Attachment F

Annual Summary of Groundwater Monitoring Results

WASHINGTON STATE DEPARTMENT OF ECOLOGY

CHECKLIST FOR GROUNDWATER REPORTING
Municipal Solid Waste Landfills
WAC 173-351-415

Include a signed, completed copy of this checklist with each quarterly and annual report.

Quarterly groundwater reports shall be submitted to the jurisdictional health department and Ecology within 60 days of receipt of analytical data. Annual groundwater reports shall be submitted to the jurisdictional health department and Ecology by April 1 of each year.

1st ——— 2nd ——— 3rd ——— 4th ——— YEAR 2018	Reference (section, subsection)	Included in this report	Location – page # or appendix #
***Quarterly Groundwater Reports**: 173-351-415 (2) plus the referenced section*			
Statistical calculations and summaries			
Descriptive statistics	420, (1)	☐	
Statistical tests	420, (2)	☐	
Notification of statistical increase (if applicable)	420, (4)	☐	
Notification of concentrations above Chapter 173-200 WAC criteria (if any)	430, (4)	☐	
Static water level readings	415, (2)	☐	
Potentiometric surface elevation maps depicting flow direction	415, (2)	☐	
Flow rate – calculated	415, (2)	☐	
Cation-anion balances	430, (5a)	☐	
Explanation of greater than 5% (or 10%) difference if needed	430, (5a)	☐	
Trilinear diagrams	430, (5b)	☐	
Leachate analyses (if sampled and tested)	415, (2)	☐	
Data entered into EIM database (date entered:)	415, (3)	☐	
Complete copy of the lab report with chain of custody record.		☐	
***Annual Groundwater Reports**: 173-351-415 (1)* **YEAR**			
Summary of statistical results and trends	415, (1)	☒	Part 2
Summary of groundwater flow rate and direction for the year	415, (1)	☒	Part 4
Copy of all potentiometric maps for the year	415, (1)	☒	Part 4
Summary geochemical evaluation	415, (1)	☒	Part 1
For Quarterly and Annual Reports			
Stamped by a licensed professional	RCW 18.220	☒	

Doris McArthur — Signature of Report Author

April 1, 2019 — Date

Cedar Hills Regional Landfill — Landfill

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CERTIFICATION

Annual Report Groundwater Evaluation Report Certification

I certify in accordance with the requirements of WAC 173-351-400(c) (3), that the contents of Attachment F – Groundwater Evaluation of this document were prepared under my direction or supervision under a system designed to assure that qualified personnel properly gathered and evaluated the information submitted. Where applicable, some specific and related hydrogeologic portions have been duly certified by the responsible groundwater scientist. Based on my inquiry of the person(s) directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete.

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CEDAR HILLS REGIONAL LANDFILL
2018 ANNUAL REPORT

ATTACHMENT F PART 1
GROUNDWATER DATA EVALUATION

1.0 INTRODUCTION

This Cedar Hills Regional Landfill (CHRLF) 2018 Groundwater Data Evaluation report evaluates groundwater monitoring data collected during the past calendar year and summarizes significant findings supported by analysis of the data. This report evaluates water quality in the regional aquifer, which is the first continuously saturated zone beneath the landfill and provides the earliest path for detection monitoring. Water quality in the perched water-bearing zones at CHRLF is also evaluated.

Section 2 of this report contains a brief description of the geologic and hydrogeologic conditions at CHRLF. For a complete discussion of site conditions, the development of the hydrogeological model and monitoring network, see the *Cedar Hills Regional Landfill Sitewide Hydrogeologic Report*, March 2004. Additional findings from subsequent investigations can be found in *Cedar Hills Regional Landfill Site Wide Hydrogeologic Report Addendum*, December 2013.

Groundwater monitoring has been conducted at the CHRLF since 1983. Environmental monitoring at the site is carried out in accordance with the *Environmental Monitoring Sampling and Analysis Plan for Cedar Hills Regional Landfill* (SAP), which was approved and implemented in 2016. Modifications to the monitoring well network and sampling frequency are reflected in this report.

Each year, a large quantity of data is generated for the site as a result of the monitoring program. Section 3 discusses the methods used to evaluate and analyze this groundwater data, while Section 4 presents the results of these evaluations. Conclusions based on the analyses results are included in Section 5.

The groundwater monitoring program and this annual data evaluation are in accordance with the King County Board of Health Solid Waste Regulations (Title 10, Rules and Regulations No. 03-06) and "Criteria for Municipal Solid Waste Landfills" (Chapter 173-351 WAC).

2.0 GEOLOGY AND HYDROGEOLOGY

A conceptual site model of the regional and site geology and hydrogeology for CHRLF has been developed for the purpose of understanding and analyzing water quality data, and groundwater occurrence and flow beneath and adjacent to the site. Figure 2-1 displays the location of CHRLF in a regional context and Figure 2-2a shows groundwater monitoring locations. Figures 2-3 and 2-4 provide cross sectional views of the major hydrogeologic features of the landfill site.

A detailed discussion of site geology and hydrogeology is beyond the scope of this report, but may be found in the *Cedar Hills Regional Landfill Site Wide Hydrogeologic Report*, March 2004, the *Phase I Investigations Groundwater Monitoring Well System Enhancements Technical Memorandum*, October 2007, and the *Cedar Hills Regional Landfill Site Wide Hydrogeological Report Addendum*, December 2013. Geologic evaluations of the CHRLF site have identified a complex history of sediments deposited by rivers, lakes, and glaciers over volcanic and sedimentary bedrock. Sediments beneath the site consist of generally fine grained sands and silts, in some areas part of a prehistoric lake deposit. In the northern portion, the sediments are continuous with coarse sands and gravels, suggesting removal by erosion of the finer sediments and replacement by river channel deposits. These sediments are overlain by a thick blanket of sands and gravels deposited during Vashon era glacial advance. The advance outwash is capped by a complex group of deposits overridden by or deposited from the glacial ice (till, contact deposits and recessional outwash).

Groundwater occurs both as a regional aquifer and in perched zones. The regional aquifer flows through advance outwash and deeper deposits and is separated from the base of waste placement areas by more than 200 feet of unsaturated sands and gravels. Perched groundwater occurs in onsite till, ice-contact deposits and recessional outwash. No laterally or vertically extensive perched zones have been identified; therefore, the regional aquifer beneath the landfill is the earliest target hydraulic pathway for groundwater contaminant detection. The regional aquifer potentiometric surface lies at approximately 350 feet MSL at the south property line and at approximately 285 feet MSL at the north east.

The regional aquifer beneath CHRLF is entirely recharged by precipitation. A dominant local recharge area is located immediately south of the landfill within the Queen City Farm (QCF) property, centered north of the Main Gravel Pit Lake. In general, groundwater flow in the regional aquifer is radial from the recharge area. Beneath the landfill, regional flow is to the north in the south and central portions of the landfill site. Flow direction in the northern part of the site turns northeasterly as recharge from the McDonald Creek drainage comes into effect. Flow then converges into a high transmissivity channel and likely discharges to Issaquah Creek. There is no significant seasonal variation in horizontal groundwater flow paths; horizontal gradients are influenced by infiltrating precipitation in the recharge area. Vertical hydraulic gradients in the southern area are demonstrated by head differences in adjacent wells screened at different depths. Flow determinations and a Regional Aquifer Potentiometric Surface Map are prepared quarterly by a licensed Hydrogeologist.

2.1 Local Perched Water Bearing Zones

A number of local water bearing zones have been identified in the Vashon-aged units around the Cedar Hills site. Table 2-1 lists onsite wells, and gives construction dates and locational information. The perched zones are divided into three groups for discussion and presentation purposes. The North and West perched zones are monitored by five wells and include areas along the west and north buffers and infrastructure north of landfilled areas. The East Main Hill perched zone (EPZ) extends along the eastern edge of the landfill adjacent to unlined areas. The South Solid Waste Area (SSWA) perched zone has seven well completions encompassing the non-contiguous SSWA and extending into CHRLF's south buffer area, abutting QCF. Though water levels are obtained from multiple wells in each zone, lateral or vertical continuity between wells in a zone cannot be assumed.

Waste from the SSWA was removed in 2015 and placed in Area 7. The perched zone near the former SSWA is monitored for both water level and water quality by well MW-101; and for water levels only by MW-25, MW-41S, MW-41D, MW-45, MW-79 (currently damaged), and MW-105. Monitoring wells MW-96 and MW-97 were decommissioned in April 2015 in preparation of Area 8 construction. MW-79, used for depth to groundwater measurement only, was damaged by road maintenance equipment in 2015 and will be repaired by a licensed driller. Hydrogeological conditions are presented in the Technical Memorandum *Results of Groundwater Sampling and Fate and Transport Analysis South Solid Waste Area Perched Zone Assessment,* April 2010.

Monitoring of the EPZ occurs at extraction well EW-25 (decommissioned 2nd quarter of 2018, as described in the *Cedar Hills Regional Landfill – EPZ Extraction Well Decommissioning Technical Memorandum*), and monitoring wells MW-30A, MW-47, MW-62 for both water levels and water quality; and, by wells MW-48, MW-50, MW-63, MW-102, MW-103, MW-104,MW-EB6 and piezometers EB-5S and EB-5 for water levels only.

The EPZ is currently undergoing an independent clean up action led by SWD. Recent investigation findings for this zone are presented in the *Draft East Perched Zones Remedial Investigation and Feasibility Study*, December 2016. In 2018, six (6) additional replacement monitoring wells were installed in the EPZ (MW-107 to MW-112) as described in the *Cedar Hills Regional Landfill - EPZ Phase I Interim Actions - Infrastructure Upgrades Technical Memorandum*, August 2018. These wells will be incorporated into the monitoring program and the SAP updated accordingly.

2.2 Regional Aquifer

The following is a description of the regional groundwater monitoring network, and how monitoring is used determine water quality and groundwater flow within the aquifer.

2.2.1 Regional Groundwater Monitoring Network

The regional aquifer, contained within the pre-Vashon stratigraphic units, has been identified as the shallowest laterally extensive water bearing zone encountered beneath the landfill, and is therefore the earliest target hydraulic pathway for groundwater contaminant detection. A monitoring network is in place consisting of thirty eight (38) monitoring and one (1) production well where water level measurements are obtained. Twenty nine (29) of the regional monitoring wells were also sampled and analyzed for water quality on either a quarterly or semi-annual basis in 2018, depending on designation in the SAP.

Three (3) regional aquifer monitoring wells, MW-70, MW-77 and MW-78 were decommissioned in April 2015 in preparation for Area 8 construction. MW-70 will be replaced following construction of Area 8.

Table 2-1 lists all wells, construction dates and locational information for onsite wells.

2.2.2 Regional Groundwater Flow

The *Cedar Hills Regional Landfill Regional Aquifer Technical Memorandum*, March 2011, is a follow up to the *Groundwater Monitoring Well System Enhancements Phase I Investigation*, October 2007, and provides an extensive groundwater flow path analysis of horizontal and vertical gradients. It delineates detection zones for regional wells and recommends refinements to the groundwater monitoring network. An addendum to the site-wide hydrogeological report has been prepared that incorporates findings and recommendations of the recent investigations.

The piezometric surface contour maps (Part 4) indicate a north and northeasterly flow direction in the regional aquifer. Interpolation and contouring methodology were developed for the *Technical Memorandum Phase I Investigations Groundwater Monitoring Well System Enhancements,* October 2007. Quarterly monitoring of groundwater elevations has shown very little seasonal or annual variability in regional groundwater flow and velocity. For 2018, the average horizontal flow velocities for the regional aquifer have been calculated to range from 0.0095 ft/day in the south landfill area, to 2.25 ft/day in the central area and 1.54 ft/day in the north area.

3.0 DATA COLLECTION AND EVALUATION

Environmental samples are collected and analyzed in accordance with the SAP, and the *Quality Assurance Project Plan for Environmental Monitoring at King County Solid Waste Facilities* (QAPP) (1999). These documents contain procedures to ensure that environmental data meet desired objectives for quality, consistency and documentation.

Groundwater quality is evaluated by comparison of analysis results to regulatory standards, geochemical analysis and statistical evaluation. Following is a brief description of each. King County Solid Waste Division (SWD) monitors groundwater in accordance with Chapter 173-351 WAC.

Data collected includes field parameters and analytical laboratory results. These data are evaluated by a variety of graphical and statistical methods. The groundwater evaluation presented herein describes onsite groundwater elevations, flow direction and velocity.

Groundwater chemical data are evaluated to determine if chemical concentrations have changed over time or differ between well locations. Groundwater evaluation serves to determine evidence of impacts to groundwater quality by surface activities.

3.1 Data Quality Assurance/Quality Control Program

A rigorous Quality Assurance/Quality Control (QA/QC) program has been developed and implemented by SWD to ensure the quality of data produced by the CHRLF groundwater monitoring program. Measures are employed programmatically as part of a continuous effort to meet pre-defined Data Quality Objectives (DQOs), as detailed in the QAPP. This includes measures such as routine calibration and verification of field monitoring equipment, field and trip blanks, field duplicates and split samples for inter-laboratory comparison, triple-rinse equipment decontamination, and thorough review of analytical laboratory data.

Field data collection QA/QC is ensured by adherence to standardized procedures of instrument calibration and sampling methodologies as outlined in the SAP. Analytical laboratory data is reviewed by SWD staff with the initial responsibility for the correctness and completeness of the data. The reviewer evaluates the quality of the work based on guidelines established in the QAPP to ensure that:

- Appropriate procedures have been followed.
- Laboratory deliverables are correct and complete.
- Analyses are completed within holding times.
- QC sample and laboratory blank results are within appropriate QC limits.
- Documentation is complete.

Data qualifiers may be assigned to the data based on the QA/QC review. The qualified data will then be made available for data evaluation and interpretation. A compilation of water quality data for groundwater, surface water and leachate are presented in Part 7.

3.2 Groundwater Elevation and Flow

Groundwater potentiometric surface maps and flow velocity calculations are presented in Part 4. Hydrographs of water levels and precipitation over time are presented in Part 5. Wells are grouped by detection zones as described in *Regional Landfill Regional Aquifer Technical Memorandum* and by groundwater elevation on the hydrographs.

Flow determinations are calculated quarterly by a Licensed Hydrogeologist and following the model presented in the Hydrogeologic Report and subsequent investigation.

3.3 Evaluation of Groundwater Data

The outcome of the sampling, analysis and data review processes are data that meet DQOs, indicating that the data is suitable for use in evaluating groundwater quality. Statistical and graphical methods are then applied to answer questions of comparison and form a basis for decision making activities pertaining to CHRLF. The following subsections are a description of these methods.

3.3.1 Descriptive Statistics

Descriptive statistics are calculated and tabulated to provide a summary of data set distributional parameters. These include the number of analyses, number of detections, minimum, maximum, mean, standard deviation and median. Although both means and medians are reported in the summary tables, medians are used in the text because they tend to be a more reliable measure of central tendency in the case of non-normal distributions, particularly when there are outliers, which is commonly the case with environmental data.

Statistical calculations are performed on two subsets of the analytical data for each well. The first subset consists of data for the entire period of record, exclusive of the 8 most recent data points (long-term data set), and the second subset only consists of the 8 most recent data points (short-term data set). Generally, the short-term data subset is considered to be the most representative of current conditions, due to both the timeliness of the data and continuing improvements in the quality of the data.

3.3.2 Trends

Testing for trends is one of the primary means of evaluating water quality data over time. The statistical test used to analyze CHRLF groundwater field and analytical data is the Mann-Kendall test for trend. This test is well suited for environmental data (Gibbons 1994) as it is a non-parametric test for linear trend that makes no distributional assumptions and is therefore valid for both normally and non-normally (non-parametrically) distributed data. This statistical method is

also relatively robust, allowing for missing values, outliers, and/or non-detects (reported as ½ the detection limit).

The Mann-Kendall test performs a relative pair-wise comparison (determination if the later value is greater [+1] or less [-1]) for all of the data points in a given data set, determining if the majority of the comparisons between the earlier and later data points are positive (indicative of an increasing trend), negative (indicative of a decreasing trend), or about equal (indicative of no apparent trend). The Mann-Kendall statistic (S) is a critical value that defines if a majority of the pair-wise comparisons are indicative of either an increasing or decreasing trend.

The test yields a probability (p value) that a temporal trend is due to chance. Low p-values indicate a low probability of a trend existing solely due to chance, therefore there is significant evidence that a trend exists. For CHRLF groundwater monitoring, this p-value is set at 0.05 (i.e. p-values of less than 0.05 indicate statistical significance).

For CHRLF, this test is conducted on two data sets from each well: a short term data set consisting of the most recent two years of data (eight data points for quarterly monitoring, four data points for semi-annual monitoring); and, a long term data set consisting of up to 50 results prior to the short term data set. This test has been applied to data sets for parameters of value for evaluating water quality or that are indicative of impacts from anthropogenic sources. Naturally occurring trace level constituents with low detection frequencies are not trend tested.

To yield meaningful results, trend results must be interpreted carefully in cases where frequency of detection is low or in cases where reporting limits have changed or analytical resolution has changed over the period of record. Trend test are conducted on an annual basis and results are tabulated in the Statistical Summary Tables (Table 4-3a and 4-3b). Statistically significant decreasing trends are denoted by “D” in the table, and statistically significant increasing trends by “I”. Absence of a trend and non-significant trends are indicated in the table as “--”.

3.3.3 Prediction Limits

The Prediction Limit used in this evaluation is an intrawell statistical test that compares an analytical result to a computed upper limit value (UPL). The UPL is derived from past analytical results from the same well, considered to be representative background data. The prediction limit concept is useful for evaluating parameters with high detection frequencies to detect water quality changes in discrete time intervals. A test can be done on a sample or sequence of samples (four samples collected in a year) to determine divergence from the underlying population.

The data set is tested for normality by application of the Shapiro-Wilk Test for Normality. If the data set fails the test for normality, several transformations of the data are tested. When normal or transformed normal data sets are determined, a parametric prediction limit is calculated and future results compared to this value. When all transformations fail the test for normality, a non-parametric method is applied and future results are compared to this limit.

In the event that a foreground concentration exceeds the UPL in the detection monitoring program, a retesting plan is implemented to confirm that the detection was not a false positive. A 1-of-3

retesting plan will be used for any exceedances of the intrawell UPLs at the CHRLF per the SAP. This retesting plan provides adequate statistical power and minimizes Type II errors (false negatives), while providing retesting that accommodates lab turnaround time, data review, and scheduling. Under the 1-of-3 retesting plan, the first retest sample will be collected as soon as practical following the initial UPL exceedance. The second retest sample will be collected during the subsequent quarterly sampling event. This retest plan applies to wells sampled quarterly and semiannually.

If the initial groundwater observation is in-bounds, the test is complete and no resamples need to be collected. When the first value exceeds the background prediction limit up to two additional samples may have to be collected to complete the test. If either resample is below the UPL, the test is complete and detection monitoring resumes.

For the test to be valid, all of these sample measurements need to be statistically independent. This generally requires that sufficient time elapses before resample collection so that the assumption of statistical independence or lack of autocorrelation is reasonable.

Intrawell UPLs are recalculated each year with the incorporation of the previous year's data into the dataset. The updated UPLs are used to define the range of expected values for future samples. This test is performed on a quarterly basis, Prediction Limit Exceedances of Chapter 173-351 WAC Appendix I constituents are presented in Table 4-4.

3.3.4 Time-Concentration Plots

Time plots are generated for parameters with high detection frequencies and relevance to groundwater quality evaluation. The plots contain data from a number of wells grouped by detection zone and flow gradient location. The intent is to give the viewer a visual synopsis of relevant and extensive interrelated data, rather than a graphical compilation of analytical results. All non-detections (ND) are displayed on graphs as one-half the limit of detection as a measure to represent the inherent uncertainty of a ND value. All plots within a grouping are at the same scale so as to include the entire range of values measured and to provide a consistent context from plot to plot. Plots are prepared for two timescales, one for the past five years (2013-2017) and the second for the period 2001-2017 to capture longer term variations. Since water quality data are typically collected quarterly, the plots are useful for showing temporal changes due to seasonality as well as long-term increasing or decreasing trends and a visual comparison of relative concentration magnitudes for wells in similar spatial and gradient location. Time-Concentration plots for selected parameters are included in Part 5.

3.3.5 Trilinear Diagrams

Geochemical data is presented on trilinear diagrams. Major cations and anions are plotted on individual triangles as percentages of total milliequivalents per liter (meq/L). These diagrams illustrate differences in major ion chemistry between groundwater samples and can be used to categorize water composition into identifiable groups known as hydrochemical facies. Used here, hydrochemical facies refers to distinct chemical compositions of groundwater solute concentrations contained in an aquifer. In general, a groundwater will have a dominant cation or

cation pair and a dominant anion or anion pair. For CHRLF, the four dominant possibilities are: calcium/magnesium or sodium/potassium for cations, and chloride/sulfate or bicarbonate for anions. These facies reflect distinct compositions of cation and anion concentrations such that the value of the diagram lies in the ability to recognize relationships that exist among individual samples. Trilinear Diagrams are included with ionic balance calculations in Part 6.

3.4 Groundwater Quality Standards

Water quality monitoring results are compared to Washington State Groundwater Quality Criteria, Chapter 173-200 WAC (Table 3-1). Changes to Criteria for Municipal Solid Waste Landfills Chapter 173-351 WAC effective December 9, 2012 added total metals analysis along with dissolved metals analysis for eight sampling periods in order to establish background data sets for total metals. All evaluations will use only the total metals fraction for Criteria evaluations. Both total and dissolved metals factions have been analyzed since the second quarter of 2013 and initial background data sets for total metals have been developed. Standards are compared to actual analytical values, not mean or median values. All exceedances are determined by the standards that were in effect at the time of the sampling and are summarized in Tables 4-1a and 4-1b. These tables include primary standard exceedances, those where concentrations are greater than the criteria for analytes having health consequences; and exceedances of secondary criteria, non-mandatory guidelines regarding aesthetic (taste, odor, or color) or cosmetic (tooth or skin discoloration) effects.

3.5 Lower Limit of Quantitation

Changes made in accordance with federal regulations for the guidance of analytical testing methodologies covered by SW-846 (Test Methods for Evaluating Solid Waste) were implemented in 2017 by the contract laboratory. One specific effect of these changes was to replace the MDL methodology with the LLOQ methodology as the basis for determining the lowest quantitative value of an analyte that can be reported. This affected all methods covered within SW-846.

The LLOQ is a performance based methodology that tests known standards repeatedly to create a calibration curve for a specific method. Commonly, the lowest concentration of the (linear) calibration curve is set as the LLOQ. However, in some cases the LLOQ may be greater than the baseline curve concentration due to lab specific factors such as instrument sensitivity and method analytical uncertainty.

During the second quarter of 2017, the transition to using the LLOQ methodology resulted in revised reporting limits for multiple analytes. Quantitation limits for all trace metals (i.e. non-major cationic species metals), and a subset of the Appendix I VOCs regularly analyzed for were lowered versus past analyses MDLs, while other VOCs had higher limits or remained unchanged. As a result of these changes, trace metals and VOCs in various wells previously reported as non-detects are now reported as detections. This does not invalidate past analytical data reported at the MDL as non-detects, but confirms that some analytes can be present below detection limits due to instrumentation and/or analytical methodology limitations. On-going efforts will focus on continually assessing and evaluating whether newly detected analytes are

due to a confirmed presence in the native sample, or result from either field sampling or laboratory contamination.

Due to the change to LLOQ methodology, it may be necessary to re-establish background data sets for any parameters with modified reporting limits in order to maintain statistical integrity and support hypothesis testing conclusions. Transition to new background data sets will occur when sufficient data has been acquired based on minimum statistical requirements.

4.0 GROUNDWATER QUALITY EVALUATION

This section contains an overall description of water quality and an examination of contamination issues supported by the data. Water quality, both upgradient and downgradient, is notable for its variability spatially and over time. This variability is expected based on the history of activities and flow regime in place beneath the landfill. Wells comprising the monitoring network serve to provide background characterization and downgradient performance monitoring.

The objective of the monitoring program is to obtain representative ground water samples from the hydrostratigraphic units that have been identified as the earlier target hydraulic pathways. The monitoring network consists of an appropriate number of wells installed at specified locations and depths to meet this objective. Monitoring provides data capable of providing early warning detection of any groundwater contamination and facilitates decision making that insures protection of human health and the environment.

Per the *Cedar Hills Regional Landfill Site Wide Hydrogeologic Report*, March 2004, and the *Cedar Hills Regional Landfill Site Wide Hydrogeological Report Addendum*, December 2013, the perched zones have been identified to be neither laterally nor vertically extensive, and are not representative of regional aquifer background characterization nor site-wide detection of waste placement areas. Therefore, the regional aquifer beneath the landfill is considered the earliest target hydraulic pathway for groundwater contaminant detection.

4.1 Regional Aquifer Groundwater Elevation and Flow

The primary recharge area for the regional aquifer is immediately across the south property line of CHRLF. Groundwater flow is radial from this center such that the flow across the south property line is oriented S to N. As flow moves northward under the landfill property footprint, it remains predominantly to the north. As the groundwater approaches the north third of the landfill property, recharge from the McDonald Creek drainage affects flow patterns and flow direction changes to the NE where flow lines converge and the gradient increases. This convergent effect influences regional flow in such a way that concentrates flow into a relatively narrow corridor roughly between wells MW-66 and MW-67 (see Figure 4-1).

For the purposes of this review, wells are grouped according to gradient and position in the flow regime relative to waste placement and other infrastructure. Upgradient conditions are characterized by south upgradient wells, located along the southern property border; northwest upgradient wells, influenced by the McDonald Creek drainage; and, northeast upgradient wells, monitoring flow paths that appear to originate east of the landfill site and discharge to the convergent flow feeding the Issaquah Creek drainage.

Wells monitoring flows originating outside the landfill footprint and bypassing all landfill facilities are termed crossgradient. There are wells sampled on both the east and west of the landfill where these conditions exist.

Flows downgradient of waste cells are monitored by two wells on the west side and six wells located in the convergent flow corridor. Additional flows are monitored by wells placed downgradient of north end facilities (conveyances or pump stations) but not of waste cells.

Table 2-1 lists well construction details and well uses, while Figure 4-2 shows well locations.

Response to seasonal rainfall is greatest at the southern wells nearest local recharge and expresses little apparent time delay. Wells along the south property line can exhibit seasonal elevation changes in excess of eight feet and are highest in the spring, immediately following the wettest months of the water year. Seasonal lows generally occur in the fall, at the end of the driest portion of the water year. For example, MW-76, MW-82 and MW-94, wells close to the recharge location and screened at the water table have seasonal changes of five to seven feet on average.

Wells placed further from recharge sources experience much less fluctuation with all downgradient water table wells having an average inter-seasonal range of one foot or less.

Hydrographs of groundwater elevations versus time appear in Part 5. Seasonal changes in groundwater elevation are plotted along with cumulative annual precipitation. All regional well elevations are plotted along with October – September (Water Year) annual rainfall totals and top of screen elevations. Apparent on this plot are the correlation of seasonal recharge with depth to the water table and proximity to the recharge area. Also apparent are longer, multi-year effects of rainfall total and groundwater elevation. Recent years have experienced higher than average annual rainfall and water levels in regional wells have reached the highest static water levels since the late 1990s. The 2015 water year had the lowest rainfall since 2008, while the 2017 water year rebounded with the highest rainfall total since 1997. Rainfall in 2018 remained elevated but did not reach the same precipitation amount as 2017. Seasonal high water levels generally follow the same pattern as rainfall totals.

4.2 Regional Aquifer Water Quality

This section discusses the regional aquifer groundwater quality for CHRLF, as relates to any observed impacts to the aquifer with regards to both flow regime and water quality. Appropriate analytical techniques, per WAC 173-351 are employed and discussed herein.

To note, consistent with the flow paths described above the regional aquifer groundwater quality displays varying spatial and temporal trends. Also contributing to data variability are land use patterns and analytical variability and sensitivity. Together, these conditions make the establishment of a single benchmark “background water quality data set” unworkable. To account for the lack of a true background data set, several analytical techniques are utilized when assessing the regional aquifer, and are outlined in the following discussion.

4.2.1 Groundwater Influenced by Upgradient Conditions

Groundwater quality, especially in wells nearest the south recharge zone, is profoundly affected by conditions and activities that have occurred over the past fifty years on the adjoining 320-acre QCF property. In general chronological order these activities included: a pig farming operation

that brought municipal solid waste (MSW) in for use as feed; a business that disposed of hazardous waste in excavated pits; a general aviation airport; a solvent reprocessing and recovery operation; a gravel mine with excavation extending down to a level near the water table of the regional aquifer (Gravel Pit Lake); and an operating composting facility. The QCF property is listed on the National Priorities List for contaminated sites under the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA, or Superfund) and has undergone site remediation efforts that included extensive excavation, stabilization and barrier wall construction. Groundwater quality in south upgradient CHRLF wells is impacted by chlorinated volatile organic compounds (CVOCs) still migrating from the QCF site. Presence of these contaminants and their migration is well documented in the *Fifth Five-Year Review Queen City Farms King County, Washington*, 2018 and the *Expanded Hydrogeology Assessment Queen City Farms King County, Washington*, 2010.

Constituents associated with QCF releases are tetrachloroethene (PCE), trichloroethene (TCE), *cis* 1,2-dichloroethene (1,2-DCE), and vinyl chloride (VC).

Recent activities include ongoing composting operations, filling and grading of mined out sand and gravel deposits, clearing and grading for compost storage pads, and stockpiling of compost covering multiple acres. Rising concentrations of several parameters first became apparent in 2011 in south upgradient wells MW-76, MW-83 and MW-94. Concentration rises have been relatively sudden, steep and coincidental with the recent stockpiling activities.

As flow continues into areas beneath the landfill footprint, changes are discernible as groundwater encounters and equilibrates to different oxidation-reduction (redox) conditions, soil gas and groundwater interface conditions, and solvent/solute interactions. Attenuation processes also act to continue to degrade and disperse CVOCs from the QCF releases.

4.2.2 Landfill Gas Influence on Groundwater Conditions

Important consideration in wells screened at the water table located in flow paths under the footprint and immediately downgradient of waste cells is the influence of landfill gas (LFG) in the unsaturated strata. The presence of LFG significantly raises the partial pressure of carbon dioxide (CO_2) in the unsaturated zone and alters conditions that lead to measurable differences in water quality. Among these are redox sensitive constituents (iron, manganese, arsenic and nitrogen species), carbonate system equilibria (alkalinity and buffering capacity), and dissolution/precipitation processes in which most metal cations participate.

Groundwater influenced by LFG is characterized by increased alkalinity as CO_2 dissolves creating carbonic acid (H_2CO_3). This effect then causes mineral cations to dissolve into the aqueous environment, with calcium and magnesium being the primary cations solubilized. The process also increases levels of specific conductance, total dissolved solids (TDS), total alkalinity and other dissolved trace metals (arsenic, barium, vanadium, etc.). Carbonic acid then further deprotonates and stabilizes as bicarbonate ion (HCO_3^-) due to the natural pH of the regional soils.

Presence of LFG in the unsaturated deposits beneath the landfill and above the regional aquifer water table has been identified by LFG migration monitoring probes. Efforts to intercept and remove LFG in native soils are ongoing (see *Cedar Hills Regional Landfill West Side Landfill Gas*

Recovery Well Installation and Influence Testing Report, December 2013). Viewing the series of time/concentration plots for alkalinity demonstrates this process (see Part 5). Upgradient wells south, northwest and northeast all have alkalinity values generally less than 150 mg/L $CaCO_3$. As flow reaches interior, vertical and downgradient wells values between 150 and 250 mg/L are more common, along with similar increases in calcium, magnesium, barium, conductance and TDS.

Following flow further through the site, conditions change as the apparent presence and effects of LFG beyond the landfill footprint diminish and the kinetics of the system change and conditions revert to alkalinities below 100 mg/L. This effect is likely due to carbonate precipitation and concentrations of other similarly mobilized analytes reverting to upgradient conditions.

4.2.3 Water Quality Indicator Parameters

Time/concentration plots (Part 5) are also included for additional regularly detected water quality indicator parameters. These include pH, ammonia, chloride, sulfate, nitrate, iron, manganese, potassium, sodium, and arsenic. Iron, manganese, arsenic, sulfate, ammonia, and nitrate are sensitive to redox conditions and may be mobilized into or depleted from groundwater flow depending on local conditions. Native soils can serve as a source material for iron, manganese, arsenic and sulfate.

Chloride, potassium, and sodium do not readily participate in redox, sorption or biological processes and therefore are conservative along a flow path. Elevated concentrations can be indicative of an external input to the system. Nitrate is also conservative, although to lesser extent than chloride, potassium and sodium, as it can be transformed and participate in biological process, depending on redox conditions.

As with the changes along the flow paths described for alkalinity and associated parameters, a similar analysis for chloride can be made. Most regional wells in all flow regimes have chloride concentrations generally below 8 mg/L. Exceptions to these levels are rising concentrations in south upgradient wells MW-76, MW-83 and MW-94, where increases have been relatively sudden, steep and coincidental with recent land use alterations and site activities offsite. Notably higher chloride concentrations also occur in the flow paths aligned along MW-66, MW-74, MW-75 and MW-85 in the north landfill area. These observations are consistent with a chloride source from onsite, possibly overlying infrastructure.

Flows further downgradient onsite have concentrations generally below 10 mg/L, reflecting regional aquifer flow mixing and dispersion processes.

4.2.4 Water Quality Exceedances

Water quality exceedances are tabulated in Table 4-1a. Data are compared to Washington State Ground Water Criteria (GWC) (WAC 173-200-040), and to the Federal Drinking Water Standard. The secondary standards provide a measure of the aesthetic condition (taste, odor and color) and do not present a risk to human health.

Analytes exceeding primary standards in the regional aquifer are arsenic and the chlorinated volatile organic compounds (CVOCs) trichloroethene (TCE) and vinyl chloride (VC).

4.2.4.1 Total Arsenic Exceedances

Arsenic occurs naturally in native soils and can be mobilized in groundwater by depressed redox and affected by pH conditions and ions available to form complexes or adsorption sites. Total arsenic was detected in all 29 regional wells in 2018. All detections of arsenic are inherently exceedances of the state GWC (0.00005 mg/L), as the detection limit for arsenic equals the GWC criteria. Concentrations of total arsenic greater than the background Puget Sound Basin Groundwater level of 0.008 mg/L (*Natural Background Groundwater Arsenic Concentrations in Washington State Ecology Publication No. 14-09-044)* occurred in wells MW-68 and MW-86.

Wells with high total arsenic concentrations (relative to other wells) also tend to have high total iron concentrations, total suspended solids, field turbidity measurements, high total to dissolved ratios for arsenic and iron. These correlations indicate the presence of iron-arsenic complexes present in these wells as particulate matter, and may not be representative of aquifer conditions. Redevelopment of these wells to clear fines and restore aquifer conditions is likely necessary to ensure monitoring results are representative of aquifer water quality.

4.2.4.2 CVOCs Exceedances

For 2018, TCE exceeded criteria in all samples from two upgradient wells (MW-76 and MW-82), and vinyl chloride in one upgradient well (MW-65). TCE was also consistently detected in wells MW-83 and MW-94 at concentrations slightly below the GWC and Federal criteria.

There were no exceedances for *cis*-1,2-dichloroethene (*cis*-1-2-DCE); however, it was regularly detected in wells MW-24, MW-56, MW-59 and MW-76.

Tetrachloroethene (PCE) was regularly detected in MW-76 at levels below the GWC.

All CVOCs detected in 2018 in south upgradient wells are known to be compounds disposed of at QCF, or degradation products of those compounds.

4.2.4.3 Secondary Standard Exceedances

GWC secondary standards exceeded in 2018 include dissolved iron and manganese. Iron and manganese, like arsenic, are naturally occurring and mobilization is controlled by similar processes: redox, pH and sorption. Natural groundwater in the region tends to be slightly acidic, and can be influenced by surface activities and proximity to recharge by rainfall. Rainfall in equilibrium with the atmosphere has a pH of ~5.5. The occurrence and concentrations of iron and manganese can vary greatly over short distances. Maximum iron and manganese concentrations between individual upgradient wells vary over three orders of magnitude inferring changing redox conditions vertically and horizontally in the regional aquifer.

Iron or manganese exceedances above the secondary criteria occur in all zones of the regional aquifer. GWC secondary standards for iron and manganese are set at levels equivalent to the Federal Drinking Water Standards, primarily to address taste and odor issues for groundwater used as a drinking water source.

4.2.5 Trends

This section discusses the results of trend testing analysis for the Regional Aquifer (Upgradient and Downgradient). Trend test results are tabulated in Table 4-3a and 4-3b. In the following discussion of trends for Appendix I analytes, if a trend is not specifically called out, it can be assumed that no trend was detected.

By regulation, a finding of statistical significance is determined for analytes listed in Appendix I of Chapter 173-351 WAC. The discussion below describes trend testing results for Appendix I parameters. The trend test is conducted for two time periods: short term which includes the past two years of monitoring data; and, long term which covers the 50 previous data points. The long term test covers data generated from mid-2004 onwards; hence, wells with a longer period of monitoring have truncated data sets.

4.2.5.1 Nitrate

Nitrate trends are described below by monitoring well grouping. Nitrate trends exhibit as wide a variation within groupings as between groupings.

Upgradient and Crossgradient Wells:

Along the south property line, monitoring wells MW-24, 59, 65, 76, and 82 exhibited long term decreasing trends. A short term decreasing trend was also calculated for MW-59.

For northwest flow path monitoring wells, MW-21 and 84 exhibited long term decreasing trends, while MW-66 exhibited a long term increasing trend.

For northeast flow path monitoring wells, MW-64, 93 and 95 exhibited long term decreasing trends. To note, the long term trend for MW-64 was incorrectly reported in the 2017 Annual report as increasing for nitrate. This was due to a calculation error that was corrected and verified for this 2018 Annual report for CHRLF.

Downgradient:

Increasing long term trends for nitrate were calculated for MW-74, 86, and 88. Long term trend decreases were calculated for multiple wells, including MW-67, 68, 69, 72, 75 85, 87, 89, and 100.

4.2.5.2 Appendix I Metals

Historically, the dissolved fraction has been used to evaluate trends. Recent regulatory changes have mandated the analysis of the total metals fraction. Adequate background data sets had previously been developed to assess long and short term trends for total metals. However, due to the change to the LLOQ methodology the second quarter of 2017, reporting limits for most metals decreased significantly. This resulted in higher detection frequencies and the necessity to re-establish background data sets as data are acquired in order to maintain statistical integrity and support hypothesis testing conclusions. Appendix I total metals trend testing data are presented in Table 4-3b.

Total Arsenic

Upgradient and Cross Gradient:

Along the south property line, monitoring well MW-56 exhibited a long term decreasing trend for total arsenic, while MW-65 exhibited an increasing trend. Also, MW-59 exhibited a short term decreasing trend while MW-94 exhibited an increasing short term trend.

Downgradient:

For downgradient wells, MW-68, 80 and 87 exhibited long term increasing trends for total arsenic, while MW-69 exhibited a long term decreasing trend. Also, trend calculations for MW-68 and MW-87 showed short term decreasing trends.

Total Barium

Barium is detected in nearly all wells as it behaves in the geological environment similarly to calcium. Detections of dissolved barium further may be indicative of a LFG impact on native soils.

Upgradient and Cross Gradient:

Along the south property line, monitoring well MW-56 exhibited a long term decreasing trend for total barium, while MW-59, 82, and 83 exhibited long term increasing trends. Short term trend calculations for MW-56 and 65 showed decreasing trends.

For northwest flow path monitoring wells, MW-21 and 84 exhibited long term increasing trends for total barium, while MW-66 exhibited a long term decreasing trend. Also, short term trend calculations for MW-84 showed an increasing trend.

For northeast flow path monitoring wells, MW-93 exhibited a short term decreasing trend for total barium.

Downgradient:

For downgradient wells, MW-67, 72, 74, 75, 80, 85, 87, and 89 exhibited long term increasing trends for total barium, while MW-69 exhibited a long term decreasing trend. Also, short term trend calculations for MW-72 showed an increasing trend, while MW-68 and 87 showed decreasing trends.

Total Chromium

Upgradient and Cross Gradient:

Along the south property line, monitoring well MW-59 exhibited a short term decreasing trend for total chromium.

Downgradient:

For downgradient wells, MW-68 and 87 exhibited short term decreasing trends for total chromium.

Total Cobalt

Upgradient and Cross Gradient:

Along the south property line, monitoring well MW-94 exhibited a short term decreasing trend for total cobalt.

For northeast flow path monitoring wells, MW-93 exhibited a short term decreasing trend for total cobalt.

Downgradient:

For downgradient wells, MW-68 and 87 exhibited short term decreasing trends for total cobalt.

Total Copper

Upgradient and Cross Gradient:

Along the south property line, monitoring well MW-83 exhibited a long term increasing trend for total copper, while MW-59 short term trend calculations showed a decreasing trend.

For northwest flow path monitoring wells, MW-73 exhibited a long term decreasing trend for total copper.

Downgradient:

For downgradient wells, MW-68 87 exhibited short term decreasing trends for total copper.

Total Lead

Upgradient and Cross Gradient:

Along the south property line, monitoring well MW-56 exhibited a long term decreasing trend for total lead, and MW-59 showed a short term decreasing trend.

Downgradient:

For downgradient wells, MW-87 exhibited a short term decreasing trend for total lead.

Total Nickel

Upgradient and Cross Gradient:

Along the south property line, monitoring wells MW-59 and 94 exhibited short term decreasing trends for total nickel.

Downgradient:

For downgradient wells, MW-68, 74, 80, and 87 exhibited short term decreasing trends for total nickel.

Total Selenium

Downgradient:

For downgradient wells, MW-85 exhibited a short term decreasing trend for total selenium.

Total Vanadium

Upgradient and Cross Gradient:

Along the south property line, monitoring well MW-94 exhibited a short term increasing trend for total vanadium.

For northeast flow path monitoring wells, MW-93 exhibited a short term increasing trend for total vanadium.

Downgradient:

For downgradient wells, MW-87 exhibited a long term increasing trend for total vanadium. Also, short term trend calculations for MW-68 and 87 showed decreasing trends.

Total Zinc

Detection of zinc occurs in regional wells at a relatively low frequency (approximately 10% of all samples), being found most frequently in MW-93.

Upgradient and Cross Gradient:

Along the south property line, monitoring well MW-56 exhibited a long term decreasing trend for total zinc. Also, short term trend calculations for MW-59 and 83 showed decreasing trends.

For northwest flow path monitoring wells, MW-66 exhibited a short term decreasing trend for total zinc.

For northeast flow path monitoring wells, MW-93 exhibited a long term decreasing trend for total zinc.

Downgradient:

For downgradient wells, MW-89 exhibited a long term increasing trend for total zinc. Alternatively, short term trend calculations for MW-68, 69, 74, 75, 80, and 87 showed decreasing trends.

4.2.5.3 Appendix I Volatile Organic Compounds

All trends for wells volatile organic compounds in the regional aquifer at CHRLF are in wells along the south property line and impacted by compounds migrating from the QCF site.

***cis*-1,2-Dichloroethene**

Along the south property line, monitoring well MW-59 exhibited a long term increasing trend for *cis*-1,2-Dichloroethene. Alternatively, long term trend calculations for MW-76 showed a decreasing trend.

Tetrachloroethene

Along the south property line, monitoring well MW-76 exhibited a long term decreasing trend for PCE.

Trichloroethene

Along the south property line, monitoring wells MW-76, 82 and 94 exhibited long term decreasing trends for TCE.

Vinyl Chloride

Along the south property line, monitoring well MW-65 exhibited a long term decreasing trend for vinyl chloride.

4.2.5.3 Appendix II Water Quality Indicators

Data sets from regional wells are also tested for trends using Appendix II water quality indicators. This includes specific conductance, total dissolved solids (TDS), dissolved cationic species (i.e. calcium, magnesium, potassium, and sodium), and dissolved anionic species (i.e. bicarbonate, chloride and sulfate) that have a sufficient amount of detections to give meaningful results.

Appendix II parameter trend test results indicate variable water quality over time in all wells regardless of placement in the flow net (see Figure 4.1, and Table 4-2a and 4-2b). The character of these flows are representative of groundwater as it flows toward CHRLF and provides a reference to determine changes that may take place along the many flow paths between an upgradient well and further downgradient wells.

Section 4.2.2 discussed measurable differences attributable to conditions existing on the landfill site. Evidence of LFG/groundwater interaction is apparent in trend analysis of these parameters. There is a strong indication of LFG influence on wells MW-67, MW-68, MW-69 and MW-74, MW-80, and MW-93 by trends in associated parameters alkalinity, conductance, TDS, calcium and magnesium. Barium also frequently tracks with calcium and magnesium due to chemical similarities (Group IIA in the Periodic Table of the Elements). These wells are in flow paths downgradient form overlying facilities or unlined waste areas. Indication of LFG influence is also supported by data presented in the Statistical Summary for these wells and analytes (Tables 4-2a and 4-2b), and by the time/concentration plots (Part 5), graphically presenting relative concentrations over time.

Additionally, as a part of King County's response to LFG migration (discussed in Section 8.2 of the Annual Report), LFG has been extracted from the unsaturated zone above the regional aquifer water table along the west side of the landfill since early 2012. These extraction wells capture LFG at a low but steady rate (approximately 50 standard cubic feet per minute) in a zone where interaction with groundwater occurs near the flow paths and capture zones for west side downgradient wells MW-69 and MW-72.

4.2.6 Prediction Limits

In this section, results from prediction limit testing are discussed and presented for 2018. By regulation, prediction limits are to be calculated annually and compared to analytes listed in Appendix I of Chapter 173-351 WAC. While trend testing detects a significant change in relative concentration over time by defining a direction and probability, prediction limit results provide a way of determining if future measurements are inconsistent with an established background.

Table 4-4 lists wells and parameters that have been evaluated for intrawell prediction limit exceedances in the retesting strategy for 2018, along with the sample date, analytical result, and the calculated prediction limit value based previous years data. Initial results greater than the UPL are indicated by red bold font, while subsequent results indicating passing the 1 of 3 retesting protocol appear in bold green font. Intrawell testing is used to address the lack of a true background data set for comparison at CHRLF.

Prediction limit exceedances in regional wells remaining in the retesting protocol at the end of 2019 include the following:

- Total arsenic: MW-67, 86, 95
- Total barium: MW-64, 67, 84, 86
- Total vanadium: MW-86, 88

As previously discussed in section 4.2.4.1, total arsenic fractions are typically correlated with suspended solids. In the wells remaining in the retesting protocol with elevated concentrations of total arsenic (relative to other wells), in addition to elevated suspended solids, the ratios of total to dissolved arsenic and total to dissolved iron are high. This presents evidence that arsenic and iron are bound in an insoluble complex that is sampled and solubilized by the analytical method, and therefore may not be representative of aquifer conditions. Further analysis indicates vanadium follows this trend; however, barium seems to be more moderate in correlation with iron and suspended solids. Well redevelopment is necessary to mitigate this effect and restore aquifer conditions within the monitoring well.

Upgradient prediction limit exceedances (MW-64, 84, 95) confirm that there is unstable water quality in the regional aquifer flowing to the landfill. The prediction limit statistical test assumes a static, unchanging background dataset to compute expected future values. When this assumption does not hold, as is the case here, it increases the likelihood that exceedances of the computed limit will be found, even when these exceedances are not related to activities attributable to CHRLF.

In the case where upgradient water quality is unstable, intrawell prediction limits are highly useful as a tool to determine changing upgradient conditions with quantifiable certainty for individual monitoring wells.

4.3 Perched Groundwater

Per the *Cedar Hills Regional Landfill Site Wide Hydrogeologic Report*, March 2004, and the *Cedar Hills Regional Landfill Site Wide Hydrogeological Report Addendum*, December 2013, perched groundwater occurs in onsite glacial till, ice-contact deposits and recessional outwash. No laterally or vertically extensive perched zones have been identified. For purposes of presentation and discussion, perched zones are divided into three groups; North and West Perched Zones; East Perched Zone (EPZ); and, South Solid Waste Area Perched Zone (SSWA).

Impacts to the EPZ and SSWA perched zones by historical site activities have been recognized over the years. Several investigations have been undertaken to clarify interactions between engineered facilities, surface water and perched groundwater, and to further define perched zone extent.

Available data indicate that all onsite perched zones are separated from the regional aquifer by unsaturated deposits ranging from 100 to 300 feet. No laterally or vertically extensive perched zones have been identified, leaving the regional aquifer beneath the landfill as the earliest target hydraulic pathway for groundwater contaminant detection. For this reason the regional aquifer, rather than any perched groundwater, is the target hydraulic pathway for detection monitoring.

Sampling and analysis of groundwater in the perched zones allows changes in water quality from site activities to be assessed. Table 2-1 lists perched wells, construction dates, locational, and monitoring information.

4.3.1 Groundwater Elevation and Flow

Groundwater elevation and seasonal precipitation response plots are located in Part 5. Flow direction and velocity are not determined due to the discontinuous nature of perched zones. Current understanding of groundwater occurrence and flow are presented in the *East Main Hill Perched Zones Technical Memorandum*, published in 2010 for the east perched zones and in *Results of Groundwater Sampling and Fate and Transport Analysis South Solid Waste Area Perched Zone Assessment*, April 2010, for the SSWA perched zones.

4.3.2 Water Quality Exceedances

Perched zones water quality exceedances for 2018 appear in Table 4-1b. Water quality exceedances in perched wells are consistent with previous year's data.

The frequency, variety and concentration of VOCs in the EPZ and SSWA perched zone wells have declined over time. Primary standards have been exceeded by seven (7) VOCs at some point during the monitoring history of the perched zone wells. Presently, PCE, TCE, 1,1-DCA and VC remain above standards in the EPZ.

Iron and manganese, like arsenic, are naturally occurring and are mobilized by similar processes; redox, pH and sorption. Iron and manganese exceedances occur in both perched zones with known impacts, and upgradient, non-impacted perched wells.

4.3.2.1 EPZ Exceedances

For the EPZ, the following primary state GWC standards were exceeded in 2018:

- Total arsenic: MW-30A, 47, 62
- 1,1-dichloroethane: MW-30A , MW-62
- Nitrate: MW-30A
- Vinyl chloride: MW-47

Secondary standards were exceeded for pH in MW-30A and 62, and for TDS, dissolved iron, and dissolved manganese in MW-47.

EPZ wells were analyzed for Appendix III analytes in 2018 per WAC 173-351-440 and the CHRLF SAP. No exceedances of Appendix III analytes occurred for EPZ wells in 2018.

4.3.2.2 SSWA Exceedances

In the SSWA perched zone in 2018, total arsenic and vinyl chloride exceeded the GWC in all samples from MW-101. Dissolved iron and manganese also exceeded the secondary standards in all samples from MW-101, excluding iron in the 2nd quarter of 2018.

EPZ wells were analyzed for Appendix III analytes in 2018 per WAC 173-351-440 and the CHRLF SAP. Bis (2-Ethylhexyl) Phthalate was detected in MW-101 during the 2nd quarter of 2018 at a concentration above the water quality criteria of 6 ug/L.

As previously discussed, arsenic occurs naturally in native soils and can be mobilized in groundwater by depressed redox and affected by pH conditions and ions available to form complexes or adsorption sites. The physical and spatial properties of the perched zones enhance the likelihood of exposure to one or more of these mechanisms. Although arsenic can be found in leachate, the probability of leachate as a source of arsenic in groundwater samples is unlikely considering processes such as dilution and sorption that would reduce the contribution from leachate. It is likely that arsenic detected in site wells is mobilized from native soils by redox or pH changes which can be brought about by landfill associated processes.

4.3.2.3 MW-105

MW-105 was sampled in 2018 per the SAP to establish baseline characterization for leachate aeration pond leak detection. This well will continued to be monitored for field specific conductance as a performance measure for leak detection.

4.3.3 Perched Zone Trends

Trends are determined for analytes listed in Appendix I of Chapter 173-351 WAC. Test results are tabulated in the Statistical Summary of Perched Groundwater Quality Table 4-3c.

4.3.3.1 EPZ Trends

East perched zone well MW-30A exhibited long term decreasing trends for VOCs, including 1,1-DCA, 1,2-DCA, *cis*-1,2-DCE, 1,2-DCP and TCE; and, for many water quality indicator parameters including conductivity, alkalinity, ammonia, sulfate, and dissolved iron, calcium, magnesium, and potassium. There was a long term increasing trend calculated for nitrate.

MW-47 exhibited long term increasing trends for VOCs, including dichlorodifluoromethane, 1,1-DCA, *cis*-1,2-DCE, and VC. Alternatively, short term decreasing VOC trends were calculated for dichlorodifluoromethane and vinyl chloride. Other long term trend increases were calculated for TDS, alkalinity, and dissolved iron, manganese, calcium and magnesium.

MW-62 exhibited long term decreasing trends for VOCs, including 1,1-DCA, *cis*-1,2-DCE, TCE, and VC. Other long term decreasing trends calculated included chloride, nitrate, sulfate, and dissolved iron, calcium, magnesium, and potassium. A short term decreasing trend was also calculated for pH.

Parameters associated with the presence of LFG, including alkalinity, dissolved iron, calcium, and magnesium showed decreases in MW-30A and MW-62, while generally increasing in MW-47.

4.3.3.2 SSWA Trends

For the SSWA perched zone, water quality is currently monitored by MW-101. Several other SSWA perched zone wells have been sampled occasionally during on-going investigation efforts, but have not produced sufficient data for trend testing. In 2018, MW-101 continued to exhibit long term declining trends for nickel and vinyl chloride, and for water quality indicator parameters, including conductivity, TDS, alkalinity, ammonia, chloride, sulfate, and dissolved iron, manganese, calcium, and sodium.

A long term trend increase for nitrate was inadvertently reported in the 2017 Annual report due to a calculation error, and has been subsequently been corrected.

4.3.4 Prediction Limits

Perched zone data were tested for intrawell prediction limit exceedances for Appendix I analytes where adequate data are available and appear in Table 4-4. For the EPZ, 1,2-DCA exceeded the UPL in MW-47 2nd quarter of 2018, and the subsequent sample passed the retesting protocol. Also, nitrate exceeded the UPL in MW-30A for the 1st, 2nd, and 3rd quarters of 2018, but passed out of the retesting protocol 4th quarter of 2018. Lastly, in the 4th quarter of 2018, MW-30A exceeded the UPL for total copper and vanadium, while MW-62 exceeded for total barium and vanadium.

Retesting will occur in 1st quarter of 2019 per the one of three retesting protocol outlined in the SAP.

For the SSWA, *cis*-1,2-DCE exceeded the UPL in MW-101 1st quarter of 2018, and the subsequent sample passed the retesting protocol.

5.0 SUMMARY AND CONCLUSIONS

5.1 Regional Aquifer

At CHRLF, the regional aquifer is the first continuously saturated zone beneath the landfill and serves as the earliest path for detection monitoring for flow paths traversing the landfill footprint. Groundwater flowing onto the CHRLF site is highly variable both spatially and temporally.

Groundwater data are evaluated according to gradient and position of the well in the flow regime relative to waste placement and other infrastructure. Upgradient conditions are characterized by south upgradient wells, located along the southern property border, northwest upgradient wells, influenced by the McDonald Creek drainage, and northeast upgradient wells monitoring the flow paths that appear to originate east of the landfill site and discharge to the convergent flow feeding the Issaquah Creek drainage. Wells monitoring flows originating outside the landfill footprint and bypassing all landfill facilities are termed crossgradient. There are wells sampled east and west of the landfill where these conditions exist. Flows downgradient of waste cells are monitored by two wells on the west side and six wells located in the convergent flow corridor. Additional flows are monitored by wells placed downgradient of north end facilities (conveyances or pump stations) but not of waste cells.

Recharge of the regional aquifer beneath CHRLF is predominately by rainfall. Primary recharge areas are the McDonald Creek Drainage to the northwest and Gravel Pit Lake centered on the QCF property to the south of the landfill. QCF has been the site of many activities including solid and hazardous waste disposal, solvent reprocessing and recovery, gravel mining, and a composting operation. Recent activities have included extensive regrading, expanded compost storage onsite and refilled mined areas. The property is on the National Priorities List for hazardous waste sites and has gone through remediation efforts including excavation, stabilization and barrier wall construction. These past activities and current conditions affect and define upgradient groundwater quality for CHRLF. Groundwater flow from the recharge area is radial and is monitored by extensive networks of wells at both QCF and CHRLF.

Upgradient water quality to CHRLF exhibits wide spatial and temporal variation. Contamination of the regional groundwater by CVOCs on the QCF site is well documented, as is migration across the property line and under CHRLF. The CVOCs TCE, PCE and *cis*-1,2-dichloroethene are detected regularly in several upgradient wells. TCE is present in four upgradient wells, exceeding primary drinking water standards in two. Vinyl chloride is regularly detected in one upgradient well and is likely a degradation byproduct. Overall, primary groundwater criteria were exceeded in some upgradient wells for TCE, vinyl chloride and arsenic. Some wells also exceeded secondary standards for dissolved iron and manganese.

Rising concentrations of several water quality indicator parameters in south upgradient wells adjacent to QCF first became apparent in 2011. Concentration rises have been relatively sudden, steep and coincidental with recent regrading and stockpiling on the site.

As flow moves northward under the property footprint, it remains predominantly to the north. Once reaching the north third of the landfill property, recharge from the McDonald Creek drainage comes into effect and flow direction changes to the NE where flow lines converge and the gradient increases, heading towards the Issaquah Creek drainage basin. This convergent effect influences regional flow in such a way that concentrates flow into a relatively narrow corridor.

Water quality changes are discernible as groundwater encounters and equilibrates to different oxidation-reduction conditions, soil gas/groundwater interface conditions, and solvent/solute interactions. Flow paths under the footprint and immediately downgradient of waste cells are influenced by LFG in the unsaturated strata.

Flow paths aligned along MW-66, MW-74, MW-75, and MW-85 in the north landfill area have chloride concentrations elevated relative to other regional wells consistent with an input from onsite, overlying infrastructure in the north end.

A small crescent of wells in the northeast corner of the CHRLF property monitors regional aquifer flow along preferential flow paths downgradient to MSW placement. Landfill activities and/or facilities may have raised chloride concentrations in wells MW-66, MW-74, MW-75, and MW-85. Concentrations have stabilized in MW-74 below peak levels of 2009. Levels in wells further along the high transmissivity flow path downgradient remain at near background levels.

Downgradient groundwater quality has been compared to groundwater criteria and has exceeded primary standards for arsenic and secondary standards for iron, manganese and pH in 2018. The CVOCs PCE, TCA, *cis*-1,2-DCE, and VC are undetected in downgradient wells. These data indicate that CHRLF is acting as an attenuation zone for upgradient QCF impacts, allowing a reduction in the concentration of VOCs, iron, and manganese.

Groundwater analysis indicates the effects of interaction with carbon dioxide from LFG migration. This influence is detectable in regional aquifer wells screened near the water table in predominately the central portion of the landfill site. Effects noted are increased alkalinity, calcium, and magnesium relative to deeper screened wells. Other redox sensitive chemical species can be mobilized as well, including arsenic, iron, and manganese.

Additional findings related to regional aquifer flow analysis and monitoring well detection zones can be found in the *Cedar Hills Regional Landfill Regional Aquifer Technical Memorandum*, March 2011.

A *Site Wide Hydrogeologic Report Addendum for Cedar Hills Regional Landfill* was prepared in 2013; an updated sampling and analysis plan (*Environmental Monitoring Sampling and Analysis Plan for Cedar Hills Regional Landfill)* was implemented in 2016.

5.2 Perched Zones

Perched groundwater occurs in onsite till, ice-contact deposits and recessional outwash. No laterally or vertically extensive perched zones have been identified at CHRLF. Recharge of perched groundwater is by precipitation with possible hydraulic continuity to surface streams.

It is recognized that perched zones are separated from the regional aquifer, are not laterally or vertically extensive and that the regional aquifer beneath the landfill is the earliest target hydraulic pathway for groundwater contaminant detection.

Impacts from historical landfilling methods have previously been recognized in several perched zone wells. Site improvements and engineered facilities have moderated some impacts to water quality as evidenced by the long term declines for many contaminant concentrations in these wells. The influence of LFG on groundwater quality continues in east side perched groundwater.

Historical investigations that pertain to perched zone conditions have been completed. The Technical Memoranda *Results of Groundwater Sampling and Fate and Transport Analysis South Solid Waste Area Perched Zone Assessment*, April 2010, and the *East Main Hill Perched Zones*, October 2010, evaluate occurrence and conditions in the Main Hill and South Solid Waste Area perched zones. These memoranda included an evaluation of the gas-to-groundwater pathway for contaminant migration and further define extent and flow paths of groundwater in the East Main Hill perched zone, and in the South Solid Waste Area perched zone, including confirmation of the local extent and the fate and transport of vinyl chloride.

SWD has prepared a *Draft Remedial Investigation and Feasibility Study* (RI/FS) as part of an Independent Remedial Action under WAC 173-340 Model Toxics Control Act (MTCA). This work completed EPZ characterization, filled data gaps, and proposed remedies. Continuing interim actions are outlined in the *Cedar Hills Regional Landfill – EPZ Phase 1 Interim Actions – Infrastructure Upgrades Technical Memorandum*, August 2018.

