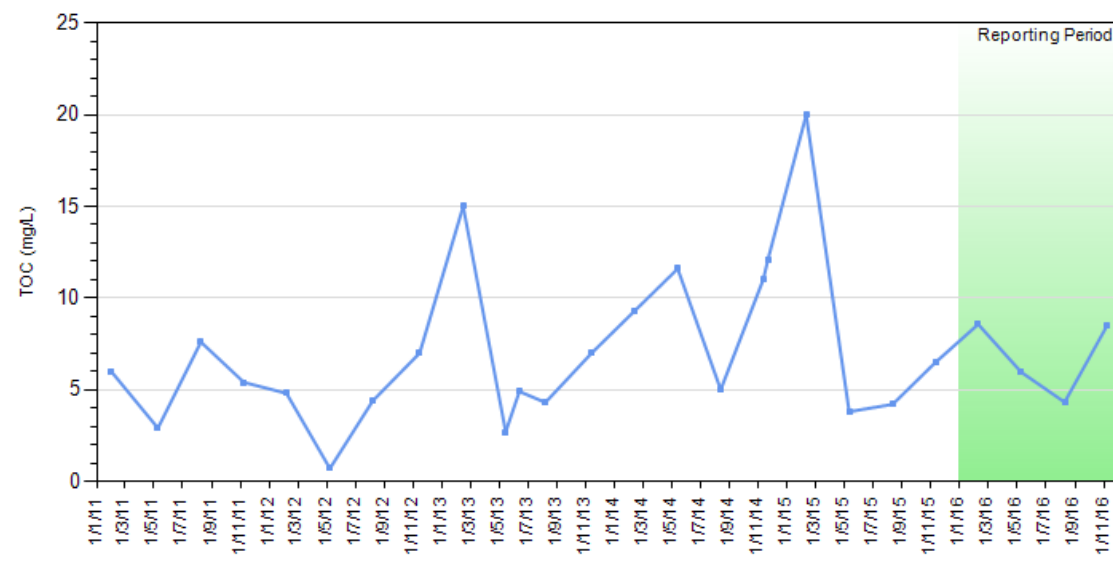
SW2 - Sulphate (mg/L)



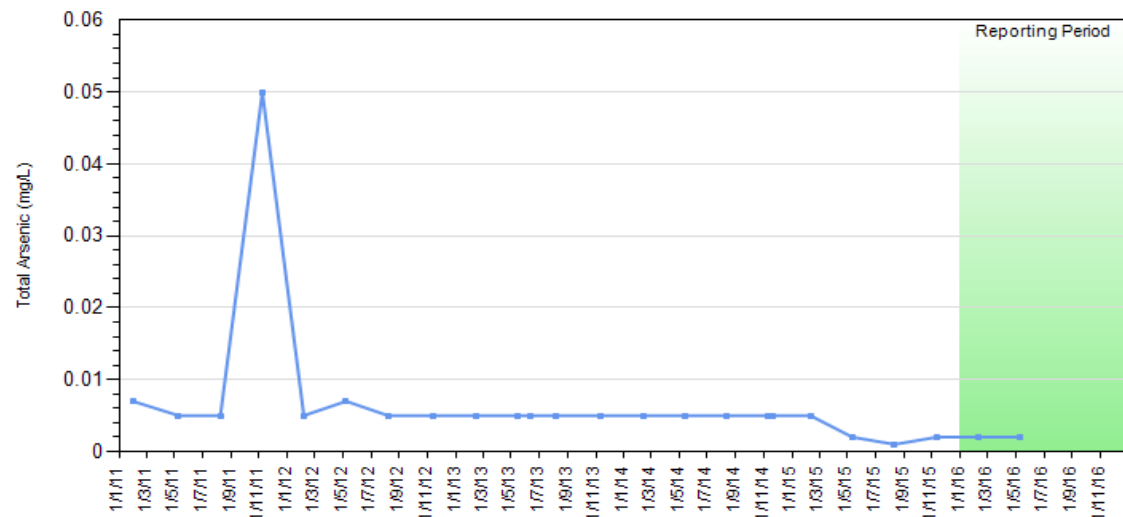
SW2 - Suspended Solids (mg/L)



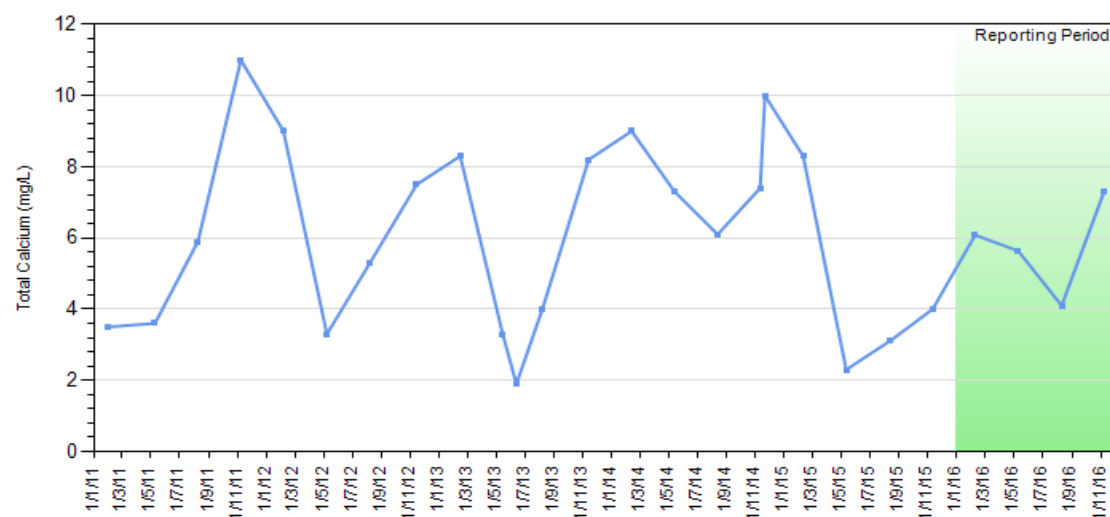
SW2 - TOC (mg/L)



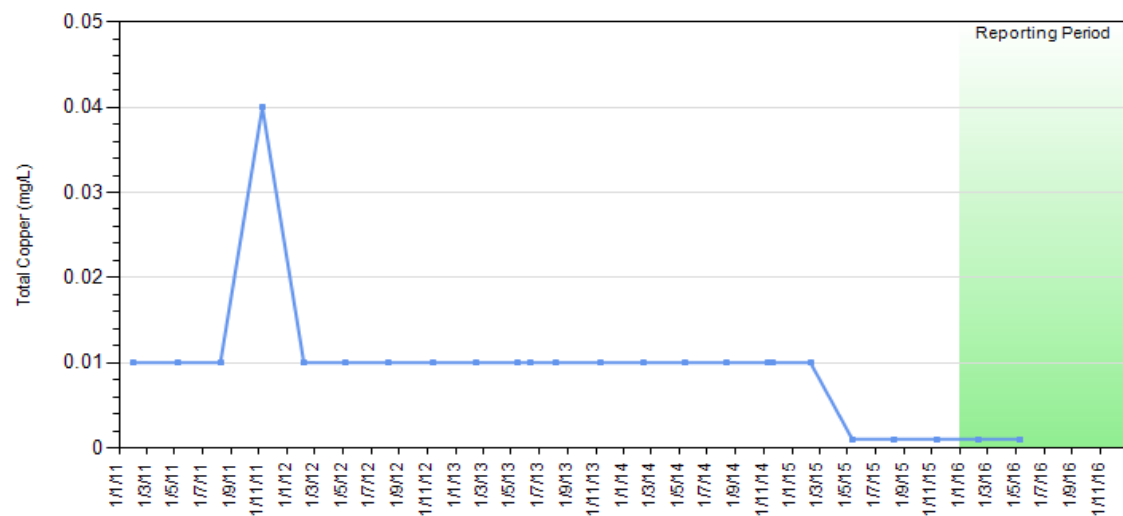
SW2 - Total Arsenic (mg/L)



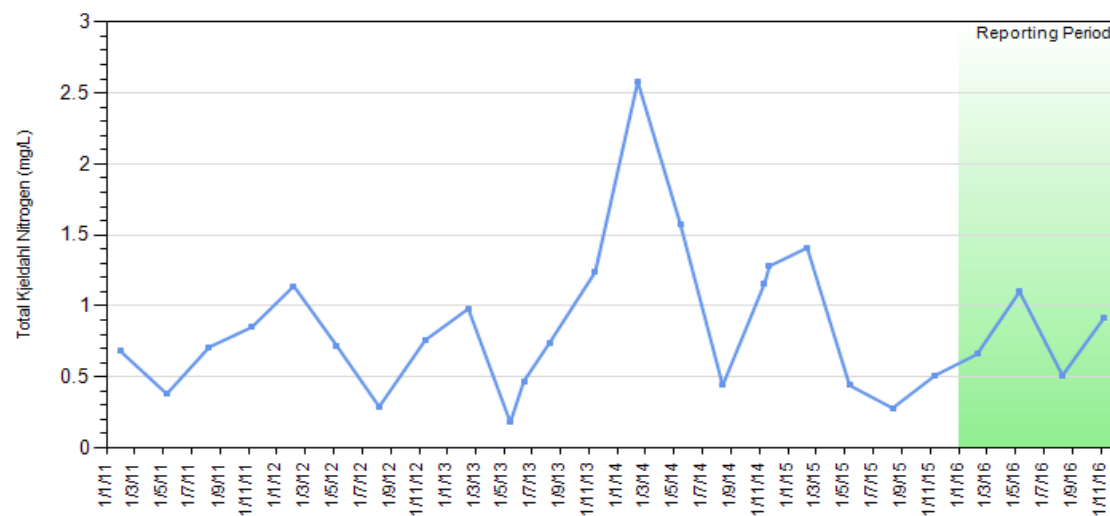
SW2 - Total Calcium (mg/L)



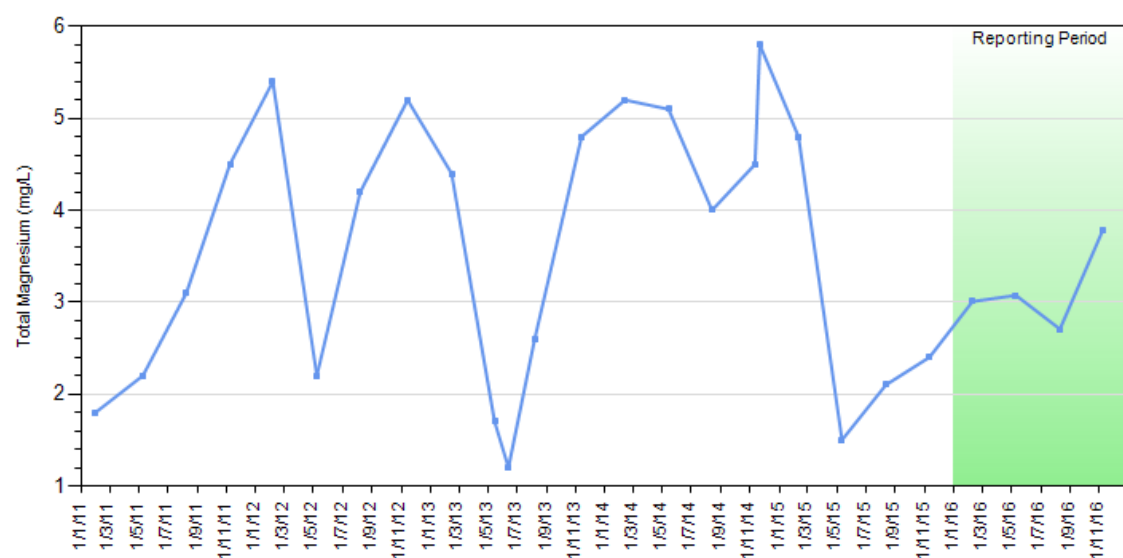
SW2 - Total Copper (mg/L)



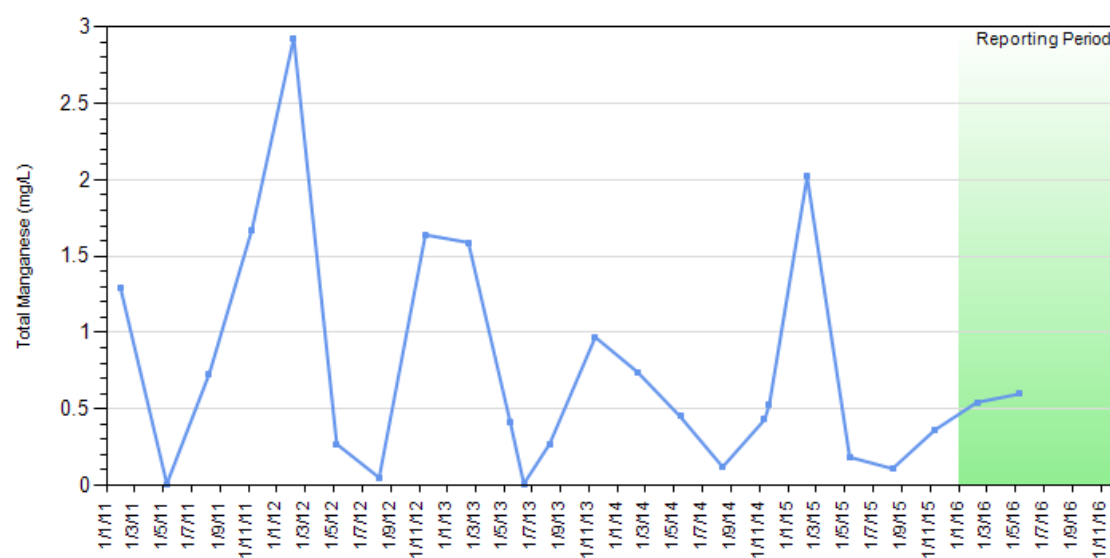
SW2 - Total Kjeldahl Nitrogen (mg/L)



