

AP - 110

**FACILITY-WIDE
GW MONITORING
REPORT**

2018



April 15, 2019

Mr. Carl J. Chavez
New Mexico Energy, Minerals & Natural Resources Department
Oil Conservation Division, Environmental Bureau
1220 South St. Francis Drive
Santa Fe, New Mexico 87505

Re: 2018 Annual Facility-Wide Groundwater Monitoring Report, HollyFrontier Navajo Refining LLC, Lovington, New Mexico, AP-110.

Dear Mr. Chavez:

Please find enclosed the original and one electronic copy of the *2018 Annual Facility-Wide Groundwater Monitoring Report* (Report) for the HollyFrontier Navajo Refining LLC (Navajo) refinery located in Lovington, New Mexico. The Report summarizes the results of groundwater monitoring and remediation activities conducted at the refinery under AP-110 during calendar year 2018.

If you should have any questions or comments regarding this Report, please feel free to contact me at (575) 746-5487 or Robert Combs at (575) 746-5382.

Sincerely,

Scott M. Denton
Environmental Manager

cc: OCD: J. Griswold
HollyFrontier: R. Combs, A. Sahba
TRC: J. Speer, J. Leik, C. Smith

File Location: \\Env\\Lovington\\Groundwater Monitoring and FWGWMWP\\2018

2018 Annual Facility-Wide Groundwater Monitoring Report



**HollyFrontier Navajo Refining LLC
AP-110
Lovington, New Mexico**

April 2019

Prepared for:


HOLLYFRONTIER.
HollyFrontier Navajo Refining LLC
Artesia, New Mexico

Prepared by:


TRC Environmental Corporation
Austin, Texas

2018 Annual Facility-Wide Groundwater Monitoring Report

HollyFrontier Navajo Refining LLC
AP-110
Lovington, New Mexico

Prepared for:



HollyFrontier Navajo Refining LLC
Artesia, New Mexico

Prepared by:



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TRC Project No. 294319

April 2019

Project Manager

A handwritten signature in black ink, reading 'Julie Speer', written over a horizontal line.

EXECUTIVE SUMMARY

This *2018 Annual Facility-Wide Groundwater Monitoring Report* documents groundwater monitoring activities conducted at the HollyFrontier Navajo Refining LLC (Navajo) facility (refinery) located in Lovington, New Mexico during calendar year 2018. The refinery is currently regulated by New Mexico Oil Conservation Division (OCD) under Abatement Plan AP-110.

The groundwater monitoring program consists of semi-annual groundwater gauging of monitoring wells, semi-annual groundwater sampling of monitoring wells, quarterly sampling of refinery water supply wells, and annual reporting. The monitoring objectives are to (1) determine groundwater elevations, flow direction, and gradient, (2) determine the presence, extent, and apparent thickness of light non-aqueous phase liquid (LNAPL), and (3) obtain dissolved-phase toxic pollutant concentration data. Monitoring activities were conducted in general accordance with the November 2017 *Revised Facility-Wide Groundwater Monitoring Work Plan* (Revised FWGWMWP) that was approved by OCD on February 1, 2018.

The 2018 groundwater monitoring results indicate that physical and chemical groundwater conditions are generally consistent with historical data. Groundwater flows radially (southeast, south, and north/northwest) towards a cone of depression near the three water supply wells located within the central portion of the refinery. This cone of depression is induced by groundwater pumping from the three on-site water supply wells for refinery process use and non-potable restroom and safety shower use. The presence of select anions (chloride, fluoride, and nitrate), total dissolved solids (TDS), and manganese in select wells at concentrations above Water Quality Control Commission (WQCC) Human Health Standards is due to off-site sources, background concentrations, and/or non-Navajo sources at the refinery.

Monitoring wells MW-13 and MW-14 were replaced with deeper monitoring wells (MW-13R and MW-14R) in September 2018 because they were screened at depths too shallow for optimal monitoring of the current groundwater elevation. Groundwater elevations across the refinery continue to decrease over time.

LNAPL is present in monitoring well MW-31, which was installed in December 2016 to investigate the historical release at the asphalt loading rack. Routine LNAPL recovery was conducted at MW-31 using manual bailing and passive skimming techniques. Approximately 226 gallons of LNAPL was recovered from MW-31 during 2018.

Two reportable releases occurred at the refinery during 2018: (1) the crude pipeline release discovered on July 9, 2018, and (2) the Tank 1206 gas oil release discovered on September 29, 2018. Investigation and remediation activities associated with each release will be documented in respective Closure Reports and submitted to OCD by April 30, 2019.

Navajo will implement groundwater monitoring activities at the refinery in 2019 under the November 2017 Revised FWGWMWP. Navajo will also continue LNAPL recovery activities at well MW-31 in accordance with the November 17, 2017, letter report that was approved with comments by the OCD on December 22, 2017.

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1.0 INTRODUCTION

On behalf of HollyFrontier Navajo Refining LLC (Navajo), TRC Environmental Corporation (TRC) has prepared this *2018 Annual Facility-Wide Groundwater Monitoring Report* to summarize the results of groundwater monitoring activities conducted at the facility (refinery) located in Lovington, New Mexico during calendar year 2018. Groundwater monitoring reports prior to 2012 were submitted in accordance with a Groundwater Discharge Permit (GW-014) issued by the New Mexico Oil Conservation Division (OCD). The Groundwater Discharge Permit was due to expire on October 30, 2011, and a renewal draft permit was issued in August 2011 that was to go into effect by November 1, 2011. However, the OCD rescinded the Groundwater Discharge Permit on February 9, 2012. The refinery is currently regulated by the OCD under Abatement Plan AP-110. This report is prepared in accordance with Navajo's February 22, 2013, Memorandum to the OCD and OCD's response on February 28, 2013.

1.1 Refinery Description

The refinery is located approximately five miles south of Lovington in Lea County, New Mexico. The facility is operated by Navajo and consists of refining operations, as well as Holly Energy Partners – Operating, L.P. (HEP) pipeline and receiving stations. A refinery vicinity map is provided as Figure 1 and a refinery site plan is provided as Figure 2.

2.0 MONITORING WELL ABANDONMENT AND INSTALLATION

Monitoring well abandonment and installation activities were conducted in September 2018 to replace monitoring wells MW-13 and MW-14, which were screened at depths too shallow for optimal monitoring of the current groundwater elevation, which has been decreasing since installation in 2004. Monitoring wells MW-13 and MW-14 were plugged and abandoned, and replacement wells (MW-13R and MW-14R, respectively) were installed in close proximity to the former well locations. The locations of these monitoring wells are shown on Figure 2. Well abandonment and installation activities are described below.

2.1 Well Abandonment

Monitoring wells MW-13 and MW-14 were plugged and abandoned on September 26 and 27, 2018, respectively, under a *Well Plugging Plan of Operations* approved by the New Mexico Office of the State Engineer (NMOSE) on September 19, 2018. Groundwater elevations in these wells had steadily declined since the wells were installed in 2004 until the wells would not produce sufficient water volume for sample collection of all required analytes (starting in the August 2017 semi-annual monitoring event). Groundwater elevations in wells MW-13 and MW-14 decreased over 17 feet from April 2004 to April 2018. Replacement wells MW-13R and MW-14R were installed as detailed below.

Monitoring wells MW-13 and MW-14 were plugged in accordance with the approved plugging plan by pressure filling the casing with cement grout from total depth to land surface. The grout was allowed to settle and any remaining void was filled with additional cement grout. The upper portion of the casing was cut below ground surface and removed. The ground surface was restored to surrounding conditions.

2.2 Well Installation

Monitoring wells MW-13R and MW-14R were installed using air-rotary drilling methods on September 26, 2018, under NMOSE permit L-14228. The monitoring wells were constructed using 2-inch diameter Schedule 40 polyvinyl chloride (PVC) casing and 20 linear feet of 0.010-inch machine-slot PVC screen to a total depth of 136 feet below ground surface (bgs) at MW-13R and 130 feet bgs at MW-14R. The well screens were installed across the saturated zone-vadose zone interface. The annular space was filled with 8/16-grade silica sand to approximately 2 feet above the screen. The annular space above the sand pack was sealed using hydrated 3/8-inch bentonite chips to approximately 5 feet above the sand pack, and Portland cement from above the bentonite chips to the ground surface.

Each monitoring well was completed with a concrete pad and a stickup, steel protective cover. Upon completion, the monitor wells were developed by surging and purging using a submersible pump. Soil boring/well construction logs for MW-13R and MW-14R are provided in Appendix A.

3.0 SEMI-ANNUAL GROUNDWATER MONITORING ACTIVITIES

Semi-annual groundwater monitoring activities were conducted at the refinery in April 2018 and October 2018 in accordance with the November 2017 *Revised Facility-Wide Groundwater Monitoring Work Plan* (Revised FWGWMWP) that was approved by the OCD on February 1, 2018. Hydrologic Monitoring (HMI) conducted the first semi-annual groundwater monitoring event on April 5, 2018, and the second semi-annual event on October 1, 2018. Groundwater monitoring activities consisted of (1) gauging existing refinery monitoring wells (MW-1 through MW-33) and one recovery well (RW-1) and (2) collecting groundwater samples for laboratory analysis from select refinery monitoring wells and three water supply wells (WW-North, WW-South, and WW-East). The locations of the monitoring wells, recovery well, and water supply wells are presented on Figure 2.

The following deviations to the November 2017 Revised FWGWMWP occurred during the April 2018 monitoring event:

- Well MW-31 was not sampled due to the presence of light non-aqueous phase liquid (LNAPL).
- Well MW-13 was not sampled due to poor recharge and insufficient water column in the well.
- Wells MW-12R and MW-26 were not gauged because the top of the dedicated bladder pump was above the static water level in each well.

The following deviations to the November 2017 Revised FWGWMWP occurred during the October 2018 monitoring event:

- Well MW-31 was not sampled due to the presence of LNAPL.
- Wells MW-13 and MW-14 were plugged and abandoned and samples were collected from their replacement wells MW-13R and MW-14R, respectively.
- Wells MW-12R, MW-16, MW-19, MW-26, and MW-27 were not gauged because the dedicated bladder pump in each well were above static water level.

3.1 Fluid Level Gauging

Existing refinery monitoring and recovery wells were gauged during the April 2018 and October 2018 semi-annual monitoring events to determine the groundwater elevation, flow direction and gradient, the presence or absence of LNAPL, and apparent LNAPL thickness. A decontaminated oil-water interface probe was used to measure depths to water and LNAPL, if present. Depths to water and LNAPL were measured to the nearest 0.01-foot from the top of the well casing.

3.2 Groundwater Sample Collection

Groundwater samples were collected for laboratory analysis from the following wells during each semi-annual monitoring event:

- April 2018: 17 refinery monitoring wells (MW-1 through MW-3, MW-6, MW-8, MW-11R, MW-12R, MW-15, MW-17R, MW-19, MW-25, MW-27 through MW-30, MW-32, MW-33) and three water supply wells (WW-North, WW-East, and WW-South).
- October 2018: 31 refinery monitoring wells (MW-1 through MW-33, except MW-7 and MW-31) and three water supply wells (WW-North, WW-East, and WW-South).

Except as identified as deviations in Section 3.0, each monitoring and recovery well was purged and sampled using low-flow sampling procedures. Dedicated bladder pumps installed in each monitoring well were used to purge and sample monitoring wells during the April and October 2018 events. The pump intake was placed at the middle of the water column because the water elevations were within the screened well intervals. A water-quality meter and turbidity meter were used to measure pH, temperature, specific conductivity, oxidation-reduction potential (ORP), dissolved oxygen, and turbidity at regular intervals during the purging process to obtain geochemical data and to monitor for stabilization of the groundwater. The purging process was considered complete when three of the six water quality parameters achieved stabilization.

The water supply wells were sampled from a sampling point (i.e., tap or spigot) located at or near the well head or pump house and before the water supply is introduced into any storage tank or treatment unit. The wells were purged to remove any standing water from the well casing and surface piping. Grab readings of geochemical parameters including pH, temperature, conductivity, ORP, dissolved oxygen, and turbidity were also collected during the purging process.

After the purging process was complete, groundwater samples were collected directly from the dedicated or disposable tubing (for the monitoring wells) or from the water supply well sampling point into method-specific containers provided by the laboratory. All groundwater samples were submitted to ESC Lab Sciences (renamed as Pace Analytical National Center for Testing & Innovation [Pace National] before the second semi-annual event) in Mount Juliet, Tennessee under appropriate chain-of-custody documentation for one or more of the following analyses in accordance with the November 2017 Revised FWGWMWP:

- Volatile organic compounds (VOCs) by Method 8260B;
- Semi-volatile organic compounds (SVOCs) by Method 8270C;
- Total petroleum hydrocarbons (TPH) gasoline range organics (GRO) and diesel range organics (DRO) by Method 8015M;

- Dissolved metals (aluminum, arsenic, barium, boron, cadmium, chromium, cobalt, copper, iron, lead, magnesium, molybdenum, nickel, selenium, silver, uranium, zinc) by Method 6010B and 6020;
- Total mercury by Method 7470A;
- Anions (chloride, fluoride, nitrate-nitrite, and sulfate) by Method 353.2 and Method 9056A;
- Alkalinity by Method 2320 B; and/or
- Total Dissolved Solids (TDS) by Method M2540C.

4.0 SEMI-ANNUAL GROUNDWATER MONITORING RESULTS

The results of the semi-annual groundwater monitoring activities conducted in April 2018 and October 2018 are discussed below.

4.1 Fluid Gauging Results

Fluid level gauging was performed on April 5, 2018, and on October 1, 2018, and the results are presented in Table 1. Potentiometric groundwater surface maps for the April 2018 and October 2018 gauging events are presented as Figures 3 and 4, respectively.

4.1.1 *Light Non-Aqueous Phase Liquid (LNAPL)*

LNAPL was detected in one well (MW-31) during both semi-annual gauging events. The presence of LNAPL in MW-31 is associated with the historical release discovered at the asphalt loading rack during construction activities in November 2015. Monitoring well MW-31 was installed in December 2016 and no measurable LNAPL was detected in this well during installation and development activities. Measurable LNAPL was first detected in this well in February 2017 during semi-annual gauging activities. Measured apparent LNAPL thicknesses in MW-31 during the April and October 2018 gauging events were 5.50 and 5.75 feet, respectively. Navajo implemented routine LNAPL recovery at MW-31 throughout 2018 using both manual bailing and passive skimming techniques, as discussed in Section 7.0. Additional fluid gauging results obtained at MW-31 during recovery activities are provided in Appendix F.

4.1.2 *Groundwater*

Groundwater elevations measured during both semi-annual gauging events indicate groundwater flows radially (southeast, south, and north/northwest) towards a cone of depression near the three water supply wells located within the central portion of the refinery. This cone of depression is consistent with previous events and is induced by groundwater pumping from the three on-site water supply wells for refinery process use and non-potable restroom and safety shower use. The natural groundwater flow direction at the refinery (i.e., not influenced by pumping) is to the southeast, as observed in the northern portion of the refinery.

Groundwater elevations measured during the April 2018 event decreased an average 0.37 feet from those measured in February 2017 (first semi-annual event of 2017). The April 2018 groundwater elevation data indicates groundwater northwest of the cone of depression flows southeast at a hydraulic gradient ranging from 0.003 to 0.017 feet per foot. South/southeast of the cone of depression, groundwater flows north/northwest at a hydraulic gradient ranging from 0.001 to 0.004 feet per foot.

Groundwater elevations measured during the October 2018 event decreased an average 1.95 feet from those measured in August 2017 (second semi-annual event of 2017). The October 2018 groundwater elevation data indicates groundwater northwest of the cone of depression flows

southeast at a hydraulic gradient ranging from 0.004 to 0.014 feet per foot. South/southeast of the cone of depression, groundwater flows north/northwest at a hydraulic gradient ranging from 0.002 to 0.004 feet per foot.

A graph of groundwater elevations versus time for representative wells MW-4 and MW-6 is provided in Appendix B. As shown on the graph, groundwater elevations in wells MW-4 and MW-6 have decreased 10.95 feet and 11.17 feet, respectively, from June 2009 to October 2018. These reductions in groundwater levels are consistent across the refinery and are likely caused by (1) limited recharge due to low rainfall levels and (2) regional groundwater pumping including active pumping from three on-site water supply wells and City of Lovington water supply wells located northwest and west (i.e., upgradient) of the refinery.

4.2 Groundwater Sampling Results

Analytical results of organic and inorganic constituents in groundwater samples collected during the 2018 sampling events are summarized in Tables 2 and 3, respectively. Analytical results are compared to the New Mexico Water Quality Control Commission (WQCC) Human Health Standards for groundwater and any results that exceeded these standards are shaded gray. Groundwater concentration maps are provided as Figures 5 through 10 for constituents that exceeded WQCC Standards. Laboratory analytical reports are provided in Appendix C. Plots of groundwater concentrations over time for constituents detected above the method quantitation limit (MQL) in each well are provided in Appendix D. Constituents that were never detected above the MQL, including those only detected at estimated J-flagged concentrations (i.e., detected above the sample detection limit but below the MQL), are not included on the concentration plots in Appendix D.

4.2.1 Organic Constituent Results

Analytical results for VOCs, SVOCs, and TPH (i.e., organic constituents) that have historically been detected in groundwater are presented in Table 2. Naphthalene results are included in both the VOC (SW8260) and SVOC (SW8270) sections of Table 2 as it is reported by both analytical methods.

4.2.1.1 Volatile Organic Compounds

VOCs were not detected above their respective WQCC Standards in any of the wells sampled in April 2018 and October 2018. Reported concentrations of VOCs during the 2018 sampling events were generally consistent with or less than previous sampling results, with notable increases in the following wells that will be watched closely during future events:

- MW-14R: Toluene was detected at a concentration of 0.00186 milligrams per liter (mg/L) in this replacement well in October 2018, but was never detected in well MW-14. Toluene concentrations in MW-14R are two orders of magnitude below the WQCC

Standard of 0.75 mg/L. Concentrations of other VOCs in this replacement well were consistent with historical results in MW-14.

- MW-30: Chloroform concentrations exhibited an increasing trend from February 2015 (0.00072 J mg/L) to April 2018 (0.00468 J mg/L) to October 2018 (0.00846 mg/L). The October 2018 concentration was the historical maximum and the first detection above the MQL in this well, but the concentrations remain one to two orders of magnitude below the WQCC Standard of 0.1 mg/L. Chloroform concentrations in this well will be watched closely during future monitoring events.

As discussed in the *2017 Annual Facility-Wide Groundwater Monitoring Report*, chloroform concentrations in well MW-2 exhibited an increasing trend from August 2015 (0.000696 J mg/L) to a historical maximum in August 2017 (0.00812 mg/L). Chloroform concentrations decreased during each of the 2018 semi-annual events to estimated J-flagged concentrations of 0.00385 J mg/L in April 2018 and 0.00214 J mg/L in October 2018.

Concentration maps of VOCs in groundwater for the April 2018 and October 2018 monitoring events are not provided because none of the reported concentrations exceeded the WQCC Standards.

Benzene historically fluctuated above and below the WQCC Standard in well MW-11, but remained below the WQCC Standard from February 2015 until the well went dry in August 2016. From March 2015 to August 2016, Navajo installed and maintained oxygen-releasing compound (ORC®) socks in MW-11 to promote enhanced aerobic biodegradation of benzene historically detected in this well. Monitoring well MW-11 was plugged and abandoned in December 2016 and a deeper replacement well (MW-11R) was installed at a location adjacent to the former well. Benzene has not been detected in MW-11R, including in April 2018 and October 2018.

4.2.1.2 Semi-Volatile Organic Compounds

SVOCs were not detected above their respective WQCC Standards in any of the wells sampled in April 2018 and October 2018, with the exception of total phenols which were detected at estimated J-flagged concentrations above its WQCC Standard in four wells (MW-2, MW-30, MW-33, and WW-South) in April 2018 and in WW-East in October 2018. However, these results are estimated concentrations and likely have source contributions as discussed below. Analytical results for SVOCs during the 2018 semi-annual monitoring events were generally consistent with previous sampling results with the following exceptions:

- Total Phenols: Total phenols was detected at J-flagged estimated concentrations in all 11 wells sampled for total phenols in April 2018 and in all 24 wells sampled for total phenols in October 2018. The April 2018 results exceeded the WQCC Standard of 0.005 mg/L in four wells (MW-2, MW-30, MW-33, and WW-South) at a maximum concentration of 0.009 J mg/L in MW-30. The October 2018 results exceeded the

WQCC Standard of 0.005 mg/L in well WW-East at a concentration of 0.00502 J mg/L. Total phenols has been detected intermittently in select refinery wells over time, but the 2018 results were generally greater than historical results. The 2018 results for total phenols are estimated and do not confirm an exceedance of the WQCC Standard as follows:

- None of the results were detected above the MQL, and therefore the laboratory considers the results to be estimated.
- Total phenols was detected in equipment blank sample EB-02 in April 2018 at an estimated J-flagged concentration (0.00809 J mg/L) that exceeded all of the other results except at well MW-30 (0.009 J mg/L). Total phenols was detected in equipment blank samples EB-01 and EB-02 in October 2018 at estimated J-flagged concentrations (0.00394 J mg/L and 0.00236 mg/L, respectively), which exceeded a majority of the other results. Total phenols was detected within five times the equipment blank concentration in all of the associated samples in April 2018 and October 2018, and therefore these results may include measurement contributions from inadequate decontamination of field equipment. Decontamination procedures were reviewed and discussed with field staff to prevent future potential cross-contamination issues associated with inadequate decontamination of field equipment.
- Naphthalene: Naphthalene was detected in wells MW-2, MW-17R, MW-25 (duplicate sample), MW-33, and WW-North (J-flagged) for the first time in April 2018 (previously all non-detect) at a maximum concentration of 0.00228 mg/L in MW-2, but concentrations remained one order of magnitude below the WQCC Standard of 0.03 mg/L. The naphthalene results in MW-17R and MW-25 are considered estimated as the relative percent difference (RPD) between the parent and duplicate sample results did not meet control limits. Naphthalene has been intermittently detected in other refinery wells over time and was not detected in any of the wells sampled in October 2018.

Concentration maps of SVOCs in groundwater for the April 2018 and October 2018 sampling events are not provided because no concentrations were confirmed above the WQCC Standards.

4.2.1.3 Total Petroleum Hydrocarbons

During the April 2018 sampling event, TPH GRO was detected above the MQL in well MW-33 at a concentration of 0.205 mg/L, but was not detected in the other four wells sampled and analyzed for TPH GRO (MW-32, WW-South, WW-North, and WW-East). TPH DRO was detected at concentrations above the MQL in wells MW-32 and MW-33 at concentrations of 0.204

mg/L and 0.175 mg/L, respectively. Of the three other wells sampled and analyzed for TPH DRO in April 2018, TPH DRO was detected at estimated J-flagged concentrations below the MQL in wells WW-North and WW-South, but was not detected in WW-East.

During the October 2018 monitoring event, TPH GRO was detected above the MQL in MW-33 at a concentration of 0.215 mg/L, but was not detected in the other eight wells sampled and analyzed for TPH GRO (MW-5, MW-21, MW-22, MW-30, MW-32, WW-South, WW-North, and WW-East). TPH DRO was detected at concentrations above the MQL in three of the nine wells (MW-21, MW-32, and MW-33) sampled during the October 2018 monitoring event with a maximum detected concentration of 0.360 mg/L in MW-32. Of the six other wells sampled and analyzed for TPH DRO in October 2018, TPH DRO was detected at estimated J-flagged concentrations below the MQL in wells MW-22, MW-30 (duplicate sample), WW-North, and WW-South, but was not detected in MW-5 and WW-East. Note, the sample collected from MW-30 was not analyzed for TPH in accordance with the November 2017 revised FWGWMWP, but the duplicate sample collected from MW-30 was inadvertently analyzed for TPH.

There is no WQCC Standard for TPH DRO or TPH GRO. No indicator VOCs or SVOCs associated with TPH mixtures were detected above their respective WQCC Standard in samples collected from any of these wells. Naphthalene was detected above its respective MQL, but below its WQCC Standard.

There is limited historical TPH data available for comparison of the 2018 TPH results. Reported TPH concentrations for the 2018 monitoring events were generally consistent with or less than 2017 monitoring results (stable to decreasing trends).

4.2.2 Inorganic Constituent Results

Analytical results for anions, TDS, and metals (i.e., inorganic constituents) in groundwater are presented in Table 3. A discussion of the inorganic constituent results is provided below.

4.2.2.1 Anions

The April 2018 analytical results indicate that chloride and fluoride are present in groundwater at concentrations above their respective WQCC Standards. Chloride was detected at concentrations above the WQCC Standard of 250 mg/L in 2 of the 16 wells sampled for anions at concentrations of 401 mg/L in MW-25 and 406 mg/L in WW-South. Fluoride was detected at a concentration above the WQCC Standard of 1.6 mg/L in 1 of the 16 wells sampled for anions at a concentration of 1.74 mg/L in MW-28.

The October 2018 analytical results indicate that chloride, fluoride, and nitrate-nitrite are present at concentrations above their respective WQCC Standards. Chloride was detected at concentrations above the WQCC Standard of 250 mg/L in 6 of the 34 wells sampled for anions with a maximum detected concentration of 407 mg/L in MW-13R. Fluoride was detected at

concentrations above the WQCC Standard of 1.6 mg/L in 2 of the 34 wells sampled for anions at concentrations of 2.65 mg/L in MW-24 and 1.76 mg/L in MW-28. Nitrate-nitrite was detected at a concentration above the WQCC Standard of 10 mg/L in 1 of the 34 wells sampled for anions at a concentration of 12.9 mg/L in MW-22.

Concentration maps of anions that exceeded WQCC Standards in groundwater for the April 2018 and October 2018 sampling events are provided as Figures 5 and 6, respectively.

Reported anion concentrations for the 2018 sampling events were generally consistent with previous sampling results, with notable increases in the following wells that will be watched closely during future events:

- MW-9: Chloride concentrations exhibited an increasing trend from August 2015 (46.6 mg/L) to October 2018 (232 mg/L), but remained below the WQCC Standard of 250 mg/L. The October 2018 chloride result was the historical maximum reported concentration at this well. Nitrate-nitrite concentrations exhibited an increasing trend from August 2016 (3.11 mg/L) to October 2018 (9.00 mg/L), but remained below the WQCC Standard of 10 mg/L. The October 2018 nitrate-nitrite result was the historical maximum reported concentration at this well.
- MW-14R: Chloride was detected at a concentration of 216 mg/L in this replacement well in October 2018, which is below the WQCC Standard of 250 mg/L but greater than the historical maximum detected in former well MW-14 (118 mg/L). Chloride concentrations exhibited an increasing trend in former well MW-14 from July 2011 (48.4 mg/L) to August 2016 (118 mg/L), which was the last date MW-14 was sampled for anions. The data from October 2018 supports the continued increasing concentration trend at well pair MW-14/MW-14R. Concentrations of other anions in this replacement well were generally consistent with historical results in MW-14.
- MW-15: Chloride concentrations increased from 222 mg/L in April 2018 to 348 mg/L in October 2018, which is the first exceedance of the WQCC Standard at this well since February 2014. The chloride concentrations in this well have historically fluctuated and current concentrations remain below the historical maximum (381 mg/L in August 2013).
- MW-22: Nitrate-nitrite concentrations decreased from a historical maximum of 48.6 mg/L in August 2017 (which was considered to be an anomalous result) to 12.9 mg/L in October 2018, but remain above the WQCC Standard (10 mg/L) and historical results prior to August 2017 (<6.0 mg/L from August 2010 to August 2016). Nitrate-nitrite results at surrounding wells in October 2018 (2.57 mg/L at MW-5, 1.93 mg/L at MW-23, and <0.0197 mg/L at MW-32 and MW-33) are consistent with historical results and remain below the WQCC Standard.

As discussed in the *2017 Annual Facility-Wide Groundwater Monitoring Report*, increasing trends of fluoride concentrations in well MW-5 and chloride concentrations in wells MW-18 and MW-26 were reported during 2017. In 2018, fluoride concentrations in MW-5 and chloride concentrations in MW-18 and MW-26 decreased to concentrations consistent with historical results.

As discussed in the December 2013 *Refinery Investigation Report*, the presence of anions at concentrations above WQCC Standards in select wells, including chloride (wells MW-11R, MW-13R, MW-15, MW-19, MW-25, and WW-South), fluoride (wells MW-24 and MW-28), and nitrate-nitrite (well MW-22) is due to off-site sources, background concentrations, and/or non-Navajo sources at the refinery.

4.2.2.2 Total Dissolved Solids

During the April 2018 sampling event, TDS was detected at concentrations above the WQCC Standard of 1,000 mg/L in 3 of the 13 wells sampled for TDS with a maximum detected concentration of 1,380 mg/L in MW-25. During the October 2018 sampling event, TDS was detected at concentrations above the WQCC Standard of 1,000 mg/L in 9 of the 29 wells sampled for TDS with a maximum detected concentration of 2,230 mg/L in MW-15. Concentration maps of TDS in groundwater for the April 2018 and October 2018 sampling events are provided as Figures 7 and 8, respectively. Reported TDS concentrations for both 2018 sampling events were generally consistent with previous sampling results, with notable increases in the following wells:

- MW-11R: TDS concentrations exhibited an increasing trend from February 2017 (972 mg/L) to October 2018 (1,220 mg/L), which is the historical maximum reported concentration in this well. However, the historical maximum reported concentration in former well MW-11 is 1,510 mg/L in February 2011.
- MW-15: TDS concentrations increased from 808 mg/L in April 2018 to 2,230 mg/L in October 2018, which is the historical maximum reported concentration and the first exceedance of the WQCC exceedance since August 2013. TDS concentrations have historically fluctuated in this well.
- MW-19: TDS concentrations increased from 722 mg/L in April 2018 to 1,270 mg/L in October 2018. The TDS concentration has historically fluctuated above and below the WQCC Standard of 1,000 mg/L in this well. The historical maximum reported concentration in this well is 3,570 mg/L in July 2012.
- MW-29: TDS concentrations increased from 920 mg/L in August 2017 to 1,010 mg/L in October 2018. The TDS concentration has historically fluctuated above and below the WQCC Standard of 1,000 mg/L in this well. The historical maximum reported concentration in this well is 1,220 mg/L in August 2015.

- MW-33: TDS concentrations increased from 792 mg/L in August 2017 to 902 mg/L in April 2018 to 1,170 mg/L in October 2018, which is the historical maximum reported concentration and the first exceedance of the WQCC Standard of 1,000 mg/L at this well. This well was installed in 2017 and there is limited historical data available for comparison.

As discussed in the December 2013 *Refinery Investigation Report*, the presence of TDS at concentrations above WQCC Standards in select wells (including wells MW-11R, MW-13R, MW-15, MW-19, MW-25, MW-26, MW-29, MW-33, and WW-South) is due to off-site sources, background concentrations, and/or non-Navajo sources at the refinery.

4.2.2.3 Metals

During the April 2018 sampling event, manganese was detected at a concentration above the WQCC Standard of 0.2 mg/L in 2 of the 14 wells sampled at concentrations of 0.772 mg/L in MW-32 and 1.77 mg/L in MW-33. During the October 2018 sampling event, manganese was detected at a concentration above the WQCC Standard of 0.2 mg/L in 2 of the 27 wells sampled at a concentrations 0.223 mg/L in MW-13R and 1.79 mg/L in MW-33.

Concentration maps of metals that exceeded WQCC Standards in groundwater for the April and October 2018 sampling events are provided as Figure 9 and 10, respectively. Metal concentrations in groundwater across the refinery were generally consistent with or less than previous sampling events. The presence of manganese above WQCC Standards in new wells MW-32 and MW-33, located along the southern refinery boundary, is potentially attributed to nearby produced-water injection wells LPU-38 and LSAU-23 and oil production wells LA-9 and LPU-96 (Figure 2) based on the distribution of manganese in groundwater and the lack of potential Navajo sources for metals identified in this portion of the refinery as discussed in the December 2013 *Refinery Investigation Report*.

Reported metal concentrations for the 2018 sampling events were generally consistent with or less than previous sampling results, with notable increases in the following wells:

- MW-20: In October 2018, cobalt, manganese, molybdenum, and nickel concentrations increased to historical maximums of 0.00462 mg/L, 0.0259 mg/L, 0.0270 mg/L, and 0.142 mg/L, respectively. However, the concentrations remain below their respective WQCC Standards of 0.05 mg/L (cobalt), 0.20 mg/L (manganese and nickel) and 1.0 mg/L (molybdenum). There have been historical intermittent detections of each of these metals across the refinery.
- MW-24: Zinc concentrations increased from 0.00720 J mg/L in August 2017 to 0.150 mg/L in October 2018, which is the historical maximum in this well. However, zinc

concentrations remain below the WQCC Standard of 10.0 mg/L. Regardless, zinc concentrations at MW-24 will be watched closely during future monitoring events.

As discussed in the *2017 Annual Facility-Wide Groundwater Monitoring Report*, total mercury was detected for the first time in well MW-1 during the August 2017 semi-annual monitoring event. Mercury was not detected in this well during either 2018 semi-annual events.

As discussed in the December 2013 *Refinery Investigation Report*, the presence of metals at concentrations above WQCC Standards in select wells is due to off-site sources, background concentrations, and/or non-Navajo sources at the refinery.

5.0 QUARTERLY WATER SUPPLY WELL MONITORING

Groundwater samples were collected from refinery water supply wells WW-North, WW-East, and WW-South on a quarterly basis in 2018 in accordance with the November 2017 Revised FWGWMWP. The objective of the quarterly sampling is to evaluate the potential risk associated with use of the water in refinery restrooms and safety showers (the water is not used for drinking or cooking).

Groundwater samples were collected from water supply wells WW-North, WW-South, and WW-East on February 23, 2018, April 5, 2018, July 31, 2018, and October 1, 2018. Groundwater samples collected from the water supply wells were submitted to ESC Lab Sciences (renamed Pace National before the third quarterly event) in Mount Juliet, Tennessee, under appropriate chain-of-custody documentation for the same analyses as the semi-annual monitoring events. Organic and inorganic analytical results of the quarterly water supply well samples are summarized and compared to WQCC Standards in Tables 2 and 3, respectively.

Consistent with historical results, chloride was detected in WW-South at concentrations above the WQCC Standard of 250 mg/L in each of the quarterly sampling events with results ranging from 368 mg/L in October 2018 to 432 mg/L in February 2018. Also consistent with historical results, TDS was detected in WW-South at concentrations above the WQCC Standard of 1,000 mg/L in each of the quarterly sampling events with results ranging from 1,230 mg/L (duplicate result) to 1,420 mg/L in July 2018. None of the remaining inorganic analytes were detected at concentrations above their respective WQCC Standards in any of the samples.

Total phenols was detected at J-flagged estimated concentrations in each of the water supply wells during each quarterly sampling event in 2018. The 2018 results exceeded the WQCC Standard of 0.005 mg/L in WW-South in April 2018 (0.00579 J mg/L) and in WW-East in October 2018 (0.00502 J mg/L). As discussed earlier, the 2018 results for total phenols do not confirm an exceedance of the WQCC Standard.

TPH GRO was detected at estimated J-flagged concentrations in water supply well WW-East during July 2018 (0.0327 JB mg/L – with “B” qualifier indicating it was detected in the associated laboratory method blank). TPH DRO was detected in WW-East during the February 2018 event (0.0849 JB mg/L); in WW-South during the February, April, July, and October 2018 events (ranging from 0.0534 J mg/L to 0.117 B mg/L); and in WW-North during the February, April, July, and October 2018 events (ranging from 0.0303 J mg/L to 0.0821 JB mg/L). There is no WQCC Standard for TPH GRO or TPH DRO. No indicator VOCs or SVOCs associated with TPH mixtures were detected above their respective WQCC Standard in samples collected from any of the water supply wells.

Water from the water supply wells poses no risk associated with continued use in refinery restrooms and safety showers based on these results.

6.0 QUALITY ASSURANCE/QUALITY CONTROL

Three water samples, one field duplicate, and one trip blank were collected on February 23, 2018. Twenty water samples, three field duplicates, two equipment blanks, and two trip blanks were collected on April 5, 2018. Three water samples, one field duplicate, and two trip blanks were collected on July 31, 2018. Thirty-four water samples, four field duplicates, two equipment blanks, and one trip blank were collected on October 1, 2018. These samples were submitted to ESC/Pace National in Mount Juliet, Tennessee for analyses.

TRC Quality Assurance (QA) staff reviewed resultant data. Four data packages identified as L972920, L984044, L1013808, and L1030903 were reviewed. Data were reviewed for compliance with the analytical protocols used for sample analysis and laboratory-defined quality control (QC) limits. Items reviewed during the data validation process included the following:

- Sample integrity, preservation, and holding times
- Blank analyses
- Spike recoveries
- Duplicate recoveries
- Sample documentation

Complete QA/QC data review results are provided in Appendix E.

7.0 2018 RELEASES AND REMEDIATION ACTIVITIES

Two reportable releases occurred at the refinery in 2018: (1) the crude pipeline release discovered on July 9, 2018, and (2) the Tank 1206 gas oil release discovered on September 29, 2018. Throughout 2018, Navajo continued to recover LNAPL associated with the historical release discovered at the asphalt loading rack in 2015.

7.1 July 2018 Crude Pipeline Release

A release of approximately 5 to 6 barrels (bbl) of crude oil was discovered on July 9, 2018, at a location west of the central portion of the refinery (outside of the refinery fence). The release occurred from an above ground out-of-service pipeline. Navajo conducted initial release response activities in July 2018, which included removing any free liquids, excavating approximately 50 cubic yards of soil, and applying microbes to address any potential residual hydrocarbons. The initial Form C-141 (Release Notification) for this release was submitted to the OCD on July 20, 2018; a remediation plan was submitted to OCD in an email on September 10, 2018; and subsequent notifications and updates were provided to OCD in emails on December 3, 2018 and January 18, 2019.

Initial soil assessment was conducted on September 25, 2018, and included collection of surface soil samples from the release location. Analytical results indicated that additional excavation is required to meet regulatory cleanup criteria (Table 1 of 19.15.29.12 NMAC). Additional soil excavation and confirmation sampling activities were conducted in January 2019 and March 2019. A Closure Report and Final Form C-141 for this release will be submitted to the OCD by April 30, 2019.

7.2 September 2018 Tank 1206 Gas Oil Release

Gas oil was discovered to be leaking onto the ground surface from the north/northwest side of Tank 1206 on September 29, 2018. Immediately upon discovery, Navajo performed dirt work to control and contain the flow of the released gas oil. Dirt work included digging a depression and building dikes/berms around the release area. Free liquids were then recovered from the release area to the extent practical and plastic sheeting was placed within the diked area to provide a liner to control migration of further gas oil accumulation during tank de-inventory. Navajo continued to recover free liquids accumulating in the lined, diked area until tank de-inventory was complete and no free liquids remained in the lined, diked area at completion of the tank de-inventory. The initial Form C-141 (Release Notification) for this release was submitted to the OCD on October 5, 2018, and subsequent notifications and updates were provided to OCD in emails on December 3, 2018 and January 18, 2019. Soil excavation and confirmation soil sampling activities were conducted in January 2019. A Closure Report and Final Form C-141 for this release will be submitted to the OCD by April 30, 2019.

7.3 Asphalt Loading Rack (LNAPL Recovery at MW-31)

On November 11, 2015, during construction activities at the asphalt loading rack, HEP discovered stained soil with a hydrocarbon odor that was indicative of a historical release. HEP and Navajo both notified OCD of the historical release discovery. HEP conducted soil investigation and abatement activities in November 2015 and December 2015, and additional soil investigation activities in March 2016. Navajo documented the activities and results of the HEP investigation and abatement in a letter report submitted to the OCD on September 15, 2016. Navajo conducted additional soil and groundwater investigation activities in December 2016, which included the installation of monitoring well MW-31. Monitoring well MW-31 did not contain LNAPL after installation and development activities in December 2016, but measurable LNAPL was present during semi-annual groundwater gauging on February 6, 2017. Additional soil, groundwater, and LNAPL investigation activities were conducted at and near the asphalt loading rack in June 2017 and included installation of monitoring wells MW-32 and MW-33. Results of the December 2016 and June 2017 investigation activities were documented in a November 17, 2017, letter report that was approved with comments by the OCD on December 22, 2017.

Navajo conducted routine LNAPL recovery at monitoring well MW-31 since LNAPL was discovered in February 2017. A passive skimmer (Petro-Bailer™) was installed and maintained in MW-31 throughout 2018. The skimmer was emptied on a daily to weekly basis. The depth to LNAPL and groundwater was gauged in MW-31 after removing the passive skimmer from the well. In addition to emptying the passive skimmer on a daily to weekly basis, LNAPL was manually bailed from MW-31 on a primarily weekly basis from February 2, 2018, through December 28, 2018, but was occasionally conducted on a daily basis during this timeframe. The depth to LNAPL and groundwater was gauged in MW-31 before and after manual bailing.

Fluid gauging and LNAPL recovery results are summarized in Appendix F. Approximately 226 gallons of LNAPL were manually recovered from MW-31 in 2018. A total of approximately 299 gallons of LNAPL have been manually recovered from MW-31 since February 2017. Apparent LNAPL thickness in MW-31 ranged from 0.80 feet to 6.33 feet throughout 2018.

Navajo plans to install a pneumatic skimmer pump in well MW-31 during April 2019. The pneumatic skimmer pump will operate at regular intervals to continuously recover LNAPL and reduce in-well apparent LNAPL thickness.

8.0 CONCLUSIONS

Conclusions based on data collected during groundwater monitoring activities conducted during calendar year 2018 are discussed below.

Groundwater flow directions were consistent with previous groundwater monitoring events. Groundwater elevations decreased an average of 0.37 feet from February 2017 to April 2018 and an average of 1.95 feet from August 2017 to October 2018. Groundwater elevations have continually decreased from June 2009 to October 2018. These reductions in groundwater elevation are likely caused by limited recharge and active regional pumping. Consistent with 2017 results, LNAPL was detected in monitoring well MW-31. The apparent LNAPL thickness in MW-31 ranged from a maximum of 6.33 feet in May 2018 to a minimum of 0.80 feet in June 2018.

Analytical results of groundwater samples collected during semi-annual groundwater monitoring events indicated the following:

- No VOCs were reported at concentrations above WQCC Standards in any well during the reporting period.
- No SVOCs were confirmed at concentrations above WQCC Standards in any well during the reporting period.
- TPH GRO was detected above the MQL in samples collected from well MW-33 in April and October 2018. TPH DRO was detected above the MQL in samples collected from wells MW-32 and MW-33 in April 2018, and wells MW-21, MW-32, and MW-33 in October 2018. There is no WQCC Standard for TPH GRO and TPH DRO; no indicator VOCs or SVOCs associated with TPH mixtures were detected above their respective WQCC Standard in samples collected from any of these wells.
- Anions were reported at concentrations above the WQCC Standard for chloride (wells MW-25 and WW-South) and fluoride (well MW-28) during the April 2018 semi-annual event; and chloride (wells MW-11R, MW-13R, MW-15, MW-19, MW-25, and WW-South), fluoride (wells MW-24 and MW-28), and nitrate-nitrite (well MW-22) during the October 2018 semi-annual event.
- TDS was reported at concentrations above its WQCC Standard in wells MW-11R, MW-25, and WW-South during the April 2018 semi-annual monitoring event, and in wells MW-11R, MW-13R, MW-15, MW-19, MW-25, MW-26, MW-29, MW-33, and WW-South during the October 2018 semi-annual monitoring event.
- Manganese was reported at concentrations above its WQCC Standard in wells MW-32 and MW-33 during the April 2018 semi-annual monitoring event, and in wells MW-13R and MW-33 during the October 2018 semi-annual monitoring event.

The presence of select anions, TDS, and select metals at concentrations above WQCC Standards in select wells is due to off-site sources, background concentrations, and/or non-Navajo sources at the refinery. No constituents attributable to refinery sources or operations, as discussed in the December 2013 *Refinery Investigation Report*, exceeded WQCC Standards in wells located along the southeastern refinery boundary (wells MW-5, MW-12R, MW-14R, MW-22, MW-32 and MW-33), which is the natural downgradient portion of the facility (i.e., if active pumping from the on-site water supply wells ceased). Groundwater pumping from refinery water supply wells WW-East, WW-North, and WW-South for industrial use causes radial groundwater flow towards a cone of depression at the central portion of the refinery preventing migration of constituents off-site, but also enables on-site migration of constituents from potential off-site sources (e.g., active oil production and injection wells).

WQCC Standards were not exceeded in any of the quarterly samples collected from refinery water supply wells WW-North, WW-South, and WW-East with the exception of chloride and TDS in WW-South during each quarterly event. Based on these results, the water poses no risk associated with continued use in refinery restrooms and safety showers.

LNAPL was recovered from MW-31 using manual bailing and passive skimming techniques. A total of 226 gallons of LNAPL was recovered from MW-31 during 2018.

9.0 WORK PLANNED FOR 2019

The following summarizes the scope of work planned for 2019 at the refinery:

- Implement semi-annual groundwater monitoring and annual reporting activities in accordance with the sampling and analysis plan presented in the November 2017 Revised FWGWMWP that was submitted to the OCD on November 17, 2017, and approved by OCD on February 1, 2018. Navajo will continue to evaluate the sampling plan and recommend revisions based on historical analytical trends in groundwater.
- Continue to implement quarterly water supply well monitoring in accordance with OCD's May 16, 2014, letter, Navajo's response letter on June 20, 2014, and the November 2017 Revised FWGWMWP.
- Conduct routine LNAPL recovery at well MW-31. Navajo plans to install a pneumatic skimmer pump in well MW-31 during April 2019. Until the skimmer pump is installed, LNAPL will be recovered via manual bailing and/or passive skimming on at least a weekly basis in accordance with the November 17, 2017, letter report that was approved with comments by the OCD on December 22, 2017.
- Evaluate and replace monitor wells that are screened at depths too shallow for optimal monitoring of the current groundwater elevation, which has continually decreased since June 2009.
- Complete soil remediation activities associated with the July 2018 crude pipeline release, and submit a Closure Report to the OCD by April 30, 2019.
- Complete soil remediation activities associated with the September 2018 Tank 1206 gas oil release, and submit a Closure Report to the OCD by April 30, 2019.

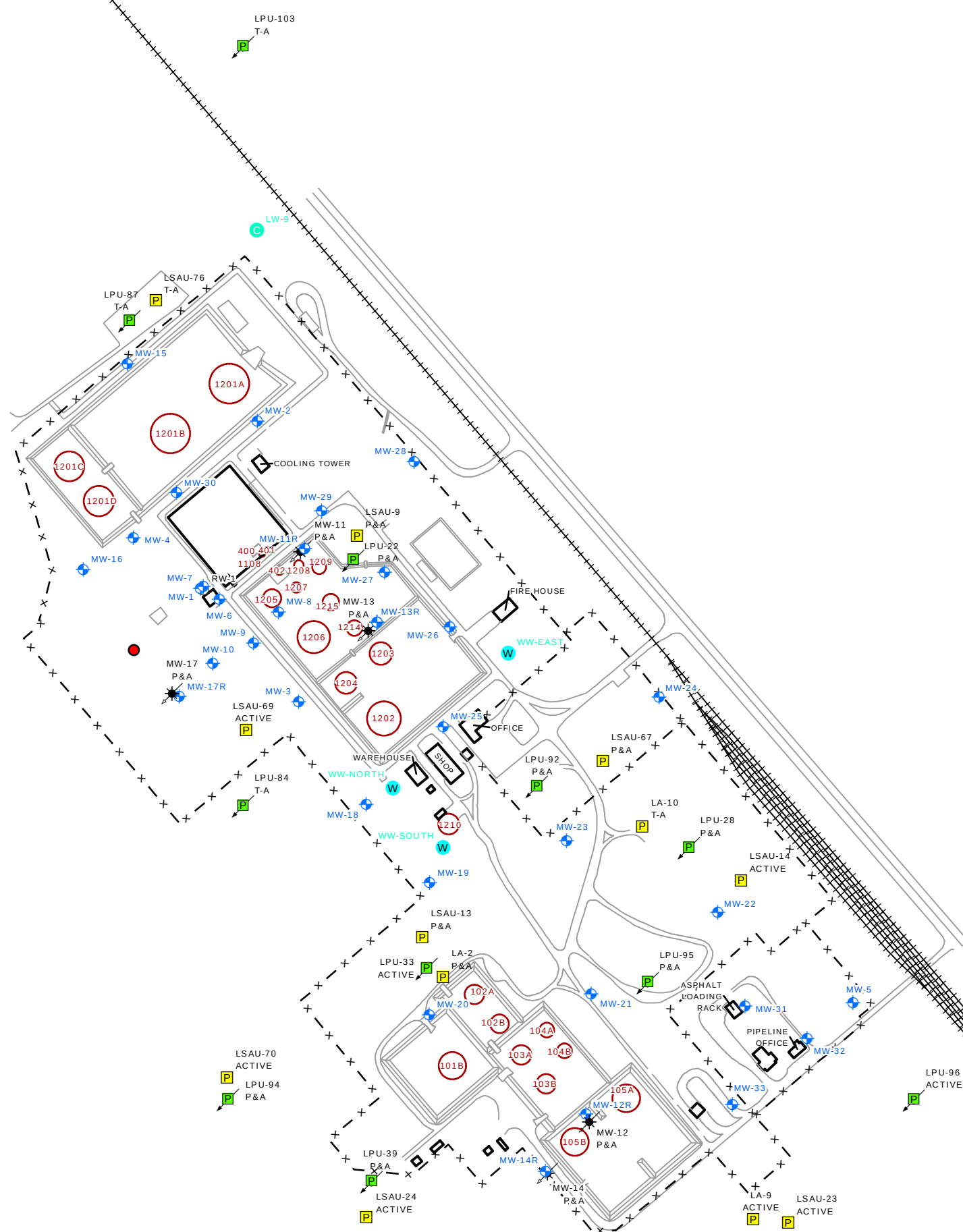
FIGURES



Document Path: S:\1-PROJECTS\HOLLY ENERGY PARTNERS\Navajo Lovington\294319_2018 Annual GW Report\294319_1.mxd

LEGEND W LW - CITY OF LOVINGTON WATER WELL ++++ RAIL x - x FENCE N 1 inch = 700 feet 0 350 700 1,400 Feet REFINERY VICINITY MAP HOLLYFRONTIER NAVAJO REFINING LLC AP-110, LOVINGTON REFINERY, LOVINGTON, NM PROJECT NO: 294319 MXD: 294319_1 AUTHOR: S. RAY DATE: 2/28/2019  505 EAST HUNTLAND DRIVE SUITE 250 AUSTIN, TEXAS 78752 (512) 329-6080 FIGURE 1	

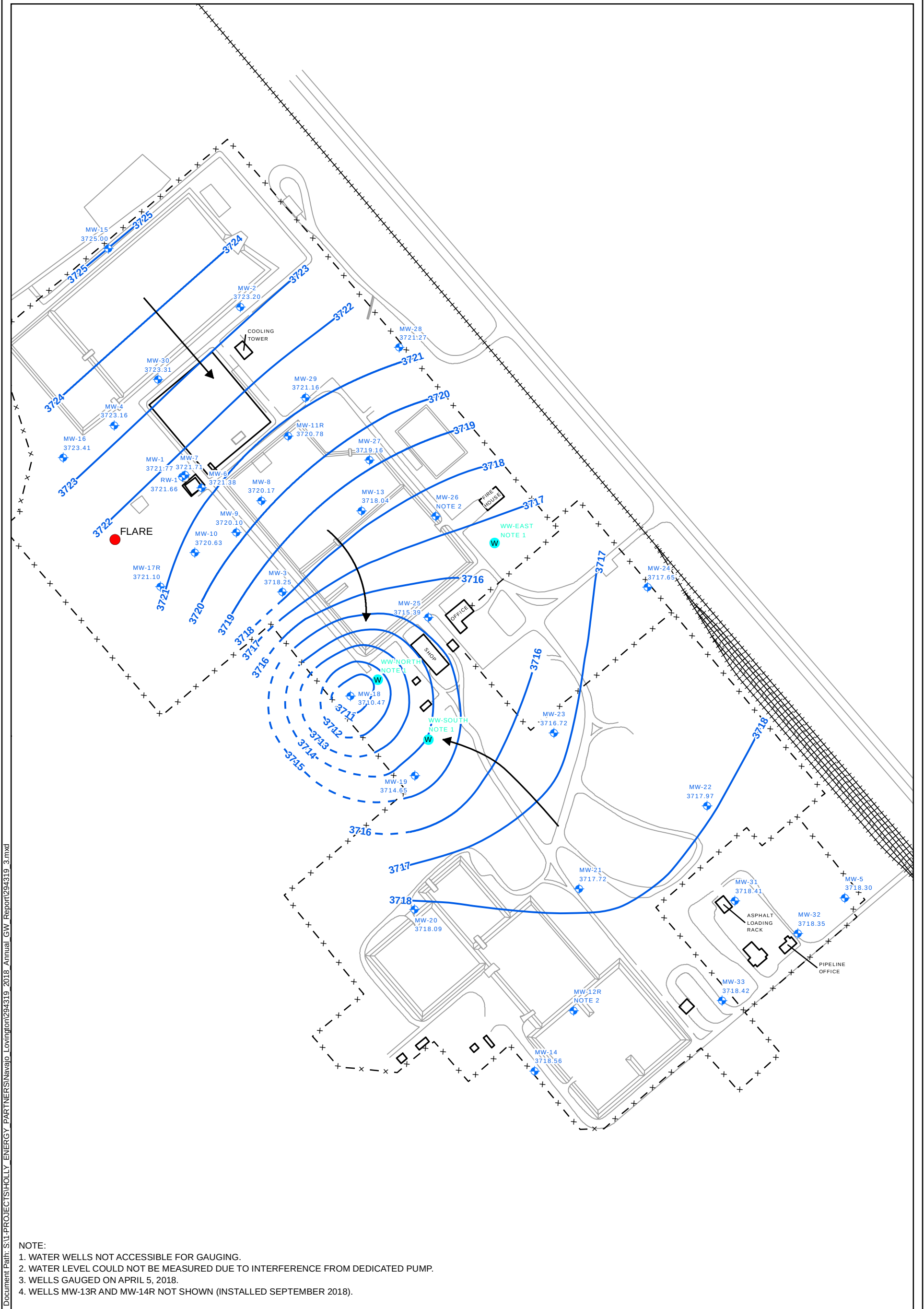
BASEMAP: GOOGLE EARTH AND THEIR DATA PARTNERS, 2017.



505 EAST HUNTLAND DRIVE
SUITE 250
AUSTIN, TEXAS 78752
(512) 329-6080

FIGURE
2

Document Path: S:\1-PROJECTS\HOLLY ENERGY PARTNERS\Navajo Lovington\294319 2018 Annual GW Report\294319 3.mxd



- NOTE:
1. WATER WELLS NOT ACCESSIBLE FOR GAUGING.
 2. WATER LEVEL COULD NOT BE MEASURED DUE TO INTERFERENCE FROM DEDICATED PUMP.
 3. WELLS GAUGED ON APRIL 5, 2018.
 4. WELLS MW-13R AND MW-14R NOT SHOWN (INSTALLED SEPTEMBER 2018).

LEGEND

GROUNDWATER CONTOURS (DASHED WHERE INFERRED)	RAIL
MONITORING WELL	GROUNDWATER FLOW DIRECTION
RECOVERY WELL	GROUNDWATER ELEVATION (FEET)
WATER WELL	BUILDINGS
FLARE	
FENCE	

GROUNDWATER POTENTIOMETRIC SURFACE MAP - APRIL 2018

HOLLYFRONTIER NAVAJO REFINING LLC
AP-110, LOVINGTON REFINERY, LOVINGTON, NM

PROJECT NO: 294319	MXD: 294319_3
AUTHOR: MHORN	DATE: 4/15/2019
TRC	505 EAST HUNTLAND DRIVE SUITE 250 AUSTIN, TEXAS 78752 (512) 329-6080
FIGURE	3

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- NOTE:
1. WATER WELL NOT ACCESSIBLE FOR GAUGING.
 2. WATER LEVEL COULD NOT BE MEASURED DUE TO INTERFERENCE FROM DEDICATED PUMP.
 3. WELLS GAUGED ON OCTOBER 1, 2018.

LEGEND

GROUNDWATER CONTOURS
(DASHED WHERE INFERRED)

MONITORING WELL

RECOVERY WELL

WATER WELL

FLARE

FENCE

RAIL

GROUNDWATER FLOW
DIRECTION

GROUNDWATER ELEVATION
(FEET)

BUILDINGS

0

175

350

700

FEET

N

GROUNDWATER POTENTIOMETRIC
SURFACE MAP - OCTOBER 2018

HOLLYFRONTIER NAVAJO REFINING LLC
AP-110, LOVINGTON REFINERY, LOVINGTON, NM

PROJECT NO: 294319	MXD: 294319_4
AUTHOR: SRAY	DATE: 4/15/2019
	505 EAST HUNTLAND DRIVE SUITE 250 AUSTIN, TEXAS 78752 (512) 329-6080
FIGURE	4

Document Path: S:\1-PROJECTS\HOLLY ENERGY PARTNERS\Navajo Lovington\294319_2018 Annual GW Report\294319_6.mxd

- NOTES:
1. NOT SAMPLED DUE TO PRESENCE OF LNAPL.
 2. NA = NOT ANALYZED (NOTE 6).
 3. NS = NOT SAMPLED (NOTE 6).
 4. ALL CONCENTRATIONS IN MILLIGRAM PER LITER (mg/L).
 5. CHLORIDE, FLUORIDE, AND NITRATE-NITRATE CONCENTRATIONS SHOWN FOR ALL WELLS BECAUSE THEY ARE THE ONLY ANIONS THAT EXCEEDED THEIR RESPECTIVE WQCC STANDARDS.
 6. IN ACCORDANCE WITH DECEMBER 2017 REVISED FACILITY-WIDE GROUNDWATER MONITORING WORK PLAN.

LABEL KEY:
Cl: 216 - CHLORIDE CONCENTRATION (WQCC STANDARD = 250 mg/L)
F: 1.15 - FLUORIDE CONCENTRATION (WQCC STANDARD = 1.6 mg/L)
N: 2.81 - NITRATE-NITRATE CONCENTRATION (WQCC STANDARD = 10 mg/L)

PINK HIGHLIGHTED VALUES IN EXCEEDANCE OF WATER QUALITY CONTROL COMMISSION (WQCC) STANDARD.

LEGEND

- 

MONITORING WELL
- 

RECOVERY WELL
- 

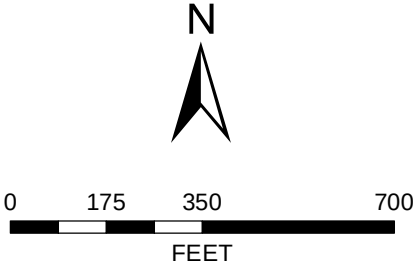
WATER WELL
- 

WQCC STANDARD EXCEEDED AT THIS LOCATION
- 

RAIL
- 

FENCE
- 

BUILDINGS



ANIONS
CONCENTRATION MAP - OCTOBER 2018

HOLLYFRONTIER NAVAJO REFINING LLC
AP-110, LOVINGTON REFINERY, LOVINGTON, NM

PROJECT NO: 294319

MXD: 294319_6

AUTHOR: SRAY

DATE: 4/15/2019

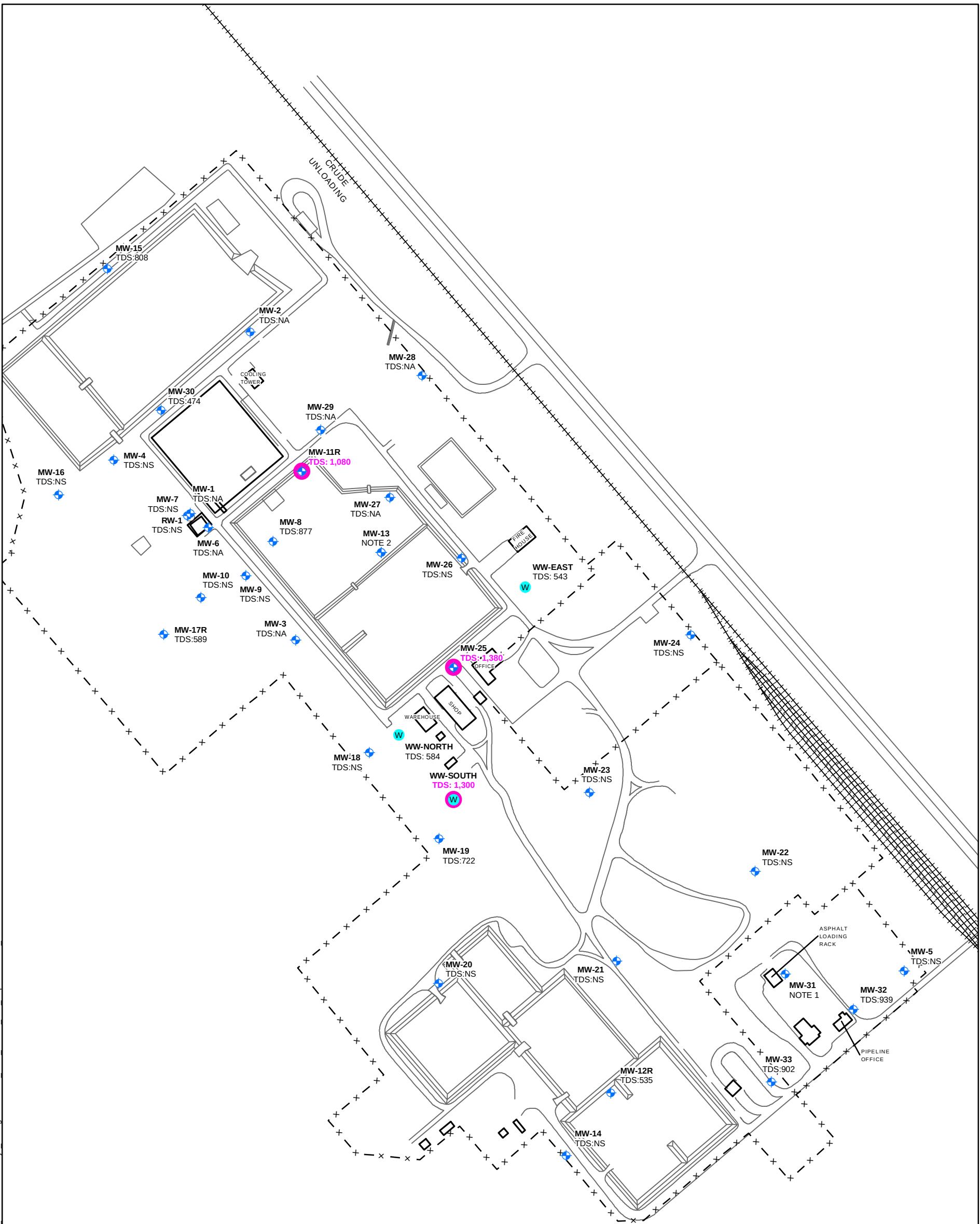


505 EAST HUNTLAND DRIVE
SUITE 250
AUSTIN, TEXAS 78752
(512) 329-6080

FIGURE

6

Document Path: S:\1-PROJECTS\HOLLY ENERGY PARTNERS\Navajo Lovington\294319_2018 Annual GW Report\294319_7.mxd



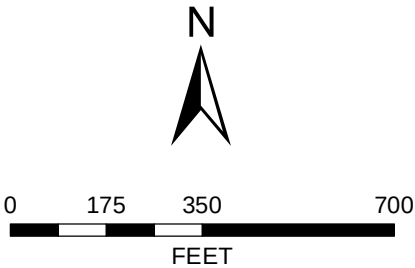
- NOTES:
1. NOT SAMPLED DUE TO PRESENCE OF LNAPL.
 2. NOT ANALYZED DUE TO INSUFFICIENT WATER VOLUME.
 3. NA = NOT ANALYZED (NOTE 6).
 4. NS = NOT SAMPLED (NOTE 6).
 5. ALL CONCENTRATIONS IN MILLIGRAM PER LITER (mg/L).
 6. IN ACCORDANCE WITH DECEMBER 2017 REVISED FACILITY-WIDE GROUNDWATER MONITORING WORK PLAN.
 7. WELLS MW-13R AND MW-14R NOT SHOWN (INSTALLED SEPTEMBER 2018).

LABEL KEY:
TDS: 808 - TOTAL DISSOLVED SOLIDS CONCENTRATION (WQCC STANDARD = 1,000 mg/L)

PINK HIGHLIGHTED VALUES IN EXCEEDANCE OF WATER QUALITY CONTROL COMMISSION (WQCC) STANDARD.

LEGEND

- MONITORING WELL
- RECOVERY WELL
- WATER WELL
- WQCC STANDARD EXCEEDED AT THIS LOCATION
- RAIL
- FENCE
- BUILDINGS

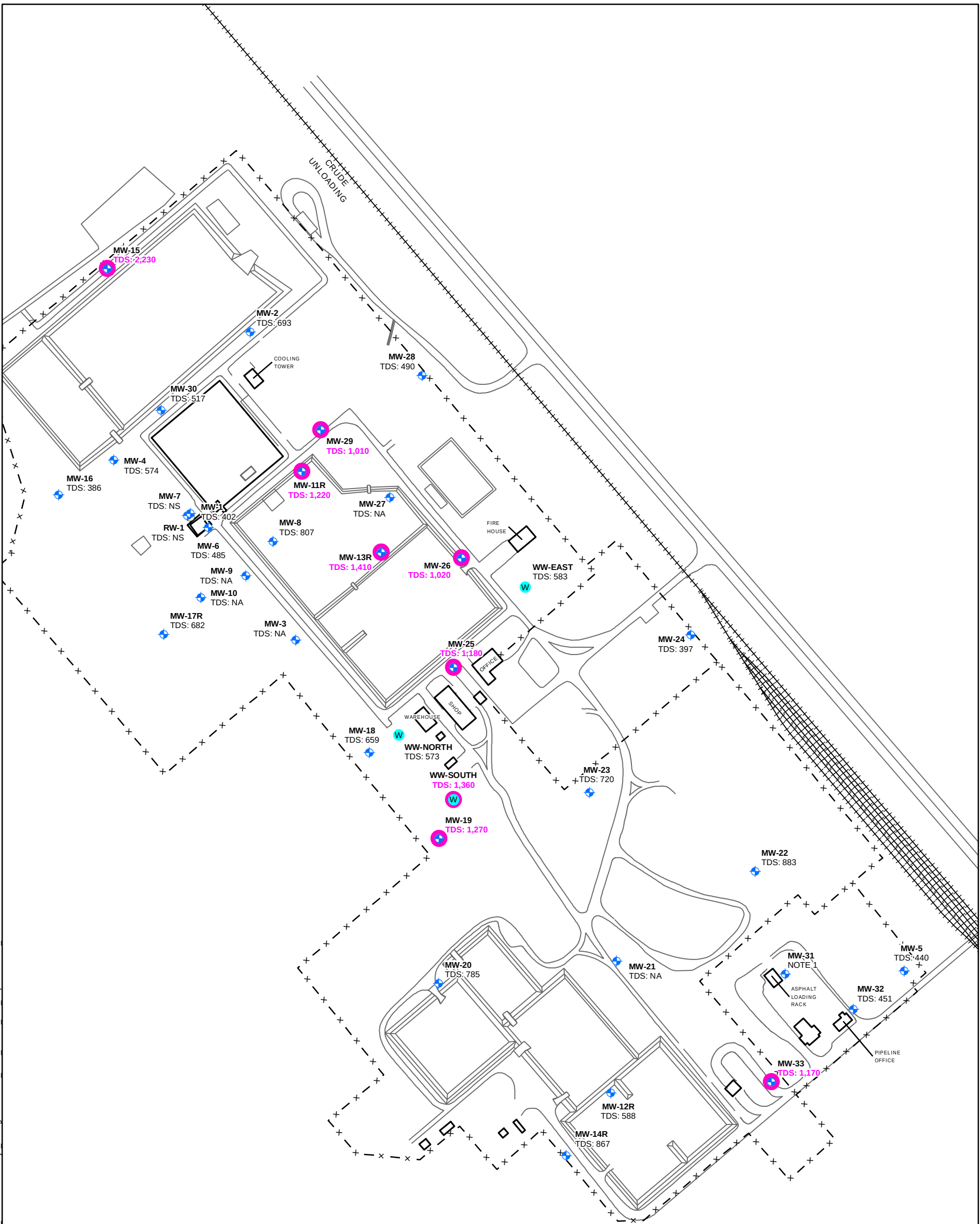


TOTAL DISSOLVED SOLIDS
CONCENTRATION MAP - APRIL 2018

HOLLYFRONTIER NAVAJO REFINING LLC
AP-110, LOVINGTON REFINERY, LOVINGTON, NM

PROJECT NO: 294319	MXD: 294319_7
AUTHOR: SRAY	DATE: 4/15/2019
	505 EAST HUNTLAND DRIVE SUITE 250 AUSTIN, TEXAS 78752 (512) 329-6080
FIGURE	7

Document Path: S:\1-PROJECTS\HOLLY ENERGY PARTNERS\Navajo Lovington\294319_2018 Annual GW Report\294319_8.mxd



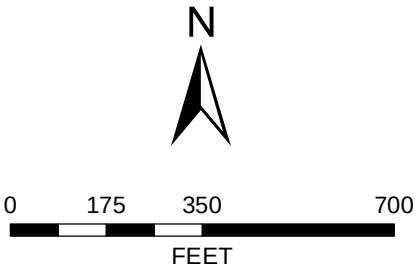
- NOTES:
1. NOT SAMPLED DUE TO PRESENCE OF LNAPL.
 2. NA = NOT ANALYZED (NOTE 5).
 3. NS = NOT SAMPLED (NOTE 5).
 4. ALL CONCENTRATIONS IN MILLIGRAM PER LITER (mg/L).
 5. IN ACCORDANCE WITH DECEMBER 2017 REVISED FACILITY-WIDE GROUNDWATER MONITORING WORK PLAN.

LABEL KEY:
TDS: 785 - TOTAL DISSOLVED SOLIDS CONCENTRATION (WQCC STANDARD = 1,000 mg/L)

PINK HIGHLIGHTED VALUES IN EXCEEDANCE OF WATER QUALITY CONTROL COMMISSION (WQCC) STANDARD.

LEGEND

- MONITORING WELL
- RECOVERY WELL
- WATER WELL
- WQCC STANDARD EXCEEDED AT THIS LOCATION
- RAIL
- FENCE
- BUILDINGS



TOTAL DISSOLVED SOLIDS
CONCENTRATION MAP - OCTOBER 2018

HOLLYFRONTIER NAVAJO REFINING LLC
AP-110, LOVINGTON REFINERY, LOVINGTON, NM

PROJECT NO: 294319	MXD: 294319_8
AUTHOR: SRAY	DATE: 4/15/2019
	505 EAST HUNT LAND DRIVE SUITE 250 AUSTIN, TEXAS 78752 (512) 329-6080
FIGURE 8	

Document Path: S:\1-PROJECTS\HOLLY ENERGY PARTNERS\Navajo Lovington\294319_2018 Annual GW Report\294319_9.mxd

- NOTES:
1. NOT SAMPLED DUE TO PRESENCE OF LNAPL.
 2. NOT ANALYZED DUE TO INSUFFICIENT WATER VOLUME.
 3. NA = NOT ANALYZED (NOTE 9).
 4. NS = NOT SAMPLED (NOTE 9).
 5. ALL CONCENTRATIONS IN MILLIGRAM PER LITER (mg/L).
 6. MANGANESE CONCENTRATIONS SHOWN FOR ALL WELLS BECAUSE IT IS THE ONLY METAL THAT EXCEEDED ITS RESPECTIVE WQCC STANDARD.
 7. J = ANALYTE DETECTED BELOW REPORTING LIMIT, ESTIMATED VALUE.
 8. B = ANALYTE DETECTED IN ASSOCIATED LABORATORY METHOD BLANK; SAMPLE CONCENTRATION IS WITHIN 5 TIMES THE BLANK CONCENTRATION.
 9. IN ACCORDANCE WITH DECEMBER 2017 REVISED FACILITY-WIDE GROUNDWATER MONITORING WORK PLAN.

LABEL KEY:
MN: 1.77 - MANGANESE CONCENTRATION (WQCC STANDARD = 0.2 mg/L)

PINK HIGHLIGHTED VALUES IN EXCEEDANCE OF WATER QUALITY CONTROL COMMISSION (WQCC) STANDARD.

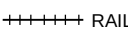
LEGEND

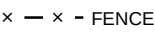
- 

MONITORING WELL
- 

RECOVERY WELL
- 

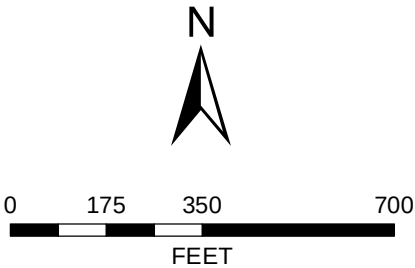
WATER WELL
- 

WQCC STANDARD EXCEEDED AT THIS LOCATION
- 

RAIL
- 

FENCE
- 

BUILDINGS



METALS
CONCENTRATION MAP - APRIL 2018

HOLLYFRONTIER NAVAJO REFINING LLC
AP-110, LOVINGTON REFINERY, LOVINGTON, NM

PROJECT NO: 294319

MXD: 294319_9

AUTHOR: SRAY

DATE: 4/15/2019

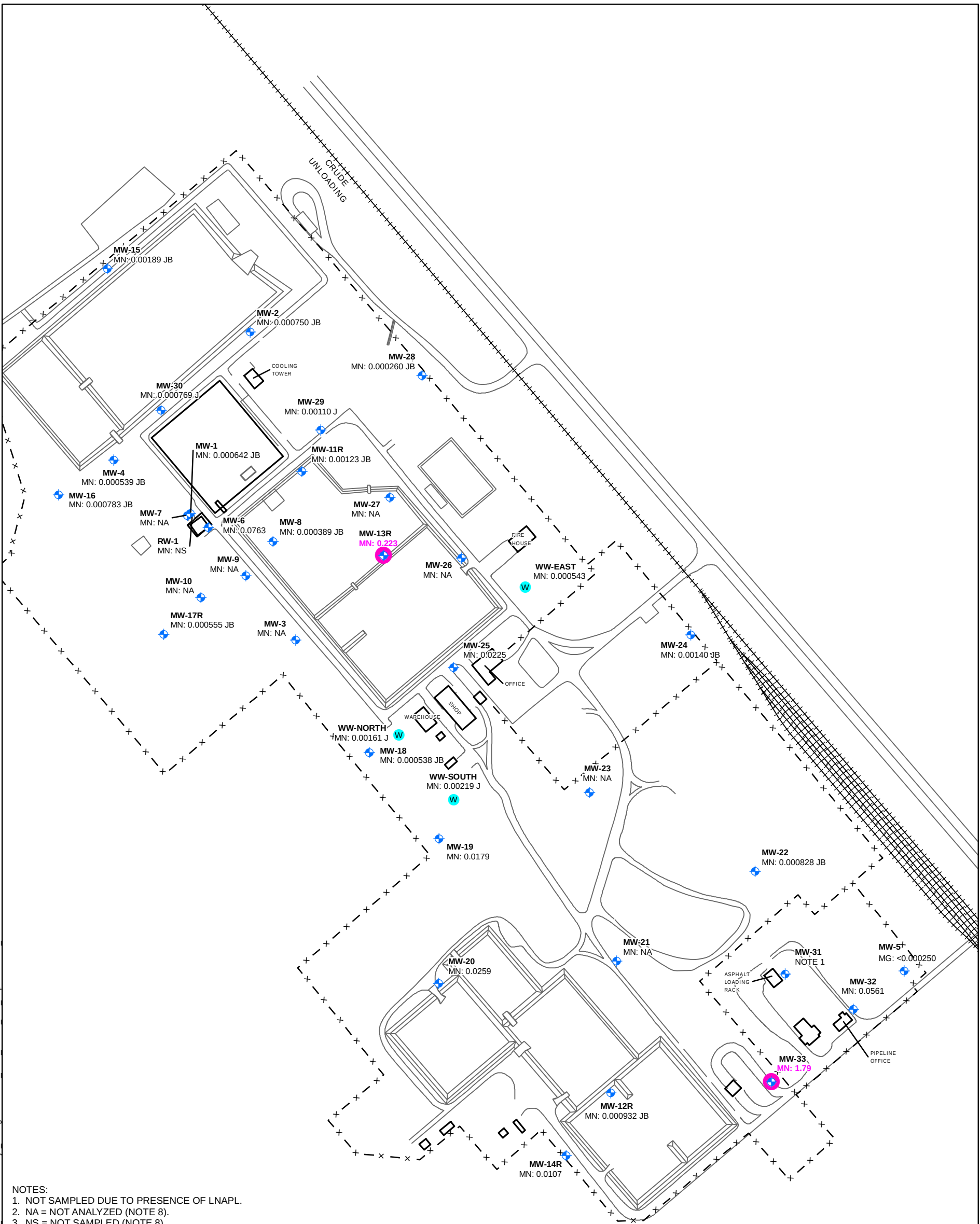


505 EAST HUNTLAND DRIVE
SUITE 250
AUSTIN, TEXAS 78752
(512) 329-6080

FIGURE

9

Document Path: S:\1-PROJECTS\HOLLY ENERGY PARTNERS\Navajo Lovington\294319_2018 Annual GW Report\294319_10.mxd



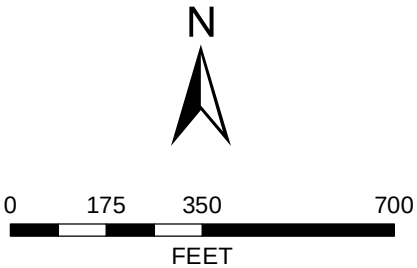
- NOTES:
- 1. NOT SAMPLED DUE TO PRESENCE OF LNAPL.
 - 2. NA = NOT ANALYZED (NOTE 8).
 - 3. NS = NOT SAMPLED (NOTE 8).
 - 4. ALL CONCENTRATIONS IN MILLIGRAM PER LITER (mg/L).
 - 5. MANGANESE CONCENTRATIONS SHOWN FOR ALL WELLS BECAUSE IT IS THE ONLY METAL THAT EXCEEDED ITS RESPECTIVE WQCC STANDARD.
 - 6. J = ANALYTE DETECTED BELOW REPORTING LIMIT, ESTIMATED VALUE.
 - 7. B = ANALYTE DETECTED IN ASSOCIATED LABORATORY METHOD BLANK; SAMPLE CONCENTRATION IS WITHIN 5 TIMES THE BLANK CONCENTRATION.
 - 8. IN ACCORDANCE WITH DECEMBER 2017 REVISED FACILITY-WIDE GROUNDWATER MONITORING WORK PLAN.

LABEL KEY:
MN: 1.79 - MANGANESE CONCENTRATION (WQCC STANDARD = 0.2 mg/L)

PINK HIGHLIGHTED VALUES IN EXCEEDANCE OF WATER QUALITY CONTROL COMMISSION (WQCC) STANDARD.

LEGEND

- MONITORING WELL
- RECOVERY WELL
- WATER WELL
- WQCC STANDARD EXCEEDED AT THIS LOCATION
- RAIL
- FENCE
- BUILDINGS



METALS
CONCENTRATION MAP - OCTOBER 2018

HOLLYFRONTIER NAVAJO REFINING LLC
AP-110, LOVINGTON REFINERY, LOVINGTON, NM

PROJECT NO: 294319	MXD: 294319_10
AUTHOR: SRAY	DATE: 4/15/2019
	505 EAST HUNTLAND DRIVE SUITE 250 AUSTIN, TEXAS 78752 (512) 329-6080
FIGURE 10	

TABLES

Table 1. Water Elevation Measurements
HollyFrontier Navajo Refining LLC, AP-110, Lovington, New Mexico

Monitor Well	Top of Casing Elevation (feet)	Ground Level Elevation (feet)	Well Screen Interval (feet)	Date	Depth to Product (feet, btoc)	Depth to Water (feet, btoc)	Total Depth (feet)	Product Thickness (feet)	Corrected Depth to Water ⁽¹⁾ (feet)	Corrected Water Level Elev. ⁽¹⁾ (feet)	Change from previous measurement (feet)
MW-1 ^(2,6)	3,838.40	3,838.19	3,739.19 to 3,709.19	04/30/09	--	106.35	136.10	0.00	106.35	3,732.05	NA
				06/10/09	--	106.49	NM	0.00	106.49	3,731.91	-0.14
				06/19/09	--	106.57	129.12	0.00	106.57	3,731.83	-0.08
				07/02/09	--	106.74	129.13	0.00	106.74	3,731.66	-0.17
				07/24/09	--	106.83	129.11	0.00	106.83	3,731.57	-0.09
				09/24/09	--	107.31	129.12	0.00	107.31	3,731.09	-0.48
				10/27/09	--	107.44	129.10	0.00	107.44	3,730.96	-0.13
				01/13/10	--	107.57	129.11	0.00	107.57	3,730.83	-0.13
				04/01/10	--	107.51	NM	0.00	107.51	3,730.89	0.06
				08/11/10	--	108.09	129.16	0.00	108.09	3,730.31	-0.58
				02/23/11	--	108.12	129.14	0.00	108.12	3,730.28	-0.03
				07/12/11	--	109.00	129.11	0.00	109.00	3,729.40	-0.88
				02/02/12	--	109.68	129.12	0.00	109.68	3,728.72	-0.68
				07/23/12	--	110.88	128.87	0.00	110.88	3,727.52	-1.20
				02/18/13	--	110.51	129.22	0.00	110.51	3,727.89	0.37
				08/19/13	--	111.55	130.60	0.00	111.55	3,726.85	-1.04
				02/24/14	--	112.49	129.35	0.00	112.49	3,725.91	-0.94
				08/18/14	--	113.37	129.09	0.00	113.37	3,725.03	-0.88
				02/23/15	--	113.82	129.20	0.00	113.82	3,724.58	-0.45
				08/24/15	--	114.56	129.19	0.00	114.56	3,723.84	-0.74
				03/07/16	--	114.81	129.19	0.00	114.81	3,723.59	-0.25
				08/15/16	--	115.42	129.19	0.00	115.42	3,722.98	-0.61
				02/06/17	--	115.81	129.19	0.00	115.81	3,722.59	-0.39
				06/22/17	--	115.88	129.22	0.00	115.88	3,722.52	-0.07
				08/17/17	--	116.34	129.22	0.00	116.34	3,722.06	-0.46
				04/05/18	--	116.63	129.22	0.00	116.63	3721.77	-0.29
				10/01/18	--	116.67	129.22	0.00	116.67	3721.73	-0.04
MW-2 ^(2,6)	3,837.35	3,837.27	3,739.77 to 3,709.77	06/22/09	--	104.32	126.41	0.00	104.32	3,733.03	NA
				01/13/10	--	105.44	126.68	0.00	105.44	3,731.91	-1.12
				08/11/10	--	105.97	126.42	0.00	105.97	3,731.38	-0.53
				02/23/11	--	105.92	126.46	0.00	105.92	3,731.43	0.05
				07/12/11	--	107.22	126.47	0.00	107.22	3,730.13	-1.30
				01/30/12	--	107.55	126.47	0.00	107.55	3,729.80	-0.33
				07/23/12	--	108.72	126.48	0.00	108.72	3,728.63	-1.17
				02/18/13	--	108.15	126.69	0.00	108.15	3,729.20	0.57
				08/19/13	--	109.43	126.75	0.00	109.43	3,727.92	-1.28
				02/24/14	--	110.59	127.70	0.00	110.59	3,726.76	-1.16
				08/18/14	--	111.25	126.58	0.00	111.25	3,726.10	-0.66
				02/23/15	--	111.45	126.77	0.00	111.45	3,725.90	-0.20
				08/24/15	--	112.13	126.75	0.00	112.13	3,725.22	-0.68
				03/07/16	--	112.02	126.71	0.00	112.02	3,725.33	0.11
				08/15/16	--	113.01	126.70	0.00	113.01	3,724.34	-0.99
				02/06/17	--	112.96	126.70	0.00	112.96	3,724.39	0.05
				06/22/17	--	113.44	126.69	0.00	113.44	3,723.91	-0.48
				08/16/17	--	113.73	126.69	0.00	113.73	3,723.62	-0.29
				04/05/18	--	114.15	126.69	0.00	114.15	3723.20	-0.42
				10/01/18	--	114.93	126.69	0.00	114.93	3722.42	-0.78

Table 1. Water Elevation Measurements
HollyFrontier Navajo Refining LLC, AP-110, Lovington, New Mexico

Monitor Well	Top of Casing Elevation (feet)	Ground Level Elevation (feet)	Well Screen Interval (feet)	Date	Depth to Product (feet, btoc)	Depth to Water (feet, btoc)	Total Depth (feet)	Product Thickness (feet)	Corrected Depth to Water ⁽¹⁾ (feet)	Corrected Water Level Elev. ⁽¹⁾ (feet)	Change from previous measurement (feet)
MW-3 ^(2,6)	3,831.65	3,831.73	3,733.73 to 3,703.73	06/16/09	--	102.65	130.45	0.00	102.65	3,729.00	NA
				01/13/10	--	103.29	130.69	0.00	103.29	3,728.36	-0.64
				08/11/10	--	104.82	130.42	0.00	104.82	3,726.83	-1.53
				09/28/10	--	104.70	NM	0.00	104.70	3,726.95	0.12
				02/23/11	--	104.11	130.47	0.00	104.11	3,727.54	0.59
				07/12/11	--	104.89	130.50	0.00	104.89	3,726.76	-0.78
				01/30/12	--	105.22	130.45	0.00	105.22	3,726.43	-0.33
				07/23/12	--	107.59	130.46	0.00	107.59	3,724.06	-2.37
				02/18/13	--	106.21	130.63	0.00	106.21	3,725.44	1.38
				08/19/13	--	108.11	130.88	0.00	108.11	3,723.54	-1.90
				02/24/14	--	108.45	130.75	0.00	108.45	3,723.20	-0.34
				08/18/14	--	110.33	130.71	0.00	110.33	3,721.32	-1.88
				02/23/15	--	110.35	130.60	0.00	110.35	3,721.30	-0.02
				08/24/15	--	111.14	130.57	0.00	111.14	3,720.51	-0.79
				03/07/16	--	112.20	130.51	0.00	112.20	3,719.45	-1.06
				08/15/16	--	112.68	130.68	0.00	112.68	3,718.97	-0.48
				02/06/17	--	112.74	130.61	0.00	112.74	3,718.91	-0.06
				06/22/17	--	112.76	130.59	0.00	112.76	3,718.89	-0.02
				08/16/17	--	112.94	130.59	0.00	112.94	3,718.71	-0.18
				04/05/18	--	113.40	130.59	0.00	113.40	3718.25	-0.46
				10/01/18	--	114.50	130.59	0.00	114.50	3717.15	-1.10
MW-4 ^(2,6)	3,839.89	3,839.76	3,741.76 to 3,711.76	06/16/09	--	106.79	128.02	0.00	106.79	3,733.10	NA
				01/13/10	--	107.72	127.94	0.00	107.72	3,732.17	-0.93
				08/11/10	--	108.19	128.03	0.00	108.19	3,731.70	-0.47
				09/28/10	--	108.47	NM	0.00	108.47	3,731.42	-0.28
				02/23/11	--	108.31	127.82	0.00	108.31	3,731.58	0.16
				07/12/11	--	109.27	128.02	0.00	109.27	3,730.62	-0.96
				01/30/12	--	109.91	128.02	0.00	109.91	3,729.98	-0.64
				07/23/12	--	111.00	127.82	0.00	111.00	3,728.89	-1.09
				02/18/13	--	110.70	127.95	0.00	110.70	3,729.19	0.30
				08/19/13	--	111.60	128.01	0.00	111.60	3,728.29	-0.90
				02/24/14	--	112.78	127.80	0.00	112.78	3,727.11	-1.18
				08/18/14	--	113.42	127.63	0.00	113.42	3,726.47	-0.64
				02/23/15	--	113.89	127.68	0.00	113.89	3,726.00	-0.47
				08/24/15	--	114.47	127.99	0.00	114.47	3,725.42	-0.58
				03/07/16	--	114.66	127.78	0.00	114.66	3,725.23	-0.19
				08/15/16	--	115.38	128.10	0.00	115.38	3,724.51	-0.72
				02/06/17	--	115.71	128.04	0.00	115.71	3,724.18	-0.33
				06/22/17	--	115.88	127.73	0.00	115.88	3,724.01	-0.17
				08/17/17	--	116.12	127.73	0.00	116.12	3,723.77	-0.24
				04/05/18	--	116.73	127.73	0.00	116.73	3723.16	-0.61
				10/01/18	--	117.74	127.73	0.00	117.74	3722.15	-1.01

Table 1. Water Elevation Measurements
HollyFrontier Navajo Refining LLC, AP-110, Lovington, New Mexico

Monitor Well	Top of Casing Elevation (feet)	Ground Level Elevation (feet)	Well Screen Interval (feet)	Date	Depth to Product (feet, btoc)	Depth to Water (feet, btoc)	Total Depth (feet)	Product Thickness (feet)	Corrected Depth to Water ⁽¹⁾ (feet)	Corrected Water Level Elev. ⁽¹⁾ (feet)	Change from previous measurement (feet)
MW-5 ^(2,6)	3,819.15	3,816.13	3,731.13 to 3,701.13	06/16/09	--	90.84	NM	0.00	90.84	3,728.31	NA
				01/13/10	--	92.02	118.30	0.00	92.02	3,727.13	-1.18
				08/11/10	--	92.67	117.93	0.00	92.67	3,726.48	-0.65
				02/23/11	--	92.68	118.00	0.00	92.68	3,726.47	-0.01
				07/12/11	--	93.38	117.97	0.00	93.38	3,725.77	-0.70
				01/31/12	--	94.75	117.75	0.00	94.75	3,724.40	-1.37
				07/23/12	--	95.22	117.92	0.00	95.22	3,723.93	-0.47
				02/18/13	--	95.95	118.85	0.00	95.95	3,723.20	-0.73
				08/19/13	--	96.65	117.90	0.00	96.65	3,722.50	-0.70
				02/24/14	--	97.06	117.45	0.00	97.06	3,722.09	-0.41
				08/18/14	--	97.57	117.22	0.00	97.57	3,721.58	-0.51
				02/23/15	--	98.01	117.19	0.00	98.01	3,721.14	-0.44
				08/24/15	--	98.46	117.22	0.00	98.46	3,720.69	-0.45
				03/07/16	--	98.62	117.12	0.00	98.62	3,720.53	-0.16
				08/15/16	--	99.40	117.70	0.00	99.40	3,719.75	-0.78
				02/06/17	--	100.00	117.29	0.00	100.00	3,719.15	-0.60
				06/22/17	--	100.11	117.82	0.00	100.11	3,719.04	-0.11
				08/16/17	--	100.51	117.82	0.00	100.51	3,718.64	-0.40
				04/05/18	--	100.85	117.82	0.00	100.85	3,718.30	-0.34
				10/01/18	--	102.01	117.82	0.00	102.01	3,717.14	-1.16
MW-6 ^(2,6)	3,838.16	3,838.17	3,738.17 to 3,708.17	06/18/09	--	106.64	129.48	0.00	106.64	3,731.52	NA
				07/24/09	--	106.92	129.71	0.00	106.92	3,731.24	-0.28
				09/24/09	--	107.44	129.74	0.00	107.44	3,730.72	-0.52
				10/27/09	--	107.55	129.73	0.00	107.55	3,730.61	-0.11
				01/13/10	--	107.64	129.71	0.00	107.64	3,730.52	-0.09
				02/02/10	--	107.69	NM	0.00	107.69	3,730.47	-0.05
				04/01/10	--	107.65	NM	0.00	107.65	3,730.51	0.04
				08/11/10	--	108.00	129.71	0.00	108.00	3,730.16	-0.35
				02/23/11	--	108.22	129.72	0.00	108.22	3,729.94	-0.22
				07/12/11	--	109.09	129.74	0.00	109.09	3,729.07	-0.87
				02/02/12	--	109.78	129.74	0.00	109.78	3,728.38	-0.69
				07/23/12	--	111.00	129.47	0.00	111.00	3,727.16	-1.22
				02/18/13	--	110.60	133.32	0.00	110.60	3,727.56	0.40
				08/19/13	--	111.70	130.84	0.00	111.70	3,726.46	-1.10
				02/24/14	--	112.57	130.00	0.00	112.57	3,725.59	-0.87
				08/18/14	--	113.50	129.71	0.00	113.50	3,724.66	-0.93
				02/23/15	--	114.00	129.90	0.00	114.00	3,724.16	-0.50
				08/24/15	--	114.63	129.69	0.00	114.63	3,723.53	-0.63
				03/07/16	--	115.02	129.69	0.00	115.02	3,723.14	-0.39
				08/15/16	--	115.62	129.69	0.00	115.62	3,722.54	-0.60
				02/06/17	--	115.99	129.69	0.00	115.99	3,722.17	-0.37
				06/22/17	--	116.05	129.76	0.00	116.05	3,722.11	-0.06
				08/17/17	--	116.31	129.76	0.00	116.31	3,721.85	-0.26
				04/05/18	--	116.78	129.76	0.00	116.78	3,721.38	-0.47
				10/01/18	--	117.81	129.76	0.00	117.81	3,720.35	-1.03

Table 1. Water Elevation Measurements
HollyFrontier Navajo Refining LLC, AP-110, Lovington, New Mexico

Monitor Well	Top of Casing Elevation (feet)	Ground Level Elevation (feet)	Well Screen Interval (feet)	Date	Depth to Product (feet, btoc)	Depth to Water (feet, btoc)	Total Depth (feet)	Product Thickness (feet)	Corrected Depth to Water ⁽¹⁾ (feet)	Corrected Water Level Elev. ⁽¹⁾ (feet)	Change from previous measurement (feet)
MW-7 ^(2,6)	3,838.42	3,838.19	3,738.19 to 3,708.19	04/30/09	--	106.37	135.54	0.00	106.37	3,732.05	NA
				06/10/09	--	106.48	NM	0.00	106.48	3,731.94	-0.11
				06/19/09	--	106.68	129.34	0.00	106.68	3,731.74	-0.20
				07/02/09	--	106.75	129.51	0.00	106.75	3,731.67	-0.07
				07/24/09	--	106.84	129.52	0.00	106.84	3,731.58	-0.09
				09/24/09	--	107.33	129.29	0.00	107.33	3,731.09	-0.49
				10/27/09	--	107.46	129.53	0.00	107.46	3,730.96	-0.13
				01/13/10	--	107.60	129.55	0.00	107.60	3,730.82	-0.14
				02/02/10	--	107.61	NM	0.00	107.61	3,730.81	-0.01
				04/01/10	--	107.52	NM	0.00	107.52	3,730.90	0.09
				08/11/10	--	108.10	129.57	0.00	108.10	3,730.32	-0.58
				02/23/11	--	108.13	129.52	0.00	108.13	3,730.29	-0.03
				07/12/11	--	109.01	129.50	0.00	109.01	3,729.41	-0.88
				02/02/12	--	109.71	129.26	0.00	109.71	3,728.71	-0.70
				07/23/12	--	109.88	129.30	0.00	109.88	3,728.54	-0.17
				02/18/13	--	110.52	129.55	0.00	110.52	3,727.90	-0.64
				08/19/13	--	111.57	129.17	0.00	111.57	3,726.85	-1.05
				02/24/14	--	112.50	129.90	0.00	112.50	3,725.92	-0.93
				08/18/14	--	113.40	129.58	0.00	113.40	3,725.02	-0.90
				02/23/15	--	113.86	129.62	0.00	113.86	3,724.56	-0.46
				08/24/15	--	114.47	129.64	0.00	114.47	3,723.95	-0.61
				03/07/16	--	114.84	129.64	0.00	114.84	3,723.58	-0.37
				08/15/16	--	115.43	129.64	0.00	115.43	3,722.99	-0.59
				02/06/17	--	115.80	129.64	0.00	115.80	3,722.62	-0.37
				06/22/17	--	115.89	129.64	0.00	115.89	3,722.53	-0.09
				08/17/17	--	116.32	129.64	0.00	116.32	3,722.10	-0.43
				04/05/18	--	116.71	129.64	0.00	116.71	3721.71	-0.39
				10/01/18	--	117.67	129.64	0.00	117.67	3720.75	-0.96
MW-8 ^(3,6)	3,839.98	3,836.44	3,737.44 to 3,707.44	06/18/09	--	109.37	132.30	0.00	109.37	3,730.61	NA
				01/13/10	--	110.47	132.56	0.00	110.47	3,729.51	-1.10
				08/11/10	--	111.05	132.34	0.00	111.05	3,728.93	-0.58
				02/23/11	--	111.07	132.34	0.00	111.07	3,728.91	-0.02
				07/12/11	--	111.98	132.36	0.00	111.98	3,728.00	-0.91
				02/01/12	--	112.91	132.32	0.00	112.91	3,727.07	-0.93
				07/23/12	--	113.94	132.33	0.00	113.94	3,726.04	-1.03
				02/18/13	--	113.27	132.32	0.00	113.27	3,726.71	0.67
				08/19/13	--	114.69	132.39	0.00	114.69	3,725.29	-1.42
				02/24/14	--	115.44	132.60	0.00	115.44	3,724.54	-0.75
				08/19/13	--	116.56	132.16	0.00	116.56	3,723.42	-1.12
				02/23/15	--	116.91	132.10	0.00	116.91	3,723.07	-0.35
				08/24/15	--	117.61	132.20	0.00	117.61	3,722.37	-0.70
				03/07/16	--	118.05	132.04	0.00	118.05	3,721.93	-0.44
				08/15/16	--	118.73	132.15	0.00	118.73	3,721.25	-0.68
				02/06/17	--	119.02	132.15	0.00	119.02	3,720.96	-0.29
				06/22/17	--	119.05	132.15	0.00	119.05	3,720.93	-0.03
				08/17/17	--	119.40	132.15	0.00	119.40	3,720.58	-0.35
				04/05/18	--	119.81	132.15	0.00	119.81	3720.17	-0.41
				10/01/18	--	120.82	132.15	0.00	120.82	3719.16	-1.01

Table 1. Water Elevation Measurements
HollyFrontier Navajo Refining LLC, AP-110, Lovington, New Mexico

Monitor Well	Top of Casing Elevation (feet)	Ground Level Elevation (feet)	Well Screen Interval (feet)	Date	Depth to Product (feet, btoc)	Depth to Water (feet, btoc)	Total Depth (feet)	Product Thickness (feet)	Corrected Depth to Water ⁽¹⁾ (feet)	Corrected Water Level Elev. ⁽¹⁾ (feet)	Change from previous measurement (feet)
MW-9 ^(3,6)	3,835.22	3,835.13	3,736.13 to 3,706.13	06/16/09	--	104.58	129.18	0.00	104.58	3,730.64	NA
				01/13/10	--	105.61	129.48	0.00	105.61	3,729.61	-1.03
				08/11/10	--	106.37	129.21	0.00	106.37	3,728.85	-0.76
				02/23/11	--	106.28	129.24	0.00	106.28	3,728.94	0.09
				07/12/11	--	107.17	129.26	0.00	107.17	3,728.05	-0.89
				01/31/12	--	107.38	129.30	0.00	107.38	3,727.84	-0.21
				07/23/12	--	109.20	128.90	0.00	109.20	3,726.02	-1.82
				02/18/13	--	108.47	129.41	0.00	108.47	3,726.75	0.73
				08/19/13	--	109.91	129.38	0.00	109.91	3,725.31	-1.44
				02/24/14	--	110.63	129.35	0.00	110.63	3,724.59	-0.72
				08/18/14	--	111.81	129.01	0.00	111.81	3,723.41	-1.18
				02/23/15	--	112.20	124.08	0.00	112.20	3,723.02	-0.39
				08/24/15	--	112.89	129.06	0.00	112.89	3,722.33	-0.69
				03/07/16	--	113.47	129.07	0.00	113.47	3,721.75	-0.58
				08/15/16	--	114.02	129.15	0.00	114.02	3,721.20	-0.55
				02/06/17	--	114.37	129.24	0.00	114.37	3,720.85	-0.35
				06/22/17	--	114.38	129.18	0.00	114.38	3,720.84	-0.01
				08/16/17	--	114.67	129.18	0.00	114.67	3,720.55	-0.29
				04/05/18	--	115.12	129.18	0.00	115.12	3,720.10	-0.45
				10/01/18	--	116.18	129.18	0.00	116.18	3,719.04	-1.06
MW-10 ^(3,6)	3,833.66	3,833.49	3,735.49 to 3,705.49	06/16/09	--	102.57	129.14	0.00	102.57	3,731.09	NA
				01/13/10	--	103.51	127.42	0.00	103.51	3,730.15	-0.94
				08/11/10	--	104.31	128.47	0.00	104.31	3,729.35	-0.80
				02/23/11	--	104.26	128.54	0.00	104.26	3,729.40	0.05
				07/12/11	--	105.08	128.46	0.00	105.08	3,728.58	-0.82
				01/31/12	--	105.73	128.40	0.00	105.73	3,727.93	-0.65
				07/23/12	--	107.05	128.50	0.00	107.05	3,726.61	-1.32
				02/18/13	--	106.63	128.59	0.00	106.63	3,727.03	0.42
				08/19/13	--	107.78	128.56	0.00	107.78	3,725.88	-1.15
				02/24/14	--	108.53	128.40	0.00	108.53	3,725.13	-0.75
				08/18/14	--	109.62	128.15	0.00	109.62	3,724.04	-1.09
				02/23/15	--	110.08	128.35	0.00	110.08	3,723.58	-0.46
				08/24/15	--	110.73	128.42	0.00	110.73	3,722.93	-0.65
				03/07/16	--	111.32	128.20	0.00	111.32	3,722.34	-0.59
				08/15/16	--	111.87	128.20	0.00	111.87	3,721.79	-0.55
				02/06/17	--	112.22	128.26	0.00	112.22	3,721.44	-0.35
				06/22/17	--	112.27	128.45	0.00	112.27	3,721.39	-0.05
				08/16/17	--	112.53	128.45	0.00	112.53	3,721.13	-0.26
				04/05/18	--	113.03	128.45	0.00	113.03	3,720.63	-0.50
				10/01/18	--	114.06	128.45	0.00	114.06	3,719.60	-1.03

Table 1. Water Elevation Measurements
HollyFrontier Navajo Refining LLC, AP-110, Lovington, New Mexico

Monitor Well	Top of Casing Elevation (feet)	Ground Level Elevation (feet)	Well Screen Interval (feet)	Date	Depth to Product (feet, btoc)	Depth to Water (feet, btoc)	Total Depth (feet)	Product Thickness (feet)	Corrected Depth to Water ⁽¹⁾ (feet)	Corrected Water Level Elev. ⁽¹⁾ (feet)	Change from previous measurement (feet)
MW-11 ^(4,6,10)	3,839.56	3,836.14	3,741.13 to 3,721.13	06/20/02	--	99.93	NM	0.00	99.93	3,739.63	NA
				09/17/02	--	100.63	NM	0.00	100.63	3,738.93	-0.70
				12/19/02	--	100.50	NM	0.00	100.50	3,739.06	0.13
				03/28/03	--	99.74	NM	0.00	99.74	3,739.82	0.76
				06/20/03	--	100.76	NM	0.00	100.76	3,738.80	-1.02
				09/15/03	--	101.51	NM	0.00	101.51	3,738.05	-0.75
				04/30/04	--	102.31	116.21	0.00	102.31	3,737.25	-0.80
				02/21/05	--	103.80	NM	0.00	103.80	3,735.76	-1.49
				06/28/05	--	104.33	NM	0.00	104.33	3,735.23	-0.53
				09/30/05	--	104.60	NM	0.00	104.60	3,734.96	-0.27
				12/29/05	--	104.81	NM	0.00	104.81	3,734.75	-0.21
				04/10/06	--	105.12	NM	0.00	105.12	3,734.44	-0.31
				07/06/06	--	105.61	NM	0.00	105.61	3,733.95	-0.49
				01/26/07	--	106.63	NM	0.00	106.63	3,732.93	-1.02
				03/27/07	--	106.80	NM	0.00	106.80	3,732.76	-0.17
				07/13/07	--	106.94	NM	0.00	106.94	3,732.62	-0.14
				09/12/07	--	107.22	NM	0.00	107.22	3,732.34	-0.28
				12/31/07	--	106.74	NM	0.00	106.74	3,732.82	0.48
				03/26/08	--	106.81	117.51	0.00	106.81	3,732.75	-0.07
				06/13/08	--	107.40	NM	0.00	107.40	3,732.16	-0.59
				09/24/08	--	108.76	NM	0.00	108.76	3,730.80	-1.36
				12/29/08	--	108.57	NM	0.00	108.57	3,730.99	0.19
				03/17/09	--	107.91	NM	0.00	107.91	3,731.65	0.66
				06/18/09	--	108.65	117.49	0.00	108.65	3,730.91	-0.74
				01/13/10	--	109.81	117.77	0.00	109.81	3,729.75	-1.16
				08/11/10	--	110.16	117.50	0.00	110.16	3,729.40	-0.35
				02/23/11	--	110.32	117.70	0.00	110.32	3,729.24	-0.16
				07/12/11	--	110.31	117.41	0.00	110.31	3,729.25	0.01
				02/01/12	--	112.02	117.37	0.00	112.02	3,727.54	-1.71
				07/23/12	--	113.10	117.38	0.00	113.10	3,726.46	-1.08
				02/18/13	--	112.53	117.75	0.00	112.53	3,727.03	0.57
				08/19/13	--	113.89	117.64	0.00	113.89	3,725.67	-1.36
				02/24/14	--	114.75	117.90	0.00	114.75	3,724.81	-0.86
				08/18/14	--	115.71	117.60	0.00	115.71	3,723.85	-0.96
				02/23/15	--	116.10	117.81	0.00	116.10	3,723.46	-0.39
				08/24/15	--	116.75	117.86	0.00	116.75	3,722.81	-0.65
				03/07/16	--	117.07	118.00	0.00	117.07	3,722.49	-0.32
				08/15/16	WELL DRY						
				12/07/16	WELL PLUGGED AND ABANDONED						
MW-11R ⁽¹⁰⁾	3,838.51	3,820.29		02/06/17	--	116.82	133.79	0.00	116.82	3,721.69	NA
				06/22/17	--	116.93	133.84	0.00	116.93	3,721.58	-0.11
				08/17/17	--	117.33	133.84	0.00	117.33	3,721.18	-0.40
				04/05/18	--	117.73	133.84	0.00	117.73	3,720.78	-0.40
				10/01/18	--	118.67	133.84	0.00	118.67	3,719.84	-0.94

Table 1. Water Elevation Measurements
HollyFrontier Navajo Refining LLC, AP-110, Lovington, New Mexico

Monitor Well	Top of Casing Elevation (feet)	Ground Level Elevation (feet)	Well Screen Interval (feet)	Date	Depth to Product (feet, btoc)	Depth to Water (feet, btoc)	Total Depth (feet)	Product Thickness (feet)	Corrected Depth to Water ⁽¹⁾ (feet)	Corrected Water Level Elev. ⁽¹⁾ (feet)	Change from previous measurement (feet)
MW-12 ^(4,6,9)	3,822.73	3,820.29	3,742.29 to 3,722.29	06/20/02	--	84.20	NM	0.00	84.20	3,738.53	NA
				12/21/02	--	85.21	NM	0.00	85.21	3,737.52	-1.01
				03/28/03	--	85.35	NM	0.00	85.35	3,737.38	-0.14
				06/20/03	--	85.51	NM	0.00	85.51	3,737.22	-0.16
				09/15/03	--	86.13	NM	0.00	86.13	3,736.60	-0.62
				11/02/03	--	86.57	NM	0.00	86.57	3,736.16	-0.44
				04/30/04	--	87.40	100.55	0.00	87.40	3,735.33	-0.83
				02/21/05	--	88.42	NM	0.00	88.42	3,734.31	-1.02
				06/28/05	--	88.76	NM	0.00	88.76	3,733.97	-0.34
				09/30/05	--	89.12	NM	0.00	89.12	3,733.61	-0.36
				12/29/05	--	89.31	NM	0.00	89.31	3,733.42	-0.19
				04/10/06	--	89.55	NM	0.00	89.55	3,733.18	-0.24
				07/06/06	--	90.03	NM	0.00	90.03	3,732.70	-0.48
				01/26/07	--	90.06	NM	0.00	90.06	3,732.67	-0.03
				03/27/07	--	90.10	NM	0.00	90.10	3,732.63	-0.04
				07/13/07	--	91.66	NM	0.00	91.66	3,731.07	-1.56
				09/12/07	--	92.01	NM	0.00	92.01	3,730.72	-0.35
				12/31/07	--	92.17	NM	0.00	92.17	3,730.56	-0.16
				03/26/08	--	92.39	100.57	0.00	92.39	3,730.34	-0.22
				06/13/08	--	92.59	NM	0.00	92.59	3,730.14	-0.20
				09/24/08	--	93.21	NM	0.00	93.21	3,729.52	-0.62
				12/29/08	--	93.59	NM	0.00	93.59	3,729.14	-0.38
				03/17/09	--	93.75	NM	0.00	93.75	3,728.98	-0.16
				06/16/09	--	93.83	100.51	0.00	93.83	3,728.90	-0.08
				01/13/10	--	94.78	100.71	0.00	94.78	3,727.95	-0.95
				08/11/10	--	95.67	100.56	0.00	95.67	3,727.06	-0.89
				02/23/11	--	95.85	100.56	0.00	95.85	3,726.88	-0.18
				07/12/11	--	96.58	100.55	0.00	96.58	3,726.15	-0.73
				02/01/12	--	97.57	100.57	0.00	97.57	3,725.16	-0.99
				07/23/12	--	98.10	100.50	0.00	98.10	3,724.63	-0.53
				02/18/13	--	98.95	100.50	0.00	98.95	3,723.78	-0.85
				--	DAMAGED WELL - PLUGGED AND ABANDONED JUNE 2013						
MW-12R ⁽⁹⁾	3,823.29	3,820.29	3,734.95 to 3,714.95	08/19/13	--	100.25	108.34	0.00	100.25	3,723.04	NA
				02/24/14	--	100.92	108.50	0.00	100.92	3,722.37	-0.67
				08/18/14	--	101.33	108.22	0.00	101.33	3,721.96	-0.41
				02/23/15	--	101.73	107.50	0.00	101.73	3,721.56	-0.40
				08/24/15	--	102.25	107.72	0.00	102.25	3,721.04	-0.52
				03/07/16	--	102.52	107.61	0.00	102.52	3,720.77	-0.27
				08/15/16	--	103.28	107.52	0.00	103.28	3,720.01	-0.76
				02/06/17	--	103.79	107.50	0.00	103.79	3,719.50	-0.51
				06/22/17	--	103.95	107.39	0.00	103.95	3,719.34	-0.16
				08/16/17	--	104.31	107.39	0.00	104.31	3,718.98	-0.36
				04/05/18	--	>103.63	NA	NA	NA	NA	NA
				10/01/18	--	>103.60	NA	NA	NA	NA	NA

Table 1. Water Elevation Measurements
HollyFrontier Navajo Refining LLC, AP-110, Lovington, New Mexico

Monitor Well	Top of Casing Elevation (feet)	Ground Level Elevation (feet)	Well Screen Interval (feet)	Date	Depth to Product (feet, btoc)	Depth to Water (feet, btoc)	Total Depth (feet)	Product Thickness (feet)	Corrected Depth to Water ⁽¹⁾ (feet)	Corrected Water Level Elev. ⁽¹⁾ (feet)	Change from previous measurement (feet)
MW-13 ^(5,6,12)	3,837.06	3,834.75	3,738.75 to 3,718.75	04/30/04	--	101.41	119.82	0.00	101.41	3,735.65	NA
				02/21/05	--	103.09	NM	0.00	103.09	3,733.97	-1.68
				06/28/05	--	103.48	NM	0.00	103.48	3,733.58	-0.39
				09/30/05	--	103.80	NM	0.00	103.80	3,733.26	-0.32
				12/29/05	--	104.41	NM	0.00	104.41	3,732.65	-0.61
				04/10/06	--	104.59	NM	0.00	104.59	3,732.47	-0.18
				07/06/06	--	104.94	NM	0.00	104.94	3,732.12	-0.35
				01/26/07	--	106.41	NM	0.00	106.41	3,730.65	-1.47
				03/27/07	--	106.47	NM	0.00	106.47	3,730.59	-0.06
				07/13/07	--	106.93	NM	0.00	106.93	3,730.13	-0.46
				09/12/07	--	107.19	NM	0.00	107.19	3,729.87	-0.26
				12/31/07	--	106.71	NM	0.00	106.71	3,730.35	0.48
				03/26/08	--	107.02	119.75	0.00	107.02	3,730.04	-0.31
				06/13/08	--	107.19	NM	0.00	107.19	3,729.87	-0.17
				09/24/08	--	108.56	NM	0.00	108.56	3,728.50	-1.37
				12/29/08	--	108.71	NM	0.00	108.71	3,728.35	-0.15
				03/17/09	--	108.36	NM	0.00	108.36	3,728.70	0.35
				06/16/09	--	108.58	108.58	0.00	108.58	3,728.48	-0.22
				01/13/10	--	109.68	119.95	0.00	109.68	3,727.38	-1.10
				08/11/10	--	109.72	119.68	0.00	109.72	3,727.34	-0.04
				02/23/11	--	110.14	119.69	0.00	110.14	3,726.92	-0.42
				07/12/11	--	111.17	119.71	0.00	111.17	3,725.89	-1.03
				02/01/12	--	111.81	119.66	0.00	111.81	3,725.25	-0.64
				07/23/12	--	113.11	119.66	0.00	113.11	3,723.95	-1.30
				02/18/13	--	111.84	119.87	0.00	111.84	3,725.22	1.27
				08/19/13	--	113.81	119.95	0.00	113.81	3,723.25	-1.97
				02/24/14	--	114.47	121.50	0.00	114.47	3,722.59	-0.66
				08/18/14	--	115.89	119.89	0.00	115.89	3,721.17	-1.42
				02/23/15	--	116.05	119.88	0.00	116.05	3,721.01	-0.16
				08/24/15	--	116.79	119.83	0.00	116.79	3,720.27	-0.74
				03/07/16	--	117.30	119.76	0.00	117.30	3,719.76	-0.51
				08/15/16	--	117.98	119.70	0.00	117.98	3,719.08	-0.68
				02/06/17	--	118.28	119.79	0.00	118.28	3,718.78	-0.30
				06/22/17	--	118.23	119.81	0.00	118.23	3,718.83	0.05
				08/17/17	--	118.72	119.81	0.00	118.72	3,718.34	-0.49
				04/05/18	--	119.02	119.81	0.00	119.02	3718.04	-0.30
				09/26/18	WELL PLUGGED AND ABANDONED SEPTEMBER 2018						
MW-13R ⁽¹²⁾	3,838.12	3,835.02	3,704.38 to 3,684.38	10/01/18	--	121.00	139.48	0.00	121.00	3717.12	NA

Table 1. Water Elevation Measurements
HollyFrontier Navajo Refining LLC, AP-110, Lovington, New Mexico

Monitor Well	Top of Casing Elevation (feet)	Ground Level Elevation (feet)	Well Screen Interval (feet)	Date	Depth to Product (feet, btoc)	Depth to Water (feet, btoc)	Total Depth (feet)	Product Thickness (feet)	Corrected Depth to Water ⁽¹⁾ (feet)	Corrected Water Level Elev. ⁽¹⁾ (feet)	Change from previous measurement (feet)
MW-14 ^(5,6,12)	3,823.03	3,820.38	3,737.88 to 3,717.88	04/30/04	--	87.46	NM	0.00	87.46	3,735.57	NA
				02/21/05	--	88.48	NM	0.00	88.48	3,734.55	-1.02
				06/28/05	--	88.80	NM	0.00	88.80	3,734.23	-0.32
				09/30/05	--	89.14	NM	0.00	89.14	3,733.89	-0.34
				12/29/05	--	89.34	NM	0.00	89.34	3,733.69	-0.20
				04/10/06	--	89.63	NM	0.00	89.63	3,733.40	-0.29
				07/06/06	--	90.08	NM	0.00	90.08	3,732.95	-0.45
				01/26/07	--	91.02	NM	0.00	91.02	3,732.01	-0.94
				03/27/07	--	91.18	NM	0.00	91.18	3,731.85	-0.16
				07/13/07	--	91.68	NM	0.00	91.68	3,731.35	-0.50
				09/12/07	--	92.02	NM	0.00	92.02	3,731.01	-0.34
				12/31/07	--	92.25	NM	0.00	92.25	3,730.78	-0.23
				03/26/08	--	92.43	105.08	0.00	92.43	3,730.60	-0.18
				06/13/08	--	92.64	NM	0.00	92.64	3,730.39	-0.21
				12/29/08	--	93.60	NM	0.00	93.60	3,729.43	-0.96
				03/17/09	--	93.84	NM	0.00	93.84	3,729.19	-0.24
				06/16/09	--	93.92	105.04	0.00	93.92	3,729.11	-0.08
				01/13/10	--	94.80	105.30	0.00	94.80	3,728.23	-0.88
				08/11/10	--	95.67	105.04	0.00	95.67	3,727.36	-0.87
				02/23/11	--	95.99	105.05	0.00	95.99	3,727.04	-0.32
				07/12/11	--	96.59	105.06	0.00	96.59	3,726.44	-0.60
				01/31/12	--	97.54	105.05	0.00	97.54	3,725.49	-0.95
				07/23/12	--	98.20	105.05	0.00	98.20	3,724.83	-0.66
				02/18/13	--	99.07	105.38	0.00	99.07	3,723.96	-0.87
				08/19/13	--	99.82	105.30	0.00	99.82	3,723.21	-0.75
				02/24/14	--	100.55	105.60	0.00	100.55	3,722.48	-0.73
				08/18/14	--	100.94	105.35	0.00	100.94	3,722.09	-0.39
				02/23/15	--	101.42	105.35	0.00	101.42	3,721.61	-0.48
				08/24/15	--	101.86	105.37	0.00	101.86	3,721.17	-0.44
				03/07/16	--	102.21	105.27	0.00	102.21	3,720.82	-0.35
				08/15/16	--	102.84	105.30	0.00	102.84	3,720.19	-0.63
				02/06/17	--	103.44	105.29	0.00	103.44	3,719.59	-0.60
				06/22/17	--	103.59	105.25	0.00	103.59	3,719.44	-0.15
				08/16/17	--	103.97	105.25	0.00	103.97	3,719.06	-0.38
				04/05/18	--	104.47	105.25	0.00	104.47	3718.56	-0.50
				09/27/18	WELL PLUGGED AND ABANDONED SEPTEMBER 2018						
MW-14R ⁽¹²⁾	3,823.88	3,821.05	3,711.05 to 3,691.05	10/01/18	--	106.19	129.28	0.00	106.19	3717.69	NA
MW-15 ^(7,8)	3,840.19	3,840.54	3,738.54 to 3,718.54	08/11/10	--	106.94	121.68	0.00	106.94	3,733.25	NA
				02/23/11	--	107.01	121.67	0.00	107.01	3,733.18	-0.07
				07/12/11	--	108.32	121.62	0.00	108.32	3,731.87	-1.31
				01/30/12	--	108.54	121.62	0.00	108.54	3,731.65	-0.22
				07/23/12	--	109.77	121.58	0.00	109.77	3,730.42	-1.23
				02/18/13	--	109.22	121.82	0.00	109.22	3,730.97	0.55
				08/19/13	--	110.34	121.83	0.00	110.34	3,729.85	-1.12
				02/24/14	--	111.72	122.05	0.00	111.72	3,728.47	-1.38
				08/18/14	--	112.16	121.70	0.00	112.16	3,728.03	-0.44
				02/23/15	--	112.42	121.80	0.00	112.42	3,727.77	-0.26
				08/24/15	--	113.09	121.78	0.00	113.09	3,727.10	-0.67
				03/07/16	--	112.85	121.67	0.00	112.85	3,727.34	0.24
				08/15/16	--	113.92	121.70	0.00	113.92	3,726.27	-1.07
				02/06/17	--	113.84	121.68	0.00	113.84	3,726.35	0.08
				06/22/17	--	114.40	121.70	0.00	114.40	3,725.79	-0.56
				08/16/17	--	114.57	121.70	0.00	114.57	3,725.62	-0.17
				04/05/18	--	115.19	121.70	0.00	115.19	3725.00	-0.62
				10/01/18	--	115.93	121.70	0.00	115.93	3724.26	-0.74

Table 1. Water Elevation Measurements
HollyFrontier Navajo Refining LLC, AP-110, Lovington, New Mexico

Monitor Well	Top of Casing Elevation (feet)	Ground Level Elevation (feet)	Well Screen Interval (feet)	Date	Depth to Product (feet, btoc)	Depth to Water (feet, btoc)	Total Depth (feet)	Product Thickness (feet)	Corrected Depth to Water ⁽¹⁾ (feet)	Corrected Water Level Elev. ⁽¹⁾ (feet)	Change from previous measurement (feet)
MW-16 ^(7,8)	3,838.20	3,838.50	3,737.50 to 3,717.50	08/11/10	--	106.18	119.61	0.00	106.18	3,732.02	NA
				02/23/11	--	106.34	119.67	0.00	106.34	3,731.86	-0.16
				07/12/11	--	107.21	119.61	0.00	107.21	3,730.99	-0.87
				01/30/12	--	107.93	119.47	0.00	107.93	3,730.27	-0.72
				07/23/12	--	108.98	119.14	0.00	108.98	3,729.22	-1.05
				02/18/13	--	108.69	119.63	0.00	108.69	3,729.51	0.29
				08/19/13	--	109.51	119.50	0.00	109.51	3,728.69	-0.82
				02/24/14	--	110.73	119.65	0.00	110.73	3,727.47	-1.22
				08/18/14	--	111.35	119.25	0.00	111.35	3,726.85	-0.62
				02/23/15	--	111.90	119.48	0.00	111.90	3,726.30	-0.55
				08/24/15	--	112.42	119.22	0.00	112.42	3,725.78	-0.52
				03/07/16	--	112.64	119.22	0.00	112.64	3,725.56	-0.22
				08/15/16	--	113.31	119.20	0.00	113.31	3,724.89	-0.67
				02/06/17	--	113.78	119.00	0.00	113.78	3,724.42	-0.47
				06/22/17	--	113.93	119.07	0.00	113.93	3,724.27	-0.15
				08/17/17	--	114.08	119.07	0.00	114.08	3,724.12	-0.15
				04/05/18	--	114.79	119.07	0.00	114.79	3723.41	-0.71
				10/01/18	--	>115.87	NA	NA	NA	NA	NA
MW-17 ^(7,8,9)	3,831.43	3,831.79	3,735.79 to 3,715.79	08/11/10	--	101.65	115.92	0.00	101.65	3,729.78	NA
				02/23/11	--	101.71	115.69	0.00	101.71	3,729.72	-0.06
				07/12/11	--	102.41	115.55	0.00	102.41	3,729.02	-0.70
				--	DAMAGED WELL - PLUGGED AND ABANDONED JUNE 2013						
MW-17R ⁽⁹⁾	3,831.14	3,831.79	3,731.19 to 3,711.19	08/19/13	--	104.79	119.95	0.00	104.79	3,726.35	NA
				02/24/14	--	105.59	119.00	0.00	105.59	3,725.55	-0.80
				08/18/14	--	106.58	117.80	0.00	106.58	3,724.56	-0.99
				02/23/15	--	107.11	117.30	0.00	107.11	3,724.03	-0.53
				08/24/15	--	107.73	117.53	0.00	107.73	3,723.41	-0.62
				03/07/16	--	108.35	117.30	0.00	108.35	3,722.79	-0.62
				08/15/16	--	108.90	117.28	0.00	108.90	3,722.24	-0.55
				02/06/17	--	109.28	117.12	0.00	109.28	3,721.86	-0.38
				06/22/17	--	109.31	116.88	0.00	109.31	3,721.83	-0.03
				08/16/17	--	109.61	116.88	0.00	109.61	3,721.53	-0.30
				04/05/18	--	110.04	116.88	0.00	110.04	3721.10	-0.43
				10/01/18	--	111.15	116.88	0.00	111.15	3719.99	-1.11
MW-18 ^(7,8)	3,825.05	3,825.52	3,725.52 to 3,705.52	08/11/10	--	108.54	119.36	0.00	108.54	3,716.51	NA
				09/30/10	--	104.47	NM	0.00	104.47	3,720.58	4.07
				02/23/11	--	100.02	119.38	0.00	100.02	3,725.03	4.45
				07/12/11	--	100.73	119.38	0.00	100.73	3,724.32	-0.71
				01/31/12	--	100.49	119.38	0.00	100.49	3,724.56	0.24
				07/23/12	--	110.18	119.37	0.00	110.18	3,714.87	-9.69
				02/18/13	--	102.51	119.59	0.00	102.51	3,722.54	7.67
				08/19/13	--	109.79	119.68	0.00	109.79	3,715.26	-7.28
				02/24/14	--	105.20	119.85	0.00	105.20	3,719.85	4.59
				08/18/14	--	115.51	119.67	0.00	115.51	3,709.54	-10.31
				02/23/15	--	109.82	119.60	0.00	109.82	3,715.23	5.69
				08/24/15	--	110.97	119.55	0.00	110.97	3,714.08	-1.15
				03/07/16	--	117.00	119.61	0.00	117.00	3,708.05	-6.03
				08/15/16	--	116.06	119.60	0.00	116.06	3,708.99	0.94
				02/06/17	--	114.27	120.90	0.00	114.27	3,710.78	1.79
				06/22/17	--	113.83	119.61	0.00	113.83	3,711.22	0.44
				08/16/17	--	114.69	119.61	0.00	114.69	3,710.36	-0.86
				04/05/18	--	114.58	119.61	0.00	114.58	3710.47	0.11
				10/01/18	--	115.61	119.61	0.00	115.61	3709.44	-1.03

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MW-19 ^(7,8)	3,823.97	3,824.48	3,731.48 to 3,711.48	08/11/10	--	102.35	113.60	0.00	102.35	3,721.62	NA
				09/30/10	--	98.70	NM	0.00	98.70	3,725.27	3.65
				02/23/11	--	98.32	113.57	0.00	98.32	3,725.65	0.38
				07/12/11	--	101.87	113.56	0.00	101.87	3,722.10	-3.55
				01/31/12	--	100.92	113.54	0.00	100.92	3,723.05	0.95
				07/23/12	--	100.98	113.56	0.00	100.98	3,722.99	-0.06
				02/18/13	--	103.45	113.76	0.00	103.45	3,720.52	-2.47
				08/19/13	--	104.87	113.81	0.00	104.87	3,719.10	-1.42
				02/24/14	--	105.76	114.00	0.00	105.76	3,718.21	-0.89
				08/18/14	--	104.60	113.79	0.00	104.60	3,719.37	1.16
				02/23/15	--	105.22	113.72	0.00	105.22	3,718.75	-0.62
				08/24/15	--	105.94	113.71	0.00	105.94	3,718.03	-0.72
				03/07/16	--	106.75	113.64	0.00	106.75	3,717.22	-0.81
				08/15/16	--	108.23	133.77	0.00	108.23	3,715.74	-1.48
				02/06/17	--	108.27	113.72	0.00	108.27	3,715.70	-0.04
				06/22/17	--	108.31	113.60	0.00	108.31	3,715.66	-0.04
				08/16/17	--	107.88	113.60	0.00	107.88	3,716.09	0.43
				04/05/18	--	109.32	113.60	0.00	109.32	3714.65	-1.44
				10/01/18	--	>111.40	NA	NA	NA	NA	NA
MW-20 ^(7,8)	3,824.58	3,825.03	3,733.03 to 3,713.03	08/11/10	--	97.75	111.82	0.00	97.75	3,726.83	NA
				02/23/11	--	97.42	111.82	0.00	97.42	3,727.16	0.33
				07/12/11	--	98.50	111.74	0.00	98.50	3,726.08	-1.08
				01/31/12	--	99.07	111.74	0.00	99.07	3,725.51	-0.57
				07/23/12	--	99.75	111.75	0.00	99.75	3,724.83	-0.68
				02/18/13	--	100.50	111.78	0.00	100.50	3,724.08	-0.75
				08/19/13	--	101.60	111.98	0.00	101.60	3,722.98	-1.10
				02/24/14	--	102.37	112.15	0.00	102.37	3,722.21	-0.77
				08/18/14	--	102.81	111.87	0.00	102.81	3,721.77	-0.44
				02/23/15	--	103.25	111.82	0.00	103.25	3,721.33	-0.44
				08/24/15	--	103.80	112.89	0.00	103.80	3,720.78	-0.55
				03/07/16	--	104.28	111.78	0.00	104.28	3,720.30	-0.48
				08/15/16	--	105.18	111.88	0.00	105.18	3,719.40	-0.90
				02/06/17	--	105.57	111.70	0.00	105.57	3,719.01	-0.39
				06/22/17	--	105.63	111.70	0.00	105.63	3,718.95	-0.06
				08/17/17	--	105.89	111.70	0.00	105.89	3,718.69	-0.26
				04/05/18	--	106.49	111.70	0.00	106.49	3718.09	-0.60
				10/01/18	--	107.45	111.70	0.00	107.45	3717.13	-0.96
MW-21 ^(7,8)	3,820.26	3,820.59	3,731.59 to 3,711.59	08/11/10	--	94.06	108.31	0.00	94.06	3,726.20	NA
				02/23/11	--	93.84	108.27	0.00	93.84	3,726.42	0.22
				07/12/11	--	94.85	108.23	0.00	94.85	3,725.41	-1.01
				01/31/12	--	95.72	108.18	0.00	95.72	3,724.54	-0.87
				07/23/12	--	96.22	108.24	0.00	96.22	3,724.04	-0.50
				02/18/13	--	96.92	108.48	0.00	96.92	3,723.34	-0.70
				08/19/13	--	98.04	108.52	0.00	98.04	3,722.22	-1.12
				02/24/14	--	98.65	108.55	0.00	98.65	3,721.61	-0.61
				08/18/14	--	99.07	108.32	0.00	99.07	3,721.19	-0.42
				02/23/15	--	99.48	108.19	0.00	99.48	3,720.78	-0.41
				08/24/15	--	100.05	108.32	0.00	100.05	3,720.21	-0.57
				03/07/16	--	100.30	108.15	0.00	100.30	3,719.96	-0.25
				08/15/16	--	101.18	108.15	0.00	101.18	3,719.08	-0.88
				02/06/17	--	101.59	110.20	0.00	101.59	3,718.67	-0.41
				06/22/17	--	101.72	108.10	0.00	101.72	3,718.54	-0.13
				08/17/17	--	102.10	108.10	0.00	102.10	3,718.16	-0.38
				04/05/18	--	102.54	108.10	0.00	102.54	3717.72	-0.44
				10/01/18	--	103.58	108.10	0.00	103.58	3716.68	-1.04

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MW-22 ^(7,8)	3,821.82	3,819.27	3,731.2 to 3,711.27	08/11/10	--	95.62	110.80	0.00	95.62	3,726.20	NA
				02/23/11	--	95.36	110.78	0.00	95.36	3,726.46	0.26
				07/12/11	--	96.26	110.74	0.00	96.26	3,725.56	-0.90
				01/31/12	--	97.56	110.72	0.00	97.56	3,724.26	-1.30
				07/23/12	--	97.90	110.70	0.00	97.90	3,723.92	-0.34
				02/18/13	--	98.45	110.92	0.00	98.45	3,723.37	-0.55
				08/19/13	--	99.54	110.85	0.00	99.54	3,722.28	-1.09
				02/24/14	--	99.97	111.00	0.00	99.97	3,721.85	-0.43
				08/18/14	--	100.52	110.26	0.00	100.52	3,721.30	-0.55
				02/23/15	--	100.85	109.10	0.00	100.85	3,720.97	-0.33
				08/24/15	--	101.42	109.05	0.00	101.42	3,720.40	-0.57
				03/07/16	--	101.56	109.19	0.00	101.56	3,720.26	-0.14
				08/15/16	--	102.45	109.50	0.00	102.45	3,719.37	-0.89
				02/06/17	--	102.99	109.58	0.00	102.99	3,718.83	-0.54
				06/22/17	--	103.04	109.60	0.00	103.04	3,718.78	-0.05
				08/17/17	--	103.51	109.60	0.00	103.51	3,718.31	-0.47
				04/05/18	--	103.85	109.60	0.00	103.85	3717.97	-0.34
				10/01/18	--	104.96	109.60	0.00	104.96	3716.86	-1.11
MW-23 ^(7,8)	3,825.58	3,822.91	3,730.91 to 3,710.91	08/11/10	--	100.49	115.10	0.00	100.49	3,725.09	NA
				02/23/11	--	99.80	115.12	0.00	99.80	3,725.78	0.69
				07/12/11	--	101.29	115.10	0.00	101.29	3,724.29	-1.49
				02/01/12	--	102.04	115.07	0.00	102.04	3,723.54	-0.75
				07/23/12	--	102.39	114.98	0.00	102.39	3,723.19	-0.35
				02/18/13	--	102.69	115.25	0.00	102.69	3,722.89	-0.30
				08/19/13	--	104.23	115.00	0.00	104.23	3,721.35	-1.54
				02/24/14	--	104.93	115.35	0.00	104.93	3,720.65	-0.70
				08/18/14	--	105.36	119.14	0.00	105.36	3,720.22	-0.43
				02/23/15	--	105.74	114.85	0.00	105.74	3,719.84	-0.38
				08/24/15	--	106.33	114.84	0.00	106.33	3,719.25	-0.59
				03/07/16	--	106.72	114.66	0.00	106.72	3,718.86	-0.39
				08/15/16	--	107.69	114.80	0.00	107.69	3,717.89	-0.97
				02/06/17	--	108.05	114.70	0.00	108.05	3,717.53	-0.36
				06/22/17	--	108.04	114.60	0.00	108.04	3,717.54	0.01
				08/17/17	--	108.41	114.60	0.00	108.41	3,717.17	-0.37
				04/05/18	--	108.86	114.60	0.00	108.86	3716.72	-0.45
				10/01/18	--	109.90	114.60	0.00	109.90	3715.68	-1.04
MW-24 ^(7,8)	3,830.50	3,830.81	3,731.31 to 3,711.31	08/11/10	--	104.04	118.14	0.00	104.04	3,726.46	NA
				02/23/11	--	104.26	118.09	0.00	104.26	3,726.24	-0.22
				07/12/11	--	105.29	118.04	0.00	105.29	3,725.21	-1.03
				02/01/12	--	106.65	119.10	0.00	106.65	3,723.85	-1.36
				07/23/12	--	106.96	118.04	0.00	106.96	3,723.54	-0.31
				02/18/13	--	106.77	118.35	0.00	106.77	3,723.73	0.19
				08/19/13	--	108.30	118.21	0.00	108.30	3,722.20	-1.53
				02/24/14	--	108.66	118.45	0.00	108.66	3,721.84	-0.36
				08/18/14	--	109.61	118.91	0.00	109.61	3,720.89	-0.95
				02/23/15	--	109.92	118.12	0.00	109.92	3,720.58	-0.31
				08/24/15	--	110.47	118.11	0.00	110.47	3,720.03	-0.55
				03/07/16	--	110.59	118.15	0.00	110.59	3,719.91	-0.12
				08/15/16	--	111.52	118.05	0.00	111.52	3,718.98	-0.93
				02/06/17	--	112.01	118.08	0.00	112.01	3,718.49	-0.49
				06/22/17	--	111.96	117.90	0.00	111.96	3,718.54	0.05
				08/17/17	--	112.55	117.90	0.00	112.55	3,717.95	-0.59
				04/05/18	--	112.85	117.90	0.00	112.85	3717.65	-0.30
				10/01/18	--	113.89	117.90	0.00	113.89	3716.61	-1.04

Table 1. Water Elevation Measurements
HollyFrontier Navajo Refining LLC, AP-110, Lovington, New Mexico

Monitor Well	Top of Casing Elevation (feet)	Ground Level Elevation (feet)	Well Screen Interval (feet)	Date	Depth to Product (feet, btoc)	Depth to Water (feet, btoc)	Total Depth (feet)	Product Thickness (feet)	Corrected Depth to Water ⁽¹⁾ (feet)	Corrected Water Level Elev. ⁽¹⁾ (feet)	Change from previous measurement (feet)
MW-25 ^(7,8)	3,830.77	3,831.00	3,729.00 to 3,709.00	08/11/10	--	106.46	121.66	0.00	106.46	3,724.31	NA
				02/23/11	--	105.72	121.60	0.00	105.72	3,725.05	0.74
				07/12/11	--	107.24	121.49	0.00	107.24	3,723.53	-1.52
				02/01/12	--	108.53	121.42	0.00	108.53	3,722.24	-1.29
				07/23/12	--	109.13	121.47	0.00	109.13	3,721.64	-0.60
				02/18/13	--	107.65	121.45	0.00	107.65	3,723.12	1.48
				08/19/13	--	110.15	121.49	0.00	110.15	3,720.62	-2.50
				02/24/14	--	110.62	121.60	0.00	110.62	3,720.15	-0.47
				08/18/14	--	112.14	121.46	0.00	112.14	3,718.63	-1.52
				02/23/15	--	112.11	121.71	0.00	112.11	3,718.66	0.03
				08/24/15	--	112.89	121.23	0.00	112.89	3,717.88	-0.78
				03/07/16	--	113.76	121.10	0.00	113.76	3,717.01	-0.87
				08/15/16	--	114.52	121.10	0.00	114.52	3,716.25	-0.76
				02/06/17	--	114.68	121.03	0.00	114.68	3,716.09	-0.16
				06/22/17	--	114.64	120.99	0.00	114.64	3,716.13	0.04
				08/16/17	--	114.91	120.99	0.00	114.91	3,715.86	-0.27
				04/05/18	--	115.38	120.99	0.00	115.38	3715.39	-0.47
				10/01/18	--	116.42	120.99	0.00	116.42	3714.35	-1.04
MW-26 ^(7,8)	3,833.18	3,833.39	3,729.89 to 3,709.89	08/11/10	--	106.22	121.33	0.00	106.22	3,726.96	NA
				02/23/11	--	108.44	121.31	0.00	108.44	3,724.74	-2.22
				07/12/11	--	109.58	121.26	0.00	109.58	3,723.60	-1.14
				02/01/12	--	110.38	121.21	0.00	110.38	3,722.80	-0.80
				07/23/12	--	111.28	121.24	0.00	111.28	3,721.90	-0.90
				02/18/13	--	109.00	121.43	0.00	109.00	3,724.18	2.28
				08/19/13	--	111.46	121.43	0.00	111.46	3,721.72	-2.46
				02/24/14	--	112.28	122.30	0.00	112.28	3,720.90	-0.82
				08/18/14	--	113.98	121.31	0.00	113.98	3,719.20	-1.70
				02/23/15	--	114.20	121.20	0.00	114.20	3,718.98	-0.22
				08/24/15	--	114.86	121.15	0.00	114.86	3,718.32	-0.66
				03/07/16	--	115.22	121.12	0.00	115.22	3,717.96	-0.36
				08/15/16	--	115.98	121.18	0.00	115.98	3,717.20	-0.76
				02/06/17	--	116.38	121.07	0.00	116.38	3,716.80	-0.40
				06/22/17	--	116.24	121.21	0.00	116.24	3,716.94	0.14
				08/17/17	--	116.79	121.21	0.00	116.79	3,716.39	-0.55
				04/05/18	--	>118.00	NA	NA	NA	NA	NA
				10/01/18	--	>118.86	NA	NA	NA	NA	NA
MW-27 ^(7,8)	3,837.27	3,834.53	3,733.03 to 3,713.03	08/11/10	--	109.00	124.07	0.00	109.00	3,728.27	NA
				02/23/11	--	109.58	123.96	0.00	109.58	3,727.69	-0.58
				07/12/11	--	110.59	124.00	0.00	110.59	3,726.68	-1.01
				02/01/12	--	111.37	123.97	0.00	111.37	3,725.90	-0.78
				07/23/12	--	112.32	123.78	0.00	112.32	3,724.95	-0.95
				02/18/13	--	111.19	123.89	0.00	111.19	3,726.08	1.13
				08/19/13	--	113.06	123.60	0.00	113.06	3,724.21	-1.87
				02/24/14	--	113.81	122.60	0.00	113.81	3,723.46	-0.75
				08/18/14	--	114.96	123.68	0.00	114.96	3,722.31	-1.15
				02/23/15	--	115.32	120.95	0.00	115.32	3,721.95	-0.36
				08/24/15	--	115.99	122.37	0.00	115.99	3,721.28	-0.67
				03/07/16	--	116.26	122.87	0.00	116.26	3,721.01	-0.27
				08/15/16	--	116.94	123.78	0.00	116.94	3,720.33	-0.68
				02/06/17	--	117.32	123.25	0.00	117.32	3,719.95	-0.38
				06/22/17	--	117.30	123.56	0.00	117.30	3,719.97	0.02
				08/17/17	--	117.78	123.56	0.00	117.78	3,719.49	-0.48
				04/05/18	--	118.11	123.56	0.00	118.11	3719.16	-0.33
				10/01/18	--	>119.15	NA	NA	NA	NA	NA

Table 1. Water Elevation Measurements
HollyFrontier Navajo Refining LLC, AP-110, Lovington, New Mexico

Monitor Well	Top of Casing Elevation (feet)	Ground Level Elevation (feet)	Well Screen Interval (feet)	Date	Depth to Product (feet, btoc)	Depth to Water (feet, btoc)	Total Depth (feet)	Product Thickness (feet)	Corrected Depth to Water ⁽¹⁾ (feet)	Corrected Water Level Elev. ⁽¹⁾ (feet)	Change from previous measurement (feet)
MW-28 ^(7,8)	3,833.44	3,833.73	3,733.73 to 3,713.73	08/11/10	--	103.72	118.42	0.00	103.72	3,729.72	NA
				02/23/11	--	104.03	118.42	0.00	104.03	3,729.41	-0.31
				07/12/11	--	105.07	118.35	0.00	105.07	3,728.37	-1.04
				01/30/12	--	105.84	118.38	0.00	105.84	3,727.60	-0.77
				07/23/12	--	106.65	118.31	0.00	106.65	3,726.79	-0.81
				02/18/13	--	106.17	118.47	0.00	106.17	3,727.27	0.48
				08/19/13	--	107.53	118.50	0.00	107.53	3,725.91	-1.36
				02/24/14	--	108.39	118.70	0.00	108.39	3,725.05	-0.86
				08/18/14	--	109.29	118.30	0.00	109.29	3,724.15	-0.90
				02/23/15	--	109.60	118.47	0.00	109.60	3,723.84	-0.31
				08/24/15	--	110.16	118.44	0.00	110.16	3,723.28	-0.56
				03/07/16	--	110.25	118.40	0.00	110.25	3,723.19	-0.09
				08/15/16	--	111.03	118.31	0.00	111.03	3,722.41	-0.78
				02/06/17	--	111.33	118.20	0.00	111.33	3,722.11	-0.30
				06/22/17	--	111.49	118.26	0.00	111.49	3,721.95	-0.16
				08/17/17	--	112.14	118.26	0.00	112.14	3,721.30	-0.65
				04/05/18	--	112.17	118.26	0.00	112.17	3721.27	-0.03
				10/01/18	--	113.16	118.26	0.00	113.16	3720.28	-0.99
MW-29 ^(7,8)	3,835.55	3,836.02	3,734.52 to 3,714.52	08/11/10	--	105.80	120.42	0.00	105.80	3,729.75	NA
				02/23/11	--	105.97	120.35	0.00	105.97	3,729.58	-0.17
				07/12/11	--	107.08	120.33	0.00	107.08	3,728.47	-1.11
				01/30/12	--	107.69	120.33	0.00	107.69	3,727.86	-0.61
				07/23/12	--	108.74	120.27	0.00	108.74	3,726.81	-1.05
				02/18/13	--	108.12	120.47	0.00	108.12	3,727.43	0.62
				08/19/13	--	109.49	120.68	0.00	109.49	3,726.06	-1.37
				02/24/14	--	110.43	120.70	0.00	110.43	3,725.12	-0.94
				08/18/14	--	111.35	120.30	0.00	111.35	3,724.20	-0.92
				02/23/15	--	111.65	120.30	0.00	111.65	3,723.90	-0.30
				08/24/15	--	112.29	120.35	0.00	112.29	3,723.26	-0.64
				03/07/16	--	112.47	120.48	0.00	112.47	3,723.08	-0.18
				08/15/16	--	113.21	120.30	0.00	113.21	3,722.34	-0.74
				02/06/17	--	113.46	120.19	0.00	113.46	3,722.09	-0.25
				06/22/17	--	113.62	120.30	0.00	113.62	3,721.93	-0.16
				08/17/17	--	114.05	120.30	0.00	114.05	3,721.50	-0.43
				04/05/18	--	114.39	120.30	0.00	114.39	3721.16	-0.34
				10/01/18	--	115.35	120.30	0.00	115.35	3720.20	-0.96
MW-30 ⁽⁹⁾	3,839.25	3,836.02	3,732.28 to 3,712.28	08/19/13	--	110.94	126.97	0.00	110.94	3,728.31	NA
				02/24/14	--	112.14	126.60	0.00	112.14	3,727.11	-1.20
				08/18/14	--	112.79	126.36	0.00	112.79	3,726.46	-0.65
				02/23/15	--	113.18	126.68	0.00	113.18	3,726.07	-0.39
				08/24/15	--	113.75	125.03	0.00	113.75	3,725.50	-0.57
				03/07/16	--	113.90	124.75	0.00	113.90	3,725.35	-0.15
				08/15/16	--	114.65	124.40	0.00	114.65	3,724.60	-0.75
				02/06/17	--	114.91	123.95	0.00	114.91	3,724.34	-0.26
				06/22/17	--	115.12	123.64	0.00	115.12	3,724.13	-0.21
				08/16/17	--	115.37	123.64	0.00	115.37	3,723.88	-0.25
				04/05/18	--	115.94	123.64	0.00	115.94	3723.31	-0.57
				10/01/18	--	116.93	123.64	0.00	116.93	3722.32	-0.99
MW-31 ⁽¹⁰⁾	3,819.17	3,836.02		02/06/17	98.95	105.11	NM	6.16	99.75	3,719.42	NA
				06/22/17	--	99.84	NM	0.00	99.84	3,719.33	-0.09
				08/17/17	100.24	101.22	NM	0.98	100.37	3,718.80	-0.53
				04/05/18	100.05	105.55	NM	5.50	100.77	3718.41	-0.40
				10/01/18	101.07	106.82	NM	5.75	101.82	3717.35	-1.05

Table 1. Water Elevation Measurements
HollyFrontier Navajo Refining LLC, AP-110, Lovington, New Mexico

Monitor Well	Top of Casing Elevation (feet)	Ground Level Elevation (feet)	Well Screen Interval (feet)	Date	Depth to Product (feet, btoc)	Depth to Water (feet, btoc)	Total Depth (feet)	Product Thickness (feet)	Corrected Depth to Water ⁽¹⁾ (feet)	Corrected Water Level Elev. ⁽¹⁾ (feet)	Change from previous measurement (feet)
MW-32 ⁽¹¹⁾	3,817.69	3,836.02		06/22/17	--	98.62	115.73	0.00	98.62	3,719.07	NA
				08/17/17	--	98.91	115.73	0.00	98.91	3,718.78	-0.29
				04/05/18	--	99.34	115.73	0.00	99.34	3718.35	-0.43
				10/01/18	--	100.44	115.73	0.00	100.44	3717.25	-1.10
MW-33 ⁽¹¹⁾	3,819.68	3,836.02		06/22/17	--	100.55	119.90	0.00	100.55	3,719.13	NA
				08/17/17	--	100.99	119.90	0.00	100.99	3,718.69	-0.44
				04/05/18	--	101.26	119.90	0.00	101.26	3718.42	-0.27
				10/01/18	--	102.37	119.90	0.00	102.37	3717.31	-1.11
RW-1	3,838.48	3,838.19	3,738.19 to 3,708.19	04/30/09	--	106.45	136.09	0.00	106.45	3,732.03	NA
				06/10/09	--	106.59	NM	0.00	106.59	3,731.89	-0.14
				06/19/09	--	106.61	129.62	0.00	106.61	3,731.87	-0.02
				07/02/09	--	106.82	129.25	0.00	106.82	3,731.66	-0.21
				07/24/09	--	106.92	129.31	0.00	106.92	3,731.56	-0.10
				09/24/09	--	107.42	129.73	0.00	107.42	3,731.06	-0.50
				10/27/09	--	107.53	129.25	0.00	107.53	3,730.95	-0.11
				01/13/10	--	107.67	129.29	0.00	107.67	3,730.81	-0.14
				02/02/10	--	107.69	NM	0.00	107.69	3,730.79	-0.02
				04/01/10	--	107.60	NM	0.00	107.60	3,730.88	0.09
				08/11/10	--	108.18	129.29	0.00	108.18	3,730.30	-0.58
				02/23/11	--	108.22	129.31	0.00	108.22	3,730.26	-0.04
				07/12/11	--	109.09	129.27	0.00	109.09	3,729.39	-0.87
				02/02/12	--	109.81	129.34	0.00	109.81	3,728.67	-0.72
				07/23/12	--	110.98	129.07	0.00	110.98	3,727.50	-1.17
				02/18/13	--	110.61	135.79	0.00	110.61	3,727.87	0.37
				08/19/13	--	111.67	129.64	0.00	111.67	3,726.81	-1.06
				02/24/14	--	112.59	129.60	0.00	112.59	3,725.89	-0.92
				08/18/14	--	113.50	129.28	0.00	113.50	3,724.98	-0.91
				02/23/15	--	113.95	129.26	0.00	113.95	3,724.53	-0.45
				08/24/15	--	114.56	129.25	0.00	114.56	3,723.92	-0.61
				03/07/16	--	114.92	129.25	0.00	114.92	3,723.56	-0.36
				08/15/16	--	115.52	129.25	0.00	115.52	3,722.96	-0.60
				02/06/17	--	115.92	129.25	0.00	115.92	3,722.56	-0.40
				06/22/17	--	116.00	129.42	0.00	116.00	3,722.48	-0.08
				08/17/17	--	116.44	129.42	0.00	116.44	3,722.04	-0.44
				04/05/18	--	116.82	129.42	0.00	116.82	3721.66	-0.38
				10/01/18	--	117.77	129.42	0.00	117.77	3720.71	-0.95

Notes:

1. Depth to water corrected for presence of product using a specific gravity of 0.87.
2. Monitoring wells MW-1 through MW-7 installed September 1995; plugged and redrilled April 2009.
3. Monitoring wells MW-8 through MW-10 installed March and April 1996; plugged and redrilled April 2009.
4. Monitoring wells MW-11 and MW-12 installed April and May 2002.
5. Monitoring wells MW-13 and MW-14 installed January 2004.
6. Elevation survey of new and existing wells August 7, 2009. Earlier water level information corrected to current survey.
7. Monitoring wells MW-15 through MW-29 installed May-June 2010.
8. Elevation survey of wells MW-15 through MW-29 July 13, 2010.
9. Monitoring wells MW-12R, MW-17R, and MW-30 installed and elevations surveyed June 2013; MW-12 and MW-17 plugged and abandoned June 2013.
10. Monitoring wells MW-11R and MW-31 installed December 2016 and elevations surveyed February 2017; MW-11 plugged and abandoned June 2013
11. Monitoring wells MW-32 and MW-33 installed and elevations surveyed June 2017.
12. Monitoring wells MW-13R and MW-14R installed and elevations surveyed September 2018; MW-13 and MW-14 plugged and abandoned September 2018.

btoc = below top of casing

-- = Not Detected

NM = Not Measured

NA = Not Applicable

>Value = Water level could not be measured due to interference from dedicated pump.

Table 2. Organic Constituent Concentrations in Groundwater
HollyFrontier Navajo Refining LLC, AP-110, Lovington, New Mexico

Monitor Well	Sample Date	WQCC Volatiles (Method 8260, mg/L)						WQCC Semi-Volatiles (Method 8270, mg/L)					TPH (Method 8015, mg/L)	
		Benzene	Ethylbenzene	Toluene	Total Xylenes	Total Naphthalene	Chloroform	Total Naphthalenes	Naphthalene	1-Methyl naphthalene	2-Methyl naphthalene	Total Phenols	TPH GRO (Low Fraction)	TPH DRO (High Fraction)
NM WQCC Groundwater Human Health Standards:		0.010	0.75	0.75	0.62	0.03	0.1	0.03	N/A	N/A	N/A	0.005	N/A	N/A

MW-1	06/19/09	<0.0050	0.012	<0.0050	0.031	<0.0050	--	--	--	--	--	--	--	--
	01/19/10	<0.0050	<0.0050	<0.0050	<0.015	<0.0050	--	--	--	<0.00020	<0.00020	<0.00020	--	--
	08/18/10	<0.0050	<0.0050	<0.0050	<0.015	<0.0050	--	--	--	--	--	--	--	--
	03/01/11	<0.0050	<0.0050	<0.0050	<0.015	<0.0050	--	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020	--	--
	07/20/11	<0.0050	<0.0050	<0.0050	<0.015	<0.0050	<0.0050	<0.00020	<0.00020	--	<0.00020	<0.00020	--	--
	02/02/12	<0.0050	<0.0050	<0.0050	<0.015	<0.0050	<0.0050	<0.00020	<0.00020	--	<0.00020	<0.00020	--	--
	07/27/12	<0.0050	<0.0050	<0.0050	<0.015	<0.0050	<0.0050	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020	--	--
	02/27/13	<0.0050	<0.0050	<0.0050	<0.015	<0.0050	<0.0050	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020	--	--
	08/21/13	<0.0050	<0.0050	<0.0050	<0.015	<0.0050	<0.0050	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020	--	--
	02/24/14	<0.0050	<0.0050	<0.0050	<0.015	<0.0050	<0.0050	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020	--	--
	08/21/14	<0.0050	<0.0050	<0.0050	<0.015	<0.0050	<0.0050	<0.00010	<0.00010	<0.00010	<0.00010	<0.00020	--	--
	02/25/15	<0.00033	<0.00038	<0.00078	<0.0011	<0.0010	<0.00032	<0.00037	<0.00037	<0.00031	<0.00031	<0.00033	--	--
	08/27/15	<0.000331	<0.000384	<0.000780	<0.00106	<0.00100	<0.000324	<0.000372	<0.000372	<0.000332	<0.000311	<0.000334	--	--
	03/09/16	<0.000331	<0.000384	<0.000780	<0.00106	<0.00100	<0.000324	--	--	--	--	--	--	--
	08/17/16	<0.000331	<0.000384	<0.000780	<0.00106	<0.00100	<0.000324	--	--	--	--	--	--	--
	2/7/2017	<0.000331	<0.000384	<0.000412	<0.00106	<0.00100	<0.000324	--	--	--	--	--	--	--
08/17/17	<0.000331	<0.000384	<0.000412	<0.00106	<0.00100	<0.000324	--	--	--	--	--	--	--	
04/05/18	<0.000331	<0.000384	<0.000412	<0.00106	<0.00100	<0.000324	--	--	--	--	--	--	--	
10/01/18	<0.000331	<0.000384	<0.000412	<0.00106	<0.00100	<0.000324	--	--	--	--	--	--	--	

MW-2	06/22/09	<0.0050	<0.0050	<0.0050	<0.015	<0.0050	--	--	--	--	--	--	--	--
	01/19/10	<0.0050	<0.0050	<0.0050	<0.015	<0.0050	--	--	--	--	--	--	--	--
	08/16/10	<0.0050	<0.0050	<0.0050	<0.015	<0.0050	--	--	--	--	--	--	--	--
	03/03/11	<0.0050	<0.0050	<0.0050	<0.015	<0.0050	--	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020	--	--
	07/14/11	<0.0050	<0.0050	<0.0050	<0.015	<0.0050	<0.0050	<0.00020	<0.00020	--	<0.00020	<0.00020	--	--
	01/30/12	<0.0050	<0.0050	<0.0050	<0.015	<0.0050	<0.0050	<0.00020	<0.00020	--	<0.00020	<0.00020	--	--
	07/24/12	<0.0050	<0.0050	<0.0050	<0.015	<0.0050	<0.0050	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020	--	--
	02/19/13	<0.0050	<0.0050	<0.0050	<0.015	<0.0050	<0.0050	<0.00020	<0.00020	<0.00020	<0.00020	0.00022	--	--
	08/20/13	<0.0050	<0.0050	<0.0050	<0.015	<0.0050	<0.0050	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020	--	--
	02/25/14	<0.0050	<0.0050	<0.0050	<0.015	<0.0050	<0.0050	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020	--	--
	08/21/14	<0.0050	<0.0050	<0.0050	<0.015	<0.0050	<0.0050	<0.00010	<0.00010	<0.00010	<0.00010	<0.00020	--	--
	02/24/15	<0.00033	<0.00038	<0.00078	<0.0011	<0.0010	0.00084 J	<0.00037	<0.00037	<0.00031	<0.00031	<0.00033	--	--
	08/28/15	<0.000331	<0.000384	<0.000780	<0.00106	<0.00100	0.000696 J	<0.000372	<0.000372	<0.000332	<0.000311	<0.000334	--	--
	03/07/16	<0.000331	<0.000384	<0.000780	<0.00106	<0.00100	0.000942 J	<0.000372	<0.000372	<0.000332	<0.000311	<0.000334	--	--
	08/18/16	<0.000331	<0.000384	<0.000780	<0.00106	<0.00100	0.00293 J	<0.000372	<0.000372	<0.000332	<0.000311	<0.000334	--	--
	02/07/17	<0.000331	<0.000384	<0.000412	<0.00106	<0.00100	0.00719	<0.000372	<0.000372	<0.000332	<0.000311	<0.000334	--	--
	08/16/17	<0.000331	<0.000384	<0.000412	<0.00106	<0.00100	0.00812	<0.000372	<0.000372	<0.000332	<0.000311	0.00403 JB	--	--
	04/05/18	<0.000331	<0.000384	<0.000412	<0.00106	<0.00100	0.00385 J	0.00228	0.00228	<0.000332	<0.000311	0.00721 JB	--	--
	10/01/18	<0.000331	<0.000384	<0.000412	<0.00106	<0.00100	0.00214 J	<0.000372	<0.000372	<0.000332	<0.000311	0.000912 JB	--	--

Table 2. Organic Constituent Concentrations in Groundwater
HollyFrontier Navajo Refining LLC, AP-110, Lovington, New Mexico

Monitor Well	Sample Date	WQCC Volatiles (Method 8260, mg/L)						WQCC Semi-Volatiles (Method 8270, mg/L)					TPH (Method 8015, mg/L)	
		Benzene	Ethylbenzene	Toluene	Total Xylenes	Total Naphthalene	Chloroform	Total Naphthalenes	Naphthalene	1-Methyl naphthalene	2-Methyl naphthalene	Total Phenols	TPH GRO (Low Fraction)	TPH DRO (High Fraction)
NM WQCC Groundwater Human Health Standards:		0.010	0.75	0.75	0.62	0.03	0.1	0.03	N/A	N/A	N/A	0.005	N/A	N/A
MW-3 (duplicate)	06/16/09	<0.0050	<0.0050	<0.0050	<0.015	<0.0050	--	--	--	--	--	--	--	--
	01/14/10	<0.0050	<0.0050	<0.0050	<0.015	<0.0050	--	--	--	--	--	--	--	--
	01/14/10	<0.0050	<0.0050	<0.0050	<0.015	<0.0050	--	--	--	--	--	--	--	--
	08/19/10	<0.0050	<0.0050	<0.0050	<0.015	<0.0050	--	--	--	--	--	--	--	--
	02/24/11	<0.0050	<0.0050	<0.0050	<0.015	<0.0050	--	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020	--	--
	07/15/11	<0.0050	<0.0050	<0.0050	<0.015	<0.0050	<0.0050	<0.00020	<0.00020	--	<0.00020	<0.00020	--	--
	01/30/12	<0.0050	<0.0050	<0.0050	<0.015	<0.0050	<0.0050	<0.00020	<0.00020	--	<0.00020	<0.00020	--	--
	07/25/12	<0.0050	<0.0050	<0.0050	<0.015	<0.0050	<0.0050	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020	--	--
	02/27/13	<0.0050	<0.0050	<0.0050	<0.015	<0.0050	<0.0050	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020	--	--
	08/22/13	<0.0050	<0.0050	<0.0050	<0.015	<0.0050	<0.0050	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020	--	--
	02/26/14	<0.0050	<0.0050	<0.0050	<0.015	<0.0050	<0.0050	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020	--	--
	08/21/14	<0.0050	<0.0050	<0.0050	<0.015	<0.0050	<0.0050	<0.00010	<0.00010	<0.00010	<0.00010	<0.00020	--	--
	02/26/15	<0.00033	<0.00038	<0.00078	<0.0011	<0.0010	<0.00032	<0.00037	<0.00037	<0.00031	<0.00031	<0.00033	--	--
	02/26/15	<0.00033	<0.00038	<0.00078	<0.0011	<0.0010	<0.00032	<0.00037	<0.00037	<0.00031	<0.00031	<0.00033	--	--
	08/26/15	<0.000331	<0.000384	<0.000780	<0.00106	<0.00100	<0.000324	<0.000372	<0.000372	<0.000332	<0.000311	<0.000334	--	--
	03/08/16	--	--	--	--	--	--	--	--	--	--	--	--	--
	08/18/16	--	--	--	--	--	--	--	--	--	--	--	--	--
	02/07/17	--	--	--	--	--	--	--	--	--	--	--	--	--
	08/15/17	--	--	--	--	--	--	--	--	--	--	--	--	--
	04/05/18	--	--	--	--	--	--	--	--	--	--	--	--	--
	10/01/18	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-4	06/16/09	<0.0050	<0.0050	<0.0050	<0.015	<0.0050	--	--	--	--	--	--	--	--
	01/13/10	<0.0050	<0.0050	<0.0050	<0.015	<0.0050	--	--	--	--	--	--	--	--
	08/19/10	<0.0050	<0.0050	<0.0050	<0.015	<0.0050	--	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020	--	--
	02/28/11	<0.0050	<0.0050	<0.0050	<0.015	<0.0050	--	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020	--	--
	07/15/11	<0.0050	<0.0050	<0.0050	<0.015	<0.0050	<0.0050	0.00044	0.00044	--	<0.00020	<0.00020	--	--
	01/30/12	<0.0050	<0.0050	<0.0050	<0.015	<0.0050	<0.0050	<0.00020	<0.00020	--	<0.00020	<0.00020	--	--
	07/24/12	<0.0050	<0.0050	<0.0050	<0.015	<0.0050	<0.0050	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020	--	--
	02/21/13	<0.0050	<0.0050	<0.0050	<0.015	<0.0050	<0.0050	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020	--	--
	08/20/13	<0.0050	<0.0050	<0.0050	<0.015	<0.0050	<0.0050	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020	--	--
	02/25/14	<0.0050	<0.0050	<0.0050	<0.015	<0.0050	<0.0050	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020	--	--
	08/20/14	<0.0050	<0.0050	<0.0050	<0.015	<0.0050	<0.0050	<0.00010	<0.00010	<0.00010	<0.00010	<0.00020	--	--
	02/24/15	<0.00033	<0.00038	<0.00078	<0.0011	<0.0010	<0.00032	<0.00037	<0.00037	<0.00031	<0.00031	<0.00033	--	--
	08/28/15	<0.000331	<0.000384	<0.000780	<0.00106	<0.00100	<0.000324	<0.000372	<0.0003723	<0.000332	<0.000311	<0.000334	--	--
	08/15/16	<0.000331	<0.000384	<0.000780	<0.00106	<0.00100	<0.000324	<0.000372	<0.000372	<0.000332	<0.000311	<0.000334	--	--
	08/17/17	<0.000331	<0.000384	<0.000412	<0.00106	<0.00100	<0.000324	<0.000372	<0.000372	<0.000332	<0.000311	0.00267 JB	--	--
	10/01/18	<0.000331	<0.000384	<0.000412	<0.00106	<0.00100	<0.000324	<0.000372	<0.000372	<0.000332	<0.000311	0.00302 JB	--	--

Table 2. Organic Constituent Concentrations in Groundwater
HollyFrontier Navajo Refining LLC, AP-110, Lovington, New Mexico

Monitor Well	Sample Date	WQCC Volatiles (Method 8260, mg/L)						WQCC Semi-Volatiles (Method 8270, mg/L)					TPH (Method 8015, mg/L)	
		Benzene	Ethylbenzene	Toluene	Total Xylenes	Total Naphthalene	Chloroform	Total Naphthalenes	Naphthalene	1-Methyl naphthalene	2-Methyl naphthalene	Total Phenols	TPH GRO (Low Fraction)	TPH DRO (High Fraction)
NM WQCC Groundwater Human Health Standards:		0.010	0.75	0.75	0.62	0.03	0.1	0.03	N/A	N/A	N/A	0.005	N/A	N/A

MW-5 (duplicate)	06/16/09	<0.0050	<0.0050	<0.0050	<0.015	<0.0050	--	--	--	--	--	--	--	--
	01/18/10	<0.0050	<0.0050	<0.0050	<0.015	<0.0050	--	--	--	--	--	--	--	--
	08/20/10	<0.0050	<0.0050	<0.0050	<0.015	<0.0050	--	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020	--	--
	02/28/11	<0.0050	<0.0050	<0.0050	<0.015	<0.0050	--	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020	--	--
	07/19/11	<0.0050	<0.0050	<0.0050	<0.015	<0.0050	<0.0050	<0.00020	<0.00020	--	<0.00020	<0.00020	--	--
	01/31/12	<0.0050	<0.0050	<0.0050	<0.015	<0.0050	<0.0050	<0.00020	<0.00020	--	<0.00020	<0.00020	--	--
	01/31/12	<0.0050	<0.0050	<0.0050	<0.015	<0.0050	<0.0050	<0.00020	<0.00020	--	<0.00020	<0.00020	--	--
	07/25/12	<0.0050	<0.0050	<0.0050	<0.015	<0.0050	<0.0050	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020	--	--
	02/21/13	<0.0050	<0.0050	<0.0050	<0.015	<0.0050	<0.0050	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020	--	--
	08/20/13	<0.0050	<0.0050	<0.0050	<0.015	<0.0050	<0.0050	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020	--	--
	02/25/14	<0.0050	<0.0050	<0.0050	<0.015	<0.0050	<0.0050	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020	--	--
	08/19/14	<0.0050	<0.0050	<0.0050	<0.015	<0.0050	<0.0050	<0.00010	<0.00010	<0.00010	<0.00010	<0.00020	--	--
	02/24/15	<0.00033	<0.00038	<0.00078	<0.0011	<0.0010	<0.00032	<0.00037	<0.00037	<0.00031	<0.00031	<0.00033	--	--
	08/24/15	<0.000331	<0.000384	<0.000780	<0.00106	<0.00100	<0.000324	<0.000372	<0.000372	<0.000332	<0.000311	0.000382 J	--	--

MW-6 (duplicate)	08/17/16	<0.000331	<0.000384	<0.000780	<0.00106	<0.00100	<0.000324	<0.000372	<0.000372	<0.000332	<0.000311	<0.000334	<0.100	0.366
	08/16/17	<0.000331	<0.000384	<0.000412	<0.00106	<0.00100	<0.000324	<0.000372	<0.000372	<0.000332	<0.000311	0.00154 JB	0.0899 JB	0.0397 J
	10/01/18	<0.000331	<0.000384	<0.000412	<0.00106	<0.00100	<0.000324	<0.000372	<0.000372	<0.000332	<0.000311	0.00240 JB	<0.0314	<0.0247

MW-6 (duplicate)	06/18/09	<0.0050	<0.0050	<0.0050	<0.015	0.0075	--	--	--	--	--	--	--	--
	06/18/09	<0.0050	<0.0050	<0.0050	<0.015	0.0074	--	--	--	--	--	--	--	--
	02/02/10	<0.0050	0.013	<0.0050	<0.015	0.0099	--	--	--	--	--	--	--	--
	08/19/10	<0.0050	0.015	<0.0050	<0.015	<0.0050	--	--	0.0017	--	0.0017	<0.0010	--	--
	03/01/11	<0.0050	0.018	<0.0050	<0.015	0.013	--	0.0094	0.0062	<0.00020	0.0032	0.0255	--	--
	07/20/11	<0.0050	<0.0050	<0.0050	<0.015	<0.0050	<0.0050	0.0008	0.0008	--	<0.00020	<0.00020	--	--
	02/02/12	<0.0050	<0.0050	<0.0050	<0.015	<0.0050	<0.0050	<0.00020	<0.00020	--	<0.00020	<0.00020	--	--
	07/24/12	<0.0050	<0.0050	<0.0050	<0.015	<0.0050	<0.0050	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020	--	--
	02/27/13	<0.0050	<0.0050	<0.0050	<0.015	<0.0050	<0.0050	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020	--	--
	02/27/13	<0.0050	<0.0050	<0.0050	<0.015	<0.0050	<0.0050	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020	--	--
	08/21/13	<0.0050	<0.0050	<0.0050	<0.015	<0.0050	<0.0050	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020	--	--
	02/27/14	<0.0050	<0.0050	<0.0050	<0.015	<0.0050	<0.0050	0.00116	0.00052	0.00064	<0.00020	<0.00020	--	--
	08/21/14	<0.0050	<0.0050	<0.0050	<0.015	<0.0050	<0.0050	0.00292	0.00092	0.0020	<0.00010	<0.00020	--	--
	02/25/15	<0.00033	<0.00038	<0.00078	<0.0011	<0.0010	<0.00032	<0.00037	<0.00037	<0.00031	<0.00031	<0.00033	--	--
	08/27/15	<0.000331	<0.000384	<0.000780	<0.00106	<0.00100	<0.000324	<0.000372	<0.000372	<0.000332	<0.000311	<0.000334	--	--
	03/10/16	<0.000331	<0.000384	<0.000780	<0.00106	<0.00100	<0.000324	--	--	--	--	--	--	--
	08/17/16	<0.000331	<0.000384	<0.000780	<0.00106	<0.00100	<0.000324	<0.000372	<0.000372	<0.000332	<0.000311	<0.000334	--	--
	02/07/17	<0.000331	<0.000384	<0.000412	<0.00106	<0.00100	<0.000324	--	--	--	--	--	--	--
	08/16/17	<0.000331	<0.000384	<0.000412	<0.00106	<0.00100	<0.000324	<0.000372	<0.000372	<0.000332	<0.000311	0.00123 JB	--	--
	04/05/18	<0.000331	<0.000384	<0.000412	<0.00106	<0.00100	<0.000324	--	--	--	--	--	--	--
10/01/18	<0.000331	<0.000384	<0.000412	<0.00106	<0.00100	<0.000324	<0.000372	<0.000372	<0.000332	<0.000311	0.000859 JB	--	--	

Table 2. Organic Constituent Concentrations in Groundwater
HollyFrontier Navajo Refining LLC, AP-110, Lovington, New Mexico

Monitor Well	Sample Date	WQCC Volatiles (Method 8260, mg/L)						WQCC Semi-Volatiles (Method 8270, mg/L)					TPH (Method 8015, mg/L)	
		Benzene	Ethylbenzene	Toluene	Total Xylenes	Total Naphthalene	Chloroform	Total Naphthalenes	Naphthalene	1-Methyl naphthalene	2-Methyl naphthalene	Total Phenols	TPH GRO (Low Fraction)	TPH DRO (High Fraction)
NM WQCC Groundwater Human Health Standards:		0.010	0.75	0.75	0.62	0.03	0.1	0.03	N/A	N/A	N/A	0.005	N/A	N/A
MW-7	06/19/09	<0.0050	<0.0050	<0.0050	<0.015	<0.0050	--	--	--	--	--	--	--	--
	02/02/10	<0.0050	<0.0050	<0.0050	<0.015	<0.0050	--	--	--	--	--	--	--	--
	08/18/10	<0.0050	<0.0050	<0.0050	<0.015	<0.0050	--	--	--	--	--	--	--	--
	03/01/11	<0.0050	<0.0050	<0.0050	<0.015	<0.0050	--	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020	--	--
	07/20/11	<0.0050	<0.0050	<0.0050	<0.015	<0.0050	<0.0050	<0.00020	<0.00020	--	<0.00020	<0.00020	--	--
	02/02/12	<0.0050	<0.0050	<0.0050	<0.015	<0.0050	<0.0050	<0.00020	<0.00020	--	<0.00020	<0.00020	--	--
	07/27/12	<0.0050	<0.0050	<0.0050	<0.015	<0.0050	<0.0050	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020	--	--
	02/27/13	<0.0050	<0.0050	<0.0050	<0.015	<0.0050	<0.0050	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020	--	--
	08/21/13	<0.0050	<0.0050	<0.0050	<0.015	<0.0050	<0.0050	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020	--	--
	02/27/14	<0.0050	<0.0050	<0.0050	<0.015	<0.0050	<0.0050	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020	--	--
08/21/14	<0.0050	<0.0050	<0.0050	<0.015	<0.0050	<0.0050	<0.00010	<0.00010	<0.00010	<0.00010	<0.00020	--	--	
02/25/15	<0.00033	<0.00038	<0.00078	<0.0011	<0.0010	<0.00032	<0.00037	<0.00037	<0.00031	<0.00031	<0.00033	--	--	
08/27/15	<0.000331	<0.000384	<0.000780	<0.00106	<0.00100	<0.000324	<0.000372	<0.000372	<0.000332	<0.000311	0.000507 J	--	--	
MW-8	06/18/09	<0.0050	<0.0050	<0.0050	<0.015	<0.0050	--	--	--	--	--	--	--	--
	01/18/10	<0.0050	<0.0050	<0.0050	<0.015	<0.0050	--	--	--	--	--	--	--	--
	08/18/10	<0.0050	<0.0050	<0.0050	<0.015	<0.0050	--	--	--	--	--	--	--	--
	02/25/11	<0.0050	<0.0050	<0.0050	<0.015	<0.0050	--	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020	--	--
	07/19/11	<0.0050	<0.0050	<0.0050	<0.015	<0.0050	<0.0050	<0.00020	<0.00020	--	<0.00020	<0.00020	--	--
	02/01/12	<0.0050	<0.0050	<0.0050	<0.015	<0.0050	<0.0050	<0.00020	<0.00020	--	<0.00020	<0.00020	--	--
	07/27/12	<0.0050	<0.0050	<0.0050	<0.015	<0.0050	<0.0050	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020	--	--
	02/26/13	<0.0050	<0.0050	<0.0050	<0.015	<0.0050	<0.0050	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020	--	--
	08/21/13	<0.0050	<0.0050	<0.0050	<0.015	<0.0050	<0.0050	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020	--	--
	02/27/14	<0.0050	<0.0050	<0.0050	<0.015	<0.0050	<0.0050	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020	--	--
	08/21/14	<0.0050	<0.0050	<0.0050	<0.015	<0.0050	<0.0050	<0.00010	<0.00010	<0.00010	<0.00010	<0.00020	--	--
	02/26/15	<0.00033	<0.00038	<0.00078	<0.0011	<0.0010	<0.00032	<0.00037	<0.00037	<0.00031	<0.00031	<0.00033	--	--
	08/27/15	<0.000331	<0.000384	<0.000780	<0.00106	<0.00100	<0.000324	<0.000372	<0.000372	<0.000332	<0.000311	0.000990 J	--	--
	03/08/16	<0.000331	<0.000384	<0.000780	<0.00106	<0.00100	<0.000324	--	--	--	--	--	--	--
	08/18/16	<0.000331	<0.000384	<0.000780	<0.00106	<0.00100	<0.000324	--	--	--	--	--	--	--
	02/08/17	<0.000331	<0.000384	<0.000412	<0.00106	<0.00100	<0.000324	--	--	--	--	--	--	--
	08/17/17	<0.000331	<0.000384	<0.000412	<0.00106	<0.00100	<0.000324	--	--	--	--	--	--	--
	04/05/18	<0.000331	<0.000384	<0.000412	<0.00106	<0.00100	<0.000324	--	--	--	--	--	--	--
	10/01/18	<0.000331	<0.000384	<0.000412	<0.00106	<0.00100	<0.000324	--	--	--	--	--	--	--

Table 2. Organic Constituent Concentrations in Groundwater
HollyFrontier Navajo Refining LLC, AP-110, Lovington, New Mexico

Monitor Well	Sample Date	WQCC Volatiles (Method 8260, mg/L)						WQCC Semi-Volatiles (Method 8270, mg/L)					TPH (Method 8015, mg/L)	
		Benzene	Ethylbenzene	Toluene	Total Xylenes	Total Naphthalene	Chloroform	Total Naphthalenes	Naphthalene	1-Methyl naphthalene	2-Methyl naphthalene	Total Phenols	TPH GRO (Low Fraction)	TPH DRO (High Fraction)
NM WQCC Groundwater Human Health Standards:		0.010	0.75	0.75	0.62	0.03	0.1	0.03	N/A	N/A	N/A	0.005	N/A	N/A

MW-9	06/16/09	<0.0050	<0.0050	<0.0050	<0.015	<0.0050	--	--	--	--	--	--	--	--
	01/14/10	<0.0050	<0.0050	<0.0050	<0.015	<0.0050	--	--	--	--	--	--	--	--
	08/19/10	<0.0050	<0.0050	<0.0050	<0.015	<0.0050	--	--	--	--	--	--	--	--
	03/01/11	<0.0050	<0.0050	<0.0050	<0.015	<0.0050	--	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020	--	--
	07/15/11	<0.0050	<0.0050	<0.0050	<0.015	<0.0050	<0.0050	<0.00020	<0.00020	--	<0.00020	<0.00020	--	--
	01/31/12	<0.0050	<0.0050	<0.0050	<0.015	<0.0050	<0.0050	<0.00020	<0.00020	--	<0.00020	<0.00020	--	--
	07/25/12	<0.0050	<0.0050	<0.0050	<0.015	<0.0050	<0.0050	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020	--	--
	02/27/13	<0.0050	<0.0050	<0.0050	<0.015	<0.0050	<0.0050	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020	--	--
	08/22/13	<0.0050	<0.0050	<0.0050	<0.015	<0.0050	<0.0050	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020	--	--
	02/26/14	<0.0050	<0.0050	<0.0050	<0.015	<0.0050	<0.0050	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020	--	--
	08/21/14	<0.0050	<0.0050	<0.0050	<0.015	<0.0050	<0.0050	<0.00010	<0.00010	<0.00010	<0.00010	<0.00020	--	--
	02/25/15	<0.00033	<0.00038	<0.00078	<0.0011	<0.0010	<0.00032	<0.00037	<0.00037	<0.00031	<0.00031	<0.00033	--	--
	08/26/15	<0.000331	<0.000384	<0.000780	<0.00106	<0.00100	<0.000324	<0.000372	<0.000372	<0.000332	<0.000311	<0.000334	--	--
08/17/16	--	--	--	--	--	--	--	--	--	--	--	--	--	
08/16/17	--	--	--	--	--	--	--	--	--	--	--	--	--	
10/01/18	--	--	--	--	--	--	--	--	--	--	--	--	--	

MW-10	06/16/09	<0.0050	<0.0050	<0.0050	<0.015	<0.0050	--	--	--	--	--	--	--	--
	01/13/10	<0.0050	<0.0050	<0.0050	<0.015	<0.0050	--	--	--	--	--	--	--	--
	08/19/10	<0.0050	<0.0050	<0.0050	<0.015	<0.0050	--	--	--	--	<0.00020	<0.00020	--	--
	03/03/11	<0.0050	<0.0050	<0.0050	<0.015	<0.0050	--	0.00028	0.00028	<0.00020	<0.00020	<0.00020	--	--
	07/15/11	<0.0050	<0.0050	<0.0050	<0.015	<0.0050	<0.0050	<0.00020	<0.00020	--	<0.00020	<0.00020	--	--
	01/31/12	<0.0050	<0.0050	<0.0050	<0.015	<0.0050	<0.0050	<0.00020	<0.00020	--	<0.00020	<0.00020	--	--
	07/25/12	<0.0050	<0.0050	<0.0050	<0.015	<0.0050	<0.0050	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020	--	--
	02/27/13	<0.0050	<0.0050	<0.0050	<0.015	<0.0050	<0.0050	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020	--	--
	08/22/13	<0.0050	<0.0050	<0.0050	<0.015	<0.0050	<0.0050	<0.00020	<0.00020	<0.00020	<0.00020	0.00032	--	--
	02/26/14	<0.0050	<0.0050	<0.0050	<0.015	<0.0050	<0.0050	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020	--	--
	08/21/14	<0.0050	<0.0050	<0.0050	<0.015	<0.0050	<0.0050	<0.00010	<0.00010	<0.00010	<0.00010	<0.00020	--	--
	02/26/15	<0.00033	<0.00038	<0.00078	<0.0011	<0.0010	<0.00032	<0.00037	<0.00037	<0.00031	<0.00031	<0.00033	--	--
	08/26/15	<0.000331	<0.000384	<0.00078	<0.00106	<0.0010	<0.000324	<0.000372	<0.000372	<0.000332	<0.000311	<0.000334	--	--
	08/17/16	--	--	--	--	--	--	--	--	--	--	--	--	--
	08/16/17	--	--	--	--	--	--	--	--	--	--	--	--	--
	10/01/18	--	--	--	--	--	--	--	--	--	--	--	--	--

Table 2. Organic Constituent Concentrations in Groundwater
HollyFrontier Navajo Refining LLC, AP-110, Lovington, New Mexico

Monitor Well	Sample Date	WQCC Volatiles (Method 8260, mg/L)						WQCC Semi-Volatiles (Method 8270, mg/L)					TPH (Method 8015, mg/L)	
		Benzene	Ethylbenzene	Toluene	Total Xylenes	Total Naphthalene	Chloroform	Total Naphthalenes	Naphthalene	1-Methyl naphthalene	2-Methyl naphthalene	Total Phenols	TPH GRO (Low Fraction)	TPH DRO (High Fraction)
NM WQCC Groundwater Human Health Standards:		0.010	0.75	0.75	0.62	0.03	0.1	0.03	N/A	N/A	N/A	0.005	N/A	N/A
MW-11	06/18/09	0.10	<0.0050	<0.0050	<0.015	<0.0050	--	--	--	--	--	--	--	--
	01/18/10	0.20 E	<0.0050	<0.0050	<0.015	<0.0050	--	--	--	--	--	--	--	--
	08/18/10	0.078	0.021	<0.0050	<0.015	<0.0050	--	0.00036	0.00036	--	--	0.00122	--	--
	02/25/11	<0.0050	<0.0050	<0.0050	<0.015	<0.0050	--	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020	--	--
	07/19/11	1.2	<0.0050	<0.0050	<0.015	<0.0050	<0.0050	0.00036	0.00036	--	<0.00020	0.00089	--	--
	02/01/12	7.8	0.051	<0.0050	0.200	0.096	<0.0050	0.0435	0.039	--	0.0045	0.0035	--	--
	07/27/12	0.049	<0.0050	<0.0050	<0.015	<0.0050	<0.0050	0.00022	0.00022	<0.00020	<0.00020	0.00023	--	--
	02/27/13	<0.0050	<0.0050	<0.0050	<0.015	<0.0050	<0.0050	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020	--	--
	02/27/13	<0.0050	<0.0050	<0.0050	<0.015	<0.0050	<0.0050	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020	--	--
	08/21/13	<0.0050	<0.0050	<0.0050	<0.015	<0.0050	<0.0050	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020	--	--
	08/21/13	<0.0050	<0.0050	<0.0050	<0.015	<0.0050	<0.0050	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020	--	--
	02/28/14	0.9600	0.250	<0.0050	0.200	0.0064	<0.0050	-- ⁽¹⁾	-- ⁽¹⁾	-- ⁽¹⁾	-- ⁽¹⁾	-- ⁽¹⁾	--	--
	08/20/14	0.1100	0.011	<0.0050	0.030	<0.0050	<0.0050	-- ⁽¹⁾	-- ⁽¹⁾	-- ⁽¹⁾	-- ⁽¹⁾	-- ⁽¹⁾	--	--
	02/27/15	0.0026	0.00099 J	<0.00078	0.0036	<0.0010	<0.00032	<0.00037	<0.00037	<0.00031	<0.00031	0.0010 J	--	--
	08/28/15	0.00856	0.00194	0.00283 J	0.0158	<0.00100	0.000420 J	-- ⁽¹⁾	-- ⁽¹⁾	-- ⁽¹⁾	-- ⁽¹⁾	-- ⁽¹⁾	--	--
	08/28/15	0.00922	0.00216	0.00305 J	0.0180	<0.00100	0.000467 J	-- ⁽¹⁾	-- ⁽¹⁾	-- ⁽¹⁾	-- ⁽¹⁾	-- ⁽¹⁾	--	--
03/09/16	0.000627 J	0.000778 J	<0.000780	<0.00106	<0.00100	<0.000324	-- ⁽¹⁾	-- ⁽¹⁾	-- ⁽¹⁾	-- ⁽¹⁾	-- ⁽¹⁾	--	--	
03/09/16	0.000772 J	0.000908 J	<0.000780	<0.00106	<0.00100	<0.000324	-- ⁽¹⁾	-- ⁽¹⁾	-- ⁽¹⁾	-- ⁽¹⁾	-- ⁽¹⁾	--	--	
08/15/16	DRY WELL - PLUGGED AND ABANDONED DECEMBER 2016													
MW-11R (duplicate)	02/08/17	<0.000331	<0.000384	<0.000412	<0.00106	<0.00100	<0.000324	<0.000372	<0.000372	<0.000332	<0.000311	<0.000334	--	--
	02/08/17	<0.000331	<0.000384	<0.000412	<0.00106	<0.00100	<0.000324	<0.000372	<0.000372	<0.000332	<0.000311	<0.000334	--	--
	08/17/17	<0.000331	<0.000384	<0.000412	<0.00106	<0.00100	0.000392 J	<0.000372	<0.000372	<0.000332	<0.000311	0.00167 JB	--	--
	04/05/18	<0.000331	<0.000384	<0.000412	<0.00106	<0.00100	0.000350 J	<0.000413	<0.000413	<0.000368	<0.000345	0.000744 JB	--	--
	10/01/18	<0.000331	<0.000384	<0.000412	<0.00106	<0.00100	<0.000324	<0.000372	<0.000372	<0.000332	<0.000311	<0.000334	--	--
MW-12	06/16/09	<0.0050	<0.0050	<0.0050	<0.015	<0.0050	--	--	--	--	--	--	--	--
	01/18/10	<0.0050	<0.0050	<0.0050	<0.015	<0.0050	--	--	--	--	--	--	--	--
	08/20/10	<0.0050	<0.0050	<0.0050	<0.015	<0.0050	--	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020	--	--
	02/25/11	<0.0050	<0.0050	<0.0050	<0.015	<0.0050	--	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020	--	--
	07/19/11	<0.0050	<0.0050	<0.0050	<0.015	<0.0050	<0.0050	<0.00020	<0.00020	--	<0.00020	<0.00020	--	--
	--	DAMAGED WELL - PLUGGED AND ABANDONED JUNE 2013												

Table 2. Organic Constituent Concentrations in Groundwater
HollyFrontier Navajo Refining LLC, AP-110, Lovington, New Mexico

Monitor Well	Sample Date	WQCC Volatiles (Method 8260, mg/L)						WQCC Semi-Volatiles (Method 8270, mg/L)					TPH (Method 8015, mg/L)	
		Benzene	Ethylbenzene	Toluene	Total Xylenes	Total Naphthalene	Chloroform	Total Naphthalenes	Naphthalene	1-Methyl naphthalene	2-Methyl naphthalene	Total Phenols	TPH GRO (Low Fraction)	TPH DRO (High Fraction)
NM WQCC Groundwater Human Health Standards:		0.010	0.75	0.75	0.62	0.03	0.1	0.03	N/A	N/A	N/A	0.005	N/A	N/A

MW-12R	08/21/13	<0.0050	<0.0050	<0.0050	<0.015	<0.0050	<0.0050	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020	--	--
	02/27/14	<0.0050	<0.0050	<0.0050	<0.015	<0.0050	<0.0050	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020	--	--
	08/20/14	<0.0050	<0.0050	<0.0050	<0.015	<0.0050	<0.0050	<0.00010	<0.00010	<0.00010	<0.00010	<0.00020	--	--
	02/24/15	<0.00033	<0.00038	<0.00078	<0.0011	<0.0010	<0.00032	<0.00037	<0.00037	<0.00031	<0.00031	<0.00033	--	--
	08/25/15	<0.000331	<0.000384	<0.000780	<0.00106	<0.00100	<0.000324	<0.000372	<0.000372	<0.000332	<0.000311	0.000362 J	--	--
	03/09/16	<0.000331	<0.000384	<0.000780	<0.00106	<0.00100	<0.000324	<0.000372	<0.000372	<0.000332	<0.000311	<0.000334	--	--
	08/18/16	<0.000331	<0.000384	<0.000780	<0.00106	<0.00100	<0.000324	<0.000439	<0.000439	<0.000392	<0.000367	<0.000394	--	--
	02/08/17	<0.000331	<0.000384	<0.000412	<0.00106	<0.00100	<0.000324	<0.000372	<0.000372	<0.000332	<0.000311	<0.000334	--	--
	08/16/17	<0.000331	<0.000384	<0.000412	<0.00106	<0.00100	<0.000324	<0.000372	<0.000372	<0.000332	<0.000311	0.00273 JB	--	--
	(duplicate)	04/05/18	<0.000331	<0.000384	<0.000412	<0.00106	<0.00100	<0.000324	<0.000372	<0.000372	<0.000332	<0.000311	0.00237 JB	--
(duplicate)	04/05/18	<0.000331	<0.000384	<0.000412	<0.00106	<0.00100	<0.000324	<0.000372	<0.000372	<0.000332	<0.000311	0.00230 JB	--	--
(duplicate)	10/01/18	<0.000331	<0.000384	<0.000412	<0.00106	<0.00100	<0.000324	<0.000372	<0.000372	<0.000332	<0.000311	0.00262 JB	--	--
(duplicate)	10/01/18	<0.000331	<0.000384	<0.000412	<0.00106	<0.00100	<0.000324	<0.000372	<0.000372	<0.000332	<0.000311	0.00441 JB	--	--

MW-13	06/16/09	<0.0050	<0.0050	<0.0050	<0.015	<0.0050	--	--	--	--	--	--	--	--
	01/18/10	<0.0050	<0.0050	<0.0050	<0.015	<0.0050	--	--	--	--	--	--	--	--
	08/18/10	0.016	<0.0050	<0.0050	<0.015	<0.0050	--	--	--	--	--	--	--	--
	02/25/11	0.0057	<0.0050	<0.0050	<0.015	<0.0050	--	<0.00020	<0.00020	<0.00020	<0.00020	0.00091	--	--
	07/19/11	0.0063	<0.0050	<0.0050	<0.015	<0.0050	<0.0050	<0.00020	<0.00020	--	<0.00020	<0.00020	--	--
	02/01/12	<0.0050	<0.0050	<0.0050	<0.015	<0.0050	<0.0050	<0.00020	<0.00020	--	<0.00020	<0.00020	--	--
	07/26/12	<0.0050	<0.0050	<0.0050	<0.015	<0.0050	<0.0050	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020	--	--
	02/26/13	<0.0050	<0.0050	<0.0050	<0.015	<0.0050	<0.0050	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020	--	--
	08/21/13	<0.0050	<0.0050	<0.0050	<0.015	<0.0050	<0.0050	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020	--	--
	02/27/14	<0.0050	<0.0050	<0.0050	<0.015	<0.0050	<0.0050	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020	--	--
	08/19/14	<0.0050	<0.0050	<0.0050	<0.015	<0.0050	<0.0050	<0.00010	<0.00010	<0.00010	<0.00010	<0.00020	--	--
	02/27/15	0.00034 J	<0.00038	<0.00078	<0.0011	<0.0010	<0.00032	<0.00037	<0.00037	<0.00031	<0.00031	<0.00033	--	--
	08/26/15	<0.000331	<0.000384	<0.000780	<0.00106	<0.00100	<0.000324	<0.000372	<0.000372	<0.000332	<0.000311	0.000379 J	--	--
	03/08/16	<0.000331	<0.000384	<0.000780	<0.00106	<0.00100	<0.000324	<0.000372	<0.000372	<0.000332	<0.000311	<0.000334	--	--
	08/17/16	<0.000331	<0.000384	<0.000780	<0.00106	<0.00100	<0.000324	<0.000372	<0.000372	<0.000332	<0.000311	<0.000334	--	--
	02/08/17	<0.000331	<0.000384	<0.000412	<0.00106	<0.00100	<0.000324	--	--	--	--	--	--	--
	08/17/17	0.000397 J	<0.000384	<0.000412	<0.00106	<0.00100	<0.000324	<0.000372	<0.000372	<0.000332	<0.000311	0.00270 JB	--	--
	04/05/18	-- ⁽¹⁾	-- ⁽¹⁾	-- ⁽¹⁾	-- ⁽¹⁾	-- ⁽¹⁾	-- ⁽¹⁾	-- ⁽¹⁾	--	--	--	--	--	--
09/26/18 DRY WELL - PLUGGED AND ABANDONED SEPTEMBER 2018														

MW-13R	10/01/18	<0.000331	<0.000384	0.000506 J	<0.00106	<0.00100	<0.000324	<0.000372	<0.000372	<0.000332	<0.000311	0.00134 JB	--	--

Table 2. Organic Constituent Concentrations in Groundwater
HollyFrontier Navajo Refining LLC, AP-110, Lovington, New Mexico

Monitor Well	Sample Date	WQCC Volatiles (Method 8260, mg/L)						WQCC Semi-Volatiles (Method 8270, mg/L)					TPH (Method 8015, mg/L)	
		Benzene	Ethylbenzene	Toluene	Total Xylenes	Total Naphthalene	Chloroform	Total Naphthalenes	Naphthalene	1-Methyl naphthalene	2-Methyl naphthalene	Total Phenols	TPH GRO (Low Fraction)	TPH DRO (High Fraction)
NM WQCC Groundwater Human Health Standards:		0.010	0.75	0.75	0.62	0.03	0.1	0.03	N/A	N/A	N/A	0.005	N/A	N/A

MW-14	06/16/09	<0.0050	<0.0050	<0.0050	<0.015	<0.0050	--	--	--	--	--	--	--	--
	01/18/10	<0.0050	<0.0050	<0.0050	<0.015	<0.0050	--	--	--	--	--	--	--	--
	08/20/10	<0.0050	<0.0050	<0.0050	<0.015	<0.0050	--	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020	--	--
	02/25/11	<0.0050	<0.0050	<0.0050	<0.015	<0.0050	--	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020	--	--
	07/18/11	<0.0050	<0.0050	<0.0050	<0.015	<0.0050	<0.0050	<0.00020	<0.00020	--	<0.00020	<0.00020	--	--
	01/31/12	<0.0050	<0.0050	<0.0050	<0.015	<0.0050	<0.0050	<0.00020	<0.00020	--	<0.00020	<0.00020	--	--
	07/25/12	<0.0050	<0.0050	<0.0050	<0.015	<0.0050	<0.0050	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020	--	--
	02/22/13	<0.0050	<0.0050	<0.0050	<0.015	<0.0050	<0.0050	<0.000205	<0.00020	<0.000205	<0.000205	<0.000205	--	--
	08/22/13	<0.0050	<0.0050	<0.0050	<0.015	<0.0050	<0.0050	-- ⁽¹⁾	-- ⁽¹⁾	-- ⁽¹⁾	-- ⁽¹⁾	-- ⁽¹⁾	--	--
	02/28/14	<0.0050	<0.0050	<0.0050	<0.015	<0.0050	<0.0050	-- ⁽¹⁾	-- ⁽¹⁾	-- ⁽¹⁾	-- ⁽¹⁾	-- ⁽¹⁾	--	--
	08/20/14	<0.0050	<0.0050	<0.0050	<0.015	<0.0050	<0.0050	-- ⁽¹⁾	-- ⁽¹⁾	-- ⁽¹⁾	-- ⁽¹⁾	-- ⁽¹⁾	--	--
	02/27/15	<0.00033	<0.00038	<0.00078	<0.0011	<0.0010	<0.00032	<0.00037	<0.00037	<0.00031	<0.00031	<0.00033	--	--
	08/27/15	<0.000331	<0.000384	<0.000780	<0.00106	<0.00100	<0.000324	<0.000372	<0.000372	<0.000332	<0.000311	0.000530 J	--	--
	08/19/16	<0.000331	<0.000384	<0.000780	<0.00106	<0.00100	<0.000324	<0.000413	<0.000413	<0.000368	<0.000345	0.000642 J	--	--
	08/16/17	<0.000331	<0.000384	<0.000412	<0.00106	<0.00100	<0.000324	<0.000372	<0.000372	<0.000332	<0.000311	0.00318 JB	--	--
09/27/18		DRY WELL - PLUGGED AND ABANDONED SEPTEMBER 2018												

MW-14R	10/01/18	<0.000331	<0.000384	0.00186	<0.00106	<0.00100	<0.000324	<0.000372	<0.000372	<0.000332	<0.000311	0.00278 JB	--	--

MW-15	08/20/10	<0.0050	<0.0050	<0.0050	<0.015	<0.0050	--	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020	--	--
	02/24/11	<0.0050	<0.0050	<0.0050	<0.015	<0.0050	--	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020	--	--
	07/14/11	<0.0050	<0.0050	<0.0050	<0.015	<0.0050	0.017	<0.00020	<0.00020	--	<0.00020	<0.00020	--	--
	01/30/12	<0.0050	<0.0050	<0.0050	<0.015	<0.0050	0.0095	<0.00020	<0.00020	--	<0.00020	<0.00020	--	--
	07/24/12	<0.0050	<0.0050	<0.0050	<0.015	<0.0050	0.017	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020	--	--
	02/19/13	<0.0050	<0.0050	<0.0050	<0.015	<0.0050	0.030	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020	--	--
	08/20/13	<0.0050	<0.0050	<0.0050	<0.015	<0.0050	0.006	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020	--	--
	(duplicate) 08/20/13	<0.0050	<0.0050	<0.0050	<0.015	<0.0050	0.0056	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020	--	--
	(duplicate) 02/24/14	<0.0050	<0.0050	<0.0050	<0.015	<0.0050	0.013	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020	--	--
	(duplicate) 02/24/14	<0.0050	<0.0050	<0.0050	<0.015	<0.0050	0.011	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020	--	--
	(duplicate) 08/21/14	<0.0050	<0.0050	<0.0050	<0.015	<0.0050	0.011	<0.00010	<0.00010	<0.00010	<0.00010	<0.00020	--	--
	(duplicate) 08/21/14	<0.0050	<0.0050	<0.0050	<0.015	<0.0050	0.011	<0.00010	<0.00010	<0.00010	<0.00010	<0.00020	--	--
	(duplicate) 02/24/15	<0.00033	<0.00038	<0.00078	<0.0011	<0.0010	0.0081	<0.00037	<0.00037	<0.00031	<0.00031	<0.00033	--	--
	(duplicate) 08/27/15	<0.000331	<0.000384	<0.000780	<0.00106	<0.00100	0.00447 J	<0.000372	<0.000372	<0.000332	<0.000311	0.000997 J	--	--
(duplicate)	08/27/15	<0.000331	<0.000384	<0.000780	<0.00106	<0.00100	0.00574	<0.000372	<0.000372	<0.000332	<0.000311	0.000595 J	--	--
	03/07/16	--	--	--	--	--	--	--	--	--	--	--	--	--
	08/15/16	<0.000331	<0.000384	<0.000780	<0.00106	<0.00100	0.00570	<0.000372	<0.000372	<0.000332	<0.000311	<0.000334	--	--
	08/15/16	<0.000331	<0.000384	<0.000780	<0.00106	<0.00100	0.00539	<0.000372	<0.000372	<0.000332	<0.000311	0.000534 J	--	--
	02/06/17	--	--	--	--	--	--	--	--	--	--	--	--	--
	08/06/17	<0.000331	<0.000384	<0.000412	<0.00106	<0.00100	0.00474 J	<0.000372	<0.000372	<0.000332	<0.000311	0.00209 JB	--	--
	04/05/18	--	--	--	--	--	--	--	--	--	--	--	--	--
	10/01/18	<0.000331	<0.000384	<0.000412	<0.00106	<0.00100	0.00217 J	<0.000372	<0.000372	<0.000332	<0.000311	0.000915 JB	--	--

Table 2. Organic Constituent Concentrations in Groundwater
HollyFrontier Navajo Refining LLC, AP-110, Lovington, New Mexico

Monitor Well	Sample Date	WQCC Volatiles (Method 8260, mg/L)						WQCC Semi-Volatiles (Method 8270, mg/L)					TPH (Method 8015, mg/L)	
		Benzene	Ethylbenzene	Toluene	Total Xylenes	Total Naphthalene	Chloroform	Total Naphthalenes	Naphthalene	1-Methyl naphthalene	2-Methyl naphthalene	Total Phenols	TPH GRO (Low Fraction)	TPH DRO (High Fraction)
NM WQCC Groundwater Human Health Standards:		0.010	0.75	0.75	0.62	0.03	0.1	0.03	N/A	N/A	N/A	0.005	N/A	N/A
MW-16 (duplicate)	08/20/10	<0.0050	<0.0050	<0.0050	<0.015	<0.0050	--	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020	--	--
	02/24/11	<0.0050	<0.0050	<0.0050	<0.015	<0.0050	--	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020	--	--
	07/15/11	<0.0050	<0.0050	<0.0050	<0.015	<0.0050	<0.0050	0.00030	0.00030	--	<0.00020	<0.00020	--	--
	07/15/11	<0.0050	<0.0050	<0.0050	<0.015	<0.0050	<0.0050	<0.00020	<0.00020	--	<0.00020	<0.00020	--	--
	01/30/12	<0.0050	<0.0050	<0.0050	<0.015	<0.0050	<0.0050	<0.00020	<0.00020	--	<0.00020	<0.00020	--	--
	07/24/12	<0.0050	<0.0050	<0.0050	<0.015	<0.0050	<0.0050	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020	--	--
	02/20/13	<0.0050	<0.0050	<0.0050	<0.015	<0.0050	<0.0050	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020	--	--
	08/20/13	<0.0050	<0.0050	<0.0050	<0.015	<0.0050	<0.0050	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020	--	--
	02/25/14	<0.0050	<0.0050	<0.0050	<0.015	<0.0050	<0.0050	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020	--	--
	08/19/14	<0.0050	<0.0050	<0.0050	<0.015	<0.0050	<0.0050	<0.00010	<0.00010	<0.00010	<0.00010	<0.00020	--	--
	02/24/15	<0.00033	<0.00038	<0.00078	<0.0011	<0.0010	<0.00032	0.00037	0.00037	<0.00031	<0.00031	<0.00033	--	--
	08/27/15	<0.000331	<0.000384	<0.000780	<0.00106	<0.00100	<0.000324	<0.000372	<0.000372	<0.000332	<0.000311	0.000397 J	--	--
	08/15/16	<0.000331	<0.000384	<0.000780	<0.00106	<0.00100	<0.000324	<0.000372	<0.000372	<0.000332	<0.000311	<0.000334	--	--
08/17/17	<0.000331	<0.000384	<0.000412	<0.00106	<0.00100	<0.000324	<0.000372	<0.000372	<0.000332	<0.000311	0.00429 JB	--	--	
10/01/18	<0.000331	<0.000384	<0.000412	<0.00106	<0.00100	<0.000324	<0.000372	<0.000372	<0.000332	<0.000311	0.000817 JB	--	--	
MW-17	08/20/10	<0.0050	<0.0050	<0.0050	<0.015	<0.0050	--	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020	--	--
	02/24/11	<0.0050	<0.0050	<0.0050	<0.015	<0.0050	--	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020	--	--
	07/18/11	<0.0050	<0.0050	<0.0050	<0.015	<0.0050	<0.0050	<0.00020	<0.00020	--	<0.00020	<0.00020	--	--
	--	DAMAGED WELL - PLUGGED AND ABANDONED JUNE 2013												
MW-17R (duplicate)	08/22/13	<0.0050	<0.0050	<0.0050	<0.015	<0.0050	<0.0050	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020	--	--
	02/27/14	<0.0050	<0.0050	<0.0050	<0.015	<0.0050	<0.0050	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020	--	--
	08/22/14	<0.0050	<0.0050	<0.0050	<0.015	<0.0050	<0.0050	<0.00010	<0.00010	<0.00010	<0.00010	<0.00020	--	--
	02/26/15	<0.00033	<0.00038	<0.00078	<0.0011	<0.0010	<0.00032	<0.00037	<0.00037	<0.00031	<0.00031	<0.00033	--	--
	08/27/15	<0.000331	<0.000384	<0.000780	<0.00106	<0.00100	<0.000324	<0.000372	<0.000372	<0.000332	<0.000311	0.000465 J	--	--
	03/08/16	<0.000331	<0.000384	<0.000780	<0.00106	<0.00100	<0.000324	<0.000372	<0.000372	<0.000332	<0.000311	<0.000334	--	--
	08/17/16	<0.000331	<0.000384	<0.000780	<0.00106	<0.00100	<0.000324	<0.000372	<0.000372	<0.000332	<0.000311	<0.000334	--	--
	02/09/17	<0.000331	<0.000384	<0.000412	<0.00106	<0.00100	<0.000324	<0.000372	<0.000372	<0.000332	<0.000311	<0.000334	--	--
	08/16/17	<0.000331	<0.000384	<0.000412	<0.00106	<0.00100	<0.000324	<0.000372	<0.000372	<0.000332	<0.000311	0.00208 JB	--	--
	04/05/18	<0.000331	<0.000384	<0.000412	<0.00106	<0.00100	<0.000324	0.00133	0.00133	<0.000332	<0.000311	0.00488 JB	--	--
	04/05/18	<0.000331	<0.000384	<0.000412	<0.00106	<0.00100	<0.000324	<0.000372	<0.000372	<0.000332	<0.000311	0.00290 JB	--	--
	10/01/18	<0.000331	<0.000384	<0.000412	<0.00106	<0.00100	<0.000324	<0.000372	<0.000372	<0.000332	<0.000311	0.00259 JB	--	--

Table 2. Organic Constituent Concentrations in Groundwater
HollyFrontier Navajo Refining LLC, AP-110, Lovington, New Mexico

Monitor Well	Sample Date	WQCC Volatiles (Method 8260, mg/L)						WQCC Semi-Volatiles (Method 8270, mg/L)					TPH (Method 8015, mg/L)	
		Benzene	Ethylbenzene	Toluene	Total Xylenes	Total Naphthalene	Chloroform	Total Naphthalenes	Naphthalene	1-Methyl naphthalene	2-Methyl naphthalene	Total Phenols	TPH GRO (Low Fraction)	TPH DRO (High Fraction)
NM WQCC Groundwater Human Health Standards:		0.010	0.75	0.75	0.62	0.03	0.1	0.03	N/A	N/A	N/A	0.005	N/A	N/A

MW-18	08/23/10	<0.0050	<0.0050	<0.0050	<0.015	<0.0050	--	--	--	--	--	--	--	--
	02/24/11	<0.0050	<0.0050	<0.0050	<0.015	<0.0050	--	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020	--	--
	07/18/11	<0.0050	<0.0050	<0.0050	<0.015	<0.0050	<0.0050	<0.00020	<0.00020	--	<0.00020	<0.00020	--	--
	01/31/12	<0.0050	<0.0050	<0.0050	<0.015	<0.0050	<0.0050	0.00021	0.00021	--	<0.00020	<0.00020	--	--
	07/25/12	<0.0050	<0.0050	<0.0050	<0.015	<0.0050	<0.0050	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020	--	--
	02/22/13	<0.0050	<0.0050	<0.0050	<0.015	<0.0050	<0.0050	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020	--	--
	08/22/13	<0.0050	<0.0050	<0.0050	<0.015	<0.0050	<0.0050	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020	--	--
	02/26/14	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.00020	<0.00020	<0.00020	<0.00020	0.00056	--	--
	08/20/14	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.00010	<0.00010	<0.00010	<0.00010	<0.00020	--	--
	02/26/15	<0.00033	<0.00038	<0.00078	<0.0011	<0.0010	<0.00032	<0.00037	<0.00037	<0.00031	<0.00031	<0.00033	--	--
	08/25/15	<0.000331	<0.000384	<0.000780	<0.00106	<0.00100	<0.000324	<0.000372	<0.000372	<0.000332	<0.000311	0.000507 J	--	--
08/17/16	<0.000331	<0.000384	<0.000780	<0.00106	<0.00100	<0.000324	<0.000439	<0.000439	<0.000392	<0.000367	0.000507 J	--	--	
08/16/17	<0.000331	<0.000384	<0.000412	<0.00106	<0.00100	<0.000324	<0.000439	<0.000439	<0.000392	<0.000367	0.00205 JB	--	--	
10/01/18	<0.000331	<0.000384	<0.000412	<0.00106	<0.00100	<0.000324	<0.000372	<0.000372	<0.000332	<0.000311	0.00283 JB	--	--	

MW-19	08/23/10	<0.0050	<0.0050	<0.0050	<0.015	<0.0050	--	--	--	--	--	--	--	--
	02/24/11	<0.0050	<0.0050	<0.0050	<0.015	<0.0050	--	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020	--	--
	07/18/11	<0.0050	<0.0050	<0.0050	<0.015	<0.0050	<0.0050	<0.00020	<0.00020	--	<0.00020	<0.00020	--	--
	01/31/12	<0.0050	<0.0050	<0.0050	<0.015	<0.0050	<0.0050	<0.00020	<0.00020	--	<0.00020	<0.00020	--	--
	07/25/12	<0.0050	<0.0050	<0.0050	<0.015	<0.0050	<0.0050	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020	--	--
	02/26/13	<0.0050	<0.0050	<0.0050	<0.015	<0.0050	<0.0050	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020	--	--
	08/22/13	<0.0050	<0.0050	<0.0050	<0.015	<0.0050	<0.0050	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020	--	--
	08/22/13	<0.0050	<0.0050	<0.0050	<0.015	<0.0050	<0.0050	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020	--	--
	02/26/14	<0.0050	<0.0050	<0.0050	<0.015	<0.0050	<0.0050	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020	--	--
	02/26/14	<0.0050	<0.0050	<0.0050	<0.015	<0.0050	<0.0050	<0.00020	<0.00020	<0.00020	<0.00020	0.00034	--	--
	08/19/14	<0.0050	<0.0050	<0.0050	<0.015	<0.0050	<0.0050	<0.00010	<0.00010	<0.00010	<0.00010	<0.00020	--	--
(duplicate)	08/19/14	<0.0050	<0.0050	<0.0050	<0.015	<0.0050	<0.0050	<0.00010	<0.00010	<0.00010	<0.00010	<0.00020	--	--
	02/26/15	<0.00033	<0.00038	<0.00078	<0.0011	<0.0010	<0.00032	<0.00037	<0.00037	<0.00031	<0.00031	<0.00033	--	--
	02/26/15	<0.00033	<0.00038	<0.00078	<0.0011	<0.0010	<0.00032	<0.00037	<0.00037	<0.00031	<0.00031	<0.00033	--	--
(duplicate)	08/26/15	<0.000331	<0.000384	<0.000780	<0.00106	<0.00100	<0.000324	<0.000372	<0.000372	<0.000332	<0.000311	0.000610 J	--	--
	03/08/16	--	--	--	--	--	--	--	--	--	--	--	--	--
	08/17/16	<0.000331	<0.000384	<0.000780	<0.00106	<0.00100	<0.000324	<0.00186	<0.00186	<0.00166	<0.00156	0.00818 J	--	--
(duplicate)	02/08/17	--	--	--	--	--	--	--	--	--	--	--	--	--
	08/16/17	<0.000331	<0.000384	<0.000412	<0.00106	<0.00100	<0.000324	<0.000372	<0.000372	<0.000332	<0.000311	0.00310 JB	--	--
	08/16/17	<0.000331	<0.000384	<0.000412	<0.00106	<0.00100	<0.000324	<0.000372	<0.000372	<0.000332	<0.000311	0.00320 JB	--	--
	04/05/18	--	--	--	--	--	--	--	--	--	--	--	--	--
	10/01/18	<0.000331	<0.000384	<0.000412	<0.00106	<0.00100	<0.000324	<0.000372	<0.000372	<0.000332	<0.000311	0.00216 JB	--	--

Table 2. Organic Constituent Concentrations in Groundwater
HollyFrontier Navajo Refining LLC, AP-110, Lovington, New Mexico

Monitor Well	Sample Date	WQCC Volatiles (Method 8260, mg/L)						WQCC Semi-Volatiles (Method 8270, mg/L)					TPH (Method 8015, mg/L)	
		Benzene	Ethylbenzene	Toluene	Total Xylenes	Total Naphthalene	Chloroform	Total Naphthalenes	Naphthalene	1-Methyl naphthalene	2-Methyl naphthalene	Total Phenols	TPH GRO (Low Fraction)	TPH DRO (High Fraction)
NM WQCC Groundwater Human Health Standards:		0.010	0.75	0.75	0.62	0.03	0.1	0.03	N/A	N/A	N/A	0.005	N/A	N/A

MW-20	08/23/10	<0.0050	<0.0050	<0.0050	<0.015	<0.0050	--	--	--	--	--	--	--	--
	02/25/11	<0.0050	<0.0050	<0.0050	<0.015	<0.0050	--	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020	--	--
	07/18/11	<0.0050	<0.0050	<0.0050	<0.015	<0.0050	<0.0050	<0.00020	<0.00020	--	<0.00020	<0.00020	--	--
	01/31/12	<0.0050	<0.0050	<0.0050	<0.015	<0.0050	<0.0050	<0.00020	<0.00020	--	<0.00020	<0.00020	--	--
	07/25/12	<0.0050	<0.0050	<0.0050	<0.015	<0.0050	<0.0050	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020	--	--
	02/22/13	<0.0050	<0.0050	<0.0050	<0.015	<0.0050	<0.0050	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020	--	--
	08/20/13	<0.0050	<0.0050	<0.0050	<0.015	<0.0050	<0.0050	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020	--	--
	02/26/14	<0.0050	<0.0050	<0.0050	<0.015	<0.0050	<0.0050	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020	--	--
	08/19/14	<0.0050	<0.0050	<0.0050	<0.015	<0.0050	<0.0050	<0.00010	<0.00010	<0.00010	<0.00010	<0.00020	--	--
	02/24/15	<0.00033	<0.00038	<0.00078	<0.0011	<0.0010	<0.00032	<0.00037	<0.00037	<0.00031	<0.00031	<0.00033	--	--
	08/15/15	<0.000331	<0.000384	<0.000780	<0.00106	<0.00100	<0.000324	<0.000372	<0.000372	<0.000332	<0.000311	0.000508 J	--	--
	08/16/16	<0.000331	<0.000384	<0.000780	<0.00106	<0.00100	<0.000324	<0.000372	<0.000372	<0.000332	<0.000311	<0.000334	--	--
08/17/17	<0.000331	<0.000384	<0.000412	<0.00106	<0.00100	<0.000324	<0.000372	<0.000372	<0.000332	<0.000311	0.00262 JB	--	--	
10/01/18	<0.000331	<0.000384	<0.000412	<0.00106	<0.00100	<0.000324	<0.000372	<0.000372	<0.000332	<0.000311	0.00309 JB	--	--	

(duplicate)	08/23/10	<0.0050	<0.0050	<0.0050	<0.015	<0.0050	--	--	--	--	--	--	--	--
	02/28/11	<0.0050	<0.0050	<0.0050	<0.015	<0.0050	--	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020	--	--
	02/28/11	<0.0050	<0.0050	<0.0050	<0.015	<0.0050	--	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020	--	--
	07/19/11	<0.0050	<0.0050	<0.0050	<0.015	<0.0050	<0.0050	<0.00020	<0.00020	--	<0.00020	<0.00020	--	--
	01/31/12	<0.0050	<0.0050	<0.0050	<0.015	<0.0050	<0.0050	<0.00020	<0.00020	--	<0.00020	<0.00020	--	--
	07/26/12	<0.0050	<0.0050	<0.0050	<0.015	<0.0050	<0.0050	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020	--	--
	02/22/13	<0.0050	<0.0050	<0.0050	<0.015	<0.0050	<0.0050	0.00031	<0.00020	<0.00020	0.00031	<0.00020	--	--
	08/20/13	<0.0050	<0.0050	<0.0050	<0.015	<0.0050	<0.0050	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020	--	--
	02/25/14	<0.0050	<0.0050	<0.0050	<0.015	<0.0050	<0.0050	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020	--	--
	08/19/14	<0.0050	<0.0050	<0.0050	<0.015	<0.0050	<0.0050	<0.00010	<0.00010	<0.00010	<0.00010	<0.00020	--	--
	02/24/15	<0.00033	<0.00038	<0.00078	<0.0011	<0.0010	<0.00032	<0.00037	<0.00037	<0.00031	<0.00031	<0.00033	--	--
	08/25/15	<0.000331	<0.000384	<0.000780	<0.00106	<0.00100	<0.000324	<0.000372	<0.000372	<0.000332	<0.000311	0.000497 J	--	--
	08/16/16	<0.000331	<0.000384	<0.000780	<0.00106	<0.00100	<0.000324	<0.000372	<0.000372	<0.000332	<0.000311	<0.000334	<0.100	0.624
	08/17/17	--	--	--	--	--	--	<0.000372	<0.000372	<0.000332	<0.000311	0.00375 JB	0.0889 JB	0.124
	10/01/18	--	--	--	--	--	--	<0.000372	<0.000372	<0.000332	<0.000311	0.000383 JB	<0.0314	0.120

Table 2. Organic Constituent Concentrations in Groundwater
HollyFrontier Navajo Refining LLC, AP-110, Lovington, New Mexico

Monitor Well	Sample Date	WQCC Volatiles (Method 8260, mg/L)						WQCC Semi-Volatiles (Method 8270, mg/L)					TPH (Method 8015, mg/L)	
		Benzene	Ethylbenzene	Toluene	Total Xylenes	Total Naphthalene	Chloroform	Total Naphthalenes	Naphthalene	1-Methyl naphthalene	2-Methyl naphthalene	Total Phenols	TPH GRO (Low Fraction)	TPH DRO (High Fraction)
NM WQCC Groundwater Human Health Standards:		0.010	0.75	0.75	0.62	0.03	0.1	0.03	N/A	N/A	N/A	0.005	N/A	N/A
MW-22	08/23/10	<0.0050	<0.0050	<0.0050	<0.015	<0.0050	--	--	--	--	--	--	--	--
	02/28/11	<0.0050	<0.0050	<0.0050	<0.015	<0.0050	--	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020	--	--
	07/19/11	<0.0050	<0.0050	<0.0050	<0.015	<0.0050	<0.0050	<0.00020	<0.00020	--	<0.00020	<0.00020	--	--
	01/31/12	<0.0050	<0.0050	<0.0050	<0.015	<0.0050	<0.0050	<0.00020	<0.00020	--	<0.00020	<0.00020	--	--
	07/26/12	<0.0050	<0.0050	<0.0050	<0.015	<0.0050	<0.0050	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020	--	--
	02/21/13	<0.0050	<0.0050	<0.0050	<0.015	<0.0050	<0.0050	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020	--	--
	08/21/13	<0.0050	<0.0050	<0.0050	<0.015	<0.0050	<0.0050	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020	--	--
	02/25/14	<0.0050	<0.0050	<0.0050	<0.015	<0.0050	<0.0050	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020	--	--
	08/20/14	<0.0050	<0.0050	<0.0050	<0.015	<0.0050	<0.0050	<0.00010	<0.00010	<0.00010	<0.00010	<0.00020	--	--
	02/24/15	<0.00033	<0.00038	<0.00078	<0.0011	<0.0010	<0.00032	<0.00037	<0.00037	<0.00031	<0.00031	<0.00033	--	--
	08/25/15	<0.000331	<0.000384	<0.000780	<0.00106	<0.00100	<0.000324	<0.000372	<0.000372	<0.000332	<0.000311	<0.000334	--	--
08/16/16	<0.000331	<0.000384	<0.000780	<0.00106	<0.00100	<0.000324	<0.000372	<0.000372	<0.000332	<0.000311	<0.000334	<0.100	0.819	
08/17/17	<0.000331	<0.000384	<0.000412	<0.00106	<0.00100	<0.000324	<0.000372	<0.000372	<0.000332	<0.000311	0.00363 JB	0.0786 JB	0.113	
10/01/18	<0.000331	<0.000384	<0.000412	<0.00106	<0.00100	<0.000324	<0.000372	<0.000372	<0.000332	<0.000311	0.00119 JB	<0.0314	0.104 J	
MW-23	08/23/10	<0.0050	<0.0050	<0.0050	<0.015	<0.0050	--	--	--	--	--	--	--	--
	02/28/11	<0.0050	<0.0050	<0.0050	<0.015	<0.0050	--	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020	--	--
	07/19/11	<0.0050	<0.0050	<0.0050	<0.015	<0.0050	<0.0050	<0.00020	<0.00020	--	<0.00020	<0.00020	--	--
	02/01/12	<0.0050	<0.0050	<0.0050	<0.015	<0.0050	<0.0050	<0.00020	<0.00020	--	<0.00020	<0.00020	--	--
	07/26/12	<0.0050	<0.0050	<0.0050	<0.015	<0.0050	<0.0050	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020	--	--
	02/26/13	<0.0050	<0.0050	<0.0050	<0.015	<0.0050	<0.0050	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020	--	--
	08/21/13	<0.0050	<0.0050	<0.0050	<0.015	<0.0050	<0.0050	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020	--	--
	02/25/14	<0.0050	<0.0050	<0.0050	<0.015	<0.0050	<0.0050	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020	--	--
	08/21/14	<0.0050	<0.0050	<0.0050	<0.015	<0.0050	<0.0050	<0.00010	<0.00010	<0.00010	<0.00010	<0.00020	--	--
	02/25/15	<0.00033	<0.00038	<0.00078	<0.0011	<0.0010	<0.00032	<0.00037	<0.00037	<0.00031	<0.00031	<0.00033	--	--
	08/25/15	<0.000331	<0.000384	<0.000780	<0.00106	<0.00100	<0.000324	<0.000372	<0.000372	<0.000332	<0.000311	<0.000334	--	--
	08/16/16	--	--	--	--	--	--	--	--	--	--	--	--	--
	08/17/17	--	--	--	--	--	--	--	--	--	--	--	--	--
	10/01/18	--	--	--	--	--	--	--	--	--	--	--	--	--

Table 2. Organic Constituent Concentrations in Groundwater
HollyFrontier Navajo Refining LLC, AP-110, Lovington, New Mexico

Monitor Well	Sample Date	WQCC Volatiles (Method 8260, mg/L)						WQCC Semi-Volatiles (Method 8270, mg/L)					TPH (Method 8015, mg/L)	
		Benzene	Ethylbenzene	Toluene	Total Xylenes	Total Naphthalene	Chloroform	Total Naphthalenes	Naphthalene	1-Methyl naphthalene	2-Methyl naphthalene	Total Phenols	TPH GRO (Low Fraction)	TPH DRO (High Fraction)
NM WQCC Groundwater Human Health Standards:		0.010	0.75	0.75	0.62	0.03	0.1	0.03	N/A	N/A	N/A	0.005	N/A	N/A

MW-24 (duplicate)	08/24/10	<0.0050	<0.0050	<0.0050	<0.015	<0.0050	--	--	--	--	--	--	--	--
	02/28/11	<0.0050	<0.0050	<0.0050	<0.015	<0.0050	--	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020	--	--
	07/14/11	<0.0050	<0.0050	<0.0050	<0.015	<0.0050	<0.0050	<0.00020	<0.00020	--	<0.00020	<0.00020	--	--
	02/01/12	<0.0050	<0.0050	<0.0050	<0.015	<0.0050	<0.0050	<0.00020	<0.00020	--	<0.00020	<0.00020	--	--
	07/30/12	<0.0050	<0.0050	<0.0050	<0.015	<0.0050	<0.0050	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020	--	--
	07/30/12	<0.0050	<0.0050	<0.0050	<0.015	<0.0050	<0.0050	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020	--	--
	02/26/13	<0.0050	<0.0050	<0.0050	<0.015	<0.0050	<0.0050	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020	--	--
	08/21/13	<0.0050	<0.0050	<0.0050	<0.015	<0.0050	<0.0050	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020	--	--
	02/27/14	<0.0050	<0.0050	<0.0050	<0.015	<0.0050	<0.0050	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020	--	--
	08/21/14	<0.0050	<0.0050	<0.0050	<0.015	<0.0050	<0.0050	<0.00010	<0.00010	<0.00010	<0.00010	<0.00020	--	--
	02/25/15	<0.00033	<0.00038	<0.00078	<0.0011	<0.0010	<0.00032	<0.00037	<0.00037	<0.00031	<0.00031	<0.00033	--	--
	08/25/15	<0.000331	<0.000384	<0.000780	<0.00106	<0.00100	<0.000324	<0.000372	<0.000372	<0.000332	<0.000311	0.000405 J	--	--
08/16/16	<0.000331	<0.000384	<0.000780	<0.00106	<0.00100	<0.000324	<0.000372	<0.000372	<0.000332	<0.000311	<0.000334	--	--	
08/17/17	<0.000331	<0.000384	<0.000412	<0.00106	<0.00100	<0.000324	<0.000372	<0.000372	<0.000332	<0.000311	0.00301 JB	--	--	
10/01/18	<0.000331	<0.000384	<0.000412	<0.00106	<0.00100	<0.000324	<0.000372	<0.000372	<0.000332	<0.000311	0.00178 JB	--	--	

MW-25 (duplicate) (

Table 2. Organic Constituent Concentrations in Groundwater
HollyFrontier Navajo Refining LLC, AP-110, Lovington, New Mexico

Monitor Well	Sample Date	WQCC Volatiles (Method 8260, mg/L)						WQCC Semi-Volatiles (Method 8270, mg/L)					TPH (Method 8015, mg/L)	
		Benzene	Ethylbenzene	Toluene	Total Xylenes	Total Naphthalene	Chloroform	Total Naphthalenes	Naphthalene	1-Methyl naphthalene	2-Methyl naphthalene	Total Phenols	TPH GRO (Low Fraction)	TPH DRO (High Fraction)
NM WQCC Groundwater Human Health Standards:		0.010	0.75	0.75	0.62	0.03	0.1	0.03	N/A	N/A	N/A	0.005	N/A	N/A

MW-26	08/24/10	<0.0050	<0.0050	<0.0050	<0.015	<0.0050	--	--	--	--	--	--	--	--
	02/28/11	<0.0050	<0.0050	<0.0050	<0.015	<0.0050	--	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020	--	--
	07/14/11	<0.0050	<0.0050	<0.0050	<0.015	<0.0050	<0.0050	<0.00020	<0.00020	--	<0.00020	<0.00020	--	--
	02/01/12	<0.0050	<0.0050	<0.0050	<0.015	<0.0050	<0.0050	<0.00020	<0.00020	--	<0.00020	<0.00020	--	--
	07/26/12	<0.0050	<0.0050	<0.0050	<0.015	<0.0050	<0.0050	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020	--	--
	02/26/13	<0.0050	<0.0050	<0.0050	<0.015	<0.0050	<0.0050	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020	--	--
	08/22/13	<0.0050	<0.0050	<0.0050	<0.015	<0.0050	<0.0050	<0.00020	<0.00020	<0.00020	<0.00020	0.00061	--	--
	02/26/14	<0.0050	<0.0050	<0.0050	<0.015	<0.0050	<0.0050	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020	--	--
	08/21/14	<0.0050	<0.0050	<0.0050	<0.015	<0.0050	<0.0050	<0.00010	<0.00010	<0.00010	<0.00010	<0.00020	--	--
	02/25/15	<0.00033	<0.00038	<0.00078	<0.0011	<0.0010	<0.00032	<0.00037	<0.00037	<0.00031	<0.00031	<0.00033	--	--
08/25/15	<0.000331	<0.000384	<0.000780	<0.00106	<0.00100	<0.000324	<0.000372	<0.000372	<0.000332	<0.000311	<0.000334	--	--	
08/16/16	--	--	--	--	--	--	--	--	--	--	--	--	--	
08/17/17	--	--	--	--	--	--	--	--	--	--	--	--	--	
10/01/18	--	--	--	--	--	--	--	--	--	--	--	--	--	

MW-27	08/18/10	<0.0050	<0.0050	<0.0050	<0.015	<0.0050	--	--	--	--	--	--	--	--
	02/25/11	<0.0050	<0.0050	<0.0050	<0.015	<0.0050	--	<0.00020	<0.00020	<0.00020	<0.00020	0.00099	--	--
	07/20/11	<0.0050	<0.0050	<0.0050	<0.015	<0.0050	<0.0050	<0.00020	<0.00020	--	<0.00020	0.00034	--	--
	02/01/12	<0.0050	<0.0050	<0.0050	<0.015	<0.0050	<0.0050	<0.00020	<0.00020	--	<0.00020	<0.00020	--	--
	07/26/12	<0.0050	<0.0050	<0.0050	<0.015	<0.0050	<0.0050	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020	--	--
	02/26/13	<0.0050	<0.0050	<0.0050	<0.015	<0.0050	<0.0050	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020	--	--
	08/20/13	<0.0050	<0.0050	<0.0050	<0.015	<0.0050	<0.0050	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020	--	--
	02/27/14	<0.0050	<0.0050	<0.0050	<0.015	<0.0050	<0.0050	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020	--	--
	08/21/14	<0.0050	<0.0050	<0.0050	<0.015	<0.0050	<0.0050	<0.00010	<0.00010	<0.00010	<0.00010	<0.00020	--	--
	02/27/15	<0.00033	<0.00038	<0.00078	<0.0011	<0.0010	<0.00032	<0.00037	<0.00037	<0.00031	<0.00031	<0.00033	--	--
	08/26/15	<0.000331	<0.000384	<0.000780	<0.00106	<0.00100	<0.000324	<0.000372	<0.000372	<0.000332	<0.000311	<0.000334	--	--
	03/08/16	<0.000331	<0.000384	<0.000780	<0.00106	<0.00100	<0.000324	--	--	--	--	--	--	--
	08/18/16	<0.000331	<0.000384	<0.000780	<0.00106	<0.00100	<0.000324	<0.000372	<0.000372	<0.000332	<0.000311	<0.000334	--	--
	02/08/17	<0.000331	<0.000384	<0.000412	<0.00106	<0.00100	<0.000324	--	--	--	--	--	--	--
	08/17/17	<0.000331	<0.000384	<0.000412	<0.00106	<0.00100	<0.000324	<0.000372	<0.000372	<0.000332	<0.000311	0.00241 JB	--	--
04/05/18	<0.000331	<0.000384	<0.000412	<0.00106	<0.00100	<0.000324	--	--	--	--	--	--	--	
10/01/18	<0.000331	<0.000384	<0.000412	<0.00106	<0.00100	<0.000324	<0.000380	<0.000380	<0.000339	<0.000317	0.00451 JB	--	--	

Table 2. Organic Constituent Concentrations in Groundwater
HollyFrontier Navajo Refining LLC, AP-110, Lovington, New Mexico

Monitor Well	Sample Date	WQCC Volatiles (Method 8260, mg/L)						WQCC Semi-Volatiles (Method 8270, mg/L)					TPH (Method 8015, mg/L)		
		Benzene	Ethylbenzene	Toluene	Total Xylenes	Total Naphthalene	Chloroform	Total Naphthalenes	Naphthalene	1-Methyl naphthalene	2-Methyl naphthalene	Total Phenols	TPH GRO (Low Fraction)	TPH DRO (High Fraction)	
NM WQCC Groundwater Human Health Standards:		0.010	0.75	0.75	0.62	0.03	0.1	0.03	N/A	N/A	N/A	0.005	N/A	N/A	
MW-28	08/28/10	<0.0050	<0.0050	<0.0050	<0.015	<0.0050	--	--	--	--	--	--	--	--	
	02/23/11	<0.0050	<0.0050	<0.0050	<0.015	<0.0050	--	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020	--	--	
	07/14/11	<0.0050	<0.0050	<0.0050	<0.015	<0.0050	<0.0050	<0.00020	<0.00020	--	<0.00020	<0.00020	--	--	
	01/30/12	<0.0050	<0.0050	<0.0050	<0.015	<0.0050	<0.0050	<0.00020	<0.00020	--	<0.00020	<0.00020	--	--	
	07/24/12	<0.0050	<0.0050	<0.0050	<0.015	<0.0050	<0.0050	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020	--	--	
	02/19/13	<0.0050	<0.0050	<0.0050	<0.015	<0.0050	<0.0050	<0.00020	<0.00020	<0.00020	<0.00020	0.00086	--	--	
	08/20/13	<0.0050	<0.0050	<0.0050	<0.015	<0.0050	<0.0050	<0.00020	<0.00020	<0.00020	<0.00020	0.00022	--	--	
	02/24/14	<0.0050	<0.0050	<0.0050	<0.015	<0.0050	<0.0050	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020	--	--	
	08/19/14	<0.0050	<0.0050	<0.0050	<0.015	<0.0050	<0.0050	<0.00010	<0.00010	<0.00010	<0.00010	<0.00020	--	--	
	02/23/15	<0.00033	<0.00038	<0.00078	<0.0011	<0.0010	<0.00032	<0.00037	<0.00037	<0.00031	<0.00031	0.00033 J	--	--	
	08/27/15	<0.000331	<0.000384	<0.000780	<0.00106	<0.00100	<0.000324	<0.000372	<0.000372	<0.000332	<0.000311	0.000774 J	--	--	
	03/07/16	--	--	--	--	--	--	--	--	--	--	--	--	--	
	08/15/16	<0.000331	<0.000384	<0.000780	<0.00106	<0.00100	<0.000324	<0.000391	<0.000391	<0.000349	<0.000326	0.000459 J	--	--	
	02/06/17	--	--	--	--	--	--	--	--	--	--	--	--	--	
08/17/17	<0.000331	<0.000384	<0.000412	<0.00106	<0.00100	<0.000324	<0.000372	<0.000372	<0.000332	<0.000311	0.00236 JB	--	--		
04/05/18	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
10/01/18	<0.000331	<0.000384	<0.000412	<0.00106	<0.00100	<0.000324	<0.000372	<0.000372	<0.000332	<0.000311	0.00119 JB	--	--	--	
MW-29 (duplicate)	08/24/10	<0.0050	<0.0050	<0.0050	<0.015	<0.0050	--	--	--	--	--	--	--	--	
	08/24/10	<0.0050	<0.0050	<0.0050	<0.015	<0.0050	--	--	--	--	--	--	--	--	
	02/28/11	<0.0050	<0.0050	<0.0050	<0.015	<0.0050	--	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020	--	--	
	07/14/11	<0.0050	<0.0050	<0.0050	<0.015	<0.0050	<0.0050	<0.00020	<0.00020	--	<0.00020	<0.00020	--	--	
	01/30/12	<0.0050	<0.0050	<0.0050	<0.015	<0.0050	<0.0050	0.00050	0.00050	--	<0.00020	<0.00020	--	--	
	07/24/12	<0.0050	<0.0050	<0.0050	<0.015	<0.0050	<0.0050	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020	--	--	
	02/26/13	<0.0050	<0.0050	<0.0050	<0.015	<0.0050	<0.0050	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020	--	--	
	08/20/13	<0.0050	<0.0050	<0.0050	<0.015	<0.0050	<0.0050	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020	--	--	
	02/27/14	<0.0050	<0.0050	<0.0050	<0.015	<0.0050	<0.0050	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020	--	--	
	02/27/14	<0.0050	<0.0050	<0.0050	<0.015	<0.0050	<0.0050	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020	--	--	
	08/20/14	<0.0050	<0.0050	<0.0050	<0.015	<0.0050	<0.0050	<0.00010	<0.00010	<0.00010	<0.00010	<0.00020	--	--	
	02/25/15	<0.00033	<0.00038	<0.00078	<0.0011	<0.0010	<0.00032	<0.00037	<0.00037	<0.00031	<0.00031	0.00039 J	--	--	
	08/27/15	<0.000331	<0.000384	<0.000780	<0.00106	<0.00100	0.000329 J	<0.000372	<0.000372	<0.000332	<0.000311	<0.000334	--	--	
	03/08/16	<0.000331	<0.000384	<0.000780	<0.00106	<0.00100	0.00224 J	--	--	--	--	--	--	--	
	08/17/16	<0.000331	<0.000384	<0.000780	<0.00106	<0.00100	0.00197 J	<0.000372	<0.000372	<0.000332	<0.000311	<0.000334	--	--	
	02/09/17	<0.000331	<0.000384	<0.000412	<0.00106	<0.00100	0.00246 J	--	--	--	--	--	--	--	
	08/17/17	<0.000331	<0.000384	<0.000412	<0.00106	<0.00100	0.00175 J	<0.000372	<0.000372	<0.000332	<0.000311	0.00419 JB	--	--	
	04/05/18	<0.000331	<0.000384	<0.000412	<0.00106	<0.00100	0.00142 J	--	--	--	--	--	--	--	--
	10/01/18	<0.000331	<0.000384	<0.000412	<0.00106	<0.00100	0.000903 J	<0.000372	<0.000372	<0.000332	<0.000311	0.00164 JB	--	--	--

Table 2. Organic Constituent Concentrations in Groundwater
HollyFrontier Navajo Refining LLC, AP-110, Lovington, New Mexico

Monitor Well	Sample Date	WQCC Volatiles (Method 8260, mg/L)						WQCC Semi-Volatiles (Method 8270, mg/L)					TPH (Method 8015, mg/L)	
		Benzene	Ethylbenzene	Toluene	Total Xylenes	Total Naphthalene	Chloroform	Total Naphthalenes	Naphthalene	1-Methyl naphthalene	2-Methyl naphthalene	Total Phenols	TPH GRO (Low Fraction)	TPH DRO (High Fraction)
NM WQCC Groundwater Human Health Standards:		0.010	0.75	0.75	0.62	0.03	0.1	0.03	N/A	N/A	N/A	0.005	N/A	N/A

MW-30	06/21/13	<0.0050	<0.0050	<0.0050	<0.015	<0.0050	<0.0050	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020	--	--
	08/20/13	<0.0050	<0.0050	<0.0050	<0.015	<0.0050	<0.0050	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020	--	--
	02/27/14	<0.0050	<0.0050	<0.0050	<0.015	<0.0050	<0.0050	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020	--	--
	08/22/14	<0.0050	<0.0050	<0.0050	<0.015	<0.0050	<0.0050	<0.00010	<0.00010	<0.00010	<0.00010	<0.00020	--	--
	02/25/15	<0.00033	<0.00038	<0.00078	<0.0011	<0.0010	0.00072 J	<0.00037	<0.00037	<0.00031	<0.00031	<0.00033	--	--
	08/28/15	<0.000331	<0.000384	<0.000780	0.00142 J	<0.00100	0.000887 J	<0.000372	<0.000372	<0.000332	<0.000311	<0.000334	--	--
	03/08/16	<0.000331	<0.000384	<0.000780	<0.00106	<0.00100	0.000964 J	<0.000372	<0.000372	<0.000332	<0.000311	<0.000334	--	--
	03/08/16	<0.000331	<0.000384	<0.000780	<0.00106	<0.00100	0.000911 J	<0.000372	<0.000372	<0.000332	<0.000311	<0.000334	--	--
	08/16/16	<0.000331	<0.000384	<0.000780	<0.00106	<0.00100	0.00107 J	<0.000372	<0.000372	<0.000332	<0.000311	<0.000334	--	--
	08/16/16	<0.000331	<0.000384	<0.000780	<0.00106	<0.00100	0.00111 J	<0.000372	<0.000372	<0.000332	<0.000311	<0.000334	--	--
	02/09/17	<0.000331	<0.000384	<0.000412	<0.00106	<0.00100	0.00190 J	<0.000372	<0.000372	<0.000332	<0.000311	<0.000334	--	--
	08/16/17	<0.000331	<0.000384	<0.000412	<0.00106	<0.00100	0.00376 J	<0.000372	<0.000372	<0.000332	<0.000311	0.00799 JB	--	--
	08/16/17	<0.000331	<0.000384	<0.000412	<0.00106	<0.00100	0.00336 J	<0.000372	<0.000372	<0.000332	<0.000311	0.00141 JB	--	--
	04/05/18	<0.000331	<0.000384	<0.000412	<0.00106	<0.00100	0.00468 J	<0.000372	<0.000372	<0.000332	<0.000311	0.00900 JB	--	--
10/01/18	<0.000331	<0.000384	<0.000412	<0.00106	<0.00100	0.00549	<0.000372	<0.000372	<0.000332	<0.000311	0.00181 JB	--	--	
10/01/18	<0.000331	<0.000384	<0.000412	<0.00106	<0.00100	0.00846	<0.000372	<0.000372	<0.000332	<0.000311	0.00484 JB	<0.0314	0.0391 J	

MW-32	06/15/17	<0.000331	<0.000384	<0.000412	<0.00106	<0.00100	--	<0.000372	<0.000372	<0.000332	<0.000311	<0.000334	0.0511 JB	0.507
	08/17/17	<0.000331	<0.000384	<0.000412	<0.00106	<0.00100	<0.000324	<0.000372	<0.000372	<0.000332	<0.000311	0.00126 JB	0.0740 JB	0.167
	04/05/18	<0.000331	<0.000384	<0.000412	<0.00106	<0.00100	<0.000324	<0.000372	<0.000372	<0.000332	<0.000311	0.000662 JB	<0.0314	0.204
	10/01/18	<0.000331	<0.000384	<0.000412	<0.00106	<0.00100	<0.000324	<0.000372	<0.000372	<0.000332	<0.000311	0.00459 JB	<0.0314	0.360
	10/01/18	<0.000331	<0.000384	<0.000412	<0.00106	<0.00100	<0.000324	<0.000372	<0.000372	<0.000332	<0.000311	0.00380 JB	<0.0314	0.350

MW-33	06/15/17	<0.000331	<0.000384	<0.000412	<0.00106	<0.00100	--	<0.000372	<0.000372	<0.000332	<0.000311	0.00118 J	0.105 B	3.14
	08/17/17	0.000884 J	0.000627 J	<0.000412	<0.00106	<0.00100	<0.000324	<0.000372	<0.000372	<0.000332	<0.000311	0.00306 JB	0.335 B	0.250
	04/05/18	0.000363 J	<0.000384	<0.000412	<0.00106	<0.00100	<0.000324	0.00107	0.00107	<0.000332	<0.000311	0.00596 JB	0.205	0.175
	10/01/18	<0.000331	<0.000384	<0.000412	<0.00106	<0.00100	<0.000324	<0.000372	<0.000372	<0.000332	<0.000311	0.00271 JB	0.215	0.133

RW-1	06/19/09	<0.0050	<0.0050	<0.0050	<0.015	<0.0050	--	--	--	--	--	--	--	--
	02/02/10	<0.0050	<0.0050	<0.0050	<0.015	<0.0050	--	--	--	--	--	--	--	--
	08/19/10	<0.0050	<0.0050	<0.0050	0.015	<0.0050	--	--	--	--	--	--	--	--
	03/01/11	<0.0050	<0.0050	<0.0050	0.0054	<0.0050	--	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020	--	--
	07/20/11	<0.0050	<0.0050	<0.0050	<0.015	<0.0050	<0.0050	<0.00020	<0.00020	--	<0.00020	<0.00020	--	--
	02/02/12	<0.0050	<0.0050	<0.0050	<0.015	<0.0050	<0.0050	<0.00020	<0.00020	--	<0.00020	<0.00020	--	--
	07/27/12	<0.0050	<0.0050	<0.0050	<0.015	<0.0050	<0.0050	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020	--	--
	02/27/13	<0.0050	<0.0050	<0.0050	<0.015	<0.0050	<0.0050	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020	--	--
	08/21/13	<0.0050	<0.0050	<0.0050	<0.015	<0.0050	<0.0050	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020	--	--
	02/27/14	<0.0050	<0.0050	<0.0050	<0.015	<0.0050	<0.0050	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020	--	--
	08/21/14	<0.0050	<0.0050	<0.0050	<0.015	<0.0050	<0.0050	<0.00010	<0.00010	<0.00010	<0.00010	<0.00020	--	--
	02/25/15	<0.00033	<0.00038	<0.00078	<0.0011	<0.0010	<0.00032	<0.00037	<0.00037	<0.00031	<0.00031	<0.00033	--	--
	08/27/15	<0.000331	<0.000384	<0.00078	<0.00106	<0.00100	<0.000324	<0.000372	<0.000372	<0.000332	<0.000311	0.000398 J	--	--
	08/27/15	<0.000331	<0.000384	<0.00078	<0.00106	<0.00100	<0.000324	<0.000372	<0.000372	<0.000332	<0.000311	0.000398 J	--	--

Table 2. Organic Constituent Concentrations in Groundwater
HollyFrontier Navajo Refining LLC, AP-110, Lovington, New Mexico

Monitor Well	Sample Date	WQCC Volatiles (Method 8260, mg/L)						WQCC Semi-Volatiles (Method 8270, mg/L)					TPH (Method 8015, mg/L)	
		Benzene	Ethylbenzene	Toluene	Total Xylenes	Total Naphthalene	Chloroform	Total Naphthalenes	Naphthalene	1-Methyl naphthalene	2-Methyl naphthalene	Total Phenols	TPH GRO (Low Fraction)	TPH DRO (High Fraction)
NM WQCC Groundwater Human Health Standards:		0.010	0.75	0.75	0.62	0.03	0.1	0.03	N/A	N/A	N/A	0.005	N/A	N/A
North Well	06/18/09	<0.0050	<0.0050	<0.0050	<0.015	<0.0050	--	--	--	--	--	--	--	--
	01/14/10	<0.0050	<0.0050	<0.0050	<0.015	<0.0050	--	--	--	--	--	--	--	--
	08/24/10	<0.0050	<0.0050	<0.0050	<0.015	<0.0050	--	--	--	--	--	--	--	--
	03/03/11	<0.0050	<0.0050	<0.0050	<0.015	<0.0050	--	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020	--	--
	07/20/11	<0.0050	<0.0050	<0.0050	<0.015	<0.0050	<0.0050	<0.00020	<0.00020	--	<0.00020	<0.00020	--	--
	02/02/12	<0.0050	<0.0050	<0.0050	<0.015	<0.0050	<0.0050	<0.00020	<0.00020	--	<0.00020	<0.00020	--	--
	07/30/12	<0.0050	<0.0050	<0.0050	<0.015	<0.0050	<0.0050	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020	--	--
	02/19/13	<0.0050	<0.0050	<0.0050	<0.015	<0.0050	<0.0050	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020	--	--
	08/11/14	<0.0050	<0.0050	<0.0050	<0.015	<0.0050	<0.0050	<0.00010	<0.00010	<0.00010	<0.00010	<0.00020	--	--
	12/17/14	<0.0010	<0.0010	<0.0010	<0.0015	<0.0020	<0.0010	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	--	--
	03/09/15	<0.00033	<0.00038	<0.00078	<0.0011	<0.0010	<0.00032	<0.00037	<0.00037	<0.00031	<0.00031	<0.00033	--	--
	05/19/15	<0.00033	<0.00038	<0.00078	<0.0011	<0.0010	<0.00032	<0.00037	<0.00037	<0.00033	<0.00031	<0.00033	--	--
	08/28/15	<0.000331	<0.000384	<0.00078	<0.00106	<0.00100	<0.000324	<0.000372	<0.000372	<0.000332	<0.000311	<0.000334	--	--
	12/17/15	<0.000331	<0.000384	<0.00078	<0.00106	<0.00100	<0.000324	<0.000372	<0.000372	<0.000332	<0.000311	<0.000334	--	--
	03/10/16	<0.000331	<0.000384	<0.00078	<0.00106	<0.00100	<0.000324	<0.000372	<0.000372	<0.000332	<0.000311	<0.000334	--	--
	05/25/16	<0.000331	<0.000384	<0.00078	<0.00106	<0.00100	<0.000324	<0.000372	<0.000372	<0.000332	<0.000311	<0.000334	--	--
	08/18/16	0.000425 J	<0.000384	<0.00078	<0.00106	<0.00100	<0.000324	<0.000372	<0.000372	<0.000332	<0.000311	<0.000334	<0.100	<0.100
	12/08/16	<0.000331	<0.000384	<0.00078	<0.00106	<0.00100	<0.000324	<0.000372	<0.000372	<0.000332	<0.000311	<0.000334	--	--
	02/07/17	<0.000331	<0.000384	<0.000412	<0.00106	<0.00100	<0.000324	<0.000372	<0.000372	<0.000332	<0.000311	<0.000334	<0.0314	0.0531 J
	05/13/17	<0.000331	<0.000384	<0.000412	<0.00106	<0.00100	<0.000324	<0.000372	<0.000372	<0.000332	<0.000311	0.000543 J	0.0448 JB	0.0359 J
	08/17/17	<0.000331	<0.000384	<0.000412	<0.00106	<0.00100	<0.000324	<0.000372	<0.000372	<0.000332	<0.000311	0.00295 JB	0.0888 JB	0.189
	12/14/17	<0.000331	<0.000384	<0.000412	<0.00106	<0.00100	<0.000324	<0.000372	<0.000372	<0.000332	<0.000311	<0.000334	0.0375 J	0.0391 J
	02/23/18	<0.000331	<0.000384	<0.000412	<0.00106	<0.00100	<0.000324	<0.000372	<0.000372	<0.000332	<0.000311	0.00187 JB	<0.0314	0.0821 JB
	04/05/18	<0.000331	<0.000384	<0.000412	<0.00106	<0.00100	<0.000324	0.000455 J	0.000455 J	<0.000332	<0.000311	0.00110 JB	<0.0314	0.0385 J
	07/31/18	<0.000331	<0.000384	<0.000412	<0.00106	<0.00100	<0.000324	<0.000372	<0.000372	<0.000332	<0.000311	0.00138 JB	<0.0314	0.0303 J
	10/01/18	<0.000331	<0.000384	<0.000412	<0.00106	<0.00100	<0.000324	<0.000372	<0.000372	<0.000332	<0.000311	0.00357 JB	<0.0314	0.0354 J

Table 2. Organic Constituent Concentrations in Groundwater
HollyFrontier Navajo Refining LLC, AP-110, Lovington, New Mexico

Monitor Well	Sample Date	WQCC Volatiles (Method 8260, mg/L)						WQCC Semi-Volatiles (Method 8270, mg/L)					TPH (Method 8015, mg/L)	
		Benzene	Ethylbenzene	Toluene	Total Xylenes	Total Naphthalene	Chloroform	Total Naphthalenes	Naphthalene	1-Methyl naphthalene	2-Methyl naphthalene	Total Phenols	TPH GRO (Low Fraction)	TPH DRO (High Fraction)
NM WQCC Groundwater Human Health Standards:		0.010	0.75	0.75	0.62	0.03	0.1	0.03	N/A	N/A	N/A	0.005	N/A	N/A
South Well	06/22/09	<0.0050	<0.0050	<0.0050	<0.015	<0.0050	--	--	--	--	--	--	--	--
	01/14/10	<0.0050	<0.0050	<0.0050	<0.015	<0.0050	--	--	--	--	--	--	--	--
	08/24/10	<0.0050	<0.0050	<0.0050	<0.015	<0.0050	--	--	--	--	--	--	--	--
	03/03/11	<0.0050	<0.0050	<0.0050	<0.015	<0.0050	--	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020	--	--
	07/20/11	<0.0050	<0.0050	<0.0050	<0.015	<0.0050	<0.0050	<0.00020	<0.00020	--	<0.00020	<0.00020	--	--
	02/02/12	<0.0050	<0.0050	<0.0050	<0.015	<0.0050	<0.0050	<0.00020	<0.00020	--	<0.00020	<0.00020	--	--
	07/30/12	<0.0050	<0.0050	<0.0050	<0.015	<0.0050	<0.0050	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020	--	--
	02/19/13	0.0052	<0.0050	<0.0050	<0.015	<0.0050	<0.0050	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020	--	--
	02/28/14	<0.0050	<0.0050	<0.0050	<0.015	<0.0050	<0.0050	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020	--	--
	08/22/14	<0.0050	<0.0050	<0.0050	<0.015	<0.0050	<0.0050	<0.00010	<0.00010	<0.00010	<0.00010	<0.00020	--	--
	08/22/14	<0.0050	<0.0050	<0.0050	<0.015	<0.0050	<0.0050	<0.00010	<0.00010	<0.00010	<0.00010	<0.00020	--	--
	12/17/14	0.0023	<0.0010	<0.0010	<0.0015	<0.0020	<0.0010	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	--	--
	12/17/14	0.0023	<0.0010	<0.0010	<0.0015	<0.0020	<0.0010	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	--	--
	03/09/15	0.0014	<0.00038	<0.00078	<0.0011	<0.0010	0.000390 J	<0.00037	<0.00037	<0.00031	<0.00031	<0.00033	--	--
	03/09/15	0.0016	<0.00038	<0.00078	<0.0011	<0.0010	0.000370 J	<0.00037	<0.00037	<0.00031	<0.00031	<0.00033	--	--
	05/19/15	0.0010 J	<0.00038	<0.00078	<0.0011	<0.0010	0.00052 J	<0.00037	<0.00037	<0.00033	<0.00031	<0.00033	--	--
	05/19/15	0.00091 J	<0.00038	<0.00078	<0.0011	<0.0010	0.00054 J	<0.00037	<0.00037	<0.00033	<0.00031	<0.00033	--	--
	08/28/15	0.00113	<0.000384	<0.00078	<0.00106	<0.00100	0.000518 J	<0.000372	<0.000372	<0.000332	<0.000311	<0.000334	--	--
	08/28/15	0.000921 J	<0.000384	<0.00078	<0.00106	<0.00100	0.000527 J	<0.000372	<0.000372	<0.000332	<0.000311	<0.000334	--	--
	12/17/15	<0.000331	<0.000384	<0.00078	<0.00106	<0.00100	0.000815 J	<0.000372	<0.000372	<0.000332	<0.000311	<0.000334	--	--
	12/17/15	0.00119	<0.000384	<0.00078	<0.00106	<0.00100	0.000861 J	<0.000372	<0.000372	<0.000332	<0.000311	<0.000334	--	--
	03/10/16	<0.000331	<0.000384	<0.00078	<0.00106	<0.00100	<0.000324	<0.000372	<0.000372	<0.000332	<0.000311	<0.000334	--	--
	05/25/16	<0.000331	<0.000384	<0.00078	<0.00106	<0.00100	0.00114 J	<0.000372	<0.000372	<0.000332	<0.000311	<0.000334	--	--
	05/25/16	<0.000331	<0.000384	<0.00078	<0.00106	<0.00100	0.00118 J	<0.000372	<0.000372	<0.000332	<0.000311	<0.000334	--	--
	08/18/16	0.000451 J	<0.000384	<0.00078	<0.00106	<0.00100	0.00135 J	<0.000372	<0.000372	<0.000332	<0.000311	<0.000334	0.0343 J	0.0303 J
	08/18/16	0.000509 J	<0.000384	<0.00078	<0.00106	<0.00100	0.00138 J	<0.000372	<0.000372	<0.000332	<0.000311	<0.000334	<0.100	0.0482 J
	12/08/16	<0.000331	<0.000384	<0.00078	<0.00106	<0.00100	0.00228 J	<0.000372	<0.000372	<0.000332	<0.000311	<0.000334	--	--
	12/08/16	<0.000331	<0.000384	<0.00078	<0.00106	<0.00100	0.00190 J	<0.000372	<0.000372	<0.000332	<0.000311	<0.000334	--	--
	02/07/17	<0.000331	<0.000384	<0.000412	<0.00106	<0.00100	0.00199 J	<0.000372	<0.000372	<0.000332	<0.000311	<0.000334	<0.0314	0.101
	02/07/17	<0.000331	<0.000384	<0.000412	<0.00106	<0.00100	0.00190 J	<0.000372	<0.000372	<0.000332	<0.000311	<0.000334	<0.0314	0.178 B
	05/31/17	0.000503 J	<0.000384	<0.000412	<0.00106	<0.00100	0.00169 J	<0.000372	<0.000372	<0.000332	<0.000311	<0.000334	0.0600 JB	0.0554 J
	05/31/17	0.000557 J	<0.000384	<0.000412	<0.00106	<0.00100	0.00168 J	<0.000372	<0.000372	<0.000332	<0.000311	0.00329 J	0.0591 JB	0.0509 J
	08/17/17	<0.000331	<0.000384	<0.000412	<0.00106	<0.00100	0.00102 J	<0.000372	<0.000372	<0.000332	<0.000311	0.00301 JB	0.0968 JB	0.0568 J
	08/17/17	<0.000331	<0.000384	<0.000412	<0.00106	<0.00100	0.00112 J	<0.000372	<0.000372	<0.000332	<0.000311	0.00550 JB	0.0891 JB	0.0536 J
12/14/17	<0.000331	<0.000384	<0.000412	<0.00106	<0.00100	0.00105 J	<0.000372	<0.000372	<0.000332	<0.000311	<0.000334	<0.0314	0.0641 J	
12/14/17	<0.000331	<0.000384	<0.000412	<0.00106	<0.00100	0.00105 J	<0.000372	<0.000372	<0.000332	<0.000311	0.00153 J	<0.0314	0.0629 J	
02/23/18	<0.000331	<0.000384	<0.000412	<0.00106	<0.00100	0.00113 J	<0.000372	<0.000372	<0.000332	<0.000311	0.00267 J	<0.0314	0.107 B	
02/23/18	<0.000331	<0.000384	<0.000412	<0.00106	<0.00100	0.00118 J	<0.000372	<0.000372	<0.000332	<0.000311	0.000428 J	<0.0314	0.117 B	
04/05/18	<0.000331	<0.000384	<0.000412	<0.00106	<0.00100	0.000874 J	<0.000372	<0.000372	<0.000332	<0.000311	0.00579 JB	<0.0314	0.0740 J	
07/31/18	<0.000331	<0.000384	<0.000412	<0.00106	<0.00100	0.00124 J	<0.000372	<0.000372	<0.000332	<0.000311	0.00269 J	<0.0314	0.0969 J	
07/31/18	<0.000331	<0.000384	<0.000412	<0.00106	<0.00100	0.00126 J	<0.000372	<0.000372	<0.000332	<0.000311	0.00207 J	<0.0314	0.0662 J	
10/01/18	<0.000331	<0.000384	<0.000412	<0.00106	<0.00100	0.000929 J	<0.000372	<0.000372	<0.000332	<0.000311	0.000598 JB	<0.0314	0.0534 J	

Table 2. Organic Constituent Concentrations in Groundwater
HollyFrontier Navajo Refining LLC, AP-110, Lovington, New Mexico

Monitor Well	Sample Date	WQCC Volatiles (Method 8260, mg/L)						WQCC Semi-Volatiles (Method 8270, mg/L)					TPH (Method 8015, mg/L)	
		Benzene	Ethylbenzene	Toluene	Total Xylenes	Total Naphthalene	Chloroform	Total Naphthalenes	Naphthalene	1-Methyl naphthalene	2-Methyl naphthalene	Total Phenols	TPH GRO (Low Fraction)	TPH DRO (High Fraction)
NM WQCC Groundwater Human Health Standards:		0.010	0.75	0.75	0.62	0.03	0.1	0.03	N/A	N/A	N/A	0.005	N/A	N/A

East Well	06/18/09	<0.0050	<0.0050	<0.0050	<0.015	<0.0050	--	--	--	--	--	--	--	--
	01/14/10	<0.0050	<0.0050	<0.0050	<0.015	<0.0050	--	--	--	--	--	--	--	--
	08/25/10	<0.0050	<0.0050	<0.0050	<0.015	<0.0050	--	--	--	--	--	--	--	--
	03/03/11	<0.0050	<0.0050	<0.0050	<0.015	<0.0050	--	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020	--	--
	07/20/11	<0.0050	<0.0050	<0.0050	<0.015	<0.0050	<0.0050	<0.00020	<0.00020	--	<0.00020	<0.00020	--	--
	02/02/12	<0.0050	<0.0050	<0.0050	<0.015	<0.0050	<0.0050	<0.00020	<0.00020	--	<0.00020	<0.00020	--	--
	07/30/12	<0.0050	<0.0050	<0.0050	<0.015	<0.0050	<0.0050	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020	--	--
	08/27/12	<0.0050	<0.0050	<0.0050	<0.015	--	<0.0050	<0.00020	<0.00020	<0.00020	--	<0.00020	--	--
	09/26/12	<0.0050	<0.0050	<0.0050	<0.015	--	<0.0050	<0.00020	<0.00020	<0.00020	--	<0.00020	--	--
	10/22/12	<0.0050	<0.0050	<0.0050	<0.015	--	<0.0050	<0.00020	<0.00020	<0.00020	--	<0.00020	--	--
	12/27/12	<0.0050	<0.0050	<0.0050	<0.015	--	<0.0050	<0.00020	<0.00020	<0.00020	--	<0.00020	--	--
	02/28/14	<0.0050	<0.0050	<0.0050	<0.015	<0.0050	<0.0050	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020	--	--
	08/22/14	<0.0050	<0.0050	<0.0050	<0.015	<0.0050	<0.0050	<0.00010	<0.00010	<0.00010	<0.00010	<0.00020	--	--
	12/17/14	<0.0010	<0.0010	<0.0010	<0.0015	<0.0020	<0.0010	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	--	--
	03/09/15	<0.00033	<0.00038	<0.00078	<0.0011	<0.0010	<0.00032	<0.00037	<0.00037	<0.00031	<0.00031	<0.00033	--	--
	05/19/15	<0.00033	<0.00038	<0.00078	<0.0011	<0.0010	<0.00032	<0.00037	<0.00037	<0.00033	<0.00031	<0.00033	--	--
	08/28/15	<0.000331	<0.000384	<0.000780	<0.00106	<0.00100	<0.000324	<0.000372	<0.000372	<0.000332	<0.000311	<0.000334	--	--
	12/17/15	<0.000331	<0.000384	<0.000780	<0.00106	<0.00100	<0.000324	<0.000372	<0.000372	<0.000332	<0.000311	<0.000334	--	--
	03/10/16	<0.000331	<0.000384	<0.000780	<0.00106	<0.00100	<0.000324	<0.000372	<0.000372	<0.000332	<0.000311	<0.000334	--	--
	05/25/16	<0.000331	<0.000384	<0.000780	<0.00106	<0.00100	<0.000324	<0.000372	<0.000372	<0.000332	<0.000311	<0.000334	--	--
	08/18/16	<0.000331	<0.000384	<0.000780	<0.00106	<0.00100	<0.000324	<0.000372	<0.000372	<0.000332	<0.000311	<0.000334	<0.100	0.0357 J
	12/08/16	<0.000331	<0.000384	<0.00078	<0.00106	<0.00100	<0.000324	<0.000372	<0.000372	<0.000332	<0.000311	<0.000334	--	--
	02/07/17	<0.000331	<0.000384	<0.000412	<0.00106	<0.00100	<0.000324	<0.000372	<0.000372	<0.000332	<0.000311	<0.000334	<0.0314	0.0552 J
	05/31/17	<0.000331	<0.000384	<0.000412	<0.00106	<0.00100	<0.000324	<0.000372	<0.000372	<0.000332	<0.000311	0.000544 J	0.0590 JB	<0.0247
	08/17/17	<0.000331	<0.000384	<0.000412	<0.00106	<0.00100	<0.000324	<0.000372	<0.000372	<0.000332	<0.000311	0.00403 JB	0.0847 JB	0.0335 J
	12/14/17	<0.000331	<0.000384	<0.000412	<0.00106	<0.00100	<0.000324	<0.000372	<0.000372	<0.000332	<0.000311	0.00192 J	0.0394 J	<0.0247
	02/23/18	<0.000331	<0.000384	<0.000412	<0.00106	<0.00100	<0.000324	<0.000372	<0.000372	<0.000332	<0.000311	0.00330 J	<0.0314	0.0849 JB
	04/05/18	<0.000331	<0.000384	<0.000412	<0.00106	<0.00100	<0.000324	<0.000372	<0.000372	<0.000332	<0.000311	0.00418 JB	<0.0314	<0.0282
	07/31/18	<0.000331	<0.000384	<0.000412	<0.00106	<0.00100	<0.000324	<0.000372	<0.000372	<0.000332	<0.000311	0.00193 J	0.0327 JB	<0.0247
	10/01/18	<0.000331	<0.000384	<0.000412	<0.00106	<0.00100	<0.000324	<0.000372	<0.000372	<0.000332	<0.000311	0.00502 JB	<0.0314	<0.0247

Notes:

N/A = Not Applicable, no WQCC Human Health Standard established for constituent

Shading indicates detected result exceeded the New Mexico Water Quality Control Commission (WQCC) Human Health Standard

mg/L = milligrams per liter

< = Not reported above laboratory reporting limit

-- = Not Analyzed

⁽¹⁾ = Not analyzed due to insufficient water volume

J = analyte was detected below the laboratory reporting limit (June 2009 to December 2014) or the method quantitation limit (February 2015 to December 2018), reported value is estimated

B = same analyte was detected in the associated laboratory blank or equipment blank; sample concentration is within 5 times the blank concentration

June 2009 to August 2014 analyses completed by ALS Laboratory Group in Houston, Texas

December 2014 analyses completed by Hall Environmental Analysis Laboratory in Albuquerque, New Mexico

February 2015 to December 2018 analyses completed by Pace Analytical National Center for Testing & Innovation (formerly ESC Lab Sciences) in Mount Juliet, Tennessee

Table 3. Inorganic Constituent Concentrations in Groundwater
HollyFrontier Navajo Refining LLC, AP-110, Lovington, New Mexico

Monitor Well	Sample Date	Chloride (mg/L)	Fluoride (mg/L)	Nitrate-Nitrite (as N, mg/L)	Sulfate (mg/L)	Total Dissolved Solids (mg/L)	Aluminum (mg/L)	Arsenic (mg/L)	Barium (mg/L)	Boron (mg/L)	Cadmium (mg/L)	Chromium (mg/L)	Cobalt (mg/L)	Copper (mg/L)	Iron (mg/L)	Lead (mg/L)	Manganese (mg/L)	Total Mercury (mg/L)	Molybdenum (mg/L)	Nickel (mg/L)	Selenium (mg/L)	Silver (mg/L)	Uranium (mg/L)	Zinc (mg/L)
NM WQCC Groundwater Human Health Standards:		250	1.6	10	600	1,000	5.0	0.1	1.0	0.75	0.01	0.05	0.05	1.0	1.0	0.05	0.20	0.002	1.0	0.2	0.05	0.05	0.03	10.0
MW-1	06/19/09	131	0.827	3.75	123	694	<0.0100	0.00914	0.1470	0.175	<0.00200	<0.00500	<0.00500	<0.00500	<0.200	<0.00500	0.974	<0.000200	<0.00500	<0.00500	<0.00500	<0.00500	--	0.01240
	01/19/10	266	0.249	5.84	145	1,240	0.0202	0.00634	0.1640	0.236	<0.00200	<0.00500	<0.00500	<0.00500	<0.200	<0.00500	2.72	<0.000200	<0.00500	<0.00500	<0.00500	<0.00500	0.00615	0.00989
	08/18/10	126	0.623	2.59	111	694	<0.0100	0.00841	0.1170	0.182	<0.00200	<0.00500	<0.00500	<0.00500	<0.200	<0.00500	1.62	<0.000200	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	0.00538
	03/01/11	100	0.502	1.84	83.4	580	<0.0100	0.00821	0.0984	0.189	<0.00200	<0.00500	<0.00500	<0.00500	<0.200	<0.00500	1.62	<0.000200	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	0.00689
	07/20/11	34.7	0.623	1.14	73.9	492	<0.0100	0.00808	0.0903	0.168	<0.00200	<0.00500	<0.00500	<0.00500	<0.200	<0.00500	0.485	<0.000200	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	0.00832
	02/02/12	29.9	0.773	<1.00	65.4	392	<0.0100	0.00782	0.0843	0.164	<0.00200	<0.00500	<0.00500	<0.00500	<0.200	<0.00500	0.780	<0.000200	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	0.00766
	07/27/12	27.3	0.944	<2.00	59.5	358	0.0249	0.00870	0.0917	0.193	<0.00200	<0.00500	<0.00500	<0.00500	<0.200	<0.00500	1.05	<0.000200	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	0.00759
	02/27/13	30.0	0.872	<2.00	67.2	400	<0.0100	0.00857	0.0974	0.184	<0.00200	<0.00500	<0.00500	<0.00500	<0.200	<0.00500	0.662	<0.000200	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	0.01070
	08/21/13	33.2	1.03	<1.00	70.5	406	0.0158	0.00589	0.1020	0.187	<0.00200	0.01600	<0.00500	<0.00500	<0.200	<0.00500	1.32	<0.000200	<0.00500	0.01640	<0.00500	<0.00500	<0.00500	0.00641
	02/27/14	30.0	0.758	0.710	63.2	418	<0.0100	0.00750	0.1110	0.169	<0.00200	<0.00500	<0.00500	<0.00500	<0.200	<0.00500	0.690	<0.000200	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	0.00874
	08/21/14	26.6	1.10	1.23	68.0	395	0.0135	0.01020	0.1380	0.109	<0.00200	<0.00500	<0.00500	<0.00500	<0.200	<0.00500	0.0172	<0.000200	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	0.02420
	02/25/15	26.0	1.10	1.50	66.0	390	<0.0350	0.01200	0.1300	0.180 J	<0.00070	<0.00140	<0.00230	<0.00530	<0.014	0.00048 J	<0.0012	<0.000049	0.00250	<0.00490	<0.00740	<0.00280	0.00220 J	0.00670 J
	08/27/15	27.3	0.961	1.70	72.2	441	<0.0350	0.01200	0.1220	0.170	<0.00016	<0.00054	<0.00026	<0.00052	<0.0141	<0.00024	0.00191 J	<0.000049	0.00236 J	<0.00035	0.00268	<0.00031	0.00187 J	<0.00256
	03/09/16	28.9	1.09	1.76	68.1	--	0.00841 JB	0.00292	0.121	0.155	<0.00016	0.0276	<0.00026	0.00141 JB	<0.0150	<0.00024	0.00102 JB	<0.000049	0.00170 JB	0.000910 JB	0.00150 J	<0.000310	0.00246 J	0.00436 JB
	08/17/16	38.4	1.04	1.93	69.3	436	0.00284 JB	0.0117	0.138	0.189	<0.00100	0.00112 JB	<0.00026	0.000802 JB	0.0529 JB	<0.00024	0.00295 JB	<0.000049	0.0026 J	<0.00350	0.00278	<0.000310	0.00261 J	0.00377 J
	02/07/17	54.6	0.978	2.91	78.9	--	<0.0258	0.00618 J	0.163	0.190	<0.00080	<0.00270	<0.00130	<0.00260	<0.0750	<0.00120	0.0124 J	<0.000049	0.00549 J	0.0137	0.00237	<0.00155	0.00276 J	0.0160 J
	08/17/17	61.5	1.07	2.58	68.1	453	0.0110 JB	0.00809	0.146	0.157	<0.00016	<0.00054	<0.00026	<0.00052	<0.0150	<0.00024	0.00371 J	0.000258	0.00229 J	0.0237	0.00228	<0.000310	0.00230 J	0.00494 J
	04/05/18	48.3	1.04	2.14	63.4	--	<0.00515	0.00762	0.152	0.176 J	<0.000160	<0.000540	<0.000260	0.000883 JB	<0.0150	<0.000240	0.00128 JB	<0.0000490	0.00252 JB	<0.000350	0.00250 B	<0.000310	0.00179 JB	0.0110 J
	10/01/18	42.0	1.03	2.59	65.7	402	0.0143 JB	0.00687	0.141	0.143 J	<0.000160	<0.000540	<0.000260	<0.000520	<0.0150	<0.000240	0.000642 JB	<0.0000490	0.00242 J	<0.000350	0.00255	<0.000310	0.00163 J	0.00331 JB
MW-2	06/22/09	252	0.765	2.69	66.8	988	0.0657	0.03860	0.0803	0.190	<0.00200	<0.00500	<0.00500	0.00621	<0.200	<0.00500	0.00583	<0.000200	<0.00500	<0.00500	<0.00500	<0.00500	--	0.1100
	01/19/10	246	0.672	3.39	55.1	966	<0.0100	<0.00500	0.005	0.191	<0.00200	<0.00500	<0.00500	<0.00500	<0.200	<0.00500	0.00538	<0.000200	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	0.0166
	08/16/10	276	0.824	3.23	55.9	1,180	0.1367	<0.00500	0.193	0.155	<0.00200	<0.00500	<0.00500	<0.00500	<0.200	<0.00500	<0.00500	<0.000200	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	0.0204
	03/03/11	221	0.763	3.49	57.6	1,010	<0.0100	<0.00500	0.176	0.171	<0.00200	<0.00500	<0.00500	<0.00500	<0.200	<0.00500	<0.00500	<0.000200	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	0.0117
	07/14/11	190	0.647	2.98	58.4	966	<0.0100	<0.00500	0.160	0.192	<0.00200	<0.00500	<0.00500	<0.00500	<0.200	<0.00500	<0.00500	<0.000200	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	0.0230
	01/30/12	214	0.784	3.43	75.1	1,230	<0.0100	<0.00500	0.130	0.164	<0.00200	<0.00500	<0.00500	<0.00500	<0.200	<0.00500	<0.00500	<0.000200	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	0.0255
	07/24/12	201	0.898	3.24	76.3	908	<0.0100	<0.00500	0.140	0.233	<0.00200	<0.00500	<0.00500	<0.00500	<0.200	<0.00500	<0.00500	<0.000200	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	0.0191
	02/19/13																							

Table 3. Inorganic Constituent Concentrations in Groundwater
HollyFrontier Navajo Refining LLC, AP-110, Lovington, New Mexico

Monitor Well	Sample Date	Chloride (mg/L)	Fluoride (mg/L)	Nitrate-Nitrite (as N, mg/L)	Sulfate (mg/L)	Total Dissolved Solids (mg/L)	Aluminum (mg/L)	Arsenic (mg/L)	Barium (mg/L)	Boron (mg/L)	Cadmium (mg/L)	Chromium (mg/L)	Cobalt (mg/L)	Copper (mg/L)	Iron (mg/L)	Lead (mg/L)	Manganese (mg/L)	Total Mercury (mg/L)	Molybdenum (mg/L)	Nickel (mg/L)	Selenium (mg/L)	Silver (mg/L)	Uranium (mg/L)	Zinc (mg/L)
NM WQCC Groundwater Human Health Standards:		250	1.6	10	600	1,000	5.0	0.1	1.0	0.75	0.01	0.05	0.05	1.0	1.0	0.05	0.20	0.002	1.0	0.2	0.05	0.05	0.03	10.0
MW-4	06/16/09	28.9	0.841	1.84	61.5	422	0.1800	<0.00500	0.1740	0.160	<0.00200	0.00534	<0.00500	<0.00500	<0.200	<0.00500	<0.00500	<0.000200	<0.00500	<0.00500	<0.00500	<0.00500	--	0.01200
	01/13/10	29.3	1.10	1.67	66.7	416	0.0345	<0.00500	0.0932	0.177	<0.00200	<0.00500	<0.00500	<0.00500	<0.200	<0.00500	<0.00500	<0.000200	<0.00500	<0.00500	<0.00500	<0.00500	0.00102	<0.00500
	08/19/10	26.1	1.10	1.10	65.8	324	0.0607	<0.00500	0.0862	0.136	<0.00200	<0.00500	<0.00500	<0.00500	<0.200	<0.00500	<0.00500	<0.000200	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500
	02/28/11	27.1	1.02	1.91	64.4	378	0.0131	<0.00500	0.0951	0.163	<0.00200	<0.00500	<0.00500	<0.00500	<0.200	<0.00500	<0.00500	<0.000200	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	0.00533
	07/15/11	25.8	1.12	1.57	63.6	422	0.1440	<0.00500	0.1410	0.172	<0.00200	0.00619	<0.00500	<0.00500	<0.200	<0.00500	0.01140	<0.000200	<0.00500	0.01030	<0.00500	<0.00500	<0.00500	0.02110
	01/30/12	30.0	1.08	1.71	73.4	388	0.0119	<0.00500	0.0796	0.150	<0.00200	<0.00500	<0.00500	<0.00500	<0.200	<0.00500	<0.00500	<0.000200	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	0.01470
	07/24/12	28.9	1.18	<2.00	69.4	414	<0.0100	<0.00500	0.0883	0.199	<0.00200	<0.00500	<0.00500	<0.00500	<0.200	<0.00500	<0.00500	<0.000200	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	0.01020
	02/21/13	26.6	1.05	<2.00	75.5	360	<0.0100	0.00525	0.0841	0.157	<0.00200	<0.00500	<0.00500	<0.00500	<0.200	<0.00500	<0.00500	<0.000200	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	0.01160
	08/20/13	26.4	1.20	1.72	71.6	382	< 0.0100	0.00500	0.0902	0.156	<0.00200	<0.00500	<0.00500	<0.00500	<0.200	<0.00500	<0.00500	<0.000200	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	0.00506
	02/25/14	26.9	0.877	2.02	75.5	390	<0.0100	<0.00500	0.0897	0.148	<0.00200	<0.00500	<0.00500	<0.00500	<0.200	<0.00500	<0.00500	<0.000200	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	0.00801
	08/20/14	24.1	1.15	1.64	70.2	372	0.6030	0.00501	0.2130	0.111	<0.00200	<0.00500	<0.00500	<0.00500	0.241	<0.00500	0.00595	<0.000200	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	0.02210
	02/24/15	24.0	1.10	2.10	66.00	390	<0.0350	0.00460	0.0900	0.150 J	<0.00070	<0.00140	<0.00230	<0.00530	<0.014	0.00025 J	<0.00120	0.00011 J	0.00340 J	<0.00490	<0.00740	<0.00280	0.00160 J	<0.00590
	08/28/15	28.8	1.26	2.32	63.8	479	<0.0350	0.00526	0.0930	0.157	<0.00016	<0.00054	<0.00026	<0.00052	<0.0141	<0.00024	0.00114 J	<0.000049	0.00319 J	0.000482 J	0.00228	<0.00031	0.00168 J	0.00269 J
	08/15/16	25.1	1.02	2.24	60.3	411	0.00568 JB	0.00564	0.0894	0.155	<0.00016	0.00117 JB	<0.00026	0.000614 JB	0.064 JB	<0.00024	0.000588 JB	<0.000049	0.00358 J	0.000488 JB	0.00272	<0.00031	0.0017 J	0.00298 J
	08/17/17	34.0	1.17	2.39	57.5	384	0.0196 JB	0.00480	0.0871	0.139	<0.00016	0.000569 J	<0.00026	0.000818 J	<0.0150	<0.00024	<0.00025	<0.000049	0.00313 J	0.00317 B	0.00220	<0.00031	0.00141 J	0.00637 J
10/01/18	62.6	1.04	2.60	53.6	574	0.0149 JB	0.00482	0.0965	0.135 J	<0.000160	<0.000540	<0.000260	<0.000520	<0.0150	<0.000240	0.000539 J	<0.0000490	0.00271 J	0.00139 J	0.00231	<0.000310	0.00139 J	0.00473 J	
MW-5	06/16/09	186	1.39	3.31	131	952	0.7960	0.02330	0.0639	0.1160	<0.00200	<0.00500	<0.00500	<0.00500	0.399	<0.00500	0.00670	<0.000200	0.01030	<0.00500	<0.00500	<0.00500	--	<0.01000
	01/18/10	26.4	0.781	4.91	80.6	508	<0.0100	<0.00500	0.0966	0.1350	<0.00200	<0.00500	<0.00500	<0.00500	<0.200	<0.00500	<0.00500	<0.000200	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500
	08/20/10	18.5	1.13	3.43	77.7	440	0.0814	<0.00500	0.0967	0.0986	<0.00200	<0.00500	<0.00500	<0.00500	<0.200	<0.00500	<0.00500	<0.000200	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500
	02/28/11	29.8	1.03	2.91	70.5	570	0.1230	<0.00500	0.1000	0.0854	<0.00200	<0.00500	<0.00500	<0.00500	<0.200	<0.00500	0.01420	<0.000200	<0.00500	0.01120	<0.00500	<0.00500	<0.00500	0.03680
	07/19/11	20.9	0.858	2.72	59.0	524	<0.0100	<0.00500	0.0968	0.0871	<0.00200	<0.00500	<0.00500	<0.00500	<0.200	<0.00500	<0.00500	<0.000200	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	0.03090
	01/31/12	26.9	1.04	2.49	61.2	504	<0.0100	<0.00500	0.0972	0.0557	<0.00200	<0.00500	<0.00500	<0.00500	<0.200	<0.00500	<0.00500	<0.000200	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	0.00948
	01/31/12	27.1	1.05	2.54	62.0	436	<0.0100	<0.00500	0.0947	0.0728	<0.00200	<0.00500	<0.00500	<0.00500	<0.200	<0.00500	<0.00500	<0.000200	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	0.01190
	07/25/12	15.9	1.10	2.22	50.1	434	0.0205	<0.00500	0.0931	0.1340	<0.00200	<0.00500	<0.00500	<0.00500	<0.200	<0.00500	<0.00500	<0.000200	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	0.05620
	02/21/13	10.9	1.04	2.01	40.8	412	0.0487	<0.00500	0.1040	0.0997	<0.00200	<0.00500	<0.00500	0.04340	<0.200	<0.00500	0.01580	<0.000200	<0.00500	<0.00500	<0.00500	<0.00500	0.00582	0.02890
	08/20/13	13.9	1.16	2.05	44.2	448	< 0.0100	<0.00500	0.1050	0.1000	<0.00200	<0.00500	<0.00500	<0.00500	<0.200	<0.00500	<0.00500	<0.000200	<0.00500	<0.00500	<0.00500	<0.00500	0.00507	0.02080
	02/25/14	11.8	0.877	2.52	48.4	436	< 0.0100	<0.00500	0.1160	0.0893	<0.00200	<0.00500	<0.00500	<0.00500	<0.200	<0.00500	<0.00500	<0.000200	<0.00500	<0.00500	&			

Table 3. Inorganic Constituent Concentrations in Groundwater
HollyFrontier Navajo Refining LLC, AP-110, Lovington, New Mexico

Monitor Well	Sample Date	Chloride (mg/L)	Fluoride (mg/L)	Nitrate-Nitrite (as N, mg/L)	Sulfate (mg/L)	Total Dissolved Solids (mg/L)	Aluminum (mg/L)	Arsenic (mg/L)	Barium (mg/L)	Boron (mg/L)	Cadmium (mg/L)	Chromium (mg/L)	Cobalt (mg/L)	Copper (mg/L)	Iron (mg/L)	Lead (mg/L)	Manganese (mg/L)	Total Mercury (mg/L)	Molybdenum (mg/L)	Nickel (mg/L)	Selenium (mg/L)	Silver (mg/L)	Uranium (mg/L)	Zinc (mg/L)
NM WQCC Groundwater Human Health Standards:		250	1.6	10	600	1,000	5.0	0.1	1.0	0.75	0.01	0.05	0.05	1.0	1.0	0.05	0.20	0.002	1.0	0.2	0.05	0.05	0.03	10.0
MW-7	06/19/09	30.6	1.12	1.66	67.2	384	<0.0100	0.00923	0.169	0.161	<0.00200	<0.00500	<0.00500	<0.00500	<0.200	<0.00500	0.127	<0.000200	<0.00500	<0.00500	<0.00500	<0.00500	- -	0.01370
	02/02/10	28.0	0.854	1.72	62.2	350	<0.0200	0.00869	0.199	0.169	<0.00200	<0.00500	<0.00500	<0.00500	<0.200	<0.00500	0.125	<0.000200	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500
	08/18/10	27.2	0.570	1.12	60.2	370	0.0223	0.00532	0.252	0.161	<0.00200	<0.00500	<0.00500	<0.00500	<0.200	<0.00500	0.343	<0.000200	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500
	03/01/11	26.5	0.599	1.91	58.2	376	<0.0100	0.00525	0.237	0.161	<0.00200	<0.00500	<0.00500	<0.00500	<0.200	<0.00500	0.441	<0.000200	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	0.00593
	07/20/11	23.3	0.626	1.35	56.8	396	<0.0100	0.00669	0.246	0.164	<0.00200	<0.00500	<0.00500	<0.00500	<0.200	<0.00500	0.617	<0.000200	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500
	02/02/12	25.5	0.633	1.66	61.5	356	<0.0100	<0.00500	0.229	0.166	<0.00200	<0.00500	<0.00500	<0.00500	<0.200	<0.00500	0.550	<0.000200	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	0.00746
	07/27/12	23.6	0.796	2.01	55.2	342	0.0727	<0.00500	0.234	0.196	<0.00200	<0.00500	<0.00500	<0.00500	<0.200	<0.00500	0.642	<0.000200	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	0.01140
	02/27/13	25.8	0.709	<2.00	67.3	286	<0.0100	<0.00500	0.227	0.178	<0.00200	<0.00500	<0.00500	<0.00500	<0.200	<0.00500	0.300	<0.000200	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	0.00844
	08/21/13	26.9	0.748	1.62	60.8	290	< 0.0100	<0.00500	0.220	0.178	<0.00200	<0.00500	<0.00500	<0.00500	<0.200	<0.00500	0.365	<0.000200	<0.00500	<0.00500	0.0600	<0.00500	<0.00500	<0.00500
	02/27/14	31.0	0.501	1.50	62.1	408	0.0159	<0.00500	0.208	0.168	<0.00200	<0.00500	<0.00500	<0.00500	<0.200	<0.00500	0.781	<0.000200	<0.00500	<0.00500	0.00540	<0.00500	<0.00500	0.00818
	08/21/14	30.8	0.642	1.72	62.2	380	< 0.0100	<0.00500	0.207	0.110	<0.00200	<0.00500	<0.00500	<0.00500	<0.200	<0.00500	0.470	<0.000200	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	0.00566
	02/25/15	35.0	0.710	2.00	60.0	420	<0.0350	0.00550	0.240	0.180 J	<0.00070	<0.00140	<0.00230	<0.00530	<0.014	0.00041 J	0.011	<0.000049	0.00110 J	<0.00490	<0.00740	<0.00280	0.00330 J	0.00830 J
	08/27/15	38.4	0.866	2.28	66.9	471	<0.0350	0.00650	0.215	0.180	<0.00016	<0.00054	<0.00026	<0.00052	<0.0141	<0.000240	0.0184	<0.000049	0.00175 J	<0.00035	0.00334	<0.00031	0.00236 J	<0.00256
MW-8	06/18/09	219	0.730	3.46	73.3	798	<0.0100	0.00501	0.181	0.228	<0.00200	<0.00500	<0.00500	<0.00500	<0.200	<0.00500	0.00919	<0.000200	<0.00500	<0.00500	<0.00500	<0.00500	- -	0.04580
	01/18/10	151	0.493	3.80	67.6	742	<0.0100	0.00726	0.157	0.215	<0.00200	<0.00500	<0.00500	<0.00500	<0.200	<0.00500	<0.00500	<0.000200	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	0.00545
	08/18/10	279	0.560	7.08	65.3	1,260	0.0377	0.00676	0.204	0.170	<0.00200	<0.00500	<0.00500	<0.00500	<0.200	<0.00500	<0.00500	<0.000200	<0.00500	<0.00500	<0.00500	<0.00500	0.00501	0.00760
	02/25/11	144	0.820	<0.500	87.5	694	<0.0100	<0.00500	0.106	0.175	<0.00200	<0.00500	<0.00500	<0.00500	<0.200	<0.00500	0.28100	<0.000200	<0.00500	0.00620	<0.00500	<0.00500	<0.00500	0.03160
	07/19/11	313	0.522	4.49	72.4	1,460	<0.0100	<0.00500	0.229	0.278	<0.00200	<0.00500	<0.00500	<0.00500	<0.200	<0.00500	<0.00500	<0.000200	<0.00500	<0.00500	<0.00500	<0.00500	0.00928	0.02130
	02/01/12	376	0.498	8.21	102	1,530	<0.0100	<0.00500	0.221	0.219	<0.00200	<0.00500	<0.00500	<0.00500	<0.200	<0.00500	0.00636	<0.000200	<0.00500	0.01190	<0.00500	<0.00500	<0.00500	0.03390
	07/27/12	224	0.490	8.55	122	1,080	<0.0100	<0.00500	0.160	0.294	<0.00200	<0.00500	<0.00500	<0.00500	<0.200	<0.00500	<0.00500	<0.000200	<0.00500	0.00523	<0.00500	<0.00500	0.00714	0.00888
	02/26/13	246	0.371	11.1	118	1,080	<0.0100	0.00627	0.170	0.380	<0.00200	<0.00500	<0.00500	<0.00500	<0.200	<0.00500	0.00592	<0.000200	<0.00500	0.00999	<0.00500	<0.00500	0.00690	0.01880
	08/21/13	101	0.513	9.49	129	788	< 0.0100	<0.00500	0.119	0.266	<0.00200	<0.00500	<0.00500	<0.00500	<0.200	<0.00500	0.02080	<0.000200	<0.00500	0.01350	<0.00500	<0.00500	<0.00500	0.01070
	02/27/14	368	0.417	1.43	88.1	1,440	0.7470	<0.00500	0.233	0.284	<0.00200	0.04170	<0.00500	<0.00500	0.541	<0.00500	0.02400	<0.000200	<0.00500	0.03390	<0.00500	<0.00500	0.00916	0.01020
	08/21/14	360	0.268	4.42	76.6	1,310	0.3140	<0.00500	0.212	0.230	<0.00200	0.04040	<0.00500	<0.00500	0.274	<0.00500	0.01280	<0.000200	<0.00500	0.02580	<0.00500	<0.00500	0.00639	0.01810
	02/26/15	220	0.490	7.00	86.0	960	0.1100	0.00550	0.200	0.230	<0.00070	<0.00140	<0.00230	<0.00530	<0.014	<0.00024	<0.00120	<0.000049	0.000830 J	<0.00490	<0.00740	<0.00280	0.00730 J	0.00590 J
	08/27/15	258	0.368 J	8.80	88.5	1,260	<0.0350	0.00537	0.232	0.245	<0.00016	0.000562 J	0.000346 J	0.000544 J	<0.0141	<0.00024	0.00141 J	<0.000049	0.000854 J	0.00204	0.00224	<0.00031	0.00891 J	0.00316 J
	03/08/16	291	0.357	7.84	78.2	1,290	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	08/18/16	94.1	0.537	3.67	71.4	593	0.0111 JB	0.00686	0.121	0.187	<0.00016	0.000982 JB	<0.000260	0.00175 JB	0.0152 J	0.000247 J	0.00123 JB	0.0000537 JB	0.00137 J	0.00243 B	0.00254	<0.00031	0.00245 J	0.00318 JB
	02/08/17	50.7	0.760	3.02	78.6	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	08/17/17	29.4	0.798	4.02	76.1	699	0.0129 JB	0.00790	0.126	0.151	<0.00016	<0.000540	<0.000260	0.00265 J	<0.0150	<0.00024	<0.000250	<0.000049	0.00207 J	0.00679	0.00278	<0.00031	0.00347 J	0.0133 J
	04/05/18	170	0.599	5.61	77.1	877	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	10/01/18	159	0.653	6.49	85.8	807	0.00771 JB	0.00744	0.182	0.175 J	<0.000160	0.000757 JB	<0.000260	0.00160 JB	<0.0150	0.000279 JB	0.000389 JB	<0.0000490	0.00169 J	0.00867	0.00248	<0.000310	0.00486 J	0.0157 JB
MW-9	06/16/09	23.0	1.69	0.748	73.2	380	0.0468	0.0373	0.0911	0.122	<0.00200	<0.00500	<0.00500	<0.00500	<0.200	<0.00500	<0.00500	<0.000200	<0.00500	<0.00500	<0.00500	<0.00500	- -	<0.0100
	01/14/10	23.9	1.78	1.72	74.4	450	0.0164	0.0351	0.0676	0.139	<0.00200	<0.00500	<0.00500	<0.00500	<0.200	<0.00500	<0.00500	<0.000200	<0.00500	<0.00500	<0.00500	<0.00500	0.000656	<0.00500
	08/19/10	21.8	1.64	1.32	75.2	412	0.1150	0.0358	0.0649	0.121	<0.00200	<0.00500	<0.00500	<0.00500	<0.200	<0.00500	0.00961	<0.000200	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500
	03/01/11	24.1	1.63	2.01	74.6	414	0.0112	0.0382	0.0586	0.131	<0.00200	<0.00500	<0.00500	<0.00500	<0.200	<0.00500	<0.00500	<0.000200	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	0.00662
	07/15/11	24.9	1.65	1.78	70.2	434	0.0371	0.0374	0.0647	0.166	<0.00200	0.00741	<0.00500	<0.00500	<0.200	<0.00500	<0.00500	<0.000200	<0.00500	0.00511	<0.00500	<0.00500	<0.00500	0.00932
	01/31/12	31.5	2.22	1.43	80.5	484	<0.0100	0.0341	0.0653	0.108	<0.00200	<0.00500	<0.00500	<0.00500	<0.200	<0.00500	<0.00500	<0.000200	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	0.00529
	07/25/12	30.4	1.99	<2.00	77.8	420	0.0306	0.0292	0.0721	0.182	<0.00200	<0.00500	<0.00500	<0.00500	<0.200	<0.00500	0.00708	<0.000200	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	0.00716
	02/27/13	31.3	1.11	2.82	79.1	440	<0.0100	0.0171	0.0766	0.154	<0.00200	<0.00500	<0.00500	<0.00500	0.702	<0.00500	<0.00500	<0.000200	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	0.0

Table 3. Inorganic Constituent Concentrations in Groundwater
HollyFrontier Navajo Refining LLC, AP-110, Lovington, New Mexico

Monitor Well	Sample Date	Chloride (mg/L)	Fluoride (mg/L)	Nitrate-Nitrite (as N, mg/L)	Sulfate (mg/L)	Total Dissolved Solids (mg/L)	Aluminum (mg/L)	Arsenic (mg/L)	Barium (mg/L)	Boron (mg/L)	Cadmium (mg/L)	Chromium (mg/L)	Cobalt (mg/L)	Copper (mg/L)	Iron (mg/L)	Lead (mg/L)	Manganese (mg/L)	Total Mercury (mg/L)	Molybdenum (mg/L)	Nickel (mg/L)	Selenium (mg/L)	Silver (mg/L)	Uranium (mg/L)	Zinc (mg/L)
NM WQCC Groundwater Human Health Standards:		250	1.6	10	600	1,000	5.0	0.1	1.0	0.75	0.01	0.05	0.05	1.0	1.0	0.05	0.20	0.002	1.0	0.2	0.05	0.05	0.03	10.0
MW-10	06/16/09	32.2	0.878	1.83	76.5	378	<0.0200	<0.00500	0.1130	0.138	<0.00200	<0.00500	<0.00500	<0.00500	<0.200	<0.00500	<0.00500	<0.000200	<0.00500	<0.00500	<0.00500	<0.00500	- -	0.01270
	01/13/10	33.4	1.05	1.84	77.9	436	<0.0100	<0.00500	0.0815	0.162	<0.00200	<0.00500	<0.00500	<0.00500	<0.200	<0.00500	<0.00500	<0.000200	<0.00500	<0.00500	<0.00500	<0.00500	0.000911	0.01330
	08/19/10	31.7	1.07	1.91	79.8	508	0.0556	<0.00500	0.0798	0.129	<0.00200	<0.00500	<0.00500	<0.00500	<0.200	<0.00500	<0.00500	<0.000200	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	0.00569
	03/03/11	32.8	0.945	2.06	79.1	422	<0.0100	<0.00500	0.0772	0.159	<0.00200	<0.00500	<0.00500	<0.00500	<0.200	<0.00500	<0.00500	<0.000200	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	0.01330
	07/15/11	30.7	1.06	1.68	75.7	470	0.0318	<0.00500	0.0855	0.177	<0.00200	<0.00500	<0.00500	<0.00500	<0.200	<0.00500	<0.00500	<0.000200	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500
	01/31/12	42.9	1.00	1.85	87.4	444	<0.0100	<0.00500	0.0865	0.109	<0.00200	<0.00500	<0.00500	<0.00500	<0.200	<0.00500	<0.00500	<0.000200	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	0.02520
	07/25/12	42.7	1.10	<2.00	82.6	382	<0.0100	0.00516	0.0882	0.186	<0.00200	<0.00500	<0.00500	<0.00500	<0.200	<0.00500	<0.00500	<0.000200	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	0.00861
	02/27/13	48.0	0.960	<2.00	83.5	416	<0.0100	0.00546	0.0972	0.164	<0.00200	<0.00500	<0.00500	<0.00500	<0.200	<0.00500	<0.00500	<0.000200	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	0.00633
	08/22/13	95.0	0.994	2.12	72.2	516	< 0.0100	<0.00500	0.1040	0.168	<0.00200	<0.00500	<0.00500	<0.00500	<0.200	<0.00500	<0.00500	<0.000200	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	0.00671
	02/26/14	112	0.674	2.43	70.9	568	< 0.0100	<0.00500	0.1060	0.147	<0.00200	<0.00500	<0.00500	<0.00500	<0.200	<0.00500	<0.00500	<0.000200	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	0.00979
	08/21/14	156	0.856	2.08	68.5	750	< 0.0100	<0.00500	0.1340	0.0998	<0.00200	<0.00500	<0.00500	<0.00500	<0.200	<0.00500	0.00939	<0.000200	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	0.01140
	02/26/15	120	0.710	2.10	68.0	540	<0.0350	0.00430	0.1200	0.170 J	<0.00070	0.00160 J	<0.00230	<0.0053	<0.014	0.00030 J	<0.00120	<0.000049	0.00260 J	<0.00490	<0.0074	<0.00280	0.00190 J	0.00600 J
	08/26/15	115	1.19	1.92	102	551	<0.0350	0.00466	0.0982	0.154	<0.00016	0.000709 J	<0.00026	0.000803 J	<0.0141	<0.00024	<0.00025	<0.000049	0.00258 J	<0.00035	0.00283	<0.00031	0.00158 J	<0.00256
08/17/16	57.5	0.954	1.61	75.0	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
08/16/17	94.0	0.966	2.15	74.5	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
10/01/18	33.3	0.955	1.69	76.3	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-11	06/18/09	204	0.579	1.23	43.1	994	<0.0100	<0.00500	0.194	0.199	<0.00200	<0.00500	<0.00500	<0.00500	0.571	<0.00500	0.3870	<0.000200	<0.00500	<0.00500	<0.00500	<0.00500	- -	0.02120
	01/18/10	164	0.527	1.37	71.4	842	<0.0100	<0.00500	0.147	0.238	<0.00200	<0.00500	<0.00500	<0.00500	<0.200	<0.00500	0.0559	<0.000200	<0.00500	0.01260	<0.00500	<0.00500	0.00635	<0.00500
	08/18/10	146	0.616	2.38	50.6	802	0.0125	<0.00500	0.471	0.255	<0.00200	<0.00500	<0.00500	<0.00500	0.347	<0.00500	0.5710	<0.000200	<0.00500	<0.00500	<0.00500	<0.00500	0.00718	<0.00500
	02/25/11	415	0.549	<0.500	82.3	1,510	<0.0100	<0.00500	0.241	0.244	<0.00200	<0.00500	<0.00500	<0.00500	<0.200	<0.00500	0.0101	<0.000200	<0.00500	0.00856	<0.00500	<0.00500	0.00878	0.09820
	07/19/11	134	0.575	0.778	57.0	894	<0.0100	<0.00500	0.150	0.232	<0.00200	<0.00500	<0.00500	<0.00500	<0.200	<0.00500	0.0301	<0.000200	<0.00500	0.00846	<0.00500	<0.00500	0.00616	0.02650
	02/01/12	175	0.749	<0.500	4.96	966	<0.0100	0.0176	1.40	0.288	<0.00200	<0.00500	<0.00500	<0.00500	1.77	<0.00500	1.05	<0.000200	<0.00500	0.01690	<0.00500	<0.00500	0.01380	0.01890
	07/27/12	133	0.708	<2.00	59.7	784	<0.0100	0.0128	0.827	0.374	<0.00200	<0.00500	<0.00500	<0.00500	2.02	<0.00500	2.54	<0.000200	<0.00500	0.03510	<0.00500	<0.00500	0.03300	<0.00500
	02/27/13	140	0.576	3.11	32.6	908	<0.0100	0.00802	0.561	0.349	<0.00200	<0.00500	0.00604	<0.00500	<0.200	<0.00500	5.24	<0.000200	0.00631	0.08610	<0.00500	<0.00500	0.01270	0.02260
	02/27/13	143	0.585	3.23	32.0	908	<0.0100	0.00787	0.574	0.349	<0.00200	<0.00500	0.00574	<0.00500	<0.200	<0.00500	5.47	<0.000200	0.00619	0.08110	<0.00500	<0.00500	0.01250	0.01990
	08/21/13	182	0.668	4.04	75.3	854	< 0.0100	<0.00500	0.195	0.283	<0.00200	<0.00500	<0.00500	<0.00500	<0.200	<0.00500	2.62	<0.000200	<0.00500	0.00869	<0.00500	<0.00500	0.00723	0.00547
	08/21/13	172	0.673	4.19	76.2	868	< 0.0100	<0.00500	0.198	0.29	<0.00200	<0.00500	<0.00500	<0.00500	<0.200	<0.00500	2.92	<0.000200	<0.00500	0.00906	<0.00500	<0.00500	0.00714	0.00592
	02/28/14	-- ⁽¹⁾	-- ⁽¹⁾	-- ⁽¹⁾	-- ⁽¹⁾	-- ⁽¹⁾	-- ⁽¹⁾	-- ⁽¹⁾	-- ⁽¹⁾	-- ⁽¹⁾	-- ⁽¹⁾	-- ⁽¹⁾	-- ⁽¹⁾	-- ⁽¹⁾	-- ⁽¹⁾	-- ⁽¹⁾	-- ⁽¹⁾	-- ⁽¹⁾	-- ⁽¹⁾	-- ⁽¹⁾	-- ⁽¹⁾	-- ⁽¹⁾	-- ⁽¹⁾	-- ⁽¹⁾
	08/20/14	-- ⁽¹⁾	-- ⁽¹⁾	<1.0																				

Table 3. Inorganic Constituent Concentrations in Groundwater
HollyFrontier Navajo Refining LLC, AP-110, Lovington, New Mexico

Monitor Well	Sample Date	Chloride (mg/L)	Fluoride (mg/L)	Nitrate-Nitrite (as N, mg/L)	Sulfate (mg/L)	Total Dissolved Solids (mg/L)	Aluminum (mg/L)	Arsenic (mg/L)	Barium (mg/L)	Boron (mg/L)	Cadmium (mg/L)	Chromium (mg/L)	Cobalt (mg/L)	Copper (mg/L)	Iron (mg/L)	Lead (mg/L)	Manganese (mg/L)	Total Mercury (mg/L)	Molybdenum (mg/L)	Nickel (mg/L)	Selenium (mg/L)	Silver (mg/L)	Uranium (mg/L)	Zinc (mg/L)
NM WQCC Groundwater Human Health Standards:		250	1.6	10	600	1,000	5.0	0.1	1.0	0.75	0.01	0.05	0.05	1.0	1.0	0.05	0.20	0.002	1.0	0.2	0.05	0.05	0.03	10.0
MW-13	06/16/09	425	0.220	2.65	138	1,790	<0.0200	<0.00500	0.0692	0.253	<0.00200	<0.00500	0.0285	<0.00500	<0.200	<0.00500	0.0176	<0.000200	<0.00500	0.0126	<0.00500	<0.00500	--	0.02690
	01/18/10	604	0.170	1.08	79.8	2,210	<0.0100	<0.00500	0.1110	0.231	<0.00200	0.00728	0.00624	<0.00500	<0.200	<0.00500	0.0591	<0.000200	<0.00500	0.0110	<0.00500	<0.00500	0.0119	0.00769
	08/18/10	390	0.278	<1.00	144	1,720	0.0196	<0.00500	0.1060	0.221	<0.00200	<0.00500	<0.00500	<0.00500	<0.200	<0.00500	0.256	<0.000200	<0.00500	<0.00500	<0.00500	<0.00500	0.0128	0.00618
	02/25/11	340	0.281	<0.500	235	1,540	<0.0100	<0.00500	0.0692	0.242	<0.00200	<0.00500	<0.00500	<0.00500	<0.200	<0.00500	0.225	<0.000200	<0.00500	0.0144	<0.00500	<0.00500	0.0170	0.07440
	07/19/11	351	0.327	<0.500	244	1,960	<0.0100	<0.00500	0.0800	0.249	<0.00200	<0.00500	<0.00500	<0.00500	<0.200	<0.00500	0.302	<0.000200	<0.00500	0.0121	<0.00500	<0.00500	0.0188	0.00785
	02/01/12	418	0.322	<0.500	122	1,590	<0.0100	<0.00500	0.0752	0.228	<0.00200	<0.00500	0.00663	<0.00500	<0.200	<0.00500	0.341	<0.000200	<0.00500	0.0136	<0.00500	<0.00500	0.0128	0.05530
	07/26/12	462	0.422	<2.00	123	2,150	<0.0100	<0.00500	0.1120	0.284	<0.00200	<0.00500	0.00644	<0.00500	<0.200	<0.00500	0.459	<0.000200	<0.00500	0.0108	<0.00500	<0.00500	0.0158	0.03610
	02/26/13	430	0.366	<2.00	135	1,610	0.0139	<0.00500	0.1290	0.270	<0.00200	<0.00500	0.00657	<0.00500	<0.200	<0.00500	0.571	<0.000200	0.00568	0.0820	<0.00500	<0.00500	0.0123	0.03590
	08/21/13	548	0.389	<1.00	108	2,000	< 0.0100	0.00590	0.1590	0.265	<0.00200	<0.00500	<0.00500	<0.00500	<0.200	<0.00500	0.705	<0.000200	<0.00500	0.0209	<0.00500	<0.00500	0.0153	0.00931
	02/27/14	588	0.282	<0.500	106	2,380	0.0110	<0.00500	0.1910	0.258	<0.00200	0.01400	0.00541	<0.00500	0.321	<0.00500	1.01	<0.000200	<0.00500	0.0300	<0.00500	<0.00500	0.0173	0.02910
	08/19/14	485	<1.00	<1.00	87.2	1,900	0.0737	<0.00500	0.2070	0.287	<0.00200	<0.00500	<0.00500	<0.00500	<0.200	<0.00500	0.940	<0.000200	<0.00500	0.0065	<0.00500	<0.00500	0.0151	0.01150
	02/27/15	550	0.380	0.056 J	59.0	1,600	<0.0350	0.00340	0.2300	0.240	<0.00070	<0.00140	0.00470 J	<0.00530	<0.014	<0.00024	0.820	<0.000049	0.00100 J	<0.00490	<0.00740	<0.00280	0.0140	0.01900 J
	08/26/15	396	0.505	0.956	107	1,890	<0.0350	0.00301	0.1970	0.231	<0.00016	<0.00054	0.00163 J	0.00208 J	<0.0141	<0.00024	0.383	-- ⁽¹⁾	0.00143 J	0.00276	0.000710 J	<0.00031	0.0112	0.00592 J
	03/08/16	217	0.552	2.53	75.7	972	0.00530 JB	0.00365	0.0976	0.196	<0.000160	<0.000540	<0.000260	0.00100 JB	0.0238 JB	0.000241 JB	0.000620 J	<0.000049	0.00288 J	0.000721 JB	0.00144 J	<0.00031	0.00303 J	0.00418 JB
	08/17/16	336	0.396	1.81	97.5	1,340	0.00748 JB	0.00398	0.1490	0.223	<0.000160	0.0013 JB	0.00218	0.00287 JB	0.022 JB	<0.00024	0.241	<0.000049	0.00111 J	0.00409 B	0.000998 J	<0.00031	0.0119	0.0159 J
	02/08/17	307	0.428	1.28	102	1,140	<0.0258	0.00409 J	0.1500	0.217	<0.000800	<0.00270	0.00296 J	<0.00260	<0.0750	<0.00120	0.157	<0.000049	0.00132 J	0.00726 J	0.000432 J	<0.00155	0.0123 J	0.0382 J
	08/17/17	-- ⁽¹⁾	-- ⁽¹⁾	-- ⁽¹⁾	-- ⁽¹⁾	-- ⁽¹⁾	0.00785 JB	0.00687	0.1420	0.187	<0.000160	0.00128 J	<0.000260	0.00517	<0.0150	<0.00024	0.0258	<0.000049	0.00193 J	0.0231	0.000828 J	<0.00031	0.0141	0.2400
	04/05/18	-- ⁽¹⁾	-- ⁽¹⁾	-- ⁽¹⁾	-- ⁽¹⁾	-- ⁽¹⁾	-- ⁽¹⁾	-- ⁽¹⁾	-- ⁽¹⁾	-- ⁽¹⁾	-- ⁽¹⁾	-- ⁽¹⁾	-- ⁽¹⁾	-- ⁽¹⁾	-- ⁽¹⁾	-- ⁽¹⁾	-- ⁽¹⁾	-- ⁽¹⁾	-- ⁽¹⁾	-- ⁽¹⁾	-- ⁽¹⁾	-- ⁽¹⁾	-- ⁽¹⁾	-- ⁽¹⁾
	09/26/18	DRY WELL - PLUGGED AND ABANDONED SEPTEMBER 2018																						
MW-13R	10/01/18	407	0.629	3.50	90.2	1,410	0.00533 JB	0.00260	0.194	0.169 J	<0.000160	0.00234 B	0.00460	0.0243	<0.0150	<0.000240	0.223	<0.0000490	0.0360	0.162	0.00161 J	<0.000310	0.00743 J	0.0775
MW-14	06/16/09	93.0	0.851	5.16	60.9	540	<0.0200	<0.00500	0.0770	0.132	<0.00200	<0.00500	<0.00500	<0.00500	<0.200	<0.00500	0.01990	<0.000200	0.02150	<0.00501	<0.00500	<0.00500	--	0.0255
	01/18/10	103	0.810	6.03	59.0	598	<0.0100	<0.00500	<0.00500	<0.020	<0.00200	<0.00500	<0.00500	<0.00500	<0.200	<0.00500	<0.00500	<0.000200	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500
	08/20/10	74.1	0.986	2.76	61.3	340	0.1030	<0.00500	0.0774	0.131	<0.00200	0.0119	<0.00500	<0.00500	<0.200	<0.00500	<0.00500	<0.000200	0.00964	0.0480	<0.00500	<0.00500	0.00527	<0.00500
	02/25/11	58.2	0.918	2.32	58.7	440	0.0101	<0.00500	0.0778	0.151	<0.00200	<0.00500	<0.00500	<0.00500	<0.200	<0.00500	0.02340	<0.000200	0.00903	0.0138	<0.00500	<0.00500	0.00541	0.0532
	07/18/11	48.4	1.05	1.36	53.0	482	0.1760	0.00615	0.110	0.156	<0.00200	12.5	0.122	0.21800	54.9	<0.00500	1.45	<0.000200	0.08600	6.81	<0.00500	<0.00500	0.00544	0.0446
	01/31/12	59.7	0.984	1.58	58.3	444	<0.0100	<0.00500	0.0802	0.129	<0.00200	<0.00500	<0.00500	<0.00500	<0.200	<0.00500	0.02760	<0.000200	0.00608	0.0186	<0.00500	<0.00500	<0.00500	0.0287
	07/25/12	69.3	1.03	<2.00	54.8	446	0.0116	<0.00500	0.0905	0.216	<0.00200	<0.00500	<0.00500	<0.00500	<0.200	<0.00500	0.03210	<0.000200	<0.00500	0.0240	<0.00500	<0.00500	<0.00500	0.0448
	02/22/13	71.9	0.795	<2.00	52.9	428	<0.0100	<0.00500	0.0900	0.174	<0.00200	<0.00500	<0.00500	0.07050	<0.200	<0.00500	0.03490	<0.000200	0.01210	0.0106	<0.00500	<0.00500	0.00591	0.1480
	02/28/14	-- ⁽¹⁾	-- ⁽¹⁾	-- ⁽¹⁾	-- ⁽¹⁾	-- ⁽¹⁾	-- ⁽¹⁾	-- ⁽¹⁾	-- ⁽¹⁾	-- ⁽¹⁾	-- ⁽¹⁾													

Table 3. Inorganic Constituent Concentrations in Groundwater
HollyFrontier Navajo Refining LLC, AP-110, Lovington, New Mexico

Monitor Well	Sample Date	Chloride (mg/L)	Fluoride (mg/L)	Nitrate-Nitrite (as N, mg/L)	Sulfate (mg/L)	Total Dissolved Solids (mg/L)	Aluminum (mg/L)	Arsenic (mg/L)	Barium (mg/L)	Boron (mg/L)	Cadmium (mg/L)	Chromium (mg/L)	Cobalt (mg/L)	Copper (mg/L)	Iron (mg/L)	Lead (mg/L)	Manganese (mg/L)	Total Mercury (mg/L)	Molybdenum (mg/L)	Nickel (mg/L)	Selenium (mg/L)	Silver (mg/L)	Uranium (mg/L)	Zinc (mg/L)
NM WQCC Groundwater Human Health Standards:		250	1.6	10	600	1,000	5.0	0.1	1.0	0.75	0.01	0.05	0.05	1.0	1.0	0.05	0.20	0.002	1.0	0.2	0.05	0.05	0.03	10.0
MW-16 (duplicate)	08/20/10	25.3	0.930	1.13	73.7	406	0.0746	<0.00500	0.1090	0.156	<0.00200	<0.00500	<0.00500	<0.00500	<0.200	<0.00500	0.00554	<0.000200	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	0.01450
	02/24/11	28.1	0.928	2.36	73.7	412	<0.0100	<0.00500	0.1070	0.162	<0.00200	<0.00500	<0.00500	<0.00500	<0.200	<0.00500	0.00671	<0.000200	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	0.02480
	07/15/11	25.5	1.04	1.82	72.0	484	0.188	<0.00500	0.1290	0.181	<0.00200	0.11500	<0.00500	<0.00500	0.613	<0.00500	0.01640	<0.000200	<0.00500	0.05910	<0.00500	<0.00500	<0.00500	0.01760
	07/15/11	21.0	0.733	1.98	54.1	476	0.0374	<0.00500	0.1180	0.185	<0.00200	0.02510	<0.00500	<0.00500	0.241	<0.00500	0.00820	<0.000200	<0.00500	0.02340	<0.00500	<0.00500	<0.00500	0.01660
	01/30/12	27.9	0.994	1.79	77.6	398	<0.0100	<0.00500	0.0964	0.166	<0.00200	<0.00500	<0.00500	<0.00500	<0.200	<0.00500	<0.00500	<0.000200	<0.00500	<0.00500	<0.00500	<0.00500	0.00899	
	07/24/12	26.6	1.14	<2.00	72.6	404	0.0102	<0.00500	0.0966	0.202	<0.00200	<0.00500	<0.00500	<0.00500	<0.200	<0.00500	0.01620	<0.000200	<0.00500	0.01120	<0.00500	<0.00500	<0.00500	0.01670
	02/20/13	24.0	0.966	<2.00	68.1	316	<0.0100	0.00547	0.0968	0.172	<0.00200	<0.00500	<0.00500	<0.00500	<0.200	<0.00500	<0.00500	<0.000200	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	0.00693
	08/20/13	24.7	1.02	1.75	64.0	392	0.026	<0.00500	0.1050	0.192	<0.00200	<0.00500	<0.00500	<0.00500	<0.200	<0.00500	0.02190	<0.000200	<0.00500	0.01770	<0.00500	<0.00500	<0.00500	<0.00500
	02/25/14	23.9	0.766	1.83	62.3	362	<0.0100	<0.00500	0.0938	0.172	<0.00200	<0.00500	<0.00500	<0.00500	<0.200	<0.00500	0.02250	<0.000200	0.00516	0.02950	<0.00500	<0.00500	<0.00500	0.00786
	08/19/14	21.7	0.975	1.41	64.9	362	0.335	<0.00500	0.1040	0.209	<0.00200	0.00751	<0.00500	<0.00500	<0.200	<0.00500	0.00544	<0.000200	<0.00500	0.00667	<0.00500	<0.00500	<0.00500	0.00897
	02/24/15	20.0	1.00	1.90	61.0	360	0.042 J	0.00510	0.0980	0.170 J	<0.00070	<0.00140	<0.00230	<0.0053	<0.014	<0.00024	0.00420 J	<0.000049	0.00350 J	<0.00490	<0.00740	<0.00280	0.00160 J	0.01400 J
	08/27/15	21.3	1.07	2.34	66.0	408	<0.0350	0.00528	0.0936	0.176	<0.00016	<0.00054	<0.00026	0.000638 J	<0.0141	<0.00024	0.000312 J	<0.000049	0.00293 J	<0.00035	0.00228	<0.00031	0.00156 J	0.00343 J
08/15/16	22.3	0.859	1.69	63.5	418	0.00512 JB	0.00434	0.0973	0.181	<0.00016	0.00122 JB	<0.00026	0.000659 JB	0.0571 JB	<0.00024	0.00916	<0.000049	0.00631	0.0117	0.00246	<0.00031	0.00206 J	0.00454 J	
08/17/17	25.5	0.940	1.94	66.4	392	0.0178 JB	0.00488	0.106	0.162	<0.00016	0.000796 J	<0.00026	0.00279 J	<0.0150	<0.00024	0.000295 J	<0.000049	0.00256 J	0.00343 B	0.00257	<0.00031	0.00198 J	0.0285	
10/01/18	28.1	0.900	2.16	67.8	386	<0.00515	0.00492	0.114	0.155 J	<0.000160	<0.000540	<0.000260	0.00200 JB	<0.0150	<0.000240	0.000783 JB	<0.0000490	0.00243 J	0.000934 J	0.00322	<0.000310	0.00228 J	0.00805 JB	
MW-17	08/20/10	426	0.517	4.27	72.6	1,650	0.146	<0.00500	0.180	0.157	<0.00200	<0.00500	<0.00500	<0.00500	<0.200	<0.00500	<0.00500	<0.000200	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	0.0142
	02/24/11	412	0.435	5.33	80.0	1,634	<0.0100	<0.00500	0.152	0.162	<0.00200	<0.00500	<0.00500	<0.00500	<0.200	<0.00500	<0.00500	<0.000200	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	0.0478
	07/18/11	336	0.753	4.07	82.7	1,850	<0.0100	<0.00500	0.141	0.165	<0.00200	<0.00500	<0.00500	<0.00500	<0.200	<0.00500	<0.00500	<0.000200	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	0.0126
	--	DAMAGED WELL - PLUGGED AND ABANDONED JUNE 2013																						
MW-17R (duplicate)	08/22/13	246	0.602	3.44	81.7	1,190	0.0302	<0.00500	0.154	0.188	<0.00200	<0.00500	<0.00500	<0.00500	<0.200	<0.00500	0.0819	<0.000200	0.00531	0.0189	<0.00500	<0.00500	<0.00500	<0.00500
	02/27/14	184	0.425	0.629	92.5	904	0.2540	<0.00500	0.121	0.193	<0.00200	0.0121	<0.00500	<0.00500	<0.200	<0.00500	0.0342	<0.000200	<0.00500	0.0273	<0.00500	<0.00500	<0.00500	<0.00500
	08/22/14	170	0.602	2.70	94.8	860	0.0459	<0.00500	0.153	0.120	<0.00200	<0.00500	<0.00500	<0.00500	<0.200	<0.00500	0.0989	<0.000200	<0.00500	0.0378	<0.00500	<0.00500	<0.00500	0.02430
	02/26/15	150	0.650	2.60	75.0	670	0.0460 J	0.00280	0.120	--	<0.00070	0.0022 J	<0.00230	<0.0053	<0.014	0.00030 J	<0.0012	<0.000049	0.00130 J	<0.0049	<0.00740	<0.00280	0.00300 J	0.02300 J
	08/27/15	110	0.859	2.86	87.4	658	<0.0350	0.00320	0.0972	0.171	<0.00016	0.000967 J	<0.00026	0.000632 J	0.0218 J	<0.000240	0.00123 J	<0.000049	0.00163 J	0.000779 J	0.00203	<0.00031	0.00267 J	<0.00256
	03/08/16	65.3	0.722	2.55	76.0	465	0.0150 JB	0.00259	0.0739	0.161	<0.00016	<0.000540	0.000315 J	0.000717 JB	<0.0150	<0.000240	0.0544	<0.000049	0.000749 J	0.00103 JB	0.00185 J	<0.00031	0.00666 J	0.00412 JB
	08/17/16	219	0.578	4.37	79.8	526	0.00299 JB	0.00251	0.143	0.199	<0.00016	0.0011 JB	<0.00026	0.00145 JB	<0.0150	<0.000240	0.00281 J	<0.000049	0.0014 J	0.00147 JB	0.00143 J	<0.00031	0.00285 J	<0.00256
	02/09/17	150	0.654	3.01	86.3	715	<0.0258	0.00292 J	0.0993	0.183	<0.00080	<0.00270	<0.00130	0.00839 J	<0.0750	<0.00120	0.0450	<0.000049	0.00415 J	0.0112	0.00227	<0.00155	0.00227 J	<0.0128
	08/16/17	60.0	0.770	2.21	85.9	502	0.00847 JB	0.00367	0.0723	0.154	<0.00016	0.00244	<0.00026	0.00105 J	<0.0150	<0.000240	<0.000250	<0.000049	0.00161 J	0.00196 JB	0.00274	<0.00031	0.00179 J	0.00448 J
	04/05/18	124	0.664	2.46	68.2	587	<0.00515	0.00353	0.107	0.166 J	<0.000160	0.00143 JB	<0.000260	0.00180 JB	<0.0150	<0.000240	<0.000250	<0.0000490	0.00161 JB	0.00233 B	0.00261 B	<0.000310	0.00165 JB	0.00823 J
	04/05/18	124	0.679	2.48	69.7	589	<0.00515	0.00350	0.109	0.172 J	<0.000160	0.00118 JB	<0.000260	0.00166 JB	<0.0150	<0.000240	0.000388 JB	<0.0000490	0.00161 JB	0.00229 B	0.00227 B	<0.000310	0.00163 JB	0.0116 J
	10/01/18	136	0.631	2.88																				

Table 3. Inorganic Constituent Concentrations in Groundwater
HollyFrontier Navajo Refining LLC, AP-110, Lovington, New Mexico

Monitor Well	Sample Date	Chloride (mg/L)	Fluoride (mg/L)	Nitrate-Nitrite (as N, mg/L)	Sulfate (mg/L)	Total Dissolved Solids (mg/L)	Aluminum (mg/L)	Arsenic (mg/L)	Barium (mg/L)	Boron (mg/L)	Cadmium (mg/L)	Chromium (mg/L)	Cobalt (mg/L)	Copper (mg/L)	Iron (mg/L)	Lead (mg/L)	Manganese (mg/L)	Total Mercury (mg/L)	Molybdenum (mg/L)	Nickel (mg/L)	Selenium (mg/L)	Silver (mg/L)	Uranium (mg/L)	Zinc (mg/L)	
NM WQCC Groundwater Human Health Standards:		250	1.6	10	600	1,000	5.0	0.1	1.0	0.75	0.01	0.05	0.05	1.0	1.0	0.05	0.20	0.002	1.0	0.2	0.05	0.05	0.03	10.0	
MW-19	08/23/10	469	0.536	2.94	178	1,650	0.1010	0.04760	0.2290	<0.020	<0.00200	<0.00500	<0.00500	<0.00500	<0.200	<0.00500	0.00666	<0.000200	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	
	02/24/11	235	0.713	2.87	90.7	828	<0.0100	<0.00500	0.0764	0.180	<0.00200	<0.00500	<0.00500	<0.00500	<0.200	<0.00500	<0.00500	<0.000200	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	
	07/18/11	688	0.734	3.66	142	2,880	<0.0100	<0.00500	0.0920	0.266	<0.00200	<0.00500	<0.00500	<0.00500	<0.200	<0.00500	<0.00781	<0.000200	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	
	01/31/12	610	0.568	4.12	121	1,770	<0.0100	<0.00500	0.0688	0.350	<0.00200	<0.00500	<0.00500	<0.00500	<0.200	<0.00500	0.00553	<0.000200	<0.00500	0.00525	<0.00500	<0.00500	<0.00500	<0.00500	
	07/25/12	1,130	0.450	5.11	117	3,570	0.0114	<0.00500	0.1060	0.535	<0.00200	<0.00500	<0.00500	<0.00500	<0.200	<0.00500	0.00593	<0.000200	<0.00500	0.00664	<0.00500	<0.00500	<0.00500	<0.00500	
	02/26/13	540	0.519	4.21	115	1,650	<0.0100	<0.00500	0.0870	0.300	<0.00200	<0.00500	<0.00500	<0.00500	<0.200	<0.00500	<0.00500	<0.000200	<0.00500	0.00566	<0.00500	<0.00500	<0.00500	<0.00500	
	08/22/13	487	0.645	3.43	92.6	1,430	<0.0100	<0.00500	0.0857	0.241	<0.00200	<0.00500	<0.00500	<0.00500	<0.200	<0.00500	<0.00500	<0.000200	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	
	08/22/13	475	0.672	3.38	95.7	1,670	0.0182	<0.00500	0.0864	0.237	<0.00200	0.0143	<0.00500	<0.00500	<0.200	<0.00500	<0.00500	<0.000200	<0.00500	0.00900	<0.00500	<0.00500	<0.00500	<0.00500	
	02/26/14	264	0.576	2.34	72.3	850	0.0120	<0.00500	0.0793	0.227	<0.00200	<0.00500	<0.00500	<0.00500	<0.200	<0.00500	0.01570	<0.000200	<0.00500	0.01220	<0.00500	<0.00500	<0.00500	0.03330	
	02/26/14	288	0.555	2.51	76.0	950	0.0435	<0.00500	0.0753	0.204	<0.00200	<0.00500	<0.00500	<0.00500	<0.200	<0.00500	0.01650	<0.000200	<0.00500	0.01230	<0.00500	<0.00500	<0.00500	0.03500	
	08/19/14	233	0.592	2.48	84.5	774	0.0461	<0.00500	0.2690	0.279	<0.00200	0.0352	<0.00500	<0.00500	0.263	<0.00500	0.02040	<0.000200	<0.00500	0.02610	<0.00500	<0.00500	<0.00500	0.00854	
	08/19/14	241	0.627	2.59	84.7	820	0.0208	<0.00500	0.0846	0.236	<0.00200	<0.00500	<0.00500	<0.00500	<0.200	<0.00500	0.01060	<0.000200	<0.00500	0.00943	<0.00500	<0.00500	<0.00500	0.00640	
	02/26/15	140	0.870	2.30	82.0	630	<0.0350	0.00460	0.0700	0.220	<0.00070	<0.0014	<0.0023	<0.0053	<0.014	<0.00024	<0.00120	<0.000049	0.00320 J	<0.00490	<0.00740	<0.00280	0.00250 J	0.01400 J	
	02/26/15	130	0.860	2.40	85.0	660	0.089 J	0.00460	0.0690	0.210	<0.00070	<0.0014	<0.0023	<0.0053	<0.014	<0.00024	<0.00120	<0.000049	0.00320 J	<0.00490	<0.00740	<0.00280	0.00250 J	0.01300 J	
	08/26/15	236	0.789	2.86	70.9	888	<0.0350	0.00422	0.0875	0.185 J	<0.00016	0.00105 J	<0.00026	0.000732 J	<0.0141	<0.00024	<0.00025	<0.000049	0.01070	0.00168 J	0.00138 J	<0.00031	0.00179 J	0.00486 J	
	03/08/16	297	0.749	2.81	63.2	1,170	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	08/17/16	470	0.749	2.93	90.3	1,660	0.00479 JB	0.00383	0.0919	0.191	<0.00016	0.00129 JB	<0.00026	0.000646 JB	0.0268 JB	<0.00024	0.00104 JB	<0.000049	0.00287 J	0.000547 JB	0.00148 J	<0.00031	0.00312 J	0.00397 J	
	02/08/17	302	0.735	2.39	57.6	864	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	08/16/17	236	0.832	2.02	57.8	907	0.00686 JB	0.00365	0.104	0.148	<0.00016	0.000704 J	<0.00026	0.00395 J	<0.0150	<0.00024	0.000510 J	<0.000049	0.00328 J	0.0123	0.00143 J	<0.00031	0.00208 J	0.0241 J	
	08/16/17	257	0.626	2.08	61.8	944	<0.00515	0.00351	0.103	0.151	<0.00016	0.000627 J	<0.00026	0.00304 J	<0.0150	<0.00024	0.000995 JB	<0.000049	0.00317 J	0.00919	0.00138 J	<0.00031	0.00220 J	0.0207 J	
	04/05/18	176	0.797	1.48	61.3	722	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	10/01/18	292	0.706	2.96	85.6	1,270	0.00731 JB	0.00196 J	0.0939	0.145 J	<0.000160	0.000756 JB	0.00133 J	0.00446 JB	<0.0150	<0.000240	0.0179	<0.0000490	0.00480 J	0.0726	0.00109 J	<0.000310	0.00250 J	0.0926	
MW-20	08/23/10	169	0.570	1.74	65.1	868	0.0891	<0.00500	0.122	0.143	<0.00200	<0.00500	<0.00500	<0.00500	<0.200	<0.00500	<0.00500	<0.000200	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	
	02/25/11	187	0.603	2.58	66.3	840	<0.0100	<0.00500	0.120	0.150	<0.00200	<0.00500	<0.00500	<0.00500	<0.200	<0.00500	<0.00500	<0.000200	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	
	07/18/11	148	0.765	2.06	51.3	1,020	<0.0100	<0.00500	0.134	0.159	<0.00200	<0.00500	<0.00500	<0.00500	<0.200	<0.00500	<0.00500	<0.000200	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	
	01/31/12	174	0.641	2.51	61.4	726	<0.0100	<0.00500	0.114	0.149	<0.00200	<0.00500	<0.00500	<0.00500	<0.200	<0.00500	<0.00500	<0.000200	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	
	07/25/12	189	0.742	2.24	56.0	848	<0.0100	<0.00500	0.107	0.217	<0.00200	<0.00500	<0.00500	<0.00500	<0.200	<0.00500	<0.00500	<0.000200	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	
	02/22/13	155	0.570	2.26	55.8	600	0.0294	<0.00500	0.102	0.164	<0.00200	<0.00500	<0.00500	<0.00500	<0.200	<0.00500	<0.00500	<0.000200	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	
	08/20/13	180	0.755	2.40	60.4	736	0.0104	<0.00500	0.102	0.172	<0.00200	<0.00500	<0.00500	<0.00500	<0.200	<0.00500	0.00966	<0.000200	<0.00500	0.0112	<0.				