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PART 2

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Table 2-1
CEDAR HILLS REGIONAL LANDFILL GROUNDWATER MONITORING WELLS

Well Name	General Condition				Recommendations				
	Casing Diameter (inches)	Well Depth (feet)	Installation Date	Water Table or Deep Zone	Well Monitoring Classification	Comments on Well Use	Static Water Level Monitoring Frequency	Water Quality Monitoring Frequency	Rationale
MW-21 (Upgradient)	6	163	5/17/83	Deep	Detection	Background	Quarterly	Semi-annual	Monitors background conditions of deep aquifer.
MW-22P (Downgradient)	2	284	5/25/83	Deep	Detection	WL only	Quarterly	None	Not effectively located for facilities or background monitoring.
MW-24 (Upgradient)	6	192	6/2/83	Deep	Detection	Background	Quarterly	Semi-annual	Twice-annual monitoring of QCF impacts in deep upgradient well. Monitor SWLs to define deeper Regional Aquifer flow paths.
MW-54 (Upgradient)	2	351	9/26/86	Deep	Detection	WL only	Quarterly	None	Not effectively located for facilities monitoring as it lies up gradient of the CHRLF facilities. Upgradient water quality monitored in other wells.
MW-56 (Upgradient)	2	166	10/12/88	Deep	Detection	Background	Quarterly	Semi-annual	Twice-annual monitoring of QCF impacts in upgradient well. Low groundwater velocities (0.014 ft/day) indicate slow movement of QCF contaminants through this area. Travel distance for 180 days is estimated at 2.5 ft indicating any releases would be detected with 6 month sample interval. Comparison quarterly and semiannual statistics indicates semiannual sampling does not have significant effect on trend analysis. Monitor SWLs to define deeper Regional Aquifer flow paths.
MW-57 (Upgradient)	2	144	8/22/88	Deep	Detection	WL only	Quarterly	None	Monitoring redundant with MW-59. Strong downward vertical gradients indicate impacts at MW-57 would also be detected at MW-59.
MW-58A (Upgradient)	2	219	9/26/88	Deep	Detection	WL only	Quarterly	None	Monitoring redundant with MW-56. Strong downward vertical gradients indicate impacts at MW-58A would also be detected at MW-56.
MW-59 (Upgradient)	2	180.5	8/16/88	Deep	Detection	Background	Quarterly	Quarterly	Quarterly monitoring of QCF impacts in upgradient well.
MW-60 (Upgradient)	2.5	240	9/13/91	Water Table	Detection	WL only	Quarterly	None	Upgradient flow from QCF in shallow Regional Aquifer characterized by MW-65 and MW-76. Downgradient area monitored by MW-100.
MW-64 (Upgradient)	2.5	274	3/22/93	Water Table	Detection		Quarterly	Semi-annual	Adjacent to SE Pit. Conversion from quarterly to semiannual sampling does not have significant effect on intrawell statistics.
MW-65 (Upgradient)	2.5	234	3/29/93	Deep	Detection	Background	Quarterly	Semi-annual	Twice-annual monitoring of QCF impacts in upgradient well. Monitor SWLs to define deeper Regional Aquifer flow paths.
MW-66 (Upgradient)	2.5	248	4/5/93	Water Table	Detection		Quarterly	Quarterly	Monitor north end leachate detention facilities.
MW-67 (Downgradient)	2.5	230	4/28/93	Water Table	Detection		Quarterly	Semi-annual	Monitors potential EPZ contaminants infiltrating into Regional Aquifer.
MW-68 (Cross-Gradient/ Downgradient)	2.5	353	4/15/93	Water Table	Detection		Quarterly	Quarterly	Well is completed adjacent to unlined Main Hill where downward flow from Main Hill and impacted EPZ would be captured. Monitors Main Hill gas effected area.
MW-69 (Downgradient)	2.5	371	4/23/93	Water Table	Detection		Quarterly	Quarterly	West side flow converges in this area and well is upgradient of key downgradient wells.
MW-72 (Downgradient)	2.5	376	8/7/98	Water Table	Detection		Quarterly	Quarterly	Key water quality monitoring well for southwest landfill area.
MW-73 (Upgradient)	4	206	9/3/99	Water Table	Detection	Background	Quarterly	Semi-annual	Background water quality monitoring for northwest facility area. Downgradient flow paths from well largely by-pass facility so provides only general indication of background conditions.
MW-74R (Downgradient)	4	249	11/1/00	Water Table	Detection		Quarterly	Quarterly	Detection zone monitors north end facilities. Quarterly monitoring recommended due to elevated chloride.
MW-75 (Downgradient)	4	269	9/24/99	Deep	Detection		Quarterly	Quarterly	Key downgradient monitoring well.
MW-76 (Upgradient)	4	148	10/25/99	Water Table	Detection	Background	Quarterly	Semi-annual	Monitor QCF impacts effecting upgradient water quality in shallow portion of Regional Aquifer. Low groundwater velocities (0.014 ft/day) indicate slow movement of QCF contaminants through this area. Travel distance for 180 days is estimated at 2.5 ft indicating any releases would be detected with 6 month sample interval. Comparison of annual and semiannual statistics indicates semiannual sampling does not have significant effect on trend analysis. Additional demonstration for reduction in water quality sampling frequency is presented in Appendix F.

Table 2-1
CEDAR HILLS REGIONAL LANDFILL GROUNDWATER MONITORING WELLS

Well Name	General Condition				Recommendations				
	Casing Diameter (inches)	Well Depth (feet)	Installation Date	Water Table or Deep Zone	Well Monitoring Classification	Comments on Well Use	Static Water Level Monitoring Frequency	Water Quality Monitoring Frequency	Rationale
MW-80 (Downgradient)	4	259	2/27/01	Water Table	Detection		Quarterly	Quarterly	Key downgradient monitoring well for monitoring impacts from unlined Main Hill and EPZ.
MW-81 (Upgradient)	4	192	10/3/02	Water Table	Detection		Quarterly	Quarterly	Monitors ground water quality from off-site area east of facility. Retain as monitoring point to monitor for potential LFG impacts to groundwater. Key well for defining potentiometric divide on east side.
MW-82 (Upgradient)	4	133	11/2/00	Water Table	Detection	Background	Quarterly	Semi-annual	Twice-annual monitoring of QCF impacts in shallow Regional upgradient well. Low groundwater velocities (0.014 ft/day) indicate slow movement of QCF contaminants through this area. Travel distance for 180 days is estimated at 2.5 ft indicating any releases would be detected with 6 month sample interval. Comparison quarterly and semiannual statistics indicates semiannual sampling does not have significant effect on trend analysis. Monitor SWLs to define deeper Regional Aquifer flow paths.
MW-83 (Upgradient)	4	154	10/27/00	Water Table	Detection	Background	Quarterly	Quarterly	Quarterly monitoring of QCF impacts in shallow Regional upgradient well.
MW-84 (Upgradient)	4	246	10/20/00	Water Table	Detection	Background	Quarterly	Quarterly	Monitor background conditions in shallow regional aquifer
MW-85 (Downgradient)	4	257	12/1/00	Water Table	Detection		Quarterly	Quarterly	Key downgradient monitoring well with large detection zone underlying waste placement areas. Located in area of convergent groundwater flow and near center of high transmissivity channel.
MW-86 (Downgradient)	4	259	12/12/00	Water Table	Detection		Quarterly	Semi-annual	Provides monitoring of north end facilities. Conversion from quarterly to semiannual sampling does not have significant effect on intrawell statistics.
MW-87 (Downgradient)	4	261	11/21/00	Water Table	Detection		Quarterly	Quarterly	Key downgradient monitoring well.
MW-88 (Downgradient)	4	239	9/13/01	Water Table	Detection		Quarterly	Semi-annual	Provides limited monitoring of north end facilities. Conversion from quarterly to semiannual sampling does not have significant effect on intrawell statistics.
MW-89 (Downgradient)	4	291	11/12/01	Deep	Detection		Quarterly	Semi-annual	Provides limited monitoring of north end facilities in deep Regional Aquifer. Continue monitoring in place of MW-43. Conversion from quarterly to semiannual sampling does not have significant effect on intrawell statistics.
MW-90 (Downgradient)	4	274	8/14/02	Deep	Assessment		Quarterly	Contingent	Water quality monitoring redundant with MW-89. Reserve as contingency well in event assessment monitoring is triggered in MW-88,89 or 85.
MW-91 (Downgradient)	6	289	10/26/01	Deep	Detection	WL only	Quarterly	None	Large diameter well used for testing. Redundant with well MW-75. Additional demonstration for reduction in water quality sampling frequency is presented in Appendix F.
MW-93 (Cross Gradient)	4	320	6/24/02	Water Table	Detection		Quarterly	Quarterly	Well monitors the Main Hill gas affected area.
MW-94 (Upgradient)	4	145	7/2/02	Water Table	Detection	Background	Quarterly	Quarterly	Quarterly monitoring of QCF impacts in shallow Regional upgradient well.
MW-95 (Cross Gradient)	4	263	7/22/02	Water Table	Detection		Quarterly	Semi-annual	Monitor off-site water quality at south end of facility. Downgradient flow paths poorly defined and may by-pass facility. Additional demonstration for reduction in water quality sampling frequency is presented in Appendix F.
MW-99 (Upgradient)	4	279	8/30/02	Deep	Assessment		Quarterly	Contingent	Monitors easterly upgradient water quality from offsite. Reserve as contingency well in event assessment monitoring is triggered in MW-81. Additional demonstration for reduction in water quality sampling frequency is presented in Appendix F.
MW-100 (Downgradient)	4	300	8/26/02	Water Table	Detection		Quarterly	Semi-annual	Well useful for flowpath and geochemical modeling. Assists in tracking QCF contaminant migration through facility. Additional demonstration for reduction in water quality sampling frequency is presented in Appendix F.
MW-106 (Cross gradient)	4	203	2/19/09	Water Table	Detection	WL only	Quarterly	None	Defines east side flow paths.

Table 2-1
CEDAR HILLS REGIONAL LANDFILL GROUNDWATER MONITORING WELLS

Well Name	General Condition				Recommendations				
	Casing Diameter (inches)	Well Depth (feet)	Installation Date	Water Table or Deep Zone	Well Monitoring Classification	Comments on Well Use	Static Water Level Monitoring Frequency	Water Quality Monitoring Frequency	Rationale
East Main Hill Perched Zones									
EB-5	2	60	5/06/90	EPZ	Assessment	WL only	Quarterly	None	Monitor water levels to evaluate affect of extraction system shut down.
EB-5S	2	20	6/06/90	EPZ	Assessment	WL only	Quarterly	None	Monitor water levels to evaluate affect of extraction system shut down.
EB-6	2	30	11/28/90	EPZ	Assessment	WL only	Quarterly	None	Monitor water levels to evaluate affect of extraction system shut down. Well has limited water yield limiting ability to collect samples.
EW-25	6	36	6/10/92	EPZ	Assessment		N/A	N/A	Former EPZ well. Temporary monitoring point sampled with passive diffusion sampler. Decommissioned 2018.
MW-30A	3	35	6/09/89	EPZ	Assessment		Quarterly	Quarterly	Monitor attenuating VOCs.
MW-47	2	44	5/31/85	EPZ	Assessment		Quarterly	Quarterly	Key EPZ compliance well.
MW-62	2	54	1/02/90	EPZ	Assessment		Quarterly	Quarterly	Monitor attenuating VOCs.
MW-63	2	17	12/02/90	EPZ	Assessment	WL only	Quarterly	None	Monitor water levels to evaluate affect of extraction system shut down.
MW-102	2	50	1/27/09	EPZ	Assessment	WL only	Quarterly	None	Monitor water levels to evaluate affect of extraction system shut down.
MW-103	2	35	1/28/09	EPZ	Assessment	WL only	Quarterly	None	Monitor water levels to evaluate affect of extraction system shut down.
MW-104	2	32	1/29/09	EPZ	Assessment	WL only	Quarterly	None	Monitor water levels to evaluate affect of extraction system shut down.
South Solid Waste Area Perched Zone									
MW-101	2	54	6/2/06	SSWA	Assessment		Quarterly	Quarterly	Key SSWA perched zone compliance well

Notes:
(1) The following wells were decommissioned: MW-70, MW-77, MW-78, MW-96 and MW-97 as of 2016; EW-25 in 2018.
(2) Shallow wells are wells completed in the Regional Aquifer with the top screen slot within 10 ft of the water table. Deep wells are completed in the Regional Aquifer with the top screen slot greater than 10 ft below the water table.
(3) Water quality monitoring shading relates to Figure 2.

Abbreviations:
WL = Water Level
NA = Not Applicable
DZ = Detection Zone
EPZ = East Perched Zone
SSWA = South Solid Waste Area
QCF = Queen City Farms

Table 3-1

Cedar Hills Regional Landfill
Groundwater Quality Criteria

	Analyte	CAS No.	Ground Water Quality Criteria Criterion*	
I.	PRIMARY AND SECONDARY CONTAMINANTS AND RADIONUCLIDES			
	A. Primary Contaminants			
	Barium	7440-39-3	1.0	mg/L
	Cadmium	7440-43-9	0.005	mg/L
	Chromium	7440-47-3	0.05	mg/L
	Lead	7439-92-1	0.015	mg/L
	Mercury	7439-97-6	0.002	mg/L
	Selenium	7782-49-2	0.01	mg/L
	Silver	7440-22-4	0.05	mg/L
	Fluoride	16984-48-8	4.0	mg/L
	Nitrate	14797-55-8	10.0	mg/L
	Endrin	72-20-8	0.2	ug/L
	Methoxychlor	72-43-5	40	ug/L
	1,1,1-Trichloroethane	71-55-6	200	ug/L
	2,4-D	94-75-7	70	ug/L
	2,4,5-TP	93-72-1	100	ug/L
	Total Coliforms		1/100	mL
	B. Secondary Standards			
	Copper	7440-50-8	1.0	mg/L
	Iron	7439-89-6	0.3	mg/L
	Manganese	7439-96-5	0.05	mg/L
	Zinc	7440-66-6	5.0	mg/L
	Chloride	16887-00-6	250	mg/L
	Sulfate	14808-79-8	250	mg/L
	Total Dissolved Solids		500	mg/L
	Foaming Agents		0.5	mg/L
	pH	12408-02-5	6.5-8.5	units
	Corrosivity		non-corrosive	
	Color		15	units
	Odor-Threshold		3	units
	C. Radionuclides and Radioactivity			
	Gross Alpha particle activity		15	pCi/L
	Gross Beta particle activity		50	pCi/L
	Tritium	10028-17-8	20,000	pCi/L
	Strontium	7440-24-6	8	pCi/L
	Radium 226 & Radium 228		5	pCi/L
	Radium 226	13982-63-3	3	pCi/L
II.	CARCINOGENS			
	1,1-Dichloroethane	75-34-3	1	ug/L
	1,2-Dichloroethane	107-06-2	0.5	ug/L
	1,2-Dichloropropane	78-87-5	0.6	ug/L
	1,2-Dimethylhydrazine	540-73-8	60	ug/L
	1,2-Diphenylhydrazine	122-66-7	0.09	ug/L
	1,3-Dichloropropene tot.	542-75-6	0.2	ug/L
	1,4-Dichlorobenzene	106-46-7	4	ug/L
	1,4-Dioxane	123-91-1	7	ug/L
	2,3,7,8-Tetrachlorodibenzo-p-dioxin	1746-01-6	0.0000006	ug/L
	2,4,6-Trichlorophenol	88-06-2	4.0	ug/L
	2,4-Dinitrotoluene	121-14-2	0.1	ug/L
	2,4-Toluenediamine	95-80-7	0.002	ug/L
	2,6-Dinitrotoluene	606-20-2	0.1	ug/L
	2-Methoxy-5-nitroanaline	99-59-2	2.0	ug/L
	2-Methylanaline	95-53-4	0.2	ug/L
	2-Methylanaline hydrochloride	636-21-5	0.5	ug/L
	3,3'-Dichlorobenzidine	91-94-1	0.2	ug/L
	3,3'-Dimethoxybenzidine	119-90-4	6.0	ug/L
	3,3-Dimethylbenzidine	119-93-7	0.007	ug/L
	4,4'-Methylene bis(N,N'-dimethyl) aniline	101-61-1	2.0	ug/L
	4-Chloro-2-methyl analine	95-69-2	0.1	ug/L
	4-Chloro-2-methyl analine hydrochloride	3165-93-3	0.2	ug/L
	Acrylamide	79-06-1	0.02	ug/L
	Acrylonitrile	107-13-1	0.07	ug/L
	Aldrin	309-00-2	0.005	ug/L
	Aniline	62-53-3	14	ug/L
	Aramite	140-57-8	3	ug/L
	Arsenic	7440-38-2	0.00005	mg/L
	Azobenzene	103-33-3	0.7	ug/L
	Benzene	71-43-2	1	ug/L

Table 3-1

Cedar Hills Regional Landfill
Groundwater Quality Criteria

Analyte	CAS No.	Ground Water Quality Criteria Criterion*	
Benzidine	92-87-5	0.0004	ug/L
Benzo(a)pyrene	50-32-8	0.008	ug/L
Benzotrichloride	98-07-7	0.007	ug/L
Benzyl chloride	100-44-7	0.5	ug/L
Bis(2-ethylhexyl)phthalate	117-81-7	6	ug/L
Bis(chloroethyl)ether	111-44-4	0.07	ug/L
Bis(chloromethyl)ether	542-88-1	0.0004	ug/L
Bromodichloromethane	75-27-4	0.3	ug/L
Bromoform	75-25-2	5	ug/L
Carbazole	86-74-8	5	ug/L
Carbon Tetrachloride	56-23-5	0.3	ug/L
Chlordane	5103-71-9	0.06	ug/L
Chlorodibromomethane	124-48-1	0.5	ug/L
Chloroform	67-66-3	7	ug/L
Chlorthalonil	1897-45-6	30	ug/L
DDT (includes DDE and DDD)	50-29-3, 72-55-9, 72-54-8	0.3	ug/L
Diallate	2303-16-4	1	ug/L
Dichlorovos	62-73-7	0.3	ug/L
Dieldrin	60-57-1	0.005	ug/L
Direct Black 38	1937-37-7	0.009	ug/L
Direct Blue 6	2602-46-2	0.009	ug/L
Direct Brown 95	16071-86-6	0.009	ug/L
Epichlorohydrin	106-89-8	8	ug/L
Ethyl acrylate	140-88-5	2	ug/L
Ethylene dibromide	106-93-4	0.001	ug/L
Ethylene thiourea	96-45-7	2	ug/L
Folpet	133-07-3	20	ug/L
Furazolidone	67-45-8	0.02	ug/L
Furium	531-82-8	0.002	ug/L
Furmecyclox	60568-05-0	3	ug/L
Heptachlor	76-44-8	0.02	ug/L
Heptachlor epoxide	1024-57-3	0.009	ug/L
Hexachlorobenzene	118-74-1	0.05	ug/L
Hexachlorocyclohexane (alpha)	319-84-6	0.001	ug/L
Hexachlorocyclohexane (technical)	608-73-1	0.05	ug/L
Hexachlorodibenzo-p-dioxin, mix	34465-46-8	0.00001	ug/L
Hydrazine/hydrazine sufate	302-01-2/10034-93-2	0.03	ug/L
Lindane	58-89-9	0.06	ug/L
Methylene Chloride	75-09-2	5	ug/L
Mirex	2385-85-5	0.05	ug/L
Nitrofurazone	59-87-0	0.06	ug/L
N-Nitrosodiethanolamine	1116-54-7	0.03	ug/L
N-Nitrosodiethylamine	55-18-5	0.0005	ug/L
N-Nitrosodimethylamine	62-75-9	0.002	ug/L
N-Nitroso-di-n-butylamine	924-16-3	0.02	ug/L
N-Nitroso-di-n-propylamine	621-64-7	0.01	ug/L
N-Nitrosodiphenylamine	86-30-6	17.0	ug/L
N-Nitroso-N-methylethylylamine	10595-95-6	0.004	ug/L
N-Nitrosopyrrolidine	930-55-2	0.04	ug/L
o-Chloronitrobenzene	88-73-3	3	ug/L
o-Phenylenediamine	95-54-5	0.005	ug/L
o-Toluidine	95-53-4	0.2	ug/L
p,a,a,a-Tetrachlorotoluene	5216-25-1	0.004	ug/L
PAHs [Benzo(a)pyrene]		0.01	ug/L
PBBs	59536-65-1	0.01	ug/L
PCBs c	27323-18-8	0.01	ug/L
p-Chloronitrobenzene	100-00-5	5	ug/L
Propylene oxide	75-56-9]	0.01	ug/L
Tetrachloroethylene	127-18-4	0.8	ug/L
Toxaphene c	8001-35-2	0.08	ug/L
Trichloroethylene (TCE)	79-01-6	3	ug/L
Trimethyl phosphate	512-56-1	2.0	ug/L
Vinyl chloride	75-01-4	0.02	ug/L

NOTES: pCi/L=picocuries per liter
mg/L=milligrams per liter
ug/L=micrograms per liter
*Ground Water Quality Criteria=173-200 WAC Water Quality Standards for Ground Waters of the State of Washington

Table 4-1a
GROUNDWATER CONCENTRATIONS ABOVE WAC 173-200-040 CRITERIA
WATER QUALITY STANDARDS FOR GROUND WATERS OF THE STATE OF WASHINGTON

CEDAR HILLS REGIONAL LANDFILL REGIONAL AQUIFER
(Data Collected from January 1, 2018 to March 31, 2018)

Parameter	Units	Well ID	Sample Date	Sample ID	Sample Value
Upgradient and Crossgradient Wells					
pH (Field)	pH Units	MW-81	1/9/2018	W81-180109-	6.45
		MW-94	1/11/2018	W94-180111-	6.29
Arsenic (Total)	(mg/L)	MW-59	1/9/2018	W59-180109-	0.000422
		MW-66	1/12/2018	W66-180112-	0.000654
		MW-81	1/9/2018	W81-180109-	0.000541
		MW-83	1/9/2018	W83-180109-	0.000428
		MW-84	1/22/2018	W84-180122-	0.000353
		MW-93	1/24/2018	W93-180124-	0.00136
		MW-94	1/11/2018	W94-180111-	0.000148
Iron (Dissolved)	(mg/L)	MW-59	1/9/2018	W59-180109-	3.72
Manganese (Dissolved)	(mg/L)	MW-59	1/9/2018	W59-180109-	0.12
		MW-93	1/24/2018	W93-180124-	0.205
Wells Downgradient to Waste Cells and North end Facilities					
Arsenic (Total)	(mg/L)	MW-68	2/23/2018	W68-180223-	0.0213
		MW-69	1/24/2018	W69-180124-	0.00238
		MW-72	1/19/2018	W72-180119-	0.000107
		MW-74	1/11/2018	W74R180111-	0.000416
		MW-75	1/11/2018	W75-180111-	0.000555
		MW-80	1/9/2018	W80-180109-	0.004
		MW-85	1/12/2018	W85-180112-	0.000736
		MW-87	1/11/2018	W87-180111-	0.00527
Iron (Dissolved)	(mg/L)	MW-68	2/23/2018	W68-180223-	0.584
		MW-69	1/24/2018	W69-180124-	1.1
		MW-72	1/11/2018	W72-180119-	2.61
		MW-75	1/11/2018	W75-180111-	2.09
		MW-80	1/12/2018	W80-180109-	2.02
		MW-87	1/11/2018	W87-180111-	4.73
Manganese (Dissolved)	(mg/L)	MW-68	2/23/2018	W68-180223-	0.306
		MW-69	1/24/2018	W69-180124-	0.26
		MW-72	1/19/2018	W72-180119-	0.36
		MW-75	1/11/2018	W75-180111-	0.179
		MW-80	1/9/2018	W80-180109-	0.327
		MW-87	1/11/2018	W87-180111-	0.518

Table 4-1a (cont.)
GROUNDWATER CONCENTRATIONS ABOVE WAC 173-200-040 CRITERIA
WATER QUALITY STANDARDS FOR GROUND WATERS OF THE STATE OF WASHINGTON

CEDAR HILLS REGIONAL LANDFILL REGIONAL AQUIFER
(Data Collected from April 1, 2018 - June 30, 2018)

Parameter	Units	Well ID	Sample Date	Sample ID	Sample Value
Upgradient and Crossgradient Wells					
pH (Field)	pH Units	MW-24	4/13/2018	W24-180413-	6.490
		MW-59	4/12/2018	W59-180412-	6.3300
		MW-66	4/18/2018	W66-180418-	6.4700
		MW-73	4/13/2018	W73-180413-	5.9900
		MW-76	4/16/2018	W76-180416-	5.9100
		MW-94	4/16/2018	W94-180416-	6.4400
Arsenic, Total	mg/L	MW-21	04/13/2018	W21-180413-	0.0010
		MW-24	04/13/2018	W24-180413-	0.0006
		MW-56	04/12/2018	W56-180412-	0.0001
		MW-59	04/12/2018	W59-180412-	0.0004
		MW-64	04/19/2018	W64-180419-	0.0078
		MW-65	04/23/2018	W65-180423-	0.0008
		MW-66	04/18/2018	W66-180418-	0.0007
		MW-73	04/13/2018	W73-180413-	0.0003
		MW-76	04/16/2018	W76-180416-	0.0002
		MW-81	04/18/2018	W81-180418-	0.0005
		MW-82	04/13/2018	W82-180413-	0.000249
		MW-83	04/16/2018	W83-180416-	0.000309
		MW-84	04/19/2018	W84-180419-	0.00037
		MW-93	06/28/2018	W93-180628-	0.00135
		MW-94	04/16/2018	W94-180416-	0.000146
		MW-95	04/16/2018	W95-180416-	0.00109
Iron, Dissolved	mg/L	MW-21	04/13/2018	W21-180413-	2.22
		MW-24	04/13/2018	W24-180413-	2.97
		MW-59	04/12/2018	W59-180412-	3.31
		MW-65	04/23/2018	W65-180423-	3.42
Manganese, Dissolved	mg/L	MW-21	04/13/2018	W21-180413-	0.102
		MW-24	04/13/2018	W24-180413-	0.0969
		MW-56	04/12/2018	W56-180412-	0.131
		MW-59	04/12/2018	W59-180412-	0.114
		MW-64	04/19/2018	W64-180419-	0.0689
		MW-65	04/23/2018	W65-180423-	0.212
		MW-93	06/28/2018	W93-180628-	0.22
		MW-95	04/16/2018	W95-180416-	0.171
Trichloroethene	µg/L	MW-76	04/16/2018	W76-180416-	8.05
		MW-82	04/13/2018	W82-180413-	5.28
Vinyl Chloride	µg/L	MW-65	04/23/2018	W65-180423-	0.028

Table 4-1a (cont.)
GROUNDWATER CONCENTRATIONS ABOVE WAC 173-200-040 CRITERIA
WATER QUALITY STANDARDS FOR GROUND WATERS OF THE STATE OF WASHINGTON

CEDAR HILLS REGIONAL LANDFILL REGIONAL AQUIFER
(Data Collected from April 1, 2018 - June 30, 2018)

Parameter	Units	Well ID	Sample Date	Sample ID	Sample Value
Wells Downgradient to Waste Cells and North end Facilities					
pH (Field)	pH Units	None.			
Arsenic, Total	mg/L	MW-67	04/23/2018	W67-180423-	0.0011
		MW-68	05/03/2018	W68-180503-	0.0161
		MW-69	05/03/2018	W69-180503-	0.00237
		MW-72	04/17/2018	W72-180417-	0.000255
		MW-74	04/19/2018	W74R180419-	0.000389
		MW-75	05/01/2018	W75-180501-	0.000456
		MW-80	04/23/2018	W80-180423-	0.00494
		MW-85	04/26/2018	W85-180426-	0.00071
		MW-86	04/16/2018	W86-180416-	0.0132
		MW-87	04/25/2018	W87-180425-	0.00211
		MW-88	04/17/2018	W88-180417-	0.00103
		MW-89	04/19/2018	W89-180419-	0.00356
		MW-100	04/17/2018	W100180417-	0.00493
Iron, Dissolved	mg/L	MW-68	05/03/2018	W68-180503-	0.68
		MW-69	05/03/2018	W69-180503-	1.1
		MW-72	04/17/2018	W72-180417-	2.54
		MW-75	05/01/2018	W75-180501-	1.97
		MW-80	04/23/2018	W80-180423-	2.06
		MW-86	04/16/2018	W86-180416-	0.523
		MW-87	04/25/2018	W87-180425-	3.67
		MW-89	04/19/2018	W89-180419-	0.992
		MW-100	04/17/2018	W100180417-	0.832
Manganese, Dissolved	mg/L	MW-67	04/23/2018	W67-180423-	0.205
		MW-68	05/03/2018	W68-180503-	0.309
		MW-69	05/03/2018	W69-180503-	0.262
		MW-72	04/17/2018	W72-180417-	0.371
		MW-75	05/01/2018	W75-180501-	0.172
		MW-80	04/23/2018	W80-180423-	0.33
		MW-87	04/25/2018	W87-180425-	0.587
		MW-89	04/19/2018	W89-180419-	0.211
		MW-100	04/17/2018	W100180417-	0.172

See Data Qualifier List for Qualifier Information.

Table 4-1a (cont.)
CEDAR HILLS REGIONAL LANDFILL
REGIONAL AQUIFER GROUNDWATER QUALITY STANDARD EXCEEDANCES
(Data Collected from July 1, 2018 - September 30, 2018)

Parameter	Units	Well ID	Sample Date	Sample ID	Sample Value
Upgradient and Crossgradient Wells					
pH (Field)	pH Units	MW-84	7/20/2018	W84-180720-	6.14
		MW-66	7/12/2018	W66-180712-	6.18
Arsenic, Total	mg/L	MW-59	7/16/2018	W59-180716-	0.000404
		MW-66	7/12/2018	W66-180712-	0.000632
		MW-68	7/13/2018	W68-180713-	0.0118
		MW-81	7/20/2018	W81-180720-	0.000521
		MW-83	7/20/2018	W83-180720-	0.000397
		MW-84	7/20/2018	W84-180720-	0.000324
		MW-93	7/30/2018	W93-180730-	0.00132
		MW-94	7/20/2018	W94-180720-	0.000139
Iron, Dissolved	mg/L	MW-59	7/16/2018	W59-180716-	3.78
		MW-68	7/13/2018	W68-180713-	0.62
Manganese, Dissolved	mg/L	MW-59	7/16/2018	W59-180716-	0.114
		MW-68	7/13/2018	W68-180713-	0.3 D
		MW-93	7/30/2018	W93-180730-	0.219
Wells Downgradient to Waste Cells and North end Facilities					
pH (Field)	pH Units	MW-87	7/20/2018	W87-180720-	6.37
Arsenic, Total	mg/L	MW-69	7/23/2018	W69-180723-	0.00253
		MW-72	7/23/2018	W72-180723-	0.000124
		MW-74	7/20/2018	W74R180720-	0.000417
		MW-75	7/19/2018	W75-180719-	0.00049
		MW-80	7/19/2018	W80-180719-	0.00432
		MW-85	7/20/2018	W85-180720-	0.000685
		MW-87	7/20/2018	W87-180720-	0.00228
Iron, Dissolved	mg/L	MW-69	7/23/2018	W69-180723-	1.15
		MW-72	7/23/2018	W72-180723-	2.73
		MW-75	7/19/2018	W75-180719-	2.22
		MW-80	7/19/2018	W80-180719-	2.18
		MW-87	7/20/2018	W87-180720-	4.93
Manganese, Dissolved	mg/L	MW-69	7/23/2018	W69-180723-	0.277
		MW-72	7/23/2018	W72-180723-	0.386
		MW-75	7/19/2018	W75-180719-	0.191
		MW-80	7/19/2018	W80-180719-	0.331
		MW-87	7/20/2018	W87-180720-	0.533

See Data Qualifier List for Qualifier Information.

Exceedance Criteria: WAC 173-200-040 - Water Quality Standards for Groundwaters of the State of Washington

Table 4-1a (cont.)
CEDAR HILLS REGIONAL LANDFILL
REGIONAL AQUIFER GROUNDWATER QUALITY STANDARD EXCEEDANCES
(Data Collected from October 1, 2018 - December 31, 2018)

Parameter	Units	Well ID	Sample Date	Sample ID	Sample Value
Upgradient and Crossgradient Wells					
Arsenic, Total	mg/L	MW-21	10/22/2018	W21-181022-	0.000979
		MW-24	10/10/2018	W24-181010-	0.00058
		MW-56	11/1/2018	W56-181101-	0.0000878
		MW-59	10/12/2018	W59-181012-	0.000431
		MW-64	11/2/2018	W64-181102-	0.00178
		MW-65	10/12/2018	W65-181012-	0.000838
		MW-66	10/16/2018	W66-181016-	0.000667
		MW-73	10/22/2018	W73-181022-	0.000679
		MW-87	10/24/2018	W87-181024-	0.0011
		MW-76	10/12/2018	W76-181012-	0.000203
		MW-81	11/2/2018	W81-181102-	0.000545
		MW-82	10/10/2018	W82-181010-	0.00026
		MW-83	10/22/2018	W83-181022-	0.00042
		MW-84	10/26/2018	W84-181026-	0.00032
		MW-93	11/5/2018	W93-181105-	0.00132
		MW-94	10/19/2018	W94-181019-	0.000156
		MW-95	10/29/2018	W95-181029-	0.00111
Iron, Dissolved	mg/L	MW-21	10/22/2018	W21-181022-	1.97
		MW-24	10/10/2018	W24-181010-	3.37
		MW-59	10/12/2018	W59-181012-	4
		MW-65	10/12/2018	W65-181012-	3.12
		MW-73	10/24/2018	W87-181024-	4.48
Manganese, Dissolved	mg/L	MW-21	11/1/2018	W21-181022-	0.102
		MW-24	10/18/2018	W24-181010-	0.11
		MW-56	11/7/2018	W56-181101-	0.344
		MW-59	10/18/2018	W59-181012-	0.125
		MW-64	11/7/2018	W64-181102-	0.0824
		MW-65	10/18/2018	W65-181012-	0.137
		MW-73	11/2/2018	W87-181024-	0.542 D
		MW-93	11/15/2018	W93-181105-	0.176
		MW-95	11/7/2018	W95-181029-	0.174
Trichloroethene	ug/l	MW-82	10/11/2018	W82-181010-	4.88
		MW-76	10/19/2018	W76-181012-	9.12
Vinyl Chloride	ug/l	MW-65	10/12/2018	W65-181012-	0.0295

Table 4-1a (cont.)
CEDAR HILLS REGIONAL LANDFILL
REGIONAL AQUIFER GROUNDWATER QUALITY STANDARD EXCEEDANCES
(Data Collected from October 1, 2018 - December 31, 2018)

Parameter	Units	Well ID	Sample Date	Sample ID	Sample Value
Wells Downgradient to Waste Cells and North end Facilities					
Arsenic, Total	mg/L	MW-100	10/4/2018	W100181004-	0.00178
		MW-67	10/29/2018	W67-181029-	0.00202
		MW-68	10/22/2018	W68-181022-	0.0125
		MW-69	10/24/2018	W69-181024-	0.00222
		MW-72	10/29/2018	W72-181029-	0.000105
		MW-74	10/18/2018	W74R181018-	0.000459
		MW-75	10/19/2018	W75-181019-	0.000375
		MW-80	10/19/2018	W80-181019-	0.00409
		MW-85	10/26/2018	W85-181026-	0.000708
		MW-86	10/29/2018	W86-181029-	0.0194
		MW-88	10/23/2018	W88-181023-	0.00101
		MW-89	10/24/2018	W89-181024-	0.00638
Iron, Dissolved	mg/L	MW-100	10/4/2018	W100181004-	0.65
		MW-68	10/22/2018	W68-181022-	0.515
		MW-69	10/24/2018	W69-181024-	1.01
		MW-72	10/29/2018	W72-181029-	2.62
		MW-75	10/19/2018	W75-181019-	1.23
		MW-80	10/19/2018	W80-181019-	2.08
		MW-86	10/29/2018	W86-181029-	0.669
		MW-89	10/24/2018	W89-181024-	0.993
Manganese, Dissolved	mg/L	MW-100	10/4/2018	W100181004-	0.186
		MW-67	10/29/2018	W67-181029-	0.202
		MW-68	10/22/2018	W68-181022-	0.319
		MW-69	10/24/2018	W69-181024-	0.278
		MW-72	10/29/2018	W72-181029-	0.37
		MW-75	10/19/2018	W75-181019-	0.139
		MW-80	10/19/2018	W80-181019-	0.345
		MW-89	10/24/2018	W89-181024-	0.25

See Data Qualifier List for Qualifier Information.

Exceedance Criteria: WAC 173-200-040 - Water Quality Standards for Groundwaters of the State of Washington

Table 4-1b
SUMMARY OF EXCEEDANCES OF WAC 173-200-040
WATER QUALITY STANDARDS FOR GROUND WATERS OF THE STATE OF WASHINGTON

CEDAR HILLS REGIONAL LANDFILL PERCHED ZONES
(Data Collected from January 1, 2018 to March 31, 2018)

Parameter	Units	Well ID	Sample Date	Sample ID	Sample Value
East Perched Zone Wells					
pH	Std. Units	MW-30A	2/7/2018	W30A180207-	6.39
1,1-Dichloroethane	(ug/L)	MW-30A	2/7/2018	W30A180207-	1.48
		MW-62	2/7/2018	W62-180207-	1.44
Arsenic (Total)	(mg/L)	MW-30A	2/7/2018	W30A180207-	0.000511
		MW-47	2/6/2018	W47-180206-	0.00407
		MW-62	2/7/2018	W62-180207-	0.000423
Iron (Dissolved)	(mg/L)	MW-47	2/6/2018	W47-180206-	4.77
Manganese (Dissolved)	(mg/L)	MW-47	2/6/2018	W47-180206-	3.19
Nitrate	(mg/L)	MW-30A	2/7/2018	W30A180207-	15.3
Specific Conductance (Field)	(umhos/cm)	MW-47	2/6/2018	W47-180206-	830
Total Dissolved Solids	(mg/L)	MW-47	2/6/2018	W47-180206-	719
Vinyl Chloride	(ug/L)	MW-47	2/6/2018	W47-180206-	5.48
South Solid Waste Area Perched Wells					
Arsenic (Total)	(mg/L)	MW-101	2/6/2018	W101180206-	0.0124
Iron (Dissolved)	(mg/L)	MW-101	2/6/2018	W101180206-	1.14
Manganese (Dissolved)	(mg/L)	MW-101	2/6/2018	W101180206-	1.07
Vinyl Chloride	(ug/L)	MW-101	2/6/2018	W101180206-	0.342

See Data Qualifier List for Qualifier Information.

Table 4-1b (cont.)
SUMMARY OF EXCEEDANCES OF WAC 173-200-040
WATER QUALITY STANDARDS FOR GROUND WATERS OF THE STATE OF WASHINGTON

CEDAR HILLS REGIONAL LANDFILL PERCHED ZONES
(Data Collected from April 1, 2018 - June 30, 2018)

Parameter	Units	Well ID	Sample Date	Sample ID	Sample Value
East Perched Zone Wells					
pH (Field)	pH Units	MW-30A	05/01/2018	W30A180501-	6.18
		MW-62	05/03/2018	W62-180503-	6.37
1,1-Dichloroethane	µg/L	MW-30A	05/01/2018	W30A180501-	2.07
		MW-62	05/03/2018	W62-180503-	2.16
Arsenic, Total	mg/L	MW-30A	05/01/2018	W30A180501-	0.000501
		MW-47	05/01/2018	W47-180501-	0.00472
		MW-62	05/03/2018	W62-180503-	0.000439
Iron, Dissolved	mg/L	MW-47	05/01/2018	W47-180501-	4.38
Manganese, Dissolved	mg/L	MW-47	05/01/2018	W47-180501-	3.87 D
Nitrate	mg/l	MW-30A	05/01/2018	W30A180501-	16
Vinyl Chloride	µg/L	MW-47	05/01/2018	W47-180501-	5.13
South Solid Waste Area Perched Wells					
pH (Field	pH Units	None.			
Arsenic, Total	mg/L	MW-101	04/30/2018	W101180430-	0.00257
Bis (2-Ethylhexyl) Phthalate	µg/L	MW-101	04/30/2018	W101180430-	34.7 DJ
Manganese, Dissolved	mg/L	MW-101	04/30/2018	W101180430-	1.14
Vinyl Chloride	µg/L	MW-101	04/30/2018	W101180430-	0.223

Table 4-1b (cont.)
CEDAR HILLS REGIONAL LANDFILL
PERCHED ZONES GROUNDWATER QUALITY STANDARD EXCEEDANCES
(Data Collected from July 1, 2018 - September 30, 2018)

Parameter	Units	Well ID	Sample Date	Sample ID	Sample Value
East Perched Zone Wells					
pH (Field)	pH Units	None.			
1,1-Dichloroethane	µg/L	MW-30A	7/12/2018	W30A180712-	1.57
Arsenic, Total	mg/L	MW-30A	7/12/2018	W30A180712-	0.000489
		MW-47	7/13/2018	W47-180713-	0.00167
Iron, Dissolved	mg/L	MW-47	7/13/2018	W47-180713-	0.807
Manganese, Dissolved	mg/L	MW-47	7/13/2018	W47-180713-	1.94 D
Nitrate	mg/l	MW-30A	7/12/2018	W30A180712-	15.9
Vinyl Chloride	µg/L	MW-47	7/13/2018	W47-180713-	3.69
South Solid Waste Area Perched Wells					
pH (Field	pH Units	None.			
Arsenic, Total	mg/L	MW-101	7/16/2018	W101180716-	0.0126
Iron, Dissolved	mg/L	MW-101	7/16/2018	W101180716-	1.03
Manganese, Dissolved	µg/L	MW-101	7/16/2018	W101180716-	1.13

See Data Qualifier List for Qualifier Information.
Exceedance Criteria: WAC 173-200-040 - Water Quality Standards for Groundwaters of the State of Washington

Table 4-1b (cont.)
CEDAR HILLS REGIONAL LANDFILL
PERCHED ZONES GROUNDWATER QUALITY STANDARD EXCEEDANCES
(Data Collected from October 1, 2018 - December 31, 2018)

Parameter	Units	Well ID	Sample Date	Sample ID	Sample Value
East Perched Zone Wells					
pH (Field)	pH Units	None.			
1,1-Dichloroethane	µg/L	MW-30A	10/15/2018	W30A181015-1	1.57
Arsenic, Total	mg/L	MW-30A	10/15/2018	W30A181015-1	0.000862
		MW-47	10/17/2018	W47-181017-	0.000547
Manganese, Dissolved	mg/L	MW-47	10/17/2018	W47-181017-	1.55
Vinyl Chloride	µg/L	MW-47	10/17/2018	W47-181017-	2.95
South Solid Waste Area Perched Wells					
pH (Field)	pH Units	None.			
Arsenic, Total	mg/L	MW-101	10/4/2018	W101181004-	0.0106
Iron, Dissolved	mg/L	MW-101	10/4/2018	W101181004-	0.859
Manganese, Dissolved	mg/L	MW-101	10/4/2018	W101181004-	1.31
Vinyl Chloride	µg/L	MW-101	10/4/2018	W101181004-	0.404

See Data Qualifier List for Qualifier Information.
Exceedance Criteria: WAC 173-200-040 - Water Quality Standards for Groundwaters of the State of Washington

Table 4-2a
Statistical Summary of Regional
Aquifer Upgradient Groundwater Data

Well Location	MW-56 Long	MW-56 Short	MW-59 Long	MW-59 Short	MW-76 Long	MW-76 Short	MW-82 Long	MW-82 Short	MW-83 Long	MW-83 Short	MW-94 Long	MW-94 Short	MW-24 Long	MW-24 Short	MW-65 Long	MW-65 Short
	Upgradient and Crossgradient Wells															
pH, (Field) Standard Units																
No. of Analyses	67	4	71	8	67	4	63	4	69	8	61	9	67	4	71	5
No. of Detections	67	4	71	8	67	4	63	4	69	8	61	9	67	4	71	5
Maximum	7.58	7.04	7.62	7.17	6.81	6.57	7.69	6.91	7.61	6.88	7.49	7.01	7.28	7.07	7.59	7.05
Minimum	6.6	6.71	6.62	6.33	6.18	5.91	6.54	6.62	6.6	6.54	6.59	6.29	6.71	6.49	6.66	6.75
Mean	7.0	6.8	7.0	6.8	6.5	6.4	6.9	6.8	7.0	6.7	7.0	6.7	7.0	6.8	7.0	6.9
Standard Deviation	0.2	0.2	0.2	0.3	0.2	0.3	0.2	0.1	0.2	0.1	0.2	0.3	0.1	0.3	0.2	0.1
Median	7.05	6.77	7.04	6.765	6.53	6.48	6.91	6.755	7.02	6.705	6.97	6.74	7.05	6.745	7	6.87
Specific Conductance, (Field) uS/cm																
No. of Analyses	67	4	71	8	67	4	63	4	69	8	61	9	67	4	71	5
No. of Detections	67	4	71	8	67	4	63	4	69	8	61	9	67	4	71	5
Maximum	195	355.3	205	211.8	255	234.2	320.5	322.2	589.9	683	355	355.3	215	183.4	175	154.3
Minimum	110	145	136.9	184.3	115	227.2	150	306.1	100	473.9	115	254.4	110	177.6	100	144.9
Mean	142.8	215.1	168.7	194.6	160.9	230.5	199.0	312.4	218.2	571.0	181.1	302.4	178.4	180.2	142.4	149.4
Standard Deviation	16.0	98.0	12.7	8.8	32.2	3.7	34.7	7.1	99.8	76.5	59.6	32.5	19.6	2.6	11.8	3.5
Median	140	180	170	191.75	155	230.25	190	310.65	170	575.75	150	301.5	180	179.8	140	148.3
Total Dissolved Solids, mg/L																
No. of Analyses	67	4	69	8	67	4	63	4	66	8	60	8	67	4	68	4
No. of Detections	67	4	69	8	67	4	63	4	66	8	60	8	67	4	68	4
Maximum	120	136	127	124	194	157	210	197	429	449	220	218	200	112	170	92.5
Minimum	56	110	27	104	60	143	97	190	42	303	33	158	83	107	31	86.6
Mean	92.8	121.3	104.9	118.1	110.1	148.3	141.2	193.5	148.6	363.5	125.7	188.5	115.2	108.8	91.7	90.3
Standard Deviation	14.5	10.9	15.6	6.6	28.3	6.2	28.4	3.1	75.8	57.4	43.5	19.9	17.4	2.4	16.7	2.7
Median	93	119.5	110	120.5	100	146.5	131	193.5	115	365.5	100	193	113	108	93	91
Alkalinity, total (CaCO3), mg/L																
No. of Analyses	67	4	69	8	67	4	63	4	67	8	60	8	67	4	68	4
No. of Detections	67	4	69	8	67	4	63	4	67	8	60	8	67	4	68	4
Maximum	66	74.3	78	69	73.1	60.9	133	127	164	194	150	110	110	66.4	76	52.8
Minimum	44.2	52.5	54	63.5	38	56.8	38	121	49.9	147	44	79.9	3	64.6	48	52.1
Mean	54.0	60.6	65.1	66.4	51.6	59.3	87.9	125.0	83.9	175.0	69.8	97.0	71.1	65.9	53.1	52.6
Standard Deviation	4.1	9.5	4.6	2.0	9.6	1.7	18.1	2.8	34.6	16.0	25.5	11.5	12.5	0.9	3.7	0.3
Median	54	57.85	64	66.25	48	59.7	81.4	126	65.9	172	54	100.95	73.3	66.25	52.95	52.65
Ammonia as N, mg/L																
No. of Analyses	67	4	69	8	67	4	63	4	67	8	60	8	67	4	68	4
No. of Detections	12	3	12	7	4	1	4	0	5	6	7	5	52	4	19	4
Maximum	0.16	0.0069	0.03	0.0081	0.19	0.0021	0.13	ND	0.3	0.0072	0.9	0.028	0.44	0.0374	0.07	0.0067
Minimum	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.0307	ND	0.0032
Mean	0.014	0.004	0.010	0.005	0.012	0.001	0.013	ID	0.017	0.004	0.028	0.006	0.044	0.035	0.014	0.005
Standard Deviation	0.021	0.003	0.007	0.001	0.024	0.001	0.022	ID	0.042	0.002	0.116	0.009	0.057	0.003	0.012	0.001
Median	0.005	0.0048	0.005	0.005	0.005	0.001	0.005	ID	0.005	0.00275	0.005	0.00295	0.0388	0.0362	0.01115	0.00445
Chloride, mg/L																
No. of Analyses	67	4	69	8	67	4	63	4	67	8	60	8	67	4	68	4
No. of Detections	67	4	69	8	67	4	63	4	67	8	60	8	67	4	67	4
Maximum	11.8	18.6	5.64	7.74	18.5	16.4	12.2	11.8	64.2	81	25.8	32.3	7.8	5.94	5.04	3.63
Minimum	2	13.9	2.9	4.56	2	13.2	4	9.68	3	48.6	3	17.3	3	3.77	ND	3.01
Mean	3.9	16.8	3.7	6.2	7.1	15.0	6.5	10.4	13.4	62.1	9.3	22.2	3.8	4.7	3.8	3.4
Standard Deviation	1.5	2.0	0.6	1.1	4.3	1.7	1.9	1.0	14.9	11.9	7.5	4.5	0.7	0.9	0.6	0.3
Median	3.9	17.25	3.8	6.21	4.81	15.1	6.3	10.14	5	62.75	4.05	20.9	3.88	4.62	4	3.545

Table 4-2a (cont.)
Statistical Summary of Regional
Aquifer Upgradient Groundwater Data

Well Location	MW-64 Long	MW-64 Short	MW-93 Long	MW-93 Short	MW-95 Long	MW-95 Short	MW-21 Long	MW-21 Short	MW-66 Long	MW-66 Short	MW-73 Long	MW-73 Short	MW-84 Long	MW-84 Short	MW-81 Long	MW-81 Short
	Upgradient and Crossgradient Wells															
pH, (Field) Standard Units																
No. of Analyses	67	4	61	9	60	4	67	5	72	8	68	4	68	8	69	9
No. of Detections	67	4	61	9	60	4	67	5	72	8	68	4	68	8	69	9
Maximum	7.76	7.18	7.55	7.4	7.62	7.6	7.93	7.8	7.47	7.18	7.45	6.9	7.64	7.02	7.71	7.36
Minimum	6.39	6.64	6.8	6.65	7.09	6.72	6.63	7.29	6.71	6.18	5.99	5.99	6.5	6.14	6.85	6.45
Mean	7.1	7.0	7.2	7.0	7.4	7.3	7.4	7.5	7.1	6.9	6.9	6.6	7.0	6.8	7.2	6.9
Standard Deviation	0.2	0.2	0.1	0.3	0.1	0.4	0.3	0.2	0.2	0.4	0.3	0.4	0.2	0.3	0.2	0.3
Median	7.11	7.025	7.22	6.91	7.42	7.365	7.38	7.45	7.095	6.965	6.97	6.785	6.98	6.895	7.29	7.05
Specific Conductance, (Field) uS/cm																
No. of Analyses	67	4	61	9	60	4	67	5	72	8	68	4	68	8	69	9
No. of Detections	67	4	61	9	60	4	67	5	72	8	68	4	68	8	69	9
Maximum	340	284.2	365	341.3	225	230.9	137.2	145.4	280	250.6	170	138.4	172.7	199.8	146.6	168.1
Minimum	1.9	237.1	190	294.1	110	220	85	135	150	217.5	98	98.3	100	148.1	95	0.9
Mean	188.3	260.7	281.4	315.9	193.7	224.1	114.5	138.5	208.1	231.6	141.2	127.5	139.6	173.5	118.9	140.2
Standard Deviation	46.0	19.2	51.3	17.8	20.0	4.8	10.1	4.1	33.3	13.7	16.6	19.5	12.1	15.9	11.5	52.6
Median	185	260.65	270	320.7	195	222.65	115	138.2	215	230.9	144.35	136.55	140	171.25	120	157.4
Total Dissolved Solids, mg/L																
No. of Analyses	66	4	60	8	59	4	67	4	68	8	67	4	68	8	69	8
No. of Detections	65	4	60	8	59	4	67	4	68	8	67	4	67	8	68	8
Maximum	224	168	650	217	150	139	140	89.3	181	149	1100	97.1	130	118	140	111
Minimum	ND	141	130	199	107	134	47	80.7	47	130	61	72.1	ND	98	ND	85.3
Mean	121.9	152.8	206.1	206.1	130.1	136.0	74.2	84.2	133.4	140.6	113.4	89.0	90.7	107.5	87.0	103.5
Standard Deviation	35.2	11.7	74.8	7.4	10.7	2.2	13.9	3.8	30.7	6.9	123.1	11.4	17.7	6.2	16.0	8.8
Median	120	151	202.5	205	130	135.5	72.2	83.35	134.5	141.5	100	93.35	93	107.5	89	106.5
Alkalinity, total (CaCO3), mg/L																
No. of Analyses	66	4	60	8	59	4	67	4	69	8	67	4	68	8	69	8
No. of Detections	66	4	60	8	59	4	67	4	69	8	67	4	68	8	69	8
Maximum	111	105	122	123	100	88.1	60	57.6	122	97.8	78	51.5	68	72.1	66	55.4
Minimum	49.7	96.5	64	118	77.3	86.1	38	54.4	70	88.1	32.8	37.6	30	58.7	4	51
Mean	80.0	100.6	102.1	120.6	87.3	87.2	49.1	56.2	96.3	93.6	57.0	47.7	58.3	65.5	47.2	53.4
Standard Deviation	12.8	3.7	12.8	1.6	5.4	0.9	4.4	1.4	17.5	3.4	8.6	6.7	5.3	4.1	6.2	1.8
Median	79.2	100.45	98	121	86.4	87.3	49.6	56.35	100	94.4	56	50.8	59.25	64.85	48	54.4
Ammonia as N, mg/L																
No. of Analyses	66	4	60	8	59	4	67	4	69	8	67	4	68	8	69	8
No. of Detections	59	4	50	8	36	4	11	4	7	0	5	0	5	1	3	0
Maximum	0.12	0.0283	0.21	0.062	0.2	0.0259	0.18	0.0271	0.21	ND	0.18	ND	0.13	0.005	0.04	ND
Minimum	ND	0.0174	ND	0.0518	ND	0.0241	ND	0.0097	ND	ND	ND	ND	ND	ND	ND	ND
Mean	0.045	0.023	0.049	0.058	0.025	0.025	0.013	0.017	0.017	ID	0.013	ID	0.011	0.002	0.009	ID
Standard Deviation	0.025	0.006	0.028	0.003	0.031	0.001	0.023	0.008	0.032	ID	0.023	ID	0.016	0.001	0.007	ID
Median	0.0393	0.0222	0.0502	0.05875	0.0218	0.0253	0.005	0.0155	0.005	ID	0.005	ID	0.005	0.001	0.005	ID
Chloride, mg/L																
No. of Analyses	66	4	60	8	59	4	67	4	69	8	67	4	68	8	69	8
No. of Detections	66	4	60	8	59	4	66	4	68	8	66	4	67	8	68	8
Maximum	6	3.57	8	3.15	8.03	5.47	7.63	2.7	13	5.56	4.59	2.43	5.74	4	5.59	5.13
Minimum	2	2.44	1.6	2.63	3.8	4.44	ND	2.32	ND	4.4	ND	1.19	ND	3.24	ND	4.74
Mean	3.3	2.9	3.0	2.9	4.8	4.9	2.9	2.6	8.0	5.0	2.8	2.0	3.4	3.5	2.8	4.9
Standard Deviation	0.7	0.5	0.7	0.2	0.8	0.4	0.8	0.2	1.8	0.5	0.7	0.6	0.6	0.3	1.0	0.1
Median	3.245	2.83	2.995	2.88	5	4.895	2.9	2.6	8	5.01	3	2.205	3.46	3.41	2.6	4.955

Table 4-2a (cont.)
Statistical Summary of Regional
Aquifer Upgradient Groundwater Data

Well Location	MW-56 Long	MW-56 Short	MW-59 Long	MW-59 Short	MW-76 Long	MW-76 Short	MW-82 Long	MW-82 Short	MW-83 Long	MW-83 Short	MW-94 Long	MW-94 Short	MW-24 Long	MW-24 Short	MW-65 Long	MW-65 Short
	Upgradient and Crossgradient Wells															
Nitrate as N, mg/L																
No. of Analyses	67	4	69	8	67	4	63	4	67	8	60	8	67	4	68	4
No. of Detections	45	4	15	7	67	4	63	4	66	8	59	8	16	1	10	2
Maximum	2.78	1.33	0.98	0.028	6	1.7	1.5	0.872	4.18	3.79	2.72	2.71	1	0.017	0.09	0.015
Minimum	ND	0.028	ND	ND	0.303	0.934	0.495	0.443	ND	1.31	ND	0.256	ND	ND	ND	ND
Mean	0.321	0.419	0.039	0.017	1.355	1.454	0.875	0.693	0.780	2.218	1.075	1.500	0.052	0.008	0.017	0.009
Standard Deviation	0.503	0.614	0.124	0.008	0.747	0.354	0.215	0.189	0.720	0.934	0.436	0.895	0.158	0.006	0.015	0.005
Median	0.153	0.1591	0.015	0.017	1.3	1.59	0.88	0.7285	0.61	2.01	1	1.785	0.014	0.005	0.0115	0.0085
Sulfate, mg/L																
No. of Analyses	67	4	69	8	66	4	63	4	67	8	60	8	67	4	68	4
No. of Detections	67	4	69	8	65	4	63	4	67	8	60	8	67	4	67	4
Maximum	24	9.59	23	17.5	33.3	24.7	18.5	16.8	62.9	10.2	20	9.52	39	15.4	20	12.5
Minimum	12.2	6.1	14	14.9	ND	15.7	12	15.5	5.84	8.33	1.85	5.58	13	11.1	ND	9.34
Mean	16.6	8.0	17.8	16.0	17.9	20.1	15.1	16.2	14.2	9.2	11.1	7.1	17.9	13.0	15.3	10.6
Standard Deviation	2.5	1.5	1.8	1.0	4.5	4.1	1.9	0.6	7.2	0.7	4.5	1.3	3.2	1.9	2.4	1.4
Median	16	8.16	17.9	15.85	18	20	15	16.15	13	9.04	11	7.32	17	12.65	16	10.28
Dissolved Iron, mg/L																
No. of Analyses	67	4	69	8	67	4	63	4	67	8	60	8	67	4	68	4
No. of Detections	63	4	69	8	37	0	36	1	35	0	31	3	67	4	68	4
Maximum	4.7	0.11	5.3	4	8.8	ND	0.18	0.0134	0.13	ND	0.27	0.116	4.9	3.37	8.4	3.75
Minimum	ND	0.0519	2.96	2.85	ND	ND	ND	ND	ND	ND	ND	ND	1.7	2.97	3.1	3.12
Mean	0.331	0.087	4.264	3.541	0.163	ID	0.041	0.007	0.033	ID	0.030	0.031	3.792	3.175	4.076	3.380
Standard Deviation	0.589	0.025	0.375	0.379	1.072	ID	0.045	0.004	0.034	ID	0.040	0.041	0.608	0.176	0.666	0.276
Median	0.24	0.0933	4.25	3.665	0.019	ID	0.03	0.005	0.023	ID	0.00945	0.005	3.9	3.18	4	3.325
Dissolved Manganese, mg/L																
No. of Analyses	67	4	69	8	67	4	63	4	67	8	60	8	67	4	67	4
No. of Detections	67	4	69	8	6	0	4	1	31	8	8	5	67	4	67	4
Maximum	0.33	0.344	0.13	0.125	0.067	ND	0.002	0.000138	0.0694	0.0424	0.0345	0.00427	0.27	0.116	0.25	0.212
Minimum	0.0501	0.131	0.0913	0.108	ND	ND	ND	ND	ND	0.000934	ND	ND	0.0914	0.0969	0.158	0.137
Mean	0.168	0.279	0.107	0.117	0.002	ID	0.001	0.000	0.003	0.012	0.002	0.001	0.179	0.106	0.203	0.166
Standard Deviation	0.073	0.100	0.009	0.006	0.008	ID	0.000	0.000	0.009	0.016	0.005	0.001	0.056	0.009	0.021	0.033
Median	0.17	0.32	0.107	0.1145	0.0005	ID	0.0005	0.00005	0.0005	0.00367	0.0005	0.000369	0.18	0.1055	0.2	0.158
Dissolved Calcium, mg/L																
No. of Analyses	67	4	69	8	67	4	63	4	67	8	60	8	67	4	68	4
No. of Detections	67	4	69	8	67	4	63	4	67	8	60	8	67	4	68	4
Maximum	18	19.5	17	16.5	23.5	20.5	29.6	30.5	57	67.9	40.4	34.1	19	14.5	13	12.1
Minimum	11	16.4	12	12.6	8.8	19.7	11	27.4	11	49.4	11	23.2	11	13.5	9.2	11.3
Mean	13.9	17.3	14.0	15.4	14.7	20.1	19.2	29.5	23.2	58.7	18.2	29.0	14.9	14.1	11.6	11.7
Standard Deviation	1.4	1.5	1.2	1.3	3.7	0.3	4.0	1.4	11.5	7.4	6.6	3.8	2.0	0.4	0.9	0.4
Median	14	16.7	14	15.85	14	20.15	18.2	30.05	17.1	56.35	15	30.25	15	14.2	11.85	11.65
Dissolved Magnesium, mg/L																
No. of Analyses	67	4	69	8	67	4	63	4	67	8	60	8	67	4	68	4
No. of Detections	67	4	69	8	67	4	63	4	67	8	60	8	67	4	68	4
Maximum	8.7	11.7	11	10.1	11.1	9.56	16.7	18.5	24	28.9	15.5	14.5	15	9.35	8.03	7.27
Minimum	4.57	7.9	7.17	8.34	4	9.25	7.4	16.4	4.4	22.1	4.6	10.5	7.1	8.79	5.3	6.88
Mean	6.5	9.7	8.4	9.5	6.5	9.4	11.0	17.6	9.5	25.3	7.9	12.8	9.4	9.2	6.7	7.1
Standard Deviation	0.9	1.6	0.7	0.7	1.7	0.1	2.2	0.9	4.9	2.5	3.0	1.6	1.3	0.3	0.5	0.2
Median	6.58	9.595	8.31	9.815	6	9.44	10	17.8	6.9	25.05	6.235	13.45	9.47	9.315	6.725	7.065

Table 4-2a (cont.)
Statistical Summary of Regional
Aquifer Upgradient Groundwater Data