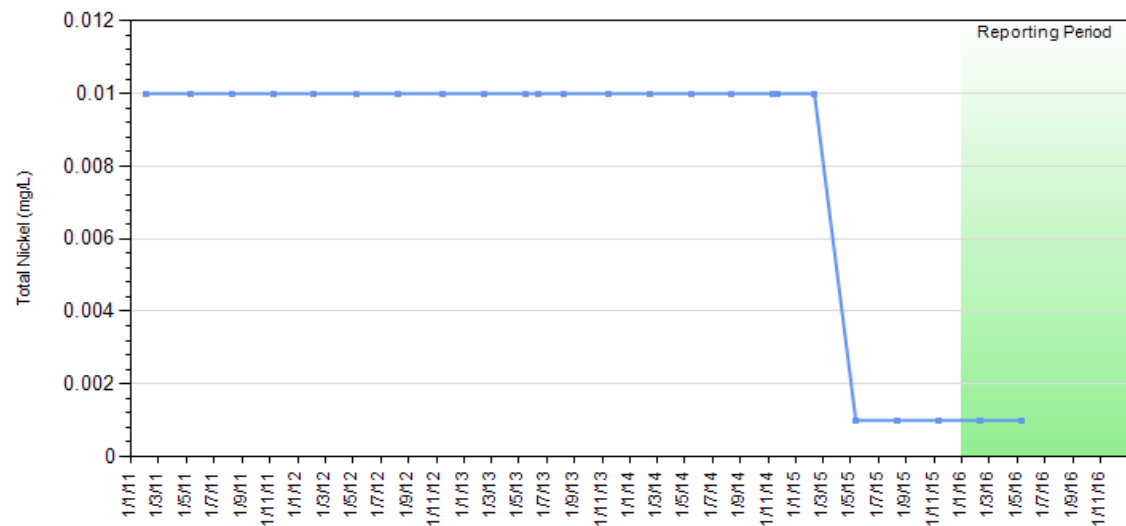
SW2 - Total Magnesium (mg/L)



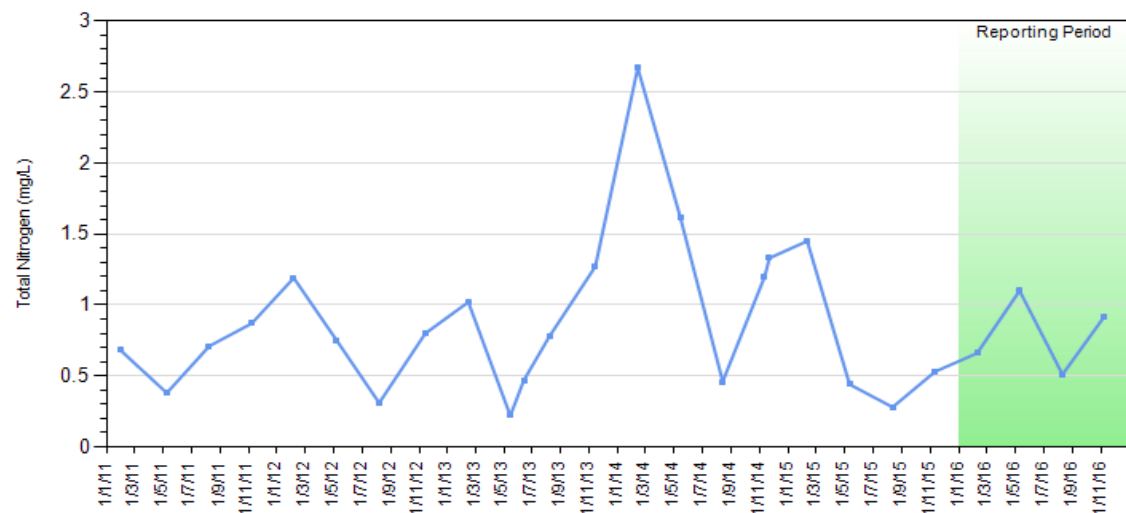
SW2 - Total Manganese (mg/L)



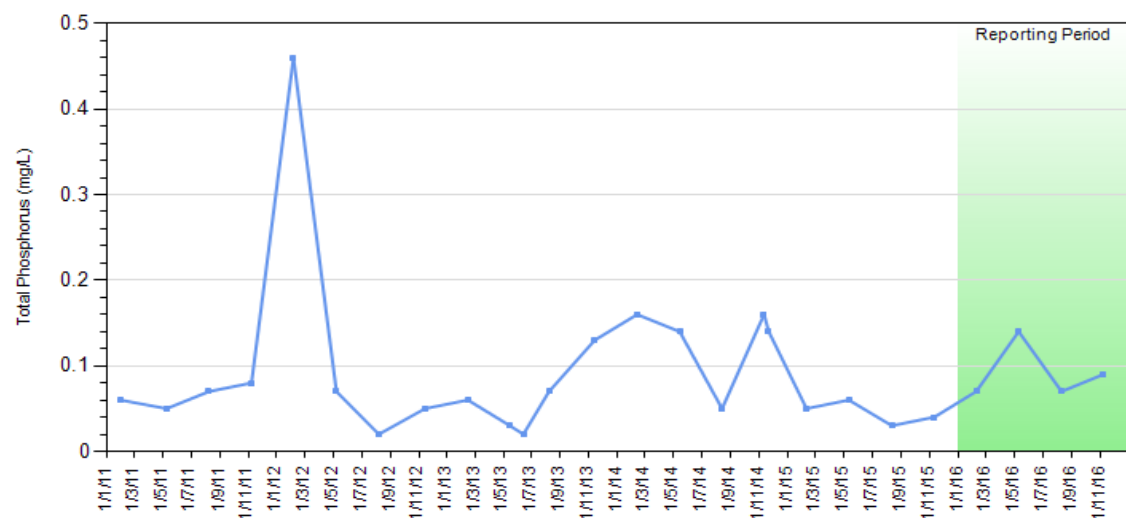
SW2 - Total Nickel (mg/L)



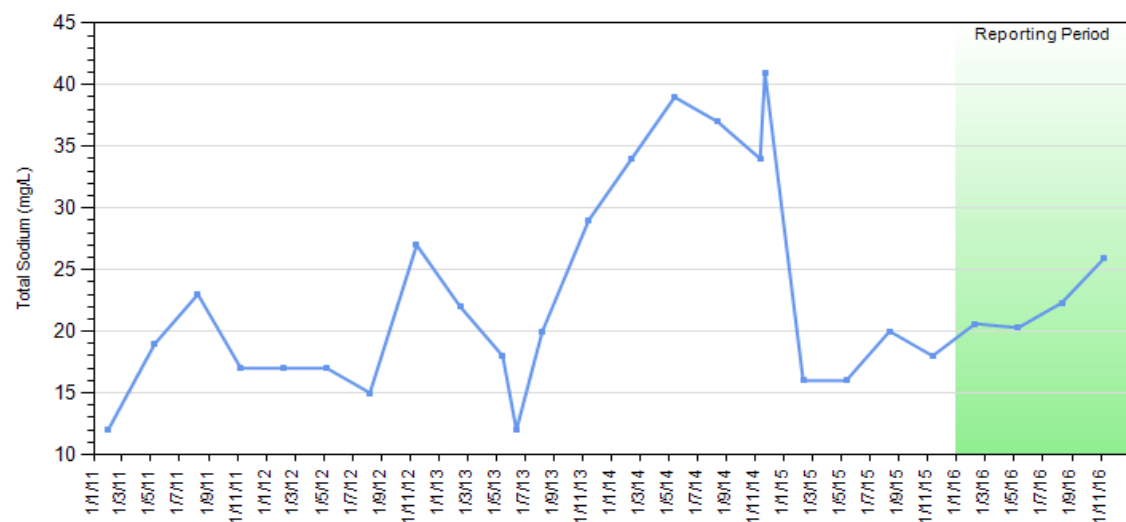
SW2 - Total Nitrogen (mg/L)



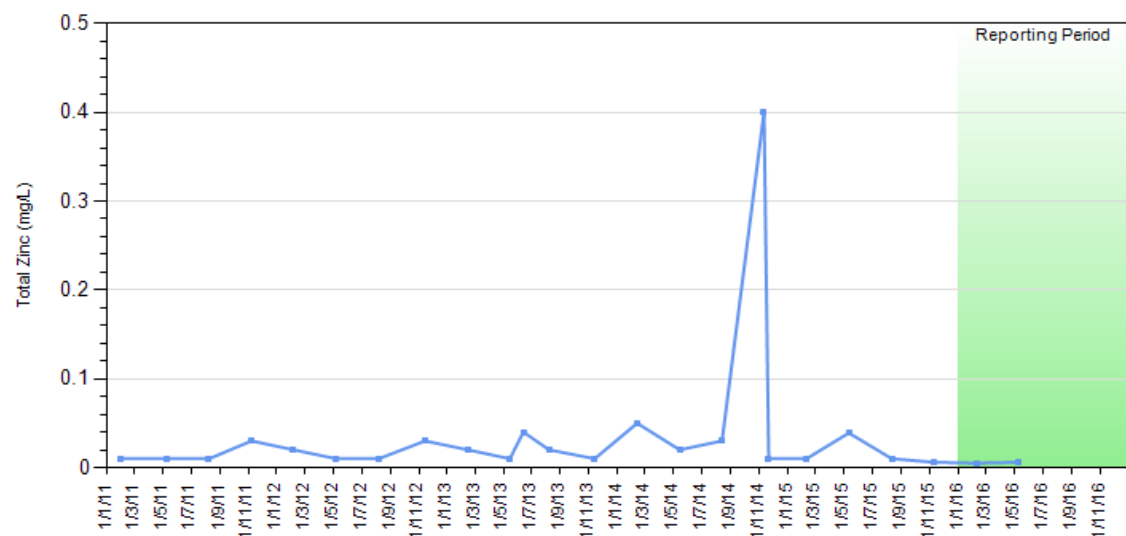
SW2 - Total Phosphorus (mg/L)



SW2 - Total Sodium (mg/L)