Table 3. Inorganic Constituent Concentrations in Groundwater
HollyFrontier Navajo Refining LLC, AP-110, Lovington, New Mexico

Monitor Well	Sample Date	Chloride (mg/L)	Fluoride (mg/L)	Nitrate-Nitrite (as N, mg/L)	Sulfate (mg/L)	Total Dissolved Solids (mg/L)	Aluminum (mg/L)	Arsenic (mg/L)	Barium (mg/L)	Boron (mg/L)	Cadmium (mg/L)	Chromium (mg/L)	Cobalt (mg/L)	Copper (mg/L)	Iron (mg/L)	Lead (mg/L)	Manganese (mg/L)	Total Mercury (mg/L)	Molybdenum (mg/L)	Nickel (mg/L)	Selenium (mg/L)	Silver (mg/L)	Uranium (mg/L)	Zinc (mg/L)
NM WQCC Groundwater Human Health Standards:		250	1.6	10	600	1,000	5.0	0.1	1.0	0.75	0.01	0.05	0.05	1.0	1.0	0.05	0.20	0.002	1.0	0.2	0.05	0.05	0.03	10.0
MW-22	08/23/10	115	0.552	1.76	62.3	726	0.1210	<0.00500	0.165	0.174	<0.00200	<0.00500	<0.00500	<0.00500	<0.200	<0.00500	0.03060	<0.000200	<0.00500	<0.00500	<0.00500	<0.00500	0.00604	0.09160
	02/28/11	117	0.587	2.36	68.6	678	<0.0100	<0.00500	0.146	0.173	<0.00200	<0.00500	<0.00500	<0.00500	<0.200	<0.00500	0.01080	<0.000200	<0.00500	<0.00500	<0.00500	<0.00500	0.00616	0.04870
	07/19/11	107	0.568	2.06	64.1	740	<0.0100	<0.00500	0.150	0.178	<0.00200	<0.00500	<0.00500	<0.00500	<0.200	<0.00500	0.00721	<0.000200	<0.00500	0.00546	<0.00500	<0.00500	0.00638	0.02030
	01/31/12	141	0.570	2.26	74.3	766	<0.0100	<0.00500	0.151	0.141	<0.00200	<0.00500	<0.00500	<0.00500	<0.200	<0.00500	0.01030	<0.000200	<0.00500	0.00762	<0.00500	<0.00500	0.00501	0.01830
	07/26/12	149	0.628	2.09	68.3	830	<0.0100	<0.00500	0.143	0.196	<0.00200	<0.00500	<0.00500	<0.00500	<0.200	<0.00500	0.00949	<0.000200	<0.00500	0.00839	<0.00500	<0.00500	0.00564	0.00680
	02/21/13	178	0.500	2.30	80.4	798	0.0231	<0.00500	0.145	0.180	<0.00200	0.0305	<0.00500	<0.00500	0.269	<0.00500	0.03860	<0.000200	<0.00500	0.05200	<0.00500	<0.00500	0.00590	0.02080
	08/21/13	176	0.606	2.94	83.0	890	< 0.0100	<0.00500	0.137	0.210	<0.00200	<0.00500	<0.00500	<0.00500	<0.200	<0.00500	0.02330	<0.000200	<0.00500	0.02090	<0.00500	<0.00500	0.00658	0.00566
	02/25/14	172	0.416	3.53	85.2	842	< 0.0100	<0.00500	0.143	0.204	<0.00200	0.0133	<0.00500	<0.00500	<0.200	<0.00500	0.02380	<0.000200	<0.00500	0.02660	<0.00500	<0.00500	0.00632	0.01500
	08/20/14	120	1.00	2.36	127	738	40.3	0.00642	0.141	0.239	<0.00200	0.1840	<0.00500	0.00983	4.32	0.00743	0.07150	<0.000200	0.00881	0.09990	<0.00500	<0.00500	0.0336	0.03700
	02/24/15	110	0.570	3.30	81.0	820	0.0370 J	0.00250	0.180	0.210	<0.00070	<0.00140	<0.0023	<0.0053	<0.014	0.00077 J	0.00260 J	<0.000049	0.00140 J	<0.00490	<0.00740	<0.00280	0.01200	0.01900 J
	08/25/15	118	0.618	4.85	81.1	928	0.0452 J	0.00279	0.167	0.208	<0.00016	0.00139 J	0.000337 J	0.000760 J	<0.0141	<0.00024	0.00253 J	<0.000049	<0.00160	0.00240	<0.00038	<0.00031	0.00934 J	0.00438 J
	08/16/16	128	0.577	5.86	57.6	827	0.00281 JB	0.00241	0.150	0.190	<0.00016	0.00199 JB	<0.00026	0.000854 JB	<0.0150	<0.00024	0.00134 JB	<0.000049	0.00142	0.00143 JB	0.000387 J	<0.00031	0.00865 J	0.0038 J
08/17/17	87.4	0.644	48.6	53.6	700	0.00751 JB	0.00196 J	0.130	0.159	<0.00016	0.00103 J	<0.00026	0.000730 J	<0.0150	<0.00024	0.000893 J	<0.000049	0.00161 J	0.0670	0.000652 J	<0.00031	0.00690 J	0.00439 J	
10/01/18	34.3	0.652	12.9	46.7	883	0.00765 JB	0.00219	0.121	0.190 J	<0.000160	0.00267 B	<0.000260	0.00812	<0.0150	0.000354 JB	0.000828 JB	<0.0000490	0.00183 J	0.0219	0.000795 J	<0.000310	0.00585 J	0.0566	
MW-23	08/23/10	645	0.782	2.92	121	2,260	0.2370	<0.00500	0.245	0.157	<0.00200	<0.00500	<0.00500	<0.00500	<0.200	<0.00500	0.00669	<0.000200	<0.00500	0.00859	<0.00500	<0.00500	<0.00500	0.05700
	02/28/11	511	0.676	3.47	81.9	1,540	<0.0100	<0.00500	0.164	0.151	<0.00200	<0.00500	<0.00500	<0.00500	<0.200	<0.00500	0.00831	<0.000200	<0.00500	0.00930	<0.00500	<0.00500	<0.00500	0.04630
	07/19/11	712	0.670	3.79	108	3,090	<0.0100	<0.00500	0.272	0.181	<0.00200	<0.00500	<0.00500	<0.00500	<0.200	<0.00500	0.00647	<0.000200	<0.00500	0.00912	<0.00500	<0.00500	<0.00500	0.02130
	02/01/12	887	0.697	4.07	85.4	2,720	0.0108	<0.00500	0.268	0.159	<0.00200	<0.00500	<0.00500	<0.00500	<0.200	<0.00500	0.00658	<0.000200	<0.00500	0.00714	<0.00500	<0.00500	<0.00500	0.02070
	07/26/12	774	0.750	3.45	100	3,060	<0.0100	<0.00500	0.252	0.198	<0.00200	<0.00500	<0.00500	<0.00500	<0.200	<0.00500	<0.00500	<0.000200	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	0.01010
	02/26/13	662	0.690	3.46	93.9	2,040	<0.0100	<0.00500	0.170	0.196	<0.00200	<0.00500	<0.00500	<0.00500	<0.200	<0.00500	0.00944	<0.000200	<0.00500	0.01550	<0.00500	<0.00500	<0.00500	0.01790
	08/21/13	530	0.808	3.29	115	1,910	< 0.0100	<0.00500	0.141	0.207	<0.00200	<0.00500	<0.00500	<0.00500	<0.200	<0.00500	0.03150	<0.000200	<0.00500	0.02860	<0.00500	<0.00500	0.00533	0.00919
	02/25/14	574	0.605	3.41	89.0	1,860	< 0.0100	<0.00500	0.162	0.198	<0.00200	<0.00500	<0.00500	<0.00500	<0.200	<0.00500	0.04860	<0.000200	<0.00500	0.04100	<0.00500	<0.00500	<0.00500	0.02240
	08/21/14	443	0.792	2.89	98.1	1,680	0.0606	<0.00500	0.147	0.138	<0.00200	0.0129	<0.00500	<0.00500	<0.200	<0.00500	0.15700	<0.000200	0.00522	0.07190	<0.00500	<0.00500	<0.00500	0.01040
	02/25/15	57.0	0.630	3.10	92.0	1,000	0.0420 J	0.00240	0.110	0.210	<0.00070	<0.0014	<0.0023	<0.0053	<0.014	0.00031 J	<0.00120	<0.000049	0.00170 J	<0.00490	<0.00740	<0.00280	0.00520 J	0.04600 J
	08/25/15	431	0.874	4.39	91.9	2,190	<0.0350	0.00255	0.152	0.195 J	<0.00016	0.00188 J	<0.00026	0.00198 J	<0.0141	0.000316 J	0.00167 J	<0.000049	<0.00160	0.00187 J	0.00147 J	<0.00031	0.00508 J	0.00494 J
	08/16/16	411	0.792	3.02	88.5	1,400	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
08/17/17	237	0.917	2.45	97.4	1,050	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
10/01/18	27.0	0.825	1.93	47.0	720	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
MW-24 (duplicate)	08/24/10	34.6	2.31	2.40	53.9	422	0.187	<0.00500	0.0867	0.140	<0.00200	<0.00500	<0.00500	<0.00500	<0.200	<0.00500	<0.00500	<0.000200	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	0.00922
	02/28/11	39.6	2.16	2.94	55.3	414	<0.0100	<0.00500	0.0878	0.154	<0.00200	<0.00500	<0.00500	<0.00500	<0.200	<0.00500	<0.00500	<0.000200	<0.00500	0.00634	<0.00500	<0.00500	<0.00500	0.02450
	07/14/11	43.1	1.55	2.38	48.1	504	<0.0100	<0.00500	0.0932	0.173	<0.00200	<0.00500	<0.00500	<0.00500	<0.200	<0.00500	<0.00500	<0.000200	<0.00500	0.0				

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HollyFrontier Navajo Refining LLC, AP-110, Lovington, New Mexico

Monitor Well	Sample Date	Chloride (mg/L)	Fluoride (mg/L)	Nitrate-Nitrite (as N, mg/L)	Sulfate (mg/L)	Total Dissolved Solids (mg/L)	Aluminum (mg/L)	Arsenic (mg/L)	Barium (mg/L)	Boron (mg/L)	Cadmium (mg/L)	Chromium (mg/L)	Cobalt (mg/L)	Copper (mg/L)	Iron (mg/L)	Lead (mg/L)	Manganese (mg/L)	Total Mercury (mg/L)	Molybdenum (mg/L)	Nickel (mg/L)	Selenium (mg/L)	Silver (mg/L)	Uranium (mg/L)	Zinc (mg/L)
NM WQCC Groundwater Human Health Standards:		250	1.6	10	600	1,000	5.0	0.1	1.0	0.75	0.01	0.05	0.05	1.0	1.0	0.05	0.20	0.002	1.0	0.2	0.05	0.05	0.03	10.0
MW-25	08/23/10	178	0.871	2.42	182	946	0.2440	<0.00500	0.246	0.174	<0.00200	0.0476	<0.00500	<0.00500	<0.200	<0.00500	0.01090	<0.000200	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	0.01940
	02/28/11	256	0.729	2.83	93.9	998	<0.0100	<0.00500	0.205	0.198	<0.00200	0.0537	<0.00500	<0.00500	<0.200	<0.00500	0.00715	<0.000200	<0.00500	0.00516	<0.00500	<0.00500	<0.00500	0.04240
	07/18/11	77.8	1.12	3.64	96.2	634	0.0444	<0.00500	0.186	0.173	<0.00200	0.00732	<0.00500	<0.00500	<0.200	<0.00500	0.00608	<0.000200	<0.00500	0.00832	<0.00500	<0.00500	<0.00500	0.00556
	02/01/12	175	0.813	4.56	84.4	820	<0.0100	<0.00500	0.228	0.175	<0.00200	0.00744	<0.00500	<0.00500	<0.200	<0.00500	0.00804	<0.000200	<0.00500	0.00708	<0.00500	<0.00500	0.00602	0.00582
	07/26/12	133	0.892	37.1	144	1,110	<0.0100	<0.00500	0.178	0.220	<0.00200	0.00961	<0.00500	<0.00500	<0.200	<0.00500	<0.00500	<0.000200	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	0.01020
	02/26/13	109	0.710	19.4	113	788	<0.0100	<0.00500	0.149	0.241	<0.00200	0.00822	<0.00500	<0.00500	<0.200	<0.00500	0.01040	<0.000200	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	0.01480
	08/22/13	314	0.696	3.36	74.7	1,350	< 0.0100	<0.00500	0.224	0.262	<0.00200	<0.00500	<0.00500	<0.00500	<0.200	<0.00500	0.01220	<0.000200	<0.00500	0.02100	<0.00500	<0.00500	0.00862	<0.00500
	08/22/13	310	0.684	3.42	74.3	1,350	< 0.0100	<0.00500	0.226	0.263	<0.00200	<0.00500	<0.00500	<0.00500	<0.200	<0.00500	0.01270	<0.000200	<0.00500	0.02100	<0.00500	<0.00500	0.00860	0.00607
	02/26/14	293	0.476	2.98	69.3	1,100	< 0.0100	<0.00500	0.220	0.231	<0.00200	<0.00500	<0.00500	<0.00500	<0.200	<0.00500	0.00881	<0.000200	<0.00500	0.00775	<0.00500	<0.00500	0.00724	0.02100
	02/26/14	289	0.546	2.98	68.6	1,090	< 0.0100	<0.00500	0.213	0.218	<0.00200	<0.00500	<0.00500	<0.00500	<0.200	<0.00500	0.00882	<0.000200	<0.00500	0.00701	<0.00500	<0.00500	0.00645	0.02050
	08/19/14	302	<0.500	3.06	79.5	1,230	0.2850	<0.00500	0.198	0.265	<0.00200	0.154	<0.00500	<0.00500	0.814	<0.00500	0.04560	<0.000200	0.00573	0.10000	<0.00500	<0.00500	0.00749	0.01060
	08/19/14	319	<0.500	2.76	83.5	1,200	0.2910	<0.00500	0.201	0.263	<0.00200	0.185	<0.00500	0.00504	0.968	<0.00500	0.05110	<0.000200	0.00638	0.11300	<0.00500	<0.00500	0.00764	0.01200
	02/25/15	38.0	0.730	3.10	69	870	0.1300	0.00230	0.200	0.230	<0.00070	0.0016 J	<0.0023	<0.0053	<0.014	0.00050 J	<0.00120	<0.000049	0.00290 J	0.00560 J	<0.00740	<0.00280	0.00780 J	0.00860 J
	02/25/15	180	0.710	3.10	69	840	<0.0350	0.00230	0.200	0.220	<0.00070	0.0017 J	<0.0023	<0.0053	<0.014	0.00026 J	<0.00120	<0.000049	0.00110 J	0.00540 J	<0.00740	<0.00280	0.00800 J	0.01400 J
	08/25/15	211	0.693	2.96	72.6	1,110	<0.0350	0.00287	0.227	0.216	<0.00016	0.00160 J	0.00119 J	<0.000520	<0.0141	<0.00024	0.00279 J	<0.000049	<0.00160	0.00514	0.00109 J	<0.00031	0.00732 J	0.00472 J
	08/25/15	207	0.631	2.90	71.1	1,140	<0.0350	0.00296	0.231	0.214	<0.00016	0.00170 J	0.00113 J	0.00103 J	<0.0141	<0.00024	0.00287 J	<0.000049	<0.00160	0.00528	0.00102 J	<0.00031	0.00748 J	0.00497 J
	03/09/16	345	0.618	2.65	68.5	1,140	0.00206 JB	0.00229	0.301	0.214	<0.00016	0.000609 J	0.00141 J	0.000781 JB	0.0403 J	<0.00024	0.0386	<0.000049	0.00171 JB	0.00572 B	0.000540 J	<0.00031	0.00852 J	0.00590 JB
	08/16/16	292	0.637	1.44	73.9	976	0.0085 JB	0.00248	0.285	0.228	<0.00016	0.00166 JB	0.00171 J	0.00107 JB	0.0293 JB	<0.00024	0.0314	<0.000049	0.00139 J	0.00617	0.000689 J	<0.00031	0.00928 J	0.00584 J
	08/16/16	287	0.638	1.50	73.5	1,010	0.00458 JB	0.00262	0.284	0.223	<0.00016	0.00155 JB	0.00179 J	0.00079 JB	0.0474 JB	<0.00024	0.0326	<0.000049	0.00131 J	0.0057	0.000791 J	<0.00031	0.00939 J	0.00627 J
	02/07/17	298	0.567	1.64	93.4	1,000	<0.0258	0.00261 J	0.322	0.227	<0.00080	<0.00270	0.00382 J	0.00406 J	<0.0750	<0.00120	0.0478	<0.000049	0.00306 J	0.0165	0.000505 J	<0.00155	0.0104 J	<0.0128
	08/16/17	280	0.791	1.52	68.4	996	0.00773 JB	0.00227	0.206	0.171	<0.00016	0.00158 J	0.00522	0.00310 J	<0.0150	<0.00024	<0.00025	0.0000544 J	0.00113 J	0.0556	0.00162 J	<0.00031	0.00588 J	0.0276
	08/16/17	287	0.600	1.57	71.2	1,050	0.00864 JB	0.00242	0.210	0.181	<0.00016	0.00153 J	0.00520	0.00289 J	<0.0150	<0.00024	<0.00025	<0.000049	0.00124 J	0.0551	0.00128 J	<0.00031	0.00606 J	0.0262
	04/05/18	82.6	0.568	2.16	76.4	1,380	<0.00515	0.00232 B	0.293	0.234	<0.000160	0.00101 JB	0.0114	0.00712	<0.0150	<0.000240	0.00523	<0.0000490	0.00158 JB	0.0125	0.00112 JB	<0.000310	0.00814 J	0.0133 J
	04/05/18	401	0.605	2.17	79.5	1,360	0.102	0.00226 B	0.299	0.229	<0.000160	0.000990 JB	0.0117	0.00671	0.0304 J	0.000307 JB	0.00709	<0.0000490	0.00121 JB	0.0120	0.00107 JB	<0.000310	0.00828 J	0.0153 J
	10/01/18	284	0.518	3.89	105	1,090	0.0144 JB	0.00260	0.177	0.210	<0.000160	0.00110 JB	0.00874	0.00398 JB	<0.0150	0.000733 JB	0.0225	<0.0000490	0.00111 J	0.0123	0.000987 J	<0.000310	0.00919 J	0.00965 JB
	10/01/18	288	0.508	3.86	110	1,180	<0.00515	0.00246	0.192	0.209	<0.000160	0.000896 J	0.00925	0.00468 J	<0.0150	0.000421 J	0.0221	<0.0000490	0.00111 J	0.0122	0.000917 J	<0.000310	0.0101	0.00804 J
MW-26	08/24/10	217	0.484	2.88	98.5	958	0.115	<0.00500	0.1310	0.169	<0.00200	<0.00500	<0.00500	<0.00500	<0.200	<0.00500	0.01560	<0.000200	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	0.02540
	02/28/11	202	0.517	3.86																				

Table 3. Inorganic Constituent Concentrations in Groundwater
HollyFrontier Navajo Refining LLC, AP-110, Lovington, New Mexico

Monitor Well	Sample Date	Chloride (mg/L)	Fluoride (mg/L)	Nitrate-Nitrite (as N, mg/L)	Sulfate (mg/L)	Total Dissolved Solids (mg/L)	Aluminum (mg/L)	Arsenic (mg/L)	Barium (mg/L)	Boron (mg/L)	Cadmium (mg/L)	Chromium (mg/L)	Cobalt (mg/L)	Copper (mg/L)	Iron (mg/L)	Lead (mg/L)	Manganese (mg/L)	Total Mercury (mg/L)	Molybdenum (mg/L)	Nickel (mg/L)	Selenium (mg/L)	Silver (mg/L)	Uranium (mg/L)	Zinc (mg/L)	
NM WQCC Groundwater Human Health Standards:		250	1.6	10	600	1,000	5.0	0.1	1.0	0.75	0.01	0.05	0.05	1.0	1.0	0.05	0.20	0.002	1.0	0.2	0.05	0.05	0.03	10.0	
MW-28	08/24/10	71.2	1.66	1.70	60.3	440	0.1290	<0.00500	0.0846	0.153	<0.00200	<0.00500	<0.00500	<0.00500	<0.200	<0.00500	<0.00500	<0.000200	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	
	02/23/11	106	1.57	<0.500	67.4	540	<0.0100	<0.00500	0.0923	0.147	<0.00200	<0.00500	<0.00500	<0.00500	<0.200	<0.00500	<0.00500	<0.000200	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	
	07/14/11	106	1.28	2.40	67.8	732	<0.0100	<0.00500	0.1030	0.172	<0.00200	<0.00500	<0.00500	<0.00500	<0.200	<0.00500	0.00658	<0.000200	<0.00500	0.00696	<0.00500	<0.00500	<0.00500	0.01130	
	01/30/12	80.6	1.68	2.53	81.1	572	<0.0100	<0.00500	0.0746	0.152	<0.00200	<0.00500	<0.00500	<0.00500	<0.200	<0.00500	<0.00500	<0.000200	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	0.00812	
	07/24/12	74.9	1.79	2.33	81.6	500	<0.0100	<0.00500	0.0830	0.204	<0.00200	<0.00500	<0.00500	<0.00500	<0.200	<0.00500	<0.00500	<0.000200	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	0.04660	
	02/19/13	65.5	1.61	2.57	88.4	468	<0.0100	<0.00500	0.0883	0.174	<0.00200	<0.00500	<0.00500	0.20300	<0.200	<0.00500	0.02750	<0.000200	0.01000	<0.00500	<0.00500	<0.00500	<0.00500	0.01680	
	08/20/13	70.4	1.77	2.42	77.4	480	< 0.0100	<0.00500	0.0790	0.168	<0.00200	<0.00500	<0.00500	0.01010	<0.200	<0.00500	0.00874	<0.000200	<0.00500	0.00561	<0.00500	<0.00500	<0.00500	0.00674	
	02/24/14	71.7	1.30	2.60	74.2	480	< 0.0100	<0.00500	0.0836	0.180	<0.00200	<0.00500	<0.00500	0.00514	<0.200	<0.00500	0.00509	<0.000200	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	0.03350	
	08/19/14	70.0	1.65	2.31	78.2	512	0.9470	<0.00500	0.1060	0.205	<0.00200	0.02380	<0.00500	0.03960	0.760	<0.00500	0.01280	<0.000200	<0.00500	0.01290	<0.00500	<0.00500	<0.00500	<0.00500	0.01700
	02/23/15	70.0	1.60	2.80	72.00	500	<0.035	0.00400	0.0900	0.170 J	<0.00070	<0.00140	<0.00230	0.00550 J	<0.014	<0.00024	<0.0012	<0.000049	0.00180 J	<0.00490	<0.00740	<0.00280	0.00250 J	0.01700 J	
	08/27/15	142	3.07	3.08	143	549	<0.0350	0.00433	0.0849	0.171	<0.00016	<0.00054	<0.00026	0.00598	0.0385 J	<0.00024	0.000680 J	<0.000049	0.00186 J	<0.00035	0.00220	<0.00031	0.00238 J	0.00393 J	
	03/07/16	73.1	1.62	3.31	70.8	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	08/15/16	73.2	1.37	3.08	70.6	612	0.00413 JB	0.00448	0.0819	0.167	<0.00016	0.00104 JB	<0.00026	0.0086	0.0226 JB	<0.00024	0.000376 JB	<0.000049	0.00221 J	0.000525 JB	0.00268	<0.00031	0.00266 J	0.0054 J	
	02/06/17	79.1	1.63	3.92	98.4	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
08/17/17	66.3	1.82	4.02	97.5	524	0.0112 JB	0.00383	0.0715	0.136	<0.00016	<0.00054	<0.00026	0.00523	<0.0150	<0.00024	<0.00025	<0.000049	0.00227 J	0.00178 JB	0.00158 J	<0.00031	0.00252 J	0.00955 J		
04/05/18	63.1	1.74	4.11	99.7	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
10/01/18	63.6	1.76	3.91	92.2	490	0.0229 JB	0.00430	0.0754	0.135 J	<0.000160	0.000809 JB	<0.000260	0.00409 JB	<0.0150	<0.000240	0.000260 JB	<0.0000490	0.00187 J	0.00286	0.00237	<0.000310	0.00250 J	0.0226 JB		
MW-29 (duplicate)	08/24/10	456	0.753	2.18	167	726	0.0261	<0.00500	0.0644	0.189	<0.00200	0.0317	<0.00500	<0.00500	<0.200	<0.00500	<0.00500	<0.000200	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	0.03750
	08/24/10	132	0.741	2.15	100	742	<0.0100	<0.00500	0.0652	0.186	<0.00200	0.0321	<0.00500	<0.00500	<0.200	<0.00500	<0.00500	<0.000200	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	0.03010
	02/28/11	119	0.819	3.05	101	670	<0.0100	<0.00500	0.0630	0.195	<0.00200	0.0694	<0.00500	<0.00500	<0.200	<0.00500	<0.00500	<0.000200	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	0.02670	
	07/14/11	135	0.707	2.61	71.6	798	<0.0100	<0.00500	0.0652	0.189	<0.00200	0.162	<0.00500	<0.00500	<0.200	<0.00500	0.00532	<0.000200	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	0.02400
	01/30/12	152	0.769	3.22	96.3	898	<0.0100	<0.00500	0.0580	0.181	<0.00200	0.106	<0.00500	<0.00500	<0.200	<0.00500	<0.00500	<0.000200	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	0.01620
	07/24/12	250	0.828	4.08	90.1	1,120	<0.0100	<0.00500	0.0978	0.249	<0.00200	0.261	<0.00500	<0.00500	<0.200	<0.00500	<0.00500	<0.000200	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	0.01320
	02/26/13	159	0.788	2.90	82.4	722	<0.0100	<0.00500	0.0857	0.182	<0.00200	0.069	<0.00500	<0.00500	<0.200	<0.00500	0.04710	<0.000200	<0.00500	0.03340	<0.00500	<0.00500	<0.00500	<0.00500	
	08/20/13	152	0.934	2.95	96.2	654	< 0.0100	<0.00500	0.0738	0.187	<0.00200	0.117	<0.00500	<0.00500	<0.200	<0.00500	0.01590	<0.000200	<0.00500	0.00667	<0.00500	<0.00500	<0.00500	0.01150	
	02/27/14	141	0.811	3.22	74.4	660	< 0.0100	<0.00500	0.0725	0.171	<0.00200	0.250	<0.00500	<0.00500	<0.200	<0.00500	<0.00500	<0.000200	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	0.00739	
	02/27/14	141	0.819	3.37	74.3	690	< 0.0100	<0.00500	0.0764	0.183	<0.00200	0.261	<0.00500	<0.00500	<0.200	<0.00500	<0.00500	<0.000200	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	0.00902	
	08/20/14	177	0.809	3.44	72.9	826	0.1880	<0.00500	0.1060	0.134	<0.00200	0.331	<0.00500	<0.00500	0.697	<0.00500	0.07540	<0.000200	0.00594	0.07770	<0.00500	<0.00500	<0.00500	0.01300	
	02/25/15	250	0.950	5.60	90.0	1,000	<0.0350	0.00200	0.1300	0.260	<0.00070	0.240	<0.00230	<0.00530	<0.014	<0.00024	<0.00120	<0.000049	0.00120 J						

Table 3. Inorganic Constituent Concentrations in Groundwater
HollyFrontier Navajo Refining LLC, AP-110, Lovington, New Mexico

Monitor Well	Sample Date	Chloride (mg/L)	Fluoride (mg/L)	Nitrate-Nitrite (as N, mg/L)	Sulfate (mg/L)	Total Dissolved Solids (mg/L)	Aluminum (mg/L)	Arsenic (mg/L)	Barium (mg/L)	Boron (mg/L)	Cadmium (mg/L)	Chromium (mg/L)	Cobalt (mg/L)	Copper (mg/L)	Iron (mg/L)	Lead (mg/L)	Manganese (mg/L)	Total Mercury (mg/L)	Molybdenum (mg/L)	Nickel (mg/L)	Selenium (mg/L)	Silver (mg/L)	Uranium (mg/L)	Zinc (mg/L)	
NM WQCC Groundwater Human Health Standards:		250	1.6	10	600	1,000	5.0	0.1	1.0	0.75	0.01	0.05	0.05	1.0	1.0	0.05	0.20	0.002	1.0	0.2	0.05	0.05	0.03	10.0	
MW-32		08/17/17	109	2.77	<0.0197	99.4	683	0.0212 JB	0.00332	0.188	0.564	<0.00016	<0.00054	0.00108 J	0.000684 J	<0.0150	<0.00024	0.536	<0.000049	0.0141	0.00430	<0.00038	<0.00031	0.00888 J	0.00320 J
		04/05/18	165	1.12	1.74	143	939	0.00732 JB	0.00281	0.244	0.253	<0.000160	0.000888 JB	0.000847 JB	0.00193 JB	<0.0150	<0.000240	0.772	<0.0000490	0.00489 J	0.0195	0.000443 JB	<0.000310	0.0166	0.0122 J
		10/01/18	34.7	0.357 B	<0.0197	47.4	383	0.00589 J	0.00652	0.176	0.0321 J	<0.000160	<0.000540	<0.000260	0.000794 J	<0.0150	<0.000283 J	0.0499	<0.0000490	0.00348 J	0.00357	<0.000380	<0.000310	0.00146 J	<0.00256
		(duplicate) 10/01/18	34.9	0.360 B	<0.0197	47.7	451	0.0111 J	0.00619	0.179	0.0332 J	<0.000160	<0.000540	0.000302 J	0.00105 J	<0.0150	0.000273 J	0.0561	<0.0000490	0.00350 J	0.00382	<0.000380	<0.000310	0.00148 J	<0.00256
MW-33		08/17/17	74.7	2.26	<0.0197	57.1	792	0.0123 JB	0.00377	0.218	0.447	<0.00016	<0.00054	0.000834 J	0.00129 J	0.0373 J	<0.00024	0.985	<0.000049	0.00531	0.000613 J	<0.00038	<0.00031	0.00325 J	0.00358 J
		04/05/18	84.1	1.15	<0.0197	15.4	902	<0.00515	0.0104	0.380	0.304	<0.000160	0.00155 JB	<0.000260	0.00292 JB	0.0351 J	<0.000240	1.77	<0.0000490	0.000146 JB	0.00170 JB	<0.000380	<0.000310	0.00269 J	0.00546 J
		10/01/18	118	0.859	<0.0197	13.8	1,170	0.00613 J	0.00411	0.481	0.194 J	<0.000160	<0.000540	<0.000260	<0.000520	0.0186 J	<0.000240	1.79	<0.0000490	0.000602 J	0.00312	<0.000380	<0.000310	0.00829 J	<0.00256
RW-1		06/19/09	34.8	1.21	--	70.8	398	<0.0100	0.01000	0.160	0.161	<0.00200	<0.00500	<0.00500	<0.00500	<0.200	<0.00500	0.03800	<0.000200	<0.00500	<0.00500	<0.00500	<0.00500	--	<0.00500
		02/02/10	34.2	0.913	1.52	66.0	388	<0.0200	0.00857	0.190	0.166	<0.00200	<0.00500	<0.00500	<0.00500	<0.200	<0.00500	0.04670	<0.000200	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500
		08/19/10	27.8	0.991	1.42	72.3	380	0.0202	0.01040	0.162	0.154	<0.00200	<0.00500	<0.00500	<0.00500	<0.200	<0.00500	<0.00500	<0.000200	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	0.00854
		03/01/11	28.9	1.03	1.74	74.3	380	<0.0100	0.01210	0.148	0.153	<0.00200	<0.00500	<0.00500	<0.00500	<0.200	<0.00500	0.00933	<0.000200	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500
		07/20/11	26.4	0.883	1.36	72.5	484	<0.0100	0.01080	0.158	0.156	<0.00200	<0.00500	<0.00500	<0.00500	<0.200	<0.00500	<0.00500	<0.000200	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	0.00526
		02/02/12	29.6	1.11	1.44	79.9	384	<0.0100	0.01060	0.139	0.165	<0.00200	<0.00500	<0.00500	<0.00500	<0.200	<0.00500	0.00771	<0.000200	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	0.00764
		07/27/12	27.3	1.18	<2.00	68.9	344	0.0532	0.01030	0.163	0.177	<0.00200	<0.00500	<0.00500	<0.00500	<0.200	<0.00500	0.01820	<0.000200	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	0.00801
		02/27/13	28.0	1.09	<2.00	80.2	378	<0.0100	0.01030	0.132	0.159	<0.00200	<0.00500	<0.00500	<0.00500	0.655	<0.00500	0.00656	<0.000200	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500
		08/21/13	32.3	1.28	1.50	86.9	392	<0.0100	0.01010	0.153	0.175	<0.00200	<0.00500	<0.00500	<0.00500	<0.200	<0.00500	0.02700	<0.000200	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500
		02/27/14	29.4	1.07	1.46	76.9	402	<0.0100	0.00608	0.155	0.167	<0.00200	<0.00500	<0.00500	<0.00500	<0.200	<0.00500	0.18600	<0.000200	<0.00500	0.01560	<0.00500	<0.00500	<0.00500	0.00581
		08/21/14	25.6	1.21	1.29	76.0	368	0.0156	0.00919	0.145	0.102	<0.00200	<0.00500	<0.00500	<0.00500	<0.200	<0.00500	0.00804	<0.000200	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	0.00680
		02/25/15	26.0	1.20	1.60	74.0	370	<0.0350	0.01100	0.150	0.190 J	<0.00070	<0.0014	<0.0023	<0.0053	<0.014	0.00042 J	<0.00120	<0.000049	0.00250 J	<0.00490	<0.00740	<0.00280	0.00180 J	0.00680 J
		08/27/15	28.0	1.04	1.74	76.8	407	<0.0350	0.00976	0.149	0.173	<0.00016	<0.000540	<0.000260	<0.000520	<0.0141	<0.000240	0.000376 J	<0.000049	0.00240 J	<0.000350	0.00289	<0.00031	0.00173 J	<0.00256
North Well		06/18/09	140	0.933	2.72	80.6	664	<0.0100	0.00536	0.0997	0.151	<0.00200	0.0104	<0.00500	<0.00500	<0.200	<0.00500	<0.00500	<0.000200	<0.00500	<0.00500	<0.00500	<0.00500	--	<0.00500
		01/14/10	143	0.793	2.90	74.2	638	<0.0100	<0.00500	0.1070	0.172	<0.00200	<0.00500	<0.00500	<0.00500	<0.200	<0.00500	<0.00500	<0.000200	<0.00500	<0.00500	<0.00500	<0.00500	0.00134	0.00920
		08/24/10	127	0.932	1.81	80.4	594	<0.0100	0.00552	0.1000	0.147	<0.00200	<0.00500	<0.00500	0.00856	<0.200	<0.00500	<0.00500	<0.000200	<0.00500	0.0161	<0.00500	<0.00500	<0.00500	<0.00500
		03/03/11	137	0.932	2.76	75.2	804	<0.0100	0.00503	0.0968	0.159	<0.00200	0.0199	<0.00500	<0.00500	<0.200	<0.00500	<0.00500	<0.000200	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	0.06950
		07/20/11	124	0.803	2.07	76.5	628	<0.0100	<0.00500	0.1060	0.142	<0.00200	0.0140	<0.00500	<0.00500	<0.200	<0.00500	<0.00500	<0.000200	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500
		02/02/12	149	0.977	2.54	82.1	656	0.0126	<0.00500	0.0944	0.132	<0.00200	0.0145	<0.00500	<0.00500	<0.200	<0.00500	<0.00500	<0.000200	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	0.01780
		07/30/12	121	0.986	2.63	72.7	528	<0.0100	0.00523	0.1060	0.159	<0.00200	<0.00500	<0.00500	<0.00500	<0.200	<0.00500	<0.00500	<0.000200	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	0.00873
		02/19/13	105	1.020	2.54	83.3	496	<0.0100	0.00693	0.0998	0.162	<0.00200	<0.00500	<0.00500	<0.00500	<0.200	<0.00500	<0.00500	<0.000200	<0.00500	0.00537	<0.00500	<0.00500	<0.00500	0.01190
		08/22/14	57.3	0.462	2.73	37.																			

Table 3. Inorganic Constituent Concentrations in Groundwater
HollyFrontier Navajo Refining LLC, AP-110, Lovington, New Mexico

Monitor Well	Sample Date	Chloride (mg/L)	Fluoride (mg/L)	Nitrate-Nitrite (as N, mg/L)	Sulfate (mg/L)	Total Dissolved Solids (mg/L)	Aluminum (mg/L)	Arsenic (mg/L)	Barium (mg/L)	Boron (mg/L)	Cadmium (mg/L)	Chromium (mg/L)	Cobalt (mg/L)	Copper (mg/L)	Iron (mg/L)	Lead (mg/L)	Manganese (mg/L)	Total Mercury (mg/L)	Molybdenum (mg/L)	Nickel (mg/L)	Selenium (mg/L)	Silver (mg/L)	Uranium (mg/L)	Zinc (mg/L)	
NM WQCC Groundwater Human Health Standards:		250	1.6	10	600	1,000	5.0	0.1	1.0	0.75	0.01	0.05	0.05	1.0	1.0	0.05	0.20	0.002	1.0	0.2	0.05	0.05	0.03	10.0	
South Well	06/22/09	497	0.665	3.02	106	1,450	<0.0100	<0.00500	0.154	0.189	<0.00200	<0.00500	<0.00500	<0.00500	<0.200	<0.00500	<0.00500	<0.000200	<0.00500	<0.00500	<0.00500	<0.00500	--	<0.00500	
	01/14/10	498	0.686	3.27	113	1,520	0.0176	<0.00500	0.138	0.229	<0.00200	<0.00500	<0.00500	<0.00500	<0.200	<0.00500	0.02240	<0.000200	<0.00500	<0.00500	<0.00500	<0.00500	0.00236	0.02070	
	08/24/10	477	0.651	2.18	101	1,760	<0.0100	<0.00500	0.172	0.186	<0.00200	<0.00500	<0.00500	<0.00500	<0.200	<0.00500	0.00576	<0.000200	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	0.03290	
	03/03/11	549	0.647	3.24	122	1,840	<0.0100	<0.00500	0.147	0.261	<0.00200	<0.00500	<0.00500	<0.00500	<0.200	<0.00500	0.02260	<0.000200	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	
	07/20/11	420	0.687	2.48	103	1,600	<0.0100	<0.00500	0.157	0.195	<0.00200	<0.00500	<0.00500	<0.00500	<0.200	<0.00500	<0.00500	<0.000200	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	0.00777	
	02/12/12	368	0.756	3.02	89.0	1,210	<0.0100	<0.00500	0.117	0.165	<0.00200	<0.00500	<0.00500	<0.00500	<0.200	<0.00500	<0.00500	<0.000200	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	0.04010	
	07/30/12	135	1.01	2.53	73.3	582	<0.0100	<0.00500	0.103	0.160	<0.00200	0.0111	<0.00500	<0.00500	<0.200	<0.00500	<0.00500	<0.000200	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	0.01720	
	02/19/13	359	0.743	2.88	99.2	1,170	--	0.00576	0.149	0.197	<0.00200	<0.00500	<0.00500	<0.00500	<0.200	<0.00500	<0.00500	<0.000200	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	0.01550	
	02/28/14	352	0.575	0.66	99.2	1,210	<0.0100	<0.00500	0.131	0.195	<0.00200	<0.00500	<0.00500	<0.00500	<0.200	<0.00500	0.00571	<0.000200	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	0.01590	
	(duplicate)	08/22/14	435	0.720	3.00	100	1,480	<0.0100	<0.00500	0.136	0.144	<0.00200	<0.00500	<0.00500	<0.00500	<0.200	<0.00500	0.00670	<0.000200	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	0.02140
		08/22/14	437	0.724	3.00	107	1,480	0.0689	<0.00500	0.145	<0.020	<0.00200	<0.00500	<0.00500	<0.00500	<0.200	<0.00500	0.01030	<0.000200	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	0.01630
		12/17/14	390	0.63	3.20	91	--	<0.0100	0.00431	0.125	0.159	<0.00100	0.00178	<0.00100	0.00128	0.0277	<0.00100	0.00422	<0.000200	0.00242	<0.00100	0.00387	<0.00100	0.00227	0.01510
	(duplicate)	12/17/14	390	0.63	3.20	90	--	<0.0100	0.00422	0.126	0.162	<0.00100	0.00179	<0.00100	0.00136	0.0226	<0.00100	0.00409	<0.000200	0.00203	<0.00100	0.00359	<0.00100	0.00217	0.04900
		03/09/15	340	0.82	2.70	99	1,100	<0.035	0.00400	0.140	0.200	<0.00070	0.0015 J	<0.00230	0.032	<0.014	0.00310	0.00460 J	<0.000049	0.00200 J	<0.00490	0.01200 J	<0.00280	0.00210 J	0.04900 J
	(duplicate)	03/09/15	340	0.82	650	98	1,100	0.0370 J	0.00420	0.140	0.200	<0.00070	<0.0014	<0.00230	0.019 J	<0.014	0.00260	0.00300 J	<0.000049	0.00210 J	<0.00490	0.01500 J	<0.00280	0.00210 J	0.02500 J
		05/19/15	330	0.76	3.20	92	1,100	<0.0350	0.00230	0.140	0.18 J	<0.00070	<0.0014	<0.00230	<0.0053	<0.014	<0.00024	0.00880 J	<0.000049	0.00220 J	<0.00490	<0.00280	0.00210 J	<0.00590	
	(duplicate)	05/19/15	340	0.76	3.10	95	1,000	<0.035	0.00240	0.140	0.18 J	<0.00070	<0.0014	<0.00230	<0.0053	<0.014	<0.00024	0.00810 J	<0.000049	0.00230 J	<0.00490	0.00320	<0.00280	0.00210 J	<0.00590
		08/28/15	426	0.810	3.48	107	1,440	<0.0350	0.00436	0.137	0.194	<0.00070	0.00156 J	<0.00230	<0.00530	0.0168 J	0.000477 J	0.00776 J	<0.000049	0.00204 J	<0.00490	0.00360	<0.00280	0.00214 J	0.00662 J
	(duplicate)	08/28/15	382	0.734	3.50	95.9	1,320	<0.0350	0.00430	0.133	0.197	<0.00016	0.00127 J	<0.00026	0.00376 J	<0.0141	<0.00024	0.00654	0.0000599 J	0.00199 J	<0.000350	<0.00328	<0.00031	0.00205 J	0.00638 J
		12/17/15	400	0.751	3.35	115	1,400	<0.0350	0.00426	0.138	0.235	<0.00016	0.00205	<0.00026	0.00257 J	<0.0141	<0.00024	0.00564	<0.000049	<0.00160	0.000645 J	0.00334	<0.00031	0.00238 J	0.00388 J
		12/17/15	402	0.752	3.47	114	1,360	<0.0350	0.00425	0.136	0.193 J	<0.00016	0.00160	<0.00026	0.00250 J	<0.0141	<0.00024	0.00546	<0.000049	<0.00160	0.000442 J	0.00343	<0.00031	0.00238 J	0.00430 J
	(duplicate)	03/10/16	354	0.760	3.53	103	1,100	0.00624 J	0.00425	0.118	0.211	<0.00016	0.00135 J	<0.00026	0.00864	<0.0150	0.000256 J	0.00332 JB	<0.000049	0.00204 B	0.000524 JB	0.00354	<0.00031	0.00230 J	0.0119 JB
		05/25/16	361	0.743	3.11	101	1,620	<0.00200	0.00433	0.124	0.214	<0.00016	0.00139 J	<0.00026	0.00384 J	<0.0150	<0.00024	0.00551	<0.000049	0.00196 J	<0.000350	0.00374	<0.00031	0.00249 J	0.00351 J
		05/25/16	377	0.741	3.11	102	1,440	<0.00200	0.00459	0.125	0.224	<0.00016	0.00196 J	<0.00026	0.00445 J	<0.0150	<0.00024	0.00535	<0.000049	0.00194 J	<0.000350	0.00343	<0.00031	0.00247 J	0.00394 J
	(duplicate)	08/18/16	381	0.692	3.18	98.2	1,420	<0.1	0.00419	0.134	0.224	<0.00016	0.00138 J	<0.00026	0.00444 JB	<0.0150	<0.00024	0.0025 J	0.0000764 JB	0.00188 J	0.00106 JB	0.00326	<0.00031	0.00257 J	0.00833 JB
		08/18/16	385	0.695	3.18	97.6	1,390	0.00377 JB	0.00370	0.137	0.233	<0.00016	0.00165 J	<0.00026	0.00485 JB	<0.0150	<0.00024	0.0027 J	0.0000788 JB	0.00201 J	0.00128 JB	0.00318	<0.00031	0.00262 J	0.00936 JB
	(duplicate)	12/08/16	419	0.772	3.27	105	1,300	0.00439 JB	0.00310	0.120	0.188	<0.00016	0.00059 J	<0.00026	0.00192 J	<0.0150	<0.00024	0.00796	<0.000049	0.00181 J	<0.000350	0.00373	<0.00031	0.00257 J	0.00418 J
		12/08/16	425	0.777	3.27	106	1,310	0.00364 JB	0.00313	0.120	0.194	<0.00016	0.000601 J	<0.00026	0.00215 J	<0.0150	0.000317	0.00673	<0.000049	0.00184 J	<0.000350	0.00307	<0.00031	0.00253 J	0.00420 J
	(duplicate)	02/07/17	379	0.712	3.41	115	1,110	0.00532 J	0.00343	0.117	0.223	<0.00016	0.000753 J	<0.00026	0.00340 J	<0.0150	0.000385 B J	0.00227 J	<0.000049	0.00190 J	<0.000350	0.00337	<0.00031	0.00229 J	0.00405 J
		02/07/17	375	0.723	3.77	114	1,170	<0.0258	0.00424 J	0.140	0.228	<0.00080	<0.00270	<0.00130	0.00352 J	<0.0750	<0.00120	0.00308 J	<0.000049	0.00217 J	<0.00175	0			

Table 3. Inorganic Constituent Concentrations in Groundwater
HollyFrontier Navajo Refining LLC, AP-110, Lovington, New Mexico

Monitor Well	Sample Date	Chloride (mg/L)	Fluoride (mg/L)	Nitrate-Nitrite (as N, mg/L)	Sulfate (mg/L)	Total Dissolved Solids (mg/L)	Aluminum (mg/L)	Arsenic (mg/L)	Barium (mg/L)	Boron (mg/L)	Cadmium (mg/L)	Chromium (mg/L)	Cobalt (mg/L)	Copper (mg/L)	Iron (mg/L)	Lead (mg/L)	Manganese (mg/L)	Total Mercury (mg/L)	Molybdenum (mg/L)	Nickel (mg/L)	Selenium (mg/L)	Silver (mg/L)	Uranium (mg/L)	Zinc (mg/L)
NM WQCC Groundwater Human Health Standards:		250	1.6	10	600	1,000	5.0	0.1	1.0	0.75	0.01	0.05	0.05	1.0	1.0	0.05	0.20	0.002	1.0	0.2	0.05	0.05	0.03	10.0
East Well	06/18/09	107	0.980	2.59	84.0	554	0.0131	<0.00500	0.0820	0.143	<0.00200	<0.00500	<0.00500	<0.00500	<0.200	<0.00500	<0.00500	<0.000200	<0.00500	<0.00500	<0.00500	<0.00500	- -	0.02910
	01/14/10	138	0.991	2.70	72.7	676	<0.0100	<0.00500	0.0941	0.154	<0.00200	0.0119	<0.00500	0.00953	<0.200	<0.00500	<0.00500	<0.000200	<0.00500	<0.00500	<0.00500	<0.00500	0.00111	0.01460
	08/25/10	106	1.00	0.523	74.5	522	<0.0100	<0.00500	0.0873	0.136	<0.00200	0.0145	<0.00500	0.00745	<0.200	<0.00500	<0.00500	<0.000200	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	0.03470
	03/03/11	135	0.905	2.68	75.6	644	<0.0100	<0.00500	0.0970	0.152	<0.00200	0.0189	<0.00500	<0.00500	<0.200	0.00662	<0.00500	<0.000200	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	0.00936
	07/20/11	124	0.810	1.83	73.8	596	<0.0100	<0.00500	0.1040	0.142	<0.00200	0.0200	<0.00500	<0.00500	<0.200	0.01160	<0.00500	<0.000200	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	0.09370
	02/02/12	150	0.967	2.56	81.4	664	0.0150	<0.00500	0.0993	0.145	<0.00200	0.0166	<0.00500	<0.00500	<0.200	0.00988	<0.00500	<0.000200	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	0.01660
	07/30/12	144	0.962	2.40	80.9	636	<0.0100	<0.00500	0.0922	0.136	<0.00200	0.0157	<0.00500	0.00774	<0.200	<0.00500	<0.00500	<0.000200	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	0.01660
	02/28/14	138	0.899	0.564	80.6	658	0.0104	<0.00500	0.1160	0.158	<0.00200	0.0139	<0.00500	<0.00500	<0.200	<0.00500	<0.00500	<0.000200	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	0.03170
	08/22/14	124	0.914	2.71	78.5	614	<0.0100	<0.00500	0.1030	<0.0200	<0.00200	0.0119	<0.00500	<0.00500	<0.200	<0.00500	0.008120	<0.000200	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	0.01560
	12/17/14	120	0.900	2.70	73.0	--	<0.0100	0.00436	0.0905	0.120	<0.00100	0.0112	<0.00100	<0.00100	0.143	<0.00100	0.004300	<0.000200	0.00241	<0.00100	0.00395	<0.00100	0.00181	0.01470
	03/09/15	120	1.10	2.60	81.0	570	<0.0350	0.00460	0.1000	0.150	<0.00070	0.0120	<0.00230	0.06800	<0.014	0.00120 J	0.00210 J	<0.000049	0.00230 J	<0.00490	0.01000 J	<0.00280	0.00180 J	0.08600
	05/19/15	120	0.900	2.80	78.0	560	<0.0350	0.00500	0.1000	0.140 J	<0.00070	0.0120	<0.00230	<0.00530	<0.014	<0.00024	0.00160 J	<0.000049	0.00280 J	<0.00490	0.00370	<0.00280	0.00190 J	0.01300 J
	08/28/15	206	1.75	3.00	145	603	<0.0350	0.00445	0.0981	0.149	<0.00070	0.00866 J	<0.00230	<0.00530	0.0248 J	0.000241 J	0.012900	<0.000049	0.00236 J	<0.00490	0.00388	<0.00280	0.00174 J	0.02840 J
	12/17/15	114	1.03	3.01	80.9	621	0.0668 J	0.00507	0.0997	0.167 J	<0.00016	0.00866	<0.00260	0.00143 J	<0.0141	<0.00024	0.00217 J	<0.000049	<0.00160	0.000365	0.00387	<0.00031	0.00188 J	0.01010 J
	03/10/16	112	1.01	3.01	78.9	562	0.00534 J	0.00454	0.0926	0.143	<0.00016	0.00835	<0.00260	0.000987 JB	<0.0150	<0.00024	0.00274 JB	<0.000049	0.00246 JB	0.000662 JB	0.00384	<0.00031	0.00166 J	0.026 B
	05/25/16	114	1.01	2.70	80.0	608	<0.00200	0.00483	0.0906	0.154	<0.00016	0.00902	<0.00260	0.0315	<0.0150	0.00141 J	0.00181 JB	<0.000049	0.00217 J	<0.00035	0.00376	<0.00031	0.00181 J	0.0399
	08/18/16	104	0.915	3.12	74.4	555	0.00258 JB	0.00454	0.0939	0.162	<0.00016	0.00451 B	<0.00260	0.00196 JB	0.0337 J	<0.00024	0.00346 J	<0.000049	0.00288 J	0.00121 JB	0.00386	<0.00031	0.00194 J	0.0291 B
	12/08/16	104	1.02	2.88	79.9	582	0.00471 JB	0.00464	0.0858	0.122	<0.00016	0.00702	<0.00260	0.00390 J	<0.0150	<0.00024	0.00178 J	<0.000049	0.00254 J	<0.00035	0.00384	<0.00031	0.00172 J	0.0269
	02/07/17	112	0.975	3.26	88.7	498	<0.0258	0.00523 J	0.105	0.158	<0.00080	0.00749 J	<0.0013	<0.00260	<0.0750	<0.00120	0.00214 J	<0.000049	0.00260 J	<0.00175	0.00358	<0.00155	0.00201 J	0.0141 J
	05/31/17	110	0.926	2.91	81.5	532	<0.00515	0.00462	0.0928	0.144	<0.00016	0.00662	<0.00026	0.0259	<0.0150	0.00115 J	0.00132 J	<0.000049	0.00228 J	0.000529 J	0.00351	<0.00031	0.00184 J	0.0297
	08/17/17	109	0.812	3.02	83.0	547	0.0583 J	0.00476	0.0903	0.134	<0.00016	0.00699	<0.00026	0.000968 J	<0.0150	<0.00024	0.000802 JB	<0.000049	0.00237 J	<0.000350	0.00396	<0.00031	0.00181 J	0.00556 J
	12/14/17	108	0.883	2.88	83.3	560	0.0284 JB	0.00527	0.0881	0.128	0.000195 J	0.00619	0.000334	0.00244 JB	0.0331 J	0.000575 J	0.00129 J	<0.000049	0.00286 J	0.000638 J	0.00386	<0.00031	0.00221 J	0.00987 J
	02/23/18	110	1.04	3.06	82.7	564	0.0326 JB	0.00531	0.0893	0.150 J	0.000266 J	0.0073	0.000381 J	0.00559	0.0313 J	0.00188 J	0.000591 JB	<0.000049	0.00303 J	0.000904 JB	0.00491	<0.00031	0.00212 J	0.034
	04/05/18	110	0.968	2.81	81.3	543	0.00660 JB	0.00515	0.0947	0.148 J	<0.000160	0.00555	<0.000260	0.00183 JB	<0.0150	0.000365 JB	0.000358 JB	<0.0000490	0.00243 JB	0.000394 JB	0.00402	<0.000310	0.00195 JB	0.0666
	07/31/18	110	1.03	2.93	84.8	578	0.0113 JB	0.00384	0.0902	0.132 J	0.000193 JB	0.00369	<0.000260	0.00911	<0.0150	0.000287 J	0.00145 J	<0.0000490	0.00244 J	0.000789 J	0.00374	<0.000310	0.00182 J	0.210
	10/01/18	109	0.871	2.92	88.2	583	0.00755 J	0.00534	0.0961	0.114 J	<0.000160	0.00537	<0.000260	0.00189 J	<0.0150	0.000589 J	0.000543 J	<0.0000490	0.00277 J	<0.000350	0.00472	<0.000310	0.00189 J	0.0536

Notes:
Shading indicates detected result exceeded the New Mexico Water Quality Control Commission (WQCC) Human Health Standard
mg/L = milligrams per liter
<= Not reported above laboratory reporting limit
-- = Not Analyzed
(1)= Not analyzed due to insufficient water volume
J = analyte was detected below the laboratory reporting limit (June 2009 to December 2014) or the method quantitation limit (February 2015 to December 2018), reported value is estimated
B = same analyte was detected in the associated laboratory blank or equipment blank; sample concentration is within 5 times the blank concentration
Samples collected for metals analysis (except for Total Mercury) were field- or lab-filtered with 0.45 micron filter
June 2009 to August 2014 analyses completed by ALS Laboratory Group, Houston, Texas
December 2014 analyses completed by Hall Environmental Analysis Laboratory in Albuquerque, New Mexico
February 2015 to December 2018 analyses completed by Pace Analytical National Center for Testing & Innovation (formerly ESC Lab Sciences) in Mount Juliet, Tennessee

APPENDIX A

SOIL BORING/WELL COMPLETION LOGS



BORING LOG and WELL CONSTRUCTION

MW-13R

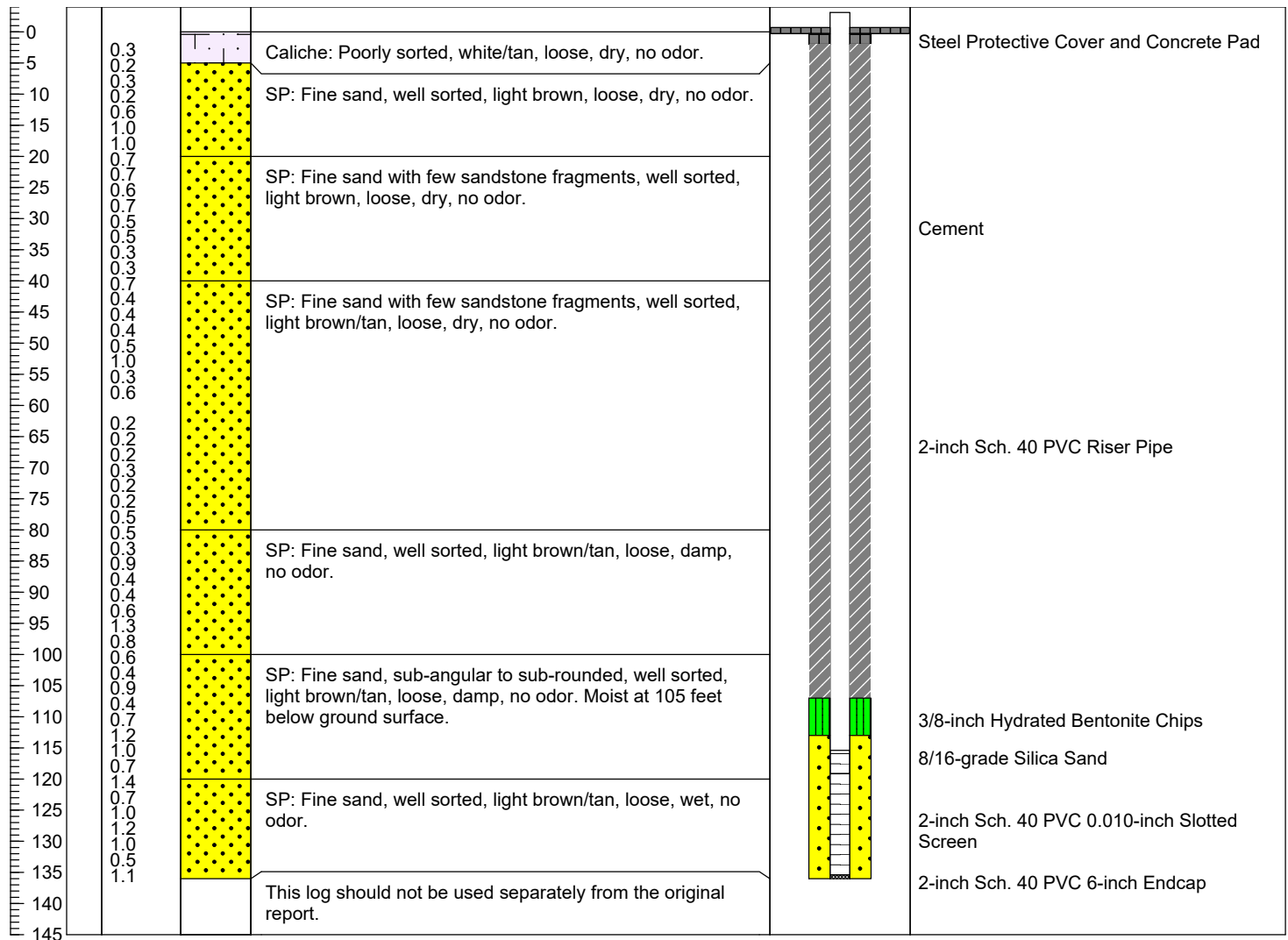
Client: HollyFrontier Navajo Refining LLC		TRC Project #: 314092
Site: Navajo Lovington Refinery		Start Date: 9/26/2018
Address: 7406 South Main St, Lovington, New Mexico		Finish Date: 9/26/2018
Project: 2018 Well Replacement		Permit #: OSE L-14228POD9
Drilling Company: Talon Drilling	Drilling Crew: J. Salas and crew	TRC Site Rep.: John O'Neal
Drilling Method: Air Rotary		TRC Reviewer: Julie Speer
Boring Diameter (in): 6	Boring Depth (ft bgs): 136	Coord. System: NM State Plane East Zone
Sampling Method: Not Applicable		Latitude: 685269.21
Blow Count Method: Not Applicable		Longitude: 858199.75
Field Screening Parameter: Volatile Organic Compounds		Elevation Datum: NAVD1988
Meter: MiniRAE PID	Units: ppm	Ground Elevation (ft): 3,835.02
Well Depth (ft bgs): 136	Well Depth (ft toc): 139.1	Well Elevation (ft): 3,838.12
Casing Length (ft): 118.5	Screen Length (ft): 20	Well Measuring Point: Top of Casing
Surface Completion: Aboveground Steel Protective Cover and Concrete Pad		Depth to Water (ft toc): 120.90
Well Development: Pump and surge (32.6 gallons, 10.72 well volumes)		Date/Time: 9/27/18; 1430

Sample

Depth (ft)
Analytical
Field
Screening
Lithology

Lithologic Description

Well Construction Diagram





BORING LOG and WELL CONSTRUCTION

MW-14R

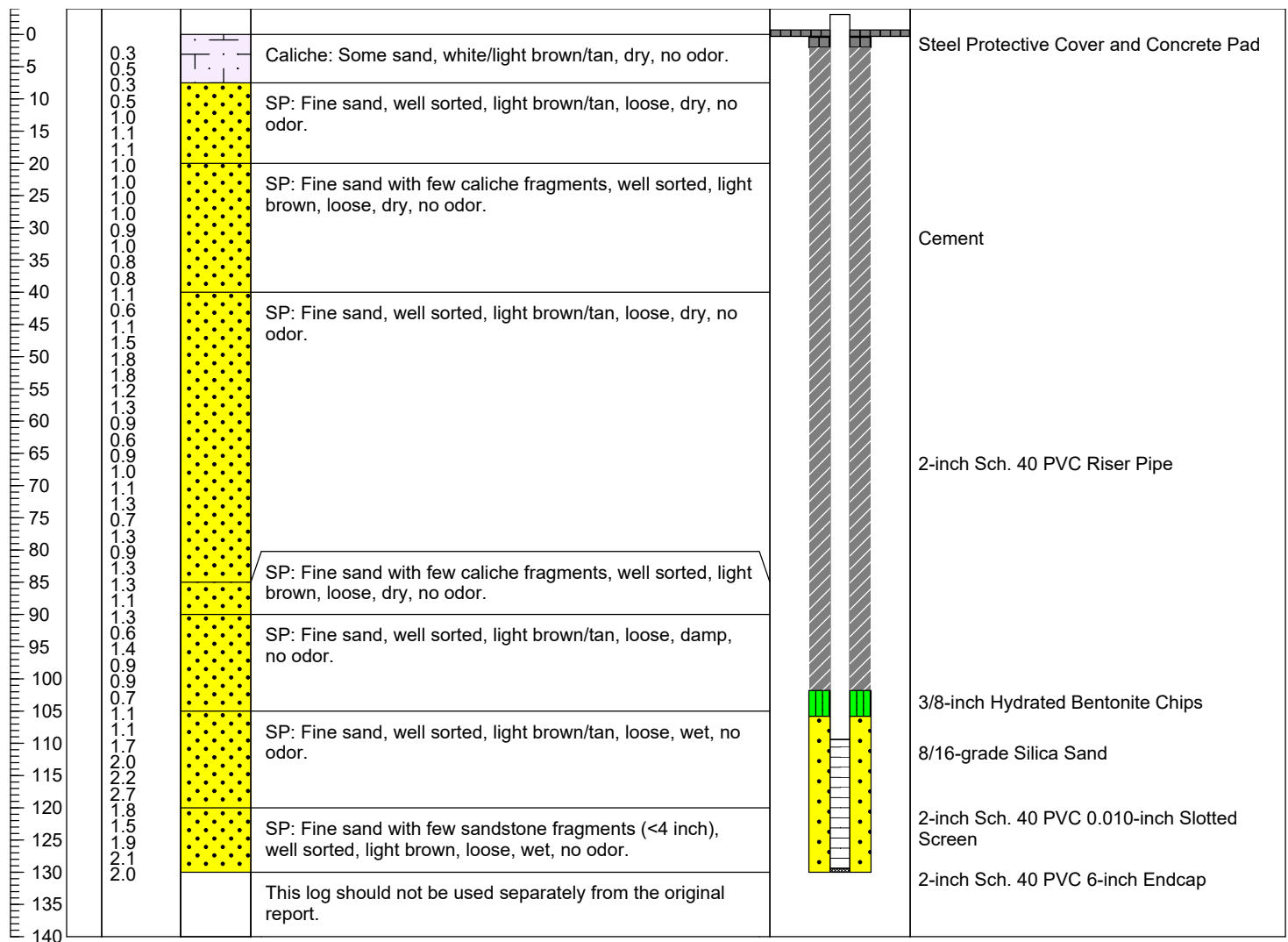
Client: HollyFrontier Navajo Refining LLC		TRC Project #: 314092
Site: Navajo Lovington Refinery		Start Date: 9/26/2018
Address: 7406 South Main St, Lovington, New Mexico		Finish Date: 9/26/2018
Project: 2018 Well Replacement		Permit #: OSE L-14228POD10
Drilling Company: Talon Drilling	Drilling Crew: J. Salas and crew	TRC Site Rep.: John O'Neal
Drilling Method: Air Rotary		TRC Reviewer: Julie Speer
Boring Diameter (in): 6	Boring Depth (ft bgs): 130	Coord. System: NM State Plane East Zone
Sampling Method: Not Applicable		Latitude: 683144.75
Blow Count Method: Not Applicable		Longitude: 858842.66
Field Screening Parameter: Volatile Organic Compounds		Elevation Datum: NAVD1988
Meter: MiniRAE PID	Units: ppm	Ground Elevation (ft): 3,821.05
Well Depth (ft bgs): 130	Well Depth (ft toc): 132.83	Well Elevation (ft): 3,838.12
Casing Length (ft): 112.23	Screen Length (ft): 20	Well Measuring Point: Top of Casing
Surface Completion: Aboveground Steel Protective Cover and Concrete Pad		Depth to Water (ft toc): 106.90
Well Development: Pump and surge (35 gallons, 9.95 well volumes)		Date/Time: 9/27/18; 1401

Sample

Depth (ft)
Analytical
Field
Screening
Lithology

Lithologic Description

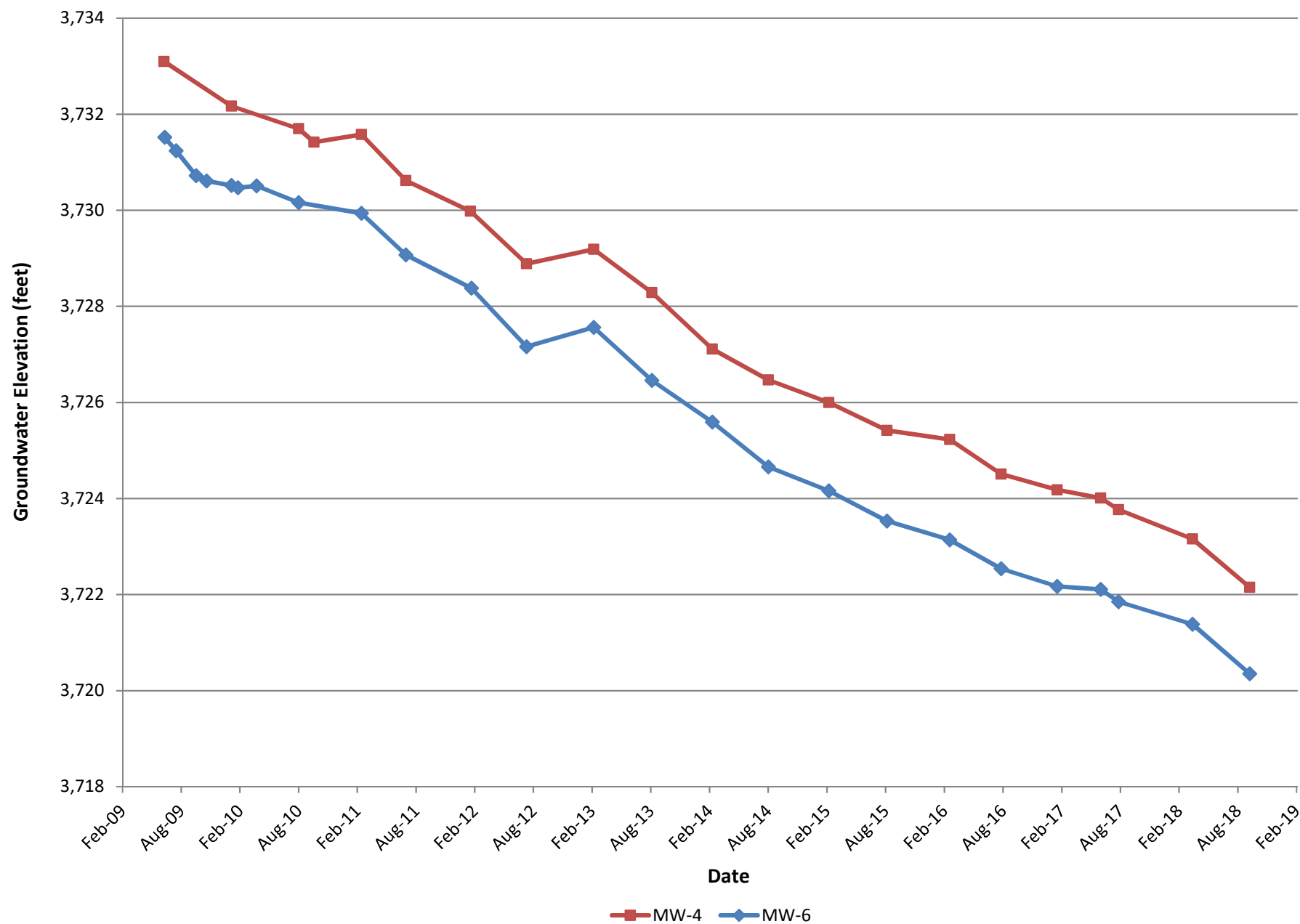
Well Construction Diagram



APPENDIX B

PLOT OF GROUNDWATER ELEVATIONS OVER TIME

APPENDIX B - GROUNDWATER ELEVATIONS OVER TIME
HollyFrontier Navajo Refining LLC
AP-110, Lovington, New Mexico



APPENDIX C

LABORATORY ANALYTICAL REPORTS
(COMPACT DISC)

TRC Solutions - Austin, TX

Sample Delivery Group: L972920
Samples Received: 02/24/2018
Project Number: 247359.0000.0000
Description: Lovington Lea Refinery

Report To: Julie Speer
505 E. Huntland Drive, Suite 250
Austin, TX 78752

Entire Report Reviewed By:



Jason Romer
Technical Service Representative

Results relate only to the items tested or calibrated and are reported as rounded values. This test report shall not be reproduced, except in full, without written approval of the laboratory. Where applicable, sampling conducted by ESC is performed per guidance provided in laboratory standard operating procedures: 060302, 060303, and 060304.



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SAMPLE SUMMARY

ONE LAB. NATIONWIDE.



WW-EAST L972920-01 GW

Collected by J. Stoffel
Collected date/time 02/23/18 10:23
Received date/time 02/24/18 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Gravimetric Analysis by Method 2540 C-2011	WG1077910	1	02/27/18 15:04	02/27/18 15:37	MMF
Wet Chemistry by Method 2320 B-2011	WG1079100	1	03/01/18 15:01	03/01/18 15:01	MCG
Wet Chemistry by Method 353.2	WG1077920	1	02/27/18 16:16	02/27/18 16:16	JER
Wet Chemistry by Method 9056A	WG1078009	1	02/26/18 23:21	02/26/18 23:21	MAJ
Wet Chemistry by Method 9056A	WG1078009	10	02/26/18 23:34	02/26/18 23:34	MAJ
Mercury by Method 7470A	WG1078032	1	02/27/18 09:18	02/27/18 18:24	EL
Metals (ICP) by Method 6010B	WG1076537	1	02/26/18 17:25	02/27/18 01:32	CCE
Metals (ICPMS) by Method 6020	WG1077503	1	02/26/18 20:48	02/27/18 11:33	JPD
Volatile Organic Compounds (GC) by Method 8015D/GRO	WG1078292	1	02/28/18 05:44	02/28/18 05:44	DWR
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1077767	1	03/02/18 05:41	03/02/18 05:41	RAS
Semi-Volatile Organic Compounds (GC) by Method 3511/8015	WG1078096	1	02/26/18 18:26	03/01/18 12:27	LM
Semi Volatile Organic Compounds (GC/MS) by Method 8270 C	WG1078432	1	03/01/18 09:18	03/06/18 08:22	ADF

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc

WW-SOUTH L972920-02 GW

Collected by J. Stoffel
Collected date/time 02/23/18 11:29
Received date/time 02/24/18 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Gravimetric Analysis by Method 2540 C-2011	WG1077910	1	02/27/18 15:04	02/27/18 15:37	MMF
Wet Chemistry by Method 2320 B-2011	WG1079100	1	03/01/18 15:07	03/01/18 15:07	MCG
Wet Chemistry by Method 353.2	WG1077920	1	02/27/18 16:23	02/27/18 16:23	JER
Wet Chemistry by Method 9056A	WG1078009	1	02/27/18 00:42	02/27/18 00:42	MAJ
Wet Chemistry by Method 9056A	WG1078009	10	02/27/18 00:55	02/27/18 00:55	MAJ
Mercury by Method 7470A	WG1078032	1	02/27/18 09:18	02/27/18 18:38	EL
Metals (ICP) by Method 6010B	WG1076537	1	02/26/18 17:25	02/27/18 02:35	CCE
Metals (ICPMS) by Method 6020	WG1077503	1	02/26/18 20:48	02/27/18 13:23	JPD
Volatile Organic Compounds (GC) by Method 8015D/GRO	WG1078292	1	02/28/18 01:30	02/28/18 01:30	DWR
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1077767	1	03/02/18 06:02	03/02/18 06:02	RAS
Semi-Volatile Organic Compounds (GC) by Method 3511/8015	WG1078096	1	02/26/18 18:26	03/01/18 12:44	LM
Semi Volatile Organic Compounds (GC/MS) by Method 8270 C	WG1078432	1	03/01/18 09:18	03/06/18 09:58	ADF

WW-NORTH L972920-03 GW

Collected by J. Stoffel
Collected date/time 02/23/18 12:58
Received date/time 02/24/18 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Gravimetric Analysis by Method 2540 C-2011	WG1077910	1	02/27/18 15:04	02/27/18 15:37	MMF
Wet Chemistry by Method 2320 B-2011	WG1079100	1	03/01/18 15:13	03/01/18 15:13	MCG
Wet Chemistry by Method 353.2	WG1077920	1	02/27/18 16:24	02/27/18 16:24	JER
Wet Chemistry by Method 9056A	WG1078009	1	02/27/18 01:08	02/27/18 01:08	MAJ
Wet Chemistry by Method 9056A	WG1078009	10	02/27/18 01:22	02/27/18 01:22	MAJ
Mercury by Method 7470A	WG1078032	1	02/27/18 09:18	02/27/18 18:40	EL
Metals (ICP) by Method 6010B	WG1076537	1	02/26/18 17:25	02/27/18 02:38	CCE
Metals (ICPMS) by Method 6020	WG1077503	1	02/26/18 20:48	02/27/18 13:26	JPD
Volatile Organic Compounds (GC) by Method 8015D/GRO	WG1078522	1	02/27/18 23:14	02/27/18 23:14	BMB
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1077767	1	03/02/18 06:23	03/02/18 06:23	RAS
Semi-Volatile Organic Compounds (GC) by Method 3511/8015	WG1078096	1	02/26/18 18:26	03/01/18 13:02	LM
Semi Volatile Organic Compounds (GC/MS) by Method 8270 C	WG1078432	1	03/01/18 09:18	03/06/18 10:22	ADF

SAMPLE SUMMARY

ONE LAB. NATIONWIDE.



DUP-01 L972920-04 GW

Collected by
J. Stoffel

Collected date/time
02/23/18 00:00

Received date/time
02/24/18 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Gravimetric Analysis by Method 2540 C-2011	WG1077910	1	02/27/18 15:04	02/27/18 15:37	MMF
Wet Chemistry by Method 2320 B-2011	WG1079100	1	03/01/18 15:19	03/01/18 15:19	MCG
Wet Chemistry by Method 353.2	WG1077920	1	02/27/18 16:25	02/27/18 16:25	JER
Wet Chemistry by Method 9056A	WG1078009	1	02/27/18 01:35	02/27/18 01:35	MAJ
Wet Chemistry by Method 9056A	WG1078009	10	02/27/18 01:49	02/27/18 01:49	MAJ
Mercury by Method 7470A	WG1078032	1	02/27/18 09:18	02/27/18 18:47	EL
Metals (ICP) by Method 6010B	WG1076537	1	02/26/18 17:25	02/27/18 02:41	CCE
Metals (ICPMS) by Method 6020	WG1077503	1	02/26/18 20:48	02/27/18 13:30	JPD
Volatile Organic Compounds (GC) by Method 8015D/GRO	WG1078522	1	02/27/18 23:35	02/27/18 23:35	BMB
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1077767	1	03/02/18 06:43	03/02/18 06:43	RAS
Semi-Volatile Organic Compounds (GC) by Method 3511/8015	WG1078096	1	02/26/18 18:26	03/01/18 13:19	LM
Semi Volatile Organic Compounds (GC/MS) by Method 8270 C	WG1078432	1	03/01/18 09:18	03/06/18 10:45	ADF

1 Cp
2 Tc
3 Ss
4 Cn
5 Sr
6 Qc
7 Gl
8 Al
9 Sc

TB-20180223 L972920-05 GW

Collected by
J. Stoffel

Collected date/time
02/23/18 14:00

Received date/time
02/24/18 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1077767	1	03/02/18 01:33	03/02/18 01:33	RAS



All sample aliquots were received at the correct temperature, in the proper containers, with the appropriate preservatives, and within method specified holding times, unless qualified or notated within the report. Where applicable, all MDL (LOD) and RDL (LOQ) values reported for environmental samples have been corrected for the dilution factor used in the analysis. All radiochemical sample results for solids are reported on a dry weight basis with the exception of tritium, carbon-14 and radon, unless wet weight was requested by the client. All Method and Batch Quality Control are within established criteria except where addressed in this case narrative, a non-conformance form or properly qualified within the sample results. By my digital signature below, I affirm to the best of my knowledge, all problems/anomalies observed by the laboratory as having the potential to affect the quality of the data have been identified by the laboratory, and no information or data have been knowingly withheld that would affect the quality of the data.

Jason Romer
Technical Service Representative

¹ Cp

² Tc

³ Ss

⁴ Cn

⁵ Sr

⁶ Qc

⁷ Gl

⁸ Al

⁹ Sc



Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	SDL	Unadj. MQL	MQL	Dilution	Analysis date / time	Batch
Dissolved Solids	564		2.82	10.0	10.0	1	02/27/2018 15:37	WG1077910

Wet Chemistry by Method 2320 B-2011

Analyte	Result	Qualifier	SDL	Unadj. MQL	MQL	Dilution	Analysis date / time	Batch
Alkalinity	169		2.71	20.0	20.0	1	03/01/2018 15:01	WG1079100

Sample Narrative:

L972920-01 WG1079100: Endpoint pH 4.5

Wet Chemistry by Method 353.2

Analyte	Result	Qualifier	SDL	Unadj. MQL	MQL	Dilution	Analysis date / time	Batch
Nitrate-Nitrite	3.06	<u>J6</u>	0.0197	0.100	0.100	1	02/27/2018 16:16	WG1077920

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	SDL	Unadj. MQL	MQL	Dilution	Analysis date / time	Batch
Chloride	110		0.519	1.00	10.0	10	02/26/2018 23:34	WG1078009
Fluoride	1.04		0.00990	0.100	0.100	1	02/26/2018 23:21	WG1078009
Sulfate	82.7		0.0774	5.00	5.00	1	02/26/2018 23:21	WG1078009

Mercury by Method 7470A

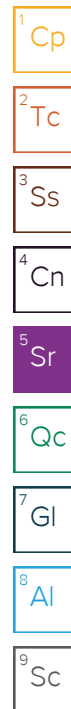
Analyte	Result	Qualifier	SDL	Unadj. MQL	MQL	Dilution	Analysis date / time	Batch
Mercury	U		0.0000490	0.000200	0.000200	1	02/27/2018 18:24	WG1078032

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	SDL	Unadj. MQL	MQL	Dilution	Analysis date / time	Batch
Boron,Dissolved	0.150	<u>J</u>	0.0126	0.200	0.200	1	02/27/2018 01:32	WG1076537

Metals (ICPMS) by Method 6020

Analyte	Result	Qualifier	SDL	Unadj. MQL	MQL	Dilution	Analysis date / time	Batch
Aluminum,Dissolved	0.0326	<u>B J</u>	0.00515	0.100	0.100	1	02/27/2018 11:33	WG1077503
Arsenic,Dissolved	0.00531		0.000250	0.00200	0.00200	1	02/27/2018 11:33	WG1077503
Barium,Dissolved	0.0893		0.000360	0.00500	0.00500	1	02/27/2018 11:33	WG1077503
Cadmium,Dissolved	0.000266	<u>J</u>	0.000160	0.00100	0.00100	1	02/27/2018 11:33	WG1077503
Calcium,Dissolved	104	<u>V</u>	0.0460	1.00	1.00	1	02/27/2018 11:33	WG1077503
Chromium,Dissolved	0.00730	<u>B</u>	0.000540	0.00200	0.00200	1	02/27/2018 11:33	WG1077503
Copper,Dissolved	0.00559		0.000520	0.00500	0.00500	1	02/27/2018 11:33	WG1077503
Cobalt,Dissolved	0.000381	<u>J</u>	0.000260	0.00200	0.00200	1	02/27/2018 11:33	WG1077503
Iron,Dissolved	0.0313	<u>J</u>	0.0150	0.100	0.100	1	02/27/2018 11:33	WG1077503
Lead,Dissolved	0.00188	<u>B J</u>	0.000240	0.00200	0.00200	1	02/27/2018 11:33	WG1077503
Magnesium,Dissolved	14.9		0.100	1.00	1.00	1	02/27/2018 11:33	WG1077503
Manganese,Dissolved	0.000591	<u>B J</u>	0.000250	0.00500	0.00500	1	02/27/2018 11:33	WG1077503
Molybdenum,Dissolved	0.00303	<u>J</u>	0.000140	0.00500	0.00500	1	02/27/2018 11:33	WG1077503
Nickel,Dissolved	0.000904	<u>B J</u>	0.000350	0.00200	0.00200	1	02/27/2018 11:33	WG1077503
Potassium,Dissolved	2.78		0.0370	1.00	1.00	1	02/27/2018 11:33	WG1077503
Selenium,Dissolved	0.00491		0.000380	0.00200	0.00200	1	02/27/2018 11:33	WG1077503
Silver,Dissolved	U		0.000310	0.00200	0.00200	1	02/27/2018 11:33	WG1077503
Sodium,Dissolved	50.8	<u>V</u>	0.110	1.00	1.00	1	02/27/2018 11:33	WG1077503





Metals (ICPMS) by Method 6020

Analyte	Result mg/l	Qualifier	SDL mg/l	Unadj. MQL mg/l	MQL mg/l	Dilution	Analysis date / time	Batch
Uranium,Dissolved	0.00212	J	0.000330	0.0100	0.0100	1	02/27/2018 11:33	WG1077503
Zinc,Dissolved	0.0340		0.00256	0.0250	0.0250	1	02/27/2018 11:33	WG1077503

Volatile Organic Compounds (GC) by Method 8015D/GRO

Analyte	Result mg/l	Qualifier	SDL mg/l	Unadj. MQL mg/l	MQL mg/l	Dilution	Analysis date / time	Batch
TPH (GC/FID) Low Fraction	U		0.0314	0.100	0.100	1	02/28/2018 05:44	WG1078292
(S) a,a,a-Trifluorotoluene(FID)	101				77.0-122		02/28/2018 05:44	WG1078292

Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result mg/l	Qualifier	SDL mg/l	Unadj. MQL mg/l	MQL mg/l	Dilution	Analysis date / time	Batch
Acetone	U		0.0100	1.00	1.00	1	03/02/2018 05:41	WG1077767
Benzene	U		0.000331	0.00100	0.00100	1	03/02/2018 05:41	WG1077767
Bromodichloromethane	U		0.000380	0.00125	0.00125	1	03/02/2018 05:41	WG1077767
Bromoform	U		0.000469	0.00100	0.00100	1	03/02/2018 05:41	WG1077767
Bromomethane	U		0.000866	0.00500	0.00500	1	03/02/2018 05:41	WG1077767
n-Butylbenzene	U		0.000361	0.00100	0.00100	1	03/02/2018 05:41	WG1077767
sec-Butylbenzene	U		0.000365	0.00100	0.00100	1	03/02/2018 05:41	WG1077767
tert-Butylbenzene	U		0.000399	0.00100	0.00100	1	03/02/2018 05:41	WG1077767
Carbon disulfide	U		0.000275	0.00100	0.00100	1	03/02/2018 05:41	WG1077767
Carbon tetrachloride	U		0.000379	0.00100	0.00100	1	03/02/2018 05:41	WG1077767
Chlorobenzene	U		0.000348	0.00100	0.00100	1	03/02/2018 05:41	WG1077767
Chlorodibromomethane	U		0.000327	0.00100	0.00100	1	03/02/2018 05:41	WG1077767
Chloroethane	U		0.000453	0.00500	0.00500	1	03/02/2018 05:41	WG1077767
Chloroform	U		0.000324	0.00500	0.00500	1	03/02/2018 05:41	WG1077767
Chloromethane	U		0.000276	0.00250	0.00250	1	03/02/2018 05:41	WG1077767
1,2-Dibromoethane	U		0.000381	0.00100	0.00100	1	03/02/2018 05:41	WG1077767
1,1-Dichloroethane	U		0.000259	0.00100	0.00100	1	03/02/2018 05:41	WG1077767
1,2-Dichloroethane	U		0.000361	0.00100	0.00100	1	03/02/2018 05:41	WG1077767
1,1-Dichloroethene	U		0.000398	0.00100	0.00100	1	03/02/2018 05:41	WG1077767
cis-1,2-Dichloroethene	U		0.000260	0.00100	0.00100	1	03/02/2018 05:41	WG1077767
trans-1,2-Dichloroethene	U		0.000396	0.00100	0.00100	1	03/02/2018 05:41	WG1077767
1,2-Dichloropropane	U		0.000306	0.00100	0.00100	1	03/02/2018 05:41	WG1077767
cis-1,3-Dichloropropene	U		0.000418	0.00100	0.00100	1	03/02/2018 05:41	WG1077767
trans-1,3-Dichloropropene	U		0.000419	0.00100	0.00100	1	03/02/2018 05:41	WG1077767
Ethylbenzene	U		0.000384	0.00100	0.00100	1	03/02/2018 05:41	WG1077767
Hexachloro-1,3-butadiene	U		0.000256	0.00100	0.00100	1	03/02/2018 05:41	WG1077767
2-Hexanone	U		0.00382	0.0100	0.0100	1	03/02/2018 05:41	WG1077767
Isopropylbenzene	U		0.000326	0.00100	0.00100	1	03/02/2018 05:41	WG1077767
p-Isopropyltoluene	U		0.000350	0.00100	0.00100	1	03/02/2018 05:41	WG1077767
2-Butanone (MEK)	U		0.00393	0.0100	0.0100	1	03/02/2018 05:41	WG1077767
Methylene Chloride	0.00132	B J	0.00100	0.00500	0.00500	1	03/02/2018 05:41	WG1077767
4-Methyl-2-pentanone (MIBK)	U		0.00214	0.0100	0.0100	1	03/02/2018 05:41	WG1077767
Methyl tert-butyl ether	U		0.000367	0.00100	0.00100	1	03/02/2018 05:41	WG1077767
Naphthalene	U		0.00100	0.00500	0.00500	1	03/02/2018 05:41	WG1077767
n-Propylbenzene	U		0.000349	0.00100	0.00100	1	03/02/2018 05:41	WG1077767
Styrene	U		0.000307	0.00100	0.00100	1	03/02/2018 05:41	WG1077767
1,1,2,2-Tetrachloroethane	U		0.000130	0.00100	0.00100	1	03/02/2018 05:41	WG1077767
Tetrachloroethene	U		0.000372	0.00100	0.00100	1	03/02/2018 05:41	WG1077767
Toluene	U		0.000412	0.00100	0.00100	1	03/02/2018 05:41	WG1077767
1,1,1-Trichloroethane	U		0.000319	0.00100	0.00100	1	03/02/2018 05:41	WG1077767
1,1,2-Trichloroethane	U		0.000383	0.00100	0.00100	1	03/02/2018 05:41	WG1077767
Trichloroethene	U		0.000398	0.00100	0.00100	1	03/02/2018 05:41	WG1077767
1,2,4-Trimethylbenzene	U		0.000373	0.00100	0.00100	1	03/02/2018 05:41	WG1077767

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc



Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result mg/l	Qualifier	SDL mg/l	Unadj. MQL mg/l	MQL mg/l	Dilution	Analysis date / time	Batch
1,3,5-Trimethylbenzene	U		0.000387	0.00100	0.00100	1	03/02/2018 05:41	WG1077767
Vinyl chloride	U		0.000259	0.00100	0.00100	1	03/02/2018 05:41	WG1077767
Xylenes, Total	U		0.00106	0.00300	0.00300	1	03/02/2018 05:41	WG1077767
(S) Toluene-d8	102				80.0-120		03/02/2018 05:41	WG1077767
(S) Dibromofluoromethane	98.1				76.0-123		03/02/2018 05:41	WG1077767
(S) 4-Bromofluorobenzene	109				80.0-120		03/02/2018 05:41	WG1077767

Semi-Volatile Organic Compounds (GC) by Method 3511/8015

Analyte	Result mg/l	Qualifier	SDL mg/l	Unadj. MQL mg/l	MQL mg/l	Dilution	Analysis date / time	Batch
TPH (GC/FID) High Fraction	0.0849	B J	0.0247	0.100	0.100	1	03/01/2018 12:27	WG1078096
(S) o-Terphenyl	90.8				31.0-160		03/01/2018 12:27	WG1078096

Semi Volatile Organic Compounds (GC/MS) by Method 8270 C

Analyte	Result mg/l	Qualifier	SDL mg/l	Unadj. MQL mg/l	MQL mg/l	Dilution	Analysis date / time	Batch
Acenaphthene	U		0.000316	0.00100	0.00100	1	03/06/2018 08:22	WG1078432
Acenaphthylene	U		0.000309	0.00100	0.00100	1	03/06/2018 08:22	WG1078432
Acetophenone	U		0.00247	0.0100	0.0100	1	03/06/2018 08:22	WG1078432
Anthracene	U		0.000291	0.00100	0.00100	1	03/06/2018 08:22	WG1078432
Atrazine	U		0.000260	0.0100	0.0100	1	03/06/2018 08:22	WG1078432
Benzo(a)anthracene	U		0.0000510	0.00100	0.00100	1	03/06/2018 08:22	WG1078432
Benzaldehyde	U		0.00140	0.0100	0.0100	1	03/06/2018 08:22	WG1078432
Benzo(b)fluoranthene	U		0.0000896	0.00100	0.00100	1	03/06/2018 08:22	WG1078432
Benzo(k)fluoranthene	U		0.000355	0.00100	0.00100	1	03/06/2018 08:22	WG1078432
Benzo(g,h,i)perylene	U		0.00000227	0.00100	0.00100	1	03/06/2018 08:22	WG1078432
Benzo(a)pyrene	U		0.0000381	0.000200	0.000200	1	03/06/2018 08:22	WG1078432
Biphenyl	U		0.000325	0.0100	0.0100	1	03/06/2018 08:22	WG1078432
Bis(2-chlorethoxy)methane	U		0.000329	0.0100	0.0100	1	03/06/2018 08:22	WG1078432
Bis(2-chloroethyl)ether	U		0.00162	0.0100	0.0100	1	03/06/2018 08:22	WG1078432
Bis(2-chloroisopropyl)ether	U		0.000445	0.0100	0.0100	1	03/06/2018 08:22	WG1078432
4-Bromophenyl-phenylether	U		0.000335	0.0100	0.0100	1	03/06/2018 08:22	WG1078432
2-Chloronaphthalene	U		0.000330	0.00100	0.00100	1	03/06/2018 08:22	WG1078432
4-Chlorophenyl-phenylether	U		0.000303	0.0100	0.0100	1	03/06/2018 08:22	WG1078432
Caprolactam	U		0.00259	0.0100	0.0100	1	03/06/2018 08:22	WG1078432
Carbazole	U		0.000260	0.0100	0.0100	1	03/06/2018 08:22	WG1078432
Chrysene	U		0.000332	0.00100	0.00100	1	03/06/2018 08:22	WG1078432
Dibenz(a,h)anthracene	U		0.0000644	0.000200	0.000200	1	03/06/2018 08:22	WG1078432
Dibenzofuran	U		0.000338	0.0100	0.0100	1	03/06/2018 08:22	WG1078432
3,3-Dichlorobenzidine	U		0.00202	0.0100	0.0100	1	03/06/2018 08:22	WG1078432
2,4-Dinitrotoluene	U		0.00165	0.0100	0.0100	1	03/06/2018 08:22	WG1078432
2,6-Dinitrotoluene	U		0.000279	0.0100	0.0100	1	03/06/2018 08:22	WG1078432
Fluoranthene	U		0.000310	0.00100	0.00100	1	03/06/2018 08:22	WG1078432
Fluorene	U		0.000323	0.00100	0.00100	1	03/06/2018 08:22	WG1078432
Hexachlorobenzene	U		0.000341	0.00100	0.00100	1	03/06/2018 08:22	WG1078432
Hexachloro-1,3-butadiene	U		0.000329	0.0100	0.0100	1	03/06/2018 08:22	WG1078432
Hexachlorocyclopentadiene	U		0.00233	0.0100	0.0100	1	03/06/2018 08:22	WG1078432
Hexachloroethane	U		0.000365	0.0100	0.0100	1	03/06/2018 08:22	WG1078432
Indeno(1,2,3-cd)pyrene	U		0.000279	0.00100	0.00100	1	03/06/2018 08:22	WG1078432
Isophorone	U		0.000272	0.0100	0.0100	1	03/06/2018 08:22	WG1078432
1-Methylnaphthalene	U		0.000332	0.00100	0.00100	1	03/06/2018 08:22	WG1078432
2-Methylnaphthalene	U		0.000311	0.00100	0.00100	1	03/06/2018 08:22	WG1078432
Naphthalene	U		0.000372	0.00100	0.00100	1	03/06/2018 08:22	WG1078432
Nitrobenzene	U		0.000367	0.0100	0.0100	1	03/06/2018 08:22	WG1078432
n-Nitrosodiphenylamine	U		0.000304	0.0100	0.0100	1	03/06/2018 08:22	WG1078432

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc



Semi Volatile Organic Compounds (GC/MS) by Method 8270 C

Analyte	Result mg/l	Qualifier	SDL mg/l	Unadj. MQL mg/l	MQL mg/l	Dilution	Analysis date / time	Batch
n-Nitrosodi-n-propylamine	U		0.000403	0.0100	0.0100	1	03/06/2018 08:22	WG1078432
Phenanthrene	U		0.000366	0.00100	0.00100	1	03/06/2018 08:22	WG1078432
Benzylbutyl phthalate	U		0.000275	0.00300	0.00300	1	03/06/2018 08:22	WG1078432
Bis(2-ethylhexyl)phthalate	U		0.000709	0.00300	0.00300	1	03/06/2018 08:22	WG1078432
Di-n-butyl phthalate	0.000683	U	0.000266	0.00300	0.00300	1	03/06/2018 08:22	WG1078432
Diethyl phthalate	U		0.000282	0.00300	0.00300	1	03/06/2018 08:22	WG1078432
Dimethyl phthalate	U		0.000283	0.00300	0.00300	1	03/06/2018 08:22	WG1078432
Di-n-octyl phthalate	0.000280	U	0.000278	0.00300	0.00300	1	03/06/2018 08:22	WG1078432
Pyrene	U		0.000330	0.00100	0.00100	1	03/06/2018 08:22	WG1078432
1,2,4-Trichlorobenzene	U		0.000355	0.0100	0.0100	1	03/06/2018 08:22	WG1078432
4-Chloro-3-methylphenol	U		0.000263	0.0100	0.0100	1	03/06/2018 08:22	WG1078432
2-Chlorophenol	U		0.000283	0.0100	0.0100	1	03/06/2018 08:22	WG1078432
2,4-Dichlorophenol	U		0.000284	0.0100	0.0100	1	03/06/2018 08:22	WG1078432
2,4-Dimethylphenol	U		0.000624	0.0100	0.0100	1	03/06/2018 08:22	WG1078432
4,6-Dinitro-2-methylphenol	U		0.00262	0.0100	0.0100	1	03/06/2018 08:22	WG1078432
2,4-Dinitrophenol	U		0.00325	0.0100	0.0100	1	03/06/2018 08:22	WG1078432
2-Nitrophenol	U		0.000320	0.0100	0.0100	1	03/06/2018 08:22	WG1078432
2-Nitroaniline	U		0.00190	0.0100	0.0100	1	03/06/2018 08:22	WG1078432
2-Methylphenol	U		0.000312	0.0100	0.0100	1	03/06/2018 08:22	WG1078432
3&4-Methyl Phenol	U		0.000266	0.0100	0.0100	1	03/06/2018 08:22	WG1078432
3-Nitroaniline	U		0.000308	0.0100	0.0100	1	03/06/2018 08:22	WG1078432
4-Chloroaniline	U		0.000382	0.0100	0.0100	1	03/06/2018 08:22	WG1078432
4-Nitroaniline	U		0.000349	0.0100	0.0100	1	03/06/2018 08:22	WG1078432
4-Nitrophenol	U		0.00201	0.0100	0.0100	1	03/06/2018 08:22	WG1078432
Pentachlorophenol	U		0.000313	0.0100	0.0100	1	03/06/2018 08:22	WG1078432
Phenol	0.00330	U	0.000334	0.0100	0.0100	1	03/06/2018 08:22	WG1078432
2,4,5-Trichlorophenol	U		0.000236	0.0100	0.0100	1	03/06/2018 08:22	WG1078432
2,4,6-Trichlorophenol	U		0.000297	0.0100	0.0100	1	03/06/2018 08:22	WG1078432
(S) 2-Fluorophenol	46.0				10.0-120		03/06/2018 08:22	WG1078432
(S) Phenol-d5	30.8				10.0-120		03/06/2018 08:22	WG1078432
(S) Nitrobenzene-d5	52.2				10.0-126		03/06/2018 08:22	WG1078432
(S) 2-Fluorobiphenyl	59.9				22.0-127		03/06/2018 08:22	WG1078432
(S) 2,4,6-Tribromophenol	68.7				10.0-153		03/06/2018 08:22	WG1078432
(S) p-Terphenyl-d14	61.8				29.0-141		03/06/2018 08:22	WG1078432

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc



Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	SDL	Unadj. MQL	MQL	Dilution	Analysis date / time	Batch
Dissolved Solids	1410		2.82	10.0	10.0	1	02/27/2018 15:37	WG1077910

Wet Chemistry by Method 2320 B-2011

Analyte	Result	Qualifier	SDL	Unadj. MQL	MQL	Dilution	Analysis date / time	Batch
Alkalinity	176		2.71	20.0	20.0	1	03/01/2018 15:07	WG1079100

Sample Narrative:

L972920-02 WG1079100: Endpoint pH 4.5

Wet Chemistry by Method 353.2

Analyte	Result	Qualifier	SDL	Unadj. MQL	MQL	Dilution	Analysis date / time	Batch
Nitrate-Nitrite	3.28		0.0197	0.100	0.100	1	02/27/2018 16:23	WG1077920

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	SDL	Unadj. MQL	MQL	Dilution	Analysis date / time	Batch
Chloride	429		0.519	1.00	10.0	10	02/27/2018 00:55	WG1078009
Fluoride	0.746		0.00990	0.100	0.100	1	02/27/2018 00:42	WG1078009
Sulfate	103		0.774	5.00	50.0	10	02/27/2018 00:55	WG1078009

Mercury by Method 7470A

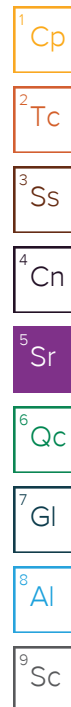
Analyte	Result	Qualifier	SDL	Unadj. MQL	MQL	Dilution	Analysis date / time	Batch
Mercury	U		0.0000490	0.000200	0.000200	1	02/27/2018 18:38	WG1078032

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	SDL	Unadj. MQL	MQL	Dilution	Analysis date / time	Batch
Boron,Dissolved	0.258		0.0126	0.200	0.200	1	02/27/2018 02:35	WG1076537

Metals (ICPMS) by Method 6020

Analyte	Result	Qualifier	SDL	Unadj. MQL	MQL	Dilution	Analysis date / time	Batch
Aluminum,Dissolved	0.00900	B J	0.00515	0.100	0.100	1	02/27/2018 13:23	WG1077503
Arsenic,Dissolved	0.00419		0.000250	0.00200	0.00200	1	02/27/2018 13:23	WG1077503
Barium,Dissolved	0.143		0.000360	0.00500	0.00500	1	02/27/2018 13:23	WG1077503
Cadmium,Dissolved	U		0.000160	0.00100	0.00100	1	02/27/2018 13:23	WG1077503
Calcium,Dissolved	198		0.0460	1.00	1.00	1	02/27/2018 13:23	WG1077503
Chromium,Dissolved	0.00265	B	0.000540	0.00200	0.00200	1	02/27/2018 13:23	WG1077503
Copper,Dissolved	0.00656		0.000520	0.00500	0.00500	1	02/27/2018 13:23	WG1077503
Cobalt,Dissolved	U		0.000260	0.00200	0.00200	1	02/27/2018 13:23	WG1077503
Iron,Dissolved	U		0.0150	0.100	0.100	1	02/27/2018 13:23	WG1077503
Lead,Dissolved	0.000278	B J	0.000240	0.00200	0.00200	1	02/27/2018 13:23	WG1077503
Magnesium,Dissolved	27.7		0.100	1.00	1.00	1	02/27/2018 13:23	WG1077503
Manganese,Dissolved	0.00225	B J	0.000250	0.00500	0.00500	1	02/27/2018 13:23	WG1077503
Molybdenum,Dissolved	0.00191	J	0.000140	0.00500	0.00500	1	02/27/2018 13:23	WG1077503
Nickel,Dissolved	0.000488	B J	0.000350	0.00200	0.00200	1	02/27/2018 13:23	WG1077503
Potassium,Dissolved	3.72		0.0370	1.00	1.00	1	02/27/2018 13:23	WG1077503
Selenium,Dissolved	0.00453		0.000380	0.00200	0.00200	1	02/27/2018 13:23	WG1077503
Silver,Dissolved	U		0.000310	0.00200	0.00200	1	02/27/2018 13:23	WG1077503
Sodium,Dissolved	137		0.110	1.00	1.00	1	02/27/2018 13:23	WG1077503





Metals (ICPMS) by Method 6020

Analyte	Result mg/l	Qualifier	SDL mg/l	Unadj. MQL mg/l	MQL mg/l	Dilution	Analysis date / time	Batch
Uranium,Dissolved	0.00245	J	0.000330	0.0100	0.0100	1	02/27/2018 13:23	WG1077503
Zinc,Dissolved	0.00958	J	0.00256	0.0250	0.0250	1	02/27/2018 13:23	WG1077503

Volatile Organic Compounds (GC) by Method 8015D/GRO

Analyte	Result mg/l	Qualifier	SDL mg/l	Unadj. MQL mg/l	MQL mg/l	Dilution	Analysis date / time	Batch
TPH (GC/FID) Low Fraction	U		0.0314	0.100	0.100	1	02/28/2018 01:30	WG1078292
(S) a,a,a-Trifluorotoluene(FID)	101				77.0-122		02/28/2018 01:30	WG1078292

Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result mg/l	Qualifier	SDL mg/l	Unadj. MQL mg/l	MQL mg/l	Dilution	Analysis date / time	Batch
Acetone	U		0.0100	1.00	1.00	1	03/02/2018 06:02	WG1077767
Benzene	U		0.000331	0.00100	0.00100	1	03/02/2018 06:02	WG1077767
Bromodichloromethane	U		0.000380	0.00125	0.00125	1	03/02/2018 06:02	WG1077767
Bromoform	U		0.000469	0.00100	0.00100	1	03/02/2018 06:02	WG1077767
Bromomethane	U		0.000866	0.00500	0.00500	1	03/02/2018 06:02	WG1077767
n-Butylbenzene	U		0.000361	0.00100	0.00100	1	03/02/2018 06:02	WG1077767
sec-Butylbenzene	U		0.000365	0.00100	0.00100	1	03/02/2018 06:02	WG1077767
tert-Butylbenzene	U		0.000399	0.00100	0.00100	1	03/02/2018 06:02	WG1077767
Carbon disulfide	U		0.000275	0.00100	0.00100	1	03/02/2018 06:02	WG1077767
Carbon tetrachloride	U		0.000379	0.00100	0.00100	1	03/02/2018 06:02	WG1077767
Chlorobenzene	U		0.000348	0.00100	0.00100	1	03/02/2018 06:02	WG1077767
Chlorodibromomethane	U		0.000327	0.00100	0.00100	1	03/02/2018 06:02	WG1077767
Chloroethane	U		0.000453	0.00500	0.00500	1	03/02/2018 06:02	WG1077767
Chloroform	0.00113	J	0.000324	0.00500	0.00500	1	03/02/2018 06:02	WG1077767
Chloromethane	U		0.000276	0.00250	0.00250	1	03/02/2018 06:02	WG1077767
1,2-Dibromoethane	U		0.000381	0.00100	0.00100	1	03/02/2018 06:02	WG1077767
1,1-Dichloroethane	U		0.000259	0.00100	0.00100	1	03/02/2018 06:02	WG1077767
1,2-Dichloroethane	U		0.000361	0.00100	0.00100	1	03/02/2018 06:02	WG1077767
1,1-Dichloroethene	U		0.000398	0.00100	0.00100	1	03/02/2018 06:02	WG1077767
cis-1,2-Dichloroethene	U		0.000260	0.00100	0.00100	1	03/02/2018 06:02	WG1077767
trans-1,2-Dichloroethene	U		0.000396	0.00100	0.00100	1	03/02/2018 06:02	WG1077767
1,2-Dichloropropane	U		0.000306	0.00100	0.00100	1	03/02/2018 06:02	WG1077767
cis-1,3-Dichloropropene	U		0.000418	0.00100	0.00100	1	03/02/2018 06:02	WG1077767
trans-1,3-Dichloropropene	U		0.000419	0.00100	0.00100	1	03/02/2018 06:02	WG1077767
Ethylbenzene	U		0.000384	0.00100	0.00100	1	03/02/2018 06:02	WG1077767
Hexachloro-1,3-butadiene	U		0.000256	0.00100	0.00100	1	03/02/2018 06:02	WG1077767
2-Hexanone	U		0.00382	0.0100	0.0100	1	03/02/2018 06:02	WG1077767
Isopropylbenzene	U		0.000326	0.00100	0.00100	1	03/02/2018 06:02	WG1077767
p-Isopropyltoluene	U		0.000350	0.00100	0.00100	1	03/02/2018 06:02	WG1077767
2-Butanone (MEK)	U		0.00393	0.0100	0.0100	1	03/02/2018 06:02	WG1077767
Methylene Chloride	0.00135	B J	0.00100	0.00500	0.00500	1	03/02/2018 06:02	WG1077767
4-Methyl-2-pentanone (MIBK)	U		0.00214	0.0100	0.0100	1	03/02/2018 06:02	WG1077767
Methyl tert-butyl ether	U		0.000367	0.00100	0.00100	1	03/02/2018 06:02	WG1077767
Naphthalene	U		0.00100	0.00500	0.00500	1	03/02/2018 06:02	WG1077767
n-Propylbenzene	U		0.000349	0.00100	0.00100	1	03/02/2018 06:02	WG1077767
Styrene	U		0.000307	0.00100	0.00100	1	03/02/2018 06:02	WG1077767
1,1,2,2-Tetrachloroethane	U		0.000130	0.00100	0.00100	1	03/02/2018 06:02	WG1077767
Tetrachloroethene	U		0.000372	0.00100	0.00100	1	03/02/2018 06:02	WG1077767
Toluene	U		0.000412	0.00100	0.00100	1	03/02/2018 06:02	WG1077767
1,1,1-Trichloroethane	U		0.000319	0.00100	0.00100	1	03/02/2018 06:02	WG1077767
1,1,2-Trichloroethane	U		0.000383	0.00100	0.00100	1	03/02/2018 06:02	WG1077767
Trichloroethene	U		0.000398	0.00100	0.00100	1	03/02/2018 06:02	WG1077767
1,2,4-Trimethylbenzene	U		0.000373	0.00100	0.00100	1	03/02/2018 06:02	WG1077767

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc



Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result mg/l	Qualifier	SDL mg/l	Unadj. MQL mg/l	MQL mg/l	Dilution	Analysis date / time	Batch
1,3,5-Trimethylbenzene	U		0.000387	0.00100	0.00100	1	03/02/2018 06:02	WG1077767
Vinyl chloride	U		0.000259	0.00100	0.00100	1	03/02/2018 06:02	WG1077767
Xylenes, Total	U		0.00106	0.00300	0.00300	1	03/02/2018 06:02	WG1077767
(S) Toluene-d8	100				80.0-120		03/02/2018 06:02	WG1077767
(S) Dibromofluoromethane	99.2				76.0-123		03/02/2018 06:02	WG1077767
(S) 4-Bromofluorobenzene	108				80.0-120		03/02/2018 06:02	WG1077767

Semi-Volatile Organic Compounds (GC) by Method 3511/8015

Analyte	Result mg/l	Qualifier	SDL mg/l	Unadj. MQL mg/l	MQL mg/l	Dilution	Analysis date / time	Batch
TPH (GC/FID) High Fraction	0.107	B	0.0247	0.100	0.100	1	03/01/2018 12:44	WG1078096
(S) o-Terphenyl	92.5				31.0-160		03/01/2018 12:44	WG1078096

Semi Volatile Organic Compounds (GC/MS) by Method 8270 C

Analyte	Result mg/l	Qualifier	SDL mg/l	Unadj. MQL mg/l	MQL mg/l	Dilution	Analysis date / time	Batch
Acenaphthene	U		0.000316	0.00100	0.00100	1	03/06/2018 09:58	WG1078432
Acenaphthylene	U		0.000309	0.00100	0.00100	1	03/06/2018 09:58	WG1078432
Acetophenone	U		0.00247	0.0100	0.0100	1	03/06/2018 09:58	WG1078432
Anthracene	U		0.000291	0.00100	0.00100	1	03/06/2018 09:58	WG1078432
Atrazine	U		0.000260	0.0100	0.0100	1	03/06/2018 09:58	WG1078432
Benzo(a)anthracene	0.000290	U	0.0000510	0.00100	0.00100	1	03/06/2018 09:58	WG1078432
Benzaldehyde	U		0.00140	0.0100	0.0100	1	03/06/2018 09:58	WG1078432
Benzo(b)fluoranthene	0.000277	U	0.0000896	0.00100	0.00100	1	03/06/2018 09:58	WG1078432
Benzo(k)fluoranthene	U		0.000355	0.00100	0.00100	1	03/06/2018 09:58	WG1078432
Benzo(g,h,i)perylene	0.000257	U	0.00000227	0.00100	0.00100	1	03/06/2018 09:58	WG1078432
Benzo(a)pyrene	0.000264		0.0000381	0.000200	0.000200	1	03/06/2018 09:58	WG1078432
Biphenyl	U		0.000325	0.0100	0.0100	1	03/06/2018 09:58	WG1078432
Bis(2-chlorethoxy)methane	U		0.000329	0.0100	0.0100	1	03/06/2018 09:58	WG1078432
Bis(2-chloroethyl)ether	U		0.00162	0.0100	0.0100	1	03/06/2018 09:58	WG1078432
Bis(2-chloroisopropyl)ether	U		0.000445	0.0100	0.0100	1	03/06/2018 09:58	WG1078432
4-Bromophenyl-phenylether	U		0.000335	0.0100	0.0100	1	03/06/2018 09:58	WG1078432
2-Chloronaphthalene	U		0.000330	0.00100	0.00100	1	03/06/2018 09:58	WG1078432
4-Chlorophenyl-phenylether	U		0.000303	0.0100	0.0100	1	03/06/2018 09:58	WG1078432
Caprolactam	U		0.00259	0.0100	0.0100	1	03/06/2018 09:58	WG1078432
Carbazole	U		0.000260	0.0100	0.0100	1	03/06/2018 09:58	WG1078432
Chrysene	U		0.000332	0.00100	0.00100	1	03/06/2018 09:58	WG1078432
Dibenz(a,h)anthracene	0.000251		0.0000644	0.000200	0.000200	1	03/06/2018 09:58	WG1078432
Dibenzofuran	U		0.000338	0.0100	0.0100	1	03/06/2018 09:58	WG1078432
3,3-Dichlorobenzidine	U		0.00202	0.0100	0.0100	1	03/06/2018 09:58	WG1078432
2,4-Dinitrotoluene	U		0.00165	0.0100	0.0100	1	03/06/2018 09:58	WG1078432
2,6-Dinitrotoluene	U		0.000279	0.0100	0.0100	1	03/06/2018 09:58	WG1078432
Fluoranthene	U		0.000310	0.00100	0.00100	1	03/06/2018 09:58	WG1078432
Fluorene	U		0.000323	0.00100	0.00100	1	03/06/2018 09:58	WG1078432
Hexachlorobenzene	U		0.000341	0.00100	0.00100	1	03/06/2018 09:58	WG1078432
Hexachloro-1,3-butadiene	U		0.000329	0.0100	0.0100	1	03/06/2018 09:58	WG1078432
Hexachlorocyclopentadiene	U		0.00233	0.0100	0.0100	1	03/06/2018 09:58	WG1078432
Hexachloroethane	U		0.000365	0.0100	0.0100	1	03/06/2018 09:58	WG1078432
Indeno(1,2,3-cd)pyrene	U		0.000279	0.00100	0.00100	1	03/06/2018 09:58	WG1078432
Isophorone	U		0.000272	0.0100	0.0100	1	03/06/2018 09:58	WG1078432
1-Methylnaphthalene	U		0.000332	0.00100	0.00100	1	03/06/2018 09:58	WG1078432
2-Methylnaphthalene	U		0.000311	0.00100	0.00100	1	03/06/2018 09:58	WG1078432
Naphthalene	U		0.000372	0.00100	0.00100	1	03/06/2018 09:58	WG1078432
Nitrobenzene	U		0.000367	0.0100	0.0100	1	03/06/2018 09:58	WG1078432
n-Nitrosodiphenylamine	U		0.000304	0.0100	0.0100	1	03/06/2018 09:58	WG1078432

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc



Semi Volatile Organic Compounds (GC/MS) by Method 8270 C

Analyte	Result mg/l	Qualifier	SDL mg/l	Unadj. MQL mg/l	MQL mg/l	Dilution	Analysis date / time	Batch
n-Nitrosodi-n-propylamine	U		0.000403	0.0100	0.0100	1	03/06/2018 09:58	WG1078432
Phenanthrene	U		0.000366	0.00100	0.00100	1	03/06/2018 09:58	WG1078432
Benzylbutyl phthalate	U		0.000275	0.00300	0.00300	1	03/06/2018 09:58	WG1078432
Bis(2-ethylhexyl)phthalate	U		0.000709	0.00300	0.00300	1	03/06/2018 09:58	WG1078432
Di-n-butyl phthalate	0.000895	U	0.000266	0.00300	0.00300	1	03/06/2018 09:58	WG1078432
Diethyl phthalate	U		0.000282	0.00300	0.00300	1	03/06/2018 09:58	WG1078432
Dimethyl phthalate	U		0.000283	0.00300	0.00300	1	03/06/2018 09:58	WG1078432
Di-n-octyl phthalate	U		0.000278	0.00300	0.00300	1	03/06/2018 09:58	WG1078432
Pyrene	U		0.000330	0.00100	0.00100	1	03/06/2018 09:58	WG1078432
1,2,4-Trichlorobenzene	U		0.000355	0.0100	0.0100	1	03/06/2018 09:58	WG1078432
4-Chloro-3-methylphenol	U		0.000263	0.0100	0.0100	1	03/06/2018 09:58	WG1078432
2-Chlorophenol	U		0.000283	0.0100	0.0100	1	03/06/2018 09:58	WG1078432
2,4-Dichlorophenol	U		0.000284	0.0100	0.0100	1	03/06/2018 09:58	WG1078432
2,4-Dimethylphenol	U		0.000624	0.0100	0.0100	1	03/06/2018 09:58	WG1078432
4,6-Dinitro-2-methylphenol	U		0.00262	0.0100	0.0100	1	03/06/2018 09:58	WG1078432
2,4-Dinitrophenol	U		0.00325	0.0100	0.0100	1	03/06/2018 09:58	WG1078432
2-Nitrophenol	U		0.000320	0.0100	0.0100	1	03/06/2018 09:58	WG1078432
2-Nitroaniline	U		0.00190	0.0100	0.0100	1	03/06/2018 09:58	WG1078432
2-Methylphenol	U		0.000312	0.0100	0.0100	1	03/06/2018 09:58	WG1078432
3&4-Methyl Phenol	U		0.000266	0.0100	0.0100	1	03/06/2018 09:58	WG1078432
3-Nitroaniline	U		0.000308	0.0100	0.0100	1	03/06/2018 09:58	WG1078432
4-Chloroaniline	U		0.000382	0.0100	0.0100	1	03/06/2018 09:58	WG1078432
4-Nitroaniline	U		0.000349	0.0100	0.0100	1	03/06/2018 09:58	WG1078432
4-Nitrophenol	U		0.00201	0.0100	0.0100	1	03/06/2018 09:58	WG1078432
Pentachlorophenol	U		0.000313	0.0100	0.0100	1	03/06/2018 09:58	WG1078432
Phenol	0.00267	U	0.000334	0.0100	0.0100	1	03/06/2018 09:58	WG1078432
2,4,5-Trichlorophenol	U		0.000236	0.0100	0.0100	1	03/06/2018 09:58	WG1078432
2,4,6-Trichlorophenol	U		0.000297	0.0100	0.0100	1	03/06/2018 09:58	WG1078432
(S) 2-Fluorophenol	42.8				10.0-120		03/06/2018 09:58	WG1078432
(S) Phenol-d5	28.5				10.0-120		03/06/2018 09:58	WG1078432
(S) Nitrobenzene-d5	56.6				10.0-126		03/06/2018 09:58	WG1078432
(S) 2-Fluorobiphenyl	73.0				22.0-127		03/06/2018 09:58	WG1078432
(S) 2,4,6-Tribromophenol	80.3				10.0-153		03/06/2018 09:58	WG1078432
(S) p-Terphenyl-d14	76.5				29.0-141		03/06/2018 09:58	WG1078432

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc



Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	SDL	Unadj. MQL	MQL	Dilution	Analysis date / time	Batch
Dissolved Solids	603		2.82	10.0	10.0	1	02/27/2018 15:37	WG1077910

Wet Chemistry by Method 2320 B-2011

Analyte	Result	Qualifier	SDL	Unadj. MQL	MQL	Dilution	Analysis date / time	Batch
Alkalinity	173		2.71	20.0	20.0	1	03/01/2018 15:13	WG1079100

Sample Narrative:

L972920-03 WG1079100: Endpoint pH 4.5

Wet Chemistry by Method 353.2

Analyte	Result	Qualifier	SDL	Unadj. MQL	MQL	Dilution	Analysis date / time	Batch
Nitrate-Nitrite	3.46		0.0197	0.100	0.100	1	02/27/2018 16:24	WG1077920

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	SDL	Unadj. MQL	MQL	Dilution	Analysis date / time	Batch
Chloride	133		0.519	1.00	10.0	10	02/27/2018 01:22	WG1078009
Fluoride	0.948		0.00990	0.100	0.100	1	02/27/2018 01:08	WG1078009
Sulfate	76.5		0.0774	5.00	5.00	1	02/27/2018 01:08	WG1078009

Mercury by Method 7470A

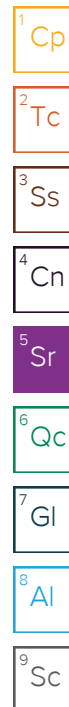
Analyte	Result	Qualifier	SDL	Unadj. MQL	MQL	Dilution	Analysis date / time	Batch
Mercury	U		0.0000490	0.000200	0.000200	1	02/27/2018 18:40	WG1078032

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	SDL	Unadj. MQL	MQL	Dilution	Analysis date / time	Batch
Boron,Dissolved	0.189	J	0.0126	0.200	0.200	1	02/27/2018 02:38	WG1076537

Metals (ICPMS) by Method 6020

Analyte	Result	Qualifier	SDL	Unadj. MQL	MQL	Dilution	Analysis date / time	Batch
Aluminum,Dissolved	0.00601	B J	0.00515	0.100	0.100	1	02/27/2018 13:26	WG1077503
Arsenic,Dissolved	0.00621		0.000250	0.00200	0.00200	1	02/27/2018 13:26	WG1077503
Barium,Dissolved	0.109		0.000360	0.00500	0.00500	1	02/27/2018 13:26	WG1077503
Cadmium,Dissolved	U		0.000160	0.00100	0.00100	1	02/27/2018 13:26	WG1077503
Calcium,Dissolved	106		0.0460	1.00	1.00	1	02/27/2018 13:26	WG1077503
Chromium,Dissolved	0.00134	B J	0.000540	0.00200	0.00200	1	02/27/2018 13:26	WG1077503
Copper,Dissolved	0.00292	J	0.000520	0.00500	0.00500	1	02/27/2018 13:26	WG1077503
Cobalt,Dissolved	U		0.000260	0.00200	0.00200	1	02/27/2018 13:26	WG1077503
Iron,Dissolved	U		0.0150	0.100	0.100	1	02/27/2018 13:26	WG1077503
Lead,Dissolved	U		0.000240	0.00200	0.00200	1	02/27/2018 13:26	WG1077503
Magnesium,Dissolved	13.1		0.100	1.00	1.00	1	02/27/2018 13:26	WG1077503
Manganese,Dissolved	0.000796	B J	0.000250	0.00500	0.00500	1	02/27/2018 13:26	WG1077503
Molybdenum,Dissolved	0.00304	J	0.000140	0.00500	0.00500	1	02/27/2018 13:26	WG1077503
Nickel,Dissolved	0.000612	B J	0.000350	0.00200	0.00200	1	02/27/2018 13:26	WG1077503
Potassium,Dissolved	2.82		0.0370	1.00	1.00	1	02/27/2018 13:26	WG1077503
Selenium,Dissolved	0.00371		0.000380	0.00200	0.00200	1	02/27/2018 13:26	WG1077503
Silver,Dissolved	U		0.000310	0.00200	0.00200	1	02/27/2018 13:26	WG1077503
Sodium,Dissolved	66.7		0.110	1.00	1.00	1	02/27/2018 13:26	WG1077503





Metals (ICPMS) by Method 6020

Analyte	Result mg/l	Qualifier	SDL mg/l	Unadj. MQL mg/l	MQL mg/l	Dilution	Analysis date / time	Batch
Uranium,Dissolved	0.00176	J	0.000330	0.0100	0.0100	1	02/27/2018 13:26	WG1077503
Zinc,Dissolved	0.00383	J	0.00256	0.0250	0.0250	1	02/27/2018 13:26	WG1077503

Volatile Organic Compounds (GC) by Method 8015D/GRO

Analyte	Result mg/l	Qualifier	SDL mg/l	Unadj. MQL mg/l	MQL mg/l	Dilution	Analysis date / time	Batch
TPH (GC/FID) Low Fraction	U		0.0314	0.100	0.100	1	02/27/2018 23:14	WG1078522
(S) a,a,a-Trifluorotoluene(FID)	102				77.0-122		02/27/2018 23:14	WG1078522

Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result mg/l	Qualifier	SDL mg/l	Unadj. MQL mg/l	MQL mg/l	Dilution	Analysis date / time	Batch
Acetone	U		0.0100	1.00	1.00	1	03/02/2018 06:23	WG1077767
Benzene	U		0.000331	0.00100	0.00100	1	03/02/2018 06:23	WG1077767
Bromodichloromethane	U		0.000380	0.00125	0.00125	1	03/02/2018 06:23	WG1077767
Bromoform	U		0.000469	0.00100	0.00100	1	03/02/2018 06:23	WG1077767
Bromomethane	U		0.000866	0.00500	0.00500	1	03/02/2018 06:23	WG1077767
n-Butylbenzene	U		0.000361	0.00100	0.00100	1	03/02/2018 06:23	WG1077767
sec-Butylbenzene	U		0.000365	0.00100	0.00100	1	03/02/2018 06:23	WG1077767
tert-Butylbenzene	U		0.000399	0.00100	0.00100	1	03/02/2018 06:23	WG1077767
Carbon disulfide	U		0.000275	0.00100	0.00100	1	03/02/2018 06:23	WG1077767
Carbon tetrachloride	U		0.000379	0.00100	0.00100	1	03/02/2018 06:23	WG1077767
Chlorobenzene	U		0.000348	0.00100	0.00100	1	03/02/2018 06:23	WG1077767
Chlorodibromomethane	U		0.000327	0.00100	0.00100	1	03/02/2018 06:23	WG1077767
Chloroethane	U		0.000453	0.00500	0.00500	1	03/02/2018 06:23	WG1077767
Chloroform	U		0.000324	0.00500	0.00500	1	03/02/2018 06:23	WG1077767
Chloromethane	U		0.000276	0.00250	0.00250	1	03/02/2018 06:23	WG1077767
1,2-Dibromoethane	U		0.000381	0.00100	0.00100	1	03/02/2018 06:23	WG1077767
1,1-Dichloroethane	U		0.000259	0.00100	0.00100	1	03/02/2018 06:23	WG1077767
1,2-Dichloroethane	U		0.000361	0.00100	0.00100	1	03/02/2018 06:23	WG1077767
1,1-Dichloroethene	U		0.000398	0.00100	0.00100	1	03/02/2018 06:23	WG1077767
cis-1,2-Dichloroethene	U		0.000260	0.00100	0.00100	1	03/02/2018 06:23	WG1077767
trans-1,2-Dichloroethene	U		0.000396	0.00100	0.00100	1	03/02/2018 06:23	WG1077767
1,2-Dichloropropane	U		0.000306	0.00100	0.00100	1	03/02/2018 06:23	WG1077767
cis-1,3-Dichloropropene	U		0.000418	0.00100	0.00100	1	03/02/2018 06:23	WG1077767
trans-1,3-Dichloropropene	U		0.000419	0.00100	0.00100	1	03/02/2018 06:23	WG1077767
Ethylbenzene	U		0.000384	0.00100	0.00100	1	03/02/2018 06:23	WG1077767
Hexachloro-1,3-butadiene	U		0.000256	0.00100	0.00100	1	03/02/2018 06:23	WG1077767
2-Hexanone	U		0.00382	0.0100	0.0100	1	03/02/2018 06:23	WG1077767
Isopropylbenzene	U		0.000326	0.00100	0.00100	1	03/02/2018 06:23	WG1077767
p-Isopropyltoluene	U		0.000350	0.00100	0.00100	1	03/02/2018 06:23	WG1077767
2-Butanone (MEK)	U		0.00393	0.0100	0.0100	1	03/02/2018 06:23	WG1077767
Methylene Chloride	0.00110	B J	0.00100	0.00500	0.00500	1	03/02/2018 06:23	WG1077767
4-Methyl-2-pentanone (MIBK)	U		0.00214	0.0100	0.0100	1	03/02/2018 06:23	WG1077767
Methyl tert-butyl ether	U		0.000367	0.00100	0.00100	1	03/02/2018 06:23	WG1077767
Naphthalene	U		0.00100	0.00500	0.00500	1	03/02/2018 06:23	WG1077767
n-Propylbenzene	U		0.000349	0.00100	0.00100	1	03/02/2018 06:23	WG1077767
Styrene	U		0.000307	0.00100	0.00100	1	03/02/2018 06:23	WG1077767
1,1,2,2-Tetrachloroethane	U		0.000130	0.00100	0.00100	1	03/02/2018 06:23	WG1077767
Tetrachloroethene	U		0.000372	0.00100	0.00100	1	03/02/2018 06:23	WG1077767
Toluene	U		0.000412	0.00100	0.00100	1	03/02/2018 06:23	WG1077767
1,1,1-Trichloroethane	U		0.000319	0.00100	0.00100	1	03/02/2018 06:23	WG1077767
1,1,2-Trichloroethane	U		0.000383	0.00100	0.00100	1	03/02/2018 06:23	WG1077767
Trichloroethene	U		0.000398	0.00100	0.00100	1	03/02/2018 06:23	WG1077767
1,2,4-Trimethylbenzene	U		0.000373	0.00100	0.00100	1	03/02/2018 06:23	WG1077767

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc



Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result mg/l	Qualifier	SDL mg/l	Unadj. MQL mg/l	MQL mg/l	Dilution	Analysis date / time	Batch
1,3,5-Trimethylbenzene	U		0.000387	0.00100	0.00100	1	03/02/2018 06:23	WG1077767
Vinyl chloride	U		0.000259	0.00100	0.00100	1	03/02/2018 06:23	WG1077767
Xylenes, Total	U		0.00106	0.00300	0.00300	1	03/02/2018 06:23	WG1077767
(S) Toluene-d8	100				80.0-120		03/02/2018 06:23	WG1077767
(S) Dibromofluoromethane	100				76.0-123		03/02/2018 06:23	WG1077767
(S) 4-Bromofluorobenzene	110				80.0-120		03/02/2018 06:23	WG1077767

Semi-Volatile Organic Compounds (GC) by Method 3511/8015

Analyte	Result mg/l	Qualifier	SDL mg/l	Unadj. MQL mg/l	MQL mg/l	Dilution	Analysis date / time	Batch
TPH (GC/FID) High Fraction	0.0821	B J	0.0247	0.100	0.100	1	03/01/2018 13:02	WG1078096
(S) o-Terphenyl	92.3				31.0-160		03/01/2018 13:02	WG1078096

Semi Volatile Organic Compounds (GC/MS) by Method 8270 C

Analyte	Result mg/l	Qualifier	SDL mg/l	Unadj. MQL mg/l	MQL mg/l	Dilution	Analysis date / time	Batch
Acenaphthene	U		0.000316	0.00100	0.00100	1	03/06/2018 10:22	WG1078432
Acenaphthylene	U		0.000309	0.00100	0.00100	1	03/06/2018 10:22	WG1078432
Acetophenone	U		0.00247	0.0100	0.0100	1	03/06/2018 10:22	WG1078432
Anthracene	U		0.000291	0.00100	0.00100	1	03/06/2018 10:22	WG1078432
Atrazine	U		0.000260	0.0100	0.0100	1	03/06/2018 10:22	WG1078432
Benzo(a)anthracene	U		0.0000510	0.00100	0.00100	1	03/06/2018 10:22	WG1078432
Benzaldehyde	U		0.00140	0.0100	0.0100	1	03/06/2018 10:22	WG1078432
Benzo(b)fluoranthene	U		0.0000896	0.00100	0.00100	1	03/06/2018 10:22	WG1078432
Benzo(k)fluoranthene	U		0.000355	0.00100	0.00100	1	03/06/2018 10:22	WG1078432
Benzo(g,h,i)perylene	U		0.00000227	0.00100	0.00100	1	03/06/2018 10:22	WG1078432
Benzo(a)pyrene	U		0.0000381	0.000200	0.000200	1	03/06/2018 10:22	WG1078432
Biphenyl	U		0.000325	0.0100	0.0100	1	03/06/2018 10:22	WG1078432
Bis(2-chlorethoxy)methane	U		0.000329	0.0100	0.0100	1	03/06/2018 10:22	WG1078432
Bis(2-chloroethyl)ether	U		0.00162	0.0100	0.0100	1	03/06/2018 10:22	WG1078432
Bis(2-chloroisopropyl)ether	U		0.000445	0.0100	0.0100	1	03/06/2018 10:22	WG1078432
4-Bromophenyl-phenylether	U		0.000335	0.0100	0.0100	1	03/06/2018 10:22	WG1078432
2-Chloronaphthalene	U		0.000330	0.00100	0.00100	1	03/06/2018 10:22	WG1078432
4-Chlorophenyl-phenylether	U		0.000303	0.0100	0.0100	1	03/06/2018 10:22	WG1078432
Caprolactam	U		0.00259	0.0100	0.0100	1	03/06/2018 10:22	WG1078432
Carbazole	U		0.000260	0.0100	0.0100	1	03/06/2018 10:22	WG1078432
Chrysene	U		0.000332	0.00100	0.00100	1	03/06/2018 10:22	WG1078432
Dibenz(a,h)anthracene	U		0.0000644	0.000200	0.000200	1	03/06/2018 10:22	WG1078432
Dibenzofuran	U		0.000338	0.0100	0.0100	1	03/06/2018 10:22	WG1078432
3,3-Dichlorobenzidine	U		0.00202	0.0100	0.0100	1	03/06/2018 10:22	WG1078432
2,4-Dinitrotoluene	U		0.00165	0.0100	0.0100	1	03/06/2018 10:22	WG1078432
2,6-Dinitrotoluene	U		0.000279	0.0100	0.0100	1	03/06/2018 10:22	WG1078432
Fluoranthene	U		0.000310	0.00100	0.00100	1	03/06/2018 10:22	WG1078432
Fluorene	U		0.000323	0.00100	0.00100	1	03/06/2018 10:22	WG1078432
Hexachlorobenzene	U		0.000341	0.00100	0.00100	1	03/06/2018 10:22	WG1078432
Hexachloro-1,3-butadiene	U		0.000329	0.0100	0.0100	1	03/06/2018 10:22	WG1078432
Hexachlorocyclopentadiene	U		0.00233	0.0100	0.0100	1	03/06/2018 10:22	WG1078432
Hexachloroethane	U		0.000365	0.0100	0.0100	1	03/06/2018 10:22	WG1078432
Indeno(1,2,3-cd)pyrene	U		0.000279	0.00100	0.00100	1	03/06/2018 10:22	WG1078432
Isophorone	U		0.000272	0.0100	0.0100	1	03/06/2018 10:22	WG1078432
1-Methylnaphthalene	U		0.000332	0.00100	0.00100	1	03/06/2018 10:22	WG1078432
2-Methylnaphthalene	U		0.000311	0.00100	0.00100	1	03/06/2018 10:22	WG1078432
Naphthalene	U		0.000372	0.00100	0.00100	1	03/06/2018 10:22	WG1078432
Nitrobenzene	U		0.000367	0.0100	0.0100	1	03/06/2018 10:22	WG1078432
n-Nitrosodiphenylamine	U		0.000304	0.0100	0.0100	1	03/06/2018 10:22	WG1078432

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc



Semi Volatile Organic Compounds (GC/MS) by Method 8270 C

Analyte	Result mg/l	Qualifier	SDL mg/l	Unadj. MQL mg/l	MQL mg/l	Dilution	Analysis date / time	Batch
n-Nitrosodi-n-propylamine	U		0.000403	0.0100	0.0100	1	03/06/2018 10:22	WG1078432
Phenanthrene	U		0.000366	0.00100	0.00100	1	03/06/2018 10:22	WG1078432
Benzylbutyl phthalate	U		0.000275	0.00300	0.00300	1	03/06/2018 10:22	WG1078432
Bis(2-ethylhexyl)phthalate	U		0.000709	0.00300	0.00300	1	03/06/2018 10:22	WG1078432
Di-n-butyl phthalate	0.000713	U	0.000266	0.00300	0.00300	1	03/06/2018 10:22	WG1078432
Diethyl phthalate	U		0.000282	0.00300	0.00300	1	03/06/2018 10:22	WG1078432
Dimethyl phthalate	U		0.000283	0.00300	0.00300	1	03/06/2018 10:22	WG1078432
Di-n-octyl phthalate	U		0.000278	0.00300	0.00300	1	03/06/2018 10:22	WG1078432
Pyrene	U		0.000330	0.00100	0.00100	1	03/06/2018 10:22	WG1078432
1,2,4-Trichlorobenzene	U		0.000355	0.0100	0.0100	1	03/06/2018 10:22	WG1078432
4-Chloro-3-methylphenol	U		0.000263	0.0100	0.0100	1	03/06/2018 10:22	WG1078432
2-Chlorophenol	U		0.000283	0.0100	0.0100	1	03/06/2018 10:22	WG1078432
2,4-Dichlorophenol	U		0.000284	0.0100	0.0100	1	03/06/2018 10:22	WG1078432
2,4-Dimethylphenol	U		0.000624	0.0100	0.0100	1	03/06/2018 10:22	WG1078432
4,6-Dinitro-2-methylphenol	U		0.00262	0.0100	0.0100	1	03/06/2018 10:22	WG1078432
2,4-Dinitrophenol	U		0.00325	0.0100	0.0100	1	03/06/2018 10:22	WG1078432
2-Nitrophenol	U		0.000320	0.0100	0.0100	1	03/06/2018 10:22	WG1078432
2-Nitroaniline	U		0.00190	0.0100	0.0100	1	03/06/2018 10:22	WG1078432
2-Methylphenol	U		0.000312	0.0100	0.0100	1	03/06/2018 10:22	WG1078432
3&4-Methyl Phenol	U		0.000266	0.0100	0.0100	1	03/06/2018 10:22	WG1078432
3-Nitroaniline	U		0.000308	0.0100	0.0100	1	03/06/2018 10:22	WG1078432
4-Chloroaniline	U		0.000382	0.0100	0.0100	1	03/06/2018 10:22	WG1078432
4-Nitroaniline	U		0.000349	0.0100	0.0100	1	03/06/2018 10:22	WG1078432
4-Nitrophenol	U		0.00201	0.0100	0.0100	1	03/06/2018 10:22	WG1078432
Pentachlorophenol	U		0.000313	0.0100	0.0100	1	03/06/2018 10:22	WG1078432
Phenol	0.00187	U	0.000334	0.0100	0.0100	1	03/06/2018 10:22	WG1078432
2,4,5-Trichlorophenol	U		0.000236	0.0100	0.0100	1	03/06/2018 10:22	WG1078432
2,4,6-Trichlorophenol	U		0.000297	0.0100	0.0100	1	03/06/2018 10:22	WG1078432
(S) 2-Fluorophenol	48.0				10.0-120		03/06/2018 10:22	WG1078432
(S) Phenol-d5	30.3				10.0-120		03/06/2018 10:22	WG1078432
(S) Nitrobenzene-d5	61.7				10.0-126		03/06/2018 10:22	WG1078432
(S) 2-Fluorobiphenyl	75.4				22.0-127		03/06/2018 10:22	WG1078432
(S) 2,4,6-Tribromophenol	74.6				10.0-153		03/06/2018 10:22	WG1078432
(S) p-Terphenyl-d14	73.0				29.0-141		03/06/2018 10:22	WG1078432

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc



Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	SDL	Unadj. MQL	MQL	Dilution	Analysis date / time	Batch
Dissolved Solids	1270		2.82	10.0	10.0	1	02/27/2018 15:37	WG1077910

Wet Chemistry by Method 2320 B-2011

Analyte	Result	Qualifier	SDL	Unadj. MQL	MQL	Dilution	Analysis date / time	Batch
Alkalinity	177		2.71	20.0	20.0	1	03/01/2018 15:19	WG1079100

Sample Narrative:

L972920-04 WG1079100: Endpoint pH 4.5

Wet Chemistry by Method 353.2

Analyte	Result	Qualifier	SDL	Unadj. MQL	MQL	Dilution	Analysis date / time	Batch
Nitrate-Nitrite	3.27		0.0197	0.100	0.100	1	02/27/2018 16:25	WG1077920

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	SDL	Unadj. MQL	MQL	Dilution	Analysis date / time	Batch
Chloride	432		0.519	1.00	10.0	10	02/27/2018 01:49	WG1078009
Fluoride	0.735		0.00990	0.100	0.100	1	02/27/2018 01:35	WG1078009
Sulfate	104		0.774	5.00	50.0	10	02/27/2018 01:49	WG1078009

Mercury by Method 7470A

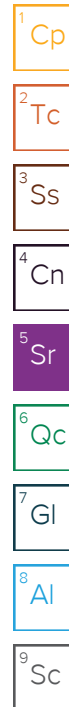
Analyte	Result	Qualifier	SDL	Unadj. MQL	MQL	Dilution	Analysis date / time	Batch
Mercury	0.0000945	J	0.0000490	0.000200	0.000200	1	02/27/2018 18:47	WG1078032

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	SDL	Unadj. MQL	MQL	Dilution	Analysis date / time	Batch
Boron,Dissolved	0.222		0.0126	0.200	0.200	1	02/27/2018 02:41	WG1076537

Metals (ICPMS) by Method 6020

Analyte	Result	Qualifier	SDL	Unadj. MQL	MQL	Dilution	Analysis date / time	Batch
Aluminum,Dissolved	0.0243	B J	0.00515	0.100	0.100	1	02/27/2018 13:30	WG1077503
Arsenic,Dissolved	0.00603		0.000250	0.00200	0.00200	1	02/27/2018 13:30	WG1077503
Barium,Dissolved	0.145		0.000360	0.00500	0.00500	1	02/27/2018 13:30	WG1077503
Cadmium,Dissolved	0.00194		0.000160	0.00100	0.00100	1	02/27/2018 13:30	WG1077503
Calcium,Dissolved	196		0.0460	1.00	1.00	1	02/27/2018 13:30	WG1077503
Chromium,Dissolved	0.00432	B	0.000540	0.00200	0.00200	1	02/27/2018 13:30	WG1077503
Copper,Dissolved	0.00829		0.000520	0.00500	0.00500	1	02/27/2018 13:30	WG1077503
Cobalt,Dissolved	0.00187	J	0.000260	0.00200	0.00200	1	02/27/2018 13:30	WG1077503
Iron,Dissolved	0.0231	J	0.0150	0.100	0.100	1	02/27/2018 13:30	WG1077503
Lead,Dissolved	0.00195	B J	0.000240	0.00200	0.00200	1	02/27/2018 13:30	WG1077503
Magnesium,Dissolved	27.3		0.100	1.00	1.00	1	02/27/2018 13:30	WG1077503
Manganese,Dissolved	0.00373	J	0.000250	0.00500	0.00500	1	02/27/2018 13:30	WG1077503
Molybdenum,Dissolved	0.00411	J	0.000140	0.00500	0.00500	1	02/27/2018 13:30	WG1077503
Nickel,Dissolved	0.00243	B	0.000350	0.00200	0.00200	1	02/27/2018 13:30	WG1077503
Potassium,Dissolved	3.66		0.0370	1.00	1.00	1	02/27/2018 13:30	WG1077503
Selenium,Dissolved	0.00571		0.000380	0.00200	0.00200	1	02/27/2018 13:30	WG1077503
Silver,Dissolved	0.000372	J	0.000310	0.00200	0.00200	1	02/27/2018 13:30	WG1077503
Sodium,Dissolved	135		0.110	1.00	1.00	1	02/27/2018 13:30	WG1077503





Collected date/time: 02/23/18 00:00

L972920

Metals (ICPMS) by Method 6020

Analyte	Result mg/l	Qualifier	SDL mg/l	Unadj. MQL mg/l	MQL mg/l	Dilution	Analysis date / time	Batch
Uranium,Dissolved	0.00424	J	0.000330	0.0100	0.0100	1	02/27/2018 13:30	WG1077503
Zinc,Dissolved	0.0115	J	0.00256	0.0250	0.0250	1	02/27/2018 13:30	WG1077503

Volatile Organic Compounds (GC) by Method 8015D/GRO

Analyte	Result mg/l	Qualifier	SDL mg/l	Unadj. MQL mg/l	MQL mg/l	Dilution	Analysis date / time	Batch
TPH (GC/FID) Low Fraction	U		0.0314	0.100	0.100	1	02/27/2018 23:35	WG1078522
(S) a,a,a-Trifluorotoluene(FID)	102				77.0-122		02/27/2018 23:35	WG1078522

Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result mg/l	Qualifier	SDL mg/l	Unadj. MQL mg/l	MQL mg/l	Dilution	Analysis date / time	Batch
Acetone	U		0.0100	1.00	1.00	1	03/02/2018 06:43	WG1077767
Benzene	U		0.000331	0.00100	0.00100	1	03/02/2018 06:43	WG1077767
Bromodichloromethane	U		0.000380	0.00125	0.00125	1	03/02/2018 06:43	WG1077767
Bromoform	U		0.000469	0.00100	0.00100	1	03/02/2018 06:43	WG1077767
Bromomethane	U		0.000866	0.00500	0.00500	1	03/02/2018 06:43	WG1077767
n-Butylbenzene	U		0.000361	0.00100	0.00100	1	03/02/2018 06:43	WG1077767
sec-Butylbenzene	U		0.000365	0.00100	0.00100	1	03/02/2018 06:43	WG1077767
tert-Butylbenzene	U		0.000399	0.00100	0.00100	1	03/02/2018 06:43	WG1077767
Carbon disulfide	U		0.000275	0.00100	0.00100	1	03/02/2018 06:43	WG1077767
Carbon tetrachloride	U		0.000379	0.00100	0.00100	1	03/02/2018 06:43	WG1077767
Chlorobenzene	U		0.000348	0.00100	0.00100	1	03/02/2018 06:43	WG1077767
Chlorodibromomethane	U		0.000327	0.00100	0.00100	1	03/02/2018 06:43	WG1077767
Chloroethane	U		0.000453	0.00500	0.00500	1	03/02/2018 06:43	WG1077767
Chloroform	0.00118	J	0.000324	0.00500	0.00500	1	03/02/2018 06:43	WG1077767
Chloromethane	U		0.000276	0.00250	0.00250	1	03/02/2018 06:43	WG1077767
1,2-Dibromoethane	U		0.000381	0.00100	0.00100	1	03/02/2018 06:43	WG1077767
1,1-Dichloroethane	U		0.000259	0.00100	0.00100	1	03/02/2018 06:43	WG1077767
1,2-Dichloroethane	U		0.000361	0.00100	0.00100	1	03/02/2018 06:43	WG1077767
1,1-Dichloroethene	U		0.000398	0.00100	0.00100	1	03/02/2018 06:43	WG1077767
cis-1,2-Dichloroethene	U		0.000260	0.00100	0.00100	1	03/02/2018 06:43	WG1077767
trans-1,2-Dichloroethene	U		0.000396	0.00100	0.00100	1	03/02/2018 06:43	WG1077767
1,2-Dichloropropane	U		0.000306	0.00100	0.00100	1	03/02/2018 06:43	WG1077767
cis-1,3-Dichloropropene	U		0.000418	0.00100	0.00100	1	03/02/2018 06:43	WG1077767
trans-1,3-Dichloropropene	U		0.000419	0.00100	0.00100	1	03/02/2018 06:43	WG1077767
Ethylbenzene	U		0.000384	0.00100	0.00100	1	03/02/2018 06:43	WG1077767
Hexachloro-1,3-butadiene	U		0.000256	0.00100	0.00100	1	03/02/2018 06:43	WG1077767
2-Hexanone	U		0.00382	0.0100	0.0100	1	03/02/2018 06:43	WG1077767
Isopropylbenzene	U		0.000326	0.00100	0.00100	1	03/02/2018 06:43	WG1077767
p-Isopropyltoluene	U		0.000350	0.00100	0.00100	1	03/02/2018 06:43	WG1077767
2-Butanone (MEK)	U		0.00393	0.0100	0.0100	1	03/02/2018 06:43	WG1077767
Methylene Chloride	0.00122	B J	0.00100	0.00500	0.00500	1	03/02/2018 06:43	WG1077767
4-Methyl-2-pentanone (MIBK)	U		0.00214	0.0100	0.0100	1	03/02/2018 06:43	WG1077767
Methyl tert-butyl ether	U		0.000367	0.00100	0.00100	1	03/02/2018 06:43	WG1077767
Naphthalene	U		0.00100	0.00500	0.00500	1	03/02/2018 06:43	WG1077767
n-Propylbenzene	U		0.000349	0.00100	0.00100	1	03/02/2018 06:43	WG1077767
Styrene	U		0.000307	0.00100	0.00100	1	03/02/2018 06:43	WG1077767
1,1,2,2-Tetrachloroethane	U		0.000130	0.00100	0.00100	1	03/02/2018 06:43	WG1077767
Tetrachloroethene	U		0.000372	0.00100	0.00100	1	03/02/2018 06:43	WG1077767
Toluene	U		0.000412	0.00100	0.00100	1	03/02/2018 06:43	WG1077767
1,1,1-Trichloroethane	U		0.000319	0.00100	0.00100	1	03/02/2018 06:43	WG1077767
1,1,2-Trichloroethane	U		0.000383	0.00100	0.00100	1	03/02/2018 06:43	WG1077767
Trichloroethene	U		0.000398	0.00100	0.00100	1	03/02/2018 06:43	WG1077767
1,2,4-Trimethylbenzene	U		0.000373	0.00100	0.00100	1	03/02/2018 06:43	WG1077767

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc



Collected date/time: 02/23/18 00:00

L972920

Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result mg/l	Qualifier	SDL mg/l	Unadj. MQL mg/l	MQL mg/l	Dilution	Analysis date / time	Batch
1,3,5-Trimethylbenzene	U		0.000387	0.00100	0.00100	1	03/02/2018 06:43	WG1077767
Vinyl chloride	U		0.000259	0.00100	0.00100	1	03/02/2018 06:43	WG1077767
Xylenes, Total	U		0.00106	0.00300	0.00300	1	03/02/2018 06:43	WG1077767
(S) Toluene-d8	98.3				80.0-120		03/02/2018 06:43	WG1077767
(S) Dibromofluoromethane	101				76.0-123		03/02/2018 06:43	WG1077767
(S) 4-Bromofluorobenzene	109				80.0-120		03/02/2018 06:43	WG1077767

Semi-Volatile Organic Compounds (GC) by Method 3511/8015

Analyte	Result mg/l	Qualifier	SDL mg/l	Unadj. MQL mg/l	MQL mg/l	Dilution	Analysis date / time	Batch
TPH (GC/FID) High Fraction	0.117	B	0.0247	0.100	0.100	1	03/01/2018 13:19	WG1078096
(S) o-Terphenyl	90.6				31.0-160		03/01/2018 13:19	WG1078096

Semi Volatile Organic Compounds (GC/MS) by Method 8270 C

Analyte	Result mg/l	Qualifier	SDL mg/l	Unadj. MQL mg/l	MQL mg/l	Dilution	Analysis date / time	Batch
Acenaphthene	U		0.000316	0.00100	0.00100	1	03/06/2018 10:45	WG1078432
Acenaphthylene	U		0.000309	0.00100	0.00100	1	03/06/2018 10:45	WG1078432
Acetophenone	U		0.00247	0.0100	0.0100	1	03/06/2018 10:45	WG1078432
Anthracene	U		0.000291	0.00100	0.00100	1	03/06/2018 10:45	WG1078432
Atrazine	U		0.000260	0.0100	0.0100	1	03/06/2018 10:45	WG1078432
Benzo(a)anthracene	U		0.0000510	0.00100	0.00100	1	03/06/2018 10:45	WG1078432
Benzaldehyde	U		0.00140	0.0100	0.0100	1	03/06/2018 10:45	WG1078432
Benzo(b)fluoranthene	U		0.0000896	0.00100	0.00100	1	03/06/2018 10:45	WG1078432
Benzo(k)fluoranthene	U		0.000355	0.00100	0.00100	1	03/06/2018 10:45	WG1078432
Benzo(g,h,i)perylene	U		0.00000227	0.00100	0.00100	1	03/06/2018 10:45	WG1078432
Benzo(a)pyrene	U		0.0000381	0.000200	0.000200	1	03/06/2018 10:45	WG1078432
Biphenyl	U		0.000325	0.0100	0.0100	1	03/06/2018 10:45	WG1078432
Bis(2-chlorethoxy)methane	U		0.000329	0.0100	0.0100	1	03/06/2018 10:45	WG1078432
Bis(2-chloroethyl)ether	U		0.00162	0.0100	0.0100	1	03/06/2018 10:45	WG1078432
Bis(2-chloroisopropyl)ether	U		0.000445	0.0100	0.0100	1	03/06/2018 10:45	WG1078432
4-Bromophenyl-phenylether	U		0.000335	0.0100	0.0100	1	03/06/2018 10:45	WG1078432
2-Chloronaphthalene	U		0.000330	0.00100	0.00100	1	03/06/2018 10:45	WG1078432
4-Chlorophenyl-phenylether	U		0.000303	0.0100	0.0100	1	03/06/2018 10:45	WG1078432
Caprolactam	U		0.00259	0.0100	0.0100	1	03/06/2018 10:45	WG1078432
Carbazole	U		0.000260	0.0100	0.0100	1	03/06/2018 10:45	WG1078432
Chrysene	U		0.000332	0.00100	0.00100	1	03/06/2018 10:45	WG1078432
Dibenz(a,h)anthracene	U		0.0000644	0.000200	0.000200	1	03/06/2018 10:45	WG1078432
Dibenzofuran	U		0.000338	0.0100	0.0100	1	03/06/2018 10:45	WG1078432
3,3-Dichlorobenzidine	U		0.00202	0.0100	0.0100	1	03/06/2018 10:45	WG1078432
2,4-Dinitrotoluene	U		0.00165	0.0100	0.0100	1	03/06/2018 10:45	WG1078432
2,6-Dinitrotoluene	U		0.000279	0.0100	0.0100	1	03/06/2018 10:45	WG1078432
Fluoranthene	U		0.000310	0.00100	0.00100	1	03/06/2018 10:45	WG1078432
Fluorene	U		0.000323	0.00100	0.00100	1	03/06/2018 10:45	WG1078432
Hexachlorobenzene	U		0.000341	0.00100	0.00100	1	03/06/2018 10:45	WG1078432
Hexachloro-1,3-butadiene	U		0.000329	0.0100	0.0100	1	03/06/2018 10:45	WG1078432
Hexachlorocyclopentadiene	U		0.00233	0.0100	0.0100	1	03/06/2018 10:45	WG1078432
Hexachloroethane	U		0.000365	0.0100	0.0100	1	03/06/2018 10:45	WG1078432
Indeno(1,2,3-cd)pyrene	U		0.000279	0.00100	0.00100	1	03/06/2018 10:45	WG1078432
Isophorone	U		0.000272	0.0100	0.0100	1	03/06/2018 10:45	WG1078432
1-Methylnaphthalene	U		0.000332	0.00100	0.00100	1	03/06/2018 10:45	WG1078432
2-Methylnaphthalene	U		0.000311	0.00100	0.00100	1	03/06/2018 10:45	WG1078432
Naphthalene	U		0.000372	0.00100	0.00100	1	03/06/2018 10:45	WG1078432
Nitrobenzene	U		0.000367	0.0100	0.0100	1	03/06/2018 10:45	WG1078432
n-Nitrosodiphenylamine	U		0.000304	0.0100	0.0100	1	03/06/2018 10:45	WG1078432

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc



Collected date/time: 02/23/18 00:00

L972920

Semi Volatile Organic Compounds (GC/MS) by Method 8270 C

Analyte	Result mg/l	Qualifier	SDL mg/l	Unadj. MQL mg/l	MQL mg/l	Dilution	Analysis date / time	Batch
n-Nitrosodi-n-propylamine	U		0.000403	0.0100	0.0100	1	03/06/2018 10:45	WG1078432
Phenanthrene	U		0.000366	0.00100	0.00100	1	03/06/2018 10:45	WG1078432
Benzylbutyl phthalate	U		0.000275	0.00300	0.00300	1	03/06/2018 10:45	WG1078432
Bis(2-ethylhexyl)phthalate	U		0.000709	0.00300	0.00300	1	03/06/2018 10:45	WG1078432
Di-n-butyl phthalate	0.000601	J	0.000266	0.00300	0.00300	1	03/06/2018 10:45	WG1078432
Diethyl phthalate	U		0.000282	0.00300	0.00300	1	03/06/2018 10:45	WG1078432
Dimethyl phthalate	U		0.000283	0.00300	0.00300	1	03/06/2018 10:45	WG1078432
Di-n-octyl phthalate	U		0.000278	0.00300	0.00300	1	03/06/2018 10:45	WG1078432
Pyrene	U		0.000330	0.00100	0.00100	1	03/06/2018 10:45	WG1078432
1,2,4-Trichlorobenzene	U		0.000355	0.0100	0.0100	1	03/06/2018 10:45	WG1078432
4-Chloro-3-methylphenol	U		0.000263	0.0100	0.0100	1	03/06/2018 10:45	WG1078432
2-Chlorophenol	U		0.000283	0.0100	0.0100	1	03/06/2018 10:45	WG1078432
2,4-Dichlorophenol	U		0.000284	0.0100	0.0100	1	03/06/2018 10:45	WG1078432
2,4-Dimethylphenol	U		0.000624	0.0100	0.0100	1	03/06/2018 10:45	WG1078432
4,6-Dinitro-2-methylphenol	U		0.00262	0.0100	0.0100	1	03/06/2018 10:45	WG1078432
2,4-Dinitrophenol	U		0.00325	0.0100	0.0100	1	03/06/2018 10:45	WG1078432
2-Nitrophenol	U		0.000320	0.0100	0.0100	1	03/06/2018 10:45	WG1078432
2-Nitroaniline	U		0.00190	0.0100	0.0100	1	03/06/2018 10:45	WG1078432
2-Methylphenol	U		0.000312	0.0100	0.0100	1	03/06/2018 10:45	WG1078432
3&4-Methyl Phenol	U		0.000266	0.0100	0.0100	1	03/06/2018 10:45	WG1078432
3-Nitroaniline	U		0.000308	0.0100	0.0100	1	03/06/2018 10:45	WG1078432
4-Chloroaniline	U		0.000382	0.0100	0.0100	1	03/06/2018 10:45	WG1078432
4-Nitroaniline	U		0.000349	0.0100	0.0100	1	03/06/2018 10:45	WG1078432
4-Nitrophenol	U		0.00201	0.0100	0.0100	1	03/06/2018 10:45	WG1078432
Pentachlorophenol	U		0.000313	0.0100	0.0100	1	03/06/2018 10:45	WG1078432
Phenol	0.000428	J	0.000334	0.0100	0.0100	1	03/06/2018 10:45	WG1078432
2,4,5-Trichlorophenol	U		0.000236	0.0100	0.0100	1	03/06/2018 10:45	WG1078432
2,4,6-Trichlorophenol	U		0.000297	0.0100	0.0100	1	03/06/2018 10:45	WG1078432
(S) 2-Fluorophenol	52.8				10.0-120		03/06/2018 10:45	WG1078432
(S) Phenol-d5	35.3				10.0-120		03/06/2018 10:45	WG1078432
(S) Nitrobenzene-d5	57.1				10.0-126		03/06/2018 10:45	WG1078432
(S) 2-Fluorobiphenyl	72.0				22.0-127		03/06/2018 10:45	WG1078432
(S) 2,4,6-Tribromophenol	70.8				10.0-153		03/06/2018 10:45	WG1078432
(S) p-Terphenyl-d14	68.5				29.0-141		03/06/2018 10:45	WG1078432

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc



Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result	Qualifier	SDL	Unadj. MQL	MQL	Dilution	Analysis	Batch
	mg/l		mg/l	mg/l	mg/l		date / time	
Acetone	U		0.0100	1.00	1.00	1	03/02/2018 01:33	WG1077767
Benzene	U		0.000331	0.00100	0.00100	1	03/02/2018 01:33	WG1077767
Bromodichloromethane	U		0.000380	0.00125	0.00125	1	03/02/2018 01:33	WG1077767
Bromoform	U		0.000469	0.00100	0.00100	1	03/02/2018 01:33	WG1077767
Bromomethane	U		0.000866	0.00500	0.00500	1	03/02/2018 01:33	WG1077767
n-Butylbenzene	U		0.000361	0.00100	0.00100	1	03/02/2018 01:33	WG1077767
sec-Butylbenzene	U		0.000365	0.00100	0.00100	1	03/02/2018 01:33	WG1077767
tert-Butylbenzene	U		0.000399	0.00100	0.00100	1	03/02/2018 01:33	WG1077767
Carbon disulfide	U		0.000275	0.00100	0.00100	1	03/02/2018 01:33	WG1077767
Carbon tetrachloride	U		0.000379	0.00100	0.00100	1	03/02/2018 01:33	WG1077767
Chlorobenzene	U		0.000348	0.00100	0.00100	1	03/02/2018 01:33	WG1077767
Chlorodibromomethane	U		0.000327	0.00100	0.00100	1	03/02/2018 01:33	WG1077767
Chloroethane	U		0.000453	0.00500	0.00500	1	03/02/2018 01:33	WG1077767
Chloroform	U		0.000324	0.00500	0.00500	1	03/02/2018 01:33	WG1077767
Chloromethane	U		0.000276	0.00250	0.00250	1	03/02/2018 01:33	WG1077767
1,2-Dibromoethane	U		0.000381	0.00100	0.00100	1	03/02/2018 01:33	WG1077767
1,1-Dichloroethane	U		0.000259	0.00100	0.00100	1	03/02/2018 01:33	WG1077767
1,2-Dichloroethane	U		0.000361	0.00100	0.00100	1	03/02/2018 01:33	WG1077767
1,1-Dichloroethene	U		0.000398	0.00100	0.00100	1	03/02/2018 01:33	WG1077767
cis-1,2-Dichloroethene	U		0.000260	0.00100	0.00100	1	03/02/2018 01:33	WG1077767
trans-1,2-Dichloroethene	U		0.000396	0.00100	0.00100	1	03/02/2018 01:33	WG1077767
1,2-Dichloropropane	U		0.000306	0.00100	0.00100	1	03/02/2018 01:33	WG1077767
cis-1,3-Dichloropropene	U		0.000418	0.00100	0.00100	1	03/02/2018 01:33	WG1077767
trans-1,3-Dichloropropene	U		0.000419	0.00100	0.00100	1	03/02/2018 01:33	WG1077767
Ethylbenzene	U		0.000384	0.00100	0.00100	1	03/02/2018 01:33	WG1077767
Hexachloro-1,3-butadiene	U		0.000256	0.00100	0.00100	1	03/02/2018 01:33	WG1077767
2-Hexanone	U		0.00382	0.0100	0.0100	1	03/02/2018 01:33	WG1077767
Isopropylbenzene	U		0.000326	0.00100	0.00100	1	03/02/2018 01:33	WG1077767
p-Isopropyltoluene	U		0.000350	0.00100	0.00100	1	03/02/2018 01:33	WG1077767
2-Butanone (MEK)	U		0.00393	0.0100	0.0100	1	03/02/2018 01:33	WG1077767
Methylene Chloride	0.00174	<u>B J</u>	0.00100	0.00500	0.00500	1	03/02/2018 01:33	WG1077767
4-Methyl-2-pentanone (MIBK)	U		0.00214	0.0100	0.0100	1	03/02/2018 01:33	WG1077767
Methyl tert-butyl ether	U		0.000367	0.00100	0.00100	1	03/02/2018 01:33	WG1077767
Naphthalene	U		0.00100	0.00500	0.00500	1	03/02/2018 01:33	WG1077767
n-Propylbenzene	U		0.000349	0.00100	0.00100	1	03/02/2018 01:33	WG1077767
Styrene	U		0.000307	0.00100	0.00100	1	03/02/2018 01:33	WG1077767
1,1,2,2-Tetrachloroethane	U		0.000130	0.00100	0.00100	1	03/02/2018 01:33	WG1077767
Tetrachloroethene	U		0.000372	0.00100	0.00100	1	03/02/2018 01:33	WG1077767
Toluene	U		0.000412	0.00100	0.00100	1	03/02/2018 01:33	WG1077767
1,1,1-Trichloroethane	U		0.000319	0.00100	0.00100	1	03/02/2018 01:33	WG1077767
1,1,2-Trichloroethane	U		0.000383	0.00100	0.00100	1	03/02/2018 01:33	WG1077767
Trichloroethene	U		0.000398	0.00100	0.00100	1	03/02/2018 01:33	WG1077767
1,2,4-Trimethylbenzene	U		0.000373	0.00100	0.00100	1	03/02/2018 01:33	WG1077767
1,3,5-Trimethylbenzene	U		0.000387	0.00100	0.00100	1	03/02/2018 01:33	WG1077767
Vinyl chloride	U		0.000259	0.00100	0.00100	1	03/02/2018 01:33	WG1077767
Xylenes, Total	U		0.00106	0.00300	0.00300	1	03/02/2018 01:33	WG1077767
(S) Toluene-d8	101				80.0-120		03/02/2018 01:33	WG1077767
(S) Dibromofluoromethane	98.5				76.0-123		03/02/2018 01:33	WG1077767
(S) 4-Bromofluorobenzene	108				80.0-120		03/02/2018 01:33	WG1077767

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc



Method Blank (MB)

(MB) R3289618-1 02/27/18 15:37

	MB Result	MB Qualifier	MB MDL	MB RDL
Analyte	mg/l		mg/l	mg/l
Dissolved Solids	U		2.82	10.0

L972920-04 Original Sample (OS) • Duplicate (DUP)

(OS) L972920-04 02/27/18 15:37 • (DUP) R3289618-4 02/27/18 15:37

	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
Analyte	mg/l	mg/l		%		%
Dissolved Solids	1270	1320	1	3.71		5

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3289618-2 02/27/18 15:37 • (LCSD) R3289618-3 02/27/18 15:37

	Spike Amount	LCS Result	LCSD Result	LCS Rec.	LCSD Rec.	Rec. Limits	LCS Qualifier	LCSD Qualifier	RPD	RPD Limits
Analyte	mg/l	mg/l	mg/l	%	%	%			%	%
Dissolved Solids	8800	8610	8490	97.8	96.5	85.0-115			1.40	5

1Cp

2Tc

3Ss

4Cn

5Sr

6Qc

7Gl

8Al

9Sc



L972917-01 Original Sample (OS) • Duplicate (DUP)

(OS) L972917-01 03/01/18 14:40 • (DUP) R3290020-1 03/01/18 14:48

	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
Analyte	mg/l	mg/l		%		%
Alkalinity	166	168	1	1.35		20

Sample Narrative:

OS: Endpoint pH 4.5
DUP: Endpoint pH 4.5

L973413-02 Original Sample (OS) • Duplicate (DUP)

(OS) L973413-02 03/01/18 17:07 • (DUP) R3290020-3 03/01/18 17:13

	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
Analyte	mg/l	mg/l		%		%
Alkalinity	462	462	1	0.0525		20

Sample Narrative:

OS: Endpoint pH 4.5
DUP: Endpoint pH 4.5

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3290020-2 03/01/18 15:45 • (LCSD) R3290020-4 03/01/18 17:19

	Spike Amount	LCS Result	LCSD Result	LCS Rec.	LCSD Rec.	Rec. Limits	LCS Qualifier	LCSD Qualifier	RPD	RPD Limits
Analyte	mg/l	mg/l	mg/l	%	%	%			%	%
Alkalinity	100	99.3	107	99.3	107	85.0-115			7.78	20

Sample Narrative:

LCS: Endpoint pH 4.5
LCSD: Endpoint pH 4.5

1Cp

2Tc

3Ss

4Cn

5Sr

6Qc

7Gl

8Al

9Sc



Method Blank (MB)

(MB) R3289309-1 02/27/18 15:53

	MB Result	MB Qualifier	MB MDL	MB RDL
Analyte	mg/l		mg/l	mg/l
Nitrate-Nitrite	U		0.0197	0.100

¹Cp

²Tc

³Ss

⁴Cn

⁵Sr

⁶Qc

⁷Gl

⁸Al

⁹Sc

L972616-01 Original Sample (OS) • Duplicate (DUP)

(OS) L972616-01 02/27/18 16:02 • (DUP) R3289309-4 02/27/18 16:07

	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
Analyte	mg/l	mg/l		%		%
Nitrate-Nitrite	2.38	2.41	1	1.21		20

L972895-01 Original Sample (OS) • Duplicate (DUP)

(OS) L972895-01 02/27/18 16:14 • (DUP) R3289309-6 02/27/18 16:15

	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
Analyte	mg/l	mg/l		%		%
Nitrate-Nitrite	0.398	0.395	1	0.757		20

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3289309-2 02/27/18 15:54 • (LCSD) R3289309-3 02/27/18 15:55

	Spike Amount	LCS Result	LCSD Result	LCS Rec.	LCSD Rec.	Rec. Limits	LCS Qualifier	LCSD Qualifier	RPD	RPD Limits
Analyte	mg/l	mg/l	mg/l	%	%	%			%	%
Nitrate-Nitrite	5.00	4.15	4.28	104	107	90.0-110			3.25	20

L972700-01 Original Sample (OS) • Matrix Spike (MS)

(OS) L972700-01 02/27/18 16:09 • (MS) R3289309-5 02/27/18 16:10

	Spike Amount	Original Result	MS Result	MS Rec.	Dilution	Rec. Limits	MS Qualifier
Analyte	mg/l	mg/l	mg/l	%		%	
Nitrate-Nitrite	2.50	0.990	3.40	96.6	1	90.0-110	

L972920-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L972920-01 02/27/18 16:16 • (MS) R3289309-7 02/27/18 16:17 • (MSD) R3289309-8 02/27/18 16:22

	Spike Amount	Original Result	MS Result	MSD Result	MS Rec.	MSD Rec.	Dilution	Rec. Limits	MS Qualifier	MSD Qualifier	RPD	RPD Limits
Analyte	mg/l	mg/l	mg/l	mg/l	%	%		%			%	%
Nitrate-Nitrite	2.50	3.06	5.28	5.24	88.7	87.2	1	90.0-110	E J6	E J6	0.742	20



Method Blank (MB)

(MB) R3289179-1 02/26/18 21:20

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
Chloride	0.0546	J	0.0519	1.00
Fluoride	U		0.00990	0.100
Sulfate	U		0.0774	5.00

L972994-01 Original Sample (OS) • Duplicate (DUP)

(OS) L972994-01 02/27/18 02:15 • (DUP) R3289179-6 02/27/18 02:29

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP RPD Limits %
Chloride	14.8	14.9	1	0.109	15
Fluoride	0.501	0.496	1	0.903	15
Sulfate	18.6	18.6	1	0.121	15

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3289179-2 02/26/18 21:34 • (LCSD) R3289179-3 02/26/18 21:47

Analyte	Spike Amount mg/l	LCS Result mg/l	LCSD Result mg/l	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
Chloride	40.0	39.8	39.7	99.5	99.3	80.0-120			0.203	15
Fluoride	8.00	8.03	8.02	100	100	80.0-120			0.0884	15
Sulfate	40.0	40.4	40.3	101	101	80.0-120			0.265	15

L972920-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L972920-01 02/26/18 23:21 • (MS) R3289179-4 02/26/18 23:48 • (MSD) R3289179-5 02/27/18 00:28

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MSD Result mg/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Fluoride	5.00	1.04	6.44	6.31	108	105	1	80.0-120			1.98	15
Sulfate	50.0	82.7	128	129	90.9	92.6	1	80.0-120	E	E	0.659	15

1Cp

2Tc

3Ss

4Cn

5Sr

6Qc

7Gl

8Al

9Sc



Method Blank (MB)

(MB) R3289342-1 02/27/18 18:11

	MB Result	MB Qualifier	MB MDL	MB RDL
Analyte	mg/l		mg/l	mg/l
Mercury	U		0.0000490	0.000200

¹Cp

²Tc

³Ss

⁴Cn

⁵Sr

⁶Qc

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3289342-2 02/27/18 18:20 • (LCSD) R3289342-3 02/27/18 18:22

	Spike Amount	LCS Result	LCSD Result	LCS Rec.	LCSD Rec.	Rec. Limits	LCS Qualifier	LCSD Qualifier	RPD	RPD Limits
Analyte	mg/l	mg/l	mg/l	%	%	%			%	%
Mercury	0.00300	0.00326	0.00340	109	113	80.0-120			4.10	20

L972920-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L972920-01 02/27/18 18:24 • (MS) R3289342-4 02/27/18 18:27 • (MSD) R3289342-5 02/27/18 18:29

	Spike Amount	Original Result	MS Result	MSD Result	MS Rec.	MSD Rec.	Dilution	Rec. Limits	MS Qualifier	MSD Qualifier	RPD	RPD Limits
Analyte	mg/l	mg/l	mg/l	mg/l	%	%		%			%	%
Mercury	0.00300	U	0.00330	0.00333	110	111	1	75.0-125			0.800	20

⁷Gl

⁸Al

⁹Sc



Method Blank (MB)

(MB) R3289098-1 02/27/18 01:25

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
Boron,Dissolved	U		0.0126	0.200

¹Cp

²Tc

³Ss

⁴Cn

⁵Sr

⁶Qc

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3289098-2 02/27/18 01:27 • (LCSD) R3289098-3 02/27/18 01:30

Analyte	Spike Amount mg/l	LCS Result mg/l	LCSD Result mg/l	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
Boron,Dissolved	1.00	1.00	0.971	100	97.1	80.0-120			2.95	20

L972920-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L972920-01 02/27/18 01:32 • (MS) R3289098-5 02/27/18 01:38 • (MSD) R3289098-6 02/27/18 01:40

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MSD Result mg/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Boron,Dissolved	1.00	0.150	1.15	1.15	99.5	99.5	1	75.0-125			0.0281	20

⁷Gl

⁸Al

⁹Sc



Method Blank (MB)

(MB) R3289246-6 02/27/18 12:11

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
Aluminum,Dissolved	0.00712	U	0.00515	0.100
Arsenic,Dissolved	U		0.000250	0.00200
Barium,Dissolved	U		0.000360	0.00500
Cadmium,Dissolved	U		0.000160	0.00100
Calcium,Dissolved	0.0810	U	0.0460	1.00
Chromium,Dissolved	0.00133	U	0.000540	0.00200
Copper,Dissolved	U		0.000520	0.00500
Cobalt,Dissolved	U		0.000260	0.00200
Iron,Dissolved	U		0.0150	0.100
Lead,Dissolved	0.000259	U	0.000240	0.00200
Magnesium,Dissolved	U		0.100	1.00
Manganese,Dissolved	0.000340	U	0.000250	0.00500
Molybdenum,Dissolved	U		0.000140	0.00500
Nickel,Dissolved	0.000479	U	0.000350	0.00200
Potassium,Dissolved	0.231	U	0.0370	1.00
Selenium,Dissolved	U		0.000380	0.00200
Silver,Dissolved	U		0.000310	0.00200
Sodium,Dissolved	0.425	U	0.110	1.00
Uranium,Dissolved	U		0.000330	0.0100
Zinc,Dissolved	U		0.00256	0.0250

¹ Cp

² Tc

³ Ss

⁴ Cn

⁵ Sr

⁶ Qc

⁷ Gl

⁸ Al

⁹ Sc

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3289246-1 02/27/18 11:25 • (LCSD) R3289246-2 02/27/18 11:29

Analyte	Spike Amount mg/l	LCS Result mg/l	LCSD Result mg/l	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
Aluminum,Dissolved	5.00	4.87	4.76	97.4	95.2	80.0-120			2.27	20
Arsenic,Dissolved	0.0500	0.0516	0.0490	103	98.0	80.0-120			5.11	20
Barium,Dissolved	0.0500	0.0467	0.0474	93.3	94.8	80.0-120			1.57	20
Cadmium,Dissolved	0.0500	0.0514	0.0514	103	103	80.0-120			0.0214	20
Calcium,Dissolved	5.00	5.19	4.98	104	99.6	80.0-120			4.07	20
Chromium,Dissolved	0.0500	0.0517	0.0504	103	101	80.0-120			2.57	20
Copper,Dissolved	0.0500	0.0521	0.0508	104	102	80.0-120			2.57	20
Cobalt,Dissolved	0.0500	0.0528	0.0517	106	103	80.0-120			2.06	20
Iron,Dissolved	5.00	5.08	4.97	102	99.5	80.0-120			2.07	20
Lead,Dissolved	0.0500	0.0501	0.0489	100	97.8	80.0-120			2.31	20
Magnesium,Dissolved	5.00	4.96	4.88	99.2	97.7	80.0-120			1.55	20
Manganese,Dissolved	0.0500	0.0496	0.0490	99.1	98.0	80.0-120			1.16	20
Molybdenum,Dissolved	0.0500	0.0527	0.0509	105	102	80.0-120			3.52	20



Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3289246-1 02/27/18 11:25 • (LCSD) R3289246-2 02/27/18 11:29

Analyte	Spike Amount mg/l	LCS Result mg/l	LCSD Result mg/l	LCS Rec. %	LCSD Rec. %	Rec. Limits %	<u>LCS Qualifier</u>	<u>LCSD Qualifier</u>	RPD %	RPD Limits %
Nickel,Dissolved	0.0500	0.0528	0.0521	106	104	80.0-120			1.41	20
Potassium,Dissolved	5.00	5.18	5.18	104	104	80.0-120			0.0717	20
Selenium,Dissolved	0.0500	0.0493	0.0496	98.6	99.3	80.0-120			0.698	20
Silver,Dissolved	0.0500	0.0499	0.0488	99.9	97.6	80.0-120			2.33	20
Sodium,Dissolved	5.00	4.99	4.94	99.7	98.7	80.0-120			0.981	20
Uranium,Dissolved	0.0500	0.0481	0.0473	96.2	94.7	80.0-120			1.61	20
Zinc,Dissolved	0.0500	0.0511	0.0491	102	98.1	80.0-120			4.01	20

L972920-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L972920-01 02/27/18 11:33 • (MS) R3289246-4 02/27/18 11:40 • (MSD) R3289246-5 02/27/18 11:44

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MSD Result mg/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	<u>MS Qualifier</u>	<u>MSD Qualifier</u>	RPD %	RPD Limits %
Aluminum,Dissolved	5.00	0.0326	4.81	4.71	95.6	93.6	1	75.0-125			2.17	20
Arsenic,Dissolved	0.0500	0.00531	0.0549	0.0542	99.1	97.9	1	75.0-125			1.18	20
Barium,Dissolved	0.0500	0.0893	0.138	0.138	98.2	97.0	1	75.0-125			0.457	20
Cadmium,Dissolved	0.0500	0.000266	0.0509	0.0507	101	101	1	75.0-125			0.407	20
Calcium,Dissolved	5.00	104	107	105	58.0	34.6	1	75.0-125	V	V	1.10	20
Chromium,Dissolved	0.0500	0.00730	0.0560	0.0559	97.3	97.2	1	75.0-125			0.0806	20
Copper,Dissolved	0.0500	0.00559	0.0541	0.0544	97.1	97.7	1	75.0-125			0.512	20
Cobalt,Dissolved	0.0500	0.000381	0.0504	0.0503	100	99.8	1	75.0-125			0.277	20
Potassium,Dissolved	5.00	2.78	7.34	7.47	91.1	93.8	1	75.0-125			1.77	20
Iron,Dissolved	5.00	0.0313	4.85	4.81	96.4	95.6	1	75.0-125			0.854	20
Lead,Dissolved	0.0500	0.00188	0.0503	0.0508	96.9	97.8	1	75.0-125			0.863	20
Magnesium,Dissolved	5.00	14.9	19.7	19.5	96.4	92.9	1	75.0-125			0.885	20
Manganese,Dissolved	0.0500	0.000591	0.0471	0.0479	92.9	94.7	1	75.0-125			1.81	20
Molybdenum,Dissolved	0.0500	0.00303	0.0552	0.0547	104	103	1	75.0-125			0.863	20
Nickel,Dissolved	0.0500	0.000904	0.0493	0.0497	96.8	97.7	1	75.0-125			0.911	20
Selenium,Dissolved	0.0500	0.00491	0.0530	0.0538	96.1	97.7	1	75.0-125			1.49	20
Silver,Dissolved	0.0500	U	0.0487	0.0486	97.4	97.2	1	75.0-125			0.189	20
Sodium,Dissolved	5.00	50.8	54.9	54.5	81.5	74.2	1	75.0-125		V	0.666	20
Uranium,Dissolved	0.0500	0.00212	0.0491	0.0496	93.9	95.0	1	75.0-125			1.10	20
Zinc,Dissolved	0.0500	0.0340	0.0793	0.0829	90.6	97.9	1	75.0-125			4.51	20

1Cp

2Tc

3Ss

4Cn

5Sr

6Qc

7Gl

8Al

9Sc



Method Blank (MB)

(MB) R3290318-5 02/28/18 00:02

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
TPH (GC/FID) Low Fraction	U		0.0314	0.100
(S) a,a,a-Trifluorotoluene(FID)	101			77.0-122

1
Cp

2
Tc

3
Ss

4
Cn

5
Sr

6
Qc

7
Gl

8
Al

9
Sc

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3290318-3 02/27/18 22:58 • (LCSD) R3290318-4 02/27/18 23:19

Analyte	Spike Amount mg/l	LCS Result mg/l	LCSD Result mg/l	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
TPH (GC/FID) Low Fraction	5.50	5.08	5.10	92.4	92.7	71.0-136			0.319	20
(S) a,a,a-Trifluorotoluene(FID)				99.1	99.0	77.0-122				

L972920-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L972920-01 02/28/18 05:44 • (MS) R3290318-8 02/28/18 06:47 • (MSD) R3290318-9 02/28/18 07:08

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MSD Result mg/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
TPH (GC/FID) Low Fraction	5.50	U	4.21	4.09	76.5	74.3	1	18.0-160			2.87	20
(S) a,a,a-Trifluorotoluene(FID)					99.8	100		77.0-122				



Method Blank (MB)

(MB) R3289623-3 02/27/18 18:51

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
TPH (GC/FID) Low Fraction	U		0.0314	0.100
(S) a,a,a-Trifluorotoluene(FID)	103			77.0-122

1
Cp

2
Tc

3
Ss

4
Cn

5
Sr

6
Qc

7
Gl

8
Al

9
Sc

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3289623-1 02/27/18 17:45 • (LCSD) R3289623-2 02/27/18 18:07

Analyte	Spike Amount mg/l	LCS Result mg/l	LCSD Result mg/l	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
TPH (GC/FID) Low Fraction	5.50	5.09	5.76	92.6	105	71.0-136			12.3	20
(S) a,a,a-Trifluorotoluene(FID)				105	105	77.0-122				

L973315-07 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L973315-07 02/28/18 02:30 • (MS) R3289623-4 02/28/18 02:52 • (MSD) R3289623-5 02/28/18 03:14

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MSD Result mg/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
TPH (GC/FID) Low Fraction	5.50	0.299	4.24	4.10	71.6	69.0	1	18.0-160			3.44	20
(S) a,a,a-Trifluorotoluene(FID)					102	101		77.0-122				



Method Blank (MB)

(MB) R3290214-2 03/02/18 01:12

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
Acetone	U		0.0100	1.00
Benzene	U		0.000331	0.00100
Bromodichloromethane	U		0.000380	0.00125
Bromoform	U		0.000469	0.00100
Bromomethane	U		0.000866	0.00500
n-Butylbenzene	U		0.000361	0.00100
sec-Butylbenzene	U		0.000365	0.00100
tert-Butylbenzene	U		0.000399	0.00100
Carbon disulfide	U		0.000275	0.00100
Carbon tetrachloride	U		0.000379	0.00100
Chlorobenzene	U		0.000348	0.00100
Chlorodibromomethane	U		0.000327	0.00100
Chloroethane	U		0.000453	0.00500
Chloroform	U		0.000324	0.00500
Chloromethane	U		0.000276	0.00250
1,2-Dibromoethane	U		0.000381	0.00100
1,1-Dichloroethane	U		0.000259	0.00100
1,2-Dichloroethane	U		0.000361	0.00100
1,1-Dichloroethene	U		0.000398	0.00100
cis-1,2-Dichloroethene	U		0.000260	0.00100
trans-1,2-Dichloroethene	U		0.000396	0.00100
1,2-Dichloropropane	U		0.000306	0.00100
cis-1,3-Dichloropropene	U		0.000418	0.00100
trans-1,3-Dichloropropene	U		0.000419	0.00100
Ethylbenzene	U		0.000384	0.00100
Hexachloro-1,3-butadiene	U		0.000256	0.00100
2-Hexanone	U		0.00382	0.0100
Isopropylbenzene	U		0.000326	0.00100
p-Isopropyltoluene	U		0.000350	0.00100
2-Butanone (MEK)	U		0.00393	0.0100
Methylene Chloride	0.00163	U	0.00100	0.00500
4-Methyl-2-pentanone (MIBK)	U		0.00214	0.0100
Methyl tert-butyl ether	U		0.000367	0.00100
Naphthalene	U		0.00100	0.00500
n-Propylbenzene	U		0.000349	0.00100
Styrene	U		0.000307	0.00100
1,1,2,2-Tetrachloroethane	U		0.000130	0.00100
Tetrachloroethene	U		0.000372	0.00100
Toluene	U		0.000412	0.00100
1,1,1-Trichloroethane	U		0.000319	0.00100

¹Cp

²Tc

³Ss

⁴Cn

⁵Sr

⁶Qc

⁷Gl

⁸Al

⁹Sc



Method Blank (MB)

(MB) R3290214-2 03/02/18 01:12

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
1,1,2-Trichloroethane	U		0.000383	0.00100
Trichloroethene	U		0.000398	0.00100
1,2,4-Trimethylbenzene	U		0.000373	0.00100
1,3,5-Trimethylbenzene	U		0.000387	0.00100
Vinyl chloride	U		0.000259	0.00100
Xylenes, Total	U		0.00106	0.00300
(S) Toluene-d8	98.2			80.0-120
(S) Dibromofluoromethane	100			76.0-123
(S) 4-Bromofluorobenzene	108			80.0-120

Laboratory Control Sample (LCS)

(LCS) R3290214-1 03/02/18 00:10

Analyte	Spike Amount mg/l	LCS Result mg/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Acetone	0.125	0.132	105	10.0-160	
Benzene	0.0250	0.0277	111	69.0-123	
Bromodichloromethane	0.0250	0.0257	103	76.0-120	
Bromoform	0.0250	0.0251	100	67.0-132	
Bromomethane	0.0250	0.0150	59.9	18.0-160	
n-Butylbenzene	0.0250	0.0260	104	72.0-126	
sec-Butylbenzene	0.0250	0.0291	117	74.0-121	
tert-Butylbenzene	0.0250	0.0287	115	75.0-122	
Carbon disulfide	0.0250	0.0262	105	55.0-127	
Carbon tetrachloride	0.0250	0.0236	94.2	63.0-122	
Chlorobenzene	0.0250	0.0258	103	79.0-121	
Chlorodibromomethane	0.0250	0.0239	95.6	75.0-125	
Chloroethane	0.0250	0.0237	95.0	47.0-152	
Chloroform	0.0250	0.0268	107	72.0-121	
Chloromethane	0.0250	0.0242	96.8	48.0-139	
1,2-Dibromoethane	0.0250	0.0247	98.7	77.0-123	
1,1-Dichloroethane	0.0250	0.0290	116	70.0-126	
1,2-Dichloroethane	0.0250	0.0266	106	67.0-126	
1,1-Dichloroethene	0.0250	0.0256	102	64.0-129	
cis-1,2-Dichloroethene	0.0250	0.0261	104	73.0-120	
trans-1,2-Dichloroethene	0.0250	0.0270	108	71.0-121	
1,2-Dichloropropane	0.0250	0.0286	114	75.0-125	
cis-1,3-Dichloropropene	0.0250	0.0254	102	79.0-123	
trans-1,3-Dichloropropene	0.0250	0.0247	99.0	74.0-127	

¹Cp

²Tc

³Ss

⁴Cn

⁵Sr

⁶Qc

⁷Gl

⁸Al

⁹Sc



Laboratory Control Sample (LCS)

(LCS) R3290214-1 03/02/18 00:10

Analyte	Spike Amount mg/l	LCS Result mg/l	LCS Rec. %	Rec. Limits %	<u>LCS Qualifier</u>
Ethylbenzene	0.0250	0.0259	104	77.0-120	
Hexachloro-1,3-butadiene	0.0250	0.0241	96.2	64.0-131	
2-Hexanone	0.125	0.147	117	58.0-147	
Isopropylbenzene	0.0250	0.0295	118	75.0-120	
p-Isopropyltoluene	0.0250	0.0275	110	74.0-126	
2-Butanone (MEK)	0.125	0.142	113	37.0-158	
Methylene Chloride	0.0250	0.0268	107	66.0-121	
4-Methyl-2-pentanone (MIBK)	0.125	0.128	103	59.0-143	
Methyl tert-butyl ether	0.0250	0.0275	110	64.0-123	
Naphthalene	0.0250	0.0249	99.7	62.0-128	
n-Propylbenzene	0.0250	0.0298	119	79.0-120	
Styrene	0.0250	0.0290	116	78.0-124	
1,1,2,2-Tetrachloroethane	0.0250	0.0278	111	71.0-122	
Tetrachloroethene	0.0250	0.0251	100	70.0-127	
Toluene	0.0250	0.0260	104	77.0-120	
1,1,1-Trichloroethane	0.0250	0.0255	102	68.0-122	
1,1,2-Trichloroethane	0.0250	0.0252	101	78.0-120	
Trichloroethene	0.0250	0.0260	104	78.0-120	
1,2,4-Trimethylbenzene	0.0250	0.0288	115	75.0-120	
1,3,5-Trimethylbenzene	0.0250	0.0288	115	75.0-120	
Vinyl chloride	0.0250	0.0267	107	64.0-133	
Xylenes, Total	0.0750	0.0775	103	77.0-120	
(S) Toluene-d8			99.9	80.0-120	
(S) Dibromofluoromethane			98.7	76.0-123	
(S) 4-Bromofluorobenzene			110	80.0-120	

¹ Cp

² Tc

³ Ss

⁴ Cn

⁵ Sr

⁶ Qc

⁷ Gl

⁸ Al

⁹ Sc

L972920-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L972920-01 03/02/18 05:41 • (MS) R3290214-3 03/02/18 08:27 • (MSD) R3290214-4 03/02/18 08:48

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MSD Result mg/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	<u>MS Qualifier</u>	<u>MSD Qualifier</u>	RPD %	RPD Limits %
Acetone	0.125	U	0.0926	0.0877	74.1	70.2	1	10.0-139			5.37	25
Benzene	0.0250	U	0.0258	0.0244	103	97.5	1	34.0-147			5.81	20
Bromodichloromethane	0.0250	U	0.0243	0.0236	97.2	94.5	1	52.0-135			2.91	20
Bromoform	0.0250	U	0.0241	0.0240	96.3	95.9	1	50.0-146			0.393	20
Bromomethane	0.0250	U	0.0132	0.0138	52.7	55.2	1	10.0-160			4.68	23
n-Butylbenzene	0.0250	U	0.0211	0.0215	84.5	86.1	1	50.0-144			1.88	20
sec-Butylbenzene	0.0250	U	0.0258	0.0260	103	104	1	48.0-143			0.655	20
tert-Butylbenzene	0.0250	U	0.0261	0.0262	105	105	1	50.0-142			0.0982	20



L972920-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L972920-01 03/02/18 05:41 • (MS) R3290214-3 03/02/18 08:27 • (MSD) R3290214-4 03/02/18 08:48

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MSD Result mg/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Carbon disulfide	0.0250	U	0.0202	0.0195	80.8	77.9	1	10.0-147			3.67	20
Carbon tetrachloride	0.0250	U	0.0220	0.0206	88.1	82.5	1	41.0-138			6.52	20
Chlorobenzene	0.0250	U	0.0235	0.0233	93.9	93.3	1	52.0-141			0.610	20
Chlorodibromomethane	0.0250	U	0.0230	0.0224	92.0	89.6	1	54.0-142			2.65	20
Chloroethane	0.0250	U	0.0220	0.0200	88.0	79.9	1	23.0-160			9.68	20
Chloroform	0.0250	U	0.0254	0.0241	102	96.4	1	50.0-139			5.28	20
Chloromethane	0.0250	U	0.0238	0.0231	95.0	92.3	1	14.0-151			2.96	20
1,2-Dibromoethane	0.0250	U	0.0234	0.0237	93.4	94.7	1	54.0-140			1.34	20
1,1-Dichloroethane	0.0250	U	0.0265	0.0257	106	103	1	47.0-143			3.22	20
1,2-Dichloroethane	0.0250	U	0.0256	0.0245	102	98.1	1	47.0-141			4.19	20
1,1-Dichloroethene	0.0250	U	0.0238	0.0220	95.0	88.1	1	31.0-148			7.51	20
cis-1,2-Dichloroethene	0.0250	U	0.0247	0.0243	98.9	97.1	1	43.0-142			1.85	20
trans-1,2-Dichloroethene	0.0250	U	0.0238	0.0229	95.4	91.5	1	36.0-141			4.17	20
1,2-Dichloropropane	0.0250	U	0.0254	0.0256	102	102	1	51.0-141			0.506	20
cis-1,3-Dichloropropene	0.0250	U	0.0202	0.0201	80.9	80.3	1	53.0-139			0.692	20
trans-1,3-Dichloropropene	0.0250	U	0.0202	0.0205	80.9	82.0	1	51.0-143			1.33	20
Ethylbenzene	0.0250	U	0.0239	0.0236	95.8	94.5	1	42.0-147			1.40	20
Hexachloro-1,3-butadiene	0.0250	U	0.0199	0.0204	79.7	81.5	1	44.0-146			2.19	21
2-Hexanone	0.125	U	0.143	0.142	114	114	1	36.0-145			0.592	23
Isopropylbenzene	0.0250	U	0.0263	0.0264	105	106	1	48.0-141			0.567	20
p-Isopropyltoluene	0.0250	U	0.0242	0.0241	96.7	96.5	1	49.0-146			0.211	20
2-Butanone (MEK)	0.125	U	0.135	0.129	108	103	1	12.0-149			4.51	24
Methylene Chloride	0.0250	0.00132	0.0245	0.0233	92.6	87.9	1	42.0-135			4.92	20
4-Methyl-2-pentanone (MIBK)	0.125	U	0.128	0.128	103	102	1	44.0-160			0.399	22
Methyl tert-butyl ether	0.0250	U	0.0259	0.0256	104	102	1	42.0-142			1.44	20
Naphthalene	0.0250	U	0.0237	0.0240	94.9	95.9	1	42.0-146			1.00	24
n-Propylbenzene	0.0250	U	0.0257	0.0258	103	103	1	47.0-144			0.533	20
Styrene	0.0250	U	0.0265	0.0269	106	107	1	47.0-147			1.25	20
1,1,2,2-Tetrachloroethane	0.0250	U	0.0272	0.0275	109	110	1	46.0-149			1.12	20
Tetrachloroethene	0.0250	U	0.0212	0.0208	84.6	83.4	1	38.0-147			1.50	20
Toluene	0.0250	U	0.0232	0.0233	92.9	93.3	1	42.0-141			0.434	20
1,1,1-Trichloroethane	0.0250	U	0.0244	0.0227	97.4	90.7	1	46.0-140			7.10	20
1,1,2-Trichloroethane	0.0250	U	0.0239	0.0240	95.4	96.0	1	54.0-139			0.563	20
Trichloroethene	0.0250	U	0.0228	0.0224	91.3	89.4	1	32.0-156			2.02	20
1,2,4-Trimethylbenzene	0.0250	U	0.0256	0.0260	102	104	1	41.0-146			1.73	20
1,3,5-Trimethylbenzene	0.0250	U	0.0256	0.0258	103	103	1	44.0-143			0.709	20
Vinyl chloride	0.0250	U	0.0262	0.0242	105	96.8	1	24.0-153			7.95	20
Xylenes, Total	0.0750	U	0.0699	0.0692	93.2	92.3	1	41.0-148			1.01	20
(S) Toluene-d8					99.1	101		80.0-120				
(S) Dibromofluoromethane					102	96.9		76.0-123				

1Cp

2Tc

3Ss

4Cn

5Sr

6Qc

7Gl

8Al

9Sc



L972920-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L972920-01 03/02/18 05:41 • (MS) R3290214-3 03/02/18 08:27 • (MSD) R3290214-4 03/02/18 08:48

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MSD Result mg/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
(S) 4-Bromofluorobenzene					110	110		80.0-120				

¹Cp

²Tc

³Ss

⁴Cn

⁵Sr

⁶Qc

⁷Gl

⁸Al

⁹Sc



Method Blank (MB)

(MB) R3289834-1 02/27/18 11:59

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
TPH (GC/FID) High Fraction	0.0556	⬇	0.0247	0.100
(S) o-Terphenyl	84.7			31.0-160

1
Cp

2
Tc

3
Ss

4
Cn

5
Sr

6
Qc

7
Gl

8
Al

9
Sc

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3289834-2 02/27/18 12:16 • (LCSD) R3289834-3 02/27/18 12:34

Analyte	Spike Amount mg/l	LCS Result mg/l	LCSD Result mg/l	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
TPH (GC/FID) High Fraction	1.50	1.42	1.51	94.9	100	50.0-150			5.76	20
(S) o-Terphenyl				106	111	31.0-160				

L972920-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L972920-01 03/01/18 12:27 • (MS) R3290130-1 03/01/18 13:53 • (MSD) R3290130-2 03/01/18 14:10

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MSD Result mg/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
TPH (GC/FID) High Fraction	1.50	0.0849	1.51	1.48	94.8	93.2	1	50.0-150			1.61	20
(S) o-Terphenyl					112	115		31.0-160				



Method Blank (MB)

(MB) R3290176-3 03/02/18 12:46

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
Acenaphthene	U		0.000316	0.00100
Acenaphthylene	U		0.000309	0.00100
Acetophenone	U		0.00247	0.0100
Anthracene	U		0.000291	0.00100
Atrazine	U		0.000260	0.0100
Benzaldehyde	U		0.00140	0.0100
Benzo(a)anthracene	U		0.0000510	0.00100
Benzo(b)fluoranthene	U		0.0000896	0.00100
Benzo(k)fluoranthene	U		0.000355	0.00100
Benzo(g,h,i)perylene	U		0.00000227	0.00100
Benzo(a)pyrene	U		0.0000381	0.000200
Biphenyl	U		0.000325	0.0100
Bis(2-chlorethoxy)methane	U		0.000329	0.0100
Bis(2-chloroethyl)ether	U		0.00162	0.0100
Bis(2-chloroisopropyl)ether	U		0.000445	0.0100
4-Bromophenyl-phenylether	U		0.000335	0.0100
Caprolactam	U		0.00259	0.0100
Carbazole	U		0.000260	0.0100
4-Chloroaniline	U		0.000382	0.0100
2-Chloronaphthalene	U		0.000330	0.00100
4-Chlorophenyl-phenylether	U		0.000303	0.0100
Chrysene	U		0.000332	0.00100
Dibenz(a,h)anthracene	U		0.0000644	0.000200
Dibenzofuran	U		0.000338	0.0100
3,3-Dichlorobenzidine	U		0.00202	0.0100
2,4-Dinitrotoluene	U		0.00165	0.0100
2,6-Dinitrotoluene	U		0.000279	0.0100
Fluoranthene	U		0.000310	0.00100
Fluorene	U		0.000323	0.00100
Hexachlorobenzene	U		0.000341	0.00100
Hexachloro-1,3-butadiene	U		0.000329	0.0100
Hexachlorocyclopentadiene	U		0.00233	0.0100
Hexachloroethane	U		0.000365	0.0100
Indeno(1,2,3-cd)pyrene	U		0.000279	0.00100
Isophorone	U		0.000272	0.0100
1-Methylnaphthalene	U		0.000332	0.00100
2-Methylnaphthalene	U		0.000311	0.00100
Naphthalene	U		0.000372	0.00100
2-Nitroaniline	U		0.00190	0.0100
3-Nitroaniline	U		0.000308	0.0100

¹Cp

²Tc

³Ss

⁴Cn

⁵Sr

⁶Qc

⁷Gl

⁸Al

⁹Sc

Method Blank (MB)

(MB) R3290176-3 03/02/18 12:46

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
4-Nitroaniline	U		0.000349	0.0100
Nitrobenzene	U		0.000367	0.0100
n-Nitrosodiphenylamine	U		0.000304	0.0100
n-Nitrosodi-n-propylamine	U		0.000403	0.0100
Phenanthrene	U		0.000366	0.00100
Benzylbutyl phthalate	U		0.000275	0.00300
Bis(2-ethylhexyl)phthalate	U		0.000709	0.00300
Di-n-butyl phthalate	U		0.000266	0.00300
Diethyl phthalate	U		0.000282	0.00300
Dimethyl phthalate	U		0.000283	0.00300
Di-n-octyl phthalate	U		0.000278	0.00300
Pyrene	U		0.000330	0.00100
1,2,4-Trichlorobenzene	U		0.000355	0.0100
4-Chloro-3-methylphenol	U		0.000263	0.0100
2-Chlorophenol	U		0.000283	0.0100
2-Methylphenol	U		0.000312	0.0100
3&4-Methyl Phenol	U		0.000266	0.0100
2,4-Dichlorophenol	U		0.000284	0.0100
2,4-Dimethylphenol	U		0.000624	0.0100
4,6-Dinitro-2-methylphenol	U		0.00262	0.0100
2,4-Dinitrophenol	U		0.00325	0.0100
2-Nitrophenol	U		0.000320	0.0100
4-Nitrophenol	U		0.00201	0.0100
Pentachlorophenol	U		0.000313	0.0100
Phenol	U		0.000334	0.0100
2,4,5-Trichlorophenol	U		0.000236	0.0100
2,4,6-Trichlorophenol	U		0.000297	0.0100
(S) Nitrobenzene-d5	61.7			10.0-126
(S) 2-Fluorobiphenyl	66.8			22.0-127
(S) p-Terphenyl-d14	62.9			29.0-141
(S) Phenol-d5	30.3			10.0-120
(S) 2-Fluorophenol	46.6			10.0-120
(S) 2,4,6-Tribromophenol	58.4			10.0-153

¹Cp

²Tc

³Ss

⁴Cn

⁵Sr

⁶Qc

⁷Gl

⁸Al

⁹Sc

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3290176-1 03/02/18 06:43 • (LCSD) R3290176-2 03/02/18 07:08

Analyte	Spike Amount mg/l	LCS Result mg/l	LCSD Result mg/l	LCS Rec. %	LCSD Rec. %	Rec. Limits %	<u>LCS Qualifier</u>	<u>LCSD Qualifier</u>	RPD %	RPD Limits %
Acetophenone	0.0500	0.0388	0.0411	77.6	82.1	28.0-120			5.66	27
Acenaphthene	0.0500	0.0394	0.0415	78.9	83.1	42.0-120			5.20	22
Acenaphthylene	0.0500	0.0387	0.0413	77.4	82.6	43.0-120			6.46	22
Atrazine	0.0500	0.0436	0.0464	87.2	92.9	45.0-123			6.32	27
Anthracene	0.0500	0.0355	0.0377	70.9	75.5	44.0-120			6.24	20
Benzaldehyde	0.0500	0.0401	0.0412	80.3	82.4	10.0-138			2.63	40
Benzo(a)anthracene	0.0500	0.0398	0.0423	79.6	84.6	44.0-120			6.04	20
Benzo(b)fluoranthene	0.0500	0.0402	0.0430	80.4	86.1	40.0-120			6.86	21
Benzo(k)fluoranthene	0.0500	0.0388	0.0423	77.6	84.7	41.0-120			8.77	22
Biphenyl	0.0500	0.0368	0.0391	73.7	78.1	37.0-120			5.87	27
Benzo(g,h,i)perylene	0.0500	0.0388	0.0420	77.7	83.9	45.0-121			7.74	20
Benzo(a)pyrene	0.0500	0.0388	0.0416	77.6	83.1	41.0-120			6.83	20
Bis(2-chlorethoxy)methane	0.0500	0.0325	0.0343	64.9	68.6	36.0-120			5.45	25
Bis(2-chloroethyl)ether	0.0500	0.0365	0.0388	73.0	77.6	24.0-120			6.05	29
Caprolactam	0.0500	0.0134	0.0149	26.7	29.7	10.0-120			10.5	31
Bis(2-chloroisopropyl)ether	0.0500	0.0325	0.0343	65.0	68.7	32.0-120			5.52	29
Carbazole	0.0500	0.0414	0.0435	82.8	87.0	45.0-121			5.01	22
4-Bromophenyl-phenylether	0.0500	0.0375	0.0387	74.9	77.4	42.0-121			3.18	21
4-Chloroaniline	0.0500	0.0380	0.0409	76.0	81.8	23.0-120			7.26	28
2-Chloronaphthalene	0.0500	0.0363	0.0382	72.6	76.5	37.0-120			5.21	24
4-Chlorophenyl-phenylether	0.0500	0.0382	0.0418	76.4	83.6	44.0-120			8.90	21
Dibenzofuran	0.0500	0.0392	0.0419	78.4	83.8	42.0-120			6.69	21
Chrysene	0.0500	0.0385	0.0414	77.0	82.8	45.0-120			7.28	20
Dibenz(a,h)anthracene	0.0500	0.0380	0.0409	76.0	81.8	44.0-121			7.34	21
3,3-Dichlorobenzidine	0.0500	0.0431	0.0466	86.3	93.2	29.0-153			7.74	23
2,4-Dinitrotoluene	0.0500	0.0390	0.0420	78.1	84.0	47.0-127			7.34	21
2,6-Dinitrotoluene	0.0500	0.0374	0.0397	74.8	79.3	42.0-120			5.87	22
Fluoranthene	0.0500	0.0400	0.0421	79.9	84.3	46.0-121			5.30	20
Fluorene	0.0500	0.0389	0.0408	77.9	81.6	45.0-120			4.66	21
Hexachlorobenzene	0.0500	0.0361	0.0378	72.3	75.6	41.0-124			4.59	21
Hexachloro-1,3-butadiene	0.0500	0.0289	0.0287	57.7	57.4	26.0-120			0.598	31
Hexachlorocyclopentadiene	0.0500	0.0289	0.0307	57.8	61.3	10.0-120			5.94	31
Hexachloroethane	0.0500	0.0277	0.0291	55.4	58.2	22.0-120			4.92	34
1-Methylnaphthalene	0.0500	0.0311	0.0324	62.3	64.8	33.0-120			3.94	23
Indeno(1,2,3-cd)pyrene	0.0500	0.0396	0.0426	79.1	85.2	45.0-123			7.36	21
2-Methylnaphthalene	0.0500	0.0300	0.0316	60.0	63.2	35.0-120			5.21	25
Isophorone	0.0500	0.0352	0.0370	70.4	74.0	37.0-120			5.02	24
2-Nitroaniline	0.0500	0.0365	0.0393	73.0	78.6	43.0-120			7.34	23
3-Nitroaniline	0.0500	0.0413	0.0435	82.5	86.9	35.0-123			5.22	25
4-Nitroaniline	0.0500	0.0522	0.0525	104	105	23.0-160			0.680	26

1Cp

2Tc

3Ss

4Cn

5Sr

6Qc

7Gl

8Al

9Sc

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3290176-1 03/02/18 06:43 • (LCSD) R3290176-2 03/02/18 07:08

Analyte	Spike Amount mg/l	LCS Result mg/l	LCSD Result mg/l	LCS Rec. %	LCSD Rec. %	Rec. Limits %	<u>LCS Qualifier</u>	<u>LCSD Qualifier</u>	RPD %	RPD Limits %
Naphthalene	0.0500	0.0306	0.0316	61.1	63.3	33.0-120			3.41	28
Nitrobenzene	0.0500	0.0355	0.0378	71.0	75.6	31.0-120			6.24	28
n-Nitrosodiphenylamine	0.0500	0.0424	0.0450	84.8	89.9	44.0-120			5.79	21
n-Nitrosodi-n-propylamine	0.0500	0.0383	0.0397	76.5	79.3	29.0-120			3.61	27
Phenanthrene	0.0500	0.0388	0.0413	77.6	82.5	42.0-120			6.18	20
Benzylbutyl phthalate	0.0500	0.0374	0.0407	74.8	81.5	36.0-123			8.55	22
Bis(2-ethylhexyl)phthalate	0.0500	0.0378	0.0407	75.7	81.4	37.0-121			7.34	21
Di-n-butyl phthalate	0.0500	0.0401	0.0421	80.3	84.3	43.0-122			4.87	21
Diethyl phthalate	0.0500	0.0412	0.0436	82.4	87.1	48.0-123			5.50	20
Dimethyl phthalate	0.0500	0.0407	0.0432	81.4	86.4	47.0-120			6.04	20
Di-n-octyl phthalate	0.0500	0.0385	0.0421	76.9	84.1	38.0-120			8.93	22
Pyrene	0.0500	0.0381	0.0405	76.2	81.0	43.0-120			6.08	21
1,2,4-Trichlorobenzene	0.0500	0.0285	0.0290	57.1	58.0	29.0-120			1.61	29
2-Methylphenol	0.0500	0.0327	0.0352	65.4	70.4	26.0-120			7.36	27
3&4-Methyl Phenol	0.0500	0.0354	0.0379	70.7	75.7	27.0-120			6.86	28
4-Chloro-3-methylphenol	0.0500	0.0357	0.0390	71.5	78.1	39.0-120			8.82	22
2-Chlorophenol	0.0500	0.0321	0.0349	64.1	69.8	28.0-120			8.38	29
2,4-Dichlorophenol	0.0500	0.0336	0.0355	67.1	71.1	37.0-120			5.72	26
2,4-Dimethylphenol	0.0500	0.0354	0.0376	70.9	75.1	35.0-120			5.84	25
4,6-Dinitro-2-methylphenol	0.0500	0.0457	0.0481	91.4	96.1	34.0-125			5.02	27
2,4-Dinitrophenol	0.0500	0.0368	0.0386	73.6	77.3	10.0-120			4.82	40
2-Nitrophenol	0.0500	0.0328	0.0352	65.6	70.4	35.0-120			7.00	28
4-Nitrophenol	0.0500	0.0192	0.0198	38.3	39.5	10.0-120			3.09	35
2,4,5-Trichlorophenol	0.0500	0.0391	0.0412	78.2	82.4	44.0-124			5.24	24
Pentachlorophenol	0.0500	0.0399	0.0425	79.8	85.1	20.0-126			6.37	32
Phenol	0.0500	0.0180	0.0196	35.9	39.2	10.0-120			8.71	34
2,4,6-Trichlorophenol	0.0500	0.0388	0.0411	77.5	82.3	40.0-122			5.91	24
(S) Nitrobenzene-d5				65.1	73.4	10.0-126				
(S) 2-Fluorobiphenyl				75.4	87.9	22.0-127				
(S) p-Terphenyl-d14				60.2	68.4	29.0-141				
(S) Phenol-d5				34.1	37.4	10.0-120				
(S) 2-Fluorophenol				48.7	56.7	10.0-120				
(S) 2,4,6-Tribromophenol				68.6	76.9	10.0-153				

¹Cp

²Tc

³Ss

⁴Cn

⁵Sr

⁶Qc

⁷Gl

⁸Al

⁹Sc

L972920-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L972920-01 03/06/18 08:22 • (MS) R3292205-1 03/06/18 08:46 • (MSD) R3292205-2 03/06/18 09:34

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MSD Result mg/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Acetophenone	0.0500	U	0.0317	0.0318	63.4	63.6	1	10.0-139			0.253	35
Atrazine	0.0500	U	0.0416	0.0421	83.2	84.3	1	34.0-147			1.25	28
Benzaldehyde	0.0500	U	0.0273	0.0286	54.6	57.1	1	10.0-120			4.48	40
Biphenyl	0.0500	U	0.0327	0.0347	65.5	69.5	1	23.0-130			5.87	27
Caprolactam	0.0500	U	0.0147	0.0160	29.5	32.1	1	10.0-120			8.51	37
Carbazole	0.0500	U	0.0426	0.0429	85.1	85.7	1	23.0-158			0.686	26
4-Chloroaniline	0.0500	U	0.0251	0.0253	50.2	50.5	1	10.0-137			0.606	33
Dibenzofuran	0.0500	U	0.0363	0.0383	72.7	76.6	1	17.0-150			5.28	27
1-Methylnaphthalene	0.0500	U	0.0294	0.0309	58.7	61.7	1	33.0-120			5.00	23
2-Methylnaphthalene	0.0500	U	0.0283	0.0301	56.6	60.1	1	13.0-142			5.98	29
2-Nitroaniline	0.0500	U	0.0384	0.0395	76.8	78.9	1	13.0-160			2.77	27
3-Nitroaniline	0.0500	U	0.0401	0.0406	80.2	81.3	1	10.0-160			1.30	26
4-Nitroaniline	0.0500	U	0.0636	0.0666	127	133	1	17.0-160			4.60	29
2-Methylphenol	0.0500	U	0.0279	0.0288	55.7	57.6	1	14.0-120			3.27	29
3&4-Methyl Phenol	0.0500	U	0.0304	0.0321	60.9	64.2	1	13.0-124			5.27	26
Acenaphthene	0.0500	U	0.0363	0.0384	72.6	76.9	1	25.0-143			5.76	29
Acenaphthylene	0.0500	U	0.0388	0.0403	77.6	80.7	1	24.0-149			3.94	29
2,4,5-Trichlorophenol	0.0500	U	0.0364	0.0382	72.9	76.3	1	15.0-160			4.64	27
Anthracene	0.0500	U	0.0352	0.0355	70.3	71.0	1	27.0-145			0.937	30
Benzo(a)anthracene	0.0500	U	0.0394	0.0409	78.7	81.8	1	30.0-138			3.81	26
Benzo(b)fluoranthene	0.0500	U	0.0408	0.0422	81.6	84.4	1	28.0-140			3.31	31
Benzo(k)fluoranthene	0.0500	U	0.0395	0.0401	79.0	80.1	1	28.0-140			1.42	31
Benzo(g,h,i)perylene	0.0500	U	0.0435	0.0443	87.0	88.7	1	26.0-149			1.89	27
Benzo(a)pyrene	0.0500	U	0.0414	0.0425	82.7	85.0	1	28.0-139			2.76	29
Bis(2-chlorethoxy)methane	0.0500	U	0.0269	0.0273	53.9	54.7	1	19.0-135			1.48	30
Bis(2-chloroethyl)ether	0.0500	U	0.0244	0.0256	48.8	51.3	1	10.0-126			5.06	34
Bis(2-chloroisopropyl)ether	0.0500	U	0.0308	0.0300	61.6	59.9	1	18.0-128			2.77	35
4-Bromophenyl-phenylether	0.0500	U	0.0359	0.0376	71.9	75.2	1	28.0-146			4.50	30
2-Chloronaphthalene	0.0500	U	0.0342	0.0360	68.4	72.0	1	23.0-134			5.14	32
4-Chlorophenyl-phenylether	0.0500	U	0.0377	0.0390	75.4	78.1	1	32.0-142			3.53	29
Chrysene	0.0500	U	0.0390	0.0408	77.9	81.6	1	32.0-144			4.62	27
Dibenz(a,h)anthracene	0.0500	U	0.0411	0.0421	82.2	84.1	1	22.0-149			2.27	29
3,3-Dichlorobenzidine	0.0500	U	0.0416	0.0418	83.1	83.5	1	10.0-160			0.477	34
2,4-Dinitrotoluene	0.0500	U	0.0409	0.0417	81.9	83.4	1	30.0-156			1.91	29
2,6-Dinitrotoluene	0.0500	U	0.0382	0.0395	76.4	79.0	1	28.0-143			3.30	30
Fluoranthene	0.0500	U	0.0412	0.0428	82.5	85.5	1	31.0-146			3.60	30
Fluorene	0.0500	U	0.0382	0.0399	76.3	79.8	1	29.0-143			4.45	31
Hexachlorobenzene	0.0500	U	0.0382	0.0398	76.4	79.6	1	29.0-144			4.08	33
Hexachloro-1,3-butadiene	0.0500	U	0.0263	0.0279	52.6	55.8	1	18.0-122			5.82	35
Hexachlorocyclopentadiene	0.0500	U	0.0269	0.0291	53.8	58.3	1	10.0-146			7.88	34

1Cp

2Tc

3Ss

4Cn

5Sr

6Qc

7Gl

8Al

9Sc

L972920-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L972920-01 03/06/18 08:22 • (MS) R3292205-1 03/06/18 08:46 • (MSD) R3292205-2 03/06/18 09:34

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MSD Result mg/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Hexachloroethane	0.0500	U	0.0239	0.0271	47.8	54.3	1	12.0-120			12.6	36
Indeno(1,2,3-cd)pyrene	0.0500	U	0.0434	0.0440	86.9	88.1	1	24.0-151			1.38	28
Isophorone	0.0500	U	0.0277	0.0277	55.3	55.4	1	22.0-141			0.175	29
Naphthalene	0.0500	U	0.0274	0.0291	54.7	58.3	1	19.0-125			6.30	32
Nitrobenzene	0.0500	U	0.0243	0.0260	48.5	51.9	1	14.0-134			6.86	32
n-Nitrosodiphenylamine	0.0500	U	0.0382	0.0396	76.3	79.2	1	16.0-160			3.68	28
n-Nitrosodi-n-propylamine	0.0500	U	0.0312	0.0302	62.4	60.4	1	16.0-136			3.35	30
Phenanthrene	0.0500	U	0.0364	0.0373	72.7	74.7	1	27.0-137			2.63	28
Benzylbutyl phthalate	0.0500	U	0.0413	0.0426	82.5	85.3	1	30.0-147			3.29	27
Bis(2-ethylhexyl)phthalate	0.0500	U	0.0420	0.0431	84.0	86.1	1	25.0-140			2.51	26
Di-n-butyl phthalate	0.0500	0.000683	0.0365	0.0379	71.7	74.4	1	32.0-146			3.59	27
Diethyl phthalate	0.0500	U	0.0388	0.0404	77.6	80.8	1	34.0-149			4.01	26
Dimethyl phthalate	0.0500	U	0.0380	0.0388	76.0	77.5	1	29.0-147			1.98	27
Di-n-octyl phthalate	0.0500	0.000280	0.0436	0.0457	86.7	90.8	1	24.0-146			4.63	29
Pyrene	0.0500	U	0.0402	0.0413	80.3	82.6	1	34.0-140			2.76	27
1,2,4-Trichlorobenzene	0.0500	U	0.0267	0.0286	53.4	57.2	1	19.0-120			6.88	33
4-Chloro-3-methylphenol	0.0500	U	0.0326	0.0335	65.3	67.1	1	20.0-138			2.73	28
2-Chlorophenol	0.0500	U	0.0294	0.0322	58.7	64.4	1	11.0-120			9.26	33
2,4-Dichlorophenol	0.0500	U	0.0326	0.0344	65.1	68.7	1	19.0-135			5.38	32
2,4-Dimethylphenol	0.0500	U	0.0282	0.0275	56.5	55.0	1	18.0-127			2.63	31
4,6-Dinitro-2-methylphenol	0.0500	U	0.0447	0.0467	89.4	93.5	1	10.0-160			4.53	38
2,4-Dinitrophenol	0.0500	U	0.0336	0.0376	67.2	75.3	1	10.0-137			11.3	36
2-Nitrophenol	0.0500	U	0.0325	0.0364	65.1	72.8	1	15.0-143			11.2	33
4-Nitrophenol	0.0500	U	0.0187	0.0200	37.4	40.0	1	10.0-120			6.73	31
Pentachlorophenol	0.0500	U	0.0380	0.0387	76.1	77.5	1	10.0-160			1.86	40
Phenol	0.0500	0.00330	0.0170	0.0216	27.4	36.6	1	10.0-120			23.8	34
2,4,6-Trichlorophenol	0.0500	U	0.0379	0.0402	75.8	80.3	1	10.0-153			5.84	29
(S) Nitrobenzene-d5					51.8	53.4		10.0-126				
(S) 2-Fluorobiphenyl					69.9	74.7		22.0-127				
(S) p-Terphenyl-d14					62.8	64.9		29.0-141				
(S) Phenol-d5					30.1	32.9		10.0-120				
(S) 2-Fluorophenol					44.1	50.1		10.0-120				
(S) 2,4,6-Tribromophenol					79.2	87.2		10.0-153				

1Cp

2Tc

3Ss

4Cn

5Sr

6Qc

7Gl

8Al

9Sc



Guide to Reading and Understanding Your Laboratory Report

The information below is designed to better explain the various terms used in your report of analytical results from the Laboratory. This is not intended as a comprehensive explanation, and if you have additional questions please contact your project representative.

Abbreviations and Definitions

MDL	Method Detection Limit.
MQL	Method Quantitation Limit.
RDL	Reported Detection Limit.
Rec.	Recovery.
RPD	Relative Percent Difference.
SDG	Sample Delivery Group.
SDL	Sample Detection Limit.
(S)	Surrogate (Surrogate Standard) - Analytes added to every blank, sample, Laboratory Control Sample/Duplicate and Matrix Spike/Duplicate; used to evaluate analytical efficiency by measuring recovery. Surrogates are not expected to be detected in all environmental media.
U	Not detected at the Sample Detection Limit.
Unadj. MQL	Unadjusted Method Quantitation Limit.
Analyte	The name of the particular compound or analysis performed. Some Analyses and Methods will have multiple analytes reported.
Dilution	If the sample matrix contains an interfering material, or if concentrations of analytes in the sample are higher than the highest limit of concentration that the laboratory can accurately report, the sample may be diluted for analysis. If a value different than 1 is used in this field, the result reported has already been corrected for this factor.
Limits	These are the target % recovery ranges or % difference value that the laboratory has historically determined as normal for the method and analyte being reported. Successful QC Sample analysis will target all analytes recovered or duplicated within these ranges.
Original Sample	The non-spiked sample in the prep batch used to determine the Relative Percent Difference (RPD) from a quality control sample. The Original Sample may not be included within the reported SDG.
Qualifier	This column provides a letter and/or number designation that corresponds to additional information concerning the result reported. If a Qualifier is present, a definition per Qualifier is provided within the Glossary and Definitions page and potentially a discussion of possible implications of the Qualifier in the Case Narrative if applicable.
Result	The actual analytical final result (corrected for any sample specific characteristics) reported for your sample. If there was no measurable result returned for a specific analyte, the result in this column may state "ND" (Not Detected) or "BDL" (Below Detectable Levels). The information in the results column should always be accompanied by either an MDL (Method Detection Limit) or RDL (Reporting Detection Limit) that defines the lowest value that the laboratory could detect or report for this analyte.
Case Narrative (Cn)	A brief discussion about the included sample results, including a discussion of any non-conformances to protocol observed either at sample receipt by the laboratory from the field or during the analytical process. If present, there will be a section in the Case Narrative to discuss the meaning of any data qualifiers used in the report.
Quality Control Summary (Qc)	This section of the report includes the results of the laboratory quality control analyses required by procedure or analytical methods to assist in evaluating the validity of the results reported for your samples. These analyses are not being performed on your samples typically, but on laboratory generated material.
Sample Chain of Custody (Sc)	This is the document created in the field when your samples were initially collected. This is used to verify the time and date of collection, the person collecting the samples, and the analyses that the laboratory is requested to perform. This chain of custody also documents all persons (excluding commercial shippers) that have had control or possession of the samples from the time of collection until delivery to the laboratory for analysis.
Sample Results (Sr)	This section of your report will provide the results of all testing performed on your samples. These results are provided by sample ID and are separated by the analyses performed on each sample. The header line of each analysis section for each sample will provide the name and method number for the analysis reported.
Sample Summary (Ss)	This section of the Analytical Report defines the specific analyses performed for each sample ID, including the dates and times of preparation and/or analysis.

Qualifier Description

B	The same analyte is found in the associated blank.
E	The analyte concentration exceeds the upper limit of the calibration range of the instrument established by the initial calibration (ICAL).
J	The identification of the analyte is acceptable; the reported value is an estimate.
J6	The sample matrix interfered with the ability to make any accurate determination; spike value is low.
V	The sample concentration is too high to evaluate accurate spike recoveries.

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc



ESC Lab Sciences is the only environmental laboratory accredited/certified to support your work nationwide from one location. One phone call, one point of contact, one laboratory. No other lab is as accessible or prepared to handle your needs throughout the country. Our capacity and capability from our single location laboratory is comparable to the collective totals of the network laboratories in our industry. The most significant benefit to our one location design is the design of our laboratory campus. The model is conducive to accelerated productivity, decreasing turn-around time, and preventing cross contamination, thus protecting sample integrity. Our focus on premium quality and prompt service allows us to be YOUR LAB OF CHOICE.

* Not all certifications held by the laboratory are applicable to the results reported in the attached report.

* Accreditation is only applicable to the test methods specified on each scope of accreditation held by ESC Lab Sciences.

State Accreditations

Alabama	40660	Nebraska	NE-OS-15-05
Alaska	17-026	Nevada	TN-03-2002-34
Arizona	AZ0612	New Hampshire	2975
Arkansas	88-0469	New Jersey–NELAP	TN002
California	2932	New Mexico ¹	n/a
Colorado	TN00003	New York	11742
Connecticut	PH-0197	North Carolina	Env375
Florida	E87487	North Carolina ¹	DW21704
Georgia	NELAP	North Carolina ³	41
Georgia ¹	923	North Dakota	R-140
Idaho	TN00003	Ohio–VAP	CL0069
Illinois	200008	Oklahoma	9915
Indiana	C-TN-01	Oregon	TN2000002
Iowa	364	Pennsylvania	68-02979
Kansas	E-10277	Rhode Island	LA000356
Kentucky ^{1 6}	90010	South Carolina	84004
Kentucky ²	16	South Dakota	n/a
Louisiana	AI30792	Tennessee ^{1 4}	2006
Louisiana ¹	LA180010	Texas	T 104704245-17-14
Maine	TN0002	Texas ⁵	LAB0152
Maryland	324	Utah	TN00003
Massachusetts	M-TN003	Vermont	VT2006
Michigan	9958	Virginia	460132
Minnesota	047-999-395	Washington	C847
Mississippi	TN00003	West Virginia	233
Missouri	340	Wisconsin	9980939910
Montana	CERT0086	Wyoming	A2LA

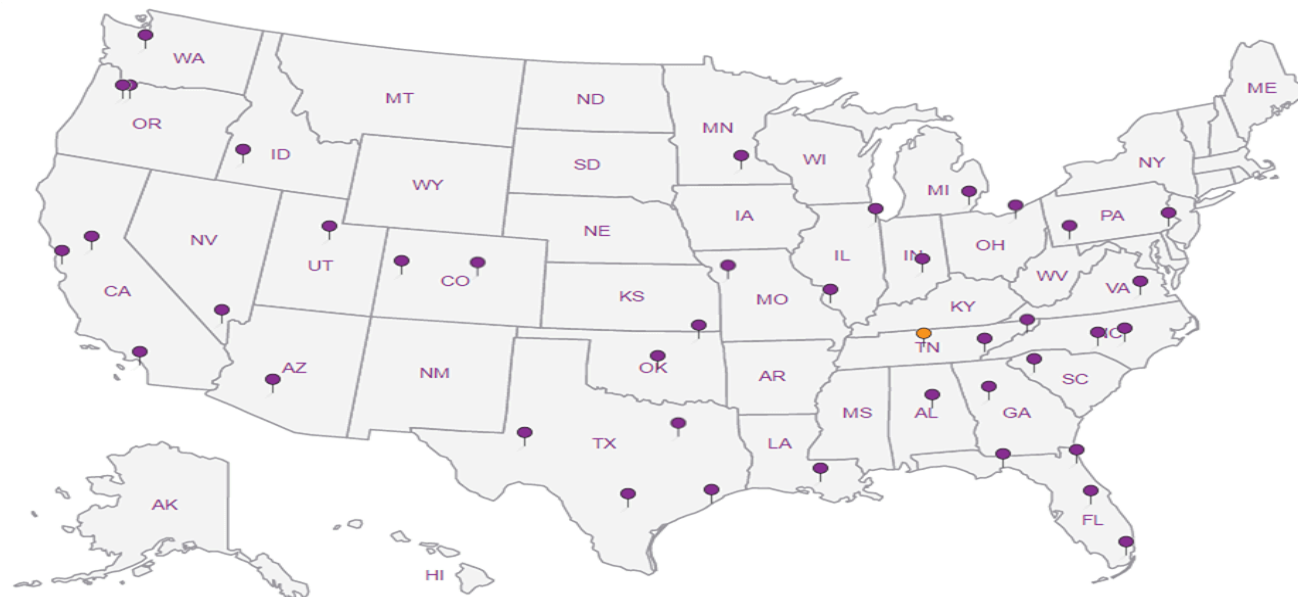
Third Party Federal Accreditations

A2LA – ISO 17025	1461.01	AIHA-LAP, LLC EMLAP	100789
A2LA – ISO 17025 ⁵	1461.02	DOD	1461.01
Canada	1461.01	USDA	P330-15-00234
EPA–Crypto	TN00003		

¹ Drinking Water ² Underground Storage Tanks ³ Aquatic Toxicity ⁴ Chemical/Microbiological ⁵ Mold ⁶ Wastewater n/a Accreditation not applicable

Our Locations

ESC Lab Sciences has sixty-four client support centers that provide sample pickup and/or the delivery of sampling supplies. If you would like assistance from one of our support offices, please contact our main office. ESC Lab Sciences performs all testing at our central laboratory.



TRC Solutions - Austin, TX

505 E. Huntland Drive, Suite 250
Austin, TX 78752

Report to:
Julie Speer

Project
Description:

Phone: 512-684-3176
Fax:

Collected by (print):
J Stoffel

Collected by (signature):
J Stoffel

Immediately
Packed on Ice N ☒ Y ☒

Billing Information:

Accounts Payable
21 Griffin Road North
Windsor, CT 06095

Email To: jspeer@trcsolutions.com

City/State
Collected:

Lab Project #
TRCATX-LOVINGTON NAV

P.O. #

Quote #

Date Results Needed

Fres
Chk

Analysis / Container / Preservative

Chain of Custody Page 1 of 1



12065 Lebanon Rd
Mount Juliet, TN 37122
Phone: 615-758-5858
Phone: 800-767-5859
Fax: 615-758-5859



L# 972920
H100

Acctnum: TRCATX

Template: T118335

Prelogin: P639946

TSR: 526 - Chris McCord

PB: B 2-19-19

Shipped Via: FedEx Ground

Remarks Sample # (lab only)

Sample ID	Comp/Grab	Matrix *	Depth	Date	Time	No. of Cntrs	8270TX 100ml Amb NoPres	DROLVI 40ml Amb HCL-BT	GRO 40ml Amb HCL	HG 250ml HDPE-HNO3	NAVAJOMETALSDISS 250ml HDPE-NoPres	NO2NO3 250ml HDPE-H2SO4	V8260 40ml Amb HCL	WetChem 500ml HDPE-NoPres			
WW-East	G	GW		2/23/18	1023	13	X	X	X	X	X	X	X	X			
WW-East MS	G	GW		2/23/18	1023	13	X	X	X	X	X	X	X	X			01-02
WW-East MSD	G	GW		2/23/18	1023	13	X	X	X	X	X	X	X	X			02-03
WW-South	G	GW		2/23/18	1129	13	X	X	X	X	X	X	X	X			03-04
WW-North	G	GW		2/23/18	1258	13	X	X	X	X	X	X	X	X			04-05
Dup-01	G	GW		2/23/18	—	13	X	X	X	X	X	X	X	X			05-06
TB-20180223	G	GW		2/23/18	1400	7							X				06-07
																	07-08

* Matrix:
SS - Soil AIR - Air F - Filter
GW - Groundwater B - Bioassay
WW - WasteWater
DW - Drinking Water
OT - Other

Remarks: WetChem = ALK, CHLORIDE, FLUORIDE, SULFATE, TDS.
Lab filter NAVAJOMETALSDISS.

Samples returned via:
☒ UPS ☒ FedEx ☐ Courier

Tracking # 4209 9207 5557

pH Temp

Flow Other

Sample Receipt Checklist
COC Seal Present/Intact: ☒ Y ☐ N
COC Signed/Accurate: ☒ Y ☐ N
Bottles arrive intact: ☒ Y ☐ N
Correct bottles used: ☒ Y ☐ N
Sufficient volume sent: ☒ Y ☐ N
If Applicable
VOA Zero Headspace: ☒ Y ☐ N
Preservation Correct/Checked: ☒ Y ☐ N

Relinquished by: (Signature)

Date: 2/23/18

Time: 1400

Received by: (Signature)

Trip Blank Received: Yes ☒ No ☐
HCL MeOH TBR

Relinquished by: (Signature)

Date:

Time:

Received by: (Signature)

Temp: °C 2.4
Bottles Received: 79

Relinquished by: (Signature)

Date:

Time:

Received for lab by: (Signature)

Date: 2/24/18 Time: 0845

Hold:

Condition:
NCF / OK

TRC Solutions - Austin, TX

Sample Delivery Group: L984044
Samples Received: 04/07/2018
Project Number: 294319.0000.00000 5
Description: Lovington Lea Refinery

Report To: Julie Speer
505 E. Huntland Drive, Suite 250
Austin, TX 78752

Entire Report Reviewed By:



Chris McCord
Technical Service Representative

Results relate only to the items tested or calibrated and are reported as rounded values. This test report shall not be reproduced, except in full, without written approval of the laboratory. Where applicable, sampling conducted by ESC is performed per guidance provided in laboratory standard operating procedures: 060302, 060303, and 060304.



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¹ Cp

² Tc

³ Ss

⁴ Cn

⁵ Sr

⁶ Qc

⁷ Gl

⁸ Al

⁹ Sc



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SAMPLE SUMMARY

ONE LAB. NATIONWIDE.



MW-1 L984044-01 GW

Collected by
Greg S. / HMI Team

Collected date/time
04/05/18 15:10

Received date/time
04/07/18 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Wet Chemistry by Method 353.2	WG1096785	1	04/13/18 14:54	04/13/18 14:54	JER
Wet Chemistry by Method 9056A	WG1095385	1	04/10/18 04:33	04/10/18 04:33	MAJ
Mercury by Method 7470A	WG1095544	1	04/09/18 11:26	04/10/18 10:06	ABL
Metals (ICP) by Method 6010B	WG1095187	1	04/10/18 10:25	04/11/18 10:49	CCE
Metals (ICPMS) by Method 6020	WG1095185	1	04/10/18 10:28	04/17/18 14:34	LAT
Metals (ICPMS) by Method 6020	WG1095185	1	04/10/18 10:28	04/19/18 16:48	LAT
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1095355	1	04/08/18 14:23	04/08/18 14:23	LRL

¹Cp

²Tc

³Ss

⁴Cn

⁵Sr

⁶Qc

⁷Gl

⁸Al

⁹Sc

MW-2 L984044-02 GW

Collected by
Greg S. / HMI Team

Collected date/time
04/05/18 15:55

Received date/time
04/07/18 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1095355	1	04/08/18 14:44	04/08/18 14:44	LRL
Semi Volatile Organic Compounds (GC/MS) by Method 8270 C	WG1095852	1	04/11/18 16:32	04/12/18 22:04	LA

MW-3 L984044-03 GW

Collected by
Greg S. / HMI Team

Collected date/time
04/05/18 16:15

Received date/time
04/07/18 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Wet Chemistry by Method 353.2	WG1096785	1	04/13/18 14:56	04/13/18 14:56	JER
Wet Chemistry by Method 9056A	WG1095385	1	04/10/18 05:19	04/10/18 05:19	MAJ

MW-6 L984044-04 GW

Collected by
Greg S. / HMI Team

Collected date/time
04/05/18 14:15

Received date/time
04/07/18 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Wet Chemistry by Method 353.2	WG1096785	1	04/13/18 14:58	04/13/18 14:58	JER
Wet Chemistry by Method 9056A	WG1095385	1	04/10/18 05:34	04/10/18 05:34	MAJ
Mercury by Method 7470A	WG1095544	1	04/09/18 11:26	04/10/18 10:08	ABL
Metals (ICP) by Method 6010B	WG1095187	1	04/10/18 10:25	04/11/18 10:52	CCE
Metals (ICPMS) by Method 6020	WG1095185	1	04/10/18 10:28	04/17/18 14:37	LAT
Metals (ICPMS) by Method 6020	WG1095185	1	04/10/18 10:28	04/19/18 16:53	LAT
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1095355	1	04/08/18 15:04	04/08/18 15:04	LRL

MW-8 L984044-05 GW

Collected by
Greg S. / HMI Team

Collected date/time
04/05/18 16:50

Received date/time
04/07/18 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Gravimetric Analysis by Method 2540 C-2011	WG1096341	1	04/12/18 15:28	04/12/18 16:05	EG
Wet Chemistry by Method 353.2	WG1096785	2	04/13/18 15:29	04/13/18 15:29	JER
Wet Chemistry by Method 9056A	WG1095385	1	04/10/18 05:50	04/10/18 05:50	MAJ
Wet Chemistry by Method 9056A	WG1095385	5	04/10/18 06:05	04/10/18 06:05	MAJ
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1095355	1	04/08/18 15:25	04/08/18 15:25	LRL

MW-11R L984044-06 GW

Collected by
Greg S. / HMI Team

Collected date/time
04/05/18 16:00

Received date/time
04/07/18 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Gravimetric Analysis by Method 2540 C-2011	WG1096341	1	04/12/18 15:28	04/12/18 16:05	EG
Wet Chemistry by Method 2320 B-2011	WG1095314	1	04/08/18 20:58	04/08/18 20:58	MCG
Mercury by Method 7470A	WG1095544	1	04/09/18 11:26	04/10/18 10:17	ABL

SAMPLE SUMMARY

ONE LAB. NATIONWIDE.



MW-11R L984044-06 GW

Collected by
Greg S. / HMI Team

Collected date/time
04/05/18 16:00

Received date/time
04/07/18 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Metals (ICP) by Method 6010B	WG1095187	1	04/10/18 10:25	04/11/18 10:55	CCE
Metals (ICPMS) by Method 6020	WG1095185	1	04/10/18 10:28	04/17/18 14:41	LAT
Metals (ICPMS) by Method 6020	WG1095185	1	04/10/18 10:28	04/19/18 16:57	LAT
Metals (ICPMS) by Method 6020	WG1099510	1	04/17/18 22:07	04/18/18 15:45	LD
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1095355	1	04/08/18 15:46	04/08/18 15:46	LRL
Semi Volatile Organic Compounds (GC/MS) by Method 8270 C	WG1095852	1.11	04/11/18 16:32	04/12/18 13:54	LA

¹ Cp

² Tc

³ Ss

⁴ Cn

⁵ Sr

MW-12R L984044-07 GW

Collected by
Greg S. / HMI Team

Collected date/time
04/05/18 15:15

Received date/time
04/07/18 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Gravimetric Analysis by Method 2540 C-2011	WG1096341	1	04/12/18 15:28	04/12/18 16:05	EG
Wet Chemistry by Method 2320 B-2011	WG1095314	1	04/08/18 21:04	04/08/18 21:04	MCG
Wet Chemistry by Method 353.2	WG1096785	1	04/13/18 15:00	04/13/18 15:00	JER
Wet Chemistry by Method 9056A	WG1095385	1	04/10/18 06:21	04/10/18 06:21	MAJ
Mercury by Method 7470A	WG1095544	1	04/09/18 11:26	04/10/18 10:20	ABL
Metals (ICP) by Method 6010B	WG1095187	1	04/10/18 10:25	04/11/18 11:05	CCE
Metals (ICPMS) by Method 6020	WG1095185	1	04/10/18 10:28	04/17/18 14:59	LAT
Metals (ICPMS) by Method 6020	WG1095185	1	04/10/18 10:28	04/19/18 18:02	LAT
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1095355	1	04/08/18 16:07	04/08/18 16:07	LRL
Semi Volatile Organic Compounds (GC/MS) by Method 8270 C	WG1095852	1	04/11/18 16:32	04/12/18 14:19	LA

⁶ Qc

⁷ Gl

⁸ Al

⁹ Sc

MW-15 L984044-08 GW

Collected by
Greg S. / HMI Team

Collected date/time
04/05/18 16:45

Received date/time
04/07/18 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Gravimetric Analysis by Method 2540 C-2011	WG1096342	1	04/12/18 13:28	04/12/18 14:19	EG
Wet Chemistry by Method 2320 B-2011	WG1095314	1	04/08/18 21:11	04/08/18 21:11	MCG
Wet Chemistry by Method 353.2	WG1096785	1	04/13/18 15:06	04/13/18 15:06	JER
Wet Chemistry by Method 9056A	WG1095385	1	04/10/18 07:07	04/10/18 07:07	MAJ
Wet Chemistry by Method 9056A	WG1095385	5	04/10/18 07:22	04/10/18 07:22	MAJ
Mercury by Method 7470A	WG1095544	1	04/09/18 11:26	04/10/18 10:22	ABL
Metals (ICP) by Method 6010B	WG1095187	1	04/10/18 10:25	04/11/18 11:08	CCE
Metals (ICPMS) by Method 6020	WG1095185	1	04/10/18 10:28	04/17/18 15:03	LAT
Metals (ICPMS) by Method 6020	WG1095185	1	04/10/18 10:28	04/19/18 18:06	LAT
Metals (ICPMS) by Method 6020	WG1099510	1	04/17/18 22:07	04/18/18 15:49	LD

Collected by
Greg S. / HMI Team

Collected date/time
04/05/18 16:10

Received date/time
04/07/18 08:45

MW-17R L984044-09 GW

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Gravimetric Analysis by Method 2540 C-2011	WG1096342	1	04/12/18 13:28	04/12/18 14:19	EG
Wet Chemistry by Method 2320 B-2011	WG1095317	1	04/09/18 12:49	04/09/18 12:49	MCG
Wet Chemistry by Method 353.2	WG1096785	1	04/13/18 15:07	04/13/18 15:07	JER
Wet Chemistry by Method 9056A	WG1095385	1	04/10/18 07:38	04/10/18 07:38	MAJ
Wet Chemistry by Method 9056A	WG1095385	5	04/10/18 08:24	04/10/18 08:24	MAJ
Mercury by Method 7470A	WG1095544	1	04/09/18 11:26	04/10/18 10:24	ABL
Metals (ICP) by Method 6010B	WG1095187	1	04/10/18 10:25	04/11/18 11:11	CCE
Metals (ICPMS) by Method 6020	WG1095185	1	04/10/18 10:28	04/17/18 15:06	LAT
Metals (ICPMS) by Method 6020	WG1095185	1	04/10/18 10:28	04/19/18 18:11	LAT
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1095355	1	04/08/18 16:28	04/08/18 16:28	LRL
Semi Volatile Organic Compounds (GC/MS) by Method 8270 C	WG1095852	1	04/11/18 16:32	04/12/18 14:43	LA

ACCOUNT:

TRC Solutions - Austin, TX

PROJECT:

294319.0000.00000 5

SDG:

L984044

DATE/TIME:

04/20/18 22:19

PAGE:

5 of 128

SAMPLE SUMMARY

ONE LAB. NATIONWIDE.



MW-19 L984044-10 GW

Collected by
Greg S. / HMI Team

Collected date/time
04/05/18 14:30

Received date/time
04/07/18 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Gravimetric Analysis by Method 2540 C-2011	WG1096342	1	04/12/18 13:28	04/12/18 14:19	EG
Wet Chemistry by Method 2320 B-2011	WG1095317	1	04/09/18 12:56	04/09/18 12:56	MCG
Wet Chemistry by Method 353.2	WG1096785	1	04/13/18 15:08	04/13/18 15:08	JER
Wet Chemistry by Method 9056A	WG1095385	1	04/10/18 08:40	04/10/18 08:40	MAJ
Wet Chemistry by Method 9056A	WG1095385	5	04/10/18 08:55	04/10/18 08:55	MAJ

¹ Cp

² Tc

³ Ss

⁴ Cn

MW-25 L984044-11 GW

Collected by
Greg S. / HMI Team

Collected date/time
04/05/18 15:20

Received date/time
04/07/18 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Gravimetric Analysis by Method 2540 C-2011	WG1096342	1	04/12/18 13:28	04/12/18 14:19	EG
Wet Chemistry by Method 2320 B-2011	WG1095317	1	04/09/18 13:02	04/09/18 13:02	MCG
Wet Chemistry by Method 353.2	WG1096785	1	04/13/18 15:09	04/13/18 15:09	JER
Wet Chemistry by Method 9056A	WG1095385	1	04/10/18 09:10	04/10/18 09:10	MAJ
Wet Chemistry by Method 9056A	WG1095385	1	04/10/18 09:26	04/10/18 09:26	MAJ
Mercury by Method 7470A	WG1095544	1	04/09/18 11:26	04/10/18 10:26	ABL
Metals (ICP) by Method 6010B	WG1095187	1	04/10/18 10:25	04/11/18 11:15	CCE
Metals (ICPMS) by Method 6020	WG1095185	1	04/10/18 10:28	04/17/18 15:10	LAT
Metals (ICPMS) by Method 6020	WG1095185	1	04/10/18 10:28	04/19/18 18:15	LAT
Metals (ICPMS) by Method 6020	WG1099510	1	04/17/18 22:07	04/18/18 15:53	LD
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1095355	1	04/08/18 16:49	04/08/18 16:49	LRL
Semi Volatile Organic Compounds (GC/MS) by Method 8270 C	WG1095852	1.05	04/11/18 16:32	04/12/18 15:08	LA

⁵ Sr

⁶ Qc

⁷ Gl

⁸ Al

⁹ Sc

MW-27 L984044-12 GW

Collected by
Greg S. / HMI Team

Collected date/time
04/05/18 15:20

Received date/time
04/07/18 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1095355	1	04/08/18 17:09	04/08/18 17:09	LRL

MW-28 L984044-13 GW

Collected by
Greg S. / HMI Team

Collected date/time
04/05/18 17:15

Received date/time
04/07/18 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Wet Chemistry by Method 2320 B-2011	WG1095317	1	04/09/18 13:08	04/09/18 13:08	MCG
Wet Chemistry by Method 353.2	WG1096785	1	04/13/18 15:10	04/13/18 15:10	JER
Wet Chemistry by Method 9056A	WG1095833	1	04/11/18 02:39	04/11/18 02:39	MAJ

MW-29 L984044-14 GW

Collected by
Greg S. / HMI Team

Collected date/time
04/05/18 16:55

Received date/time
04/07/18 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Mercury by Method 7470A	WG1095544	1	04/09/18 11:26	04/10/18 10:29	ABL
Metals (ICP) by Method 6010B	WG1095187	1	04/10/18 10:25	04/11/18 11:18	CCE
Metals (ICPMS) by Method 6020	WG1095185	1	04/10/18 10:28	04/17/18 15:14	LAT
Metals (ICPMS) by Method 6020	WG1095185	1	04/10/18 10:28	04/19/18 18:20	LAT
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1095355	1	04/08/18 17:30	04/08/18 17:30	LRL

ACCOUNT:

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04/20/18 22:19

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SAMPLE SUMMARY

ONE LAB. NATIONWIDE.



MW-30 L984044-15 GW

Collected by
Greg S. / HMI Team

Collected date/time
04/05/18 14:10

Received date/time
04/07/18 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Gravimetric Analysis by Method 2540 C-2011	WG1096342	1	04/12/18 13:28	04/12/18 14:19	EG
Wet Chemistry by Method 2320 B-2011	WG1095317	1	04/09/18 13:15	04/09/18 13:15	MCG
Wet Chemistry by Method 353.2	WG1096785	1	04/13/18 15:11	04/13/18 15:11	JER
Wet Chemistry by Method 9056A	WG1095833	1	04/11/18 02:55	04/11/18 02:55	MAJ
Mercury by Method 7470A	WG1095544	1	04/09/18 11:26	04/10/18 09:57	ABL
Metals (ICP) by Method 6010B	WG1095187	1	04/10/18 10:25	04/11/18 10:36	CCE
Metals (ICPMS) by Method 6020	WG1095185	1	04/10/18 10:28	04/17/18 14:18	LAT
Metals (ICPMS) by Method 6020	WG1095185	1	04/10/18 10:28	04/19/18 16:31	LAT
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1095361	1	04/09/18 04:42	04/09/18 04:42	BMB
Semi Volatile Organic Compounds (GC/MS) by Method 8270 C	WG1095852	1	04/11/18 16:32	04/12/18 15:32	LA

¹Cp

²Tc

³Ss

⁴Cn

⁵Sr

⁶Qc

⁷Gl

⁸Al

⁹Sc

MW-32 L984044-16 GW

Collected by
Greg S. / HMI Team

Collected date/time
04/05/18 16:15

Received date/time
04/07/18 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Gravimetric Analysis by Method 2540 C-2011	WG1096342	1	04/12/18 13:28	04/12/18 14:19	EG
Wet Chemistry by Method 2320 B-2011	WG1095317	1	04/09/18 13:21	04/09/18 13:21	MCG
Wet Chemistry by Method 353.2	WG1096785	1	04/13/18 15:14	04/13/18 15:14	JER
Wet Chemistry by Method 9056A	WG1095833	1	04/11/18 03:56	04/11/18 03:56	MAJ
Wet Chemistry by Method 9056A	WG1095833	5	04/11/18 04:42	04/11/18 04:42	MAJ
Mercury by Method 7470A	WG1095544	1	04/09/18 11:26	04/10/18 10:31	ABL
Metals (ICP) by Method 6010B	WG1095187	1	04/10/18 10:25	04/11/18 11:21	CCE
Metals (ICPMS) by Method 6020	WG1095185	1	04/10/18 10:28	04/17/18 15:18	LAT
Metals (ICPMS) by Method 6020	WG1095185	1	04/10/18 10:28	04/19/18 18:24	LAT
Volatile Organic Compounds (GC) by Method 8015D/GRO	WG1096264	1	04/10/18 23:36	04/10/18 23:36	ACG
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1095355	1	04/08/18 17:51	04/08/18 17:51	LRL
Semi-Volatile Organic Compounds (GC) by Method 3511/8015	WG1095663	1	04/09/18 21:55	04/11/18 23:41	TH
Semi Volatile Organic Compounds (GC/MS) by Method 8270 C	WG1095852	1	04/11/18 16:32	04/12/18 21:40	LA

MW-33 L984044-17 GW

Collected by
Greg S. / HMI Team

Collected date/time
04/05/18 14:25

Received date/time
04/07/18 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Gravimetric Analysis by Method 2540 C-2011	WG1096342	1	04/12/18 13:28	04/12/18 14:19	EG
Wet Chemistry by Method 2320 B-2011	WG1095317	1	04/09/18 13:27	04/09/18 13:27	MCG
Wet Chemistry by Method 353.2	WG1096785	1	04/13/18 15:20	04/13/18 15:20	JER
Wet Chemistry by Method 9056A	WG1095833	1	04/11/18 04:58	04/11/18 04:58	MAJ
Mercury by Method 7470A	WG1095544	1	04/09/18 11:26	04/10/18 10:33	ABL
Metals (ICP) by Method 6010B	WG1095187	1	04/10/18 10:25	04/11/18 11:25	CCE
Metals (ICPMS) by Method 6020	WG1095185	1	04/10/18 10:28	04/17/18 15:22	LAT
Metals (ICPMS) by Method 6020	WG1095185	1	04/10/18 10:28	04/19/18 18:29	LAT
Volatile Organic Compounds (GC) by Method 8015D/GRO	WG1096264	1	04/10/18 23:59	04/10/18 23:59	ACG
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1095355	1	04/08/18 18:11	04/08/18 18:11	LRL
Semi-Volatile Organic Compounds (GC) by Method 3511/8015	WG1095663	1	04/09/18 21:55	04/11/18 23:57	TH
Semi Volatile Organic Compounds (GC/MS) by Method 8270 C	WG1095852	1	04/11/18 16:32	04/12/18 21:15	LA

WW-NORTH L984044-18 GW

Collected by
Greg S. / HMI Team

Collected date/time
04/05/18 13:55

Received date/time
04/07/18 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Gravimetric Analysis by Method 2540 C-2011	WG1096342	1	04/12/18 13:28	04/12/18 14:19	EG
Wet Chemistry by Method 2320 B-2011	WG1095317	1	04/09/18 13:34	04/09/18 13:34	MCG
Wet Chemistry by Method 353.2	WG1096785	1	04/13/18 15:22	04/13/18 15:22	JER

SAMPLE SUMMARY

ONE LAB. NATIONWIDE.



WW-NORTH L984044-18 GW

Collected by
Greg S. / HMI Team

Collected date/time
04/05/18 13:55

Received date/time
04/07/18 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Wet Chemistry by Method 9056A	WG1095833	1	04/11/18 05:13	04/11/18 05:13	MAJ
Wet Chemistry by Method 9056A	WG1095833	5	04/11/18 05:29	04/11/18 05:29	MAJ
Mercury by Method 7470A	WG1095544	1	04/09/18 11:26	04/10/18 10:36	ABL
Metals (ICP) by Method 6010B	WG1095187	1	04/10/18 10:25	04/11/18 11:28	CCE
Metals (ICPMS) by Method 6020	WG1095185	1	04/10/18 10:28	04/17/18 15:26	LAT
Metals (ICPMS) by Method 6020	WG1095185	1	04/10/18 10:28	04/19/18 18:33	LAT
Metals (ICPMS) by Method 6020	WG1099510	1	04/17/18 22:07	04/18/18 16:25	LD
Volatile Organic Compounds (GC) by Method 8015D/GRO	WG1096264	1	04/11/18 00:23	04/11/18 00:23	ACG
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1095355	1	04/08/18 18:32	04/08/18 18:32	LRL
Semi-Volatile Organic Compounds (GC) by Method 3511/8015	WG1095663	1	04/09/18 21:55	04/12/18 00:13	TH
Semi Volatile Organic Compounds (GC/MS) by Method 8270 C	WG1095852	1	04/11/18 16:32	04/12/18 16:46	LA

1	Cp
2	Tc
3	Ss
4	Cn
5	Sr
6	Qc
7	Gl
8	Al
9	Sc

WW-SOUTH L984044-19 GW

Collected by
Greg S. / HMI Team

Collected date/time
04/05/18 14:35

Received date/time
04/07/18 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Gravimetric Analysis by Method 2540 C-2011	WG1096342	1	04/12/18 13:28	04/12/18 14:19	EG
Wet Chemistry by Method 2320 B-2011	WG1095317	1	04/09/18 13:48	04/09/18 13:48	MCG
Wet Chemistry by Method 353.2	WG1096785	1	04/13/18 15:23	04/13/18 15:23	JER
Wet Chemistry by Method 9056A	WG1095833	1	04/11/18 05:45	04/11/18 05:45	MAJ
Wet Chemistry by Method 9056A	WG1095833	10	04/11/18 06:00	04/11/18 06:00	MAJ
Mercury by Method 7470A	WG1095544	1	04/09/18 11:26	04/10/18 10:38	ABL
Metals (ICP) by Method 6010B	WG1095187	1	04/10/18 10:25	04/11/18 11:31	CCE
Metals (ICPMS) by Method 6020	WG1095185	1	04/10/18 10:28	04/17/18 15:30	LAT
Metals (ICPMS) by Method 6020	WG1095185	1	04/10/18 10:28	04/19/18 18:38	LAT
Metals (ICPMS) by Method 6020	WG1099510	1	04/17/18 22:07	04/18/18 16:29	LD
Volatile Organic Compounds (GC) by Method 8015D/GRO	WG1096264	1	04/11/18 00:47	04/11/18 00:47	ACG
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1095355	1	04/08/18 18:53	04/08/18 18:53	LRL
Semi-Volatile Organic Compounds (GC) by Method 3511/8015	WG1095663	1	04/09/18 21:55	04/12/18 00:30	TH
Semi Volatile Organic Compounds (GC/MS) by Method 8270 C	WG1095852	1	04/11/18 16:32	04/12/18 17:10	LA

WW-EAST L984044-20 GW

Collected by
Greg S. / HMI Team

Collected date/time
04/05/18 15:30

Received date/time
04/07/18 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Gravimetric Analysis by Method 2540 C-2011	WG1096342	1	04/12/18 13:28	04/12/18 14:19	EG
Wet Chemistry by Method 2320 B-2011	WG1095317	1	04/09/18 13:54	04/09/18 13:54	MCG
Wet Chemistry by Method 353.2	WG1096785	1	04/13/18 15:24	04/13/18 15:24	JER
Wet Chemistry by Method 9056A	WG1095833	1	04/11/18 06:15	04/11/18 06:15	MAJ
Wet Chemistry by Method 9056A	WG1095833	5	04/11/18 06:31	04/11/18 06:31	MAJ
Mercury by Method 7470A	WG1095544	1	04/09/18 11:26	04/10/18 10:45	ABL
Metals (ICP) by Method 6010B	WG1095187	1	04/10/18 10:25	04/11/18 11:34	CCE
Metals (ICPMS) by Method 6020	WG1095185	1	04/10/18 10:28	04/17/18 15:34	LAT
Metals (ICPMS) by Method 6020	WG1095185	1	04/10/18 10:28	04/19/18 18:42	LAT
Metals (ICPMS) by Method 6020	WG1099510	1	04/17/18 22:07	04/18/18 16:34	LD
Volatile Organic Compounds (GC) by Method 8015D/GRO	WG1096264	1	04/11/18 01:11	04/11/18 01:11	ACG
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1095355	1	04/08/18 19:14	04/08/18 19:14	LRL
Semi-Volatile Organic Compounds (GC) by Method 3511/8015	WG1095663	1.14	04/09/18 21:55	04/12/18 00:46	TH
Semi Volatile Organic Compounds (GC/MS) by Method 8270 C	WG1095852	1	04/11/18 16:32	04/12/18 17:35	LA

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SAMPLE SUMMARY

ONE LAB. NATIONWIDE.



DUP-01 L984044-21 GW

Collected by
Greg S. / HMI Team

Collected date/time
04/05/18 14:00

Received date/time
04/07/18 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Gravimetric Analysis by Method 2540 C-2011	WG1096342	1	04/12/18 13:28	04/12/18 14:19	EG
Wet Chemistry by Method 2320 B-2011	WG1095317	1	04/09/18 14:00	04/09/18 14:00	MCG
Wet Chemistry by Method 353.2	WG1096785	1	04/13/18 15:25	04/13/18 15:25	JER
Wet Chemistry by Method 9056A	WG1095833	1	04/11/18 06:46	04/11/18 06:46	MAJ
Mercury by Method 7470A	WG1095544	1	04/09/18 11:26	04/10/18 10:47	ABL
Metals (ICP) by Method 6010B	WG1095187	1	04/10/18 10:25	04/11/18 11:44	CCE
Metals (ICPMS) by Method 6020	WG1095185	1	04/10/18 10:28	04/17/18 16:08	LAT
Metals (ICPMS) by Method 6020	WG1095185	1	04/10/18 10:28	04/19/18 18:55	LAT
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1095355	1	04/08/18 19:35	04/08/18 19:35	LRL
Semi Volatile Organic Compounds (GC/MS) by Method 8270 C	WG1095852	1	04/11/18 16:32	04/12/18 18:00	LA

¹ Cp

² Tc

³ Ss

⁴ Cn

⁵ Sr

⁶ Qc

⁷ Gl

⁸ Al

⁹ Sc

DUP-02 L984044-22 GW

Collected by
Greg S. / HMI Team

Collected date/time
04/05/18 14:00

Received date/time
04/07/18 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Gravimetric Analysis by Method 2540 C-2011	WG1096342	1	04/12/18 13:28	04/12/18 14:19	EG
Wet Chemistry by Method 2320 B-2011	WG1095317	1	04/09/18 14:06	04/09/18 14:06	MCG
Wet Chemistry by Method 353.2	WG1096785	1	04/13/18 15:26	04/13/18 15:26	JER
Wet Chemistry by Method 9056A	WG1095833	1	04/11/18 07:01	04/11/18 07:01	MAJ
Wet Chemistry by Method 9056A	WG1095833	5	04/11/18 07:48	04/11/18 07:48	MAJ
Mercury by Method 7470A	WG1095544	1	04/09/18 11:26	04/10/18 10:49	ABL
Metals (ICP) by Method 6010B	WG1095187	1	04/10/18 10:25	04/11/18 11:47	CCE
Metals (ICPMS) by Method 6020	WG1095185	1	04/10/18 10:28	04/17/18 16:12	LAT
Metals (ICPMS) by Method 6020	WG1095185	1	04/10/18 10:28	04/19/18 18:59	LAT
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1095355	1	04/08/18 19:56	04/08/18 19:56	LRL
Semi Volatile Organic Compounds (GC/MS) by Method 8270 C	WG1095852	1	04/11/18 16:32	04/12/18 18:24	LA

DUP-03 L984044-23 GW

Collected by
Greg S. / HMI Team

Collected date/time
04/05/18 14:00

Received date/time
04/07/18 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Gravimetric Analysis by Method 2540 C-2011	WG1096342	1	04/12/18 13:28	04/12/18 14:19	EG
Wet Chemistry by Method 2320 B-2011	WG1095317	1	04/09/18 14:12	04/09/18 14:12	MCG
Wet Chemistry by Method 353.2	WG1096785	1	04/13/18 15:27	04/13/18 15:27	JER
Wet Chemistry by Method 9056A	WG1095833	1	04/11/18 08:04	04/11/18 08:04	MAJ
Wet Chemistry by Method 9056A	WG1095833	10	04/11/18 08:23	04/11/18 08:23	MAJ
Mercury by Method 7470A	WG1095544	1	04/09/18 11:26	04/10/18 10:51	ABL
Metals (ICP) by Method 6010B	WG1095187	1	04/10/18 10:25	04/11/18 11:51	CCE
Metals (ICPMS) by Method 6020	WG1095185	1	04/10/18 10:28	04/17/18 16:16	LAT
Metals (ICPMS) by Method 6020	WG1095185	1	04/10/18 10:28	04/19/18 19:04	LAT
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1095361	1	04/08/18 23:52	04/08/18 23:52	BMB
Semi Volatile Organic Compounds (GC/MS) by Method 8270 C	WG1095852	1	04/11/18 16:32	04/12/18 18:49	LA

EB-01 L984044-24 GW

Collected by
Greg S. / HMI Team

Collected date/time
04/05/18 16:10

Received date/time
04/07/18 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Gravimetric Analysis by Method 2540 C-2011	WG1096342	1	04/12/18 13:28	04/12/18 14:19	EG
Wet Chemistry by Method 2320 B-2011	WG1095315	1	04/09/18 11:32	04/09/18 11:32	MCG
Mercury by Method 7470A	WG1095544	1	04/09/18 11:26	04/10/18 10:54	ABL
Metals (ICP) by Method 6010B	WG1095187	1	04/10/18 10:25	04/11/18 11:54	CCE
Metals (ICPMS) by Method 6020	WG1095185	1	04/10/18 10:28	04/17/18 16:20	LAT
Metals (ICPMS) by Method 6020	WG1095185	1	04/10/18 10:28	04/19/18 19:08	LAT

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SAMPLE SUMMARY

ONE LAB. NATIONWIDE.



EB-01 L984044-24 GW

Collected by
Greg S. / HMI Team

Collected date/time
04/05/18 16:10

Received date/time
04/07/18 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1095361	1	04/08/18 23:13	04/08/18 23:13	BMB
Semi Volatile Organic Compounds (GC/MS) by Method 8270 C	WG1095852	1	04/11/18 16:32	04/12/18 19:13	LA

¹ Cp

² Tc

³ Ss

EB-02 L984044-25 GW

Collected by
Greg S. / HMI Team

Collected date/time
04/05/18 16:35

Received date/time
04/07/18 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Gravimetric Analysis by Method 2540 C-2011	WG1096342	1	04/12/18 13:28	04/12/18 14:19	EG
Wet Chemistry by Method 2320 B-2011	WG1095317	1	04/09/18 12:32	04/09/18 12:32	MCG
Wet Chemistry by Method 353.2	WG1096785	1	04/13/18 15:28	04/13/18 15:28	JER
Wet Chemistry by Method 9056A	WG1095833	1	04/11/18 08:41	04/11/18 08:41	MAJ
Mercury by Method 7470A	WG1095544	1	04/09/18 11:26	04/10/18 10:56	ABL
Metals (ICP) by Method 6010B	WG1095187	1	04/10/18 10:25	04/11/18 11:57	CCE
Metals (ICPMS) by Method 6020	WG1095185	1	04/10/18 10:28	04/17/18 16:24	LAT
Metals (ICPMS) by Method 6020	WG1095185	1	04/10/18 10:28	04/19/18 19:13	LAT
Volatile Organic Compounds (GC) by Method 8015D/GRO	WG1096264	1	04/11/18 01:35	04/11/18 01:35	ACG
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1095361	1	04/08/18 23:33	04/08/18 23:33	BMB
Semi-Volatile Organic Compounds (GC) by Method 3511/8015	WG1095663	1	04/09/18 21:55	04/12/18 01:03	TH
Semi Volatile Organic Compounds (GC/MS) by Method 8270 C	WG1095852	1	04/11/18 16:32	04/12/18 19:37	LA

⁴ Cn

⁵ Sr

⁶ Qc

⁷ Gl

⁸ Al

⁹ Sc

TRIP BLANK-01 L984044-26 GW

Collected by
Greg S. / HMI Team

Collected date/time
04/05/18 00:00

Received date/time
04/07/18 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1095361	1	04/08/18 22:35	04/08/18 22:35	BMB

TRIP BLANK-02 L984044-27 GW

Collected by
Greg S. / HMI Team

Collected date/time
04/05/18 00:00

Received date/time
04/07/18 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1095361	1	04/08/18 22:54	04/08/18 22:54	BMB

ACCOUNT:

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All sample aliquots were received at the correct temperature, in the proper containers, with the appropriate preservatives, and within method specified holding times, unless qualified or notated within the report. Where applicable, all MDL (LOD) and RDL (LOQ) values reported for environmental samples have been corrected for the dilution factor used in the analysis. All radiochemical sample results for solids are reported on a dry weight basis with the exception of tritium, carbon-14 and radon, unless wet weight was requested by the client. All Method and Batch Quality Control are within established criteria except where addressed in this case narrative, a non-conformance form or properly qualified within the sample results. By my digital signature below, I affirm to the best of my knowledge, all problems/anomalies observed by the laboratory as having the potential to affect the quality of the data have been identified by the laboratory, and no information or data have been knowingly withheld that would affect the quality of the data.

Chris McCord
Technical Service Representative





Wet Chemistry by Method 353.2

Analyte	Result	Qualifier	SDL	Unadj. MQL	MQL	Dilution	Analysis	Batch
	mg/l		mg/l	mg/l	mg/l		date / time	
Nitrate-Nitrite	2.14		0.0197	0.100	0.100	1	04/13/2018 14:54	WG1096785

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	SDL	Unadj. MQL	MQL	Dilution	Analysis	Batch
	mg/l		mg/l	mg/l	mg/l		date / time	
Chloride	48.3		0.0519	1.00	1.00	1	04/10/2018 04:33	WG1095385
Fluoride	1.04		0.00990	0.100	0.100	1	04/10/2018 04:33	WG1095385
Sulfate	63.4		0.0774	5.00	5.00	1	04/10/2018 04:33	WG1095385

Mercury by Method 7470A

Analyte	Result	Qualifier	SDL	Unadj. MQL	MQL	Dilution	Analysis	Batch
	mg/l		mg/l	mg/l	mg/l		date / time	
Mercury	U		0.0000490	0.000200	0.000200	1	04/10/2018 10:06	WG1095544

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	SDL	Unadj. MQL	MQL	Dilution	Analysis	Batch
	mg/l		mg/l	mg/l	mg/l		date / time	
Boron,Dissolved	0.176	J	0.0126	0.200	0.200	1	04/11/2018 10:49	WG1095187

Metals (ICPMS) by Method 6020

Analyte	Result	Qualifier	SDL	Unadj. MQL	MQL	Dilution	Analysis	Batch
	mg/l		mg/l	mg/l	mg/l		date / time	
Aluminum,Dissolved	U		0.00515	0.100	0.100	1	04/19/2018 16:48	WG1095185
Arsenic,Dissolved	0.00762		0.000250	0.00200	0.00200	1	04/19/2018 16:48	WG1095185
Barium,Dissolved	0.152		0.000360	0.00500	0.00500	1	04/19/2018 16:48	WG1095185
Cadmium,Dissolved	U		0.000160	0.00100	0.00100	1	04/19/2018 16:48	WG1095185
Calcium,Dissolved	79.5		0.0460	1.00	1.00	1	04/19/2018 16:48	WG1095185
Chromium,Dissolved	U		0.000540	0.00200	0.00200	1	04/19/2018 16:48	WG1095185
Copper,Dissolved	0.000883	B J	0.000520	0.00500	0.00500	1	04/19/2018 16:48	WG1095185
Cobalt,Dissolved	U		0.000260	0.00200	0.00200	1	04/19/2018 16:48	WG1095185
Iron,Dissolved	U		0.0150	0.100	0.100	1	04/19/2018 16:48	WG1095185
Lead,Dissolved	U		0.000240	0.00200	0.00200	1	04/19/2018 16:48	WG1095185
Magnesium,Dissolved	9.54		0.100	1.00	1.00	1	04/17/2018 14:34	WG1095185
Manganese,Dissolved	0.00128	B J	0.000250	0.00500	0.00500	1	04/19/2018 16:48	WG1095185
Molybdenum,Dissolved	0.00252	B J	0.000140	0.00500	0.00500	1	04/19/2018 16:48	WG1095185
Nickel,Dissolved	U		0.000350	0.00200	0.00200	1	04/19/2018 16:48	WG1095185
Potassium,Dissolved	3.03		0.0370	1.00	1.00	1	04/19/2018 16:48	WG1095185
Selenium,Dissolved	0.00250	B	0.000380	0.00200	0.00200	1	04/19/2018 16:48	WG1095185
Silver,Dissolved	U		0.000310	0.00200	0.00200	1	04/19/2018 16:48	WG1095185
Sodium,Dissolved	42.8		0.110	1.00	1.00	1	04/19/2018 16:48	WG1095185
Uranium,Dissolved	0.00179	B J	0.000330	0.0100	0.0100	1	04/19/2018 16:48	WG1095185
Zinc,Dissolved	0.0110	J	0.00256	0.0250	0.0250	1	04/17/2018 14:34	WG1095185

Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result	Qualifier	SDL	Unadj. MQL	MQL	Dilution	Analysis	Batch
	mg/l		mg/l	mg/l	mg/l		date / time	
Acetone	U		0.0100	1.00	1.00	1	04/08/2018 14:23	WG1095355
Benzene	U		0.000331	0.00100	0.00100	1	04/08/2018 14:23	WG1095355
Bromodichloromethane	U		0.000380	0.00125	0.00125	1	04/08/2018 14:23	WG1095355
Bromoform	U		0.000469	0.00100	0.00100	1	04/08/2018 14:23	WG1095355
Bromomethane	U		0.000866	0.00500	0.00500	1	04/08/2018 14:23	WG1095355
n-Butylbenzene	U		0.000361	0.00100	0.00100	1	04/08/2018 14:23	WG1095355
sec-Butylbenzene	U		0.000365	0.00100	0.00100	1	04/08/2018 14:23	WG1095355

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc



Collected date/time: 04/05/18 15:10

L984044

Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result mg/l	Qualifier	SDL mg/l	Unadj. MQL mg/l	MQL mg/l	Dilution	Analysis date / time	Batch
tert-Butylbenzene	U		0.000399	0.00100	0.00100	1	04/08/2018 14:23	WG1095355
Carbon disulfide	U		0.000275	0.00100	0.00100	1	04/08/2018 14:23	WG1095355
Carbon tetrachloride	U		0.000379	0.00100	0.00100	1	04/08/2018 14:23	WG1095355
Chlorobenzene	U		0.000348	0.00100	0.00100	1	04/08/2018 14:23	WG1095355
Chlorodibromomethane	U		0.000327	0.00100	0.00100	1	04/08/2018 14:23	WG1095355
Chloroethane	U		0.000453	0.00500	0.00500	1	04/08/2018 14:23	WG1095355
Chloroform	U		0.000324	0.00500	0.00500	1	04/08/2018 14:23	WG1095355
Chloromethane	U		0.000276	0.00250	0.00250	1	04/08/2018 14:23	WG1095355
1,2-Dibromoethane	U		0.000381	0.00100	0.00100	1	04/08/2018 14:23	WG1095355
1,1-Dichloroethane	U		0.000259	0.00100	0.00100	1	04/08/2018 14:23	WG1095355
1,2-Dichloroethane	U		0.000361	0.00100	0.00100	1	04/08/2018 14:23	WG1095355
1,1-Dichloroethene	U		0.000398	0.00100	0.00100	1	04/08/2018 14:23	WG1095355
cis-1,2-Dichloroethene	U		0.000260	0.00100	0.00100	1	04/08/2018 14:23	WG1095355
trans-1,2-Dichloroethene	U		0.000396	0.00100	0.00100	1	04/08/2018 14:23	WG1095355
1,2-Dichloropropane	U		0.000306	0.00100	0.00100	1	04/08/2018 14:23	WG1095355
cis-1,3-Dichloropropene	U		0.000418	0.00100	0.00100	1	04/08/2018 14:23	WG1095355
trans-1,3-Dichloropropene	U		0.000419	0.00100	0.00100	1	04/08/2018 14:23	WG1095355
Ethylbenzene	U		0.000384	0.00100	0.00100	1	04/08/2018 14:23	WG1095355
Hexachloro-1,3-butadiene	U		0.000256	0.00100	0.00100	1	04/08/2018 14:23	WG1095355
2-Hexanone	U		0.00382	0.0100	0.0100	1	04/08/2018 14:23	WG1095355
Isopropylbenzene	U		0.000326	0.00100	0.00100	1	04/08/2018 14:23	WG1095355
p-Isopropyltoluene	U		0.000350	0.00100	0.00100	1	04/08/2018 14:23	WG1095355
2-Butanone (MEK)	U		0.00393	0.0100	0.0100	1	04/08/2018 14:23	WG1095355
Methylene Chloride	U		0.00100	0.00500	0.00500	1	04/08/2018 14:23	WG1095355
4-Methyl-2-pentanone (MIBK)	U		0.00214	0.0100	0.0100	1	04/08/2018 14:23	WG1095355
Methyl tert-butyl ether	U		0.000367	0.00100	0.00100	1	04/08/2018 14:23	WG1095355
Naphthalene	U		0.00100	0.00500	0.00500	1	04/08/2018 14:23	WG1095355
n-Propylbenzene	U		0.000349	0.00100	0.00100	1	04/08/2018 14:23	WG1095355
Styrene	U		0.000307	0.00100	0.00100	1	04/08/2018 14:23	WG1095355
1,1,2,2-Tetrachloroethane	U		0.000130	0.00100	0.00100	1	04/08/2018 14:23	WG1095355
Tetrachloroethene	U		0.000372	0.00100	0.00100	1	04/08/2018 14:23	WG1095355
Toluene	U		0.000412	0.00100	0.00100	1	04/08/2018 14:23	WG1095355
1,1,1-Trichloroethane	U		0.000319	0.00100	0.00100	1	04/08/2018 14:23	WG1095355
1,1,2-Trichloroethane	U		0.000383	0.00100	0.00100	1	04/08/2018 14:23	WG1095355
Trichloroethene	U		0.000398	0.00100	0.00100	1	04/08/2018 14:23	WG1095355
1,2,4-Trimethylbenzene	U		0.000373	0.00100	0.00100	1	04/08/2018 14:23	WG1095355
1,3,5-Trimethylbenzene	U		0.000387	0.00100	0.00100	1	04/08/2018 14:23	WG1095355
Vinyl chloride	U		0.000259	0.00100	0.00100	1	04/08/2018 14:23	WG1095355
Xylenes, Total	U		0.00106	0.00300	0.00300	1	04/08/2018 14:23	WG1095355
(S) Toluene-d8	107				80.0-120		04/08/2018 14:23	WG1095355
(S) Dibromofluoromethane	89.1				76.0-123		04/08/2018 14:23	WG1095355
(S) 4-Bromofluorobenzene	106				80.0-120		04/08/2018 14:23	WG1095355

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc



Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result	Qualifier	SDL	Unadj. MQL	MQL	Dilution	Analysis	Batch
	mg/l		mg/l	mg/l	mg/l		date / time	
Acetone	U		0.0100	1.00	1.00	1	04/08/2018 14:44	WG1095355
Benzene	U		0.000331	0.00100	0.00100	1	04/08/2018 14:44	WG1095355
Bromodichloromethane	0.00133		0.000380	0.00125	0.00125	1	04/08/2018 14:44	WG1095355
Bromoform	U		0.000469	0.00100	0.00100	1	04/08/2018 14:44	WG1095355
Bromomethane	U		0.000866	0.00500	0.00500	1	04/08/2018 14:44	WG1095355
n-Butylbenzene	U		0.000361	0.00100	0.00100	1	04/08/2018 14:44	WG1095355
sec-Butylbenzene	U		0.000365	0.00100	0.00100	1	04/08/2018 14:44	WG1095355
tert-Butylbenzene	U		0.000399	0.00100	0.00100	1	04/08/2018 14:44	WG1095355
Carbon disulfide	U		0.000275	0.00100	0.00100	1	04/08/2018 14:44	WG1095355
Carbon tetrachloride	U		0.000379	0.00100	0.00100	1	04/08/2018 14:44	WG1095355
Chlorobenzene	U		0.000348	0.00100	0.00100	1	04/08/2018 14:44	WG1095355
Chlorodibromomethane	U		0.000327	0.00100	0.00100	1	04/08/2018 14:44	WG1095355
Chloroethane	U		0.000453	0.00500	0.00500	1	04/08/2018 14:44	WG1095355
Chloroform	0.00385	J	0.000324	0.00500	0.00500	1	04/08/2018 14:44	WG1095355
Chloromethane	U		0.000276	0.00250	0.00250	1	04/08/2018 14:44	WG1095355
1,2-Dibromoethane	U		0.000381	0.00100	0.00100	1	04/08/2018 14:44	WG1095355
1,1-Dichloroethane	U		0.000259	0.00100	0.00100	1	04/08/2018 14:44	WG1095355
1,2-Dichloroethane	0.000485	J	0.000361	0.00100	0.00100	1	04/08/2018 14:44	WG1095355
1,1-Dichloroethene	U		0.000398	0.00100	0.00100	1	04/08/2018 14:44	WG1095355
cis-1,2-Dichloroethene	U		0.000260	0.00100	0.00100	1	04/08/2018 14:44	WG1095355
trans-1,2-Dichloroethene	U		0.000396	0.00100	0.00100	1	04/08/2018 14:44	WG1095355
1,2-Dichloropropane	U		0.000306	0.00100	0.00100	1	04/08/2018 14:44	WG1095355
cis-1,3-Dichloropropene	U		0.000418	0.00100	0.00100	1	04/08/2018 14:44	WG1095355
trans-1,3-Dichloropropene	U		0.000419	0.00100	0.00100	1	04/08/2018 14:44	WG1095355
Ethylbenzene	U		0.000384	0.00100	0.00100	1	04/08/2018 14:44	WG1095355
Hexachloro-1,3-butadiene	U		0.000256	0.00100	0.00100	1	04/08/2018 14:44	WG1095355
2-Hexanone	U		0.00382	0.0100	0.0100	1	04/08/2018 14:44	WG1095355
Isopropylbenzene	U		0.000326	0.00100	0.00100	1	04/08/2018 14:44	WG1095355
p-Isopropyltoluene	U		0.000350	0.00100	0.00100	1	04/08/2018 14:44	WG1095355
2-Butanone (MEK)	U		0.00393	0.0100	0.0100	1	04/08/2018 14:44	WG1095355
Methylene Chloride	U		0.00100	0.00500	0.00500	1	04/08/2018 14:44	WG1095355
4-Methyl-2-pentanone (MIBK)	U		0.00214	0.0100	0.0100	1	04/08/2018 14:44	WG1095355
Methyl tert-butyl ether	U		0.000367	0.00100	0.00100	1	04/08/2018 14:44	WG1095355
Naphthalene	U		0.00100	0.00500	0.00500	1	04/08/2018 14:44	WG1095355
n-Propylbenzene	U		0.000349	0.00100	0.00100	1	04/08/2018 14:44	WG1095355
Styrene	U		0.000307	0.00100	0.00100	1	04/08/2018 14:44	WG1095355
1,1,2,2-Tetrachloroethane	U		0.000130	0.00100	0.00100	1	04/08/2018 14:44	WG1095355
Tetrachloroethene	U		0.000372	0.00100	0.00100	1	04/08/2018 14:44	WG1095355
Toluene	U		0.000412	0.00100	0.00100	1	04/08/2018 14:44	WG1095355
1,1,1-Trichloroethane	U		0.000319	0.00100	0.00100	1	04/08/2018 14:44	WG1095355
1,1,2-Trichloroethane	U		0.000383	0.00100	0.00100	1	04/08/2018 14:44	WG1095355
Trichloroethene	U		0.000398	0.00100	0.00100	1	04/08/2018 14:44	WG1095355
1,2,4-Trimethylbenzene	U		0.000373	0.00100	0.00100	1	04/08/2018 14:44	WG1095355
1,3,5-Trimethylbenzene	U		0.000387	0.00100	0.00100	1	04/08/2018 14:44	WG1095355
Vinyl chloride	U		0.000259	0.00100	0.00100	1	04/08/2018 14:44	WG1095355
Xylenes, Total	U		0.00106	0.00300	0.00300	1	04/08/2018 14:44	WG1095355
(S) Toluene-d8	107				80.0-120		04/08/2018 14:44	WG1095355
(S) Dibromofluoromethane	89.6				76.0-123		04/08/2018 14:44	WG1095355
(S) 4-Bromofluorobenzene	106				80.0-120		04/08/2018 14:44	WG1095355

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc



Collected date/time: 04/05/18 15:55

L984044

Semi Volatile Organic Compounds (GC/MS) by Method 8270 C

Analyte	Result mg/l	Qualifier	SDL mg/l	Unadj. MQL mg/l	MQL mg/l	Dilution	Analysis date / time	Batch
Acenaphthene	U		0.000316	0.00100	0.00100	1	04/12/2018 22:04	WG1095852
Acenaphthylene	U		0.000309	0.00100	0.00100	1	04/12/2018 22:04	WG1095852
Acetophenone	U		0.00247	0.0100	0.0100	1	04/12/2018 22:04	WG1095852
Anthracene	U		0.000291	0.00100	0.00100	1	04/12/2018 22:04	WG1095852
Atrazine	U		0.000260	0.0100	0.0100	1	04/12/2018 22:04	WG1095852
Benzo(a)anthracene	U		0.0000510	0.00100	0.00100	1	04/12/2018 22:04	WG1095852
Benzaldehyde	U	J4	0.00140	0.0100	0.0100	1	04/12/2018 22:04	WG1095852
Benzo(b)fluoranthene	U		0.0000896	0.00100	0.00100	1	04/12/2018 22:04	WG1095852
Benzo(k)fluoranthene	U		0.000355	0.00100	0.00100	1	04/12/2018 22:04	WG1095852
Benzo(g,h,i)perylene	U		0.00000227	0.00100	0.00100	1	04/12/2018 22:04	WG1095852
Benzo(a)pyrene	U		0.0000381	0.000200	0.000200	1	04/12/2018 22:04	WG1095852
Biphenyl	U		0.000325	0.0100	0.0100	1	04/12/2018 22:04	WG1095852
Bis(2-chlorethoxy)methane	U		0.000329	0.0100	0.0100	1	04/12/2018 22:04	WG1095852
Bis(2-chloroethyl)ether	U		0.00162	0.0100	0.0100	1	04/12/2018 22:04	WG1095852
Bis(2-chloroisopropyl)ether	U		0.000445	0.0100	0.0100	1	04/12/2018 22:04	WG1095852
4-Bromophenyl-phenylether	U		0.000335	0.0100	0.0100	1	04/12/2018 22:04	WG1095852
2-Chloronaphthalene	U		0.000330	0.00100	0.00100	1	04/12/2018 22:04	WG1095852
4-Chlorophenyl-phenylether	U		0.000303	0.0100	0.0100	1	04/12/2018 22:04	WG1095852
Caprolactam	U		0.00259	0.0100	0.0100	1	04/12/2018 22:04	WG1095852
Carbazole	U		0.000260	0.0100	0.0100	1	04/12/2018 22:04	WG1095852
Chrysene	U		0.000332	0.00100	0.00100	1	04/12/2018 22:04	WG1095852
Dibenz(a,h)anthracene	U		0.0000644	0.000200	0.000200	1	04/12/2018 22:04	WG1095852
Dibenzofuran	U		0.000338	0.0100	0.0100	1	04/12/2018 22:04	WG1095852
3,3-Dichlorobenzidine	U		0.00202	0.0100	0.0100	1	04/12/2018 22:04	WG1095852
2,4-Dinitrotoluene	U		0.00165	0.0100	0.0100	1	04/12/2018 22:04	WG1095852
2,6-Dinitrotoluene	U		0.000279	0.0100	0.0100	1	04/12/2018 22:04	WG1095852
Fluoranthene	U		0.000310	0.00100	0.00100	1	04/12/2018 22:04	WG1095852
Fluorene	U		0.000323	0.00100	0.00100	1	04/12/2018 22:04	WG1095852
Hexachlorobenzene	U		0.000341	0.00100	0.00100	1	04/12/2018 22:04	WG1095852
Hexachloro-1,3-butadiene	U		0.000329	0.0100	0.0100	1	04/12/2018 22:04	WG1095852
Hexachlorocyclopentadiene	U		0.00233	0.0100	0.0100	1	04/12/2018 22:04	WG1095852
Hexachloroethane	U		0.000365	0.0100	0.0100	1	04/12/2018 22:04	WG1095852
Indeno(1,2,3-cd)pyrene	U		0.000279	0.00100	0.00100	1	04/12/2018 22:04	WG1095852
Isophorone	U		0.000272	0.0100	0.0100	1	04/12/2018 22:04	WG1095852
1-Methylnaphthalene	U		0.000332	0.00100	0.00100	1	04/12/2018 22:04	WG1095852
2-Methylnaphthalene	U		0.000311	0.00100	0.00100	1	04/12/2018 22:04	WG1095852
Naphthalene	0.00228		0.000372	0.00100	0.00100	1	04/12/2018 22:04	WG1095852
Nitrobenzene	U		0.000367	0.0100	0.0100	1	04/12/2018 22:04	WG1095852
n-Nitrosodiphenylamine	U		0.000304	0.0100	0.0100	1	04/12/2018 22:04	WG1095852
n-Nitrosodi-n-propylamine	U		0.000403	0.0100	0.0100	1	04/12/2018 22:04	WG1095852
Phenanthrene	U		0.000366	0.00100	0.00100	1	04/12/2018 22:04	WG1095852
Benzylbutyl phthalate	U		0.000275	0.00300	0.00300	1	04/12/2018 22:04	WG1095852
Bis(2-ethylhexyl)phthalate	U		0.000709	0.00300	0.00300	1	04/12/2018 22:04	WG1095852
Di-n-butyl phthalate	U		0.000266	0.00300	0.00300	1	04/12/2018 22:04	WG1095852
Diethyl phthalate	U		0.000282	0.00300	0.00300	1	04/12/2018 22:04	WG1095852
Dimethyl phthalate	U		0.000283	0.00300	0.00300	1	04/12/2018 22:04	WG1095852
Di-n-octyl phthalate	U		0.000278	0.00300	0.00300	1	04/12/2018 22:04	WG1095852
Pyrene	U		0.000330	0.00100	0.00100	1	04/12/2018 22:04	WG1095852
1,2,4-Trichlorobenzene	U		0.000355	0.0100	0.0100	1	04/12/2018 22:04	WG1095852
4-Chloro-3-methylphenol	U		0.000263	0.0100	0.0100	1	04/12/2018 22:04	WG1095852
2-Chlorophenol	U		0.000283	0.0100	0.0100	1	04/12/2018 22:04	WG1095852
2,4-Dichlorophenol	U		0.000284	0.0100	0.0100	1	04/12/2018 22:04	WG1095852
2,4-Dimethylphenol	U		0.000624	0.0100	0.0100	1	04/12/2018 22:04	WG1095852
4,6-Dinitro-2-methylphenol	U		0.00262	0.0100	0.0100	1	04/12/2018 22:04	WG1095852
2,4-Dinitrophenol	U		0.00325	0.0100	0.0100	1	04/12/2018 22:04	WG1095852
2-Nitrophenol	U		0.000320	0.0100	0.0100	1	04/12/2018 22:04	WG1095852

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc



Collected date/time: 04/05/18 15:55

L984044

Semi Volatile Organic Compounds (GC/MS) by Method 8270 C

Analyte	Result mg/l	Qualifier	SDL mg/l	Unadj. MQL mg/l	MQL mg/l	Dilution	Analysis date / time	Batch
2-Nitroaniline	U		0.00190	0.0100	0.0100	1	04/12/2018 22:04	WG1095852
2-Methylphenol	U		0.000312	0.0100	0.0100	1	04/12/2018 22:04	WG1095852
3&4-Methyl Phenol	U		0.000266	0.0100	0.0100	1	04/12/2018 22:04	WG1095852
3-Nitroaniline	U		0.000308	0.0100	0.0100	1	04/12/2018 22:04	WG1095852
4-Chloroaniline	U		0.000382	0.0100	0.0100	1	04/12/2018 22:04	WG1095852
4-Nitroaniline	U	J4	0.000349	0.0100	0.0100	1	04/12/2018 22:04	WG1095852
4-Nitrophenol	U		0.00201	0.0100	0.0100	1	04/12/2018 22:04	WG1095852
Pentachlorophenol	U		0.000313	0.0100	0.0100	1	04/12/2018 22:04	WG1095852
Phenol	0.00721	J	0.000334	0.0100	0.0100	1	04/12/2018 22:04	WG1095852
2,4,5-Trichlorophenol	U		0.000236	0.0100	0.0100	1	04/12/2018 22:04	WG1095852
2,4,6-Trichlorophenol	U		0.000297	0.0100	0.0100	1	04/12/2018 22:04	WG1095852
(S) 2-Fluorophenol	77.6				10.0-120		04/12/2018 22:04	WG1095852
(S) Phenol-d5	51.9				10.0-120		04/12/2018 22:04	WG1095852
(S) Nitrobenzene-d5	88.1				10.0-126		04/12/2018 22:04	WG1095852
(S) 2-Fluorobiphenyl	86.4				22.0-127		04/12/2018 22:04	WG1095852
(S) 2,4,6-Tribromophenol	99.8				10.0-153		04/12/2018 22:04	WG1095852
(S) p-Terphenyl-d14	97.2				29.0-141		04/12/2018 22:04	WG1095852

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc



Wet Chemistry by Method 353.2

Analyte	Result	Qualifier	SDL	Unadj. MQL	MQL	Dilution	Analysis date / time	Batch
Nitrate-Nitrite	1.75	J6	0.0197	0.100	0.100	1	04/13/2018 14:56	WG1096785

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	SDL	Unadj. MQL	MQL	Dilution	Analysis date / time	Batch
Chloride	26.9		0.0519	1.00	1.00	1	04/10/2018 05:19	WG1095385
Fluoride	0.896		0.00990	0.100	0.100	1	04/10/2018 05:19	WG1095385
Sulfate	73.1		0.0774	5.00	5.00	1	04/10/2018 05:19	WG1095385

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc



Wet Chemistry by Method 353.2

Analyte	Result	Qualifier	SDL	Unadj. MQL	MQL	Dilution	Analysis	Batch
	mg/l		mg/l	mg/l	mg/l		date / time	
Nitrate-Nitrite	2.04		0.0197	0.100	0.100	1	04/13/2018 14:58	WG1096785

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	SDL	Unadj. MQL	MQL	Dilution	Analysis	Batch
	mg/l		mg/l	mg/l	mg/l		date / time	
Chloride	55.8		0.0519	1.00	1.00	1	04/10/2018 05:34	WG1095385
Fluoride	0.719		0.00990	0.100	0.100	1	04/10/2018 05:34	WG1095385
Sulfate	76.7		0.0774	5.00	5.00	1	04/10/2018 05:34	WG1095385

Mercury by Method 7470A

Analyte	Result	Qualifier	SDL	Unadj. MQL	MQL	Dilution	Analysis	Batch
	mg/l		mg/l	mg/l	mg/l		date / time	
Mercury	U		0.0000490	0.000200	0.000200	1	04/10/2018 10:08	WG1095544

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	SDL	Unadj. MQL	MQL	Dilution	Analysis	Batch
	mg/l		mg/l	mg/l	mg/l		date / time	
Boron,Dissolved	0.173	J	0.0126	0.200	0.200	1	04/11/2018 10:52	WG1095187

Metals (ICPMS) by Method 6020

Analyte	Result	Qualifier	SDL	Unadj. MQL	MQL	Dilution	Analysis	Batch
	mg/l		mg/l	mg/l	mg/l		date / time	
Aluminum,Dissolved	U		0.00515	0.100	0.100	1	04/19/2018 16:53	WG1095185
Arsenic,Dissolved	0.00668		0.000250	0.00200	0.00200	1	04/19/2018 16:53	WG1095185
Barium,Dissolved	0.161		0.000360	0.00500	0.00500	1	04/19/2018 16:53	WG1095185
Cadmium,Dissolved	U		0.000160	0.00100	0.00100	1	04/19/2018 16:53	WG1095185
Calcium,Dissolved	98.0		0.0460	1.00	1.00	1	04/19/2018 16:53	WG1095185
Chromium,Dissolved	U		0.000540	0.00200	0.00200	1	04/19/2018 16:53	WG1095185
Copper,Dissolved	0.00153	B J	0.000520	0.00500	0.00500	1	04/19/2018 16:53	WG1095185
Cobalt,Dissolved	U		0.000260	0.00200	0.00200	1	04/19/2018 16:53	WG1095185
Iron,Dissolved	U		0.0150	0.100	0.100	1	04/19/2018 16:53	WG1095185
Lead,Dissolved	U		0.000240	0.00200	0.00200	1	04/19/2018 16:53	WG1095185
Magnesium,Dissolved	12.6		0.100	1.00	1.00	1	04/17/2018 14:37	WG1095185
Manganese,Dissolved	0.0304		0.000250	0.00500	0.00500	1	04/19/2018 16:53	WG1095185
Molybdenum,Dissolved	0.00224	B J	0.000140	0.00500	0.00500	1	04/19/2018 16:53	WG1095185
Nickel,Dissolved	0.00197	B J	0.000350	0.00200	0.00200	1	04/19/2018 16:53	WG1095185
Potassium,Dissolved	3.77		0.0370	1.00	1.00	1	04/19/2018 16:53	WG1095185
Selenium,Dissolved	0.00426	B	0.000380	0.00200	0.00200	1	04/19/2018 16:53	WG1095185
Silver,Dissolved	U		0.000310	0.00200	0.00200	1	04/19/2018 16:53	WG1095185
Sodium,Dissolved	43.3		0.110	1.00	1.00	1	04/19/2018 16:53	WG1095185
Uranium,Dissolved	0.00345	B J	0.000330	0.0100	0.0100	1	04/19/2018 16:53	WG1095185
Zinc,Dissolved	0.0111	J	0.00256	0.0250	0.0250	1	04/17/2018 14:37	WG1095185

Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result	Qualifier	SDL	Unadj. MQL	MQL	Dilution	Analysis	Batch
	mg/l		mg/l	mg/l	mg/l		date / time	
Acetone	U		0.0100	1.00	1.00	1	04/08/2018 15:04	WG1095355
Benzene	U		0.000331	0.00100	0.00100	1	04/08/2018 15:04	WG1095355
Bromodichloromethane	U		0.000380	0.00125	0.00125	1	04/08/2018 15:04	WG1095355
Bromoform	U		0.000469	0.00100	0.00100	1	04/08/2018 15:04	WG1095355
Bromomethane	U		0.000866	0.00500	0.00500	1	04/08/2018 15:04	WG1095355
n-Butylbenzene	U		0.000361	0.00100	0.00100	1	04/08/2018 15:04	WG1095355
sec-Butylbenzene	U		0.000365	0.00100	0.00100	1	04/08/2018 15:04	WG1095355



Collected date/time: 04/05/18 14:15

L984044

Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result mg/l	Qualifier	SDL mg/l	Unadj. MQL mg/l	MQL mg/l	Dilution	Analysis date / time	Batch
tert-Butylbenzene	U		0.000399	0.00100	0.00100	1	04/08/2018 15:04	WG1095355
Carbon disulfide	U		0.000275	0.00100	0.00100	1	04/08/2018 15:04	WG1095355
Carbon tetrachloride	U		0.000379	0.00100	0.00100	1	04/08/2018 15:04	WG1095355
Chlorobenzene	U		0.000348	0.00100	0.00100	1	04/08/2018 15:04	WG1095355
Chlorodibromomethane	U		0.000327	0.00100	0.00100	1	04/08/2018 15:04	WG1095355
Chloroethane	U		0.000453	0.00500	0.00500	1	04/08/2018 15:04	WG1095355
Chloroform	U		0.000324	0.00500	0.00500	1	04/08/2018 15:04	WG1095355
Chloromethane	U		0.000276	0.00250	0.00250	1	04/08/2018 15:04	WG1095355
1,2-Dibromoethane	U		0.000381	0.00100	0.00100	1	04/08/2018 15:04	WG1095355
1,1-Dichloroethane	U		0.000259	0.00100	0.00100	1	04/08/2018 15:04	WG1095355
1,2-Dichloroethane	U		0.000361	0.00100	0.00100	1	04/08/2018 15:04	WG1095355
1,1-Dichloroethene	U		0.000398	0.00100	0.00100	1	04/08/2018 15:04	WG1095355
cis-1,2-Dichloroethene	U		0.000260	0.00100	0.00100	1	04/08/2018 15:04	WG1095355
trans-1,2-Dichloroethene	U		0.000396	0.00100	0.00100	1	04/08/2018 15:04	WG1095355
1,2-Dichloropropane	U		0.000306	0.00100	0.00100	1	04/08/2018 15:04	WG1095355
cis-1,3-Dichloropropene	U		0.000418	0.00100	0.00100	1	04/08/2018 15:04	WG1095355
trans-1,3-Dichloropropene	U		0.000419	0.00100	0.00100	1	04/08/2018 15:04	WG1095355
Ethylbenzene	U		0.000384	0.00100	0.00100	1	04/08/2018 15:04	WG1095355
Hexachloro-1,3-butadiene	U		0.000256	0.00100	0.00100	1	04/08/2018 15:04	WG1095355
2-Hexanone	U		0.00382	0.0100	0.0100	1	04/08/2018 15:04	WG1095355
Isopropylbenzene	U		0.000326	0.00100	0.00100	1	04/08/2018 15:04	WG1095355
p-Isopropyltoluene	U		0.000350	0.00100	0.00100	1	04/08/2018 15:04	WG1095355
2-Butanone (MEK)	U		0.00393	0.0100	0.0100	1	04/08/2018 15:04	WG1095355
Methylene Chloride	U		0.00100	0.00500	0.00500	1	04/08/2018 15:04	WG1095355
4-Methyl-2-pentanone (MIBK)	U		0.00214	0.0100	0.0100	1	04/08/2018 15:04	WG1095355
Methyl tert-butyl ether	U		0.000367	0.00100	0.00100	1	04/08/2018 15:04	WG1095355
Naphthalene	U		0.00100	0.00500	0.00500	1	04/08/2018 15:04	WG1095355
n-Propylbenzene	U		0.000349	0.00100	0.00100	1	04/08/2018 15:04	WG1095355
Styrene	U		0.000307	0.00100	0.00100	1	04/08/2018 15:04	WG1095355
1,1,2,2-Tetrachloroethane	U		0.000130	0.00100	0.00100	1	04/08/2018 15:04	WG1095355
Tetrachloroethene	U		0.000372	0.00100	0.00100	1	04/08/2018 15:04	WG1095355
Toluene	U		0.000412	0.00100	0.00100	1	04/08/2018 15:04	WG1095355
1,1,1-Trichloroethane	U		0.000319	0.00100	0.00100	1	04/08/2018 15:04	WG1095355
1,1,2-Trichloroethane	U		0.000383	0.00100	0.00100	1	04/08/2018 15:04	WG1095355
Trichloroethene	U		0.000398	0.00100	0.00100	1	04/08/2018 15:04	WG1095355
1,2,4-Trimethylbenzene	U		0.000373	0.00100	0.00100	1	04/08/2018 15:04	WG1095355
1,3,5-Trimethylbenzene	U		0.000387	0.00100	0.00100	1	04/08/2018 15:04	WG1095355
Vinyl chloride	U		0.000259	0.00100	0.00100	1	04/08/2018 15:04	WG1095355
Xylenes, Total	U		0.00106	0.00300	0.00300	1	04/08/2018 15:04	WG1095355
(S) Toluene-d8	108				80.0-120		04/08/2018 15:04	WG1095355
(S) Dibromofluoromethane	89.9				76.0-123		04/08/2018 15:04	WG1095355
(S) 4-Bromofluorobenzene	106				80.0-120		04/08/2018 15:04	WG1095355

1
Cp2
Tc3
Ss4
Cn5
Sr6
Qc7
Gl8
Al9
Sc



Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	SDL	Unadj. MQL	MQL	Dilution	Analysis	Batch
	mg/l		mg/l	mg/l	mg/l		date / time	
Dissolved Solids	877		2.82	10.0	10.0	1	04/12/2018 16:05	WG1096341

Wet Chemistry by Method 353.2

Analyte	Result	Qualifier	SDL	Unadj. MQL	MQL	Dilution	Analysis	Batch
	mg/l		mg/l	mg/l	mg/l		date / time	
Nitrate-Nitrite	5.61		0.0394	0.100	0.200	2	04/13/2018 15:29	WG1096785

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	SDL	Unadj. MQL	MQL	Dilution	Analysis	Batch
	mg/l		mg/l	mg/l	mg/l		date / time	
Chloride	170		0.260	1.00	5.00	5	04/10/2018 06:05	WG1095385
Fluoride	0.599		0.00990	0.100	0.100	1	04/10/2018 05:50	WG1095385
Sulfate	77.1		0.0774	5.00	5.00	1	04/10/2018 05:50	WG1095385

Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result	Qualifier	SDL	Unadj. MQL	MQL	Dilution	Analysis	Batch
	mg/l		mg/l	mg/l	mg/l		date / time	
Acetone	U		0.0100	1.00	1.00	1	04/08/2018 15:25	WG1095355
Benzene	U		0.000331	0.00100	0.00100	1	04/08/2018 15:25	WG1095355
Bromodichloromethane	U		0.000380	0.00125	0.00125	1	04/08/2018 15:25	WG1095355
Bromoform	U		0.000469	0.00100	0.00100	1	04/08/2018 15:25	WG1095355
Bromomethane	U		0.000866	0.00500	0.00500	1	04/08/2018 15:25	WG1095355
n-Butylbenzene	U		0.000361	0.00100	0.00100	1	04/08/2018 15:25	WG1095355
sec-Butylbenzene	U		0.000365	0.00100	0.00100	1	04/08/2018 15:25	WG1095355
tert-Butylbenzene	U		0.000399	0.00100	0.00100	1	04/08/2018 15:25	WG1095355
Carbon disulfide	U		0.000275	0.00100	0.00100	1	04/08/2018 15:25	WG1095355
Carbon tetrachloride	U		0.000379	0.00100	0.00100	1	04/08/2018 15:25	WG1095355
Chlorobenzene	U		0.000348	0.00100	0.00100	1	04/08/2018 15:25	WG1095355
Chlorodibromomethane	U		0.000327	0.00100	0.00100	1	04/08/2018 15:25	WG1095355
Chloroethane	U		0.000453	0.00500	0.00500	1	04/08/2018 15:25	WG1095355
Chloroform	U		0.000324	0.00500	0.00500	1	04/08/2018 15:25	WG1095355
Chloromethane	U		0.000276	0.00250	0.00250	1	04/08/2018 15:25	WG1095355
1,2-Dibromoethane	U		0.000381	0.00100	0.00100	1	04/08/2018 15:25	WG1095355
1,1-Dichloroethane	U		0.000259	0.00100	0.00100	1	04/08/2018 15:25	WG1095355
1,2-Dichloroethane	U		0.000361	0.00100	0.00100	1	04/08/2018 15:25	WG1095355
1,1-Dichloroethene	U		0.000398	0.00100	0.00100	1	04/08/2018 15:25	WG1095355
cis-1,2-Dichloroethene	U		0.000260	0.00100	0.00100	1	04/08/2018 15:25	WG1095355
trans-1,2-Dichloroethene	U		0.000396	0.00100	0.00100	1	04/08/2018 15:25	WG1095355
1,2-Dichloropropane	U		0.000306	0.00100	0.00100	1	04/08/2018 15:25	WG1095355
cis-1,3-Dichloropropene	U		0.000418	0.00100	0.00100	1	04/08/2018 15:25	WG1095355
trans-1,3-Dichloropropene	U		0.000419	0.00100	0.00100	1	04/08/2018 15:25	WG1095355
Ethylbenzene	U		0.000384	0.00100	0.00100	1	04/08/2018 15:25	WG1095355
Hexachloro-1,3-butadiene	U		0.000256	0.00100	0.00100	1	04/08/2018 15:25	WG1095355
2-Hexanone	U		0.00382	0.0100	0.0100	1	04/08/2018 15:25	WG1095355
Isopropylbenzene	U		0.000326	0.00100	0.00100	1	04/08/2018 15:25	WG1095355
p-Isopropyltoluene	U		0.000350	0.00100	0.00100	1	04/08/2018 15:25	WG1095355
2-Butanone (MEK)	U		0.00393	0.0100	0.0100	1	04/08/2018 15:25	WG1095355
Methylene Chloride	U		0.00100	0.00500	0.00500	1	04/08/2018 15:25	WG1095355
4-Methyl-2-pentanone (MIBK)	U		0.00214	0.0100	0.0100	1	04/08/2018 15:25	WG1095355
Methyl tert-butyl ether	U		0.000367	0.00100	0.00100	1	04/08/2018 15:25	WG1095355
Naphthalene	U		0.00100	0.00500	0.00500	1	04/08/2018 15:25	WG1095355
n-Propylbenzene	U		0.000349	0.00100	0.00100	1	04/08/2018 15:25	WG1095355
Styrene	U		0.000307	0.00100	0.00100	1	04/08/2018 15:25	WG1095355
1,1,2,2-Tetrachloroethane	U		0.000130	0.00100	0.00100	1	04/08/2018 15:25	WG1095355

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc



Collected date/time: 04/05/18 16:50

L984044

Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result mg/l	Qualifier	SDL mg/l	Unadj. MQL mg/l	MQL mg/l	Dilution	Analysis date / time	Batch
Tetrachloroethene	U		0.000372	0.00100	0.00100	1	04/08/2018 15:25	WG1095355
Toluene	U		0.000412	0.00100	0.00100	1	04/08/2018 15:25	WG1095355
1,1,1-Trichloroethane	U		0.000319	0.00100	0.00100	1	04/08/2018 15:25	WG1095355
1,1,2-Trichloroethane	U		0.000383	0.00100	0.00100	1	04/08/2018 15:25	WG1095355
Trichloroethene	U		0.000398	0.00100	0.00100	1	04/08/2018 15:25	WG1095355
1,2,4-Trimethylbenzene	U		0.000373	0.00100	0.00100	1	04/08/2018 15:25	WG1095355
1,3,5-Trimethylbenzene	U		0.000387	0.00100	0.00100	1	04/08/2018 15:25	WG1095355
Vinyl chloride	U		0.000259	0.00100	0.00100	1	04/08/2018 15:25	WG1095355
Xylenes, Total	U		0.00106	0.00300	0.00300	1	04/08/2018 15:25	WG1095355
(S) Toluene-d8	108				80.0-120		04/08/2018 15:25	WG1095355
(S) Dibromofluoromethane	89.3				76.0-123		04/08/2018 15:25	WG1095355
(S) 4-Bromofluorobenzene	106				80.0-120		04/08/2018 15:25	WG1095355

¹ Cp² Tc³ Ss⁴ Cn⁵ Sr⁶ Qc⁷ Gl⁸ Al⁹ Sc



Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	SDL	Unadj. MQL	MQL	Dilution	Analysis date / time	Batch
Dissolved Solids	1080		2.82	10.0	10.0	1	04/12/2018 16:05	WG1096341

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc

Wet Chemistry by Method 2320 B-2011

Analyte	Result	Qualifier	SDL	Unadj. MQL	MQL	Dilution	Analysis date / time	Batch
Alkalinity	203		2.71	20.0	20.0	1	04/08/2018 20:58	WG1095314

Sample Narrative:

L984044-06 WG1095314: Endpoint pH 4.5

Mercury by Method 7470A

Analyte	Result	Qualifier	SDL	Unadj. MQL	MQL	Dilution	Analysis date / time	Batch
Mercury	U		0.0000490	0.000200	0.000200	1	04/10/2018 10:17	WG1095544

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	SDL	Unadj. MQL	MQL	Dilution	Analysis date / time	Batch
Boron,Dissolved	0.192	J	0.0126	0.200	0.200	1	04/11/2018 10:55	WG1095187

Metals (ICPMS) by Method 6020

Analyte	Result	Qualifier	SDL	Unadj. MQL	MQL	Dilution	Analysis date / time	Batch
Aluminum,Dissolved	U		0.00515	0.100	0.100	1	04/19/2018 16:57	WG1095185
Arsenic,Dissolved	0.00250	B	0.000250	0.00200	0.00200	1	04/19/2018 16:57	WG1095185
Barium,Dissolved	0.153		0.000360	0.00500	0.00500	1	04/19/2018 16:57	WG1095185
Cadmium,Dissolved	U		0.000160	0.00100	0.00100	1	04/19/2018 16:57	WG1095185
Calcium,Dissolved	186		0.0460	1.00	1.00	1	04/19/2018 16:57	WG1095185
Chromium,Dissolved	U		0.000540	0.00200	0.00200	1	04/18/2018 15:45	WG1099510
Copper,Dissolved	0.0151		0.000520	0.00500	0.00500	1	04/19/2018 16:57	WG1095185
Cobalt,Dissolved	U		0.000260	0.00200	0.00200	1	04/19/2018 16:57	WG1095185
Iron,Dissolved	0.0561	J	0.0150	0.100	0.100	1	04/19/2018 16:57	WG1095185
Lead,Dissolved	0.000668	B J	0.000240	0.00200	0.00200	1	04/19/2018 16:57	WG1095185
Magnesium,Dissolved	27.9		0.100	1.00	1.00	1	04/17/2018 14:41	WG1095185
Manganese,Dissolved	0.00304	B J	0.000250	0.00500	0.00500	1	04/19/2018 16:57	WG1095185
Molybdenum,Dissolved	0.00146	B J	0.000140	0.00500	0.00500	1	04/19/2018 16:57	WG1095185
Nickel,Dissolved	0.0849		0.000350	0.00200	0.00200	1	04/19/2018 16:57	WG1095185
Potassium,Dissolved	3.48		0.0370	1.00	1.00	1	04/19/2018 16:57	WG1095185
Selenium,Dissolved	0.00219	B	0.000380	0.00200	0.00200	1	04/19/2018 16:57	WG1095185
Silver,Dissolved	U		0.000310	0.00200	0.00200	1	04/19/2018 16:57	WG1095185
Sodium,Dissolved	58.3		0.110	1.00	1.00	1	04/19/2018 16:57	WG1095185
Uranium,Dissolved	0.00298	B J	0.000330	0.0100	0.0100	1	04/19/2018 16:57	WG1095185
Zinc,Dissolved	0.168		0.00256	0.0250	0.0250	1	04/17/2018 14:41	WG1095185

Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result	Qualifier	SDL	Unadj. MQL	MQL	Dilution	Analysis date / time	Batch
Acetone	U		0.0100	1.00	1.00	1	04/08/2018 15:46	WG1095355
Benzene	U		0.000331	0.00100	0.00100	1	04/08/2018 15:46	WG1095355
Bromodichloromethane	U		0.000380	0.00125	0.00125	1	04/08/2018 15:46	WG1095355
Bromoform	U		0.000469	0.00100	0.00100	1	04/08/2018 15:46	WG1095355
Bromomethane	U		0.000866	0.00500	0.00500	1	04/08/2018 15:46	WG1095355
n-Butylbenzene	U		0.000361	0.00100	0.00100	1	04/08/2018 15:46	WG1095355



Collected date/time: 04/05/18 16:00

L984044

Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result mg/l	Qualifier	SDL mg/l	Unadj. MQL mg/l	MQL mg/l	Dilution	Analysis date / time	Batch
sec-Butylbenzene	U		0.000365	0.00100	0.00100	1	04/08/2018 15:46	WG1095355
tert-Butylbenzene	U		0.000399	0.00100	0.00100	1	04/08/2018 15:46	WG1095355
Carbon disulfide	U		0.000275	0.00100	0.00100	1	04/08/2018 15:46	WG1095355
Carbon tetrachloride	U		0.000379	0.00100	0.00100	1	04/08/2018 15:46	WG1095355
Chlorobenzene	U		0.000348	0.00100	0.00100	1	04/08/2018 15:46	WG1095355
Chlorodibromomethane	U		0.000327	0.00100	0.00100	1	04/08/2018 15:46	WG1095355
Chloroethane	U		0.000453	0.00500	0.00500	1	04/08/2018 15:46	WG1095355
Chloroform	0.000350	J	0.000324	0.00500	0.00500	1	04/08/2018 15:46	WG1095355
Chloromethane	U		0.000276	0.00250	0.00250	1	04/08/2018 15:46	WG1095355
1,2-Dibromoethane	U		0.000381	0.00100	0.00100	1	04/08/2018 15:46	WG1095355
1,1-Dichloroethane	U		0.000259	0.00100	0.00100	1	04/08/2018 15:46	WG1095355
1,2-Dichloroethane	U		0.000361	0.00100	0.00100	1	04/08/2018 15:46	WG1095355
1,1-Dichloroethene	U		0.000398	0.00100	0.00100	1	04/08/2018 15:46	WG1095355
cis-1,2-Dichloroethene	U		0.000260	0.00100	0.00100	1	04/08/2018 15:46	WG1095355
trans-1,2-Dichloroethene	U		0.000396	0.00100	0.00100	1	04/08/2018 15:46	WG1095355
1,2-Dichloropropane	U		0.000306	0.00100	0.00100	1	04/08/2018 15:46	WG1095355
cis-1,3-Dichloropropene	U		0.000418	0.00100	0.00100	1	04/08/2018 15:46	WG1095355
trans-1,3-Dichloropropene	U		0.000419	0.00100	0.00100	1	04/08/2018 15:46	WG1095355
Ethylbenzene	U		0.000384	0.00100	0.00100	1	04/08/2018 15:46	WG1095355
Hexachloro-1,3-butadiene	U		0.000256	0.00100	0.00100	1	04/08/2018 15:46	WG1095355
2-Hexanone	U		0.00382	0.0100	0.0100	1	04/08/2018 15:46	WG1095355
Isopropylbenzene	U		0.000326	0.00100	0.00100	1	04/08/2018 15:46	WG1095355
p-Isopropyltoluene	U		0.000350	0.00100	0.00100	1	04/08/2018 15:46	WG1095355
2-Butanone (MEK)	U		0.00393	0.0100	0.0100	1	04/08/2018 15:46	WG1095355
Methylene Chloride	U		0.00100	0.00500	0.00500	1	04/08/2018 15:46	WG1095355
4-Methyl-2-pentanone (MIBK)	U		0.00214	0.0100	0.0100	1	04/08/2018 15:46	WG1095355
Methyl tert-butyl ether	U		0.000367	0.00100	0.00100	1	04/08/2018 15:46	WG1095355
Naphthalene	U		0.00100	0.00500	0.00500	1	04/08/2018 15:46	WG1095355
n-Propylbenzene	U		0.000349	0.00100	0.00100	1	04/08/2018 15:46	WG1095355
Styrene	U		0.000307	0.00100	0.00100	1	04/08/2018 15:46	WG1095355
1,1,2,2-Tetrachloroethane	U		0.000130	0.00100	0.00100	1	04/08/2018 15:46	WG1095355
Tetrachloroethene	U		0.000372	0.00100	0.00100	1	04/08/2018 15:46	WG1095355
Toluene	U		0.000412	0.00100	0.00100	1	04/08/2018 15:46	WG1095355
1,1,1-Trichloroethane	U		0.000319	0.00100	0.00100	1	04/08/2018 15:46	WG1095355
1,1,2-Trichloroethane	U		0.000383	0.00100	0.00100	1	04/08/2018 15:46	WG1095355
Trichloroethene	U		0.000398	0.00100	0.00100	1	04/08/2018 15:46	WG1095355
1,2,4-Trimethylbenzene	U		0.000373	0.00100	0.00100	1	04/08/2018 15:46	WG1095355
1,3,5-Trimethylbenzene	U		0.000387	0.00100	0.00100	1	04/08/2018 15:46	WG1095355
Vinyl chloride	U		0.000259	0.00100	0.00100	1	04/08/2018 15:46	WG1095355
Xylenes, Total	U		0.00106	0.00300	0.00300	1	04/08/2018 15:46	WG1095355
(S) Toluene-d8	108				80.0-120		04/08/2018 15:46	WG1095355
(S) Dibromofluoromethane	89.8				76.0-123		04/08/2018 15:46	WG1095355
(S) 4-Bromofluorobenzene	104				80.0-120		04/08/2018 15:46	WG1095355

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc

Semi Volatile Organic Compounds (GC/MS) by Method 8270 C

Analyte	Result mg/l	Qualifier	SDL mg/l	Unadj. MQL mg/l	MQL mg/l	Dilution	Analysis date / time	Batch
Acenaphthene	U		0.000351	0.00100	0.00111	1.11	04/12/2018 13:54	WG1095852
Acenaphthylene	U		0.000343	0.00100	0.00111	1.11	04/12/2018 13:54	WG1095852
Acetophenone	U		0.00274	0.0100	0.0111	1.11	04/12/2018 13:54	WG1095852
Anthracene	U		0.000323	0.00100	0.00111	1.11	04/12/2018 13:54	WG1095852
Atrazine	U		0.000289	0.0100	0.0111	1.11	04/12/2018 13:54	WG1095852
Benzo(a)anthracene	0.000175	J	0.0000566	0.00100	0.00111	1.11	04/12/2018 13:54	WG1095852
Benzaldehyde	U	J4	0.00155	0.0100	0.0111	1.11	04/12/2018 13:54	WG1095852
Benzo(b)fluoranthene	U		0.0000994	0.00100	0.00111	1.11	04/12/2018 13:54	WG1095852
Benzo(k)fluoranthene	U		0.000394	0.00100	0.00111	1.11	04/12/2018 13:54	WG1095852



Collected date/time: 04/05/18 16:00

L984044

Semi Volatile Organic Compounds (GC/MS) by Method 8270 C

Analyte	Result mg/l	Qualifier	SDL mg/l	Unadj. MQL mg/l	MQL mg/l	Dilution	Analysis date / time	Batch
Benzo(g,h,i)perylene	U		0.0000252	0.00100	0.00111	1.11	04/12/2018 13:54	WG1095852
Benzo(a)pyrene	U		0.0000423	0.000200	0.000222	1.11	04/12/2018 13:54	WG1095852
Biphenyl	U		0.000361	0.0100	0.0111	1.11	04/12/2018 13:54	WG1095852
Bis(2-chlorethoxy)methane	U		0.000365	0.0100	0.0111	1.11	04/12/2018 13:54	WG1095852
Bis(2-chloroethyl)ether	U		0.00180	0.0100	0.0111	1.11	04/12/2018 13:54	WG1095852
Bis(2-chloroisopropyl)ether	U		0.000494	0.0100	0.0111	1.11	04/12/2018 13:54	WG1095852
4-Bromophenyl-phenylether	U		0.000372	0.0100	0.0111	1.11	04/12/2018 13:54	WG1095852
2-Chloronaphthalene	U		0.000366	0.00100	0.00111	1.11	04/12/2018 13:54	WG1095852
4-Chlorophenyl-phenylether	U		0.000336	0.0100	0.0111	1.11	04/12/2018 13:54	WG1095852
Caprolactam	U		0.00287	0.0100	0.0111	1.11	04/12/2018 13:54	WG1095852
Carbazole	U		0.000289	0.0100	0.0111	1.11	04/12/2018 13:54	WG1095852
Chrysene	U		0.000368	0.00100	0.00111	1.11	04/12/2018 13:54	WG1095852
Dibenz(a,h)anthracene	U		0.0000715	0.000200	0.000222	1.11	04/12/2018 13:54	WG1095852
Dibenzofuran	U		0.000375	0.0100	0.0111	1.11	04/12/2018 13:54	WG1095852
3,3-Dichlorobenzidine	U		0.00224	0.0100	0.0111	1.11	04/12/2018 13:54	WG1095852
2,4-Dinitrotoluene	U		0.00183	0.0100	0.0111	1.11	04/12/2018 13:54	WG1095852
2,6-Dinitrotoluene	U		0.000310	0.0100	0.0111	1.11	04/12/2018 13:54	WG1095852
Fluoranthene	U		0.000344	0.00100	0.00111	1.11	04/12/2018 13:54	WG1095852
Fluorene	U		0.000358	0.00100	0.00111	1.11	04/12/2018 13:54	WG1095852
Hexachlorobenzene	U		0.000378	0.00100	0.00111	1.11	04/12/2018 13:54	WG1095852
Hexachloro-1,3-butadiene	U		0.000365	0.0100	0.0111	1.11	04/12/2018 13:54	WG1095852
Hexachlorocyclopentadiene	U		0.00259	0.0100	0.0111	1.11	04/12/2018 13:54	WG1095852
Hexachloroethane	U		0.000405	0.0100	0.0111	1.11	04/12/2018 13:54	WG1095852
Indeno(1,2,3-cd)pyrene	U		0.000310	0.00100	0.00111	1.11	04/12/2018 13:54	WG1095852
Isophorone	U		0.000302	0.0100	0.0111	1.11	04/12/2018 13:54	WG1095852
1-Methylnaphthalene	U		0.000368	0.00100	0.00111	1.11	04/12/2018 13:54	WG1095852
2-Methylnaphthalene	U		0.000345	0.00100	0.00111	1.11	04/12/2018 13:54	WG1095852
Naphthalene	U		0.000413	0.00100	0.00111	1.11	04/12/2018 13:54	WG1095852
Nitrobenzene	U		0.000407	0.0100	0.0111	1.11	04/12/2018 13:54	WG1095852
n-Nitrosodiphenylamine	U		0.000337	0.0100	0.0111	1.11	04/12/2018 13:54	WG1095852
n-Nitrosodi-n-propylamine	U		0.000447	0.0100	0.0111	1.11	04/12/2018 13:54	WG1095852
Phenanthrene	U		0.000406	0.00100	0.00111	1.11	04/12/2018 13:54	WG1095852
Benzylbutyl phthalate	U		0.000305	0.00300	0.00333	1.11	04/12/2018 13:54	WG1095852
Bis(2-ethylhexyl)phthalate	U		0.000787	0.00300	0.00333	1.11	04/12/2018 13:54	WG1095852
Di-n-butyl phthalate	U		0.000295	0.00300	0.00333	1.11	04/12/2018 13:54	WG1095852
Diethyl phthalate	U		0.000313	0.00300	0.00333	1.11	04/12/2018 13:54	WG1095852
Dimethyl phthalate	U		0.000314	0.00300	0.00333	1.11	04/12/2018 13:54	WG1095852
Di-n-octyl phthalate	U		0.000308	0.00300	0.00333	1.11	04/12/2018 13:54	WG1095852
Pyrene	U		0.000366	0.00100	0.00111	1.11	04/12/2018 13:54	WG1095852
1,2,4-Trichlorobenzene	U		0.000394	0.0100	0.0111	1.11	04/12/2018 13:54	WG1095852
4-Chloro-3-methylphenol	U		0.000292	0.0100	0.0111	1.11	04/12/2018 13:54	WG1095852
2-Chlorophenol	U		0.000314	0.0100	0.0111	1.11	04/12/2018 13:54	WG1095852
2,4-Dichlorophenol	U		0.000315	0.0100	0.0111	1.11	04/12/2018 13:54	WG1095852
2,4-Dimethylphenol	U		0.000693	0.0100	0.0111	1.11	04/12/2018 13:54	WG1095852
4,6-Dinitro-2-methylphenol	U		0.00291	0.0100	0.0111	1.11	04/12/2018 13:54	WG1095852
2,4-Dinitrophenol	U		0.00361	0.0100	0.0111	1.11	04/12/2018 13:54	WG1095852
2-Nitrophenol	U		0.000355	0.0100	0.0111	1.11	04/12/2018 13:54	WG1095852
2-Nitroaniline	U		0.00211	0.0100	0.0111	1.11	04/12/2018 13:54	WG1095852
2-Methylphenol	U		0.000346	0.0100	0.0111	1.11	04/12/2018 13:54	WG1095852
3&4-Methyl Phenol	U		0.000295	0.0100	0.0111	1.11	04/12/2018 13:54	WG1095852
3-Nitroaniline	U		0.000342	0.0100	0.0111	1.11	04/12/2018 13:54	WG1095852
4-Chloroaniline	U		0.000424	0.0100	0.0111	1.11	04/12/2018 13:54	WG1095852
4-Nitroaniline	U	J4	0.000387	0.0100	0.0111	1.11	04/12/2018 13:54	WG1095852
4-Nitrophenol	U		0.00223	0.0100	0.0111	1.11	04/12/2018 13:54	WG1095852
Pentachlorophenol	U		0.000347	0.0100	0.0111	1.11	04/12/2018 13:54	WG1095852
Phenol	0.000744	J	0.000371	0.0100	0.0111	1.11	04/12/2018 13:54	WG1095852

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc

Semi Volatile Organic Compounds (GC/MS) by Method 8270 C

Analyte	Result mg/l	Qualifier	SDL mg/l	Unadj. MQL mg/l	MQL mg/l	Dilution	Analysis date / time	Batch
2,4,5-Trichlorophenol	U		0.000262	0.0100	0.0111	1.11	04/12/2018 13:54	WG1095852
2,4,6-Trichlorophenol	U		0.000330	0.0100	0.0111	1.11	04/12/2018 13:54	WG1095852
(S) 2-Fluorophenol	74.8				10.0-120		04/12/2018 13:54	WG1095852
(S) Phenol-d5	47.1				10.0-120		04/12/2018 13:54	WG1095852
(S) Nitrobenzene-d5	89.6				10.0-126		04/12/2018 13:54	WG1095852
(S) 2-Fluorobiphenyl	84.5				22.0-127		04/12/2018 13:54	WG1095852
(S) 2,4,6-Tribromophenol	96.2				10.0-153		04/12/2018 13:54	WG1095852
(S) p-Terphenyl-d14	97.6				29.0-141		04/12/2018 13:54	WG1095852

1Cp

2Tc

3Ss

4Cn

5Sr

6Qc

7Gl

8Al

9Sc



Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	SDL	Unadj. MQL	MQL	Dilution	Analysis date / time	Batch
Dissolved Solids	520		2.82	10.0	10.0	1	04/12/2018 16:05	WG1096341

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc

Wet Chemistry by Method 2320 B-2011

Analyte	Result	Qualifier	SDL	Unadj. MQL	MQL	Dilution	Analysis date / time	Batch
Alkalinity	331		2.71	20.0	20.0	1	04/08/2018 21:04	WG1095314

Sample Narrative:

L984044-07 WG1095314: Endpoint pH 4.5

Wet Chemistry by Method 353.2

Analyte	Result	Qualifier	SDL	Unadj. MQL	MQL	Dilution	Analysis date / time	Batch
Nitrate-Nitrite	4.77		0.0197	0.100	0.100	1	04/13/2018 15:00	WG1096785

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	SDL	Unadj. MQL	MQL	Dilution	Analysis date / time	Batch
Chloride	33.2		0.0519	1.00	1.00	1	04/10/2018 06:21	WG1095385
Fluoride	0.699		0.00990	0.100	0.100	1	04/10/2018 06:21	WG1095385
Sulfate	71.1		0.0774	5.00	5.00	1	04/10/2018 06:21	WG1095385

Mercury by Method 7470A

Analyte	Result	Qualifier	SDL	Unadj. MQL	MQL	Dilution	Analysis date / time	Batch
Mercury	U		0.0000490	0.000200	0.000200	1	04/10/2018 10:20	WG1095544

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	SDL	Unadj. MQL	MQL	Dilution	Analysis date / time	Batch
Boron,Dissolved	0.281		0.0126	0.200	0.200	1	04/11/2018 11:05	WG1095187

Metals (ICPMS) by Method 6020

Analyte	Result	Qualifier	SDL	Unadj. MQL	MQL	Dilution	Analysis date / time	Batch
Aluminum,Dissolved	U		0.00515	0.100	0.100	1	04/19/2018 18:02	WG1095185
Arsenic,Dissolved	0.00275	B	0.000250	0.00200	0.00200	1	04/19/2018 18:02	WG1095185
Barium,Dissolved	0.128		0.000360	0.00500	0.00500	1	04/19/2018 18:02	WG1095185
Cadmium,Dissolved	U		0.000160	0.00100	0.00100	1	04/19/2018 18:02	WG1095185
Calcium,Dissolved	111		0.0460	1.00	1.00	1	04/19/2018 18:02	WG1095185
Chromium,Dissolved	U		0.000540	0.00200	0.00200	1	04/19/2018 18:02	WG1095185
Copper,Dissolved	0.00164	B J	0.000520	0.00500	0.00500	1	04/19/2018 18:02	WG1095185
Cobalt,Dissolved	U		0.000260	0.00200	0.00200	1	04/19/2018 18:02	WG1095185
Iron,Dissolved	U		0.0150	0.100	0.100	1	04/19/2018 18:02	WG1095185
Lead,Dissolved	U		0.000240	0.00200	0.00200	1	04/19/2018 18:02	WG1095185
Magnesium,Dissolved	12.8		0.100	1.00	1.00	1	04/17/2018 14:59	WG1095185
Manganese,Dissolved	0.000316	B J	0.000250	0.00500	0.00500	1	04/19/2018 18:02	WG1095185
Molybdenum,Dissolved	0.00206	B J	0.000140	0.00500	0.00500	1	04/19/2018 18:02	WG1095185
Nickel,Dissolved	0.00187	B J	0.000350	0.00200	0.00200	1	04/19/2018 18:02	WG1095185
Potassium,Dissolved	3.48		0.0370	1.00	1.00	1	04/19/2018 18:02	WG1095185
Selenium,Dissolved	0.00169	B J	0.000380	0.00200	0.00200	1	04/19/2018 18:02	WG1095185
Silver,Dissolved	U		0.000310	0.00200	0.00200	1	04/19/2018 18:02	WG1095185
Sodium,Dissolved	61.0		0.110	1.00	1.00	1	04/19/2018 18:02	WG1095185



Collected date/time: 04/05/18 15:15

L984044

Metals (ICPMS) by Method 6020

Analyte	Result mg/l	Qualifier	SDL mg/l	Unadj. MQL mg/l	MQL mg/l	Dilution	Analysis date / time	Batch
Uranium,Dissolved	0.00464	<u>B</u> <u>J</u>	0.000330	0.0100	0.0100	1	04/19/2018 18:02	WG1095185
Zinc,Dissolved	0.00477	<u>J</u>	0.00256	0.0250	0.0250	1	04/17/2018 14:59	WG1095185

¹ Cp² Tc³ Ss⁴ Cn⁵ Sr⁶ Qc⁷ Gl⁸ Al⁹ Sc

Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result mg/l	Qualifier	SDL mg/l	Unadj. MQL mg/l	MQL mg/l	Dilution	Analysis date / time	Batch
Acetone	U		0.0100	1.00	1.00	1	04/08/2018 16:07	WG1095355
Benzene	U		0.000331	0.00100	0.00100	1	04/08/2018 16:07	WG1095355
Bromodichloromethane	U		0.000380	0.00125	0.00125	1	04/08/2018 16:07	WG1095355
Bromoform	U		0.000469	0.00100	0.00100	1	04/08/2018 16:07	WG1095355
Bromomethane	U		0.000866	0.00500	0.00500	1	04/08/2018 16:07	WG1095355
n-Butylbenzene	U		0.000361	0.00100	0.00100	1	04/08/2018 16:07	WG1095355
sec-Butylbenzene	U		0.000365	0.00100	0.00100	1	04/08/2018 16:07	WG1095355
tert-Butylbenzene	U		0.000399	0.00100	0.00100	1	04/08/2018 16:07	WG1095355
Carbon disulfide	U		0.000275	0.00100	0.00100	1	04/08/2018 16:07	WG1095355
Carbon tetrachloride	U		0.000379	0.00100	0.00100	1	04/08/2018 16:07	WG1095355
Chlorobenzene	U		0.000348	0.00100	0.00100	1	04/08/2018 16:07	WG1095355
Chlorodibromomethane	U		0.000327	0.00100	0.00100	1	04/08/2018 16:07	WG1095355
Chloroethane	U		0.000453	0.00500	0.00500	1	04/08/2018 16:07	WG1095355
Chloroform	U		0.000324	0.00500	0.00500	1	04/08/2018 16:07	WG1095355
Chloromethane	U		0.000276	0.00250	0.00250	1	04/08/2018 16:07	WG1095355
1,2-Dibromoethane	U		0.000381	0.00100	0.00100	1	04/08/2018 16:07	WG1095355
1,1-Dichloroethane	U		0.000259	0.00100	0.00100	1	04/08/2018 16:07	WG1095355
1,2-Dichloroethane	U		0.000361	0.00100	0.00100	1	04/08/2018 16:07	WG1095355
1,1-Dichloroethene	U		0.000398	0.00100	0.00100	1	04/08/2018 16:07	WG1095355
cis-1,2-Dichloroethene	U		0.000260	0.00100	0.00100	1	04/08/2018 16:07	WG1095355
trans-1,2-Dichloroethene	U		0.000396	0.00100	0.00100	1	04/08/2018 16:07	WG1095355
1,2-Dichloropropane	U		0.000306	0.00100	0.00100	1	04/08/2018 16:07	WG1095355
cis-1,3-Dichloropropene	U		0.000418	0.00100	0.00100	1	04/08/2018 16:07	WG1095355
trans-1,3-Dichloropropene	U		0.000419	0.00100	0.00100	1	04/08/2018 16:07	WG1095355
Ethylbenzene	U		0.000384	0.00100	0.00100	1	04/08/2018 16:07	WG1095355
Hexachloro-1,3-butadiene	U		0.000256	0.00100	0.00100	1	04/08/2018 16:07	WG1095355
2-Hexanone	U		0.00382	0.0100	0.0100	1	04/08/2018 16:07	WG1095355
Isopropylbenzene	U		0.000326	0.00100	0.00100	1	04/08/2018 16:07	WG1095355
p-Isopropyltoluene	U		0.000350	0.00100	0.00100	1	04/08/2018 16:07	WG1095355
2-Butanone (MEK)	U		0.00393	0.0100	0.0100	1	04/08/2018 16:07	WG1095355
Methylene Chloride	U		0.00100	0.00500	0.00500	1	04/08/2018 16:07	WG1095355
4-Methyl-2-pentanone (MIBK)	U		0.00214	0.0100	0.0100	1	04/08/2018 16:07	WG1095355
Methyl tert-butyl ether	U		0.000367	0.00100	0.00100	1	04/08/2018 16:07	WG1095355
Naphthalene	U		0.00100	0.00500	0.00500	1	04/08/2018 16:07	WG1095355
n-Propylbenzene	U		0.000349	0.00100	0.00100	1	04/08/2018 16:07	WG1095355
Styrene	U		0.000307	0.00100	0.00100	1	04/08/2018 16:07	WG1095355
1,1,2,2-Tetrachloroethane	U		0.000130	0.00100	0.00100	1	04/08/2018 16:07	WG1095355
Tetrachloroethene	U		0.000372	0.00100	0.00100	1	04/08/2018 16:07	WG1095355
Toluene	U		0.000412	0.00100	0.00100	1	04/08/2018 16:07	WG1095355
1,1,1-Trichloroethane	U		0.000319	0.00100	0.00100	1	04/08/2018 16:07	WG1095355
1,1,2-Trichloroethane	U		0.000383	0.00100	0.00100	1	04/08/2018 16:07	WG1095355
Trichloroethene	U		0.000398	0.00100	0.00100	1	04/08/2018 16:07	WG1095355
1,2,4-Trimethylbenzene	U		0.000373	0.00100	0.00100	1	04/08/2018 16:07	WG1095355
1,3,5-Trimethylbenzene	U		0.000387	0.00100	0.00100	1	04/08/2018 16:07	WG1095355
Vinyl chloride	U		0.000259	0.00100	0.00100	1	04/08/2018 16:07	WG1095355
Xylenes, Total	U		0.00106	0.00300	0.00300	1	04/08/2018 16:07	WG1095355
(S) Toluene-d8	107				80.0-120		04/08/2018 16:07	WG1095355
(S) Dibromofluoromethane	90.1				76.0-123		04/08/2018 16:07	WG1095355
(S) 4-Bromofluorobenzene	106				80.0-120		04/08/2018 16:07	WG1095355