Well Location	MW-64 Long	MW-64 Short	MW-93 Long	MW-93 Short	MW-95 Long	MW-95 Short	MW-21 Long	MW-21 Short	MW-66 Long	MW-66 Short	MW-73 Long	MW-73 Short	MW-84 Long	MW-84 Short	MW-81 Long	MW-81 Short
	Upgradient and Crossgradient Wells															
Nitrate as N, mg/L																
No. of Analyses	66	4	60	8	59	4	67	4	69	8	67	4	68	8	69	8
No. of Detections	24	3	31	4	3	0	9	0	69	8	67	4	68	8	68	8
Maximum	2	0.023	1.2	0.015	0.06	ND	1.9	ND	0.765	0.61	2.1	1.05	1.4	0.259	1.8	1.45
Minimum	ND	ND	ND	ND	ND	ND	ND	ND	0.23	0.513	0.246	0.458	0.09	0.145	ND	1.32
Mean	0.050	0.014	0.055	0.009	0.015	ID	0.054	ID	0.463	0.553	1.182	0.865	0.421	0.173	1.514	1.379
Standard Deviation	0.244	0.007	0.158	0.004	0.012	ID	0.233	ID	0.164	0.037	0.517	0.274	0.226	0.038	0.316	0.051
Median	0.0225	0.0145	0.021	0.0075	0.005	ID	0.005	ID	0.42	0.541	1.1	0.976	0.472	0.1585	1.57	1.375
Sulfate, mg/L																
No. of Analyses	66	4	59	8	59	4	67	4	69	8	67	4	68	8	69	8
No. of Detections	66	4	59	8	59	4	67	4	69	8	66	4	68	8	67	8
Maximum	76.2	30.9	101	45.1	28	16.3	8	6.38	16.1	14.5	24	8.86	18	14.9	11.3	9.48
Minimum	7	17	1.1	35.3	14	15.6	2	4.8	2.2	12	ND	6.53	10	11.4	ND	7.52
Mean	21.6	25.0	52.4	40.0	17.4	16.0	6.0	5.5	11.2	13.3	11.8	7.8	12.5	12.9	7.8	9.0
Standard Deviation	14.3	6.2	23.2	3.7	2.6	0.3	1.0	0.7	2.9	1.0	3.8	1.0	1.2	1.2	1.6	0.7
Median	15.6	26	54	39.7	16.8	16	6	5.46	10.2	13.7	10.1	7.835	12.6	12.65	8	9.3
Dissolved Iron, mg/L																
No. of Analyses	66	4	61	8	59	4	67	4	69	8	66	4	68	8	69	8
No. of Detections	66	4	26	0	30	0	67	4	37	0	36	0	36	0	35	0
Maximum	1.3	0.0881	0.25	ND	0.19	ND	3.7	2.22	1.7	ND	0.12	ND	0.48	ND	0.98	ND
Minimum	0.042	0.0278	ND	ND	ND	ND	1.63	1.9	ND	ND	ND	ND	ND	ND	ND	ND
Mean	0.461	0.056	0.043	ID	0.045	ID	2.188	2.073	0.060	ID	0.029	ID	0.031	ID	0.035	ID
Standard Deviation	0.337	0.025	0.051	ID	0.048	ID	0.366	0.162	0.210	ID	0.029	ID	0.061	ID	0.118	ID
Median	0.475	0.05315	0.005	ID	0.0083	ID	2.1	2.085	0.021	ID	0.0215	ID	0.0075	ID	0.0104	ID
Dissolved Manganese, mg/L																
No. of Analyses	66	4	61	8	59	4	67	4	69	8	66	4	68	8	69	8
No. of Detections	66	4	60	8	59	4	67	4	5	3	7	2	58	7	6	0
Maximum	0.847	0.0824	0.369	0.225	0.24	0.174	0.093	0.102	0.006	0.0005	0.008	0.000303	0.037	0.0128	0.25	ND
Minimum	0.027	0.0491	ND	0.176	0.051	0.14	0.044	0.0896	ND	ND	ND	ND	ND	ND	ND	ND
Mean	0.116	0.063	0.242	0.206	0.143	0.162	0.073	0.096	0.001	0.000	0.001	0.000	0.003	0.002	0.004	ID
Standard Deviation	0.140	0.016	0.054	0.019	0.037	0.015	0.010	0.007	0.001	0.000	0.001	0.000	0.005	0.004	0.030	ID
Median	0.06505	0.06005	0.24	0.212	0.138	0.1665	0.0731	0.0961	0.0005	0.000082	0.0005	7.65E-05	0.00221	0.000707	0.0005	ID
Dissolved Calcium, mg/L																
No. of Analyses	66	4	61	8	59	4	67	4	69	8	66	4	68	8	69	8
No. of Detections	66	4	60	8	59	4	67	4	69	8	66	4	68	8	69	8
Maximum	26.9	20.9	39.6	31.9	23	21.5	14	11.7	23	18.7	18	12.4	15	14.7	14	13.8
Minimum	9.5	18.2	ND	30.5	10	18.3	6.8	10.9	9.7	16.7	10.4	10.7	8.4	11.8	0.026	11
Mean	16.7	19.6	28.4	31.4	19.5	20.4	9.2	11.4	17.1	17.9	13.5	11.8	10.7	12.7	10.3	13.0
Standard Deviation	3.5	1.3	6.9	0.5	1.8	1.4	1.1	0.4	3.5	0.8	1.7	0.8	1.0	0.9	1.7	0.9
Median	17	19.65	28.2	31.5	19.4	20.85	9.3	11.45	18	18.3	13	11.95	11	12.55	10.7	13.25
Dissolved Magnesium, mg/L																
No. of Analyses	66	4	61	8	59	4	67	4	69	8	66	4	68	8	69	8
No. of Detections	66	4	60	8	59	4	67	4	69	8	66	4	68	8	68	8
Maximum	21.5	17.2	20.4	17.4	12	11.6	7.6	6.44	18.8	15.2	9	6.37	9.87	11.1	7.3	7.63
Minimum	5.1	14.3	ND	15.9	6.8	9.78	4	6.16	7.1	13	2.95	3.56	6.4	9.33	ND	6.45
Mean	10.7	15.7	14.5	16.7	10.1	11.0	5.3	6.3	13.3	14.3	6.4	5.5	8.2	9.9	5.5	7.2
Standard Deviation	3.3	1.3	3.7	0.5	0.9	0.8	0.7	0.1	2.8	0.7	1.2	1.3	0.7	0.6	0.8	0.4
Median	10.95	15.7	14	16.75	10	11.25	5.3	6.28	13.5	14.35	6.445	6.085	8.22	9.61	5.6	7.245

Table 4-2a (cont.)
Statistical Summary of Regional
Aquifer Upgradient Groundwater Data

Well Location	MW-56 Long	MW-56 Short	MW-59 Long	MW-59 Short	MW-76 Long	MW-76 Short	MW-82 Long	MW-82 Short	MW-83 Long	MW-83 Short	MW-94 Long	MW-94 Short	MW-24 Long	MW-24 Short	MW-65 Long	MW-65 Short
	Upgradient and Crossgradient Wells															
Dissolved Potassium, mg/L																
No. of Analyses	66	4	68	8	66	4	62	4	66	8	59	8	66	4	67	4
No. of Detections	66	4	68	8	66	4	62	4	66	8	59	8	66	4	67	4
Maximum	1.3	1.31	1.2	1.14	1.52	1.41	1.97	1.97	3.41	3.67	2.53	2.34	1.4	0.967	1.1	0.923
Minimum	0.791	1.03	0.87	0.977	0.89	1.36	1.2	1.83	1.3	2.81	1.1	2	0.73	0.891	0.78	0.887
Mean	1.09	1.17	1.02	1.08	1.15	1.38	1.51	1.90	1.95	3.26	1.65	2.20	0.91	0.94	0.90	0.91
Standard Deviation	0.12	0.11	0.07	0.06	0.15	0.02	0.18	0.06	0.48	0.32	0.35	0.12	0.10	0.04	0.06	0.02
Median	1.1	1.16	1	1.095	1.1	1.375	1.5	1.905	1.8	3.2	1.51	2.235	0.9	0.9455	0.899	0.9105
Dissolved Sodium, mg/L																
No. of Analyses	67	4	69	8	67	4	63	4	67	8	60	8	67	4	68	4
No. of Detections	67	4	69	8	67	4	63	4	67	8	60	8	67	4	68	4
Maximum	6.6	6.27	6.6	6.27	9.2	9.66	8.05	8.59	11.2	16	8.64	12.6	7	5.71	5.9	5.56
Minimum	4	5.12	4.73	5.4	5.72	9.26	4.9	7.89	4.5	10.4	4.3	7.1	4.78	5.49	4.55	5.24
Mean	4.82	5.62	5.49	5.95	7.54	9.46	6.11	8.23	6.26	12.90	5.77	8.67	5.68	5.61	5.11	5.36
Standard Deviation	0.42	0.48	0.38	0.33	0.76	0.18	0.74	0.29	1.48	1.91	1.19	1.69	0.46	0.11	0.29	0.15
Median	4.8	5.55	5.46	6.07	7.4	9.455	6	8.21	5.75	13	5.28	8.15	5.6	5.61	5.1	5.315
Total Arsenic, mg/L																
No. of Analyses	13	4	15	8	13	4	12	4	15	8	15	8	13	4	13	4
No. of Detections	3	4	0	8	0	4	0	4	0	7	0	7	0	4	2	4
Maximum	0.0025	0.000109	ND	0.001	ND	0.000203	ND	0.00026	ND	0.0005	ND	0.0005	ND	0.00063	0.00121	0.00242
Minimum	ND	8.12E-05	ND	0.000404	ND	0.000186	ND	0.000246	ND	ND	ND	ND	ND	0.000523	ND	0.000838
Mean	0.00094	0.00009	ID	0.00053	ID	0.00019	ID	0.00025	ID	0.00040	ID	0.00022	ID	0.00058	0.00059	0.00150
Standard Deviation	0.00084	0.00001	ID	0.00020	ID	0.00001	ID	0.00001	ID	0.00006	ID	0.00013	ID	0.00004	0.00023	0.00079
Median	0.0005	8.61E-05	ID	0.00045	ID	0.000195	ID	0.000251	ID	0.000409	ID	0.000156	ID	0.000586	0.0005	0.001377
Total Barium, mg/L																
No. of Analyses	13	4	15	8	13	4	12	4	15	8	15	8	13	4	13	4
No. of Detections	13	4	15	8	13	4	11	4	15	8	15	8	13	4	13	4
Maximum	0.0478	0.00429	0.00431	0.00548	0.00434	0.00413	0.00376	0.00164	0.00935	0.0104	0.00383	0.00542	0.00205	0.002	0.00759	0.00797
Minimum	0.00323	0.0033	0.00318	0.00372	0.0031	0.00351	ND	0.00131	0.00369	0.00612	0.00168	0.00246	0.00172	0.00186	0.00654	0.0062
Mean	0.0114	0.0037	0.0035	0.0042	0.0037	0.0037	0.0016	0.0015	0.0062	0.0083	0.0024	0.0030	0.0019	0.0019	0.0070	0.0072
Standard Deviation	0.0162	0.0005	0.0003	0.0006	0.0004	0.0003	0.0008	0.0001	0.0015	0.0017	0.0006	0.0010	0.0001	0.0001	0.0003	0.0009
Median	0.00373	0.003675	0.00346	0.00404	0.00364	0.003675	0.00154	0.001545	0.00636	0.00811	0.00219	0.00264	0.00191	0.001915	0.00701	0.007235
Total Copper, mg/L																
No. of Analyses	13	4	15	8	13	4	12	4	15	8	15	8	13	4	13	4
No. of Detections	3	3	0	4	0	4	0	4	2	8	1	7	0	0	0	1
Maximum	0.0154	0.000301	ND	0.00102	ND	0.00116	ND	0.00026	0.0033	0.00601	0.00231	0.0051	ND	ND	ND	0.000222
Minimum	ND	ND	ND	ND	ND	0.000535	ND	0.000216	ND	0.00205	ND	ND	ND	ND	ND	ND
Mean	0.00360	0.00021	ID	0.00052	ID	0.00080	ID	0.00024	0.00126	0.00396	0.00109	0.00155	ID	ID	ID	0.00013
Standard Deviation	0.00542	0.00008	ID	0.00039	ID	0.00027	ID	0.00002	0.00070	0.00148	0.00034	0.00144	ID	ID	ID	0.00006
Median	0.001	0.000212	ID	0.000574	ID	0.000743	ID	0.000244	0.001	0.004105	0.001	0.00101	ID	ID	ID	0.0001
Total Lead, mg/L																
No. of Analyses	13	4	15	8	13	4	12	4	15	8	15	8	13	4	13	4
No. of Detections	3	0	0	4	0	0	0	0	0	0	0	0	0	0	0	0
Maximum	0.0033	ND	ND	0.0005	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Minimum	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Mean	0.00094	ID	ID	0.00017	ID	ID	ID	ID	ID	ID	ID	ID	ID	ID	ID	ID
Standard Deviation	0.00094	ID	ID	0.00015	ID	ID	ID	ID	ID	ID	ID	ID	ID	ID	ID	ID
Median	0.0005	ID	ID	0.000137	ID	ID	ID	ID	ID	ID	ID	ID	ID	ID	ID	ID

Table 4-2a (cont.)
Statistical Summary of Regional
Aquifer Upgradient Groundwater Data

Well Location	MW-64 Long	MW-64 Short	MW-93 Long	MW-93 Short	MW-95 Long	MW-95 Short	MW-21 Long	MW-21 Short	MW-66 Long	MW-66 Short	MW-73 Long	MW-73 Short	MW-84 Long	MW-84 Short	MW-81 Long	MW-81 Short
	Upgradient and Crossgradient Wells															
Dissolved Potassium, mg/L																
No. of Analyses	65	4	60	8	58	4	66	4	67	8	65	4	67	8	68	8
No. of Detections	65	4	59	8	58	4	66	4	67	8	65	4	67	8	67	8
Maximum	1.84	1.89	1.9	1.62	1.4	1.25	1.4	1.06	1.48	1.2	1.1	0.828	1.3	1.12	1.1	0.853
Minimum	0.89	1.63	ND	1.46	0.91	1.01	0.8	1	0.74	1.1	0.655	0.722	0.82	0.99	ND	0.766
Mean	1.32	1.76	1.39	1.53	1.17	1.16	0.97	1.04	1.13	1.16	0.83	0.78	0.98	1.05	0.71	0.81
Standard Deviation	0.23	0.11	0.26	0.06	0.09	0.11	0.09	0.03	0.15	0.03	0.09	0.04	0.09	0.04	0.10	0.03
Median	1.3	1.765	1.4	1.525	1.16	1.195	0.95	1.045	1.11	1.17	0.81	0.7825	0.969	1.05	0.7225	0.8085
Dissolved Sodium, mg/L																
No. of Analyses	66	4	61	8	59	4	67	4	69	8	66	4	68	8	69	8
No. of Detections	66	4	60	8	59	4	67	4	69	8	66	4	68	8	69	8
Maximum	8.24	8.65	10.2	9.7	7.8	6.4	7.2	5.7	9.12	8.15	7.1	5.81	6.7	6.81	7.5	6.8
Minimum	4.8	7.52	ND	8.93	4.8	5.38	4.4	5.59	4.5	7.28	2.4	3.25	4.6	6.05	1.2	5.97
Mean	6.26	7.97	8.10	9.39	6.00	6.00	5.07	5.67	7.15	7.73	5.57	5.09	5.62	6.40	5.48	6.40
Standard Deviation	0.73	0.53	1.51	0.26	0.57	0.44	0.46	0.05	0.88	0.30	0.92	1.23	0.44	0.23	0.71	0.26
Median	6.3	7.845	8.3	9.395	5.9	6.105	5	5.69	7.2	7.815	5.615	5.655	5.7	6.395	5.5	6.36
Total Arsenic, mg/L																
No. of Analyses	13	4	15	8	13	4	12	4	15	8	13	4	15	8	15	8
No. of Detections	13	4	15	8	4	4	8	4	0	7	0	4	0	7	0	7
Maximum	0.01	0.00775	0.00136	0.00136	0.00109	0.00111	0.00111	0.00101	ND	0.000718	ND	0.00151	ND	0.0005	ND	0.000625
Minimum	0.00118	0.00126	0.00113	0.00116	ND	0.00103	ND	0.00088	ND	ND	ND	0.00034	ND	ND	ND	ND
Mean	0.00301	0.00308	0.00128	0.00130	0.00067	0.00108	0.00087	0.00096	ID	0.00064	ID	0.00080	ID	0.00036	ID	0.00054
Standard Deviation	0.00268	0.00312	0.00006	0.00006	0.00026	0.00003	0.00028	0.00006	ID	0.00006	ID	0.00050	ID	0.00006	ID	0.00004
Median	0.00174	0.001655	0.00128	0.00132	0.0005	0.00108	0.001045	0.000977	ID	0.000653	ID	0.000677	ID	0.000352	ID	0.000539
Total Barium, mg/L																
No. of Analyses	13	4	15	8	13	4	12	4	15	8	13	4	15	8	15	8
No. of Detections	13	4	15	8	13	4	12	4	15	8	13	4	15	8	15	8
Maximum	0.0145	0.0244	0.00942	0.00818	0.00437	0.00427	0.00453	0.00461	0.00649	0.00541	0.00649	0.0225	0.004	0.00435	0.00288	0.00487
Minimum	0.00711	0.00892	0.0078	0.00761	0.00365	0.00407	0.00298	0.00442	0.00494	0.00452	0.00245	0.00273	0.00325	0.00363	0.00256	0.00282
Mean	0.0100	0.0166	0.0086	0.0079	0.0039	0.0042	0.0039	0.0045	0.0056	0.0050	0.0032	0.0078	0.0035	0.0040	0.0027	0.0033
Standard Deviation	0.0023	0.0065	0.0004	0.0002	0.0002	0.0001	0.0005	0.0001	0.0006	0.0003	0.0011	0.0098	0.0002	0.0002	0.0001	0.0007
Median	0.00917	0.0166	0.00855	0.007925	0.00384	0.004175	0.00395	0.00449	0.00527	0.00509	0.00278	0.00306	0.0035	0.00395	0.00268	0.00309
Total Copper, mg/L																
No. of Analyses	13	4	15	8	13	4	12	4	15	8	13	4	15	8	15	8
No. of Detections	1	3	0	0	0	0	0	0	0	1	3	4	0	0	0	1
Maximum	0.00512	0.00171	ND	ND	ND	ND	ND	ND	ND	0.001	0.00363	0.00232	ND	ND	ND	0.001
Minimum	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.000221	ND	ND	ND	ND
Mean	0.00132	0.00077	ID	ID	ID	ID	ID	ID	ID	0.00023	0.00153	0.00128	ID	ID	ID	0.00023
Standard Deviation	0.00114	0.00069	ID	ID	ID	ID	ID	ID	ID	0.00031	0.00102	0.00118	ID	ID	ID	0.00031
Median	0.001	0.000625	ID	ID	ID	ID	ID	ID	ID	0.0001	0.001	0.001288	ID	ID	ID	0.0001
Total Lead, mg/L																
No. of Analyses	13	4	15	8	13	4	12	4	15	8	13	4	15	8	15	8
No. of Detections	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0
Maximum	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.00237	ND	ND	ND	ND
Minimum	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Mean	ID	ID	ID	ID	ID	ID	ID	ID	ID	ID	ID	0.00063	ID	ID	ID	ID
Standard Deviation	ID	ID	ID	ID	ID	ID	ID	ID	ID	ID	ID	0.00116	ID	ID	ID	ID
Median	ID	ID	ID	ID	ID	ID	ID	ID	ID	ID	ID	0.00005	ID	ID	ID	ID

Table 4-2a (cont.)
Statistical Summary of Regional
Aquifer Upgradient Groundwater Data

Well Location	MW-56 Long	MW-56 Short	MW-59 Long	MW-59 Short	MW-76 Long	MW-76 Short	MW-82 Long	MW-82 Short	MW-83 Long	MW-83 Short	MW-94 Long	MW-94 Short	MW-24 Long	MW-24 Short	MW-65 Long	MW-65 Short
	Upgradient and Crossgradient Wells															
Total Selenium, mg/L																
No. of Analyses	13	4	15	8	13	4	12	4	15	8	15	8	13	4	13	4
No. of Detections	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Maximum	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Minimum	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Mean	ID	ID	ID	ID	ID	ID	ID	ID	ID	ID	ID	ID	ID	ID	ID	ID
Standard Deviation	ID	ID	ID	ID	ID	ID	ID	ID	ID	ID	ID	ID	ID	ID	ID	ID
Median	ID	ID	ID	ID	ID	ID	ID	ID	ID	ID	ID	ID	ID	ID	ID	ID
Total Vanadium, mg/L																
No. of Analyses	13	4	15	8	13	4	12	4	15	8	15	8	13	4	13	4
No. of Detections	2	3	0	0	0	4	0	4	0	7	0	7	0	0	0	0
Maximum	0.0178	0.000249	ND	ND	ND	0.000584	ND	0.00134	ND	0.00101	ND	0.00132	ND	ND	ND	ND
Minimum	ND	ND	ND	ND	ND	0.000555	ND	0.00131	ND	ND	ND	ND	ND	ND	ND	ND
Mean	0.00345	0.00020	ID	ID	ID	0.00057	ID	0.00132	ID	0.00087	ID	0.00108	ID	ID	ID	ID
Standard Deviation	0.00600	0.00004	ID	ID	ID	0.00001	ID	0.00001	ID	0.00009	ID	0.00016	ID	ID	ID	ID
Median	0.001	0.0002	ID	ID	ID	0.000573	ID	0.001315	ID	0.000852	ID	0.00104	ID	ID	ID	ID
Total Zinc, mg/L																
No. of Analyses	13	4	15	8	13	4	12	4	15	8	15	8	13	4	13	4
No. of Detections	3	4	2	8	0	2	0	4	0	7	0	5	0	1	0	3
Maximum	0.0235	0.00215	0.00423	0.00748	ND	0.000874	ND	0.0013	ND	0.002	ND	0.002	ND	0.000553	ND	0.00249
Minimum	ND	0.000931	ND	0.00115	ND	ND	ND	0.000768	ND	ND	ND	ND	ND	ND	ND	ND
Mean	0.0056	0.0014	0.0023	0.0033	ID	0.0005	ID	0.0010	ID	0.0009	ID	0.0008	ID	0.0003	ID	0.0012
Standard Deviation	0.0075	0.0006	0.0008	0.0022	ID	0.0003	ID	0.0003	ID	0.0005	ID	0.0006	ID	0.0002	ID	0.0010
Median	0.002	0.001325	0.002	0.00301	ID	0.000464	ID	0.000908	ID	0.000715	ID	0.000755	ID	0.00025	ID	0.000958
cis 1,2-Dichloroethene, ug/L																
No. of Analyses	67	4	69	8	68	4	63	4	67	8	60	8	67	4	68	4
No. of Detections	63	4	33	8	66	4	0	0	0	0	0	0	30	2	0	0
Maximum	1.8	1.53	1.08	1.37	3.1	0.548	ND	ND	ND	ND	ND	ND	0.39	0.14	ND	ND
Minimum	ND	1.3	ND	1.13	ND	0.221	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Mean	1.05	1.40	0.37	1.20	1.18	0.37	ID	ID	ID	ID	ID	ID	0.17	0.09	ID	ID
Standard Deviation	0.36	0.10	0.33	0.08	0.70	0.14	ID	ID	ID	ID	ID	ID	0.09	0.04	ID	ID
Median	1.1	1.375	0.1	1.185	0.988	0.3485	ID	ID	ID	ID	ID	ID	0.1	0.077	ID	ID
Tetrachloroethene, ug/L																
No. of Analyses	67	4	69	8	68	4	63	4	67	8	60	8	67	4	68	4
No. of Detections	0	0	0	0	67	4	1	0	0	0	0	0	0	0	0	0
Maximum	ND	ND	ND	ND	0.89	0.44	0.31	ND	ND	ND	ND	ND	ND	ND	ND	ND
Minimum	ND	ND	ND	ND	ND	0.379	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Mean	ID	ID	ID	ID	0.51	0.42	0.10	ID	ID	ID	ID	ID	ID	ID	ID	ID
Standard Deviation	ID	ID	ID	ID	0.12	0.03	0.03	ID	ID	ID	ID	ID	ID	ID	ID	ID
Median	ID	ID	ID	ID	0.505	0.423	0.1	ID	ID	ID	ID	ID	ID	ID	ID	ID
Trichloroethene, ug/L																
No. of Analyses	67	4	69	8	68	4	63	4	67	8	60	8	67	4	68	4
No. of Detections	0	0	1	0	68	4	62	4	67	8	60	7	0	0	0	0
Maximum	ND	ND	0.45	ND	17	9.44	11	5.28	3.8	2.32	5.4	2.79	ND	ND	ND	ND
Minimum	ND	ND	ND	ND	6.69	8.05	ND	4.43	0.504	1.34	0.921	ND	ND	ND	ND	ND
Mean	ID	ID	0.1	ID	11.2	8.7	6.7	4.9	2.0	1.8	3.0	1.9	ID	ID	ID	ID
Standard Deviation	ID	ID	0.0	ID	2.4	0.7	1.9	0.4	0.6	0.3	1.0	1.0	ID	ID	ID	ID
Median	ID	ID	0.1	ID	11	8.665	6.6	5.01	2	1.885	2.865	2.28	ID	ID	ID	ID

Table 4-2a (cont.)
Statistical Summary of Regional
Aquifer Upgradient Groundwater Data

Well Location	MW-64 Long	MW-64 Short	MW-93 Long	MW-93 Short	MW-95 Long	MW-95 Short	MW-21 Long	MW-21 Short	MW-66 Long	MW-66 Short	MW-73 Long	MW-73 Short	MW-84 Long	MW-84 Short	MW-81 Long	MW-81 Short
	Upgradient and Crossgradient Wells															
Total Selenium, mg/L																
No. of Analyses	13	4	15	8	13	4	12	4	15	8	13	4	15	8	15	8
No. of Detections	0	1	0	0	0	0	0	0	2	7	0	1	0	6	2	7
Maximum	ND	0.000526	ND	ND	ND	ND	ND	ND	0.00101	0.00104	ND	0.0016	ND	0.000878	0.00104	0.000904
Minimum	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Mean	ID	0.00032	ID	ID	ID	ID	ID	ID	0.00057	0.00093	ID	0.00059	ID	0.00060	0.00057	0.00084
Standard Deviation	ID	0.00014	ID	ID	ID	ID	ID	ID	0.00018	0.00018	ID	0.00068	ID	0.00020	0.00018	0.00014
Median	ID	0.00025	ID	ID	ID	ID	ID	ID	0.0005	0.001	ID	0.00025	ID	0.000564	0.0005	0.000885
Total Vanadium, mg/L																
No. of Analyses	13	4	15	8	13	4	12	4	15	8	13	4	15	8	15	8
No. of Detections	1	3	3	7	0	3	0	0	0	7	0	4	0	7	0	8
Maximum	0.00606	0.00146	0.00231	0.00229	ND	0.000372	ND	ND	ND	0.001	ND	0.00315	ND	0.001	ND	0.00253
Minimum	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.00089	ND	ND	ND	0.00158
Mean	0.00139	0.00071	0.00123	0.00204	ID	0.00030	ID	ID	ID	0.00071	ID	0.00159	ID	0.00056	ID	0.00179
Standard Deviation	0.00140	0.00054	0.00049	0.00043	ID	0.00008	ID	ID	ID	0.00012	ID	0.00105	ID	0.00018	ID	0.00031
Median	0.001	0.000594	0.001	0.002165	ID	0.000314	ID	ID	ID	0.00067	ID	0.00116	ID	0.000489	ID	0.00168
Total Zinc, mg/L																
No. of Analyses	13	4	15	8	13	4	12	4	15	8	13	4	15	8	15	8
No. of Detections	1	4	12	7	0	1	0	1	0	7	0	2	0	3	1	7
Maximum	0.0385	0.00422	0.0112	0.00241	ND	0.0027	ND	0.00122	ND	0.00228	ND	0.0066	ND	0.002	0.00425	0.00895
Minimum	ND	0.000657	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Mean	0.0048	0.0022	0.0072	0.0014	ID	0.0009	ID	0.0005	ID	0.0017	ID	0.0019	ID	0.0006	0.0022	0.0018
Standard Deviation	0.0101	0.0015	0.0032	0.0006	ID	0.0012	ID	0.0005	ID	0.0003	ID	0.0031	ID	0.0006	0.0006	0.0029
Median	0.002	0.001955	0.00697	0.00119	ID	0.00025	ID	0.00025	ID	0.00175	ID	0.000458	ID	0.000425	0.002	0.000827
cis 1,2-Dichloroethene, ug/L																
No. of Analyses	66	4	60	8	60	4	67	4	70	8	67	4	68	8	69	8
No. of Detections	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Maximum	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Minimum	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Mean	ID	ID	ID	ID	ID	ID	ID	ID	ID	ID	ID	ID	ID	ID	ID	ID
Standard Deviation	ID	ID	ID	ID	ID	ID	ID	ID	ID	ID	ID	ID	ID	ID	ID	ID
Median	ID	ID	ID	ID	ID	ID	ID	ID	ID	ID	ID	ID	ID	ID	ID	ID
Tetrachloroethene, ug/L																
No. of Analyses	66	4	60	8	60	4	67	4	70	8	67	4	68	8	69	8
No. of Detections	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Maximum	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Minimum	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Mean	ID	ID	ID	ID	ID	ID	ID	ID	ID	ID	ID	ID	ID	ID	ID	ID
Standard Deviation	ID	ID	ID	ID	ID	ID	ID	ID	ID	ID	ID	ID	ID	ID	ID	ID
Median	ID	ID	ID	ID	ID	ID	ID	ID	ID	ID	ID	ID	ID	ID	ID	ID
Trichloroethene, ug/L																
No. of Analyses	66	4	60	8	60	4	67	4	70	8	67	4	68	8	69	8
No. of Detections	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0
Maximum	ND	ND	ND	ND	ND	ND	ND	ND	0.32	ND	ND	ND	ND	ND	ND	ND
Minimum	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Mean	ID	ID	ID	ID	ID	ID	ID	ID	0.1	ID	ID	ID	ID	ID	ID	ID
Standard Deviation	ID	ID	ID	ID	ID	ID	ID	ID	0.0	ID	ID	ID	ID	ID	ID	ID
Median	ID	ID	ID	ID	ID	ID	ID	ID	0.1	ID	ID	ID	ID	ID	ID	ID

Table 4-2a (cont.)
Statistical Summary of Regional
Aquifer Upgradient Groundwater Data

Well Location	MW-56 Long	MW-56 Short	MW-59 Long	MW-59 Short	MW-76 Long	MW-76 Short	MW-82 Long	MW-82 Short	MW-83 Long	MW-83 Short	MW-94 Long	MW-94 Short	MW-24 Long	MW-24 Short	MW-65 Long	MW-65 Short
	Upgradient and Crossgradient Wells															
Vinyl Chloride, ug/L																
No. of Analyses	67	4	69	8	68	4	63	4	67	8	60	8	67	4	68	4
No. of Detections	0	0	0	0	0	0	0	0	0	0	1	0	0	2	66	4
Maximum	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.02	ND	ND	0.016	0.18	0.032
Minimum	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.028
Mean	ID	ID	ID	ID	ID	ID	ID	ID	ID	ID	0.010	ID	ID	0.010	0.067	0.030
Standard Deviation	ID	ID	ID	ID	ID	ID	ID	ID	ID	ID	0.001	ID	ID	0.006	0.030	0.002
Median	ID	ID	ID	ID	ID	ID	ID	ID	ID	ID	0.01	ID	ID	0.0102	0.0659	0.0296

Table 4-2a (cont.)
Statistical Summary of Regional
Aquifer Upgradient Groundwater Data

Well Location	MW-64 Long	MW-64 Short	MW-93 Long	MW-93 Short	MW-95 Long	MW-95 Short	MW-21 Long	MW-21 Short	MW-66 Long	MW-66 Short	MW-73 Long	MW-73 Short	MW-84 Long	MW-84 Short	MW-81 Long	MW-81 Short
	Upgradient and Crossgradient Wells															
Vinyl Chloride, ug/L																
No. of Analyses	67	4	60	8	60	4	67	4	70	8	67	4	68	8	69	8
No. of Detections	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Maximum	0.25	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Minimum	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Mean	0.014	ID	ID	ID	ID	ID	ID	ID	ID	ID	ID	ID	ID	ID	ID	ID
Standard Deviation	0.029	ID	ID	ID	ID	ID	ID	ID	ID	ID	ID	ID	ID	ID	ID	ID
Median	0.01	ID	ID	ID	ID	ID	ID	ID	ID	ID	ID	ID	ID	ID	ID	ID

Table 4-2b
Statistical Summary of Regional Aquifer
Downgradient Groundwater Data

Well Location	MW-100 Long	MW-100 Short	MW-68 Long	MW-68 Short	MW-67 Long	MW-67 Short	MW-69 Long	MW-69 Short	MW-72 Long	MW-72 Short	MW-80 Long	MW-80 Short	MW-74 Long	MW-74 Short	MW-75 Long	MW-75 Short	MW-87 Long	MW-87 Short	MW-85 Long	MW-85 Short	MW-86 Long	MW-86 Short	MW-88 Long	MW-88 Short	MW-89 Long	MW-89 Short
	Downgradient Wells																									
pH, (Field) Standard Units																										
No. of Analyses	62	4	61	9	68	4	69	8	68	9	32	8	184	9	184	10	181	8	71	8	64	4	66	4	66	4
No. of Detections	62	4	61	9	68	4	69	8	68	9	32	8	184	9	184	10	181	8	71	8	64	4	66	4	66	4
Maximum	7.13	6.96	7.45	7.29	7.71	6.9	7.96	7.61	7.64	7.14	7.65	7.3	7.52	7.1	7.74	7.12	7.21	7.17	7.35	7.11	7.69	7.06	7.67	7.15	7.67	7.29
Minimum	6.59	6.83	6.65	6.59	6.49	6.73	6.93	6.6	6.8	6.51	6.89	6.53	6.55	6.69	6.66	6.57	5.43	6.37	6.74	6.63	6.59	6.71	6.64	6.84	7	6.99
Mean	6.9	6.9	7.1	7.0	7.1	6.8	7.4	7.2	7.2	6.8	7.1	7.0	7.0	7.0	7.1	6.9	6.9	6.8	7.1	6.9	6.9	6.9	7.2	7.0	7.3	7.2
Standard Deviation	0.1	0.1	0.2	0.2	0.2	0.1	0.2	0.4	0.2	0.2	0.2	0.3	0.1	0.1	0.2	0.2	0.1	0.2	0.1	0.2	0.2	0.2	0.2	0.2	0.1	0.1
Median	6.9	6.9	7.2	7.0	7.1	6.8	7.4	7.3	7.2	6.8	7.1	7.0	7.0	7.0	7.0	7.0	6.9	6.8	7.1	7.0	7.0	6.9	7.2	7.0	7.3	7.3
Specific Conductance, (Field) uS/cm																										
No. of Analyses	62	4	61	9	68	4	70	8	68	9	32	8	184	9	184	10	181	8	71	8	64	4	66	4	66	4
No. of Detections	62	4	61	9	68	4	70	8	68	9	32	8	184	9	184	10	181	8	71	8	64	4	66	4	66	4
Maximum	360	325.7	340	290.5	386.7	373.5	320	329.6	359.7	374.5	315.5	318.9	1250	623.5	345	370	519.9	536	335.6	354.6	220	200.8	135	127.1	220	225.2
Minimum	170	289.2	180	261.8	165	350.2	160	303	220	322.7	210	288.5	260	518.8	170	335.3	2.5	489.1	165	332	130	189.6	100	125.2	140	199.3
Mean	274.8	311.5	268.0	281.6	233.1	362.7	241.7	318.7	266.3	345.4	250.0	310.5	363.9	569.1	254.3	354.3	356.8	516.9	217.0	343.6	166.6	194.3	111.6	126.3	172.5	210.3
Standard Deviation	38.6	17.4	37.6	9.8	43.5	12.2	39.7	10.3	32.7	16.7	33.5	9.2	84.9	31.1	28.0	9.3	50.1	15.5	34.7	7.0	16.8	4.9	7.7	0.9	14.3	11.1
Median	265.0	315.6	270.0	285.1	222.5	363.5	235.0	319.5	255.0	342.7	247.5	312.5	360.0	570.6	250.0	354.3	350.0	519.3	210.0	343.2	170.0	193.3	110.0	126.4	170.0	208.4
Total Dissolved Solids, mg/L																										
No. of Analyses	60	4	60	9	67	4	69	8	68	8	31	8	70	8	71	8	69	8	66	8	64	4	65	4	64	4
No. of Detections	60	4	60	9	67	4	69	8	68	8	31	8	70	8	71	8	69	8	66	8	64	4	65	4	64	4
Maximum	250	185	310	173	248	230	210	196	223	218	313	207	349	358	260	233	377	376	213	220	150	122	96	91.1	150	137
Minimum	124	170	110	160	87	215	100	178	88	203	143	183	140	308	90	202	160	338	100	201	58	113	40	84	65	121
Mean	174.1	178.5	177.5	168.9	162.1	223.5	157.1	190.4	178.1	210.6	183.1	196.8	240.1	333.1	176.7	225.8	264.9	364.6	148.0	212.6	108.5	117.5	77.4	86.9	114.2	130.0
Standard Deviation	24.0	6.6	31.2	4.1	37.2	6.2	25.9	6.8	27.0	5.0	30.3	7.2	49.7	16.8	29.4	10.2	49.0	12.6	30.2	5.9	12.6	3.9	10.5	3.1	15.4	7.4
Median	170.0	179.5	175.0	170.0	150.0	224.5	160.0	193.5	172.0	211.5	179.0	197.0	241.5	337.0	180.0	228.0	260.0	366.5	140.0	213.5	109.0	117.5	79.0	86.2	120.0	131.0
Alkalinity, total (CaCO3), mg/L																										
No. of Analyses	60	4	61	9	67	4	69	8	68	8	31	8	70	8	71	8	70	8	66	8	64	4	65	4	64	4
No. of Detections	60	4	61	9	67	4	69	8	68	8	31	8	70	8	71	8	70	8	66	8	64	4	65	4	64	4
Maximum	160	142	160	130	143	159	137	137	130	130	108	113	233	235	110	107	157	102	114	130	82	68.2	58	52.7	82	77.2
Minimum	94.6	124	46	125	75	147	80	128	26	121	73.6	108	97	216	74	102	47	93.7	65	118	50	63.6	46.8	50.1	67	71.2
Mean	131.1	134.8	135.4	127.3	97.7	152.8	116.7	133.5	112.4	125.8	90.6	110.8	156.8	227.6	93.1	105.5	90.3	98.5	87.7	123.4	66.8	66.4	51.8	51.4	73.6	73.3
Standard Deviation	11.4	7.7	20.7	1.7	21.8	6.1	15.4	3.7	12.1	3.1	10.5	1.8	41.9	5.7	7.2	1.8	10.4	3.0	11.6	4.7	4.6	2.2	2.2	1.1	3.8	2.7
Median	131.0	136.5	132.0	128.0	90.0	152.5	120.0	134.5	112.0	125.5	89.3	111.0	152.0	227.5	94.1	106.0	90.0	99.2	86.1	123.5	67.0	66.9	52.0	51.4	73.2	72.4
Ammonia as N, mg/L																										
No. of Analyses	60	4	61	9	67	4	69	8	68	8	31	8	70	8	71	8	70	8	66	8	64	4	65	4	64	4
No. of Detections	11	4	39	9	5	4	35	8	39	7	15	7	9	2	17	7	38	8	4	2	4	2	3	1	44	4
Maximum	0.09	0.013	0.17	0.02	0.13	0.0075	0.25	0.0234	0.12	0.0181	0.015	0.0156	0.53	0.005	0.128	0.0103	0.16	0.0207	0.18	0.005	0.13	0.0029	0.11	0.0027	0.12	0.0178
Minimum	ND	0.0109	ND	0.0171	ND	0.0063	ND	0.0143	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.0101	ND	ND	ND	ND	ND	ND	ND	0.0151
Mean	0.015	0.012	0.019	0.018	0.012	0.007	0.017	0.017	0.017	0.015	0.009	0.011	0.023	0.002	0.014	0.008	0.017	0.018	0.013	0.002	0.012	0.002	0.010	0.001	0.021	0.017
Standard Deviation	0.020	0.001	0.021	0.001	0.019	0.001	0.029	0.003	0.014	0.006	0.004	0.003	0.069	0.001	0.017	0.002	0.019	0.003	0.025	0.002	0.018	0.001	0.014	0.001	0.017	0.001
Median	0.005	0.012	0.015	0.018	0.005	0.007	0.015	0.016	0.015	0.016	0.005	0.010	0.005	0.001	0.010	0.008	0.015	0.019	0.005	0.001	0.005	0.002	0.005	0.001	0.019	0.017
Chloride, mg/L																										
No. of Analyses	60	4	61	9	67	4	69	8	68	8	31	8	69	8	71	8	70	8	66	8	64	4	65	4	64	4
No. of Detections	60	4	61	9	67	4	69	8	68	8	31	8	68	8	71	8	70	8	66	8	64	4	63	4	64	4
Maximum	5.9	3.32	4	3.09	6	5.36	5.9	4.05	8.01	6.55	6.72	5.09	35	28.2	12	10.6	9.36	13	10.5	10.8	7.6	4.82	3.6	1.91	7.54	11.6
Minimum	2.36	2.67	2	2.53	3.49	4.85	2.6	3.53	2.7	5.39	4.61	4.11	ND	21.7	2	9.31	2	9.54	4	9.03	3.1	4.57	ND	1.76	2	8.64
Mean	3.1	3.0	2.9	2.8	4.5	5.1	3.8	3.8	4.1	5.9	5.3	4.7	23.9	25.3	7.3	9.9	4.1	11.2	6.4	9.8	4.8	4.7	2.2	1.8	3.3	9.6
Standard Deviation	0.6	0.3	0.3	0.2	0.4	0.2	0.6	0.2	0.9	0.4	0.5	0.3	6.6	2.1	2.0	0.5	2.1	1.0	1.7	0.6	0.9	0.1	0.5	0.1	1.4	1.4
Median	3.0	2.9	2.9	2.7	4.6	5.2	3.9	3.8	4.0	6.0	5.3	4.7	25.0	26.0	7.7	9.8	3.4	11.2	6.1	9.8	4.6	4.7	2.2	1.9	3.2	9.0
Nitrate as N, mg/L																										
No. of Analyses	60	4	61	9	67	4	69	8	68	8	31	8	71	8	71	8	72	8	66	8	64	4	65	4	64	4
No. of Detections	7	0	7	1	67	4	9	0	14	4	8	0	53	8	9	1	20	4	66	8	58	3	64	4	10	0
Maximum	300	ND	0.7	0.01	3.4	0.153	0.3	ND	1	0.019	0.028	ND	1.4	0.358	2	0.011	320	0.0803	270	0.124	570	0.169	1.7	0.771	0.16	ND
Minimum	ND	ND	ND	ND	0.199	0.091	ND	ND	ND	ND	ND	ND	ND	0.28	ND	ND	ND	ND	0.03	0.107	ND	ND	ND	0.575	ND	ND
Mean	5.026	ID	0.027	0.006	0.738	0.121	0.021	ID	0.033	0.010	0.009	ID	0.373	0.303	0.043	0.006	4.464	0.018	4.243	0.114	9.109	0.061	0.446	0.659	0.017	ID
Standard Deviation	38.726	ID	0.090	0.002	0.443	0.026	0.043	ID	0.121	0.006	0.007	ID	0.391	0.025	0.236	0.002	37.710	0.026	33.216	0.006	71.225	0.074	0.206	0.082	0.023	ID
Median	0.005	ID	0.005	0.005	0.660	0.120	0.005	ID	0.005	0.009	0.005	ID	0.347	0.301	0.005	0.005	0.015	0.008	0.130	0.114	0.108	0.035	0.470	0.645	0.005	ID

Table 4-2b (cont.)
Statistical Summary of Regional Aquifer
Downgradient Groundwater Data

Well Location	MW-100 Long	MW-100 Short	MW-68 Long	MW-68 Short	MW-67 Long	MW-67 Short	MW-69 Long	MW-69 Short	MW-72 Long	MW-72 Short	MW-80 Long	MW-80 Short	MW-74 Long	MW-74 Short	MW-75 Long	MW-75 Short	MW-87 Long	MW-87 Short	MW-85 Long	MW-85 Short	MW-86 Long	MW-86 Short	MW-88 Long	MW-88 Short	MW-89 Long	MW-89 Short
													Downgradient Wells													
Sulfate, mg/L																										
No. of Analyses	59	4	61	9	66	4	70	8	67	8	31	8	69	8	70	8	69	8	65	8	64	4	65	4	64	4
No. of Detections	59	4	61	9	66	4	70	8	67	8	31	8	69	8	70	8	69	8	65	8	64	4	63	4	64	4
Maximum	110	19.9	26	16.6	40.9	34.7	42	24.7	72	39.4	46.1	36.9	34.8	32.2	55.7	56.4	155	164	42.8	35.9	30	20.9	8	6.63	21	16.2
Minimum	14	15.5	9.7	13.8	17.1	31.2	0.91	18	18	36.2	31.6	32.2	5	27	16	49.7	72	138	16	30.2	10	18.4	ND	5.56	14.1	12.8
Mean	25.5	17.6	16.2	15.1	29.6	32.4	19.9	22.7	34.2	37.4	41.4	35.2	24.8	30.6	42.4	54.1	106.8	146.1	28.2	33.6	17.9	19.6	6.4	6.0	16.4	14.6
Standard Deviation	14.6	1.9	2.6	0.9	6.5	1.6	7.9	2.3	13.7	1.2	3.5	1.7	3.7	1.6	6.6	2.1	21.4	7.8	7.1	1.8	2.2	1.1	1.2	0.5	1.3	1.4
Median	20.4	17.5	16.1	15.1	29.5	31.9	17.4	23.7	28.8	37.4	42.1	35.3	25.0	31.0	43.0	54.6	99.0	144.0	29.6	33.8	18.0	19.6	6.6	5.8	16.2	14.8
Dissolved Iron, mg/L																										
No. of Analyses	60	4	61	9	67	4	70	8	68	8	31	8	70	8	71	8	71	8	68	8	64	4	65	4	64	4
No. of Detections	60	4	61	9	67	4	69	8	68	8	31	8	52	1	71	8	70	8	34	0	64	4	34	0	64	4
Maximum	3.6	0.832	3.2	0.68	8.5	0.244	3.2	1.15	2.9	2.73	2.36	2.18	2.81	0.0101	3.8	2.31	4.37	4.93	0.22	ND	2	0.98	0.16	ND	1.69	0.993
Minimum	0.741	0.65	0.179	0.448	0.02	0.199	ND	1.01	1.57	0.617	0.886	1.82	ND	ND	1.1	1.23	ND	3.67	ND	ND	0.019	0.324	ND	ND	0.53	0.423
Mean	2.09	0.73	1.64	0.59	0.23	0.22	1.11	1.08	2.15	2.32	1.56	2.03	0.98	0.01	1.72	1.97	2.96	4.36	0.04	ID	0.39	0.62	0.02	ID	0.76	0.78
Standard Deviation	0.751	0.079	0.785	0.071	1.028	0.020	0.446	0.055	0.284	0.698	0.293	0.101	0.999	0.002	0.374	0.330	0.650	0.461	0.043	ID	0.239	0.276	0.029	ID	0.142	0.271
Median	2.150	0.725	1.440	0.596	0.094	0.213	1.055	1.090	2.100	2.575	1.550	2.040	0.680	0.005	1.700	2.030	2.900	4.470	0.006	ID	0.346	0.596	0.009	ID	0.738	0.860
Dissolved Manganese, mg/L																										
No. of Analyses	60	4	60	9	67	4	70	8	68	8	31	8	70	8	71	8	71	8	68	8	64	4	65	4	64	4
No. of Detections	60	4	60	9	65	4	68	8	68	8	31	8	53	1	71	8	70	8	3	0	64	4	12	4	64	4
Maximum	0.257	0.186	0.39	0.319	0.27	0.205	0.28	0.278	0.364	0.386	0.306	0.345	0.176	0.0005	0.17	0.191	0.528	0.588	0.0015	ND	0.25	0.0341	0.01	0.000302	0.4	0.25
Minimum	0.097	0.146	0.17	0.289	ND	0.158	ND	0.238	0.224	0.212	0.184	0.289	ND	ND	0.065	0.139	ND	0.501	ND	ND	0.0015	0.0123	ND	0.000184	0.181	0.194
Mean	0.173	0.167	0.263	0.303	0.059	0.182	0.186	0.258	0.282	0.346	0.256	0.326	0.068	0.000	0.124	0.170	0.331	0.545	0.001	ID	0.018	0.021	0.001	0.000	0.290	0.221
Standard Deviation	0.043	0.017	0.051	0.009	0.052	0.025	0.049	0.014	0.035	0.055	0.030	0.017	0.062	0.000	0.021	0.015	0.068	0.032	0.000	ID	0.030	0.009	0.001	0.000	0.053	0.024
Median	0.167	0.169	0.270	0.303	0.047	0.182	0.194	0.257	0.270	0.361	0.260	0.329	0.073	0.000	0.123	0.171	0.320	0.538	0.001	ID	0.014	0.018	0.001	0.000	0.295	0.220
Dissolved Calcium, mg/L																										
No. of Analyses	60	4	61	9	67	4	70	8	68	8	31	8	70	8	71	8	71	8	68	8	64	4	65	4	64	4
No. of Detections	60	4	61	9	67	4	69	8	68	8	31	8	70	8	71	8	71	8	68	8	64	4	65	4	64	4
Maximum	38	30.7	43	28.4	34.3	36.5	40	35.1	33	33.2	29.4	30.9	48.6	50.5	31	30.7	43.4	47.2	35	33	21	15.3	21	9.57	18	16.3
Minimum	22	23.2	18	25.5	15	33.5	ND	29.8	20.1	26.7	18.1	26.1	19	45.2	11	25.3	4.38	40.4	13	26.4	11	14.4	7.4	9.13	10	13.8
Mean	27.3	27.8	27.4	27.4	23.0	35.1	25.7	32.9	25.5	30.7	25.7	29.8	32.8	48.0	20.8	28.9	31.6	45.4	20.8	30.7	13.8	14.9	8.9	9.4	13.0	14.7
Standard Deviation	3.6	3.2	4.6	0.8	5.4	1.3	5.8	1.7	3.0	2.3	2.7	1.5	7.9	1.9	4.0	1.8	6.1	2.3	4.4	2.1	1.5	0.4	1.7	0.2	1.1	1.1
Median	26.0	28.7	27.5	27.7	22.0	35.2	26.5	32.7	25.0	31.4	26.4	30.3	33.0	48.7	21.1	29.3	31.0	46.0	20.4	30.9	13.6	15.0	8.6	9.4	13.0	14.4
Dissolved Magnesium, mg/L																										
No. of Analyses	60	4	61	9	67	4	70	8	68	8	31	8	70	8	71	8	71	8	68	8	64	4	65	4	64	4
No. of Detections	60	4	61	9	67	4	69	8	68	8	31	8	70	8	71	8	71	8	68	8	64	4	65	4	64	4
Maximum	21	17.2	22	15.9	21.3	21.6	18	16.7	19	20.2	15.3	16.1	37.3	38.5	21	22.4	30.6	31.5	21	20.4	12	10.7	11	7.08	10.9	11.9
Minimum	12	13.7	10	14.2	8.9	19.4	ND	14.6	12.5	16.6	9.5	14.7	15	34.5	8.5	20.4	0.919	30	9	17.8	7.19	9.8	4.9	6.87	7	10
Mean	15.5	15.8	14.9	15.3	13.4	20.9	12.1	15.7	15.1	19.1	13.1	15.7	24.2	36.8	15.5	21.5	21.3	31.0	12.7	19.2	9.3	10.3	6.3	7.0	9.0	10.8
Standard Deviation	1.9	1.5	2.2	0.5	3.4	1.0	2.6	0.7	1.8	1.3	1.4	0.5	6.2	1.4	3.0	0.8	4.4	0.5	2.6	0.9	0.9	0.4	0.8	0.1	0.9	0.8
Median	15.0	16.2	15.1	15.4	12.0	21.4	12.9	15.8	15.0	19.6	13.3	15.8	23.1	36.9	16.0	21.6	21.0	31.1	12.2	19.5	9.3	10.3	6.4	7.0	9.0	10.7
Dissolved Potassium, mg/L																										
No. of Analyses	59	4	60	9	65	4	69	8	67	8	31	8	69	8	70	8	70	8	67	8	63	4	64	4	63	4
No. of Detections	59	4	60	9	65	4	68	8	67	8	31	8	69	8	70	8	69	8	67	8	63	4	64	4	63	4
Maximum	2.18	1.79	2.2	1.84	1.89	1.78	1.9	1.83	1.95	2.02	1.66	1.68	2.5	2.31	2.3	2.03	2.4	2.51	2.3	1.74	1.6	1.31	1.2	0.852	1.72	1.61
Minimum	1.37	1.42	1.2	1.6	0.77	1.64	ND	1.64	1.4	1.53	1.33	1.58	1.4	1.94	0.81	1.78	ND	2.27	1.1	1.52	0.94	1.17	0.66	0.815	1.2	1.39
Mean	1.7	1.7	1.6	1.7	1.4	1.7	1.5	1.7	1.7	1.9	1.5	1.6	1.9	2.2	1.6	1.9	1.9	2.4	1.3	1.6	1.1	1.2	0.8	0.8	1.4	1.5
Standard Deviation	0.19	0.18	0.15	0.07	0.21	0.07	0.24	0.07	0.13	0.17	0.09	0.03	0.21	0.11	0.20	0.08	0.29	0.08	0.19	0.08	0.11	0.06	0.08	0.02	0.10	0.09
Median	1.78	1.76	1.60	1.69	1.40	1.73	1.60	1.74	1.70	1.92	1.56	1.65	1.90	2.21	1.62	1.88	1.92	2.38	1.30	1.58	1.10	1.26	0.84	0.84	1.42	1.50
Dissolved Sodium, mg/L																										
No. of Analyses	60	4	61	9	67	4	70	8	68	8	31	8	70	8	71	8	71	8	68	8	64	4	65	4	64	4
No. of Detections	60	4	61	9	67	4	70	8	68	8	31	8	70	8	71	8	71	8	68	8	64	4	65	4	64	4
Maximum	11	9.74	10	9.34	9.53	9.9	9.01	9.08	8.2	8.53	7.88	8.06	12.8	13.7	46	9.47	10.8	10.9	14	9.87	7.4	7.05	6.3	5.94	9.8	9.9
Minimum	7.48	8.08	6	8.2	5.9	8.69	0.0293	7.79	6.08	7.21	5.74	7.34	7.7	12.1	5.3	8.6	4.44	10.4	5.5	8.65	5.16	6.69	4.3	5.8	6.3	9.21
Mean	8.8	9.2	8.0	8.9	7.7	9.5	7.1	8.6	7.0	8.1	6.9	7.9	10.1	13.1	10.3	9.0	8.7	10.7	7.5	9.3	6.3	6.9	5.4	5.9	8.0	9.7
Standard Deviation	0.67	0.75	0.68	0.33	0.85	0.56	1.12	0.41	0.52	0.51	0.54	0.23	1.50	0.61	7.57	0.33	1.00	0.15	1.30	0.45	0.49	0.19	0.38	0.06	0.81	0.31
Median	8.80	9.40	8.02	8.91	7.60	9.72	7.33	8.59	6.97	8.27	6.96	7.97	9.76	13.20	8.05	8.94	8.72	10.80	7.33	9.45	6.22	6.84	5.40	5.86	8.08	9.78

Table 4-2b (cont.)
Statistical Summary of Regional Aquifer
Downgradient Groundwater Data

Well Location	MW-100 Long	MW-100 Short	MW-68 Long	MW-68 Short	MW-67 Long	MW-67 Short	MW-69 Long	MW-69 Short	MW-72 Long	MW-72 Short	MW-80 Long	MW-80 Short	MW-74 Long	MW-74 Short	MW-75 Long	MW-75 Short	MW-87 Long	MW-87 Short	MW-85 Long	MW-85 Short	MW-86 Long	MW-86 Short	MW-88 Long	MW-88 Short	MW-89 Long	MW-89 Short
													Downgradient Wells													
Total Arsenic, mg/L																										
No. of Analyses	13	4	15	9	13	4	15	8	13	8	15	8	14	8	14	8	14	8	15	8	13	4	13	4	13	4
No. of Detections	12	4	15	9	1	4	15	8	0	6	15	8	0	7	0	7	14	8	0	7	13	4	6	4	13	4
Maximum	0.0183	0.00657	0.27	0.132	0.00168	0.00202	0.00386	0.00253	ND	0.0005	0.0392	0.00718	ND	0.00112	ND	0.000603	0.0256	0.0116	ND	0.000736	0.00969	0.0194	0.00104	0.00103	0.0207	0.0266
Minimum	ND	0.00178	0.016	0.0118	ND	0.000627	0.00187	0.00213	ND	ND	0.00397	0.004	ND	ND	ND	ND	0.00161	0.0011	ND	ND	0.00104	0.00414	ND	0.000977	0.00201	0.00324
Mean	0.00363	0.00453	0.08889	0.04658	0.00059	0.00121	0.00262	0.00230	ID	0.00017	0.00974	0.00493	ID	0.00054	ID	0.00051	0.00988	0.00583	ID	0.00069	0.00230	0.01039	0.00074	0.00101	0.00663	0.00995
Standard Deviation	0.00452	0.00200	0.07167	0.04877	0.00033	0.00058	0.00062	0.00012	ID	0.00015	0.00968	0.00113	ID	0.00024	ID	0.00007	0.00789	0.00392	ID	0.00008	0.00238	0.00729	0.00027	0.00002	0.00605	0.01119
Median	0.00249	0.00488	0.06930	0.01610	0.00050	0.00109	0.00242	0.00226	ID	0.00011	0.00580	0.00444	ID	0.00045	ID	0.00052	0.00862	0.00571	ID	0.00071	0.00127	0.00900	0.00050	0.00101	0.00368	0.00497
Total Barium, mg/L																										
No. of Analyses	13	4	15	9	13	4	15	8	13	8	15	8	14	8	14	8	14	8	15	8	13	4	13	4	13	4
No. of Detections	13	4	15	9	13	4	15	8	13	8	15	8	14	8	14	8	14	8	15	8	13	4	13	4	13	4
Maximum	0.0121	0.00931	0.0197	0.0126	0.0152	0.0167	0.0139	0.0126	0.0156	0.0143	0.023	0.0159	0.0171	0.0148	0.0131	0.0127	0.0369	0.0332	0.00634	0.00667	0.00598	0.0088	0.00237	0.00233	0.0184	0.0256
Minimum	0.00663	0.0074	0.0117	0.0106	0.00953	0.0124	0.0105	0.0109	0.0103	0.0102	0.0128	0.0135	0.0109	0.0118	0.0102	0.011	0.0212	0.0255	0.00482	0.00617	0.0034	0.00567	0.00209	0.00216	0.00647	0.00766
Mean	0.008	0.008	0.014	0.012	0.011	0.014	0.012	0.012	0.012	0.012	0.015	0.015	0.012	0.013	0.011	0.012	0.028	0.028	0.006	0.006	0.004	0.007	0.002	0.002	0.009	0.013
Standard Deviation	0.0014	0.0009	0.0022	0.0008	0.0016	0.0019	0.0011	0.0006	0.0017	0.0012	0.0029	0.0007	0.0016	0.0010	0.0008	0.0007	0.0056	0.0025	0.0005	0.0002	0.0007	0.0015	0.0001	0.0001	0.0038	0.0086
Median	0.0072	0.0084	0.0136	0.0115	0.0107	0.0138	0.0117	0.0119	0.0116	0.0121	0.0138	0.0146	0.0119	0.0134	0.0108	0.0121	0.0261	0.0271	0.0057	0.0065	0.0041	0.0065	0.0022	0.0022	0.0070	0.0090
Total Copper, mg/L																										
No. of Analyses	13	4	15	9	13	4	15	8	13	8	15	8	14	8	14	8	14	8	15	8	13	4	13	4	13	4
No. of Detections	1	3	6	8	0	3	0	0	1	7	0	2	0	6	0	0	1	4	0	1	0	1	0	0	0	1
Maximum	0.00226	0.00127	0.00737	0.00259	ND	0.000457	ND	ND	0.00331	0.00162	ND	0.001	ND	0.001	ND	ND	0.00347	0.001	ND	0.001	ND	0.000344	ND	ND	ND	0.000499
Minimum	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Mean	0.0011	0.0006	0.0024	0.0009	ID	0.0003	ID	ID	0.0012	0.0006	ID	0.0003	ID	0.0003	ID	ID	0.0012	0.0004	ID	0.0002	ID	0.0002	ID	ID	ID	0.0002
Standard Deviation	0.00035	0.00049	0.00197	0.00088	ID	0.00015	ID	ID	0.00064	0.00050	ID	0.00031	ID	0.00028	ID	ID	0.00066	0.00031	ID	0.00032	ID	0.00012	ID	ID	ID	0.00020
Median	0.00100	0.00054	0.00100	0.00051	ID	0.00029	ID	ID	0.00100	0.00035	ID	0.00010	ID	0.00025	ID	ID	0.00100	0.00044	ID	0.00010	ID	0.00010	ID	ID	ID	0.00010
Total Lead, mg/L																										
No. of Analyses	13	4	15	9	13	4	15	8	13	8	15	8	14	8	14	8	14	8	15	8	13	4	13	4	13	4
No. of Detections	0	3	0	0	0	0	0	0	1	4	0	0	0	0	0	0	0	4	0	0	0	0	0	0	0	1
Maximum	ND	0.000165	ND	ND	ND	ND	ND	ND	0.00104	0.000579	ND	ND	ND	ND	ND	ND	ND	0.0005	ND	ND	ND	ND	ND	ND	ND	0.000271
Minimum	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Mean	ID	0.0001	ID	ID	ID	ID	ID	ID	0.0005	0.0002	ID	ID	ID	ID	ID	ID	ID	0.0002	ID	ID	ID	ID	ID	ID	ID	0.0001
Standard Deviation	ID	0.00005	ID	ID	ID	ID	ID	ID	0.00015	0.00021	ID	ID	ID	ID	ID	ID	ID	0.00015	ID	ID	ID	ID	ID	ID	ID	0.00011
Median	ID	0.00014	ID	ID	ID	ID	ID	ID	0.00050	0.00012	ID	ID	ID	ID	ID	ID	ID	0.00013	ID	ID	ID	ID	ID	ID	ID	0.00005
Total Selenium, mg/L																										
No. of Analyses	13	4	15	9	13	4	15	8	13	8	15	8	14	8	14	8	14	8	15	8	13	4	13	4	13	4
No. of Detections	0	0	0	0	0	0	0	0	0	0	0	0	1	7	0	0	0	1	13	8	8	1	0	4	0	0
Maximum	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.00104	0.000754	ND	ND	ND	0.00052	0.00132	0.00109	0.0017	0.000761	ND	0.000691	ND	ND
Minimum	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.000796	ND	ND	ND	0.000576	ND	ND
Mean	ID	ID	ID	ID	ID	ID	ID	ID	ID	ID	ID	ID	0.0005	0.0007	ID	ID	ID	0.0003	0.0010	0.0010	0.0011	0.0004	ID	0.0006	ID	ID
Standard Deviation	ID	ID	ID	ID	ID	ID	ID	ID	ID	ID	ID	ID	0.000144	9.21E-05	ID	ID	ID	0.00012	0.00024	0.00009	0.00048	0.00026	ID	0.00006	ID	ID
Median	ID	ID	ID	ID	ID	ID	ID	ID	ID	ID	ID	ID	0.0005	0.000741	ID	ID	ID	0.00025	0.00108	0.00104	0.00119	0.00025	ID	0.00065	ID	ID
Total Vanadium, mg/L																										
No. of Analyses	13	4	15	9	13	4	15	8	13	8	15	8	14	8	14	8	14	8	15	8	13	4	13	4	13	4
No. of Detections	0	2	5	8	0	4	0	3	0	4	0	1	0	7	0	0	7	8	0	7	0	3	13	4	0	4
Maximum	ND	0.000188	0.0037	0.00182	ND	0.0011	ND	0.001	ND	0.001	ND	0.001	ND	0.001	ND	ND	0.00468	0.00241	ND	0.001	ND	0.00336	0.00277	0.00285	ND	0.00135
Minimum	ND	ND	ND	ND	ND	0.000337	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.000172	ND	ND	ND	ND	0.0024	0.00265	ND	0.00013
Mean	ID	0.0001	0.0017	0.0006	ID	0.0006	ID	0.0002	ID	0.0002	ID	0.0002	ID	0.0007	ID	ID	0.0021	0.0013	ID	0.0009	ID	0.0015	0.0027	0.0028	ID	0.0005
Standard Deviation	ID	0.00007	0.00107	0.00057	ID	0.00032	ID	0.00033	ID	0.00033	ID	0.00033	ID	0.00016	ID	ID	0.00135	0.00087	ID	0.00005	ID	0.00140	0.00011	0.00009	ID	0.00059
Median	ID	0.00017	0.00100	0.00033	ID	0.00056	ID	0.00010	ID	0.00008	ID	0.00004	ID	0.00063	ID	ID	0.00170	0.00130	ID	0.00092	ID	0.00114	0.00270	0.00278	ID	0.00018
Total Zinc, mg/L																										
No. of Analyses	13	4	15	9	13	4	15	8	13	8	15	8	14	8	14	8	14	8	15	8	13	4	13	4	13	4
No. of Detections	2	4	0	8	0	3	4	5	9	7	2	6	0	5	0	4	0	6	0	2	0	4	0	3	6	4
Maximum	0.00922	0.00554	ND	0.002	ND	0.00108	0.0112	0.002	0.0201	0.0129	0.0117	0.00244	ND	0.002	ND	0.002	ND	0.002	ND	0.002	ND	0.00151	ND	0.000847	0.0303	0.0131
Minimum	ND	0.00183	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.000518	ND	ND	ND	0.00211
Mean	0.0028	0.0037	ID	0.0013	ID	0.0007	0.0037	0.0009	0.0069	0.0036	0.0028	0.0011	ID	0.0009	ID	0.0008	ID	0.0010	ID	0.0006	ID	0.0010	ID	0.0005	0.0077	0.0057
Standard Deviation	0.0021	0.0017	ID	0.0006	ID	0.0004	0.0031	0.0006	0.0058	0.0038	0.0025	0.0008	ID	0.0006	ID	0.0006	ID	0.0005	ID	0.0006	ID	0.0004	ID	0.0002	0.0085	0.0052
Median	0.0020	0.0038	ID	0.0014	ID	0.0008	0.0020	0.0008	0.0054	0.0023	0.0020	0.0011	ID	0.0007	ID	0.0007	ID	0.0009	ID	0.0003	ID	0.0010	ID	0.0005	0.0020	0.0037