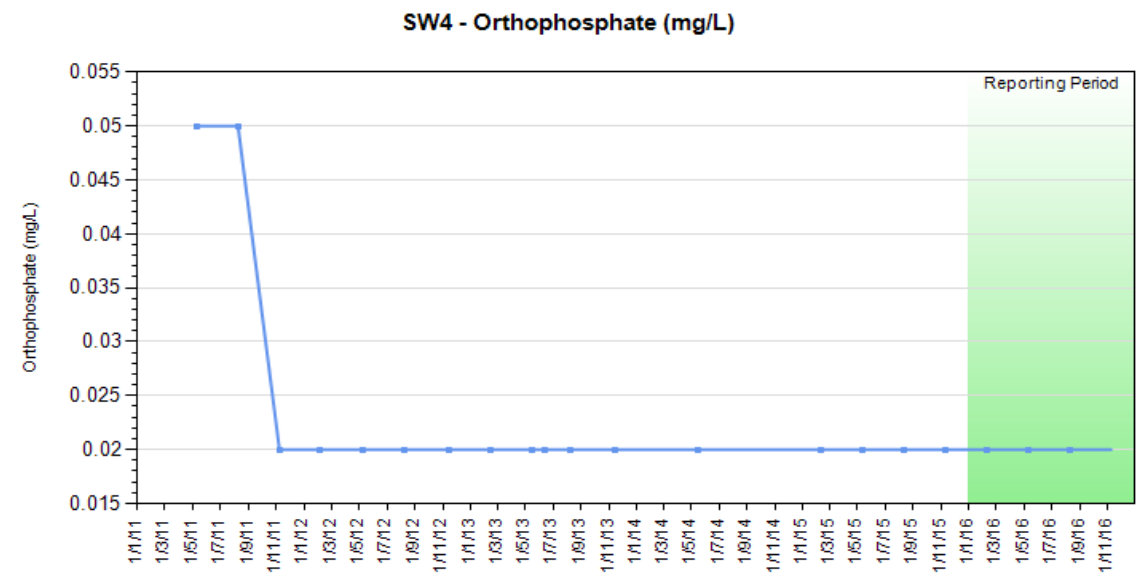
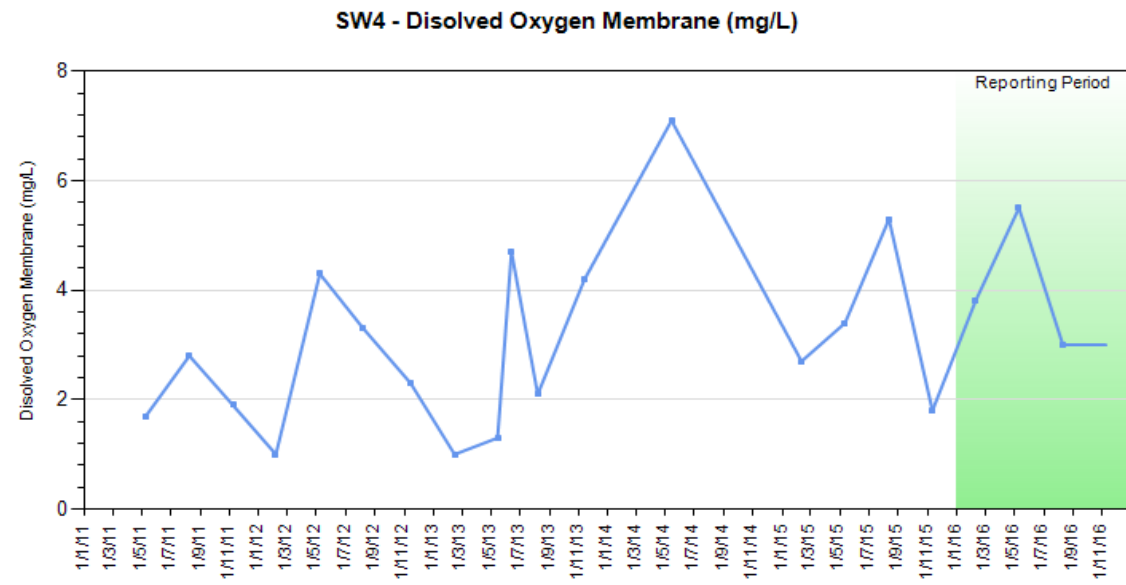
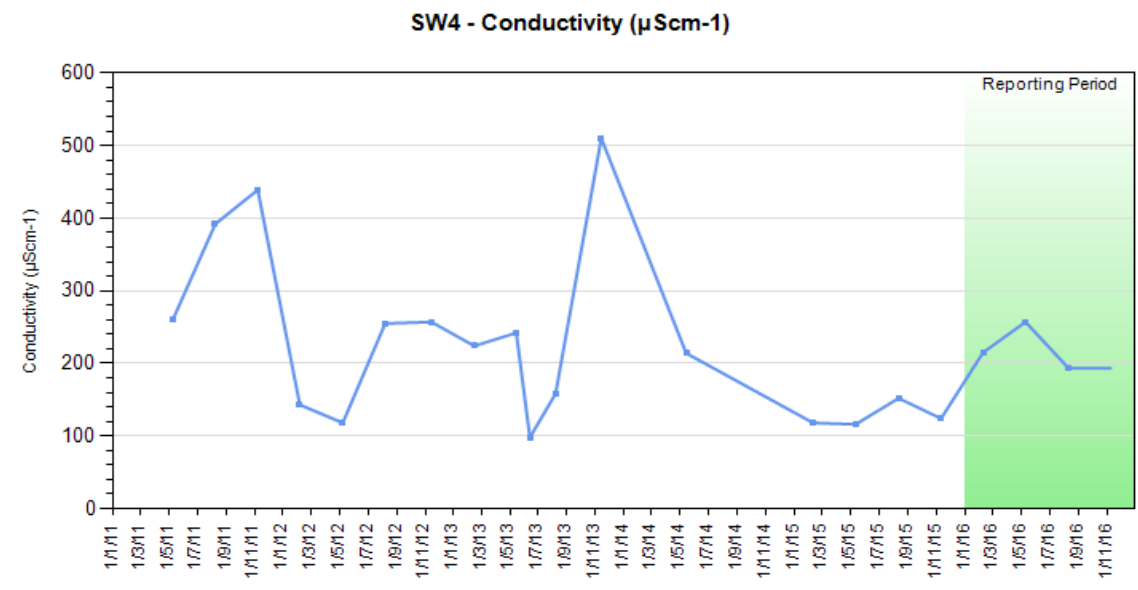
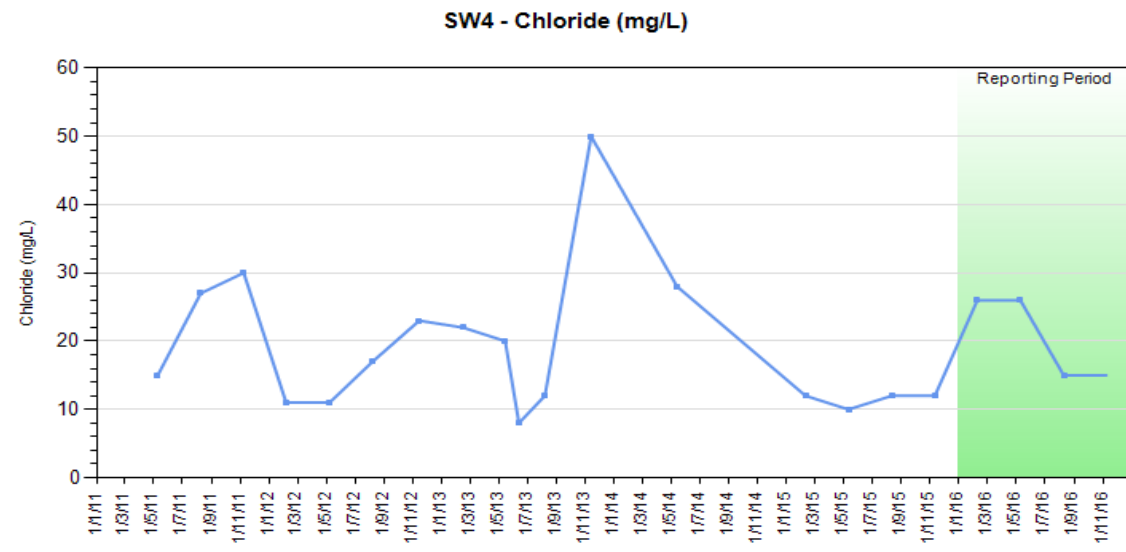
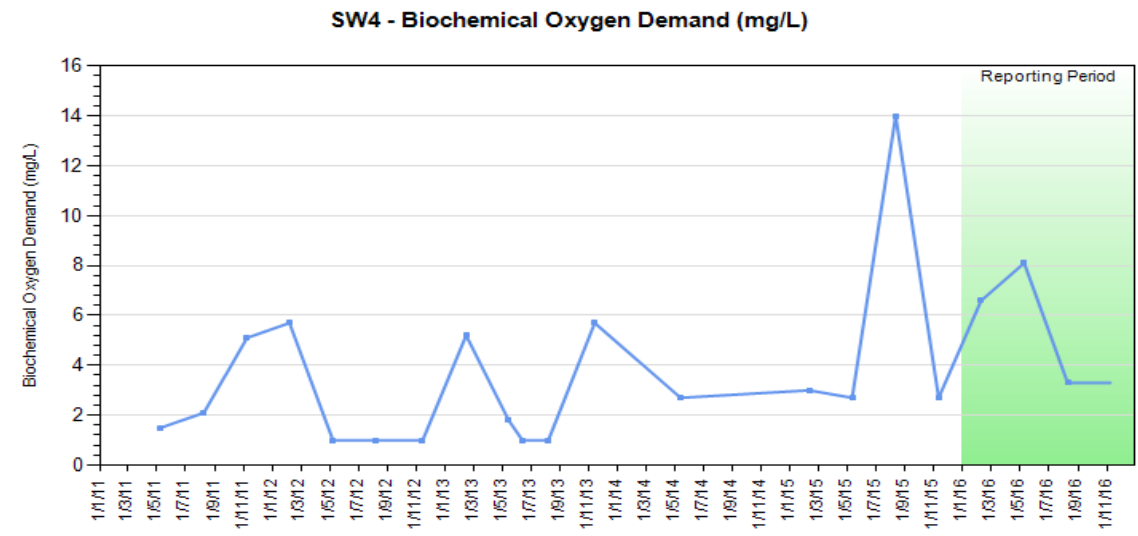
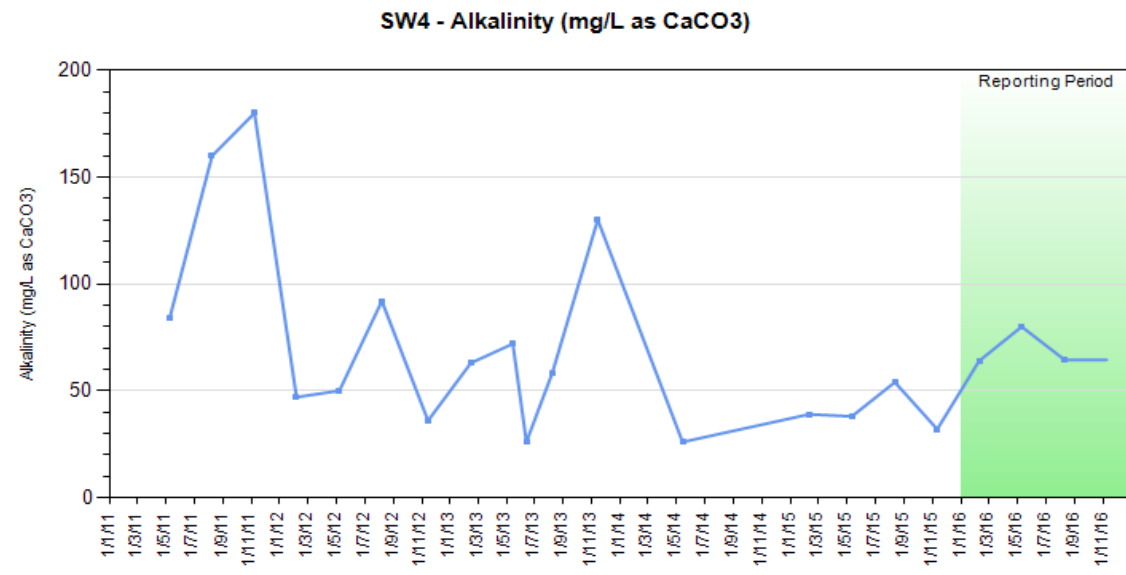


SW2 - Total Zinc (mg/L)