Collected date/time: 04/05/18 15:15

L984044

Semi Volatile Organic Compounds (GC/MS) by Method 8270 C

Analyte	Result mg/l	Qualifier	SDL mg/l	Unadj. MQL mg/l	MQL mg/l	Dilution	Analysis date / time	Batch
Acenaphthene	U		0.000316	0.00100	0.00100	1	04/12/2018 14:19	WG1095852
Acenaphthylene	U		0.000309	0.00100	0.00100	1	04/12/2018 14:19	WG1095852
Acetophenone	U		0.00247	0.0100	0.0100	1	04/12/2018 14:19	WG1095852
Anthracene	U		0.000291	0.00100	0.00100	1	04/12/2018 14:19	WG1095852
Atrazine	U		0.000260	0.0100	0.0100	1	04/12/2018 14:19	WG1095852
Benzo(a)anthracene	U		0.0000510	0.00100	0.00100	1	04/12/2018 14:19	WG1095852
Benzaldehyde	U	J4	0.00140	0.0100	0.0100	1	04/12/2018 14:19	WG1095852
Benzo(b)fluoranthene	U		0.0000896	0.00100	0.00100	1	04/12/2018 14:19	WG1095852
Benzo(k)fluoranthene	U		0.000355	0.00100	0.00100	1	04/12/2018 14:19	WG1095852
Benzo(g,h,i)perylene	U		0.00000227	0.00100	0.00100	1	04/12/2018 14:19	WG1095852
Benzo(a)pyrene	U		0.0000381	0.000200	0.000200	1	04/12/2018 14:19	WG1095852
Biphenyl	U		0.000325	0.0100	0.0100	1	04/12/2018 14:19	WG1095852
Bis(2-chlorethoxy)methane	U		0.000329	0.0100	0.0100	1	04/12/2018 14:19	WG1095852
Bis(2-chloroethyl)ether	U		0.00162	0.0100	0.0100	1	04/12/2018 14:19	WG1095852
Bis(2-chloroisopropyl)ether	U		0.000445	0.0100	0.0100	1	04/12/2018 14:19	WG1095852
4-Bromophenyl-phenylether	U		0.000335	0.0100	0.0100	1	04/12/2018 14:19	WG1095852
2-Chloronaphthalene	U		0.000330	0.00100	0.00100	1	04/12/2018 14:19	WG1095852
4-Chlorophenyl-phenylether	U		0.000303	0.0100	0.0100	1	04/12/2018 14:19	WG1095852
Caprolactam	U		0.00259	0.0100	0.0100	1	04/12/2018 14:19	WG1095852
Carbazole	U		0.000260	0.0100	0.0100	1	04/12/2018 14:19	WG1095852
Chrysene	U		0.000332	0.00100	0.00100	1	04/12/2018 14:19	WG1095852
Dibenz(a,h)anthracene	U		0.0000644	0.000200	0.000200	1	04/12/2018 14:19	WG1095852
Dibenzofuran	U		0.000338	0.0100	0.0100	1	04/12/2018 14:19	WG1095852
3,3-Dichlorobenzidine	U		0.00202	0.0100	0.0100	1	04/12/2018 14:19	WG1095852
2,4-Dinitrotoluene	U		0.00165	0.0100	0.0100	1	04/12/2018 14:19	WG1095852
2,6-Dinitrotoluene	U		0.000279	0.0100	0.0100	1	04/12/2018 14:19	WG1095852
Fluoranthene	U		0.000310	0.00100	0.00100	1	04/12/2018 14:19	WG1095852
Fluorene	U		0.000323	0.00100	0.00100	1	04/12/2018 14:19	WG1095852
Hexachlorobenzene	U		0.000341	0.00100	0.00100	1	04/12/2018 14:19	WG1095852
Hexachloro-1,3-butadiene	U		0.000329	0.0100	0.0100	1	04/12/2018 14:19	WG1095852
Hexachlorocyclopentadiene	U		0.00233	0.0100	0.0100	1	04/12/2018 14:19	WG1095852
Hexachloroethane	U		0.000365	0.0100	0.0100	1	04/12/2018 14:19	WG1095852
Indeno(1,2,3-cd)pyrene	U		0.000279	0.00100	0.00100	1	04/12/2018 14:19	WG1095852
Isophorone	U		0.000272	0.0100	0.0100	1	04/12/2018 14:19	WG1095852
1-Methylnaphthalene	U		0.000332	0.00100	0.00100	1	04/12/2018 14:19	WG1095852
2-Methylnaphthalene	U		0.000311	0.00100	0.00100	1	04/12/2018 14:19	WG1095852
Naphthalene	U		0.000372	0.00100	0.00100	1	04/12/2018 14:19	WG1095852
Nitrobenzene	U		0.000367	0.0100	0.0100	1	04/12/2018 14:19	WG1095852
n-Nitrosodiphenylamine	U		0.000304	0.0100	0.0100	1	04/12/2018 14:19	WG1095852
n-Nitrosodi-n-propylamine	U		0.000403	0.0100	0.0100	1	04/12/2018 14:19	WG1095852
Phenanthrene	U		0.000366	0.00100	0.00100	1	04/12/2018 14:19	WG1095852
Benzylbutyl phthalate	0.000301	J	0.000275	0.00300	0.00300	1	04/12/2018 14:19	WG1095852
Bis(2-ethylhexyl)phthalate	U		0.000709	0.00300	0.00300	1	04/12/2018 14:19	WG1095852
Di-n-butyl phthalate	U		0.000266	0.00300	0.00300	1	04/12/2018 14:19	WG1095852
Diethyl phthalate	U		0.000282	0.00300	0.00300	1	04/12/2018 14:19	WG1095852
Dimethyl phthalate	U		0.000283	0.00300	0.00300	1	04/12/2018 14:19	WG1095852
Di-n-octyl phthalate	U		0.000278	0.00300	0.00300	1	04/12/2018 14:19	WG1095852
Pyrene	U		0.000330	0.00100	0.00100	1	04/12/2018 14:19	WG1095852
1,2,4-Trichlorobenzene	U		0.000355	0.0100	0.0100	1	04/12/2018 14:19	WG1095852
4-Chloro-3-methylphenol	U		0.000263	0.0100	0.0100	1	04/12/2018 14:19	WG1095852
2-Chlorophenol	U		0.000283	0.0100	0.0100	1	04/12/2018 14:19	WG1095852
2,4-Dichlorophenol	U		0.000284	0.0100	0.0100	1	04/12/2018 14:19	WG1095852
2,4-Dimethylphenol	U		0.000624	0.0100	0.0100	1	04/12/2018 14:19	WG1095852
4,6-Dinitro-2-methylphenol	U		0.00262	0.0100	0.0100	1	04/12/2018 14:19	WG1095852
2,4-Dinitrophenol	U		0.00325	0.0100	0.0100	1	04/12/2018 14:19	WG1095852
2-Nitrophenol	U		0.000320	0.0100	0.0100	1	04/12/2018 14:19	WG1095852

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc



Collected date/time: 04/05/18 15:15

L984044

Semi Volatile Organic Compounds (GC/MS) by Method 8270 C

Analyte	Result mg/l	Qualifier	SDL mg/l	Unadj. MQL mg/l	MQL mg/l	Dilution	Analysis date / time	Batch
2-Nitroaniline	U		0.00190	0.0100	0.0100	1	04/12/2018 14:19	WG1095852
2-Methylphenol	U		0.000312	0.0100	0.0100	1	04/12/2018 14:19	WG1095852
3&4-Methyl Phenol	U		0.000266	0.0100	0.0100	1	04/12/2018 14:19	WG1095852
3-Nitroaniline	U		0.000308	0.0100	0.0100	1	04/12/2018 14:19	WG1095852
4-Chloroaniline	U		0.000382	0.0100	0.0100	1	04/12/2018 14:19	WG1095852
4-Nitroaniline	U	J4	0.000349	0.0100	0.0100	1	04/12/2018 14:19	WG1095852
4-Nitrophenol	U		0.00201	0.0100	0.0100	1	04/12/2018 14:19	WG1095852
Pentachlorophenol	U		0.000313	0.0100	0.0100	1	04/12/2018 14:19	WG1095852
Phenol	0.00237	J	0.000334	0.0100	0.0100	1	04/12/2018 14:19	WG1095852
2,4,5-Trichlorophenol	U		0.000236	0.0100	0.0100	1	04/12/2018 14:19	WG1095852
2,4,6-Trichlorophenol	U		0.000297	0.0100	0.0100	1	04/12/2018 14:19	WG1095852
(S) 2-Fluorophenol	78.1				10.0-120		04/12/2018 14:19	WG1095852
(S) Phenol-d5	51.6				10.0-120		04/12/2018 14:19	WG1095852
(S) Nitrobenzene-d5	82.7				10.0-126		04/12/2018 14:19	WG1095852
(S) 2-Fluorobiphenyl	84.2				22.0-127		04/12/2018 14:19	WG1095852
(S) 2,4,6-Tribromophenol	97.9				10.0-153		04/12/2018 14:19	WG1095852
(S) p-Terphenyl-d14	96.8				29.0-141		04/12/2018 14:19	WG1095852

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc



Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	SDL	Unadj. MQL	MQL	Dilution	Analysis date / time	Batch
Dissolved Solids	808		2.82	10.0	10.0	1	04/12/2018 14:19	WG1096342

Wet Chemistry by Method 2320 B-2011

Analyte	Result	Qualifier	SDL	Unadj. MQL	MQL	Dilution	Analysis date / time	Batch
Alkalinity	207		2.71	20.0	20.0	1	04/08/2018 21:11	WG1095314

Sample Narrative:

L984044-08 WG1095314: Endpoint pH 4.5

Wet Chemistry by Method 353.2

Analyte	Result	Qualifier	SDL	Unadj. MQL	MQL	Dilution	Analysis date / time	Batch
Nitrate-Nitrite	4.28		0.0197	0.100	0.100	1	04/13/2018 15:06	WG1096785

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	SDL	Unadj. MQL	MQL	Dilution	Analysis date / time	Batch
Chloride	222		0.260	1.00	5.00	5	04/10/2018 07:22	WG1095385
Fluoride	0.644		0.00990	0.100	0.100	1	04/10/2018 07:07	WG1095385
Sulfate	111		0.387	5.00	25.0	5	04/10/2018 07:22	WG1095385

Mercury by Method 7470A

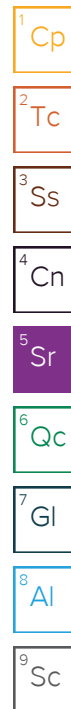
Analyte	Result	Qualifier	SDL	Unadj. MQL	MQL	Dilution	Analysis date / time	Batch
Mercury	U		0.0000490	0.000200	0.000200	1	04/10/2018 10:22	WG1095544

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	SDL	Unadj. MQL	MQL	Dilution	Analysis date / time	Batch
Boron,Dissolved	0.189	J	0.0126	0.200	0.200	1	04/11/2018 11:08	WG1095187

Metals (ICPMS) by Method 6020

Analyte	Result	Qualifier	SDL	Unadj. MQL	MQL	Dilution	Analysis date / time	Batch
Aluminum,Dissolved	U		0.00515	0.100	0.100	1	04/19/2018 18:06	WG1095185
Arsenic,Dissolved	0.00339	B	0.000250	0.00200	0.00200	1	04/19/2018 18:06	WG1095185
Barium,Dissolved	0.148		0.000360	0.00500	0.00500	1	04/19/2018 18:06	WG1095185
Cadmium,Dissolved	U		0.000160	0.00100	0.00100	1	04/19/2018 18:06	WG1095185
Calcium,Dissolved	139		0.0460	1.00	1.00	1	04/19/2018 18:06	WG1095185
Chromium,Dissolved	0.00201		0.000540	0.00200	0.00200	1	04/18/2018 15:49	WG1099510
Copper,Dissolved	0.00420	B J	0.000520	0.00500	0.00500	1	04/19/2018 18:06	WG1095185
Cobalt,Dissolved	U		0.000260	0.00200	0.00200	1	04/19/2018 18:06	WG1095185
Iron,Dissolved	0.0281	J	0.0150	0.100	0.100	1	04/19/2018 18:06	WG1095185
Lead,Dissolved	0.000269	B J	0.000240	0.00200	0.00200	1	04/19/2018 18:06	WG1095185
Magnesium,Dissolved	20.3		0.100	1.00	1.00	1	04/17/2018 15:03	WG1095185
Manganese,Dissolved	0.00172	B J	0.000250	0.00500	0.00500	1	04/19/2018 18:06	WG1095185
Molybdenum,Dissolved	0.00433	B J	0.000140	0.00500	0.00500	1	04/19/2018 18:06	WG1095185
Nickel,Dissolved	0.00561		0.000350	0.00200	0.00200	1	04/19/2018 18:06	WG1095185
Potassium,Dissolved	3.51		0.0370	1.00	1.00	1	04/19/2018 18:06	WG1095185
Selenium,Dissolved	0.00170	B J	0.000380	0.00200	0.00200	1	04/19/2018 18:06	WG1095185
Silver,Dissolved	U		0.000310	0.00200	0.00200	1	04/19/2018 18:06	WG1095185
Sodium,Dissolved	99.0		0.110	1.00	1.00	1	04/19/2018 18:06	WG1095185





Metals (ICPMS) by Method 6020

Analyte	Result mg/l	Qualifier	SDL mg/l	Unadj. MQL mg/l	MQL mg/l	Dilution	Analysis date / time	Batch
Uranium,Dissolved	0.00290	<u>BJ</u>	0.000330	0.0100	0.0100	1	04/19/2018 18:06	WG1095185
Zinc,Dissolved	0.0250	<u>J</u>	0.00256	0.0250	0.0250	1	04/17/2018 15:03	WG1095185

¹ Cp

² Tc

³ Ss

⁴ Cn

⁵ Sr

⁶ Qc

⁷ Gl

⁸ Al

⁹ Sc



Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	SDL	Unadj. MQL	MQL	Dilution	Analysis date / time	Batch
Dissolved Solids	587		2.82	10.0	10.0	1	04/12/2018 14:19	WG1096342

Wet Chemistry by Method 2320 B-2011

Analyte	Result	Qualifier	SDL	Unadj. MQL	MQL	Dilution	Analysis date / time	Batch
Alkalinity	212		2.71	20.0	20.0	1	04/09/2018 12:49	WG1095317

Sample Narrative:

L984044-09 WG1095317: Endpoint pH 4.5

Wet Chemistry by Method 353.2

Analyte	Result	Qualifier	SDL	Unadj. MQL	MQL	Dilution	Analysis date / time	Batch
Nitrate-Nitrite	2.46		0.0197	0.100	0.100	1	04/13/2018 15:07	WG1096785

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	SDL	Unadj. MQL	MQL	Dilution	Analysis date / time	Batch
Chloride	124		0.260	1.00	5.00	5	04/10/2018 08:24	WG1095385
Fluoride	0.664		0.00990	0.100	0.100	1	04/10/2018 07:38	WG1095385
Sulfate	68.2		0.0774	5.00	5.00	1	04/10/2018 07:38	WG1095385

Mercury by Method 7470A

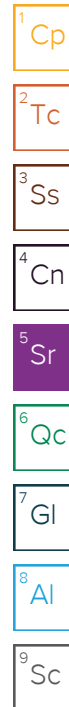
Analyte	Result	Qualifier	SDL	Unadj. MQL	MQL	Dilution	Analysis date / time	Batch
Mercury	U		0.0000490	0.000200	0.000200	1	04/10/2018 10:24	WG1095544

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	SDL	Unadj. MQL	MQL	Dilution	Analysis date / time	Batch
Boron,Dissolved	0.166	J	0.0126	0.200	0.200	1	04/11/2018 11:11	WG1095187

Metals (ICPMS) by Method 6020

Analyte	Result	Qualifier	SDL	Unadj. MQL	MQL	Dilution	Analysis date / time	Batch
Aluminum,Dissolved	U		0.00515	0.100	0.100	1	04/19/2018 18:11	WG1095185
Arsenic,Dissolved	0.00353	B	0.000250	0.00200	0.00200	1	04/19/2018 18:11	WG1095185
Barium,Dissolved	0.107		0.000360	0.00500	0.00500	1	04/19/2018 18:11	WG1095185
Cadmium,Dissolved	U		0.000160	0.00100	0.00100	1	04/19/2018 18:11	WG1095185
Calcium,Dissolved	119		0.0460	1.00	1.00	1	04/19/2018 18:11	WG1095185
Chromium,Dissolved	0.00143	B J	0.000540	0.00200	0.00200	1	04/19/2018 18:11	WG1095185
Copper,Dissolved	0.00180	B J	0.000520	0.00500	0.00500	1	04/19/2018 18:11	WG1095185
Cobalt,Dissolved	U		0.000260	0.00200	0.00200	1	04/19/2018 18:11	WG1095185
Iron,Dissolved	U		0.0150	0.100	0.100	1	04/19/2018 18:11	WG1095185
Lead,Dissolved	U		0.000240	0.00200	0.00200	1	04/19/2018 18:11	WG1095185
Magnesium,Dissolved	14.5		0.100	1.00	1.00	1	04/17/2018 15:06	WG1095185
Manganese,Dissolved	U		0.000250	0.00500	0.00500	1	04/19/2018 18:11	WG1095185
Molybdenum,Dissolved	0.00161	B J	0.000140	0.00500	0.00500	1	04/19/2018 18:11	WG1095185
Nickel,Dissolved	0.00233	B	0.000350	0.00200	0.00200	1	04/19/2018 18:11	WG1095185
Potassium,Dissolved	2.17		0.0370	1.00	1.00	1	04/19/2018 18:11	WG1095185
Selenium,Dissolved	0.00261	B	0.000380	0.00200	0.00200	1	04/19/2018 18:11	WG1095185
Silver,Dissolved	U		0.000310	0.00200	0.00200	1	04/19/2018 18:11	WG1095185
Sodium,Dissolved	43.2		0.110	1.00	1.00	1	04/19/2018 18:11	WG1095185





Collected date/time: 04/05/18 16:10

L984044

Metals (ICPMS) by Method 6020

Analyte	Result mg/l	Qualifier	SDL mg/l	Unadj. MQL mg/l	MQL mg/l	Dilution	Analysis date / time	Batch
Uranium,Dissolved	0.00165	<u>B</u> <u>J</u>	0.000330	0.0100	0.0100	1	04/19/2018 18:11	WG1095185
Zinc,Dissolved	0.00823	<u>J</u>	0.00256	0.0250	0.0250	1	04/17/2018 15:06	WG1095185

¹ Cp² Tc³ Ss⁴ Cn⁵ Sr⁶ Qc⁷ Gl⁸ Al⁹ Sc

Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result mg/l	Qualifier	SDL mg/l	Unadj. MQL mg/l	MQL mg/l	Dilution	Analysis date / time	Batch
Acetone	U		0.0100	1.00	1.00	1	04/08/2018 16:28	WG1095355
Benzene	U		0.000331	0.00100	0.00100	1	04/08/2018 16:28	WG1095355
Bromodichloromethane	U		0.000380	0.00125	0.00125	1	04/08/2018 16:28	WG1095355
Bromoform	U		0.000469	0.00100	0.00100	1	04/08/2018 16:28	WG1095355
Bromomethane	U		0.000866	0.00500	0.00500	1	04/08/2018 16:28	WG1095355
n-Butylbenzene	U		0.000361	0.00100	0.00100	1	04/08/2018 16:28	WG1095355
sec-Butylbenzene	U		0.000365	0.00100	0.00100	1	04/08/2018 16:28	WG1095355
tert-Butylbenzene	U		0.000399	0.00100	0.00100	1	04/08/2018 16:28	WG1095355
Carbon disulfide	U		0.000275	0.00100	0.00100	1	04/08/2018 16:28	WG1095355
Carbon tetrachloride	U		0.000379	0.00100	0.00100	1	04/08/2018 16:28	WG1095355
Chlorobenzene	U		0.000348	0.00100	0.00100	1	04/08/2018 16:28	WG1095355
Chlorodibromomethane	U		0.000327	0.00100	0.00100	1	04/08/2018 16:28	WG1095355
Chloroethane	U		0.000453	0.00500	0.00500	1	04/08/2018 16:28	WG1095355
Chloroform	U		0.000324	0.00500	0.00500	1	04/08/2018 16:28	WG1095355
Chloromethane	U		0.000276	0.00250	0.00250	1	04/08/2018 16:28	WG1095355
1,2-Dibromoethane	U		0.000381	0.00100	0.00100	1	04/08/2018 16:28	WG1095355
1,1-Dichloroethane	U		0.000259	0.00100	0.00100	1	04/08/2018 16:28	WG1095355
1,2-Dichloroethane	U		0.000361	0.00100	0.00100	1	04/08/2018 16:28	WG1095355
1,1-Dichloroethene	U		0.000398	0.00100	0.00100	1	04/08/2018 16:28	WG1095355
cis-1,2-Dichloroethene	U		0.000260	0.00100	0.00100	1	04/08/2018 16:28	WG1095355
trans-1,2-Dichloroethene	U		0.000396	0.00100	0.00100	1	04/08/2018 16:28	WG1095355
1,2-Dichloropropane	U		0.000306	0.00100	0.00100	1	04/08/2018 16:28	WG1095355
cis-1,3-Dichloropropene	U		0.000418	0.00100	0.00100	1	04/08/2018 16:28	WG1095355
trans-1,3-Dichloropropene	U		0.000419	0.00100	0.00100	1	04/08/2018 16:28	WG1095355
Ethylbenzene	U		0.000384	0.00100	0.00100	1	04/08/2018 16:28	WG1095355
Hexachloro-1,3-butadiene	U		0.000256	0.00100	0.00100	1	04/08/2018 16:28	WG1095355
2-Hexanone	U		0.00382	0.0100	0.0100	1	04/08/2018 16:28	WG1095355
Isopropylbenzene	U		0.000326	0.00100	0.00100	1	04/08/2018 16:28	WG1095355
p-Isopropyltoluene	U		0.000350	0.00100	0.00100	1	04/08/2018 16:28	WG1095355
2-Butanone (MEK)	U		0.00393	0.0100	0.0100	1	04/08/2018 16:28	WG1095355
Methylene Chloride	U		0.00100	0.00500	0.00500	1	04/08/2018 16:28	WG1095355
4-Methyl-2-pentanone (MIBK)	U		0.00214	0.0100	0.0100	1	04/08/2018 16:28	WG1095355
Methyl tert-butyl ether	U		0.000367	0.00100	0.00100	1	04/08/2018 16:28	WG1095355
Naphthalene	U		0.00100	0.00500	0.00500	1	04/08/2018 16:28	WG1095355
n-Propylbenzene	U		0.000349	0.00100	0.00100	1	04/08/2018 16:28	WG1095355
Styrene	U		0.000307	0.00100	0.00100	1	04/08/2018 16:28	WG1095355
1,1,2,2-Tetrachloroethane	U		0.000130	0.00100	0.00100	1	04/08/2018 16:28	WG1095355
Tetrachloroethene	U		0.000372	0.00100	0.00100	1	04/08/2018 16:28	WG1095355
Toluene	U		0.000412	0.00100	0.00100	1	04/08/2018 16:28	WG1095355
1,1,1-Trichloroethane	U		0.000319	0.00100	0.00100	1	04/08/2018 16:28	WG1095355
1,1,2-Trichloroethane	U		0.000383	0.00100	0.00100	1	04/08/2018 16:28	WG1095355
Trichloroethene	U		0.000398	0.00100	0.00100	1	04/08/2018 16:28	WG1095355
1,2,4-Trimethylbenzene	U		0.000373	0.00100	0.00100	1	04/08/2018 16:28	WG1095355
1,3,5-Trimethylbenzene	U		0.000387	0.00100	0.00100	1	04/08/2018 16:28	WG1095355
Vinyl chloride	U		0.000259	0.00100	0.00100	1	04/08/2018 16:28	WG1095355
Xylenes, Total	U		0.00106	0.00300	0.00300	1	04/08/2018 16:28	WG1095355
(S) Toluene-d8	108				80.0-120		04/08/2018 16:28	WG1095355
(S) Dibromofluoromethane	91.4				76.0-123		04/08/2018 16:28	WG1095355
(S) 4-Bromofluorobenzene	105				80.0-120		04/08/2018 16:28	WG1095355



Collected date/time: 04/05/18 16:10

L984044

Semi Volatile Organic Compounds (GC/MS) by Method 8270 C

Analyte	Result mg/l	Qualifier	SDL mg/l	Unadj. MQL mg/l	MQL mg/l	Dilution	Analysis date / time	Batch
Acenaphthene	U		0.000316	0.00100	0.00100	1	04/12/2018 14:43	WG1095852
Acenaphthylene	U		0.000309	0.00100	0.00100	1	04/12/2018 14:43	WG1095852
Acetophenone	U		0.00247	0.0100	0.0100	1	04/12/2018 14:43	WG1095852
Anthracene	U		0.000291	0.00100	0.00100	1	04/12/2018 14:43	WG1095852
Atrazine	U		0.000260	0.0100	0.0100	1	04/12/2018 14:43	WG1095852
Benzo(a)anthracene	U		0.0000510	0.00100	0.00100	1	04/12/2018 14:43	WG1095852
Benzaldehyde	U	J4	0.00140	0.0100	0.0100	1	04/12/2018 14:43	WG1095852
Benzo(b)fluoranthene	U		0.0000896	0.00100	0.00100	1	04/12/2018 14:43	WG1095852
Benzo(k)fluoranthene	U		0.000355	0.00100	0.00100	1	04/12/2018 14:43	WG1095852
Benzo(g,h,i)perylene	U		0.00000227	0.00100	0.00100	1	04/12/2018 14:43	WG1095852
Benzo(a)pyrene	U		0.0000381	0.000200	0.000200	1	04/12/2018 14:43	WG1095852
Biphenyl	U		0.000325	0.0100	0.0100	1	04/12/2018 14:43	WG1095852
Bis(2-chlorethoxy)methane	U		0.000329	0.0100	0.0100	1	04/12/2018 14:43	WG1095852
Bis(2-chloroethyl)ether	U		0.00162	0.0100	0.0100	1	04/12/2018 14:43	WG1095852
Bis(2-chloroisopropyl)ether	U		0.000445	0.0100	0.0100	1	04/12/2018 14:43	WG1095852
4-Bromophenyl-phenylether	U		0.000335	0.0100	0.0100	1	04/12/2018 14:43	WG1095852
2-Chloronaphthalene	U		0.000330	0.00100	0.00100	1	04/12/2018 14:43	WG1095852
4-Chlorophenyl-phenylether	U		0.000303	0.0100	0.0100	1	04/12/2018 14:43	WG1095852
Caprolactam	U		0.00259	0.0100	0.0100	1	04/12/2018 14:43	WG1095852
Carbazole	U		0.000260	0.0100	0.0100	1	04/12/2018 14:43	WG1095852
Chrysene	U		0.000332	0.00100	0.00100	1	04/12/2018 14:43	WG1095852
Dibenz(a,h)anthracene	U		0.0000644	0.000200	0.000200	1	04/12/2018 14:43	WG1095852
Dibenzofuran	U		0.000338	0.0100	0.0100	1	04/12/2018 14:43	WG1095852
3,3-Dichlorobenzidine	U		0.00202	0.0100	0.0100	1	04/12/2018 14:43	WG1095852
2,4-Dinitrotoluene	U		0.00165	0.0100	0.0100	1	04/12/2018 14:43	WG1095852
2,6-Dinitrotoluene	U		0.000279	0.0100	0.0100	1	04/12/2018 14:43	WG1095852
Fluoranthene	U		0.000310	0.00100	0.00100	1	04/12/2018 14:43	WG1095852
Fluorene	U		0.000323	0.00100	0.00100	1	04/12/2018 14:43	WG1095852
Hexachlorobenzene	U		0.000341	0.00100	0.00100	1	04/12/2018 14:43	WG1095852
Hexachloro-1,3-butadiene	U		0.000329	0.0100	0.0100	1	04/12/2018 14:43	WG1095852
Hexachlorocyclopentadiene	U		0.00233	0.0100	0.0100	1	04/12/2018 14:43	WG1095852
Hexachloroethane	U		0.000365	0.0100	0.0100	1	04/12/2018 14:43	WG1095852
Indeno(1,2,3-cd)pyrene	U		0.000279	0.00100	0.00100	1	04/12/2018 14:43	WG1095852
Isophorone	U		0.000272	0.0100	0.0100	1	04/12/2018 14:43	WG1095852
1-Methylnaphthalene	U		0.000332	0.00100	0.00100	1	04/12/2018 14:43	WG1095852
2-Methylnaphthalene	U		0.000311	0.00100	0.00100	1	04/12/2018 14:43	WG1095852
Naphthalene	0.00133		0.000372	0.00100	0.00100	1	04/12/2018 14:43	WG1095852
Nitrobenzene	U		0.000367	0.0100	0.0100	1	04/12/2018 14:43	WG1095852
n-Nitrosodiphenylamine	U		0.000304	0.0100	0.0100	1	04/12/2018 14:43	WG1095852
n-Nitrosodi-n-propylamine	U		0.000403	0.0100	0.0100	1	04/12/2018 14:43	WG1095852
Phenanthrene	U		0.000366	0.00100	0.00100	1	04/12/2018 14:43	WG1095852
Benzylbutyl phthalate	U		0.000275	0.00300	0.00300	1	04/12/2018 14:43	WG1095852
Bis(2-ethylhexyl)phthalate	U		0.000709	0.00300	0.00300	1	04/12/2018 14:43	WG1095852
Di-n-butyl phthalate	U		0.000266	0.00300	0.00300	1	04/12/2018 14:43	WG1095852
Diethyl phthalate	U		0.000282	0.00300	0.00300	1	04/12/2018 14:43	WG1095852
Dimethyl phthalate	U		0.000283	0.00300	0.00300	1	04/12/2018 14:43	WG1095852
Di-n-octyl phthalate	U		0.000278	0.00300	0.00300	1	04/12/2018 14:43	WG1095852
Pyrene	U		0.000330	0.00100	0.00100	1	04/12/2018 14:43	WG1095852
1,2,4-Trichlorobenzene	U		0.000355	0.0100	0.0100	1	04/12/2018 14:43	WG1095852
4-Chloro-3-methylphenol	U		0.000263	0.0100	0.0100	1	04/12/2018 14:43	WG1095852
2-Chlorophenol	U		0.000283	0.0100	0.0100	1	04/12/2018 14:43	WG1095852
2,4-Dichlorophenol	U		0.000284	0.0100	0.0100	1	04/12/2018 14:43	WG1095852
2,4-Dimethylphenol	U		0.000624	0.0100	0.0100	1	04/12/2018 14:43	WG1095852
4,6-Dinitro-2-methylphenol	U		0.00262	0.0100	0.0100	1	04/12/2018 14:43	WG1095852
2,4-Dinitrophenol	U		0.00325	0.0100	0.0100	1	04/12/2018 14:43	WG1095852
2-Nitrophenol	U		0.000320	0.0100	0.0100	1	04/12/2018 14:43	WG1095852

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc



Collected date/time: 04/05/18 16:10

L984044

Semi Volatile Organic Compounds (GC/MS) by Method 8270 C

Analyte	Result mg/l	Qualifier	SDL mg/l	Unadj. MQL mg/l	MQL mg/l	Dilution	Analysis date / time	Batch
2-Nitroaniline	U		0.00190	0.0100	0.0100	1	04/12/2018 14:43	WG1095852
2-Methylphenol	U		0.000312	0.0100	0.0100	1	04/12/2018 14:43	WG1095852
3&4-Methyl Phenol	U		0.000266	0.0100	0.0100	1	04/12/2018 14:43	WG1095852
3-Nitroaniline	U		0.000308	0.0100	0.0100	1	04/12/2018 14:43	WG1095852
4-Chloroaniline	U		0.000382	0.0100	0.0100	1	04/12/2018 14:43	WG1095852
4-Nitroaniline	U	J4	0.000349	0.0100	0.0100	1	04/12/2018 14:43	WG1095852
4-Nitrophenol	U		0.00201	0.0100	0.0100	1	04/12/2018 14:43	WG1095852
Pentachlorophenol	U		0.000313	0.0100	0.0100	1	04/12/2018 14:43	WG1095852
Phenol	0.00488	J	0.000334	0.0100	0.0100	1	04/12/2018 14:43	WG1095852
2,4,5-Trichlorophenol	U		0.000236	0.0100	0.0100	1	04/12/2018 14:43	WG1095852
2,4,6-Trichlorophenol	U		0.000297	0.0100	0.0100	1	04/12/2018 14:43	WG1095852
(S) 2-Fluorophenol	85.7				10.0-120		04/12/2018 14:43	WG1095852
(S) Phenol-d5	55.7				10.0-120		04/12/2018 14:43	WG1095852
(S) Nitrobenzene-d5	90.5				10.0-126		04/12/2018 14:43	WG1095852
(S) 2-Fluorobiphenyl	89.7				22.0-127		04/12/2018 14:43	WG1095852
(S) 2,4,6-Tribromophenol	98.4				10.0-153		04/12/2018 14:43	WG1095852
(S) p-Terphenyl-d14	94.0				29.0-141		04/12/2018 14:43	WG1095852

1
Cp2
Tc3
Ss4
Cn5
Sr6
Qc7
Gl8
Al9
Sc



Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	SDL	Unadj. MQL	MQL	Dilution	Analysis date / time	Batch
Dissolved Solids	722		2.82	10.0	10.0	1	04/12/2018 14:19	WG1096342

Wet Chemistry by Method 2320 B-2011

Analyte	Result	Qualifier	SDL	Unadj. MQL	MQL	Dilution	Analysis date / time	Batch
Alkalinity	197		2.71	20.0	20.0	1	04/09/2018 12:56	WG1095317

Sample Narrative:

L984044-10 WG1095317: Endpoint pH 4.5

Wet Chemistry by Method 353.2

Analyte	Result	Qualifier	SDL	Unadj. MQL	MQL	Dilution	Analysis date / time	Batch
Nitrate-Nitrite	1.48		0.0197	0.100	0.100	1	04/13/2018 15:08	WG1096785

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	SDL	Unadj. MQL	MQL	Dilution	Analysis date / time	Batch
Chloride	176		0.260	1.00	5.00	5	04/10/2018 08:55	WG1095385
Fluoride	0.797		0.00990	0.100	0.100	1	04/10/2018 08:40	WG1095385
Sulfate	61.3		0.0774	5.00	5.00	1	04/10/2018 08:40	WG1095385

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc



Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	SDL	Unadj. MQL	MQL	Dilution	Analysis date / time	Batch
Dissolved Solids	1380	J3	2.82	10.0	10.0	1	04/12/2018 14:19	WG1096342

Wet Chemistry by Method 2320 B-2011

Analyte	Result	Qualifier	SDL	Unadj. MQL	MQL	Dilution	Analysis date / time	Batch
Alkalinity	333		2.71	20.0	20.0	1	04/09/2018 13:02	WG1095317

Sample Narrative:

L984044-11 WG1095317: Endpoint pH 4.5

Wet Chemistry by Method 353.2

Analyte	Result	Qualifier	SDL	Unadj. MQL	MQL	Dilution	Analysis date / time	Batch
Nitrate-Nitrite	2.16		0.0197	0.100	0.100	1	04/13/2018 15:09	WG1096785

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	SDL	Unadj. MQL	MQL	Dilution	Analysis date / time	Batch
Chloride	82.6		0.0519	1.00	1.00	1	04/10/2018 09:26	WG1095385
Fluoride	0.568		0.00990	0.100	0.100	1	04/10/2018 09:10	WG1095385
Sulfate	76.4		0.0774	5.00	5.00	1	04/10/2018 09:10	WG1095385

Mercury by Method 7470A

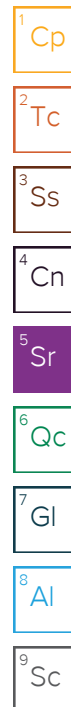
Analyte	Result	Qualifier	SDL	Unadj. MQL	MQL	Dilution	Analysis date / time	Batch
Mercury	U		0.0000490	0.000200	0.000200	1	04/10/2018 10:26	WG1095544

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	SDL	Unadj. MQL	MQL	Dilution	Analysis date / time	Batch
Boron,Dissolved	0.234		0.0126	0.200	0.200	1	04/11/2018 11:15	WG1095187

Metals (ICPMS) by Method 6020

Analyte	Result	Qualifier	SDL	Unadj. MQL	MQL	Dilution	Analysis date / time	Batch
Aluminum,Dissolved	U		0.00515	0.100	0.100	1	04/19/2018 18:15	WG1095185
Arsenic,Dissolved	0.00232	B	0.000250	0.00200	0.00200	1	04/19/2018 18:15	WG1095185
Barium,Dissolved	0.293		0.000360	0.00500	0.00500	1	04/19/2018 18:15	WG1095185
Cadmium,Dissolved	U		0.000160	0.00100	0.00100	1	04/19/2018 18:15	WG1095185
Calcium,Dissolved	228		0.0460	1.00	1.00	1	04/19/2018 18:15	WG1095185
Chromium,Dissolved	0.00101	J	0.000540	0.00200	0.00200	1	04/18/2018 15:53	WG1099510
Copper,Dissolved	0.00712		0.000520	0.00500	0.00500	1	04/19/2018 18:15	WG1095185
Cobalt,Dissolved	0.0114		0.000260	0.00200	0.00200	1	04/19/2018 18:15	WG1095185
Iron,Dissolved	U		0.0150	0.100	0.100	1	04/19/2018 18:15	WG1095185
Lead,Dissolved	U		0.000240	0.00200	0.00200	1	04/19/2018 18:15	WG1095185
Magnesium,Dissolved	30.2		0.100	1.00	1.00	1	04/17/2018 15:10	WG1095185
Manganese,Dissolved	0.00523	B	0.000250	0.00500	0.00500	1	04/19/2018 18:15	WG1095185
Molybdenum,Dissolved	0.00158	B J	0.000140	0.00500	0.00500	1	04/19/2018 18:15	WG1095185
Nickel,Dissolved	0.0125		0.000350	0.00200	0.00200	1	04/19/2018 18:15	WG1095185
Potassium,Dissolved	5.41		0.0370	1.00	1.00	1	04/19/2018 18:15	WG1095185
Selenium,Dissolved	0.00112	B J	0.000380	0.00200	0.00200	1	04/19/2018 18:15	WG1095185
Silver,Dissolved	U		0.000310	0.00200	0.00200	1	04/19/2018 18:15	WG1095185
Sodium,Dissolved	135		0.110	1.00	1.00	1	04/19/2018 18:15	WG1095185





Collected date/time: 04/05/18 15:20

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Metals (ICPMS) by Method 6020

Analyte	Result mg/l	Qualifier	SDL mg/l	Unadj. MQL mg/l	MQL mg/l	Dilution	Analysis date / time	Batch
Uranium,Dissolved	0.00814	J	0.000330	0.0100	0.0100	1	04/19/2018 18:15	WG1095185
Zinc,Dissolved	0.0133	J	0.00256	0.0250	0.0250	1	04/17/2018 15:10	WG1095185

¹ Cp² Tc³ Ss⁴ Cn⁵ Sr⁶ Qc⁷ Gl⁸ Al⁹ Sc

Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result mg/l	Qualifier	SDL mg/l	Unadj. MQL mg/l	MQL mg/l	Dilution	Analysis date / time	Batch
Acetone	U		0.0100	1.00	1.00	1	04/08/2018 16:49	WG1095355
Benzene	U		0.000331	0.00100	0.00100	1	04/08/2018 16:49	WG1095355
Bromodichloromethane	U		0.000380	0.00125	0.00125	1	04/08/2018 16:49	WG1095355
Bromoform	U		0.000469	0.00100	0.00100	1	04/08/2018 16:49	WG1095355
Bromomethane	U		0.000866	0.00500	0.00500	1	04/08/2018 16:49	WG1095355
n-Butylbenzene	U		0.000361	0.00100	0.00100	1	04/08/2018 16:49	WG1095355
sec-Butylbenzene	U		0.000365	0.00100	0.00100	1	04/08/2018 16:49	WG1095355
tert-Butylbenzene	U		0.000399	0.00100	0.00100	1	04/08/2018 16:49	WG1095355
Carbon disulfide	U		0.000275	0.00100	0.00100	1	04/08/2018 16:49	WG1095355
Carbon tetrachloride	U		0.000379	0.00100	0.00100	1	04/08/2018 16:49	WG1095355
Chlorobenzene	U		0.000348	0.00100	0.00100	1	04/08/2018 16:49	WG1095355
Chlorodibromomethane	U		0.000327	0.00100	0.00100	1	04/08/2018 16:49	WG1095355
Chloroethane	U		0.000453	0.00500	0.00500	1	04/08/2018 16:49	WG1095355
Chloroform	U		0.000324	0.00500	0.00500	1	04/08/2018 16:49	WG1095355
Chloromethane	U		0.000276	0.00250	0.00250	1	04/08/2018 16:49	WG1095355
1,2-Dibromoethane	U		0.000381	0.00100	0.00100	1	04/08/2018 16:49	WG1095355
1,1-Dichloroethane	U		0.000259	0.00100	0.00100	1	04/08/2018 16:49	WG1095355
1,2-Dichloroethane	U		0.000361	0.00100	0.00100	1	04/08/2018 16:49	WG1095355
1,1-Dichloroethene	U		0.000398	0.00100	0.00100	1	04/08/2018 16:49	WG1095355
cis-1,2-Dichloroethene	U		0.000260	0.00100	0.00100	1	04/08/2018 16:49	WG1095355
trans-1,2-Dichloroethene	U		0.000396	0.00100	0.00100	1	04/08/2018 16:49	WG1095355
1,2-Dichloropropane	U		0.000306	0.00100	0.00100	1	04/08/2018 16:49	WG1095355
cis-1,3-Dichloropropene	U		0.000418	0.00100	0.00100	1	04/08/2018 16:49	WG1095355
trans-1,3-Dichloropropene	U		0.000419	0.00100	0.00100	1	04/08/2018 16:49	WG1095355
Ethylbenzene	U		0.000384	0.00100	0.00100	1	04/08/2018 16:49	WG1095355
Hexachloro-1,3-butadiene	U		0.000256	0.00100	0.00100	1	04/08/2018 16:49	WG1095355
2-Hexanone	U		0.00382	0.0100	0.0100	1	04/08/2018 16:49	WG1095355
Isopropylbenzene	U		0.000326	0.00100	0.00100	1	04/08/2018 16:49	WG1095355
p-Isopropyltoluene	U		0.000350	0.00100	0.00100	1	04/08/2018 16:49	WG1095355
2-Butanone (MEK)	U		0.00393	0.0100	0.0100	1	04/08/2018 16:49	WG1095355
Methylene Chloride	U		0.00100	0.00500	0.00500	1	04/08/2018 16:49	WG1095355
4-Methyl-2-pentanone (MIBK)	U		0.00214	0.0100	0.0100	1	04/08/2018 16:49	WG1095355
Methyl tert-butyl ether	U		0.000367	0.00100	0.00100	1	04/08/2018 16:49	WG1095355
Naphthalene	U		0.00100	0.00500	0.00500	1	04/08/2018 16:49	WG1095355
n-Propylbenzene	U		0.000349	0.00100	0.00100	1	04/08/2018 16:49	WG1095355
Styrene	U		0.000307	0.00100	0.00100	1	04/08/2018 16:49	WG1095355
1,1,2,2-Tetrachloroethane	U		0.000130	0.00100	0.00100	1	04/08/2018 16:49	WG1095355
Tetrachloroethene	U		0.000372	0.00100	0.00100	1	04/08/2018 16:49	WG1095355
Toluene	U		0.000412	0.00100	0.00100	1	04/08/2018 16:49	WG1095355
1,1,1-Trichloroethane	U		0.000319	0.00100	0.00100	1	04/08/2018 16:49	WG1095355
1,1,2-Trichloroethane	U		0.000383	0.00100	0.00100	1	04/08/2018 16:49	WG1095355
Trichloroethene	U		0.000398	0.00100	0.00100	1	04/08/2018 16:49	WG1095355
1,2,4-Trimethylbenzene	U		0.000373	0.00100	0.00100	1	04/08/2018 16:49	WG1095355
1,3,5-Trimethylbenzene	U		0.000387	0.00100	0.00100	1	04/08/2018 16:49	WG1095355
Vinyl chloride	U		0.000259	0.00100	0.00100	1	04/08/2018 16:49	WG1095355
Xylenes, Total	U		0.00106	0.00300	0.00300	1	04/08/2018 16:49	WG1095355
(S) Toluene-d8	107				80.0-120		04/08/2018 16:49	WG1095355
(S) Dibromofluoromethane	90.8				76.0-123		04/08/2018 16:49	WG1095355
(S) 4-Bromofluorobenzene	106				80.0-120		04/08/2018 16:49	WG1095355



Collected date/time: 04/05/18 15:20

L984044

Semi Volatile Organic Compounds (GC/MS) by Method 8270 C

Analyte	Result mg/l	Qualifier	SDL mg/l	Unadj. MQL mg/l	MQL mg/l	Dilution	Analysis date / time	Batch
Acenaphthene	U		0.000332	0.00100	0.00105	1.05	04/12/2018 15:08	WG1095852
Acenaphthylene	U		0.000324	0.00100	0.00105	1.05	04/12/2018 15:08	WG1095852
Acetophenone	U		0.00259	0.0100	0.0105	1.05	04/12/2018 15:08	WG1095852
Anthracene	U		0.000306	0.00100	0.00105	1.05	04/12/2018 15:08	WG1095852
Atrazine	U		0.000273	0.0100	0.0105	1.05	04/12/2018 15:08	WG1095852
Benzo(a)anthracene	U		0.0000536	0.00100	0.00105	1.05	04/12/2018 15:08	WG1095852
Benzaldehyde	U	J4	0.00147	0.0100	0.0105	1.05	04/12/2018 15:08	WG1095852
Benzo(b)fluoranthene	U		0.0000941	0.00100	0.00105	1.05	04/12/2018 15:08	WG1095852
Benzo(k)fluoranthene	U		0.000373	0.00100	0.00105	1.05	04/12/2018 15:08	WG1095852
Benzo(g,h,i)perylene	U		0.00000238	0.00100	0.00105	1.05	04/12/2018 15:08	WG1095852
Benzo(a)pyrene	U		0.0000400	0.000200	0.000210	1.05	04/12/2018 15:08	WG1095852
Biphenyl	U		0.000341	0.0100	0.0105	1.05	04/12/2018 15:08	WG1095852
Bis(2-chlorethoxy)methane	U		0.000345	0.0100	0.0105	1.05	04/12/2018 15:08	WG1095852
Bis(2-chloroethyl)ether	U		0.00170	0.0100	0.0105	1.05	04/12/2018 15:08	WG1095852
Bis(2-chloroisopropyl)ether	U		0.000467	0.0100	0.0105	1.05	04/12/2018 15:08	WG1095852
4-Bromophenyl-phenylether	U		0.000352	0.0100	0.0105	1.05	04/12/2018 15:08	WG1095852
2-Chloronaphthalene	U		0.000346	0.00100	0.00105	1.05	04/12/2018 15:08	WG1095852
4-Chlorophenyl-phenylether	U		0.000318	0.0100	0.0105	1.05	04/12/2018 15:08	WG1095852
Caprolactam	U		0.00272	0.0100	0.0105	1.05	04/12/2018 15:08	WG1095852
Carbazole	U		0.000273	0.0100	0.0105	1.05	04/12/2018 15:08	WG1095852
Chrysene	U		0.000349	0.00100	0.00105	1.05	04/12/2018 15:08	WG1095852
Dibenz(a,h)anthracene	U		0.0000676	0.000200	0.000210	1.05	04/12/2018 15:08	WG1095852
Dibenzofuran	U		0.000355	0.0100	0.0105	1.05	04/12/2018 15:08	WG1095852
3,3-Dichlorobenzidine	U		0.00212	0.0100	0.0105	1.05	04/12/2018 15:08	WG1095852
2,4-Dinitrotoluene	U		0.00173	0.0100	0.0105	1.05	04/12/2018 15:08	WG1095852
2,6-Dinitrotoluene	U		0.000293	0.0100	0.0105	1.05	04/12/2018 15:08	WG1095852
Fluoranthene	U		0.000326	0.00100	0.00105	1.05	04/12/2018 15:08	WG1095852
Fluorene	U		0.000339	0.00100	0.00105	1.05	04/12/2018 15:08	WG1095852
Hexachlorobenzene	U		0.000358	0.00100	0.00105	1.05	04/12/2018 15:08	WG1095852
Hexachloro-1,3-butadiene	U		0.000345	0.0100	0.0105	1.05	04/12/2018 15:08	WG1095852
Hexachlorocyclopentadiene	U		0.00245	0.0100	0.0105	1.05	04/12/2018 15:08	WG1095852
Hexachloroethane	U		0.000383	0.0100	0.0105	1.05	04/12/2018 15:08	WG1095852
Indeno(1,2,3-cd)pyrene	U		0.000293	0.00100	0.00105	1.05	04/12/2018 15:08	WG1095852
Isophorone	U		0.000286	0.0100	0.0105	1.05	04/12/2018 15:08	WG1095852
1-Methylnaphthalene	U		0.000349	0.00100	0.00105	1.05	04/12/2018 15:08	WG1095852
2-Methylnaphthalene	U		0.000326	0.00100	0.00105	1.05	04/12/2018 15:08	WG1095852
Naphthalene	0.00159		0.000391	0.00100	0.00105	1.05	04/12/2018 15:08	WG1095852
Nitrobenzene	U		0.000385	0.0100	0.0105	1.05	04/12/2018 15:08	WG1095852
n-Nitrosodiphenylamine	U		0.000319	0.0100	0.0105	1.05	04/12/2018 15:08	WG1095852
n-Nitrosodi-n-propylamine	U		0.000423	0.0100	0.0105	1.05	04/12/2018 15:08	WG1095852
Phenanthrene	U		0.000384	0.00100	0.00105	1.05	04/12/2018 15:08	WG1095852
Benzylbutyl phthalate	U		0.000289	0.00300	0.00315	1.05	04/12/2018 15:08	WG1095852
Bis(2-ethylhexyl)phthalate	U		0.000744	0.00300	0.00315	1.05	04/12/2018 15:08	WG1095852
Di-n-butyl phthalate	U		0.000279	0.00300	0.00315	1.05	04/12/2018 15:08	WG1095852
Diethyl phthalate	U		0.000296	0.00300	0.00315	1.05	04/12/2018 15:08	WG1095852
Dimethyl phthalate	U		0.000297	0.00300	0.00315	1.05	04/12/2018 15:08	WG1095852
Di-n-octyl phthalate	U		0.000292	0.00300	0.00315	1.05	04/12/2018 15:08	WG1095852
Pyrene	U		0.000346	0.00100	0.00105	1.05	04/12/2018 15:08	WG1095852
1,2,4-Trichlorobenzene	U		0.000373	0.0100	0.0105	1.05	04/12/2018 15:08	WG1095852
4-Chloro-3-methylphenol	U		0.000276	0.0100	0.0105	1.05	04/12/2018 15:08	WG1095852
2-Chlorophenol	U		0.000297	0.0100	0.0105	1.05	04/12/2018 15:08	WG1095852
2,4-Dichlorophenol	U		0.000298	0.0100	0.0105	1.05	04/12/2018 15:08	WG1095852
2,4-Dimethylphenol	U		0.000655	0.0100	0.0105	1.05	04/12/2018 15:08	WG1095852
4,6-Dinitro-2-methylphenol	U		0.00275	0.0100	0.0105	1.05	04/12/2018 15:08	WG1095852
2,4-Dinitrophenol	U		0.00341	0.0100	0.0105	1.05	04/12/2018 15:08	WG1095852
2-Nitrophenol	U		0.000336	0.0100	0.0105	1.05	04/12/2018 15:08	WG1095852

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc



Collected date/time: 04/05/18 15:20

L984044

Semi Volatile Organic Compounds (GC/MS) by Method 8270 C

Analyte	Result mg/l	Qualifier	SDL mg/l	Unadj. MQL mg/l	MQL mg/l	Dilution	Analysis date / time	Batch
2-Nitroaniline	U		0.00200	0.0100	0.0105	1.05	04/12/2018 15:08	WG1095852
2-Methylphenol	U		0.000328	0.0100	0.0105	1.05	04/12/2018 15:08	WG1095852
3&4-Methyl Phenol	U		0.000279	0.0100	0.0105	1.05	04/12/2018 15:08	WG1095852
3-Nitroaniline	U		0.000323	0.0100	0.0105	1.05	04/12/2018 15:08	WG1095852
4-Chloroaniline	U		0.000401	0.0100	0.0105	1.05	04/12/2018 15:08	WG1095852
4-Nitroaniline	U	J4	0.000366	0.0100	0.0105	1.05	04/12/2018 15:08	WG1095852
4-Nitrophenol	U		0.00211	0.0100	0.0105	1.05	04/12/2018 15:08	WG1095852
Pentachlorophenol	U		0.000329	0.0100	0.0105	1.05	04/12/2018 15:08	WG1095852
Phenol	0.000731	J	0.000351	0.0100	0.0105	1.05	04/12/2018 15:08	WG1095852
2,4,5-Trichlorophenol	U		0.000248	0.0100	0.0105	1.05	04/12/2018 15:08	WG1095852
2,4,6-Trichlorophenol	U		0.000312	0.0100	0.0105	1.05	04/12/2018 15:08	WG1095852
(S) 2-Fluorophenol	72.0				10.0-120		04/12/2018 15:08	WG1095852
(S) Phenol-d5	48.4				10.0-120		04/12/2018 15:08	WG1095852
(S) Nitrobenzene-d5	78.3				10.0-126		04/12/2018 15:08	WG1095852
(S) 2-Fluorobiphenyl	79.9				22.0-127		04/12/2018 15:08	WG1095852
(S) 2,4,6-Tribromophenol	100				10.0-153		04/12/2018 15:08	WG1095852
(S) p-Terphenyl-d14	95.9				29.0-141		04/12/2018 15:08	WG1095852

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc



Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result	Qualifier	SDL	Unadj. MQL	MQL	Dilution	Analysis	Batch
	mg/l		mg/l	mg/l	mg/l		date / time	
Acetone	U		0.0100	1.00	1.00	1	04/08/2018 17:09	WG1095355
Benzene	U		0.000331	0.00100	0.00100	1	04/08/2018 17:09	WG1095355
Bromodichloromethane	U		0.000380	0.00125	0.00125	1	04/08/2018 17:09	WG1095355
Bromoform	U		0.000469	0.00100	0.00100	1	04/08/2018 17:09	WG1095355
Bromomethane	U		0.000866	0.00500	0.00500	1	04/08/2018 17:09	WG1095355
n-Butylbenzene	U		0.000361	0.00100	0.00100	1	04/08/2018 17:09	WG1095355
sec-Butylbenzene	0.000443	J	0.000365	0.00100	0.00100	1	04/08/2018 17:09	WG1095355
tert-Butylbenzene	U		0.000399	0.00100	0.00100	1	04/08/2018 17:09	WG1095355
Carbon disulfide	U		0.000275	0.00100	0.00100	1	04/08/2018 17:09	WG1095355
Carbon tetrachloride	U		0.000379	0.00100	0.00100	1	04/08/2018 17:09	WG1095355
Chlorobenzene	U		0.000348	0.00100	0.00100	1	04/08/2018 17:09	WG1095355
Chlorodibromomethane	U		0.000327	0.00100	0.00100	1	04/08/2018 17:09	WG1095355
Chloroethane	U		0.000453	0.00500	0.00500	1	04/08/2018 17:09	WG1095355
Chloroform	U		0.000324	0.00500	0.00500	1	04/08/2018 17:09	WG1095355
Chloromethane	U		0.000276	0.00250	0.00250	1	04/08/2018 17:09	WG1095355
1,2-Dibromoethane	U		0.000381	0.00100	0.00100	1	04/08/2018 17:09	WG1095355
1,1-Dichloroethane	U		0.000259	0.00100	0.00100	1	04/08/2018 17:09	WG1095355
1,2-Dichloroethane	U		0.000361	0.00100	0.00100	1	04/08/2018 17:09	WG1095355
1,1-Dichloroethene	U		0.000398	0.00100	0.00100	1	04/08/2018 17:09	WG1095355
cis-1,2-Dichloroethene	U		0.000260	0.00100	0.00100	1	04/08/2018 17:09	WG1095355
trans-1,2-Dichloroethene	U		0.000396	0.00100	0.00100	1	04/08/2018 17:09	WG1095355
1,2-Dichloropropane	U		0.000306	0.00100	0.00100	1	04/08/2018 17:09	WG1095355
cis-1,3-Dichloropropene	U		0.000418	0.00100	0.00100	1	04/08/2018 17:09	WG1095355
trans-1,3-Dichloropropene	U		0.000419	0.00100	0.00100	1	04/08/2018 17:09	WG1095355
Ethylbenzene	U		0.000384	0.00100	0.00100	1	04/08/2018 17:09	WG1095355
Hexachloro-1,3-butadiene	U		0.000256	0.00100	0.00100	1	04/08/2018 17:09	WG1095355
2-Hexanone	U		0.00382	0.0100	0.0100	1	04/08/2018 17:09	WG1095355
Isopropylbenzene	U		0.000326	0.00100	0.00100	1	04/08/2018 17:09	WG1095355
p-Isopropyltoluene	U		0.000350	0.00100	0.00100	1	04/08/2018 17:09	WG1095355
2-Butanone (MEK)	U		0.00393	0.0100	0.0100	1	04/08/2018 17:09	WG1095355
Methylene Chloride	U		0.00100	0.00500	0.00500	1	04/08/2018 17:09	WG1095355
4-Methyl-2-pentanone (MIBK)	U		0.00214	0.0100	0.0100	1	04/08/2018 17:09	WG1095355
Methyl tert-butyl ether	U		0.000367	0.00100	0.00100	1	04/08/2018 17:09	WG1095355
Naphthalene	U		0.00100	0.00500	0.00500	1	04/08/2018 17:09	WG1095355
n-Propylbenzene	U		0.000349	0.00100	0.00100	1	04/08/2018 17:09	WG1095355
Styrene	U		0.000307	0.00100	0.00100	1	04/08/2018 17:09	WG1095355
1,1,2,2-Tetrachloroethane	U		0.000130	0.00100	0.00100	1	04/08/2018 17:09	WG1095355
Tetrachloroethene	U		0.000372	0.00100	0.00100	1	04/08/2018 17:09	WG1095355
Toluene	U		0.000412	0.00100	0.00100	1	04/08/2018 17:09	WG1095355
1,1,1-Trichloroethane	U		0.000319	0.00100	0.00100	1	04/08/2018 17:09	WG1095355
1,1,2-Trichloroethane	U		0.000383	0.00100	0.00100	1	04/08/2018 17:09	WG1095355
Trichloroethene	U		0.000398	0.00100	0.00100	1	04/08/2018 17:09	WG1095355
1,2,4-Trimethylbenzene	U		0.000373	0.00100	0.00100	1	04/08/2018 17:09	WG1095355
1,3,5-Trimethylbenzene	U		0.000387	0.00100	0.00100	1	04/08/2018 17:09	WG1095355
Vinyl chloride	U		0.000259	0.00100	0.00100	1	04/08/2018 17:09	WG1095355
Xylenes, Total	U		0.00106	0.00300	0.00300	1	04/08/2018 17:09	WG1095355
(S) Toluene-d8	108				80.0-120		04/08/2018 17:09	WG1095355
(S) Dibromofluoromethane	90.0				76.0-123		04/08/2018 17:09	WG1095355
(S) 4-Bromofluorobenzene	105				80.0-120		04/08/2018 17:09	WG1095355

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc



Wet Chemistry by Method 2320 B-2011

Analyte	Result	Qualifier	SDL	Unadj. MQL	MQL	Dilution	Analysis	Batch
	mg/l		mg/l	mg/l	mg/l		date / time	
Alkalinity	205		2.71	20.0	20.0	1	04/09/2018 13:08	WG1095317

Sample Narrative:

L984044-13 WG1095317: Endpoint pH 4.5

Wet Chemistry by Method 353.2

Analyte	Result	Qualifier	SDL	Unadj. MQL	MQL	Dilution	Analysis	Batch
	mg/l		mg/l	mg/l	mg/l		date / time	
Nitrate-Nitrite	4.11		0.0197	0.100	0.100	1	04/13/2018 15:10	WG1096785

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	SDL	Unadj. MQL	MQL	Dilution	Analysis	Batch
	mg/l		mg/l	mg/l	mg/l		date / time	
Chloride	63.1		0.0519	1.00	1.00	1	04/11/2018 02:39	WG1095833
Fluoride	1.74		0.00990	0.100	0.100	1	04/11/2018 02:39	WG1095833
Sulfate	99.7		0.0774	5.00	5.00	1	04/11/2018 02:39	WG1095833

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc



Mercury by Method 7470A

Analyte	Result	Qualifier	SDL	Unadj. MQL	MQL	Dilution	Analysis	Batch
	mg/l		mg/l	mg/l	mg/l		date / time	
Mercury	U		0.0000490	0.000200	0.000200	1	04/10/2018 10:29	WG1095544

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	SDL	Unadj. MQL	MQL	Dilution	Analysis	Batch
	mg/l		mg/l	mg/l	mg/l		date / time	
Boron,Dissolved	0.215		0.0126	0.200	0.200	1	04/11/2018 11:18	WG1095187

6 Qc

7 Gl

8 Al

9 Sc

Metals (ICPMS) by Method 6020

Analyte	Result	Qualifier	SDL	Unadj. MQL	MQL	Dilution	Analysis	Batch
	mg/l		mg/l	mg/l	mg/l		date / time	
Aluminum,Dissolved	U		0.00515	0.100	0.100	1	04/19/2018 18:20	WG1095185
Arsenic,Dissolved	0.00299	B	0.000250	0.00200	0.00200	1	04/19/2018 18:20	WG1095185
Barium,Dissolved	0.174		0.000360	0.00500	0.00500	1	04/19/2018 18:20	WG1095185
Cadmium,Dissolved	U		0.000160	0.00100	0.00100	1	04/19/2018 18:20	WG1095185
Calcium,Dissolved	175		0.0460	1.00	1.00	1	04/19/2018 18:20	WG1095185
Chromium,Dissolved	0.0268		0.000540	0.00200	0.00200	1	04/19/2018 18:20	WG1095185
Copper,Dissolved	0.00876		0.000520	0.00500	0.00500	1	04/19/2018 18:20	WG1095185
Cobalt,Dissolved	U		0.000260	0.00200	0.00200	1	04/19/2018 18:20	WG1095185
Iron,Dissolved	U		0.0150	0.100	0.100	1	04/19/2018 18:20	WG1095185
Lead,Dissolved	0.000398	B J	0.000240	0.00200	0.00200	1	04/19/2018 18:20	WG1095185
Magnesium,Dissolved	25.6		0.100	1.00	1.00	1	04/17/2018 15:14	WG1095185
Manganese,Dissolved	0.000735	B J	0.000250	0.00500	0.00500	1	04/19/2018 18:20	WG1095185
Molybdenum,Dissolved	0.00174	B J	0.000140	0.00500	0.00500	1	04/19/2018 18:20	WG1095185
Nickel,Dissolved	0.0427		0.000350	0.00200	0.00200	1	04/19/2018 18:20	WG1095185
Potassium,Dissolved	3.57		0.0370	1.00	1.00	1	04/19/2018 18:20	WG1095185
Selenium,Dissolved	0.00163	B J	0.000380	0.00200	0.00200	1	04/19/2018 18:20	WG1095185
Silver,Dissolved	U		0.000310	0.00200	0.00200	1	04/19/2018 18:20	WG1095185
Sodium,Dissolved	66.5		0.110	1.00	1.00	1	04/19/2018 18:20	WG1095185
Uranium,Dissolved	0.00571	J	0.000330	0.0100	0.0100	1	04/19/2018 18:20	WG1095185
Zinc,Dissolved	0.162		0.00256	0.0250	0.0250	1	04/17/2018 15:14	WG1095185

Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result	Qualifier	SDL	Unadj. MQL	MQL	Dilution	Analysis	Batch
	mg/l		mg/l	mg/l	mg/l		date / time	
Acetone	U		0.0100	1.00	1.00	1	04/08/2018 17:30	WG1095355
Benzene	U		0.000331	0.00100	0.00100	1	04/08/2018 17:30	WG1095355
Bromodichloromethane	U		0.000380	0.00125	0.00125	1	04/08/2018 17:30	WG1095355
Bromoform	U		0.000469	0.00100	0.00100	1	04/08/2018 17:30	WG1095355
Bromomethane	U		0.000866	0.00500	0.00500	1	04/08/2018 17:30	WG1095355
n-Butylbenzene	U		0.000361	0.00100	0.00100	1	04/08/2018 17:30	WG1095355
sec-Butylbenzene	U		0.000365	0.00100	0.00100	1	04/08/2018 17:30	WG1095355
tert-Butylbenzene	U		0.000399	0.00100	0.00100	1	04/08/2018 17:30	WG1095355
Carbon disulfide	U		0.000275	0.00100	0.00100	1	04/08/2018 17:30	WG1095355
Carbon tetrachloride	U		0.000379	0.00100	0.00100	1	04/08/2018 17:30	WG1095355
Chlorobenzene	U		0.000348	0.00100	0.00100	1	04/08/2018 17:30	WG1095355
Chlorodibromomethane	U		0.000327	0.00100	0.00100	1	04/08/2018 17:30	WG1095355
Chloroethane	U		0.000453	0.00500	0.00500	1	04/08/2018 17:30	WG1095355
Chloroform	0.00142	J	0.000324	0.00500	0.00500	1	04/08/2018 17:30	WG1095355
Chloromethane	U		0.000276	0.00250	0.00250	1	04/08/2018 17:30	WG1095355
1,2-Dibromoethane	U		0.000381	0.00100	0.00100	1	04/08/2018 17:30	WG1095355
1,1-Dichloroethane	U		0.000259	0.00100	0.00100	1	04/08/2018 17:30	WG1095355
1,2-Dichloroethane	U		0.000361	0.00100	0.00100	1	04/08/2018 17:30	WG1095355
1,1-Dichloroethene	U		0.000398	0.00100	0.00100	1	04/08/2018 17:30	WG1095355
cis-1,2-Dichloroethene	U		0.000260	0.00100	0.00100	1	04/08/2018 17:30	WG1095355



Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result mg/l	Qualifier	SDL mg/l	Unadj. MQL mg/l	MQL mg/l	Dilution	Analysis date / time	Batch
trans-1,2-Dichloroethene	U		0.000396	0.00100	0.00100	1	04/08/2018 17:30	WG1095355
1,2-Dichloropropane	U		0.000306	0.00100	0.00100	1	04/08/2018 17:30	WG1095355
cis-1,3-Dichloropropene	U		0.000418	0.00100	0.00100	1	04/08/2018 17:30	WG1095355
trans-1,3-Dichloropropene	U		0.000419	0.00100	0.00100	1	04/08/2018 17:30	WG1095355
Ethylbenzene	U		0.000384	0.00100	0.00100	1	04/08/2018 17:30	WG1095355
Hexachloro-1,3-butadiene	U		0.000256	0.00100	0.00100	1	04/08/2018 17:30	WG1095355
2-Hexanone	U		0.00382	0.0100	0.0100	1	04/08/2018 17:30	WG1095355
Isopropylbenzene	U		0.000326	0.00100	0.00100	1	04/08/2018 17:30	WG1095355
p-Isopropyltoluene	U		0.000350	0.00100	0.00100	1	04/08/2018 17:30	WG1095355
2-Butanone (MEK)	U		0.00393	0.0100	0.0100	1	04/08/2018 17:30	WG1095355
Methylene Chloride	U		0.00100	0.00500	0.00500	1	04/08/2018 17:30	WG1095355
4-Methyl-2-pentanone (MIBK)	U		0.00214	0.0100	0.0100	1	04/08/2018 17:30	WG1095355
Methyl tert-butyl ether	U		0.000367	0.00100	0.00100	1	04/08/2018 17:30	WG1095355
Naphthalene	U		0.00100	0.00500	0.00500	1	04/08/2018 17:30	WG1095355
n-Propylbenzene	U		0.000349	0.00100	0.00100	1	04/08/2018 17:30	WG1095355
Styrene	U		0.000307	0.00100	0.00100	1	04/08/2018 17:30	WG1095355
1,1,2,2-Tetrachloroethane	U		0.000130	0.00100	0.00100	1	04/08/2018 17:30	WG1095355
Tetrachloroethene	U		0.000372	0.00100	0.00100	1	04/08/2018 17:30	WG1095355
Toluene	U		0.000412	0.00100	0.00100	1	04/08/2018 17:30	WG1095355
1,1,1-Trichloroethane	U		0.000319	0.00100	0.00100	1	04/08/2018 17:30	WG1095355
1,1,2-Trichloroethane	U		0.000383	0.00100	0.00100	1	04/08/2018 17:30	WG1095355
Trichloroethene	U		0.000398	0.00100	0.00100	1	04/08/2018 17:30	WG1095355
1,2,4-Trimethylbenzene	U		0.000373	0.00100	0.00100	1	04/08/2018 17:30	WG1095355
1,3,5-Trimethylbenzene	U		0.000387	0.00100	0.00100	1	04/08/2018 17:30	WG1095355
Vinyl chloride	U		0.000259	0.00100	0.00100	1	04/08/2018 17:30	WG1095355
Xylenes, Total	U		0.00106	0.00300	0.00300	1	04/08/2018 17:30	WG1095355
(S) Toluene-d8	107				80.0-120		04/08/2018 17:30	WG1095355
(S) Dibromofluoromethane	89.2				76.0-123		04/08/2018 17:30	WG1095355
(S) 4-Bromofluorobenzene	107				80.0-120		04/08/2018 17:30	WG1095355

¹ Cp² Tc³ Ss⁴ Cn⁵ Sr⁶ Qc⁷ Gl⁸ Al⁹ Sc



Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	SDL	Unadj. MQL	MQL	Dilution	Analysis date / time	Batch
Dissolved Solids	474		2.82	10.0	10.0	1	04/12/2018 14:19	WG1096342

Wet Chemistry by Method 2320 B-2011

Analyte	Result	Qualifier	SDL	Unadj. MQL	MQL	Dilution	Analysis date / time	Batch
Alkalinity	194		2.71	20.0	20.0	1	04/09/2018 13:15	WG1095317

Sample Narrative:

L984044-15 WG1095317: Endpoint pH 4.5

Wet Chemistry by Method 353.2

Analyte	Result	Qualifier	SDL	Unadj. MQL	MQL	Dilution	Analysis date / time	Batch
Nitrate-Nitrite	3.35	J6	0.0197	0.100	0.100	1	04/13/2018 15:11	WG1096785

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	SDL	Unadj. MQL	MQL	Dilution	Analysis date / time	Batch
Chloride	70.8		0.0519	1.00	1.00	1	04/11/2018 02:55	WG1095833
Fluoride	1.19		0.00990	0.100	0.100	1	04/11/2018 02:55	WG1095833
Sulfate	77.2		0.0774	5.00	5.00	1	04/11/2018 02:55	WG1095833

Mercury by Method 7470A

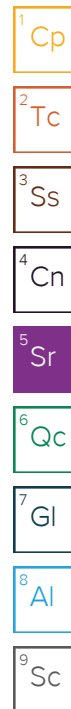
Analyte	Result	Qualifier	SDL	Unadj. MQL	MQL	Dilution	Analysis date / time	Batch
Mercury	U		0.0000490	0.000200	0.000200	1	04/10/2018 09:57	WG1095544

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	SDL	Unadj. MQL	MQL	Dilution	Analysis date / time	Batch
Boron,Dissolved	0.184	J	0.0126	0.200	0.200	1	04/11/2018 10:36	WG1095187

Metals (ICPMS) by Method 6020

Analyte	Result	Qualifier	SDL	Unadj. MQL	MQL	Dilution	Analysis date / time	Batch
Aluminum,Dissolved	U		0.00515	0.100	0.100	1	04/19/2018 16:31	WG1095185
Arsenic,Dissolved	0.00457	B	0.000250	0.00200	0.00200	1	04/19/2018 16:31	WG1095185
Barium,Dissolved	0.0723		0.000360	0.00500	0.00500	1	04/19/2018 16:31	WG1095185
Cadmium,Dissolved	U		0.000160	0.00100	0.00100	1	04/19/2018 16:31	WG1095185
Calcium,Dissolved	96.3		0.0460	1.00	1.00	1	04/19/2018 16:31	WG1095185
Chromium,Dissolved	0.000946	B J	0.000540	0.00200	0.00200	1	04/19/2018 16:31	WG1095185
Copper,Dissolved	0.00170	B J	0.000520	0.00500	0.00500	1	04/19/2018 16:31	WG1095185
Cobalt,Dissolved	U		0.000260	0.00200	0.00200	1	04/19/2018 16:31	WG1095185
Iron,Dissolved	U		0.0150	0.100	0.100	1	04/19/2018 16:31	WG1095185
Lead,Dissolved	U		0.000240	0.00200	0.00200	1	04/19/2018 16:31	WG1095185
Magnesium,Dissolved	14.3		0.100	1.00	1.00	1	04/17/2018 14:18	WG1095185
Manganese,Dissolved	0.000941	B J	0.000250	0.00500	0.00500	1	04/19/2018 16:31	WG1095185
Molybdenum,Dissolved	0.00218	B J	0.000140	0.00500	0.00500	1	04/19/2018 16:31	WG1095185
Nickel,Dissolved	0.00870		0.000350	0.00200	0.00200	1	04/19/2018 16:31	WG1095185
Potassium,Dissolved	2.68	O1	0.0370	1.00	1.00	1	04/19/2018 16:31	WG1095185
Selenium,Dissolved	0.00199	B J	0.000380	0.00200	0.00200	1	04/19/2018 16:31	WG1095185
Silver,Dissolved	U		0.000310	0.00200	0.00200	1	04/19/2018 16:31	WG1095185
Sodium,Dissolved	38.6	V	0.110	1.00	1.00	1	04/19/2018 16:31	WG1095185





Collected date/time: 04/05/18 14:10

L984044

Metals (ICPMS) by Method 6020

Analyte	Result mg/l	Qualifier	SDL mg/l	Unadj. MQL mg/l	MQL mg/l	Dilution	Analysis date / time	Batch
Uranium,Dissolved	0.00217	<u>B</u> <u>J</u>	0.000330	0.0100	0.0100	1	04/19/2018 16:31	WG1095185
Zinc,Dissolved	0.0335		0.00256	0.0250	0.0250	1	04/17/2018 14:18	WG1095185

¹ Cp² Tc³ Ss⁴ Cn⁵ Sr⁶ Qc⁷ Gl⁸ Al⁹ Sc

Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result mg/l	Qualifier	SDL mg/l	Unadj. MQL mg/l	MQL mg/l	Dilution	Analysis date / time	Batch
Acetone	U		0.0100	1.00	1.00	1	04/09/2018 04:42	WG1095361
Benzene	U		0.000331	0.00100	0.00100	1	04/09/2018 04:42	WG1095361
Bromodichloromethane	0.00127		0.000380	0.00125	0.00125	1	04/09/2018 04:42	WG1095361
Bromoform	U		0.000469	0.00100	0.00100	1	04/09/2018 04:42	WG1095361
Bromomethane	U		0.000866	0.00500	0.00500	1	04/09/2018 04:42	WG1095361
n-Butylbenzene	U		0.000361	0.00100	0.00100	1	04/09/2018 04:42	WG1095361
sec-Butylbenzene	U		0.000365	0.00100	0.00100	1	04/09/2018 04:42	WG1095361
tert-Butylbenzene	U		0.000399	0.00100	0.00100	1	04/09/2018 04:42	WG1095361
Carbon disulfide	U		0.000275	0.00100	0.00100	1	04/09/2018 04:42	WG1095361
Carbon tetrachloride	U		0.000379	0.00100	0.00100	1	04/09/2018 04:42	WG1095361
Chlorobenzene	U		0.000348	0.00100	0.00100	1	04/09/2018 04:42	WG1095361
Chlorodibromomethane	0.000399	<u>I</u>	0.000327	0.00100	0.00100	1	04/09/2018 04:42	WG1095361
Chloroethane	U		0.000453	0.00500	0.00500	1	04/09/2018 04:42	WG1095361
Chloroform	0.00468	<u>I</u>	0.000324	0.00500	0.00500	1	04/09/2018 04:42	WG1095361
Chloromethane	U		0.000276	0.00250	0.00250	1	04/09/2018 04:42	WG1095361
1,2-Dibromoethane	U		0.000381	0.00100	0.00100	1	04/09/2018 04:42	WG1095361
1,1-Dichloroethane	U		0.000259	0.00100	0.00100	1	04/09/2018 04:42	WG1095361
1,2-Dichloroethane	U		0.000361	0.00100	0.00100	1	04/09/2018 04:42	WG1095361
1,1-Dichloroethene	U		0.000398	0.00100	0.00100	1	04/09/2018 04:42	WG1095361
cis-1,2-Dichloroethene	U		0.000260	0.00100	0.00100	1	04/09/2018 04:42	WG1095361
trans-1,2-Dichloroethene	U		0.000396	0.00100	0.00100	1	04/09/2018 04:42	WG1095361
1,2-Dichloropropane	U		0.000306	0.00100	0.00100	1	04/09/2018 04:42	WG1095361
cis-1,3-Dichloropropene	U		0.000418	0.00100	0.00100	1	04/09/2018 04:42	WG1095361
trans-1,3-Dichloropropene	U		0.000419	0.00100	0.00100	1	04/09/2018 04:42	WG1095361
Ethylbenzene	U		0.000384	0.00100	0.00100	1	04/09/2018 04:42	WG1095361
Hexachloro-1,3-butadiene	U		0.000256	0.00100	0.00100	1	04/09/2018 04:42	WG1095361
2-Hexanone	U		0.00382	0.0100	0.0100	1	04/09/2018 04:42	WG1095361
Isopropylbenzene	U		0.000326	0.00100	0.00100	1	04/09/2018 04:42	WG1095361
p-Isopropyltoluene	U		0.000350	0.00100	0.00100	1	04/09/2018 04:42	WG1095361
2-Butanone (MEK)	U		0.00393	0.0100	0.0100	1	04/09/2018 04:42	WG1095361
Methylene Chloride	U		0.00100	0.00500	0.00500	1	04/09/2018 04:42	WG1095361
4-Methyl-2-pentanone (MIBK)	U		0.00214	0.0100	0.0100	1	04/09/2018 04:42	WG1095361
Methyl tert-butyl ether	U		0.000367	0.00100	0.00100	1	04/09/2018 04:42	WG1095361
Naphthalene	U		0.00100	0.00500	0.00500	1	04/09/2018 04:42	WG1095361
n-Propylbenzene	U		0.000349	0.00100	0.00100	1	04/09/2018 04:42	WG1095361
Styrene	U		0.000307	0.00100	0.00100	1	04/09/2018 04:42	WG1095361
1,1,2,2-Tetrachloroethane	U		0.000130	0.00100	0.00100	1	04/09/2018 04:42	WG1095361
Tetrachloroethene	U		0.000372	0.00100	0.00100	1	04/09/2018 04:42	WG1095361
Toluene	U		0.000412	0.00100	0.00100	1	04/09/2018 04:42	WG1095361
1,1,1-Trichloroethane	U		0.000319	0.00100	0.00100	1	04/09/2018 04:42	WG1095361
1,1,2-Trichloroethane	U		0.000383	0.00100	0.00100	1	04/09/2018 04:42	WG1095361
Trichloroethene	U		0.000398	0.00100	0.00100	1	04/09/2018 04:42	WG1095361
1,2,4-Trimethylbenzene	U		0.000373	0.00100	0.00100	1	04/09/2018 04:42	WG1095361
1,3,5-Trimethylbenzene	U		0.000387	0.00100	0.00100	1	04/09/2018 04:42	WG1095361
Vinyl chloride	U		0.000259	0.00100	0.00100	1	04/09/2018 04:42	WG1095361
Xylenes, Total	U		0.00106	0.00300	0.00300	1	04/09/2018 04:42	WG1095361
(S) Toluene-d8	108				80.0-120		04/09/2018 04:42	WG1095361
(S) Dibromofluoromethane	104				76.0-123		04/09/2018 04:42	WG1095361
(S) 4-Bromofluorobenzene	97.7				80.0-120		04/09/2018 04:42	WG1095361



Collected date/time: 04/05/18 14:10

L984044

Semi Volatile Organic Compounds (GC/MS) by Method 8270 C

Analyte	Result mg/l	Qualifier	SDL mg/l	Unadj. MQL mg/l	MQL mg/l	Dilution	Analysis date / time	Batch
Acenaphthene	U		0.000316	0.00100	0.00100	1	04/12/2018 15:32	WG1095852
Acenaphthylene	U		0.000309	0.00100	0.00100	1	04/12/2018 15:32	WG1095852
Acetophenone	U		0.00247	0.0100	0.0100	1	04/12/2018 15:32	WG1095852
Anthracene	U		0.000291	0.00100	0.00100	1	04/12/2018 15:32	WG1095852
Atrazine	U		0.000260	0.0100	0.0100	1	04/12/2018 15:32	WG1095852
Benzo(a)anthracene	U		0.0000510	0.00100	0.00100	1	04/12/2018 15:32	WG1095852
Benzaldehyde	U	J4 J5	0.00140	0.0100	0.0100	1	04/12/2018 15:32	WG1095852
Benzo(b)fluoranthene	U		0.0000896	0.00100	0.00100	1	04/12/2018 15:32	WG1095852
Benzo(k)fluoranthene	U		0.000355	0.00100	0.00100	1	04/12/2018 15:32	WG1095852
Benzo(g,h,i)perylene	U		0.00000227	0.00100	0.00100	1	04/12/2018 15:32	WG1095852
Benzo(a)pyrene	U		0.0000381	0.000200	0.000200	1	04/12/2018 15:32	WG1095852
Biphenyl	U		0.000325	0.0100	0.0100	1	04/12/2018 15:32	WG1095852
Bis(2-chlorethoxy)methane	U		0.000329	0.0100	0.0100	1	04/12/2018 15:32	WG1095852
Bis(2-chloroethyl)ether	U		0.00162	0.0100	0.0100	1	04/12/2018 15:32	WG1095852
Bis(2-chloroisopropyl)ether	U		0.000445	0.0100	0.0100	1	04/12/2018 15:32	WG1095852
4-Bromophenyl-phenylether	U		0.000335	0.0100	0.0100	1	04/12/2018 15:32	WG1095852
2-Chloronaphthalene	U		0.000330	0.00100	0.00100	1	04/12/2018 15:32	WG1095852
4-Chlorophenyl-phenylether	U		0.000303	0.0100	0.0100	1	04/12/2018 15:32	WG1095852
Caprolactam	U		0.00259	0.0100	0.0100	1	04/12/2018 15:32	WG1095852
Carbazole	U		0.000260	0.0100	0.0100	1	04/12/2018 15:32	WG1095852
Chrysene	U		0.000332	0.00100	0.00100	1	04/12/2018 15:32	WG1095852
Dibenz(a,h)anthracene	U		0.0000644	0.000200	0.000200	1	04/12/2018 15:32	WG1095852
Dibenzofuran	U		0.000338	0.0100	0.0100	1	04/12/2018 15:32	WG1095852
3,3-Dichlorobenzidine	U		0.00202	0.0100	0.0100	1	04/12/2018 15:32	WG1095852
2,4-Dinitrotoluene	U		0.00165	0.0100	0.0100	1	04/12/2018 15:32	WG1095852
2,6-Dinitrotoluene	U		0.000279	0.0100	0.0100	1	04/12/2018 15:32	WG1095852
Fluoranthene	U		0.000310	0.00100	0.00100	1	04/12/2018 15:32	WG1095852
Fluorene	U		0.000323	0.00100	0.00100	1	04/12/2018 15:32	WG1095852
Hexachlorobenzene	U		0.000341	0.00100	0.00100	1	04/12/2018 15:32	WG1095852
Hexachloro-1,3-butadiene	U		0.000329	0.0100	0.0100	1	04/12/2018 15:32	WG1095852
Hexachlorocyclopentadiene	U		0.00233	0.0100	0.0100	1	04/12/2018 15:32	WG1095852
Hexachloroethane	U		0.000365	0.0100	0.0100	1	04/12/2018 15:32	WG1095852
Indeno(1,2,3-cd)pyrene	U		0.000279	0.00100	0.00100	1	04/12/2018 15:32	WG1095852
Isophorone	U		0.000272	0.0100	0.0100	1	04/12/2018 15:32	WG1095852
1-Methylnaphthalene	U		0.000332	0.00100	0.00100	1	04/12/2018 15:32	WG1095852
2-Methylnaphthalene	U		0.000311	0.00100	0.00100	1	04/12/2018 15:32	WG1095852
Naphthalene	U		0.000372	0.00100	0.00100	1	04/12/2018 15:32	WG1095852
Nitrobenzene	U		0.000367	0.0100	0.0100	1	04/12/2018 15:32	WG1095852
n-Nitrosodiphenylamine	U		0.000304	0.0100	0.0100	1	04/12/2018 15:32	WG1095852
n-Nitrosodi-n-propylamine	U		0.000403	0.0100	0.0100	1	04/12/2018 15:32	WG1095852
Phenanthrene	U		0.000366	0.00100	0.00100	1	04/12/2018 15:32	WG1095852
Benzylbutyl phthalate	U		0.000275	0.00300	0.00300	1	04/12/2018 15:32	WG1095852
Bis(2-ethylhexyl)phthalate	U		0.000709	0.00300	0.00300	1	04/12/2018 15:32	WG1095852
Di-n-butyl phthalate	U		0.000266	0.00300	0.00300	1	04/12/2018 15:32	WG1095852
Diethyl phthalate	U		0.000282	0.00300	0.00300	1	04/12/2018 15:32	WG1095852
Dimethyl phthalate	U		0.000283	0.00300	0.00300	1	04/12/2018 15:32	WG1095852
Di-n-octyl phthalate	U		0.000278	0.00300	0.00300	1	04/12/2018 15:32	WG1095852
Pyrene	U		0.000330	0.00100	0.00100	1	04/12/2018 15:32	WG1095852
1,2,4-Trichlorobenzene	U		0.000355	0.0100	0.0100	1	04/12/2018 15:32	WG1095852
4-Chloro-3-methylphenol	U		0.000263	0.0100	0.0100	1	04/12/2018 15:32	WG1095852
2-Chlorophenol	U		0.000283	0.0100	0.0100	1	04/12/2018 15:32	WG1095852
2,4-Dichlorophenol	U		0.000284	0.0100	0.0100	1	04/12/2018 15:32	WG1095852
2,4-Dimethylphenol	U		0.000624	0.0100	0.0100	1	04/12/2018 15:32	WG1095852
4,6-Dinitro-2-methylphenol	U		0.00262	0.0100	0.0100	1	04/12/2018 15:32	WG1095852
2,4-Dinitrophenol	U		0.00325	0.0100	0.0100	1	04/12/2018 15:32	WG1095852
2-Nitrophenol	U		0.000320	0.0100	0.0100	1	04/12/2018 15:32	WG1095852

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc



Semi Volatile Organic Compounds (GC/MS) by Method 8270 C

Analyte	Result mg/l	Qualifier	SDL mg/l	Unadj. MQL mg/l	MQL mg/l	Dilution	Analysis date / time	Batch
2-Nitroaniline	U		0.00190	0.0100	0.0100	1	04/12/2018 15:32	WG1095852
2-Methylphenol	U		0.000312	0.0100	0.0100	1	04/12/2018 15:32	WG1095852
3&4-Methyl Phenol	U		0.000266	0.0100	0.0100	1	04/12/2018 15:32	WG1095852
3-Nitroaniline	U		0.000308	0.0100	0.0100	1	04/12/2018 15:32	WG1095852
4-Chloroaniline	U		0.000382	0.0100	0.0100	1	04/12/2018 15:32	WG1095852
4-Nitroaniline	U	J4 J5	0.000349	0.0100	0.0100	1	04/12/2018 15:32	WG1095852
4-Nitrophenol	U		0.00201	0.0100	0.0100	1	04/12/2018 15:32	WG1095852
Pentachlorophenol	U		0.000313	0.0100	0.0100	1	04/12/2018 15:32	WG1095852
Phenol	0.00900	J	0.000334	0.0100	0.0100	1	04/12/2018 15:32	WG1095852
2,4,5-Trichlorophenol	U		0.000236	0.0100	0.0100	1	04/12/2018 15:32	WG1095852
2,4,6-Trichlorophenol	U		0.000297	0.0100	0.0100	1	04/12/2018 15:32	WG1095852
(S) 2-Fluorophenol	80.3				10.0-120		04/12/2018 15:32	WG1095852
(S) Phenol-d5	51.2				10.0-120		04/12/2018 15:32	WG1095852
(S) Nitrobenzene-d5	94.5				10.0-126		04/12/2018 15:32	WG1095852
(S) 2-Fluorobiphenyl	89.7				22.0-127		04/12/2018 15:32	WG1095852
(S) 2,4,6-Tribromophenol	101				10.0-153		04/12/2018 15:32	WG1095852
(S) p-Terphenyl-d14	99.2				29.0-141		04/12/2018 15:32	WG1095852

1
Cp2
Tc3
Ss4
Cn5
Sr6
Qc7
Gl8
Al9
Sc



Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	SDL	Unadj. MQL	MQL	Dilution	Analysis	Batch
	mg/l		mg/l	mg/l	mg/l		date / time	
Dissolved Solids	939		2.82	10.0	10.0	1	04/12/2018 14:19	WG1096342

Wet Chemistry by Method 2320 B-2011

Analyte	Result	Qualifier	SDL	Unadj. MQL	MQL	Dilution	Analysis	Batch
	mg/l		mg/l	mg/l	mg/l		date / time	
Alkalinity	395		2.71	20.0	20.0	1	04/09/2018 13:21	WG1095317

Sample Narrative:

L984044-16 WG1095317: Endpoint pH 4.5

Wet Chemistry by Method 353.2

Analyte	Result	Qualifier	SDL	Unadj. MQL	MQL	Dilution	Analysis	Batch
	mg/l		mg/l	mg/l	mg/l		date / time	
Nitrate-Nitrite	1.74		0.0197	0.100	0.100	1	04/13/2018 15:14	WG1096785

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	SDL	Unadj. MQL	MQL	Dilution	Analysis	Batch
	mg/l		mg/l	mg/l	mg/l		date / time	
Chloride	165		0.260	1.00	5.00	5	04/11/2018 04:42	WG1095833
Fluoride	1.12		0.00990	0.100	0.100	1	04/11/2018 03:56	WG1095833
Sulfate	143		0.387	5.00	25.0	5	04/11/2018 04:42	WG1095833

Mercury by Method 7470A

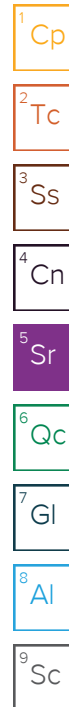
Analyte	Result	Qualifier	SDL	Unadj. MQL	MQL	Dilution	Analysis	Batch
	mg/l		mg/l	mg/l	mg/l		date / time	
Mercury	U		0.0000490	0.000200	0.000200	1	04/10/2018 10:31	WG1095544

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	SDL	Unadj. MQL	MQL	Dilution	Analysis	Batch
	mg/l		mg/l	mg/l	mg/l		date / time	
Boron,Dissolved	0.253		0.0126	0.200	0.200	1	04/11/2018 11:21	WG1095187

Metals (ICPMS) by Method 6020

Analyte	Result	Qualifier	SDL	Unadj. MQL	MQL	Dilution	Analysis	Batch
	mg/l		mg/l	mg/l	mg/l		date / time	
Aluminum,Dissolved	0.00732	B J	0.00515	0.100	0.100	1	04/19/2018 18:24	WG1095185
Arsenic,Dissolved	0.00281	B	0.000250	0.00200	0.00200	1	04/19/2018 18:24	WG1095185
Barium,Dissolved	0.244		0.000360	0.00500	0.00500	1	04/19/2018 18:24	WG1095185
Cadmium,Dissolved	U		0.000160	0.00100	0.00100	1	04/19/2018 18:24	WG1095185
Calcium,Dissolved	183		0.0460	1.00	1.00	1	04/19/2018 18:24	WG1095185
Chromium,Dissolved	0.000888	B J	0.000540	0.00200	0.00200	1	04/19/2018 18:24	WG1095185
Copper,Dissolved	0.00193	B J	0.000520	0.00500	0.00500	1	04/19/2018 18:24	WG1095185
Cobalt,Dissolved	0.000847	B J	0.000260	0.00200	0.00200	1	04/19/2018 18:24	WG1095185
Iron,Dissolved	U		0.0150	0.100	0.100	1	04/19/2018 18:24	WG1095185
Lead,Dissolved	U		0.000240	0.00200	0.00200	1	04/19/2018 18:24	WG1095185
Magnesium,Dissolved	31.3		0.100	1.00	1.00	1	04/17/2018 15:18	WG1095185
Manganese,Dissolved	0.772		0.000250	0.00500	0.00500	1	04/19/2018 18:24	WG1095185
Molybdenum,Dissolved	0.00489	B J	0.000140	0.00500	0.00500	1	04/19/2018 18:24	WG1095185
Nickel,Dissolved	0.0195		0.000350	0.00200	0.00200	1	04/19/2018 18:24	WG1095185
Potassium,Dissolved	5.21		0.0370	1.00	1.00	1	04/19/2018 18:24	WG1095185
Selenium,Dissolved	0.000443	B J	0.000380	0.00200	0.00200	1	04/19/2018 18:24	WG1095185
Silver,Dissolved	U		0.000310	0.00200	0.00200	1	04/19/2018 18:24	WG1095185
Sodium,Dissolved	92.8		0.110	1.00	1.00	1	04/19/2018 18:24	WG1095185





Collected date/time: 04/05/18 16:15

L984044

Metals (ICPMS) by Method 6020

Analyte	Result mg/l	Qualifier	SDL mg/l	Unadj. MQL mg/l	MQL mg/l	Dilution	Analysis date / time	Batch
Uranium,Dissolved	0.0166		0.000330	0.0100	0.0100	1	04/19/2018 18:24	WG1095185
Zinc,Dissolved	0.0122	J	0.00256	0.0250	0.0250	1	04/17/2018 15:18	WG1095185

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

Volatile Organic Compounds (GC) by Method 8015D/GRO

Analyte	Result mg/l	Qualifier	SDL mg/l	Unadj. MQL mg/l	MQL mg/l	Dilution	Analysis date / time	Batch
TPH (GC/FID) Low Fraction	U		0.0314	0.100	0.100	1	04/10/2018 23:36	WG1096264
(S) a,a,a-Trifluorotoluene(FID)	105				77.0-122		04/10/2018 23:36	WG1096264

6 Qc

7 Gl

8 Al

9 Sc

Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result mg/l	Qualifier	SDL mg/l	Unadj. MQL mg/l	MQL mg/l	Dilution	Analysis date / time	Batch
Acetone	U		0.0100	1.00	1.00	1	04/08/2018 17:51	WG1095355
Benzene	U		0.000331	0.00100	0.00100	1	04/08/2018 17:51	WG1095355
Bromodichloromethane	U		0.000380	0.00125	0.00125	1	04/08/2018 17:51	WG1095355
Bromoform	U		0.000469	0.00100	0.00100	1	04/08/2018 17:51	WG1095355
Bromomethane	U		0.000866	0.00500	0.00500	1	04/08/2018 17:51	WG1095355
n-Butylbenzene	U		0.000361	0.00100	0.00100	1	04/08/2018 17:51	WG1095355
sec-Butylbenzene	U		0.000365	0.00100	0.00100	1	04/08/2018 17:51	WG1095355
tert-Butylbenzene	U		0.000399	0.00100	0.00100	1	04/08/2018 17:51	WG1095355
Carbon disulfide	U		0.000275	0.00100	0.00100	1	04/08/2018 17:51	WG1095355
Carbon tetrachloride	U		0.000379	0.00100	0.00100	1	04/08/2018 17:51	WG1095355
Chlorobenzene	U		0.000348	0.00100	0.00100	1	04/08/2018 17:51	WG1095355
Chlorodibromomethane	U		0.000327	0.00100	0.00100	1	04/08/2018 17:51	WG1095355
Chloroethane	U		0.000453	0.00500	0.00500	1	04/08/2018 17:51	WG1095355
Chloroform	U		0.000324	0.00500	0.00500	1	04/08/2018 17:51	WG1095355
Chloromethane	U		0.000276	0.00250	0.00250	1	04/08/2018 17:51	WG1095355
1,2-Dibromoethane	U		0.000381	0.00100	0.00100	1	04/08/2018 17:51	WG1095355
1,1-Dichloroethane	U		0.000259	0.00100	0.00100	1	04/08/2018 17:51	WG1095355
1,2-Dichloroethane	U		0.000361	0.00100	0.00100	1	04/08/2018 17:51	WG1095355
1,1-Dichloroethene	U		0.000398	0.00100	0.00100	1	04/08/2018 17:51	WG1095355
cis-1,2-Dichloroethene	U		0.000260	0.00100	0.00100	1	04/08/2018 17:51	WG1095355
trans-1,2-Dichloroethene	U		0.000396	0.00100	0.00100	1	04/08/2018 17:51	WG1095355
1,2-Dichloropropane	U		0.000306	0.00100	0.00100	1	04/08/2018 17:51	WG1095355
cis-1,3-Dichloropropene	U		0.000418	0.00100	0.00100	1	04/08/2018 17:51	WG1095355
trans-1,3-Dichloropropene	U		0.000419	0.00100	0.00100	1	04/08/2018 17:51	WG1095355
Ethylbenzene	U		0.000384	0.00100	0.00100	1	04/08/2018 17:51	WG1095355
Hexachloro-1,3-butadiene	U		0.000256	0.00100	0.00100	1	04/08/2018 17:51	WG1095355
2-Hexanone	U		0.00382	0.0100	0.0100	1	04/08/2018 17:51	WG1095355
Isopropylbenzene	U		0.000326	0.00100	0.00100	1	04/08/2018 17:51	WG1095355
p-Isopropyltoluene	U		0.000350	0.00100	0.00100	1	04/08/2018 17:51	WG1095355
2-Butanone (MEK)	U		0.00393	0.0100	0.0100	1	04/08/2018 17:51	WG1095355
Methylene Chloride	U		0.00100	0.00500	0.00500	1	04/08/2018 17:51	WG1095355
4-Methyl-2-pentanone (MIBK)	U		0.00214	0.0100	0.0100	1	04/08/2018 17:51	WG1095355
Methyl tert-butyl ether	U		0.000367	0.00100	0.00100	1	04/08/2018 17:51	WG1095355
Naphthalene	U		0.00100	0.00500	0.00500	1	04/08/2018 17:51	WG1095355
n-Propylbenzene	U		0.000349	0.00100	0.00100	1	04/08/2018 17:51	WG1095355
Styrene	U		0.000307	0.00100	0.00100	1	04/08/2018 17:51	WG1095355
1,1,2,2-Tetrachloroethane	U		0.000130	0.00100	0.00100	1	04/08/2018 17:51	WG1095355
Tetrachloroethene	U		0.000372	0.00100	0.00100	1	04/08/2018 17:51	WG1095355
Toluene	U		0.000412	0.00100	0.00100	1	04/08/2018 17:51	WG1095355
1,1,1-Trichloroethane	U		0.000319	0.00100	0.00100	1	04/08/2018 17:51	WG1095355
1,1,2-Trichloroethane	U		0.000383	0.00100	0.00100	1	04/08/2018 17:51	WG1095355
Trichloroethene	U		0.000398	0.00100	0.00100	1	04/08/2018 17:51	WG1095355
1,2,4-Trimethylbenzene	U		0.000373	0.00100	0.00100	1	04/08/2018 17:51	WG1095355



Collected date/time: 04/05/18 16:15

L984044

Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result mg/l	Qualifier	SDL mg/l	Unadj. MQL mg/l	MQL mg/l	Dilution	Analysis date / time	Batch
1,3,5-Trimethylbenzene	U		0.000387	0.00100	0.00100	1	04/08/2018 17:51	WG1095355
Vinyl chloride	U		0.000259	0.00100	0.00100	1	04/08/2018 17:51	WG1095355
Xylenes, Total	U		0.00106	0.00300	0.00300	1	04/08/2018 17:51	WG1095355
(S) Toluene-d8	108				80.0-120		04/08/2018 17:51	WG1095355
(S) Dibromofluoromethane	90.0				76.0-123		04/08/2018 17:51	WG1095355
(S) 4-Bromofluorobenzene	106				80.0-120		04/08/2018 17:51	WG1095355

Semi-Volatile Organic Compounds (GC) by Method 3511/8015

Analyte	Result mg/l	Qualifier	SDL mg/l	Unadj. MQL mg/l	MQL mg/l	Dilution	Analysis date / time	Batch
TPH (GC/FID) High Fraction	0.204		0.0247	0.100	0.100	1	04/11/2018 23:41	WG1095663
(S) o-Terphenyl	74.4				31.0-160		04/11/2018 23:41	WG1095663

Semi Volatile Organic Compounds (GC/MS) by Method 8270 C

Analyte	Result mg/l	Qualifier	SDL mg/l	Unadj. MQL mg/l	MQL mg/l	Dilution	Analysis date / time	Batch
Acenaphthene	U		0.000316	0.00100	0.00100	1	04/12/2018 21:40	WG1095852
Acenaphthylene	U		0.000309	0.00100	0.00100	1	04/12/2018 21:40	WG1095852
Acetophenone	U		0.00247	0.0100	0.0100	1	04/12/2018 21:40	WG1095852
Anthracene	U		0.000291	0.00100	0.00100	1	04/12/2018 21:40	WG1095852
Atrazine	U		0.000260	0.0100	0.0100	1	04/12/2018 21:40	WG1095852
Benzo(a)anthracene	U		0.0000510	0.00100	0.00100	1	04/12/2018 21:40	WG1095852
Benzaldehyde	U	J4	0.00140	0.0100	0.0100	1	04/12/2018 21:40	WG1095852
Benzo(b)fluoranthene	U		0.0000896	0.00100	0.00100	1	04/12/2018 21:40	WG1095852
Benzo(k)fluoranthene	U		0.000355	0.00100	0.00100	1	04/12/2018 21:40	WG1095852
Benzo(g,h,i)perylene	U		0.00000227	0.00100	0.00100	1	04/12/2018 21:40	WG1095852
Benzo(a)pyrene	U		0.0000381	0.000200	0.000200	1	04/12/2018 21:40	WG1095852
Biphenyl	U		0.000325	0.0100	0.0100	1	04/12/2018 21:40	WG1095852
Bis(2-chlorethoxy)methane	U		0.000329	0.0100	0.0100	1	04/12/2018 21:40	WG1095852
Bis(2-chloroethyl)ether	U		0.00162	0.0100	0.0100	1	04/12/2018 21:40	WG1095852
Bis(2-chloroisopropyl)ether	U		0.000445	0.0100	0.0100	1	04/12/2018 21:40	WG1095852
4-Bromophenyl-phenylether	U		0.000335	0.0100	0.0100	1	04/12/2018 21:40	WG1095852
2-Chloronaphthalene	U		0.000330	0.00100	0.00100	1	04/12/2018 21:40	WG1095852
4-Chlorophenyl-phenylether	U		0.000303	0.0100	0.0100	1	04/12/2018 21:40	WG1095852
Caprolactam	U		0.00259	0.0100	0.0100	1	04/12/2018 21:40	WG1095852
Carbazole	U		0.000260	0.0100	0.0100	1	04/12/2018 21:40	WG1095852
Chrysene	U		0.000332	0.00100	0.00100	1	04/12/2018 21:40	WG1095852
Dibenz(a,h)anthracene	U		0.0000644	0.000200	0.000200	1	04/12/2018 21:40	WG1095852
Dibenzofuran	U		0.000338	0.0100	0.0100	1	04/12/2018 21:40	WG1095852
3,3-Dichlorobenzidine	U		0.00202	0.0100	0.0100	1	04/12/2018 21:40	WG1095852
2,4-Dinitrotoluene	U		0.00165	0.0100	0.0100	1	04/12/2018 21:40	WG1095852
2,6-Dinitrotoluene	U		0.000279	0.0100	0.0100	1	04/12/2018 21:40	WG1095852
Fluoranthene	U		0.000310	0.00100	0.00100	1	04/12/2018 21:40	WG1095852
Fluorene	U		0.000323	0.00100	0.00100	1	04/12/2018 21:40	WG1095852
Hexachlorobenzene	U		0.000341	0.00100	0.00100	1	04/12/2018 21:40	WG1095852
Hexachloro-1,3-butadiene	U		0.000329	0.0100	0.0100	1	04/12/2018 21:40	WG1095852
Hexachlorocyclopentadiene	U		0.00233	0.0100	0.0100	1	04/12/2018 21:40	WG1095852
Hexachloroethane	U		0.000365	0.0100	0.0100	1	04/12/2018 21:40	WG1095852
Indeno(1,2,3-cd)pyrene	U		0.000279	0.00100	0.00100	1	04/12/2018 21:40	WG1095852
Isophorone	U		0.000272	0.0100	0.0100	1	04/12/2018 21:40	WG1095852
1-Methylnaphthalene	U		0.000332	0.00100	0.00100	1	04/12/2018 21:40	WG1095852
2-Methylnaphthalene	U		0.000311	0.00100	0.00100	1	04/12/2018 21:40	WG1095852
Naphthalene	U		0.000372	0.00100	0.00100	1	04/12/2018 21:40	WG1095852
Nitrobenzene	U		0.000367	0.0100	0.0100	1	04/12/2018 21:40	WG1095852
n-Nitrosodiphenylamine	U		0.000304	0.0100	0.0100	1	04/12/2018 21:40	WG1095852

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc



Collected date/time: 04/05/18 16:15

L984044

Semi Volatile Organic Compounds (GC/MS) by Method 8270 C

Analyte	Result mg/l	Qualifier	SDL mg/l	Unadj. MQL mg/l	MQL mg/l	Dilution	Analysis date / time	Batch
n-Nitrosodi-n-propylamine	U		0.000403	0.0100	0.0100	1	04/12/2018 21:40	WG1095852
Phenanthrene	U		0.000366	0.00100	0.00100	1	04/12/2018 21:40	WG1095852
Benzylbutyl phthalate	U		0.000275	0.00300	0.00300	1	04/12/2018 21:40	WG1095852
Bis(2-ethylhexyl)phthalate	U		0.000709	0.00300	0.00300	1	04/12/2018 21:40	WG1095852
Di-n-butyl phthalate	0.000293	J	0.000266	0.00300	0.00300	1	04/12/2018 21:40	WG1095852
Diethyl phthalate	U		0.000282	0.00300	0.00300	1	04/12/2018 21:40	WG1095852
Dimethyl phthalate	U		0.000283	0.00300	0.00300	1	04/12/2018 21:40	WG1095852
Di-n-octyl phthalate	U		0.000278	0.00300	0.00300	1	04/12/2018 21:40	WG1095852
Pyrene	U		0.000330	0.00100	0.00100	1	04/12/2018 21:40	WG1095852
1,2,4-Trichlorobenzene	U		0.000355	0.0100	0.0100	1	04/12/2018 21:40	WG1095852
4-Chloro-3-methylphenol	U		0.000263	0.0100	0.0100	1	04/12/2018 21:40	WG1095852
2-Chlorophenol	U		0.000283	0.0100	0.0100	1	04/12/2018 21:40	WG1095852
2,4-Dichlorophenol	U		0.000284	0.0100	0.0100	1	04/12/2018 21:40	WG1095852
2,4-Dimethylphenol	U		0.000624	0.0100	0.0100	1	04/12/2018 21:40	WG1095852
4,6-Dinitro-2-methylphenol	U		0.00262	0.0100	0.0100	1	04/12/2018 21:40	WG1095852
2,4-Dinitrophenol	U		0.00325	0.0100	0.0100	1	04/12/2018 21:40	WG1095852
2-Nitrophenol	U		0.000320	0.0100	0.0100	1	04/12/2018 21:40	WG1095852
2-Nitroaniline	U		0.00190	0.0100	0.0100	1	04/12/2018 21:40	WG1095852
2-Methylphenol	U		0.000312	0.0100	0.0100	1	04/12/2018 21:40	WG1095852
3&4-Methyl Phenol	U		0.000266	0.0100	0.0100	1	04/12/2018 21:40	WG1095852
3-Nitroaniline	U		0.000308	0.0100	0.0100	1	04/12/2018 21:40	WG1095852
4-Chloroaniline	U		0.000382	0.0100	0.0100	1	04/12/2018 21:40	WG1095852
4-Nitroaniline	U	J4	0.000349	0.0100	0.0100	1	04/12/2018 21:40	WG1095852
4-Nitrophenol	U		0.00201	0.0100	0.0100	1	04/12/2018 21:40	WG1095852
Pentachlorophenol	U		0.000313	0.0100	0.0100	1	04/12/2018 21:40	WG1095852
Phenol	0.000662	J	0.000334	0.0100	0.0100	1	04/12/2018 21:40	WG1095852
2,4,5-Trichlorophenol	U		0.000236	0.0100	0.0100	1	04/12/2018 21:40	WG1095852
2,4,6-Trichlorophenol	U		0.000297	0.0100	0.0100	1	04/12/2018 21:40	WG1095852
(S) 2-Fluorophenol	35.9				10.0-120		04/12/2018 21:40	WG1095852
(S) Phenol-d5	19.4				10.0-120		04/12/2018 21:40	WG1095852
(S) Nitrobenzene-d5	83.3				10.0-126		04/12/2018 21:40	WG1095852
(S) 2-Fluorobiphenyl	81.5				22.0-127		04/12/2018 21:40	WG1095852
(S) 2,4,6-Tribromophenol	87.1				10.0-153		04/12/2018 21:40	WG1095852
(S) p-Terphenyl-d14	95.2				29.0-141		04/12/2018 21:40	WG1095852

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc



Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	SDL	Unadj. MQL	MQL	Dilution	Analysis date / time	Batch
Dissolved Solids	902		2.82	10.0	10.0	1	04/12/2018 14:19	WG1096342

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc

Wet Chemistry by Method 2320 B-2011

Analyte	Result	Qualifier	SDL	Unadj. MQL	MQL	Dilution	Analysis date / time	Batch
Alkalinity	704		2.71	20.0	20.0	1	04/09/2018 13:27	WG1095317

Sample Narrative:

L984044-17 WG1095317: Endpoint pH 4.5

Wet Chemistry by Method 353.2

Analyte	Result	Qualifier	SDL	Unadj. MQL	MQL	Dilution	Analysis date / time	Batch
Nitrate-Nitrite	U		0.0197	0.100	0.100	1	04/13/2018 15:20	WG1096785

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	SDL	Unadj. MQL	MQL	Dilution	Analysis date / time	Batch
Chloride	84.1		0.0519	1.00	1.00	1	04/11/2018 04:58	WG1095833
Fluoride	1.15		0.00990	0.100	0.100	1	04/11/2018 04:58	WG1095833
Sulfate	15.4		0.0774	5.00	5.00	1	04/11/2018 04:58	WG1095833

Mercury by Method 7470A

Analyte	Result	Qualifier	SDL	Unadj. MQL	MQL	Dilution	Analysis date / time	Batch
Mercury	U		0.0000490	0.000200	0.000200	1	04/10/2018 10:33	WG1095544

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	SDL	Unadj. MQL	MQL	Dilution	Analysis date / time	Batch
Boron,Dissolved	0.304		0.0126	0.200	0.200	1	04/11/2018 11:25	WG1095187

Metals (ICPMS) by Method 6020

Analyte	Result	Qualifier	SDL	Unadj. MQL	MQL	Dilution	Analysis date / time	Batch
Aluminum,Dissolved	U		0.00515	0.100	0.100	1	04/19/2018 18:29	WG1095185
Arsenic,Dissolved	0.0104		0.000250	0.00200	0.00200	1	04/19/2018 18:29	WG1095185
Barium,Dissolved	0.380		0.000360	0.00500	0.00500	1	04/19/2018 18:29	WG1095185
Cadmium,Dissolved	U		0.000160	0.00100	0.00100	1	04/19/2018 18:29	WG1095185
Calcium,Dissolved	83.8		0.0460	1.00	1.00	1	04/19/2018 18:29	WG1095185
Chromium,Dissolved	0.00155	B J	0.000540	0.00200	0.00200	1	04/19/2018 18:29	WG1095185
Copper,Dissolved	0.00292	B J	0.000520	0.00500	0.00500	1	04/19/2018 18:29	WG1095185
Cobalt,Dissolved	U		0.000260	0.00200	0.00200	1	04/19/2018 18:29	WG1095185
Iron,Dissolved	0.0351	J	0.0150	0.100	0.100	1	04/19/2018 18:29	WG1095185
Lead,Dissolved	U		0.000240	0.00200	0.00200	1	04/19/2018 18:29	WG1095185
Magnesium,Dissolved	13.4		0.100	1.00	1.00	1	04/17/2018 15:22	WG1095185
Manganese,Dissolved	1.77		0.000250	0.00500	0.00500	1	04/19/2018 18:29	WG1095185
Molybdenum,Dissolved	0.000146	B J	0.000140	0.00500	0.00500	1	04/19/2018 18:29	WG1095185
Nickel,Dissolved	0.00170	B J	0.000350	0.00200	0.00200	1	04/19/2018 18:29	WG1095185
Potassium,Dissolved	5.06		0.0370	1.00	1.00	1	04/19/2018 18:29	WG1095185
Selenium,Dissolved	U		0.000380	0.00200	0.00200	1	04/19/2018 18:29	WG1095185
Silver,Dissolved	U		0.000310	0.00200	0.00200	1	04/19/2018 18:29	WG1095185
Sodium,Dissolved	255		0.110	1.00	1.00	1	04/19/2018 18:29	WG1095185



Collected date/time: 04/05/18 14:25

L984044

Metals (ICPMS) by Method 6020

Analyte	Result mg/l	Qualifier	SDL mg/l	Unadj. MQL mg/l	MQL mg/l	Dilution	Analysis date / time	Batch
Uranium,Dissolved	0.00269	<u>B</u> <u>J</u>	0.000330	0.0100	0.0100	1	04/19/2018 18:29	WG1095185
Zinc,Dissolved	0.00546	<u>J</u>	0.00256	0.0250	0.0250	1	04/17/2018 15:22	WG1095185

¹ Cp² Tc³ Ss⁴ Cn⁵ Sr

Volatile Organic Compounds (GC) by Method 8015D/GRO

Analyte	Result mg/l	Qualifier	SDL mg/l	Unadj. MQL mg/l	MQL mg/l	Dilution	Analysis date / time	Batch
TPH (GC/FID) Low Fraction	0.205		0.0314	0.100	0.100	1	04/10/2018 23:59	WG1096264
(S) a,a,a-Trifluorotoluene(FID)	104				77.0-122		04/10/2018 23:59	WG1096264

⁶ Qc⁷ Gl⁸ Al⁹ Sc

Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result mg/l	Qualifier	SDL mg/l	Unadj. MQL mg/l	MQL mg/l	Dilution	Analysis date / time	Batch
Acetone	U		0.0100	1.00	1.00	1	04/08/2018 18:11	WG1095355
Benzene	0.000363	<u>J</u>	0.000331	0.00100	0.00100	1	04/08/2018 18:11	WG1095355
Bromodichloromethane	U		0.000380	0.00125	0.00125	1	04/08/2018 18:11	WG1095355
Bromoform	U		0.000469	0.00100	0.00100	1	04/08/2018 18:11	WG1095355
Bromomethane	U		0.000866	0.00500	0.00500	1	04/08/2018 18:11	WG1095355
n-Butylbenzene	U		0.000361	0.00100	0.00100	1	04/08/2018 18:11	WG1095355
sec-Butylbenzene	0.000556	<u>J</u>	0.000365	0.00100	0.00100	1	04/08/2018 18:11	WG1095355
tert-Butylbenzene	U		0.000399	0.00100	0.00100	1	04/08/2018 18:11	WG1095355
Carbon disulfide	U		0.000275	0.00100	0.00100	1	04/08/2018 18:11	WG1095355
Carbon tetrachloride	U		0.000379	0.00100	0.00100	1	04/08/2018 18:11	WG1095355
Chlorobenzene	U		0.000348	0.00100	0.00100	1	04/08/2018 18:11	WG1095355
Chlorodibromomethane	U		0.000327	0.00100	0.00100	1	04/08/2018 18:11	WG1095355
Chloroethane	U		0.000453	0.00500	0.00500	1	04/08/2018 18:11	WG1095355
Chloroform	U		0.000324	0.00500	0.00500	1	04/08/2018 18:11	WG1095355
Chloromethane	U		0.000276	0.00250	0.00250	1	04/08/2018 18:11	WG1095355
1,2-Dibromoethane	U		0.000381	0.00100	0.00100	1	04/08/2018 18:11	WG1095355
1,1-Dichloroethane	U		0.000259	0.00100	0.00100	1	04/08/2018 18:11	WG1095355
1,2-Dichloroethane	U		0.000361	0.00100	0.00100	1	04/08/2018 18:11	WG1095355
1,1-Dichloroethene	U		0.000398	0.00100	0.00100	1	04/08/2018 18:11	WG1095355
cis-1,2-Dichloroethene	U		0.000260	0.00100	0.00100	1	04/08/2018 18:11	WG1095355
trans-1,2-Dichloroethene	U		0.000396	0.00100	0.00100	1	04/08/2018 18:11	WG1095355
1,2-Dichloropropane	U		0.000306	0.00100	0.00100	1	04/08/2018 18:11	WG1095355
cis-1,3-Dichloropropene	U		0.000418	0.00100	0.00100	1	04/08/2018 18:11	WG1095355
trans-1,3-Dichloropropene	U		0.000419	0.00100	0.00100	1	04/08/2018 18:11	WG1095355
Ethylbenzene	U		0.000384	0.00100	0.00100	1	04/08/2018 18:11	WG1095355
Hexachloro-1,3-butadiene	U		0.000256	0.00100	0.00100	1	04/08/2018 18:11	WG1095355
2-Hexanone	U		0.00382	0.0100	0.0100	1	04/08/2018 18:11	WG1095355
Isopropylbenzene	0.00990		0.000326	0.00100	0.00100	1	04/08/2018 18:11	WG1095355
p-Isopropyltoluene	U		0.000350	0.00100	0.00100	1	04/08/2018 18:11	WG1095355
2-Butanone (MEK)	U		0.00393	0.0100	0.0100	1	04/08/2018 18:11	WG1095355
Methylene Chloride	U		0.00100	0.00500	0.00500	1	04/08/2018 18:11	WG1095355
4-Methyl-2-pentanone (MIBK)	U		0.00214	0.0100	0.0100	1	04/08/2018 18:11	WG1095355
Methyl tert-butyl ether	U		0.000367	0.00100	0.00100	1	04/08/2018 18:11	WG1095355
Naphthalene	U		0.00100	0.00500	0.00500	1	04/08/2018 18:11	WG1095355
n-Propylbenzene	U		0.000349	0.00100	0.00100	1	04/08/2018 18:11	WG1095355
Styrene	U		0.000307	0.00100	0.00100	1	04/08/2018 18:11	WG1095355
1,1,2,2-Tetrachloroethane	U		0.000130	0.00100	0.00100	1	04/08/2018 18:11	WG1095355
Tetrachloroethene	U		0.000372	0.00100	0.00100	1	04/08/2018 18:11	WG1095355
Toluene	U		0.000412	0.00100	0.00100	1	04/08/2018 18:11	WG1095355
1,1,1-Trichloroethane	U		0.000319	0.00100	0.00100	1	04/08/2018 18:11	WG1095355
1,1,2-Trichloroethane	U		0.000383	0.00100	0.00100	1	04/08/2018 18:11	WG1095355
Trichloroethene	U		0.000398	0.00100	0.00100	1	04/08/2018 18:11	WG1095355
1,2,4-Trimethylbenzene	U		0.000373	0.00100	0.00100	1	04/08/2018 18:11	WG1095355



Collected date/time: 04/05/18 14:25

L984044

Volatile Organic Compounds (GC/MS) by Method 8260B

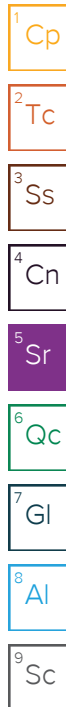
Analyte	Result mg/l	Qualifier	SDL mg/l	Unadj. MQL mg/l	MQL mg/l	Dilution	Analysis date / time	Batch
1,3,5-Trimethylbenzene	U		0.000387	0.00100	0.00100	1	04/08/2018 18:11	WG1095355
Vinyl chloride	U		0.000259	0.00100	0.00100	1	04/08/2018 18:11	WG1095355
Xylenes, Total	U		0.00106	0.00300	0.00300	1	04/08/2018 18:11	WG1095355
(S) Toluene-d8	108				80.0-120		04/08/2018 18:11	WG1095355
(S) Dibromofluoromethane	89.8				76.0-123		04/08/2018 18:11	WG1095355
(S) 4-Bromofluorobenzene	105				80.0-120		04/08/2018 18:11	WG1095355

Semi-Volatile Organic Compounds (GC) by Method 3511/8015

Analyte	Result mg/l	Qualifier	SDL mg/l	Unadj. MQL mg/l	MQL mg/l	Dilution	Analysis date / time	Batch
TPH (GC/FID) High Fraction	0.175		0.0247	0.100	0.100	1	04/11/2018 23:57	WG1095663
(S) o-Terphenyl	95.9				31.0-160		04/11/2018 23:57	WG1095663

Semi Volatile Organic Compounds (GC/MS) by Method 8270 C

Analyte	Result mg/l	Qualifier	SDL mg/l	Unadj. MQL mg/l	MQL mg/l	Dilution	Analysis date / time	Batch
Acenaphthene	U		0.000316	0.00100	0.00100	1	04/12/2018 21:15	WG1095852
Acenaphthylene	U		0.000309	0.00100	0.00100	1	04/12/2018 21:15	WG1095852
Acetophenone	U		0.00247	0.0100	0.0100	1	04/12/2018 21:15	WG1095852
Anthracene	U		0.000291	0.00100	0.00100	1	04/12/2018 21:15	WG1095852
Atrazine	U		0.000260	0.0100	0.0100	1	04/12/2018 21:15	WG1095852
Benzo(a)anthracene	U		0.0000510	0.00100	0.00100	1	04/12/2018 21:15	WG1095852
Benzaldehyde	U	J4	0.00140	0.0100	0.0100	1	04/12/2018 21:15	WG1095852
Benzo(b)fluoranthene	U		0.0000896	0.00100	0.00100	1	04/12/2018 21:15	WG1095852
Benzo(k)fluoranthene	U		0.000355	0.00100	0.00100	1	04/12/2018 21:15	WG1095852
Benzo(g,h,i)perylene	U		0.00000227	0.00100	0.00100	1	04/12/2018 21:15	WG1095852
Benzo(a)pyrene	U		0.0000381	0.000200	0.000200	1	04/12/2018 21:15	WG1095852
Biphenyl	U		0.000325	0.0100	0.0100	1	04/12/2018 21:15	WG1095852
Bis(2-chlorethoxy)methane	U		0.000329	0.0100	0.0100	1	04/12/2018 21:15	WG1095852
Bis(2-chloroethyl)ether	U		0.00162	0.0100	0.0100	1	04/12/2018 21:15	WG1095852
Bis(2-chloroisopropyl)ether	U		0.000445	0.0100	0.0100	1	04/12/2018 21:15	WG1095852
4-Bromophenyl-phenylether	U		0.000335	0.0100	0.0100	1	04/12/2018 21:15	WG1095852
2-Chloronaphthalene	U		0.000330	0.00100	0.00100	1	04/12/2018 21:15	WG1095852
4-Chlorophenyl-phenylether	U		0.000303	0.0100	0.0100	1	04/12/2018 21:15	WG1095852
Caprolactam	U		0.00259	0.0100	0.0100	1	04/12/2018 21:15	WG1095852
Carbazole	U		0.000260	0.0100	0.0100	1	04/12/2018 21:15	WG1095852
Chrysene	U		0.000332	0.00100	0.00100	1	04/12/2018 21:15	WG1095852
Dibenz(a,h)anthracene	U		0.0000644	0.000200	0.000200	1	04/12/2018 21:15	WG1095852
Dibenzofuran	U		0.000338	0.0100	0.0100	1	04/12/2018 21:15	WG1095852
3,3-Dichlorobenzidine	U		0.00202	0.0100	0.0100	1	04/12/2018 21:15	WG1095852
2,4-Dinitrotoluene	U		0.00165	0.0100	0.0100	1	04/12/2018 21:15	WG1095852
2,6-Dinitrotoluene	U		0.000279	0.0100	0.0100	1	04/12/2018 21:15	WG1095852
Fluoranthene	U		0.000310	0.00100	0.00100	1	04/12/2018 21:15	WG1095852
Fluorene	U		0.000323	0.00100	0.00100	1	04/12/2018 21:15	WG1095852
Hexachlorobenzene	U		0.000341	0.00100	0.00100	1	04/12/2018 21:15	WG1095852
Hexachloro-1,3-butadiene	U		0.000329	0.0100	0.0100	1	04/12/2018 21:15	WG1095852
Hexachlorocyclopentadiene	U		0.00233	0.0100	0.0100	1	04/12/2018 21:15	WG1095852
Hexachloroethane	U		0.000365	0.0100	0.0100	1	04/12/2018 21:15	WG1095852
Indeno(1,2,3-cd)pyrene	U		0.000279	0.00100	0.00100	1	04/12/2018 21:15	WG1095852
Isophorone	U		0.000272	0.0100	0.0100	1	04/12/2018 21:15	WG1095852
1-Methylnaphthalene	U		0.000332	0.00100	0.00100	1	04/12/2018 21:15	WG1095852
2-Methylnaphthalene	U		0.000311	0.00100	0.00100	1	04/12/2018 21:15	WG1095852
Naphthalene	0.00107		0.000372	0.00100	0.00100	1	04/12/2018 21:15	WG1095852
Nitrobenzene	U		0.000367	0.0100	0.0100	1	04/12/2018 21:15	WG1095852
n-Nitrosodiphenylamine	U		0.000304	0.0100	0.0100	1	04/12/2018 21:15	WG1095852





Collected date/time: 04/05/18 14:25

L984044

Semi Volatile Organic Compounds (GC/MS) by Method 8270 C

Analyte	Result mg/l	Qualifier	SDL mg/l	Unadj. MQL mg/l	MQL mg/l	Dilution	Analysis date / time	Batch
n-Nitrosodi-n-propylamine	U		0.000403	0.0100	0.0100	1	04/12/2018 21:15	WG1095852
Phenanthrene	U		0.000366	0.00100	0.00100	1	04/12/2018 21:15	WG1095852
Benzylbutyl phthalate	U		0.000275	0.00300	0.00300	1	04/12/2018 21:15	WG1095852
Bis(2-ethylhexyl)phthalate	U		0.000709	0.00300	0.00300	1	04/12/2018 21:15	WG1095852
Di-n-butyl phthalate	U		0.000266	0.00300	0.00300	1	04/12/2018 21:15	WG1095852
Diethyl phthalate	U		0.000282	0.00300	0.00300	1	04/12/2018 21:15	WG1095852
Dimethyl phthalate	U		0.000283	0.00300	0.00300	1	04/12/2018 21:15	WG1095852
Di-n-octyl phthalate	U		0.000278	0.00300	0.00300	1	04/12/2018 21:15	WG1095852
Pyrene	U		0.000330	0.00100	0.00100	1	04/12/2018 21:15	WG1095852
1,2,4-Trichlorobenzene	U		0.000355	0.0100	0.0100	1	04/12/2018 21:15	WG1095852
4-Chloro-3-methylphenol	U		0.000263	0.0100	0.0100	1	04/12/2018 21:15	WG1095852
2-Chlorophenol	U		0.000283	0.0100	0.0100	1	04/12/2018 21:15	WG1095852
2,4-Dichlorophenol	U		0.000284	0.0100	0.0100	1	04/12/2018 21:15	WG1095852
2,4-Dimethylphenol	U		0.000624	0.0100	0.0100	1	04/12/2018 21:15	WG1095852
4,6-Dinitro-2-methylphenol	U		0.00262	0.0100	0.0100	1	04/12/2018 21:15	WG1095852
2,4-Dinitrophenol	U		0.00325	0.0100	0.0100	1	04/12/2018 21:15	WG1095852
2-Nitrophenol	U		0.000320	0.0100	0.0100	1	04/12/2018 21:15	WG1095852
2-Nitroaniline	U		0.00190	0.0100	0.0100	1	04/12/2018 21:15	WG1095852
2-Methylphenol	U		0.000312	0.0100	0.0100	1	04/12/2018 21:15	WG1095852
3&4-Methyl Phenol	U		0.000266	0.0100	0.0100	1	04/12/2018 21:15	WG1095852
3-Nitroaniline	U		0.000308	0.0100	0.0100	1	04/12/2018 21:15	WG1095852
4-Chloroaniline	U		0.000382	0.0100	0.0100	1	04/12/2018 21:15	WG1095852
4-Nitroaniline	U	J4	0.000349	0.0100	0.0100	1	04/12/2018 21:15	WG1095852
4-Nitrophenol	U		0.00201	0.0100	0.0100	1	04/12/2018 21:15	WG1095852
Pentachlorophenol	U		0.000313	0.0100	0.0100	1	04/12/2018 21:15	WG1095852
Phenol	0.00596	J	0.000334	0.0100	0.0100	1	04/12/2018 21:15	WG1095852
2,4,5-Trichlorophenol	U		0.000236	0.0100	0.0100	1	04/12/2018 21:15	WG1095852
2,4,6-Trichlorophenol	U		0.000297	0.0100	0.0100	1	04/12/2018 21:15	WG1095852
(S) 2-Fluorophenol	46.7				10.0-120		04/12/2018 21:15	WG1095852
(S) Phenol-d5	33.1				10.0-120		04/12/2018 21:15	WG1095852
(S) Nitrobenzene-d5	98.2				10.0-126		04/12/2018 21:15	WG1095852
(S) 2-Fluorobiphenyl	83.9				22.0-127		04/12/2018 21:15	WG1095852
(S) 2,4,6-Tribromophenol	72.5				10.0-153		04/12/2018 21:15	WG1095852
(S) p-Terphenyl-d14	93.3				29.0-141		04/12/2018 21:15	WG1095852

1 Cp
2 Tc
3 Ss
4 Cn
5 Sr
6 Qc
7 Gl
8 Al
9 Sc



Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	SDL	Unadj. MQL	MQL	Dilution	Analysis date / time	Batch
Dissolved Solids	584		2.82	10.0	10.0	1	04/12/2018 14:19	WG1096342

Wet Chemistry by Method 2320 B-2011

Analyte	Result	Qualifier	SDL	Unadj. MQL	MQL	Dilution	Analysis date / time	Batch
Alkalinity	192		2.71	20.0	20.0	1	04/09/2018 13:34	WG1095317

Sample Narrative:

L984044-18 WG1095317: Endpoint pH 4.5

Wet Chemistry by Method 353.2

Analyte	Result	Qualifier	SDL	Unadj. MQL	MQL	Dilution	Analysis date / time	Batch
Nitrate-Nitrite	3.09		0.0197	0.100	0.100	1	04/13/2018 15:22	WG1096785

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	SDL	Unadj. MQL	MQL	Dilution	Analysis date / time	Batch
Chloride	131		0.260	1.00	5.00	5	04/11/2018 05:29	WG1095833
Fluoride	0.878		0.00990	0.100	0.100	1	04/11/2018 05:13	WG1095833
Sulfate	75.6		0.0774	5.00	5.00	1	04/11/2018 05:13	WG1095833

Mercury by Method 7470A

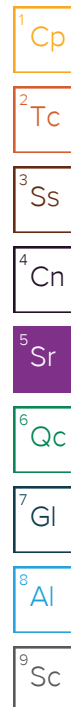
Analyte	Result	Qualifier	SDL	Unadj. MQL	MQL	Dilution	Analysis date / time	Batch
Mercury	U		0.0000490	0.000200	0.000200	1	04/10/2018 10:36	WG1095544

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	SDL	Unadj. MQL	MQL	Dilution	Analysis date / time	Batch
Boron,Dissolved	0.156	J	0.0126	0.200	0.200	1	04/11/2018 11:28	WG1095187

Metals (ICPMS) by Method 6020

Analyte	Result	Qualifier	SDL	Unadj. MQL	MQL	Dilution	Analysis date / time	Batch
Aluminum,Dissolved	0.0183	B J	0.00515	0.100	0.100	1	04/19/2018 18:33	WG1095185
Arsenic,Dissolved	0.00657		0.000250	0.00200	0.00200	1	04/19/2018 18:33	WG1095185
Barium,Dissolved	0.118		0.000360	0.00500	0.00500	1	04/19/2018 18:33	WG1095185
Cadmium,Dissolved	0.000910	B J	0.000160	0.00100	0.00100	1	04/19/2018 18:33	WG1095185
Calcium,Dissolved	108		0.0460	1.00	1.00	1	04/19/2018 18:33	WG1095185
Chromium,Dissolved	0.000849	J	0.000540	0.00200	0.00200	1	04/18/2018 16:25	WG1099510
Copper,Dissolved	0.0135		0.000520	0.00500	0.00500	1	04/19/2018 18:33	WG1095185
Cobalt,Dissolved	0.000894	B J	0.000260	0.00200	0.00200	1	04/19/2018 18:33	WG1095185
Iron,Dissolved	0.0237	J	0.0150	0.100	0.100	1	04/19/2018 18:33	WG1095185
Lead,Dissolved	0.00120	B J	0.000240	0.00200	0.00200	1	04/19/2018 18:33	WG1095185
Magnesium,Dissolved	13.4		0.100	1.00	1.00	1	04/17/2018 15:26	WG1095185
Manganese,Dissolved	0.00467	B J	0.000250	0.00500	0.00500	1	04/19/2018 18:33	WG1095185
Molybdenum,Dissolved	0.00380	B J	0.000140	0.00500	0.00500	1	04/19/2018 18:33	WG1095185
Nickel,Dissolved	0.00244	B	0.000350	0.00200	0.00200	1	04/19/2018 18:33	WG1095185
Potassium,Dissolved	2.97		0.0370	1.00	1.00	1	04/19/2018 18:33	WG1095185
Selenium,Dissolved	0.00397	B	0.000380	0.00200	0.00200	1	04/19/2018 18:33	WG1095185
Silver,Dissolved	U		0.000310	0.00200	0.00200	1	04/19/2018 18:33	WG1095185
Sodium,Dissolved	64.1		0.110	1.00	1.00	1	04/19/2018 18:33	WG1095185





Metals (ICPMS) by Method 6020

Analyte	Result mg/l	Qualifier	SDL mg/l	Unadj. MQL mg/l	MQL mg/l	Dilution	Analysis date / time	Batch
Uranium,Dissolved	0.00270	<u>B</u> <u>J</u>	0.000330	0.0100	0.0100	1	04/19/2018 18:33	WG1095185
Zinc,Dissolved	0.0298		0.00256	0.0250	0.0250	1	04/17/2018 15:26	WG1095185

Volatile Organic Compounds (GC) by Method 8015D/GRO

Analyte	Result mg/l	Qualifier	SDL mg/l	Unadj. MQL mg/l	MQL mg/l	Dilution	Analysis date / time	Batch
TPH (GC/FID) Low Fraction	U		0.0314	0.100	0.100	1	04/11/2018 00:23	WG1096264
(S) a,a,a-Trifluorotoluene(FID)	106				77.0-122		04/11/2018 00:23	WG1096264

Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result mg/l	Qualifier	SDL mg/l	Unadj. MQL mg/l	MQL mg/l	Dilution	Analysis date / time	Batch
Acetone	U		0.0100	1.00	1.00	1	04/08/2018 18:32	WG1095355
Benzene	U		0.000331	0.00100	0.00100	1	04/08/2018 18:32	WG1095355
Bromodichloromethane	U		0.000380	0.00125	0.00125	1	04/08/2018 18:32	WG1095355
Bromoform	U		0.000469	0.00100	0.00100	1	04/08/2018 18:32	WG1095355
Bromomethane	U		0.000866	0.00500	0.00500	1	04/08/2018 18:32	WG1095355
n-Butylbenzene	U		0.000361	0.00100	0.00100	1	04/08/2018 18:32	WG1095355
sec-Butylbenzene	U		0.000365	0.00100	0.00100	1	04/08/2018 18:32	WG1095355
tert-Butylbenzene	U		0.000399	0.00100	0.00100	1	04/08/2018 18:32	WG1095355
Carbon disulfide	U		0.000275	0.00100	0.00100	1	04/08/2018 18:32	WG1095355
Carbon tetrachloride	U		0.000379	0.00100	0.00100	1	04/08/2018 18:32	WG1095355
Chlorobenzene	U		0.000348	0.00100	0.00100	1	04/08/2018 18:32	WG1095355
Chlorodibromomethane	U		0.000327	0.00100	0.00100	1	04/08/2018 18:32	WG1095355
Chloroethane	U		0.000453	0.00500	0.00500	1	04/08/2018 18:32	WG1095355
Chloroform	U		0.000324	0.00500	0.00500	1	04/08/2018 18:32	WG1095355
Chloromethane	U		0.000276	0.00250	0.00250	1	04/08/2018 18:32	WG1095355
1,2-Dibromoethane	U		0.000381	0.00100	0.00100	1	04/08/2018 18:32	WG1095355
1,1-Dichloroethane	U		0.000259	0.00100	0.00100	1	04/08/2018 18:32	WG1095355
1,2-Dichloroethane	U		0.000361	0.00100	0.00100	1	04/08/2018 18:32	WG1095355
1,1-Dichloroethene	U		0.000398	0.00100	0.00100	1	04/08/2018 18:32	WG1095355
cis-1,2-Dichloroethene	U		0.000260	0.00100	0.00100	1	04/08/2018 18:32	WG1095355
trans-1,2-Dichloroethene	U		0.000396	0.00100	0.00100	1	04/08/2018 18:32	WG1095355
1,2-Dichloropropane	U		0.000306	0.00100	0.00100	1	04/08/2018 18:32	WG1095355
cis-1,3-Dichloropropene	U		0.000418	0.00100	0.00100	1	04/08/2018 18:32	WG1095355
trans-1,3-Dichloropropene	U		0.000419	0.00100	0.00100	1	04/08/2018 18:32	WG1095355
Ethylbenzene	U		0.000384	0.00100	0.00100	1	04/08/2018 18:32	WG1095355
Hexachloro-1,3-butadiene	U		0.000256	0.00100	0.00100	1	04/08/2018 18:32	WG1095355
2-Hexanone	U		0.00382	0.0100	0.0100	1	04/08/2018 18:32	WG1095355
Isopropylbenzene	U		0.000326	0.00100	0.00100	1	04/08/2018 18:32	WG1095355
p-Isopropyltoluene	U		0.000350	0.00100	0.00100	1	04/08/2018 18:32	WG1095355
2-Butanone (MEK)	U		0.00393	0.0100	0.0100	1	04/08/2018 18:32	WG1095355
Methylene Chloride	U		0.00100	0.00500	0.00500	1	04/08/2018 18:32	WG1095355
4-Methyl-2-pentanone (MIBK)	U		0.00214	0.0100	0.0100	1	04/08/2018 18:32	WG1095355
Methyl tert-butyl ether	U		0.000367	0.00100	0.00100	1	04/08/2018 18:32	WG1095355
Naphthalene	U		0.00100	0.00500	0.00500	1	04/08/2018 18:32	WG1095355
n-Propylbenzene	U		0.000349	0.00100	0.00100	1	04/08/2018 18:32	WG1095355
Styrene	U		0.000307	0.00100	0.00100	1	04/08/2018 18:32	WG1095355
1,1,2,2-Tetrachloroethane	U		0.000130	0.00100	0.00100	1	04/08/2018 18:32	WG1095355
Tetrachloroethene	U		0.000372	0.00100	0.00100	1	04/08/2018 18:32	WG1095355
Toluene	U		0.000412	0.00100	0.00100	1	04/08/2018 18:32	WG1095355
1,1,1-Trichloroethane	U		0.000319	0.00100	0.00100	1	04/08/2018 18:32	WG1095355
1,1,2-Trichloroethane	U		0.000383	0.00100	0.00100	1	04/08/2018 18:32	WG1095355
Trichloroethene	U		0.000398	0.00100	0.00100	1	04/08/2018 18:32	WG1095355
1,2,4-Trimethylbenzene	U		0.000373	0.00100	0.00100	1	04/08/2018 18:32	WG1095355

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc



Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result mg/l	Qualifier	SDL mg/l	Unadj. MQL mg/l	MQL mg/l	Dilution	Analysis date / time	Batch
1,3,5-Trimethylbenzene	U		0.000387	0.00100	0.00100	1	04/08/2018 18:32	WG1095355
Vinyl chloride	U		0.000259	0.00100	0.00100	1	04/08/2018 18:32	WG1095355
Xylenes, Total	U		0.00106	0.00300	0.00300	1	04/08/2018 18:32	WG1095355
(S) Toluene-d8	108				80.0-120		04/08/2018 18:32	WG1095355
(S) Dibromofluoromethane	90.1				76.0-123		04/08/2018 18:32	WG1095355
(S) 4-Bromofluorobenzene	104				80.0-120		04/08/2018 18:32	WG1095355

Semi-Volatile Organic Compounds (GC) by Method 3511/8015

Analyte	Result mg/l	Qualifier	SDL mg/l	Unadj. MQL mg/l	MQL mg/l	Dilution	Analysis date / time	Batch
TPH (GC/FID) High Fraction	0.0385	J	0.0247	0.100	0.100	1	04/12/2018 00:13	WG1095663
(S) o-Terphenyl	93.8				31.0-160		04/12/2018 00:13	WG1095663

Semi Volatile Organic Compounds (GC/MS) by Method 8270 C

Analyte	Result mg/l	Qualifier	SDL mg/l	Unadj. MQL mg/l	MQL mg/l	Dilution	Analysis date / time	Batch
Acenaphthene	U		0.000316	0.00100	0.00100	1	04/12/2018 16:46	WG1095852
Acenaphthylene	U		0.000309	0.00100	0.00100	1	04/12/2018 16:46	WG1095852
Acetophenone	U		0.00247	0.0100	0.0100	1	04/12/2018 16:46	WG1095852
Anthracene	U		0.000291	0.00100	0.00100	1	04/12/2018 16:46	WG1095852
Atrazine	U		0.000260	0.0100	0.0100	1	04/12/2018 16:46	WG1095852
Benzo(a)anthracene	0.000271	J	0.0000510	0.00100	0.00100	1	04/12/2018 16:46	WG1095852
Benzaldehyde	U	J4	0.00140	0.0100	0.0100	1	04/12/2018 16:46	WG1095852
Benzo(b)fluoranthene	0.000201	J	0.0000896	0.00100	0.00100	1	04/12/2018 16:46	WG1095852
Benzo(k)fluoranthene	U		0.000355	0.00100	0.00100	1	04/12/2018 16:46	WG1095852
Benzo(g,h,i)perylene	0.000202	J	0.00000227	0.00100	0.00100	1	04/12/2018 16:46	WG1095852
Benzo(a)pyrene	0.000180	J	0.0000381	0.000200	0.000200	1	04/12/2018 16:46	WG1095852
Biphenyl	U		0.000325	0.0100	0.0100	1	04/12/2018 16:46	WG1095852
Bis(2-chlorethoxy)methane	U		0.000329	0.0100	0.0100	1	04/12/2018 16:46	WG1095852
Bis(2-chloroethyl)ether	U		0.00162	0.0100	0.0100	1	04/12/2018 16:46	WG1095852
Bis(2-chloroisopropyl)ether	U		0.000445	0.0100	0.0100	1	04/12/2018 16:46	WG1095852
4-Bromophenyl-phenylether	U		0.000335	0.0100	0.0100	1	04/12/2018 16:46	WG1095852
2-Chloronaphthalene	U		0.000330	0.00100	0.00100	1	04/12/2018 16:46	WG1095852
4-Chlorophenyl-phenylether	U		0.000303	0.0100	0.0100	1	04/12/2018 16:46	WG1095852
Caprolactam	U		0.00259	0.0100	0.0100	1	04/12/2018 16:46	WG1095852
Carbazole	U		0.000260	0.0100	0.0100	1	04/12/2018 16:46	WG1095852
Chrysene	U		0.000332	0.00100	0.00100	1	04/12/2018 16:46	WG1095852
Dibenz(a,h)anthracene	0.000235		0.0000644	0.000200	0.000200	1	04/12/2018 16:46	WG1095852
Dibenzofuran	U		0.000338	0.0100	0.0100	1	04/12/2018 16:46	WG1095852
3,3-Dichlorobenzidine	U		0.00202	0.0100	0.0100	1	04/12/2018 16:46	WG1095852
2,4-Dinitrotoluene	U		0.00165	0.0100	0.0100	1	04/12/2018 16:46	WG1095852
2,6-Dinitrotoluene	U		0.000279	0.0100	0.0100	1	04/12/2018 16:46	WG1095852
Fluoranthene	U		0.000310	0.00100	0.00100	1	04/12/2018 16:46	WG1095852
Fluorene	U		0.000323	0.00100	0.00100	1	04/12/2018 16:46	WG1095852
Hexachlorobenzene	U		0.000341	0.00100	0.00100	1	04/12/2018 16:46	WG1095852
Hexachloro-1,3-butadiene	U		0.000329	0.0100	0.0100	1	04/12/2018 16:46	WG1095852
Hexachlorocyclopentadiene	U		0.00233	0.0100	0.0100	1	04/12/2018 16:46	WG1095852
Hexachloroethane	U		0.000365	0.0100	0.0100	1	04/12/2018 16:46	WG1095852
Indeno(1,2,3-cd)pyrene	U		0.000279	0.00100	0.00100	1	04/12/2018 16:46	WG1095852
Isophorone	U		0.000272	0.0100	0.0100	1	04/12/2018 16:46	WG1095852
1-Methylnaphthalene	U		0.000332	0.00100	0.00100	1	04/12/2018 16:46	WG1095852
2-Methylnaphthalene	U		0.000311	0.00100	0.00100	1	04/12/2018 16:46	WG1095852
Naphthalene	0.000455	J	0.000372	0.00100	0.00100	1	04/12/2018 16:46	WG1095852
Nitrobenzene	U		0.000367	0.0100	0.0100	1	04/12/2018 16:46	WG1095852
n-Nitrosodiphenylamine	U		0.000304	0.0100	0.0100	1	04/12/2018 16:46	WG1095852

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc



Collected date/time: 04/05/18 13:55

L984044

Semi Volatile Organic Compounds (GC/MS) by Method 8270 C

Analyte	Result mg/l	Qualifier	SDL mg/l	Unadj. MQL mg/l	MQL mg/l	Dilution	Analysis date / time	Batch
n-Nitrosodi-n-propylamine	U		0.000403	0.0100	0.0100	1	04/12/2018 16:46	WG1095852
Phenanthrene	U		0.000366	0.00100	0.00100	1	04/12/2018 16:46	WG1095852
Benzylbutyl phthalate	0.000299	J	0.000275	0.00300	0.00300	1	04/12/2018 16:46	WG1095852
Bis(2-ethylhexyl)phthalate	U		0.000709	0.00300	0.00300	1	04/12/2018 16:46	WG1095852
Di-n-butyl phthalate	U		0.000266	0.00300	0.00300	1	04/12/2018 16:46	WG1095852
Diethyl phthalate	U		0.000282	0.00300	0.00300	1	04/12/2018 16:46	WG1095852
Dimethyl phthalate	U		0.000283	0.00300	0.00300	1	04/12/2018 16:46	WG1095852
Di-n-octyl phthalate	U		0.000278	0.00300	0.00300	1	04/12/2018 16:46	WG1095852
Pyrene	U		0.000330	0.00100	0.00100	1	04/12/2018 16:46	WG1095852
1,2,4-Trichlorobenzene	U		0.000355	0.0100	0.0100	1	04/12/2018 16:46	WG1095852
4-Chloro-3-methylphenol	U		0.000263	0.0100	0.0100	1	04/12/2018 16:46	WG1095852
2-Chlorophenol	U		0.000283	0.0100	0.0100	1	04/12/2018 16:46	WG1095852
2,4-Dichlorophenol	U		0.000284	0.0100	0.0100	1	04/12/2018 16:46	WG1095852
2,4-Dimethylphenol	U		0.000624	0.0100	0.0100	1	04/12/2018 16:46	WG1095852
4,6-Dinitro-2-methylphenol	U		0.00262	0.0100	0.0100	1	04/12/2018 16:46	WG1095852
2,4-Dinitrophenol	U		0.00325	0.0100	0.0100	1	04/12/2018 16:46	WG1095852
2-Nitrophenol	U		0.000320	0.0100	0.0100	1	04/12/2018 16:46	WG1095852
2-Nitroaniline	U		0.00190	0.0100	0.0100	1	04/12/2018 16:46	WG1095852
2-Methylphenol	U		0.000312	0.0100	0.0100	1	04/12/2018 16:46	WG1095852
3&4-Methyl Phenol	U		0.000266	0.0100	0.0100	1	04/12/2018 16:46	WG1095852
3-Nitroaniline	U		0.000308	0.0100	0.0100	1	04/12/2018 16:46	WG1095852
4-Chloroaniline	U		0.000382	0.0100	0.0100	1	04/12/2018 16:46	WG1095852
4-Nitroaniline	U	J4	0.000349	0.0100	0.0100	1	04/12/2018 16:46	WG1095852
4-Nitrophenol	U		0.00201	0.0100	0.0100	1	04/12/2018 16:46	WG1095852
Pentachlorophenol	U		0.000313	0.0100	0.0100	1	04/12/2018 16:46	WG1095852
Phenol	0.00110	J	0.000334	0.0100	0.0100	1	04/12/2018 16:46	WG1095852
2,4,5-Trichlorophenol	U		0.000236	0.0100	0.0100	1	04/12/2018 16:46	WG1095852
2,4,6-Trichlorophenol	U		0.000297	0.0100	0.0100	1	04/12/2018 16:46	WG1095852
(S) 2-Fluorophenol	71.5				10.0-120		04/12/2018 16:46	WG1095852
(S) Phenol-d5	47.0				10.0-120		04/12/2018 16:46	WG1095852
(S) Nitrobenzene-d5	82.8				10.0-126		04/12/2018 16:46	WG1095852
(S) 2-Fluorobiphenyl	80.8				22.0-127		04/12/2018 16:46	WG1095852
(S) 2,4,6-Tribromophenol	89.3				10.0-153		04/12/2018 16:46	WG1095852
(S) p-Terphenyl-d14	95.9				29.0-141		04/12/2018 16:46	WG1095852

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc



Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	SDL	Unadj. MQL	MQL	Dilution	Analysis date / time	Batch
Dissolved Solids	1300		2.82	10.0	10.0	1	04/12/2018 14:19	WG1096342

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc

Wet Chemistry by Method 2320 B-2011

Analyte	Result	Qualifier	SDL	Unadj. MQL	MQL	Dilution	Analysis date / time	Batch
Alkalinity	186		2.71	20.0	20.0	1	04/09/2018 13:48	WG1095317

Sample Narrative:

L984044-19 WG1095317: Endpoint pH 4.5

Wet Chemistry by Method 353.2

Analyte	Result	Qualifier	SDL	Unadj. MQL	MQL	Dilution	Analysis date / time	Batch
Nitrate-Nitrite	2.98		0.0197	0.100	0.100	1	04/13/2018 15:23	WG1096785

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	SDL	Unadj. MQL	MQL	Dilution	Analysis date / time	Batch
Chloride	406		0.519	1.00	10.0	10	04/11/2018 06:00	WG1095833
Fluoride	0.676		0.00990	0.100	0.100	1	04/11/2018 05:45	WG1095833
Sulfate	99.9		0.0774	5.00	5.00	1	04/11/2018 05:45	WG1095833

Mercury by Method 7470A

Analyte	Result	Qualifier	SDL	Unadj. MQL	MQL	Dilution	Analysis date / time	Batch
Mercury	U		0.0000490	0.000200	0.000200	1	04/10/2018 10:38	WG1095544

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	SDL	Unadj. MQL	MQL	Dilution	Analysis date / time	Batch
Boron,Dissolved	0.202		0.0126	0.200	0.200	1	04/11/2018 11:31	WG1095187

Metals (ICPMS) by Method 6020

Analyte	Result	Qualifier	SDL	Unadj. MQL	MQL	Dilution	Analysis date / time	Batch
Aluminum,Dissolved	0.0142	B J	0.00515	0.100	0.100	1	04/19/2018 18:38	WG1095185
Arsenic,Dissolved	0.00434	B	0.000250	0.00200	0.00200	1	04/19/2018 18:38	WG1095185
Barium,Dissolved	0.140		0.000360	0.00500	0.00500	1	04/19/2018 18:38	WG1095185
Cadmium,Dissolved	U		0.000160	0.00100	0.00100	1	04/19/2018 18:38	WG1095185
Calcium,Dissolved	195		0.0460	1.00	1.00	1	04/19/2018 18:38	WG1095185
Chromium,Dissolved	0.00311		0.000540	0.00200	0.00200	1	04/18/2018 16:29	WG1099510
Copper,Dissolved	0.00598	B	0.000520	0.00500	0.00500	1	04/19/2018 18:38	WG1095185
Cobalt,Dissolved	U		0.000260	0.00200	0.00200	1	04/19/2018 18:38	WG1095185
Iron,Dissolved	U		0.0150	0.100	0.100	1	04/19/2018 18:38	WG1095185
Lead,Dissolved	U		0.000240	0.00200	0.00200	1	04/19/2018 18:38	WG1095185
Magnesium,Dissolved	27.6		0.100	1.00	1.00	1	04/17/2018 15:30	WG1095185
Manganese,Dissolved	0.00245	B J	0.000250	0.00500	0.00500	1	04/19/2018 18:38	WG1095185
Molybdenum,Dissolved	0.00184	B J	0.000140	0.00500	0.00500	1	04/19/2018 18:38	WG1095185
Nickel,Dissolved	U		0.000350	0.00200	0.00200	1	04/19/2018 18:38	WG1095185
Potassium,Dissolved	3.94		0.0370	1.00	1.00	1	04/19/2018 18:38	WG1095185
Selenium,Dissolved	0.00335	B	0.000380	0.00200	0.00200	1	04/19/2018 18:38	WG1095185
Silver,Dissolved	U		0.000310	0.00200	0.00200	1	04/19/2018 18:38	WG1095185
Sodium,Dissolved	128		0.110	1.00	1.00	1	04/19/2018 18:38	WG1095185



Metals (ICPMS) by Method 6020

Analyte	Result mg/l	Qualifier	SDL mg/l	Unadj. MQL mg/l	MQL mg/l	Dilution	Analysis date / time	Batch
Uranium,Dissolved	0.00252	<u>B</u> <u>J</u>	0.000330	0.0100	0.0100	1	04/19/2018 18:38	WG1095185
Zinc,Dissolved	0.00408	<u>J</u>	0.00256	0.0250	0.0250	1	04/17/2018 15:30	WG1095185

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

Volatile Organic Compounds (GC) by Method 8015D/GRO

Analyte	Result mg/l	Qualifier	SDL mg/l	Unadj. MQL mg/l	MQL mg/l	Dilution	Analysis date / time	Batch
TPH (GC/FID) Low Fraction	U		0.0314	0.100	0.100	1	04/11/2018 00:47	WG1096264
(S) a,a,a-Trifluorotoluene(FID)	105				77.0-122		04/11/2018 00:47	WG1096264

6 Qc

7 Gl

8 Al

9 Sc

Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result mg/l	Qualifier	SDL mg/l	Unadj. MQL mg/l	MQL mg/l	Dilution	Analysis date / time	Batch
Acetone	U		0.0100	1.00	1.00	1	04/08/2018 18:53	WG1095355
Benzene	U		0.000331	0.00100	0.00100	1	04/08/2018 18:53	WG1095355
Bromodichloromethane	U		0.000380	0.00125	0.00125	1	04/08/2018 18:53	WG1095355
Bromoform	U		0.000469	0.00100	0.00100	1	04/08/2018 18:53	WG1095355
Bromomethane	U		0.000866	0.00500	0.00500	1	04/08/2018 18:53	WG1095355
n-Butylbenzene	U		0.000361	0.00100	0.00100	1	04/08/2018 18:53	WG1095355
sec-Butylbenzene	U		0.000365	0.00100	0.00100	1	04/08/2018 18:53	WG1095355
tert-Butylbenzene	U		0.000399	0.00100	0.00100	1	04/08/2018 18:53	WG1095355
Carbon disulfide	U		0.000275	0.00100	0.00100	1	04/08/2018 18:53	WG1095355
Carbon tetrachloride	U		0.000379	0.00100	0.00100	1	04/08/2018 18:53	WG1095355
Chlorobenzene	U		0.000348	0.00100	0.00100	1	04/08/2018 18:53	WG1095355
Chlorodibromomethane	U		0.000327	0.00100	0.00100	1	04/08/2018 18:53	WG1095355
Chloroethane	U		0.000453	0.00500	0.00500	1	04/08/2018 18:53	WG1095355
Chloroform	0.000874	<u>J</u>	0.000324	0.00500	0.00500	1	04/08/2018 18:53	WG1095355
Chloromethane	U		0.000276	0.00250	0.00250	1	04/08/2018 18:53	WG1095355
1,2-Dibromoethane	U		0.000381	0.00100	0.00100	1	04/08/2018 18:53	WG1095355
1,1-Dichloroethane	U		0.000259	0.00100	0.00100	1	04/08/2018 18:53	WG1095355
1,2-Dichloroethane	U		0.000361	0.00100	0.00100	1	04/08/2018 18:53	WG1095355
1,1-Dichloroethene	U		0.000398	0.00100	0.00100	1	04/08/2018 18:53	WG1095355
cis-1,2-Dichloroethene	U		0.000260	0.00100	0.00100	1	04/08/2018 18:53	WG1095355
trans-1,2-Dichloroethene	U		0.000396	0.00100	0.00100	1	04/08/2018 18:53	WG1095355
1,2-Dichloropropane	U		0.000306	0.00100	0.00100	1	04/08/2018 18:53	WG1095355
cis-1,3-Dichloropropene	U		0.000418	0.00100	0.00100	1	04/08/2018 18:53	WG1095355
trans-1,3-Dichloropropene	U		0.000419	0.00100	0.00100	1	04/08/2018 18:53	WG1095355
Ethylbenzene	U		0.000384	0.00100	0.00100	1	04/08/2018 18:53	WG1095355
Hexachloro-1,3-butadiene	U		0.000256	0.00100	0.00100	1	04/08/2018 18:53	WG1095355
2-Hexanone	U		0.00382	0.0100	0.0100	1	04/08/2018 18:53	WG1095355
Isopropylbenzene	U		0.000326	0.00100	0.00100	1	04/08/2018 18:53	WG1095355
p-Isopropyltoluene	U		0.000350	0.00100	0.00100	1	04/08/2018 18:53	WG1095355
2-Butanone (MEK)	U		0.00393	0.0100	0.0100	1	04/08/2018 18:53	WG1095355
Methylene Chloride	U		0.00100	0.00500	0.00500	1	04/08/2018 18:53	WG1095355
4-Methyl-2-pentanone (MIBK)	U		0.00214	0.0100	0.0100	1	04/08/2018 18:53	WG1095355
Methyl tert-butyl ether	U		0.000367	0.00100	0.00100	1	04/08/2018 18:53	WG1095355
Naphthalene	U		0.00100	0.00500	0.00500	1	04/08/2018 18:53	WG1095355
n-Propylbenzene	U		0.000349	0.00100	0.00100	1	04/08/2018 18:53	WG1095355
Styrene	U		0.000307	0.00100	0.00100	1	04/08/2018 18:53	WG1095355
1,1,2,2-Tetrachloroethane	U		0.000130	0.00100	0.00100	1	04/08/2018 18:53	WG1095355
Tetrachloroethene	U		0.000372	0.00100	0.00100	1	04/08/2018 18:53	WG1095355
Toluene	U		0.000412	0.00100	0.00100	1	04/08/2018 18:53	WG1095355
1,1,1-Trichloroethane	U		0.000319	0.00100	0.00100	1	04/08/2018 18:53	WG1095355
1,1,2-Trichloroethane	U		0.000383	0.00100	0.00100	1	04/08/2018 18:53	WG1095355
Trichloroethene	U		0.000398	0.00100	0.00100	1	04/08/2018 18:53	WG1095355
1,2,4-Trimethylbenzene	U		0.000373	0.00100	0.00100	1	04/08/2018 18:53	WG1095355



Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result mg/l	Qualifier	SDL mg/l	Unadj. MQL mg/l	MQL mg/l	Dilution	Analysis date / time	Batch
1,3,5-Trimethylbenzene	U		0.000387	0.00100	0.00100	1	04/08/2018 18:53	WG1095355
Vinyl chloride	U		0.000259	0.00100	0.00100	1	04/08/2018 18:53	WG1095355
Xylenes, Total	U		0.00106	0.00300	0.00300	1	04/08/2018 18:53	WG1095355
(S) Toluene-d8	106				80.0-120		04/08/2018 18:53	WG1095355
(S) Dibromofluoromethane	91.1				76.0-123		04/08/2018 18:53	WG1095355
(S) 4-Bromofluorobenzene	106				80.0-120		04/08/2018 18:53	WG1095355

Semi-Volatile Organic Compounds (GC) by Method 3511/8015

Analyte	Result mg/l	Qualifier	SDL mg/l	Unadj. MQL mg/l	MQL mg/l	Dilution	Analysis date / time	Batch
TPH (GC/FID) High Fraction	0.0740	J	0.0247	0.100	0.100	1	04/12/2018 00:30	WG1095663
(S) o-Terphenyl	92.5				31.0-160		04/12/2018 00:30	WG1095663

Semi Volatile Organic Compounds (GC/MS) by Method 8270 C

Analyte	Result mg/l	Qualifier	SDL mg/l	Unadj. MQL mg/l	MQL mg/l	Dilution	Analysis date / time	Batch
Acenaphthene	U		0.000316	0.00100	0.00100	1	04/12/2018 17:10	WG1095852
Acenaphthylene	U		0.000309	0.00100	0.00100	1	04/12/2018 17:10	WG1095852
Acetophenone	U		0.00247	0.0100	0.0100	1	04/12/2018 17:10	WG1095852
Anthracene	U		0.000291	0.00100	0.00100	1	04/12/2018 17:10	WG1095852
Atrazine	U		0.000260	0.0100	0.0100	1	04/12/2018 17:10	WG1095852
Benzo(a)anthracene	0.000213	J	0.0000510	0.00100	0.00100	1	04/12/2018 17:10	WG1095852
Benzaldehyde	U	J4	0.00140	0.0100	0.0100	1	04/12/2018 17:10	WG1095852
Benzo(b)fluoranthene	0.000111	J	0.0000896	0.00100	0.00100	1	04/12/2018 17:10	WG1095852
Benzo(k)fluoranthene	U		0.000355	0.00100	0.00100	1	04/12/2018 17:10	WG1095852
Benzo(g,h,i)perylene	0.000140	J	0.00000227	0.00100	0.00100	1	04/12/2018 17:10	WG1095852
Benzo(a)pyrene	0.000132	J	0.0000381	0.000200	0.000200	1	04/12/2018 17:10	WG1095852
Biphenyl	U		0.000325	0.0100	0.0100	1	04/12/2018 17:10	WG1095852
Bis(2-chlorethoxy)methane	U		0.000329	0.0100	0.0100	1	04/12/2018 17:10	WG1095852
Bis(2-chloroethyl)ether	U		0.00162	0.0100	0.0100	1	04/12/2018 17:10	WG1095852
Bis(2-chloroisopropyl)ether	U		0.000445	0.0100	0.0100	1	04/12/2018 17:10	WG1095852
4-Bromophenyl-phenylether	U		0.000335	0.0100	0.0100	1	04/12/2018 17:10	WG1095852
2-Chloronaphthalene	U		0.000330	0.00100	0.00100	1	04/12/2018 17:10	WG1095852
4-Chlorophenyl-phenylether	U		0.000303	0.0100	0.0100	1	04/12/2018 17:10	WG1095852
Caprolactam	U		0.00259	0.0100	0.0100	1	04/12/2018 17:10	WG1095852
Carbazole	U		0.000260	0.0100	0.0100	1	04/12/2018 17:10	WG1095852
Chrysene	U		0.000332	0.00100	0.00100	1	04/12/2018 17:10	WG1095852
Dibenz(a,h)anthracene	U		0.0000644	0.000200	0.000200	1	04/12/2018 17:10	WG1095852
Dibenzofuran	U		0.000338	0.0100	0.0100	1	04/12/2018 17:10	WG1095852
3,3-Dichlorobenzidine	U		0.00202	0.0100	0.0100	1	04/12/2018 17:10	WG1095852
2,4-Dinitrotoluene	U		0.00165	0.0100	0.0100	1	04/12/2018 17:10	WG1095852
2,6-Dinitrotoluene	U		0.000279	0.0100	0.0100	1	04/12/2018 17:10	WG1095852
Fluoranthene	U		0.000310	0.00100	0.00100	1	04/12/2018 17:10	WG1095852
Fluorene	U		0.000323	0.00100	0.00100	1	04/12/2018 17:10	WG1095852
Hexachlorobenzene	U		0.000341	0.00100	0.00100	1	04/12/2018 17:10	WG1095852
Hexachloro-1,3-butadiene	U		0.000329	0.0100	0.0100	1	04/12/2018 17:10	WG1095852
Hexachlorocyclopentadiene	U		0.00233	0.0100	0.0100	1	04/12/2018 17:10	WG1095852
Hexachloroethane	U		0.000365	0.0100	0.0100	1	04/12/2018 17:10	WG1095852
Indeno(1,2,3-cd)pyrene	U		0.000279	0.00100	0.00100	1	04/12/2018 17:10	WG1095852
Isophorone	U		0.000272	0.0100	0.0100	1	04/12/2018 17:10	WG1095852
1-Methylnaphthalene	U		0.000332	0.00100	0.00100	1	04/12/2018 17:10	WG1095852
2-Methylnaphthalene	U		0.000311	0.00100	0.00100	1	04/12/2018 17:10	WG1095852
Naphthalene	U		0.000372	0.00100	0.00100	1	04/12/2018 17:10	WG1095852
Nitrobenzene	U		0.000367	0.0100	0.0100	1	04/12/2018 17:10	WG1095852
n-Nitrosodiphenylamine	U		0.000304	0.0100	0.0100	1	04/12/2018 17:10	WG1095852

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc



Collected date/time: 04/05/18 14:35

L984044

Semi Volatile Organic Compounds (GC/MS) by Method 8270 C

Analyte	Result mg/l	Qualifier	SDL mg/l	Unadj. MQL mg/l	MQL mg/l	Dilution	Analysis date / time	Batch
n-Nitrosodi-n-propylamine	U		0.000403	0.0100	0.0100	1	04/12/2018 17:10	WG1095852
Phenanthrene	U		0.000366	0.00100	0.00100	1	04/12/2018 17:10	WG1095852
Benzylbutyl phthalate	U		0.000275	0.00300	0.00300	1	04/12/2018 17:10	WG1095852
Bis(2-ethylhexyl)phthalate	U		0.000709	0.00300	0.00300	1	04/12/2018 17:10	WG1095852
Di-n-butyl phthalate	U		0.000266	0.00300	0.00300	1	04/12/2018 17:10	WG1095852
Diethyl phthalate	U		0.000282	0.00300	0.00300	1	04/12/2018 17:10	WG1095852
Dimethyl phthalate	U		0.000283	0.00300	0.00300	1	04/12/2018 17:10	WG1095852
Di-n-octyl phthalate	U		0.000278	0.00300	0.00300	1	04/12/2018 17:10	WG1095852
Pyrene	U		0.000330	0.00100	0.00100	1	04/12/2018 17:10	WG1095852
1,2,4-Trichlorobenzene	U		0.000355	0.0100	0.0100	1	04/12/2018 17:10	WG1095852
4-Chloro-3-methylphenol	U		0.000263	0.0100	0.0100	1	04/12/2018 17:10	WG1095852
2-Chlorophenol	U		0.000283	0.0100	0.0100	1	04/12/2018 17:10	WG1095852
2,4-Dichlorophenol	U		0.000284	0.0100	0.0100	1	04/12/2018 17:10	WG1095852
2,4-Dimethylphenol	U		0.000624	0.0100	0.0100	1	04/12/2018 17:10	WG1095852
4,6-Dinitro-2-methylphenol	U		0.00262	0.0100	0.0100	1	04/12/2018 17:10	WG1095852
2,4-Dinitrophenol	U		0.00325	0.0100	0.0100	1	04/12/2018 17:10	WG1095852
2-Nitrophenol	U		0.000320	0.0100	0.0100	1	04/12/2018 17:10	WG1095852
2-Nitroaniline	U		0.00190	0.0100	0.0100	1	04/12/2018 17:10	WG1095852
2-Methylphenol	U		0.000312	0.0100	0.0100	1	04/12/2018 17:10	WG1095852
3&4-Methyl Phenol	U		0.000266	0.0100	0.0100	1	04/12/2018 17:10	WG1095852
3-Nitroaniline	U		0.000308	0.0100	0.0100	1	04/12/2018 17:10	WG1095852
4-Chloroaniline	U		0.000382	0.0100	0.0100	1	04/12/2018 17:10	WG1095852
4-Nitroaniline	U	J4	0.000349	0.0100	0.0100	1	04/12/2018 17:10	WG1095852
4-Nitrophenol	U		0.00201	0.0100	0.0100	1	04/12/2018 17:10	WG1095852
Pentachlorophenol	U		0.000313	0.0100	0.0100	1	04/12/2018 17:10	WG1095852
Phenol	0.00579	J	0.000334	0.0100	0.0100	1	04/12/2018 17:10	WG1095852
2,4,5-Trichlorophenol	U		0.000236	0.0100	0.0100	1	04/12/2018 17:10	WG1095852
2,4,6-Trichlorophenol	U		0.000297	0.0100	0.0100	1	04/12/2018 17:10	WG1095852
(S) 2-Fluorophenol	76.5				10.0-120		04/12/2018 17:10	WG1095852
(S) Phenol-d5	49.0				10.0-120		04/12/2018 17:10	WG1095852
(S) Nitrobenzene-d5	85.4				10.0-126		04/12/2018 17:10	WG1095852
(S) 2-Fluorobiphenyl	83.6				22.0-127		04/12/2018 17:10	WG1095852
(S) 2,4,6-Tribromophenol	92.7				10.0-153		04/12/2018 17:10	WG1095852
(S) p-Terphenyl-d14	94.2				29.0-141		04/12/2018 17:10	WG1095852

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc



Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	SDL	Unadj. MQL	MQL	Dilution	Analysis date / time	Batch
Dissolved Solids	543		2.82	10.0	10.0	1	04/12/2018 14:19	WG1096342

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc

Wet Chemistry by Method 2320 B-2011

Analyte	Result	Qualifier	SDL	Unadj. MQL	MQL	Dilution	Analysis date / time	Batch
Alkalinity	173		2.71	20.0	20.0	1	04/09/2018 13:54	WG1095317

Sample Narrative:

L984044-20 WG1095317: Endpoint pH 4.5

Wet Chemistry by Method 353.2

Analyte	Result	Qualifier	SDL	Unadj. MQL	MQL	Dilution	Analysis date / time	Batch
Nitrate-Nitrite	2.81		0.0197	0.100	0.100	1	04/13/2018 15:24	WG1096785

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	SDL	Unadj. MQL	MQL	Dilution	Analysis date / time	Batch
Chloride	110		0.260	1.00	5.00	5	04/11/2018 06:31	WG1095833
Fluoride	0.968		0.00990	0.100	0.100	1	04/11/2018 06:15	WG1095833
Sulfate	81.3		0.0774	5.00	5.00	1	04/11/2018 06:15	WG1095833

Mercury by Method 7470A

Analyte	Result	Qualifier	SDL	Unadj. MQL	MQL	Dilution	Analysis date / time	Batch
Mercury	U		0.0000490	0.000200	0.000200	1	04/10/2018 10:45	WG1095544

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	SDL	Unadj. MQL	MQL	Dilution	Analysis date / time	Batch
Boron,Dissolved	0.148	J	0.0126	0.200	0.200	1	04/11/2018 11:34	WG1095187

Metals (ICPMS) by Method 6020

Analyte	Result	Qualifier	SDL	Unadj. MQL	MQL	Dilution	Analysis date / time	Batch
Aluminum,Dissolved	0.00660	B J	0.00515	0.100	0.100	1	04/19/2018 18:42	WG1095185
Arsenic,Dissolved	0.00515		0.000250	0.00200	0.00200	1	04/19/2018 18:42	WG1095185
Barium,Dissolved	0.0947		0.000360	0.00500	0.00500	1	04/19/2018 18:42	WG1095185
Cadmium,Dissolved	U		0.000160	0.00100	0.00100	1	04/19/2018 18:42	WG1095185
Calcium,Dissolved	105		0.0460	1.00	1.00	1	04/19/2018 18:42	WG1095185
Chromium,Dissolved	0.00555		0.000540	0.00200	0.00200	1	04/18/2018 16:34	WG1099510
Copper,Dissolved	0.00183	B J	0.000520	0.00500	0.00500	1	04/19/2018 18:42	WG1095185
Cobalt,Dissolved	U		0.000260	0.00200	0.00200	1	04/19/2018 18:42	WG1095185
Iron,Dissolved	U		0.0150	0.100	0.100	1	04/19/2018 18:42	WG1095185
Lead,Dissolved	0.000365	B J	0.000240	0.00200	0.00200	1	04/19/2018 18:42	WG1095185
Magnesium,Dissolved	15.9		0.100	1.00	1.00	1	04/17/2018 15:34	WG1095185
Manganese,Dissolved	0.000358	B J	0.000250	0.00500	0.00500	1	04/19/2018 18:42	WG1095185
Molybdenum,Dissolved	0.00243	B J	0.000140	0.00500	0.00500	1	04/19/2018 18:42	WG1095185
Nickel,Dissolved	0.000394	B J	0.000350	0.00200	0.00200	1	04/19/2018 18:42	WG1095185
Potassium,Dissolved	2.42		0.0370	1.00	1.00	1	04/19/2018 18:42	WG1095185
Selenium,Dissolved	0.00402	B	0.000380	0.00200	0.00200	1	04/19/2018 18:42	WG1095185
Silver,Dissolved	U		0.000310	0.00200	0.00200	1	04/19/2018 18:42	WG1095185
Sodium,Dissolved	50.1		0.110	1.00	1.00	1	04/19/2018 18:42	WG1095185



Metals (ICPMS) by Method 6020

Analyte	Result mg/l	Qualifier	SDL mg/l	Unadj. MQL mg/l	MQL mg/l	Dilution	Analysis date / time	Batch
Uranium,Dissolved	0.00195	<u>B</u> <u>J</u>	0.000330	0.0100	0.0100	1	04/19/2018 18:42	WG1095185
Zinc,Dissolved	0.0666		0.00256	0.0250	0.0250	1	04/17/2018 15:34	WG1095185

Volatile Organic Compounds (GC) by Method 8015D/GRO

Analyte	Result mg/l	Qualifier	SDL mg/l	Unadj. MQL mg/l	MQL mg/l	Dilution	Analysis date / time	Batch
TPH (GC/FID) Low Fraction	U		0.0314	0.100	0.100	1	04/11/2018 01:11	WG1096264
(S) a,a,a-Trifluorotoluene(FID)	105				77.0-122		04/11/2018 01:11	WG1096264

Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result mg/l	Qualifier	SDL mg/l	Unadj. MQL mg/l	MQL mg/l	Dilution	Analysis date / time	Batch
Acetone	U		0.0100	1.00	1.00	1	04/08/2018 19:14	WG1095355
Benzene	U		0.000331	0.00100	0.00100	1	04/08/2018 19:14	WG1095355
Bromodichloromethane	U		0.000380	0.00125	0.00125	1	04/08/2018 19:14	WG1095355
Bromoform	U		0.000469	0.00100	0.00100	1	04/08/2018 19:14	WG1095355
Bromomethane	U		0.000866	0.00500	0.00500	1	04/08/2018 19:14	WG1095355
n-Butylbenzene	U		0.000361	0.00100	0.00100	1	04/08/2018 19:14	WG1095355
sec-Butylbenzene	U		0.000365	0.00100	0.00100	1	04/08/2018 19:14	WG1095355
tert-Butylbenzene	U		0.000399	0.00100	0.00100	1	04/08/2018 19:14	WG1095355
Carbon disulfide	U		0.000275	0.00100	0.00100	1	04/08/2018 19:14	WG1095355
Carbon tetrachloride	U		0.000379	0.00100	0.00100	1	04/08/2018 19:14	WG1095355
Chlorobenzene	U		0.000348	0.00100	0.00100	1	04/08/2018 19:14	WG1095355
Chlorodibromomethane	U		0.000327	0.00100	0.00100	1	04/08/2018 19:14	WG1095355
Chloroethane	U		0.000453	0.00500	0.00500	1	04/08/2018 19:14	WG1095355
Chloroform	U		0.000324	0.00500	0.00500	1	04/08/2018 19:14	WG1095355
Chloromethane	U		0.000276	0.00250	0.00250	1	04/08/2018 19:14	WG1095355
1,2-Dibromoethane	U		0.000381	0.00100	0.00100	1	04/08/2018 19:14	WG1095355
1,1-Dichloroethane	U		0.000259	0.00100	0.00100	1	04/08/2018 19:14	WG1095355
1,2-Dichloroethane	U		0.000361	0.00100	0.00100	1	04/08/2018 19:14	WG1095355
1,1-Dichloroethene	U		0.000398	0.00100	0.00100	1	04/08/2018 19:14	WG1095355
cis-1,2-Dichloroethene	U		0.000260	0.00100	0.00100	1	04/08/2018 19:14	WG1095355
trans-1,2-Dichloroethene	U		0.000396	0.00100	0.00100	1	04/08/2018 19:14	WG1095355
1,2-Dichloropropane	U		0.000306	0.00100	0.00100	1	04/08/2018 19:14	WG1095355
cis-1,3-Dichloropropene	U		0.000418	0.00100	0.00100	1	04/08/2018 19:14	WG1095355
trans-1,3-Dichloropropene	U		0.000419	0.00100	0.00100	1	04/08/2018 19:14	WG1095355
Ethylbenzene	U		0.000384	0.00100	0.00100	1	04/08/2018 19:14	WG1095355
Hexachloro-1,3-butadiene	U		0.000256	0.00100	0.00100	1	04/08/2018 19:14	WG1095355
2-Hexanone	U		0.00382	0.0100	0.0100	1	04/08/2018 19:14	WG1095355
Isopropylbenzene	U		0.000326	0.00100	0.00100	1	04/08/2018 19:14	WG1095355
p-Isopropyltoluene	U		0.000350	0.00100	0.00100	1	04/08/2018 19:14	WG1095355
2-Butanone (MEK)	U		0.00393	0.0100	0.0100	1	04/08/2018 19:14	WG1095355
Methylene Chloride	U		0.00100	0.00500	0.00500	1	04/08/2018 19:14	WG1095355
4-Methyl-2-pentanone (MIBK)	U		0.00214	0.0100	0.0100	1	04/08/2018 19:14	WG1095355
Methyl tert-butyl ether	U		0.000367	0.00100	0.00100	1	04/08/2018 19:14	WG1095355
Naphthalene	U		0.00100	0.00500	0.00500	1	04/08/2018 19:14	WG1095355
n-Propylbenzene	U		0.000349	0.00100	0.00100	1	04/08/2018 19:14	WG1095355
Styrene	U		0.000307	0.00100	0.00100	1	04/08/2018 19:14	WG1095355
1,1,2,2-Tetrachloroethane	U		0.000130	0.00100	0.00100	1	04/08/2018 19:14	WG1095355
Tetrachloroethene	U		0.000372	0.00100	0.00100	1	04/08/2018 19:14	WG1095355
Toluene	U		0.000412	0.00100	0.00100	1	04/08/2018 19:14	WG1095355
1,1,1-Trichloroethane	U		0.000319	0.00100	0.00100	1	04/08/2018 19:14	WG1095355
1,1,2-Trichloroethane	U		0.000383	0.00100	0.00100	1	04/08/2018 19:14	WG1095355
Trichloroethene	U		0.000398	0.00100	0.00100	1	04/08/2018 19:14	WG1095355
1,2,4-Trimethylbenzene	U		0.000373	0.00100	0.00100	1	04/08/2018 19:14	WG1095355

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc



Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result mg/l	Qualifier	SDL mg/l	Unadj. MQL mg/l	MQL mg/l	Dilution	Analysis date / time	Batch
1,3,5-Trimethylbenzene	U		0.000387	0.00100	0.00100	1	04/08/2018 19:14	WG1095355
Vinyl chloride	U		0.000259	0.00100	0.00100	1	04/08/2018 19:14	WG1095355
Xylenes, Total	U		0.00106	0.00300	0.00300	1	04/08/2018 19:14	WG1095355
(S) Toluene-d8	108				80.0-120		04/08/2018 19:14	WG1095355
(S) Dibromofluoromethane	91.0				76.0-123		04/08/2018 19:14	WG1095355
(S) 4-Bromofluorobenzene	106				80.0-120		04/08/2018 19:14	WG1095355

Semi-Volatile Organic Compounds (GC) by Method 3511/8015

Analyte	Result mg/l	Qualifier	SDL mg/l	Unadj. MQL mg/l	MQL mg/l	Dilution	Analysis date / time	Batch
TPH (GC/FID) High Fraction	U		0.0282	0.100	0.114	1.14	04/12/2018 00:46	WG1095663
(S) o-Terphenyl	83.5				31.0-160		04/12/2018 00:46	WG1095663

Sample Narrative:

L984044-20 WG1095663: Dilution due to sample volume

Semi Volatile Organic Compounds (GC/MS) by Method 8270 C

Analyte	Result mg/l	Qualifier	SDL mg/l	Unadj. MQL mg/l	MQL mg/l	Dilution	Analysis date / time	Batch
Acenaphthene	U		0.000316	0.00100	0.00100	1	04/12/2018 17:35	WG1095852
Acenaphthylene	U		0.000309	0.00100	0.00100	1	04/12/2018 17:35	WG1095852
Acetophenone	U		0.00247	0.0100	0.0100	1	04/12/2018 17:35	WG1095852
Anthracene	U		0.000291	0.00100	0.00100	1	04/12/2018 17:35	WG1095852
Atrazine	U		0.000260	0.0100	0.0100	1	04/12/2018 17:35	WG1095852
Benzo(a)anthracene	0.000223	J	0.0000510	0.00100	0.00100	1	04/12/2018 17:35	WG1095852
Benzaldehyde	U	J4	0.00140	0.0100	0.0100	1	04/12/2018 17:35	WG1095852
Benzo(b)fluoranthene	0.000138	J	0.0000896	0.00100	0.00100	1	04/12/2018 17:35	WG1095852
Benzo(k)fluoranthene	U		0.000355	0.00100	0.00100	1	04/12/2018 17:35	WG1095852
Benzo(g,h,i)perylene	U		0.00000227	0.00100	0.00100	1	04/12/2018 17:35	WG1095852
Benzo(a)pyrene	0.000112	J	0.0000381	0.000200	0.000200	1	04/12/2018 17:35	WG1095852
Biphenyl	U		0.000325	0.0100	0.0100	1	04/12/2018 17:35	WG1095852
Bis(2-chlorethoxy)methane	U		0.000329	0.0100	0.0100	1	04/12/2018 17:35	WG1095852
Bis(2-chloroethyl)ether	U		0.00162	0.0100	0.0100	1	04/12/2018 17:35	WG1095852
Bis(2-chloroisopropyl)ether	U		0.000445	0.0100	0.0100	1	04/12/2018 17:35	WG1095852
4-Bromophenyl-phenylether	U		0.000335	0.0100	0.0100	1	04/12/2018 17:35	WG1095852
2-Chloronaphthalene	U		0.000330	0.00100	0.00100	1	04/12/2018 17:35	WG1095852
4-Chlorophenyl-phenylether	U		0.000303	0.0100	0.0100	1	04/12/2018 17:35	WG1095852
Caprolactam	U		0.00259	0.0100	0.0100	1	04/12/2018 17:35	WG1095852
Carbazole	U		0.000260	0.0100	0.0100	1	04/12/2018 17:35	WG1095852
Chrysene	U		0.000332	0.00100	0.00100	1	04/12/2018 17:35	WG1095852
Dibenz(a,h)anthracene	0.000107	J	0.0000644	0.000200	0.000200	1	04/12/2018 17:35	WG1095852
Dibenzofuran	U		0.000338	0.0100	0.0100	1	04/12/2018 17:35	WG1095852
3,3-Dichlorobenzidine	U		0.00202	0.0100	0.0100	1	04/12/2018 17:35	WG1095852
2,4-Dinitrotoluene	U		0.00165	0.0100	0.0100	1	04/12/2018 17:35	WG1095852
2,6-Dinitrotoluene	U		0.000279	0.0100	0.0100	1	04/12/2018 17:35	WG1095852
Fluoranthene	U		0.000310	0.00100	0.00100	1	04/12/2018 17:35	WG1095852
Fluorene	U		0.000323	0.00100	0.00100	1	04/12/2018 17:35	WG1095852
Hexachlorobenzene	U		0.000341	0.00100	0.00100	1	04/12/2018 17:35	WG1095852
Hexachloro-1,3-butadiene	U		0.000329	0.0100	0.0100	1	04/12/2018 17:35	WG1095852
Hexachlorocyclopentadiene	U		0.00233	0.0100	0.0100	1	04/12/2018 17:35	WG1095852
Hexachloroethane	U		0.000365	0.0100	0.0100	1	04/12/2018 17:35	WG1095852
Indeno(1,2,3-cd)pyrene	U		0.000279	0.00100	0.00100	1	04/12/2018 17:35	WG1095852
Isophorone	U		0.000272	0.0100	0.0100	1	04/12/2018 17:35	WG1095852
1-Methylnaphthalene	U		0.000332	0.00100	0.00100	1	04/12/2018 17:35	WG1095852
2-Methylnaphthalene	U		0.000311	0.00100	0.00100	1	04/12/2018 17:35	WG1095852

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc



Semi Volatile Organic Compounds (GC/MS) by Method 8270 C

Analyte	Result mg/l	Qualifier	SDL mg/l	Unadj. MQL mg/l	MQL mg/l	Dilution	Analysis date / time	Batch
Naphthalene	U		0.000372	0.00100	0.00100	1	04/12/2018 17:35	WG1095852
Nitrobenzene	U		0.000367	0.0100	0.0100	1	04/12/2018 17:35	WG1095852
n-Nitrosodiphenylamine	U		0.000304	0.0100	0.0100	1	04/12/2018 17:35	WG1095852
n-Nitrosodi-n-propylamine	U		0.000403	0.0100	0.0100	1	04/12/2018 17:35	WG1095852
Phenanthrene	U		0.000366	0.00100	0.00100	1	04/12/2018 17:35	WG1095852
Benzylbutyl phthalate	U		0.000275	0.00300	0.00300	1	04/12/2018 17:35	WG1095852
Bis(2-ethylhexyl)phthalate	U		0.000709	0.00300	0.00300	1	04/12/2018 17:35	WG1095852
Di-n-butyl phthalate	U		0.000266	0.00300	0.00300	1	04/12/2018 17:35	WG1095852
Diethyl phthalate	U		0.000282	0.00300	0.00300	1	04/12/2018 17:35	WG1095852
Dimethyl phthalate	U		0.000283	0.00300	0.00300	1	04/12/2018 17:35	WG1095852
Di-n-octyl phthalate	U		0.000278	0.00300	0.00300	1	04/12/2018 17:35	WG1095852
Pyrene	U		0.000330	0.00100	0.00100	1	04/12/2018 17:35	WG1095852
1,2,4-Trichlorobenzene	U		0.000355	0.0100	0.0100	1	04/12/2018 17:35	WG1095852
4-Chloro-3-methylphenol	U		0.000263	0.0100	0.0100	1	04/12/2018 17:35	WG1095852
2-Chlorophenol	U		0.000283	0.0100	0.0100	1	04/12/2018 17:35	WG1095852
2,4-Dichlorophenol	U		0.000284	0.0100	0.0100	1	04/12/2018 17:35	WG1095852
2,4-Dimethylphenol	U		0.000624	0.0100	0.0100	1	04/12/2018 17:35	WG1095852
4,6-Dinitro-2-methylphenol	U		0.00262	0.0100	0.0100	1	04/12/2018 17:35	WG1095852
2,4-Dinitrophenol	U		0.00325	0.0100	0.0100	1	04/12/2018 17:35	WG1095852
2-Nitrophenol	U		0.000320	0.0100	0.0100	1	04/12/2018 17:35	WG1095852
2-Nitroaniline	U		0.00190	0.0100	0.0100	1	04/12/2018 17:35	WG1095852
2-Methylphenol	U		0.000312	0.0100	0.0100	1	04/12/2018 17:35	WG1095852
3&4-Methyl Phenol	U		0.000266	0.0100	0.0100	1	04/12/2018 17:35	WG1095852
3-Nitroaniline	U		0.000308	0.0100	0.0100	1	04/12/2018 17:35	WG1095852
4-Chloroaniline	U		0.000382	0.0100	0.0100	1	04/12/2018 17:35	WG1095852
4-Nitroaniline	U	J4	0.000349	0.0100	0.0100	1	04/12/2018 17:35	WG1095852
4-Nitrophenol	U		0.00201	0.0100	0.0100	1	04/12/2018 17:35	WG1095852
Pentachlorophenol	U		0.000313	0.0100	0.0100	1	04/12/2018 17:35	WG1095852
Phenol	0.00418	J	0.000334	0.0100	0.0100	1	04/12/2018 17:35	WG1095852
2,4,5-Trichlorophenol	U		0.000236	0.0100	0.0100	1	04/12/2018 17:35	WG1095852
2,4,6-Trichlorophenol	U		0.000297	0.0100	0.0100	1	04/12/2018 17:35	WG1095852
(S) 2-Fluorophenol	72.2				10.0-120		04/12/2018 17:35	WG1095852
(S) Phenol-d5	48.6				10.0-120		04/12/2018 17:35	WG1095852
(S) Nitrobenzene-d5	86.4				10.0-126		04/12/2018 17:35	WG1095852
(S) 2-Fluorobiphenyl	82.5				22.0-127		04/12/2018 17:35	WG1095852
(S) 2,4,6-Tribromophenol	95.3				10.0-153		04/12/2018 17:35	WG1095852
(S) p-Terphenyl-d14	98.8				29.0-141		04/12/2018 17:35	WG1095852

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc



Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	SDL	Unadj. MQL	MQL	Dilution	Analysis date / time	Batch
Dissolved Solids	535		2.82	10.0	10.0	1	04/12/2018 14:19	WG1096342

Wet Chemistry by Method 2320 B-2011

Analyte	Result	Qualifier	SDL	Unadj. MQL	MQL	Dilution	Analysis date / time	Batch
Alkalinity	318		2.71	20.0	20.0	1	04/09/2018 14:00	WG1095317

Sample Narrative:

L984044-21 WG1095317: Endpoint pH 4.5

Wet Chemistry by Method 353.2

Analyte	Result	Qualifier	SDL	Unadj. MQL	MQL	Dilution	Analysis date / time	Batch
Nitrate-Nitrite	4.78		0.0197	0.100	0.100	1	04/13/2018 15:25	WG1096785

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	SDL	Unadj. MQL	MQL	Dilution	Analysis date / time	Batch
Chloride	31.3		0.0519	1.00	1.00	1	04/11/2018 06:46	WG1095833
Fluoride	0.730		0.00990	0.100	0.100	1	04/11/2018 06:46	WG1095833
Sulfate	71.7		0.0774	5.00	5.00	1	04/11/2018 06:46	WG1095833

Mercury by Method 7470A

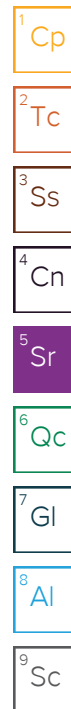
Analyte	Result	Qualifier	SDL	Unadj. MQL	MQL	Dilution	Analysis date / time	Batch
Mercury	U		0.0000490	0.000200	0.000200	1	04/10/2018 10:47	WG1095544

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	SDL	Unadj. MQL	MQL	Dilution	Analysis date / time	Batch
Boron,Dissolved	0.279		0.0126	0.200	0.200	1	04/11/2018 11:44	WG1095187

Metals (ICPMS) by Method 6020

Analyte	Result	Qualifier	SDL	Unadj. MQL	MQL	Dilution	Analysis date / time	Batch
Aluminum,Dissolved	U		0.00515	0.100	0.100	1	04/19/2018 18:55	WG1095185
Arsenic,Dissolved	0.00291	B	0.000250	0.00200	0.00200	1	04/19/2018 18:55	WG1095185
Barium,Dissolved	0.130		0.000360	0.00500	0.00500	1	04/19/2018 18:55	WG1095185
Cadmium,Dissolved	U		0.000160	0.00100	0.00100	1	04/19/2018 18:55	WG1095185
Calcium,Dissolved	109		0.0460	1.00	1.00	1	04/19/2018 18:55	WG1095185
Chromium,Dissolved	0.000595	B J	0.000540	0.00200	0.00200	1	04/19/2018 18:55	WG1095185
Copper,Dissolved	0.00170	B J	0.000520	0.00500	0.00500	1	04/19/2018 18:55	WG1095185
Cobalt,Dissolved	U		0.000260	0.00200	0.00200	1	04/19/2018 18:55	WG1095185
Iron,Dissolved	U		0.0150	0.100	0.100	1	04/19/2018 18:55	WG1095185
Lead,Dissolved	U		0.000240	0.00200	0.00200	1	04/19/2018 18:55	WG1095185
Magnesium,Dissolved	13.0		0.100	1.00	1.00	1	04/17/2018 16:08	WG1095185
Manganese,Dissolved	0.000435	B J	0.000250	0.00500	0.00500	1	04/19/2018 18:55	WG1095185
Molybdenum,Dissolved	0.00217	B J	0.000140	0.00500	0.00500	1	04/19/2018 18:55	WG1095185
Nickel,Dissolved	0.00167	B J	0.000350	0.00200	0.00200	1	04/19/2018 18:55	WG1095185
Potassium,Dissolved	3.12		0.0370	1.00	1.00	1	04/19/2018 18:55	WG1095185
Selenium,Dissolved	0.00150	B J	0.000380	0.00200	0.00200	1	04/19/2018 18:55	WG1095185
Silver,Dissolved	U		0.000310	0.00200	0.00200	1	04/19/2018 18:55	WG1095185
Sodium,Dissolved	61.2		0.110	1.00	1.00	1	04/19/2018 18:55	WG1095185





Collected date/time: 04/05/18 14:00

L984044

Metals (ICPMS) by Method 6020

Analyte	Result mg/l	Qualifier	SDL mg/l	Unadj. MQL mg/l	MQL mg/l	Dilution	Analysis date / time	Batch
Uranium,Dissolved	0.00476	<u>B</u> <u>J</u>	0.000330	0.0100	0.0100	1	04/19/2018 18:55	WG1095185
Zinc,Dissolved	0.00779	<u>J</u>	0.00256	0.0250	0.0250	1	04/17/2018 16:08	WG1095185

¹ Cp² Tc³ Ss⁴ Cn⁵ Sr⁶ Qc⁷ Gl⁸ Al⁹ Sc

Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result mg/l	Qualifier	SDL mg/l	Unadj. MQL mg/l	MQL mg/l	Dilution	Analysis date / time	Batch
Acetone	U		0.0100	1.00	1.00	1	04/08/2018 19:35	WG1095355
Benzene	U		0.000331	0.00100	0.00100	1	04/08/2018 19:35	WG1095355
Bromodichloromethane	U		0.000380	0.00125	0.00125	1	04/08/2018 19:35	WG1095355
Bromoform	U		0.000469	0.00100	0.00100	1	04/08/2018 19:35	WG1095355
Bromomethane	U		0.000866	0.00500	0.00500	1	04/08/2018 19:35	WG1095355
n-Butylbenzene	U		0.000361	0.00100	0.00100	1	04/08/2018 19:35	WG1095355
sec-Butylbenzene	U		0.000365	0.00100	0.00100	1	04/08/2018 19:35	WG1095355
tert-Butylbenzene	U		0.000399	0.00100	0.00100	1	04/08/2018 19:35	WG1095355
Carbon disulfide	U		0.000275	0.00100	0.00100	1	04/08/2018 19:35	WG1095355
Carbon tetrachloride	U		0.000379	0.00100	0.00100	1	04/08/2018 19:35	WG1095355
Chlorobenzene	U		0.000348	0.00100	0.00100	1	04/08/2018 19:35	WG1095355
Chlorodibromomethane	U		0.000327	0.00100	0.00100	1	04/08/2018 19:35	WG1095355
Chloroethane	U		0.000453	0.00500	0.00500	1	04/08/2018 19:35	WG1095355
Chloroform	U		0.000324	0.00500	0.00500	1	04/08/2018 19:35	WG1095355
Chloromethane	U		0.000276	0.00250	0.00250	1	04/08/2018 19:35	WG1095355
1,2-Dibromoethane	U		0.000381	0.00100	0.00100	1	04/08/2018 19:35	WG1095355
1,1-Dichloroethane	U		0.000259	0.00100	0.00100	1	04/08/2018 19:35	WG1095355
1,2-Dichloroethane	U		0.000361	0.00100	0.00100	1	04/08/2018 19:35	WG1095355
1,1-Dichloroethene	U		0.000398	0.00100	0.00100	1	04/08/2018 19:35	WG1095355
cis-1,2-Dichloroethene	U		0.000260	0.00100	0.00100	1	04/08/2018 19:35	WG1095355
trans-1,2-Dichloroethene	U		0.000396	0.00100	0.00100	1	04/08/2018 19:35	WG1095355
1,2-Dichloropropane	U		0.000306	0.00100	0.00100	1	04/08/2018 19:35	WG1095355
cis-1,3-Dichloropropene	U		0.000418	0.00100	0.00100	1	04/08/2018 19:35	WG1095355
trans-1,3-Dichloropropene	U		0.000419	0.00100	0.00100	1	04/08/2018 19:35	WG1095355
Ethylbenzene	U		0.000384	0.00100	0.00100	1	04/08/2018 19:35	WG1095355
Hexachloro-1,3-butadiene	U		0.000256	0.00100	0.00100	1	04/08/2018 19:35	WG1095355
2-Hexanone	U		0.00382	0.0100	0.0100	1	04/08/2018 19:35	WG1095355
Isopropylbenzene	U		0.000326	0.00100	0.00100	1	04/08/2018 19:35	WG1095355
p-Isopropyltoluene	U		0.000350	0.00100	0.00100	1	04/08/2018 19:35	WG1095355
2-Butanone (MEK)	U		0.00393	0.0100	0.0100	1	04/08/2018 19:35	WG1095355
Methylene Chloride	U		0.00100	0.00500	0.00500	1	04/08/2018 19:35	WG1095355
4-Methyl-2-pentanone (MIBK)	U		0.00214	0.0100	0.0100	1	04/08/2018 19:35	WG1095355
Methyl tert-butyl ether	U		0.000367	0.00100	0.00100	1	04/08/2018 19:35	WG1095355
Naphthalene	U		0.00100	0.00500	0.00500	1	04/08/2018 19:35	WG1095355
n-Propylbenzene	U		0.000349	0.00100	0.00100	1	04/08/2018 19:35	WG1095355
Styrene	U		0.000307	0.00100	0.00100	1	04/08/2018 19:35	WG1095355
1,1,2,2-Tetrachloroethane	U		0.000130	0.00100	0.00100	1	04/08/2018 19:35	WG1095355
Tetrachloroethene	U		0.000372	0.00100	0.00100	1	04/08/2018 19:35	WG1095355
Toluene	U		0.000412	0.00100	0.00100	1	04/08/2018 19:35	WG1095355
1,1,1-Trichloroethane	U		0.000319	0.00100	0.00100	1	04/08/2018 19:35	WG1095355
1,1,2-Trichloroethane	U		0.000383	0.00100	0.00100	1	04/08/2018 19:35	WG1095355
Trichloroethene	U		0.000398	0.00100	0.00100	1	04/08/2018 19:35	WG1095355
1,2,4-Trimethylbenzene	U		0.000373	0.00100	0.00100	1	04/08/2018 19:35	WG1095355
1,3,5-Trimethylbenzene	U		0.000387	0.00100	0.00100	1	04/08/2018 19:35	WG1095355
Vinyl chloride	U		0.000259	0.00100	0.00100	1	04/08/2018 19:35	WG1095355
Xylenes, Total	U		0.00106	0.00300	0.00300	1	04/08/2018 19:35	WG1095355
(S) Toluene-d8	108				80.0-120		04/08/2018 19:35	WG1095355
(S) Dibromofluoromethane	91.2				76.0-123		04/08/2018 19:35	WG1095355
(S) 4-Bromofluorobenzene	105				80.0-120		04/08/2018 19:35	WG1095355



Collected date/time: 04/05/18 14:00

L984044

Semi Volatile Organic Compounds (GC/MS) by Method 8270 C

Analyte	Result mg/l	Qualifier	SDL mg/l	Unadj. MQL mg/l	MQL mg/l	Dilution	Analysis date / time	Batch
Acenaphthene	U		0.000316	0.00100	0.00100	1	04/12/2018 18:00	WG1095852
Acenaphthylene	U		0.000309	0.00100	0.00100	1	04/12/2018 18:00	WG1095852
Acetophenone	U		0.00247	0.0100	0.0100	1	04/12/2018 18:00	WG1095852
Anthracene	U		0.000291	0.00100	0.00100	1	04/12/2018 18:00	WG1095852
Atrazine	U		0.000260	0.0100	0.0100	1	04/12/2018 18:00	WG1095852
Benzo(a)anthracene	U		0.0000510	0.00100	0.00100	1	04/12/2018 18:00	WG1095852
Benzaldehyde	U	J4	0.00140	0.0100	0.0100	1	04/12/2018 18:00	WG1095852
Benzo(b)fluoranthene	U		0.0000896	0.00100	0.00100	1	04/12/2018 18:00	WG1095852
Benzo(k)fluoranthene	U		0.000355	0.00100	0.00100	1	04/12/2018 18:00	WG1095852
Benzo(g,h,i)perylene	U		0.00000227	0.00100	0.00100	1	04/12/2018 18:00	WG1095852
Benzo(a)pyrene	U		0.0000381	0.000200	0.000200	1	04/12/2018 18:00	WG1095852
Biphenyl	U		0.000325	0.0100	0.0100	1	04/12/2018 18:00	WG1095852
Bis(2-chlorethoxy)methane	U		0.000329	0.0100	0.0100	1	04/12/2018 18:00	WG1095852
Bis(2-chloroethyl)ether	U		0.00162	0.0100	0.0100	1	04/12/2018 18:00	WG1095852
Bis(2-chloroisopropyl)ether	U		0.000445	0.0100	0.0100	1	04/12/2018 18:00	WG1095852
4-Bromophenyl-phenylether	U		0.000335	0.0100	0.0100	1	04/12/2018 18:00	WG1095852
2-Chloronaphthalene	U		0.000330	0.00100	0.00100	1	04/12/2018 18:00	WG1095852
4-Chlorophenyl-phenylether	U		0.000303	0.0100	0.0100	1	04/12/2018 18:00	WG1095852
Caprolactam	U		0.00259	0.0100	0.0100	1	04/12/2018 18:00	WG1095852
Carbazole	U		0.000260	0.0100	0.0100	1	04/12/2018 18:00	WG1095852
Chrysene	U		0.000332	0.00100	0.00100	1	04/12/2018 18:00	WG1095852
Dibenz(a,h)anthracene	U		0.0000644	0.000200	0.000200	1	04/12/2018 18:00	WG1095852
Dibenzofuran	U		0.000338	0.0100	0.0100	1	04/12/2018 18:00	WG1095852
3,3-Dichlorobenzidine	U		0.00202	0.0100	0.0100	1	04/12/2018 18:00	WG1095852
2,4-Dinitrotoluene	U		0.00165	0.0100	0.0100	1	04/12/2018 18:00	WG1095852
2,6-Dinitrotoluene	U		0.000279	0.0100	0.0100	1	04/12/2018 18:00	WG1095852
Fluoranthene	U		0.000310	0.00100	0.00100	1	04/12/2018 18:00	WG1095852
Fluorene	U		0.000323	0.00100	0.00100	1	04/12/2018 18:00	WG1095852
Hexachlorobenzene	U		0.000341	0.00100	0.00100	1	04/12/2018 18:00	WG1095852
Hexachloro-1,3-butadiene	U		0.000329	0.0100	0.0100	1	04/12/2018 18:00	WG1095852
Hexachlorocyclopentadiene	U		0.00233	0.0100	0.0100	1	04/12/2018 18:00	WG1095852
Hexachloroethane	U		0.000365	0.0100	0.0100	1	04/12/2018 18:00	WG1095852
Indeno(1,2,3-cd)pyrene	U		0.000279	0.00100	0.00100	1	04/12/2018 18:00	WG1095852
Isophorone	U		0.000272	0.0100	0.0100	1	04/12/2018 18:00	WG1095852
1-Methylnaphthalene	U		0.000332	0.00100	0.00100	1	04/12/2018 18:00	WG1095852
2-Methylnaphthalene	U		0.000311	0.00100	0.00100	1	04/12/2018 18:00	WG1095852
Naphthalene	U		0.000372	0.00100	0.00100	1	04/12/2018 18:00	WG1095852
Nitrobenzene	U		0.000367	0.0100	0.0100	1	04/12/2018 18:00	WG1095852
n-Nitrosodiphenylamine	U		0.000304	0.0100	0.0100	1	04/12/2018 18:00	WG1095852
n-Nitrosodi-n-propylamine	U		0.000403	0.0100	0.0100	1	04/12/2018 18:00	WG1095852
Phenanthrene	U		0.000366	0.00100	0.00100	1	04/12/2018 18:00	WG1095852
Benzylbutyl phthalate	U		0.000275	0.00300	0.00300	1	04/12/2018 18:00	WG1095852
Bis(2-ethylhexyl)phthalate	U		0.000709	0.00300	0.00300	1	04/12/2018 18:00	WG1095852
Di-n-butyl phthalate	U		0.000266	0.00300	0.00300	1	04/12/2018 18:00	WG1095852
Diethyl phthalate	U		0.000282	0.00300	0.00300	1	04/12/2018 18:00	WG1095852
Dimethyl phthalate	U		0.000283	0.00300	0.00300	1	04/12/2018 18:00	WG1095852
Di-n-octyl phthalate	U		0.000278	0.00300	0.00300	1	04/12/2018 18:00	WG1095852
Pyrene	U		0.000330	0.00100	0.00100	1	04/12/2018 18:00	WG1095852
1,2,4-Trichlorobenzene	U		0.000355	0.0100	0.0100	1	04/12/2018 18:00	WG1095852
4-Chloro-3-methylphenol	U		0.000263	0.0100	0.0100	1	04/12/2018 18:00	WG1095852
2-Chlorophenol	U		0.000283	0.0100	0.0100	1	04/12/2018 18:00	WG1095852
2,4-Dichlorophenol	U		0.000284	0.0100	0.0100	1	04/12/2018 18:00	WG1095852
2,4-Dimethylphenol	U		0.000624	0.0100	0.0100	1	04/12/2018 18:00	WG1095852
4,6-Dinitro-2-methylphenol	U		0.00262	0.0100	0.0100	1	04/12/2018 18:00	WG1095852
2,4-Dinitrophenol	U		0.00325	0.0100	0.0100	1	04/12/2018 18:00	WG1095852
2-Nitrophenol	U		0.000320	0.0100	0.0100	1	04/12/2018 18:00	WG1095852

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc



Collected date/time: 04/05/18 14:00

L984044

Semi Volatile Organic Compounds (GC/MS) by Method 8270 C

Analyte	Result mg/l	Qualifier	SDL mg/l	Unadj. MQL mg/l	MQL mg/l	Dilution	Analysis date / time	Batch
2-Nitroaniline	U		0.00190	0.0100	0.0100	1	04/12/2018 18:00	WG1095852
2-Methylphenol	U		0.000312	0.0100	0.0100	1	04/12/2018 18:00	WG1095852
3&4-Methyl Phenol	U		0.000266	0.0100	0.0100	1	04/12/2018 18:00	WG1095852
3-Nitroaniline	U		0.000308	0.0100	0.0100	1	04/12/2018 18:00	WG1095852
4-Chloroaniline	U		0.000382	0.0100	0.0100	1	04/12/2018 18:00	WG1095852
4-Nitroaniline	U	J4	0.000349	0.0100	0.0100	1	04/12/2018 18:00	WG1095852
4-Nitrophenol	U		0.00201	0.0100	0.0100	1	04/12/2018 18:00	WG1095852
Pentachlorophenol	U		0.000313	0.0100	0.0100	1	04/12/2018 18:00	WG1095852
Phenol	0.00230	J	0.000334	0.0100	0.0100	1	04/12/2018 18:00	WG1095852
2,4,5-Trichlorophenol	U		0.000236	0.0100	0.0100	1	04/12/2018 18:00	WG1095852
2,4,6-Trichlorophenol	U		0.000297	0.0100	0.0100	1	04/12/2018 18:00	WG1095852
(S) 2-Fluorophenol	67.7				10.0-120		04/12/2018 18:00	WG1095852
(S) Phenol-d5	44.0				10.0-120		04/12/2018 18:00	WG1095852
(S) Nitrobenzene-d5	75.2				10.0-126		04/12/2018 18:00	WG1095852
(S) 2-Fluorobiphenyl	75.2				22.0-127		04/12/2018 18:00	WG1095852
(S) 2,4,6-Tribromophenol	89.7				10.0-153		04/12/2018 18:00	WG1095852
(S) p-Terphenyl-d14	89.5				29.0-141		04/12/2018 18:00	WG1095852

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc



Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	SDL	Unadj. MQL	MQL	Dilution	Analysis date / time	Batch
Dissolved Solids	589		2.82	10.0	10.0	1	04/12/2018 14:19	WG1096342

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc

Wet Chemistry by Method 2320 B-2011

Analyte	Result	Qualifier	SDL	Unadj. MQL	MQL	Dilution	Analysis date / time	Batch
Alkalinity	195		2.71	20.0	20.0	1	04/09/2018 14:06	WG1095317

Sample Narrative:

L984044-22 WG1095317: Endpoint pH 4.5

Wet Chemistry by Method 353.2

Analyte	Result	Qualifier	SDL	Unadj. MQL	MQL	Dilution	Analysis date / time	Batch
Nitrate-Nitrite	2.48		0.0197	0.100	0.100	1	04/13/2018 15:26	WG1096785

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	SDL	Unadj. MQL	MQL	Dilution	Analysis date / time	Batch
Chloride	124		0.260	1.00	5.00	5	04/11/2018 07:48	WG1095833
Fluoride	0.679		0.00990	0.100	0.100	1	04/11/2018 07:01	WG1095833
Sulfate	69.7		0.0774	5.00	5.00	1	04/11/2018 07:01	WG1095833

Mercury by Method 7470A

Analyte	Result	Qualifier	SDL	Unadj. MQL	MQL	Dilution	Analysis date / time	Batch
Mercury	U		0.0000490	0.000200	0.000200	1	04/10/2018 10:49	WG1095544

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	SDL	Unadj. MQL	MQL	Dilution	Analysis date / time	Batch
Boron,Dissolved	0.172	J	0.0126	0.200	0.200	1	04/11/2018 11:47	WG1095187

Metals (ICPMS) by Method 6020

Analyte	Result	Qualifier	SDL	Unadj. MQL	MQL	Dilution	Analysis date / time	Batch
Aluminum,Dissolved	U		0.00515	0.100	0.100	1	04/19/2018 18:59	WG1095185
Arsenic,Dissolved	0.00350	B	0.000250	0.00200	0.00200	1	04/19/2018 18:59	WG1095185
Barium,Dissolved	0.109		0.000360	0.00500	0.00500	1	04/19/2018 18:59	WG1095185
Cadmium,Dissolved	U		0.000160	0.00100	0.00100	1	04/19/2018 18:59	WG1095185
Calcium,Dissolved	118		0.0460	1.00	1.00	1	04/19/2018 18:59	WG1095185
Chromium,Dissolved	0.00118	B J	0.000540	0.00200	0.00200	1	04/19/2018 18:59	WG1095185
Copper,Dissolved	0.00166	B J	0.000520	0.00500	0.00500	1	04/19/2018 18:59	WG1095185
Cobalt,Dissolved	U		0.000260	0.00200	0.00200	1	04/19/2018 18:59	WG1095185
Iron,Dissolved	U		0.0150	0.100	0.100	1	04/19/2018 18:59	WG1095185
Lead,Dissolved	U		0.000240	0.00200	0.00200	1	04/19/2018 18:59	WG1095185
Magnesium,Dissolved	14.5		0.100	1.00	1.00	1	04/17/2018 16:12	WG1095185
Manganese,Dissolved	0.000388	B J	0.000250	0.00500	0.00500	1	04/19/2018 18:59	WG1095185
Molybdenum,Dissolved	0.00161	B J	0.000140	0.00500	0.00500	1	04/19/2018 18:59	WG1095185
Nickel,Dissolved	0.00229	B	0.000350	0.00200	0.00200	1	04/19/2018 18:59	WG1095185
Potassium,Dissolved	2.36		0.0370	1.00	1.00	1	04/19/2018 18:59	WG1095185
Selenium,Dissolved	0.00227	B	0.000380	0.00200	0.00200	1	04/19/2018 18:59	WG1095185
Silver,Dissolved	U		0.000310	0.00200	0.00200	1	04/19/2018 18:59	WG1095185
Sodium,Dissolved	43.7		0.110	1.00	1.00	1	04/19/2018 18:59	WG1095185



Collected date/time: 04/05/18 14:00

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Metals (ICPMS) by Method 6020

Analyte	Result mg/l	Qualifier	SDL mg/l	Unadj. MQL mg/l	MQL mg/l	Dilution	Analysis date / time	Batch
Uranium,Dissolved	0.00163	<u>B</u> <u>J</u>	0.000330	0.0100	0.0100	1	04/19/2018 18:59	WG1095185
Zinc,Dissolved	0.0116	<u>J</u>	0.00256	0.0250	0.0250	1	04/17/2018 16:12	WG1095185

¹ Cp² Tc³ Ss⁴ Cn⁵ Sr⁶ Qc⁷ Gl⁸ Al⁹ Sc

Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result mg/l	Qualifier	SDL mg/l	Unadj. MQL mg/l	MQL mg/l	Dilution	Analysis date / time	Batch
Acetone	U		0.0100	1.00	1.00	1	04/08/2018 19:56	WG1095355
Benzene	U		0.000331	0.00100	0.00100	1	04/08/2018 19:56	WG1095355
Bromodichloromethane	U		0.000380	0.00125	0.00125	1	04/08/2018 19:56	WG1095355
Bromoform	U		0.000469	0.00100	0.00100	1	04/08/2018 19:56	WG1095355
Bromomethane	U		0.000866	0.00500	0.00500	1	04/08/2018 19:56	WG1095355
n-Butylbenzene	U		0.000361	0.00100	0.00100	1	04/08/2018 19:56	WG1095355
sec-Butylbenzene	U		0.000365	0.00100	0.00100	1	04/08/2018 19:56	WG1095355
tert-Butylbenzene	U		0.000399	0.00100	0.00100	1	04/08/2018 19:56	WG1095355
Carbon disulfide	U		0.000275	0.00100	0.00100	1	04/08/2018 19:56	WG1095355
Carbon tetrachloride	U		0.000379	0.00100	0.00100	1	04/08/2018 19:56	WG1095355
Chlorobenzene	U		0.000348	0.00100	0.00100	1	04/08/2018 19:56	WG1095355
Chlorodibromomethane	U		0.000327	0.00100	0.00100	1	04/08/2018 19:56	WG1095355
Chloroethane	U		0.000453	0.00500	0.00500	1	04/08/2018 19:56	WG1095355
Chloroform	U		0.000324	0.00500	0.00500	1	04/08/2018 19:56	WG1095355
Chloromethane	U		0.000276	0.00250	0.00250	1	04/08/2018 19:56	WG1095355
1,2-Dibromoethane	U		0.000381	0.00100	0.00100	1	04/08/2018 19:56	WG1095355
1,1-Dichloroethane	U		0.000259	0.00100	0.00100	1	04/08/2018 19:56	WG1095355
1,2-Dichloroethane	U		0.000361	0.00100	0.00100	1	04/08/2018 19:56	WG1095355
1,1-Dichloroethene	U		0.000398	0.00100	0.00100	1	04/08/2018 19:56	WG1095355
cis-1,2-Dichloroethene	U		0.000260	0.00100	0.00100	1	04/08/2018 19:56	WG1095355
trans-1,2-Dichloroethene	U		0.000396	0.00100	0.00100	1	04/08/2018 19:56	WG1095355
1,2-Dichloropropane	U		0.000306	0.00100	0.00100	1	04/08/2018 19:56	WG1095355
cis-1,3-Dichloropropene	U		0.000418	0.00100	0.00100	1	04/08/2018 19:56	WG1095355
trans-1,3-Dichloropropene	U		0.000419	0.00100	0.00100	1	04/08/2018 19:56	WG1095355
Ethylbenzene	U		0.000384	0.00100	0.00100	1	04/08/2018 19:56	WG1095355
Hexachloro-1,3-butadiene	U		0.000256	0.00100	0.00100	1	04/08/2018 19:56	WG1095355
2-Hexanone	U		0.00382	0.0100	0.0100	1	04/08/2018 19:56	WG1095355
Isopropylbenzene	U		0.000326	0.00100	0.00100	1	04/08/2018 19:56	WG1095355
p-Isopropyltoluene	U		0.000350	0.00100	0.00100	1	04/08/2018 19:56	WG1095355
2-Butanone (MEK)	U		0.00393	0.0100	0.0100	1	04/08/2018 19:56	WG1095355
Methylene Chloride	U		0.00100	0.00500	0.00500	1	04/08/2018 19:56	WG1095355
4-Methyl-2-pentanone (MIBK)	U		0.00214	0.0100	0.0100	1	04/08/2018 19:56	WG1095355
Methyl tert-butyl ether	U		0.000367	0.00100	0.00100	1	04/08/2018 19:56	WG1095355
Naphthalene	U		0.00100	0.00500	0.00500	1	04/08/2018 19:56	WG1095355
n-Propylbenzene	U		0.000349	0.00100	0.00100	1	04/08/2018 19:56	WG1095355
Styrene	U		0.000307	0.00100	0.00100	1	04/08/2018 19:56	WG1095355
1,1,2,2-Tetrachloroethane	U		0.000130	0.00100	0.00100	1	04/08/2018 19:56	WG1095355
Tetrachloroethene	U		0.000372	0.00100	0.00100	1	04/08/2018 19:56	WG1095355
Toluene	U		0.000412	0.00100	0.00100	1	04/08/2018 19:56	WG1095355
1,1,1-Trichloroethane	U		0.000319	0.00100	0.00100	1	04/08/2018 19:56	WG1095355
1,1,2-Trichloroethane	U		0.000383	0.00100	0.00100	1	04/08/2018 19:56	WG1095355
Trichloroethene	U		0.000398	0.00100	0.00100	1	04/08/2018 19:56	WG1095355
1,2,4-Trimethylbenzene	U		0.000373	0.00100	0.00100	1	04/08/2018 19:56	WG1095355
1,3,5-Trimethylbenzene	U		0.000387	0.00100	0.00100	1	04/08/2018 19:56	WG1095355
Vinyl chloride	U		0.000259	0.00100	0.00100	1	04/08/2018 19:56	WG1095355
Xylenes, Total	U		0.00106	0.00300	0.00300	1	04/08/2018 19:56	WG1095355
(S) Toluene-d8	106				80.0-120		04/08/2018 19:56	WG1095355
(S) Dibromofluoromethane	92.2				76.0-123		04/08/2018 19:56	WG1095355
(S) 4-Bromofluorobenzene	104				80.0-120		04/08/2018 19:56	WG1095355



Collected date/time: 04/05/18 14:00

L984044

Semi Volatile Organic Compounds (GC/MS) by Method 8270 C

Analyte	Result mg/l	Qualifier	SDL mg/l	Unadj. MQL mg/l	MQL mg/l	Dilution	Analysis date / time	Batch
Acenaphthene	U		0.000316	0.00100	0.00100	1	04/12/2018 18:24	WG1095852
Acenaphthylene	U		0.000309	0.00100	0.00100	1	04/12/2018 18:24	WG1095852
Acetophenone	U		0.00247	0.0100	0.0100	1	04/12/2018 18:24	WG1095852
Anthracene	U		0.000291	0.00100	0.00100	1	04/12/2018 18:24	WG1095852
Atrazine	U		0.000260	0.0100	0.0100	1	04/12/2018 18:24	WG1095852
Benzo(a)anthracene	U		0.0000510	0.00100	0.00100	1	04/12/2018 18:24	WG1095852
Benzaldehyde	U	J4	0.00140	0.0100	0.0100	1	04/12/2018 18:24	WG1095852
Benzo(b)fluoranthene	U		0.0000896	0.00100	0.00100	1	04/12/2018 18:24	WG1095852
Benzo(k)fluoranthene	U		0.000355	0.00100	0.00100	1	04/12/2018 18:24	WG1095852
Benzo(g,h,i)perylene	U		0.00000227	0.00100	0.00100	1	04/12/2018 18:24	WG1095852
Benzo(a)pyrene	U		0.0000381	0.000200	0.000200	1	04/12/2018 18:24	WG1095852
Biphenyl	U		0.000325	0.0100	0.0100	1	04/12/2018 18:24	WG1095852
Bis(2-chlorethoxy)methane	U		0.000329	0.0100	0.0100	1	04/12/2018 18:24	WG1095852
Bis(2-chloroethyl)ether	U		0.00162	0.0100	0.0100	1	04/12/2018 18:24	WG1095852
Bis(2-chloroisopropyl)ether	U		0.000445	0.0100	0.0100	1	04/12/2018 18:24	WG1095852
4-Bromophenyl-phenylether	U		0.000335	0.0100	0.0100	1	04/12/2018 18:24	WG1095852
2-Chloronaphthalene	U		0.000330	0.00100	0.00100	1	04/12/2018 18:24	WG1095852
4-Chlorophenyl-phenylether	U		0.000303	0.0100	0.0100	1	04/12/2018 18:24	WG1095852
Caprolactam	U		0.00259	0.0100	0.0100	1	04/12/2018 18:24	WG1095852
Carbazole	U		0.000260	0.0100	0.0100	1	04/12/2018 18:24	WG1095852
Chrysene	U		0.000332	0.00100	0.00100	1	04/12/2018 18:24	WG1095852
Dibenz(a,h)anthracene	U		0.0000644	0.000200	0.000200	1	04/12/2018 18:24	WG1095852
Dibenzofuran	U		0.000338	0.0100	0.0100	1	04/12/2018 18:24	WG1095852
3,3-Dichlorobenzidine	U		0.00202	0.0100	0.0100	1	04/12/2018 18:24	WG1095852
2,4-Dinitrotoluene	U		0.00165	0.0100	0.0100	1	04/12/2018 18:24	WG1095852
2,6-Dinitrotoluene	U		0.000279	0.0100	0.0100	1	04/12/2018 18:24	WG1095852
Fluoranthene	U		0.000310	0.00100	0.00100	1	04/12/2018 18:24	WG1095852
Fluorene	U		0.000323	0.00100	0.00100	1	04/12/2018 18:24	WG1095852
Hexachlorobenzene	U		0.000341	0.00100	0.00100	1	04/12/2018 18:24	WG1095852
Hexachloro-1,3-butadiene	U		0.000329	0.0100	0.0100	1	04/12/2018 18:24	WG1095852
Hexachlorocyclopentadiene	U		0.00233	0.0100	0.0100	1	04/12/2018 18:24	WG1095852
Hexachloroethane	U		0.000365	0.0100	0.0100	1	04/12/2018 18:24	WG1095852
Indeno(1,2,3-cd)pyrene	U		0.000279	0.00100	0.00100	1	04/12/2018 18:24	WG1095852
Isophorone	U		0.000272	0.0100	0.0100	1	04/12/2018 18:24	WG1095852
1-Methylnaphthalene	U		0.000332	0.00100	0.00100	1	04/12/2018 18:24	WG1095852
2-Methylnaphthalene	U		0.000311	0.00100	0.00100	1	04/12/2018 18:24	WG1095852
Naphthalene	U		0.000372	0.00100	0.00100	1	04/12/2018 18:24	WG1095852
Nitrobenzene	U		0.000367	0.0100	0.0100	1	04/12/2018 18:24	WG1095852
n-Nitrosodiphenylamine	U		0.000304	0.0100	0.0100	1	04/12/2018 18:24	WG1095852
n-Nitrosodi-n-propylamine	U		0.000403	0.0100	0.0100	1	04/12/2018 18:24	WG1095852
Phenanthrene	U		0.000366	0.00100	0.00100	1	04/12/2018 18:24	WG1095852
Benzylbutyl phthalate	U		0.000275	0.00300	0.00300	1	04/12/2018 18:24	WG1095852
Bis(2-ethylhexyl)phthalate	U		0.000709	0.00300	0.00300	1	04/12/2018 18:24	WG1095852
Di-n-butyl phthalate	U		0.000266	0.00300	0.00300	1	04/12/2018 18:24	WG1095852
Diethyl phthalate	U		0.000282	0.00300	0.00300	1	04/12/2018 18:24	WG1095852
Dimethyl phthalate	U		0.000283	0.00300	0.00300	1	04/12/2018 18:24	WG1095852
Di-n-octyl phthalate	U		0.000278	0.00300	0.00300	1	04/12/2018 18:24	WG1095852
Pyrene	U		0.000330	0.00100	0.00100	1	04/12/2018 18:24	WG1095852
1,2,4-Trichlorobenzene	U		0.000355	0.0100	0.0100	1	04/12/2018 18:24	WG1095852
4-Chloro-3-methylphenol	U		0.000263	0.0100	0.0100	1	04/12/2018 18:24	WG1095852
2-Chlorophenol	U		0.000283	0.0100	0.0100	1	04/12/2018 18:24	WG1095852
2,4-Dichlorophenol	U		0.000284	0.0100	0.0100	1	04/12/2018 18:24	WG1095852
2,4-Dimethylphenol	U		0.000624	0.0100	0.0100	1	04/12/2018 18:24	WG1095852
4,6-Dinitro-2-methylphenol	U		0.00262	0.0100	0.0100	1	04/12/2018 18:24	WG1095852
2,4-Dinitrophenol	U		0.00325	0.0100	0.0100	1	04/12/2018 18:24	WG1095852
2-Nitrophenol	U		0.000320	0.0100	0.0100	1	04/12/2018 18:24	WG1095852

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc



Collected date/time: 04/05/18 14:00

L984044

Semi Volatile Organic Compounds (GC/MS) by Method 8270 C

Analyte	Result mg/l	Qualifier	SDL mg/l	Unadj. MQL mg/l	MQL mg/l	Dilution	Analysis date / time	Batch
2-Nitroaniline	U		0.00190	0.0100	0.0100	1	04/12/2018 18:24	WG1095852
2-Methylphenol	U		0.000312	0.0100	0.0100	1	04/12/2018 18:24	WG1095852
3&4-Methyl Phenol	U		0.000266	0.0100	0.0100	1	04/12/2018 18:24	WG1095852
3-Nitroaniline	U		0.000308	0.0100	0.0100	1	04/12/2018 18:24	WG1095852
4-Chloroaniline	U		0.000382	0.0100	0.0100	1	04/12/2018 18:24	WG1095852
4-Nitroaniline	U	J4	0.000349	0.0100	0.0100	1	04/12/2018 18:24	WG1095852
4-Nitrophenol	U		0.00201	0.0100	0.0100	1	04/12/2018 18:24	WG1095852
Pentachlorophenol	U		0.000313	0.0100	0.0100	1	04/12/2018 18:24	WG1095852
Phenol	0.00290	J	0.000334	0.0100	0.0100	1	04/12/2018 18:24	WG1095852
2,4,5-Trichlorophenol	U		0.000236	0.0100	0.0100	1	04/12/2018 18:24	WG1095852
2,4,6-Trichlorophenol	U		0.000297	0.0100	0.0100	1	04/12/2018 18:24	WG1095852
(S) 2-Fluorophenol	75.9				10.0-120		04/12/2018 18:24	WG1095852
(S) Phenol-d5	48.6				10.0-120		04/12/2018 18:24	WG1095852
(S) Nitrobenzene-d5	85.3				10.0-126		04/12/2018 18:24	WG1095852
(S) 2-Fluorobiphenyl	82.0				22.0-127		04/12/2018 18:24	WG1095852
(S) 2,4,6-Tribromophenol	92.4				10.0-153		04/12/2018 18:24	WG1095852
(S) p-Terphenyl-d14	98.3				29.0-141		04/12/2018 18:24	WG1095852

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc



Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	SDL	Unadj. MQL	MQL	Dilution	Analysis date / time	Batch
Dissolved Solids	1360		2.82	10.0	10.0	1	04/12/2018 14:19	WG1096342

Wet Chemistry by Method 2320 B-2011

Analyte	Result	Qualifier	SDL	Unadj. MQL	MQL	Dilution	Analysis date / time	Batch
Alkalinity	332		2.71	20.0	20.0	1	04/09/2018 14:12	WG1095317

Sample Narrative:

L984044-23 WG1095317: Endpoint pH 4.5

Wet Chemistry by Method 353.2

Analyte	Result	Qualifier	SDL	Unadj. MQL	MQL	Dilution	Analysis date / time	Batch
Nitrate-Nitrite	2.17		0.0197	0.100	0.100	1	04/13/2018 15:27	WG1096785

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	SDL	Unadj. MQL	MQL	Dilution	Analysis date / time	Batch
Chloride	401		0.519	1.00	10.0	10	04/11/2018 08:23	WG1095833
Fluoride	0.605		0.00990	0.100	0.100	1	04/11/2018 08:04	WG1095833
Sulfate	79.5		0.0774	5.00	5.00	1	04/11/2018 08:04	WG1095833

Mercury by Method 7470A

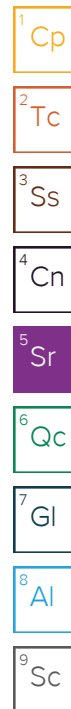
Analyte	Result	Qualifier	SDL	Unadj. MQL	MQL	Dilution	Analysis date / time	Batch
Mercury	U		0.0000490	0.000200	0.000200	1	04/10/2018 10:51	WG1095544

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	SDL	Unadj. MQL	MQL	Dilution	Analysis date / time	Batch
Boron,Dissolved	0.229		0.0126	0.200	0.200	1	04/11/2018 11:51	WG1095187

Metals (ICPMS) by Method 6020

Analyte	Result	Qualifier	SDL	Unadj. MQL	MQL	Dilution	Analysis date / time	Batch
Aluminum,Dissolved	0.102		0.00515	0.100	0.100	1	04/19/2018 19:04	WG1095185
Arsenic,Dissolved	0.00226	B	0.000250	0.00200	0.00200	1	04/19/2018 19:04	WG1095185
Barium,Dissolved	0.299		0.000360	0.00500	0.00500	1	04/19/2018 19:04	WG1095185
Cadmium,Dissolved	U		0.000160	0.00100	0.00100	1	04/19/2018 19:04	WG1095185
Calcium,Dissolved	231		0.0460	1.00	1.00	1	04/19/2018 19:04	WG1095185
Chromium,Dissolved	0.000990	B J	0.000540	0.00200	0.00200	1	04/19/2018 19:04	WG1095185
Copper,Dissolved	0.00671	B	0.000520	0.00500	0.00500	1	04/19/2018 19:04	WG1095185
Cobalt,Dissolved	0.0117		0.000260	0.00200	0.00200	1	04/19/2018 19:04	WG1095185
Iron,Dissolved	0.0304	J	0.0150	0.100	0.100	1	04/19/2018 19:04	WG1095185
Lead,Dissolved	0.000307	B J	0.000240	0.00200	0.00200	1	04/19/2018 19:04	WG1095185
Magnesium,Dissolved	31.6		0.100	1.00	1.00	1	04/17/2018 16:16	WG1095185
Manganese,Dissolved	0.00709		0.000250	0.00500	0.00500	1	04/19/2018 19:04	WG1095185
Molybdenum,Dissolved	0.00121	B J	0.000140	0.00500	0.00500	1	04/19/2018 19:04	WG1095185
Nickel,Dissolved	0.0120		0.000350	0.00200	0.00200	1	04/19/2018 19:04	WG1095185
Potassium,Dissolved	5.68		0.0370	1.00	1.00	1	04/19/2018 19:04	WG1095185
Selenium,Dissolved	0.00107	B J	0.000380	0.00200	0.00200	1	04/19/2018 19:04	WG1095185
Silver,Dissolved	U		0.000310	0.00200	0.00200	1	04/19/2018 19:04	WG1095185
Sodium,Dissolved	138		0.110	1.00	1.00	1	04/19/2018 19:04	WG1095185





Metals (ICPMS) by Method 6020

Analyte	Result mg/l	Qualifier	SDL mg/l	Unadj. MQL mg/l	MQL mg/l	Dilution	Analysis date / time	Batch
Uranium,Dissolved	0.00828	J	0.000330	0.0100	0.0100	1	04/19/2018 19:04	WG1095185
Zinc,Dissolved	0.0153	J	0.00256	0.0250	0.0250	1	04/17/2018 16:16	WG1095185

Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result mg/l	Qualifier	SDL mg/l	Unadj. MQL mg/l	MQL mg/l	Dilution	Analysis date / time	Batch
Acetone	U		0.0100	1.00	1.00	1	04/08/2018 23:52	WG1095361
Benzene	U		0.000331	0.00100	0.00100	1	04/08/2018 23:52	WG1095361
Bromodichloromethane	U		0.000380	0.00125	0.00125	1	04/08/2018 23:52	WG1095361
Bromoform	U		0.000469	0.00100	0.00100	1	04/08/2018 23:52	WG1095361
Bromomethane	U		0.000866	0.00500	0.00500	1	04/08/2018 23:52	WG1095361
n-Butylbenzene	U		0.000361	0.00100	0.00100	1	04/08/2018 23:52	WG1095361
sec-Butylbenzene	U		0.000365	0.00100	0.00100	1	04/08/2018 23:52	WG1095361
tert-Butylbenzene	U		0.000399	0.00100	0.00100	1	04/08/2018 23:52	WG1095361
Carbon disulfide	U		0.000275	0.00100	0.00100	1	04/08/2018 23:52	WG1095361
Carbon tetrachloride	U		0.000379	0.00100	0.00100	1	04/08/2018 23:52	WG1095361
Chlorobenzene	U		0.000348	0.00100	0.00100	1	04/08/2018 23:52	WG1095361
Chlorodibromomethane	U		0.000327	0.00100	0.00100	1	04/08/2018 23:52	WG1095361
Chloroethane	U		0.000453	0.00500	0.00500	1	04/08/2018 23:52	WG1095361
Chloroform	U		0.000324	0.00500	0.00500	1	04/08/2018 23:52	WG1095361
Chloromethane	U		0.000276	0.00250	0.00250	1	04/08/2018 23:52	WG1095361
1,2-Dibromoethane	U		0.000381	0.00100	0.00100	1	04/08/2018 23:52	WG1095361
1,1-Dichloroethane	U		0.000259	0.00100	0.00100	1	04/08/2018 23:52	WG1095361
1,2-Dichloroethane	U		0.000361	0.00100	0.00100	1	04/08/2018 23:52	WG1095361
1,1-Dichloroethene	U		0.000398	0.00100	0.00100	1	04/08/2018 23:52	WG1095361
cis-1,2-Dichloroethene	U		0.000260	0.00100	0.00100	1	04/08/2018 23:52	WG1095361
trans-1,2-Dichloroethene	U		0.000396	0.00100	0.00100	1	04/08/2018 23:52	WG1095361
1,2-Dichloropropane	U		0.000306	0.00100	0.00100	1	04/08/2018 23:52	WG1095361
cis-1,3-Dichloropropene	U		0.000418	0.00100	0.00100	1	04/08/2018 23:52	WG1095361
trans-1,3-Dichloropropene	U		0.000419	0.00100	0.00100	1	04/08/2018 23:52	WG1095361
Ethylbenzene	U		0.000384	0.00100	0.00100	1	04/08/2018 23:52	WG1095361
Hexachloro-1,3-butadiene	U		0.000256	0.00100	0.00100	1	04/08/2018 23:52	WG1095361
2-Hexanone	U		0.00382	0.0100	0.0100	1	04/08/2018 23:52	WG1095361
Isopropylbenzene	U		0.000326	0.00100	0.00100	1	04/08/2018 23:52	WG1095361
p-Isopropyltoluene	U		0.000350	0.00100	0.00100	1	04/08/2018 23:52	WG1095361
2-Butanone (MEK)	U		0.00393	0.0100	0.0100	1	04/08/2018 23:52	WG1095361
Methylene Chloride	U		0.00100	0.00500	0.00500	1	04/08/2018 23:52	WG1095361
4-Methyl-2-pentanone (MIBK)	U		0.00214	0.0100	0.0100	1	04/08/2018 23:52	WG1095361
Methyl tert-butyl ether	U		0.000367	0.00100	0.00100	1	04/08/2018 23:52	WG1095361
Naphthalene	U		0.00100	0.00500	0.00500	1	04/08/2018 23:52	WG1095361
n-Propylbenzene	U		0.000349	0.00100	0.00100	1	04/08/2018 23:52	WG1095361
Styrene	U		0.000307	0.00100	0.00100	1	04/08/2018 23:52	WG1095361
1,1,2,2-Tetrachloroethane	U		0.000130	0.00100	0.00100	1	04/08/2018 23:52	WG1095361
Tetrachloroethene	U		0.000372	0.00100	0.00100	1	04/08/2018 23:52	WG1095361
Toluene	U		0.000412	0.00100	0.00100	1	04/08/2018 23:52	WG1095361
1,1,1-Trichloroethane	U		0.000319	0.00100	0.00100	1	04/08/2018 23:52	WG1095361
1,1,2-Trichloroethane	U		0.000383	0.00100	0.00100	1	04/08/2018 23:52	WG1095361
Trichloroethene	U		0.000398	0.00100	0.00100	1	04/08/2018 23:52	WG1095361
1,2,4-Trimethylbenzene	U		0.000373	0.00100	0.00100	1	04/08/2018 23:52	WG1095361
1,3,5-Trimethylbenzene	U		0.000387	0.00100	0.00100	1	04/08/2018 23:52	WG1095361
Vinyl chloride	U		0.000259	0.00100	0.00100	1	04/08/2018 23:52	WG1095361
Xylenes, Total	U		0.00106	0.00300	0.00300	1	04/08/2018 23:52	WG1095361
(S) Toluene-d8	108				80.0-120		04/08/2018 23:52	WG1095361
(S) Dibromofluoromethane	101				76.0-123		04/08/2018 23:52	WG1095361
(S) 4-Bromofluorobenzene	96.5				80.0-120		04/08/2018 23:52	WG1095361

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc



Collected date/time: 04/05/18 14:00

L984044

Semi Volatile Organic Compounds (GC/MS) by Method 8270 C

Analyte	Result mg/l	Qualifier	SDL mg/l	Unadj. MQL mg/l	MQL mg/l	Dilution	Analysis date / time	Batch
Acenaphthene	U		0.000316	0.00100	0.00100	1	04/12/2018 18:49	WG1095852
Acenaphthylene	U		0.000309	0.00100	0.00100	1	04/12/2018 18:49	WG1095852
Acetophenone	U		0.00247	0.0100	0.0100	1	04/12/2018 18:49	WG1095852
Anthracene	U		0.000291	0.00100	0.00100	1	04/12/2018 18:49	WG1095852
Atrazine	U		0.000260	0.0100	0.0100	1	04/12/2018 18:49	WG1095852
Benzo(a)anthracene	U		0.0000510	0.00100	0.00100	1	04/12/2018 18:49	WG1095852
Benzaldehyde	U	J4	0.00140	0.0100	0.0100	1	04/12/2018 18:49	WG1095852
Benzo(b)fluoranthene	U		0.0000896	0.00100	0.00100	1	04/12/2018 18:49	WG1095852
Benzo(k)fluoranthene	U		0.000355	0.00100	0.00100	1	04/12/2018 18:49	WG1095852
Benzo(g,h,i)perylene	U		0.00000227	0.00100	0.00100	1	04/12/2018 18:49	WG1095852
Benzo(a)pyrene	U		0.0000381	0.000200	0.000200	1	04/12/2018 18:49	WG1095852
Biphenyl	U		0.000325	0.0100	0.0100	1	04/12/2018 18:49	WG1095852
Bis(2-chlorethoxy)methane	U		0.000329	0.0100	0.0100	1	04/12/2018 18:49	WG1095852
Bis(2-chloroethyl)ether	U		0.00162	0.0100	0.0100	1	04/12/2018 18:49	WG1095852
Bis(2-chloroisopropyl)ether	U		0.000445	0.0100	0.0100	1	04/12/2018 18:49	WG1095852
4-Bromophenyl-phenylether	U		0.000335	0.0100	0.0100	1	04/12/2018 18:49	WG1095852
2-Chloronaphthalene	U		0.000330	0.00100	0.00100	1	04/12/2018 18:49	WG1095852
4-Chlorophenyl-phenylether	U		0.000303	0.0100	0.0100	1	04/12/2018 18:49	WG1095852
Caprolactam	U		0.00259	0.0100	0.0100	1	04/12/2018 18:49	WG1095852
Carbazole	U		0.000260	0.0100	0.0100	1	04/12/2018 18:49	WG1095852
Chrysene	U		0.000332	0.00100	0.00100	1	04/12/2018 18:49	WG1095852
Dibenz(a,h)anthracene	U		0.0000644	0.000200	0.000200	1	04/12/2018 18:49	WG1095852
Dibenzofuran	U		0.000338	0.0100	0.0100	1	04/12/2018 18:49	WG1095852
3,3-Dichlorobenzidine	U		0.00202	0.0100	0.0100	1	04/12/2018 18:49	WG1095852
2,4-Dinitrotoluene	U		0.00165	0.0100	0.0100	1	04/12/2018 18:49	WG1095852
2,6-Dinitrotoluene	U		0.000279	0.0100	0.0100	1	04/12/2018 18:49	WG1095852
Fluoranthene	U		0.000310	0.00100	0.00100	1	04/12/2018 18:49	WG1095852
Fluorene	U		0.000323	0.00100	0.00100	1	04/12/2018 18:49	WG1095852
Hexachlorobenzene	U		0.000341	0.00100	0.00100	1	04/12/2018 18:49	WG1095852
Hexachloro-1,3-butadiene	U		0.000329	0.0100	0.0100	1	04/12/2018 18:49	WG1095852
Hexachlorocyclopentadiene	U		0.00233	0.0100	0.0100	1	04/12/2018 18:49	WG1095852
Hexachloroethane	U		0.000365	0.0100	0.0100	1	04/12/2018 18:49	WG1095852
Indeno(1,2,3-cd)pyrene	U		0.000279	0.00100	0.00100	1	04/12/2018 18:49	WG1095852
Isophorone	U		0.000272	0.0100	0.0100	1	04/12/2018 18:49	WG1095852
1-Methylnaphthalene	U		0.000332	0.00100	0.00100	1	04/12/2018 18:49	WG1095852
2-Methylnaphthalene	U		0.000311	0.00100	0.00100	1	04/12/2018 18:49	WG1095852
Naphthalene	U		0.000372	0.00100	0.00100	1	04/12/2018 18:49	WG1095852
Nitrobenzene	U		0.000367	0.0100	0.0100	1	04/12/2018 18:49	WG1095852
n-Nitrosodiphenylamine	U		0.000304	0.0100	0.0100	1	04/12/2018 18:49	WG1095852
n-Nitrosodi-n-propylamine	U		0.000403	0.0100	0.0100	1	04/12/2018 18:49	WG1095852
Phenanthrene	U		0.000366	0.00100	0.00100	1	04/12/2018 18:49	WG1095852
Benzylbutyl phthalate	U		0.000275	0.00300	0.00300	1	04/12/2018 18:49	WG1095852
Bis(2-ethylhexyl)phthalate	U		0.000709	0.00300	0.00300	1	04/12/2018 18:49	WG1095852
Di-n-butyl phthalate	U		0.000266	0.00300	0.00300	1	04/12/2018 18:49	WG1095852
Diethyl phthalate	U		0.000282	0.00300	0.00300	1	04/12/2018 18:49	WG1095852
Dimethyl phthalate	U		0.000283	0.00300	0.00300	1	04/12/2018 18:49	WG1095852
Di-n-octyl phthalate	U		0.000278	0.00300	0.00300	1	04/12/2018 18:49	WG1095852
Pyrene	U		0.000330	0.00100	0.00100	1	04/12/2018 18:49	WG1095852
1,2,4-Trichlorobenzene	U		0.000355	0.0100	0.0100	1	04/12/2018 18:49	WG1095852
4-Chloro-3-methylphenol	U		0.000263	0.0100	0.0100	1	04/12/2018 18:49	WG1095852
2-Chlorophenol	U		0.000283	0.0100	0.0100	1	04/12/2018 18:49	WG1095852
2,4-Dichlorophenol	U		0.000284	0.0100	0.0100	1	04/12/2018 18:49	WG1095852
2,4-Dimethylphenol	U		0.000624	0.0100	0.0100	1	04/12/2018 18:49	WG1095852
4,6-Dinitro-2-methylphenol	U		0.00262	0.0100	0.0100	1	04/12/2018 18:49	WG1095852
2,4-Dinitrophenol	U		0.00325	0.0100	0.0100	1	04/12/2018 18:49	WG1095852
2-Nitrophenol	U		0.000320	0.0100	0.0100	1	04/12/2018 18:49	WG1095852

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc



Collected date/time: 04/05/18 14:00

L984044

Semi Volatile Organic Compounds (GC/MS) by Method 8270 C

Analyte	Result mg/l	Qualifier	SDL mg/l	Unadj. MQL mg/l	MQL mg/l	Dilution	Analysis date / time	Batch
2-Nitroaniline	U		0.00190	0.0100	0.0100	1	04/12/2018 18:49	WG1095852
2-Methylphenol	U		0.000312	0.0100	0.0100	1	04/12/2018 18:49	WG1095852
3&4-Methyl Phenol	U		0.000266	0.0100	0.0100	1	04/12/2018 18:49	WG1095852
3-Nitroaniline	U		0.000308	0.0100	0.0100	1	04/12/2018 18:49	WG1095852
4-Chloroaniline	U		0.000382	0.0100	0.0100	1	04/12/2018 18:49	WG1095852
4-Nitroaniline	U	J4	0.000349	0.0100	0.0100	1	04/12/2018 18:49	WG1095852
4-Nitrophenol	U		0.00201	0.0100	0.0100	1	04/12/2018 18:49	WG1095852
Pentachlorophenol	U		0.000313	0.0100	0.0100	1	04/12/2018 18:49	WG1095852
Phenol	U		0.000334	0.0100	0.0100	1	04/12/2018 18:49	WG1095852
2,4,5-Trichlorophenol	U		0.000236	0.0100	0.0100	1	04/12/2018 18:49	WG1095852
2,4,6-Trichlorophenol	U		0.000297	0.0100	0.0100	1	04/12/2018 18:49	WG1095852
(S) 2-Fluorophenol	78.1				10.0-120		04/12/2018 18:49	WG1095852
(S) Phenol-d5	50.8				10.0-120		04/12/2018 18:49	WG1095852
(S) Nitrobenzene-d5	85.1				10.0-126		04/12/2018 18:49	WG1095852
(S) 2-Fluorobiphenyl	84.1				22.0-127		04/12/2018 18:49	WG1095852
(S) 2,4,6-Tribromophenol	101				10.0-153		04/12/2018 18:49	WG1095852
(S) p-Terphenyl-d14	97.4				29.0-141		04/12/2018 18:49	WG1095852

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc



Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	SDL	Unadj. MQL	MQL	Dilution	Analysis date / time	Batch
Dissolved Solids	12.2		2.82	10.0	10.0	1	04/12/2018 14:19	WG1096342

Sample Narrative:

L984044-24 WG1096342: Used all available sample 82mls.

Wet Chemistry by Method 2320 B-2011

Analyte	Result	Qualifier	SDL	Unadj. MQL	MQL	Dilution	Analysis date / time	Batch
Alkalinity	3.33	J P1	2.71	20.0	20.0	1	04/09/2018 11:32	WG1095315

Sample Narrative:

L984044-24 WG1095315: Endpoint pH 4.5

Mercury by Method 7470A

Analyte	Result	Qualifier	SDL	Unadj. MQL	MQL	Dilution	Analysis date / time	Batch
Mercury	U		0.0000490	0.000200	0.000200	1	04/10/2018 10:54	WG1095544

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	SDL	Unadj. MQL	MQL	Dilution	Analysis date / time	Batch
Boron,Dissolved	U		0.0126	0.200	0.200	1	04/11/2018 11:54	WG1095187

Metals (ICPMS) by Method 6020

Analyte	Result	Qualifier	SDL	Unadj. MQL	MQL	Dilution	Analysis date / time	Batch
Aluminum,Dissolved	0.262		0.00515	0.100	0.100	1	04/19/2018 19:08	WG1095185
Arsenic,Dissolved	U		0.000250	0.00200	0.00200	1	04/19/2018 19:08	WG1095185
Barium,Dissolved	0.000822	B J	0.000360	0.00500	0.00500	1	04/19/2018 19:08	WG1095185
Cadmium,Dissolved	U		0.000160	0.00100	0.00100	1	04/19/2018 19:08	WG1095185
Calcium,Dissolved	0.0614	J	0.0460	1.00	1.00	1	04/19/2018 19:08	WG1095185
Chromium,Dissolved	0.00115	B J	0.000540	0.00200	0.00200	1	04/19/2018 19:08	WG1095185
Copper,Dissolved	0.00144	B J	0.000520	0.00500	0.00500	1	04/19/2018 19:08	WG1095185
Cobalt,Dissolved	U		0.000260	0.00200	0.00200	1	04/19/2018 19:08	WG1095185
Iron,Dissolved	0.108		0.0150	0.100	0.100	1	04/19/2018 19:08	WG1095185
Lead,Dissolved	U		0.000240	0.00200	0.00200	1	04/19/2018 19:08	WG1095185
Magnesium,Dissolved	0.119	J	0.100	1.00	1.00	1	04/17/2018 16:20	WG1095185
Manganese,Dissolved	0.000497	B J	0.000250	0.00500	0.00500	1	04/19/2018 19:08	WG1095185
Molybdenum,Dissolved	U		0.000140	0.00500	0.00500	1	04/19/2018 19:08	WG1095185
Nickel,Dissolved	0.000997	B J	0.000350	0.00200	0.00200	1	04/19/2018 19:08	WG1095185
Potassium,Dissolved	0.559	B J	0.0370	1.00	1.00	1	04/19/2018 19:08	WG1095185
Selenium,Dissolved	U		0.000380	0.00200	0.00200	1	04/19/2018 19:08	WG1095185
Silver,Dissolved	U		0.000310	0.00200	0.00200	1	04/19/2018 19:08	WG1095185
Sodium,Dissolved	0.317	J	0.110	1.00	1.00	1	04/19/2018 19:08	WG1095185
Uranium,Dissolved	U		0.000330	0.0100	0.0100	1	04/19/2018 19:08	WG1095185
Zinc,Dissolved	U		0.00256	0.0250	0.0250	1	04/17/2018 16:20	WG1095185

Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result	Qualifier	SDL	Unadj. MQL	MQL	Dilution	Analysis date / time	Batch
Acetone	U		0.0100	1.00	1.00	1	04/08/2018 23:13	WG1095361
Benzene	U		0.000331	0.00100	0.00100	1	04/08/2018 23:13	WG1095361
Bromodichloromethane	U		0.000380	0.00125	0.00125	1	04/08/2018 23:13	WG1095361

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc



Collected date/time: 04/05/18 16:10

L984044

Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result mg/l	Qualifier	SDL mg/l	Unadj. MQL mg/l	MQL mg/l	Dilution	Analysis date / time	Batch
Bromoform	U		0.000469	0.00100	0.00100	1	04/08/2018 23:13	WG1095361
Bromomethane	U		0.000866	0.00500	0.00500	1	04/08/2018 23:13	WG1095361
n-Butylbenzene	U		0.000361	0.00100	0.00100	1	04/08/2018 23:13	WG1095361
sec-Butylbenzene	U		0.000365	0.00100	0.00100	1	04/08/2018 23:13	WG1095361
tert-Butylbenzene	U		0.000399	0.00100	0.00100	1	04/08/2018 23:13	WG1095361
Carbon disulfide	U		0.000275	0.00100	0.00100	1	04/08/2018 23:13	WG1095361
Carbon tetrachloride	U		0.000379	0.00100	0.00100	1	04/08/2018 23:13	WG1095361
Chlorobenzene	U		0.000348	0.00100	0.00100	1	04/08/2018 23:13	WG1095361
Chlorodibromomethane	U		0.000327	0.00100	0.00100	1	04/08/2018 23:13	WG1095361
Chloroethane	U		0.000453	0.00500	0.00500	1	04/08/2018 23:13	WG1095361
Chloroform	U		0.000324	0.00500	0.00500	1	04/08/2018 23:13	WG1095361
Chloromethane	U		0.000276	0.00250	0.00250	1	04/08/2018 23:13	WG1095361
1,2-Dibromoethane	U		0.000381	0.00100	0.00100	1	04/08/2018 23:13	WG1095361
1,1-Dichloroethane	U		0.000259	0.00100	0.00100	1	04/08/2018 23:13	WG1095361
1,2-Dichloroethane	U		0.000361	0.00100	0.00100	1	04/08/2018 23:13	WG1095361
1,1-Dichloroethene	U		0.000398	0.00100	0.00100	1	04/08/2018 23:13	WG1095361
cis-1,2-Dichloroethene	U		0.000260	0.00100	0.00100	1	04/08/2018 23:13	WG1095361
trans-1,2-Dichloroethene	U		0.000396	0.00100	0.00100	1	04/08/2018 23:13	WG1095361
1,2-Dichloropropane	U		0.000306	0.00100	0.00100	1	04/08/2018 23:13	WG1095361
cis-1,3-Dichloropropene	U		0.000418	0.00100	0.00100	1	04/08/2018 23:13	WG1095361
trans-1,3-Dichloropropene	U		0.000419	0.00100	0.00100	1	04/08/2018 23:13	WG1095361
Ethylbenzene	U		0.000384	0.00100	0.00100	1	04/08/2018 23:13	WG1095361
Hexachloro-1,3-butadiene	U		0.000256	0.00100	0.00100	1	04/08/2018 23:13	WG1095361
2-Hexanone	U		0.00382	0.0100	0.0100	1	04/08/2018 23:13	WG1095361
Isopropylbenzene	U		0.000326	0.00100	0.00100	1	04/08/2018 23:13	WG1095361
p-Isopropyltoluene	U		0.000350	0.00100	0.00100	1	04/08/2018 23:13	WG1095361
2-Butanone (MEK)	U		0.00393	0.0100	0.0100	1	04/08/2018 23:13	WG1095361
Methylene Chloride	U		0.00100	0.00500	0.00500	1	04/08/2018 23:13	WG1095361
4-Methyl-2-pentanone (MIBK)	U		0.00214	0.0100	0.0100	1	04/08/2018 23:13	WG1095361
Methyl tert-butyl ether	U		0.000367	0.00100	0.00100	1	04/08/2018 23:13	WG1095361
Naphthalene	U		0.00100	0.00500	0.00500	1	04/08/2018 23:13	WG1095361
n-Propylbenzene	U		0.000349	0.00100	0.00100	1	04/08/2018 23:13	WG1095361
Styrene	U		0.000307	0.00100	0.00100	1	04/08/2018 23:13	WG1095361
1,1,2,2-Tetrachloroethane	U		0.000130	0.00100	0.00100	1	04/08/2018 23:13	WG1095361
Tetrachloroethene	U		0.000372	0.00100	0.00100	1	04/08/2018 23:13	WG1095361
Toluene	U		0.000412	0.00100	0.00100	1	04/08/2018 23:13	WG1095361
1,1,1-Trichloroethane	U		0.000319	0.00100	0.00100	1	04/08/2018 23:13	WG1095361
1,1,2-Trichloroethane	U		0.000383	0.00100	0.00100	1	04/08/2018 23:13	WG1095361
Trichloroethene	U		0.000398	0.00100	0.00100	1	04/08/2018 23:13	WG1095361
1,2,4-Trimethylbenzene	U		0.000373	0.00100	0.00100	1	04/08/2018 23:13	WG1095361
1,3,5-Trimethylbenzene	U		0.000387	0.00100	0.00100	1	04/08/2018 23:13	WG1095361
Vinyl chloride	U		0.000259	0.00100	0.00100	1	04/08/2018 23:13	WG1095361
Xylenes, Total	U		0.00106	0.00300	0.00300	1	04/08/2018 23:13	WG1095361
(S) Toluene-d8	106				80.0-120		04/08/2018 23:13	WG1095361
(S) Dibromofluoromethane	100				76.0-123		04/08/2018 23:13	WG1095361
(S) 4-Bromofluorobenzene	96.5				80.0-120		04/08/2018 23:13	WG1095361

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc

Semi Volatile Organic Compounds (GC/MS) by Method 8270 C

Analyte	Result mg/l	Qualifier	SDL mg/l	Unadj. MQL mg/l	MQL mg/l	Dilution	Analysis date / time	Batch
Acenaphthene	U		0.000316	0.00100	0.00100	1	04/12/2018 19:13	WG1095852
Acenaphthylene	U		0.000309	0.00100	0.00100	1	04/12/2018 19:13	WG1095852
Acetophenone	U		0.00247	0.0100	0.0100	1	04/12/2018 19:13	WG1095852
Anthracene	U		0.000291	0.00100	0.00100	1	04/12/2018 19:13	WG1095852
Atrazine	U		0.000260	0.0100	0.0100	1	04/12/2018 19:13	WG1095852
Benzo(a)anthracene	0.000195	J	0.0000510	0.00100	0.00100	1	04/12/2018 19:13	WG1095852

ACCOUNT:

TRC Solutions - Austin, TX

PROJECT:

294319.0000.00000 5

SDG:

L984044

DATE/TIME:

04/20/18 22:19

PAGE:

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Collected date/time: 04/05/18 16:10

L984044

Semi Volatile Organic Compounds (GC/MS) by Method 8270 C

Analyte	Result mg/l	Qualifier	SDL mg/l	Unadj. MQL mg/l	MQL mg/l	Dilution	Analysis date / time	Batch
Benzaldehyde	U	J4	0.00140	0.0100	0.0100	1	04/12/2018 19:13	WG1095852
Benzo(b)fluoranthene	U		0.0000896	0.00100	0.00100	1	04/12/2018 19:13	WG1095852
Benzo(k)fluoranthene	U		0.000355	0.00100	0.00100	1	04/12/2018 19:13	WG1095852
Benzo(g,h,i)perylene	U		0.00000227	0.00100	0.00100	1	04/12/2018 19:13	WG1095852
Benzo(a)pyrene	U		0.0000381	0.000200	0.000200	1	04/12/2018 19:13	WG1095852
Biphenyl	U		0.000325	0.0100	0.0100	1	04/12/2018 19:13	WG1095852
Bis(2-chlorethoxy)methane	U		0.000329	0.0100	0.0100	1	04/12/2018 19:13	WG1095852
Bis(2-chloroethyl)ether	U		0.00162	0.0100	0.0100	1	04/12/2018 19:13	WG1095852
Bis(2-chloroisopropyl)ether	U		0.000445	0.0100	0.0100	1	04/12/2018 19:13	WG1095852
4-Bromophenyl-phenylether	U		0.000335	0.0100	0.0100	1	04/12/2018 19:13	WG1095852
2-Chloronaphthalene	U		0.000330	0.00100	0.00100	1	04/12/2018 19:13	WG1095852
4-Chlorophenyl-phenylether	U		0.000303	0.0100	0.0100	1	04/12/2018 19:13	WG1095852
Caprolactam	U		0.00259	0.0100	0.0100	1	04/12/2018 19:13	WG1095852
Carbazole	U		0.000260	0.0100	0.0100	1	04/12/2018 19:13	WG1095852
Chrysene	U		0.000332	0.00100	0.00100	1	04/12/2018 19:13	WG1095852
Dibenz(a,h)anthracene	U		0.0000644	0.000200	0.000200	1	04/12/2018 19:13	WG1095852
Dibenzofuran	U		0.000338	0.0100	0.0100	1	04/12/2018 19:13	WG1095852
3,3-Dichlorobenzidine	U		0.00202	0.0100	0.0100	1	04/12/2018 19:13	WG1095852
2,4-Dinitrotoluene	U		0.00165	0.0100	0.0100	1	04/12/2018 19:13	WG1095852
2,6-Dinitrotoluene	U		0.000279	0.0100	0.0100	1	04/12/2018 19:13	WG1095852
Fluoranthene	U		0.000310	0.00100	0.00100	1	04/12/2018 19:13	WG1095852
Fluorene	U		0.000323	0.00100	0.00100	1	04/12/2018 19:13	WG1095852
Hexachlorobenzene	U		0.000341	0.00100	0.00100	1	04/12/2018 19:13	WG1095852
Hexachloro-1,3-butadiene	U		0.000329	0.0100	0.0100	1	04/12/2018 19:13	WG1095852
Hexachlorocyclopentadiene	U		0.00233	0.0100	0.0100	1	04/12/2018 19:13	WG1095852
Hexachloroethane	U		0.000365	0.0100	0.0100	1	04/12/2018 19:13	WG1095852
Indeno(1,2,3-cd)pyrene	U		0.000279	0.00100	0.00100	1	04/12/2018 19:13	WG1095852
Isophorone	U		0.000272	0.0100	0.0100	1	04/12/2018 19:13	WG1095852
1-Methylnaphthalene	U		0.000332	0.00100	0.00100	1	04/12/2018 19:13	WG1095852
2-Methylnaphthalene	U		0.000311	0.00100	0.00100	1	04/12/2018 19:13	WG1095852
Naphthalene	U		0.000372	0.00100	0.00100	1	04/12/2018 19:13	WG1095852
Nitrobenzene	U		0.000367	0.0100	0.0100	1	04/12/2018 19:13	WG1095852
n-Nitrosodiphenylamine	U		0.000304	0.0100	0.0100	1	04/12/2018 19:13	WG1095852
n-Nitrosodi-n-propylamine	U		0.000403	0.0100	0.0100	1	04/12/2018 19:13	WG1095852
Phenanthrene	U		0.000366	0.00100	0.00100	1	04/12/2018 19:13	WG1095852
Benzylbutyl phthalate	U		0.000275	0.00300	0.00300	1	04/12/2018 19:13	WG1095852
Bis(2-ethylhexyl)phthalate	U		0.000709	0.00300	0.00300	1	04/12/2018 19:13	WG1095852
Di-n-butyl phthalate	U		0.000266	0.00300	0.00300	1	04/12/2018 19:13	WG1095852
Diethyl phthalate	U		0.000282	0.00300	0.00300	1	04/12/2018 19:13	WG1095852
Dimethyl phthalate	U		0.000283	0.00300	0.00300	1	04/12/2018 19:13	WG1095852
Di-n-octyl phthalate	U		0.000278	0.00300	0.00300	1	04/12/2018 19:13	WG1095852
Pyrene	U		0.000330	0.00100	0.00100	1	04/12/2018 19:13	WG1095852
1,2,4-Trichlorobenzene	U		0.000355	0.0100	0.0100	1	04/12/2018 19:13	WG1095852
4-Chloro-3-methylphenol	U		0.000263	0.0100	0.0100	1	04/12/2018 19:13	WG1095852
2-Chlorophenol	U		0.000283	0.0100	0.0100	1	04/12/2018 19:13	WG1095852
2,4-Dichlorophenol	U		0.000284	0.0100	0.0100	1	04/12/2018 19:13	WG1095852
2,4-Dimethylphenol	U		0.000624	0.0100	0.0100	1	04/12/2018 19:13	WG1095852
4,6-Dinitro-2-methylphenol	U		0.00262	0.0100	0.0100	1	04/12/2018 19:13	WG1095852
2,4-Dinitrophenol	U		0.00325	0.0100	0.0100	1	04/12/2018 19:13	WG1095852
2-Nitrophenol	U		0.000320	0.0100	0.0100	1	04/12/2018 19:13	WG1095852
2-Nitroaniline	U		0.00190	0.0100	0.0100	1	04/12/2018 19:13	WG1095852
2-Methylphenol	U		0.000312	0.0100	0.0100	1	04/12/2018 19:13	WG1095852
3&4-Methyl Phenol	U		0.000266	0.0100	0.0100	1	04/12/2018 19:13	WG1095852
3-Nitroaniline	U		0.000308	0.0100	0.0100	1	04/12/2018 19:13	WG1095852
4-Chloroaniline	U		0.000382	0.0100	0.0100	1	04/12/2018 19:13	WG1095852
4-Nitroaniline	U	J4	0.000349	0.0100	0.0100	1	04/12/2018 19:13	WG1095852

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc



Collected date/time: 04/05/18 16:10

L984044

Semi Volatile Organic Compounds (GC/MS) by Method 8270 C

Analyte	Result mg/l	Qualifier	SDL mg/l	Unadj. MQL mg/l	MQL mg/l	Dilution	Analysis date / time	Batch
4-Nitrophenol	U		0.00201	0.0100	0.0100	1	04/12/2018 19:13	WG1095852
Pentachlorophenol	U		0.000313	0.0100	0.0100	1	04/12/2018 19:13	WG1095852
Phenol	U		0.000334	0.0100	0.0100	1	04/12/2018 19:13	WG1095852
2,4,5-Trichlorophenol	U		0.000236	0.0100	0.0100	1	04/12/2018 19:13	WG1095852
2,4,6-Trichlorophenol	U		0.000297	0.0100	0.0100	1	04/12/2018 19:13	WG1095852
(S) 2-Fluorophenol	77.4				10.0-120		04/12/2018 19:13	WG1095852
(S) Phenol-d5	50.6				10.0-120		04/12/2018 19:13	WG1095852
(S) Nitrobenzene-d5	90.8				10.0-126		04/12/2018 19:13	WG1095852
(S) 2-Fluorobiphenyl	90.1				22.0-127		04/12/2018 19:13	WG1095852
(S) 2,4,6-Tribromophenol	95.9				10.0-153		04/12/2018 19:13	WG1095852
(S) p-Terphenyl-d14	101				29.0-141		04/12/2018 19:13	WG1095852

1
Cp2
Tc3
Ss4
Cn5
Sr6
Qc7
Gl8
Al9
Sc



Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	SDL	Unadj. MQL	MQL	Dilution	Analysis date / time	Batch
Dissolved Solids	13.3		2.82	10.0	10.0	1	04/12/2018 14:19	WG1096342

Sample Narrative:

L984044-25 WG1096342: Used all available sample 60mls.

Wet Chemistry by Method 2320 B-2011

Analyte	Result	Qualifier	SDL	Unadj. MQL	MQL	Dilution	Analysis date / time	Batch
Alkalinity	U		2.71	20.0	20.0	1	04/09/2018 12:32	WG1095317

Sample Narrative:

L984044-25 WG1095317: Endpoint pH 4.5

Wet Chemistry by Method 353.2

Analyte	Result	Qualifier	SDL	Unadj. MQL	MQL	Dilution	Analysis date / time	Batch
Nitrate-Nitrite	U		0.0197	0.100	0.100	1	04/13/2018 15:28	WG1096785

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	SDL	Unadj. MQL	MQL	Dilution	Analysis date / time	Batch
Chloride	U		0.0519	1.00	1.00	1	04/11/2018 08:41	WG1095833
Fluoride	U		0.00990	0.100	0.100	1	04/11/2018 08:41	WG1095833
Sulfate	U		0.0774	5.00	5.00	1	04/11/2018 08:41	WG1095833

Mercury by Method 7470A

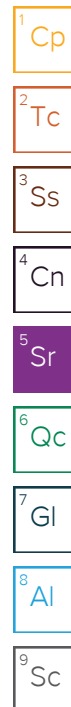
Analyte	Result	Qualifier	SDL	Unadj. MQL	MQL	Dilution	Analysis date / time	Batch
Mercury	U		0.0000490	0.000200	0.000200	1	04/10/2018 10:56	WG1095544

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	SDL	Unadj. MQL	MQL	Dilution	Analysis date / time	Batch
Boron,Dissolved	U		0.0126	0.200	0.200	1	04/11/2018 11:57	WG1095187

Metals (ICPMS) by Method 6020

Analyte	Result	Qualifier	SDL	Unadj. MQL	MQL	Dilution	Analysis date / time	Batch
Aluminum,Dissolved	U		0.00515	0.100	0.100	1	04/19/2018 19:13	WG1095185
Arsenic,Dissolved	U		0.000250	0.00200	0.00200	1	04/19/2018 19:13	WG1095185
Barium,Dissolved	U		0.000360	0.00500	0.00500	1	04/19/2018 19:13	WG1095185
Cadmium,Dissolved	U		0.000160	0.00100	0.00100	1	04/19/2018 19:13	WG1095185
Calcium,Dissolved	U		0.0460	1.00	1.00	1	04/19/2018 19:13	WG1095185
Chromium,Dissolved	0.000889	B J	0.000540	0.00200	0.00200	1	04/19/2018 19:13	WG1095185
Copper,Dissolved	U		0.000520	0.00500	0.00500	1	04/19/2018 19:13	WG1095185
Cobalt,Dissolved	U		0.000260	0.00200	0.00200	1	04/19/2018 19:13	WG1095185
Iron,Dissolved	U		0.0150	0.100	0.100	1	04/19/2018 19:13	WG1095185
Lead,Dissolved	U		0.000240	0.00200	0.00200	1	04/19/2018 19:13	WG1095185
Magnesium,Dissolved	U		0.100	1.00	1.00	1	04/17/2018 16:24	WG1095185
Manganese,Dissolved	0.000424	B J	0.000250	0.00500	0.00500	1	04/19/2018 19:13	WG1095185
Molybdenum,Dissolved	U		0.000140	0.00500	0.00500	1	04/19/2018 19:13	WG1095185
Nickel,Dissolved	0.000728	B J	0.000350	0.00200	0.00200	1	04/19/2018 19:13	WG1095185
Potassium,Dissolved	0.473	B J	0.0370	1.00	1.00	1	04/19/2018 19:13	WG1095185





Metals (ICPMS) by Method 6020

Analyte	Result mg/l	Qualifier	SDL mg/l	Unadj. MQL mg/l	MQL mg/l	Dilution	Analysis date / time	Batch
Selenium,Dissolved	U		0.000380	0.00200	0.00200	1	04/19/2018 19:13	WG1095185
Silver,Dissolved	U		0.000310	0.00200	0.00200	1	04/19/2018 19:13	WG1095185
Sodium,Dissolved	0.156	J	0.110	1.00	1.00	1	04/19/2018 19:13	WG1095185
Uranium,Dissolved	U		0.000330	0.0100	0.0100	1	04/19/2018 19:13	WG1095185
Zinc,Dissolved	U		0.00256	0.0250	0.0250	1	04/17/2018 16:24	WG1095185

1
Cp2
Tc3
Ss4
Cn5
Sr6
Qc7
Gl8
Al9
Sc

Volatile Organic Compounds (GC) by Method 8015D/GRO

Analyte	Result mg/l	Qualifier	SDL mg/l	Unadj. MQL mg/l	MQL mg/l	Dilution	Analysis date / time	Batch
TPH (GC/FID) Low Fraction	U		0.0314	0.100	0.100	1	04/11/2018 01:35	WG1096264
(S) a,a,a-Trifluorotoluene(FID)	105				77.0-122		04/11/2018 01:35	WG1096264

Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result mg/l	Qualifier	SDL mg/l	Unadj. MQL mg/l	MQL mg/l	Dilution	Analysis date / time	Batch
Acetone	U		0.0100	1.00	1.00	1	04/08/2018 23:33	WG1095361
Benzene	U		0.000331	0.00100	0.00100	1	04/08/2018 23:33	WG1095361
Bromodichloromethane	U		0.000380	0.00125	0.00125	1	04/08/2018 23:33	WG1095361
Bromoform	U		0.000469	0.00100	0.00100	1	04/08/2018 23:33	WG1095361
Bromomethane	U		0.000866	0.00500	0.00500	1	04/08/2018 23:33	WG1095361
n-Butylbenzene	U		0.000361	0.00100	0.00100	1	04/08/2018 23:33	WG1095361
sec-Butylbenzene	U		0.000365	0.00100	0.00100	1	04/08/2018 23:33	WG1095361
tert-Butylbenzene	U		0.000399	0.00100	0.00100	1	04/08/2018 23:33	WG1095361
Carbon disulfide	U		0.000275	0.00100	0.00100	1	04/08/2018 23:33	WG1095361
Carbon tetrachloride	U		0.000379	0.00100	0.00100	1	04/08/2018 23:33	WG1095361
Chlorobenzene	U		0.000348	0.00100	0.00100	1	04/08/2018 23:33	WG1095361
Chlorodibromomethane	U		0.000327	0.00100	0.00100	1	04/08/2018 23:33	WG1095361
Chloroethane	U		0.000453	0.00500	0.00500	1	04/08/2018 23:33	WG1095361
Chloroform	U		0.000324	0.00500	0.00500	1	04/08/2018 23:33	WG1095361
Chloromethane	U		0.000276	0.00250	0.00250	1	04/08/2018 23:33	WG1095361
1,2-Dibromoethane	U		0.000381	0.00100	0.00100	1	04/08/2018 23:33	WG1095361
1,1-Dichloroethane	U		0.000259	0.00100	0.00100	1	04/08/2018 23:33	WG1095361
1,2-Dichloroethane	U		0.000361	0.00100	0.00100	1	04/08/2018 23:33	WG1095361
1,1-Dichloroethene	U		0.000398	0.00100	0.00100	1	04/08/2018 23:33	WG1095361
cis-1,2-Dichloroethene	U		0.000260	0.00100	0.00100	1	04/08/2018 23:33	WG1095361
trans-1,2-Dichloroethene	U		0.000396	0.00100	0.00100	1	04/08/2018 23:33	WG1095361
1,2-Dichloropropane	U		0.000306	0.00100	0.00100	1	04/08/2018 23:33	WG1095361
cis-1,3-Dichloropropene	U		0.000418	0.00100	0.00100	1	04/08/2018 23:33	WG1095361
trans-1,3-Dichloropropene	U		0.000419	0.00100	0.00100	1	04/08/2018 23:33	WG1095361
Ethylbenzene	U		0.000384	0.00100	0.00100	1	04/08/2018 23:33	WG1095361
Hexachloro-1,3-butadiene	U		0.000256	0.00100	0.00100	1	04/08/2018 23:33	WG1095361
2-Hexanone	U		0.00382	0.0100	0.0100	1	04/08/2018 23:33	WG1095361
Isopropylbenzene	U		0.000326	0.00100	0.00100	1	04/08/2018 23:33	WG1095361
p-Isopropyltoluene	U		0.000350	0.00100	0.00100	1	04/08/2018 23:33	WG1095361
2-Butanone (MEK)	U		0.00393	0.0100	0.0100	1	04/08/2018 23:33	WG1095361
Methylene Chloride	U		0.00100	0.00500	0.00500	1	04/08/2018 23:33	WG1095361
4-Methyl-2-pentanone (MIBK)	U		0.00214	0.0100	0.0100	1	04/08/2018 23:33	WG1095361
Methyl tert-butyl ether	U		0.000367	0.00100	0.00100	1	04/08/2018 23:33	WG1095361
Naphthalene	U		0.00100	0.00500	0.00500	1	04/08/2018 23:33	WG1095361
n-Propylbenzene	U		0.000349	0.00100	0.00100	1	04/08/2018 23:33	WG1095361
Styrene	U		0.000307	0.00100	0.00100	1	04/08/2018 23:33	WG1095361
1,1,2,2-Tetrachloroethane	U		0.000130	0.00100	0.00100	1	04/08/2018 23:33	WG1095361
Tetrachloroethene	U		0.000372	0.00100	0.00100	1	04/08/2018 23:33	WG1095361
Toluene	U		0.000412	0.00100	0.00100	1	04/08/2018 23:33	WG1095361
1,1,1-Trichloroethane	U		0.000319	0.00100	0.00100	1	04/08/2018 23:33	WG1095361



Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result mg/l	Qualifier	SDL mg/l	Unadj. MQL mg/l	MQL mg/l	Dilution	Analysis date / time	Batch
1,1,2-Trichloroethane	U		0.000383	0.00100	0.00100	1	04/08/2018 23:33	WG1095361
Trichloroethene	U		0.000398	0.00100	0.00100	1	04/08/2018 23:33	WG1095361
1,2,4-Trimethylbenzene	U		0.000373	0.00100	0.00100	1	04/08/2018 23:33	WG1095361
1,3,5-Trimethylbenzene	U		0.000387	0.00100	0.00100	1	04/08/2018 23:33	WG1095361
Vinyl chloride	U		0.000259	0.00100	0.00100	1	04/08/2018 23:33	WG1095361
Xylenes, Total	U		0.00106	0.00300	0.00300	1	04/08/2018 23:33	WG1095361
(S) Toluene-d8	107				80.0-120		04/08/2018 23:33	WG1095361
(S) Dibromofluoromethane	101				76.0-123		04/08/2018 23:33	WG1095361
(S) 4-Bromofluorobenzene	95.8				80.0-120		04/08/2018 23:33	WG1095361

Semi-Volatile Organic Compounds (GC) by Method 3511/8015

Analyte	Result mg/l	Qualifier	SDL mg/l	Unadj. MQL mg/l	MQL mg/l	Dilution	Analysis date / time	Batch
TPH (GC/FID) High Fraction	U		0.0247	0.100	0.100	1	04/12/2018 01:03	WG1095663
(S) o-Terphenyl	95.5				31.0-160		04/12/2018 01:03	WG1095663

Semi Volatile Organic Compounds (GC/MS) by Method 8270 C

Analyte	Result mg/l	Qualifier	SDL mg/l	Unadj. MQL mg/l	MQL mg/l	Dilution	Analysis date / time	Batch
Acenaphthene	U		0.000316	0.00100	0.00100	1	04/12/2018 19:37	WG1095852
Acenaphthylene	U		0.000309	0.00100	0.00100	1	04/12/2018 19:37	WG1095852
Acetophenone	U		0.00247	0.0100	0.0100	1	04/12/2018 19:37	WG1095852
Anthracene	U		0.000291	0.00100	0.00100	1	04/12/2018 19:37	WG1095852
Atrazine	U		0.000260	0.0100	0.0100	1	04/12/2018 19:37	WG1095852
Benzo(a)anthracene	U		0.0000510	0.00100	0.00100	1	04/12/2018 19:37	WG1095852
Benzaldehyde	U	J4	0.00140	0.0100	0.0100	1	04/12/2018 19:37	WG1095852
Benzo(b)fluoranthene	U		0.0000896	0.00100	0.00100	1	04/12/2018 19:37	WG1095852
Benzo(k)fluoranthene	U		0.000355	0.00100	0.00100	1	04/12/2018 19:37	WG1095852
Benzo(g,h,i)perylene	U		0.00000227	0.00100	0.00100	1	04/12/2018 19:37	WG1095852
Benzo(a)pyrene	U		0.0000381	0.000200	0.000200	1	04/12/2018 19:37	WG1095852
Biphenyl	U		0.000325	0.0100	0.0100	1	04/12/2018 19:37	WG1095852
Bis(2-chlorethoxy)methane	U		0.000329	0.0100	0.0100	1	04/12/2018 19:37	WG1095852
Bis(2-chloroethyl)ether	U		0.00162	0.0100	0.0100	1	04/12/2018 19:37	WG1095852
Bis(2-chloroisopropyl)ether	U		0.000445	0.0100	0.0100	1	04/12/2018 19:37	WG1095852
4-Bromophenyl-phenylether	U		0.000335	0.0100	0.0100	1	04/12/2018 19:37	WG1095852
2-Chloronaphthalene	U		0.000330	0.00100	0.00100	1	04/12/2018 19:37	WG1095852
4-Chlorophenyl-phenylether	U		0.000303	0.0100	0.0100	1	04/12/2018 19:37	WG1095852
Caprolactam	U		0.00259	0.0100	0.0100	1	04/12/2018 19:37	WG1095852
Carbazole	U		0.000260	0.0100	0.0100	1	04/12/2018 19:37	WG1095852
Chrysene	U		0.000332	0.00100	0.00100	1	04/12/2018 19:37	WG1095852
Dibenz(a,h)anthracene	U		0.0000644	0.000200	0.000200	1	04/12/2018 19:37	WG1095852
Dibenzofuran	U		0.000338	0.0100	0.0100	1	04/12/2018 19:37	WG1095852
3,3-Dichlorobenzidine	U		0.00202	0.0100	0.0100	1	04/12/2018 19:37	WG1095852
2,4-Dinitrotoluene	U		0.00165	0.0100	0.0100	1	04/12/2018 19:37	WG1095852
2,6-Dinitrotoluene	U		0.000279	0.0100	0.0100	1	04/12/2018 19:37	WG1095852
Fluoranthene	U		0.000310	0.00100	0.00100	1	04/12/2018 19:37	WG1095852
Fluorene	U		0.000323	0.00100	0.00100	1	04/12/2018 19:37	WG1095852
Hexachlorobenzene	U		0.000341	0.00100	0.00100	1	04/12/2018 19:37	WG1095852
Hexachloro-1,3-butadiene	U		0.000329	0.0100	0.0100	1	04/12/2018 19:37	WG1095852
Hexachlorocyclopentadiene	U		0.00233	0.0100	0.0100	1	04/12/2018 19:37	WG1095852
Hexachloroethane	U		0.000365	0.0100	0.0100	1	04/12/2018 19:37	WG1095852
Indeno(1,2,3-cd)pyrene	U		0.000279	0.00100	0.00100	1	04/12/2018 19:37	WG1095852
Isophorone	U		0.000272	0.0100	0.0100	1	04/12/2018 19:37	WG1095852
1-Methylnaphthalene	U		0.000332	0.00100	0.00100	1	04/12/2018 19:37	WG1095852
2-Methylnaphthalene	U		0.000311	0.00100	0.00100	1	04/12/2018 19:37	WG1095852

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc



Collected date/time: 04/05/18 16:35

L984044

Semi Volatile Organic Compounds (GC/MS) by Method 8270 C

Analyte	Result mg/l	Qualifier	SDL mg/l	Unadj. MQL mg/l	MQL mg/l	Dilution	Analysis date / time	Batch
Naphthalene	U		0.000372	0.00100	0.00100	1	04/12/2018 19:37	WG1095852
Nitrobenzene	U		0.000367	0.0100	0.0100	1	04/12/2018 19:37	WG1095852
n-Nitrosodiphenylamine	U		0.000304	0.0100	0.0100	1	04/12/2018 19:37	WG1095852
n-Nitrosodi-n-propylamine	U		0.000403	0.0100	0.0100	1	04/12/2018 19:37	WG1095852
Phenanthrene	U		0.000366	0.00100	0.00100	1	04/12/2018 19:37	WG1095852
Benzylbutyl phthalate	U		0.000275	0.00300	0.00300	1	04/12/2018 19:37	WG1095852
Bis(2-ethylhexyl)phthalate	U		0.000709	0.00300	0.00300	1	04/12/2018 19:37	WG1095852
Di-n-butyl phthalate	U		0.000266	0.00300	0.00300	1	04/12/2018 19:37	WG1095852
Diethyl phthalate	U		0.000282	0.00300	0.00300	1	04/12/2018 19:37	WG1095852
Dimethyl phthalate	U		0.000283	0.00300	0.00300	1	04/12/2018 19:37	WG1095852
Di-n-octyl phthalate	U		0.000278	0.00300	0.00300	1	04/12/2018 19:37	WG1095852
Pyrene	U		0.000330	0.00100	0.00100	1	04/12/2018 19:37	WG1095852
1,2,4-Trichlorobenzene	U		0.000355	0.0100	0.0100	1	04/12/2018 19:37	WG1095852
4-Chloro-3-methylphenol	U		0.000263	0.0100	0.0100	1	04/12/2018 19:37	WG1095852
2-Chlorophenol	U		0.000283	0.0100	0.0100	1	04/12/2018 19:37	WG1095852
2,4-Dichlorophenol	U		0.000284	0.0100	0.0100	1	04/12/2018 19:37	WG1095852
2,4-Dimethylphenol	U		0.000624	0.0100	0.0100	1	04/12/2018 19:37	WG1095852
4,6-Dinitro-2-methylphenol	U		0.00262	0.0100	0.0100	1	04/12/2018 19:37	WG1095852
2,4-Dinitrophenol	U		0.00325	0.0100	0.0100	1	04/12/2018 19:37	WG1095852
2-Nitrophenol	U		0.000320	0.0100	0.0100	1	04/12/2018 19:37	WG1095852
2-Nitroaniline	U		0.00190	0.0100	0.0100	1	04/12/2018 19:37	WG1095852
2-Methylphenol	U		0.000312	0.0100	0.0100	1	04/12/2018 19:37	WG1095852
3&4-Methyl Phenol	U		0.000266	0.0100	0.0100	1	04/12/2018 19:37	WG1095852
3-Nitroaniline	U		0.000308	0.0100	0.0100	1	04/12/2018 19:37	WG1095852
4-Chloroaniline	U		0.000382	0.0100	0.0100	1	04/12/2018 19:37	WG1095852
4-Nitroaniline	U	J4	0.000349	0.0100	0.0100	1	04/12/2018 19:37	WG1095852
4-Nitrophenol	U		0.00201	0.0100	0.0100	1	04/12/2018 19:37	WG1095852
Pentachlorophenol	U		0.000313	0.0100	0.0100	1	04/12/2018 19:37	WG1095852
Phenol	0.00809	J	0.000334	0.0100	0.0100	1	04/12/2018 19:37	WG1095852
2,4,5-Trichlorophenol	U		0.000236	0.0100	0.0100	1	04/12/2018 19:37	WG1095852
2,4,6-Trichlorophenol	U		0.000297	0.0100	0.0100	1	04/12/2018 19:37	WG1095852
(S) 2-Fluorophenol	68.1				10.0-120		04/12/2018 19:37	WG1095852
(S) Phenol-d5	44.5				10.0-120		04/12/2018 19:37	WG1095852
(S) Nitrobenzene-d5	83.1				10.0-126		04/12/2018 19:37	WG1095852
(S) 2-Fluorobiphenyl	82.7				22.0-127		04/12/2018 19:37	WG1095852
(S) 2,4,6-Tribromophenol	78.2				10.0-153		04/12/2018 19:37	WG1095852
(S) p-Terphenyl-d14	88.8				29.0-141		04/12/2018 19:37	WG1095852

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc



Collected date/time: 04/05/18 00:00

L984044

Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result mg/l	Qualifier	SDL mg/l	Unadj. MQL mg/l	MQL mg/l	Dilution	Analysis date / time	Batch
Acetone	U		0.0100	1.00	1.00	1	04/08/2018 22:35	WG1095361
Benzene	U		0.000331	0.00100	0.00100	1	04/08/2018 22:35	WG1095361
Bromodichloromethane	U		0.000380	0.00125	0.00125	1	04/08/2018 22:35	WG1095361
Bromoform	U		0.000469	0.00100	0.00100	1	04/08/2018 22:35	WG1095361
Bromomethane	U		0.000866	0.00500	0.00500	1	04/08/2018 22:35	WG1095361
n-Butylbenzene	U		0.000361	0.00100	0.00100	1	04/08/2018 22:35	WG1095361
sec-Butylbenzene	U		0.000365	0.00100	0.00100	1	04/08/2018 22:35	WG1095361
tert-Butylbenzene	U		0.000399	0.00100	0.00100	1	04/08/2018 22:35	WG1095361
Carbon disulfide	U		0.000275	0.00100	0.00100	1	04/08/2018 22:35	WG1095361
Carbon tetrachloride	U		0.000379	0.00100	0.00100	1	04/08/2018 22:35	WG1095361
Chlorobenzene	U		0.000348	0.00100	0.00100	1	04/08/2018 22:35	WG1095361
Chlorodibromomethane	U		0.000327	0.00100	0.00100	1	04/08/2018 22:35	WG1095361
Chloroethane	U		0.000453	0.00500	0.00500	1	04/08/2018 22:35	WG1095361
Chloroform	U		0.000324	0.00500	0.00500	1	04/08/2018 22:35	WG1095361
Chloromethane	U		0.000276	0.00250	0.00250	1	04/08/2018 22:35	WG1095361
1,2-Dibromoethane	U		0.000381	0.00100	0.00100	1	04/08/2018 22:35	WG1095361
1,1-Dichloroethane	U		0.000259	0.00100	0.00100	1	04/08/2018 22:35	WG1095361
1,2-Dichloroethane	U		0.000361	0.00100	0.00100	1	04/08/2018 22:35	WG1095361
1,1-Dichloroethene	U		0.000398	0.00100	0.00100	1	04/08/2018 22:35	WG1095361
cis-1,2-Dichloroethene	U		0.000260	0.00100	0.00100	1	04/08/2018 22:35	WG1095361
trans-1,2-Dichloroethene	U		0.000396	0.00100	0.00100	1	04/08/2018 22:35	WG1095361
1,2-Dichloropropane	U		0.000306	0.00100	0.00100	1	04/08/2018 22:35	WG1095361
cis-1,3-Dichloropropene	U		0.000418	0.00100	0.00100	1	04/08/2018 22:35	WG1095361
trans-1,3-Dichloropropene	U		0.000419	0.00100	0.00100	1	04/08/2018 22:35	WG1095361
Ethylbenzene	U		0.000384	0.00100	0.00100	1	04/08/2018 22:35	WG1095361
Hexachloro-1,3-butadiene	U		0.000256	0.00100	0.00100	1	04/08/2018 22:35	WG1095361
2-Hexanone	U		0.00382	0.0100	0.0100	1	04/08/2018 22:35	WG1095361
Isopropylbenzene	U		0.000326	0.00100	0.00100	1	04/08/2018 22:35	WG1095361
p-Isopropyltoluene	U		0.000350	0.00100	0.00100	1	04/08/2018 22:35	WG1095361
2-Butanone (MEK)	U		0.00393	0.0100	0.0100	1	04/08/2018 22:35	WG1095361
Methylene Chloride	U		0.00100	0.00500	0.00500	1	04/08/2018 22:35	WG1095361
4-Methyl-2-pentanone (MIBK)	U		0.00214	0.0100	0.0100	1	04/08/2018 22:35	WG1095361
Methyl tert-butyl ether	U		0.000367	0.00100	0.00100	1	04/08/2018 22:35	WG1095361
Naphthalene	U		0.00100	0.00500	0.00500	1	04/08/2018 22:35	WG1095361
n-Propylbenzene	U		0.000349	0.00100	0.00100	1	04/08/2018 22:35	WG1095361
Styrene	U		0.000307	0.00100	0.00100	1	04/08/2018 22:35	WG1095361
1,1,2,2-Tetrachloroethane	U		0.000130	0.00100	0.00100	1	04/08/2018 22:35	WG1095361
Tetrachloroethene	U		0.000372	0.00100	0.00100	1	04/08/2018 22:35	WG1095361
Toluene	U		0.000412	0.00100	0.00100	1	04/08/2018 22:35	WG1095361
1,1,1-Trichloroethane	U		0.000319	0.00100	0.00100	1	04/08/2018 22:35	WG1095361
1,1,2-Trichloroethane	U		0.000383	0.00100	0.00100	1	04/08/2018 22:35	WG1095361
Trichloroethene	U		0.000398	0.00100	0.00100	1	04/08/2018 22:35	WG1095361
1,2,4-Trimethylbenzene	U		0.000373	0.00100	0.00100	1	04/08/2018 22:35	WG1095361
1,3,5-Trimethylbenzene	U		0.000387	0.00100	0.00100	1	04/08/2018 22:35	WG1095361
Vinyl chloride	U		0.000259	0.00100	0.00100	1	04/08/2018 22:35	WG1095361
Xylenes, Total	U		0.00106	0.00300	0.00300	1	04/08/2018 22:35	WG1095361
(S) Toluene-d8	108				80.0-120		04/08/2018 22:35	WG1095361
(S) Dibromofluoromethane	102				76.0-123		04/08/2018 22:35	WG1095361
(S) 4-Bromofluorobenzene	96.7				80.0-120		04/08/2018 22:35	WG1095361

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc



Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result	Qualifier	SDL	Unadj. MQL	MQL	Dilution	Analysis	Batch
	mg/l		mg/l	mg/l	mg/l		date / time	
Acetone	U		0.0100	1.00	1.00	1	04/08/2018 22:54	WG1095361
Benzene	U		0.000331	0.00100	0.00100	1	04/08/2018 22:54	WG1095361
Bromodichloromethane	U		0.000380	0.00125	0.00125	1	04/08/2018 22:54	WG1095361
Bromoform	U		0.000469	0.00100	0.00100	1	04/08/2018 22:54	WG1095361
Bromomethane	U		0.000866	0.00500	0.00500	1	04/08/2018 22:54	WG1095361
n-Butylbenzene	U		0.000361	0.00100	0.00100	1	04/08/2018 22:54	WG1095361
sec-Butylbenzene	U		0.000365	0.00100	0.00100	1	04/08/2018 22:54	WG1095361
tert-Butylbenzene	U		0.000399	0.00100	0.00100	1	04/08/2018 22:54	WG1095361
Carbon disulfide	U		0.000275	0.00100	0.00100	1	04/08/2018 22:54	WG1095361
Carbon tetrachloride	U		0.000379	0.00100	0.00100	1	04/08/2018 22:54	WG1095361
Chlorobenzene	U		0.000348	0.00100	0.00100	1	04/08/2018 22:54	WG1095361
Chlorodibromomethane	U		0.000327	0.00100	0.00100	1	04/08/2018 22:54	WG1095361
Chloroethane	U		0.000453	0.00500	0.00500	1	04/08/2018 22:54	WG1095361
Chloroform	U		0.000324	0.00500	0.00500	1	04/08/2018 22:54	WG1095361
Chloromethane	U		0.000276	0.00250	0.00250	1	04/08/2018 22:54	WG1095361
1,2-Dibromoethane	U		0.000381	0.00100	0.00100	1	04/08/2018 22:54	WG1095361
1,1-Dichloroethane	U		0.000259	0.00100	0.00100	1	04/08/2018 22:54	WG1095361
1,2-Dichloroethane	U		0.000361	0.00100	0.00100	1	04/08/2018 22:54	WG1095361
1,1-Dichloroethene	U		0.000398	0.00100	0.00100	1	04/08/2018 22:54	WG1095361
cis-1,2-Dichloroethene	U		0.000260	0.00100	0.00100	1	04/08/2018 22:54	WG1095361
trans-1,2-Dichloroethene	U		0.000396	0.00100	0.00100	1	04/08/2018 22:54	WG1095361
1,2-Dichloropropane	U		0.000306	0.00100	0.00100	1	04/08/2018 22:54	WG1095361
cis-1,3-Dichloropropene	U		0.000418	0.00100	0.00100	1	04/08/2018 22:54	WG1095361
trans-1,3-Dichloropropene	U		0.000419	0.00100	0.00100	1	04/08/2018 22:54	WG1095361
Ethylbenzene	U		0.000384	0.00100	0.00100	1	04/08/2018 22:54	WG1095361
Hexachloro-1,3-butadiene	U		0.000256	0.00100	0.00100	1	04/08/2018 22:54	WG1095361
2-Hexanone	U		0.00382	0.0100	0.0100	1	04/08/2018 22:54	WG1095361
Isopropylbenzene	U		0.000326	0.00100	0.00100	1	04/08/2018 22:54	WG1095361
p-Isopropyltoluene	U		0.000350	0.00100	0.00100	1	04/08/2018 22:54	WG1095361
2-Butanone (MEK)	U		0.00393	0.0100	0.0100	1	04/08/2018 22:54	WG1095361
Methylene Chloride	U		0.00100	0.00500	0.00500	1	04/08/2018 22:54	WG1095361
4-Methyl-2-pentanone (MIBK)	U		0.00214	0.0100	0.0100	1	04/08/2018 22:54	WG1095361
Methyl tert-butyl ether	U		0.000367	0.00100	0.00100	1	04/08/2018 22:54	WG1095361
Naphthalene	U		0.00100	0.00500	0.00500	1	04/08/2018 22:54	WG1095361
n-Propylbenzene	U		0.000349	0.00100	0.00100	1	04/08/2018 22:54	WG1095361
Styrene	U		0.000307	0.00100	0.00100	1	04/08/2018 22:54	WG1095361
1,1,2,2-Tetrachloroethane	U		0.000130	0.00100	0.00100	1	04/08/2018 22:54	WG1095361
Tetrachloroethene	U		0.000372	0.00100	0.00100	1	04/08/2018 22:54	WG1095361
Toluene	U		0.000412	0.00100	0.00100	1	04/08/2018 22:54	WG1095361
1,1,1-Trichloroethane	U		0.000319	0.00100	0.00100	1	04/08/2018 22:54	WG1095361
1,1,2-Trichloroethane	U		0.000383	0.00100	0.00100	1	04/08/2018 22:54	WG1095361
Trichloroethene	U		0.000398	0.00100	0.00100	1	04/08/2018 22:54	WG1095361
1,2,4-Trimethylbenzene	U		0.000373	0.00100	0.00100	1	04/08/2018 22:54	WG1095361
1,3,5-Trimethylbenzene	U		0.000387	0.00100	0.00100	1	04/08/2018 22:54	WG1095361
Vinyl chloride	U		0.000259	0.00100	0.00100	1	04/08/2018 22:54	WG1095361
Xylenes, Total	U		0.00106	0.00300	0.00300	1	04/08/2018 22:54	WG1095361
(S) Toluene-d8	108				80.0-120		04/08/2018 22:54	WG1095361
(S) Dibromofluoromethane	102				76.0-123		04/08/2018 22:54	WG1095361
(S) 4-Bromofluorobenzene	95.3				80.0-120		04/08/2018 22:54	WG1095361

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc

Method Blank (MB)

(MB) R3301701-1 04/12/18 16:05

	MB Result	MB Qualifier	MB MDL	MB RDL
Analyte	mg/l		mg/l	mg/l
Dissolved Solids	U		2.82	10.0

1	Cp
2	Tc
3	Ss
4	Cn
5	Sr
6	Qc
7	Gl
8	Al
9	Sc

L984021-01 Original Sample (OS) • Duplicate (DUP)

(OS) L984021-01 04/12/18 16:05 • (DUP) R3301701-4 04/12/18 16:05

	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
Analyte	mg/l	mg/l		%		%
Dissolved Solids	529	526	1	0.569		5

L984021-02 Original Sample (OS) • Duplicate (DUP)

(OS) L984021-02 04/12/18 16:05 • (DUP) R3301701-5 04/12/18 16:05

	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
Analyte	mg/l	mg/l		%		%
Dissolved Solids	450	452	1	0.443		5

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3301701-2 04/12/18 16:05 • (LCSD) R3301701-3 04/12/18 16:05

	Spike Amount	LCS Result	LCSD Result	LCS Rec.	LCSD Rec.	Rec. Limits	LCS Qualifier	LCSD Qualifier	RPD	RPD Limits
Analyte	mg/l	mg/l	mg/l	%	%	%			%	%
Dissolved Solids	8800	8710	8600	99.0	97.7	85.0-115			1.27	5

Method Blank (MB)

(MB) R3301959-1 04/12/18 14:19				
	MB Result	<u>MB Qualifier</u>	MB MDL	MB RDL
Analyte	mg/l		mg/l	mg/l
Dissolved Solids	3.00	<u>J</u>	2.82	10.0

¹Cp

²Tc

³Ss

⁴Cn

⁵Sr

⁶Qc

⁷Gl

⁸Al

⁹Sc

L984044-11 Original Sample (OS) • Duplicate (DUP)

(OS) L984044-11 04/12/18 14:19 • (DUP) R3301959-4 04/12/18 14:19						
	Original Result	DUP Result	Dilution	DUP RPD	<u>DUP Qualifier</u>	DUP RPD Limits
Analyte	mg/l	mg/l		%		%
Dissolved Solids	1380	1290	1	6.73	<u>J3</u>	5

L984044-17 Original Sample (OS) • Duplicate (DUP)

(OS) L984044-17 04/12/18 14:19 • (DUP) R3301959-5 04/12/18 14:19						
	Original Result	DUP Result	Dilution	DUP RPD	<u>DUP Qualifier</u>	DUP RPD Limits
Analyte	mg/l	mg/l		%		%
Dissolved Solids	902	904	1	0.221		5

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3301959-2 04/12/18 14:19 • (LCSD) R3301959-3 04/12/18 14:19									
	Spike Amount	LCS Result	LCSD Result	LCS Rec.	LCSD Rec.	Rec. Limits	<u>LCS Qualifier</u>	<u>LCSD Qualifier</u>	RPD
Analyte	mg/l	mg/l	mg/l	%	%	%			%
Dissolved Solids	8800	8610	8600	97.8	97.7	85.0-115			0.116
									5



L983164-01 Original Sample (OS) • Duplicate (DUP)

(OS) L983164-01 04/08/18 17:12 • (DUP) R3300051-5 04/08/18 17:20

	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
Analyte	mg/l	mg/l		%		%
Alkalinity	219	193	1	12.3		20

Sample Narrative:

OS: Endpoint pH 4.5 Headspace

DUP: Endpoint pH 4.5

L984054-16 Original Sample (OS) • Duplicate (DUP)

(OS) L984054-16 04/09/18 04:12 • (DUP) R3300051-8 04/09/18 04:19

	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
Analyte	mg/l	mg/l		%		%
Alkalinity	292	291	1	0.345		20

Sample Narrative:

OS: Endpoint pH 4.5

DUP: Endpoint pH 4.5

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3300051-6 04/08/18 18:12 • (LCSD) R3300051-7 04/08/18 21:48

	Spike Amount	LCS Result	LCSD Result	LCS Rec.	LCSD Rec.	Rec. Limits	LCS Qualifier	LCSD Qualifier	RPD	RPD Limits
Analyte	mg/l	mg/l	mg/l	%	%	%			%	%
Alkalinity	100	109	110	109	110	85.0-115			0.774	20

Sample Narrative:

LCS: Endpoint pH 4.5

LCSD: Endpoint pH 4.5

1Cp

2Tc

3Ss

4Cn

5Sr

6Qc

7Gl

8Al

9Sc



L983943-01 Original Sample (OS) • Duplicate (DUP)

(OS) L983943-01 04/09/18 08:27 • (DUP) R3300349-1 04/09/18 08:34

	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
Analyte	mg/l	mg/l		%		%
Alkalinity	247	253	1	2.32		20

Sample Narrative:

OS: Endpoint pH 4.5
DUP: Endpoint pH 4.5

L984044-24 Original Sample (OS) • Duplicate (DUP)

(OS) L984044-24 04/09/18 11:32 • (DUP) R3300349-4 04/09/18 11:41

	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
Analyte	mg/l	mg/l		%		%
Alkalinity	3.33	0.000	1	200	P1	20

Sample Narrative:

OS: Endpoint pH 4.5
DUP: Endpoint pH 4.5

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3300349-2 04/09/18 09:37 • (LCSD) R3300349-3 04/09/18 10:54

	Spike Amount	LCS Result	LCSD Result	LCS Rec.	LCSD Rec.	Rec. Limits	LCS Qualifier	LCSD Qualifier	RPD	RPD Limits
Analyte	mg/l	mg/l	mg/l	%	%	%			%	%
Alkalinity	100	102	103	102	103	85.0-115			0.675	20

Sample Narrative:

LCS: Endpoint pH 4.5
LCSD: Endpoint pH 4.5

1Cp

2Tc

3Ss

4Cn

5Sr

6Qc

7Gl

8Al

9Sc



L984044-25 Original Sample (OS) • Duplicate (DUP)

(OS) L984044-25 04/09/18 12:32 • (DUP) R3300348-1 04/09/18 12:40

	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
Analyte	mg/l	mg/l		%		%
Alkalinity	U	0.000	1	0.000		20

Sample Narrative:

OS: Endpoint pH 4.5
DUP: Endpoint pH 4.5

L984054-08 Original Sample (OS) • Duplicate (DUP)

(OS) L984054-08 04/10/18 08:19 • (DUP) R3300348-6 04/10/18 08:27

	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
Analyte	mg/l	mg/l		%		%
Alkalinity	79.2	79.6	1	0.424		20

Sample Narrative:

OS: Endpoint pH 4.5
DUP: Endpoint pH 4.5

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3300348-4 04/09/18 13:40 • (LCSD) R3300348-5 04/09/18 14:51

	Spike Amount	LCS Result	LCSD Result	LCS Rec.	LCSD Rec.	Rec. Limits	LCS Qualifier	LCSD Qualifier	RPD	RPD Limits
Analyte	mg/l	mg/l	mg/l	%	%	%			%	%
Alkalinity	100	108	106	108	106	85.0-115			1.90	20

Sample Narrative:

LCS: Endpoint pH 4.5
LCSD: Endpoint pH 4.5

1Cp

2Tc

3Ss

4Cn

5Sr

6Qc

7Gl

8Al

9Sc



Method Blank (MB)

(MB) R3301750-1 04/13/18 14:51

	MB Result	MB Qualifier	MB MDL	MB RDL
Analyte	mg/l		mg/l	mg/l
Nitrate-Nitrite	U		0.0197	0.100

¹Cp

²Tc

³Ss

⁴Cn

⁵Sr

⁶Qc

⁷Gl

⁸Al

⁹Sc

L984044-01 Original Sample (OS) • Duplicate (DUP)

(OS) L984044-01 04/13/18 14:54 • (DUP) R3301750-4 04/13/18 14:55

	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
Analyte	mg/l	mg/l		%		%
Nitrate-Nitrite	2.14	2.15	1	0.233		20

L984044-16 Original Sample (OS) • Duplicate (DUP)

(OS) L984044-16 04/13/18 15:14 • (DUP) R3301750-8 04/13/18 15:15

	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
Analyte	mg/l	mg/l		%		%
Nitrate-Nitrite	1.74	1.70	1	2.33		20

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3301750-2 04/13/18 14:52 • (LCSD) R3301750-3 04/13/18 14:53

	Spike Amount	LCS Result	LCSD Result	LCS Rec.	LCSD Rec.	Rec. Limits	LCS Qualifier	LCSD Qualifier	RPD	RPD Limits
Analyte	mg/l	mg/l	mg/l	%	%	%			%	%
Nitrate-Nitrite	5.00	3.71	3.78	92.7	94.4	90.0-110			1.82	20

L984044-03 Original Sample (OS) • Matrix Spike (MS)

(OS) L984044-03 04/13/18 14:56 • (MS) R3301750-5 04/13/18 14:57

	Spike Amount	Original Result	MS Result	MS Rec.	Dilution	Rec. Limits	MS Qualifier
Analyte	mg/l	mg/l	mg/l	%		%	
Nitrate-Nitrite	2.50	1.75	3.71	78.3	1	90.0-110	J6

L984044-15 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L984044-15 04/13/18 15:11 • (MS) R3301750-6 04/13/18 15:12 • (MSD) R3301750-7 04/13/18 15:13

	Spike Amount	Original Result	MS Result	MSD Result	MS Rec.	MSD Rec.	Dilution	Rec. Limits	MS Qualifier	MSD Qualifier	RPD	RPD Limits
Analyte	mg/l	mg/l	mg/l	mg/l	%	%		%			%	%
Nitrate-Nitrite	2.50	3.35	5.16	5.23	72.2	75.2	1	90.0-110	E J6	E J6	1.44	20



Method Blank (MB)

(MB) R3300432-1 04/09/18 18:16

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
Chloride	0.149	J	0.0519	1.00
Fluoride	U		0.00990	0.100
Sulfate	U		0.0774	5.00

1
Cp

2
Tc

3
Ss

4
Cn

5
Sr

6
Qc

7
Gl

8
Al

9
Sc

L984013-02 Original Sample (OS) • Duplicate (DUP)

(OS) L984013-02 04/10/18 02:29 • (DUP) R3300432-4 04/10/18 02:45

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Chloride	60.7	60.7	1	0.0499		15
Fluoride	1.18	1.24	1	5.18		15
Sulfate	U	0.000	1	0.000		15

L984044-07 Original Sample (OS) • Duplicate (DUP)

(OS) L984044-07 04/10/18 06:21 • (DUP) R3300432-7 04/10/18 06:36

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Chloride	33.2	33.3	1	0.344		15
Fluoride	0.699	0.744	1	6.26		15
Sulfate	71.1	71.1	1	0.0920		15

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3300432-2 04/09/18 18:31 • (LCSD) R3300432-3 04/09/18 18:46

Analyte	Spike Amount mg/l	LCS Result mg/l	LCSD Result mg/l	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
Chloride	40.0	39.7	39.9	99.4	99.7	80.0-120			0.380	15
Fluoride	8.00	8.13	8.15	102	102	80.0-120			0.195	15
Sulfate	40.0	39.9	40.2	99.7	100	80.0-120			0.722	15



[L984044-01,03,04,05,07,08,09,10,11](#)

L984013-02 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L984013-02 04/10/18 02:29 • (MS) R3300432-5 04/10/18 03:00 • (MSD) R3300432-6 04/10/18 03:16

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MSD Result mg/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	<u>MS Qualifier</u>	<u>MSD Qualifier</u>	RPD %	RPD Limits %
Chloride	50.0	60.7	112	110	102	99.2	1	80.0-120	E	E	1.36	15
Fluoride	5.00	1.18	6.39	6.54	104	107	1	80.0-120			2.35	15
Sulfate	50.0	U	47.7	50.1	95.4	100	1	80.0-120			4.87	15

L984044-07 Original Sample (OS) • Matrix Spike (MS)

(OS) L984044-07 04/10/18 06:21 • (MS) R3300432-8 04/10/18 06:52

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MS Rec. %	Dilution	Rec. Limits %	<u>MS Qualifier</u>
Chloride	50.0	33.2	82.5	98.6	1	80.0-120	
Fluoride	5.00	0.699	5.57	97.4	1	80.0-120	
Sulfate	50.0	71.1	116	89.0	1	80.0-120	E

¹Cp

²Tc

³Ss

⁴Cn

⁵Sr

⁶Qc

⁷Gl

⁸Al

⁹Sc



Method Blank (MB)

(MB) R3300828-1 04/10/18 22:17

	MB Result	MB Qualifier	MB MDL	MB RDL
Analyte	mg/l		mg/l	mg/l
Chloride	U		0.0519	1.00
Fluoride	U		0.00990	0.100
Sulfate	U		0.0774	5.00

L983865-40 Original Sample (OS) • Duplicate (DUP)

(OS) L983865-40 04/11/18 00:21 • (DUP) R3300828-6 04/11/18 00:36

	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
Analyte	mg/l	mg/l		%		%
Fluoride	0.964	0.995	1	3.17		15
Sulfate	26.8	26.6	1	0.940		15

L984044-15 Original Sample (OS) • Duplicate (DUP)

(OS) L984044-15 04/11/18 02:55 • (DUP) R3300828-8 04/11/18 03:10

	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
Analyte	mg/l	mg/l		%		%
Chloride	70.8	71.3	1	0.773		15
Fluoride	1.19	1.23	1	3.22		15
Sulfate	77.2	77.3	1	0.111		15

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3300828-4 04/10/18 23:19 • (LCSD) R3300828-5 04/10/18 23:34

	Spike Amount	LCS Result	LCSD Result	LCS Rec.	LCSD Rec.	Rec. Limits	LCS Qualifier	LCSD Qualifier	RPD	RPD Limits
Analyte	mg/l	mg/l	mg/l	%	%	%			%	%
Chloride	40.0	39.9	39.1	99.7	97.7	80.0-120			2.01	15
Fluoride	8.00	8.16	8.01	102	100	80.0-120			1.86	15
Sulfate	40.0	39.4	38.5	98.4	96.3	80.0-120			2.17	15

L983865-40 Original Sample (OS) • Matrix Spike (MS)

(OS) L983865-40 04/11/18 00:21 • (MS) R3300828-7 04/11/18 00:51

	Spike Amount	Original Result	MS Result	MS Rec.	Dilution	Rec. Limits	MS Qualifier
Analyte	mg/l	mg/l	mg/l	%		%	
Fluoride	5.00	0.964	5.87	98.2	1	80.0-120	
Sulfate	50.0	26.8	73.0	92.3	1	80.0-120	

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc



L984044-15 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L984044-15 04/11/18 02:55 • (MS) R3300828-9 04/11/18 03:26 • (MSD) R3300828-10 04/11/18 03:41

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MSD Result mg/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Chloride	50.0	70.8	121	122	100	102	1	80.0-120	E	E	0.747	15
Fluoride	5.00	1.19	6.32	6.75	103	111	1	80.0-120			6.54	15
Sulfate	50.0	77.2	122	127	89.3	99.0	1	80.0-120	E	E	3.91	15

1Cp

2Tc

3Ss

4Cn

5Sr

6Qc

7Gl

8Al

9Sc



Method Blank (MB)

(MB) R3300466-1 04/10/18 09:50

	MB Result	MB Qualifier	MB MDL	MB RDL
Analyte	mg/l		mg/l	mg/l
Mercury	U		0.0000490	0.000200

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3300466-2 04/10/18 09:52 • (LCSD) R3300466-3 04/10/18 09:55

	Spike Amount	LCS Result	LCSD Result	LCS Rec.	LCSD Rec.	Rec. Limits	LCS Qualifier	LCSD Qualifier	RPD	RPD Limits
Analyte	mg/l	mg/l	mg/l	%	%	%			%	%
Mercury	0.00300	0.00301	0.00305	100	102	80.0-120			1.20	20

L984044-15 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L984044-15 04/10/18 09:57 • (MS) R3300466-4 04/10/18 09:59 • (MSD) R3300466-5 04/10/18 10:02

	Spike Amount	Original Result	MS Result	MSD Result	MS Rec.	MSD Rec.	Dilution	Rec. Limits	MS Qualifier	MSD Qualifier	RPD	RPD Limits
Analyte	mg/l	mg/l	mg/l	mg/l	%	%		%			%	%
Mercury	0.00300	U	0.00313	0.00303	104	101	1	75.0-125			3.27	20

1Cp

2Tc

3Ss

4Cn

5Sr

6Qc

7Gl

8Al

9Sc



Method Blank (MB)

(MB) R3300865-1 04/11/18 10:27

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
Boron,Dissolved	U		0.0126	0.200

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3300865-2 04/11/18 10:30 • (LCSD) R3300865-3 04/11/18 10:33

Analyte	Spike Amount mg/l	LCS Result mg/l	LCSD Result mg/l	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
Boron,Dissolved	1.00	1.03	1.01	103	101	80.0-120			1.58	20

L984044-15 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L984044-15 04/11/18 10:36 • (MS) R3300865-5 04/11/18 10:42 • (MSD) R3300865-6 04/11/18 10:45

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MSD Result mg/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Boron,Dissolved	1.00	0.184	1.21	1.19	103	101	1	75.0-125			1.76	20

1Cp

2Tc

3Ss

4Cn

5Sr

6Qc

7Gl

8Al

9Sc



Method Blank (MB)

(MB) R3303350-1 04/17/18 14:01

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
Magnesium,Dissolved	U		0.100	1.00
Zinc,Dissolved	U		0.00256	0.0250

¹Cp

²Tc

³Ss

⁴Cn

Method Blank (MB)

(MB) R3303355-1 04/19/18 16:18

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
Aluminum,Dissolved	0.00920	J	0.00515	0.100
Arsenic,Dissolved	0.000487	J	0.000250	0.00200
Barium,Dissolved	0.000635	J	0.000360	0.00500
Cadmium,Dissolved	0.000524	J	0.000160	0.00100
Calcium,Dissolved	U		0.0460	1.00
Chromium,Dissolved	0.000833	J	0.000540	0.00200
Copper,Dissolved	0.000674	J	0.000520	0.00500
Cobalt,Dissolved	0.000511	J	0.000260	0.00200
Iron,Dissolved	U		0.0150	0.100
Lead,Dissolved	0.000525	J	0.000240	0.00200
Manganese,Dissolved	0.000570	J	0.000250	0.00500
Molybdenum,Dissolved	0.000529	J	0.000140	0.00500
Nickel,Dissolved	0.000513	J	0.000350	0.00200
Potassium,Dissolved	0.201	J	0.0370	1.00
Selenium,Dissolved	0.000715	J	0.000380	0.00200
Silver,Dissolved	U		0.000310	0.00200
Sodium,Dissolved	U		0.110	1.00
Uranium,Dissolved	0.000477	J	0.000330	0.0100

⁵Sr

⁶Qc

⁷Gl

⁸Al

⁹Sc

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3303350-2 04/17/18 14:10 • (LCSD) R3303350-3 04/17/18 14:14

Analyte	Spike Amount mg/l	LCS Result mg/l	LCSD Result mg/l	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
Magnesium,Dissolved	5.00	5.62	5.28	112	106	80.0-120			6.07	20
Zinc,Dissolved	0.0500	0.0516	0.0529	103	106	80.0-120			2.60	20



Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3303355-2 04/19/18 16:22 • (LCSD) R3303355-3 04/19/18 16:26

Analyte	Spike Amount mg/l	LCS Result mg/l	LCSD Result mg/l	LCS Rec. %	LCSD Rec. %	Rec. Limits %	<u>LCS Qualifier</u>	<u>LCSD Qualifier</u>	RPD %	RPD Limits %
Aluminum,Dissolved	5.00	4.84	4.94	96.9	98.9	80.0-120			2.04	20
Arsenic,Dissolved	0.0500	0.0488	0.0498	97.6	99.7	80.0-120			2.12	20
Barium,Dissolved	0.0500	0.0470	0.0479	94.0	95.8	80.0-120			1.88	20
Cadmium,Dissolved	0.0500	0.0483	0.0500	96.7	99.9	80.0-120			3.34	20
Calcium,Dissolved	5.00	5.49	5.14	110	103	80.0-120			6.47	20
Chromium,Dissolved	0.0500	0.0498	0.0600	99.6	120	80.0-120			18.5	20
Copper,Dissolved	0.0500	0.0513	0.0528	103	106	80.0-120			2.85	20
Cobalt,Dissolved	0.0500	0.0503	0.0514	101	103	80.0-120			2.06	20
Iron,Dissolved	5.00	5.11	5.29	102	106	80.0-120			3.47	20
Lead,Dissolved	0.0500	0.0488	0.0498	97.6	99.6	80.0-120			2.11	20
Manganese,Dissolved	0.0500	0.0484	0.0504	96.7	101	80.0-120			4.14	20
Molybdenum,Dissolved	0.0500	0.0493	0.0496	98.6	99.2	80.0-120			0.635	20
Nickel,Dissolved	0.0500	0.0507	0.0517	101	103	80.0-120			1.87	20
Potassium,Dissolved	5.00	5.18	5.17	104	103	80.0-120			0.0863	20
Selenium,Dissolved	0.0500	0.0497	0.0504	99.4	101	80.0-120			1.35	20
Silver,Dissolved	0.0500	0.0479	0.0488	95.9	97.5	80.0-120			1.69	20
Sodium,Dissolved	5.00	5.81	5.07	116	101	80.0-120			13.6	20
Uranium,Dissolved	0.0500	0.0477	0.0498	95.4	99.5	80.0-120			4.26	20

¹ Cp

² Tc

³ Ss

⁴ Cn

⁵ Sr

⁶ Qc

⁷ Gl

⁸ Al

⁹ Sc

L984044-15 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L984044-15 04/17/18 14:18 • (MS) R3303350-5 04/17/18 14:25 • (MSD) R3303350-6 04/17/18 14:29

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MSD Result mg/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	<u>MS Qualifier</u>	<u>MSD Qualifier</u>	RPD %	RPD Limits %
Magnesium,Dissolved	5.00	14.3	19.1	18.8	96.6	90.3	1	75.0-125			1.65	20
Zinc,Dissolved	0.0500	0.0335	0.0830	0.0803	99.0	93.6	1	75.0-125			3.29	20

L984044-15 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L984044-15 04/19/18 16:31 • (MS) R3303355-5 04/19/18 16:40 • (MSD) R3303355-6 04/19/18 16:44

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MSD Result mg/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	<u>MS Qualifier</u>	<u>MSD Qualifier</u>	RPD %	RPD Limits %
Aluminum,Dissolved	5.00	U	5.95	5.03	119	101	1	75.0-125			16.8	20
Arsenic,Dissolved	0.0500	0.00457	0.0536	0.0540	98.0	98.9	1	75.0-125			0.795	20
Barium,Dissolved	0.0500	0.0723	0.122	0.123	99.3	101	1	75.0-125			0.617	20
Cadmium,Dissolved	0.0500	U	0.0510	0.0507	102	101	1	75.0-125			0.701	20
Calcium,Dissolved	5.00	96.3	101	100	85.8	75.0	1	75.0-125			0.539	20
Chromium,Dissolved	0.0500	0.000946	0.0507	0.0503	99.5	98.7	1	75.0-125			0.784	20
Copper,Dissolved	0.0500	0.00170	0.0530	0.0526	103	102	1	75.0-125			0.866	20



L984044-15 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L984044-15 04/19/18 16:31 • (MS) R3303355-5 04/19/18 16:40 • (MSD) R3303355-6 04/19/18 16:44

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MSD Result mg/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Cobalt,Dissolved	0.0500	U	0.0500	0.0500	100	99.9	1	75.0-125			0.0680	20
Potassium,Dissolved	5.00	2.68	7.33	7.56	93.0	97.5	1	75.0-125			3.01	20
Iron,Dissolved	5.00	U	5.24	5.14	105	103	1	75.0-125			1.92	20
Lead,Dissolved	0.0500	U	0.0505	0.0501	101	100	1	75.0-125			0.802	20
Manganese,Dissolved	0.0500	0.000941	0.0500	0.0489	98.2	95.9	1	75.0-125			2.34	20
Molybdenum,Dissolved	0.0500	0.00218	0.0529	0.0527	101	101	1	75.0-125			0.328	20
Nickel,Dissolved	0.0500	0.00870	0.0591	0.0589	101	100	1	75.0-125			0.307	20
Selenium,Dissolved	0.0500	0.00199	0.0527	0.0517	101	99.3	1	75.0-125			1.93	20
Silver,Dissolved	0.0500	U	0.0497	0.0499	99.3	99.7	1	75.0-125			0.400	20
Sodium,Dissolved	5.00	38.6	42.4	42.3	76.4	73.4	1	75.0-125		V	0.356	20
Uranium,Dissolved	0.0500	0.00217	0.0538	0.0529	103	101	1	75.0-125			1.76	20

1Cp

2Tc

3Ss

4Cn

5Sr

6Qc

7Gl

8Al

9Sc



Method Blank (MB)

(MB) R3302968-1 04/18/18 15:15

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
Chromium,Dissolved	U		0.000540	0.00200

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3302968-2 04/18/18 15:20 • (LCSD) R3302968-3 04/18/18 15:24

Analyte	Spike Amount mg/l	LCS Result mg/l	LCSD Result mg/l	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
Chromium,Dissolved	0.0500	0.0476	0.0489	95.2	97.8	80.0-120			2.71	20

L986362-10 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L986362-10 04/18/18 15:28 • (MS) R3302968-5 04/18/18 15:36 • (MSD) R3302968-6 04/18/18 15:41

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MSD Result mg/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Chromium,Dissolved	0.0500	ND	0.0469	0.0510	93.9	102	1	75.0-125			8.30	20

1Cp

2Tc

3Ss

4Cn

5Sr

6Qc

7Gl

8Al

9Sc

Method Blank (MB)

(MB) R3300695-3 04/10/18 21:46

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
TPH (GC/FID) Low Fraction	U		0.0314	0.100
(S) a,a,a-Trifluorotoluene(FID)	105			77.0-122

1Cp

2Tc

3Ss

4Cn

5Sr

6Qc

7Gl

8Al

9Sc

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3300695-1 04/10/18 19:36 • (LCSD) R3300695-2 04/10/18 20:00

Analyte	Spike Amount mg/l	LCS Result mg/l	LCSD Result mg/l	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
TPH (GC/FID) Low Fraction	5.50	5.61	5.43	102	98.8	71.0-136			3.16	20
(S) a,a,a-Trifluorotoluene(FID)				109	108	77.0-122				

L984044-15 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L984044-15 04/11/18 05:58 • (MS) R3300695-4 04/11/18 06:23 • (MSD) R3300695-5 04/11/18 06:47

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MSD Result mg/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
TPH (GC/FID) Low Fraction	5.50	U	3.32	3.33	60.3	60.5	1	18.0-160			0.313	20
(S) a,a,a-Trifluorotoluene(FID)					105	105		77.0-122				



Method Blank (MB)

(MB) R3301245-2 04/08/18 11:37

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
Acetone	U		0.0100	1.00
Benzene	U		0.000331	0.00100
Bromodichloromethane	U		0.000380	0.00125
Bromoform	U		0.000469	0.00100
Bromomethane	U		0.000866	0.00500
n-Butylbenzene	U		0.000361	0.00100
sec-Butylbenzene	U		0.000365	0.00100
tert-Butylbenzene	U		0.000399	0.00100
Carbon disulfide	U		0.000275	0.00100
Carbon tetrachloride	U		0.000379	0.00100
Chlorobenzene	U		0.000348	0.00100
Chlorodibromomethane	U		0.000327	0.00100
Chloroethane	U		0.000453	0.00500
Chloroform	U		0.000324	0.00500
Chloromethane	U		0.000276	0.00250
1,2-Dibromoethane	U		0.000381	0.00100
1,1-Dichloroethane	U		0.000259	0.00100
1,2-Dichloroethane	U		0.000361	0.00100
1,1-Dichloroethene	U		0.000398	0.00100
cis-1,2-Dichloroethene	U		0.000260	0.00100
trans-1,2-Dichloroethene	U		0.000396	0.00100
1,2-Dichloropropane	U		0.000306	0.00100
cis-1,3-Dichloropropene	U		0.000418	0.00100
trans-1,3-Dichloropropene	U		0.000419	0.00100
Ethylbenzene	U		0.000384	0.00100
Hexachloro-1,3-butadiene	U		0.000256	0.00100
2-Hexanone	U		0.00382	0.0100
Isopropylbenzene	U		0.000326	0.00100
p-Isopropyltoluene	U		0.000350	0.00100
2-Butanone (MEK)	U		0.00393	0.0100
Methylene Chloride	U		0.00100	0.00500
4-Methyl-2-pentanone (MIBK)	U		0.00214	0.0100
Methyl tert-butyl ether	U		0.000367	0.00100
Naphthalene	U		0.00100	0.00500
n-Propylbenzene	U		0.000349	0.00100
Styrene	U		0.000307	0.00100
1,1,2,2-Tetrachloroethane	U		0.000130	0.00100
Tetrachloroethene	U		0.000372	0.00100
Toluene	U		0.000412	0.00100
1,1,1-Trichloroethane	U		0.000319	0.00100

¹Cp

²Tc

³Ss

⁴Cn

⁵Sr

⁶Qc

⁷Gl

⁸Al

⁹Sc



Method Blank (MB)

(MB) R3301245-2 04/08/18 11:37

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
1,1,2-Trichloroethane	U		0.000383	0.00100
Trichloroethene	U		0.000398	0.00100
1,2,4-Trimethylbenzene	U		0.000373	0.00100
1,3,5-Trimethylbenzene	U		0.000387	0.00100
Vinyl chloride	U		0.000259	0.00100
Xylenes, Total	U		0.00106	0.00300
(S) Toluene-d8	108			80.0-120
(S) Dibromofluoromethane	88.3			76.0-123
(S) 4-Bromofluorobenzene	104			80.0-120

Laboratory Control Sample (LCS)

(LCS) R3301245-1 04/08/18 10:34

Analyte	Spike Amount mg/l	LCS Result mg/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Acetone	0.125	0.0830	66.4	10.0-160	
Benzene	0.0250	0.0242	96.8	69.0-123	
Bromodichloromethane	0.0250	0.0262	105	76.0-120	
Bromoform	0.0250	0.0278	111	67.0-132	
Bromomethane	0.0250	0.00657	26.3	18.0-160	
n-Butylbenzene	0.0250	0.0280	112	72.0-126	
sec-Butylbenzene	0.0250	0.0278	111	74.0-121	
tert-Butylbenzene	0.0250	0.0275	110	75.0-122	
Carbon disulfide	0.0250	0.0254	102	55.0-127	
Carbon tetrachloride	0.0250	0.0240	96.1	63.0-122	
Chlorobenzene	0.0250	0.0265	106	79.0-121	
Chlorodibromomethane	0.0250	0.0274	110	75.0-125	
Chloroethane	0.0250	0.0297	119	47.0-152	
Chloroform	0.0250	0.0238	95.1	72.0-121	
Chloromethane	0.0250	0.0203	81.2	48.0-139	
1,2-Dibromoethane	0.0250	0.0272	109	77.0-123	
1,1-Dichloroethane	0.0250	0.0241	96.4	70.0-126	
1,2-Dichloroethane	0.0250	0.0231	92.6	67.0-126	
1,1-Dichloroethene	0.0250	0.0250	99.8	64.0-129	
cis-1,2-Dichloroethene	0.0250	0.0235	93.8	73.0-120	
trans-1,2-Dichloroethene	0.0250	0.0249	99.5	71.0-121	
1,2-Dichloropropane	0.0250	0.0266	106	75.0-125	
cis-1,3-Dichloropropene	0.0250	0.0278	111	79.0-123	
trans-1,3-Dichloropropene	0.0250	0.0273	109	74.0-127	

1
Cp

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Tc

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Ss

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Cn

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Sr

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Qc

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Gl

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Al

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Sc



Laboratory Control Sample (LCS)

(LCS) R3301245-1 04/08/18 10:34

Analyte	Spike Amount mg/l	LCS Result mg/l	LCS Rec. %	Rec. Limits %	<u>LCS Qualifier</u>
Ethylbenzene	0.0250	0.0275	110	77.0-120	
Hexachloro-1,3-butadiene	0.0250	0.0267	107	64.0-131	
2-Hexanone	0.125	0.132	106	58.0-147	
Isopropylbenzene	0.0250	0.0280	112	75.0-120	
p-Isopropyltoluene	0.0250	0.0280	112	74.0-126	
2-Butanone (MEK)	0.125	0.106	85.0	37.0-158	
Methylene Chloride	0.0250	0.0234	93.6	66.0-121	
4-Methyl-2-pentanone (MIBK)	0.125	0.135	108	59.0-143	
Methyl tert-butyl ether	0.0250	0.0244	97.7	64.0-123	
Naphthalene	0.0250	0.0279	112	62.0-128	
n-Propylbenzene	0.0250	0.0274	110	79.0-120	
Styrene	0.0250	0.0284	114	78.0-124	
1,1,2,2-Tetrachloroethane	0.0250	0.0277	111	71.0-122	
Tetrachloroethene	0.0250	0.0262	105	70.0-127	
Toluene	0.0250	0.0264	106	77.0-120	
1,1,1-Trichloroethane	0.0250	0.0248	99.3	68.0-122	
1,1,2-Trichloroethane	0.0250	0.0269	108	78.0-120	
Trichloroethene	0.0250	0.0250	100	78.0-120	
1,2,4-Trimethylbenzene	0.0250	0.0271	108	75.0-120	
1,3,5-Trimethylbenzene	0.0250	0.0275	110	75.0-120	
Vinyl chloride	0.0250	0.0246	98.5	64.0-133	
Xylenes, Total	0.0750	0.0835	111	77.0-120	
(S) Toluene-d8			101	80.0-120	
(S) Dibromofluoromethane			90.6	76.0-123	
(S) 4-Bromofluorobenzene			102	80.0-120	

¹Cp

²Tc

³Ss

⁴Cn

⁵Sr

⁶Qc

⁷Gl

⁸Al

⁹Sc



Method Blank (MB)

(MB) R3300281-3 04/08/18 21:56

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
Acetone	U		0.0100	1.00
Benzene	U		0.000331	0.00100
Bromodichloromethane	U		0.000380	0.00125
Bromoform	U		0.000469	0.00100
Bromomethane	U		0.000866	0.00500
n-Butylbenzene	U		0.000361	0.00100
sec-Butylbenzene	U		0.000365	0.00100
tert-Butylbenzene	U		0.000399	0.00100
Carbon disulfide	U		0.000275	0.00100
Carbon tetrachloride	U		0.000379	0.00100
Chlorobenzene	U		0.000348	0.00100
Chlorodibromomethane	U		0.000327	0.00100
Chloroethane	U		0.000453	0.00500
Chloroform	U		0.000324	0.00500
Chloromethane	U		0.000276	0.00250
1,2-Dibromoethane	U		0.000381	0.00100
1,1-Dichloroethane	U		0.000259	0.00100
1,2-Dichloroethane	U		0.000361	0.00100
1,1-Dichloroethene	U		0.000398	0.00100
cis-1,2-Dichloroethene	U		0.000260	0.00100
trans-1,2-Dichloroethene	U		0.000396	0.00100
1,2-Dichloropropane	U		0.000306	0.00100
cis-1,3-Dichloropropene	U		0.000418	0.00100
trans-1,3-Dichloropropene	U		0.000419	0.00100
Ethylbenzene	U		0.000384	0.00100
Hexachloro-1,3-butadiene	U		0.000256	0.00100
2-Hexanone	U		0.00382	0.0100
Isopropylbenzene	U		0.000326	0.00100
p-Isopropyltoluene	U		0.000350	0.00100
2-Butanone (MEK)	U		0.00393	0.0100
Methylene Chloride	U		0.00100	0.00500
4-Methyl-2-pentanone (MIBK)	U		0.00214	0.0100
Methyl tert-butyl ether	U		0.000367	0.00100
Naphthalene	U		0.00100	0.00500
n-Propylbenzene	U		0.000349	0.00100
Styrene	U		0.000307	0.00100
1,1,2,2-Tetrachloroethane	U		0.000130	0.00100
Tetrachloroethene	U		0.000372	0.00100
Toluene	U		0.000412	0.00100
1,1,1-Trichloroethane	U		0.000319	0.00100

¹Cp

²Tc

³Ss

⁴Cn

⁵Sr

⁶Qc

⁷Gl

⁸Al

⁹Sc

Method Blank (MB)

(MB) R3300281-3 04/08/18 21:56

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
1,1,2-Trichloroethane	U		0.000383	0.00100
Trichloroethene	U		0.000398	0.00100
1,2,4-Trimethylbenzene	U		0.000373	0.00100
1,3,5-Trimethylbenzene	U		0.000387	0.00100
Vinyl chloride	U		0.000259	0.00100
Xylenes, Total	U		0.00106	0.00300
(S) Toluene-d8	107			80.0-120
(S) Dibromofluoromethane	101			76.0-123
(S) 4-Bromofluorobenzene	97.7			80.0-120

¹ Cp

² Tc

³ Ss

⁴ Cn

⁵ Sr

⁶ Qc

⁷ Gl

⁸ Al

⁹ Sc

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3300281-1 04/08/18 20:58 • (LCSD) R3300281-2 04/08/18 21:17

Analyte	Spike Amount mg/l	LCS Result mg/l	LCSD Result mg/l	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
Acetone	0.125	0.133	0.133	106	106	10.0-160			0.389	23
Benzene	0.0250	0.0239	0.0242	95.5	97.0	69.0-123			1.56	20
Bromodichloromethane	0.0250	0.0233	0.0233	93.2	93.2	76.0-120			0.0230	20
Bromoform	0.0250	0.0232	0.0237	92.7	94.8	67.0-132			2.20	20
Bromomethane	0.0250	0.0188	0.0215	75.0	85.8	18.0-160			13.5	20
n-Butylbenzene	0.0250	0.0230	0.0242	91.9	96.8	72.0-126			5.21	20
sec-Butylbenzene	0.0250	0.0213	0.0222	85.2	88.9	74.0-121			4.29	20
tert-Butylbenzene	0.0250	0.0218	0.0230	87.2	91.9	75.0-122			5.22	20
Carbon disulfide	0.0250	0.0222	0.0232	88.9	92.8	55.0-127			4.31	20
Carbon tetrachloride	0.0250	0.0296	0.0306	118	122	63.0-122			3.12	20
Chlorobenzene	0.0250	0.0258	0.0270	103	108	79.0-121			4.57	20
Chlorodibromomethane	0.0250	0.0261	0.0270	105	108	75.0-125			3.22	20
Chloroethane	0.0250	0.0274	0.0282	109	113	47.0-152			2.85	20
Chloroform	0.0250	0.0232	0.0237	92.8	94.7	72.0-121			2.00	20
Chloromethane	0.0250	0.0244	0.0248	97.7	99.2	48.0-139			1.52	20
1,2-Dibromoethane	0.0250	0.0258	0.0262	103	105	77.0-123			1.29	20
1,1-Dichloroethane	0.0250	0.0242	0.0249	96.7	99.4	70.0-126			2.80	20
1,2-Dichloroethane	0.0250	0.0260	0.0256	104	102	67.0-126			1.41	20
1,1-Dichloroethene	0.0250	0.0227	0.0232	90.6	92.8	64.0-129			2.36	20
cis-1,2-Dichloroethene	0.0250	0.0235	0.0231	94.0	92.3	73.0-120			1.79	20
trans-1,2-Dichloroethene	0.0250	0.0227	0.0238	90.9	95.2	71.0-121			4.58	20
1,2-Dichloropropane	0.0250	0.0235	0.0237	94.1	94.9	75.0-125			0.840	20
cis-1,3-Dichloropropene	0.0250	0.0257	0.0262	103	105	79.0-123			1.93	20
trans-1,3-Dichloropropene	0.0250	0.0268	0.0276	107	110	74.0-127			2.61	20

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3300281-1 04/08/18 20:58 • (LCSD) R3300281-2 04/08/18 21:17

Analyte	Spike Amount mg/l	LCS Result mg/l	LCSD Result mg/l	LCS Rec. %	LCSD Rec. %	Rec. Limits %	<u>LCS Qualifier</u>	<u>LCSD Qualifier</u>	RPD %	RPD Limits %
Ethylbenzene	0.0250	0.0251	0.0261	100	104	77.0-120			3.87	20
Hexachloro-1,3-butadiene	0.0250	0.0202	0.0209	80.7	83.5	64.0-131			3.43	20
2-Hexanone	0.125	0.141	0.144	112	115	58.0-147			2.10	20
Isopropylbenzene	0.0250	0.0215	0.0224	85.9	89.6	75.0-120			4.14	20
p-Isopropyltoluene	0.0250	0.0223	0.0235	89.4	93.9	74.0-126			4.95	20
2-Butanone (MEK)	0.125	0.138	0.136	110	109	37.0-158			1.24	20
Methylene Chloride	0.0250	0.0245	0.0247	98.1	98.7	66.0-121			0.688	20
4-Methyl-2-pentanone (MIBK)	0.125	0.143	0.145	114	116	59.0-143			1.54	20
Methyl tert-butyl ether	0.0250	0.0236	0.0235	94.6	94.1	64.0-123			0.488	20
Naphthalene	0.0250	0.0225	0.0228	89.9	91.1	62.0-128			1.30	20
n-Propylbenzene	0.0250	0.0229	0.0238	91.6	95.4	79.0-120			4.08	20
Styrene	0.0250	0.0227	0.0234	90.6	93.8	78.0-124			3.40	20
1,1,2,2-Tetrachloroethane	0.0250	0.0230	0.0231	92.1	92.5	71.0-122			0.462	20
Tetrachloroethene	0.0250	0.0251	0.0267	100	107	70.0-127			6.24	20
Toluene	0.0250	0.0254	0.0267	101	107	77.0-120			5.11	20
1,1,1-Trichloroethane	0.0250	0.0245	0.0253	97.9	101	68.0-122			3.15	20
1,1,2-Trichloroethane	0.0250	0.0253	0.0262	101	105	78.0-120			3.36	20
Trichloroethene	0.0250	0.0255	0.0258	102	103	78.0-120			1.23	20
1,2,4-Trimethylbenzene	0.0250	0.0218	0.0226	87.1	90.4	75.0-120			3.68	20
1,3,5-Trimethylbenzene	0.0250	0.0212	0.0221	84.9	88.3	75.0-120			3.92	20
Vinyl chloride	0.0250	0.0243	0.0252	97.4	101	64.0-133			3.57	20
Xylenes, Total	0.0750	0.0750	0.0787	100	105	77.0-120			4.81	20
(S) Toluene-d8				106	107	80.0-120				
(S) Dibromofluoromethane				100	101	76.0-123				
(S) 4-Bromofluorobenzene				96.1	96.9	80.0-120				

1Cp

2Tc

3Ss

4Cn

5Sr

6Qc

7Gl

8Al

9Sc

L984044-15 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L984044-15 04/09/18 04:42 • (MS) R3300281-4 04/09/18 05:02 • (MSD) R3300281-5 04/09/18 05:21

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MSD Result mg/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	<u>MS Qualifier</u>	<u>MSD Qualifier</u>	RPD %	RPD Limits %
Acetone	0.125	U	0.0996	0.110	79.7	88.2	1	10.0-139			10.1	25
Benzene	0.0250	U	0.0223	0.0236	89.1	94.5	1	34.0-147			5.83	20
Bromodichloromethane	0.0250	0.00127	0.0236	0.0252	89.4	95.7	1	52.0-135			6.42	20
Bromoform	0.0250	U	0.0213	0.0235	85.1	94.1	1	50.0-146			9.95	20
Bromomethane	0.0250	U	0.0147	0.0172	58.9	68.9	1	10.0-160			15.6	23
n-Butylbenzene	0.0250	U	0.0224	0.0243	89.6	97.1	1	50.0-144			7.96	20
sec-Butylbenzene	0.0250	U	0.0211	0.0227	84.3	90.7	1	48.0-143			7.23	20
tert-Butylbenzene	0.0250	U	0.0218	0.0233	87.2	93.1	1	50.0-142			6.56	20

L984044-15 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L984044-15 04/09/18 04:42 • (MS) R3300281-4 04/09/18 05:02 • (MSD) R3300281-5 04/09/18 05:21

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MSD Result mg/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Carbon disulfide	0.0250	U	0.0157	0.0169	62.9	67.5	1	10.0-147			7.16	20
Carbon tetrachloride	0.0250	U	0.0302	0.0318	121	127	1	41.0-138			5.29	20
Chlorobenzene	0.0250	U	0.0248	0.0267	99.4	107	1	52.0-141			7.22	20
Chlorodibromomethane	0.0250	0.000399	0.0256	0.0275	101	108	1	54.0-142			7.29	20
Chloroethane	0.0250	U	0.0256	0.0271	102	109	1	23.0-160			6.03	20
Chloroform	0.0250	0.00468	0.0279	0.0297	92.9	100	1	50.0-139			6.19	20
Chloromethane	0.0250	U	0.0204	0.0222	81.8	88.7	1	14.0-151			8.18	20
1,2-Dibromoethane	0.0250	U	0.0232	0.0254	92.7	102	1	54.0-140			9.15	20
1,1-Dichloroethane	0.0250	U	0.0234	0.0255	93.7	102	1	47.0-143			8.50	20
1,2-Dichloroethane	0.0250	U	0.0234	0.0254	93.6	102	1	47.0-141			8.33	20
1,1-Dichloroethene	0.0250	U	0.0206	0.0228	82.2	91.3	1	31.0-148			10.5	20
cis-1,2-Dichloroethene	0.0250	U	0.0218	0.0238	87.1	95.0	1	43.0-142			8.71	20
trans-1,2-Dichloroethene	0.0250	U	0.0205	0.0215	82.0	86.0	1	36.0-141			4.72	20
1,2-Dichloropropane	0.0250	U	0.0220	0.0235	88.0	94.0	1	51.0-141			6.60	20
cis-1,3-Dichloropropene	0.0250	U	0.0232	0.0250	92.8	100	1	53.0-139			7.62	20
trans-1,3-Dichloropropene	0.0250	U	0.0244	0.0267	97.6	107	1	51.0-143			9.02	20
Ethylbenzene	0.0250	U	0.0236	0.0261	94.2	104	1	42.0-147			10.0	20
Hexachloro-1,3-butadiene	0.0250	U	0.0193	0.0226	77.4	90.5	1	44.0-146			15.6	21
2-Hexanone	0.125	U	0.123	0.138	98.6	111	1	36.0-145			11.5	23
Isopropylbenzene	0.0250	U	0.0210	0.0227	83.9	90.7	1	48.0-141			7.75	20
p-Isopropyltoluene	0.0250	U	0.0217	0.0234	86.8	93.4	1	49.0-146			7.41	20
2-Butanone (MEK)	0.125	U	0.116	0.130	92.8	104	1	12.0-149			11.6	24
Methylene Chloride	0.0250	U	0.0223	0.0235	89.3	94.2	1	42.0-135			5.26	20
4-Methyl-2-pentanone (MIBK)	0.125	U	0.130	0.145	104	116	1	44.0-160			11.4	22
Methyl tert-butyl ether	0.0250	U	0.0221	0.0236	88.6	94.3	1	42.0-142			6.28	20
Naphthalene	0.0250	U	0.0198	0.0229	79.1	91.4	1	42.0-146			14.5	24
n-Propylbenzene	0.0250	U	0.0223	0.0237	89.4	94.6	1	47.0-144			5.70	20
Styrene	0.0250	U	0.0209	0.0234	83.8	93.7	1	47.0-147			11.1	20
1,1,2,2-Tetrachloroethane	0.0250	U	0.0227	0.0244	90.9	97.7	1	46.0-149			7.27	20
Tetrachloroethene	0.0250	U	0.0230	0.0244	91.8	97.7	1	38.0-147			6.22	20
Toluene	0.0250	U	0.0242	0.0262	97.0	105	1	42.0-141			7.62	20
1,1,1-Trichloroethane	0.0250	U	0.0244	0.0259	97.6	104	1	46.0-140			6.12	20
1,1,2-Trichloroethane	0.0250	U	0.0245	0.0259	98.0	103	1	54.0-139			5.34	20
Trichloroethene	0.0250	U	0.0228	0.0244	91.3	97.8	1	32.0-156			6.84	20
1,2,4-Trimethylbenzene	0.0250	U	0.0209	0.0223	83.5	89.0	1	41.0-146			6.36	20
1,3,5-Trimethylbenzene	0.0250	U	0.0204	0.0222	81.8	88.9	1	44.0-143			8.39	20
Vinyl chloride	0.0250	U	0.0218	0.0233	87.0	93.2	1	24.0-153			6.84	20
Xylenes, Total	0.0750	U	0.0723	0.0767	96.4	102	1	41.0-148			5.91	20
(S) Toluene-d8					108	109		80.0-120				
(S) Dibromofluoromethane					100	99.6		76.0-123				

1Cp

2Tc

3Ss

4Cn

5Sr

6Qc

7Gl

8Al

9Sc



L984044-15 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L984044-15 04/09/18 04:42 • (MS) R3300281-4 04/09/18 05:02 • (MSD) R3300281-5 04/09/18 05:21

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MSD Result mg/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
(S) 4-Bromofluorobenzene					95.7	96.4		80.0-120				

¹Cp

²Tc

³Ss

⁴Cn

⁵Sr

⁶Qc

⁷Gl

⁸Al

⁹Sc



Method Blank (MB)

(MB) R3300825-1 04/11/18 06:59

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
TPH (GC/FID) High Fraction	U		0.0247	0.100
(S) o-Terphenyl	87.2			31.0-160

¹Cp

²Tc

³Ss

⁴Cn

⁵Sr

⁶Qc

⁷Gl

⁸Al

⁹Sc

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3300825-2 04/11/18 07:15 • (LCSD) R3300825-3 04/11/18 07:32

Analyte	Spike Amount mg/l	LCS Result mg/l	LCSD Result mg/l	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
TPH (GC/FID) High Fraction	1.50	1.43	1.43	95.3	95.1	50.0-150			0.176	20
(S) o-Terphenyl				121	116	31.0-160				

L984044-15 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L984044-15 04/11/18 22:51 • (MS) R3300825-4 04/11/18 23:08 • (MSD) R3300825-5 04/11/18 23:24

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MSD Result mg/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
TPH (GC/FID) High Fraction	1.50	0.0495	1.42	1.39	91.2	89.5	1	50.0-150			1.77	20
(S) o-Terphenyl					123	118		31.0-160				



Method Blank (MB)

(MB) R3301381-3 04/12/18 13:05

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
Acenaphthene	U		0.000316	0.00100
Acenaphthylene	U		0.000309	0.00100
Acetophenone	U		0.00247	0.0100
Anthracene	U		0.000291	0.00100
Benzo(a)anthracene	U		0.0000510	0.00100
Atrazine	U		0.000260	0.0100
Benzo(b)fluoranthene	U		0.0000896	0.00100
Benzaldehyde	U		0.00140	0.0100
Benzo(k)fluoranthene	U		0.000355	0.00100
Benzo(g,h,i)perylene	U		0.00000227	0.00100
Benzo(a)pyrene	U		0.0000381	0.000200
Bis(2-chlorethoxy)methane	U		0.000329	0.0100
Bis(2-chloroethyl)ether	U		0.00162	0.0100
Bis(2-chloroisopropyl)ether	U		0.000445	0.0100
4-Bromophenyl-phenylether	U		0.000335	0.0100
Biphenyl	U		0.000325	0.0100
2-Chloronaphthalene	U		0.000330	0.00100
4-Chlorophenyl-phenylether	U		0.000303	0.0100
Chrysene	U		0.000332	0.00100
Dibenz(a,h)anthracene	U		0.0000644	0.000200
Caprolactam	U		0.00259	0.0100
Carbazole	U		0.000260	0.0100
4-Chloroaniline	U		0.000382	0.0100
3,3-Dichlorobenzidine	U		0.00202	0.0100
2,4-Dinitrotoluene	U		0.00165	0.0100
2,6-Dinitrotoluene	U		0.000279	0.0100
Fluoranthene	U		0.000310	0.00100
Dibenzofuran	U		0.000338	0.0100
Fluorene	U		0.000323	0.00100
Hexachlorobenzene	U		0.000341	0.00100
Hexachloro-1,3-butadiene	U		0.000329	0.0100
Hexachlorocyclopentadiene	U		0.00233	0.0100
Hexachloroethane	U		0.000365	0.0100
Indeno(1,2,3-cd)pyrene	U		0.000279	0.00100
Isophorone	U		0.000272	0.0100
Naphthalene	U		0.000372	0.00100
Nitrobenzene	U		0.000367	0.0100
n-Nitrosodiphenylamine	U		0.000304	0.0100
n-Nitrosodi-n-propylamine	U		0.000403	0.0100
Phenanthrene	U		0.000366	0.00100

¹Cp

²Tc

³Ss

⁴Cn

⁵Sr

⁶Qc

⁷Gl

⁸Al

⁹Sc

[L984044-02,06,07,09,11,15,16,17,18,19,20,21,22,23,24,25](#)

Method Blank (MB)

(MB) R3301381-3 04/12/18 13:05

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
Benzylbutyl phthalate	U		0.000275	0.00300
Bis(2-ethylhexyl)phthalate	U		0.000709	0.00300
Di-n-butyl phthalate	U		0.000266	0.00300
1-Methylnaphthalene	U		0.000332	0.00100
Diethyl phthalate	U		0.000282	0.00300
2-Methylnaphthalene	U		0.000311	0.00100
Dimethyl phthalate	U		0.000283	0.00300
Di-n-octyl phthalate	U		0.000278	0.00300
2-Nitroaniline	U		0.00190	0.0100
Pyrene	U		0.000330	0.00100
1,2,4-Trichlorobenzene	U		0.000355	0.0100
3-Nitroaniline	U		0.000308	0.0100
4-Nitroaniline	U		0.000349	0.0100
4-Chloro-3-methylphenol	U		0.000263	0.0100
2-Chlorophenol	U		0.000283	0.0100
2-Nitrophenol	U		0.000320	0.0100
4-Nitrophenol	U		0.00201	0.0100
Pentachlorophenol	U		0.000313	0.0100
Phenol	U		0.000334	0.0100
2,4,6-Trichlorophenol	U		0.000297	0.0100
2,4-Dichlorophenol	U		0.000284	0.0100
2,4-Dimethylphenol	U		0.000624	0.0100
2-Methylphenol	U		0.000312	0.0100
3&4-Methyl Phenol	U		0.000266	0.0100
4,6-Dinitro-2-methylphenol	U		0.00262	0.0100
2,4-Dinitrophenol	U		0.00325	0.0100
2,4,5-Trichlorophenol	U		0.000236	0.0100
(S) Nitrobenzene-d5	89.1			10.0-126
(S) 2-Fluorobiphenyl	87.1			22.0-127
(S) p-Terphenyl-d14	96.1			29.0-141
(S) Phenol-d5	53.1			10.0-120
(S) 2-Fluorophenol	82.6			10.0-120
(S) 2,4,6-Tribromophenol	95.1			10.0-153

1Cp

2Tc

3Ss

4Cn

5Sr

6Qc

7Gl

8Al

9Sc



Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3301381-1 04/12/18 12:16 • (LCSD) R3301381-2 04/12/18 12:40

Analyte	Spike Amount mg/l	LCS Result mg/l	LCSD Result mg/l	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
Acenaphthene	0.0500	0.0467	0.0521	93.4	104	42.0-120			11.0	22
Acenaphthylene	0.0500	0.0478	0.0516	95.5	103	43.0-120			7.71	22
Anthracene	0.0500	0.0429	0.0458	85.9	91.6	44.0-120			6.44	20
Benzo(a)anthracene	0.0500	0.0455	0.0492	91.1	98.3	44.0-120			7.65	20
Benzo(b)fluoranthene	0.0500	0.0463	0.0504	92.6	101	40.0-120			8.52	21
Benzo(k)fluoranthene	0.0500	0.0462	0.0487	92.4	97.3	41.0-120			5.17	22
Benzo(g,h,i)perylene	0.0500	0.0487	0.0520	97.3	104	45.0-121			6.70	20
Benzo(a)pyrene	0.0500	0.0459	0.0491	91.7	98.3	41.0-120			6.88	20
Bis(2-chlorethoxy)methane	0.0500	0.0413	0.0432	82.7	86.5	36.0-120			4.48	25
Bis(2-chloroethyl)ether	0.0500	0.0489	0.0508	97.9	102	24.0-120			3.78	29
Bis(2-chloroisopropyl)ether	0.0500	0.0489	0.0497	97.8	99.4	32.0-120			1.62	29
4-Bromophenyl-phenylether	0.0500	0.0483	0.0517	96.6	103	42.0-121			6.92	21
2-Chloronaphthalene	0.0500	0.0412	0.0449	82.5	89.7	37.0-120			8.44	24
4-Chlorophenyl-phenylether	0.0500	0.0444	0.0476	88.8	95.3	44.0-120			6.99	21
Chrysene	0.0500	0.0465	0.0493	93.1	98.7	45.0-120			5.79	20
Dibenz(a,h)anthracene	0.0500	0.0457	0.0495	91.4	99.0	44.0-121			8.00	21
3,3-Dichlorobenzidine	0.0500	0.0396	0.0436	79.2	87.3	29.0-153			9.67	23
2,4-Dinitrotoluene	0.0500	0.0509	0.0552	102	110	47.0-127			8.07	21
2,6-Dinitrotoluene	0.0500	0.0449	0.0499	89.7	99.8	42.0-120			10.6	22
Fluoranthene	0.0500	0.0496	0.0513	99.2	103	46.0-121			3.44	20
Fluorene	0.0500	0.0457	0.0504	91.3	101	45.0-120			9.95	21
Acetophenone	0.0500	0.0451	0.0458	90.2	91.6	28.0-120			1.55	27
Hexachlorobenzene	0.0500	0.0498	0.0543	99.7	109	41.0-124			8.64	21
Hexachloro-1,3-butadiene	0.0500	0.0321	0.0339	64.1	67.7	26.0-120			5.49	31
Hexachlorocyclopentadiene	0.0500	0.0338	0.0368	67.7	73.7	10.0-120			8.49	31
Hexachloroethane	0.0500	0.0437	0.0473	87.4	94.5	22.0-120			7.79	34
Atrazine	0.0500	0.0428	0.0454	85.6	90.9	45.0-123			5.98	27
Indeno(1,2,3-cd)pyrene	0.0500	0.0486	0.0522	97.3	104	45.0-123			7.16	21
Benzaldehyde	0.0500	0.101	0.120	202	241	10.0-138	J4	J4	17.5	40
Isophorone	0.0500	0.0424	0.0441	84.8	88.2	37.0-120			3.90	24
Naphthalene	0.0500	0.0387	0.0418	77.4	83.7	33.0-120			7.87	28
Nitrobenzene	0.0500	0.0411	0.0432	82.3	86.4	31.0-120			4.93	28
n-Nitrosodiphenylamine	0.0500	0.0471	0.0488	94.2	97.6	44.0-120			3.64	21
n-Nitrosodi-n-propylamine	0.0500	0.0564	0.0592	113	118	29.0-120			4.84	27
Phenanthrene	0.0500	0.0435	0.0466	87.1	93.3	42.0-120			6.86	20
Benzylbutyl phthalate	0.0500	0.0487	0.0533	97.4	107	36.0-123			9.02	22
Biphenyl	0.0500	0.0414	0.0445	82.8	89.0	37.0-120			7.21	27
Bis(2-ethylhexyl)phthalate	0.0500	0.0505	0.0553	101	111	37.0-121			9.14	21
Di-n-butyl phthalate	0.0500	0.0530	0.0568	106	114	43.0-122			6.97	21
Diethyl phthalate	0.0500	0.0509	0.0568	102	114	48.0-123			11.0	20

1Cp

2Tc

3Ss

4Cn

5Sr

6Qc

7Gl

8Al

9Sc

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3301381-1 04/12/18 12:16 • (LCSD) R3301381-2 04/12/18 12:40

Analyte	Spike Amount mg/l	LCS Result mg/l	LCSD Result mg/l	LCS Rec. %	LCSD Rec. %	Rec. Limits %	<u>LCS Qualifier</u>	<u>LCSD Qualifier</u>	RPD %	RPD Limits %
Dimethyl phthalate	0.0500	0.0462	0.0498	92.5	99.5	47.0-120			7.34	20
Caprolactam	0.0500	0.0144	0.0151	28.8	30.3	10.0-120			4.82	31
Di-n-octyl phthalate	0.0500	0.0530	0.0563	106	113	38.0-120			6.14	22
Carbazole	0.0500	0.0546	0.0573	109	115	45.0-121			4.88	22
Pyrene	0.0500	0.0424	0.0462	84.9	92.3	43.0-120			8.41	21
1,2,4-Trichlorobenzene	0.0500	0.0288	0.0308	57.6	61.6	29.0-120			6.77	29
4-Chloroaniline	0.0500	0.0413	0.0437	82.6	87.4	23.0-120			5.65	28
Dibenzofuran	0.0500	0.0442	0.0489	88.3	97.7	42.0-120			10.1	21
4-Chloro-3-methylphenol	0.0500	0.0439	0.0461	87.8	92.1	39.0-120			4.78	22
2-Chlorophenol	0.0500	0.0466	0.0485	93.3	97.1	28.0-120			4.01	29
2,4-Dichlorophenol	0.0500	0.0347	0.0356	69.5	71.3	37.0-120			2.54	26
2,4-Dimethylphenol	0.0500	0.0386	0.0404	77.3	80.8	35.0-120			4.44	25
4,6-Dinitro-2-methylphenol	0.0500	0.0404	0.0479	80.7	95.8	34.0-125			17.0	27
2,4-Dinitrophenol	0.0500	0.0177	0.0241	35.5	48.2	10.0-120			30.5	40
1-Methylnaphthalene	0.0500	0.0381	0.0398	76.1	79.6	33.0-120			4.52	23
2-Methylnaphthalene	0.0500	0.0359	0.0380	71.8	75.9	35.0-120			5.55	25
2-Nitrophenol	0.0500	0.0405	0.0413	81.1	82.5	35.0-120			1.79	28
4-Nitrophenol	0.0500	0.0207	0.0226	41.4	45.1	10.0-120			8.55	35
Pentachlorophenol	0.0500	0.0486	0.0531	97.2	106	20.0-126			8.85	32
Phenol	0.0500	0.0239	0.0253	47.7	50.7	10.0-120			6.03	34
2,4,6-Trichlorophenol	0.0500	0.0416	0.0437	83.2	87.3	40.0-122			4.89	24
2-Nitroaniline	0.0500	0.0509	0.0553	102	111	43.0-120			8.17	23
3-Nitroaniline	0.0500	0.0532	0.0572	106	114	35.0-123			7.37	25
4-Nitroaniline	0.0500	0.0764	0.0839	153	168	23.0-160		J4	9.40	26
2-Methylphenol	0.0500	0.0441	0.0439	88.2	87.7	26.0-120			0.556	27
3&4-Methyl Phenol	0.0500	0.0459	0.0478	91.7	95.5	27.0-120			4.01	28
2,4,5-Trichlorophenol	0.0500	0.0416	0.0445	83.2	89.0	44.0-124			6.77	24
(S) Nitrobenzene-d5				80.0	82.6	10.0-126				
(S) 2-Fluorobiphenyl				79.7	90.3	22.0-127				
(S) p-Terphenyl-d14				93.5	98.1	29.0-141				
(S) Phenol-d5				48.1	48.9	10.0-120				
(S) 2-Fluorophenol				71.1	73.2	10.0-120				
(S) 2,4,6-Tribromophenol				106	112	10.0-153				

1Cp

2Tc

3Ss

4Cn

5Sr

6Qc

7Gl

8Al

9Sc

L984044-15 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L984044-15 04/12/18 15:32 • (MS) R3301381-4 04/12/18 15:57 • (MSD) R3301381-5 04/12/18 16:21

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MSD Result mg/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Acenaphthene	0.0500	U	0.0548	0.0540	110	108	1	25.0-143			1.55	29
Acenaphthylene	0.0500	U	0.0557	0.0549	111	110	1	24.0-149			1.45	29
Anthracene	0.0500	U	0.0487	0.0484	97.5	96.8	1	27.0-145			0.662	30
Benzo(a)anthracene	0.0500	U	0.0515	0.0506	103	101	1	30.0-138			1.77	26
Benzo(b)fluoranthene	0.0500	U	0.0529	0.0522	106	104	1	28.0-140			1.43	31
Benzo(k)fluoranthene	0.0500	U	0.0517	0.0510	103	102	1	28.0-140			1.35	31
Benzo(g,h,i)perylene	0.0500	U	0.0546	0.0536	109	107	1	26.0-149			1.90	27
Benzo(a)pyrene	0.0500	U	0.0524	0.0511	105	102	1	28.0-139			2.64	29
Bis(2-chlorethoxy)methane	0.0500	U	0.0451	0.0446	90.2	89.2	1	19.0-135			1.05	30
Bis(2-chloroethyl)ether	0.0500	U	0.0533	0.0508	107	102	1	10.0-126			4.84	34
Bis(2-chloroisopropyl)ether	0.0500	U	0.0547	0.0507	109	101	1	18.0-128			7.45	35
4-Bromophenyl-phenylether	0.0500	U	0.0547	0.0542	109	108	1	28.0-146			0.833	30
1-Methylnaphthalene	0.0500	U	0.0418	0.0410	83.6	82.0	1	33.0-120			1.98	23
2-Chloronaphthalene	0.0500	U	0.0480	0.0480	95.9	96.0	1	23.0-134			0.106	32
2-Methylnaphthalene	0.0500	U	0.0405	0.0404	81.0	80.7	1	13.0-142			0.352	29
4-Chlorophenyl-phenylether	0.0500	U	0.0515	0.0511	103	102	1	32.0-142			0.790	29
Chrysene	0.0500	U	0.0517	0.0515	103	103	1	32.0-144			0.437	27
Dibenz(a,h)anthracene	0.0500	U	0.0511	0.0508	102	102	1	22.0-149			0.639	29
3,3-Dichlorobenzidine	0.0500	U	0.0436	0.0441	87.2	88.2	1	10.0-160			1.20	34
2,4-Dinitrotoluene	0.0500	U	0.0576	0.0579	115	116	1	30.0-156			0.459	29
2,6-Dinitrotoluene	0.0500	U	0.0520	0.0527	104	105	1	28.0-143			1.20	30
Fluoranthene	0.0500	U	0.0557	0.0553	111	111	1	31.0-146			0.767	30
Fluorene	0.0500	U	0.0539	0.0533	108	107	1	29.0-143			1.10	31
Hexachlorobenzene	0.0500	U	0.0569	0.0564	114	113	1	29.0-144			1.03	33
Hexachloro-1,3-butadiene	0.0500	U	0.0369	0.0347	73.8	69.4	1	18.0-122			6.17	35
Hexachlorocyclopentadiene	0.0500	U	0.0386	0.0389	77.2	77.9	1	10.0-146			0.900	34
Hexachloroethane	0.0500	U	0.0509	0.0456	102	91.2	1	12.0-120			10.9	36
Indeno(1,2,3-cd)pyrene	0.0500	U	0.0543	0.0539	109	108	1	24.0-151			0.686	28
Isophorone	0.0500	U	0.0460	0.0458	92.0	91.5	1	22.0-141			0.462	29
Naphthalene	0.0500	U	0.0442	0.0412	88.3	82.5	1	19.0-125			6.86	32
Nitrobenzene	0.0500	U	0.0453	0.0443	90.7	88.5	1	14.0-134			2.37	32
n-Nitrosodiphenylamine	0.0500	U	0.0531	0.0531	106	106	1	16.0-160			0.00782	28
n-Nitrosodi-n-propylamine	0.0500	U	0.0640	0.0618	128	124	1	16.0-136			3.58	30
Phenanthrene	0.0500	U	0.0500	0.0496	100	99.1	1	27.0-137			0.967	28
Benzylbutyl phthalate	0.0500	U	0.0558	0.0546	112	109	1	30.0-147			2.16	27
Bis(2-ethylhexyl)phthalate	0.0500	U	0.0547	0.0536	109	107	1	25.0-140			2.02	26
Di-n-butyl phthalate	0.0500	U	0.0611	0.0611	122	122	1	32.0-146			0.0658	27
Diethyl phthalate	0.0500	U	0.0588	0.0587	118	117	1	34.0-149			0.101	26
Dimethyl phthalate	0.0500	U	0.0528	0.0524	106	105	1	29.0-147			0.648	27
Di-n-octyl phthalate	0.0500	U	0.0570	0.0563	114	113	1	24.0-146			1.29	29

1

Cp

2

Tc

3

Ss

4

Cn

5

Sr

6

Qc

7

Gl

8

Al

9

Sc

L984044-15 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L984044-15 04/12/18 15:32 • (MS) R3301381-4 04/12/18 15:57 • (MSD) R3301381-5 04/12/18 16:21

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MSD Result mg/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Pyrene	0.0500	U	0.0486	0.0478	97.1	95.6	1	34.0-140			1.55	27
1,2,4-Trichlorobenzene	0.0500	U	0.0325	0.0306	65.0	61.1	1	19.0-120			6.11	33
Acetophenone	0.0500	U	0.0489	0.0485	97.7	96.9	1	10.0-139			0.854	35
4-Chloro-3-methylphenol	0.0500	U	0.0495	0.0486	98.9	97.1	1	20.0-138			1.81	28
Atrazine	0.0500	U	0.0494	0.0488	98.7	97.7	1	34.0-147			1.09	28
2-Chlorophenol	0.0500	U	0.0525	0.0476	105	95.1	1	11.0-120			9.80	33
Benzaldehyde	0.0500	U	0.0865	0.0780	173	156	1	10.0-120	J5	J5	10.4	40
2,4-Dichlorophenol	0.0500	U	0.0376	0.0376	75.1	75.2	1	19.0-135			0.150	32
2,4-Dimethylphenol	0.0500	U	0.0439	0.0422	87.9	84.4	1	18.0-127			3.99	31
4,6-Dinitro-2-methylphenol	0.0500	U	0.0393	0.0398	78.6	79.5	1	10.0-160			1.15	38
2,4-Dinitrophenol	0.0500	U	0.0246	0.0279	49.1	55.9	1	10.0-137			12.8	36
Biphenyl	0.0500	U	0.0479	0.0477	95.7	95.3	1	23.0-130			0.387	27
2-Nitrophenol	0.0500	U	0.0449	0.0427	89.9	85.5	1	15.0-143			5.01	33
Caprolactam	0.0500	U	0.0143	0.0148	28.6	29.6	1	10.0-120			3.47	37
4-Nitrophenol	0.0500	U	0.0182	0.0185	36.3	36.9	1	10.0-120			1.66	31
Carbazole	0.0500	U	0.0618	0.0612	124	122	1	23.0-158			0.922	26
4-Chloroaniline	0.0500	U	0.0445	0.0446	88.9	89.3	1	10.0-137			0.393	33
Pentachlorophenol	0.0500	U	0.0538	0.0536	108	107	1	10.0-160			0.527	40
Phenol	0.0500	0.00900	0.0344	0.0302	50.7	42.3	1	10.0-120			13.0	34
2,4,6-Trichlorophenol	0.0500	U	0.0453	0.0450	90.6	90.0	1	10.0-153			0.611	29
Dibenzofuran	0.0500	U	0.0507	0.0511	101	102	1	17.0-150			0.731	27
2-Nitroaniline	0.0500	U	0.0561	0.0581	112	116	1	13.0-160			3.66	27
3-Nitroaniline	0.0500	U	0.0586	0.0578	117	116	1	10.0-160			1.45	26
4-Nitroaniline	0.0500	U	0.0860	0.0877	172	175	1	17.0-160	J5	J5	1.96	29
2-Methylphenol	0.0500	U	0.0467	0.0454	93.5	90.7	1	14.0-120			2.98	29
3&4-Methyl Phenol	0.0500	U	0.0519	0.0490	104	97.9	1	13.0-124			5.85	26
2,4,5-Trichlorophenol	0.0500	U	0.0463	0.0469	92.7	93.7	1	15.0-160			1.15	27
(S) Nitrobenzene-d5					85.4	83.8		10.0-126				
(S) 2-Fluorobiphenyl					92.6	90.7		22.0-127				
(S) p-Terphenyl-d14					102	102		29.0-141				
(S) Phenol-d5					54.4	46.5		10.0-120				
(S) 2-Fluorophenol					75.4	68.3		10.0-120				
(S) 2,4,6-Tribromophenol					114	116		10.0-153				

1Cp

2Tc

3Ss

4Cn

5Sr

6Qc

7Gl

8Al

9Sc



Guide to Reading and Understanding Your Laboratory Report

The information below is designed to better explain the various terms used in your report of analytical results from the Laboratory. This is not intended as a comprehensive explanation, and if you have additional questions please contact your project representative.