Table 4-2b (cont.)
Statistical Summary of Regional Aquifer
Downgradient Groundwater Data

Well Location	MW-100 Long	MW-100 Short	MW-68 Long	MW-68 Short	MW-67 Long	MW-67 Short	MW-69 Long	MW-69 Short	MW-72 Long	MW-72 Short	MW-80 Long	MW-80 Short	MW-74 Long	MW-74 Short	MW-75 Long	MW-75 Short	MW-87 Long	MW-87 Short	MW-85 Long	MW-85 Short	MW-86 Long	MW-86 Short	MW-88 Long	MW-88 Short	MW-89 Long	MW-89 Short
													Downgradient Wells													
cis 1,2-Dichloroethene, ug/L																										
No. of Analyses	60	4	60	9	68	4	70	8	68	8	31	8	181	8	184	8	178	8	67	8	64	4	66	4	65	4
No. of Detections	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0
Maximum	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.26	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Minimum	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Mean	ID	ID	ID	ID	ID	ID	ID	ID	ID	ID	ID	ID	ID	ID	0.1	ID	ID	ID	ID	ID	ID	ID	ID	ID	ID	ID
Standard Deviation	ID	ID	ID	ID	ID	ID	ID	ID	ID	ID	ID	ID	ID	ID	0.01	ID	ID	ID	ID	ID	ID	ID	ID	ID	ID	ID
Median	ID	ID	ID	ID	ID	ID	ID	ID	ID	ID	ID	ID	ID	ID	0.10	ID	ID	ID	ID	ID	ID	ID	ID	ID	ID	ID
Tetrachloroethene, ug/L																										
No. of Analyses	60	4	60	9	68	4	70	8	68	8	31	8	181	8	184	8	178	8	67	8	64	4	66	4	65	4
No. of Detections	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Maximum	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Minimum	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Mean	ID	ID	ID	ID	ID	ID	ID	ID	ID	ID	ID	ID	ID	ID	ID	ID	ID	ID	ID	ID	ID	ID	ID	ID	ID	ID
Standard Deviation	ID	ID	ID	ID	ID	ID	ID	ID	ID	ID	ID	ID	ID	ID	ID	ID	ID	ID	ID	ID	ID	ID	ID	ID	ID	ID
Median	ID	ID	ID	ID	ID	ID	ID	ID	ID	ID	ID	ID	ID	ID	ID	ID	ID	ID	ID	ID	ID	ID	ID	ID	ID	ID
Trichloroethene, ug/L																										
No. of Analyses	60	4	60	9	68	4	70	8	68	8	31	8	181	8	184	8	178	8	67	8	64	4	66	4	65	4
No. of Detections	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Maximum	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Minimum	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Mean	ID	ID	ID	ID	ID	ID	ID	ID	ID	ID	ID	ID	ID	ID	ID	ID	ID	ID	ID	ID	ID	ID	ID	ID	ID	ID
Standard Deviation	ID	ID	ID	ID	ID	ID	ID	ID	ID	ID	ID	ID	ID	ID	ID	ID	ID	ID	ID	ID	ID	ID	ID	ID	ID	ID
Median	ID	ID	ID	ID	ID	ID	ID	ID	ID	ID	ID	ID	ID	ID	ID	ID	ID	ID	ID	ID	ID	ID	ID	ID	ID	ID
Vinyl Chloride, ug/L																										
No. of Analyses	60	4	60	9	68	4	70	8	68	8	31	8	181	8	184	8	178	8	67	8	64	4	66	4	65	4
No. of Detections	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	0	2	0	0	0	0	0	1	0	1	0
Maximum	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.07	ND	0.08	ND	ND	ND	ND	ND	0.03	ND	0.04	ND
Minimum	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Mean	ID	ID	ID	ID	ID	ID	ID	ID	ID	ID	ID	ID	ID	ID	0.01	ID	0.01	ID	ID	ID	ID	ID	0.01	ID	0.01	ID
Standard Deviation	ID	ID	ID	ID	ID	ID	ID	ID	ID	ID	ID	ID	ID	ID	0.006	ID	0.005	ID	ID	ID	ID	ID	0.002	ID	0.004	ID
Median	ID	ID	ID	ID	ID	ID	ID	ID	ID	ID	ID	ID	ID	ID	0.010	ID	0.010	ID	ID	ID	ID	ID	0.010	ID	0.010	ID

Table 4-2c
Statistical Summary of Perched Zones
Groundwater Data

Well Location	MW-30A Long	MW-30A Short	MW-47 Long	MW-47 Short	MW-62 Long	MW-62 Short	MW-101 Long	MW-101 Short
				Perched Wells				
pH, (Field) Standard Units								
No. of Analyses	75	9	81	8	44	7	36	8
No. of Detections	75	9	81	8	44	7	36	8
Maximum	6.83	6.84	7.19	6.98	7.33	6.83	8.89	7.21
Minimum	6.03	6.18	6.31	6.66	6.1	6.04	6.46	6.82
Mean	6.4	6.5	6.9	6.8	6.7	6.5	7.0	7.0
Standard Deviation	0.2	0.2	0.2	0.1	0.3	0.3	0.4	0.1
Median	6.44	6.46	6.93	6.845	6.675	6.57	6.94	6.995
Specific Conductance, (Field) uS/cm								
No. of Analyses	75	9	81	8	44	7	36	8
No. of Detections	75	9	81	8	44	7	36	8
Maximum	370	295	1195	950	320	230	827	530
Minimum	210	200	2.1	620	140	130	250	405
Mean	285.2	243.9	774.4	824.4	218.4	197.1	584.2	481.9
Standard Deviation	43.3	33.6	180.3	118.4	39.5	31.9	125.4	45.7
Median	275	250	765	857.5	210	200	592.5	485
Total Dissolved Solids, mg/L								
No. of Analyses	71	8	74	8	45	6	36	8
No. of Detections	71	8	74	8	45	6	36	8
Maximum	300	227	1500	734	220	159	490	353
Minimum	170	178	120	621	95	114	62.7	286
Mean	213.1	210.8	594.1	701.3	150.8	143.3	393.5	335.4
Standard Deviation	23.8	15.0	150.2	34.8	25.0	16.1	87.7	21.4
Median	210	213.5	605	708	150	143.5	417.5	344
Alkalinity, total (CaCO3), mg/L								
No. of Analyses	71	8	74	8	45	6	36	8
No. of Detections	71	8	74	8	45	6	36	8
Maximum	200	93.1	716	658	110	83.7	520	321
Minimum	95.4	59.7	410	590	42	42	122	274
Mean	149.1	79.8	582.3	637.8	71.8	67.7	366.6	302.1
Standard Deviation	32.0	11.3	79.4	24.9	15.2	14.1	85.8	14.3
Median	160	81.9	594	651.5	70	70.3	382	304.5
Ammonia as N, mg/L								
No. of Analyses	71	8	74	8	45	6	36	8
No. of Detections	7	1	69	7	2	0	25	8
Maximum	0.09	0.005	0.156	0.135	0.025	ND	0.11	0.0171
Minimum	ND	ND	ND	ND	ND	ND	ND	0.0066
Mean	0.012	0.002	0.067	0.076	0.008	ID	0.018	0.014
Standard Deviation	0.017	0.002	0.030	0.039	0.006	ID	0.017	0.003
Median	0.005	0.001	0.0667	0.07735	0.005	ID	0.015	0.01545
Chloride, mg/L								
No. of Analyses	71	8	74	8	45	6	36	8
No. of Detections	71	8	74	8	45	6	36	8
Maximum	6.1	2.61	15	6.19	14.4	4.86	8.9	3.04
Minimum	0.879	0.8	3.8	4.49	2.98	3.24	2.34	2.63
Mean	1.8	1.2	8.1	5.6	6.3	3.7	4.9	2.9
Standard Deviation	1.0	0.6	1.8	0.6	2.7	0.6	2.0	0.1
Median	1.39	0.936	7.835	5.745	5.41	3.42	4.47	2.87
Nitrate as N, mg/L								
No. of Analyses	71	8	74	8	45	6	36	8
No. of Detections	71	8	10	1	45	6	7	5
Maximum	9.71	16	1.1	0.024	7.7	3.6	0.0593	0.029
Minimum	0.081	7.77	ND	ND	2.16	2.91	ND	ND
Mean	2.804	12.456	0.030	0.007	4.500	3.218	0.015	0.012
Standard Deviation	2.365	3.485	0.128	0.007	1.458	0.279	0.015	0.008
Median	1.9	13.6	0.005	0.005	3.9	3.19	0.005	0.0125
Sulfate, mg/L								
No. of Analyses	71	8	74	8	45	6	36	8
No. of Detections	71	8	74	8	45	6	36	8
Maximum	37	11.4	8.5	6.21	36	15.2	20.9	4.48
Minimum	7.3	5.64	1.6	4.81	11.7	11	3.35	3.7
Mean	16.4	7.6	6.4	5.6	21.3	13.6	5.8	4.1
Standard Deviation	7.5	2.6	1.0	0.5	5.2	1.6	3.1	0.2
Median	14	5.95	6.35	5.69	21	14	5.23	4.085

Table 4-2c (cont.)
Statistical Summary of Perched Zones
Groundwater Data

Well Location	MW-30A Long	MW-30A Short	MW-47 Long	MW-47 Short	MW-62 Long	MW-62 Short	MW-101 Long	MW-101 Short
				Perched Wells				
Dissolved Iron, mg/L								
No. of Analyses	72	8	75	8	45	6	36	8
No. of Detections	40	1	75	8	29	0	36	8
Maximum	7.1	0.0329	3.5	4.77	0.31	ND	3.5	1.18
Minimum	ND	ND	0.031	0.056	ND	ND	0.0529	0.0269
Mean	0.16	0.01	0.80	3.04	0.05	ID	0.85	0.82
Standard Deviation	0.83	0.01	0.79	1.97	0.06	ID	0.80	0.46
Median	0.032	0.005	0.49	4.1	0.024	ID	0.488	1.05
Dissolved Manganese, mg/L								
No. of Analyses	72	8	74	8	45	6	36	8
No. of Detections	9	4	74	8	6	2	36	8
Maximum	1.7	0.0005	4.71	3.87	0.0103	0.0005	2	1.37
Minimum	ND	ND	0.54	1.55	ND	ND	0.154	1.07
Mean	0.0244	0.0002	1.6022	2.5275	0.0009	0.0002	1.2697	1.1813
Standard Deviation	0.2003	0.0002	0.7368	0.7799	0.0016	0.0002	0.4677	0.1051
Median	0.0005	0.000138	1.615	2.5	0.0005	0.000108	1.335	1.14
Dissolved Calcium, mg/L								
No. of Analyses	72	8	75	8	45	6	36	8
No. of Detections	72	8	75	8	45	6	36	8
Maximum	53	26.3	160	149	32	21.4	98	60.8
Minimum	16.7	19.3	63	115	14.7	12.7	23.7	52.6
Mean	28.1	22.3	111.9	137.8	20.5	17.3	63.3	55.9
Standard Deviation	6.5	2.3	20.9	10.8	3.8	2.9	13.6	3.0
Median	28	22.45	113	140	20	17.55	63.8	54.9
Dissolved Magnesium, mg/L								
No. of Analyses	72	8	75	8	45	6	36	8
No. of Detections	72	8	75	8	45	6	36	8
Maximum	26	15.4	79.5	73.1	11	8.37	50	36.2
Minimum	8.32	11.4	31	56.6	4.18	3.57	15.3	30.5
Mean	15.9	12.4	53.8	67.2	6.8	6.5	36.8	32.5
Standard Deviation	3.4	1.4	9.9	5.2	1.8	1.6	7.3	1.9
Median	16	12.05	53.1	68.2	6.71	6.765	37.8	32
Dissolved Potassium, mg/L								
No. of Analyses	71	8	74	8	44	6	36	8
No. of Detections	71	8	74	8	44	6	36	8
Maximum	38	1.62	6	6.16	1.5	1.14	3.7	3.13
Minimum	1.3	1.43	3.13	4.16	0.825	0.742	1.92	2.63
Mean	2.16	1.50	4.73	5.08	1.06	1.01	2.89	2.76
Standard Deviation	4.32	0.06	0.53	0.64	0.15	0.14	0.37	0.19
Median	1.6	1.495	4.725	4.99	1.04	1.055	2.9	2.67
Dissolved Sodium, mg/L								
No. of Analyses	72	8	75	8	45	6	36	8
No. of Detections	72	8	75	8	45	6	36	8
Maximum	110	16.8	21	20.7	20	15.2	25	17.5
Minimum	11	10.5	13	18.8	12.3	10.5	9.05	14.8
Mean	15.1	14.3	16.7	19.7	14.6	13.6	16.2	16.8
Standard Deviation	11.5	2.7	1.9	0.7	1.5	1.7	2.5	0.8
Median	13.35	15.6	16.4	19.85	14.7	13.75	15.95	16.95
Total Arsenic, mg/L								
No. of Analyses	18	8	20	8	12	6	15	8
No. of Detections	0	7	8	8	0	5	15	8
Maximum	ND	0.000862	0.0113	0.0053	ND	0.000589	0.0135	0.0128
Minimum	ND	ND	ND	0.000547	ND	ND	0.00198	0.00257
Mean	ID	0.0006	0.0020	0.0031	ID	0.0005	0.0068	0.0094
Standard Deviation	ID	0.0001	0.0032	0.0018	ID	0.0001	0.0041	0.0039
Median	ID	0.000506	0.0005	0.00353	ID	0.000435	0.00467	0.01045
Total Barium, mg/L								
No. of Analyses	18	8	20	8	12	6	15	8
No. of Detections	18	8	20	8	12	6	15	8
Maximum	0.00774	0.00706	0.0451	0.0458	0.0032	0.0038	0.0359	0.0273
Minimum	0.00398	0.00389	0.0364	0.0361	0.00183	0.00144	0.0148	0.0194
Mean	0.0051	0.0047	0.0398	0.0415	0.0024	0.0022	0.0235	0.0228
Standard Deviation	0.0008	0.0010	0.0023	0.0031	0.0004	0.0008	0.0064	0.0027
Median	0.004995	0.00457	0.0394	0.0415	0.00233	0.001995	0.0239	0.0223

Table 4-2c
Statistical Summary of Perched Zones
Groundwater Data

Well Location	MW-30A Long	MW-30A Short	MW-47 Long	MW-47 Short	MW-62 Long	MW-62 Short	MW-101 Long	MW-101 Short
				Perched Wells				
Total Cobalt, mg/L								
No. of Analyses	18	8	20	8	12	6	15	8
No. of Detections	0	6	0	7	0	4	0	7
Maximum	ND	0.0015	ND	0.0015	ND	0.0015	ND	0.0015
Minimum	ND	ND	ND	ND	ND	ND	ND	ND
Mean	ID	0.0003	ID	0.0006	ID	0.0004	ID	0.0005
Standard Deviation	ID	0.0005	ID	0.0004	ID	0.0006	ID	0.0004
Median	ID	8.05E-05	ID	0.000446	ID	0.000113	ID	0.000314
Total Copper, mg/L								
No. of Analyses	18	8	20	8	12	6	15	8
No. of Detections	1	7	2	2	0	5	1	4
Maximum	0.0103	0.00287	0.0105	0.00168	ND	0.00198	0.00416	0.00106
Minimum	ND	ND	ND	ND	ND	ND	ND	ND
Mean	0.0015	0.0010	0.0017	0.0004	ID	0.0009	0.0012	0.0004
Standard Deviation	0.0022	0.0009	0.0023	0.0006	ID	0.0006	0.0008	0.0004
Median	0.001	0.000893	0.001	0.0001	ID	0.000633	0.001	0.000322
Total Vanadium, mg/L								
No. of Analyses	18	8	20	8	12	6	15	8
No. of Detections	10	8	1	6	0	5	1	7
Maximum	0.00307	0.00331	0.00307	0.00269	ND	0.00212	0.00387	0.00111
Minimum	ND	0.00199	ND	ND	ND	ND	ND	ND
Mean	0.0017	0.0023	0.0011	0.0008	ID	0.0016	0.0012	0.0006
Standard Deviation	0.0007	0.0004	0.0005	0.0010	ID	0.0004	0.0007	0.0004
Median	0.002055	0.00214	0.001	0.000248	ID	0.001605	0.001	0.000439
Benzene, ug/L								
No. of Analyses	72	8	75	8	45	6	36	8
No. of Detections	0	0	1	1	0	0	0	0
Maximum	ND	ND	0.36	0.11	ND	ND	ND	ND
Minimum	ND	ND	ND	ND	ND	ND	ND	ND
Mean	ID	ID	0.10	0.06	ID	ID	ID	ID
Standard Deviation	ID	ID	0.03	0.03	ID	ID	ID	ID
Median	ID	ID	0.1	0.05	ID	ID	ID	ID
Total Vanadium, mg/L								
No. of Analyses	18	8	20	8	12	6	15	8
No. of Detections	10	8	1	6	0	5	1	7
Maximum	0.00307	0.00331	0.00307	0.00269	ND	0.00212	0.00387	0.00111
Minimum	ND	0.00199	ND	ND	ND	ND	ND	ND
Mean	0.0017	0.0023	0.0011	0.0008	ID	0.0016	0.0012	0.0006
Standard Deviation	0.0007	0.0004	0.0005	0.0010	ID	0.0004	0.0007	0.0004
Median	0.002055	0.00214	0.001	0.000248	ID	0.001605	0.001	0.000439
Benzene, ug/L								
No. of Analyses	72	8	75	8	45	6	36	8
No. of Detections	0	0	1	1	0	0	0	0
Maximum	ND	ND	0.36	0.11	ND	ND	ND	ND
Minimum	ND	ND	ND	ND	ND	ND	ND	ND
Mean	ID	ID	0.10	0.06	ID	ID	ID	ID
Standard Deviation	ID	ID	0.03	0.03	ID	ID	ID	ID
Median	ID	ID	0.1	0.05	ID	ID	ID	ID
Dichlorodifluoromethane, ug/L								
No. of Analyses	72	8	74	8	45	6	36	8
No. of Detections	11	0	68	8	0	0	0	0
Maximum	0.67	ND	32	6.31	ND	ND	ND	ND
Minimum	ND	ND	ND	0.423	ND	ND	ND	ND
Mean	0.2	ID	6.1	3.9	ID	ID	ID	ID
Standard Deviation	0.1	ID	6.8	2.0	ID	ID	ID	ID
Median	0.1	ID	4.305	4.24	ID	ID	ID	ID
1,1-Dichloroethane, ug/L								
No. of Analyses	72	8	75	8	45	6	36	8
No. of Detections	71	8	70	8	44	6	1	6
Maximum	13	2.07	2.1	0.836	13	2.16	0.21	0.163
Minimum	ND	1.46	ND	0.555	ND	0.548	ND	ND
Mean	5.09	1.65	0.53	0.67	2.96	1.35	0.10	0.13
Standard Deviation	3.29	0.22	0.26	0.10	2.65	0.54	0.02	0.04
Median	3.68	1.57	0.483	0.6705	2	1.365	0.1	0.135

Table 4-2c
Statistical Summary of Perched Zones
Groundwater Data

Well Location	MW-30A Long	MW-30A Short	MW-47 Long	MW-47 Short	MW-62 Long	MW-62 Short	MW-101 Long	MW-101 Short
				Perched Wells				
1,2-Dichloroethane, ug/L								
No. of Analyses	72	8	75	8	45	6	36	8
No. of Detections	13	0	1	6	0	0	1	6
Maximum	0.52	ND	0.441	0.2	ND	ND	0.22	0.22
Minimum	ND	ND	ND	ND	ND	ND	ND	ND
Mean	0.15	ID	0.10	0.13	ID	ID	0.10	0.15
Standard Deviation	0.12	ID	0.04	0.05	ID	ID	0.02	0.06
Median	0.1	ID	0.1	0.127	ID	ID	0.1	0.1705
cis 1,2-Dichloroethene, ug/L								
No. of Analyses	72	8	75	8	45	6	36	8
No. of Detections	72	8	71	8	45	6	3	8
Maximum	20	3.77	11	4.32	14	6.24	0.23	0.238
Minimum	1.92	1.9	ND	1.21	1.17	1.31	ND	0.187
Mean	8.47	2.68	1.32	2.49	4.79	3.79	0.11	0.21
Standard Deviation	5.42	0.87	1.43	1.02	3.00	1.67	0.03	0.02
Median	6.62	2.25	0.82	2.555	4.05	3.85	0.1	0.214
Tetrachloroethene, ug/L								
No. of Analyses	72	8	75	8	45	6	36	8
No. of Detections	0	5	0	0	0	0	0	0
Maximum	ND	0.121	ND	ND	ND	ND	ND	ND
Minimum	ND	ND	ND	ND	ND	ND	ND	ND
Mean	ID	0.10	ID	ID	ID	ID	ID	ID
Standard Deviation	ID	0.03	ID	ID	ID	ID	ID	ID
Median	ID	0.105	ID	ID	ID	ID	ID	ID
Toluene, ug/L								
No. of Analyses	72	8	75	8	45	6	36	8
No. of Detections	0	0	0	0	1	0	0	0
Maximum	ND	ND	ND	ND	0.518	ND	ND	ND
Minimum	ND	ND	ND	ND	ND	ND	ND	ND
Mean	ID	ID	ID	ID	0.11	ID	ID	ID
Standard Deviation	ID	ID	ID	ID	0.06	ID	ID	ID
Median	ID	ID	ID	ID	0.1	ID	ID	ID
Trichloroethene, ug/L								
No. of Analyses	72	8	75	8	45	6	36	8
No. of Detections	72	8	1	0	11	4	0	0
Maximum	2.2	1.08	0.23	ND	0.47	0.14	ND	ND
Minimum	0.751	0.62	ND	ND	ND	ND	ND	ND
Mean	1.31	0.87	0.10	ID	0.14	0.11	ID	ID
Standard Deviation	0.30	0.16	0.02	ID	0.08	0.03	ID	ID
Median	1.3	0.9285	0.1	ID	0.1	0.119	ID	ID
Vinyl Chloride, ug/L								
No. of Analyses	72	8	75	8	45	6	36	8
No. of Detections	11	0	75	8	2	0	35	8
Maximum	0.38	ND	12	6.38	0.23	ND	0.9	0.448
Minimum	ND	ND	1.4	2.95	ND	ND	ND	0.223
Mean	0.02	ID	5.25	5.04	0.02	ID	0.46	0.36
Standard Deviation	0.05	ID	1.96	1.17	0.03	ID	0.22	0.08
Median	0.01	ID	5.16	5.275	0.01	ID	0.4665	0.386

Table 4-3a
Regional Aquifer Upgradient Groundwater
Trend Test Results

Parameter	Well Location and Trend Length Type	MW-24 Long	MW-24 Short	MW-56 Long	MW-56 Short	MW-59 Long	MW-59 Short	MW-65 Long	MW-65 Short	MW-76 Long	MW-76 Short	MW-82 Long	MW-82 Short	MW-83 Long	MW-83 Short	MW-94 Long	MW-94 Short	MW-64 Long	MW-64 Short	MW-21 Long	MW-21 Short	MW-66 Long	MW-66 Short	MW-73 Long	MW-73 Short	MW-84 Long	MW-84 Short	MW-81 Long	MW-81 Short	MW-93 Long	MW-93 Short	MW-95 Long	MW-95 Short
		Upgradient and Crossgradient																															
Total Arsenic, mg/L	Trend	--	--	D	--	--	D	I	--	--	--	--	--	--	--	--	D	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Total Barium, mg/L	Trend	--	--	D	--	I	--	--	--	--	--	I	--	I	--	--	--	--	--	I	--	D	--	--	--	I	I	--	--	--	D	--	--
Total Antimony, mg/L	Trend	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Total Berryllium, mg/L	Trend	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Total Cadmium, mg/L	Trend	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Total Chromium, mg/L	Trend	--	--	--	--	--	D	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Total Cobalt, mg/L	Trend	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	D	--	--	--	--	--	--	--	--	--	--	--	--	--	D	--	--
Total Copper, mg/L	Trend	--	--	--	--	--	D	--	--	--	--	--	--	I	--	--	--	--	--	--	--	--	--	D	--	--	--	--	--	--	--	--	--
Total Lead, mg/L	Trend	--	--	D	--	--	D	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Total Nickel, mg/L	Trend	--	--	--	--	--	D	--	--	--	--	--	--	--	--	--	D	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Total Selenium, mg/L	Trend	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Total Silver, mg/L	Trend	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Total Thallium, mg/L	Trend	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Total Vanadium, mg/L	Trend	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	I	--	--	--	--	--	--	--	--	--	--	--	--	I	--	--	--
Total Zinc, mg/L	Trend	--	--	D	--	--	D	--	--	--	--	--	--	--	D	--	--	--	--	--	--	D	--	--	--	--	--	--	--	D	--	--	--
Nitrate as N, mg/L	Trend	D	--	--	--	D	D	D	--	D	--	D	--	--	--	--	--	D	--	D	--	I	--	--	--	D	--	--	--	D	--	D	--
Dichlorodifluoromethane, ug/L	Trend	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
cis 1,2-Dichloroethene, ug/L	Trend	--	--	--	--	I	--	--	--	D	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Tetrachloroethene, ug/L	Trend	--	--	--	--	--	--	--	--	D	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Trichloroethene, ug/L	Trend	--	--	--	--	--	--	--	--	D	--	D	--	--	--	D	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Vinyl Chloride, ug/L	Trend	--	--	--	--	--	--	D	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--

D	Decreasing Trend
I	Increasing Trend
--	No Trend

Table 4-3a (cont.)
Regional Aquifer Upgradient Groundwater
Trend Test Results

Parameter	Well Location and Trend Length Type	MW-24 Long	MW-24 Short	MW-56 Long	MW-56 Short	MW-59 Long	MW-59 Short	MW-65 Long	MW-65 Short	MW-76 Long	MW-76 Short	MW-82 Long	MW-82 Short	MW-83 Long	MW-83 Short	MW-94 Long	MW-94 Short	MW-64 Long	MW-64 Short	MW-21 Long	MW-21 Short	MW-66 Long	MW-66 Short	MW-73 Long	MW-73 Short	MW-84 Long	MW-84 Short	MW-81 Long	MW-81 Short	MW-93 Long	MW-93 Short	MW-95 Long	MW-95 Short
		Upgradient and Crossgradient																															
pH, (Field) Standard Units	Trend	I	--	--	--	--	--	--	--	--	--	--	--	D	--	--	--	D	--	--	--	--	--	--	--	--	--	--	--	D	--	--	--
Specific Conductance, (Field) uS/cm	Trend	D	--	--	--	I	--	--	--	I	--	I	--	I	--	I	--	--	--	--	--	I	--	D	--	I	--	--	--	I	--	--	--
Total Dissolved Solids, mg/L	Trend	--	--	I	--	I	--	I	--	I	--	I	--	I	--	I	--	I	--	I	--	I	--	--	--	I	--	I	--	I	D	I	--
Alkalinity, total (CaCO3), mg/L	Trend	D	--	--	--	--	--	I	--	I	--	I	--	I	--	I	--	I	--	I	--	I	--	D	--	I	--	--	--	I	--	--	--
Ammonia as N, mg/L	Trend	--	--	D	--	D	--	D	--	D	--	D	--	D	--	D	--	D	--	D	--	D	--	D	--	D	--	D	--	I	--	I	--
Chloride, mg/L	Trend	I	--	I	--	I	I	--	--	I	--	I	--	I	--	I	--	D	--	D	--	D	--	--	--	I	--	I	I	--	--	I	--
Nitrate as N, mg/L	Trend	D	--	--	--	D	D	D	--	D	--	D	--	--	--	--	--	D	--	D	--	I	--	--	--	D	--	--	--	D	--	D	--
Sulfate, mg/L	Trend	D	--	--	--	I	D	--	--	--	--	I	--	D	--	D	--	--	--	--	--	I	--	D	--	I	--	D	I	I	D	--	--
Dissolved Iron, mg/L	Trend	D	--	D	--	--	I	--	--	D	--	D	--	D	--	D	--	D	--	D	--	D	--	D	--	D	--	D	--	D	--	D	--
Dissolved Manganese, mg/L	Trend	D	--	--	--	--	--	D	--	--	--	--	--	--	--	--	--	I	--	D	--	--	--	--	--	--	--	--	--	--	--	I	--
Dissolved Calcium, mg/L	Trend	D	--	I	--	--	I	--	--	I	--	I	--	I	--	I	--	--	--	I	--	I	--	D	--	--	--	--	I	I	--	--	--
Dissolved Magnesium, mg/L	Trend	D	--	--	--	--	I	I	--	I	--	I	--	I	--	I	--	I	--	I	--	I	--	D	--	I	--	I	I	I	--	--	--
Dissolved Potassium, mg/L	Trend	D	--	--	--	I	I	--	--	I	--	I	--	I	--	I	--	I	--	I	--	I	--	D	--	I	--	--	--	I	--	--	--
Dissolved Sodium, mg/L	Trend	D	--	I	--	--	--	--	--	--	--	I	--	I	--	I	--	I	--	--	--	I	--	D	--	I	I	--	--	I	--	D	--

D	Decreasing Trend
I	Increasing Trend
--	No Trend

Table 4-3b
Regional Aquifer Downgradient Groundwater
Trend Test Results

Parameter	Well Location and Trend Length Type	MW-100 Long	MW-100 Short	MW-68 Long	MW-68 Short	MW-67 Long	MW-67 Short	MW-72 Long	MW-72 Short	MW-69 Long	MW-69 Short	MW-74 Long	MW-74 Short	MW-75 Long	MW-75 Short	MW-80 Long	MW-80 Short	MW-87 Long	MW-87 Short	MW-85 Long	MW-85 Short	MW-86 Long	MW-86 Short	MW-88 Long	MW-88 Short	MW-89 Long	MW-89 Short
		Downgradient																									
Total Arsenic, mg/L	Trend	--	--	I	D	--	--	--	--	D	--	--	--	--	--	I	--	I	D	--	--	--	--	--	--	--	--	--
Total Barium, mg/L	Trend	--	--	--	D	I	--	I	I	D	--	I	--	I	--	I	--	I	D	I	--	--	--	--	--	--	I	--
Total Antimony, mg/L	Trend	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Total Berryllium, mg/L	Trend	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Total Cadmium, mg/L	Trend	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Total Chromium, mg/L	Trend	--	--	--	D	--	--	--	--	--	--	--	--	--	--	--	--	--	D	--	--	--	--	--	--	--	--	--
Total Cobalt, mg/L	Trend	--	--	--	D	--	--	--	--	--	--	--	--	--	--	--	--	--	D	--	--	--	--	--	--	--	--	--
Total Copper, mg/L	Trend	--	--	--	D	--	--	--	--	--	--	--	--	--	--	--	--	--	D	--	--	--	--	--	--	--	--	--
Total Lead, mg/L	Trend	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	D	--	--	--	--	--	--	--	--	--
Total Nickel, mg/L	Trend	--	--	--	D	--	--	--	--	--	--	--	D	--	--	--	D	--	D	--	--	--	--	--	--	--	--	--
Total Selenium, mg/L	Trend	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	D	--	--	--	--	--	--	--
Total Silver, mg/L	Trend	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Total Thallium, mg/L	Trend	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Total Vanadium, mg/L	Trend	--	--	--	D	--	--	--	--	--	--	--	--	--	--	--	--	I	D	--	--	--	--	--	--	--	--	--
Total Zinc, mg/L	Trend	--	--	--	D	--	--	--	--	--	D	--	D	--	D	--	D	--	D	--	--	--	--	--	--	--	I	--
Nitrate as N, mg/L	Trend	D	--	D	--	D	--	D	--	D	--	I	--	D	--	--	--	D	--	D	--	I	--	I	--	D	--	--
Dichlorodifluoromethane, ug/L	Trend	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
cis 1,2-Dichloroethene, ug/L	Trend	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Tetrachloroethene, ug/L	Trend	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Trichloroethene, ug/L	Trend	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Vinyl Chloride, ug/L	Trend	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--

D	Decreasing Trend
I	Increasing Trend
--	No Trend

Table 4-3b (cont.)
Regional Aquifer Downgradient Groundwater
Trend Test Results

Parameter	Well Location and Trend Length Type	MW-100 Long	MW-100 Short	MW-68 Long	MW-68 Short	MW-67 Long	MW-67 Short	MW-72 Long	MW-72 Short	MW-69 Long	MW-69 Short	MW-74 Long	MW-74 Short	MW-75 Long	MW-75 Short	MW-80 Long	MW-80 Short	MW-87 Long	MW-87 Short	MW-85 Long	MW-85 Short	MW-86 Long	MW-86 Short	MW-88 Long	MW-88 Short	MW-89 Long	MW-89 Short
		Downgradient																									
pH, (Field) Standard Units	Trend	--	--	D	--	--	--	D	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Specific Conductance, (Field) uS/cm	Trend	D	--	D	--	I	--	--	--	D	--	I	--	I	I	I	--	D	--	I	I	D	--	--	--	--	--
Total Dissolved Solids, mg/L	Trend	D	--	D	--	I	--	I	--	--	--	I	--	I	I	I	--	I	I	I	--	--	--	I	--	I	--
Alkalinity, total (CaCO3), mg/L	Trend	--	--	D	--	I	--	I	--	I	I	I	--	I	--	I	--	--	I	I	I	D	--	I	--	--	--
Ammonia as N, mg/L	Trend	D	--	--	--	D	--	--	--	--	--	D	--	D	--	--	--	--	--	D	--	D	--	D	--	--	--
Chloride, mg/L	Trend	D	--	D	--	I	--	I	I	--	--	--	--	I	--	I	D	I	I	I	--	--	--	I	--	I	--
Nitrate as N, mg/L	Trend	D	--	D	--	D	--	D	--	D	--	I	--	D	--	--	--	D	--	D	--	I	--	I	--	D	--
Sulfate, mg/L	Trend	D	--	--	--	I	--	I	--	D	--	I	--	I	--	--	--	I	--	I	--	D	--	I	--	--	--
Dissolved Iron, mg/L	Trend	D	--	D	--	I	--	--	--	D	--	D	--	D	--	I	--	I	--	D	--	D	--	D	--	I	--
Dissolved Manganese, mg/L	Trend	I	--	--	I	I	--	I	I	I	I	D	--	I	--	I	I	I	--	--	--	D	--	--	--	D	--
Dissolved Calcium, mg/L	Trend	D	--	D	--	I	--	I	I	--	I	I	--	I	I	I	--	I	I	I	I	D	--	--	--	--	--
Dissolved Magnesium, mg/L	Trend	D	--	D	--	I	--	I	I	--	I	I	--	I	I	I	--	I	I	I	I	--	--	--	--	I	--
Dissolved Potassium, mg/L	Trend	I	--	--	--	I	--	I	I	--	--	I	--	I	--	I	--	I	--	I	I	--	--	--	--	--	--
Dissolved Sodium, mg/L	Trend	--	--	--	--	I	--	I	--	--	I	I	--	I	--	I	I	I	I	I	--	--	--	--	--	--	--

D	Decreasing Trend
I	Increasing Trend
--	No Trend

Table 4-3c
Perched Zones Groundwater Trend Test Reults

Parameter	Well Location and Trend Length Type	MW-30A Long	MW-30A Short	MW-47 Long	MW-47 Short	MW-62 Long	MW-62 Short	MW-101 Long	MW-101 Short
		East Perched Zone						SSWA	
Total Arsenic, mg/L	Trend	--	--	--	--	--	--	--	--
Total Barium, mg/L	Trend	--	--	--	--	--	--	--	--
Total Antimony, mg/L	Trend	--	--	--	--	--	--	--	--
Total Berryllium, mg/L	Trend	--	--	--	--	--	--	--	--
Total Cadmium, mg/L	Trend	--	--	--	--	--	--	--	--
Total Chromium, mg/L	Trend	--	--	--	--	--	--	--	--
Total Cobalt, mg/L	Trend	--	--	--	--	--	--	--	--
Total Copper, mg/L	Trend	--	--	--	--	--	--	--	--
Total Lead, mg/L	Trend	--	--	--	--	--	--	--	--
Total Nickel, mg/L	Trend	--	--	--	--	--	--	--	D
Total Selenium, mg/L	Trend	--	--	--	--	--	--	--	--
Total Silver, mg/L	Trend	--	--	--	--	--	--	--	--
Total Thallium, mg/L	Trend	--	--	--	--	--	--	--	--
Total Vanadium, mg/L	Trend	--	--	--	--	--	--	--	--
Total Zinc, mg/L	Trend	--	--	--	--	--	--	--	--
Nitrate as N, mg/L	Trend	I	--	D	--	D	--	--	--
1,1-Dichloroethane, ug/L	Trend	D	--	I	--	D	--	--	--
1,2-Dichloroethane, ug/L	Trend	D	--	--	--	--	--	--	--
cis 1,2-Dichloroethene, ug/L	Trend	D	--	I	--	D	--	--	--
1,2-Dichloropropane, ug/L	Trend	D	--	--	--	--	--	--	--
Tetrachloroethene, ug/L	Trend	--	--	--	--	--	--	--	--
Trichloroethene, ug/L	Trend	D	--	--	--	D	--	--	--
Vinyl Chloride, ug/L	Trend	--	--	I	D	D	--	D	--

D	Decreasing Trend
I	Increasing Trend
--	No Trend

Table 4-3c (cont.)
Perched Zones Groundwater Trend Test Reults

Parameter	Well Location and Trend Length Type	MW-30A Long	MW-30A Short	MW-47 Long	MW-47 Short	MW-62 Long	MW-62 Short	MW-101 Long	MW-101 Short
		East Perched Zone						SSWA	
Total Arsenic, mg/L	Trend	--	--	--	--	--	--	--	--
Total Barium, mg/L	Trend	--	--	--	--	--	--	--	--
Total Antimony, mg/L	Trend	--	--	--	--	--	--	--	--
Total Berryllium, mg/L	Trend	--	--	--	--	--	--	--	--
Total Cadmium, mg/L	Trend	--	--	--	--	--	--	--	--
Total Chromium, mg/L	Trend	--	--	--	--	--	--	--	--
Total Cobalt, mg/L	Trend	--	--	--	--	--	--	--	--
Total Copper, mg/L	Trend	--	--	--	--	--	--	--	--
Total Lead, mg/L	Trend	--	--	--	--	--	--	--	--
Total Nickel, mg/L	Trend	--	--	--	--	--	--	--	D
Total Selenium, mg/L	Trend	--	--	--	--	--	--	--	--
Total Silver, mg/L	Trend	--	--	--	--	--	--	--	--
Total Thallium, mg/L	Trend	--	--	--	--	--	--	--	--
Total Vanadium, mg/L	Trend	--	--	--	--	--	--	--	--
Total Zinc, mg/L	Trend	--	--	--	--	--	--	--	--
Nitrate as N, mg/L	Trend	I	--	D	--	D	--	--	--
1,1-Dichloroethane, ug/L	Trend	D	--	I	--	D	--	--	--
1,2-Dichloroethane, ug/L	Trend	D	--	--	--	--	--	--	--
cis 1,2-Dichloroethene, ug/L	Trend	D	--	I	--	D	--	--	--
1,2-Dichloropropane, ug/L	Trend	D	--	--	--	--	--	--	--
Tetrachloroethene, ug/L	Trend	--	--	--	--	--	--	--	--
Trichloroethene, ug/L	Trend	D	--	--	--	D	--	--	--
Vinyl Chloride, ug/L	Trend	--	--	I	D	D	--	D	--

D	Decreasing Trend
I	Increasing Trend
--	No Trend

Table 4-4a
CEDAR HILLS REGIONAL LANDFILL REGIONAL AQUIFER QUARTERLY MONITORING WELLS
SUMMARY OF WAC 173-351 APPENDIX I INTRAWELL PREDICTION LIMIT VALUES
(Data Collected from January 1, 2018 to March 31, 2018)

Parameter		Total Antimony	Total Arsenic	Total Barium	Total Beryllium	Total Cadmium	Total Chromium	Total Cobalt	Total Copper	Total Lead	Total Nickel	Total Selenium	Total Silver	Total Thallium	Total Vanadium	Total Zinc	Nitrate as N	*cis*-1,2-Dichloroethene	Tetrachloroethene	Trichloroethene	Vinyl Chloride
Well	Units	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	ug/L	*ug/L*	ug/L	ug/L
Upgradient and Crossgradient Wells																					
MW-59	Limit	0.001	0.001	0.0055	0.001	0.002	0.005	0.003	0.002	0.001	0.01	0.001	0.003	0.001	0.002	0.00748	0.29	1.37	0.2	0.45	0.02
	Result	< 0.0003	0.000422	0.00372	< 0.0001	< 0.00005	< 0.0002	< 0.00005	< 0.0002	< 0.0001	0.00025	< 0.0005	< 0.00004	< 0.0001	< 0.000075	0.00138	< 0.01	1.20	< 0.1	< 0.1	< 0.01
MW-66	Limit	0.001	0.001	0.0065	0.001	0.002	0.005	0.003	0.002	0.001	0.01	0.00104	0.003	0.001	0.002	0.004	0.881329	0.2	0.2	0.2	0.02
	Result	< 0.0003	0.000654	0.0050	< 0.0001	< 0.00005	0.000236	< 0.00005	< 0.0002	< 0.0001	0.000249	0.001	< 0.00004	< 0.0001	0.000666	0.00181	0.519	< 0.1	< 0.1	< 0.1	< 0.01
MW-81	Limit	0.001	0.001	0.0049	0.001	0.002	0.005	0.003	0.002	0.001	0.01	0.00104	0.003	0.001	0.00253	0.00895	1.77	0.2	0.2	0.2	0.02
	Result	< 0.0003	0.000541	0.0031	< 0.0001	< 0.00005	< 0.0002	< 0.00005	< 0.0002	< 0.0001	0.000142	0.000904	< 0.00004	< 0.0001	0.00167	0.000602	1.34	< 0.1	< 0.1	< 0.1	< 0.01
MW-83	Limit	0.001	0.001	0.0110	0.001	0.002	0.005	0.003	0.00549	0.001	0.01	0.001	0.003	0.001	0.002	0.004	4.11	0.2	0.2	3.03	0.02
	Result	< 0.0003	0.000428	0.0097	< 0.0001	< 0.00005	< 0.0002	0.000279	**0.00601**	< 0.0001	0.00284	< 0.0005	< 0.00004	< 0.0001	0.000847	0.000699	1.45	< 0.1	< 0.1	1.49	< 0.01
MW-84	Limit	0.001	0.001	0.0041	0.001	0.002	0.005	0.003	0.002	0.001	0.01	0.001	0.003	0.001	0.002	0.004	0.739614	0.2	0.2	0.2	0.02
	Result	< 0.0003	0.000353	**0.00412**	< 0.0001	< 0.00005	< 0.0002	< 0.00005	< 0.0002	< 0.0001	0.00145	0.000878	< 0.00004	< 0.0001	0.000485	0.000697	0.151	< 0.1	< 0.1	< 0.1	< 0.01
MW-93	Limit	0.001	0.001435	0.0096	0.001	0.002	0.005	0.003	0.002	0.001	0.01	0.001	0.003	0.001	0.00231	0.0112	0.21	0.2	0.2	0.2	0.02
	Result	< 0.0003	0.00136	0.0080	< 0.0001	< 0.00005	0.000429	9.78E-05	< 0.0002	< 0.0001	0.00041	< 0.0005	< 0.00004	< 0.0001	0.00229	0.0010	0.015	< 0.1	< 0.1	< 0.1	< 0.01
MW-94	Limit	0.001	0.001	0.0050	0.001	0.002	0.005	0.003	0.0051	0.001	0.01	0.001	0.003	0.001	0.002	0.004	2.295128	0.2	0.2	4.71	0.02
	Result	< 0.0003	0.000148	0.0027	< 0.0001	< 0.00005	0.00066	0.00017	0.00102	< 0.0001	0.00069	< 0.0005	< 0.00004	< 0.0001	0.000953	< 0.0005	0.297	< 0.1	< 0.1	2.61	< 0.01
Downgradient Wells																					
MW-68	Limit	0.001	0.495	0.0197	0.001	0.002	0.005	0.003	0.00737	0.001	0.01	0.001	0.003	0.001	0.0037	0.004	0.13	0.2	0.2	0.2	0.02
	Result	< 0.0003	0.021	0.0108	< 0.0001	< 0.00005	0.000235	0.000257	0.0008	< 0.0001	0.000755	< 0.0005	< 0.00004	< 0.0001	0.000398	0.00141	< 0.01	< 0.1	< 0.1	< 0.1	< 0.01
MW-69	Limit	0.001	0.004	0.0144	0.001	0.002	0.005	0.003	0.002	0.001	0.01	0.001	0.003	0.001	0.002	0.0112	0.076	0.2	0.2	0.2	0.02
	Result	< 0.0003	0.002	0.0124	< 0.0001	< 0.00005	0.000266	< 0.00005	< 0.0002	< 0.0001	0.000248	< 0.0005	< 0.00004	< 0.0001	< 0.000075	< 0.0005	< 0.01	< 0.1	< 0.1	< 0.1	< 0.01
MW-72	Limit	0.001	0.001	0.0156	0.001	0.002	0.005	0.003	0.00331	0.00104	0.01	0.001	0.003	0.001	0.002	0.0201	0.15	0.2	0.2	0.2	0.02
	Result	< 0.0003	0.000	0.0118	< 0.0001	< 0.00005	0.000785	< 0.00005	0.0002	< 0.0001	0.000234	< 0.0005	< 0.00004	< 0.0001	< 0.000075	0.0017	< 0.01	< 0.1	< 0.1	< 0.1	< 0.01
MW-74	Limit	0.001	0.001	0.0171	0.001	0.002	0.005	0.003	0.002	0.001	0.01	0.00104	0.003	0.001	0.002	0.004	0.487	0.2	0.2	0.2	0.02
	Result	< 0.0003	0.000	0.0125	< 0.0001	< 0.00005	< 0.0002	< 0.00005	0.000213	< 0.0001	0.00112	0.000614	< 0.00004	< 0.0001	0.0006	< 0.0005	0.3	< 0.1	< 0.1	< 0.1	< 0.01
MW-75	Limit	0.001	0.001	0.0134	0.001	0.002	0.005	0.003	0.002	0.001	0.01	0.001	0.003	0.001	0.002	0.004	0.11	0.2	0.2	0.2	0.02
	Result	< 0.0003	0.001	0.0119	< 0.0001	< 0.00005	< 0.0002	< 0.00005	< 0.0002	< 0.0001	< 0.0001	< 0.0005	< 0.00004	< 0.0001	< 0.000075	0.000577	< 0.01	< 0.1	< 0.1	< 0.1	< 0.01
MW-80	Limit	0.001	0.039	0.0230	0.001	0.002	0.005	0.003	0.002	0.001	0.01	0.001	0.003	0.001	0.002	0.0117	0.028	0.2	0.2	0.2	0.02
	Result	< 0.0003	0.004	0.0135	< 0.0001	< 0.00005	< 0.0002	< 0.00005	< 0.0002	< 0.0001	0.000136	< 0.0005	< 0.00004	< 0.0001	< 0.000075	0.000548	< 0.01	< 0.1	< 0.1	< 0.1	< 0.01
MW-85	Limit	0.001	0.001	0.0071	0.001	0.002	0.005	0.003	0.002	0.001	0.01	0.00132	0.003	0.001	0.002	0.004	1.630	0.2	0.2	0.2	0.02
	Result	< 0.0003	0.001	0.00622	< 0.0001	< 0.00005	< 0.0002	< 0.00005	< 0.0002	< 0.0001	0.000235	0.00104	< 0.00004	< 0.0001	0.0009	< 0.0005	0.107	< 0.1	< 0.1	< 0.1	< 0.01
MW-87	Limit	0.001	0.027	0.0409	0.001	0.002	0.005	0.003	0.00347	0.001	0.01	0.001	0.003	0.001	0.005	0.004	0.24	0.2	0.2	0.2	0.02
	Result	< 0.0003	0.005	0.0264	< 0.0001	< 0.00005	0.000225	0.000128	0.000389	0.000109	0.000208	< 0.0005	< 0.00004	< 0.0001	0.0012	0.000733	< 0.01	< 0.1	< 0.1	< 0.1	< 0.01

Results greater than Limit Value in **Bold**
F2 Secondary Federal Drinking Water Quality Standard
SGW State of Washington Ground Water Quality Standard
See Revised Data Qualifier List for Qualifier Information

Table 4-4a (cont.)
CEDAR HILLS REGIONAL LANDFILL REGIONAL AQUIFER QUARTERLY MONITORING WELLS
SUMMARY OF WAC 173-351 APPENDIX I INTRAWELL PREDICTION LIMIT VALUES
(Data Collected from April 1, 2018 - June 30, 2018)

Well	Parameter / Units	Total Antimony mg/L	Total Arsenic mg/L	Total Barium mg/L	Total Beryllium mg/L	Total Cadmium mg/L	Total Chromium mg/L	Total Cobalt mg/L	Total Copper mg/L	Total Lead mg/L	Total Nickel mg/L	Total Selenium mg/L	Total Silver mg/L	Total Thallium mg/L	Total Vanadium mg/L	Total Zinc mg/L	Nitrate as N mg/L	*cis*-1,2-Dichloroethene ug/L	Tetrachloroethene *ug/L*	Trichloroethene ug/L	Vinyl Chloride ug/L
Upgradient and Crossgradient Wells																					
MW-21	Limit	0.001	0.00111	0.005323	0.001	0.002	0.005	0.003	0.002	0.001	0.01	0.001	0.003	0.001	0.002	0.004	1.9	0.2	0.2	0.2	0.02
	Result	< 0.0003	0.000974	0.00449	< 0.0001	< 0.00005	< 0.0002	< 0.00005	< 0.0002	< 0.0001	0.000137	< 0.0005	< 0.00004	< 0.0001	< 0.000075	< 0.0005	< 0.01	< 0.1	< 0.1	< 0.1	< 0.01
MW-24	Limit	0.001	0.001	0.002127	0.001	0.002	0.005	0.003	0.002	0.001	0.01	0.001	0.003	0.001	0.002	0.004	1	0.39	0.2	0.2	0.02
	Result	< 0.0003	0.000591	0.00193	< 0.0001	< 0.00005	< 0.0002	< 0.00005	< 0.0002	< 0.0001	< 0.0001	< 0.0005	< 0.00004	< 0.0001	< 0.000075	< 0.0005	< 0.01	< 0.1	< 0.1	< 0.1	< 0.01
MW-56	Limit	0.001	0.0025	0.0478	0.001	0.002	0.00755	0.00389	0.0154	0.0033	0.01	0.001	0.00694	0.001	0.0178	0.0478	2.78	1.857244	0.2	0.2	0.02
	Result	< 0.0003	8.44E-05	0.00429	< 0.0001	< 0.00005	< 0.0002	9.34E-05	0.000219	< 0.0001	0.000393	< 0.0005	< 0.00004	< 0.0001	0.000212	0.00164	1.33	1.30	< 0.1	< 0.1	< 0.01
MW-59	Limit	0.001	0.001	0.00548	0.001	0.002	0.005	0.003	0.002	0.001	0.01	0.001	0.003	0.001	0.002	0.00748	0.29	1.37	0.2	0.45	0.02
	Result	< 0.0003	0.000424	0.00383	< 0.0001	< 0.00005	< 0.0002	< 0.00005	0.000503	0.000123	0.000201	< 0.0005	< 0.00004	< 0.0001	< 0.000075	0.00316	0.017	1.25	< 0.1	< 0.1	< 0.01
MW-64	Limit	0.001	0.01	0.018047	0.001	0.002	0.005	0.00347	0.00512	0.001	0.0153	0.001	0.003	0.001	0.00606	0.0385	0.121	0.2	0.2	0.2	0.2
	Result	0.000489	0.00775	**0.0244**	< 0.0001	0.000479	0.000395	**0.00385**	0.00171	< 0.0001	0.0128	< 0.0005	< 0.00004	< 0.0001	0.00146	0.00422	0.016	< 0.1	< 0.1	< 0.1	< 0.01
MW-65	Limit	0.001	0.00242	0.00829	0.001	0.002	0.005	0.003	0.002	0.001	0.01	0.001	0.003	0.001	0.002	0.004	0.055	0.2	0.2	0.2	0.125823
	Result	< 0.0003	0.000843	0.00667	< 0.0001	< 0.00005	< 0.0002	< 0.00005	0.000222	< 0.0001	0.000139	< 0.0005	< 0.00004	< 0.0001	< 0.000075	0.000756	0.012	< 0.1	< 0.1	< 0.1	0.03
MW-66	Limit	0.001	0.001	0.00649	0.001	0.002	0.005	0.003	0.002	0.001	0.01	0.00104	0.003	0.001	0.002	0.004	0.881329	0.2	0.2	0.2	0.02
	Result	< 0.0003	0.000651	0.00518	< 0.0001	< 0.00005	0.000228	< 0.00005	< 0.0002	< 0.0001	0.000222	0.0009	< 0.00004	< 0.0001	0.000706	0.00152	0.54	< 0.1	< 0.1	< 0.1	< 0.01
MW-68	Limit	0.001	0.495195	0.0197	0.001	0.002	0.005	0.003	0.00737	0.001	0.01	0.001	0.003	0.001	0.0037	0.004	0.13	0.2	0.2	0.2	0.02
	Result	< 0.0003	0.0161	0.0106	< 0.0001	< 0.00005	0.000213	0.000234	0.000507	< 0.0001	0.000616	< 0.0005	< 0.00004	< 0.0001	0.000332	0.000809	< 0.01	< 0.1	< 0.1	< 0.1	< 0.01
MW-73	Limit	0.001	0.001	0.0225	0.001	0.002	0.005	0.003	0.00363	0.001	0.01	0.001	0.003	0.001	0.002	0.004	2.01	0.2	0.2	0.2	0.02
	Result	< 0.0003	0.00034	0.003	< 0.0001	< 0.00005	0.00033	< 0.00005	0.00232	< 0.0001	0.000426	< 0.0005	< 0.00004	< 0.0001	0.00089	0.000666	0.458	< 0.1	< 0.1	< 0.1	< 0.01
MW-76	Limit	0.001	0.001	0.004549	0.001	0.002	0.005	0.003	0.002	0.001	0.01	0.001	0.003	0.001	0.002	0.004	4.06875	2.568972	0.670269	14.63846	0.02
	Result	< 0.0003	0.000186	0.00351	< 0.0001	< 0.00005	0.000731	5.24E-05	0.00116	< 0.0001	0.000372	< 0.0005	< 0.00004	< 0.0001	0.000584	< 0.0005	1.65	0.40	0.409	8.05	< 0.01
MW-81	Limit	0.001	0.001	0.00487	0.001	0.002	0.005	0.003	0.002	0.001	0.01	0.00104	0.003	0.001	0.00253	0.00895	1.77	0.2	0.2	0.2	0.02
	Result	< 0.0003	0.000548	0.00312	< 0.0001	< 0.00005	< 0.0002	< 0.00005	< 0.0002	< 0.0001	0.000108	0.000869	< 0.00004	< 0.0001	0.00169	0.000839	1.34	< 0.1	< 0.1	< 0.1	< 0.01
MW-82	Limit	0.001	0.001	0.004789	0.001	0.002	0.005	0.003	0.002	0.001	0.01	0.001	0.003	0.001	0.002	0.004	1.40957	0.2	0.2	8.9	0.02
	Result	< 0.0003	0.000249	0.00131	< 0.0001	< 0.00005	0.00102	< 0.00005	0.00026	< 0.0001	0.00174	< 0.0005	< 0.00004	< 0.0001	0.00131	0.000768	0.658	< 0.1	< 0.1	5.28	< 0.01
MW-83	Limit	0.001	0.001	0.011036	0.001	0.002	0.005	0.003	0.00549	0.001	0.01	0.001	0.003	0.001	0.002	0.004	4.107705	0.2	0.2	3.033524	0.02
	Result	< 0.0003	0.000309	0.00648	< 0.0001	< 0.00005	< 0.0002	0.000105	0.00215	< 0.0001	0.00158	< 0.0005	< 0.00004	< 0.0001	0.000779	0.000594	1.34	< 0.1	< 0.1	1.86	< 0.01
MW-84	Limit	0.001	0.001	0.00408	0.001	0.002	0.005	0.003	0.002	0.001	0.01	0.001	0.003	0.001	0.002	0.004	0.739614	0.2	0.2	0.2	0.02
	Result	< 0.0003	0.00037	0.00403	< 0.0001	< 0.00005	< 0.0002	5.43E-05	< 0.0002	< 0.0001	0.000364	0.000522	< 0.00004	< 0.0001	0.00056	0.0006	0.166	< 0.1	< 0.1	< 0.1	< 0.01
MW-93	Limit	0.001	0.001435	0.009592	0.001	0.002	0.005	0.003	0.002	0.001	0.01	0.001	0.003	0.001	0.00231	0.0112	0.21	0.2	0.2	0.2	0.02
	Result	< 0.0003	0.00135	0.00784	< 0.0001	< 0.00005	< 0.0002	0.000105	< 0.0002	< 0.0001	0.000222	< 0.0005	< 0.00004	< 0.0001	0.00212	0.00197	0.015	< 0.1	< 0.1	< 0.1	< 0.01
MW-94	Limit	0.001	0.001	0.005034	0.001	0.002	0.005	0.003	0.0051	0.001	0.01	0.001	0.003	0.001	0.002	0.004	2.295128	0.2	0.2	4.706212	0.02
	Result	< 0.0003	0.000146	0.00252	< 0.0001	< 0.00005	0.000217	7.42E-05	0.00125	< 0.0001	0.000532	< 0.0005	< 0.00004	< 0.0001	0.0011	0.000511	**2.71**	< 0.1	< 0.1	2.79	< 0.01
MW-95	Limit	0.001	0.00109	0.004505	0.001	0.002	0.005	0.003	0.002	0.001	0.01	0.001	0.003	0.001	0.002	0.004	0.01	0.2	0.2	0.2	0.02
	Result	< 0.0003	0.00109	0.00407	< 0.0001	< 0.00005	< 0.0002	7.77E-05	< 0.0002	< 0.0001	0.000188	< 0.0005	< 0.00004	< 0.0001	0.000372	< 0.0005	< 0.01	< 0.1	< 0.1	< 0.1	< 0.01

Results greater than Limit Value in **Bold Red**

Table 4-4a (cont.)