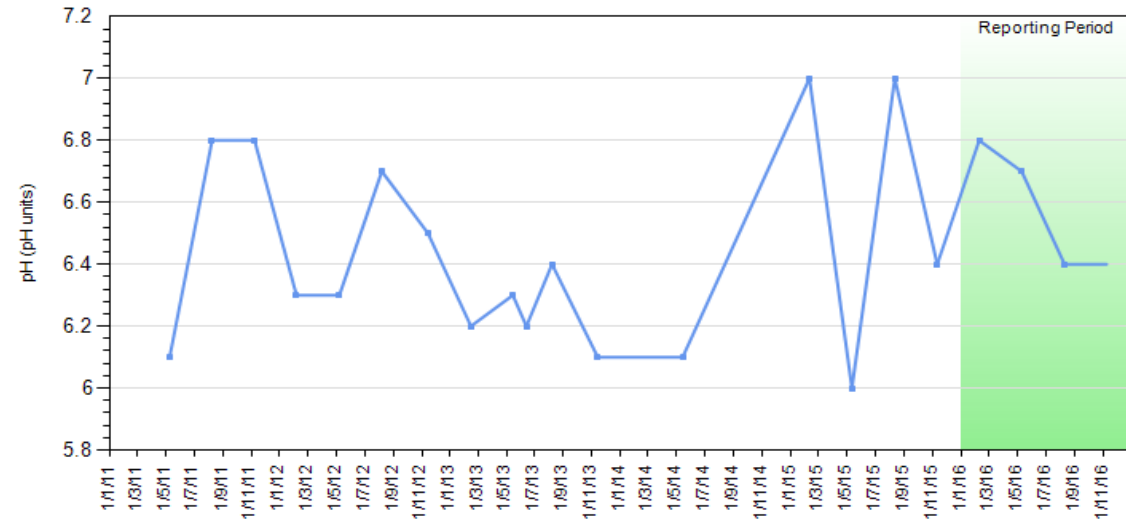


SW4

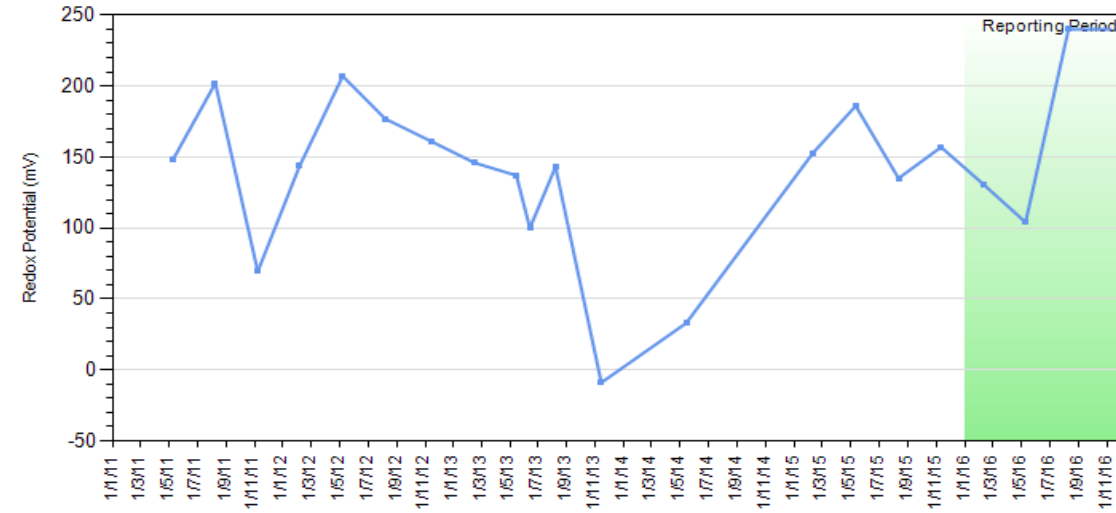
SW4	Alkalinity mg/L as CaCO3	Ammonia mg/L	Arsenic (Total) mg/L	BOD5 mg/L	Cadmium (Total) mg/L	Calcium (Total) mg/L	Chloride mg/L	Chromium (Total) mg/L	Conductivity µS/cm-1	Copper (Total) mg/L	DO (Membrane Electrode) mg/L	Lead (Total) mg/L	Magnesium (Total) mg/L	Manganese Total mg/L	Nickel (Total) mg/L	Nitrate N mg/L	Nitrite N mg/L	Nitrogen Oxidised mg/L	Nitrogen Total mg/L	Orthophosphate mg/L	pH pH units	Phosphorus Total mg/L	Potassium Total mg/L	Redox Potential mV	Sodium (Total) mg/L	Solids Suspended mg/L	Sulphate mg/L	TKN mg/L	TOC mg/L	Zinc (Total) mg/L		
10/05/2011	84.	0.05	0.005	1.5	0.001	24.	15.	0.01	260.	0.01	1.7	0.01	3.9	1.5	0.01	0.05	0.05	0.05	0.4	0.05	6.10	0.05	5.0	148.	12.	12.	3.7	0.4	3.2	0.01		
9/08/2011	160.	0.05	0.005	2.4	0.001	40.	25.	0.01	395.	0.01	2.6	0.01	6.9	0.8	0.01	0.05	0.05	0.05	0.4	0.05	6.7	0.05	5.0	208.	18.	11.	7.4	0.4	8.5	0.01		
8/11/2011	180.	0.03	0.007	5.10	0.001	58.	30.	0.01	439.	0.06	1.9	0.02	9.8	3.3	0.01	0.03	0.02	0.03	0.8	0.02	6.8	0.08	6.0	69.4	14.	609.	5.10	0.8	12.	0.03		
6/02/2012	48.	0.04	0.005	6.0	0.001	12.	11.	0.01	142.	0.01	1.0	0.01	3.4	2.3	0.01	0.02	0.02	0.05	0.7	0.02	6.4	0.06	5.0	137.	9.2	29.	1.0	0.7	4.6	0.01		
8/05/2012	50.	0.03	0.005	1.0	0.001	11.	11.	0.01	118.	0.01	4.3	0.01	2.5	1.08	0.01	0.03	0.02	0.03	0.4	0.02	6.3	0.04	5.0	207.	7.6	18.	2.8	0.4	3.8	0.01		
7/08/2012	100.	0.02	0.005	1.0	0.001	23.	17.	0.01	255.	0.01	3.3	0.01	4.3	0.1	0.01	0.02	0.02	0.02	0.2	0.02	6.7	0.02	5.0	176.	9.3	5.0	7.2	0.2	4.3	0.01		
14/11/2012	36.	0.02	0.005	1.0	0.001	19.	23.	0.01	257.	0.01	2.3	0.01	4.10	0.5	0.01	0.03	0.02	0.03	0.4	0.02	6.5	0.06	5.0	161.	12.	15.	31.	0.4	4.3	0.02		
14/02/2013	58.	0.06	0.005	5.2	0.001	17.	25.	0.01	224.	0.01	1.0	0.01	4.0	2.0	0.01	0.04	0.02	0.04	0.7	0.02	6.2	0.06	5.0	146.	14.	37.	6.9	0.6	6.6	0.02		
15/05/2013	72.	0.04	0.005	1.8	0.001	24.	20.	0.01	242.	0.01	1.3	0.01	3.8	1.6	0.01	0.03	0.02	0.03	0.4	0.02	6.3	0.03	5.0	137.	12.	20.	9.4	0.3	4.5	0.01		
13/06/2013	26.	0.04	0.005	1.0	0.001	9.6	8.0	0.01	98.	0.01	4.7	0.01	1.9	0.2	0.01	0.06	0.02	0.06	0.4	0.02	6.2	0.02	5.0	100.	5.0	15.	6.5	0.4	2.4	0.04		
7/08/2013	58.	0.02	0.005	1.0	0.001	19.	12.	0.01	158.	0.01	2.1	0.01	3.1	0.2	0.01	0.03	0.02	0.03	0.4	0.02	6.4	0.05	5.0	143.	10.	12.	5.0	0.4	3.4	0.01		
13/11/2013	130.	0.1	0.006	5.7	0.001	40.	50.	0.01	510.	0.03	4.2	0.01	7.4	5.7	0.01	0.1	0.02	0.1	0.9	0.02	6.10	0.03	5.0	-9.0	35.	445.	39.	0.8	6.6	0.07		
14/05/2014	26.	0.05	0.005	2.7	0.001	14.	28.	0.01	214.	0.01	7.10	0.01	2.4	0.7	0.01	1.2	0.03	1.3	2.0	0.02	6.10	0.2	5.0	33.	14.	127.	16.	0.7	4.5	0.02		
10/02/2015	35.	0.03	0.005	3.0	0.001	10.	17.	0.01	118.	0.01	2.7	0.01	2.2	0.3	0.01	0.04	0.02	0.04	0.9	0.02	7.0	0.1	5.0	153.	7.10	14.	2.7	0.9	7.2	0.01		
12/05/2015	38.	0.02	0.003	2.7	0.001	12.	10.	0.001	116.	0.001	3.4	0.001	2.5	0.5	0.001	0.02	0.02	0.02	0.8	0.02	6.0	0.1	5.0	186.	8.0	26.	2.0	0.8	5.0	0.05		
12/08/2015	54.	0.02	0.002	14.	0.001	18.	12.	0.001	152.	0.002	5.3	0.001	3.4	0.7	0.001	0.02	0.02	0.02	1.0	0.02	7.0	0.1	5.0	135.	9.6	52.	3.2	1.0	6.0	0.03		
11/11/2015	32.	0.02	0.003	2.7	0.001	11.	11.	0.002	124.	0.005	1.7	0.002	2.5	0.7	0.002	0.02	0.02	0.02	0.8	0.02	6.4	0.1	5.0	148.	8.0	73.	8.6	0.8	5.9	0.009		
9/02/2016	65.	0.02	0.004	6.0	0.001	20.9	26.	0.001	215.	0.001	3.8	0.001	3.7	0.7	0.001	0.02	0.02	0.02	2.2	0.02	6.8	0.3	5.0	131.	12.8	28.	6.06	2.2	9.0	0.005		
10/05/2016	80.	0.02	0.003	8.10	0.001	23.7	26.	0.001	257.	0.001	5.5	0.001	4.3	0.8	0.001	0.02	0.02	0.02	1.3	0.02	6.7	0.2	5.5	104.	15.3	18.	3.04	1.3	11.3	0.005		
10/08/2016	63.3	0.02		3.3		19.8	14.		194.		3.1		4.2			0.02	0.02	0.02	0.5	0.02	6.4	0.08	5.0	240.	11.2	11.	8.7	0.5	6.0			
8/11/2016																																
2016 Min	63.3	0.02	0.003	3.3	0.001	19.8	14	0.001	194	0.001	3.1	0.001	3.7	0.7	0.001	0.02	0.02	0.02	0.5	0.02	6.4	0.08	5.0	104	11.2	11	3.04	0.5	6.0	0.005		
2016 Max	80	0.02	0.004	8.10	0.001	23.7	26	0.001	257	0.001	5.5	0.001	4.3	0.8	0.001	0.02	0.02	0.02	2.2	0.02	6.8	0.3	5.5	240	15.3	28	8.7	2.2	11.3	0.005		
2016 Mean	69.4	0.02	0.004	5.8	0.001	21.4	22	0.001	222	0.001	4.1	0.001	4.07	0.8	0.001	0.02	0.02	0.02	1.3	0.02	6.6	0.2	5.2	158	13.1	19	5.9	1.3	8.8	0.005		



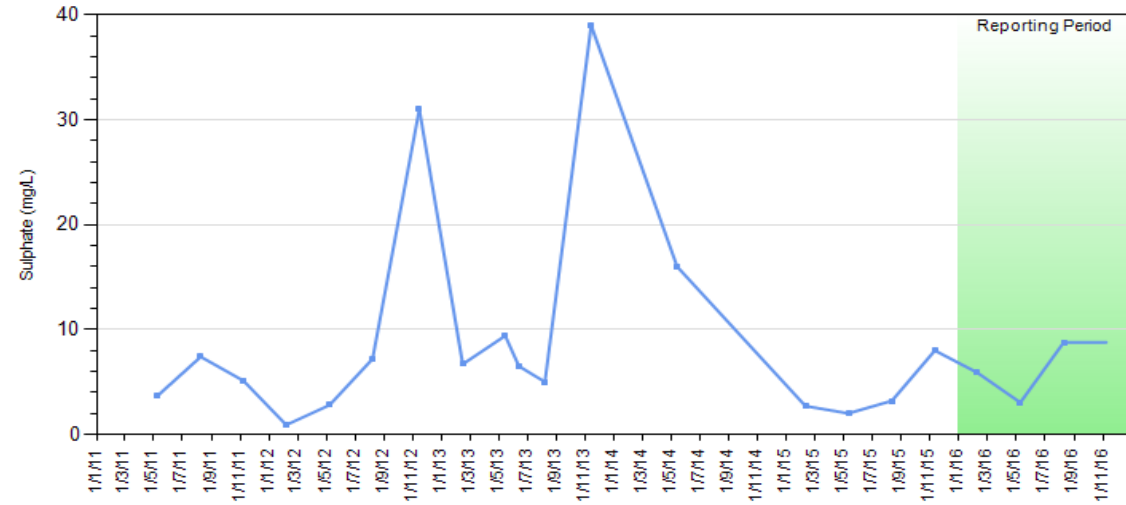
SW4 - pH (pH units)



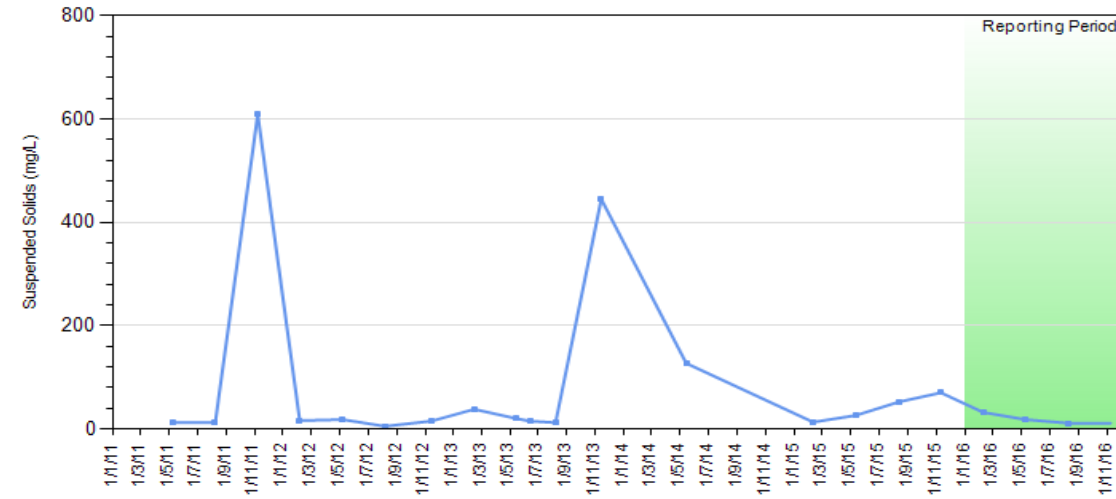
SW4 - Redox Potential (mV)



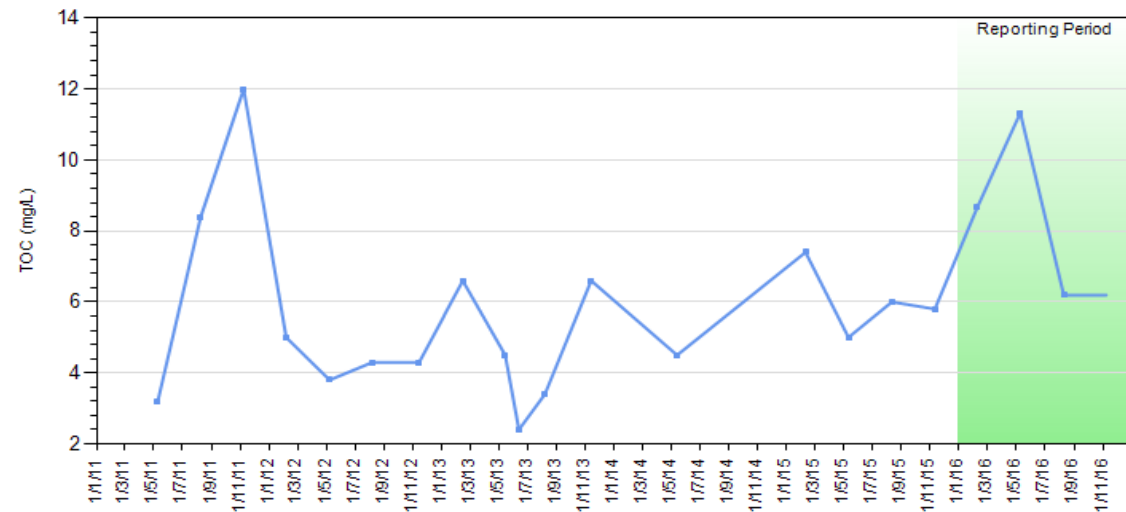
SW4 - Sulphate (mg/L)



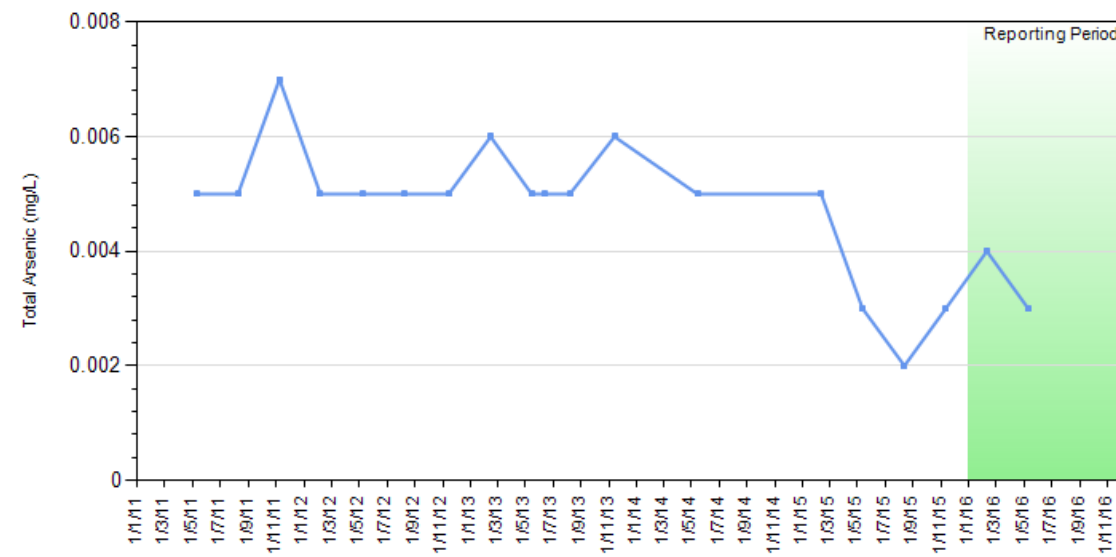
SW4 - Suspended Solids (mg/L)