Abbreviations and Definitions

MDL	Method Detection Limit.
MQL	Method Quantitation Limit.
RDL	Reported Detection Limit.
Rec.	Recovery.
RPD	Relative Percent Difference.
SDG	Sample Delivery Group.
SDL	Sample Detection Limit.
(S)	Surrogate (Surrogate Standard) - Analytes added to every blank, sample, Laboratory Control Sample/Duplicate and Matrix Spike/Duplicate; used to evaluate analytical efficiency by measuring recovery. Surrogates are not expected to be detected in all environmental media.
U	Not detected at the Sample Detection Limit.
Unadj. MQL	Unadjusted Method Quantitation Limit.
Analyte	The name of the particular compound or analysis performed. Some Analyses and Methods will have multiple analytes reported.
Dilution	If the sample matrix contains an interfering material, or if concentrations of analytes in the sample are higher than the highest limit of concentration that the laboratory can accurately report, the sample may be diluted for analysis. If a value different than 1 is used in this field, the result reported has already been corrected for this factor.
Limits	These are the target % recovery ranges or % difference value that the laboratory has historically determined as normal for the method and analyte being reported. Successful QC Sample analysis will target all analytes recovered or duplicated within these ranges.
Original Sample	The non-spiked sample in the prep batch used to determine the Relative Percent Difference (RPD) from a quality control sample. The Original Sample may not be included within the reported SDG.
Qualifier	This column provides a letter and/or number designation that corresponds to additional information concerning the result reported. If a Qualifier is present, a definition per Qualifier is provided within the Glossary and Definitions page and potentially a discussion of possible implications of the Qualifier in the Case Narrative if applicable.
Result	The actual analytical final result (corrected for any sample specific characteristics) reported for your sample. If there was no measurable result returned for a specific analyte, the result in this column may state "ND" (Not Detected) or "BDL" (Below Detectable Levels). The information in the results column should always be accompanied by either an MDL (Method Detection Limit) or RDL (Reporting Detection Limit) that defines the lowest value that the laboratory could detect or report for this analyte.
Case Narrative (Cn)	A brief discussion about the included sample results, including a discussion of any non-conformances to protocol observed either at sample receipt by the laboratory from the field or during the analytical process. If present, there will be a section in the Case Narrative to discuss the meaning of any data qualifiers used in the report.
Quality Control Summary (Qc)	This section of the report includes the results of the laboratory quality control analyses required by procedure or analytical methods to assist in evaluating the validity of the results reported for your samples. These analyses are not being performed on your samples typically, but on laboratory generated material.
Sample Chain of Custody (Sc)	This is the document created in the field when your samples were initially collected. This is used to verify the time and date of collection, the person collecting the samples, and the analyses that the laboratory is requested to perform. This chain of custody also documents all persons (excluding commercial shippers) that have had control or possession of the samples from the time of collection until delivery to the laboratory for analysis.
Sample Results (Sr)	This section of your report will provide the results of all testing performed on your samples. These results are provided by sample ID and are separated by the analyses performed on each sample. The header line of each analysis section for each sample will provide the name and method number for the analysis reported.
Sample Summary (Ss)	This section of the Analytical Report defines the specific analyses performed for each sample ID, including the dates and times of preparation and/or analysis.

Qualifier	Description
B	The same analyte is found in the associated blank.
E	The analyte concentration exceeds the upper limit of the calibration range of the instrument established by the initial calibration (ICAL).
J	The identification of the analyte is acceptable; the reported value is an estimate.
J3	The associated batch QC was outside the established quality control range for precision.
J4	The associated batch QC was outside the established quality control range for accuracy.
J5	The sample matrix interfered with the ability to make any accurate determination; spike value is high.
J6	The sample matrix interfered with the ability to make any accurate determination; spike value is low.
O1	The analyte failed the method required serial dilution test and/or subsequent post-spike criteria. These failures indicate matrix interference.
P1	RPD value not applicable for sample concentrations less than 5 times the reporting limit.
V	The sample concentration is too high to evaluate accurate spike recoveries.

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc



ESC Lab Sciences is the only environmental laboratory accredited/certified to support your work nationwide from one location. One phone call, one point of contact, one laboratory. No other lab is as accessible or prepared to handle your needs throughout the country. Our capacity and capability from our single location laboratory is comparable to the collective totals of the network laboratories in our industry. The most significant benefit to our one location design is the design of our laboratory campus. The model is conducive to accelerated productivity, decreasing turn-around time, and preventing cross contamination, thus protecting sample integrity. Our focus on premium quality and prompt service allows us to be YOUR LAB OF CHOICE.

* Not all certifications held by the laboratory are applicable to the results reported in the attached report.

* Accreditation is only applicable to the test methods specified on each scope of accreditation held by ESC Lab Sciences.

State Accreditations

Alabama	40660	Nebraska	NE-OS-15-05
Alaska	17-026	Nevada	TN-03-2002-34
Arizona	AZ0612	New Hampshire	2975
Arkansas	88-0469	New Jersey–NELAP	TN002
California	2932	New Mexico ¹	n/a
Colorado	TN00003	New York	11742
Connecticut	PH-0197	North Carolina	Env375
Florida	E87487	North Carolina ¹	DW21704
Georgia	NELAP	North Carolina ³	41
Georgia ¹	923	North Dakota	R-140
Idaho	TN00003	Ohio–VAP	CL0069
Illinois	200008	Oklahoma	9915
Indiana	C-TN-01	Oregon	TN200002
Iowa	364	Pennsylvania	68-02979
Kansas	E-10277	Rhode Island	LA000356
Kentucky ^{1 6}	90010	South Carolina	84004
Kentucky ²	16	South Dakota	n/a
Louisiana	AI30792	Tennessee ^{1 4}	2006
Louisiana ¹	LA180010	Texas	T 104704245-17-14
Maine	TN0002	Texas ⁵	LAB0152
Maryland	324	Utah	TN00003
Massachusetts	M-TN003	Vermont	VT2006
Michigan	9958	Virginia	460132
Minnesota	047-999-395	Washington	C847
Mississippi	TN00003	West Virginia	233
Missouri	340	Wisconsin	9980939910
Montana	CERT0086	Wyoming	A2LA

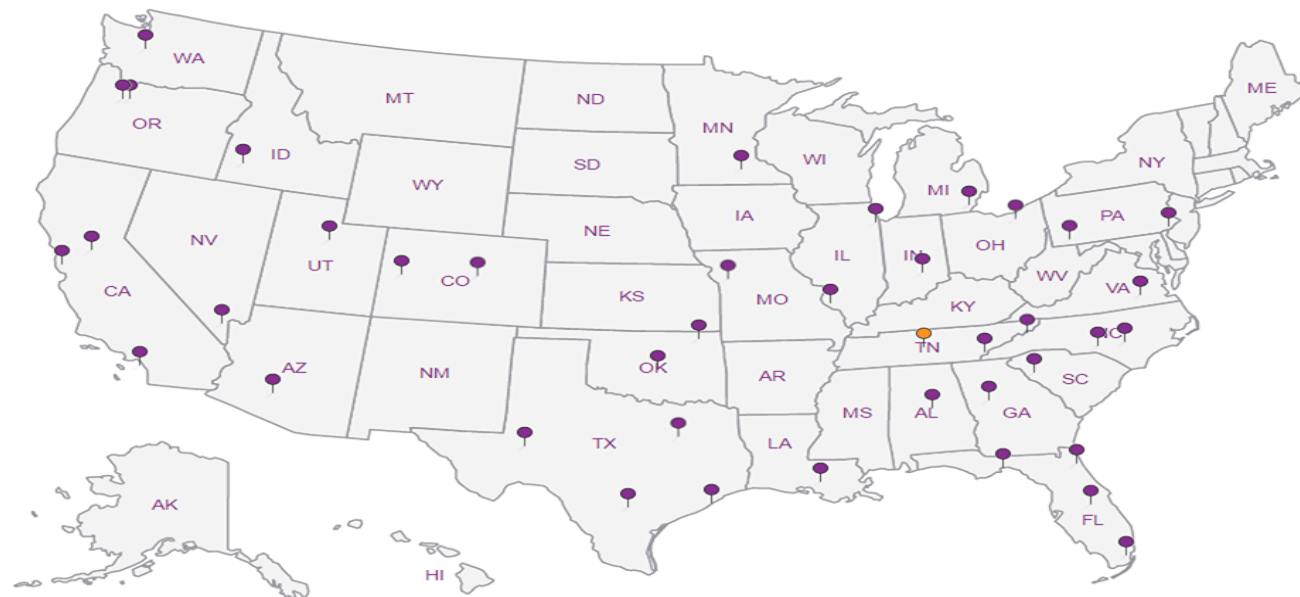
Third Party Federal Accreditations

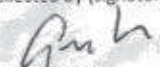
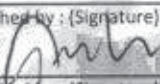
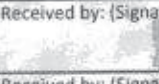
A2LA – ISO 17025	1461.01	AIHA-LAP, LLC EMLAP	100789
A2LA – ISO 17025 ⁵	1461.02	DOD	1461.01
Canada	1461.01	USDA	P330-15-00234
EPA–Crypto	TN00003		

¹ Drinking Water ² Underground Storage Tanks ³ Aquatic Toxicity ⁴ Chemical/Microbiological ⁵ Mold ⁶ Wastewater n/a Accreditation not applicable

Our Locations

ESC Lab Sciences has sixty-four client support centers that provide sample pickup and/or the delivery of sampling supplies. If you would like assistance from one of our support offices, please contact our main office. ESC Lab Sciences performs all testing at our central laboratory.



Company Name/Address: TRC Environmental Corp. 505 E. Huntland Drive, Suite 250 Austin, TX 78752				Billing Information: TRC Environmental Corp. 505 E. Huntland Drive, Suite 250 Austin, TX 78752 apinvoiceapproval@trcsolutions.com				Analysis / Container / Preservative										Chain of Custody Page <u>1</u> of <u>3</u>  L.A.B S.C.I.E.N.C.E.S YOUR LAB OF CHOICE 12065 Lebanon Rd Mount Juliet, TN 37122 Phone: 615-758-5858 Phone: 800-767-5859 Fax: 615-758-5859 			
Report to: Julie Speer				Email To: jspeer@trcsolutions.com				VOCs (8260) - Select List LL SVOCs (8270) - TCL + 1-methylnaphthalene Total Metals (7470) - Hg Dissolved Metals (6020) - Select List - Field Filtered Lab to Filter Anions (9056) - Cl, F, SO4 Nitrate/Nitrite (353.2) TDS (2540 C-2011) Alkalinity (2320 B-2011) TPH (8015) - GRO/DRO													
Project Description: Lovington Lea Refinery				City/State Collected: Lovington, NM																	
Phone: 512-329-6080 Fax: 512-329-8750		Client Project # 247359.0000.0000 000001 000001		Lab Project # TRCATX-LOVINGTON NAV																	
Collected by (print): Greg Scherberske / HMF Team		Site/Facility ID #		P.O. #																	
Collected by (signature): 		Rush? (Lab MUST Be Notified) Same Day 200% Next Day 100% Two Day 50% Three Day 25%		Date Results Needed Default Email? ☐ No ☒ Yes FAX? ☒ No ☐ Yes		No. of Cntrs															
Immediately Packed on ice N ☐ Y ☒		Sample ID		Comp/Grab		Matrix *		Depth		Date		Time		No. of Cntrs		Analysis / Container / Preservative		Chain of Custody			
MW-1		Grab		GW				4/5/18		1510		7		X		X		01			
MW-2		Grab		GW						1555		5		X		X		02			
MW-3		Grab		GW						1615		2				X		03			
MW-6		Grab		GW						1415		7		X		X		04			
MW-8		Grab		GW						1650		5200		X		X		05			
MW-11R		Grab		GW						1600		8		X		X		06			
MW-12R		Grab		GW						1515		9		X		X		07			
MW-13		Grab		GW								9		X		X		NOT SAMPLED; Insufficient H2O column			
MW-15		Grab		GW						1645		4		X		X		08			
MW-17R		Grab		GW						1610		9		X		X		09			
* Matrix: SS - Soil GW - Groundwater WW - Wastewater DW - Drinking Water OT - Other Dissolved Metals (Lab to Filter) = Aluminum, Arsenic, Barium, Boron, Cadmium, Chromium, Cobalt, Copper, Iron, Lead, Manganese, Molybdenum, Nickel, Selenium, Silver, Uranium, Zinc Remarks: Use 8270TX for SVOCs.																					
Relinquished by: (Signature) 				Date: 4/6/18		Time: 900		Received by: (Signature) 				Samples returned via: ☐ UPS ☒ FedEx ☐ Courier ☐ Other				Condition: (lab use only)					
Relinquished by: (Signature)				Date:		Time:		Received by: (Signature)				Temp: °C Bottles Received: 14, 14, 4.8, 2.1 229				COC Seal Intact: ☒ Y ☐ N ☐ NA					
Relinquished by: (Signature)				Date:		Time:		Received for lab by: (Signature) 				Date: 4/7/18				Time: 0845					

Tracking #: 4269 9211 8505/8538/ 8490 / 4527/8516

Company Name/Address: TRC Environmental Corp. 505 E. Huntland Drive, Suite 250 Austin, TX 78752				Billing Information: TRC Environmental Corp. 505 E. Huntland Drive, Suite 250 Austin, TX 78752 apinvoiceapproval@trcsolutions.com				Analysis / Container / Preservative VOCs (8260) - Select List LL SVOCs (8270) - TCL + 1-methylnaphthalene Total Metals (7470) - Hg Dissolved Metals (6020) - Select List - Field Filtered Lab to Filter Anions (9056) - Cl, F, SO4 Nitrate/Nitrite (353.2) TDS (2540 C-2011) Alkalinity (2320 B-2011) TPH (8015) - GRO/DRO										Chain of Custody Page 2 of 3 L.A.B. S.C.I.E.N.C.E.S. YOUR LAB OF CHOICE 12065 Lebanon Rd Mount Juliet, TN 37122 Phone: 615-758-5858 Phone: 800-767-5859 Fax: 615-758-5859 	
Report to: Julie Speer				Email To: jspeer@trcsolutions.com															
Project Description: Lovington Lea Refinery				City/State Collected: Lovington, NM															
Phone: 512-329-6080		Client Project #		Lab Project #															
Fax: 512-329-8750		247359.0000.0000 000001 000001		TRCATX-LOVINGTON NAV															
Collected by (print): <i>Greg Scherbenke / H&E Team</i>		Site/Facility ID #		P.O. #															
Collected by (signature): <i>Greg</i>		Rush? (Lab MUST Be Notified) ☐ Same Day 200% ☐ Next Day 100% ☐ Two Day 50% ☐ Three Day 25%		Date Results Needed Default Email? ☐ No ☒ Yes FAX? ☒ No ☐ Yes		No. of Cntrs													
Immediately																			
Packed on Ice N ☐ Y ☒																			

Sample ID	Comp/Grab	Matrix *	Depth	Date	Time	Cntrs	VOCs (8260) - Select List	LL SVOCs (8270) - TCL + 1-methylnaphthalene	Total Metals (7470) - Hg	Dissolved Metals (6020) - Select List - Field Filtered Lab to Filter	Anions (9056) - Cl, F, SO4	Nitrate/Nitrite (353.2)	TDS (2540 C-2011)	Alkalinity (2320 B-2011)	TPH (8015) - GRO/DRO	Rem./Contaminant	Sample # (lab only)
MW-19	Grab	GW		4/5/18	1430	2					X	X	X	X			10
MW-25	Grab	GW			1520	9	X	X	X	X	X	X	X	X			11
MW-27	Grab	GW			1520	3	X										12
MW-28	Grab	GW			1715	2					X	X		X			13
MW-29	Grab	GW			1655	5	X		X	X							14
MW-30	Grab	GW			1410	13	X	X	X	X	X	X	X	X	X	(MS/MSD)	15
MW-31	Grab	GW				13	X	X	X	X	X	X	X	X	X	NOT SAMPLED; LWAFL	
MW-32	Grab	GW			1615	13	X	X	X	X	X	X	X	X	X		14
MW-33	Grab	GW			1425	13	X	X	X	X	X	X	X	X	X		17
WW-North	Grab	GW			1355	13	X	X	X	X	X	X	X	X	X		18

* Matrix: **SS** - Soil **GW** - Groundwater **WW** - WasteWater **DW** - Drinking Water **OT** - Other _____

Dissolved metals - See P.1

Remarks: **Use 8270TX for SVOCs.**

pH _____ Temp _____

Flow _____ Other _____

Hold # _____

Relinquished by: (Signature) <i>Greg</i>	Date: 4/6/18	Time: 900	Received by: (Signature) _____	Samples returned via: ☐ UPS ☒ FedEx ☐ Courier ☐ _____	Condition: (lab use only) <i>W</i>
Relinquished by: (Signature) _____	Date: _____	Time: _____	Received by: (Signature) _____	Temp: _____ °C Bottles Received: 28.4, 4.8, 2.1, 22.9	COC Seal Intact: ☒ Y ☐ N ☐ NA
Relinquished by: (Signature) _____	Date: _____	Time: _____	Received by: (Signature) <i>Michael</i>	Date: 4/7/18 Time: 0845	pH Checked: _____ NCF: _____

Tracking #: 4269 92118505/8538/ 8440/8527/8516

Company Name/Address: TRC Environmental Corp. 505 E. Huntland Drive, Suite 250 Austin, TX 78752				Billing Information: TRC Environmental Corp. 505 E. Huntland Drive, Suite 250 Austin, TX 78752 apinvoiceapproval@trcsolutions.com				Analysis / Container / Preservative VOCs (8260) - Select List LL SVOCs (8270) - TCL + 1-methylnaphthalene Total Metals (7470) - Hg - Field Filtered (10 micron) <i>2</i> Dissolved Metals (6020) - Select List - Field Filtered Lab to Filter <i>2</i> Anions (9056) - Cl, F, SO4 Nitrate/Nitrite (353.2) TDS (2540 C-2011) Alkalinity (2320 B-2011) TPH (8015) - GRO/DRO Chain of Custody Page <i>3</i> of <i>3</i> L.A.B. S.C.I.E.N.C.E.S. YOUR LAB OF CHOICE 12065 Lebanon Rd Mount Juliet, TN 37122 Phone: 615-758-5858 Phone: 800-767-5859 Fax: 615-758-5859 L# <i>987044</i> Table # Acctnum: TRCATX Template: T133248 Prelogin: P641238 TSR: Chris McCord PB: <i>3/6/18 mcf</i> Shipped Via:									
Report to: Julie Speer				Email To: jspeer@trcsolutions.com													
Project Description: Lovington Lea Refinery				City/State Collected: Lovington, NM													
Phone: 512-329-6080 Fax: 512-329-8750		Client Project # 247359.0000.0000 000001 000001		Lab Project # TRCATX-LOVINGTON NAV													
Collected by (print): <i>Greg Scherbenke / HMI Team</i>		Site/Facility ID #		P.O. #													
Collected by (signature): 		Rush? (Lab MUST Be Notified) Same Day 200% Next Day 100% Two Day 50% Three Day 25%		Date Results Needed Default Email? ☐ No ☒ Yes FAX? ☒ No ☐ Yes		No. of Cntrs											
Immediately Packed on Ice N ☐ Y ☒																	
Sample ID		Comp/Grab	Matrix *	Depth	Date	Time	Cntrs										
WW-South		Grab	GW		4/5/18	1435	13										
WW-East		Grab	GW			1530	13										
DUP-01		Grab	GW			1400	9										
DUP-02		Grab	GW			1400	9										
DUP-03		Grab	GW			1400	9										
EB-01		Grab	GW			1610	8										
EB-02		Grab	GW			1635	13										
Trip Blank-01		Grab	GW			-	1										
Trip Blank-02		Grab	GW			-	1										

* Matrix: SS - Soil GW - Groundwater WW - WasteWater DW - Drinking Water OT - Other _____

Remarks: Use 8270TX for SVOCs.

pH _____ Temp _____

Flow _____ Other _____

Hold # _____

Condition: (lab use only) *u*

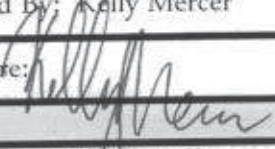
COC Seal Intact: ☒ Y ☐ N ☐ NA

pH Checked: _____ NCF: _____

Relinquished by: (Signature) 		Date: <i>4/6/18</i>	Time: <i>900</i>	Received by: (Signature) 		Samples returned via: ☐ UPS ☒ FedEx ☐ Courier ☐ _____		Temp: _____ °C Bottles Received: <i>28, 14, 34, 8, 21 229</i>	
Relinquished by: (Signature) 		Date:	Time:	Received by: (Signature) 		Date: <i>4/7/18</i>		Time: <i>0845</i>	
Relinquished by: (Signature) 		Date:	Time:	Received by: (Signature) 		Date:		Time:	

Tracking #: 4269 9211 85051 85381 84901 85271 8516

ESC LAB SCIENCES Cooler Receipt Form

Client: TRCATX	SDG#	986 987.41	
Cooler Received/Opened On: 4/7 /18	Temperature:	2.8, 1.4, 1.4, 4.8, 2.1	
Received By: Kelly Mercer			
Signature: 			
Receipt Check List	NP	Yes	No
COC Seal Present / Intact?		/	
COC Signed / Accurate?		/	
Bottles arrive intact?		/	
Correct bottles used?		/	
Sufficient volume sent?		/	
If Applicable			
VOA Zero headspace?		/	
Preservation Correct / Checked?		/	

ANALYTICAL REPORT

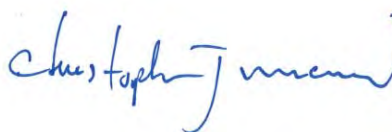
August 13, 2018

TRC Solutions - Austin, TX

Sample Delivery Group: L1013808
Samples Received: 08/01/2018
Project Number: 294319.0000.00000 5
Description: Lovington Lea Refinery

Report To: Julie Speer
505 E. Huntland Drive, Suite 250
Austin, TX 78752

Entire Report Reviewed By:



Chris McCord
Project Manager

Results relate only to the items tested or calibrated and are reported as rounded values. This test report shall not be reproduced, except in full, without written approval of the laboratory. Where applicable, sampling conducted by Pace National is performed per guidance provided in laboratory standard operating procedures: 060302, 060303, and 060304.



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SAMPLE SUMMARY

ONE LAB. NATIONWIDE.



WW-EAST L1013808-01 GW

Collected by
Fernando C. Aguirre

Collected date/time
07/31/18 09:10

Received date/time
08/01/18 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Gravimetric Analysis by Method 2540 C-2011	WG1147640	1	08/06/18 13:37	08/06/18 14:11	AJS
Wet Chemistry by Method 2320 B-2011	WG1147055	1	08/08/18 17:11	08/08/18 17:11	GB
Wet Chemistry by Method 353.2	WG1147417	1	08/07/18 17:06	08/07/18 17:06	JER
Wet Chemistry by Method 9056A	WG1146906	1	08/03/18 09:51	08/03/18 09:51	MCG
Wet Chemistry by Method 9056A	WG1146906	5	08/03/18 12:59	08/03/18 12:59	MCG
Mercury by Method 7470A	WG1146160	1	08/02/18 08:36	08/02/18 11:57	ABL
Metals (ICP) by Method 6010B	WG1147670	1	08/07/18 14:58	08/07/18 21:30	TRB
Metals (ICPMS) by Method 6020	WG1146395	1	08/02/18 08:59	08/02/18 20:26	JPD
Volatile Organic Compounds (GC) by Method 8015D/GRO	WG1147566	1	08/04/18 08:51	08/04/18 08:51	DWR
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1146115	1	08/01/18 23:17	08/01/18 23:17	DWR
Semi-Volatile Organic Compounds (GC) by Method 3511/8015	WG1146296	1	08/02/18 08:32	08/02/18 14:35	MTJ
Semi Volatile Organic Compounds (GC/MS) by Method 8270 C	WG1146380	1	08/02/18 19:58	08/03/18 19:04	GB

¹ Cp
² Tc
³ Ss
⁴ Cn
⁵ Sr
⁶ Qc
⁷ Gl
⁸ Al
⁹ Sc

WW-SOUTH L1013808-02 GW

Collected by
Fernando C. Aguirre

Collected date/time
07/31/18 11:10

Received date/time
08/01/18 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Gravimetric Analysis by Method 2540 C-2011	WG1149420	1	08/08/18 17:23	08/08/18 17:56	JER
Wet Chemistry by Method 2320 B-2011	WG1147055	1	08/08/18 17:19	08/08/18 17:19	GB
Wet Chemistry by Method 353.2	WG1147417	1	08/07/18 17:11	08/07/18 17:11	JER
Wet Chemistry by Method 9056A	WG1146906	1	08/03/18 10:53	08/03/18 10:53	MCG
Wet Chemistry by Method 9056A	WG1146906	5	08/03/18 11:09	08/03/18 11:09	MCG
Mercury by Method 7470A	WG1146967	1	08/02/18 20:39	08/03/18 10:23	ABL
Metals (ICP) by Method 6010B	WG1147670	1	08/07/18 14:58	08/07/18 21:43	TRB
Metals (ICPMS) by Method 6020	WG1146395	1	08/02/18 08:59	08/02/18 21:16	JPD
Volatile Organic Compounds (GC) by Method 8015D/GRO	WG1147154	1	08/03/18 13:58	08/03/18 13:58	DWR
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1146115	1	08/01/18 22:20	08/01/18 22:20	DWR
Semi-Volatile Organic Compounds (GC) by Method 3511/8015	WG1146296	1	08/02/18 08:32	08/02/18 15:28	MTJ
Semi Volatile Organic Compounds (GC/MS) by Method 8270 C	WG1146380	1	08/02/18 19:58	08/03/18 20:15	GB

WW-NORTH L1013808-03 GW

Collected by
Fernando C. Aguirre

Collected date/time
07/31/18 12:35

Received date/time
08/01/18 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Gravimetric Analysis by Method 2540 C-2011	WG1149420	1	08/08/18 17:23	08/08/18 17:56	JER
Wet Chemistry by Method 2320 B-2011	WG1147055	1	08/08/18 17:26	08/08/18 17:26	GB
Wet Chemistry by Method 353.2	WG1147417	1	08/07/18 17:12	08/07/18 17:12	JER
Wet Chemistry by Method 9056A	WG1146907	1	08/03/18 00:49	08/03/18 00:49	MAJ
Wet Chemistry by Method 9056A	WG1146907	5	08/03/18 01:06	08/03/18 01:06	MAJ
Mercury by Method 7470A	WG1146967	1	08/02/18 20:39	08/03/18 10:25	ABL
Metals (ICP) by Method 6010B	WG1147670	1	08/07/18 14:58	08/07/18 21:46	TRB
Metals (ICPMS) by Method 6020	WG1146395	1	08/02/18 08:59	08/02/18 21:20	JPD
Volatile Organic Compounds (GC) by Method 8015D/GRO	WG1147154	1	08/03/18 14:20	08/03/18 14:20	DWR
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1146115	1	08/01/18 22:39	08/01/18 22:39	DWR
Semi-Volatile Organic Compounds (GC) by Method 3511/8015	WG1146296	1	08/02/18 08:32	08/02/18 15:46	MTJ
Semi Volatile Organic Compounds (GC/MS) by Method 8270 C	WG1146380	1	08/02/18 19:58	08/03/18 20:39	GB

ACCOUNT:

TRC Solutions - Austin, TX

PROJECT:

294319.0000.00000 5

SDG:

L1013808

DATE/TIME:

08/13/18 09:41

PAGE:

3 of 55

SAMPLE SUMMARY

ONE LAB. NATIONWIDE.



DUP-1 L1013808-04 GW

Collected by
Fernando C. Aguirre

Collected date/time
07/31/18 00:00

Received date/time
08/01/18 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Gravimetric Analysis by Method 2540 C-2011	WG1148424	1	08/07/18 18:24	08/07/18 18:47	JER
Wet Chemistry by Method 2320 B-2011	WG1147055	1	08/08/18 17:33	08/08/18 17:33	GB
Wet Chemistry by Method 353.2	WG1147417	1	08/07/18 17:14	08/07/18 17:14	JER
Wet Chemistry by Method 9056A	WG1146907	1	08/03/18 01:24	08/03/18 01:24	MAJ
Wet Chemistry by Method 9056A	WG1146907	10	08/03/18 01:43	08/03/18 01:43	MAJ
Mercury by Method 7470A	WG1146160	1	08/02/18 08:36	08/02/18 12:10	ABL
Metals (ICP) by Method 6010B	WG1147670	1	08/07/18 14:58	08/07/18 21:54	TRB
Metals (ICPMS) by Method 6020	WG1146395	1	08/02/18 08:59	08/02/18 21:24	JPD
Volatile Organic Compounds (GC) by Method 8015D/GRO	WG1147154	1	08/03/18 14:42	08/03/18 14:42	DWR
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1146115	1	08/01/18 22:58	08/01/18 22:58	DWR
Semi-Volatile Organic Compounds (GC) by Method 3511/8015	WG1146296	1	08/02/18 08:32	08/02/18 16:04	MTJ
Semi Volatile Organic Compounds (GC/MS) by Method 8270 C	WG1146380	1	08/02/18 19:58	08/03/18 21:02	GB

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc

TB-07-31-18-A L1013808-05 GW

Collected by
Fernando C. Aguirre

Collected date/time
07/31/18 08:00

Received date/time
08/01/18 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1146955	1	08/02/18 18:00	08/02/18 18:00	LRL

TB-07-31-18-B L1013808-06 GW

Collected by
Fernando C. Aguirre

Collected date/time
07/31/18 08:05

Received date/time
08/01/18 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1146955	1	08/02/18 18:20	08/02/18 18:20	LRL



All sample aliquots were received at the correct temperature, in the proper containers, with the appropriate preservatives, and within method specified holding times, unless qualified or notated within the report. Where applicable, all MDL (LOD) and RDL (LOQ) values reported for environmental samples have been corrected for the dilution factor used in the analysis. All Method and Batch Quality Control are within established criteria except where addressed in this case narrative, a non-conformance form or properly qualified within the sample results. By my digital signature below, I affirm to the best of my knowledge, all problems/anomalies observed by the laboratory as having the potential to affect the quality of the data have been identified by the laboratory, and no information or data have been knowingly withheld that would affect the quality of the data.

Chris McCord
Project Manager

Project Narrative

SVOCs are reporting with a marginally low failures in multiple compounds in one of the control samples. Accuracy and Precision were demonstrated in the other control sample as well as the matrix spikes for WG1146380.

L1013808-02 and -03: TDS is reporting outside of the 7 day hold time due to a lab accident requiring the samples to be reprepared/





Gravimetric Analysis by Method 2540 C-2011

	Result	Qualifier	SDL	Unadj. MQL	MQL	Dilution	Analysis date / time	Batch
Analyte	mg/l		mg/l	mg/l	mg/l			
Dissolved Solids	578		2.82	10.0	10.0	1	08/06/2018 14:11	WG1147640

Wet Chemistry by Method 2320 B-2011

	Result	Qualifier	SDL	Unadj. MQL	MQL	Dilution	Analysis date / time	Batch
Analyte	mg/l		mg/l	mg/l	mg/l			
Alkalinity	168		2.71	20.0	20.0	1	08/08/2018 17:11	WG1147055

Sample Narrative:

L1013808-01 WG1147055: Endpoint pH 4.5 headspace

Wet Chemistry by Method 353.2

	Result	Qualifier	SDL	Unadj. MQL	MQL	Dilution	Analysis date / time	Batch
Analyte	mg/l		mg/l	mg/l	mg/l			
Nitrate-Nitrite	2.93	J6	0.0197	0.100	0.100	1	08/07/2018 17:06	WG1147417

Wet Chemistry by Method 9056A

	Result	Qualifier	SDL	Unadj. MQL	MQL	Dilution	Analysis date / time	Batch
Analyte	mg/l		mg/l	mg/l	mg/l			
Chloride	110		0.260	1.00	5.00	5	08/03/2018 12:59	WG1146906
Fluoride	1.03		0.00990	0.100	0.100	1	08/03/2018 09:51	WG1146906
Sulfate	84.8	J6	0.0774	5.00	5.00	1	08/03/2018 09:51	WG1146906

Mercury by Method 7470A

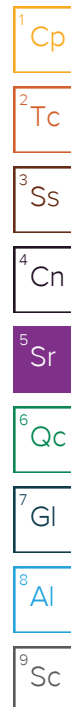
	Result	Qualifier	SDL	Unadj. MQL	MQL	Dilution	Analysis date / time	Batch
Analyte	mg/l		mg/l	mg/l	mg/l			
Mercury	U		0.0000490	0.000200	0.000200	1	08/02/2018 11:57	WG1146160

Metals (ICP) by Method 6010B

	Result	Qualifier	SDL	Unadj. MQL	MQL	Dilution	Analysis date / time	Batch
Analyte	mg/l		mg/l	mg/l	mg/l			
Boron,Dissolved	0.132	J	0.0126	0.200	0.200	1	08/07/2018 21:30	WG1147670

Metals (ICPMS) by Method 6020

	Result	Qualifier	SDL	Unadj. MQL	MQL	Dilution	Analysis date / time	Batch
Analyte	mg/l		mg/l	mg/l	mg/l			
Aluminum,Dissolved	0.0113	B J	0.00515	0.100	0.100	1	08/02/2018 20:26	WG1146395
Arsenic,Dissolved	0.00384		0.000250	0.00200	0.00200	1	08/02/2018 20:26	WG1146395
Barium,Dissolved	0.0902		0.000360	0.00500	0.00500	1	08/02/2018 20:26	WG1146395
Cadmium,Dissolved	0.000193	B J	0.000160	0.00100	0.00100	1	08/02/2018 20:26	WG1146395
Calcium,Dissolved	96.4		0.0460	1.00	1.00	1	08/02/2018 20:26	WG1146395
Chromium,Dissolved	0.00369		0.000540	0.00200	0.00200	1	08/02/2018 20:26	WG1146395
Copper,Dissolved	0.00911		0.000520	0.00500	0.00500	1	08/02/2018 20:26	WG1146395
Cobalt,Dissolved	U		0.000260	0.00200	0.00200	1	08/02/2018 20:26	WG1146395
Iron,Dissolved	U		0.0150	0.100	0.100	1	08/02/2018 20:26	WG1146395
Lead,Dissolved	0.000287	J	0.000240	0.00200	0.00200	1	08/02/2018 20:26	WG1146395
Magnesium,Dissolved	14.0		0.100	1.00	1.00	1	08/02/2018 20:26	WG1146395
Manganese,Dissolved	0.00145	J	0.000250	0.00500	0.00500	1	08/02/2018 20:26	WG1146395
Molybdenum,Dissolved	0.00244	J	0.000140	0.00500	0.00500	1	08/02/2018 20:26	WG1146395
Nickel,Dissolved	0.000789	J	0.000350	0.00200	0.00200	1	08/02/2018 20:26	WG1146395
Potassium,Dissolved	4.01	J6	0.0370	1.00	1.00	1	08/02/2018 20:26	WG1146395
Selenium,Dissolved	0.00374		0.000380	0.00200	0.00200	1	08/02/2018 20:26	WG1146395
Silver,Dissolved	U		0.000310	0.00200	0.00200	1	08/02/2018 20:26	WG1146395
Sodium,Dissolved	51.4		0.110	1.00	1.00	1	08/02/2018 20:26	WG1146395





Metals (ICPMS) by Method 6020

Analyte	Result mg/l	Qualifier	SDL mg/l	Unadj. MQL mg/l	MQL mg/l	Dilution	Analysis date / time	Batch
Uranium,Dissolved	0.00182	J	0.000330	0.0100	0.0100	1	08/02/2018 20:26	WG1146395
Zinc,Dissolved	0.210		0.00256	0.0250	0.0250	1	08/02/2018 20:26	WG1146395

Volatile Organic Compounds (GC) by Method 8015D/GRO

Analyte	Result mg/l	Qualifier	SDL mg/l	Unadj. MQL mg/l	MQL mg/l	Dilution	Analysis date / time	Batch
TPH (GC/FID) Low Fraction	0.0327	B J	0.0314	0.100	0.100	1	08/04/2018 08:51	WG1147566
(S) a,a,a-Trifluorotoluene(FID)	88.2				77.0-122		08/04/2018 08:51	WG1147566

Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result mg/l	Qualifier	SDL mg/l	Unadj. MQL mg/l	MQL mg/l	Dilution	Analysis date / time	Batch
Acetone	U		0.0100	1.00	1.00	1	08/01/2018 23:17	WG1146115
Benzene	U		0.000331	0.00100	0.00100	1	08/01/2018 23:17	WG1146115
Bromodichloromethane	U		0.000380	0.00125	0.00125	1	08/01/2018 23:17	WG1146115
Bromoform	U		0.000469	0.00100	0.00100	1	08/01/2018 23:17	WG1146115
Bromomethane	U		0.000866	0.00500	0.00500	1	08/01/2018 23:17	WG1146115
n-Butylbenzene	U		0.000361	0.00100	0.00100	1	08/01/2018 23:17	WG1146115
sec-Butylbenzene	U		0.000365	0.00100	0.00100	1	08/01/2018 23:17	WG1146115
tert-Butylbenzene	U		0.000399	0.00100	0.00100	1	08/01/2018 23:17	WG1146115
Carbon disulfide	U		0.000275	0.00100	0.00100	1	08/01/2018 23:17	WG1146115
Carbon tetrachloride	U		0.000379	0.00100	0.00100	1	08/01/2018 23:17	WG1146115
Chlorobenzene	U		0.000348	0.00100	0.00100	1	08/01/2018 23:17	WG1146115
Chlorodibromomethane	U		0.000327	0.00100	0.00100	1	08/01/2018 23:17	WG1146115
Chloroethane	U		0.000453	0.00500	0.00500	1	08/01/2018 23:17	WG1146115
Chloroform	U		0.000324	0.00500	0.00500	1	08/01/2018 23:17	WG1146115
Chloromethane	U		0.000276	0.00250	0.00250	1	08/01/2018 23:17	WG1146115
1,2-Dibromoethane	U		0.000381	0.00100	0.00100	1	08/01/2018 23:17	WG1146115
1,1-Dichloroethane	U		0.000259	0.00100	0.00100	1	08/01/2018 23:17	WG1146115
1,2-Dichloroethane	U		0.000361	0.00100	0.00100	1	08/01/2018 23:17	WG1146115
1,1-Dichloroethene	U		0.000398	0.00100	0.00100	1	08/01/2018 23:17	WG1146115
cis-1,2-Dichloroethene	U		0.000260	0.00100	0.00100	1	08/01/2018 23:17	WG1146115
trans-1,2-Dichloroethene	U		0.000396	0.00100	0.00100	1	08/01/2018 23:17	WG1146115
1,2-Dichloropropane	U		0.000306	0.00100	0.00100	1	08/01/2018 23:17	WG1146115
cis-1,3-Dichloropropene	U		0.000418	0.00100	0.00100	1	08/01/2018 23:17	WG1146115
trans-1,3-Dichloropropene	U		0.000419	0.00100	0.00100	1	08/01/2018 23:17	WG1146115
Ethylbenzene	U		0.000384	0.00100	0.00100	1	08/01/2018 23:17	WG1146115
Hexachloro-1,3-butadiene	U		0.000256	0.00100	0.00100	1	08/01/2018 23:17	WG1146115
2-Hexanone	U		0.00382	0.0100	0.0100	1	08/01/2018 23:17	WG1146115
Isopropylbenzene	U		0.000326	0.00100	0.00100	1	08/01/2018 23:17	WG1146115
p-Isopropyltoluene	U		0.000350	0.00100	0.00100	1	08/01/2018 23:17	WG1146115
2-Butanone (MEK)	U		0.00393	0.0100	0.0100	1	08/01/2018 23:17	WG1146115
Methylene Chloride	U		0.00100	0.00500	0.00500	1	08/01/2018 23:17	WG1146115
4-Methyl-2-pentanone (MIBK)	U		0.00214	0.0100	0.0100	1	08/01/2018 23:17	WG1146115
Methyl tert-butyl ether	U		0.000367	0.00100	0.00100	1	08/01/2018 23:17	WG1146115
Naphthalene	U		0.00100	0.00500	0.00500	1	08/01/2018 23:17	WG1146115
n-Propylbenzene	U		0.000349	0.00100	0.00100	1	08/01/2018 23:17	WG1146115
Styrene	U		0.000307	0.00100	0.00100	1	08/01/2018 23:17	WG1146115
1,1,2,2-Tetrachloroethane	U		0.000130	0.00100	0.00100	1	08/01/2018 23:17	WG1146115
Tetrachloroethene	U		0.000372	0.00100	0.00100	1	08/01/2018 23:17	WG1146115
Toluene	U		0.000412	0.00100	0.00100	1	08/01/2018 23:17	WG1146115
1,1,1-Trichloroethane	U		0.000319	0.00100	0.00100	1	08/01/2018 23:17	WG1146115
1,1,2-Trichloroethane	U		0.000383	0.00100	0.00100	1	08/01/2018 23:17	WG1146115
Trichloroethene	U		0.000398	0.00100	0.00100	1	08/01/2018 23:17	WG1146115
1,2,4-Trimethylbenzene	U		0.000373	0.00100	0.00100	1	08/01/2018 23:17	WG1146115

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc



Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result mg/l	Qualifier	SDL mg/l	Unadj. MQL mg/l	MQL mg/l	Dilution	Analysis date / time	Batch
1,3,5-Trimethylbenzene	U		0.000387	0.00100	0.00100	1	08/01/2018 23:17	WG1146115
Vinyl chloride	U		0.000259	0.00100	0.00100	1	08/01/2018 23:17	WG1146115
Xylenes, Total	U		0.00106	0.00300	0.00300	1	08/01/2018 23:17	WG1146115
(S) Toluene-d8	99.9				80.0-120		08/01/2018 23:17	WG1146115
(S) Dibromofluoromethane	94.9				76.0-123		08/01/2018 23:17	WG1146115
(S) 4-Bromofluorobenzene	96.2				80.0-120		08/01/2018 23:17	WG1146115

Semi-Volatile Organic Compounds (GC) by Method 3511/8015

Analyte	Result mg/l	Qualifier	SDL mg/l	Unadj. MQL mg/l	MQL mg/l	Dilution	Analysis date / time	Batch
TPH (GC/FID) High Fraction	U		0.0247	0.100	0.100	1	08/02/2018 14:35	WG1146296
(S) o-Terphenyl	95.7				31.0-160		08/02/2018 14:35	WG1146296

Semi Volatile Organic Compounds (GC/MS) by Method 8270 C

Analyte	Result mg/l	Qualifier	SDL mg/l	Unadj. MQL mg/l	MQL mg/l	Dilution	Analysis date / time	Batch
Acenaphthene	U	J3 J4	0.000316	0.00100	0.00100	1	08/03/2018 19:04	WG1146380
Acenaphthylene	U	J3 J4	0.000309	0.00100	0.00100	1	08/03/2018 19:04	WG1146380
Acetophenone	U	J3	0.00247	0.0100	0.0100	1	08/03/2018 19:04	WG1146380
Anthracene	U	J3 J4	0.000291	0.00100	0.00100	1	08/03/2018 19:04	WG1146380
Atrazine	U	J3 J4	0.000260	0.0100	0.0100	1	08/03/2018 19:04	WG1146380
Benzo(a)anthracene	U	J3 J4	0.0000510	0.00100	0.00100	1	08/03/2018 19:04	WG1146380
Benzaldehyde	U		0.00140	0.0100	0.0100	1	08/03/2018 19:04	WG1146380
Benzo(b)fluoranthene	U	J3 J4	0.0000896	0.00100	0.00100	1	08/03/2018 19:04	WG1146380
Benzo(k)fluoranthene	U	J3	0.000355	0.00100	0.00100	1	08/03/2018 19:04	WG1146380
Benzo(g,h,i)perylene	U	J3 J4	0.00000227	0.00100	0.00100	1	08/03/2018 19:04	WG1146380
Benzo(a)pyrene	U	J3 J4	0.0000381	0.000200	0.000200	1	08/03/2018 19:04	WG1146380
Biphenyl	U	J3 J4	0.000325	0.0100	0.0100	1	08/03/2018 19:04	WG1146380
Bis(2-chlorethoxy)methane	U	J3 J4	0.000329	0.0100	0.0100	1	08/03/2018 19:04	WG1146380
Bis(2-chloroethyl)ether	U	J3	0.00162	0.0100	0.0100	1	08/03/2018 19:04	WG1146380
Bis(2-chloroisopropyl)ether	U	J3	0.000445	0.0100	0.0100	1	08/03/2018 19:04	WG1146380
4-Bromophenyl-phenylether	U	J3 J4	0.000335	0.0100	0.0100	1	08/03/2018 19:04	WG1146380
2-Chloronaphthalene	U	J3 J4	0.000330	0.00100	0.00100	1	08/03/2018 19:04	WG1146380
4-Chlorophenyl-phenylether	U	J3 J4	0.000303	0.0100	0.0100	1	08/03/2018 19:04	WG1146380
Caprolactam	U		0.00259	0.0100	0.0100	1	08/03/2018 19:04	WG1146380
Carbazole	U	J3 J4	0.000260	0.0100	0.0100	1	08/03/2018 19:04	WG1146380
Chrysene	U	J3 J4	0.000332	0.00100	0.00100	1	08/03/2018 19:04	WG1146380
Dibenz(a,h)anthracene	U	J3 J4	0.0000644	0.000200	0.000200	1	08/03/2018 19:04	WG1146380
Dibenzofuran	U	J3 J4	0.000338	0.0100	0.0100	1	08/03/2018 19:04	WG1146380
3,3-Dichlorobenzidine	U	J3	0.00202	0.0100	0.0100	1	08/03/2018 19:04	WG1146380
2,4-Dinitrotoluene	U	J3 J4	0.00165	0.0100	0.0100	1	08/03/2018 19:04	WG1146380
2,6-Dinitrotoluene	U	J3 J4	0.000279	0.0100	0.0100	1	08/03/2018 19:04	WG1146380
Fluoranthene	U	J3 J4	0.000310	0.00100	0.00100	1	08/03/2018 19:04	WG1146380
Fluorene	U	J3 J4	0.000323	0.00100	0.00100	1	08/03/2018 19:04	WG1146380
Hexachlorobenzene	U	J3 J4	0.000341	0.00100	0.00100	1	08/03/2018 19:04	WG1146380
Hexachloro-1,3-butadiene	U	J3	0.000329	0.0100	0.0100	1	08/03/2018 19:04	WG1146380
Hexachlorocyclopentadiene	U	J3	0.00233	0.0100	0.0100	1	08/03/2018 19:04	WG1146380
Hexachloroethane	U	J3	0.000365	0.0100	0.0100	1	08/03/2018 19:04	WG1146380
Indeno(1,2,3-cd)pyrene	U	J3 J4	0.000279	0.00100	0.00100	1	08/03/2018 19:04	WG1146380
Isophorone	U	J3 J4	0.000272	0.0100	0.0100	1	08/03/2018 19:04	WG1146380
1-Methylnaphthalene	U	J3	0.000332	0.00100	0.00100	1	08/03/2018 19:04	WG1146380
2-Methylnaphthalene	U	J3 J4	0.000311	0.00100	0.00100	1	08/03/2018 19:04	WG1146380
Naphthalene	U	J3	0.000372	0.00100	0.00100	1	08/03/2018 19:04	WG1146380
Nitrobenzene	U	J3	0.000367	0.0100	0.0100	1	08/03/2018 19:04	WG1146380
n-Nitrosodiphenylamine	U	J3 J4	0.00119	0.0100	0.0100	1	08/03/2018 19:04	WG1146380

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc



Semi Volatile Organic Compounds (GC/MS) by Method 8270 C

Analyte	Result mg/l	Qualifier	SDL mg/l	Unadj. MQL mg/l	MQL mg/l	Dilution	Analysis date / time	Batch
n-Nitrosodi-n-propylamine	U	J3	0.000403	0.0100	0.0100	1	08/03/2018 19:04	WG1146380
Phenanthrene	U	J3 J4	0.000366	0.00100	0.00100	1	08/03/2018 19:04	WG1146380
Benzylbutyl phthalate	U	J3 J4	0.000275	0.00300	0.00300	1	08/03/2018 19:04	WG1146380
Bis(2-ethylhexyl)phthalate	0.000766	B J J3 J4	0.000709	0.00300	0.00300	1	08/03/2018 19:04	WG1146380
Di-n-butyl phthalate	U	J3 J4	0.000266	0.00300	0.00300	1	08/03/2018 19:04	WG1146380
Diethyl phthalate	U	J3 J4	0.000282	0.00300	0.00300	1	08/03/2018 19:04	WG1146380
Dimethyl phthalate	U	J3 J4	0.000283	0.00300	0.00300	1	08/03/2018 19:04	WG1146380
Di-n-octyl phthalate	U	J3 J4	0.000278	0.00300	0.00300	1	08/03/2018 19:04	WG1146380
Pyrene	U	J4	0.000330	0.00100	0.00100	1	08/03/2018 19:04	WG1146380
1,2,4-Trichlorobenzene	U	J3	0.000355	0.0100	0.0100	1	08/03/2018 19:04	WG1146380
4-Chloro-3-methylphenol	U	J3 J4	0.000263	0.0100	0.0100	1	08/03/2018 19:04	WG1146380
2-Chlorophenol	U	J3	0.000283	0.0100	0.0100	1	08/03/2018 19:04	WG1146380
2,4-Dichlorophenol	U	J3	0.000284	0.0100	0.0100	1	08/03/2018 19:04	WG1146380
2,4-Dimethylphenol	U	J3	0.000624	0.0100	0.0100	1	08/03/2018 19:04	WG1146380
4,6-Dinitro-2-methylphenol	U	J3	0.00262	0.0100	0.0100	1	08/03/2018 19:04	WG1146380
2,4-Dinitrophenol	U		0.00325	0.0100	0.0100	1	08/03/2018 19:04	WG1146380
2-Nitrophenol	U	J3	0.000320	0.0100	0.0100	1	08/03/2018 19:04	WG1146380
2-Nitroaniline	U	J3 J4	0.00190	0.0100	0.0100	1	08/03/2018 19:04	WG1146380
2-Methylphenol	U	J3	0.000312	0.0100	0.0100	1	08/03/2018 19:04	WG1146380
3&4-Methyl Phenol	U	J3	0.000266	0.0100	0.0100	1	08/03/2018 19:04	WG1146380
3-Nitroaniline	U	J3	0.000308	0.0100	0.0100	1	08/03/2018 19:04	WG1146380
4-Chloroaniline	U	J3	0.000382	0.0100	0.0100	1	08/03/2018 19:04	WG1146380
4-Nitroaniline	U	J3	0.000349	0.0100	0.0100	1	08/03/2018 19:04	WG1146380
4-Nitrophenol	U		0.00201	0.0100	0.0100	1	08/03/2018 19:04	WG1146380
Pentachlorophenol	U	J3	0.000313	0.0100	0.0100	1	08/03/2018 19:04	WG1146380
Phenol	0.00193	J	0.000334	0.0100	0.0100	1	08/03/2018 19:04	WG1146380
2,4,5-Trichlorophenol	U	J3 J4	0.000236	0.0100	0.0100	1	08/03/2018 19:04	WG1146380
2,4,6-Trichlorophenol	U	J3 J4	0.000297	0.0100	0.0100	1	08/03/2018 19:04	WG1146380
(S) 2-Fluorophenol	38.7				10.0-120		08/03/2018 19:04	WG1146380
(S) Phenol-d5	26.2				10.0-120		08/03/2018 19:04	WG1146380
(S) Nitrobenzene-d5	48.9				10.0-126		08/03/2018 19:04	WG1146380
(S) 2-Fluorobiphenyl	54.2				22.0-127		08/03/2018 19:04	WG1146380
(S) 2,4,6-Tribromophenol	39.9				10.0-153		08/03/2018 19:04	WG1146380
(S) p-Terphenyl-d14	57.3				29.0-141		08/03/2018 19:04	WG1146380

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc



Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	SDL	Unadj. MQL	MQL	Dilution	Analysis date / time	Batch
Dissolved Solids	1420	Q	2.82	10.0	10.0	1	08/08/2018 17:56	WG1149420

Wet Chemistry by Method 2320 B-2011

Analyte	Result	Qualifier	SDL	Unadj. MQL	MQL	Dilution	Analysis date / time	Batch
Alkalinity	172		2.71	20.0	20.0	1	08/08/2018 17:19	WG1147055

Sample Narrative:

L1013808-02 WG1147055: Endpoint pH 4.5 headspace

Wet Chemistry by Method 353.2

Analyte	Result	Qualifier	SDL	Unadj. MQL	MQL	Dilution	Analysis date / time	Batch
Nitrate-Nitrite	3.14		0.0197	0.100	0.100	1	08/07/2018 17:11	WG1147417

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	SDL	Unadj. MQL	MQL	Dilution	Analysis date / time	Batch
Chloride	409		0.260	1.00	5.00	5	08/03/2018 11:09	WG1146906
Fluoride	0.752		0.00990	0.100	0.100	1	08/03/2018 10:53	WG1146906
Sulfate	103		0.387	5.00	25.0	5	08/03/2018 11:09	WG1146906

Mercury by Method 7470A

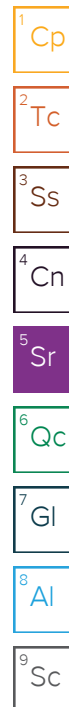
Analyte	Result	Qualifier	SDL	Unadj. MQL	MQL	Dilution	Analysis date / time	Batch
Mercury	U		0.0000490	0.000200	0.000200	1	08/03/2018 10:23	WG1146967

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	SDL	Unadj. MQL	MQL	Dilution	Analysis date / time	Batch
Boron,Dissolved	0.239		0.0126	0.200	0.200	1	08/07/2018 21:43	WG1147670

Metals (ICPMS) by Method 6020

Analyte	Result	Qualifier	SDL	Unadj. MQL	MQL	Dilution	Analysis date / time	Batch
Aluminum,Dissolved	0.0109	B J	0.00515	0.100	0.100	1	08/02/2018 21:16	WG1146395
Arsenic,Dissolved	0.00377		0.000250	0.00200	0.00200	1	08/02/2018 21:16	WG1146395
Barium,Dissolved	0.130		0.000360	0.00500	0.00500	1	08/02/2018 21:16	WG1146395
Cadmium,Dissolved	0.000179	B J	0.000160	0.00100	0.00100	1	08/02/2018 21:16	WG1146395
Calcium,Dissolved	176		0.0460	1.00	1.00	1	08/02/2018 21:16	WG1146395
Chromium,Dissolved	0.00186	J	0.000540	0.00200	0.00200	1	08/02/2018 21:16	WG1146395
Copper,Dissolved	0.00235	B J	0.000520	0.00500	0.00500	1	08/02/2018 21:16	WG1146395
Cobalt,Dissolved	U		0.000260	0.00200	0.00200	1	08/02/2018 21:16	WG1146395
Iron,Dissolved	U		0.0150	0.100	0.100	1	08/02/2018 21:16	WG1146395
Lead,Dissolved	0.000264	J	0.000240	0.00200	0.00200	1	08/02/2018 21:16	WG1146395
Magnesium,Dissolved	23.8		0.100	1.00	1.00	1	08/02/2018 21:16	WG1146395
Manganese,Dissolved	0.00101	J	0.000250	0.00500	0.00500	1	08/02/2018 21:16	WG1146395
Molybdenum,Dissolved	0.00208	J	0.000140	0.00500	0.00500	1	08/02/2018 21:16	WG1146395
Nickel,Dissolved	0.000389	J	0.000350	0.00200	0.00200	1	08/02/2018 21:16	WG1146395
Potassium,Dissolved	3.26		0.0370	1.00	1.00	1	08/02/2018 21:16	WG1146395
Selenium,Dissolved	0.00413		0.000380	0.00200	0.00200	1	08/02/2018 21:16	WG1146395
Silver,Dissolved	U		0.000310	0.00200	0.00200	1	08/02/2018 21:16	WG1146395
Sodium,Dissolved	131		0.110	1.00	1.00	1	08/02/2018 21:16	WG1146395





Metals (ICPMS) by Method 6020

Analyte	Result mg/l	Qualifier	SDL mg/l	Unadj. MQL mg/l	MQL mg/l	Dilution	Analysis date / time	Batch
Uranium,Dissolved	0.00220	J	0.000330	0.0100	0.0100	1	08/02/2018 21:16	WG1146395
Zinc,Dissolved	0.0461		0.00256	0.0250	0.0250	1	08/02/2018 21:16	WG1146395

Volatile Organic Compounds (GC) by Method 8015D/GRO

Analyte	Result mg/l	Qualifier	SDL mg/l	Unadj. MQL mg/l	MQL mg/l	Dilution	Analysis date / time	Batch
TPH (GC/FID) Low Fraction	U		0.0314	0.100	0.100	1	08/03/2018 13:58	WG1147154
(S) a,a,a-Trifluorotoluene(FID)	99.1				77.0-122		08/03/2018 13:58	WG1147154

Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result mg/l	Qualifier	SDL mg/l	Unadj. MQL mg/l	MQL mg/l	Dilution	Analysis date / time	Batch
Acetone	U		0.0100	1.00	1.00	1	08/01/2018 22:20	WG1146115
Benzene	U		0.000331	0.00100	0.00100	1	08/01/2018 22:20	WG1146115
Bromodichloromethane	U		0.000380	0.00125	0.00125	1	08/01/2018 22:20	WG1146115
Bromoform	U		0.000469	0.00100	0.00100	1	08/01/2018 22:20	WG1146115
Bromomethane	U		0.000866	0.00500	0.00500	1	08/01/2018 22:20	WG1146115
n-Butylbenzene	U		0.000361	0.00100	0.00100	1	08/01/2018 22:20	WG1146115
sec-Butylbenzene	U		0.000365	0.00100	0.00100	1	08/01/2018 22:20	WG1146115
tert-Butylbenzene	U		0.000399	0.00100	0.00100	1	08/01/2018 22:20	WG1146115
Carbon disulfide	U		0.000275	0.00100	0.00100	1	08/01/2018 22:20	WG1146115
Carbon tetrachloride	U		0.000379	0.00100	0.00100	1	08/01/2018 22:20	WG1146115
Chlorobenzene	U		0.000348	0.00100	0.00100	1	08/01/2018 22:20	WG1146115
Chlorodibromomethane	U		0.000327	0.00100	0.00100	1	08/01/2018 22:20	WG1146115
Chloroethane	U		0.000453	0.00500	0.00500	1	08/01/2018 22:20	WG1146115
Chloroform	0.00124	J	0.000324	0.00500	0.00500	1	08/01/2018 22:20	WG1146115
Chloromethane	U		0.000276	0.00250	0.00250	1	08/01/2018 22:20	WG1146115
1,2-Dibromoethane	U		0.000381	0.00100	0.00100	1	08/01/2018 22:20	WG1146115
1,1-Dichloroethane	U		0.000259	0.00100	0.00100	1	08/01/2018 22:20	WG1146115
1,2-Dichloroethane	U		0.000361	0.00100	0.00100	1	08/01/2018 22:20	WG1146115
1,1-Dichloroethene	U		0.000398	0.00100	0.00100	1	08/01/2018 22:20	WG1146115
cis-1,2-Dichloroethene	U		0.000260	0.00100	0.00100	1	08/01/2018 22:20	WG1146115
trans-1,2-Dichloroethene	U		0.000396	0.00100	0.00100	1	08/01/2018 22:20	WG1146115
1,2-Dichloropropane	U		0.000306	0.00100	0.00100	1	08/01/2018 22:20	WG1146115
cis-1,3-Dichloropropene	U		0.000418	0.00100	0.00100	1	08/01/2018 22:20	WG1146115
trans-1,3-Dichloropropene	U		0.000419	0.00100	0.00100	1	08/01/2018 22:20	WG1146115
Ethylbenzene	U		0.000384	0.00100	0.00100	1	08/01/2018 22:20	WG1146115
Hexachloro-1,3-butadiene	U		0.000256	0.00100	0.00100	1	08/01/2018 22:20	WG1146115
2-Hexanone	U		0.00382	0.0100	0.0100	1	08/01/2018 22:20	WG1146115
Isopropylbenzene	U		0.000326	0.00100	0.00100	1	08/01/2018 22:20	WG1146115
p-Isopropyltoluene	U		0.000350	0.00100	0.00100	1	08/01/2018 22:20	WG1146115
2-Butanone (MEK)	U		0.00393	0.0100	0.0100	1	08/01/2018 22:20	WG1146115
Methylene Chloride	U		0.00100	0.00500	0.00500	1	08/01/2018 22:20	WG1146115
4-Methyl-2-pentanone (MIBK)	U		0.00214	0.0100	0.0100	1	08/01/2018 22:20	WG1146115
Methyl tert-butyl ether	U		0.000367	0.00100	0.00100	1	08/01/2018 22:20	WG1146115
Naphthalene	U		0.00100	0.00500	0.00500	1	08/01/2018 22:20	WG1146115
n-Propylbenzene	U		0.000349	0.00100	0.00100	1	08/01/2018 22:20	WG1146115
Styrene	U		0.000307	0.00100	0.00100	1	08/01/2018 22:20	WG1146115
1,1,2,2-Tetrachloroethane	U		0.000130	0.00100	0.00100	1	08/01/2018 22:20	WG1146115
Tetrachloroethene	U		0.000372	0.00100	0.00100	1	08/01/2018 22:20	WG1146115
Toluene	U		0.000412	0.00100	0.00100	1	08/01/2018 22:20	WG1146115
1,1,1-Trichloroethane	U		0.000319	0.00100	0.00100	1	08/01/2018 22:20	WG1146115
1,1,2-Trichloroethane	U		0.000383	0.00100	0.00100	1	08/01/2018 22:20	WG1146115
Trichloroethene	U		0.000398	0.00100	0.00100	1	08/01/2018 22:20	WG1146115
1,2,4-Trimethylbenzene	U		0.000373	0.00100	0.00100	1	08/01/2018 22:20	WG1146115

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc



Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result mg/l	Qualifier	SDL mg/l	Unadj. MQL mg/l	MQL mg/l	Dilution	Analysis date / time	Batch
1,3,5-Trimethylbenzene	U		0.000387	0.00100	0.00100	1	08/01/2018 22:20	WG1146115
Vinyl chloride	U		0.000259	0.00100	0.00100	1	08/01/2018 22:20	WG1146115
Xylenes, Total	U		0.00106	0.00300	0.00300	1	08/01/2018 22:20	WG1146115
(S) Toluene-d8	101				80.0-120		08/01/2018 22:20	WG1146115
(S) Dibromofluoromethane	94.6				76.0-123		08/01/2018 22:20	WG1146115
(S) 4-Bromofluorobenzene	95.6				80.0-120		08/01/2018 22:20	WG1146115

Semi-Volatile Organic Compounds (GC) by Method 3511/8015

Analyte	Result mg/l	Qualifier	SDL mg/l	Unadj. MQL mg/l	MQL mg/l	Dilution	Analysis date / time	Batch
TPH (GC/FID) High Fraction	0.0969	J	0.0247	0.100	0.100	1	08/02/2018 15:28	WG1146296
(S) o-Terphenyl	97.2				31.0-160		08/02/2018 15:28	WG1146296

Semi Volatile Organic Compounds (GC/MS) by Method 8270 C

Analyte	Result mg/l	Qualifier	SDL mg/l	Unadj. MQL mg/l	MQL mg/l	Dilution	Analysis date / time	Batch
Acenaphthene	U	J3 J4	0.000316	0.00100	0.00100	1	08/03/2018 20:15	WG1146380
Acenaphthylene	U	J3 J4	0.000309	0.00100	0.00100	1	08/03/2018 20:15	WG1146380
Acetophenone	U	J3	0.00247	0.0100	0.0100	1	08/03/2018 20:15	WG1146380
Anthracene	U	J3 J4	0.000291	0.00100	0.00100	1	08/03/2018 20:15	WG1146380
Atrazine	U	J3 J4	0.000260	0.0100	0.0100	1	08/03/2018 20:15	WG1146380
Benzo(a)anthracene	U	J3 J4	0.0000510	0.00100	0.00100	1	08/03/2018 20:15	WG1146380
Benzaldehyde	U		0.00140	0.0100	0.0100	1	08/03/2018 20:15	WG1146380
Benzo(b)fluoranthene	U	J3 J4	0.0000896	0.00100	0.00100	1	08/03/2018 20:15	WG1146380
Benzo(k)fluoranthene	U	J3	0.000355	0.00100	0.00100	1	08/03/2018 20:15	WG1146380
Benzo(g,h,i)perylene	U	J3 J4	0.00000227	0.00100	0.00100	1	08/03/2018 20:15	WG1146380
Benzo(a)pyrene	U	J3 J4	0.0000381	0.000200	0.000200	1	08/03/2018 20:15	WG1146380
Biphenyl	U	J3 J4	0.000325	0.0100	0.0100	1	08/03/2018 20:15	WG1146380
Bis(2-chlorethoxy)methane	U	J3 J4	0.000329	0.0100	0.0100	1	08/03/2018 20:15	WG1146380
Bis(2-chloroethyl)ether	U	J3	0.00162	0.0100	0.0100	1	08/03/2018 20:15	WG1146380
Bis(2-chloroisopropyl)ether	U	J3	0.000445	0.0100	0.0100	1	08/03/2018 20:15	WG1146380
4-Bromophenyl-phenylether	U	J3 J4	0.000335	0.0100	0.0100	1	08/03/2018 20:15	WG1146380
2-Chloronaphthalene	U	J3 J4	0.000330	0.00100	0.00100	1	08/03/2018 20:15	WG1146380
4-Chlorophenyl-phenylether	U	J3 J4	0.000303	0.0100	0.0100	1	08/03/2018 20:15	WG1146380
Caprolactam	U		0.00259	0.0100	0.0100	1	08/03/2018 20:15	WG1146380
Carbazole	U	J3 J4	0.000260	0.0100	0.0100	1	08/03/2018 20:15	WG1146380
Chrysene	U	J3 J4	0.000332	0.00100	0.00100	1	08/03/2018 20:15	WG1146380
Dibenz(a,h)anthracene	U	J3 J4	0.0000644	0.000200	0.000200	1	08/03/2018 20:15	WG1146380
Dibenzofuran	U	J3 J4	0.000338	0.0100	0.0100	1	08/03/2018 20:15	WG1146380
3,3-Dichlorobenzidine	U	J3	0.00202	0.0100	0.0100	1	08/03/2018 20:15	WG1146380
2,4-Dinitrotoluene	U	J3 J4	0.00165	0.0100	0.0100	1	08/03/2018 20:15	WG1146380
2,6-Dinitrotoluene	U	J3 J4	0.000279	0.0100	0.0100	1	08/03/2018 20:15	WG1146380
Fluoranthene	U	J3 J4	0.000310	0.00100	0.00100	1	08/03/2018 20:15	WG1146380
Fluorene	U	J3 J4	0.000323	0.00100	0.00100	1	08/03/2018 20:15	WG1146380
Hexachlorobenzene	U	J3 J4	0.000341	0.00100	0.00100	1	08/03/2018 20:15	WG1146380
Hexachloro-1,3-butadiene	U	J3	0.000329	0.0100	0.0100	1	08/03/2018 20:15	WG1146380
Hexachlorocyclopentadiene	U	J3	0.00233	0.0100	0.0100	1	08/03/2018 20:15	WG1146380
Hexachloroethane	U	J3	0.000365	0.0100	0.0100	1	08/03/2018 20:15	WG1146380
Indeno(1,2,3-cd)pyrene	U	J3 J4	0.000279	0.00100	0.00100	1	08/03/2018 20:15	WG1146380
Isophorone	U	J3 J4	0.000272	0.0100	0.0100	1	08/03/2018 20:15	WG1146380
1-Methylnaphthalene	U	J3	0.000332	0.00100	0.00100	1	08/03/2018 20:15	WG1146380
2-Methylnaphthalene	U	J3 J4	0.000311	0.00100	0.00100	1	08/03/2018 20:15	WG1146380
Naphthalene	U	J3	0.000372	0.00100	0.00100	1	08/03/2018 20:15	WG1146380
Nitrobenzene	U	J3	0.000367	0.0100	0.0100	1	08/03/2018 20:15	WG1146380
n-Nitrosodiphenylamine	U	J3 J4	0.00119	0.0100	0.0100	1	08/03/2018 20:15	WG1146380

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc



Semi Volatile Organic Compounds (GC/MS) by Method 8270 C

Analyte	Result mg/l	Qualifier	SDL mg/l	Unadj. MQL mg/l	MQL mg/l	Dilution	Analysis date / time	Batch
n-Nitrosodi-n-propylamine	U	J3	0.000403	0.0100	0.0100	1	08/03/2018 20:15	WG1146380
Phenanthrene	U	J3 J4	0.000366	0.00100	0.00100	1	08/03/2018 20:15	WG1146380
Benzylbutyl phthalate	U	J3 J4	0.000275	0.00300	0.00300	1	08/03/2018 20:15	WG1146380
Bis(2-ethylhexyl)phthalate	0.000800	B J J3 J4	0.000709	0.00300	0.00300	1	08/03/2018 20:15	WG1146380
Di-n-butyl phthalate	U	J3 J4	0.000266	0.00300	0.00300	1	08/03/2018 20:15	WG1146380
Diethyl phthalate	U	J3 J4	0.000282	0.00300	0.00300	1	08/03/2018 20:15	WG1146380
Dimethyl phthalate	U	J3 J4	0.000283	0.00300	0.00300	1	08/03/2018 20:15	WG1146380
Di-n-octyl phthalate	U	J3 J4	0.000278	0.00300	0.00300	1	08/03/2018 20:15	WG1146380
Pyrene	U	J3 J4	0.000330	0.00100	0.00100	1	08/03/2018 20:15	WG1146380
1,2,4-Trichlorobenzene	U	J3	0.000355	0.0100	0.0100	1	08/03/2018 20:15	WG1146380
4-Chloro-3-methylphenol	U	J3 J4	0.000263	0.0100	0.0100	1	08/03/2018 20:15	WG1146380
2-Chlorophenol	U	J3	0.000283	0.0100	0.0100	1	08/03/2018 20:15	WG1146380
2,4-Dichlorophenol	U	J3	0.000284	0.0100	0.0100	1	08/03/2018 20:15	WG1146380
2,4-Dimethylphenol	U	J3	0.000624	0.0100	0.0100	1	08/03/2018 20:15	WG1146380
4,6-Dinitro-2-methylphenol	U	J3	0.00262	0.0100	0.0100	1	08/03/2018 20:15	WG1146380
2,4-Dinitrophenol	U		0.00325	0.0100	0.0100	1	08/03/2018 20:15	WG1146380
2-Nitrophenol	U	J3	0.000320	0.0100	0.0100	1	08/03/2018 20:15	WG1146380
2-Nitroaniline	U	J3 J4	0.00190	0.0100	0.0100	1	08/03/2018 20:15	WG1146380
2-Methylphenol	U	J3	0.000312	0.0100	0.0100	1	08/03/2018 20:15	WG1146380
3&4-Methyl Phenol	U	J3	0.000266	0.0100	0.0100	1	08/03/2018 20:15	WG1146380
3-Nitroaniline	U	J3	0.000308	0.0100	0.0100	1	08/03/2018 20:15	WG1146380
4-Chloroaniline	U	J3	0.000382	0.0100	0.0100	1	08/03/2018 20:15	WG1146380
4-Nitroaniline	U	J3	0.000349	0.0100	0.0100	1	08/03/2018 20:15	WG1146380
4-Nitrophenol	U		0.00201	0.0100	0.0100	1	08/03/2018 20:15	WG1146380
Pentachlorophenol	U	J3	0.000313	0.0100	0.0100	1	08/03/2018 20:15	WG1146380
Phenol	0.00269	J	0.000334	0.0100	0.0100	1	08/03/2018 20:15	WG1146380
2,4,5-Trichlorophenol	U	J3 J4	0.000236	0.0100	0.0100	1	08/03/2018 20:15	WG1146380
2,4,6-Trichlorophenol	U	J3 J4	0.000297	0.0100	0.0100	1	08/03/2018 20:15	WG1146380
(S) 2-Fluorophenol	40.2				10.0-120		08/03/2018 20:15	WG1146380
(S) Phenol-d5	27.2				10.0-120		08/03/2018 20:15	WG1146380
(S) Nitrobenzene-d5	48.4				10.0-126		08/03/2018 20:15	WG1146380
(S) 2-Fluorobiphenyl	53.6				22.0-127		08/03/2018 20:15	WG1146380
(S) 2,4,6-Tribromophenol	42.1				10.0-153		08/03/2018 20:15	WG1146380
(S) p-Terphenyl-d14	59.6				29.0-141		08/03/2018 20:15	WG1146380

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc



Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	SDL	Unadj. MQL	MQL	Dilution	Analysis date / time	Batch
Dissolved Solids	584	Q	2.82	10.0	10.0	1	08/08/2018 17:56	WG1149420

Wet Chemistry by Method 2320 B-2011

Analyte	Result	Qualifier	SDL	Unadj. MQL	MQL	Dilution	Analysis date / time	Batch
Alkalinity	178		2.71	20.0	20.0	1	08/08/2018 17:26	WG1147055

Sample Narrative:

L1013808-03 WG1147055: Endpoint pH 4.5 headspace

Wet Chemistry by Method 353.2

Analyte	Result	Qualifier	SDL	Unadj. MQL	MQL	Dilution	Analysis date / time	Batch
Nitrate-Nitrite	3.03		0.0197	0.100	0.100	1	08/07/2018 17:12	WG1147417

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	SDL	Unadj. MQL	MQL	Dilution	Analysis date / time	Batch
Chloride	121		0.260	1.00	5.00	5	08/03/2018 01:06	WG1146907
Fluoride	0.881		0.00990	0.100	0.100	1	08/03/2018 00:49	WG1146907
Sulfate	74.7		0.0774	5.00	5.00	1	08/03/2018 00:49	WG1146907

Mercury by Method 7470A

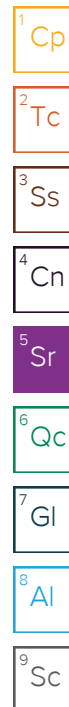
Analyte	Result	Qualifier	SDL	Unadj. MQL	MQL	Dilution	Analysis date / time	Batch
Mercury	U		0.0000490	0.000200	0.000200	1	08/03/2018 10:25	WG1146967

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	SDL	Unadj. MQL	MQL	Dilution	Analysis date / time	Batch
Boron,Dissolved	0.169	J	0.0126	0.200	0.200	1	08/07/2018 21:46	WG1147670

Metals (ICPMS) by Method 6020

Analyte	Result	Qualifier	SDL	Unadj. MQL	MQL	Dilution	Analysis date / time	Batch
Aluminum,Dissolved	0.00795	B J	0.00515	0.100	0.100	1	08/02/2018 21:20	WG1146395
Arsenic,Dissolved	0.00596		0.000250	0.00200	0.00200	1	08/02/2018 21:20	WG1146395
Barium,Dissolved	0.104		0.000360	0.00500	0.00500	1	08/02/2018 21:20	WG1146395
Cadmium,Dissolved	0.000172	B J	0.000160	0.00100	0.00100	1	08/02/2018 21:20	WG1146395
Calcium,Dissolved	97.9		0.0460	1.00	1.00	1	08/02/2018 21:20	WG1146395
Chromium,Dissolved	0.00117	J	0.000540	0.00200	0.00200	1	08/02/2018 21:20	WG1146395
Copper,Dissolved	0.00470	B J	0.000520	0.00500	0.00500	1	08/02/2018 21:20	WG1146395
Cobalt,Dissolved	U		0.000260	0.00200	0.00200	1	08/02/2018 21:20	WG1146395
Iron,Dissolved	U		0.0150	0.100	0.100	1	08/02/2018 21:20	WG1146395
Lead,Dissolved	0.000793	J	0.000240	0.00200	0.00200	1	08/02/2018 21:20	WG1146395
Magnesium,Dissolved	11.7		0.100	1.00	1.00	1	08/02/2018 21:20	WG1146395
Manganese,Dissolved	0.000983	J	0.000250	0.00500	0.00500	1	08/02/2018 21:20	WG1146395
Molybdenum,Dissolved	0.00283	J	0.000140	0.00500	0.00500	1	08/02/2018 21:20	WG1146395
Nickel,Dissolved	0.000634	J	0.000350	0.00200	0.00200	1	08/02/2018 21:20	WG1146395
Potassium,Dissolved	3.13		0.0370	1.00	1.00	1	08/02/2018 21:20	WG1146395
Selenium,Dissolved	0.00362		0.000380	0.00200	0.00200	1	08/02/2018 21:20	WG1146395
Silver,Dissolved	U		0.000310	0.00200	0.00200	1	08/02/2018 21:20	WG1146395
Sodium,Dissolved	65.6		0.110	1.00	1.00	1	08/02/2018 21:20	WG1146395





Metals (ICPMS) by Method 6020

Analyte	Result mg/l	Qualifier	SDL mg/l	Unadj. MQL mg/l	MQL mg/l	Dilution	Analysis date / time	Batch
Uranium,Dissolved	0.00173	J	0.000330	0.0100	0.0100	1	08/02/2018 21:20	WG1146395
Zinc,Dissolved	0.00798	J	0.00256	0.0250	0.0250	1	08/02/2018 21:20	WG1146395

Volatile Organic Compounds (GC) by Method 8015D/GRO

Analyte	Result mg/l	Qualifier	SDL mg/l	Unadj. MQL mg/l	MQL mg/l	Dilution	Analysis date / time	Batch
TPH (GC/FID) Low Fraction	U		0.0314	0.100	0.100	1	08/03/2018 14:20	WG1147154
(S) a,a,a-Trifluorotoluene(FID)	98.9				77.0-122		08/03/2018 14:20	WG1147154

Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result mg/l	Qualifier	SDL mg/l	Unadj. MQL mg/l	MQL mg/l	Dilution	Analysis date / time	Batch
Acetone	U		0.0100	1.00	1.00	1	08/01/2018 22:39	WG1146115
Benzene	U		0.000331	0.00100	0.00100	1	08/01/2018 22:39	WG1146115
Bromodichloromethane	U		0.000380	0.00125	0.00125	1	08/01/2018 22:39	WG1146115
Bromoform	U		0.000469	0.00100	0.00100	1	08/01/2018 22:39	WG1146115
Bromomethane	U		0.000866	0.00500	0.00500	1	08/01/2018 22:39	WG1146115
n-Butylbenzene	U		0.000361	0.00100	0.00100	1	08/01/2018 22:39	WG1146115
sec-Butylbenzene	U		0.000365	0.00100	0.00100	1	08/01/2018 22:39	WG1146115
tert-Butylbenzene	U		0.000399	0.00100	0.00100	1	08/01/2018 22:39	WG1146115
Carbon disulfide	U		0.000275	0.00100	0.00100	1	08/01/2018 22:39	WG1146115
Carbon tetrachloride	U		0.000379	0.00100	0.00100	1	08/01/2018 22:39	WG1146115
Chlorobenzene	U		0.000348	0.00100	0.00100	1	08/01/2018 22:39	WG1146115
Chlorodibromomethane	U		0.000327	0.00100	0.00100	1	08/01/2018 22:39	WG1146115
Chloroethane	U		0.000453	0.00500	0.00500	1	08/01/2018 22:39	WG1146115
Chloroform	U		0.000324	0.00500	0.00500	1	08/01/2018 22:39	WG1146115
Chloromethane	U		0.000276	0.00250	0.00250	1	08/01/2018 22:39	WG1146115
1,2-Dibromoethane	U		0.000381	0.00100	0.00100	1	08/01/2018 22:39	WG1146115
1,1-Dichloroethane	U		0.000259	0.00100	0.00100	1	08/01/2018 22:39	WG1146115
1,2-Dichloroethane	U		0.000361	0.00100	0.00100	1	08/01/2018 22:39	WG1146115
1,1-Dichloroethene	U		0.000398	0.00100	0.00100	1	08/01/2018 22:39	WG1146115
cis-1,2-Dichloroethene	U		0.000260	0.00100	0.00100	1	08/01/2018 22:39	WG1146115
trans-1,2-Dichloroethene	U		0.000396	0.00100	0.00100	1	08/01/2018 22:39	WG1146115
1,2-Dichloropropane	U		0.000306	0.00100	0.00100	1	08/01/2018 22:39	WG1146115
cis-1,3-Dichloropropene	U		0.000418	0.00100	0.00100	1	08/01/2018 22:39	WG1146115
trans-1,3-Dichloropropene	U		0.000419	0.00100	0.00100	1	08/01/2018 22:39	WG1146115
Ethylbenzene	U		0.000384	0.00100	0.00100	1	08/01/2018 22:39	WG1146115
Hexachloro-1,3-butadiene	U		0.000256	0.00100	0.00100	1	08/01/2018 22:39	WG1146115
2-Hexanone	U		0.00382	0.0100	0.0100	1	08/01/2018 22:39	WG1146115
Isopropylbenzene	U		0.000326	0.00100	0.00100	1	08/01/2018 22:39	WG1146115
p-Isopropyltoluene	U		0.000350	0.00100	0.00100	1	08/01/2018 22:39	WG1146115
2-Butanone (MEK)	U		0.00393	0.0100	0.0100	1	08/01/2018 22:39	WG1146115
Methylene Chloride	U		0.00100	0.00500	0.00500	1	08/01/2018 22:39	WG1146115
4-Methyl-2-pentanone (MIBK)	U		0.00214	0.0100	0.0100	1	08/01/2018 22:39	WG1146115
Methyl tert-butyl ether	U		0.000367	0.00100	0.00100	1	08/01/2018 22:39	WG1146115
Naphthalene	U		0.00100	0.00500	0.00500	1	08/01/2018 22:39	WG1146115
n-Propylbenzene	U		0.000349	0.00100	0.00100	1	08/01/2018 22:39	WG1146115
Styrene	U		0.000307	0.00100	0.00100	1	08/01/2018 22:39	WG1146115
1,1,2,2-Tetrachloroethane	U		0.000130	0.00100	0.00100	1	08/01/2018 22:39	WG1146115
Tetrachloroethene	U		0.000372	0.00100	0.00100	1	08/01/2018 22:39	WG1146115
Toluene	U		0.000412	0.00100	0.00100	1	08/01/2018 22:39	WG1146115
1,1,1-Trichloroethane	U		0.000319	0.00100	0.00100	1	08/01/2018 22:39	WG1146115
1,1,2-Trichloroethane	U		0.000383	0.00100	0.00100	1	08/01/2018 22:39	WG1146115
Trichloroethene	U		0.000398	0.00100	0.00100	1	08/01/2018 22:39	WG1146115
1,2,4-Trimethylbenzene	U		0.000373	0.00100	0.00100	1	08/01/2018 22:39	WG1146115

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc



Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result mg/l	Qualifier	SDL mg/l	Unadj. MQL mg/l	MQL mg/l	Dilution	Analysis date / time	Batch
1,3,5-Trimethylbenzene	U		0.000387	0.00100	0.00100	1	08/01/2018 22:39	WG1146115
Vinyl chloride	U		0.000259	0.00100	0.00100	1	08/01/2018 22:39	WG1146115
Xylenes, Total	U		0.00106	0.00300	0.00300	1	08/01/2018 22:39	WG1146115
(S) Toluene-d8	100				80.0-120		08/01/2018 22:39	WG1146115
(S) Dibromofluoromethane	94.3				76.0-123		08/01/2018 22:39	WG1146115
(S) 4-Bromofluorobenzene	98.6				80.0-120		08/01/2018 22:39	WG1146115

Semi-Volatile Organic Compounds (GC) by Method 3511/8015

Analyte	Result mg/l	Qualifier	SDL mg/l	Unadj. MQL mg/l	MQL mg/l	Dilution	Analysis date / time	Batch
TPH (GC/FID) High Fraction	0.0303	J	0.0247	0.100	0.100	1	08/02/2018 15:46	WG1146296
(S) o-Terphenyl	95.8				31.0-160		08/02/2018 15:46	WG1146296

Semi Volatile Organic Compounds (GC/MS) by Method 8270 C

Analyte	Result mg/l	Qualifier	SDL mg/l	Unadj. MQL mg/l	MQL mg/l	Dilution	Analysis date / time	Batch
Acenaphthene	U	J3 J4	0.000316	0.00100	0.00100	1	08/03/2018 20:39	WG1146380
Acenaphthylene	U	J3 J4	0.000309	0.00100	0.00100	1	08/03/2018 20:39	WG1146380
Acetophenone	U	J3	0.00247	0.0100	0.0100	1	08/03/2018 20:39	WG1146380
Anthracene	U	J3 J4	0.000291	0.00100	0.00100	1	08/03/2018 20:39	WG1146380
Atrazine	U	J3 J4	0.000260	0.0100	0.0100	1	08/03/2018 20:39	WG1146380
Benzo(a)anthracene	U	J3 J4	0.0000510	0.00100	0.00100	1	08/03/2018 20:39	WG1146380
Benzaldehyde	U		0.00140	0.0100	0.0100	1	08/03/2018 20:39	WG1146380
Benzo(b)fluoranthene	U	J3 J4	0.0000896	0.00100	0.00100	1	08/03/2018 20:39	WG1146380
Benzo(k)fluoranthene	U	J3	0.000355	0.00100	0.00100	1	08/03/2018 20:39	WG1146380
Benzo(g,h,i)perylene	U	J3 J4	0.00000227	0.00100	0.00100	1	08/03/2018 20:39	WG1146380
Benzo(a)pyrene	U	J3 J4	0.0000381	0.000200	0.000200	1	08/03/2018 20:39	WG1146380
Biphenyl	U	J3 J4	0.000325	0.0100	0.0100	1	08/03/2018 20:39	WG1146380
Bis(2-chlorethoxy)methane	U	J3 J4	0.000329	0.0100	0.0100	1	08/03/2018 20:39	WG1146380
Bis(2-chloroethyl)ether	U	J3	0.00162	0.0100	0.0100	1	08/03/2018 20:39	WG1146380
Bis(2-chloroisopropyl)ether	U	J3	0.000445	0.0100	0.0100	1	08/03/2018 20:39	WG1146380
4-Bromophenyl-phenylether	U	J3 J4	0.000335	0.0100	0.0100	1	08/03/2018 20:39	WG1146380
2-Chloronaphthalene	U	J3 J4	0.000330	0.00100	0.00100	1	08/03/2018 20:39	WG1146380
4-Chlorophenyl-phenylether	U	J3 J4	0.000303	0.0100	0.0100	1	08/03/2018 20:39	WG1146380
Caprolactam	U		0.00259	0.0100	0.0100	1	08/03/2018 20:39	WG1146380
Carbazole	U	J3 J4	0.000260	0.0100	0.0100	1	08/03/2018 20:39	WG1146380
Chrysene	U	J3 J4	0.000332	0.00100	0.00100	1	08/03/2018 20:39	WG1146380
Dibenz(a,h)anthracene	U	J3 J4	0.0000644	0.000200	0.000200	1	08/03/2018 20:39	WG1146380
Dibenzofuran	U	J3 J4	0.000338	0.0100	0.0100	1	08/03/2018 20:39	WG1146380
3,3-Dichlorobenzidine	U	J3	0.00202	0.0100	0.0100	1	08/03/2018 20:39	WG1146380
2,4-Dinitrotoluene	U	J3 J4	0.00165	0.0100	0.0100	1	08/03/2018 20:39	WG1146380
2,6-Dinitrotoluene	U	J3 J4	0.000279	0.0100	0.0100	1	08/03/2018 20:39	WG1146380
Fluoranthene	U	J3 J4	0.000310	0.00100	0.00100	1	08/03/2018 20:39	WG1146380
Fluorene	U	J3 J4	0.000323	0.00100	0.00100	1	08/03/2018 20:39	WG1146380
Hexachlorobenzene	U	J3 J4	0.000341	0.00100	0.00100	1	08/03/2018 20:39	WG1146380
Hexachloro-1,3-butadiene	U	J3	0.000329	0.0100	0.0100	1	08/03/2018 20:39	WG1146380
Hexachlorocyclopentadiene	U	J3	0.00233	0.0100	0.0100	1	08/03/2018 20:39	WG1146380
Hexachloroethane	U	J3	0.000365	0.0100	0.0100	1	08/03/2018 20:39	WG1146380
Indeno(1,2,3-cd)pyrene	U	J3 J4	0.000279	0.00100	0.00100	1	08/03/2018 20:39	WG1146380
Isophorone	U	J3 J4	0.000272	0.0100	0.0100	1	08/03/2018 20:39	WG1146380
1-Methylnaphthalene	U	J3	0.000332	0.00100	0.00100	1	08/03/2018 20:39	WG1146380
2-Methylnaphthalene	U	J3 J4	0.000311	0.00100	0.00100	1	08/03/2018 20:39	WG1146380
Naphthalene	U	J3	0.000372	0.00100	0.00100	1	08/03/2018 20:39	WG1146380
Nitrobenzene	U	J3	0.000367	0.0100	0.0100	1	08/03/2018 20:39	WG1146380
n-Nitrosodiphenylamine	U	J3 J4	0.00119	0.0100	0.0100	1	08/03/2018 20:39	WG1146380

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc



Semi Volatile Organic Compounds (GC/MS) by Method 8270 C

Analyte	Result mg/l	Qualifier	SDL mg/l	Unadj. MQL mg/l	MQL mg/l	Dilution	Analysis date / time	Batch
n-Nitrosodi-n-propylamine	U	J3	0.000403	0.0100	0.0100	1	08/03/2018 20:39	WG1146380
Phenanthrene	U	J3 J4	0.000366	0.00100	0.00100	1	08/03/2018 20:39	WG1146380
Benzylbutyl phthalate	U	J3 J4	0.000275	0.00300	0.00300	1	08/03/2018 20:39	WG1146380
Bis(2-ethylhexyl)phthalate	0.000761	B J J3 J4	0.000709	0.00300	0.00300	1	08/03/2018 20:39	WG1146380
Di-n-butyl phthalate	U	J3 J4	0.000266	0.00300	0.00300	1	08/03/2018 20:39	WG1146380
Diethyl phthalate	U	J3 J4	0.000282	0.00300	0.00300	1	08/03/2018 20:39	WG1146380
Dimethyl phthalate	U	J3 J4	0.000283	0.00300	0.00300	1	08/03/2018 20:39	WG1146380
Di-n-octyl phthalate	U	J3 J4	0.000278	0.00300	0.00300	1	08/03/2018 20:39	WG1146380
Pyrene	U	J3 J4	0.000330	0.00100	0.00100	1	08/03/2018 20:39	WG1146380
1,2,4-Trichlorobenzene	U	J3	0.000355	0.0100	0.0100	1	08/03/2018 20:39	WG1146380
4-Chloro-3-methylphenol	U	J3 J4	0.000263	0.0100	0.0100	1	08/03/2018 20:39	WG1146380
2-Chlorophenol	U	J3	0.000283	0.0100	0.0100	1	08/03/2018 20:39	WG1146380
2,4-Dichlorophenol	U	J3	0.000284	0.0100	0.0100	1	08/03/2018 20:39	WG1146380
2,4-Dimethylphenol	U	J3	0.000624	0.0100	0.0100	1	08/03/2018 20:39	WG1146380
4,6-Dinitro-2-methylphenol	U	J3	0.00262	0.0100	0.0100	1	08/03/2018 20:39	WG1146380
2,4-Dinitrophenol	U		0.00325	0.0100	0.0100	1	08/03/2018 20:39	WG1146380
2-Nitrophenol	U	J3	0.000320	0.0100	0.0100	1	08/03/2018 20:39	WG1146380
2-Nitroaniline	U	J3 J4	0.00190	0.0100	0.0100	1	08/03/2018 20:39	WG1146380
2-Methylphenol	U	J3	0.000312	0.0100	0.0100	1	08/03/2018 20:39	WG1146380
3&4-Methyl Phenol	U	J3	0.000266	0.0100	0.0100	1	08/03/2018 20:39	WG1146380
3-Nitroaniline	U	J3	0.000308	0.0100	0.0100	1	08/03/2018 20:39	WG1146380
4-Chloroaniline	U	J3	0.000382	0.0100	0.0100	1	08/03/2018 20:39	WG1146380
4-Nitroaniline	U	J3	0.000349	0.0100	0.0100	1	08/03/2018 20:39	WG1146380
4-Nitrophenol	U		0.00201	0.0100	0.0100	1	08/03/2018 20:39	WG1146380
Pentachlorophenol	U	J3	0.000313	0.0100	0.0100	1	08/03/2018 20:39	WG1146380
Phenol	0.00138	J	0.000334	0.0100	0.0100	1	08/03/2018 20:39	WG1146380
2,4,5-Trichlorophenol	U	J3 J4	0.000236	0.0100	0.0100	1	08/03/2018 20:39	WG1146380
2,4,6-Trichlorophenol	U	J3 J4	0.000297	0.0100	0.0100	1	08/03/2018 20:39	WG1146380
(S) 2-Fluorophenol	35.2				10.0-120		08/03/2018 20:39	WG1146380
(S) Phenol-d5	23.7				10.0-120		08/03/2018 20:39	WG1146380
(S) Nitrobenzene-d5	43.8				10.0-126		08/03/2018 20:39	WG1146380
(S) 2-Fluorobiphenyl	46.8				22.0-127		08/03/2018 20:39	WG1146380
(S) 2,4,6-Tribromophenol	35.7				10.0-153		08/03/2018 20:39	WG1146380
(S) p-Terphenyl-d14	49.2				29.0-141		08/03/2018 20:39	WG1146380

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc



Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	SDL	Unadj. MQL	MQL	Dilution	Analysis date / time	Batch
Dissolved Solids	1230		2.82	10.0	10.0	1	08/07/2018 18:47	WG1148424

Wet Chemistry by Method 2320 B-2011

Analyte	Result	Qualifier	SDL	Unadj. MQL	MQL	Dilution	Analysis date / time	Batch
Alkalinity	171		2.71	20.0	20.0	1	08/08/2018 17:33	WG1147055

Sample Narrative:

L1013808-04 WG1147055: Endpoint pH 4.5 headspace

Wet Chemistry by Method 353.2

Analyte	Result	Qualifier	SDL	Unadj. MQL	MQL	Dilution	Analysis date / time	Batch
Nitrate-Nitrite	3.20		0.0197	0.100	0.100	1	08/07/2018 17:14	WG1147417

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	SDL	Unadj. MQL	MQL	Dilution	Analysis date / time	Batch
Chloride	396		0.519	1.00	10.0	10	08/03/2018 01:43	WG1146907
Fluoride	0.685		0.00990	0.100	0.100	1	08/03/2018 01:24	WG1146907
Sulfate	97.5		0.0774	5.00	5.00	1	08/03/2018 01:24	WG1146907

Mercury by Method 7470A

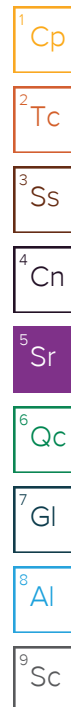
Analyte	Result	Qualifier	SDL	Unadj. MQL	MQL	Dilution	Analysis date / time	Batch
Mercury	U		0.0000490	0.000200	0.000200	1	08/02/2018 12:10	WG1146160

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	SDL	Unadj. MQL	MQL	Dilution	Analysis date / time	Batch
Boron,Dissolved	0.203		0.0126	0.200	0.200	1	08/07/2018 21:54	WG1147670

Metals (ICPMS) by Method 6020

Analyte	Result	Qualifier	SDL	Unadj. MQL	MQL	Dilution	Analysis date / time	Batch
Aluminum,Dissolved	U		0.00515	0.100	0.100	1	08/02/2018 21:24	WG1146395
Arsenic,Dissolved	0.00401		0.000250	0.00200	0.00200	1	08/02/2018 21:24	WG1146395
Barium,Dissolved	0.133		0.000360	0.00500	0.00500	1	08/02/2018 21:24	WG1146395
Cadmium,Dissolved	0.000172	B J	0.000160	0.00100	0.00100	1	08/02/2018 21:24	WG1146395
Calcium,Dissolved	180		0.0460	1.00	1.00	1	08/02/2018 21:24	WG1146395
Chromium,Dissolved	0.00180	J	0.000540	0.00200	0.00200	1	08/02/2018 21:24	WG1146395
Copper,Dissolved	0.00179	B J	0.000520	0.00500	0.00500	1	08/02/2018 21:24	WG1146395
Cobalt,Dissolved	U		0.000260	0.00200	0.00200	1	08/02/2018 21:24	WG1146395
Iron,Dissolved	U		0.0150	0.100	0.100	1	08/02/2018 21:24	WG1146395
Lead,Dissolved	U		0.000240	0.00200	0.00200	1	08/02/2018 21:24	WG1146395
Magnesium,Dissolved	24.6		0.100	1.00	1.00	1	08/02/2018 21:24	WG1146395
Manganese,Dissolved	0.00143	J	0.000250	0.00500	0.00500	1	08/02/2018 21:24	WG1146395
Molybdenum,Dissolved	0.00197	J	0.000140	0.00500	0.00500	1	08/02/2018 21:24	WG1146395
Nickel,Dissolved	0.000463	J	0.000350	0.00200	0.00200	1	08/02/2018 21:24	WG1146395
Potassium,Dissolved	4.22		0.0370	1.00	1.00	1	08/02/2018 21:24	WG1146395
Selenium,Dissolved	0.00326		0.000380	0.00200	0.00200	1	08/02/2018 21:24	WG1146395
Silver,Dissolved	U		0.000310	0.00200	0.00200	1	08/02/2018 21:24	WG1146395
Sodium,Dissolved	135		0.110	1.00	1.00	1	08/02/2018 21:24	WG1146395





Metals (ICPMS) by Method 6020

Analyte	Result mg/l	Qualifier	SDL mg/l	Unadj. MQL mg/l	MQL mg/l	Dilution	Analysis date / time	Batch
Uranium,Dissolved	0.00219	J	0.000330	0.0100	0.0100	1	08/02/2018 21:24	WG1146395
Zinc,Dissolved	0.0262		0.00256	0.0250	0.0250	1	08/02/2018 21:24	WG1146395

Volatile Organic Compounds (GC) by Method 8015D/GRO

Analyte	Result mg/l	Qualifier	SDL mg/l	Unadj. MQL mg/l	MQL mg/l	Dilution	Analysis date / time	Batch
TPH (GC/FID) Low Fraction	U		0.0314	0.100	0.100	1	08/03/2018 14:42	WG1147154
(S) a,a,a-Trifluorotoluene(FID)	98.4				77.0-122		08/03/2018 14:42	WG1147154

Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result mg/l	Qualifier	SDL mg/l	Unadj. MQL mg/l	MQL mg/l	Dilution	Analysis date / time	Batch
Acetone	U		0.0100	1.00	1.00	1	08/01/2018 22:58	WG1146115
Benzene	U		0.000331	0.00100	0.00100	1	08/01/2018 22:58	WG1146115
Bromodichloromethane	U		0.000380	0.00125	0.00125	1	08/01/2018 22:58	WG1146115
Bromoform	U		0.000469	0.00100	0.00100	1	08/01/2018 22:58	WG1146115
Bromomethane	U		0.000866	0.00500	0.00500	1	08/01/2018 22:58	WG1146115
n-Butylbenzene	U		0.000361	0.00100	0.00100	1	08/01/2018 22:58	WG1146115
sec-Butylbenzene	U		0.000365	0.00100	0.00100	1	08/01/2018 22:58	WG1146115
tert-Butylbenzene	U		0.000399	0.00100	0.00100	1	08/01/2018 22:58	WG1146115
Carbon disulfide	U		0.000275	0.00100	0.00100	1	08/01/2018 22:58	WG1146115
Carbon tetrachloride	U		0.000379	0.00100	0.00100	1	08/01/2018 22:58	WG1146115
Chlorobenzene	U		0.000348	0.00100	0.00100	1	08/01/2018 22:58	WG1146115
Chlorodibromomethane	U		0.000327	0.00100	0.00100	1	08/01/2018 22:58	WG1146115
Chloroethane	U		0.000453	0.00500	0.00500	1	08/01/2018 22:58	WG1146115
Chloroform	0.00126	J	0.000324	0.00500	0.00500	1	08/01/2018 22:58	WG1146115
Chloromethane	U		0.000276	0.00250	0.00250	1	08/01/2018 22:58	WG1146115
1,2-Dibromoethane	U		0.000381	0.00100	0.00100	1	08/01/2018 22:58	WG1146115
1,1-Dichloroethane	U		0.000259	0.00100	0.00100	1	08/01/2018 22:58	WG1146115
1,2-Dichloroethane	U		0.000361	0.00100	0.00100	1	08/01/2018 22:58	WG1146115
1,1-Dichloroethene	U		0.000398	0.00100	0.00100	1	08/01/2018 22:58	WG1146115
cis-1,2-Dichloroethene	U		0.000260	0.00100	0.00100	1	08/01/2018 22:58	WG1146115
trans-1,2-Dichloroethene	U		0.000396	0.00100	0.00100	1	08/01/2018 22:58	WG1146115
1,2-Dichloropropane	U		0.000306	0.00100	0.00100	1	08/01/2018 22:58	WG1146115
cis-1,3-Dichloropropene	U		0.000418	0.00100	0.00100	1	08/01/2018 22:58	WG1146115
trans-1,3-Dichloropropene	U		0.000419	0.00100	0.00100	1	08/01/2018 22:58	WG1146115
Ethylbenzene	U		0.000384	0.00100	0.00100	1	08/01/2018 22:58	WG1146115
Hexachloro-1,3-butadiene	U		0.000256	0.00100	0.00100	1	08/01/2018 22:58	WG1146115
2-Hexanone	U		0.00382	0.0100	0.0100	1	08/01/2018 22:58	WG1146115
Isopropylbenzene	U		0.000326	0.00100	0.00100	1	08/01/2018 22:58	WG1146115
p-Isopropyltoluene	U		0.000350	0.00100	0.00100	1	08/01/2018 22:58	WG1146115
2-Butanone (MEK)	U		0.00393	0.0100	0.0100	1	08/01/2018 22:58	WG1146115
Methylene Chloride	U		0.00100	0.00500	0.00500	1	08/01/2018 22:58	WG1146115
4-Methyl-2-pentanone (MIBK)	U		0.00214	0.0100	0.0100	1	08/01/2018 22:58	WG1146115
Methyl tert-butyl ether	U		0.000367	0.00100	0.00100	1	08/01/2018 22:58	WG1146115
Naphthalene	U		0.00100	0.00500	0.00500	1	08/01/2018 22:58	WG1146115
n-Propylbenzene	U		0.000349	0.00100	0.00100	1	08/01/2018 22:58	WG1146115
Styrene	U		0.000307	0.00100	0.00100	1	08/01/2018 22:58	WG1146115
1,1,2,2-Tetrachloroethane	U		0.000130	0.00100	0.00100	1	08/01/2018 22:58	WG1146115
Tetrachloroethene	U		0.000372	0.00100	0.00100	1	08/01/2018 22:58	WG1146115
Toluene	U		0.000412	0.00100	0.00100	1	08/01/2018 22:58	WG1146115
1,1,1-Trichloroethane	U		0.000319	0.00100	0.00100	1	08/01/2018 22:58	WG1146115
1,1,2-Trichloroethane	U		0.000383	0.00100	0.00100	1	08/01/2018 22:58	WG1146115
Trichloroethene	U		0.000398	0.00100	0.00100	1	08/01/2018 22:58	WG1146115
1,2,4-Trimethylbenzene	U		0.000373	0.00100	0.00100	1	08/01/2018 22:58	WG1146115

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc



Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result mg/l	Qualifier	SDL mg/l	Unadj. MQL mg/l	MQL mg/l	Dilution	Analysis date / time	Batch
1,3,5-Trimethylbenzene	U		0.000387	0.00100	0.00100	1	08/01/2018 22:58	WG1146115
Vinyl chloride	U		0.000259	0.00100	0.00100	1	08/01/2018 22:58	WG1146115
Xylenes, Total	U		0.00106	0.00300	0.00300	1	08/01/2018 22:58	WG1146115
(S) Toluene-d8	101				80.0-120		08/01/2018 22:58	WG1146115
(S) Dibromofluoromethane	95.6				76.0-123		08/01/2018 22:58	WG1146115
(S) 4-Bromofluorobenzene	95.6				80.0-120		08/01/2018 22:58	WG1146115

Semi-Volatile Organic Compounds (GC) by Method 3511/8015

Analyte	Result mg/l	Qualifier	SDL mg/l	Unadj. MQL mg/l	MQL mg/l	Dilution	Analysis date / time	Batch
TPH (GC/FID) High Fraction	0.0662	J	0.0247	0.100	0.100	1	08/02/2018 16:04	WG1146296
(S) o-Terphenyl	97.8				31.0-160		08/02/2018 16:04	WG1146296

Semi Volatile Organic Compounds (GC/MS) by Method 8270 C

Analyte	Result mg/l	Qualifier	SDL mg/l	Unadj. MQL mg/l	MQL mg/l	Dilution	Analysis date / time	Batch
Acenaphthene	U	J3 J4	0.000316	0.00100	0.00100	1	08/03/2018 21:02	WG1146380
Acenaphthylene	U	J3 J4	0.000309	0.00100	0.00100	1	08/03/2018 21:02	WG1146380
Acetophenone	U	J3	0.00247	0.0100	0.0100	1	08/03/2018 21:02	WG1146380
Anthracene	U	J3 J4	0.000291	0.00100	0.00100	1	08/03/2018 21:02	WG1146380
Atrazine	U	J3 J4	0.000260	0.0100	0.0100	1	08/03/2018 21:02	WG1146380
Benzo(a)anthracene	U	J3 J4	0.0000510	0.00100	0.00100	1	08/03/2018 21:02	WG1146380
Benzaldehyde	U		0.00140	0.0100	0.0100	1	08/03/2018 21:02	WG1146380
Benzo(b)fluoranthene	U	J3 J4	0.0000896	0.00100	0.00100	1	08/03/2018 21:02	WG1146380
Benzo(k)fluoranthene	U	J3	0.000355	0.00100	0.00100	1	08/03/2018 21:02	WG1146380
Benzo(g,h,i)perylene	U	J3 J4	0.00000227	0.00100	0.00100	1	08/03/2018 21:02	WG1146380
Benzo(a)pyrene	U	J3 J4	0.0000381	0.000200	0.000200	1	08/03/2018 21:02	WG1146380
Biphenyl	U	J3 J4	0.000325	0.0100	0.0100	1	08/03/2018 21:02	WG1146380
Bis(2-chlorethoxy)methane	U	J3 J4	0.000329	0.0100	0.0100	1	08/03/2018 21:02	WG1146380
Bis(2-chloroethyl)ether	U	J3	0.00162	0.0100	0.0100	1	08/03/2018 21:02	WG1146380
Bis(2-chloroisopropyl)ether	U	J3	0.000445	0.0100	0.0100	1	08/03/2018 21:02	WG1146380
4-Bromophenyl-phenylether	U	J3 J4	0.000335	0.0100	0.0100	1	08/03/2018 21:02	WG1146380
2-Chloronaphthalene	U	J3 J4	0.000330	0.00100	0.00100	1	08/03/2018 21:02	WG1146380
4-Chlorophenyl-phenylether	U	J3 J4	0.000303	0.0100	0.0100	1	08/03/2018 21:02	WG1146380
Caprolactam	U		0.00259	0.0100	0.0100	1	08/03/2018 21:02	WG1146380
Carbazole	U	J3 J4	0.000260	0.0100	0.0100	1	08/03/2018 21:02	WG1146380
Chrysene	U	J3 J4	0.000332	0.00100	0.00100	1	08/03/2018 21:02	WG1146380
Dibenz(a,h)anthracene	U	J3 J4	0.0000644	0.000200	0.000200	1	08/03/2018 21:02	WG1146380
Dibenzofuran	U	J3 J4	0.000338	0.0100	0.0100	1	08/03/2018 21:02	WG1146380
3,3-Dichlorobenzidine	U	J3	0.00202	0.0100	0.0100	1	08/03/2018 21:02	WG1146380
2,4-Dinitrotoluene	U	J3 J4	0.00165	0.0100	0.0100	1	08/03/2018 21:02	WG1146380
2,6-Dinitrotoluene	U	J3 J4	0.000279	0.0100	0.0100	1	08/03/2018 21:02	WG1146380
Fluoranthene	U	J3 J4	0.000310	0.00100	0.00100	1	08/03/2018 21:02	WG1146380
Fluorene	U	J3 J4	0.000323	0.00100	0.00100	1	08/03/2018 21:02	WG1146380
Hexachlorobenzene	U	J3 J4	0.000341	0.00100	0.00100	1	08/03/2018 21:02	WG1146380
Hexachloro-1,3-butadiene	U	J3	0.000329	0.0100	0.0100	1	08/03/2018 21:02	WG1146380
Hexachlorocyclopentadiene	U	J3	0.00233	0.0100	0.0100	1	08/03/2018 21:02	WG1146380
Hexachloroethane	U	J3	0.000365	0.0100	0.0100	1	08/03/2018 21:02	WG1146380
Indeno(1,2,3-cd)pyrene	U	J3 J4	0.000279	0.00100	0.00100	1	08/03/2018 21:02	WG1146380
Isophorone	U	J3 J4	0.000272	0.0100	0.0100	1	08/03/2018 21:02	WG1146380
1-Methylnaphthalene	U	J3	0.000332	0.00100	0.00100	1	08/03/2018 21:02	WG1146380
2-Methylnaphthalene	U	J3 J4	0.000311	0.00100	0.00100	1	08/03/2018 21:02	WG1146380
Naphthalene	U	J3	0.000372	0.00100	0.00100	1	08/03/2018 21:02	WG1146380
Nitrobenzene	U	J3	0.000367	0.0100	0.0100	1	08/03/2018 21:02	WG1146380
n-Nitrosodiphenylamine	U	J3 J4	0.00119	0.0100	0.0100	1	08/03/2018 21:02	WG1146380

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc



Collected date/time: 07/31/18 00:00

L1013808

Semi Volatile Organic Compounds (GC/MS) by Method 8270 C

Analyte	Result mg/l	Qualifier	SDL mg/l	Unadj. MQL mg/l	MQL mg/l	Dilution	Analysis date / time	Batch
n-Nitrosodi-n-propylamine	U	J3	0.000403	0.0100	0.0100	1	08/03/2018 21:02	WG1146380
Phenanthrene	U	J3 J4	0.000366	0.00100	0.00100	1	08/03/2018 21:02	WG1146380
Benzylbutyl phthalate	U	J3 J4	0.000275	0.00300	0.00300	1	08/03/2018 21:02	WG1146380
Bis(2-ethylhexyl)phthalate	0.000794	B J J3 J4	0.000709	0.00300	0.00300	1	08/03/2018 21:02	WG1146380
Di-n-butyl phthalate	U	J3 J4	0.000266	0.00300	0.00300	1	08/03/2018 21:02	WG1146380
Diethyl phthalate	U	J3 J4	0.000282	0.00300	0.00300	1	08/03/2018 21:02	WG1146380
Dimethyl phthalate	U	J3 J4	0.000283	0.00300	0.00300	1	08/03/2018 21:02	WG1146380
Di-n-octyl phthalate	U	J3 J4	0.000278	0.00300	0.00300	1	08/03/2018 21:02	WG1146380
Pyrene	U	J3 J4	0.000330	0.00100	0.00100	1	08/03/2018 21:02	WG1146380
1,2,4-Trichlorobenzene	U	J3	0.000355	0.0100	0.0100	1	08/03/2018 21:02	WG1146380
4-Chloro-3-methylphenol	U	J3 J4	0.000263	0.0100	0.0100	1	08/03/2018 21:02	WG1146380
2-Chlorophenol	U	J3	0.000283	0.0100	0.0100	1	08/03/2018 21:02	WG1146380
2,4-Dichlorophenol	U	J3	0.000284	0.0100	0.0100	1	08/03/2018 21:02	WG1146380
2,4-Dimethylphenol	U	J3	0.000624	0.0100	0.0100	1	08/03/2018 21:02	WG1146380
4,6-Dinitro-2-methylphenol	U	J3	0.00262	0.0100	0.0100	1	08/03/2018 21:02	WG1146380
2,4-Dinitrophenol	U		0.00325	0.0100	0.0100	1	08/03/2018 21:02	WG1146380
2-Nitrophenol	U	J3	0.000320	0.0100	0.0100	1	08/03/2018 21:02	WG1146380
2-Nitroaniline	U	J3 J4	0.00190	0.0100	0.0100	1	08/03/2018 21:02	WG1146380
2-Methylphenol	U	J3	0.000312	0.0100	0.0100	1	08/03/2018 21:02	WG1146380
3&4-Methyl Phenol	U	J3	0.000266	0.0100	0.0100	1	08/03/2018 21:02	WG1146380
3-Nitroaniline	U	J3	0.000308	0.0100	0.0100	1	08/03/2018 21:02	WG1146380
4-Chloroaniline	U	J3	0.000382	0.0100	0.0100	1	08/03/2018 21:02	WG1146380
4-Nitroaniline	U	J3	0.000349	0.0100	0.0100	1	08/03/2018 21:02	WG1146380
4-Nitrophenol	U		0.00201	0.0100	0.0100	1	08/03/2018 21:02	WG1146380
Pentachlorophenol	U	J3	0.000313	0.0100	0.0100	1	08/03/2018 21:02	WG1146380
Phenol	0.00207	J	0.000334	0.0100	0.0100	1	08/03/2018 21:02	WG1146380
2,4,5-Trichlorophenol	U	J3 J4	0.000236	0.0100	0.0100	1	08/03/2018 21:02	WG1146380
2,4,6-Trichlorophenol	U	J3 J4	0.000297	0.0100	0.0100	1	08/03/2018 21:02	WG1146380
(S) 2-Fluorophenol	33.7				10.0-120		08/03/2018 21:02	WG1146380
(S) Phenol-d5	22.6				10.0-120		08/03/2018 21:02	WG1146380
(S) Nitrobenzene-d5	38.9				10.0-126		08/03/2018 21:02	WG1146380
(S) 2-Fluorobiphenyl	41.9				22.0-127		08/03/2018 21:02	WG1146380
(S) 2,4,6-Tribromophenol	31.9				10.0-153		08/03/2018 21:02	WG1146380
(S) p-Terphenyl-d14	45.2				29.0-141		08/03/2018 21:02	WG1146380

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc



Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result	Qualifier	SDL	Unadj. MQL	MQL	Dilution	Analysis	Batch
	mg/l		mg/l	mg/l	mg/l		date / time	
Acetone	U		0.0100	1.00	1.00	1	08/02/2018 18:00	WG1146955
Benzene	U		0.000331	0.00100	0.00100	1	08/02/2018 18:00	WG1146955
Bromodichloromethane	U		0.000380	0.00125	0.00125	1	08/02/2018 18:00	WG1146955
Bromoform	U		0.000469	0.00100	0.00100	1	08/02/2018 18:00	WG1146955
Bromomethane	U		0.000866	0.00500	0.00500	1	08/02/2018 18:00	WG1146955
n-Butylbenzene	U		0.000361	0.00100	0.00100	1	08/02/2018 18:00	WG1146955
sec-Butylbenzene	U		0.000365	0.00100	0.00100	1	08/02/2018 18:00	WG1146955
tert-Butylbenzene	U		0.000399	0.00100	0.00100	1	08/02/2018 18:00	WG1146955
Carbon disulfide	U		0.000275	0.00100	0.00100	1	08/02/2018 18:00	WG1146955
Carbon tetrachloride	U		0.000379	0.00100	0.00100	1	08/02/2018 18:00	WG1146955
Chlorobenzene	U		0.000348	0.00100	0.00100	1	08/02/2018 18:00	WG1146955
Chlorodibromomethane	U	J4	0.000327	0.00100	0.00100	1	08/02/2018 18:00	WG1146955
Chloroethane	U		0.000453	0.00500	0.00500	1	08/02/2018 18:00	WG1146955
Chloroform	U		0.000324	0.00500	0.00500	1	08/02/2018 18:00	WG1146955
Chloromethane	U		0.000276	0.00250	0.00250	1	08/02/2018 18:00	WG1146955
1,2-Dibromoethane	U		0.000381	0.00100	0.00100	1	08/02/2018 18:00	WG1146955
1,1-Dichloroethane	U		0.000259	0.00100	0.00100	1	08/02/2018 18:00	WG1146955
1,2-Dichloroethane	U		0.000361	0.00100	0.00100	1	08/02/2018 18:00	WG1146955
1,1-Dichloroethene	U		0.000398	0.00100	0.00100	1	08/02/2018 18:00	WG1146955
cis-1,2-Dichloroethene	U		0.000260	0.00100	0.00100	1	08/02/2018 18:00	WG1146955
trans-1,2-Dichloroethene	U		0.000396	0.00100	0.00100	1	08/02/2018 18:00	WG1146955
1,2-Dichloropropane	U		0.000306	0.00100	0.00100	1	08/02/2018 18:00	WG1146955
cis-1,3-Dichloropropene	U		0.000418	0.00100	0.00100	1	08/02/2018 18:00	WG1146955
trans-1,3-Dichloropropene	U		0.000419	0.00100	0.00100	1	08/02/2018 18:00	WG1146955
Ethylbenzene	U		0.000384	0.00100	0.00100	1	08/02/2018 18:00	WG1146955
Hexachloro-1,3-butadiene	U		0.000256	0.00100	0.00100	1	08/02/2018 18:00	WG1146955
2-Hexanone	U		0.00382	0.0100	0.0100	1	08/02/2018 18:00	WG1146955
Isopropylbenzene	U		0.000326	0.00100	0.00100	1	08/02/2018 18:00	WG1146955
p-Isopropyltoluene	U		0.000350	0.00100	0.00100	1	08/02/2018 18:00	WG1146955
2-Butanone (MEK)	U		0.00393	0.0100	0.0100	1	08/02/2018 18:00	WG1146955
Methylene Chloride	U		0.00100	0.00500	0.00500	1	08/02/2018 18:00	WG1146955
4-Methyl-2-pentanone (MIBK)	U		0.00214	0.0100	0.0100	1	08/02/2018 18:00	WG1146955
Methyl tert-butyl ether	U		0.000367	0.00100	0.00100	1	08/02/2018 18:00	WG1146955
Naphthalene	U		0.00100	0.00500	0.00500	1	08/02/2018 18:00	WG1146955
n-Propylbenzene	U		0.000349	0.00100	0.00100	1	08/02/2018 18:00	WG1146955
Styrene	U		0.000307	0.00100	0.00100	1	08/02/2018 18:00	WG1146955
1,1,2,2-Tetrachloroethane	U		0.000130	0.00100	0.00100	1	08/02/2018 18:00	WG1146955
Tetrachloroethene	U		0.000372	0.00100	0.00100	1	08/02/2018 18:00	WG1146955
Toluene	U		0.000412	0.00100	0.00100	1	08/02/2018 18:00	WG1146955
1,1,1-Trichloroethane	U		0.000319	0.00100	0.00100	1	08/02/2018 18:00	WG1146955
1,1,2-Trichloroethane	U		0.000383	0.00100	0.00100	1	08/02/2018 18:00	WG1146955
Trichloroethene	U	J4	0.000398	0.00100	0.00100	1	08/02/2018 18:00	WG1146955
1,2,4-Trimethylbenzene	U		0.000373	0.00100	0.00100	1	08/02/2018 18:00	WG1146955
1,3,5-Trimethylbenzene	U		0.000387	0.00100	0.00100	1	08/02/2018 18:00	WG1146955
Vinyl chloride	U		0.000259	0.00100	0.00100	1	08/02/2018 18:00	WG1146955
Xylenes, Total	U	J4	0.00106	0.00300	0.00300	1	08/02/2018 18:00	WG1146955
(S) Toluene-d8	103				80.0-120		08/02/2018 18:00	WG1146955
(S) Dibromofluoromethane	88.5				76.0-123		08/02/2018 18:00	WG1146955
(S) 4-Bromofluorobenzene	96.5				80.0-120		08/02/2018 18:00	WG1146955

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc



Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result	Qualifier	SDL	Unadj. MQL	MQL	Dilution	Analysis	Batch
	mg/l		mg/l	mg/l	mg/l		date / time	
Acetone	U		0.0100	1.00	1.00	1	08/02/2018 18:20	WG1146955
Benzene	U		0.000331	0.00100	0.00100	1	08/02/2018 18:20	WG1146955
Bromodichloromethane	U		0.000380	0.00125	0.00125	1	08/02/2018 18:20	WG1146955
Bromoform	U		0.000469	0.00100	0.00100	1	08/02/2018 18:20	WG1146955
Bromomethane	U		0.000866	0.00500	0.00500	1	08/02/2018 18:20	WG1146955
n-Butylbenzene	U		0.000361	0.00100	0.00100	1	08/02/2018 18:20	WG1146955
sec-Butylbenzene	U		0.000365	0.00100	0.00100	1	08/02/2018 18:20	WG1146955
tert-Butylbenzene	U		0.000399	0.00100	0.00100	1	08/02/2018 18:20	WG1146955
Carbon disulfide	U		0.000275	0.00100	0.00100	1	08/02/2018 18:20	WG1146955
Carbon tetrachloride	U		0.000379	0.00100	0.00100	1	08/02/2018 18:20	WG1146955
Chlorobenzene	U		0.000348	0.00100	0.00100	1	08/02/2018 18:20	WG1146955
Chlorodibromomethane	U	J4	0.000327	0.00100	0.00100	1	08/02/2018 18:20	WG1146955
Chloroethane	U		0.000453	0.00500	0.00500	1	08/02/2018 18:20	WG1146955
Chloroform	U		0.000324	0.00500	0.00500	1	08/02/2018 18:20	WG1146955
Chloromethane	U		0.000276	0.00250	0.00250	1	08/02/2018 18:20	WG1146955
1,2-Dibromoethane	U		0.000381	0.00100	0.00100	1	08/02/2018 18:20	WG1146955
1,1-Dichloroethane	U		0.000259	0.00100	0.00100	1	08/02/2018 18:20	WG1146955
1,2-Dichloroethane	U		0.000361	0.00100	0.00100	1	08/02/2018 18:20	WG1146955
1,1-Dichloroethene	U		0.000398	0.00100	0.00100	1	08/02/2018 18:20	WG1146955
cis-1,2-Dichloroethene	U		0.000260	0.00100	0.00100	1	08/02/2018 18:20	WG1146955
trans-1,2-Dichloroethene	U		0.000396	0.00100	0.00100	1	08/02/2018 18:20	WG1146955
1,2-Dichloropropane	U		0.000306	0.00100	0.00100	1	08/02/2018 18:20	WG1146955
cis-1,3-Dichloropropene	U		0.000418	0.00100	0.00100	1	08/02/2018 18:20	WG1146955
trans-1,3-Dichloropropene	U		0.000419	0.00100	0.00100	1	08/02/2018 18:20	WG1146955
Ethylbenzene	U		0.000384	0.00100	0.00100	1	08/02/2018 18:20	WG1146955
Hexachloro-1,3-butadiene	U		0.000256	0.00100	0.00100	1	08/02/2018 18:20	WG1146955
2-Hexanone	U		0.00382	0.0100	0.0100	1	08/02/2018 18:20	WG1146955
Isopropylbenzene	U		0.000326	0.00100	0.00100	1	08/02/2018 18:20	WG1146955
p-Isopropyltoluene	U		0.000350	0.00100	0.00100	1	08/02/2018 18:20	WG1146955
2-Butanone (MEK)	U		0.00393	0.0100	0.0100	1	08/02/2018 18:20	WG1146955
Methylene Chloride	U		0.00100	0.00500	0.00500	1	08/02/2018 18:20	WG1146955
4-Methyl-2-pentanone (MIBK)	U		0.00214	0.0100	0.0100	1	08/02/2018 18:20	WG1146955
Methyl tert-butyl ether	U		0.000367	0.00100	0.00100	1	08/02/2018 18:20	WG1146955
Naphthalene	U		0.00100	0.00500	0.00500	1	08/02/2018 18:20	WG1146955
n-Propylbenzene	U		0.000349	0.00100	0.00100	1	08/02/2018 18:20	WG1146955
Styrene	U		0.000307	0.00100	0.00100	1	08/02/2018 18:20	WG1146955
1,1,2,2-Tetrachloroethane	U		0.000130	0.00100	0.00100	1	08/02/2018 18:20	WG1146955
Tetrachloroethene	U		0.000372	0.00100	0.00100	1	08/02/2018 18:20	WG1146955
Toluene	U		0.000412	0.00100	0.00100	1	08/02/2018 18:20	WG1146955
1,1,1-Trichloroethane	U		0.000319	0.00100	0.00100	1	08/02/2018 18:20	WG1146955
1,1,2-Trichloroethane	U		0.000383	0.00100	0.00100	1	08/02/2018 18:20	WG1146955
Trichloroethene	U	J4	0.000398	0.00100	0.00100	1	08/02/2018 18:20	WG1146955
1,2,4-Trimethylbenzene	U		0.000373	0.00100	0.00100	1	08/02/2018 18:20	WG1146955
1,3,5-Trimethylbenzene	U		0.000387	0.00100	0.00100	1	08/02/2018 18:20	WG1146955
Vinyl chloride	U		0.000259	0.00100	0.00100	1	08/02/2018 18:20	WG1146955
Xylenes, Total	U	J4	0.00106	0.00300	0.00300	1	08/02/2018 18:20	WG1146955
(S) Toluene-d8	104				80.0-120		08/02/2018 18:20	WG1146955
(S) Dibromofluoromethane	90.4				76.0-123		08/02/2018 18:20	WG1146955
(S) 4-Bromofluorobenzene	94.0				80.0-120		08/02/2018 18:20	WG1146955

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc

Method Blank (MB)

(MB) R3331688-1 08/06/18 14:11

	MB Result	MB Qualifier	MB MDL	MB RDL
Analyte	mg/l		mg/l	mg/l
Dissolved Solids	U		2.82	10.0

L1014058-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1014058-01 08/06/18 14:11 • (DUP) R3331688-4 08/06/18 14:11

	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
Analyte	mg/l	mg/l		%		%
Dissolved Solids	586	584	1	0.342		5

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3331688-2 08/06/18 14:11 • (LCSD) R3331688-3 08/06/18 14:11

	Spike Amount	LCS Result	LCSD Result	LCS Rec.	LCSD Rec.	Rec. Limits	LCS Qualifier	LCSD Qualifier	RPD	RPD Limits
Analyte	mg/l	mg/l	mg/l	%	%	%			%	%
Dissolved Solids	8800	8640	9520	98.2	108	85.0-115			9.69	10

1Cp

2Tc

3Ss

4Cn

5Sr

6Qc

7Gl

8Al

9Sc



Method Blank (MB)

(MB) R3331970-1 08/07/18 18:47

	MB Result	MB Qualifier	MB MDL	MB RDL
Analyte	mg/l		mg/l	mg/l
Dissolved Solids	U		2.82	10.0

L1013808-04 Original Sample (OS) • Duplicate (DUP)

(OS) L1013808-04 08/07/18 18:47 • (DUP) R3331970-4 08/07/18 18:47

	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
Analyte	mg/l	mg/l		%		%
Dissolved Solids	1230	1280	1	4.13		5

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3331970-2 08/07/18 18:47 • (LCSD) R3331970-3 08/07/18 18:47

	Spike Amount	LCS Result	LCSD Result	LCS Rec.	LCSD Rec.	Rec. Limits	LCS Qualifier	LCSD Qualifier	RPD	RPD Limits
Analyte	mg/l	mg/l	mg/l	%	%	%			%	%
Dissolved Solids	8800	8820	9480	100	108	85.0-115			7.21	10

1Cp

2Tc

3Ss

4Cn

5Sr

6Qc

7Gl

8Al

9Sc



Method Blank (MB)

(MB) R3332386-1 08/08/18 17:56

	MB Result	MB Qualifier	MB MDL	MB RDL
Analyte	mg/l		mg/l	mg/l
Dissolved Solids	U		2.82	10.0

1Cp

2Tc

3Ss

4Cn

5Sr

6Qc

L1014351-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1014351-01 08/08/18 17:56 • (DUP) R3332386-4 08/08/18 17:56

	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
Analyte	mg/l	mg/l		%		%
Dissolved Solids	928	924	1	0.432		5

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3332386-2 08/08/18 17:56 • (LCSD) R3332386-3 08/08/18 17:56

	Spike Amount	LCS Result	LCSD Result	LCS Rec.	LCSD Rec.	Rec. Limits	LCS Qualifier	LCSD Qualifier	RPD	RPD Limits
Analyte	mg/l	mg/l	mg/l	%	%	%			%	%
Dissolved Solids	8800	8580	8620	97.5	98.0	85.0-115			0.465	10

7Gl

8Al

9Sc

Method Blank (MB)

(MB) R3332057-1 08/08/18 15:28

	MB Result	MB Qualifier	MB MDL	MB RDL
Analyte	mg/l		mg/l	mg/l
Alkalinity	2.78		2.71	20.0

Sample Narrative:
BLANK: Endpoint pH 4.5

L1013871-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1013871-01 08/08/18 15:42 • (DUP) R3332057-5 08/08/18 15:50

	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
Analyte	mg/l	mg/l		%		%
Alkalinity	1150	1150	1	0.372		20

Sample Narrative:
OS: Endpoint pH 4.5 headspace
DUP: Endpoint pH 4.5

L1013815-04 Original Sample (OS) • Duplicate (DUP)

(OS) L1013815-04 08/08/18 18:10 • (DUP) R3332057-9 08/08/18 18:18

	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
Analyte	mg/l	mg/l		%		%
Alkalinity	119	120	1	0.393		20

Sample Narrative:
OS: Endpoint pH 4.5 headspace
DUP: Endpoint pH 4.5

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3332057-7 08/08/18 16:33 • (LCSD) R3332057-8 08/08/18 18:02

	Spike Amount	LCS Result	LCSD Result	LCS Rec.	LCSD Rec.	Rec. Limits	LCS Qualifier	LCSD Qualifier	RPD	RPD Limits
Analyte	mg/l	mg/l	mg/l	%	%	%			%	%
Alkalinity	100	98.8	103	98.8	103	85.0-115			4.18	20

Sample Narrative:
LCS: Endpoint pH 4.5
LCSD: Endpoint pH 4.5

1

Cp

2

Tc

3

Ss

4

Cn

5

Sr

6

Qc

7

Gl

8

Al

9

Sc



Method Blank (MB)

(MB) R3331724-1 08/07/18 16:45

	MB Result	MB Qualifier	MB MDL	MB RDL
Analyte	mg/l		mg/l	mg/l
Nitrate-Nitrite	U		0.0197	0.100

¹ Cp

² Tc

³ Ss

⁴ Cn

⁵ Sr

⁶ Qc

⁷ Gl

⁸ Al

⁹ Sc

L1013678-06 Original Sample (OS) • Duplicate (DUP)

(OS) L1013678-06 08/07/18 16:57 • (DUP) R3331724-4 08/07/18 16:59

	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
Analyte	mg/l	mg/l		%		%
Nitrate-Nitrite	U	0.000	1	0.000		20

L1013828-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1013828-01 08/07/18 17:27 • (DUP) R3331724-7 08/07/18 17:29

	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
Analyte	mg/l	mg/l		%		%
Nitrate-Nitrite	0.509	0.509	1	0.000		20

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3331724-2 08/07/18 16:47 • (LCSD) R3331724-3 08/07/18 16:48

	Spike Amount	LCS Result	LCSD Result	LCS Rec.	LCSD Rec.	Rec. Limits	LCS Qualifier	LCSD Qualifier	RPD	RPD Limits
Analyte	mg/l	mg/l	mg/l	%	%	%			%	%
Nitrate-Nitrite	4.00	3.83	3.97	95.7	99.1	90.0-110			3.57	20

L1013808-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1013808-01 08/07/18 17:06 • (MS) R3331724-5 08/07/18 17:08 • (MSD) R3331724-6 08/07/18 17:09

	Spike Amount	Original Result	MS Result	MSD Result	MS Rec.	MSD Rec.	Dilution	Rec. Limits	MS Qualifier	MSD Qualifier	RPD	RPD Limits
Analyte	mg/l	mg/l	mg/l	mg/l	%	%		%			%	%
Nitrate-Nitrite	2.50	2.93	4.83	4.81	76.0	75.4	1	90.0-110	J6	J6	0.311	20

L1013828-02 Original Sample (OS) • Matrix Spike (MS)

(OS) L1013828-02 08/07/18 17:30 • (MS) R3331724-8 08/07/18 17:32

	Spike Amount	Original Result	MS Result	MS Rec.	Dilution	Rec. Limits	MS Qualifier
Analyte	mg/l	mg/l	mg/l	%		%	
Nitrate-Nitrite	2.50	0.262	2.24	79.2	1	90.0-110	J6



Method Blank (MB)

(MB) R3330880-1 08/02/18 11:15

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
Chloride	U		0.0519	1.00
Fluoride	U		0.00990	0.100
Sulfate	U		0.0774	5.00

¹Cp

²Tc

³Ss

⁴Cn

⁵Sr

⁶Qc

⁷Gl

⁸Al

⁹Sc

L1013780-07 Original Sample (OS) • Duplicate (DUP)

(OS) L1013780-07 08/03/18 03:57 • (DUP) R3330880-4 08/03/18 04:12

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Chloride	340	340	1	0.181	E	15
Fluoride	0.558	0.557	1	0.161		15
Sulfate	268	268	1	0.281	E	15

L1013808-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1013808-01 08/03/18 09:51 • (DUP) R3330880-7 08/03/18 10:07

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Fluoride	1.03	1.04	1	1.16		15
Sulfate	84.8	84.6	1	0.209		15

L1013808-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1013808-01 08/03/18 12:59 • (DUP) R3330880-10 08/03/18 13:14

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Chloride	110	111	5	0.226		15

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3330880-2 08/02/18 11:30 • (LCSD) R3330880-3 08/02/18 11:45

Analyte	Spike Amount mg/l	LCS Result mg/l	LCSD Result mg/l	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
Chloride	40.0	39.9	40.0	99.6	100	80.0-120			0.452	15
Fluoride	8.00	8.08	8.12	101	101	80.0-120			0.425	15
Sulfate	40.0	40.4	40.5	101	101	80.0-120			0.345	15



L1013780-07 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1013780-07 08/03/18 03:57 • (MS) R3330880-5 08/03/18 04:27 • (MSD) R3330880-6 08/03/18 04:43

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MSD Result mg/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Chloride	50.0	340	374	376	68.0	71.7	1	80.0-120	<u>EV</u>	<u>EV</u>	0.494	15
Fluoride	5.00	0.558	5.37	5.71	96.3	103	1	80.0-120			6.03	15
Sulfate	50.0	268	276	273	15.6	8.80	1	80.0-120	<u>EV</u>	<u>EV</u>	1.24	15

L1013808-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1013808-01 08/03/18 09:51 • (MS) R3330880-8 08/03/18 10:22 • (MSD) R3330880-9 08/03/18 10:38

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MSD Result mg/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Chloride	50.0	113	158	158	90.0	90.4	1	80.0-120	<u>E</u>	<u>E</u>	0.108	15
Fluoride	5.00	1.03	5.96	6.20	98.7	103	1	80.0-120			3.91	15
Sulfate	50.0	84.8	125	125	80.2	79.8	1	80.0-120	<u>E</u>	<u>E J6</u>	0.160	15

1Cp

2Tc

3Ss

4Cn

5Sr

6Qc

7Gl

8Al

9Sc



Method Blank (MB)

(MB) R3330889-1 08/02/18 18:16

	MB Result	MB Qualifier	MB MDL	MB RDL
Analyte	mg/l		mg/l	mg/l
Chloride	U		0.0519	1.00
Fluoride	U		0.00990	0.100
Sulfate	U		0.0774	5.00

¹Cp

²Tc

³Ss

⁴Cn

⁵Sr

⁶Qc

⁷Gl

⁸Al

⁹Sc

L1013815-02 Original Sample (OS) • Duplicate (DUP)

(OS) L1013815-02 08/03/18 02:19 • (DUP) R3330889-4 08/03/18 02:37

	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
Analyte	mg/l	mg/l		%		%
Chloride	2.45	2.33	1	4.77		15
Fluoride	0.235	0.235	1	0.0852		15

L1013871-12 Original Sample (OS) • Duplicate (DUP)

(OS) L1013871-12 08/03/18 07:46 • (DUP) R3330889-7 08/03/18 08:04

	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
Analyte	mg/l	mg/l		%		%
Chloride	15.5	15.8	1	1.84		15
Fluoride	0.0250	0.0254	1	1.59	U	15
Sulfate	11.8	11.9	1	1.56		15

L1013815-02 Original Sample (OS) • Duplicate (DUP)

(OS) L1013815-02 08/03/18 16:09 • (DUP) R3330889-9 08/03/18 16:26

	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
Analyte	mg/l	mg/l		%		%
Sulfate	135	136	5	0.965		15

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3330889-2 08/02/18 18:34 • (LCSD) R3330889-3 08/02/18 18:52

	Spike Amount	LCS Result	LCSD Result	LCS Rec.	LCSD Rec.	Rec. Limits	LCS Qualifier	LCSD Qualifier	RPD	RPD Limits
Analyte	mg/l	mg/l	mg/l	%	%	%			%	%
Chloride	40.0	38.4	38.7	96.0	96.7	80.0-120			0.724	15
Fluoride	8.00	7.86	7.90	98.2	98.7	80.0-120			0.486	15
Sulfate	40.0	39.2	39.4	97.9	98.6	80.0-120			0.691	15



L1013815-02 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1013815-02 08/03/18 02:19 • (MS) R3330889-5 08/03/18 03:32 • (MSD) R3330889-6 08/03/18 03:50

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MSD Result mg/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	<u>MS Qualifier</u>	<u>MSD Qualifier</u>	RPD %	RPD Limits %
Chloride	50.0	2.45	50.9	51.3	96.9	97.8	1	80.0-120			0.865	15
Fluoride	5.00	0.235	5.21	5.27	99.5	101	1	80.0-120			1.12	15

L1013871-12 Original Sample (OS) • Matrix Spike (MS)

(OS) L1013871-12 08/03/18 07:46 • (MS) R3330889-8 08/03/18 08:22

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MS Rec. %	Dilution	Rec. Limits %	<u>MS Qualifier</u>
Chloride	50.0	15.5	64.1	97.2	1	80.0-120	
Fluoride	5.00	0.0250	4.00	79.5	1	80.0-120	J6
Sulfate	50.0	11.8	59.1	94.8	1	80.0-120	

1Cp

2Tc

3Ss

4Cn

5Sr

6Qc

7Gl

8Al

9Sc



Method Blank (MB)

(MB) R3330453-1 08/02/18 11:47

	MB Result	MB Qualifier	MB MDL	MB RDL
Analyte	mg/l		mg/l	mg/l
Mercury	U		0.0000490	0.000200

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3330453-2 08/02/18 11:49 • (LCSD) R3330453-3 08/02/18 11:51

	Spike Amount	LCS Result	LCSD Result	LCS Rec.	LCSD Rec.	Rec. Limits	LCS Qualifier	LCSD Qualifier	RPD	RPD Limits
Analyte	mg/l	mg/l	mg/l	%	%	%			%	%
Mercury	0.00300	0.00286	0.00298	95.5	99.3	80.0-120			3.85	20

L1013808-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1013808-01 08/02/18 11:57 • (MS) R3330453-4 08/02/18 11:59 • (MSD) R3330453-5 08/02/18 12:01

	Spike Amount	Original Result	MS Result	MSD Result	MS Rec.	MSD Rec.	Dilution	Rec. Limits	MS Qualifier	MSD Qualifier	RPD	RPD Limits
Analyte	mg/l	mg/l	mg/l	mg/l	%	%		%			%	%
Mercury	0.00300	U	0.00334	0.00335	111	112	1	75.0-125			0.0658	20

1Cp

2Tc

3Ss

4Cn

5Sr

6Qc

7Gl

8Al

9Sc



Method Blank (MB)

(MB) R3330762-1 08/03/18 10:06

	MB Result	MB Qualifier	MB MDL	MB RDL
Analyte	mg/l		mg/l	mg/l
Mercury	U		0.0000490	0.000200

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3330762-4 08/03/18 11:20 • (LCSD) R3330762-5 08/03/18 11:23

	Spike Amount	LCS Result	LCSD Result	LCS Rec.	LCSD Rec.	Rec. Limits	LCS Qualifier	LCSD Qualifier	RPD	RPD Limits
Analyte	mg/l	mg/l	mg/l	%	%	%			%	%
Mercury	0.00300	0.00281	0.00279	93.5	93.0	80.0-120			0.508	20

L1014252-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1014252-01 08/03/18 10:13 • (MS) R3330762-2 08/03/18 10:15 • (MSD) R3330762-3 08/03/18 10:17

	Spike Amount	Original Result	MS Result	MSD Result	MS Rec.	MSD Rec.	Dilution	Rec. Limits	MS Qualifier	MSD Qualifier	RPD	RPD Limits
Analyte	mg/l	mg/l	mg/l	mg/l	%	%		%			%	%
Mercury	0.00300	U	0.00369	0.00361	123	120	1	75.0-125			2.04	20

1Cp

2Tc

3Ss

4Cn

5Sr

6Qc

7Gl

8Al

9Sc



Method Blank (MB)

(MB) R3331760-7 08/08/18 01:34

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
Boron,Dissolved	U		0.0126	0.200

¹ Cp

² Tc

³ Ss

⁴ Cn

⁵ Sr

⁶ Qc

⁷ Gl

⁸ Al

⁹ Sc

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3331760-2 08/07/18 21:24 • (LCSD) R3331760-3 08/07/18 21:27

Analyte	Spike Amount mg/l	LCS Result mg/l	LCSD Result mg/l	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
Boron,Dissolved	1.00	0.993	1.01	99.3	101	80.0-120			1.52	20

L1013808-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1013808-01 08/07/18 21:30 • (MS) R3331760-5 08/07/18 21:35 • (MSD) R3331760-6 08/07/18 21:38

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MSD Result mg/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Boron,Dissolved	1.00	0.132	1.16	1.17	103	103	1	75.0-125			0.241	20



Method Blank (MB)

(MB) R3330671-1 08/02/18 20:14

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
Aluminum,Dissolved	0.00882	U	0.00515	0.100
Arsenic,Dissolved	U		0.000250	0.00200
Barium,Dissolved	U		0.000360	0.00500
Cadmium,Dissolved	0.000167	U	0.000160	0.00100
Calcium,Dissolved	U		0.0460	1.00
Chromium,Dissolved	U		0.000540	0.00200
Copper,Dissolved	0.000582	U	0.000520	0.00500
Cobalt,Dissolved	U		0.000260	0.00200
Iron,Dissolved	U		0.0150	0.100
Lead,Dissolved	U		0.000240	0.00200
Magnesium,Dissolved	U		0.100	1.00
Manganese,Dissolved	U		0.000250	0.00500
Molybdenum,Dissolved	U		0.000140	0.00500
Nickel,Dissolved	U		0.000350	0.00200
Potassium,Dissolved	U		0.0370	1.00
Selenium,Dissolved	U		0.000380	0.00200
Silver,Dissolved	U		0.000310	0.00200
Sodium,Dissolved	U		0.110	1.00
Uranium,Dissolved	U		0.000330	0.0100
Zinc,Dissolved	U		0.00256	0.0250

¹Cp

²Tc

³Ss

⁴Cn

⁵Sr

⁶Qc

⁷Gl

⁸Al

⁹Sc

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3330671-2 08/02/18 20:18 • (LCSD) R3330671-3 08/02/18 20:22

Analyte	Spike Amount mg/l	LCS Result mg/l	LCSD Result mg/l	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
Aluminum,Dissolved	5.00	4.77	4.82	95.4	96.3	80.0-120			0.953	20
Arsenic,Dissolved	0.0500	0.0473	0.0484	94.7	96.7	80.0-120			2.16	20
Barium,Dissolved	0.0500	0.0472	0.0468	94.4	93.7	80.0-120			0.738	20
Cadmium,Dissolved	0.0500	0.0481	0.0496	96.1	99.2	80.0-120			3.16	20
Calcium,Dissolved	5.00	4.86	4.76	97.3	95.3	80.0-120			2.11	20
Chromium,Dissolved	0.0500	0.0493	0.0486	98.6	97.1	80.0-120			1.55	20
Copper,Dissolved	0.0500	0.0496	0.0504	99.3	101	80.0-120			1.47	20
Cobalt,Dissolved	0.0500	0.0503	0.0513	101	103	80.0-120			2.09	20
Iron,Dissolved	5.00	4.78	4.86	95.6	97.3	80.0-120			1.75	20
Lead,Dissolved	0.0500	0.0476	0.0487	95.2	97.4	80.0-120			2.28	20
Magnesium,Dissolved	5.00	4.77	4.86	95.5	97.2	80.0-120			1.74	20
Manganese,Dissolved	0.0500	0.0465	0.0481	93.1	96.3	80.0-120			3.36	20
Molybdenum,Dissolved	0.0500	0.0476	0.0487	95.1	97.3	80.0-120			2.28	20



Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3330671-2 08/02/18 20:18 • (LCSD) R3330671-3 08/02/18 20:22

Analyte	Spike Amount mg/l	LCS Result mg/l	LCSD Result mg/l	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
Nickel,Dissolved	0.0500	0.0506	0.0512	101	102	80.0-120			1.28	20
Potassium,Dissolved	5.00	4.70	4.92	94.0	98.4	80.0-120			4.55	20
Selenium,Dissolved	0.0500	0.0495	0.0535	98.9	107	80.0-120			7.86	20
Silver,Dissolved	0.0500	0.0503	0.0515	101	103	80.0-120			2.33	20
Sodium,Dissolved	5.00	4.73	4.83	94.5	96.6	80.0-120			2.13	20
Uranium,Dissolved	0.0500	0.0476	0.0481	95.2	96.1	80.0-120			0.992	20
Zinc,Dissolved	0.0500	0.0501	0.0523	100	105	80.0-120			4.35	20

L1013808-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1013808-01 08/02/18 20:26 • (MS) R3330671-5 08/02/18 20:34 • (MSD) R3330671-6 08/02/18 20:38

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MSD Result mg/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Aluminum,Dissolved	5.00	0.0113	4.74	4.59	94.5	91.6	1	75.0-125			3.10	20
Arsenic,Dissolved	0.0500	0.00384	0.0505	0.0517	93.4	95.6	1	75.0-125			2.23	20
Barium,Dissolved	0.0500	0.0902	0.137	0.134	93.8	86.7	1	75.0-125			2.65	20
Cadmium,Dissolved	0.0500	0.000193	0.0492	0.0492	97.9	97.9	1	75.0-125			0.0228	20
Calcium,Dissolved	5.00	96.4	102	102	119	118	1	75.0-125			0.0503	20
Chromium,Dissolved	0.0500	0.00369	0.0507	0.0509	94.0	94.5	1	75.0-125			0.503	20
Copper,Dissolved	0.0500	0.00911	0.0551	0.0549	91.9	91.6	1	75.0-125			0.284	20
Cobalt,Dissolved	0.0500	U	0.0487	0.0492	97.4	98.4	1	75.0-125			1.07	20
Potassium,Dissolved	5.00	4.01	6.76	6.77	55.0	55.3	1	75.0-125	J6	J6	0.217	20
Iron,Dissolved	5.00	U	4.66	4.69	93.1	93.7	1	75.0-125			0.635	20
Lead,Dissolved	0.0500	0.000287	0.0484	0.0478	96.2	95.0	1	75.0-125			1.24	20
Magnesium,Dissolved	5.00	14.0	18.4	18.5	89.0	89.7	1	75.0-125			0.173	20
Manganese,Dissolved	0.0500	0.00145	0.0456	0.0472	88.4	91.6	1	75.0-125			3.43	20
Molybdenum,Dissolved	0.0500	0.00244	0.0505	0.0506	96.1	96.2	1	75.0-125			0.144	20
Nickel,Dissolved	0.0500	0.000789	0.0496	0.0490	97.6	96.5	1	75.0-125			1.10	20
Selenium,Dissolved	0.0500	0.00374	0.0563	0.0565	105	106	1	75.0-125			0.441	20
Silver,Dissolved	0.0500	U	0.0510	0.0516	102	103	1	75.0-125			1.17	20
Sodium,Dissolved	5.00	51.4	55.3	55.5	77.3	82.0	1	75.0-125			0.427	20
Uranium,Dissolved	0.0500	0.00182	0.0497	0.0490	95.7	94.3	1	75.0-125			1.38	20
Zinc,Dissolved	0.0500	0.210	0.258	0.262	95.5	103	1	75.0-125			1.44	20

1Cp

2Tc

3Ss

4Cn

5Sr

6Qc

7Gl

8Al

9Sc



Method Blank (MB)

(MB) R3331510-5 08/03/18 13:35

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
TPH (GC/FID) Low Fraction	U		0.0314	0.100
(S) a,a,a-Trifluorotoluene(FID)	99.8			77.0-122

1Cp

2Tc

3Ss

4Cn

5Sr

6Qc

7Gl

8Al

9Sc

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3331510-3 08/03/18 12:29 • (LCSD) R3331510-4 08/03/18 12:51

Analyte	Spike Amount mg/l	LCS Result mg/l	LCSD Result mg/l	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
TPH (GC/FID) Low Fraction	5.50	5.82	5.40	106	98.2	71.0-136			7.43	20
(S) a,a,a-Trifluorotoluene(FID)				104	102	77.0-122				

L1014216-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1014216-01 08/03/18 16:56 • (MS) R3331510-8 08/03/18 22:05 • (MSD) R3331510-9 08/03/18 22:28

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MSD Result mg/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
TPH (GC/FID) Low Fraction	5.50	1.33	6.29	6.30	90.2	90.4	1	18.0-160			0.124	20
(S) a,a,a-Trifluorotoluene(FID)					102	103		77.0-122				

Method Blank (MB)

(MB) R3331277-3 08/04/18 07:50

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
TPH (GC/FID) Low Fraction	0.0346	⬇	0.0314	0.100
(S) a,a,a-Trifluorotoluene(FID)	88.1			77.0-122

1

Cp

2

Tc

3

Ss

4

Cn

5

Sr

6

Qc

7

Gl

8

Al

9

Sc

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3331277-2 08/04/18 07:00 • (LCSD) R3331277-1 08/04/18 06:23

Analyte	Spike Amount mg/l	LCS Result mg/l	LCSD Result mg/l	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
TPH (GC/FID) Low Fraction	5.50	5.52	5.42	100	98.5	71.0-136			1.87	20
(S) a,a,a-Trifluorotoluene(FID)				94.3	94.2	77.0-122				

L1013808-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1013808-01 08/04/18 08:51 • (MS) R3331277-4 08/04/18 17:02 • (MSD) R3331277-5 08/04/18 17:27

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MSD Result mg/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
TPH (GC/FID) Low Fraction	5.50	0.0327	5.25	5.55	94.8	100	1	18.0-160			5.69	20
(S) a,a,a-Trifluorotoluene(FID)					93.1	93.6		77.0-122				



Method Blank (MB)

(MB) R3330500-2 08/01/18 12:55

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
Acetone	U		0.0100	1.00
Benzene	U		0.000331	0.00100
Bromodichloromethane	U		0.000380	0.00125
Bromoform	U		0.000469	0.00100
Bromomethane	U		0.000866	0.00500
Carbon disulfide	U		0.000275	0.00100
n-Butylbenzene	U		0.000361	0.00100
Carbon tetrachloride	U		0.000379	0.00100
sec-Butylbenzene	U		0.000365	0.00100
Chlorobenzene	U		0.000348	0.00100
tert-Butylbenzene	U		0.000399	0.00100
Chlorodibromomethane	U		0.000327	0.00100
Chloroethane	U		0.000453	0.00500
Chloroform	U		0.000324	0.00500
Chloromethane	U		0.000276	0.00250
1,2-Dibromoethane	U		0.000381	0.00100
1,1-Dichloroethane	U		0.000259	0.00100
1,2-Dichloroethane	U		0.000361	0.00100
1,1-Dichloroethene	U		0.000398	0.00100
cis-1,2-Dichloroethene	U		0.000260	0.00100
trans-1,2-Dichloroethene	U		0.000396	0.00100
1,2-Dichloropropane	U		0.000306	0.00100
cis-1,3-Dichloropropene	U		0.000418	0.00100
trans-1,3-Dichloropropene	U		0.000419	0.00100
Ethylbenzene	U		0.000384	0.00100
2-Hexanone	U		0.00382	0.0100
Hexachloro-1,3-butadiene	U		0.000256	0.00100
2-Butanone (MEK)	U		0.00393	0.0100
Isopropylbenzene	U		0.000326	0.00100
p-Isopropyltoluene	U		0.000350	0.00100
Methylene Chloride	U		0.00100	0.00500
4-Methyl-2-pentanone (MIBK)	U		0.00214	0.0100
Methyl tert-butyl ether	U		0.000367	0.00100
Naphthalene	U		0.00100	0.00500
Styrene	U		0.000307	0.00100
1,1,2,2-Tetrachloroethane	U		0.000130	0.00100
n-Propylbenzene	U		0.000349	0.00100
Tetrachloroethene	U		0.000372	0.00100
Toluene	U		0.000412	0.00100
1,1,1-Trichloroethane	U		0.000319	0.00100

¹ Cp

² Tc

³ Ss

⁴ Cn

⁵ Sr

⁶ Qc

⁷ Gl

⁸ Al

⁹ Sc



Method Blank (MB)

(MB) R3330500-2 08/01/18 12:55

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
1,1,2-Trichloroethane	U		0.000383	0.00100
Trichloroethene	U		0.000398	0.00100
1,2,4-Trimethylbenzene	U		0.000373	0.00100
1,3,5-Trimethylbenzene	U		0.000387	0.00100
Vinyl chloride	U		0.000259	0.00100
Xylenes, Total	U		0.00106	0.00300
(S) Toluene-d8	102			80.0-120
(S) Dibromofluoromethane	94.8			76.0-123
(S) 4-Bromofluorobenzene	95.1			80.0-120

¹Cp

²Tc

³Ss

⁴Cn

⁵Sr

⁶Qc

⁷Gl

⁸Al

⁹Sc

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3330500-1 08/01/18 12:16 • (LCSD) R3330500-3 08/01/18 14:07

Analyte	Spike Amount mg/l	LCS Result mg/l	LCSD Result mg/l	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
Acetone	0.125	0.0914	0.0977	73.1	78.2	10.0-160			6.70	23
Benzene	0.0250	0.0249	0.0260	99.6	104	69.0-123			4.37	20
Bromodichloromethane	0.0250	0.0254	0.0255	102	102	76.0-120			0.313	20
Bromoform	0.0250	0.0251	0.0255	100	102	67.0-132			1.64	20
Bromomethane	0.0250	0.0202	0.0188	81.0	75.4	18.0-160			7.15	20
Carbon disulfide	0.0250	0.0253	0.0279	101	111	55.0-127			9.65	20
Carbon tetrachloride	0.0250	0.0259	0.0271	103	108	63.0-122			4.63	20
Chlorobenzene	0.0250	0.0257	0.0270	103	108	79.0-121			4.79	20
Chlorodibromomethane	0.0250	0.0253	0.0266	101	106	75.0-125			4.88	20
Chloroethane	0.0250	0.0209	0.0206	83.5	82.4	47.0-152			1.29	20
Chloroform	0.0250	0.0252	0.0263	101	105	72.0-121			4.08	20
Chloromethane	0.0250	0.0194	0.0197	77.6	78.9	48.0-139			1.66	20
1,2-Dibromoethane	0.0250	0.0231	0.0242	92.4	97.0	77.0-123			4.87	20
n-Butylbenzene	0.0250	0.0252	0.0261	101	105	72.0-126			3.73	20
sec-Butylbenzene	0.0250	0.0256	0.0268	102	107	74.0-121			4.50	20
tert-Butylbenzene	0.0250	0.0257	0.0270	103	108	75.0-122			4.70	20
1,1-Dichloroethane	0.0250	0.0252	0.0264	101	106	70.0-126			4.91	20
1,2-Dichloroethane	0.0250	0.0237	0.0245	94.9	98.0	67.0-126			3.19	20
1,1-Dichloroethene	0.0250	0.0266	0.0297	106	119	64.0-129			11.1	20
cis-1,2-Dichloroethene	0.0250	0.0263	0.0272	105	109	73.0-120			3.49	20
trans-1,2-Dichloroethene	0.0250	0.0249	0.0265	99.8	106	71.0-121			5.91	20
1,2-Dichloropropane	0.0250	0.0261	0.0269	105	107	75.0-125			2.81	20
cis-1,3-Dichloropropene	0.0250	0.0263	0.0274	105	110	79.0-123			4.20	20
trans-1,3-Dichloropropene	0.0250	0.0258	0.0269	103	108	74.0-127			4.10	20



Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3330500-1 08/01/18 12:16 • (LCSD) R3330500-3 08/01/18 14:07

Analyte	Spike Amount mg/l	LCS Result mg/l	LCSD Result mg/l	LCS Rec. %	LCSD Rec. %	Rec. Limits %	<u>LCS Qualifier</u>	<u>LCSD Qualifier</u>	RPD %	RPD Limits %
Ethylbenzene	0.0250	0.0256	0.0273	102	109	77.0-120			6.43	20
2-Hexanone	0.125	0.0989	0.103	79.1	82.0	58.0-147			3.63	20
2-Butanone (MEK)	0.125	0.0928	0.0964	74.3	77.1	37.0-158			3.72	20
Methylene Chloride	0.0250	0.0254	0.0271	102	108	66.0-121			6.46	20
4-Methyl-2-pentanone (MIBK)	0.125	0.0990	0.104	79.2	83.2	59.0-143			4.95	20
Methyl tert-butyl ether	0.0250	0.0255	0.0251	102	100	64.0-123			1.81	20
Naphthalene	0.0250	0.0184	0.0179	73.6	71.4	62.0-128			3.00	20
Hexachloro-1,3-butadiene	0.0250	0.0251	0.0256	101	102	64.0-131			1.78	20
Styrene	0.0250	0.0265	0.0271	106	109	78.0-124			2.46	20
1,1,2,2-Tetrachloroethane	0.0250	0.0227	0.0228	90.8	91.3	71.0-122			0.566	20
Tetrachloroethene	0.0250	0.0254	0.0277	102	111	70.0-127			8.63	20
Isopropylbenzene	0.0250	0.0257	0.0268	103	107	75.0-120			4.27	20
p-Isopropyltoluene	0.0250	0.0260	0.0272	104	109	74.0-126			4.39	20
Toluene	0.0250	0.0246	0.0263	98.4	105	77.0-120			6.59	20
1,1,1-Trichloroethane	0.0250	0.0269	0.0277	108	111	68.0-122			2.75	20
1,1,2-Trichloroethane	0.0250	0.0240	0.0248	96.2	99.1	78.0-120			3.03	20
Trichloroethene	0.0250	0.0254	0.0269	101	108	78.0-120			5.89	20
n-Propylbenzene	0.0250	0.0254	0.0264	102	106	79.0-120			3.94	20
Vinyl chloride	0.0250	0.0208	0.0206	83.2	82.5	64.0-133			0.830	20
Xylenes, Total	0.0750	0.0755	0.0804	101	107	77.0-120			6.29	20
1,2,4-Trimethylbenzene	0.0250	0.0255	0.0262	102	105	75.0-120			2.72	20
1,3,5-Trimethylbenzene	0.0250	0.0260	0.0271	104	109	75.0-120			4.12	20
(S) Toluene-d8				96.8	100	80.0-120				
(S) Dibromofluoromethane				96.3	96.3	76.0-123				
(S) 4-Bromofluorobenzene				97.2	97.3	80.0-120				

1Cp

2Tc

3Ss

4Cn

5Sr

6Qc

7Gl

8Al

9Sc

Method Blank (MB)

(MB) R3331551-5 08/02/18 17:21

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
Acetone	U		0.0100	1.00
Benzene	U		0.000331	0.00100
Bromodichloromethane	U		0.000380	0.00125
Bromoform	U		0.000469	0.00100
Bromomethane	U		0.000866	0.00500
n-Butylbenzene	U		0.000361	0.00100
sec-Butylbenzene	U		0.000365	0.00100
tert-Butylbenzene	U		0.000399	0.00100
Carbon disulfide	U		0.000275	0.00100
Carbon tetrachloride	U		0.000379	0.00100
Chlorobenzene	U		0.000348	0.00100
Chlorodibromomethane	U		0.000327	0.00100
Chloroethane	U		0.000453	0.00500
Chloroform	U		0.000324	0.00500
Chloromethane	U		0.000276	0.00250
1,2-Dibromoethane	U		0.000381	0.00100
1,1-Dichloroethane	U		0.000259	0.00100
1,2-Dichloroethane	U		0.000361	0.00100
1,1-Dichloroethene	U		0.000398	0.00100
cis-1,2-Dichloroethene	U		0.000260	0.00100
trans-1,2-Dichloroethene	U		0.000396	0.00100
1,2-Dichloropropane	U		0.000306	0.00100
cis-1,3-Dichloropropene	U		0.000418	0.00100
trans-1,3-Dichloropropene	U		0.000419	0.00100
Ethylbenzene	U		0.000384	0.00100
Hexachloro-1,3-butadiene	U		0.000256	0.00100
2-Hexanone	U		0.00382	0.0100
Isopropylbenzene	U		0.000326	0.00100
p-Isopropyltoluene	U		0.000350	0.00100
2-Butanone (MEK)	U		0.00393	0.0100
Methylene Chloride	U		0.00100	0.00500
4-Methyl-2-pentanone (MIBK)	U		0.00214	0.0100
Methyl tert-butyl ether	U		0.000367	0.00100
Naphthalene	U		0.00100	0.00500
n-Propylbenzene	U		0.000349	0.00100
Styrene	U		0.000307	0.00100
1,1,2,2-Tetrachloroethane	U		0.000130	0.00100
Tetrachloroethene	U		0.000372	0.00100
Toluene	U		0.000412	0.00100
1,1,1-Trichloroethane	U		0.000319	0.00100

¹Cp

²Tc

³Ss

⁴Cn

⁵Sr

⁶Qc

⁷Gl

⁸Al

⁹Sc



Method Blank (MB)

(MB) R3331551-5 08/02/18 17:21

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
1,1,2-Trichloroethane	U		0.000383	0.00100
Trichloroethene	U		0.000398	0.00100
1,2,4-Trimethylbenzene	U		0.000373	0.00100
1,3,5-Trimethylbenzene	U		0.000387	0.00100
Vinyl chloride	U		0.000259	0.00100
Xylenes, Total	U		0.00106	0.00300
(S) Toluene-d8	112			80.0-120
(S) Dibromofluoromethane	89.3			76.0-123
(S) 4-Bromofluorobenzene	95.0			80.0-120

¹Cp

²Tc

³Ss

⁴Cn

⁵Sr

⁶Qc

⁷Gl

⁸Al

⁹Sc

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3331551-1 08/02/18 16:02 • (LCSD) R3331551-2 08/02/18 16:21

Analyte	Spike Amount mg/l	LCS Result mg/l	LCSD Result mg/l	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
Acetone	0.125	0.0986	0.100	78.9	80.4	10.0-160			1.88	23
Benzene	0.0250	0.0231	0.0236	92.3	94.5	69.0-123			2.38	20
Bromodichloromethane	0.0250	0.0282	0.0282	113	113	76.0-120			0.194	20
Bromoform	0.0250	0.0277	0.0272	111	109	67.0-132			1.87	20
Bromomethane	0.0250	0.0238	0.0247	95.3	98.9	18.0-160			3.77	20
n-Butylbenzene	0.0250	0.0249	0.0253	99.7	101	72.0-126			1.36	20
sec-Butylbenzene	0.0250	0.0263	0.0266	105	106	74.0-121			1.05	20
tert-Butylbenzene	0.0250	0.0269	0.0272	108	109	75.0-122			0.832	20
Carbon disulfide	0.0250	0.0235	0.0236	94.1	94.4	55.0-127			0.304	20
Carbon tetrachloride	0.0250	0.0271	0.0280	108	112	63.0-122			3.33	20
Chlorobenzene	0.0250	0.0278	0.0284	111	113	79.0-121			1.88	20
Chlorodibromomethane	0.0250	0.0308	0.0329	123	131	75.0-125		J4	6.60	20
Chloroethane	0.0250	0.0294	0.0296	118	118	47.0-152			0.380	20
Chloroform	0.0250	0.0263	0.0262	105	105	72.0-121			0.294	20
Chloromethane	0.0250	0.0151	0.0149	60.4	59.7	48.0-139			1.07	20
1,2-Dibromoethane	0.0250	0.0297	0.0307	119	123	77.0-123			3.41	20
1,1-Dichloroethane	0.0250	0.0236	0.0246	94.6	98.5	70.0-126			4.07	20
1,2-Dichloroethane	0.0250	0.0244	0.0251	97.7	100	67.0-126			2.76	20
1,1-Dichloroethene	0.0250	0.0263	0.0270	105	108	64.0-129			2.55	20
cis-1,2-Dichloroethene	0.0250	0.0232	0.0248	92.9	99.0	73.0-120			6.40	20
trans-1,2-Dichloroethene	0.0250	0.0238	0.0243	95.1	97.3	71.0-121			2.30	20
1,2-Dichloropropane	0.0250	0.0244	0.0249	97.7	99.5	75.0-125			1.83	20
cis-1,3-Dichloropropene	0.0250	0.0274	0.0285	110	114	79.0-123			3.82	20
trans-1,3-Dichloropropene	0.0250	0.0292	0.0303	117	121	74.0-127			3.72	20



Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3331551-1 08/02/18 16:02 • (LCSD) R3331551-2 08/02/18 16:21

Analyte	Spike Amount mg/l	LCS Result mg/l	LCSD Result mg/l	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
Ethylbenzene	0.0250	0.0283	0.0297	113	119	77.0-120			5.01	20
Hexachloro-1,3-butadiene	0.0250	0.0283	0.0291	113	116	64.0-131			2.82	20
2-Hexanone	0.125	0.127	0.133	102	106	58.0-147			4.29	20
Isopropylbenzene	0.0250	0.0279	0.0278	112	111	75.0-120			0.400	20
p-Isopropyltoluene	0.0250	0.0268	0.0262	107	105	74.0-126			1.97	20
2-Butanone (MEK)	0.125	0.102	0.108	81.6	86.1	37.0-158			5.30	20
Methylene Chloride	0.0250	0.0231	0.0243	92.3	97.3	66.0-121			5.24	20
4-Methyl-2-pentanone (MIBK)	0.125	0.111	0.117	88.6	94.0	59.0-143			5.97	20
Methyl tert-butyl ether	0.0250	0.0247	0.0248	98.9	99.0	64.0-123			0.155	20
Naphthalene	0.0250	0.0278	0.0280	111	112	62.0-128			0.619	20
n-Propylbenzene	0.0250	0.0239	0.0242	95.6	96.7	79.0-120			1.12	20
Styrene	0.0250	0.0280	0.0280	112	112	78.0-124			0.0838	20
1,1,2,2-Tetrachloroethane	0.0250	0.0242	0.0241	96.7	96.6	71.0-122			0.148	20
Tetrachloroethene	0.0250	0.0315	0.0310	126	124	70.0-127			1.54	20
Toluene	0.0250	0.0263	0.0274	105	110	77.0-120			4.01	20
1,1,1-Trichloroethane	0.0250	0.0269	0.0286	108	114	68.0-122			5.84	20
1,1,2-Trichloroethane	0.0250	0.0288	0.0279	115	112	78.0-120			2.95	20
Trichloroethene	0.0250	0.0314	0.0313	125	125	78.0-120	J4	J4	0.271	20
1,2,4-Trimethylbenzene	0.0250	0.0276	0.0273	110	109	75.0-120			0.951	20
1,3,5-Trimethylbenzene	0.0250	0.0261	0.0271	104	109	75.0-120			3.87	20
Vinyl chloride	0.0250	0.0231	0.0237	92.3	94.8	64.0-133			2.72	20
Xylenes, Total	0.0750	0.0861	0.0894	115	119	77.0-120		J4	3.76	20
(S) Toluene-d8				105	110	80.0-120				
(S) Dibromofluoromethane				88.2	90.4	76.0-123				
(S) 4-Bromofluorobenzene				95.2	94.8	80.0-120				

1Cp

2Tc

3Ss

4Cn

5Sr

6Qc

7Gl

8Al

9Sc



Method Blank (MB)

(MB) R3330615-1 08/02/18 13:41

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
TPH (GC/FID) High Fraction	U		0.0247	0.100
(S) o-Terphenyl	95.0			31.0-160

1
Cp

2
Tc

3
Ss

4
Cn

5
Sr

6
Qc

7
Gl

8
Al

9
Sc

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3330615-2 08/02/18 13:59 • (LCSD) R3330615-3 08/02/18 14:17

Analyte	Spike Amount mg/l	LCS Result mg/l	LCSD Result mg/l	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
TPH (GC/FID) High Fraction	1.50	1.47	1.42	98.0	94.9	50.0-150			3.22	20
(S) o-Terphenyl				122	119	31.0-160				

L1013808-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1013808-01 08/02/18 14:35 • (MS) R3330615-4 08/02/18 14:53 • (MSD) R3330615-5 08/02/18 15:10

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MSD Result mg/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
TPH (GC/FID) High Fraction	1.50	U	1.38	1.39	92.0	92.6	1	50.0-150			0.668	20
(S) o-Terphenyl					119	124		31.0-160				



Method Blank (MB)

(MB) R3331240-3 08/03/18 17:30

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
Acenaphthene	U		0.000316	0.00100
Acenaphthylene	U		0.000309	0.00100
Acetophenone	U		0.00247	0.0100
Anthracene	U		0.000291	0.00100
Benzo(a)anthracene	U		0.0000510	0.00100
Atrazine	U		0.000260	0.0100
Benzo(b)fluoranthene	U		0.0000896	0.00100
Benzaldehyde	U		0.00140	0.0100
Benzo(k)fluoranthene	U		0.000355	0.00100
Benzo(g,h,i)perylene	U		0.00000227	0.00100
Benzo(a)pyrene	U		0.0000381	0.000200
Bis(2-chlorethoxy)methane	U		0.000329	0.0100
Bis(2-chloroethyl)ether	U		0.00162	0.0100
Bis(2-chloroisopropyl)ether	U		0.000445	0.0100
4-Bromophenyl-phenylether	U		0.000335	0.0100
Biphenyl	U		0.000325	0.0100
2-Chloronaphthalene	U		0.000330	0.00100
4-Chlorophenyl-phenylether	U		0.000303	0.0100
Chrysene	U		0.000332	0.00100
Dibenz(a,h)anthracene	U		0.0000644	0.000200
Caprolactam	U		0.00259	0.0100
Carbazole	U		0.000260	0.0100
4-Chloroaniline	U		0.000382	0.0100
3,3-Dichlorobenzidine	U		0.00202	0.0100
2,4-Dinitrotoluene	U		0.00165	0.0100
2,6-Dinitrotoluene	U		0.000279	0.0100
Fluoranthene	U		0.000310	0.00100
Dibenzofuran	U		0.000338	0.0100
Fluorene	U		0.000323	0.00100
Hexachlorobenzene	U		0.000341	0.00100
Hexachloro-1,3-butadiene	U		0.000329	0.0100
Hexachlorocyclopentadiene	U		0.00233	0.0100
Hexachloroethane	U		0.000365	0.0100
Indeno(1,2,3-cd)pyrene	U		0.000279	0.00100
Isophorone	U		0.000272	0.0100
Naphthalene	U		0.000372	0.00100
Nitrobenzene	U		0.000367	0.0100
n-Nitrosodiphenylamine	U		0.00119	0.0100
n-Nitrosodi-n-propylamine	U		0.000403	0.0100
Phenanthrene	U		0.000366	0.00100

¹Cp

²Tc

³Ss

⁴Cn

⁵Sr

⁶Qc

⁷Gl

⁸Al

⁹Sc

Method Blank (MB)

(MB) R3331240-3 08/03/18 17:30

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
Benzylbutyl phthalate	U		0.000275	0.00300
Bis(2-ethylhexyl)phthalate	0.000851	U	0.000709	0.00300
Di-n-butyl phthalate	U		0.000266	0.00300
1-Methylnaphthalene	U		0.000332	0.00100
Diethyl phthalate	U		0.000282	0.00300
2-Methylnaphthalene	U		0.000311	0.00100
Dimethyl phthalate	U		0.000283	0.00300
Di-n-octyl phthalate	U		0.000278	0.00300
2-Nitroaniline	U		0.00190	0.0100
Pyrene	U		0.000330	0.00100
1,2,4-Trichlorobenzene	U		0.000355	0.0100
3-Nitroaniline	U		0.000308	0.0100
4-Nitroaniline	U		0.000349	0.0100
4-Chloro-3-methylphenol	U		0.000263	0.0100
2-Chlorophenol	U		0.000283	0.0100
2-Nitrophenol	U		0.000320	0.0100
4-Nitrophenol	U		0.00201	0.0100
Pentachlorophenol	U		0.000313	0.0100
Phenol	U		0.000334	0.0100
2,4,6-Trichlorophenol	U		0.000297	0.0100
2,4-Dichlorophenol	U		0.000284	0.0100
2,4-Dimethylphenol	U		0.000624	0.0100
2-Methylphenol	U		0.000312	0.0100
3&4-Methyl Phenol	U		0.000266	0.0100
4,6-Dinitro-2-methylphenol	U		0.00262	0.0100
2,4-Dinitrophenol	U		0.00325	0.0100
2,4,5-Trichlorophenol	U		0.000236	0.0100
(S) Nitrobenzene-d5	53.0			10.0-126
(S) 2-Fluorobiphenyl	58.4			22.0-127
(S) p-Terphenyl-d14	60.7			29.0-141
(S) Phenol-d5	29.5			10.0-120
(S) 2-Fluorophenol	43.9			10.0-120
(S) 2,4,6-Tribromophenol	42.4			10.0-153

¹Cp

²Tc

³Ss

⁴Cn

⁵Sr

⁶Qc

⁷Gl

⁸Al

⁹Sc



Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3331240-1 08/03/18 16:43 • (LCSD) R3331240-2 08/03/18 17:07

Analyte	Spike Amount mg/l	LCS Result mg/l	LCSD Result mg/l	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
Acenaphthene	0.0500	0.0187	0.0260	37.4	52.0	42.0-120	J4	J3	32.7	22
Acenaphthylene	0.0500	0.0193	0.0272	38.6	54.4	43.0-120	J4	J3	34.0	22
Anthracene	0.0500	0.0182	0.0253	36.4	50.6	44.0-120	J4	J3	32.6	20
Benzo(a)anthracene	0.0500	0.0194	0.0263	38.8	52.6	44.0-120	J4	J3	30.2	20
Benzo(b)fluoranthene	0.0500	0.0195	0.0269	39.0	53.8	40.0-120	J4	J3	31.9	21
Benzo(k)fluoranthene	0.0500	0.0205	0.0283	41.0	56.6	41.0-120		J3	32.0	22
Benzo(g,h,i)perylene	0.0500	0.0202	0.0278	40.4	55.6	45.0-121	J4	J3	31.7	20
Benzo(a)pyrene	0.0500	0.0199	0.0273	39.8	54.6	41.0-120	J4	J3	31.4	20
Bis(2-chlorethoxy)methane	0.0500	0.0165	0.0228	33.0	45.6	36.0-120	J4	J3	32.1	25
Bis(2-chloroethyl)ether	0.0500	0.0196	0.0269	39.2	53.8	24.0-120		J3	31.4	29
Bis(2-chloroisopropyl)ether	0.0500	0.0176	0.0244	35.2	48.8	32.0-120		J3	32.4	29
4-Bromophenyl-phenylether	0.0500	0.0181	0.0252	36.2	50.4	42.0-121	J4	J3	32.8	21
2-Chloronaphthalene	0.0500	0.0177	0.0252	35.4	50.4	37.0-120	J4	J3	35.0	24
4-Chlorophenyl-phenylether	0.0500	0.0182	0.0258	36.4	51.6	44.0-120	J4	J3	34.5	21
Chrysene	0.0500	0.0197	0.0269	39.4	53.8	45.0-120	J4	J3	30.9	20
Dibenz(a,h)anthracene	0.0500	0.0198	0.0270	39.6	54.0	44.0-121	J4	J3	30.8	21
3,3-Dichlorobenzidine	0.0500	0.0192	0.0271	38.4	54.2	29.0-153		J3	34.1	23
2,4-Dinitrotoluene	0.0500	0.0184	0.0263	36.8	52.6	47.0-127	J4	J3	35.3	21
2,6-Dinitrotoluene	0.0500	0.0180	0.0254	36.0	50.8	42.0-120	J4	J3	34.1	22
Acetophenone	0.0500	0.0198	0.0278	39.6	55.6	28.0-120		J3	33.6	27
Fluoranthene	0.0500	0.0203	0.0283	40.6	56.6	46.0-121	J4	J3	32.9	20
Fluorene	0.0500	0.0196	0.0272	39.2	54.4	45.0-120	J4	J3	32.5	21
Hexachlorobenzene	0.0500	0.0195	0.0266	39.0	53.2	41.0-124	J4	J3	30.8	21
Atrazine	0.0500	0.0196	0.0275	39.2	55.0	45.0-123	J4	J3	33.5	27
Hexachloro-1,3-butadiene	0.0500	0.0158	0.0226	31.6	45.2	26.0-120		J3	35.4	31
Benzaldehyde	0.0500	0.0299	0.0412	59.8	82.4	10.0-138			31.8	40
Hexachlorocyclopentadiene	0.0500	0.0130	0.0189	26.0	37.8	10.0-120		J3	37.0	31
Hexachloroethane	0.0500	0.0151	0.0215	30.2	43.0	22.0-120		J3	35.0	34
Indeno(1,2,3-cd)pyrene	0.0500	0.0204	0.0280	40.8	56.0	45.0-123	J4	J3	31.4	21
Isophorone	0.0500	0.0173	0.0240	34.6	48.0	37.0-120	J4	J3	32.4	24
Naphthalene	0.0500	0.0174	0.0241	34.8	48.2	33.0-120		J3	32.3	28
Nitrobenzene	0.0500	0.0182	0.0248	36.4	49.6	31.0-120		J3	30.7	28
Biphenyl	0.0500	0.0174	0.0243	34.8	48.6	37.0-120	J4	J3	33.1	27
n-Nitrosodiphenylamine	0.0500	0.0193	0.0268	38.6	53.6	44.0-120	J4	J3	32.5	21
n-Nitrosodi-n-propylamine	0.0500	0.0187	0.0261	37.4	52.2	29.0-120		J3	33.0	27
Phenanthrene	0.0500	0.0186	0.0257	37.2	51.4	42.0-120	J4	J3	32.1	20
Benzylbutyl phthalate	0.0500	0.0169	0.0236	33.8	47.2	36.0-123	J4	J3	33.1	22
Bis(2-ethylhexyl)phthalate	0.0500	0.0173	0.0236	34.6	47.2	37.0-121	J4	J3	30.8	21
Caprolactam	0.0500	0.00511	0.00697	10.2	13.9	10.0-120			30.8	31
Di-n-butyl phthalate	0.0500	0.0198	0.0278	39.6	55.6	43.0-122	J4	J3	33.6	21

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc



Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3331240-1 08/03/18 16:43 • (LCSD) R3331240-2 08/03/18 17:07

Analyte	Spike Amount mg/l	LCS Result mg/l	LCSD Result mg/l	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
Carbazole	0.0500	0.0204	0.0280	40.8	56.0	45.0-121	J4	J3	31.4	22
Diethyl phthalate	0.0500	0.0192	0.0265	38.4	53.0	48.0-123	J4	J3	31.9	20
4-Chloroaniline	0.0500	0.0179	0.0245	35.8	49.0	23.0-120		J3	31.1	28
Dimethyl phthalate	0.0500	0.0191	0.0264	38.2	52.8	47.0-120	J4	J3	32.1	20
Di-n-octyl phthalate	0.0500	0.0183	0.0249	36.6	49.8	38.0-120	J4	J3	30.6	22
Pyrene	0.0500	0.0197	0.0273	39.4	54.6	43.0-120	J4	J3	32.3	21
1,2,4-Trichlorobenzene	0.0500	0.0162	0.0228	32.4	45.6	29.0-120		J3	33.8	29
Dibenzofuran	0.0500	0.0189	0.0266	37.8	53.2	42.0-120	J4	J3	33.8	21
4-Chloro-3-methylphenol	0.0500	0.0189	0.0262	37.8	52.4	39.0-120	J4	J3	32.4	22
2-Chlorophenol	0.0500	0.0189	0.0261	37.8	52.2	28.0-120		J3	32.0	29
2,4-Dichlorophenol	0.0500	0.0193	0.0267	38.6	53.4	37.0-120		J3	32.2	26
2,4-Dimethylphenol	0.0500	0.0189	0.0257	37.8	51.4	35.0-120		J3	30.5	25
4,6-Dinitro-2-methylphenol	0.0500	0.0209	0.0304	41.8	60.8	34.0-125		J3	37.0	27
2,4-Dinitrophenol	0.0500	0.0163	0.0239	32.6	47.8	10.0-120			37.8	40
2-Nitrophenol	0.0500	0.0206	0.0292	41.2	58.4	35.0-120		J3	34.5	28
4-Nitrophenol	0.0500	0.00906	0.0129	18.1	25.8	10.0-120			35.0	35
2-Nitroaniline	0.0500	0.0174	0.0252	34.8	50.4	43.0-120	J4	J3	36.6	23
Pentachlorophenol	0.0500	0.0164	0.0247	32.8	49.4	20.0-126		J3	40.4	32
1-Methylnaphthalene	0.0500	0.0172	0.0241	34.4	48.2	33.0-120		J3	33.4	23
3-Nitroaniline	0.0500	0.0190	0.0269	38.0	53.8	35.0-123		J3	34.4	25
Phenol	0.0500	0.0101	0.0136	20.2	27.2	10.0-120			29.5	34
2-Methylnaphthalene	0.0500	0.0167	0.0232	33.4	46.4	35.0-120	J4	J3	32.6	25
4-Nitroaniline	0.0500	0.0254	0.0354	50.8	70.8	23.0-160		J3	32.9	26
2,4,6-Trichlorophenol	0.0500	0.0192	0.0275	38.4	55.0	40.0-122	J4	J3	35.5	24
2-Methylphenol	0.0500	0.0184	0.0248	36.8	49.6	26.0-120		J3	29.6	27
3&4-Methyl Phenol	0.0500	0.0197	0.0269	39.4	53.8	27.0-120		J3	30.9	28
2,4,5-Trichlorophenol	0.0500	0.0194	0.0279	38.8	55.8	44.0-124	J4	J3	35.9	24
(S) Nitrobenzene-d5				33.6	46.2	10.0-126				
(S) 2-Fluorobiphenyl				34.3	49.2	22.0-127				
(S) p-Terphenyl-d14				37.1	50.7	29.0-141				
(S) Phenol-d5				18.8	24.6	10.0-120				
(S) 2-Fluorophenol				27.3	36.0	10.0-120				
(S) 2,4,6-Tribromophenol				34.7	49.0	10.0-153				

1Cp

2Tc

3Ss

4Cn

5Sr

6Qc

7Gl

8Al

9Sc

L1013808-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1013808-01 08/03/18 19:04 • (MS) R3331240-4 08/03/18 19:28 • (MSD) R3331240-5 08/03/18 19:51

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MSD Result mg/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Acetophenone	0.0455	U	0.0246	0.0276	54.1	60.7	1	10.0-139			11.5	35
Atrazine	0.0455	U	0.0261	0.0289	57.4	63.5	1	34.0-147			10.2	28
Benzaldehyde	0.0455	U	0.0314	0.0353	69.0	77.6	1	10.0-120			11.7	40
Biphenyl	0.0455	U	0.0230	0.0256	50.5	56.3	1	23.0-130			10.7	27
Caprolactam	0.0455	U	0.00657	0.00685	14.4	15.1	1	10.0-120			4.17	37
Carbazole	0.0455	U	0.0266	0.0290	58.5	63.7	1	23.0-158			8.63	26
4-Chloroaniline	0.0455	U	0.0216	0.0240	47.5	52.7	1	10.0-137			10.5	33
Dibenzofuran	0.0455	U	0.0247	0.0274	54.3	60.2	1	17.0-150			10.4	27
Acenaphthene	0.0455	U	0.0243	0.0271	53.4	59.6	1	25.0-143			10.9	29
Acenaphthylene	0.0455	U	0.0248	0.0279	54.5	61.3	1	24.0-149			11.8	29
Anthracene	0.0455	U	0.0235	0.0262	51.6	57.6	1	27.0-145			10.9	30
Benzo(a)anthracene	0.0455	U	0.0254	0.0276	55.8	60.7	1	30.0-138			8.30	26
Benzo(b)fluoranthene	0.0455	U	0.0250	0.0293	54.9	64.4	1	28.0-140			15.8	31
Benzo(k)fluoranthene	0.0455	U	0.0267	0.0275	58.7	60.4	1	28.0-140			2.95	31
Benzo(g,h,i)perylene	0.0455	U	0.0261	0.0289	57.4	63.5	1	26.0-149			10.2	27
Benzo(a)pyrene	0.0455	U	0.0254	0.0283	55.8	62.2	1	28.0-139			10.8	29
Bis(2-chlorethoxy)methane	0.0455	U	0.0207	0.0225	45.5	49.5	1	19.0-135			8.33	30
Bis(2-chloroethyl)ether	0.0455	U	0.0239	0.0268	52.5	58.9	1	10.0-126			11.4	34
Bis(2-chloroisopropyl)ether	0.0455	U	0.0221	0.0249	48.6	54.7	1	18.0-128			11.9	35
4-Bromophenyl-phenylether	0.0455	U	0.0234	0.0261	51.4	57.4	1	28.0-146			10.9	30
2-Chloronaphthalene	0.0455	U	0.0235	0.0263	51.6	57.8	1	23.0-134			11.2	32
4-Chlorophenyl-phenylether	0.0455	U	0.0236	0.0263	51.9	57.8	1	32.0-142			10.8	29
2-Nitroaniline	0.0455	U	0.0222	0.0250	48.8	54.9	1	13.0-160			11.9	27
Chrysene	0.0455	U	0.0256	0.0285	56.3	62.6	1	32.0-144			10.7	27
3-Nitroaniline	0.0455	U	0.0241	0.0276	53.0	60.7	1	10.0-160			13.5	26
4-Nitroaniline	0.0455	U	0.0322	0.0366	70.8	80.4	1	17.0-160			12.8	29
Dibenz(a,h)anthracene	0.0455	U	0.0254	0.0280	55.8	61.5	1	22.0-149			9.74	29
3,3-Dichlorobenzidine	0.0455	U	0.0246	0.0273	54.1	60.0	1	10.0-160			10.4	34
2,4-Dinitrotoluene	0.0455	U	0.0242	0.0270	53.2	59.3	1	30.0-156			10.9	29
2,6-Dinitrotoluene	0.0455	U	0.0230	0.0261	50.5	57.4	1	28.0-143			12.6	30
Fluoranthene	0.0455	U	0.0270	0.0301	59.3	66.2	1	31.0-146			10.9	30
Fluorene	0.0455	U	0.0255	0.0283	56.0	62.2	1	29.0-143			10.4	31
Hexachlorobenzene	0.0455	U	0.0249	0.0280	54.7	61.5	1	29.0-144			11.7	33
Hexachloro-1,3-butadiene	0.0455	U	0.0215	0.0240	47.3	52.7	1	18.0-122			11.0	35
Hexachlorocyclopentadiene	0.0455	U	0.0184	0.0211	40.4	46.4	1	10.0-146			13.7	34
Hexachloroethane	0.0455	U	0.0201	0.0233	44.2	51.2	1	12.0-120			14.7	36
Indeno(1,2,3-cd)pyrene	0.0455	U	0.0262	0.0292	57.6	64.2	1	24.0-151			10.8	28
Isophorone	0.0455	U	0.0218	0.0238	47.9	52.3	1	22.0-141			8.77	29
Naphthalene	0.0455	U	0.0222	0.0247	48.8	54.3	1	19.0-125			10.7	32
Nitrobenzene	0.0455	U	0.0220	0.0245	48.4	53.8	1	14.0-134			10.8	32

¹Cp

²Tc

³Ss

⁴Cn

⁵Sr

⁶Qc

⁷Gl

⁸Al

⁹Sc

L1013808-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1013808-01 08/03/18 19:04 • (MS) R3331240-4 08/03/18 19:28 • (MSD) R3331240-5 08/03/18 19:51

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MSD Result mg/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
n-Nitrosodiphenylamine	0.0455	U	0.0249	0.0278	54.7	61.1	1	16.0-160			11.0	28
n-Nitrosodi-n-propylamine	0.0455	U	0.0236	0.0268	51.9	58.9	1	16.0-136			12.7	30
Phenanthrene	0.0455	U	0.0243	0.0266	53.4	58.5	1	27.0-137			9.04	28
2-Methylphenol	0.0455	U	0.0225	0.0241	49.5	53.0	1	14.0-120			6.87	29
Benzylbutyl phthalate	0.0455	U	0.0224	0.0246	49.2	54.1	1	30.0-147			9.36	27
Bis(2-ethylhexyl)phthalate	0.0455	0.000766	0.0229	0.0249	48.6	53.0	1	25.0-140			8.37	26
Di-n-butyl phthalate	0.0455	U	0.0263	0.0294	57.8	64.6	1	32.0-146			11.1	27
Diethyl phthalate	0.0455	U	0.0250	0.0279	54.9	61.3	1	34.0-149			11.0	26
Dimethyl phthalate	0.0455	U	0.0246	0.0270	54.1	59.3	1	29.0-147			9.30	27
Di-n-octyl phthalate	0.0455	U	0.0243	0.0265	53.4	58.2	1	24.0-146			8.66	29
Pyrene	0.0455	U	0.0259	0.0285	56.9	62.6	1	34.0-140			9.56	27
1,2,4-Trichlorobenzene	0.0455	U	0.0216	0.0242	47.5	53.2	1	19.0-120			11.4	33
2,4,5-Trichlorophenol	0.0455	U	0.0258	0.0288	56.7	63.3	1	15.0-160			11.0	27
4-Chloro-3-methylphenol	0.0455	U	0.0244	0.0256	53.6	56.3	1	20.0-138			4.80	28
2-Chlorophenol	0.0455	U	0.0235	0.0267	51.6	58.7	1	11.0-120			12.7	33
2,4-Dichlorophenol	0.0455	U	0.0244	0.0268	53.6	58.9	1	19.0-135			9.37	32
2,4-Dimethylphenol	0.0455	U	0.0228	0.0246	50.1	54.1	1	18.0-127			7.59	31
4,6-Dinitro-2-methylphenol	0.0455	U	0.0271	0.0298	59.6	65.5	1	10.0-160			9.49	38
2,4-Dinitrophenol	0.0455	U	0.0219	0.0227	48.1	49.9	1	10.0-137			3.59	36
2-Nitrophenol	0.0455	U	0.0258	0.0287	56.7	63.1	1	15.0-143			10.6	33
4-Nitrophenol	0.0455	U	0.0110	0.0110	24.2	24.2	1	10.0-120			0.000	31
Pentachlorophenol	0.0455	U	0.0221	0.0246	48.6	54.1	1	10.0-160			10.7	40
Phenol	0.0455	0.00193	0.0158	0.0146	30.5	27.8	1	10.0-120			7.89	34
2,4,6-Trichlorophenol	0.0455	U	0.0251	0.0283	55.2	62.2	1	10.0-153			12.0	29
1-Methylnaphthalene	0.0455	U	0.0229	0.0251	50.3	55.2	1	33.0-120			9.17	23
2-Methylnaphthalene	0.0455	U	0.0219	0.0243	48.1	53.4	1	13.0-142			10.4	29
3&4-Methyl Phenol	0.0455	U	0.0245	0.0255	53.8	56.0	1	13.0-124			4.00	26
(S) Nitrobenzene-d5					44.6	50.2		10.0-126				
(S) 2-Fluorobiphenyl					49.3	54.7		22.0-127				
(S) p-Terphenyl-d14					53.1	59.2		29.0-141				
(S) Phenol-d5					24.8	25.5		10.0-120				
(S) 2-Fluorophenol					36.4	39.1		10.0-120				
(S) 2,4,6-Tribromophenol					49.7	54.0		10.0-153				

1Cp

2Tc

3Ss

4Cn

5Sr

6Qc

7Gl

8Al

9Sc



Guide to Reading and Understanding Your Laboratory Report

The information below is designed to better explain the various terms used in your report of analytical results from the Laboratory. This is not intended as a comprehensive explanation, and if you have additional questions please contact your project representative.

Abbreviations and Definitions

MDL	Method Detection Limit.
MQL	Method Quantitation Limit.
RDL	Reported Detection Limit.
Rec.	Recovery.
RPD	Relative Percent Difference.
SDG	Sample Delivery Group.
SDL	Sample Detection Limit.
(S)	Surrogate (Surrogate Standard) - Analytes added to every blank, sample, Laboratory Control Sample/Duplicate and Matrix Spike/Duplicate; used to evaluate analytical efficiency by measuring recovery. Surrogates are not expected to be detected in all environmental media.
U	Not detected at the Sample Detection Limit.
Unadj. MQL	Unadjusted Method Quantitation Limit.
Analyte	The name of the particular compound or analysis performed. Some Analyses and Methods will have multiple analytes reported.
Dilution	If the sample matrix contains an interfering material, the sample preparation volume or weight values differ from the standard, or if concentrations of analytes in the sample are higher than the highest limit of concentration that the laboratory can accurately report, the sample may be diluted for analysis. If a value different than 1 is used in this field, the result reported has already been corrected for this factor.
Limits	These are the target % recovery ranges or % difference value that the laboratory has historically determined as normal for the method and analyte being reported. Successful QC Sample analysis will target all analytes recovered or duplicated within these ranges.
Original Sample	The non-spiked sample in the prep batch used to determine the Relative Percent Difference (RPD) from a quality control sample. The Original Sample may not be included within the reported SDG.
Qualifier	This column provides a letter and/or number designation that corresponds to additional information concerning the result reported. If a Qualifier is present, a definition per Qualifier is provided within the Glossary and Definitions page and potentially a discussion of possible implications of the Qualifier in the Case Narrative if applicable.
Result	The actual analytical final result (corrected for any sample specific characteristics) reported for your sample. If there was no measurable result returned for a specific analyte, the result in this column may state "ND" (Not Detected) or "BDL" (Below Detectable Levels). The information in the results column should always be accompanied by either an MDL (Method Detection Limit) or RDL (Reporting Detection Limit) that defines the lowest value that the laboratory could detect or report for this analyte.
Case Narrative (Cn)	A brief discussion about the included sample results, including a discussion of any non-conformances to protocol observed either at sample receipt by the laboratory from the field or during the analytical process. If present, there will be a section in the Case Narrative to discuss the meaning of any data qualifiers used in the report.
Quality Control Summary (Qc)	This section of the report includes the results of the laboratory quality control analyses required by procedure or analytical methods to assist in evaluating the validity of the results reported for your samples. These analyses are not being performed on your samples typically, but on laboratory generated material.
Sample Chain of Custody (Sc)	This is the document created in the field when your samples were initially collected. This is used to verify the time and date of collection, the person collecting the samples, and the analyses that the laboratory is requested to perform. This chain of custody also documents all persons (excluding commercial shippers) that have had control or possession of the samples from the time of collection until delivery to the laboratory for analysis.
Sample Results (Sr)	This section of your report will provide the results of all testing performed on your samples. These results are provided by sample ID and are separated by the analyses performed on each sample. The header line of each analysis section for each sample will provide the name and method number for the analysis reported.
Sample Summary (Ss)	This section of the Analytical Report defines the specific analyses performed for each sample ID, including the dates and times of preparation and/or analysis.

Qualifier	Description
B	The same analyte is found in the associated blank.
E	The analyte concentration exceeds the upper limit of the calibration range of the instrument established by the initial calibration (ICAL).
J	The identification of the analyte is acceptable; the reported value is an estimate.
J3	The associated batch QC was outside the established quality control range for precision.
J4	The associated batch QC was outside the established quality control range for accuracy.
J6	The sample matrix interfered with the ability to make any accurate determination; spike value is low.
Q	Sample was prepared and/or analyzed past recommended holding time. Concentrations should be considered minimum values.
V	The sample concentration is too high to evaluate accurate spike recoveries.

1	Cp
2	Tc
3	Ss
4	Cn
5	Sr
6	Qc
7	Gl
8	Al
9	Sc



Pace National is the only environmental laboratory accredited/certified to support your work nationwide from one location. One phone call, one point of contact, one laboratory. No other lab is as accessible or prepared to handle your needs throughout the country. Our capacity and capability from our single location laboratory is comparable to the collective totals of the network laboratories in our industry. The most significant benefit to our one location design is the design of our laboratory campus. The model is conducive to accelerated productivity, decreasing turn-around time, and preventing cross contamination, thus protecting sample integrity. Our focus on premium quality and prompt service allows us to be YOUR LAB OF CHOICE.

* Not all certifications held by the laboratory are applicable to the results reported in the attached report.

* Accreditation is only applicable to the test methods specified on each scope of accreditation held by Pace National.

State Accreditations

Alabama	40660	Nebraska	NE-OS-15-05
Alaska	17-026	Nevada	TN-03-2002-34
Arizona	AZ0612	New Hampshire	2975
Arkansas	88-0469	New Jersey–NELAP	TN002
California	2932	New Mexico ¹	n/a
Colorado	TN00003	New York	11742
Connecticut	PH-0197	North Carolina	Env375
Florida	E87487	North Carolina ¹	DW21704
Georgia	NELAP	North Carolina ³	41
Georgia ¹	923	North Dakota	R-140
Idaho	TN00003	Ohio–VAP	CL0069
Illinois	200008	Oklahoma	9915
Indiana	C-TN-01	Oregon	TN200002
Iowa	364	Pennsylvania	68-02979
Kansas	E-10277	Rhode Island	LA000356
Kentucky ^{1 6}	90010	South Carolina	84004
Kentucky ²	16	South Dakota	n/a
Louisiana	AI30792	Tennessee ^{1 4}	2006
Louisiana ¹	LA180010	Texas	T 104704245-17-14
Maine	TN0002	Texas ⁵	LAB0152
Maryland	324	Utah	TN00003
Massachusetts	M-TN003	Vermont	VT2006
Michigan	9958	Virginia	460132
Minnesota	047-999-395	Washington	C847
Mississippi	TN00003	West Virginia	233
Missouri	340	Wisconsin	9980939910
Montana	CERT0086	Wyoming	A2LA

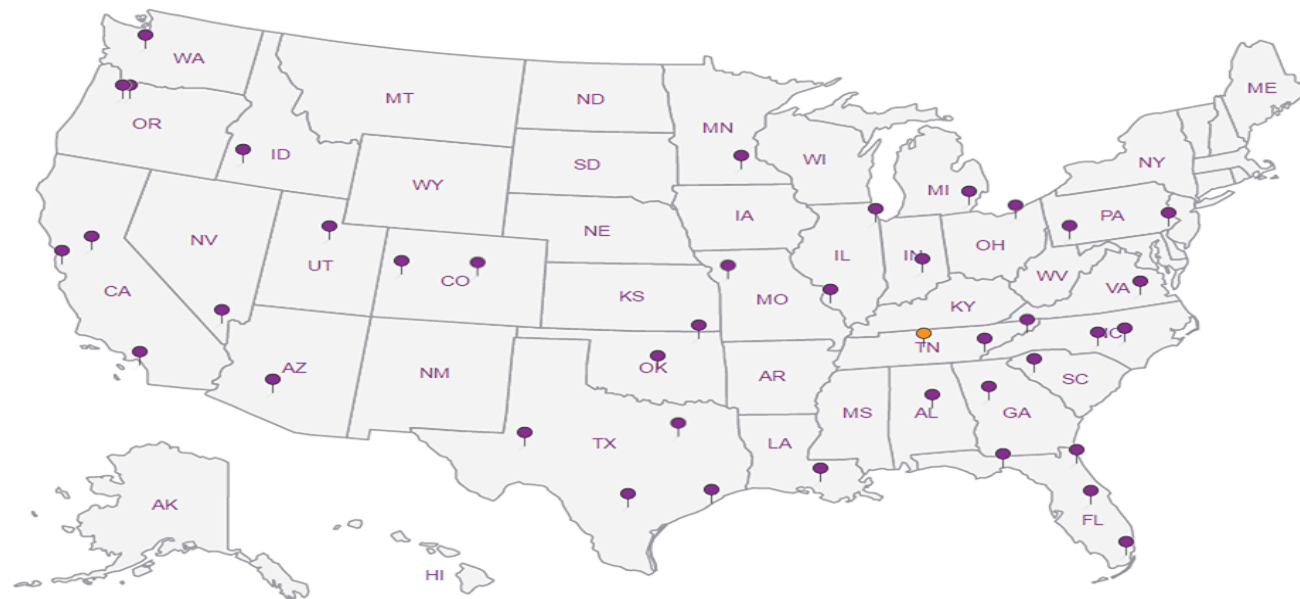
Third Party Federal Accreditations

A2LA – ISO 17025	1461.01	AIHA-LAP, LLC EMLAP	100789
A2LA – ISO 17025 ⁵	1461.02	DOD	1461.01
Canada	1461.01	USDA	P330-15-00234
EPA–Crypto	TN00003		

¹ Drinking Water ² Underground Storage Tanks ³ Aquatic Toxicity ⁴ Chemical/Microbiological ⁵ Mold ⁶ Wastewater n/a Accreditation not applicable

Our Locations

Pace National has sixty-four client support centers that provide sample pickup and/or the delivery of sampling supplies. If you would like assistance from one of our support offices, please contact our main office. Pace National performs all testing at our central laboratory.



TRC Solutions - Austin, TX

505 E. Huntland Drive, Suite 250
Austin, TX 78752

Report to:
Julie Speer

Project
Description: Lovington Lea Refinery

Phone: 512-684-3176
Fax:

Collected by (print):
Fernando C. Aguirre

Collected by (signature):

Immediately
Packed on Ice: N ☐ Y ☒

Billing Information:

Accounts Payable
21 Griffin Road North
Windsor, CT 06095

Email To: jspeer@trcsolutions.com

City/State
Collected: Lovington - NM

Lab Project #
TRCATX-LOVINGTON NAV

P.O. #
119562

Quote #

Rush? (Lab MUST Be Notified)

Same Day ☐ Five Day ☐
Next Day ☐ 5 Day (Rad Only) ☐
Two Day ☐ 10 Day (Rad Only) ☐
Three Day ☐

Date Results Needed

No. of
Ents

Sample ID	Comp. Grab	Matrix *	Depth	Date	Time	Cntrs	8270	Cl, F, S	DROL	Disso	GRO	NO2N	Total	V826	Shipped Via: FedEX Ground	
															Remarks	Sample # (lab only)
WW-EAST	GRAB	GW	-	07.31.18	0910	12	X	X	X	X	X	X	X	X	←	MS/MSD Collected! 01
WW-SOUTH	GRAB	GW	-	07.31.18	0910	12	X	X	X	X	X	X	X	X		02
WW-NORTH	GRAB	GW	-	07.31.18	1235	12	X	X	X	X	X	X	X	X		03
DWP-1	GRAB	GW	-	07.31.18	-	12	X	X	X	X	X	X	X	X		04
TB-07-31-18-A	-	GW	-	07.31.18	0800	12	X	X	X	X	X	X	X	X	←	BTEX ONLY TRIP BLANK 05
TB-07-31-18-B	-	GW	-	07.31.18	0805	12	X	X	X	X	X	X	X	X	←	BTEX ONLY TRIP BLANK 06

* Matrix:
SS - Soil AIR - Air F - Filter
GW - Groundwater B - Bioassay
WW - WasteWater
DW - Drinking Water
OT - Other

Remarks: Lab filter dissolved metals with 0.45 micron filter.

* MERCURY FIELD FILTERED at LOCATIONS: WW-SOUTH pH Temp
WW-NORTH Flow Other

Samples returned via:

UPS ☒ FedEx ☐ Courier ☐

Tracking # 4492 6218 7147 & 4492 6218 7158

Relinquished by: (Signature)

Date:

07.31.18

Time:

1500

Received by: (Signature)

Trip Blank Received: Yes / No

280
HCL/ MeOH
TB

Relinquished by: (Signature)

Date:

Time:

Received by: (Signature)

Temp: °C Bottles Received: 72

Relinquished by: (Signature)

Date:

Time:

Received for lab by: (Signature)

Date: 8/1/18 Time: 0845

Hold:

Condition
NCF / OK

Analysis / Container / Preservative

Chain of Custody Page ___ of ___



12065 Lebanon Rd
Mount Juliet, TN 37122
Phone: 615-758-5858
Phone: 800-767-5859
Fax: 615-758-5859

L# 1013808
G060

Acctnum: TRCATX

Template: T124137

Prelogin: P664116

TSR: 526 - Chris McCord

PB: 7-24-186

Shipped Via: FedEx Ground

Sample Receipt Checklist

COC Seal Present/Intact: ☒ Y ☐ N
COC Signed/Accurate: ☒ Y ☐ N
Bottles arrive intact: ☒ Y ☐ N
Correct bottles used: ☒ Y ☐ N
Sufficient volume sent: ☒ Y ☐ N
If Applicable
VDA Zero Headspace: ☒ Y ☐ N
Preservation Correct/Checked: ☒ Y ☐ N

If preservation required by Login: Date/Time

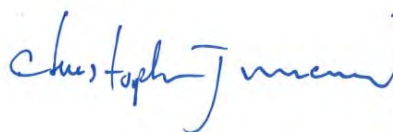
October 16, 2018

TRC Solutions - Austin, TX

Sample Delivery Group: L1030903
Samples Received: 10/02/2018
Project Number: 294319.0000.00000 5
Description: Lovington Lea Refinery

Report To: Julie Speer
505 E. Huntland Drive, Suite 250
Austin, TX 78752

Entire Report Reviewed By:



Chris McCord
Project Manager

Results relate only to the items tested or calibrated and are reported as rounded values. This test report shall not be reproduced, except in full, without written approval of the laboratory. Where applicable, sampling conducted by Pace National is performed per guidance provided in laboratory standard operating procedures: 060302, 060303, and 060304.



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MW-14R L1030903-13	51
MW-15 L1030903-14	55
MW-16 L1030903-15	59
MW-17R L1030903-16	63
MW-18 L1030903-17	67
MW-19 L1030903-18	71
MW-20 L1030903-19	75
MW-21 L1030903-20	79
MW-22 L1030903-21	81
MW-23 L1030903-22	85
MW-24 L1030903-23	86
MW-25 L1030903-24	90
MW-26 L1030903-25	94
MW-27 L1030903-26	95
MW-28 L1030903-27	98
MW-29 L1030903-28	102
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¹ Cp

² Tc

³ Ss

⁴ Cn

⁵ Sr

⁶ Qc

⁷ Gl

⁸ Al

⁹ Sc



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SAMPLE SUMMARY

ONE LAB. NATIONWIDE.



MW-1 L1030903-01 GW

			Collected by	Collected date/time	Received date/time
			BH/HMI Team	10/01/18 11:10	10/02/18 08:45
Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Gravimetric Analysis by Method 2540 C-2011	WG1176731	1	10/08/18 17:51	10/08/18 18:25	MMF
Wet Chemistry by Method 353.2	WG1177679	1	10/09/18 13:01	10/09/18 13:01	JER
Wet Chemistry by Method 9056A	WG1174940	1	10/04/18 18:29	10/04/18 18:29	ELN
Mercury by Method 7470A	WG1174916	1	10/03/18 10:38	10/04/18 11:34	EL
Metals (ICP) by Method 6010B	WG1174845	1	10/08/18 10:51	10/08/18 18:41	ST
Metals (ICPMS) by Method 6020	WG1174848	1	10/08/18 10:55	10/08/18 21:44	LD
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1178041	1	10/09/18 14:49	10/09/18 14:49	DWR

¹ Cp

² Tc

³ Ss

⁴ Cn

⁵ Sr

MW-2 L1030903-02 GW

			Collected by	Collected date/time	Received date/time
			BH/HMI Team	10/01/18 13:25	10/02/18 08:45
Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Gravimetric Analysis by Method 2540 C-2011	WG1176731	1	10/08/18 17:51	10/08/18 18:25	MMF
Wet Chemistry by Method 353.2	WG1177679	2	10/09/18 13:03	10/09/18 13:03	JER
Wet Chemistry by Method 9056A	WG1174940	1	10/04/18 18:38	10/04/18 18:38	ELN
Wet Chemistry by Method 9056A	WG1174940	5	10/04/18 18:48	10/04/18 18:48	ELN
Mercury by Method 7470A	WG1174916	1	10/03/18 10:38	10/04/18 11:42	EL
Metals (ICP) by Method 6010B	WG1174845	1	10/08/18 10:51	10/08/18 18:52	ST
Metals (ICPMS) by Method 6020	WG1174848	1	10/08/18 10:55	10/08/18 21:26	LD
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1174888	1	10/03/18 01:54	10/03/18 01:54	JCP
Semi Volatile Organic Compounds (GC/MS) by Method 8270 C	WG1177359	1	10/07/18 16:20	10/08/18 00:48	SNR

⁶ Qc

⁷ Gl

⁸ Al

⁹ Sc

MW-3 L1030903-03 GW

			Collected by	Collected date/time	Received date/time
			BH/HMI Team	10/01/18 14:35	10/02/18 08:45
Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Wet Chemistry by Method 353.2	WG1177679	1	10/09/18 13:10	10/09/18 13:10	JER
Wet Chemistry by Method 9056A	WG1174940	1	10/04/18 18:58	10/04/18 18:58	ELN

MW-4 L1030903-04 GW

			Collected by	Collected date/time	Received date/time
			BH/HMI Team	10/01/18 09:20	10/02/18 08:45
Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Gravimetric Analysis by Method 2540 C-2011	WG1176735	1	10/08/18 16:48	10/08/18 17:45	MMF
Wet Chemistry by Method 353.2	WG1177679	1	10/09/18 13:12	10/09/18 13:12	JER
Wet Chemistry by Method 9056A	WG1174940	1	10/04/18 19:07	10/04/18 19:07	ELN
Mercury by Method 7470A	WG1174916	1	10/03/18 10:38	10/04/18 11:44	EL
Metals (ICP) by Method 6010B	WG1174845	1	10/08/18 10:51	10/08/18 18:54	ST
Metals (ICPMS) by Method 6020	WG1174848	1	10/08/18 10:55	10/08/18 21:49	LD
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1174888	1	10/03/18 02:15	10/03/18 02:15	JCP
Semi Volatile Organic Compounds (GC/MS) by Method 8270 C	WG1177359	1	10/07/18 16:20	10/08/18 01:12	SNR

MW-5 L1030903-05 GW

			Collected by	Collected date/time	Received date/time
			BH/HMI Team	10/01/18 09:25	10/02/18 08:45
Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Gravimetric Analysis by Method 2540 C-2011	WG1176735	1	10/08/18 16:48	10/08/18 17:45	MMF
Wet Chemistry by Method 2320 B-2011	WG1177312	1	10/08/18 21:09	10/08/18 21:09	GB
Wet Chemistry by Method 353.2	WG1177679	1	10/09/18 13:13	10/09/18 13:13	JER
Wet Chemistry by Method 9056A	WG1174940	1	10/04/18 19:17	10/04/18 19:17	ELN
Mercury by Method 7470A	WG1174916	1	10/03/18 10:38	10/04/18 11:47	EL
Metals (ICP) by Method 6010B	WG1174845	1	10/08/18 10:51	10/08/18 18:57	ST

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SAMPLE SUMMARY

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MW-5 L1030903-05 GW

			Collected by	Collected date/time	Received date/time
			BH/HMI Team	10/01/18 09:25	10/02/18 08:45
Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Metals (ICPMS) by Method 6020	WG1174848	1	10/08/18 10:55	10/08/18 21:53	LD
Volatile Organic Compounds (GC) by Method 8015D/GRO	WG1176966	1	10/06/18 19:31	10/06/18 19:31	JHH
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1174888	1	10/03/18 02:35	10/03/18 02:35	JCP
Semi-Volatile Organic Compounds (GC) by Method 3511/8015	WG1174688	1	10/04/18 07:06	10/05/18 02:47	TH
Semi Volatile Organic Compounds (GC/MS) by Method 8270 C	WG1177359	1	10/07/18 16:20	10/08/18 01:35	SNR

¹ Cp

² Tc

³ Ss

⁴ Cn

MW-6 L1030903-06 GW

			Collected by	Collected date/time	Received date/time
			BH/HMI Team	10/01/18 12:10	10/02/18 08:45
Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Gravimetric Analysis by Method 2540 C-2011	WG1176735	1	10/08/18 16:48	10/08/18 17:45	MMF
Wet Chemistry by Method 353.2	WG1177679	1	10/09/18 13:15	10/09/18 13:15	JER
Wet Chemistry by Method 9056A	WG1174940	1	10/04/18 20:15	10/04/18 20:15	ELN
Mercury by Method 7470A	WG1174916	1	10/03/18 10:38	10/04/18 11:49	EL
Metals (ICP) by Method 6010B	WG1174845	1	10/08/18 10:51	10/08/18 19:05	ST
Metals (ICPMS) by Method 6020	WG1174848	1	10/08/18 10:55	10/08/18 22:11	LD
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1174888	1	10/03/18 02:56	10/03/18 02:56	JCP
Semi Volatile Organic Compounds (GC/MS) by Method 8270 C	WG1177359	1	10/07/18 16:20	10/08/18 01:59	SNR

⁵ Sr

⁶ Qc

⁷ Gl

⁸ Al

⁹ Sc

MW-8 L1030903-07 GW

			Collected by	Collected date/time	Received date/time
			BH/HMI Team	10/01/18 11:45	10/02/18 08:45
Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Gravimetric Analysis by Method 2540 C-2011	WG1176735	1	10/08/18 16:48	10/08/18 17:45	MMF
Wet Chemistry by Method 353.2	WG1177679	5	10/09/18 13:16	10/09/18 13:16	JER
Wet Chemistry by Method 9056A	WG1174940	1	10/04/18 20:25	10/04/18 20:25	ELN
Wet Chemistry by Method 9056A	WG1174940	5	10/04/18 20:34	10/04/18 20:34	ELN
Mercury by Method 7470A	WG1174916	1	10/03/18 10:38	10/04/18 11:56	EL
Metals (ICP) by Method 6010B	WG1174845	1	10/08/18 10:51	10/08/18 19:08	ST
Metals (ICPMS) by Method 6020	WG1174848	1	10/08/18 10:55	10/08/18 22:16	LD
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1174888	1	10/03/18 03:16	10/03/18 03:16	JCP

MW-9 L1030903-08 GW

			Collected by	Collected date/time	Received date/time
			BH/HMI Team	10/01/18 13:45	10/02/18 08:45
Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Wet Chemistry by Method 353.2	WG1177679	5	10/09/18 13:18	10/09/18 13:18	JER
Wet Chemistry by Method 9056A	WG1174940	1	10/04/18 20:44	10/04/18 20:44	ELN
Wet Chemistry by Method 9056A	WG1174940	5	10/04/18 20:54	10/04/18 20:54	ELN

MW-10 L1030903-09 GW

			Collected by	Collected date/time	Received date/time
			BH/HMI Team	10/01/18 10:55	10/02/18 08:45
Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Wet Chemistry by Method 353.2	WG1177679	1	10/09/18 13:19	10/09/18 13:19	JER
Wet Chemistry by Method 9056A	WG1174940	1	10/04/18 21:03	10/04/18 21:03	ELN

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SAMPLE SUMMARY

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MW-11R L1030903-10 GW

Collected by
BH/HMI Team

Collected date/time
10/01/18 12:35

Received date/time
10/02/18 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Gravimetric Analysis by Method 2540 C-2011	WG1176735	1	10/08/18 16:48	10/08/18 17:45	MMF
Wet Chemistry by Method 2320 B-2011	WG1177312	1	10/08/18 21:17	10/08/18 21:17	GB
Wet Chemistry by Method 353.2	WG1177679	1	10/09/18 13:21	10/09/18 13:21	JER
Wet Chemistry by Method 9056A	WG1174940	1	10/04/18 21:13	10/04/18 21:13	ELN
Wet Chemistry by Method 9056A	WG1174940	5	10/04/18 21:22	10/04/18 21:22	ELN
Mercury by Method 7470A	WG1174916	1	10/03/18 10:38	10/04/18 11:59	EL
Metals (ICP) by Method 6010B	WG1174845	1	10/08/18 10:51	10/08/18 19:11	ST
Metals (ICPMS) by Method 6020	WG1174848	1	10/08/18 10:55	10/08/18 22:20	LD
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1174888	1	10/03/18 03:37	10/03/18 03:37	JCP
Semi Volatile Organic Compounds (GC/MS) by Method 8270 C	WG1177359	1	10/07/18 16:20	10/08/18 02:22	SNR

¹ Cp

² Tc

³ Ss

⁴ Cn

⁵ Sr

⁶ Qc

⁷ Gl

⁸ Al

⁹ Sc

MW-12R L1030903-11 GW

Collected by
BH/HMI Team

Collected date/time
10/01/18 11:40

Received date/time
10/02/18 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Gravimetric Analysis by Method 2540 C-2011	WG1176735	1	10/08/18 16:48	10/08/18 17:45	MMF
Wet Chemistry by Method 2320 B-2011	WG1177312	1	10/08/18 21:24	10/08/18 21:24	GB
Wet Chemistry by Method 353.2	WG1177679	2	10/09/18 13:22	10/09/18 13:22	JER
Wet Chemistry by Method 9056A	WG1174940	1	10/04/18 21:51	10/04/18 21:51	ELN
Mercury by Method 7470A	WG1174916	1	10/03/18 10:38	10/04/18 12:01	EL
Metals (ICP) by Method 6010B	WG1174845	1	10/08/18 10:51	10/08/18 19:14	ST
Metals (ICPMS) by Method 6020	WG1174848	1	10/08/18 10:55	10/08/18 22:25	LD
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1174888	1	10/03/18 03:57	10/03/18 03:57	JCP
Semi Volatile Organic Compounds (GC/MS) by Method 8270 C	WG1177359	1	10/07/18 16:20	10/08/18 02:46	SNR

MW-13R L1030903-12 GW

Collected by
BH/HMI Team

Collected date/time
10/01/18 11:50

Received date/time
10/02/18 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Gravimetric Analysis by Method 2540 C-2011	WG1176735	1	10/08/18 16:48	10/08/18 17:45	MMF
Wet Chemistry by Method 353.2	WG1177679	1	10/09/18 13:24	10/09/18 13:24	JER
Wet Chemistry by Method 9056A	WG1174940	1	10/04/18 22:01	10/04/18 22:01	ELN
Wet Chemistry by Method 9056A	WG1174940	10	10/04/18 22:11	10/04/18 22:11	ELN
Mercury by Method 7470A	WG1174916	1	10/03/18 10:38	10/04/18 12:04	EL
Metals (ICP) by Method 6010B	WG1174845	1	10/08/18 10:51	10/08/18 19:16	ST
Metals (ICPMS) by Method 6020	WG1174848	1	10/08/18 10:55	10/08/18 22:30	LD
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1174888	1	10/03/18 04:18	10/03/18 04:18	JCP
Semi Volatile Organic Compounds (GC/MS) by Method 8270 C	WG1177359	1	10/07/18 16:20	10/08/18 03:10	SNR

MW-14R L1030903-13 GW

Collected by
BH/HMI Team

Collected date/time
10/01/18 13:45

Received date/time
10/02/18 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Gravimetric Analysis by Method 2540 C-2011	WG1176735	1	10/08/18 16:48	10/08/18 17:45	MMF
Wet Chemistry by Method 353.2	WG1177679	1	10/09/18 13:33	10/09/18 13:33	JER
Wet Chemistry by Method 9056A	WG1174940	1	10/04/18 22:20	10/04/18 22:20	ELN
Wet Chemistry by Method 9056A	WG1174940	5	10/04/18 22:30	10/04/18 22:30	ELN
Mercury by Method 7470A	WG1174916	1	10/03/18 10:38	10/04/18 12:06	EL
Metals (ICP) by Method 6010B	WG1174845	1	10/08/18 10:51	10/08/18 19:19	ST
Metals (ICPMS) by Method 6020	WG1174848	1	10/08/18 10:55	10/08/18 22:34	LD
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1174888	1	10/03/18 04:38	10/03/18 04:38	JCP
Semi Volatile Organic Compounds (GC/MS) by Method 8270 C	WG1177359	1	10/07/18 16:20	10/08/18 03:33	SNR

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MW-15 L1030903-14 GW

Collected by
BH/HMI Team

Collected date/time
10/01/18 13:05

Received date/time
10/02/18 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Gravimetric Analysis by Method 2540 C-2011	WG1176735	1	10/08/18 16:48	10/08/18 17:45	MMF
Wet Chemistry by Method 2320 B-2011	WG1177312	1	10/08/18 21:33	10/08/18 21:33	GB
Wet Chemistry by Method 353.2	WG1177679	2	10/09/18 13:37	10/09/18 13:37	JER
Wet Chemistry by Method 9056A	WG1174940	1	10/04/18 22:40	10/04/18 22:40	ELN
Wet Chemistry by Method 9056A	WG1174940	10	10/04/18 22:49	10/04/18 22:49	ELN
Mercury by Method 7470A	WG1174916	1	10/03/18 10:38	10/04/18 12:09	EL
Metals (ICP) by Method 6010B	WG1174845	1	10/08/18 10:51	10/08/18 19:22	ST
Metals (ICPMS) by Method 6020	WG1174848	1	10/08/18 10:55	10/08/18 22:39	LD
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1174888	1	10/03/18 04:59	10/03/18 04:59	JCP
Semi Volatile Organic Compounds (GC/MS) by Method 8270 C	WG1177359	1	10/07/18 16:20	10/08/18 03:57	SNR

¹ Cp

² Tc

³ Ss

⁴ Cn

⁵ Sr

⁶ Qc

⁷ Gl

⁸ Al

⁹ Sc

MW-16 L1030903-15 GW

Collected by
BH/HMI Team

Collected date/time
10/01/18 10:15

Received date/time
10/02/18 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Gravimetric Analysis by Method 2540 C-2011	WG1176735	1	10/08/18 16:48	10/08/18 17:45	MMF
Wet Chemistry by Method 353.2	WG1177679	2	10/09/18 13:39	10/09/18 13:39	JER
Wet Chemistry by Method 9056A	WG1174940	1	10/04/18 22:59	10/04/18 22:59	ELN
Mercury by Method 7470A	WG1174916	1	10/03/18 10:38	10/04/18 12:11	EL
Metals (ICP) by Method 6010B	WG1174845	1	10/08/18 10:51	10/08/18 19:25	ST
Metals (ICPMS) by Method 6020	WG1174848	1	10/08/18 10:55	10/08/18 22:43	LD
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1174888	1	10/03/18 05:19	10/03/18 05:19	JCP
Semi Volatile Organic Compounds (GC/MS) by Method 8270 C	WG1177359	1	10/07/18 16:20	10/08/18 04:21	SNR

MW-17R L1030903-16 GW

Collected by
BH/HMI Team

Collected date/time
10/01/18 09:20

Received date/time
10/02/18 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Gravimetric Analysis by Method 2540 C-2011	WG1176737	1	10/08/18 17:57	10/08/18 18:58	MMF
Wet Chemistry by Method 2320 B-2011	WG1177312	1	10/08/18 21:50	10/08/18 21:50	GB
Wet Chemistry by Method 353.2	WG1177679	2	10/09/18 13:40	10/09/18 13:40	JER
Wet Chemistry by Method 9056A	WG1174940	1	10/04/18 23:47	10/04/18 23:47	ELN
Wet Chemistry by Method 9056A	WG1174940	5	10/04/18 23:57	10/04/18 23:57	ELN
Mercury by Method 7470A	WG1174916	1	10/03/18 10:38	10/04/18 12:14	EL
Metals (ICP) by Method 6010B	WG1174845	1	10/08/18 10:51	10/08/18 19:28	ST
Metals (ICPMS) by Method 6020	WG1174848	1	10/08/18 10:55	10/08/18 22:48	LD
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1174888	1	10/03/18 05:40	10/03/18 05:40	JCP
Semi Volatile Organic Compounds (GC/MS) by Method 8270 C	WG1177359	1	10/07/18 16:20	10/08/18 04:44	SNR

MW-18 L1030903-17 GW

Collected by
BH/HMI Team

Collected date/time
10/01/18 09:45

Received date/time
10/02/18 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Gravimetric Analysis by Method 2540 C-2011	WG1176737	1	10/08/18 17:57	10/08/18 18:58	MMF
Wet Chemistry by Method 353.2	WG1177679	2	10/09/18 13:42	10/09/18 13:42	JER
Wet Chemistry by Method 9056A	WG1174940	1	10/05/18 00:07	10/05/18 00:07	ELN
Wet Chemistry by Method 9056A	WG1174940	5	10/05/18 00:16	10/05/18 00:16	ELN
Mercury by Method 7470A	WG1174916	1	10/03/18 10:38	10/04/18 12:16	EL
Metals (ICP) by Method 6010B	WG1174845	1	10/08/18 10:51	10/08/18 19:30	ST
Metals (ICPMS) by Method 6020	WG1174848	1	10/08/18 10:55	10/08/18 22:52	LD
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1174888	1	10/03/18 06:00	10/03/18 06:00	JCP
Semi Volatile Organic Compounds (GC/MS) by Method 8270 C	WG1177359	1	10/07/18 16:20	10/08/18 05:08	SNR

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MW-19 L1030903-18 GW

Collected by
BH/HMI Team

Collected date/time
10/01/18 12:05

Received date/time
10/02/18 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Gravimetric Analysis by Method 2540 C-2011	WG1176737	1	10/08/18 17:57	10/08/18 18:58	MMF
Wet Chemistry by Method 2320 B-2011	WG1177314	1	10/09/18 19:25	10/09/18 19:25	GB
Wet Chemistry by Method 353.2	WG1177681	1	10/09/18 13:57	10/09/18 13:57	JER
Wet Chemistry by Method 9056A	WG1174940	1	10/05/18 00:26	10/05/18 00:26	ELN
Wet Chemistry by Method 9056A	WG1174940	10	10/05/18 00:36	10/05/18 00:36	ELN
Mercury by Method 7470A	WG1174916	1	10/03/18 10:38	10/04/18 12:18	EL
Metals (ICP) by Method 6010B	WG1174845	1	10/08/18 10:51	10/08/18 19:39	ST
Metals (ICPMS) by Method 6020	WG1174848	1	10/08/18 10:55	10/08/18 23:08	LD
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1174888	1	10/03/18 06:21	10/03/18 06:21	JCP
Semi Volatile Organic Compounds (GC/MS) by Method 8270 C	WG1177359	1	10/07/18 16:20	10/08/18 05:32	SNR

¹ Cp

² Tc

³ Ss

⁴ Cn

⁵ Sr

⁶ Qc

MW-20 L1030903-19 GW

Collected by
BH/HMI Team

Collected date/time
10/01/18 13:00

Received date/time
10/02/18 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Gravimetric Analysis by Method 2540 C-2011	WG1176737	1	10/08/18 17:57	10/08/18 18:58	MMF
Wet Chemistry by Method 353.2	WG1177681	1	10/09/18 14:00	10/09/18 14:00	JER
Wet Chemistry by Method 9056A	WG1174940	1	10/05/18 00:45	10/05/18 00:45	ELN
Wet Chemistry by Method 9056A	WG1174940	5	10/05/18 00:55	10/05/18 00:55	ELN
Mercury by Method 7470A	WG1174916	1	10/03/18 10:38	10/04/18 12:26	EL
Metals (ICP) by Method 6010B	WG1174845	1	10/08/18 10:51	10/08/18 19:41	ST
Metals (ICPMS) by Method 6020	WG1174848	1	10/08/18 10:55	10/08/18 23:13	LD
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1174888	1	10/03/18 06:41	10/03/18 06:41	JCP
Semi Volatile Organic Compounds (GC/MS) by Method 8270 C	WG1177359	1	10/07/18 16:20	10/08/18 05:55	SNR

⁷ Gl

⁸ Al

⁹ Sc

MW-21 L1030903-20 GW

Collected by
BH/HMI Team

Collected date/time
10/01/18 14:10

Received date/time
10/02/18 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Volatile Organic Compounds (GC) by Method 8015D/GRO	WG1176966	1	10/06/18 19:58	10/06/18 19:58	JHH
Semi-Volatile Organic Compounds (GC) by Method 3511/8015	WG1177385	1	10/08/18 02:49	10/08/18 14:23	TH
Semi Volatile Organic Compounds (GC/MS) by Method 8270 C	WG1177359	1	10/07/18 16:20	10/08/18 06:19	SNR

MW-22 L1030903-21 GW

Collected by
BH/HMI Team

Collected date/time
10/01/18 11:20

Received date/time
10/02/18 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Gravimetric Analysis by Method 2540 C-2011	WG1176737	1	10/08/18 17:57	10/08/18 18:58	MMF
Wet Chemistry by Method 353.2	WG1177681	5	10/09/18 14:03	10/09/18 14:03	JER
Wet Chemistry by Method 9056A	WG1174940	1	10/05/18 01:05	10/05/18 01:05	ELN
Mercury by Method 7470A	WG1174916	1	10/03/18 10:38	10/04/18 12:28	EL
Metals (ICP) by Method 6010B	WG1174845	1	10/08/18 10:51	10/08/18 19:44	ST
Metals (ICPMS) by Method 6020	WG1174848	1	10/08/18 10:55	10/08/18 23:18	LD
Volatile Organic Compounds (GC) by Method 8015D/GRO	WG1176966	1	10/06/18 20:19	10/06/18 20:19	JHH
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1174888	1	10/03/18 07:02	10/03/18 07:02	JCP
Semi-Volatile Organic Compounds (GC) by Method 3511/8015	WG1174688	2	10/04/18 07:06	10/05/18 03:27	TH
Semi Volatile Organic Compounds (GC/MS) by Method 8270 C	WG1177359	1	10/07/18 16:20	10/08/18 06:42	SNR

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SAMPLE SUMMARY

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MW-23 L1030903-22 GW

			Collected by	Collected date/time	Received date/time
			BH/HMI Team	10/01/18 10:35	10/02/18 08:45
Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Gravimetric Analysis by Method 2540 C-2011	WG1180103	1	10/13/18 11:44	10/13/18 12:46	JER
Wet Chemistry by Method 353.2	WG1177681	1	10/09/18 14:05	10/09/18 14:05	JER
Wet Chemistry by Method 9056A	WG1174945	1	10/04/18 21:16	10/04/18 21:16	ELN

¹ Cp

² Tc

³ Ss

⁴ Cn

MW-24 L1030903-23 GW

			Collected by	Collected date/time	Received date/time
			BH/HMI Team	10/01/18 13:05	10/02/18 08:45
Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Gravimetric Analysis by Method 2540 C-2011	WG1176737	1	10/08/18 17:57	10/08/18 18:58	MMF
Wet Chemistry by Method 2320 B-2011	WG1177314	1	10/09/18 19:40	10/09/18 19:40	GB
Wet Chemistry by Method 353.2	WG1177681	2	10/09/18 14:06	10/09/18 14:06	JER
Wet Chemistry by Method 9056A	WG1174945	1	10/04/18 21:30	10/04/18 21:30	ELN
Mercury by Method 7470A	WG1174916	1	10/03/18 10:38	10/04/18 12:31	EL
Metals (ICP) by Method 6010B	WG1174845	1	10/08/18 10:51	10/08/18 19:47	ST
Metals (ICPMS) by Method 6020	WG1174848	1	10/08/18 10:55	10/08/18 23:22	LD
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1174888	1	10/03/18 07:22	10/03/18 07:22	JCP
Semi Volatile Organic Compounds (GC/MS) by Method 8270 C	WG1177359	1	10/07/18 16:20	10/08/18 07:06	SNR

⁵ Sr

⁶ Qc

⁷ Gl

⁸ Al

⁹ Sc

MW-25 L1030903-24 GW

			Collected by	Collected date/time	Received date/time
			BH/HMI Team	10/01/18 12:10	10/02/18 08:45
Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Gravimetric Analysis by Method 2540 C-2011	WG1176737	1	10/08/18 17:57	10/08/18 18:58	MMF
Wet Chemistry by Method 2320 B-2011	WG1177314	1	10/09/18 19:47	10/09/18 19:47	GB
Wet Chemistry by Method 353.2	WG1177681	2	10/09/18 14:14	10/09/18 14:14	JER
Wet Chemistry by Method 9056A	WG1174945	1	10/04/18 21:58	10/04/18 21:58	ELN
Wet Chemistry by Method 9056A	WG1174945	10	10/04/18 22:11	10/04/18 22:11	ELN
Mercury by Method 7470A	WG1174916	1	10/03/18 10:38	10/04/18 12:33	EL
Metals (ICP) by Method 6010B	WG1174845	1	10/08/18 10:51	10/08/18 19:50	ST
Metals (ICPMS) by Method 6020	WG1174848	1	10/08/18 10:55	10/08/18 23:27	LD
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1174888	1	10/03/18 07:43	10/03/18 07:43	JCP
Semi Volatile Organic Compounds (GC/MS) by Method 8270 C	WG1177359	1	10/07/18 16:20	10/08/18 07:30	SNR

MW-26 L1030903-25 GW

			Collected by	Collected date/time	Received date/time
			BH/HMI Team	10/01/18 09:05	10/02/18 08:45
Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Gravimetric Analysis by Method 2540 C-2011	WG1176737	1	10/08/18 17:57	10/08/18 18:58	MMF
Wet Chemistry by Method 9056A	WG1176497	1	10/05/18 15:47	10/05/18 15:47	MCG
Wet Chemistry by Method 9056A	WG1176497	5	10/05/18 16:55	10/05/18 16:55	MCG

MW-27 L1030903-26 GW

			Collected by	Collected date/time	Received date/time
			BH/HMI Team	10/01/18 11:10	10/02/18 08:45
Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1174888	1	10/03/18 08:03	10/03/18 08:03	JCP
Semi Volatile Organic Compounds (GC/MS) by Method 8270 C	WG1177359	1.02	10/07/18 16:20	10/08/18 07:53	SNR

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SAMPLE SUMMARY

ONE LAB. NATIONWIDE.



MW-28 L1030903-27 GW

			Collected by	Collected date/time	Received date/time
			BH/HMI Team	10/01/18 10:25	10/02/18 08:45
Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Gravimetric Analysis by Method 2540 C-2011	WG1176737	1	10/08/18 17:57	10/08/18 18:58	MMF
Wet Chemistry by Method 2320 B-2011	WG1177314	1	10/09/18 19:54	10/09/18 19:54	GB
Wet Chemistry by Method 353.2	WG1177681	2	10/09/18 14:15	10/09/18 14:15	JER
Wet Chemistry by Method 9056A	WG1174945	1	10/04/18 22:25	10/04/18 22:25	ELN
Mercury by Method 7470A	WG1174916	1	10/03/18 10:38	10/04/18 12:36	EL
Metals (ICP) by Method 6010B	WG1174845	1	10/08/18 10:51	10/08/18 19:52	ST
Metals (ICPMS) by Method 6020	WG1174848	1	10/08/18 10:55	10/08/18 23:31	LD
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1175099	1	10/03/18 14:54	10/03/18 14:54	BMB
Semi Volatile Organic Compounds (GC/MS) by Method 8270 C	WG1177409	1	10/08/18 11:22	10/08/18 23:30	JF

¹ Cp

² Tc

³ Ss

⁴ Cn

⁵ Sr

⁶ Qc

MW-29 L1030903-28 GW

			Collected by	Collected date/time	Received date/time
			BH/HMI Team	10/01/18 11:05	10/02/18 08:45
Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Gravimetric Analysis by Method 2540 C-2011	WG1176738	1	10/08/18 16:51	10/08/18 17:25	MMF
Wet Chemistry by Method 353.2	WG1177681	2	10/09/18 14:17	10/09/18 14:17	JER
Wet Chemistry by Method 9056A	WG1174945	1	10/04/18 23:07	10/04/18 23:07	ELN
Wet Chemistry by Method 9056A	WG1174945	5	10/04/18 23:21	10/04/18 23:21	ELN
Mercury by Method 7470A	WG1174917	1	10/03/18 10:40	10/05/18 09:08	ABL
Metals (ICP) by Method 6010B	WG1174847	1	10/06/18 13:27	10/08/18 04:28	CCE
Metals (ICPMS) by Method 6020	WG1174849	1	10/08/18 14:49	10/08/18 18:25	LD
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1175099	1	10/03/18 15:15	10/03/18 15:15	BMB
Semi Volatile Organic Compounds (GC/MS) by Method 8270 C	WG1177409	1	10/08/18 11:22	10/08/18 23:54	AO

⁷ Gl

⁸ Al

⁹ Sc

MW-30 L1030903-29 GW

			Collected by	Collected date/time	Received date/time
			BH/HMI Team	10/01/18 10:15	10/02/18 08:45
Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Gravimetric Analysis by Method 2540 C-2011	WG1176738	1	10/08/18 16:51	10/08/18 17:25	MMF
Wet Chemistry by Method 2320 B-2011	WG1177314	1	10/09/18 20:01	10/09/18 20:01	GB
Wet Chemistry by Method 353.2	WG1177681	1	10/09/18 14:18	10/09/18 14:18	JER
Wet Chemistry by Method 9056A	WG1174945	1	10/04/18 23:35	10/04/18 23:35	ELN
Mercury by Method 7470A	WG1174917	1	10/03/18 10:40	10/05/18 09:10	ABL
Metals (ICP) by Method 6010B	WG1174847	1	10/06/18 13:27	10/08/18 04:30	CCE
Metals (ICPMS) by Method 6020	WG1174849	1	10/08/18 14:49	10/08/18 18:30	LD
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1175099	1	10/03/18 15:35	10/03/18 15:35	BMB
Semi Volatile Organic Compounds (GC/MS) by Method 8270 C	WG1177409	1	10/08/18 11:22	10/09/18 00:17	AO

MW-32 L1030903-30 GW

			Collected by	Collected date/time	Received date/time
			BH/HMI Team	10/01/18 10:30	10/02/18 08:45
Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Gravimetric Analysis by Method 2540 C-2011	WG1176738	1	10/08/18 16:51	10/08/18 17:25	MMF
Wet Chemistry by Method 2320 B-2011	WG1177314	1	10/09/18 20:08	10/09/18 20:08	GB
Wet Chemistry by Method 353.2	WG1177681	1	10/09/18 14:20	10/09/18 14:20	JER
Wet Chemistry by Method 9056A	WG1174945	1	10/05/18 00:03	10/05/18 00:03	ELN
Mercury by Method 7470A	WG1174917	1	10/03/18 10:40	10/05/18 09:13	ABL
Metals (ICP) by Method 6010B	WG1174847	1	10/06/18 13:27	10/08/18 04:33	CCE
Metals (ICPMS) by Method 6020	WG1174849	1	10/08/18 14:49	10/08/18 18:35	LD
Volatile Organic Compounds (GC) by Method 8015D/GRO	WG1176966	1	10/06/18 20:40	10/06/18 20:40	JHH
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1175099	1	10/03/18 15:56	10/03/18 15:56	BMB
Semi-Volatile Organic Compounds (GC) by Method 3511/8015	WG1177385	1	10/08/18 02:49	10/08/18 15:04	TH
Semi Volatile Organic Compounds (GC/MS) by Method 8270 C	WG1177409	1	10/08/18 11:22	10/09/18 00:41	AO

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SAMPLE SUMMARY

ONE LAB. NATIONWIDE.



MW-33 L1030903-31 GW

Collected by
BH/HMI Team

Collected date/time
10/01/18 08:55

Received date/time
10/02/18 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Gravimetric Analysis by Method 2540 C-2011	WG1176738	1	10/08/18 16:51	10/08/18 17:25	MMF
Wet Chemistry by Method 2320 B-2011	WG1177314	1	10/09/18 20:18	10/09/18 20:18	GB
Wet Chemistry by Method 353.2	WG1177681	1	10/09/18 14:21	10/09/18 14:21	JER
Wet Chemistry by Method 9056A	WG1174945	1	10/05/18 00:17	10/05/18 00:17	ELN
Wet Chemistry by Method 9056A	WG1174945	5	10/05/18 00:59	10/05/18 00:59	ELN
Mercury by Method 7470A	WG1174917	1	10/03/18 10:40	10/05/18 08:41	ABL
Metals (ICP) by Method 6010B	WG1174847	1	10/06/18 13:27	10/08/18 03:58	CCE
Metals (ICPMS) by Method 6020	WG1174849	1	10/08/18 14:49	10/08/18 18:07	LD
Volatile Organic Compounds (GC) by Method 8015D/GRO	WG1177421	1	10/08/18 01:54	10/08/18 01:54	JHH
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1175099	1	10/03/18 20:05	10/03/18 20:05	BMB
Semi-Volatile Organic Compounds (GC) by Method 3511/8015	WG1177385	1	10/08/18 02:49	10/08/18 15:24	TH
Semi Volatile Organic Compounds (GC/MS) by Method 8270 C	WG1177409	1	10/08/18 11:22	10/08/18 20:21	AO

1 Cp
2 Tc
3 Ss
4 Cn
5 Sr
6 Qc
7 Gl
8 Al
9 Sc

WW-NORTH WELL L1030903-32 GW

Collected by
BH/HMI Team

Collected date/time
10/01/18 10:40

Received date/time
10/02/18 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Gravimetric Analysis by Method 2540 C-2011	WG1176738	1	10/08/18 16:51	10/08/18 17:25	MMF
Wet Chemistry by Method 2320 B-2011	WG1177314	1	10/09/18 20:24	10/09/18 20:24	GB
Wet Chemistry by Method 353.2	WG1177681	2	10/09/18 14:26	10/09/18 14:26	JER
Wet Chemistry by Method 9056A	WG1174945	1	10/05/18 01:12	10/05/18 01:12	ELN
Wet Chemistry by Method 9056A	WG1174945	5	10/05/18 01:54	10/05/18 01:54	ELN
Mercury by Method 7470A	WG1174917	1	10/03/18 10:40	10/05/18 09:15	ABL
Metals (ICP) by Method 6010B	WG1174847	1	10/06/18 13:27	10/08/18 04:36	CCE
Metals (ICPMS) by Method 6020	WG1174849	1	10/08/18 14:49	10/08/18 18:52	LD
Volatile Organic Compounds (GC) by Method 8015D/GRO	WG1176966	1	10/06/18 21:00	10/06/18 21:00	JHH
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1175099	1	10/03/18 16:16	10/03/18 16:16	BMB
Semi-Volatile Organic Compounds (GC) by Method 3511/8015	WG1177385	1	10/08/18 02:49	10/08/18 16:25	TH
Semi Volatile Organic Compounds (GC/MS) by Method 8270 C	WG1177409	1	10/08/18 11:22	10/09/18 01:05	AO

WW-SOUTH WELL L1030903-33 GW

Collected by
BH/HMI Team

Collected date/time
10/01/18 11:10

Received date/time
10/02/18 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Gravimetric Analysis by Method 2540 C-2011	WG1176738	1	10/08/18 16:51	10/08/18 17:25	MMF
Wet Chemistry by Method 2320 B-2011	WG1177314	1	10/09/18 20:43	10/09/18 20:43	GB
Wet Chemistry by Method 353.2	WG1177681	1	10/09/18 14:27	10/09/18 14:27	JER
Wet Chemistry by Method 9056A	WG1174945	1	10/05/18 02:08	10/05/18 02:08	ELN
Wet Chemistry by Method 9056A	WG1174945	10	10/05/18 02:22	10/05/18 02:22	ELN
Mercury by Method 7470A	WG1174917	1	10/03/18 10:40	10/05/18 09:22	ABL
Metals (ICP) by Method 6010B	WG1174847	1	10/06/18 13:27	10/08/18 04:38	CCE
Metals (ICPMS) by Method 6020	WG1174849	1	10/08/18 14:49	10/08/18 18:57	LD
Volatile Organic Compounds (GC) by Method 8015D/GRO	WG1176966	1	10/06/18 21:21	10/06/18 21:21	JHH
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1175099	1	10/03/18 16:37	10/03/18 16:37	BMB
Semi-Volatile Organic Compounds (GC) by Method 3511/8015	WG1177385	1	10/08/18 02:49	10/08/18 16:45	TH
Semi Volatile Organic Compounds (GC/MS) by Method 8270 C	WG1177409	1	10/08/18 11:22	10/09/18 01:28	AO

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SAMPLE SUMMARY

ONE LAB. NATIONWIDE.



WW-EAST WELL L1030903-34 GW

Collected by
BH/HMI Team

Collected date/time
10/01/18 13:40

Received date/time
10/02/18 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Gravimetric Analysis by Method 2540 C-2011	WG1176738	1	10/08/18 16:51	10/08/18 17:25	MMF
Wet Chemistry by Method 2320 B-2011	WG1177314	1	10/09/18 20:50	10/09/18 20:50	GB
Wet Chemistry by Method 353.2	WG1177681	1	10/09/18 14:35	10/09/18 14:35	JER
Wet Chemistry by Method 9056A	WG1174945	1	10/05/18 02:36	10/05/18 02:36	ELN
Wet Chemistry by Method 9056A	WG1174945	5	10/05/18 02:50	10/05/18 02:50	ELN
Mercury by Method 7470A	WG1174917	1	10/03/18 10:40	10/05/18 09:25	ABL
Metals (ICP) by Method 6010B	WG1174847	1	10/06/18 13:27	10/08/18 04:41	CCE
Metals (ICPMS) by Method 6020	WG1174849	1	10/08/18 14:49	10/08/18 19:01	LD
Volatile Organic Compounds (GC) by Method 8015D/GRO	WG1176966	1	10/06/18 21:42	10/06/18 21:42	JHH
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1175099	1	10/03/18 17:41	10/03/18 17:41	BMB
Semi-Volatile Organic Compounds (GC) by Method 3511/8015	WG1177385	1	10/08/18 02:49	10/08/18 17:05	TH
Semi Volatile Organic Compounds (GC/MS) by Method 8270 C	WG1177409	1	10/08/18 11:22	10/09/18 01:52	AO

¹ Cp
² Tc
³ Ss
⁴ Cn
⁵ Sr
⁶ Qc
⁷ Gl
⁸ Al
⁹ Sc

DUP-01 L1030903-35 GW

Collected by
BH/HMI Team

Collected date/time
10/01/18 12:00

Received date/time
10/02/18 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Gravimetric Analysis by Method 2540 C-2011	WG1176738	1	10/08/18 16:51	10/08/18 17:25	MMF
Wet Chemistry by Method 2320 B-2011	WG1177314	1	10/09/18 20:57	10/09/18 20:57	GB
Wet Chemistry by Method 353.2	WG1177681	2	10/09/18 14:36	10/09/18 14:36	JER
Wet Chemistry by Method 9056A	WG1174945	1	10/05/18 03:04	10/05/18 03:04	ELN
Mercury by Method 7470A	WG1174917	1	10/03/18 10:40	10/05/18 09:27	ABL
Metals (ICP) by Method 6010B	WG1174847	1	10/06/18 13:27	10/08/18 04:43	CCE
Metals (ICPMS) by Method 6020	WG1174849	1	10/08/18 14:49	10/08/18 19:06	LD
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1175099	1	10/03/18 18:01	10/03/18 18:01	BMB
Semi Volatile Organic Compounds (GC/MS) by Method 8270 C	WG1177409	1	10/08/18 11:22	10/09/18 02:16	AO

DUP-02 L1030903-36 GW

Collected by
BH/HMI Team

Collected date/time
10/01/18 10:00

Received date/time
10/02/18 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Gravimetric Analysis by Method 2540 C-2011	WG1176738	1	10/08/18 16:51	10/08/18 17:25	MMF
Wet Chemistry by Method 2320 B-2011	WG1177314	1	10/09/18 21:04	10/09/18 21:04	GB
Wet Chemistry by Method 353.2	WG1177681	2	10/09/18 14:38	10/09/18 14:38	JER
Wet Chemistry by Method 9056A	WG1174945	1	10/05/18 03:18	10/05/18 03:18	ELN
Wet Chemistry by Method 9056A	WG1174945	5	10/05/18 03:32	10/05/18 03:32	ELN
Mercury by Method 7470A	WG1174917	1	10/03/18 10:40	10/05/18 09:30	ABL
Metals (ICP) by Method 6010B	WG1174847	1	10/06/18 13:27	10/08/18 04:46	CCE
Metals (ICPMS) by Method 6020	WG1174849	1	10/08/18 14:49	10/08/18 19:10	LD
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1175099	1	10/03/18 18:22	10/03/18 18:22	BMB
Semi Volatile Organic Compounds (GC/MS) by Method 8270 C	WG1177409	1	10/08/18 11:22	10/09/18 02:39	AO

DUP-03 L1030903-37 GW

Collected by
BH/HMI Team

Collected date/time
10/01/18 09:00

Received date/time
10/02/18 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Gravimetric Analysis by Method 2540 C-2011	WG1176738	1	10/08/18 16:51	10/08/18 17:25	MMF
Wet Chemistry by Method 2320 B-2011	WG1177314	1	10/09/18 21:11	10/09/18 21:11	GB
Wet Chemistry by Method 353.2	WG1177681	2	10/09/18 14:39	10/09/18 14:39	JER
Wet Chemistry by Method 9056A	WG1174945	1	10/05/18 03:46	10/05/18 03:46	ELN
Mercury by Method 7470A	WG1174917	1	10/03/18 10:40	10/05/18 09:32	ABL
Metals (ICP) by Method 6010B	WG1174847	1	10/06/18 13:27	10/08/18 04:54	CCE
Metals (ICPMS) by Method 6020	WG1174849	1	10/08/18 14:49	10/08/18 19:15	LD

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SAMPLE SUMMARY

ONE LAB. NATIONWIDE.



DUP-03 L1030903-37 GW

Collected by
BH/HMI Team

Collected date/time
10/01/18 09:00

Received date/time
10/02/18 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Volatile Organic Compounds (GC) by Method 8015D/GRO	WG1176966	1	10/06/18 22:03	10/06/18 22:03	JHH
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1175189	1	10/03/18 20:09	10/03/18 20:09	RAS
Semi-Volatile Organic Compounds (GC) by Method 3511/8015	WG1177385	1	10/08/18 02:49	10/08/18 17:25	TH
Semi Volatile Organic Compounds (GC/MS) by Method 8270 C	WG1177409	1	10/08/18 11:22	10/09/18 03:03	AO

¹ Cp

² Tc

³ Ss

⁴ Cn

DUP-04 L1030903-38 GW

Collected by
BH/HMI Team

Collected date/time
10/01/18 11:00

Received date/time
10/02/18 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Gravimetric Analysis by Method 2540 C-2011	WG1176739	1	10/08/18 17:29	10/08/18 18:03	MMF
Wet Chemistry by Method 2320 B-2011	WG1177314	1	10/09/18 21:18	10/09/18 21:18	GB
Wet Chemistry by Method 353.2	WG1177681	1	10/09/18 14:41	10/09/18 14:41	JER
Wet Chemistry by Method 9056A	WG1174945	1	10/05/18 04:41	10/05/18 04:41	ELN
Mercury by Method 7470A	WG1174917	1	10/03/18 10:40	10/05/18 09:35	ABL
Metals (ICP) by Method 6010B	WG1174847	1	10/06/18 13:27	10/08/18 04:56	CCE
Metals (ICPMS) by Method 6020	WG1174849	1	10/08/18 14:49	10/08/18 19:20	LD
Volatile Organic Compounds (GC) by Method 8015D/GRO	WG1176966	1	10/06/18 22:24	10/06/18 22:24	JHH
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1175256	1	10/03/18 14:51	10/03/18 14:51	ACG
Semi-Volatile Organic Compounds (GC) by Method 3511/8015	WG1177385	1	10/08/18 02:49	10/08/18 17:45	TH
Semi Volatile Organic Compounds (GC/MS) by Method 8270 C	WG1177409	1	10/08/18 11:22	10/09/18 03:27	AO

⁵ Sr

⁶ Qc

⁷ Gl

⁸ Al

⁹ Sc

EB-01 L1030903-39 GW

Collected by
BH/HMI Team

Collected date/time
10/01/18 09:40

Received date/time
10/02/18 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Gravimetric Analysis by Method 2540 C-2011	WG1176739	1	10/08/18 17:29	10/08/18 18:03	MMF
Wet Chemistry by Method 2320 B-2011	WG1177314	1	10/10/18 09:33	10/10/18 09:33	GB
Wet Chemistry by Method 353.2	WG1177681	1	10/09/18 14:42	10/09/18 14:42	JER
Wet Chemistry by Method 9056A	WG1174945	1	10/05/18 04:55	10/05/18 04:55	ELN
Mercury by Method 7470A	WG1174917	1	10/03/18 10:40	10/05/18 09:37	ABL
Metals (ICP) by Method 6010B	WG1174847	1	10/06/18 13:27	10/08/18 04:59	CCE
Metals (ICPMS) by Method 6020	WG1174849	1	10/08/18 14:49	10/08/18 19:24	LD
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1175256	1	10/03/18 15:12	10/03/18 15:12	ACG
Semi Volatile Organic Compounds (GC/MS) by Method 8270 C	WG1177409	1	10/08/18 11:22	10/09/18 03:50	AO

EB-02 L1030903-40 GW

Collected by
BH/HMI Team

Collected date/time
10/01/18 09:30

Received date/time
10/02/18 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Gravimetric Analysis by Method 2540 C-2011	WG1176739	1	10/08/18 17:29	10/08/18 18:03	MMF
Wet Chemistry by Method 353.2	WG1177681	1	10/09/18 14:45	10/09/18 14:45	JER
Wet Chemistry by Method 9056A	WG1174945	1	10/05/18 05:09	10/05/18 05:09	ELN
Mercury by Method 7470A	WG1174917	1	10/03/18 10:40	10/05/18 09:40	ABL
Metals (ICP) by Method 6010B	WG1174847	1	10/06/18 13:27	10/08/18 05:02	CCE
Metals (ICPMS) by Method 6020	WG1174849	1	10/08/18 14:49	10/08/18 19:29	LD
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1175256	1	10/03/18 15:32	10/03/18 15:32	ACG
Semi Volatile Organic Compounds (GC/MS) by Method 8270 C	WG1177409	1	10/08/18 11:22	10/09/18 04:14	AO

ACCOUNT:

TRC Solutions - Austin, TX

PROJECT:

294319.0000.00000 5

SDG:

L1030903

DATE/TIME:

10/16/18 18:30

PAGE:

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SAMPLE SUMMARY

ONE LAB. NATIONWIDE.



TRIP BLANK-01 L1030903-41 GW

Collected by
BH/HMI Team

Collected date/time
10/01/18 00:00

Received date/time
10/02/18 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1175256	1	10/03/18 14:11	10/03/18 14:11	ACG

¹Cp

²Tc

³Ss

⁴Cn

⁵Sr

⁶Qc

⁷Gl

⁸Al

⁹Sc

ACCOUNT:

TRC Solutions - Austin, TX

PROJECT:

294319.0000.00000 5

SDG:

L1030903

DATE/TIME:

10/16/18 18:30

PAGE:

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All sample aliquots were received at the correct temperature, in the proper containers, with the appropriate preservatives, and within method specified holding times, unless qualified or notated within the report. Where applicable, all MDL (LOD) and RDL (LOQ) values reported for environmental samples have been corrected for the dilution factor used in the analysis. All Method and Batch Quality Control are within established criteria except where addressed in this case narrative, a non-conformance form or properly qualified within the sample results. By my digital signature below, I affirm to the best of my knowledge, all problems/anomalies observed by the laboratory as having the potential to affect the quality of the data have been identified by the laboratory, and no information or data have been knowingly withheld that would affect the quality of the data.