CEDAR HILLS REGIONAL LANDFILL REGIONAL AQUIFER QUARTERLY MONITORING WELLS

SUMMARY OF WAC 173-351 APPENDIX I INTRAWELL PREDICTION LIMIT VALUES

(Data Collected from April 1, 2018 - June 30, 2018)

	Parameter	Total Antimony	Total Arsenic	Total Barium	Total Beryllium	Total Cadmium	Total Chromium	Total Cobalt	Total Copper	Total Lead	Total Nickel	Total Selenium	Total Silver	Total Thallium	Total Vanadium	Total Zinc	Nitrate as N	*cis*-1,2-Dichloroethene	Tetrachloroethene	Trichloroethene	Vinyl Chloride
Downgradient																					
MW-67	Limit	0.001	0.00168	0.016008	0.001	0.002	0.005	0.003	0.002	0.001	0.01	0.001	0.003	0.001	0.002	0.004	3.4	0.2	0.2	0.2	0.02
	Result	< 0.0003	0.0011	0.0142	< 0.0001	< 0.00005	< 0.0002	0.000273	0.000285	< 0.0001	0.000484	< 0.0005	< 0.00004	< 0.0001	0.000594	0.000629	0.112	< 0.1	< 0.1	< 0.1	< 0.01
MW-69	Limit	0.001	0.00386	0.014394	0.001	0.002	0.005	0.003	0.002	0.001	0.01	0.001	0.003	0.001	0.002	0.0112	0.076	0.2	0.2	0.2	0.02
	Result	< 0.0003	0.00237	0.0113	< 0.0001	< 0.00005	< 0.0002	< 0.00005	< 0.0002	< 0.0001	< 0.0001	< 0.0005	< 0.00004	< 0.0001	8.25E-05	0.000748	< 0.01	< 0.1	< 0.1	< 0.1	< 0.01
MW-72	Limit	0.001	0.001	0.0156	0.001	0.002	0.005	0.003	0.00331	0.00104	0.01	0.001	0.003	0.001	0.002	0.0201	0.15	0.2	0.2	0.2	0.02
	Result	< 0.0003	0.000255	0.0143	< 0.0001	< 0.00005	0.000446	7.36E-05	0.00162	0.000579	0.000325	< 0.0005	< 0.00004	< 0.0001	0.000374	0.0129	< 0.01	< 0.1	< 0.1	< 0.1	< 0.01
MW-74	Limit	0.001	0.001	0.0171	0.001	0.002	0.005	0.003	0.002	0.001	0.01	0.00104	0.003	0.001	0.002	0.004	0.487	0.2	0.2	0.2	0.02
	Result	< 0.0003	0.000389	0.0141	< 0.0001	< 0.00005	< 0.0002	< 0.00005	0.000259	< 0.0001	0.00106	0.000754	< 0.00004	< 0.0001	0.000612	0.00108	0.282	< 0.1	< 0.1	< 0.1	< 0.01
MW-75	Limit	0.001	0.001	0.013432	0.001	0.002	0.005	0.003	0.002	0.001	0.01	0.001	0.003	0.001	0.002	0.004	0.11	0.2	0.2	0.2	0.02
	Result	< 0.0003	0.000456	0.011	< 0.0001	< 0.00005	< 0.0002	< 0.00005	< 0.0002	< 0.0001	< 0.0001	< 0.0005	< 0.00004	< 0.0001	< 0.000075	< 0.0005	< 0.01	< 0.1	< 0.1	< 0.1	< 0.01
MW-80	Limit	0.001	0.0392	0.023	0.001	0.002	0.005	0.003	0.002	0.001	0.01	0.001	0.003	0.001	0.002	0.0117	0.028	0.2	0.2	0.2	0.02
	Result	< 0.0003	0.00494	0.0144	< 0.0001	< 0.00005	0.000798	< 0.00005	0.000295	< 0.0001	0.000541	< 0.0005	< 0.00004	< 0.0001	0.000125	0.00129	< 0.01	< 0.1	< 0.1	< 0.1	< 0.01
MW-85	Limit	0.001	0.001	0.00708	0.001	0.002	0.005	0.003	0.002	0.001	0.01	0.00132	0.003	0.001	0.002	0.004	1.63	0.2	0.2	0.2	0.02
	Result	< 0.0003	0.00071	0.00657	< 0.0001	< 0.00005	< 0.0002	< 0.00005	0.000345	< 0.0001	0.000167	0.00104	< 0.00004	< 0.0001	0.000915	< 0.0005	0.107	< 0.1	< 0.1	< 0.1	< 0.01
MW-86	Limit	0.001	0.00969	0.00668	0.001	0.002	0.005	0.003	0.002	0.001	0.01	0.0017	0.003	0.001	0.002	0.004	1.705935	0.2	0.2	0.2	0.02
	Result	< 0.0003	**0.0132**	**0.00723**	< 0.0001	< 0.00005	0.000215	0.000126	< 0.0002	< 0.0001	0.000199	< 0.0005	< 0.00004	< 0.0001	0.00161	0.000838	0.0481	< 0.1	< 0.1	< 0.1	< 0.01
MW-87	Limit	0.001	0.02732	0.04094	0.001	0.002	0.005	0.003	0.00347	0.001	0.01	0.001	0.003	0.001	0.00468	0.004	0.24	0.2	0.2	0.2	0.02
	Result	< 0.0003	0.00211	0.0257	< 0.0001	< 0.00005	< 0.0002	0.000145	< 0.0002	< 0.0001	0.000139	< 0.0005	< 0.00004	< 0.0001	0.000373	0.000697	0.0803	< 0.1	< 0.1	< 0.1	< 0.01
MW-88	Limit	0.001	0.00104	0.002467	0.001	0.002	0.005	0.003	0.002	0.001	0.01	0.001	0.003	0.001	0.00277	0.004	1.7	0.2	0.2	0.2	0.02
	Result	< 0.0003	0.00103	0.00221	< 0.0001	< 0.00005	0.000652	< 0.00005	< 0.0002	< 0.0001	< 0.0001	0.000612	< 0.00004	< 0.0001	**0.00281**	< 0.0005	0.653	< 0.1	< 0.1	< 0.1	< 0.01
MW-89	Limit	0.001	0.0266	0.0256	0.001	0.002	0.005	0.003	0.002	0.001	0.01	0.001	0.003	0.001	0.002	0.0303	0.095	0.2	0.2	0.2	0.04
	Result	< 0.0003	0.00356	0.00787	< 0.0001	< 0.00005	< 0.0002	< 0.00005	< 0.0002	< 0.0001	0.000147	< 0.0005	< 0.00004	< 0.0001	0.000149	0.00211	< 0.01	< 0.1	< 0.1	< 0.1	< 0.01
MW-100	Limit	0.001	0.022665	0.0121	0.001	0.002	0.005	0.003	0.00226	0.001	0.01	0.001	0.003	0.001	0.002	0.00922	0.26	0.2	0.2	0.2	0.02
	Result	< 0.0003	0.00493	0.00893	< 0.0001	< 0.00005	0.000246	0.000548	0.000612	0.000139	0.000999	< 0.0005	< 0.00004	< 0.0001	0.000161	0.00554	< 0.01	< 0.1	< 0.1	< 0.1	< 0.01

Results greater than Limit Value in **Bold Red**

Table 4-4a (cont.)
CEDAR HILLS REGIONAL LANDFILL REGIONAL AQUIFER QUARTERLY MONITORING WELLS
SUMMARY OF WAC 173-351 APPENDIX I INTRAWELL PREDICTION LIMIT VALUES AND RESULTS
(Data Collected from July 1, 2018 to September 30, 2018)

Parameter		Total Antimony	Total Arsenic	Total Barium	Total Beryllium	Total Cadmium	Total Chromium	Total Cobalt	Total Copper	Total Lead	Total Nickel	Total Selenium	Total Silver	Total Thallium	Total Vanadium	Total Zinc	Nitrate as N	cis - 1,2-Dichloroethene	Tetrachloroethene	Trichloroethene	Vinyl Chloride
Well	Units	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	ug/L	*ug/L*	ug/L	ug/L
Upgradient and Crossgradient Wells																					
MW-59	Limit	0.001	0.001	0.0055	0.001	0.002	0.005	0.003	0.002	0.001	0.01	0.001	0.003	0.001	0.002	0.00748	0.29	1.37	0.2	0.45	0.02
	Result	< 0.0003	0.000404	0.00409	< 0.0001	< 0.00005	< 0.0002	< 0.00005	< 0.0002	< 0.0001	0.000175	< 0.0005	< 0.00004	< 0.0001	< 0.000075	0.0015	0.013	1.15	< 0.1	< 0.1	< 0.01
MW-66	Limit	0.001	0.001	0.0065	0.001	0.002	0.005	0.003	0.002	0.001	0.01	0.00104	0.003	0.001	0.002	0.004	0.881	0.2	0.2	0.2	0.02
	Result	< 0.0003	0.000632	0.0045	< 0.0001	< 0.00005	< 0.0002	< 0.00005	< 0.0002	< 0.0001	0.000172	0.00102	< 0.00004	< 0.0001	0.000643	0.00121	0.578	< 0.1	< 0.1	< 0.1	< 0.01
MW-81	Limit	0.001	0.001	0.0049	0.001	0.002	0.005	0.003	0.002	0.001	0.01	0.00104	0.003	0.001	0.00253	0.00895	1.77	0.2	0.2	0.2	0.02
	Result	< 0.0003	0.000521	0.0033	< 0.0001	< 0.00005	< 0.0002	< 0.00005	< 0.0002	< 0.0001	0.000101	0.000892	< 0.00004	< 0.0001	0.00167	< 0.0005	1.45	< 0.1	< 0.1	< 0.1	< 0.01
MW-83	Limit	0.001	0.001	0.0110	0.001	0.002	0.005	0.003	0.00549	0.001	0.01	0.001	0.003	0.001	0.002	0.004	4.11	0.2	0.2	3.03	0.02
	Result	< 0.0003	0.000397	0.0074	< 0.0001	< 0.00005	< 0.0002	0.000287	0.00386	< 0.0001	0.00182	< 0.0005	< 0.00004	< 0.0001	0.00101	0.000568	2.44	< 0.1	< 0.1	2.32	< 0.01
MW-84	Limit	0.001	0.001	0.0041	0.001	0.002	0.005	0.003	0.002	0.001	0.01	0.001	0.003	0.001	0.002	0.004	0.740	0.2	0.2	0.2	0.02
	Result	< 0.0003	0.000324	0.00396	< 0.0001	< 0.00005	< 0.0002	< 0.00005	< 0.0002	< 0.0001	0.000243	0.000568	< 0.00004	< 0.0001	0.000492	< 0.0005	0.149	< 0.1	< 0.1	< 0.1	< 0.01
MW-93	Limit	0.001	0.001435313	0.0096	0.001	0.002	0.005	0.003	0.002	0.001	0.01	0.001	0.003	0.001	0.00231	0.0112	0.21	0.2	0.2	0.2	0.02
	Result	<0.0003	0.00132	0.0079	< 0.0001	< 0.00005	< 0.0002	0.0000946	<0.0002	< 0.0001	0.000201	< 0.0005	< 0.00004	< 0.0001	0.00215	0.0010	<0.01	< 0.1	< 0.1	< 0.1	< 0.1
MW-94	Limit	0.001	0.001	0.0050	0.001	0.002	0.005	0.003	0.0051	0.001	0.01	0.001	0.003	0.001	0.002	0.004	2.30	0.2	0.2	4.71	0.02
	Result	< 0.0003	0.000139	0.0026	< 0.0001	< 0.00005	< 0.0002	0.0000787	0.000928	< 0.0001	0.000423	< 0.0005	< 0.00004	< 0.0001	0.00131	< 0.0005	2.03	< 0.1	< 0.1	1.79	< 0.01
Downgradient Wells																					
MW-68	Limit	0.001	0.495	0.0197	0.001	0.002	0.005	0.003	0.00737	0.001	0.01	0.001	0.003	0.001	0.0037	0.004	0.13	0.2	0.2	0.2	0.02
	Result	< 0.0003	0.012	0.0107	< 0.0001	< 0.00005	< 0.0002	0.000237	< 0.0002	< 0.0001	0.000544	< 0.0005	< 0.00004	< 0.0001	0.000262	0.000688	< 0.01	< 0.1	< 0.1	< 0.1	< 0.01
MW-69	Limit	0.001	0.004	0.0144	0.001	0.002	0.005	0.003	0.002	0.001	0.01	0.001	0.003	0.001	0.002	0.0112	0.076	0.2	0.2	0.2	0.02
	Result	< 0.0003	0.003	0.0126	< 0.0001	< 0.00005	< 0.0002	< 0.00005	< 0.0002	< 0.0001	0.00015	< 0.0005	< 0.00004	< 0.0001	0.0001	0.000685	< 0.01	< 0.1	< 0.1	< 0.1	< 0.01
MW-72	Limit	0.001	0.001	0.0156	0.001	0.002	0.005	0.003	0.00331	0.00104	0.01	0.001	0.003	0.001	0.002	0.0201	0.15	0.2	0.2	0.2	0.02
	Result	< 0.0003	0.000	0.0126	< 0.0001	< 0.00005	< 0.0002	< 0.00005	0.0003	0.000116	0.000147	< 0.0005	< 0.00004	< 0.0001	0.0001	0.00301	0.013	< 0.1	< 0.1	< 0.1	< 0.01
MW-74	Limit	0.001	0.001	0.0171	0.001	0.002	0.005	0.003	0.002	0.001	0.01	0.00104	0.003	0.001	0.002	0.004	0.487	0.2	0.2	0.2	0.02
	Result	< 0.0003	0.000	0.014	< 0.0001	< 0.00005	< 0.0002	< 0.00005	< 0.0002	< 0.0001	0.00102	0.000739	< 0.00004	< 0.0001	0.0006	< 0.0005	0.28	< 0.1	< 0.1	< 0.1	< 0.01
MW-75	Limit	0.001	0.001	0.0134	0.001	0.002	0.005	0.003	0.002	0.001	0.01	0.001	0.003	0.001	0.002	0.004	0.11	0.2	0.2	0.2	0.02
	Result	< 0.0003	0.000	0.0123	< 0.0001	< 0.00005	< 0.0002	< 0.00005	< 0.0002	< 0.0001	< 0.0001	< 0.0005	< 0.00004	< 0.0001	< 0.000075	< 0.0005	< 0.01	< 0.1	< 0.1	< 0.1	< 0.01
MW-80	Limit	0.001	0.039	0.0230	0.001	0.002	0.005	0.003	0.002	0.001	0.01	0.001	0.003	0.001	0.002	0.0117	0.028	0.2	0.2	0.2	0.02
	Result	< 0.0003	0.004	0.0147	< 0.0001	< 0.00005	< 0.0002	< 0.00005	< 0.0002	< 0.0001	0.000146	< 0.0005	< 0.00004	< 0.0001	< 0.000075	0.000516	< 0.01	< 0.1	< 0.1	< 0.1	< 0.01
MW-85	Limit	0.001	0.001	0.0071	0.001	0.002	0.005	0.003	0.002	0.001	0.01	0.00132	0.003	0.001	0.002	0.004	1.630	0.2	0.2	0.2	0.02
	Result	< 0.0003	0.001	0.00656	< 0.0001	< 0.00005	< 0.0002	< 0.00005	< 0.0002	< 0.0001	0.000414	0.000958	< 0.00004	< 0.0001	0.0010	< 0.0005	0.113	< 0.1	< 0.1	< 0.1	< 0.01
MW-87	Limit	0.001	0.027	0.0409	0.001	0.002	0.005	0.003	0.00347	0.001	0.01	0.001	0.003	0.001	0.005	0.004	0.24	0.2	0.2	0.2	0.02
	Result	< 0.0003	0.002	0.0265	< 0.0001	< 0.00005	< 0.0002	0.000119	< 0.0002	< 0.0001	0.000152	< 0.0005	< 0.00004	< 0.0001	0.0005	< 0.0005	< 0.01	< 0.1	< 0.1	< 0.1	< 0.01

Results greater than Limit Value in **RED Bold**

Table 4-4a (cont.)
CEDAR HILLS REGIONAL LANDFILL REGIONAL AQUIFER QUARTERLY MONITORING WELLS
SUMMARY OF WAC 173-351 APPENDIX I INTRAWELL PREDICTION LIMIT VALUES
(Data Collected from October 1, 2018 - December 31, 2018)

Well	Parameter	Total Antimony	Total Arsenic	Total Barium	Total Beryllium	Total Cadmium	Total Chromium	Total Cobalt	Total Copper	Total Lead	Total Nickel	Total Selenium	Total Silver	Total Thallium	Total Vanadium	Total Zinc	Nitrate as N	*cis*-1,2-Dichloroethene	Tetrachloroethene	Trichloroethene	Vinyl Chloride
	Units	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	ug/L	*ug/L*	ug/L	ug/L
Upgradient and Crossgradient Wells																					
MW-21	Limit	0.001	0.00111	0.005323	0.001	0.002	0.005	0.003	0.002	0.001	0.01	0.001	0.003	0.001	0.002	0.004	1.9	0.2	0.2	0.2	0.02
	Result	< 0.0003	0.000979	0.00461	< 0.0001	< 0.00005	< 0.0002	< 0.00005	< 0.0002	< 0.0001	0.000136	< 0.0005	< 0.00004	< 0.0001	< 0.000075	< 0.0005	< 0.01	< 0.1	< 0.1	< 0.1	< 0.01
	PL Exceeds?	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
MW-24	Limit	0.001	0.001	0.002127	0.001	0.002	0.005	0.003	0.002	0.001	0.01	0.001	0.003	0.001	0.002	0.004	1	0.39	0.2	0.2	0.02
	Result	< 0.0003	0.00058	0.0019	< 0.0001	< 0.00005	< 0.0002	< 0.00005	< 0.0002	< 0.0001	< 0.0001	< 0.0005	< 0.00004	< 0.0001	< 0.000075	< 0.0005	< 0.01	0.10	< 0.1	< 0.1	0.02
MW-56	Limit	0.001	0.0025	0.0478	0.001	0.002	0.00755	0.00389	0.0154	0.0033	0.01	0.001	0.00694	0.001	0.0178	0.0478	2.78	1.857244	0.2	0.2	0.02
	Result	< 0.0003	8.78E-05	0.00395	< 0.0001	< 0.00005	< 0.0002	0.000205	0.000204	< 0.0001	0.000762	< 0.0005	< 0.00004	< 0.0001	0.000249	0.00101	0.0742	1.53	< 0.1	< 0.1	< 0.01
MW-59	Limit	0.001	0.001	0.00548	0.001	0.002	0.005	0.003	0.002	0.001	0.01	0.001	0.003	0.001	0.002	0.00748	0.29	1.37	0.2	0.45	0.02
	Result	< 0.0003	0.000431	0.00394	< 0.0001	< 0.00005	< 0.0002	< 0.00005	< 0.0002	< 0.0001	0.000168	< 0.0005	< 0.00004	< 0.0001	< 0.000075	0.00115	0.01	1.17	< 0.1	< 0.1	< 0.01
MW-64	Limit	0.001	0.01	0.018047	0.001	0.002	0.005	0.00347	0.00512	0.001	0.0153	0.001	0.003	0.001	0.00606	0.0385	0.121	0.2	0.2	0.2	0.2
	Result	< 0.0003	0.00178	**0.0185**	< 0.0001	0.000269	< 0.0002	0.00211	0.000765	< 0.0001	0.00797	< 0.0005	< 0.00004	< 0.0001	0.000682	0.00219	< 0.01	< 0.1	< 0.1	< 0.1	< 0.01
MW-65	Limit	0.001	0.00242	0.00829	0.001	0.002	0.005	0.003	0.002	0.001	0.01	0.001	0.003	0.001	0.002	0.004	0.055	0.2	0.2	0.2	0.125823
	Result	< 0.0003	0.000838	0.0062	< 0.0001	< 0.00005	< 0.0002	< 0.00005	< 0.0002	< 0.0001	0.000123	< 0.0005	< 0.00004	< 0.0001	< 0.000075	< 0.0005	< 0.01	< 0.1	< 0.1	< 0.1	0.03
MW-66	Limit	0.001	0.001	0.00649	0.001	0.002	0.005	0.003	0.002	0.001	0.01	0.00104	0.003	0.001	0.002	0.004	0.881329	0.2	0.2	0.2	0.02
	Result	< 0.0003	0.000667	0.00483	< 0.0001	< 0.00005	0.000212	< 0.00005	< 0.0002	< 0.0001	0.000192	0.001	< 0.00004	< 0.0001	0.000716	0.00147	0.513	< 0.1	< 0.1	< 0.1	< 0.01
MW-68	Limit	0.001	0.495195	0.0197	0.001	0.002	0.005	0.003	0.00737	0.001	0.01	0.001	0.003	0.001	0.0037	0.004	0.13	0.2	0.2	0.2	0.02
	Result	< 0.0003	0.0125	0.0115	< 0.0001	< 0.00005	< 0.0002	0.000235	0.000213	< 0.0001	0.000533	< 0.0005	< 0.00004	< 0.0001	0.00024	0.000574	< 0.01	< 0.1	< 0.1	< 0.1	< 0.01
MW-73	Limit	0.001	0.001	0.0225	0.001	0.002	0.005	0.003	0.00363	0.001	0.01	0.001	0.003	0.001	0.002	0.004	2.01	0.2	0.2	0.2	0.02
	Result	< 0.0003	0.000679	0.00273	< 0.0001	< 0.00005	0.000257	< 0.00005	0.000221	< 0.0001	0.00024	< 0.0005	< 0.00004	< 0.0001	0.00119	< 0.0005	1.05	< 0.1	< 0.1	< 0.1	< 0.01
MW-76	Limit	0.001	0.001	0.004549	0.001	0.002	0.005	0.003	0.002	0.001	0.01	0.001	0.003	0.001	0.002	0.004	4.06875	2.568972	0.670269	14.63846	0.02
	Result	< 0.0003	0.000203	0.00413	< 0.0001	< 0.00005	0.000406	< 0.00005	0.00069	< 0.0001	0.000334	< 0.0005	< 0.00004	< 0.0001	0.000564	0.000678	1.53	0.22	0.44	9.12	< 0.01
MW-81	Limit	0.001	0.001	0.00487	0.001	0.002	0.005	0.003	0.002	0.001	0.01	0.00104	0.003	0.001	0.00253	0.00895	1.77	0.2	0.2	0.2	0.02
	Result	< 0.0003	0.000545	0.00338	< 0.0001	< 0.00005	< 0.0002	< 0.00005	< 0.0002	< 0.0001	0.000158	0.000903	< 0.00004	< 0.0001	0.00177	0.000939	1.41	< 0.1	< 0.1	< 0.1	< 0.01
MW-82	Limit	0.001	0.001	0.004789	0.001	0.002	0.005	0.003	0.002	0.001	0.01	0.001	0.003	0.001	0.002	0.004	1.40957	0.2	0.2	8.9	0.02
	Result	< 0.0003	0.00026	0.00151	< 0.0001	< 0.00005	0.00162	< 0.00005	0.000242	< 0.0001	0.00259	< 0.0005	< 0.00004	< 0.0001	0.00132	0.000776	0.872	< 0.1	< 0.1	4.88	< 0.01
MW-83	Limit	0.001	0.001	0.011036	0.001	0.002	0.005	0.003	0.00549	0.001	0.01	0.001	0.003	0.001	0.002	0.004	4.107705	0.2	0.2	3.033524	0.02
	Result	< 0.0003	0.00042	0.0101	< 0.0001	< 0.00005	0.000249	0.000336	0.00482	< 0.0001	0.00239	< 0.0005	< 0.00004	< 0.0001	0.000921	0.000549	3.02	< 0.1	< 0.1	2.05	< 0.01
MW-84	Limit	0.001	0.001	0.00408	0.001	0.002	0.005	0.003	0.002	0.001	0.01	0.001	0.003	0.001	0.002	0.004	0.739614	0.2	0.2	0.2	0.02
	Result	< 0.0003	0.00032	**0.00435**	< 0.0001	< 0.00005	< 0.0002	< 0.00005	< 0.0002	< 0.0001	0.000298	0.000829	< 0.00004	< 0.0001	0.000495	< 0.0005	0.145	< 0.1	< 0.1	< 0.1	< 0.01
MW-93	Limit	0.001	0.001435	0.009592	0.001	0.002	0.005	0.003	0.002	0.001	0.01	0.001	0.003	0.001	0.00231	0.0112	0.21	0.2	0.2	0.2	0.02
	Result	< 0.0003	0.00132	0.00761	< 0.0001	< 0.00005	< 0.0002	9.23E-05	< 0.0002	< 0.0001	0.000203	< 0.0005	< 0.00004	< 0.0001	0.00218	0.000781	< 0.01	< 0.1	< 0.1	< 0.1	< 0.01
MW-94	Limit	0.001	0.001	0.005034	0.001	0.002	0.005	0.003	0.0051	0.001	0.01	0.001	0.003	0.001	0.002	0.004	2.295128	0.2	0.2	4.706212	0.02
	Result	< 0.0003	0.000156	0.0027	< 0.0001	< 0.00005	0.000233	6.11E-05	0.000887	< 0.0001	0.000434	< 0.0005	< 0.00004	< 0.0001	0.00132	0.000904	2.14	< 0.1	< 0.1	2.54	< 0.01
MW-95	Limit	0.001	0.00109	0.004505	0.001	0.002	0.005	0.003	0.002	0.001	0.01	0.001	0.003	0.001	0.002	0.004	0.01	0.2	0.2	0.2	0.02
	Result	< 0.0003	**0.00111**	0.00427	< 0.0001	< 0.00005	< 0.0002	7.21E-05	< 0.0002	< 0.0001	0.000198	< 0.0005	< 0.00004	< 0.0001	0.000353	< 0.0005	< 0.01	< 0.1	< 0.1	< 0.1	< 0.01

Results greater than Limit Value in **Bold Red**

Table 4-4a (cont.)
CEDAR HILLS REGIONAL LANDFILL REGIONAL AQUIFER QUARTERLY MONITORING WELLS
SUMMARY OF WAC 173-351 APPENDIX I INTRAWELL PREDICTION LIMIT VALUES
(Data Collected from October 1, 2018 - December 31, 2018)

	Parameter	Total Antimony	Total Arsenic	Total Barium	Total Beryllium	Total Cadmium	Total Chromium	Total Cobalt	Total Copper	Total Lead	Total Nickel	Total Selenium	Total Silver	Total Thallium	Total Vanadium	Total Zinc	Nitrate as N	*cis*-1,2-Dichloroethene	Tetrachloroethene	Trichloroethene	Vinyl Chloride
Downgradient																					
MW-67	Limit	0.001	0.00168	0.016008	0.001	0.002	0.005	0.003	0.002	0.001	0.01	0.001	0.003	0.001	0.002	0.004	3.4	0.2	0.2	0.2	0.02
	Result	< 0.0003	**0.00202**	**0.0167**	< 0.0001	< 0.00005	< 0.0002	0.000417	0.000457	< 0.0001	0.00086	< 0.0005	< 0.00004	< 0.0001	0.0011	0.00108	0.091	< 0.1	< 0.1	< 0.1	< 0.01
MW-69	Limit	0.001	0.00386	0.014394	0.001	0.002	0.005	0.003	0.002	0.001	0.01	0.001	0.003	0.001	0.002	0.0112	0.076	0.2	0.2	0.2	0.02
	Result	< 0.0003	0.00222	0.0124	< 0.0001	< 0.00005	< 0.0002	< 0.00005	< 0.0002	< 0.0001	0.000143	< 0.0005	< 0.00004	< 0.0001	0.000115	< 0.0005	< 0.01	< 0.1	< 0.1	< 0.1	< 0.01
MW-72	Limit	0.001	0.001	0.0156	0.001	0.002	0.005	0.003	0.00331	0.00104	0.01	0.001	0.003	0.001	0.002	0.0201	0.15	0.2	0.2	0.2	0.02
	Result	< 0.0003	0.000105	0.0132	< 0.0001	< 0.00005	< 0.0002	< 0.00005	0.000218	< 0.0001	0.000235	< 0.0005	< 0.00004	< 0.0001	8.15E-05	0.00237	< 0.01	< 0.1	< 0.1	< 0.1	< 0.01
MW-74	Limit	0.001	0.001	0.0171	0.001	0.002	0.005	0.003	0.002	0.001	0.01	0.00104	0.003	0.001	0.002	0.004	0.487	0.2	0.2	0.2	0.02
	Result	< 0.0003	0.000459	0.0134	< 0.0001	< 0.00005	< 0.0002	< 0.00005	0.000249	< 0.0001	0.000962	0.000752	< 0.00004	< 0.0001	0.000649	0.000557	0.314	< 0.1	< 0.1	< 0.1	< 0.01
MW-75	Limit	0.001	0.001	0.013432	0.001	0.002	0.005	0.003	0.002	0.001	0.01	0.001	0.003	0.001	0.002	0.004	0.11	0.2	0.2	0.2	0.02
	Result	< 0.0003	0.000375	0.0113	< 0.0001	< 0.00005	< 0.0002	< 0.00005	< 0.0002	< 0.0001	< 0.0001	< 0.0005	< 0.00004	< 0.0001	< 0.000075	< 0.0005	< 0.01	< 0.1	< 0.1	< 0.1	< 0.01
MW-80	Limit	0.001	0.0392	0.023	0.001	0.002	0.005	0.003	0.002	0.001	0.01	0.001	0.003	0.001	0.002	0.0117	0.028	0.2	0.2	0.2	0.02
	Result	< 0.0003	0.00409	0.0145	< 0.0001	< 0.00005	< 0.0002	< 0.00005	< 0.0002	< 0.0001	0.000107	< 0.0005	< 0.00004	< 0.0001	< 0.000075	< 0.0005	< 0.01	< 0.1	< 0.1	< 0.1	< 0.01
MW-85	Limit	0.001	0.001	0.00708	0.001	0.002	0.005	0.003	0.002	0.001	0.01	0.00132	0.003	0.001	0.002	0.004	1.63	0.2	0.2	0.2	0.02
	Result	< 0.0003	0.000708	0.00667	< 0.0001	< 0.00005	< 0.0002	< 0.00005	< 0.0002	< 0.0001	0.000179	0.000796	< 0.00004	< 0.0001	0.000932	0.000644	0.114	< 0.1	< 0.1	< 0.1	< 0.01
MW-86	Limit	0.001	0.00969	0.00668	0.001	0.002	0.005	0.003	0.002	0.001	0.01	0.0017	0.003	0.001	0.002	0.004	1.705935	0.2	0.2	0.2	0.02
	Result	< 0.0003	**0.0194**	**0.0088**	< 0.0001	< 0.00005	0.000244	0.00067	0.000344	< 0.0001	0.000479	< 0.0005	< 0.00004	< 0.0001	**0.00336**	0.00151	0.021	< 0.1	< 0.1	< 0.1	< 0.01
MW-87	Limit	0.001	0.02732	0.04094	0.001	0.002	0.005	0.003	0.00347	0.001	0.01	0.001	0.003	0.001	0.00468	0.004	0.24	0.2	0.2	0.2	0.02
	Result	< 0.0003	0.0011	0.0255	< 0.0001	< 0.00005	< 0.0002	0.000128	< 0.0002	< 0.0001	0.000124	< 0.0005	< 0.00004	< 0.0001	0.000172	0.000639	< 0.01	< 0.1	< 0.1	< 0.1	< 0.01
MW-88	Limit	0.001	0.00104	0.002467	0.001	0.002	0.005	0.003	0.002	0.001	0.01	0.001	0.003	0.001	0.00277	0.004	1.7	0.2	0.2	0.2	0.02
	Result	< 0.0003	0.00101	0.00224	< 0.0001	< 0.00005	0.00104	< 0.00005	< 0.0002	< 0.0001	0.000185	0.000691	< 0.00004	< 0.0001	**0.00285**	0.000511	0.771	< 0.1	< 0.1	< 0.1	< 0.01
MW-89	Limit	0.001	0.0266	0.0256	0.001	0.002	0.005	0.003	0.002	0.001	0.01	0.001	0.003	0.001	0.002	0.0303	0.095	0.2	0.2	0.2	0.04
	Result	< 0.0003	0.00638	0.0101	< 0.0001	< 0.00005	< 0.0002	< 0.00005	< 0.0002	< 0.0001	< 0.0001	< 0.0005	< 0.00004	< 0.0001	0.000211	0.00226	< 0.01	< 0.1	< 0.1	< 0.1	< 0.01
MW-100	Limit	0.001	0.022665	0.0121	0.001	0.002	0.005	0.003	0.00226	0.001	0.01	0.001	0.003	0.001	0.002	0.00922	0.26	0.2	0.2	0.2	0.02
	Result	< 0.0003	0.00178	0.0074	< 0.0001	< 0.00005	< 0.0002	0.000409	< 0.0002	< 0.0001	0.000872	< 0.0005	< 0.00004	< 0.0001	< 0.000075	0.00183	< 0.01	< 0.1	< 0.1	< 0.1	< 0.01

Results greater than Limit Value in **Bold Red**

Table 4-4b
CEDAR HILLS REGIONAL LANDFILL PERCHED ZONES MONITORING WELLS
SUMMARY OF WAC 173-351 APPENDIX I INTRAWELL PREDICTION LIMIT VALUES
(Data Collected from January 1, 2018 to March 31, 2018)

Well	Parameter / Units	Total Antimony mg/L	Total Arsenic mg/L	Total Barium mg/L	Total Beryllium mg/L	Total Cadmium mg/L	Total Chromium mg/L	Total Cobalt mg/L	Total Copper mg/L	Total Lead mg/L	Total Nickel mg/L	Total Selenium mg/L	Total Silver mg/L	Total Thallium mg/L	Total Vanadium mg/L	Total Zinc mg/L	Nitrate as N mg/L	1,1-Dichloroethane ug/L	1,1-Dichloroethene ug/L	1,2-Dichloroethane ug/L	*cis* -1,2-Dichloroethene ug/L	*trans* -1,2-Dichloroethene *ug/L*	Trichloroethene ug/L	Vinyl Chloride ug/L
East Perched Zone Wells																								
MW-30A	Limit	0.001	0.001	0.0077	0.001	0.002	0.005	0.003	0.002	0.001	0.01	0.001	0.003	0.001	0.00307	0.0188	14.0	6.9	0.2	0.23	13.76	0.2	1.63	0.03
	Result	< 0.0003	0.000511	0.0043	< 0.0001	< 0.00005	0.000786	0.000076	0.00107	0.000153	0.000834	< 0.0005	< 0.00004	< 0.0001	0.00217	0.0016	**15.3**	1.48	< 0.1	< 0.1	1.94	< 0.1	0.753	< 0.01
MW-47	Limit	0.001	0.0113	0.0458	0.001	0.002	0.005	0.003	0.0105	0.00143	0.01	0.001	0.003	0.001	0.00307	0.168	0.024	0.89	0.2	0.16	5.3	0.2	0.2	8.64
	Result	< 0.0003	0.00407	0.0438	< 0.0001	< 0.00005	< 0.0002	0.000453	< 0.0002	< 0.0001	0.00237	< 0.0005	< 0.00004	< 0.0001	0.000135	< 0.0005	< 0.01	0.732	< 0.1	0.16	3.06	< 0.1	< 0.1	5.48
MW-62	Limit	0.001	0.001	0.0033	0.001	0.002	0.005	0.003	0.002	0.001	0.01	0.001	0.003	0.001	0.002	0.004	7.7	15.2	6.1	0.2	16.3	0.21	0.47	0.23
	Result	< 0.0003	0.000423	0.002	< 0.0001	< 0.00005	0.000502	0.0000998	0.000574	< 0.0001	0.000574	< 0.0005	< 0.00004	< 0.0001	0.00156	0.000557	3.21	1.44	< 0.1	< 0.1	4.08	< 0.1	0.12	< 0.01
South Solid Waste Area Wells																								
MW-101	Limit	0.001	0.028	0.0378	0.001	0.002	0.005	0.003	0.00416	0.00109	0.01	0.001	0.003	0.001	0.0039	0.00729	0.0593	0.21	0.2	0.22	0.23	0.2	0.2	0.96
	Result	< 0.0003	0.012	0.0222	< 0.0001	< 0.00005	0.00107	0.000367	0.000417	0.000129	0.00437	< 0.0005	< 0.00004	< 0.0001	0.000461	0.00161	0.016	0.13	< 0.1	0.204	**0.238**	< 0.1	< 0.1	0.34

Results greater than Limit Value in **RED Bold**

Table 4-4b (cont.)

CEDAR HILLS REGIONAL LANDFILL PERCHED ZONES MONITORING WELLS

SUMMARY OF WAC 173-351 APPENDIX I INTRAWELL PREDICTION LIMIT VALUES

(Data Collected from April 1, 2018 - June 30, 2018)

Well	Parameter / Units	Total Antimony mg/L	Total Arsenic mg/L	Total Barium mg/L	Total Beryllium mg/L	Total Cadmium mg/L	Total Chromium mg/L	Total Cobalt mg/L	Total Copper mg/L	Total Lead mg/L	Total Nickel mg/L	Total Selenium mg/L	Total Silver mg/L	Total Thallium mg/L	Total Vanadium mg/L	Total Zinc mg/L	Nitrate as N mg/L	1,1-Dichloroethane ug/L	1,1-Dichloroethene ug/L	1,2-Dichloroethane ug/L	*cis*-1,2-Dichloroethene *ug/L*	*trans*-1,2-Dichloroethene ug/L	Trichloroethene ug/L	Vinyl Chloride ug/L
East Perched Zone Wells																								
MW-30A	Limit	0.001	0.001	0.0077	0.001	0.002	0.005	0.003	0.002	0.001	0.01	0.001	0.003	0.001	0.00307	0.0188	14	6.90	0.20	0.23	13.76	0.20	1.63	0.03
	Result	< 0.0003	0.0005	0.0040	< 0.0001	< 0.00005	0.0013	< 0.00005	0.000274	< 0.0001	0.000919	< 0.0005	< 0.00004	< 0.0001	0.00211	0.000984	**16**	2.07	< 0.1	< 0.1	2.29	< 0.1	1.08	< 0.01
MW-47	Limit	0.001	0.0113	0.0458	0.001	0.002	0.005	0.003	0.0105	0.00143	0.01	0.001	0.003	0.001	0.00307	0.168	0.024	0.89	0.20	0.16	5.28	0.20	0.20	8.64
	Result	< 0.0003	0.0047	0.0361	< 0.0001	< 0.00005	< 0.0002	0.000446	< 0.0002	< 0.0001	0.00205	< 0.0005	< 0.00004	< 0.0001	0.000144	0.000554	< 0.01	0.84	< 0.1	**0.20**	4.32	0.14	< 0.1	5.13
MW-62	Limit	0.001	0.001	0.0033	0.001	0.002	0.005	0.003	0.002	0.001	0.01	0.001	0.003	0.001	0.002	0.004	7.7	15.16	6.10	0.20	16.26	0.21	0.47	0.23
	Result	< 0.0003	0.0004	0.0014	< 0.0001	< 0.00005	0.00028	< 0.00005	0.00039	< 0.0001	0.000406	< 0.0005	< 0.00004	< 0.0001	0.00165	< 0.0005	3.17	2.16	< 0.1	< 0.1	6.24	< 0.1	0.14	< 0.01
South Solid Waste Area Wells																								
MW-101	Limit	0.001	0.028	0.0378	0.001	0.002	0.005	0.003	0.00416	0.00109	0.01	0.001	0.003	0.001	0.0039	0.00729	0.059	0.21	0.20	0.22	0.23	0.20	0.20	0.96
	Result	< 0.0003	0.00257	0.0265	< 0.0001	< 0.00005	0.000307	0.00029	0.00106	< 0.0001	0.00398	< 0.0005	< 0.00004	< 0.0001	0.000994	0.00249	0.013	0.16	< 0.1	0.18	0.23	< 0.1	< 0.1	0.22

Results greater than Limit Value in **RED Bold**

Table 4-4b (cont.)
CEDAR HILLS REGIONAL LANDFILL PERCHED ZONES MONITORING WELLS
SUMMARY OF WAC 173-351 APPENDIX I INTRAWELL PREDICTION LIMIT VALUES
(Data Collected from July 1, 2018 - September 30, 2018)

Well	Parameter / Units	Total Antimony mg/L	Total Arsenic mg/L	Total Barium mg/L	Total Beryllium mg/L	Total Cadmium mg/L	Total Chromium mg/L	Total Cobalt mg/L	Total Copper mg/L	Total Lead mg/L	Total Nickel mg/L	Total Selenium mg/L	Total Silver mg/L	Total Thallium mg/L	Total Vanadium mg/L	Total Zinc mg/L	Nitrate as N mg/L	1,1-Dichloroethane ug/L	1,1-Dichloroethene ug/L	1,2-Dichloroethane ug/L	*cis*-1,2-Dichloroethene *ug/L*	*trans*-1,2-Dichloroethene ug/L	Trichloroethene ug/L	Vinyl Chloride ug/L
East Perched Zone Wells																								
MW-30A	Limit	0.001	0.001	0.0077	0.001	0.002	0.005	0.003	0.002	0.001	0.01	0.001	0.003	0.001	0.00307	0.0188	14	6.90	0.20	0.23	13.76	0.20	1.63	0.03
	Result	< 0.0003	0.0005	0.0039	< 0.0001	< 0.00005	0.0007	0.0000578	0.000256	< 0.0001	0.000736	< 0.0005	< 0.00004	< 0.0001	0.00211	0.000807	**15.9**	1.57	< 0.1	< 0.1	1.96	< 0.1	0.96	< 0.01
MW-47	Limit	0.001	0.0113	0.0458	0.001	0.002	0.005	0.003	0.0105	0.00143	0.01	0.001	0.003	0.001	0.00307	0.168	0.024	0.89	0.20	0.16	5.28	0.20	0.20	8.64
	Result	< 0.0003	0.0017	0.0458	< 0.0001	< 0.00005	0.00153	0.000768	0.00168	0.000205	0.00266	< 0.0005	< 0.00004	< 0.0001	0.00269	0.00315	< 0.01	0.58	< 0.1	0.10	1.51	< 0.1	< 0.1	3.69
MW-62	Limit	0.001	0.001	0.0033	0.001	0.002	0.005	0.003	0.002	0.001	0.01	0.001	0.003	0.001	0.002	0.004	7.7	15.16	6.10	0.20	16.26	0.21	0.47	0.23
	Result	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
South Solid Waste Area Wells																								
MW-101	Limit	0.001	0.028	0.0378	0.001	0.002	0.005	0.003	0.00416	0.00109	0.01	0.001	0.003	0.001	0.0039	0.00729	0.059	0.21	0.20	0.22	0.23	0.20	0.20	0.96
	Result	< 0.0003	0.0126	0.0209	< 0.0001	< 0.00005	0.000655	0.000286	< 0.0002	< 0.0001	0.00406	< 0.0005	< 0.00004	< 0.0001	0.000335	0.000677	< 0.01	0.16	< 0.1	0.16	0.22	< 0.1	< 0.1	0.40

Results greater than Limit Value in **RED Bold**

Table 4-4b (cont.)
CEDAR HILLS REGIONAL LANDFILL PERCHED ZONES MONITORING WELLS
SUMMARY OF WAC 173-351 APPENDIX I INTRAWELL PREDICTION LIMIT VALUES
(Data Collected from October 1, 2018 - December 31, 2018)

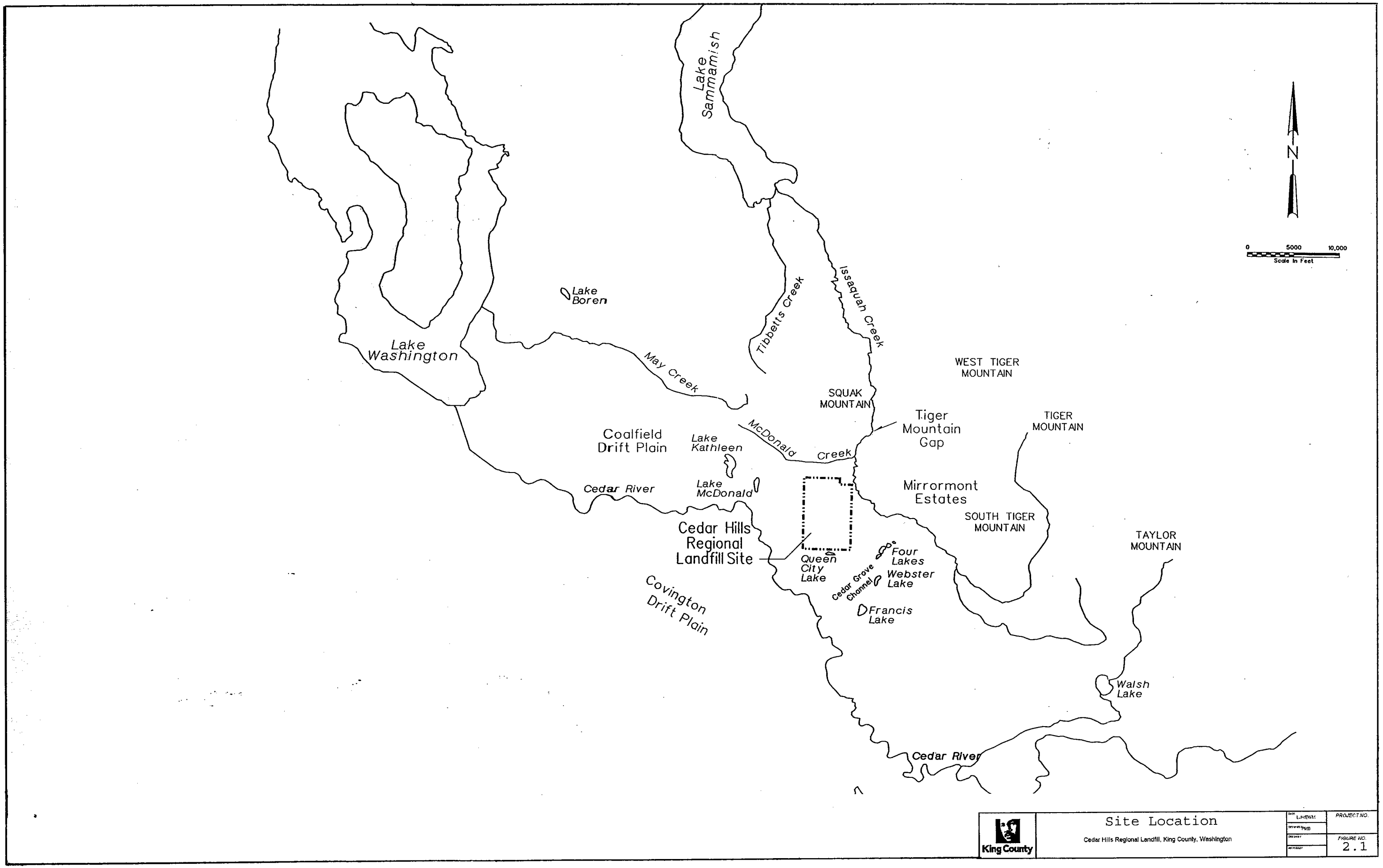
Well	Parameter / Units	Total Antimony mg/L	Total Arsenic mg/L	Total Barium mg/L	Total Beryllium mg/L	Total Cadmium mg/L	Total Chromium mg/L	Total Cobalt mg/L	Total Copper mg/L	Total Lead mg/L	Total Nickel mg/L	Total Selenium mg/L	Total Silver mg/L	Total Thallium mg/L	Total Vanadium mg/L	Total Zinc mg/L	Nitrate as N mg/L	1,1-Dichloroethane ug/L	1,1-Dichloroethene ug/L	1,2-Dichloroethane ug/L	*cis*-1,2-Dichloroethene *ug/L*	*trans*-1,2-Dichloroethene ug/L	Trichloroethene ug/L	Vinyl Chloride ug/L
East Perched Zone Wells																								
MW-30A	Limit	0.001	0.001	0.0077	0.001	0.002	0.005	0.003	0.002	0.001	0.01	0.001	0.003	0.001	0.00307	0.0188	14	6.90	0.20	0.23	13.76	0.20	1.63	0.03
	Result	< 0.0003	0.0009	0.0071	< 0.0001	< 0.00005	0.0017	0.000196	**0.002870**	0.000285	0.00195	< 0.0005	< 0.00004	< 0.0001	**0.00331**	0.002680	7.77	1.57	< 0.1	< 0.1	3.77	0.11	0.62	< 0.01
MW-47	Limit	0.001	0.0113	0.0458	0.001	0.002	0.005	0.003	0.0105	0.00143	0.01	0.001	0.003	0.001	0.00307	0.168	0.024	0.89	0.20	0.16	5.28	0.20	0.20	8.64
	Result	< 0.0003	0.0005	0.04	< 0.0001	< 0.00005	0.000238	0.000445	0.000408	< 0.0001	0.00183	< 0.0005	< 0.00004	< 0.0001	0.0018	< 0.0005	< 0.01	0.56	< 0.1	0.10	1.21	< 0.1	< 0.1	2.95
MW-62	Limit	0.001	0.001	0.0033	0.001	0.002	0.005	0.003	0.002	0.001	0.01	0.001	0.003	0.001	0.002	0.004	7.7	15.16	6.10	0.20	16.26	0.21	0.47	0.23
	Result	< 0.0003	0.000431	**0.0038**	< 0.0001	< 0.00005	0.00106	0.000298	0.00198	0.000447	0.00119	< 0.0005	< 0.00004	< 0.0001	**0.0021**	0.00201	2.94	0.548	< 0.1	< 0.1	1.31	< 0.1	0.118	< 0.01
South Solid Waste Area Wells																								
MW-101	Limit	0.001	0.028	0.0378	0.001	0.002	0.005	0.003	0.00416	0.00109	0.01	0.001	0.003	0.001	0.0039	0.00729	0.059	0.21	0.20	0.22	0.23	0.20	0.20	0.96
	Result	< 0.0003	0.0106	0.0194	< 0.0001	< 0.00005	0.000719	0.000234	0.00036	< 0.0001	0.00374	< 0.0005	< 0.00004	< 0.0001	0.000314	0.002	0.029	0.15	< 0.1	0.13	0.19	< 0.1	< 0.1	0.40

Results greater than Limit Value in **RED Bold**

PART 3

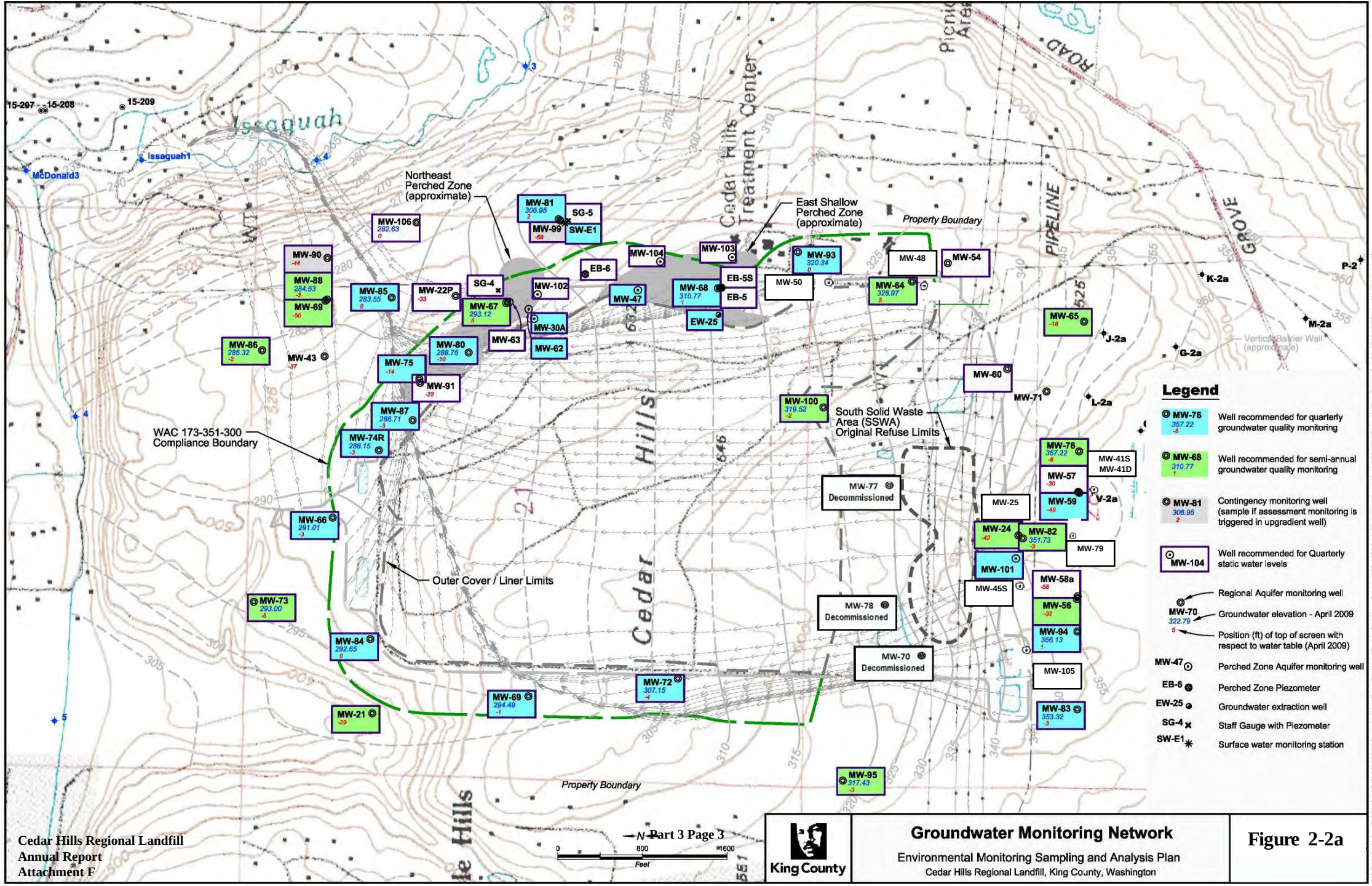
Figures

Figure 2-1	**Site Location**
Figure 2-2a	**Groundwater Monitoring Network**
Figure 2-2b	**Surface Water and Stormwater Monitoring Network**
Figure 2-2c	**Leachate Monitoring Network**
Figure 2-3	**Regional Cross-section N-S**
Figure 2-4	**Regional Cross-section E-W**
Figure 4-1	**Regional Aquifer Flow Paths**
Figure 4-2	**Regional Aquifer Monitoring Well Locations and Capture Zones**



Excerpted from *Cedar Hills Regional Landfill Site-Wide Hydrogeologic Report* 2004

Cedar Hills Regional Landfill
Annual Report
Attachment F



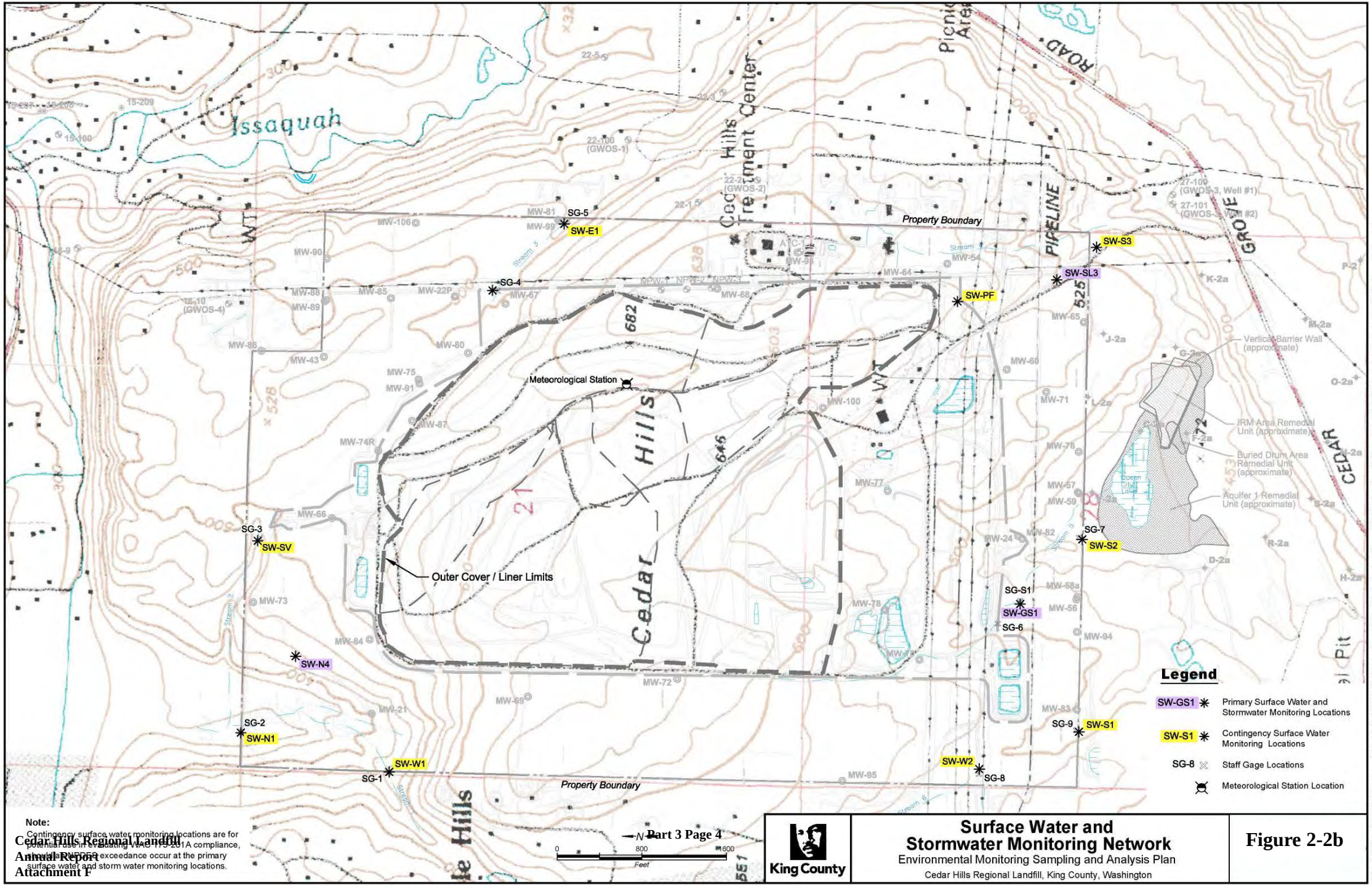
Cedar Hills Regional Landfill
Annual Report
Attachment F

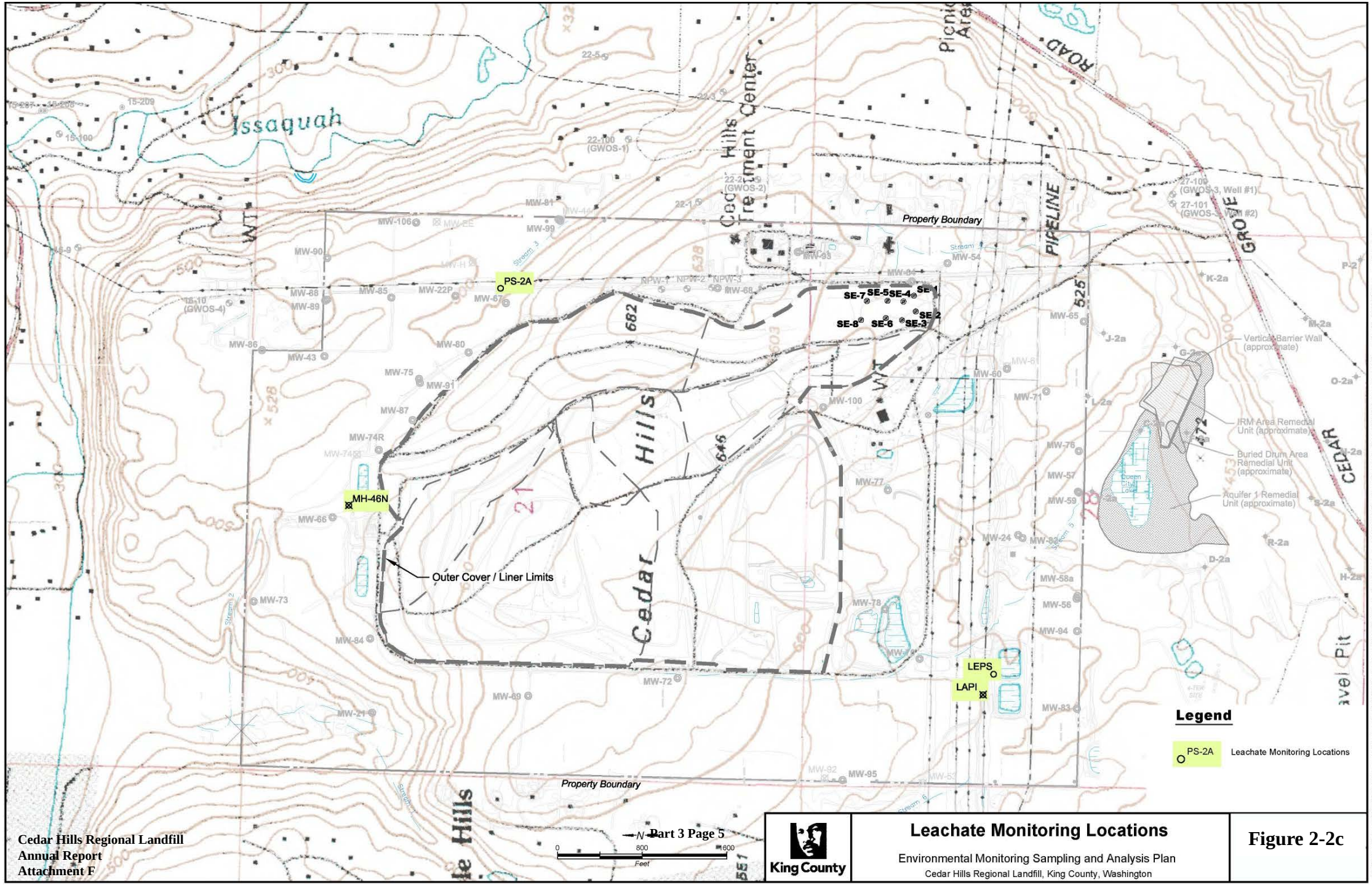
King County

Groundwater Monitoring Network

Environmental Monitoring Sampling and Analysis Plan
Cedar Hills Regional Landfill, King County, Washington