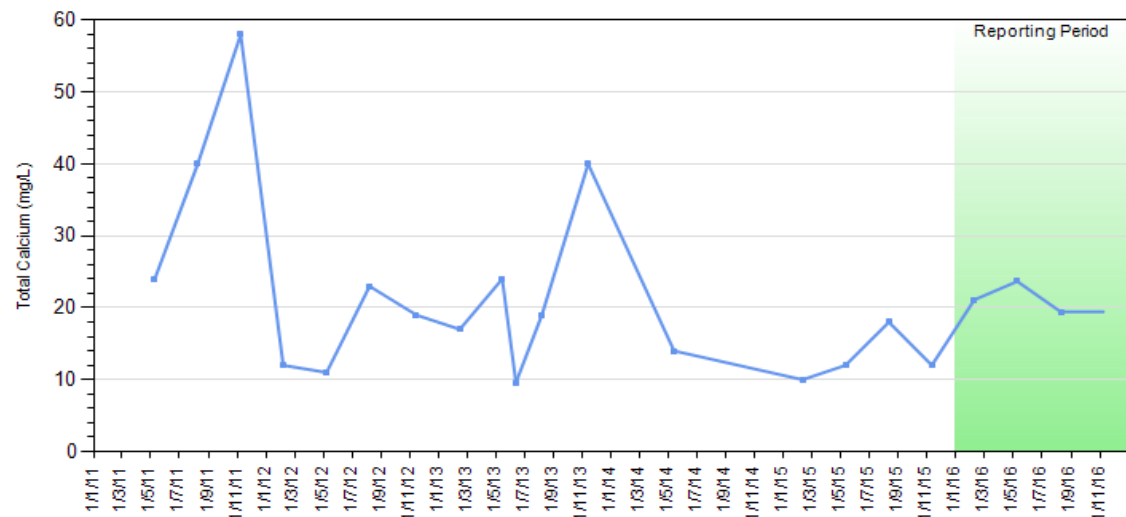
SW4 - TOC (mg/L)



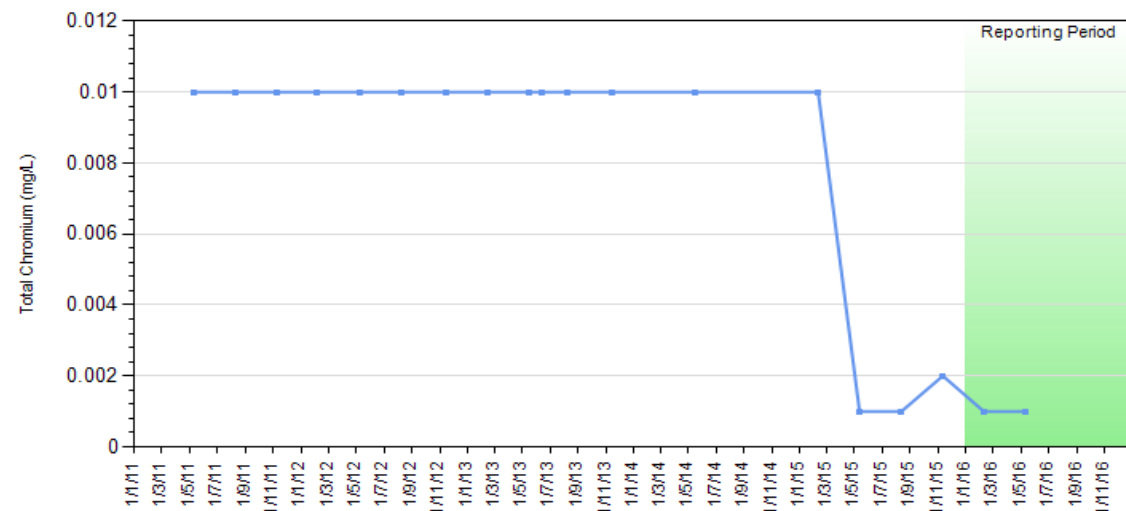
SW4 - Total Arsenic (mg/L)



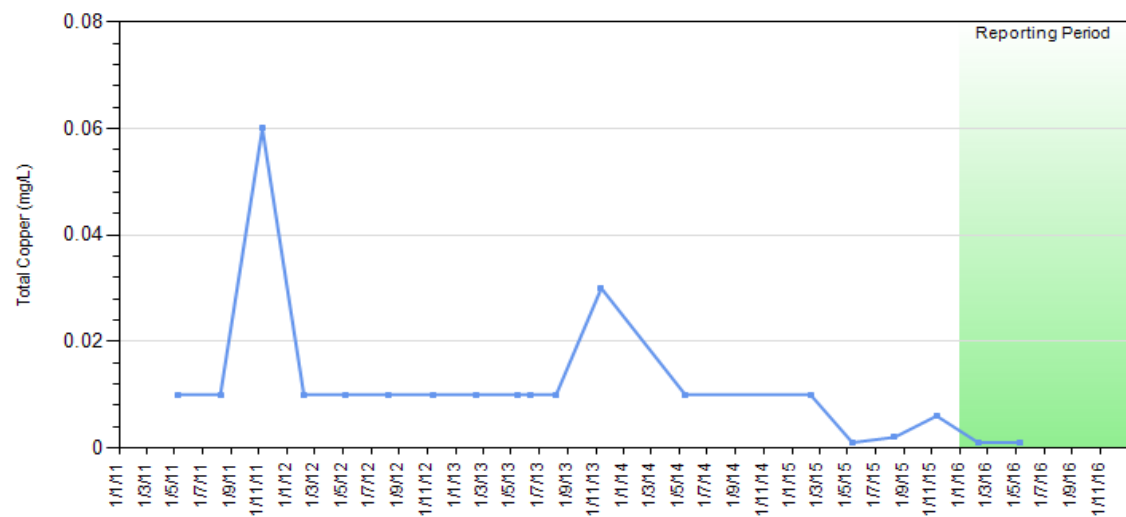
SW4 - Total Calcium (mg/L)



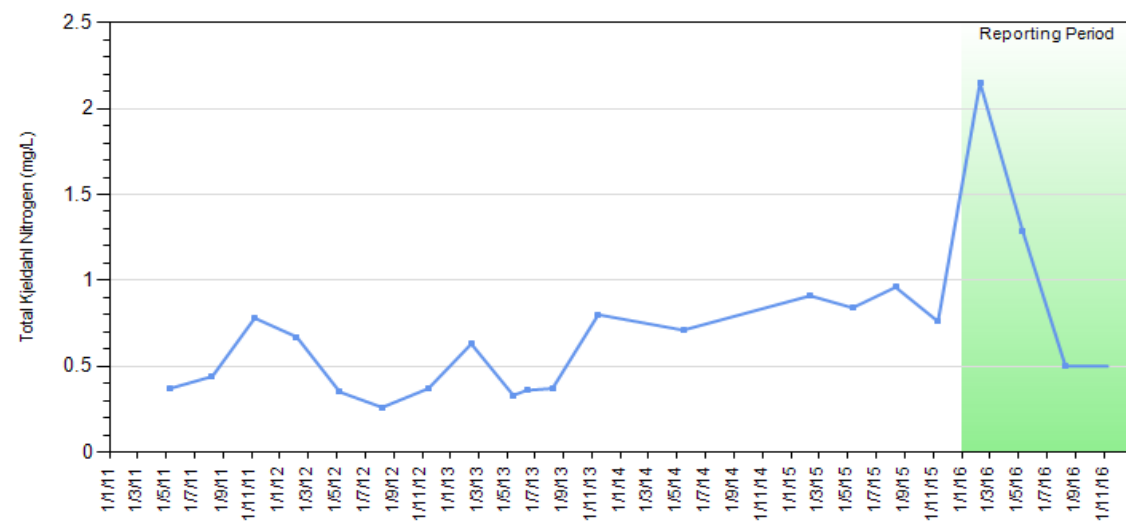
SW4 - Total Chromium (mg/L)



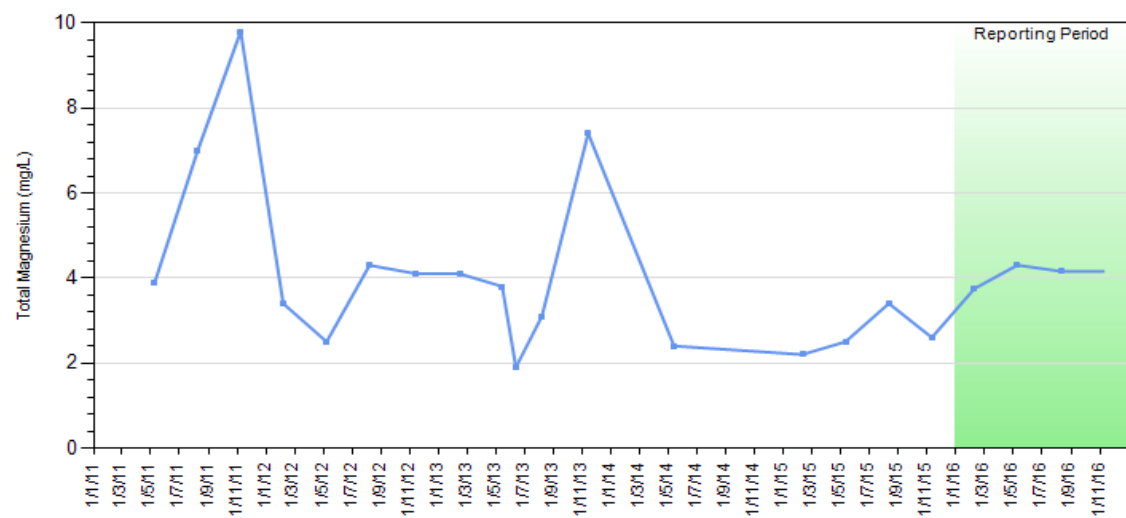
SW4 - Total Copper (mg/L)



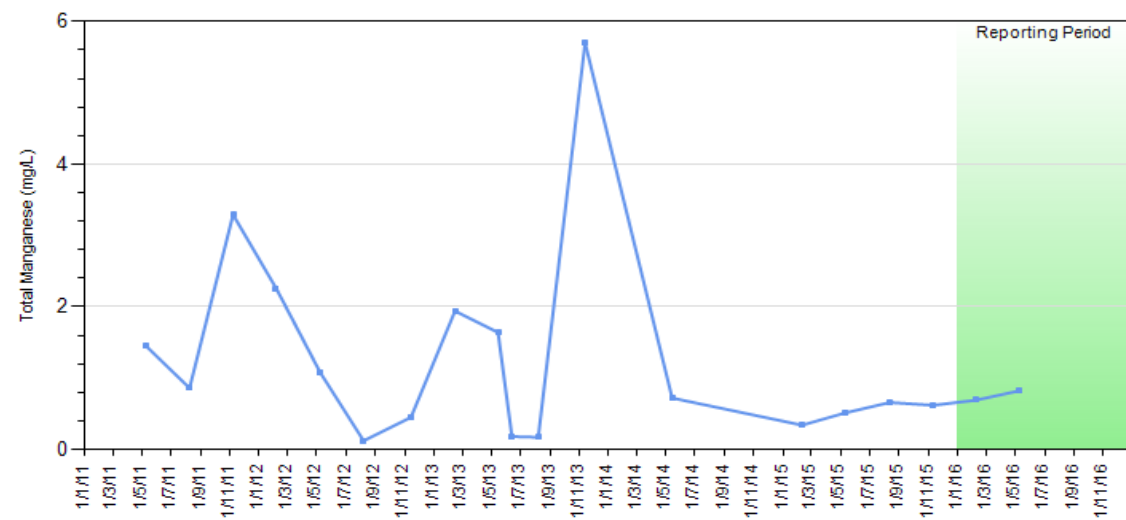
SW4 - Total Kjeldahl Nitrogen (mg/L)



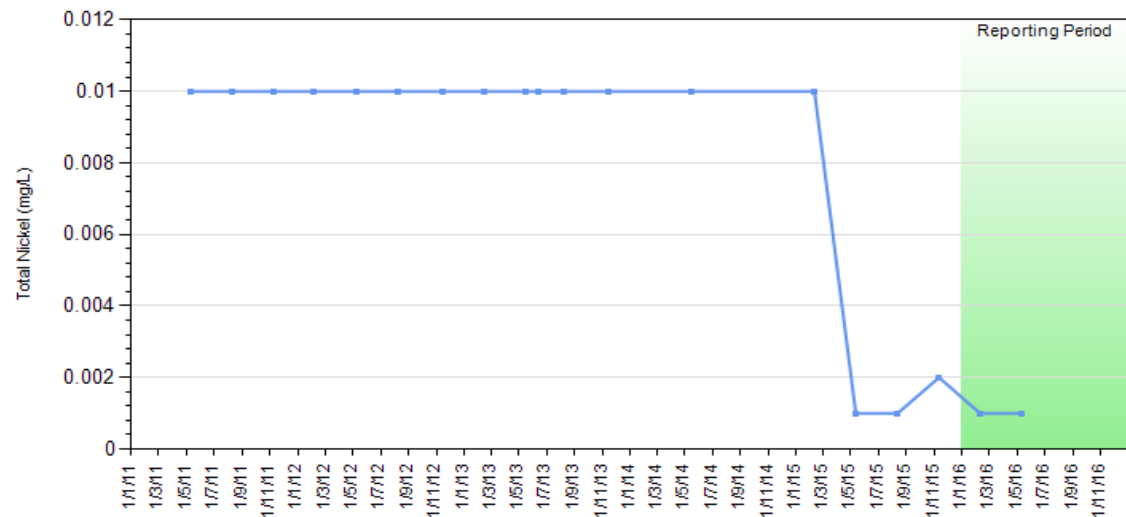
SW4 - Total Magnesium (mg/L)