Chris McCord
Project Manager

¹ Cp

² Tc

³ Ss

⁴ Cn

⁵ Sr

⁶ Qc

⁷ Gl

⁸ Al

⁹ Sc



Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	SDL	Unadj. MQL	MQL	Dilution	Analysis date / time	Batch
Dissolved Solids	402		2.82	10.0	10.0	1	10/08/2018 18:25	WG1176731

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc

Wet Chemistry by Method 353.2

Analyte	Result	Qualifier	SDL	Unadj. MQL	MQL	Dilution	Analysis date / time	Batch
Nitrate-Nitrite	2.59		0.0197	0.100	0.100	1	10/09/2018 13:01	WG1177679

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	SDL	Unadj. MQL	MQL	Dilution	Analysis date / time	Batch
Chloride	42.0		0.0519	1.00	1.00	1	10/04/2018 18:29	WG1174940
Fluoride	1.03		0.00990	0.100	0.100	1	10/04/2018 18:29	WG1174940
Sulfate	65.7		0.0774	5.00	5.00	1	10/04/2018 18:29	WG1174940

Mercury by Method 7470A

Analyte	Result	Qualifier	SDL	Unadj. MQL	MQL	Dilution	Analysis date / time	Batch
Mercury	U		0.0000490	0.000200	0.000200	1	10/04/2018 11:34	WG1174916

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	SDL	Unadj. MQL	MQL	Dilution	Analysis date / time	Batch
Boron,Dissolved	0.143	J	0.0126	0.200	0.200	1	10/08/2018 18:41	WG1174845

Metals (ICPMS) by Method 6020

Analyte	Result	Qualifier	SDL	Unadj. MQL	MQL	Dilution	Analysis date / time	Batch
Aluminum,Dissolved	0.0143	B J	0.00515	0.100	0.100	1	10/08/2018 21:44	WG1174848
Arsenic,Dissolved	0.00687		0.000250	0.00200	0.00200	1	10/08/2018 21:44	WG1174848
Barium,Dissolved	0.141		0.000360	0.00500	0.00500	1	10/08/2018 21:44	WG1174848
Cadmium,Dissolved	U		0.000160	0.00100	0.00100	1	10/08/2018 21:44	WG1174848
Chromium,Dissolved	U		0.000540	0.00200	0.00200	1	10/08/2018 21:44	WG1174848
Copper,Dissolved	U		0.000520	0.00500	0.00500	1	10/08/2018 21:44	WG1174848
Cobalt,Dissolved	U		0.000260	0.00200	0.00200	1	10/08/2018 21:44	WG1174848
Iron,Dissolved	U		0.0150	0.100	0.100	1	10/08/2018 21:44	WG1174848
Lead,Dissolved	U		0.000240	0.00200	0.00200	1	10/08/2018 21:44	WG1174848
Manganese,Dissolved	0.000642	B J	0.000250	0.00500	0.00500	1	10/08/2018 21:44	WG1174848
Molybdenum,Dissolved	0.00242	J	0.000140	0.00500	0.00500	1	10/08/2018 21:44	WG1174848
Nickel,Dissolved	U		0.000350	0.00200	0.00200	1	10/08/2018 21:44	WG1174848
Selenium,Dissolved	0.00255		0.000380	0.00200	0.00200	1	10/08/2018 21:44	WG1174848
Silver,Dissolved	U		0.000310	0.00200	0.00200	1	10/08/2018 21:44	WG1174848
Uranium,Dissolved	0.00163	J	0.000330	0.0100	0.0100	1	10/08/2018 21:44	WG1174848
Zinc,Dissolved	0.00331	B J	0.00256	0.0250	0.0250	1	10/08/2018 21:44	WG1174848

Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result	Qualifier	SDL	Unadj. MQL	MQL	Dilution	Analysis date / time	Batch
Acetone	U		0.0100	1.00	1.00	1	10/09/2018 14:49	WG1178041
Benzene	U		0.000331	0.00100	0.00100	1	10/09/2018 14:49	WG1178041
Bromodichloromethane	U		0.000380	0.00125	0.00125	1	10/09/2018 14:49	WG1178041
Bromoform	U		0.000469	0.00100	0.00100	1	10/09/2018 14:49	WG1178041
Bromomethane	U		0.000866	0.00500	0.00500	1	10/09/2018 14:49	WG1178041
n-Butylbenzene	U		0.000361	0.00100	0.00100	1	10/09/2018 14:49	WG1178041



Collected date/time: 10/01/18 11:10

L1030903

Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result mg/l	Qualifier	SDL mg/l	Unadj. MQL mg/l	MQL mg/l	Dilution	Analysis date / time	Batch
sec-Butylbenzene	U		0.000365	0.00100	0.00100	1	10/09/2018 14:49	WG1178041
tert-Butylbenzene	U		0.000399	0.00100	0.00100	1	10/09/2018 14:49	WG1178041
Carbon disulfide	U		0.000275	0.00100	0.00100	1	10/09/2018 14:49	WG1178041
Carbon tetrachloride	U		0.000379	0.00100	0.00100	1	10/09/2018 14:49	WG1178041
Chlorobenzene	U		0.000348	0.00100	0.00100	1	10/09/2018 14:49	WG1178041
Chlorodibromomethane	U		0.000327	0.00100	0.00100	1	10/09/2018 14:49	WG1178041
Chloroethane	U		0.000453	0.00500	0.00500	1	10/09/2018 14:49	WG1178041
Chloroform	U		0.000324	0.00500	0.00500	1	10/09/2018 14:49	WG1178041
Chloromethane	U		0.000276	0.00250	0.00250	1	10/09/2018 14:49	WG1178041
1,2-Dibromoethane	U		0.000381	0.00100	0.00100	1	10/09/2018 14:49	WG1178041
1,1-Dichloroethane	U		0.000259	0.00100	0.00100	1	10/09/2018 14:49	WG1178041
1,2-Dichloroethane	U		0.000361	0.00100	0.00100	1	10/09/2018 14:49	WG1178041
1,1-Dichloroethene	U		0.000398	0.00100	0.00100	1	10/09/2018 14:49	WG1178041
cis-1,2-Dichloroethene	U		0.000260	0.00100	0.00100	1	10/09/2018 14:49	WG1178041
trans-1,2-Dichloroethene	U		0.000396	0.00100	0.00100	1	10/09/2018 14:49	WG1178041
1,2-Dichloropropane	U		0.000306	0.00100	0.00100	1	10/09/2018 14:49	WG1178041
cis-1,3-Dichloropropene	U		0.000418	0.00100	0.00100	1	10/09/2018 14:49	WG1178041
trans-1,3-Dichloropropene	U		0.000419	0.00100	0.00100	1	10/09/2018 14:49	WG1178041
Ethylbenzene	U		0.000384	0.00100	0.00100	1	10/09/2018 14:49	WG1178041
Hexachloro-1,3-butadiene	U		0.000256	0.00100	0.00100	1	10/09/2018 14:49	WG1178041
2-Hexanone	U		0.00382	0.0100	0.0100	1	10/09/2018 14:49	WG1178041
Isopropylbenzene	U		0.000326	0.00100	0.00100	1	10/09/2018 14:49	WG1178041
p-Isopropyltoluene	U		0.000350	0.00100	0.00100	1	10/09/2018 14:49	WG1178041
2-Butanone (MEK)	U		0.00393	0.0100	0.0100	1	10/09/2018 14:49	WG1178041
Methylene Chloride	U		0.00100	0.00500	0.00500	1	10/09/2018 14:49	WG1178041
4-Methyl-2-pentanone (MIBK)	U		0.00214	0.0100	0.0100	1	10/09/2018 14:49	WG1178041
Methyl tert-butyl ether	U		0.000367	0.00100	0.00100	1	10/09/2018 14:49	WG1178041
Naphthalene	U		0.00100	0.00500	0.00500	1	10/09/2018 14:49	WG1178041
n-Propylbenzene	U		0.000349	0.00100	0.00100	1	10/09/2018 14:49	WG1178041
Styrene	U		0.000307	0.00100	0.00100	1	10/09/2018 14:49	WG1178041
1,1,2,2-Tetrachloroethane	U		0.000130	0.00100	0.00100	1	10/09/2018 14:49	WG1178041
Tetrachloroethene	U		0.000372	0.00100	0.00100	1	10/09/2018 14:49	WG1178041
Toluene	U		0.000412	0.00100	0.00100	1	10/09/2018 14:49	WG1178041
1,1,1-Trichloroethane	U		0.000319	0.00100	0.00100	1	10/09/2018 14:49	WG1178041
1,1,2-Trichloroethane	U		0.000383	0.00100	0.00100	1	10/09/2018 14:49	WG1178041
Trichloroethene	U		0.000398	0.00100	0.00100	1	10/09/2018 14:49	WG1178041
1,2,4-Trimethylbenzene	U		0.000373	0.00100	0.00100	1	10/09/2018 14:49	WG1178041
1,3,5-Trimethylbenzene	U		0.000387	0.00100	0.00100	1	10/09/2018 14:49	WG1178041
Vinyl chloride	U		0.000259	0.00100	0.00100	1	10/09/2018 14:49	WG1178041
Xylenes, Total	U		0.00106	0.00300	0.00300	1	10/09/2018 14:49	WG1178041
(S) Toluene-d8	104				80.0-120		10/09/2018 14:49	WG1178041
(S) Dibromofluoromethane	89.4				75.0-120		10/09/2018 14:49	WG1178041
(S) 4-Bromofluorobenzene	94.3				77.0-126		10/09/2018 14:49	WG1178041

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc



Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	SDL	Unadj. MQL	MQL	Dilution	Analysis date / time	Batch
Dissolved Solids	693		3.75	13.3	13.3	1	10/08/2018 18:25	WG1176731

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc

Wet Chemistry by Method 353.2

Analyte	Result	Qualifier	SDL	Unadj. MQL	MQL	Dilution	Analysis date / time	Batch
Nitrate-Nitrite	4.46		0.0394	0.100	0.200	2	10/09/2018 13:03	WG1177679

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	SDL	Unadj. MQL	MQL	Dilution	Analysis date / time	Batch
Chloride	142		0.260	1.00	5.00	5	10/04/2018 18:48	WG1174940
Fluoride	0.839		0.00990	0.100	0.100	1	10/04/2018 18:38	WG1174940
Sulfate	83.4		0.0774	5.00	5.00	1	10/04/2018 18:38	WG1174940

Mercury by Method 7470A

Analyte	Result	Qualifier	SDL	Unadj. MQL	MQL	Dilution	Analysis date / time	Batch
Mercury	U		0.0000490	0.000200	0.000200	1	10/04/2018 11:42	WG1174916

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	SDL	Unadj. MQL	MQL	Dilution	Analysis date / time	Batch
Boron,Dissolved	0.183	J	0.0126	0.200	0.200	1	10/08/2018 18:52	WG1174845

Metals (ICPMS) by Method 6020

Analyte	Result	Qualifier	SDL	Unadj. MQL	MQL	Dilution	Analysis date / time	Batch
Aluminum,Dissolved	0.0168	B J	0.00515	0.100	0.100	1	10/08/2018 21:26	WG1174848
Arsenic,Dissolved	0.00357		0.000250	0.00200	0.00200	1	10/08/2018 21:26	WG1174848
Barium,Dissolved	0.100		0.000360	0.00500	0.00500	1	10/08/2018 21:26	WG1174848
Cadmium,Dissolved	U		0.000160	0.00100	0.00100	1	10/08/2018 21:26	WG1174848
Chromium,Dissolved	0.00201	B	0.000540	0.00200	0.00200	1	10/08/2018 21:26	WG1174848
Copper,Dissolved	0.00136	B J	0.000520	0.00500	0.00500	1	10/08/2018 21:26	WG1174848
Cobalt,Dissolved	U		0.000260	0.00200	0.00200	1	10/08/2018 21:26	WG1174848
Iron,Dissolved	U		0.0150	0.100	0.100	1	10/08/2018 21:26	WG1174848
Lead,Dissolved	U		0.000240	0.00200	0.00200	1	10/08/2018 21:26	WG1174848
Manganese,Dissolved	0.000750	B J	0.000250	0.00500	0.00500	1	10/08/2018 21:26	WG1174848
Molybdenum,Dissolved	0.00278	J	0.000140	0.00500	0.00500	1	10/08/2018 21:26	WG1174848
Nickel,Dissolved	0.00641		0.000350	0.00200	0.00200	1	10/08/2018 21:26	WG1174848
Selenium,Dissolved	0.00116	J	0.000380	0.00200	0.00200	1	10/08/2018 21:26	WG1174848
Silver,Dissolved	U		0.000310	0.00200	0.00200	1	10/08/2018 21:26	WG1174848
Uranium,Dissolved	0.00317	J	0.000330	0.0100	0.0100	1	10/08/2018 21:26	WG1174848
Zinc,Dissolved	0.0316	B	0.00256	0.0250	0.0250	1	10/08/2018 21:26	WG1174848

Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result	Qualifier	SDL	Unadj. MQL	MQL	Dilution	Analysis date / time	Batch
Acetone	U		0.0100	1.00	1.00	1	10/03/2018 01:54	WG1174888
Benzene	U		0.000331	0.00100	0.00100	1	10/03/2018 01:54	WG1174888
Bromodichloromethane	0.000618	J	0.000380	0.00125	0.00125	1	10/03/2018 01:54	WG1174888
Bromoform	U		0.000469	0.00100	0.00100	1	10/03/2018 01:54	WG1174888
Bromomethane	U		0.000866	0.00500	0.00500	1	10/03/2018 01:54	WG1174888
n-Butylbenzene	U		0.000361	0.00100	0.00100	1	10/03/2018 01:54	WG1174888



Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result mg/l	Qualifier	SDL mg/l	Unadj. MQL mg/l	MQL mg/l	Dilution	Analysis date / time	Batch
sec-Butylbenzene	U		0.000365	0.00100	0.00100	1	10/03/2018 01:54	WG1174888
tert-Butylbenzene	U		0.000399	0.00100	0.00100	1	10/03/2018 01:54	WG1174888
Carbon disulfide	U		0.000275	0.00100	0.00100	1	10/03/2018 01:54	WG1174888
Carbon tetrachloride	U		0.000379	0.00100	0.00100	1	10/03/2018 01:54	WG1174888
Chlorobenzene	U		0.000348	0.00100	0.00100	1	10/03/2018 01:54	WG1174888
Chlorodibromomethane	U		0.000327	0.00100	0.00100	1	10/03/2018 01:54	WG1174888
Chloroethane	U		0.000453	0.00500	0.00500	1	10/03/2018 01:54	WG1174888
Chloroform	0.00214	U	0.000324	0.00500	0.00500	1	10/03/2018 01:54	WG1174888
Chloromethane	U		0.000276	0.00250	0.00250	1	10/03/2018 01:54	WG1174888
1,2-Dibromoethane	U		0.000381	0.00100	0.00100	1	10/03/2018 01:54	WG1174888
1,1-Dichloroethane	U		0.000259	0.00100	0.00100	1	10/03/2018 01:54	WG1174888
1,2-Dichloroethane	U		0.000361	0.00100	0.00100	1	10/03/2018 01:54	WG1174888
1,1-Dichloroethene	U		0.000398	0.00100	0.00100	1	10/03/2018 01:54	WG1174888
cis-1,2-Dichloroethene	U		0.000260	0.00100	0.00100	1	10/03/2018 01:54	WG1174888
trans-1,2-Dichloroethene	U		0.000396	0.00100	0.00100	1	10/03/2018 01:54	WG1174888
1,2-Dichloropropane	U		0.000306	0.00100	0.00100	1	10/03/2018 01:54	WG1174888
cis-1,3-Dichloropropene	U		0.000418	0.00100	0.00100	1	10/03/2018 01:54	WG1174888
trans-1,3-Dichloropropene	U		0.000419	0.00100	0.00100	1	10/03/2018 01:54	WG1174888
Ethylbenzene	U		0.000384	0.00100	0.00100	1	10/03/2018 01:54	WG1174888
Hexachloro-1,3-butadiene	U		0.000256	0.00100	0.00100	1	10/03/2018 01:54	WG1174888
2-Hexanone	U		0.00382	0.0100	0.0100	1	10/03/2018 01:54	WG1174888
Isopropylbenzene	U		0.000326	0.00100	0.00100	1	10/03/2018 01:54	WG1174888
p-Isopropyltoluene	U		0.000350	0.00100	0.00100	1	10/03/2018 01:54	WG1174888
2-Butanone (MEK)	U		0.00393	0.0100	0.0100	1	10/03/2018 01:54	WG1174888
Methylene Chloride	U		0.00100	0.00500	0.00500	1	10/03/2018 01:54	WG1174888
4-Methyl-2-pentanone (MIBK)	U		0.00214	0.0100	0.0100	1	10/03/2018 01:54	WG1174888
Methyl tert-butyl ether	U		0.000367	0.00100	0.00100	1	10/03/2018 01:54	WG1174888
Naphthalene	U		0.00100	0.00500	0.00500	1	10/03/2018 01:54	WG1174888
n-Propylbenzene	U		0.000349	0.00100	0.00100	1	10/03/2018 01:54	WG1174888
Styrene	U		0.000307	0.00100	0.00100	1	10/03/2018 01:54	WG1174888
1,1,2,2-Tetrachloroethane	U		0.000130	0.00100	0.00100	1	10/03/2018 01:54	WG1174888
Tetrachloroethene	U		0.000372	0.00100	0.00100	1	10/03/2018 01:54	WG1174888
Toluene	U		0.000412	0.00100	0.00100	1	10/03/2018 01:54	WG1174888
1,1,1-Trichloroethane	U		0.000319	0.00100	0.00100	1	10/03/2018 01:54	WG1174888
1,1,2-Trichloroethane	U		0.000383	0.00100	0.00100	1	10/03/2018 01:54	WG1174888
Trichloroethene	U		0.000398	0.00100	0.00100	1	10/03/2018 01:54	WG1174888
1,2,4-Trimethylbenzene	U		0.000373	0.00100	0.00100	1	10/03/2018 01:54	WG1174888
1,3,5-Trimethylbenzene	U		0.000387	0.00100	0.00100	1	10/03/2018 01:54	WG1174888
Vinyl chloride	U		0.000259	0.00100	0.00100	1	10/03/2018 01:54	WG1174888
Xylenes, Total	U		0.00106	0.00300	0.00300	1	10/03/2018 01:54	WG1174888
(S) Toluene-d8	109				80.0-120		10/03/2018 01:54	WG1174888
(S) Dibromofluoromethane	91.3				75.0-120		10/03/2018 01:54	WG1174888
(S) 4-Bromofluorobenzene	102				77.0-126		10/03/2018 01:54	WG1174888

1 Cp

2 Tc

3 Ss

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Semi Volatile Organic Compounds (GC/MS) by Method 8270 C

Analyte	Result mg/l	Qualifier	SDL mg/l	Unadj. MQL mg/l	MQL mg/l	Dilution	Analysis date / time	Batch
Acenaphthene	U		0.000316	0.00100	0.00100	1	10/08/2018 00:48	WG1177359
Acenaphthylene	U		0.000309	0.00100	0.00100	1	10/08/2018 00:48	WG1177359
Acetophenone	U		0.00247	0.0100	0.0100	1	10/08/2018 00:48	WG1177359
Anthracene	U		0.000291	0.00100	0.00100	1	10/08/2018 00:48	WG1177359
Atrazine	U		0.000260	0.0100	0.0100	1	10/08/2018 00:48	WG1177359
Benzo(a)anthracene	U		0.0000510	0.00100	0.00100	1	10/08/2018 00:48	WG1177359
Benzaldehyde	U		0.00140	0.0100	0.0100	1	10/08/2018 00:48	WG1177359
Benzo(b)fluoranthene	U		0.0000896	0.00100	0.00100	1	10/08/2018 00:48	WG1177359
Benzo(k)fluoranthene	U		0.000355	0.00100	0.00100	1	10/08/2018 00:48	WG1177359



Collected date/time: 10/01/18 13:25

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Semi Volatile Organic Compounds (GC/MS) by Method 8270 C

Analyte	Result mg/l	Qualifier	SDL mg/l	Unadj. MQL mg/l	MQL mg/l	Dilution	Analysis date / time	Batch
Benzo(g,h,i)perylene	U		0.0000227	0.00100	0.00100	1	10/08/2018 00:48	WG1177359
Benzo(a)pyrene	U		0.0000381	0.000200	0.000200	1	10/08/2018 00:48	WG1177359
Biphenyl	U		0.000325	0.0100	0.0100	1	10/08/2018 00:48	WG1177359
Bis(2-chlorethoxy)methane	U		0.000329	0.0100	0.0100	1	10/08/2018 00:48	WG1177359
Bis(2-chloroethyl)ether	U		0.00162	0.0100	0.0100	1	10/08/2018 00:48	WG1177359
Bis(2-chloroisopropyl)ether	U		0.000445	0.0100	0.0100	1	10/08/2018 00:48	WG1177359
4-Bromophenyl-phenylether	U		0.000335	0.0100	0.0100	1	10/08/2018 00:48	WG1177359
2-Chloronaphthalene	U		0.000330	0.00100	0.00100	1	10/08/2018 00:48	WG1177359
4-Chlorophenyl-phenylether	U		0.000303	0.0100	0.0100	1	10/08/2018 00:48	WG1177359
Caprolactam	U		0.00259	0.0100	0.0100	1	10/08/2018 00:48	WG1177359
Carbazole	U		0.000260	0.0100	0.0100	1	10/08/2018 00:48	WG1177359
Chrysene	U		0.000332	0.00100	0.00100	1	10/08/2018 00:48	WG1177359
Dibenz(a,h)anthracene	U		0.0000644	0.000200	0.000200	1	10/08/2018 00:48	WG1177359
Dibenzofuran	U		0.000338	0.0100	0.0100	1	10/08/2018 00:48	WG1177359
3,3-Dichlorobenzidine	U		0.00202	0.0100	0.0100	1	10/08/2018 00:48	WG1177359
2,4-Dinitrotoluene	U		0.00165	0.0100	0.0100	1	10/08/2018 00:48	WG1177359
2,6-Dinitrotoluene	U		0.000279	0.0100	0.0100	1	10/08/2018 00:48	WG1177359
Fluoranthene	U		0.000310	0.00100	0.00100	1	10/08/2018 00:48	WG1177359
Fluorene	U		0.000323	0.00100	0.00100	1	10/08/2018 00:48	WG1177359
Hexachlorobenzene	U		0.000341	0.00100	0.00100	1	10/08/2018 00:48	WG1177359
Hexachloro-1,3-butadiene	U		0.000329	0.0100	0.0100	1	10/08/2018 00:48	WG1177359
Hexachlorocyclopentadiene	U		0.00233	0.0100	0.0100	1	10/08/2018 00:48	WG1177359
Hexachloroethane	U		0.000365	0.0100	0.0100	1	10/08/2018 00:48	WG1177359
Indeno(1,2,3-cd)pyrene	U		0.000279	0.00100	0.00100	1	10/08/2018 00:48	WG1177359
Isophorone	U		0.000272	0.0100	0.0100	1	10/08/2018 00:48	WG1177359
1-Methylnaphthalene	U		0.000332	0.00100	0.00100	1	10/08/2018 00:48	WG1177359
2-Methylnaphthalene	U		0.000311	0.00100	0.00100	1	10/08/2018 00:48	WG1177359
Naphthalene	U		0.000372	0.00100	0.00100	1	10/08/2018 00:48	WG1177359
Nitrobenzene	U		0.000367	0.0100	0.0100	1	10/08/2018 00:48	WG1177359
n-Nitrosodiphenylamine	U		0.00119	0.0100	0.0100	1	10/08/2018 00:48	WG1177359
n-Nitrosodi-n-propylamine	U		0.000403	0.0100	0.0100	1	10/08/2018 00:48	WG1177359
Phenanthrene	U		0.000366	0.00100	0.00100	1	10/08/2018 00:48	WG1177359
Benzylbutyl phthalate	U		0.000275	0.00300	0.00300	1	10/08/2018 00:48	WG1177359
Bis(2-ethylhexyl)phthalate	U		0.000709	0.00300	0.00300	1	10/08/2018 00:48	WG1177359
Di-n-butyl phthalate	U		0.000266	0.00300	0.00300	1	10/08/2018 00:48	WG1177359
Diethyl phthalate	U		0.000282	0.00300	0.00300	1	10/08/2018 00:48	WG1177359
Dimethyl phthalate	U	J4	0.000283	0.00300	0.00300	1	10/08/2018 00:48	WG1177359
Di-n-octyl phthalate	U		0.000278	0.00300	0.00300	1	10/08/2018 00:48	WG1177359
Pyrene	U		0.000330	0.00100	0.00100	1	10/08/2018 00:48	WG1177359
1,2,4-Trichlorobenzene	U		0.000355	0.0100	0.0100	1	10/08/2018 00:48	WG1177359
4-Chloro-3-methylphenol	U		0.000263	0.0100	0.0100	1	10/08/2018 00:48	WG1177359
2-Chlorophenol	U		0.000283	0.0100	0.0100	1	10/08/2018 00:48	WG1177359
2,4-Dichlorophenol	U		0.000284	0.0100	0.0100	1	10/08/2018 00:48	WG1177359
2,4-Dimethylphenol	U		0.000624	0.0100	0.0100	1	10/08/2018 00:48	WG1177359
4,6-Dinitro-2-methylphenol	U		0.00262	0.0100	0.0100	1	10/08/2018 00:48	WG1177359
2,4-Dinitrophenol	U		0.00325	0.0100	0.0100	1	10/08/2018 00:48	WG1177359
2-Nitrophenol	U		0.000320	0.0100	0.0100	1	10/08/2018 00:48	WG1177359
2-Nitroaniline	U		0.00190	0.0100	0.0100	1	10/08/2018 00:48	WG1177359
2-Methylphenol	U		0.000312	0.0100	0.0100	1	10/08/2018 00:48	WG1177359
3&4-Methyl Phenol	U		0.000266	0.0100	0.0100	1	10/08/2018 00:48	WG1177359
3-Nitroaniline	U		0.000308	0.0100	0.0100	1	10/08/2018 00:48	WG1177359
4-Chloroaniline	U		0.000382	0.0100	0.0100	1	10/08/2018 00:48	WG1177359
4-Nitroaniline	U		0.000349	0.0100	0.0100	1	10/08/2018 00:48	WG1177359
4-Nitrophenol	U		0.00201	0.0100	0.0100	1	10/08/2018 00:48	WG1177359
Pentachlorophenol	U		0.000313	0.0100	0.0100	1	10/08/2018 00:48	WG1177359
Phenol	0.000912	J	0.000334	0.0100	0.0100	1	10/08/2018 00:48	WG1177359

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc



Collected date/time: 10/01/18 13:25

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Semi Volatile Organic Compounds (GC/MS) by Method 8270 C

Analyte	Result mg/l	Qualifier	SDL mg/l	Unadj. MQL mg/l	MQL mg/l	Dilution	Analysis date / time	Batch
2,4,5-Trichlorophenol	U		0.000236	0.0100	0.0100	1	10/08/2018 00:48	WG1177359
2,4,6-Trichlorophenol	U		0.000297	0.0100	0.0100	1	10/08/2018 00:48	WG1177359
(S) 2-Fluorophenol	32.0				10.0-120		10/08/2018 00:48	WG1177359
(S) Phenol-d5	18.9				10.0-120		10/08/2018 00:48	WG1177359
(S) Nitrobenzene-d5	39.5				10.0-127		10/08/2018 00:48	WG1177359
(S) 2-Fluorobiphenyl	40.1				10.0-130		10/08/2018 00:48	WG1177359
(S) 2,4,6-Tribromophenol	35.9				10.0-155		10/08/2018 00:48	WG1177359
(S) p-Terphenyl-d14	59.0				10.0-128		10/08/2018 00:48	WG1177359

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc

Wet Chemistry by Method 353.2

Analyte	Result	Qualifier	SDL	Unadj. MQL	MQL	Dilution	Analysis date / time	Batch
Nitrate-Nitrite	1.79		0.0197	0.100	0.100	1	10/09/2018 13:10	WG1177679

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	SDL	Unadj. MQL	MQL	Dilution	Analysis date / time	Batch
Chloride	30.9		0.0519	1.00	1.00	1	10/04/2018 18:58	WG1174940
Fluoride	0.783		0.00990	0.100	0.100	1	10/04/2018 18:58	WG1174940
Sulfate	74.5		0.0774	5.00	5.00	1	10/04/2018 18:58	WG1174940

1Cp

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3Ss

4Cn

5Sr

6Qc

7Gl

8Al

9Sc



Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	SDL	Unadj. MQL	MQL	Dilution	Analysis date / time	Batch
Dissolved Solids	574	J3	2.82	10.0	10.0	1	10/08/2018 17:45	WG1176735

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc

Wet Chemistry by Method 353.2

Analyte	Result	Qualifier	SDL	Unadj. MQL	MQL	Dilution	Analysis date / time	Batch
Nitrate-Nitrite	2.60		0.0197	0.100	0.100	1	10/09/2018 13:12	WG1177679

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	SDL	Unadj. MQL	MQL	Dilution	Analysis date / time	Batch
Chloride	62.6		0.0519	1.00	1.00	1	10/04/2018 19:07	WG1174940
Fluoride	1.04		0.00990	0.100	0.100	1	10/04/2018 19:07	WG1174940
Sulfate	53.6		0.0774	5.00	5.00	1	10/04/2018 19:07	WG1174940

Mercury by Method 7470A

Analyte	Result	Qualifier	SDL	Unadj. MQL	MQL	Dilution	Analysis date / time	Batch
Mercury	U		0.0000490	0.000200	0.000200	1	10/04/2018 11:44	WG1174916

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	SDL	Unadj. MQL	MQL	Dilution	Analysis date / time	Batch
Boron,Dissolved	0.135	J	0.0126	0.200	0.200	1	10/08/2018 18:54	WG1174845

Metals (ICPMS) by Method 6020

Analyte	Result	Qualifier	SDL	Unadj. MQL	MQL	Dilution	Analysis date / time	Batch
Aluminum,Dissolved	0.0149	B J	0.00515	0.100	0.100	1	10/08/2018 21:49	WG1174848
Arsenic,Dissolved	0.00482		0.000250	0.00200	0.00200	1	10/08/2018 21:49	WG1174848
Barium,Dissolved	0.0965		0.000360	0.00500	0.00500	1	10/08/2018 21:49	WG1174848
Cadmium,Dissolved	U		0.000160	0.00100	0.00100	1	10/08/2018 21:49	WG1174848
Chromium,Dissolved	U		0.000540	0.00200	0.00200	1	10/08/2018 21:49	WG1174848
Copper,Dissolved	U		0.000520	0.00500	0.00500	1	10/08/2018 21:49	WG1174848
Cobalt,Dissolved	U		0.000260	0.00200	0.00200	1	10/08/2018 21:49	WG1174848
Iron,Dissolved	U		0.0150	0.100	0.100	1	10/08/2018 21:49	WG1174848
Lead,Dissolved	U		0.000240	0.00200	0.00200	1	10/08/2018 21:49	WG1174848
Manganese,Dissolved	0.000539	B J	0.000250	0.00500	0.00500	1	10/08/2018 21:49	WG1174848
Molybdenum,Dissolved	0.00271	J	0.000140	0.00500	0.00500	1	10/08/2018 21:49	WG1174848
Nickel,Dissolved	0.00139	J	0.000350	0.00200	0.00200	1	10/08/2018 21:49	WG1174848
Selenium,Dissolved	0.00231		0.000380	0.00200	0.00200	1	10/08/2018 21:49	WG1174848
Silver,Dissolved	U		0.000310	0.00200	0.00200	1	10/08/2018 21:49	WG1174848
Uranium,Dissolved	0.00139	J	0.000330	0.0100	0.0100	1	10/08/2018 21:49	WG1174848
Zinc,Dissolved	0.00473	B J	0.00256	0.0250	0.0250	1	10/08/2018 21:49	WG1174848

Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result	Qualifier	SDL	Unadj. MQL	MQL	Dilution	Analysis date / time	Batch
Acetone	U		0.0100	1.00	1.00	1	10/03/2018 02:15	WG1174888
Benzene	U		0.000331	0.00100	0.00100	1	10/03/2018 02:15	WG1174888
Bromodichloromethane	U		0.000380	0.00125	0.00125	1	10/03/2018 02:15	WG1174888
Bromoform	U		0.000469	0.00100	0.00100	1	10/03/2018 02:15	WG1174888
Bromomethane	U		0.000866	0.00500	0.00500	1	10/03/2018 02:15	WG1174888
n-Butylbenzene	U		0.000361	0.00100	0.00100	1	10/03/2018 02:15	WG1174888



Collected date/time: 10/01/18 09:20

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Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result mg/l	Qualifier	SDL mg/l	Unadj. MQL mg/l	MQL mg/l	Dilution	Analysis date / time	Batch
sec-Butylbenzene	U		0.000365	0.00100	0.00100	1	10/03/2018 02:15	WG1174888
tert-Butylbenzene	U		0.000399	0.00100	0.00100	1	10/03/2018 02:15	WG1174888
Carbon disulfide	U		0.000275	0.00100	0.00100	1	10/03/2018 02:15	WG1174888
Carbon tetrachloride	U		0.000379	0.00100	0.00100	1	10/03/2018 02:15	WG1174888
Chlorobenzene	U		0.000348	0.00100	0.00100	1	10/03/2018 02:15	WG1174888
Chlorodibromomethane	U		0.000327	0.00100	0.00100	1	10/03/2018 02:15	WG1174888
Chloroethane	U		0.000453	0.00500	0.00500	1	10/03/2018 02:15	WG1174888
Chloroform	U		0.000324	0.00500	0.00500	1	10/03/2018 02:15	WG1174888
Chloromethane	U		0.000276	0.00250	0.00250	1	10/03/2018 02:15	WG1174888
1,2-Dibromoethane	U		0.000381	0.00100	0.00100	1	10/03/2018 02:15	WG1174888
1,1-Dichloroethane	U		0.000259	0.00100	0.00100	1	10/03/2018 02:15	WG1174888
1,2-Dichloroethane	U		0.000361	0.00100	0.00100	1	10/03/2018 02:15	WG1174888
1,1-Dichloroethene	U		0.000398	0.00100	0.00100	1	10/03/2018 02:15	WG1174888
cis-1,2-Dichloroethene	U		0.000260	0.00100	0.00100	1	10/03/2018 02:15	WG1174888
trans-1,2-Dichloroethene	U		0.000396	0.00100	0.00100	1	10/03/2018 02:15	WG1174888
1,2-Dichloropropane	U		0.000306	0.00100	0.00100	1	10/03/2018 02:15	WG1174888
cis-1,3-Dichloropropene	U		0.000418	0.00100	0.00100	1	10/03/2018 02:15	WG1174888
trans-1,3-Dichloropropene	U		0.000419	0.00100	0.00100	1	10/03/2018 02:15	WG1174888
Ethylbenzene	U		0.000384	0.00100	0.00100	1	10/03/2018 02:15	WG1174888
Hexachloro-1,3-butadiene	U		0.000256	0.00100	0.00100	1	10/03/2018 02:15	WG1174888
2-Hexanone	U		0.00382	0.0100	0.0100	1	10/03/2018 02:15	WG1174888
Isopropylbenzene	U		0.000326	0.00100	0.00100	1	10/03/2018 02:15	WG1174888
p-Isopropyltoluene	U		0.000350	0.00100	0.00100	1	10/03/2018 02:15	WG1174888
2-Butanone (MEK)	U		0.00393	0.0100	0.0100	1	10/03/2018 02:15	WG1174888
Methylene Chloride	U		0.00100	0.00500	0.00500	1	10/03/2018 02:15	WG1174888
4-Methyl-2-pentanone (MIBK)	U		0.00214	0.0100	0.0100	1	10/03/2018 02:15	WG1174888
Methyl tert-butyl ether	U		0.000367	0.00100	0.00100	1	10/03/2018 02:15	WG1174888
Naphthalene	U		0.00100	0.00500	0.00500	1	10/03/2018 02:15	WG1174888
n-Propylbenzene	U		0.000349	0.00100	0.00100	1	10/03/2018 02:15	WG1174888
Styrene	U		0.000307	0.00100	0.00100	1	10/03/2018 02:15	WG1174888
1,1,2,2-Tetrachloroethane	U		0.000130	0.00100	0.00100	1	10/03/2018 02:15	WG1174888
Tetrachloroethene	U		0.000372	0.00100	0.00100	1	10/03/2018 02:15	WG1174888
Toluene	U		0.000412	0.00100	0.00100	1	10/03/2018 02:15	WG1174888
1,1,1-Trichloroethane	U		0.000319	0.00100	0.00100	1	10/03/2018 02:15	WG1174888
1,1,2-Trichloroethane	U		0.000383	0.00100	0.00100	1	10/03/2018 02:15	WG1174888
Trichloroethene	U		0.000398	0.00100	0.00100	1	10/03/2018 02:15	WG1174888
1,2,4-Trimethylbenzene	U		0.000373	0.00100	0.00100	1	10/03/2018 02:15	WG1174888
1,3,5-Trimethylbenzene	U		0.000387	0.00100	0.00100	1	10/03/2018 02:15	WG1174888
Vinyl chloride	U		0.000259	0.00100	0.00100	1	10/03/2018 02:15	WG1174888
Xylenes, Total	U		0.00106	0.00300	0.00300	1	10/03/2018 02:15	WG1174888
(S) Toluene-d8	109				80.0-120		10/03/2018 02:15	WG1174888
(S) Dibromofluoromethane	91.2				75.0-120		10/03/2018 02:15	WG1174888
(S) 4-Bromofluorobenzene	102				77.0-126		10/03/2018 02:15	WG1174888

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc

Semi Volatile Organic Compounds (GC/MS) by Method 8270 C

Analyte	Result mg/l	Qualifier	SDL mg/l	Unadj. MQL mg/l	MQL mg/l	Dilution	Analysis date / time	Batch
Acenaphthene	U		0.000316	0.00100	0.00100	1	10/08/2018 01:12	WG1177359
Acenaphthylene	U		0.000309	0.00100	0.00100	1	10/08/2018 01:12	WG1177359
Acetophenone	U		0.00247	0.0100	0.0100	1	10/08/2018 01:12	WG1177359
Anthracene	U		0.000291	0.00100	0.00100	1	10/08/2018 01:12	WG1177359
Atrazine	U		0.000260	0.0100	0.0100	1	10/08/2018 01:12	WG1177359
Benzo(a)anthracene	U		0.0000510	0.00100	0.00100	1	10/08/2018 01:12	WG1177359
Benzaldehyde	U		0.00140	0.0100	0.0100	1	10/08/2018 01:12	WG1177359
Benzo(b)fluoranthene	U		0.0000896	0.00100	0.00100	1	10/08/2018 01:12	WG1177359
Benzo(k)fluoranthene	U		0.000355	0.00100	0.00100	1	10/08/2018 01:12	WG1177359

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TRC Solutions - Austin, TX

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Collected date/time: 10/01/18 09:20

L1030903

Semi Volatile Organic Compounds (GC/MS) by Method 8270 C

Analyte	Result mg/l	Qualifier	SDL mg/l	Unadj. MQL mg/l	MQL mg/l	Dilution	Analysis date / time	Batch
Benzo(g,h,i)perylene	U		0.0000227	0.00100	0.00100	1	10/08/2018 01:12	WG1177359
Benzo(a)pyrene	U		0.0000381	0.000200	0.000200	1	10/08/2018 01:12	WG1177359
Biphenyl	U		0.000325	0.0100	0.0100	1	10/08/2018 01:12	WG1177359
Bis(2-chlorethoxy)methane	U		0.000329	0.0100	0.0100	1	10/08/2018 01:12	WG1177359
Bis(2-chloroethyl)ether	U		0.00162	0.0100	0.0100	1	10/08/2018 01:12	WG1177359
Bis(2-chloroisopropyl)ether	U		0.000445	0.0100	0.0100	1	10/08/2018 01:12	WG1177359
4-Bromophenyl-phenylether	U		0.000335	0.0100	0.0100	1	10/08/2018 01:12	WG1177359
2-Chloronaphthalene	U		0.000330	0.00100	0.00100	1	10/08/2018 01:12	WG1177359
4-Chlorophenyl-phenylether	U		0.000303	0.0100	0.0100	1	10/08/2018 01:12	WG1177359
Caprolactam	U		0.00259	0.0100	0.0100	1	10/08/2018 01:12	WG1177359
Carbazole	U		0.000260	0.0100	0.0100	1	10/08/2018 01:12	WG1177359
Chrysene	U		0.000332	0.00100	0.00100	1	10/08/2018 01:12	WG1177359
Dibenz(a,h)anthracene	U		0.0000644	0.000200	0.000200	1	10/08/2018 01:12	WG1177359
Dibenzofuran	U		0.000338	0.0100	0.0100	1	10/08/2018 01:12	WG1177359
3,3-Dichlorobenzidine	U		0.00202	0.0100	0.0100	1	10/08/2018 01:12	WG1177359
2,4-Dinitrotoluene	U		0.00165	0.0100	0.0100	1	10/08/2018 01:12	WG1177359
2,6-Dinitrotoluene	U		0.000279	0.0100	0.0100	1	10/08/2018 01:12	WG1177359
Fluoranthene	U		0.000310	0.00100	0.00100	1	10/08/2018 01:12	WG1177359
Fluorene	U		0.000323	0.00100	0.00100	1	10/08/2018 01:12	WG1177359
Hexachlorobenzene	U		0.000341	0.00100	0.00100	1	10/08/2018 01:12	WG1177359
Hexachloro-1,3-butadiene	U		0.000329	0.0100	0.0100	1	10/08/2018 01:12	WG1177359
Hexachlorocyclopentadiene	U		0.00233	0.0100	0.0100	1	10/08/2018 01:12	WG1177359
Hexachloroethane	U		0.000365	0.0100	0.0100	1	10/08/2018 01:12	WG1177359
Indeno(1,2,3-cd)pyrene	U		0.000279	0.00100	0.00100	1	10/08/2018 01:12	WG1177359
Isophorone	U		0.000272	0.0100	0.0100	1	10/08/2018 01:12	WG1177359
1-Methylnaphthalene	U		0.000332	0.00100	0.00100	1	10/08/2018 01:12	WG1177359
2-Methylnaphthalene	U		0.000311	0.00100	0.00100	1	10/08/2018 01:12	WG1177359
Naphthalene	U		0.000372	0.00100	0.00100	1	10/08/2018 01:12	WG1177359
Nitrobenzene	U		0.000367	0.0100	0.0100	1	10/08/2018 01:12	WG1177359
n-Nitrosodiphenylamine	U		0.00119	0.0100	0.0100	1	10/08/2018 01:12	WG1177359
n-Nitrosodi-n-propylamine	U		0.000403	0.0100	0.0100	1	10/08/2018 01:12	WG1177359
Phenanthrene	U		0.000366	0.00100	0.00100	1	10/08/2018 01:12	WG1177359
Benzylbutyl phthalate	U		0.000275	0.00300	0.00300	1	10/08/2018 01:12	WG1177359
Bis(2-ethylhexyl)phthalate	U		0.000709	0.00300	0.00300	1	10/08/2018 01:12	WG1177359
Di-n-butyl phthalate	U		0.000266	0.00300	0.00300	1	10/08/2018 01:12	WG1177359
Diethyl phthalate	U		0.000282	0.00300	0.00300	1	10/08/2018 01:12	WG1177359
Dimethyl phthalate	U	J4	0.000283	0.00300	0.00300	1	10/08/2018 01:12	WG1177359
Di-n-octyl phthalate	U		0.000278	0.00300	0.00300	1	10/08/2018 01:12	WG1177359
Pyrene	U		0.000330	0.00100	0.00100	1	10/08/2018 01:12	WG1177359
1,2,4-Trichlorobenzene	U		0.000355	0.0100	0.0100	1	10/08/2018 01:12	WG1177359
4-Chloro-3-methylphenol	U		0.000263	0.0100	0.0100	1	10/08/2018 01:12	WG1177359
2-Chlorophenol	U		0.000283	0.0100	0.0100	1	10/08/2018 01:12	WG1177359
2,4-Dichlorophenol	U		0.000284	0.0100	0.0100	1	10/08/2018 01:12	WG1177359
2,4-Dimethylphenol	U		0.000624	0.0100	0.0100	1	10/08/2018 01:12	WG1177359
4,6-Dinitro-2-methylphenol	U		0.00262	0.0100	0.0100	1	10/08/2018 01:12	WG1177359
2,4-Dinitrophenol	U		0.00325	0.0100	0.0100	1	10/08/2018 01:12	WG1177359
2-Nitrophenol	U		0.000320	0.0100	0.0100	1	10/08/2018 01:12	WG1177359
2-Nitroaniline	U		0.00190	0.0100	0.0100	1	10/08/2018 01:12	WG1177359
2-Methylphenol	U		0.000312	0.0100	0.0100	1	10/08/2018 01:12	WG1177359
3&4-Methyl Phenol	U		0.000266	0.0100	0.0100	1	10/08/2018 01:12	WG1177359
3-Nitroaniline	U		0.000308	0.0100	0.0100	1	10/08/2018 01:12	WG1177359
4-Chloroaniline	U		0.000382	0.0100	0.0100	1	10/08/2018 01:12	WG1177359
4-Nitroaniline	U		0.000349	0.0100	0.0100	1	10/08/2018 01:12	WG1177359
4-Nitrophenol	U		0.00201	0.0100	0.0100	1	10/08/2018 01:12	WG1177359
Pentachlorophenol	U		0.000313	0.0100	0.0100	1	10/08/2018 01:12	WG1177359
Phenol	0.00302	J	0.000334	0.0100	0.0100	1	10/08/2018 01:12	WG1177359

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc

Semi Volatile Organic Compounds (GC/MS) by Method 8270 C

Analyte	Result mg/l	Qualifier	SDL mg/l	Unadj. MQL mg/l	MQL mg/l	Dilution	Analysis date / time	Batch
2,4,5-Trichlorophenol	U		0.000236	0.0100	0.0100	1	10/08/2018 01:12	WG1177359
2,4,6-Trichlorophenol	U		0.000297	0.0100	0.0100	1	10/08/2018 01:12	WG1177359
(S) 2-Fluorophenol	30.0				10.0-120		10/08/2018 01:12	WG1177359
(S) Phenol-d5	17.3				10.0-120		10/08/2018 01:12	WG1177359
(S) Nitrobenzene-d5	46.7				10.0-127		10/08/2018 01:12	WG1177359
(S) 2-Fluorobiphenyl	48.0				10.0-130		10/08/2018 01:12	WG1177359
(S) 2,4,6-Tribromophenol	30.1				10.0-155		10/08/2018 01:12	WG1177359
(S) p-Terphenyl-d14	60.0				10.0-128		10/08/2018 01:12	WG1177359

1Cp

2Tc

3Ss

4Cn

5Sr

6Qc

7Gl

8Al

9Sc



Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	SDL	Unadj. MQL	MQL	Dilution	Analysis date / time	Batch
Dissolved Solids	440		2.82	10.0	10.0	1	10/08/2018 17:45	WG1176735

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc

Wet Chemistry by Method 2320 B-2011

Analyte	Result	Qualifier	SDL	Unadj. MQL	MQL	Dilution	Analysis date / time	Batch
Alkalinity	326		2.71	20.0	20.0	1	10/08/2018 21:09	WG1177312

Sample Narrative:

L1030903-05 WG1177312: Endpoint pH 4.5 HEADSPACE

Wet Chemistry by Method 353.2

Analyte	Result	Qualifier	SDL	Unadj. MQL	MQL	Dilution	Analysis date / time	Batch
Nitrate-Nitrite	2.57		0.0197	0.100	0.100	1	10/09/2018 13:13	WG1177679

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	SDL	Unadj. MQL	MQL	Dilution	Analysis date / time	Batch
Chloride	23.8		0.0519	1.00	1.00	1	10/04/2018 19:17	WG1174940
Fluoride	1.31		0.00990	0.100	0.100	1	10/04/2018 19:17	WG1174940
Sulfate	26.8		0.0774	5.00	5.00	1	10/04/2018 19:17	WG1174940

Mercury by Method 7470A

Analyte	Result	Qualifier	SDL	Unadj. MQL	MQL	Dilution	Analysis date / time	Batch
Mercury	U		0.0000490	0.000200	0.000200	1	10/04/2018 11:47	WG1174916

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	SDL	Unadj. MQL	MQL	Dilution	Analysis date / time	Batch
Boron,Dissolved	0.0529	J	0.0126	0.200	0.200	1	10/08/2018 18:57	WG1174845

Metals (ICPMS) by Method 6020

Analyte	Result	Qualifier	SDL	Unadj. MQL	MQL	Dilution	Analysis date / time	Batch
Aluminum,Dissolved	U		0.00515	0.100	0.100	1	10/08/2018 21:53	WG1174848
Arsenic,Dissolved	0.00412		0.000250	0.00200	0.00200	1	10/08/2018 21:53	WG1174848
Barium,Dissolved	0.125		0.000360	0.00500	0.00500	1	10/08/2018 21:53	WG1174848
Cadmium,Dissolved	U		0.000160	0.00100	0.00100	1	10/08/2018 21:53	WG1174848
Chromium,Dissolved	U		0.000540	0.00200	0.00200	1	10/08/2018 21:53	WG1174848
Copper,Dissolved	0.00128	B J	0.000520	0.00500	0.00500	1	10/08/2018 21:53	WG1174848
Cobalt,Dissolved	U		0.000260	0.00200	0.00200	1	10/08/2018 21:53	WG1174848
Iron,Dissolved	U		0.0150	0.100	0.100	1	10/08/2018 21:53	WG1174848
Lead,Dissolved	U		0.000240	0.00200	0.00200	1	10/08/2018 21:53	WG1174848
Manganese,Dissolved	U		0.000250	0.00500	0.00500	1	10/08/2018 21:53	WG1174848
Molybdenum,Dissolved	0.00259	J	0.000140	0.00500	0.00500	1	10/08/2018 21:53	WG1174848
Nickel,Dissolved	0.000937	J	0.000350	0.00200	0.00200	1	10/08/2018 21:53	WG1174848
Selenium,Dissolved	0.000695	J	0.000380	0.00200	0.00200	1	10/08/2018 21:53	WG1174848
Silver,Dissolved	U		0.000310	0.00200	0.00200	1	10/08/2018 21:53	WG1174848
Uranium,Dissolved	0.00262	J	0.000330	0.0100	0.0100	1	10/08/2018 21:53	WG1174848
Zinc,Dissolved	U		0.00256	0.0250	0.0250	1	10/08/2018 21:53	WG1174848



Collected date/time: 10/01/18 09:25

L1030903

Volatile Organic Compounds (GC) by Method 8015D/GRO

Analyte	Result mg/l	Qualifier	SDL mg/l	Unadj. MQL mg/l	MQL mg/l	Dilution	Analysis date / time	Batch
TPH (GC/FID) Low Fraction	U		0.0314	0.100	0.100	1	10/06/2018 19:31	WG1176966
(S) a,a,a-Trifluorotoluene(FID)	108				78.0-120		10/06/2018 19:31	WG1176966

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc

Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result mg/l	Qualifier	SDL mg/l	Unadj. MQL mg/l	MQL mg/l	Dilution	Analysis date / time	Batch
Acetone	U		0.0100	1.00	1.00	1	10/03/2018 02:35	WG1174888
Benzene	U		0.000331	0.00100	0.00100	1	10/03/2018 02:35	WG1174888
Bromodichloromethane	U		0.000380	0.00125	0.00125	1	10/03/2018 02:35	WG1174888
Bromoform	U		0.000469	0.00100	0.00100	1	10/03/2018 02:35	WG1174888
Bromomethane	U		0.000866	0.00500	0.00500	1	10/03/2018 02:35	WG1174888
n-Butylbenzene	U		0.000361	0.00100	0.00100	1	10/03/2018 02:35	WG1174888
sec-Butylbenzene	U		0.000365	0.00100	0.00100	1	10/03/2018 02:35	WG1174888
tert-Butylbenzene	U		0.000399	0.00100	0.00100	1	10/03/2018 02:35	WG1174888
Carbon disulfide	U		0.000275	0.00100	0.00100	1	10/03/2018 02:35	WG1174888
Carbon tetrachloride	U		0.000379	0.00100	0.00100	1	10/03/2018 02:35	WG1174888
Chlorobenzene	U		0.000348	0.00100	0.00100	1	10/03/2018 02:35	WG1174888
Chlorodibromomethane	U		0.000327	0.00100	0.00100	1	10/03/2018 02:35	WG1174888
Chloroethane	U		0.000453	0.00500	0.00500	1	10/03/2018 02:35	WG1174888
Chloroform	U		0.000324	0.00500	0.00500	1	10/03/2018 02:35	WG1174888
Chloromethane	U		0.000276	0.00250	0.00250	1	10/03/2018 02:35	WG1174888
1,2-Dibromoethane	U		0.000381	0.00100	0.00100	1	10/03/2018 02:35	WG1174888
1,1-Dichloroethane	U		0.000259	0.00100	0.00100	1	10/03/2018 02:35	WG1174888
1,2-Dichloroethane	U		0.000361	0.00100	0.00100	1	10/03/2018 02:35	WG1174888
1,1-Dichloroethene	U		0.000398	0.00100	0.00100	1	10/03/2018 02:35	WG1174888
cis-1,2-Dichloroethene	U		0.000260	0.00100	0.00100	1	10/03/2018 02:35	WG1174888
trans-1,2-Dichloroethene	U		0.000396	0.00100	0.00100	1	10/03/2018 02:35	WG1174888
1,2-Dichloropropane	U		0.000306	0.00100	0.00100	1	10/03/2018 02:35	WG1174888
cis-1,3-Dichloropropene	U		0.000418	0.00100	0.00100	1	10/03/2018 02:35	WG1174888
trans-1,3-Dichloropropene	U		0.000419	0.00100	0.00100	1	10/03/2018 02:35	WG1174888
Ethylbenzene	U		0.000384	0.00100	0.00100	1	10/03/2018 02:35	WG1174888
Hexachloro-1,3-butadiene	U		0.000256	0.00100	0.00100	1	10/03/2018 02:35	WG1174888
2-Hexanone	U		0.00382	0.0100	0.0100	1	10/03/2018 02:35	WG1174888
Isopropylbenzene	U		0.000326	0.00100	0.00100	1	10/03/2018 02:35	WG1174888
p-Isopropyltoluene	U		0.000350	0.00100	0.00100	1	10/03/2018 02:35	WG1174888
2-Butanone (MEK)	U		0.00393	0.0100	0.0100	1	10/03/2018 02:35	WG1174888
Methylene Chloride	U		0.00100	0.00500	0.00500	1	10/03/2018 02:35	WG1174888
4-Methyl-2-pentanone (MIBK)	U		0.00214	0.0100	0.0100	1	10/03/2018 02:35	WG1174888
Methyl tert-butyl ether	U		0.000367	0.00100	0.00100	1	10/03/2018 02:35	WG1174888
Naphthalene	U		0.00100	0.00500	0.00500	1	10/03/2018 02:35	WG1174888
n-Propylbenzene	U		0.000349	0.00100	0.00100	1	10/03/2018 02:35	WG1174888
Styrene	U		0.000307	0.00100	0.00100	1	10/03/2018 02:35	WG1174888
1,1,2,2-Tetrachloroethane	U		0.000130	0.00100	0.00100	1	10/03/2018 02:35	WG1174888
Tetrachloroethene	U		0.000372	0.00100	0.00100	1	10/03/2018 02:35	WG1174888
Toluene	U		0.000412	0.00100	0.00100	1	10/03/2018 02:35	WG1174888
1,1,1-Trichloroethane	U		0.000319	0.00100	0.00100	1	10/03/2018 02:35	WG1174888
1,1,2-Trichloroethane	U		0.000383	0.00100	0.00100	1	10/03/2018 02:35	WG1174888
Trichloroethene	U		0.000398	0.00100	0.00100	1	10/03/2018 02:35	WG1174888
1,2,4-Trimethylbenzene	U		0.000373	0.00100	0.00100	1	10/03/2018 02:35	WG1174888
1,3,5-Trimethylbenzene	U		0.000387	0.00100	0.00100	1	10/03/2018 02:35	WG1174888
Vinyl chloride	U		0.000259	0.00100	0.00100	1	10/03/2018 02:35	WG1174888
Xylenes, Total	U		0.00106	0.00300	0.00300	1	10/03/2018 02:35	WG1174888
(S) Toluene-d8	109				80.0-120		10/03/2018 02:35	WG1174888
(S) Dibromofluoromethane	89.3				75.0-120		10/03/2018 02:35	WG1174888
(S) 4-Bromofluorobenzene	101				77.0-126		10/03/2018 02:35	WG1174888



Semi-Volatile Organic Compounds (GC) by Method 3511/8015

Analyte	Result mg/l	Qualifier	SDL mg/l	Unadj. MQL mg/l	MQL mg/l	Dilution	Analysis date / time	Batch
TPH (GC/FID) High Fraction	U		0.0247	0.100	0.100	1	10/05/2018 02:47	WG1174688
(S) o-Terphenyl	26.4	J2			31.0-160		10/05/2018 02:47	WG1174688

Sample Narrative:

L1030903-05 WG1174688: Sample produced emulsion during Extraction process, low surr/spike recoveries due to matrix

Semi Volatile Organic Compounds (GC/MS) by Method 8270 C

Analyte	Result mg/l	Qualifier	SDL mg/l	Unadj. MQL mg/l	MQL mg/l	Dilution	Analysis date / time	Batch
Acenaphthene	U		0.000316	0.00100	0.00100	1	10/08/2018 01:35	WG1177359
Acenaphthylene	U		0.000309	0.00100	0.00100	1	10/08/2018 01:35	WG1177359
Acetophenone	U		0.00247	0.0100	0.0100	1	10/08/2018 01:35	WG1177359
Anthracene	U		0.000291	0.00100	0.00100	1	10/08/2018 01:35	WG1177359
Atrazine	0.000417	J	0.000260	0.0100	0.0100	1	10/08/2018 01:35	WG1177359
Benzo(a)anthracene	U		0.0000510	0.00100	0.00100	1	10/08/2018 01:35	WG1177359
Benzaldehyde	U		0.00140	0.0100	0.0100	1	10/08/2018 01:35	WG1177359
Benzo(b)fluoranthene	U		0.0000896	0.00100	0.00100	1	10/08/2018 01:35	WG1177359
Benzo(k)fluoranthene	U		0.000355	0.00100	0.00100	1	10/08/2018 01:35	WG1177359
Benzo(g,h,i)perylene	U		0.00000227	0.00100	0.00100	1	10/08/2018 01:35	WG1177359
Benzo(a)pyrene	U		0.0000381	0.000200	0.000200	1	10/08/2018 01:35	WG1177359
Biphenyl	U		0.000325	0.0100	0.0100	1	10/08/2018 01:35	WG1177359
Bis(2-chlorethoxy)methane	U		0.000329	0.0100	0.0100	1	10/08/2018 01:35	WG1177359
Bis(2-chloroethyl)ether	U		0.00162	0.0100	0.0100	1	10/08/2018 01:35	WG1177359
Bis(2-chloroisopropyl)ether	U		0.000445	0.0100	0.0100	1	10/08/2018 01:35	WG1177359
4-Bromophenyl-phenylether	U		0.000335	0.0100	0.0100	1	10/08/2018 01:35	WG1177359
2-Chloronaphthalene	U		0.000330	0.00100	0.00100	1	10/08/2018 01:35	WG1177359
4-Chlorophenyl-phenylether	U		0.000303	0.0100	0.0100	1	10/08/2018 01:35	WG1177359
Caprolactam	U		0.00259	0.0100	0.0100	1	10/08/2018 01:35	WG1177359
Carbazole	U		0.000260	0.0100	0.0100	1	10/08/2018 01:35	WG1177359
Chrysene	U		0.000332	0.00100	0.00100	1	10/08/2018 01:35	WG1177359
Dibenz(a,h)anthracene	U		0.0000644	0.000200	0.000200	1	10/08/2018 01:35	WG1177359
Dibenzofuran	U		0.000338	0.0100	0.0100	1	10/08/2018 01:35	WG1177359
3,3-Dichlorobenzidine	U		0.00202	0.0100	0.0100	1	10/08/2018 01:35	WG1177359
2,4-Dinitrotoluene	U		0.00165	0.0100	0.0100	1	10/08/2018 01:35	WG1177359
2,6-Dinitrotoluene	U		0.000279	0.0100	0.0100	1	10/08/2018 01:35	WG1177359
Fluoranthene	U		0.000310	0.00100	0.00100	1	10/08/2018 01:35	WG1177359
Fluorene	U		0.000323	0.00100	0.00100	1	10/08/2018 01:35	WG1177359
Hexachlorobenzene	U		0.000341	0.00100	0.00100	1	10/08/2018 01:35	WG1177359
Hexachloro-1,3-butadiene	U		0.000329	0.0100	0.0100	1	10/08/2018 01:35	WG1177359
Hexachlorocyclopentadiene	U		0.00233	0.0100	0.0100	1	10/08/2018 01:35	WG1177359
Hexachloroethane	U		0.000365	0.0100	0.0100	1	10/08/2018 01:35	WG1177359
Indeno(1,2,3-cd)pyrene	U		0.000279	0.00100	0.00100	1	10/08/2018 01:35	WG1177359
Isophorone	U		0.000272	0.0100	0.0100	1	10/08/2018 01:35	WG1177359
1-Methylnaphthalene	U		0.000332	0.00100	0.00100	1	10/08/2018 01:35	WG1177359
2-Methylnaphthalene	U		0.000311	0.00100	0.00100	1	10/08/2018 01:35	WG1177359
Naphthalene	U		0.000372	0.00100	0.00100	1	10/08/2018 01:35	WG1177359
Nitrobenzene	U		0.000367	0.0100	0.0100	1	10/08/2018 01:35	WG1177359
n-Nitrosodiphenylamine	U		0.00119	0.0100	0.0100	1	10/08/2018 01:35	WG1177359
n-Nitrosodi-n-propylamine	U		0.000403	0.0100	0.0100	1	10/08/2018 01:35	WG1177359
Phenanthrene	U		0.000366	0.00100	0.00100	1	10/08/2018 01:35	WG1177359
Benzylbutyl phthalate	U		0.000275	0.00300	0.00300	1	10/08/2018 01:35	WG1177359
Bis(2-ethylhexyl)phthalate	U		0.000709	0.00300	0.00300	1	10/08/2018 01:35	WG1177359
Di-n-butyl phthalate	U		0.000266	0.00300	0.00300	1	10/08/2018 01:35	WG1177359
Diethyl phthalate	U		0.000282	0.00300	0.00300	1	10/08/2018 01:35	WG1177359
Dimethyl phthalate	U	J4	0.000283	0.00300	0.00300	1	10/08/2018 01:35	WG1177359
Di-n-octyl phthalate	U		0.000278	0.00300	0.00300	1	10/08/2018 01:35	WG1177359

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc



Collected date/time: 10/01/18 09:25

L1030903

Semi Volatile Organic Compounds (GC/MS) by Method 8270 C

Analyte	Result mg/l	Qualifier	SDL mg/l	Unadj. MQL mg/l	MQL mg/l	Dilution	Analysis date / time	Batch
Pyrene	U		0.000330	0.00100	0.00100	1	10/08/2018 01:35	WG1177359
1,2,4-Trichlorobenzene	U		0.000355	0.0100	0.0100	1	10/08/2018 01:35	WG1177359
4-Chloro-3-methylphenol	U		0.000263	0.0100	0.0100	1	10/08/2018 01:35	WG1177359
2-Chlorophenol	U		0.000283	0.0100	0.0100	1	10/08/2018 01:35	WG1177359
2,4-Dichlorophenol	U		0.000284	0.0100	0.0100	1	10/08/2018 01:35	WG1177359
2,4-Dimethylphenol	U		0.000624	0.0100	0.0100	1	10/08/2018 01:35	WG1177359
4,6-Dinitro-2-methylphenol	U		0.00262	0.0100	0.0100	1	10/08/2018 01:35	WG1177359
2,4-Dinitrophenol	U		0.00325	0.0100	0.0100	1	10/08/2018 01:35	WG1177359
2-Nitrophenol	U		0.000320	0.0100	0.0100	1	10/08/2018 01:35	WG1177359
2-Nitroaniline	U		0.00190	0.0100	0.0100	1	10/08/2018 01:35	WG1177359
2-Methylphenol	U		0.000312	0.0100	0.0100	1	10/08/2018 01:35	WG1177359
3&4-Methyl Phenol	U		0.000266	0.0100	0.0100	1	10/08/2018 01:35	WG1177359
3-Nitroaniline	U		0.000308	0.0100	0.0100	1	10/08/2018 01:35	WG1177359
4-Chloroaniline	U		0.000382	0.0100	0.0100	1	10/08/2018 01:35	WG1177359
4-Nitroaniline	U		0.000349	0.0100	0.0100	1	10/08/2018 01:35	WG1177359
4-Nitrophenol	U		0.00201	0.0100	0.0100	1	10/08/2018 01:35	WG1177359
Pentachlorophenol	U		0.000313	0.0100	0.0100	1	10/08/2018 01:35	WG1177359
Phenol	0.00240	U	0.000334	0.0100	0.0100	1	10/08/2018 01:35	WG1177359
2,4,5-Trichlorophenol	U		0.000236	0.0100	0.0100	1	10/08/2018 01:35	WG1177359
2,4,6-Trichlorophenol	U		0.000297	0.0100	0.0100	1	10/08/2018 01:35	WG1177359
(S) 2-Fluorophenol	34.4				10.0-120		10/08/2018 01:35	WG1177359
(S) Phenol-d5	20.2				10.0-120		10/08/2018 01:35	WG1177359
(S) Nitrobenzene-d5	49.8				10.0-127		10/08/2018 01:35	WG1177359
(S) 2-Fluorobiphenyl	50.0				10.0-130		10/08/2018 01:35	WG1177359
(S) 2,4,6-Tribromophenol	37.5				10.0-155		10/08/2018 01:35	WG1177359
(S) p-Terphenyl-d14	62.0				10.0-128		10/08/2018 01:35	WG1177359

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc



Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	SDL	Unadj. MQL	MQL	Dilution	Analysis date / time	Batch
Dissolved Solids	485		2.82	10.0	10.0	1	10/08/2018 17:45	WG1176735

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc

Wet Chemistry by Method 353.2

Analyte	Result	Qualifier	SDL	Unadj. MQL	MQL	Dilution	Analysis date / time	Batch
Nitrate-Nitrite	2.02		0.0197	0.100	0.100	1	10/09/2018 13:15	WG1177679

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	SDL	Unadj. MQL	MQL	Dilution	Analysis date / time	Batch
Chloride	55.9		0.0519	1.00	1.00	1	10/04/2018 20:15	WG1174940
Fluoride	0.691		0.00990	0.100	0.100	1	10/04/2018 20:15	WG1174940
Sulfate	79.0		0.0774	5.00	5.00	1	10/04/2018 20:15	WG1174940

Mercury by Method 7470A

Analyte	Result	Qualifier	SDL	Unadj. MQL	MQL	Dilution	Analysis date / time	Batch
Mercury	U		0.0000490	0.000200	0.000200	1	10/04/2018 11:49	WG1174916

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	SDL	Unadj. MQL	MQL	Dilution	Analysis date / time	Batch
Boron,Dissolved	0.154	J	0.0126	0.200	0.200	1	10/08/2018 19:05	WG1174845

Metals (ICPMS) by Method 6020

Analyte	Result	Qualifier	SDL	Unadj. MQL	MQL	Dilution	Analysis date / time	Batch
Aluminum,Dissolved	U		0.00515	0.100	0.100	1	10/08/2018 22:11	WG1174848
Arsenic,Dissolved	0.00716		0.000250	0.00200	0.00200	1	10/08/2018 22:11	WG1174848
Barium,Dissolved	0.148		0.000360	0.00500	0.00500	1	10/08/2018 22:11	WG1174848
Cadmium,Dissolved	U		0.000160	0.00100	0.00100	1	10/08/2018 22:11	WG1174848
Chromium,Dissolved	0.000718	B J	0.000540	0.00200	0.00200	1	10/08/2018 22:11	WG1174848
Copper,Dissolved	0.000629	B J	0.000520	0.00500	0.00500	1	10/08/2018 22:11	WG1174848
Cobalt,Dissolved	U		0.000260	0.00200	0.00200	1	10/08/2018 22:11	WG1174848
Iron,Dissolved	U		0.0150	0.100	0.100	1	10/08/2018 22:11	WG1174848
Lead,Dissolved	U		0.000240	0.00200	0.00200	1	10/08/2018 22:11	WG1174848
Manganese,Dissolved	0.0763		0.000250	0.00500	0.00500	1	10/08/2018 22:11	WG1174848
Molybdenum,Dissolved	0.00198	B J	0.000140	0.00500	0.00500	1	10/08/2018 22:11	WG1174848
Nickel,Dissolved	0.00116	J	0.000350	0.00200	0.00200	1	10/08/2018 22:11	WG1174848
Selenium,Dissolved	0.00343		0.000380	0.00200	0.00200	1	10/08/2018 22:11	WG1174848
Silver,Dissolved	U		0.000310	0.00200	0.00200	1	10/08/2018 22:11	WG1174848
Uranium,Dissolved	0.00340	J	0.000330	0.0100	0.0100	1	10/08/2018 22:11	WG1174848
Zinc,Dissolved	0.0126	B J	0.00256	0.0250	0.0250	1	10/08/2018 22:11	WG1174848

Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result	Qualifier	SDL	Unadj. MQL	MQL	Dilution	Analysis date / time	Batch
Acetone	U		0.0100	1.00	1.00	1	10/03/2018 02:56	WG1174888
Benzene	U		0.000331	0.00100	0.00100	1	10/03/2018 02:56	WG1174888
Bromodichloromethane	U		0.000380	0.00125	0.00125	1	10/03/2018 02:56	WG1174888
Bromoform	U		0.000469	0.00100	0.00100	1	10/03/2018 02:56	WG1174888
Bromomethane	U		0.000866	0.00500	0.00500	1	10/03/2018 02:56	WG1174888
n-Butylbenzene	U		0.000361	0.00100	0.00100	1	10/03/2018 02:56	WG1174888



Collected date/time: 10/01/18 12:10

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Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result mg/l	Qualifier	SDL mg/l	Unadj. MQL mg/l	MQL mg/l	Dilution	Analysis date / time	Batch
sec-Butylbenzene	U		0.000365	0.00100	0.00100	1	10/03/2018 02:56	WG1174888
tert-Butylbenzene	U		0.000399	0.00100	0.00100	1	10/03/2018 02:56	WG1174888
Carbon disulfide	U		0.000275	0.00100	0.00100	1	10/03/2018 02:56	WG1174888
Carbon tetrachloride	U		0.000379	0.00100	0.00100	1	10/03/2018 02:56	WG1174888
Chlorobenzene	U		0.000348	0.00100	0.00100	1	10/03/2018 02:56	WG1174888
Chlorodibromomethane	U		0.000327	0.00100	0.00100	1	10/03/2018 02:56	WG1174888
Chloroethane	U		0.000453	0.00500	0.00500	1	10/03/2018 02:56	WG1174888
Chloroform	U		0.000324	0.00500	0.00500	1	10/03/2018 02:56	WG1174888
Chloromethane	U		0.000276	0.00250	0.00250	1	10/03/2018 02:56	WG1174888
1,2-Dibromoethane	U		0.000381	0.00100	0.00100	1	10/03/2018 02:56	WG1174888
1,1-Dichloroethane	U		0.000259	0.00100	0.00100	1	10/03/2018 02:56	WG1174888
1,2-Dichloroethane	U		0.000361	0.00100	0.00100	1	10/03/2018 02:56	WG1174888
1,1-Dichloroethene	U		0.000398	0.00100	0.00100	1	10/03/2018 02:56	WG1174888
cis-1,2-Dichloroethene	U		0.000260	0.00100	0.00100	1	10/03/2018 02:56	WG1174888
trans-1,2-Dichloroethene	U		0.000396	0.00100	0.00100	1	10/03/2018 02:56	WG1174888
1,2-Dichloropropane	U		0.000306	0.00100	0.00100	1	10/03/2018 02:56	WG1174888
cis-1,3-Dichloropropene	U		0.000418	0.00100	0.00100	1	10/03/2018 02:56	WG1174888
trans-1,3-Dichloropropene	U		0.000419	0.00100	0.00100	1	10/03/2018 02:56	WG1174888
Ethylbenzene	U		0.000384	0.00100	0.00100	1	10/03/2018 02:56	WG1174888
Hexachloro-1,3-butadiene	U		0.000256	0.00100	0.00100	1	10/03/2018 02:56	WG1174888
2-Hexanone	U		0.00382	0.0100	0.0100	1	10/03/2018 02:56	WG1174888
Isopropylbenzene	U		0.000326	0.00100	0.00100	1	10/03/2018 02:56	WG1174888
p-Isopropyltoluene	U		0.000350	0.00100	0.00100	1	10/03/2018 02:56	WG1174888
2-Butanone (MEK)	U		0.00393	0.0100	0.0100	1	10/03/2018 02:56	WG1174888
Methylene Chloride	U		0.00100	0.00500	0.00500	1	10/03/2018 02:56	WG1174888
4-Methyl-2-pentanone (MIBK)	U		0.00214	0.0100	0.0100	1	10/03/2018 02:56	WG1174888
Methyl tert-butyl ether	U		0.000367	0.00100	0.00100	1	10/03/2018 02:56	WG1174888
Naphthalene	U		0.00100	0.00500	0.00500	1	10/03/2018 02:56	WG1174888
n-Propylbenzene	U		0.000349	0.00100	0.00100	1	10/03/2018 02:56	WG1174888
Styrene	U		0.000307	0.00100	0.00100	1	10/03/2018 02:56	WG1174888
1,1,2,2-Tetrachloroethane	U		0.000130	0.00100	0.00100	1	10/03/2018 02:56	WG1174888
Tetrachloroethene	U		0.000372	0.00100	0.00100	1	10/03/2018 02:56	WG1174888
Toluene	U		0.000412	0.00100	0.00100	1	10/03/2018 02:56	WG1174888
1,1,1-Trichloroethane	U		0.000319	0.00100	0.00100	1	10/03/2018 02:56	WG1174888
1,1,2-Trichloroethane	U		0.000383	0.00100	0.00100	1	10/03/2018 02:56	WG1174888
Trichloroethene	U		0.000398	0.00100	0.00100	1	10/03/2018 02:56	WG1174888
1,2,4-Trimethylbenzene	U		0.000373	0.00100	0.00100	1	10/03/2018 02:56	WG1174888
1,3,5-Trimethylbenzene	U		0.000387	0.00100	0.00100	1	10/03/2018 02:56	WG1174888
Vinyl chloride	U		0.000259	0.00100	0.00100	1	10/03/2018 02:56	WG1174888
Xylenes, Total	U		0.00106	0.00300	0.00300	1	10/03/2018 02:56	WG1174888
(S) Toluene-d8	107				80.0-120		10/03/2018 02:56	WG1174888
(S) Dibromofluoromethane	92.0				75.0-120		10/03/2018 02:56	WG1174888
(S) 4-Bromofluorobenzene	101				77.0-126		10/03/2018 02:56	WG1174888

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc

Semi Volatile Organic Compounds (GC/MS) by Method 8270 C

Analyte	Result mg/l	Qualifier	SDL mg/l	Unadj. MQL mg/l	MQL mg/l	Dilution	Analysis date / time	Batch
Acenaphthene	U		0.000316	0.00100	0.00100	1	10/08/2018 01:59	WG1177359
Acenaphthylene	U		0.000309	0.00100	0.00100	1	10/08/2018 01:59	WG1177359
Acetophenone	U		0.00247	0.0100	0.0100	1	10/08/2018 01:59	WG1177359
Anthracene	U		0.000291	0.00100	0.00100	1	10/08/2018 01:59	WG1177359
Atrazine	U		0.000260	0.0100	0.0100	1	10/08/2018 01:59	WG1177359
Benzo(a)anthracene	U		0.0000510	0.00100	0.00100	1	10/08/2018 01:59	WG1177359
Benzaldehyde	U		0.00140	0.0100	0.0100	1	10/08/2018 01:59	WG1177359
Benzo(b)fluoranthene	U		0.0000896	0.00100	0.00100	1	10/08/2018 01:59	WG1177359
Benzo(k)fluoranthene	U		0.000355	0.00100	0.00100	1	10/08/2018 01:59	WG1177359



Collected date/time: 10/01/18 12:10

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Semi Volatile Organic Compounds (GC/MS) by Method 8270 C

Analyte	Result mg/l	Qualifier	SDL mg/l	Unadj. MQL mg/l	MQL mg/l	Dilution	Analysis date / time	Batch
Benzo(g,h,i)perylene	U		0.0000227	0.00100	0.00100	1	10/08/2018 01:59	WG1177359
Benzo(a)pyrene	U		0.0000381	0.000200	0.000200	1	10/08/2018 01:59	WG1177359
Biphenyl	U		0.000325	0.0100	0.0100	1	10/08/2018 01:59	WG1177359
Bis(2-chlorethoxy)methane	U		0.000329	0.0100	0.0100	1	10/08/2018 01:59	WG1177359
Bis(2-chloroethyl)ether	U		0.00162	0.0100	0.0100	1	10/08/2018 01:59	WG1177359
Bis(2-chloroisopropyl)ether	U		0.000445	0.0100	0.0100	1	10/08/2018 01:59	WG1177359
4-Bromophenyl-phenylether	U		0.000335	0.0100	0.0100	1	10/08/2018 01:59	WG1177359
2-Chloronaphthalene	U		0.000330	0.00100	0.00100	1	10/08/2018 01:59	WG1177359
4-Chlorophenyl-phenylether	U		0.000303	0.0100	0.0100	1	10/08/2018 01:59	WG1177359
Caprolactam	U		0.00259	0.0100	0.0100	1	10/08/2018 01:59	WG1177359
Carbazole	U		0.000260	0.0100	0.0100	1	10/08/2018 01:59	WG1177359
Chrysene	U		0.000332	0.00100	0.00100	1	10/08/2018 01:59	WG1177359
Dibenz(a,h)anthracene	U		0.0000644	0.000200	0.000200	1	10/08/2018 01:59	WG1177359
Dibenzofuran	U		0.000338	0.0100	0.0100	1	10/08/2018 01:59	WG1177359
3,3-Dichlorobenzidine	U		0.00202	0.0100	0.0100	1	10/08/2018 01:59	WG1177359
2,4-Dinitrotoluene	U		0.00165	0.0100	0.0100	1	10/08/2018 01:59	WG1177359
2,6-Dinitrotoluene	U		0.000279	0.0100	0.0100	1	10/08/2018 01:59	WG1177359
Fluoranthene	U		0.000310	0.00100	0.00100	1	10/08/2018 01:59	WG1177359
Fluorene	U		0.000323	0.00100	0.00100	1	10/08/2018 01:59	WG1177359
Hexachlorobenzene	U		0.000341	0.00100	0.00100	1	10/08/2018 01:59	WG1177359
Hexachloro-1,3-butadiene	U		0.000329	0.0100	0.0100	1	10/08/2018 01:59	WG1177359
Hexachlorocyclopentadiene	U		0.00233	0.0100	0.0100	1	10/08/2018 01:59	WG1177359
Hexachloroethane	U		0.000365	0.0100	0.0100	1	10/08/2018 01:59	WG1177359
Indeno(1,2,3-cd)pyrene	U		0.000279	0.00100	0.00100	1	10/08/2018 01:59	WG1177359
Isophorone	U		0.000272	0.0100	0.0100	1	10/08/2018 01:59	WG1177359
1-Methylnaphthalene	U		0.000332	0.00100	0.00100	1	10/08/2018 01:59	WG1177359
2-Methylnaphthalene	U		0.000311	0.00100	0.00100	1	10/08/2018 01:59	WG1177359
Naphthalene	U		0.000372	0.00100	0.00100	1	10/08/2018 01:59	WG1177359
Nitrobenzene	U		0.000367	0.0100	0.0100	1	10/08/2018 01:59	WG1177359
n-Nitrosodiphenylamine	U		0.00119	0.0100	0.0100	1	10/08/2018 01:59	WG1177359
n-Nitrosodi-n-propylamine	U		0.000403	0.0100	0.0100	1	10/08/2018 01:59	WG1177359
Phenanthrene	U		0.000366	0.00100	0.00100	1	10/08/2018 01:59	WG1177359
Benzylbutyl phthalate	U		0.000275	0.00300	0.00300	1	10/08/2018 01:59	WG1177359
Bis(2-ethylhexyl)phthalate	U		0.000709	0.00300	0.00300	1	10/08/2018 01:59	WG1177359
Di-n-butyl phthalate	U		0.000266	0.00300	0.00300	1	10/08/2018 01:59	WG1177359
Diethyl phthalate	U		0.000282	0.00300	0.00300	1	10/08/2018 01:59	WG1177359
Dimethyl phthalate	U	J4	0.000283	0.00300	0.00300	1	10/08/2018 01:59	WG1177359
Di-n-octyl phthalate	U		0.000278	0.00300	0.00300	1	10/08/2018 01:59	WG1177359
Pyrene	U		0.000330	0.00100	0.00100	1	10/08/2018 01:59	WG1177359
1,2,4-Trichlorobenzene	U		0.000355	0.0100	0.0100	1	10/08/2018 01:59	WG1177359
4-Chloro-3-methylphenol	U		0.000263	0.0100	0.0100	1	10/08/2018 01:59	WG1177359
2-Chlorophenol	U		0.000283	0.0100	0.0100	1	10/08/2018 01:59	WG1177359
2,4-Dichlorophenol	U		0.000284	0.0100	0.0100	1	10/08/2018 01:59	WG1177359
2,4-Dimethylphenol	U		0.000624	0.0100	0.0100	1	10/08/2018 01:59	WG1177359
4,6-Dinitro-2-methylphenol	U		0.00262	0.0100	0.0100	1	10/08/2018 01:59	WG1177359
2,4-Dinitrophenol	U		0.00325	0.0100	0.0100	1	10/08/2018 01:59	WG1177359
2-Nitrophenol	U		0.000320	0.0100	0.0100	1	10/08/2018 01:59	WG1177359
2-Nitroaniline	U		0.00190	0.0100	0.0100	1	10/08/2018 01:59	WG1177359
2-Methylphenol	U		0.000312	0.0100	0.0100	1	10/08/2018 01:59	WG1177359
3&4-Methyl Phenol	U		0.000266	0.0100	0.0100	1	10/08/2018 01:59	WG1177359
3-Nitroaniline	U		0.000308	0.0100	0.0100	1	10/08/2018 01:59	WG1177359
4-Chloroaniline	U		0.000382	0.0100	0.0100	1	10/08/2018 01:59	WG1177359
4-Nitroaniline	U		0.000349	0.0100	0.0100	1	10/08/2018 01:59	WG1177359
4-Nitrophenol	U		0.00201	0.0100	0.0100	1	10/08/2018 01:59	WG1177359
Pentachlorophenol	U		0.000313	0.0100	0.0100	1	10/08/2018 01:59	WG1177359
Phenol	0.000859	J	0.000334	0.0100	0.0100	1	10/08/2018 01:59	WG1177359

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc

Semi Volatile Organic Compounds (GC/MS) by Method 8270 C

Analyte	Result mg/l	Qualifier	SDL mg/l	Unadj. MQL mg/l	MQL mg/l	Dilution	Analysis date / time	Batch
2,4,5-Trichlorophenol	U		0.000236	0.0100	0.0100	1	10/08/2018 01:59	WG1177359
2,4,6-Trichlorophenol	U		0.000297	0.0100	0.0100	1	10/08/2018 01:59	WG1177359
(S) 2-Fluorophenol	13.8				10.0-120		10/08/2018 01:59	WG1177359
(S) Phenol-d5	7.75	J2			10.0-120		10/08/2018 01:59	WG1177359
(S) Nitrobenzene-d5	49.8				10.0-127		10/08/2018 01:59	WG1177359
(S) 2-Fluorobiphenyl	47.0				10.0-130		10/08/2018 01:59	WG1177359
(S) 2,4,6-Tribromophenol	25.1				10.0-155		10/08/2018 01:59	WG1177359
(S) p-Terphenyl-d14	63.0				10.0-128		10/08/2018 01:59	WG1177359

1Cp

2Tc

3Ss

4Cn

5Sr

6Qc

7Gl

8Al

9Sc



Gravimetric Analysis by Method 2540 C-2011

	Result	Qualifier	SDL	Unadj. MQL	MQL	Dilution	Analysis date / time	Batch
Analyte	mg/l		mg/l	mg/l	mg/l			
Dissolved Solids	807		3.75	13.3	13.3	1	10/08/2018 17:45	WG1176735

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc

Wet Chemistry by Method 353.2

	Result	Qualifier	SDL	Unadj. MQL	MQL	Dilution	Analysis date / time	Batch
Analyte	mg/l		mg/l	mg/l	mg/l			
Nitrate-Nitrite	6.49		0.0985	0.100	0.500	5	10/09/2018 13:16	WG1177679

Wet Chemistry by Method 9056A

	Result	Qualifier	SDL	Unadj. MQL	MQL	Dilution	Analysis date / time	Batch
Analyte	mg/l		mg/l	mg/l	mg/l			
Chloride	159		0.260	1.00	5.00	5	10/04/2018 20:34	WG1174940
Fluoride	0.653		0.00990	0.100	0.100	1	10/04/2018 20:25	WG1174940
Sulfate	85.8		0.0774	5.00	5.00	1	10/04/2018 20:25	WG1174940

Mercury by Method 7470A

	Result	Qualifier	SDL	Unadj. MQL	MQL	Dilution	Analysis date / time	Batch
Analyte	mg/l		mg/l	mg/l	mg/l			
Mercury	U		0.0000490	0.000200	0.000200	1	10/04/2018 11:56	WG1174916

Metals (ICP) by Method 6010B

	Result	Qualifier	SDL	Unadj. MQL	MQL	Dilution	Analysis date / time	Batch
Analyte	mg/l		mg/l	mg/l	mg/l			
Boron,Dissolved	0.175	J	0.0126	0.200	0.200	1	10/08/2018 19:08	WG1174845

Metals (ICPMS) by Method 6020

	Result	Qualifier	SDL	Unadj. MQL	MQL	Dilution	Analysis date / time	Batch
Analyte	mg/l		mg/l	mg/l	mg/l			
Aluminum,Dissolved	0.00771	B J	0.00515	0.100	0.100	1	10/08/2018 22:16	WG1174848
Arsenic,Dissolved	0.00744		0.000250	0.00200	0.00200	1	10/08/2018 22:16	WG1174848
Barium,Dissolved	0.182		0.000360	0.00500	0.00500	1	10/08/2018 22:16	WG1174848
Cadmium,Dissolved	U		0.000160	0.00100	0.00100	1	10/08/2018 22:16	WG1174848
Chromium,Dissolved	0.000757	B J	0.000540	0.00200	0.00200	1	10/08/2018 22:16	WG1174848
Copper,Dissolved	0.00160	B J	0.000520	0.00500	0.00500	1	10/08/2018 22:16	WG1174848
Cobalt,Dissolved	U		0.000260	0.00200	0.00200	1	10/08/2018 22:16	WG1174848
Iron,Dissolved	U		0.0150	0.100	0.100	1	10/08/2018 22:16	WG1174848
Lead,Dissolved	0.000279	B J	0.000240	0.00200	0.00200	1	10/08/2018 22:16	WG1174848
Manganese,Dissolved	0.000389	B J	0.000250	0.00500	0.00500	1	10/08/2018 22:16	WG1174848
Molybdenum,Dissolved	0.00169	B J	0.000140	0.00500	0.00500	1	10/08/2018 22:16	WG1174848
Nickel,Dissolved	0.00867		0.000350	0.00200	0.00200	1	10/08/2018 22:16	WG1174848
Selenium,Dissolved	0.00248		0.000380	0.00200	0.00200	1	10/08/2018 22:16	WG1174848
Silver,Dissolved	U		0.000310	0.00200	0.00200	1	10/08/2018 22:16	WG1174848
Uranium,Dissolved	0.00486	J	0.000330	0.0100	0.0100	1	10/08/2018 22:16	WG1174848
Zinc,Dissolved	0.0157	B J	0.00256	0.0250	0.0250	1	10/08/2018 22:16	WG1174848

Volatile Organic Compounds (GC/MS) by Method 8260B

	Result	Qualifier	SDL	Unadj. MQL	MQL	Dilution	Analysis date / time	Batch
Analyte	mg/l		mg/l	mg/l	mg/l			
Acetone	U		0.0100	1.00	1.00	1	10/03/2018 03:16	WG1174888
Benzene	U		0.000331	0.00100	0.00100	1	10/03/2018 03:16	WG1174888
Bromodichloromethane	U		0.000380	0.00125	0.00125	1	10/03/2018 03:16	WG1174888
Bromoform	U		0.000469	0.00100	0.00100	1	10/03/2018 03:16	WG1174888
Bromomethane	U		0.000866	0.00500	0.00500	1	10/03/2018 03:16	WG1174888
n-Butylbenzene	U		0.000361	0.00100	0.00100	1	10/03/2018 03:16	WG1174888



Collected date/time: 10/01/18 11:45

L1030903

Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result mg/l	Qualifier	SDL mg/l	Unadj. MQL mg/l	MQL mg/l	Dilution	Analysis date / time	Batch
sec-Butylbenzene	U		0.000365	0.00100	0.00100	1	10/03/2018 03:16	WG1174888
tert-Butylbenzene	U		0.000399	0.00100	0.00100	1	10/03/2018 03:16	WG1174888
Carbon disulfide	U		0.000275	0.00100	0.00100	1	10/03/2018 03:16	WG1174888
Carbon tetrachloride	U		0.000379	0.00100	0.00100	1	10/03/2018 03:16	WG1174888
Chlorobenzene	U		0.000348	0.00100	0.00100	1	10/03/2018 03:16	WG1174888
Chlorodibromomethane	U		0.000327	0.00100	0.00100	1	10/03/2018 03:16	WG1174888
Chloroethane	U		0.000453	0.00500	0.00500	1	10/03/2018 03:16	WG1174888
Chloroform	U		0.000324	0.00500	0.00500	1	10/03/2018 03:16	WG1174888
Chloromethane	U		0.000276	0.00250	0.00250	1	10/03/2018 03:16	WG1174888
1,2-Dibromoethane	U		0.000381	0.00100	0.00100	1	10/03/2018 03:16	WG1174888
1,1-Dichloroethane	U		0.000259	0.00100	0.00100	1	10/03/2018 03:16	WG1174888
1,2-Dichloroethane	U		0.000361	0.00100	0.00100	1	10/03/2018 03:16	WG1174888
1,1-Dichloroethene	U		0.000398	0.00100	0.00100	1	10/03/2018 03:16	WG1174888
cis-1,2-Dichloroethene	U		0.000260	0.00100	0.00100	1	10/03/2018 03:16	WG1174888
trans-1,2-Dichloroethene	U		0.000396	0.00100	0.00100	1	10/03/2018 03:16	WG1174888
1,2-Dichloropropane	U		0.000306	0.00100	0.00100	1	10/03/2018 03:16	WG1174888
cis-1,3-Dichloropropene	U		0.000418	0.00100	0.00100	1	10/03/2018 03:16	WG1174888
trans-1,3-Dichloropropene	U		0.000419	0.00100	0.00100	1	10/03/2018 03:16	WG1174888
Ethylbenzene	U		0.000384	0.00100	0.00100	1	10/03/2018 03:16	WG1174888
Hexachloro-1,3-butadiene	U		0.000256	0.00100	0.00100	1	10/03/2018 03:16	WG1174888
2-Hexanone	U		0.00382	0.0100	0.0100	1	10/03/2018 03:16	WG1174888
Isopropylbenzene	U		0.000326	0.00100	0.00100	1	10/03/2018 03:16	WG1174888
p-Isopropyltoluene	U		0.000350	0.00100	0.00100	1	10/03/2018 03:16	WG1174888
2-Butanone (MEK)	U		0.00393	0.0100	0.0100	1	10/03/2018 03:16	WG1174888
Methylene Chloride	U		0.00100	0.00500	0.00500	1	10/03/2018 03:16	WG1174888
4-Methyl-2-pentanone (MIBK)	U		0.00214	0.0100	0.0100	1	10/03/2018 03:16	WG1174888
Methyl tert-butyl ether	U		0.000367	0.00100	0.00100	1	10/03/2018 03:16	WG1174888
Naphthalene	U		0.00100	0.00500	0.00500	1	10/03/2018 03:16	WG1174888
n-Propylbenzene	U		0.000349	0.00100	0.00100	1	10/03/2018 03:16	WG1174888
Styrene	U		0.000307	0.00100	0.00100	1	10/03/2018 03:16	WG1174888
1,1,2,2-Tetrachloroethane	U		0.000130	0.00100	0.00100	1	10/03/2018 03:16	WG1174888
Tetrachloroethene	U		0.000372	0.00100	0.00100	1	10/03/2018 03:16	WG1174888
Toluene	U		0.000412	0.00100	0.00100	1	10/03/2018 03:16	WG1174888
1,1,1-Trichloroethane	U		0.000319	0.00100	0.00100	1	10/03/2018 03:16	WG1174888
1,1,2-Trichloroethane	U		0.000383	0.00100	0.00100	1	10/03/2018 03:16	WG1174888
Trichloroethene	U		0.000398	0.00100	0.00100	1	10/03/2018 03:16	WG1174888
1,2,4-Trimethylbenzene	U		0.000373	0.00100	0.00100	1	10/03/2018 03:16	WG1174888
1,3,5-Trimethylbenzene	U		0.000387	0.00100	0.00100	1	10/03/2018 03:16	WG1174888
Vinyl chloride	U		0.000259	0.00100	0.00100	1	10/03/2018 03:16	WG1174888
Xylenes, Total	U		0.00106	0.00300	0.00300	1	10/03/2018 03:16	WG1174888
(S) Toluene-d8	110				80.0-120		10/03/2018 03:16	WG1174888
(S) Dibromofluoromethane	87.7				75.0-120		10/03/2018 03:16	WG1174888
(S) 4-Bromofluorobenzene	102				77.0-126		10/03/2018 03:16	WG1174888

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc

Wet Chemistry by Method 353.2

	Result	<u>Qualifier</u>	SDL	Unadj. MQL	MQL	Dilution	Analysis date / time	<u>Batch</u>
Analyte	mg/l		mg/l	mg/l	mg/l			
Nitrate-Nitrite	9.00		0.0985	0.100	0.500	5	10/09/2018 13:18	WG1177679

Wet Chemistry by Method 9056A

	Result	<u>Qualifier</u>	SDL	Unadj. MQL	MQL	Dilution	Analysis date / time	<u>Batch</u>
Analyte	mg/l		mg/l	mg/l	mg/l			
Chloride	232		0.260	1.00	5.00	5	10/04/2018 20:54	WG1174940
Fluoride	0.489		0.00990	0.100	0.100	1	10/04/2018 20:44	WG1174940
Sulfate	110		0.387	5.00	25.0	5	10/04/2018 20:54	WG1174940

1

Cp

2

Tc

3

Ss

4

Cn

5

Sr

6

Qc

7

Gl

8

Al

9

Sc



Wet Chemistry by Method 353.2

Analyte	Result	Qualifier	SDL	Unadj. MQL	MQL	Dilution	Analysis date / time	Batch
Nitrate-Nitrite	1.69		0.0197	0.100	0.100	1	10/09/2018 13:19	WG1177679

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	SDL	Unadj. MQL	MQL	Dilution	Analysis date / time	Batch
Chloride	33.3		0.0519	1.00	1.00	1	10/04/2018 21:03	WG1174940
Fluoride	0.955		0.00990	0.100	0.100	1	10/04/2018 21:03	WG1174940
Sulfate	76.3		0.0774	5.00	5.00	1	10/04/2018 21:03	WG1174940

¹ Cp

² Tc

³ Ss

⁴ Cn

⁵ Sr

⁶ Qc

⁷ Gl

⁸ Al

⁹ Sc



Gravimetric Analysis by Method 2540 C-2011

	Result	Qualifier	SDL	Unadj. MQL	MQL	Dilution	Analysis date / time	Batch
Analyte	mg/l		mg/l	mg/l	mg/l			
Dissolved Solids	1220		5.64	20.0	20.0	1	10/08/2018 17:45	WG1176735

Wet Chemistry by Method 2320 B-2011

	Result	Qualifier	SDL	Unadj. MQL	MQL	Dilution	Analysis date / time	Batch
Analyte	mg/l		mg/l	mg/l	mg/l			
Alkalinity	200		2.71	20.0	20.0	1	10/08/2018 21:17	WG1177312

Sample Narrative:

L1030903-10 WG1177312: Endpoint pH 4.5 HEADSPACE

Wet Chemistry by Method 353.2

	Result	Qualifier	SDL	Unadj. MQL	MQL	Dilution	Analysis date / time	Batch
Analyte	mg/l		mg/l	mg/l	mg/l			
Nitrate-Nitrite	3.94		0.0197	0.100	0.100	1	10/09/2018 13:21	WG1177679

Wet Chemistry by Method 9056A

	Result	Qualifier	SDL	Unadj. MQL	MQL	Dilution	Analysis date / time	Batch
Analyte	mg/l		mg/l	mg/l	mg/l			
Chloride	293		0.260	1.00	5.00	5	10/04/2018 21:22	WG1174940
Fluoride	0.587		0.00990	0.100	0.100	1	10/04/2018 21:13	WG1174940
Sulfate	116		0.387	5.00	25.0	5	10/04/2018 21:22	WG1174940

Mercury by Method 7470A

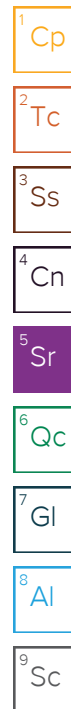
	Result	Qualifier	SDL	Unadj. MQL	MQL	Dilution	Analysis date / time	Batch
Analyte	mg/l		mg/l	mg/l	mg/l			
Mercury	U		0.0000490	0.000200	0.000200	1	10/04/2018 11:59	WG1174916

Metals (ICP) by Method 6010B

	Result	Qualifier	SDL	Unadj. MQL	MQL	Dilution	Analysis date / time	Batch
Analyte	mg/l		mg/l	mg/l	mg/l			
Boron,Dissolved	0.160	J	0.0126	0.200	0.200	1	10/08/2018 19:11	WG1174845

Metals (ICPMS) by Method 6020

	Result	Qualifier	SDL	Unadj. MQL	MQL	Dilution	Analysis date / time	Batch
Analyte	mg/l		mg/l	mg/l	mg/l			
Aluminum,Dissolved	0.00726	B J	0.00515	0.100	0.100	1	10/08/2018 22:20	WG1174848
Arsenic,Dissolved	0.00258		0.000250	0.00200	0.00200	1	10/08/2018 22:20	WG1174848
Barium,Dissolved	0.162		0.000360	0.00500	0.00500	1	10/08/2018 22:20	WG1174848
Cadmium,Dissolved	U		0.000160	0.00100	0.00100	1	10/08/2018 22:20	WG1174848
Chromium,Dissolved	U		0.000540	0.00200	0.00200	1	10/08/2018 22:20	WG1174848
Copper,Dissolved	0.0248		0.000520	0.00500	0.00500	1	10/08/2018 22:20	WG1174848
Cobalt,Dissolved	U		0.000260	0.00200	0.00200	1	10/08/2018 22:20	WG1174848
Iron,Dissolved	U		0.0150	0.100	0.100	1	10/08/2018 22:20	WG1174848
Lead,Dissolved	0.000797	B J	0.000240	0.00200	0.00200	1	10/08/2018 22:20	WG1174848
Manganese,Dissolved	0.00123	B J	0.000250	0.00500	0.00500	1	10/08/2018 22:20	WG1174848
Molybdenum,Dissolved	0.00119	B J	0.000140	0.00500	0.00500	1	10/08/2018 22:20	WG1174848
Nickel,Dissolved	0.00546		0.000350	0.00200	0.00200	1	10/08/2018 22:20	WG1174848
Selenium,Dissolved	0.00206		0.000380	0.00200	0.00200	1	10/08/2018 22:20	WG1174848
Silver,Dissolved	U		0.000310	0.00200	0.00200	1	10/08/2018 22:20	WG1174848
Uranium,Dissolved	0.00299	J	0.000330	0.0100	0.0100	1	10/08/2018 22:20	WG1174848
Zinc,Dissolved	0.111		0.00256	0.0250	0.0250	1	10/08/2018 22:20	WG1174848





Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result mg/l	Qualifier	SDL mg/l	Unadj. MQL mg/l	MQL mg/l	Dilution	Analysis date / time	Batch
Acetone	U		0.0100	1.00	1.00	1	10/03/2018 03:37	WG1174888
Benzene	U		0.000331	0.00100	0.00100	1	10/03/2018 03:37	WG1174888
Bromodichloromethane	U		0.000380	0.00125	0.00125	1	10/03/2018 03:37	WG1174888
Bromoform	U		0.000469	0.00100	0.00100	1	10/03/2018 03:37	WG1174888
Bromomethane	U		0.000866	0.00500	0.00500	1	10/03/2018 03:37	WG1174888
n-Butylbenzene	U		0.000361	0.00100	0.00100	1	10/03/2018 03:37	WG1174888
sec-Butylbenzene	U		0.000365	0.00100	0.00100	1	10/03/2018 03:37	WG1174888
tert-Butylbenzene	U		0.000399	0.00100	0.00100	1	10/03/2018 03:37	WG1174888
Carbon disulfide	U		0.000275	0.00100	0.00100	1	10/03/2018 03:37	WG1174888
Carbon tetrachloride	U		0.000379	0.00100	0.00100	1	10/03/2018 03:37	WG1174888
Chlorobenzene	U		0.000348	0.00100	0.00100	1	10/03/2018 03:37	WG1174888
Chlorodibromomethane	U		0.000327	0.00100	0.00100	1	10/03/2018 03:37	WG1174888
Chloroethane	U		0.000453	0.00500	0.00500	1	10/03/2018 03:37	WG1174888
Chloroform	U		0.000324	0.00500	0.00500	1	10/03/2018 03:37	WG1174888
Chloromethane	U		0.000276	0.00250	0.00250	1	10/03/2018 03:37	WG1174888
1,2-Dibromoethane	U		0.000381	0.00100	0.00100	1	10/03/2018 03:37	WG1174888
1,1-Dichloroethane	U		0.000259	0.00100	0.00100	1	10/03/2018 03:37	WG1174888
1,2-Dichloroethane	U		0.000361	0.00100	0.00100	1	10/03/2018 03:37	WG1174888
1,1-Dichloroethene	U		0.000398	0.00100	0.00100	1	10/03/2018 03:37	WG1174888
cis-1,2-Dichloroethene	U		0.000260	0.00100	0.00100	1	10/03/2018 03:37	WG1174888
trans-1,2-Dichloroethene	U		0.000396	0.00100	0.00100	1	10/03/2018 03:37	WG1174888
1,2-Dichloropropane	U		0.000306	0.00100	0.00100	1	10/03/2018 03:37	WG1174888
cis-1,3-Dichloropropene	U		0.000418	0.00100	0.00100	1	10/03/2018 03:37	WG1174888
trans-1,3-Dichloropropene	U		0.000419	0.00100	0.00100	1	10/03/2018 03:37	WG1174888
Ethylbenzene	U		0.000384	0.00100	0.00100	1	10/03/2018 03:37	WG1174888
Hexachloro-1,3-butadiene	U		0.000256	0.00100	0.00100	1	10/03/2018 03:37	WG1174888
2-Hexanone	U		0.00382	0.0100	0.0100	1	10/03/2018 03:37	WG1174888
Isopropylbenzene	U		0.000326	0.00100	0.00100	1	10/03/2018 03:37	WG1174888
p-Isopropyltoluene	U		0.000350	0.00100	0.00100	1	10/03/2018 03:37	WG1174888
2-Butanone (MEK)	U		0.00393	0.0100	0.0100	1	10/03/2018 03:37	WG1174888
Methylene Chloride	U		0.00100	0.00500	0.00500	1	10/03/2018 03:37	WG1174888
4-Methyl-2-pentanone (MIBK)	U		0.00214	0.0100	0.0100	1	10/03/2018 03:37	WG1174888
Methyl tert-butyl ether	U		0.000367	0.00100	0.00100	1	10/03/2018 03:37	WG1174888
Naphthalene	U		0.00100	0.00500	0.00500	1	10/03/2018 03:37	WG1174888
n-Propylbenzene	U		0.000349	0.00100	0.00100	1	10/03/2018 03:37	WG1174888
Styrene	U		0.000307	0.00100	0.00100	1	10/03/2018 03:37	WG1174888
1,1,2,2-Tetrachloroethane	U		0.000130	0.00100	0.00100	1	10/03/2018 03:37	WG1174888
Tetrachloroethene	U		0.000372	0.00100	0.00100	1	10/03/2018 03:37	WG1174888
Toluene	U		0.000412	0.00100	0.00100	1	10/03/2018 03:37	WG1174888
1,1,1-Trichloroethane	U		0.000319	0.00100	0.00100	1	10/03/2018 03:37	WG1174888
1,1,2-Trichloroethane	U		0.000383	0.00100	0.00100	1	10/03/2018 03:37	WG1174888
Trichloroethene	U		0.000398	0.00100	0.00100	1	10/03/2018 03:37	WG1174888
1,2,4-Trimethylbenzene	U		0.000373	0.00100	0.00100	1	10/03/2018 03:37	WG1174888
1,3,5-Trimethylbenzene	U		0.000387	0.00100	0.00100	1	10/03/2018 03:37	WG1174888
Vinyl chloride	U		0.000259	0.00100	0.00100	1	10/03/2018 03:37	WG1174888
Xylenes, Total	U		0.00106	0.00300	0.00300	1	10/03/2018 03:37	WG1174888
(S) Toluene-d8	108				80.0-120		10/03/2018 03:37	WG1174888
(S) Dibromofluoromethane	87.5				75.0-120		10/03/2018 03:37	WG1174888
(S) 4-Bromofluorobenzene	100				77.0-126		10/03/2018 03:37	WG1174888

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc

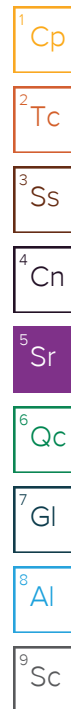


Collected date/time: 10/01/18 12:35

L1030903

Semi Volatile Organic Compounds (GC/MS) by Method 8270 C

Analyte	Result mg/l	Qualifier	SDL mg/l	Unadj. MQL mg/l	MQL mg/l	Dilution	Analysis date / time	Batch
Acenaphthene	U		0.000316	0.00100	0.00100	1	10/08/2018 02:22	WG1177359
Acenaphthylene	U		0.000309	0.00100	0.00100	1	10/08/2018 02:22	WG1177359
Acetophenone	U		0.00247	0.0100	0.0100	1	10/08/2018 02:22	WG1177359
Anthracene	U		0.000291	0.00100	0.00100	1	10/08/2018 02:22	WG1177359
Atrazine	U		0.000260	0.0100	0.0100	1	10/08/2018 02:22	WG1177359
Benzo(a)anthracene	U		0.0000510	0.00100	0.00100	1	10/08/2018 02:22	WG1177359
Benzaldehyde	U		0.00140	0.0100	0.0100	1	10/08/2018 02:22	WG1177359
Benzo(b)fluoranthene	U		0.0000896	0.00100	0.00100	1	10/08/2018 02:22	WG1177359
Benzo(k)fluoranthene	U		0.000355	0.00100	0.00100	1	10/08/2018 02:22	WG1177359
Benzo(g,h,i)perylene	U		0.00000227	0.00100	0.00100	1	10/08/2018 02:22	WG1177359
Benzo(a)pyrene	U		0.0000381	0.000200	0.000200	1	10/08/2018 02:22	WG1177359
Biphenyl	U		0.000325	0.0100	0.0100	1	10/08/2018 02:22	WG1177359
Bis(2-chlorethoxy)methane	U		0.000329	0.0100	0.0100	1	10/08/2018 02:22	WG1177359
Bis(2-chloroethyl)ether	U		0.00162	0.0100	0.0100	1	10/08/2018 02:22	WG1177359
Bis(2-chloroisopropyl)ether	U		0.000445	0.0100	0.0100	1	10/08/2018 02:22	WG1177359
4-Bromophenyl-phenylether	U		0.000335	0.0100	0.0100	1	10/08/2018 02:22	WG1177359
2-Chloronaphthalene	U		0.000330	0.00100	0.00100	1	10/08/2018 02:22	WG1177359
4-Chlorophenyl-phenylether	U		0.000303	0.0100	0.0100	1	10/08/2018 02:22	WG1177359
Caprolactam	U		0.00259	0.0100	0.0100	1	10/08/2018 02:22	WG1177359
Carbazole	U		0.000260	0.0100	0.0100	1	10/08/2018 02:22	WG1177359
Chrysene	U		0.000332	0.00100	0.00100	1	10/08/2018 02:22	WG1177359
Dibenz(a,h)anthracene	U		0.0000644	0.000200	0.000200	1	10/08/2018 02:22	WG1177359
Dibenzofuran	U		0.000338	0.0100	0.0100	1	10/08/2018 02:22	WG1177359
3,3-Dichlorobenzidine	U		0.00202	0.0100	0.0100	1	10/08/2018 02:22	WG1177359
2,4-Dinitrotoluene	U		0.00165	0.0100	0.0100	1	10/08/2018 02:22	WG1177359
2,6-Dinitrotoluene	U		0.000279	0.0100	0.0100	1	10/08/2018 02:22	WG1177359
Fluoranthene	U		0.000310	0.00100	0.00100	1	10/08/2018 02:22	WG1177359
Fluorene	U		0.000323	0.00100	0.00100	1	10/08/2018 02:22	WG1177359
Hexachlorobenzene	U		0.000341	0.00100	0.00100	1	10/08/2018 02:22	WG1177359
Hexachloro-1,3-butadiene	U		0.000329	0.0100	0.0100	1	10/08/2018 02:22	WG1177359
Hexachlorocyclopentadiene	U		0.00233	0.0100	0.0100	1	10/08/2018 02:22	WG1177359
Hexachloroethane	U		0.000365	0.0100	0.0100	1	10/08/2018 02:22	WG1177359
Indeno(1,2,3-cd)pyrene	U		0.000279	0.00100	0.00100	1	10/08/2018 02:22	WG1177359
Isophorone	U		0.000272	0.0100	0.0100	1	10/08/2018 02:22	WG1177359
1-Methylnaphthalene	U		0.000332	0.00100	0.00100	1	10/08/2018 02:22	WG1177359
2-Methylnaphthalene	U		0.000311	0.00100	0.00100	1	10/08/2018 02:22	WG1177359
Naphthalene	U		0.000372	0.00100	0.00100	1	10/08/2018 02:22	WG1177359
Nitrobenzene	U		0.000367	0.0100	0.0100	1	10/08/2018 02:22	WG1177359
n-Nitrosodiphenylamine	U		0.00119	0.0100	0.0100	1	10/08/2018 02:22	WG1177359
n-Nitrosodi-n-propylamine	U		0.000403	0.0100	0.0100	1	10/08/2018 02:22	WG1177359
Phenanthrene	U		0.000366	0.00100	0.00100	1	10/08/2018 02:22	WG1177359
Benzylbutyl phthalate	U		0.000275	0.00300	0.00300	1	10/08/2018 02:22	WG1177359
Bis(2-ethylhexyl)phthalate	U		0.000709	0.00300	0.00300	1	10/08/2018 02:22	WG1177359
Di-n-butyl phthalate	0.000390	J	0.000266	0.00300	0.00300	1	10/08/2018 02:22	WG1177359
Diethyl phthalate	U		0.000282	0.00300	0.00300	1	10/08/2018 02:22	WG1177359
Dimethyl phthalate	U	J4	0.000283	0.00300	0.00300	1	10/08/2018 02:22	WG1177359
Di-n-octyl phthalate	U		0.000278	0.00300	0.00300	1	10/08/2018 02:22	WG1177359
Pyrene	U		0.000330	0.00100	0.00100	1	10/08/2018 02:22	WG1177359
1,2,4-Trichlorobenzene	U		0.000355	0.0100	0.0100	1	10/08/2018 02:22	WG1177359
4-Chloro-3-methylphenol	U		0.000263	0.0100	0.0100	1	10/08/2018 02:22	WG1177359
2-Chlorophenol	U		0.000283	0.0100	0.0100	1	10/08/2018 02:22	WG1177359
2,4-Dichlorophenol	U		0.000284	0.0100	0.0100	1	10/08/2018 02:22	WG1177359
2,4-Dimethylphenol	U		0.000624	0.0100	0.0100	1	10/08/2018 02:22	WG1177359
4,6-Dinitro-2-methylphenol	U		0.00262	0.0100	0.0100	1	10/08/2018 02:22	WG1177359
2,4-Dinitrophenol	U		0.00325	0.0100	0.0100	1	10/08/2018 02:22	WG1177359
2-Nitrophenol	U		0.000320	0.0100	0.0100	1	10/08/2018 02:22	WG1177359





Collected date/time: 10/01/18 12:35

L1030903

Semi Volatile Organic Compounds (GC/MS) by Method 8270 C

Analyte	Result mg/l	Qualifier	SDL mg/l	Unadj. MQL mg/l	MQL mg/l	Dilution	Analysis date / time	Batch
2-Nitroaniline	U		0.00190	0.0100	0.0100	1	10/08/2018 02:22	WG1177359
2-Methylphenol	U		0.000312	0.0100	0.0100	1	10/08/2018 02:22	WG1177359
3&4-Methyl Phenol	U		0.000266	0.0100	0.0100	1	10/08/2018 02:22	WG1177359
3-Nitroaniline	U		0.000308	0.0100	0.0100	1	10/08/2018 02:22	WG1177359
4-Chloroaniline	U		0.000382	0.0100	0.0100	1	10/08/2018 02:22	WG1177359
4-Nitroaniline	U		0.000349	0.0100	0.0100	1	10/08/2018 02:22	WG1177359
4-Nitrophenol	U		0.00201	0.0100	0.0100	1	10/08/2018 02:22	WG1177359
Pentachlorophenol	U		0.000313	0.0100	0.0100	1	10/08/2018 02:22	WG1177359
Phenol	U		0.000334	0.0100	0.0100	1	10/08/2018 02:22	WG1177359
2,4,5-Trichlorophenol	U		0.000236	0.0100	0.0100	1	10/08/2018 02:22	WG1177359
2,4,6-Trichlorophenol	U		0.000297	0.0100	0.0100	1	10/08/2018 02:22	WG1177359
(S) 2-Fluorophenol	32.9				10.0-120		10/08/2018 02:22	WG1177359
(S) Phenol-d5	19.3				10.0-120		10/08/2018 02:22	WG1177359
(S) Nitrobenzene-d5	47.0				10.0-127		10/08/2018 02:22	WG1177359
(S) 2-Fluorobiphenyl	46.0				10.0-130		10/08/2018 02:22	WG1177359
(S) 2,4,6-Tribromophenol	39.5				10.0-155		10/08/2018 02:22	WG1177359
(S) p-Terphenyl-d14	61.9				10.0-128		10/08/2018 02:22	WG1177359

¹ Cp² Tc³ Ss⁴ Cn⁵ Sr⁶ Qc⁷ Gl⁸ Al⁹ Sc



Gravimetric Analysis by Method 2540 C-2011

	Result	Qualifier	SDL	Unadj. MQL	MQL	Dilution	Analysis date / time	Batch
Analyte	mg/l		mg/l	mg/l	mg/l			
Dissolved Solids	503		2.82	10.0	10.0	1	10/08/2018 17:45	WG1176735

Wet Chemistry by Method 2320 B-2011

	Result	Qualifier	SDL	Unadj. MQL	MQL	Dilution	Analysis date / time	Batch
Analyte	mg/l		mg/l	mg/l	mg/l			
Alkalinity	320		2.71	20.0	20.0	1	10/08/2018 21:24	WG1177312

Sample Narrative:

L1030903-11 WG1177312: Endpoint pH 4.5 HEADSPACE

Wet Chemistry by Method 353.2

	Result	Qualifier	SDL	Unadj. MQL	MQL	Dilution	Analysis date / time	Batch
Analyte	mg/l		mg/l	mg/l	mg/l			
Nitrate-Nitrite	4.88		0.0394	0.100	0.200	2	10/09/2018 13:22	WG1177679

Wet Chemistry by Method 9056A

	Result	Qualifier	SDL	Unadj. MQL	MQL	Dilution	Analysis date / time	Batch
Analyte	mg/l		mg/l	mg/l	mg/l			
Chloride	32.9		0.0519	1.00	1.00	1	10/04/2018 21:51	WG1174940
Fluoride	0.685		0.00990	0.100	0.100	1	10/04/2018 21:51	WG1174940
Sulfate	82.9		0.0774	5.00	5.00	1	10/04/2018 21:51	WG1174940

Mercury by Method 7470A

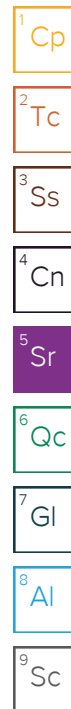
	Result	Qualifier	SDL	Unadj. MQL	MQL	Dilution	Analysis date / time	Batch
Analyte	mg/l		mg/l	mg/l	mg/l			
Mercury	U		0.0000490	0.000200	0.000200	1	10/04/2018 12:01	WG1174916

Metals (ICP) by Method 6010B

	Result	Qualifier	SDL	Unadj. MQL	MQL	Dilution	Analysis date / time	Batch
Analyte	mg/l		mg/l	mg/l	mg/l			
Boron,Dissolved	0.262		0.0126	0.200	0.200	1	10/08/2018 19:14	WG1174845

Metals (ICPMS) by Method 6020

	Result	Qualifier	SDL	Unadj. MQL	MQL	Dilution	Analysis date / time	Batch
Analyte	mg/l		mg/l	mg/l	mg/l			
Aluminum,Dissolved	U		0.00515	0.100	0.100	1	10/08/2018 22:25	WG1174848
Arsenic,Dissolved	0.00251		0.000250	0.00200	0.00200	1	10/08/2018 22:25	WG1174848
Barium,Dissolved	0.141		0.000360	0.00500	0.00500	1	10/08/2018 22:25	WG1174848
Cadmium,Dissolved	U		0.000160	0.00100	0.00100	1	10/08/2018 22:25	WG1174848
Chromium,Dissolved	U		0.000540	0.00200	0.00200	1	10/08/2018 22:25	WG1174848
Copper,Dissolved	0.000867	B J	0.000520	0.00500	0.00500	1	10/08/2018 22:25	WG1174848
Cobalt,Dissolved	U		0.000260	0.00200	0.00200	1	10/08/2018 22:25	WG1174848
Iron,Dissolved	U		0.0150	0.100	0.100	1	10/08/2018 22:25	WG1174848
Lead,Dissolved	U		0.000240	0.00200	0.00200	1	10/08/2018 22:25	WG1174848
Manganese,Dissolved	0.000932	B J	0.000250	0.00500	0.00500	1	10/08/2018 22:25	WG1174848
Molybdenum,Dissolved	0.00195	B J	0.000140	0.00500	0.00500	1	10/08/2018 22:25	WG1174848
Nickel,Dissolved	0.00181	J	0.000350	0.00200	0.00200	1	10/08/2018 22:25	WG1174848
Selenium,Dissolved	0.00175	J	0.000380	0.00200	0.00200	1	10/08/2018 22:25	WG1174848
Silver,Dissolved	U		0.000310	0.00200	0.00200	1	10/08/2018 22:25	WG1174848
Uranium,Dissolved	0.00458	J	0.000330	0.0100	0.0100	1	10/08/2018 22:25	WG1174848
Zinc,Dissolved	0.00781	B J	0.00256	0.0250	0.0250	1	10/08/2018 22:25	WG1174848





Collected date/time: 10/01/18 11:40

L1030903

Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result mg/l	Qualifier	SDL mg/l	Unadj. MQL mg/l	MQL mg/l	Dilution	Analysis date / time	Batch
Acetone	U		0.0100	1.00	1.00	1	10/03/2018 03:57	WG1174888
Benzene	U		0.000331	0.00100	0.00100	1	10/03/2018 03:57	WG1174888
Bromodichloromethane	U		0.000380	0.00125	0.00125	1	10/03/2018 03:57	WG1174888
Bromoform	U		0.000469	0.00100	0.00100	1	10/03/2018 03:57	WG1174888
Bromomethane	U		0.000866	0.00500	0.00500	1	10/03/2018 03:57	WG1174888
n-Butylbenzene	U		0.000361	0.00100	0.00100	1	10/03/2018 03:57	WG1174888
sec-Butylbenzene	U		0.000365	0.00100	0.00100	1	10/03/2018 03:57	WG1174888
tert-Butylbenzene	U		0.000399	0.00100	0.00100	1	10/03/2018 03:57	WG1174888
Carbon disulfide	U		0.000275	0.00100	0.00100	1	10/03/2018 03:57	WG1174888
Carbon tetrachloride	U		0.000379	0.00100	0.00100	1	10/03/2018 03:57	WG1174888
Chlorobenzene	U		0.000348	0.00100	0.00100	1	10/03/2018 03:57	WG1174888
Chlorodibromomethane	U		0.000327	0.00100	0.00100	1	10/03/2018 03:57	WG1174888
Chloroethane	U		0.000453	0.00500	0.00500	1	10/03/2018 03:57	WG1174888
Chloroform	U		0.000324	0.00500	0.00500	1	10/03/2018 03:57	WG1174888
Chloromethane	U		0.000276	0.00250	0.00250	1	10/03/2018 03:57	WG1174888
1,2-Dibromoethane	U		0.000381	0.00100	0.00100	1	10/03/2018 03:57	WG1174888
1,1-Dichloroethane	U		0.000259	0.00100	0.00100	1	10/03/2018 03:57	WG1174888
1,2-Dichloroethane	U		0.000361	0.00100	0.00100	1	10/03/2018 03:57	WG1174888
1,1-Dichloroethene	U		0.000398	0.00100	0.00100	1	10/03/2018 03:57	WG1174888
cis-1,2-Dichloroethene	U		0.000260	0.00100	0.00100	1	10/03/2018 03:57	WG1174888
trans-1,2-Dichloroethene	U		0.000396	0.00100	0.00100	1	10/03/2018 03:57	WG1174888
1,2-Dichloropropane	U		0.000306	0.00100	0.00100	1	10/03/2018 03:57	WG1174888
cis-1,3-Dichloropropene	U		0.000418	0.00100	0.00100	1	10/03/2018 03:57	WG1174888
trans-1,3-Dichloropropene	U		0.000419	0.00100	0.00100	1	10/03/2018 03:57	WG1174888
Ethylbenzene	U		0.000384	0.00100	0.00100	1	10/03/2018 03:57	WG1174888
Hexachloro-1,3-butadiene	U		0.000256	0.00100	0.00100	1	10/03/2018 03:57	WG1174888
2-Hexanone	U		0.00382	0.0100	0.0100	1	10/03/2018 03:57	WG1174888
Isopropylbenzene	U		0.000326	0.00100	0.00100	1	10/03/2018 03:57	WG1174888
p-Isopropyltoluene	U		0.000350	0.00100	0.00100	1	10/03/2018 03:57	WG1174888
2-Butanone (MEK)	U		0.00393	0.0100	0.0100	1	10/03/2018 03:57	WG1174888
Methylene Chloride	U		0.00100	0.00500	0.00500	1	10/03/2018 03:57	WG1174888
4-Methyl-2-pentanone (MIBK)	U		0.00214	0.0100	0.0100	1	10/03/2018 03:57	WG1174888
Methyl tert-butyl ether	U		0.000367	0.00100	0.00100	1	10/03/2018 03:57	WG1174888
Naphthalene	U		0.00100	0.00500	0.00500	1	10/03/2018 03:57	WG1174888
n-Propylbenzene	U		0.000349	0.00100	0.00100	1	10/03/2018 03:57	WG1174888
Styrene	U		0.000307	0.00100	0.00100	1	10/03/2018 03:57	WG1174888
1,1,2,2-Tetrachloroethane	U		0.000130	0.00100	0.00100	1	10/03/2018 03:57	WG1174888
Tetrachloroethene	U		0.000372	0.00100	0.00100	1	10/03/2018 03:57	WG1174888
Toluene	U		0.000412	0.00100	0.00100	1	10/03/2018 03:57	WG1174888
1,1,1-Trichloroethane	U		0.000319	0.00100	0.00100	1	10/03/2018 03:57	WG1174888
1,1,2-Trichloroethane	U		0.000383	0.00100	0.00100	1	10/03/2018 03:57	WG1174888
Trichloroethene	U		0.000398	0.00100	0.00100	1	10/03/2018 03:57	WG1174888
1,2,4-Trimethylbenzene	U		0.000373	0.00100	0.00100	1	10/03/2018 03:57	WG1174888
1,3,5-Trimethylbenzene	U		0.000387	0.00100	0.00100	1	10/03/2018 03:57	WG1174888
Vinyl chloride	U		0.000259	0.00100	0.00100	1	10/03/2018 03:57	WG1174888
Xylenes, Total	U		0.00106	0.00300	0.00300	1	10/03/2018 03:57	WG1174888
(S) Toluene-d8	112				80.0-120		10/03/2018 03:57	WG1174888
(S) Dibromofluoromethane	91.2				75.0-120		10/03/2018 03:57	WG1174888
(S) 4-Bromofluorobenzene	105				77.0-126		10/03/2018 03:57	WG1174888

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc



Collected date/time: 10/01/18 11:40

L1030903

Semi Volatile Organic Compounds (GC/MS) by Method 8270 C

Analyte	Result mg/l	Qualifier	SDL mg/l	Unadj. MQL mg/l	MQL mg/l	Dilution	Analysis date / time	Batch
Acenaphthene	U		0.000316	0.00100	0.00100	1	10/08/2018 02:46	WG1177359
Acenaphthylene	U		0.000309	0.00100	0.00100	1	10/08/2018 02:46	WG1177359
Acetophenone	U		0.00247	0.0100	0.0100	1	10/08/2018 02:46	WG1177359
Anthracene	U		0.000291	0.00100	0.00100	1	10/08/2018 02:46	WG1177359
Atrazine	U		0.000260	0.0100	0.0100	1	10/08/2018 02:46	WG1177359
Benzo(a)anthracene	U		0.0000510	0.00100	0.00100	1	10/08/2018 02:46	WG1177359
Benzaldehyde	U		0.00140	0.0100	0.0100	1	10/08/2018 02:46	WG1177359
Benzo(b)fluoranthene	U		0.0000896	0.00100	0.00100	1	10/08/2018 02:46	WG1177359
Benzo(k)fluoranthene	U		0.000355	0.00100	0.00100	1	10/08/2018 02:46	WG1177359
Benzo(g,h,i)perylene	U		0.00000227	0.00100	0.00100	1	10/08/2018 02:46	WG1177359
Benzo(a)pyrene	U		0.0000381	0.000200	0.000200	1	10/08/2018 02:46	WG1177359
Biphenyl	U		0.000325	0.0100	0.0100	1	10/08/2018 02:46	WG1177359
Bis(2-chlorethoxy)methane	U		0.000329	0.0100	0.0100	1	10/08/2018 02:46	WG1177359
Bis(2-chloroethyl)ether	U		0.00162	0.0100	0.0100	1	10/08/2018 02:46	WG1177359
Bis(2-chloroisopropyl)ether	U		0.000445	0.0100	0.0100	1	10/08/2018 02:46	WG1177359
4-Bromophenyl-phenylether	U		0.000335	0.0100	0.0100	1	10/08/2018 02:46	WG1177359
2-Chloronaphthalene	U		0.000330	0.00100	0.00100	1	10/08/2018 02:46	WG1177359
4-Chlorophenyl-phenylether	U		0.000303	0.0100	0.0100	1	10/08/2018 02:46	WG1177359
Caprolactam	U		0.00259	0.0100	0.0100	1	10/08/2018 02:46	WG1177359
Carbazole	U		0.000260	0.0100	0.0100	1	10/08/2018 02:46	WG1177359
Chrysene	U		0.000332	0.00100	0.00100	1	10/08/2018 02:46	WG1177359
Dibenz(a,h)anthracene	U		0.0000644	0.000200	0.000200	1	10/08/2018 02:46	WG1177359
Dibenzofuran	U		0.000338	0.0100	0.0100	1	10/08/2018 02:46	WG1177359
3,3-Dichlorobenzidine	U		0.00202	0.0100	0.0100	1	10/08/2018 02:46	WG1177359
2,4-Dinitrotoluene	U		0.00165	0.0100	0.0100	1	10/08/2018 02:46	WG1177359
2,6-Dinitrotoluene	U		0.000279	0.0100	0.0100	1	10/08/2018 02:46	WG1177359
Fluoranthene	U		0.000310	0.00100	0.00100	1	10/08/2018 02:46	WG1177359
Fluorene	U		0.000323	0.00100	0.00100	1	10/08/2018 02:46	WG1177359
Hexachlorobenzene	U		0.000341	0.00100	0.00100	1	10/08/2018 02:46	WG1177359
Hexachloro-1,3-butadiene	U		0.000329	0.0100	0.0100	1	10/08/2018 02:46	WG1177359
Hexachlorocyclopentadiene	U		0.00233	0.0100	0.0100	1	10/08/2018 02:46	WG1177359
Hexachloroethane	U		0.000365	0.0100	0.0100	1	10/08/2018 02:46	WG1177359
Indeno(1,2,3-cd)pyrene	U		0.000279	0.00100	0.00100	1	10/08/2018 02:46	WG1177359
Isophorone	U		0.000272	0.0100	0.0100	1	10/08/2018 02:46	WG1177359
1-Methylnaphthalene	U		0.000332	0.00100	0.00100	1	10/08/2018 02:46	WG1177359
2-Methylnaphthalene	U		0.000311	0.00100	0.00100	1	10/08/2018 02:46	WG1177359
Naphthalene	U		0.000372	0.00100	0.00100	1	10/08/2018 02:46	WG1177359
Nitrobenzene	U		0.000367	0.0100	0.0100	1	10/08/2018 02:46	WG1177359
n-Nitrosodiphenylamine	U		0.00119	0.0100	0.0100	1	10/08/2018 02:46	WG1177359
n-Nitrosodi-n-propylamine	U		0.000403	0.0100	0.0100	1	10/08/2018 02:46	WG1177359
Phenanthrene	U		0.000366	0.00100	0.00100	1	10/08/2018 02:46	WG1177359
Benzylbutyl phthalate	U		0.000275	0.00300	0.00300	1	10/08/2018 02:46	WG1177359
Bis(2-ethylhexyl)phthalate	U		0.000709	0.00300	0.00300	1	10/08/2018 02:46	WG1177359
Di-n-butyl phthalate	U		0.000266	0.00300	0.00300	1	10/08/2018 02:46	WG1177359
Diethyl phthalate	U		0.000282	0.00300	0.00300	1	10/08/2018 02:46	WG1177359
Dimethyl phthalate	U	J4	0.000283	0.00300	0.00300	1	10/08/2018 02:46	WG1177359
Di-n-octyl phthalate	U		0.000278	0.00300	0.00300	1	10/08/2018 02:46	WG1177359
Pyrene	U		0.000330	0.00100	0.00100	1	10/08/2018 02:46	WG1177359
1,2,4-Trichlorobenzene	U		0.000355	0.0100	0.0100	1	10/08/2018 02:46	WG1177359
4-Chloro-3-methylphenol	U		0.000263	0.0100	0.0100	1	10/08/2018 02:46	WG1177359
2-Chlorophenol	U		0.000283	0.0100	0.0100	1	10/08/2018 02:46	WG1177359
2,4-Dichlorophenol	U		0.000284	0.0100	0.0100	1	10/08/2018 02:46	WG1177359
2,4-Dimethylphenol	U		0.000624	0.0100	0.0100	1	10/08/2018 02:46	WG1177359
4,6-Dinitro-2-methylphenol	U		0.00262	0.0100	0.0100	1	10/08/2018 02:46	WG1177359
2,4-Dinitrophenol	U		0.00325	0.0100	0.0100	1	10/08/2018 02:46	WG1177359
2-Nitrophenol	U		0.000320	0.0100	0.0100	1	10/08/2018 02:46	WG1177359

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc



Collected date/time: 10/01/18 11:40

L1030903

Semi Volatile Organic Compounds (GC/MS) by Method 8270 C

Analyte	Result mg/l	Qualifier	SDL mg/l	Unadj. MQL mg/l	MQL mg/l	Dilution	Analysis date / time	Batch
2-Nitroaniline	U		0.00190	0.0100	0.0100	1	10/08/2018 02:46	WG1177359
2-Methylphenol	U		0.000312	0.0100	0.0100	1	10/08/2018 02:46	WG1177359
3&4-Methyl Phenol	U		0.000266	0.0100	0.0100	1	10/08/2018 02:46	WG1177359
3-Nitroaniline	U		0.000308	0.0100	0.0100	1	10/08/2018 02:46	WG1177359
4-Chloroaniline	U		0.000382	0.0100	0.0100	1	10/08/2018 02:46	WG1177359
4-Nitroaniline	U		0.000349	0.0100	0.0100	1	10/08/2018 02:46	WG1177359
4-Nitrophenol	U		0.00201	0.0100	0.0100	1	10/08/2018 02:46	WG1177359
Pentachlorophenol	U		0.000313	0.0100	0.0100	1	10/08/2018 02:46	WG1177359
Phenol	0.00262	J	0.000334	0.0100	0.0100	1	10/08/2018 02:46	WG1177359
2,4,5-Trichlorophenol	U		0.000236	0.0100	0.0100	1	10/08/2018 02:46	WG1177359
2,4,6-Trichlorophenol	U		0.000297	0.0100	0.0100	1	10/08/2018 02:46	WG1177359
(S) 2-Fluorophenol	34.2				10.0-120		10/08/2018 02:46	WG1177359
(S) Phenol-d5	19.3				10.0-120		10/08/2018 02:46	WG1177359
(S) Nitrobenzene-d5	49.7				10.0-127		10/08/2018 02:46	WG1177359
(S) 2-Fluorobiphenyl	50.4				10.0-130		10/08/2018 02:46	WG1177359
(S) 2,4,6-Tribromophenol	42.1				10.0-155		10/08/2018 02:46	WG1177359
(S) p-Terphenyl-d14	64.9				10.0-128		10/08/2018 02:46	WG1177359

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc



Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	SDL	Unadj. MQL	MQL	Dilution	Analysis date / time	Batch
Dissolved Solids	1410		5.64	20.0	20.0	1	10/08/2018 17:45	WG1176735

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc

Wet Chemistry by Method 353.2

Analyte	Result	Qualifier	SDL	Unadj. MQL	MQL	Dilution	Analysis date / time	Batch
Nitrate-Nitrite	3.50		0.0197	0.100	0.100	1	10/09/2018 13:24	WG1177679

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	SDL	Unadj. MQL	MQL	Dilution	Analysis date / time	Batch
Chloride	407		0.519	1.00	10.0	10	10/04/2018 22:11	WG1174940
Fluoride	0.629		0.00990	0.100	0.100	1	10/04/2018 22:01	WG1174940
Sulfate	90.2		0.774	5.00	50.0	10	10/04/2018 22:11	WG1174940

Mercury by Method 7470A

Analyte	Result	Qualifier	SDL	Unadj. MQL	MQL	Dilution	Analysis date / time	Batch
Mercury	U		0.0000490	0.000200	0.000200	1	10/04/2018 12:04	WG1174916

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	SDL	Unadj. MQL	MQL	Dilution	Analysis date / time	Batch
Boron,Dissolved	0.169	J	0.0126	0.200	0.200	1	10/08/2018 19:16	WG1174845

Metals (ICPMS) by Method 6020

Analyte	Result	Qualifier	SDL	Unadj. MQL	MQL	Dilution	Analysis date / time	Batch
Aluminum,Dissolved	0.00533	B J	0.00515	0.100	0.100	1	10/08/2018 22:30	WG1174848
Arsenic,Dissolved	0.00260		0.000250	0.00200	0.00200	1	10/08/2018 22:30	WG1174848
Barium,Dissolved	0.194		0.000360	0.00500	0.00500	1	10/08/2018 22:30	WG1174848
Cadmium,Dissolved	U		0.000160	0.00100	0.00100	1	10/08/2018 22:30	WG1174848
Chromium,Dissolved	0.00234	B	0.000540	0.00200	0.00200	1	10/08/2018 22:30	WG1174848
Copper,Dissolved	0.0243		0.000520	0.00500	0.00500	1	10/08/2018 22:30	WG1174848
Cobalt,Dissolved	0.00460		0.000260	0.00200	0.00200	1	10/08/2018 22:30	WG1174848
Iron,Dissolved	U		0.0150	0.100	0.100	1	10/08/2018 22:30	WG1174848
Lead,Dissolved	U		0.000240	0.00200	0.00200	1	10/08/2018 22:30	WG1174848
Manganese,Dissolved	0.223		0.000250	0.00500	0.00500	1	10/08/2018 22:30	WG1174848
Molybdenum,Dissolved	0.0360		0.000140	0.00500	0.00500	1	10/08/2018 22:30	WG1174848
Nickel,Dissolved	0.162		0.000350	0.00200	0.00200	1	10/08/2018 22:30	WG1174848
Selenium,Dissolved	0.00161	J	0.000380	0.00200	0.00200	1	10/08/2018 22:30	WG1174848
Silver,Dissolved	U		0.000310	0.00200	0.00200	1	10/08/2018 22:30	WG1174848
Uranium,Dissolved	0.00743	J	0.000330	0.0100	0.0100	1	10/08/2018 22:30	WG1174848
Zinc,Dissolved	0.0775	B	0.00256	0.0250	0.0250	1	10/08/2018 22:30	WG1174848

Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result	Qualifier	SDL	Unadj. MQL	MQL	Dilution	Analysis date / time	Batch
Acetone	U		0.0100	1.00	1.00	1	10/03/2018 04:18	WG1174888
Benzene	U		0.000331	0.00100	0.00100	1	10/03/2018 04:18	WG1174888
Bromodichloromethane	U		0.000380	0.00125	0.00125	1	10/03/2018 04:18	WG1174888
Bromoform	U		0.000469	0.00100	0.00100	1	10/03/2018 04:18	WG1174888
Bromomethane	U		0.000866	0.00500	0.00500	1	10/03/2018 04:18	WG1174888
n-Butylbenzene	U		0.000361	0.00100	0.00100	1	10/03/2018 04:18	WG1174888



Collected date/time: 10/01/18 11:50

L1030903

Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result mg/l	Qualifier	SDL mg/l	Unadj. MQL mg/l	MQL mg/l	Dilution	Analysis date / time	Batch
sec-Butylbenzene	U		0.000365	0.00100	0.00100	1	10/03/2018 04:18	WG1174888
tert-Butylbenzene	U		0.000399	0.00100	0.00100	1	10/03/2018 04:18	WG1174888
Carbon disulfide	U		0.000275	0.00100	0.00100	1	10/03/2018 04:18	WG1174888
Carbon tetrachloride	U		0.000379	0.00100	0.00100	1	10/03/2018 04:18	WG1174888
Chlorobenzene	U		0.000348	0.00100	0.00100	1	10/03/2018 04:18	WG1174888
Chlorodibromomethane	U		0.000327	0.00100	0.00100	1	10/03/2018 04:18	WG1174888
Chloroethane	U		0.000453	0.00500	0.00500	1	10/03/2018 04:18	WG1174888
Chloroform	U		0.000324	0.00500	0.00500	1	10/03/2018 04:18	WG1174888
Chloromethane	U		0.000276	0.00250	0.00250	1	10/03/2018 04:18	WG1174888
1,2-Dibromoethane	U		0.000381	0.00100	0.00100	1	10/03/2018 04:18	WG1174888
1,1-Dichloroethane	U		0.000259	0.00100	0.00100	1	10/03/2018 04:18	WG1174888
1,2-Dichloroethane	U		0.000361	0.00100	0.00100	1	10/03/2018 04:18	WG1174888
1,1-Dichloroethene	U		0.000398	0.00100	0.00100	1	10/03/2018 04:18	WG1174888
cis-1,2-Dichloroethene	U		0.000260	0.00100	0.00100	1	10/03/2018 04:18	WG1174888
trans-1,2-Dichloroethene	U		0.000396	0.00100	0.00100	1	10/03/2018 04:18	WG1174888
1,2-Dichloropropane	U		0.000306	0.00100	0.00100	1	10/03/2018 04:18	WG1174888
cis-1,3-Dichloropropene	U		0.000418	0.00100	0.00100	1	10/03/2018 04:18	WG1174888
trans-1,3-Dichloropropene	U		0.000419	0.00100	0.00100	1	10/03/2018 04:18	WG1174888
Ethylbenzene	U		0.000384	0.00100	0.00100	1	10/03/2018 04:18	WG1174888
Hexachloro-1,3-butadiene	U		0.000256	0.00100	0.00100	1	10/03/2018 04:18	WG1174888
2-Hexanone	U		0.00382	0.0100	0.0100	1	10/03/2018 04:18	WG1174888
Isopropylbenzene	U		0.000326	0.00100	0.00100	1	10/03/2018 04:18	WG1174888
p-Isopropyltoluene	U		0.000350	0.00100	0.00100	1	10/03/2018 04:18	WG1174888
2-Butanone (MEK)	U		0.00393	0.0100	0.0100	1	10/03/2018 04:18	WG1174888
Methylene Chloride	U		0.00100	0.00500	0.00500	1	10/03/2018 04:18	WG1174888
4-Methyl-2-pentanone (MIBK)	U		0.00214	0.0100	0.0100	1	10/03/2018 04:18	WG1174888
Methyl tert-butyl ether	U		0.000367	0.00100	0.00100	1	10/03/2018 04:18	WG1174888
Naphthalene	U		0.00100	0.00500	0.00500	1	10/03/2018 04:18	WG1174888
n-Propylbenzene	U		0.000349	0.00100	0.00100	1	10/03/2018 04:18	WG1174888
Styrene	U		0.000307	0.00100	0.00100	1	10/03/2018 04:18	WG1174888
1,1,2,2-Tetrachloroethane	U		0.000130	0.00100	0.00100	1	10/03/2018 04:18	WG1174888
Tetrachloroethene	U		0.000372	0.00100	0.00100	1	10/03/2018 04:18	WG1174888
Toluene	0.000506	U	0.000412	0.00100	0.00100	1	10/03/2018 04:18	WG1174888
1,1,1-Trichloroethane	U		0.000319	0.00100	0.00100	1	10/03/2018 04:18	WG1174888
1,1,2-Trichloroethane	U		0.000383	0.00100	0.00100	1	10/03/2018 04:18	WG1174888
Trichloroethene	U		0.000398	0.00100	0.00100	1	10/03/2018 04:18	WG1174888
1,2,4-Trimethylbenzene	U		0.000373	0.00100	0.00100	1	10/03/2018 04:18	WG1174888
1,3,5-Trimethylbenzene	U		0.000387	0.00100	0.00100	1	10/03/2018 04:18	WG1174888
Vinyl chloride	U		0.000259	0.00100	0.00100	1	10/03/2018 04:18	WG1174888
Xylenes, Total	U		0.00106	0.00300	0.00300	1	10/03/2018 04:18	WG1174888
(S) Toluene-d8	109				80.0-120		10/03/2018 04:18	WG1174888
(S) Dibromofluoromethane	90.3				75.0-120		10/03/2018 04:18	WG1174888
(S) 4-Bromofluorobenzene	102				77.0-126		10/03/2018 04:18	WG1174888

1	Cp
2	Tc
3	Ss
4	Cn
5	Sr
6	Qc
7	Gl
8	Al
9	Sc

Semi Volatile Organic Compounds (GC/MS) by Method 8270 C

Analyte	Result mg/l	Qualifier	SDL mg/l	Unadj. MQL mg/l	MQL mg/l	Dilution	Analysis date / time	Batch
Acenaphthene	U		0.000316	0.00100	0.00100	1	10/08/2018 03:10	WG1177359
Acenaphthylene	U		0.000309	0.00100	0.00100	1	10/08/2018 03:10	WG1177359
Acetophenone	U		0.00247	0.0100	0.0100	1	10/08/2018 03:10	WG1177359
Anthracene	U		0.000291	0.00100	0.00100	1	10/08/2018 03:10	WG1177359
Atrazine	U		0.000260	0.0100	0.0100	1	10/08/2018 03:10	WG1177359
Benzo(a)anthracene	U		0.0000510	0.00100	0.00100	1	10/08/2018 03:10	WG1177359
Benzaldehyde	U		0.00140	0.0100	0.0100	1	10/08/2018 03:10	WG1177359
Benzo(b)fluoranthene	U		0.0000896	0.00100	0.00100	1	10/08/2018 03:10	WG1177359
Benzo(k)fluoranthene	U		0.000355	0.00100	0.00100	1	10/08/2018 03:10	WG1177359



Collected date/time: 10/01/18 11:50

L1030903

Semi Volatile Organic Compounds (GC/MS) by Method 8270 C

Analyte	Result mg/l	Qualifier	SDL mg/l	Unadj. MQL mg/l	MQL mg/l	Dilution	Analysis date / time	Batch
Benzo(g,h,i)perylene	U		0.0000227	0.00100	0.00100	1	10/08/2018 03:10	WG1177359
Benzo(a)pyrene	U		0.0000381	0.000200	0.000200	1	10/08/2018 03:10	WG1177359
Biphenyl	U		0.000325	0.0100	0.0100	1	10/08/2018 03:10	WG1177359
Bis(2-chlorethoxy)methane	U		0.000329	0.0100	0.0100	1	10/08/2018 03:10	WG1177359
Bis(2-chloroethyl)ether	U		0.00162	0.0100	0.0100	1	10/08/2018 03:10	WG1177359
Bis(2-chloroisopropyl)ether	U		0.000445	0.0100	0.0100	1	10/08/2018 03:10	WG1177359
4-Bromophenyl-phenylether	U		0.000335	0.0100	0.0100	1	10/08/2018 03:10	WG1177359
2-Chloronaphthalene	U		0.000330	0.00100	0.00100	1	10/08/2018 03:10	WG1177359
4-Chlorophenyl-phenylether	U		0.000303	0.0100	0.0100	1	10/08/2018 03:10	WG1177359
Caprolactam	U		0.00259	0.0100	0.0100	1	10/08/2018 03:10	WG1177359
Carbazole	U		0.000260	0.0100	0.0100	1	10/08/2018 03:10	WG1177359
Chrysene	U		0.000332	0.00100	0.00100	1	10/08/2018 03:10	WG1177359
Dibenz(a,h)anthracene	U		0.0000644	0.000200	0.000200	1	10/08/2018 03:10	WG1177359
Dibenzofuran	U		0.000338	0.0100	0.0100	1	10/08/2018 03:10	WG1177359
3,3-Dichlorobenzidine	U		0.00202	0.0100	0.0100	1	10/08/2018 03:10	WG1177359
2,4-Dinitrotoluene	U		0.00165	0.0100	0.0100	1	10/08/2018 03:10	WG1177359
2,6-Dinitrotoluene	U		0.000279	0.0100	0.0100	1	10/08/2018 03:10	WG1177359
Fluoranthene	U		0.000310	0.00100	0.00100	1	10/08/2018 03:10	WG1177359
Fluorene	U		0.000323	0.00100	0.00100	1	10/08/2018 03:10	WG1177359
Hexachlorobenzene	U		0.000341	0.00100	0.00100	1	10/08/2018 03:10	WG1177359
Hexachloro-1,3-butadiene	U		0.000329	0.0100	0.0100	1	10/08/2018 03:10	WG1177359
Hexachlorocyclopentadiene	U		0.00233	0.0100	0.0100	1	10/08/2018 03:10	WG1177359
Hexachloroethane	U		0.000365	0.0100	0.0100	1	10/08/2018 03:10	WG1177359
Indeno(1,2,3-cd)pyrene	U		0.000279	0.00100	0.00100	1	10/08/2018 03:10	WG1177359
Isophorone	U		0.000272	0.0100	0.0100	1	10/08/2018 03:10	WG1177359
1-Methylnaphthalene	U		0.000332	0.00100	0.00100	1	10/08/2018 03:10	WG1177359
2-Methylnaphthalene	U		0.000311	0.00100	0.00100	1	10/08/2018 03:10	WG1177359
Naphthalene	U		0.000372	0.00100	0.00100	1	10/08/2018 03:10	WG1177359
Nitrobenzene	U		0.000367	0.0100	0.0100	1	10/08/2018 03:10	WG1177359
n-Nitrosodiphenylamine	U		0.00119	0.0100	0.0100	1	10/08/2018 03:10	WG1177359
n-Nitrosodi-n-propylamine	U		0.000403	0.0100	0.0100	1	10/08/2018 03:10	WG1177359
Phenanthrene	U		0.000366	0.00100	0.00100	1	10/08/2018 03:10	WG1177359
Benzylbutyl phthalate	U		0.000275	0.00300	0.00300	1	10/08/2018 03:10	WG1177359
Bis(2-ethylhexyl)phthalate	0.000913	U	0.000709	0.00300	0.00300	1	10/08/2018 03:10	WG1177359
Di-n-butyl phthalate	0.00108	U	0.000266	0.00300	0.00300	1	10/08/2018 03:10	WG1177359
Diethyl phthalate	U		0.000282	0.00300	0.00300	1	10/08/2018 03:10	WG1177359
Dimethyl phthalate	U	U4	0.000283	0.00300	0.00300	1	10/08/2018 03:10	WG1177359
Di-n-octyl phthalate	U		0.000278	0.00300	0.00300	1	10/08/2018 03:10	WG1177359
Pyrene	U		0.000330	0.00100	0.00100	1	10/08/2018 03:10	WG1177359
1,2,4-Trichlorobenzene	U		0.000355	0.0100	0.0100	1	10/08/2018 03:10	WG1177359
4-Chloro-3-methylphenol	U		0.000263	0.0100	0.0100	1	10/08/2018 03:10	WG1177359
2-Chlorophenol	U		0.000283	0.0100	0.0100	1	10/08/2018 03:10	WG1177359
2,4-Dichlorophenol	U		0.000284	0.0100	0.0100	1	10/08/2018 03:10	WG1177359
2,4-Dimethylphenol	U		0.000624	0.0100	0.0100	1	10/08/2018 03:10	WG1177359
4,6-Dinitro-2-methylphenol	U		0.00262	0.0100	0.0100	1	10/08/2018 03:10	WG1177359
2,4-Dinitrophenol	U		0.00325	0.0100	0.0100	1	10/08/2018 03:10	WG1177359
2-Nitrophenol	U		0.000320	0.0100	0.0100	1	10/08/2018 03:10	WG1177359
2-Nitroaniline	U		0.00190	0.0100	0.0100	1	10/08/2018 03:10	WG1177359
2-Methylphenol	U		0.000312	0.0100	0.0100	1	10/08/2018 03:10	WG1177359
3&4-Methyl Phenol	U		0.000266	0.0100	0.0100	1	10/08/2018 03:10	WG1177359
3-Nitroaniline	U		0.000308	0.0100	0.0100	1	10/08/2018 03:10	WG1177359
4-Chloroaniline	U		0.000382	0.0100	0.0100	1	10/08/2018 03:10	WG1177359
4-Nitroaniline	U		0.000349	0.0100	0.0100	1	10/08/2018 03:10	WG1177359
4-Nitrophenol	U		0.00201	0.0100	0.0100	1	10/08/2018 03:10	WG1177359
Pentachlorophenol	U		0.000313	0.0100	0.0100	1	10/08/2018 03:10	WG1177359
Phenol	0.00134	U	0.000334	0.0100	0.0100	1	10/08/2018 03:10	WG1177359

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc

Semi Volatile Organic Compounds (GC/MS) by Method 8270 C

Analyte	Result mg/l	Qualifier	SDL mg/l	Unadj. MQL mg/l	MQL mg/l	Dilution	Analysis date / time	Batch
2,4,5-Trichlorophenol	U		0.000236	0.0100	0.0100	1	10/08/2018 03:10	WG1177359
2,4,6-Trichlorophenol	U		0.000297	0.0100	0.0100	1	10/08/2018 03:10	WG1177359
(S) 2-Fluorophenol	24.0				10.0-120		10/08/2018 03:10	WG1177359
(S) Phenol-d5	17.3				10.0-120		10/08/2018 03:10	WG1177359
(S) Nitrobenzene-d5	35.8				10.0-127		10/08/2018 03:10	WG1177359
(S) 2-Fluorobiphenyl	40.6				10.0-130		10/08/2018 03:10	WG1177359
(S) 2,4,6-Tribromophenol	20.1				10.0-155		10/08/2018 03:10	WG1177359
(S) p-Terphenyl-d14	59.5				10.0-128		10/08/2018 03:10	WG1177359

1Cp

2Tc

3Ss

4Cn

5Sr

6Qc

7Gl

8Al

9Sc



Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	SDL	Unadj. MQL	MQL	Dilution	Analysis date / time	Batch
Dissolved Solids	867		3.75	13.3	13.3	1	10/08/2018 17:45	WG1176735

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc

Wet Chemistry by Method 353.2

Analyte	Result	Qualifier	SDL	Unadj. MQL	MQL	Dilution	Analysis date / time	Batch
Nitrate-Nitrite	2.81	<u>J6</u>	0.0197	0.100	0.100	1	10/09/2018 13:33	WG1177679

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	SDL	Unadj. MQL	MQL	Dilution	Analysis date / time	Batch
Chloride	216		0.260	1.00	5.00	5	10/04/2018 22:30	WG1174940
Fluoride	1.15		0.00990	0.100	0.100	1	10/04/2018 22:20	WG1174940
Sulfate	54.3		0.0774	5.00	5.00	1	10/04/2018 22:20	WG1174940

Mercury by Method 7470A

Analyte	Result	Qualifier	SDL	Unadj. MQL	MQL	Dilution	Analysis date / time	Batch
Mercury	U		0.0000490	0.000200	0.000200	1	10/04/2018 12:06	WG1174916

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	SDL	Unadj. MQL	MQL	Dilution	Analysis date / time	Batch
Boron,Dissolved	0.160	<u>J</u>	0.0126	0.200	0.200	1	10/08/2018 19:19	WG1174845

Metals (ICPMS) by Method 6020

Analyte	Result	Qualifier	SDL	Unadj. MQL	MQL	Dilution	Analysis date / time	Batch
Aluminum,Dissolved	0.0120	<u>B J</u>	0.00515	0.100	0.100	1	10/08/2018 22:34	WG1174848
Arsenic,Dissolved	0.00317		0.000250	0.00200	0.00200	1	10/08/2018 22:34	WG1174848
Barium,Dissolved	0.159		0.000360	0.00500	0.00500	1	10/08/2018 22:34	WG1174848
Cadmium,Dissolved	U		0.000160	0.00100	0.00100	1	10/08/2018 22:34	WG1174848
Chromium,Dissolved	U		0.000540	0.00200	0.00200	1	10/08/2018 22:34	WG1174848
Copper,Dissolved	0.00200	<u>B J</u>	0.000520	0.00500	0.00500	1	10/08/2018 22:34	WG1174848
Cobalt,Dissolved	U		0.000260	0.00200	0.00200	1	10/08/2018 22:34	WG1174848
Iron,Dissolved	U		0.0150	0.100	0.100	1	10/08/2018 22:34	WG1174848
Lead,Dissolved	U		0.000240	0.00200	0.00200	1	10/08/2018 22:34	WG1174848
Manganese,Dissolved	0.0107	<u>B</u>	0.000250	0.00500	0.00500	1	10/08/2018 22:34	WG1174848
Molybdenum,Dissolved	0.00700		0.000140	0.00500	0.00500	1	10/08/2018 22:34	WG1174848
Nickel,Dissolved	0.00515		0.000350	0.00200	0.00200	1	10/08/2018 22:34	WG1174848
Selenium,Dissolved	0.00178	<u>J</u>	0.000380	0.00200	0.00200	1	10/08/2018 22:34	WG1174848
Silver,Dissolved	U		0.000310	0.00200	0.00200	1	10/08/2018 22:34	WG1174848
Uranium,Dissolved	0.00339	<u>J</u>	0.000330	0.0100	0.0100	1	10/08/2018 22:34	WG1174848
Zinc,Dissolved	0.00479	<u>B J</u>	0.00256	0.0250	0.0250	1	10/08/2018 22:34	WG1174848

Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result	Qualifier	SDL	Unadj. MQL	MQL	Dilution	Analysis date / time	Batch
Acetone	U		0.0100	1.00	1.00	1	10/03/2018 04:38	WG1174888
Benzene	U		0.000331	0.00100	0.00100	1	10/03/2018 04:38	WG1174888
Bromodichloromethane	U		0.000380	0.00125	0.00125	1	10/03/2018 04:38	WG1174888
Bromoform	U		0.000469	0.00100	0.00100	1	10/03/2018 04:38	WG1174888
Bromomethane	U		0.000866	0.00500	0.00500	1	10/03/2018 04:38	WG1174888
n-Butylbenzene	U		0.000361	0.00100	0.00100	1	10/03/2018 04:38	WG1174888



Collected date/time: 10/01/18 13:45

L1030903

Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result mg/l	Qualifier	SDL mg/l	Unadj. MQL mg/l	MQL mg/l	Dilution	Analysis date / time	Batch
sec-Butylbenzene	U		0.000365	0.00100	0.00100	1	10/03/2018 04:38	WG1174888
tert-Butylbenzene	U		0.000399	0.00100	0.00100	1	10/03/2018 04:38	WG1174888
Carbon disulfide	U		0.000275	0.00100	0.00100	1	10/03/2018 04:38	WG1174888
Carbon tetrachloride	U		0.000379	0.00100	0.00100	1	10/03/2018 04:38	WG1174888
Chlorobenzene	U		0.000348	0.00100	0.00100	1	10/03/2018 04:38	WG1174888
Chlorodibromomethane	U		0.000327	0.00100	0.00100	1	10/03/2018 04:38	WG1174888
Chloroethane	U		0.000453	0.00500	0.00500	1	10/03/2018 04:38	WG1174888
Chloroform	U		0.000324	0.00500	0.00500	1	10/03/2018 04:38	WG1174888
Chloromethane	U		0.000276	0.00250	0.00250	1	10/03/2018 04:38	WG1174888
1,2-Dibromoethane	U		0.000381	0.00100	0.00100	1	10/03/2018 04:38	WG1174888
1,1-Dichloroethane	U		0.000259	0.00100	0.00100	1	10/03/2018 04:38	WG1174888
1,2-Dichloroethane	U		0.000361	0.00100	0.00100	1	10/03/2018 04:38	WG1174888
1,1-Dichloroethene	U		0.000398	0.00100	0.00100	1	10/03/2018 04:38	WG1174888
cis-1,2-Dichloroethene	U		0.000260	0.00100	0.00100	1	10/03/2018 04:38	WG1174888
trans-1,2-Dichloroethene	U		0.000396	0.00100	0.00100	1	10/03/2018 04:38	WG1174888
1,2-Dichloropropane	U		0.000306	0.00100	0.00100	1	10/03/2018 04:38	WG1174888
cis-1,3-Dichloropropene	U		0.000418	0.00100	0.00100	1	10/03/2018 04:38	WG1174888
trans-1,3-Dichloropropene	U		0.000419	0.00100	0.00100	1	10/03/2018 04:38	WG1174888
Ethylbenzene	U		0.000384	0.00100	0.00100	1	10/03/2018 04:38	WG1174888
Hexachloro-1,3-butadiene	U		0.000256	0.00100	0.00100	1	10/03/2018 04:38	WG1174888
2-Hexanone	U		0.00382	0.0100	0.0100	1	10/03/2018 04:38	WG1174888
Isopropylbenzene	U		0.000326	0.00100	0.00100	1	10/03/2018 04:38	WG1174888
p-Isopropyltoluene	U		0.000350	0.00100	0.00100	1	10/03/2018 04:38	WG1174888
2-Butanone (MEK)	U		0.00393	0.0100	0.0100	1	10/03/2018 04:38	WG1174888
Methylene Chloride	U		0.00100	0.00500	0.00500	1	10/03/2018 04:38	WG1174888
4-Methyl-2-pentanone (MIBK)	U		0.00214	0.0100	0.0100	1	10/03/2018 04:38	WG1174888
Methyl tert-butyl ether	U		0.000367	0.00100	0.00100	1	10/03/2018 04:38	WG1174888
Naphthalene	U		0.00100	0.00500	0.00500	1	10/03/2018 04:38	WG1174888
n-Propylbenzene	U		0.000349	0.00100	0.00100	1	10/03/2018 04:38	WG1174888
Styrene	U		0.000307	0.00100	0.00100	1	10/03/2018 04:38	WG1174888
1,1,2,2-Tetrachloroethane	U		0.000130	0.00100	0.00100	1	10/03/2018 04:38	WG1174888
Tetrachloroethene	U		0.000372	0.00100	0.00100	1	10/03/2018 04:38	WG1174888
Toluene	0.00186		0.000412	0.00100	0.00100	1	10/03/2018 04:38	WG1174888
1,1,1-Trichloroethane	U		0.000319	0.00100	0.00100	1	10/03/2018 04:38	WG1174888
1,1,2-Trichloroethane	U		0.000383	0.00100	0.00100	1	10/03/2018 04:38	WG1174888
Trichloroethene	U		0.000398	0.00100	0.00100	1	10/03/2018 04:38	WG1174888
1,2,4-Trimethylbenzene	U		0.000373	0.00100	0.00100	1	10/03/2018 04:38	WG1174888
1,3,5-Trimethylbenzene	U		0.000387	0.00100	0.00100	1	10/03/2018 04:38	WG1174888
Vinyl chloride	U		0.000259	0.00100	0.00100	1	10/03/2018 04:38	WG1174888
Xylenes, Total	U		0.00106	0.00300	0.00300	1	10/03/2018 04:38	WG1174888
(S) Toluene-d8	109				80.0-120		10/03/2018 04:38	WG1174888
(S) Dibromofluoromethane	90.8				75.0-120		10/03/2018 04:38	WG1174888
(S) 4-Bromofluorobenzene	102				77.0-126		10/03/2018 04:38	WG1174888

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc

Semi Volatile Organic Compounds (GC/MS) by Method 8270 C

Analyte	Result mg/l	Qualifier	SDL mg/l	Unadj. MQL mg/l	MQL mg/l	Dilution	Analysis date / time	Batch
Acenaphthene	U		0.000316	0.00100	0.00100	1	10/08/2018 03:33	WG1177359
Acenaphthylene	U		0.000309	0.00100	0.00100	1	10/08/2018 03:33	WG1177359
Acetophenone	U		0.00247	0.0100	0.0100	1	10/08/2018 03:33	WG1177359
Anthracene	U		0.000291	0.00100	0.00100	1	10/08/2018 03:33	WG1177359
Atrazine	U		0.000260	0.0100	0.0100	1	10/08/2018 03:33	WG1177359
Benzo(a)anthracene	U		0.0000510	0.00100	0.00100	1	10/08/2018 03:33	WG1177359
Benzaldehyde	U		0.00140	0.0100	0.0100	1	10/08/2018 03:33	WG1177359
Benzo(b)fluoranthene	U		0.0000896	0.00100	0.00100	1	10/08/2018 03:33	WG1177359
Benzo(k)fluoranthene	U		0.000355	0.00100	0.00100	1	10/08/2018 03:33	WG1177359



Collected date/time: 10/01/18 13:45

L1030903

Semi Volatile Organic Compounds (GC/MS) by Method 8270 C

Analyte	Result mg/l	Qualifier	SDL mg/l	Unadj. MQL mg/l	MQL mg/l	Dilution	Analysis date / time	Batch
Benzo(g,h,i)perylene	U		0.0000227	0.00100	0.00100	1	10/08/2018 03:33	WG1177359
Benzo(a)pyrene	U		0.0000381	0.000200	0.000200	1	10/08/2018 03:33	WG1177359
Biphenyl	U		0.000325	0.0100	0.0100	1	10/08/2018 03:33	WG1177359
Bis(2-chlorethoxy)methane	U		0.000329	0.0100	0.0100	1	10/08/2018 03:33	WG1177359
Bis(2-chloroethyl)ether	U		0.00162	0.0100	0.0100	1	10/08/2018 03:33	WG1177359
Bis(2-chloroisopropyl)ether	U		0.000445	0.0100	0.0100	1	10/08/2018 03:33	WG1177359
4-Bromophenyl-phenylether	U		0.000335	0.0100	0.0100	1	10/08/2018 03:33	WG1177359
2-Chloronaphthalene	U		0.000330	0.00100	0.00100	1	10/08/2018 03:33	WG1177359
4-Chlorophenyl-phenylether	U		0.000303	0.0100	0.0100	1	10/08/2018 03:33	WG1177359
Caprolactam	U		0.00259	0.0100	0.0100	1	10/08/2018 03:33	WG1177359
Carbazole	U		0.000260	0.0100	0.0100	1	10/08/2018 03:33	WG1177359
Chrysene	U		0.000332	0.00100	0.00100	1	10/08/2018 03:33	WG1177359
Dibenz(a,h)anthracene	U		0.0000644	0.000200	0.000200	1	10/08/2018 03:33	WG1177359
Dibenzofuran	U		0.000338	0.0100	0.0100	1	10/08/2018 03:33	WG1177359
3,3-Dichlorobenzidine	U		0.00202	0.0100	0.0100	1	10/08/2018 03:33	WG1177359
2,4-Dinitrotoluene	U		0.00165	0.0100	0.0100	1	10/08/2018 03:33	WG1177359
2,6-Dinitrotoluene	U		0.000279	0.0100	0.0100	1	10/08/2018 03:33	WG1177359
Fluoranthene	U		0.000310	0.00100	0.00100	1	10/08/2018 03:33	WG1177359
Fluorene	U		0.000323	0.00100	0.00100	1	10/08/2018 03:33	WG1177359
Hexachlorobenzene	U		0.000341	0.00100	0.00100	1	10/08/2018 03:33	WG1177359
Hexachloro-1,3-butadiene	U		0.000329	0.0100	0.0100	1	10/08/2018 03:33	WG1177359
Hexachlorocyclopentadiene	U		0.00233	0.0100	0.0100	1	10/08/2018 03:33	WG1177359
Hexachloroethane	U		0.000365	0.0100	0.0100	1	10/08/2018 03:33	WG1177359
Indeno(1,2,3-cd)pyrene	U		0.000279	0.00100	0.00100	1	10/08/2018 03:33	WG1177359
Isophorone	U		0.000272	0.0100	0.0100	1	10/08/2018 03:33	WG1177359
1-Methylnaphthalene	U		0.000332	0.00100	0.00100	1	10/08/2018 03:33	WG1177359
2-Methylnaphthalene	U		0.000311	0.00100	0.00100	1	10/08/2018 03:33	WG1177359
Naphthalene	U		0.000372	0.00100	0.00100	1	10/08/2018 03:33	WG1177359
Nitrobenzene	U		0.000367	0.0100	0.0100	1	10/08/2018 03:33	WG1177359
n-Nitrosodiphenylamine	U		0.00119	0.0100	0.0100	1	10/08/2018 03:33	WG1177359
n-Nitrosodi-n-propylamine	U		0.000403	0.0100	0.0100	1	10/08/2018 03:33	WG1177359
Phenanthrene	U		0.000366	0.00100	0.00100	1	10/08/2018 03:33	WG1177359
Benzylbutyl phthalate	U		0.000275	0.00300	0.00300	1	10/08/2018 03:33	WG1177359
Bis(2-ethylhexyl)phthalate	U		0.000709	0.00300	0.00300	1	10/08/2018 03:33	WG1177359
Di-n-butyl phthalate	0.000934	J	0.000266	0.00300	0.00300	1	10/08/2018 03:33	WG1177359
Diethyl phthalate	U		0.000282	0.00300	0.00300	1	10/08/2018 03:33	WG1177359
Dimethyl phthalate	U	J4	0.000283	0.00300	0.00300	1	10/08/2018 03:33	WG1177359
Di-n-octyl phthalate	U		0.000278	0.00300	0.00300	1	10/08/2018 03:33	WG1177359
Pyrene	U		0.000330	0.00100	0.00100	1	10/08/2018 03:33	WG1177359
1,2,4-Trichlorobenzene	U		0.000355	0.0100	0.0100	1	10/08/2018 03:33	WG1177359
4-Chloro-3-methylphenol	U		0.000263	0.0100	0.0100	1	10/08/2018 03:33	WG1177359
2-Chlorophenol	U		0.000283	0.0100	0.0100	1	10/08/2018 03:33	WG1177359
2,4-Dichlorophenol	U		0.000284	0.0100	0.0100	1	10/08/2018 03:33	WG1177359
2,4-Dimethylphenol	U		0.000624	0.0100	0.0100	1	10/08/2018 03:33	WG1177359
4,6-Dinitro-2-methylphenol	U		0.00262	0.0100	0.0100	1	10/08/2018 03:33	WG1177359
2,4-Dinitrophenol	U		0.00325	0.0100	0.0100	1	10/08/2018 03:33	WG1177359
2-Nitrophenol	U		0.000320	0.0100	0.0100	1	10/08/2018 03:33	WG1177359
2-Nitroaniline	U		0.00190	0.0100	0.0100	1	10/08/2018 03:33	WG1177359
2-Methylphenol	U		0.000312	0.0100	0.0100	1	10/08/2018 03:33	WG1177359
3&4-Methyl Phenol	U		0.000266	0.0100	0.0100	1	10/08/2018 03:33	WG1177359
3-Nitroaniline	U		0.000308	0.0100	0.0100	1	10/08/2018 03:33	WG1177359
4-Chloroaniline	U		0.000382	0.0100	0.0100	1	10/08/2018 03:33	WG1177359
4-Nitroaniline	U		0.000349	0.0100	0.0100	1	10/08/2018 03:33	WG1177359
4-Nitrophenol	U		0.00201	0.0100	0.0100	1	10/08/2018 03:33	WG1177359
Pentachlorophenol	U		0.000313	0.0100	0.0100	1	10/08/2018 03:33	WG1177359
Phenol	0.00278	J	0.000334	0.0100	0.0100	1	10/08/2018 03:33	WG1177359

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc

Semi Volatile Organic Compounds (GC/MS) by Method 8270 C

Analyte	Result mg/l	Qualifier	SDL mg/l	Unadj. MQL mg/l	MQL mg/l	Dilution	Analysis date / time	Batch
2,4,5-Trichlorophenol	U		0.000236	0.0100	0.0100	1	10/08/2018 03:33	WG1177359
2,4,6-Trichlorophenol	U		0.000297	0.0100	0.0100	1	10/08/2018 03:33	WG1177359
(S) 2-Fluorophenol	32.3				10.0-120		10/08/2018 03:33	WG1177359
(S) Phenol-d5	17.7				10.0-120		10/08/2018 03:33	WG1177359
(S) Nitrobenzene-d5	52.2				10.0-127		10/08/2018 03:33	WG1177359
(S) 2-Fluorobiphenyl	50.5				10.0-130		10/08/2018 03:33	WG1177359
(S) 2,4,6-Tribromophenol	48.1				10.0-155		10/08/2018 03:33	WG1177359
(S) p-Terphenyl-d14	67.7				10.0-128		10/08/2018 03:33	WG1177359

1Cp

2Tc

3Ss

4Cn

5Sr

6Qc

7Gl

8Al

9Sc



Gravimetric Analysis by Method 2540 C-2011

	Result	Qualifier	SDL	Unadj. MQL	MQL	Dilution	Analysis date / time	Batch
Analyte	mg/l		mg/l	mg/l	mg/l			
Dissolved Solids	2230		5.64	20.0	20.0	1	10/08/2018 17:45	WG1176735

Wet Chemistry by Method 2320 B-2011

	Result	Qualifier	SDL	Unadj. MQL	MQL	Dilution	Analysis date / time	Batch
Analyte	mg/l		mg/l	mg/l	mg/l			
Alkalinity	189		2.71	20.0	20.0	1	10/08/2018 21:33	WG1177312

Sample Narrative:

L1030903-14 WG1177312: Endpoint pH 4.5 HEADSPACE

Wet Chemistry by Method 353.2

	Result	Qualifier	SDL	Unadj. MQL	MQL	Dilution	Analysis date / time	Batch
Analyte	mg/l		mg/l	mg/l	mg/l			
Nitrate-Nitrite	4.26		0.0394	0.100	0.200	2	10/09/2018 13:37	WG1177679

Wet Chemistry by Method 9056A

	Result	Qualifier	SDL	Unadj. MQL	MQL	Dilution	Analysis date / time	Batch
Analyte	mg/l		mg/l	mg/l	mg/l			
Chloride	348		0.519	1.00	10.0	10	10/04/2018 22:49	WG1174940
Fluoride	0.549		0.00990	0.100	0.100	1	10/04/2018 22:40	WG1174940
Sulfate	105		0.774	5.00	50.0	10	10/04/2018 22:49	WG1174940

Mercury by Method 7470A

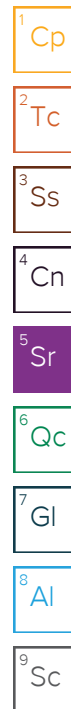
	Result	Qualifier	SDL	Unadj. MQL	MQL	Dilution	Analysis date / time	Batch
Analyte	mg/l		mg/l	mg/l	mg/l			
Mercury	U		0.0000490	0.000200	0.000200	1	10/04/2018 12:09	WG1174916

Metals (ICP) by Method 6010B

	Result	Qualifier	SDL	Unadj. MQL	MQL	Dilution	Analysis date / time	Batch
Analyte	mg/l		mg/l	mg/l	mg/l			
Boron,Dissolved	0.157	J	0.0126	0.200	0.200	1	10/08/2018 19:22	WG1174845

Metals (ICPMS) by Method 6020

	Result	Qualifier	SDL	Unadj. MQL	MQL	Dilution	Analysis date / time	Batch
Analyte	mg/l		mg/l	mg/l	mg/l			
Aluminum,Dissolved	U		0.00515	0.100	0.100	1	10/08/2018 22:39	WG1174848
Arsenic,Dissolved	0.00329		0.000250	0.00200	0.00200	1	10/08/2018 22:39	WG1174848
Barium,Dissolved	0.162		0.000360	0.00500	0.00500	1	10/08/2018 22:39	WG1174848
Cadmium,Dissolved	U		0.000160	0.00100	0.00100	1	10/08/2018 22:39	WG1174848
Chromium,Dissolved	0.00118	B J	0.000540	0.00200	0.00200	1	10/08/2018 22:39	WG1174848
Copper,Dissolved	0.00144	B J	0.000520	0.00500	0.00500	1	10/08/2018 22:39	WG1174848
Cobalt,Dissolved	U		0.000260	0.00200	0.00200	1	10/08/2018 22:39	WG1174848
Iron,Dissolved	U		0.0150	0.100	0.100	1	10/08/2018 22:39	WG1174848
Lead,Dissolved	U		0.000240	0.00200	0.00200	1	10/08/2018 22:39	WG1174848
Manganese,Dissolved	0.00189	B J	0.000250	0.00500	0.00500	1	10/08/2018 22:39	WG1174848
Molybdenum,Dissolved	0.00136	B J	0.000140	0.00500	0.00500	1	10/08/2018 22:39	WG1174848
Nickel,Dissolved	0.00277		0.000350	0.00200	0.00200	1	10/08/2018 22:39	WG1174848
Selenium,Dissolved	0.00215		0.000380	0.00200	0.00200	1	10/08/2018 22:39	WG1174848
Silver,Dissolved	U		0.000310	0.00200	0.00200	1	10/08/2018 22:39	WG1174848
Uranium,Dissolved	0.00288	J	0.000330	0.0100	0.0100	1	10/08/2018 22:39	WG1174848
Zinc,Dissolved	0.0199	B J	0.00256	0.0250	0.0250	1	10/08/2018 22:39	WG1174848





Collected date/time: 10/01/18 13:05

L1030903

Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result mg/l	Qualifier	SDL mg/l	Unadj. MQL mg/l	MQL mg/l	Dilution	Analysis date / time	Batch
Acetone	U		0.0100	1.00	1.00	1	10/03/2018 04:59	WG1174888
Benzene	U		0.000331	0.00100	0.00100	1	10/03/2018 04:59	WG1174888
Bromodichloromethane	0.000525	U	0.000380	0.00125	0.00125	1	10/03/2018 04:59	WG1174888
Bromoform	U		0.000469	0.00100	0.00100	1	10/03/2018 04:59	WG1174888
Bromomethane	U		0.000866	0.00500	0.00500	1	10/03/2018 04:59	WG1174888
n-Butylbenzene	U		0.000361	0.00100	0.00100	1	10/03/2018 04:59	WG1174888
sec-Butylbenzene	U		0.000365	0.00100	0.00100	1	10/03/2018 04:59	WG1174888
tert-Butylbenzene	U		0.000399	0.00100	0.00100	1	10/03/2018 04:59	WG1174888
Carbon disulfide	0.000393	U	0.000275	0.00100	0.00100	1	10/03/2018 04:59	WG1174888
Carbon tetrachloride	U		0.000379	0.00100	0.00100	1	10/03/2018 04:59	WG1174888
Chlorobenzene	U		0.000348	0.00100	0.00100	1	10/03/2018 04:59	WG1174888
Chlorodibromomethane	U		0.000327	0.00100	0.00100	1	10/03/2018 04:59	WG1174888
Chloroethane	U		0.000453	0.00500	0.00500	1	10/03/2018 04:59	WG1174888
Chloroform	0.00217	U	0.000324	0.00500	0.00500	1	10/03/2018 04:59	WG1174888
Chloromethane	U		0.000276	0.00250	0.00250	1	10/03/2018 04:59	WG1174888
1,2-Dibromoethane	U		0.000381	0.00100	0.00100	1	10/03/2018 04:59	WG1174888
1,1-Dichloroethane	U		0.000259	0.00100	0.00100	1	10/03/2018 04:59	WG1174888
1,2-Dichloroethane	U		0.000361	0.00100	0.00100	1	10/03/2018 04:59	WG1174888
1,1-Dichloroethene	U		0.000398	0.00100	0.00100	1	10/03/2018 04:59	WG1174888
cis-1,2-Dichloroethene	U		0.000260	0.00100	0.00100	1	10/03/2018 04:59	WG1174888
trans-1,2-Dichloroethene	U		0.000396	0.00100	0.00100	1	10/03/2018 04:59	WG1174888
1,2-Dichloropropane	U		0.000306	0.00100	0.00100	1	10/03/2018 04:59	WG1174888
cis-1,3-Dichloropropene	U		0.000418	0.00100	0.00100	1	10/03/2018 04:59	WG1174888
trans-1,3-Dichloropropene	U		0.000419	0.00100	0.00100	1	10/03/2018 04:59	WG1174888
Ethylbenzene	U		0.000384	0.00100	0.00100	1	10/03/2018 04:59	WG1174888
Hexachloro-1,3-butadiene	U		0.000256	0.00100	0.00100	1	10/03/2018 04:59	WG1174888
2-Hexanone	U		0.00382	0.0100	0.0100	1	10/03/2018 04:59	WG1174888
Isopropylbenzene	U		0.000326	0.00100	0.00100	1	10/03/2018 04:59	WG1174888
p-Isopropyltoluene	U		0.000350	0.00100	0.00100	1	10/03/2018 04:59	WG1174888
2-Butanone (MEK)	U		0.00393	0.0100	0.0100	1	10/03/2018 04:59	WG1174888
Methylene Chloride	U		0.00100	0.00500	0.00500	1	10/03/2018 04:59	WG1174888
4-Methyl-2-pentanone (MIBK)	U		0.00214	0.0100	0.0100	1	10/03/2018 04:59	WG1174888
Methyl tert-butyl ether	U		0.000367	0.00100	0.00100	1	10/03/2018 04:59	WG1174888
Naphthalene	U		0.00100	0.00500	0.00500	1	10/03/2018 04:59	WG1174888
n-Propylbenzene	U		0.000349	0.00100	0.00100	1	10/03/2018 04:59	WG1174888
Styrene	U		0.000307	0.00100	0.00100	1	10/03/2018 04:59	WG1174888
1,1,2,2-Tetrachloroethane	U		0.000130	0.00100	0.00100	1	10/03/2018 04:59	WG1174888
Tetrachloroethene	U		0.000372	0.00100	0.00100	1	10/03/2018 04:59	WG1174888
Toluene	U		0.000412	0.00100	0.00100	1	10/03/2018 04:59	WG1174888
1,1,1-Trichloroethane	U		0.000319	0.00100	0.00100	1	10/03/2018 04:59	WG1174888
1,1,2-Trichloroethane	U		0.000383	0.00100	0.00100	1	10/03/2018 04:59	WG1174888
Trichloroethene	U		0.000398	0.00100	0.00100	1	10/03/2018 04:59	WG1174888
1,2,4-Trimethylbenzene	U		0.000373	0.00100	0.00100	1	10/03/2018 04:59	WG1174888
1,3,5-Trimethylbenzene	U		0.000387	0.00100	0.00100	1	10/03/2018 04:59	WG1174888
Vinyl chloride	U		0.000259	0.00100	0.00100	1	10/03/2018 04:59	WG1174888
Xylenes, Total	U		0.00106	0.00300	0.00300	1	10/03/2018 04:59	WG1174888
(S) Toluene-d8	108				80.0-120		10/03/2018 04:59	WG1174888
(S) Dibromofluoromethane	93.5				75.0-120		10/03/2018 04:59	WG1174888
(S) 4-Bromofluorobenzene	101				77.0-126		10/03/2018 04:59	WG1174888

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc



Collected date/time: 10/01/18 13:05

L1030903

Semi Volatile Organic Compounds (GC/MS) by Method 8270 C

Analyte	Result mg/l	Qualifier	SDL mg/l	Unadj. MQL mg/l	MQL mg/l	Dilution	Analysis date / time	Batch
Acenaphthene	U		0.000316	0.00100	0.00100	1	10/08/2018 03:57	WG1177359
Acenaphthylene	U		0.000309	0.00100	0.00100	1	10/08/2018 03:57	WG1177359
Acetophenone	U		0.00247	0.0100	0.0100	1	10/08/2018 03:57	WG1177359
Anthracene	U		0.000291	0.00100	0.00100	1	10/08/2018 03:57	WG1177359
Atrazine	U		0.000260	0.0100	0.0100	1	10/08/2018 03:57	WG1177359
Benzo(a)anthracene	U		0.0000510	0.00100	0.00100	1	10/08/2018 03:57	WG1177359
Benzaldehyde	U		0.00140	0.0100	0.0100	1	10/08/2018 03:57	WG1177359
Benzo(b)fluoranthene	U		0.0000896	0.00100	0.00100	1	10/08/2018 03:57	WG1177359
Benzo(k)fluoranthene	U		0.000355	0.00100	0.00100	1	10/08/2018 03:57	WG1177359
Benzo(g,h,i)perylene	U		0.00000227	0.00100	0.00100	1	10/08/2018 03:57	WG1177359
Benzo(a)pyrene	U		0.0000381	0.000200	0.000200	1	10/08/2018 03:57	WG1177359
Biphenyl	U		0.000325	0.0100	0.0100	1	10/08/2018 03:57	WG1177359
Bis(2-chlorethoxy)methane	U		0.000329	0.0100	0.0100	1	10/08/2018 03:57	WG1177359
Bis(2-chloroethyl)ether	U		0.00162	0.0100	0.0100	1	10/08/2018 03:57	WG1177359
Bis(2-chloroisopropyl)ether	U		0.000445	0.0100	0.0100	1	10/08/2018 03:57	WG1177359
4-Bromophenyl-phenylether	U		0.000335	0.0100	0.0100	1	10/08/2018 03:57	WG1177359
2-Chloronaphthalene	U		0.000330	0.00100	0.00100	1	10/08/2018 03:57	WG1177359
4-Chlorophenyl-phenylether	U		0.000303	0.0100	0.0100	1	10/08/2018 03:57	WG1177359
Caprolactam	U		0.00259	0.0100	0.0100	1	10/08/2018 03:57	WG1177359
Carbazole	U		0.000260	0.0100	0.0100	1	10/08/2018 03:57	WG1177359
Chrysene	U		0.000332	0.00100	0.00100	1	10/08/2018 03:57	WG1177359
Dibenz(a,h)anthracene	U		0.0000644	0.000200	0.000200	1	10/08/2018 03:57	WG1177359
Dibenzofuran	U		0.000338	0.0100	0.0100	1	10/08/2018 03:57	WG1177359
3,3-Dichlorobenzidine	U		0.00202	0.0100	0.0100	1	10/08/2018 03:57	WG1177359
2,4-Dinitrotoluene	U		0.00165	0.0100	0.0100	1	10/08/2018 03:57	WG1177359
2,6-Dinitrotoluene	U		0.000279	0.0100	0.0100	1	10/08/2018 03:57	WG1177359
Fluoranthene	U		0.000310	0.00100	0.00100	1	10/08/2018 03:57	WG1177359
Fluorene	U		0.000323	0.00100	0.00100	1	10/08/2018 03:57	WG1177359
Hexachlorobenzene	U		0.000341	0.00100	0.00100	1	10/08/2018 03:57	WG1177359
Hexachloro-1,3-butadiene	U		0.000329	0.0100	0.0100	1	10/08/2018 03:57	WG1177359
Hexachlorocyclopentadiene	U		0.00233	0.0100	0.0100	1	10/08/2018 03:57	WG1177359
Hexachloroethane	U		0.000365	0.0100	0.0100	1	10/08/2018 03:57	WG1177359
Indeno(1,2,3-cd)pyrene	U		0.000279	0.00100	0.00100	1	10/08/2018 03:57	WG1177359
Isophorone	U		0.000272	0.0100	0.0100	1	10/08/2018 03:57	WG1177359
1-Methylnaphthalene	U		0.000332	0.00100	0.00100	1	10/08/2018 03:57	WG1177359
2-Methylnaphthalene	U		0.000311	0.00100	0.00100	1	10/08/2018 03:57	WG1177359
Naphthalene	U		0.000372	0.00100	0.00100	1	10/08/2018 03:57	WG1177359
Nitrobenzene	U		0.000367	0.0100	0.0100	1	10/08/2018 03:57	WG1177359
n-Nitrosodiphenylamine	U		0.00119	0.0100	0.0100	1	10/08/2018 03:57	WG1177359
n-Nitrosodi-n-propylamine	U		0.000403	0.0100	0.0100	1	10/08/2018 03:57	WG1177359
Phenanthrene	U		0.000366	0.00100	0.00100	1	10/08/2018 03:57	WG1177359
Benzylbutyl phthalate	U		0.000275	0.00300	0.00300	1	10/08/2018 03:57	WG1177359
Bis(2-ethylhexyl)phthalate	U		0.000709	0.00300	0.00300	1	10/08/2018 03:57	WG1177359
Di-n-butyl phthalate	U		0.000266	0.00300	0.00300	1	10/08/2018 03:57	WG1177359
Diethyl phthalate	U		0.000282	0.00300	0.00300	1	10/08/2018 03:57	WG1177359
Dimethyl phthalate	U	J4	0.000283	0.00300	0.00300	1	10/08/2018 03:57	WG1177359
Di-n-octyl phthalate	U		0.000278	0.00300	0.00300	1	10/08/2018 03:57	WG1177359
Pyrene	U		0.000330	0.00100	0.00100	1	10/08/2018 03:57	WG1177359
1,2,4-Trichlorobenzene	U		0.000355	0.0100	0.0100	1	10/08/2018 03:57	WG1177359
4-Chloro-3-methylphenol	U		0.000263	0.0100	0.0100	1	10/08/2018 03:57	WG1177359
2-Chlorophenol	U		0.000283	0.0100	0.0100	1	10/08/2018 03:57	WG1177359
2,4-Dichlorophenol	U		0.000284	0.0100	0.0100	1	10/08/2018 03:57	WG1177359
2,4-Dimethylphenol	U		0.000624	0.0100	0.0100	1	10/08/2018 03:57	WG1177359
4,6-Dinitro-2-methylphenol	U		0.00262	0.0100	0.0100	1	10/08/2018 03:57	WG1177359
2,4-Dinitrophenol	U		0.00325	0.0100	0.0100	1	10/08/2018 03:57	WG1177359
2-Nitrophenol	U		0.000320	0.0100	0.0100	1	10/08/2018 03:57	WG1177359

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc



Collected date/time: 10/01/18 13:05

L1030903

Semi Volatile Organic Compounds (GC/MS) by Method 8270 C

Analyte	Result mg/l	Qualifier	SDL mg/l	Unadj. MQL mg/l	MQL mg/l	Dilution	Analysis date / time	Batch
2-Nitroaniline	U		0.00190	0.0100	0.0100	1	10/08/2018 03:57	WG1177359
2-Methylphenol	U		0.000312	0.0100	0.0100	1	10/08/2018 03:57	WG1177359
3&4-Methyl Phenol	U		0.000266	0.0100	0.0100	1	10/08/2018 03:57	WG1177359
3-Nitroaniline	U		0.000308	0.0100	0.0100	1	10/08/2018 03:57	WG1177359
4-Chloroaniline	U		0.000382	0.0100	0.0100	1	10/08/2018 03:57	WG1177359
4-Nitroaniline	U		0.000349	0.0100	0.0100	1	10/08/2018 03:57	WG1177359
4-Nitrophenol	U		0.00201	0.0100	0.0100	1	10/08/2018 03:57	WG1177359
Pentachlorophenol	U		0.000313	0.0100	0.0100	1	10/08/2018 03:57	WG1177359
Phenol	0.000915	J	0.000334	0.0100	0.0100	1	10/08/2018 03:57	WG1177359
2,4,5-Trichlorophenol	U		0.000236	0.0100	0.0100	1	10/08/2018 03:57	WG1177359
2,4,6-Trichlorophenol	U		0.000297	0.0100	0.0100	1	10/08/2018 03:57	WG1177359
(S) 2-Fluorophenol	16.8				10.0-120		10/08/2018 03:57	WG1177359
(S) Phenol-d5	10.4				10.0-120		10/08/2018 03:57	WG1177359
(S) Nitrobenzene-d5	26.8				10.0-127		10/08/2018 03:57	WG1177359
(S) 2-Fluorobiphenyl	27.8				10.0-130		10/08/2018 03:57	WG1177359
(S) 2,4,6-Tribromophenol	9.78	J2			10.0-155		10/08/2018 03:57	WG1177359
(S) p-Terphenyl-d14	36.4				10.0-128		10/08/2018 03:57	WG1177359

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc



Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	SDL	Unadj. MQL	MQL	Dilution	Analysis date / time	Batch
Dissolved Solids	386		2.82	10.0	10.0	1	10/08/2018 17:45	WG1176735

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc

Wet Chemistry by Method 353.2

Analyte	Result	Qualifier	SDL	Unadj. MQL	MQL	Dilution	Analysis date / time	Batch
Nitrate-Nitrite	2.16		0.0394	0.100	0.200	2	10/09/2018 13:39	WG1177679

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	SDL	Unadj. MQL	MQL	Dilution	Analysis date / time	Batch
Chloride	28.1		0.0519	1.00	1.00	1	10/04/2018 22:59	WG1174940
Fluoride	0.900		0.00990	0.100	0.100	1	10/04/2018 22:59	WG1174940
Sulfate	67.8		0.0774	5.00	5.00	1	10/04/2018 22:59	WG1174940

Mercury by Method 7470A

Analyte	Result	Qualifier	SDL	Unadj. MQL	MQL	Dilution	Analysis date / time	Batch
Mercury	U		0.0000490	0.000200	0.000200	1	10/04/2018 12:11	WG1174916

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	SDL	Unadj. MQL	MQL	Dilution	Analysis date / time	Batch
Boron,Dissolved	0.155	J	0.0126	0.200	0.200	1	10/08/2018 19:25	WG1174845

Metals (ICPMS) by Method 6020

Analyte	Result	Qualifier	SDL	Unadj. MQL	MQL	Dilution	Analysis date / time	Batch
Aluminum,Dissolved	U		0.00515	0.100	0.100	1	10/08/2018 22:43	WG1174848
Arsenic,Dissolved	0.00492		0.000250	0.00200	0.00200	1	10/08/2018 22:43	WG1174848
Barium,Dissolved	0.114		0.000360	0.00500	0.00500	1	10/08/2018 22:43	WG1174848
Cadmium,Dissolved	U		0.000160	0.00100	0.00100	1	10/08/2018 22:43	WG1174848
Chromium,Dissolved	U		0.000540	0.00200	0.00200	1	10/08/2018 22:43	WG1174848
Copper,Dissolved	0.00200	B J	0.000520	0.00500	0.00500	1	10/08/2018 22:43	WG1174848
Cobalt,Dissolved	U		0.000260	0.00200	0.00200	1	10/08/2018 22:43	WG1174848
Iron,Dissolved	U		0.0150	0.100	0.100	1	10/08/2018 22:43	WG1174848
Lead,Dissolved	U		0.000240	0.00200	0.00200	1	10/08/2018 22:43	WG1174848
Manganese,Dissolved	0.000783	B J	0.000250	0.00500	0.00500	1	10/08/2018 22:43	WG1174848
Molybdenum,Dissolved	0.00243	J	0.000140	0.00500	0.00500	1	10/08/2018 22:43	WG1174848
Nickel,Dissolved	0.000934	J	0.000350	0.00200	0.00200	1	10/08/2018 22:43	WG1174848
Selenium,Dissolved	0.00322		0.000380	0.00200	0.00200	1	10/08/2018 22:43	WG1174848
Silver,Dissolved	U		0.000310	0.00200	0.00200	1	10/08/2018 22:43	WG1174848
Uranium,Dissolved	0.00228	J	0.000330	0.0100	0.0100	1	10/08/2018 22:43	WG1174848
Zinc,Dissolved	0.00805	B J	0.00256	0.0250	0.0250	1	10/08/2018 22:43	WG1174848

Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result	Qualifier	SDL	Unadj. MQL	MQL	Dilution	Analysis date / time	Batch
Acetone	U		0.0100	1.00	1.00	1	10/03/2018 05:19	WG1174888
Benzene	U		0.000331	0.00100	0.00100	1	10/03/2018 05:19	WG1174888
Bromodichloromethane	U		0.000380	0.00125	0.00125	1	10/03/2018 05:19	WG1174888
Bromoform	U		0.000469	0.00100	0.00100	1	10/03/2018 05:19	WG1174888
Bromomethane	U		0.000866	0.00500	0.00500	1	10/03/2018 05:19	WG1174888
n-Butylbenzene	U		0.000361	0.00100	0.00100	1	10/03/2018 05:19	WG1174888



Collected date/time: 10/01/18 10:15

L1030903

Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result mg/l	Qualifier	SDL mg/l	Unadj. MQL mg/l	MQL mg/l	Dilution	Analysis date / time	Batch
sec-Butylbenzene	U		0.000365	0.00100	0.00100	1	10/03/2018 05:19	WG1174888
tert-Butylbenzene	U		0.000399	0.00100	0.00100	1	10/03/2018 05:19	WG1174888
Carbon disulfide	U		0.000275	0.00100	0.00100	1	10/03/2018 05:19	WG1174888
Carbon tetrachloride	U		0.000379	0.00100	0.00100	1	10/03/2018 05:19	WG1174888
Chlorobenzene	U		0.000348	0.00100	0.00100	1	10/03/2018 05:19	WG1174888
Chlorodibromomethane	U		0.000327	0.00100	0.00100	1	10/03/2018 05:19	WG1174888
Chloroethane	U		0.000453	0.00500	0.00500	1	10/03/2018 05:19	WG1174888
Chloroform	U		0.000324	0.00500	0.00500	1	10/03/2018 05:19	WG1174888
Chloromethane	U		0.000276	0.00250	0.00250	1	10/03/2018 05:19	WG1174888
1,2-Dibromoethane	U		0.000381	0.00100	0.00100	1	10/03/2018 05:19	WG1174888
1,1-Dichloroethane	U		0.000259	0.00100	0.00100	1	10/03/2018 05:19	WG1174888
1,2-Dichloroethane	U		0.000361	0.00100	0.00100	1	10/03/2018 05:19	WG1174888
1,1-Dichloroethene	U		0.000398	0.00100	0.00100	1	10/03/2018 05:19	WG1174888
cis-1,2-Dichloroethene	U		0.000260	0.00100	0.00100	1	10/03/2018 05:19	WG1174888
trans-1,2-Dichloroethene	U		0.000396	0.00100	0.00100	1	10/03/2018 05:19	WG1174888
1,2-Dichloropropane	U		0.000306	0.00100	0.00100	1	10/03/2018 05:19	WG1174888
cis-1,3-Dichloropropene	U		0.000418	0.00100	0.00100	1	10/03/2018 05:19	WG1174888
trans-1,3-Dichloropropene	U		0.000419	0.00100	0.00100	1	10/03/2018 05:19	WG1174888
Ethylbenzene	U		0.000384	0.00100	0.00100	1	10/03/2018 05:19	WG1174888
Hexachloro-1,3-butadiene	U		0.000256	0.00100	0.00100	1	10/03/2018 05:19	WG1174888
2-Hexanone	U		0.00382	0.0100	0.0100	1	10/03/2018 05:19	WG1174888
Isopropylbenzene	U		0.000326	0.00100	0.00100	1	10/03/2018 05:19	WG1174888
p-Isopropyltoluene	U		0.000350	0.00100	0.00100	1	10/03/2018 05:19	WG1174888
2-Butanone (MEK)	U		0.00393	0.0100	0.0100	1	10/03/2018 05:19	WG1174888
Methylene Chloride	U		0.00100	0.00500	0.00500	1	10/03/2018 05:19	WG1174888
4-Methyl-2-pentanone (MIBK)	U		0.00214	0.0100	0.0100	1	10/03/2018 05:19	WG1174888
Methyl tert-butyl ether	U		0.000367	0.00100	0.00100	1	10/03/2018 05:19	WG1174888
Naphthalene	U		0.00100	0.00500	0.00500	1	10/03/2018 05:19	WG1174888
n-Propylbenzene	U		0.000349	0.00100	0.00100	1	10/03/2018 05:19	WG1174888
Styrene	U		0.000307	0.00100	0.00100	1	10/03/2018 05:19	WG1174888
1,1,2,2-Tetrachloroethane	U		0.000130	0.00100	0.00100	1	10/03/2018 05:19	WG1174888
Tetrachloroethene	U		0.000372	0.00100	0.00100	1	10/03/2018 05:19	WG1174888
Toluene	U		0.000412	0.00100	0.00100	1	10/03/2018 05:19	WG1174888
1,1,1-Trichloroethane	U		0.000319	0.00100	0.00100	1	10/03/2018 05:19	WG1174888
1,1,2-Trichloroethane	U		0.000383	0.00100	0.00100	1	10/03/2018 05:19	WG1174888
Trichloroethene	U		0.000398	0.00100	0.00100	1	10/03/2018 05:19	WG1174888
1,2,4-Trimethylbenzene	U		0.000373	0.00100	0.00100	1	10/03/2018 05:19	WG1174888
1,3,5-Trimethylbenzene	U		0.000387	0.00100	0.00100	1	10/03/2018 05:19	WG1174888
Vinyl chloride	U		0.000259	0.00100	0.00100	1	10/03/2018 05:19	WG1174888
Xylenes, Total	U		0.00106	0.00300	0.00300	1	10/03/2018 05:19	WG1174888
(S) Toluene-d8	108				80.0-120		10/03/2018 05:19	WG1174888
(S) Dibromofluoromethane	88.9				75.0-120		10/03/2018 05:19	WG1174888
(S) 4-Bromofluorobenzene	103				77.0-126		10/03/2018 05:19	WG1174888

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc

Semi Volatile Organic Compounds (GC/MS) by Method 8270 C

Analyte	Result mg/l	Qualifier	SDL mg/l	Unadj. MQL mg/l	MQL mg/l	Dilution	Analysis date / time	Batch
Acenaphthene	U		0.000316	0.00100	0.00100	1	10/08/2018 04:21	WG1177359
Acenaphthylene	U		0.000309	0.00100	0.00100	1	10/08/2018 04:21	WG1177359
Acetophenone	U		0.00247	0.0100	0.0100	1	10/08/2018 04:21	WG1177359
Anthracene	U		0.000291	0.00100	0.00100	1	10/08/2018 04:21	WG1177359
Atrazine	U		0.000260	0.0100	0.0100	1	10/08/2018 04:21	WG1177359
Benzo(a)anthracene	U		0.0000510	0.00100	0.00100	1	10/08/2018 04:21	WG1177359
Benzaldehyde	U		0.00140	0.0100	0.0100	1	10/08/2018 04:21	WG1177359
Benzo(b)fluoranthene	U		0.0000896	0.00100	0.00100	1	10/08/2018 04:21	WG1177359
Benzo(k)fluoranthene	U		0.000355	0.00100	0.00100	1	10/08/2018 04:21	WG1177359



Collected date/time: 10/01/18 10:15

L1030903

Semi Volatile Organic Compounds (GC/MS) by Method 8270 C

Analyte	Result mg/l	Qualifier	SDL mg/l	Unadj. MQL mg/l	MQL mg/l	Dilution	Analysis date / time	Batch
Benzo(g,h,i)perylene	U		0.0000227	0.00100	0.00100	1	10/08/2018 04:21	WG1177359
Benzo(a)pyrene	U		0.0000381	0.000200	0.000200	1	10/08/2018 04:21	WG1177359
Biphenyl	U		0.000325	0.0100	0.0100	1	10/08/2018 04:21	WG1177359
Bis(2-chlorethoxy)methane	U		0.000329	0.0100	0.0100	1	10/08/2018 04:21	WG1177359
Bis(2-chloroethyl)ether	U		0.00162	0.0100	0.0100	1	10/08/2018 04:21	WG1177359
Bis(2-chloroisopropyl)ether	U		0.000445	0.0100	0.0100	1	10/08/2018 04:21	WG1177359
4-Bromophenyl-phenylether	U		0.000335	0.0100	0.0100	1	10/08/2018 04:21	WG1177359
2-Chloronaphthalene	U		0.000330	0.00100	0.00100	1	10/08/2018 04:21	WG1177359
4-Chlorophenyl-phenylether	U		0.000303	0.0100	0.0100	1	10/08/2018 04:21	WG1177359
Caprolactam	U		0.00259	0.0100	0.0100	1	10/08/2018 04:21	WG1177359
Carbazole	U		0.000260	0.0100	0.0100	1	10/08/2018 04:21	WG1177359
Chrysene	U		0.000332	0.00100	0.00100	1	10/08/2018 04:21	WG1177359
Dibenz(a,h)anthracene	U		0.0000644	0.000200	0.000200	1	10/08/2018 04:21	WG1177359
Dibenzofuran	U		0.000338	0.0100	0.0100	1	10/08/2018 04:21	WG1177359
3,3-Dichlorobenzidine	U		0.00202	0.0100	0.0100	1	10/08/2018 04:21	WG1177359
2,4-Dinitrotoluene	U		0.00165	0.0100	0.0100	1	10/08/2018 04:21	WG1177359
2,6-Dinitrotoluene	U		0.000279	0.0100	0.0100	1	10/08/2018 04:21	WG1177359
Fluoranthene	U		0.000310	0.00100	0.00100	1	10/08/2018 04:21	WG1177359
Fluorene	U		0.000323	0.00100	0.00100	1	10/08/2018 04:21	WG1177359
Hexachlorobenzene	U		0.000341	0.00100	0.00100	1	10/08/2018 04:21	WG1177359
Hexachloro-1,3-butadiene	U		0.000329	0.0100	0.0100	1	10/08/2018 04:21	WG1177359
Hexachlorocyclopentadiene	U		0.00233	0.0100	0.0100	1	10/08/2018 04:21	WG1177359
Hexachloroethane	U		0.000365	0.0100	0.0100	1	10/08/2018 04:21	WG1177359
Indeno(1,2,3-cd)pyrene	U		0.000279	0.00100	0.00100	1	10/08/2018 04:21	WG1177359
Isophorone	U		0.000272	0.0100	0.0100	1	10/08/2018 04:21	WG1177359
1-Methylnaphthalene	U		0.000332	0.00100	0.00100	1	10/08/2018 04:21	WG1177359
2-Methylnaphthalene	U		0.000311	0.00100	0.00100	1	10/08/2018 04:21	WG1177359
Naphthalene	U		0.000372	0.00100	0.00100	1	10/08/2018 04:21	WG1177359
Nitrobenzene	U		0.000367	0.0100	0.0100	1	10/08/2018 04:21	WG1177359
n-Nitrosodiphenylamine	U		0.00119	0.0100	0.0100	1	10/08/2018 04:21	WG1177359
n-Nitrosodi-n-propylamine	U		0.000403	0.0100	0.0100	1	10/08/2018 04:21	WG1177359
Phenanthrene	U		0.000366	0.00100	0.00100	1	10/08/2018 04:21	WG1177359
Benzylbutyl phthalate	U		0.000275	0.00300	0.00300	1	10/08/2018 04:21	WG1177359
Bis(2-ethylhexyl)phthalate	U		0.000709	0.00300	0.00300	1	10/08/2018 04:21	WG1177359
Di-n-butyl phthalate	U		0.000266	0.00300	0.00300	1	10/08/2018 04:21	WG1177359
Diethyl phthalate	U		0.000282	0.00300	0.00300	1	10/08/2018 04:21	WG1177359
Dimethyl phthalate	U	J4	0.000283	0.00300	0.00300	1	10/08/2018 04:21	WG1177359
Di-n-octyl phthalate	U		0.000278	0.00300	0.00300	1	10/08/2018 04:21	WG1177359
Pyrene	U		0.000330	0.00100	0.00100	1	10/08/2018 04:21	WG1177359
1,2,4-Trichlorobenzene	U		0.000355	0.0100	0.0100	1	10/08/2018 04:21	WG1177359
4-Chloro-3-methylphenol	U		0.000263	0.0100	0.0100	1	10/08/2018 04:21	WG1177359
2-Chlorophenol	U		0.000283	0.0100	0.0100	1	10/08/2018 04:21	WG1177359
2,4-Dichlorophenol	U		0.000284	0.0100	0.0100	1	10/08/2018 04:21	WG1177359
2,4-Dimethylphenol	U		0.000624	0.0100	0.0100	1	10/08/2018 04:21	WG1177359
4,6-Dinitro-2-methylphenol	U		0.00262	0.0100	0.0100	1	10/08/2018 04:21	WG1177359
2,4-Dinitrophenol	U		0.00325	0.0100	0.0100	1	10/08/2018 04:21	WG1177359
2-Nitrophenol	U		0.000320	0.0100	0.0100	1	10/08/2018 04:21	WG1177359
2-Nitroaniline	U		0.00190	0.0100	0.0100	1	10/08/2018 04:21	WG1177359
2-Methylphenol	U		0.000312	0.0100	0.0100	1	10/08/2018 04:21	WG1177359
3&4-Methyl Phenol	U		0.000266	0.0100	0.0100	1	10/08/2018 04:21	WG1177359
3-Nitroaniline	U		0.000308	0.0100	0.0100	1	10/08/2018 04:21	WG1177359
4-Chloroaniline	U		0.000382	0.0100	0.0100	1	10/08/2018 04:21	WG1177359
4-Nitroaniline	U		0.000349	0.0100	0.0100	1	10/08/2018 04:21	WG1177359
4-Nitrophenol	U		0.00201	0.0100	0.0100	1	10/08/2018 04:21	WG1177359
Pentachlorophenol	U		0.000313	0.0100	0.0100	1	10/08/2018 04:21	WG1177359
Phenol	0.000817	J	0.000334	0.0100	0.0100	1	10/08/2018 04:21	WG1177359

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc



Collected date/time: 10/01/18 10:15

L1030903

Semi Volatile Organic Compounds (GC/MS) by Method 8270 C

Analyte	Result mg/l	Qualifier	SDL mg/l	Unadj. MQL mg/l	MQL mg/l	Dilution	Analysis date / time	Batch
2,4,5-Trichlorophenol	U		0.000236	0.0100	0.0100	1	10/08/2018 04:21	WG1177359
2,4,6-Trichlorophenol	U		0.000297	0.0100	0.0100	1	10/08/2018 04:21	WG1177359
(S) 2-Fluorophenol	35.4				10.0-120		10/08/2018 04:21	WG1177359
(S) Phenol-d5	20.4				10.0-120		10/08/2018 04:21	WG1177359
(S) Nitrobenzene-d5	52.1				10.0-127		10/08/2018 04:21	WG1177359
(S) 2-Fluorobiphenyl	51.3				10.0-130		10/08/2018 04:21	WG1177359
(S) 2,4,6-Tribromophenol	36.6				10.0-155		10/08/2018 04:21	WG1177359
(S) p-Terphenyl-d14	63.5				10.0-128		10/08/2018 04:21	WG1177359

¹Cp

²Tc

³Ss

⁴Cn

⁵Sr

⁶Qc

⁷Gl

⁸Al

⁹Sc



Gravimetric Analysis by Method 2540 C-2011

	Result	Qualifier	SDL	Unadj. MQL	MQL	Dilution	Analysis date / time	Batch
Analyte	mg/l		mg/l	mg/l	mg/l			
Dissolved Solids	682		2.82	10.0	10.0	1	10/08/2018 18:58	WG1176737

Wet Chemistry by Method 2320 B-2011

	Result	Qualifier	SDL	Unadj. MQL	MQL	Dilution	Analysis date / time	Batch
Analyte	mg/l		mg/l	mg/l	mg/l			
Alkalinity	200		2.71	20.0	20.0	1	10/08/2018 21:50	WG1177312

Sample Narrative:

L1030903-16 WG1177312: Endpoint pH 4.5 HEADSPACE

Wet Chemistry by Method 353.2

	Result	Qualifier	SDL	Unadj. MQL	MQL	Dilution	Analysis date / time	Batch
Analyte	mg/l		mg/l	mg/l	mg/l			
Nitrate-Nitrite	2.88		0.0394	0.100	0.200	2	10/09/2018 13:40	WG1177679

Wet Chemistry by Method 9056A

	Result	Qualifier	SDL	Unadj. MQL	MQL	Dilution	Analysis date / time	Batch
Analyte	mg/l		mg/l	mg/l	mg/l			
Chloride	136		0.260	1.00	5.00	5	10/04/2018 23:57	WG1174940
Fluoride	0.631		0.00990	0.100	0.100	1	10/04/2018 23:47	WG1174940
Sulfate	79.7		0.0774	5.00	5.00	1	10/04/2018 23:47	WG1174940

Mercury by Method 7470A

	Result	Qualifier	SDL	Unadj. MQL	MQL	Dilution	Analysis date / time	Batch
Analyte	mg/l		mg/l	mg/l	mg/l			
Mercury	U		0.0000490	0.000200	0.000200	1	10/04/2018 12:14	WG1174916

Metals (ICP) by Method 6010B

	Result	Qualifier	SDL	Unadj. MQL	MQL	Dilution	Analysis date / time	Batch
Analyte	mg/l		mg/l	mg/l	mg/l			
Boron,Dissolved	0.145	J	0.0126	0.200	0.200	1	10/08/2018 19:28	WG1174845

Metals (ICPMS) by Method 6020

	Result	Qualifier	SDL	Unadj. MQL	MQL	Dilution	Analysis date / time	Batch
Analyte	mg/l		mg/l	mg/l	mg/l			
Aluminum,Dissolved	0.00927	B J	0.00515	0.100	0.100	1	10/08/2018 22:48	WG1174848
Arsenic,Dissolved	0.00327		0.000250	0.00200	0.00200	1	10/08/2018 22:48	WG1174848
Barium,Dissolved	0.120		0.000360	0.00500	0.00500	1	10/08/2018 22:48	WG1174848
Cadmium,Dissolved	U		0.000160	0.00100	0.00100	1	10/08/2018 22:48	WG1174848
Chromium,Dissolved	0.000817	B J	0.000540	0.00200	0.00200	1	10/08/2018 22:48	WG1174848
Copper,Dissolved	0.00143	B J	0.000520	0.00500	0.00500	1	10/08/2018 22:48	WG1174848
Cobalt,Dissolved	U		0.000260	0.00200	0.00200	1	10/08/2018 22:48	WG1174848
Iron,Dissolved	U		0.0150	0.100	0.100	1	10/08/2018 22:48	WG1174848
Lead,Dissolved	U		0.000240	0.00200	0.00200	1	10/08/2018 22:48	WG1174848
Manganese,Dissolved	0.000555	B J	0.000250	0.00500	0.00500	1	10/08/2018 22:48	WG1174848
Molybdenum,Dissolved	0.00157	B J	0.000140	0.00500	0.00500	1	10/08/2018 22:48	WG1174848
Nickel,Dissolved	0.00309		0.000350	0.00200	0.00200	1	10/08/2018 22:48	WG1174848
Selenium,Dissolved	0.00290		0.000380	0.00200	0.00200	1	10/08/2018 22:48	WG1174848
Silver,Dissolved	U		0.000310	0.00200	0.00200	1	10/08/2018 22:48	WG1174848
Uranium,Dissolved	0.00189	J	0.000330	0.0100	0.0100	1	10/08/2018 22:48	WG1174848
Zinc,Dissolved	0.0203	B J	0.00256	0.0250	0.0250	1	10/08/2018 22:48	WG1174848

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc



Collected date/time: 10/01/18 09:20

L1030903

Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result mg/l	Qualifier	SDL mg/l	Unadj. MQL mg/l	MQL mg/l	Dilution	Analysis date / time	Batch
Acetone	U		0.0100	1.00	1.00	1	10/03/2018 05:40	WG1174888
Benzene	U		0.000331	0.00100	0.00100	1	10/03/2018 05:40	WG1174888
Bromodichloromethane	U		0.000380	0.00125	0.00125	1	10/03/2018 05:40	WG1174888
Bromoform	U		0.000469	0.00100	0.00100	1	10/03/2018 05:40	WG1174888
Bromomethane	U		0.000866	0.00500	0.00500	1	10/03/2018 05:40	WG1174888
n-Butylbenzene	U		0.000361	0.00100	0.00100	1	10/03/2018 05:40	WG1174888
sec-Butylbenzene	U		0.000365	0.00100	0.00100	1	10/03/2018 05:40	WG1174888
tert-Butylbenzene	U		0.000399	0.00100	0.00100	1	10/03/2018 05:40	WG1174888
Carbon disulfide	U		0.000275	0.00100	0.00100	1	10/03/2018 05:40	WG1174888
Carbon tetrachloride	U		0.000379	0.00100	0.00100	1	10/03/2018 05:40	WG1174888
Chlorobenzene	U		0.000348	0.00100	0.00100	1	10/03/2018 05:40	WG1174888
Chlorodibromomethane	U		0.000327	0.00100	0.00100	1	10/03/2018 05:40	WG1174888
Chloroethane	U		0.000453	0.00500	0.00500	1	10/03/2018 05:40	WG1174888
Chloroform	U		0.000324	0.00500	0.00500	1	10/03/2018 05:40	WG1174888
Chloromethane	U		0.000276	0.00250	0.00250	1	10/03/2018 05:40	WG1174888
1,2-Dibromoethane	U		0.000381	0.00100	0.00100	1	10/03/2018 05:40	WG1174888
1,1-Dichloroethane	U		0.000259	0.00100	0.00100	1	10/03/2018 05:40	WG1174888
1,2-Dichloroethane	U		0.000361	0.00100	0.00100	1	10/03/2018 05:40	WG1174888
1,1-Dichloroethene	U		0.000398	0.00100	0.00100	1	10/03/2018 05:40	WG1174888
cis-1,2-Dichloroethene	U		0.000260	0.00100	0.00100	1	10/03/2018 05:40	WG1174888
trans-1,2-Dichloroethene	U		0.000396	0.00100	0.00100	1	10/03/2018 05:40	WG1174888
1,2-Dichloropropane	U		0.000306	0.00100	0.00100	1	10/03/2018 05:40	WG1174888
cis-1,3-Dichloropropene	U		0.000418	0.00100	0.00100	1	10/03/2018 05:40	WG1174888
trans-1,3-Dichloropropene	U		0.000419	0.00100	0.00100	1	10/03/2018 05:40	WG1174888
Ethylbenzene	U		0.000384	0.00100	0.00100	1	10/03/2018 05:40	WG1174888
Hexachloro-1,3-butadiene	U		0.000256	0.00100	0.00100	1	10/03/2018 05:40	WG1174888
2-Hexanone	U		0.00382	0.0100	0.0100	1	10/03/2018 05:40	WG1174888
Isopropylbenzene	U		0.000326	0.00100	0.00100	1	10/03/2018 05:40	WG1174888
p-Isopropyltoluene	U		0.000350	0.00100	0.00100	1	10/03/2018 05:40	WG1174888
2-Butanone (MEK)	U		0.00393	0.0100	0.0100	1	10/03/2018 05:40	WG1174888
Methylene Chloride	U		0.00100	0.00500	0.00500	1	10/03/2018 05:40	WG1174888
4-Methyl-2-pentanone (MIBK)	U		0.00214	0.0100	0.0100	1	10/03/2018 05:40	WG1174888
Methyl tert-butyl ether	U		0.000367	0.00100	0.00100	1	10/03/2018 05:40	WG1174888
Naphthalene	U		0.00100	0.00500	0.00500	1	10/03/2018 05:40	WG1174888
n-Propylbenzene	U		0.000349	0.00100	0.00100	1	10/03/2018 05:40	WG1174888
Styrene	U		0.000307	0.00100	0.00100	1	10/03/2018 05:40	WG1174888
1,1,2,2-Tetrachloroethane	U		0.000130	0.00100	0.00100	1	10/03/2018 05:40	WG1174888
Tetrachloroethene	U		0.000372	0.00100	0.00100	1	10/03/2018 05:40	WG1174888
Toluene	U		0.000412	0.00100	0.00100	1	10/03/2018 05:40	WG1174888
1,1,1-Trichloroethane	U		0.000319	0.00100	0.00100	1	10/03/2018 05:40	WG1174888
1,1,2-Trichloroethane	U		0.000383	0.00100	0.00100	1	10/03/2018 05:40	WG1174888
Trichloroethene	U		0.000398	0.00100	0.00100	1	10/03/2018 05:40	WG1174888
1,2,4-Trimethylbenzene	U		0.000373	0.00100	0.00100	1	10/03/2018 05:40	WG1174888
1,3,5-Trimethylbenzene	U		0.000387	0.00100	0.00100	1	10/03/2018 05:40	WG1174888
Vinyl chloride	U		0.000259	0.00100	0.00100	1	10/03/2018 05:40	WG1174888
Xylenes, Total	U		0.00106	0.00300	0.00300	1	10/03/2018 05:40	WG1174888
(S) Toluene-d8	113				80.0-120		10/03/2018 05:40	WG1174888
(S) Dibromofluoromethane	90.5				75.0-120		10/03/2018 05:40	WG1174888
(S) 4-Bromofluorobenzene	103				77.0-126		10/03/2018 05:40	WG1174888

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc



Collected date/time: 10/01/18 09:20

L1030903

Semi Volatile Organic Compounds (GC/MS) by Method 8270 C

Analyte	Result mg/l	Qualifier	SDL mg/l	Unadj. MQL mg/l	MQL mg/l	Dilution	Analysis date / time	Batch
Acenaphthene	U		0.000316	0.00100	0.00100	1	10/08/2018 04:44	WG1177359
Acenaphthylene	U		0.000309	0.00100	0.00100	1	10/08/2018 04:44	WG1177359
Acetophenone	U		0.00247	0.0100	0.0100	1	10/08/2018 04:44	WG1177359
Anthracene	U		0.000291	0.00100	0.00100	1	10/08/2018 04:44	WG1177359
Atrazine	U		0.000260	0.0100	0.0100	1	10/08/2018 04:44	WG1177359
Benzo(a)anthracene	U		0.0000510	0.00100	0.00100	1	10/08/2018 04:44	WG1177359
Benzaldehyde	U		0.00140	0.0100	0.0100	1	10/08/2018 04:44	WG1177359
Benzo(b)fluoranthene	U		0.0000896	0.00100	0.00100	1	10/08/2018 04:44	WG1177359
Benzo(k)fluoranthene	U		0.000355	0.00100	0.00100	1	10/08/2018 04:44	WG1177359
Benzo(g,h,i)perylene	U		0.00000227	0.00100	0.00100	1	10/08/2018 04:44	WG1177359
Benzo(a)pyrene	U		0.0000381	0.000200	0.000200	1	10/08/2018 04:44	WG1177359
Biphenyl	U		0.000325	0.0100	0.0100	1	10/08/2018 04:44	WG1177359
Bis(2-chlorethoxy)methane	U		0.000329	0.0100	0.0100	1	10/08/2018 04:44	WG1177359
Bis(2-chloroethyl)ether	U		0.00162	0.0100	0.0100	1	10/08/2018 04:44	WG1177359
Bis(2-chloroisopropyl)ether	U		0.000445	0.0100	0.0100	1	10/08/2018 04:44	WG1177359
4-Bromophenyl-phenylether	U		0.000335	0.0100	0.0100	1	10/08/2018 04:44	WG1177359
2-Chloronaphthalene	U		0.000330	0.00100	0.00100	1	10/08/2018 04:44	WG1177359
4-Chlorophenyl-phenylether	U		0.000303	0.0100	0.0100	1	10/08/2018 04:44	WG1177359
Caprolactam	U		0.00259	0.0100	0.0100	1	10/08/2018 04:44	WG1177359
Carbazole	U		0.000260	0.0100	0.0100	1	10/08/2018 04:44	WG1177359
Chrysene	U		0.000332	0.00100	0.00100	1	10/08/2018 04:44	WG1177359
Dibenz(a,h)anthracene	U		0.0000644	0.000200	0.000200	1	10/08/2018 04:44	WG1177359
Dibenzofuran	U		0.000338	0.0100	0.0100	1	10/08/2018 04:44	WG1177359
3,3-Dichlorobenzidine	U		0.00202	0.0100	0.0100	1	10/08/2018 04:44	WG1177359
2,4-Dinitrotoluene	U		0.00165	0.0100	0.0100	1	10/08/2018 04:44	WG1177359
2,6-Dinitrotoluene	U		0.000279	0.0100	0.0100	1	10/08/2018 04:44	WG1177359
Fluoranthene	U		0.000310	0.00100	0.00100	1	10/08/2018 04:44	WG1177359
Fluorene	U		0.000323	0.00100	0.00100	1	10/08/2018 04:44	WG1177359
Hexachlorobenzene	U		0.000341	0.00100	0.00100	1	10/08/2018 04:44	WG1177359
Hexachloro-1,3-butadiene	U		0.000329	0.0100	0.0100	1	10/08/2018 04:44	WG1177359
Hexachlorocyclopentadiene	U		0.00233	0.0100	0.0100	1	10/08/2018 04:44	WG1177359
Hexachloroethane	U		0.000365	0.0100	0.0100	1	10/08/2018 04:44	WG1177359
Indeno(1,2,3-cd)pyrene	U		0.000279	0.00100	0.00100	1	10/08/2018 04:44	WG1177359
Isophorone	U		0.000272	0.0100	0.0100	1	10/08/2018 04:44	WG1177359
1-Methylnaphthalene	U		0.000332	0.00100	0.00100	1	10/08/2018 04:44	WG1177359
2-Methylnaphthalene	U		0.000311	0.00100	0.00100	1	10/08/2018 04:44	WG1177359
Naphthalene	U		0.000372	0.00100	0.00100	1	10/08/2018 04:44	WG1177359
Nitrobenzene	U		0.000367	0.0100	0.0100	1	10/08/2018 04:44	WG1177359
n-Nitrosodiphenylamine	U		0.00119	0.0100	0.0100	1	10/08/2018 04:44	WG1177359
n-Nitrosodi-n-propylamine	U		0.000403	0.0100	0.0100	1	10/08/2018 04:44	WG1177359
Phenanthrene	U		0.000366	0.00100	0.00100	1	10/08/2018 04:44	WG1177359
Benzylbutyl phthalate	U		0.000275	0.00300	0.00300	1	10/08/2018 04:44	WG1177359
Bis(2-ethylhexyl)phthalate	U		0.000709	0.00300	0.00300	1	10/08/2018 04:44	WG1177359
Di-n-butyl phthalate	U		0.000266	0.00300	0.00300	1	10/08/2018 04:44	WG1177359
Diethyl phthalate	U		0.000282	0.00300	0.00300	1	10/08/2018 04:44	WG1177359
Dimethyl phthalate	U	J4	0.000283	0.00300	0.00300	1	10/08/2018 04:44	WG1177359
Di-n-octyl phthalate	U		0.000278	0.00300	0.00300	1	10/08/2018 04:44	WG1177359
Pyrene	U		0.000330	0.00100	0.00100	1	10/08/2018 04:44	WG1177359
1,2,4-Trichlorobenzene	U		0.000355	0.0100	0.0100	1	10/08/2018 04:44	WG1177359
4-Chloro-3-methylphenol	U		0.000263	0.0100	0.0100	1	10/08/2018 04:44	WG1177359
2-Chlorophenol	U		0.000283	0.0100	0.0100	1	10/08/2018 04:44	WG1177359
2,4-Dichlorophenol	U		0.000284	0.0100	0.0100	1	10/08/2018 04:44	WG1177359
2,4-Dimethylphenol	U		0.000624	0.0100	0.0100	1	10/08/2018 04:44	WG1177359
4,6-Dinitro-2-methylphenol	U		0.00262	0.0100	0.0100	1	10/08/2018 04:44	WG1177359
2,4-Dinitrophenol	U		0.00325	0.0100	0.0100	1	10/08/2018 04:44	WG1177359
2-Nitrophenol	U		0.000320	0.0100	0.0100	1	10/08/2018 04:44	WG1177359

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc



Collected date/time: 10/01/18 09:20

L1030903

Semi Volatile Organic Compounds (GC/MS) by Method 8270 C

Analyte	Result mg/l	Qualifier	SDL mg/l	Unadj. MQL mg/l	MQL mg/l	Dilution	Analysis date / time	Batch
2-Nitroaniline	U		0.00190	0.0100	0.0100	1	10/08/2018 04:44	WG1177359
2-Methylphenol	U		0.000312	0.0100	0.0100	1	10/08/2018 04:44	WG1177359
3&4-Methyl Phenol	U		0.000266	0.0100	0.0100	1	10/08/2018 04:44	WG1177359
3-Nitroaniline	U		0.000308	0.0100	0.0100	1	10/08/2018 04:44	WG1177359
4-Chloroaniline	U		0.000382	0.0100	0.0100	1	10/08/2018 04:44	WG1177359
4-Nitroaniline	U		0.000349	0.0100	0.0100	1	10/08/2018 04:44	WG1177359
4-Nitrophenol	U		0.00201	0.0100	0.0100	1	10/08/2018 04:44	WG1177359
Pentachlorophenol	U		0.000313	0.0100	0.0100	1	10/08/2018 04:44	WG1177359
Phenol	0.00259	J	0.000334	0.0100	0.0100	1	10/08/2018 04:44	WG1177359
2,4,5-Trichlorophenol	U		0.000236	0.0100	0.0100	1	10/08/2018 04:44	WG1177359
2,4,6-Trichlorophenol	U		0.000297	0.0100	0.0100	1	10/08/2018 04:44	WG1177359
(S) 2-Fluorophenol	29.6				10.0-120		10/08/2018 04:44	WG1177359
(S) Phenol-d5	17.3				10.0-120		10/08/2018 04:44	WG1177359
(S) Nitrobenzene-d5	43.4				10.0-127		10/08/2018 04:44	WG1177359
(S) 2-Fluorobiphenyl	44.2				10.0-130		10/08/2018 04:44	WG1177359
(S) 2,4,6-Tribromophenol	39.5				10.0-155		10/08/2018 04:44	WG1177359
(S) p-Terphenyl-d14	64.8				10.0-128		10/08/2018 04:44	WG1177359

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc



Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	SDL	Unadj. MQL	MQL	Dilution	Analysis date / time	Batch
Dissolved Solids	659		2.82	10.0	10.0	1	10/08/2018 18:58	WG1176737

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc

Wet Chemistry by Method 353.2

Analyte	Result	Qualifier	SDL	Unadj. MQL	MQL	Dilution	Analysis date / time	Batch
Nitrate-Nitrite	2.48		0.0394	0.100	0.200	2	10/09/2018 13:42	WG1177679

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	SDL	Unadj. MQL	MQL	Dilution	Analysis date / time	Batch
Chloride	99.6		0.260	1.00	5.00	5	10/05/2018 00:16	WG1174940
Fluoride	0.599		0.00990	0.100	0.100	1	10/05/2018 00:07	WG1174940
Sulfate	73.8		0.0774	5.00	5.00	1	10/05/2018 00:07	WG1174940

Mercury by Method 7470A

Analyte	Result	Qualifier	SDL	Unadj. MQL	MQL	Dilution	Analysis date / time	Batch
Mercury	U		0.0000490	0.000200	0.000200	1	10/04/2018 12:16	WG1174916

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	SDL	Unadj. MQL	MQL	Dilution	Analysis date / time	Batch
Boron,Dissolved	0.240		0.0126	0.200	0.200	1	10/08/2018 19:30	WG1174845

Metals (ICPMS) by Method 6020

Analyte	Result	Qualifier	SDL	Unadj. MQL	MQL	Dilution	Analysis date / time	Batch
Aluminum,Dissolved	U		0.00515	0.100	0.100	1	10/08/2018 22:52	WG1174848
Arsenic,Dissolved	0.00225		0.000250	0.00200	0.00200	1	10/08/2018 22:52	WG1174848
Barium,Dissolved	0.0916		0.000360	0.00500	0.00500	1	10/08/2018 22:52	WG1174848
Cadmium,Dissolved	U		0.000160	0.00100	0.00100	1	10/08/2018 22:52	WG1174848
Chromium,Dissolved	0.00185	B J	0.000540	0.00200	0.00200	1	10/08/2018 22:52	WG1174848
Copper,Dissolved	0.00231	B J	0.000520	0.00500	0.00500	1	10/08/2018 22:52	WG1174848
Cobalt,Dissolved	U		0.000260	0.00200	0.00200	1	10/08/2018 22:52	WG1174848
Iron,Dissolved	U		0.0150	0.100	0.100	1	10/08/2018 22:52	WG1174848
Lead,Dissolved	0.000351	B J	0.000240	0.00200	0.00200	1	10/08/2018 22:52	WG1174848
Manganese,Dissolved	0.000538	B J	0.000250	0.00500	0.00500	1	10/08/2018 22:52	WG1174848
Molybdenum,Dissolved	0.00166	B J	0.000140	0.00500	0.00500	1	10/08/2018 22:52	WG1174848
Nickel,Dissolved	0.0101		0.000350	0.00200	0.00200	1	10/08/2018 22:52	WG1174848
Selenium,Dissolved	0.00252		0.000380	0.00200	0.00200	1	10/08/2018 22:52	WG1174848
Silver,Dissolved	U		0.000310	0.00200	0.00200	1	10/08/2018 22:52	WG1174848
Uranium,Dissolved	0.00428	J	0.000330	0.0100	0.0100	1	10/08/2018 22:52	WG1174848
Zinc,Dissolved	0.0334	B	0.00256	0.0250	0.0250	1	10/08/2018 22:52	WG1174848

Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result	Qualifier	SDL	Unadj. MQL	MQL	Dilution	Analysis date / time	Batch
Acetone	U		0.0100	1.00	1.00	1	10/03/2018 06:00	WG1174888
Benzene	U		0.000331	0.00100	0.00100	1	10/03/2018 06:00	WG1174888
Bromodichloromethane	U		0.000380	0.00125	0.00125	1	10/03/2018 06:00	WG1174888
Bromoform	U		0.000469	0.00100	0.00100	1	10/03/2018 06:00	WG1174888
Bromomethane	U		0.000866	0.00500	0.00500	1	10/03/2018 06:00	WG1174888
n-Butylbenzene	U		0.000361	0.00100	0.00100	1	10/03/2018 06:00	WG1174888



Collected date/time: 10/01/18 09:45

L1030903

Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result mg/l	Qualifier	SDL mg/l	Unadj. MQL mg/l	MQL mg/l	Dilution	Analysis date / time	Batch
sec-Butylbenzene	U		0.000365	0.00100	0.00100	1	10/03/2018 06:00	WG1174888
tert-Butylbenzene	U		0.000399	0.00100	0.00100	1	10/03/2018 06:00	WG1174888
Carbon disulfide	U		0.000275	0.00100	0.00100	1	10/03/2018 06:00	WG1174888
Carbon tetrachloride	U		0.000379	0.00100	0.00100	1	10/03/2018 06:00	WG1174888
Chlorobenzene	U		0.000348	0.00100	0.00100	1	10/03/2018 06:00	WG1174888
Chlorodibromomethane	U		0.000327	0.00100	0.00100	1	10/03/2018 06:00	WG1174888
Chloroethane	U		0.000453	0.00500	0.00500	1	10/03/2018 06:00	WG1174888
Chloroform	U		0.000324	0.00500	0.00500	1	10/03/2018 06:00	WG1174888
Chloromethane	U		0.000276	0.00250	0.00250	1	10/03/2018 06:00	WG1174888
1,2-Dibromoethane	U		0.000381	0.00100	0.00100	1	10/03/2018 06:00	WG1174888
1,1-Dichloroethane	U		0.000259	0.00100	0.00100	1	10/03/2018 06:00	WG1174888
1,2-Dichloroethane	U		0.000361	0.00100	0.00100	1	10/03/2018 06:00	WG1174888
1,1-Dichloroethene	U		0.000398	0.00100	0.00100	1	10/03/2018 06:00	WG1174888
cis-1,2-Dichloroethene	U		0.000260	0.00100	0.00100	1	10/03/2018 06:00	WG1174888
trans-1,2-Dichloroethene	U		0.000396	0.00100	0.00100	1	10/03/2018 06:00	WG1174888
1,2-Dichloropropane	U		0.000306	0.00100	0.00100	1	10/03/2018 06:00	WG1174888
cis-1,3-Dichloropropene	U		0.000418	0.00100	0.00100	1	10/03/2018 06:00	WG1174888
trans-1,3-Dichloropropene	U		0.000419	0.00100	0.00100	1	10/03/2018 06:00	WG1174888
Ethylbenzene	U		0.000384	0.00100	0.00100	1	10/03/2018 06:00	WG1174888
Hexachloro-1,3-butadiene	U		0.000256	0.00100	0.00100	1	10/03/2018 06:00	WG1174888
2-Hexanone	U		0.00382	0.0100	0.0100	1	10/03/2018 06:00	WG1174888
Isopropylbenzene	U		0.000326	0.00100	0.00100	1	10/03/2018 06:00	WG1174888
p-Isopropyltoluene	U		0.000350	0.00100	0.00100	1	10/03/2018 06:00	WG1174888
2-Butanone (MEK)	U		0.00393	0.0100	0.0100	1	10/03/2018 06:00	WG1174888
Methylene Chloride	U		0.00100	0.00500	0.00500	1	10/03/2018 06:00	WG1174888
4-Methyl-2-pentanone (MIBK)	U		0.00214	0.0100	0.0100	1	10/03/2018 06:00	WG1174888
Methyl tert-butyl ether	U		0.000367	0.00100	0.00100	1	10/03/2018 06:00	WG1174888
Naphthalene	U		0.00100	0.00500	0.00500	1	10/03/2018 06:00	WG1174888
n-Propylbenzene	U		0.000349	0.00100	0.00100	1	10/03/2018 06:00	WG1174888
Styrene	U		0.000307	0.00100	0.00100	1	10/03/2018 06:00	WG1174888
1,1,2,2-Tetrachloroethane	U		0.000130	0.00100	0.00100	1	10/03/2018 06:00	WG1174888
Tetrachloroethene	U		0.000372	0.00100	0.00100	1	10/03/2018 06:00	WG1174888
Toluene	U		0.000412	0.00100	0.00100	1	10/03/2018 06:00	WG1174888
1,1,1-Trichloroethane	U		0.000319	0.00100	0.00100	1	10/03/2018 06:00	WG1174888
1,1,2-Trichloroethane	U		0.000383	0.00100	0.00100	1	10/03/2018 06:00	WG1174888
Trichloroethene	U		0.000398	0.00100	0.00100	1	10/03/2018 06:00	WG1174888
1,2,4-Trimethylbenzene	U		0.000373	0.00100	0.00100	1	10/03/2018 06:00	WG1174888
1,3,5-Trimethylbenzene	U		0.000387	0.00100	0.00100	1	10/03/2018 06:00	WG1174888
Vinyl chloride	U		0.000259	0.00100	0.00100	1	10/03/2018 06:00	WG1174888
Xylenes, Total	U		0.00106	0.00300	0.00300	1	10/03/2018 06:00	WG1174888
(S) Toluene-d8	107				80.0-120		10/03/2018 06:00	WG1174888
(S) Dibromofluoromethane	91.4				75.0-120		10/03/2018 06:00	WG1174888
(S) 4-Bromofluorobenzene	104				77.0-126		10/03/2018 06:00	WG1174888

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc

Semi Volatile Organic Compounds (GC/MS) by Method 8270 C

Analyte	Result mg/l	Qualifier	SDL mg/l	Unadj. MQL mg/l	MQL mg/l	Dilution	Analysis date / time	Batch
Acenaphthene	U		0.000316	0.00100	0.00100	1	10/08/2018 05:08	WG1177359
Acenaphthylene	U		0.000309	0.00100	0.00100	1	10/08/2018 05:08	WG1177359
Acetophenone	U		0.00247	0.0100	0.0100	1	10/08/2018 05:08	WG1177359
Anthracene	U		0.000291	0.00100	0.00100	1	10/08/2018 05:08	WG1177359
Atrazine	U		0.000260	0.0100	0.0100	1	10/08/2018 05:08	WG1177359
Benzo(a)anthracene	U		0.0000510	0.00100	0.00100	1	10/08/2018 05:08	WG1177359
Benzaldehyde	U		0.00140	0.0100	0.0100	1	10/08/2018 05:08	WG1177359
Benzo(b)fluoranthene	U		0.0000896	0.00100	0.00100	1	10/08/2018 05:08	WG1177359
Benzo(k)fluoranthene	U		0.000355	0.00100	0.00100	1	10/08/2018 05:08	WG1177359

ACCOUNT:

TRC Solutions - Austin, TX

PROJECT:

294319.0000.00000 5

SDG:

L1030903

DATE/TIME:

10/16/18 18:30

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Collected date/time: 10/01/18 09:45

L1030903

Semi Volatile Organic Compounds (GC/MS) by Method 8270 C

Analyte	Result mg/l	Qualifier	SDL mg/l	Unadj. MQL mg/l	MQL mg/l	Dilution	Analysis date / time	Batch
Benzo(g,h,i)perylene	U		0.0000227	0.00100	0.00100	1	10/08/2018 05:08	WG1177359
Benzo(a)pyrene	U		0.0000381	0.000200	0.000200	1	10/08/2018 05:08	WG1177359
Biphenyl	U		0.000325	0.0100	0.0100	1	10/08/2018 05:08	WG1177359
Bis(2-chlorethoxy)methane	U		0.000329	0.0100	0.0100	1	10/08/2018 05:08	WG1177359
Bis(2-chloroethyl)ether	U		0.00162	0.0100	0.0100	1	10/08/2018 05:08	WG1177359
Bis(2-chloroisopropyl)ether	U		0.000445	0.0100	0.0100	1	10/08/2018 05:08	WG1177359
4-Bromophenyl-phenylether	U		0.000335	0.0100	0.0100	1	10/08/2018 05:08	WG1177359
2-Chloronaphthalene	U		0.000330	0.00100	0.00100	1	10/08/2018 05:08	WG1177359
4-Chlorophenyl-phenylether	U		0.000303	0.0100	0.0100	1	10/08/2018 05:08	WG1177359
Caprolactam	0.00282	J	0.00259	0.0100	0.0100	1	10/08/2018 05:08	WG1177359
Carbazole	U		0.000260	0.0100	0.0100	1	10/08/2018 05:08	WG1177359
Chrysene	U		0.000332	0.00100	0.00100	1	10/08/2018 05:08	WG1177359
Dibenz(a,h)anthracene	U		0.0000644	0.000200	0.000200	1	10/08/2018 05:08	WG1177359
Dibenzofuran	U		0.000338	0.0100	0.0100	1	10/08/2018 05:08	WG1177359
3,3-Dichlorobenzidine	U		0.00202	0.0100	0.0100	1	10/08/2018 05:08	WG1177359
2,4-Dinitrotoluene	U		0.00165	0.0100	0.0100	1	10/08/2018 05:08	WG1177359
2,6-Dinitrotoluene	U		0.000279	0.0100	0.0100	1	10/08/2018 05:08	WG1177359
Fluoranthene	U		0.000310	0.00100	0.00100	1	10/08/2018 05:08	WG1177359
Fluorene	U		0.000323	0.00100	0.00100	1	10/08/2018 05:08	WG1177359
Hexachlorobenzene	U		0.000341	0.00100	0.00100	1	10/08/2018 05:08	WG1177359
Hexachloro-1,3-butadiene	U		0.000329	0.0100	0.0100	1	10/08/2018 05:08	WG1177359
Hexachlorocyclopentadiene	U		0.00233	0.0100	0.0100	1	10/08/2018 05:08	WG1177359
Hexachloroethane	U		0.000365	0.0100	0.0100	1	10/08/2018 05:08	WG1177359
Indeno(1,2,3-cd)pyrene	U		0.000279	0.00100	0.00100	1	10/08/2018 05:08	WG1177359
Isophorone	U		0.000272	0.0100	0.0100	1	10/08/2018 05:08	WG1177359
1-Methylnaphthalene	U		0.000332	0.00100	0.00100	1	10/08/2018 05:08	WG1177359
2-Methylnaphthalene	U		0.000311	0.00100	0.00100	1	10/08/2018 05:08	WG1177359
Naphthalene	U		0.000372	0.00100	0.00100	1	10/08/2018 05:08	WG1177359
Nitrobenzene	U		0.000367	0.0100	0.0100	1	10/08/2018 05:08	WG1177359
n-Nitrosodiphenylamine	U		0.00119	0.0100	0.0100	1	10/08/2018 05:08	WG1177359
n-Nitrosodi-n-propylamine	U		0.000403	0.0100	0.0100	1	10/08/2018 05:08	WG1177359
Phenanthrene	U		0.000366	0.00100	0.00100	1	10/08/2018 05:08	WG1177359
Benzylbutyl phthalate	U		0.000275	0.00300	0.00300	1	10/08/2018 05:08	WG1177359
Bis(2-ethylhexyl)phthalate	U		0.000709	0.00300	0.00300	1	10/08/2018 05:08	WG1177359
Di-n-butyl phthalate	U		0.000266	0.00300	0.00300	1	10/08/2018 05:08	WG1177359
Diethyl phthalate	0.000596	J	0.000282	0.00300	0.00300	1	10/08/2018 05:08	WG1177359
Dimethyl phthalate	U	J4	0.000283	0.00300	0.00300	1	10/08/2018 05:08	WG1177359
Di-n-octyl phthalate	U		0.000278	0.00300	0.00300	1	10/08/2018 05:08	WG1177359
Pyrene	U		0.000330	0.00100	0.00100	1	10/08/2018 05:08	WG1177359
1,2,4-Trichlorobenzene	U		0.000355	0.0100	0.0100	1	10/08/2018 05:08	WG1177359
4-Chloro-3-methylphenol	U		0.000263	0.0100	0.0100	1	10/08/2018 05:08	WG1177359
2-Chlorophenol	U		0.000283	0.0100	0.0100	1	10/08/2018 05:08	WG1177359
2,4-Dichlorophenol	U		0.000284	0.0100	0.0100	1	10/08/2018 05:08	WG1177359
2,4-Dimethylphenol	U		0.000624	0.0100	0.0100	1	10/08/2018 05:08	WG1177359
4,6-Dinitro-2-methylphenol	U		0.00262	0.0100	0.0100	1	10/08/2018 05:08	WG1177359
2,4-Dinitrophenol	U		0.00325	0.0100	0.0100	1	10/08/2018 05:08	WG1177359
2-Nitrophenol	U		0.000320	0.0100	0.0100	1	10/08/2018 05:08	WG1177359
2-Nitroaniline	U		0.00190	0.0100	0.0100	1	10/08/2018 05:08	WG1177359
2-Methylphenol	U		0.000312	0.0100	0.0100	1	10/08/2018 05:08	WG1177359
3&4-Methyl Phenol	U		0.000266	0.0100	0.0100	1	10/08/2018 05:08	WG1177359
3-Nitroaniline	U		0.000308	0.0100	0.0100	1	10/08/2018 05:08	WG1177359
4-Chloroaniline	U		0.000382	0.0100	0.0100	1	10/08/2018 05:08	WG1177359
4-Nitroaniline	U		0.000349	0.0100	0.0100	1	10/08/2018 05:08	WG1177359
4-Nitrophenol	U		0.00201	0.0100	0.0100	1	10/08/2018 05:08	WG1177359
Pentachlorophenol	U		0.000313	0.0100	0.0100	1	10/08/2018 05:08	WG1177359
Phenol	0.00283	J	0.000334	0.0100	0.0100	1	10/08/2018 05:08	WG1177359

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc



Collected date/time: 10/01/18 09:45

L1030903

Semi Volatile Organic Compounds (GC/MS) by Method 8270 C

Analyte	Result mg/l	Qualifier	SDL mg/l	Unadj. MQL mg/l	MQL mg/l	Dilution	Analysis date / time	Batch
2,4,5-Trichlorophenol	U		0.000236	0.0100	0.0100	1	10/08/2018 05:08	WG1177359
2,4,6-Trichlorophenol	U		0.000297	0.0100	0.0100	1	10/08/2018 05:08	WG1177359
(S) 2-Fluorophenol	27.3				10.0-120		10/08/2018 05:08	WG1177359
(S) Phenol-d5	19.0				10.0-120		10/08/2018 05:08	WG1177359
(S) Nitrobenzene-d5	43.0				10.0-127		10/08/2018 05:08	WG1177359
(S) 2-Fluorobiphenyl	46.7				10.0-130		10/08/2018 05:08	WG1177359
(S) 2,4,6-Tribromophenol	28.1				10.0-155		10/08/2018 05:08	WG1177359
(S) p-Terphenyl-d14	62.4				10.0-128		10/08/2018 05:08	WG1177359

¹ Cp

² Tc

³ Ss

⁴ Cn

⁵ Sr

⁶ Qc

⁷ Gl

⁸ Al

⁹ Sc



Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	SDL	Unadj. MQL	MQL	Dilution	Analysis date / time	Batch
Dissolved Solids	1270		5.64	20.0	20.0	1	10/08/2018 18:58	WG1176737

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc

Wet Chemistry by Method 2320 B-2011

Analyte	Result	Qualifier	SDL	Unadj. MQL	MQL	Dilution	Analysis date / time	Batch
Alkalinity	186		2.71	20.0	20.0	1	10/09/2018 19:25	WG1177314

Sample Narrative:

L1030903-18 WG1177314: Endpoint pH 4.5 HEADSPACE

Wet Chemistry by Method 353.2

Analyte	Result	Qualifier	SDL	Unadj. MQL	MQL	Dilution	Analysis date / time	Batch
Nitrate-Nitrite	2.96		0.0197	0.100	0.100	1	10/09/2018 13:57	WG1177681

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	SDL	Unadj. MQL	MQL	Dilution	Analysis date / time	Batch
Chloride	292		0.519	1.00	10.0	10	10/05/2018 00:36	WG1174940
Fluoride	0.706		0.00990	0.100	0.100	1	10/05/2018 00:26	WG1174940
Sulfate	85.6		0.0774	5.00	5.00	1	10/05/2018 00:26	WG1174940

Mercury by Method 7470A

Analyte	Result	Qualifier	SDL	Unadj. MQL	MQL	Dilution	Analysis date / time	Batch
Mercury	U		0.0000490	0.000200	0.000200	1	10/04/2018 12:18	WG1174916

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	SDL	Unadj. MQL	MQL	Dilution	Analysis date / time	Batch
Boron,Dissolved	0.145	J	0.0126	0.200	0.200	1	10/08/2018 19:39	WG1174845

Metals (ICPMS) by Method 6020

Analyte	Result	Qualifier	SDL	Unadj. MQL	MQL	Dilution	Analysis date / time	Batch
Aluminum,Dissolved	0.00731	B J	0.00515	0.100	0.100	1	10/08/2018 23:08	WG1174848
Arsenic,Dissolved	0.00196	J	0.000250	0.00200	0.00200	1	10/08/2018 23:08	WG1174848
Barium,Dissolved	0.0939		0.000360	0.00500	0.00500	1	10/08/2018 23:08	WG1174848
Cadmium,Dissolved	U		0.000160	0.00100	0.00100	1	10/08/2018 23:08	WG1174848
Chromium,Dissolved	0.000756	B J	0.000540	0.00200	0.00200	1	10/08/2018 23:08	WG1174848
Copper,Dissolved	0.00446	B J	0.000520	0.00500	0.00500	1	10/08/2018 23:08	WG1174848
Cobalt,Dissolved	0.00133	J	0.000260	0.00200	0.00200	1	10/08/2018 23:08	WG1174848
Iron,Dissolved	U		0.0150	0.100	0.100	1	10/08/2018 23:08	WG1174848
Lead,Dissolved	U		0.000240	0.00200	0.00200	1	10/08/2018 23:08	WG1174848
Manganese,Dissolved	0.0179		0.000250	0.00500	0.00500	1	10/08/2018 23:08	WG1174848
Molybdenum,Dissolved	0.00480	J	0.000140	0.00500	0.00500	1	10/08/2018 23:08	WG1174848
Nickel,Dissolved	0.0726		0.000350	0.00200	0.00200	1	10/08/2018 23:08	WG1174848
Selenium,Dissolved	0.00109	J	0.000380	0.00200	0.00200	1	10/08/2018 23:08	WG1174848
Silver,Dissolved	U		0.000310	0.00200	0.00200	1	10/08/2018 23:08	WG1174848
Uranium,Dissolved	0.00250	J	0.000330	0.0100	0.0100	1	10/08/2018 23:08	WG1174848
Zinc,Dissolved	0.0926		0.00256	0.0250	0.0250	1	10/08/2018 23:08	WG1174848



Collected date/time: 10/01/18 12:05

L1030903

Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result mg/l	Qualifier	SDL mg/l	Unadj. MQL mg/l	MQL mg/l	Dilution	Analysis date / time	Batch
Acetone	U		0.0100	1.00	1.00	1	10/03/2018 06:21	WG1174888
Benzene	U		0.000331	0.00100	0.00100	1	10/03/2018 06:21	WG1174888
Bromodichloromethane	U		0.000380	0.00125	0.00125	1	10/03/2018 06:21	WG1174888
Bromoform	U		0.000469	0.00100	0.00100	1	10/03/2018 06:21	WG1174888
Bromomethane	U		0.000866	0.00500	0.00500	1	10/03/2018 06:21	WG1174888
n-Butylbenzene	U		0.000361	0.00100	0.00100	1	10/03/2018 06:21	WG1174888
sec-Butylbenzene	U		0.000365	0.00100	0.00100	1	10/03/2018 06:21	WG1174888
tert-Butylbenzene	U		0.000399	0.00100	0.00100	1	10/03/2018 06:21	WG1174888
Carbon disulfide	U		0.000275	0.00100	0.00100	1	10/03/2018 06:21	WG1174888
Carbon tetrachloride	U		0.000379	0.00100	0.00100	1	10/03/2018 06:21	WG1174888
Chlorobenzene	U		0.000348	0.00100	0.00100	1	10/03/2018 06:21	WG1174888
Chlorodibromomethane	U		0.000327	0.00100	0.00100	1	10/03/2018 06:21	WG1174888
Chloroethane	U		0.000453	0.00500	0.00500	1	10/03/2018 06:21	WG1174888
Chloroform	U		0.000324	0.00500	0.00500	1	10/03/2018 06:21	WG1174888
Chloromethane	U		0.000276	0.00250	0.00250	1	10/03/2018 06:21	WG1174888
1,2-Dibromoethane	U		0.000381	0.00100	0.00100	1	10/03/2018 06:21	WG1174888
1,1-Dichloroethane	U		0.000259	0.00100	0.00100	1	10/03/2018 06:21	WG1174888
1,2-Dichloroethane	U		0.000361	0.00100	0.00100	1	10/03/2018 06:21	WG1174888
1,1-Dichloroethene	U		0.000398	0.00100	0.00100	1	10/03/2018 06:21	WG1174888
cis-1,2-Dichloroethene	U		0.000260	0.00100	0.00100	1	10/03/2018 06:21	WG1174888
trans-1,2-Dichloroethene	U		0.000396	0.00100	0.00100	1	10/03/2018 06:21	WG1174888
1,2-Dichloropropane	U		0.000306	0.00100	0.00100	1	10/03/2018 06:21	WG1174888
cis-1,3-Dichloropropene	U		0.000418	0.00100	0.00100	1	10/03/2018 06:21	WG1174888
trans-1,3-Dichloropropene	U		0.000419	0.00100	0.00100	1	10/03/2018 06:21	WG1174888
Ethylbenzene	U		0.000384	0.00100	0.00100	1	10/03/2018 06:21	WG1174888
Hexachloro-1,3-butadiene	U		0.000256	0.00100	0.00100	1	10/03/2018 06:21	WG1174888
2-Hexanone	U		0.00382	0.0100	0.0100	1	10/03/2018 06:21	WG1174888
Isopropylbenzene	U		0.000326	0.00100	0.00100	1	10/03/2018 06:21	WG1174888
p-Isopropyltoluene	U		0.000350	0.00100	0.00100	1	10/03/2018 06:21	WG1174888
2-Butanone (MEK)	U		0.00393	0.0100	0.0100	1	10/03/2018 06:21	WG1174888
Methylene Chloride	U		0.00100	0.00500	0.00500	1	10/03/2018 06:21	WG1174888
4-Methyl-2-pentanone (MIBK)	U		0.00214	0.0100	0.0100	1	10/03/2018 06:21	WG1174888
Methyl tert-butyl ether	U		0.000367	0.00100	0.00100	1	10/03/2018 06:21	WG1174888
Naphthalene	U		0.00100	0.00500	0.00500	1	10/03/2018 06:21	WG1174888
n-Propylbenzene	U		0.000349	0.00100	0.00100	1	10/03/2018 06:21	WG1174888
Styrene	U		0.000307	0.00100	0.00100	1	10/03/2018 06:21	WG1174888
1,1,2,2-Tetrachloroethane	U		0.000130	0.00100	0.00100	1	10/03/2018 06:21	WG1174888
Tetrachloroethene	U		0.000372	0.00100	0.00100	1	10/03/2018 06:21	WG1174888
Toluene	U		0.000412	0.00100	0.00100	1	10/03/2018 06:21	WG1174888
1,1,1-Trichloroethane	U		0.000319	0.00100	0.00100	1	10/03/2018 06:21	WG1174888
1,1,2-Trichloroethane	U		0.000383	0.00100	0.00100	1	10/03/2018 06:21	WG1174888
Trichloroethene	U		0.000398	0.00100	0.00100	1	10/03/2018 06:21	WG1174888
1,2,4-Trimethylbenzene	U		0.000373	0.00100	0.00100	1	10/03/2018 06:21	WG1174888
1,3,5-Trimethylbenzene	U		0.000387	0.00100	0.00100	1	10/03/2018 06:21	WG1174888
Vinyl chloride	U		0.000259	0.00100	0.00100	1	10/03/2018 06:21	WG1174888
Xylenes, Total	U		0.00106	0.00300	0.00300	1	10/03/2018 06:21	WG1174888
(S) Toluene-d8	108				80.0-120		10/03/2018 06:21	WG1174888
(S) Dibromofluoromethane	92.5				75.0-120		10/03/2018 06:21	WG1174888
(S) 4-Bromofluorobenzene	102				77.0-126		10/03/2018 06:21	WG1174888

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc



Collected date/time: 10/01/18 12:05

L1030903

Semi Volatile Organic Compounds (GC/MS) by Method 8270 C

Analyte	Result mg/l	Qualifier	SDL mg/l	Unadj. MQL mg/l	MQL mg/l	Dilution	Analysis date / time	Batch
Acenaphthene	U		0.000316	0.00100	0.00100	1	10/08/2018 05:32	WG1177359
Acenaphthylene	U		0.000309	0.00100	0.00100	1	10/08/2018 05:32	WG1177359
Acetophenone	U		0.00247	0.0100	0.0100	1	10/08/2018 05:32	WG1177359
Anthracene	U		0.000291	0.00100	0.00100	1	10/08/2018 05:32	WG1177359
Atrazine	U		0.000260	0.0100	0.0100	1	10/08/2018 05:32	WG1177359
Benzo(a)anthracene	U		0.0000510	0.00100	0.00100	1	10/08/2018 05:32	WG1177359
Benzaldehyde	U		0.00140	0.0100	0.0100	1	10/08/2018 05:32	WG1177359
Benzo(b)fluoranthene	U		0.0000896	0.00100	0.00100	1	10/08/2018 05:32	WG1177359
Benzo(k)fluoranthene	U		0.000355	0.00100	0.00100	1	10/08/2018 05:32	WG1177359
Benzo(g,h,i)perylene	U		0.00000227	0.00100	0.00100	1	10/08/2018 05:32	WG1177359
Benzo(a)pyrene	U		0.0000381	0.000200	0.000200	1	10/08/2018 05:32	WG1177359
Biphenyl	U		0.000325	0.0100	0.0100	1	10/08/2018 05:32	WG1177359
Bis(2-chlorethoxy)methane	U		0.000329	0.0100	0.0100	1	10/08/2018 05:32	WG1177359
Bis(2-chloroethyl)ether	U		0.00162	0.0100	0.0100	1	10/08/2018 05:32	WG1177359
Bis(2-chloroisopropyl)ether	U		0.000445	0.0100	0.0100	1	10/08/2018 05:32	WG1177359
4-Bromophenyl-phenylether	U		0.000335	0.0100	0.0100	1	10/08/2018 05:32	WG1177359
2-Chloronaphthalene	U		0.000330	0.00100	0.00100	1	10/08/2018 05:32	WG1177359
4-Chlorophenyl-phenylether	U		0.000303	0.0100	0.0100	1	10/08/2018 05:32	WG1177359
Caprolactam	U		0.00259	0.0100	0.0100	1	10/08/2018 05:32	WG1177359
Carbazole	U		0.000260	0.0100	0.0100	1	10/08/2018 05:32	WG1177359
Chrysene	U		0.000332	0.00100	0.00100	1	10/08/2018 05:32	WG1177359
Dibenz(a,h)anthracene	U		0.0000644	0.000200	0.000200	1	10/08/2018 05:32	WG1177359
Dibenzofuran	U		0.000338	0.0100	0.0100	1	10/08/2018 05:32	WG1177359
3,3-Dichlorobenzidine	U		0.00202	0.0100	0.0100	1	10/08/2018 05:32	WG1177359
2,4-Dinitrotoluene	U		0.00165	0.0100	0.0100	1	10/08/2018 05:32	WG1177359
2,6-Dinitrotoluene	U		0.000279	0.0100	0.0100	1	10/08/2018 05:32	WG1177359
Fluoranthene	U		0.000310	0.00100	0.00100	1	10/08/2018 05:32	WG1177359
Fluorene	U		0.000323	0.00100	0.00100	1	10/08/2018 05:32	WG1177359
Hexachlorobenzene	U		0.000341	0.00100	0.00100	1	10/08/2018 05:32	WG1177359
Hexachloro-1,3-butadiene	U		0.000329	0.0100	0.0100	1	10/08/2018 05:32	WG1177359
Hexachlorocyclopentadiene	U		0.00233	0.0100	0.0100	1	10/08/2018 05:32	WG1177359
Hexachloroethane	U		0.000365	0.0100	0.0100	1	10/08/2018 05:32	WG1177359
Indeno(1,2,3-cd)pyrene	U		0.000279	0.00100	0.00100	1	10/08/2018 05:32	WG1177359
Isophorone	U		0.000272	0.0100	0.0100	1	10/08/2018 05:32	WG1177359
1-Methylnaphthalene	U		0.000332	0.00100	0.00100	1	10/08/2018 05:32	WG1177359
2-Methylnaphthalene	U		0.000311	0.00100	0.00100	1	10/08/2018 05:32	WG1177359
Naphthalene	U		0.000372	0.00100	0.00100	1	10/08/2018 05:32	WG1177359
Nitrobenzene	U		0.000367	0.0100	0.0100	1	10/08/2018 05:32	WG1177359
n-Nitrosodiphenylamine	U		0.00119	0.0100	0.0100	1	10/08/2018 05:32	WG1177359
n-Nitrosodi-n-propylamine	U		0.000403	0.0100	0.0100	1	10/08/2018 05:32	WG1177359
Phenanthrene	U		0.000366	0.00100	0.00100	1	10/08/2018 05:32	WG1177359
Benzylbutyl phthalate	U		0.000275	0.00300	0.00300	1	10/08/2018 05:32	WG1177359
Bis(2-ethylhexyl)phthalate	U		0.000709	0.00300	0.00300	1	10/08/2018 05:32	WG1177359
Di-n-butyl phthalate	U		0.000266	0.00300	0.00300	1	10/08/2018 05:32	WG1177359
Diethyl phthalate	U		0.000282	0.00300	0.00300	1	10/08/2018 05:32	WG1177359
Dimethyl phthalate	U	J4	0.000283	0.00300	0.00300	1	10/08/2018 05:32	WG1177359
Di-n-octyl phthalate	U		0.000278	0.00300	0.00300	1	10/08/2018 05:32	WG1177359
Pyrene	U		0.000330	0.00100	0.00100	1	10/08/2018 05:32	WG1177359
1,2,4-Trichlorobenzene	U		0.000355	0.0100	0.0100	1	10/08/2018 05:32	WG1177359
4-Chloro-3-methylphenol	U		0.000263	0.0100	0.0100	1	10/08/2018 05:32	WG1177359
2-Chlorophenol	U		0.000283	0.0100	0.0100	1	10/08/2018 05:32	WG1177359
2,4-Dichlorophenol	U		0.000284	0.0100	0.0100	1	10/08/2018 05:32	WG1177359
2,4-Dimethylphenol	U		0.000624	0.0100	0.0100	1	10/08/2018 05:32	WG1177359
4,6-Dinitro-2-methylphenol	U		0.00262	0.0100	0.0100	1	10/08/2018 05:32	WG1177359
2,4-Dinitrophenol	U		0.00325	0.0100	0.0100	1	10/08/2018 05:32	WG1177359
2-Nitrophenol	U		0.000320	0.0100	0.0100	1	10/08/2018 05:32	WG1177359

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc



Collected date/time: 10/01/18 12:05

L1030903

Semi Volatile Organic Compounds (GC/MS) by Method 8270 C

Analyte	Result mg/l	Qualifier	SDL mg/l	Unadj. MQL mg/l	MQL mg/l	Dilution	Analysis date / time	Batch
2-Nitroaniline	U		0.00190	0.0100	0.0100	1	10/08/2018 05:32	WG1177359
2-Methylphenol	U		0.000312	0.0100	0.0100	1	10/08/2018 05:32	WG1177359
3&4-Methyl Phenol	U		0.000266	0.0100	0.0100	1	10/08/2018 05:32	WG1177359
3-Nitroaniline	U		0.000308	0.0100	0.0100	1	10/08/2018 05:32	WG1177359
4-Chloroaniline	U		0.000382	0.0100	0.0100	1	10/08/2018 05:32	WG1177359
4-Nitroaniline	U		0.000349	0.0100	0.0100	1	10/08/2018 05:32	WG1177359
4-Nitrophenol	U		0.00201	0.0100	0.0100	1	10/08/2018 05:32	WG1177359
Pentachlorophenol	U		0.000313	0.0100	0.0100	1	10/08/2018 05:32	WG1177359
Phenol	0.00216	J	0.000334	0.0100	0.0100	1	10/08/2018 05:32	WG1177359
2,4,5-Trichlorophenol	U		0.000236	0.0100	0.0100	1	10/08/2018 05:32	WG1177359
2,4,6-Trichlorophenol	U		0.000297	0.0100	0.0100	1	10/08/2018 05:32	WG1177359
(S) 2-Fluorophenol	25.2				10.0-120		10/08/2018 05:32	WG1177359
(S) Phenol-d5	15.3				10.0-120		10/08/2018 05:32	WG1177359
(S) Nitrobenzene-d5	48.2				10.0-127		10/08/2018 05:32	WG1177359
(S) 2-Fluorobiphenyl	48.5				10.0-130		10/08/2018 05:32	WG1177359
(S) 2,4,6-Tribromophenol	31.3				10.0-155		10/08/2018 05:32	WG1177359
(S) p-Terphenyl-d14	63.1				10.0-128		10/08/2018 05:32	WG1177359

1
Cp2
Tc3
Ss4
Cn5
Sr6
Qc7
Gl8
Al9
Sc



Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	SDL	Unadj. MQL	MQL	Dilution	Analysis date / time	Batch
Dissolved Solids	785		3.75	13.3	13.3	1	10/08/2018 18:58	WG1176737

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc

Wet Chemistry by Method 353.2

Analyte	Result	Qualifier	SDL	Unadj. MQL	MQL	Dilution	Analysis date / time	Batch
Nitrate-Nitrite	3.86	<u>J6</u>	0.0197	0.100	0.100	1	10/09/2018 14:00	WG1177681

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	SDL	Unadj. MQL	MQL	Dilution	Analysis date / time	Batch
Chloride	180		0.260	1.00	5.00	5	10/05/2018 00:55	WG1174940
Fluoride	0.713		0.00990	0.100	0.100	1	10/05/2018 00:45	WG1174940
Sulfate	49.3		0.0774	5.00	5.00	1	10/05/2018 00:45	WG1174940

Mercury by Method 7470A

Analyte	Result	Qualifier	SDL	Unadj. MQL	MQL	Dilution	Analysis date / time	Batch
Mercury	U		0.0000490	0.000200	0.000200	1	10/04/2018 12:26	WG1174916

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	SDL	Unadj. MQL	MQL	Dilution	Analysis date / time	Batch
Boron,Dissolved	0.156	<u>J</u>	0.0126	0.200	0.200	1	10/08/2018 19:41	WG1174845

Metals (ICPMS) by Method 6020

Analyte	Result	Qualifier	SDL	Unadj. MQL	MQL	Dilution	Analysis date / time	Batch
Aluminum,Dissolved	0.0130	<u>B J</u>	0.00515	0.100	0.100	1	10/08/2018 23:13	WG1174848
Arsenic,Dissolved	0.00195	<u>J</u>	0.000250	0.00200	0.00200	1	10/08/2018 23:13	WG1174848
Barium,Dissolved	0.119		0.000360	0.00500	0.00500	1	10/08/2018 23:13	WG1174848
Cadmium,Dissolved	U		0.000160	0.00100	0.00100	1	10/08/2018 23:13	WG1174848
Chromium,Dissolved	0.00145	<u>B J</u>	0.000540	0.00200	0.00200	1	10/08/2018 23:13	WG1174848
Copper,Dissolved	0.000825	<u>B J</u>	0.000520	0.00500	0.00500	1	10/08/2018 23:13	WG1174848
Cobalt,Dissolved	0.00462		0.000260	0.00200	0.00200	1	10/08/2018 23:13	WG1174848
Iron,Dissolved	U		0.0150	0.100	0.100	1	10/08/2018 23:13	WG1174848
Lead,Dissolved	U		0.000240	0.00200	0.00200	1	10/08/2018 23:13	WG1174848
Manganese,Dissolved	0.0259		0.000250	0.00500	0.00500	1	10/08/2018 23:13	WG1174848
Molybdenum,Dissolved	0.0270		0.000140	0.00500	0.00500	1	10/08/2018 23:13	WG1174848
Nickel,Dissolved	0.142		0.000350	0.00200	0.00200	1	10/08/2018 23:13	WG1174848
Selenium,Dissolved	0.00114	<u>J</u>	0.000380	0.00200	0.00200	1	10/08/2018 23:13	WG1174848
Silver,Dissolved	U		0.000310	0.00200	0.00200	1	10/08/2018 23:13	WG1174848
Uranium,Dissolved	0.00196	<u>J</u>	0.000330	0.0100	0.0100	1	10/08/2018 23:13	WG1174848
Zinc,Dissolved	0.0702	<u>B</u>	0.00256	0.0250	0.0250	1	10/08/2018 23:13	WG1174848

Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result	Qualifier	SDL	Unadj. MQL	MQL	Dilution	Analysis date / time	Batch
Acetone	U		0.0100	1.00	1.00	1	10/03/2018 06:41	WG1174888
Benzene	U		0.000331	0.00100	0.00100	1	10/03/2018 06:41	WG1174888
Bromodichloromethane	U		0.000380	0.00125	0.00125	1	10/03/2018 06:41	WG1174888
Bromoform	U		0.000469	0.00100	0.00100	1	10/03/2018 06:41	WG1174888
Bromomethane	U		0.000866	0.00500	0.00500	1	10/03/2018 06:41	WG1174888
n-Butylbenzene	U		0.000361	0.00100	0.00100	1	10/03/2018 06:41	WG1174888



Collected date/time: 10/01/18 13:00

L1030903

Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result mg/l	Qualifier	SDL mg/l	Unadj. MQL mg/l	MQL mg/l	Dilution	Analysis date / time	Batch
sec-Butylbenzene	U		0.000365	0.00100	0.00100	1	10/03/2018 06:41	WG1174888
tert-Butylbenzene	U		0.000399	0.00100	0.00100	1	10/03/2018 06:41	WG1174888
Carbon disulfide	U		0.000275	0.00100	0.00100	1	10/03/2018 06:41	WG1174888
Carbon tetrachloride	U		0.000379	0.00100	0.00100	1	10/03/2018 06:41	WG1174888
Chlorobenzene	U		0.000348	0.00100	0.00100	1	10/03/2018 06:41	WG1174888
Chlorodibromomethane	U		0.000327	0.00100	0.00100	1	10/03/2018 06:41	WG1174888
Chloroethane	U		0.000453	0.00500	0.00500	1	10/03/2018 06:41	WG1174888
Chloroform	U		0.000324	0.00500	0.00500	1	10/03/2018 06:41	WG1174888
Chloromethane	U		0.000276	0.00250	0.00250	1	10/03/2018 06:41	WG1174888
1,2-Dibromoethane	U		0.000381	0.00100	0.00100	1	10/03/2018 06:41	WG1174888
1,1-Dichloroethane	U		0.000259	0.00100	0.00100	1	10/03/2018 06:41	WG1174888
1,2-Dichloroethane	U		0.000361	0.00100	0.00100	1	10/03/2018 06:41	WG1174888
1,1-Dichloroethene	U		0.000398	0.00100	0.00100	1	10/03/2018 06:41	WG1174888
cis-1,2-Dichloroethene	U		0.000260	0.00100	0.00100	1	10/03/2018 06:41	WG1174888
trans-1,2-Dichloroethene	U		0.000396	0.00100	0.00100	1	10/03/2018 06:41	WG1174888
1,2-Dichloropropane	U		0.000306	0.00100	0.00100	1	10/03/2018 06:41	WG1174888
cis-1,3-Dichloropropene	U		0.000418	0.00100	0.00100	1	10/03/2018 06:41	WG1174888
trans-1,3-Dichloropropene	U		0.000419	0.00100	0.00100	1	10/03/2018 06:41	WG1174888
Ethylbenzene	U		0.000384	0.00100	0.00100	1	10/03/2018 06:41	WG1174888
Hexachloro-1,3-butadiene	U		0.000256	0.00100	0.00100	1	10/03/2018 06:41	WG1174888
2-Hexanone	U		0.00382	0.0100	0.0100	1	10/03/2018 06:41	WG1174888
Isopropylbenzene	U		0.000326	0.00100	0.00100	1	10/03/2018 06:41	WG1174888
p-Isopropyltoluene	U		0.000350	0.00100	0.00100	1	10/03/2018 06:41	WG1174888
2-Butanone (MEK)	U		0.00393	0.0100	0.0100	1	10/03/2018 06:41	WG1174888
Methylene Chloride	U		0.00100	0.00500	0.00500	1	10/03/2018 06:41	WG1174888
4-Methyl-2-pentanone (MIBK)	U		0.00214	0.0100	0.0100	1	10/03/2018 06:41	WG1174888
Methyl tert-butyl ether	U		0.000367	0.00100	0.00100	1	10/03/2018 06:41	WG1174888
Naphthalene	U		0.00100	0.00500	0.00500	1	10/03/2018 06:41	WG1174888
n-Propylbenzene	U		0.000349	0.00100	0.00100	1	10/03/2018 06:41	WG1174888
Styrene	U		0.000307	0.00100	0.00100	1	10/03/2018 06:41	WG1174888
1,1,2,2-Tetrachloroethane	U		0.000130	0.00100	0.00100	1	10/03/2018 06:41	WG1174888
Tetrachloroethene	U		0.000372	0.00100	0.00100	1	10/03/2018 06:41	WG1174888
Toluene	U		0.000412	0.00100	0.00100	1	10/03/2018 06:41	WG1174888
1,1,1-Trichloroethane	U		0.000319	0.00100	0.00100	1	10/03/2018 06:41	WG1174888
1,1,2-Trichloroethane	U		0.000383	0.00100	0.00100	1	10/03/2018 06:41	WG1174888
Trichloroethene	U		0.000398	0.00100	0.00100	1	10/03/2018 06:41	WG1174888
1,2,4-Trimethylbenzene	U		0.000373	0.00100	0.00100	1	10/03/2018 06:41	WG1174888
1,3,5-Trimethylbenzene	U		0.000387	0.00100	0.00100	1	10/03/2018 06:41	WG1174888
Vinyl chloride	U		0.000259	0.00100	0.00100	1	10/03/2018 06:41	WG1174888
Xylenes, Total	U		0.00106	0.00300	0.00300	1	10/03/2018 06:41	WG1174888
(S) Toluene-d8	108				80.0-120		10/03/2018 06:41	WG1174888
(S) Dibromofluoromethane	90.3				75.0-120		10/03/2018 06:41	WG1174888
(S) 4-Bromofluorobenzene	101				77.0-126		10/03/2018 06:41	WG1174888

¹ Cp
² Tc
³ Ss
⁴ Cn
⁵ Sr
⁶ Qc
⁷ Gl
⁸ Al
⁹ Sc

Semi Volatile Organic Compounds (GC/MS) by Method 8270 C

Analyte	Result mg/l	Qualifier	SDL mg/l	Unadj. MQL mg/l	MQL mg/l	Dilution	Analysis date / time	Batch
Acenaphthene	U		0.000316	0.00100	0.00100	1	10/08/2018 05:55	WG1177359
Acenaphthylene	U		0.000309	0.00100	0.00100	1	10/08/2018 05:55	WG1177359
Acetophenone	U		0.00247	0.0100	0.0100	1	10/08/2018 05:55	WG1177359
Anthracene	U		0.000291	0.00100	0.00100	1	10/08/2018 05:55	WG1177359
Atrazine	U		0.000260	0.0100	0.0100	1	10/08/2018 05:55	WG1177359
Benzo(a)anthracene	U		0.0000510	0.00100	0.00100	1	10/08/2018 05:55	WG1177359
Benzaldehyde	U		0.00140	0.0100	0.0100	1	10/08/2018 05:55	WG1177359
Benzo(b)fluoranthene	U		0.0000896	0.00100	0.00100	1	10/08/2018 05:55	WG1177359
Benzo(k)fluoranthene	U		0.000355	0.00100	0.00100	1	10/08/2018 05:55	WG1177359



Collected date/time: 10/01/18 13:00

L1030903

Semi Volatile Organic Compounds (GC/MS) by Method 8270 C

Analyte	Result mg/l	Qualifier	SDL mg/l	Unadj. MQL mg/l	MQL mg/l	Dilution	Analysis date / time	Batch
Benzo(g,h,i)perylene	U		0.0000227	0.00100	0.00100	1	10/08/2018 05:55	WG1177359
Benzo(a)pyrene	U		0.0000381	0.000200	0.000200	1	10/08/2018 05:55	WG1177359
Biphenyl	U		0.000325	0.0100	0.0100	1	10/08/2018 05:55	WG1177359
Bis(2-chlorethoxy)methane	U		0.000329	0.0100	0.0100	1	10/08/2018 05:55	WG1177359
Bis(2-chloroethyl)ether	U		0.00162	0.0100	0.0100	1	10/08/2018 05:55	WG1177359
Bis(2-chloroisopropyl)ether	U		0.000445	0.0100	0.0100	1	10/08/2018 05:55	WG1177359
4-Bromophenyl-phenylether	U		0.000335	0.0100	0.0100	1	10/08/2018 05:55	WG1177359
2-Chloronaphthalene	U		0.000330	0.00100	0.00100	1	10/08/2018 05:55	WG1177359
4-Chlorophenyl-phenylether	U		0.000303	0.0100	0.0100	1	10/08/2018 05:55	WG1177359
Caprolactam	U		0.00259	0.0100	0.0100	1	10/08/2018 05:55	WG1177359
Carbazole	U		0.000260	0.0100	0.0100	1	10/08/2018 05:55	WG1177359
Chrysene	U		0.000332	0.00100	0.00100	1	10/08/2018 05:55	WG1177359
Dibenz(a,h)anthracene	U		0.0000644	0.000200	0.000200	1	10/08/2018 05:55	WG1177359
Dibenzofuran	U		0.000338	0.0100	0.0100	1	10/08/2018 05:55	WG1177359
3,3-Dichlorobenzidine	U		0.00202	0.0100	0.0100	1	10/08/2018 05:55	WG1177359
2,4-Dinitrotoluene	U		0.00165	0.0100	0.0100	1	10/08/2018 05:55	WG1177359
2,6-Dinitrotoluene	U		0.000279	0.0100	0.0100	1	10/08/2018 05:55	WG1177359
Fluoranthene	U		0.000310	0.00100	0.00100	1	10/08/2018 05:55	WG1177359
Fluorene	U		0.000323	0.00100	0.00100	1	10/08/2018 05:55	WG1177359
Hexachlorobenzene	U		0.000341	0.00100	0.00100	1	10/08/2018 05:55	WG1177359
Hexachloro-1,3-butadiene	U		0.000329	0.0100	0.0100	1	10/08/2018 05:55	WG1177359
Hexachlorocyclopentadiene	U		0.00233	0.0100	0.0100	1	10/08/2018 05:55	WG1177359
Hexachloroethane	U		0.000365	0.0100	0.0100	1	10/08/2018 05:55	WG1177359
Indeno(1,2,3-cd)pyrene	U		0.000279	0.00100	0.00100	1	10/08/2018 05:55	WG1177359
Isophorone	U		0.000272	0.0100	0.0100	1	10/08/2018 05:55	WG1177359
1-Methylnaphthalene	U		0.000332	0.00100	0.00100	1	10/08/2018 05:55	WG1177359
2-Methylnaphthalene	U		0.000311	0.00100	0.00100	1	10/08/2018 05:55	WG1177359
Naphthalene	U		0.000372	0.00100	0.00100	1	10/08/2018 05:55	WG1177359
Nitrobenzene	U		0.000367	0.0100	0.0100	1	10/08/2018 05:55	WG1177359
n-Nitrosodiphenylamine	U		0.00119	0.0100	0.0100	1	10/08/2018 05:55	WG1177359
n-Nitrosodi-n-propylamine	U		0.000403	0.0100	0.0100	1	10/08/2018 05:55	WG1177359
Phenanthrene	U		0.000366	0.00100	0.00100	1	10/08/2018 05:55	WG1177359
Benzylbutyl phthalate	U		0.000275	0.00300	0.00300	1	10/08/2018 05:55	WG1177359
Bis(2-ethylhexyl)phthalate	U		0.000709	0.00300	0.00300	1	10/08/2018 05:55	WG1177359
Di-n-butyl phthalate	U		0.000266	0.00300	0.00300	1	10/08/2018 05:55	WG1177359
Diethyl phthalate	U		0.000282	0.00300	0.00300	1	10/08/2018 05:55	WG1177359
Dimethyl phthalate	U	J4	0.000283	0.00300	0.00300	1	10/08/2018 05:55	WG1177359
Di-n-octyl phthalate	U		0.000278	0.00300	0.00300	1	10/08/2018 05:55	WG1177359
Pyrene	U		0.000330	0.00100	0.00100	1	10/08/2018 05:55	WG1177359
1,2,4-Trichlorobenzene	U		0.000355	0.0100	0.0100	1	10/08/2018 05:55	WG1177359
4-Chloro-3-methylphenol	U		0.000263	0.0100	0.0100	1	10/08/2018 05:55	WG1177359
2-Chlorophenol	U		0.000283	0.0100	0.0100	1	10/08/2018 05:55	WG1177359
2,4-Dichlorophenol	U		0.000284	0.0100	0.0100	1	10/08/2018 05:55	WG1177359
2,4-Dimethylphenol	U		0.000624	0.0100	0.0100	1	10/08/2018 05:55	WG1177359
4,6-Dinitro-2-methylphenol	U		0.00262	0.0100	0.0100	1	10/08/2018 05:55	WG1177359
2,4-Dinitrophenol	U		0.00325	0.0100	0.0100	1	10/08/2018 05:55	WG1177359
2-Nitrophenol	0.000585	J	0.000320	0.0100	0.0100	1	10/08/2018 05:55	WG1177359
2-Nitroaniline	U		0.00190	0.0100	0.0100	1	10/08/2018 05:55	WG1177359
2-Methylphenol	U		0.000312	0.0100	0.0100	1	10/08/2018 05:55	WG1177359
3&4-Methyl Phenol	U		0.000266	0.0100	0.0100	1	10/08/2018 05:55	WG1177359
3-Nitroaniline	U		0.000308	0.0100	0.0100	1	10/08/2018 05:55	WG1177359
4-Chloroaniline	U		0.000382	0.0100	0.0100	1	10/08/2018 05:55	WG1177359
4-Nitroaniline	U		0.000349	0.0100	0.0100	1	10/08/2018 05:55	WG1177359
4-Nitrophenol	U		0.00201	0.0100	0.0100	1	10/08/2018 05:55	WG1177359
Pentachlorophenol	U		0.000313	0.0100	0.0100	1	10/08/2018 05:55	WG1177359
Phenol	0.00309	J	0.000334	0.0100	0.0100	1	10/08/2018 05:55	WG1177359

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc



Collected date/time: 10/01/18 13:00

L1030903

Semi Volatile Organic Compounds (GC/MS) by Method 8270 C

Analyte	Result mg/l	Qualifier	SDL mg/l	Unadj. MQL mg/l	MQL mg/l	Dilution	Analysis date / time	Batch
2,4,5-Trichlorophenol	U		0.000236	0.0100	0.0100	1	10/08/2018 05:55	WG1177359
2,4,6-Trichlorophenol	U		0.000297	0.0100	0.0100	1	10/08/2018 05:55	WG1177359
(S) 2-Fluorophenol	23.7				10.0-120		10/08/2018 05:55	WG1177359
(S) Phenol-d5	13.2				10.0-120		10/08/2018 05:55	WG1177359
(S) Nitrobenzene-d5	49.7				10.0-127		10/08/2018 05:55	WG1177359
(S) 2-Fluorobiphenyl	52.3				10.0-130		10/08/2018 05:55	WG1177359
(S) 2,4,6-Tribromophenol	31.6				10.0-155		10/08/2018 05:55	WG1177359
(S) p-Terphenyl-d14	62.5				10.0-128		10/08/2018 05:55	WG1177359

1
Cp2
Tc3
Ss4
Cn5
Sr6
Qc7
Gl8
Al9
Sc



Volatile Organic Compounds (GC) by Method 8015D/GRO

Analyte	Result	Qualifier	SDL	Unadj. MQL	MQL	Dilution	Analysis	Batch
	mg/l		mg/l	mg/l	mg/l		date / time	
TPH (GC/FID) Low Fraction	U		0.0314	0.100	0.100	1	10/06/2018 19:58	WG1176966
(S) a,a,a-Trifluorotoluene(FID)	107				78.0-120		10/06/2018 19:58	WG1176966

Semi-Volatile Organic Compounds (GC) by Method 3511/8015

Analyte	Result	Qualifier	SDL	Unadj. MQL	MQL	Dilution	Analysis	Batch
	mg/l		mg/l	mg/l	mg/l		date / time	
TPH (GC/FID) High Fraction	0.120		0.0247	0.100	0.100	1	10/08/2018 14:23	WG1177385
(S) o-Terphenyl	59.5				31.0-160		10/08/2018 14:23	WG1177385

Semi Volatile Organic Compounds (GC/MS) by Method 8270 C

Analyte	Result	Qualifier	SDL	Unadj. MQL	MQL	Dilution	Analysis	Batch
	mg/l		mg/l	mg/l	mg/l		date / time	
Acenaphthene	U		0.000316	0.00100	0.00100	1	10/08/2018 06:19	WG1177359
Acenaphthylene	U		0.000309	0.00100	0.00100	1	10/08/2018 06:19	WG1177359
Acetophenone	U		0.00247	0.0100	0.0100	1	10/08/2018 06:19	WG1177359
Anthracene	U		0.000291	0.00100	0.00100	1	10/08/2018 06:19	WG1177359
Atrazine	U		0.000260	0.0100	0.0100	1	10/08/2018 06:19	WG1177359
Benzo(a)anthracene	U		0.0000510	0.00100	0.00100	1	10/08/2018 06:19	WG1177359
Benzaldehyde	U		0.00140	0.0100	0.0100	1	10/08/2018 06:19	WG1177359
Benzo(b)fluoranthene	U		0.0000896	0.00100	0.00100	1	10/08/2018 06:19	WG1177359
Benzo(k)fluoranthene	U		0.000355	0.00100	0.00100	1	10/08/2018 06:19	WG1177359
Benzo(g,h,i)perylene	U		0.00000227	0.00100	0.00100	1	10/08/2018 06:19	WG1177359
Benzo(a)pyrene	U		0.0000381	0.000200	0.000200	1	10/08/2018 06:19	WG1177359
Biphenyl	U		0.000325	0.0100	0.0100	1	10/08/2018 06:19	WG1177359
Bis(2-chlorethoxy)methane	U		0.000329	0.0100	0.0100	1	10/08/2018 06:19	WG1177359
Bis(2-chloroethyl)ether	U		0.00162	0.0100	0.0100	1	10/08/2018 06:19	WG1177359
Bis(2-chloroisopropyl)ether	U		0.000445	0.0100	0.0100	1	10/08/2018 06:19	WG1177359
4-Bromophenyl-phenylether	U		0.000335	0.0100	0.0100	1	10/08/2018 06:19	WG1177359
2-Chloronaphthalene	U		0.000330	0.00100	0.00100	1	10/08/2018 06:19	WG1177359
4-Chlorophenyl-phenylether	U		0.000303	0.0100	0.0100	1	10/08/2018 06:19	WG1177359
Caprolactam	U		0.00259	0.0100	0.0100	1	10/08/2018 06:19	WG1177359
Carbazole	U		0.000260	0.0100	0.0100	1	10/08/2018 06:19	WG1177359
Chrysene	U		0.000332	0.00100	0.00100	1	10/08/2018 06:19	WG1177359
Dibenz(a,h)anthracene	U		0.0000644	0.000200	0.000200	1	10/08/2018 06:19	WG1177359
Dibenzofuran	U		0.000338	0.0100	0.0100	1	10/08/2018 06:19	WG1177359
3,3-Dichlorobenzidine	U		0.00202	0.0100	0.0100	1	10/08/2018 06:19	WG1177359
2,4-Dinitrotoluene	U		0.00165	0.0100	0.0100	1	10/08/2018 06:19	WG1177359
2,6-Dinitrotoluene	U		0.000279	0.0100	0.0100	1	10/08/2018 06:19	WG1177359
Fluoranthene	U		0.000310	0.00100	0.00100	1	10/08/2018 06:19	WG1177359
Fluorene	U		0.000323	0.00100	0.00100	1	10/08/2018 06:19	WG1177359
Hexachlorobenzene	U		0.000341	0.00100	0.00100	1	10/08/2018 06:19	WG1177359
Hexachloro-1,3-butadiene	U		0.000329	0.0100	0.0100	1	10/08/2018 06:19	WG1177359
Hexachlorocyclopentadiene	U		0.00233	0.0100	0.0100	1	10/08/2018 06:19	WG1177359
Hexachloroethane	U		0.000365	0.0100	0.0100	1	10/08/2018 06:19	WG1177359
Indeno(1,2,3-cd)pyrene	U		0.000279	0.00100	0.00100	1	10/08/2018 06:19	WG1177359
Isophorone	U		0.000272	0.0100	0.0100	1	10/08/2018 06:19	WG1177359
1-Methylnaphthalene	U		0.000332	0.00100	0.00100	1	10/08/2018 06:19	WG1177359
2-Methylnaphthalene	U		0.000311	0.00100	0.00100	1	10/08/2018 06:19	WG1177359
Naphthalene	U		0.000372	0.00100	0.00100	1	10/08/2018 06:19	WG1177359
Nitrobenzene	U		0.000367	0.0100	0.0100	1	10/08/2018 06:19	WG1177359
n-Nitrosodiphenylamine	U		0.00119	0.0100	0.0100	1	10/08/2018 06:19	WG1177359
n-Nitrosodi-n-propylamine	U		0.000403	0.0100	0.0100	1	10/08/2018 06:19	WG1177359
Phenanthrene	U		0.000366	0.00100	0.00100	1	10/08/2018 06:19	WG1177359
Benzylbutyl phthalate	U		0.000275	0.00300	0.00300	1	10/08/2018 06:19	WG1177359
Bis(2-ethylhexyl)phthalate	U		0.000709	0.00300	0.00300	1	10/08/2018 06:19	WG1177359

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc



Collected date/time: 10/01/18 14:10

L1030903

Semi Volatile Organic Compounds (GC/MS) by Method 8270 C

Analyte	Result mg/l	Qualifier	SDL mg/l	Unadj. MQL mg/l	MQL mg/l	Dilution	Analysis date / time	Batch
Di-n-butyl phthalate	U		0.000266	0.00300	0.00300	1	10/08/2018 06:19	WG1177359
Diethyl phthalate	U		0.000282	0.00300	0.00300	1	10/08/2018 06:19	WG1177359
Dimethyl phthalate	U	J4	0.000283	0.00300	0.00300	1	10/08/2018 06:19	WG1177359
Di-n-octyl phthalate	U		0.000278	0.00300	0.00300	1	10/08/2018 06:19	WG1177359
Pyrene	U		0.000330	0.00100	0.00100	1	10/08/2018 06:19	WG1177359
1,2,4-Trichlorobenzene	U		0.000355	0.0100	0.0100	1	10/08/2018 06:19	WG1177359
4-Chloro-3-methylphenol	U		0.000263	0.0100	0.0100	1	10/08/2018 06:19	WG1177359
2-Chlorophenol	U		0.000283	0.0100	0.0100	1	10/08/2018 06:19	WG1177359
2,4-Dichlorophenol	U		0.000284	0.0100	0.0100	1	10/08/2018 06:19	WG1177359
2,4-Dimethylphenol	U		0.000624	0.0100	0.0100	1	10/08/2018 06:19	WG1177359
4,6-Dinitro-2-methylphenol	U		0.00262	0.0100	0.0100	1	10/08/2018 06:19	WG1177359
2,4-Dinitrophenol	U		0.00325	0.0100	0.0100	1	10/08/2018 06:19	WG1177359
2-Nitrophenol	U		0.000320	0.0100	0.0100	1	10/08/2018 06:19	WG1177359
2-Nitroaniline	U		0.00190	0.0100	0.0100	1	10/08/2018 06:19	WG1177359
2-Methylphenol	U		0.000312	0.0100	0.0100	1	10/08/2018 06:19	WG1177359
3&4-Methyl Phenol	U		0.000266	0.0100	0.0100	1	10/08/2018 06:19	WG1177359
3-Nitroaniline	U		0.000308	0.0100	0.0100	1	10/08/2018 06:19	WG1177359
4-Chloroaniline	U		0.000382	0.0100	0.0100	1	10/08/2018 06:19	WG1177359
4-Nitroaniline	U		0.000349	0.0100	0.0100	1	10/08/2018 06:19	WG1177359
4-Nitrophenol	U		0.00201	0.0100	0.0100	1	10/08/2018 06:19	WG1177359
Pentachlorophenol	U		0.000313	0.0100	0.0100	1	10/08/2018 06:19	WG1177359
Phenol	0.000383	J	0.000334	0.0100	0.0100	1	10/08/2018 06:19	WG1177359
2,4,5-Trichlorophenol	U		0.000236	0.0100	0.0100	1	10/08/2018 06:19	WG1177359
2,4,6-Trichlorophenol	U		0.000297	0.0100	0.0100	1	10/08/2018 06:19	WG1177359
(S) 2-Fluorophenol	36.9				10.0-120		10/08/2018 06:19	WG1177359
(S) Phenol-d5	21.9				10.0-120		10/08/2018 06:19	WG1177359
(S) Nitrobenzene-d5	48.4				10.0-127		10/08/2018 06:19	WG1177359
(S) 2-Fluorobiphenyl	47.2				10.0-130		10/08/2018 06:19	WG1177359
(S) 2,4,6-Tribromophenol	36.8				10.0-155		10/08/2018 06:19	WG1177359
(S) p-Terphenyl-d14	67.5				10.0-128		10/08/2018 06:19	WG1177359

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc



Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	SDL	Unadj. MQL	MQL	Dilution	Analysis date / time	Batch
Dissolved Solids	883		3.75	13.3	13.3	1	10/08/2018 18:58	WG1176737

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc

Wet Chemistry by Method 353.2

Analyte	Result	Qualifier	SDL	Unadj. MQL	MQL	Dilution	Analysis date / time	Batch
Nitrate-Nitrite	12.9		0.0985	0.100	0.500	5	10/09/2018 14:03	WG1177681

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	SDL	Unadj. MQL	MQL	Dilution	Analysis date / time	Batch
Chloride	34.3		0.0519	1.00	1.00	1	10/05/2018 01:05	WG1174940
Fluoride	0.652		0.00990	0.100	0.100	1	10/05/2018 01:05	WG1174940
Sulfate	46.7		0.0774	5.00	5.00	1	10/05/2018 01:05	WG1174940

Mercury by Method 7470A

Analyte	Result	Qualifier	SDL	Unadj. MQL	MQL	Dilution	Analysis date / time	Batch
Mercury	U		0.0000490	0.000200	0.000200	1	10/04/2018 12:28	WG1174916

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	SDL	Unadj. MQL	MQL	Dilution	Analysis date / time	Batch
Boron,Dissolved	0.190	J	0.0126	0.200	0.200	1	10/08/2018 19:44	WG1174845

Metals (ICPMS) by Method 6020

Analyte	Result	Qualifier	SDL	Unadj. MQL	MQL	Dilution	Analysis date / time	Batch
Aluminum,Dissolved	0.00765	B J	0.00515	0.100	0.100	1	10/08/2018 23:18	WG1174848
Arsenic,Dissolved	0.00219		0.000250	0.00200	0.00200	1	10/08/2018 23:18	WG1174848
Barium,Dissolved	0.121		0.000360	0.00500	0.00500	1	10/08/2018 23:18	WG1174848
Cadmium,Dissolved	U		0.000160	0.00100	0.00100	1	10/08/2018 23:18	WG1174848
Chromium,Dissolved	0.00267	B	0.000540	0.00200	0.00200	1	10/08/2018 23:18	WG1174848
Copper,Dissolved	0.00812	B	0.000520	0.00500	0.00500	1	10/08/2018 23:18	WG1174848
Cobalt,Dissolved	U		0.000260	0.00200	0.00200	1	10/08/2018 23:18	WG1174848
Iron,Dissolved	U		0.0150	0.100	0.100	1	10/08/2018 23:18	WG1174848
Lead,Dissolved	0.000354	B J	0.000240	0.00200	0.00200	1	10/08/2018 23:18	WG1174848
Manganese,Dissolved	0.000828	B J	0.000250	0.00500	0.00500	1	10/08/2018 23:18	WG1174848
Molybdenum,Dissolved	0.00183	B J	0.000140	0.00500	0.00500	1	10/08/2018 23:18	WG1174848
Nickel,Dissolved	0.0219		0.000350	0.00200	0.00200	1	10/08/2018 23:18	WG1174848
Selenium,Dissolved	0.000795	J	0.000380	0.00200	0.00200	1	10/08/2018 23:18	WG1174848
Silver,Dissolved	U		0.000310	0.00200	0.00200	1	10/08/2018 23:18	WG1174848
Uranium,Dissolved	0.00585	J	0.000330	0.0100	0.0100	1	10/08/2018 23:18	WG1174848
Zinc,Dissolved	0.0566	B	0.00256	0.0250	0.0250	1	10/08/2018 23:18	WG1174848

Volatile Organic Compounds (GC) by Method 8015D/GRO

Analyte	Result	Qualifier	SDL	Unadj. MQL	MQL	Dilution	Analysis date / time	Batch
TPH (GC/FID) Low Fraction	U		0.0314	0.100	0.100	1	10/06/2018 20:19	WG1176966
(S) a,a,a-Trifluorotoluene(FID)	106				78.0-120		10/06/2018 20:19	WG1176966



Collected date/time: 10/01/18 11:20

L1030903

Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result mg/l	Qualifier	SDL mg/l	Unadj. MQL mg/l	MQL mg/l	Dilution	Analysis date / time	Batch
Acetone	U		0.0100	1.00	1.00	1	10/03/2018 07:02	WG1174888
Benzene	U		0.000331	0.00100	0.00100	1	10/03/2018 07:02	WG1174888
Bromodichloromethane	U		0.000380	0.00125	0.00125	1	10/03/2018 07:02	WG1174888
Bromoform	U		0.000469	0.00100	0.00100	1	10/03/2018 07:02	WG1174888
Bromomethane	U		0.000866	0.00500	0.00500	1	10/03/2018 07:02	WG1174888
n-Butylbenzene	U		0.000361	0.00100	0.00100	1	10/03/2018 07:02	WG1174888
sec-Butylbenzene	U		0.000365	0.00100	0.00100	1	10/03/2018 07:02	WG1174888
tert-Butylbenzene	U		0.000399	0.00100	0.00100	1	10/03/2018 07:02	WG1174888
Carbon disulfide	U		0.000275	0.00100	0.00100	1	10/03/2018 07:02	WG1174888
Carbon tetrachloride	U		0.000379	0.00100	0.00100	1	10/03/2018 07:02	WG1174888
Chlorobenzene	U		0.000348	0.00100	0.00100	1	10/03/2018 07:02	WG1174888
Chlorodibromomethane	U		0.000327	0.00100	0.00100	1	10/03/2018 07:02	WG1174888
Chloroethane	U		0.000453	0.00500	0.00500	1	10/03/2018 07:02	WG1174888
Chloroform	U		0.000324	0.00500	0.00500	1	10/03/2018 07:02	WG1174888
Chloromethane	U		0.000276	0.00250	0.00250	1	10/03/2018 07:02	WG1174888
1,2-Dibromoethane	U		0.000381	0.00100	0.00100	1	10/03/2018 07:02	WG1174888
1,1-Dichloroethane	U		0.000259	0.00100	0.00100	1	10/03/2018 07:02	WG1174888
1,2-Dichloroethane	U		0.000361	0.00100	0.00100	1	10/03/2018 07:02	WG1174888
1,1-Dichloroethene	U		0.000398	0.00100	0.00100	1	10/03/2018 07:02	WG1174888
cis-1,2-Dichloroethene	U		0.000260	0.00100	0.00100	1	10/03/2018 07:02	WG1174888
trans-1,2-Dichloroethene	U		0.000396	0.00100	0.00100	1	10/03/2018 07:02	WG1174888
1,2-Dichloropropane	U		0.000306	0.00100	0.00100	1	10/03/2018 07:02	WG1174888
cis-1,3-Dichloropropene	U		0.000418	0.00100	0.00100	1	10/03/2018 07:02	WG1174888
trans-1,3-Dichloropropene	U		0.000419	0.00100	0.00100	1	10/03/2018 07:02	WG1174888
Ethylbenzene	U		0.000384	0.00100	0.00100	1	10/03/2018 07:02	WG1174888
Hexachloro-1,3-butadiene	U		0.000256	0.00100	0.00100	1	10/03/2018 07:02	WG1174888
2-Hexanone	U		0.00382	0.0100	0.0100	1	10/03/2018 07:02	WG1174888
Isopropylbenzene	U		0.000326	0.00100	0.00100	1	10/03/2018 07:02	WG1174888
p-Isopropyltoluene	U		0.000350	0.00100	0.00100	1	10/03/2018 07:02	WG1174888
2-Butanone (MEK)	U		0.00393	0.0100	0.0100	1	10/03/2018 07:02	WG1174888
Methylene Chloride	U		0.00100	0.00500	0.00500	1	10/03/2018 07:02	WG1174888
4-Methyl-2-pentanone (MIBK)	U		0.00214	0.0100	0.0100	1	10/03/2018 07:02	WG1174888
Methyl tert-butyl ether	U		0.000367	0.00100	0.00100	1	10/03/2018 07:02	WG1174888
Naphthalene	U		0.00100	0.00500	0.00500	1	10/03/2018 07:02	WG1174888
n-Propylbenzene	U		0.000349	0.00100	0.00100	1	10/03/2018 07:02	WG1174888
Styrene	U		0.000307	0.00100	0.00100	1	10/03/2018 07:02	WG1174888
1,1,2,2-Tetrachloroethane	U		0.000130	0.00100	0.00100	1	10/03/2018 07:02	WG1174888
Tetrachloroethene	U		0.000372	0.00100	0.00100	1	10/03/2018 07:02	WG1174888
Toluene	U		0.000412	0.00100	0.00100	1	10/03/2018 07:02	WG1174888
1,1,1-Trichloroethane	U		0.000319	0.00100	0.00100	1	10/03/2018 07:02	WG1174888
1,1,2-Trichloroethane	U		0.000383	0.00100	0.00100	1	10/03/2018 07:02	WG1174888
Trichloroethene	U		0.000398	0.00100	0.00100	1	10/03/2018 07:02	WG1174888
1,2,4-Trimethylbenzene	U		0.000373	0.00100	0.00100	1	10/03/2018 07:02	WG1174888
1,3,5-Trimethylbenzene	U		0.000387	0.00100	0.00100	1	10/03/2018 07:02	WG1174888
Vinyl chloride	U		0.000259	0.00100	0.00100	1	10/03/2018 07:02	WG1174888
Xylenes, Total	U		0.00106	0.00300	0.00300	1	10/03/2018 07:02	WG1174888
(S) Toluene-d8	110				80.0-120		10/03/2018 07:02	WG1174888
(S) Dibromofluoromethane	92.1				75.0-120		10/03/2018 07:02	WG1174888
(S) 4-Bromofluorobenzene	100				77.0-126		10/03/2018 07:02	WG1174888

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc



Collected date/time: 10/01/18 11:20

L1030903

Semi-Volatile Organic Compounds (GC) by Method 3511/8015

Analyte	Result mg/l	Qualifier	SDL mg/l	Unadj. MQL mg/l	MQL mg/l	Dilution	Analysis date / time	Batch
TPH (GC/FID) High Fraction	0.104	J	0.0494	0.100	0.200	2	10/05/2018 03:27	WG1174688
(S) o-Terphenyl	30.9	J2			31.0-160		10/05/2018 03:27	WG1174688

Sample Narrative:

L1030903-21 WG1174688: Sample produced emulsion during Extraction process, low surr/spike recoveries due to matrix

Semi Volatile Organic Compounds (GC/MS) by Method 8270 C

Analyte	Result mg/l	Qualifier	SDL mg/l	Unadj. MQL mg/l	MQL mg/l	Dilution	Analysis date / time	Batch
Acenaphthene	U		0.000316	0.00100	0.00100	1	10/08/2018 06:42	WG1177359
Acenaphthylene	U		0.000309	0.00100	0.00100	1	10/08/2018 06:42	WG1177359
Acetophenone	U		0.00247	0.0100	0.0100	1	10/08/2018 06:42	WG1177359
Anthracene	U		0.000291	0.00100	0.00100	1	10/08/2018 06:42	WG1177359
Atrazine	U		0.000260	0.0100	0.0100	1	10/08/2018 06:42	WG1177359
Benzo(a)anthracene	U		0.0000510	0.00100	0.00100	1	10/08/2018 06:42	WG1177359
Benzaldehyde	U		0.00140	0.0100	0.0100	1	10/08/2018 06:42	WG1177359
Benzo(b)fluoranthene	U		0.0000896	0.00100	0.00100	1	10/08/2018 06:42	WG1177359
Benzo(k)fluoranthene	U		0.000355	0.00100	0.00100	1	10/08/2018 06:42	WG1177359
Benzo(g,h,i)perylene	U		0.00000227	0.00100	0.00100	1	10/08/2018 06:42	WG1177359
Benzo(a)pyrene	U		0.0000381	0.000200	0.000200	1	10/08/2018 06:42	WG1177359
Biphenyl	U		0.000325	0.0100	0.0100	1	10/08/2018 06:42	WG1177359
Bis(2-chlorethoxy)methane	U		0.000329	0.0100	0.0100	1	10/08/2018 06:42	WG1177359
Bis(2-chloroethyl)ether	U		0.00162	0.0100	0.0100	1	10/08/2018 06:42	WG1177359
Bis(2-chloroisopropyl)ether	U		0.000445	0.0100	0.0100	1	10/08/2018 06:42	WG1177359
4-Bromophenyl-phenylether	U		0.000335	0.0100	0.0100	1	10/08/2018 06:42	WG1177359
2-Chloronaphthalene	U		0.000330	0.00100	0.00100	1	10/08/2018 06:42	WG1177359
4-Chlorophenyl-phenylether	U		0.000303	0.0100	0.0100	1	10/08/2018 06:42	WG1177359
Caprolactam	U		0.00259	0.0100	0.0100	1	10/08/2018 06:42	WG1177359
Carbazole	U		0.000260	0.0100	0.0100	1	10/08/2018 06:42	WG1177359
Chrysene	U		0.000332	0.00100	0.00100	1	10/08/2018 06:42	WG1177359
Dibenz(a,h)anthracene	U		0.0000644	0.000200	0.000200	1	10/08/2018 06:42	WG1177359
Dibenzofuran	U		0.000338	0.0100	0.0100	1	10/08/2018 06:42	WG1177359
3,3-Dichlorobenzidine	U		0.00202	0.0100	0.0100	1	10/08/2018 06:42	WG1177359
2,4-Dinitrotoluene	U		0.00165	0.0100	0.0100	1	10/08/2018 06:42	WG1177359
2,6-Dinitrotoluene	U		0.000279	0.0100	0.0100	1	10/08/2018 06:42	WG1177359
Fluoranthene	U		0.000310	0.00100	0.00100	1	10/08/2018 06:42	WG1177359
Fluorene	U		0.000323	0.00100	0.00100	1	10/08/2018 06:42	WG1177359
Hexachlorobenzene	U		0.000341	0.00100	0.00100	1	10/08/2018 06:42	WG1177359
Hexachloro-1,3-butadiene	U		0.000329	0.0100	0.0100	1	10/08/2018 06:42	WG1177359
Hexachlorocyclopentadiene	U		0.00233	0.0100	0.0100	1	10/08/2018 06:42	WG1177359
Hexachloroethane	U		0.000365	0.0100	0.0100	1	10/08/2018 06:42	WG1177359
Indeno(1,2,3-cd)pyrene	U		0.000279	0.00100	0.00100	1	10/08/2018 06:42	WG1177359
Isophorone	U		0.000272	0.0100	0.0100	1	10/08/2018 06:42	WG1177359
1-Methylnaphthalene	U		0.000332	0.00100	0.00100	1	10/08/2018 06:42	WG1177359
2-Methylnaphthalene	U		0.000311	0.00100	0.00100	1	10/08/2018 06:42	WG1177359
Naphthalene	U		0.000372	0.00100	0.00100	1	10/08/2018 06:42	WG1177359
Nitrobenzene	U		0.000367	0.0100	0.0100	1	10/08/2018 06:42	WG1177359
n-Nitrosodiphenylamine	U		0.00119	0.0100	0.0100	1	10/08/2018 06:42	WG1177359
n-Nitrosodi-n-propylamine	U		0.000403	0.0100	0.0100	1	10/08/2018 06:42	WG1177359
Phenanthrene	U		0.000366	0.00100	0.00100	1	10/08/2018 06:42	WG1177359
Benzylbutyl phthalate	U		0.000275	0.00300	0.00300	1	10/08/2018 06:42	WG1177359
Bis(2-ethylhexyl)phthalate	U		0.000709	0.00300	0.00300	1	10/08/2018 06:42	WG1177359
Di-n-butyl phthalate	U		0.000266	0.00300	0.00300	1	10/08/2018 06:42	WG1177359
Diethyl phthalate	U		0.000282	0.00300	0.00300	1	10/08/2018 06:42	WG1177359
Dimethyl phthalate	U	J4	0.000283	0.00300	0.00300	1	10/08/2018 06:42	WG1177359
Di-n-octyl phthalate	U		0.000278	0.00300	0.00300	1	10/08/2018 06:42	WG1177359

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc



Collected date/time: 10/01/18 11:20

L1030903

Semi Volatile Organic Compounds (GC/MS) by Method 8270 C

Analyte	Result mg/l	Qualifier	SDL mg/l	Unadj. MQL mg/l	MQL mg/l	Dilution	Analysis date / time	Batch
Pyrene	U		0.000330	0.00100	0.00100	1	10/08/2018 06:42	WG1177359
1,2,4-Trichlorobenzene	U		0.000355	0.0100	0.0100	1	10/08/2018 06:42	WG1177359
4-Chloro-3-methylphenol	U		0.000263	0.0100	0.0100	1	10/08/2018 06:42	WG1177359
2-Chlorophenol	U		0.000283	0.0100	0.0100	1	10/08/2018 06:42	WG1177359
2,4-Dichlorophenol	U		0.000284	0.0100	0.0100	1	10/08/2018 06:42	WG1177359
2,4-Dimethylphenol	U		0.000624	0.0100	0.0100	1	10/08/2018 06:42	WG1177359
4,6-Dinitro-2-methylphenol	U		0.00262	0.0100	0.0100	1	10/08/2018 06:42	WG1177359
2,4-Dinitrophenol	U		0.00325	0.0100	0.0100	1	10/08/2018 06:42	WG1177359
2-Nitrophenol	U		0.000320	0.0100	0.0100	1	10/08/2018 06:42	WG1177359
2-Nitroaniline	U		0.00190	0.0100	0.0100	1	10/08/2018 06:42	WG1177359
2-Methylphenol	U		0.000312	0.0100	0.0100	1	10/08/2018 06:42	WG1177359
3&4-Methyl Phenol	U		0.000266	0.0100	0.0100	1	10/08/2018 06:42	WG1177359
3-Nitroaniline	U		0.000308	0.0100	0.0100	1	10/08/2018 06:42	WG1177359
4-Chloroaniline	U		0.000382	0.0100	0.0100	1	10/08/2018 06:42	WG1177359
4-Nitroaniline	U		0.000349	0.0100	0.0100	1	10/08/2018 06:42	WG1177359
4-Nitrophenol	U		0.00201	0.0100	0.0100	1	10/08/2018 06:42	WG1177359
Pentachlorophenol	U		0.000313	0.0100	0.0100	1	10/08/2018 06:42	WG1177359
Phenol	0.00119	U	0.000334	0.0100	0.0100	1	10/08/2018 06:42	WG1177359
2,4,5-Trichlorophenol	U		0.000236	0.0100	0.0100	1	10/08/2018 06:42	WG1177359
2,4,6-Trichlorophenol	U		0.000297	0.0100	0.0100	1	10/08/2018 06:42	WG1177359
(S) 2-Fluorophenol	30.9				10.0-120		10/08/2018 06:42	WG1177359
(S) Phenol-d5	18.7				10.0-120		10/08/2018 06:42	WG1177359
(S) Nitrobenzene-d5	49.9				10.0-127		10/08/2018 06:42	WG1177359
(S) 2-Fluorobiphenyl	51.0				10.0-130		10/08/2018 06:42	WG1177359
(S) 2,4,6-Tribromophenol	37.1				10.0-155		10/08/2018 06:42	WG1177359
(S) p-Terphenyl-d14	64.4				10.0-128		10/08/2018 06:42	WG1177359

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc



Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	SDL	Unadj. MQL	MQL	Dilution	Analysis date / time	Batch
Dissolved Solids	720	Q	9.39	33.3	33.3	1	10/13/2018 12:46	WG1180103

1
Cp2
Tc3
Ss4
Cn5
Sr6
Qc7
Gl8
Al9
Sc

Wet Chemistry by Method 353.2

Analyte	Result	Qualifier	SDL	Unadj. MQL	MQL	Dilution	Analysis date / time	Batch
Nitrate-Nitrite	1.93		0.0197	0.100	0.100	1	10/09/2018 14:05	WG1177681

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	SDL	Unadj. MQL	MQL	Dilution	Analysis date / time	Batch
Chloride	27.0		0.0519	1.00	1.00	1	10/04/2018 21:16	WG1174945
Fluoride	0.825		0.00990	0.100	0.100	1	10/04/2018 21:16	WG1174945
Sulfate	47.0		0.0774	5.00	5.00	1	10/04/2018 21:16	WG1174945



Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	SDL	Unadj. MQL	MQL	Dilution	Analysis date / time	Batch
Dissolved Solids	397		2.82	10.0	10.0	1	10/08/2018 18:58	WG1176737

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc

Wet Chemistry by Method 2320 B-2011

Analyte	Result	Qualifier	SDL	Unadj. MQL	MQL	Dilution	Analysis date / time	Batch
Alkalinity	216		2.71	20.0	20.0	1	10/09/2018 19:40	WG1177314

Sample Narrative:

L1030903-23 WG1177314: Endpoint pH 4.5 HEADSPACE

Wet Chemistry by Method 353.2

Analyte	Result	Qualifier	SDL	Unadj. MQL	MQL	Dilution	Analysis date / time	Batch
Nitrate-Nitrite	3.80		0.0394	0.100	0.200	2	10/09/2018 14:06	WG1177681

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	SDL	Unadj. MQL	MQL	Dilution	Analysis date / time	Batch
Chloride	35.8		0.0519	1.00	1.00	1	10/04/2018 21:30	WG1174945
Fluoride	2.65		0.00990	0.100	0.100	1	10/04/2018 21:30	WG1174945
Sulfate	35.3		0.0774	5.00	5.00	1	10/04/2018 21:30	WG1174945

Mercury by Method 7470A

Analyte	Result	Qualifier	SDL	Unadj. MQL	MQL	Dilution	Analysis date / time	Batch
Mercury	U		0.0000490	0.000200	0.000200	1	10/04/2018 12:31	WG1174916

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	SDL	Unadj. MQL	MQL	Dilution	Analysis date / time	Batch
Boron,Dissolved	0.136	J	0.0126	0.200	0.200	1	10/08/2018 19:47	WG1174845

Metals (ICPMS) by Method 6020

Analyte	Result	Qualifier	SDL	Unadj. MQL	MQL	Dilution	Analysis date / time	Batch
Aluminum,Dissolved	0.0128	B J	0.00515	0.100	0.100	1	10/08/2018 23:22	WG1174848
Arsenic,Dissolved	0.00565		0.000250	0.00200	0.00200	1	10/08/2018 23:22	WG1174848
Barium,Dissolved	0.0801		0.000360	0.00500	0.00500	1	10/08/2018 23:22	WG1174848
Cadmium,Dissolved	U		0.000160	0.00100	0.00100	1	10/08/2018 23:22	WG1174848
Chromium,Dissolved	0.00110	B J	0.000540	0.00200	0.00200	1	10/08/2018 23:22	WG1174848
Copper,Dissolved	0.00636	B	0.000520	0.00500	0.00500	1	10/08/2018 23:22	WG1174848
Cobalt,Dissolved	U		0.000260	0.00200	0.00200	1	10/08/2018 23:22	WG1174848
Iron,Dissolved	U		0.0150	0.100	0.100	1	10/08/2018 23:22	WG1174848
Lead,Dissolved	0.000379	B J	0.000240	0.00200	0.00200	1	10/08/2018 23:22	WG1174848
Manganese,Dissolved	0.00140	B J	0.000250	0.00500	0.00500	1	10/08/2018 23:22	WG1174848
Molybdenum,Dissolved	0.00228	J	0.000140	0.00500	0.00500	1	10/08/2018 23:22	WG1174848
Nickel,Dissolved	0.0114		0.000350	0.00200	0.00200	1	10/08/2018 23:22	WG1174848
Selenium,Dissolved	0.000648	J	0.000380	0.00200	0.00200	1	10/08/2018 23:22	WG1174848
Silver,Dissolved	U		0.000310	0.00200	0.00200	1	10/08/2018 23:22	WG1174848
Uranium,Dissolved	0.00283	J	0.000330	0.0100	0.0100	1	10/08/2018 23:22	WG1174848
Zinc,Dissolved	0.150		0.00256	0.0250	0.0250	1	10/08/2018 23:22	WG1174848



Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result mg/l	Qualifier	SDL mg/l	Unadj. MQL mg/l	MQL mg/l	Dilution	Analysis date / time	Batch
Acetone	U		0.0100	1.00	1.00	1	10/03/2018 07:22	WG1174888
Benzene	U		0.000331	0.00100	0.00100	1	10/03/2018 07:22	WG1174888
Bromodichloromethane	U		0.000380	0.00125	0.00125	1	10/03/2018 07:22	WG1174888
Bromoform	U		0.000469	0.00100	0.00100	1	10/03/2018 07:22	WG1174888
Bromomethane	U		0.000866	0.00500	0.00500	1	10/03/2018 07:22	WG1174888
n-Butylbenzene	U		0.000361	0.00100	0.00100	1	10/03/2018 07:22	WG1174888
sec-Butylbenzene	U		0.000365	0.00100	0.00100	1	10/03/2018 07:22	WG1174888
tert-Butylbenzene	U		0.000399	0.00100	0.00100	1	10/03/2018 07:22	WG1174888
Carbon disulfide	U		0.000275	0.00100	0.00100	1	10/03/2018 07:22	WG1174888
Carbon tetrachloride	U		0.000379	0.00100	0.00100	1	10/03/2018 07:22	WG1174888
Chlorobenzene	U		0.000348	0.00100	0.00100	1	10/03/2018 07:22	WG1174888
Chlorodibromomethane	U		0.000327	0.00100	0.00100	1	10/03/2018 07:22	WG1174888
Chloroethane	U		0.000453	0.00500	0.00500	1	10/03/2018 07:22	WG1174888
Chloroform	U		0.000324	0.00500	0.00500	1	10/03/2018 07:22	WG1174888
Chloromethane	U		0.000276	0.00250	0.00250	1	10/03/2018 07:22	WG1174888
1,2-Dibromoethane	U		0.000381	0.00100	0.00100	1	10/03/2018 07:22	WG1174888
1,1-Dichloroethane	U		0.000259	0.00100	0.00100	1	10/03/2018 07:22	WG1174888
1,2-Dichloroethane	U		0.000361	0.00100	0.00100	1	10/03/2018 07:22	WG1174888
1,1-Dichloroethene	U		0.000398	0.00100	0.00100	1	10/03/2018 07:22	WG1174888
cis-1,2-Dichloroethene	U		0.000260	0.00100	0.00100	1	10/03/2018 07:22	WG1174888
trans-1,2-Dichloroethene	U		0.000396	0.00100	0.00100	1	10/03/2018 07:22	WG1174888
1,2-Dichloropropane	U		0.000306	0.00100	0.00100	1	10/03/2018 07:22	WG1174888
cis-1,3-Dichloropropene	U		0.000418	0.00100	0.00100	1	10/03/2018 07:22	WG1174888
trans-1,3-Dichloropropene	U		0.000419	0.00100	0.00100	1	10/03/2018 07:22	WG1174888
Ethylbenzene	U		0.000384	0.00100	0.00100	1	10/03/2018 07:22	WG1174888
Hexachloro-1,3-butadiene	U		0.000256	0.00100	0.00100	1	10/03/2018 07:22	WG1174888
2-Hexanone	U		0.00382	0.0100	0.0100	1	10/03/2018 07:22	WG1174888
Isopropylbenzene	U		0.000326	0.00100	0.00100	1	10/03/2018 07:22	WG1174888
p-Isopropyltoluene	U		0.000350	0.00100	0.00100	1	10/03/2018 07:22	WG1174888
2-Butanone (MEK)	U		0.00393	0.0100	0.0100	1	10/03/2018 07:22	WG1174888
Methylene Chloride	U		0.00100	0.00500	0.00500	1	10/03/2018 07:22	WG1174888
4-Methyl-2-pentanone (MIBK)	U		0.00214	0.0100	0.0100	1	10/03/2018 07:22	WG1174888
Methyl tert-butyl ether	U		0.000367	0.00100	0.00100	1	10/03/2018 07:22	WG1174888
Naphthalene	U		0.00100	0.00500	0.00500	1	10/03/2018 07:22	WG1174888
n-Propylbenzene	U		0.000349	0.00100	0.00100	1	10/03/2018 07:22	WG1174888
Styrene	U		0.000307	0.00100	0.00100	1	10/03/2018 07:22	WG1174888
1,1,2,2-Tetrachloroethane	U		0.000130	0.00100	0.00100	1	10/03/2018 07:22	WG1174888
Tetrachloroethene	U		0.000372	0.00100	0.00100	1	10/03/2018 07:22	WG1174888
Toluene	U		0.000412	0.00100	0.00100	1	10/03/2018 07:22	WG1174888
1,1,1-Trichloroethane	U		0.000319	0.00100	0.00100	1	10/03/2018 07:22	WG1174888
1,1,2-Trichloroethane	U		0.000383	0.00100	0.00100	1	10/03/2018 07:22	WG1174888
Trichloroethene	U		0.000398	0.00100	0.00100	1	10/03/2018 07:22	WG1174888
1,2,4-Trimethylbenzene	U		0.000373	0.00100	0.00100	1	10/03/2018 07:22	WG1174888
1,3,5-Trimethylbenzene	U		0.000387	0.00100	0.00100	1	10/03/2018 07:22	WG1174888
Vinyl chloride	U		0.000259	0.00100	0.00100	1	10/03/2018 07:22	WG1174888
Xylenes, Total	U		0.00106	0.00300	0.00300	1	10/03/2018 07:22	WG1174888
(S) Toluene-d8	112				80.0-120		10/03/2018 07:22	WG1174888
(S) Dibromofluoromethane	90.2				75.0-120		10/03/2018 07:22	WG1174888
(S) 4-Bromofluorobenzene	102				77.0-126		10/03/2018 07:22	WG1174888

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc



Collected date/time: 10/01/18 13:05

L1030903

Semi Volatile Organic Compounds (GC/MS) by Method 8270 C

Analyte	Result mg/l	Qualifier	SDL mg/l	Unadj. MQL mg/l	MQL mg/l	Dilution	Analysis date / time	Batch
Acenaphthene	U		0.000316	0.00100	0.00100	1	10/08/2018 07:06	WG1177359
Acenaphthylene	U		0.000309	0.00100	0.00100	1	10/08/2018 07:06	WG1177359
Acetophenone	U		0.00247	0.0100	0.0100	1	10/08/2018 07:06	WG1177359
Anthracene	U		0.000291	0.00100	0.00100	1	10/08/2018 07:06	WG1177359
Atrazine	U		0.000260	0.0100	0.0100	1	10/08/2018 07:06	WG1177359
Benzo(a)anthracene	U		0.0000510	0.00100	0.00100	1	10/08/2018 07:06	WG1177359
Benzaldehyde	U		0.00140	0.0100	0.0100	1	10/08/2018 07:06	WG1177359
Benzo(b)fluoranthene	U		0.0000896	0.00100	0.00100	1	10/08/2018 07:06	WG1177359
Benzo(k)fluoranthene	U		0.000355	0.00100	0.00100	1	10/08/2018 07:06	WG1177359
Benzo(g,h,i)perylene	U		0.00000227	0.00100	0.00100	1	10/08/2018 07:06	WG1177359
Benzo(a)pyrene	U		0.0000381	0.000200	0.000200	1	10/08/2018 07:06	WG1177359
Biphenyl	U		0.000325	0.0100	0.0100	1	10/08/2018 07:06	WG1177359
Bis(2-chlorethoxy)methane	U		0.000329	0.0100	0.0100	1	10/08/2018 07:06	WG1177359
Bis(2-chloroethyl)ether	U		0.00162	0.0100	0.0100	1	10/08/2018 07:06	WG1177359
Bis(2-chloroisopropyl)ether	U		0.000445	0.0100	0.0100	1	10/08/2018 07:06	WG1177359
4-Bromophenyl-phenylether	U		0.000335	0.0100	0.0100	1	10/08/2018 07:06	WG1177359
2-Chloronaphthalene	U		0.000330	0.00100	0.00100	1	10/08/2018 07:06	WG1177359
4-Chlorophenyl-phenylether	U		0.000303	0.0100	0.0100	1	10/08/2018 07:06	WG1177359
Caprolactam	U		0.00259	0.0100	0.0100	1	10/08/2018 07:06	WG1177359
Carbazole	U		0.000260	0.0100	0.0100	1	10/08/2018 07:06	WG1177359
Chrysene	U		0.000332	0.00100	0.00100	1	10/08/2018 07:06	WG1177359
Dibenz(a,h)anthracene	U		0.0000644	0.000200	0.000200	1	10/08/2018 07:06	WG1177359
Dibenzofuran	U		0.000338	0.0100	0.0100	1	10/08/2018 07:06	WG1177359
3,3-Dichlorobenzidine	U		0.00202	0.0100	0.0100	1	10/08/2018 07:06	WG1177359
2,4-Dinitrotoluene	U		0.00165	0.0100	0.0100	1	10/08/2018 07:06	WG1177359
2,6-Dinitrotoluene	U		0.000279	0.0100	0.0100	1	10/08/2018 07:06	WG1177359
Fluoranthene	U		0.000310	0.00100	0.00100	1	10/08/2018 07:06	WG1177359
Fluorene	U		0.000323	0.00100	0.00100	1	10/08/2018 07:06	WG1177359
Hexachlorobenzene	U		0.000341	0.00100	0.00100	1	10/08/2018 07:06	WG1177359
Hexachloro-1,3-butadiene	U		0.000329	0.0100	0.0100	1	10/08/2018 07:06	WG1177359
Hexachlorocyclopentadiene	U		0.00233	0.0100	0.0100	1	10/08/2018 07:06	WG1177359
Hexachloroethane	U		0.000365	0.0100	0.0100	1	10/08/2018 07:06	WG1177359
Indeno(1,2,3-cd)pyrene	U		0.000279	0.00100	0.00100	1	10/08/2018 07:06	WG1177359
Isophorone	U		0.000272	0.0100	0.0100	1	10/08/2018 07:06	WG1177359
1-Methylnaphthalene	U		0.000332	0.00100	0.00100	1	10/08/2018 07:06	WG1177359
2-Methylnaphthalene	U		0.000311	0.00100	0.00100	1	10/08/2018 07:06	WG1177359
Naphthalene	U		0.000372	0.00100	0.00100	1	10/08/2018 07:06	WG1177359
Nitrobenzene	U		0.000367	0.0100	0.0100	1	10/08/2018 07:06	WG1177359
n-Nitrosodiphenylamine	U		0.00119	0.0100	0.0100	1	10/08/2018 07:06	WG1177359
n-Nitrosodi-n-propylamine	U		0.000403	0.0100	0.0100	1	10/08/2018 07:06	WG1177359
Phenanthrene	U		0.000366	0.00100	0.00100	1	10/08/2018 07:06	WG1177359
Benzylbutyl phthalate	U		0.000275	0.00300	0.00300	1	10/08/2018 07:06	WG1177359
Bis(2-ethylhexyl)phthalate	U		0.000709	0.00300	0.00300	1	10/08/2018 07:06	WG1177359
Di-n-butyl phthalate	U		0.000266	0.00300	0.00300	1	10/08/2018 07:06	WG1177359
Diethyl phthalate	U		0.000282	0.00300	0.00300	1	10/08/2018 07:06	WG1177359
Dimethyl phthalate	U	J4	0.000283	0.00300	0.00300	1	10/08/2018 07:06	WG1177359
Di-n-octyl phthalate	U		0.000278	0.00300	0.00300	1	10/08/2018 07:06	WG1177359
Pyrene	U		0.000330	0.00100	0.00100	1	10/08/2018 07:06	WG1177359
1,2,4-Trichlorobenzene	U		0.000355	0.0100	0.0100	1	10/08/2018 07:06	WG1177359
4-Chloro-3-methylphenol	U		0.000263	0.0100	0.0100	1	10/08/2018 07:06	WG1177359
2-Chlorophenol	U		0.000283	0.0100	0.0100	1	10/08/2018 07:06	WG1177359
2,4-Dichlorophenol	U		0.000284	0.0100	0.0100	1	10/08/2018 07:06	WG1177359
2,4-Dimethylphenol	U		0.000624	0.0100	0.0100	1	10/08/2018 07:06	WG1177359
4,6-Dinitro-2-methylphenol	U		0.00262	0.0100	0.0100	1	10/08/2018 07:06	WG1177359
2,4-Dinitrophenol	U		0.00325	0.0100	0.0100	1	10/08/2018 07:06	WG1177359
2-Nitrophenol	U		0.000320	0.0100	0.0100	1	10/08/2018 07:06	WG1177359

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc



Collected date/time: 10/01/18 13:05

L1030903

Semi Volatile Organic Compounds (GC/MS) by Method 8270 C

Analyte	Result mg/l	Qualifier	SDL mg/l	Unadj. MQL mg/l	MQL mg/l	Dilution	Analysis date / time	Batch
2-Nitroaniline	U		0.00190	0.0100	0.0100	1	10/08/2018 07:06	WG1177359
2-Methylphenol	U		0.000312	0.0100	0.0100	1	10/08/2018 07:06	WG1177359
3&4-Methyl Phenol	U		0.000266	0.0100	0.0100	1	10/08/2018 07:06	WG1177359
3-Nitroaniline	U		0.000308	0.0100	0.0100	1	10/08/2018 07:06	WG1177359
4-Chloroaniline	U		0.000382	0.0100	0.0100	1	10/08/2018 07:06	WG1177359
4-Nitroaniline	U		0.000349	0.0100	0.0100	1	10/08/2018 07:06	WG1177359
4-Nitrophenol	U		0.00201	0.0100	0.0100	1	10/08/2018 07:06	WG1177359
Pentachlorophenol	U		0.000313	0.0100	0.0100	1	10/08/2018 07:06	WG1177359
Phenol	0.00178	J	0.000334	0.0100	0.0100	1	10/08/2018 07:06	WG1177359
2,4,5-Trichlorophenol	U		0.000236	0.0100	0.0100	1	10/08/2018 07:06	WG1177359
2,4,6-Trichlorophenol	U		0.000297	0.0100	0.0100	1	10/08/2018 07:06	WG1177359
(S) 2-Fluorophenol	33.1				10.0-120		10/08/2018 07:06	WG1177359
(S) Phenol-d5	18.4				10.0-120		10/08/2018 07:06	WG1177359
(S) Nitrobenzene-d5	50.6				10.0-127		10/08/2018 07:06	WG1177359
(S) 2-Fluorobiphenyl	51.3				10.0-130		10/08/2018 07:06	WG1177359
(S) 2,4,6-Tribromophenol	35.5				10.0-155		10/08/2018 07:06	WG1177359
(S) p-Terphenyl-d14	63.4				10.0-128		10/08/2018 07:06	WG1177359

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc



Gravimetric Analysis by Method 2540 C-2011

	Result	Qualifier	SDL	Unadj. MQL	MQL	Dilution	Analysis date / time	Batch
Analyte	mg/l		mg/l	mg/l	mg/l			
Dissolved Solids	1090		5.64	20.0	20.0	1	10/08/2018 18:58	WG1176737

Wet Chemistry by Method 2320 B-2011

	Result	Qualifier	SDL	Unadj. MQL	MQL	Dilution	Analysis date / time	Batch
Analyte	mg/l		mg/l	mg/l	mg/l			
Alkalinity	363		2.71	20.0	20.0	1	10/09/2018 19:47	WG1177314

Sample Narrative:

L1030903-24 WG1177314: Endpoint pH 4.5 HEADSPACE

Wet Chemistry by Method 353.2

	Result	Qualifier	SDL	Unadj. MQL	MQL	Dilution	Analysis date / time	Batch
Analyte	mg/l		mg/l	mg/l	mg/l			
Nitrate-Nitrite	3.89		0.0394	0.100	0.200	2	10/09/2018 14:14	WG1177681

Wet Chemistry by Method 9056A

	Result	Qualifier	SDL	Unadj. MQL	MQL	Dilution	Analysis date / time	Batch
Analyte	mg/l		mg/l	mg/l	mg/l			
Chloride	284		0.519	1.00	10.0	10	10/04/2018 22:11	WG1174945
Fluoride	0.518	B	0.00990	0.100	0.100	1	10/04/2018 21:58	WG1174945
Sulfate	105		0.774	5.00	50.0	10	10/04/2018 22:11	WG1174945

Mercury by Method 7470A

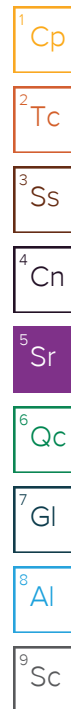
	Result	Qualifier	SDL	Unadj. MQL	MQL	Dilution	Analysis date / time	Batch
Analyte	mg/l		mg/l	mg/l	mg/l			
Mercury	U		0.0000490	0.000200	0.000200	1	10/04/2018 12:33	WG1174916

Metals (ICP) by Method 6010B

	Result	Qualifier	SDL	Unadj. MQL	MQL	Dilution	Analysis date / time	Batch
Analyte	mg/l		mg/l	mg/l	mg/l			
Boron,Dissolved	0.210		0.0126	0.200	0.200	1	10/08/2018 19:50	WG1174845

Metals (ICPMS) by Method 6020

	Result	Qualifier	SDL	Unadj. MQL	MQL	Dilution	Analysis date / time	Batch
Analyte	mg/l		mg/l	mg/l	mg/l			
Aluminum,Dissolved	0.0144	B J	0.00515	0.100	0.100	1	10/08/2018 23:27	WG1174848
Arsenic,Dissolved	0.00260		0.000250	0.00200	0.00200	1	10/08/2018 23:27	WG1174848
Barium,Dissolved	0.177		0.000360	0.00500	0.00500	1	10/08/2018 23:27	WG1174848
Cadmium,Dissolved	U		0.000160	0.00100	0.00100	1	10/08/2018 23:27	WG1174848
Chromium,Dissolved	0.00110	B J	0.000540	0.00200	0.00200	1	10/08/2018 23:27	WG1174848
Copper,Dissolved	0.00398	B J	0.000520	0.00500	0.00500	1	10/08/2018 23:27	WG1174848
Cobalt,Dissolved	0.00874		0.000260	0.00200	0.00200	1	10/08/2018 23:27	WG1174848
Iron,Dissolved	U		0.0150	0.100	0.100	1	10/08/2018 23:27	WG1174848
Lead,Dissolved	0.000733	B J	0.000240	0.00200	0.00200	1	10/08/2018 23:27	WG1174848
Manganese,Dissolved	0.0225		0.000250	0.00500	0.00500	1	10/08/2018 23:27	WG1174848
Molybdenum,Dissolved	0.00111	B J	0.000140	0.00500	0.00500	1	10/08/2018 23:27	WG1174848
Nickel,Dissolved	0.0123		0.000350	0.00200	0.00200	1	10/08/2018 23:27	WG1174848
Selenium,Dissolved	0.000987	J	0.000380	0.00200	0.00200	1	10/08/2018 23:27	WG1174848
Silver,Dissolved	U		0.000310	0.00200	0.00200	1	10/08/2018 23:27	WG1174848
Uranium,Dissolved	0.00919	J	0.000330	0.0100	0.0100	1	10/08/2018 23:27	WG1174848
Zinc,Dissolved	0.00965	B J	0.00256	0.0250	0.0250	1	10/08/2018 23:27	WG1174848





Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result mg/l	Qualifier	SDL mg/l	Unadj. MQL mg/l	MQL mg/l	Dilution	Analysis date / time	Batch
Acetone	U		0.0100	1.00	1.00	1	10/03/2018 07:43	WG1174888
Benzene	U		0.000331	0.00100	0.00100	1	10/03/2018 07:43	WG1174888
Bromodichloromethane	U		0.000380	0.00125	0.00125	1	10/03/2018 07:43	WG1174888
Bromoform	U		0.000469	0.00100	0.00100	1	10/03/2018 07:43	WG1174888
Bromomethane	U		0.000866	0.00500	0.00500	1	10/03/2018 07:43	WG1174888
n-Butylbenzene	U		0.000361	0.00100	0.00100	1	10/03/2018 07:43	WG1174888
sec-Butylbenzene	U		0.000365	0.00100	0.00100	1	10/03/2018 07:43	WG1174888
tert-Butylbenzene	U		0.000399	0.00100	0.00100	1	10/03/2018 07:43	WG1174888
Carbon disulfide	U		0.000275	0.00100	0.00100	1	10/03/2018 07:43	WG1174888
Carbon tetrachloride	U		0.000379	0.00100	0.00100	1	10/03/2018 07:43	WG1174888
Chlorobenzene	U		0.000348	0.00100	0.00100	1	10/03/2018 07:43	WG1174888
Chlorodibromomethane	U		0.000327	0.00100	0.00100	1	10/03/2018 07:43	WG1174888
Chloroethane	U		0.000453	0.00500	0.00500	1	10/03/2018 07:43	WG1174888
Chloroform	U		0.000324	0.00500	0.00500	1	10/03/2018 07:43	WG1174888
Chloromethane	U		0.000276	0.00250	0.00250	1	10/03/2018 07:43	WG1174888
1,2-Dibromoethane	U		0.000381	0.00100	0.00100	1	10/03/2018 07:43	WG1174888
1,1-Dichloroethane	U		0.000259	0.00100	0.00100	1	10/03/2018 07:43	WG1174888
1,2-Dichloroethane	U		0.000361	0.00100	0.00100	1	10/03/2018 07:43	WG1174888
1,1-Dichloroethene	U		0.000398	0.00100	0.00100	1	10/03/2018 07:43	WG1174888
cis-1,2-Dichloroethene	U		0.000260	0.00100	0.00100	1	10/03/2018 07:43	WG1174888
trans-1,2-Dichloroethene	U		0.000396	0.00100	0.00100	1	10/03/2018 07:43	WG1174888
1,2-Dichloropropane	U		0.000306	0.00100	0.00100	1	10/03/2018 07:43	WG1174888
cis-1,3-Dichloropropene	U		0.000418	0.00100	0.00100	1	10/03/2018 07:43	WG1174888
trans-1,3-Dichloropropene	U		0.000419	0.00100	0.00100	1	10/03/2018 07:43	WG1174888
Ethylbenzene	U		0.000384	0.00100	0.00100	1	10/03/2018 07:43	WG1174888
Hexachloro-1,3-butadiene	U		0.000256	0.00100	0.00100	1	10/03/2018 07:43	WG1174888
2-Hexanone	U		0.00382	0.0100	0.0100	1	10/03/2018 07:43	WG1174888
Isopropylbenzene	U		0.000326	0.00100	0.00100	1	10/03/2018 07:43	WG1174888
p-Isopropyltoluene	U		0.000350	0.00100	0.00100	1	10/03/2018 07:43	WG1174888
2-Butanone (MEK)	U		0.00393	0.0100	0.0100	1	10/03/2018 07:43	WG1174888
Methylene Chloride	U		0.00100	0.00500	0.00500	1	10/03/2018 07:43	WG1174888
4-Methyl-2-pentanone (MIBK)	U		0.00214	0.0100	0.0100	1	10/03/2018 07:43	WG1174888
Methyl tert-butyl ether	U		0.000367	0.00100	0.00100	1	10/03/2018 07:43	WG1174888
Naphthalene	U		0.00100	0.00500	0.00500	1	10/03/2018 07:43	WG1174888
n-Propylbenzene	U		0.000349	0.00100	0.00100	1	10/03/2018 07:43	WG1174888
Styrene	U		0.000307	0.00100	0.00100	1	10/03/2018 07:43	WG1174888
1,1,2,2-Tetrachloroethane	U		0.000130	0.00100	0.00100	1	10/03/2018 07:43	WG1174888
Tetrachloroethene	U		0.000372	0.00100	0.00100	1	10/03/2018 07:43	WG1174888
Toluene	U		0.000412	0.00100	0.00100	1	10/03/2018 07:43	WG1174888
1,1,1-Trichloroethane	U		0.000319	0.00100	0.00100	1	10/03/2018 07:43	WG1174888
1,1,2-Trichloroethane	U		0.000383	0.00100	0.00100	1	10/03/2018 07:43	WG1174888
Trichloroethene	U		0.000398	0.00100	0.00100	1	10/03/2018 07:43	WG1174888
1,2,4-Trimethylbenzene	U		0.000373	0.00100	0.00100	1	10/03/2018 07:43	WG1174888
1,3,5-Trimethylbenzene	U		0.000387	0.00100	0.00100	1	10/03/2018 07:43	WG1174888
Vinyl chloride	U		0.000259	0.00100	0.00100	1	10/03/2018 07:43	WG1174888
Xylenes, Total	U		0.00106	0.00300	0.00300	1	10/03/2018 07:43	WG1174888
(S) Toluene-d8	108				80.0-120		10/03/2018 07:43	WG1174888
(S) Dibromofluoromethane	90.7				75.0-120		10/03/2018 07:43	WG1174888
(S) 4-Bromofluorobenzene	102				77.0-126		10/03/2018 07:43	WG1174888

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc



Collected date/time: 10/01/18 12:10

L1030903

Semi Volatile Organic Compounds (GC/MS) by Method 8270 C

Analyte	Result mg/l	Qualifier	SDL mg/l	Unadj. MQL mg/l	MQL mg/l	Dilution	Analysis date / time	Batch
Acenaphthene	U		0.000316	0.00100	0.00100	1	10/08/2018 07:30	WG1177359
Acenaphthylene	U		0.000309	0.00100	0.00100	1	10/08/2018 07:30	WG1177359
Acetophenone	U		0.00247	0.0100	0.0100	1	10/08/2018 07:30	WG1177359
Anthracene	U		0.000291	0.00100	0.00100	1	10/08/2018 07:30	WG1177359
Atrazine	U		0.000260	0.0100	0.0100	1	10/08/2018 07:30	WG1177359
Benzo(a)anthracene	U		0.0000510	0.00100	0.00100	1	10/08/2018 07:30	WG1177359
Benzaldehyde	U		0.00140	0.0100	0.0100	1	10/08/2018 07:30	WG1177359
Benzo(b)fluoranthene	U		0.0000896	0.00100	0.00100	1	10/08/2018 07:30	WG1177359
Benzo(k)fluoranthene	U		0.000355	0.00100	0.00100	1	10/08/2018 07:30	WG1177359
Benzo(g,h,i)perylene	U		0.00000227	0.00100	0.00100	1	10/08/2018 07:30	WG1177359
Benzo(a)pyrene	U		0.0000381	0.000200	0.000200	1	10/08/2018 07:30	WG1177359
Biphenyl	U		0.000325	0.0100	0.0100	1	10/08/2018 07:30	WG1177359
Bis(2-chlorethoxy)methane	U		0.000329	0.0100	0.0100	1	10/08/2018 07:30	WG1177359
Bis(2-chloroethyl)ether	U		0.00162	0.0100	0.0100	1	10/08/2018 07:30	WG1177359
Bis(2-chloroisopropyl)ether	U		0.000445	0.0100	0.0100	1	10/08/2018 07:30	WG1177359
4-Bromophenyl-phenylether	U		0.000335	0.0100	0.0100	1	10/08/2018 07:30	WG1177359
2-Chloronaphthalene	U		0.000330	0.00100	0.00100	1	10/08/2018 07:30	WG1177359
4-Chlorophenyl-phenylether	U		0.000303	0.0100	0.0100	1	10/08/2018 07:30	WG1177359
Caprolactam	U		0.00259	0.0100	0.0100	1	10/08/2018 07:30	WG1177359
Carbazole	U		0.000260	0.0100	0.0100	1	10/08/2018 07:30	WG1177359
Chrysene	U		0.000332	0.00100	0.00100	1	10/08/2018 07:30	WG1177359
Dibenz(a,h)anthracene	U		0.0000644	0.000200	0.000200	1	10/08/2018 07:30	WG1177359
Dibenzofuran	U		0.000338	0.0100	0.0100	1	10/08/2018 07:30	WG1177359
3,3-Dichlorobenzidine	U		0.00202	0.0100	0.0100	1	10/08/2018 07:30	WG1177359
2,4-Dinitrotoluene	U		0.00165	0.0100	0.0100	1	10/08/2018 07:30	WG1177359
2,6-Dinitrotoluene	U		0.000279	0.0100	0.0100	1	10/08/2018 07:30	WG1177359
Fluoranthene	U		0.000310	0.00100	0.00100	1	10/08/2018 07:30	WG1177359
Fluorene	U		0.000323	0.00100	0.00100	1	10/08/2018 07:30	WG1177359
Hexachlorobenzene	U		0.000341	0.00100	0.00100	1	10/08/2018 07:30	WG1177359
Hexachloro-1,3-butadiene	U		0.000329	0.0100	0.0100	1	10/08/2018 07:30	WG1177359
Hexachlorocyclopentadiene	U		0.00233	0.0100	0.0100	1	10/08/2018 07:30	WG1177359
Hexachloroethane	U		0.000365	0.0100	0.0100	1	10/08/2018 07:30	WG1177359
Indeno(1,2,3-cd)pyrene	U		0.000279	0.00100	0.00100	1	10/08/2018 07:30	WG1177359
Isophorone	U		0.000272	0.0100	0.0100	1	10/08/2018 07:30	WG1177359
1-Methylnaphthalene	U		0.000332	0.00100	0.00100	1	10/08/2018 07:30	WG1177359
2-Methylnaphthalene	U		0.000311	0.00100	0.00100	1	10/08/2018 07:30	WG1177359
Naphthalene	U		0.000372	0.00100	0.00100	1	10/08/2018 07:30	WG1177359
Nitrobenzene	U		0.000367	0.0100	0.0100	1	10/08/2018 07:30	WG1177359
n-Nitrosodiphenylamine	U		0.00119	0.0100	0.0100	1	10/08/2018 07:30	WG1177359
n-Nitrosodi-n-propylamine	U		0.000403	0.0100	0.0100	1	10/08/2018 07:30	WG1177359
Phenanthrene	U		0.000366	0.00100	0.00100	1	10/08/2018 07:30	WG1177359
Benzylbutyl phthalate	U		0.000275	0.00300	0.00300	1	10/08/2018 07:30	WG1177359
Bis(2-ethylhexyl)phthalate	U		0.000709	0.00300	0.00300	1	10/08/2018 07:30	WG1177359
Di-n-butyl phthalate	U		0.000266	0.00300	0.00300	1	10/08/2018 07:30	WG1177359
Diethyl phthalate	U		0.000282	0.00300	0.00300	1	10/08/2018 07:30	WG1177359
Dimethyl phthalate	U	J4	0.000283	0.00300	0.00300	1	10/08/2018 07:30	WG1177359
Di-n-octyl phthalate	U		0.000278	0.00300	0.00300	1	10/08/2018 07:30	WG1177359
Pyrene	U		0.000330	0.00100	0.00100	1	10/08/2018 07:30	WG1177359
1,2,4-Trichlorobenzene	U		0.000355	0.0100	0.0100	1	10/08/2018 07:30	WG1177359
4-Chloro-3-methylphenol	U		0.000263	0.0100	0.0100	1	10/08/2018 07:30	WG1177359
2-Chlorophenol	U		0.000283	0.0100	0.0100	1	10/08/2018 07:30	WG1177359
2,4-Dichlorophenol	U		0.000284	0.0100	0.0100	1	10/08/2018 07:30	WG1177359
2,4-Dimethylphenol	U		0.000624	0.0100	0.0100	1	10/08/2018 07:30	WG1177359
4,6-Dinitro-2-methylphenol	U		0.00262	0.0100	0.0100	1	10/08/2018 07:30	WG1177359
2,4-Dinitrophenol	U		0.00325	0.0100	0.0100	1	10/08/2018 07:30	WG1177359
2-Nitrophenol	U		0.000320	0.0100	0.0100	1	10/08/2018 07:30	WG1177359

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc



Collected date/time: 10/01/18 12:10

L1030903

Semi Volatile Organic Compounds (GC/MS) by Method 8270 C

Analyte	Result mg/l	Qualifier	SDL mg/l	Unadj. MQL mg/l	MQL mg/l	Dilution	Analysis date / time	Batch
2-Nitroaniline	U		0.00190	0.0100	0.0100	1	10/08/2018 07:30	WG1177359
2-Methylphenol	U		0.000312	0.0100	0.0100	1	10/08/2018 07:30	WG1177359
3&4-Methyl Phenol	U		0.000266	0.0100	0.0100	1	10/08/2018 07:30	WG1177359
3-Nitroaniline	U		0.000308	0.0100	0.0100	1	10/08/2018 07:30	WG1177359
4-Chloroaniline	U		0.000382	0.0100	0.0100	1	10/08/2018 07:30	WG1177359
4-Nitroaniline	U		0.000349	0.0100	0.0100	1	10/08/2018 07:30	WG1177359
4-Nitrophenol	U		0.00201	0.0100	0.0100	1	10/08/2018 07:30	WG1177359
Pentachlorophenol	U		0.000313	0.0100	0.0100	1	10/08/2018 07:30	WG1177359
Phenol	0.00118	J	0.000334	0.0100	0.0100	1	10/08/2018 07:30	WG1177359
2,4,5-Trichlorophenol	U		0.000236	0.0100	0.0100	1	10/08/2018 07:30	WG1177359
2,4,6-Trichlorophenol	U		0.000297	0.0100	0.0100	1	10/08/2018 07:30	WG1177359
(S) 2-Fluorophenol	34.2				10.0-120		10/08/2018 07:30	WG1177359
(S) Phenol-d5	18.9				10.0-120		10/08/2018 07:30	WG1177359
(S) Nitrobenzene-d5	51.3				10.0-127		10/08/2018 07:30	WG1177359
(S) 2-Fluorobiphenyl	52.7				10.0-130		10/08/2018 07:30	WG1177359
(S) 2,4,6-Tribromophenol	43.1				10.0-155		10/08/2018 07:30	WG1177359
(S) p-Terphenyl-d14	64.3				10.0-128		10/08/2018 07:30	WG1177359

1
Cp2
Tc3
Ss4
Cn5
Sr6
Qc7
Gl8
Al9
Sc



Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	SDL	Unadj. MQL	MQL	Dilution	Analysis date / time	Batch
Dissolved Solids	1020	J3	5.64	20.0	20.0	1	10/08/2018 18:58	WG1176737

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	SDL	Unadj. MQL	MQL	Dilution	Analysis date / time	Batch
Chloride	235		0.260	1.00	5.00	5	10/05/2018 16:55	WG1176497
Fluoride	0.466		0.00990	0.100	0.100	1	10/05/2018 15:47	WG1176497
Sulfate	126		0.387	5.00	25.0	5	10/05/2018 16:55	WG1176497

1Cp

2Tc

3Ss

4Cn

5Sr

6Qc

7Gl

8Al

9Sc



Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result	Qualifier	SDL	Unadj. MQL	MQL	Dilution	Analysis	Batch
	mg/l		mg/l	mg/l	mg/l		date / time	
Acetone	U		0.0100	1.00	1.00	1	10/03/2018 08:03	WG1174888
Benzene	U		0.000331	0.00100	0.00100	1	10/03/2018 08:03	WG1174888
Bromodichloromethane	U		0.000380	0.00125	0.00125	1	10/03/2018 08:03	WG1174888
Bromoform	U		0.000469	0.00100	0.00100	1	10/03/2018 08:03	WG1174888
Bromomethane	U		0.000866	0.00500	0.00500	1	10/03/2018 08:03	WG1174888
n-Butylbenzene	U		0.000361	0.00100	0.00100	1	10/03/2018 08:03	WG1174888
sec-Butylbenzene	U		0.000365	0.00100	0.00100	1	10/03/2018 08:03	WG1174888
tert-Butylbenzene	U		0.000399	0.00100	0.00100	1	10/03/2018 08:03	WG1174888
Carbon disulfide	U		0.000275	0.00100	0.00100	1	10/03/2018 08:03	WG1174888
Carbon tetrachloride	U		0.000379	0.00100	0.00100	1	10/03/2018 08:03	WG1174888
Chlorobenzene	U		0.000348	0.00100	0.00100	1	10/03/2018 08:03	WG1174888
Chlorodibromomethane	U		0.000327	0.00100	0.00100	1	10/03/2018 08:03	WG1174888
Chloroethane	U		0.000453	0.00500	0.00500	1	10/03/2018 08:03	WG1174888
Chloroform	U		0.000324	0.00500	0.00500	1	10/03/2018 08:03	WG1174888
Chloromethane	U		0.000276	0.00250	0.00250	1	10/03/2018 08:03	WG1174888
1,2-Dibromoethane	U		0.000381	0.00100	0.00100	1	10/03/2018 08:03	WG1174888
1,1-Dichloroethane	U		0.000259	0.00100	0.00100	1	10/03/2018 08:03	WG1174888
1,2-Dichloroethane	U		0.000361	0.00100	0.00100	1	10/03/2018 08:03	WG1174888
1,1-Dichloroethene	U		0.000398	0.00100	0.00100	1	10/03/2018 08:03	WG1174888
cis-1,2-Dichloroethene	U		0.000260	0.00100	0.00100	1	10/03/2018 08:03	WG1174888
trans-1,2-Dichloroethene	U		0.000396	0.00100	0.00100	1	10/03/2018 08:03	WG1174888
1,2-Dichloropropane	U		0.000306	0.00100	0.00100	1	10/03/2018 08:03	WG1174888
cis-1,3-Dichloropropene	U		0.000418	0.00100	0.00100	1	10/03/2018 08:03	WG1174888
trans-1,3-Dichloropropene	U		0.000419	0.00100	0.00100	1	10/03/2018 08:03	WG1174888
Ethylbenzene	U		0.000384	0.00100	0.00100	1	10/03/2018 08:03	WG1174888
Hexachloro-1,3-butadiene	U		0.000256	0.00100	0.00100	1	10/03/2018 08:03	WG1174888
2-Hexanone	U		0.00382	0.0100	0.0100	1	10/03/2018 08:03	WG1174888
Isopropylbenzene	U		0.000326	0.00100	0.00100	1	10/03/2018 08:03	WG1174888
p-Isopropyltoluene	U		0.000350	0.00100	0.00100	1	10/03/2018 08:03	WG1174888
2-Butanone (MEK)	U		0.00393	0.0100	0.0100	1	10/03/2018 08:03	WG1174888
Methylene Chloride	U		0.00100	0.00500	0.00500	1	10/03/2018 08:03	WG1174888
4-Methyl-2-pentanone (MIBK)	U		0.00214	0.0100	0.0100	1	10/03/2018 08:03	WG1174888
Methyl tert-butyl ether	U		0.000367	0.00100	0.00100	1	10/03/2018 08:03	WG1174888
Naphthalene	U		0.00100	0.00500	0.00500	1	10/03/2018 08:03	WG1174888
n-Propylbenzene	U		0.000349	0.00100	0.00100	1	10/03/2018 08:03	WG1174888
Styrene	U		0.000307	0.00100	0.00100	1	10/03/2018 08:03	WG1174888
1,1,2,2-Tetrachloroethane	U		0.000130	0.00100	0.00100	1	10/03/2018 08:03	WG1174888
Tetrachloroethene	U		0.000372	0.00100	0.00100	1	10/03/2018 08:03	WG1174888
Toluene	U		0.000412	0.00100	0.00100	1	10/03/2018 08:03	WG1174888
1,1,1-Trichloroethane	U		0.000319	0.00100	0.00100	1	10/03/2018 08:03	WG1174888
1,1,2-Trichloroethane	U		0.000383	0.00100	0.00100	1	10/03/2018 08:03	WG1174888
Trichloroethene	U		0.000398	0.00100	0.00100	1	10/03/2018 08:03	WG1174888
1,2,4-Trimethylbenzene	U		0.000373	0.00100	0.00100	1	10/03/2018 08:03	WG1174888
1,3,5-Trimethylbenzene	U		0.000387	0.00100	0.00100	1	10/03/2018 08:03	WG1174888
Vinyl chloride	U		0.000259	0.00100	0.00100	1	10/03/2018 08:03	WG1174888
Xylenes, Total	U		0.00106	0.00300	0.00300	1	10/03/2018 08:03	WG1174888
(S) Toluene-d8	110				80.0-120		10/03/2018 08:03	WG1174888
(S) Dibromofluoromethane	90.7				75.0-120		10/03/2018 08:03	WG1174888
(S) 4-Bromofluorobenzene	102				77.0-126		10/03/2018 08:03	WG1174888

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc



Semi Volatile Organic Compounds (GC/MS) by Method 8270 C

Analyte	Result mg/l	Qualifier	SDL mg/l	Unadj. MQL mg/l	MQL mg/l	Dilution	Analysis date / time	Batch
Acenaphthene	U		0.000322	0.00100	0.00102	1.02	10/08/2018 07:53	WG1177359
Acenaphthylene	U		0.000315	0.00100	0.00102	1.02	10/08/2018 07:53	WG1177359
Acetophenone	U		0.00252	0.0100	0.0102	1.02	10/08/2018 07:53	WG1177359
Anthracene	U		0.000297	0.00100	0.00102	1.02	10/08/2018 07:53	WG1177359
Atrazine	U		0.000265	0.0100	0.0102	1.02	10/08/2018 07:53	WG1177359
Benzo(a)anthracene	U		0.0000520	0.00100	0.00102	1.02	10/08/2018 07:53	WG1177359
Benzaldehyde	U		0.00143	0.0100	0.0102	1.02	10/08/2018 07:53	WG1177359
Benzo(b)fluoranthene	U		0.0000914	0.00100	0.00102	1.02	10/08/2018 07:53	WG1177359
Benzo(k)fluoranthene	U		0.000362	0.00100	0.00102	1.02	10/08/2018 07:53	WG1177359
Benzo(g,h,i)perylene	U		0.00000232	0.00100	0.00102	1.02	10/08/2018 07:53	WG1177359
Benzo(a)pyrene	U		0.0000389	0.000200	0.000204	1.02	10/08/2018 07:53	WG1177359
Biphenyl	U		0.000332	0.0100	0.0102	1.02	10/08/2018 07:53	WG1177359
Bis(2-chlorethoxy)methane	U		0.000336	0.0100	0.0102	1.02	10/08/2018 07:53	WG1177359
Bis(2-chloroethyl)ether	U		0.00165	0.0100	0.0102	1.02	10/08/2018 07:53	WG1177359
Bis(2-chloroisopropyl)ether	U		0.000454	0.0100	0.0102	1.02	10/08/2018 07:53	WG1177359
4-Bromophenyl-phenylether	U		0.000342	0.0100	0.0102	1.02	10/08/2018 07:53	WG1177359
2-Chloronaphthalene	U		0.000337	0.00100	0.00102	1.02	10/08/2018 07:53	WG1177359
4-Chlorophenyl-phenylether	U		0.000309	0.0100	0.0102	1.02	10/08/2018 07:53	WG1177359
Caprolactam	U		0.00264	0.0100	0.0102	1.02	10/08/2018 07:53	WG1177359
Carbazole	U		0.000265	0.0100	0.0102	1.02	10/08/2018 07:53	WG1177359
Chrysene	U		0.000339	0.00100	0.00102	1.02	10/08/2018 07:53	WG1177359
Dibenz(a,h)anthracene	U		0.0000657	0.000200	0.000204	1.02	10/08/2018 07:53	WG1177359
Dibenzofuran	U		0.000345	0.0100	0.0102	1.02	10/08/2018 07:53	WG1177359
3,3-Dichlorobenzidine	U		0.00206	0.0100	0.0102	1.02	10/08/2018 07:53	WG1177359
2,4-Dinitrotoluene	U		0.00168	0.0100	0.0102	1.02	10/08/2018 07:53	WG1177359
2,6-Dinitrotoluene	U		0.000285	0.0100	0.0102	1.02	10/08/2018 07:53	WG1177359
Fluoranthene	U		0.000316	0.00100	0.00102	1.02	10/08/2018 07:53	WG1177359
Fluorene	U		0.000329	0.00100	0.00102	1.02	10/08/2018 07:53	WG1177359
Hexachlorobenzene	U		0.000348	0.00100	0.00102	1.02	10/08/2018 07:53	WG1177359
Hexachloro-1,3-butadiene	U		0.000336	0.0100	0.0102	1.02	10/08/2018 07:53	WG1177359
Hexachlorocyclopentadiene	U		0.00238	0.0100	0.0102	1.02	10/08/2018 07:53	WG1177359
Hexachloroethane	U		0.000372	0.0100	0.0102	1.02	10/08/2018 07:53	WG1177359
Indeno(1,2,3-cd)pyrene	U		0.000285	0.00100	0.00102	1.02	10/08/2018 07:53	WG1177359
Isophorone	U		0.000277	0.0100	0.0102	1.02	10/08/2018 07:53	WG1177359
1-Methylnaphthalene	U		0.000339	0.00100	0.00102	1.02	10/08/2018 07:53	WG1177359
2-Methylnaphthalene	U		0.000317	0.00100	0.00102	1.02	10/08/2018 07:53	WG1177359
Naphthalene	U		0.000380	0.00100	0.00102	1.02	10/08/2018 07:53	WG1177359
Nitrobenzene	U		0.000374	0.0100	0.0102	1.02	10/08/2018 07:53	WG1177359
n-Nitrosodiphenylamine	U		0.00121	0.0100	0.0102	1.02	10/08/2018 07:53	WG1177359
n-Nitrosodi-n-propylamine	U		0.000411	0.0100	0.0102	1.02	10/08/2018 07:53	WG1177359
Phenanthrene	U		0.000373	0.00100	0.00102	1.02	10/08/2018 07:53	WG1177359
Benzylbutyl phthalate	U		0.000281	0.00300	0.00306	1.02	10/08/2018 07:53	WG1177359
Bis(2-ethylhexyl)phthalate	U		0.000723	0.00300	0.00306	1.02	10/08/2018 07:53	WG1177359
Di-n-butyl phthalate	U		0.000271	0.00300	0.00306	1.02	10/08/2018 07:53	WG1177359
Diethyl phthalate	U		0.000288	0.00300	0.00306	1.02	10/08/2018 07:53	WG1177359
Dimethyl phthalate	U	J4	0.000289	0.00300	0.00306	1.02	10/08/2018 07:53	WG1177359
Di-n-octyl phthalate	U		0.000284	0.00300	0.00306	1.02	10/08/2018 07:53	WG1177359
Pyrene	U		0.000337	0.00100	0.00102	1.02	10/08/2018 07:53	WG1177359
1,2,4-Trichlorobenzene	U		0.000362	0.0100	0.0102	1.02	10/08/2018 07:53	WG1177359
4-Chloro-3-methylphenol	U		0.000268	0.0100	0.0102	1.02	10/08/2018 07:53	WG1177359
2-Chlorophenol	U		0.000289	0.0100	0.0102	1.02	10/08/2018 07:53	WG1177359
2,4-Dichlorophenol	U		0.000290	0.0100	0.0102	1.02	10/08/2018 07:53	WG1177359
2,4-Dimethylphenol	U		0.000636	0.0100	0.0102	1.02	10/08/2018 07:53	WG1177359
4,6-Dinitro-2-methylphenol	U		0.00267	0.0100	0.0102	1.02	10/08/2018 07:53	WG1177359
2,4-Dinitrophenol	U		0.00332	0.0100	0.0102	1.02	10/08/2018 07:53	WG1177359
2-Nitrophenol	U		0.000326	0.0100	0.0102	1.02	10/08/2018 07:53	WG1177359

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc



Semi Volatile Organic Compounds (GC/MS) by Method 8270 C

Analyte	Result mg/l	Qualifier	SDL mg/l	Unadj. MQL mg/l	MQL mg/l	Dilution	Analysis date / time	Batch
2-Nitroaniline	U		0.00194	0.0100	0.0102	1.02	10/08/2018 07:53	WG1177359
2-Methylphenol	U		0.000318	0.0100	0.0102	1.02	10/08/2018 07:53	WG1177359
3&4-Methyl Phenol	U		0.000271	0.0100	0.0102	1.02	10/08/2018 07:53	WG1177359
3-Nitroaniline	U		0.000314	0.0100	0.0102	1.02	10/08/2018 07:53	WG1177359
4-Chloroaniline	U		0.000390	0.0100	0.0102	1.02	10/08/2018 07:53	WG1177359
4-Nitroaniline	U		0.000356	0.0100	0.0102	1.02	10/08/2018 07:53	WG1177359
4-Nitrophenol	U		0.00205	0.0100	0.0102	1.02	10/08/2018 07:53	WG1177359
Pentachlorophenol	U		0.000319	0.0100	0.0102	1.02	10/08/2018 07:53	WG1177359
Phenol	0.00451	J	0.000341	0.0100	0.0102	1.02	10/08/2018 07:53	WG1177359
2,4,5-Trichlorophenol	U		0.000241	0.0100	0.0102	1.02	10/08/2018 07:53	WG1177359
2,4,6-Trichlorophenol	U		0.000303	0.0100	0.0102	1.02	10/08/2018 07:53	WG1177359
(S) 2-Fluorophenol	30.1				10.0-120		10/08/2018 07:53	WG1177359
(S) Phenol-d5	16.6				10.0-120		10/08/2018 07:53	WG1177359
(S) Nitrobenzene-d5	49.8				10.0-127		10/08/2018 07:53	WG1177359
(S) 2-Fluorobiphenyl	52.0				10.0-130		10/08/2018 07:53	WG1177359
(S) 2,4,6-Tribromophenol	35.5				10.0-155		10/08/2018 07:53	WG1177359
(S) p-Terphenyl-d14	60.8				10.0-128		10/08/2018 07:53	WG1177359

Sample Narrative:

L1030903-26 WG1177359: Dilution due to sample volume

1Cp

2Tc

3Ss

4Cn

5Sr

6Qc

7Gl

8Al

9Sc



Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	SDL	Unadj. MQL	MQL	Dilution	Analysis date / time	Batch
Dissolved Solids	490		2.82	10.0	10.0	1	10/08/2018 18:58	WG1176737

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc

Wet Chemistry by Method 2320 B-2011

Analyte	Result	Qualifier	SDL	Unadj. MQL	MQL	Dilution	Analysis date / time	Batch
Alkalinity	192		2.71	20.0	20.0	1	10/09/2018 19:54	WG1177314

Sample Narrative:

L1030903-27 WG1177314: Endpoint pH 4.5 HEADSPACE

Wet Chemistry by Method 353.2

Analyte	Result	Qualifier	SDL	Unadj. MQL	MQL	Dilution	Analysis date / time	Batch
Nitrate-Nitrite	3.91		0.0394	0.100	0.200	2	10/09/2018 14:15	WG1177681

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	SDL	Unadj. MQL	MQL	Dilution	Analysis date / time	Batch
Chloride	63.6		0.0519	1.00	1.00	1	10/04/2018 22:25	WG1174945
Fluoride	1.76		0.00990	0.100	0.100	1	10/04/2018 22:25	WG1174945
Sulfate	92.2		0.0774	5.00	5.00	1	10/04/2018 22:25	WG1174945

Mercury by Method 7470A

Analyte	Result	Qualifier	SDL	Unadj. MQL	MQL	Dilution	Analysis date / time	Batch
Mercury	U		0.0000490	0.000200	0.000200	1	10/04/2018 12:36	WG1174916

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	SDL	Unadj. MQL	MQL	Dilution	Analysis date / time	Batch
Boron,Dissolved	0.135	J	0.0126	0.200	0.200	1	10/08/2018 19:52	WG1174845

Metals (ICPMS) by Method 6020

Analyte	Result	Qualifier	SDL	Unadj. MQL	MQL	Dilution	Analysis date / time	Batch
Aluminum,Dissolved	0.0229	B J	0.00515	0.100	0.100	1	10/08/2018 23:31	WG1174848
Arsenic,Dissolved	0.00430		0.000250	0.00200	0.00200	1	10/08/2018 23:31	WG1174848
Barium,Dissolved	0.0754		0.000360	0.00500	0.00500	1	10/08/2018 23:31	WG1174848
Cadmium,Dissolved	U		0.000160	0.00100	0.00100	1	10/08/2018 23:31	WG1174848
Chromium,Dissolved	0.000809	B J	0.000540	0.00200	0.00200	1	10/08/2018 23:31	WG1174848
Copper,Dissolved	0.00409	B J	0.000520	0.00500	0.00500	1	10/08/2018 23:31	WG1174848
Cobalt,Dissolved	U		0.000260	0.00200	0.00200	1	10/08/2018 23:31	WG1174848
Iron,Dissolved	U		0.0150	0.100	0.100	1	10/08/2018 23:31	WG1174848
Lead,Dissolved	U		0.000240	0.00200	0.00200	1	10/08/2018 23:31	WG1174848
Manganese,Dissolved	0.000260	B J	0.000250	0.00500	0.00500	1	10/08/2018 23:31	WG1174848
Molybdenum,Dissolved	0.00187	B J	0.000140	0.00500	0.00500	1	10/08/2018 23:31	WG1174848
Nickel,Dissolved	0.00286		0.000350	0.00200	0.00200	1	10/08/2018 23:31	WG1174848
Selenium,Dissolved	0.00237		0.000380	0.00200	0.00200	1	10/08/2018 23:31	WG1174848
Silver,Dissolved	U		0.000310	0.00200	0.00200	1	10/08/2018 23:31	WG1174848
Uranium,Dissolved	0.00250	J	0.000330	0.0100	0.0100	1	10/08/2018 23:31	WG1174848
Zinc,Dissolved	0.0226	B J	0.00256	0.0250	0.0250	1	10/08/2018 23:31	WG1174848