Figure 2-2a


Issaquah
Cedar Hills Regional Landfill
Property Boundary
Outer Cover / Liner Limits
Meteorological Station
SG-1
SG-2
SG-3
SG-4
SG-5
SG-6
SG-7
SG-8
SG-9
SG-S1
SW-E1
SW-S3
SW-SL3
SW-PF
SW-S2
SW-GS1
SW-S1
SW-W1
SW-W2
SW-N1
SW-N4
SW-SV
Vertical Barrier Wall (approximate)
IRM Area Remedial Unit (approximate)
Buried Drum Area Remedial Unit (approximate)
Aquifer 1 Remedial Unit (approximate)
Legend
Primary Surface Water and Stormwater Monitoring Locations
Contingency Surface Water Monitoring Locations
Staff Gage Locations
Meteorological Station Location
Note:
Contingency surface water monitoring locations are for potential use in evaluating WAC 173-201A compliance, should a reportable exceedance occur at the primary surface water and storm water monitoring locations.
King County
Surface Water and Stormwater Monitoring Network
Environmental Monitoring Sampling and Analysis Plan
Cedar Hills Regional Landfill, King County, Washington
Figure 2-2b



King County

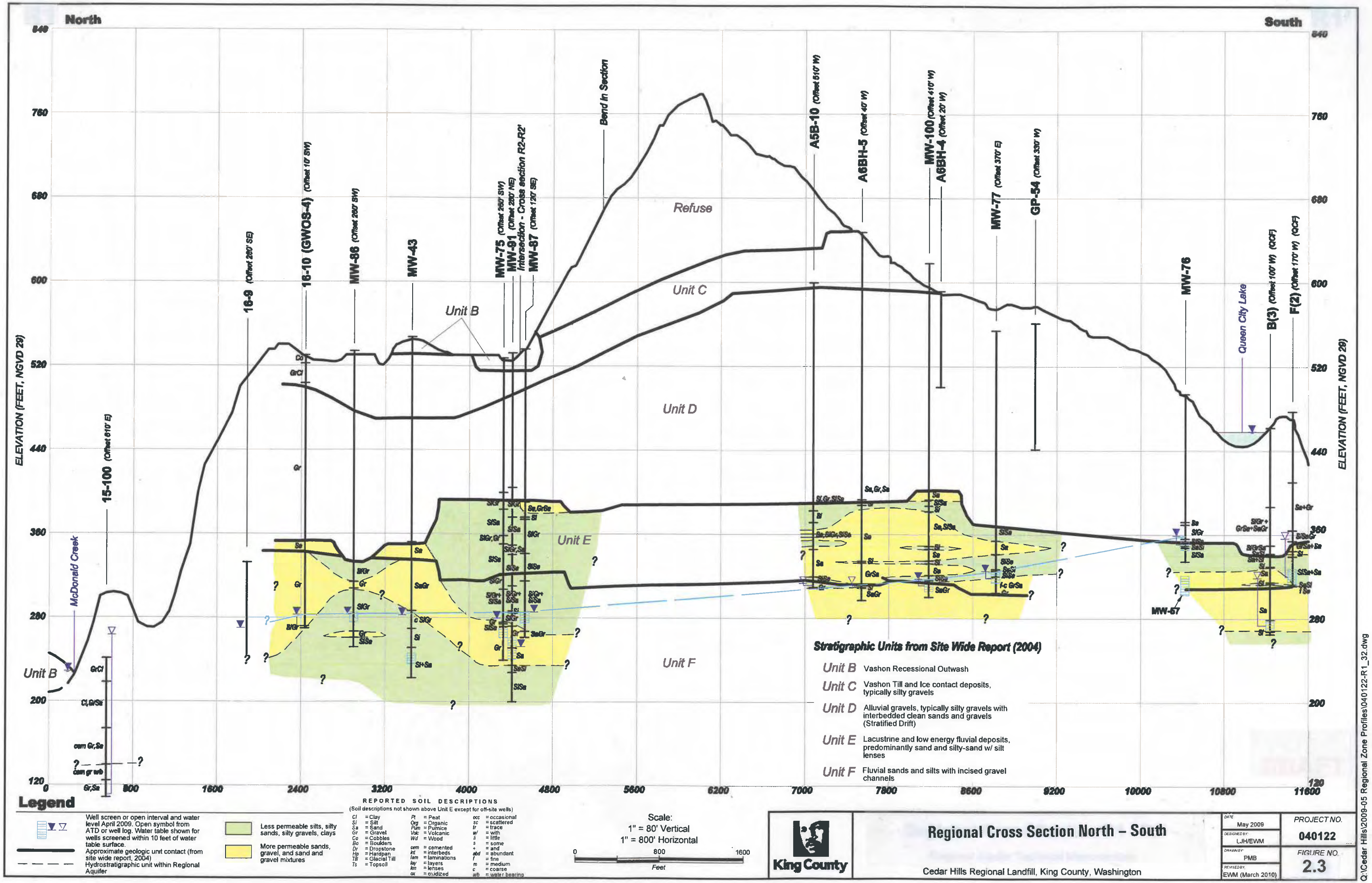
Leachate Monitoring Locations

Environmental Monitoring Sampling and Analysis Plan

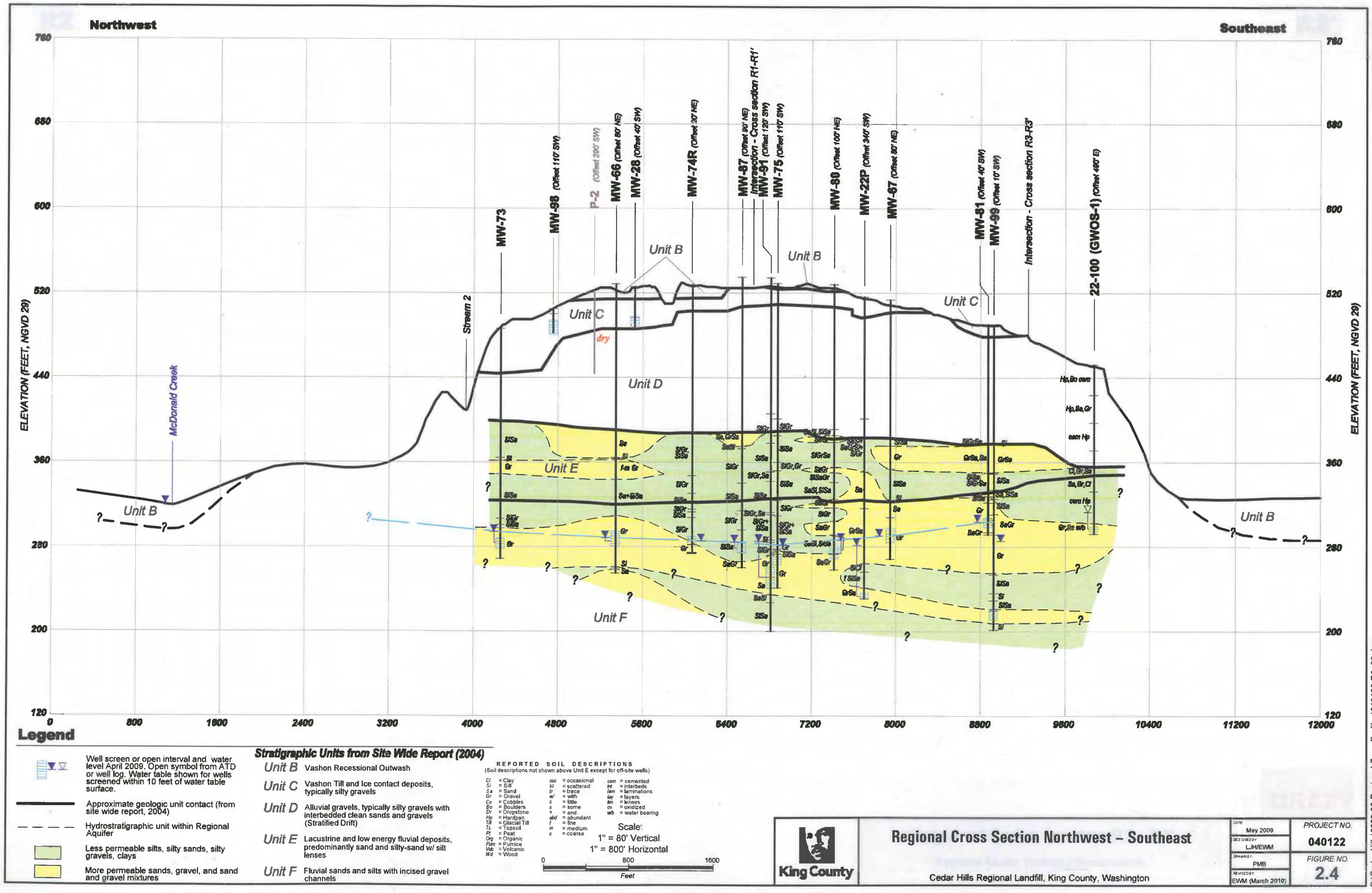
Cedar Hills Regional Landfill, King County, Washington

Figure 2-2c

CAD Path: Q:\Cedar Hills\2012-01 Environmental Analysis Plan\040122-91.dwg Figure 10.1 (11 x 17) || Coordinate System: NAD 1927 State Plane Washington North FIPS 4601 Feet || Date Saved: Jan 27, 2012 12:21pm || User: pbaker



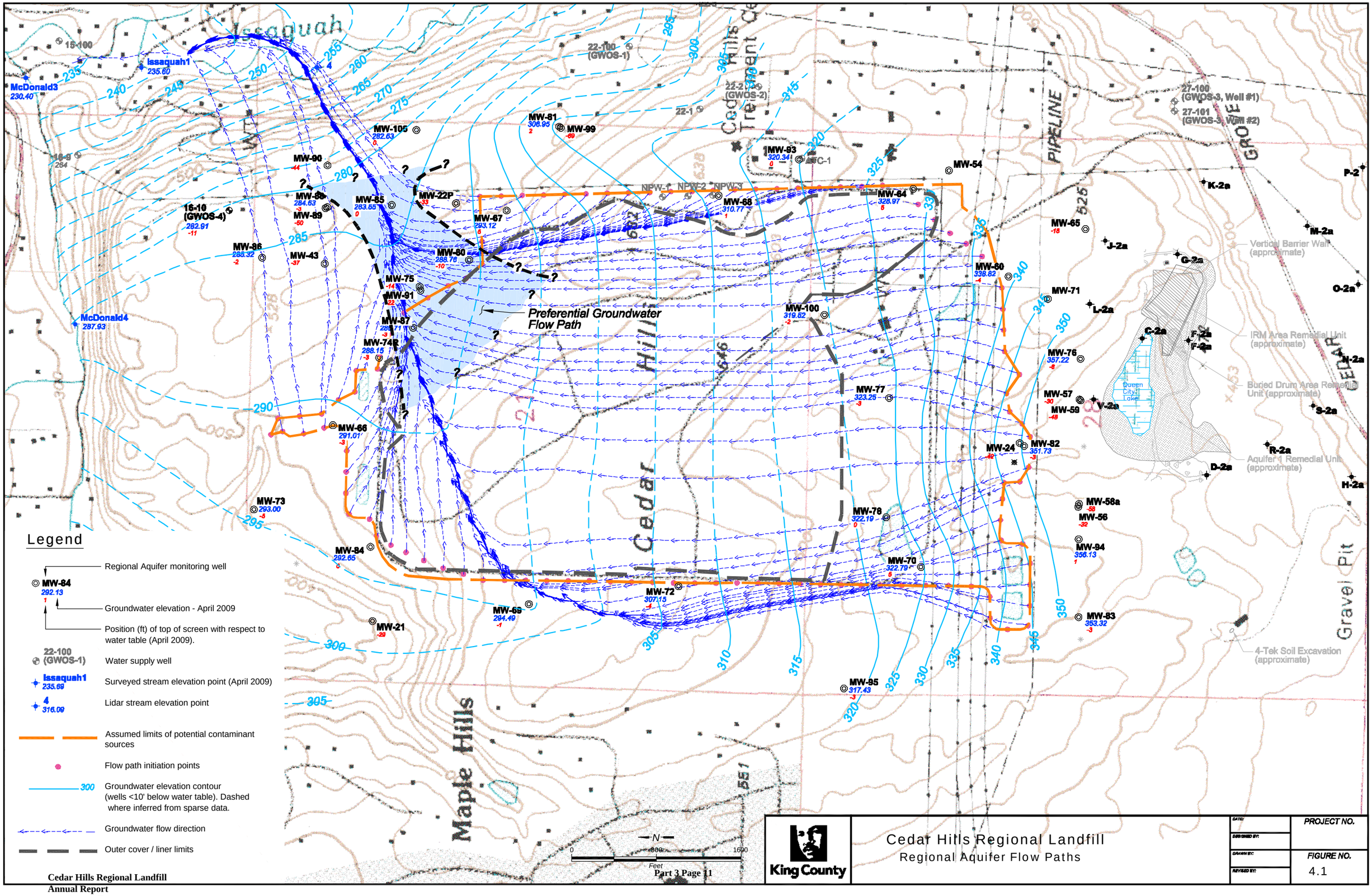
Excerpted from: *Cedar Hills Regional Landfill Regional Aquifer Technical Memorandum* 2011



Cedar Hills Regional Landfill
Annual Report
Attachment F

Excerpted From: *Cedar Hills Regional Aquifer Regional Aquifer Technical Memorandum* 2011

Cedar Hills Regional Landfill
Annual Report
Attachment F



Legend

- Regional Aquifer monitoring well
- MW-84 / 292.13 / 1 — Groundwater elevation - April 2009; Position (ft) of top of screen with respect to water table (April 2009).
- 22-100 (GWOS-1) — Water supply well
- Issaquah1 / 235.69 — Surveyed stream elevation point (April 2009)
- 4 / 316.09 — Lidar stream elevation point
- Assumed limits of potential contaminant sources
- Flow path initiation points
- 300 — Groundwater elevation contour (wells <10' below water table). Dashed where inferred from sparse data.
- Groundwater flow direction
- Outer cover / liner limits

King County

Cedar Hills Regional Landfill
Regional Aquifer Flow Paths

DATE:
DESIGNED BY:
DRAWN BY:
REVISED BY:

PROJECT NO.

FIGURE NO.
4.1

Cross Gradient Wells
MW-93 MW-106

Upgradient Northeast Wells
MW-81 MW-99

Vertical to Key Facilities
MW-66 MW-67 MW-68 MW-64

Downgradient Outside of Waste Cells
MW-43 MW-86
MW-88 MW-89
MW-90

Downgradient Wells
MW-74R MW-75
MW-80 MW-85
MW-87 MW-91

Interior Wells
MW-70 MW-77
MW-78 Mw-100

Upgradient Northwest Wells
MW-21 MW-73 MW-84

West Downgradient Wells
MW-69 MW-72

Cross Gradient Well
MW-95

Upgradient South Wells
MW-24 MW-54
MW-56 MW-57
MW-58A MW-59
MW-60 MW-65
MW-76 MW-82
MW-83 MW-94

MW-106 282.63 0
MW-81 306.95 2
MW-99 -69
MW-93 320.34 0
MW-54
MW-90 -44
MW-88 284.63 -3
MW-89 -50
MW-85 283.55 0
MW-22P -33
16-10 (GWOS-4) 282.91 -11
MW-67 293.12 5
MW-68 310.77 1
MW-64 328.97 5
SOUTHEAST PIT (UNLINED)
MW-65 -18
J-2a
G-
MW-86 285.32 -2
MW-43 -37
MW-80 288.76 -10
MW-60 338.82 -4
MW-71
L-2a
MW-75 -14
MW-91 -22
MAIN HILL (UNLINED)
MW-100 319.52 -2
MW-87 286.71 -3
MW-74R 288.15 -3
C-2a
MW-76 357.22 -6
AREA 6 (LINED)
MW-77 323.25 -3
MW-57 -30
V-2a
MW-59 -48
Queen City Lake
MW-66 291.01 -3
CENTRAL PIT (LINED)
SOUTH SOLID WASTE AREA (UNLINED)
MW-24 -42
MW-82 351.73 -3
REFUSE AREAS 2/3 (LINED)
AREA 5 (LINED)
MW-73 293.00 -5
MW-78 322.19 0
MW-58a -58
MW-56 -32
REFUSE AREA 4 (LINED)
AREA 7 (LINED)
MW-84 292.65 0
MW-70 322.79 5
MW-94 356.13 1
LEACHATE AERATION LAGOONS
MW-72 307.15 -4
MW-69 294.49 -1
MW-83 353.32 -3
MW-21 -29

Legend

- Groundwater elevation / Regional aquifer monitoring well (MW-73, 293.00, -5)
- Position (ft) of top of screen with respect to water table
- Detection zone for upper portion of shallow regional aquifer (Wells completed within 10 feet of water table)
- Detection zone for deeper portion of shallow regional aquifer (Wells completed more than 10 feet below water table)
- Dispersivity = 11
- Dispersivity = 1.7
- Water supply well (16-10 (GWOS-4))
- Cell limits
- Assumed limits of potential contaminant sources
- Outer cover / liner limits
- Leachate utilities

N
0 600 1,200
Feet

King County

Cedar Hills Regional Landfill
Regional Aquifer Monitoring Wells and Capture Zones

DATE:
DESIGNED BY:
DRAWN BY:
REVISED BY:
PROJECT NO.
FIGURE NO. 4.2

PART 4

Potentiometric Groundwater Surface Maps and Groundwater Velocity Calculations

Regional Aquifer

King County
Water and Land Resources Division
Department of Natural Resources and Parks
King Street Center
201 South Jackson Street, Suite 600
Seattle, WA 98104-3855
206-477-4800 Fax 206-296-0192
TTY Relay: 711

Memorandum

June 14, 2018

TO: Kris McArthur, Engineer II, Engineering Services Section, Solid Waste Division, Department of Natural Resources and Parks (DNRP)

FM: Sevin Bilir, Environmental Scientist IV, Science and Technical Support Section, Water and Land Resources Division, DNRP

RE: Potentiometric Groundwater Surface Maps & Groundwater Velocity Calculations
First Quarter 2018 Results – Regional Aquifer
Cedar Hills Landfill, King County, Washington
Project No. 1033379 – Task 02.14.137.20

The King County Water and Land Resources Division (WLR Division) submits this memorandum report on groundwater conditions during the first quarter of 2018 for the Cedar Hills Landfill (landfill), in accordance with the *Proposal for Potentiometric Groundwater Surface Maps & Groundwater Velocity Calculations* (WLR Division, 2018). King County Solid Waste Division (SWD) personnel measured regional aquifer groundwater elevations at the landfill on January 8, 2018. These measurements were received by the WLR Division on April 12, 2018 and were used to:

1. Evaluate the potentiometric groundwater surface elevation for the regional aquifer;
2. Determine the groundwater flow direction and horizontal gradient for the regional aquifer; and
3. Calculate the groundwater velocity of the regional aquifer.

There have been no significant changes in the interpreted regional aquifer groundwater conditions since the report submitted for the fourth quarter of the 2017 monitoring event.

Groundwater Elevation Data

SWD collected regional aquifer groundwater level measurements at 41 monitoring wells during the first quarter of 2018. These wells were completed in the regional aquifer as referred to in

Potentiometric Groundwater Surface Mapping and Groundwater Velocity Calculation – Cedar Hills Landfill (Aspect, 2010).

Table 1 lists the well identifications, locations, well details, measured groundwater levels, and calculated groundwater elevations for the regional aquifer. Wells with screened intervals within ten feet of the water table were used for potentiometric surface mapping purposes. A total of 23 wells with water levels within ten feet of the top of screen were selected.

Figure 1 shows well locations, groundwater elevations at the 23 selected wells, groundwater potentiometric surface contours, and interpreted groundwater flow direction in the regional aquifer for the January 8, 2018 measurement event.

Direction of Groundwater Flow

Figure 1 shows interpreted groundwater potentiometric surface contours and groundwater flow directions in the regional aquifer, based on the January 8, 2018 measurements. Groundwater elevations indicate that groundwater in the regional aquifer generally flowed north beneath the southern and central portions of the landfill with minor components of flow to the north-northwest and north-northeast. At the northern end of the landfill, groundwater generally flowed to the north and northeast.

Groundwater Parameters

Horizontal groundwater velocity was calculated using the following formula:

$$\text{where: } v = \frac{1}{n_{eff}} K \frac{\Delta H}{\Delta L}$$

v = Groundwater velocity [L/t]
n_{eff} = Effective porosity [dimensionless]
K = Hydraulic conductivity [L/t]
$\frac{\Delta H}{\Delta L}$ = Hydraulic gradient [L/L]

Horizontal groundwater velocity was calculated for the regional aquifer below the landfill. Horizontal groundwater velocity was calculated for the southern, central, and northern portions of the regional aquifer, based on spatial differences in aquifer parameters and hydraulic gradients. The hydraulic conductivity and effective porosity values were based on the range referred to in the *Potentiometric Groundwater Surface Mapping and Groundwater Velocity Calculation – Cedar Hills Landfill* (Aspect, 2010).

Table 2 presents a summary of the groundwater parameters used to calculate a groundwater velocity from the first quarter 2018 data. The hydraulic gradient was greatest under the southern portion of the landfill and smallest under the northern portion. On January 8, 2018, average horizontal groundwater velocity within the regional aquifer ranged from 0.009 feet per day (ft/d) under the southern portion of the landfill to 2.3 ft/d under the central portion of the landfill.

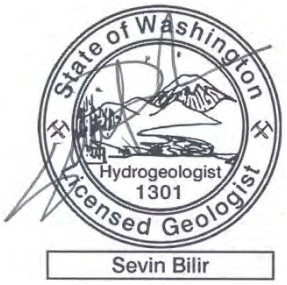
References

Aspect Consulting (Aspect). 2010. *Potentiometric Groundwater Surface Mapping and Groundwater Velocity Calculation – Cedar Hills Landfill.* Unpublished work. April 30.

King County Water and Land Resources Division (WLR Division). 2018. *Proposal for Potentiometric Groundwater Surface Maps & Groundwater Velocity Calculations.* King County Landfills (Cedar Falls, Cedar Hills, Enumclaw, Hobart, and Vashon Island). Unpublished. May 14.

Thank you for the opportunity to provide hydrogeologic services to the SWD. If you have any questions, please feel free to contact me at 206-477-4646 or sevin.bilir@kingcounty.gov.

This document was prepared under the supervision of a licensed hydrogeologist, whose seal appears below.



Sevin Bilir, WA LHG
Environmental Scientist IV
King County Water and Land Resources Division

Enclosures:

Table 1: Groundwater Elevations – First Quarter 2018
Table 2: Groundwater Parameters – First Quarter 2018
Figure 1: Groundwater Potentiometric Surface Map – First Quarter 2018 – Regional Aquifer

Table 1: Groundwater Elevations – First Quarter 2018

Cedar Hills Regional Landfill
King County, Washington

							January 8, 2018	
	Well Identification	X (ft)	Y (ft)	Top of Casing Elevation (ft MSL)	Top of Screen Elevation (ft)	Bottom of Screen Elevation (ft)	Measured Depth to Water (ft)	Groundwater Elevations (ft MSL)
Wells with water levels within 10 feet of the top of screen	MW-60	1701154.47	167873.20	567.15	334.81	325.81	226.17	340.98
	MW-64	1701980.27	168772.19	596.55	334.03	320.23	265.04	331.51
	MW-66	1699750.19	174250.32	531.28	294.39	280.59	238.22	293.06
	MW-67	1701776.69	172610.65	516.43	297.80	284.00	219.80	296.63
	MW-68	1701917.32	170609.35	647.07	311.29	292.29	330.96	316.11
	MW-69	1698061.86	172400.20	653.69	293.57	279.97	355.38	298.31
	MW-72	1698229.92	170987.71	671.87	303.63	294.03	360.23	311.64
	MW-73	1698954.95	174995.59	485.70	288.11	278.81	190.69	295.01
	MW-74R	1700386.85	173813.79	531.26	289.90	280.40	239.59	291.67
	MW-76	1700376.23	167193.13	491.71	351.06	341.56	132.93	358.78
	MW-81	1702568.87	172113.99	493.66	309.19	300.19	183.05	310.61
	MW-82	1699553.72	167725.31	474.85	348.88	339.38	123.10	351.75
	MW-83	1697939.89	167212.27	496.81	350.19	340.69	144.15	352.66
	MW-84	1698602.89	173894.54	530.80	292.46	282.96	235.46	295.34
	MW-85	1701828.95	173694.52	531.76	282.56	273.06	245.47	286.29
	MW-86	1701331.25	174917.90	536.04	283.43	274.63	249.25	286.79
	MW-87	1700670.27	173493.76	537.31	283.68	274.38	247.70	289.61
	MW-88	1701807.87	174303.06	513.68	281.52	272.22	226.81	286.87
	MW-93	1702259.35	169851.24	632.15	319.87	310.07	307.37	324.78
	MW-94	1698674.21	167210.22	495.51	357.22	348.52	140.30	355.21
	MW-95	1697265.32	169426.92	571.54	314.60	305.90	250.50	321.04
	MW-100	1700791.72	169610.46	620.32	319.06	309.06	297.05	323.27
	MW-106	1702536.99	173461.69	475.47	280.04	270.04	198.97	276.50
Wells with water levels greater than 10 feet above the top of screen	MW-21	1697901.86	173876.38	420.66	263.22	255.22	124.43	296.23
	MW-22P	1701844.34	173088.17	517.09	236.02	231.22	231.75	285.34
	MW-24	1699582.39	167767.76	475.99	286.76	281.76	144.42	331.57
	MW-43	1701274.23	174327.14	547.06	245.63	235.63	262.93	284.13
	MW-54	1702154.28	168435.53	580.43	250.25	228.25	278.20	302.23
	MW-56	1698980.77	167214.82	480.33	323.15	313.15	125.34	354.99
	MW-57	1699993.32	167201.99	456.64	326.65	311.65	99.50	357.14
	MW-58A	1699006.59	167207.16	479.27	270.05	260.05	148.20	331.07
	MW-59	1699983.91	167193.44	457.13	285.08	275.08	122.86	334.27
	MW-65	1701602.10	167146.55	545.83	317.71	308.91	208.19	337.64
	MW-75	1701059.70	173432.42	532.40	271.10	261.00	245.04	287.36
	MW-80	1701309.78	172964.99	530.41	279.17	269.67	238.39	292.02
	MW-89	1701799.57	174319.44	512.82	229.20	219.90	231.47	281.35
	MW-90	1702203.13	174300.67	502.22	235.16	226.16	220.93	281.29
	MW-91	1701023.09	173423.94	532.02	260.81	240.71	246.31	285.71
	MW-99	1702556.06	172098.73	493.64	221.77	212.77	199.81	293.83
	NPW-1	1701906.96	171138.99	646.33	299.87	284.87	331.51	314.82
	NPW-3	1701922.88	170663.28	645.81	284.87	276.87	NM	NM

Notes

1. Water level measurements made by KCSWD personnel.
2. Reference datum for XY coordinates is the North American Datum of 1927 (NAD27)
3. Elevations reported in feet above Mean Sea Level based on the National Geodetic Vertical Datum, 1929.

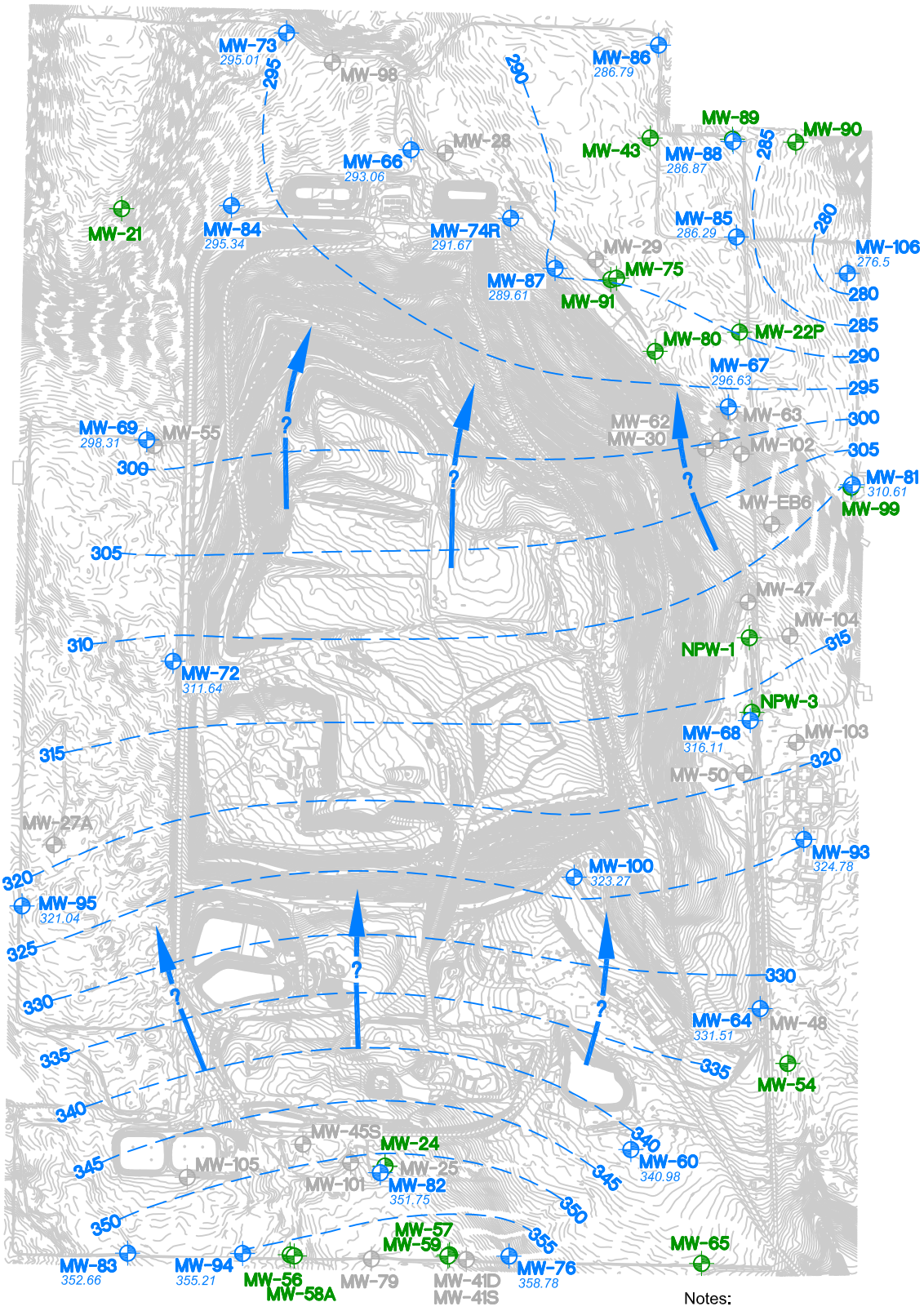
Table 2: Groundwater Parameters – First Quarter 2018

Cedar Hills Regional Landfill
King County, Washington

Regional Aquifer Zone Beneath the Landfill	Horizontal Hydraulic Conductivity (K)			Horizontal Hydraulic Gradient (DH/DL)	Effective Porosity (n_{eff})	Horizontal Groundwater Velocity (v)	General Groundwater Flow Direction
	Range	(cm/s)	(ft/d)	(ft/ft)		(ft/d)	
Northern	Minimum	2.10E-03	6	0.007	24%	0.176	N, NE
	Maximum	4.20E-02	120	0.007	24%	3.52	
	Mean	2.10E-02	60	0.007	24%	1.76	
Central	Minimum	2.10E-03	6	0.009	24%	0.23	N, NNE, NNW
	Maximum	4.20E-02	120	0.009	24%	4.6	
	Mean	2.10E-02	60	0.009	24%	2.3	
Southern	Minimum	6.40E-06	0.018	0.0131	26%	0.0009	N, NNE, NNW
	Maximum	6.40E-04	1.8	0.0131	26%	0.09	
	Mean	6.40E-05	0.18	0.0131	26%	0.009	

Notes

1. Horizontal hydraulic conductivity values and effective porosity values from *Potentiometric Groundwater Surface Mapping and Groundwater Velocity Calculation – Cedar Hills Landfill (Aspect, 2010).*
2. Hydraulic gradients measured from the potentiometric surface map shown on Figure 1.
3. Mean hydraulic conductivity values are the geometric mean of the high and low values.
4. NNE, north-northeast; NNW, north-northwest; NE, northeast; N, north



Legend

- MW-X / XXX.XX — Well completed in Regional Aquifer within 10 feet of the water table
- MW-X — Wells completed in Regional Aquifer more than 10 ft below water table
- MW-X — Wells screened in discontinuous Perched Zones
- 300 — Regional Aquifer Groundwater Elevation Contour *(feet MSL)*.
- ? — Inferred Horizontal Groundwater Flow Path

0 1000 2000 Feet

N

Notes:

1. Groundwater measurements made on January 8, 2018.
2. Only wells completed in the Regional Aquifer within 10 feet of the water table were used for contouring.

King County

Groundwater Potentiometric Surface Map
First Quarter 2018 - Regional Aquifer
Cedar Hills Landfill
King County, Washington

DATE: April 2018	PROJECT NO. 1033379
DESIGNED BY: SB	
DRAWN BY: KK	FIGURE NO. 1
REVISED BY: SB	

CH_1Q2018.dwg

King County
Water and Land Resources Division
Department of Natural Resources and Parks
King Street Center
201 South Jackson Street, Suite 600
Seattle, WA 98104-3855
206-477-4800 Fax 206-296-0192
TTY Relay: 711

Memorandum

August 9, 2018

TO: Kris McArthur, Engineer II, Facility Engineering and Science Unit, Solid Waste Division, Department of Natural Resources and Parks (DNRP)

FM: Sevin Bilir, Environmental Scientist IV, Science and Technical Support Section, Water and Land Resources Division, DNRP

RE: Potentiometric Groundwater Surface Maps & Groundwater Velocity Calculations
Second Quarter 2018 Results – Regional Aquifer
Cedar Hills Landfill, King County, Washington
Project No. 1033379 – Task 02.14.137.20

The King County Water and Land Resources Division (WLR Division) submits this memorandum report on groundwater conditions during the second quarter of 2018 for the Cedar Hills Landfill (landfill), in accordance with the *Proposal for Potentiometric Groundwater Surface Maps & Groundwater Velocity Calculations* (WLR Division, 2018). King County Solid Waste Division (SWD) personnel measured regional aquifer groundwater elevations at the landfill on April 6, 2018. These measurements were received by the WLR Division on June 1, 2018 and were used to:

1. Evaluate the potentiometric groundwater surface elevation for the regional aquifer;
2. Determine the groundwater flow direction and horizontal gradient for the regional aquifer; and
3. Calculate the groundwater velocity of the regional aquifer.

There have been no significant changes in the interpreted regional aquifer groundwater conditions since the report submitted for the first quarter of the 2018 monitoring event.

Groundwater Elevation Data

SWD collected regional aquifer groundwater level measurements at 39 monitoring wells during the second quarter of 2018. These wells were completed in the regional aquifer as referred to in

Potentiometric Groundwater Surface Mapping and Groundwater Velocity Calculation – Cedar Hills Landfill (Aspect, 2010).

Table 1 lists the well identifications, locations, well details, measured groundwater levels, and calculated groundwater elevations for the regional aquifer. Wells with screened intervals within ten feet of the water table were used for potentiometric surface mapping purposes. A total of 23 wells with water levels within ten feet of the top of screen were selected.

Figure 1 shows well locations, groundwater elevations at the 23 selected wells, groundwater potentiometric surface contours, and interpreted groundwater flow direction in the regional aquifer for the April 6, 2018 measurement event.

Direction of Groundwater Flow

Figure 1 shows interpreted groundwater potentiometric surface contours and groundwater flow directions in the regional aquifer, based on the April 6, 2018 measurements. Groundwater elevations indicate that groundwater in the regional aquifer generally flowed north beneath the southern portion of the landfill with minor components of flow to the north-northwest and north-northeast. In the central portion of the landfill, groundwater generally flowed to the north and north-northeast. At the northern end of the landfill, groundwater generally flowed to the north and north-northeast.

Groundwater Parameters

Horizontal groundwater velocity was calculated using the following formula:

$$\text{where: } v = \frac{1}{n_{eff}} K \frac{\Delta H}{\Delta L}$$

v = Groundwater velocity [L/t]
n_{eff} = Effective porosity [dimensionless]
K = Hydraulic conductivity [L/t]
$\frac{\Delta H}{\Delta L}$ = Hydraulic gradient [L/L]

Horizontal groundwater velocity was calculated for the regional aquifer below the landfill. Horizontal groundwater velocity was calculated for the southern, central, and northern portions of the regional aquifer, based on spatial differences in aquifer parameters and hydraulic gradients. The hydraulic conductivity and effective porosity values were based on the range referred to in the *Potentiometric Groundwater Surface Mapping and Groundwater Velocity Calculation – Cedar Hills Landfill* (Aspect, 2010).

Table 2 presents a summary of the groundwater parameters used to calculate a groundwater velocity from the second quarter 2018 data. The hydraulic gradient was greatest under the southern portion of the landfill and smallest under the northern portion. On April 6, 2018, average horizontal groundwater velocity within the regional aquifer ranged from 0.011 feet per

day (ft/d) under the southern portion of the landfill to 2.3 ft/d under the central portion of the landfill.

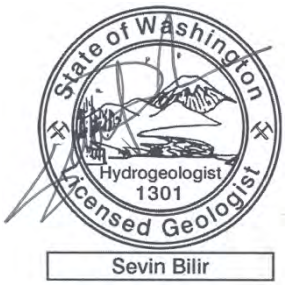
References

Aspect Consulting (Aspect). 2010. *Potentiometric Groundwater Surface Mapping and Groundwater Velocity Calculation – Cedar Hills Landfill.* Unpublished work. April 30.

King County Water and Land Resources Division (WLR Division). 2018. *Proposal for Potentiometric Groundwater Surface Maps & Groundwater Velocity Calculations.* King County Landfills (Cedar Falls, Cedar Hills, Enumclaw, Hobart, and Vashon Island). Unpublished. May 14.

Thank you for the opportunity to provide hydrogeologic services to the SWD. If you have any questions, please feel free to contact me at 206-477-4646 or sevin.bilir@kingcounty.gov.

This document was prepared under the supervision of a licensed hydrogeologist, whose seal appears below.



Sevin Bilir, WA LHG
Environmental Scientist IV
King County Water and Land Resources Division

Enclosures:

Table 1: Groundwater Elevations – Second Quarter 2018
Table 2: Groundwater Parameters – Second Quarter 2018
Figure 1: Groundwater Potentiometric Surface Map – Second Quarter 2018 – Regional Aquifer

Table 1: Groundwater Elevations – Second Quarter 2018

Cedar Hills Regional Landfill
King County, Washington

							April 6, 2018	
	Well Identification	X (ft)	Y (ft)	Top of Casing Elevation (ft MSL)	Top of Screen Elevation (ft)	Bottom of Screen Elevation (ft)	Measured Depth to Water (ft)	Groundwater Elevations (ft MSL)
Wells with water levels within 10 feet of the top of screen	MW-60	1701154.47	167873.20	567.15	334.81	325.81	222.83	344.32
	MW-64	1701980.27	168772.19	596.55	334.03	320.23	264.2	332.35
	MW-66	1699750.19	174250.32	531.28	294.39	280.59	237.68	293.6
	MW-67	1701776.69	172610.65	516.43	297.8	284	219.38	297.05
	MW-68	1701917.32	170609.35	647.07	311.29	292.29	330.72	316.35
	MW-69	1698061.86	172400.20	653.69	293.57	279.97	355.23	298.46
	MW-72	1698229.92	170987.71	671.87	303.63	294.03	360.6	311.27
	MW-73	1698954.95	174995.59	485.7	288.11	278.81	190.13	295.57
	MW-74R	1700386.85	173813.79	531.26	289.9	280.4	239.09	292.17
	MW-76	1700376.23	167193.13	491.71	351.06	341.56	133.77	357.94
	MW-81	1702568.87	172113.99	493.66	309.19	300.19	182.98	310.68
	MW-82	1699553.72	167725.31	474.85	348.88	339.38	119.84	355.01
	MW-83	1697939.89	167212.27	496.81	350.19	340.69	142.35	354.46
	MW-84	1698602.89	173894.54	530.8	292.46	282.96	235.08	295.72
	MW-85	1701828.95	173694.52	531.76	282.56	273.06	244.61	287.15
	MW-86	1701331.25	174917.90	536.04	283.43	274.63	248.44	287.6
	MW-87	1700670.27	173493.76	537.31	283.68	274.38	247.19	290.12
	MW-88	1701807.87	174303.06	513.68	281.52	272.22	225.94	287.74
	MW-93	1702259.35	169851.24	632.15	319.87	310.07	307	325.15
	MW-94	1698674.21	167210.22	495.51	357.22	348.52	138.6	356.91
	MW-95	1697265.32	169426.92	571.54	314.6	305.9	250.52	321.02
	MW-100	1700791.72	169610.46	620.32	319.06	309.06	296.43	323.89
	MW-106	1702536.99	173461.69	475.47	280.04	270.04	188.97	286.5
Wells with water levels greater than 10 feet above the top of screen	MW-21	1697901.86	173876.38	420.66	263.22	255.22	123.19	297.47
	MW-22P	1701844.34	173088.17	517.09	236.02	231.22	231.15	285.94
	MW-24	1699582.39	167767.76	475.99	286.76	281.76	143.36	332.63
	MW-43	1701274.23	174327.14	547.06	245.63	235.63	262.22	284.84
	MW-54	1702154.28	168435.53	580.43	250.25	228.25	277.19	303.24
	MW-56	1698980.77	167214.82	480.33	323.15	313.15	123.55	356.78
	MW-57	1699993.32	167201.99	456.64	326.65	311.65	99.03	357.61
	MW-58A	1699006.59	167207.16	479.27	270.05	260.05	147.31	331.96
	MW-59	1699983.91	167193.44	457.13	285.08	275.08	121.57	335.56
	MW-65	1701602.10	167146.55	545.83	317.71	308.91	207.28	338.55
	MW-75	1701059.70	173432.42	532.4	271.1	261	244.37	288.03
	MW-80	1701309.78	172964.99	530.41	279.17	269.67	237.81	292.6
	MW-89	1701799.57	174319.44	512.82	229.2	219.9	230.73	282.09
	MW-90	1702203.13	174300.67	502.22	235.16	226.16	220.14	282.08
	MW-91	1701023.09	173423.94	532.02	260.81	240.71	245.61	286.41
	MW-99	1702556.06	172098.73	493.64	221.77	212.77	199.2	294.44
	NPW-1	1701906.96	171138.99	646.33	299.87	284.87	NM	NM
	NPW-3	1701922.88	170663.28	645.81	284.87	276.87	NM	NM

Notes

1. Water level measurements made by KCSWD personnel.
2. Reference datum for XY coordinates is the North American Datum of 1927 (NAD27)
3. Elevations reported in feet above Mean Sea Level based on the National Geodetic Vertical Datum, 1929.

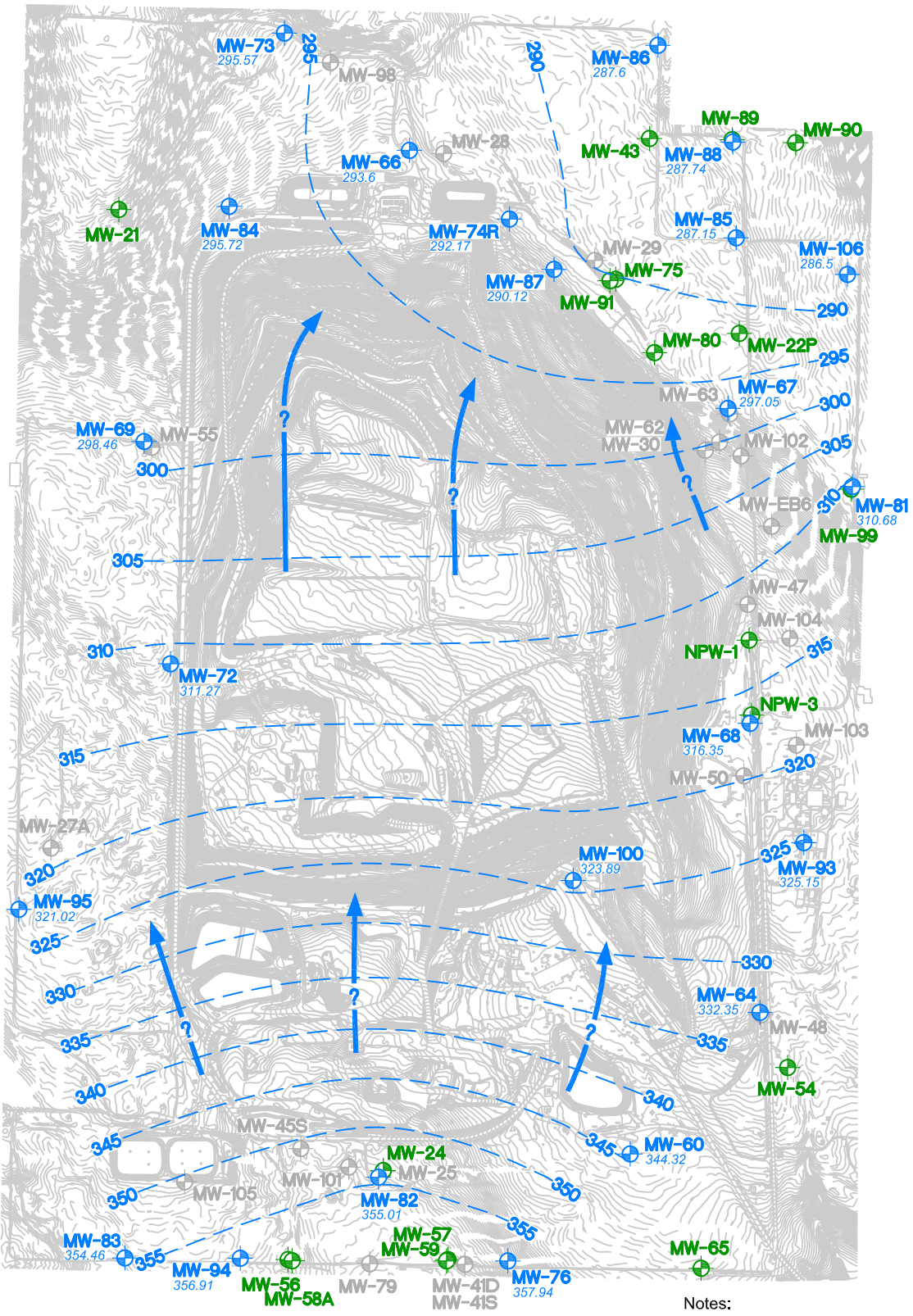
Table 2: Groundwater Parameters – Second Quarter 2018

Cedar Hills Regional Landfill
King County, Washington

Regional Aquifer Zone Beneath the Landfill	Horizontal Hydraulic Conductivity (*K*)			Horizontal Hydraulic Gradient (DH/DL)	Effective Porosity (n_{eff})	Horizontal Groundwater Velocity (*v*)	General Groundwater Flow Direction
	Range	(cm/s)	(ft/d)	(ft/ft)		(ft/d)	
Northern	Minimum	2.10E-03	6	0.005	24%	0.118	N, NNE, NNW
	Maximum	4.20E-02	120	0.005	24%	2.35	
	Mean	2.10E-02	60	0.005	24%	1.18	
Central	Minimum	2.10E-03	6	0.009	24%	0.23	N, NNW
	Maximum	4.20E-02	120	0.009	24%	4.5	
	Mean	2.10E-02	60	0.009	24%	2.3	
Southern	Minimum	6.40E-06	0.018	0.0153	26%	0.0011	N, NNE, NNW
	Maximum	6.40E-04	1.8	0.0153	26%	0.11	
	Mean	6.40E-05	0.18	0.0153	26%	0.011	

Notes

1. Horizontal hydraulic conductivity values and effective porosity values from *Potentiometric Groundwater Surface Mapping and Groundwater Velocity Calculation – Cedar Hills Landfill (Aspect, 2010).*
2. Hydraulic gradients measured from the potentiometric surface map shown on Figure 1.
3. Mean hydraulic conductivity values are the geometric mean of the high and low values.
4. NNE, north-northeast; NNW, north-northwest; NE, northeast; N, north



Legend

- **MW-X** / XXX.XX — Well completed in Regional Aquifer within 10 feet of the water table
- **MW-X** — Wells completed in Regional Aquifer more than 10 ft below water table
- **MW-X** — Wells screened in discontinuous Perched Zones
- 300 — Regional Aquifer Groundwater Elevation Contour *(feet MSL)*.
- ? — Inferred Horizontal Groundwater Flow Path

0 1000 2000 Feet

N

Notes:

1. Groundwater measurements made on April 6, 2018.
2. Only wells completed in the Regional Aquifer within 10 feet of the water table were used for contouring.

King County

Groundwater Potentiometric Surface Map
Second Quarter 2018 - Regional Aquifer
Cedar Hills Landfill
King County, Washington

DATE: June 2018	PROJECT NO. 1033379
DESIGNED BY: SB	
DRAWN BY: KK	FIGURE NO. 1
REVISED BY: SB	

CH_2Q2018.dwg

King County
Water and Land Resources Division
Department of Natural Resources and Parks
King Street Center
201 South Jackson Street, Suite 600
Seattle, WA 98104-3855
206-477-4800 Fax 206-296-0192
TTY Relay: 711

Memorandum

October 26, 2018

TO: Kris McArthur, Engineer II, Facility Engineering and Science Unit, Solid Waste Division, Department of Natural Resources and Parks (DNRP)

FM: Sevin Bilir, Environmental Scientist IV, Science and Technical Support Section, Water and Land Resources Division, DNRP

RE: Potentiometric Groundwater Surface Maps & Groundwater Velocity Calculations
Third Quarter 2018 Results – Regional Aquifer
Cedar Hills Landfill, King County, Washington
Project No. 1033379 – Task 02.14.137.20

The King County Water and Land Resources Division (WLR Division) submits this memorandum report on groundwater conditions during the third quarter of 2018 for the Cedar Hills Landfill (landfill), in accordance with the *Proposal for Potentiometric Groundwater Surface Maps & Groundwater Velocity Calculations* (WLR Division, 2018). King County Solid Waste Division (SWD) personnel measured regional aquifer groundwater elevations at the landfill on July 9, 2018. These measurements were received by the WLR Division on August 23, 2018 and were used to:

1. Evaluate the potentiometric groundwater surface elevation for the regional aquifer;
2. Determine the groundwater flow direction and horizontal gradient for the regional aquifer; and
3. Calculate the groundwater velocity of the regional aquifer.

There have been no significant changes in the interpreted regional aquifer groundwater conditions since the report submitted for the second quarter of the 2018 monitoring event.

Groundwater Elevation Data

SWD collected regional aquifer groundwater level measurements at 38 monitoring wells during the third quarter of 2018. These wells were completed in the regional aquifer as referred to in

Potentiometric Groundwater Surface Mapping and Groundwater Velocity Calculation – Cedar Hills Landfill (Aspect, 2010).

Table 1 lists the well identifications, locations, well details, measured groundwater levels, and calculated groundwater elevations for the regional aquifer. Wells with screened intervals within ten feet of the water table were used for potentiometric surface mapping purposes and are identified in blue. A total of 22 wells with water levels within ten feet of the top of screen were selected.

Figure 1 shows well locations, groundwater elevations at the 22 selected wells, groundwater potentiometric surface contours, and interpreted groundwater flow direction in the regional aquifer for the July 9, 2018 measurement event.

Direction of Groundwater Flow

Figure 1 shows interpreted groundwater potentiometric surface contours and groundwater flow directions in the regional aquifer, based on the July 9, 2018 measurements. Groundwater elevations indicate that groundwater in the regional aquifer generally flowed north beneath the southern portion of the landfill with minor components of flow to the north-northwest and north-northeast. In the central portion of the landfill, groundwater generally flowed to the north and north-northwest. At the northern end of the landfill, groundwater generally flowed to the northeast and north-northeast.

Groundwater Parameters

Horizontal groundwater velocity was calculated using the following formula:

$$\text{where: } v = \frac{1}{n_{eff}} K \frac{\Delta H}{\Delta L}$$

v = Groundwater velocity [L/t]
n_{eff} = Effective porosity [dimensionless]
K = Hydraulic conductivity [L/t]
$\frac{\Delta H}{\Delta L}$ = Hydraulic gradient [L/L]

Horizontal groundwater velocity was calculated for the regional aquifer below the landfill. Horizontal groundwater velocity was calculated for the southern, central, and northern portions of the regional aquifer, based on spatial differences in aquifer parameters and hydraulic gradients. The hydraulic conductivity and effective porosity values were based on the range referred to in the *Potentiometric Groundwater Surface Mapping and Groundwater Velocity Calculation – Cedar Hills Landfill* (Aspect, 2010).

Table 2 presents a summary of the groundwater parameters used to calculate a groundwater velocity from the third quarter 2018 data. The hydraulic gradient was greatest under the southern portion of the landfill and smallest under the northern portion. On July 9, 2018, average

horizontal groundwater velocity within the regional aquifer ranged from 0.010 feet per day (ft/d) under the southern portion of the landfill to 2.3 ft/d under the central portion of the landfill.

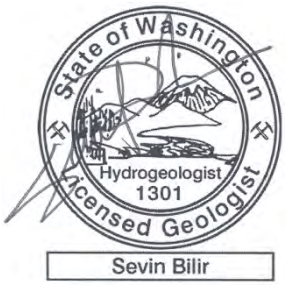
References

Aspect Consulting (Aspect). 2010. *Potentiometric Groundwater Surface Mapping and Groundwater Velocity Calculation – Cedar Hills Landfill.* Unpublished work. April 30.

King County Water and Land Resources Division (WLR Division). 2018. *Proposal for Potentiometric Groundwater Surface Maps & Groundwater Velocity Calculations.* King County Landfills (Cedar Falls, Cedar Hills, Enumclaw, Hobart, and Vashon Island). Unpublished. May 14.

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This document was prepared under the supervision of a licensed hydrogeologist, whose seal appears below.



Sevin Bilir, WA LHG
Environmental Scientist IV
King County Water and Land Resources Division

Enclosures:

Table 1: Groundwater Elevations – Third Quarter 2018
Table 2: Groundwater Parameters – Third Quarter 2018
Figure 1: Groundwater Potentiometric Surface Map – Third Quarter 2018 – Regional Aquifer

Table 1: Groundwater Elevations – Third Quarter 2018

Cedar Hills Regional Landfill
King County, Washington

							July 9, 2018	
	Well Identification	X (ft)	Y (ft)	Top of Casing Elevation (ft MSL)	Top of Screen Elevation (ft)	Bottom of Screen Elevation (ft)	Measured Depth to Water (ft)	Groundwater Elevations (ft MSL)
Wells with water levels within 10 feet of the top of screen	MW-64	1701980.27	168772.19	596.55	334.03	320.23	264.73	331.82
	MW-66	1699750.19	174250.32	531.28	294.39	280.59	237.97	293.31
	MW-67	1701776.69	172610.65	516.43	297.8	284	219.53	296.9
	MW-68	1701917.32	170609.35	647.07	311.29	292.29	331.12	315.95
	MW-69	1698061.86	172400.20	653.69	293.57	279.97	355.5	298.19
	MW-72	1698229.92	170987.71	671.87	303.63	294.03	360.47	311.4
	MW-73	1698954.95	174995.59	485.7	288.11	278.81	190.45	295.25
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	MW-84	1698602.89	173894.54	530.8	292.46	282.96	235.32	295.48
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	MW-106	1702536.99	173461.69	475.47	280.04	270.04	189.56	285.91
Wells with water levels greater than 10 feet above the top of screen	MW-21	1697901.86	173876.38	420.66	263.22	255.22	124.33	296.33
	MW-22P	1701844.34	173088.17	517.09	236.02	231.22	231.72	285.37
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	MW-43	1701274.23	174327.14	547.06	245.63	235.63	262.78	284.28
	MW-54	1702154.28	168435.53	580.43	250.25	228.25	277.77	302.66
	MW-56	1698980.77	167214.82	480.33	323.15	313.15	125.27	355.06
	MW-57	1699993.32	167201.99	456.64	326.65	311.65	102.62	354.02
	MW-58A	1699006.59	167207.16	479.27	270.05	260.05	148.12	331.15
	MW-59	1699983.91	167193.44	457.13	285.08	275.08	122.87	334.26
	MW-65	1701602.10	167146.55	545.83	317.71	308.91	208.3	337.53
	MW-75	1701059.70	173432.42	532.4	271.1	261	244.82	287.58
	MW-80	1701309.78	172964.99	530.41	279.17	269.67	238.14	292.27
	MW-89	1701799.57	174319.44	512.82	229.2	219.9	231.41	281.41
	MW-90	1702203.13	174300.67	502.22	235.16	226.16	220.96	281.26
	MW-91	1701023.09	173423.94	532.02	260.81	240.71	246.08	285.94
	MW-99	1702556.06	172098.73	493.64	221.77	212.77	199.72	293.92
Unknown water levels	MW-60	1701154.47	167873.20	567.15	334.81	325.81	NM	NM
	NPW-1	1701906.96	171138.99	646.33	299.87	284.87	NM	NM
	NPW-3	1701922.88	170663.28	645.81	284.87	276.87	NM	NM

Notes

1. Water level measurements made by KCSWD personnel.
2. Reference datum for XY coordinates is the North American Datum of 1927 (NAD27)
3. Elevations reported in feet above Mean Sea Level based on the National Geodetic Vertical Datum, 1929.