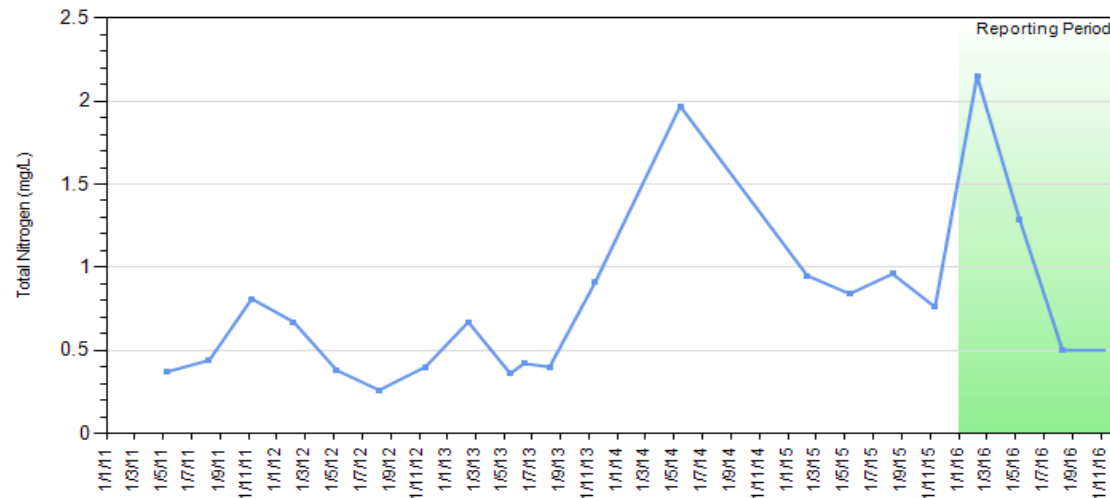
SW4 - Total Manganese (mg/L)



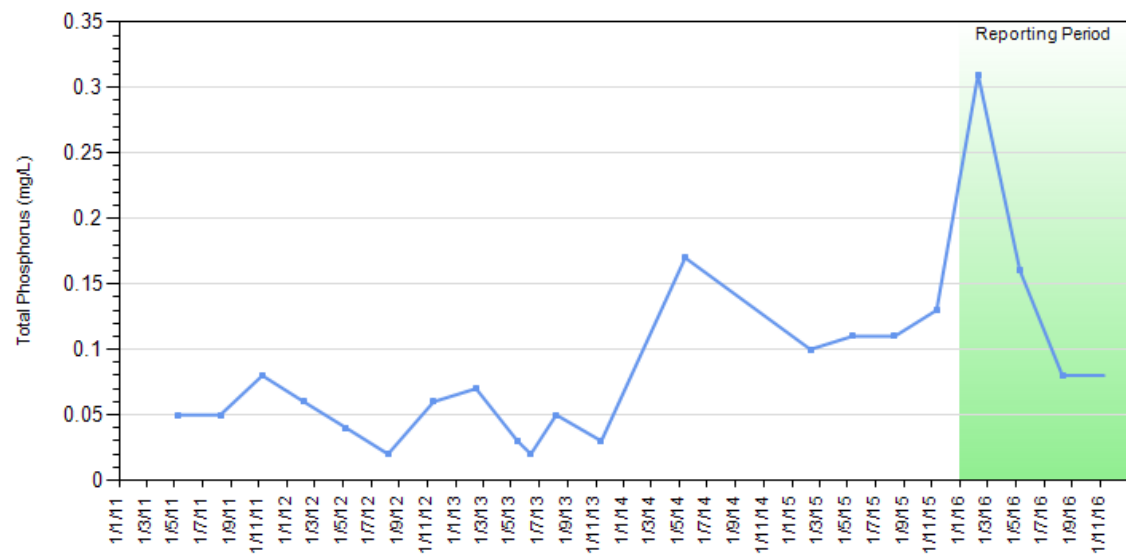
SW4 - Total Nickel (mg/L)



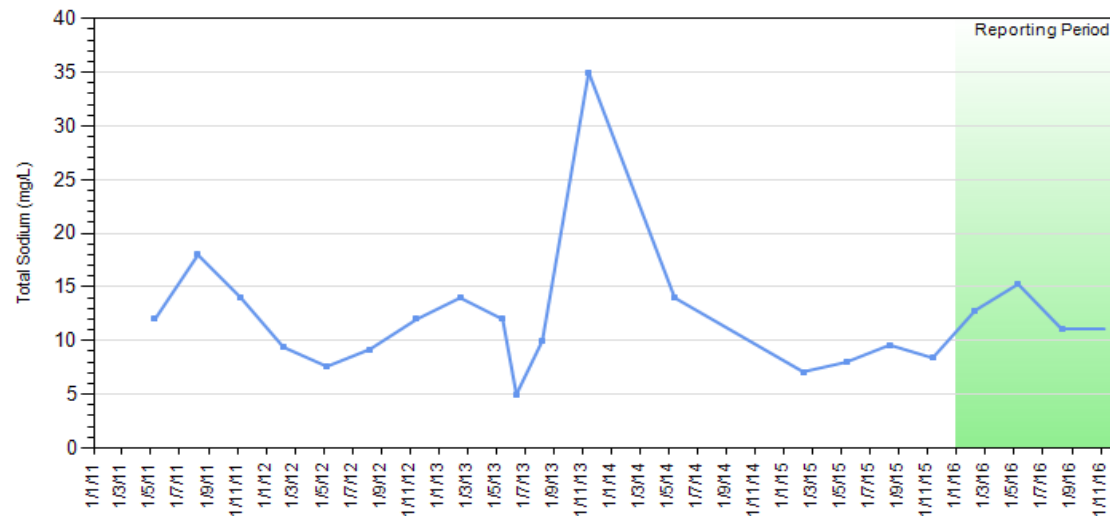
SW4 - Total Nitrogen (mg/L)



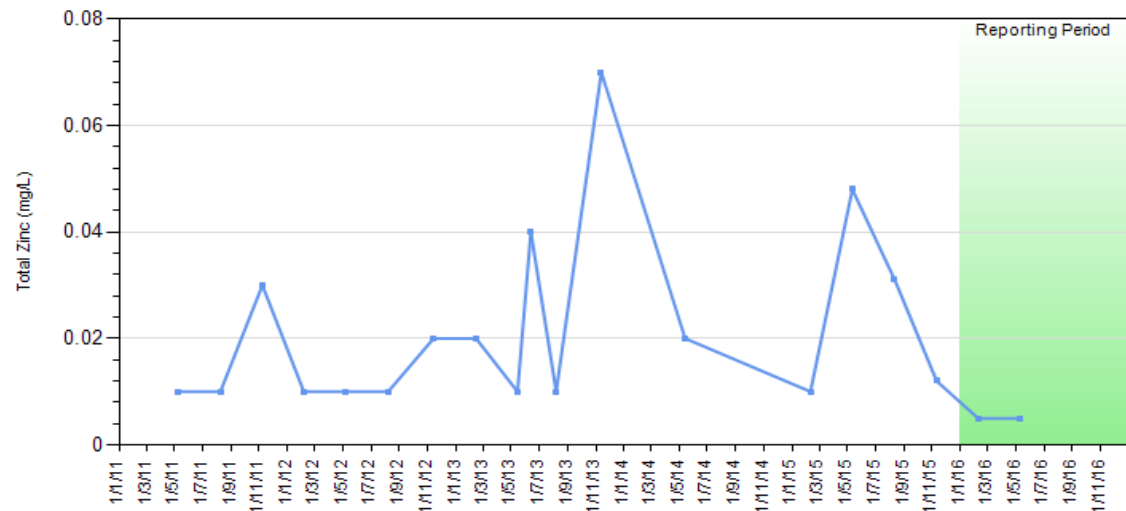
SW4 - Total Phosphorus (mg/L)



SW4 - Total Sodium (mg/L)

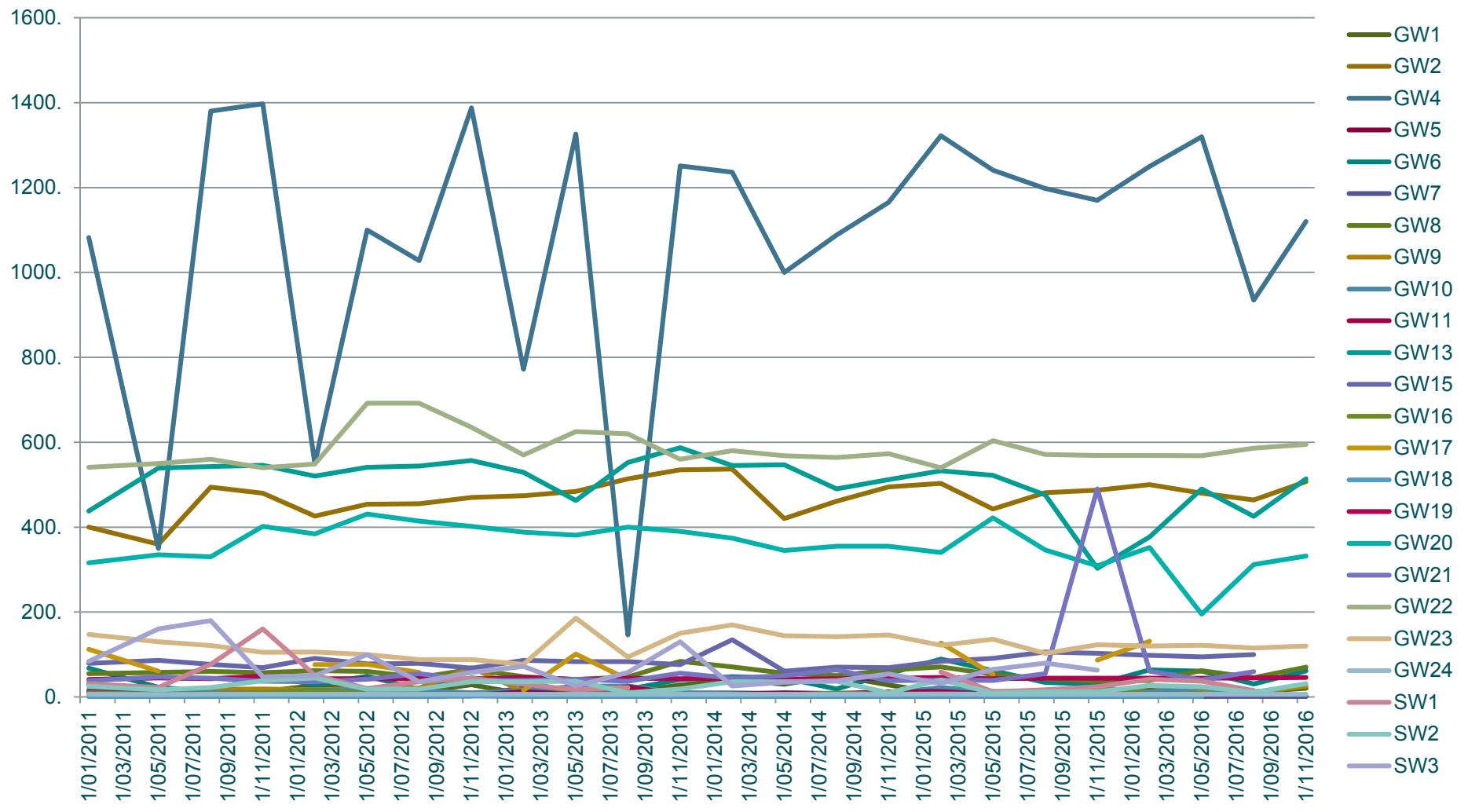


SW4 - Total Zinc (mg/L)