Collected date/time: 10/01/18 10:25

L1030903

Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result mg/l	Qualifier	SDL mg/l	Unadj. MQL mg/l	MQL mg/l	Dilution	Analysis date / time	Batch
Acetone	U		0.0100	1.00	1.00	1	10/03/2018 14:54	WG1175099
Benzene	U		0.000331	0.00100	0.00100	1	10/03/2018 14:54	WG1175099
Bromodichloromethane	U		0.000380	0.00125	0.00125	1	10/03/2018 14:54	WG1175099
Bromoform	U		0.000469	0.00100	0.00100	1	10/03/2018 14:54	WG1175099
Bromomethane	U		0.000866	0.00500	0.00500	1	10/03/2018 14:54	WG1175099
n-Butylbenzene	U		0.000361	0.00100	0.00100	1	10/03/2018 14:54	WG1175099
sec-Butylbenzene	U		0.000365	0.00100	0.00100	1	10/03/2018 14:54	WG1175099
tert-Butylbenzene	U		0.000399	0.00100	0.00100	1	10/03/2018 14:54	WG1175099
Carbon disulfide	U		0.000275	0.00100	0.00100	1	10/03/2018 14:54	WG1175099
Carbon tetrachloride	U		0.000379	0.00100	0.00100	1	10/03/2018 14:54	WG1175099
Chlorobenzene	U		0.000348	0.00100	0.00100	1	10/03/2018 14:54	WG1175099
Chlorodibromomethane	U		0.000327	0.00100	0.00100	1	10/03/2018 14:54	WG1175099
Chloroethane	U		0.000453	0.00500	0.00500	1	10/03/2018 14:54	WG1175099
Chloroform	U		0.000324	0.00500	0.00500	1	10/03/2018 14:54	WG1175099
Chloromethane	U		0.000276	0.00250	0.00250	1	10/03/2018 14:54	WG1175099
1,2-Dibromoethane	U		0.000381	0.00100	0.00100	1	10/03/2018 14:54	WG1175099
1,1-Dichloroethane	U		0.000259	0.00100	0.00100	1	10/03/2018 14:54	WG1175099
1,2-Dichloroethane	U		0.000361	0.00100	0.00100	1	10/03/2018 14:54	WG1175099
1,1-Dichloroethene	U		0.000398	0.00100	0.00100	1	10/03/2018 14:54	WG1175099
cis-1,2-Dichloroethene	U		0.000260	0.00100	0.00100	1	10/03/2018 14:54	WG1175099
trans-1,2-Dichloroethene	U		0.000396	0.00100	0.00100	1	10/03/2018 14:54	WG1175099
1,2-Dichloropropane	U		0.000306	0.00100	0.00100	1	10/03/2018 14:54	WG1175099
cis-1,3-Dichloropropene	U		0.000418	0.00100	0.00100	1	10/03/2018 14:54	WG1175099
trans-1,3-Dichloropropene	U		0.000419	0.00100	0.00100	1	10/03/2018 14:54	WG1175099
Ethylbenzene	U		0.000384	0.00100	0.00100	1	10/03/2018 14:54	WG1175099
Hexachloro-1,3-butadiene	U		0.000256	0.00100	0.00100	1	10/03/2018 14:54	WG1175099
2-Hexanone	U		0.00382	0.0100	0.0100	1	10/03/2018 14:54	WG1175099
Isopropylbenzene	U		0.000326	0.00100	0.00100	1	10/03/2018 14:54	WG1175099
p-Isopropyltoluene	U		0.000350	0.00100	0.00100	1	10/03/2018 14:54	WG1175099
2-Butanone (MEK)	U		0.00393	0.0100	0.0100	1	10/03/2018 14:54	WG1175099
Methylene Chloride	U		0.00100	0.00500	0.00500	1	10/03/2018 14:54	WG1175099
4-Methyl-2-pentanone (MIBK)	U		0.00214	0.0100	0.0100	1	10/03/2018 14:54	WG1175099
Methyl tert-butyl ether	U		0.000367	0.00100	0.00100	1	10/03/2018 14:54	WG1175099
Naphthalene	U		0.00100	0.00500	0.00500	1	10/03/2018 14:54	WG1175099
n-Propylbenzene	U		0.000349	0.00100	0.00100	1	10/03/2018 14:54	WG1175099
Styrene	U		0.000307	0.00100	0.00100	1	10/03/2018 14:54	WG1175099
1,1,2,2-Tetrachloroethane	U		0.000130	0.00100	0.00100	1	10/03/2018 14:54	WG1175099
Tetrachloroethene	U		0.000372	0.00100	0.00100	1	10/03/2018 14:54	WG1175099
Toluene	U		0.000412	0.00100	0.00100	1	10/03/2018 14:54	WG1175099
1,1,1-Trichloroethane	U		0.000319	0.00100	0.00100	1	10/03/2018 14:54	WG1175099
1,1,2-Trichloroethane	U		0.000383	0.00100	0.00100	1	10/03/2018 14:54	WG1175099
Trichloroethene	U		0.000398	0.00100	0.00100	1	10/03/2018 14:54	WG1175099
1,2,4-Trimethylbenzene	U		0.000373	0.00100	0.00100	1	10/03/2018 14:54	WG1175099
1,3,5-Trimethylbenzene	U		0.000387	0.00100	0.00100	1	10/03/2018 14:54	WG1175099
Vinyl chloride	U		0.000259	0.00100	0.00100	1	10/03/2018 14:54	WG1175099
Xylenes, Total	U		0.00106	0.00300	0.00300	1	10/03/2018 14:54	WG1175099
(S) Toluene-d8	111				80.0-120		10/03/2018 14:54	WG1175099
(S) Dibromofluoromethane	92.3				75.0-120		10/03/2018 14:54	WG1175099
(S) 4-Bromofluorobenzene	101				77.0-126		10/03/2018 14:54	WG1175099

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc



Collected date/time: 10/01/18 10:25

L1030903

Semi Volatile Organic Compounds (GC/MS) by Method 8270 C

Analyte	Result mg/l	Qualifier	SDL mg/l	Unadj. MQL mg/l	MQL mg/l	Dilution	Analysis date / time	Batch
Acenaphthene	U		0.000316	0.00100	0.00100	1	10/08/2018 23:30	WG1177409
Acenaphthylene	U		0.000309	0.00100	0.00100	1	10/08/2018 23:30	WG1177409
Acetophenone	U		0.00247	0.0100	0.0100	1	10/08/2018 23:30	WG1177409
Anthracene	U		0.000291	0.00100	0.00100	1	10/08/2018 23:30	WG1177409
Atrazine	U		0.000260	0.0100	0.0100	1	10/08/2018 23:30	WG1177409
Benzo(a)anthracene	U		0.0000510	0.00100	0.00100	1	10/08/2018 23:30	WG1177409
Benzaldehyde	U		0.00140	0.0100	0.0100	1	10/08/2018 23:30	WG1177409
Benzo(b)fluoranthene	U		0.0000896	0.00100	0.00100	1	10/08/2018 23:30	WG1177409
Benzo(k)fluoranthene	U		0.000355	0.00100	0.00100	1	10/08/2018 23:30	WG1177409
Benzo(g,h,i)perylene	U		0.00000227	0.00100	0.00100	1	10/08/2018 23:30	WG1177409
Benzo(a)pyrene	U		0.0000381	0.000200	0.000200	1	10/08/2018 23:30	WG1177409
Biphenyl	U		0.000325	0.0100	0.0100	1	10/08/2018 23:30	WG1177409
Bis(2-chlorethoxy)methane	U		0.000329	0.0100	0.0100	1	10/08/2018 23:30	WG1177409
Bis(2-chloroethyl)ether	U		0.00162	0.0100	0.0100	1	10/08/2018 23:30	WG1177409
Bis(2-chloroisopropyl)ether	U		0.000445	0.0100	0.0100	1	10/08/2018 23:30	WG1177409
4-Bromophenyl-phenylether	U		0.000335	0.0100	0.0100	1	10/08/2018 23:30	WG1177409
2-Chloronaphthalene	U		0.000330	0.00100	0.00100	1	10/08/2018 23:30	WG1177409
4-Chlorophenyl-phenylether	U		0.000303	0.0100	0.0100	1	10/08/2018 23:30	WG1177409
Caprolactam	U		0.00259	0.0100	0.0100	1	10/08/2018 23:30	WG1177409
Carbazole	U		0.000260	0.0100	0.0100	1	10/08/2018 23:30	WG1177409
Chrysene	U		0.000332	0.00100	0.00100	1	10/08/2018 23:30	WG1177409
Dibenz(a,h)anthracene	U		0.0000644	0.000200	0.000200	1	10/08/2018 23:30	WG1177409
Dibenzofuran	U		0.000338	0.0100	0.0100	1	10/08/2018 23:30	WG1177409
3,3-Dichlorobenzidine	U		0.00202	0.0100	0.0100	1	10/08/2018 23:30	WG1177409
2,4-Dinitrotoluene	U		0.00165	0.0100	0.0100	1	10/08/2018 23:30	WG1177409
2,6-Dinitrotoluene	U		0.000279	0.0100	0.0100	1	10/08/2018 23:30	WG1177409
Fluoranthene	U		0.000310	0.00100	0.00100	1	10/08/2018 23:30	WG1177409
Fluorene	U		0.000323	0.00100	0.00100	1	10/08/2018 23:30	WG1177409
Hexachlorobenzene	U		0.000341	0.00100	0.00100	1	10/08/2018 23:30	WG1177409
Hexachloro-1,3-butadiene	U		0.000329	0.0100	0.0100	1	10/08/2018 23:30	WG1177409
Hexachlorocyclopentadiene	U		0.00233	0.0100	0.0100	1	10/08/2018 23:30	WG1177409
Hexachloroethane	U		0.000365	0.0100	0.0100	1	10/08/2018 23:30	WG1177409
Indeno(1,2,3-cd)pyrene	U		0.000279	0.00100	0.00100	1	10/08/2018 23:30	WG1177409
Isophorone	U		0.000272	0.0100	0.0100	1	10/08/2018 23:30	WG1177409
1-Methylnaphthalene	U		0.000332	0.00100	0.00100	1	10/08/2018 23:30	WG1177409
2-Methylnaphthalene	U		0.000311	0.00100	0.00100	1	10/08/2018 23:30	WG1177409
Naphthalene	U		0.000372	0.00100	0.00100	1	10/08/2018 23:30	WG1177409
Nitrobenzene	U		0.000367	0.0100	0.0100	1	10/08/2018 23:30	WG1177409
n-Nitrosodiphenylamine	U		0.00119	0.0100	0.0100	1	10/08/2018 23:30	WG1177409
n-Nitrosodi-n-propylamine	U		0.000403	0.0100	0.0100	1	10/08/2018 23:30	WG1177409
Phenanthrene	U		0.000366	0.00100	0.00100	1	10/08/2018 23:30	WG1177409
Benzylbutyl phthalate	U	J4	0.000275	0.00300	0.00300	1	10/08/2018 23:30	WG1177409
Bis(2-ethylhexyl)phthalate	U		0.000709	0.00300	0.00300	1	10/08/2018 23:30	WG1177409
Di-n-butyl phthalate	U		0.000266	0.00300	0.00300	1	10/08/2018 23:30	WG1177409
Diethyl phthalate	U	J4	0.000282	0.00300	0.00300	1	10/08/2018 23:30	WG1177409
Dimethyl phthalate	U	J4	0.000283	0.00300	0.00300	1	10/08/2018 23:30	WG1177409
Di-n-octyl phthalate	U		0.000278	0.00300	0.00300	1	10/08/2018 23:30	WG1177409
Pyrene	U		0.000330	0.00100	0.00100	1	10/08/2018 23:30	WG1177409
1,2,4-Trichlorobenzene	U		0.000355	0.0100	0.0100	1	10/08/2018 23:30	WG1177409
4-Chloro-3-methylphenol	U		0.000263	0.0100	0.0100	1	10/08/2018 23:30	WG1177409
2-Chlorophenol	U		0.000283	0.0100	0.0100	1	10/08/2018 23:30	WG1177409
2,4-Dichlorophenol	U	J3	0.000284	0.0100	0.0100	1	10/08/2018 23:30	WG1177409
2,4-Dimethylphenol	U		0.000624	0.0100	0.0100	1	10/08/2018 23:30	WG1177409
4,6-Dinitro-2-methylphenol	U	J3 J4	0.00262	0.0100	0.0100	1	10/08/2018 23:30	WG1177409
2,4-Dinitrophenol	U		0.00325	0.0100	0.0100	1	10/08/2018 23:30	WG1177409
2-Nitrophenol	U	J3	0.000320	0.0100	0.0100	1	10/08/2018 23:30	WG1177409

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc



Collected date/time: 10/01/18 10:25

L1030903

Semi Volatile Organic Compounds (GC/MS) by Method 8270 C

Analyte	Result mg/l	Qualifier	SDL mg/l	Unadj. MQL mg/l	MQL mg/l	Dilution	Analysis date / time	Batch
2-Nitroaniline	U		0.00190	0.0100	0.0100	1	10/08/2018 23:30	WG1177409
2-Methylphenol	U		0.000312	0.0100	0.0100	1	10/08/2018 23:30	WG1177409
3&4-Methyl Phenol	U		0.000266	0.0100	0.0100	1	10/08/2018 23:30	WG1177409
3-Nitroaniline	U		0.000308	0.0100	0.0100	1	10/08/2018 23:30	WG1177409
4-Chloroaniline	U		0.000382	0.0100	0.0100	1	10/08/2018 23:30	WG1177409
4-Nitroaniline	U		0.000349	0.0100	0.0100	1	10/08/2018 23:30	WG1177409
4-Nitrophenol	U	J3 J4	0.00201	0.0100	0.0100	1	10/08/2018 23:30	WG1177409
Pentachlorophenol	U	J3 J4	0.000313	0.0100	0.0100	1	10/08/2018 23:30	WG1177409
Phenol	0.00119	J	0.000334	0.0100	0.0100	1	10/08/2018 23:30	WG1177409
2,4,5-Trichlorophenol	U	J3 J4	0.000236	0.0100	0.0100	1	10/08/2018 23:30	WG1177409
2,4,6-Trichlorophenol	U	J3 J4	0.000297	0.0100	0.0100	1	10/08/2018 23:30	WG1177409
(S) 2-Fluorophenol	31.1				10.0-120		10/08/2018 23:30	WG1177409
(S) Phenol-d5	18.9				10.0-120		10/08/2018 23:30	WG1177409
(S) Nitrobenzene-d5	49.4				10.0-127		10/08/2018 23:30	WG1177409
(S) 2-Fluorobiphenyl	57.7				10.0-130		10/08/2018 23:30	WG1177409
(S) 2,4,6-Tribromophenol	31.3				10.0-155		10/08/2018 23:30	WG1177409
(S) p-Terphenyl-d14	61.9				10.0-128		10/08/2018 23:30	WG1177409

1
Cp2
Tc3
Ss4
Cn5
Sr6
Qc7
Gl8
Al9
Sc



Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	SDL	Unadj. MQL	MQL	Dilution	Analysis date / time	Batch
Dissolved Solids	1010		5.64	20.0	20.0	1	10/08/2018 17:25	WG1176738

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc

Wet Chemistry by Method 353.2

Analyte	Result	Qualifier	SDL	Unadj. MQL	MQL	Dilution	Analysis date / time	Batch
Nitrate-Nitrite	5.62		0.0394	0.100	0.200	2	10/09/2018 14:17	WG1177681

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	SDL	Unadj. MQL	MQL	Dilution	Analysis date / time	Batch
Chloride	175		0.260	1.00	5.00	5	10/04/2018 23:21	WG1174945
Fluoride	0.490	B	0.00990	0.100	0.100	1	10/04/2018 23:07	WG1174945
Sulfate	113		0.387	5.00	25.0	5	10/04/2018 23:21	WG1174945

Mercury by Method 7470A

Analyte	Result	Qualifier	SDL	Unadj. MQL	MQL	Dilution	Analysis date / time	Batch
Mercury	U		0.0000490	0.000200	0.000200	1	10/05/2018 09:08	WG1174917

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	SDL	Unadj. MQL	MQL	Dilution	Analysis date / time	Batch
Boron,Dissolved	0.193	J	0.0126	0.200	0.200	1	10/08/2018 04:28	WG1174847

Metals (ICPMS) by Method 6020

Analyte	Result	Qualifier	SDL	Unadj. MQL	MQL	Dilution	Analysis date / time	Batch
Aluminum,Dissolved	U		0.00515	0.100	0.100	1	10/08/2018 18:25	WG1174849
Arsenic,Dissolved	0.00307		0.000250	0.00200	0.00200	1	10/08/2018 18:25	WG1174849
Barium,Dissolved	0.256		0.000360	0.00500	0.00500	1	10/08/2018 18:25	WG1174849
Cadmium,Dissolved	U		0.000160	0.00100	0.00100	1	10/08/2018 18:25	WG1174849
Chromium,Dissolved	0.0293		0.000540	0.00200	0.00200	1	10/08/2018 18:25	WG1174849
Copper,Dissolved	0.00362	J	0.000520	0.00500	0.00500	1	10/08/2018 18:25	WG1174849
Cobalt,Dissolved	U		0.000260	0.00200	0.00200	1	10/08/2018 18:25	WG1174849
Iron,Dissolved	U		0.0150	0.100	0.100	1	10/08/2018 18:25	WG1174849
Lead,Dissolved	U		0.000240	0.00200	0.00200	1	10/08/2018 18:25	WG1174849
Manganese,Dissolved	0.00110	J	0.000250	0.00500	0.00500	1	10/08/2018 18:25	WG1174849
Molybdenum,Dissolved	0.00122	J	0.000140	0.00500	0.00500	1	10/08/2018 18:25	WG1174849
Nickel,Dissolved	0.00607		0.000350	0.00200	0.00200	1	10/08/2018 18:25	WG1174849
Selenium,Dissolved	0.00193	J	0.000380	0.00200	0.00200	1	10/08/2018 18:25	WG1174849
Silver,Dissolved	U		0.000310	0.00200	0.00200	1	10/08/2018 18:25	WG1174849
Uranium,Dissolved	0.00618	J	0.000330	0.0100	0.0100	1	10/08/2018 18:25	WG1174849
Zinc,Dissolved	0.0644		0.00256	0.0250	0.0250	1	10/08/2018 18:25	WG1174849

Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result	Qualifier	SDL	Unadj. MQL	MQL	Dilution	Analysis date / time	Batch
Acetone	U		0.0100	1.00	1.00	1	10/03/2018 15:15	WG1175099
Benzene	U		0.000331	0.00100	0.00100	1	10/03/2018 15:15	WG1175099
Bromodichloromethane	U		0.000380	0.00125	0.00125	1	10/03/2018 15:15	WG1175099
Bromoform	U		0.000469	0.00100	0.00100	1	10/03/2018 15:15	WG1175099
Bromomethane	U		0.000866	0.00500	0.00500	1	10/03/2018 15:15	WG1175099
n-Butylbenzene	U		0.000361	0.00100	0.00100	1	10/03/2018 15:15	WG1175099



Collected date/time: 10/01/18 11:05

L1030903

Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result mg/l	Qualifier	SDL mg/l	Unadj. MQL mg/l	MQL mg/l	Dilution	Analysis date / time	Batch
sec-Butylbenzene	U		0.000365	0.00100	0.00100	1	10/03/2018 15:15	WG1175099
tert-Butylbenzene	U		0.000399	0.00100	0.00100	1	10/03/2018 15:15	WG1175099
Carbon disulfide	U		0.000275	0.00100	0.00100	1	10/03/2018 15:15	WG1175099
Carbon tetrachloride	U		0.000379	0.00100	0.00100	1	10/03/2018 15:15	WG1175099
Chlorobenzene	U		0.000348	0.00100	0.00100	1	10/03/2018 15:15	WG1175099
Chlorodibromomethane	U		0.000327	0.00100	0.00100	1	10/03/2018 15:15	WG1175099
Chloroethane	U		0.000453	0.00500	0.00500	1	10/03/2018 15:15	WG1175099
Chloroform	0.000903	U	0.000324	0.00500	0.00500	1	10/03/2018 15:15	WG1175099
Chloromethane	U		0.000276	0.00250	0.00250	1	10/03/2018 15:15	WG1175099
1,2-Dibromoethane	U		0.000381	0.00100	0.00100	1	10/03/2018 15:15	WG1175099
1,1-Dichloroethane	U		0.000259	0.00100	0.00100	1	10/03/2018 15:15	WG1175099
1,2-Dichloroethane	U		0.000361	0.00100	0.00100	1	10/03/2018 15:15	WG1175099
1,1-Dichloroethene	U		0.000398	0.00100	0.00100	1	10/03/2018 15:15	WG1175099
cis-1,2-Dichloroethene	U		0.000260	0.00100	0.00100	1	10/03/2018 15:15	WG1175099
trans-1,2-Dichloroethene	U		0.000396	0.00100	0.00100	1	10/03/2018 15:15	WG1175099
1,2-Dichloropropane	U		0.000306	0.00100	0.00100	1	10/03/2018 15:15	WG1175099
cis-1,3-Dichloropropene	U		0.000418	0.00100	0.00100	1	10/03/2018 15:15	WG1175099
trans-1,3-Dichloropropene	U		0.000419	0.00100	0.00100	1	10/03/2018 15:15	WG1175099
Ethylbenzene	U		0.000384	0.00100	0.00100	1	10/03/2018 15:15	WG1175099
Hexachloro-1,3-butadiene	U		0.000256	0.00100	0.00100	1	10/03/2018 15:15	WG1175099
2-Hexanone	U		0.00382	0.0100	0.0100	1	10/03/2018 15:15	WG1175099
Isopropylbenzene	U		0.000326	0.00100	0.00100	1	10/03/2018 15:15	WG1175099
p-Isopropyltoluene	U		0.000350	0.00100	0.00100	1	10/03/2018 15:15	WG1175099
2-Butanone (MEK)	U		0.00393	0.0100	0.0100	1	10/03/2018 15:15	WG1175099
Methylene Chloride	U		0.00100	0.00500	0.00500	1	10/03/2018 15:15	WG1175099
4-Methyl-2-pentanone (MIBK)	U		0.00214	0.0100	0.0100	1	10/03/2018 15:15	WG1175099
Methyl tert-butyl ether	U		0.000367	0.00100	0.00100	1	10/03/2018 15:15	WG1175099
Naphthalene	U		0.00100	0.00500	0.00500	1	10/03/2018 15:15	WG1175099
n-Propylbenzene	U		0.000349	0.00100	0.00100	1	10/03/2018 15:15	WG1175099
Styrene	U		0.000307	0.00100	0.00100	1	10/03/2018 15:15	WG1175099
1,1,2,2-Tetrachloroethane	U		0.000130	0.00100	0.00100	1	10/03/2018 15:15	WG1175099
Tetrachloroethene	U		0.000372	0.00100	0.00100	1	10/03/2018 15:15	WG1175099
Toluene	U		0.000412	0.00100	0.00100	1	10/03/2018 15:15	WG1175099
1,1,1-Trichloroethane	U		0.000319	0.00100	0.00100	1	10/03/2018 15:15	WG1175099
1,1,2-Trichloroethane	U		0.000383	0.00100	0.00100	1	10/03/2018 15:15	WG1175099
Trichloroethene	U		0.000398	0.00100	0.00100	1	10/03/2018 15:15	WG1175099
1,2,4-Trimethylbenzene	U		0.000373	0.00100	0.00100	1	10/03/2018 15:15	WG1175099
1,3,5-Trimethylbenzene	U		0.000387	0.00100	0.00100	1	10/03/2018 15:15	WG1175099
Vinyl chloride	U		0.000259	0.00100	0.00100	1	10/03/2018 15:15	WG1175099
Xylenes, Total	U		0.00106	0.00300	0.00300	1	10/03/2018 15:15	WG1175099
(S) Toluene-d8	112				80.0-120		10/03/2018 15:15	WG1175099
(S) Dibromofluoromethane	90.0				75.0-120		10/03/2018 15:15	WG1175099
(S) 4-Bromofluorobenzene	103				77.0-126		10/03/2018 15:15	WG1175099

1	Cp
2	Tc
3	Ss
4	Cn
5	Sr
6	Qc
7	Gl
8	Al
9	Sc

Semi Volatile Organic Compounds (GC/MS) by Method 8270 C

Analyte	Result mg/l	Qualifier	SDL mg/l	Unadj. MQL mg/l	MQL mg/l	Dilution	Analysis date / time	Batch
Acenaphthene	U		0.000316	0.00100	0.00100	1	10/08/2018 23:54	WG1177409
Acenaphthylene	U		0.000309	0.00100	0.00100	1	10/08/2018 23:54	WG1177409
Acetophenone	U		0.00247	0.0100	0.0100	1	10/08/2018 23:54	WG1177409
Anthracene	U		0.000291	0.00100	0.00100	1	10/08/2018 23:54	WG1177409
Atrazine	U		0.000260	0.0100	0.0100	1	10/08/2018 23:54	WG1177409
Benzo(a)anthracene	U		0.0000510	0.00100	0.00100	1	10/08/2018 23:54	WG1177409
Benzaldehyde	U		0.00140	0.0100	0.0100	1	10/08/2018 23:54	WG1177409
Benzo(b)fluoranthene	U		0.0000896	0.00100	0.00100	1	10/08/2018 23:54	WG1177409
Benzo(k)fluoranthene	U		0.000355	0.00100	0.00100	1	10/08/2018 23:54	WG1177409



Collected date/time: 10/01/18 11:05

L1030903

Semi Volatile Organic Compounds (GC/MS) by Method 8270 C

Analyte	Result mg/l	Qualifier	SDL mg/l	Unadj. MQL mg/l	MQL mg/l	Dilution	Analysis date / time	Batch
Benzo(g,h,i)perylene	U		0.0000227	0.00100	0.00100	1	10/08/2018 23:54	WG1177409
Benzo(a)pyrene	U		0.0000381	0.000200	0.000200	1	10/08/2018 23:54	WG1177409
Biphenyl	U		0.000325	0.0100	0.0100	1	10/08/2018 23:54	WG1177409
Bis(2-chlorethoxy)methane	U		0.000329	0.0100	0.0100	1	10/08/2018 23:54	WG1177409
Bis(2-chloroethyl)ether	U		0.00162	0.0100	0.0100	1	10/08/2018 23:54	WG1177409
Bis(2-chloroisopropyl)ether	U		0.000445	0.0100	0.0100	1	10/08/2018 23:54	WG1177409
4-Bromophenyl-phenylether	U		0.000335	0.0100	0.0100	1	10/08/2018 23:54	WG1177409
2-Chloronaphthalene	U		0.000330	0.00100	0.00100	1	10/08/2018 23:54	WG1177409
4-Chlorophenyl-phenylether	U		0.000303	0.0100	0.0100	1	10/08/2018 23:54	WG1177409
Caprolactam	U		0.00259	0.0100	0.0100	1	10/08/2018 23:54	WG1177409
Carbazole	U		0.000260	0.0100	0.0100	1	10/08/2018 23:54	WG1177409
Chrysene	U		0.000332	0.00100	0.00100	1	10/08/2018 23:54	WG1177409
Dibenz(a,h)anthracene	U		0.0000644	0.000200	0.000200	1	10/08/2018 23:54	WG1177409
Dibenzofuran	U		0.000338	0.0100	0.0100	1	10/08/2018 23:54	WG1177409
3,3-Dichlorobenzidine	U		0.00202	0.0100	0.0100	1	10/08/2018 23:54	WG1177409
2,4-Dinitrotoluene	U		0.00165	0.0100	0.0100	1	10/08/2018 23:54	WG1177409
2,6-Dinitrotoluene	U		0.000279	0.0100	0.0100	1	10/08/2018 23:54	WG1177409
Fluoranthene	U		0.000310	0.00100	0.00100	1	10/08/2018 23:54	WG1177409
Fluorene	U		0.000323	0.00100	0.00100	1	10/08/2018 23:54	WG1177409
Hexachlorobenzene	U		0.000341	0.00100	0.00100	1	10/08/2018 23:54	WG1177409
Hexachloro-1,3-butadiene	U		0.000329	0.0100	0.0100	1	10/08/2018 23:54	WG1177409
Hexachlorocyclopentadiene	U		0.00233	0.0100	0.0100	1	10/08/2018 23:54	WG1177409
Hexachloroethane	U		0.000365	0.0100	0.0100	1	10/08/2018 23:54	WG1177409
Indeno(1,2,3-cd)pyrene	U		0.000279	0.00100	0.00100	1	10/08/2018 23:54	WG1177409
Isophorone	U		0.000272	0.0100	0.0100	1	10/08/2018 23:54	WG1177409
1-Methylnaphthalene	U		0.000332	0.00100	0.00100	1	10/08/2018 23:54	WG1177409
2-Methylnaphthalene	U		0.000311	0.00100	0.00100	1	10/08/2018 23:54	WG1177409
Naphthalene	U		0.000372	0.00100	0.00100	1	10/08/2018 23:54	WG1177409
Nitrobenzene	U		0.000367	0.0100	0.0100	1	10/08/2018 23:54	WG1177409
n-Nitrosodiphenylamine	U		0.00119	0.0100	0.0100	1	10/08/2018 23:54	WG1177409
n-Nitrosodi-n-propylamine	U		0.000403	0.0100	0.0100	1	10/08/2018 23:54	WG1177409
Phenanthrene	U		0.000366	0.00100	0.00100	1	10/08/2018 23:54	WG1177409
Benzylbutyl phthalate	U	J4	0.000275	0.00300	0.00300	1	10/08/2018 23:54	WG1177409
Bis(2-ethylhexyl)phthalate	U		0.000709	0.00300	0.00300	1	10/08/2018 23:54	WG1177409
Di-n-butyl phthalate	U		0.000266	0.00300	0.00300	1	10/08/2018 23:54	WG1177409
Diethyl phthalate	U	J4	0.000282	0.00300	0.00300	1	10/08/2018 23:54	WG1177409
Dimethyl phthalate	U	J4	0.000283	0.00300	0.00300	1	10/08/2018 23:54	WG1177409
Di-n-octyl phthalate	U		0.000278	0.00300	0.00300	1	10/08/2018 23:54	WG1177409
Pyrene	U		0.000330	0.00100	0.00100	1	10/08/2018 23:54	WG1177409
1,2,4-Trichlorobenzene	U		0.000355	0.0100	0.0100	1	10/08/2018 23:54	WG1177409
4-Chloro-3-methylphenol	U		0.000263	0.0100	0.0100	1	10/08/2018 23:54	WG1177409
2-Chlorophenol	U		0.000283	0.0100	0.0100	1	10/08/2018 23:54	WG1177409
2,4-Dichlorophenol	U	J3	0.000284	0.0100	0.0100	1	10/08/2018 23:54	WG1177409
2,4-Dimethylphenol	U		0.000624	0.0100	0.0100	1	10/08/2018 23:54	WG1177409
4,6-Dinitro-2-methylphenol	U	J3 J4	0.00262	0.0100	0.0100	1	10/08/2018 23:54	WG1177409
2,4-Dinitrophenol	U		0.00325	0.0100	0.0100	1	10/08/2018 23:54	WG1177409
2-Nitrophenol	U	J3	0.000320	0.0100	0.0100	1	10/08/2018 23:54	WG1177409
2-Nitroaniline	U		0.00190	0.0100	0.0100	1	10/08/2018 23:54	WG1177409
2-Methylphenol	U		0.000312	0.0100	0.0100	1	10/08/2018 23:54	WG1177409
3&4-Methyl Phenol	U		0.000266	0.0100	0.0100	1	10/08/2018 23:54	WG1177409
3-Nitroaniline	U		0.000308	0.0100	0.0100	1	10/08/2018 23:54	WG1177409
4-Chloroaniline	U		0.000382	0.0100	0.0100	1	10/08/2018 23:54	WG1177409
4-Nitroaniline	U		0.000349	0.0100	0.0100	1	10/08/2018 23:54	WG1177409
4-Nitrophenol	U	J3 J4	0.00201	0.0100	0.0100	1	10/08/2018 23:54	WG1177409
Pentachlorophenol	U	J3 J4	0.000313	0.0100	0.0100	1	10/08/2018 23:54	WG1177409
Phenol	0.00164	J	0.000334	0.0100	0.0100	1	10/08/2018 23:54	WG1177409

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc



Collected date/time: 10/01/18 11:05

L1030903

Semi Volatile Organic Compounds (GC/MS) by Method 8270 C

Analyte	Result mg/l	Qualifier	SDL mg/l	Unadj. MQL mg/l	MQL mg/l	Dilution	Analysis date / time	Batch
2,4,5-Trichlorophenol	U	J3 J4	0.000236	0.0100	0.0100	1	10/08/2018 23:54	WG1177409
2,4,6-Trichlorophenol	U	J3 J4	0.000297	0.0100	0.0100	1	10/08/2018 23:54	WG1177409
(S) 2-Fluorophenol	26.1				10.0-120		10/08/2018 23:54	WG1177409
(S) Phenol-d5	16.5				10.0-120		10/08/2018 23:54	WG1177409
(S) Nitrobenzene-d5	46.9				10.0-127		10/08/2018 23:54	WG1177409
(S) 2-Fluorobiphenyl	51.6				10.0-130		10/08/2018 23:54	WG1177409
(S) 2,4,6-Tribromophenol	32.4				10.0-155		10/08/2018 23:54	WG1177409
(S) p-Terphenyl-d14	63.1				10.0-128		10/08/2018 23:54	WG1177409

1
Cp

2
Tc

3
Ss

4
Cn

5
Sr

6
Qc

7
Gl

8
Al

9
Sc



Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	SDL	Unadj. MQL	MQL	Dilution	Analysis date / time	Batch
Dissolved Solids	517		2.82	10.0	10.0	1	10/08/2018 17:25	WG1176738

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc

Wet Chemistry by Method 2320 B-2011

Analyte	Result	Qualifier	SDL	Unadj. MQL	MQL	Dilution	Analysis date / time	Batch
Alkalinity	189		2.71	20.0	20.0	1	10/09/2018 20:01	WG1177314

Sample Narrative:

L1030903-29 WG1177314: Endpoint pH 4.5 HEADSPACE

Wet Chemistry by Method 353.2

Analyte	Result	Qualifier	SDL	Unadj. MQL	MQL	Dilution	Analysis date / time	Batch
Nitrate-Nitrite	3.52		0.0197	0.100	0.100	1	10/09/2018 14:18	WG1177681

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	SDL	Unadj. MQL	MQL	Dilution	Analysis date / time	Batch
Chloride	76.7		0.0519	1.00	1.00	1	10/04/2018 23:35	WG1174945
Fluoride	1.11		0.00990	0.100	0.100	1	10/04/2018 23:35	WG1174945
Sulfate	81.2		0.0774	5.00	5.00	1	10/04/2018 23:35	WG1174945

Mercury by Method 7470A

Analyte	Result	Qualifier	SDL	Unadj. MQL	MQL	Dilution	Analysis date / time	Batch
Mercury	U		0.0000490	0.000200	0.000200	1	10/05/2018 09:10	WG1174917

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	SDL	Unadj. MQL	MQL	Dilution	Analysis date / time	Batch
Boron,Dissolved	0.154	J	0.0126	0.200	0.200	1	10/08/2018 04:30	WG1174847

Metals (ICPMS) by Method 6020

Analyte	Result	Qualifier	SDL	Unadj. MQL	MQL	Dilution	Analysis date / time	Batch
Aluminum,Dissolved	0.00689	J	0.00515	0.100	0.100	1	10/08/2018 18:30	WG1174849
Arsenic,Dissolved	0.00486		0.000250	0.00200	0.00200	1	10/08/2018 18:30	WG1174849
Barium,Dissolved	0.0819		0.000360	0.00500	0.00500	1	10/08/2018 18:30	WG1174849
Cadmium,Dissolved	U		0.000160	0.00100	0.00100	1	10/08/2018 18:30	WG1174849
Chromium,Dissolved	0.000984	J	0.000540	0.00200	0.00200	1	10/08/2018 18:30	WG1174849
Copper,Dissolved	0.00169	J	0.000520	0.00500	0.00500	1	10/08/2018 18:30	WG1174849
Cobalt,Dissolved	U		0.000260	0.00200	0.00200	1	10/08/2018 18:30	WG1174849
Iron,Dissolved	U		0.0150	0.100	0.100	1	10/08/2018 18:30	WG1174849
Lead,Dissolved	U		0.000240	0.00200	0.00200	1	10/08/2018 18:30	WG1174849
Manganese,Dissolved	0.000769	J	0.000250	0.00500	0.00500	1	10/08/2018 18:30	WG1174849
Molybdenum,Dissolved	0.00231	J	0.000140	0.00500	0.00500	1	10/08/2018 18:30	WG1174849
Nickel,Dissolved	0.00755		0.000350	0.00200	0.00200	1	10/08/2018 18:30	WG1174849
Selenium,Dissolved	0.00205		0.000380	0.00200	0.00200	1	10/08/2018 18:30	WG1174849
Silver,Dissolved	U		0.000310	0.00200	0.00200	1	10/08/2018 18:30	WG1174849
Uranium,Dissolved	0.00223	J	0.000330	0.0100	0.0100	1	10/08/2018 18:30	WG1174849
Zinc,Dissolved	0.0432		0.00256	0.0250	0.0250	1	10/08/2018 18:30	WG1174849



Collected date/time: 10/01/18 10:15

L1030903

Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result mg/l	Qualifier	SDL mg/l	Unadj. MQL mg/l	MQL mg/l	Dilution	Analysis date / time	Batch
Acetone	U		0.0100	1.00	1.00	1	10/03/2018 15:35	WG1175099
Benzene	U		0.000331	0.00100	0.00100	1	10/03/2018 15:35	WG1175099
Bromodichloromethane	0.00172		0.000380	0.00125	0.00125	1	10/03/2018 15:35	WG1175099
Bromoform	U		0.000469	0.00100	0.00100	1	10/03/2018 15:35	WG1175099
Bromomethane	U		0.000866	0.00500	0.00500	1	10/03/2018 15:35	WG1175099
n-Butylbenzene	U		0.000361	0.00100	0.00100	1	10/03/2018 15:35	WG1175099
sec-Butylbenzene	U		0.000365	0.00100	0.00100	1	10/03/2018 15:35	WG1175099
tert-Butylbenzene	U		0.000399	0.00100	0.00100	1	10/03/2018 15:35	WG1175099
Carbon disulfide	U		0.000275	0.00100	0.00100	1	10/03/2018 15:35	WG1175099
Carbon tetrachloride	U		0.000379	0.00100	0.00100	1	10/03/2018 15:35	WG1175099
Chlorobenzene	U		0.000348	0.00100	0.00100	1	10/03/2018 15:35	WG1175099
Chlorodibromomethane	0.000384	U	0.000327	0.00100	0.00100	1	10/03/2018 15:35	WG1175099
Chloroethane	U		0.000453	0.00500	0.00500	1	10/03/2018 15:35	WG1175099
Chloroform	0.00549		0.000324	0.00500	0.00500	1	10/03/2018 15:35	WG1175099
Chloromethane	U		0.000276	0.00250	0.00250	1	10/03/2018 15:35	WG1175099
1,2-Dibromoethane	U		0.000381	0.00100	0.00100	1	10/03/2018 15:35	WG1175099
1,1-Dichloroethane	U		0.000259	0.00100	0.00100	1	10/03/2018 15:35	WG1175099
1,2-Dichloroethane	U		0.000361	0.00100	0.00100	1	10/03/2018 15:35	WG1175099
1,1-Dichloroethene	U		0.000398	0.00100	0.00100	1	10/03/2018 15:35	WG1175099
cis-1,2-Dichloroethene	U		0.000260	0.00100	0.00100	1	10/03/2018 15:35	WG1175099
trans-1,2-Dichloroethene	U		0.000396	0.00100	0.00100	1	10/03/2018 15:35	WG1175099
1,2-Dichloropropane	U		0.000306	0.00100	0.00100	1	10/03/2018 15:35	WG1175099
cis-1,3-Dichloropropene	U		0.000418	0.00100	0.00100	1	10/03/2018 15:35	WG1175099
trans-1,3-Dichloropropene	U		0.000419	0.00100	0.00100	1	10/03/2018 15:35	WG1175099
Ethylbenzene	U		0.000384	0.00100	0.00100	1	10/03/2018 15:35	WG1175099
Hexachloro-1,3-butadiene	U		0.000256	0.00100	0.00100	1	10/03/2018 15:35	WG1175099
2-Hexanone	U		0.00382	0.0100	0.0100	1	10/03/2018 15:35	WG1175099
Isopropylbenzene	U		0.000326	0.00100	0.00100	1	10/03/2018 15:35	WG1175099
p-Isopropyltoluene	U		0.000350	0.00100	0.00100	1	10/03/2018 15:35	WG1175099
2-Butanone (MEK)	U		0.00393	0.0100	0.0100	1	10/03/2018 15:35	WG1175099
Methylene Chloride	U		0.00100	0.00500	0.00500	1	10/03/2018 15:35	WG1175099
4-Methyl-2-pentanone (MIBK)	U		0.00214	0.0100	0.0100	1	10/03/2018 15:35	WG1175099
Methyl tert-butyl ether	U		0.000367	0.00100	0.00100	1	10/03/2018 15:35	WG1175099
Naphthalene	U		0.00100	0.00500	0.00500	1	10/03/2018 15:35	WG1175099
n-Propylbenzene	U		0.000349	0.00100	0.00100	1	10/03/2018 15:35	WG1175099
Styrene	U		0.000307	0.00100	0.00100	1	10/03/2018 15:35	WG1175099
1,1,2,2-Tetrachloroethane	U		0.000130	0.00100	0.00100	1	10/03/2018 15:35	WG1175099
Tetrachloroethene	U		0.000372	0.00100	0.00100	1	10/03/2018 15:35	WG1175099
Toluene	U		0.000412	0.00100	0.00100	1	10/03/2018 15:35	WG1175099
1,1,1-Trichloroethane	U		0.000319	0.00100	0.00100	1	10/03/2018 15:35	WG1175099
1,1,2-Trichloroethane	U		0.000383	0.00100	0.00100	1	10/03/2018 15:35	WG1175099
Trichloroethene	U		0.000398	0.00100	0.00100	1	10/03/2018 15:35	WG1175099
1,2,4-Trimethylbenzene	U		0.000373	0.00100	0.00100	1	10/03/2018 15:35	WG1175099
1,3,5-Trimethylbenzene	U		0.000387	0.00100	0.00100	1	10/03/2018 15:35	WG1175099
Vinyl chloride	U		0.000259	0.00100	0.00100	1	10/03/2018 15:35	WG1175099
Xylenes, Total	U		0.00106	0.00300	0.00300	1	10/03/2018 15:35	WG1175099
(S) Toluene-d8	113				80.0-120		10/03/2018 15:35	WG1175099
(S) Dibromofluoromethane	92.0				75.0-120		10/03/2018 15:35	WG1175099
(S) 4-Bromofluorobenzene	101				77.0-126		10/03/2018 15:35	WG1175099

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc



Collected date/time: 10/01/18 10:15

L1030903

Semi Volatile Organic Compounds (GC/MS) by Method 8270 C

Analyte	Result mg/l	Qualifier	SDL mg/l	Unadj. MQL mg/l	MQL mg/l	Dilution	Analysis date / time	Batch
Acenaphthene	U		0.000316	0.00100	0.00100	1	10/09/2018 00:17	WG1177409
Acenaphthylene	U		0.000309	0.00100	0.00100	1	10/09/2018 00:17	WG1177409
Acetophenone	U		0.00247	0.0100	0.0100	1	10/09/2018 00:17	WG1177409
Anthracene	U		0.000291	0.00100	0.00100	1	10/09/2018 00:17	WG1177409
Atrazine	U		0.000260	0.0100	0.0100	1	10/09/2018 00:17	WG1177409
Benzo(a)anthracene	U		0.0000510	0.00100	0.00100	1	10/09/2018 00:17	WG1177409
Benzaldehyde	U		0.00140	0.0100	0.0100	1	10/09/2018 00:17	WG1177409
Benzo(b)fluoranthene	U		0.0000896	0.00100	0.00100	1	10/09/2018 00:17	WG1177409
Benzo(k)fluoranthene	U		0.000355	0.00100	0.00100	1	10/09/2018 00:17	WG1177409
Benzo(g,h,i)perylene	U		0.00000227	0.00100	0.00100	1	10/09/2018 00:17	WG1177409
Benzo(a)pyrene	U		0.0000381	0.000200	0.000200	1	10/09/2018 00:17	WG1177409
Biphenyl	U		0.000325	0.0100	0.0100	1	10/09/2018 00:17	WG1177409
Bis(2-chlorethoxy)methane	U		0.000329	0.0100	0.0100	1	10/09/2018 00:17	WG1177409
Bis(2-chloroethyl)ether	U		0.00162	0.0100	0.0100	1	10/09/2018 00:17	WG1177409
Bis(2-chloroisopropyl)ether	U		0.000445	0.0100	0.0100	1	10/09/2018 00:17	WG1177409
4-Bromophenyl-phenylether	U		0.000335	0.0100	0.0100	1	10/09/2018 00:17	WG1177409
2-Chloronaphthalene	U		0.000330	0.00100	0.00100	1	10/09/2018 00:17	WG1177409
4-Chlorophenyl-phenylether	U		0.000303	0.0100	0.0100	1	10/09/2018 00:17	WG1177409
Caprolactam	U		0.00259	0.0100	0.0100	1	10/09/2018 00:17	WG1177409
Carbazole	U		0.000260	0.0100	0.0100	1	10/09/2018 00:17	WG1177409
Chrysene	U		0.000332	0.00100	0.00100	1	10/09/2018 00:17	WG1177409
Dibenz(a,h)anthracene	U		0.0000644	0.000200	0.000200	1	10/09/2018 00:17	WG1177409
Dibenzofuran	U		0.000338	0.0100	0.0100	1	10/09/2018 00:17	WG1177409
3,3-Dichlorobenzidine	U		0.00202	0.0100	0.0100	1	10/09/2018 00:17	WG1177409
2,4-Dinitrotoluene	U		0.00165	0.0100	0.0100	1	10/09/2018 00:17	WG1177409
2,6-Dinitrotoluene	U		0.000279	0.0100	0.0100	1	10/09/2018 00:17	WG1177409
Fluoranthene	U		0.000310	0.00100	0.00100	1	10/09/2018 00:17	WG1177409
Fluorene	U		0.000323	0.00100	0.00100	1	10/09/2018 00:17	WG1177409
Hexachlorobenzene	U		0.000341	0.00100	0.00100	1	10/09/2018 00:17	WG1177409
Hexachloro-1,3-butadiene	U		0.000329	0.0100	0.0100	1	10/09/2018 00:17	WG1177409
Hexachlorocyclopentadiene	U		0.00233	0.0100	0.0100	1	10/09/2018 00:17	WG1177409
Hexachloroethane	U		0.000365	0.0100	0.0100	1	10/09/2018 00:17	WG1177409
Indeno(1,2,3-cd)pyrene	U		0.000279	0.00100	0.00100	1	10/09/2018 00:17	WG1177409
Isophorone	U		0.000272	0.0100	0.0100	1	10/09/2018 00:17	WG1177409
1-Methylnaphthalene	U		0.000332	0.00100	0.00100	1	10/09/2018 00:17	WG1177409
2-Methylnaphthalene	U		0.000311	0.00100	0.00100	1	10/09/2018 00:17	WG1177409
Naphthalene	U		0.000372	0.00100	0.00100	1	10/09/2018 00:17	WG1177409
Nitrobenzene	U		0.000367	0.0100	0.0100	1	10/09/2018 00:17	WG1177409
n-Nitrosodiphenylamine	U		0.00119	0.0100	0.0100	1	10/09/2018 00:17	WG1177409
n-Nitrosodi-n-propylamine	U		0.000403	0.0100	0.0100	1	10/09/2018 00:17	WG1177409
Phenanthrene	U		0.000366	0.00100	0.00100	1	10/09/2018 00:17	WG1177409
Benzylbutyl phthalate	U	J4	0.000275	0.00300	0.00300	1	10/09/2018 00:17	WG1177409
Bis(2-ethylhexyl)phthalate	U		0.000709	0.00300	0.00300	1	10/09/2018 00:17	WG1177409
Di-n-butyl phthalate	U		0.000266	0.00300	0.00300	1	10/09/2018 00:17	WG1177409
Diethyl phthalate	U	J4	0.000282	0.00300	0.00300	1	10/09/2018 00:17	WG1177409
Dimethyl phthalate	U	J4	0.000283	0.00300	0.00300	1	10/09/2018 00:17	WG1177409
Di-n-octyl phthalate	U		0.000278	0.00300	0.00300	1	10/09/2018 00:17	WG1177409
Pyrene	U		0.000330	0.00100	0.00100	1	10/09/2018 00:17	WG1177409
1,2,4-Trichlorobenzene	U		0.000355	0.0100	0.0100	1	10/09/2018 00:17	WG1177409
4-Chloro-3-methylphenol	U		0.000263	0.0100	0.0100	1	10/09/2018 00:17	WG1177409
2-Chlorophenol	U		0.000283	0.0100	0.0100	1	10/09/2018 00:17	WG1177409
2,4-Dichlorophenol	U	J3	0.000284	0.0100	0.0100	1	10/09/2018 00:17	WG1177409
2,4-Dimethylphenol	U		0.000624	0.0100	0.0100	1	10/09/2018 00:17	WG1177409
4,6-Dinitro-2-methylphenol	U	J3 J4	0.00262	0.0100	0.0100	1	10/09/2018 00:17	WG1177409
2,4-Dinitrophenol	U		0.00325	0.0100	0.0100	1	10/09/2018 00:17	WG1177409
2-Nitrophenol	U	J3	0.000320	0.0100	0.0100	1	10/09/2018 00:17	WG1177409

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc



Collected date/time: 10/01/18 10:15

L1030903

Semi Volatile Organic Compounds (GC/MS) by Method 8270 C

Analyte	Result mg/l	Qualifier	SDL mg/l	Unadj. MQL mg/l	MQL mg/l	Dilution	Analysis date / time	Batch
2-Nitroaniline	U		0.00190	0.0100	0.0100	1	10/09/2018 00:17	WG1177409
2-Methylphenol	U		0.000312	0.0100	0.0100	1	10/09/2018 00:17	WG1177409
3&4-Methyl Phenol	U		0.000266	0.0100	0.0100	1	10/09/2018 00:17	WG1177409
3-Nitroaniline	U		0.000308	0.0100	0.0100	1	10/09/2018 00:17	WG1177409
4-Chloroaniline	U		0.000382	0.0100	0.0100	1	10/09/2018 00:17	WG1177409
4-Nitroaniline	U		0.000349	0.0100	0.0100	1	10/09/2018 00:17	WG1177409
4-Nitrophenol	U	J3 J4	0.00201	0.0100	0.0100	1	10/09/2018 00:17	WG1177409
Pentachlorophenol	U	J3 J4	0.000313	0.0100	0.0100	1	10/09/2018 00:17	WG1177409
Phenol	0.00181	J	0.000334	0.0100	0.0100	1	10/09/2018 00:17	WG1177409
2,4,5-Trichlorophenol	U	J3 J4	0.000236	0.0100	0.0100	1	10/09/2018 00:17	WG1177409
2,4,6-Trichlorophenol	U	J3 J4	0.000297	0.0100	0.0100	1	10/09/2018 00:17	WG1177409
(S) 2-Fluorophenol	32.1				10.0-120		10/09/2018 00:17	WG1177409
(S) Phenol-d5	19.4				10.0-120		10/09/2018 00:17	WG1177409
(S) Nitrobenzene-d5	40.1				10.0-127		10/09/2018 00:17	WG1177409
(S) 2-Fluorobiphenyl	49.8				10.0-130		10/09/2018 00:17	WG1177409
(S) 2,4,6-Tribromophenol	31.2				10.0-155		10/09/2018 00:17	WG1177409
(S) p-Terphenyl-d14	58.0				10.0-128		10/09/2018 00:17	WG1177409

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc



Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	SDL	Unadj. MQL	MQL	Dilution	Analysis date / time	Batch
Dissolved Solids	383		2.82	10.0	10.0	1	10/08/2018 17:25	WG1176738

Wet Chemistry by Method 2320 B-2011

Analyte	Result	Qualifier	SDL	Unadj. MQL	MQL	Dilution	Analysis date / time	Batch
Alkalinity	253		2.71	20.0	20.0	1	10/09/2018 20:08	WG1177314

Sample Narrative:

L1030903-30 WG1177314: Endpoint pH 4.5 HEADSPACE

Wet Chemistry by Method 353.2

Analyte	Result	Qualifier	SDL	Unadj. MQL	MQL	Dilution	Analysis date / time	Batch
Nitrate-Nitrite	U		0.0197	0.100	0.100	1	10/09/2018 14:20	WG1177681

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	SDL	Unadj. MQL	MQL	Dilution	Analysis date / time	Batch
Chloride	34.7		0.0519	1.00	1.00	1	10/05/2018 00:03	WG1174945
Fluoride	0.357	B	0.00990	0.100	0.100	1	10/05/2018 00:03	WG1174945
Sulfate	47.4		0.0774	5.00	5.00	1	10/05/2018 00:03	WG1174945

Mercury by Method 7470A

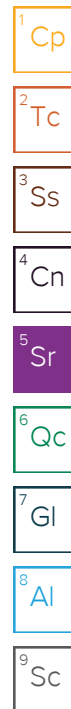
Analyte	Result	Qualifier	SDL	Unadj. MQL	MQL	Dilution	Analysis date / time	Batch
Mercury	U		0.0000490	0.000200	0.000200	1	10/05/2018 09:13	WG1174917

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	SDL	Unadj. MQL	MQL	Dilution	Analysis date / time	Batch
Boron,Dissolved	0.0321	J	0.0126	0.200	0.200	1	10/08/2018 04:33	WG1174847

Metals (ICPMS) by Method 6020

Analyte	Result	Qualifier	SDL	Unadj. MQL	MQL	Dilution	Analysis date / time	Batch
Aluminum,Dissolved	0.00589	J	0.00515	0.100	0.100	1	10/08/2018 18:35	WG1174849
Arsenic,Dissolved	0.00652		0.000250	0.00200	0.00200	1	10/08/2018 18:35	WG1174849
Barium,Dissolved	0.176		0.000360	0.00500	0.00500	1	10/08/2018 18:35	WG1174849
Cadmium,Dissolved	U		0.000160	0.00100	0.00100	1	10/08/2018 18:35	WG1174849
Chromium,Dissolved	U		0.000540	0.00200	0.00200	1	10/08/2018 18:35	WG1174849
Copper,Dissolved	0.000794	J	0.000520	0.00500	0.00500	1	10/08/2018 18:35	WG1174849
Cobalt,Dissolved	U		0.000260	0.00200	0.00200	1	10/08/2018 18:35	WG1174849
Iron,Dissolved	U		0.0150	0.100	0.100	1	10/08/2018 18:35	WG1174849
Lead,Dissolved	0.000283	B J	0.000240	0.00200	0.00200	1	10/08/2018 18:35	WG1174849
Manganese,Dissolved	0.0499		0.000250	0.00500	0.00500	1	10/08/2018 18:35	WG1174849
Molybdenum,Dissolved	0.00348	J	0.000140	0.00500	0.00500	1	10/08/2018 18:35	WG1174849
Nickel,Dissolved	0.00357		0.000350	0.00200	0.00200	1	10/08/2018 18:35	WG1174849
Selenium,Dissolved	U		0.000380	0.00200	0.00200	1	10/08/2018 18:35	WG1174849
Silver,Dissolved	U		0.000310	0.00200	0.00200	1	10/08/2018 18:35	WG1174849
Uranium,Dissolved	0.00146	J	0.000330	0.0100	0.0100	1	10/08/2018 18:35	WG1174849
Zinc,Dissolved	U		0.00256	0.0250	0.0250	1	10/08/2018 18:35	WG1174849





Collected date/time: 10/01/18 10:30

L1030903

Volatile Organic Compounds (GC) by Method 8015D/GRO

Analyte	Result mg/l	Qualifier	SDL mg/l	Unadj. MQL mg/l	MQL mg/l	Dilution	Analysis date / time	Batch
TPH (GC/FID) Low Fraction	U		0.0314	0.100	0.100	1	10/06/2018 20:40	WG1176966
(S) a,a,a-Trifluorotoluene(FID)	107				78.0-120		10/06/2018 20:40	WG1176966

Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result mg/l	Qualifier	SDL mg/l	Unadj. MQL mg/l	MQL mg/l	Dilution	Analysis date / time	Batch
Acetone	U		0.0100	1.00	1.00	1	10/03/2018 15:56	WG1175099
Benzene	U		0.000331	0.00100	0.00100	1	10/03/2018 15:56	WG1175099
Bromodichloromethane	U		0.000380	0.00125	0.00125	1	10/03/2018 15:56	WG1175099
Bromoform	U		0.000469	0.00100	0.00100	1	10/03/2018 15:56	WG1175099
Bromomethane	U		0.000866	0.00500	0.00500	1	10/03/2018 15:56	WG1175099
n-Butylbenzene	U		0.000361	0.00100	0.00100	1	10/03/2018 15:56	WG1175099
sec-Butylbenzene	U		0.000365	0.00100	0.00100	1	10/03/2018 15:56	WG1175099
tert-Butylbenzene	U		0.000399	0.00100	0.00100	1	10/03/2018 15:56	WG1175099
Carbon disulfide	U		0.000275	0.00100	0.00100	1	10/03/2018 15:56	WG1175099
Carbon tetrachloride	U		0.000379	0.00100	0.00100	1	10/03/2018 15:56	WG1175099
Chlorobenzene	U		0.000348	0.00100	0.00100	1	10/03/2018 15:56	WG1175099
Chlorodibromomethane	U		0.000327	0.00100	0.00100	1	10/03/2018 15:56	WG1175099
Chloroethane	U		0.000453	0.00500	0.00500	1	10/03/2018 15:56	WG1175099
Chloroform	U		0.000324	0.00500	0.00500	1	10/03/2018 15:56	WG1175099
Chloromethane	U		0.000276	0.00250	0.00250	1	10/03/2018 15:56	WG1175099
1,2-Dibromoethane	U		0.000381	0.00100	0.00100	1	10/03/2018 15:56	WG1175099
1,1-Dichloroethane	U		0.000259	0.00100	0.00100	1	10/03/2018 15:56	WG1175099
1,2-Dichloroethane	U		0.000361	0.00100	0.00100	1	10/03/2018 15:56	WG1175099
1,1-Dichloroethene	U		0.000398	0.00100	0.00100	1	10/03/2018 15:56	WG1175099
cis-1,2-Dichloroethene	U		0.000260	0.00100	0.00100	1	10/03/2018 15:56	WG1175099
trans-1,2-Dichloroethene	U		0.000396	0.00100	0.00100	1	10/03/2018 15:56	WG1175099
1,2-Dichloropropane	U		0.000306	0.00100	0.00100	1	10/03/2018 15:56	WG1175099
cis-1,3-Dichloropropene	U		0.000418	0.00100	0.00100	1	10/03/2018 15:56	WG1175099
trans-1,3-Dichloropropene	U		0.000419	0.00100	0.00100	1	10/03/2018 15:56	WG1175099
Ethylbenzene	U		0.000384	0.00100	0.00100	1	10/03/2018 15:56	WG1175099
Hexachloro-1,3-butadiene	U		0.000256	0.00100	0.00100	1	10/03/2018 15:56	WG1175099
2-Hexanone	U		0.00382	0.0100	0.0100	1	10/03/2018 15:56	WG1175099
Isopropylbenzene	U		0.000326	0.00100	0.00100	1	10/03/2018 15:56	WG1175099
p-Isopropyltoluene	U		0.000350	0.00100	0.00100	1	10/03/2018 15:56	WG1175099
2-Butanone (MEK)	U		0.00393	0.0100	0.0100	1	10/03/2018 15:56	WG1175099
Methylene Chloride	U		0.00100	0.00500	0.00500	1	10/03/2018 15:56	WG1175099
4-Methyl-2-pentanone (MIBK)	U		0.00214	0.0100	0.0100	1	10/03/2018 15:56	WG1175099
Methyl tert-butyl ether	U		0.000367	0.00100	0.00100	1	10/03/2018 15:56	WG1175099
Naphthalene	U		0.00100	0.00500	0.00500	1	10/03/2018 15:56	WG1175099
n-Propylbenzene	U		0.000349	0.00100	0.00100	1	10/03/2018 15:56	WG1175099
Styrene	U		0.000307	0.00100	0.00100	1	10/03/2018 15:56	WG1175099
1,1,2,2-Tetrachloroethane	U		0.000130	0.00100	0.00100	1	10/03/2018 15:56	WG1175099
Tetrachloroethene	U		0.000372	0.00100	0.00100	1	10/03/2018 15:56	WG1175099
Toluene	U		0.000412	0.00100	0.00100	1	10/03/2018 15:56	WG1175099
1,1,1-Trichloroethane	U		0.000319	0.00100	0.00100	1	10/03/2018 15:56	WG1175099
1,1,2-Trichloroethane	U		0.000383	0.00100	0.00100	1	10/03/2018 15:56	WG1175099
Trichloroethene	U		0.000398	0.00100	0.00100	1	10/03/2018 15:56	WG1175099
1,2,4-Trimethylbenzene	U		0.000373	0.00100	0.00100	1	10/03/2018 15:56	WG1175099
1,3,5-Trimethylbenzene	U		0.000387	0.00100	0.00100	1	10/03/2018 15:56	WG1175099
Vinyl chloride	U		0.000259	0.00100	0.00100	1	10/03/2018 15:56	WG1175099
Xylenes, Total	U		0.00106	0.00300	0.00300	1	10/03/2018 15:56	WG1175099
(S) Toluene-d8	109				80.0-120		10/03/2018 15:56	WG1175099
(S) Dibromofluoromethane	89.9				75.0-120		10/03/2018 15:56	WG1175099
(S) 4-Bromofluorobenzene	103				77.0-126		10/03/2018 15:56	WG1175099

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc



Collected date/time: 10/01/18 10:30

L1030903

Semi-Volatile Organic Compounds (GC) by Method 3511/8015

Analyte	Result mg/l	Qualifier	SDL mg/l	Unadj. MQL mg/l	MQL mg/l	Dilution	Analysis date / time	Batch
TPH (GC/FID) High Fraction	0.360		0.0247	0.100	0.100	1	10/08/2018 15:04	WG1177385
(S) o-Terphenyl	61.1				31.0-160		10/08/2018 15:04	WG1177385

Semi Volatile Organic Compounds (GC/MS) by Method 8270 C

Analyte	Result mg/l	Qualifier	SDL mg/l	Unadj. MQL mg/l	MQL mg/l	Dilution	Analysis date / time	Batch
Acenaphthene	U		0.000316	0.00100	0.00100	1	10/09/2018 00:41	WG1177409
Acenaphthylene	U		0.000309	0.00100	0.00100	1	10/09/2018 00:41	WG1177409
Acetophenone	U		0.00247	0.0100	0.0100	1	10/09/2018 00:41	WG1177409
Anthracene	U		0.000291	0.00100	0.00100	1	10/09/2018 00:41	WG1177409
Atrazine	U		0.000260	0.0100	0.0100	1	10/09/2018 00:41	WG1177409
Benzo(a)anthracene	U		0.0000510	0.00100	0.00100	1	10/09/2018 00:41	WG1177409
Benzaldehyde	U		0.00140	0.0100	0.0100	1	10/09/2018 00:41	WG1177409
Benzo(b)fluoranthene	U		0.0000896	0.00100	0.00100	1	10/09/2018 00:41	WG1177409
Benzo(k)fluoranthene	U		0.000355	0.00100	0.00100	1	10/09/2018 00:41	WG1177409
Benzo(g,h,i)perylene	U		0.00000227	0.00100	0.00100	1	10/09/2018 00:41	WG1177409
Benzo(a)pyrene	U		0.0000381	0.000200	0.000200	1	10/09/2018 00:41	WG1177409
Biphenyl	U		0.000325	0.0100	0.0100	1	10/09/2018 00:41	WG1177409
Bis(2-chlorethoxy)methane	U		0.000329	0.0100	0.0100	1	10/09/2018 00:41	WG1177409
Bis(2-chloroethyl)ether	U		0.00162	0.0100	0.0100	1	10/09/2018 00:41	WG1177409
Bis(2-chloroisopropyl)ether	U		0.000445	0.0100	0.0100	1	10/09/2018 00:41	WG1177409
4-Bromophenyl-phenylether	U		0.000335	0.0100	0.0100	1	10/09/2018 00:41	WG1177409
2-Chloronaphthalene	U		0.000330	0.00100	0.00100	1	10/09/2018 00:41	WG1177409
4-Chlorophenyl-phenylether	U		0.000303	0.0100	0.0100	1	10/09/2018 00:41	WG1177409
Caprolactam	U		0.00259	0.0100	0.0100	1	10/09/2018 00:41	WG1177409
Carbazole	U		0.000260	0.0100	0.0100	1	10/09/2018 00:41	WG1177409
Chrysene	U		0.000332	0.00100	0.00100	1	10/09/2018 00:41	WG1177409
Dibenz(a,h)anthracene	U		0.0000644	0.000200	0.000200	1	10/09/2018 00:41	WG1177409
Dibenzofuran	U		0.000338	0.0100	0.0100	1	10/09/2018 00:41	WG1177409
3,3-Dichlorobenzidine	U		0.00202	0.0100	0.0100	1	10/09/2018 00:41	WG1177409
2,4-Dinitrotoluene	U		0.00165	0.0100	0.0100	1	10/09/2018 00:41	WG1177409
2,6-Dinitrotoluene	U		0.000279	0.0100	0.0100	1	10/09/2018 00:41	WG1177409
Fluoranthene	U		0.000310	0.00100	0.00100	1	10/09/2018 00:41	WG1177409
Fluorene	U		0.000323	0.00100	0.00100	1	10/09/2018 00:41	WG1177409
Hexachlorobenzene	U		0.000341	0.00100	0.00100	1	10/09/2018 00:41	WG1177409
Hexachloro-1,3-butadiene	U		0.000329	0.0100	0.0100	1	10/09/2018 00:41	WG1177409
Hexachlorocyclopentadiene	U		0.00233	0.0100	0.0100	1	10/09/2018 00:41	WG1177409
Hexachloroethane	U		0.000365	0.0100	0.0100	1	10/09/2018 00:41	WG1177409
Indeno(1,2,3-cd)pyrene	U		0.000279	0.00100	0.00100	1	10/09/2018 00:41	WG1177409
Isophorone	U		0.000272	0.0100	0.0100	1	10/09/2018 00:41	WG1177409
1-Methylnaphthalene	U		0.000332	0.00100	0.00100	1	10/09/2018 00:41	WG1177409
2-Methylnaphthalene	U		0.000311	0.00100	0.00100	1	10/09/2018 00:41	WG1177409
Naphthalene	U		0.000372	0.00100	0.00100	1	10/09/2018 00:41	WG1177409
Nitrobenzene	U		0.000367	0.0100	0.0100	1	10/09/2018 00:41	WG1177409
n-Nitrosodiphenylamine	U		0.00119	0.0100	0.0100	1	10/09/2018 00:41	WG1177409
n-Nitrosodi-n-propylamine	U		0.000403	0.0100	0.0100	1	10/09/2018 00:41	WG1177409
Phenanthrene	U		0.000366	0.00100	0.00100	1	10/09/2018 00:41	WG1177409
Benzylbutyl phthalate	U	J4	0.000275	0.00300	0.00300	1	10/09/2018 00:41	WG1177409
Bis(2-ethylhexyl)phthalate	U		0.000709	0.00300	0.00300	1	10/09/2018 00:41	WG1177409
Di-n-butyl phthalate	U		0.000266	0.00300	0.00300	1	10/09/2018 00:41	WG1177409
Diethyl phthalate	U	J4	0.000282	0.00300	0.00300	1	10/09/2018 00:41	WG1177409
Dimethyl phthalate	U	J4	0.000283	0.00300	0.00300	1	10/09/2018 00:41	WG1177409
Di-n-octyl phthalate	U		0.000278	0.00300	0.00300	1	10/09/2018 00:41	WG1177409
Pyrene	U		0.000330	0.00100	0.00100	1	10/09/2018 00:41	WG1177409
1,2,4-Trichlorobenzene	U		0.000355	0.0100	0.0100	1	10/09/2018 00:41	WG1177409
4-Chloro-3-methylphenol	U		0.000263	0.0100	0.0100	1	10/09/2018 00:41	WG1177409

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc



Collected date/time: 10/01/18 10:30

L1030903

Semi Volatile Organic Compounds (GC/MS) by Method 8270 C

Analyte	Result mg/l	Qualifier	SDL mg/l	Unadj. MQL mg/l	MQL mg/l	Dilution	Analysis date / time	Batch
2-Chlorophenol	U		0.000283	0.0100	0.0100	1	10/09/2018 00:41	WG1177409
2,4-Dichlorophenol	U	J3	0.000284	0.0100	0.0100	1	10/09/2018 00:41	WG1177409
2,4-Dimethylphenol	U		0.000624	0.0100	0.0100	1	10/09/2018 00:41	WG1177409
4,6-Dinitro-2-methylphenol	U	J3 J4	0.00262	0.0100	0.0100	1	10/09/2018 00:41	WG1177409
2,4-Dinitrophenol	U		0.00325	0.0100	0.0100	1	10/09/2018 00:41	WG1177409
2-Nitrophenol	U	J3	0.000320	0.0100	0.0100	1	10/09/2018 00:41	WG1177409
2-Nitroaniline	U		0.00190	0.0100	0.0100	1	10/09/2018 00:41	WG1177409
2-Methylphenol	U		0.000312	0.0100	0.0100	1	10/09/2018 00:41	WG1177409
3&4-Methyl Phenol	U		0.000266	0.0100	0.0100	1	10/09/2018 00:41	WG1177409
3-Nitroaniline	U		0.000308	0.0100	0.0100	1	10/09/2018 00:41	WG1177409
4-Chloroaniline	U		0.000382	0.0100	0.0100	1	10/09/2018 00:41	WG1177409
4-Nitroaniline	U		0.000349	0.0100	0.0100	1	10/09/2018 00:41	WG1177409
4-Nitrophenol	U	J3 J4	0.00201	0.0100	0.0100	1	10/09/2018 00:41	WG1177409
Pentachlorophenol	U	J3 J4	0.000313	0.0100	0.0100	1	10/09/2018 00:41	WG1177409
Phenol	0.00459	J	0.000334	0.0100	0.0100	1	10/09/2018 00:41	WG1177409
2,4,5-Trichlorophenol	U	J3 J4	0.000236	0.0100	0.0100	1	10/09/2018 00:41	WG1177409
2,4,6-Trichlorophenol	U	J3 J4	0.000297	0.0100	0.0100	1	10/09/2018 00:41	WG1177409
(S) 2-Fluorophenol	35.4				10.0-120		10/09/2018 00:41	WG1177409
(S) Phenol-d5	22.3				10.0-120		10/09/2018 00:41	WG1177409
(S) Nitrobenzene-d5	34.8				10.0-127		10/09/2018 00:41	WG1177409
(S) 2-Fluorobiphenyl	44.6				10.0-130		10/09/2018 00:41	WG1177409
(S) 2,4,6-Tribromophenol	34.9				10.0-155		10/09/2018 00:41	WG1177409
(S) p-Terphenyl-d14	52.1				10.0-128		10/09/2018 00:41	WG1177409

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc



Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	SDL	Unadj. MQL	MQL	Dilution	Analysis date / time	Batch
Dissolved Solids	1170		5.64	20.0	20.0	1	10/08/2018 17:25	WG1176738

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc

Wet Chemistry by Method 2320 B-2011

Analyte	Result	Qualifier	SDL	Unadj. MQL	MQL	Dilution	Analysis date / time	Batch
Alkalinity	849		2.71	20.0	20.0	1	10/09/2018 20:18	WG1177314

Sample Narrative:

L1030903-31 WG1177314: Endpoint pH 4.5 HEADSPACE

Wet Chemistry by Method 353.2

Analyte	Result	Qualifier	SDL	Unadj. MQL	MQL	Dilution	Analysis date / time	Batch
Nitrate-Nitrite	U		0.0197	0.100	0.100	1	10/09/2018 14:21	WG1177681

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	SDL	Unadj. MQL	MQL	Dilution	Analysis date / time	Batch
Chloride	118		0.260	1.00	5.00	5	10/05/2018 00:59	WG1174945
Fluoride	0.859	J6	0.00990	0.100	0.100	1	10/05/2018 00:17	WG1174945
Sulfate	13.8	J6	0.0774	5.00	5.00	1	10/05/2018 00:17	WG1174945

Mercury by Method 7470A

Analyte	Result	Qualifier	SDL	Unadj. MQL	MQL	Dilution	Analysis date / time	Batch
Mercury	U		0.0000490	0.000200	0.000200	1	10/05/2018 08:41	WG1174917

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	SDL	Unadj. MQL	MQL	Dilution	Analysis date / time	Batch
Boron,Dissolved	0.194	J	0.0126	0.200	0.200	1	10/08/2018 03:58	WG1174847

Metals (ICPMS) by Method 6020

Analyte	Result	Qualifier	SDL	Unadj. MQL	MQL	Dilution	Analysis date / time	Batch
Aluminum,Dissolved	0.00613	J	0.00515	0.100	0.100	1	10/08/2018 18:07	WG1174849
Arsenic,Dissolved	0.00411		0.000250	0.00200	0.00200	1	10/08/2018 18:07	WG1174849
Barium,Dissolved	0.481		0.000360	0.00500	0.00500	1	10/08/2018 18:07	WG1174849
Cadmium,Dissolved	U		0.000160	0.00100	0.00100	1	10/08/2018 18:07	WG1174849
Chromium,Dissolved	U		0.000540	0.00200	0.00200	1	10/08/2018 18:07	WG1174849
Copper,Dissolved	U		0.000520	0.00500	0.00500	1	10/08/2018 18:07	WG1174849
Cobalt,Dissolved	U		0.000260	0.00200	0.00200	1	10/08/2018 18:07	WG1174849
Iron,Dissolved	0.0186	J	0.0150	0.100	0.100	1	10/08/2018 18:07	WG1174849
Lead,Dissolved	U		0.000240	0.00200	0.00200	1	10/08/2018 18:07	WG1174849
Manganese,Dissolved	1.79	V	0.000250	0.00500	0.00500	1	10/08/2018 18:07	WG1174849
Molybdenum,Dissolved	0.000602	J	0.000140	0.00500	0.00500	1	10/08/2018 18:07	WG1174849
Nickel,Dissolved	0.00312		0.000350	0.00200	0.00200	1	10/08/2018 18:07	WG1174849
Selenium,Dissolved	U		0.000380	0.00200	0.00200	1	10/08/2018 18:07	WG1174849
Silver,Dissolved	U		0.000310	0.00200	0.00200	1	10/08/2018 18:07	WG1174849
Uranium,Dissolved	0.00829	J	0.000330	0.0100	0.0100	1	10/08/2018 18:07	WG1174849
Zinc,Dissolved	U		0.00256	0.0250	0.0250	1	10/08/2018 18:07	WG1174849



Collected date/time: 10/01/18 08:55

L1030903

Volatile Organic Compounds (GC) by Method 8015D/GRO

Analyte	Result mg/l	Qualifier	SDL mg/l	Unadj. MQL mg/l	MQL mg/l	Dilution	Analysis date / time	Batch
TPH (GC/FID) Low Fraction	0.215		0.0314	0.100	0.100	1	10/08/2018 01:54	WG1177421
(S) a,a,a-Trifluorotoluene(FID)	97.4				78.0-120		10/08/2018 01:54	WG1177421

Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result mg/l	Qualifier	SDL mg/l	Unadj. MQL mg/l	MQL mg/l	Dilution	Analysis date / time	Batch
Acetone	U		0.0100	1.00	1.00	1	10/03/2018 20:05	WG1175099
Benzene	U		0.000331	0.00100	0.00100	1	10/03/2018 20:05	WG1175099
Bromodichloromethane	U		0.000380	0.00125	0.00125	1	10/03/2018 20:05	WG1175099
Bromoform	U		0.000469	0.00100	0.00100	1	10/03/2018 20:05	WG1175099
Bromomethane	U		0.000866	0.00500	0.00500	1	10/03/2018 20:05	WG1175099
n-Butylbenzene	U		0.000361	0.00100	0.00100	1	10/03/2018 20:05	WG1175099
sec-Butylbenzene	0.00183		0.000365	0.00100	0.00100	1	10/03/2018 20:05	WG1175099
tert-Butylbenzene	U		0.000399	0.00100	0.00100	1	10/03/2018 20:05	WG1175099
Carbon disulfide	U		0.000275	0.00100	0.00100	1	10/03/2018 20:05	WG1175099
Carbon tetrachloride	U		0.000379	0.00100	0.00100	1	10/03/2018 20:05	WG1175099
Chlorobenzene	U		0.000348	0.00100	0.00100	1	10/03/2018 20:05	WG1175099
Chlorodibromomethane	U		0.000327	0.00100	0.00100	1	10/03/2018 20:05	WG1175099
Chloroethane	U		0.000453	0.00500	0.00500	1	10/03/2018 20:05	WG1175099
Chloroform	U		0.000324	0.00500	0.00500	1	10/03/2018 20:05	WG1175099
Chloromethane	U		0.000276	0.00250	0.00250	1	10/03/2018 20:05	WG1175099
1,2-Dibromoethane	U		0.000381	0.00100	0.00100	1	10/03/2018 20:05	WG1175099
1,1-Dichloroethane	U		0.000259	0.00100	0.00100	1	10/03/2018 20:05	WG1175099
1,2-Dichloroethane	U		0.000361	0.00100	0.00100	1	10/03/2018 20:05	WG1175099
1,1-Dichloroethene	U		0.000398	0.00100	0.00100	1	10/03/2018 20:05	WG1175099
cis-1,2-Dichloroethene	U		0.000260	0.00100	0.00100	1	10/03/2018 20:05	WG1175099
trans-1,2-Dichloroethene	U		0.000396	0.00100	0.00100	1	10/03/2018 20:05	WG1175099
1,2-Dichloropropane	U		0.000306	0.00100	0.00100	1	10/03/2018 20:05	WG1175099
cis-1,3-Dichloropropene	U		0.000418	0.00100	0.00100	1	10/03/2018 20:05	WG1175099
trans-1,3-Dichloropropene	U		0.000419	0.00100	0.00100	1	10/03/2018 20:05	WG1175099
Ethylbenzene	U		0.000384	0.00100	0.00100	1	10/03/2018 20:05	WG1175099
Hexachloro-1,3-butadiene	U		0.000256	0.00100	0.00100	1	10/03/2018 20:05	WG1175099
2-Hexanone	U		0.00382	0.0100	0.0100	1	10/03/2018 20:05	WG1175099
Isopropylbenzene	0.0195		0.000326	0.00100	0.00100	1	10/03/2018 20:05	WG1175099
p-Isopropyltoluene	U		0.000350	0.00100	0.00100	1	10/03/2018 20:05	WG1175099
2-Butanone (MEK)	U		0.00393	0.0100	0.0100	1	10/03/2018 20:05	WG1175099
Methylene Chloride	U		0.00100	0.00500	0.00500	1	10/03/2018 20:05	WG1175099
4-Methyl-2-pentanone (MIBK)	U		0.00214	0.0100	0.0100	1	10/03/2018 20:05	WG1175099
Methyl tert-butyl ether	U		0.000367	0.00100	0.00100	1	10/03/2018 20:05	WG1175099
Naphthalene	U		0.00100	0.00500	0.00500	1	10/03/2018 20:05	WG1175099
n-Propylbenzene	0.000951	J	0.000349	0.00100	0.00100	1	10/03/2018 20:05	WG1175099
Styrene	U		0.000307	0.00100	0.00100	1	10/03/2018 20:05	WG1175099
1,1,2,2-Tetrachloroethane	U		0.000130	0.00100	0.00100	1	10/03/2018 20:05	WG1175099
Tetrachloroethene	U		0.000372	0.00100	0.00100	1	10/03/2018 20:05	WG1175099
Toluene	U		0.000412	0.00100	0.00100	1	10/03/2018 20:05	WG1175099
1,1,1-Trichloroethane	U		0.000319	0.00100	0.00100	1	10/03/2018 20:05	WG1175099
1,1,2-Trichloroethane	U		0.000383	0.00100	0.00100	1	10/03/2018 20:05	WG1175099
Trichloroethene	U		0.000398	0.00100	0.00100	1	10/03/2018 20:05	WG1175099
1,2,4-Trimethylbenzene	U		0.000373	0.00100	0.00100	1	10/03/2018 20:05	WG1175099
1,3,5-Trimethylbenzene	U		0.000387	0.00100	0.00100	1	10/03/2018 20:05	WG1175099
Vinyl chloride	U		0.000259	0.00100	0.00100	1	10/03/2018 20:05	WG1175099
Xylenes, Total	U		0.00106	0.00300	0.00300	1	10/03/2018 20:05	WG1175099
(S) Toluene-d8	111				80.0-120		10/03/2018 20:05	WG1175099
(S) Dibromofluoromethane	91.6				75.0-120		10/03/2018 20:05	WG1175099
(S) 4-Bromofluorobenzene	104				77.0-126		10/03/2018 20:05	WG1175099

1 Cp
2 Tc
3 Ss
4 Cn
5 Sr
6 Qc
7 Gl
8 Al
9 Sc



Collected date/time: 10/01/18 08:55

L1030903

Semi-Volatile Organic Compounds (GC) by Method 3511/8015

Analyte	Result mg/l	Qualifier	SDL mg/l	Unadj. MQL mg/l	MQL mg/l	Dilution	Analysis date / time	Batch
TPH (GC/FID) High Fraction	0.133		0.0247	0.100	0.100	1	10/08/2018 15:24	WG1177385
(S) o-Terphenyl	70.5				31.0-160		10/08/2018 15:24	WG1177385

Semi Volatile Organic Compounds (GC/MS) by Method 8270 C

Analyte	Result mg/l	Qualifier	SDL mg/l	Unadj. MQL mg/l	MQL mg/l	Dilution	Analysis date / time	Batch
Acenaphthene	U		0.000316	0.00100	0.00100	1	10/08/2018 20:21	WG1177409
Acenaphthylene	U		0.000309	0.00100	0.00100	1	10/08/2018 20:21	WG1177409
Acetophenone	U		0.00247	0.0100	0.0100	1	10/08/2018 20:21	WG1177409
Anthracene	U		0.000291	0.00100	0.00100	1	10/08/2018 20:21	WG1177409
Atrazine	U		0.000260	0.0100	0.0100	1	10/08/2018 20:21	WG1177409
Benzo(a)anthracene	U		0.0000510	0.00100	0.00100	1	10/08/2018 20:21	WG1177409
Benzaldehyde	U		0.00140	0.0100	0.0100	1	10/08/2018 20:21	WG1177409
Benzo(b)fluoranthene	U		0.0000896	0.00100	0.00100	1	10/08/2018 20:21	WG1177409
Benzo(k)fluoranthene	U		0.000355	0.00100	0.00100	1	10/08/2018 20:21	WG1177409
Benzo(g,h,i)perylene	U		0.00000227	0.00100	0.00100	1	10/08/2018 20:21	WG1177409
Benzo(a)pyrene	U		0.0000381	0.000200	0.000200	1	10/08/2018 20:21	WG1177409
Biphenyl	U		0.000325	0.0100	0.0100	1	10/08/2018 20:21	WG1177409
Bis(2-chlorethoxy)methane	U		0.000329	0.0100	0.0100	1	10/08/2018 20:21	WG1177409
Bis(2-chloroethyl)ether	U		0.00162	0.0100	0.0100	1	10/08/2018 20:21	WG1177409
Bis(2-chloroisopropyl)ether	U		0.000445	0.0100	0.0100	1	10/08/2018 20:21	WG1177409
4-Bromophenyl-phenylether	U		0.000335	0.0100	0.0100	1	10/08/2018 20:21	WG1177409
2-Chloronaphthalene	U		0.000330	0.00100	0.00100	1	10/08/2018 20:21	WG1177409
4-Chlorophenyl-phenylether	U		0.000303	0.0100	0.0100	1	10/08/2018 20:21	WG1177409
Caprolactam	U	J6	0.00259	0.0100	0.0100	1	10/08/2018 20:21	WG1177409
Carbazole	U		0.000260	0.0100	0.0100	1	10/08/2018 20:21	WG1177409
Chrysene	U		0.000332	0.00100	0.00100	1	10/08/2018 20:21	WG1177409
Dibenz(a,h)anthracene	U		0.0000644	0.000200	0.000200	1	10/08/2018 20:21	WG1177409
Dibenzofuran	U		0.000338	0.0100	0.0100	1	10/08/2018 20:21	WG1177409
3,3-Dichlorobenzidine	U	J3	0.00202	0.0100	0.0100	1	10/08/2018 20:21	WG1177409
2,4-Dinitrotoluene	U		0.00165	0.0100	0.0100	1	10/08/2018 20:21	WG1177409
2,6-Dinitrotoluene	U		0.000279	0.0100	0.0100	1	10/08/2018 20:21	WG1177409
Fluoranthene	U		0.000310	0.00100	0.00100	1	10/08/2018 20:21	WG1177409
Fluorene	U		0.000323	0.00100	0.00100	1	10/08/2018 20:21	WG1177409
Hexachlorobenzene	U		0.000341	0.00100	0.00100	1	10/08/2018 20:21	WG1177409
Hexachloro-1,3-butadiene	U		0.000329	0.0100	0.0100	1	10/08/2018 20:21	WG1177409
Hexachlorocyclopentadiene	U		0.00233	0.0100	0.0100	1	10/08/2018 20:21	WG1177409
Hexachloroethane	U		0.000365	0.0100	0.0100	1	10/08/2018 20:21	WG1177409
Indeno(1,2,3-cd)pyrene	U		0.000279	0.00100	0.00100	1	10/08/2018 20:21	WG1177409
Isophorone	U		0.000272	0.0100	0.0100	1	10/08/2018 20:21	WG1177409
1-Methylnaphthalene	U		0.000332	0.00100	0.00100	1	10/08/2018 20:21	WG1177409
2-Methylnaphthalene	U		0.000311	0.00100	0.00100	1	10/08/2018 20:21	WG1177409
Naphthalene	U		0.000372	0.00100	0.00100	1	10/08/2018 20:21	WG1177409
Nitrobenzene	U		0.000367	0.0100	0.0100	1	10/08/2018 20:21	WG1177409
n-Nitrosodiphenylamine	U		0.00119	0.0100	0.0100	1	10/08/2018 20:21	WG1177409
n-Nitrosodi-n-propylamine	U		0.000403	0.0100	0.0100	1	10/08/2018 20:21	WG1177409
Phenanthrene	U		0.000366	0.00100	0.00100	1	10/08/2018 20:21	WG1177409
Benzylbutyl phthalate	U	J4	0.000275	0.00300	0.00300	1	10/08/2018 20:21	WG1177409
Bis(2-ethylhexyl)phthalate	U		0.000709	0.00300	0.00300	1	10/08/2018 20:21	WG1177409
Di-n-butyl phthalate	U		0.000266	0.00300	0.00300	1	10/08/2018 20:21	WG1177409
Diethyl phthalate	U	J4	0.000282	0.00300	0.00300	1	10/08/2018 20:21	WG1177409
Dimethyl phthalate	U	J4	0.000283	0.00300	0.00300	1	10/08/2018 20:21	WG1177409
Di-n-octyl phthalate	U		0.000278	0.00300	0.00300	1	10/08/2018 20:21	WG1177409
Pyrene	U		0.000330	0.00100	0.00100	1	10/08/2018 20:21	WG1177409
1,2,4-Trichlorobenzene	U		0.000355	0.0100	0.0100	1	10/08/2018 20:21	WG1177409
4-Chloro-3-methylphenol	U		0.000263	0.0100	0.0100	1	10/08/2018 20:21	WG1177409

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc



Collected date/time: 10/01/18 08:55

L1030903

Semi Volatile Organic Compounds (GC/MS) by Method 8270 C

Analyte	Result mg/l	Qualifier	SDL mg/l	Unadj. MQL mg/l	MQL mg/l	Dilution	Analysis date / time	Batch
2-Chlorophenol	U		0.000283	0.0100	0.0100	1	10/08/2018 20:21	WG1177409
2,4-Dichlorophenol	U		0.000284	0.0100	0.0100	1	10/08/2018 20:21	WG1177409
2,4-Dimethylphenol	U		0.000624	0.0100	0.0100	1	10/08/2018 20:21	WG1177409
4,6-Dinitro-2-methylphenol	U	J4	0.00262	0.0100	0.0100	1	10/08/2018 20:21	WG1177409
2,4-Dinitrophenol	U		0.00325	0.0100	0.0100	1	10/08/2018 20:21	WG1177409
2-Nitrophenol	U		0.000320	0.0100	0.0100	1	10/08/2018 20:21	WG1177409
2-Nitroaniline	U		0.00190	0.0100	0.0100	1	10/08/2018 20:21	WG1177409
2-Methylphenol	U		0.000312	0.0100	0.0100	1	10/08/2018 20:21	WG1177409
3&4-Methyl Phenol	U		0.000266	0.0100	0.0100	1	10/08/2018 20:21	WG1177409
3-Nitroaniline	U	J3	0.000308	0.0100	0.0100	1	10/08/2018 20:21	WG1177409
4-Chloroaniline	U	J3	0.000382	0.0100	0.0100	1	10/08/2018 20:21	WG1177409
4-Nitroaniline	U		0.000349	0.0100	0.0100	1	10/08/2018 20:21	WG1177409
4-Nitrophenol	U	J4	0.00201	0.0100	0.0100	1	10/08/2018 20:21	WG1177409
Pentachlorophenol	U	J4	0.000313	0.0100	0.0100	1	10/08/2018 20:21	WG1177409
Phenol	0.00271	J	0.000334	0.0100	0.0100	1	10/08/2018 20:21	WG1177409
2,4,5-Trichlorophenol	U	J4	0.000236	0.0100	0.0100	1	10/08/2018 20:21	WG1177409
2,4,6-Trichlorophenol	U	J4	0.000297	0.0100	0.0100	1	10/08/2018 20:21	WG1177409
(S) 2-Fluorophenol	24.6				10.0-120		10/08/2018 20:21	WG1177409
(S) Phenol-d5	19.7				10.0-120		10/08/2018 20:21	WG1177409
(S) Nitrobenzene-d5	53.0				10.0-127		10/08/2018 20:21	WG1177409
(S) 2-Fluorobiphenyl	57.7				10.0-130		10/08/2018 20:21	WG1177409
(S) 2,4,6-Tribromophenol	19.3				10.0-155		10/08/2018 20:21	WG1177409
(S) p-Terphenyl-d14	61.9				10.0-128		10/08/2018 20:21	WG1177409

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc



Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	SDL	Unadj. MQL	MQL	Dilution	Analysis date / time	Batch
Dissolved Solids	573		2.82	10.0	10.0	1	10/08/2018 17:25	WG1176738

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

Wet Chemistry by Method 2320 B-2011

Analyte	Result	Qualifier	SDL	Unadj. MQL	MQL	Dilution	Analysis date / time	Batch
Alkalinity	175		2.71	20.0	20.0	1	10/09/2018 20:24	WG1177314

Sample Narrative:

L1030903-32 WG1177314: Endpoint pH 4.5 HEADSPACE

6 Qc

Wet Chemistry by Method 353.2

Analyte	Result	Qualifier	SDL	Unadj. MQL	MQL	Dilution	Analysis date / time	Batch
Nitrate-Nitrite	3.11		0.0394	0.100	0.200	2	10/09/2018 14:26	WG1177681

7 Gl

8 Al

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	SDL	Unadj. MQL	MQL	Dilution	Analysis date / time	Batch
Chloride	121		0.260	1.00	5.00	5	10/05/2018 01:54	WG1174945
Fluoride	0.797		0.00990	0.100	0.100	1	10/05/2018 01:12	WG1174945
Sulfate	79.9		0.0774	5.00	5.00	1	10/05/2018 01:12	WG1174945

9 Sc

Mercury by Method 7470A

Analyte	Result	Qualifier	SDL	Unadj. MQL	MQL	Dilution	Analysis date / time	Batch
Mercury	U		0.0000490	0.000200	0.000200	1	10/05/2018 09:15	WG1174917

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	SDL	Unadj. MQL	MQL	Dilution	Analysis date / time	Batch
Boron,Dissolved	0.128	J	0.0126	0.200	0.200	1	10/08/2018 04:36	WG1174847

Metals (ICPMS) by Method 6020

Analyte	Result	Qualifier	SDL	Unadj. MQL	MQL	Dilution	Analysis date / time	Batch
Aluminum,Dissolved	0.00570	J	0.00515	0.100	0.100	1	10/08/2018 18:52	WG1174849
Arsenic,Dissolved	0.00632		0.000250	0.00200	0.00200	1	10/08/2018 18:52	WG1174849
Barium,Dissolved	0.112		0.000360	0.00500	0.00500	1	10/08/2018 18:52	WG1174849
Cadmium,Dissolved	U		0.000160	0.00100	0.00100	1	10/08/2018 18:52	WG1174849
Chromium,Dissolved	0.00116	J	0.000540	0.00200	0.00200	1	10/08/2018 18:52	WG1174849
Copper,Dissolved	0.00233	J	0.000520	0.00500	0.00500	1	10/08/2018 18:52	WG1174849
Cobalt,Dissolved	U		0.000260	0.00200	0.00200	1	10/08/2018 18:52	WG1174849
Iron,Dissolved	U		0.0150	0.100	0.100	1	10/08/2018 18:52	WG1174849
Lead,Dissolved	0.000674	B J	0.000240	0.00200	0.00200	1	10/08/2018 18:52	WG1174849
Manganese,Dissolved	0.00161	J	0.000250	0.00500	0.00500	1	10/08/2018 18:52	WG1174849
Molybdenum,Dissolved	0.00302	J	0.000140	0.00500	0.00500	1	10/08/2018 18:52	WG1174849
Nickel,Dissolved	0.000651	J	0.000350	0.00200	0.00200	1	10/08/2018 18:52	WG1174849
Selenium,Dissolved	0.00409		0.000380	0.00200	0.00200	1	10/08/2018 18:52	WG1174849
Silver,Dissolved	U		0.000310	0.00200	0.00200	1	10/08/2018 18:52	WG1174849
Uranium,Dissolved	0.00177	J	0.000330	0.0100	0.0100	1	10/08/2018 18:52	WG1174849
Zinc,Dissolved	0.00386	J	0.00256	0.0250	0.0250	1	10/08/2018 18:52	WG1174849



Volatile Organic Compounds (GC) by Method 8015D/GRO

Analyte	Result mg/l	Qualifier	SDL mg/l	Unadj. MQL mg/l	MQL mg/l	Dilution	Analysis date / time	Batch
TPH (GC/FID) Low Fraction	U		0.0314	0.100	0.100	1	10/06/2018 21:00	WG1176966
(S) a,a,a-Trifluorotoluene(FID)	107				78.0-120		10/06/2018 21:00	WG1176966

Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result mg/l	Qualifier	SDL mg/l	Unadj. MQL mg/l	MQL mg/l	Dilution	Analysis date / time	Batch
Acetone	U		0.0100	1.00	1.00	1	10/03/2018 16:16	WG1175099
Benzene	U		0.000331	0.00100	0.00100	1	10/03/2018 16:16	WG1175099
Bromodichloromethane	U		0.000380	0.00125	0.00125	1	10/03/2018 16:16	WG1175099
Bromoform	U		0.000469	0.00100	0.00100	1	10/03/2018 16:16	WG1175099
Bromomethane	U		0.000866	0.00500	0.00500	1	10/03/2018 16:16	WG1175099
n-Butylbenzene	U		0.000361	0.00100	0.00100	1	10/03/2018 16:16	WG1175099
sec-Butylbenzene	U		0.000365	0.00100	0.00100	1	10/03/2018 16:16	WG1175099
tert-Butylbenzene	U		0.000399	0.00100	0.00100	1	10/03/2018 16:16	WG1175099
Carbon disulfide	U		0.000275	0.00100	0.00100	1	10/03/2018 16:16	WG1175099
Carbon tetrachloride	U		0.000379	0.00100	0.00100	1	10/03/2018 16:16	WG1175099
Chlorobenzene	U		0.000348	0.00100	0.00100	1	10/03/2018 16:16	WG1175099
Chlorodibromomethane	U		0.000327	0.00100	0.00100	1	10/03/2018 16:16	WG1175099
Chloroethane	U		0.000453	0.00500	0.00500	1	10/03/2018 16:16	WG1175099
Chloroform	U		0.000324	0.00500	0.00500	1	10/03/2018 16:16	WG1175099
Chloromethane	U		0.000276	0.00250	0.00250	1	10/03/2018 16:16	WG1175099
1,2-Dibromoethane	U		0.000381	0.00100	0.00100	1	10/03/2018 16:16	WG1175099
1,1-Dichloroethane	U		0.000259	0.00100	0.00100	1	10/03/2018 16:16	WG1175099
1,2-Dichloroethane	U		0.000361	0.00100	0.00100	1	10/03/2018 16:16	WG1175099
1,1-Dichloroethene	U		0.000398	0.00100	0.00100	1	10/03/2018 16:16	WG1175099
cis-1,2-Dichloroethene	U		0.000260	0.00100	0.00100	1	10/03/2018 16:16	WG1175099
trans-1,2-Dichloroethene	U		0.000396	0.00100	0.00100	1	10/03/2018 16:16	WG1175099
1,2-Dichloropropane	U		0.000306	0.00100	0.00100	1	10/03/2018 16:16	WG1175099
cis-1,3-Dichloropropene	U		0.000418	0.00100	0.00100	1	10/03/2018 16:16	WG1175099
trans-1,3-Dichloropropene	U		0.000419	0.00100	0.00100	1	10/03/2018 16:16	WG1175099
Ethylbenzene	U		0.000384	0.00100	0.00100	1	10/03/2018 16:16	WG1175099
Hexachloro-1,3-butadiene	U		0.000256	0.00100	0.00100	1	10/03/2018 16:16	WG1175099
2-Hexanone	U		0.00382	0.0100	0.0100	1	10/03/2018 16:16	WG1175099
Isopropylbenzene	U		0.000326	0.00100	0.00100	1	10/03/2018 16:16	WG1175099
p-Isopropyltoluene	U		0.000350	0.00100	0.00100	1	10/03/2018 16:16	WG1175099
2-Butanone (MEK)	U		0.00393	0.0100	0.0100	1	10/03/2018 16:16	WG1175099
Methylene Chloride	U		0.00100	0.00500	0.00500	1	10/03/2018 16:16	WG1175099
4-Methyl-2-pentanone (MIBK)	U		0.00214	0.0100	0.0100	1	10/03/2018 16:16	WG1175099
Methyl tert-butyl ether	U		0.000367	0.00100	0.00100	1	10/03/2018 16:16	WG1175099
Naphthalene	U		0.00100	0.00500	0.00500	1	10/03/2018 16:16	WG1175099
n-Propylbenzene	U		0.000349	0.00100	0.00100	1	10/03/2018 16:16	WG1175099
Styrene	U		0.000307	0.00100	0.00100	1	10/03/2018 16:16	WG1175099
1,1,2,2-Tetrachloroethane	U		0.000130	0.00100	0.00100	1	10/03/2018 16:16	WG1175099
Tetrachloroethene	U		0.000372	0.00100	0.00100	1	10/03/2018 16:16	WG1175099
Toluene	U		0.000412	0.00100	0.00100	1	10/03/2018 16:16	WG1175099
1,1,1-Trichloroethane	U		0.000319	0.00100	0.00100	1	10/03/2018 16:16	WG1175099
1,1,2-Trichloroethane	U		0.000383	0.00100	0.00100	1	10/03/2018 16:16	WG1175099
Trichloroethene	U		0.000398	0.00100	0.00100	1	10/03/2018 16:16	WG1175099
1,2,4-Trimethylbenzene	U		0.000373	0.00100	0.00100	1	10/03/2018 16:16	WG1175099
1,3,5-Trimethylbenzene	U		0.000387	0.00100	0.00100	1	10/03/2018 16:16	WG1175099
Vinyl chloride	U		0.000259	0.00100	0.00100	1	10/03/2018 16:16	WG1175099
Xylenes, Total	U		0.00106	0.00300	0.00300	1	10/03/2018 16:16	WG1175099
(S) Toluene-d8	109				80.0-120		10/03/2018 16:16	WG1175099
(S) Dibromofluoromethane	89.9				75.0-120		10/03/2018 16:16	WG1175099
(S) 4-Bromofluorobenzene	101				77.0-126		10/03/2018 16:16	WG1175099

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc



Semi-Volatile Organic Compounds (GC) by Method 3511/8015

Analyte	Result mg/l	Qualifier	SDL mg/l	Unadj. MQL mg/l	MQL mg/l	Dilution	Analysis date / time	Batch
TPH (GC/FID) High Fraction	0.0354	J	0.0247	0.100	0.100	1	10/08/2018 16:25	WG1177385
(S) o-Terphenyl	65.3				31.0-160		10/08/2018 16:25	WG1177385

Semi Volatile Organic Compounds (GC/MS) by Method 8270 C

Analyte	Result mg/l	Qualifier	SDL mg/l	Unadj. MQL mg/l	MQL mg/l	Dilution	Analysis date / time	Batch
Acenaphthene	U		0.000316	0.00100	0.00100	1	10/09/2018 01:05	WG1177409
Acenaphthylene	U		0.000309	0.00100	0.00100	1	10/09/2018 01:05	WG1177409
Acetophenone	U		0.00247	0.0100	0.0100	1	10/09/2018 01:05	WG1177409
Anthracene	U		0.000291	0.00100	0.00100	1	10/09/2018 01:05	WG1177409
Atrazine	U		0.000260	0.0100	0.0100	1	10/09/2018 01:05	WG1177409
Benzo(a)anthracene	U		0.0000510	0.00100	0.00100	1	10/09/2018 01:05	WG1177409
Benzaldehyde	U		0.00140	0.0100	0.0100	1	10/09/2018 01:05	WG1177409
Benzo(b)fluoranthene	U		0.0000896	0.00100	0.00100	1	10/09/2018 01:05	WG1177409
Benzo(k)fluoranthene	U		0.000355	0.00100	0.00100	1	10/09/2018 01:05	WG1177409
Benzo(g,h,i)perylene	U		0.00000227	0.00100	0.00100	1	10/09/2018 01:05	WG1177409
Benzo(a)pyrene	U		0.0000381	0.000200	0.000200	1	10/09/2018 01:05	WG1177409
Biphenyl	U		0.000325	0.0100	0.0100	1	10/09/2018 01:05	WG1177409
Bis(2-chlorethoxy)methane	U		0.000329	0.0100	0.0100	1	10/09/2018 01:05	WG1177409
Bis(2-chloroethyl)ether	U		0.00162	0.0100	0.0100	1	10/09/2018 01:05	WG1177409
Bis(2-chloroisopropyl)ether	U		0.000445	0.0100	0.0100	1	10/09/2018 01:05	WG1177409
4-Bromophenyl-phenylether	U		0.000335	0.0100	0.0100	1	10/09/2018 01:05	WG1177409
2-Chloronaphthalene	U		0.000330	0.00100	0.00100	1	10/09/2018 01:05	WG1177409
4-Chlorophenyl-phenylether	U		0.000303	0.0100	0.0100	1	10/09/2018 01:05	WG1177409
Caprolactam	U		0.00259	0.0100	0.0100	1	10/09/2018 01:05	WG1177409
Carbazole	U		0.000260	0.0100	0.0100	1	10/09/2018 01:05	WG1177409
Chrysene	U		0.000332	0.00100	0.00100	1	10/09/2018 01:05	WG1177409
Dibenz(a,h)anthracene	U		0.0000644	0.000200	0.000200	1	10/09/2018 01:05	WG1177409
Dibenzofuran	U		0.000338	0.0100	0.0100	1	10/09/2018 01:05	WG1177409
3,3-Dichlorobenzidine	U		0.00202	0.0100	0.0100	1	10/09/2018 01:05	WG1177409
2,4-Dinitrotoluene	U		0.00165	0.0100	0.0100	1	10/09/2018 01:05	WG1177409
2,6-Dinitrotoluene	U		0.000279	0.0100	0.0100	1	10/09/2018 01:05	WG1177409
Fluoranthene	U		0.000310	0.00100	0.00100	1	10/09/2018 01:05	WG1177409
Fluorene	U		0.000323	0.00100	0.00100	1	10/09/2018 01:05	WG1177409
Hexachlorobenzene	U		0.000341	0.00100	0.00100	1	10/09/2018 01:05	WG1177409
Hexachloro-1,3-butadiene	U		0.000329	0.0100	0.0100	1	10/09/2018 01:05	WG1177409
Hexachlorocyclopentadiene	U		0.00233	0.0100	0.0100	1	10/09/2018 01:05	WG1177409
Hexachloroethane	U		0.000365	0.0100	0.0100	1	10/09/2018 01:05	WG1177409
Indeno(1,2,3-cd)pyrene	U		0.000279	0.00100	0.00100	1	10/09/2018 01:05	WG1177409
Isophorone	U		0.000272	0.0100	0.0100	1	10/09/2018 01:05	WG1177409
1-Methylnaphthalene	U		0.000332	0.00100	0.00100	1	10/09/2018 01:05	WG1177409
2-Methylnaphthalene	U		0.000311	0.00100	0.00100	1	10/09/2018 01:05	WG1177409
Naphthalene	U		0.000372	0.00100	0.00100	1	10/09/2018 01:05	WG1177409
Nitrobenzene	U		0.000367	0.0100	0.0100	1	10/09/2018 01:05	WG1177409
n-Nitrosodiphenylamine	U		0.00119	0.0100	0.0100	1	10/09/2018 01:05	WG1177409
n-Nitrosodi-n-propylamine	U		0.000403	0.0100	0.0100	1	10/09/2018 01:05	WG1177409
Phenanthrene	U		0.000366	0.00100	0.00100	1	10/09/2018 01:05	WG1177409
Benzylbutyl phthalate	U	J4	0.000275	0.00300	0.00300	1	10/09/2018 01:05	WG1177409
Bis(2-ethylhexyl)phthalate	U		0.000709	0.00300	0.00300	1	10/09/2018 01:05	WG1177409
Di-n-butyl phthalate	U		0.000266	0.00300	0.00300	1	10/09/2018 01:05	WG1177409
Diethyl phthalate	U	J4	0.000282	0.00300	0.00300	1	10/09/2018 01:05	WG1177409
Dimethyl phthalate	U	J4	0.000283	0.00300	0.00300	1	10/09/2018 01:05	WG1177409
Di-n-octyl phthalate	U		0.000278	0.00300	0.00300	1	10/09/2018 01:05	WG1177409
Pyrene	U		0.000330	0.00100	0.00100	1	10/09/2018 01:05	WG1177409
1,2,4-Trichlorobenzene	U		0.000355	0.0100	0.0100	1	10/09/2018 01:05	WG1177409
4-Chloro-3-methylphenol	U		0.000263	0.0100	0.0100	1	10/09/2018 01:05	WG1177409

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc



Collected date/time: 10/01/18 10:40

L1030903

Semi Volatile Organic Compounds (GC/MS) by Method 8270 C

Analyte	Result mg/l	Qualifier	SDL mg/l	Unadj. MQL mg/l	MQL mg/l	Dilution	Analysis date / time	Batch
2-Chlorophenol	U		0.000283	0.0100	0.0100	1	10/09/2018 01:05	WG1177409
2,4-Dichlorophenol	U	J3	0.000284	0.0100	0.0100	1	10/09/2018 01:05	WG1177409
2,4-Dimethylphenol	U		0.000624	0.0100	0.0100	1	10/09/2018 01:05	WG1177409
4,6-Dinitro-2-methylphenol	U	J3 J4	0.00262	0.0100	0.0100	1	10/09/2018 01:05	WG1177409
2,4-Dinitrophenol	U		0.00325	0.0100	0.0100	1	10/09/2018 01:05	WG1177409
2-Nitrophenol	U	J3	0.000320	0.0100	0.0100	1	10/09/2018 01:05	WG1177409
2-Nitroaniline	U		0.00190	0.0100	0.0100	1	10/09/2018 01:05	WG1177409
2-Methylphenol	U		0.000312	0.0100	0.0100	1	10/09/2018 01:05	WG1177409
3&4-Methyl Phenol	U		0.000266	0.0100	0.0100	1	10/09/2018 01:05	WG1177409
3-Nitroaniline	U		0.000308	0.0100	0.0100	1	10/09/2018 01:05	WG1177409
4-Chloroaniline	U		0.000382	0.0100	0.0100	1	10/09/2018 01:05	WG1177409
4-Nitroaniline	U		0.000349	0.0100	0.0100	1	10/09/2018 01:05	WG1177409
4-Nitrophenol	U	J3 J4	0.00201	0.0100	0.0100	1	10/09/2018 01:05	WG1177409
Pentachlorophenol	U	J3 J4	0.000313	0.0100	0.0100	1	10/09/2018 01:05	WG1177409
Phenol	0.00357	J	0.000334	0.0100	0.0100	1	10/09/2018 01:05	WG1177409
2,4,5-Trichlorophenol	U	J3 J4	0.000236	0.0100	0.0100	1	10/09/2018 01:05	WG1177409
2,4,6-Trichlorophenol	U	J3 J4	0.000297	0.0100	0.0100	1	10/09/2018 01:05	WG1177409
(S) 2-Fluorophenol	46.3				10.0-120		10/09/2018 01:05	WG1177409
(S) Phenol-d5	28.1				10.0-120		10/09/2018 01:05	WG1177409
(S) Nitrobenzene-d5	30.9				10.0-127		10/09/2018 01:05	WG1177409
(S) 2-Fluorobiphenyl	38.6				10.0-130		10/09/2018 01:05	WG1177409
(S) 2,4,6-Tribromophenol	47.4				10.0-155		10/09/2018 01:05	WG1177409
(S) p-Terphenyl-d14	62.1				10.0-128		10/09/2018 01:05	WG1177409

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc



Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	SDL	Unadj. MQL	MQL	Dilution	Analysis date / time	Batch
Dissolved Solids	1360		5.64	20.0	20.0	1	10/08/2018 17:25	WG1176738

Wet Chemistry by Method 2320 B-2011

Analyte	Result	Qualifier	SDL	Unadj. MQL	MQL	Dilution	Analysis date / time	Batch
Alkalinity	182		2.71	20.0	20.0	1	10/09/2018 20:43	WG1177314

Sample Narrative:

L1030903-33 WG1177314: Endpoint pH 4.5 HEADSPACE

Wet Chemistry by Method 353.2

Analyte	Result	Qualifier	SDL	Unadj. MQL	MQL	Dilution	Analysis date / time	Batch
Nitrate-Nitrite	3.00		0.0197	0.100	0.100	1	10/09/2018 14:27	WG1177681

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	SDL	Unadj. MQL	MQL	Dilution	Analysis date / time	Batch
Chloride	368		0.519	1.00	10.0	10	10/05/2018 02:22	WG1174945
Fluoride	0.625	B	0.00990	0.100	0.100	1	10/05/2018 02:08	WG1174945
Sulfate	97.0		0.774	5.00	50.0	10	10/05/2018 02:22	WG1174945

Mercury by Method 7470A

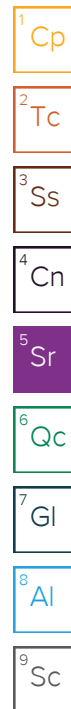
Analyte	Result	Qualifier	SDL	Unadj. MQL	MQL	Dilution	Analysis date / time	Batch
Mercury	0.0000509	J	0.0000490	0.000200	0.000200	1	10/05/2018 09:22	WG1174917

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	SDL	Unadj. MQL	MQL	Dilution	Analysis date / time	Batch
Boron,Dissolved	0.177	J	0.0126	0.200	0.200	1	10/08/2018 04:38	WG1174847

Metals (ICPMS) by Method 6020

Analyte	Result	Qualifier	SDL	Unadj. MQL	MQL	Dilution	Analysis date / time	Batch
Aluminum,Dissolved	U		0.00515	0.100	0.100	1	10/08/2018 18:57	WG1174849
Arsenic,Dissolved	0.00431		0.000250	0.00200	0.00200	1	10/08/2018 18:57	WG1174849
Barium,Dissolved	0.138		0.000360	0.00500	0.00500	1	10/08/2018 18:57	WG1174849
Cadmium,Dissolved	U		0.000160	0.00100	0.00100	1	10/08/2018 18:57	WG1174849
Chromium,Dissolved	0.00169	J	0.000540	0.00200	0.00200	1	10/08/2018 18:57	WG1174849
Copper,Dissolved	0.00177	J	0.000520	0.00500	0.00500	1	10/08/2018 18:57	WG1174849
Cobalt,Dissolved	U		0.000260	0.00200	0.00200	1	10/08/2018 18:57	WG1174849
Iron,Dissolved	U		0.0150	0.100	0.100	1	10/08/2018 18:57	WG1174849
Lead,Dissolved	U		0.000240	0.00200	0.00200	1	10/08/2018 18:57	WG1174849
Manganese,Dissolved	0.00219	J	0.000250	0.00500	0.00500	1	10/08/2018 18:57	WG1174849
Molybdenum,Dissolved	0.00219	J	0.000140	0.00500	0.00500	1	10/08/2018 18:57	WG1174849
Nickel,Dissolved	0.00308		0.000350	0.00200	0.00200	1	10/08/2018 18:57	WG1174849
Selenium,Dissolved	0.00386		0.000380	0.00200	0.00200	1	10/08/2018 18:57	WG1174849
Silver,Dissolved	U		0.000310	0.00200	0.00200	1	10/08/2018 18:57	WG1174849
Uranium,Dissolved	0.00238	J	0.000330	0.0100	0.0100	1	10/08/2018 18:57	WG1174849
Zinc,Dissolved	0.148		0.00256	0.0250	0.0250	1	10/08/2018 18:57	WG1174849





Volatile Organic Compounds (GC) by Method 8015D/GRO

Analyte	Result	Qualifier	SDL	Unadj. MQL	MQL	Dilution	Analysis	Batch
	mg/l		mg/l	mg/l	mg/l		date / time	
TPH (GC/FID) Low Fraction	U		0.0314	0.100	0.100	1	10/06/2018 21:21	WG1176966
(S) a,a,a-Trifluorotoluene(FID)	106				78.0-120		10/06/2018 21:21	WG1176966

Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result	Qualifier	SDL	Unadj. MQL	MQL	Dilution	Analysis	Batch
	mg/l		mg/l	mg/l	mg/l		date / time	
Acetone	U		0.0100	1.00	1.00	1	10/03/2018 16:37	WG1175099
Benzene	U		0.000331	0.00100	0.00100	1	10/03/2018 16:37	WG1175099
Bromodichloromethane	U		0.000380	0.00125	0.00125	1	10/03/2018 16:37	WG1175099
Bromoform	U		0.000469	0.00100	0.00100	1	10/03/2018 16:37	WG1175099
Bromomethane	U		0.000866	0.00500	0.00500	1	10/03/2018 16:37	WG1175099
n-Butylbenzene	U		0.000361	0.00100	0.00100	1	10/03/2018 16:37	WG1175099
sec-Butylbenzene	U		0.000365	0.00100	0.00100	1	10/03/2018 16:37	WG1175099
tert-Butylbenzene	U		0.000399	0.00100	0.00100	1	10/03/2018 16:37	WG1175099
Carbon disulfide	U		0.000275	0.00100	0.00100	1	10/03/2018 16:37	WG1175099
Carbon tetrachloride	U		0.000379	0.00100	0.00100	1	10/03/2018 16:37	WG1175099
Chlorobenzene	U		0.000348	0.00100	0.00100	1	10/03/2018 16:37	WG1175099
Chlorodibromomethane	U		0.000327	0.00100	0.00100	1	10/03/2018 16:37	WG1175099
Chloroethane	U		0.000453	0.00500	0.00500	1	10/03/2018 16:37	WG1175099
Chloroform	0.000929	U	0.000324	0.00500	0.00500	1	10/03/2018 16:37	WG1175099
Chloromethane	U		0.000276	0.00250	0.00250	1	10/03/2018 16:37	WG1175099
1,2-Dibromoethane	U		0.000381	0.00100	0.00100	1	10/03/2018 16:37	WG1175099
1,1-Dichloroethane	U		0.000259	0.00100	0.00100	1	10/03/2018 16:37	WG1175099
1,2-Dichloroethane	U		0.000361	0.00100	0.00100	1	10/03/2018 16:37	WG1175099
1,1-Dichloroethene	U		0.000398	0.00100	0.00100	1	10/03/2018 16:37	WG1175099
cis-1,2-Dichloroethene	U		0.000260	0.00100	0.00100	1	10/03/2018 16:37	WG1175099
trans-1,2-Dichloroethene	U		0.000396	0.00100	0.00100	1	10/03/2018 16:37	WG1175099
1,2-Dichloropropane	U		0.000306	0.00100	0.00100	1	10/03/2018 16:37	WG1175099
cis-1,3-Dichloropropene	U		0.000418	0.00100	0.00100	1	10/03/2018 16:37	WG1175099
trans-1,3-Dichloropropene	U		0.000419	0.00100	0.00100	1	10/03/2018 16:37	WG1175099
Ethylbenzene	U		0.000384	0.00100	0.00100	1	10/03/2018 16:37	WG1175099
Hexachloro-1,3-butadiene	U		0.000256	0.00100	0.00100	1	10/03/2018 16:37	WG1175099
2-Hexanone	U		0.00382	0.0100	0.0100	1	10/03/2018 16:37	WG1175099
Isopropylbenzene	U		0.000326	0.00100	0.00100	1	10/03/2018 16:37	WG1175099
p-Isopropyltoluene	U		0.000350	0.00100	0.00100	1	10/03/2018 16:37	WG1175099
2-Butanone (MEK)	U		0.00393	0.0100	0.0100	1	10/03/2018 16:37	WG1175099
Methylene Chloride	U		0.00100	0.00500	0.00500	1	10/03/2018 16:37	WG1175099
4-Methyl-2-pentanone (MIBK)	U		0.00214	0.0100	0.0100	1	10/03/2018 16:37	WG1175099
Methyl tert-butyl ether	U		0.000367	0.00100	0.00100	1	10/03/2018 16:37	WG1175099
Naphthalene	U		0.00100	0.00500	0.00500	1	10/03/2018 16:37	WG1175099
n-Propylbenzene	U		0.000349	0.00100	0.00100	1	10/03/2018 16:37	WG1175099
Styrene	U		0.000307	0.00100	0.00100	1	10/03/2018 16:37	WG1175099
1,1,2,2-Tetrachloroethane	U		0.000130	0.00100	0.00100	1	10/03/2018 16:37	WG1175099
Tetrachloroethene	U		0.000372	0.00100	0.00100	1	10/03/2018 16:37	WG1175099
Toluene	U		0.000412	0.00100	0.00100	1	10/03/2018 16:37	WG1175099
1,1,1-Trichloroethane	U		0.000319	0.00100	0.00100	1	10/03/2018 16:37	WG1175099
1,1,2-Trichloroethane	U		0.000383	0.00100	0.00100	1	10/03/2018 16:37	WG1175099
Trichloroethene	U		0.000398	0.00100	0.00100	1	10/03/2018 16:37	WG1175099
1,2,4-Trimethylbenzene	U		0.000373	0.00100	0.00100	1	10/03/2018 16:37	WG1175099
1,3,5-Trimethylbenzene	U		0.000387	0.00100	0.00100	1	10/03/2018 16:37	WG1175099
Vinyl chloride	U		0.000259	0.00100	0.00100	1	10/03/2018 16:37	WG1175099
Xylenes, Total	U		0.00106	0.00300	0.00300	1	10/03/2018 16:37	WG1175099
(S) Toluene-d8	111				80.0-120		10/03/2018 16:37	WG1175099
(S) Dibromofluoromethane	89.0				75.0-120		10/03/2018 16:37	WG1175099
(S) 4-Bromofluorobenzene	103				77.0-126		10/03/2018 16:37	WG1175099

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc



Semi-Volatile Organic Compounds (GC) by Method 3511/8015

Analyte	Result mg/l	Qualifier	SDL mg/l	Unadj. MQL mg/l	MQL mg/l	Dilution	Analysis date / time	Batch
TPH (GC/FID) High Fraction	0.0534	J	0.0247	0.100	0.100	1	10/08/2018 16:45	WG1177385
(S) o-Terphenyl	67.9				31.0-160		10/08/2018 16:45	WG1177385

Semi Volatile Organic Compounds (GC/MS) by Method 8270 C

Analyte	Result mg/l	Qualifier	SDL mg/l	Unadj. MQL mg/l	MQL mg/l	Dilution	Analysis date / time	Batch
Acenaphthene	U		0.000316	0.00100	0.00100	1	10/09/2018 01:28	WG1177409
Acenaphthylene	U		0.000309	0.00100	0.00100	1	10/09/2018 01:28	WG1177409
Acetophenone	U		0.00247	0.0100	0.0100	1	10/09/2018 01:28	WG1177409
Anthracene	U		0.000291	0.00100	0.00100	1	10/09/2018 01:28	WG1177409
Atrazine	U		0.000260	0.0100	0.0100	1	10/09/2018 01:28	WG1177409
Benzo(a)anthracene	U		0.0000510	0.00100	0.00100	1	10/09/2018 01:28	WG1177409
Benzaldehyde	U		0.00140	0.0100	0.0100	1	10/09/2018 01:28	WG1177409
Benzo(b)fluoranthene	U		0.0000896	0.00100	0.00100	1	10/09/2018 01:28	WG1177409
Benzo(k)fluoranthene	U		0.000355	0.00100	0.00100	1	10/09/2018 01:28	WG1177409
Benzo(g,h,i)perylene	U		0.00000227	0.00100	0.00100	1	10/09/2018 01:28	WG1177409
Benzo(a)pyrene	U		0.0000381	0.000200	0.000200	1	10/09/2018 01:28	WG1177409
Biphenyl	U		0.000325	0.0100	0.0100	1	10/09/2018 01:28	WG1177409
Bis(2-chlorethoxy)methane	U		0.000329	0.0100	0.0100	1	10/09/2018 01:28	WG1177409
Bis(2-chloroethyl)ether	U		0.00162	0.0100	0.0100	1	10/09/2018 01:28	WG1177409
Bis(2-chloroisopropyl)ether	U		0.000445	0.0100	0.0100	1	10/09/2018 01:28	WG1177409
4-Bromophenyl-phenylether	U		0.000335	0.0100	0.0100	1	10/09/2018 01:28	WG1177409
2-Chloronaphthalene	U		0.000330	0.00100	0.00100	1	10/09/2018 01:28	WG1177409
4-Chlorophenyl-phenylether	U		0.000303	0.0100	0.0100	1	10/09/2018 01:28	WG1177409
Caprolactam	U		0.00259	0.0100	0.0100	1	10/09/2018 01:28	WG1177409
Carbazole	U		0.000260	0.0100	0.0100	1	10/09/2018 01:28	WG1177409
Chrysene	U		0.000332	0.00100	0.00100	1	10/09/2018 01:28	WG1177409
Dibenz(a,h)anthracene	U		0.0000644	0.000200	0.000200	1	10/09/2018 01:28	WG1177409
Dibenzofuran	U		0.000338	0.0100	0.0100	1	10/09/2018 01:28	WG1177409
3,3-Dichlorobenzidine	U		0.00202	0.0100	0.0100	1	10/09/2018 01:28	WG1177409
2,4-Dinitrotoluene	U		0.00165	0.0100	0.0100	1	10/09/2018 01:28	WG1177409
2,6-Dinitrotoluene	U		0.000279	0.0100	0.0100	1	10/09/2018 01:28	WG1177409
Fluoranthene	U		0.000310	0.00100	0.00100	1	10/09/2018 01:28	WG1177409
Fluorene	U		0.000323	0.00100	0.00100	1	10/09/2018 01:28	WG1177409
Hexachlorobenzene	U		0.000341	0.00100	0.00100	1	10/09/2018 01:28	WG1177409
Hexachloro-1,3-butadiene	U		0.000329	0.0100	0.0100	1	10/09/2018 01:28	WG1177409
Hexachlorocyclopentadiene	U		0.00233	0.0100	0.0100	1	10/09/2018 01:28	WG1177409
Hexachloroethane	U		0.000365	0.0100	0.0100	1	10/09/2018 01:28	WG1177409
Indeno(1,2,3-cd)pyrene	U		0.000279	0.00100	0.00100	1	10/09/2018 01:28	WG1177409
Isophorone	U		0.000272	0.0100	0.0100	1	10/09/2018 01:28	WG1177409
1-Methylnaphthalene	U		0.000332	0.00100	0.00100	1	10/09/2018 01:28	WG1177409
2-Methylnaphthalene	U		0.000311	0.00100	0.00100	1	10/09/2018 01:28	WG1177409
Naphthalene	U		0.000372	0.00100	0.00100	1	10/09/2018 01:28	WG1177409
Nitrobenzene	U		0.000367	0.0100	0.0100	1	10/09/2018 01:28	WG1177409
n-Nitrosodiphenylamine	U		0.00119	0.0100	0.0100	1	10/09/2018 01:28	WG1177409
n-Nitrosodi-n-propylamine	U		0.000403	0.0100	0.0100	1	10/09/2018 01:28	WG1177409
Phenanthrene	U		0.000366	0.00100	0.00100	1	10/09/2018 01:28	WG1177409
Benzylbutyl phthalate	U	J4	0.000275	0.00300	0.00300	1	10/09/2018 01:28	WG1177409
Bis(2-ethylhexyl)phthalate	U		0.000709	0.00300	0.00300	1	10/09/2018 01:28	WG1177409
Di-n-butyl phthalate	U		0.000266	0.00300	0.00300	1	10/09/2018 01:28	WG1177409
Diethyl phthalate	U	J4	0.000282	0.00300	0.00300	1	10/09/2018 01:28	WG1177409
Dimethyl phthalate	U	J4	0.000283	0.00300	0.00300	1	10/09/2018 01:28	WG1177409
Di-n-octyl phthalate	U		0.000278	0.00300	0.00300	1	10/09/2018 01:28	WG1177409
Pyrene	U		0.000330	0.00100	0.00100	1	10/09/2018 01:28	WG1177409
1,2,4-Trichlorobenzene	U		0.000355	0.0100	0.0100	1	10/09/2018 01:28	WG1177409
4-Chloro-3-methylphenol	U		0.000263	0.0100	0.0100	1	10/09/2018 01:28	WG1177409

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc



Collected date/time: 10/01/18 11:10

L1030903

Semi Volatile Organic Compounds (GC/MS) by Method 8270 C

Analyte	Result mg/l	Qualifier	SDL mg/l	Unadj. MQL mg/l	MQL mg/l	Dilution	Analysis date / time	Batch
2-Chlorophenol	U		0.000283	0.0100	0.0100	1	10/09/2018 01:28	WG1177409
2,4-Dichlorophenol	U	J3	0.000284	0.0100	0.0100	1	10/09/2018 01:28	WG1177409
2,4-Dimethylphenol	U		0.000624	0.0100	0.0100	1	10/09/2018 01:28	WG1177409
4,6-Dinitro-2-methylphenol	U	J3 J4	0.00262	0.0100	0.0100	1	10/09/2018 01:28	WG1177409
2,4-Dinitrophenol	U		0.00325	0.0100	0.0100	1	10/09/2018 01:28	WG1177409
2-Nitrophenol	U	J3	0.000320	0.0100	0.0100	1	10/09/2018 01:28	WG1177409
2-Nitroaniline	U		0.00190	0.0100	0.0100	1	10/09/2018 01:28	WG1177409
2-Methylphenol	U		0.000312	0.0100	0.0100	1	10/09/2018 01:28	WG1177409
3&4-Methyl Phenol	U		0.000266	0.0100	0.0100	1	10/09/2018 01:28	WG1177409
3-Nitroaniline	U		0.000308	0.0100	0.0100	1	10/09/2018 01:28	WG1177409
4-Chloroaniline	U		0.000382	0.0100	0.0100	1	10/09/2018 01:28	WG1177409
4-Nitroaniline	U		0.000349	0.0100	0.0100	1	10/09/2018 01:28	WG1177409
4-Nitrophenol	U	J3 J4	0.00201	0.0100	0.0100	1	10/09/2018 01:28	WG1177409
Pentachlorophenol	U	J3 J4	0.000313	0.0100	0.0100	1	10/09/2018 01:28	WG1177409
Phenol	0.000598	J	0.000334	0.0100	0.0100	1	10/09/2018 01:28	WG1177409
2,4,5-Trichlorophenol	U	J3 J4	0.000236	0.0100	0.0100	1	10/09/2018 01:28	WG1177409
2,4,6-Trichlorophenol	U	J3 J4	0.000297	0.0100	0.0100	1	10/09/2018 01:28	WG1177409
(S) 2-Fluorophenol	31.1				10.0-120		10/09/2018 01:28	WG1177409
(S) Phenol-d5	21.5				10.0-120		10/09/2018 01:28	WG1177409
(S) Nitrobenzene-d5	38.8				10.0-127		10/09/2018 01:28	WG1177409
(S) 2-Fluorobiphenyl	46.2				10.0-130		10/09/2018 01:28	WG1177409
(S) 2,4,6-Tribromophenol	26.2				10.0-155		10/09/2018 01:28	WG1177409
(S) p-Terphenyl-d14	56.3				10.0-128		10/09/2018 01:28	WG1177409

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc



Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	SDL	Unadj. MQL	MQL	Dilution	Analysis date / time	Batch
Dissolved Solids	583		2.82	10.0	10.0	1	10/08/2018 17:25	WG1176738

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc

Wet Chemistry by Method 2320 B-2011

Analyte	Result	Qualifier	SDL	Unadj. MQL	MQL	Dilution	Analysis date / time	Batch
Alkalinity	169		2.71	20.0	20.0	1	10/09/2018 20:50	WG1177314

Sample Narrative:

L1030903-34 WG1177314: Endpoint pH 4.5 HEADSPACE

Wet Chemistry by Method 353.2

Analyte	Result	Qualifier	SDL	Unadj. MQL	MQL	Dilution	Analysis date / time	Batch
Nitrate-Nitrite	2.92		0.0197	0.100	0.100	1	10/09/2018 14:35	WG1177681

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	SDL	Unadj. MQL	MQL	Dilution	Analysis date / time	Batch
Chloride	109		0.260	1.00	5.00	5	10/05/2018 02:50	WG1174945
Fluoride	0.871		0.00990	0.100	0.100	1	10/05/2018 02:36	WG1174945
Sulfate	88.2		0.0774	5.00	5.00	1	10/05/2018 02:36	WG1174945

Mercury by Method 7470A

Analyte	Result	Qualifier	SDL	Unadj. MQL	MQL	Dilution	Analysis date / time	Batch
Mercury	U		0.0000490	0.000200	0.000200	1	10/05/2018 09:25	WG1174917

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	SDL	Unadj. MQL	MQL	Dilution	Analysis date / time	Batch
Boron,Dissolved	0.114	J	0.0126	0.200	0.200	1	10/08/2018 04:41	WG1174847

Metals (ICPMS) by Method 6020

Analyte	Result	Qualifier	SDL	Unadj. MQL	MQL	Dilution	Analysis date / time	Batch
Aluminum,Dissolved	0.00755	J	0.00515	0.100	0.100	1	10/08/2018 19:01	WG1174849
Arsenic,Dissolved	0.00534		0.000250	0.00200	0.00200	1	10/08/2018 19:01	WG1174849
Barium,Dissolved	0.0961		0.000360	0.00500	0.00500	1	10/08/2018 19:01	WG1174849
Cadmium,Dissolved	U		0.000160	0.00100	0.00100	1	10/08/2018 19:01	WG1174849
Chromium,Dissolved	0.00537		0.000540	0.00200	0.00200	1	10/08/2018 19:01	WG1174849
Copper,Dissolved	0.00189	J	0.000520	0.00500	0.00500	1	10/08/2018 19:01	WG1174849
Cobalt,Dissolved	U		0.000260	0.00200	0.00200	1	10/08/2018 19:01	WG1174849
Iron,Dissolved	U		0.0150	0.100	0.100	1	10/08/2018 19:01	WG1174849
Lead,Dissolved	0.000589	B J	0.000240	0.00200	0.00200	1	10/08/2018 19:01	WG1174849
Manganese,Dissolved	0.000543	J	0.000250	0.00500	0.00500	1	10/08/2018 19:01	WG1174849
Molybdenum,Dissolved	0.00277	J	0.000140	0.00500	0.00500	1	10/08/2018 19:01	WG1174849
Nickel,Dissolved	U		0.000350	0.00200	0.00200	1	10/08/2018 19:01	WG1174849
Selenium,Dissolved	0.00472		0.000380	0.00200	0.00200	1	10/08/2018 19:01	WG1174849
Silver,Dissolved	U		0.000310	0.00200	0.00200	1	10/08/2018 19:01	WG1174849
Uranium,Dissolved	0.00189	J	0.000330	0.0100	0.0100	1	10/08/2018 19:01	WG1174849
Zinc,Dissolved	0.0536		0.00256	0.0250	0.0250	1	10/08/2018 19:01	WG1174849



Volatile Organic Compounds (GC) by Method 8015D/GRO

Analyte	Result mg/l	Qualifier	SDL mg/l	Unadj. MQL mg/l	MQL mg/l	Dilution	Analysis date / time	Batch
TPH (GC/FID) Low Fraction	U		0.0314	0.100	0.100	1	10/06/2018 21:42	WG1176966
(S) a,a,a-Trifluorotoluene(FID)	107				78.0-120		10/06/2018 21:42	WG1176966

Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result mg/l	Qualifier	SDL mg/l	Unadj. MQL mg/l	MQL mg/l	Dilution	Analysis date / time	Batch
Acetone	U		0.0100	1.00	1.00	1	10/03/2018 17:41	WG1175099
Benzene	U		0.000331	0.00100	0.00100	1	10/03/2018 17:41	WG1175099
Bromodichloromethane	U		0.000380	0.00125	0.00125	1	10/03/2018 17:41	WG1175099
Bromoform	U		0.000469	0.00100	0.00100	1	10/03/2018 17:41	WG1175099
Bromomethane	U		0.000866	0.00500	0.00500	1	10/03/2018 17:41	WG1175099
n-Butylbenzene	U		0.000361	0.00100	0.00100	1	10/03/2018 17:41	WG1175099
sec-Butylbenzene	U		0.000365	0.00100	0.00100	1	10/03/2018 17:41	WG1175099
tert-Butylbenzene	U		0.000399	0.00100	0.00100	1	10/03/2018 17:41	WG1175099
Carbon disulfide	U		0.000275	0.00100	0.00100	1	10/03/2018 17:41	WG1175099
Carbon tetrachloride	U		0.000379	0.00100	0.00100	1	10/03/2018 17:41	WG1175099
Chlorobenzene	U		0.000348	0.00100	0.00100	1	10/03/2018 17:41	WG1175099
Chlorodibromomethane	U		0.000327	0.00100	0.00100	1	10/03/2018 17:41	WG1175099
Chloroethane	U		0.000453	0.00500	0.00500	1	10/03/2018 17:41	WG1175099
Chloroform	U		0.000324	0.00500	0.00500	1	10/03/2018 17:41	WG1175099
Chloromethane	U		0.000276	0.00250	0.00250	1	10/03/2018 17:41	WG1175099
1,2-Dibromoethane	U		0.000381	0.00100	0.00100	1	10/03/2018 17:41	WG1175099
1,1-Dichloroethane	U		0.000259	0.00100	0.00100	1	10/03/2018 17:41	WG1175099
1,2-Dichloroethane	U		0.000361	0.00100	0.00100	1	10/03/2018 17:41	WG1175099
1,1-Dichloroethene	U		0.000398	0.00100	0.00100	1	10/03/2018 17:41	WG1175099
cis-1,2-Dichloroethene	U		0.000260	0.00100	0.00100	1	10/03/2018 17:41	WG1175099
trans-1,2-Dichloroethene	U		0.000396	0.00100	0.00100	1	10/03/2018 17:41	WG1175099
1,2-Dichloropropane	U		0.000306	0.00100	0.00100	1	10/03/2018 17:41	WG1175099
cis-1,3-Dichloropropene	U		0.000418	0.00100	0.00100	1	10/03/2018 17:41	WG1175099
trans-1,3-Dichloropropene	U		0.000419	0.00100	0.00100	1	10/03/2018 17:41	WG1175099
Ethylbenzene	U		0.000384	0.00100	0.00100	1	10/03/2018 17:41	WG1175099
Hexachloro-1,3-butadiene	U		0.000256	0.00100	0.00100	1	10/03/2018 17:41	WG1175099
2-Hexanone	U		0.00382	0.0100	0.0100	1	10/03/2018 17:41	WG1175099
Isopropylbenzene	U		0.000326	0.00100	0.00100	1	10/03/2018 17:41	WG1175099
p-Isopropyltoluene	U		0.000350	0.00100	0.00100	1	10/03/2018 17:41	WG1175099
2-Butanone (MEK)	U		0.00393	0.0100	0.0100	1	10/03/2018 17:41	WG1175099
Methylene Chloride	U		0.00100	0.00500	0.00500	1	10/03/2018 17:41	WG1175099
4-Methyl-2-pentanone (MIBK)	U		0.00214	0.0100	0.0100	1	10/03/2018 17:41	WG1175099
Methyl tert-butyl ether	U		0.000367	0.00100	0.00100	1	10/03/2018 17:41	WG1175099
Naphthalene	U		0.00100	0.00500	0.00500	1	10/03/2018 17:41	WG1175099
n-Propylbenzene	U		0.000349	0.00100	0.00100	1	10/03/2018 17:41	WG1175099
Styrene	U		0.000307	0.00100	0.00100	1	10/03/2018 17:41	WG1175099
1,1,2,2-Tetrachloroethane	U		0.000130	0.00100	0.00100	1	10/03/2018 17:41	WG1175099
Tetrachloroethene	U		0.000372	0.00100	0.00100	1	10/03/2018 17:41	WG1175099
Toluene	U		0.000412	0.00100	0.00100	1	10/03/2018 17:41	WG1175099
1,1,1-Trichloroethane	U		0.000319	0.00100	0.00100	1	10/03/2018 17:41	WG1175099
1,1,2-Trichloroethane	U		0.000383	0.00100	0.00100	1	10/03/2018 17:41	WG1175099
Trichloroethene	U		0.000398	0.00100	0.00100	1	10/03/2018 17:41	WG1175099
1,2,4-Trimethylbenzene	U		0.000373	0.00100	0.00100	1	10/03/2018 17:41	WG1175099
1,3,5-Trimethylbenzene	U		0.000387	0.00100	0.00100	1	10/03/2018 17:41	WG1175099
Vinyl chloride	U		0.000259	0.00100	0.00100	1	10/03/2018 17:41	WG1175099
Xylenes, Total	U		0.00106	0.00300	0.00300	1	10/03/2018 17:41	WG1175099
(S) Toluene-d8	113				80.0-120		10/03/2018 17:41	WG1175099
(S) Dibromofluoromethane	90.5				75.0-120		10/03/2018 17:41	WG1175099
(S) 4-Bromofluorobenzene	103				77.0-126		10/03/2018 17:41	WG1175099

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc



Semi-Volatile Organic Compounds (GC) by Method 3511/8015

Analyte	Result mg/l	Qualifier	SDL mg/l	Unadj. MQL mg/l	MQL mg/l	Dilution	Analysis date / time	Batch
TPH (GC/FID) High Fraction	U		0.0247	0.100	0.100	1	10/08/2018 17:05	WG1177385
(S) o-Terphenyl	67.9				31.0-160		10/08/2018 17:05	WG1177385

Semi Volatile Organic Compounds (GC/MS) by Method 8270 C

Analyte	Result mg/l	Qualifier	SDL mg/l	Unadj. MQL mg/l	MQL mg/l	Dilution	Analysis date / time	Batch
Acenaphthene	U		0.000316	0.00100	0.00100	1	10/09/2018 01:52	WG1177409
Acenaphthylene	U		0.000309	0.00100	0.00100	1	10/09/2018 01:52	WG1177409
Acetophenone	U		0.00247	0.0100	0.0100	1	10/09/2018 01:52	WG1177409
Anthracene	U		0.000291	0.00100	0.00100	1	10/09/2018 01:52	WG1177409
Atrazine	U		0.000260	0.0100	0.0100	1	10/09/2018 01:52	WG1177409
Benzo(a)anthracene	U		0.0000510	0.00100	0.00100	1	10/09/2018 01:52	WG1177409
Benzaldehyde	U		0.00140	0.0100	0.0100	1	10/09/2018 01:52	WG1177409
Benzo(b)fluoranthene	U		0.0000896	0.00100	0.00100	1	10/09/2018 01:52	WG1177409
Benzo(k)fluoranthene	U		0.000355	0.00100	0.00100	1	10/09/2018 01:52	WG1177409
Benzo(g,h,i)perylene	U		0.00000227	0.00100	0.00100	1	10/09/2018 01:52	WG1177409
Benzo(a)pyrene	U		0.0000381	0.000200	0.000200	1	10/09/2018 01:52	WG1177409
Biphenyl	U		0.000325	0.0100	0.0100	1	10/09/2018 01:52	WG1177409
Bis(2-chlorethoxy)methane	U		0.000329	0.0100	0.0100	1	10/09/2018 01:52	WG1177409
Bis(2-chloroethyl)ether	U		0.00162	0.0100	0.0100	1	10/09/2018 01:52	WG1177409
Bis(2-chloroisopropyl)ether	U		0.000445	0.0100	0.0100	1	10/09/2018 01:52	WG1177409
4-Bromophenyl-phenylether	U		0.000335	0.0100	0.0100	1	10/09/2018 01:52	WG1177409
2-Chloronaphthalene	U		0.000330	0.00100	0.00100	1	10/09/2018 01:52	WG1177409
4-Chlorophenyl-phenylether	U		0.000303	0.0100	0.0100	1	10/09/2018 01:52	WG1177409
Caprolactam	U		0.00259	0.0100	0.0100	1	10/09/2018 01:52	WG1177409
Carbazole	U		0.000260	0.0100	0.0100	1	10/09/2018 01:52	WG1177409
Chrysene	U		0.000332	0.00100	0.00100	1	10/09/2018 01:52	WG1177409
Dibenz(a,h)anthracene	U		0.0000644	0.000200	0.000200	1	10/09/2018 01:52	WG1177409
Dibenzofuran	U		0.000338	0.0100	0.0100	1	10/09/2018 01:52	WG1177409
3,3-Dichlorobenzidine	U		0.00202	0.0100	0.0100	1	10/09/2018 01:52	WG1177409
2,4-Dinitrotoluene	U		0.00165	0.0100	0.0100	1	10/09/2018 01:52	WG1177409
2,6-Dinitrotoluene	U		0.000279	0.0100	0.0100	1	10/09/2018 01:52	WG1177409
Fluoranthene	U		0.000310	0.00100	0.00100	1	10/09/2018 01:52	WG1177409
Fluorene	U		0.000323	0.00100	0.00100	1	10/09/2018 01:52	WG1177409
Hexachlorobenzene	U		0.000341	0.00100	0.00100	1	10/09/2018 01:52	WG1177409
Hexachloro-1,3-butadiene	U		0.000329	0.0100	0.0100	1	10/09/2018 01:52	WG1177409
Hexachlorocyclopentadiene	U		0.00233	0.0100	0.0100	1	10/09/2018 01:52	WG1177409
Hexachloroethane	U		0.000365	0.0100	0.0100	1	10/09/2018 01:52	WG1177409
Indeno(1,2,3-cd)pyrene	U		0.000279	0.00100	0.00100	1	10/09/2018 01:52	WG1177409
Isophorone	U		0.000272	0.0100	0.0100	1	10/09/2018 01:52	WG1177409
1-Methylnaphthalene	U		0.000332	0.00100	0.00100	1	10/09/2018 01:52	WG1177409
2-Methylnaphthalene	U		0.000311	0.00100	0.00100	1	10/09/2018 01:52	WG1177409
Naphthalene	U		0.000372	0.00100	0.00100	1	10/09/2018 01:52	WG1177409
Nitrobenzene	U		0.000367	0.0100	0.0100	1	10/09/2018 01:52	WG1177409
n-Nitrosodiphenylamine	U		0.00119	0.0100	0.0100	1	10/09/2018 01:52	WG1177409
n-Nitrosodi-n-propylamine	U		0.000403	0.0100	0.0100	1	10/09/2018 01:52	WG1177409
Phenanthrene	U		0.000366	0.00100	0.00100	1	10/09/2018 01:52	WG1177409
Benzylbutyl phthalate	U	J4	0.000275	0.00300	0.00300	1	10/09/2018 01:52	WG1177409
Bis(2-ethylhexyl)phthalate	U		0.000709	0.00300	0.00300	1	10/09/2018 01:52	WG1177409
Di-n-butyl phthalate	U		0.000266	0.00300	0.00300	1	10/09/2018 01:52	WG1177409
Diethyl phthalate	U	J4	0.000282	0.00300	0.00300	1	10/09/2018 01:52	WG1177409
Dimethyl phthalate	U	J4	0.000283	0.00300	0.00300	1	10/09/2018 01:52	WG1177409
Di-n-octyl phthalate	U		0.000278	0.00300	0.00300	1	10/09/2018 01:52	WG1177409
Pyrene	U		0.000330	0.00100	0.00100	1	10/09/2018 01:52	WG1177409
1,2,4-Trichlorobenzene	U		0.000355	0.0100	0.0100	1	10/09/2018 01:52	WG1177409
4-Chloro-3-methylphenol	U		0.000263	0.0100	0.0100	1	10/09/2018 01:52	WG1177409

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc



Semi Volatile Organic Compounds (GC/MS) by Method 8270 C

Analyte	Result mg/l	Qualifier	SDL mg/l	Unadj. MQL mg/l	MQL mg/l	Dilution	Analysis date / time	Batch
2-Chlorophenol	U		0.000283	0.0100	0.0100	1	10/09/2018 01:52	WG1177409
2,4-Dichlorophenol	U	J3	0.000284	0.0100	0.0100	1	10/09/2018 01:52	WG1177409
2,4-Dimethylphenol	U		0.000624	0.0100	0.0100	1	10/09/2018 01:52	WG1177409
4,6-Dinitro-2-methylphenol	U	J3 J4	0.00262	0.0100	0.0100	1	10/09/2018 01:52	WG1177409
2,4-Dinitrophenol	U		0.00325	0.0100	0.0100	1	10/09/2018 01:52	WG1177409
2-Nitrophenol	U	J3	0.000320	0.0100	0.0100	1	10/09/2018 01:52	WG1177409
2-Nitroaniline	U		0.00190	0.0100	0.0100	1	10/09/2018 01:52	WG1177409
2-Methylphenol	U		0.000312	0.0100	0.0100	1	10/09/2018 01:52	WG1177409
3&4-Methyl Phenol	U		0.000266	0.0100	0.0100	1	10/09/2018 01:52	WG1177409
3-Nitroaniline	U		0.000308	0.0100	0.0100	1	10/09/2018 01:52	WG1177409
4-Chloroaniline	U		0.000382	0.0100	0.0100	1	10/09/2018 01:52	WG1177409
4-Nitroaniline	U		0.000349	0.0100	0.0100	1	10/09/2018 01:52	WG1177409
4-Nitrophenol	U	J3 J4	0.00201	0.0100	0.0100	1	10/09/2018 01:52	WG1177409
Pentachlorophenol	U	J3 J4	0.000313	0.0100	0.0100	1	10/09/2018 01:52	WG1177409
Phenol	0.00502	J	0.000334	0.0100	0.0100	1	10/09/2018 01:52	WG1177409
2,4,5-Trichlorophenol	U	J3 J4	0.000236	0.0100	0.0100	1	10/09/2018 01:52	WG1177409
2,4,6-Trichlorophenol	U	J3 J4	0.000297	0.0100	0.0100	1	10/09/2018 01:52	WG1177409
(S) 2-Fluorophenol	44.3				10.0-120		10/09/2018 01:52	WG1177409
(S) Phenol-d5	28.5				10.0-120		10/09/2018 01:52	WG1177409
(S) Nitrobenzene-d5	40.3				10.0-127		10/09/2018 01:52	WG1177409
(S) 2-Fluorobiphenyl	49.5				10.0-130		10/09/2018 01:52	WG1177409
(S) 2,4,6-Tribromophenol	43.4				10.0-155		10/09/2018 01:52	WG1177409
(S) p-Terphenyl-d14	67.8				10.0-128		10/09/2018 01:52	WG1177409

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc



Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	SDL	Unadj. MQL	MQL	Dilution	Analysis date / time	Batch
Dissolved Solids	588		2.82	10.0	10.0	1	10/08/2018 17:25	WG1176738

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc

Wet Chemistry by Method 2320 B-2011

Analyte	Result	Qualifier	SDL	Unadj. MQL	MQL	Dilution	Analysis date / time	Batch
Alkalinity	318		2.71	20.0	20.0	1	10/09/2018 20:57	WG1177314

Sample Narrative:

L1030903-35 WG1177314: Endpoint pH 4.5 HEADSPACE

Wet Chemistry by Method 353.2

Analyte	Result	Qualifier	SDL	Unadj. MQL	MQL	Dilution	Analysis date / time	Batch
Nitrate-Nitrite	4.90		0.0394	0.100	0.200	2	10/09/2018 14:36	WG1177681

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	SDL	Unadj. MQL	MQL	Dilution	Analysis date / time	Batch
Chloride	32.1		0.0519	1.00	1.00	1	10/05/2018 03:04	WG1174945
Fluoride	0.645	B	0.00990	0.100	0.100	1	10/05/2018 03:04	WG1174945
Sulfate	87.4		0.0774	5.00	5.00	1	10/05/2018 03:04	WG1174945

Mercury by Method 7470A

Analyte	Result	Qualifier	SDL	Unadj. MQL	MQL	Dilution	Analysis date / time	Batch
Mercury	U		0.0000490	0.000200	0.000200	1	10/05/2018 09:27	WG1174917

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	SDL	Unadj. MQL	MQL	Dilution	Analysis date / time	Batch
Boron,Dissolved	0.249		0.0126	0.200	0.200	1	10/08/2018 04:43	WG1174847

Metals (ICPMS) by Method 6020

Analyte	Result	Qualifier	SDL	Unadj. MQL	MQL	Dilution	Analysis date / time	Batch
Aluminum,Dissolved	U		0.00515	0.100	0.100	1	10/08/2018 19:06	WG1174849
Arsenic,Dissolved	0.00292		0.000250	0.00200	0.00200	1	10/08/2018 19:06	WG1174849
Barium,Dissolved	0.154		0.000360	0.00500	0.00500	1	10/08/2018 19:06	WG1174849
Cadmium,Dissolved	U		0.000160	0.00100	0.00100	1	10/08/2018 19:06	WG1174849
Chromium,Dissolved	0.000720	J	0.000540	0.00200	0.00200	1	10/08/2018 19:06	WG1174849
Copper,Dissolved	0.00150	J	0.000520	0.00500	0.00500	1	10/08/2018 19:06	WG1174849
Cobalt,Dissolved	U		0.000260	0.00200	0.00200	1	10/08/2018 19:06	WG1174849
Iron,Dissolved	U		0.0150	0.100	0.100	1	10/08/2018 19:06	WG1174849
Lead,Dissolved	0.000318	B J	0.000240	0.00200	0.00200	1	10/08/2018 19:06	WG1174849
Manganese,Dissolved	0.000610	J	0.000250	0.00500	0.00500	1	10/08/2018 19:06	WG1174849
Molybdenum,Dissolved	0.00218	J	0.000140	0.00500	0.00500	1	10/08/2018 19:06	WG1174849
Nickel,Dissolved	0.00205		0.000350	0.00200	0.00200	1	10/08/2018 19:06	WG1174849
Selenium,Dissolved	0.00185	J	0.000380	0.00200	0.00200	1	10/08/2018 19:06	WG1174849
Silver,Dissolved	U		0.000310	0.00200	0.00200	1	10/08/2018 19:06	WG1174849
Uranium,Dissolved	0.00502	J	0.000330	0.0100	0.0100	1	10/08/2018 19:06	WG1174849
Zinc,Dissolved	0.00956	J	0.00256	0.0250	0.0250	1	10/08/2018 19:06	WG1174849



Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result mg/l	Qualifier	SDL mg/l	Unadj. MQL mg/l	MQL mg/l	Dilution	Analysis date / time	Batch
Acetone	U		0.0100	1.00	1.00	1	10/03/2018 18:01	WG1175099
Benzene	U		0.000331	0.00100	0.00100	1	10/03/2018 18:01	WG1175099
Bromodichloromethane	U		0.000380	0.00125	0.00125	1	10/03/2018 18:01	WG1175099
Bromoform	U		0.000469	0.00100	0.00100	1	10/03/2018 18:01	WG1175099
Bromomethane	U		0.000866	0.00500	0.00500	1	10/03/2018 18:01	WG1175099
n-Butylbenzene	U		0.000361	0.00100	0.00100	1	10/03/2018 18:01	WG1175099
sec-Butylbenzene	U		0.000365	0.00100	0.00100	1	10/03/2018 18:01	WG1175099
tert-Butylbenzene	U		0.000399	0.00100	0.00100	1	10/03/2018 18:01	WG1175099
Carbon disulfide	U		0.000275	0.00100	0.00100	1	10/03/2018 18:01	WG1175099
Carbon tetrachloride	U		0.000379	0.00100	0.00100	1	10/03/2018 18:01	WG1175099
Chlorobenzene	U		0.000348	0.00100	0.00100	1	10/03/2018 18:01	WG1175099
Chlorodibromomethane	U		0.000327	0.00100	0.00100	1	10/03/2018 18:01	WG1175099
Chloroethane	U		0.000453	0.00500	0.00500	1	10/03/2018 18:01	WG1175099
Chloroform	U		0.000324	0.00500	0.00500	1	10/03/2018 18:01	WG1175099
Chloromethane	U		0.000276	0.00250	0.00250	1	10/03/2018 18:01	WG1175099
1,2-Dibromoethane	U		0.000381	0.00100	0.00100	1	10/03/2018 18:01	WG1175099
1,1-Dichloroethane	U		0.000259	0.00100	0.00100	1	10/03/2018 18:01	WG1175099
1,2-Dichloroethane	U		0.000361	0.00100	0.00100	1	10/03/2018 18:01	WG1175099
1,1-Dichloroethene	U		0.000398	0.00100	0.00100	1	10/03/2018 18:01	WG1175099
cis-1,2-Dichloroethene	U		0.000260	0.00100	0.00100	1	10/03/2018 18:01	WG1175099
trans-1,2-Dichloroethene	U		0.000396	0.00100	0.00100	1	10/03/2018 18:01	WG1175099
1,2-Dichloropropane	U		0.000306	0.00100	0.00100	1	10/03/2018 18:01	WG1175099
cis-1,3-Dichloropropene	U		0.000418	0.00100	0.00100	1	10/03/2018 18:01	WG1175099
trans-1,3-Dichloropropene	U		0.000419	0.00100	0.00100	1	10/03/2018 18:01	WG1175099
Ethylbenzene	U		0.000384	0.00100	0.00100	1	10/03/2018 18:01	WG1175099
Hexachloro-1,3-butadiene	U		0.000256	0.00100	0.00100	1	10/03/2018 18:01	WG1175099
2-Hexanone	U		0.00382	0.0100	0.0100	1	10/03/2018 18:01	WG1175099
Isopropylbenzene	U		0.000326	0.00100	0.00100	1	10/03/2018 18:01	WG1175099
p-Isopropyltoluene	U		0.000350	0.00100	0.00100	1	10/03/2018 18:01	WG1175099
2-Butanone (MEK)	U		0.00393	0.0100	0.0100	1	10/03/2018 18:01	WG1175099
Methylene Chloride	U		0.00100	0.00500	0.00500	1	10/03/2018 18:01	WG1175099
4-Methyl-2-pentanone (MIBK)	U		0.00214	0.0100	0.0100	1	10/03/2018 18:01	WG1175099
Methyl tert-butyl ether	U		0.000367	0.00100	0.00100	1	10/03/2018 18:01	WG1175099
Naphthalene	U		0.00100	0.00500	0.00500	1	10/03/2018 18:01	WG1175099
n-Propylbenzene	U		0.000349	0.00100	0.00100	1	10/03/2018 18:01	WG1175099
Styrene	U		0.000307	0.00100	0.00100	1	10/03/2018 18:01	WG1175099
1,1,2,2-Tetrachloroethane	U		0.000130	0.00100	0.00100	1	10/03/2018 18:01	WG1175099
Tetrachloroethene	U		0.000372	0.00100	0.00100	1	10/03/2018 18:01	WG1175099
Toluene	U		0.000412	0.00100	0.00100	1	10/03/2018 18:01	WG1175099
1,1,1-Trichloroethane	U		0.000319	0.00100	0.00100	1	10/03/2018 18:01	WG1175099
1,1,2-Trichloroethane	U		0.000383	0.00100	0.00100	1	10/03/2018 18:01	WG1175099
Trichloroethene	U		0.000398	0.00100	0.00100	1	10/03/2018 18:01	WG1175099
1,2,4-Trimethylbenzene	U		0.000373	0.00100	0.00100	1	10/03/2018 18:01	WG1175099
1,3,5-Trimethylbenzene	U		0.000387	0.00100	0.00100	1	10/03/2018 18:01	WG1175099
Vinyl chloride	U		0.000259	0.00100	0.00100	1	10/03/2018 18:01	WG1175099
Xylenes, Total	U		0.00106	0.00300	0.00300	1	10/03/2018 18:01	WG1175099
(S) Toluene-d8	112				80.0-120		10/03/2018 18:01	WG1175099
(S) Dibromofluoromethane	89.8				75.0-120		10/03/2018 18:01	WG1175099
(S) 4-Bromofluorobenzene	101				77.0-126		10/03/2018 18:01	WG1175099

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc



Semi Volatile Organic Compounds (GC/MS) by Method 8270 C

Analyte	Result mg/l	Qualifier	SDL mg/l	Unadj. MQL mg/l	MQL mg/l	Dilution	Analysis date / time	Batch
Acenaphthene	U		0.000316	0.00100	0.00100	1	10/09/2018 02:16	WG1177409
Acenaphthylene	U		0.000309	0.00100	0.00100	1	10/09/2018 02:16	WG1177409
Acetophenone	U		0.00247	0.0100	0.0100	1	10/09/2018 02:16	WG1177409
Anthracene	U		0.000291	0.00100	0.00100	1	10/09/2018 02:16	WG1177409
Atrazine	U		0.000260	0.0100	0.0100	1	10/09/2018 02:16	WG1177409
Benzo(a)anthracene	U		0.0000510	0.00100	0.00100	1	10/09/2018 02:16	WG1177409
Benzaldehyde	U		0.00140	0.0100	0.0100	1	10/09/2018 02:16	WG1177409
Benzo(b)fluoranthene	U		0.0000896	0.00100	0.00100	1	10/09/2018 02:16	WG1177409
Benzo(k)fluoranthene	U		0.000355	0.00100	0.00100	1	10/09/2018 02:16	WG1177409
Benzo(g,h,i)perylene	U		0.00000227	0.00100	0.00100	1	10/09/2018 02:16	WG1177409
Benzo(a)pyrene	U		0.0000381	0.000200	0.000200	1	10/09/2018 02:16	WG1177409
Biphenyl	U		0.000325	0.0100	0.0100	1	10/09/2018 02:16	WG1177409
Bis(2-chlorethoxy)methane	U		0.000329	0.0100	0.0100	1	10/09/2018 02:16	WG1177409
Bis(2-chloroethyl)ether	U		0.00162	0.0100	0.0100	1	10/09/2018 02:16	WG1177409
Bis(2-chloroisopropyl)ether	U		0.000445	0.0100	0.0100	1	10/09/2018 02:16	WG1177409
4-Bromophenyl-phenylether	U		0.000335	0.0100	0.0100	1	10/09/2018 02:16	WG1177409
2-Chloronaphthalene	U		0.000330	0.00100	0.00100	1	10/09/2018 02:16	WG1177409
4-Chlorophenyl-phenylether	U		0.000303	0.0100	0.0100	1	10/09/2018 02:16	WG1177409
Caprolactam	U		0.00259	0.0100	0.0100	1	10/09/2018 02:16	WG1177409
Carbazole	U		0.000260	0.0100	0.0100	1	10/09/2018 02:16	WG1177409
Chrysene	U		0.000332	0.00100	0.00100	1	10/09/2018 02:16	WG1177409
Dibenz(a,h)anthracene	U		0.0000644	0.000200	0.000200	1	10/09/2018 02:16	WG1177409
Dibenzofuran	U		0.000338	0.0100	0.0100	1	10/09/2018 02:16	WG1177409
3,3-Dichlorobenzidine	U		0.00202	0.0100	0.0100	1	10/09/2018 02:16	WG1177409
2,4-Dinitrotoluene	U		0.00165	0.0100	0.0100	1	10/09/2018 02:16	WG1177409
2,6-Dinitrotoluene	U		0.000279	0.0100	0.0100	1	10/09/2018 02:16	WG1177409
Fluoranthene	U		0.000310	0.00100	0.00100	1	10/09/2018 02:16	WG1177409
Fluorene	U		0.000323	0.00100	0.00100	1	10/09/2018 02:16	WG1177409
Hexachlorobenzene	U		0.000341	0.00100	0.00100	1	10/09/2018 02:16	WG1177409
Hexachloro-1,3-butadiene	U		0.000329	0.0100	0.0100	1	10/09/2018 02:16	WG1177409
Hexachlorocyclopentadiene	U		0.00233	0.0100	0.0100	1	10/09/2018 02:16	WG1177409
Hexachloroethane	U		0.000365	0.0100	0.0100	1	10/09/2018 02:16	WG1177409
Indeno(1,2,3-cd)pyrene	U		0.000279	0.00100	0.00100	1	10/09/2018 02:16	WG1177409
Isophorone	U		0.000272	0.0100	0.0100	1	10/09/2018 02:16	WG1177409
1-Methylnaphthalene	U		0.000332	0.00100	0.00100	1	10/09/2018 02:16	WG1177409
2-Methylnaphthalene	U		0.000311	0.00100	0.00100	1	10/09/2018 02:16	WG1177409
Naphthalene	U		0.000372	0.00100	0.00100	1	10/09/2018 02:16	WG1177409
Nitrobenzene	U		0.000367	0.0100	0.0100	1	10/09/2018 02:16	WG1177409
n-Nitrosodiphenylamine	U		0.00119	0.0100	0.0100	1	10/09/2018 02:16	WG1177409
n-Nitrosodi-n-propylamine	U		0.000403	0.0100	0.0100	1	10/09/2018 02:16	WG1177409
Phenanthrene	U		0.000366	0.00100	0.00100	1	10/09/2018 02:16	WG1177409
Benzylbutyl phthalate	U	J4	0.000275	0.00300	0.00300	1	10/09/2018 02:16	WG1177409
Bis(2-ethylhexyl)phthalate	U		0.000709	0.00300	0.00300	1	10/09/2018 02:16	WG1177409
Di-n-butyl phthalate	U		0.000266	0.00300	0.00300	1	10/09/2018 02:16	WG1177409
Diethyl phthalate	U	J4	0.000282	0.00300	0.00300	1	10/09/2018 02:16	WG1177409
Dimethyl phthalate	U	J4	0.000283	0.00300	0.00300	1	10/09/2018 02:16	WG1177409
Di-n-octyl phthalate	U		0.000278	0.00300	0.00300	1	10/09/2018 02:16	WG1177409
Pyrene	U		0.000330	0.00100	0.00100	1	10/09/2018 02:16	WG1177409
1,2,4-Trichlorobenzene	U		0.000355	0.0100	0.0100	1	10/09/2018 02:16	WG1177409
4-Chloro-3-methylphenol	U		0.000263	0.0100	0.0100	1	10/09/2018 02:16	WG1177409
2-Chlorophenol	U		0.000283	0.0100	0.0100	1	10/09/2018 02:16	WG1177409
2,4-Dichlorophenol	U	J3	0.000284	0.0100	0.0100	1	10/09/2018 02:16	WG1177409
2,4-Dimethylphenol	U		0.000624	0.0100	0.0100	1	10/09/2018 02:16	WG1177409
4,6-Dinitro-2-methylphenol	U	J3 J4	0.00262	0.0100	0.0100	1	10/09/2018 02:16	WG1177409
2,4-Dinitrophenol	U		0.00325	0.0100	0.0100	1	10/09/2018 02:16	WG1177409
2-Nitrophenol	U	J3	0.000320	0.0100	0.0100	1	10/09/2018 02:16	WG1177409

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc



Collected date/time: 10/01/18 12:00

L1030903

Semi Volatile Organic Compounds (GC/MS) by Method 8270 C

Analyte	Result mg/l	Qualifier	SDL mg/l	Unadj. MQL mg/l	MQL mg/l	Dilution	Analysis date / time	Batch
2-Nitroaniline	U		0.00190	0.0100	0.0100	1	10/09/2018 02:16	WG1177409
2-Methylphenol	U		0.000312	0.0100	0.0100	1	10/09/2018 02:16	WG1177409
3&4-Methyl Phenol	U		0.000266	0.0100	0.0100	1	10/09/2018 02:16	WG1177409
3-Nitroaniline	U		0.000308	0.0100	0.0100	1	10/09/2018 02:16	WG1177409
4-Chloroaniline	U		0.000382	0.0100	0.0100	1	10/09/2018 02:16	WG1177409
4-Nitroaniline	U		0.000349	0.0100	0.0100	1	10/09/2018 02:16	WG1177409
4-Nitrophenol	U	J3 J4	0.00201	0.0100	0.0100	1	10/09/2018 02:16	WG1177409
Pentachlorophenol	U	J3 J4	0.000313	0.0100	0.0100	1	10/09/2018 02:16	WG1177409
Phenol	0.00441	J	0.000334	0.0100	0.0100	1	10/09/2018 02:16	WG1177409
2,4,5-Trichlorophenol	U	J3 J4	0.000236	0.0100	0.0100	1	10/09/2018 02:16	WG1177409
2,4,6-Trichlorophenol	U	J3 J4	0.000297	0.0100	0.0100	1	10/09/2018 02:16	WG1177409
(S) 2-Fluorophenol	40.1				10.0-120		10/09/2018 02:16	WG1177409
(S) Phenol-d5	23.7				10.0-120		10/09/2018 02:16	WG1177409
(S) Nitrobenzene-d5	53.5				10.0-127		10/09/2018 02:16	WG1177409
(S) 2-Fluorobiphenyl	59.6				10.0-130		10/09/2018 02:16	WG1177409
(S) 2,4,6-Tribromophenol	38.5				10.0-155		10/09/2018 02:16	WG1177409
(S) p-Terphenyl-d14	65.8				10.0-128		10/09/2018 02:16	WG1177409

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc



Gravimetric Analysis by Method 2540 C-2011

	Result	Qualifier	SDL	Unadj. MQL	MQL	Dilution	Analysis date / time	Batch
Analyte	mg/l		mg/l	mg/l	mg/l			
Dissolved Solids	1180		5.64	20.0	20.0	1	10/08/2018 17:25	WG1176738

Wet Chemistry by Method 2320 B-2011

	Result	Qualifier	SDL	Unadj. MQL	MQL	Dilution	Analysis date / time	Batch
Analyte	mg/l		mg/l	mg/l	mg/l			
Alkalinity	364		2.71	20.0	20.0	1	10/09/2018 21:04	WG1177314

Sample Narrative:

L1030903-36 WG1177314: Endpoint pH 4.5 HEADSPACE

Wet Chemistry by Method 353.2

	Result	Qualifier	SDL	Unadj. MQL	MQL	Dilution	Analysis date / time	Batch
Analyte	mg/l		mg/l	mg/l	mg/l			
Nitrate-Nitrite	3.86		0.0394	0.100	0.200	2	10/09/2018 14:38	WG1177681

Wet Chemistry by Method 9056A

	Result	Qualifier	SDL	Unadj. MQL	MQL	Dilution	Analysis date / time	Batch
Analyte	mg/l		mg/l	mg/l	mg/l			
Chloride	288		0.260	1.00	5.00	5	10/05/2018 03:32	WG1174945
Fluoride	0.508	B	0.00990	0.100	0.100	1	10/05/2018 03:18	WG1174945
Sulfate	110		0.387	5.00	25.0	5	10/05/2018 03:32	WG1174945

Mercury by Method 7470A

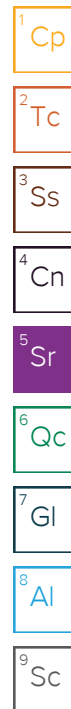
	Result	Qualifier	SDL	Unadj. MQL	MQL	Dilution	Analysis date / time	Batch
Analyte	mg/l		mg/l	mg/l	mg/l			
Mercury	U		0.0000490	0.000200	0.000200	1	10/05/2018 09:30	WG1174917

Metals (ICP) by Method 6010B

	Result	Qualifier	SDL	Unadj. MQL	MQL	Dilution	Analysis date / time	Batch
Analyte	mg/l		mg/l	mg/l	mg/l			
Boron,Dissolved	0.209		0.0126	0.200	0.200	1	10/08/2018 04:46	WG1174847

Metals (ICPMS) by Method 6020

	Result	Qualifier	SDL	Unadj. MQL	MQL	Dilution	Analysis date / time	Batch
Analyte	mg/l		mg/l	mg/l	mg/l			
Aluminum,Dissolved	U		0.00515	0.100	0.100	1	10/08/2018 19:10	WG1174849
Arsenic,Dissolved	0.00246		0.000250	0.00200	0.00200	1	10/08/2018 19:10	WG1174849
Barium,Dissolved	0.192		0.000360	0.00500	0.00500	1	10/08/2018 19:10	WG1174849
Cadmium,Dissolved	U		0.000160	0.00100	0.00100	1	10/08/2018 19:10	WG1174849
Chromium,Dissolved	0.000896	J	0.000540	0.00200	0.00200	1	10/08/2018 19:10	WG1174849
Copper,Dissolved	0.00468	J	0.000520	0.00500	0.00500	1	10/08/2018 19:10	WG1174849
Cobalt,Dissolved	0.00925		0.000260	0.00200	0.00200	1	10/08/2018 19:10	WG1174849
Iron,Dissolved	U		0.0150	0.100	0.100	1	10/08/2018 19:10	WG1174849
Lead,Dissolved	0.000421	B J	0.000240	0.00200	0.00200	1	10/08/2018 19:10	WG1174849
Manganese,Dissolved	0.0221		0.000250	0.00500	0.00500	1	10/08/2018 19:10	WG1174849
Molybdenum,Dissolved	0.00111	J	0.000140	0.00500	0.00500	1	10/08/2018 19:10	WG1174849
Nickel,Dissolved	0.0122		0.000350	0.00200	0.00200	1	10/08/2018 19:10	WG1174849
Selenium,Dissolved	0.000917	J	0.000380	0.00200	0.00200	1	10/08/2018 19:10	WG1174849
Silver,Dissolved	U		0.000310	0.00200	0.00200	1	10/08/2018 19:10	WG1174849
Uranium,Dissolved	0.0101		0.000330	0.0100	0.0100	1	10/08/2018 19:10	WG1174849
Zinc,Dissolved	0.00804	J	0.00256	0.0250	0.0250	1	10/08/2018 19:10	WG1174849





Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result mg/l	Qualifier	SDL mg/l	Unadj. MQL mg/l	MQL mg/l	Dilution	Analysis date / time	Batch
Acetone	U		0.0100	1.00	1.00	1	10/03/2018 18:22	WG1175099
Benzene	U		0.000331	0.00100	0.00100	1	10/03/2018 18:22	WG1175099
Bromodichloromethane	U		0.000380	0.00125	0.00125	1	10/03/2018 18:22	WG1175099
Bromoform	U		0.000469	0.00100	0.00100	1	10/03/2018 18:22	WG1175099
Bromomethane	U		0.000866	0.00500	0.00500	1	10/03/2018 18:22	WG1175099
n-Butylbenzene	U		0.000361	0.00100	0.00100	1	10/03/2018 18:22	WG1175099
sec-Butylbenzene	U		0.000365	0.00100	0.00100	1	10/03/2018 18:22	WG1175099
tert-Butylbenzene	U		0.000399	0.00100	0.00100	1	10/03/2018 18:22	WG1175099
Carbon disulfide	U		0.000275	0.00100	0.00100	1	10/03/2018 18:22	WG1175099
Carbon tetrachloride	U		0.000379	0.00100	0.00100	1	10/03/2018 18:22	WG1175099
Chlorobenzene	U		0.000348	0.00100	0.00100	1	10/03/2018 18:22	WG1175099
Chlorodibromomethane	U		0.000327	0.00100	0.00100	1	10/03/2018 18:22	WG1175099
Chloroethane	U		0.000453	0.00500	0.00500	1	10/03/2018 18:22	WG1175099
Chloroform	U		0.000324	0.00500	0.00500	1	10/03/2018 18:22	WG1175099
Chloromethane	U		0.000276	0.00250	0.00250	1	10/03/2018 18:22	WG1175099
1,2-Dibromoethane	U		0.000381	0.00100	0.00100	1	10/03/2018 18:22	WG1175099
1,1-Dichloroethane	U		0.000259	0.00100	0.00100	1	10/03/2018 18:22	WG1175099
1,2-Dichloroethane	U		0.000361	0.00100	0.00100	1	10/03/2018 18:22	WG1175099
1,1-Dichloroethene	U		0.000398	0.00100	0.00100	1	10/03/2018 18:22	WG1175099
cis-1,2-Dichloroethene	U		0.000260	0.00100	0.00100	1	10/03/2018 18:22	WG1175099
trans-1,2-Dichloroethene	U		0.000396	0.00100	0.00100	1	10/03/2018 18:22	WG1175099
1,2-Dichloropropane	U		0.000306	0.00100	0.00100	1	10/03/2018 18:22	WG1175099
cis-1,3-Dichloropropene	U		0.000418	0.00100	0.00100	1	10/03/2018 18:22	WG1175099
trans-1,3-Dichloropropene	U		0.000419	0.00100	0.00100	1	10/03/2018 18:22	WG1175099
Ethylbenzene	U		0.000384	0.00100	0.00100	1	10/03/2018 18:22	WG1175099
Hexachloro-1,3-butadiene	U		0.000256	0.00100	0.00100	1	10/03/2018 18:22	WG1175099
2-Hexanone	U		0.00382	0.0100	0.0100	1	10/03/2018 18:22	WG1175099
Isopropylbenzene	U		0.000326	0.00100	0.00100	1	10/03/2018 18:22	WG1175099
p-Isopropyltoluene	U		0.000350	0.00100	0.00100	1	10/03/2018 18:22	WG1175099
2-Butanone (MEK)	U		0.00393	0.0100	0.0100	1	10/03/2018 18:22	WG1175099
Methylene Chloride	U		0.00100	0.00500	0.00500	1	10/03/2018 18:22	WG1175099
4-Methyl-2-pentanone (MIBK)	U		0.00214	0.0100	0.0100	1	10/03/2018 18:22	WG1175099
Methyl tert-butyl ether	U		0.000367	0.00100	0.00100	1	10/03/2018 18:22	WG1175099
Naphthalene	U		0.00100	0.00500	0.00500	1	10/03/2018 18:22	WG1175099
n-Propylbenzene	U		0.000349	0.00100	0.00100	1	10/03/2018 18:22	WG1175099
Styrene	U		0.000307	0.00100	0.00100	1	10/03/2018 18:22	WG1175099
1,1,2,2-Tetrachloroethane	U		0.000130	0.00100	0.00100	1	10/03/2018 18:22	WG1175099
Tetrachloroethene	U		0.000372	0.00100	0.00100	1	10/03/2018 18:22	WG1175099
Toluene	U		0.000412	0.00100	0.00100	1	10/03/2018 18:22	WG1175099
1,1,1-Trichloroethane	U		0.000319	0.00100	0.00100	1	10/03/2018 18:22	WG1175099
1,1,2-Trichloroethane	U		0.000383	0.00100	0.00100	1	10/03/2018 18:22	WG1175099
Trichloroethene	U		0.000398	0.00100	0.00100	1	10/03/2018 18:22	WG1175099
1,2,4-Trimethylbenzene	U		0.000373	0.00100	0.00100	1	10/03/2018 18:22	WG1175099
1,3,5-Trimethylbenzene	U		0.000387	0.00100	0.00100	1	10/03/2018 18:22	WG1175099
Vinyl chloride	U		0.000259	0.00100	0.00100	1	10/03/2018 18:22	WG1175099
Xylenes, Total	U		0.00106	0.00300	0.00300	1	10/03/2018 18:22	WG1175099
(S) Toluene-d8	113				80.0-120		10/03/2018 18:22	WG1175099
(S) Dibromofluoromethane	89.6				75.0-120		10/03/2018 18:22	WG1175099
(S) 4-Bromofluorobenzene	103				77.0-126		10/03/2018 18:22	WG1175099

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc



Semi Volatile Organic Compounds (GC/MS) by Method 8270 C

Analyte	Result mg/l	Qualifier	SDL mg/l	Unadj. MQL mg/l	MQL mg/l	Dilution	Analysis date / time	Batch
Acenaphthene	U		0.000316	0.00100	0.00100	1	10/09/2018 02:39	WG1177409
Acenaphthylene	U		0.000309	0.00100	0.00100	1	10/09/2018 02:39	WG1177409
Acetophenone	U		0.00247	0.0100	0.0100	1	10/09/2018 02:39	WG1177409
Anthracene	U		0.000291	0.00100	0.00100	1	10/09/2018 02:39	WG1177409
Atrazine	U		0.000260	0.0100	0.0100	1	10/09/2018 02:39	WG1177409
Benzo(a)anthracene	U		0.0000510	0.00100	0.00100	1	10/09/2018 02:39	WG1177409
Benzaldehyde	U		0.00140	0.0100	0.0100	1	10/09/2018 02:39	WG1177409
Benzo(b)fluoranthene	U		0.0000896	0.00100	0.00100	1	10/09/2018 02:39	WG1177409
Benzo(k)fluoranthene	U		0.000355	0.00100	0.00100	1	10/09/2018 02:39	WG1177409
Benzo(g,h,i)perylene	U		0.00000227	0.00100	0.00100	1	10/09/2018 02:39	WG1177409
Benzo(a)pyrene	U		0.0000381	0.000200	0.000200	1	10/09/2018 02:39	WG1177409
Biphenyl	U		0.000325	0.0100	0.0100	1	10/09/2018 02:39	WG1177409
Bis(2-chlorethoxy)methane	U		0.000329	0.0100	0.0100	1	10/09/2018 02:39	WG1177409
Bis(2-chloroethyl)ether	U		0.00162	0.0100	0.0100	1	10/09/2018 02:39	WG1177409
Bis(2-chloroisopropyl)ether	U		0.000445	0.0100	0.0100	1	10/09/2018 02:39	WG1177409
4-Bromophenyl-phenylether	U		0.000335	0.0100	0.0100	1	10/09/2018 02:39	WG1177409
2-Chloronaphthalene	U		0.000330	0.00100	0.00100	1	10/09/2018 02:39	WG1177409
4-Chlorophenyl-phenylether	U		0.000303	0.0100	0.0100	1	10/09/2018 02:39	WG1177409
Caprolactam	U		0.00259	0.0100	0.0100	1	10/09/2018 02:39	WG1177409
Carbazole	U		0.000260	0.0100	0.0100	1	10/09/2018 02:39	WG1177409
Chrysene	U		0.000332	0.00100	0.00100	1	10/09/2018 02:39	WG1177409
Dibenz(a,h)anthracene	U		0.0000644	0.000200	0.000200	1	10/09/2018 02:39	WG1177409
Dibenzofuran	U		0.000338	0.0100	0.0100	1	10/09/2018 02:39	WG1177409
3,3-Dichlorobenzidine	U		0.00202	0.0100	0.0100	1	10/09/2018 02:39	WG1177409
2,4-Dinitrotoluene	U		0.00165	0.0100	0.0100	1	10/09/2018 02:39	WG1177409
2,6-Dinitrotoluene	U		0.000279	0.0100	0.0100	1	10/09/2018 02:39	WG1177409
Fluoranthene	U		0.000310	0.00100	0.00100	1	10/09/2018 02:39	WG1177409
Fluorene	U		0.000323	0.00100	0.00100	1	10/09/2018 02:39	WG1177409
Hexachlorobenzene	U		0.000341	0.00100	0.00100	1	10/09/2018 02:39	WG1177409
Hexachloro-1,3-butadiene	U		0.000329	0.0100	0.0100	1	10/09/2018 02:39	WG1177409
Hexachlorocyclopentadiene	U		0.00233	0.0100	0.0100	1	10/09/2018 02:39	WG1177409
Hexachloroethane	U		0.000365	0.0100	0.0100	1	10/09/2018 02:39	WG1177409
Indeno(1,2,3-cd)pyrene	U		0.000279	0.00100	0.00100	1	10/09/2018 02:39	WG1177409
Isophorone	U		0.000272	0.0100	0.0100	1	10/09/2018 02:39	WG1177409
1-Methylnaphthalene	U		0.000332	0.00100	0.00100	1	10/09/2018 02:39	WG1177409
2-Methylnaphthalene	U		0.000311	0.00100	0.00100	1	10/09/2018 02:39	WG1177409
Naphthalene	U		0.000372	0.00100	0.00100	1	10/09/2018 02:39	WG1177409
Nitrobenzene	U		0.000367	0.0100	0.0100	1	10/09/2018 02:39	WG1177409
n-Nitrosodiphenylamine	U		0.00119	0.0100	0.0100	1	10/09/2018 02:39	WG1177409
n-Nitrosodi-n-propylamine	U		0.000403	0.0100	0.0100	1	10/09/2018 02:39	WG1177409
Phenanthrene	U		0.000366	0.00100	0.00100	1	10/09/2018 02:39	WG1177409
Benzylbutyl phthalate	U	J4	0.000275	0.00300	0.00300	1	10/09/2018 02:39	WG1177409
Bis(2-ethylhexyl)phthalate	U		0.000709	0.00300	0.00300	1	10/09/2018 02:39	WG1177409
Di-n-butyl phthalate	U		0.000266	0.00300	0.00300	1	10/09/2018 02:39	WG1177409
Diethyl phthalate	U	J4	0.000282	0.00300	0.00300	1	10/09/2018 02:39	WG1177409
Dimethyl phthalate	U	J4	0.000283	0.00300	0.00300	1	10/09/2018 02:39	WG1177409
Di-n-octyl phthalate	U		0.000278	0.00300	0.00300	1	10/09/2018 02:39	WG1177409
Pyrene	U		0.000330	0.00100	0.00100	1	10/09/2018 02:39	WG1177409
1,2,4-Trichlorobenzene	U		0.000355	0.0100	0.0100	1	10/09/2018 02:39	WG1177409
4-Chloro-3-methylphenol	U		0.000263	0.0100	0.0100	1	10/09/2018 02:39	WG1177409
2-Chlorophenol	U		0.000283	0.0100	0.0100	1	10/09/2018 02:39	WG1177409
2,4-Dichlorophenol	U	J3	0.000284	0.0100	0.0100	1	10/09/2018 02:39	WG1177409
2,4-Dimethylphenol	U		0.000624	0.0100	0.0100	1	10/09/2018 02:39	WG1177409
4,6-Dinitro-2-methylphenol	U	J3 J4	0.00262	0.0100	0.0100	1	10/09/2018 02:39	WG1177409
2,4-Dinitrophenol	U		0.00325	0.0100	0.0100	1	10/09/2018 02:39	WG1177409
2-Nitrophenol	U	J3	0.000320	0.0100	0.0100	1	10/09/2018 02:39	WG1177409

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc



Collected date/time: 10/01/18 10:00

L1030903

Semi Volatile Organic Compounds (GC/MS) by Method 8270 C

Analyte	Result mg/l	Qualifier	SDL mg/l	Unadj. MQL mg/l	MQL mg/l	Dilution	Analysis date / time	Batch
2-Nitroaniline	U		0.00190	0.0100	0.0100	1	10/09/2018 02:39	WG1177409
2-Methylphenol	U		0.000312	0.0100	0.0100	1	10/09/2018 02:39	WG1177409
3&4-Methyl Phenol	U		0.000266	0.0100	0.0100	1	10/09/2018 02:39	WG1177409
3-Nitroaniline	U		0.000308	0.0100	0.0100	1	10/09/2018 02:39	WG1177409
4-Chloroaniline	U		0.000382	0.0100	0.0100	1	10/09/2018 02:39	WG1177409
4-Nitroaniline	U		0.000349	0.0100	0.0100	1	10/09/2018 02:39	WG1177409
4-Nitrophenol	U	J3 J4	0.00201	0.0100	0.0100	1	10/09/2018 02:39	WG1177409
Pentachlorophenol	U	J3 J4	0.000313	0.0100	0.0100	1	10/09/2018 02:39	WG1177409
Phenol	0.00274	J	0.000334	0.0100	0.0100	1	10/09/2018 02:39	WG1177409
2,4,5-Trichlorophenol	U	J3 J4	0.000236	0.0100	0.0100	1	10/09/2018 02:39	WG1177409
2,4,6-Trichlorophenol	U	J3 J4	0.000297	0.0100	0.0100	1	10/09/2018 02:39	WG1177409
(S) 2-Fluorophenol	32.2				10.0-120		10/09/2018 02:39	WG1177409
(S) Phenol-d5	22.1				10.0-120		10/09/2018 02:39	WG1177409
(S) Nitrobenzene-d5	22.6				10.0-127		10/09/2018 02:39	WG1177409
(S) 2-Fluorobiphenyl	28.7				10.0-130		10/09/2018 02:39	WG1177409
(S) 2,4,6-Tribromophenol	40.8				10.0-155		10/09/2018 02:39	WG1177409
(S) p-Terphenyl-d14	53.5				10.0-128		10/09/2018 02:39	WG1177409

¹ Cp² Tc³ Ss⁴ Cn⁵ Sr⁶ Qc⁷ Gl⁸ Al⁹ Sc



Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	SDL	Unadj. MQL	MQL	Dilution	Analysis date / time	Batch
Dissolved Solids	509		2.82	10.0	10.0	1	10/08/2018 17:25	WG1176738

Wet Chemistry by Method 2320 B-2011

Analyte	Result	Qualifier	SDL	Unadj. MQL	MQL	Dilution	Analysis date / time	Batch
Alkalinity	187		2.71	20.0	20.0	1	10/09/2018 21:11	WG1177314

Sample Narrative:

L1030903-37 WG1177314: Endpoint pH 4.5 HEADSPACE

Wet Chemistry by Method 353.2

Analyte	Result	Qualifier	SDL	Unadj. MQL	MQL	Dilution	Analysis date / time	Batch
Nitrate-Nitrite	3.70		0.0394	0.100	0.200	2	10/09/2018 14:39	WG1177681

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	SDL	Unadj. MQL	MQL	Dilution	Analysis date / time	Batch
Chloride	76.3		0.0519	1.00	1.00	1	10/05/2018 03:46	WG1174945
Fluoride	1.09		0.00990	0.100	0.100	1	10/05/2018 03:46	WG1174945
Sulfate	80.6		0.0774	5.00	5.00	1	10/05/2018 03:46	WG1174945

Mercury by Method 7470A

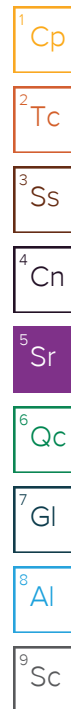
Analyte	Result	Qualifier	SDL	Unadj. MQL	MQL	Dilution	Analysis date / time	Batch
Mercury	U		0.0000490	0.000200	0.000200	1	10/05/2018 09:32	WG1174917

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	SDL	Unadj. MQL	MQL	Dilution	Analysis date / time	Batch
Boron,Dissolved	0.145	J	0.0126	0.200	0.200	1	10/08/2018 04:54	WG1174847

Metals (ICPMS) by Method 6020

Analyte	Result	Qualifier	SDL	Unadj. MQL	MQL	Dilution	Analysis date / time	Batch
Aluminum,Dissolved	0.00560	J	0.00515	0.100	0.100	1	10/08/2018 19:15	WG1174849
Arsenic,Dissolved	0.00421		0.000250	0.00200	0.00200	1	10/08/2018 19:15	WG1174849
Barium,Dissolved	0.0843		0.000360	0.00500	0.00500	1	10/08/2018 19:15	WG1174849
Cadmium,Dissolved	U		0.000160	0.00100	0.00100	1	10/08/2018 19:15	WG1174849
Chromium,Dissolved	0.00111	J	0.000540	0.00200	0.00200	1	10/08/2018 19:15	WG1174849
Copper,Dissolved	0.00121	J	0.000520	0.00500	0.00500	1	10/08/2018 19:15	WG1174849
Cobalt,Dissolved	U		0.000260	0.00200	0.00200	1	10/08/2018 19:15	WG1174849
Iron,Dissolved	U		0.0150	0.100	0.100	1	10/08/2018 19:15	WG1174849
Lead,Dissolved	U		0.000240	0.00200	0.00200	1	10/08/2018 19:15	WG1174849
Manganese,Dissolved	0.000398	J	0.000250	0.00500	0.00500	1	10/08/2018 19:15	WG1174849
Molybdenum,Dissolved	0.00243	J	0.000140	0.00500	0.00500	1	10/08/2018 19:15	WG1174849
Nickel,Dissolved	0.00804		0.000350	0.00200	0.00200	1	10/08/2018 19:15	WG1174849
Selenium,Dissolved	0.00218		0.000380	0.00200	0.00200	1	10/08/2018 19:15	WG1174849
Silver,Dissolved	U		0.000310	0.00200	0.00200	1	10/08/2018 19:15	WG1174849
Uranium,Dissolved	0.00234	J	0.000330	0.0100	0.0100	1	10/08/2018 19:15	WG1174849
Zinc,Dissolved	0.0449		0.00256	0.0250	0.0250	1	10/08/2018 19:15	WG1174849





Volatile Organic Compounds (GC) by Method 8015D/GRO

Analyte	Result mg/l	Qualifier	SDL mg/l	Unadj. MQL mg/l	MQL mg/l	Dilution	Analysis date / time	Batch
TPH (GC/FID) Low Fraction	U		0.0314	0.100	0.100	1	10/06/2018 22:03	WG1176966
(S) a,a,a-Trifluorotoluene(FID)	107				78.0-120		10/06/2018 22:03	WG1176966

Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result mg/l	Qualifier	SDL mg/l	Unadj. MQL mg/l	MQL mg/l	Dilution	Analysis date / time	Batch
Acetone	U		0.0100	1.00	1.00	1	10/03/2018 20:09	WG1175189
Benzene	U		0.000331	0.00100	0.00100	1	10/03/2018 20:09	WG1175189
Bromodichloromethane	0.00271		0.000380	0.00125	0.00125	1	10/03/2018 20:09	WG1175189
Bromoform	U		0.000469	0.00100	0.00100	1	10/03/2018 20:09	WG1175189
Bromomethane	U		0.000866	0.00500	0.00500	1	10/03/2018 20:09	WG1175189
n-Butylbenzene	U		0.000361	0.00100	0.00100	1	10/03/2018 20:09	WG1175189
sec-Butylbenzene	U		0.000365	0.00100	0.00100	1	10/03/2018 20:09	WG1175189
tert-Butylbenzene	U		0.000399	0.00100	0.00100	1	10/03/2018 20:09	WG1175189
Carbon disulfide	U		0.000275	0.00100	0.00100	1	10/03/2018 20:09	WG1175189
Carbon tetrachloride	U		0.000379	0.00100	0.00100	1	10/03/2018 20:09	WG1175189
Chlorobenzene	U		0.000348	0.00100	0.00100	1	10/03/2018 20:09	WG1175189
Chlorodibromomethane	0.000637	U	0.000327	0.00100	0.00100	1	10/03/2018 20:09	WG1175189
Chloroethane	U		0.000453	0.00500	0.00500	1	10/03/2018 20:09	WG1175189
Chloroform	0.00846		0.000324	0.00500	0.00500	1	10/03/2018 20:09	WG1175189
Chloromethane	U		0.000276	0.00250	0.00250	1	10/03/2018 20:09	WG1175189
1,2-Dibromoethane	U		0.000381	0.00100	0.00100	1	10/03/2018 20:09	WG1175189
1,1-Dichloroethane	U		0.000259	0.00100	0.00100	1	10/03/2018 20:09	WG1175189
1,2-Dichloroethane	U		0.000361	0.00100	0.00100	1	10/03/2018 20:09	WG1175189
1,1-Dichloroethene	U		0.000398	0.00100	0.00100	1	10/03/2018 20:09	WG1175189
cis-1,2-Dichloroethene	U		0.000260	0.00100	0.00100	1	10/03/2018 20:09	WG1175189
trans-1,2-Dichloroethene	U		0.000396	0.00100	0.00100	1	10/03/2018 20:09	WG1175189
1,2-Dichloropropane	U		0.000306	0.00100	0.00100	1	10/03/2018 20:09	WG1175189
cis-1,3-Dichloropropene	U		0.000418	0.00100	0.00100	1	10/03/2018 20:09	WG1175189
trans-1,3-Dichloropropene	U		0.000419	0.00100	0.00100	1	10/03/2018 20:09	WG1175189
Ethylbenzene	U		0.000384	0.00100	0.00100	1	10/03/2018 20:09	WG1175189
Hexachloro-1,3-butadiene	U		0.000256	0.00100	0.00100	1	10/03/2018 20:09	WG1175189
2-Hexanone	U		0.00382	0.0100	0.0100	1	10/03/2018 20:09	WG1175189
Isopropylbenzene	U		0.000326	0.00100	0.00100	1	10/03/2018 20:09	WG1175189
p-Isopropyltoluene	U		0.000350	0.00100	0.00100	1	10/03/2018 20:09	WG1175189
2-Butanone (MEK)	U		0.00393	0.0100	0.0100	1	10/03/2018 20:09	WG1175189
Methylene Chloride	U		0.00100	0.00500	0.00500	1	10/03/2018 20:09	WG1175189
4-Methyl-2-pentanone (MIBK)	U		0.00214	0.0100	0.0100	1	10/03/2018 20:09	WG1175189
Methyl tert-butyl ether	U		0.000367	0.00100	0.00100	1	10/03/2018 20:09	WG1175189
Naphthalene	U		0.00100	0.00500	0.00500	1	10/03/2018 20:09	WG1175189
n-Propylbenzene	U		0.000349	0.00100	0.00100	1	10/03/2018 20:09	WG1175189
Styrene	U		0.000307	0.00100	0.00100	1	10/03/2018 20:09	WG1175189
1,1,2,2-Tetrachloroethane	U		0.000130	0.00100	0.00100	1	10/03/2018 20:09	WG1175189
Tetrachloroethene	U		0.000372	0.00100	0.00100	1	10/03/2018 20:09	WG1175189
Toluene	U		0.000412	0.00100	0.00100	1	10/03/2018 20:09	WG1175189
1,1,1-Trichloroethane	U		0.000319	0.00100	0.00100	1	10/03/2018 20:09	WG1175189
1,1,2-Trichloroethane	U		0.000383	0.00100	0.00100	1	10/03/2018 20:09	WG1175189
Trichloroethene	U		0.000398	0.00100	0.00100	1	10/03/2018 20:09	WG1175189
1,2,4-Trimethylbenzene	U		0.000373	0.00100	0.00100	1	10/03/2018 20:09	WG1175189
1,3,5-Trimethylbenzene	U		0.000387	0.00100	0.00100	1	10/03/2018 20:09	WG1175189
Vinyl chloride	U		0.000259	0.00100	0.00100	1	10/03/2018 20:09	WG1175189
Xylenes, Total	U		0.00106	0.00300	0.00300	1	10/03/2018 20:09	WG1175189
(S) Toluene-d8	103				80.0-120		10/03/2018 20:09	WG1175189
(S) Dibromofluoromethane	101				75.0-120		10/03/2018 20:09	WG1175189
(S) 4-Bromofluorobenzene	89.1				77.0-126		10/03/2018 20:09	WG1175189

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc



Semi-Volatile Organic Compounds (GC) by Method 3511/8015

Analyte	Result mg/l	Qualifier	SDL mg/l	Unadj. MQL mg/l	MQL mg/l	Dilution	Analysis date / time	Batch
TPH (GC/FID) High Fraction	0.0391	J	0.0247	0.100	0.100	1	10/08/2018 17:25	WG1177385
(S) o-Terphenyl	63.7				31.0-160		10/08/2018 17:25	WG1177385

Semi Volatile Organic Compounds (GC/MS) by Method 8270 C

Analyte	Result mg/l	Qualifier	SDL mg/l	Unadj. MQL mg/l	MQL mg/l	Dilution	Analysis date / time	Batch
Acenaphthene	U		0.000316	0.00100	0.00100	1	10/09/2018 03:03	WG1177409
Acenaphthylene	U		0.000309	0.00100	0.00100	1	10/09/2018 03:03	WG1177409
Acetophenone	U		0.00247	0.0100	0.0100	1	10/09/2018 03:03	WG1177409
Anthracene	U		0.000291	0.00100	0.00100	1	10/09/2018 03:03	WG1177409
Atrazine	U		0.000260	0.0100	0.0100	1	10/09/2018 03:03	WG1177409
Benzo(a)anthracene	U		0.0000510	0.00100	0.00100	1	10/09/2018 03:03	WG1177409
Benzaldehyde	U		0.00140	0.0100	0.0100	1	10/09/2018 03:03	WG1177409
Benzo(b)fluoranthene	U		0.0000896	0.00100	0.00100	1	10/09/2018 03:03	WG1177409
Benzo(k)fluoranthene	U		0.000355	0.00100	0.00100	1	10/09/2018 03:03	WG1177409
Benzo(g,h,i)perylene	U		0.00000227	0.00100	0.00100	1	10/09/2018 03:03	WG1177409
Benzo(a)pyrene	U		0.0000381	0.000200	0.000200	1	10/09/2018 03:03	WG1177409
Biphenyl	U		0.000325	0.0100	0.0100	1	10/09/2018 03:03	WG1177409
Bis(2-chlorethoxy)methane	U		0.000329	0.0100	0.0100	1	10/09/2018 03:03	WG1177409
Bis(2-chloroethyl)ether	U		0.00162	0.0100	0.0100	1	10/09/2018 03:03	WG1177409
Bis(2-chloroisopropyl)ether	U		0.000445	0.0100	0.0100	1	10/09/2018 03:03	WG1177409
4-Bromophenyl-phenylether	U		0.000335	0.0100	0.0100	1	10/09/2018 03:03	WG1177409
2-Chloronaphthalene	U		0.000330	0.00100	0.00100	1	10/09/2018 03:03	WG1177409
4-Chlorophenyl-phenylether	U		0.000303	0.0100	0.0100	1	10/09/2018 03:03	WG1177409
Caprolactam	U		0.00259	0.0100	0.0100	1	10/09/2018 03:03	WG1177409
Carbazole	U		0.000260	0.0100	0.0100	1	10/09/2018 03:03	WG1177409
Chrysene	U		0.000332	0.00100	0.00100	1	10/09/2018 03:03	WG1177409
Dibenz(a,h)anthracene	U		0.0000644	0.000200	0.000200	1	10/09/2018 03:03	WG1177409
Dibenzofuran	U		0.000338	0.0100	0.0100	1	10/09/2018 03:03	WG1177409
3,3-Dichlorobenzidine	U		0.00202	0.0100	0.0100	1	10/09/2018 03:03	WG1177409
2,4-Dinitrotoluene	U		0.00165	0.0100	0.0100	1	10/09/2018 03:03	WG1177409
2,6-Dinitrotoluene	U		0.000279	0.0100	0.0100	1	10/09/2018 03:03	WG1177409
Fluoranthene	U		0.000310	0.00100	0.00100	1	10/09/2018 03:03	WG1177409
Fluorene	U		0.000323	0.00100	0.00100	1	10/09/2018 03:03	WG1177409
Hexachlorobenzene	U		0.000341	0.00100	0.00100	1	10/09/2018 03:03	WG1177409
Hexachloro-1,3-butadiene	U		0.000329	0.0100	0.0100	1	10/09/2018 03:03	WG1177409
Hexachlorocyclopentadiene	U		0.00233	0.0100	0.0100	1	10/09/2018 03:03	WG1177409
Hexachloroethane	U		0.000365	0.0100	0.0100	1	10/09/2018 03:03	WG1177409
Indeno(1,2,3-cd)pyrene	U		0.000279	0.00100	0.00100	1	10/09/2018 03:03	WG1177409
Isophorone	U		0.000272	0.0100	0.0100	1	10/09/2018 03:03	WG1177409
1-Methylnaphthalene	U		0.000332	0.00100	0.00100	1	10/09/2018 03:03	WG1177409
2-Methylnaphthalene	U		0.000311	0.00100	0.00100	1	10/09/2018 03:03	WG1177409
Naphthalene	U		0.000372	0.00100	0.00100	1	10/09/2018 03:03	WG1177409
Nitrobenzene	U		0.000367	0.0100	0.0100	1	10/09/2018 03:03	WG1177409
n-Nitrosodiphenylamine	U		0.00119	0.0100	0.0100	1	10/09/2018 03:03	WG1177409
n-Nitrosodi-n-propylamine	U		0.000403	0.0100	0.0100	1	10/09/2018 03:03	WG1177409
Phenanthrene	U		0.000366	0.00100	0.00100	1	10/09/2018 03:03	WG1177409
Benzylbutyl phthalate	U	J4	0.000275	0.00300	0.00300	1	10/09/2018 03:03	WG1177409
Bis(2-ethylhexyl)phthalate	U		0.000709	0.00300	0.00300	1	10/09/2018 03:03	WG1177409
Di-n-butyl phthalate	U		0.000266	0.00300	0.00300	1	10/09/2018 03:03	WG1177409
Diethyl phthalate	U	J4	0.000282	0.00300	0.00300	1	10/09/2018 03:03	WG1177409
Dimethyl phthalate	U	J4	0.000283	0.00300	0.00300	1	10/09/2018 03:03	WG1177409
Di-n-octyl phthalate	U		0.000278	0.00300	0.00300	1	10/09/2018 03:03	WG1177409
Pyrene	U		0.000330	0.00100	0.00100	1	10/09/2018 03:03	WG1177409
1,2,4-Trichlorobenzene	U		0.000355	0.0100	0.0100	1	10/09/2018 03:03	WG1177409
4-Chloro-3-methylphenol	U		0.000263	0.0100	0.0100	1	10/09/2018 03:03	WG1177409

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc



Collected date/time: 10/01/18 09:00

L1030903

Semi Volatile Organic Compounds (GC/MS) by Method 8270 C

Analyte	Result mg/l	Qualifier	SDL mg/l	Unadj. MQL mg/l	MQL mg/l	Dilution	Analysis date / time	Batch
2-Chlorophenol	U		0.000283	0.0100	0.0100	1	10/09/2018 03:03	WG1177409
2,4-Dichlorophenol	U	J3	0.000284	0.0100	0.0100	1	10/09/2018 03:03	WG1177409
2,4-Dimethylphenol	U		0.000624	0.0100	0.0100	1	10/09/2018 03:03	WG1177409
4,6-Dinitro-2-methylphenol	U	J3 J4	0.00262	0.0100	0.0100	1	10/09/2018 03:03	WG1177409
2,4-Dinitrophenol	U		0.00325	0.0100	0.0100	1	10/09/2018 03:03	WG1177409
2-Nitrophenol	U	J3	0.000320	0.0100	0.0100	1	10/09/2018 03:03	WG1177409
2-Nitroaniline	U		0.00190	0.0100	0.0100	1	10/09/2018 03:03	WG1177409
2-Methylphenol	U		0.000312	0.0100	0.0100	1	10/09/2018 03:03	WG1177409
3&4-Methyl Phenol	U		0.000266	0.0100	0.0100	1	10/09/2018 03:03	WG1177409
3-Nitroaniline	U		0.000308	0.0100	0.0100	1	10/09/2018 03:03	WG1177409
4-Chloroaniline	U		0.000382	0.0100	0.0100	1	10/09/2018 03:03	WG1177409
4-Nitroaniline	U		0.000349	0.0100	0.0100	1	10/09/2018 03:03	WG1177409
4-Nitrophenol	U	J3 J4	0.00201	0.0100	0.0100	1	10/09/2018 03:03	WG1177409
Pentachlorophenol	U	J3 J4	0.000313	0.0100	0.0100	1	10/09/2018 03:03	WG1177409
Phenol	0.00484	J	0.000334	0.0100	0.0100	1	10/09/2018 03:03	WG1177409
2,4,5-Trichlorophenol	U	J3 J4	0.000236	0.0100	0.0100	1	10/09/2018 03:03	WG1177409
2,4,6-Trichlorophenol	U	J3 J4	0.000297	0.0100	0.0100	1	10/09/2018 03:03	WG1177409
(S) 2-Fluorophenol	36.4				10.0-120		10/09/2018 03:03	WG1177409
(S) Phenol-d5	21.2				10.0-120		10/09/2018 03:03	WG1177409
(S) Nitrobenzene-d5	18.0				10.0-127		10/09/2018 03:03	WG1177409
(S) 2-Fluorobiphenyl	27.6				10.0-130		10/09/2018 03:03	WG1177409
(S) 2,4,6-Tribromophenol	39.4				10.0-155		10/09/2018 03:03	WG1177409
(S) p-Terphenyl-d14	60.3				10.0-128		10/09/2018 03:03	WG1177409

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc



Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	SDL	Unadj. MQL	MQL	Dilution	Analysis date / time	Batch
Dissolved Solids	451	J3	2.82	10.0	10.0	1	10/08/2018 18:03	WG1176739

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc

Wet Chemistry by Method 2320 B-2011

Analyte	Result	Qualifier	SDL	Unadj. MQL	MQL	Dilution	Analysis date / time	Batch
Alkalinity	261		2.71	20.0	20.0	1	10/09/2018 21:18	WG1177314

Sample Narrative:

L1030903-38 WG1177314: Endpoint pH 4.5 HEADSPACE

Wet Chemistry by Method 353.2

Analyte	Result	Qualifier	SDL	Unadj. MQL	MQL	Dilution	Analysis date / time	Batch
Nitrate-Nitrite	U		0.0197	0.100	0.100	1	10/09/2018 14:41	WG1177681

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	SDL	Unadj. MQL	MQL	Dilution	Analysis date / time	Batch
Chloride	34.9		0.0519	1.00	1.00	1	10/05/2018 04:41	WG1174945
Fluoride	0.360	B	0.00990	0.100	0.100	1	10/05/2018 04:41	WG1174945
Sulfate	47.7		0.0774	5.00	5.00	1	10/05/2018 04:41	WG1174945

Mercury by Method 7470A

Analyte	Result	Qualifier	SDL	Unadj. MQL	MQL	Dilution	Analysis date / time	Batch
Mercury	U		0.0000490	0.000200	0.000200	1	10/05/2018 09:35	WG1174917

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	SDL	Unadj. MQL	MQL	Dilution	Analysis date / time	Batch
Boron,Dissolved	0.0332	J	0.0126	0.200	0.200	1	10/08/2018 04:56	WG1174847

Metals (ICPMS) by Method 6020

Analyte	Result	Qualifier	SDL	Unadj. MQL	MQL	Dilution	Analysis date / time	Batch
Aluminum,Dissolved	0.0111	J	0.00515	0.100	0.100	1	10/08/2018 19:20	WG1174849
Arsenic,Dissolved	0.00619		0.000250	0.00200	0.00200	1	10/08/2018 19:20	WG1174849
Barium,Dissolved	0.179		0.000360	0.00500	0.00500	1	10/08/2018 19:20	WG1174849
Cadmium,Dissolved	U		0.000160	0.00100	0.00100	1	10/08/2018 19:20	WG1174849
Chromium,Dissolved	U		0.000540	0.00200	0.00200	1	10/08/2018 19:20	WG1174849
Copper,Dissolved	0.00105	J	0.000520	0.00500	0.00500	1	10/08/2018 19:20	WG1174849
Cobalt,Dissolved	0.000302	J	0.000260	0.00200	0.00200	1	10/08/2018 19:20	WG1174849
Iron,Dissolved	U		0.0150	0.100	0.100	1	10/08/2018 19:20	WG1174849
Lead,Dissolved	0.000273	B J	0.000240	0.00200	0.00200	1	10/08/2018 19:20	WG1174849
Manganese,Dissolved	0.0561		0.000250	0.00500	0.00500	1	10/08/2018 19:20	WG1174849
Molybdenum,Dissolved	0.00350	J	0.000140	0.00500	0.00500	1	10/08/2018 19:20	WG1174849
Nickel,Dissolved	0.00382		0.000350	0.00200	0.00200	1	10/08/2018 19:20	WG1174849
Selenium,Dissolved	U		0.000380	0.00200	0.00200	1	10/08/2018 19:20	WG1174849
Silver,Dissolved	U		0.000310	0.00200	0.00200	1	10/08/2018 19:20	WG1174849
Uranium,Dissolved	0.00148	J	0.000330	0.0100	0.0100	1	10/08/2018 19:20	WG1174849
Zinc,Dissolved	U		0.00256	0.0250	0.0250	1	10/08/2018 19:20	WG1174849



Volatile Organic Compounds (GC) by Method 8015D/GRO

Analyte	Result mg/l	Qualifier	SDL mg/l	Unadj. MQL mg/l	MQL mg/l	Dilution	Analysis date / time	Batch
TPH (GC/FID) Low Fraction	U		0.0314	0.100	0.100	1	10/06/2018 22:24	WG1176966
(S) a,a,a-Trifluorotoluene(FID)	107				78.0-120		10/06/2018 22:24	WG1176966

Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result mg/l	Qualifier	SDL mg/l	Unadj. MQL mg/l	MQL mg/l	Dilution	Analysis date / time	Batch
Acetone	U		0.0100	1.00	1.00	1	10/03/2018 14:51	WG1175256
Benzene	U		0.000331	0.00100	0.00100	1	10/03/2018 14:51	WG1175256
Bromodichloromethane	U		0.000380	0.00125	0.00125	1	10/03/2018 14:51	WG1175256
Bromoform	U		0.000469	0.00100	0.00100	1	10/03/2018 14:51	WG1175256
Bromomethane	U		0.000866	0.00500	0.00500	1	10/03/2018 14:51	WG1175256
n-Butylbenzene	U		0.000361	0.00100	0.00100	1	10/03/2018 14:51	WG1175256
sec-Butylbenzene	U		0.000365	0.00100	0.00100	1	10/03/2018 14:51	WG1175256
tert-Butylbenzene	U		0.000399	0.00100	0.00100	1	10/03/2018 14:51	WG1175256
Carbon disulfide	U		0.000275	0.00100	0.00100	1	10/03/2018 14:51	WG1175256
Carbon tetrachloride	U		0.000379	0.00100	0.00100	1	10/03/2018 14:51	WG1175256
Chlorobenzene	U		0.000348	0.00100	0.00100	1	10/03/2018 14:51	WG1175256
Chlorodibromomethane	U		0.000327	0.00100	0.00100	1	10/03/2018 14:51	WG1175256
Chloroethane	U		0.000453	0.00500	0.00500	1	10/03/2018 14:51	WG1175256
Chloroform	U		0.000324	0.00500	0.00500	1	10/03/2018 14:51	WG1175256
Chloromethane	U		0.000276	0.00250	0.00250	1	10/03/2018 14:51	WG1175256
1,2-Dibromoethane	U		0.000381	0.00100	0.00100	1	10/03/2018 14:51	WG1175256
1,1-Dichloroethane	U		0.000259	0.00100	0.00100	1	10/03/2018 14:51	WG1175256
1,2-Dichloroethane	U		0.000361	0.00100	0.00100	1	10/03/2018 14:51	WG1175256
1,1-Dichloroethene	U		0.000398	0.00100	0.00100	1	10/03/2018 14:51	WG1175256
cis-1,2-Dichloroethene	U		0.000260	0.00100	0.00100	1	10/03/2018 14:51	WG1175256
trans-1,2-Dichloroethene	U		0.000396	0.00100	0.00100	1	10/03/2018 14:51	WG1175256
1,2-Dichloropropane	U		0.000306	0.00100	0.00100	1	10/03/2018 14:51	WG1175256
cis-1,3-Dichloropropene	U		0.000418	0.00100	0.00100	1	10/03/2018 14:51	WG1175256
trans-1,3-Dichloropropene	U		0.000419	0.00100	0.00100	1	10/03/2018 14:51	WG1175256
Ethylbenzene	U		0.000384	0.00100	0.00100	1	10/03/2018 14:51	WG1175256
Hexachloro-1,3-butadiene	U		0.000256	0.00100	0.00100	1	10/03/2018 14:51	WG1175256
2-Hexanone	U		0.00382	0.0100	0.0100	1	10/03/2018 14:51	WG1175256
Isopropylbenzene	U		0.000326	0.00100	0.00100	1	10/03/2018 14:51	WG1175256
p-Isopropyltoluene	U		0.000350	0.00100	0.00100	1	10/03/2018 14:51	WG1175256
2-Butanone (MEK)	U		0.00393	0.0100	0.0100	1	10/03/2018 14:51	WG1175256
Methylene Chloride	U		0.00100	0.00500	0.00500	1	10/03/2018 14:51	WG1175256
4-Methyl-2-pentanone (MIBK)	U		0.00214	0.0100	0.0100	1	10/03/2018 14:51	WG1175256
Methyl tert-butyl ether	U		0.000367	0.00100	0.00100	1	10/03/2018 14:51	WG1175256
Naphthalene	U		0.00100	0.00500	0.00500	1	10/03/2018 14:51	WG1175256
n-Propylbenzene	U		0.000349	0.00100	0.00100	1	10/03/2018 14:51	WG1175256
Styrene	U		0.000307	0.00100	0.00100	1	10/03/2018 14:51	WG1175256
1,1,2,2-Tetrachloroethane	U		0.000130	0.00100	0.00100	1	10/03/2018 14:51	WG1175256
Tetrachloroethene	U		0.000372	0.00100	0.00100	1	10/03/2018 14:51	WG1175256
Toluene	U		0.000412	0.00100	0.00100	1	10/03/2018 14:51	WG1175256
1,1,1-Trichloroethane	U		0.000319	0.00100	0.00100	1	10/03/2018 14:51	WG1175256
1,1,2-Trichloroethane	U		0.000383	0.00100	0.00100	1	10/03/2018 14:51	WG1175256
Trichloroethene	U		0.000398	0.00100	0.00100	1	10/03/2018 14:51	WG1175256
1,2,4-Trimethylbenzene	U		0.000373	0.00100	0.00100	1	10/03/2018 14:51	WG1175256
1,3,5-Trimethylbenzene	U		0.000387	0.00100	0.00100	1	10/03/2018 14:51	WG1175256
Vinyl chloride	U		0.000259	0.00100	0.00100	1	10/03/2018 14:51	WG1175256
Xylenes, Total	U		0.00106	0.00300	0.00300	1	10/03/2018 14:51	WG1175256
(S) Toluene-d8	111				80.0-120		10/03/2018 14:51	WG1175256
(S) Dibromofluoromethane	107				75.0-120		10/03/2018 14:51	WG1175256
(S) 4-Bromofluorobenzene	99.6				77.0-126		10/03/2018 14:51	WG1175256





Semi-Volatile Organic Compounds (GC) by Method 3511/8015

Analyte	Result mg/l	Qualifier	SDL mg/l	Unadj. MQL mg/l	MQL mg/l	Dilution	Analysis date / time	Batch
TPH (GC/FID) High Fraction	0.350		0.0247	0.100	0.100	1	10/08/2018 17:45	WG1177385
(S) o-Terphenyl	64.7				31.0-160		10/08/2018 17:45	WG1177385

Semi Volatile Organic Compounds (GC/MS) by Method 8270 C

Analyte	Result mg/l	Qualifier	SDL mg/l	Unadj. MQL mg/l	MQL mg/l	Dilution	Analysis date / time	Batch
Acenaphthene	U		0.000316	0.00100	0.00100	1	10/09/2018 03:27	WG1177409
Acenaphthylene	U		0.000309	0.00100	0.00100	1	10/09/2018 03:27	WG1177409
Acetophenone	U		0.00247	0.0100	0.0100	1	10/09/2018 03:27	WG1177409
Anthracene	U		0.000291	0.00100	0.00100	1	10/09/2018 03:27	WG1177409
Atrazine	U		0.000260	0.0100	0.0100	1	10/09/2018 03:27	WG1177409
Benzo(a)anthracene	U		0.0000510	0.00100	0.00100	1	10/09/2018 03:27	WG1177409
Benzaldehyde	U		0.00140	0.0100	0.0100	1	10/09/2018 03:27	WG1177409
Benzo(b)fluoranthene	U		0.0000896	0.00100	0.00100	1	10/09/2018 03:27	WG1177409
Benzo(k)fluoranthene	U		0.000355	0.00100	0.00100	1	10/09/2018 03:27	WG1177409
Benzo(g,h,i)perylene	U		0.00000227	0.00100	0.00100	1	10/09/2018 03:27	WG1177409
Benzo(a)pyrene	U		0.0000381	0.000200	0.000200	1	10/09/2018 03:27	WG1177409
Biphenyl	U		0.000325	0.0100	0.0100	1	10/09/2018 03:27	WG1177409
Bis(2-chlorethoxy)methane	U		0.000329	0.0100	0.0100	1	10/09/2018 03:27	WG1177409
Bis(2-chloroethyl)ether	U		0.00162	0.0100	0.0100	1	10/09/2018 03:27	WG1177409
Bis(2-chloroisopropyl)ether	U		0.000445	0.0100	0.0100	1	10/09/2018 03:27	WG1177409
4-Bromophenyl-phenylether	U		0.000335	0.0100	0.0100	1	10/09/2018 03:27	WG1177409
2-Chloronaphthalene	U		0.000330	0.00100	0.00100	1	10/09/2018 03:27	WG1177409
4-Chlorophenyl-phenylether	U		0.000303	0.0100	0.0100	1	10/09/2018 03:27	WG1177409
Caprolactam	U		0.00259	0.0100	0.0100	1	10/09/2018 03:27	WG1177409
Carbazole	U		0.000260	0.0100	0.0100	1	10/09/2018 03:27	WG1177409
Chrysene	U		0.000332	0.00100	0.00100	1	10/09/2018 03:27	WG1177409
Dibenz(a,h)anthracene	U		0.0000644	0.000200	0.000200	1	10/09/2018 03:27	WG1177409
Dibenzofuran	U		0.000338	0.0100	0.0100	1	10/09/2018 03:27	WG1177409
3,3-Dichlorobenzidine	U		0.00202	0.0100	0.0100	1	10/09/2018 03:27	WG1177409
2,4-Dinitrotoluene	U		0.00165	0.0100	0.0100	1	10/09/2018 03:27	WG1177409
2,6-Dinitrotoluene	U		0.000279	0.0100	0.0100	1	10/09/2018 03:27	WG1177409
Fluoranthene	U		0.000310	0.00100	0.00100	1	10/09/2018 03:27	WG1177409
Fluorene	U		0.000323	0.00100	0.00100	1	10/09/2018 03:27	WG1177409
Hexachlorobenzene	U		0.000341	0.00100	0.00100	1	10/09/2018 03:27	WG1177409
Hexachloro-1,3-butadiene	U		0.000329	0.0100	0.0100	1	10/09/2018 03:27	WG1177409
Hexachlorocyclopentadiene	U		0.00233	0.0100	0.0100	1	10/09/2018 03:27	WG1177409
Hexachloroethane	U		0.000365	0.0100	0.0100	1	10/09/2018 03:27	WG1177409
Indeno(1,2,3-cd)pyrene	U		0.000279	0.00100	0.00100	1	10/09/2018 03:27	WG1177409
Isophorone	U		0.000272	0.0100	0.0100	1	10/09/2018 03:27	WG1177409
1-Methylnaphthalene	U		0.000332	0.00100	0.00100	1	10/09/2018 03:27	WG1177409
2-Methylnaphthalene	U		0.000311	0.00100	0.00100	1	10/09/2018 03:27	WG1177409
Naphthalene	U		0.000372	0.00100	0.00100	1	10/09/2018 03:27	WG1177409
Nitrobenzene	U		0.000367	0.0100	0.0100	1	10/09/2018 03:27	WG1177409
n-Nitrosodiphenylamine	U		0.00119	0.0100	0.0100	1	10/09/2018 03:27	WG1177409
n-Nitrosodi-n-propylamine	U		0.000403	0.0100	0.0100	1	10/09/2018 03:27	WG1177409
Phenanthrene	U		0.000366	0.00100	0.00100	1	10/09/2018 03:27	WG1177409
Benzylbutyl phthalate	U	J4	0.000275	0.00300	0.00300	1	10/09/2018 03:27	WG1177409
Bis(2-ethylhexyl)phthalate	U		0.000709	0.00300	0.00300	1	10/09/2018 03:27	WG1177409
Di-n-butyl phthalate	U		0.000266	0.00300	0.00300	1	10/09/2018 03:27	WG1177409
Diethyl phthalate	U	J4	0.000282	0.00300	0.00300	1	10/09/2018 03:27	WG1177409
Dimethyl phthalate	U	J4	0.000283	0.00300	0.00300	1	10/09/2018 03:27	WG1177409
Di-n-octyl phthalate	U		0.000278	0.00300	0.00300	1	10/09/2018 03:27	WG1177409
Pyrene	U		0.000330	0.00100	0.00100	1	10/09/2018 03:27	WG1177409
1,2,4-Trichlorobenzene	U		0.000355	0.0100	0.0100	1	10/09/2018 03:27	WG1177409
4-Chloro-3-methylphenol	U		0.000263	0.0100	0.0100	1	10/09/2018 03:27	WG1177409

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc



Collected date/time: 10/01/18 11:00

L1030903

Semi Volatile Organic Compounds (GC/MS) by Method 8270 C

Analyte	Result mg/l	Qualifier	SDL mg/l	Unadj. MQL mg/l	MQL mg/l	Dilution	Analysis date / time	Batch
2-Chlorophenol	U		0.000283	0.0100	0.0100	1	10/09/2018 03:27	WG1177409
2,4-Dichlorophenol	U	J3	0.000284	0.0100	0.0100	1	10/09/2018 03:27	WG1177409
2,4-Dimethylphenol	U		0.000624	0.0100	0.0100	1	10/09/2018 03:27	WG1177409
4,6-Dinitro-2-methylphenol	U	J3 J4	0.00262	0.0100	0.0100	1	10/09/2018 03:27	WG1177409
2,4-Dinitrophenol	U		0.00325	0.0100	0.0100	1	10/09/2018 03:27	WG1177409
2-Nitrophenol	U	J3	0.000320	0.0100	0.0100	1	10/09/2018 03:27	WG1177409
2-Nitroaniline	U		0.00190	0.0100	0.0100	1	10/09/2018 03:27	WG1177409
2-Methylphenol	U		0.000312	0.0100	0.0100	1	10/09/2018 03:27	WG1177409
3&4-Methyl Phenol	U		0.000266	0.0100	0.0100	1	10/09/2018 03:27	WG1177409
3-Nitroaniline	U		0.000308	0.0100	0.0100	1	10/09/2018 03:27	WG1177409
4-Chloroaniline	U		0.000382	0.0100	0.0100	1	10/09/2018 03:27	WG1177409
4-Nitroaniline	U		0.000349	0.0100	0.0100	1	10/09/2018 03:27	WG1177409
4-Nitrophenol	U	J3 J4	0.00201	0.0100	0.0100	1	10/09/2018 03:27	WG1177409
Pentachlorophenol	U	J3 J4	0.000313	0.0100	0.0100	1	10/09/2018 03:27	WG1177409
Phenol	0.00380	J	0.000334	0.0100	0.0100	1	10/09/2018 03:27	WG1177409
2,4,5-Trichlorophenol	U	J3 J4	0.000236	0.0100	0.0100	1	10/09/2018 03:27	WG1177409
2,4,6-Trichlorophenol	U	J3 J4	0.000297	0.0100	0.0100	1	10/09/2018 03:27	WG1177409
(S) 2-Fluorophenol	43.2				10.0-120		10/09/2018 03:27	WG1177409
(S) Phenol-d5	27.0				10.0-120		10/09/2018 03:27	WG1177409
(S) Nitrobenzene-d5	51.8				10.0-127		10/09/2018 03:27	WG1177409
(S) 2-Fluorobiphenyl	59.0				10.0-130		10/09/2018 03:27	WG1177409
(S) 2,4,6-Tribromophenol	43.5				10.0-155		10/09/2018 03:27	WG1177409
(S) p-Terphenyl-d14	65.5				10.0-128		10/09/2018 03:27	WG1177409

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc



Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	SDL	Unadj. MQL	MQL	Dilution	Analysis date / time	Batch
Dissolved Solids	4.00	J	2.82	10.0	10.0	1	10/08/2018 18:03	WG1176739

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc

Wet Chemistry by Method 2320 B-2011

Analyte	Result	Qualifier	SDL	Unadj. MQL	MQL	Dilution	Analysis date / time	Batch
Alkalinity	10.4	J	2.71	20.0	20.0	1	10/10/2018 09:33	WG1177314

Sample Narrative:

L1030903-39 WG1177314: Endpoint pH 4.5 HEADSPACE

Wet Chemistry by Method 353.2

Analyte	Result	Qualifier	SDL	Unadj. MQL	MQL	Dilution	Analysis date / time	Batch
Nitrate-Nitrite	U		0.0197	0.100	0.100	1	10/09/2018 14:42	WG1177681

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	SDL	Unadj. MQL	MQL	Dilution	Analysis date / time	Batch
Chloride	0.373	J	0.0519	1.00	1.00	1	10/05/2018 04:55	WG1174945
Fluoride	U		0.00990	0.100	0.100	1	10/05/2018 04:55	WG1174945
Sulfate	0.269	J	0.0774	5.00	5.00	1	10/05/2018 04:55	WG1174945

Mercury by Method 7470A

Analyte	Result	Qualifier	SDL	Unadj. MQL	MQL	Dilution	Analysis date / time	Batch
Mercury	U		0.0000490	0.000200	0.000200	1	10/05/2018 09:37	WG1174917

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	SDL	Unadj. MQL	MQL	Dilution	Analysis date / time	Batch
Boron,Dissolved	U		0.0126	0.200	0.200	1	10/08/2018 04:59	WG1174847

Metals (ICPMS) by Method 6020

Analyte	Result	Qualifier	SDL	Unadj. MQL	MQL	Dilution	Analysis date / time	Batch
Aluminum,Dissolved	0.00996	J	0.00515	0.100	0.100	1	10/08/2018 19:24	WG1174849
Arsenic,Dissolved	U		0.000250	0.00200	0.00200	1	10/08/2018 19:24	WG1174849
Barium,Dissolved	0.000709	J	0.000360	0.00500	0.00500	1	10/08/2018 19:24	WG1174849
Cadmium,Dissolved	U		0.000160	0.00100	0.00100	1	10/08/2018 19:24	WG1174849
Chromium,Dissolved	0.000607	J	0.000540	0.00200	0.00200	1	10/08/2018 19:24	WG1174849
Copper,Dissolved	0.00609		0.000520	0.00500	0.00500	1	10/08/2018 19:24	WG1174849
Cobalt,Dissolved	U		0.000260	0.00200	0.00200	1	10/08/2018 19:24	WG1174849
Iron,Dissolved	U		0.0150	0.100	0.100	1	10/08/2018 19:24	WG1174849
Lead,Dissolved	0.000365	B J	0.000240	0.00200	0.00200	1	10/08/2018 19:24	WG1174849
Manganese,Dissolved	0.000519	J	0.000250	0.00500	0.00500	1	10/08/2018 19:24	WG1174849
Molybdenum,Dissolved	U		0.000140	0.00500	0.00500	1	10/08/2018 19:24	WG1174849
Nickel,Dissolved	U		0.000350	0.00200	0.00200	1	10/08/2018 19:24	WG1174849
Selenium,Dissolved	U		0.000380	0.00200	0.00200	1	10/08/2018 19:24	WG1174849
Silver,Dissolved	U		0.000310	0.00200	0.00200	1	10/08/2018 19:24	WG1174849
Uranium,Dissolved	U		0.000330	0.0100	0.0100	1	10/08/2018 19:24	WG1174849
Zinc,Dissolved	U		0.00256	0.0250	0.0250	1	10/08/2018 19:24	WG1174849



Collected date/time: 10/01/18 09:40

L1030903

Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result mg/l	Qualifier	SDL mg/l	Unadj. MQL mg/l	MQL mg/l	Dilution	Analysis date / time	Batch
Acetone	U		0.0100	1.00	1.00	1	10/03/2018 15:12	WG1175256
Benzene	U		0.000331	0.00100	0.00100	1	10/03/2018 15:12	WG1175256
Bromodichloromethane	U		0.000380	0.00125	0.00125	1	10/03/2018 15:12	WG1175256
Bromoform	U		0.000469	0.00100	0.00100	1	10/03/2018 15:12	WG1175256
Bromomethane	U		0.000866	0.00500	0.00500	1	10/03/2018 15:12	WG1175256
n-Butylbenzene	U		0.000361	0.00100	0.00100	1	10/03/2018 15:12	WG1175256
sec-Butylbenzene	U		0.000365	0.00100	0.00100	1	10/03/2018 15:12	WG1175256
tert-Butylbenzene	U		0.000399	0.00100	0.00100	1	10/03/2018 15:12	WG1175256
Carbon disulfide	U		0.000275	0.00100	0.00100	1	10/03/2018 15:12	WG1175256
Carbon tetrachloride	U		0.000379	0.00100	0.00100	1	10/03/2018 15:12	WG1175256
Chlorobenzene	U		0.000348	0.00100	0.00100	1	10/03/2018 15:12	WG1175256
Chlorodibromomethane	U		0.000327	0.00100	0.00100	1	10/03/2018 15:12	WG1175256
Chloroethane	U		0.000453	0.00500	0.00500	1	10/03/2018 15:12	WG1175256
Chloroform	U		0.000324	0.00500	0.00500	1	10/03/2018 15:12	WG1175256
Chloromethane	U		0.000276	0.00250	0.00250	1	10/03/2018 15:12	WG1175256
1,2-Dibromoethane	U		0.000381	0.00100	0.00100	1	10/03/2018 15:12	WG1175256
1,1-Dichloroethane	U		0.000259	0.00100	0.00100	1	10/03/2018 15:12	WG1175256
1,2-Dichloroethane	U		0.000361	0.00100	0.00100	1	10/03/2018 15:12	WG1175256
1,1-Dichloroethene	U		0.000398	0.00100	0.00100	1	10/03/2018 15:12	WG1175256
cis-1,2-Dichloroethene	U		0.000260	0.00100	0.00100	1	10/03/2018 15:12	WG1175256
trans-1,2-Dichloroethene	U		0.000396	0.00100	0.00100	1	10/03/2018 15:12	WG1175256
1,2-Dichloropropane	U		0.000306	0.00100	0.00100	1	10/03/2018 15:12	WG1175256
cis-1,3-Dichloropropene	U		0.000418	0.00100	0.00100	1	10/03/2018 15:12	WG1175256
trans-1,3-Dichloropropene	U		0.000419	0.00100	0.00100	1	10/03/2018 15:12	WG1175256
Ethylbenzene	U		0.000384	0.00100	0.00100	1	10/03/2018 15:12	WG1175256
Hexachloro-1,3-butadiene	U		0.000256	0.00100	0.00100	1	10/03/2018 15:12	WG1175256
2-Hexanone	U		0.00382	0.0100	0.0100	1	10/03/2018 15:12	WG1175256
Isopropylbenzene	U		0.000326	0.00100	0.00100	1	10/03/2018 15:12	WG1175256
p-Isopropyltoluene	U		0.000350	0.00100	0.00100	1	10/03/2018 15:12	WG1175256
2-Butanone (MEK)	U		0.00393	0.0100	0.0100	1	10/03/2018 15:12	WG1175256
Methylene Chloride	U		0.00100	0.00500	0.00500	1	10/03/2018 15:12	WG1175256
4-Methyl-2-pentanone (MIBK)	U		0.00214	0.0100	0.0100	1	10/03/2018 15:12	WG1175256
Methyl tert-butyl ether	U		0.000367	0.00100	0.00100	1	10/03/2018 15:12	WG1175256
Naphthalene	U		0.00100	0.00500	0.00500	1	10/03/2018 15:12	WG1175256
n-Propylbenzene	U		0.000349	0.00100	0.00100	1	10/03/2018 15:12	WG1175256
Styrene	U		0.000307	0.00100	0.00100	1	10/03/2018 15:12	WG1175256
1,1,2,2-Tetrachloroethane	U		0.000130	0.00100	0.00100	1	10/03/2018 15:12	WG1175256
Tetrachloroethene	U		0.000372	0.00100	0.00100	1	10/03/2018 15:12	WG1175256
Toluene	U		0.000412	0.00100	0.00100	1	10/03/2018 15:12	WG1175256
1,1,1-Trichloroethane	U		0.000319	0.00100	0.00100	1	10/03/2018 15:12	WG1175256
1,1,2-Trichloroethane	U		0.000383	0.00100	0.00100	1	10/03/2018 15:12	WG1175256
Trichloroethene	U		0.000398	0.00100	0.00100	1	10/03/2018 15:12	WG1175256
1,2,4-Trimethylbenzene	U		0.000373	0.00100	0.00100	1	10/03/2018 15:12	WG1175256
1,3,5-Trimethylbenzene	U		0.000387	0.00100	0.00100	1	10/03/2018 15:12	WG1175256
Vinyl chloride	U		0.000259	0.00100	0.00100	1	10/03/2018 15:12	WG1175256
Xylenes, Total	U		0.00106	0.00300	0.00300	1	10/03/2018 15:12	WG1175256
(S) Toluene-d8	110				80.0-120		10/03/2018 15:12	WG1175256
(S) Dibromofluoromethane	105				75.0-120		10/03/2018 15:12	WG1175256
(S) 4-Bromofluorobenzene	98.5				77.0-126		10/03/2018 15:12	WG1175256

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc



Collected date/time: 10/01/18 09:40

L1030903

Semi Volatile Organic Compounds (GC/MS) by Method 8270 C

Analyte	Result mg/l	Qualifier	SDL mg/l	Unadj. MQL mg/l	MQL mg/l	Dilution	Analysis date / time	Batch
Acenaphthene	U		0.000316	0.00100	0.00100	1	10/09/2018 03:50	WG1177409
Acenaphthylene	U		0.000309	0.00100	0.00100	1	10/09/2018 03:50	WG1177409
Acetophenone	U		0.00247	0.0100	0.0100	1	10/09/2018 03:50	WG1177409
Anthracene	U		0.000291	0.00100	0.00100	1	10/09/2018 03:50	WG1177409
Atrazine	U		0.000260	0.0100	0.0100	1	10/09/2018 03:50	WG1177409
Benzo(a)anthracene	U		0.0000510	0.00100	0.00100	1	10/09/2018 03:50	WG1177409
Benzaldehyde	U		0.00140	0.0100	0.0100	1	10/09/2018 03:50	WG1177409
Benzo(b)fluoranthene	U		0.0000896	0.00100	0.00100	1	10/09/2018 03:50	WG1177409
Benzo(k)fluoranthene	U		0.000355	0.00100	0.00100	1	10/09/2018 03:50	WG1177409
Benzo(g,h,i)perylene	U		0.00000227	0.00100	0.00100	1	10/09/2018 03:50	WG1177409
Benzo(a)pyrene	U		0.0000381	0.000200	0.000200	1	10/09/2018 03:50	WG1177409
Biphenyl	U		0.000325	0.0100	0.0100	1	10/09/2018 03:50	WG1177409
Bis(2-chlorethoxy)methane	U		0.000329	0.0100	0.0100	1	10/09/2018 03:50	WG1177409
Bis(2-chloroethyl)ether	U		0.00162	0.0100	0.0100	1	10/09/2018 03:50	WG1177409
Bis(2-chloroisopropyl)ether	U		0.000445	0.0100	0.0100	1	10/09/2018 03:50	WG1177409
4-Bromophenyl-phenylether	U		0.000335	0.0100	0.0100	1	10/09/2018 03:50	WG1177409
2-Chloronaphthalene	U		0.000330	0.00100	0.00100	1	10/09/2018 03:50	WG1177409
4-Chlorophenyl-phenylether	U		0.000303	0.0100	0.0100	1	10/09/2018 03:50	WG1177409
Caprolactam	U		0.00259	0.0100	0.0100	1	10/09/2018 03:50	WG1177409
Carbazole	U		0.000260	0.0100	0.0100	1	10/09/2018 03:50	WG1177409
Chrysene	U		0.000332	0.00100	0.00100	1	10/09/2018 03:50	WG1177409
Dibenz(a,h)anthracene	U		0.0000644	0.000200	0.000200	1	10/09/2018 03:50	WG1177409
Dibenzofuran	U		0.000338	0.0100	0.0100	1	10/09/2018 03:50	WG1177409
3,3-Dichlorobenzidine	U		0.00202	0.0100	0.0100	1	10/09/2018 03:50	WG1177409
2,4-Dinitrotoluene	U		0.00165	0.0100	0.0100	1	10/09/2018 03:50	WG1177409
2,6-Dinitrotoluene	U		0.000279	0.0100	0.0100	1	10/09/2018 03:50	WG1177409
Fluoranthene	U		0.000310	0.00100	0.00100	1	10/09/2018 03:50	WG1177409
Fluorene	U		0.000323	0.00100	0.00100	1	10/09/2018 03:50	WG1177409
Hexachlorobenzene	U		0.000341	0.00100	0.00100	1	10/09/2018 03:50	WG1177409
Hexachloro-1,3-butadiene	U		0.000329	0.0100	0.0100	1	10/09/2018 03:50	WG1177409
Hexachlorocyclopentadiene	U		0.00233	0.0100	0.0100	1	10/09/2018 03:50	WG1177409
Hexachloroethane	U		0.000365	0.0100	0.0100	1	10/09/2018 03:50	WG1177409
Indeno(1,2,3-cd)pyrene	U		0.000279	0.00100	0.00100	1	10/09/2018 03:50	WG1177409
Isophorone	U		0.000272	0.0100	0.0100	1	10/09/2018 03:50	WG1177409
1-Methylnaphthalene	U		0.000332	0.00100	0.00100	1	10/09/2018 03:50	WG1177409
2-Methylnaphthalene	U		0.000311	0.00100	0.00100	1	10/09/2018 03:50	WG1177409
Naphthalene	U		0.000372	0.00100	0.00100	1	10/09/2018 03:50	WG1177409
Nitrobenzene	U		0.000367	0.0100	0.0100	1	10/09/2018 03:50	WG1177409
n-Nitrosodiphenylamine	U		0.00119	0.0100	0.0100	1	10/09/2018 03:50	WG1177409
n-Nitrosodi-n-propylamine	U		0.000403	0.0100	0.0100	1	10/09/2018 03:50	WG1177409
Phenanthrene	U		0.000366	0.00100	0.00100	1	10/09/2018 03:50	WG1177409
Benzylbutyl phthalate	U	J4	0.000275	0.00300	0.00300	1	10/09/2018 03:50	WG1177409
Bis(2-ethylhexyl)phthalate	U		0.000709	0.00300	0.00300	1	10/09/2018 03:50	WG1177409
Di-n-butyl phthalate	U		0.000266	0.00300	0.00300	1	10/09/2018 03:50	WG1177409
Diethyl phthalate	U	J4	0.000282	0.00300	0.00300	1	10/09/2018 03:50	WG1177409
Dimethyl phthalate	U	J4	0.000283	0.00300	0.00300	1	10/09/2018 03:50	WG1177409
Di-n-octyl phthalate	U		0.000278	0.00300	0.00300	1	10/09/2018 03:50	WG1177409
Pyrene	U		0.000330	0.00100	0.00100	1	10/09/2018 03:50	WG1177409
1,2,4-Trichlorobenzene	U		0.000355	0.0100	0.0100	1	10/09/2018 03:50	WG1177409
4-Chloro-3-methylphenol	U		0.000263	0.0100	0.0100	1	10/09/2018 03:50	WG1177409
2-Chlorophenol	U		0.000283	0.0100	0.0100	1	10/09/2018 03:50	WG1177409
2,4-Dichlorophenol	U	J3	0.000284	0.0100	0.0100	1	10/09/2018 03:50	WG1177409
2,4-Dimethylphenol	U		0.000624	0.0100	0.0100	1	10/09/2018 03:50	WG1177409
4,6-Dinitro-2-methylphenol	U	J3 J4	0.00262	0.0100	0.0100	1	10/09/2018 03:50	WG1177409
2,4-Dinitrophenol	U		0.00325	0.0100	0.0100	1	10/09/2018 03:50	WG1177409
2-Nitrophenol	U	J3	0.000320	0.0100	0.0100	1	10/09/2018 03:50	WG1177409

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc



Collected date/time: 10/01/18 09:40

L1030903

Semi Volatile Organic Compounds (GC/MS) by Method 8270 C

Analyte	Result mg/l	Qualifier	SDL mg/l	Unadj. MQL mg/l	MQL mg/l	Dilution	Analysis date / time	Batch
2-Nitroaniline	U		0.00190	0.0100	0.0100	1	10/09/2018 03:50	WG1177409
2-Methylphenol	U		0.000312	0.0100	0.0100	1	10/09/2018 03:50	WG1177409
3&4-Methyl Phenol	U		0.000266	0.0100	0.0100	1	10/09/2018 03:50	WG1177409
3-Nitroaniline	U		0.000308	0.0100	0.0100	1	10/09/2018 03:50	WG1177409
4-Chloroaniline	U		0.000382	0.0100	0.0100	1	10/09/2018 03:50	WG1177409
4-Nitroaniline	U		0.000349	0.0100	0.0100	1	10/09/2018 03:50	WG1177409
4-Nitrophenol	U	J3 J4	0.00201	0.0100	0.0100	1	10/09/2018 03:50	WG1177409
Pentachlorophenol	U	J3 J4	0.000313	0.0100	0.0100	1	10/09/2018 03:50	WG1177409
Phenol	0.00394	J	0.000334	0.0100	0.0100	1	10/09/2018 03:50	WG1177409
2,4,5-Trichlorophenol	U	J3 J4	0.000236	0.0100	0.0100	1	10/09/2018 03:50	WG1177409
2,4,6-Trichlorophenol	U	J3 J4	0.000297	0.0100	0.0100	1	10/09/2018 03:50	WG1177409
(S) 2-Fluorophenol	41.8				10.0-120		10/09/2018 03:50	WG1177409
(S) Phenol-d5	24.8				10.0-120		10/09/2018 03:50	WG1177409
(S) Nitrobenzene-d5	38.2				10.0-127		10/09/2018 03:50	WG1177409
(S) 2-Fluorobiphenyl	50.7				10.0-130		10/09/2018 03:50	WG1177409
(S) 2,4,6-Tribromophenol	40.1				10.0-155		10/09/2018 03:50	WG1177409
(S) p-Terphenyl-d14	62.5				10.0-128		10/09/2018 03:50	WG1177409

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc



Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	SDL	Unadj. MQL	MQL	Dilution	Analysis date / time	Batch
Dissolved Solids	4.00	J	2.82	10.0	10.0	1	10/08/2018 18:03	WG1176739

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc

Wet Chemistry by Method 353.2

Analyte	Result	Qualifier	SDL	Unadj. MQL	MQL	Dilution	Analysis date / time	Batch
Nitrate-Nitrite	U		0.0197	0.100	0.100	1	10/09/2018 14:45	WG1177681

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	SDL	Unadj. MQL	MQL	Dilution	Analysis date / time	Batch
Chloride	0.358	J P1	0.0519	1.00	1.00	1	10/05/2018 05:09	WG1174945
Fluoride	U		0.00990	0.100	0.100	1	10/05/2018 05:09	WG1174945
Sulfate	0.326	J P1	0.0774	5.00	5.00	1	10/05/2018 05:09	WG1174945

Mercury by Method 7470A

Analyte	Result	Qualifier	SDL	Unadj. MQL	MQL	Dilution	Analysis date / time	Batch
Mercury	U		0.0000490	0.000200	0.000200	1	10/05/2018 09:40	WG1174917

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	SDL	Unadj. MQL	MQL	Dilution	Analysis date / time	Batch
Boron,Dissolved	U		0.0126	0.200	0.200	1	10/08/2018 05:02	WG1174847

Metals (ICPMS) by Method 6020

Analyte	Result	Qualifier	SDL	Unadj. MQL	MQL	Dilution	Analysis date / time	Batch
Aluminum,Dissolved	0.0293	J	0.00515	0.100	0.100	1	10/08/2018 19:29	WG1174849
Arsenic,Dissolved	U		0.000250	0.00200	0.00200	1	10/08/2018 19:29	WG1174849
Barium,Dissolved	0.000925	J	0.000360	0.00500	0.00500	1	10/08/2018 19:29	WG1174849
Cadmium,Dissolved	U		0.000160	0.00100	0.00100	1	10/08/2018 19:29	WG1174849
Chromium,Dissolved	U		0.000540	0.00200	0.00200	1	10/08/2018 19:29	WG1174849
Copper,Dissolved	U		0.000520	0.00500	0.00500	1	10/08/2018 19:29	WG1174849
Cobalt,Dissolved	U		0.000260	0.00200	0.00200	1	10/08/2018 19:29	WG1174849
Iron,Dissolved	U		0.0150	0.100	0.100	1	10/08/2018 19:29	WG1174849
Lead,Dissolved	U		0.000240	0.00200	0.00200	1	10/08/2018 19:29	WG1174849
Manganese,Dissolved	U		0.000250	0.00500	0.00500	1	10/08/2018 19:29	WG1174849
Molybdenum,Dissolved	U		0.000140	0.00500	0.00500	1	10/08/2018 19:29	WG1174849
Nickel,Dissolved	U		0.000350	0.00200	0.00200	1	10/08/2018 19:29	WG1174849
Selenium,Dissolved	U		0.000380	0.00200	0.00200	1	10/08/2018 19:29	WG1174849
Silver,Dissolved	U		0.000310	0.00200	0.00200	1	10/08/2018 19:29	WG1174849
Uranium,Dissolved	U		0.000330	0.0100	0.0100	1	10/08/2018 19:29	WG1174849
Zinc,Dissolved	0.00288	J	0.00256	0.0250	0.0250	1	10/08/2018 19:29	WG1174849

Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result	Qualifier	SDL	Unadj. MQL	MQL	Dilution	Analysis date / time	Batch
Acetone	U		0.0100	1.00	1.00	1	10/03/2018 15:32	WG1175256
Benzene	U		0.000331	0.00100	0.00100	1	10/03/2018 15:32	WG1175256
Bromodichloromethane	U		0.000380	0.00125	0.00125	1	10/03/2018 15:32	WG1175256
Bromoform	U		0.000469	0.00100	0.00100	1	10/03/2018 15:32	WG1175256
Bromomethane	U		0.000866	0.00500	0.00500	1	10/03/2018 15:32	WG1175256
n-Butylbenzene	U		0.000361	0.00100	0.00100	1	10/03/2018 15:32	WG1175256



Collected date/time: 10/01/18 09:30

L1030903

Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result mg/l	Qualifier	SDL mg/l	Unadj. MQL mg/l	MQL mg/l	Dilution	Analysis date / time	Batch
sec-Butylbenzene	U		0.000365	0.00100	0.00100	1	10/03/2018 15:32	WG1175256
tert-Butylbenzene	U		0.000399	0.00100	0.00100	1	10/03/2018 15:32	WG1175256
Carbon disulfide	U		0.000275	0.00100	0.00100	1	10/03/2018 15:32	WG1175256
Carbon tetrachloride	U		0.000379	0.00100	0.00100	1	10/03/2018 15:32	WG1175256
Chlorobenzene	U		0.000348	0.00100	0.00100	1	10/03/2018 15:32	WG1175256
Chlorodibromomethane	U		0.000327	0.00100	0.00100	1	10/03/2018 15:32	WG1175256
Chloroethane	U		0.000453	0.00500	0.00500	1	10/03/2018 15:32	WG1175256
Chloroform	U		0.000324	0.00500	0.00500	1	10/03/2018 15:32	WG1175256
Chloromethane	U		0.000276	0.00250	0.00250	1	10/03/2018 15:32	WG1175256
1,2-Dibromoethane	U		0.000381	0.00100	0.00100	1	10/03/2018 15:32	WG1175256
1,1-Dichloroethane	U		0.000259	0.00100	0.00100	1	10/03/2018 15:32	WG1175256
1,2-Dichloroethane	U		0.000361	0.00100	0.00100	1	10/03/2018 15:32	WG1175256
1,1-Dichloroethene	U		0.000398	0.00100	0.00100	1	10/03/2018 15:32	WG1175256
cis-1,2-Dichloroethene	U		0.000260	0.00100	0.00100	1	10/03/2018 15:32	WG1175256
trans-1,2-Dichloroethene	U		0.000396	0.00100	0.00100	1	10/03/2018 15:32	WG1175256
1,2-Dichloropropane	U		0.000306	0.00100	0.00100	1	10/03/2018 15:32	WG1175256
cis-1,3-Dichloropropene	U		0.000418	0.00100	0.00100	1	10/03/2018 15:32	WG1175256
trans-1,3-Dichloropropene	U		0.000419	0.00100	0.00100	1	10/03/2018 15:32	WG1175256
Ethylbenzene	U		0.000384	0.00100	0.00100	1	10/03/2018 15:32	WG1175256
Hexachloro-1,3-butadiene	U		0.000256	0.00100	0.00100	1	10/03/2018 15:32	WG1175256
2-Hexanone	U		0.00382	0.0100	0.0100	1	10/03/2018 15:32	WG1175256
Isopropylbenzene	U		0.000326	0.00100	0.00100	1	10/03/2018 15:32	WG1175256
p-Isopropyltoluene	U		0.000350	0.00100	0.00100	1	10/03/2018 15:32	WG1175256
2-Butanone (MEK)	U		0.00393	0.0100	0.0100	1	10/03/2018 15:32	WG1175256
Methylene Chloride	U		0.00100	0.00500	0.00500	1	10/03/2018 15:32	WG1175256
4-Methyl-2-pentanone (MIBK)	U		0.00214	0.0100	0.0100	1	10/03/2018 15:32	WG1175256
Methyl tert-butyl ether	U		0.000367	0.00100	0.00100	1	10/03/2018 15:32	WG1175256
Naphthalene	U		0.00100	0.00500	0.00500	1	10/03/2018 15:32	WG1175256
n-Propylbenzene	U		0.000349	0.00100	0.00100	1	10/03/2018 15:32	WG1175256
Styrene	U		0.000307	0.00100	0.00100	1	10/03/2018 15:32	WG1175256
1,1,2,2-Tetrachloroethane	U		0.000130	0.00100	0.00100	1	10/03/2018 15:32	WG1175256
Tetrachloroethene	U		0.000372	0.00100	0.00100	1	10/03/2018 15:32	WG1175256
Toluene	U		0.000412	0.00100	0.00100	1	10/03/2018 15:32	WG1175256
1,1,1-Trichloroethane	U		0.000319	0.00100	0.00100	1	10/03/2018 15:32	WG1175256
1,1,2-Trichloroethane	U		0.000383	0.00100	0.00100	1	10/03/2018 15:32	WG1175256
Trichloroethene	U		0.000398	0.00100	0.00100	1	10/03/2018 15:32	WG1175256
1,2,4-Trimethylbenzene	U		0.000373	0.00100	0.00100	1	10/03/2018 15:32	WG1175256
1,3,5-Trimethylbenzene	U		0.000387	0.00100	0.00100	1	10/03/2018 15:32	WG1175256
Vinyl chloride	U		0.000259	0.00100	0.00100	1	10/03/2018 15:32	WG1175256
Xylenes, Total	U		0.00106	0.00300	0.00300	1	10/03/2018 15:32	WG1175256
(S) Toluene-d8	108				80.0-120		10/03/2018 15:32	WG1175256
(S) Dibromofluoromethane	103				75.0-120		10/03/2018 15:32	WG1175256
(S) 4-Bromofluorobenzene	96.4				77.0-126		10/03/2018 15:32	WG1175256

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc

Semi Volatile Organic Compounds (GC/MS) by Method 8270 C

Analyte	Result mg/l	Qualifier	SDL mg/l	Unadj. MQL mg/l	MQL mg/l	Dilution	Analysis date / time	Batch
Acenaphthene	U		0.000316	0.00100	0.00100	1	10/09/2018 04:14	WG1177409
Acenaphthylene	U		0.000309	0.00100	0.00100	1	10/09/2018 04:14	WG1177409
Acetophenone	U		0.00247	0.0100	0.0100	1	10/09/2018 04:14	WG1177409
Anthracene	U		0.000291	0.00100	0.00100	1	10/09/2018 04:14	WG1177409
Atrazine	U		0.000260	0.0100	0.0100	1	10/09/2018 04:14	WG1177409
Benzo(a)anthracene	U		0.0000510	0.00100	0.00100	1	10/09/2018 04:14	WG1177409
Benzaldehyde	U		0.00140	0.0100	0.0100	1	10/09/2018 04:14	WG1177409
Benzo(b)fluoranthene	U		0.0000896	0.00100	0.00100	1	10/09/2018 04:14	WG1177409
Benzo(k)fluoranthene	U		0.000355	0.00100	0.00100	1	10/09/2018 04:14	WG1177409



Collected date/time: 10/01/18 09:30

L1030903

Semi Volatile Organic Compounds (GC/MS) by Method 8270 C

Analyte	Result mg/l	Qualifier	SDL mg/l	Unadj. MQL mg/l	MQL mg/l	Dilution	Analysis date / time	Batch
Benzo(g,h,i)perylene	U		0.0000227	0.00100	0.00100	1	10/09/2018 04:14	WG1177409
Benzo(a)pyrene	U		0.0000381	0.000200	0.000200	1	10/09/2018 04:14	WG1177409
Biphenyl	U		0.000325	0.0100	0.0100	1	10/09/2018 04:14	WG1177409
Bis(2-chlorethoxy)methane	U		0.000329	0.0100	0.0100	1	10/09/2018 04:14	WG1177409
Bis(2-chloroethyl)ether	U		0.00162	0.0100	0.0100	1	10/09/2018 04:14	WG1177409
Bis(2-chloroisopropyl)ether	U		0.000445	0.0100	0.0100	1	10/09/2018 04:14	WG1177409
4-Bromophenyl-phenylether	U		0.000335	0.0100	0.0100	1	10/09/2018 04:14	WG1177409
2-Chloronaphthalene	U		0.000330	0.00100	0.00100	1	10/09/2018 04:14	WG1177409
4-Chlorophenyl-phenylether	U		0.000303	0.0100	0.0100	1	10/09/2018 04:14	WG1177409
Caprolactam	U		0.00259	0.0100	0.0100	1	10/09/2018 04:14	WG1177409
Carbazole	U		0.000260	0.0100	0.0100	1	10/09/2018 04:14	WG1177409
Chrysene	U		0.000332	0.00100	0.00100	1	10/09/2018 04:14	WG1177409
Dibenz(a,h)anthracene	U		0.0000644	0.000200	0.000200	1	10/09/2018 04:14	WG1177409
Dibenzofuran	U		0.000338	0.0100	0.0100	1	10/09/2018 04:14	WG1177409
3,3-Dichlorobenzidine	U		0.00202	0.0100	0.0100	1	10/09/2018 04:14	WG1177409
2,4-Dinitrotoluene	U		0.00165	0.0100	0.0100	1	10/09/2018 04:14	WG1177409
2,6-Dinitrotoluene	U		0.000279	0.0100	0.0100	1	10/09/2018 04:14	WG1177409
Fluoranthene	U		0.000310	0.00100	0.00100	1	10/09/2018 04:14	WG1177409
Fluorene	U		0.000323	0.00100	0.00100	1	10/09/2018 04:14	WG1177409
Hexachlorobenzene	U		0.000341	0.00100	0.00100	1	10/09/2018 04:14	WG1177409
Hexachloro-1,3-butadiene	U		0.000329	0.0100	0.0100	1	10/09/2018 04:14	WG1177409
Hexachlorocyclopentadiene	U		0.00233	0.0100	0.0100	1	10/09/2018 04:14	WG1177409
Hexachloroethane	U		0.000365	0.0100	0.0100	1	10/09/2018 04:14	WG1177409
Indeno(1,2,3-cd)pyrene	U		0.000279	0.00100	0.00100	1	10/09/2018 04:14	WG1177409
Isophorone	U		0.000272	0.0100	0.0100	1	10/09/2018 04:14	WG1177409
1-Methylnaphthalene	U		0.000332	0.00100	0.00100	1	10/09/2018 04:14	WG1177409
2-Methylnaphthalene	U		0.000311	0.00100	0.00100	1	10/09/2018 04:14	WG1177409
Naphthalene	U		0.000372	0.00100	0.00100	1	10/09/2018 04:14	WG1177409
Nitrobenzene	U		0.000367	0.0100	0.0100	1	10/09/2018 04:14	WG1177409
n-Nitrosodiphenylamine	U		0.00119	0.0100	0.0100	1	10/09/2018 04:14	WG1177409
n-Nitrosodi-n-propylamine	U		0.000403	0.0100	0.0100	1	10/09/2018 04:14	WG1177409
Phenanthrene	U		0.000366	0.00100	0.00100	1	10/09/2018 04:14	WG1177409
Benzylbutyl phthalate	U	J4	0.000275	0.00300	0.00300	1	10/09/2018 04:14	WG1177409
Bis(2-ethylhexyl)phthalate	U		0.000709	0.00300	0.00300	1	10/09/2018 04:14	WG1177409
Di-n-butyl phthalate	U		0.000266	0.00300	0.00300	1	10/09/2018 04:14	WG1177409
Diethyl phthalate	U	J4	0.000282	0.00300	0.00300	1	10/09/2018 04:14	WG1177409
Dimethyl phthalate	U	J4	0.000283	0.00300	0.00300	1	10/09/2018 04:14	WG1177409
Di-n-octyl phthalate	U		0.000278	0.00300	0.00300	1	10/09/2018 04:14	WG1177409
Pyrene	U		0.000330	0.00100	0.00100	1	10/09/2018 04:14	WG1177409
1,2,4-Trichlorobenzene	U		0.000355	0.0100	0.0100	1	10/09/2018 04:14	WG1177409
4-Chloro-3-methylphenol	U		0.000263	0.0100	0.0100	1	10/09/2018 04:14	WG1177409
2-Chlorophenol	U		0.000283	0.0100	0.0100	1	10/09/2018 04:14	WG1177409
2,4-Dichlorophenol	U	J3	0.000284	0.0100	0.0100	1	10/09/2018 04:14	WG1177409
2,4-Dimethylphenol	U		0.000624	0.0100	0.0100	1	10/09/2018 04:14	WG1177409
4,6-Dinitro-2-methylphenol	U	J3 J4	0.00262	0.0100	0.0100	1	10/09/2018 04:14	WG1177409
2,4-Dinitrophenol	U		0.00325	0.0100	0.0100	1	10/09/2018 04:14	WG1177409
2-Nitrophenol	U	J3	0.000320	0.0100	0.0100	1	10/09/2018 04:14	WG1177409
2-Nitroaniline	U		0.00190	0.0100	0.0100	1	10/09/2018 04:14	WG1177409
2-Methylphenol	U		0.000312	0.0100	0.0100	1	10/09/2018 04:14	WG1177409
3&4-Methyl Phenol	U		0.000266	0.0100	0.0100	1	10/09/2018 04:14	WG1177409
3-Nitroaniline	U		0.000308	0.0100	0.0100	1	10/09/2018 04:14	WG1177409
4-Chloroaniline	U		0.000382	0.0100	0.0100	1	10/09/2018 04:14	WG1177409
4-Nitroaniline	U		0.000349	0.0100	0.0100	1	10/09/2018 04:14	WG1177409
4-Nitrophenol	U	J3 J4	0.00201	0.0100	0.0100	1	10/09/2018 04:14	WG1177409
Pentachlorophenol	U	J3 J4	0.000313	0.0100	0.0100	1	10/09/2018 04:14	WG1177409
Phenol	0.00236	J	0.000334	0.0100	0.0100	1	10/09/2018 04:14	WG1177409

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc



Collected date/time: 10/01/18 09:30

L1030903

Semi Volatile Organic Compounds (GC/MS) by Method 8270 C

Analyte	Result mg/l	Qualifier	SDL mg/l	Unadj. MQL mg/l	MQL mg/l	Dilution	Analysis date / time	Batch
2,4,5-Trichlorophenol	U	J3 J4	0.000236	0.0100	0.0100	1	10/09/2018 04:14	WG1177409
2,4,6-Trichlorophenol	U	J3 J4	0.000297	0.0100	0.0100	1	10/09/2018 04:14	WG1177409
(S) 2-Fluorophenol	29.2				10.0-120		10/09/2018 04:14	WG1177409
(S) Phenol-d5	18.7				10.0-120		10/09/2018 04:14	WG1177409
(S) Nitrobenzene-d5	42.9				10.0-127		10/09/2018 04:14	WG1177409
(S) 2-Fluorobiphenyl	50.8				10.0-130		10/09/2018 04:14	WG1177409
(S) 2,4,6-Tribromophenol	26.3				10.0-155		10/09/2018 04:14	WG1177409
(S) p-Terphenyl-d14	61.1				10.0-128		10/09/2018 04:14	WG1177409

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc



Collected date/time: 10/01/18 00:00

L1030903

Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result	Qualifier	SDL	Unadj. MQL	MQL	Dilution	Analysis	Batch
	mg/l		mg/l	mg/l	mg/l		date / time	
Acetone	U		0.0100	1.00	1.00	1	10/03/2018 14:11	WG1175256
Benzene	U		0.000331	0.00100	0.00100	1	10/03/2018 14:11	WG1175256
Bromodichloromethane	U		0.000380	0.00125	0.00125	1	10/03/2018 14:11	WG1175256
Bromoform	U		0.000469	0.00100	0.00100	1	10/03/2018 14:11	WG1175256
Bromomethane	U		0.000866	0.00500	0.00500	1	10/03/2018 14:11	WG1175256
n-Butylbenzene	U		0.000361	0.00100	0.00100	1	10/03/2018 14:11	WG1175256
sec-Butylbenzene	U		0.000365	0.00100	0.00100	1	10/03/2018 14:11	WG1175256
tert-Butylbenzene	U		0.000399	0.00100	0.00100	1	10/03/2018 14:11	WG1175256
Carbon disulfide	U		0.000275	0.00100	0.00100	1	10/03/2018 14:11	WG1175256
Carbon tetrachloride	U		0.000379	0.00100	0.00100	1	10/03/2018 14:11	WG1175256
Chlorobenzene	U		0.000348	0.00100	0.00100	1	10/03/2018 14:11	WG1175256
Chlorodibromomethane	U		0.000327	0.00100	0.00100	1	10/03/2018 14:11	WG1175256
Chloroethane	U		0.000453	0.00500	0.00500	1	10/03/2018 14:11	WG1175256
Chloroform	U		0.000324	0.00500	0.00500	1	10/03/2018 14:11	WG1175256
Chloromethane	U		0.000276	0.00250	0.00250	1	10/03/2018 14:11	WG1175256
1,2-Dibromoethane	U		0.000381	0.00100	0.00100	1	10/03/2018 14:11	WG1175256
1,1-Dichloroethane	U		0.000259	0.00100	0.00100	1	10/03/2018 14:11	WG1175256
1,2-Dichloroethane	U		0.000361	0.00100	0.00100	1	10/03/2018 14:11	WG1175256
1,1-Dichloroethene	U		0.000398	0.00100	0.00100	1	10/03/2018 14:11	WG1175256
cis-1,2-Dichloroethene	U		0.000260	0.00100	0.00100	1	10/03/2018 14:11	WG1175256
trans-1,2-Dichloroethene	U		0.000396	0.00100	0.00100	1	10/03/2018 14:11	WG1175256
1,2-Dichloropropane	U		0.000306	0.00100	0.00100	1	10/03/2018 14:11	WG1175256
cis-1,3-Dichloropropene	U		0.000418	0.00100	0.00100	1	10/03/2018 14:11	WG1175256
trans-1,3-Dichloropropene	U		0.000419	0.00100	0.00100	1	10/03/2018 14:11	WG1175256
Ethylbenzene	U		0.000384	0.00100	0.00100	1	10/03/2018 14:11	WG1175256
Hexachloro-1,3-butadiene	U		0.000256	0.00100	0.00100	1	10/03/2018 14:11	WG1175256
2-Hexanone	U		0.00382	0.0100	0.0100	1	10/03/2018 14:11	WG1175256
Isopropylbenzene	U		0.000326	0.00100	0.00100	1	10/03/2018 14:11	WG1175256
p-Isopropyltoluene	U		0.000350	0.00100	0.00100	1	10/03/2018 14:11	WG1175256
2-Butanone (MEK)	U		0.00393	0.0100	0.0100	1	10/03/2018 14:11	WG1175256
Methylene Chloride	U		0.00100	0.00500	0.00500	1	10/03/2018 14:11	WG1175256
4-Methyl-2-pentanone (MIBK)	U		0.00214	0.0100	0.0100	1	10/03/2018 14:11	WG1175256
Methyl tert-butyl ether	U		0.000367	0.00100	0.00100	1	10/03/2018 14:11	WG1175256
Naphthalene	U		0.00100	0.00500	0.00500	1	10/03/2018 14:11	WG1175256
n-Propylbenzene	U		0.000349	0.00100	0.00100	1	10/03/2018 14:11	WG1175256
Styrene	U		0.000307	0.00100	0.00100	1	10/03/2018 14:11	WG1175256
1,1,2,2-Tetrachloroethane	U		0.000130	0.00100	0.00100	1	10/03/2018 14:11	WG1175256
Tetrachloroethene	U		0.000372	0.00100	0.00100	1	10/03/2018 14:11	WG1175256
Toluene	U		0.000412	0.00100	0.00100	1	10/03/2018 14:11	WG1175256
1,1,1-Trichloroethane	U		0.000319	0.00100	0.00100	1	10/03/2018 14:11	WG1175256
1,1,2-Trichloroethane	U		0.000383	0.00100	0.00100	1	10/03/2018 14:11	WG1175256
Trichloroethene	U		0.000398	0.00100	0.00100	1	10/03/2018 14:11	WG1175256
1,2,4-Trimethylbenzene	U		0.000373	0.00100	0.00100	1	10/03/2018 14:11	WG1175256
1,3,5-Trimethylbenzene	U		0.000387	0.00100	0.00100	1	10/03/2018 14:11	WG1175256
Vinyl chloride	U		0.000259	0.00100	0.00100	1	10/03/2018 14:11	WG1175256
Xylenes, Total	U		0.00106	0.00300	0.00300	1	10/03/2018 14:11	WG1175256
(S) Toluene-d8	111				80.0-120		10/03/2018 14:11	WG1175256
(S) Dibromofluoromethane	98.5				75.0-120		10/03/2018 14:11	WG1175256
(S) 4-Bromofluorobenzene	97.5				77.0-126		10/03/2018 14:11	WG1175256

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc



Method Blank (MB)

(MB) R3349069-1 10/08/18 18:25

	MB Result	MB Qualifier	MB MDL	MB RDL
Analyte	mg/l		mg/l	mg/l
Dissolved Solids	U		2.82	10.0

¹ Cp

² Tc

³ Ss

⁴ Cn

⁵ Sr

⁶ Qc

L1030492-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1030492-01 10/08/18 18:25 • (DUP) R3349069-4 10/08/18 18:25

	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
Analyte	mg/l	mg/l		%		%
Dissolved Solids	329	322	1	2.15		5

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3349069-2 10/08/18 18:25 • (LCSD) R3349069-3 10/08/18 18:25

	Spike Amount	LCS Result	LCSD Result	LCS Rec.	LCSD Rec.	Rec. Limits	LCS Qualifier	LCSD Qualifier	RPD	RPD Limits
Analyte	mg/l	mg/l	mg/l	%	%	%			%	%
Dissolved Solids	8800	8630	8830	98.1	100	85.0-115			2.29	5

⁷ Gl

⁸ Al

⁹ Sc



Method Blank (MB)

(MB) R3349057-1 10/08/18 17:45

	MB Result	MB Qualifier	MB MDL	MB RDL
Analyte	mg/l		mg/l	mg/l
Dissolved Solids	U		2.82	10.0

1Cp

2Tc

3Ss

4Cn

5Sr

6Qc

L1030903-04 Original Sample (OS) • Duplicate (DUP)

(OS) L1030903-04 10/08/18 17:45 • (DUP) R3349057-4 10/08/18 17:45

	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
Analyte	mg/l	mg/l		%		%
Dissolved Solids	574	484	1	17.0	J3	5

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3349057-2 10/08/18 17:45 • (LCSD) R3349057-3 10/08/18 17:45

	Spike Amount	LCS Result	LCSD Result	LCS Rec.	LCSD Rec.	Rec. Limits	LCS Qualifier	LCSD Qualifier	RPD	RPD Limits
Analyte	mg/l	mg/l	mg/l	%	%	%			%	%
Dissolved Solids	8800	8830	8850	100	101	85.0-115			0.226	5

7Gl

8Al

9Sc

Method Blank (MB)

(MB) R3349097-1 10/08/18 18:58

	MB Result	MB Qualifier	MB MDL	MB RDL
Analyte	mg/l		mg/l	mg/l
Dissolved Solids	U		2.82	10.0

1	Cp
2	Tc
3	Ss
4	Cn
5	Sr
6	Qc
7	Gl
8	Al
9	Sc

Original Sample (OS) • Duplicate (DUP)

(OS) • (DUP) R3349097-4 10/08/18 18:58

	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
Analyte	mg/l			%		%
Dissolved Solids	1110		1	8.66	J3	5

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3349097-2 10/08/18 18:58 • (LCSD) R3349097-3 10/08/18 18:58

	Spike Amount	LCS Result	LCSD Result	LCS Rec.	LCSD Rec.	Rec. Limits	LCS Qualifier	LCSD Qualifier	RPD	RPD Limits
Analyte	mg/l	mg/l	mg/l	%	%	%			%	%
Dissolved Solids	8800	8720	8550	99.1	97.2	85.0-115			1.97	5



Method Blank (MB)

(MB) R3349104-1 10/08/18 17:25

	MB Result	MB Qualifier	MB MDL	MB RDL
Analyte	mg/l		mg/l	mg/l
Dissolved Solids	U		2.82	10.0

L1030903-32 Original Sample (OS) • Duplicate (DUP)

(OS) L1030903-32 10/08/18 17:25 • (DUP) R3349104-4 10/08/18 17:25

	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
Analyte	mg/l	mg/l		%		%
Dissolved Solids	573	575	1	0.348		5

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3349104-2 10/08/18 17:25 • (LCSD) R3349104-3 10/08/18 17:25

	Spike Amount	LCS Result	LCSD Result	LCS Rec.	LCSD Rec.	Rec. Limits	LCS Qualifier	LCSD Qualifier	RPD	RPD Limits
Analyte	mg/l	mg/l	mg/l	%	%	%			%	%
Dissolved Solids	8800	8810	8720	100	99.1	85.0-115			1.03	5

1Cp

2Tc

3Ss

4Cn

5Sr

6Qc

7Gl

8Al

9Sc



Method Blank (MB)

(MB) R3349100-1 10/08/18 18:03

	MB Result	MB Qualifier	MB MDL	MB RDL
Analyte	mg/l		mg/l	mg/l
Dissolved Solids	U		2.82	10.0

¹ Cp

² Tc

³ Ss

⁴ Cn

⁵ Sr

⁶ Qc

L1030903-38 Original Sample (OS) • Duplicate (DUP)

(OS) L1030903-38 10/08/18 18:03 • (DUP) R3349100-4 10/08/18 18:03

	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
Analyte	mg/l	mg/l		%		%
Dissolved Solids	451	381	1	16.8	J3	5

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3349100-2 10/08/18 18:03 • (LCSD) R3349100-3 10/08/18 18:03

	Spike Amount	LCS Result	LCSD Result	LCS Rec.	LCSD Rec.	Rec. Limits	LCS Qualifier	LCSD Qualifier	RPD	RPD Limits
Analyte	mg/l	mg/l	mg/l	%	%	%			%	%
Dissolved Solids	8800	8800	9230	100	105	85.0-115			4.77	5

⁷ Gl

⁸ Al

⁹ Sc



Method Blank (MB)

(MB) R3350847-1 10/13/18 12:46

	MB Result	MB Qualifier	MB MDL	MB RDL
Analyte	mg/l		mg/l	mg/l
Dissolved Solids	U		2.82	10.0

L1030903-22 Original Sample (OS) • Duplicate (DUP)

(OS) L1030903-22 10/13/18 12:46 • (DUP) R3350847-4 10/13/18 12:46

	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
Analyte	mg/l	mg/l		%		%
Dissolved Solids	720	733	1	1.83		5

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3350847-2 10/13/18 12:46 • (LCSD) R3350847-3 10/13/18 12:46

	Spike Amount	LCS Result	LCSD Result	LCS Rec.	LCSD Rec.	Rec. Limits	LCS Qualifier	LCSD Qualifier	RPD	RPD Limits
Analyte	mg/l	mg/l	mg/l	%	%	%			%	%
Dissolved Solids	8800	8650	8840	98.3	100	85.0-115			2.17	5

1Cp

2Tc

3Ss

4Cn

5Sr

6Qc

7Gl

8Al

9Sc



Method Blank (MB)

(MB) R3348913-1 10/08/18 19:03

	MB Result	MB Qualifier	MB MDL	MB RDL
Analyte	mg/l		mg/l	mg/l
Alkalinity	U		2.71	20.0

Sample Narrative:

BLANK: Endpoint pH 4.5

L1030513-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1030513-01 10/08/18 19:42 • (DUP) R3348913-3 10/08/18 19:49

	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
Analyte	mg/l	mg/l		%		%
Alkalinity	269	268	1	0.272		20

Sample Narrative:

OS: Endpoint pH 4.5 HEADSPACE

DUP: Endpoint pH 4.5

L1031559-16 Original Sample (OS) • Duplicate (DUP)

(OS) L1031559-16 10/08/18 22:03 • (DUP) R3348913-7 10/08/18 22:11

	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
Analyte	mg/l	mg/l		%		%
Alkalinity	119	118	1	0.522		20

Sample Narrative:

OS: Endpoint pH 4.5 HEADSPACE

DUP: Endpoint pH 4.5

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3348913-5 10/08/18 20:19 • (LCSD) R3348913-6 10/08/18 21:40

	Spike Amount	LCS Result	LCSD Result	LCS Rec.	LCSD Rec.	Rec. Limits	LCS Qualifier	LCSD Qualifier	RPD	RPD Limits
Analyte	mg/l	mg/l	mg/l	%	%	%			%	%
Alkalinity	100	102	106	102	106	85.0-115			3.57	20

Sample Narrative:

LCS: Endpoint pH 4.5

LCSD: Endpoint pH 4.5

1Cp

2Tc

3Ss

4Cn

5Sr

6Qc

7Gl

8Al

9Sc

Method Blank (MB)

(MB) R3349244-1 10/09/18 19:19

	MB Result	MB Qualifier	MB MDL	MB RDL
Analyte	mg/l		mg/l	mg/l
Alkalinity	U		2.71	20.0

Sample Narrative:
BLANK: Endpoint pH 4.5

L1030903-18 Original Sample (OS) • Duplicate (DUP)

(OS) L1030903-18 10/09/18 19:25 • (DUP) R3349244-2 10/09/18 19:33

	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
Analyte	mg/l	mg/l		%		%
Alkalinity	186	185	1	0.264		20

Sample Narrative:
OS: Endpoint pH 4.5 HEADSPACE
DUP: Endpoint pH 4.5

L1031508-03 Original Sample (OS) • Duplicate (DUP)

(OS) L1031508-03 10/10/18 09:05 • (DUP) R3349244-5 10/10/18 09:12

	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
Analyte	mg/l	mg/l		%		%
Alkalinity	540	539	1	0.0960		20

Sample Narrative:
OS: Endpoint pH 4.5 HEADSPACE
DUP: Endpoint pH 4.5

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3349244-3 10/09/18 20:32 • (LCSD) R3349244-4 10/09/18 21:56

	Spike Amount	LCS Result	LCSD Result	LCS Rec.	LCSD Rec.	Rec. Limits	LCS Qualifier	LCSD Qualifier	RPD	RPD Limits
Analyte	mg/l	mg/l	mg/l	%	%	%			%	%
Alkalinity	100	102	109	102	109	85.0-115			6.62	20

Sample Narrative:
LCS: Endpoint pH 4.5
LCSD: Endpoint pH 4.5

1

Cp

2

Tc

3

Ss

4

Cn

5

Sr

6

Qc

7

Gl

8

Al

9

Sc



Method Blank (MB)

(MB) R3349001-1 10/09/18 12:49

	MB Result	MB Qualifier	MB MDL	MB RDL
Analyte	mg/l		mg/l	mg/l
Nitrate-Nitrite	U		0.0197	0.100

L1030884-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1030884-01 10/09/18 12:54 • (DUP) R3349001-4 10/09/18 12:55

	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
Analyte	mg/l	mg/l		%		%
Nitrate-Nitrite	0.530	0.536	1	1.13		20

L1030903-12 Original Sample (OS) • Duplicate (DUP)

(OS) L1030903-12 10/09/18 13:24 • (DUP) R3349001-6 10/09/18 13:31

	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
Analyte	mg/l	mg/l		%		%
Nitrate-Nitrite	3.50	3.46	1	1.12		20

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3349001-2 10/09/18 12:51 • (LCSD) R3349001-3 10/09/18 12:52

	Spike Amount	LCS Result	LCSD Result	LCS Rec.	LCSD Rec.	Rec. Limits	LCS Qualifier	LCSD Qualifier	RPD	RPD Limits
Analyte	mg/l	mg/l	mg/l	%	%	%			%	%
Nitrate-Nitrite	4.00	3.87	4.04	96.7	101	90.0-110			4.35	20

L1030887-01 Original Sample (OS) • Matrix Spike (MS)

(OS) L1030887-01 10/09/18 12:57 • (MS) R3349001-5 10/09/18 12:58

	Spike Amount	Original Result	MS Result	MS Rec.	Dilution	Rec. Limits	MS Qualifier
Analyte	mg/l	mg/l	mg/l	%		%	
Nitrate-Nitrite	2.50	0.930	3.26	93.0	1	90.0-110	

L1030903-13 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1030903-13 10/09/18 13:33 • (MS) R3349001-7 10/09/18 13:34 • (MSD) R3349001-8 10/09/18 13:36

	Spike Amount	Original Result	MS Result	MSD Result	MS Rec.	MSD Rec.	Dilution	Rec. Limits	MS Qualifier	MSD Qualifier	RPD	RPD Limits
Analyte	mg/l	mg/l	mg/l	mg/l	%	%		%			%	%
Nitrate-Nitrite	2.50	2.81	4.82	4.82	80.6	80.3	1	90.0-110	J6	J6	0.166	20

1Cp

2Tc

3Ss

4Cn

5Sr

6Qc

7Gl

8Al

9Sc



Method Blank (MB)

(MB) R3349002-1 10/09/18 13:53

	MB Result	MB Qualifier	MB MDL	MB RDL
Analyte	mg/l		mg/l	mg/l
Nitrate-Nitrite	U		0.0197	0.100

¹ Cp

² Tc

³ Ss

⁴ Cn

⁵ Sr

⁶ Qc

⁷ Gl

⁸ Al

⁹ Sc

L1030903-18 Original Sample (OS) • Duplicate (DUP)

(OS) L1030903-18 10/09/18 13:57 • (DUP) R3349002-4 10/09/18 13:59

	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
Analyte	mg/l	mg/l		%		%
Nitrate-Nitrite	2.96	2.97	1	0.270		20

L1030903-39 Original Sample (OS) • Duplicate (DUP)

(OS) L1030903-39 10/09/18 14:42 • (DUP) R3349002-8 10/09/18 14:44

	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
Analyte	mg/l	mg/l		%		%
Nitrate-Nitrite	U	0.000	1	0.000		20

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3349002-2 10/09/18 13:54 • (LCSD) R3349002-3 10/09/18 13:56

	Spike Amount	LCS Result	LCSD Result	LCS Rec.	LCSD Rec.	Rec. Limits	LCS Qualifier	LCSD Qualifier	RPD	RPD Limits
Analyte	mg/l	mg/l	mg/l	%	%	%			%	%
Nitrate-Nitrite	4.00	3.87	4.03	96.8	101	90.0-110			4.07	20

L1030903-19 Original Sample (OS) • Matrix Spike (MS)

(OS) L1030903-19 10/09/18 14:00 • (MS) R3349002-5 10/09/18 14:02

	Spike Amount	Original Result	MS Result	MS Rec.	Dilution	Rec. Limits	MS Qualifier
Analyte	mg/l	mg/l	mg/l	%		%	
Nitrate-Nitrite	2.50	3.86	5.79	76.9	1	90.0-110	E J6

L1030903-31 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1030903-31 10/09/18 14:21 • (MS) R3349002-6 10/09/18 14:23 • (MSD) R3349002-7 10/09/18 14:24

	Spike Amount	Original Result	MS Result	MSD Result	MS Rec.	MSD Rec.	Dilution	Rec. Limits	MS Qualifier	MSD Qualifier	RPD	RPD Limits
Analyte	mg/l	mg/l	mg/l	mg/l	%	%		%			%	%
Nitrate-Nitrite	2.50	U	2.39	2.41	95.6	96.2	1	90.0-110			0.668	20



Method Blank (MB)

(MB) R3347979-1 10/04/18 17:24

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
Chloride	0.493	⬇	0.0519	1.00
Fluoride	U		0.00990	0.100
Sulfate	U		0.0774	5.00

¹ Cp

² Tc

³ Ss

⁴ Cn

⁵ Sr

⁶ Qc

⁷ Gl

⁸ Al

⁹ Sc

L1030903-05 Original Sample (OS) • Duplicate (DUP)

(OS) L1030903-05 10/04/18 19:17 • (DUP) R3347979-4 10/04/18 19:27

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Chloride	23.8	23.9	1	0.376		15
Fluoride	1.31	1.35	1	2.68		15
Sulfate	26.8	26.9	1	0.220		15

L1030903-15 Original Sample (OS) • Duplicate (DUP)

(OS) L1030903-15 10/04/18 22:59 • (DUP) R3347979-7 10/04/18 23:09

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Chloride	28.1	28.5	1	1.58		15
Fluoride	0.900	0.909	1	0.995		15
Sulfate	67.8	68.3	1	0.621		15

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3347979-2 10/04/18 17:34 • (LCSD) R3347979-3 10/04/18 17:43

Analyte	Spike Amount mg/l	LCS Result mg/l	LCSD Result mg/l	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
Chloride	40.0	44.0	39.1	110	97.7	80.0-120			11.9	15
Fluoride	8.00	7.82	7.92	97.8	99.0	80.0-120			1.19	15
Sulfate	40.0	40.5	39.4	101	98.4	80.0-120			2.84	15



L1030903-05 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1030903-05 10/04/18 19:17 • (MS) R3347979-5 10/04/18 19:56 • (MSD) R3347979-6 10/04/18 20:05

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MSD Result mg/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Chloride	50.0	23.8	73.4	74.0	99.1	100	1	80.0-120			0.886	15
Fluoride	5.00	1.31	6.51	6.52	104	104	1	80.0-120			0.152	15
Sulfate	50.0	26.8	77.1	77.3	101	101	1	80.0-120			0.198	15

L1030903-15 Original Sample (OS) • Matrix Spike (MS)

(OS) L1030903-15 10/04/18 22:59 • (MS) R3347979-8 10/04/18 23:18

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MS Rec. %	Dilution	Rec. Limits %	MS Qualifier
Chloride	50.0	28.1	74.2	92.3	1	80.0-120	
Fluoride	5.00	0.900	5.76	97.1	1	80.0-120	
Sulfate	50.0	67.8	113	90.5	1	80.0-120	E

1Cp

2Tc

3Ss

4Cn

5Sr

6Qc

7Gl

8Al

9Sc



Method Blank (MB)

(MB) R3347939-1 10/04/18 20:20

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
Chloride	U		0.0519	1.00
Fluoride	0.0790	J	0.00990	0.100
Sulfate	U		0.0774	5.00

1
Cp

2
Tc

3
Ss

4
Cn

5
Sr

6
Qc

7
Gl

8
Al

9
Sc

L1030903-23 Original Sample (OS) • Duplicate (DUP)

(OS) L1030903-23 10/04/18 21:30 • (DUP) R3347939-4 10/04/18 21:44

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Chloride	35.8	35.8	1	0.0142		15
Fluoride	2.65	2.85	1	7.11		15
Sulfate	35.3	35.3	1	0.0357		15

L1030903-40 Original Sample (OS) • Duplicate (DUP)

(OS) L1030903-40 10/05/18 05:09 • (DUP) R3347939-7 10/05/18 05:23

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Chloride	0.358	0.248	1	36.4	J P1	15
Fluoride	U	0.000	1	0.000		15
Sulfate	0.326	0.227	1	35.7	J P1	15

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3347939-2 10/04/18 20:34 • (LCSD) R3347939-3 10/04/18 20:48

Analyte	Spike Amount mg/l	LCS Result mg/l	LCSD Result mg/l	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
Chloride	40.0	39.6	39.5	98.9	98.9	80.0-120			0.0197	15
Fluoride	8.00	8.18	8.20	102	102	80.0-120			0.232	15
Sulfate	40.0	39.2	39.3	97.9	98.3	80.0-120			0.339	15



L1030903-31 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1030903-31 10/05/18 00:17 • (MS) R3347939-5 10/05/18 00:31 • (MSD) R3347939-6 10/05/18 00:45

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MSD Result mg/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Chloride	50.0	122	159	160	74.1	76.0	1	80.0-120	E J6	E J6	0.603	15
Fluoride	5.00	0.859	4.73	5.20	77.4	86.9	1	80.0-120	J6		9.59	15
Sulfate	50.0	13.8	51.9	52.1	76.2	76.8	1	80.0-120	J6	J6	0.518	15

L1030903-40 Original Sample (OS) • Matrix Spike (MS)

(OS) L1030903-40 10/05/18 05:09 • (MS) R3347939-8 10/05/18 05:37

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MS Rec. %	Dilution	Rec. Limits %	MS Qualifier
Chloride	50.0	0.358	49.3	97.9	1	80.0-120	
Fluoride	5.00	U	4.64	92.8	1	80.0-120	
Sulfate	50.0	0.326	47.5	94.4	1	80.0-120	

1Cp

2Tc

3Ss

4Cn

5Sr

6Qc

7Gl

8Al

9Sc



Method Blank (MB)

(MB) R3348072-1 10/05/18 09:58

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
Chloride	0.232	⬇	0.0519	1.00
Fluoride	U		0.00990	0.100
Sulfate	0.307	⬇	0.0774	5.00

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3348072-2 10/05/18 10:15 • (LCSD) R3348072-3 10/05/18 10:32

Analyte	Spike Amount mg/l	LCS Result mg/l	LCSD Result mg/l	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
Chloride	40.0	39.2	39.3	98.0	98.2	80.0-120			0.124	15
Fluoride	8.00	8.17	8.19	102	102	80.0-120			0.210	15
Sulfate	40.0	39.6	39.7	99.1	99.4	80.0-120			0.294	15

1Cp

2Tc

3Ss

4Cn

5Sr

6Qc

7Gl

8Al

9Sc



Method Blank (MB)

(MB) R3347623-1 10/04/18 11:27

	MB Result	MB Qualifier	MB MDL	MB RDL
Analyte	mg/l		mg/l	mg/l
Mercury	U		0.0000490	0.000200

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3347623-2 10/04/18 11:30 • (LCSD) R3347623-3 10/04/18 11:32

	Spike Amount	LCS Result	LCSD Result	LCS Rec.	LCSD Rec.	Rec. Limits	LCS Qualifier	LCSD Qualifier	RPD	RPD Limits
Analyte	mg/l	mg/l	mg/l	%	%	%			%	%
Mercury	0.00300	0.00291	0.00285	96.9	94.9	80.0-120			2.07	20

L1030903-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1030903-01 10/04/18 11:34 • (MS) R3347623-4 10/04/18 11:37 • (MSD) R3347623-5 10/04/18 11:39

	Spike Amount	Original Result	MS Result	MSD Result	MS Rec.	MSD Rec.	Dilution	Rec. Limits	MS Qualifier	MSD Qualifier	RPD	RPD Limits
Analyte	mg/l	mg/l	mg/l	mg/l	%	%		%			%	%
Mercury	0.00300	U	0.00287	0.00300	95.6	100	1	75.0-125			4.64	20

1Cp

2Tc

3Ss

4Cn

5Sr

6Qc

7Gl

8Al

9Sc



Method Blank (MB)

(MB) R3348024-1 10/05/18 08:34

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
Mercury	U		0.0000490	0.000200

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3348024-2 10/05/18 08:36 • (LCSD) R3348024-5 10/05/18 11:07

Analyte	Spike Amount mg/l	LCS Result mg/l	LCSD Result mg/l	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
Mercury	0.00300	0.00306	0.00254	102	84.7	80.0-120			18.4	20

L1030903-31 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1030903-31 10/05/18 08:41 • (MS) R3348024-3 10/05/18 08:43 • (MSD) R3348024-4 10/05/18 08:53

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MSD Result mg/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Mercury	0.00300	U	0.00236	0.00227	78.7	75.7	1	75.0-125			3.82	20

1Cp

2Tc

3Ss

4Cn

5Sr

6Qc

7Gl

8Al

9Sc



Method Blank (MB)

(MB) R3348741-1 10/08/18 18:33

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
Boron,Dissolved	U		0.0126	0.200

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3348741-2 10/08/18 18:35 • (LCSD) R3348741-3 10/08/18 18:38

Analyte	Spike Amount mg/l	LCS Result mg/l	LCSD Result mg/l	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
Boron,Dissolved	1.00	0.987	0.973	98.7	97.3	80.0-120			1.38	20

L1030903-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1030903-01 10/08/18 18:41 • (MS) R3348741-5 10/08/18 18:46 • (MSD) R3348741-6 10/08/18 18:49

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MSD Result mg/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Boron,Dissolved	1.00	0.143	1.15	1.15	101	101	1	75.0-125			0.342	20

1Cp

2Tc

3Ss

4Cn

5Sr

6Qc

7Gl

8Al

9Sc



Method Blank (MB)

(MB) R3348434-1 10/08/18 03:50

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
Boron,Dissolved	U		0.0126	0.200

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3348434-2 10/08/18 03:53 • (LCSD) R3348434-3 10/08/18 03:55

Analyte	Spike Amount mg/l	LCS Result mg/l	LCSD Result mg/l	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
Boron,Dissolved	1.00	1.01	0.998	101	99.8	80.0-120			1.51	20

L1030903-31 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1030903-31 10/08/18 03:58 • (MS) R3348434-5 10/08/18 04:03 • (MSD) R3348434-6 10/08/18 04:06

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MSD Result mg/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Boron,Dissolved	1.00	0.194	1.24	1.22	105	103	1	75.0-125			1.55	20

1Cp

2Tc

3Ss

4Cn

5Sr

6Qc

7Gl

8Al

9Sc



Method Blank (MB)

(MB) R3348735-1 10/08/18 21:12

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
Aluminum,Dissolved	0.0298	⌋	0.00515	0.100
Arsenic,Dissolved	U		0.000250	0.00200
Barium,Dissolved	0.000448	⌋	0.000360	0.00500
Cadmium,Dissolved	U		0.000160	0.00100
Chromium,Dissolved	0.000631	⌋	0.000540	0.00200
Copper,Dissolved	0.00155	⌋	0.000520	0.00500
Cobalt,Dissolved	U		0.000260	0.00200
Iron,Dissolved	0.0152	⌋	0.0150	0.100
Lead,Dissolved	0.00110	⌋	0.000240	0.00200
Manganese,Dissolved	0.00156	⌋	0.000250	0.00500
Molybdenum,Dissolved	0.000201	⌋	0.000140	0.00500
Nickel,Dissolved	U		0.000350	0.00200
Selenium,Dissolved	U		0.000380	0.00200
Silver,Dissolved	U		0.000310	0.00200
Uranium,Dissolved	U		0.000330	0.0100
Zinc,Dissolved	0.00811	⌋	0.00256	0.0250

¹ Cp

² Tc

³ Ss

⁴ Cn

⁵ Sr

⁶ Qc

⁷ Gl

⁸ Al

⁹ Sc

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3348735-2 10/08/18 21:16 • (LCSD) R3348735-3 10/08/18 21:21

Analyte	Spike Amount mg/l	LCS Result mg/l	LCSD Result mg/l	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
Aluminum,Dissolved	5.00	4.63	4.62	92.5	92.4	80.0-120			0.125	20
Arsenic,Dissolved	0.0500	0.0492	0.0506	98.3	101	80.0-120			2.80	20
Barium,Dissolved	0.0500	0.0467	0.0480	93.3	96.1	80.0-120			2.88	20
Cadmium,Dissolved	0.0500	0.0476	0.0498	95.1	99.5	80.0-120			4.50	20
Chromium,Dissolved	0.0500	0.0492	0.0509	98.4	102	80.0-120			3.45	20
Copper,Dissolved	0.0500	0.0508	0.0514	102	103	80.0-120			1.34	20
Cobalt,Dissolved	0.0500	0.0502	0.0521	100	104	80.0-120			3.75	20
Iron,Dissolved	5.00	4.82	4.97	96.3	99.3	80.0-120			3.05	20
Lead,Dissolved	0.0500	0.0483	0.0493	96.6	98.6	80.0-120			2.03	20
Manganese,Dissolved	0.0500	0.0465	0.0485	93.0	97.0	80.0-120			4.23	20
Molybdenum,Dissolved	0.0500	0.0466	0.0483	93.3	96.5	80.0-120			3.44	20
Nickel,Dissolved	0.0500	0.0501	0.0520	100	104	80.0-120			3.71	20
Selenium,Dissolved	0.0500	0.0538	0.0530	108	106	80.0-120			1.50	20
Silver,Dissolved	0.0500	0.0494	0.0510	98.9	102	80.0-120			3.19	20
Uranium,Dissolved	0.0500	0.0466	0.0476	93.3	95.1	80.0-120			1.98	20
Zinc,Dissolved	0.0500	0.0504	0.0503	101	101	80.0-120			0.147	20



L1030903-02 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1030903-02 10/08/18 21:26 • (MS) R3348735-5 10/08/18 21:35 • (MSD) R3348735-6 10/08/18 21:39

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MSD Result mg/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Aluminum,Dissolved	5.00	0.0168	4.68	4.69	93.3	93.5	1	75.0-125			0.224	20
Arsenic,Dissolved	0.0500	0.00357	0.0528	0.0550	98.5	103	1	75.0-125			4.15	20
Barium,Dissolved	0.0500	0.100	0.146	0.147	91.6	94.7	1	75.0-125			1.07	20
Cadmium,Dissolved	0.0500	U	0.0479	0.0491	95.8	98.1	1	75.0-125			2.45	20
Chromium,Dissolved	0.0500	0.00201	0.0497	0.0511	95.4	98.2	1	75.0-125			2.77	20
Copper,Dissolved	0.0500	0.00136	0.0510	0.0524	99.3	102	1	75.0-125			2.70	20
Cobalt,Dissolved	0.0500	U	0.0496	0.0505	99.2	101	1	75.0-125			1.90	20
Iron,Dissolved	5.00	U	4.76	4.88	95.3	97.5	1	75.0-125			2.33	20
Lead,Dissolved	0.0500	U	0.0488	0.0500	97.5	100	1	75.0-125			2.47	20
Manganese,Dissolved	0.0500	0.000750	0.0475	0.0484	93.5	95.4	1	75.0-125			1.99	20
Molybdenum,Dissolved	0.0500	0.00278	0.0520	0.0527	98.4	99.9	1	75.0-125			1.44	20
Nickel,Dissolved	0.0500	0.00641	0.0554	0.0560	98.1	99.1	1	75.0-125			0.917	20
Selenium,Dissolved	0.0500	0.00116	0.0521	0.0560	102	110	1	75.0-125			7.16	20
Silver,Dissolved	0.0500	U	0.0504	0.0515	101	103	1	75.0-125			2.34	20
Uranium,Dissolved	0.0500	0.00317	0.0513	0.0522	96.2	98.0	1	75.0-125			1.72	20
Zinc,Dissolved	0.0500	0.0316	0.0784	0.0831	93.7	103	1	75.0-125			5.83	20

¹Cp

²Tc

³Ss

⁴Cn

⁵Sr

⁶Qc

⁷Gl

⁸Al

⁹Sc

Method Blank (MB)

(MB) R3348721-1 10/08/18 17:53

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
Aluminum,Dissolved	U		0.00515	0.100
Arsenic,Dissolved	U		0.000250	0.00200
Barium,Dissolved	U		0.000360	0.00500
Cadmium,Dissolved	U		0.000160	0.00100
Chromium,Dissolved	U		0.000540	0.00200
Copper,Dissolved	U		0.000520	0.00500
Cobalt,Dissolved	U		0.000260	0.00200
Iron,Dissolved	U		0.0150	0.100
Lead,Dissolved	0.000242	⬇	0.000240	0.00200
Manganese,Dissolved	U		0.000250	0.00500
Molybdenum,Dissolved	U		0.000140	0.00500
Nickel,Dissolved	U		0.000350	0.00200
Selenium,Dissolved	U		0.000380	0.00200
Silver,Dissolved	U		0.000310	0.00200
Uranium,Dissolved	U		0.000330	0.0100
Zinc,Dissolved	U		0.00256	0.0250

1

Cp

2

Tc

3

Ss

4

Cn

5

Sr

6

Qc

7

Gl

8

Al

9

Sc

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3348721-2 10/08/18 17:58 • (LCSD) R3348721-3 10/08/18 18:02

Analyte	Spike Amount mg/l	LCS Result mg/l	LCSD Result mg/l	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
Aluminum,Dissolved	5.00	5.02	5.03	100	101	80.0-120			0.144	20
Arsenic,Dissolved	0.0500	0.0524	0.0537	105	107	80.0-120			2.49	20
Barium,Dissolved	0.0500	0.0497	0.0499	99.4	99.7	80.0-120			0.338	20
Cadmium,Dissolved	0.0500	0.0523	0.0510	105	102	80.0-120			2.47	20
Chromium,Dissolved	0.0500	0.0533	0.0530	107	106	80.0-120			0.658	20
Copper,Dissolved	0.0500	0.0541	0.0544	108	109	80.0-120			0.478	20
Cobalt,Dissolved	0.0500	0.0546	0.0557	109	111	80.0-120			1.95	20
Iron,Dissolved	5.00	5.26	5.26	105	105	80.0-120			0.00116	20
Lead,Dissolved	0.0500	0.0521	0.0515	104	103	80.0-120			1.17	20
Manganese,Dissolved	0.0500	0.0513	0.0518	103	104	80.0-120			0.864	20
Molybdenum,Dissolved	0.0500	0.0500	0.0498	100	99.5	80.0-120			0.487	20
Nickel,Dissolved	0.0500	0.0545	0.0546	109	109	80.0-120			0.145	20
Selenium,Dissolved	0.0500	0.0536	0.0528	107	106	80.0-120			1.37	20
Silver,Dissolved	0.0500	0.0535	0.0535	107	107	80.0-120			0.0159	20
Uranium,Dissolved	0.0500	0.0501	0.0496	100	99.3	80.0-120			1.00	20
Zinc,Dissolved	0.0500	0.0522	0.0523	104	105	80.0-120			0.0918	20

L1030903-31 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1030903-31 10/08/18 18:07 • (MS) R3348721-5 10/08/18 18:16 • (MSD) R3348721-6 10/08/18 18:21

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MSD Result mg/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Aluminum,Dissolved	5.00	0.00613	4.92	5.01	98.3	100	1	75.0-125			1.87	20
Arsenic,Dissolved	0.0500	0.00411	0.0559	0.0568	104	105	1	75.0-125			1.65	20
Barium,Dissolved	0.0500	0.481	0.530	0.531	98.5	100	1	75.0-125			0.180	20
Cadmium,Dissolved	0.0500	U	0.0522	0.0509	104	102	1	75.0-125			2.44	20
Chromium,Dissolved	0.0500	U	0.0515	0.0518	103	104	1	75.0-125			0.715	20
Copper,Dissolved	0.0500	U	0.0528	0.0528	106	106	1	75.0-125			0.0244	20
Cobalt,Dissolved	0.0500	U	0.0519	0.0523	104	105	1	75.0-125			0.816	20
Iron,Dissolved	5.00	0.0186	5.03	5.04	100	100	1	75.0-125			0.0563	20
Lead,Dissolved	0.0500	U	0.0510	0.0502	102	100	1	75.0-125			1.45	20
Manganese,Dissolved	0.0500	1.79	1.82	1.83	56.1	80.3	1	75.0-125	V		0.660	20
Molybdenum,Dissolved	0.0500	0.000602	0.0527	0.0526	104	104	1	75.0-125			0.0241	20
Nickel,Dissolved	0.0500	0.00312	0.0542	0.0538	102	101	1	75.0-125			0.771	20
Selenium,Dissolved	0.0500	U	0.0569	0.0552	114	110	1	75.0-125			3.00	20
Silver,Dissolved	0.0500	U	0.0521	0.0522	104	104	1	75.0-125			0.174	20
Uranium,Dissolved	0.0500	0.00829	0.0588	0.0593	101	102	1	75.0-125			0.904	20
Zinc,Dissolved	0.0500	U	0.0508	0.0494	102	98.8	1	75.0-125			2.79	20

1Cp

2Tc

3Ss

4Cn

5Sr

6Qc

7Gl

8Al

9Sc

Method Blank (MB)

(MB) R3348409-3 10/06/18 13:37

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
TPH (GC/FID) Low Fraction	U		0.0314	0.100
(S) a,a,a-Trifluorotoluene(FID)	106			78.0-120

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3348409-1 10/06/18 12:34 • (LCSD) R3348409-2 10/06/18 12:55

Analyte	Spike Amount mg/l	LCS Result mg/l	LCSD Result mg/l	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
TPH (GC/FID) Low Fraction	5.50	5.55	5.56	101	101	72.0-127			0.226	20
(S) a,a,a-Trifluorotoluene(FID)				107	107	78.0-120				

1Cp

2Tc

3Ss

4Cn

5Sr

6Qc

7Gl

8Al

9Sc

Method Blank (MB)

(MB) R3348484-5 10/07/18 21:57

Analyte	MB Result	MB Qualifier	MB MDL	MB RDL
	mg/l		mg/l	mg/l
TPH (GC/FID) Low Fraction	U		0.0314	0.100
(S) a,a,a-Trifluorotoluene(FID)	101			78.0-120

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3348484-3 10/07/18 20:50 • (LCSD) R3348484-4 10/07/18 21:12

Analyte	Spike Amount	LCS Result	LCSD Result	LCS Rec.	LCSD Rec.	Rec. Limits	LCS Qualifier	LCSD Qualifier	RPD	RPD Limits
	mg/l	mg/l	mg/l	%	%	%			%	%
TPH (GC/FID) Low Fraction	5.50	6.04	5.94	110	108	72.0-127			1.79	20
(S) a,a,a-Trifluorotoluene(FID)				105	104	78.0-120				

L1030903-31 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1030903-31 10/08/18 01:54 • (MS) R3348484-6 10/08/18 02:16 • (MSD) R3348484-7 10/08/18 02:38

Analyte	Spike Amount	Original Result	MS Result	MSD Result	MS Rec.	MSD Rec.	Dilution	Rec. Limits	MS Qualifier	MSD Qualifier	RPD	RPD Limits
	mg/l	mg/l	mg/l	mg/l	%	%		%			%	%
TPH (GC/FID) Low Fraction	5.50	0.215	4.99	5.05	86.8	87.9	1	10.0-160			1.14	22
(S) a,a,a-Trifluorotoluene(FID)					101	101		78.0-120				

1Cp

2Tc

3Ss

4Cn

5Sr

6Qc

7Gl

8Al

9Sc



Method Blank (MB)

(MB) R3348702-2 10/03/18 01:14

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
Acetone	U		0.0100	1.00
Benzene	U		0.000331	0.00100
Bromodichloromethane	U		0.000380	0.00125
Bromoform	U		0.000469	0.00100
Bromomethane	U		0.000866	0.00500
n-Butylbenzene	U		0.000361	0.00100
sec-Butylbenzene	U		0.000365	0.00100
tert-Butylbenzene	U		0.000399	0.00100
Carbon disulfide	U		0.000275	0.00100
Carbon tetrachloride	U		0.000379	0.00100
Chlorobenzene	U		0.000348	0.00100
Chlorodibromomethane	U		0.000327	0.00100
Chloroethane	U		0.000453	0.00500
Chloroform	U		0.000324	0.00500
Chloromethane	U		0.000276	0.00250
1,2-Dibromoethane	U		0.000381	0.00100
1,1-Dichloroethane	U		0.000259	0.00100
1,2-Dichloroethane	U		0.000361	0.00100
1,1-Dichloroethene	U		0.000398	0.00100
cis-1,2-Dichloroethene	U		0.000260	0.00100
trans-1,2-Dichloroethene	U		0.000396	0.00100
1,2-Dichloropropane	U		0.000306	0.00100
cis-1,3-Dichloropropene	U		0.000418	0.00100
trans-1,3-Dichloropropene	U		0.000419	0.00100
Ethylbenzene	U		0.000384	0.00100
Hexachloro-1,3-butadiene	0.000589	U	0.000256	0.00100
2-Hexanone	U		0.00382	0.0100
Isopropylbenzene	U		0.000326	0.00100
p-Isopropyltoluene	U		0.000350	0.00100
2-Butanone (MEK)	U		0.00393	0.0100
Methylene Chloride	U		0.00100	0.00500
4-Methyl-2-pentanone (MIBK)	U		0.00214	0.0100
Methyl tert-butyl ether	U		0.000367	0.00100
Naphthalene	U		0.00100	0.00500
n-Propylbenzene	U		0.000349	0.00100
Styrene	U		0.000307	0.00100
1,1,2,2-Tetrachloroethane	U		0.000130	0.00100
Tetrachloroethene	U		0.000372	0.00100
Toluene	U		0.000412	0.00100
1,1,1-Trichloroethane	U		0.000319	0.00100

¹ Cp

² Tc

³ Ss

⁴ Cn

⁵ Sr

⁶ Qc

⁷ Gl

⁸ Al

⁹ Sc



Method Blank (MB)

(MB) R3348702-2 10/03/18 01:14

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
1,1,2-Trichloroethane	U		0.000383	0.00100
Trichloroethene	U		0.000398	0.00100
1,2,4-Trimethylbenzene	U		0.000373	0.00100
1,3,5-Trimethylbenzene	U		0.000387	0.00100
Vinyl chloride	U		0.000259	0.00100
Xylenes, Total	U		0.00106	0.00300
(S) Toluene-d8	108			80.0-120
(S) Dibromofluoromethane	88.7			75.0-120
(S) 4-Bromofluorobenzene	101			77.0-126

Laboratory Control Sample (LCS)

(LCS) R3348702-1 10/03/18 00:33

Analyte	Spike Amount mg/l	LCS Result mg/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Acetone	0.125	0.100	80.1	19.0-160	
Benzene	0.0250	0.0208	83.3	70.0-123	
Bromodichloromethane	0.0250	0.0221	88.5	75.0-120	
Bromoform	0.0250	0.0255	102	68.0-132	
Bromomethane	0.0250	0.0242	96.8	10.0-160	
n-Butylbenzene	0.0250	0.0248	99.1	73.0-125	
sec-Butylbenzene	0.0250	0.0240	95.9	75.0-125	
tert-Butylbenzene	0.0250	0.0243	97.2	76.0-124	
Carbon disulfide	0.0250	0.0209	83.6	61.0-128	
Carbon tetrachloride	0.0250	0.0211	84.5	68.0-126	
Chlorobenzene	0.0250	0.0263	105	80.0-121	
Chlorodibromomethane	0.0250	0.0262	105	77.0-125	
Chloroethane	0.0250	0.0200	79.8	47.0-150	
Chloroform	0.0250	0.0213	85.0	73.0-120	
Chloromethane	0.0250	0.0215	86.0	41.0-142	
1,2-Dibromoethane	0.0250	0.0258	103	80.0-122	
1,1-Dichloroethane	0.0250	0.0207	83.0	70.0-126	
1,2-Dichloroethane	0.0250	0.0212	84.7	70.0-128	
1,1-Dichloroethene	0.0250	0.0226	90.3	71.0-124	
cis-1,2-Dichloroethene	0.0250	0.0218	87.2	73.0-120	
trans-1,2-Dichloroethene	0.0250	0.0223	89.4	73.0-120	
1,2-Dichloropropane	0.0250	0.0228	91.3	77.0-125	
cis-1,3-Dichloropropene	0.0250	0.0250	99.9	80.0-123	
trans-1,3-Dichloropropene	0.0250	0.0225	90.2	78.0-124	

¹ Cp

² Tc

³ Ss

⁴ Cn

⁵ Sr

⁶ Qc

⁷ Gl

⁸ Al

⁹ Sc



Laboratory Control Sample (LCS)

(LCS) R3348702-1 10/03/18 00:33

Analyte	Spike Amount mg/l	LCS Result mg/l	LCS Rec. %	Rec. Limits %	<u>LCS Qualifier</u>
Ethylbenzene	0.0250	0.0265	106	79.0-123	
Hexachloro-1,3-butadiene	0.0250	0.0269	108	54.0-138	
2-Hexanone	0.125	0.123	98.8	67.0-149	
Isopropylbenzene	0.0250	0.0240	95.8	76.0-127	
p-Isopropyltoluene	0.0250	0.0244	97.4	76.0-125	
2-Butanone (MEK)	0.125	0.114	91.2	44.0-160	
Methylene Chloride	0.0250	0.0211	84.3	67.0-120	
4-Methyl-2-pentanone (MIBK)	0.125	0.130	104	68.0-142	
Methyl tert-butyl ether	0.0250	0.0203	81.1	68.0-125	
Naphthalene	0.0250	0.0251	100	54.0-135	
n-Propylbenzene	0.0250	0.0233	93.2	77.0-124	
Styrene	0.0250	0.0256	102	73.0-130	
1,1,2,2-Tetrachloroethane	0.0250	0.0223	89.3	65.0-130	
Tetrachloroethene	0.0250	0.0279	112	72.0-132	
Toluene	0.0250	0.0240	96.2	79.0-120	
1,1,1-Trichloroethane	0.0250	0.0221	88.4	73.0-124	
1,1,2-Trichloroethane	0.0250	0.0259	103	80.0-120	
Trichloroethene	0.0250	0.0254	101	78.0-124	
1,2,4-Trimethylbenzene	0.0250	0.0240	95.9	76.0-121	
1,3,5-Trimethylbenzene	0.0250	0.0231	92.6	76.0-122	
Vinyl chloride	0.0250	0.0223	89.2	67.0-131	
Xylenes, Total	0.0750	0.0787	105	79.0-123	
(S) Toluene-d8			108	80.0-120	
(S) Dibromofluoromethane			90.2	75.0-120	
(S) 4-Bromofluorobenzene			97.7	77.0-126	

¹Cp

²Tc

³Ss

⁴Cn

⁵Sr

⁶Qc

⁷Gl

⁸Al

⁹Sc



Method Blank (MB)

(MB) R3347722-5 10/03/18 11:29

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
Acetone	U		0.0100	1.00
Benzene	U		0.000331	0.00100
Bromodichloromethane	U		0.000380	0.00125
Bromoform	U		0.000469	0.00100
Bromomethane	U		0.000866	0.00500
n-Butylbenzene	U		0.000361	0.00100
sec-Butylbenzene	U		0.000365	0.00100
tert-Butylbenzene	U		0.000399	0.00100
Carbon disulfide	U		0.000275	0.00100
Carbon tetrachloride	U		0.000379	0.00100
Chlorobenzene	U		0.000348	0.00100
Chlorodibromomethane	U		0.000327	0.00100
Chloroethane	U		0.000453	0.00500
Chloroform	U		0.000324	0.00500
Chloromethane	U		0.000276	0.00250
1,2-Dibromoethane	U		0.000381	0.00100
1,1-Dichloroethane	U		0.000259	0.00100
1,2-Dichloroethane	U		0.000361	0.00100
1,1-Dichloroethene	U		0.000398	0.00100
cis-1,2-Dichloroethene	U		0.000260	0.00100
trans-1,2-Dichloroethene	U		0.000396	0.00100
1,2-Dichloropropane	U		0.000306	0.00100
cis-1,3-Dichloropropene	U		0.000418	0.00100
trans-1,3-Dichloropropene	U		0.000419	0.00100
Ethylbenzene	U		0.000384	0.00100
Hexachloro-1,3-butadiene	U		0.000256	0.00100
2-Hexanone	U		0.00382	0.0100
Isopropylbenzene	U		0.000326	0.00100
p-Isopropyltoluene	U		0.000350	0.00100
2-Butanone (MEK)	U		0.00393	0.0100
Methylene Chloride	U		0.00100	0.00500
Methyl tert-butyl ether	U		0.000367	0.00100
4-Methyl-2-pentanone (MIBK)	U		0.00214	0.0100
Naphthalene	U		0.00100	0.00500
n-Propylbenzene	U		0.000349	0.00100
Styrene	U		0.000307	0.00100
1,1,2,2-Tetrachloroethane	U		0.000130	0.00100
Tetrachloroethene	U		0.000372	0.00100
Toluene	U		0.000412	0.00100
1,1,1-Trichloroethane	U		0.000319	0.00100

¹Cp

²Tc

³Ss

⁴Cn

⁵Sr

⁶Qc

⁷Gl

⁸Al

⁹Sc



Method Blank (MB)

(MB) R3347722-5 10/03/18 11:29

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
1,1,2-Trichloroethane	U		0.000383	0.00100
Trichloroethene	U		0.000398	0.00100
1,2,4-Trimethylbenzene	U		0.000373	0.00100
1,3,5-Trimethylbenzene	U		0.000387	0.00100
Vinyl chloride	U		0.000259	0.00100
Xylenes, Total	U		0.00106	0.00300
(S) Toluene-d8	112			80.0-120
(S) Dibromofluoromethane	92.1			75.0-120
(S) 4-Bromofluorobenzene	102			77.0-126

¹Cp

²Tc

³Ss

⁴Cn

⁵Sr

⁶Qc

⁷Gl

⁸Al

⁹Sc

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3347722-1 10/03/18 09:46 • (LCSD) R3347722-2 10/03/18 10:07

Analyte	Spike Amount mg/l	LCS Result mg/l	LCSD Result mg/l	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
Benzene	0.0250	0.0208	0.0205	83.4	82.1	70.0-123			1.55	20
Bromodichloromethane	0.0250	0.0221	0.0222	88.2	88.9	75.0-120			0.688	20
Bromoform	0.0250	0.0210	0.0229	83.9	91.6	68.0-132			8.76	20
Bromomethane	0.0250	0.0195	0.0191	77.9	76.3	10.0-160			2.05	25
n-Butylbenzene	0.0250	0.0228	0.0240	91.2	96.1	73.0-125			5.20	20
sec-Butylbenzene	0.0250	0.0226	0.0235	90.4	94.2	75.0-125			4.15	20
Acetone	0.125	0.0879	0.0913	70.3	73.0	19.0-160			3.75	27
tert-Butylbenzene	0.0250	0.0227	0.0238	90.7	95.1	76.0-124			4.75	20
Carbon disulfide	0.0250	0.0198	0.0194	79.1	77.7	61.0-128			1.75	20
Carbon tetrachloride	0.0250	0.0212	0.0203	84.6	81.3	68.0-126			4.01	20
Chlorobenzene	0.0250	0.0261	0.0253	104	101	80.0-121			3.19	20
Chlorodibromomethane	0.0250	0.0239	0.0250	95.7	99.9	77.0-125			4.25	20
Chloroethane	0.0250	0.0216	0.0208	86.5	83.3	47.0-150			3.75	20
Chloroform	0.0250	0.0213	0.0212	85.3	84.7	73.0-120			0.620	20
Chloromethane	0.0250	0.0214	0.0206	85.5	82.2	41.0-142			3.90	20
1,2-Dibromoethane	0.0250	0.0256	0.0257	102	103	80.0-122			0.378	20
1,1-Dichloroethane	0.0250	0.0208	0.0206	83.3	82.5	70.0-126			0.964	20
1,2-Dichloroethane	0.0250	0.0212	0.0207	85.0	82.9	70.0-128			2.47	20
1,1-Dichloroethene	0.0250	0.0221	0.0214	88.5	85.5	71.0-124			3.39	20
cis-1,2-Dichloroethene	0.0250	0.0219	0.0211	87.5	84.4	73.0-120			3.59	20
trans-1,2-Dichloroethene	0.0250	0.0225	0.0215	90.1	86.0	73.0-120			4.68	20
1,2-Dichloropropane	0.0250	0.0225	0.0225	90.0	90.1	77.0-125			0.0940	20
cis-1,3-Dichloropropene	0.0250	0.0238	0.0246	95.1	98.2	80.0-123			3.19	20
trans-1,3-Dichloropropene	0.0250	0.0214	0.0217	85.4	86.7	78.0-124			1.52	20

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3347722-1 10/03/18 09:46 • (LCSD) R3347722-2 10/03/18 10:07

Analyte	Spike Amount mg/l	LCS Result mg/l	LCSD Result mg/l	LCS Rec. %	LCSD Rec. %	Rec. Limits %	<u>LCS Qualifier</u>	<u>LCSD Qualifier</u>	RPD %	RPD Limits %
Ethylbenzene	0.0250	0.0261	0.0265	104	106	79.0-123			1.26	20
Hexachloro-1,3-butadiene	0.0250	0.0251	0.0255	100	102	54.0-138			1.76	20
Isopropylbenzene	0.0250	0.0226	0.0237	90.6	94.8	76.0-127			4.56	20
p-Isopropyltoluene	0.0250	0.0225	0.0239	89.9	95.4	76.0-125			5.96	20
Methylene Chloride	0.0250	0.0213	0.0210	85.1	84.2	67.0-120			1.01	20
Methyl tert-butyl ether	0.0250	0.0202	0.0199	81.0	79.5	68.0-125			1.80	20
Naphthalene	0.0250	0.0219	0.0246	87.8	98.5	54.0-135			11.5	20
2-Hexanone	0.125	0.110	0.117	87.8	93.3	67.0-149			6.13	20
n-Propylbenzene	0.0250	0.0217	0.0230	86.9	91.9	77.0-124			5.65	20
Styrene	0.0250	0.0242	0.0247	96.8	99.0	73.0-130			2.25	20
1,1,2,2-Tetrachloroethane	0.0250	0.0196	0.0207	78.2	82.7	65.0-130			5.57	20
Tetrachloroethene	0.0250	0.0270	0.0267	108	107	72.0-132			0.963	20
2-Butanone (MEK)	0.125	0.103	0.107	82.7	85.8	44.0-160			3.71	20
Toluene	0.0250	0.0239	0.0239	95.8	95.7	79.0-120			0.122	20
4-Methyl-2-pentanone (MIBK)	0.125	0.122	0.127	97.6	102	68.0-142			4.01	20
1,1,1-Trichloroethane	0.0250	0.0223	0.0214	89.3	85.8	73.0-124			4.06	20
1,1,2-Trichloroethane	0.0250	0.0249	0.0255	99.6	102	80.0-120			2.24	20
Trichloroethene	0.0250	0.0261	0.0255	104	102	78.0-124			2.12	20
1,2,4-Trimethylbenzene	0.0250	0.0224	0.0235	89.6	93.9	76.0-121			4.64	20
1,3,5-Trimethylbenzene	0.0250	0.0212	0.0228	84.7	91.0	76.0-122			7.17	20
Vinyl chloride	0.0250	0.0222	0.0213	88.7	85.4	67.0-131			3.87	20
Xylenes, Total	0.0750	0.0768	0.0754	102	101	79.0-123			1.84	20
(S) Toluene-d8				107	107	80.0-120				
(S) Dibromofluoromethane				91.1	89.7	75.0-120				
(S) 4-Bromofluorobenzene				94.2	97.7	77.0-126				

1Cp

2Tc

3Ss

4Cn

5Sr

6Qc

7Gl

8Al

9Sc

L1030903-31 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1030903-31 10/03/18 20:05 • (MS) R3347722-6 10/03/18 21:06 • (MSD) R3347722-7 10/03/18 21:27

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MSD Result mg/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	<u>MS Qualifier</u>	<u>MSD Qualifier</u>	RPD %	RPD Limits %
Benzene	0.0250	U	0.0215	0.0213	86.0	85.3	1	17.0-158			0.878	27
Bromodichloromethane	0.0250	U	0.0227	0.0228	90.8	91.3	1	31.0-150			0.633	27
Bromoform	0.0250	U	0.0240	0.0255	96.2	102	1	29.0-150			5.69	29
Bromomethane	0.0250	U	0.00971	0.0128	38.8	51.3	1	10.0-160			27.6	38
n-Butylbenzene	0.0250	U	0.0246	0.0257	98.5	103	1	31.0-150			4.13	30
sec-Butylbenzene	0.0250	0.00183	0.0268	0.0274	99.7	102	1	33.0-155			2.39	29
tert-Butylbenzene	0.0250	U	0.0257	0.0265	103	106	1	34.0-153			3.38	28
Carbon disulfide	0.0250	U	0.0202	0.0210	80.9	84.0	1	10.0-156			3.75	28

L1030903-31 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1030903-31 10/03/18 20:05 • (MS) R3347722-6 10/03/18 21:06 • (MSD) R3347722-7 10/03/18 21:27

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MSD Result mg/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Carbon tetrachloride	0.0250	U	0.0220	0.0216	88.0	86.6	1	23.0-159			1.66	28
Chlorobenzene	0.0250	U	0.0268	0.0267	107	107	1	33.0-152			0.689	27
Chlorodibromomethane	0.0250	U	0.0257	0.0265	103	106	1	37.0-149			3.04	27
Acetone	0.125	U	0.0888	0.0931	71.1	74.4	1	10.0-160			4.66	35
Chloroethane	0.0250	U	0.0216	0.0214	86.5	85.4	1	10.0-160			1.31	30
Chloroform	0.0250	U	0.0221	0.0219	88.2	87.7	1	29.0-154			0.565	28
Chloromethane	0.0250	U	0.0190	0.0187	76.1	74.8	1	10.0-160			1.76	29
1,2-Dibromoethane	0.0250	U	0.0257	0.0259	103	104	1	34.0-147			0.974	27
1,1-Dichloroethane	0.0250	U	0.0214	0.0215	85.7	86.1	1	25.0-158			0.468	27
1,2-Dichloroethane	0.0250	U	0.0212	0.0211	84.7	84.5	1	29.0-151			0.221	27
1,1-Dichloroethene	0.0250	U	0.0216	0.0227	86.5	91.0	1	11.0-160			5.03	29
cis-1,2-Dichloroethene	0.0250	U	0.0225	0.0224	89.8	89.7	1	10.0-160			0.183	27
trans-1,2-Dichloroethene	0.0250	U	0.0227	0.0220	90.7	88.1	1	17.0-153			2.96	27
1,2-Dichloropropane	0.0250	U	0.0228	0.0226	91.2	90.5	1	30.0-156			0.828	27
cis-1,3-Dichloropropene	0.0250	U	0.0244	0.0246	97.6	98.3	1	34.0-149			0.689	28
trans-1,3-Dichloropropene	0.0250	U	0.0222	0.0218	88.9	87.0	1	32.0-149			2.15	28
Ethylbenzene	0.0250	U	0.0278	0.0280	111	112	1	30.0-155			0.437	27
Hexachloro-1,3-butadiene	0.0250	U	0.0269	0.0293	108	117	1	20.0-154			8.51	34
Isopropylbenzene	0.0250	0.0195	0.0441	0.0451	98.6	103	1	28.0-157			2.19	27
p-Isopropyltoluene	0.0250	U	0.0265	0.0274	106	110	1	30.0-154			3.39	29
Methylene Chloride	0.0250	U	0.0215	0.0211	85.8	84.3	1	23.0-144			1.82	28
Methyl tert-butyl ether	0.0250	U	0.0204	0.0201	81.8	80.4	1	28.0-150			1.63	29
Naphthalene	0.0250	U	0.0237	0.0267	94.7	107	1	12.0-156			12.1	35
n-Propylbenzene	0.0250	0.000951	0.0254	0.0257	97.9	99.1	1	31.0-154			1.19	28
Styrene	0.0250	U	0.0261	0.0268	105	107	1	33.0-155			2.37	28
1,1,2,2-Tetrachloroethane	0.0250	U	0.0228	0.0240	91.2	96.2	1	33.0-150			5.31	28
Tetrachloroethene	0.0250	U	0.0276	0.0279	110	112	1	10.0-160			1.20	27
2-Hexanone	0.125	U	0.114	0.120	91.3	96.0	1	21.0-160			5.04	29
Toluene	0.0250	U	0.0249	0.0251	99.8	100	1	26.0-154			0.702	28
1,1,1-Trichloroethane	0.0250	U	0.0221	0.0226	88.4	90.4	1	23.0-160			2.25	28
2-Butanone (MEK)	0.125	U	0.105	0.107	84.2	85.6	1	10.0-160			1.71	32
1,1,2-Trichloroethane	0.0250	U	0.0263	0.0274	105	109	1	35.0-147			4.04	27
Trichloroethene	0.0250	U	0.0250	0.0246	99.8	98.2	1	10.0-160			1.62	25
4-Methyl-2-pentanone (MIBK)	0.125	U	0.128	0.132	102	106	1	29.0-160			3.09	29
1,2,4-Trimethylbenzene	0.0250	U	0.0248	0.0252	99.2	101	1	26.0-154			1.67	27
1,3,5-Trimethylbenzene	0.0250	U	0.0240	0.0241	96.0	96.4	1	28.0-153			0.428	27
Vinyl chloride	0.0250	U	0.0229	0.0225	91.5	90.0	1	10.0-160			1.68	27
Xylenes, Total	0.0750	U	0.0804	0.0802	107	107	1	29.0-154			0.249	28
(S) Toluene-d8					109	108		80.0-120				
(S) Dibromofluoromethane					91.4	91.3		75.0-120				

1Cp

2Tc

3Ss

4Cn

5Sr

6Qc

7Gl

8Al

9Sc



L1030903-31 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1030903-31 10/03/18 20:05 • (MS) R3347722-6 10/03/18 21:06 • (MSD) R3347722-7 10/03/18 21:27

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MSD Result mg/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	<u>MS Qualifier</u>	<u>MSD Qualifier</u>	RPD %	RPD Limits %
(S) 4-Bromofluorobenzene					95.9	97.6		77.0-126				

¹Cp

²Tc

³Ss

⁴Cn

⁵Sr

⁶Qc

⁷Gl

⁸Al

⁹Sc



Method Blank (MB)

(MB) R3348226-3 10/03/18 12:18

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
Acetone	U		0.0100	1.00
Benzene	U		0.000331	0.00100
Bromodichloromethane	U		0.000380	0.00125
Bromoform	U		0.000469	0.00100
Bromomethane	U		0.000866	0.00500
n-Butylbenzene	U		0.000361	0.00100
Carbon tetrachloride	U		0.000379	0.00100
sec-Butylbenzene	U		0.000365	0.00100
Chlorobenzene	U		0.000348	0.00100
tert-Butylbenzene	U		0.000399	0.00100
Carbon disulfide	U		0.000275	0.00100
Chlorodibromomethane	U		0.000327	0.00100
Chloroethane	U		0.000453	0.00500
Chloroform	U		0.000324	0.00500
Chloromethane	U		0.000276	0.00250
1,2-Dibromoethane	U		0.000381	0.00100
1,1-Dichloroethane	U		0.000259	0.00100
1,2-Dichloroethane	U		0.000361	0.00100
1,1-Dichloroethene	U		0.000398	0.00100
trans-1,2-Dichloroethene	U		0.000396	0.00100
1,2-Dichloropropane	U		0.000306	0.00100
cis-1,2-Dichloroethene	U		0.000260	0.00100
cis-1,3-Dichloropropene	U		0.000418	0.00100
trans-1,3-Dichloropropene	U		0.000419	0.00100
Ethylbenzene	U		0.000384	0.00100
Hexachloro-1,3-butadiene	U		0.000256	0.00100
2-Hexanone	U		0.00382	0.0100
Isopropylbenzene	U		0.000326	0.00100
Methylene Chloride	U		0.00100	0.00500
p-Isopropyltoluene	U		0.000350	0.00100
2-Butanone (MEK)	U		0.00393	0.0100
Methyl tert-butyl ether	U		0.000367	0.00100
4-Methyl-2-pentanone (MIBK)	U		0.00214	0.0100
Naphthalene	U		0.00100	0.00500
1,1,2,2-Tetrachloroethane	U		0.000130	0.00100
Tetrachloroethene	U		0.000372	0.00100
n-Propylbenzene	U		0.000349	0.00100
Toluene	U		0.000412	0.00100
Styrene	U		0.000307	0.00100
1,1,1-Trichloroethane	U		0.000319	0.00100

¹Cp

²Tc

³Ss

⁴Cn

⁵Sr

⁶Qc

⁷Gl

⁸Al

⁹Sc

Method Blank (MB)

(MB) R3348226-3 10/03/18 12:18

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
1,1,2-Trichloroethane	U		0.000383	0.00100
Trichloroethene	U		0.000398	0.00100
Vinyl chloride	U		0.000259	0.00100
Xylenes, Total	U		0.00106	0.00300
1,2,4-Trimethylbenzene	U		0.000373	0.00100
1,3,5-Trimethylbenzene	U		0.000387	0.00100
(S) Toluene-d8	98.5			80.0-120
(S) Dibromofluoromethane	108			75.0-120
(S) 4-Bromofluorobenzene	90.7			77.0-126

1Cp

2Tc

3Ss

4Cn

5Sr

6Qc

7Gl

8Al

9Sc

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3348226-1 10/03/18 10:40 • (LCSD) R3348226-2 10/03/18 11:38

Analyte	Spike Amount mg/l	LCS Result mg/l	LCSD Result mg/l	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
Acetone	0.125	0.109	0.114	87.4	91.2	19.0-160			4.20	27
Benzene	0.0250	0.0278	0.0280	111	112	70.0-123			0.594	20
Bromodichloromethane	0.0250	0.0274	0.0278	110	111	75.0-120			1.47	20
Bromoform	0.0250	0.0248	0.0252	99.3	101	68.0-132			1.64	20
Bromomethane	0.0250	0.0339	0.0345	135	138	10.0-160			1.88	25
Carbon tetrachloride	0.0250	0.0279	0.0281	112	113	68.0-126			0.693	20
Chlorobenzene	0.0250	0.0242	0.0247	96.6	98.7	80.0-121			2.11	20
Chlorodibromomethane	0.0250	0.0246	0.0252	98.4	101	77.0-125			2.55	20
Chloroethane	0.0250	0.0277	0.0259	111	104	47.0-150			6.65	20
Chloroform	0.0250	0.0290	0.0294	116	118	73.0-120			1.16	20
Chloromethane	0.0250	0.0183	0.0176	73.0	70.3	41.0-142			3.73	20
n-Butylbenzene	0.0250	0.0248	0.0253	99.0	101	73.0-125			2.11	20
sec-Butylbenzene	0.0250	0.0253	0.0265	101	106	75.0-125			4.60	20
1,1-Dichloroethane	0.0250	0.0222	0.0231	88.7	92.3	70.0-126			3.97	20
tert-Butylbenzene	0.0250	0.0235	0.0246	93.9	98.4	76.0-124			4.70	20
1,2-Dichloroethane	0.0250	0.0236	0.0229	94.3	91.6	70.0-128			2.83	20
Carbon disulfide	0.0250	0.0301	0.0300	120	120	61.0-128			0.278	20
1,1-Dichloroethene	0.0250	0.0284	0.0284	113	114	71.0-124			0.0946	20
trans-1,2-Dichloroethene	0.0250	0.0279	0.0282	111	113	73.0-120			1.09	20
1,2-Dichloropropane	0.0250	0.0201	0.0199	80.3	79.6	77.0-125			0.910	20
cis-1,3-Dichloropropene	0.0250	0.0254	0.0259	102	103	80.0-123			1.85	20
trans-1,3-Dichloropropene	0.0250	0.0271	0.0264	108	106	78.0-124			2.51	20
1,2-Dibromoethane	0.0250	0.0263	0.0257	105	103	80.0-122			2.44	20
Ethylbenzene	0.0250	0.0264	0.0270	105	108	79.0-123			2.33	20



Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3348226-1 10/03/18 10:40 • (LCSD) R3348226-2 10/03/18 11:38