NM Not measured

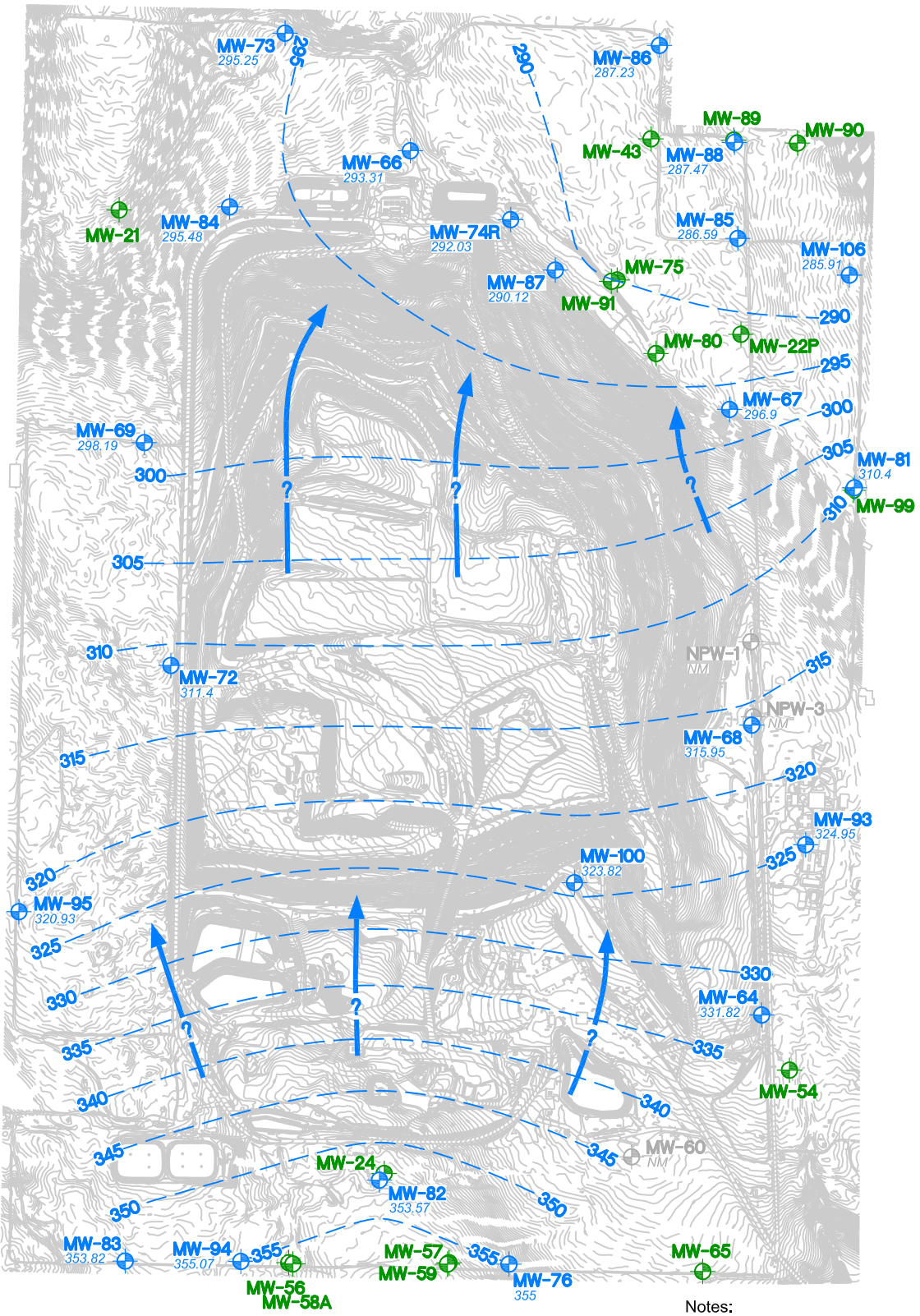
Table 2: Groundwater Parameters – Third Quarter 2018

Cedar Hills Regional Landfill
King County, Washington

Regional Aquifer Zone Beneath the Landfill	Horizontal Hydraulic Conductivity (*K*)			Horizontal Hydraulic Gradient (DH/DL)	Effective Porosity (n_{eff})	Horizontal Groundwater Velocity (*v*)	General Groundwater Flow Direction
	Range	(cm/s)	(ft/d)	(ft/ft)		(ft/d)	
Northern	Minimum	2.10E-03	6	0.006	24%	0.154	NNE, NE
	Maximum	4.20E-02	120	0.006	24%	3.09	
	Mean	2.10E-02	60	0.006	24%	1.54	
Central	Minimum	2.10E-03	6	0.009	24%	0.23	N, NNW
	Maximum	4.20E-02	120	0.009	24%	4.7	
	Mean	2.10E-02	60	0.009	24%	2.3	
Southern	Minimum	6.40E-06	0.018	0.0143	26%	0.0010	N, NNE, NNW
	Maximum	6.40E-04	1.8	0.0143	26%	0.10	
	Mean	6.40E-05	0.18	0.0143	26%	0.010	

Notes

1. Horizontal hydraulic conductivity values and effective porosity values from *Potentiometric Groundwater Surface Mapping and Groundwater Velocity Calculation – Cedar Hills Landfill (Aspect, 2010).*
2. Hydraulic gradients measured from the potentiometric surface map shown on Figure 1.
3. Mean hydraulic conductivity values are the geometric mean of the high and low values.
4. NNE, north-northeast; NNW, north-northwest; NE, northeast; N, north



Legend

- MW-X / XXX.XX — Well completed in Regional Aquifer within 10 feet of the water table
- MW-X — Wells completed in Regional Aquifer more than 10 ft below water table
- MW-X — Wells completed in Regional Aquifer having unknown water levels.
- 300 — Regional Aquifer Groundwater Elevation Contour *(feet MSL)*.
- ? — Inferred Horizontal Groundwater Flow Path

0 1000 2000 Feet

N

Notes:

1. Groundwater measurements made on July 9, 2018.
2. Only wells completed in the Regional Aquifer within 10 feet of the water table were used for contouring.

King County

Groundwater Potentiometric Surface Map
Third Quarter 2018 - Regional Aquifer
Cedar Hills Landfill
King County, Washington

DATE: September 2018	PROJECT NO. 1033379
DESIGNED BY: SB	
DRAWN BY: KK	FIGURE NO. 1
REVISED BY: SB	

CH_3Q2018.dwg

King County
Water and Land Resources Division
Department of Natural Resources and Parks
King Street Center
201 South Jackson Street, Suite 600
Seattle, WA 98104-3855
206-477-4800 Fax 206-296-0192
TTY Relay: 711

Memorandum

February 27, 2019

TO: Kris McArthur, Engineer II, Facility Engineering and Science Unit, Solid Waste Division, Department of Natural Resources and Parks (DNRP)

FM: Sevin Bilir, Environmental Scientist IV, Science and Technical Support Section, Water and Land Resources Division, DNRP

RE: Potentiometric Groundwater Surface Maps & Groundwater Velocity Calculations
Fourth Quarter 2018 Results – Regional Aquifer
Cedar Hills Regional Landfill, King County, Washington
Project No. 1033379 – Task 02.14.137.20

The King County Water and Land Resources Division (WLR Division) submits this memorandum report on groundwater conditions during the fourth quarter of 2018 for the Cedar Hills Regional Landfill (landfill), in accordance with the *Proposal for Potentiometric Groundwater Surface Maps & Groundwater Velocity Calculations* (WLR Division, 2019). King County Solid Waste Division (SWD) personnel measured regional aquifer groundwater elevations at the landfill on October 3, 2018. These measurements were received by the WLR Division on December 27, 2018 and were used to:

1. Evaluate the potentiometric groundwater surface elevation for the regional aquifer;
2. Determine the groundwater flow direction and horizontal gradient for the regional aquifer; and
3. Calculate the groundwater velocity of the regional aquifer.

There have been no significant changes in the interpreted regional aquifer groundwater conditions since the report submitted for the third quarter of the 2018 monitoring event.

Groundwater Elevation Data

SWD collected regional aquifer groundwater level measurements at 41 monitoring wells during the fourth quarter of 2018. These wells were completed in the regional aquifer as referred to in *Potentiometric Groundwater Surface Mapping and Groundwater Velocity Calculation – Cedar Hills Landfill* (Aspect, 2010).

Table A-1 lists the well identifications, locations, well details, measured groundwater levels, and calculated groundwater elevations for the regional aquifer. A total of twenty-two wells had measured water levels within ten feet of the top of the screened interval and were used for potentiometric surface mapping purposes.

Figure A-1 shows well locations, groundwater elevations at the 22 selected wells, groundwater potentiometric surface contours, and interpreted groundwater flow direction in the regional aquifer for the October 3, 2018 measurement event.

Direction of Groundwater Flow

Figure 1 shows interpreted groundwater potentiometric surface contours and groundwater flow directions in the regional aquifer, based on the October 3, 2018 measurements. Groundwater elevations indicate that groundwater in the regional aquifer generally flowed north beneath the southern portion of the landfill with minor components of flow to the north-northwest and north-northeast. In the central portion of the landfill, groundwater generally flowed to the north and north-northwest. At the northern end of the landfill, groundwater generally flowed to the northeast and north-northeast.

Groundwater Parameters

Horizontal groundwater velocity was calculated using the following formula:

where: $v = \frac{1}{n_{eff}} K \frac{\Delta H}{\Delta L}$

v = Groundwater velocity [L/t]
n_{eff} = Effective porosity [dimensionless]
K = Hydraulic conductivity [L/t]
$\frac{\Delta H}{\Delta L}$ = Hydraulic gradient [L/L]

Horizontal groundwater velocity was calculated for the regional aquifer below the landfill. Horizontal groundwater velocity was calculated for the southern, central, and northern portions of the regional aquifer, based on spatial differences in aquifer parameters and hydraulic gradients. The hydraulic conductivity and effective porosity values were based on the range referred to in the *Potentiometric Groundwater Surface Mapping and Groundwater Velocity Calculation – Cedar Hills Landfill* (Aspect, 2010).

Table 2 presents a summary of the groundwater parameters used to calculate a groundwater velocity from the fourth quarter 2018 data. The hydraulic gradient was greatest under the southern portion of the landfill and smallest under the northern portion. On October 3, 2018, average horizontal groundwater velocity within the regional aquifer ranged from 0.009 feet per day (ft/d) under the southern portion of the landfill to 1.13 ft/d under the central portion of the landfill.

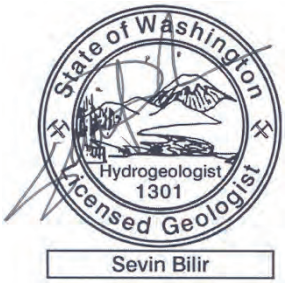
References

Aspect Consulting (Aspect). 2010. Potentiometric Groundwater Surface Mapping and Groundwater Velocity Calculation – Cedar Hills Landfill. Unpublished work. April 30.

KCWLR Division. 2019. *Proposal for 2019 Potentiometric Groundwater Surface Maps & Groundwater Velocity Calculations*; King County Closed Landfills (Cedar Falls, Enumclaw, Hobart and Vashon Island) and Cedar Hills Regional Landfill. January 31.

Thank you for the opportunity to provide hydrogeologic services to the SWD. If you have any questions, please feel free to contact me at 206-477-4646 or sevin.bilir@kingcounty.gov.

This document was prepared under the supervision of a licensed hydrogeologist, whose seal appears below.



Sevin Bilir, WA LHG
Environmental Scientist IV
King County Water and Land Resources Division

Enclosures:

Table A-1:	Groundwater Elevations – Fourth Quarter 2018
Table A-2:	Groundwater Parameters – Fourth Quarter 2018
Figure A-1:	Groundwater Potentiometric Surface Map – Fourth Quarter 2018 – Regional Aquifer

Table A-1: Groundwater Elevations – Fourth Quarter 2018

Cedar Hills Regional Landfill
King County, Washington

							October 3, 2018	
	Well Identification	X (ft)	Y (ft)	Top of Casing Elevation (ft MSL)	Top of Screen Elevation (ft)	Bottom of Screen Elevation (ft)	Measured Depth to Water (ft)	Groundwater Elevations (ft MSL)
Wells with water levels within 10 feet of the top of screen	MW-60	1701154.47	167873.20	567.15	334.81	325.81	227.36	339.79
	MW-64	1701980.27	168772.19	596.55	334.03	320.23	265.05	331.5
	MW-66	1699750.19	174250.32	531.28	294.39	280.59	238.72	292.56
	MW-67	1701776.69	172610.65	516.43	297.8	284	220.1	296.33
	MW-68	1701917.32	170609.35	647.07	311.29	292.29	331.51	315.56
	MW-69	1698061.86	172400.20	653.69	293.57	279.97	355.51	298.18
	MW-72	1698229.92	170987.71	671.87	303.63	294.03	360.47	311.4
	MW-73	1698954.95	174995.59	485.7	288.11	278.81	191.41	294.29
	MW-74R	1700386.85	173813.79	531.26	289.9	280.4	239.78	291.48
	MW-76	1700376.23	167193.13	491.71	351.06	341.56	140.73	350.98
	MW-81	1702568.87	172113.99	493.66	309.19	300.19	183.68	309.98
	MW-82	1699553.72	167725.31	474.85	348.88	339.38	124.4	350.45
	MW-83	1697939.89	167212.27	496.81	350.19	340.69	144.6	352.21
	MW-84	1698602.89	173894.54	530.8	292.46	282.96	235.83	294.97
	MW-85	1701828.95	173694.52	531.76	282.56	273.06	245.94	285.82
	MW-86	1701331.25	174917.90	536.04	283.43	274.63	248.6	287.44
	MW-87	1700670.27	173493.76	537.31	283.68	274.38	247.92	289.39
	MW-88	1701807.87	174303.06	513.68	281.52	272.22	227.02	286.66
	MW-93	1702259.35	169851.24	632.15	319.87	310.07	307.61	324.54
	MW-94	1698674.21	167210.22	495.51	357.22	348.52	143	352.51
	MW-95	1697265.32	169426.92	571.54	314.6	305.9	250.48	321.06
	MW-100	1700791.72	169610.46	620.32	319.06	309.06	297.1	323.22
	MW-106	1702536.99	173461.69	475.47	280.04	270.04	190.39	285.08
Wells with water levels greater than 10 feet above the top of screen	MW-21	1697901.86	173876.38	420.66	263.22	255.22	124.75	295.91
	MW-22P	1701844.34	173088.17	517.09	236.02	231.22	232.34	284.75
	MW-24	1699582.39	167767.76	475.99	286.76	281.76	145.54	330.45
	MW-43	1701274.23	174327.14	547.06	245.63	235.63	263.47	283.59
	MW-54	1702154.28	168435.53	580.43	250.25	228.25	278.15	302.28
	MW-56	1698980.77	167214.82	480.33	323.15	313.15	128.11	352.22
	MW-57	1699993.32	167201.99	456.64	326.65	311.65	105.23	351.41
	MW-58A	1699006.59	167207.16	479.27	270.05	260.05	149.33	329.94
	MW-59	1699983.91	167193.44	457.13	285.08	275.08	124.53	332.6
	MW-65	1701602.10	167146.55	545.83	317.71	308.91	209.82	336.01
	MW-75	1701059.70	173432.42	532.4	271.1	261	245.46	286.94
	MW-80	1701309.78	172964.99	530.41	279.17	269.67	238.69	291.72
	MW-89	1701799.57	174319.44	512.82	229.2	219.9	232.13	280.69
	MW-90	1702203.13	174300.67	502.22	235.16	226.16	221.79	280.43
	MW-91	1701023.09	173423.94	532.02	260.81	240.71	246.74	285.28
	MW-99	1702556.06	172098.73	493.64	221.77	212.77	200.32	293.32
	WS-NPW-1	1701906.96	171138.99	646.33	282.8	267.9	331.97	314.36
	WS-NPW-3	1701922.88	170663.28	645.81	285	273.9	330.45	315.36

Notes

1. Water level measurements made by KCSWD personnel.
2. Reference datum for XY coordinates is the North American Datum of 1927 (NAD27)
3. Elevations reported in feet above Mean Sea Level based on the National Geodetic Vertical Datum, 1929.

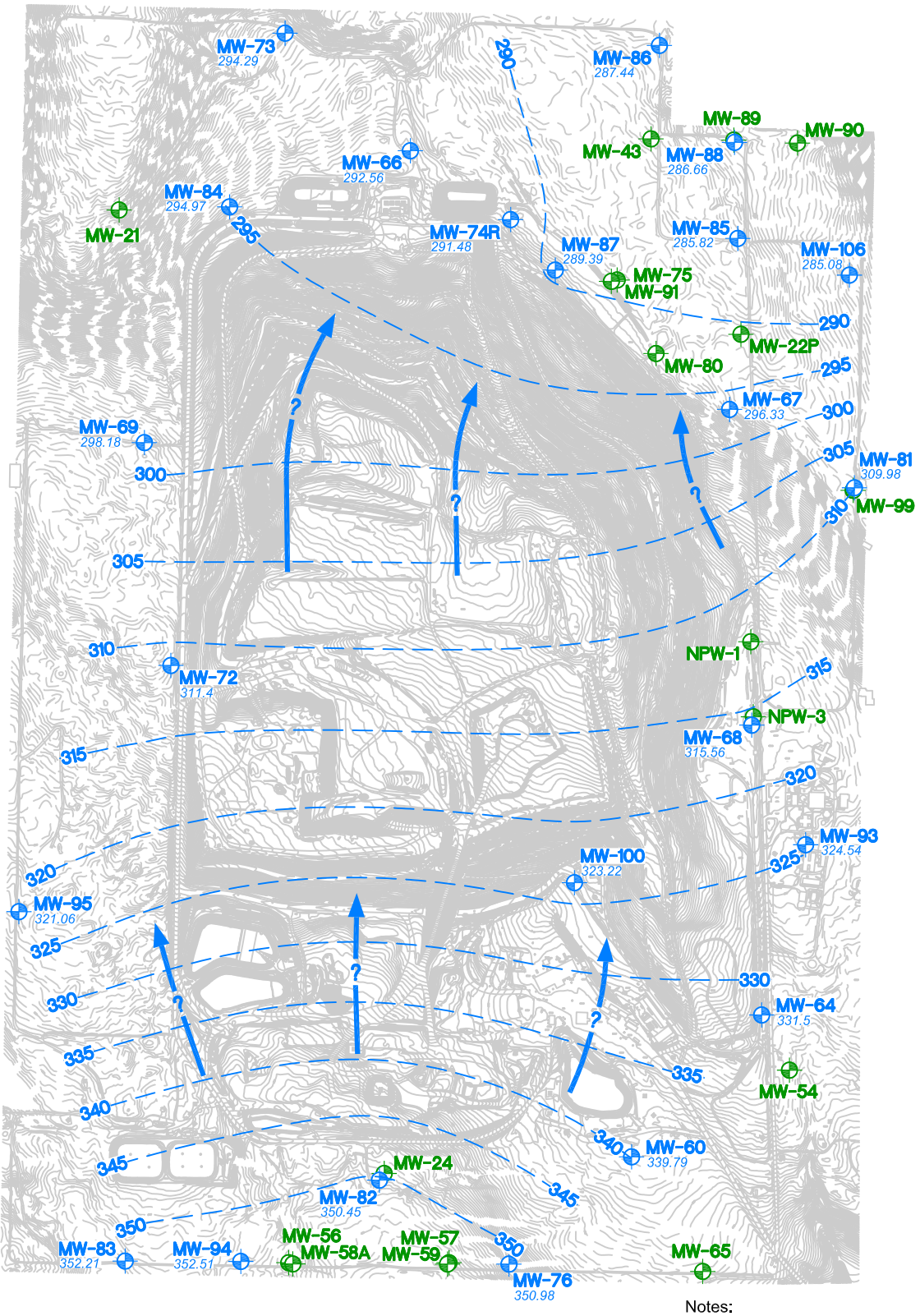
Table A-2: Groundwater Parameters – Fourth Quarter 2018

Cedar Hills Regional Landfill
King County, Washington

Regional Aquifer Zone Beneath the Landfill	Horizontal Hydraulic Conductivity (*K*)			Horizontal Hydraulic Gradient (DH/DL)	Effective Porosity (n_{eff})	Horizontal Groundwater Velocity (*v*)	General Groundwater Flow Direction
	Range	(cm/s)	(ft/d)	(ft/ft)		(ft/d)	
Northern	Minimum	2.10E-03	6	0.005	24%	0.113	NNE, NE
	Maximum	4.20E-02	120	0.005	24%	2.26	
	Mean	2.10E-02	60	0.005	24%	1.13	
Central	Minimum	2.10E-03	6	0.010	24%	0.24	N, NNW
	Maximum	4.20E-02	120	0.010	24%	4.8	
	Mean	2.10E-02	60	0.010	24%	2.4	
Southern	Minimum	6.40E-06	0.018	0.0136	26%	0.001	N, NNE, NNW
	Maximum	6.40E-04	1.8	0.0136	26%	0.094	
	Mean	6.40E-05	0.18	0.0136	26%	0.009	

Notes

1. Horizontal hydraulic conductivity values and effective porosity values from *Potentiometric Groundwater Surface Mapping and Groundwater Velocity Calculation – Cedar Hills Landfill (Aspect, 2010).*
2. Hydraulic gradients measured from the potentiometric surface map shown on Figure 1.
3. Mean hydraulic conductivity values are the geometric mean of the high and low values.
4. NNE, north-northeast; NNW, north-northwest; NE, northeast; N, north



Legend

MW-X XXX.XX — Well completed in Regional Aquifer with water levels within the screen or within 10 feet of the top of screen.

MW-X — Wells completed in Regional Aquifer with water levels more than 10 feet above the top of screen.

300 — Regional Aquifer Groundwater Elevation Contour *(feet MSL)*.

? — Inferred Horizontal Groundwater Flow Path

0 1000 2000 Feet

N

Notes:

1. Groundwater measurements made on October 3, 2018.
2. Only wells completed in the Regional Aquifer with well screen tops within 10 feet of the water table were used for contouring.

King County

Groundwater Potentiometric Surface Map
Fourth Quarter 2018 - Regional Aquifer
Cedar Hills Regional Landfill
King County, Washington

DATE: February 2019	PROJECT NO. 1033379
DESIGNED BY: SB	
DRAWN BY: KK	FIGURE NO. 1
REVISED BY: SB	

CH_4Q2018.dwg

PART 5

Time-Concentration Plots
Monitoring Well Hydrographs

Regional Aquifer
- **Long Term**
- **Short Term**

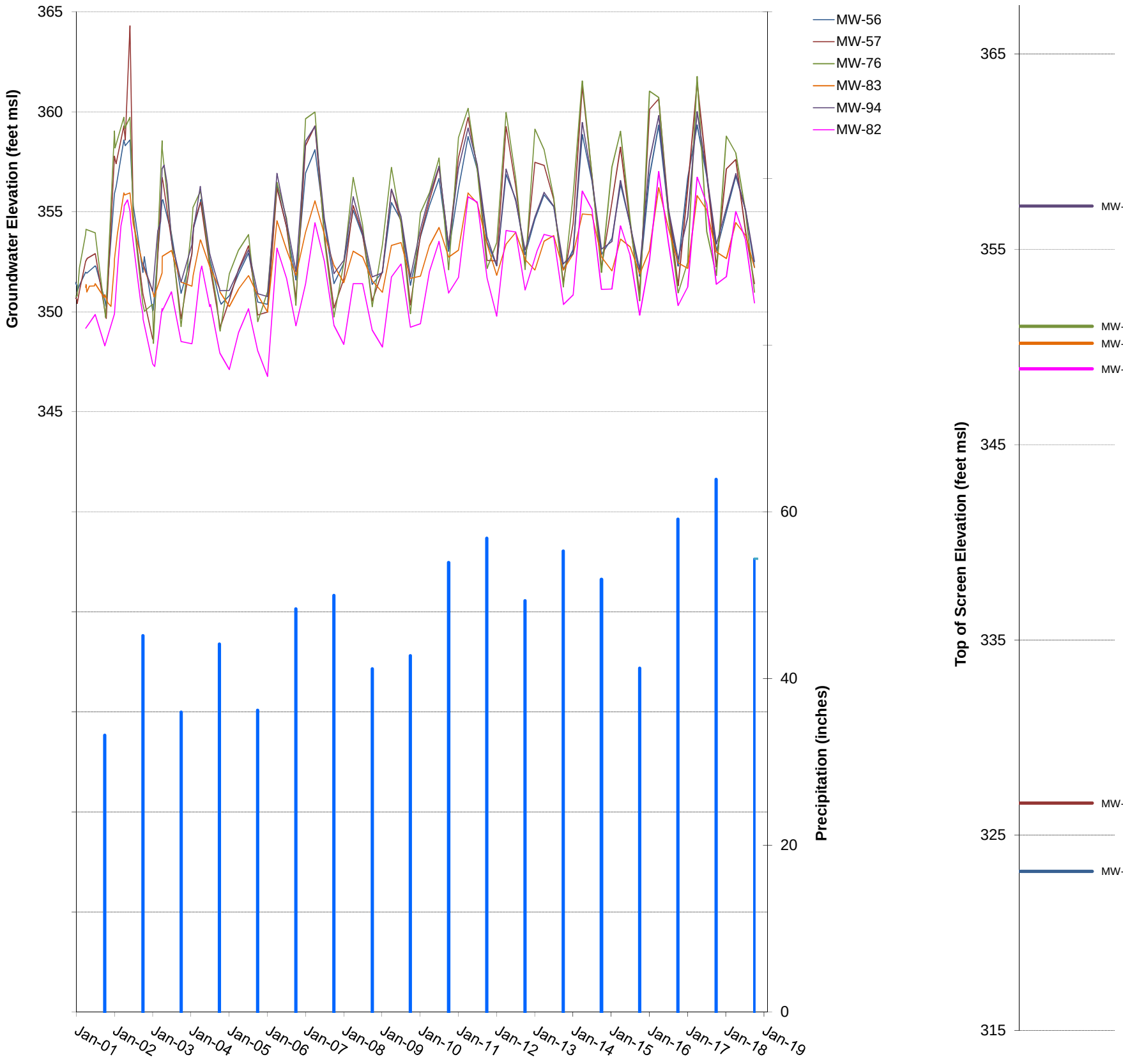
North and West Perched Wells

East Main Hill Perched Zone

South Solid Waste Area Perched Wells
- **Long Term**
- **Short Term**

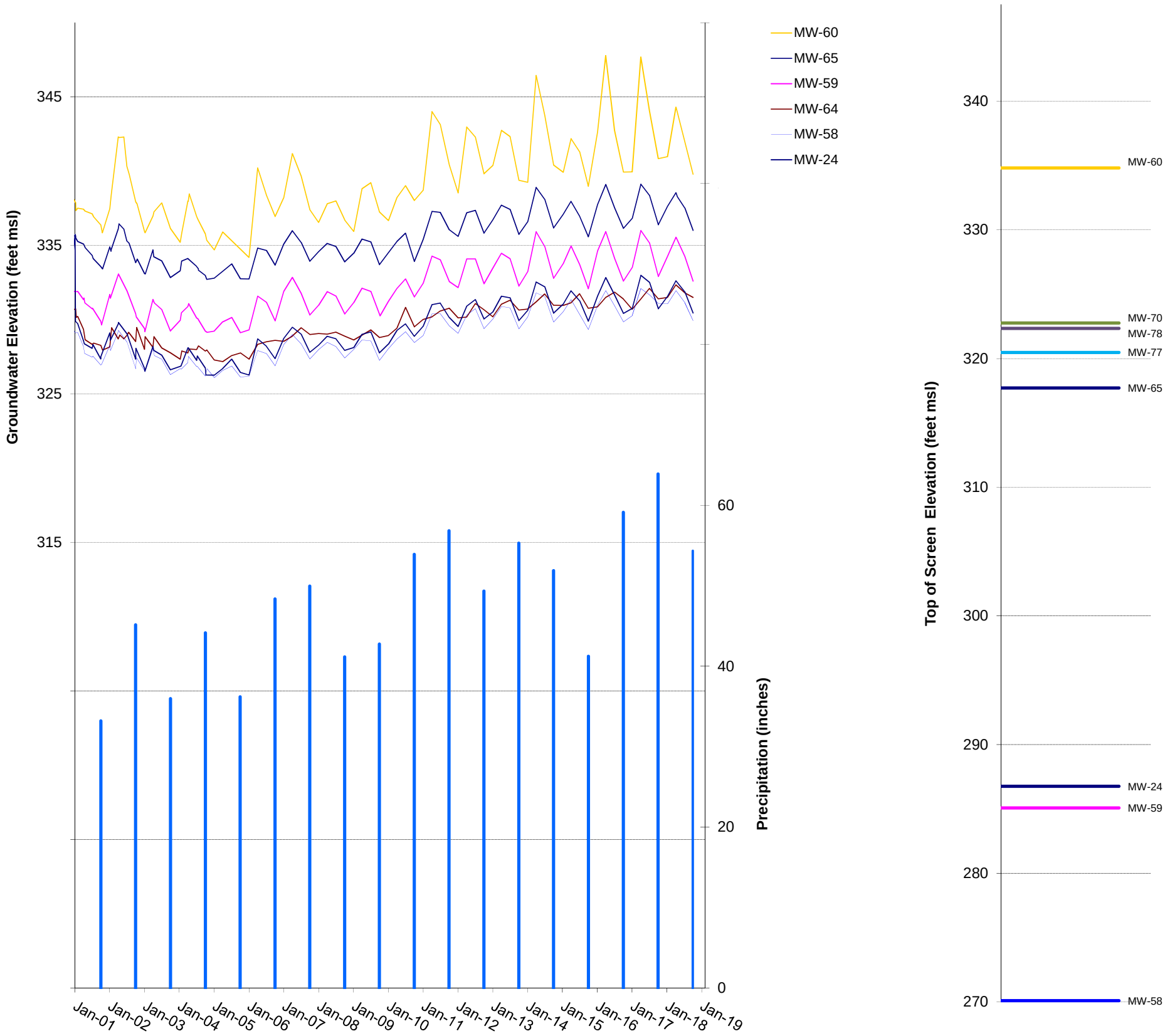
REGIONAL AQUIFER GROUNDWATER ELEVATIONS

POTENTIOMETRIC SURFACE 345-365 FT. MSL

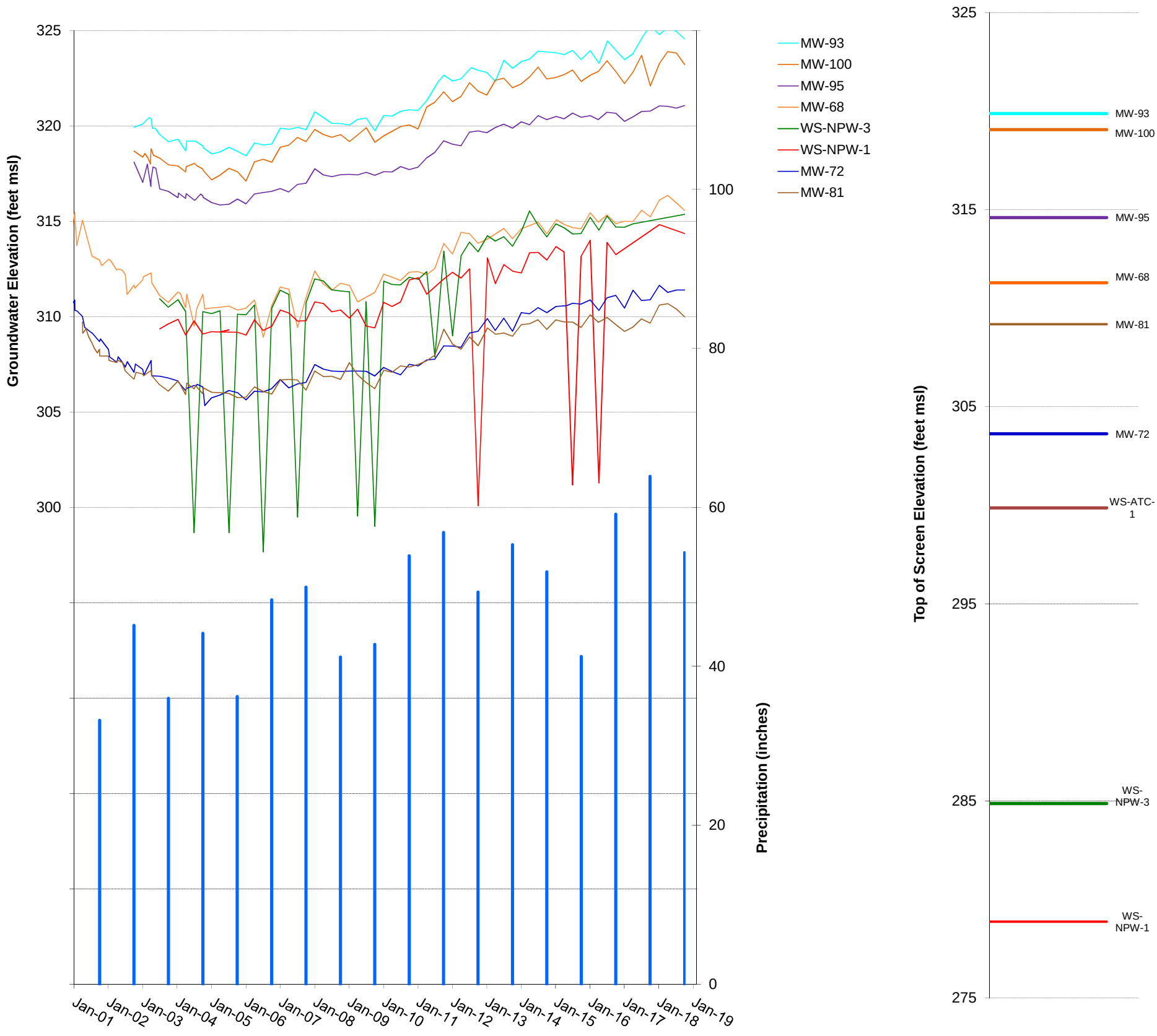


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POTENTIOMETRIC SURFACE 320-345 FT. MSL

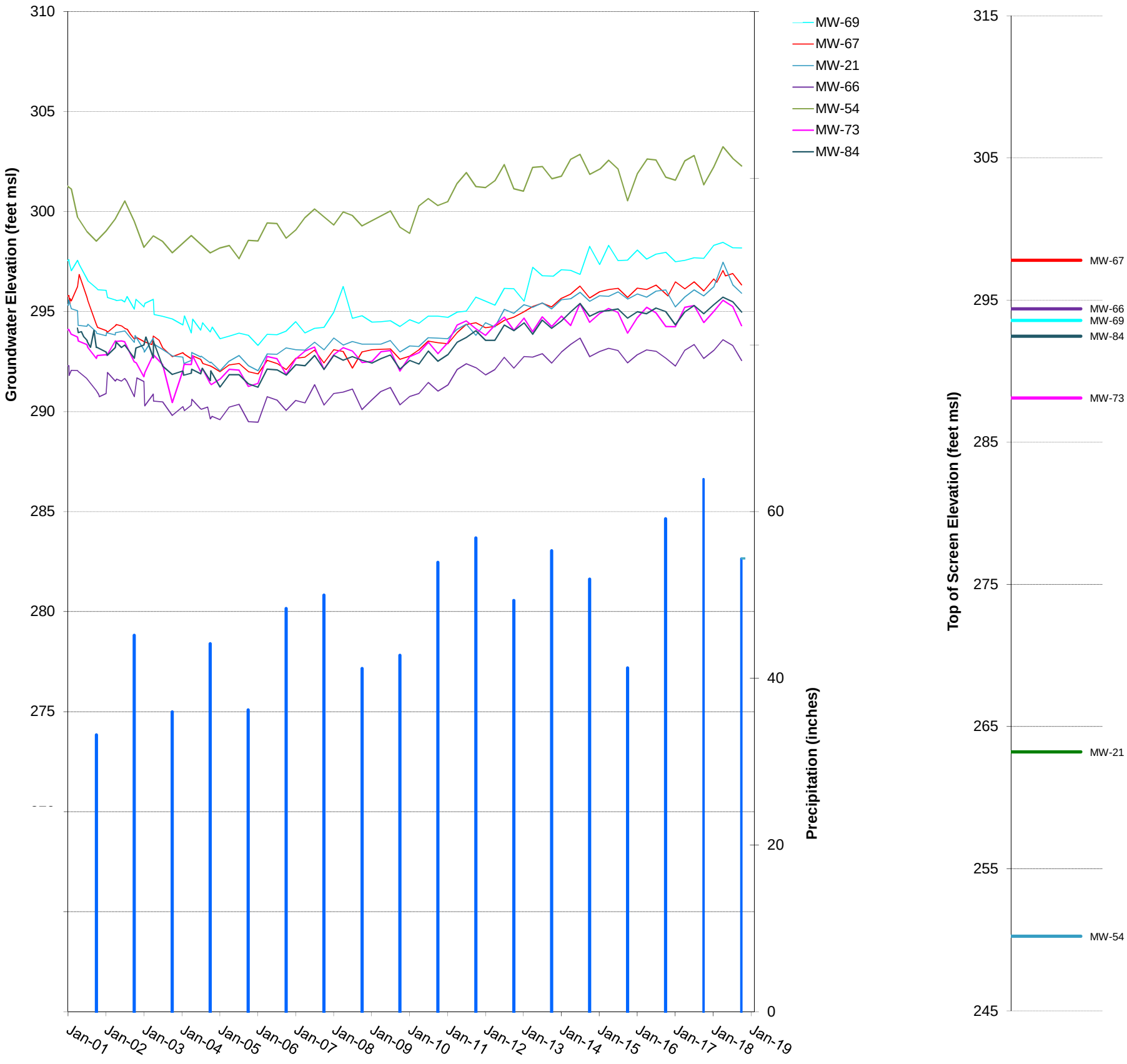


REGIONAL AQUIFER GROUNDWATER ELEVATIONS
POTENTIOMETRIC SURFACE 305-325 FT. MSL



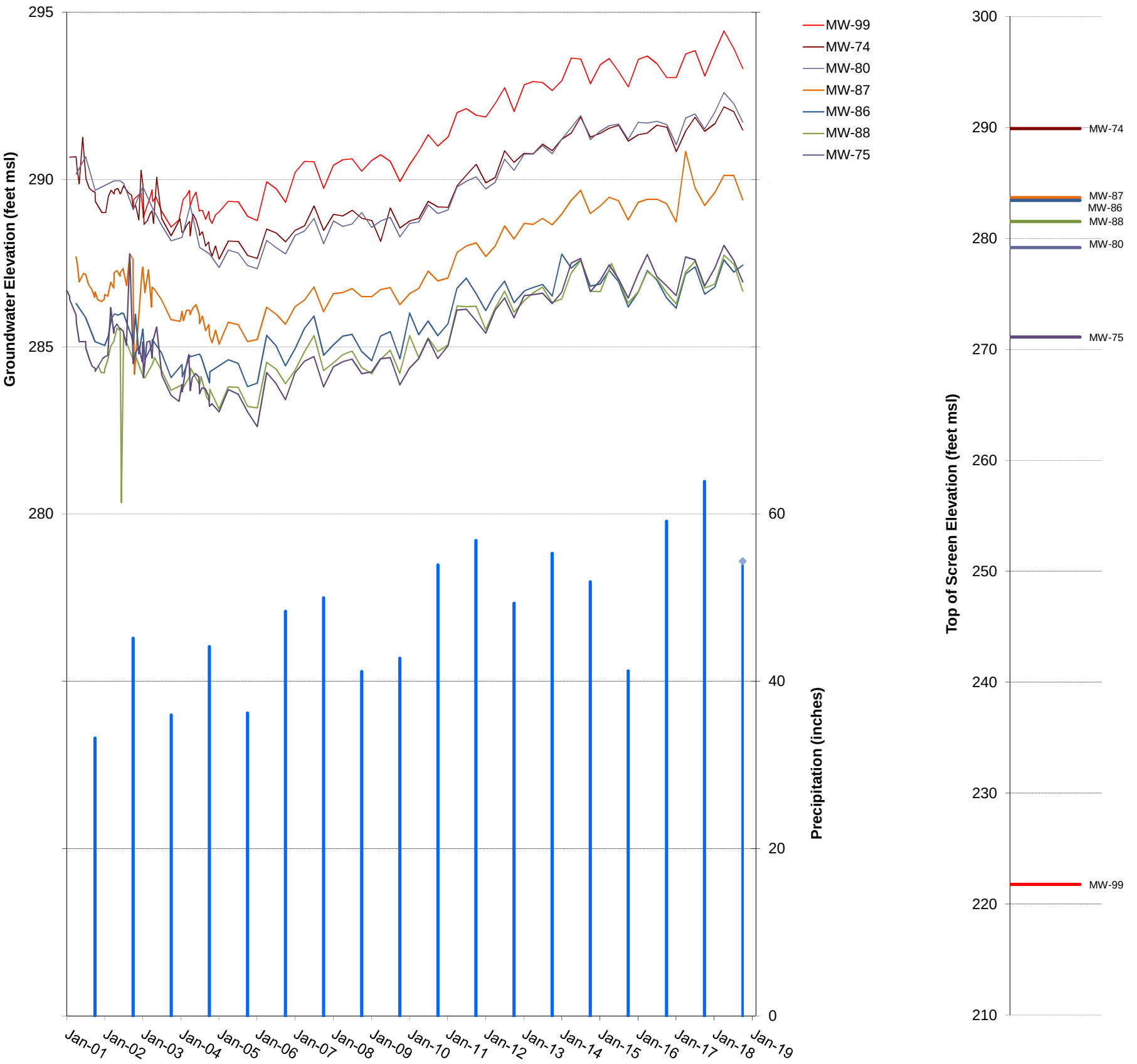
REGIONAL AQUIFER GROUNDWATER ELEVATIONS

POTENTIOMETRIC SURFACE 290-305 FT. MSL

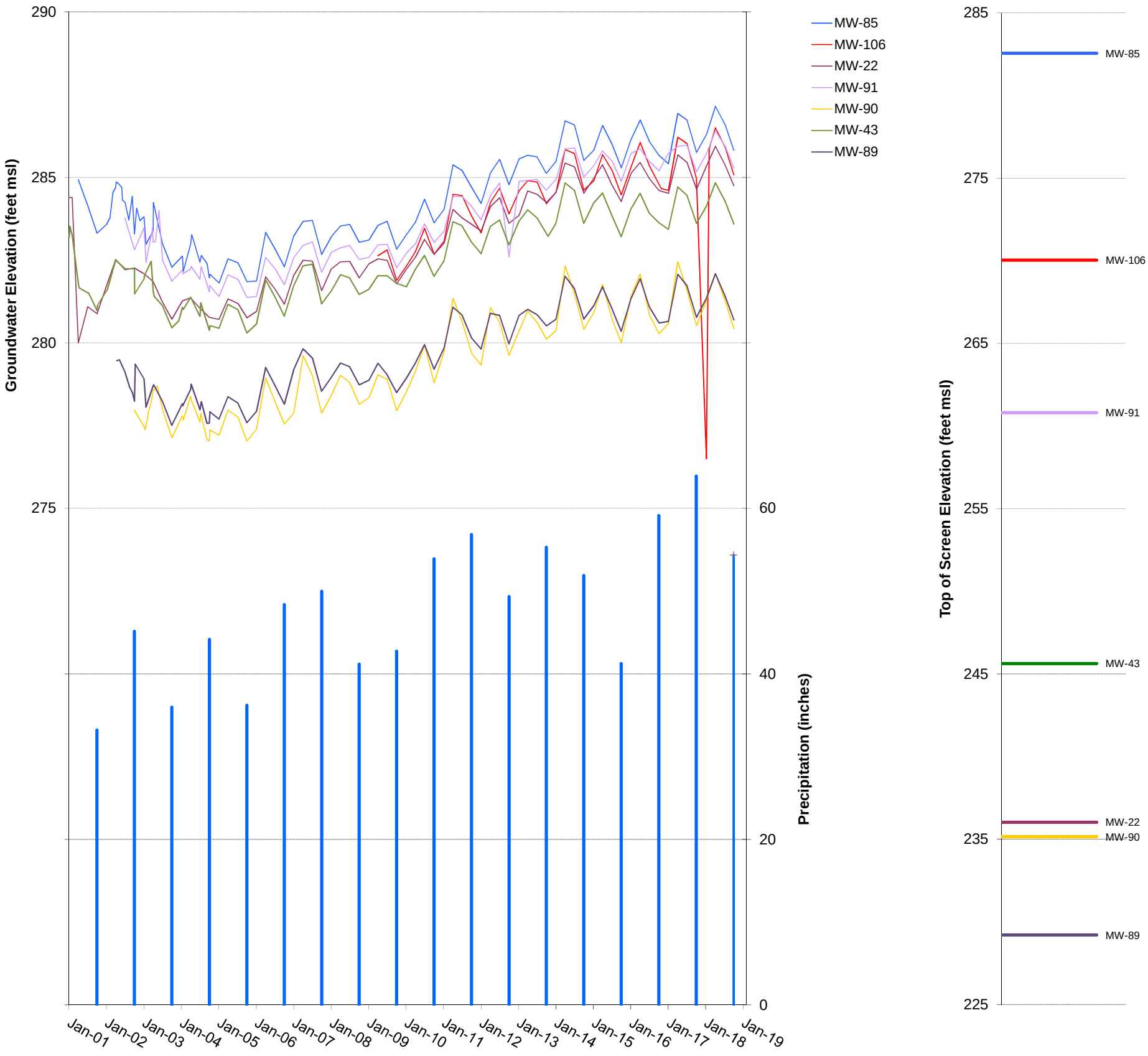


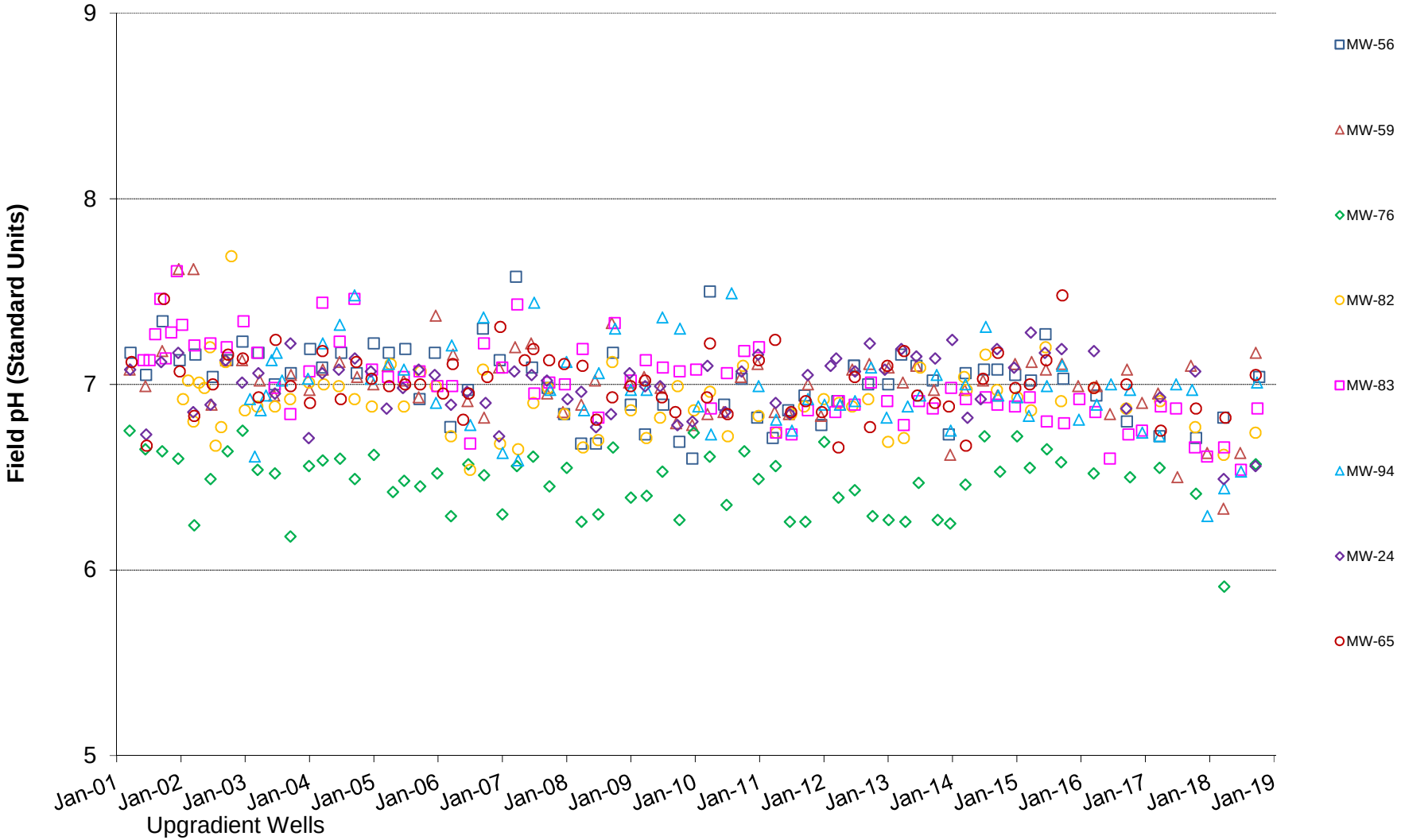
REGIONAL AQUIFER GROUNDWATER ELEVATIONS

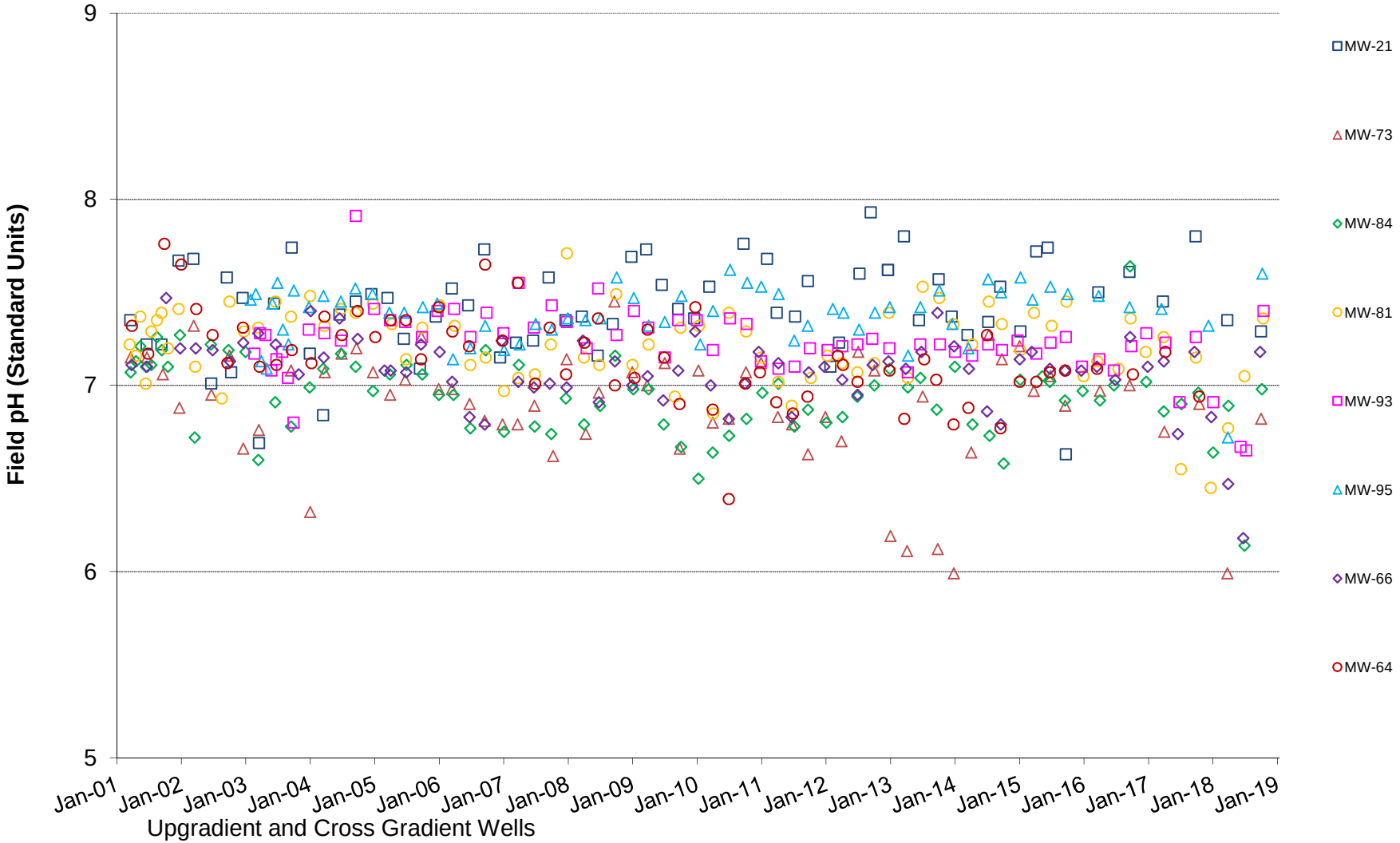
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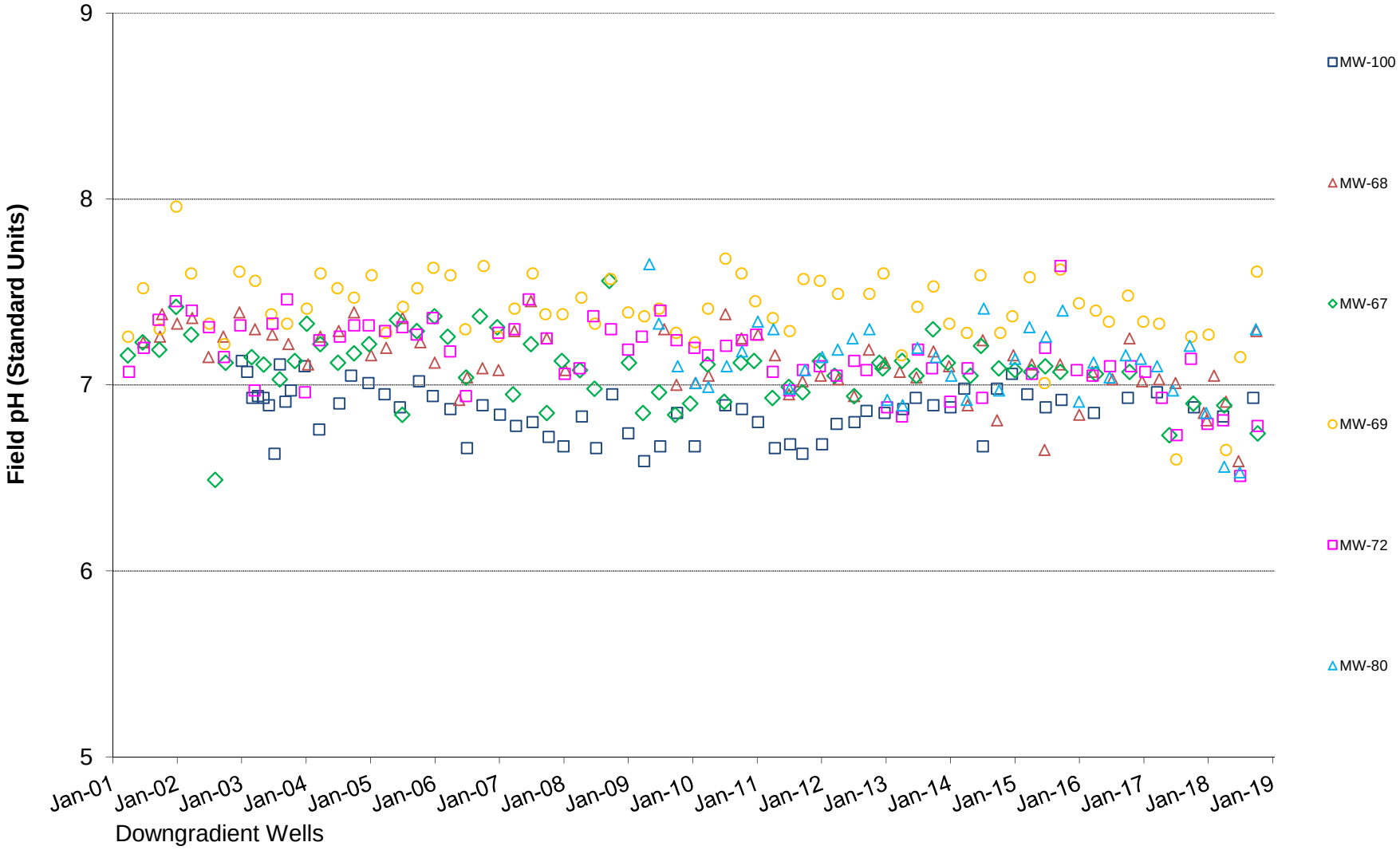


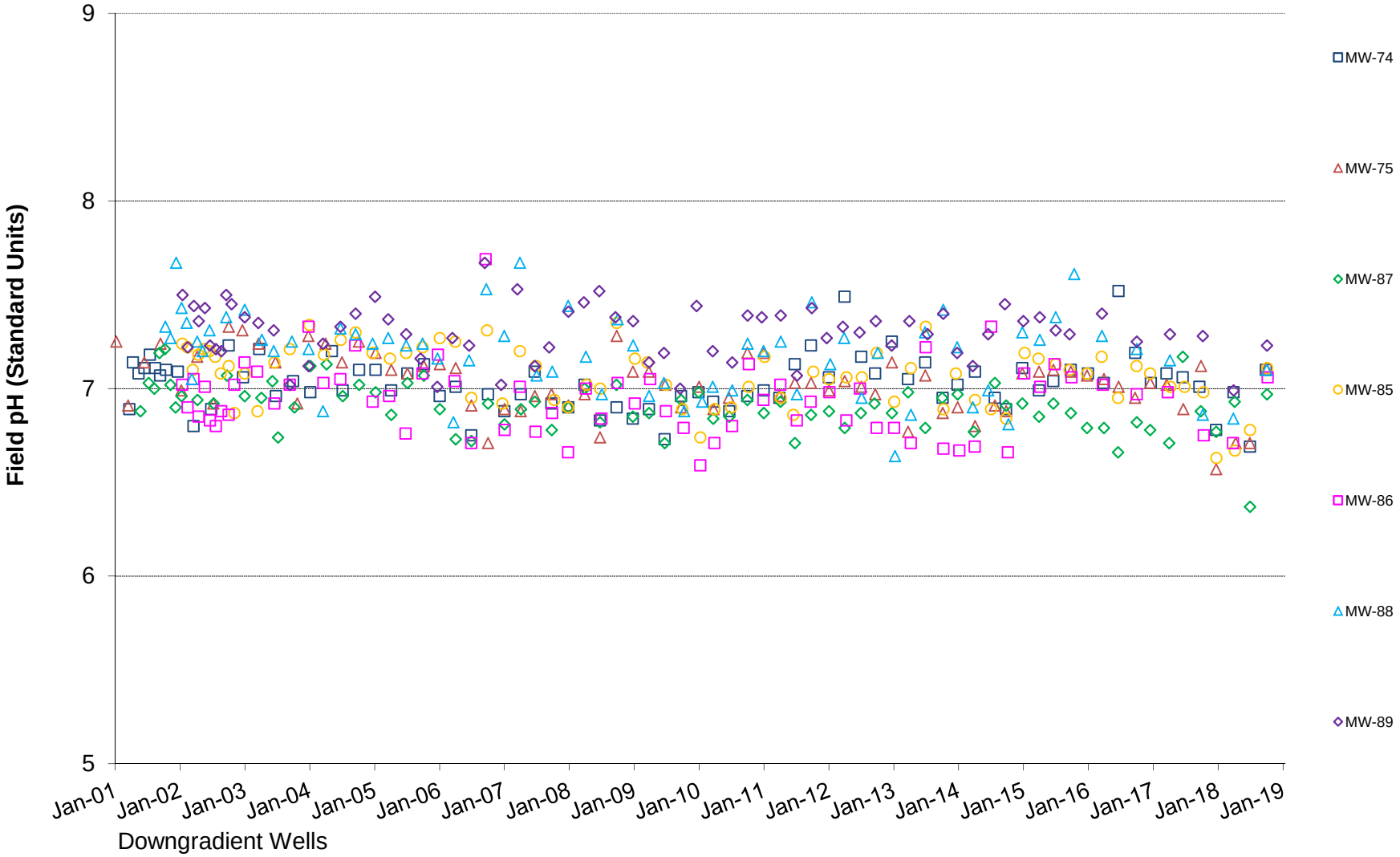
REGIONAL AQUIFER GROUNDWATER ELEVATIONS
POTENTIOMETRIC SURFACE 275-285 FT. MSL

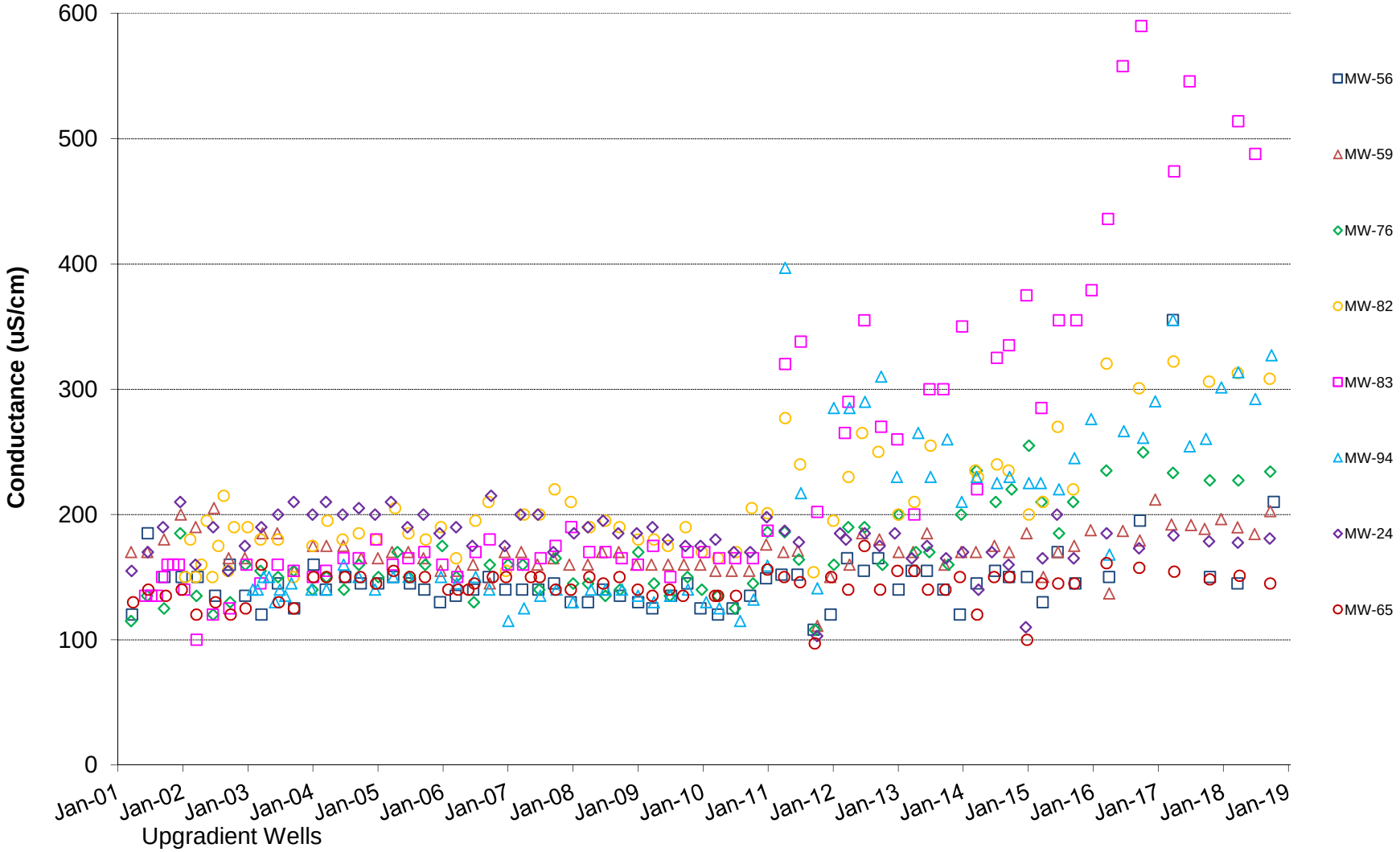


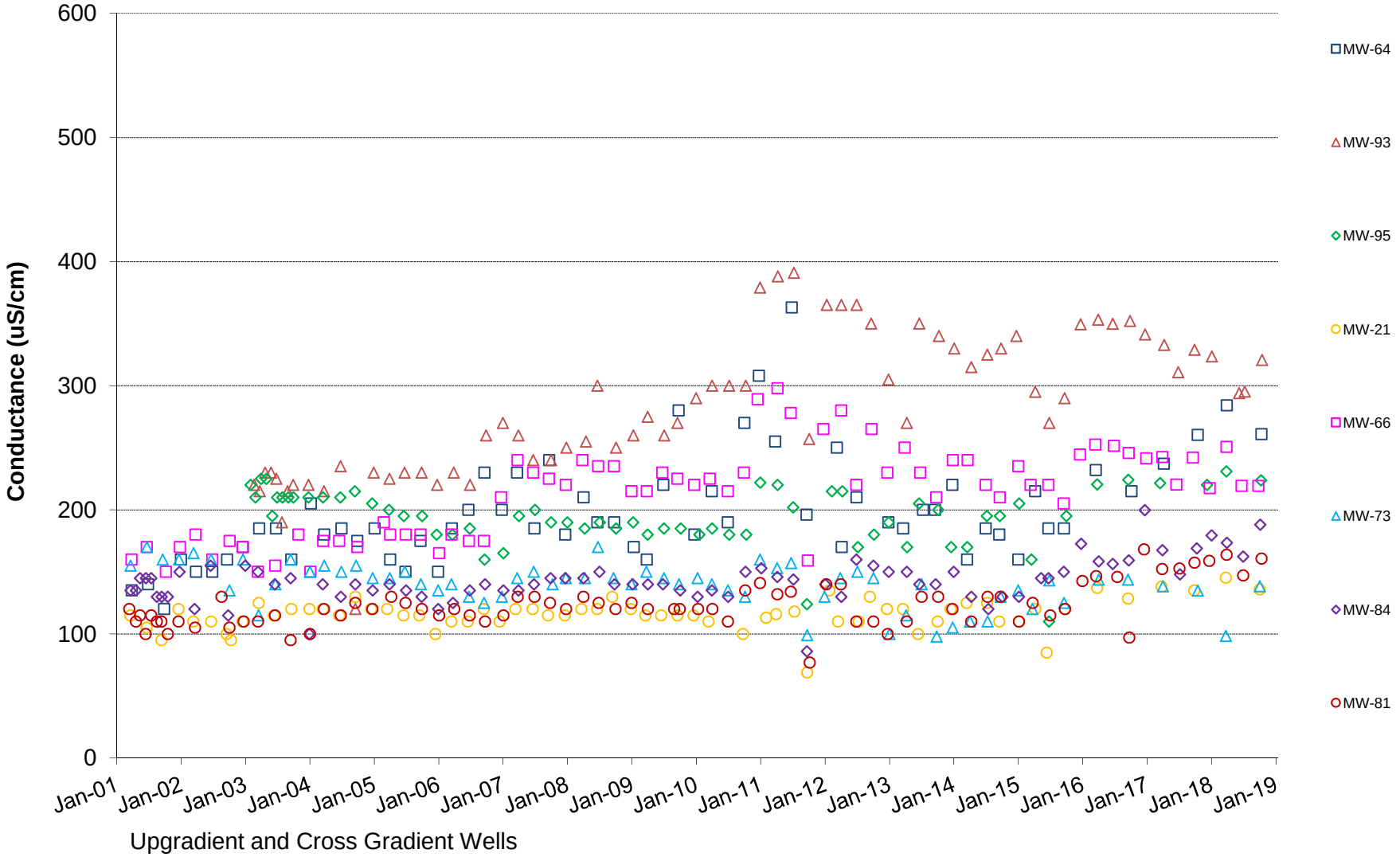

Field pH (Standard Units)
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8
7
6
5
Jan-01
Jan-02
Jan-03
Jan-04
Jan-05
Jan-06
Jan-07
Jan-08
Jan-09
Jan-10
Jan-11
Jan-12
Jan-13
Jan-14
Jan-15
Jan-16
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Upgradient Wells
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MW-82
MW-83
MW-94
MW-24
MW-65