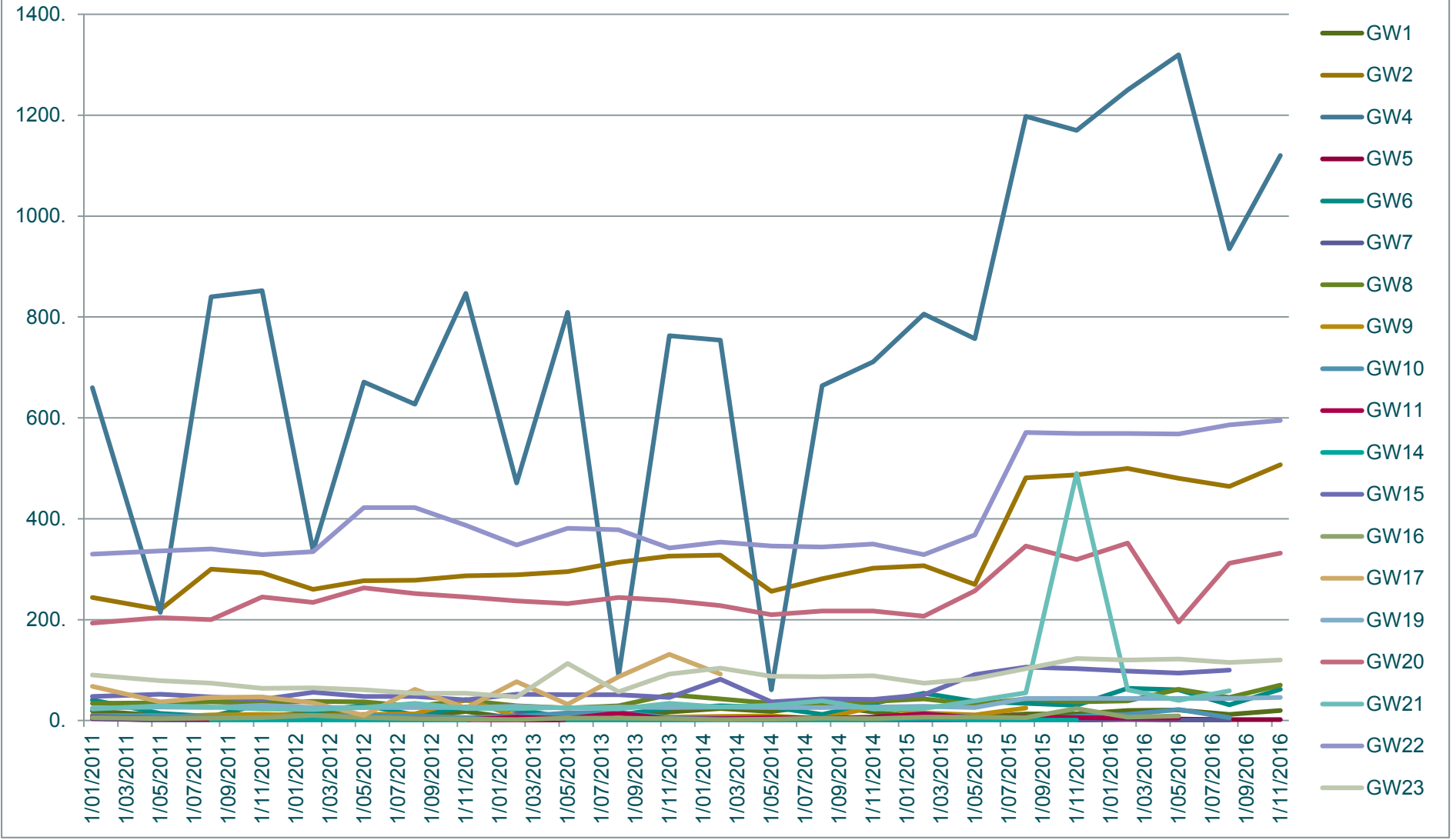


Appendix D – Monitoring Graphs of each Parameter

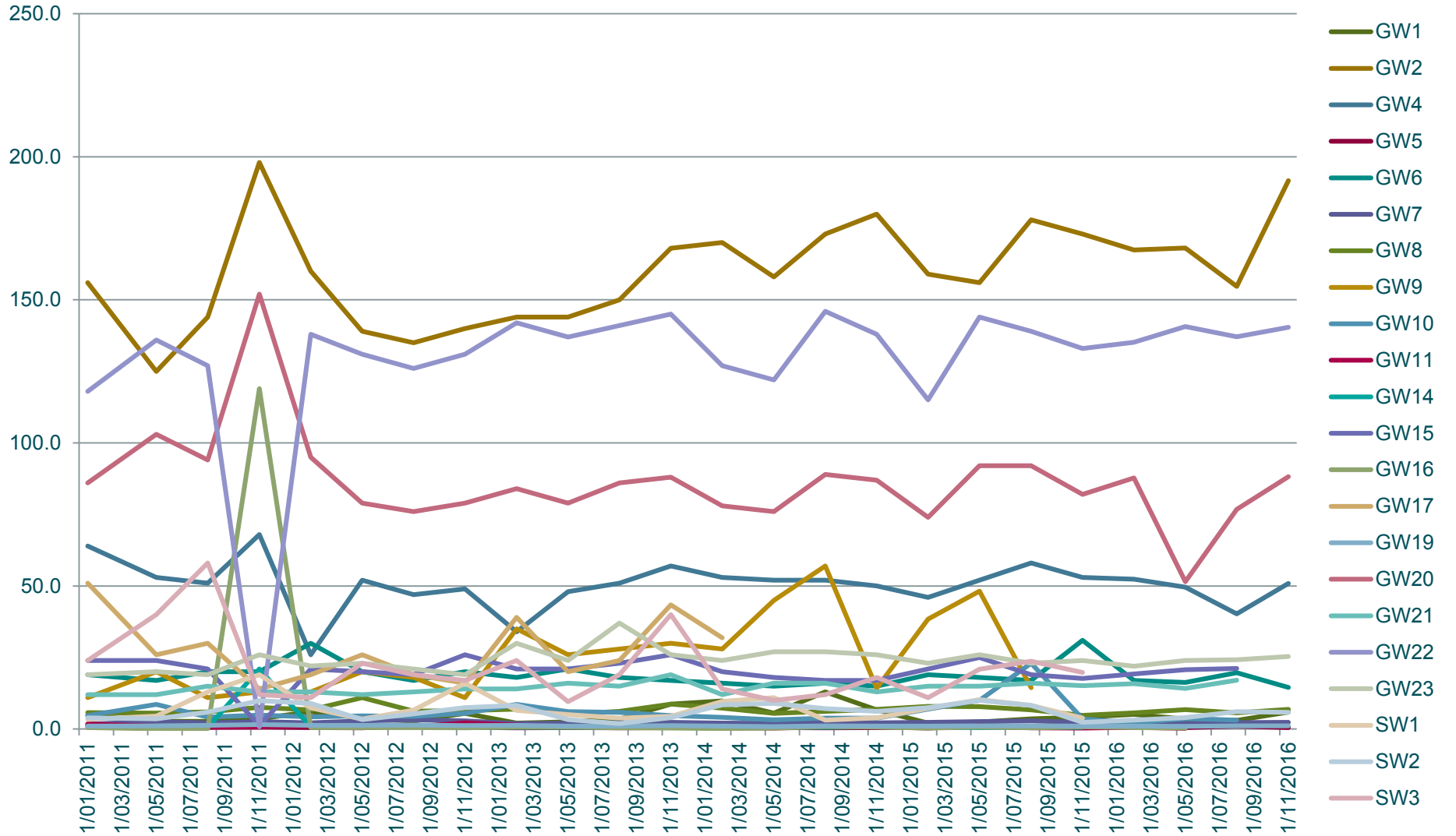
Alkalinity (mg/L as CaCO3)



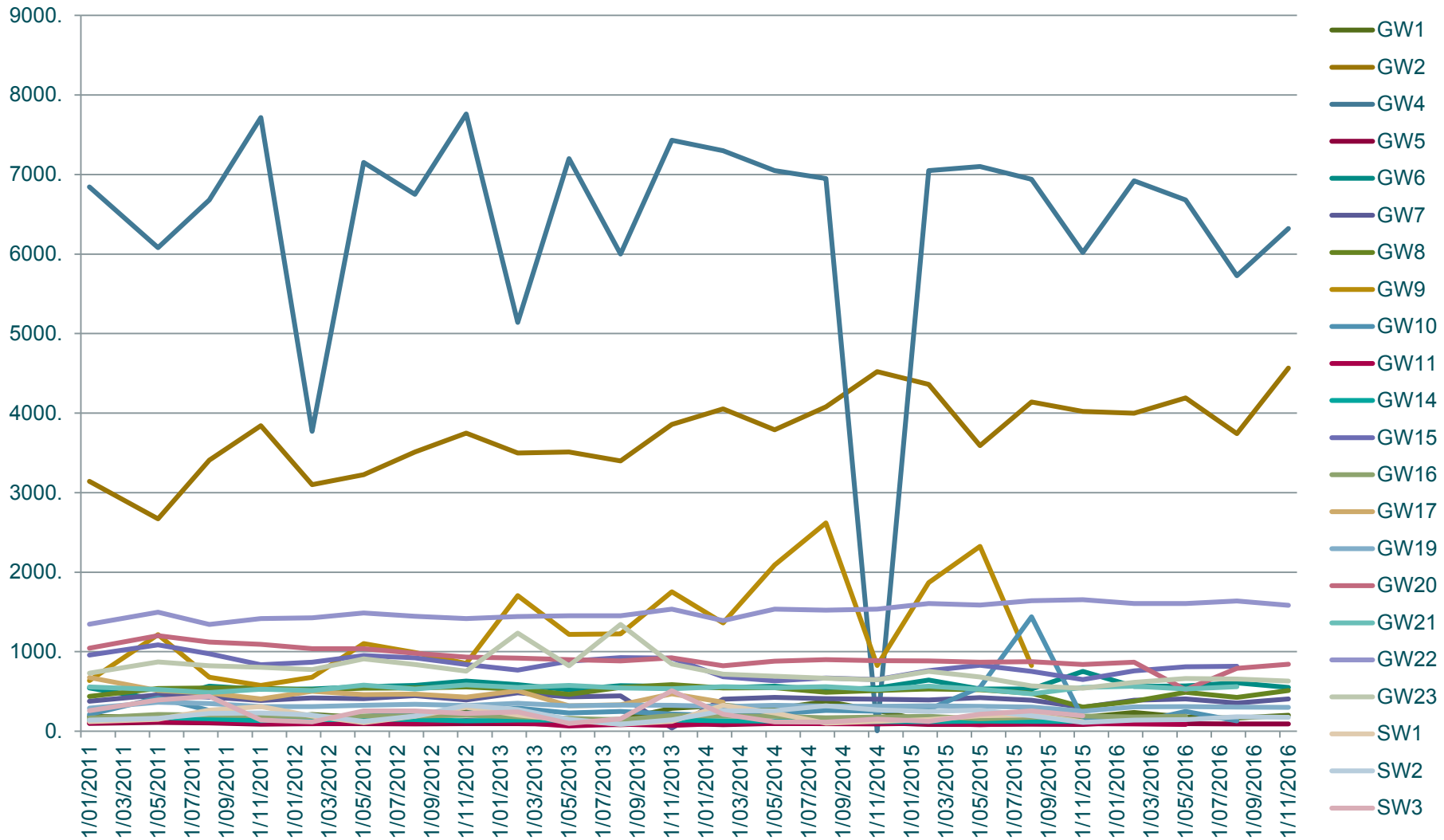
Bicarbonate HCO₃ (mg/L)



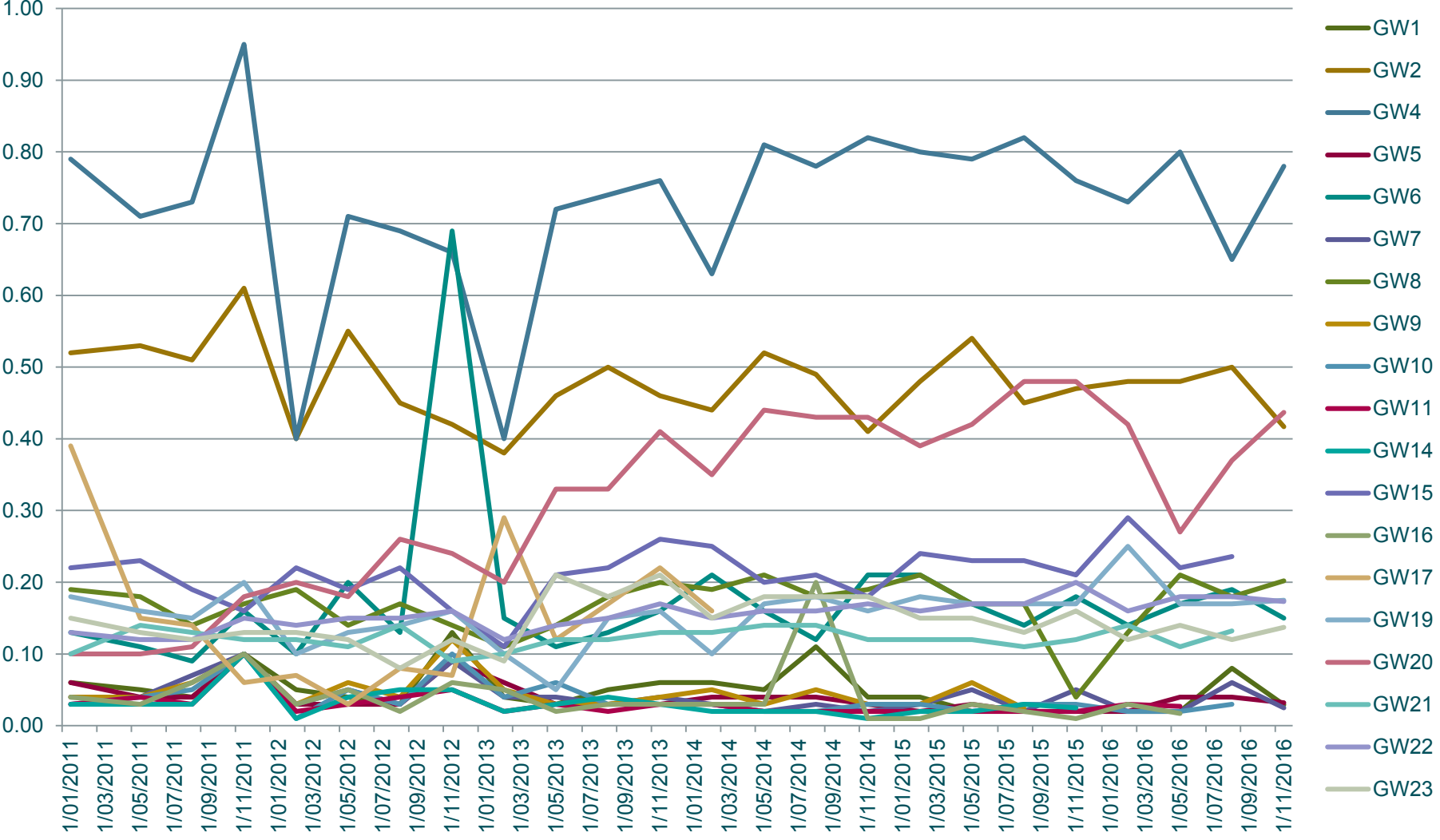
Calcium (mg/L)