Analyte	Spike Amount mg/l	LCS Result mg/l	LCSD Result mg/l	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
Methylene Chloride	0.0250	0.0283	0.0286	113	114	67.0-120			0.926	20
cis-1,2-Dichloroethene	0.0250	0.0272	0.0267	109	107	73.0-120			1.98	20
Methyl tert-butyl ether	0.0250	0.0294	0.0289	117	116	68.0-125			1.48	20
Naphthalene	0.0250	0.0225	0.0231	90.1	92.3	54.0-135			2.39	20
1,1,2,2-Tetrachloroethane	0.0250	0.0258	0.0263	103	105	65.0-130			1.65	20
Tetrachloroethene	0.0250	0.0248	0.0257	99.3	103	72.0-132			3.63	20
Toluene	0.0250	0.0242	0.0241	96.9	96.3	79.0-120			0.605	20
Hexachloro-1,3-butadiene	0.0250	0.0255	0.0251	102	100	54.0-138			1.66	20
2-Hexanone	0.125	0.0917	0.0933	73.4	74.6	67.0-149			1.70	20
1,1,1-Trichloroethane	0.0250	0.0297	0.0296	119	118	73.0-124			0.336	20
1,1,2-Trichloroethane	0.0250	0.0248	0.0247	99.2	98.7	80.0-120			0.466	20
Isopropylbenzene	0.0250	0.0239	0.0248	95.8	99.3	76.0-127			3.63	20
p-Isopropyltoluene	0.0250	0.0247	0.0250	98.8	100	76.0-125			1.29	20
Trichloroethene	0.0250	0.0263	0.0258	105	103	78.0-124			1.94	20
2-Butanone (MEK)	0.125	0.102	0.102	81.5	81.7	44.0-160			0.235	20
4-Methyl-2-pentanone (MIBK)	0.125	0.0876	0.0882	70.1	70.6	68.0-142			0.685	20
Vinyl chloride	0.0250	0.0248	0.0247	99.2	98.7	67.0-131			0.498	20
Xylenes, Total	0.0750	0.0772	0.0786	103	105	79.0-123			1.80	20
n-Propylbenzene	0.0250	0.0255	0.0254	102	102	77.0-124			0.436	20
Styrene	0.0250	0.0225	0.0233	89.9	93.1	73.0-130			3.52	20
1,2,4-Trimethylbenzene	0.0250	0.0255	0.0256	102	102	76.0-121			0.187	20
1,3,5-Trimethylbenzene	0.0250	0.0247	0.0246	98.8	98.5	76.0-122			0.234	20
(S) Toluene-d8				97.0	97.7	80.0-120				
(S) Dibromofluoromethane				105	106	75.0-120				
(S) 4-Bromofluorobenzene				90.6	92.3	77.0-126				

1Cp

2Tc

3Ss

4Cn

5Sr

6Qc

7Gl

8Al

9Sc



Method Blank (MB)

(MB) R3347383-3 10/03/18 13:37

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
Acetone	U		0.0100	1.00
Benzene	U		0.000331	0.00100
Bromodichloromethane	U		0.000380	0.00125
Bromoform	U		0.000469	0.00100
Bromomethane	U		0.000866	0.00500
n-Butylbenzene	U		0.000361	0.00100
sec-Butylbenzene	U		0.000365	0.00100
tert-Butylbenzene	U		0.000399	0.00100
Carbon disulfide	U		0.000275	0.00100
Carbon tetrachloride	U		0.000379	0.00100
Chlorobenzene	U		0.000348	0.00100
Chlorodibromomethane	U		0.000327	0.00100
Chloroethane	U		0.000453	0.00500
Chloroform	U		0.000324	0.00500
Chloromethane	U		0.000276	0.00250
1,2-Dibromoethane	U		0.000381	0.00100
1,1-Dichloroethane	U		0.000259	0.00100
1,2-Dichloroethane	U		0.000361	0.00100
1,1-Dichloroethene	U		0.000398	0.00100
cis-1,2-Dichloroethene	U		0.000260	0.00100
trans-1,2-Dichloroethene	U		0.000396	0.00100
1,2-Dichloropropane	U		0.000306	0.00100
cis-1,3-Dichloropropene	U		0.000418	0.00100
trans-1,3-Dichloropropene	U		0.000419	0.00100
Ethylbenzene	U		0.000384	0.00100
Hexachloro-1,3-butadiene	U		0.000256	0.00100
2-Hexanone	U		0.00382	0.0100
Isopropylbenzene	U		0.000326	0.00100
p-Isopropyltoluene	U		0.000350	0.00100
2-Butanone (MEK)	U		0.00393	0.0100
Methylene Chloride	U		0.00100	0.00500
4-Methyl-2-pentanone (MIBK)	U		0.00214	0.0100
Methyl tert-butyl ether	U		0.000367	0.00100
Naphthalene	U		0.00100	0.00500
n-Propylbenzene	U		0.000349	0.00100
Styrene	U		0.000307	0.00100
1,1,2,2-Tetrachloroethane	U		0.000130	0.00100
Tetrachloroethene	U		0.000372	0.00100
Toluene	U		0.000412	0.00100
1,1,1-Trichloroethane	U		0.000319	0.00100

¹Cp

²Tc

³Ss

⁴Cn

⁵Sr

⁶Qc

⁷Gl

⁸Al

⁹Sc



Method Blank (MB)

(MB) R3347383-3 10/03/18 13:37

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
1,1,2-Trichloroethane	U		0.000383	0.00100
Trichloroethene	U		0.000398	0.00100
1,2,4-Trimethylbenzene	U		0.000373	0.00100
1,3,5-Trimethylbenzene	U		0.000387	0.00100
Vinyl chloride	U		0.000259	0.00100
Xylenes, Total	U		0.00106	0.00300
(S) Toluene-d8	103			80.0-120
(S) Dibromofluoromethane	105			75.0-120
(S) 4-Bromofluorobenzene	103			77.0-126

¹ Cp

² Tc

³ Ss

⁴ Cn

⁵ Sr

⁶ Qc

⁷ Gl

⁸ Al

⁹ Sc

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3347383-1 10/03/18 12:37 • (LCSD) R3347383-2 10/03/18 12:58

Analyte	Spike Amount mg/l	LCS Result mg/l	LCSD Result mg/l	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
Acetone	0.125	0.107	0.125	86.0	99.8	19.0-160			14.9	27
Benzene	0.0250	0.0224	0.0223	89.5	89.4	70.0-123			0.0826	20
Bromodichloromethane	0.0250	0.0242	0.0238	96.7	95.0	75.0-120			1.78	20
Bromoform	0.0250	0.0238	0.0230	95.2	92.1	68.0-132			3.32	20
Bromomethane	0.0250	0.0201	0.0216	80.5	86.5	10.0-160			7.20	25
n-Butylbenzene	0.0250	0.0237	0.0240	94.8	95.8	73.0-125			1.08	20
sec-Butylbenzene	0.0250	0.0243	0.0247	97.3	98.8	75.0-125			1.54	20
tert-Butylbenzene	0.0250	0.0254	0.0271	102	108	76.0-124			6.61	20
Carbon disulfide	0.0250	0.0201	0.0218	80.6	87.2	61.0-128			7.93	20
Carbon tetrachloride	0.0250	0.0245	0.0252	98.1	101	68.0-126			2.74	20
Chlorobenzene	0.0250	0.0267	0.0271	107	109	80.0-121			1.61	20
Chlorodibromomethane	0.0250	0.0287	0.0287	115	115	77.0-125			0.0506	20
Chloroethane	0.0250	0.0207	0.0219	82.9	87.5	47.0-150			5.31	20
Chloroform	0.0250	0.0242	0.0254	96.7	102	73.0-120			4.96	20
Chloromethane	0.0250	0.0194	0.0222	77.6	89.0	41.0-142			13.7	20
1,2-Dibromoethane	0.0250	0.0269	0.0280	108	112	80.0-122			3.89	20
1,1-Dichloroethane	0.0250	0.0236	0.0247	94.4	98.9	70.0-126			4.62	20
1,2-Dichloroethane	0.0250	0.0241	0.0258	96.6	103	70.0-128			6.45	20
1,1-Dichloroethene	0.0250	0.0252	0.0266	101	106	71.0-124			5.19	20
cis-1,2-Dichloroethene	0.0250	0.0224	0.0249	89.5	99.5	73.0-120			10.5	20
trans-1,2-Dichloroethene	0.0250	0.0232	0.0245	92.9	98.1	73.0-120			5.41	20
1,2-Dichloropropane	0.0250	0.0251	0.0247	100	98.8	77.0-125			1.55	20
cis-1,3-Dichloropropene	0.0250	0.0237	0.0243	94.8	97.1	80.0-123			2.33	20
trans-1,3-Dichloropropene	0.0250	0.0269	0.0270	108	108	78.0-124			0.418	20



Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3347383-1 10/03/18 12:37 • (LCSD) R3347383-2 10/03/18 12:58

Analyte	Spike Amount mg/l	LCS Result mg/l	LCSD Result mg/l	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
Ethylbenzene	0.0250	0.0268	0.0287	107	115	79.0-123			6.64	20
Hexachloro-1,3-butadiene	0.0250	0.0211	0.0222	84.6	88.6	54.0-138			4.65	20
2-Hexanone	0.125	0.159	0.151	128	121	67.0-149			5.57	20
Isopropylbenzene	0.0250	0.0255	0.0238	102	95.2	76.0-127			6.78	20
p-Isopropyltoluene	0.0250	0.0258	0.0264	103	106	76.0-125			2.22	20
2-Butanone (MEK)	0.125	0.136	0.143	109	115	44.0-160			4.84	20
Methylene Chloride	0.0250	0.0215	0.0229	85.9	91.8	67.0-120			6.56	20
4-Methyl-2-pentanone (MIBK)	0.125	0.166	0.154	133	123	68.0-142			7.70	20
Methyl tert-butyl ether	0.0250	0.0202	0.0221	80.8	88.5	68.0-125			9.16	20
Naphthalene	0.0250	0.0247	0.0218	98.7	87.2	54.0-135			12.4	20
n-Propylbenzene	0.0250	0.0255	0.0237	102	94.9	77.0-124			7.21	20
Styrene	0.0250	0.0234	0.0247	93.7	98.7	73.0-130			5.19	20
1,1,2,2-Tetrachloroethane	0.0250	0.0236	0.0226	94.3	90.2	65.0-130			4.48	20
Tetrachloroethene	0.0250	0.0273	0.0283	109	113	72.0-132			3.61	20
Toluene	0.0250	0.0257	0.0257	103	103	79.0-120			0.0195	20
1,1,1-Trichloroethane	0.0250	0.0241	0.0271	96.4	108	73.0-124			11.5	20
1,1,2-Trichloroethane	0.0250	0.0272	0.0272	109	109	80.0-120			0.0614	20
Trichloroethene	0.0250	0.0246	0.0247	98.5	98.9	78.0-124			0.430	20
1,2,4-Trimethylbenzene	0.0250	0.0250	0.0254	99.8	101	76.0-121			1.56	20
1,3,5-Trimethylbenzene	0.0250	0.0247	0.0242	99.0	96.7	76.0-122			2.33	20
Vinyl chloride	0.0250	0.0206	0.0226	82.5	90.4	67.0-131			9.20	20
Xylenes, Total	0.0750	0.0792	0.0836	106	111	79.0-123			5.41	20
(S) Toluene-d8				105	113	80.0-120				
(S) Dibromofluoromethane				102	106	75.0-120				
(S) 4-Bromofluorobenzene				104	102	77.0-126				

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc



Method Blank (MB)

(MB) R3349035-3 10/09/18 10:54

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
Acetone	U		0.0100	1.00
Benzene	U		0.000331	0.00100
Bromodichloromethane	U		0.000380	0.00125
Bromoform	U		0.000469	0.00100
Bromomethane	U		0.000866	0.00500
n-Butylbenzene	U		0.000361	0.00100
sec-Butylbenzene	U		0.000365	0.00100
tert-Butylbenzene	U		0.000399	0.00100
Carbon disulfide	U		0.000275	0.00100
Carbon tetrachloride	U		0.000379	0.00100
Chlorobenzene	U		0.000348	0.00100
Chlorodibromomethane	U		0.000327	0.00100
Chloroethane	U		0.000453	0.00500
Chloroform	U		0.000324	0.00500
Chloromethane	U		0.000276	0.00250
1,2-Dibromoethane	U		0.000381	0.00100
1,1-Dichloroethane	U		0.000259	0.00100
1,2-Dichloroethane	U		0.000361	0.00100
1,1-Dichloroethene	U		0.000398	0.00100
cis-1,2-Dichloroethene	U		0.000260	0.00100
trans-1,2-Dichloroethene	U		0.000396	0.00100
1,2-Dichloropropane	U		0.000306	0.00100
cis-1,3-Dichloropropene	U		0.000418	0.00100
trans-1,3-Dichloropropene	U		0.000419	0.00100
Ethylbenzene	U		0.000384	0.00100
Hexachloro-1,3-butadiene	U		0.000256	0.00100
2-Hexanone	U		0.00382	0.0100
Isopropylbenzene	U		0.000326	0.00100
p-Isopropyltoluene	U		0.000350	0.00100
2-Butanone (MEK)	U		0.00393	0.0100
Methylene Chloride	U		0.00100	0.00500
4-Methyl-2-pentanone (MIBK)	U		0.00214	0.0100
Methyl tert-butyl ether	U		0.000367	0.00100
Naphthalene	U		0.00100	0.00500
n-Propylbenzene	U		0.000349	0.00100
Styrene	U		0.000307	0.00100
1,1,2,2-Tetrachloroethane	U		0.000130	0.00100
Tetrachloroethene	U		0.000372	0.00100
Toluene	U		0.000412	0.00100
1,1,1-Trichloroethane	U		0.000319	0.00100

¹Cp

²Tc

³Ss

⁴Cn

⁵Sr

⁶Qc

⁷Gl

⁸Al

⁹Sc



Method Blank (MB)

(MB) R3349035-3 10/09/18 10:54

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
1,1,2-Trichloroethane	U		0.000383	0.00100
Trichloroethene	U		0.000398	0.00100
1,2,4-Trimethylbenzene	U		0.000373	0.00100
1,3,5-Trimethylbenzene	U		0.000387	0.00100
Vinyl chloride	U		0.000259	0.00100
Xylenes, Total	U		0.00106	0.00300
(S) Toluene-d8	103			80.0-120
(S) Dibromofluoromethane	90.8			75.0-120
(S) 4-Bromofluorobenzene	95.6			77.0-126

Cp

Tc

Ss

Cn

Sr

Qc

Gl

Al

Sc

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3349035-1 10/09/18 09:36 • (LCSD) R3349035-2 10/09/18 09:56

Analyte	Spike Amount mg/l	LCS Result mg/l	LCSD Result mg/l	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
Acetone	0.125	0.0837	0.0828	66.9	66.3	19.0-160			0.999	27
Benzene	0.0250	0.0229	0.0229	91.4	91.6	70.0-123			0.127	20
Bromodichloromethane	0.0250	0.0229	0.0232	91.7	92.8	75.0-120			1.22	20
Bromoform	0.0250	0.0270	0.0272	108	109	68.0-132			0.829	20
Bromomethane	0.0250	0.0225	0.0222	90.0	88.9	10.0-160			1.25	25
n-Butylbenzene	0.0250	0.0210	0.0212	84.0	84.9	73.0-125			1.06	20
sec-Butylbenzene	0.0250	0.0240	0.0242	96.0	96.6	75.0-125			0.682	20
tert-Butylbenzene	0.0250	0.0250	0.0253	99.9	101	76.0-124			1.32	20
Carbon disulfide	0.0250	0.0214	0.0218	85.5	87.1	61.0-128			1.85	20
Carbon tetrachloride	0.0250	0.0220	0.0228	88.1	91.0	68.0-126			3.21	20
Chlorobenzene	0.0250	0.0262	0.0269	105	107	80.0-121			2.35	20
Chlorodibromomethane	0.0250	0.0259	0.0266	103	107	77.0-125			2.98	20
Chloroethane	0.0250	0.0202	0.0201	80.6	80.3	47.0-150			0.425	20
Chloroform	0.0250	0.0226	0.0228	90.4	91.1	73.0-120			0.804	20
Chloromethane	0.0250	0.0168	0.0164	67.4	65.5	41.0-142			2.87	20
1,2-Dibromoethane	0.0250	0.0244	0.0253	97.7	101	80.0-122			3.30	20
1,1-Dichloroethane	0.0250	0.0220	0.0222	88.1	89.0	70.0-126			0.925	20
1,2-Dichloroethane	0.0250	0.0201	0.0204	80.4	81.4	70.0-128			1.26	20
1,1-Dichloroethene	0.0250	0.0233	0.0236	93.2	94.5	71.0-124			1.47	20
cis-1,2-Dichloroethene	0.0250	0.0244	0.0246	97.4	98.5	73.0-120			1.12	20
trans-1,2-Dichloroethene	0.0250	0.0236	0.0236	94.3	94.4	73.0-120			0.0128	20
1,2-Dichloropropane	0.0250	0.0238	0.0237	95.4	94.7	77.0-125			0.736	20
cis-1,3-Dichloropropene	0.0250	0.0252	0.0258	101	103	80.0-123			2.13	20
trans-1,3-Dichloropropene	0.0250	0.0246	0.0255	98.4	102	78.0-124			3.53	20



Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3349035-1 10/09/18 09:36 • (LCSD) R3349035-2 10/09/18 09:56

Analyte	Spike Amount mg/l	LCS Result mg/l	LCSD Result mg/l	LCS Rec. %	LCSD Rec. %	Rec. Limits %	<u>LCS Qualifier</u>	<u>LCSD Qualifier</u>	RPD %	RPD Limits %
Ethylbenzene	0.0250	0.0255	0.0258	102	103	79.0-123			1.06	20
Hexachloro-1,3-butadiene	0.0250	0.0223	0.0220	89.2	88.0	54.0-138			1.31	20
2-Hexanone	0.125	0.106	0.108	85.0	86.7	67.0-149			1.94	20
Isopropylbenzene	0.0250	0.0253	0.0260	101	104	76.0-127			2.74	20
p-Isopropyltoluene	0.0250	0.0239	0.0244	95.6	97.6	76.0-125			2.01	20
2-Butanone (MEK)	0.125	0.0878	0.0882	70.2	70.6	44.0-160			0.499	20
Methylene Chloride	0.0250	0.0225	0.0229	90.0	91.6	67.0-120			1.83	20
4-Methyl-2-pentanone (MIBK)	0.125	0.0979	0.101	78.3	80.7	68.0-142			3.00	20
Methyl tert-butyl ether	0.0250	0.0213	0.0224	85.4	89.7	68.0-125			4.95	20
Naphthalene	0.0250	0.0204	0.0205	81.7	82.1	54.0-135			0.445	20
n-Propylbenzene	0.0250	0.0243	0.0249	97.0	99.7	77.0-124			2.72	20
Styrene	0.0250	0.0264	0.0271	105	109	73.0-130			2.87	20
1,1,2,2-Tetrachloroethane	0.0250	0.0250	0.0255	100	102	65.0-130			2.09	20
Tetrachloroethene	0.0250	0.0272	0.0276	109	110	72.0-132			1.49	20
Toluene	0.0250	0.0246	0.0252	98.3	101	79.0-120			2.35	20
1,1,1-Trichloroethane	0.0250	0.0226	0.0229	90.5	91.7	73.0-124			1.34	20
1,1,2-Trichloroethane	0.0250	0.0251	0.0259	100	103	80.0-120			2.89	20
Trichloroethene	0.0250	0.0249	0.0252	99.5	101	78.0-124			1.43	20
1,2,4-Trimethylbenzene	0.0250	0.0246	0.0251	98.6	100	76.0-121			1.76	20
1,3,5-Trimethylbenzene	0.0250	0.0250	0.0256	100	102	76.0-122			2.16	20
Vinyl chloride	0.0250	0.0214	0.0209	85.6	83.7	67.0-131			2.26	20
Xylenes, Total	0.0750	0.0764	0.0781	102	104	79.0-123			2.20	20
(S) Toluene-d8				99.8	102	80.0-120				
(S) Dibromofluoromethane				93.1	92.4	75.0-120				
(S) 4-Bromofluorobenzene				96.1	96.9	77.0-126				

¹ Cp

² Tc

³ Ss

⁴ Cn

⁵ Sr

⁶ Qc

⁷ Gl

⁸ Al

⁹ Sc

L1031979-03 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1031979-03 10/09/18 20:54 • (MS) R3349035-4 10/09/18 21:14 • (MSD) R3349035-5 10/09/18 21:34

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MSD Result mg/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	<u>MS Qualifier</u>	<u>MSD Qualifier</u>	RPD %	RPD Limits %
Acetone	0.125	ND	0.0767	0.0773	61.4	61.9	1	10.0-160			0.818	35
Benzene	0.0250	ND	0.0253	0.0254	99.9	100	1	17.0-158			0.445	27
Bromodichloromethane	0.0250	ND	0.0239	0.0244	95.5	97.6	1	31.0-150			2.20	27
Bromoform	0.0250	ND	0.0292	0.0289	117	116	1	29.0-150			0.996	29
Bromomethane	0.0250	ND	0.0235	0.0237	94.0	94.6	1	10.0-160			0.668	38
n-Butylbenzene	0.0250	ND	0.0226	0.0236	90.2	94.3	1	31.0-150			4.38	30
sec-Butylbenzene	0.0250	ND	0.0257	0.0264	103	106	1	33.0-155			2.80	29
tert-Butylbenzene	0.0250	ND	0.0271	0.0279	108	112	1	34.0-153			3.14	28



L1031979-03 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1031979-03 10/09/18 20:54 • (MS) R3349035-4 10/09/18 21:14 • (MSD) R3349035-5 10/09/18 21:34

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MSD Result mg/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Carbon disulfide	0.0250	ND	0.0233	0.0256	93.1	102	1	10.0-156			9.51	28
Carbon tetrachloride	0.0250	ND	0.0241	0.0251	96.3	100	1	23.0-159			4.12	28
Chlorobenzene	0.0250	ND	0.0297	0.0306	119	123	1	33.0-152			2.98	27
Chlorodibromomethane	0.0250	ND	0.0286	0.0295	114	118	1	37.0-149			3.03	27
Chloroethane	0.0250	ND	0.0234	0.0231	93.5	92.2	1	10.0-160			1.43	30
Chloroform	0.0250	ND	0.0243	0.0250	95.2	98.2	1	29.0-154			3.07	28
Chloromethane	0.0250	ND	0.0177	0.0180	70.6	72.0	1	10.0-160			1.93	29
1,2-Dibromoethane	0.0250	ND	0.0266	0.0273	106	109	1	34.0-147			2.74	27
1,1-Dichloroethane	0.0250	ND	0.0247	0.0252	98.8	101	1	25.0-158			1.89	27
1,2-Dichloroethane	0.0250	ND	0.0212	0.0217	84.9	87.0	1	29.0-151			2.41	27
1,1-Dichloroethene	0.0250	0.00342	0.0285	0.0310	100	110	1	11.0-160			8.43	29
cis-1,2-Dichloroethene	0.0250	0.913	0.928	0.935	58.7	85.2	1	10.0-160	E	E	0.710	27
trans-1,2-Dichloroethene	0.0250	0.00805	0.0346	0.0350	106	108	1	17.0-153			0.930	27
1,2-Dichloropropane	0.0250	ND	0.0246	0.0247	98.4	98.6	1	30.0-156			0.263	27
cis-1,3-Dichloropropene	0.0250	ND	0.0280	0.0292	112	117	1	34.0-149			4.21	28
trans-1,3-Dichloropropene	0.0250	ND	0.0241	0.0244	96.4	97.8	1	32.0-149			1.44	28
Ethylbenzene	0.0250	ND	0.0293	0.0300	117	120	1	30.0-155			2.32	27
Hexachloro-1,3-butadiene	0.0250	ND	0.0239	0.0256	95.8	102	1	20.0-154			6.58	34
2-Hexanone	0.125	ND	0.113	0.114	90.4	91.2	1	21.0-160			0.872	29
Isopropylbenzene	0.0250	ND	0.0270	0.0283	108	113	1	28.0-157			4.73	27
p-Isopropyltoluene	0.0250	ND	0.0256	0.0267	102	107	1	30.0-154			4.08	29
2-Butanone (MEK)	0.125	ND	0.0859	0.0843	68.8	67.4	1	10.0-160			1.93	32
Methylene Chloride	0.0250	ND	0.0237	0.0253	94.9	101	1	23.0-144			6.22	28
4-Methyl-2-pentanone (MIBK)	0.125	ND	0.109	0.112	87.4	89.4	1	29.0-160			2.23	29
Methyl tert-butyl ether	0.0250	ND	0.0217	0.0231	86.9	92.4	1	28.0-150			6.10	29
Naphthalene	0.0250	ND	0.0217	0.0238	86.9	95.2	1	12.0-156			9.04	35
n-Propylbenzene	0.0250	ND	0.0263	0.0269	105	108	1	31.0-154			2.33	28
Styrene	0.0250	ND	0.0279	0.0287	112	115	1	33.0-155			2.72	28
1,1,2,2-Tetrachloroethane	0.0250	ND	0.0265	0.0267	106	107	1	33.0-150			0.634	28
Tetrachloroethene	0.0250	3.58	3.52	3.53	0.000	0.000	1	10.0-160	EV	EV	0.432	27
Toluene	0.0250	ND	0.0290	0.0298	116	119	1	26.0-154			2.92	28
1,1,1-Trichloroethane	0.0250	ND	0.0240	0.0249	96.1	99.8	1	23.0-160			3.79	28
1,1,2-Trichloroethane	0.0250	0.00114	0.0279	0.0282	107	108	1	35.0-147			0.821	27
Trichloroethene	0.0250	0.694	0.709	0.718	61.0	95.5	1	10.0-160	E	E	1.21	25
1,2,4-Trimethylbenzene	0.0250	ND	0.0265	0.0270	106	108	1	26.0-154			1.66	27
1,3,5-Trimethylbenzene	0.0250	ND	0.0268	0.0274	107	110	1	28.0-153			2.40	27
Vinyl chloride	0.0250	0.0165	0.0397	0.0421	92.8	102	1	10.0-160			5.89	27
Xylenes, Total	0.0750	ND	0.0868	0.0892	116	119	1	29.0-154			2.73	28
(S) Toluene-d8					107	110		80.0-120				
(S) Dibromofluoromethane					92.4	91.7		75.0-120				

¹Cp

²Tc

³Ss

⁴Cn

⁵Sr

⁶Qc

⁷Gl

⁸Al

⁹Sc



L1031979-03 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1031979-03 10/09/18 20:54 • (MS) R3349035-4 10/09/18 21:14 • (MSD) R3349035-5 10/09/18 21:34

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MSD Result mg/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
(S) 4-Bromofluorobenzene					96.9	94.7		77.0-126				

1Cp

2Tc

3Ss

4Cn

5Sr

6Qc

7Gl

8Al

9Sc



Method Blank (MB)

(MB) R3347735-1 10/04/18 13:53

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
TPH (GC/FID) High Fraction	U		0.0247	0.100
(S) o-Terphenyl	62.5			31.0-160

¹Cp

²Tc

³Ss

⁴Cn

⁵Sr

⁶Qc

⁷Gl

⁸Al

⁹Sc

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3347735-2 10/04/18 14:14 • (LCSD) R3347735-3 10/04/18 14:34

Analyte	Spike Amount mg/l	LCS Result mg/l	LCSD Result mg/l	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
TPH (GC/FID) High Fraction	1.50	1.43	1.47	95.3	98.0	50.0-150			2.76	20
(S) o-Terphenyl				83.5	82.5	31.0-160				



Method Blank (MB)

(MB) R3348845-1 10/08/18 13:22

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
TPH (GC/FID) High Fraction	U		0.0247	0.100
(S) o-Terphenyl	63.5			31.0-160

1
Cp

2
Tc

3
Ss

4
Cn

5
Sr

6
Qc

7
Gl

8
Al

9
Sc

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3348845-2 10/08/18 13:43 • (LCSD) R3348845-3 10/08/18 14:03

Analyte	Spike Amount mg/l	LCS Result mg/l	LCSD Result mg/l	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
TPH (GC/FID) High Fraction	1.50	1.27	1.20	84.7	80.0	50.0-150			5.67	20
(S) o-Terphenyl				90.0	88.0	31.0-160				

L1030903-31 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1030903-31 10/08/18 15:24 • (MS) R3348845-4 10/08/18 15:44 • (MSD) R3348845-5 10/08/18 16:04

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MSD Result mg/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
TPH (GC/FID) High Fraction	1.43	0.133	1.35	1.39	85.1	87.9	1	50.0-150			2.92	20
(S) o-Terphenyl					90.0	85.8		31.0-160				

Method Blank (MB)

(MB) R3348458-3 10/08/18 00:24

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
Acenaphthene	U		0.000316	0.00100
Acenaphthylene	U		0.000309	0.00100
Acetophenone	U		0.00247	0.0100
Anthracene	U		0.000291	0.00100
Atrazine	U		0.000260	0.0100
Benzaldehyde	U		0.00140	0.0100
Benzo(a)anthracene	U		0.0000510	0.00100
Benzo(b)fluoranthene	U		0.0000896	0.00100
Benzo(k)fluoranthene	U		0.000355	0.00100
Benzo(g,h,i)perylene	U		0.00000227	0.00100
Benzo(a)pyrene	U		0.0000381	0.000200
Biphenyl	U		0.000325	0.0100
Bis(2-chlorethoxy)methane	U		0.000329	0.0100
Bis(2-chloroethyl)ether	U		0.00162	0.0100
Bis(2-chloroisopropyl)ether	U		0.000445	0.0100
4-Bromophenyl-phenylether	U		0.000335	0.0100
Caprolactam	U		0.00259	0.0100
Carbazole	U		0.000260	0.0100
4-Chloroaniline	U		0.000382	0.0100
2-Chloronaphthalene	U		0.000330	0.00100
4-Chlorophenyl-phenylether	U		0.000303	0.0100
Chrysene	U		0.000332	0.00100
Dibenz(a,h)anthracene	U		0.0000644	0.000200
Dibenzofuran	U		0.000338	0.0100
3,3-Dichlorobenzidine	U		0.00202	0.0100
2,4-Dinitrotoluene	U		0.00165	0.0100
2,6-Dinitrotoluene	U		0.000279	0.0100
Fluoranthene	U		0.000310	0.00100
Fluorene	U		0.000323	0.00100
Hexachlorobenzene	U		0.000341	0.00100
Hexachloro-1,3-butadiene	U		0.000329	0.0100
Hexachlorocyclopentadiene	U		0.00233	0.0100
Hexachloroethane	U		0.000365	0.0100
Indeno(1,2,3-cd)pyrene	U		0.000279	0.00100
Isophorone	U		0.000272	0.0100
1-Methylnaphthalene	U		0.000332	0.00100
2-Methylnaphthalene	U		0.000311	0.00100
Naphthalene	U		0.000372	0.00100
2-Nitroaniline	U		0.00190	0.0100
3-Nitroaniline	U		0.000308	0.0100

¹Cp

²Tc

³Ss

⁴Cn

⁵Sr

⁶Qc

⁷Gl

⁸Al

⁹Sc

Method Blank (MB)

(MB) R3348458-3 10/08/18 00:24

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
4-Nitroaniline	U		0.000349	0.0100
Nitrobenzene	U		0.000367	0.0100
n-Nitrosodiphenylamine	U		0.00119	0.0100
n-Nitrosodi-n-propylamine	U		0.000403	0.0100
Phenanthrene	U		0.000366	0.00100
Benzylbutyl phthalate	U		0.000275	0.00300
Bis(2-ethylhexyl)phthalate	U		0.000709	0.00300
Di-n-butyl phthalate	U		0.000266	0.00300
Diethyl phthalate	U		0.000282	0.00300
Dimethyl phthalate	U		0.000283	0.00300
Di-n-octyl phthalate	U		0.000278	0.00300
Pyrene	U		0.000330	0.00100
1,2,4-Trichlorobenzene	U		0.000355	0.0100
4-Chloro-3-methylphenol	U		0.000263	0.0100
2-Chlorophenol	U		0.000283	0.0100
2-Methylphenol	U		0.000312	0.0100
3&4-Methyl Phenol	U		0.000266	0.0100
2,4-Dichlorophenol	U		0.000284	0.0100
2,4-Dimethylphenol	U		0.000624	0.0100
4,6-Dinitro-2-methylphenol	U		0.00262	0.0100
2,4-Dinitrophenol	U		0.00325	0.0100
2-Nitrophenol	U		0.000320	0.0100
4-Nitrophenol	U		0.00201	0.0100
Pentachlorophenol	U		0.000313	0.0100
Phenol	U		0.000334	0.0100
2,4,5-Trichlorophenol	U		0.000236	0.0100
2,4,6-Trichlorophenol	U		0.000297	0.0100
(S) Nitrobenzene-d5	49.3			10.0-127
(S) 2-Fluorobiphenyl	46.7			10.0-130
(S) p-Terphenyl-d14	62.9			10.0-128
(S) Phenol-d5	18.7			10.0-120
(S) 2-Fluorophenol	33.2			10.0-120
(S) 2,4,6-Tribromophenol	35.8			10.0-155

¹Cp

²Tc

³Ss

⁴Cn

⁵Sr

⁶Qc

⁷Gl

⁸Al

⁹Sc

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3348458-1 10/07/18 23:37 • (LCSD) R3348458-2 10/08/18 00:01

Analyte	Spike Amount mg/l	LCS Result mg/l	LCSD Result mg/l	LCS Rec. %	LCSD Rec. %	Rec. Limits %	<u>LCS Qualifier</u>	<u>LCSD Qualifier</u>	RPD %	RPD Limits %
Acenaphthene	0.0500	0.0298	0.0295	59.6	59.0	41.0-120			1.01	22
Acenaphthylene	0.0500	0.0290	0.0287	58.0	57.4	43.0-120			1.04	22
Acetophenone	0.0500	0.0293	0.0287	58.6	57.4	29.0-120			2.07	28
Anthracene	0.0500	0.0291	0.0286	58.2	57.2	45.0-120			1.73	20
Atrazine	0.0500	0.0364	0.0354	72.8	70.8	39.0-141			2.79	20
Benzaldehyde	0.0500	0.0110	0.0108	22.0	21.6	10.0-160			1.83	40
Benzo(a)anthracene	0.0500	0.0351	0.0331	70.2	66.2	47.0-120			5.87	20
Benzo(b)fluoranthene	0.0500	0.0346	0.0327	69.2	65.4	46.0-120			5.65	20
Benzo(k)fluoranthene	0.0500	0.0345	0.0334	69.0	66.8	46.0-120			3.24	21
Benzo(g,h,i)perylene	0.0500	0.0361	0.0347	72.2	69.4	48.0-121			3.95	20
Benzo(a)pyrene	0.0500	0.0343	0.0327	68.6	65.4	47.0-120			4.78	20
Biphenyl	0.0500	0.0274	0.0275	54.8	55.0	38.0-120			0.364	27
Bis(2-chlorethoxy)methane	0.0500	0.0252	0.0252	50.4	50.4	33.0-120			0.000	24
Bis(2-chloroethyl)ether	0.0500	0.0269	0.0267	53.8	53.4	23.0-120			0.746	33
Bis(2-chloroisopropyl)ether	0.0500	0.0267	0.0266	53.4	53.2	28.0-120			0.375	31
4-Bromophenyl-phenylether	0.0500	0.0329	0.0327	65.8	65.4	45.0-120			0.610	20
Caprolactam	0.0500	0.00836	0.00775	16.7	15.5	10.0-120			7.57	26
Carbazole	0.0500	0.0362	0.0350	72.4	70.0	51.0-122			3.37	20
4-Chloroaniline	0.0500	0.0227	0.0225	45.4	45.0	25.0-120			0.885	25
2-Chloronaphthalene	0.0500	0.0272	0.0275	54.4	55.0	37.0-120			1.10	25
4-Chlorophenyl-phenylether	0.0500	0.0324	0.0324	64.8	64.8	44.0-120			0.000	20
Chrysene	0.0500	0.0346	0.0324	69.2	64.8	48.0-120			6.57	20
Dibenz(a,h)anthracene	0.0500	0.0348	0.0334	69.6	66.8	47.0-120			4.11	20
Dibenzofuran	0.0500	0.0301	0.0299	60.2	59.8	44.0-120			0.667	22
3,3-Dichlorobenzidine	0.0500	0.0337	0.0320	67.4	64.0	44.0-120			5.18	20
2,4-Dinitrotoluene	0.0500	0.0358	0.0352	71.6	70.4	49.0-124			1.69	20
2,6-Dinitrotoluene	0.0500	0.0326	0.0323	65.2	64.6	46.0-120			0.925	21
Fluoranthene	0.0500	0.0344	0.0327	68.8	65.4	51.0-120			5.07	20
Fluorene	0.0500	0.0318	0.0313	63.6	62.6	47.0-120			1.58	20
Hexachlorobenzene	0.0500	0.0369	0.0357	73.8	71.4	44.0-120			3.31	20
Hexachloro-1,3-butadiene	0.0500	0.0231	0.0226	46.2	45.2	19.0-120			2.19	32
Hexachlorocyclopentadiene	0.0500	0.0226	0.0227	45.2	45.4	15.0-120			0.442	31
Hexachloroethane	0.0500	0.0211	0.0209	42.2	41.8	15.0-120			0.952	37
Indeno(1,2,3-cd)pyrene	0.0500	0.0359	0.0348	71.8	69.6	49.0-122			3.11	20
Isophorone	0.0500	0.0249	0.0249	49.8	49.8	36.0-120			0.000	23
1-Methylnaphthalene	0.0500	0.0250	0.0250	50.0	50.0	33.0-120			0.000	24
2-Methylnaphthalene	0.0500	0.0238	0.0238	47.6	47.6	33.0-120			0.000	25
Naphthalene	0.0500	0.0241	0.0240	48.2	48.0	27.0-120			0.416	27
2-Nitroaniline	0.0500	0.0315	0.0321	63.0	64.2	43.0-120			1.89	22
3-Nitroaniline	0.0500	0.0341	0.0342	68.2	68.4	38.0-120			0.293	21

1

Cp

2

Tc

3

Ss

4

Cn

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Sr

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Qc

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Gl

8

Al

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Sc

Semi Volatile Organic Compounds (GC/MS) by Method 8270 C [L1030903-02,04,05,06,10,11,12,13,14,15,16,17,18,19,20,21,23,24,26](#)

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3348458-1 10/07/18 23:37 • (LCSD) R3348458-2 10/08/18 00:01

Analyte	Spike Amount mg/l	LCS Result mg/l	LCSD Result mg/l	LCS Rec. %	LCSD Rec. %	Rec. Limits %	<u>LCS Qualifier</u>	<u>LCSD Qualifier</u>	RPD %	RPD Limits %
4-Nitroaniline	0.0500	0.0390	0.0383	78.0	76.6	18.0-160			1.81	21
Nitrobenzene	0.0500	0.0255	0.0252	51.0	50.4	27.0-120			1.18	29
n-Nitrosodiphenylamine	0.0500	0.0324	0.0317	64.8	63.4	47.0-120			2.18	20
n-Nitrosodi-n-propylamine	0.0500	0.0310	0.0304	62.0	60.8	31.0-120			1.95	28
Phenanthrene	0.0500	0.0304	0.0296	60.8	59.2	46.0-120			2.67	20
Benzylbutyl phthalate	0.0500	0.0288	0.0266	57.6	53.2	43.0-121			7.94	20
Bis(2-ethylhexyl)phthalate	0.0500	0.0312	0.0297	62.4	59.4	43.0-122			4.93	20
Di-n-butyl phthalate	0.0500	0.0324	0.0309	64.8	61.8	49.0-121			4.74	20
Diethyl phthalate	0.0500	0.0309	0.0296	61.8	59.2	48.0-122			4.30	20
Dimethyl phthalate	0.0500	0.0260	0.0234	52.0	46.8	48.0-120		J4	10.5	20
Di-n-octyl phthalate	0.0500	0.0324	0.0295	64.8	59.0	42.0-125			9.37	20
Pyrene	0.0500	0.0333	0.0322	66.6	64.4	47.0-120			3.36	20
1,2,4-Trichlorobenzene	0.0500	0.0246	0.0246	49.2	49.2	24.0-120			0.000	29
4-Chloro-3-methylphenol	0.0500	0.0232	0.0225	46.4	45.0	40.0-120			3.06	21
2-Chlorophenol	0.0500	0.0234	0.0225	46.8	45.0	25.0-120			3.92	35
2-Methylphenol	0.0500	0.0205	0.0182	41.0	36.4	28.0-120			11.9	29
3&4-Methyl Phenol	0.0500	0.0216	0.0188	43.2	37.6	31.0-120			13.9	30
2,4-Dichlorophenol	0.0500	0.0247	0.0245	49.4	49.0	36.0-120			0.813	26
2,4-Dimethylphenol	0.0500	0.0237	0.0227	47.4	45.4	33.0-120			4.31	26
4,6-Dinitro-2-methylphenol	0.0500	0.0312	0.0292	62.4	58.4	38.0-138			6.62	25
2,4-Dinitrophenol	0.0500	0.0238	0.0215	47.6	43.0	10.0-120			10.2	39
2-Nitrophenol	0.0500	0.0267	0.0268	53.4	53.6	31.0-120			0.374	29
4-Nitrophenol	0.0500	0.00985	0.00732	19.7	14.6	10.0-120			29.5	33
Pentachlorophenol	0.0500	0.0201	0.0179	40.2	35.8	23.0-120			11.6	25
Phenol	0.0500	0.00991	0.00797	19.8	15.9	10.0-120			21.7	36
2,4,5-Trichlorophenol	0.0500	0.0254	0.0254	50.8	50.8	44.0-120			0.000	22
2,4,6-Trichlorophenol	0.0500	0.0251	0.0251	50.2	50.2	42.0-120			0.000	23
(S) Nitrobenzene-d5				48.6	47.8	10.0-127				
(S) 2-Fluorobiphenyl				54.0	51.5	10.0-130				
(S) p-Terphenyl-d14				68.5	64.6	10.0-128				
(S) Phenol-d5				17.3	14.0	10.0-120				
(S) 2-Fluorophenol				30.7	25.5	10.0-120				
(S) 2,4,6-Tribromophenol				58.0	56.5	10.0-155				

1Cp

2Tc

3Ss

4Cn

5Sr

6Qc

7Gl

8Al

9Sc

Method Blank (MB)

(MB) R3348734-3 10/08/18 19:57

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
Acenaphthene	U		0.000316	0.00100
Acenaphthylene	U		0.000309	0.00100
Acetophenone	U		0.00247	0.0100
Anthracene	U		0.000291	0.00100
Atrazine	U		0.000260	0.0100
Benzaldehyde	U		0.00140	0.0100
Benzo(a)anthracene	U		0.0000510	0.00100
Benzo(b)fluoranthene	U		0.0000896	0.00100
Benzo(k)fluoranthene	U		0.000355	0.00100
Benzo(g,h,i)perylene	U		0.00000227	0.00100
Benzo(a)pyrene	U		0.0000381	0.000200
Biphenyl	U		0.000325	0.0100
Bis(2-chlorethoxy)methane	U		0.000329	0.0100
Bis(2-chloroethyl)ether	U		0.00162	0.0100
Bis(2-chloroisopropyl)ether	U		0.000445	0.0100
4-Bromophenyl-phenylether	U		0.000335	0.0100
Caprolactam	U		0.00259	0.0100
Carbazole	U		0.000260	0.0100
4-Chloroaniline	U		0.000382	0.0100
2-Chloronaphthalene	U		0.000330	0.00100
4-Chlorophenyl-phenylether	U		0.000303	0.0100
Chrysene	U		0.000332	0.00100
Dibenz(a,h)anthracene	U		0.0000644	0.000200
Dibenzofuran	U		0.000338	0.0100
3,3-Dichlorobenzidine	U		0.00202	0.0100
2,4-Dinitrotoluene	U		0.00165	0.0100
2,6-Dinitrotoluene	U		0.000279	0.0100
Fluoranthene	U		0.000310	0.00100
Fluorene	U		0.000323	0.00100
Hexachlorobenzene	U		0.000341	0.00100
Hexachloro-1,3-butadiene	U		0.000329	0.0100
Hexachlorocyclopentadiene	U		0.00233	0.0100
Hexachloroethane	U		0.000365	0.0100
Indeno(1,2,3-cd)pyrene	U		0.000279	0.00100
Bis(2-ethylhexyl)phthalate	U		0.000709	0.00300
Isophorone	U		0.000272	0.0100
1-Methylnaphthalene	U		0.000332	0.00100
2-Methylnaphthalene	U		0.000311	0.00100
Naphthalene	U		0.000372	0.00100
2-Nitroaniline	U		0.00190	0.0100

1

Cp

2

Tc

3

Ss

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Cn

5

Sr

6

Qc

7

Gl

8

Al

9

Sc

Method Blank (MB)

(MB) R3348734-3 10/08/18 19:57

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
3-Nitroaniline	U		0.000308	0.0100
4-Nitroaniline	U		0.000349	0.0100
Nitrobenzene	U		0.000367	0.0100
n-Nitrosodiphenylamine	U		0.00119	0.0100
n-Nitrosodi-n-propylamine	U		0.000403	0.0100
Phenanthrene	U		0.000366	0.00100
Benzylbutyl phthalate	U		0.000275	0.00300
Di-n-butyl phthalate	U		0.000266	0.00300
Diethyl phthalate	U		0.000282	0.00300
Dimethyl phthalate	U		0.000283	0.00300
Di-n-octyl phthalate	U		0.000278	0.00300
Pyrene	U		0.000330	0.00100
1,2,4-Trichlorobenzene	U		0.000355	0.0100
4-Chloro-3-methylphenol	U		0.000263	0.0100
2-Chlorophenol	U		0.000283	0.0100
2-Methylphenol	U		0.000312	0.0100
3&4-Methyl Phenol	U		0.000266	0.0100
2,4-Dichlorophenol	U		0.000284	0.0100
2,4-Dimethylphenol	U		0.000624	0.0100
4,6-Dinitro-2-methylphenol	U		0.00262	0.0100
2,4-Dinitrophenol	U		0.00325	0.0100
2-Nitrophenol	U		0.000320	0.0100
4-Nitrophenol	U		0.00201	0.0100
Pentachlorophenol	U		0.000313	0.0100
Phenol	U		0.000334	0.0100
2,4,5-Trichlorophenol	U		0.000236	0.0100
2,4,6-Trichlorophenol	U		0.000297	0.0100
(S) Nitrobenzene-d5	50.3			10.0-127
(S) 2-Fluorobiphenyl	59.1			10.0-130
(S) p-Terphenyl-d14	60.2			10.0-128
(S) Phenol-d5	18.6			10.0-120
(S) 2-Fluorophenol	29.9			10.0-120
(S) 2,4,6-Tribromophenol	23.4			10.0-155

¹Cp

²Tc

³Ss

⁴Cn

⁵Sr

⁶Qc

⁷Gl

⁸Al

⁹Sc

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3348734-1 10/08/18 19:10 • (LCSD) R3348734-2 10/08/18 19:34

Analyte	Spike Amount mg/l	LCS Result mg/l	LCSD Result mg/l	LCS Rec. %	LCSD Rec. %	Rec. Limits %	<u>LCS Qualifier</u>	<u>LCSD Qualifier</u>	RPD %	RPD Limits %
Acenaphthene	0.0500	0.0322	0.0301	64.4	60.2	41.0-120			6.74	22
Acenaphthylene	0.0500	0.0307	0.0292	61.4	58.4	43.0-120			5.01	22
Acetophenone	0.0500	0.0318	0.0299	63.6	59.8	29.0-120			6.16	28
Anthracene	0.0500	0.0293	0.0278	58.6	55.6	45.0-120			5.25	20
Atrazine	0.0500	0.0350	0.0350	70.0	70.0	39.0-141			0.000	20
Benzaldehyde	0.0500	0.0259	0.0243	51.8	48.6	10.0-160			6.37	40
Benzo(a)anthracene	0.0500	0.0339	0.0328	67.8	65.6	47.0-120			3.30	20
Benzo(b)fluoranthene	0.0500	0.0348	0.0331	69.6	66.2	46.0-120			5.01	20
Benzo(k)fluoranthene	0.0500	0.0330	0.0313	66.0	62.6	46.0-120			5.29	21
Benzo(g,h,i)perylene	0.0500	0.0354	0.0333	70.8	66.6	48.0-121			6.11	20
Benzo(a)pyrene	0.0500	0.0332	0.0318	66.4	63.6	47.0-120			4.31	20
Biphenyl	0.0500	0.0306	0.0290	61.2	58.0	38.0-120			5.37	27
Bis(2-chlorethoxy)methane	0.0500	0.0270	0.0254	54.0	50.8	33.0-120			6.11	24
Bis(2-chloroethyl)ether	0.0500	0.0296	0.0283	59.2	56.6	23.0-120			4.49	33
Bis(2-chloroisopropyl)ether	0.0500	0.0298	0.0283	59.6	56.6	28.0-120			5.16	31
4-Bromophenyl-phenylether	0.0500	0.0333	0.0324	66.6	64.8	45.0-120			2.74	20
Bis(2-ethylhexyl)phthalate	0.0500	0.0285	0.0283	57.0	56.6	43.0-122			0.704	20
Caprolactam	0.0500	0.00824	0.00909	16.5	18.2	10.0-120			9.81	26
Carbazole	0.0500	0.0361	0.0345	72.2	69.0	51.0-122			4.53	20
4-Chloroaniline	0.0500	0.0260	0.0246	52.0	49.2	25.0-120			5.53	25
2-Chloronaphthalene	0.0500	0.0310	0.0290	62.0	58.0	37.0-120			6.67	25
4-Chlorophenyl-phenylether	0.0500	0.0336	0.0324	67.2	64.8	44.0-120			3.64	20
Chrysene	0.0500	0.0335	0.0323	67.0	64.6	48.0-120			3.65	20
Dibenz(a,h)anthracene	0.0500	0.0338	0.0324	67.6	64.8	47.0-120			4.23	20
Dibenzofuran	0.0500	0.0320	0.0300	64.0	60.0	44.0-120			6.45	22
3,3-Dichlorobenzidine	0.0500	0.0337	0.0332	67.4	66.4	44.0-120			1.49	20
2,4-Dinitrotoluene	0.0500	0.0342	0.0347	68.4	69.4	49.0-124			1.45	20
2,6-Dinitrotoluene	0.0500	0.0329	0.0320	65.8	64.0	46.0-120			2.77	21
Fluoranthene	0.0500	0.0337	0.0327	67.4	65.4	51.0-120			3.01	20
Fluorene	0.0500	0.0331	0.0314	66.2	62.8	47.0-120			5.27	20
Hexachlorobenzene	0.0500	0.0378	0.0354	75.6	70.8	44.0-120			6.56	20
Hexachloro-1,3-butadiene	0.0500	0.0312	0.0298	62.4	59.6	19.0-120			4.59	32
Hexachlorocyclopentadiene	0.0500	0.0249	0.0254	49.8	50.8	15.0-120			1.99	31
Hexachloroethane	0.0500	0.0288	0.0279	57.6	55.8	15.0-120			3.17	37
Indeno(1,2,3-cd)pyrene	0.0500	0.0352	0.0332	70.4	66.4	49.0-122			5.85	20
Isophorone	0.0500	0.0265	0.0251	53.0	50.2	36.0-120			5.43	23
1-Methylnaphthalene	0.0500	0.0287	0.0271	57.4	54.2	33.0-120			5.73	24
2-Methylnaphthalene	0.0500	0.0275	0.0259	55.0	51.8	33.0-120			5.99	25
Naphthalene	0.0500	0.0277	0.0262	55.4	52.4	27.0-120			5.57	27
2-Nitroaniline	0.0500	0.0325	0.0321	65.0	64.2	43.0-120			1.24	22

1Cp

2Tc

3Ss

4Cn

5Sr

6Qc

7Gl

8Al

9Sc

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3348734-1 10/08/18 19:10 • (LCSD) R3348734-2 10/08/18 19:34

Analyte	Spike Amount mg/l	LCS Result mg/l	LCSD Result mg/l	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
3-Nitroaniline	0.0500	0.0343	0.0335	68.6	67.0	38.0-120			2.36	21
4-Nitroaniline	0.0500	0.0383	0.0377	76.6	75.4	18.0-160			1.58	21
Nitrobenzene	0.0500	0.0276	0.0262	55.2	52.4	27.0-120			5.20	29
n-Nitrosodiphenylamine	0.0500	0.0324	0.0312	64.8	62.4	47.0-120			3.77	20
n-Nitrosodi-n-propylamine	0.0500	0.0321	0.0298	64.2	59.6	31.0-120			7.43	28
Phenanthrene	0.0500	0.0311	0.0293	62.2	58.6	46.0-120			5.96	20
Benzylbutyl phthalate	0.0500	0.0133	0.0139	26.6	27.8	43.0-121	J4	J4	4.41	20
Di-n-butyl phthalate	0.0500	0.0262	0.0253	52.4	50.6	49.0-121			3.50	20
Diethyl phthalate	0.0500	0.0218	0.0215	43.6	43.0	48.0-122	J4	J4	1.39	20
Dimethyl phthalate	0.0500	0.00885	0.00895	17.7	17.9	48.0-120	J4	J4	1.12	20
Di-n-octyl phthalate	0.0500	0.0284	0.0282	56.8	56.4	42.0-125			0.707	20
Pyrene	0.0500	0.0330	0.0315	66.0	63.0	47.0-120			4.65	20
1,2,4-Trichlorobenzene	0.0500	0.0305	0.0291	61.0	58.2	24.0-120			4.70	29
4-Chloro-3-methylphenol	0.0500	0.0231	0.0242	46.2	48.4	40.0-120			4.65	21
2-Chlorophenol	0.0500	0.0212	0.0254	42.4	50.8	25.0-120			18.0	35
2-Methylphenol	0.0500	0.0228	0.0225	45.6	45.0	28.0-120			1.32	29
3&4-Methyl Phenol	0.0500	0.0234	0.0226	46.8	45.2	31.0-120			3.48	30
2,4-Dichlorophenol	0.0500	0.0193	0.0261	38.6	52.2	36.0-120		J3	30.0	26
2,4-Dimethylphenol	0.0500	0.0254	0.0248	50.8	49.6	33.0-120			2.39	26
4,6-Dinitro-2-methylphenol	0.0500	0.0134	0.0236	26.8	47.2	38.0-138	J4	J3	55.1	25
2,4-Dinitrophenol	0.0500	0.0151	0.0193	30.2	38.6	10.0-120			24.4	39
2-Nitrophenol	0.0500	0.0178	0.0277	35.6	55.4	31.0-120		J3	43.5	29
4-Nitrophenol	0.0500	0.00342	0.00811	6.84	16.2	10.0-120	J4	J3	81.4	33
Pentachlorophenol	0.0500	0.00398	0.0119	7.96	23.8	23.0-120	J4	J3	99.7	25
Phenol	0.0500	0.0111	0.0108	22.2	21.6	10.0-120			2.74	36
2,4,5-Trichlorophenol	0.0500	0.0145	0.0258	29.0	51.6	44.0-120	J4	J3	56.1	22
2,4,6-Trichlorophenol	0.0500	0.0111	0.0238	22.2	47.6	42.0-120	J4	J3	72.8	23
(S) Nitrobenzene-d5				55.0	51.4	10.0-127				
(S) 2-Fluorobiphenyl				62.9	59.5	10.0-130				
(S) p-Terphenyl-d14				67.5	64.5	10.0-128				
(S) Phenol-d5				20.3	19.5	10.0-120				
(S) 2-Fluorophenol				24.6	33.0	10.0-120				
(S) 2,4,6-Tribromophenol				24.2	51.0	10.0-155				

1Cp

2Tc

3Ss

4Cn

5Sr

6Qc

7Gl

8Al

9Sc

L1030903-31 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1030903-31 10/08/18 20:21 • (MS) R3348734-4 10/08/18 20:44 • (MSD) R3348734-5 10/08/18 21:08

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MSD Result mg/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Acenaphthene	0.0455	U	0.0298	0.0284	65.5	62.4	1	28.0-120			4.81	25
Acenaphthylene	0.0455	U	0.0290	0.0279	63.7	61.3	1	31.0-121			3.87	25
Acetophenone	0.0455	U	0.0298	0.0288	65.5	63.3	1	20.0-120			3.41	35
Anthracene	0.0455	U	0.0271	0.0252	59.6	55.4	1	36.0-120			7.27	23
Atrazine	0.0455	U	0.0330	0.0313	72.5	68.8	1	39.0-130			5.29	23
Benzaldehyde	0.0455	U	0.0229	0.0222	50.3	48.8	1	10.0-160			3.10	40
Benzo(a)anthracene	0.0455	U	0.0304	0.0286	66.8	62.9	1	39.0-120			6.10	23
Benzo(b)fluoranthene	0.0455	U	0.0284	0.0261	62.4	57.4	1	37.0-120			8.44	23
Benzo(k)fluoranthene	0.0455	U	0.0313	0.0291	68.8	64.0	1	37.0-120			7.28	26
Benzo(g,h,i)perylene	0.0455	U	0.0305	0.0277	67.0	60.9	1	37.0-123			9.62	25
Benzo(a)pyrene	0.0455	U	0.0278	0.0258	61.1	56.7	1	37.0-120			7.46	24
Biphenyl	0.0455	U	0.0283	0.0273	62.2	60.0	1	29.0-120			3.60	33
Bis(2-chlorethoxy)methane	0.0455	U	0.0250	0.0239	54.9	52.5	1	17.0-120			4.50	31
Bis(2-chloroethyl)ether	0.0455	U	0.0287	0.0260	63.1	57.1	1	14.0-120			9.87	33
Bis(2-chloroisopropyl)ether	0.0455	U	0.0270	0.0258	59.3	56.7	1	18.0-120			4.55	34
4-Bromophenyl-phenylether	0.0455	U	0.0315	0.0296	69.2	65.1	1	37.0-120			6.22	24
Caprolactam	0.0455	U	ND	ND	0.000	0.000	1	10.0-120	J6	J6	0.000	40
Carbazole	0.0455	U	0.0331	0.0303	72.7	66.6	1	38.0-127			8.83	21
4-Chloroaniline	0.0455	U	0.0198	0.0127	43.5	27.9	1	10.0-120		J3	43.7	31
2-Chloronaphthalene	0.0455	U	0.0284	0.0276	62.4	60.7	1	29.0-120			2.86	28
4-Chlorophenyl-phenylether	0.0455	U	0.0319	0.0303	70.1	66.6	1	36.0-120			5.14	23
Chrysene	0.0455	U	0.0302	0.0282	66.4	62.0	1	38.0-120			6.85	23
Dibenz(a,h)anthracene	0.0455	U	0.0297	0.0269	65.3	59.1	1	36.0-121			9.89	24
Dibenzofuran	0.0455	U	0.0295	0.0283	64.8	62.2	1	32.0-120			4.15	26
3,3-Dichlorobenzidine	0.0455	U	0.0283	0.0169	62.2	37.1	1	10.0-134		J3	50.4	30
2,4-Dinitrotoluene	0.0455	U	0.0336	0.0320	73.8	70.3	1	39.0-125			4.88	25
2,6-Dinitrotoluene	0.0455	U	0.0310	0.0299	68.1	65.7	1	36.0-120			3.61	27
Fluoranthene	0.0455	U	0.0316	0.0289	69.5	63.5	1	41.0-121			8.93	22
Fluorene	0.0455	U	0.0303	0.0288	66.6	63.3	1	37.0-120			5.08	24
Hexachlorobenzene	0.0455	U	0.0343	0.0322	75.4	70.8	1	35.0-122			6.32	24
Hexachloro-1,3-butadiene	0.0455	U	0.0289	0.0278	63.5	61.1	1	12.0-120			3.88	34
Hexachlorocyclopentadiene	0.0455	U	0.0274	0.0263	60.2	57.8	1	10.0-120			4.10	33
Hexachloroethane	0.0455	U	0.0273	0.0255	60.0	56.0	1	10.0-120			6.82	40
Indeno(1,2,3-cd)pyrene	0.0455	U	0.0304	0.0279	66.8	61.3	1	38.0-125			8.58	24
Isophorone	0.0455	U	0.0245	0.0233	53.8	51.2	1	21.0-120			5.02	27
1-Methylnaphthalene	0.0455	U	0.0263	0.0257	57.8	56.5	1	11.0-120			2.31	27
2-Methylnaphthalene	0.0455	U	0.0257	0.0249	56.5	54.7	1	17.0-120			3.16	28
Naphthalene	0.0455	U	0.0254	0.0242	55.8	53.2	1	10.0-120			4.84	31
2-Nitroaniline	0.0455	U	0.0321	0.0307	70.5	67.5	1	33.0-120			4.46	27
3-Nitroaniline	0.0455	U	0.0277	0.0207	60.9	45.5	1	20.0-120		J3	28.9	27

1Cp

2Tc

3Ss

4Cn

5Sr

6Qc

7Gl

8Al

9Sc

L1030903-31 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1030903-31 10/08/18 20:21 • (MS) R3348734-4 10/08/18 20:44 • (MSD) R3348734-5 10/08/18 21:08

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MSD Result mg/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
4-Nitroaniline	0.0455	U	0.0331	0.0282	72.7	62.0	1	10.0-160			16.0	26
Nitrobenzene	0.0455	U	0.0254	0.0240	55.8	52.7	1	12.0-120			5.67	30
n-Nitrosodiphenylamine	0.0455	U	0.0298	0.0280	65.5	61.5	1	37.0-120			6.23	24
n-Nitrosodi-n-propylamine	0.0455	U	0.0282	0.0276	62.0	60.7	1	16.0-120			2.15	30
Phenanthrene	0.0455	U	0.0282	0.0267	62.0	58.7	1	33.0-120			5.46	22
Benzylbutyl phthalate	0.0455	U	0.0278	0.0254	61.1	55.8	1	34.0-126			9.02	24
Di-n-butyl phthalate	0.0455	U	0.0307	0.0283	67.5	62.2	1	35.0-128			8.14	23
Diethyl phthalate	0.0455	U	0.0304	0.0282	66.8	62.0	1	39.0-125			7.51	24
Dimethyl phthalate	0.0455	U	0.0304	0.0283	66.8	62.2	1	37.0-120			7.16	24
Di-n-octyl phthalate	0.0455	U	0.0258	0.0238	56.7	52.3	1	25.0-135			8.06	26
Pyrene	0.0455	U	0.0303	0.0281	66.6	61.8	1	39.0-120			7.53	22
1,2,4-Trichlorobenzene	0.0455	U	0.0280	0.0267	61.5	58.7	1	15.0-120			4.75	31
4-Chloro-3-methylphenol	0.0455	U	0.0203	0.0201	44.6	44.2	1	26.0-120			0.990	27
2-Chlorophenol	0.0455	U	0.0214	0.0233	47.0	51.2	1	18.0-120			8.50	34
2-Methylphenol	0.0455	U	0.0162	0.0159	35.6	34.9	1	10.0-120			1.87	30
3&4-Methyl Phenol	0.0455	U	0.0150	0.0136	33.0	29.9	1	10.0-120			9.79	36
Bis(2-ethylhexyl)phthalate	0.0455	U	0.0262	0.0238	57.6	52.3	1	33.0-126			9.60	25
2,4-Dichlorophenol	0.0455	U	0.0180	0.0205	39.6	45.1	1	19.0-120			13.0	27
2,4-Dimethylphenol	0.0455	U	0.0224	0.0214	49.2	47.0	1	15.0-120			4.57	28
4,6-Dinitro-2-methylphenol	0.0455	U	0.0322	0.0323	70.8	71.0	1	10.0-144			0.310	39
2,4-Dinitrophenol	0.0455	U	0.0291	0.0317	64.0	69.7	1	10.0-120			8.55	40
2-Nitrophenol	0.0455	U	0.0290	0.0291	63.7	64.0	1	20.0-120			0.344	30
4-Nitrophenol	0.0455	U	0.0126	0.0130	27.7	28.6	1	10.0-120			3.13	40
Pentachlorophenol	0.0455	U	0.0180	0.0208	39.6	45.7	1	10.0-128			14.4	37
Phenol	0.0455	0.00271	0.0125	0.0133	21.5	23.3	1	10.0-120			6.20	40
2,4,5-Trichlorophenol	0.0455	U	0.0229	0.0237	50.3	52.1	1	33.0-120			3.43	31
2,4,6-Trichlorophenol	0.0455	U	0.0155	0.0188	34.1	41.3	1	26.0-120			19.2	31
(S) Nitrobenzene-d5					56.5	51.5		10.0-127				
(S) 2-Fluorobiphenyl					63.8	59.6		10.0-130				
(S) p-Terphenyl-d14					66.0	62.1		10.0-128				
(S) Phenol-d5					20.7	22.9		10.0-120				
(S) 2-Fluorophenol					24.1	28.8		10.0-120				
(S) 2,4,6-Tribromophenol					31.7	38.6		10.0-155				

1

Cp

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Tc

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Ss

4

Cn

5

Sr

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Qc

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Gl

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Al

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Sc



Guide to Reading and Understanding Your Laboratory Report

The information below is designed to better explain the various terms used in your report of analytical results from the Laboratory. This is not intended as a comprehensive explanation, and if you have additional questions please contact your project representative.

Abbreviations and Definitions

MDL	Method Detection Limit.
MQL	Method Quantitation Limit.
ND	Not detected at the Method Quantitation Limit.
RDL	Reported Detection Limit.
Rec.	Recovery.
RPD	Relative Percent Difference.
SDG	Sample Delivery Group.
SDL	Sample Detection Limit.
(S)	Surrogate (Surrogate Standard) - Analytes added to every blank, sample, Laboratory Control Sample/Duplicate and Matrix Spike/Duplicate; used to evaluate analytical efficiency by measuring recovery. Surrogates are not expected to be detected in all environmental media.
U	Not detected at the Sample Detection Limit.
Unadj. MQL	Unadjusted Method Quantitation Limit.
Analyte	The name of the particular compound or analysis performed. Some Analyses and Methods will have multiple analytes reported.
Dilution	If the sample matrix contains an interfering material, the sample preparation volume or weight values differ from the standard, or if concentrations of analytes in the sample are higher than the highest limit of concentration that the laboratory can accurately report, the sample may be diluted for analysis. If a value different than 1 is used in this field, the result reported has already been corrected for this factor.
Limits	These are the target % recovery ranges or % difference value that the laboratory has historically determined as normal for the method and analyte being reported. Successful QC Sample analysis will target all analytes recovered or duplicated within these ranges.
Original Sample	The non-spiked sample in the prep batch used to determine the Relative Percent Difference (RPD) from a quality control sample. The Original Sample may not be included within the reported SDG.
Qualifier	This column provides a letter and/or number designation that corresponds to additional information concerning the result reported. If a Qualifier is present, a definition per Qualifier is provided within the Glossary and Definitions page and potentially a discussion of possible implications of the Qualifier in the Case Narrative if applicable.
Result	The actual analytical final result (corrected for any sample specific characteristics) reported for your sample. If there was no measurable result returned for a specific analyte, the result in this column may state "ND" (Not Detected) or "BDL" (Below Detectable Levels). The information in the results column should always be accompanied by either an MDL (Method Detection Limit) or RDL (Reporting Detection Limit) that defines the lowest value that the laboratory could detect or report for this analyte.
Case Narrative (Cn)	A brief discussion about the included sample results, including a discussion of any non-conformances to protocol observed either at sample receipt by the laboratory from the field or during the analytical process. If present, there will be a section in the Case Narrative to discuss the meaning of any data qualifiers used in the report.
Quality Control Summary (Qc)	This section of the report includes the results of the laboratory quality control analyses required by procedure or analytical methods to assist in evaluating the validity of the results reported for your samples. These analyses are not being performed on your samples typically, but on laboratory generated material.
Sample Chain of Custody (Sc)	This is the document created in the field when your samples were initially collected. This is used to verify the time and date of collection, the person collecting the samples, and the analyses that the laboratory is requested to perform. This chain of custody also documents all persons (excluding commercial shippers) that have had control or possession of the samples from the time of collection until delivery to the laboratory for analysis.
Sample Results (Sr)	This section of your report will provide the results of all testing performed on your samples. These results are provided by sample ID and are separated by the analyses performed on each sample. The header line of each analysis section for each sample will provide the name and method number for the analysis reported.
Sample Summary (Ss)	This section of the Analytical Report defines the specific analyses performed for each sample ID, including the dates and times of preparation and/or analysis.

Qualifier	Description
B	The same analyte is found in the associated blank.
E	The analyte concentration exceeds the upper limit of the calibration range of the instrument established by the initial calibration (ICAL).
J	The identification of the analyte is acceptable; the reported value is an estimate.
J2	Surrogate recovery limits have been exceeded; values are outside lower control limits.
J3	The associated batch QC was outside the established quality control range for precision.
J4	The associated batch QC was outside the established quality control range for accuracy.
J6	The sample matrix interfered with the ability to make any accurate determination; spike value is low.
P1	RPD value not applicable for sample concentrations less than 5 times the reporting limit.
Q	Sample was prepared and/or analyzed past recommended holding time. Concentrations should be considered minimum values.
V	The sample concentration is too high to evaluate accurate spike recoveries.

¹ Cp
² Tc
³ Ss
⁴ Cn
⁵ Sr
⁶ Qc
⁷ Gl
⁸ Al
⁹ Sc



Pace National is the only environmental laboratory accredited/certified to support your work nationwide from one location. One phone call, one point of contact, one laboratory. No other lab is as accessible or prepared to handle your needs throughout the country. Our capacity and capability from our single location laboratory is comparable to the collective totals of the network laboratories in our industry. The most significant benefit to our one location design is the design of our laboratory campus. The model is conducive to accelerated productivity, decreasing turn-around time, and preventing cross contamination, thus protecting sample integrity. Our focus on premium quality and prompt service allows us to be YOUR LAB OF CHOICE.

* Not all certifications held by the laboratory are applicable to the results reported in the attached report.

* Accreditation is only applicable to the test methods specified on each scope of accreditation held by Pace National.

State Accreditations

Alabama	40660	Nebraska	NE-OS-15-05
Alaska	17-026	Nevada	TN-03-2002-34
Arizona	AZ0612	New Hampshire	2975
Arkansas	88-0469	New Jersey–NELAP	TN002
California	2932	New Mexico ¹	n/a
Colorado	TN00003	New York	11742
Connecticut	PH-0197	North Carolina	Env375
Florida	E87487	North Carolina ¹	DW21704
Georgia	NELAP	North Carolina ³	41
Georgia ¹	923	North Dakota	R-140
Idaho	TN00003	Ohio–VAP	CL0069
Illinois	200008	Oklahoma	9915
Indiana	C-TN-01	Oregon	TN200002
Iowa	364	Pennsylvania	68-02979
Kansas	E-10277	Rhode Island	LA000356
Kentucky ^{1 6}	90010	South Carolina	84004
Kentucky ²	16	South Dakota	n/a
Louisiana	AI30792	Tennessee ^{1 4}	2006
Louisiana ¹	LA180010	Texas	T 104704245-17-14
Maine	TN0002	Texas ⁵	LAB0152
Maryland	324	Utah	TN00003
Massachusetts	M-TN003	Vermont	VT2006
Michigan	9958	Virginia	460132
Minnesota	047-999-395	Washington	C847
Mississippi	TN00003	West Virginia	233
Missouri	340	Wisconsin	9980939910
Montana	CERT0086	Wyoming	A2LA

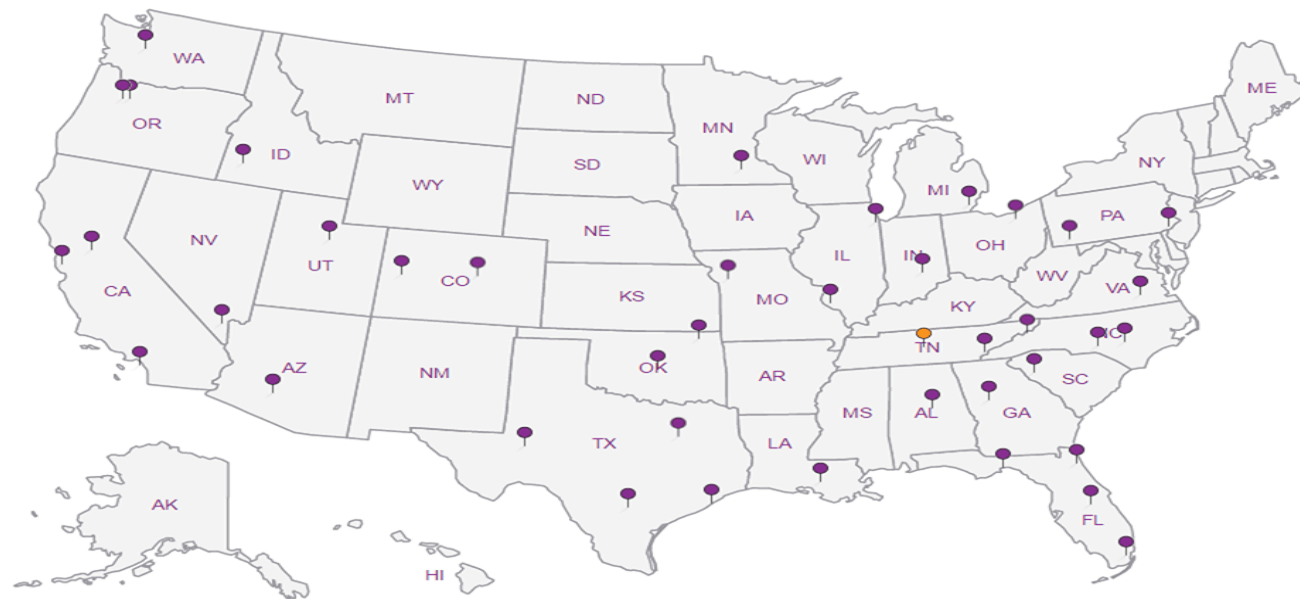
Third Party Federal Accreditations

A2LA – ISO 17025	1461.01	AIHA-LAP, LLC EMLAP	100789
A2LA – ISO 17025 ⁵	1461.02	DOD	1461.01
Canada	1461.01	USDA	P330-15-00234
EPA–Crypto	TN00003		

¹ Drinking Water ² Underground Storage Tanks ³ Aquatic Toxicity ⁴ Chemical/Microbiological ⁵ Mold ⁶ Wastewater n/a Accreditation not applicable

Our Locations

Pace National has sixty-four client support centers that provide sample pickup and/or the delivery of sampling supplies. If you would like assistance from one of our support offices, please contact our main office. Pace National performs all testing at our central laboratory.



Company Name/Address: TRC Environmental Corp. 505 E. Huntland Drive, Suite 250 Austin, TX 78752				Billing Information: TRC Environmental Corp. 505 E. Huntland Drive, Suite 250 Austin, TX 78752 apinvoiceapproval@trcsolutions.com				Analysis / Container / Preservative										Chain of Custody Page 1 of 5																															
Report to: Julie Speer				Email To: jspeer@trcsolutions.com				 ESC L-A-B S-C-I-E-N-C-E-S YOUR LAB OF CHOICE 12065 Lebanon Rd Mount Juliet, TN 37122 Phone: 615-758-5858 Phone: 800-767-5859 Fax: 615-758-5859																																									
Project Description: Lovington Lea Refinery				City/State Collected: Lovington, NM																																													
Phone: 512-329-6080 Fax: 512-329-8750		Client Project # 294319.0000.00000 5		Lab Project # TRCATX-LOVINGTON NAV																																													
Collected by (print): Brian Hillin + Aust Team		Site/Facility ID #		P.O. # 119562																																													
Collected by (signature): 		Rush? (Lab MUST Be Notified) ☐ Same Day 200% ☐ Next Day 100% ☐ Two Day 50% ☐ Three Day 25%		Date Results Needed Default Email? ☐ No ☒ Yes FAX? ☒ No ☐ Yes		No. of Cntrs		VOCs (8260) - Select List LL SVOCs (8270) - TCL + 1-methylnaphthalene Total Metals (7470) - Hg Dissolved Metals (6020) - Select List - Lab Filtered Anions (9056) - Cl, F, SO4 Nitrate/Nitrite (353.2) TDS (2540 C-2011) Alkalinity (2320 B-2011) TPH (8015) - GRO/DRO																																									
Immediately Packed on Ice N ☐ Y ☒		Shipped Via:		Item/Contaminant		Sample # (lab only)																																											
Sample ID		Comp/Grab		Matrix *		Depth																Date		Time		No. of Cntrs		VOCs (8260) - Select List		LL SVOCs (8270) - TCL + 1-methylnaphthalene		Total Metals (7470) - Hg		Dissolved Metals (6020) - Select List - Lab Filtered		Anions (9056) - Cl, F, SO4		Nitrate/Nitrite (353.2)		TDS (2540 C-2011)		Alkalinity (2320 B-2011)		TPH (8015) - GRO/DRO		Item/Contaminant		Sample # (lab only)	
MW-1		Grab		GW		10-1-18																1110		7		X		X		X		X		X		X		X		X		X		X		X		-01	
MW-2		Grab		GW		1325		9		X		X		X		X		X		X		X		X		X		X		X		-02																	
MW-3		Grab		GW		1435		2		X		X		X		X		X		X		X		X		X		X		X		-03																	
MW-4		Grab		GW		920		9		X		X		X		X		X		X		X		X		X		X		X		-04																	
MW-5		Grab		GW		925		13		X		X		X		X		X		X		X		X		X		X		X		-05																	
MW-6		Grab		GW		1210		9		X		X		X		X		X		X		X		X		X		X		X		-06																	
MW-8		Grab		GW		1145		7		X		X		X		X		X		X		X		X		X		X		X		-07																	
MW-9		Grab		GW		1345		2		X		X		X		X		X		X		X		X		X		X		X		-08																	
MW-10		Grab		GW		1055		2		X		X		X		X		X		X		X		X		X		X		X		-09																	
MW-11R		Grab		GW		1235		9		X		X		X		X		X		X		X		X		X		X		X		-10																	

* Matrix: **SS** - Soil **GW** - Groundwater **WW** - WasteWater **DW** - Drinking Water **OT** - Other _____

RAD SCREEN: <0.5 mR/hr Temp _____

Remarks: **Filter dissolved metals with 0.45 micron filter. Use 8270TX for SVOCs.** Flow _____ Other _____

Relinquished by : (Signature) 		Date: 10-1-18		Time: 1700		Received by: (Signature) 		Samples returned via: ☐ UPS ☒ FedEx ☐ Courier ☐ _____		Condition: (lab use only) OK	
Relinquished by : (Signature) 		Date: 10-1-18		Time: 1700		Received by: (Signature) 		Temp: _____ °C Bottles Received: 4410-9499 380		COC Seal Intact: ☒ Y ☐ N ☐ NA	
Relinquished by : (Signature) 		Date: 10-2-16		Time: 0845		Received by: (Signature) 		pH Checked: 6.2		NCF:	

Company Name/Address: TRC Environmental Corp. 505 E. Huntland Drive, Suite 250 Austin, TX 78752				Billing Information: TRC Environmental Corp. 505 E. Huntland Drive, Suite 250 Austin, TX 78752 apinvoiceapproval@trcsolutions.com				Analysis / Container / Preservative VOCs (8260) - Select List LL SVOCs (8270) - TCL + 1-methylnaphthalene Total Metals (7470) - Hg Dissolved Metals (6020) - Select List - Lab Filtered Anions (9056) - Cl, F, SO4 Nitrate/Nitrite (353.2) TDS (2540 C-2011) Alkalinity (2320 B-2011) TPH (8015) - GRO/DRO										Chain of Custody Page 2 of 5  L-A-B S-C-I-E-N-C-E-S YOUR LAB OF CHOICE 12065 Lebanon Rd Mount Juliet, TN 37122 Phone: 615-758-5858 Phone: 800-767-5859 Fax: 615-758-5859 	
Report to: Julie Speer				Email To: jspeer@trcsolutions.com															
Project Description: Lovington Lea Refinery				City/State Collected: Lovington, NM															
Phone: 512-329-6080 Fax: 512-329-8750		Client Project # 294319.0000.00000 5		Lab Project # TRCATX-LOVINGTON NAV															
Collected by (print): Brian Hillier + Team		Site/Facility ID #		P.O. # 119562															
Collected by (signature): 		Rush? (Lab MUST Be Notified) Same Day 200% Next Day 100% Two Day 50% Three Day 25%		Date Results Needed Default		Email? ☐ No ☒ Yes FAX? ☒ No ☐ Yes		No. of Cntrs											
Immediately Packed on Ice N ☐ Y ☒																			

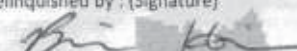
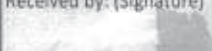
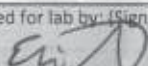
Sample ID	Comp/Grab	Matrix *	Depth	Date	Time	Cntrs	VOCs (8260) - Select List	LL SVOCs (8270) - TCL + 1-methylnaphthalene	Total Metals (7470) - Hg	Dissolved Metals (6020) - Select List - Lab Filtered	Anions (9056) - Cl, F, SO4	Nitrate/Nitrite (353.2)	TDS (2540 C-2011)	Alkalinity (2320 B-2011)	TPH (8015) - GRO/DRO	Rem./Contaminant	Sample # (lab only)
MW-12R	Grab	GW		10-1-18	1140	9	X	X	X	X	X	X	X	X			-11
MW-13R	Grab	GW		↓	1150	9	X	X	X	X	X	X	X				-12
MW-14R	Grab	GW			1345	9	X	X	X	X	X	X					-13
MW-15	Grab	GW			1305	9	X	X	X	X	X	X	X				-14
MW-16	Grab	GW			1015	9	X	X	X	X	X	X					-15
MW-17R	Grab	GW			920	9	X	X	X	X	X	X	X				-16
MW-18	Grab	GW			945	9	X	X	X	X	X	X					-17
MW-19	Grab	GW			1205	9	X	X	X	X	X	X	X				-18
MW-20	Grab	GW			1300	9	X	X	X	X	X	X					-19
MW-21	Grab	GW			1410	6		X							X		-20

* Matrix: SS - Soil GW - Groundwater WW - WasteWater DW - Drinking Water OT - Other

Remarks: **Filter dissolved metals with 0.45 micron filter. Use 8270TX for SVOCs.**

RAD SCREEN: <0.5 mR/hr pH _____ Temp _____

Flow _____ Other _____

Relinquished by: (Signature) 		Date: 10-1-18 ~~1-10-18~~		Time: 1700		Received by: (Signature) 		Samples returned via: ☐ UPS ☒ FedEx ☐ Courier ☐ _____		Condition: (lab use only) OK	
Relinquished by: (Signature)		Date: 10/1/18		Time:		Received by: (Signature)		Temp: °C 4.450 = 4.45 Bottles Received: 380		COC Seal Intact: ☒ Y ☐ N ☐ NA	
Relinquished by: (Signature)		Date:		Time:		Received for lab by: (Signature) 		Date: 10/2/18 Time: 0845		pH Checked: 7.2 NCF:	

Company Name/Address:
TRC Environmental Corp.
505 E. Huntland Drive, Suite 250 Austin, TX
78752

Billing Information:
TRC Environmental Corp.
505 E. Huntland Drive, Suite 250
Austin, TX 78752
apinvoiceapproval@trcsolutions.com

Report to:
Julie Speer

Email To:
jspeer@trcsolutions.com

Project Description:
Lovington Lea Refinery

City/State
Collected: **Lovington, NM**

Phone: **512-329-6080**
Fax: **512-329-8750**

Client Project #
294319.0000.00000 5

Lab Project #
TRCATX-LOVINGTON NAV

Collected by (print):
Brian Hillman

Site/Facility ID #

P.O. #
119562

Collected by (signature):

Rush? (Lab MUST Be Notified)
Same Day 200%
Next Day 100%
Two Day 50%
Three Day 25%

Date Results Needed
Default

Email? ☐ No ☒ Yes
FAX? ☒ No ☐ Yes

Immediately
Packed on Ice **N** ☐ **Y** ☒

No.
of
Cntrs

Sample ID	Comp/Grab	Matrix *	Depth	Date	Time	Cntrs	VOC	LL	To	DI	Al	Nit	T	A	TP		Rem./Contaminant	Sample # (lab only)	
MW-22	Grab	GW		10-1-18	1120	13	X	X	X	X	X	X	X		X			-21	
MW-23	Grab	GW		↓	1035	2					X	X	X					-22	
MW-24	Grab	GW			1305	9	X	X	X	X	X	X	X	X				-23	
MW-25	Grab	GW			1210	9	X	X	X	X	X	X	X	X				-24	
MW-26	Grab	GW			905	12								X				-25	
MW-27	Grab	GW			1110	5	X	X										-26	
MW-28	Grab	GW			1025	9	X	X	X	X	X	X	X	X				-27	
MW-29	Grab	GW			1105	9	X	X	X	X	X	X	X	X				-28	
MW-30	Grab	GW			↓	1015	13	X	X	X	X	X	X	X	X	X			-29
MW-31	Grab	GW					13	X	X	X	X	X	X	X	X	X		NOT SAMPLED	JUNAPL

* Matrix: **SS** - Soil **GW** - Groundwater **WW** - WasteWater **DW** - Drinking Water **OT** - Other

RAD SCREEN: **<0.5 mR/hr** pH _____ Temp _____

Remarks: **Filter dissolved metals with 0.45 micron filter. Use 8270TX for SVOCs.**

Relinquished by: (Signature) **Brian Hillman** Date: **10-1-18** Time: **1700**

Samples returned via: ☐ UPS
☒ FedEx ☐ Courier ☐ _____

Hold #
Condition: (lab use only)

Relinquished by: (Signature) _____ Date: _____ Time: _____

Temp: _____ °C Bottles Received: **4.473 = 4.48 380**

COC Seal Intact: ☒ Y ☐ N ☐ NA

Relinquished by: (Signature) **EIT** Date: _____ Time: _____

Date: **10/2/16** Time: **0845**

pH Checked: **6.2** NCF: _____

Chain of Custody Page **3** of **5**

ESC
L.A.B. S.C.I.E.N.C.E.S.

YOUR LAB OF CHOICE

12065 Lebanon Rd
Mount Juliet, TN 37122
Phone: 615-758-5858
Phone: 800-767-5859
Fax: 615-758-5859

QR Code

L # **L1030903**

Table #

Acctnum: **TRCATX**

Template: **T114712**

Prelogin: **P671811**

TSR: **Chris McCord**

PB: **9-11-18 MW**

Shipped Via:

Rem./Contaminant Sample # (lab only)

Company Name/Address: TRC Environmental Corp. 505 E. Huntland Drive, Suite 250 Austin, TX 78752				Billing Information: TRC Environmental Corp. 505 E. Huntland Drive, Suite 250 Austin, TX 78752 apinvoiceapproval@trcsolutions.com				Analysis / Container / Preservative VOCs (8260) - Select List LL SVOCs (8270) - TCL + 1-methylnaphthalene Total Metals (7470) - Hg Dissolved Metals (6020) - Select List - Lab Filtered Anions (9056) - Cl, F, SO4 Nitrate/Nitrite (353.2) TDS (2540 C-2011) Alkalinity (2320 B-2011) TPH (8015) - GRO/DRO										Chain of Custody Page 4 of 5 L.A.B. S.C.I.E.N.C.E.S. YOUR LAB OF CHOICE 12065 Lebanon Rd Mount Juliet, TN 37122 Phone: 615-758-5858 Phone: 800-767-5859 Fax: 615-758-5859 	
Report to: Julie Speer				Email To: jspeer@trcsolutions.com				O = ms/msd volume provided											
Project Description: Lovington Lea Refinery				City/State Collected: Lovington, NM															
Phone: 512-329-6080 Fax: 512-329-8750		Client Project # 294319.0000.00000 5		Lab Project # TRCATX-LOVINGTON NAV															
Collected by (print): Brian Hillin + HME Team		Site/Facility ID #		P.O. # 119562															
Collected by (signature): 		Rush? (Lab MUST Be Notified) Same Day 200% Next Day 100% Two Day 50% Three Day 25%		Date Results Needed Default															
Immediately Packed on Ice N ☐ Y ☒		Email? ☐ No ☒ Yes FAX? ☒ No ☐ Yes		No. of Cntrs															

Sample ID	Comp/Grab	Matrix *	Depth	Date	Time	No. of Cntrs	VOCs (8260) - Select List	LL SVOCs (8270) - TCL + 1-methylnaphthalene	Total Metals (7470) - Hg	Dissolved Metals (6020) - Select List - Lab Filtered	Anions (9056) - Cl, F, SO4	Nitrate/Nitrite (353.2)	TDS (2540 C-2011)	Alkalinity (2320 B-2011)	TPH (8015) - GRO/DRO	Rem./Contaminant	Sample # (lab only)
MW-32	Grab	GW		10-1-18	1030	13	X	X	X	X	X	X	X	X	X		-30
MW-33	Grab	GW			855	18	X	X	X	X	X	X	X	X	X		-31
WW-NORTH WELL	Grab	GW			1040	13	X	X	X	X	X	X	X	X	X		-32
WW-SOUTH WELL	Grab	GW			1110	13	X	X	X	X	X	X	X	X	X		-33
WW-EAST WELL	Grab	GW			1340	13	X	X	X	X	X	X	X	X	X		-34
DUP-01	Grab	GW			1200	9	X	X	X	X	X	X	X	X			-35
DUP-02	Grab	GW			1000	9	X	X	X	X	X	X	X	X			-36
DUP-03	Grab	GW			900	13	X	X	X	X	X	X	X	X	X		-37
DUP-04	Grab	GW			1100	13	X	X	X	X	X	X	X	X	X		-38
EB-01	Grab	GW			940	9	X	X	X	X	X	X	X	X			-39

* Matrix: SS - Soil GW - Groundwater WW - WasteWater DW - Drinking Water OT - Other _____

RAD SCREEN: <0.5 mR/hr

Remarks: **Filter dissolved metals with 0.45 micron filter. Use 8270TX for SVOCs.**

Relinquished by: (Signature) 		Date: 10-1-18 Time: 1700		Received by: (Signature) 		Samples returned via: ☐ UPS ☒ FedEx ☐ Courier ☐ Other		Condition: (lab use only) 814	
Relinquished by: (Signature)		Date:		Time:		Received by: (Signature)		Temp: °C Bottles Received: 4.4°C = 4.4°C 380	
Relinquished by: (Signature)		Date:		Time:		Received for lab by: (Signature) 		Date: 10/2/18 Time: 0845	

COC Seal Intact: ☒ Y ☐ N ☐ NA
 pH Checked: ☒ NCF:

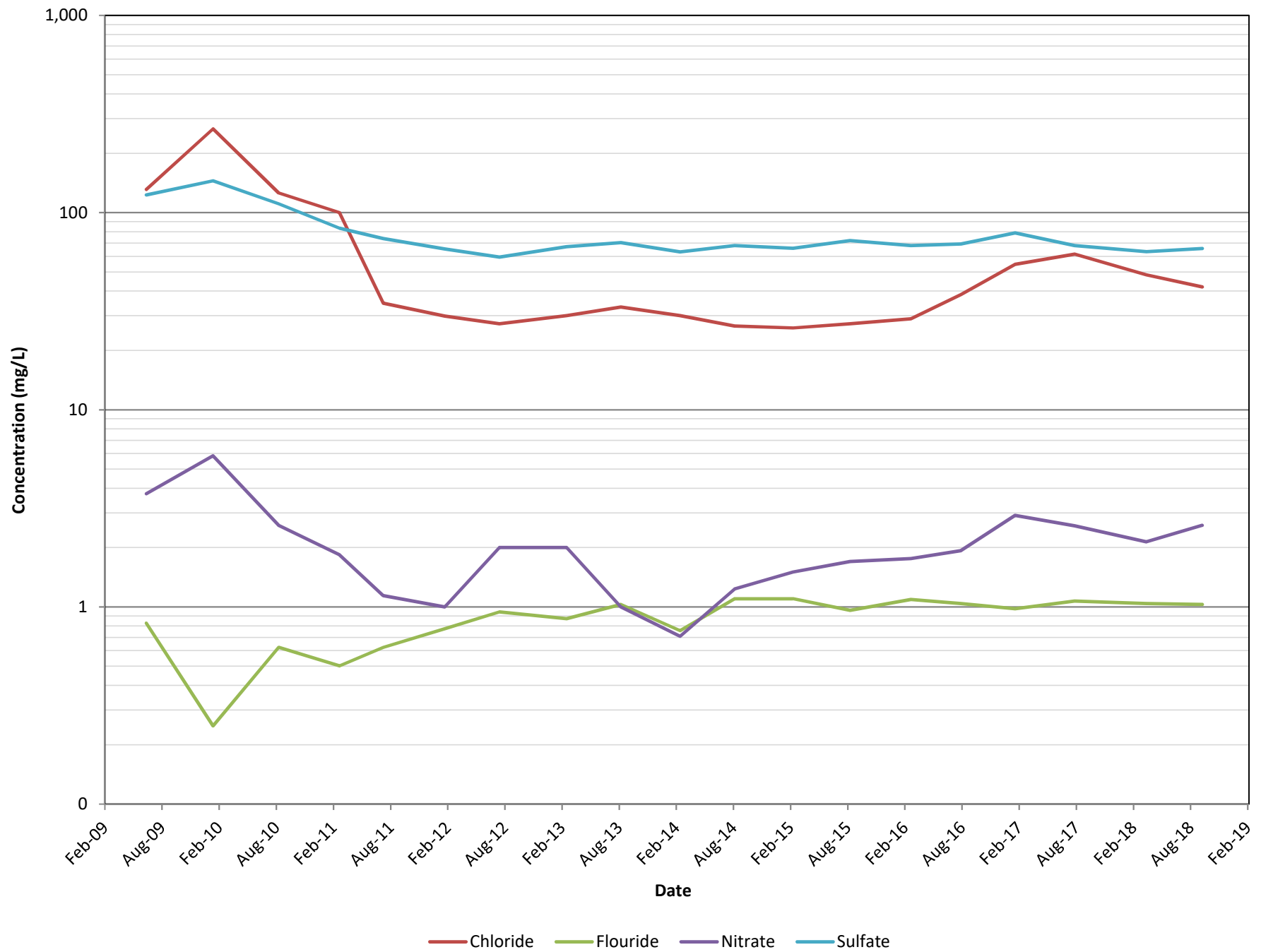
Pace Analytical National Center for Testing & Innovation Cooler Receipt Form

Client: <u>TREATX</u>	SDG#	L1030903	
Cooler Received/Opened On: 10/ 2 /18	Temperature:	<u>Amb 4.4</u>	
Received By: Eric Struck			
Signature: 			
Receipt Check List			
	NP	Yes	No
COC Seal Present / Intact?		/	
COC Signed / Accurate?		/	
Bottles arrive intact?		/	
Correct bottles used?		/	
Sufficient volume sent?		/	
If Applicable		/	
VOA Zero headspace?			
Preservation Correct / Checked?		/	

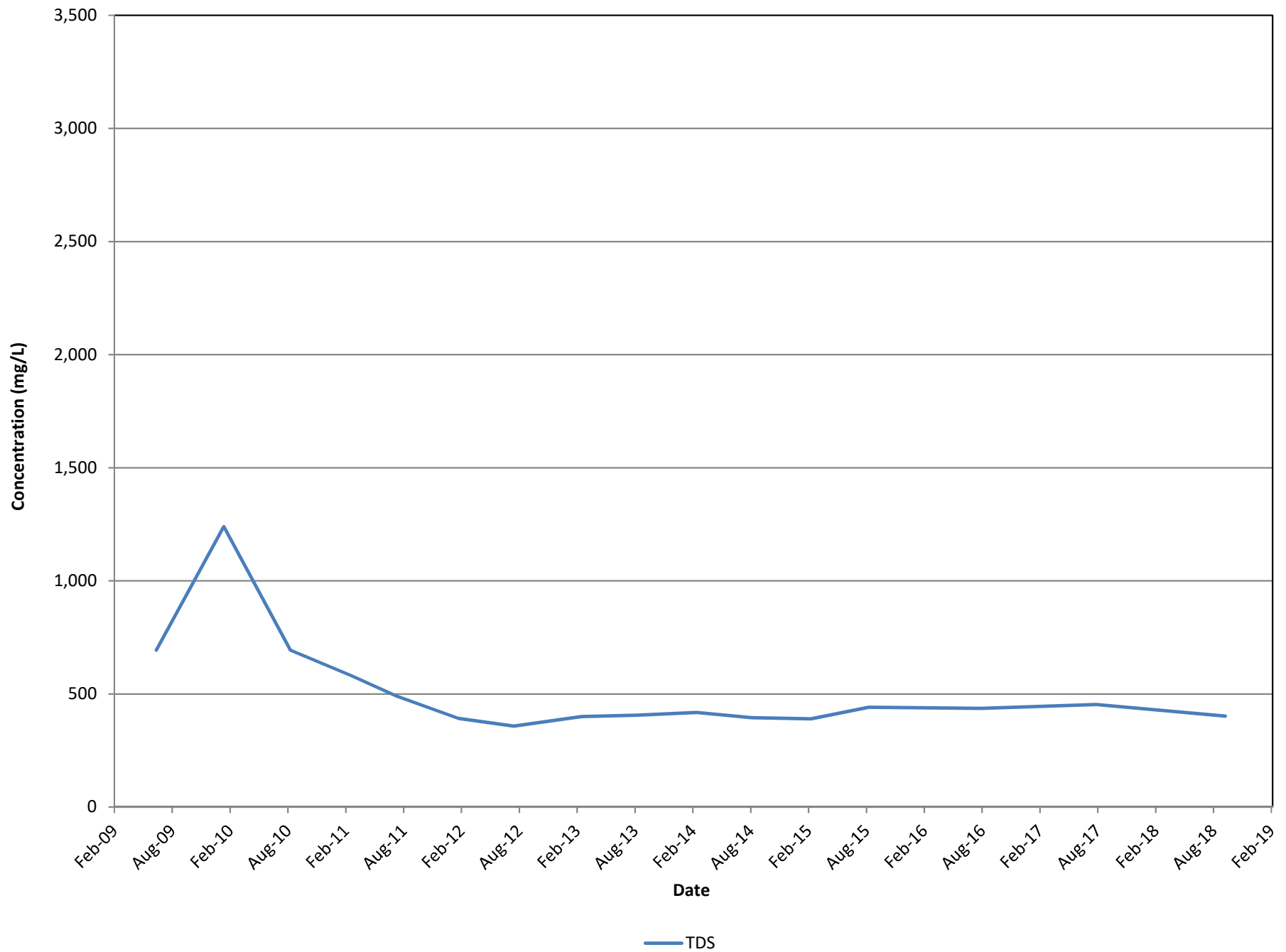
APPENDIX D

PLOTS OF GROUNDWATER CONCENTRATIONS OVER TIME

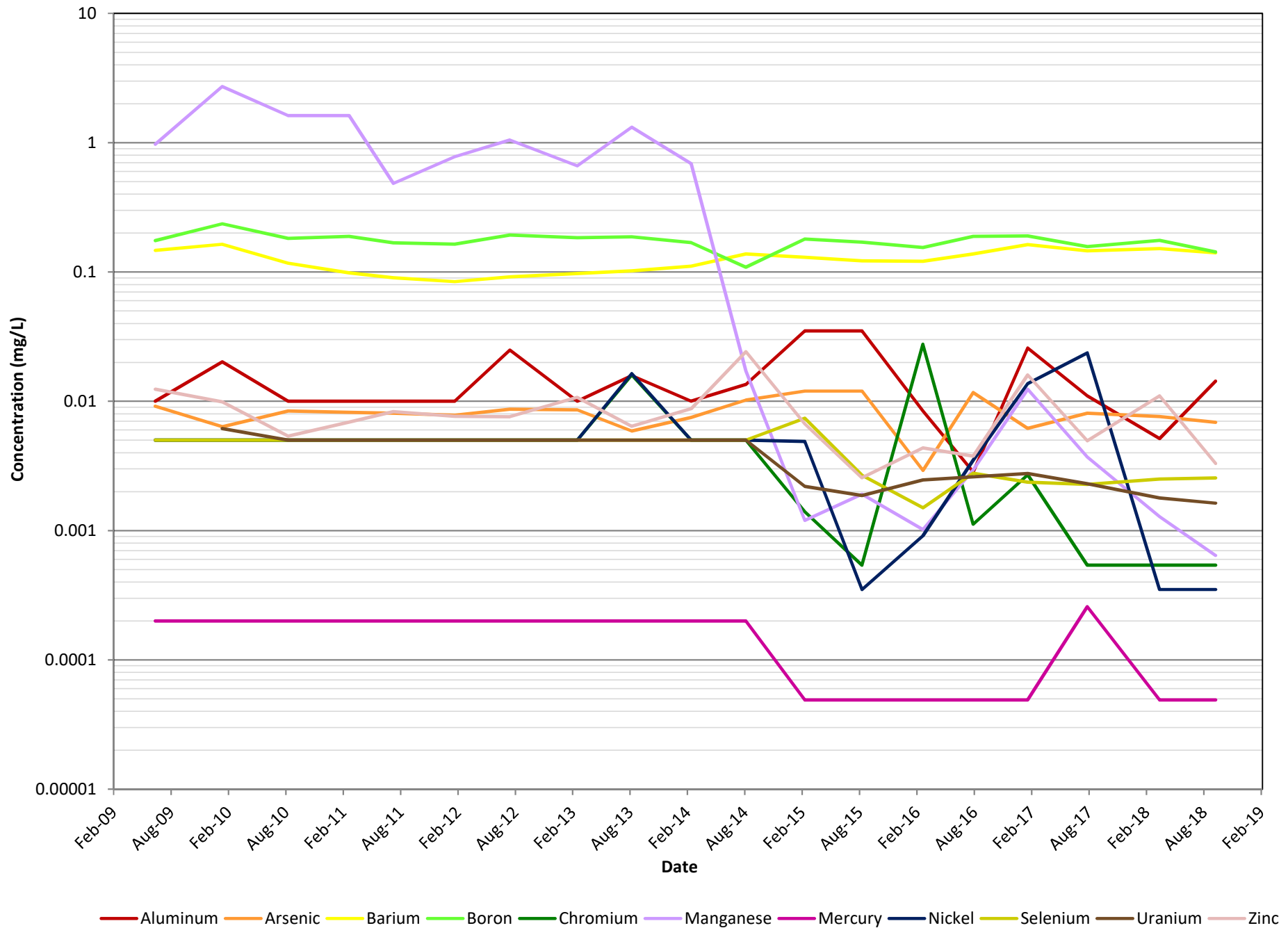
MW-1: ANION CONCENTRATIONS OVER TIME



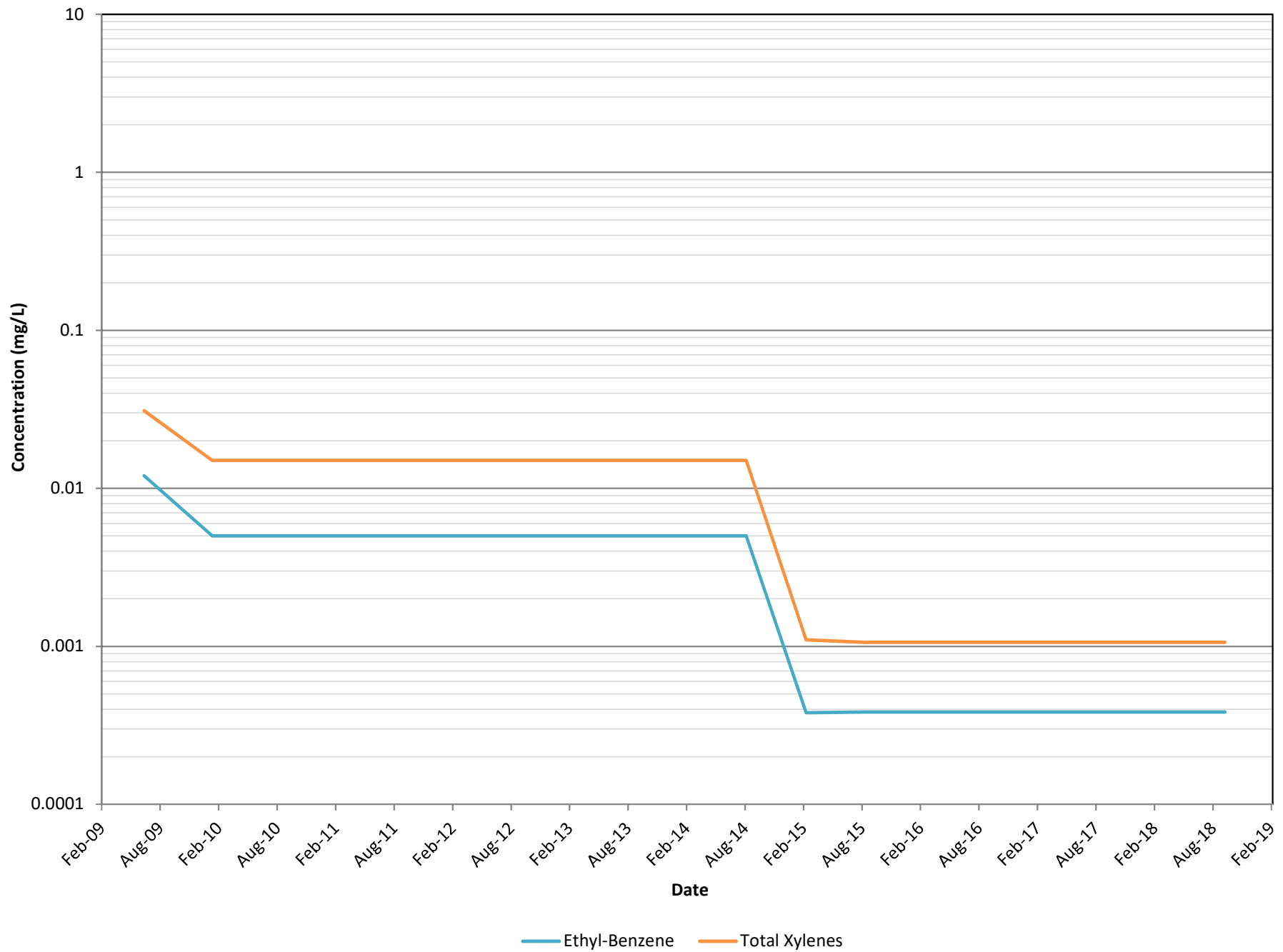
MW-1: TDS CONCENTRATIONS OVER TIME



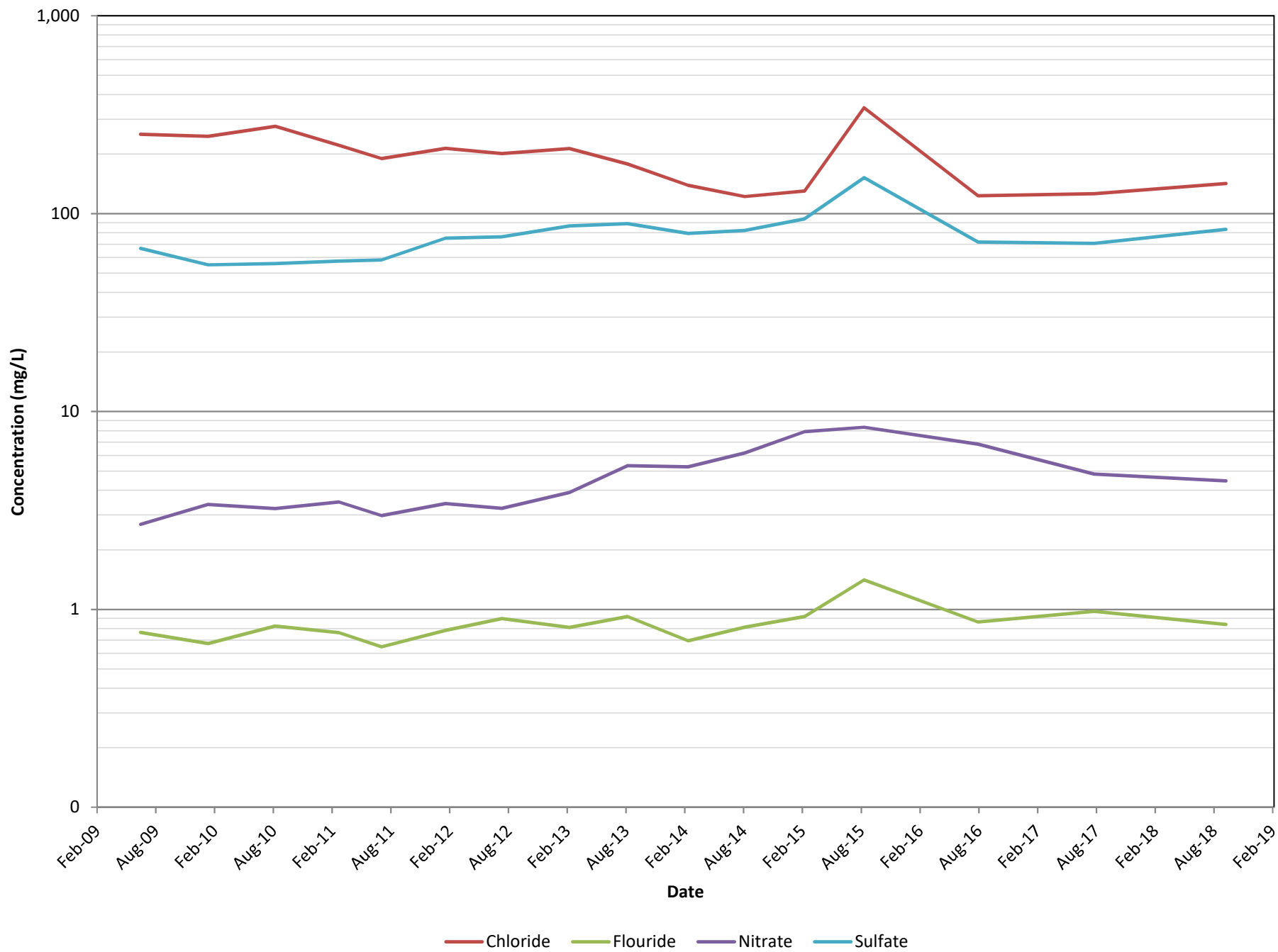
MW-1: METAL CONCENTRATIONS OVER TIME



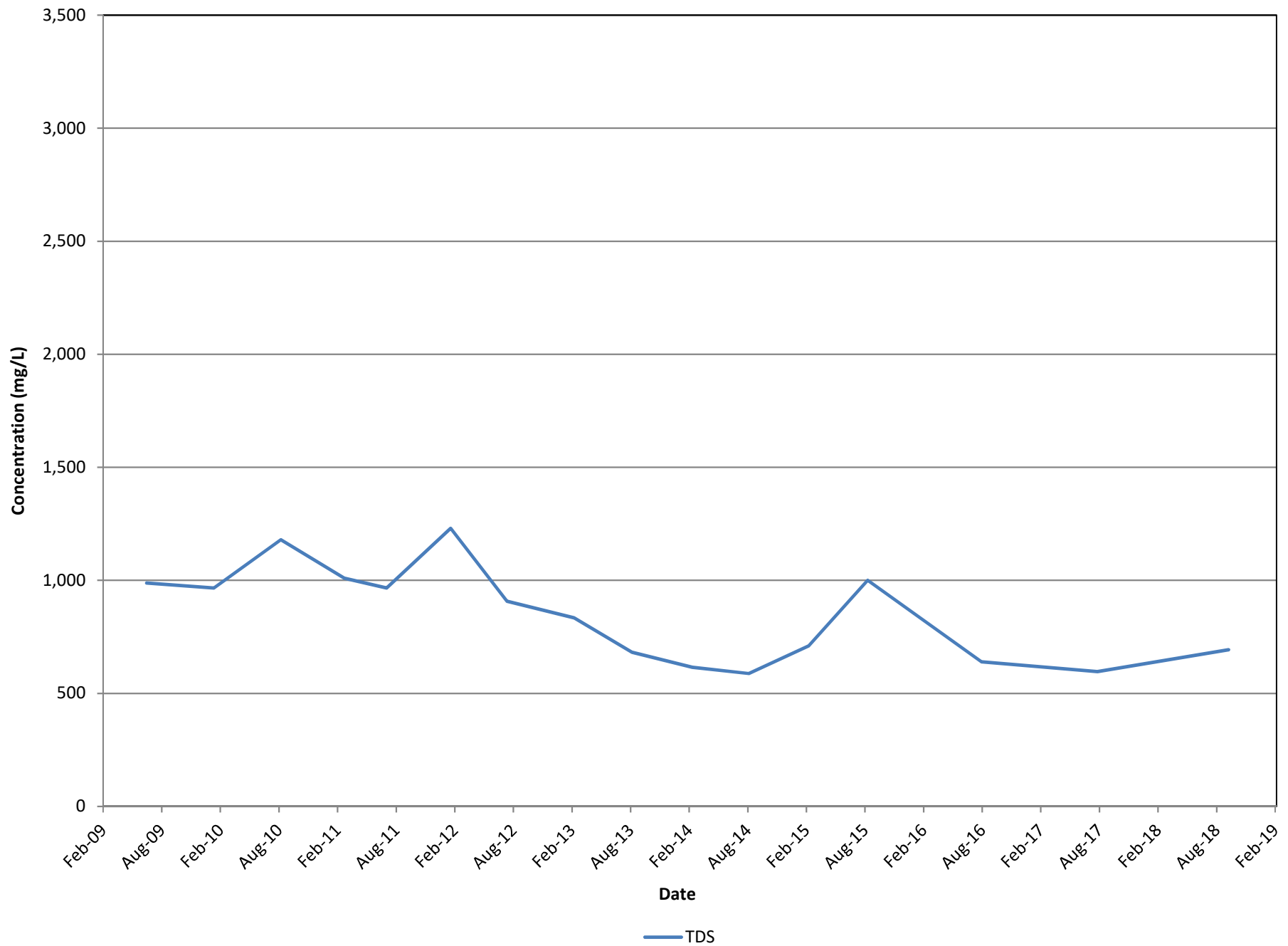
MW-1: VOC CONCENTRATIONS OVER TIME



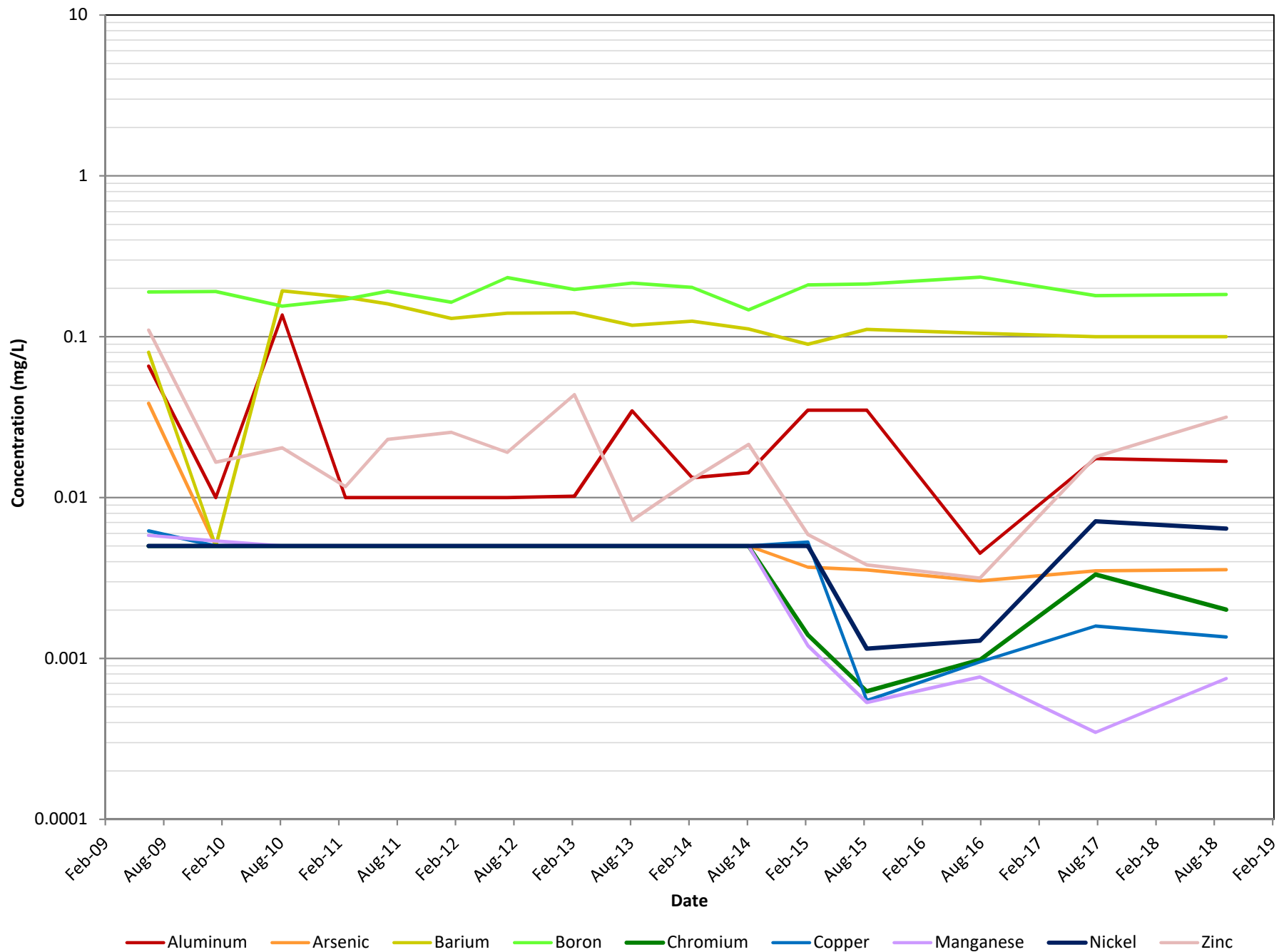
MW-2: ANION CONCENTRATIONS OVER TIME



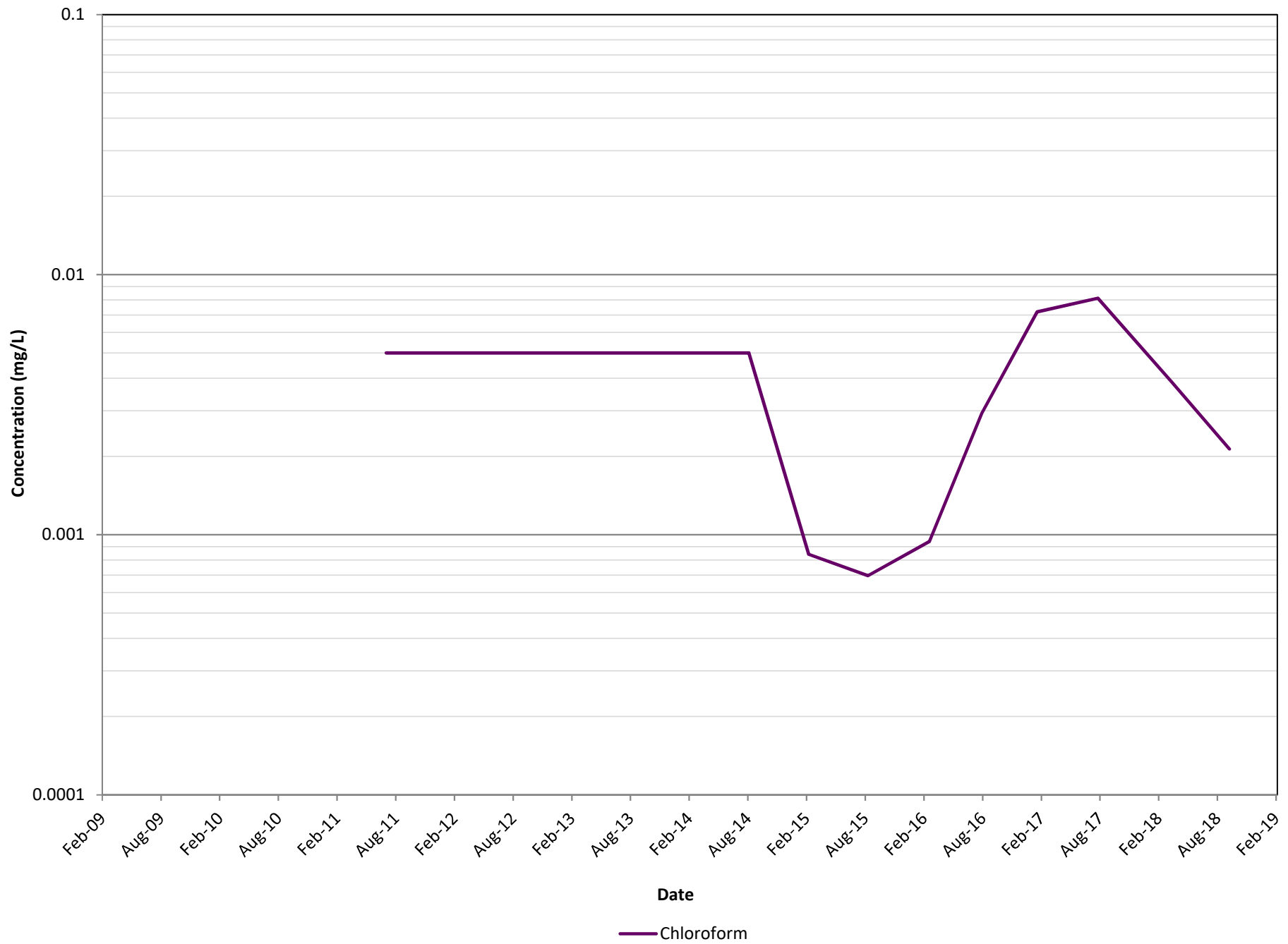
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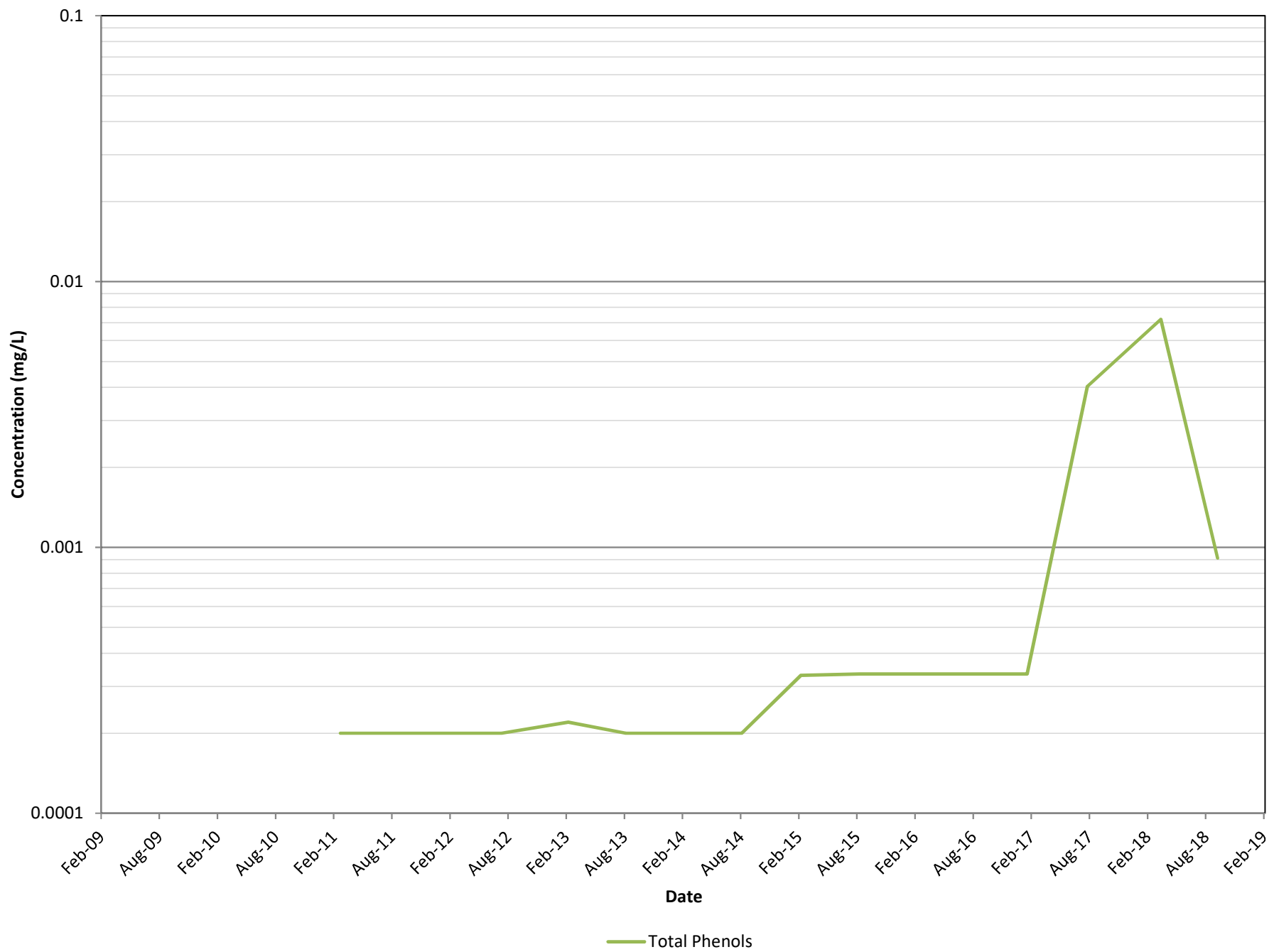
MW-2: METAL CONCENTRATIONS OVER TIME



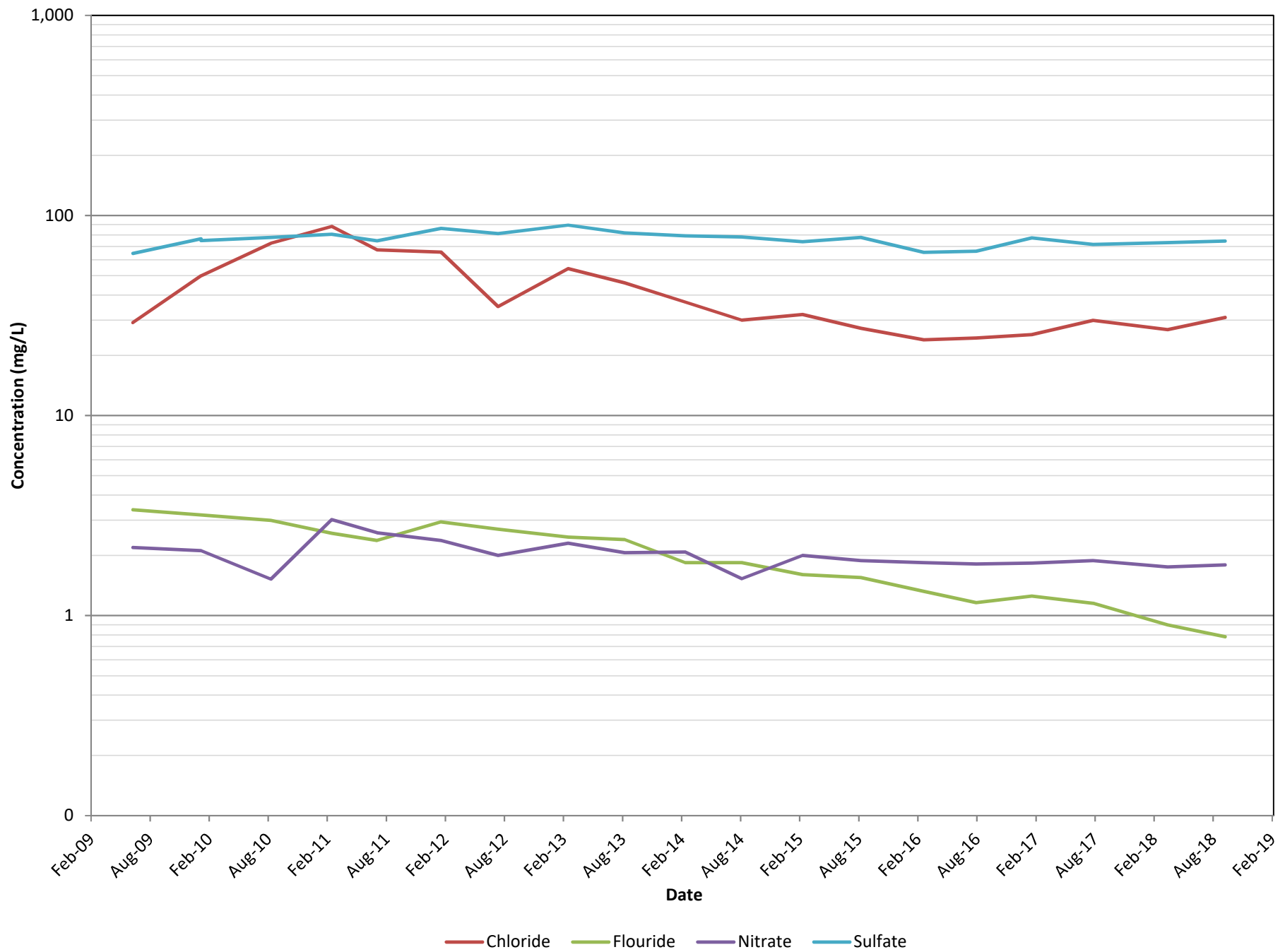
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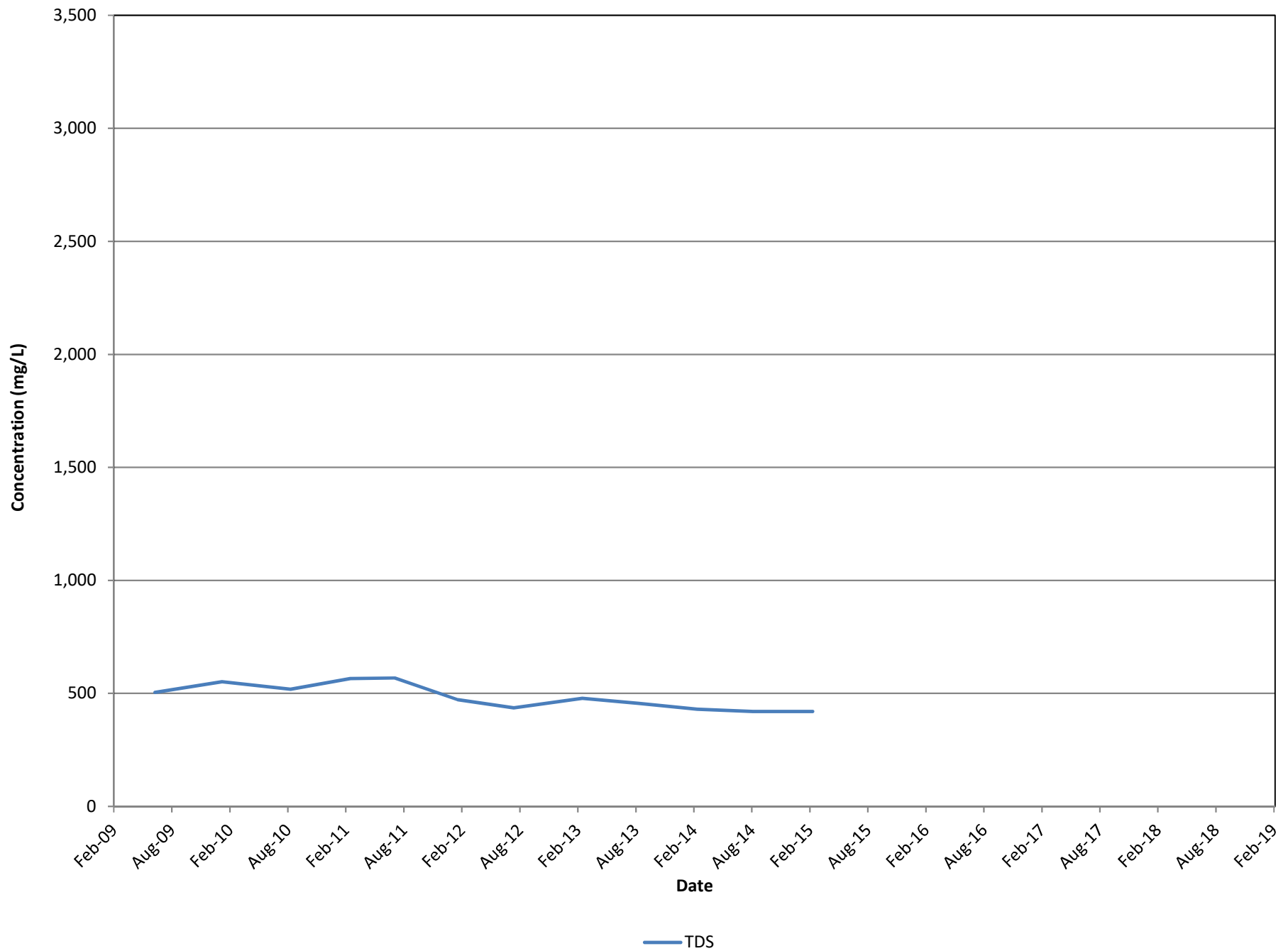
MW-2: SVOC CONCENTRATIONS OVER TIME



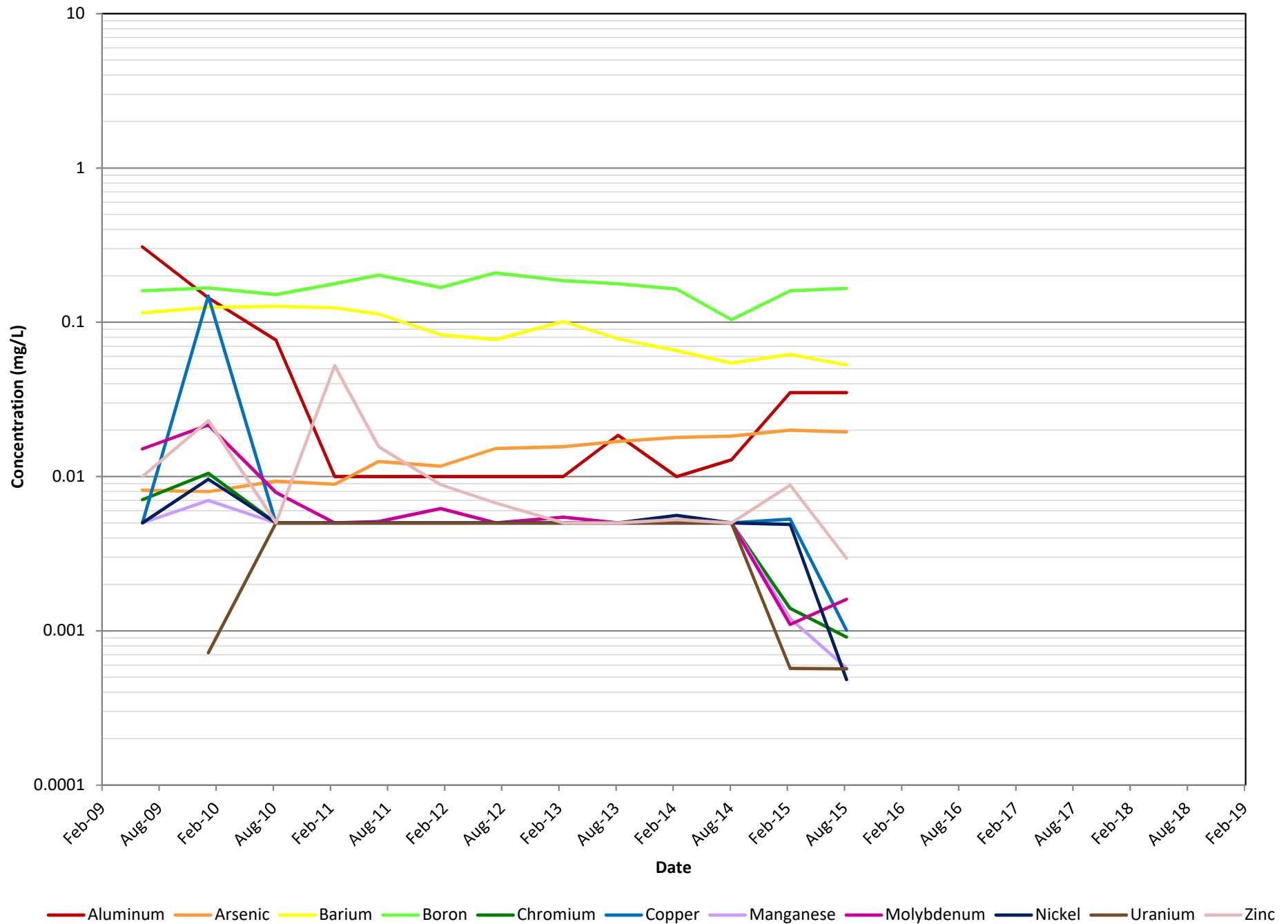
MW-3: ANION CONCENTRATIONS OVER TIME



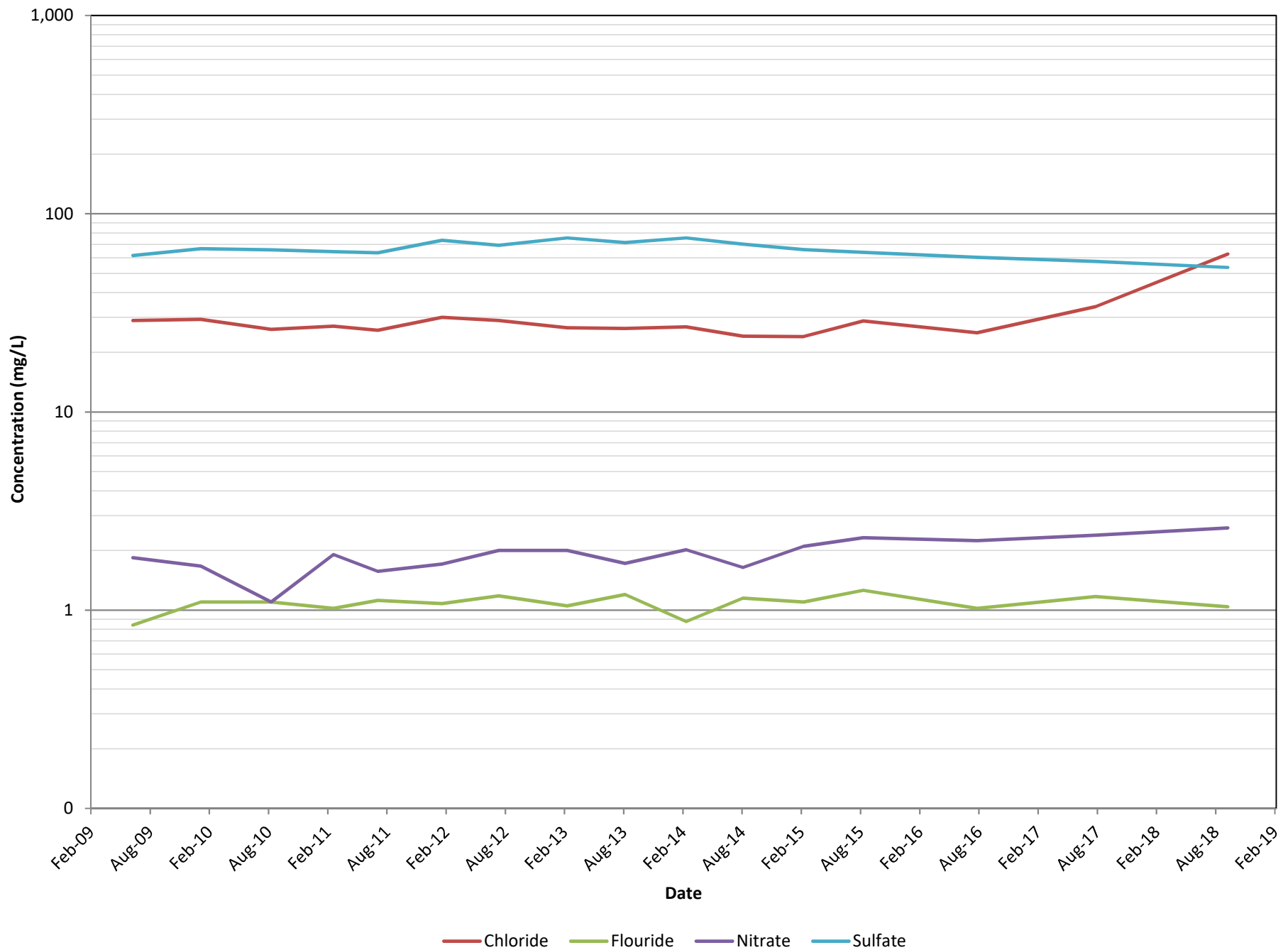
MW-3: TDS CONCENTRATIONS OVER TIME



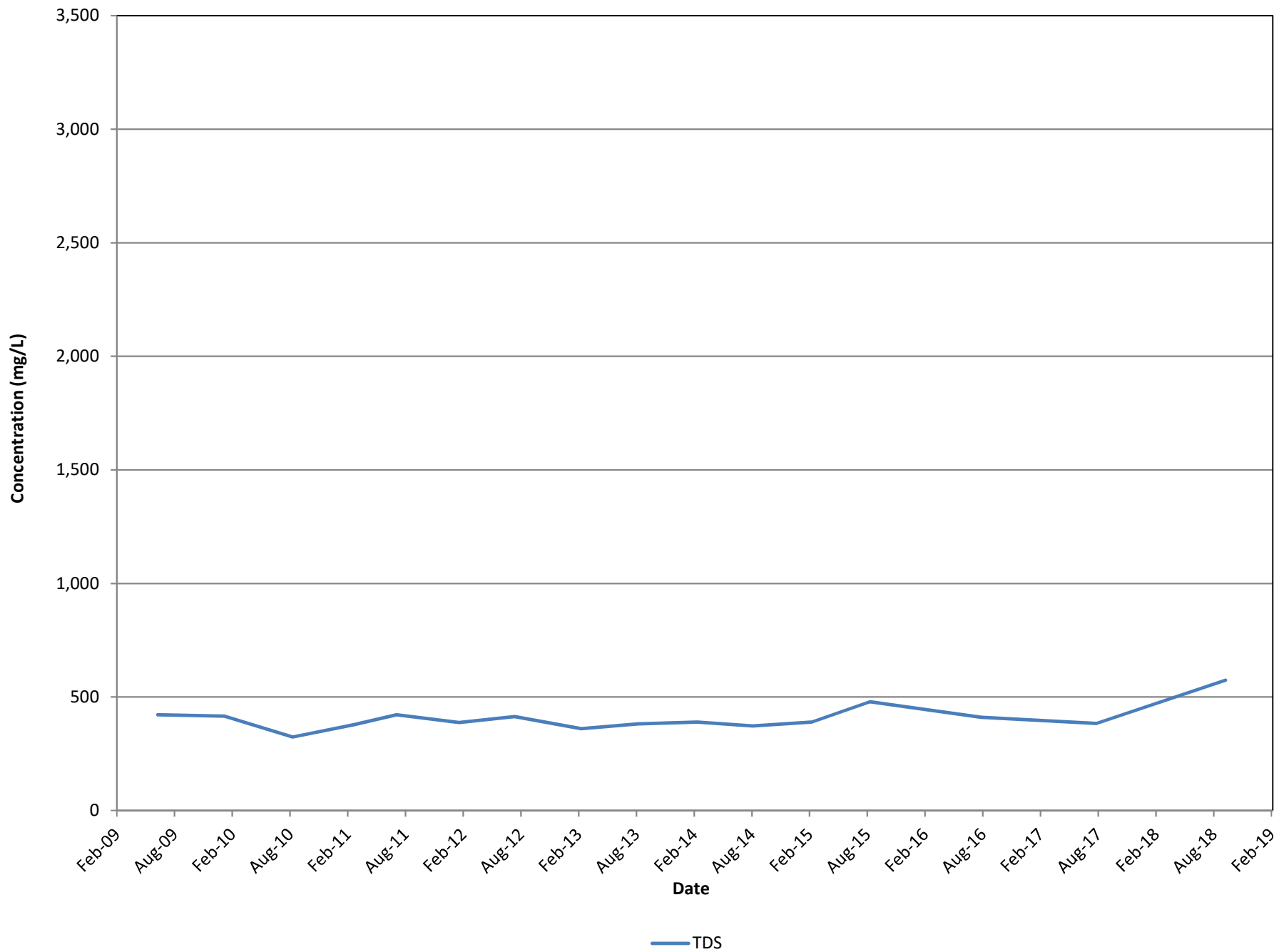
MW-3: METAL CONCENTRATIONS OVER TIME



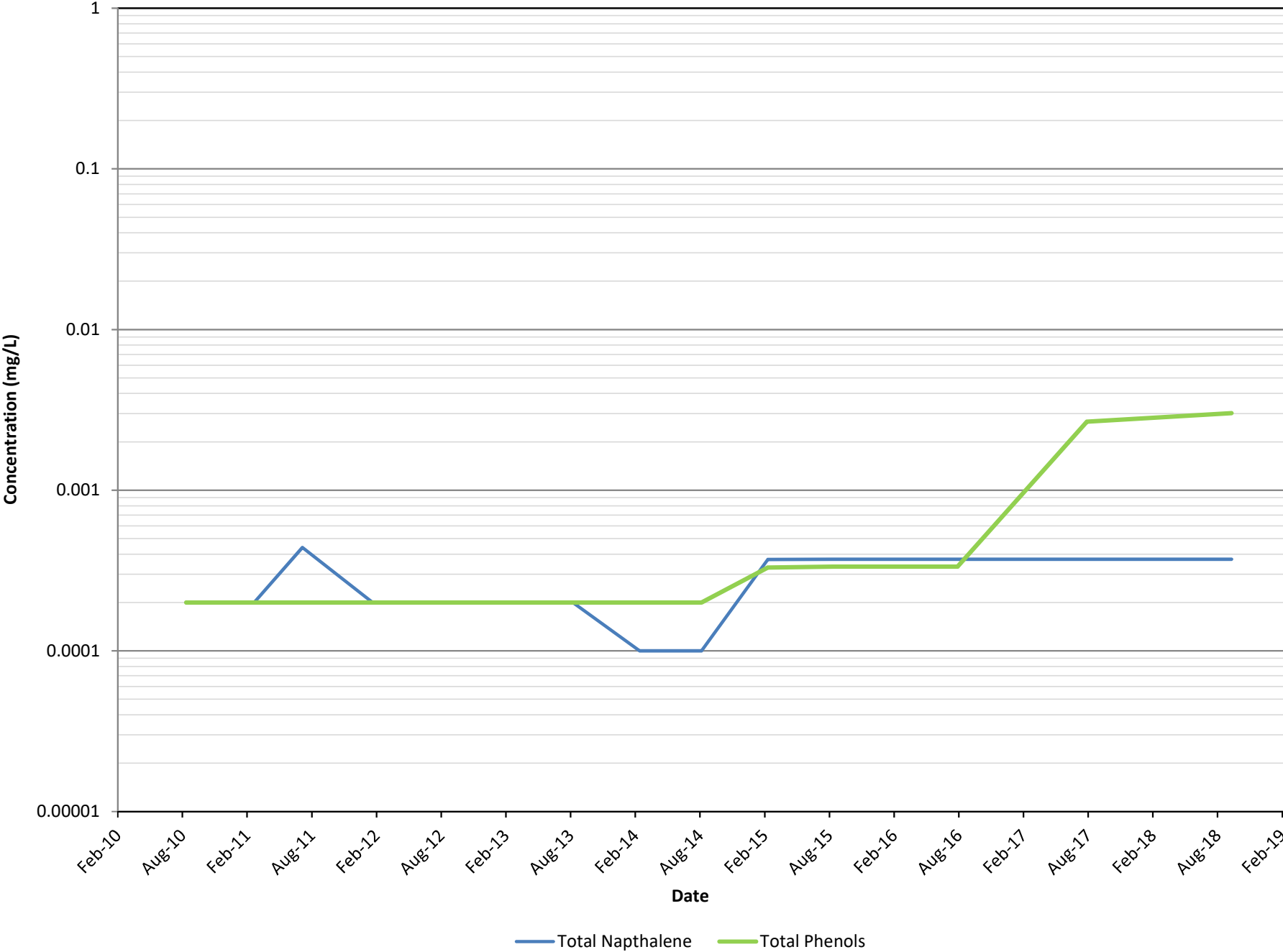
MW-4: ANION CONCENTRATIONS OVER TIME



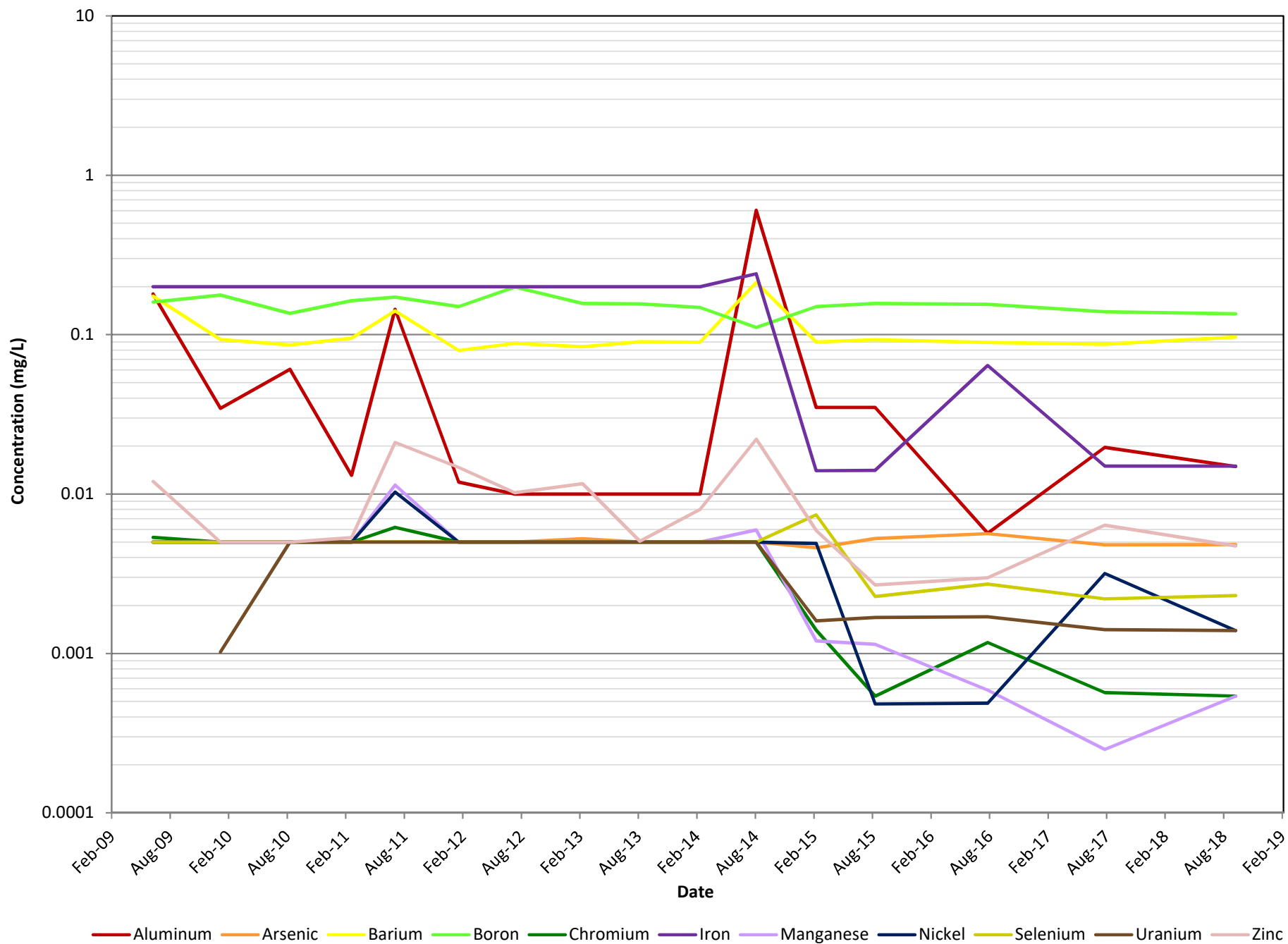
MW-4: TDS CONCENTRATIONS OVER TIME



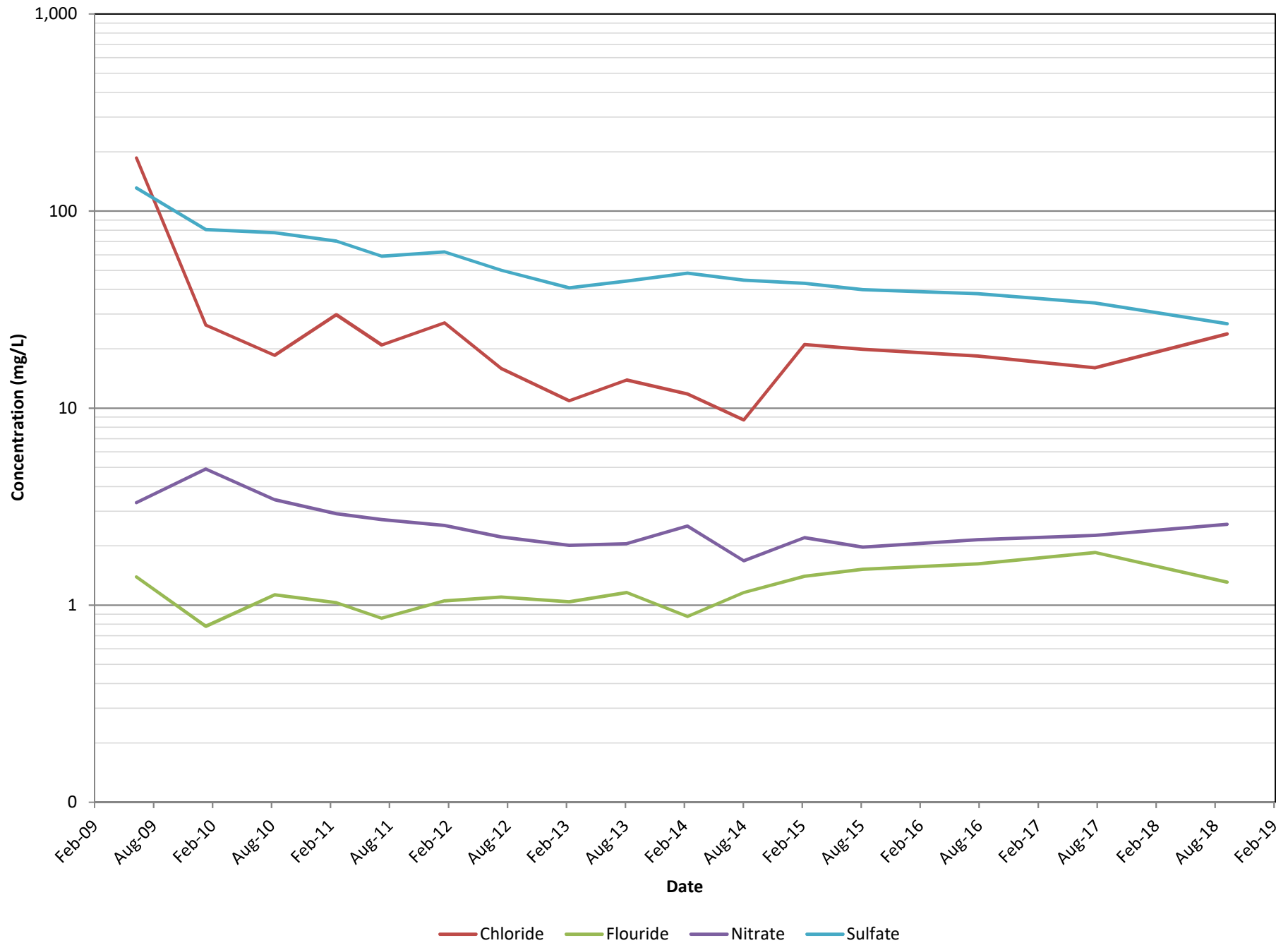
MW-4: SVOC CONCENTRATIONS OVER TIME



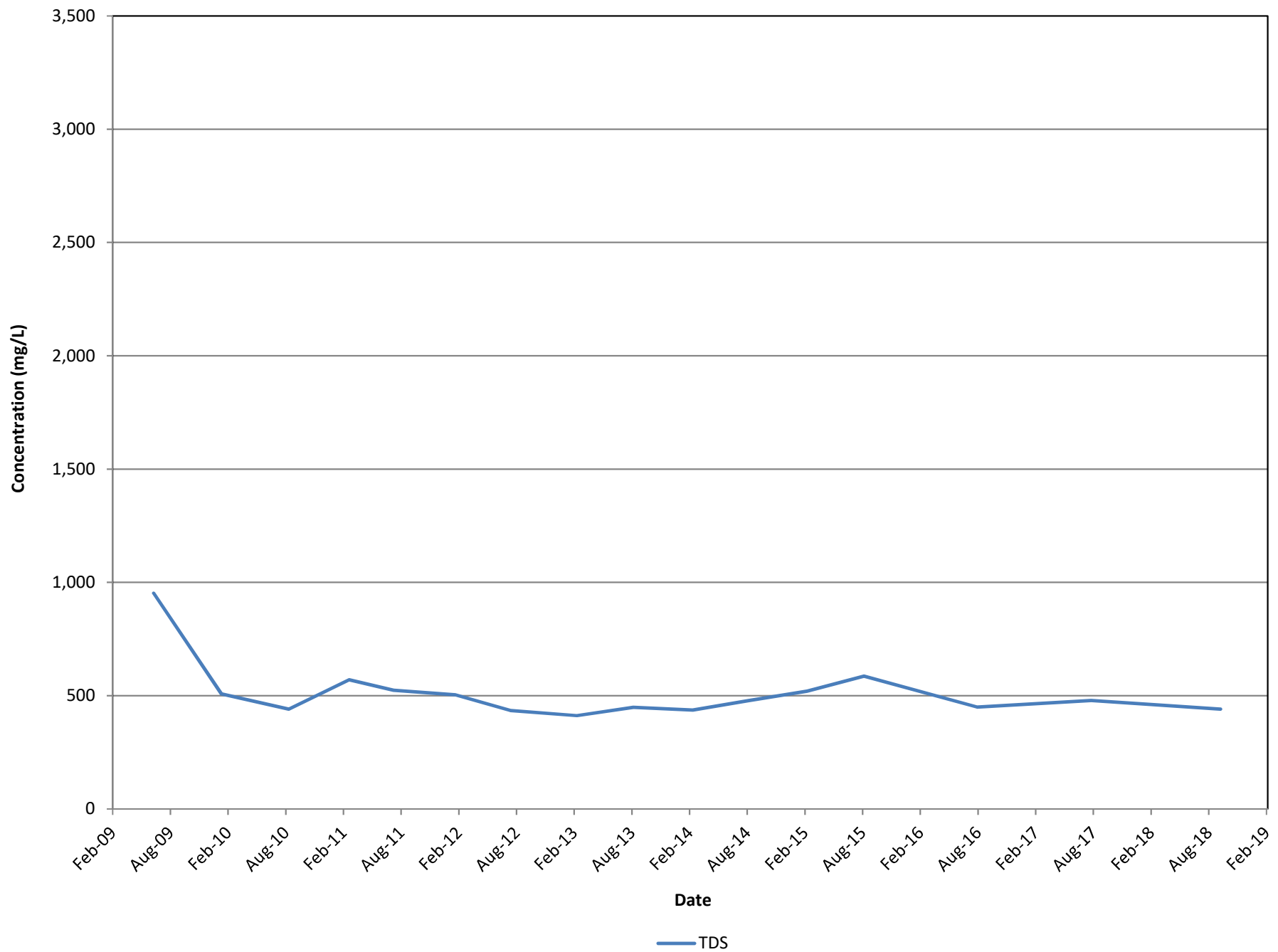
MW-4: METAL CONCENTRATIONS OVER TIME



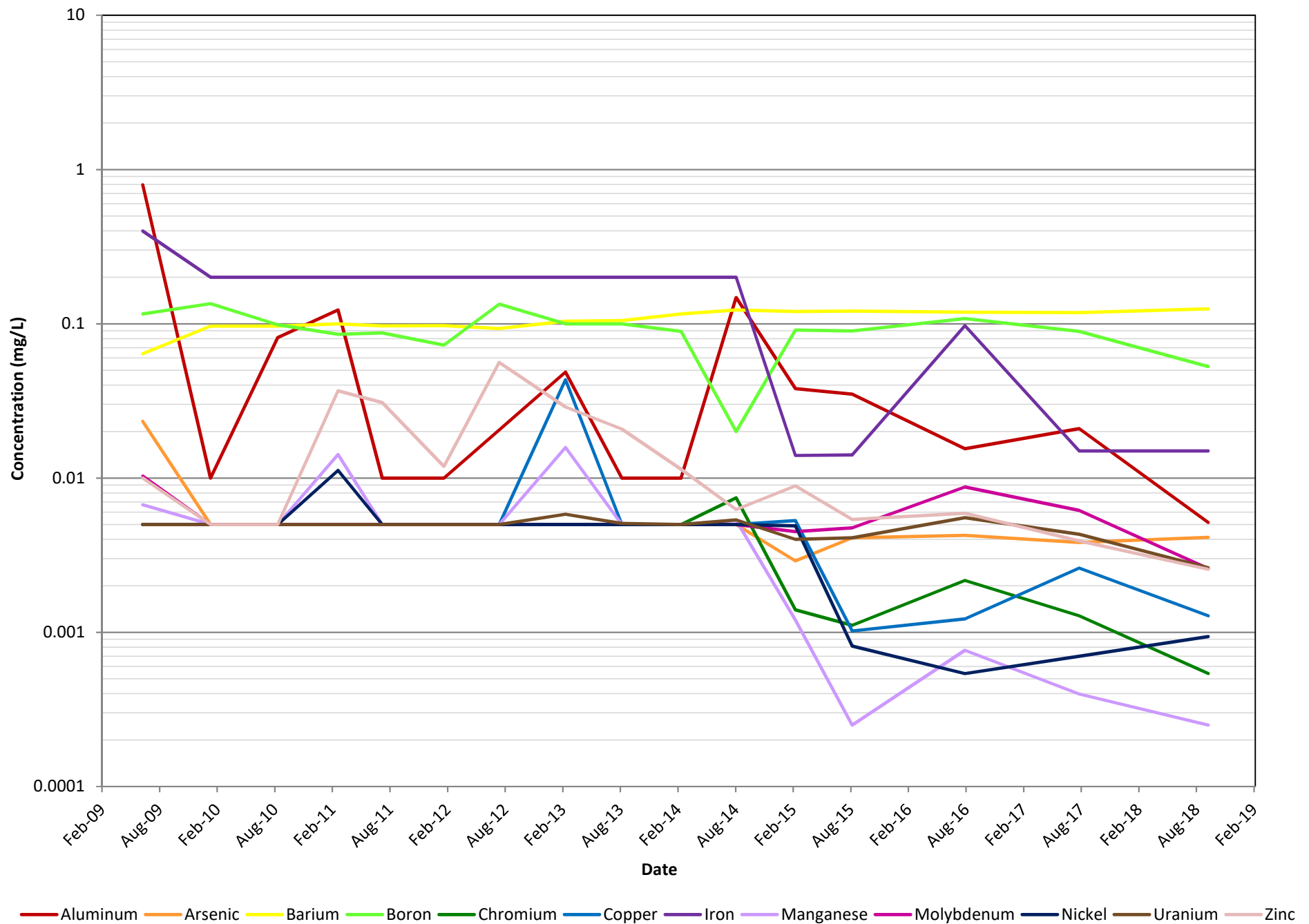
MW-5: ANION CONCENTRATIONS OVER TIME



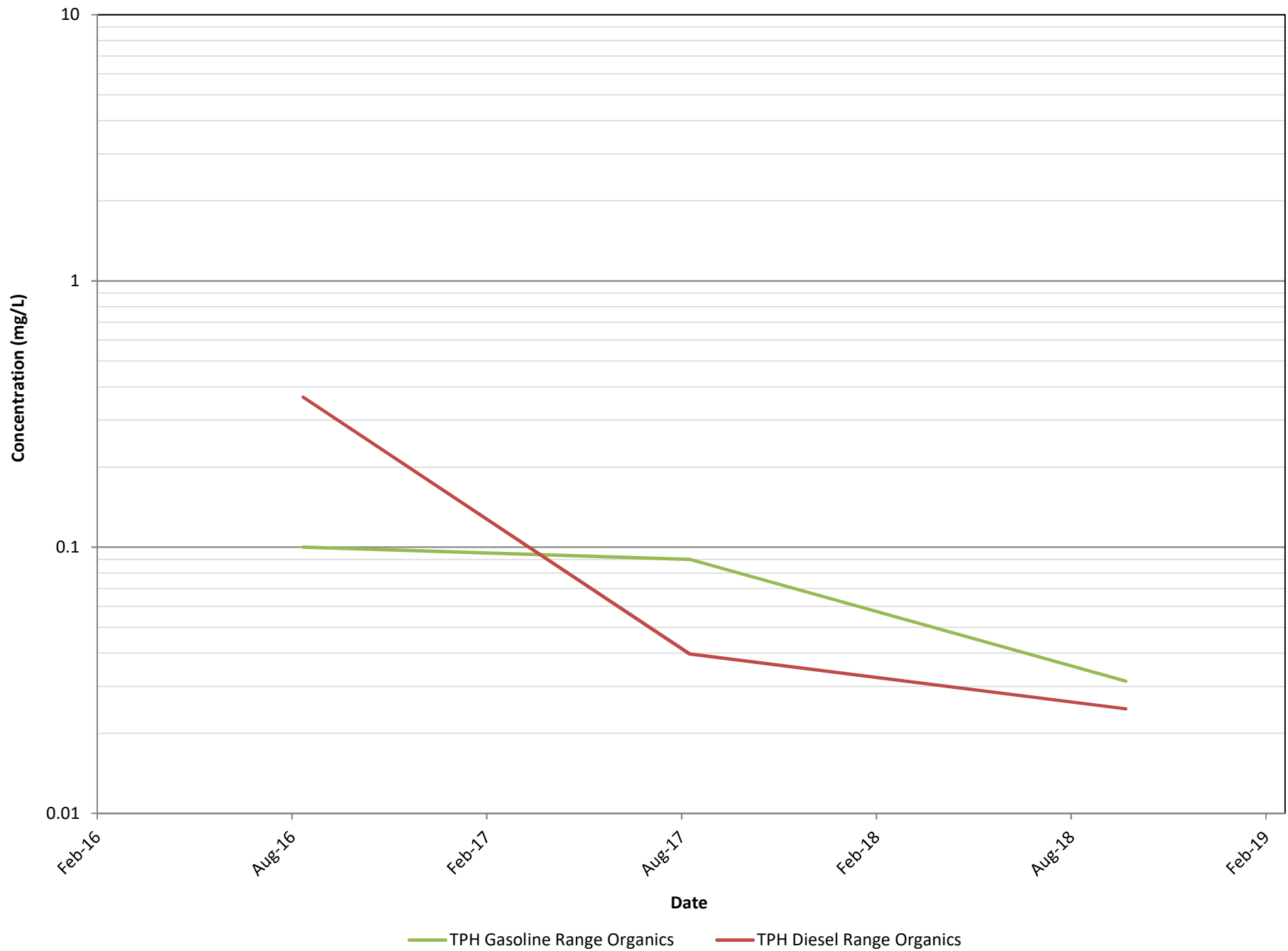
MW-5: TDS CONCENTRATIONS OVER TIME



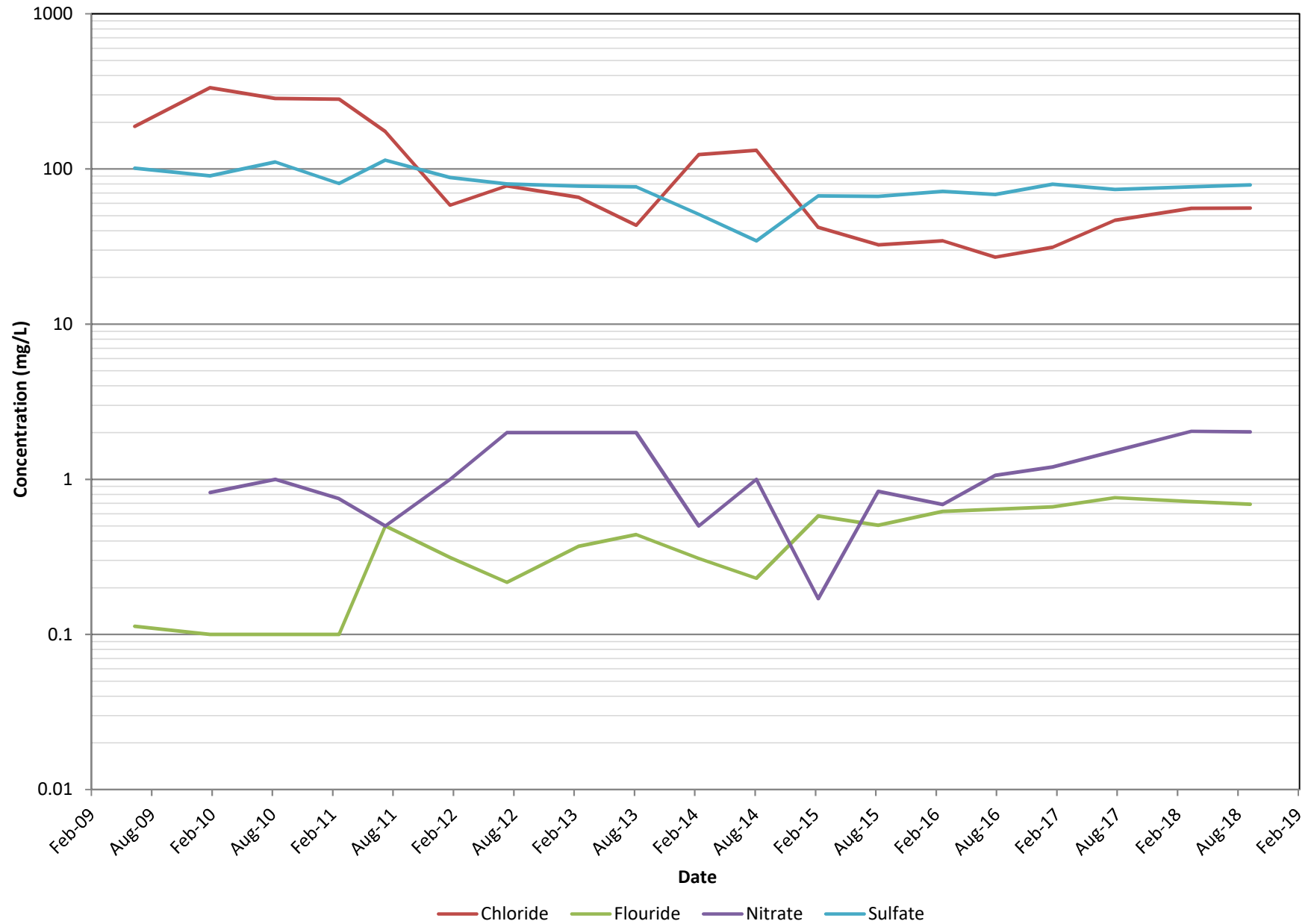
MW-5: METAL CONCENTRATIONS OVER TIME



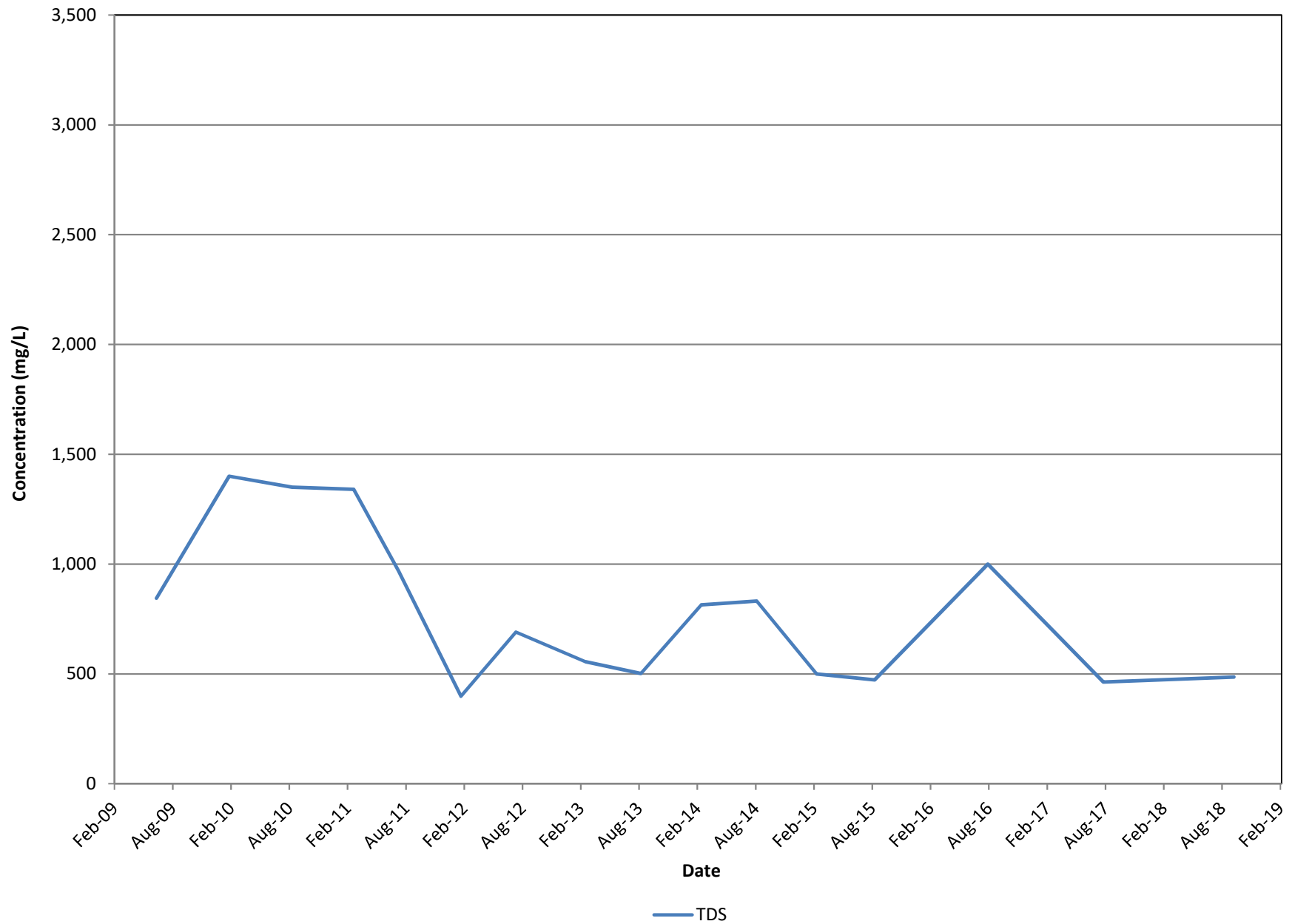
MW-5: TPH CONCENTRATIONS OVER TIME



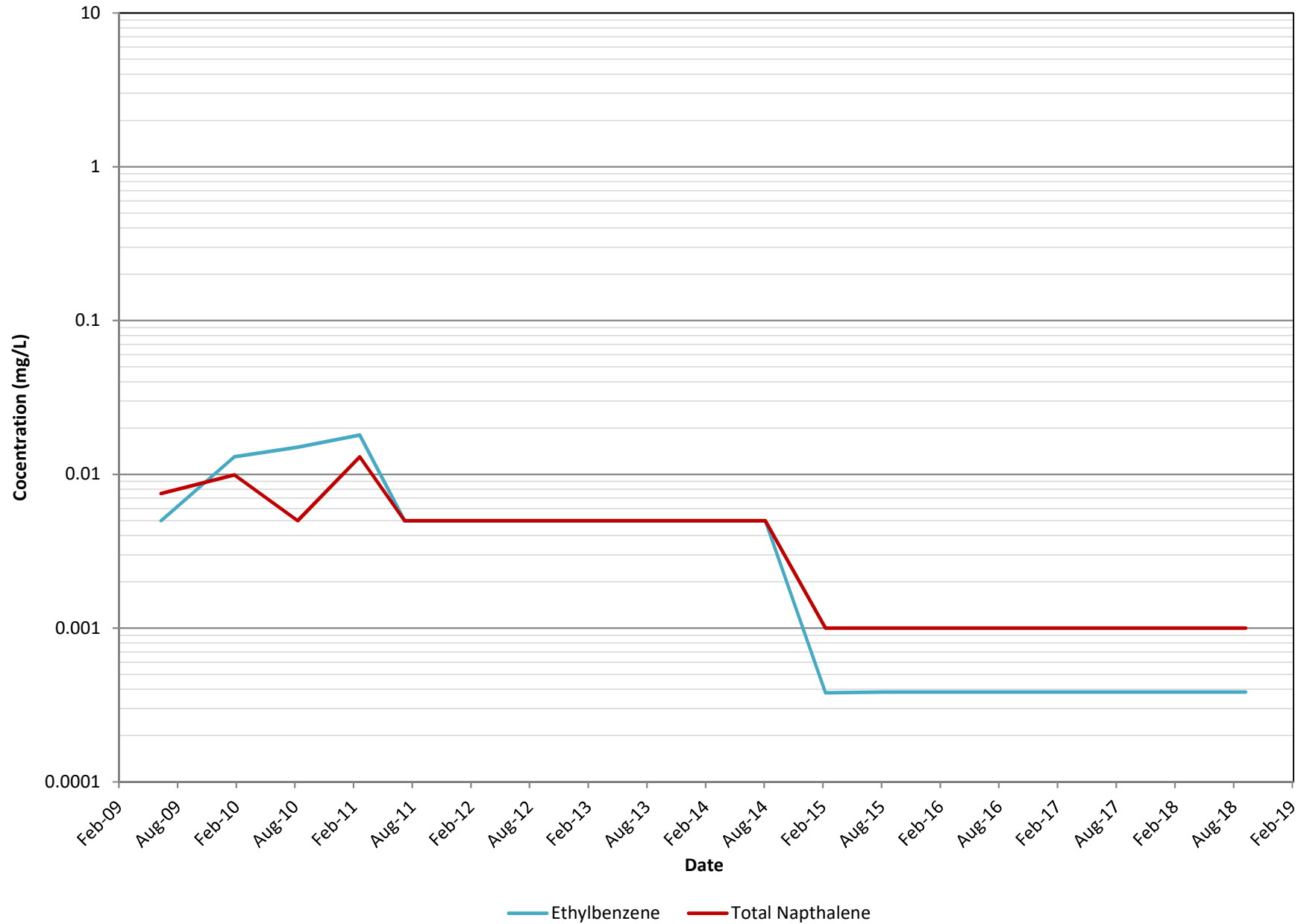
MW-6: ANION CONCENTRATIONS OVER TIME



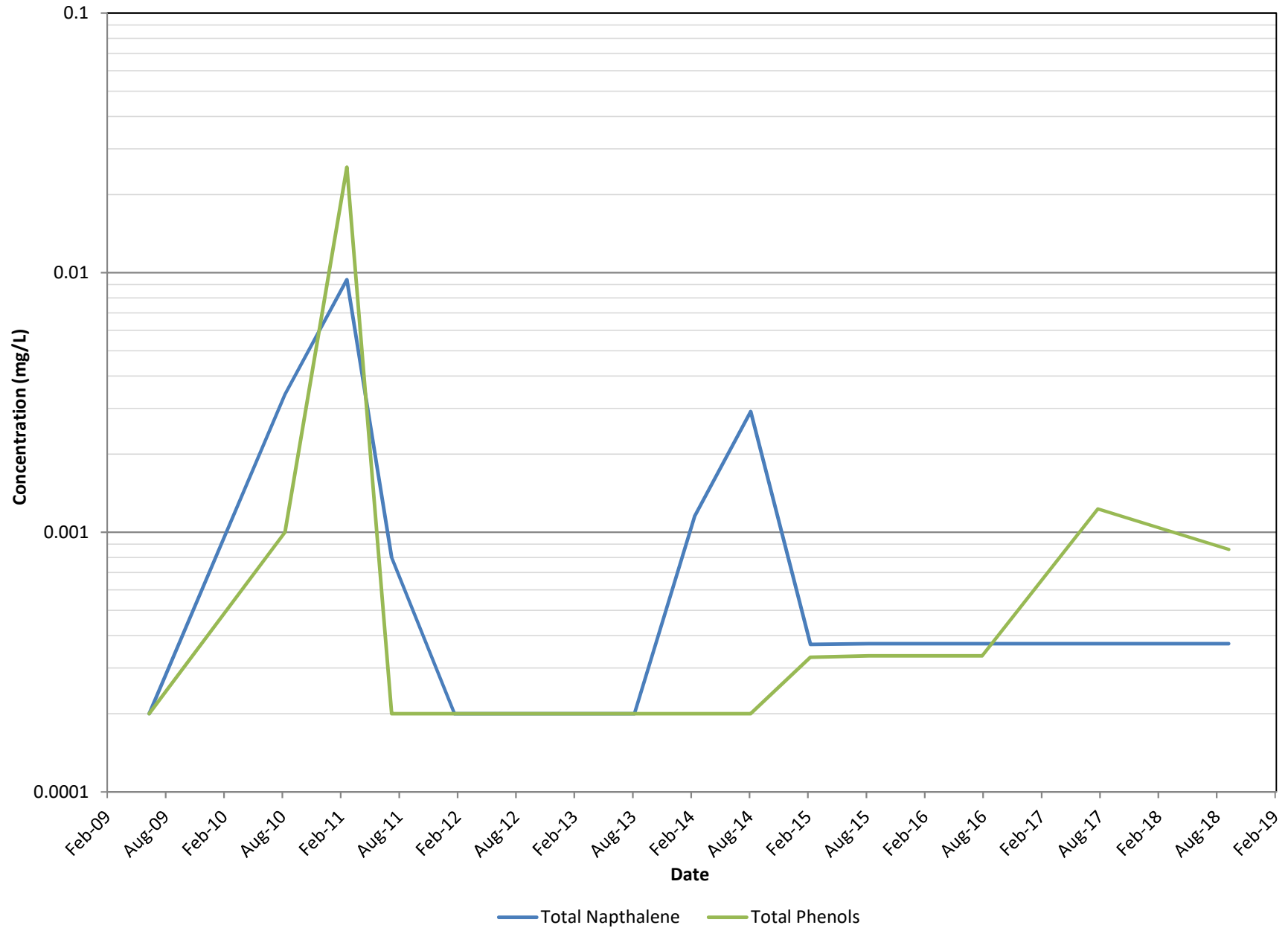
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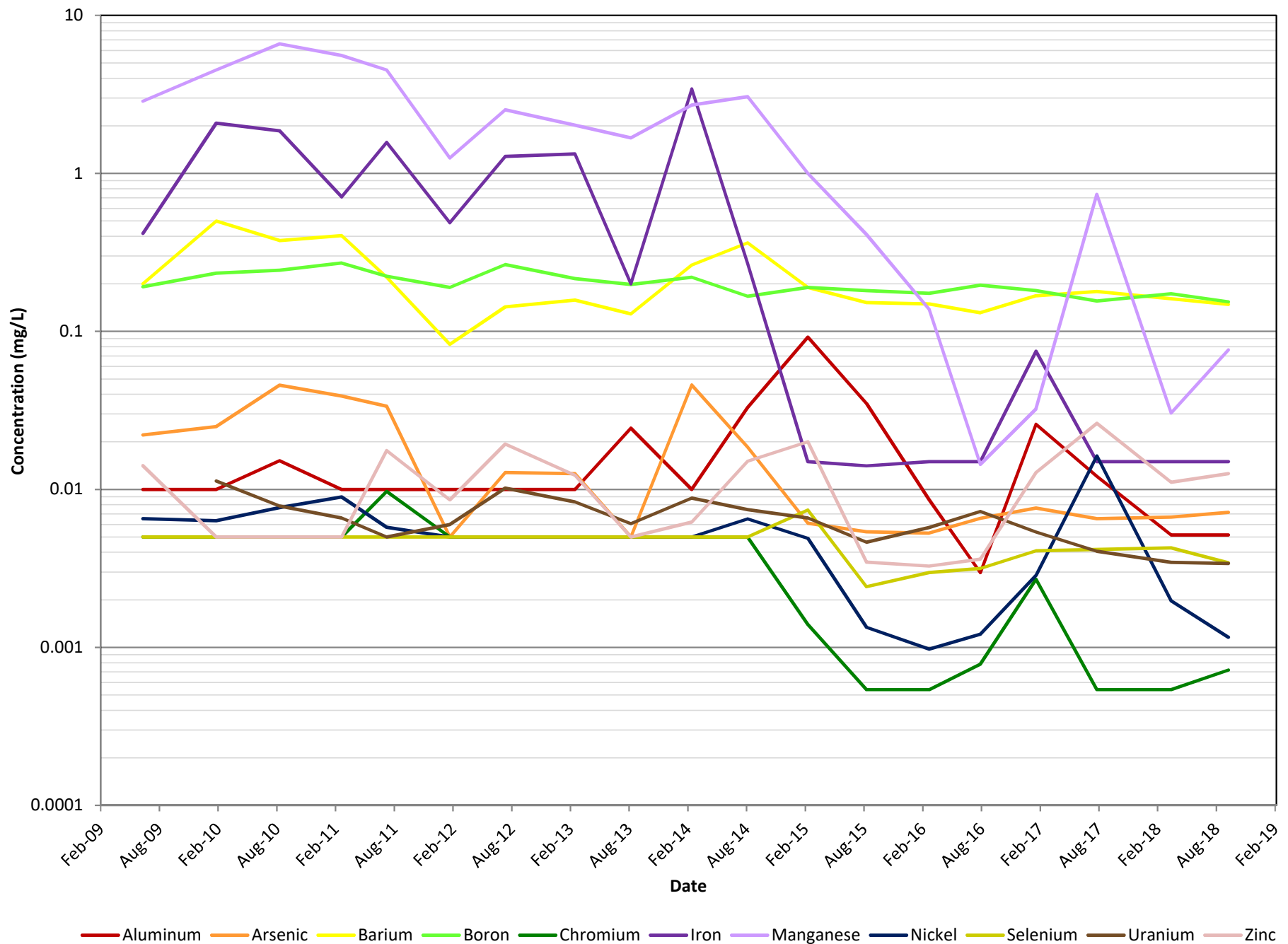
MW-6: VOC CONCENTRATIONS OVER TIME



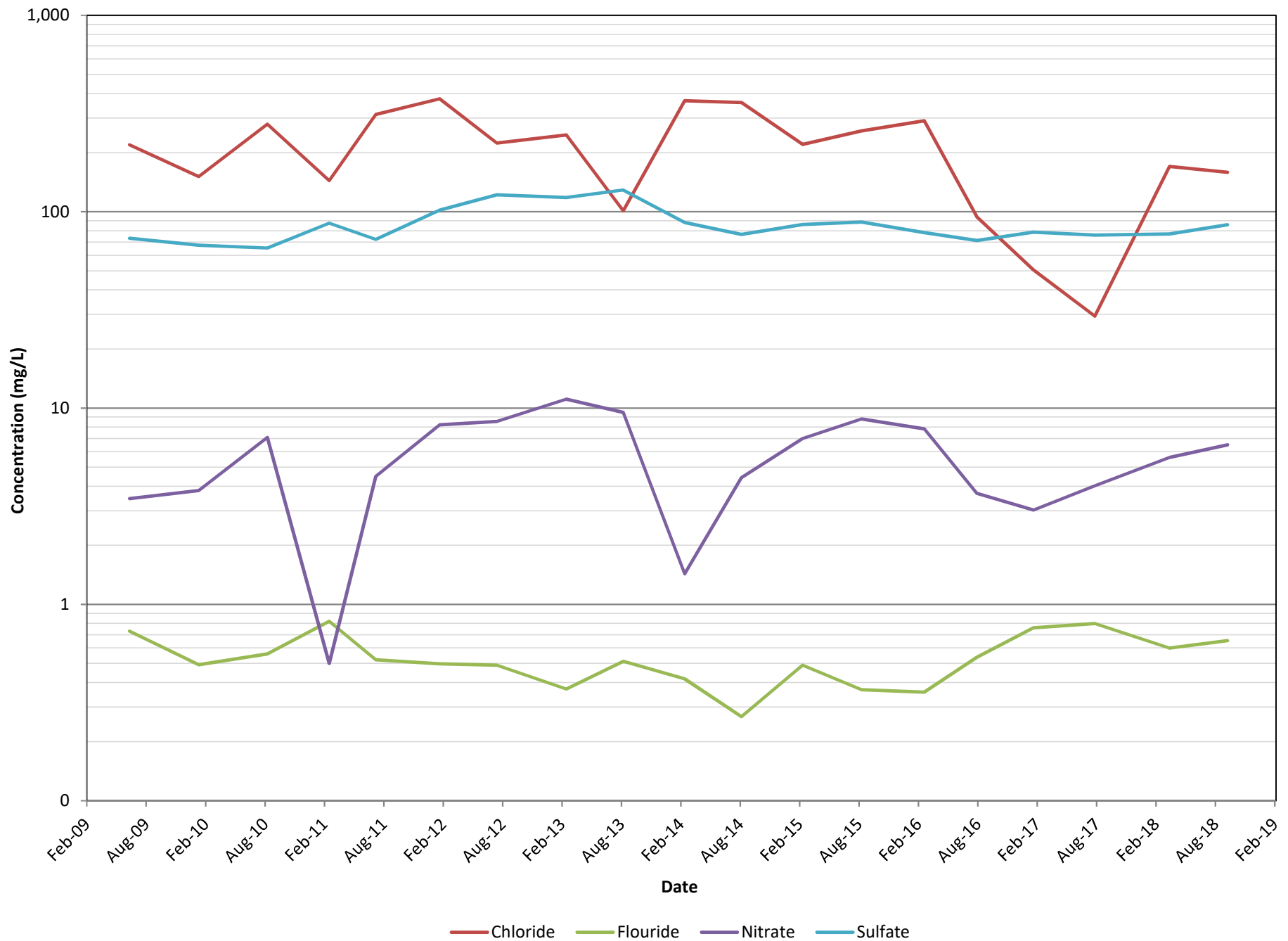
MW-6: SVOC CONCENTRATIONS OVER TIME



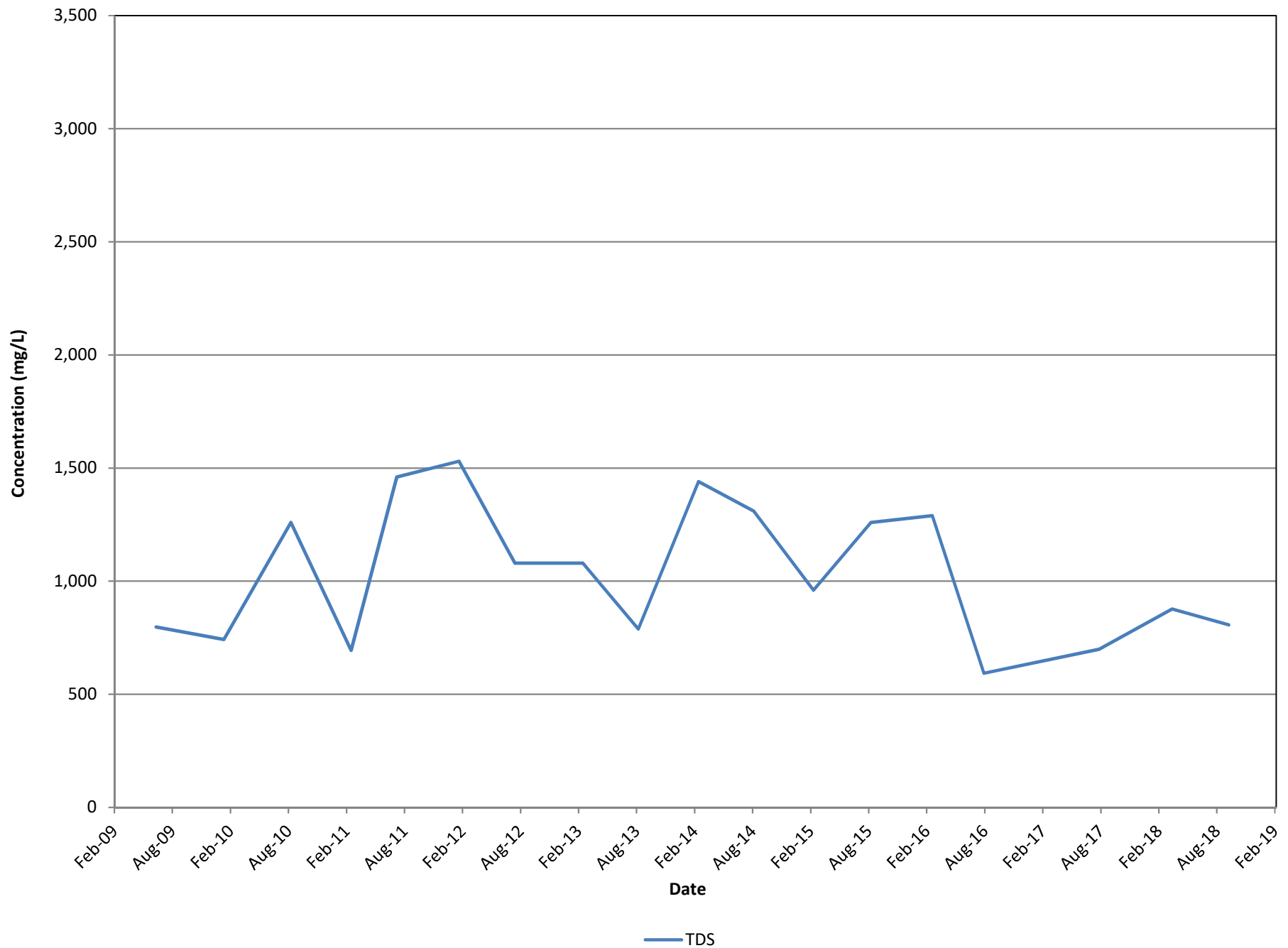
MW-6: METAL CONCENTRATIONS OVER TIME



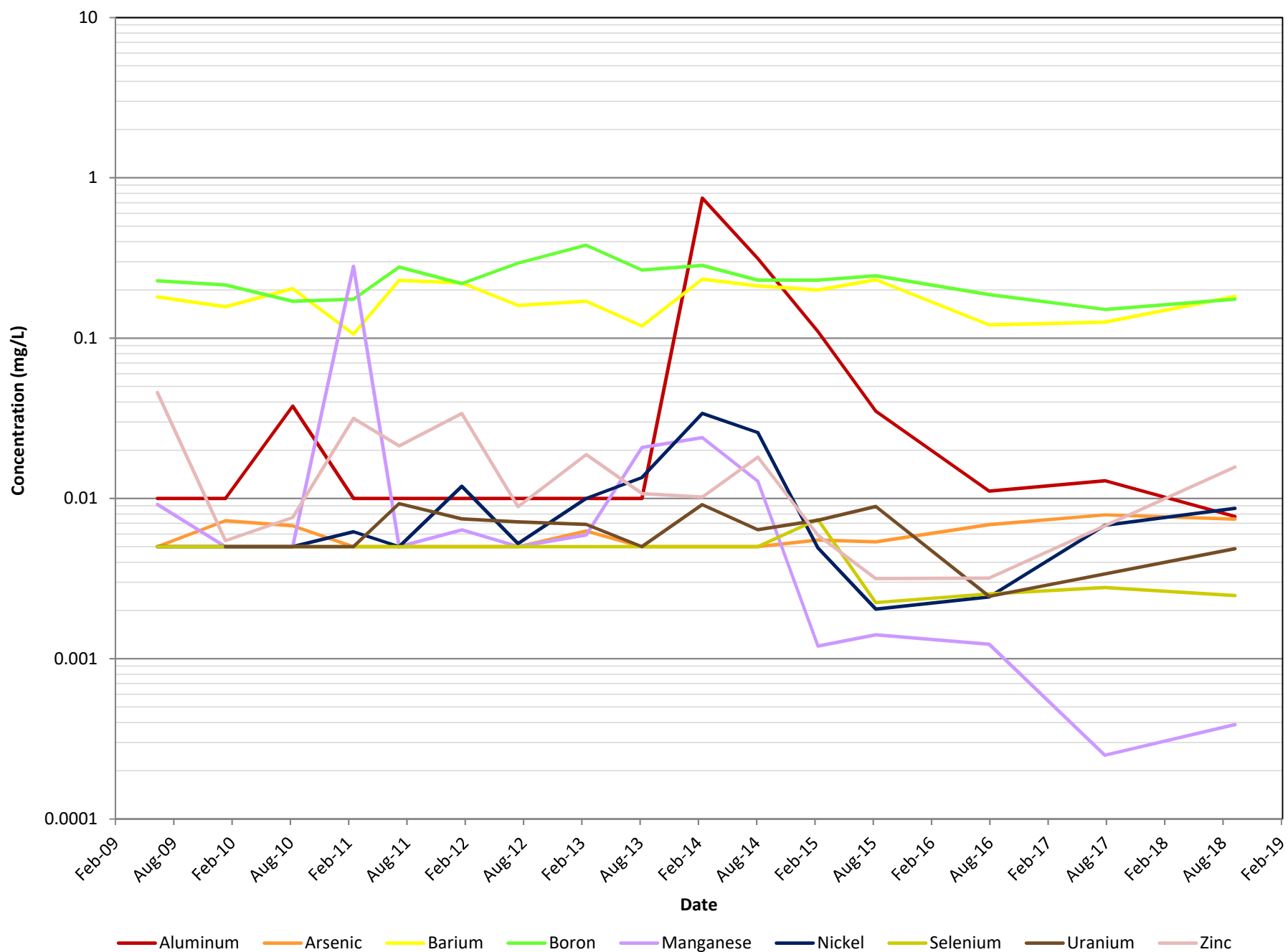
MW-8: ANION CONCENTRATIONS OVER TIME



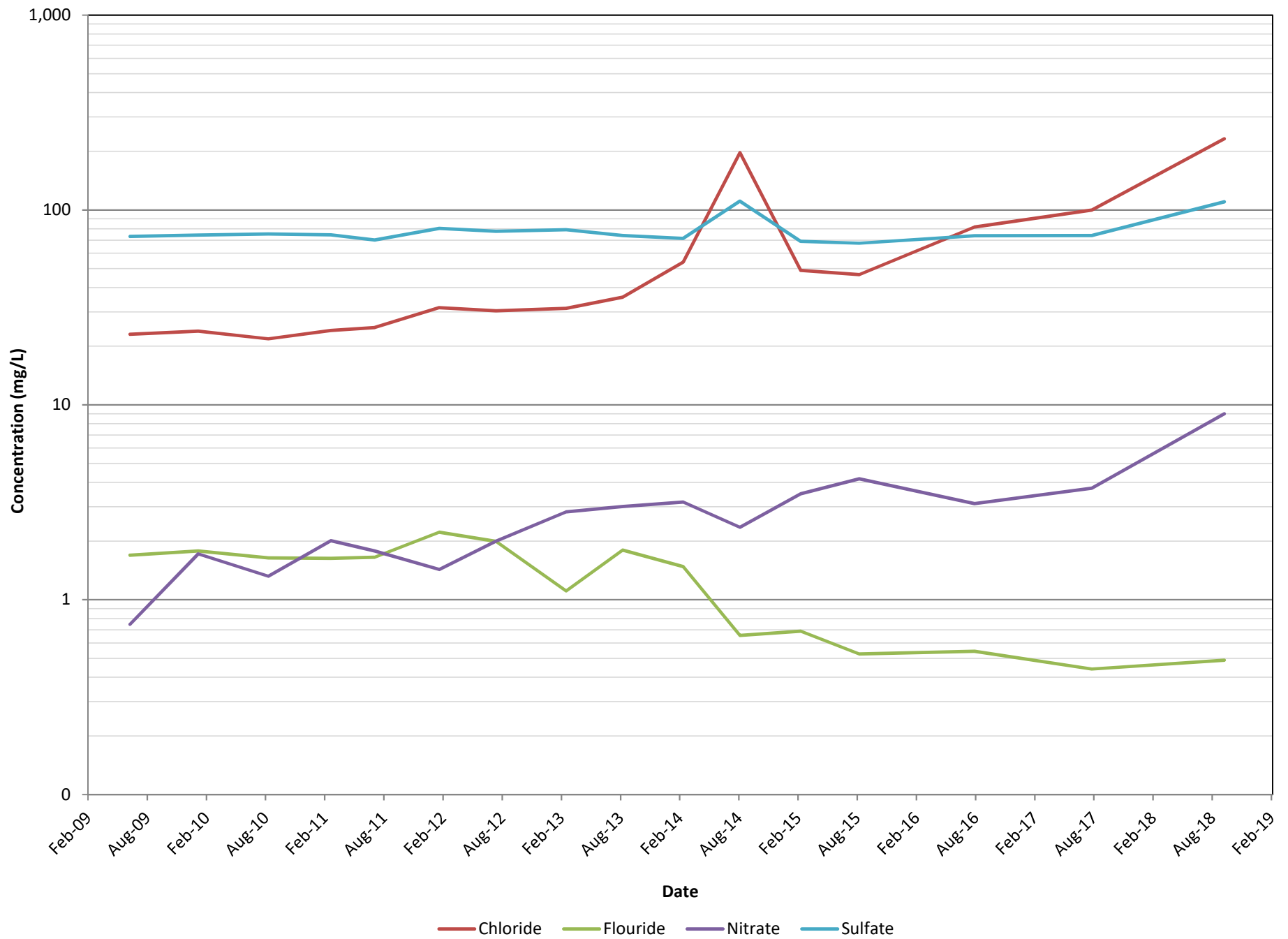
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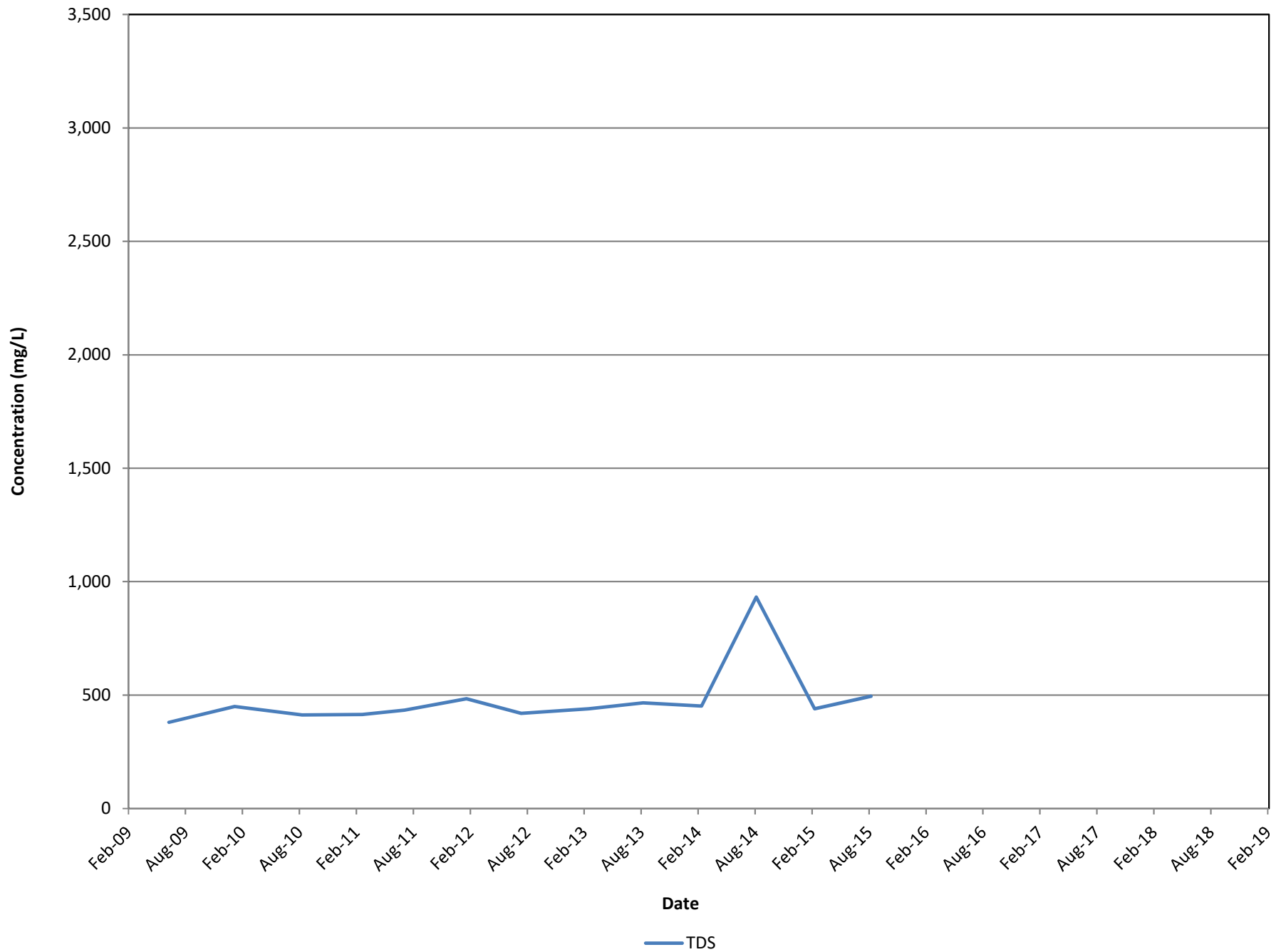
MW-8: METAL CONCENTRATIONS OVER TIME



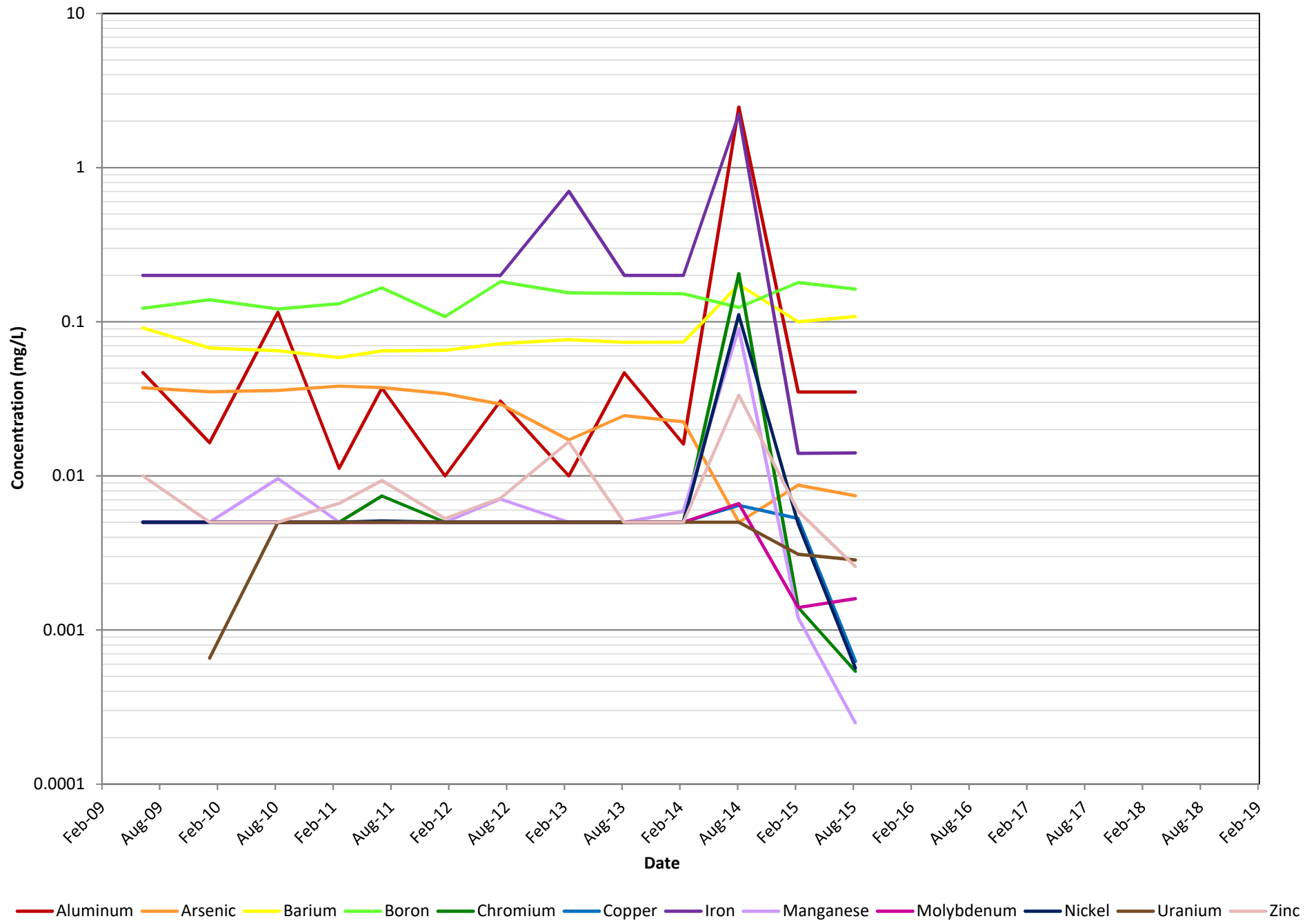
MW-9: ANION CONCENTRATIONS OVER TIME



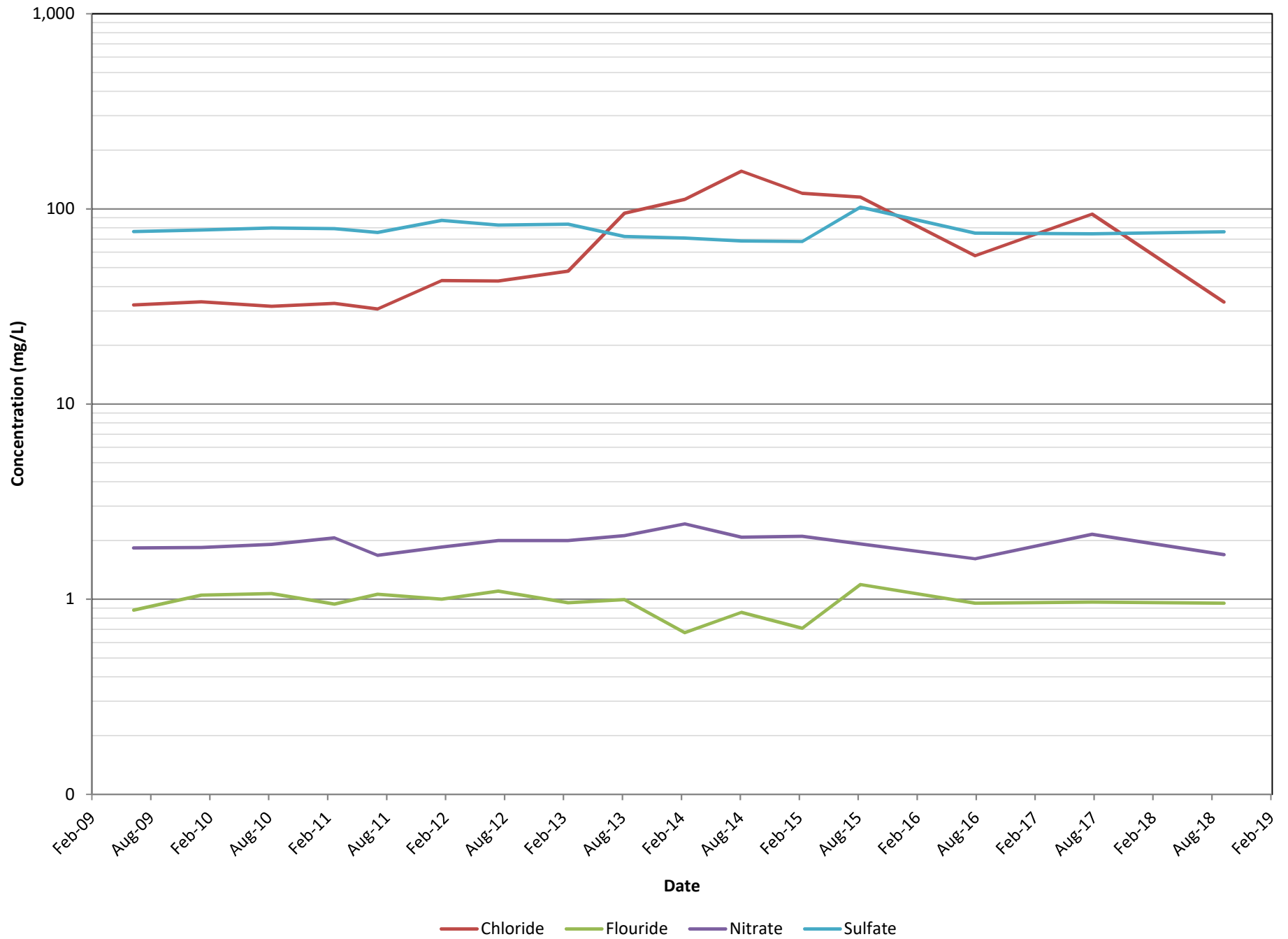
MW-9: TDS CONCENTRATIONS OVER TIME



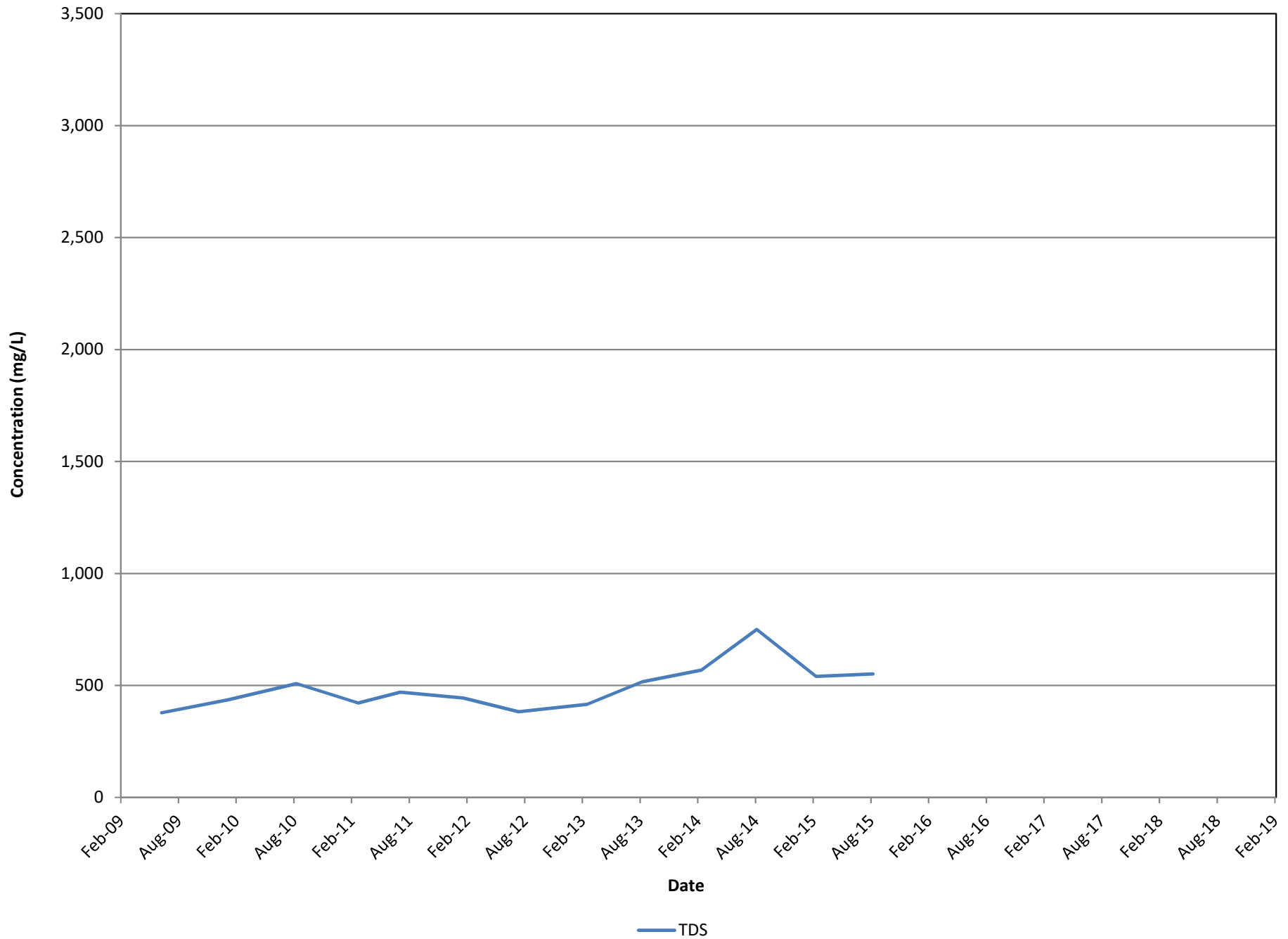
MW-9: METAL CONCENTRATIONS OVER TIME



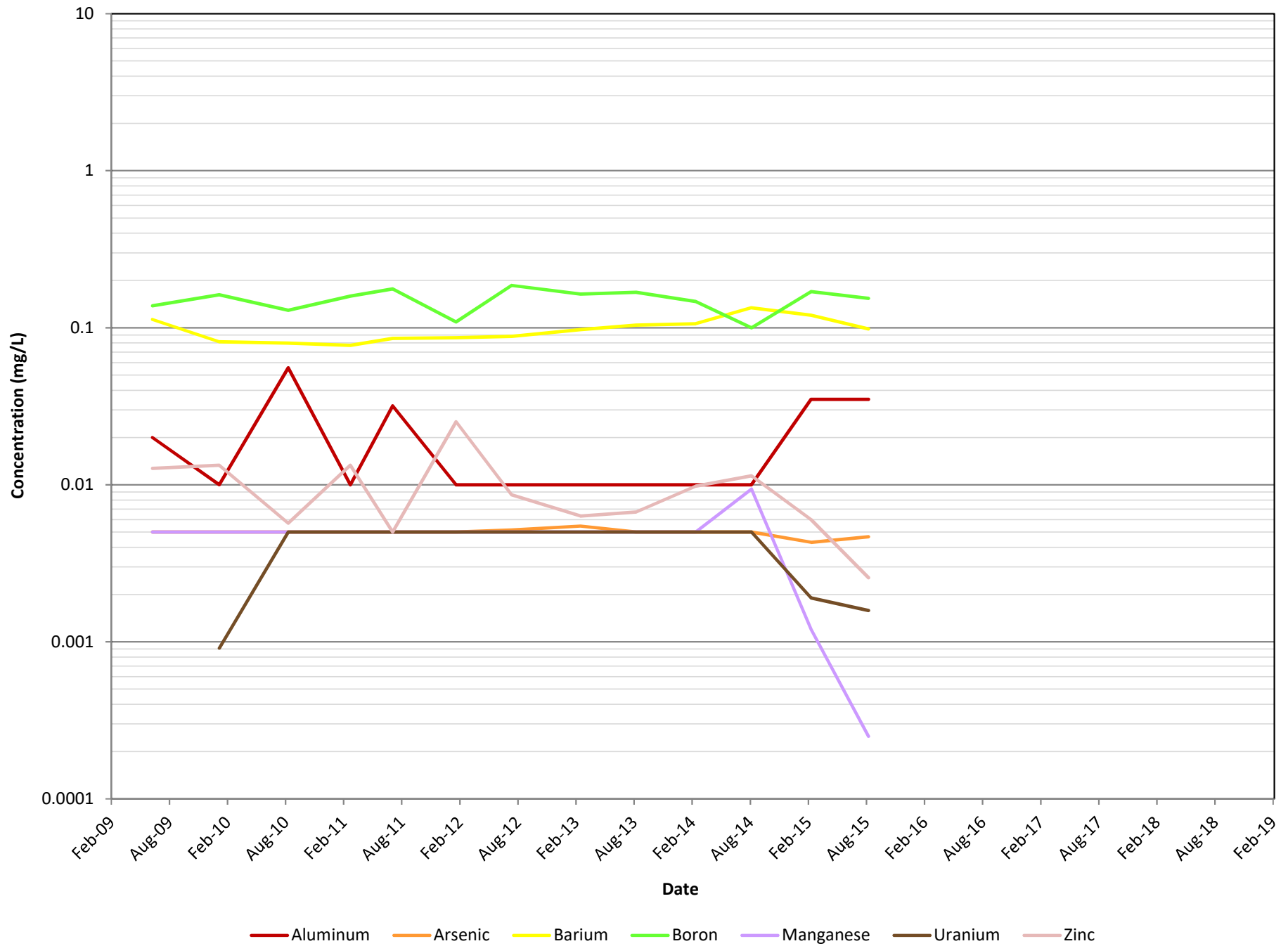
MW-10: ANION CONCENTRATIONS OVER TIME



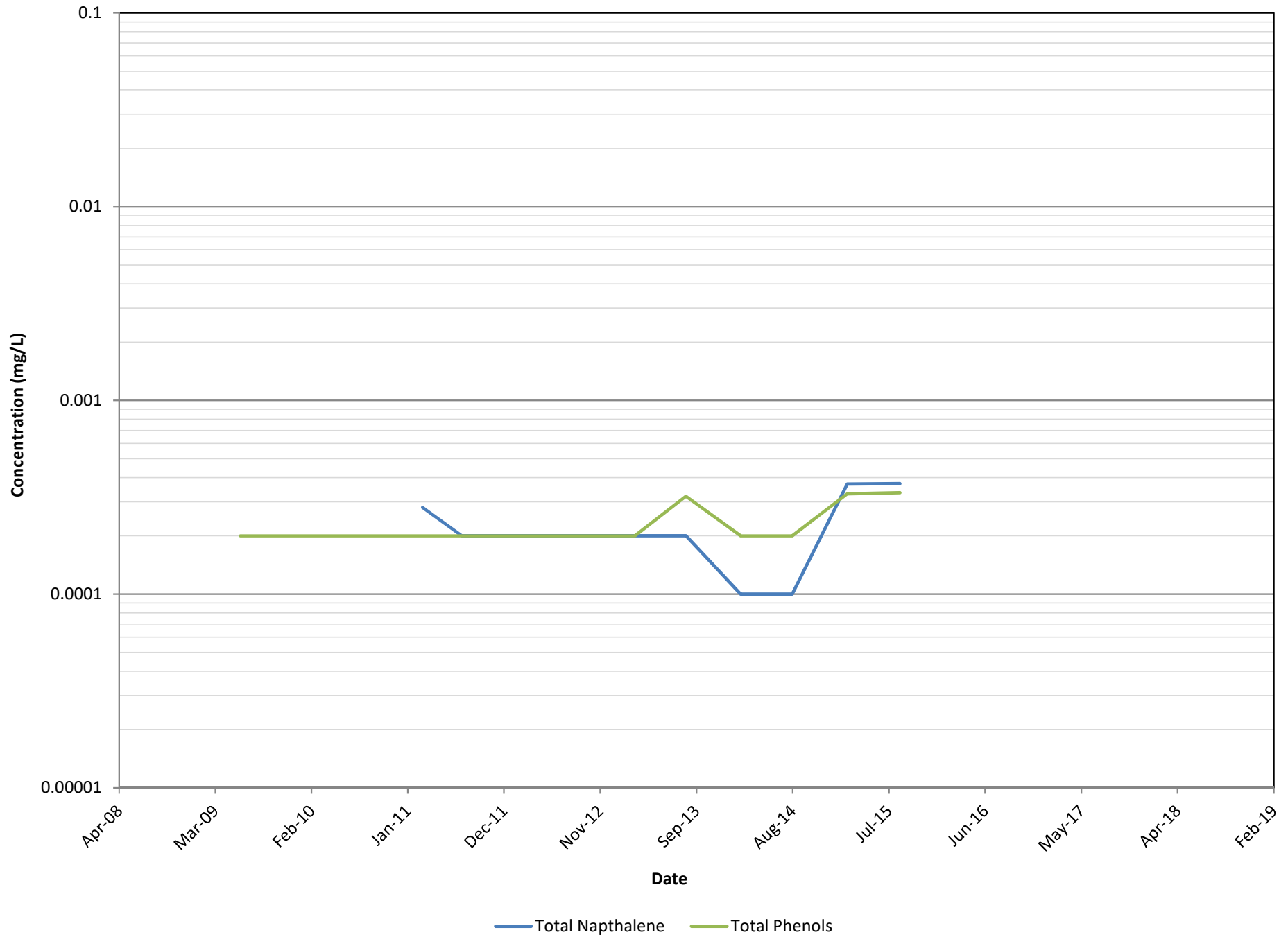
MW-10: TDS CONCENTRATIONS OVER TIME



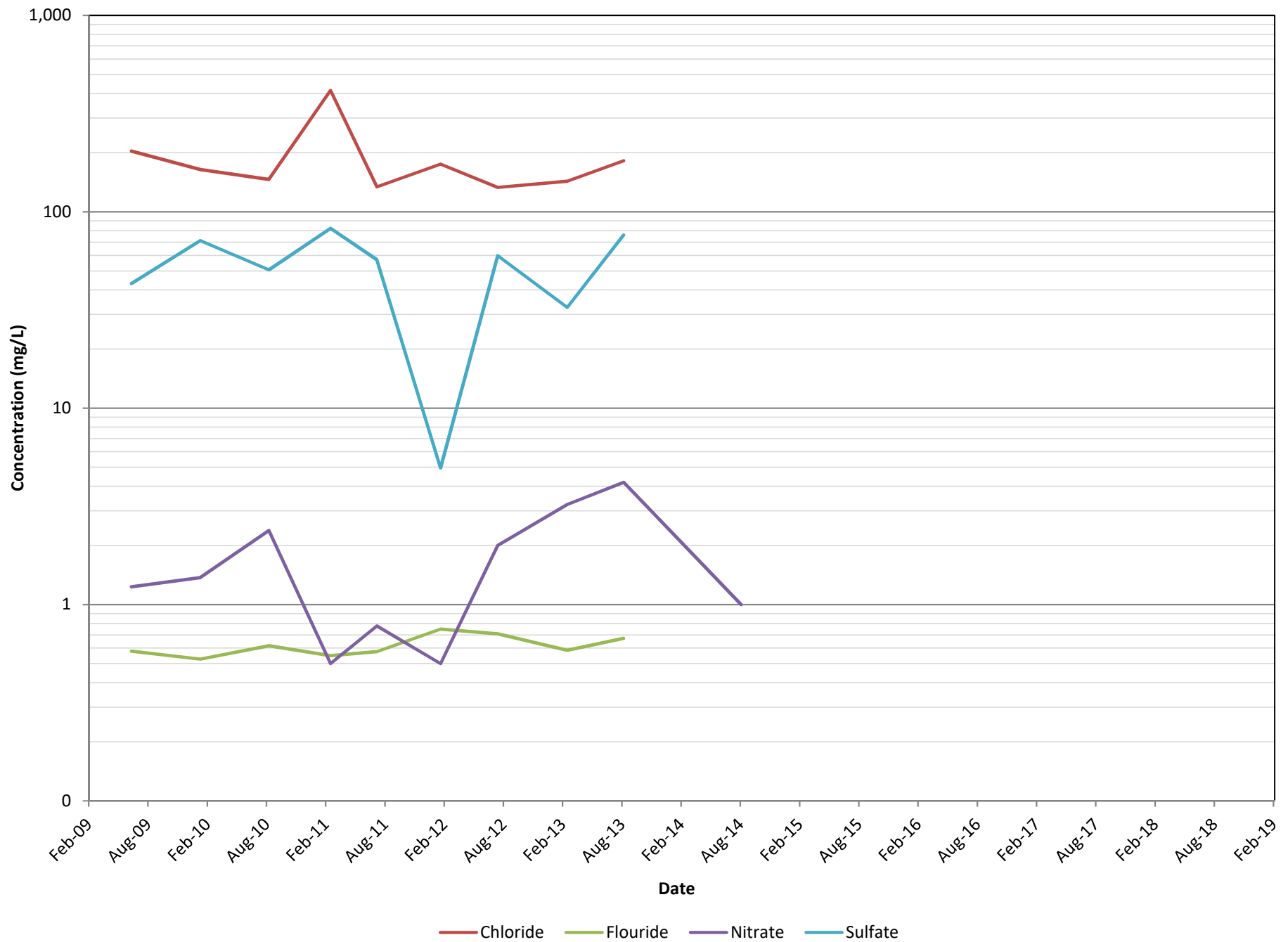
MW-10: METAL CONCENTRATIONS OVER TIME



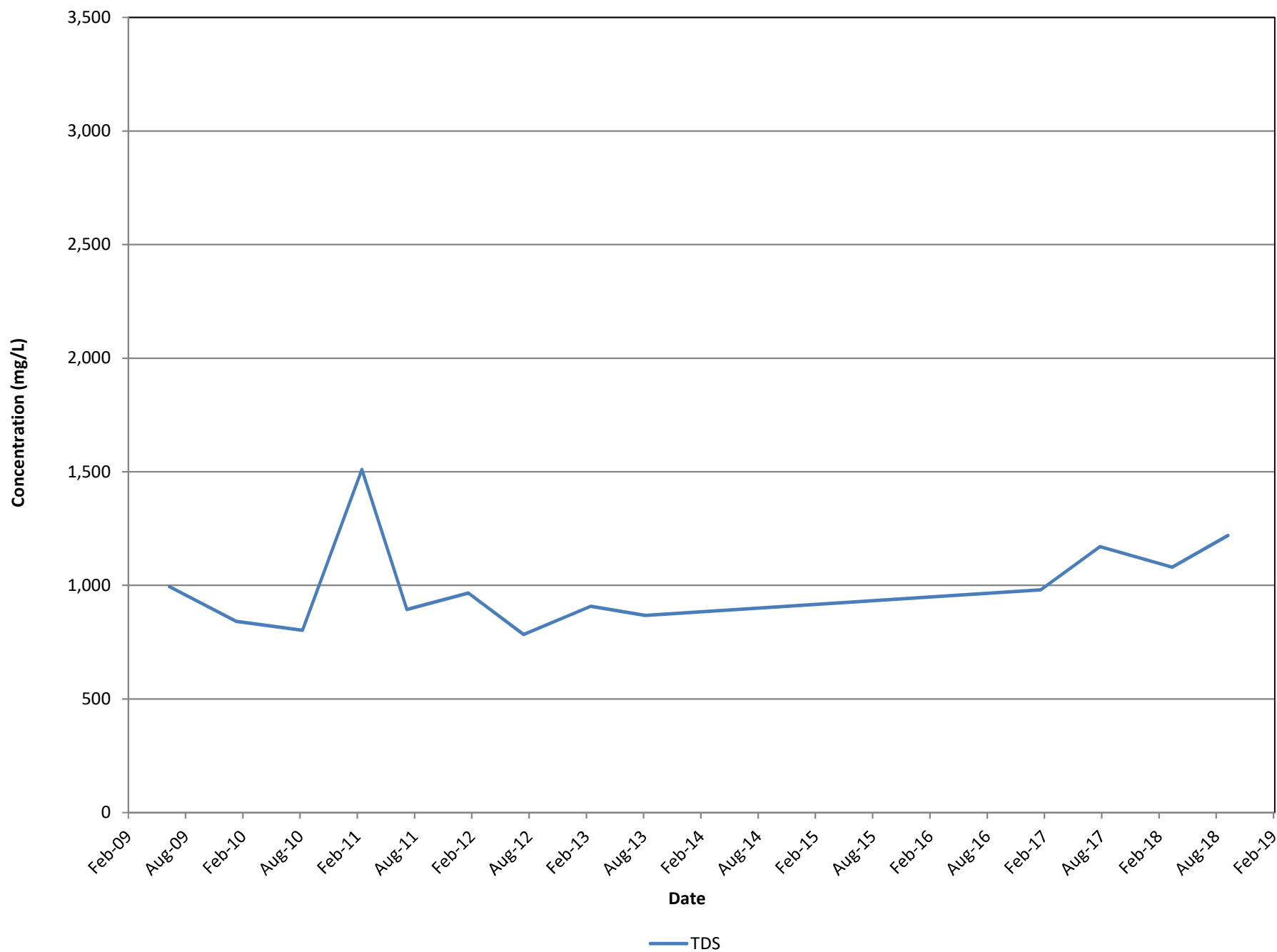
MW-10: SVOC CONCENTRATIONS OVER TIME



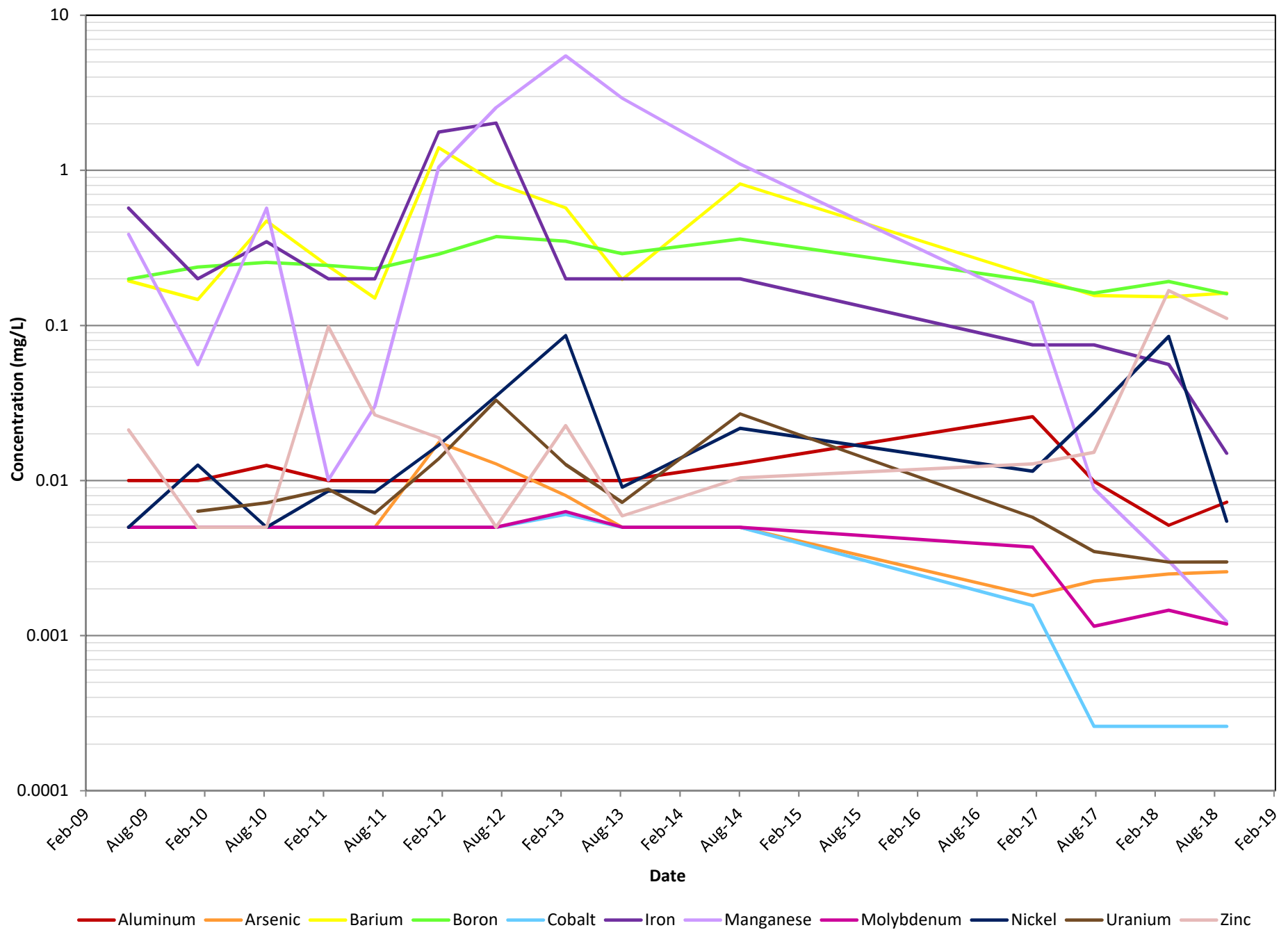
MW-11/MW-11R: ANION CONCENTRATIONS OVER TIME



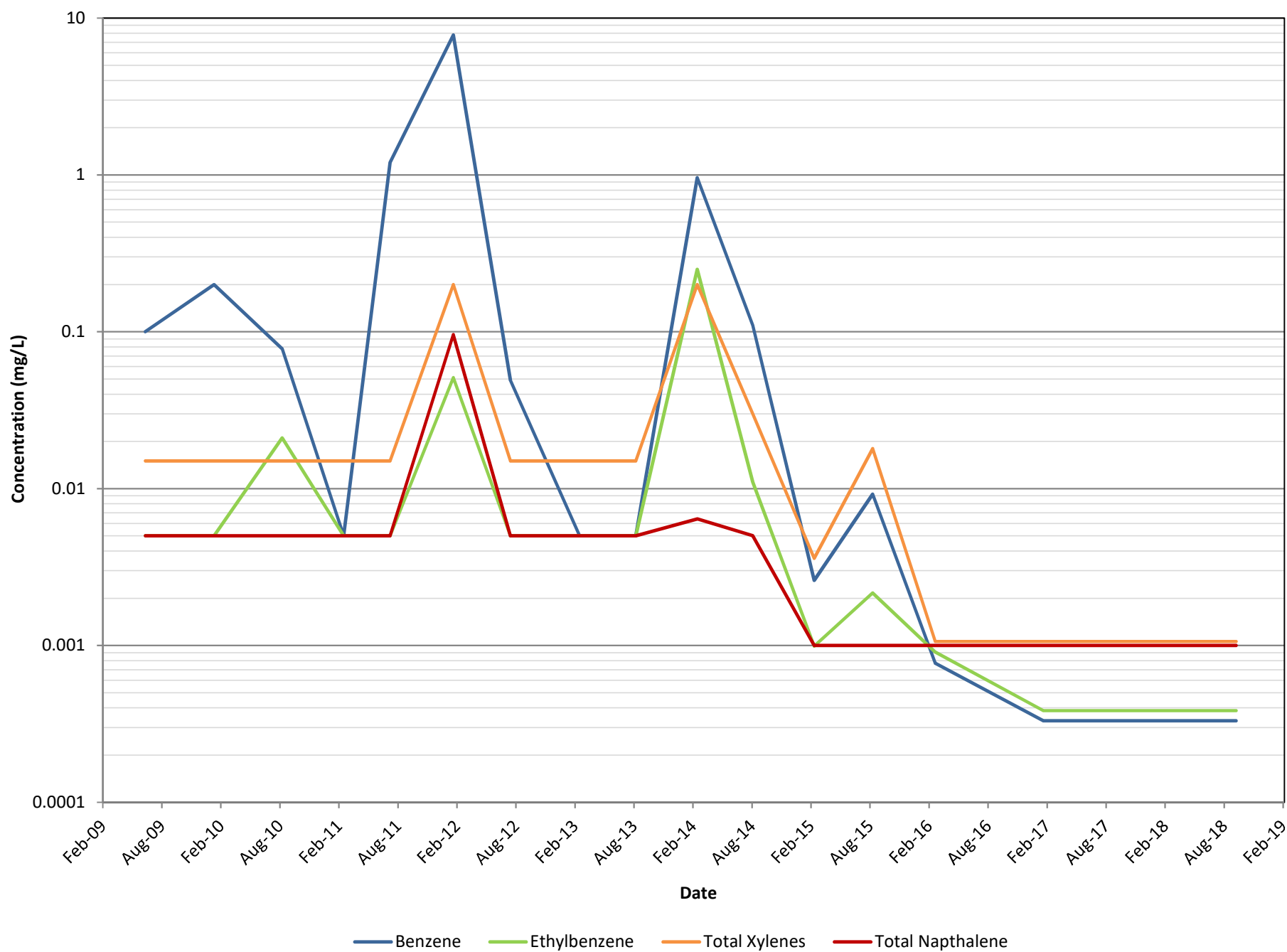
MW-11/MW-11R: TDS CONCENTRATIONS OVER TIME



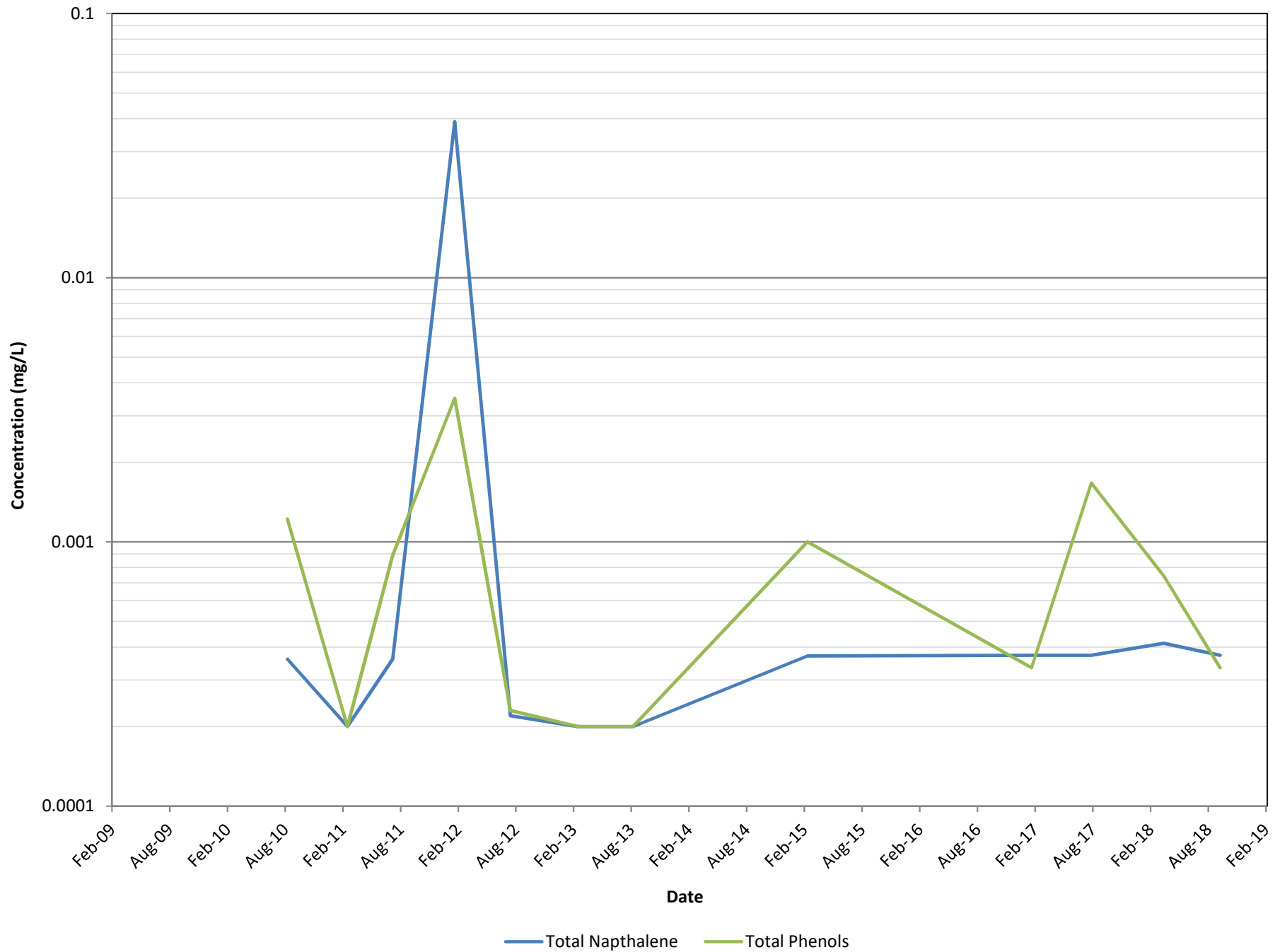
MW-11/MW-11R: METAL CONCENTRATIONS OVER TIME



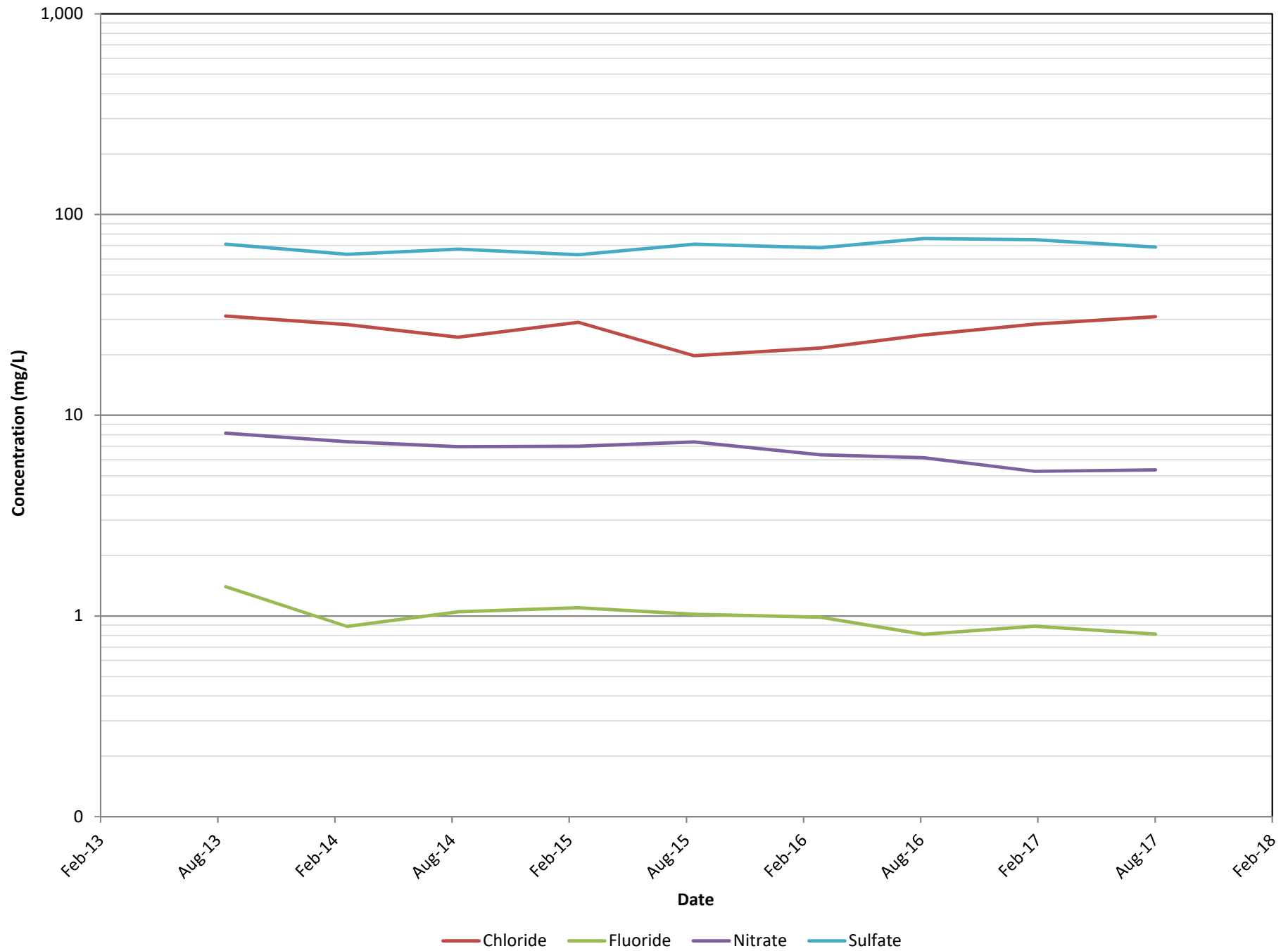
MW-11/MW-11R: VOC CONCENTRATIONS OVER TIME



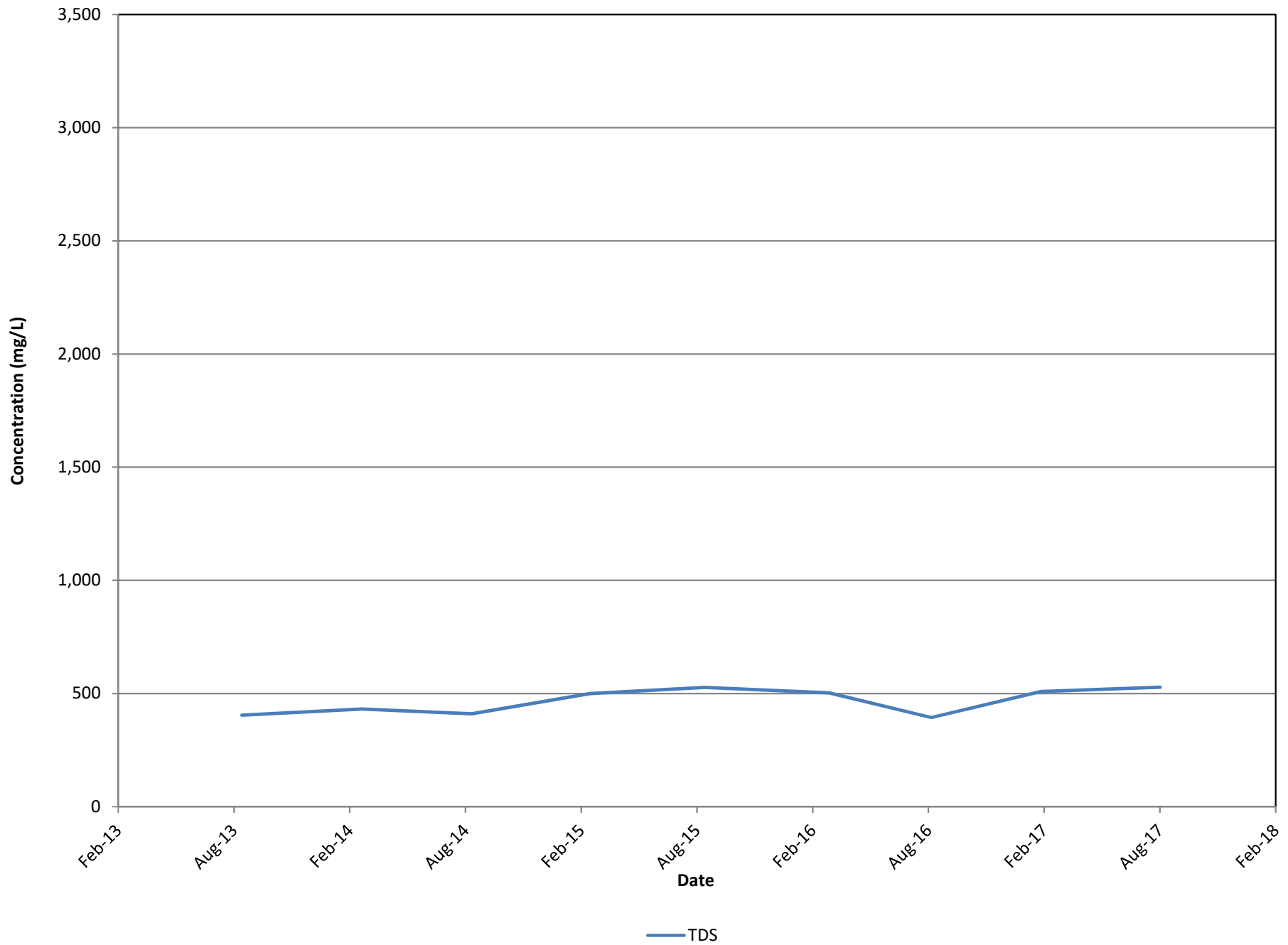
MW-11/MW-11R: SVOC CONCENTRATIONS OVER TIME



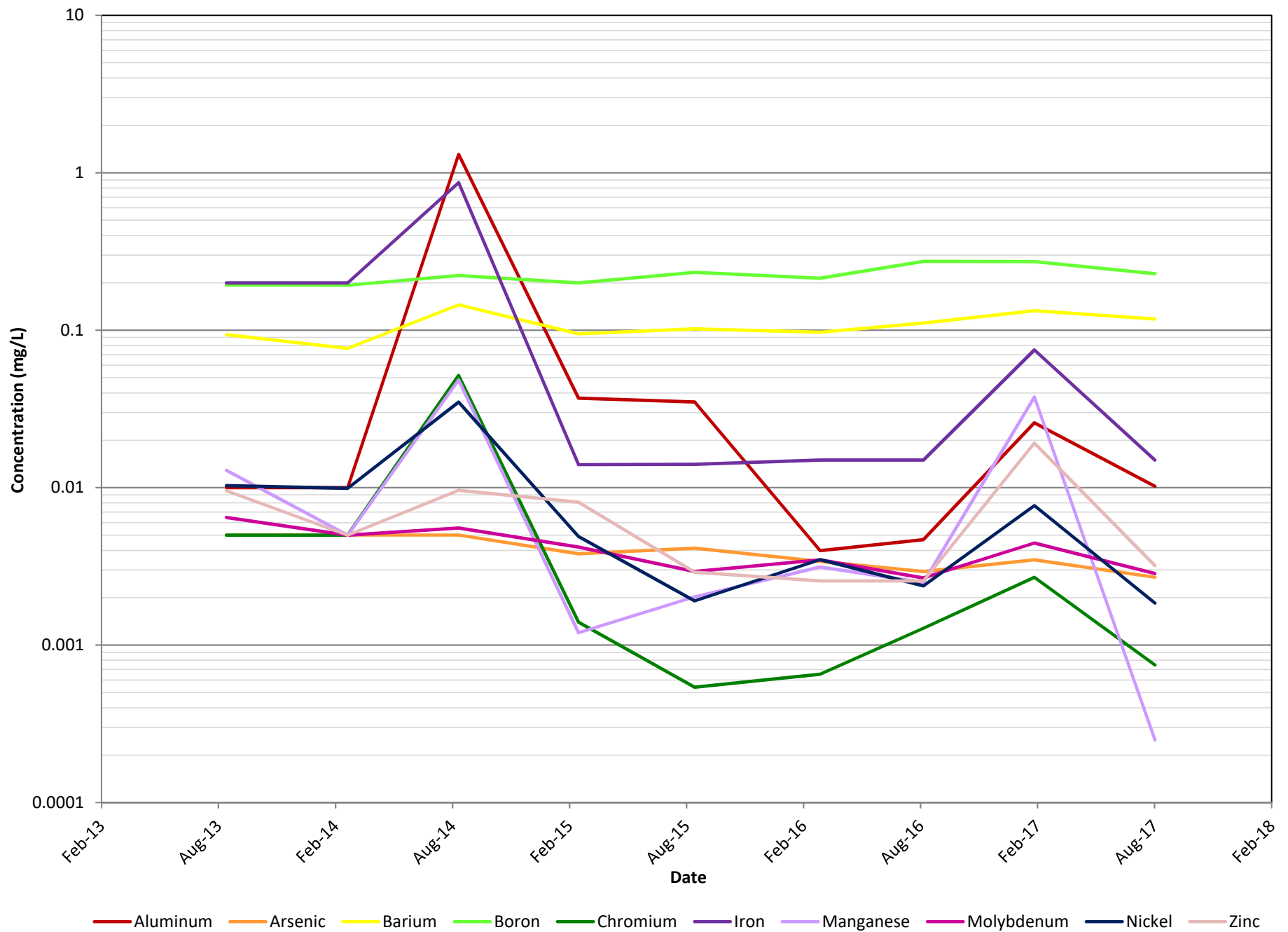
MW-12R: ANION CONCENTRATIONS OVER TIME



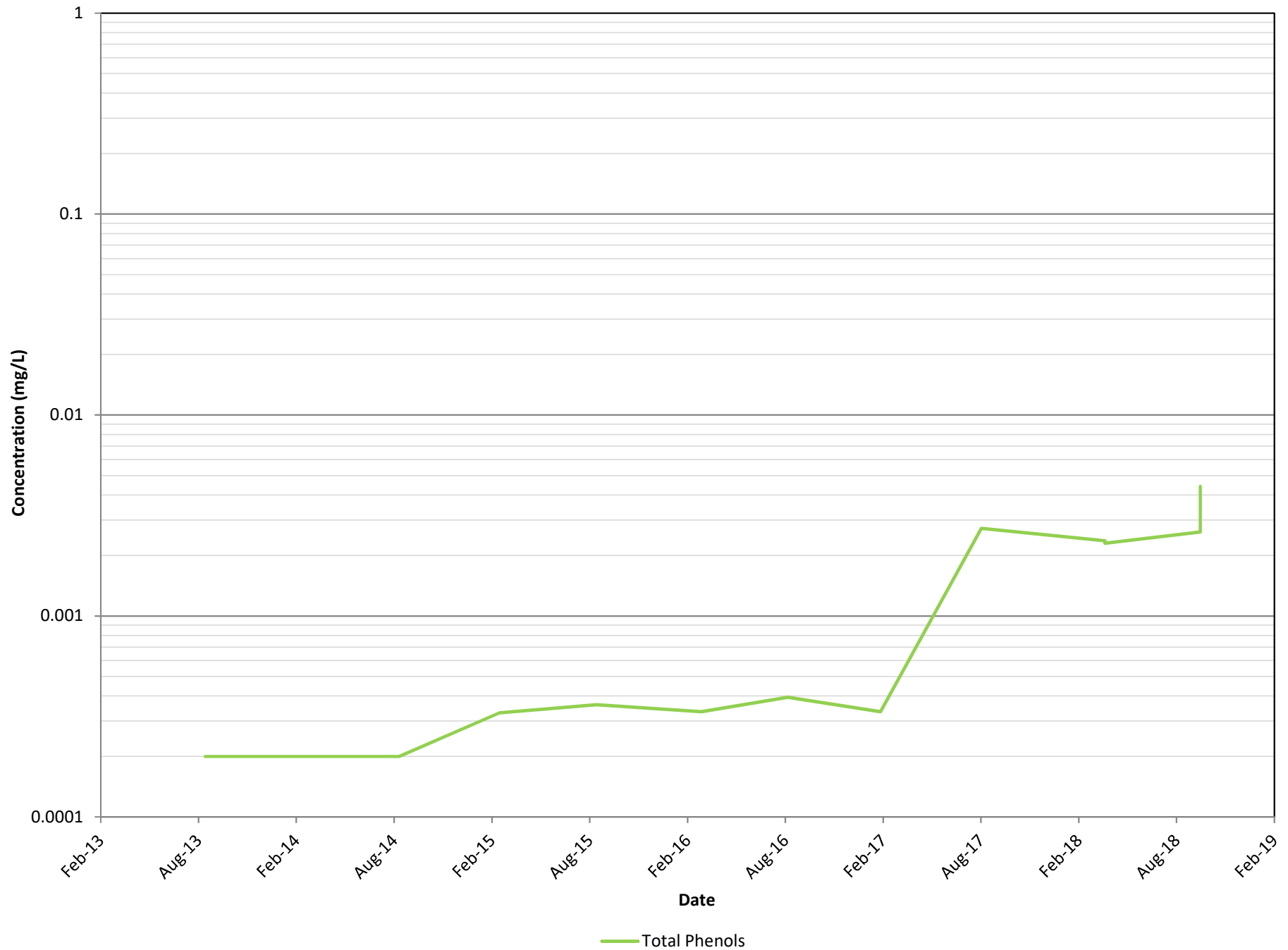
MW-12R: TDS CONCENTRATIONS OVER TIME



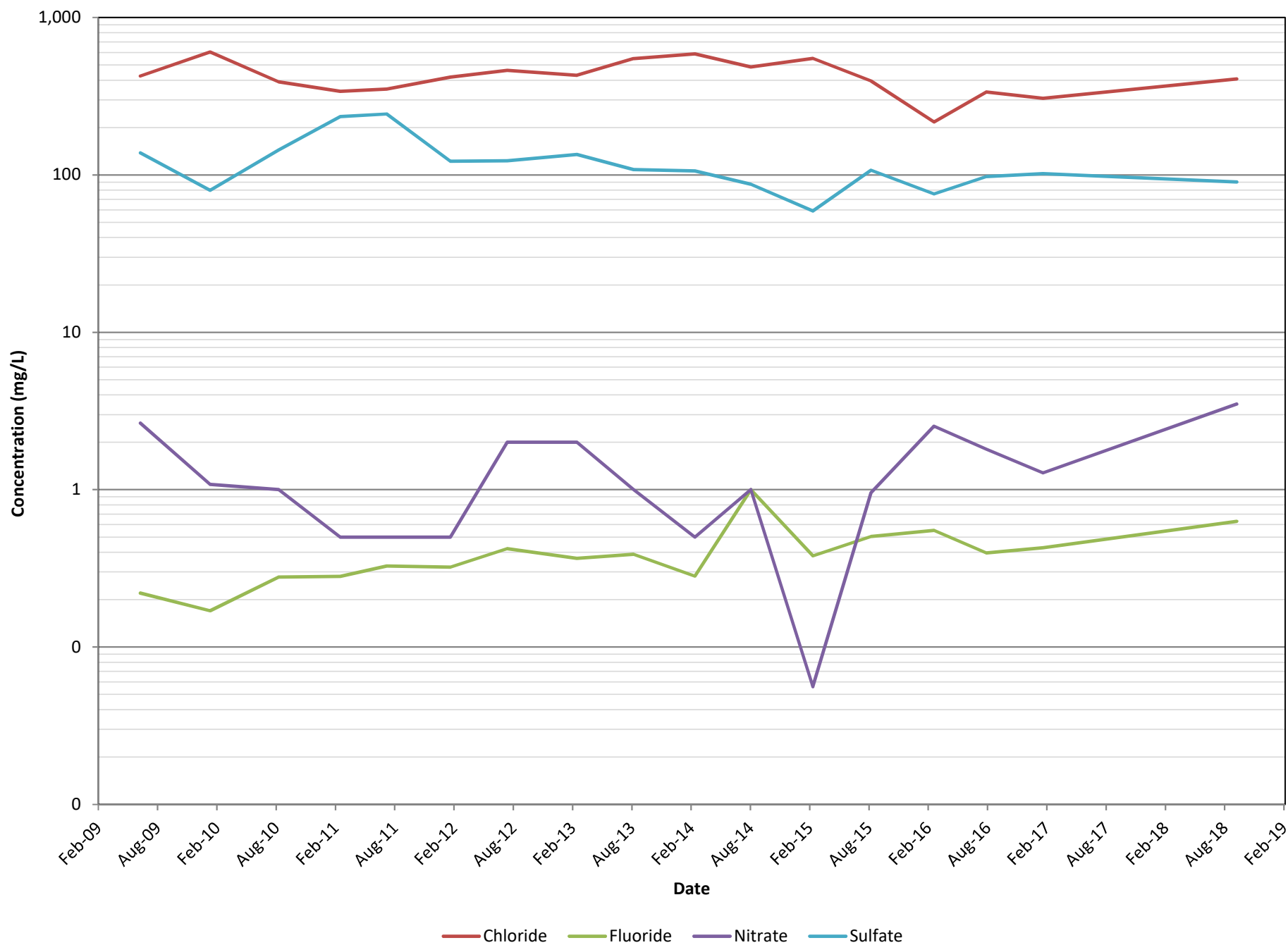
MW-12R: METAL CONCENTRATIONS OVER TIME



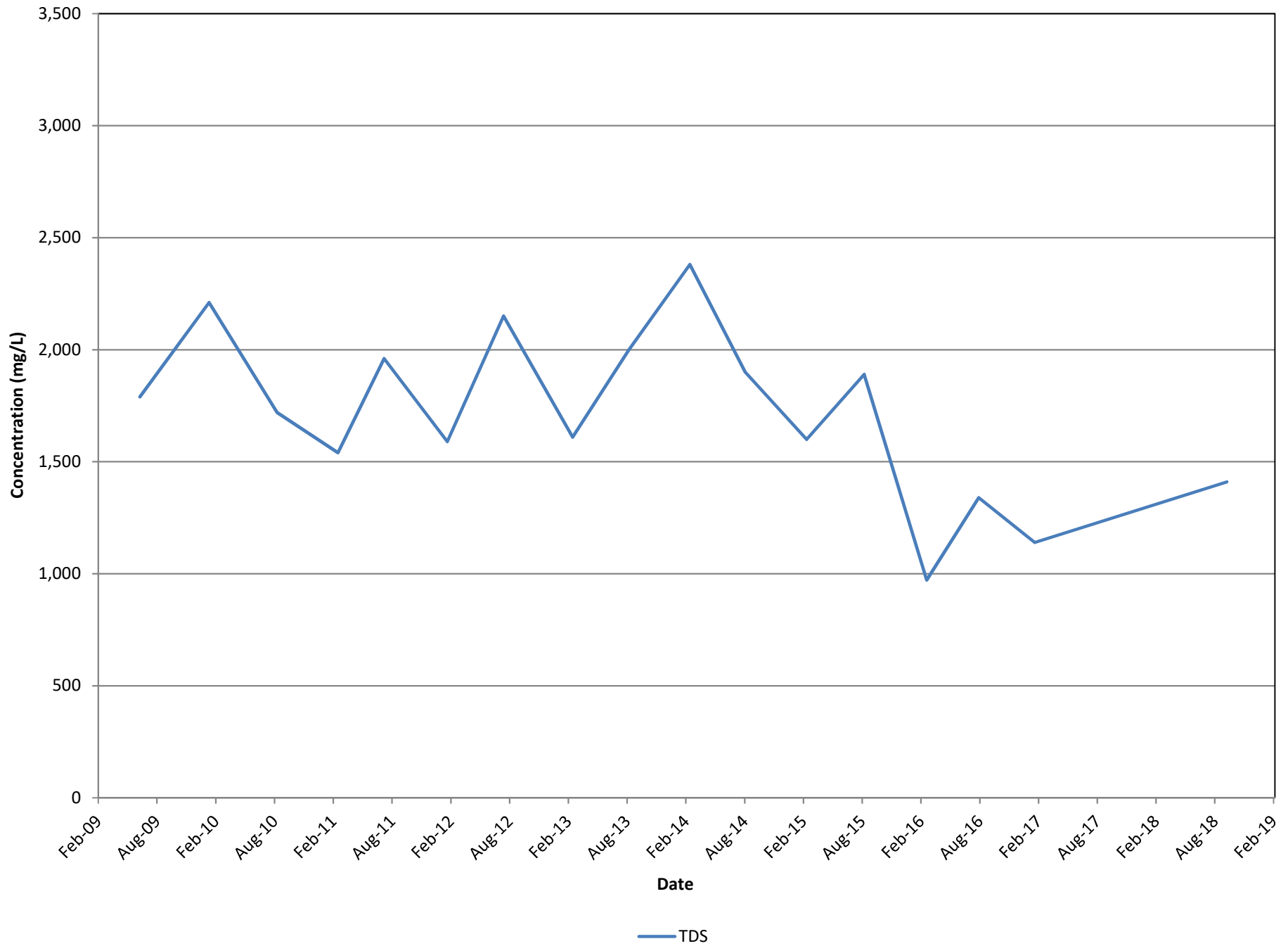
MW-12R: SVOC CONCENTRATIONS OVER TIME



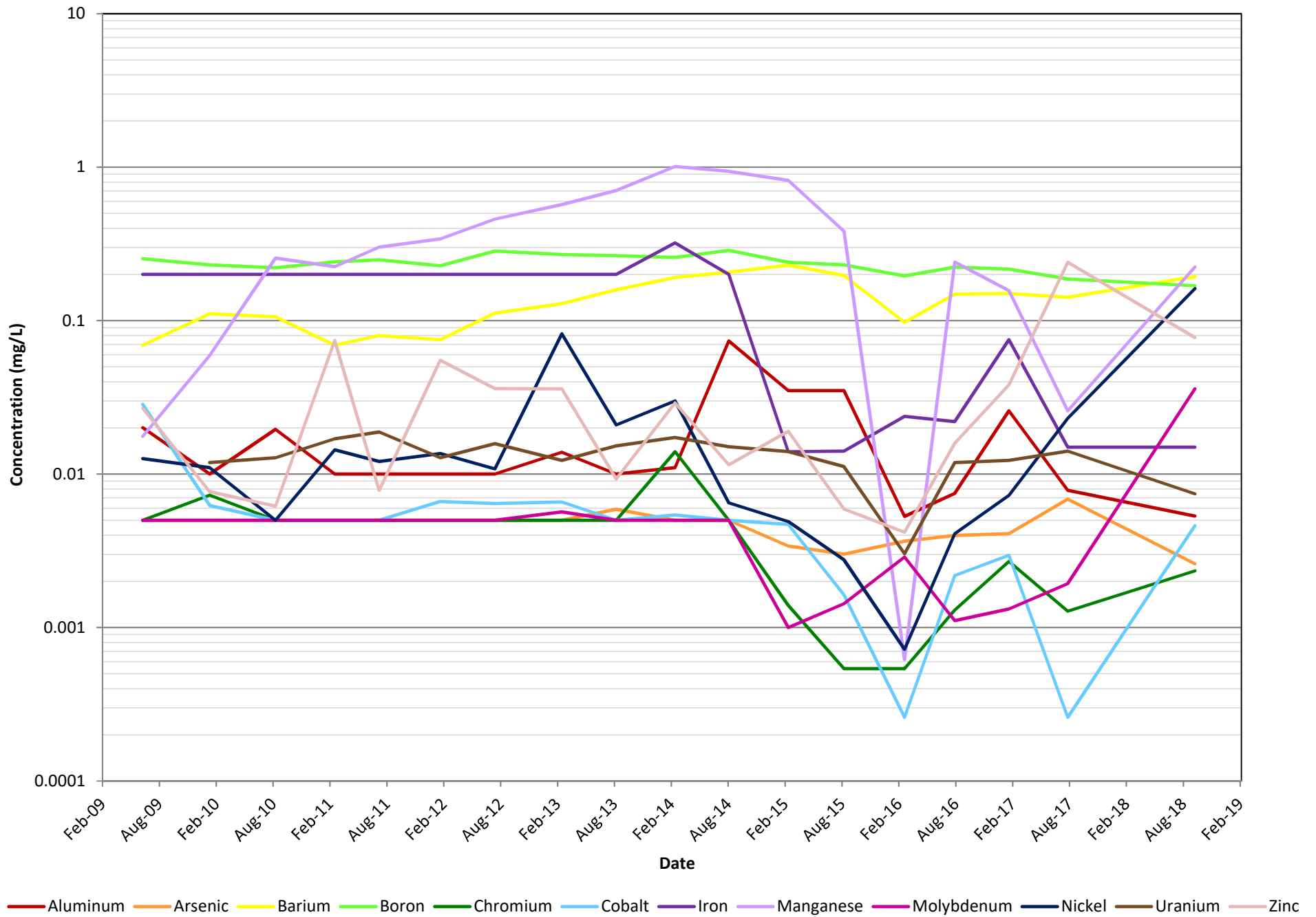
MW-13/MW-13R: ANION CONCENTRATIONS OVER TIME



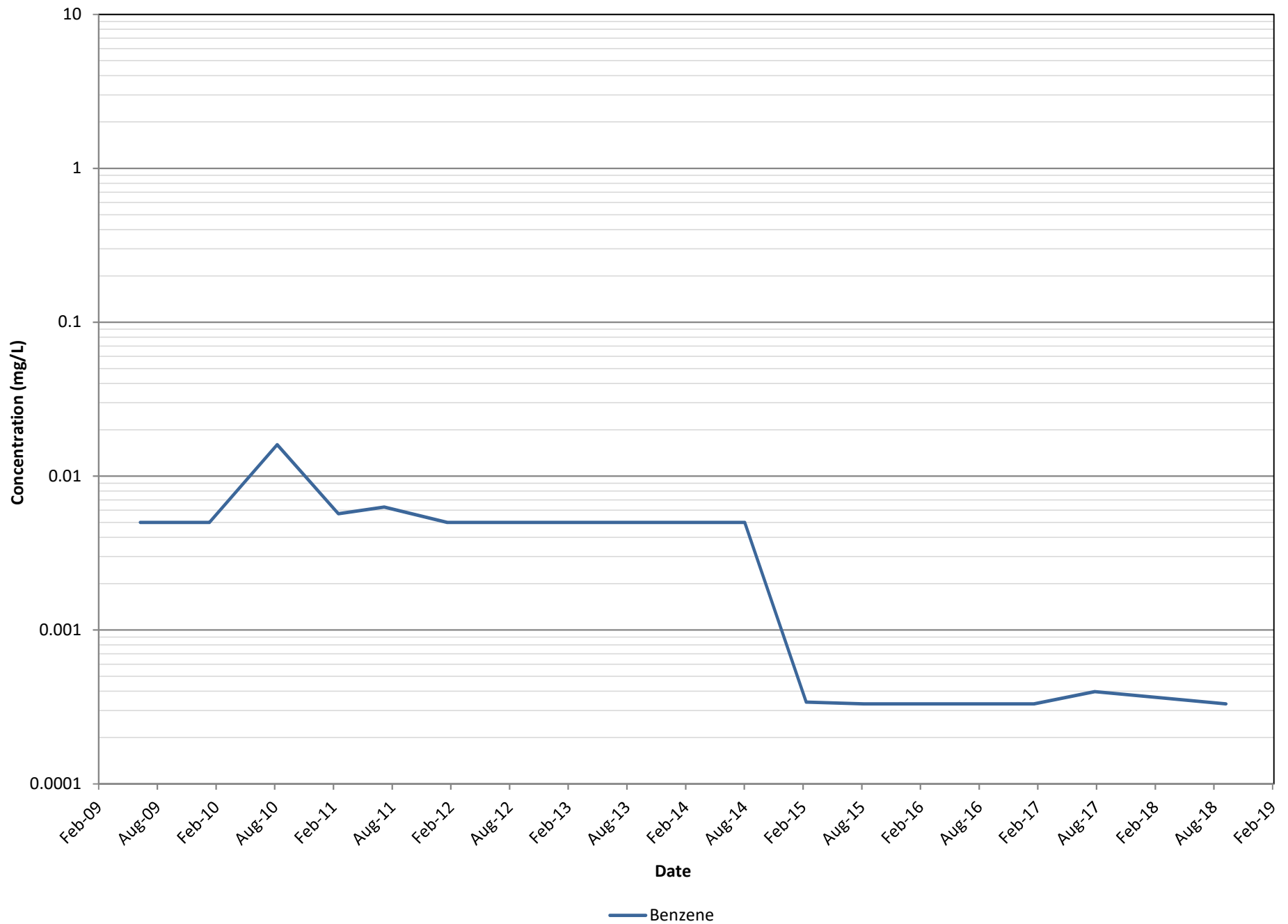
MW-13/MW-13R: TDS CONCENTRATIONS OVER TIME



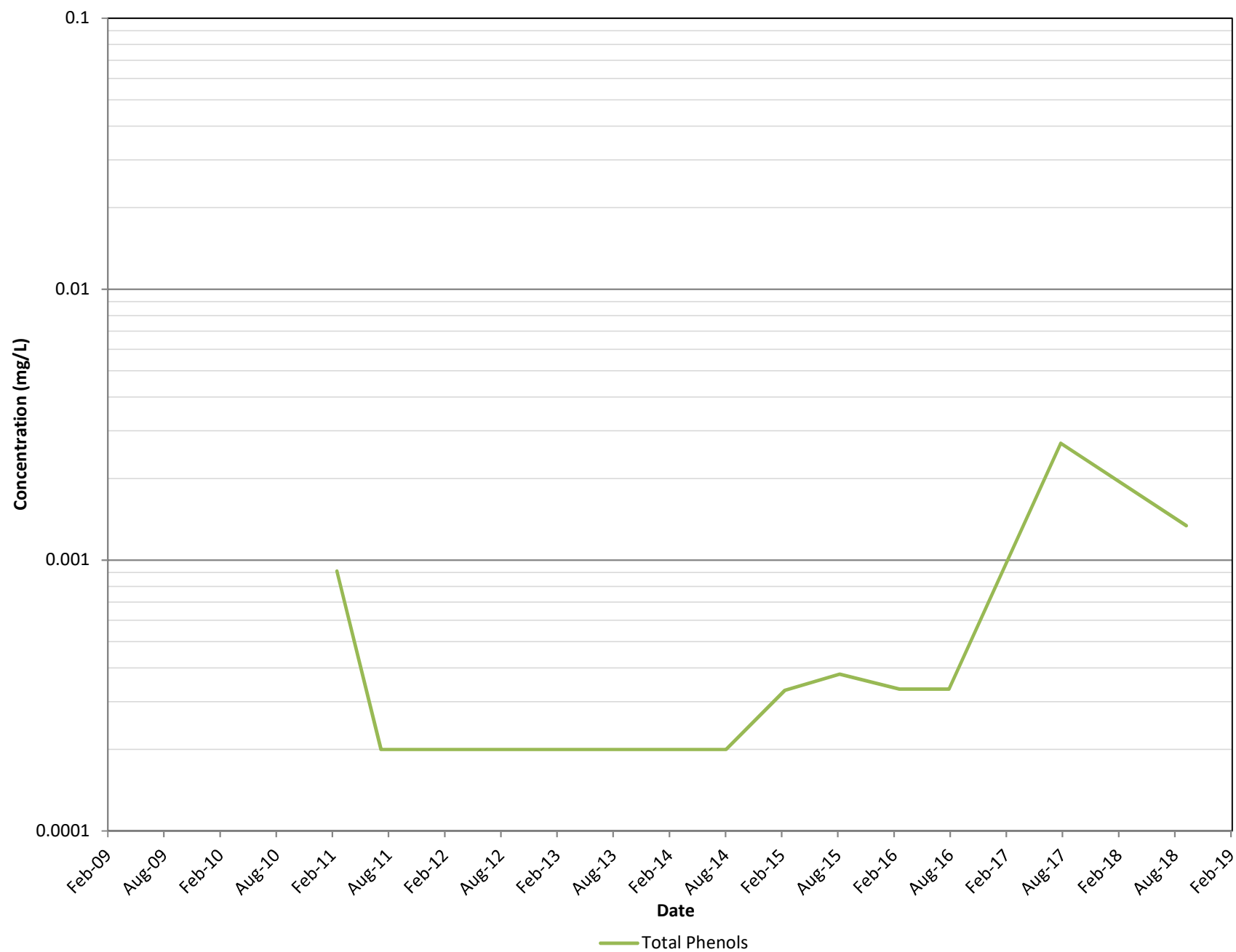
MW-13/MW-13R: METAL CONCENTRATIONS OVER TIME



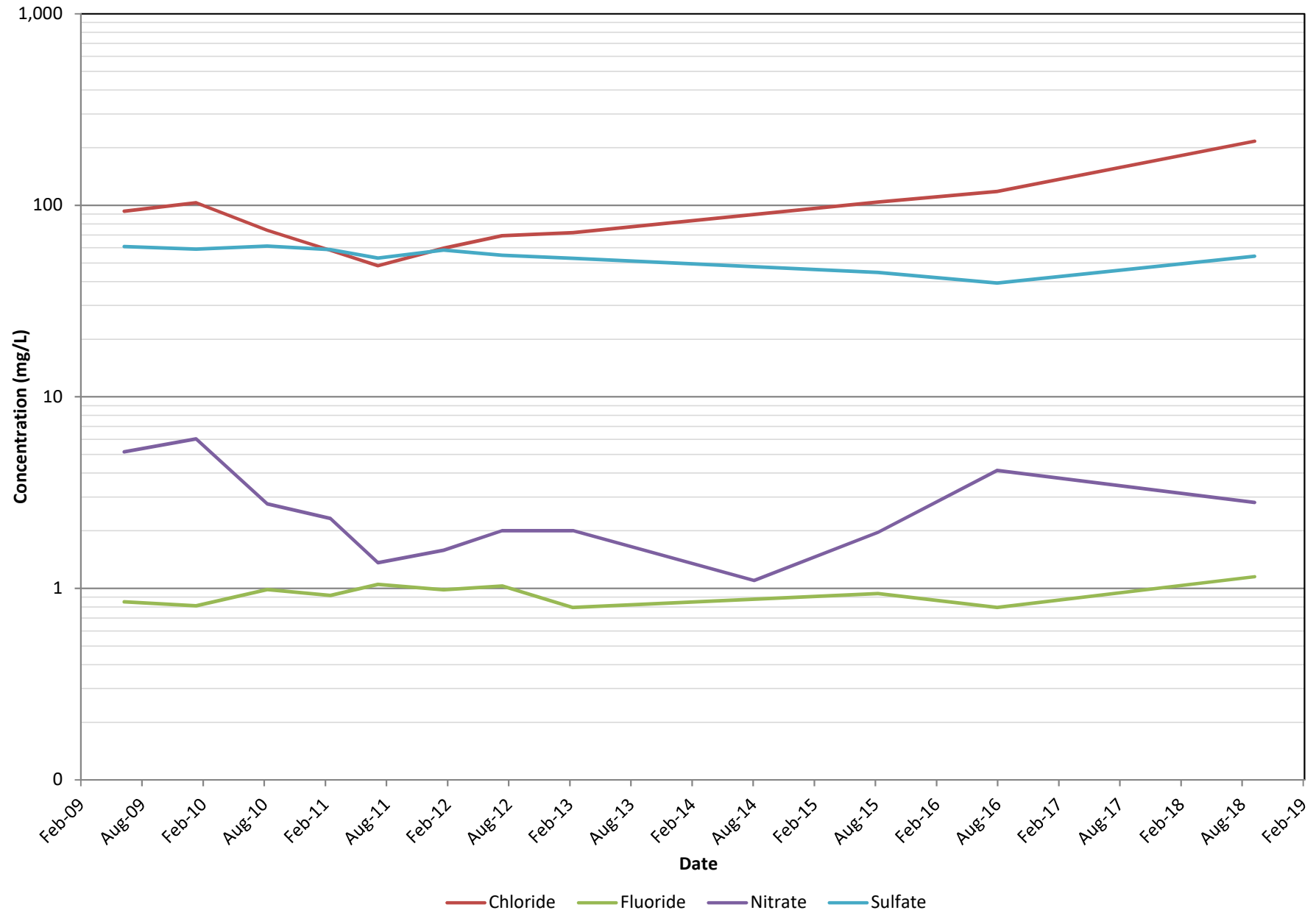
MW-13/MW-13R: VOC CONCENTRATIONS OVER TIME



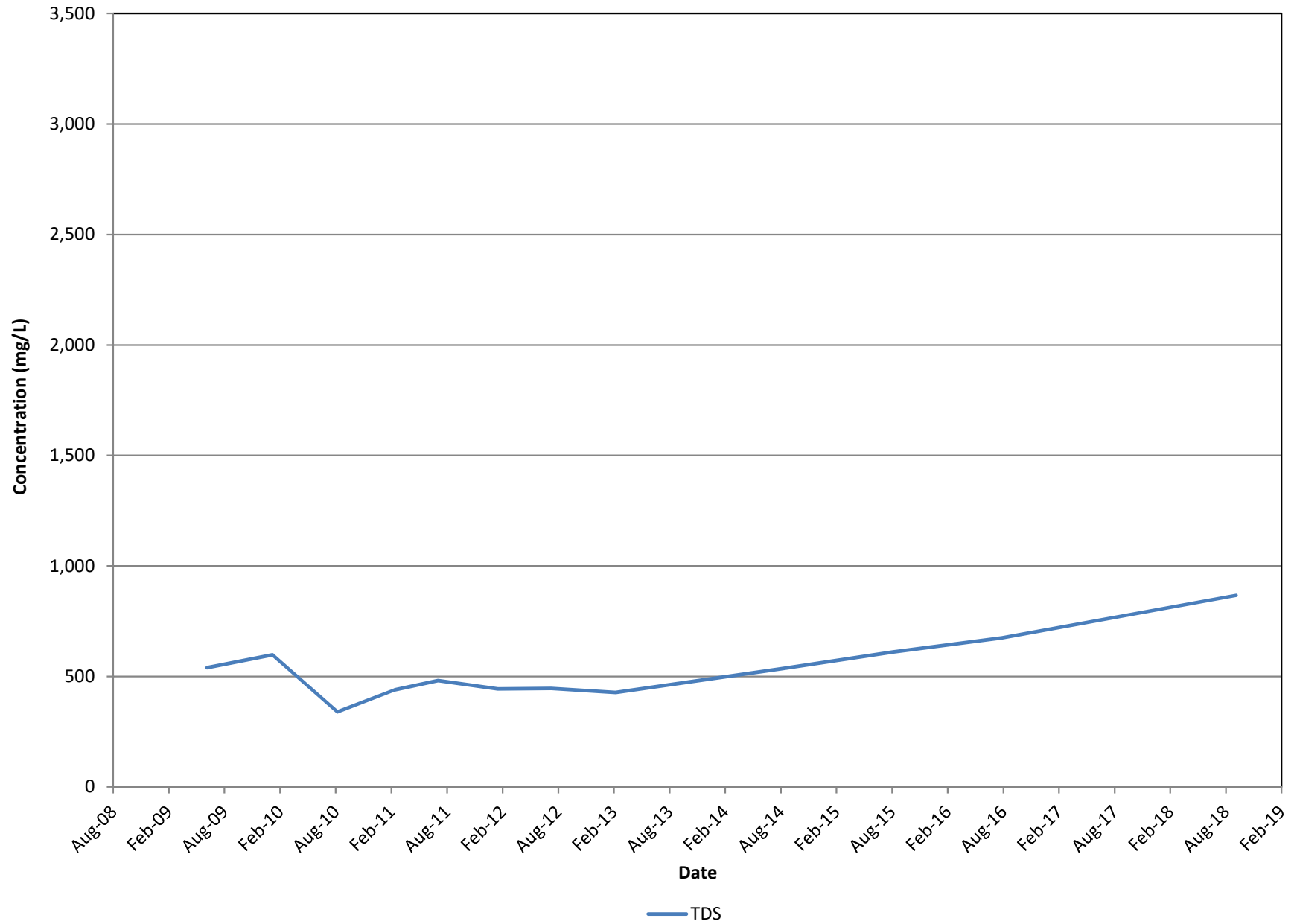
MW-13/MW-13R: SVOC CONCENTRATIONS OVER TIME



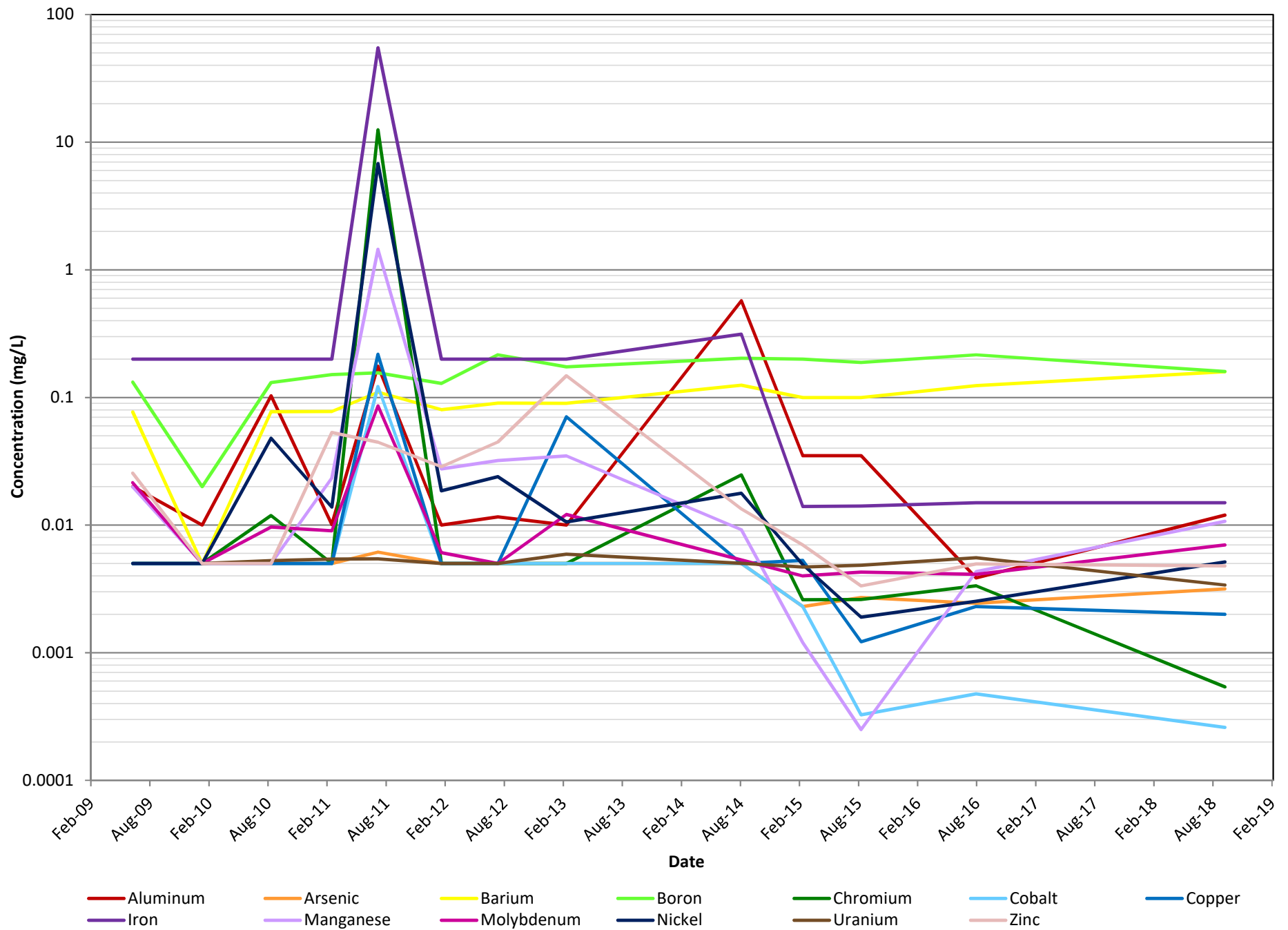
MW-14/MW-14R: ANION CONCENTRATIONS OVER TIME



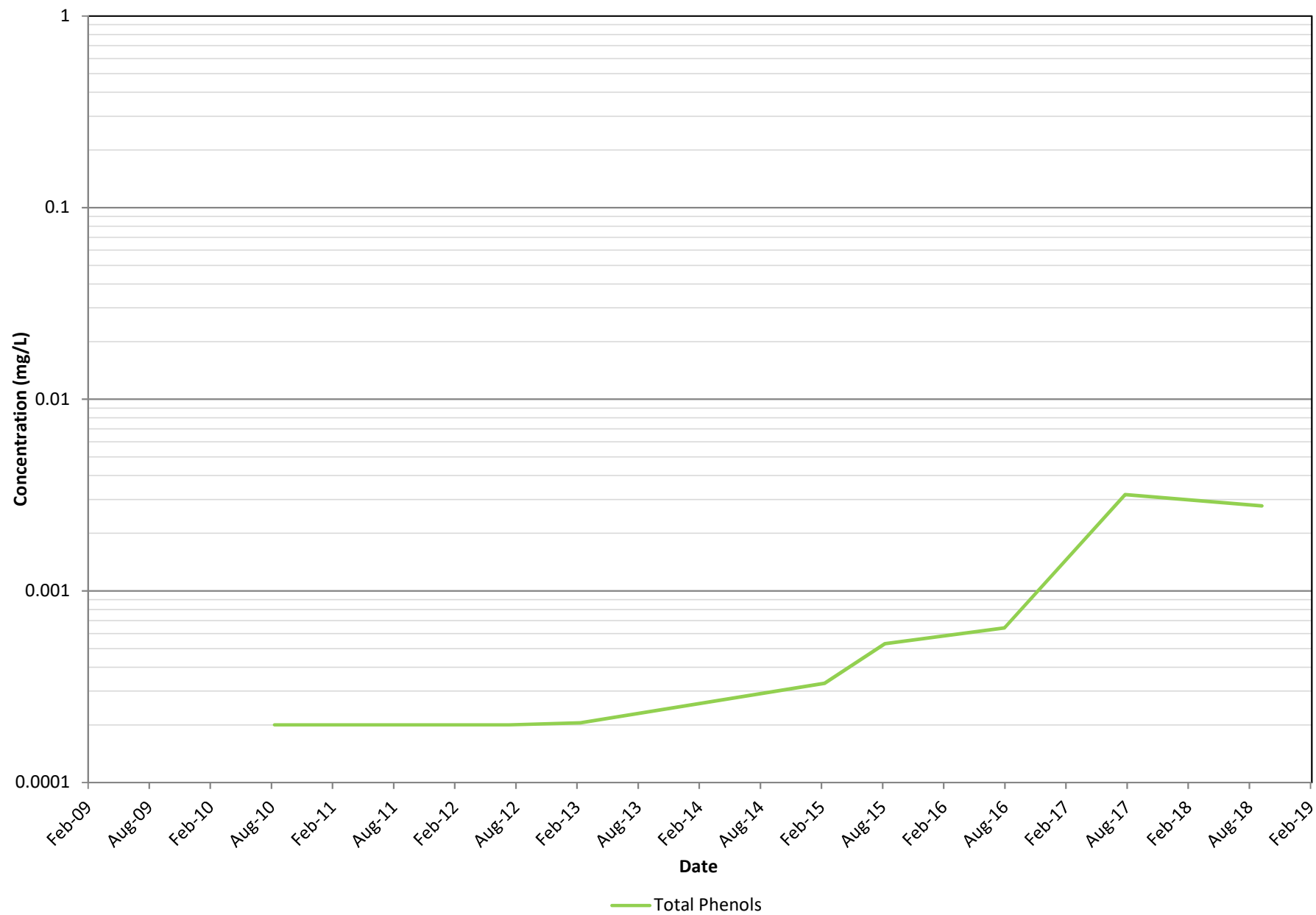
MW-14/MW-14R: TDS CONCENTRATIONS OVER TIME



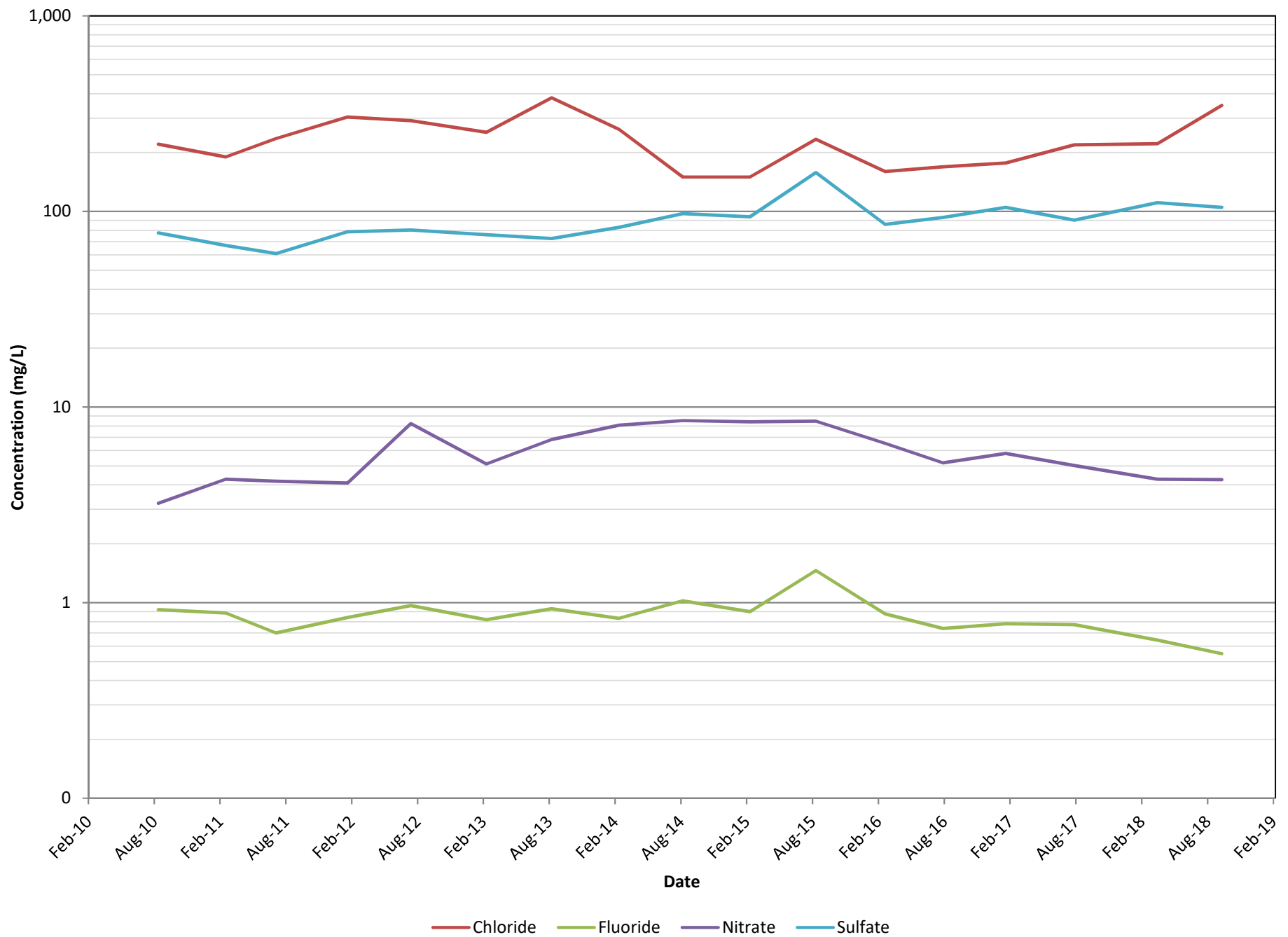
MW-14/MW-14R: METAL CONCENTRATIONS OVER TIME



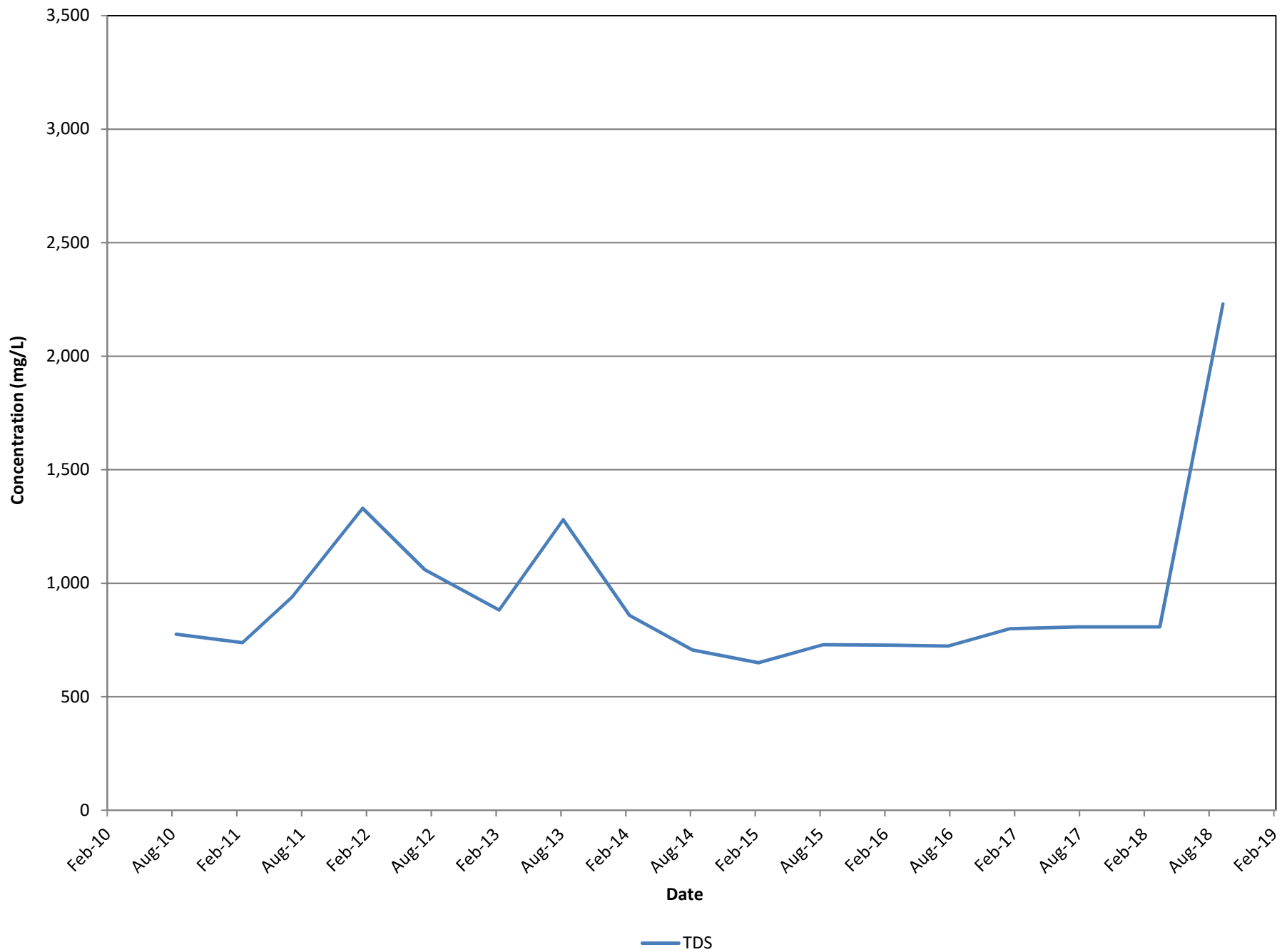
MW-14/MW-14R: SVOC CONCENTRATIONS OVER TIME