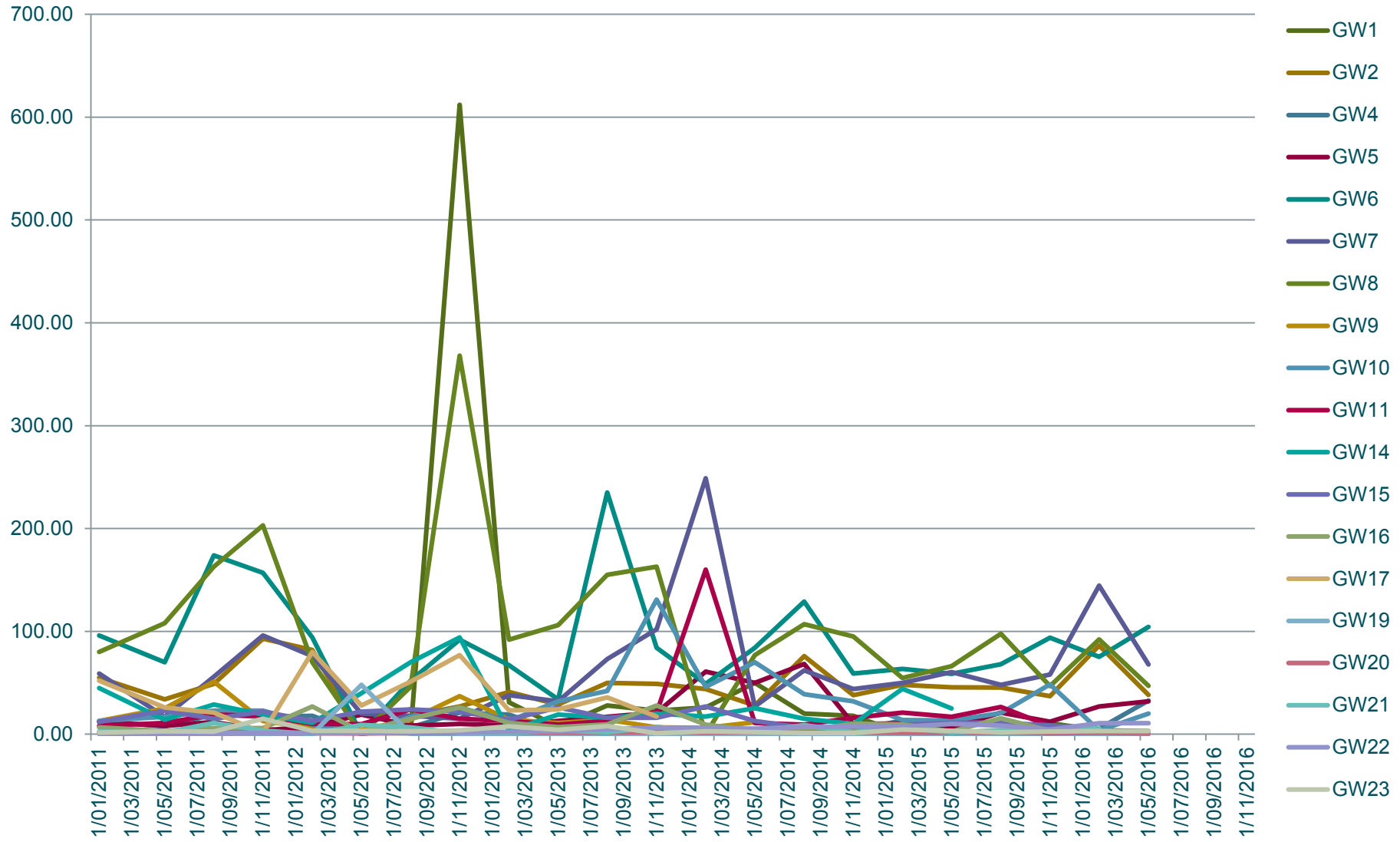
Conductivity (uScm⁻¹)



Flouride (mg/L)



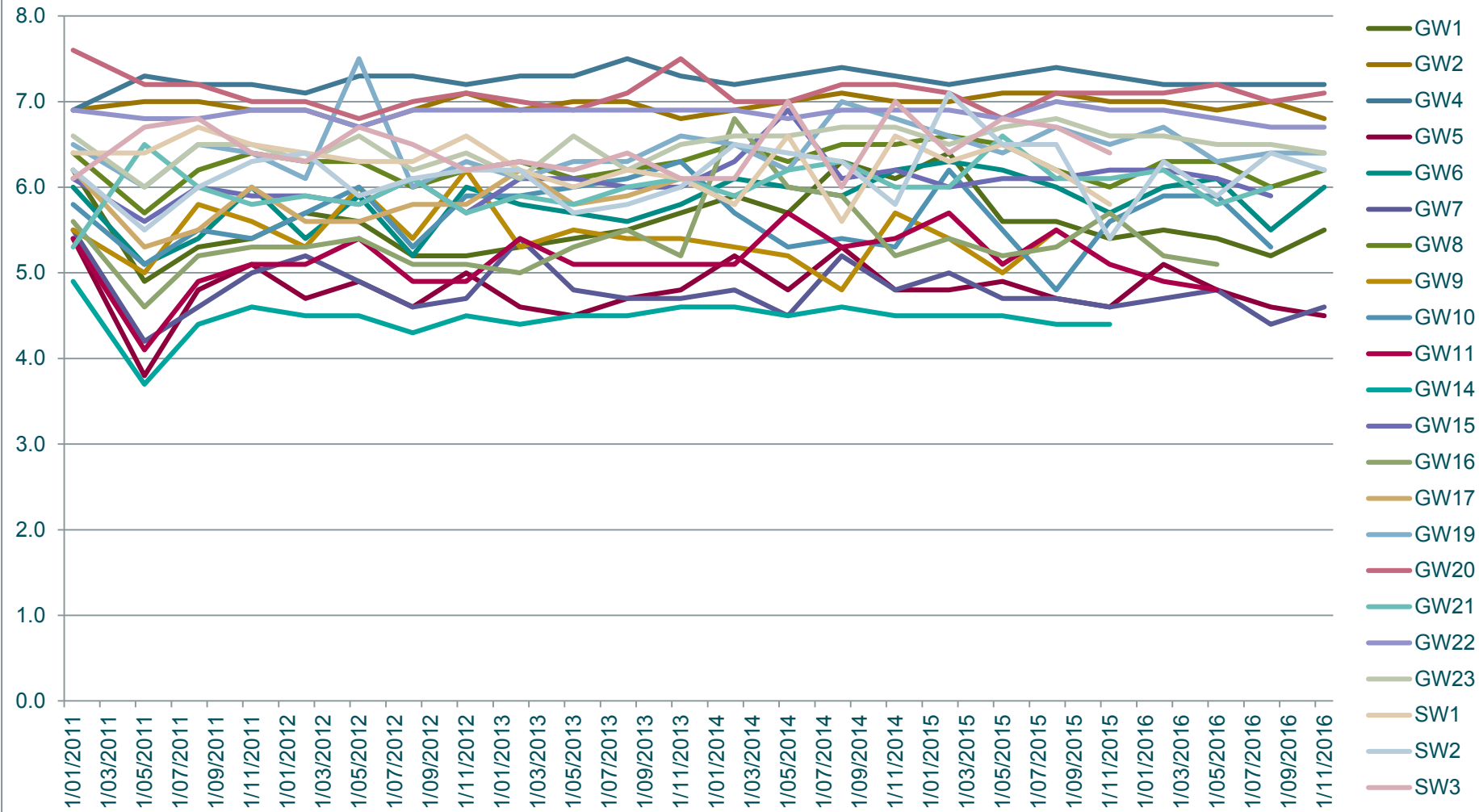
Total Iron (mg/L)



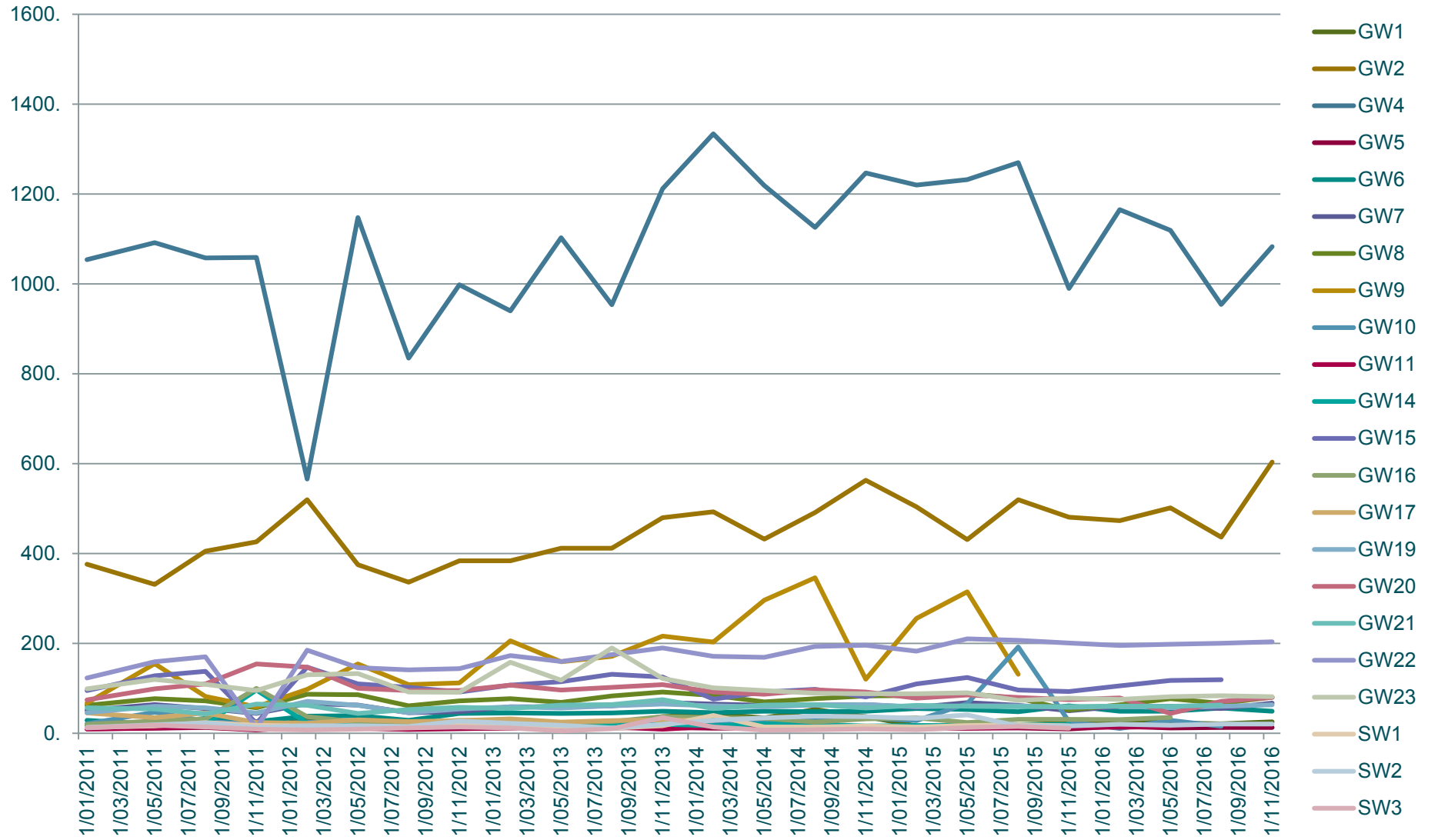
Total Lead (mg/L)



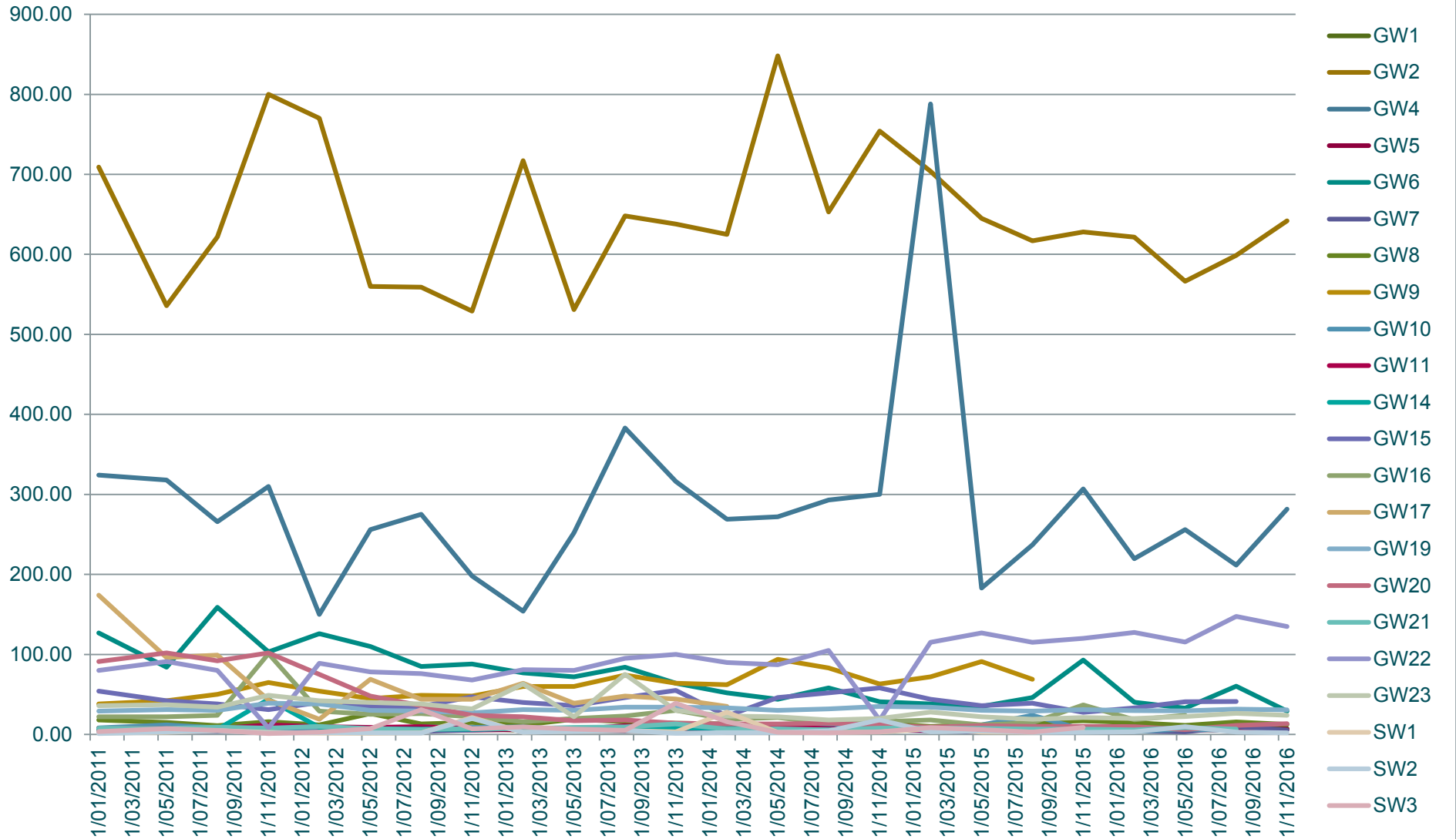
pH



Total Sodium (mg/L)



Sulfate (mg/L)





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