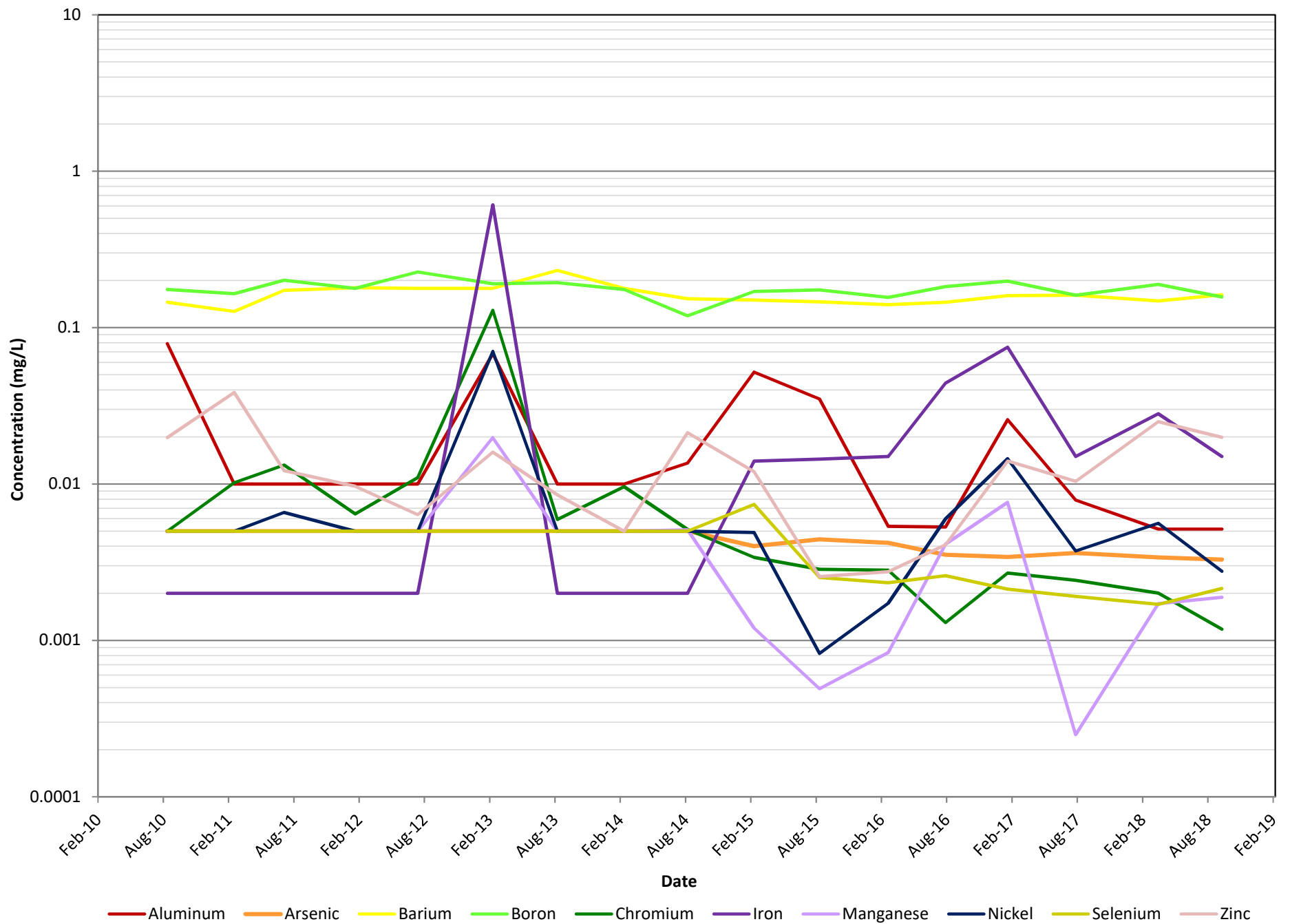
MW-15: ANION CONCENTRATIONS OVER TIME



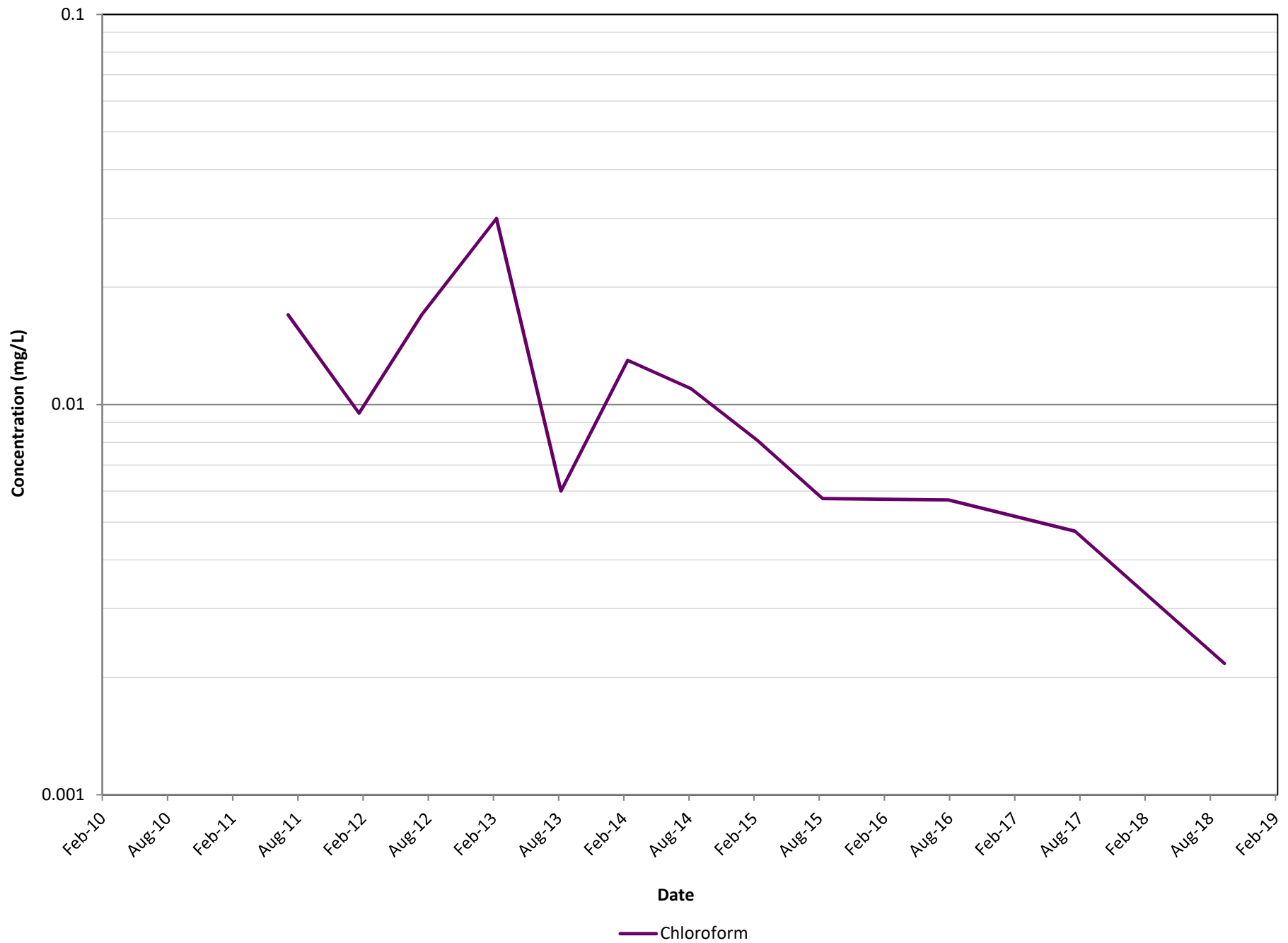
MW-15: TDS CONCENTRATIONS OVER TIME



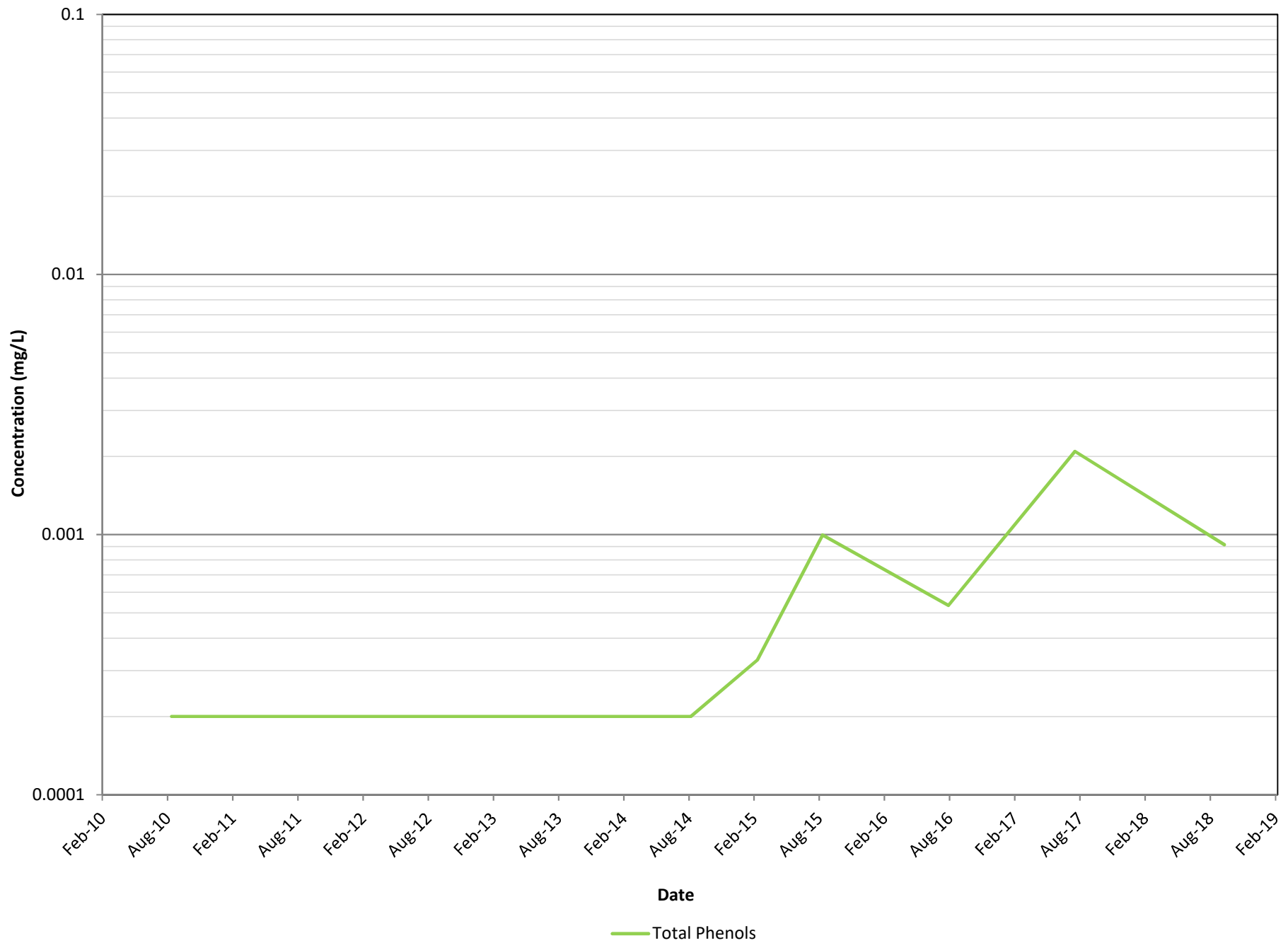
MW-15: METAL CONCENTRATIONS OVER TIME



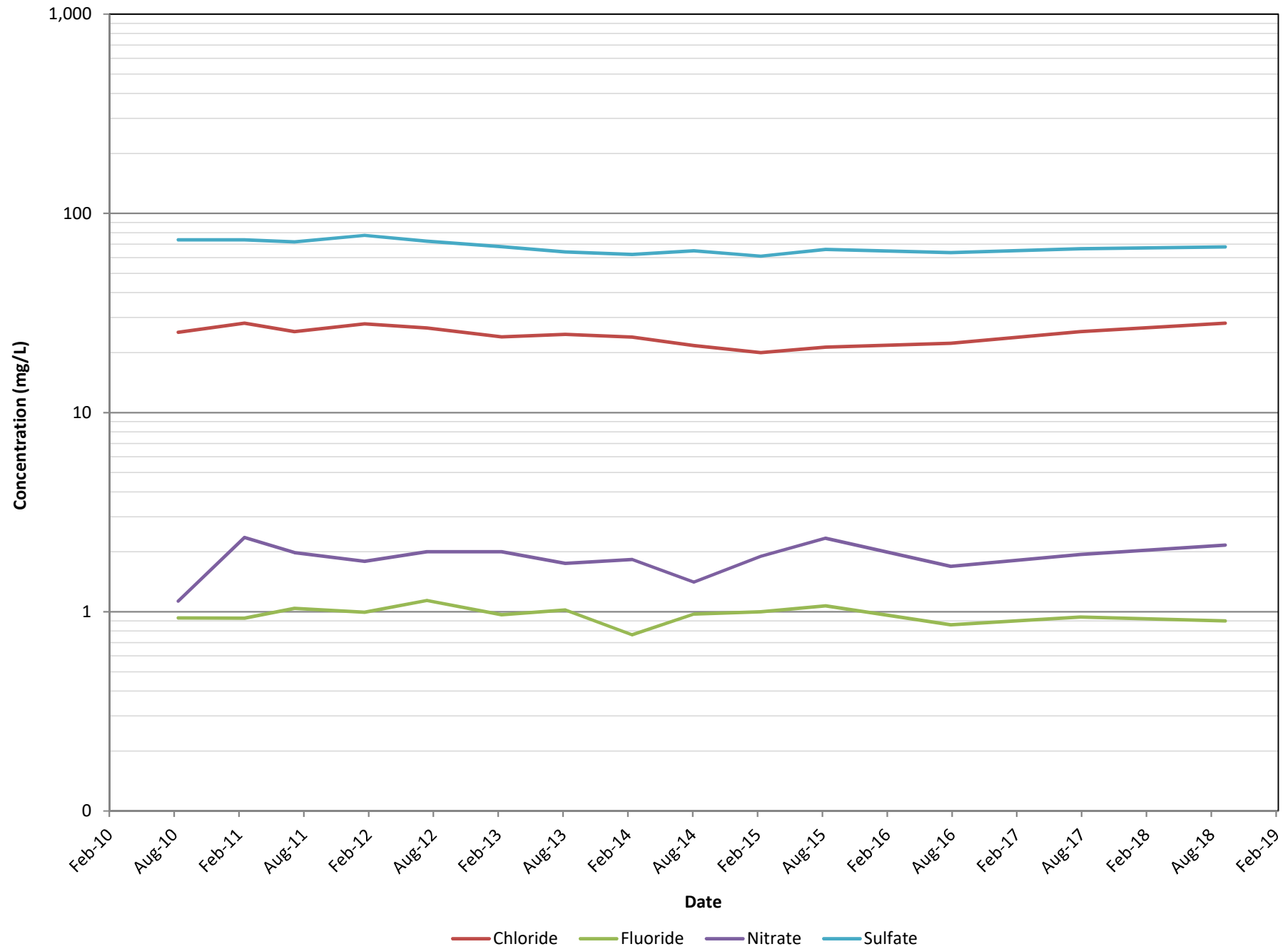
MW-15: VOC CONCENTRATIONS OVER TIME



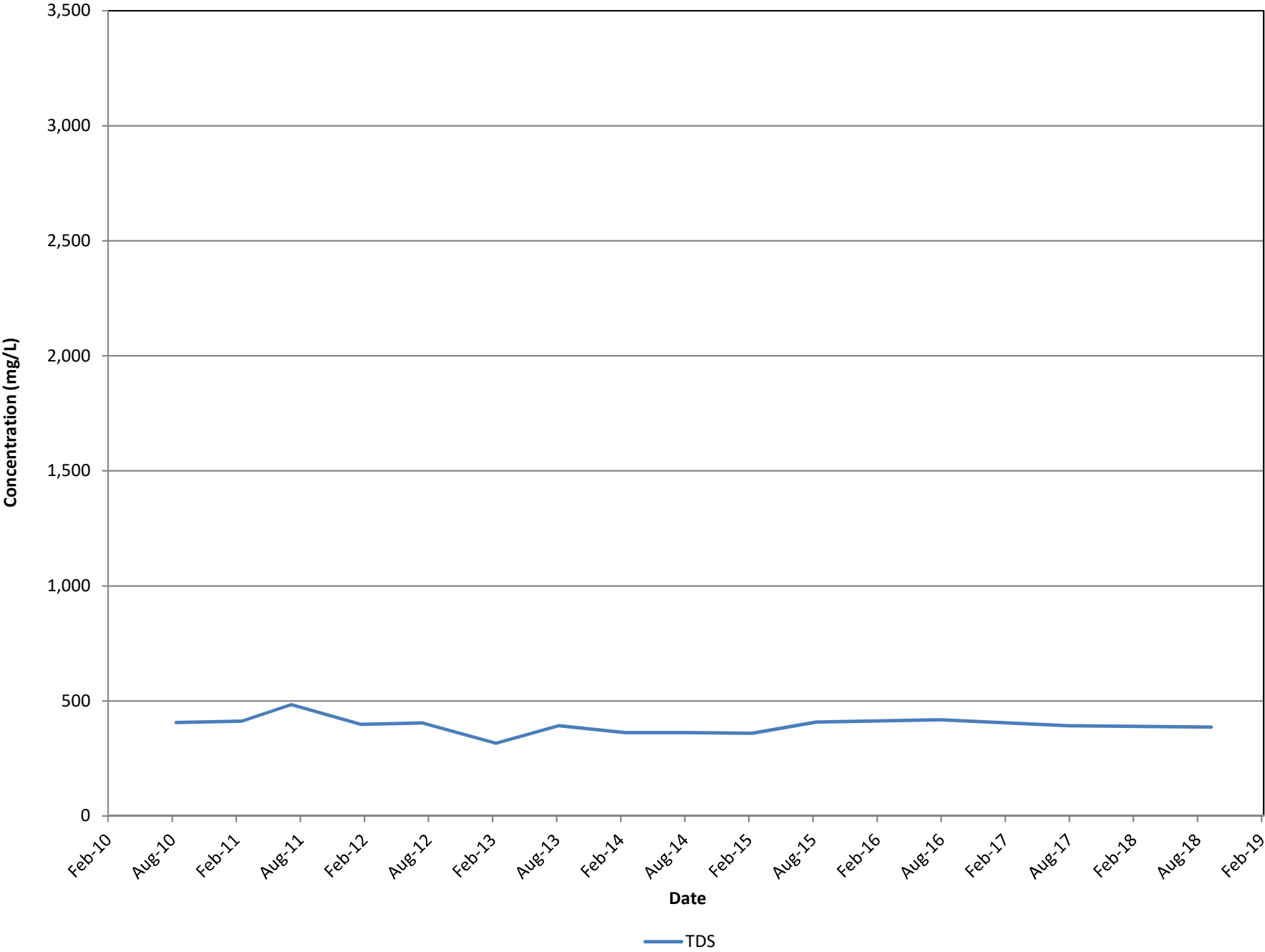
MW-15: SVOC CONCENTRATIONS OVER TIME



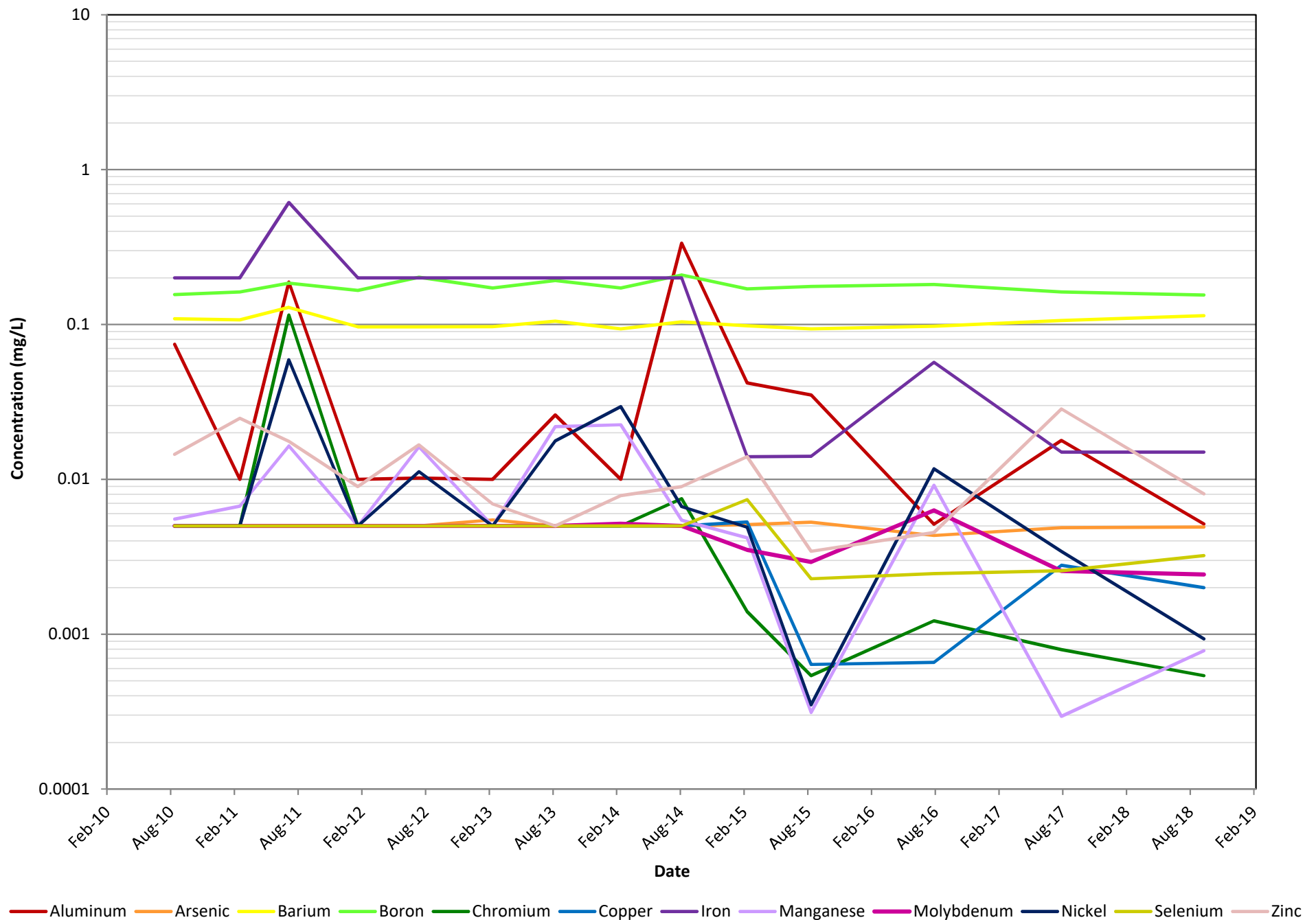
MW-16: ANION CONCENTRATIONS OVER TIME



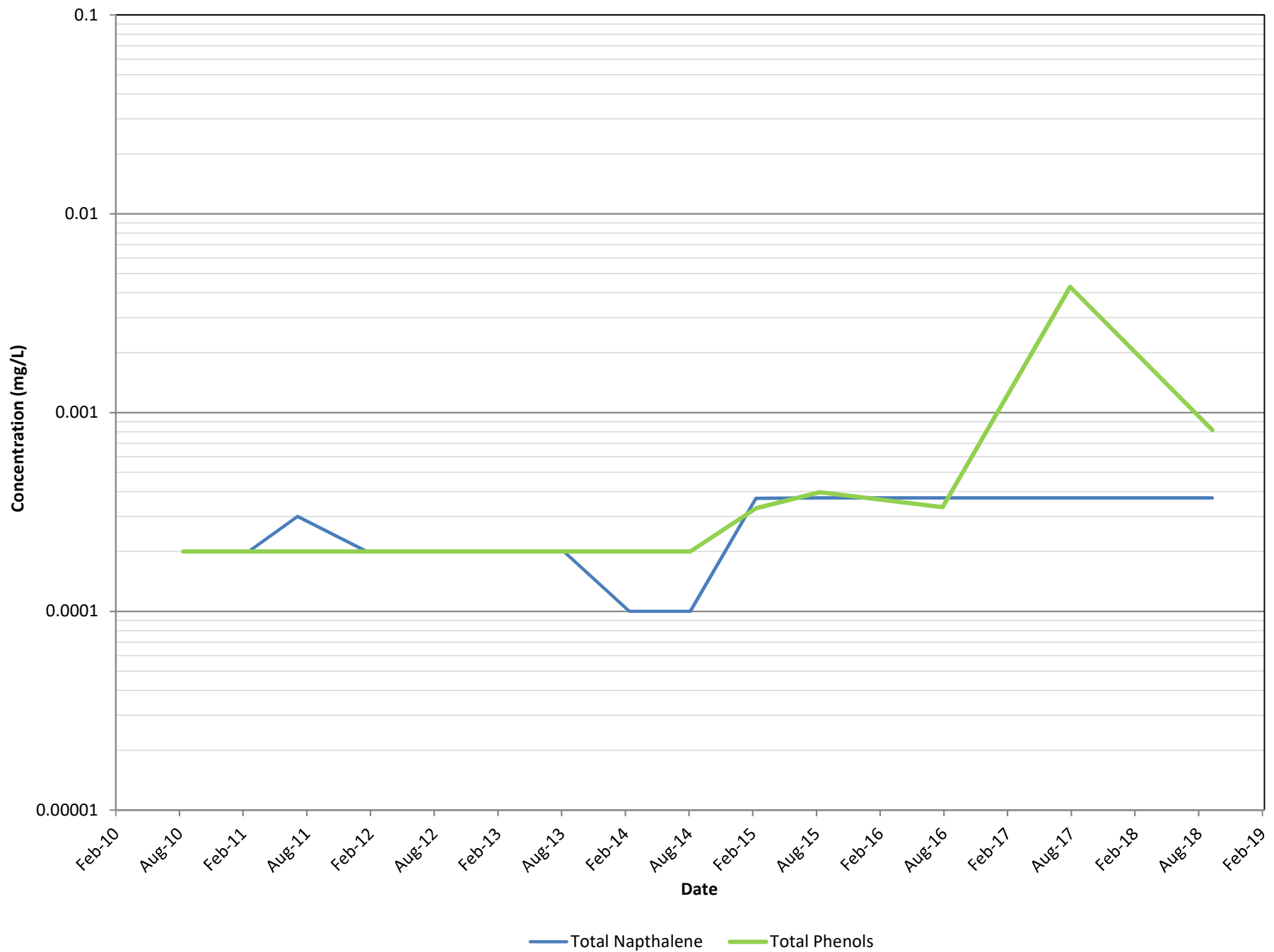
MW-16: TDS CONCENTRATIONS OVER TIME



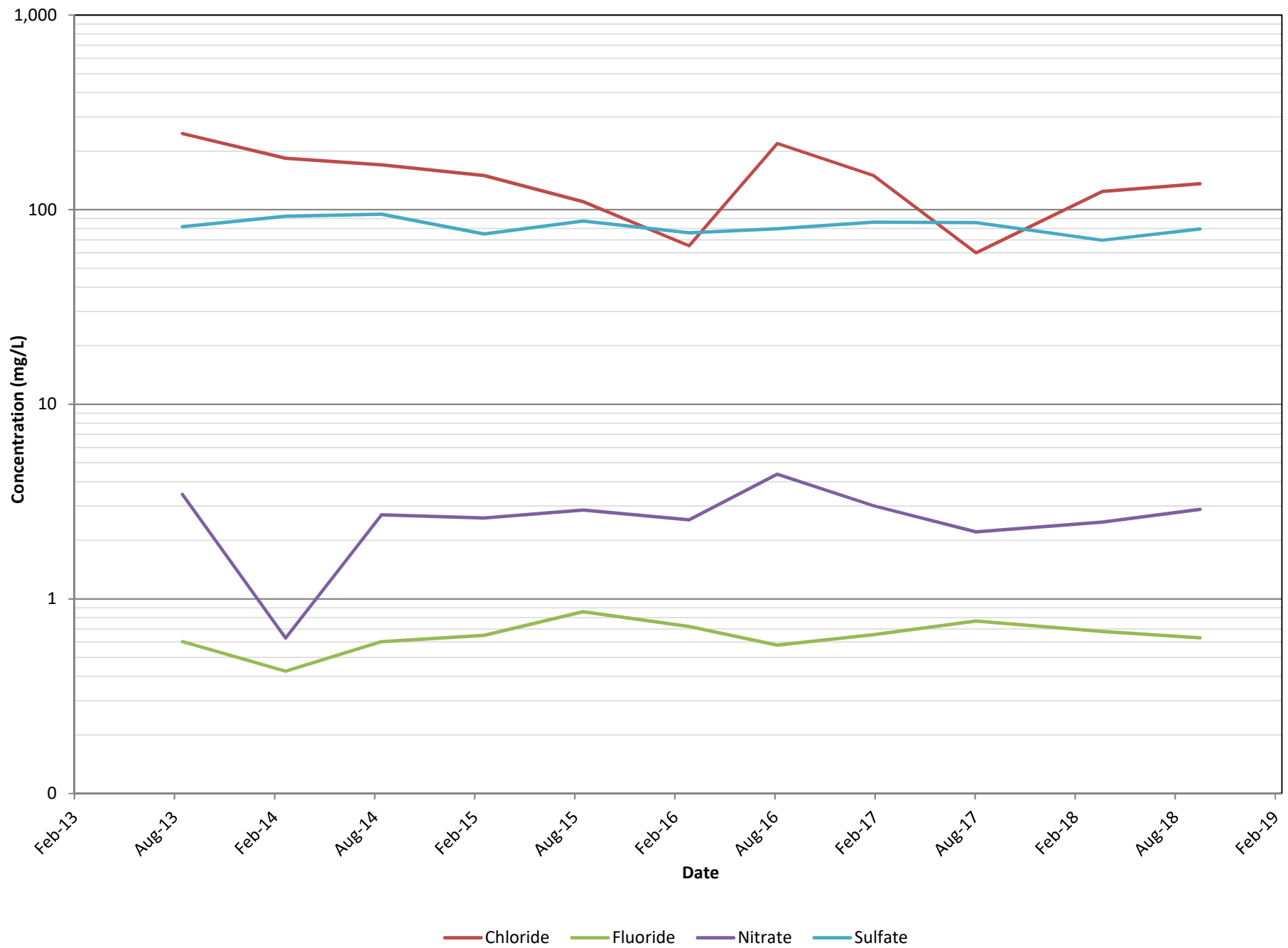
MW-16: METAL CONCENTRATIONS OVER TIME



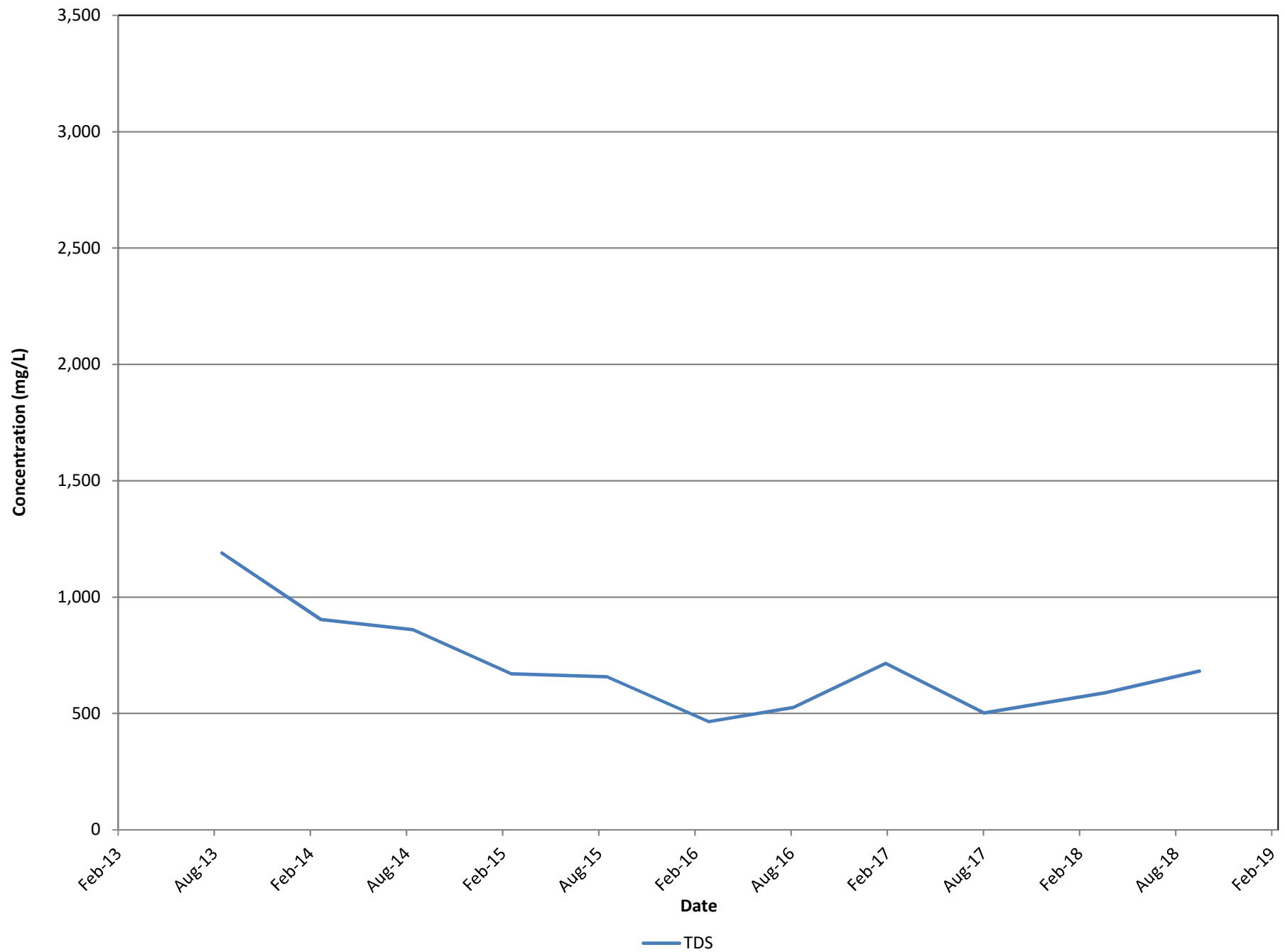
MW-16: SVOC CONCENTRATIONS OVER TIME



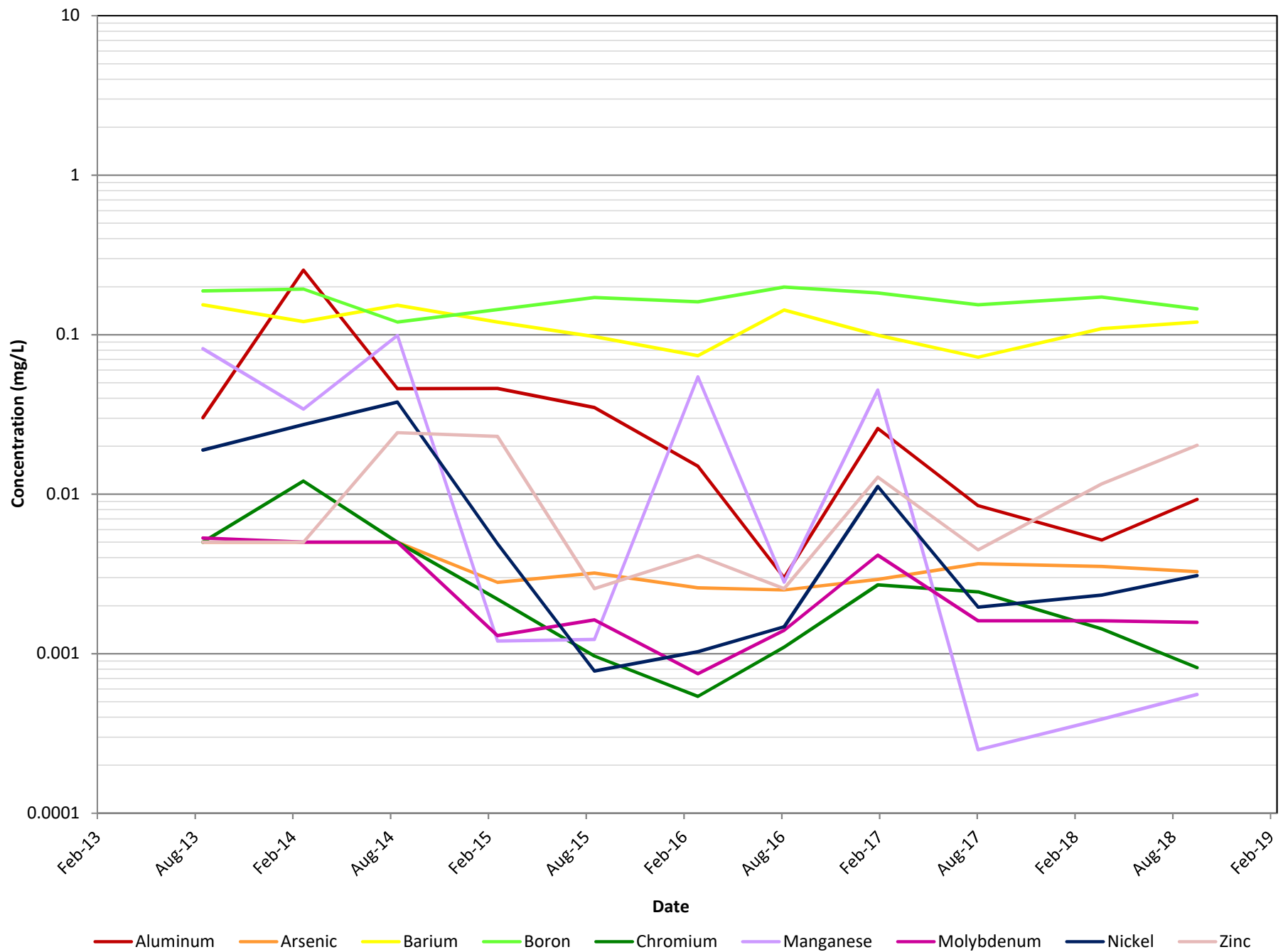
MW-17R: ANION CONCENTRATIONS OVER TIME



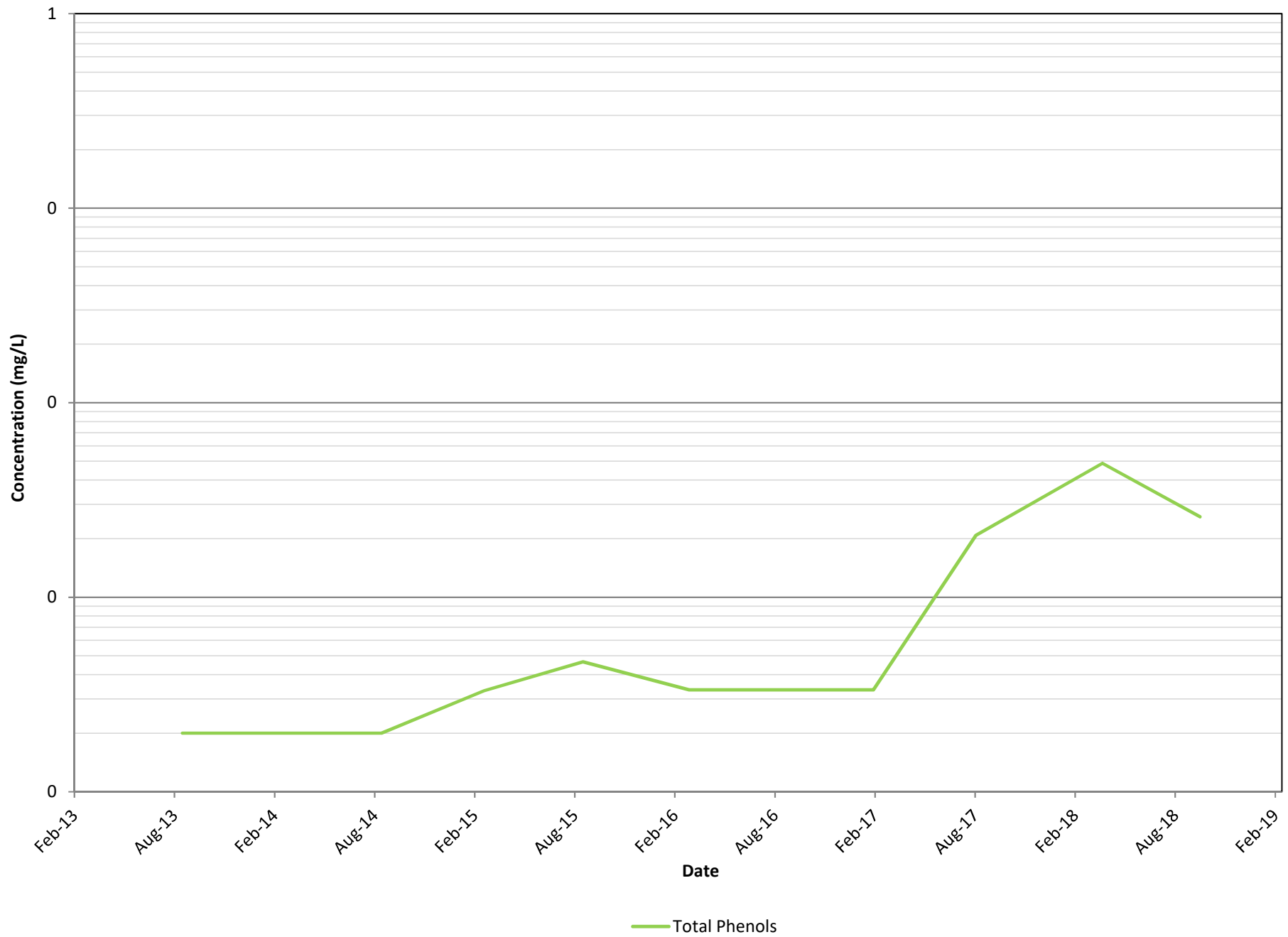
MW-17R: TDS CONCENTRATIONS OVER TIME



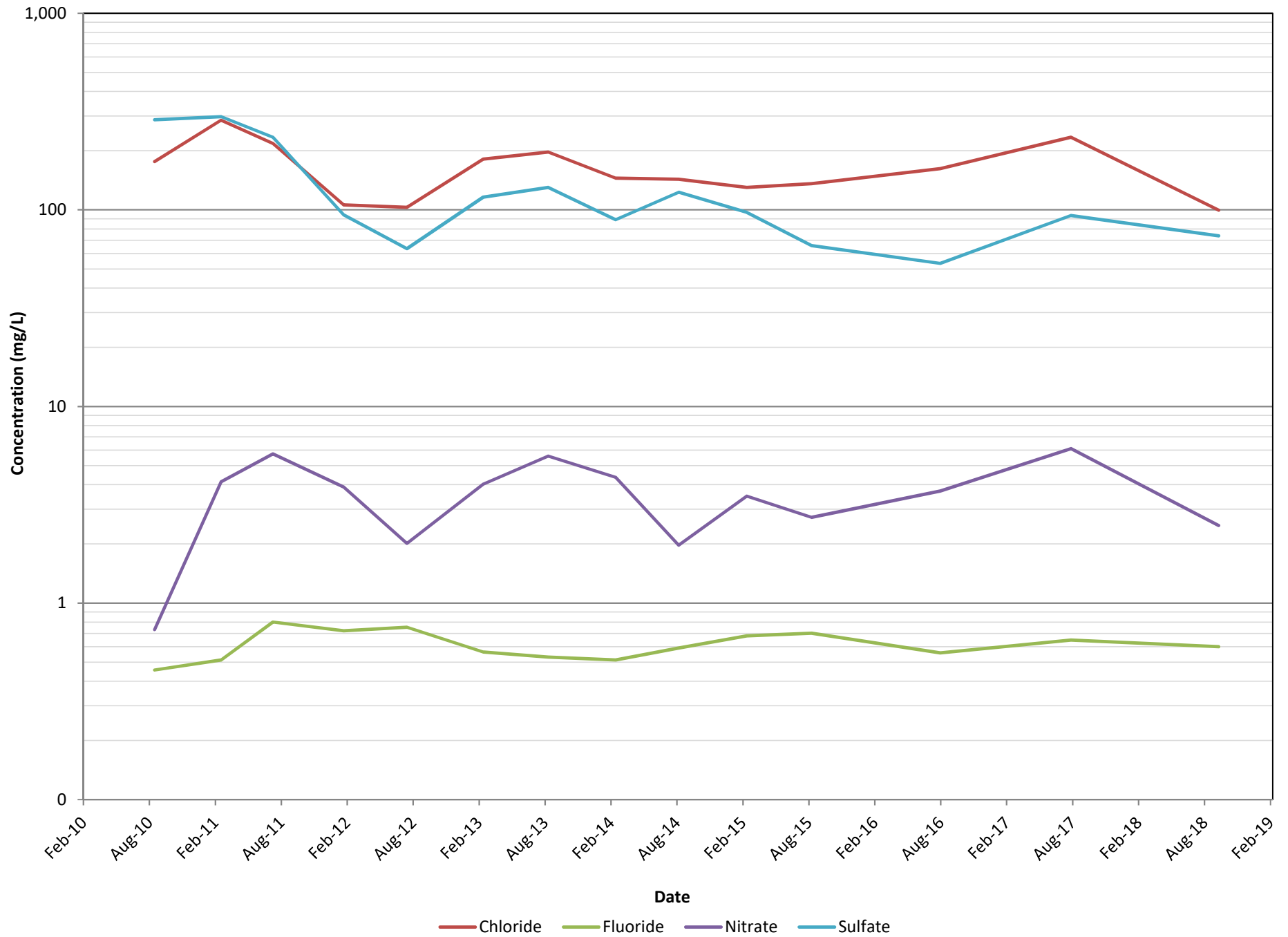
MW-17R: METAL CONCENTRATIONS OVER TIME



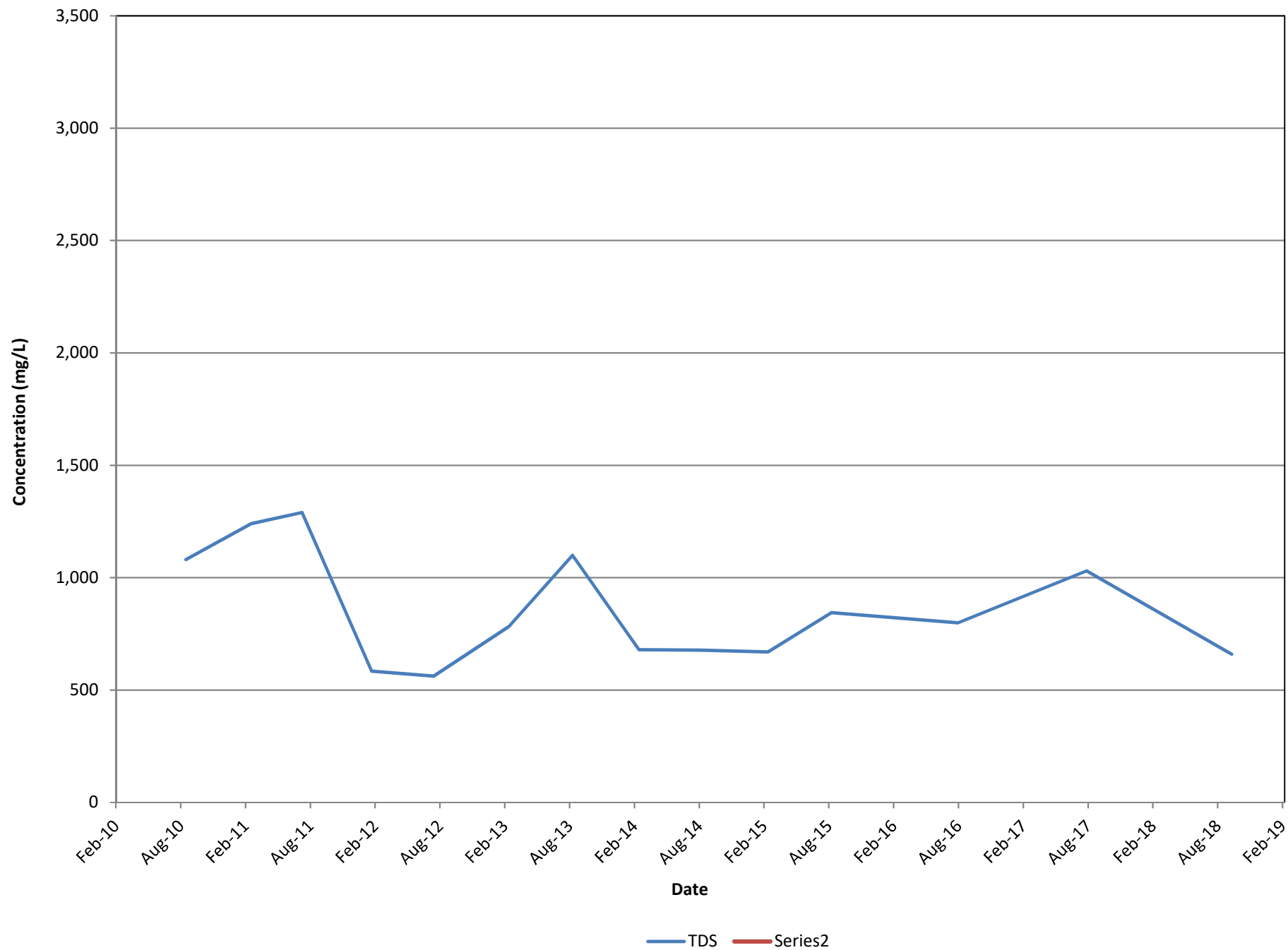
MW-17R: SVOC CONCENTRATIONS OVER TIME



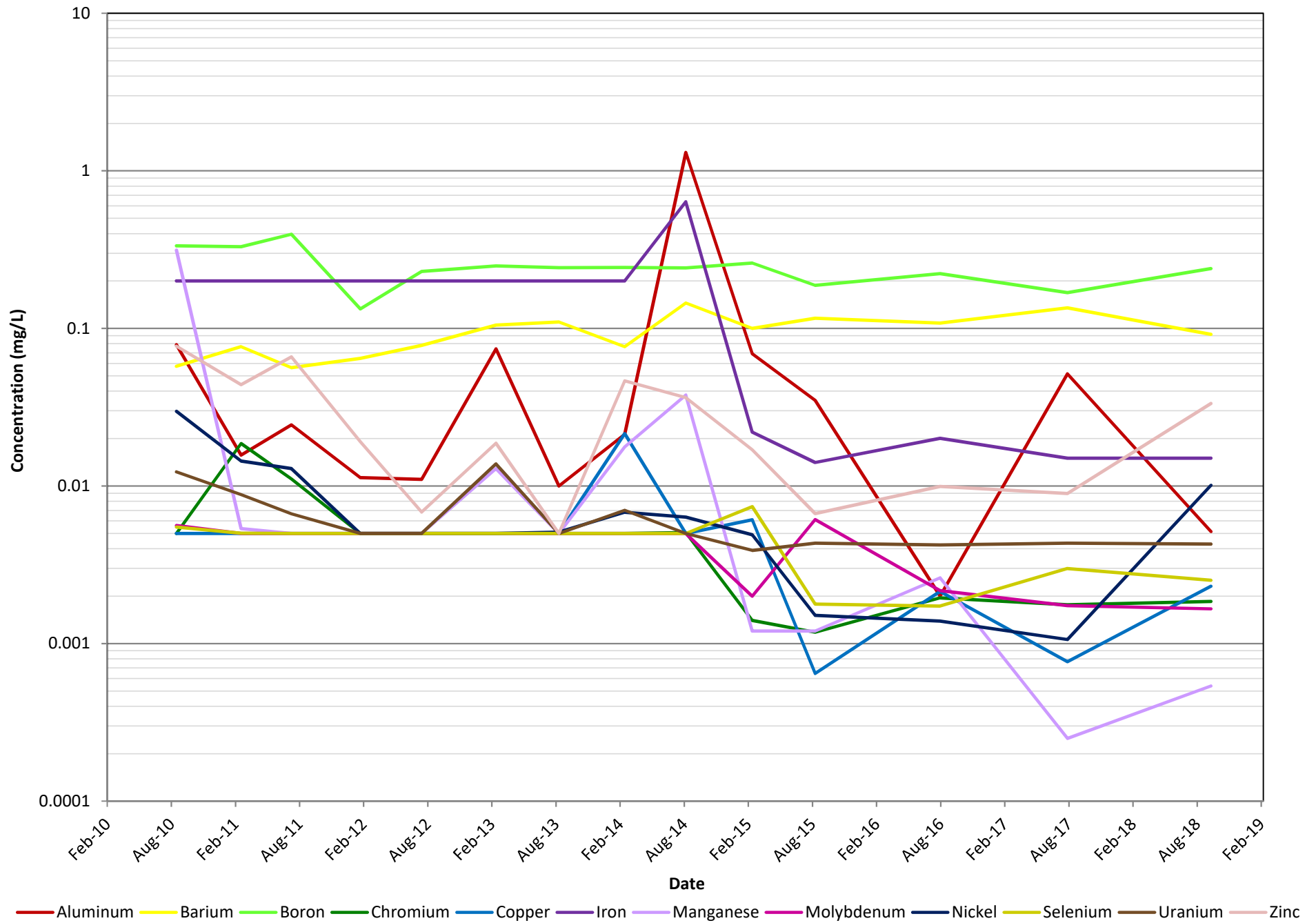
MW-18: ANION CONCENTRATIONS OVER TIME



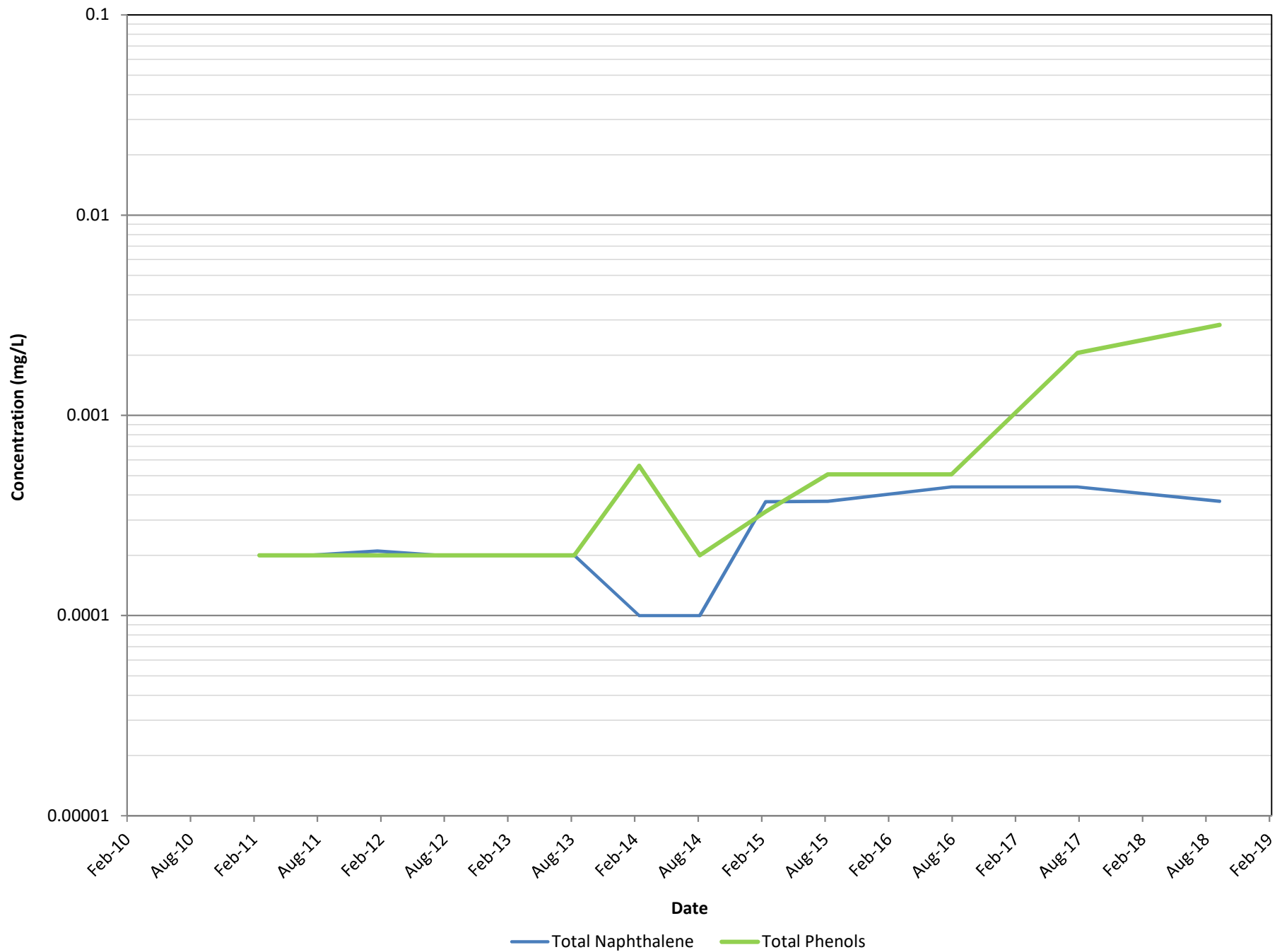
MW-18: TDS CONCENTRATIONS OVER TIME



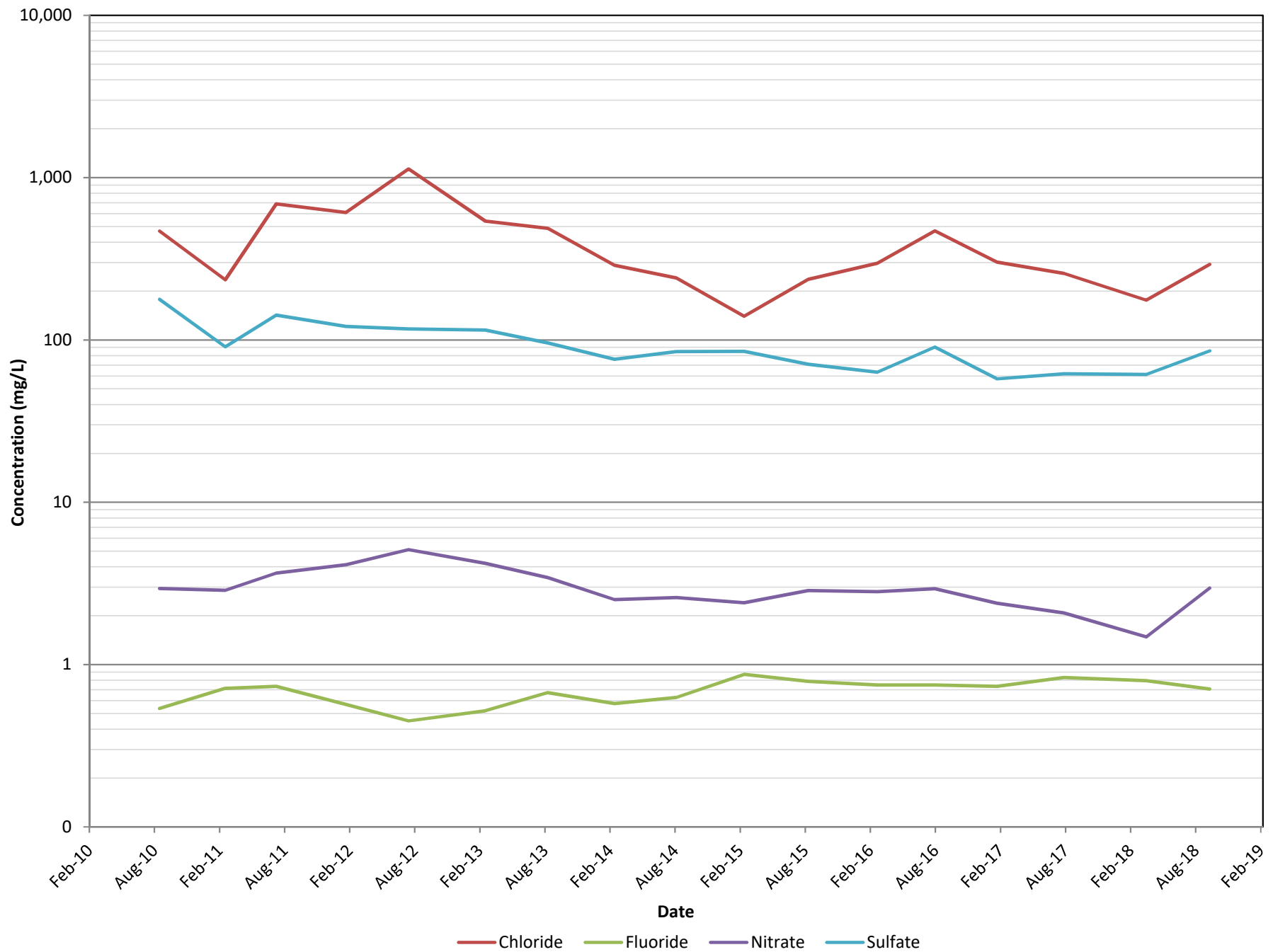
MW-18: METAL CONCENTRATIONS OVER TIME



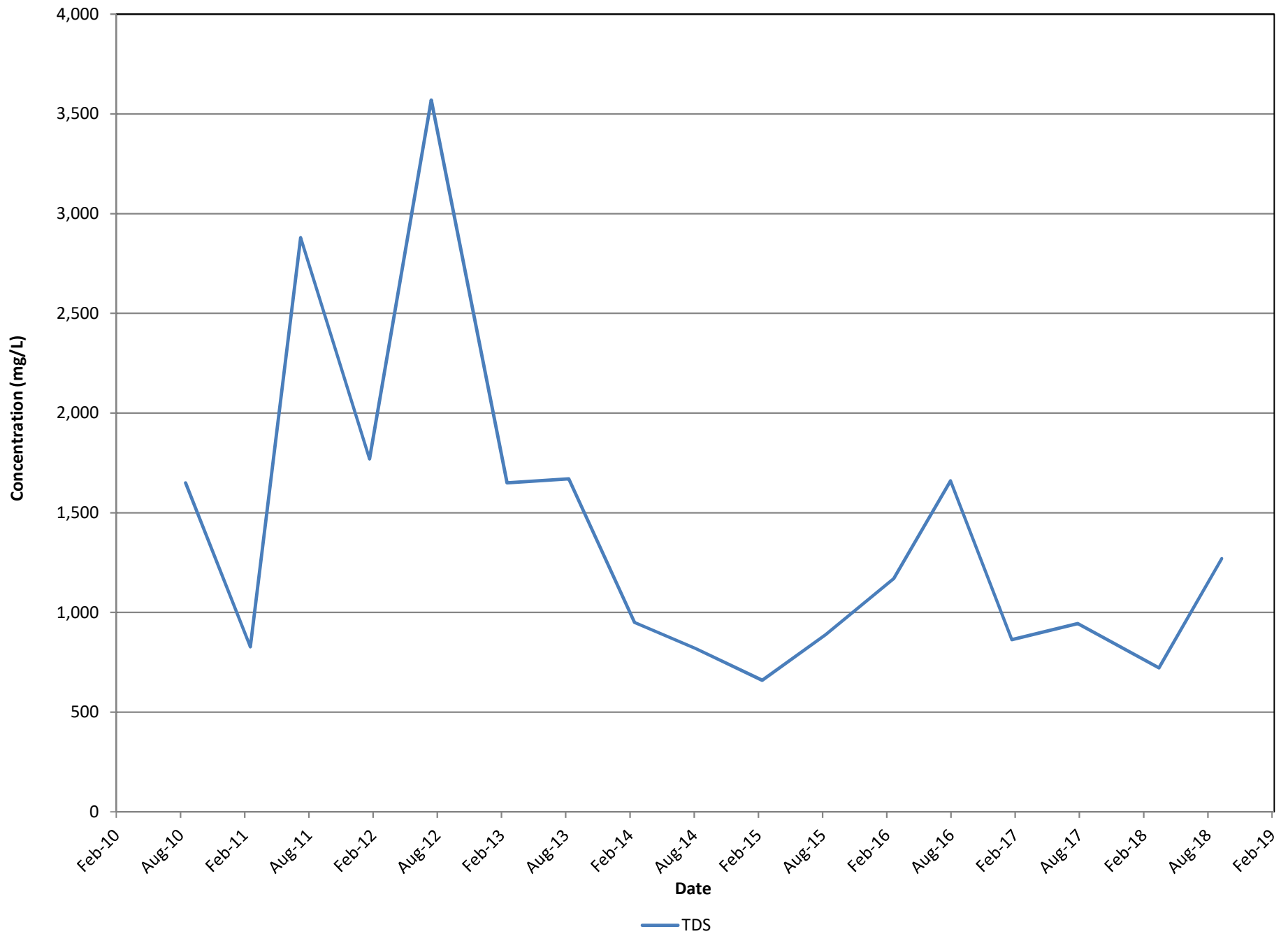
MW-18: SVOC CONCENTRATIONS OVER TIME



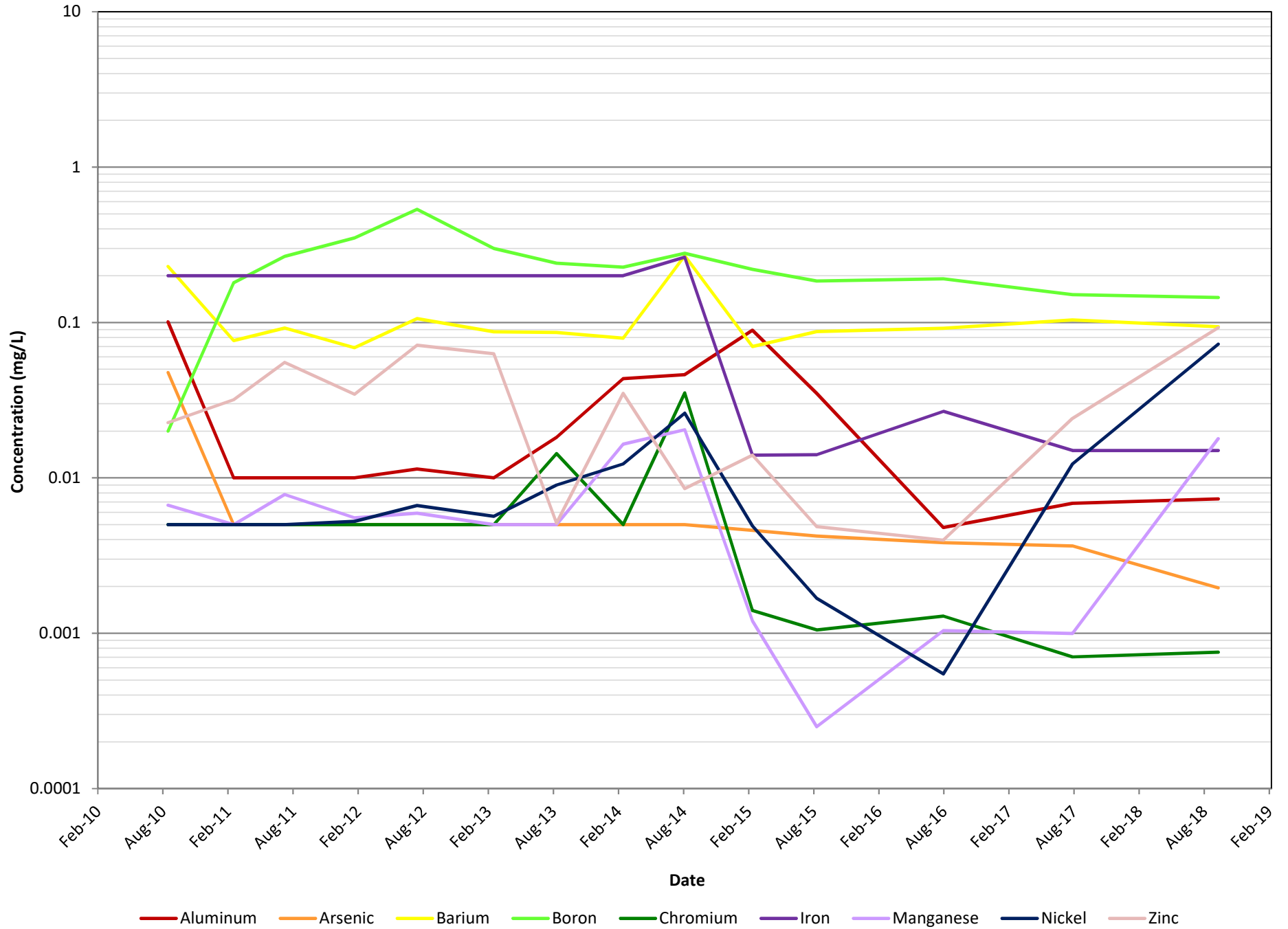
MW-19: ANION CONCENTRATIONS OVER TIME



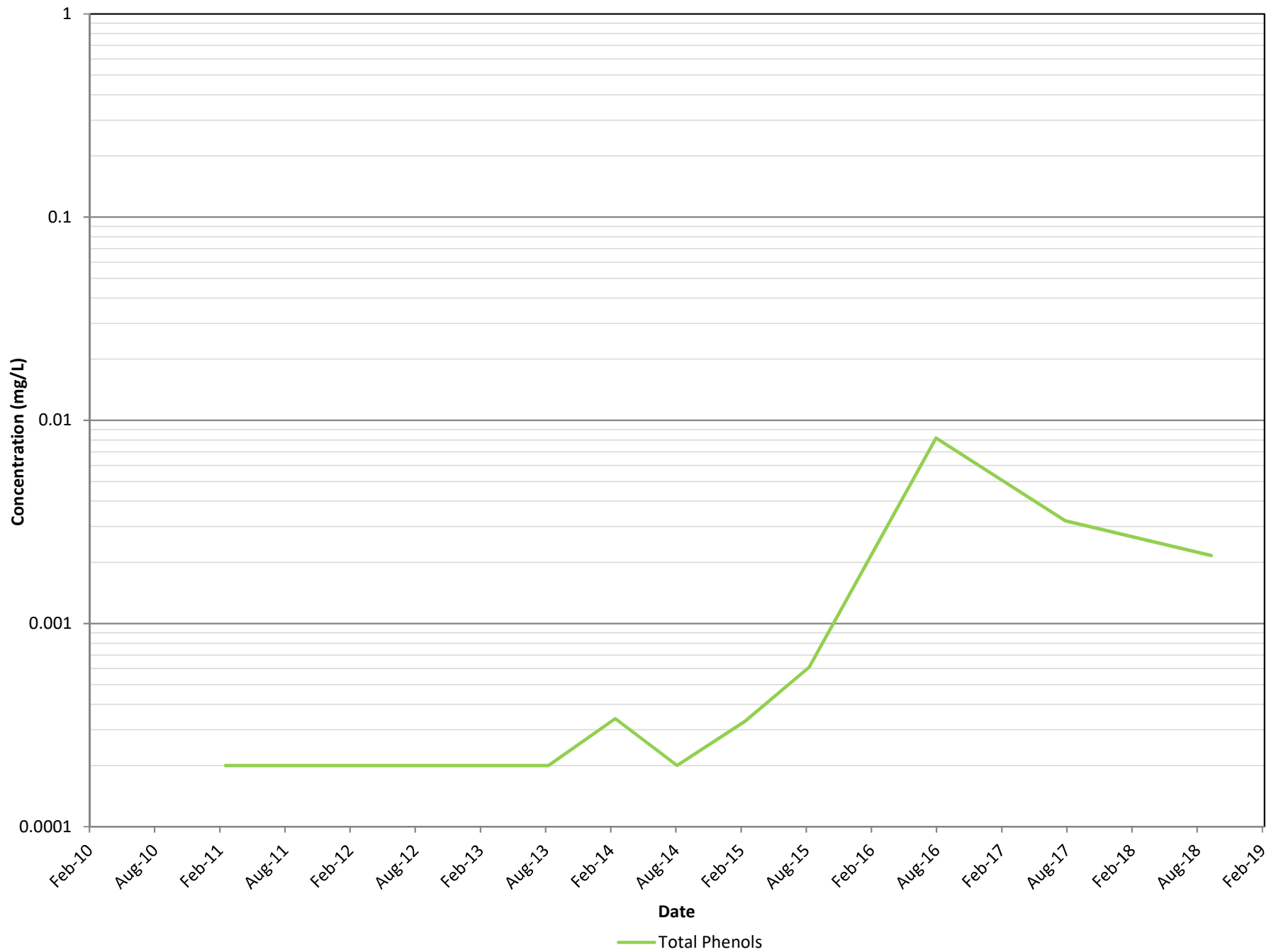
MW-19: TDS CONCENTRATIONS OVER TIME



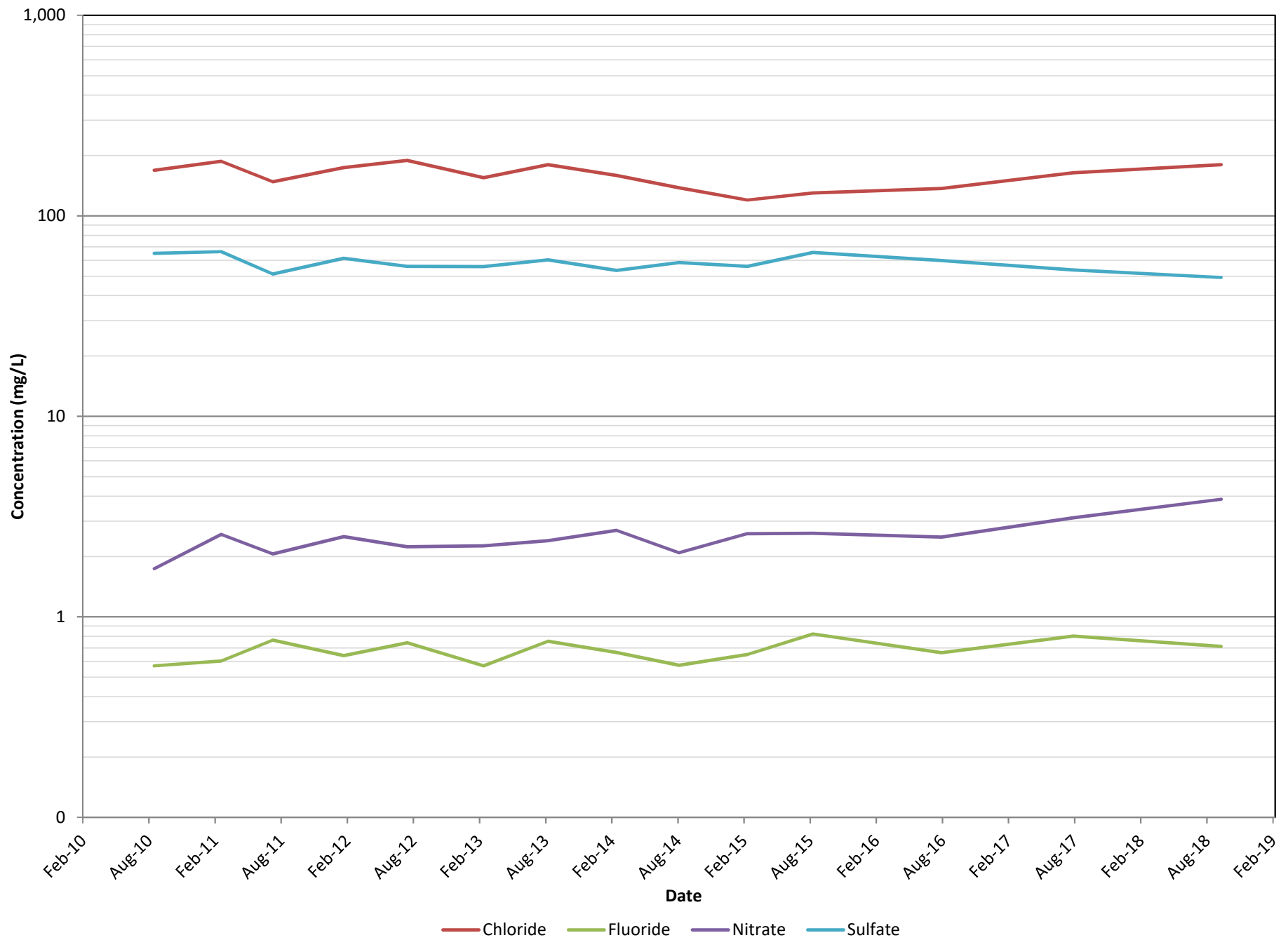
MW-19: METAL CONCENTRATIONS OVER TIME



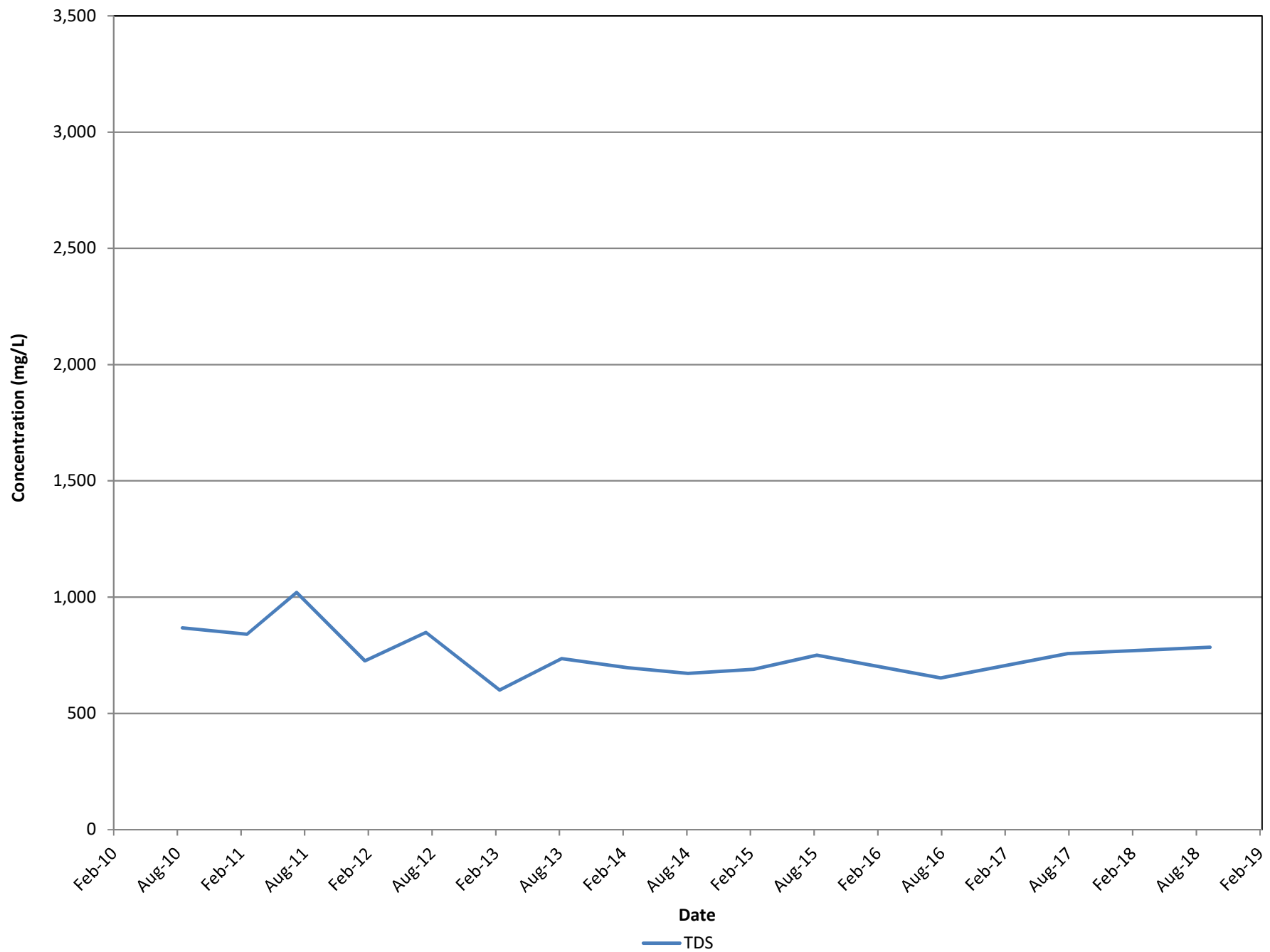
MW-19: SVOC CONCENTRATIONS OVER TIME



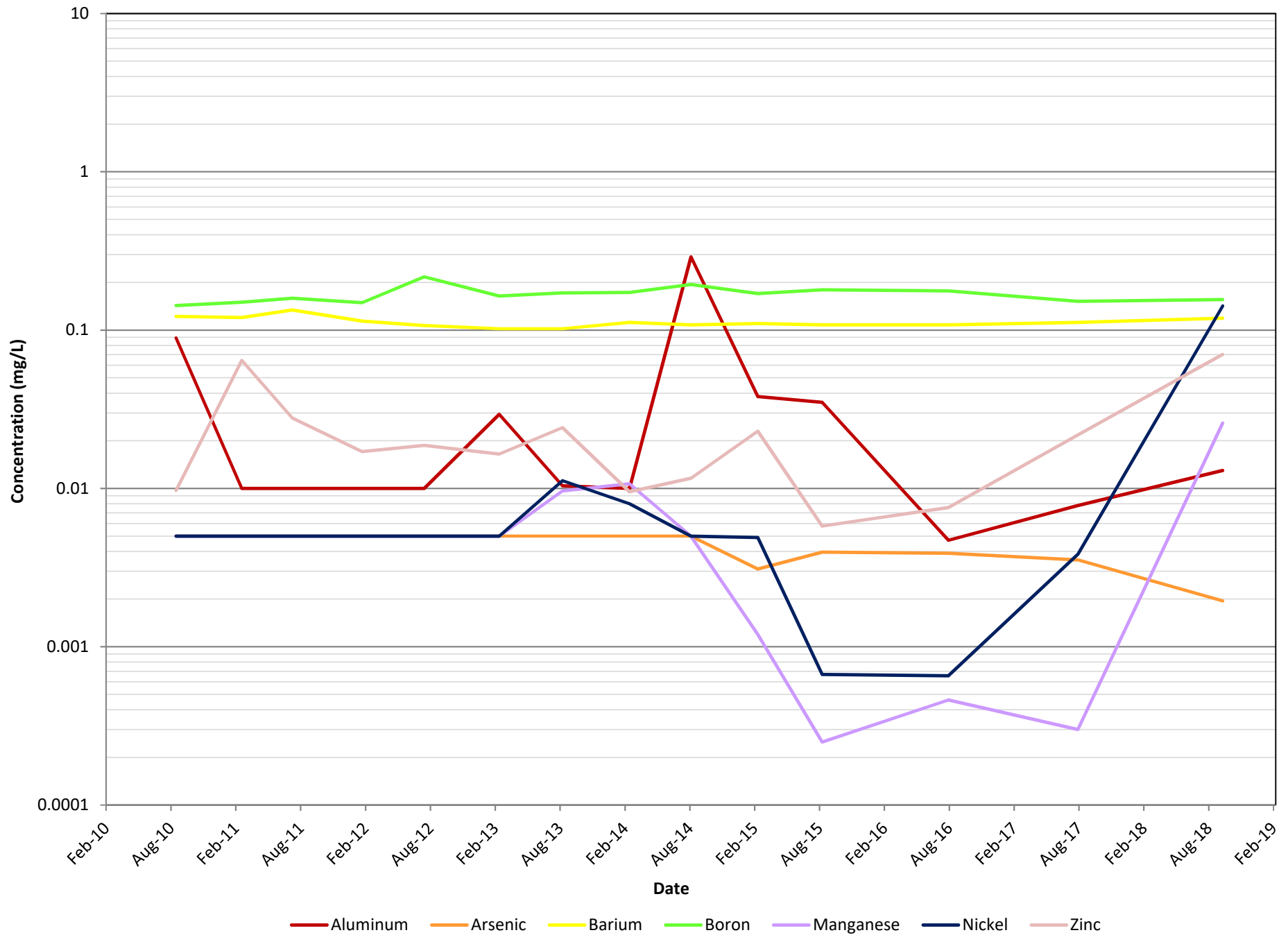
MW-20: ANION CONCENTRATIONS OVER TIME



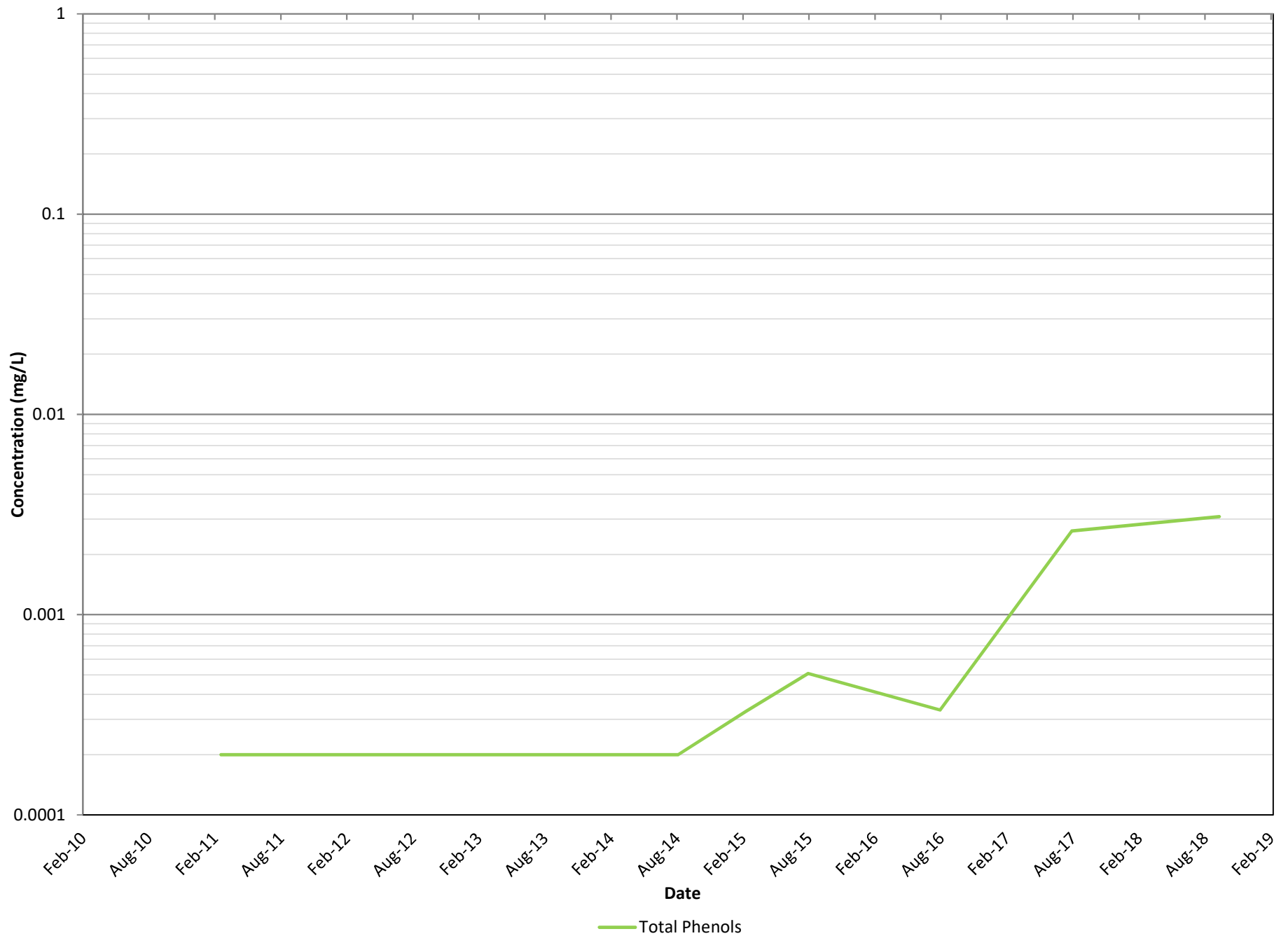
MW-20: TDS CONCENTRATIONS OVER TIME



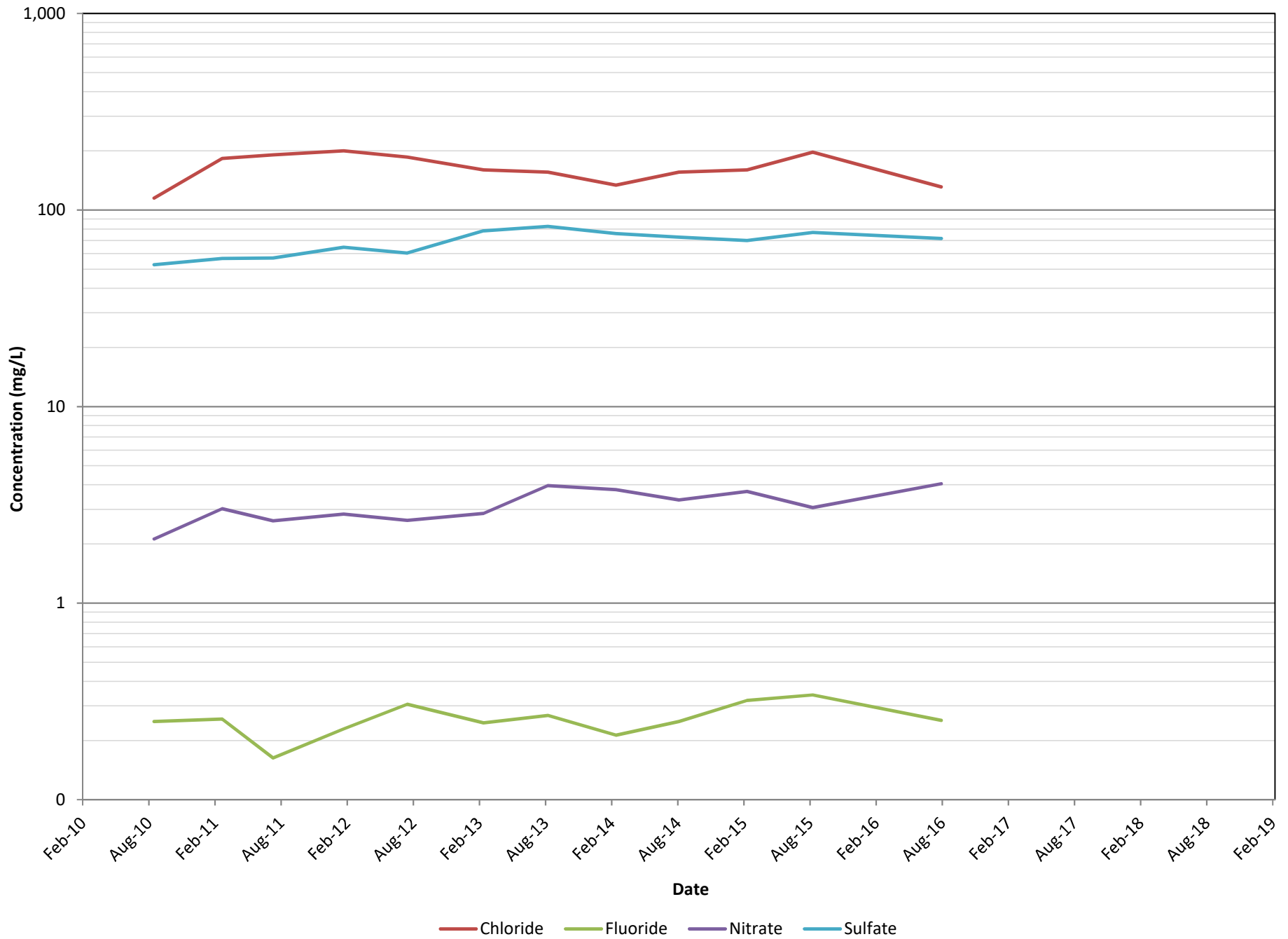
MW-20: METAL CONCENTRATIONS OVER TIME



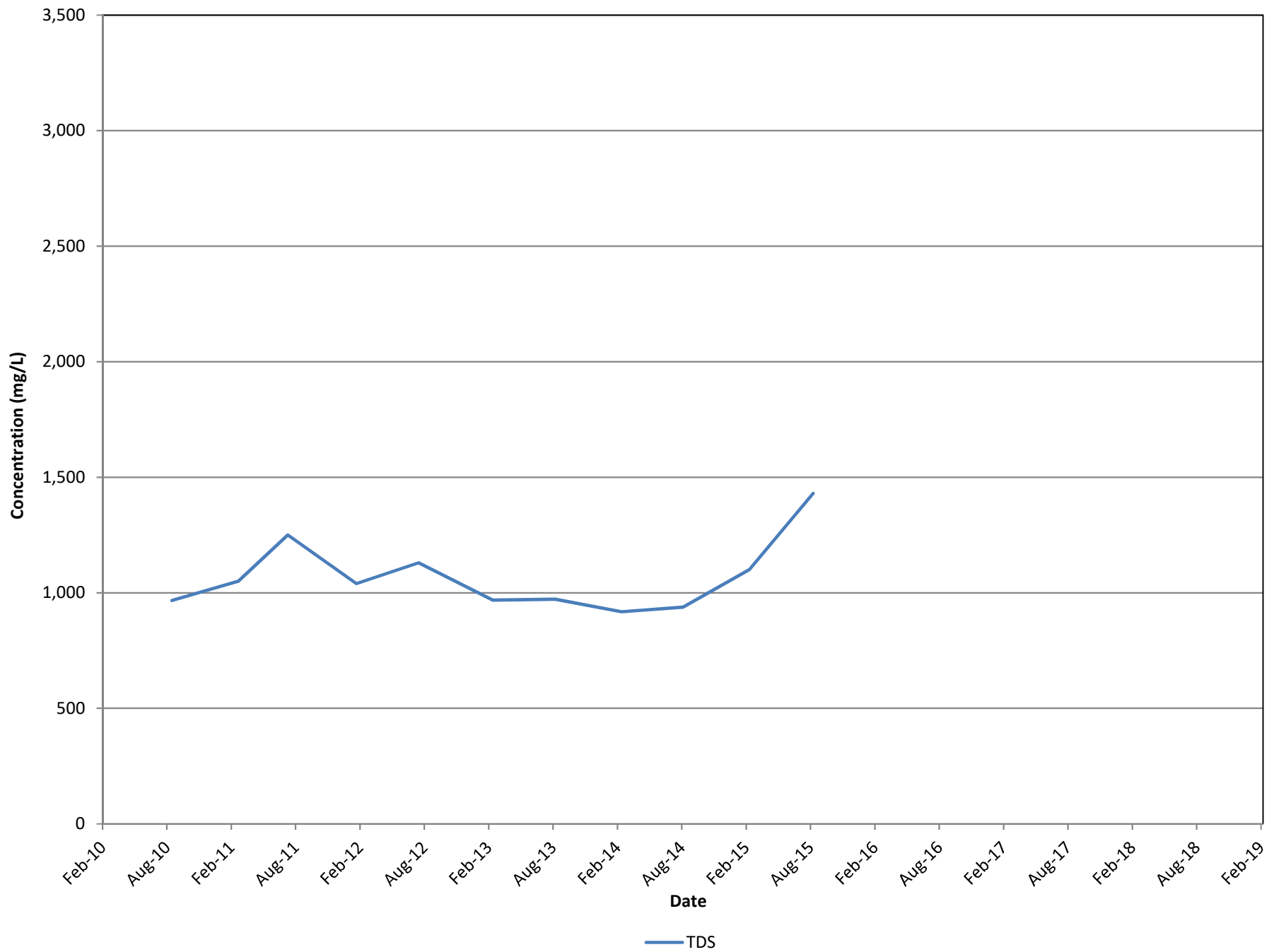
MW-20: SVOC CONCENTRATIONS OVER TIME



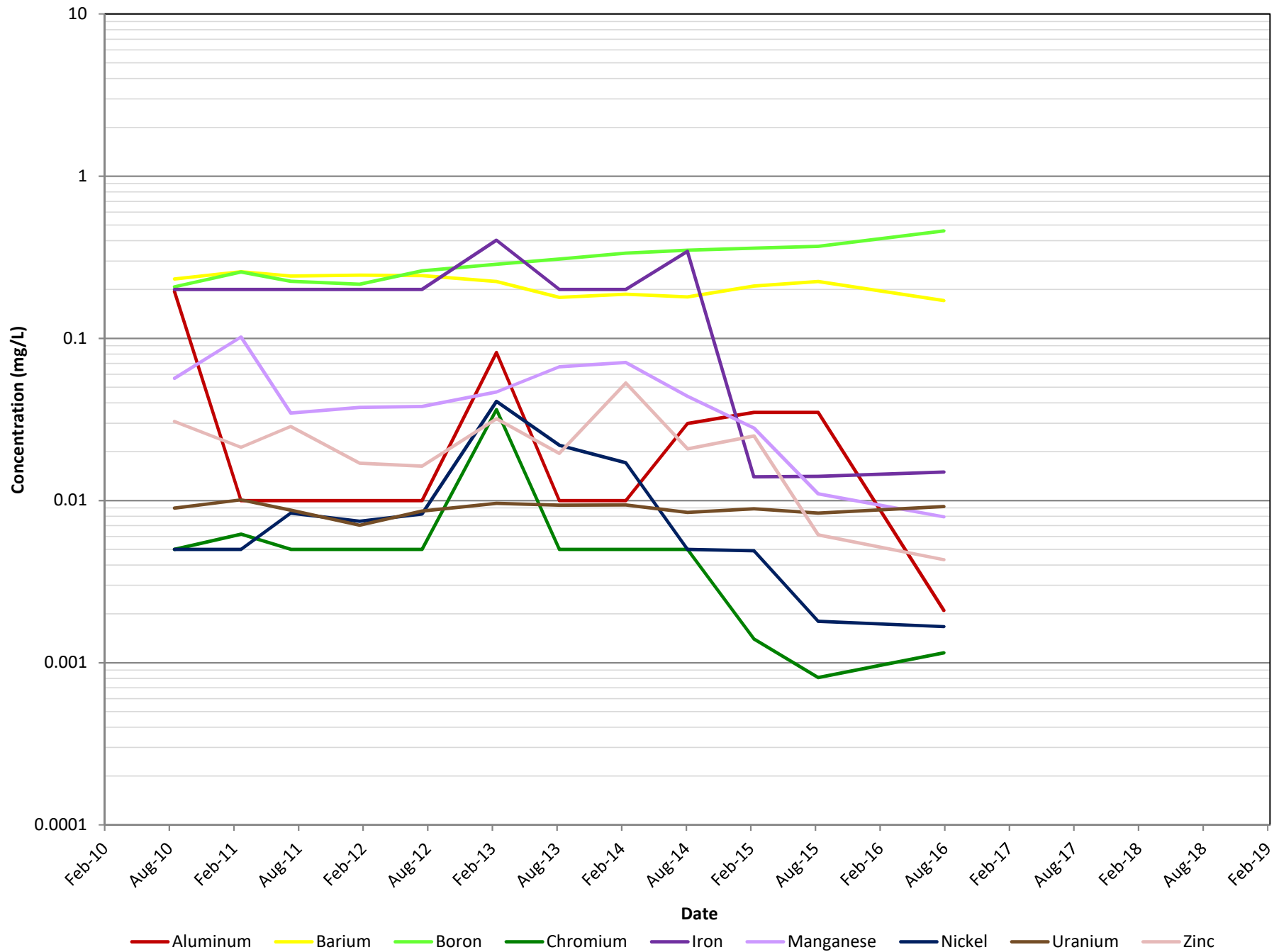
MW-21: ANION CONCENTRATIONS OVER TIME



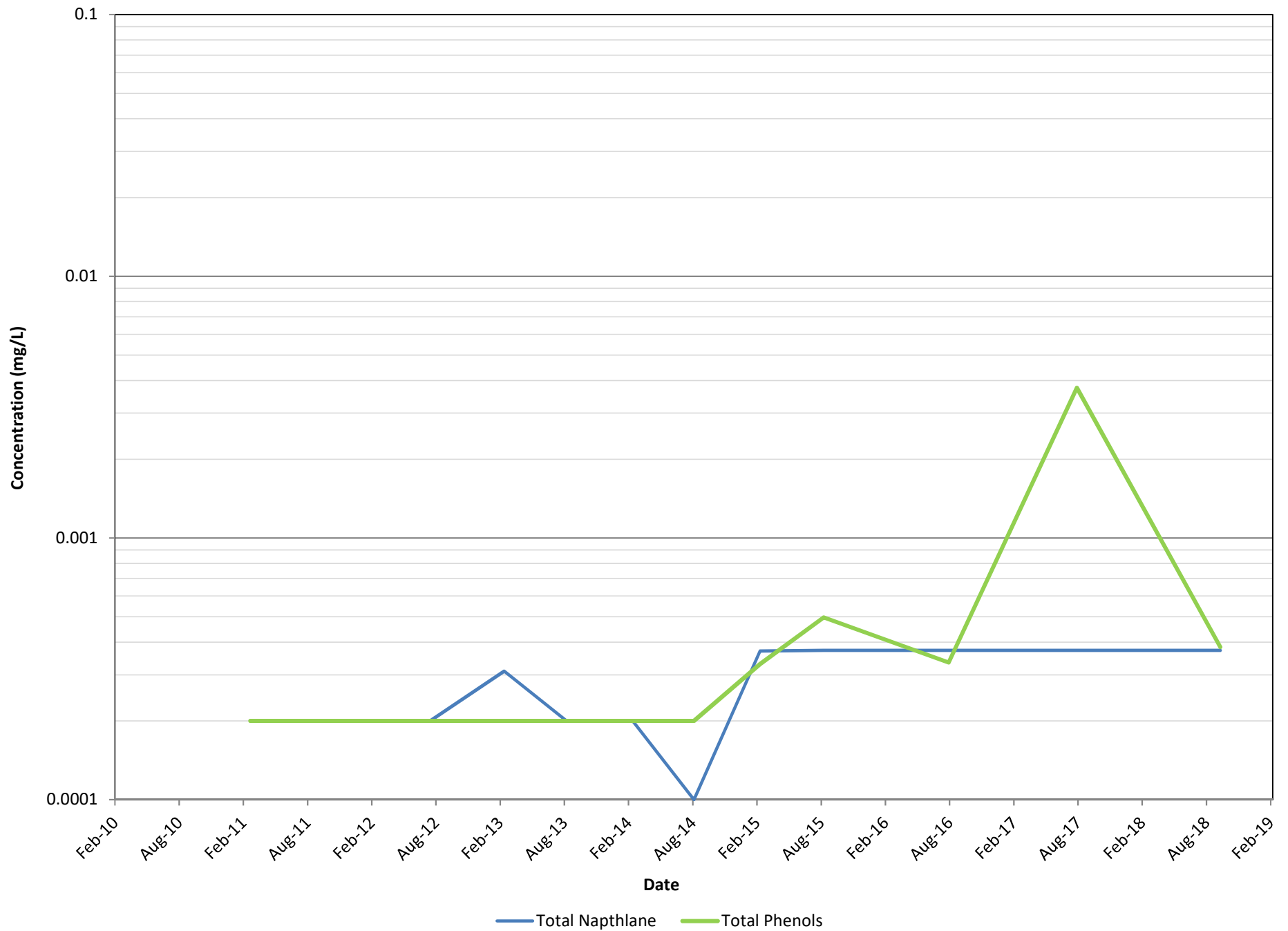
MW-21: TDS CONCENTRATIONS OVER TIME



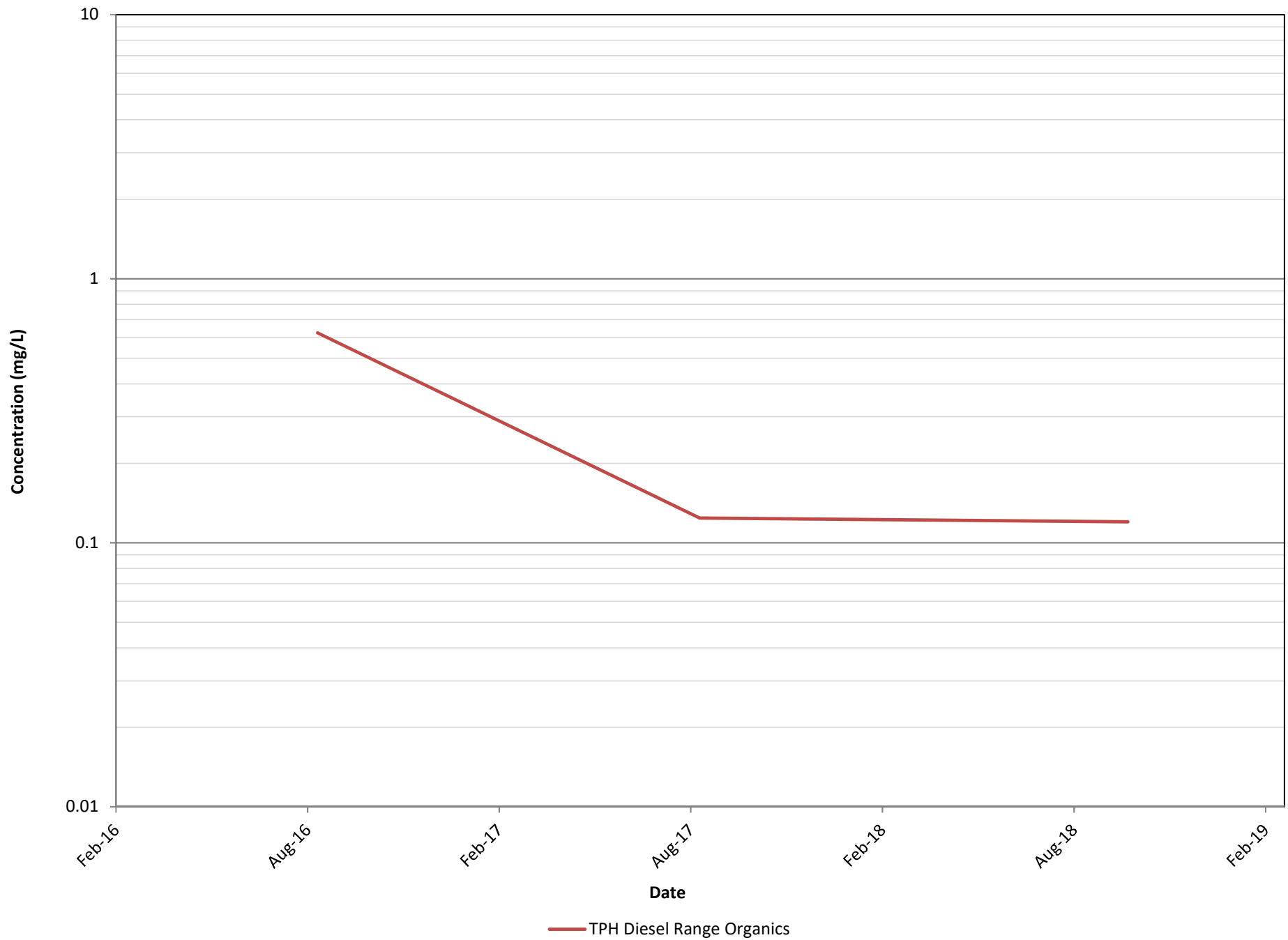
MW-21: METAL CONCENTRATIONS OVER TIME



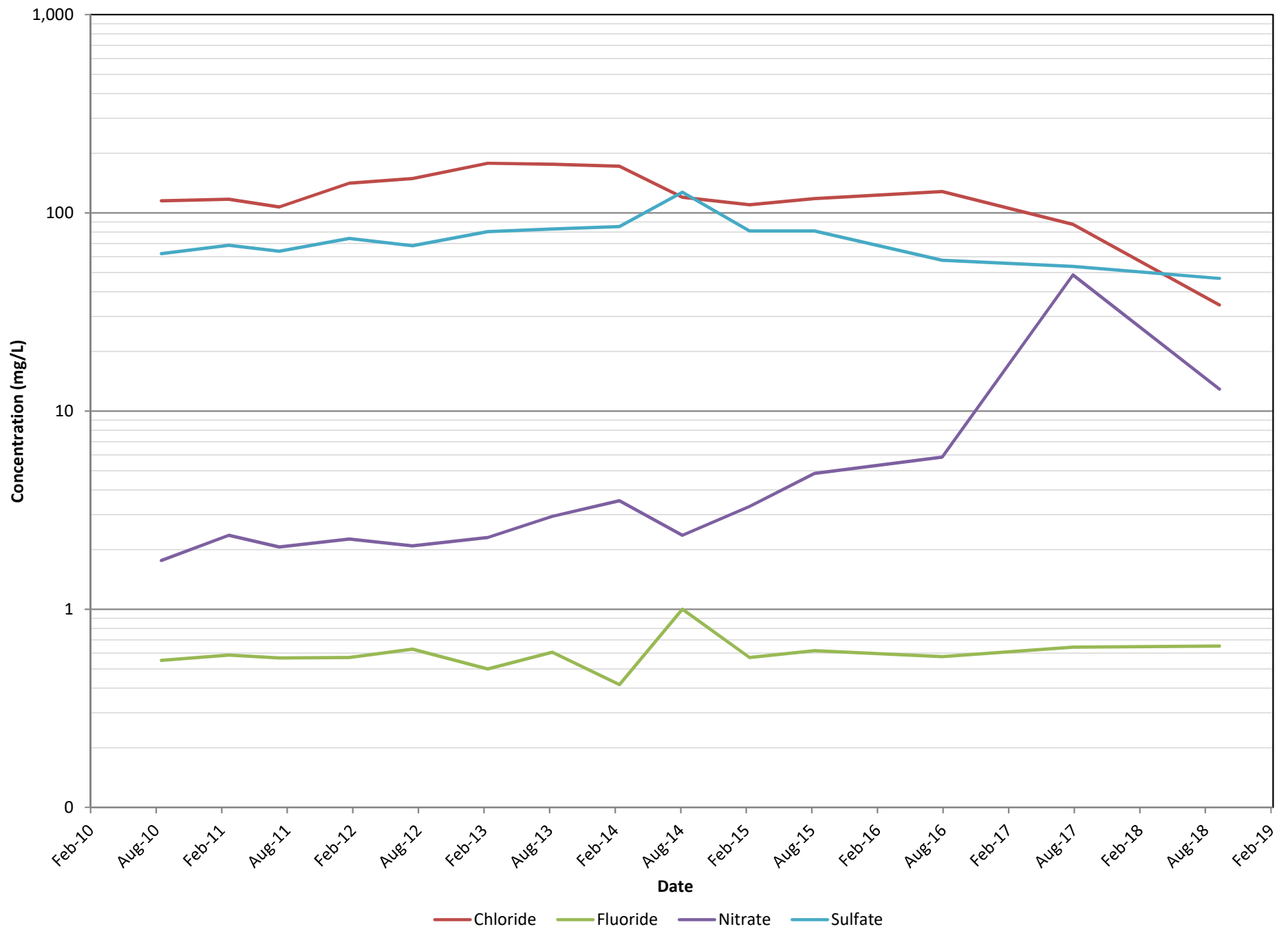
MW-21: SVOC CONCENTRATIONS OVER TIME



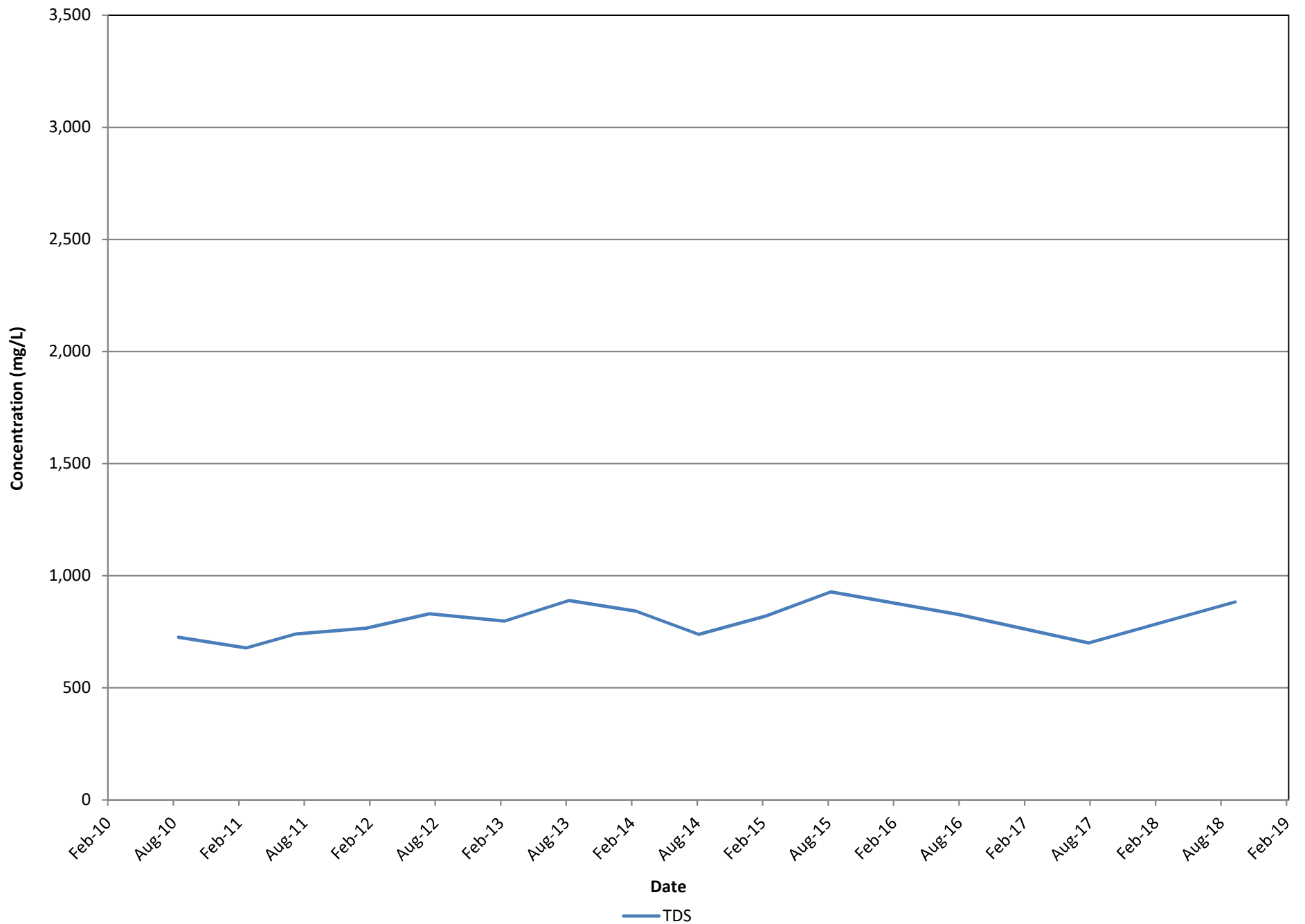
MW-21: TPH CONCENTRATIONS OVER TIME



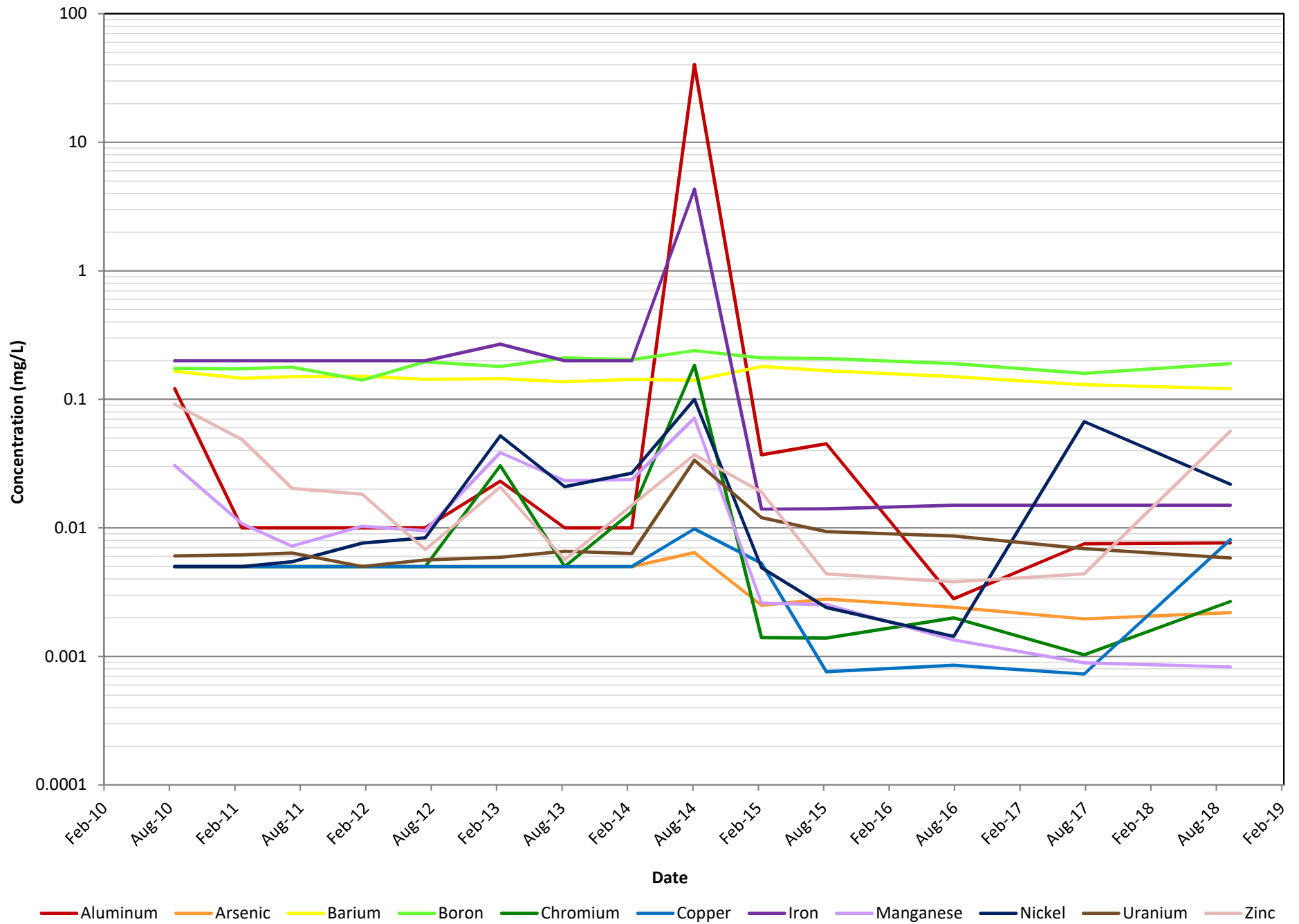
MW-22: ANION CONCENTRATIONS OVER TIME



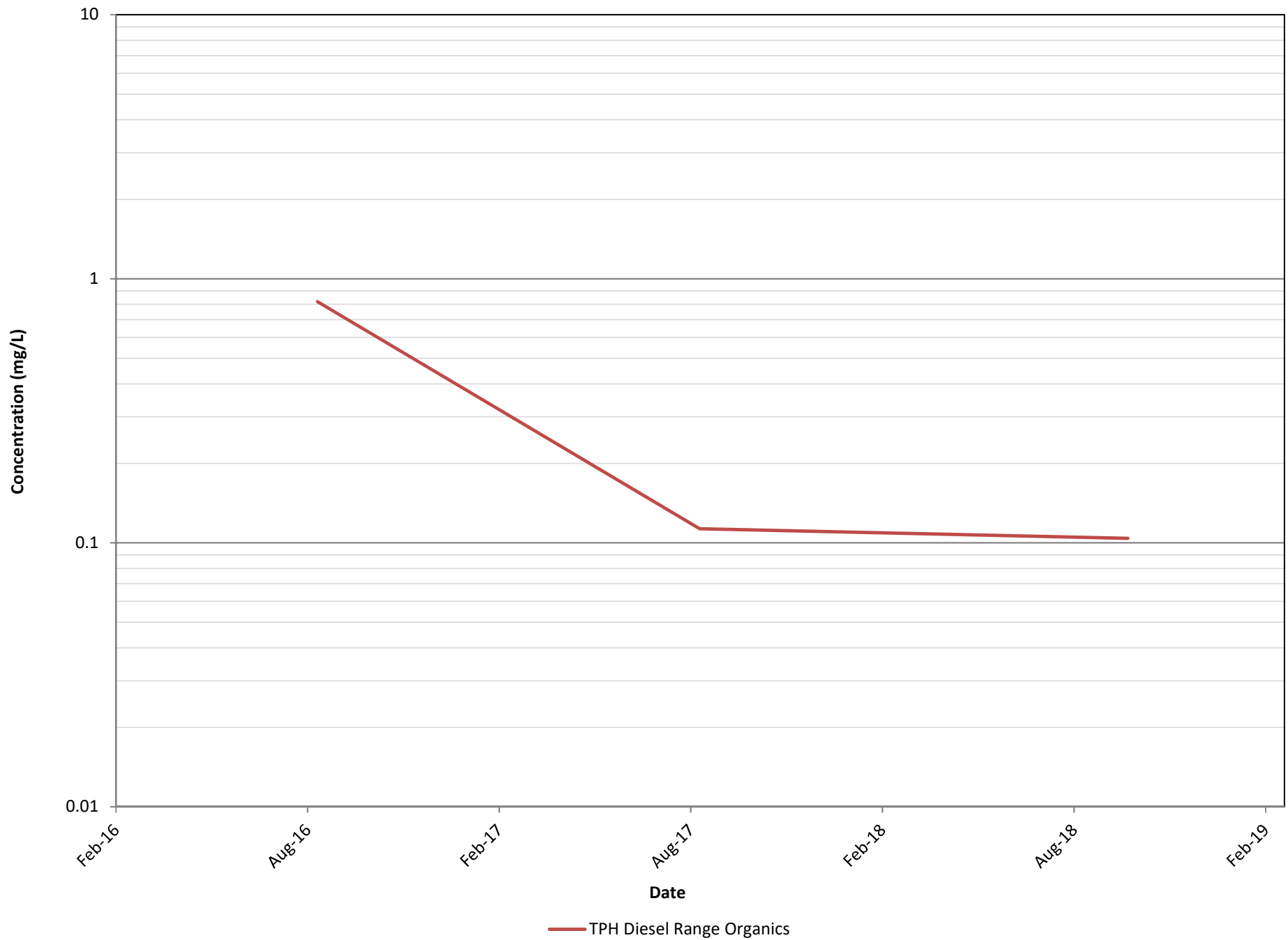
MW-22: TDS CONCENTRATIONS OVER TIME



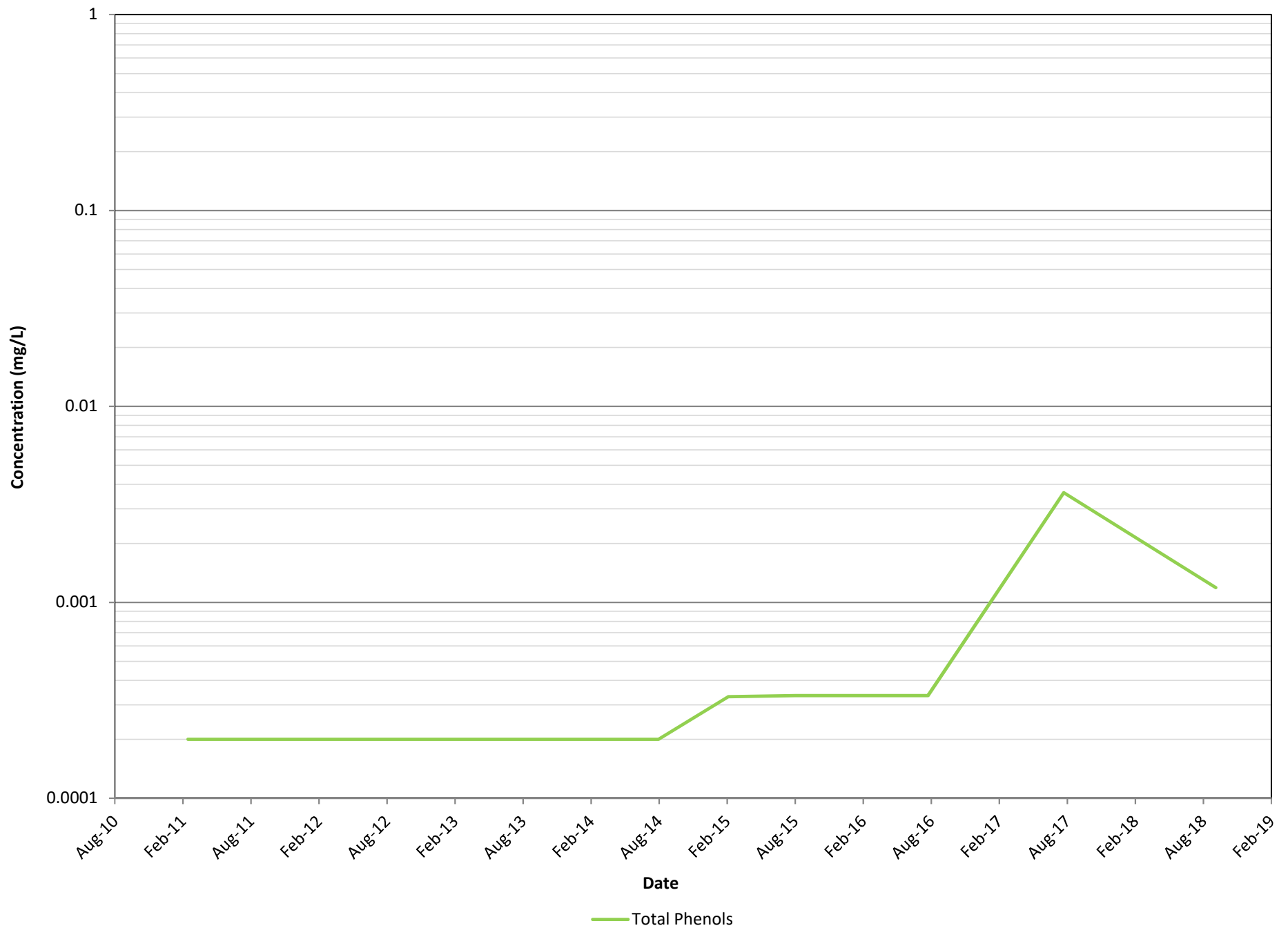
MW-22: METAL CONCENTRATIONS OVER TIME



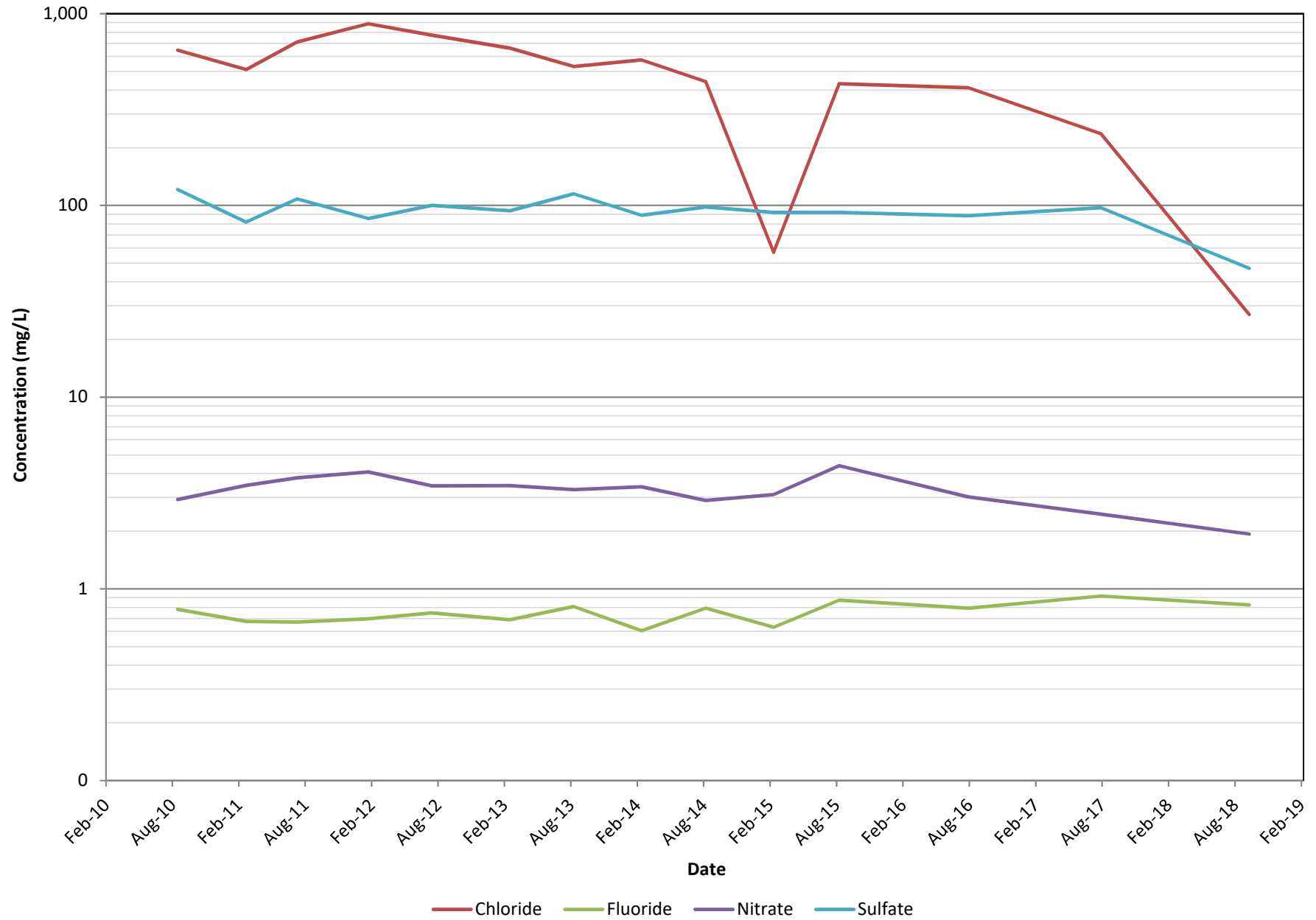
MW-22: TPH CONCENTRATIONS OVER TIME



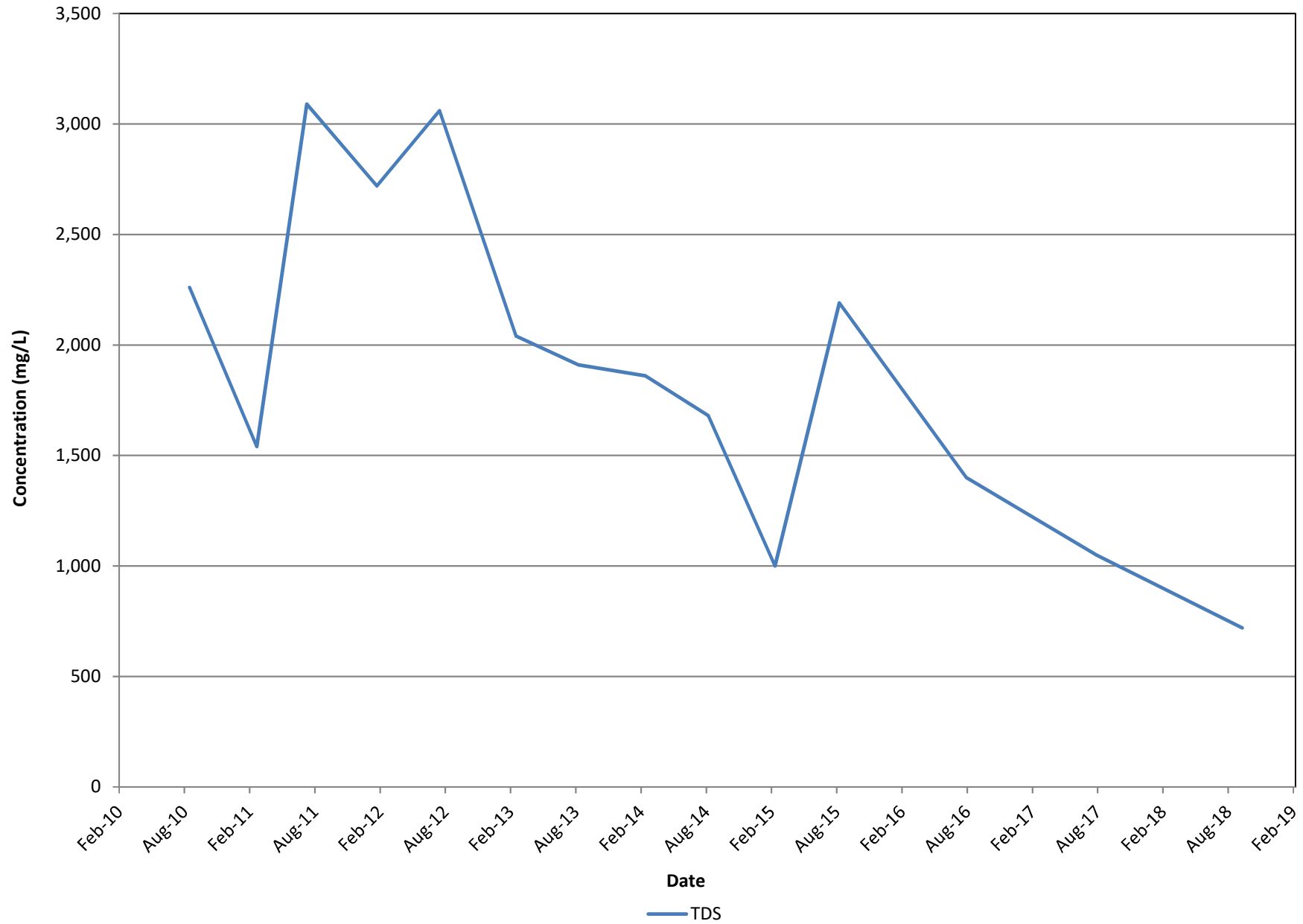
MW-22: SVOC CONCENTRATIONS OVER TIME



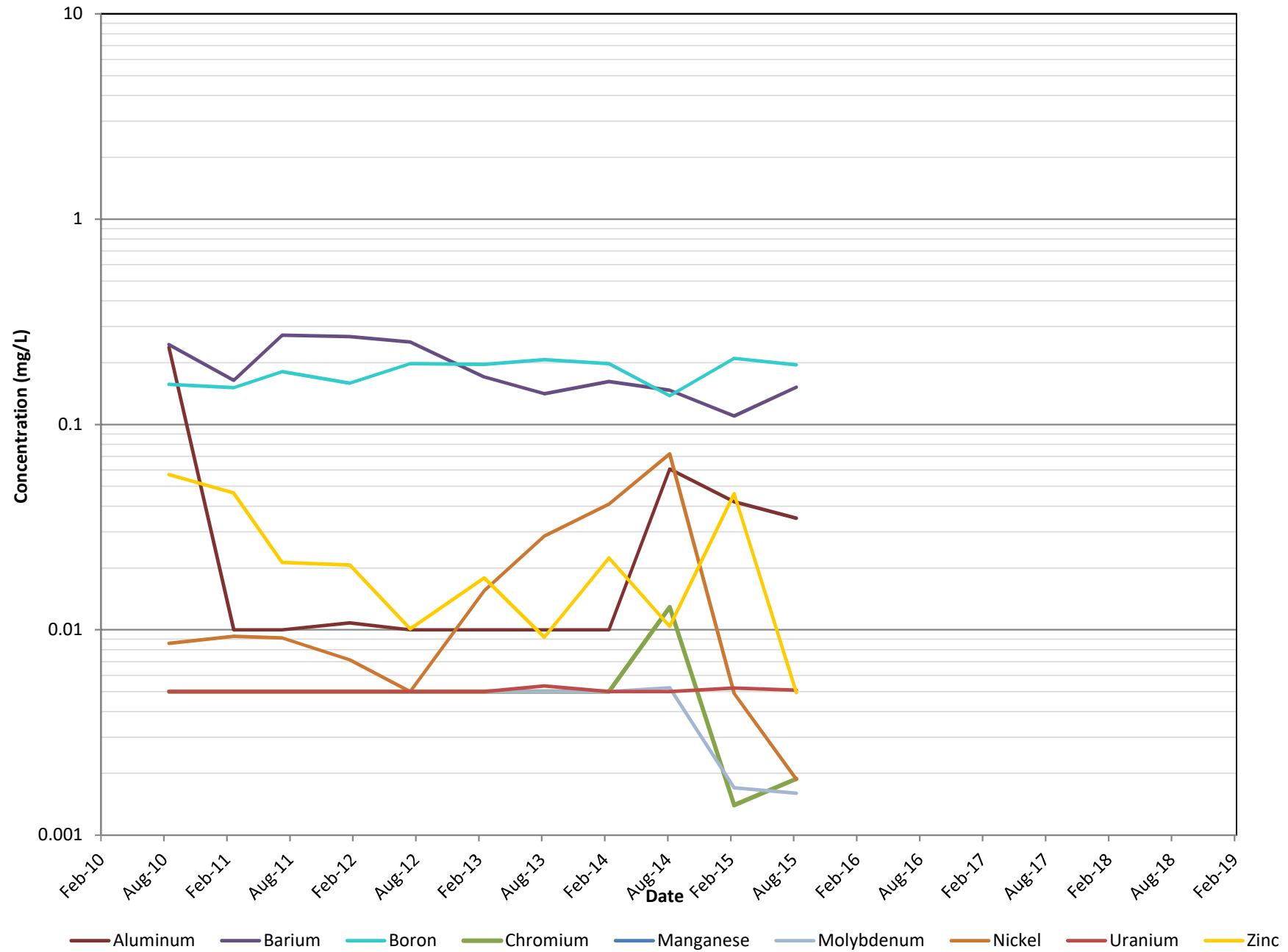
MW-23: ANION CONCENTRATIONS OVER TIME



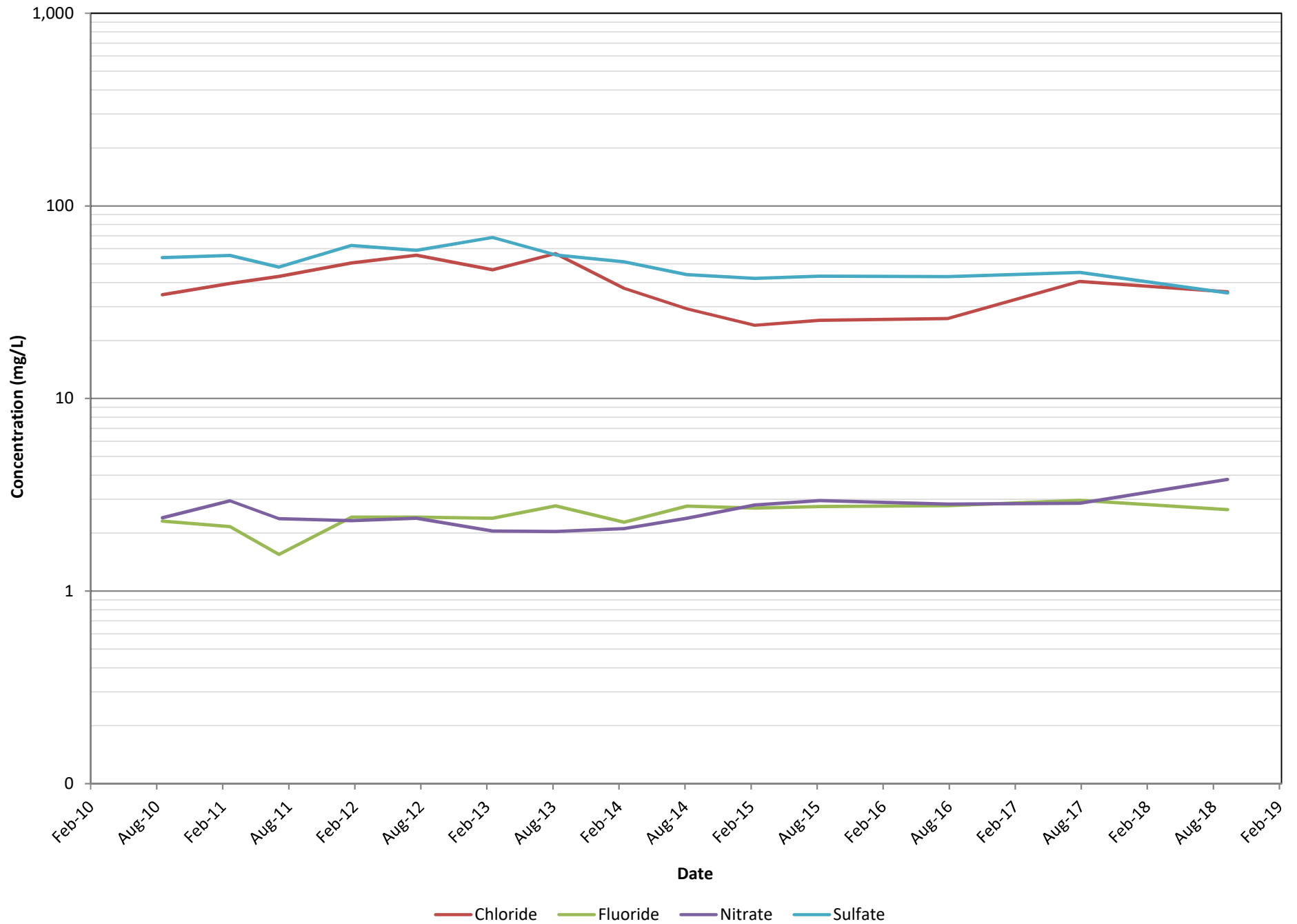
MW-23: TDS CONCENTRATIONS OVER TIME



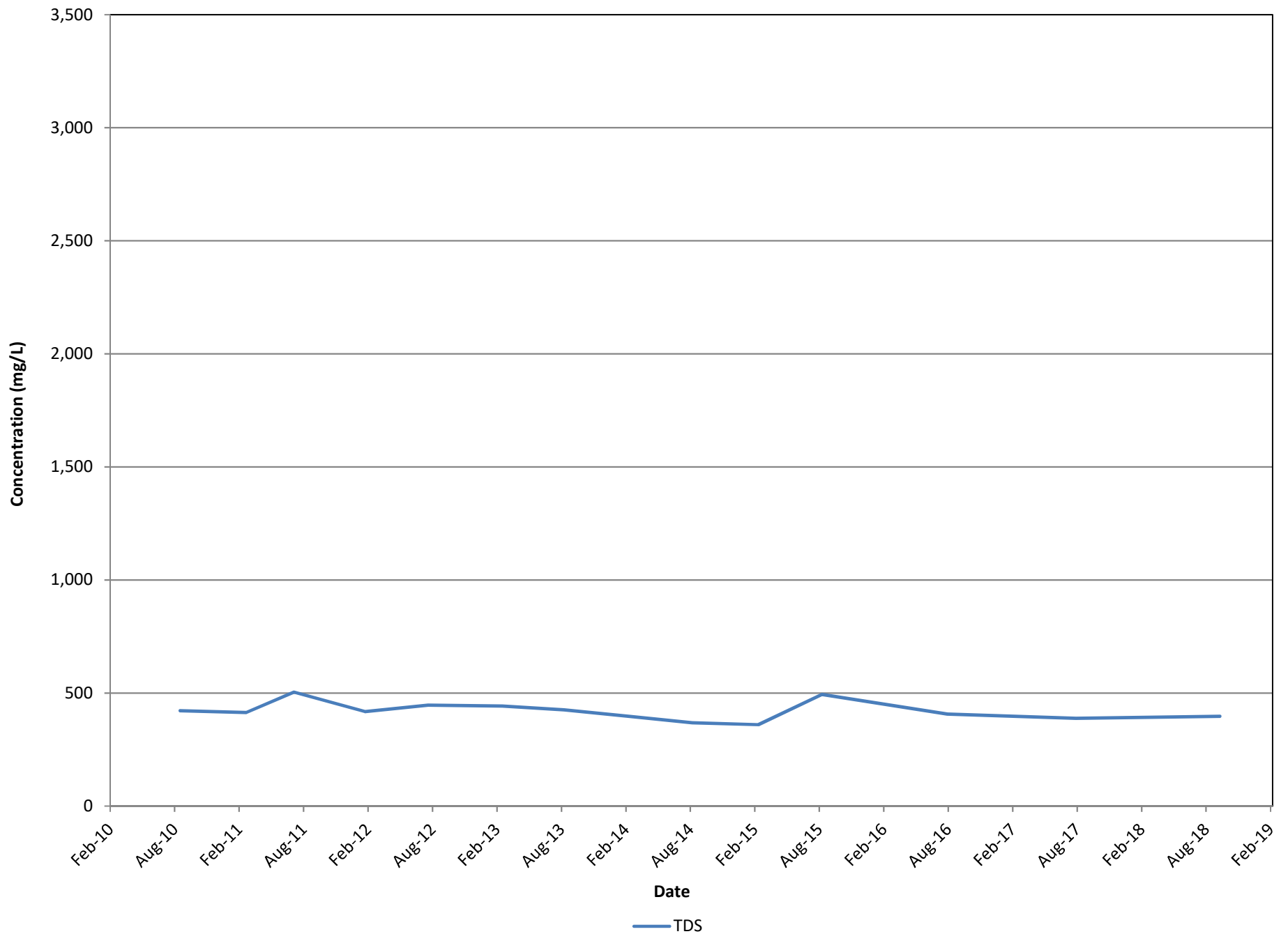
MW-23: METAL CONCENTRATIONS OVER TIME



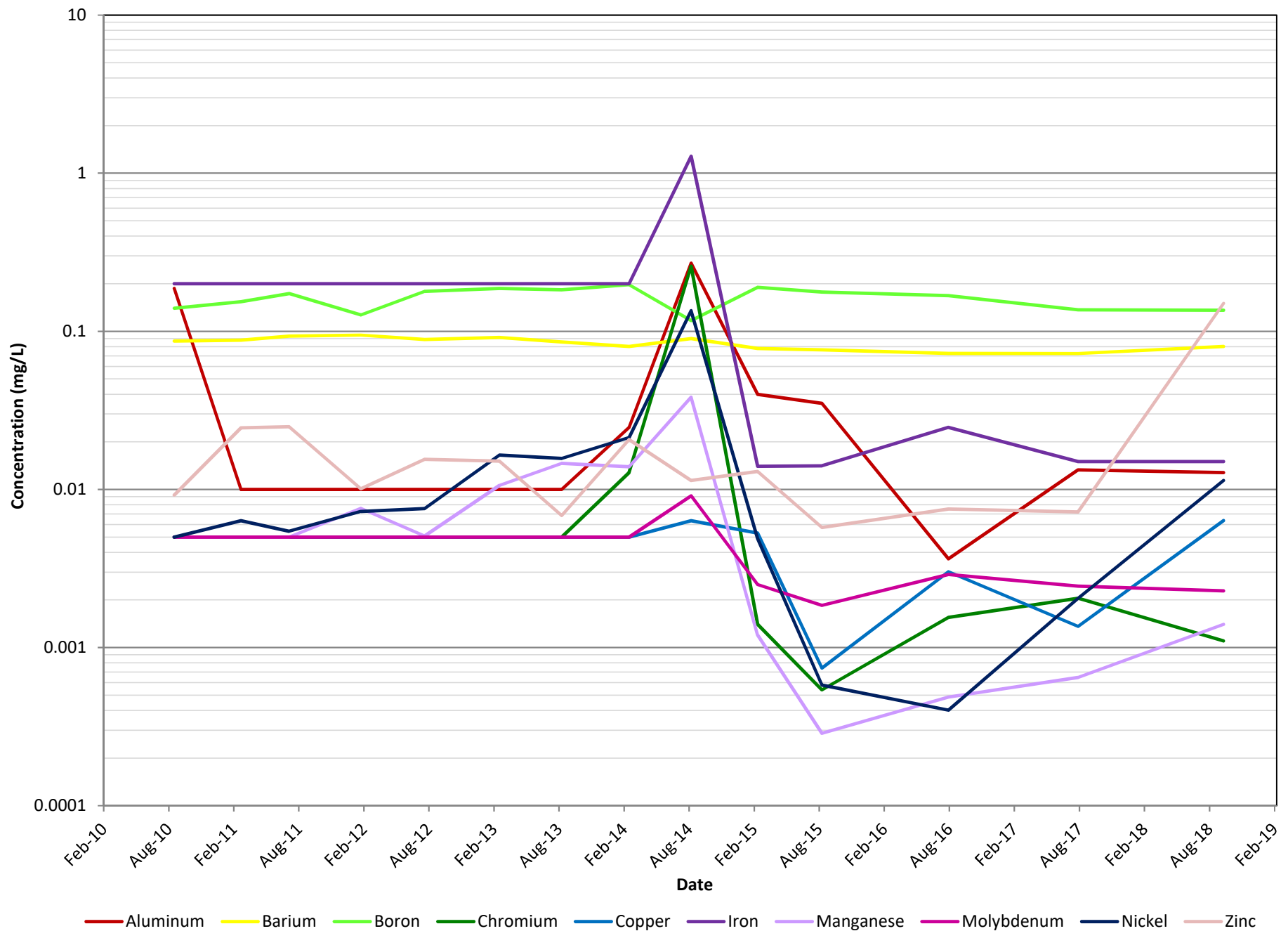
MW-24: ANION CONCENTRATIONS OVER TIME



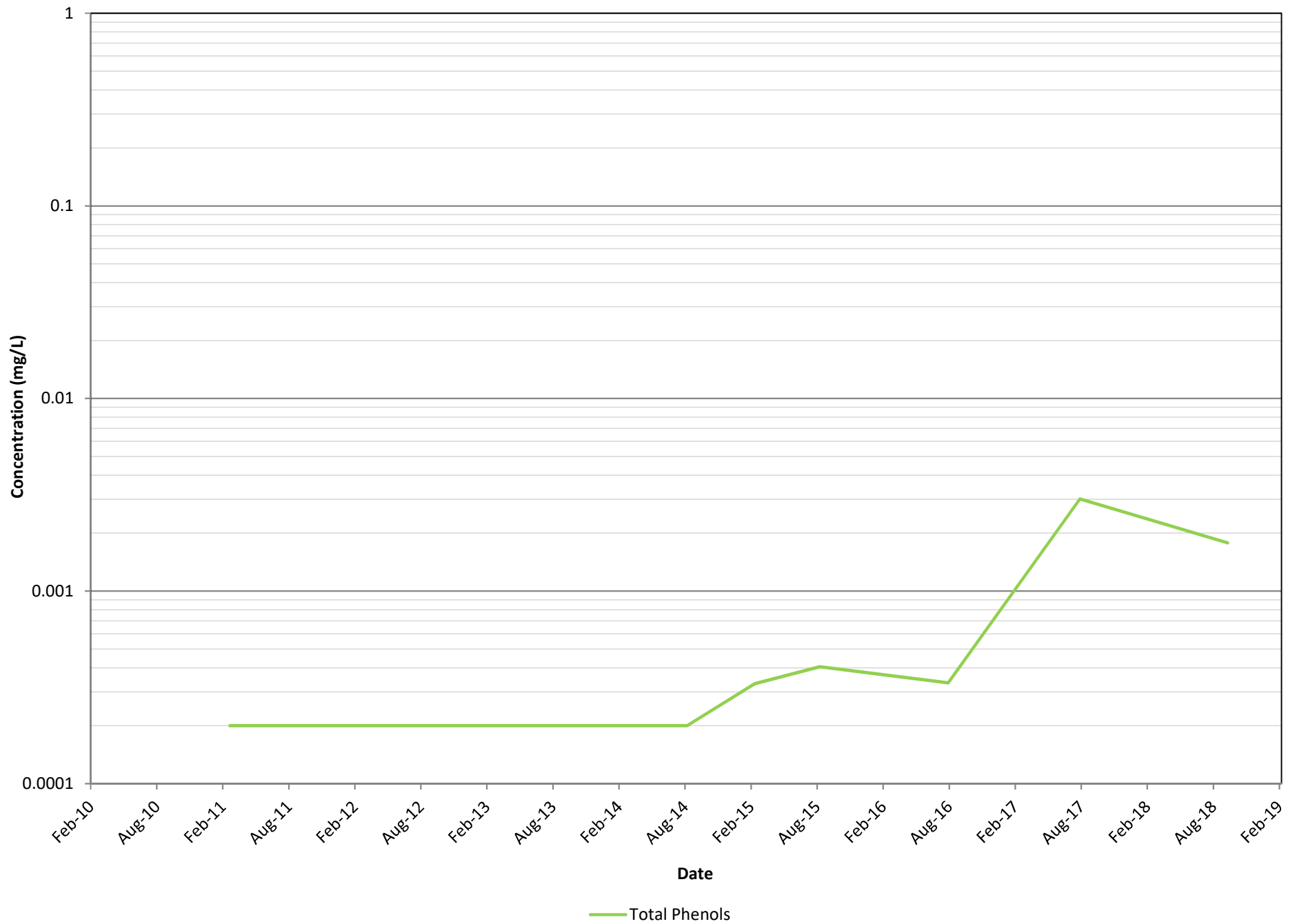
MW-24: TDS CONCENTRATIONS OVER TIME



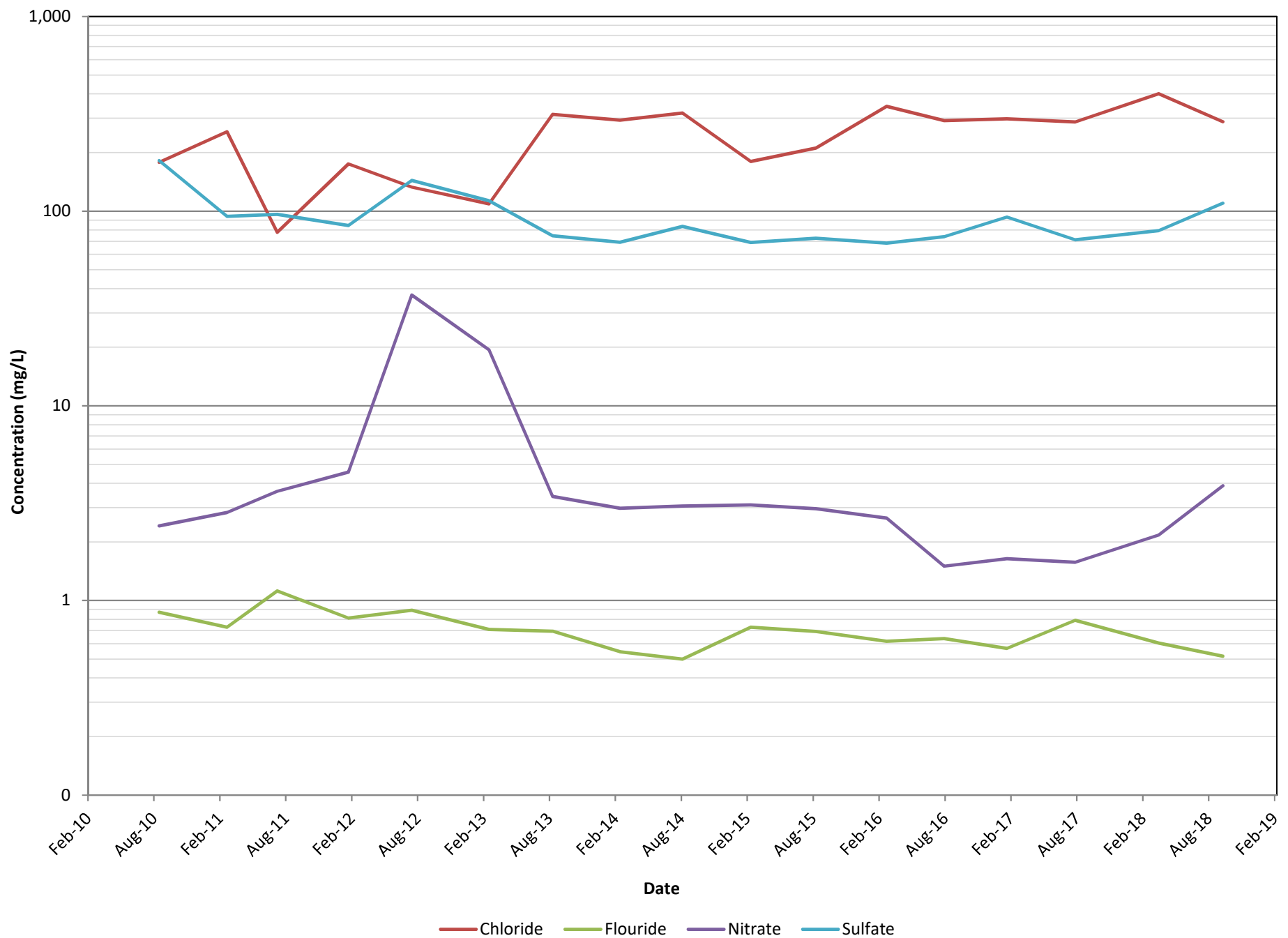
MW-24: METAL CONCENTRATIONS OVER TIME



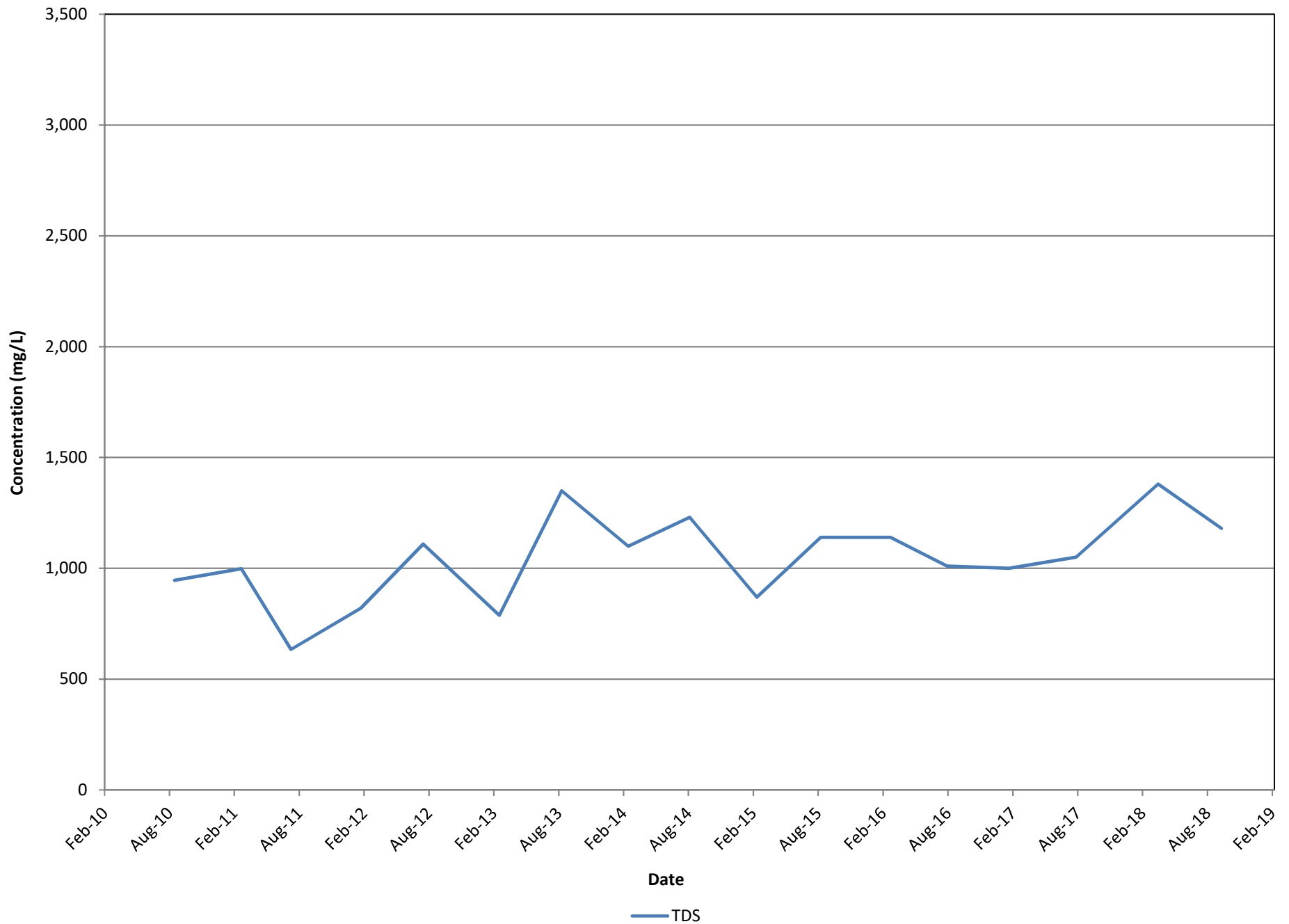
MW-24: SVOC CONCENTRATIONS OVER TIME



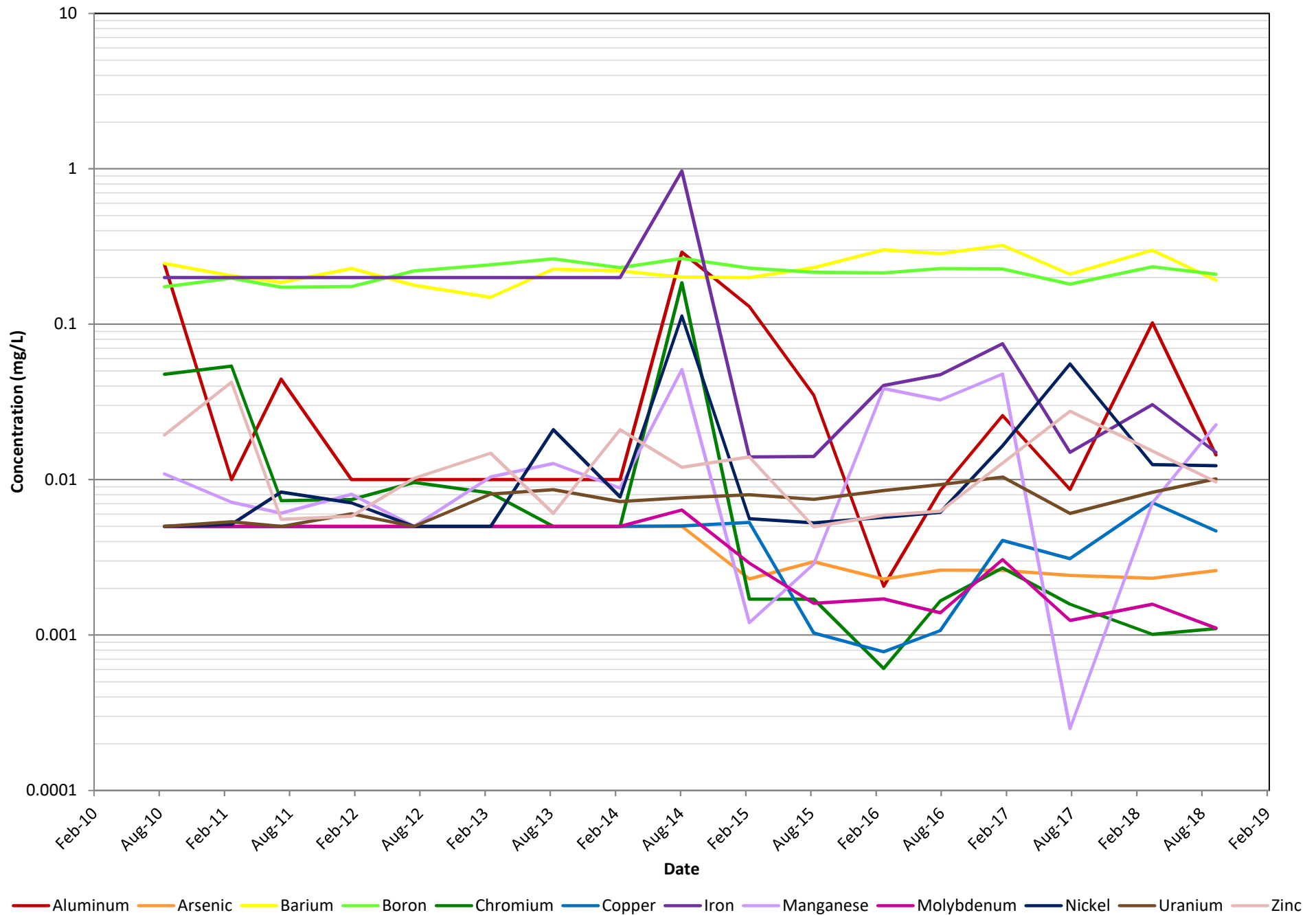
MW-25: ANION CONCENTRATIONS OVER TIME



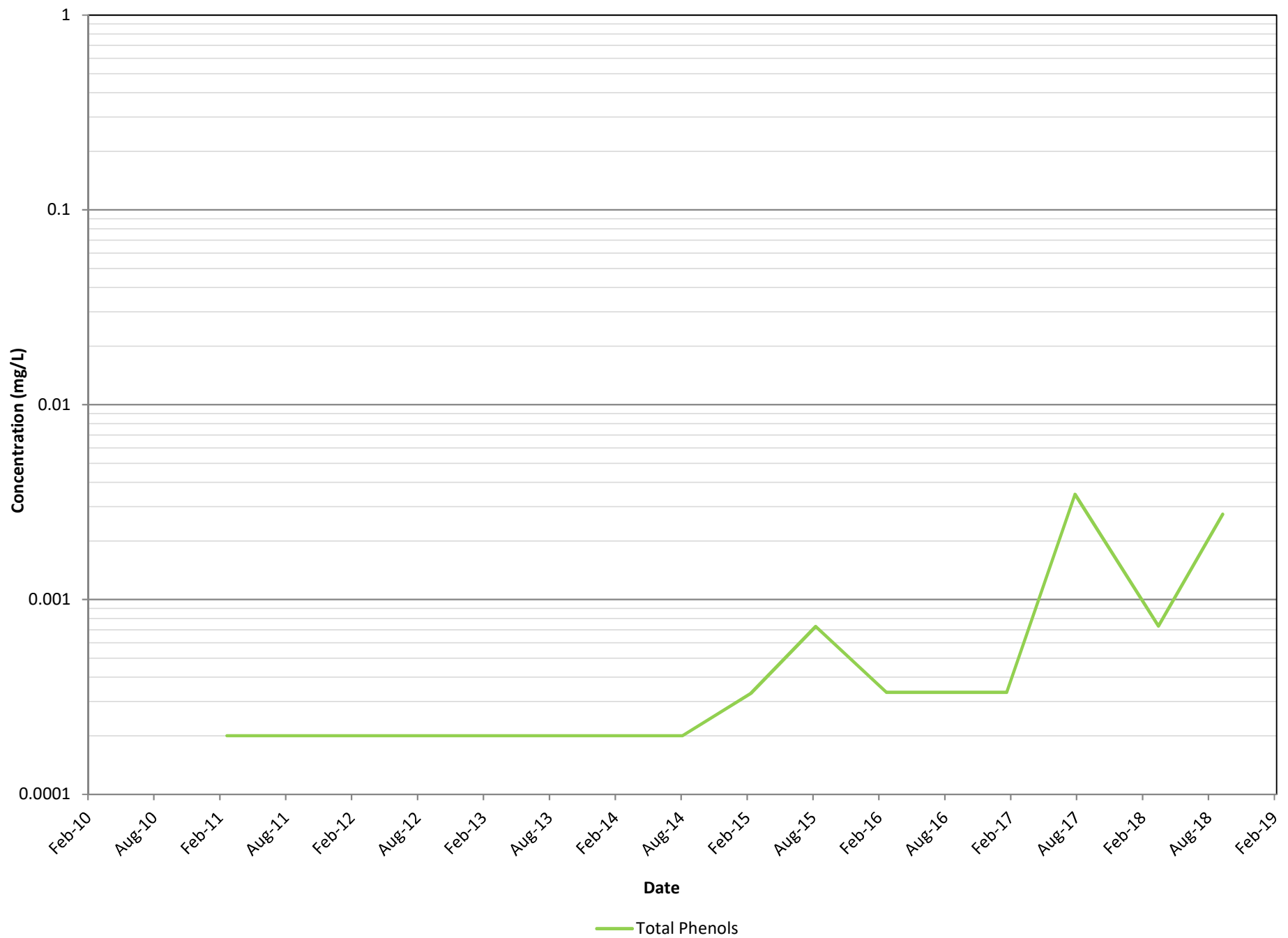
MW-25: TDS CONCENTRATIONS OVER TIME



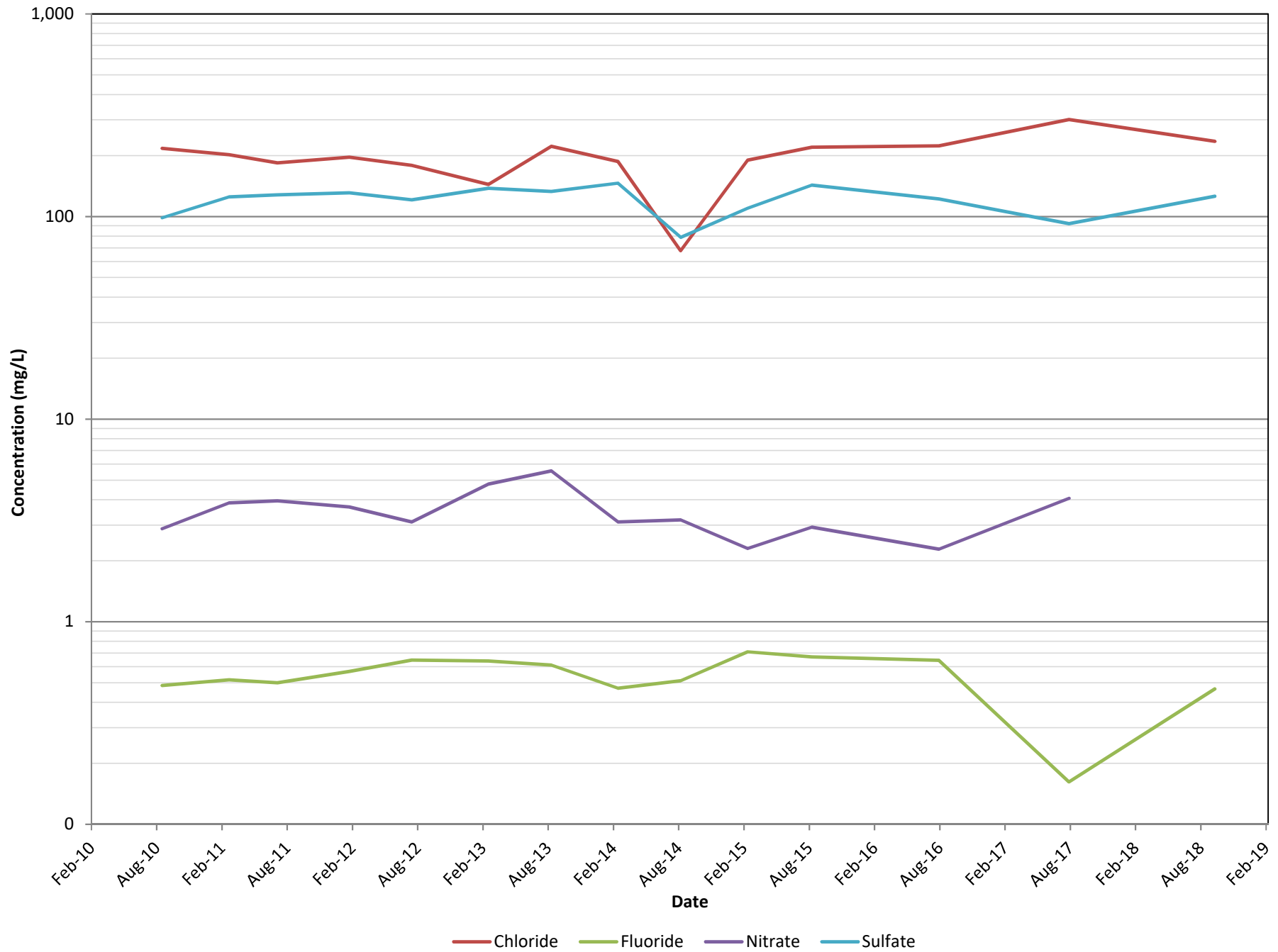
MW-25: METAL CONCENTRATIONS OVER TIME



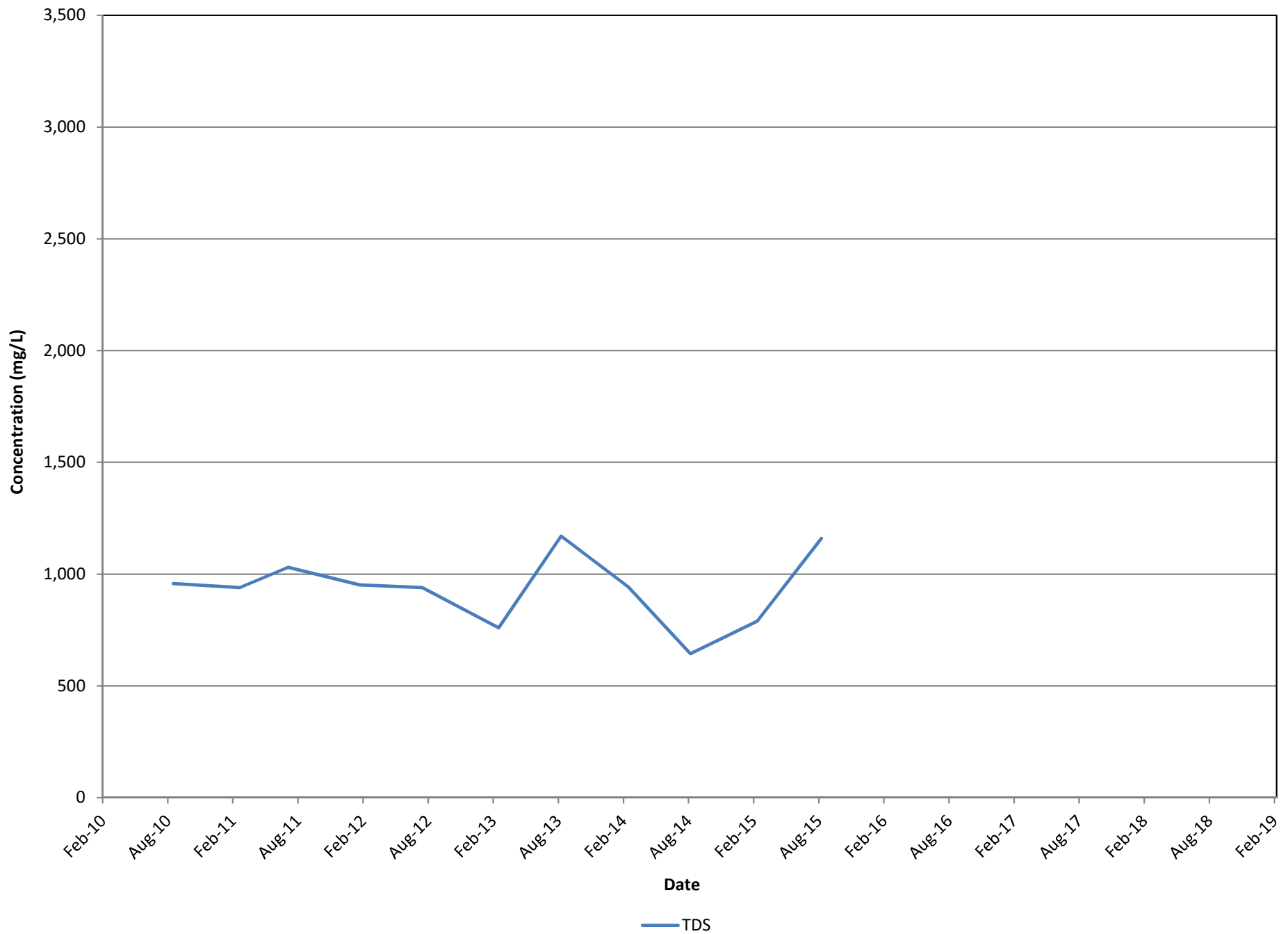
MW-25: SVOC CONCENTRATIONS OVER TIME



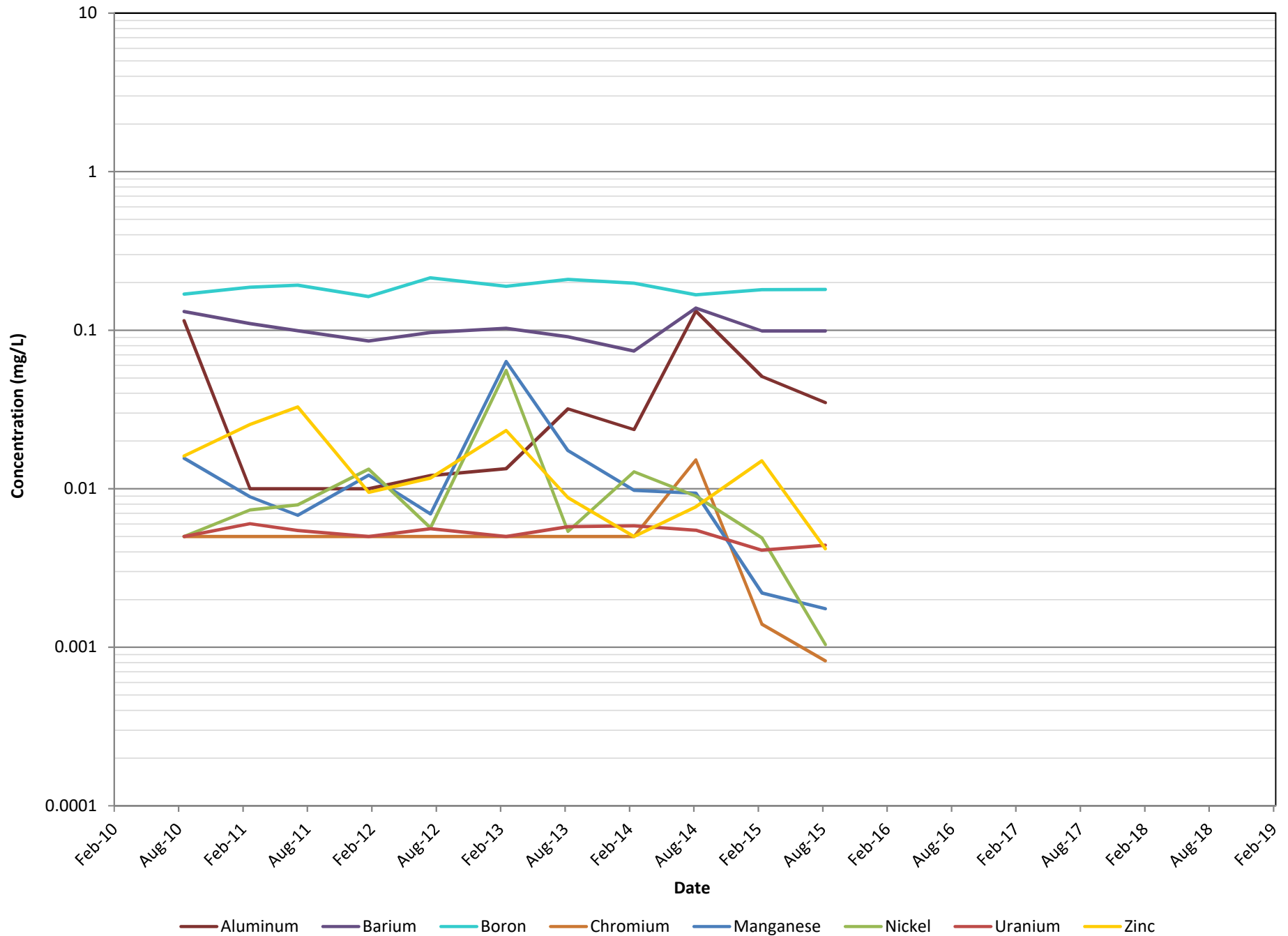
MW-26: ANION CONCENTRATIONS OVER TIME



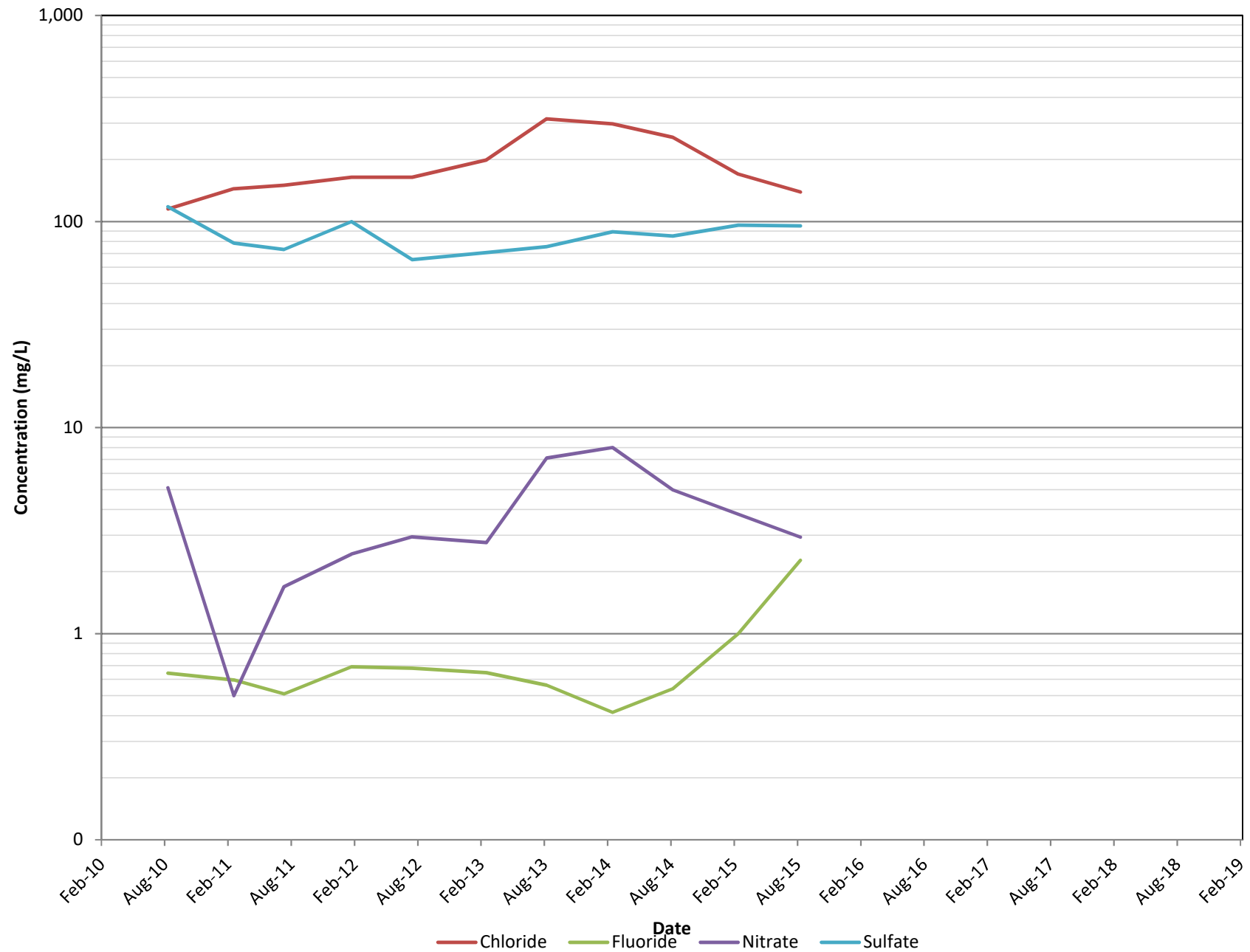
MW-26: TDS CONCENTRATIONS OVER TIME



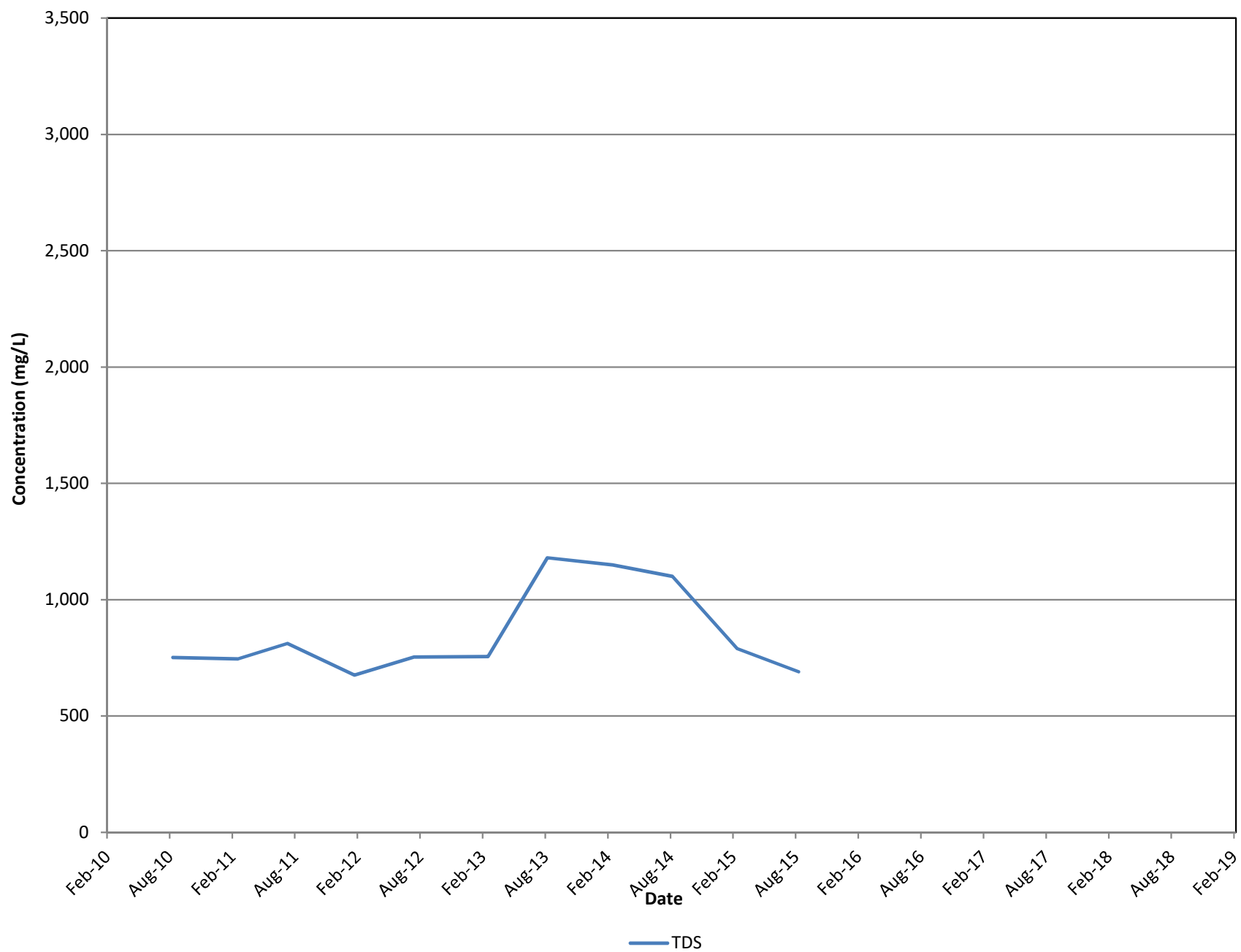
MW-26: METAL CONCENTRATIONS OVER TIME



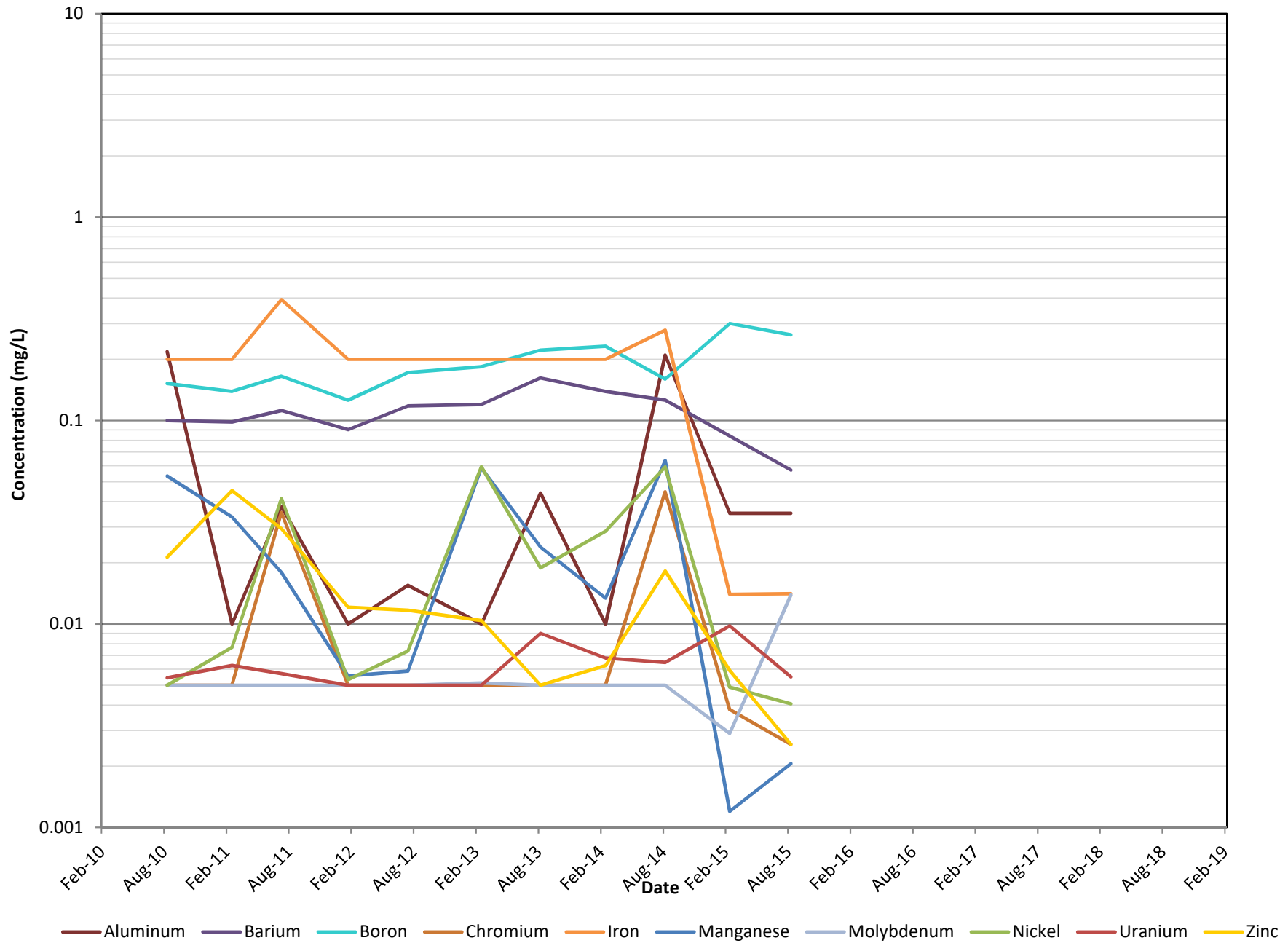
MW-27: ANION CONCENTRATIONS OVER TIME



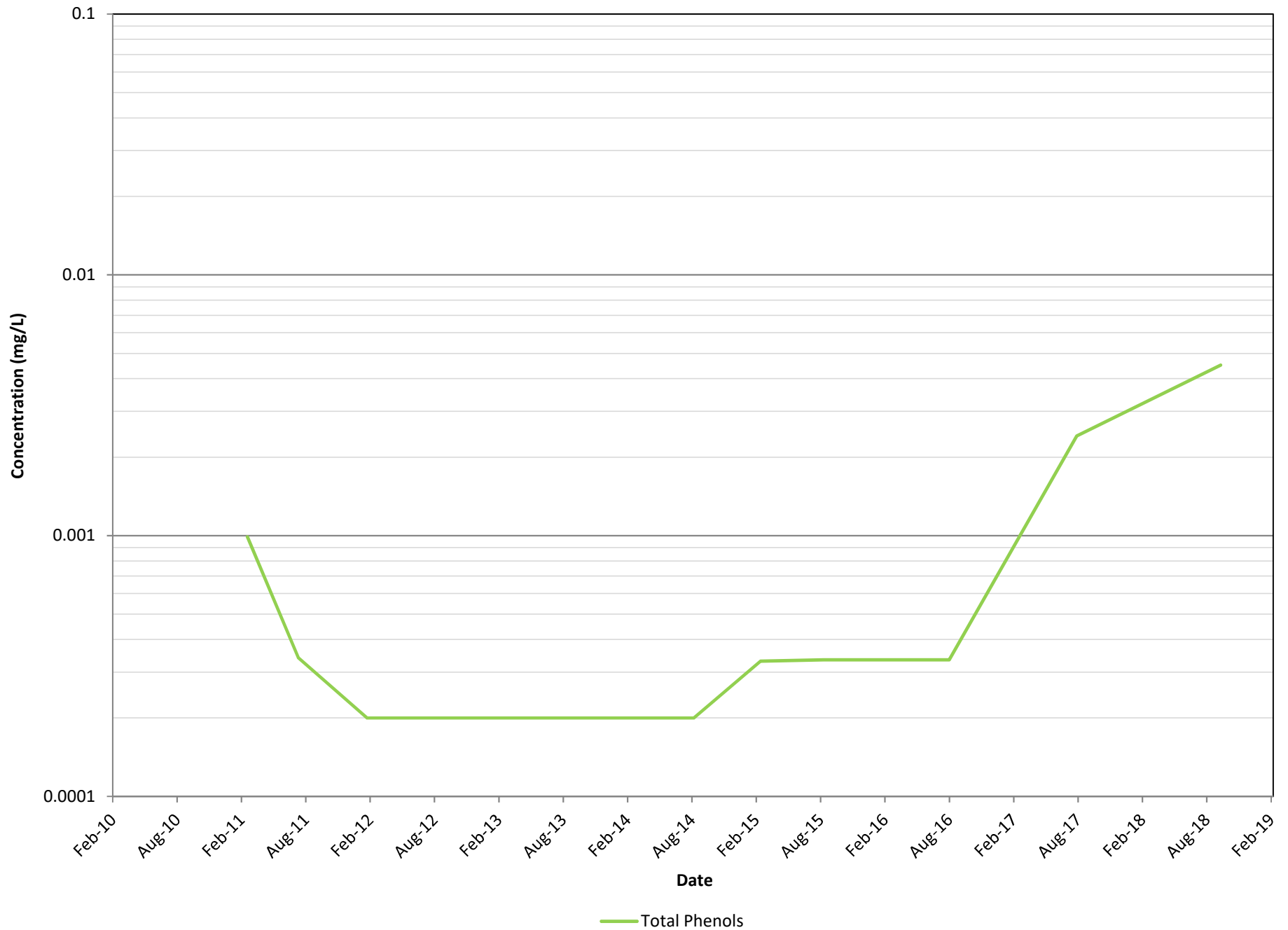
MW-27: TDS CONCENTRATIONS OVER TIME



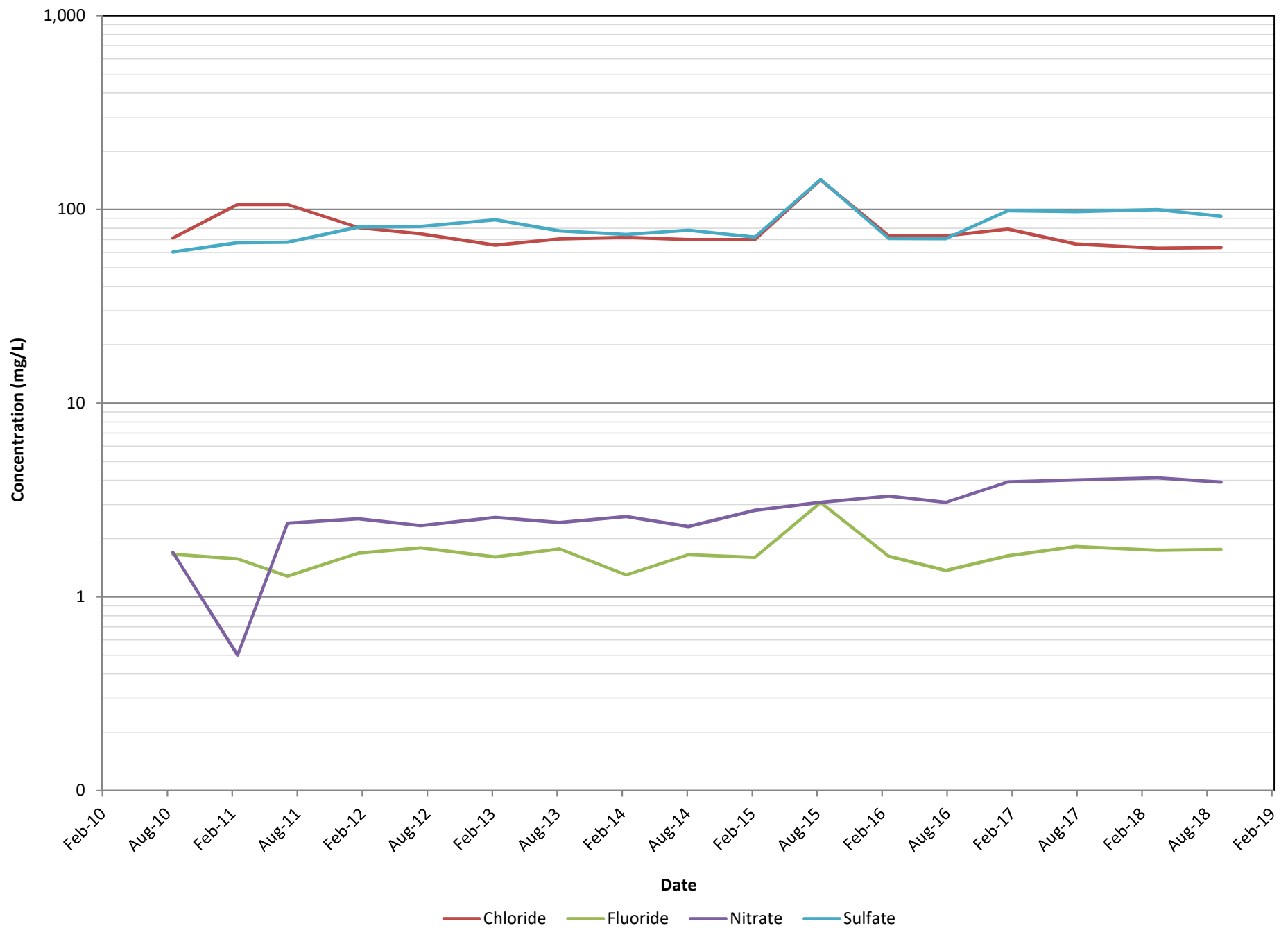
MW-27: METAL CONCENTRATIONS OVER TIME



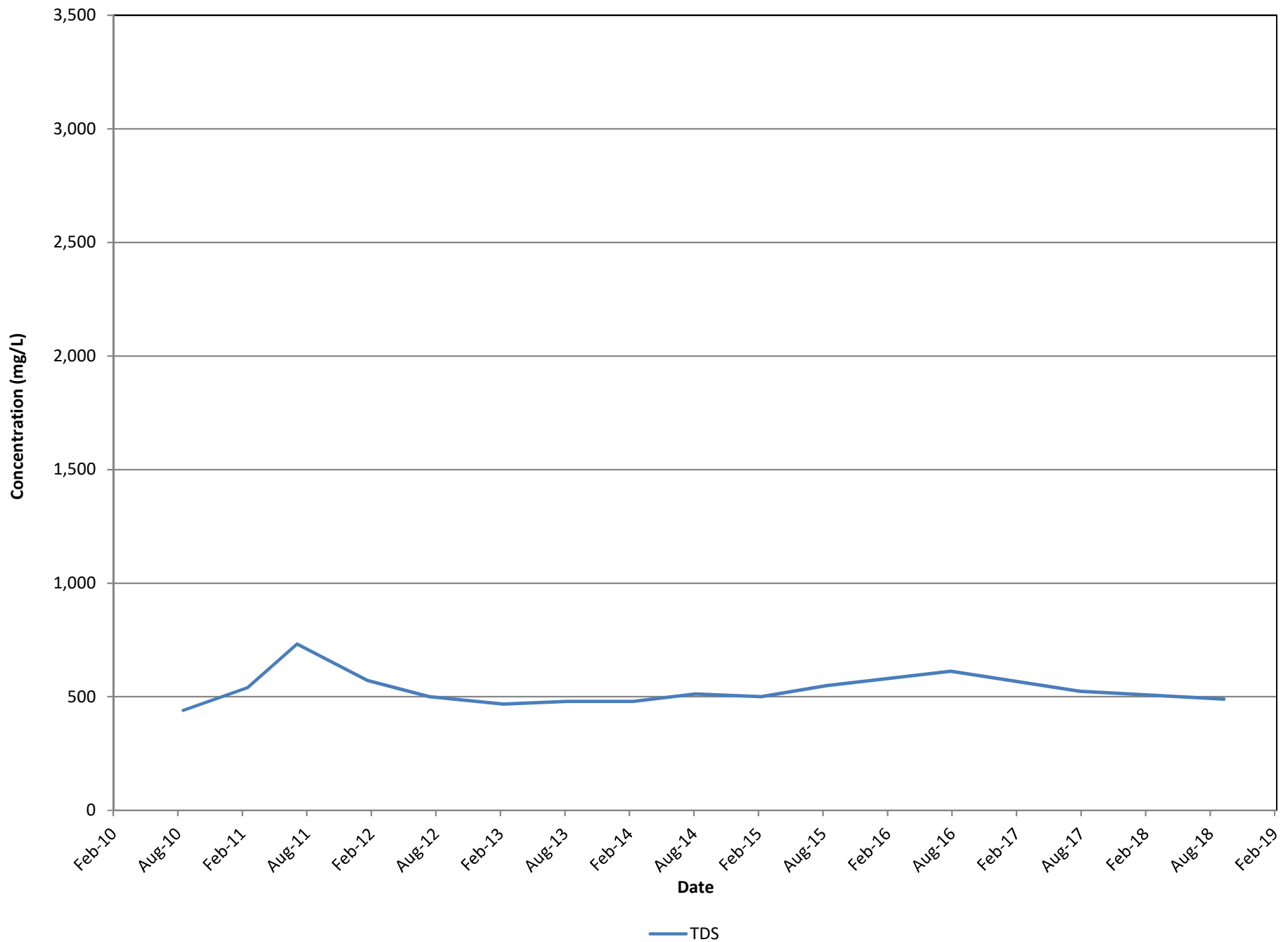
MW-27: SVOC CONCENTRATIONS OVER TIME



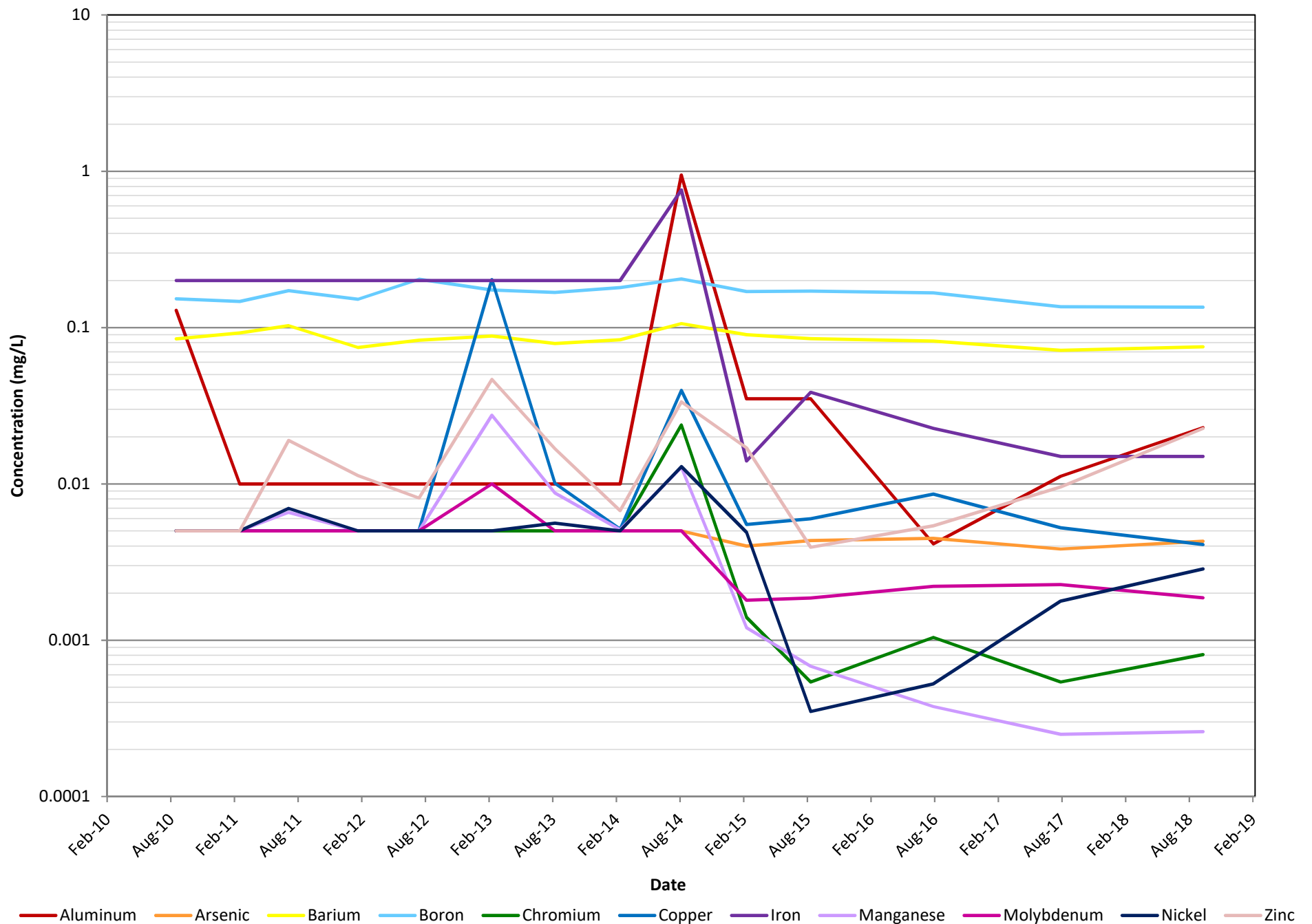
MW-28: ANION CONCENTRATIONS OVER TIME



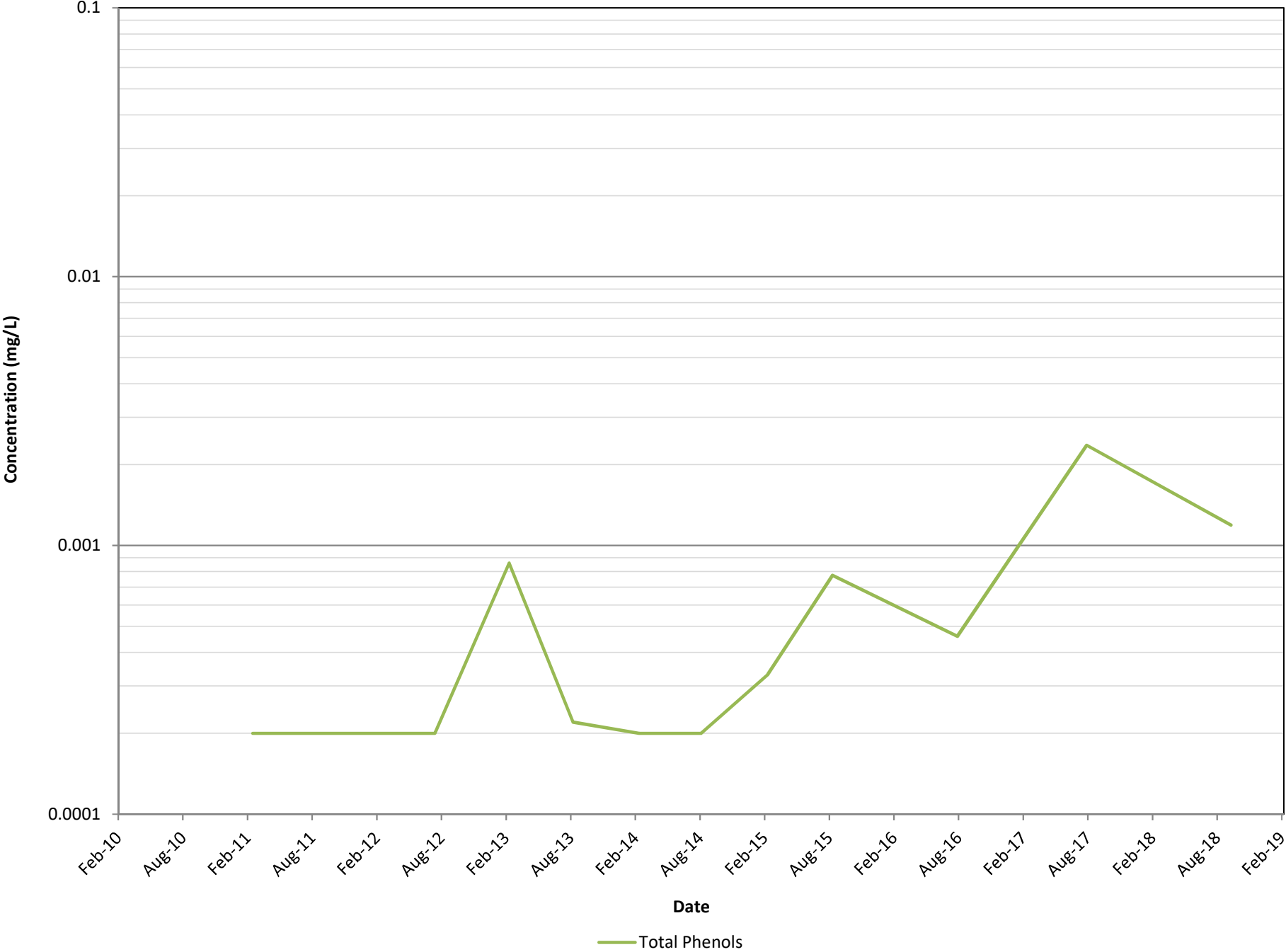
MW-28: TDS CONCENTRATIONS OVER TIME



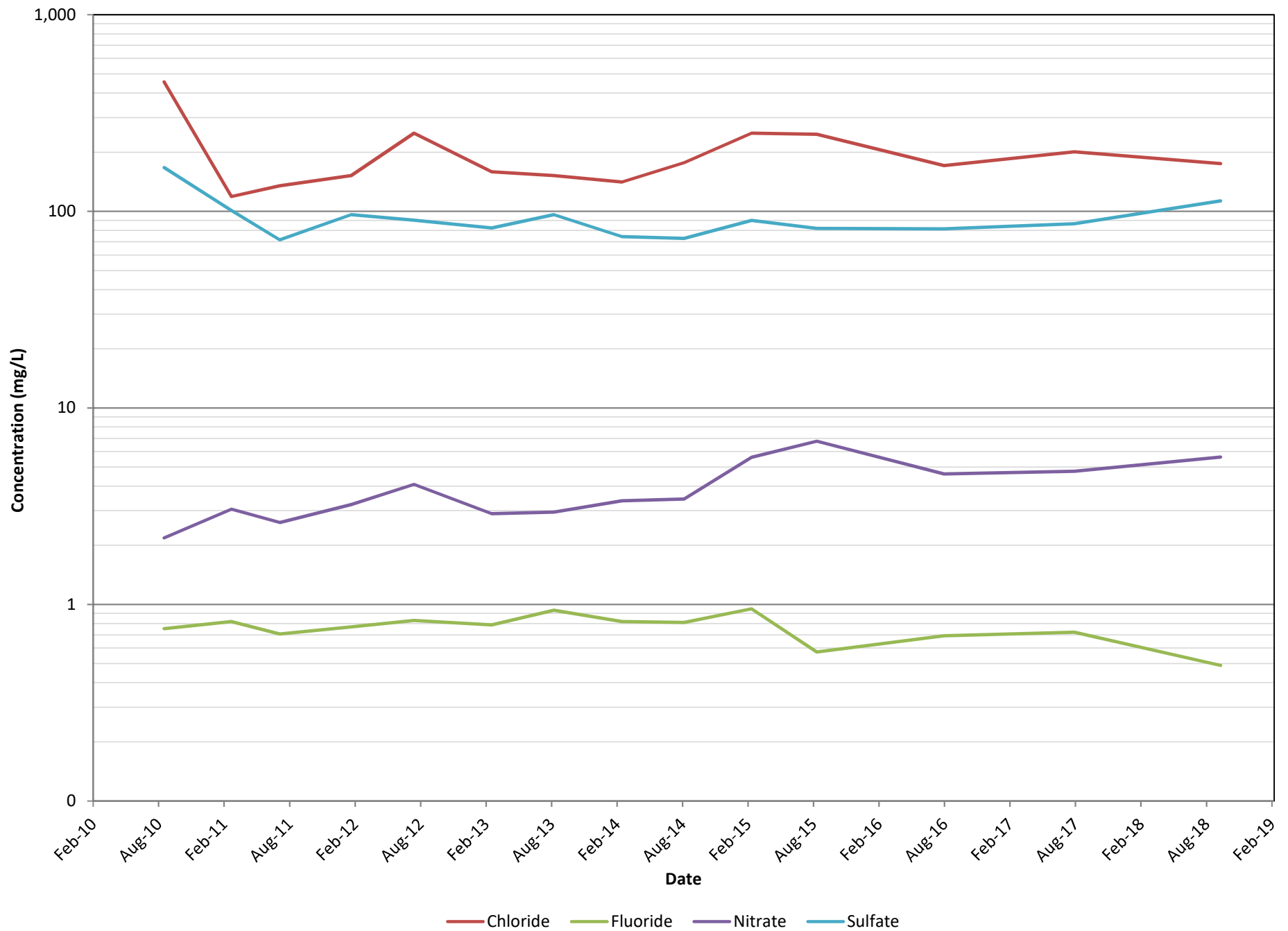
MW-28: METAL CONCENTRATIONS OVER TIME



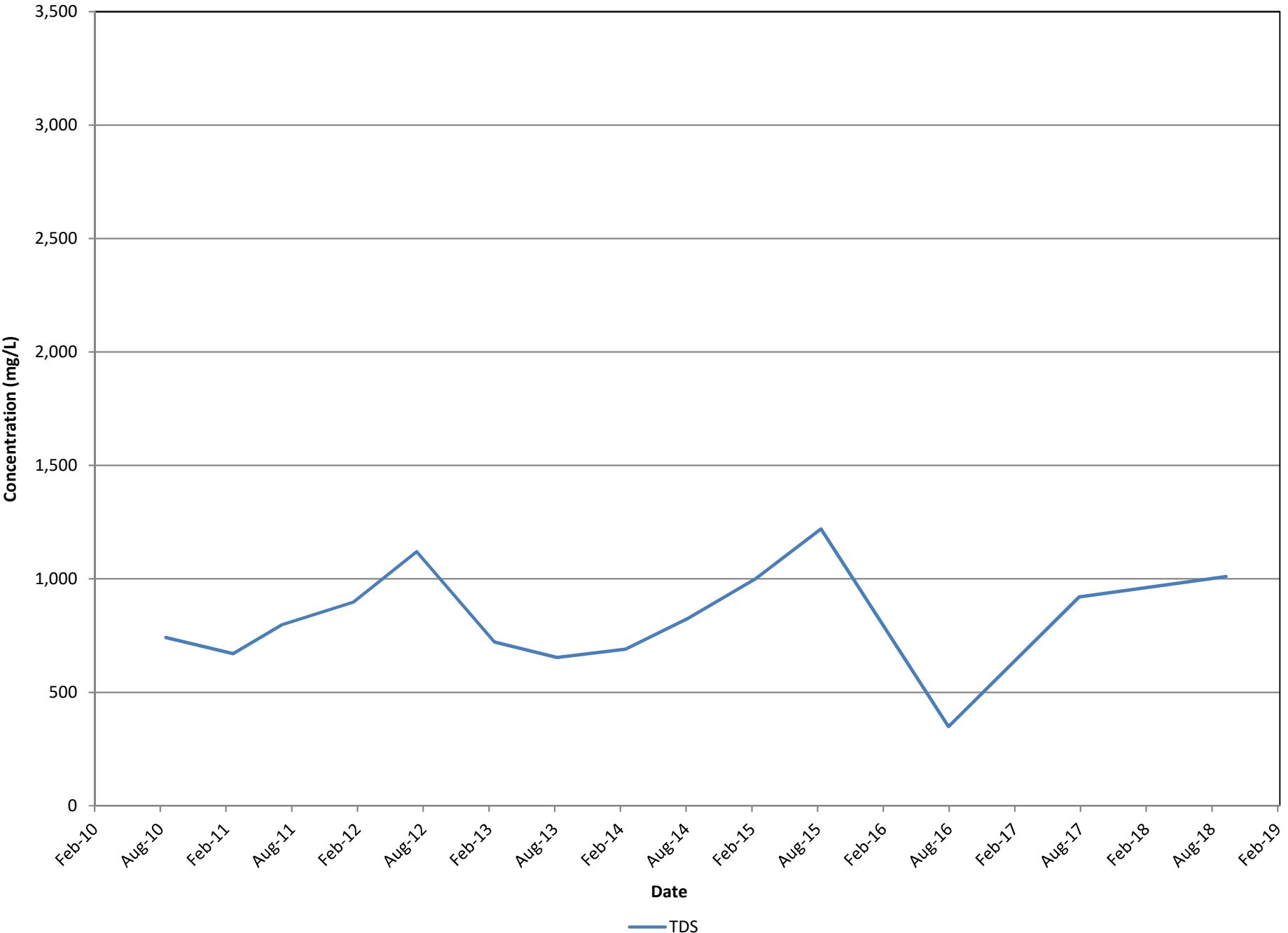
MW-28: SVOC CONCENTRATIONS OVER TIME



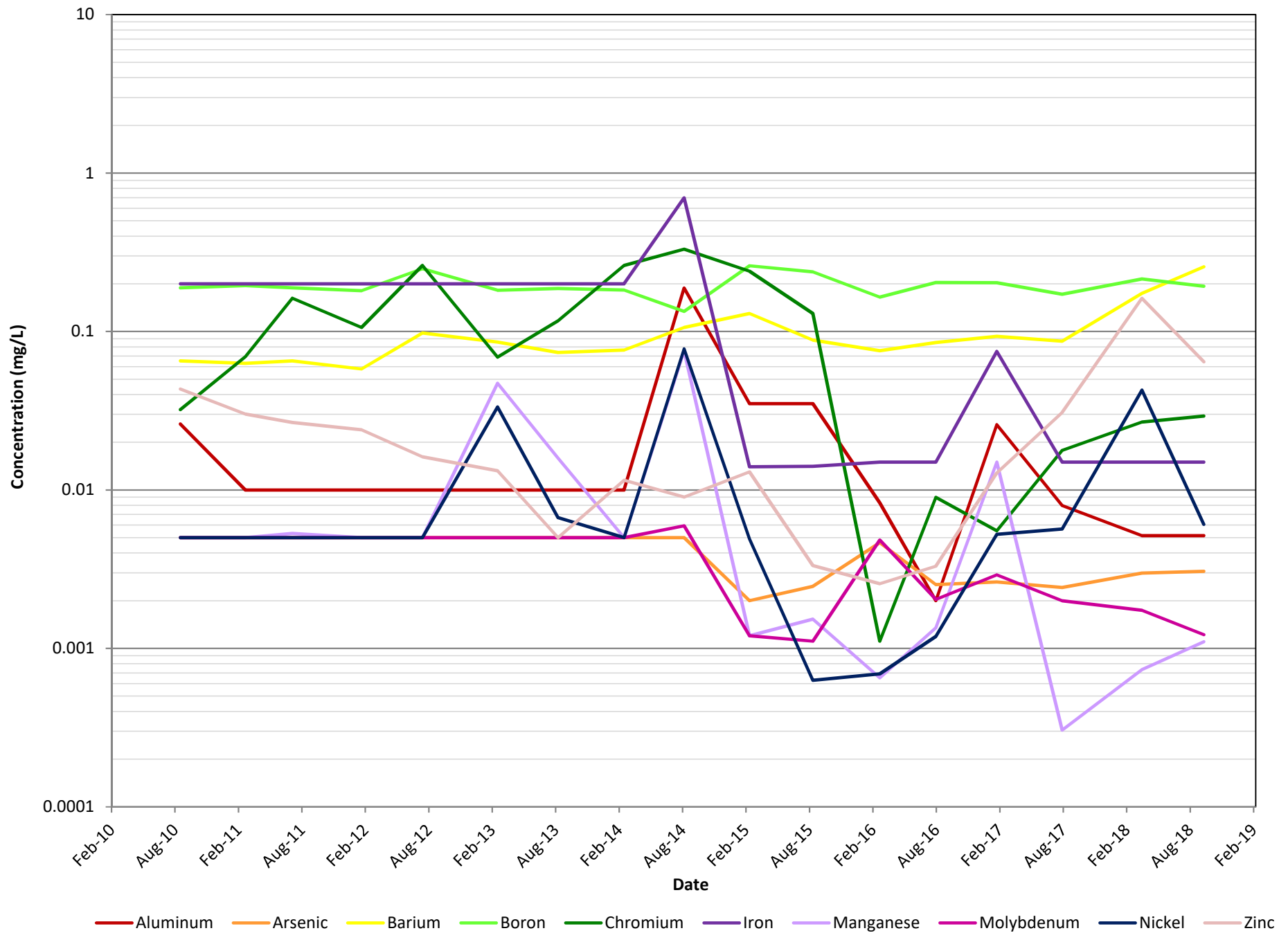
MW-29: ANION CONCENTRATIONS OVER TIME



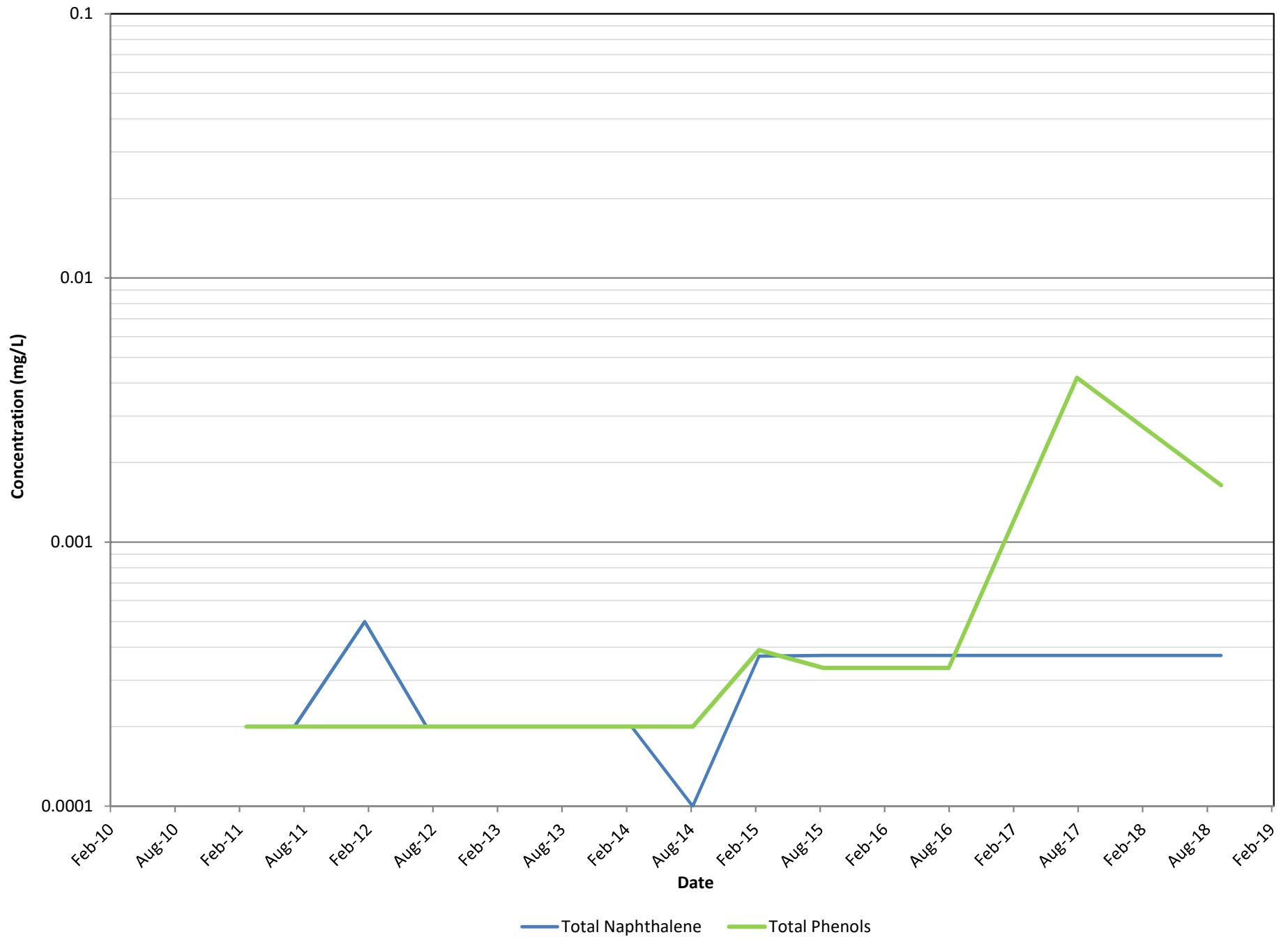
MW-29: TDS CONCENTRATIONS OVER TIME



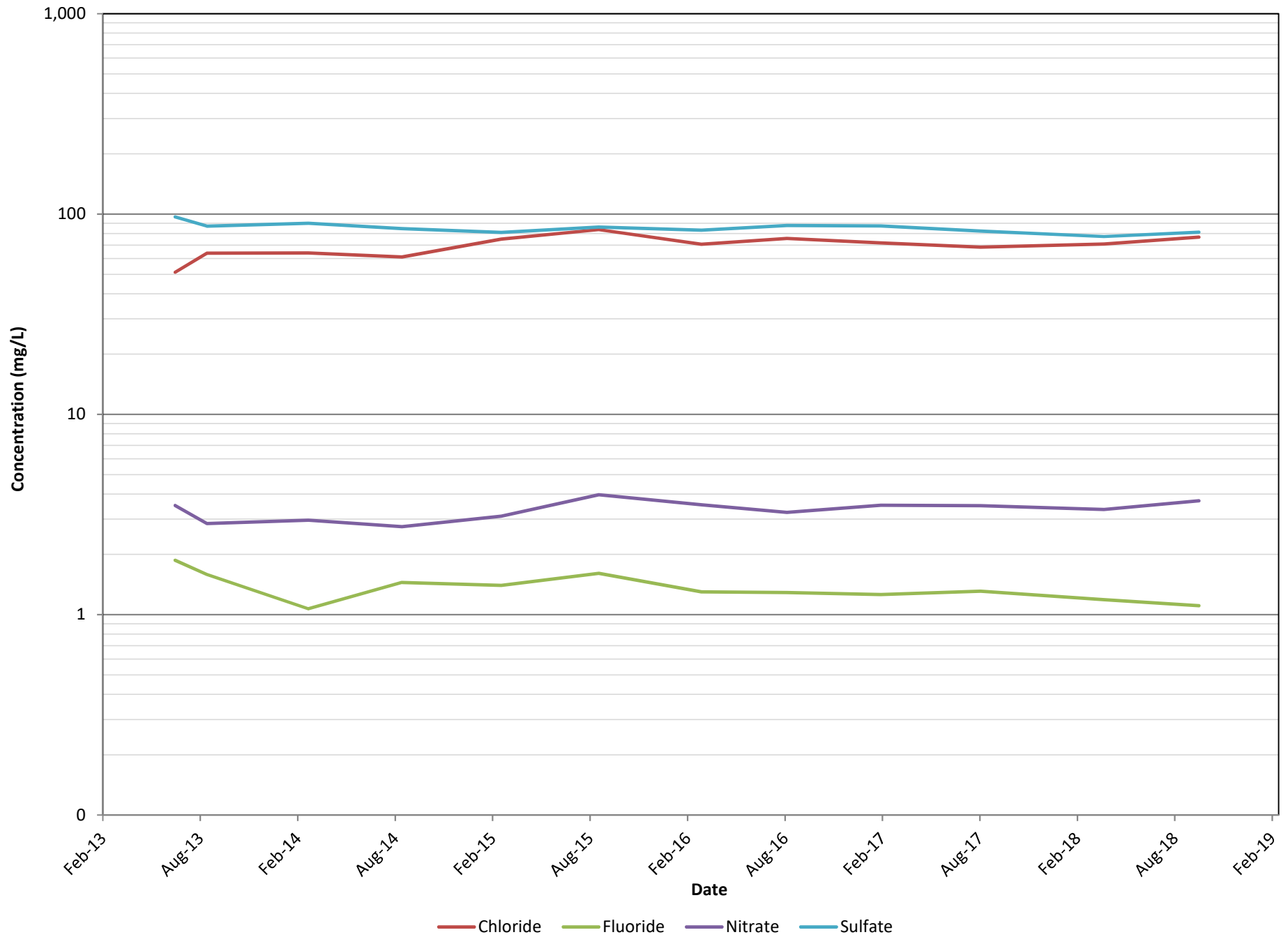
MW-29: METAL CONCENTRATIONS OVER TIME



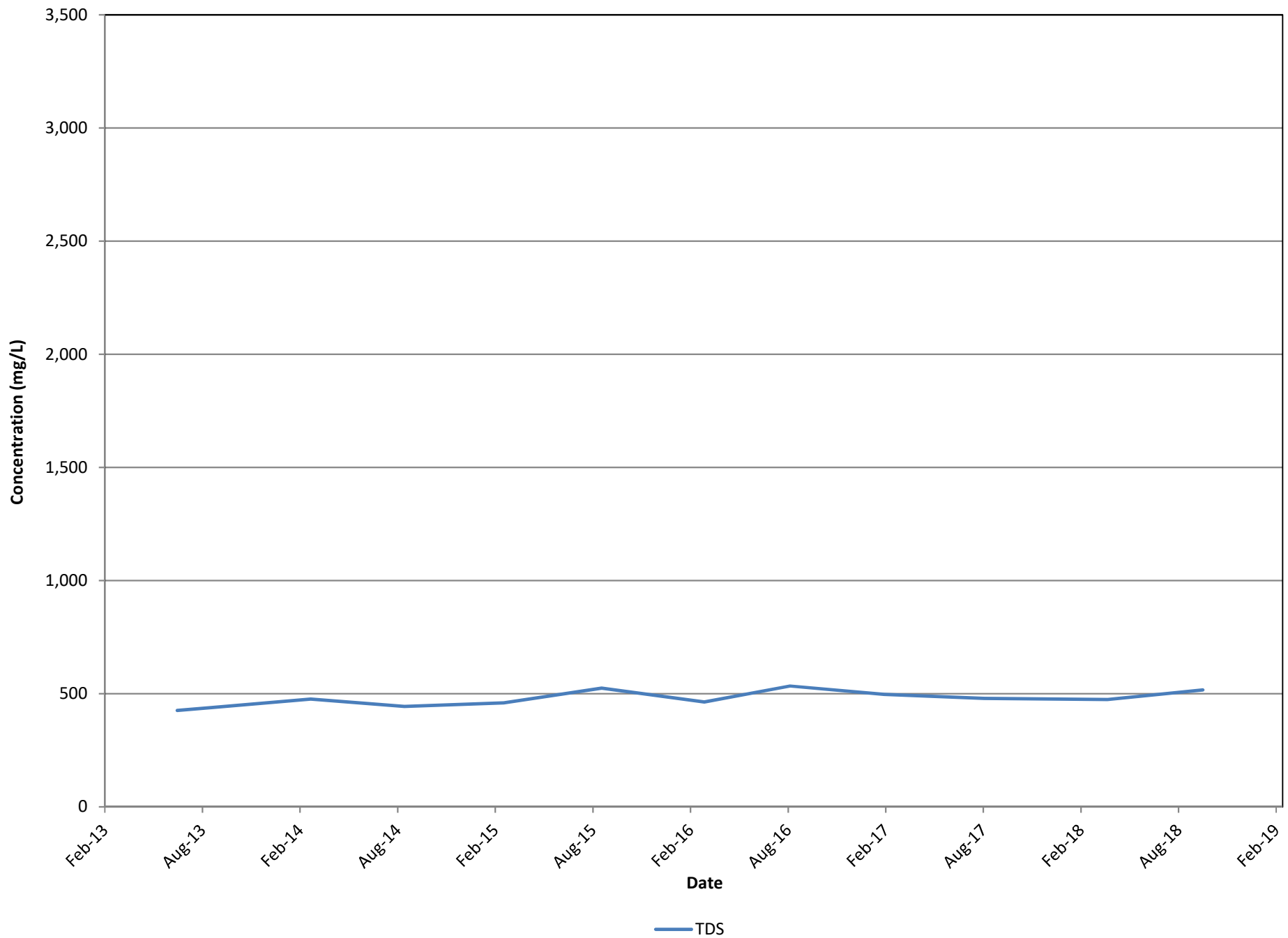
MW-29: SVOC CONCENTRATIONS OVER TIME



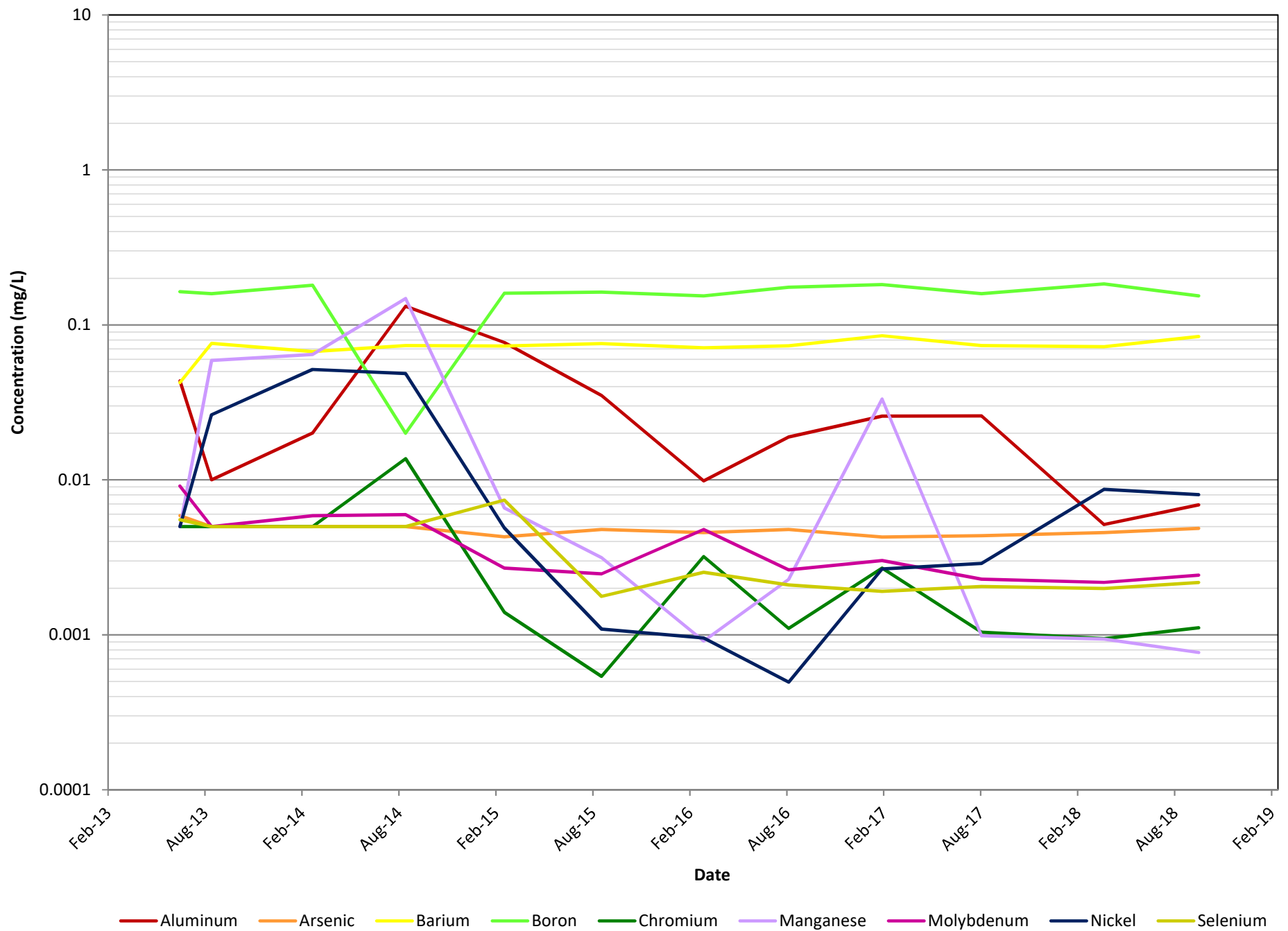
MW-30: ANION CONCENTRATIONS OVER TIME



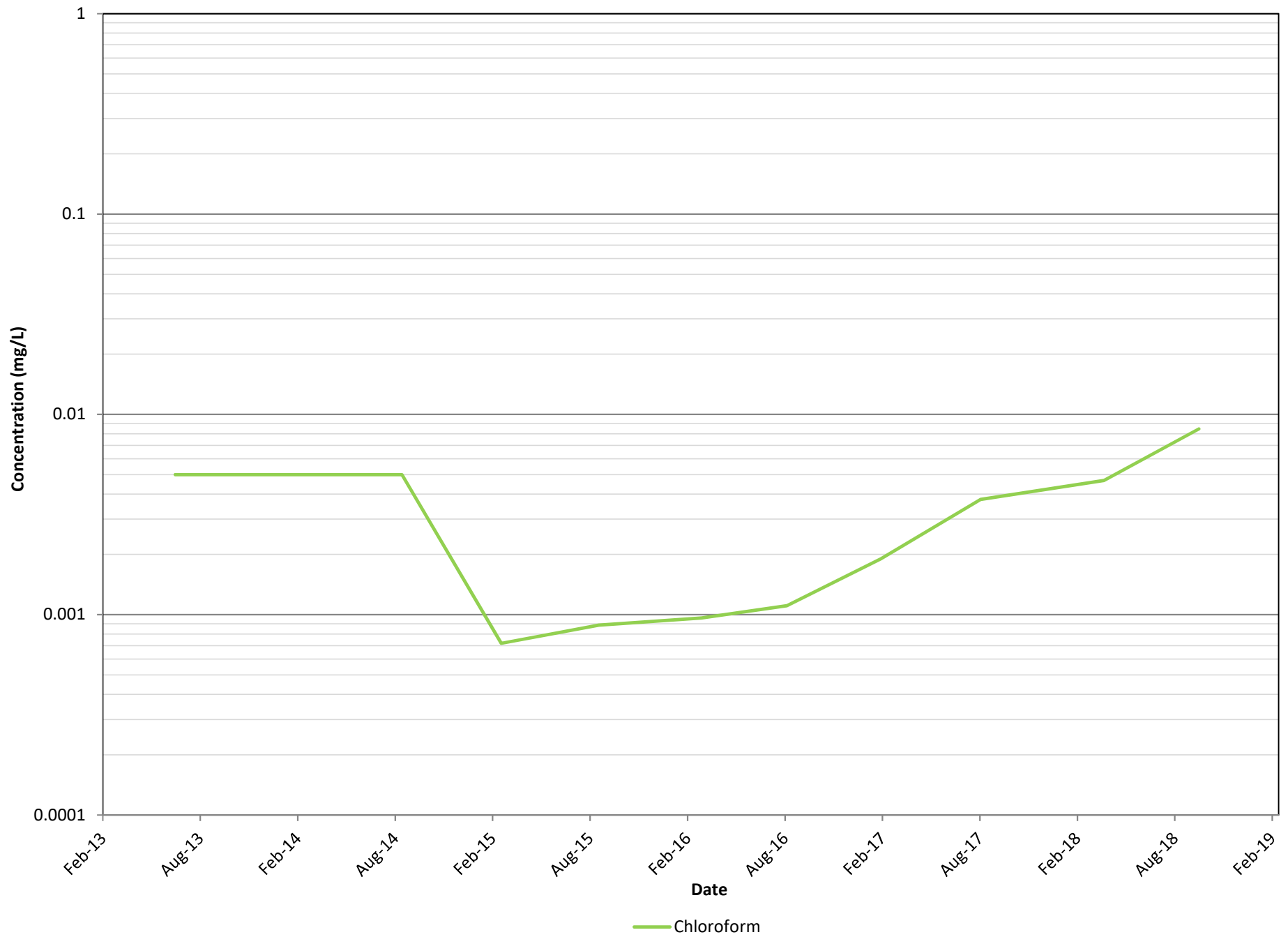
MW-30: TDS CONCENTRATIONS OVER TIME



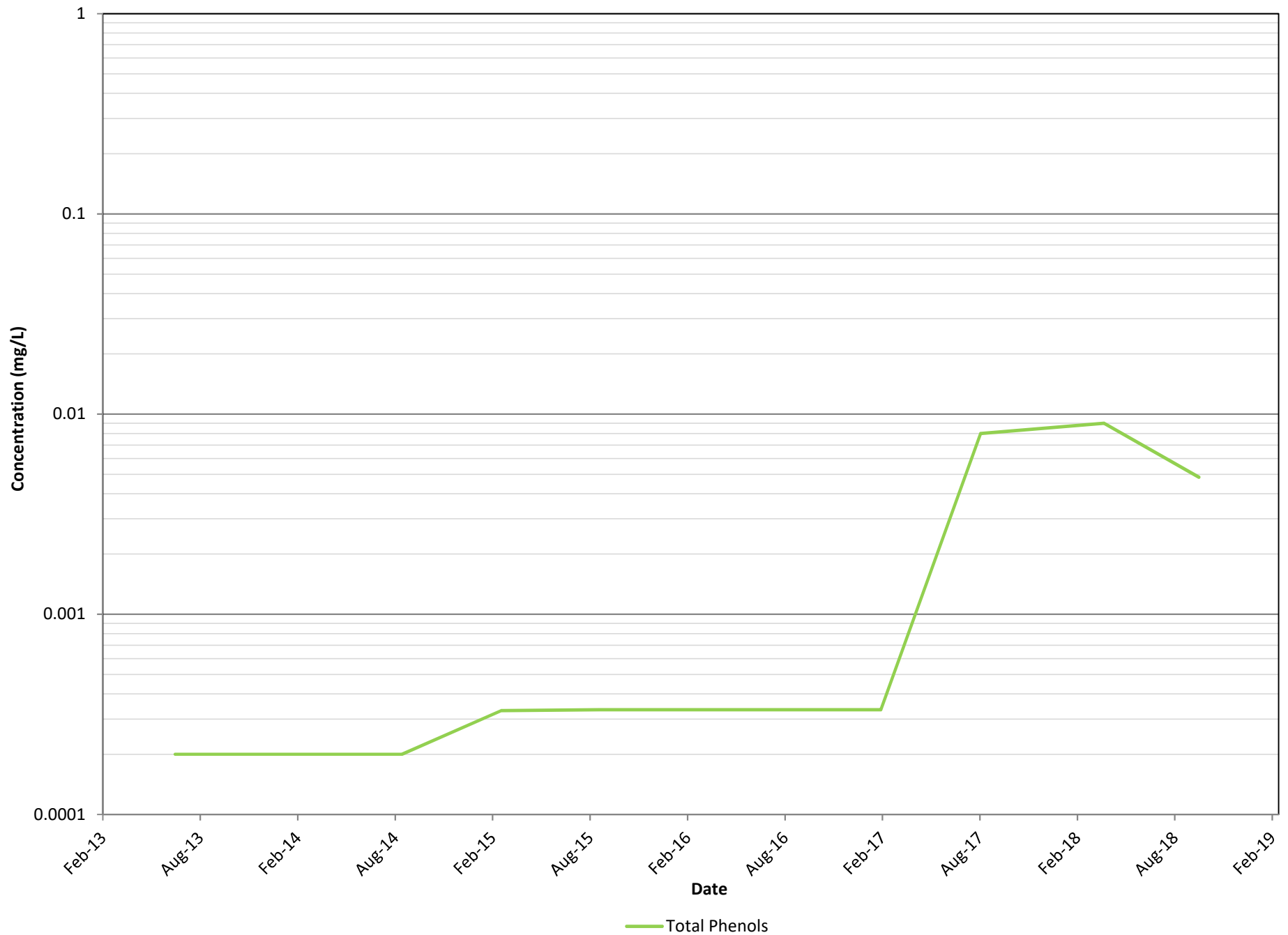
MW-30: METAL CONCENTRATIONS OVER TIME



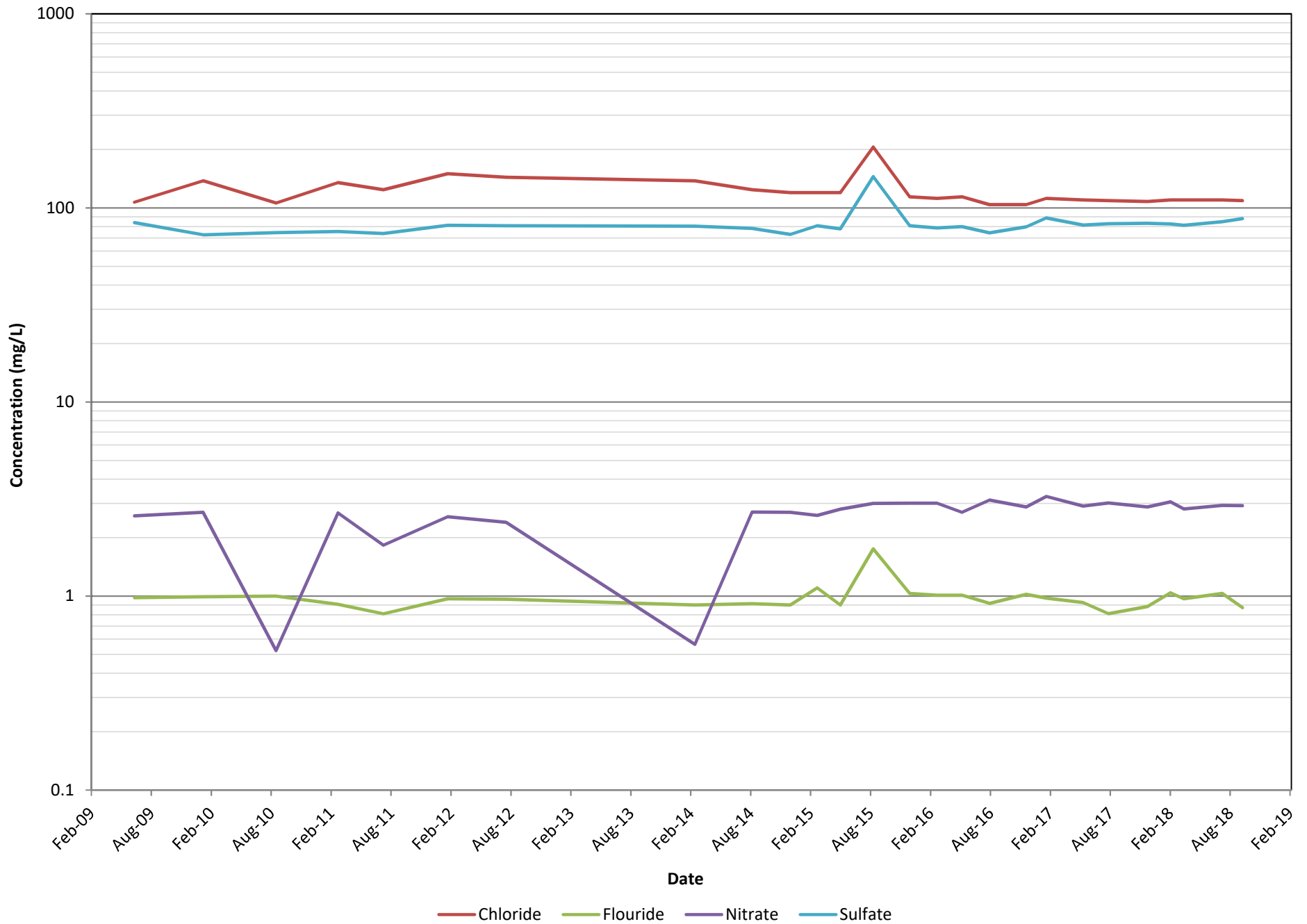
MW-30: VOC CONCENTRATIONS OVER TIME



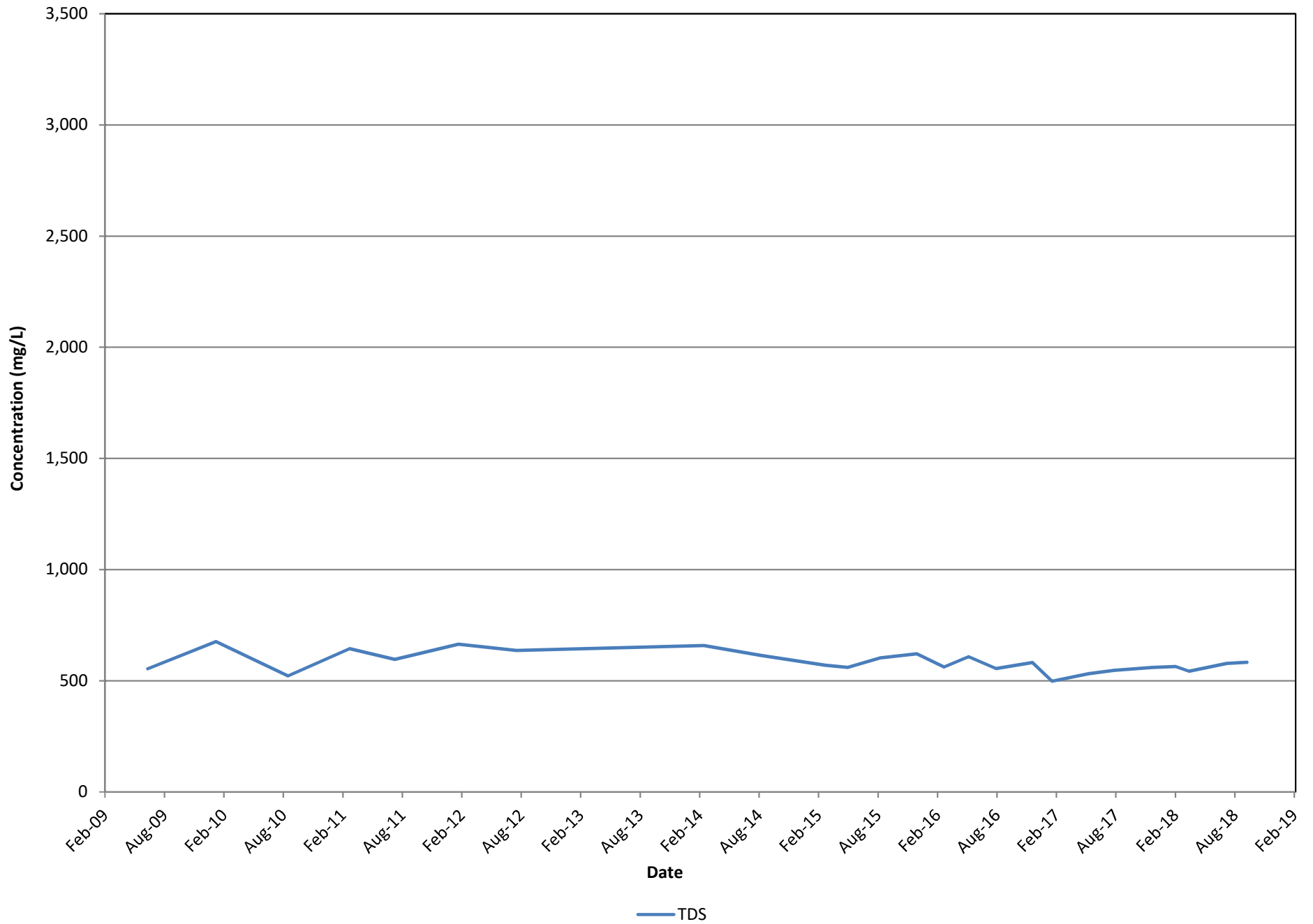
MW-30: SVOC CONCENTRATIONS OVER TIME



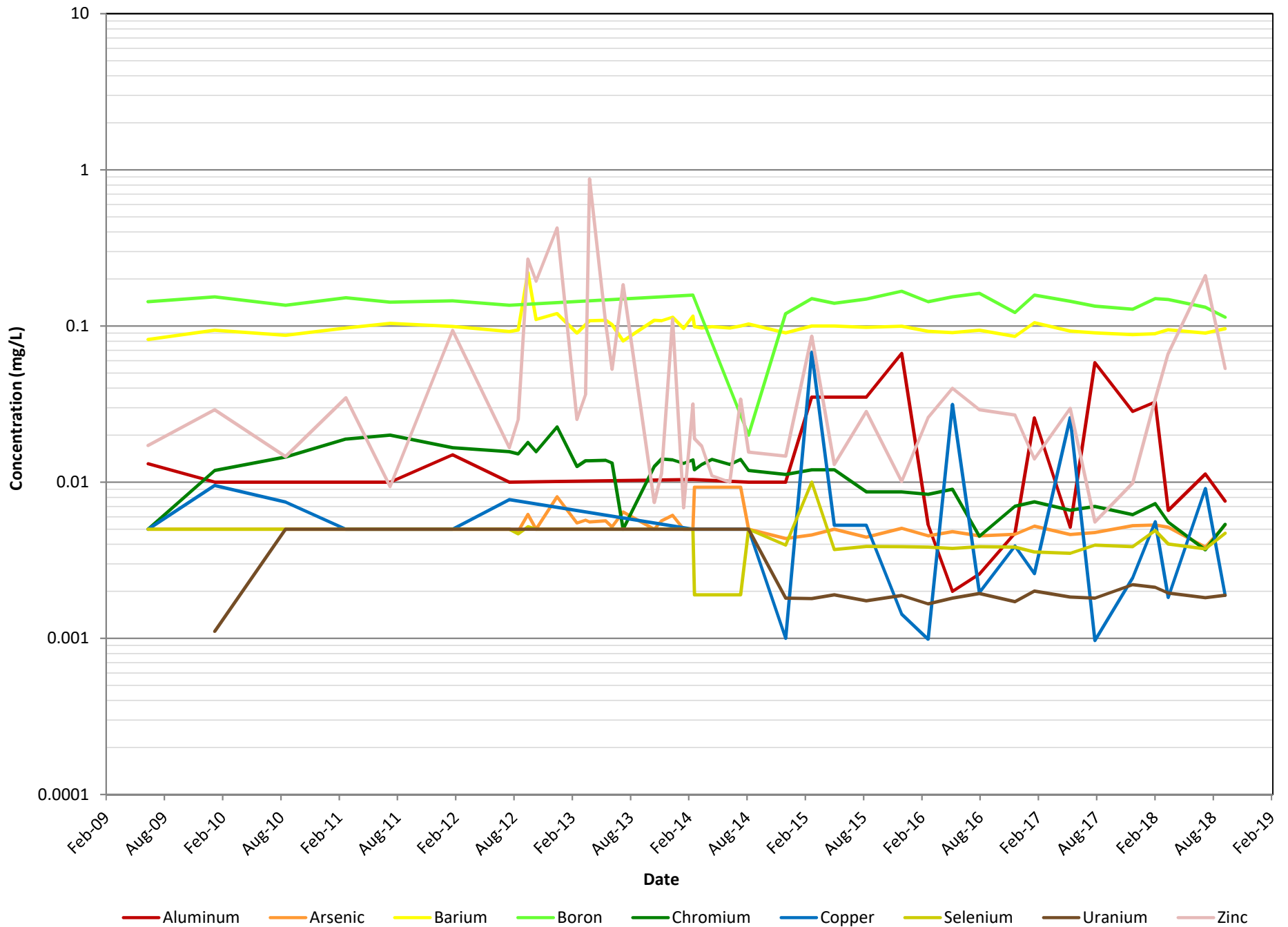
EAST WELL (WW-EAST): ANION CONCENTRATIONS OVER TIME



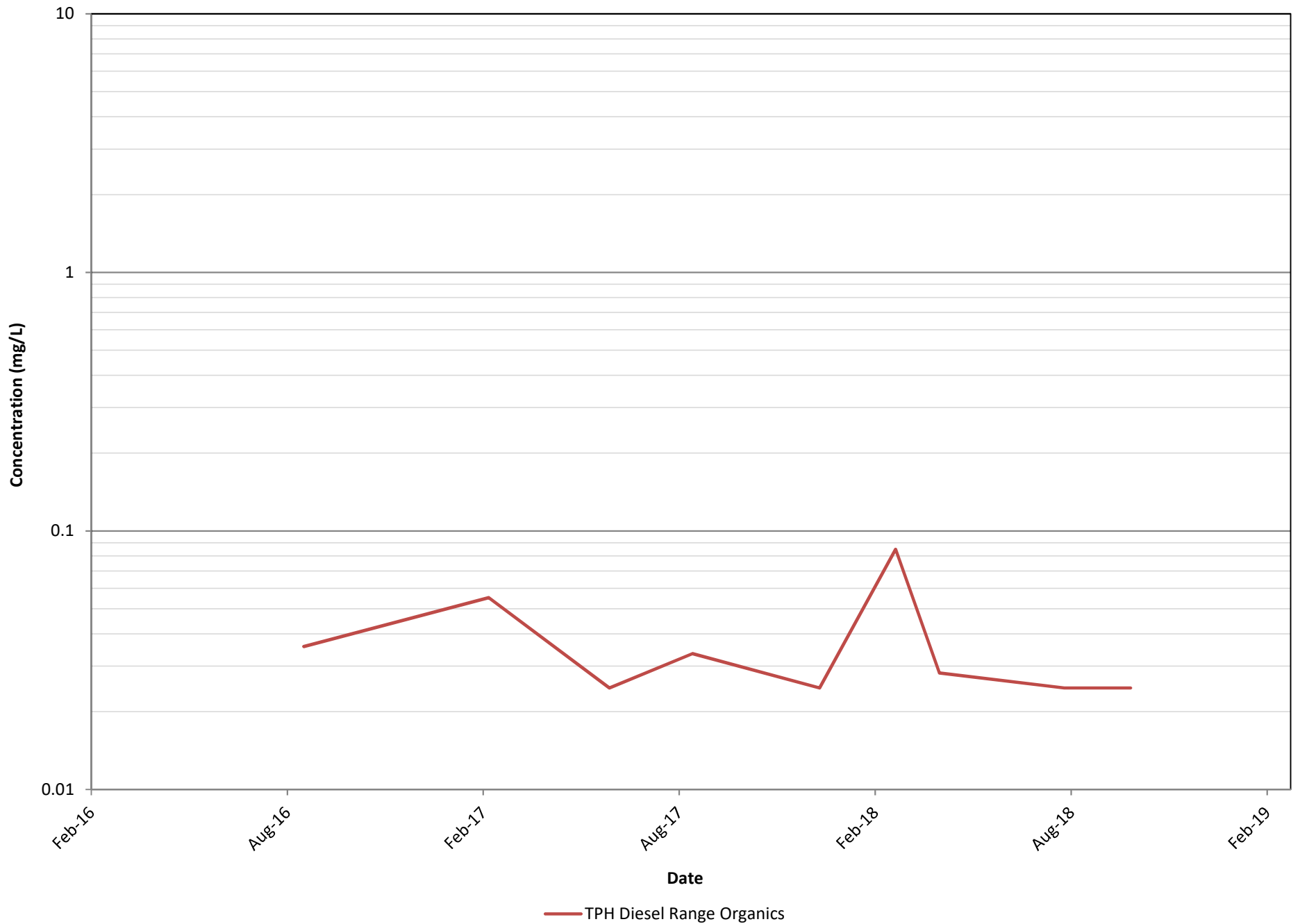
EAST WELL (WW-EAST): TDS CONCENTRATIONS OVER TIME



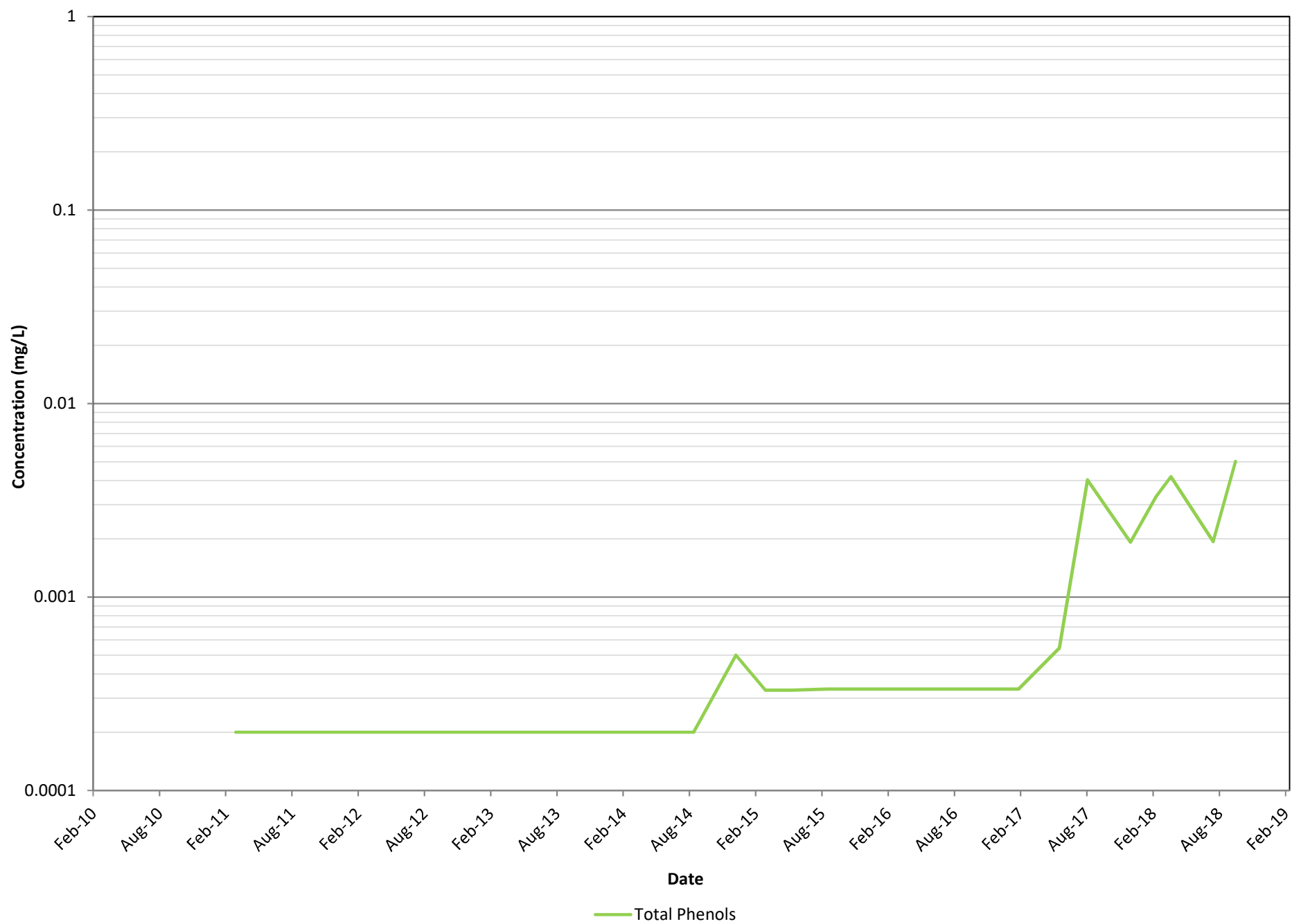
EAST WELL (WW-EAST): METAL CONCENTRATIONS OVER TIME



EAST WELL (WW-EAST): TPH CONCENTRATIONS OVER TIME



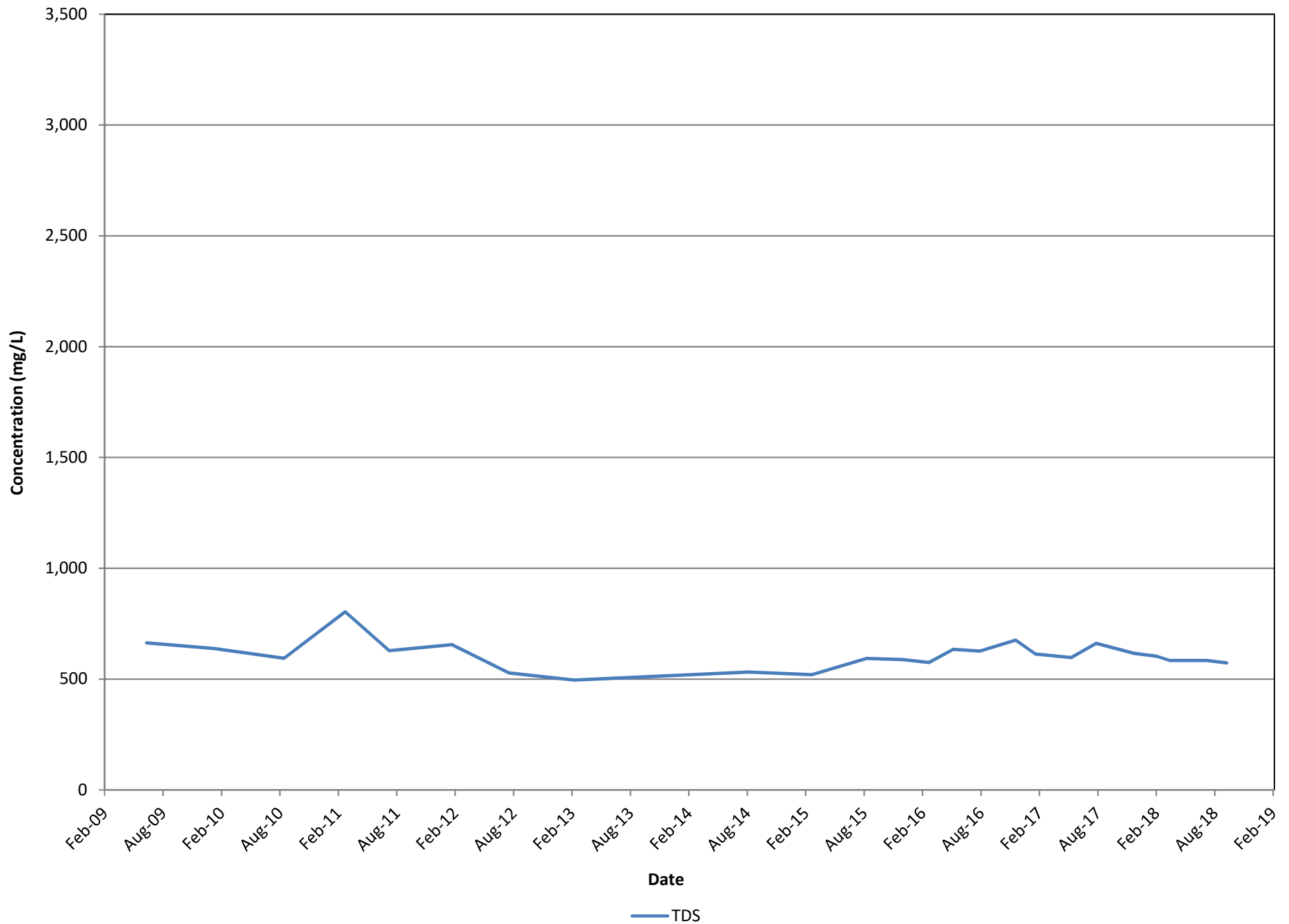
EAST WELL (WW-EAST): SVOC CONCENTRATIONS OVER TIME



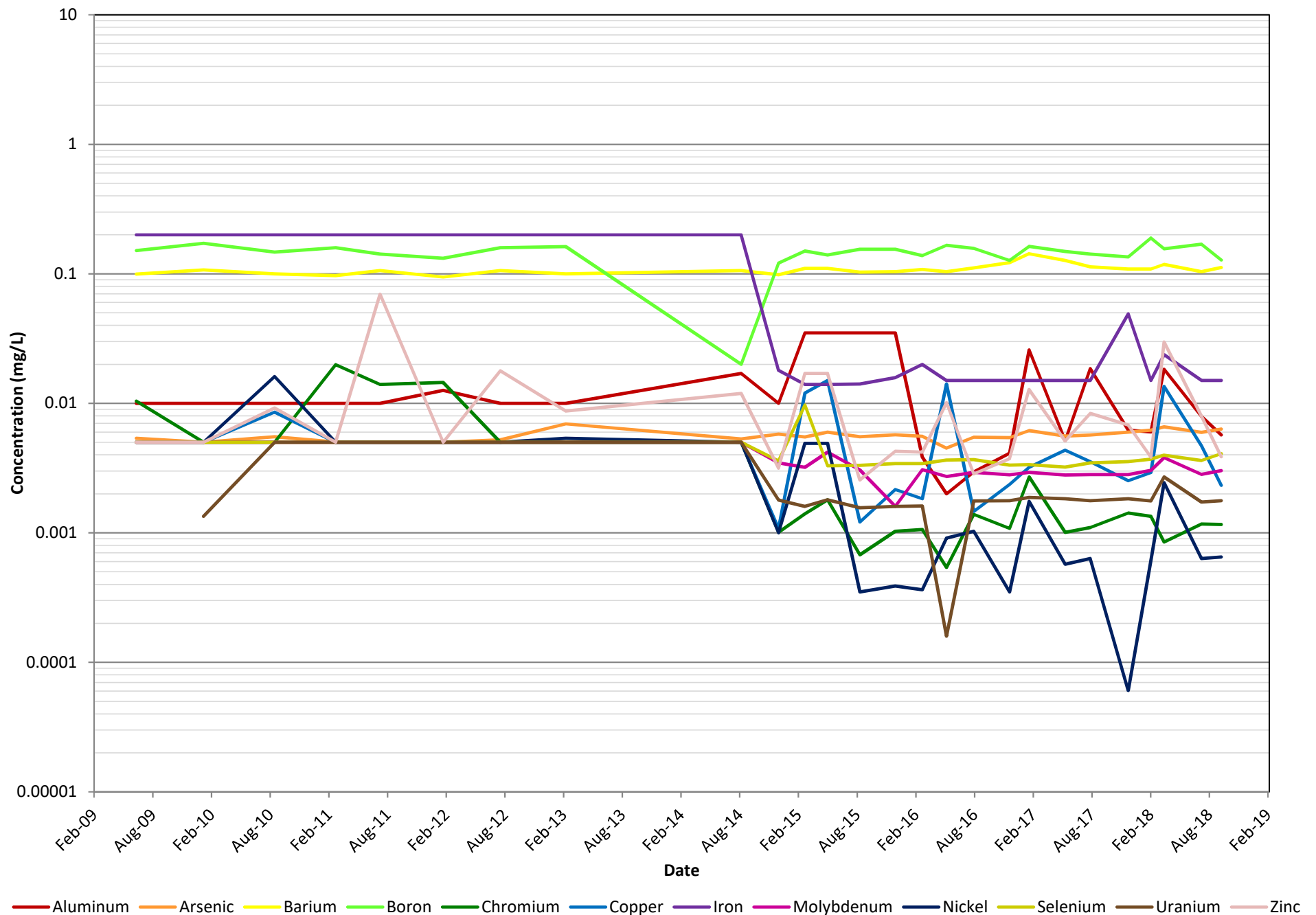
NORTH WELL (WW-NORTH): ANION CONCENTRATIONS OVER TIME



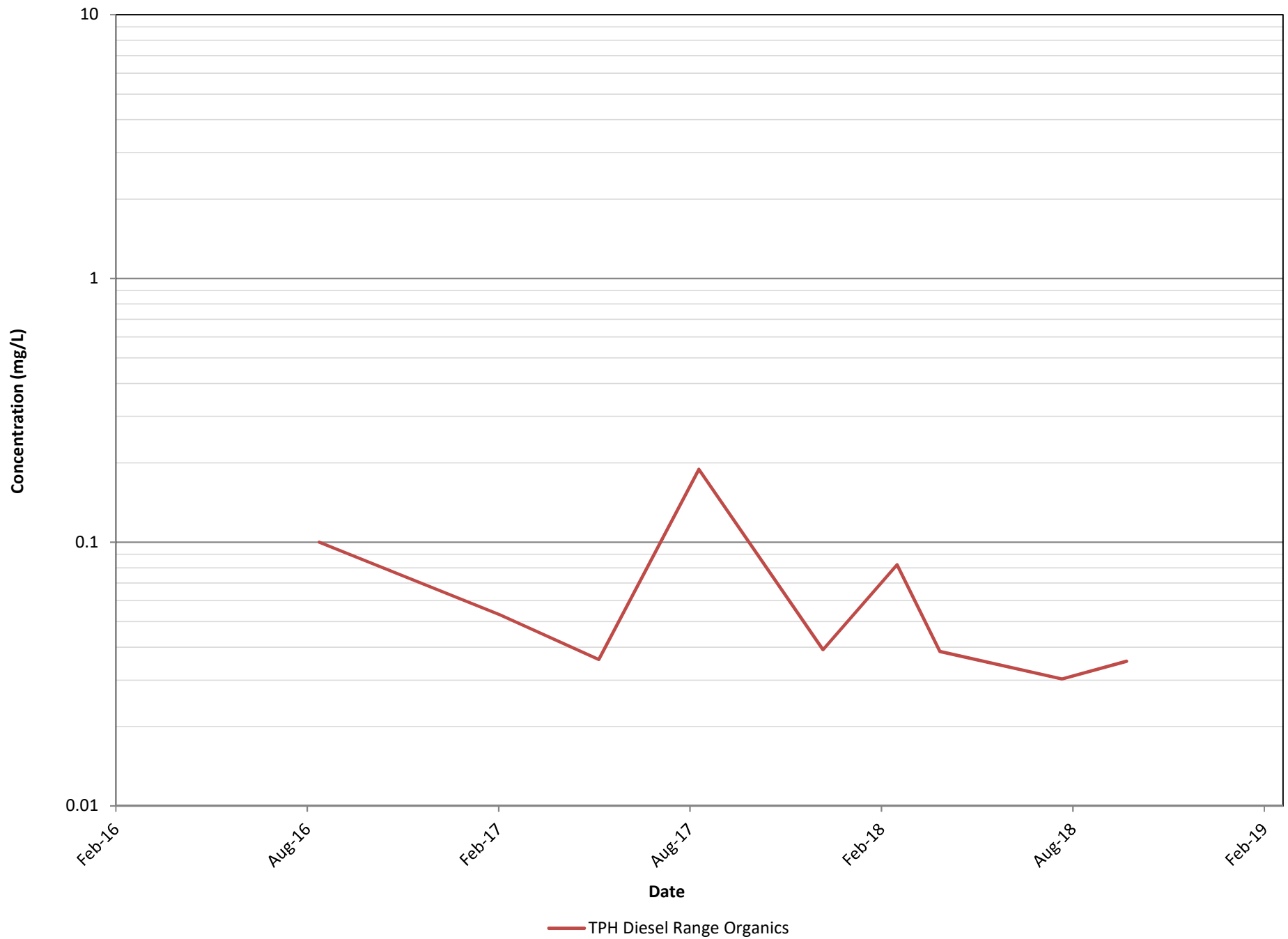
NORTH WELL (WW-NORTH): TDS CONCENTRATIONS OVER TIME



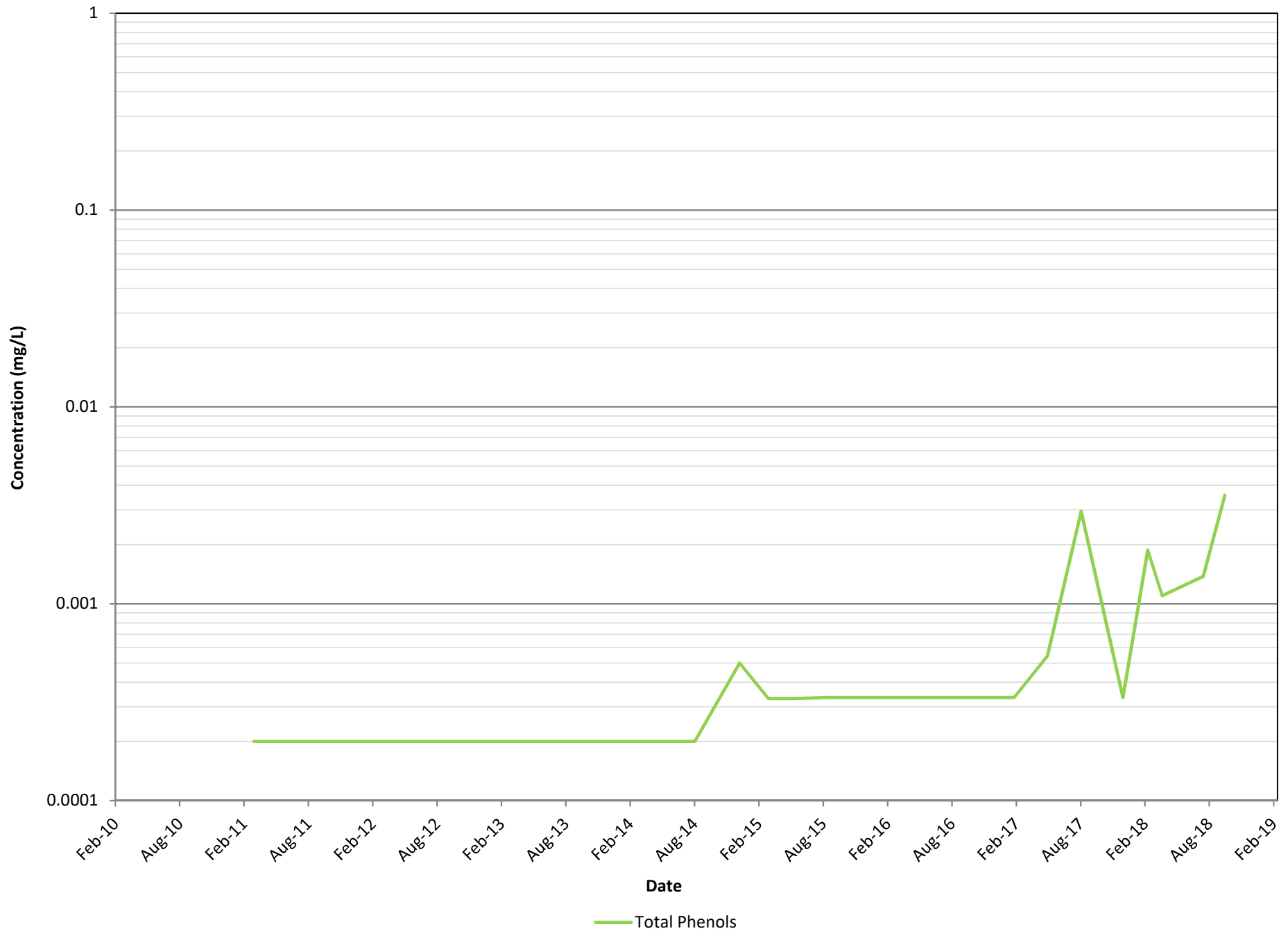
NORTH WELL (WW-NORTH): METAL CONCENTRATIONS OVER TIME



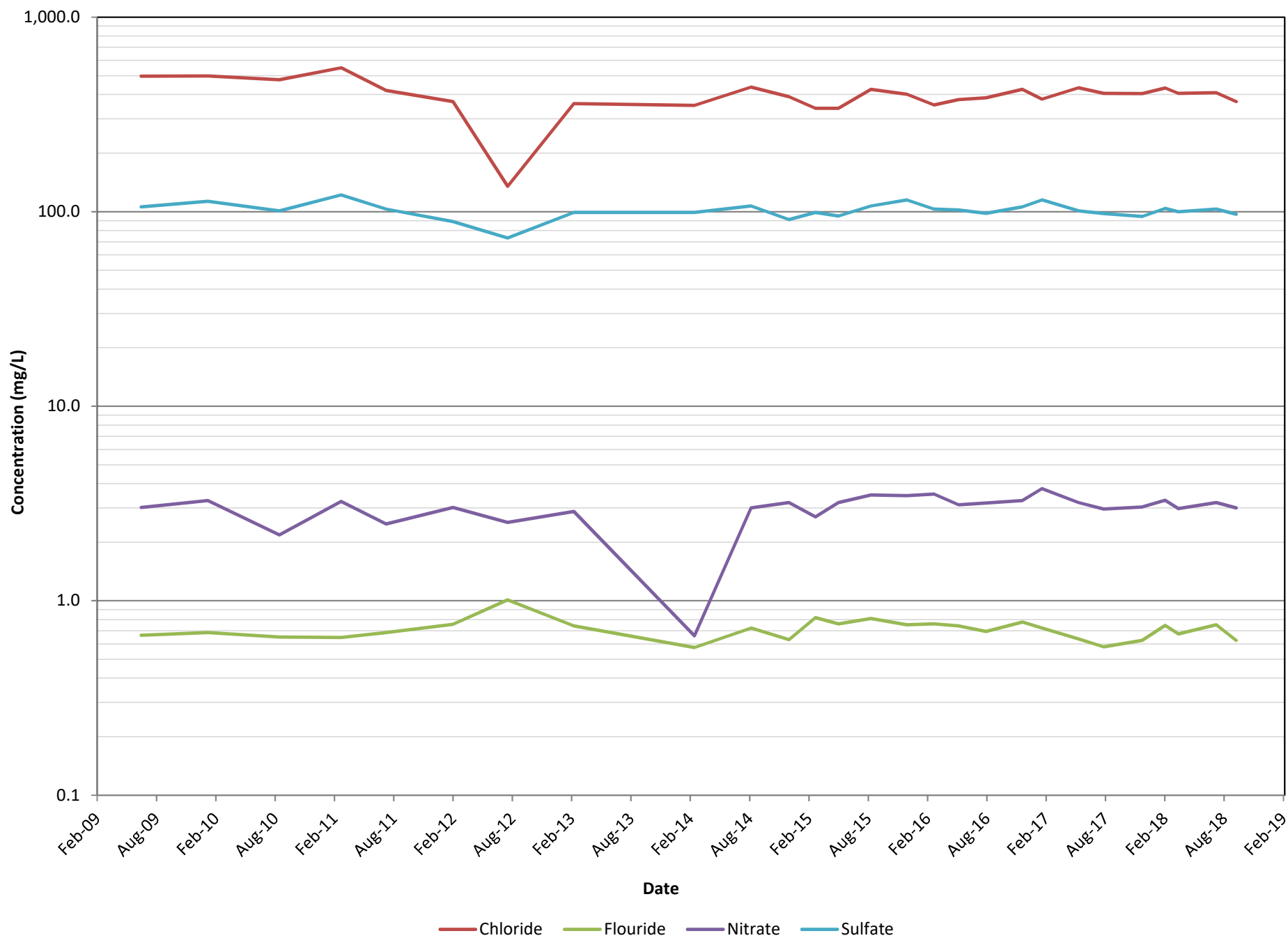
NORTH WELL (WW-NORTH): TPH CONCENTRATIONS OVER TIME



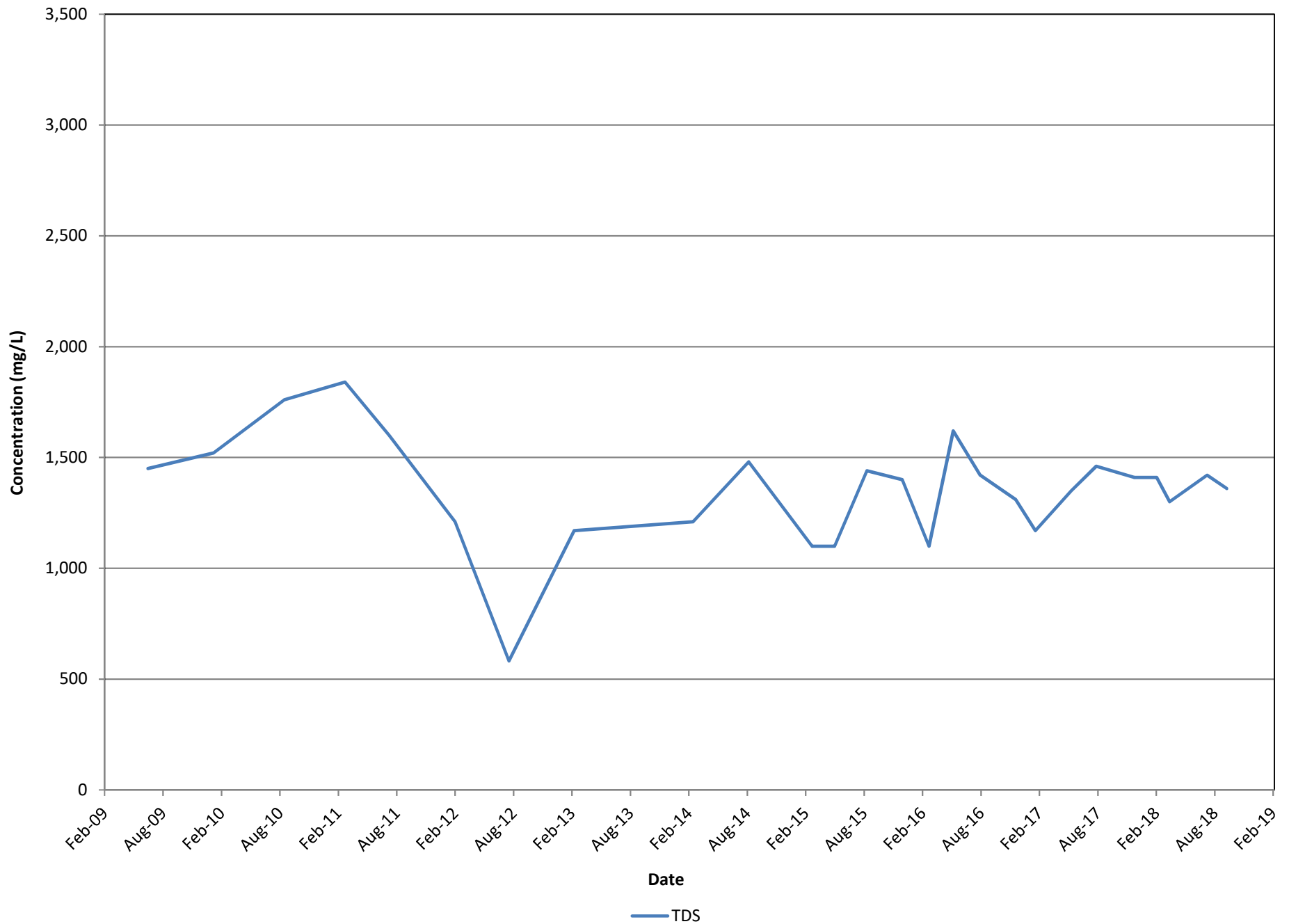
NORTH WELL (WW-NORTH): SVOC CONCENTRATIONS OVER TIME



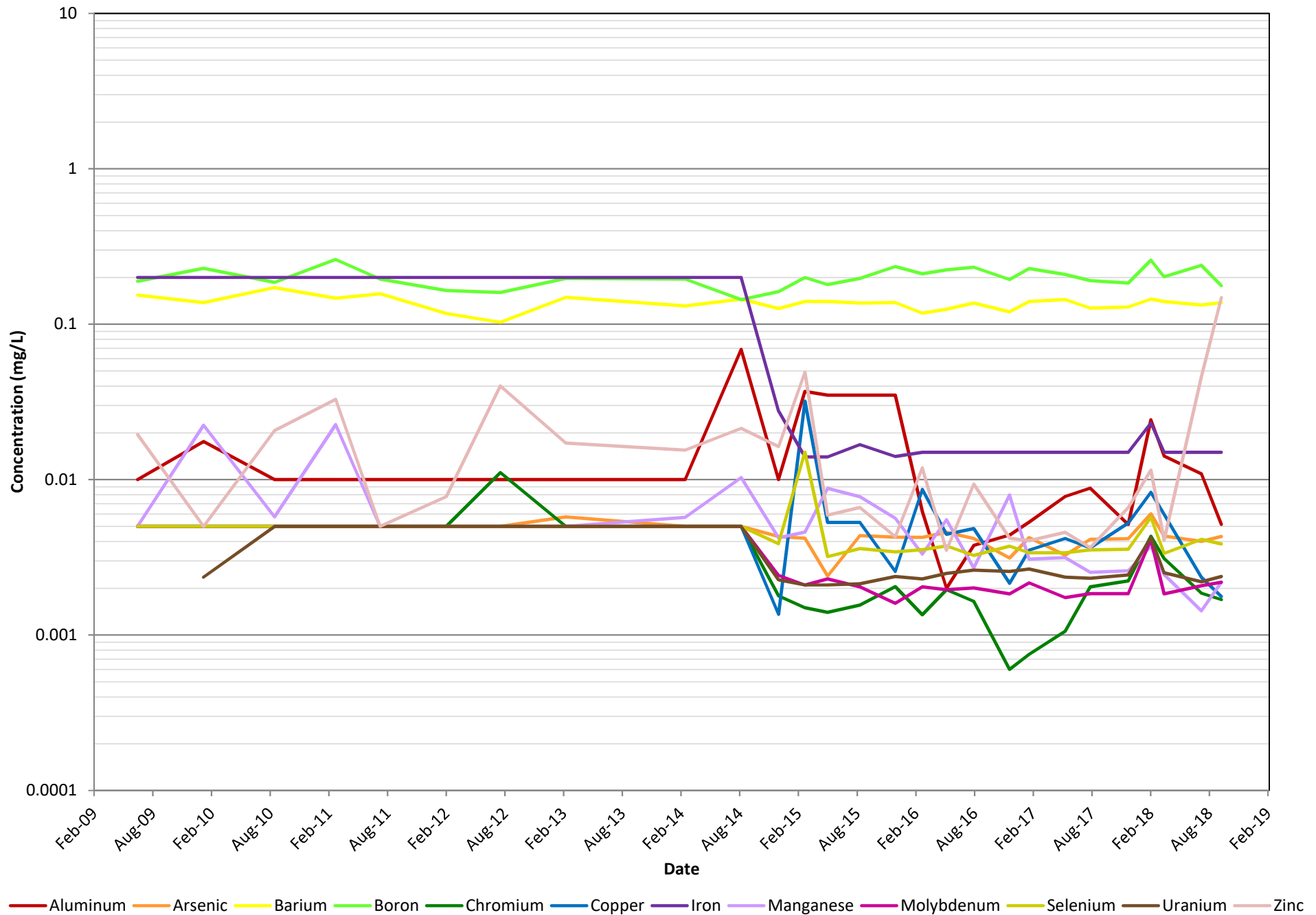
SOUTH WELL (WW-SOUTH): ANION CONCENTRATIONS OVER TIME



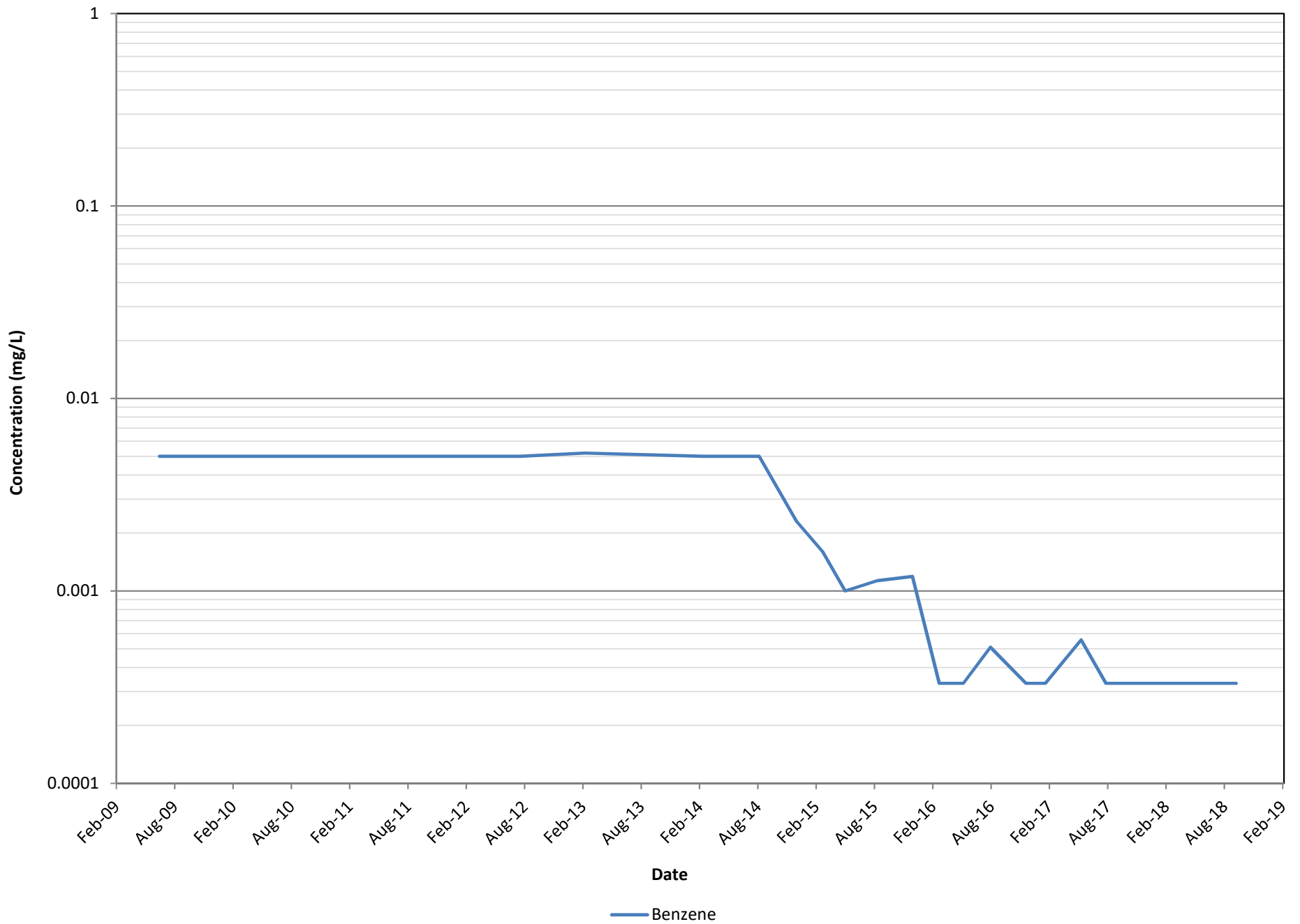
SOUTH WELL (WW-SOUTH): TDS CONCENTRATIONS OVER TIME



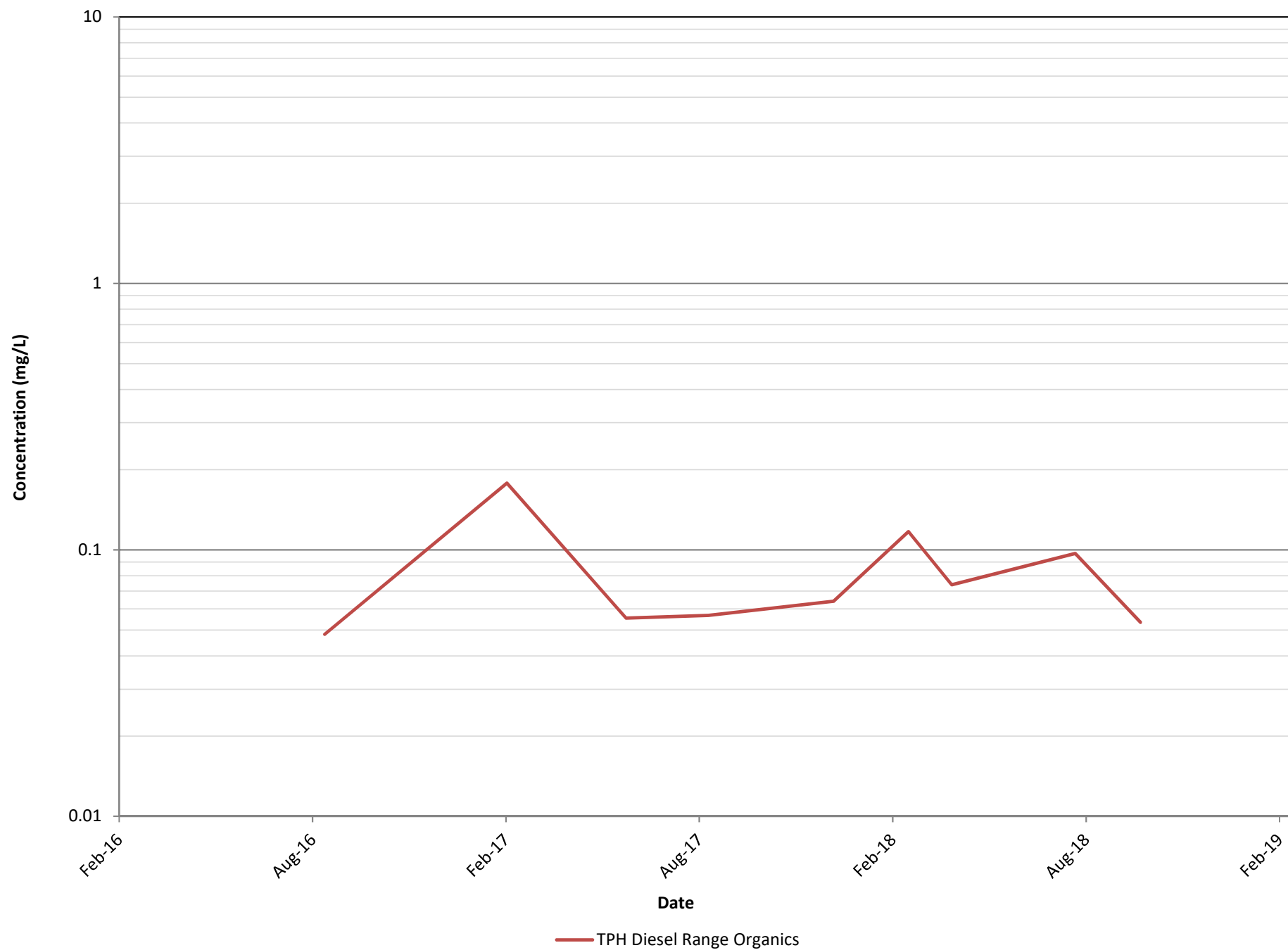
SOUTH WELL (WW-SOUTH): METAL CONCENTRATIONS OVER TIME



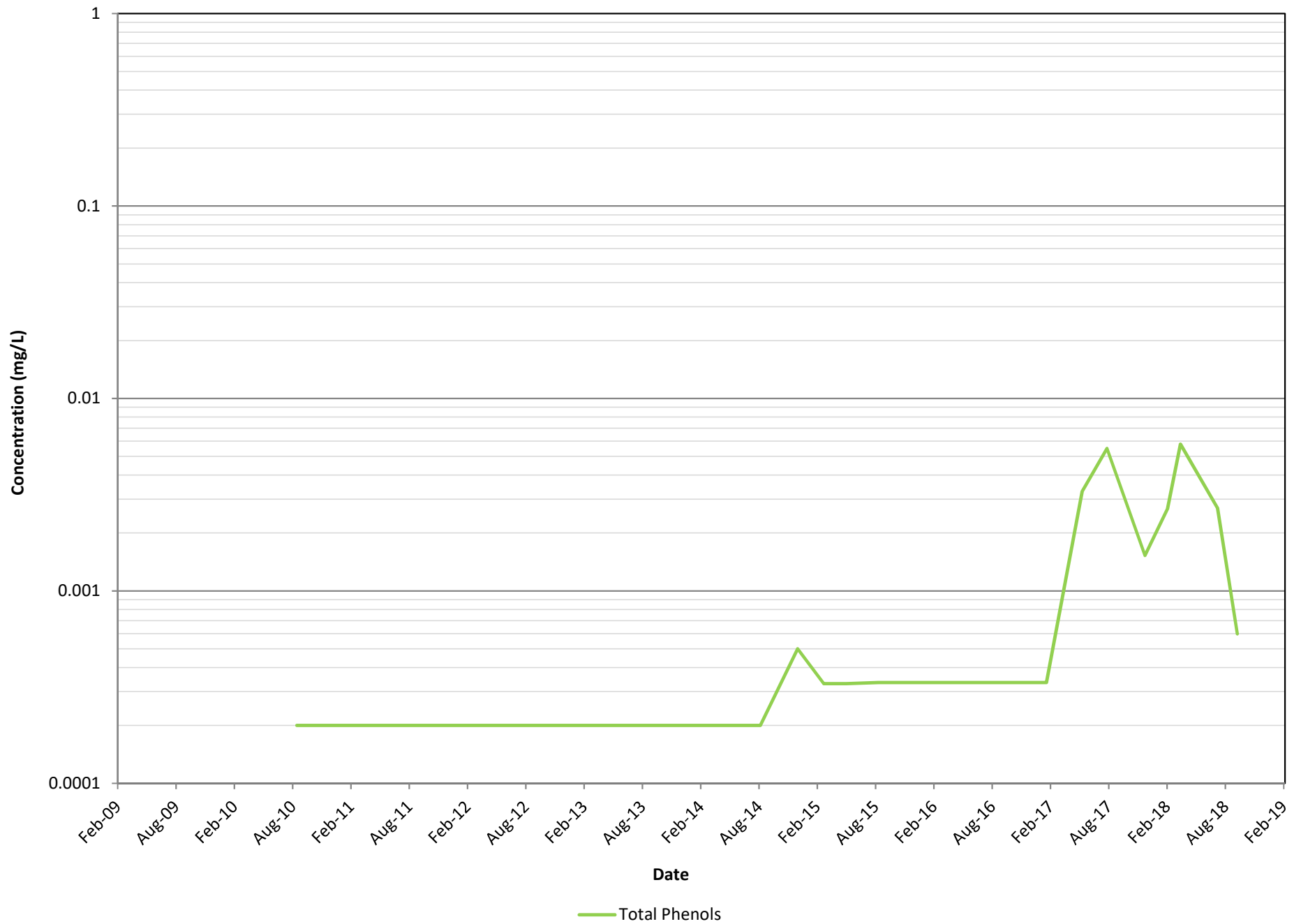
SOUTH WELL (WW-SOUTH): VOC CONCENTRATIONS OVER TIME



SOUTH WELL (WW-SOUTH): TPH CONCENTRATIONS OVER TIME



SOUTH WELL (WW-SOUTH): SVOC CONCENTRATIONS OVER TIME



APPENDIX E

QUALITY ASSURANCE/QUALITY CONTROL DATA SUMMARY

APPENDIX E – QUALITY ASSURANCE/QUALITY CONTROL DATA SUMMARY

1.1 Semi-Annual and Quarterly Groundwater Samples

Data reported by ESC Lab Sciences in Mount Juliet, Tennessee for the groundwater samples collected in February and April 2018 and data reported by Pace Analytical (formerly known as ESC Lab Sciences) in Mount Juliet, Tennessee for the groundwater samples collected in July and October 2018 were reviewed in accordance with the United States Environmental Protection Agency (USEPA) *National Functional Guidelines for Organic Superfund Methods Data Review* (USEPA, January 2017), *National Functional Guidelines for Inorganic Superfund Methods Data Review* (USEPA, January 2017), modified for the individual methods, as applicable. Three water samples, one field duplicate, and one trip blank were collected on February 23, 2018. Twenty water samples, three field duplicates, two equipment blanks, and two trip blanks were collected on April 5, 2018. Three water samples, one field duplicate, and two trip blanks were collected on July 31, 2018. Thirty-four water samples, four field duplicates, two equipment blanks, and one trip blank were collected on October 1, 2018. Samples were submitted for one or more of the following parameters:

- Dissolved solids by Standard Methods (SM) 2540C
- Alkalinity by SM 2320B
- Nitrate-nitrite by EPA method 353.2
- Chloride, fluoride, and sulfate by SW-846 method 9056A
- Mercury by SW-846 method 7470A
- Dissolved boron by SW-846 method 6010B
- Dissolved metals by SW-846 method 6020
- TPH-Low Fraction by SW-846 method 8015D
- Volatile organic compounds (VOCs) by SW-846 method 8260B
- TPH-High Fraction by SW-846 method 8015
- Semivolatile organic compounds (SVOCs) by SW-846 method 8270C

TRC Quality Assurance (QA) staff reviewed the data. Four data packages identified as L972920, L984044, L1013808, and L1030903 were reviewed. Data were reviewed for compliance with the analytical protocols used for sample analysis and laboratory-defined quality control (QC) limits. Items reviewed during the data evaluation process included the following:

- Sample integrity, preservation, and holding times
- Blank analyses
- Surrogate recoveries
- Matrix spike and matrix spike duplicate (MS/MSD) recoveries and relative percent differences (RPDs)
- Laboratory control sample and laboratory control sample duplicate (LCS/LCSD) recoveries and RPDs
- Field duplicate and lab duplicate RPDs
- Sample documentation

Data interpretation issues are identified in the following subsections. QC data indicate that measurement data are sufficient to meet method quality objectives, reported data are defensible, and QC mechanisms were generally effective in ensuring measurement data reliability within the expected limits of sampling and analytical error with the following exceptions.

1.1.1 Holding Times

All samples collected during February and April 2018 were prepared and/or analyzed within holding time. The following holding time issues were noted in July and October 2018.

- In July 2018, the dissolved solids analyses of samples WW-NORTH and WW-SOUTH were performed one day outside of the 7-day holding time due to a laboratory accident with the original preparation performed within the holding time; thus, the dissolved solids results in samples WW-NORTH and WW-SOUTH may be biased low.
- In October 2018, the dissolved solids analysis of sample MW-23 was performed five days outside of the 7-day holding time; thus, the dissolved solids result in sample MW-23 may be biased low.

1.1.2 Surrogates

In February, April, and July 2018, there were no surrogate recovery nonconformances in the VOC, SVOC, TPH-Low Fraction, and TPH-High Fraction analyses. The surrogate recovery nonconformances in the SVOC and TPH-High Fraction analyses in October 2018 are summarized below.

- In October 2018, the surrogate o-terphenyl recovered below the laboratory control limits (31.0-160%) in the TPH-High Fraction analysis of sample MW-5 (26.4%). The nondetect result for TPH-High Fraction in this sample may be biased low.

- In October 2018, the surrogate o-terphenyl recovered below the laboratory control limits (31.0-160%) in the TPH-High Fraction analysis of sample MW-22 (30.9%). The positive result for TPH-High Fraction in this sample may be biased low.
- In October 2018, the surrogate phenol-d5 recovered below the laboratory control limits (10.0-120%) in the SVOC analysis of sample MW-6 (7.75%). The positive result for phenol in sample MW-6 may be biased low. However, the result for phenol was qualified by the laboratory as estimated since the result was between the sample detection limit (SDL) and method quantitation limit (MQL); no further data interpretation is required. The nondetect results for the remaining acid SVOCs (4-chloro-3-methylphenol, 2-chlorophenol, 2,4-dichlorophenol, 2,4-dimethylphenol, 4,6-dinitro-2-methylphenol, 2,4-dinitrophenol, 2-nitrophenol, 2-methylphenol, 3&4-methylphenol, 4-nitrophenol, pentachlorophenol, 2,4,5-trichlorophenol, and 2,4,6-trichlorophenol) are not usable for project objectives due to significantly low recovery (<10%) of the acid surrogate. However, these SVOCs have not historically been detected at the site.
- In October 2018, the surrogate 2,4,6-tribromophenol recovered below the laboratory control limits (10.0-155%) in the SVOC analysis of sample MW-15 (9.78%). The positive result for phenol in sample MW-15 may be biased low. However, the result for phenol was qualified by the laboratory as estimated since the result was between the SDL and MQL; no further data interpretation is required. The nondetect results for the remaining acid SVOCs (4-chloro-3-methylphenol, 2-chlorophenol, 2,4-dichlorophenol, 2,4-dimethylphenol, 4,6-dinitro-2-methylphenol, 2,4-dinitrophenol, 2-nitrophenol, 2-methylphenol, 3&4-methylphenol, 4-nitrophenol, pentachlorophenol, 2,4,5-trichlorophenol, and 2,4,6-trichlorophenol) are not usable for project objectives due to significantly low recovery (<10%) of the acid surrogate. However, these SVOCs have not historically been detected at the site.

1.1.3 Laboratory Method Blanks

- In February 2018, chloride was detected in the laboratory method blank in QC batch WG1078009. Chloride was detected in associated samples WW-EAST, WW-NORTH, WW-SOUTH, and DUP-1 (WW-SOUTH) at concentrations greater than five times the method blank concentration, so no data interpretation issues were noted.
- In February 2018, dissolved aluminum, dissolved calcium, dissolved chromium, dissolved lead, dissolved manganese, dissolved nickel, dissolved potassium, and dissolved sodium were detected in the laboratory method blank in QC batch WG1077503. Results that are nondetect or greater than five times the respective method blank detection are not impacted by the method blank results. The analytes

listed below were detected in samples at concentrations less than five times the associated method blank concentration. Therefore, these results may include measurement contributions from laboratory sources.

- Dissolved Aluminum: WW-EAST, WW-NORTH, WW-SOUTH, DUP-1 (WW-SOUTH)
- Dissolved Chromium: WW-NORTH, WW-SOUTH, DUP-1 (WW-SOUTH)
- Dissolved Lead: WW-SOUTH
- Dissolved Manganese: WW-EAST, WW-NORTH
- Dissolved Nickel: WW-EAST, WW-NORTH, WW-SOUTH
- In February 2018, methylene chloride was detected in the laboratory method blank in QC batch WG1077767. Methylene chloride was detected in associated samples WW-EAST, WW-NORTH, WW-SOUTH, DUP-1 (WW-SOUTH), and TB-20180223 at concentrations less than 10 times the associated method blank concentration. Therefore, these results may include measurement contributions from laboratory sources.
- In February 2018, TPH-High Fraction was detected in the laboratory method blank in QC batch WG1078096. TPH-High Fraction was detected in associated samples WW-EAST, WW-NORTH, WW-SOUTH, and DUP-1 (WW-SOUTH) at concentrations less than five times the associated method blank concentration. Therefore, these results may include measurement contributions from laboratory sources.
- In April 2018, dissolved solids was detected in the laboratory method blank in QC batch WG1096342. Results that are greater than five times the respective method blank detection are not impacted by the method blank results. Dissolved solids was detected in associated equipment blanks EB-01 and EB-02 at concentrations less than five times the associated method blank concentration. Therefore, these results may include measurement contributions from laboratory sources.
- In April 2018, chloride was detected in the laboratory method blank in QC batch WG1095385. Chloride was either not detected or detected at a concentration greater than five times the method blank concentration in all related samples. Therefore, no data interpretation issues were noted.
- In April 2018, dissolved aluminum, dissolved arsenic, dissolved barium, dissolved cadmium, dissolved chromium, dissolved cobalt, dissolved copper, dissolved lead, dissolved manganese, dissolved molybdenum, dissolved nickel, dissolved potassium,

dissolved selenium, and dissolved uranium were detected in the laboratory method blank in QC batch WG1095185. Results that are nondetect or greater than five times the respective method blank detection are not impacted by the method blank results. The analytes listed below were detected in samples at concentrations less than five times the associated method blank concentration. Therefore, these results may include measurement contributions from laboratory sources.

- Dissolved Aluminum: MW-32, WW-NORTH, WW-SOUTH, WW-EAST
- Dissolved Arsenic: MW-25, DUP-03 (MW-25)
- Dissolved Barium: EB-01
- Dissolved Cadmium: WW-NORTH
- Dissolved Chromium: MW-15, MW-17R, MW-25, MW-30, MW-32, MW-33, WW-NORTH, WW-SOUTH, DUP-01 (MW-12R), DUP-02 (MW-17R), DUP-03 (MW-25), EB-01, EB-02
- Dissolved Cobalt: MW-32, WW-NORTH
- Dissolved Copper: MW-1, MW-6, MW-12R, MW-17R, MW-30, MW-32, MW-33, WW-EAST, DUP-01 (MW-12R), DUP-02 (MW-17R), EB-01
- Dissolved Lead: MW-11R, MW-15, MW-29, WW-NORTH, WW-EAST, DUP-03 (MW-25)
- Dissolved Manganese: MW-1, MW-12R, MW-15, MW-29, MW-30, WW-SOUTH, WW-EAST, DUP-01 (MW-12R), DUP-02 (MW-17R), EB-01, EB-02
- Dissolved Molybdenum: MW-1, MW-6, MW-11R, MW-12R, MW-17R, MW-25, MW-29, MW-30, MW-33, WW-SOUTH, WW-EAST, DUP-01 (MW-12R), DUP-02 (MW-17R), DUP-03 (MW-25)
- Dissolved Nickel: MW-6, MW-12R, MW-17R, MW-33, WW-NORTH, WW-EAST, DUP-01 (MW-12R), DUP-02 (MW-17R), EB-01, EB-02
- Dissolved Potassium: EB-01, EB-02
- Dissolved Selenium: MW-1, MW-11R, MW-12R, MW-15, MW-17R, MW-25, MW-29, MW-30, MW-32, WW-SOUTH, DUP-01 (MW-12R), DUP-02 (MW-17R), DUP-03 (MW-25)
- Dissolved Uranium: MW-1, MW-17R, MW-30, WW-EAST, DUP-02 (MW-17R)

- In July 2018, alkalinity was detected in the laboratory method blank in QC batch WG1147055. Alkalinity was either not detected or detected at a concentration greater than five times the method blank concentration. Therefore, no data interpretation issues were noted.
- In July 2018, dissolved aluminum, dissolved cadmium, and dissolved copper were detected in laboratory method blank WG1146395. Results that are nondetect or greater than five times the respective method blank detection are not impacted by the method blank results. The analytes listed below were detected in samples at concentrations less than five times the associated method blank concentration. Therefore, these results may include measurement contributions from laboratory sources.
 - Dissolved Aluminum: WW-EAST, WW-NORTH, WW-SOUTH
 - Dissolved Cadmium: WW-EAST, WW-NORTH, WW-SOUTH, DUP-1 (WW-SOUTH)
 - Dissolved Copper: WW-SOUTH, DUP-1 (WW-SOUTH)
- In July 2018, TPH-Low Fraction was detected in the laboratory method blank in QC batch WG1147566. TPH-Low Fraction was detected in associated sample WW-EAST at a concentration less than five times the method blank concentration. Therefore, TPH-Low Fraction in sample WW-EAST may include measurement contributions from laboratory sources.
- In July 2018, bis(2-ethylhexyl)phthalate was detected in the laboratory method blank in QC batch WG1146380. Bis(2-ethylhexyl)phthalate was detected in associated samples WW-EAST, WW-NORTH, WW-SOUTH, and DUP-1 (WW-SOUTH) at concentrations less than 10 times the method blank concentration. Therefore, bis(2-ethylhexyl)phthalate in these samples may include measurement contributions from laboratory sources.
- In October 2018, dissolved aluminum, dissolved barium, dissolved chromium, dissolved copper, dissolved iron, dissolved lead, dissolved manganese, dissolved molybdenum, and dissolved zinc were detected in the laboratory method blank in QC batch WG1174848. Results that are nondetect or greater than five times the respective method blank detection are not impacted by the method blank results. The analytes listed below were detected in samples at concentrations less than five times the associated method blank concentration. Therefore, these results may include measurement contributions from laboratory sources.

- Dissolved Aluminum: MW-1, MW-2, MW-4, MW-8, MW-11R, MW-13R, MW-14R, MW-17R, MW-19, MW-20, MW-22, MW-24, MW-25, MW-28
- Dissolved Chromium: MW-2, MW-6, MW-8, MW-13R, MW-15, MW-17R, MW-18, MW-19, MW-20, MW-22, MW-24, MW-25, MW-28
- Dissolved Copper: MW-2, MW-5, MW-6, MW-8, MW-12R, MW-14R, MW-15, MW-16, MW-17R, MW-18, MW-19, MW-20, MW-24, MW-25, MW-28
- Dissolved Lead: MW-8, MW-11R, MW-18, MW-22, MW-24, MW-25
- Dissolved Manganese: MW-1, MW-2, MW-4, MW-8, MW-11R, MW-12R, MW-15, MW-16, MW-17R, MW-18, MW-22, MW-24, MW-28
- Dissolved Zinc: MW-1, MW-2, MW-4, MW-6, MW-8, MW-12R, MW-14R, MW-15, MW-16, MW-17R, MW-18, MW-25, MW-28
- In October 2018, chloride and sulfate were detected in the laboratory method blank in QC batch WG1176497. Chloride and sulfate were detected above five times the method blank concentration in the associated samples. Therefore, no data interpretation issues were noted.
- In October 2018, fluoride was detected in the laboratory method blank in QC batch WG1174945. Fluoride was detected in associated samples MW-32 and DUP-04 (MW-32) at concentrations less than five times the method blank concentration. Therefore, fluoride in these samples may include measurement contributions from laboratory sources.
- In October 2018, chloride was detected in the laboratory method blank in QC batch WG1174940. Chloride was either not detected or detected at a concentration greater than five times the method blank concentration in the associated samples. Therefore, no data interpretation issues were noted.
- In October 2018, dissolved lead was detected in the laboratory method blank in QC batch WG1174849. Dissolved lead was detected in associated samples MW-32, WW-NORTH WELL, WW-EAST WELL, DUP-01 (MW-12R), DUP-02 (MW-25), DUP-04 (MW-32), and EB-01 at concentrations less than five times the method blank concentration. Therefore, dissolved lead in these samples may include measurement contributions from laboratory sources.
- In October 2018, hexachloro-1,3-butadiene was detected in the laboratory method blank in QC batch WG1174888. Hexachloro-1,3-butadiene was not detected in the associated samples. Therefore, no data interpretation issues were noted.

1.1.4 Equipment Blanks

- In April 2018, the following analytes were detected in equipment blank EB-01: dissolved solids, alkalinity, dissolved aluminum, dissolved barium, dissolved calcium, dissolved chromium, dissolved copper, dissolved iron, dissolved magnesium, dissolved manganese, dissolved nickel, dissolved potassium, dissolved sodium, and benzo(a)anthracene. As discussed above, dissolved barium, dissolved chromium, dissolved copper, dissolved manganese, dissolved nickel, and dissolved potassium were detected in this equipment blank at concentrations less than five times the associated method blank sample concentration; the presence of these analytes in EB-01 was therefore not used to evaluate the associated samples. Dissolved solids, alkalinity, dissolved calcium, dissolved magnesium, and dissolved sodium were not detected in any associated samples at concentrations below five times the equipment blank concentration; therefore, there are no data interpretation issues noted associated with detection of these analytes in this equipment blank. Dissolved aluminum and benzo(a)anthracene were detected in the following associated samples at concentrations less than five times the equipment blank concentrations; therefore, they may include measurement contributions from inadequate decontamination of field equipment:
 - Dissolved Aluminum: DUP-03 (MW-25), MW-32
 - Benzo(a)anthracene: MW-11R
- In April 2018, the following analytes were detected in equipment blank EB-02: dissolved solids, dissolved chromium, dissolved manganese, dissolved nickel, dissolved potassium, dissolved sodium, and phenol. As discussed above, dissolved chromium, dissolved manganese, dissolved nickel, and dissolved potassium were detected in this equipment blank at concentrations less than five times the associated method blank sample concentration; the presence of these analytes in EB-02 was therefore not used to evaluate the associated samples. Dissolved solids and dissolved sodium were not detected in any associated samples at concentrations below five times the equipment blank concentration; therefore, there are no data interpretation issues noted associated with detection of these analytes in this equipment blank. Phenol was detected in the following associated samples at concentrations within five times the equipment blank concentration and therefore may include measurement contributions from inadequate decontamination of field equipment:
 - Phenol: MW-2, MW-11R, MW-12R, MW-17R, MW-25, MW-30, MW-32, MW-33, DUP-01 (MW-12R), DUP-02 (MW-17R)

- In October 2018, the following analytes were detected in equipment blank EB-01: dissolved solids, alkalinity, chloride, sulfate, dissolved aluminum, dissolved barium, dissolved chromium, dissolved copper, dissolved lead, dissolved manganese, and phenol. As discussed above, dissolved lead was detected in equipment blank EB-01 at concentrations less than five times the associated method blank sample concentration; the presence of this analyte in EB-01 was therefore not used to evaluate the associated samples. The following compounds were detected in equipment blank EB-02: dissolved solids, chloride, sulfate, dissolved aluminum, dissolved barium, dissolved zinc, and phenol. Since EB-01 and EB-02 were collected at 09:40 and 09:30 respectively, on the same day as all groundwater samples were collected, the highest concentration of each detection in the equipment blanks was used to review the groundwater samples from the October 2018 event. Dissolved solids, alkalinity, chloride, sulfate, and dissolved barium were detected in associated samples at concentrations greater than five times the blank concentration; therefore, there are no data interpretation issues noted associated with detection of these analytes in the equipment blanks. Dissolved aluminum, dissolved chromium, dissolved copper, dissolved lead, dissolved manganese, dissolved zinc, and phenol were detected in the following associated samples at concentrations less than five times the equipment blank concentrations. Therefore, these samples may include measurement contributions from inadequate decontamination of field equipment:

- Dissolved Aluminum: MW-30, MW-32, MW-33, DUP-03 (MW-30), DUP-04 (MW-32)
- Dissolved Chromium: MW-30, DUP-01 (MW-12R), DUP-02 (MW-25), DUP-03 (MW-30)
- Dissolved Copper: MW-11R, MW-13R, MW-22, MW-29, MW-30, MW-32, DUP-01 (MW-12R), DUP-02 (MW-25), DUP-03 (MW-30), DUP-04 (MW-32)
- Dissolved Lead: MW-32, DUP-01 (MW-12R), DUP-02 (MW-25), DUP-04 (MW-32)
- Dissolved Manganese: MW-29, MW-30, DUP-01 (MW-12R), DUP-03 (MW-30)
- Dissolved Zinc: DUP-01 (MW-12R), DUP-02 (MW-25)
- Phenol: MW-2, MW-4, MW-5, MW-6, MW-12R, MW-13R, MW-14R, MW-15, MW-16, MW-17R, MW-18, MW-19, MW-20, MW-21, MW-22, MW-24, MW-25, MW-27, MW-28, MW-29, MW-30, MW-32, MW-33, DUP-01 (MW-12R), DUP-02 (MW-25), DUP-03 (MW-30), DUP-04 (MW-32)

1.1.5 Trip Blanks

- In February 2018, methylene chloride was detected in trip blank TB-20180223. As discussed above, methylene chloride was detected in this trip blank at a concentration less than 10 times the associated method blank detection; the presence of this analyte in TB-20180223 was therefore not used to evaluate the associated samples.
- In April, July, and October 2018, there were no detections in the trip blanks; therefore, there are no data interpretation issues

1.1.6 Laboratory Control Sample/Laboratory Control Sample Duplicate (LCS/LCSD)

- In April 2018, the LCS/LCSD recoveries for benzaldehyde and the LCSD recovery for 4-nitroaniline exceeded their laboratory-defined limits in QC batch WG1095852. These compounds were not detected in any of the associated samples; therefore, there are no data interpretation issues associated with these recoveries.
- In July 2018, the LCSD recovery of chlorodibromomethane and the LCS/LCSD recoveries of trichloroethene exceeded their laboratory-defined limits in QC batch WG1146955. These compounds were not detected in any of the associated samples; therefore, there are no data interpretation issues associated with these recoveries.
- In July 2018, LCS recoveries and LCS/LCSD RPDs for select SVOCs in QC batch WG1146380 were outside the laboratory-defined limits. Bis(2-ethylhexyl)phthalate was detected in samples WW-EAST, WW-NORTH, WW-SOUTH, and DUP-1 (WW-SOUTH) and therefore the bis(2-ethylhexyl)phthalate results in these samples may be considered variable. The remaining analytes that had an LCS recovery below the laboratory-defined limit were not detected in the corresponding samples, and therefore have a potential low bias.
- In October 2018, the LCSD recovery for dimethyl phthalate was below the laboratory-defined limits in QC batch WG1177359. Dimethyl phthalate was not detected in any of the associated samples; therefore, the nondetect results for dimethylphthalate in samples MW-2, MW-4, MW-5, MW-6, MW-11R, MW-12R, MW-13R, MW-14R, MW-15, MW-16, MW-17R, MW-18, MW-19, MW-20, MW-21, MW-22, MW-24, MW-25, and MW-27 may be biased low.
- In October 2018, the LCS/LCSD recoveries for benzylbutyl phthalate, diethyl phthalate, and dimethyl phthalate and the LCS recoveries for 4,6-dinitro-2-methylphenol, 4-nitrophenol, pentachlorophenol, 2,4,5-trichlorophenol, and 2,4,6-trichlorophenol were below the laboratory-defined limits in QC batch WG1177409. In the same QC batch, the LCS/LCSD RPDs for 2,4-dichlorophenol, 4,6-dinitro-2-

methylphenol, 2-nitrophenol, 4-nitrophenol, pentachlorophenol 2,4,5-trichlorophenol, and 2,4,6-trichlorophenol were above their laboratory-defined limits. These compounds were not detected in any of the associated samples; therefore, the nondetect results for 4,6-dinitro-2-methylphenol, 4-nitrophenol, pentachlorophenol, 2,4,5-trichlorophenol, and 2,4,6-trichlorophenol in samples MW-28, MW-29, MW-30, MW-32, MW-33, WW-NORTH WELL, WW-SOUTH WELL, WW-EAST WELL, DUP-01, DUP-02, DUP-03, DUP-04, EB-01, and EB-02 may be biased low.

1.1.7 Matrix Spike/Matrix Spike Duplicate (MS/MSD)

The following table summarizes the MS/MSD analyses performed with these data sets.

Sample ID	Analytical Parameters
February 2018	
WW-EAST	VOCs, SVOCs, TPH-Low Fraction, TPH-High Fraction, Nitrate-nitrite, Fluoride, Sulfate, Mercury, Dissolved boron, Dissolved metals
April 2018	
MW-30	VOCs, SVOCs, TPH-Low Fraction, TPH-High Fraction, Nitrate-nitrite, Mercury, Dissolved boron, Dissolved metals
MW-12R	Fluoride, Chloride, Sulfate
MW-3	Nitrate-nitrite
July 2018	
WW-East	SVOCs, TPH-Low Fraction, TPH-High Fraction, Nitrate-nitrite, Fluoride, Sulfate, Chloride, Mercury, Dissolved boron, Dissolved metals
October 2018	
MW-1	Mercury, Dissolved boron
MW-2	Dissolved metals
MW-5	Fluoride, Chloride, Sulfate
MW-14R	Nitrate-nitrite
MW-16	Fluoride, Chloride, Sulfate
MW-20	Nitrate-nitrite
MW-33	VOCs, SVOCs, TPH-Low Fraction, TPH-High Fraction, Nitrate-nitrite, Fluoride, Sulfate, Chloride, Mercury, Dissolved boron, Dissolved metals

- In February 2018, the MS/MSD recoveries of dissolved calcium and dissolved sodium in the MS and/or MSD analyses performed on sample WW-EAST were below the laboratory-defined limits. However, the concentrations of dissolved calcium and dissolved sodium in the unspiked sample were greater than four times the concentration spiked; thus, the recoveries of dissolved calcium and dissolved sodium were not used to evaluate potential matrix effects.
- In February 2018, the recoveries (88.7%/87.2%) of nitrate-nitrite in the MS/MSD analyses performed on sample WW-EAST were below laboratory-defined limits (90.0-

110%). Therefore, the positive results for nitrate-nitrite in all samples in this QC batch, WW-EAST, WW-SOUTH, WW-NORTH, and DUP-01 (WW-SOUTH), may be biased low.

- In April 2018, the MS and/or MSD recoveries of select analytes did not meet laboratory-defined limits in the following samples, and therefore the results may be biased as specified below:
 - The recovery (78.3%) of nitrate-nitrite in the MS analysis performed on sample MW-3 and the recoveries (72.2%/75.2%) of nitrate-nitrite in the MS/MSD analyses performed on sample MW-30 were below the laboratory-defined limit (90.0-110%). Therefore, the positive results for nitrate-nitrite in samples MW-1, MW-3, MW-6, MW-8, MW-12R, MW-15, MW-17R, MW-19, MW-25, MW-28, MW-30, MW-32, MW-33, WW-NORTH, WW-SOUTH, WW-EAST, DUP-01 (MW-12R), DUP-02 (MW-17R), and DUP-03 (MW-25) may be biased low.
 - The recovery of dissolved sodium in the MSD analysis performed on sample MW-30 was below the laboratory-defined limits. However, the concentration of dissolved sodium in the unspiked sample was greater than four times the concentration spiked; thus, the recovery of dissolved sodium was not used to evaluate potential matrix effects.
 - The recoveries of benzaldehyde and 4-nitroaniline in the MS/MSD analyses performed on sample MW-30 were above the laboratory-defined limits. Benzaldehyde and 4-nitroaniline were nondetect in sample MW-30; therefore, there are no data interpretation issues.
- In July 2018, MS/MSD recoveries of select analytes did not meet laboratory-defined limits in the following samples, and therefore the results may be biased as specified below:
 - The recoveries (76.0%/75.4%) of nitrate-nitrite in the MS/MSD analyses performed on sample WW-EAST were below laboratory-defined limits (90.0-110%). Therefore, the detected nitrate-nitrite results in samples WW-EAST, WW-SOUTH, WW-NORTH, and DUP-1 (WW-SOUTH) may be biased low.
 - The recovery (79.8%) of sulfate in the MSD analysis performed on sample WW-EAST was below laboratory-defined limits. Therefore, the detected sulfate results in samples WW-EAST, WW-SOUTH, WW-NORTH, and DUP-1 (WW-SOUTH) may be biased low.
 - The recoveries (55.0%/55.3%) of dissolved potassium in the MS/MSD analyses performed on sample WW-EAST were below laboratory-defined limits (75.0-

125%). Therefore, the detected dissolved potassium results in samples WW-EAST, WW-SOUTH, WW-NORTH, and DUP-1 (WW-SOUTH) may be biased low.

- In October 2018, MS/MSD recoveries of select analytes did not meet laboratory-defined limits in the following samples, and therefore the results may be biased as specified below:
 - The recoveries of nitrate-nitrite in the MS/MSD analyses performed on sample MW-14R (80.6%/80.3%) and the MS analysis performed on sample MW-20 (76.9%) were below laboratory-defined limits (90.0-110%). Therefore, the positive and nondetect results for nitrate-nitrite in all samples in the October 2018 data set, with the exception of sample MW-33, may be biased low. The recoveries of nitrate-nitrite in the MS/MSD analyses performed on sample MW-33 were within laboratory-defined limits.
 - The recoveries of chloride (74.1%/76.0%), sulfate (76.2%/76.8%) and fluoride (77.4%) in the MS/MSD analyses performed on sample MW-33 were below laboratory-defined limits (80.0-120%). Therefore, the positive results for chloride, sulfate, and fluoride in all samples in this QC batch, MW-23, MW-24, MW-25, MW-28, MW-29, MW-30, MW-32, MW-33, WW-NORTH WELL, WW-SOUTH WELL, WW-EAST WELL, DUP-01 (MW-12R), DUP-02 (MW-25), DUP-03 (MW-30), and DUP-04 (MW-32), may be biased low. Equipment blanks, though listed in this QC batch, are not affected by MS percent recoveries.
 - The recovery of dissolved manganese in the MS analysis performed on sample MW-33 was below the laboratory-defined limit. Since the concentration of dissolved manganese in the unspiked sample was greater than four times the concentration spiked, the recovery of this analyte was not used to evaluate potential matrix effects.
 - Caprolactam did not recover in the MS/MSD analyses performed on sample MW-33. The RPDs for 3,3-dichlorobenzidine and 3-nitroaniline were above the laboratory-defined limit in the MS/MSD analyses performed on sample MW-33. 3,3-Dichlorobenzidine and 3-nitroaniline were nondetect in all related samples, so there are no data interpretation issues for these two analytes. The nondetect result for caprolactam in sample MW-33 is not usable for project objectives due to the lack of recovery.

1.1.8 Laboratory Duplicates

The following table summarizes the laboratory duplicate analyses performed with these data sets.

Sample ID	Analytical Parameters
February 2018	
DUP-01	Dissolved solids
April 2018	
MW-1	Nitrate-nitrite
MW-12R	Chloride, Fluoride, Sulfate
MW-25	Dissolved solids
MW-30	Chloride, Fluoride, Sulfate
MW-32	Nitrate-nitrite
MW-33	Dissolved solids
EB-01	Alkalinity
EB-02	Alkalinity
July 2018	
DUP-1	Dissolved solids
WW-EAST	Chloride, Fluoride, Sulfate
October 2018	
MW-4	Dissolved solids
MW-5	Chloride, Fluoride, Sulfate
MW-13R	Nitrate-nitrite
MW-16	Chloride, Fluoride, Sulfate
MW-19	Nitrate-nitrite, Alkalinity
MW-23	Dissolved solids
MW-24	Chloride, Fluoride, Sulfate
WW-NORTH WELL	Dissolved solids
EB-01	Nitrate-nitrite
EB-02	Chloride, Fluoride, Sulfate

- In April 2018, the RPD (6.73%) for dissolved solids in the laboratory duplicate analysis performed on sample MW-25 (QC batch WG1096342) was above the laboratory-defined RPD limit. However, this RPD value was less than the acceptance criteria used in this evaluation (30%); thus, precision was deemed acceptable and no data interpretation issues were noted.
- In April 2018, the RPD (200%) for alkalinity in the laboratory duplicate analysis performed on sample EB-01 (QC batch WG1095315) exceeded the laboratory-defined control limit (20%). There are no data interpretation issues noted when the sample and duplicate concentrations are less than five times the MQL.
- In October 2018, the RPD (17.0%) for dissolved solids in the laboratory duplicate analysis performed on sample MW-4 (QC batch WG1176735) and the RPD (16.8%) for dissolved solids in the duplicate analysis performed on sample DUP-04 (MW-32) (QC batch WG1176739) exceeded the laboratory-defined control limit (5%). However, these RPD values were less than the acceptance criteria used

in this evaluation (30%); thus, precision was deemed acceptable and no data interpretation issues were noted.

- In October 2018, the RPDs for chloride (36.4%) and sulfate (35.7%) in the duplicate analysis performed on sample EB-02 (QC batch WG1174945) exceeded the laboratory-defined control limits (15%). However, no data interpretation issues were noted for these analytes since the sample and duplicate concentrations were less than five times the MQL.

1.1.9 Field Duplicates

- In February 2018, the calculated RPDs for dissolved aluminum (91.89%), dissolved arsenic (36.01%), dissolved chromium (47.92%), dissolved lead (150.09%), dissolved manganese (49.50%), dissolved molybdenum (73.09%), dissolved nickel (133.10%), dissolved uranium (53.51%), di-n-butyl phthalate (39.30%), and phenol (144.74%) in the duplicate pair WW-SOUTH and DUP-01 did not meet the acceptance limits (<30%). The original or duplicate results were all less than five times the MQL and the absolute differences between the sample and duplicate results were less than the MQL. Therefore, no data interpretation issues were noted.
- In February 2018, the results for benzo(a)pyrene, dibenz(a,h)anthracene, and dissolved cadmium were less than five times the MQL in duplicate pair WW-SOUTH and DUP-01. The absolute differences were greater than the MQL. Therefore, the positive results for benzo(a)pyrene, dibenz(a,h)anthracene, and dissolved cadmium in samples WW-SOUTH and DUP-01 may be considered estimated.
- In April 2018, the calculated RPDs for dissolved manganese (31.69%) and dissolved zinc (48.09%) in the duplicate pair MW-12R and DUP-01 did not meet the acceptance limits (<30%). The original and duplicate results were all less than five times the MQL and the absolute differences between the sample and duplicate results were less than the MQL. Therefore, no data interpretation issues were noted.
- In April 2018, the calculated RPD for phenol (50.9%) in the duplicate pair MW-17R and DUP-02 did not meet the acceptance limits (<30%). The original and duplicate samples were less than five times the MQL and the absolute difference between the sample and duplicate results was less than the MQL. Therefore, no data interpretation issues were noted.
- In April 2018, the results for naphthalene were less than five times the MQL in duplicate pair MW-17R and DUP-02. The absolute difference was greater than the MQL. Therefore, the positive results for naphthalene in samples MW-17R and DUP-02 may be considered estimated.

- In April 2018, the calculated RPDs for chloride (131.68%) and dissolved manganese (30.19%) in the duplicate pair MW-25 and DUP-03 did not meet the acceptance limits (<30%). The original and duplicate results were less than five times the MQL and the absolute difference between the sample and duplicate results was less than the MQL for dissolved manganese. Therefore, no data interpretation issues were noted for the dissolved manganese result. The positive results for chloride may be considered estimated.
- In April 2018, the results for naphthalene were less than five times the MQL in duplicate pair MW-25 and DUP-03. The absolute difference was greater than the MQL. Therefore, the positive results for naphthalene in samples MW-25 and DUP-03 may be considered estimated.
- In July 2018, the calculated RPDs for dissolved manganese (34.43%), dissolved zinc (55.05%), and TPH-High Fraction (37.65%) in the duplicate pair WW-SOUTH and DUP-1 did not meet the acceptance limits (<30%). The original and duplicate results were less than five times the MQL and the absolute differences between the sample and duplicate results were less than the MQL for these analytes. Therefore, no data interpretation issues were noted.
- In October 2018, the calculated RPDs for dissolved copper (53.49%), dissolved manganese (41.76%), and phenol (50.92%) in the duplicate pair MW-12R and DUP-01 did not meet the acceptance limits (<30%). The original and duplicate results were less than five times the MQL and the absolute differences between the sample and duplicate results were less than the MQL for these analytes. Therefore, no data interpretation issues were noted.
- In October 2018, the calculated RPDs for dissolved lead (54.07%) and phenol (79.59%) in the duplicate pair MW-25 and DUP-02 did not meet the acceptance limits (<30%). The original and duplicate results were less than five times the MQL and the absolute differences between the sample and duplicate results were less than the MQL for these analytes. Therefore, no data interpretation issues were noted.
- In October 2018, the calculated RPDs for dissolved copper (33.10%), dissolved manganese (63.58%), bromodichloromethane (44.70%), chlorodibromomethane (49.56%), chloroform (42.58%), and phenol (91.13%) in the duplicate pair MW-30 and DUP-03 did not meet the acceptance limits (<30%). The original and duplicate results were less than five times the MQL and the absolute differences between the sample and duplicate results were less than the MQL for these analytes. Therefore, no data interpretation issues were noted. Additionally, the TPH-High Fraction and TPH-Low Fraction analyses were not analyzed in the parent sample MW-30 but were analyzed in

the duplicate sample. Therefore, RPDs were not calculated for TPH-High Fraction and TPH-Low Fraction results.

- In October 2018, the calculated RPD for dissolved aluminum (61.33%) in the duplicate pair MW-32 and DUP-04 did not meet the acceptance limit (<30%). The original and duplicate results were less than five times the MQL and the absolute difference between the sample and duplicate results was less than the MQL for dissolved aluminum. Therefore, no data interpretation issues were noted.

APPENDIX F

LNAPL GAUGING AND RECOVERY RESULTS, MONITORING WELL MW-31

Appendix F - LNAPL Gauging and Recovery Results, Monitoring Well MW-31
HollyFrontier Navajo Refining LLC, AP-110, Lovington, New Mexico

Date	Prior to Bailing or After Removing Skimmer ⁽¹⁾				After Bailing				LNAPL Volume Recovered (gal)	Cumulative LNAPL Recovered (gal)
	Initial Depth to Water (ft btoc)	Initial Depth to LNAPL (ft btoc)	Initial Apparent LNAPL Thickness (feet)	Corrected Groundwater Elevation ⁽²⁾ (ft amsl)	Final Depth to Water (ft btoc)	Final Depth to LNAPL (ft btoc)	Final Apparent LNAPL Thickness (feet)	Corrected Groundwater Elevation ⁽²⁾ (ft amsl)		
2/9/2017	105.04	98.92	6.12	3,719.22	100.52	99.81	0.71	3,719.24	7.50	7.50
3/3/2017	102.71	99.39	3.32	3,719.22	100.30	99.90	0.40	3,719.20	3.28	10.78
3/8/2017	101.21	99.57	1.64	3,719.32	99.95	99.83	0.12	3,719.32	1.19	11.96
3/15/2017	101.48	99.45	2.03	3,719.38	99.98	99.82	0.16	3,719.32	1.59	13.55
3/22/2017	101.84	99.34	2.50	3,719.41	100.07	99.99	0.08	3,719.17	1.72	15.27
3/29/2017	101.73	99.42	2.31	3,719.36	100.47	100.37	0.10	3,718.78	1.72	16.98
4/4/2017	101.79	99.47	2.32	3,719.31	100.27	100.11	0.16	3,719.03	1.85	18.83
4/12/2017	101.77	99.37	2.40	3,719.40	100.30	100.10	0.20	3,719.04	1.85	20.68
4/19/2017	101.71	99.40	2.31	3,719.38	100.27	100.17	0.10	3,718.98	1.72	22.40
4/24/2017	101.48	99.45	2.03	3,719.38	100.09	99.77	0.32	3,719.35	1.66	24.06
4/25/2017	100.68	99.67	1.01	3,719.33	99.83	99.78	0.05	3,719.38	0.96	25.02
4/26/2017	100.82	99.56	1.26	3,719.40	100.02	99.75	0.27	3,719.37	2.50	27.52
4/27/2017	100.51	99.61	0.90	3,719.41	99.88	99.73	0.15	3,719.41	1.50	29.02
4/28/2017	100.73	99.55	1.18	3,719.42	99.68	99.59	0.09	3,719.56	1.00	30.02
5/4/2017	101.44	99.52	1.92	3,719.33	100.33	99.74	0.59	3,719.33	1.45	31.47
5/11/2017	101.59	99.59	2.00	3,719.24	100.00	99.89	0.11	3,719.26	1.85	33.32
5/16/2017	101.78	99.62	2.16	3,719.19	100.30	99.83	0.47	3,719.26	1.45	34.77
5/18/2017	101.73	99.58	2.15	3,719.23	100.37	99.43	0.94	3,719.58	1.32	36.10
5/24/2017	101.85	99.38	2.47	3,719.37	100.89	99.98	0.91	3,719.04	1.72	37.81
5/31/2017	101.49	99.55	1.94	3,719.29	100.26	99.38	0.88	3,719.64	1.19	39.00
6/12/2017	103.28	99.50	3.78	3,719.03	100.80	99.96	0.84	3,719.07	2.51	41.51
6/23/2017	101.78	99.61	2.17	3,719.19	100.04	99.83	0.21	3,719.30	1.32	42.83
6/26/2017	101.71	99.70	2.01	3,719.13	100.27	99.87	0.40	3,719.23	1.45	44.28
6/29/2017	101.59	99.54	2.05	3,719.28	100.56	99.89	0.67	3,719.17	1.45	45.74
7/6/2017	100.78	99.65	1.13	3,719.33	100.02	99.63	0.39	3,719.47	1.72	47.45
7/11/2017	101.48	99.59	1.89	3,719.26	100.37	99.67	0.70	3,719.38	1.32	48.78
7/13/2017	103.58	99.91	3.67	3,718.64	101.13	100.42	0.71	3,718.63	1.98	50.76
7/18/2017	102.90	99.98	2.92	3,718.70	101.11	100.32	0.79	3,718.72	1.72	52.47
7/21/2017	101.54	99.54	2.00	3,719.29	--	--	--	--	1.32	53.79
8/22/2017	101.03	100.41	0.62	3,718.66	--	--	--	--	0.26	54.06
8/23/2017	101.01	100.04	0.97	3,718.97	--	--	--	--	0.26	54.32
8/29/2017	101.46	100.36	1.10	3,718.62	--	--	--	--	0.26	54.59
8/31/2017	101.45	100.35	1.10	3,718.63	--	--	--	--	0.26	54.85
9/5/2017	101.35	100.31	1.04	3,718.68	--	--	--	--	0.26	55.12
9/7/2017	101.13	100.25	0.88	3,718.77	--	--	--	--	0.26	55.38
9/11/2017	101.47	100.36	1.11	3,718.62	--	--	--	--	0.26	55.64
9/12/2017	101.45	100.35	1.10	3,718.63	--	--	--	--	0.26	55.91
9/14/2017	101.44	100.36	1.08	3,718.63	--	--	--	--	0.26	56.17
9/18/2017	101.47	100.27	1.20	3,718.70	--	--	--	--	0.26	56.44
9/19/2017	101.38	100.23	1.15	3,718.75	--	--	--	--	0.26	56.70
9/20/2017	101.44	100.32	1.12	3,718.66	--	--	--	--	0.26	56.96
9/22/2017	101.40	100.28	1.12	3,718.70	--	--	--	--	0.26	57.23
9/25/2017	101.47	100.25	1.22	3,718.71	--	--	--	--	0.26	57.49

Appendix F - LNAPL Gauging and Recovery Results, Monitoring Well MW-31
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Date	Prior to Bailing or After Removing Skimmer ⁽¹⁾				After Bailing				LNAPL Volume Recovered (gal)	Cumulative LNAPL Recovered (gal)
	Initial Depth to Water (ft btoc)	Initial Depth to LNAPL (ft btoc)	Initial Apparent LNAPL Thickness (feet)	Corrected Groundwater Elevation ⁽²⁾ (ft amsl)	Final Depth to Water (ft btoc)	Final Depth to LNAPL (ft btoc)	Final Apparent LNAPL Thickness (feet)	Corrected Groundwater Elevation ⁽²⁾ (ft amsl)		
9/26/2017	101.45	100.36	1.09	3,718.63	--	--	--	--	0.26	57.76
9/27/2017	101.45	100.35	1.10	3,718.63	--	--	--	--	0.26	58.02
9/28/2017	101.13	100.20	0.93	3,718.81	--	--	--	--	0.26	58.29
10/2/2017	101.47	100.25	1.22	3,718.71	--	--	--	--	0.26	58.55
10/3/2017	101.45	100.36	1.09	3,718.63	--	--	--	--	0.26	58.81
10/4/2017	102.67	100.14	2.53	3,718.60	--	--	--	--	0.26	59.08
10/5/2017	102.73	100.10	2.63	3,718.63	--	--	--	--	0.26	59.34
10/9/2017	101.44	100.36	1.08	3,718.63	--	--	--	--	0.26	59.61
10/10/2017	101.46	100.36	1.10	3,718.62	--	--	--	--	0.26	59.87
10/12/2017	102.67	100.14	2.53	3,718.60	--	--	--	--	0.26	60.13
10/13/2017	102.50	100.05	2.45	3,718.71	--	--	--	--	0.26	60.40
10/16/2017	102.46	100.05	2.41	3,718.71	--	--	--	--	0.26	60.66
10/17/2017	102.56	100.23	2.33	3,718.55	--	--	--	--	0.26	60.93
10/18/2017	102.22	100.23	1.99	3,718.61	--	--	--	--	0.26	61.19
10/19/2017	102.71	99.89	2.82	3,718.81	--	--	--	--	0.26	61.46
10/23/2017	102.62	100.15	2.47	3,718.60	--	--	--	--	0.26	61.72
10/24/2017	101.87	99.57	2.30	3,719.21	--	--	--	--	0.26	61.98
10/25/2017	101.88	99.87	2.01	3,718.96	--	--	--	--	0.26	62.25
10/31/2017	102.82	100.00	2.82	3,718.70	--	--	--	--	0.26	62.51
11/1/2017	102.70	100.02	2.68	3,718.70	--	--	--	--	0.26	62.78
11/2/2017	102.72	100.00	2.72	3,718.71	--	--	--	--	0.26	63.04
11/3/2017	102.41	100.05	2.36	3,718.72	--	--	--	--	0.26	63.30
11/6/2017	102.44	100.13	2.31	3,718.65	--	--	--	--	0.26	63.57
11/7/2017	102.23	100.20	2.03	3,718.63	--	--	--	--	0.26	63.83
11/8/2017	102.43	100.25	2.18	3,718.55	--	--	--	--	0.26	64.10
11/13/2017	102.60	100.07	2.53	3,718.67	--	--	--	--	0.26	64.36
11/14/2017	102.35	100.12	2.23	3,718.67	--	--	--	--	0.26	64.63
11/15/2017	102.10	100.17	1.93	3,718.68	--	--	--	--	0.26	64.89
11/16/2017	101.88	100.21	1.67	3,718.68	--	--	--	--	0.26	65.15
11/17/2017	101.85	100.27	1.58	3,718.63	--	--	--	--	0.26	65.42
11/20/2017	102.05	100.15	1.90	3,718.70	101.12	100.40	0.72	3,718.65	1.45	66.87
11/22/2017	101.20	100.40	0.80	3,718.64	100.94	100.45	0.49	3,718.64	0.53	67.40
11/28/2017	101.05	100.47	0.58	3,718.60	--	--	--	--	0.26	67.66
11/29/2017	101.26	100.58	0.68	3,718.48	--	--	--	--	0.26	67.93
11/30/2017	101.27	100.56	0.71	3,718.49	--	--	--	--	0.26	68.19
12/1/2017	101.27	100.55	0.72	3,718.50	--	--	--	--	0.26	68.46
12/4/2017	101.30	100.67	0.63	3,718.39	--	--	--	--	0.26	68.72
12/5/2017	101.37	100.66	0.71	3,718.39	--	--	--	--	0.26	68.98
12/6/2017	101.23	100.50	0.73	3,718.55	--	--	--	--	0.26	69.25
12/7/2017	101.33	100.54	0.79	3,718.50	--	--	--	--	0.26	69.51
12/8/2017	101.28	100.56	0.72	3,718.49	--	--	--	--	0.26	69.78
12/12/2017	102.78	100.12	2.66	3,718.60	--	--	--	--	0.26	70.04
12/13/2017	102.75	100.09	2.66	3,718.63	--	--	--	--	0.26	70.31

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	Initial Depth to Water (ft btoc)	Initial Depth to LNAPL (ft btoc)	Initial Apparent LNAPL Thickness (feet)	Corrected Groundwater Elevation ⁽²⁾ (ft amsl)	Final Depth to Water (ft btoc)	Final Depth to LNAPL (ft btoc)	Final Apparent LNAPL Thickness (feet)	Corrected Groundwater Elevation ⁽²⁾ (ft amsl)		
12/14/2017	--	--	--	--	102.66	100.26	2.40	3,718.51	1.98	72.29
12/15/2017	101.28	100.48	0.80	3,718.56	--	--	--	--	0.26	72.55
12/18/2017	101.64	100.38	1.26	3,718.58	--	--	--	--	0.26	72.82
12/19/2017	101.60	100.34	1.26	3,718.62	--	--	--	--	0.26	73.08
12/21/2017	101.75	100.35	1.40	3,718.58	--	--	--	--	0.26	73.34
12/22/2017	101.66	100.43	1.23	3,718.53	--	--	--	--	0.26	73.61
1/2/2018	104.05	99.85	4.20	3,718.61	--	--	--	--	0.26	73.87
1/3/2018	104.10	99.93	4.17	3,718.54	--	--	--	--	0.26	74.14
1/4/2018	104.13	99.89	4.24	3,718.57	--	--	--	--	0.26	74.40
1/9/2018	104.14	99.88	4.26	3,718.57	--	--	--	--	0.26	74.66
1/12/2018	104.15	99.90	4.25	3,718.55	--	--	--	--	0.26	74.93
1/18/2018	104.63	99.82	4.81	3,718.54	--	--	--	--	0.26	75.19
1/19/2018	104.66	99.84	4.82	3,718.52	--	--	--	--	0.26	75.46
1/23/2018	104.68	99.93	4.75	3,718.44	--	--	--	--	0.26	75.72
1/26/2018	104.60	99.86	4.74	3,718.51	--	--	--	--	0.26	75.99
1/31/2018	105.51	99.70	5.81	3,718.49	--	--	--	--	0.26	76.25
2/2/2018	105.55	99.78	5.77	3,718.42	--	--	--	--	0.26	76.51
2/9/2018	--	--	--	--	105.68	99.35	6.33	3,718.75	1.72	78.23
2/14/2018	--	--	--	--	104.67	99.43	5.24	3,718.86	1.59	79.82
2/21/2018	--	--	--	--	105.51	99.73	5.78	3,718.47	1.45	81.27
3/6/2018	--	--	--	--	105.78	100.43	5.35	3,717.84	1.59	82.85
3/12/2018	--	--	--	--	105.77	100.35	5.42	3,717.91	1.32	84.17
3/16/2018	--	--	--	--	105.48	100.29	5.19	3,718.01	1.45	85.63
3/20/2018	--	--	--	--	106.26	99.75	6.51	3,718.32	1.06	86.68
3/21/2018	106.02	99.77	6.25	3,718.35	101.53	100.71	0.82	3,718.32	1.19	87.87
3/22/2018	102.04	100.06	1.98	3,718.78	101.38	100.78	0.60	3,718.29	1.32	89.19
3/26/2018	104.53	100.13	4.40	3,718.30	101.82	100.69	1.13	3,718.29	1.59	90.78
3/27/2018	102.45	100.06	2.39	3,718.71	101.53	100.79	0.74	3,718.26	1.19	91.97
3/28/2018	102.28	100.56	1.72	3,718.32	101.49	100.73	0.76	3,718.31	1.06	93.02
4/5/2018	105.55	100.05	5.50	3,718.19	101.34	100.90	0.44	3,718.20	5.00	98.02
4/11/2018	104.18	100.36	3.82	3,718.17	101.76	100.84	0.92	3,718.18	1.72	99.74
4/16/2018	105.03	100.26	4.77	3,718.11	101.73	100.89	0.84	3,718.14	3.70	103.44
4/19/2018	105.15	100.37	4.78	3,718.00	101.89	100.81	1.08	3,718.18	2.64	106.08
4/20/2018	104.05	100.32	3.73	3,718.22	101.53	100.73	0.80	3,718.31	2.77	108.86
4/24/2018	105.19	100.38	4.81	3,717.98	101.79	100.88	0.91	3,718.14	3.96	112.82
4/25/2018	104.20	100.29	3.91	3,718.22	101.39	100.79	0.60	3,718.28	3.43	116.25
4/30/2018	105.17	100.40	4.77	3,717.97	101.67	100.80	0.87	3,718.22	3.96	120.21
5/1/2018	104.67	100.52	4.15	3,717.95	101.49	100.03	1.46	3,718.89	2.77	122.99
5/3/2018	104.55	100.58	3.97	3,717.92	101.40	100.67	0.73	3,718.38	3.17	126.16
5/8/2018	105.09	100.41	4.68	3,717.97	101.77	100.08	1.69	3,718.81	1.59	127.74
5/9/2018	106.02	99.69	6.33	3,718.41	101.56	100.77	0.79	3,718.27	1.85	129.59
5/10/2018	105.67	99.70	5.97	3,718.47	101.64	100.71	0.93	3,718.30	2.25	131.84
5/14/2018	104.63	99.82	4.81	3,718.54	101.55	100.87	0.68	3,718.19	2.64	134.48

Appendix F - LNAPL Gauging and Recovery Results, Monitoring Well MW-31
HollyFrontier Navajo Refining LLC, AP-110, Lovington, New Mexico

Date	Prior to Bailing or After Removing Skimmer ⁽¹⁾				After Bailing				LNAPL Volume Recovered (gal)	Cumulative LNAPL Recovered (gal)
	Initial Depth to Water (ft btoc)	Initial Depth to LNAPL (ft btoc)	Initial Apparent LNAPL Thickness (feet)	Corrected Groundwater Elevation ⁽²⁾ (ft amsl)	Final Depth to Water (ft btoc)	Final Depth to LNAPL (ft btoc)	Final Apparent LNAPL Thickness (feet)	Corrected Groundwater Elevation ⁽²⁾ (ft amsl)		
5/16/2018	104.32	100.58	3.74	3,717.96	101.49	100.98	0.51	3,718.10	2.25	136.73
5/17/2018	102.54	99.39	3.15	3,719.25	100.77	99.90	0.87	3,719.12	1.85	138.57
5/18/2018	102.09	100.1	1.99	3,718.74	101.35	100.81	0.54	3,718.27	1.85	140.42
5/21/2018	102.77	99.39	3.38	3,719.21	100.37	99.98	0.39	3,719.12	4.09	144.52
5/23/2018	101.78	99.57	2.21	3,719.23	99.89	99.83	0.06	3,719.33	1.85	146.37
5/24/2018	101.48	99.47	2.01	3,719.36	99.95	99.88	0.07	3,719.28	1.85	148.22
5/25/2018	101.44	99.61	1.83	3,719.25	100.29	99.83	0.46	3,719.26	1.98	150.20
5/30/2018	102.71	99.37	3.34	3,719.24	101.31	99.79	1.52	3,719.12	1.72	151.92
6/1/2018	101.79	99.47	2.32	3,719.31	100.32	99.89	0.43	3,719.21	1.85	153.76
6/4/2018	104.18	100.36	3.82	3,718.17	101.76	100.84	0.92	3,718.18	1.45	155.22
6/6/2018	106.51	100.53	5.98	3,717.63	102.16	101.38	0.78	3,717.66	1.45	156.67
6/7/2018	104.18	100.36	3.82	3,718.17	101.76	100.84	0.92	3,718.18	1.59	158.26
6/12/2018	105.03	100.26	4.77	3,718.11	101.73	100.29	1.44	3,718.64	1.59	159.84
6/14/2018	102.73	99.42	3.31	3,719.19	101.73	100.47	1.26	3,718.49	1.59	161.43
6/19/2018	101.44	99.54	1.90	3,719.31	100.33	99.74	0.59	3,719.33	1.72	163.14
6/20/2018	101.48	99.45	2.03	3,719.38	99.98	99.82	0.16	3,719.32	1.85	164.99
6/25/2018	101.20	100.4	0.80	3,718.64	100.94	100.45	0.49	3,718.64	1.85	166.84
6/27/2018	101.77	99.37	2.40	3,719.40	100.27	100.07	0.20	3,719.07	1.32	168.16
6/29/2018	101.57	99.82	1.75	3,719.06	100.73	99.87	0.86	3,719.16	1.72	169.88
7/3/2018	101.66	99.92	1.74	3,718.96	100.64	100.10	0.54	3,718.98	1.32	171.20
7/5/2018	101.45	99.79	1.66	3,719.10	100.32	99.81	0.51	3,719.27	1.32	172.52
7/10/2018	101.47	99.69	1.78	3,719.18	100.27	99.88	0.39	3,719.22	1.06	173.58
7/20/2018	101.21	99.57	1.64	3,719.32	100.21	99.83	0.38	3,719.28	1.19	174.77
7/25/2018	101.77	99.37	2.40	3,719.40	100.30	100.10	0.20	3,719.04	1.45	176.22
7/27/2018	101.78	99.62	2.16	3,719.19	100.30	99.83	0.47	3,719.26	1.32	177.54
7/30/2018	106.75	100.90	5.85	3,717.29	101.99	101.75	0.24	3,717.38	9.25	186.79
8/7/2018	101.48	99.45	2.03	3,719.38	100.09	99.77	0.32	3,719.35	1.32	188.11
8/10/2018	100.78	99.65	1.13	3,719.33	100.02	99.63	0.39	3,719.47	1.45	189.56
8/14/2018	103.58	99.91	3.67	3,718.64	101.13	100.42	0.71	3,718.63	1.59	191.15
8/16/2018	104.18	100.36	3.82	3,718.17	101.76	100.84	0.92	3,718.18	1.32	192.47
8/22/2018	101.73	99.58	2.15	3,719.23	100.37	99.43	0.94	3,719.58	1.59	194.05
8/23/2018	101.59	99.54	2.05	3,719.28	101.56	99.89	1.67	3,719.00	1.45	195.51
8/31/2018	106.02	99.77	6.25	3,718.35	101.53	100.71	0.82	3,718.32	1.72	197.22
9/3/2018	104.67	100.52	4.15	3,717.95	101.49	100.03	1.46	3,718.89	1.59	198.81
9/6/2018	105.67	99.70	5.97	3,718.47	101.64	100.71	0.93	3,718.30	1.72	200.53
9/11/2018	102.71	99.29	3.42	3,719.30	100.30	99.90	0.40	3,719.20	1.98	202.51
9/12/2018	101.77	99.37	2.40	3,719.40	100.30	100.10	0.20	3,719.04	1.59	204.09
9/19/2018	106.59	101.30	5.29	3,716.98	101.77	100.08	1.69	3,718.81	1.85	205.94
9/26/2018	104.57	101.46	3.11	3,717.19	102.55	100.20	2.35	3,718.57	1.85	207.79
10/1/2018	106.82	101.07	5.75	3,717.13	--	--	--	--	0.26	208.06
10/4/2018	106.78	101.09	5.69	3,717.12	102.77	101.91	0.86	3,717.12	4.76	212.81
10/5/2018	104.15	101.69	2.46	3,717.07	102.44	101.98	0.46	3,717.11	2.51	215.32
10/9/2018	105.96	101.36	4.60	3,717.04	102.64	102.01	0.63	3,717.05	4.49	219.81

Appendix F - LNAPL Gauging and Recovery Results, Monitoring Well MW-31
HollyFrontier Navajo Refining LLC, AP-110, Lovington, New Mexico

Date	Prior to Bailing or After Removing Skimmer ⁽¹⁾				After Bailing				LNAPL Volume Recovered (gal)	Cumulative LNAPL Recovered (gal)
	Initial Depth to Water (ft btoc)	Initial Depth to LNAPL (ft btoc)	Initial Apparent LNAPL Thickness (feet)	Corrected Groundwater Elevation ⁽²⁾ (ft amsl)	Final Depth to Water (ft btoc)	Final Depth to LNAPL (ft btoc)	Final Apparent LNAPL Thickness (feet)	Corrected Groundwater Elevation ⁽²⁾ (ft amsl)		
10/11/2018	105.12	101.55	3.57	3,717.02	102.57	102.10	0.47	3,716.99	3.43	223.25
10/16/2018	105.63	101.27	4.36	3,717.17	102.32	102.20	0.12	3,716.95	4.49	227.74
10/18/2018	106.58	101.63	4.95	3,716.71	102.87	102.53	0.34	3,716.58	3.70	231.44
10/23/2018	105.83	101.37	4.46	3,717.05	102.85	102.68	0.17	3,716.46	3.70	235.13
10/25/2018	105.67	101.73	3.94	3,716.78	101.86	101.53	0.33	3,717.58	4.49	239.62
10/30/2018	104.68	101.43	3.25	3,717.19	102.74	102.59	0.15	3,716.55	3.70	243.32
11/1/2018	105.23	101.77	3.46	3,716.82	102.56	101.98	0.58	3,717.09	3.70	247.02
11/6/2018	105.55	101.96	3.59	3,716.61	102.54	102.38	0.16	3,716.76	4.23	251.25
11/8/2018	105.78	101.68	4.10	3,716.80	102.68	102.53	0.15	3,716.61	2.64	253.89
11/13/2018	105.66	101.67	3.99	3,716.83	102.53	102.36	0.17	3,716.78	2.64	256.53
11/14/2018	105.23	101.78	3.45	3,716.81	102.47	102.26	0.21	3,716.87	3.96	260.49
11/20/2018	106.93	101.31	5.62	3,716.91	104.25	101.85	2.40	3,716.92	3.96	264.46
11/27/2018	106.59	101.4	5.19	3,716.90	102.55	101.78	0.77	3,717.26	3.96	268.42
11/29/2018	106.87	101.17	5.70	3,717.04	102.62	101.75	0.87	3,717.27	3.96	272.38
12/4/2018	105.87	101.36	4.51	3,717.05	102.59	101.83	0.76	3,717.21	2.64	275.02
12/5/2018	105.67	101.37	4.30	3,717.08	102.79	101.76	1.03	3,717.24	3.96	278.99
12/11/2018	106.48	101.66	4.82	3,716.70	102.86	101.82	1.04	3,717.17	3.96	282.95
12/12/2018	105.79	101.83	3.96	3,716.67	102.66	101.92	0.74	3,717.13	4.49	287.44
12/18/2018	105.87	101.56	4.31	3,716.88	102.55	101.36	1.19	3,717.61	3.96	291.40
12/20/2018	105.79	101.46	4.33	3,716.98	102.36	101.45	0.91	3,717.57	2.64	294.04
12/28/2018	107.00	101.20	5.80	3,716.99	103.59	101.90	1.69	3,716.99	5.28	299.33

Notes:

LNAPL = Light Non-Aqueous Phase Liquid

ft btoc = feet below top of casing

ft amsl = feet above mean sea level

-- = not measured

⁽¹⁾ Passive skimmer (Petro-Bailer™) installed in well on August 17, 2017. Passive skimmer prohibits fluid gauging prior to removal from well.

⁽²⁾ Groundwater elevation corrected for the presence of LNAPL using a specific gravity of 0.8317. Top of well casing elevation = 3,819.17 feet amsl.