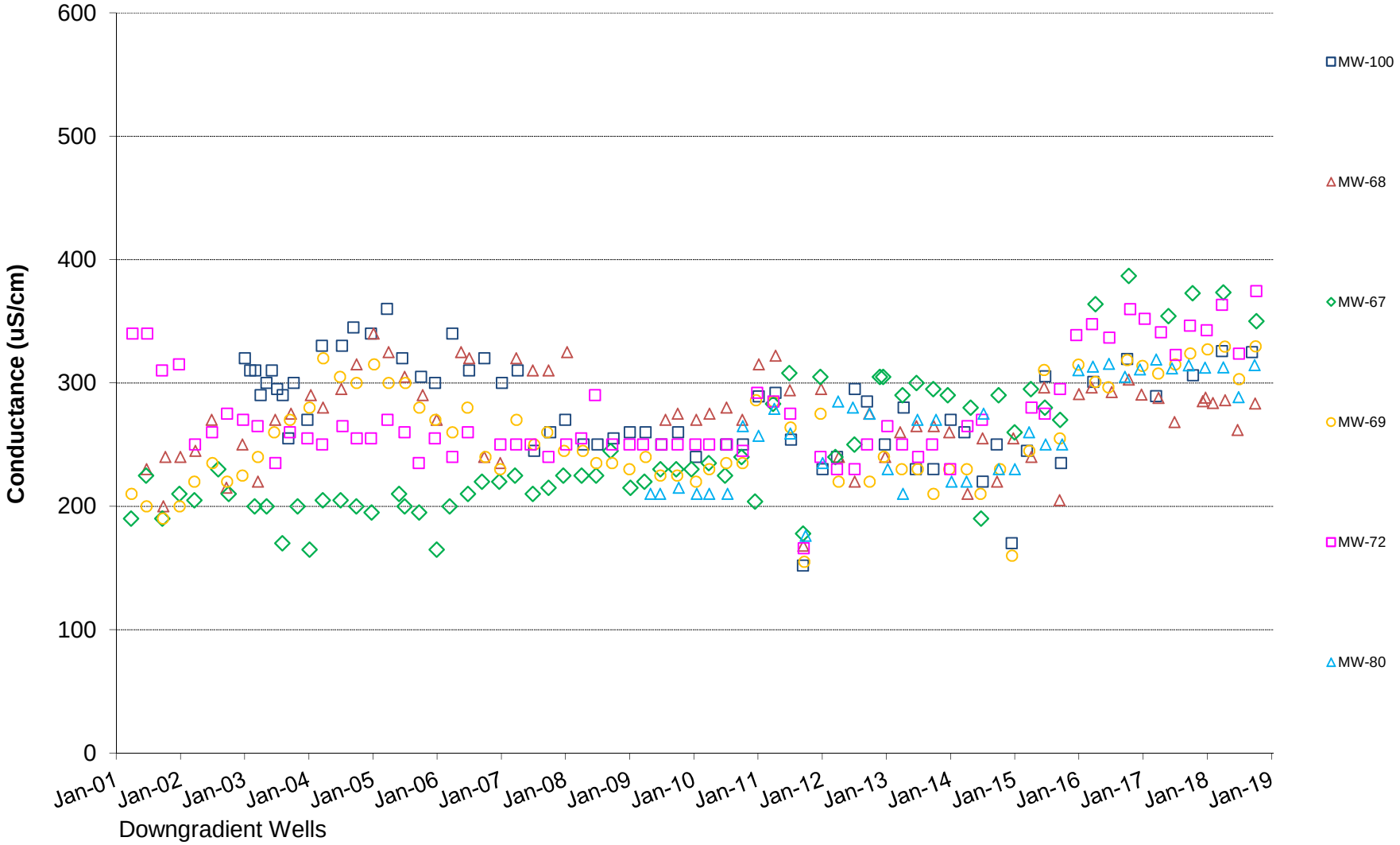

Field pH (Standard Units)
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Jan-01
Jan-02
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Jan-08
Jan-09
Jan-10
Jan-11
Jan-12
Jan-13
Jan-14
Jan-15
Jan-16
Jan-17
Jan-18
Jan-19
Upgradient and Cross Gradient Wells
MW-21
MW-73
MW-84
MW-81
MW-93
MW-95
MW-66
MW-64

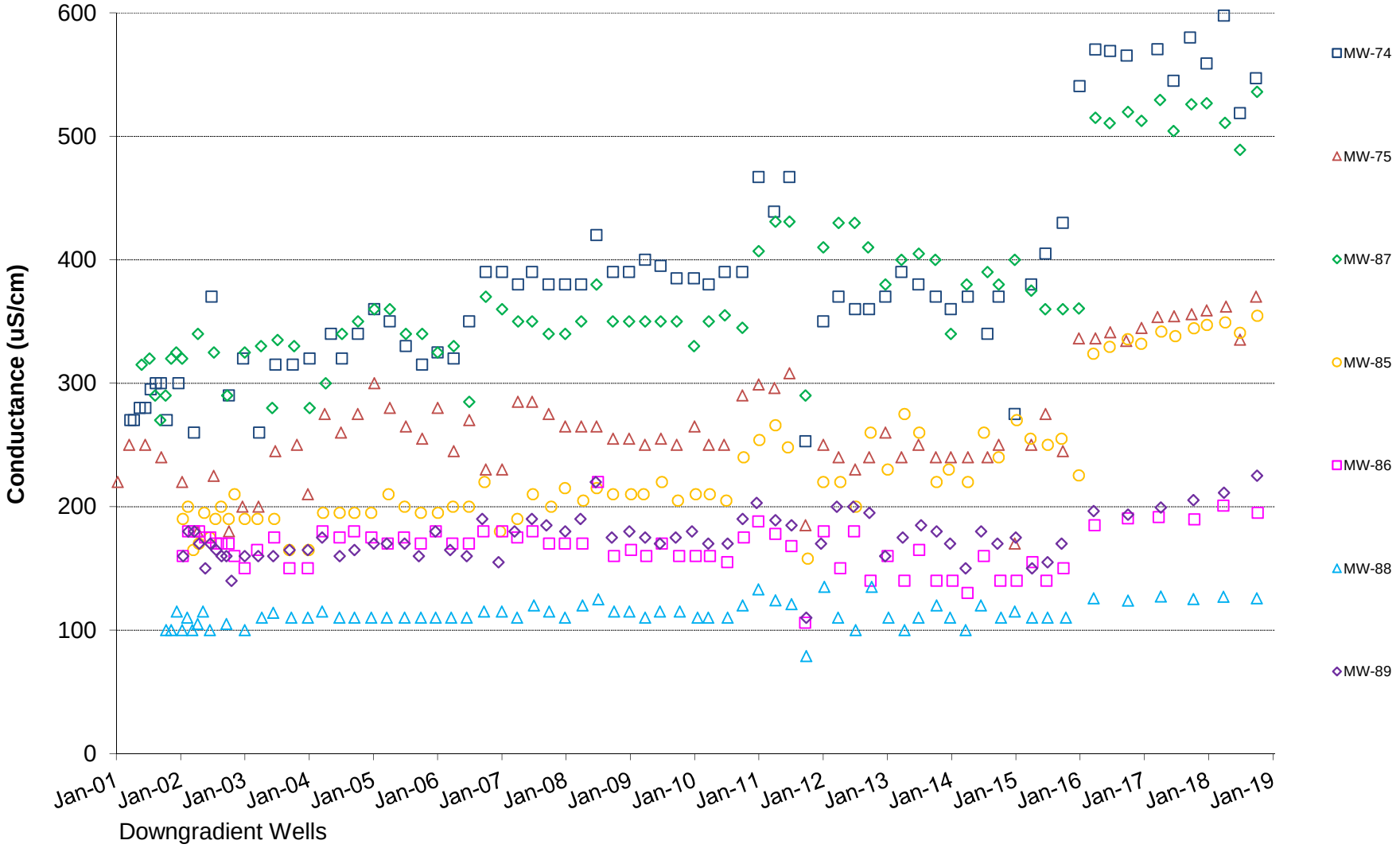

Field pH (Standard Units)
9
8
7
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5
Jan-01
Jan-02
Jan-03
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Jan-07
Jan-08
Jan-09
Jan-10
Jan-11
Jan-12
Jan-13
Jan-14
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MW-69
MW-72
MW-80

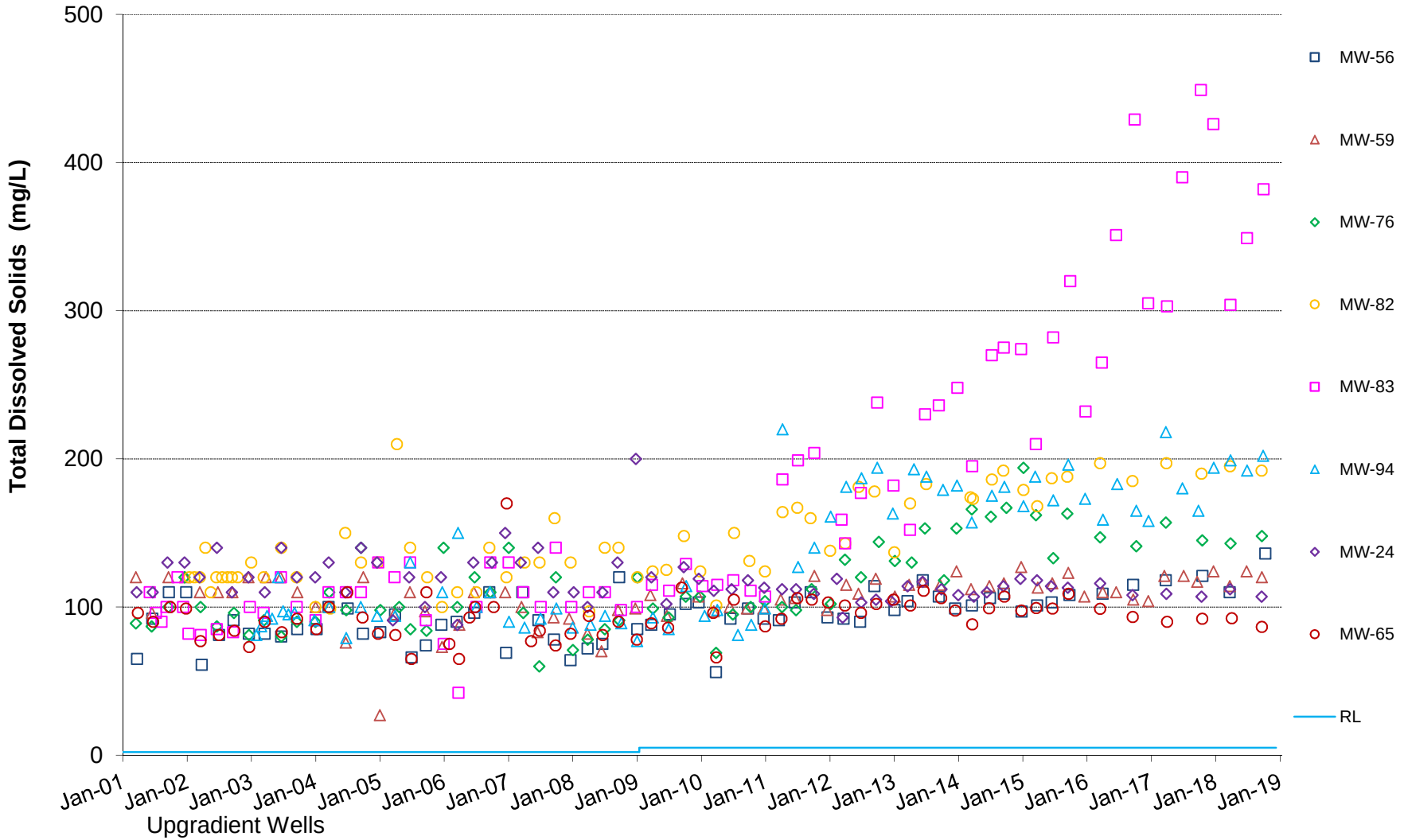

Field pH (Standard Units)
9
8
7
6
5
Jan-01
Jan-02
Jan-03
Jan-04
Jan-05
Jan-06
Jan-07
Jan-08
Jan-09
Jan-10
Jan-11
Jan-12
Jan-13
Jan-14
Jan-15
Jan-16
Jan-17
Jan-18
Jan-19
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MW-87
MW-85
MW-86
MW-88
MW-89

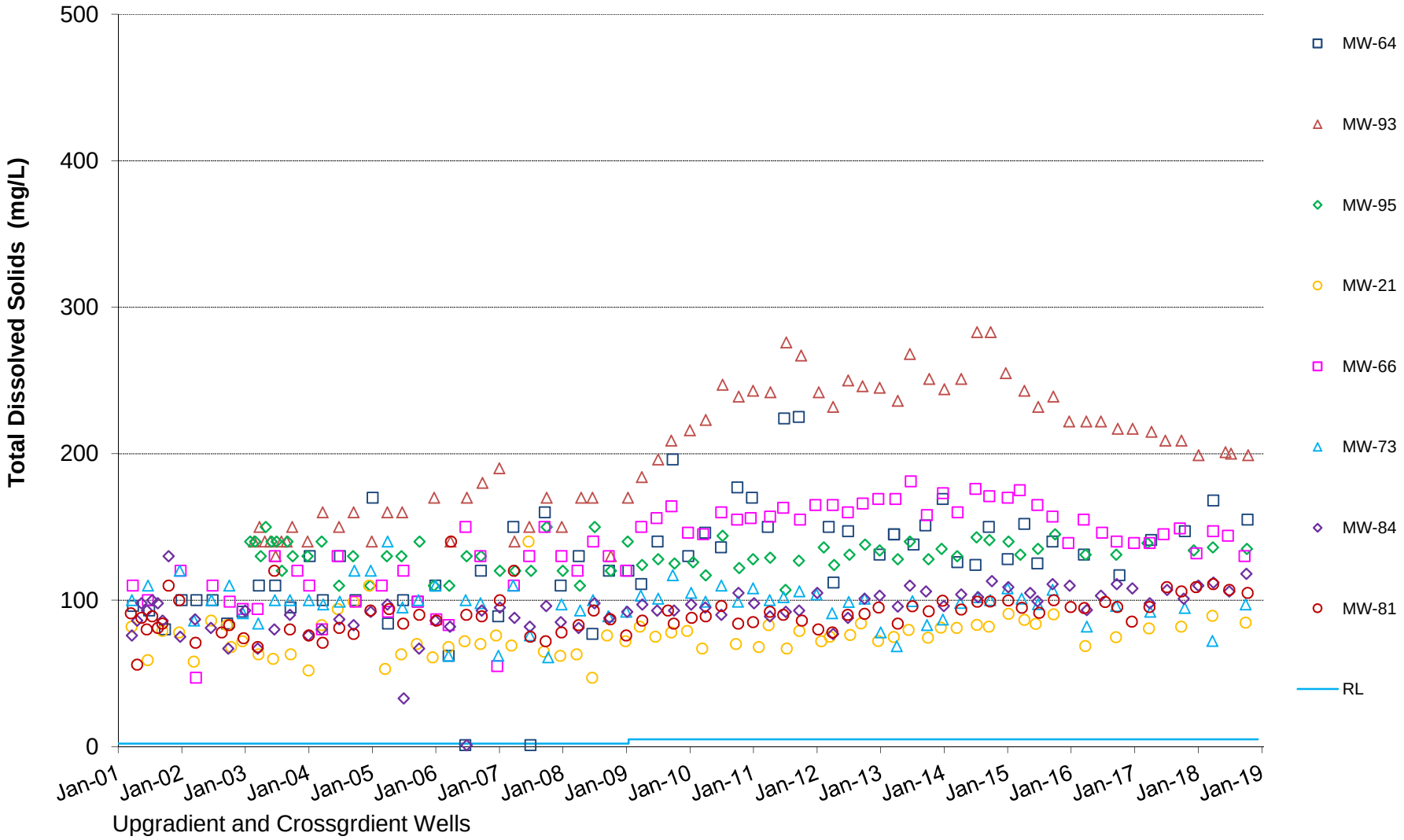

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500
400
300
200
100
0
Conductance (uS/cm)
Jan-01
Jan-02
Jan-03
Jan-04
Jan-05
Jan-06
Jan-07
Jan-08
Jan-09
Jan-10
Jan-11
Jan-12
Jan-13
Jan-14
Jan-15
Jan-16
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MW-94
MW-24
MW-65

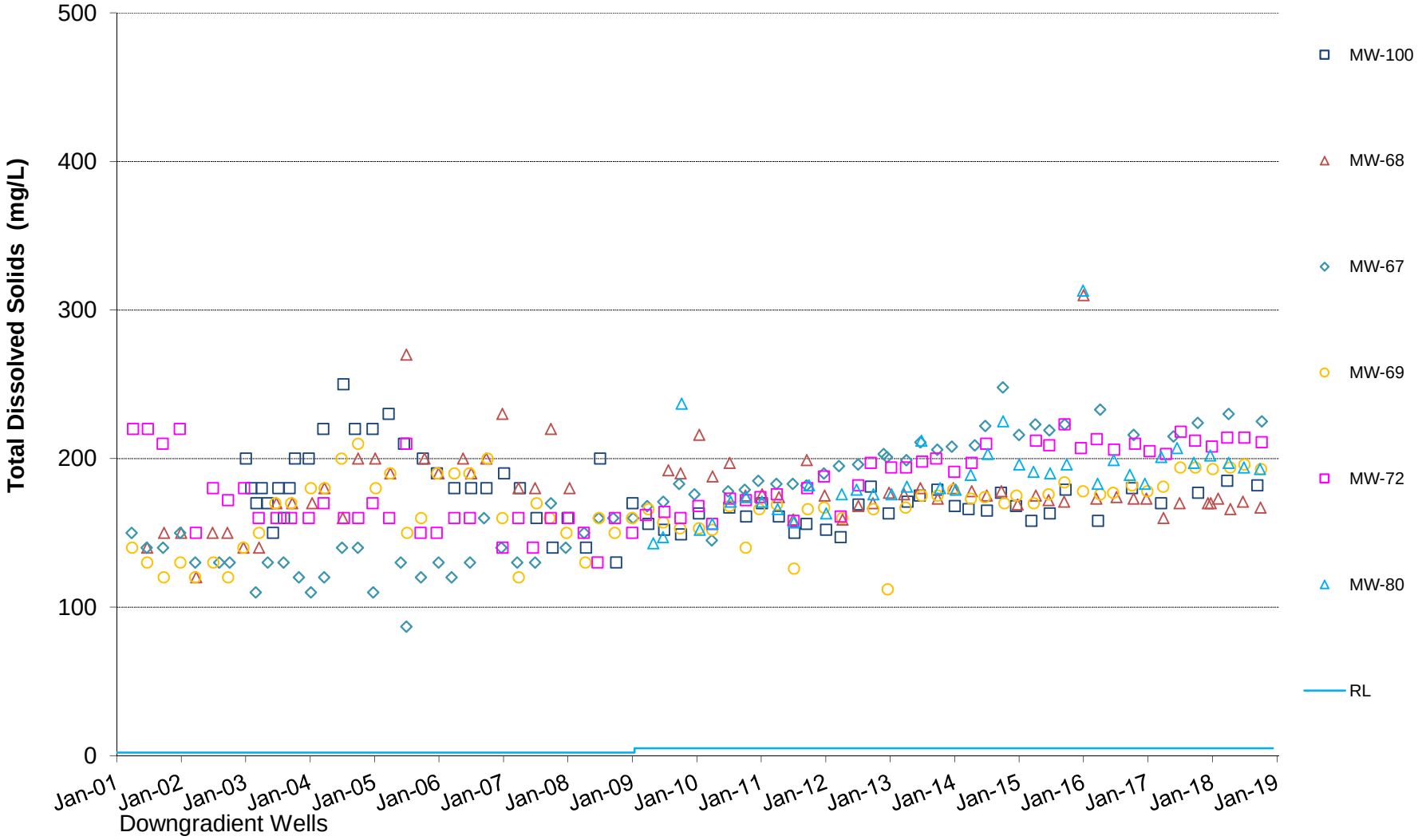

600
500
400
300
200
100
0
Conductance (uS/cm)
Jan-01
Jan-02
Jan-03
Jan-04
Jan-05
Jan-06
Jan-07
Jan-08
Jan-09
Jan-10
Jan-11
Jan-12
Jan-13
Jan-14
Jan-15
Jan-16
Jan-17
Jan-18
Jan-19
Upgradient and Cross Gradient Wells
MW-64
MW-93
MW-95
MW-21
MW-66
MW-73
MW-84
MW-81

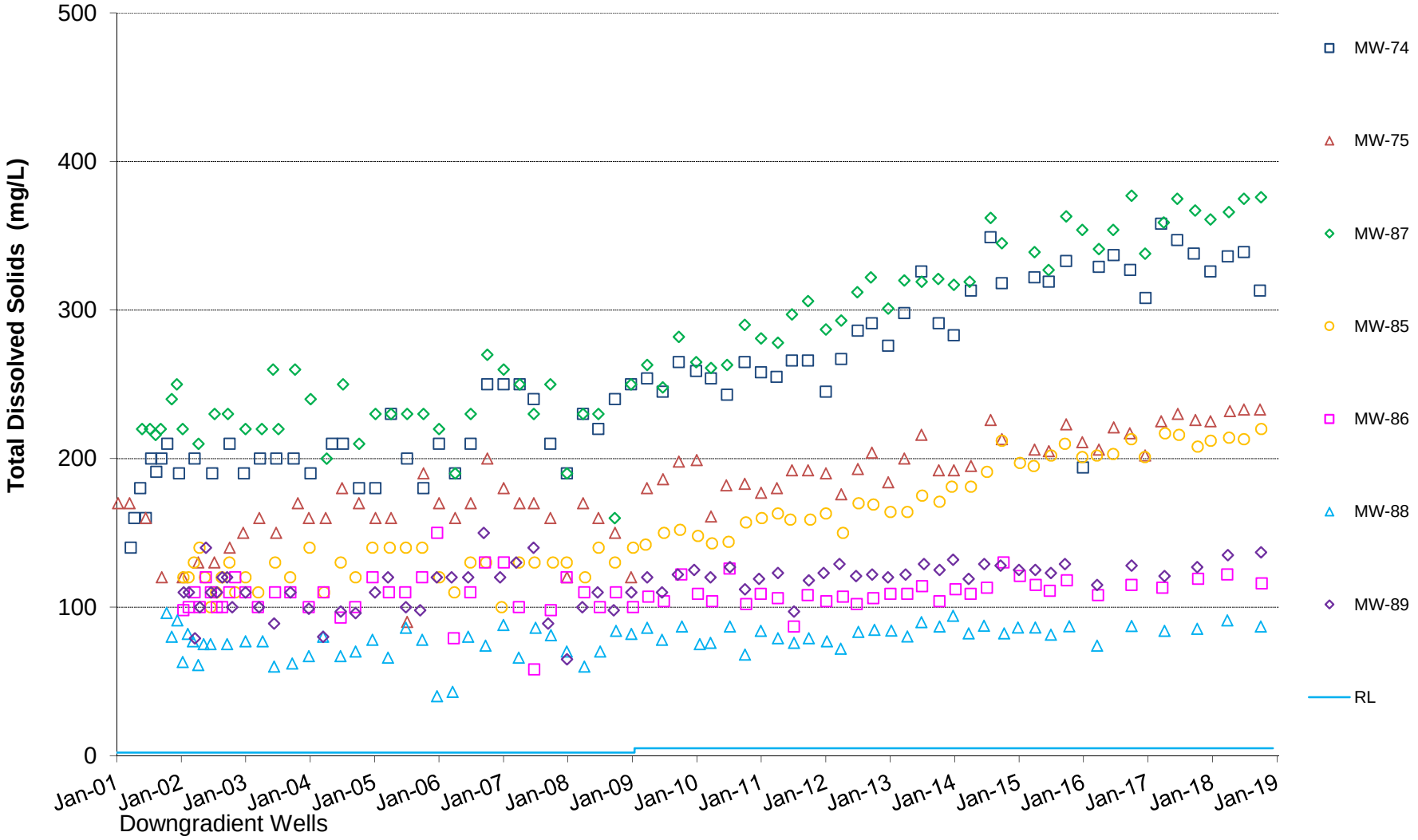

600
500
400
300
200
100
0
Conductance (uS/cm)
Jan-01
Jan-02
Jan-03
Jan-04
Jan-05
Jan-06
Jan-07
Jan-08
Jan-09
Jan-10
Jan-11
Jan-12
Jan-13
Jan-14
Jan-15
Jan-16
Jan-17
Jan-18
Jan-19
Downgradient Wells
MW-100
MW-68
MW-67
MW-69
MW-72
MW-80

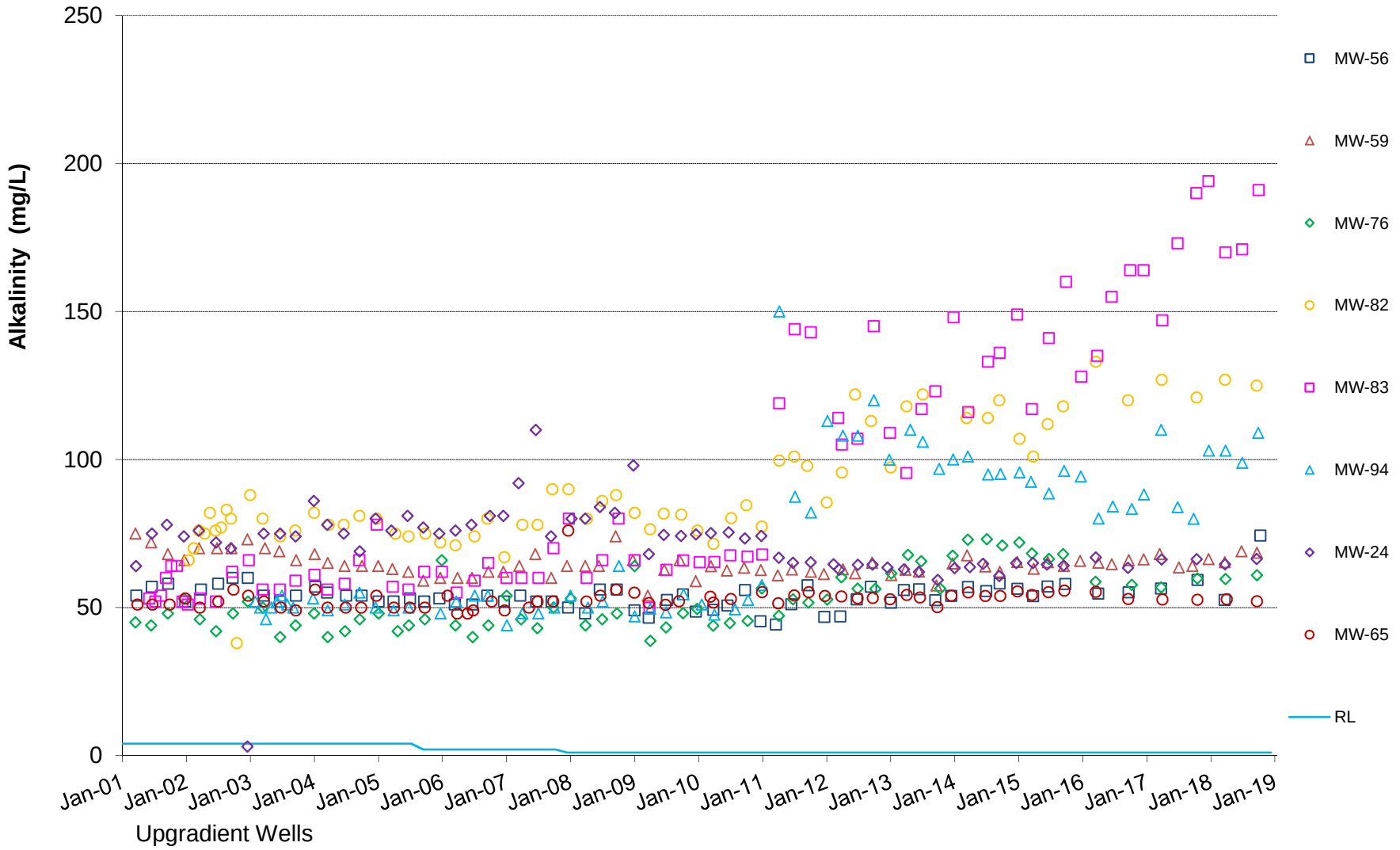

600
500
400
300
200
100
0
Conductance (uS/cm)
Jan-01
Jan-02
Jan-03
Jan-04
Jan-05
Jan-06
Jan-07
Jan-08
Jan-09
Jan-10
Jan-11
Jan-12
Jan-13
Jan-14
Jan-15
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Downgradient Wells
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MW-85
MW-86
MW-88
MW-89

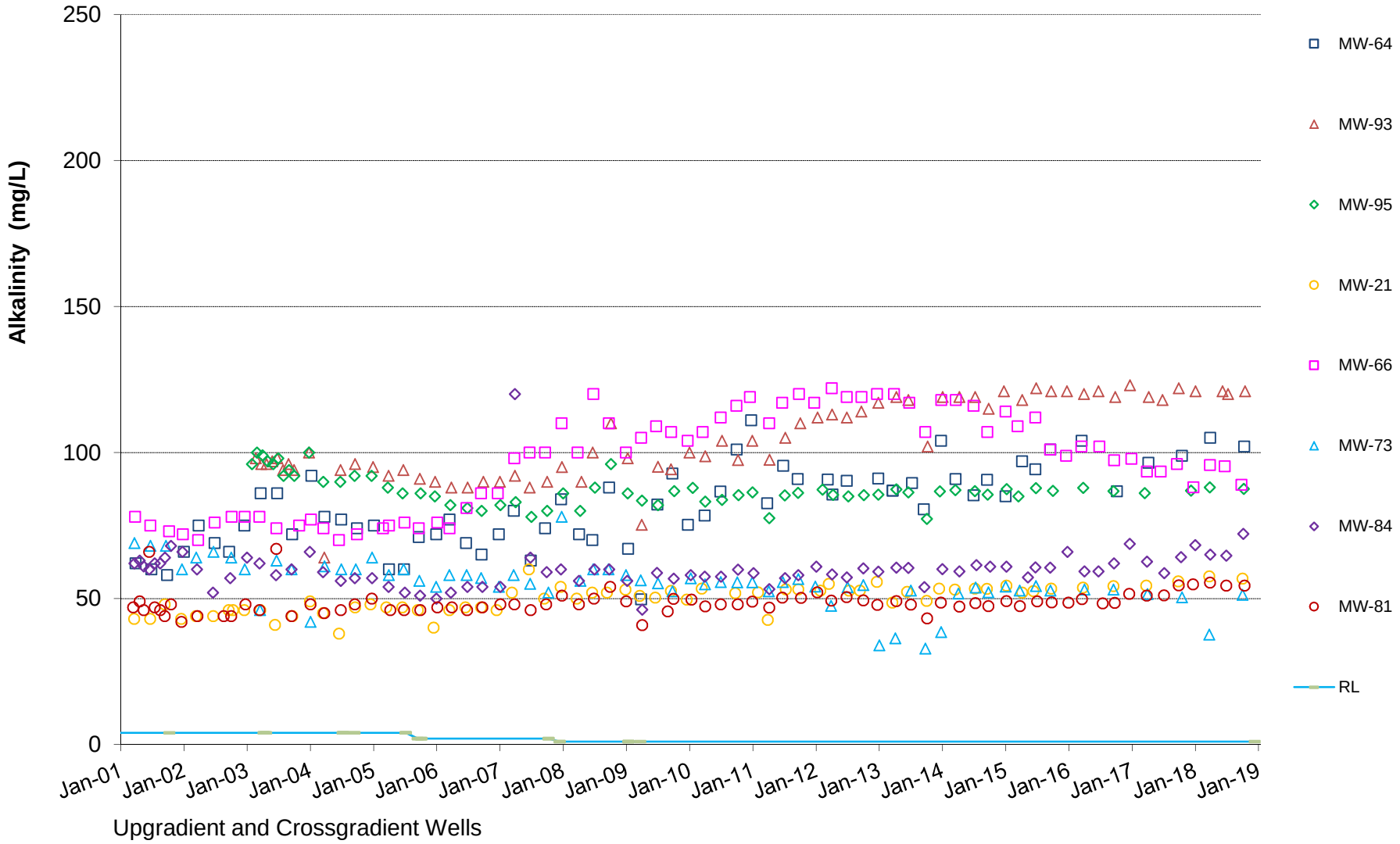

Total Dissolved Solids (mg/L)
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400
300
200
100
0
Jan-01
Jan-02
Jan-03
Jan-04
Jan-05
Jan-06
Jan-07
Jan-08
Jan-09
Jan-10
Jan-11
Jan-12
Jan-13
Jan-14
Jan-15
Jan-16
Jan-17
Jan-18
Jan-19
Upgradient Wells
MW-56
MW-59
MW-76
MW-82
MW-83
MW-94
MW-24
MW-65
RL

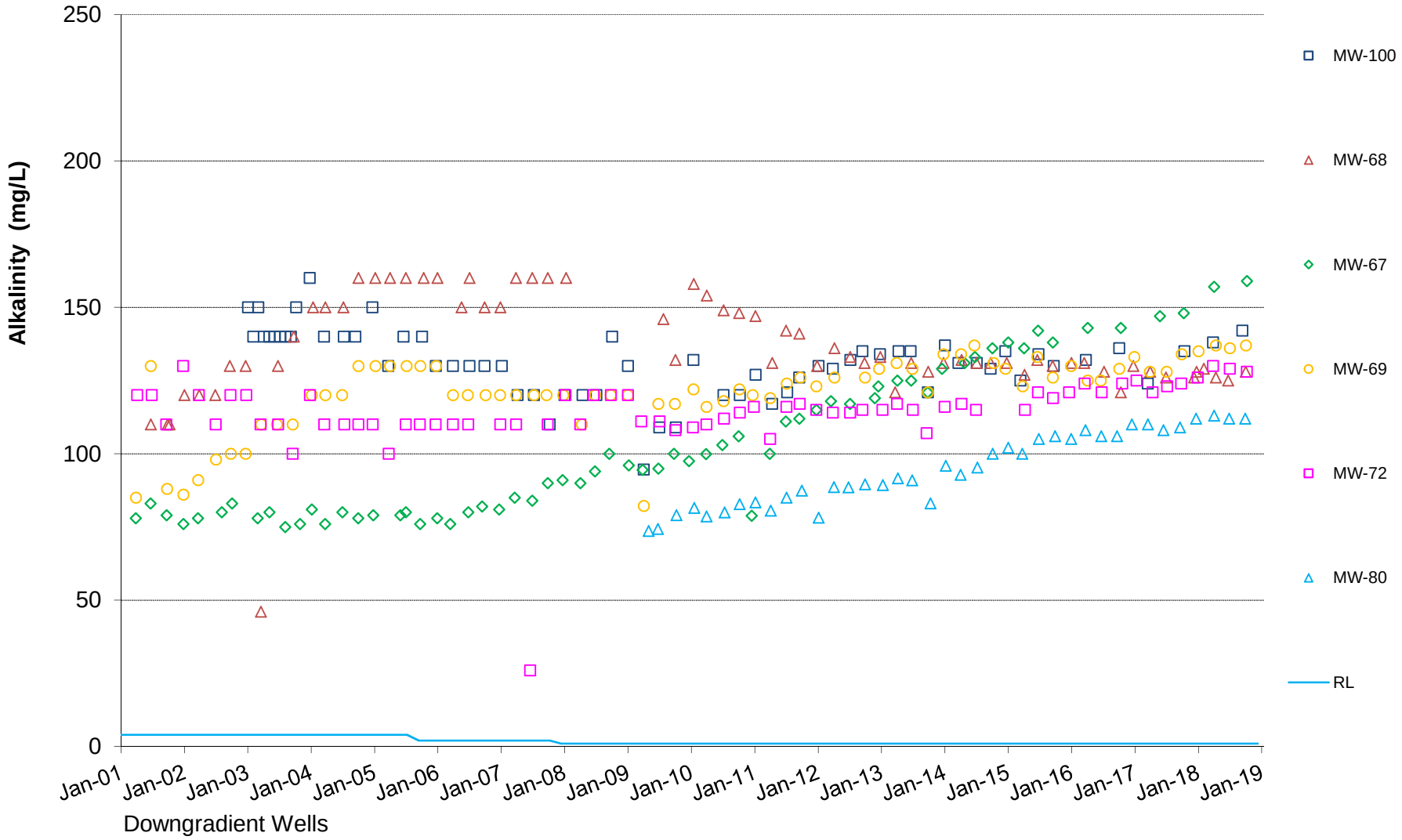

Total Dissolved Solids (mg/L)
500
400
300
200
100
0
Jan-01
Jan-02
Jan-03
Jan-04
Jan-05
Jan-06
Jan-07
Jan-08
Jan-09
Jan-10
Jan-11
Jan-12
Jan-13
Jan-14
Jan-15
Jan-16
Jan-17
Jan-18
Jan-19
Upgradient and Crossgrdient Wells
MW-64
MW-93
MW-95
MW-21
MW-66
MW-73
MW-84
MW-81
RL

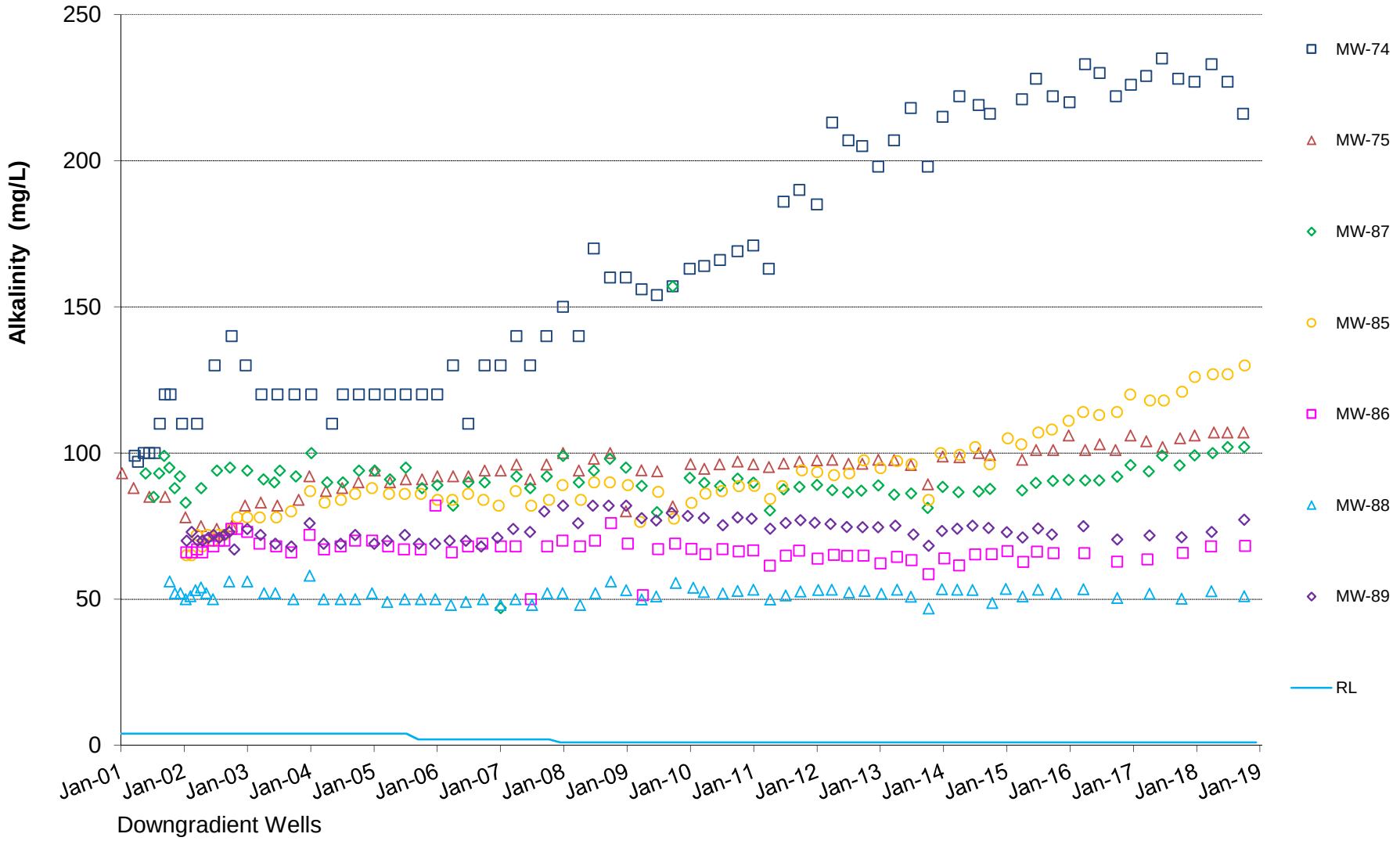

Total Dissolved Solids (mg/L)
500
400
300
200
100
0
Jan-01
Jan-02
Jan-03
Jan-04
Jan-05
Jan-06
Jan-07
Jan-08
Jan-09
Jan-10
Jan-11
Jan-12
Jan-13
Jan-14
Jan-15
Jan-16
Jan-17
Jan-18
Jan-19
Downgradient Wells
MW-100
MW-68
MW-67
MW-69
MW-72
MW-80
RL

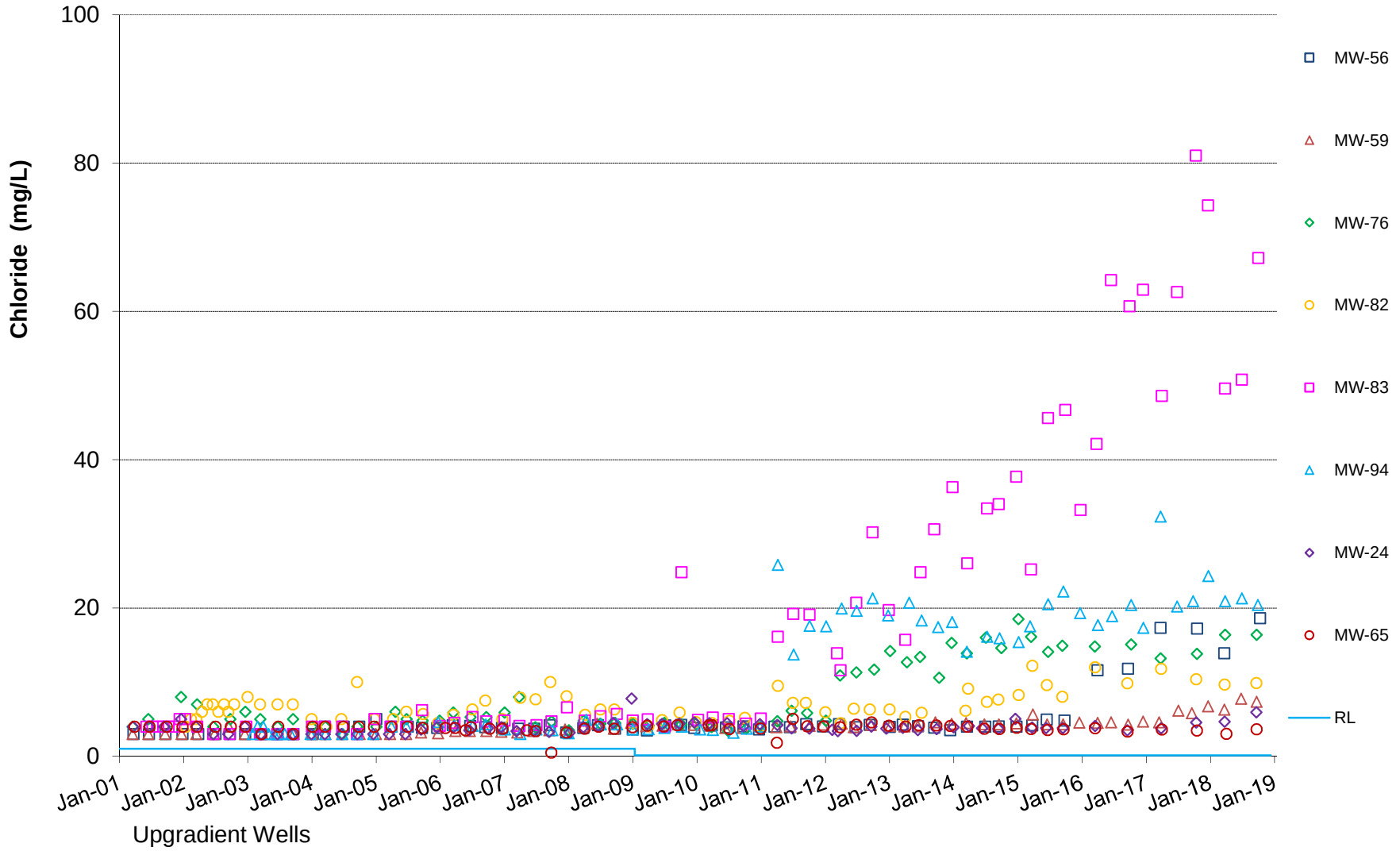

Total Dissolved Solids (mg/L)
500
400
300
200
100
0
Jan-01
Jan-02
Jan-03
Jan-04
Jan-05
Jan-06
Jan-07
Jan-08
Jan-09
Jan-10
Jan-11
Jan-12
Jan-13
Jan-14
Jan-15
Jan-16
Jan-17
Jan-18
Jan-19
Downgradient Wells
MW-74
MW-75
MW-87
MW-85
MW-86
MW-88
MW-89
RL

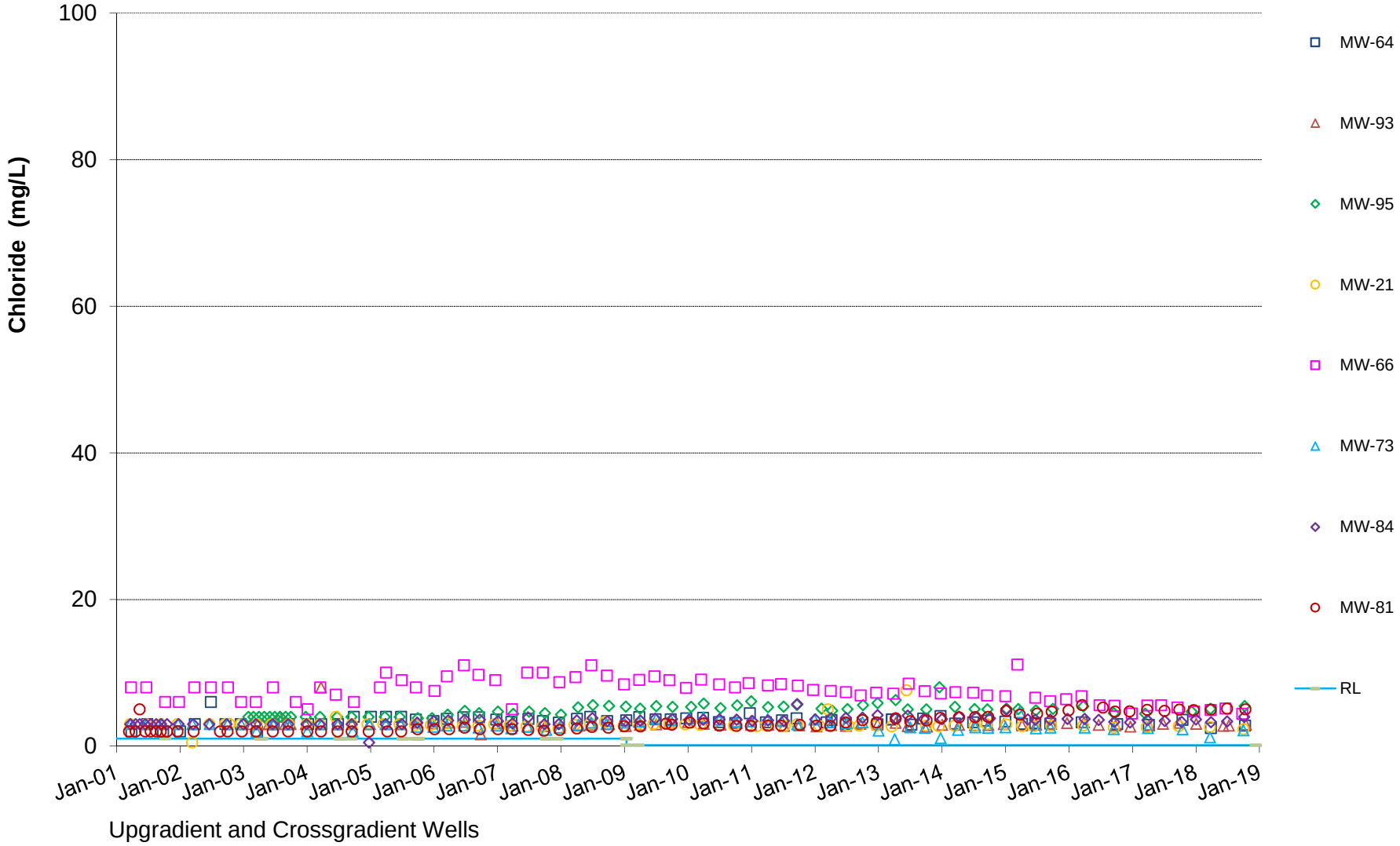

Alkalinity (mg/L)
250
200
150
100
50
0
Jan-01
Jan-02
Jan-03
Jan-04
Jan-05
Jan-06
Jan-07
Jan-08
Jan-09
Jan-10
Jan-11
Jan-12
Jan-13
Jan-14
Jan-15
Jan-16
Jan-17
Jan-18
Jan-19
Upgradient Wells
MW-56
MW-59
MW-76
MW-82
MW-83
MW-94
MW-24
MW-65
RL

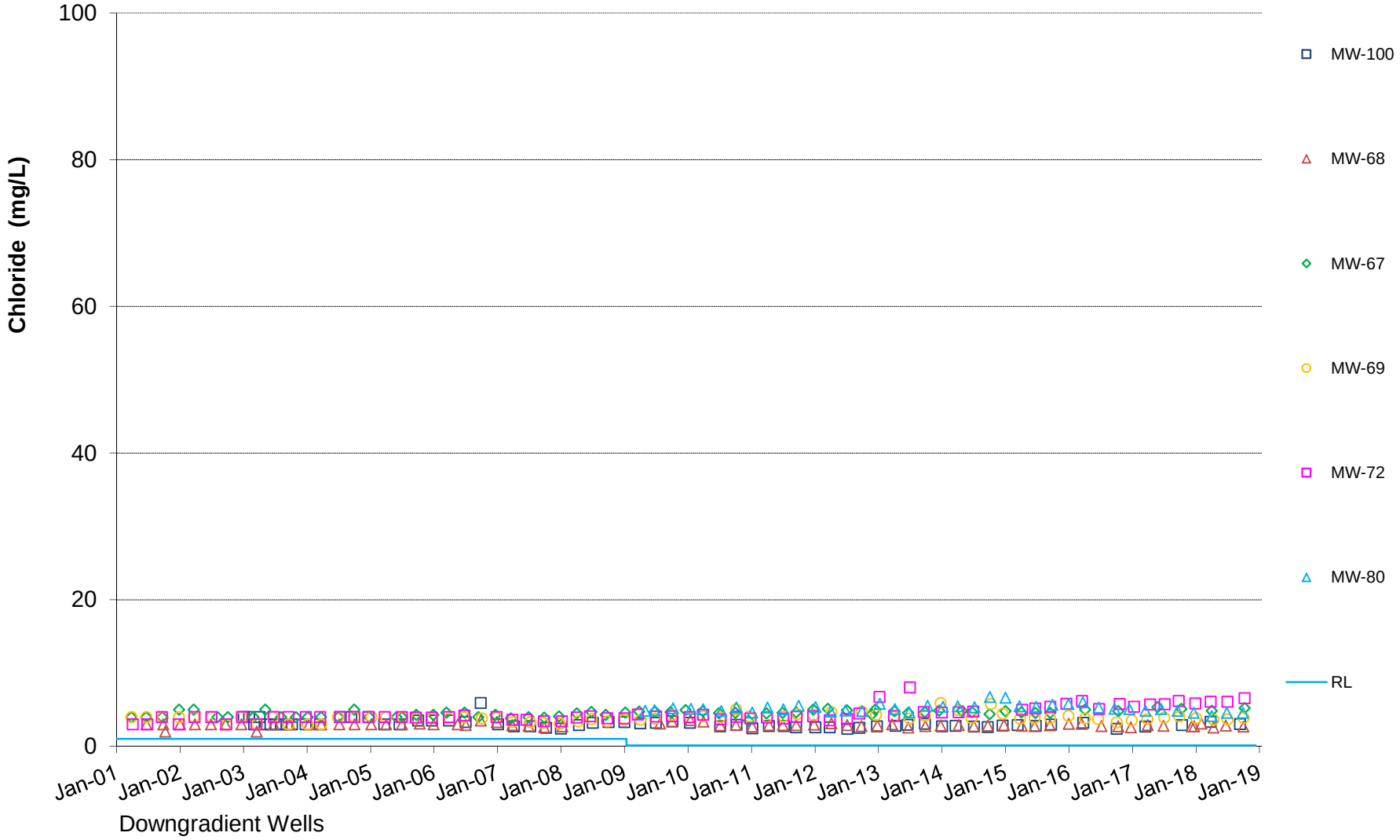

Alkalinity (mg/L)
250
200
150
100
50
0
Jan-01
Jan-02
Jan-03
Jan-04
Jan-05
Jan-06
Jan-07
Jan-08
Jan-09
Jan-10
Jan-11
Jan-12
Jan-13
Jan-14
Jan-15
Jan-16
Jan-17
Jan-18
Jan-19
Upgradient and Crossgradient Wells
MW-64
MW-93
MW-95
MW-21
MW-66
MW-73
MW-84
MW-81
RL

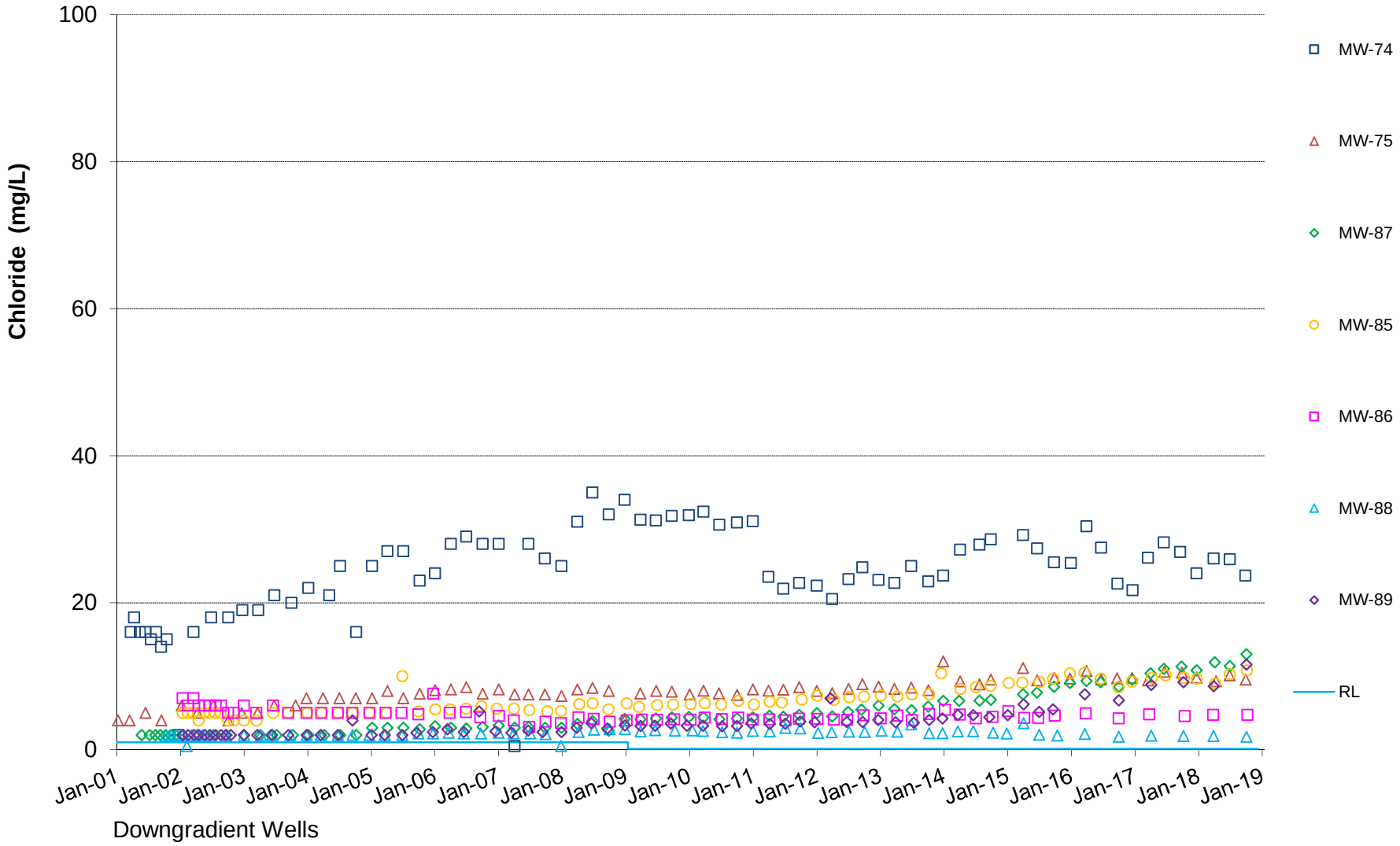

Alkalinity (mg/L)
250
200
150
100
50
0
Jan-01
Jan-02
Jan-03
Jan-04
Jan-05
Jan-06
Jan-07
Jan-08
Jan-09
Jan-10
Jan-11
Jan-12
Jan-13
Jan-14
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Jan-19
Downgradient Wells
MW-100
MW-68
MW-67
MW-69
MW-72
MW-80
RL

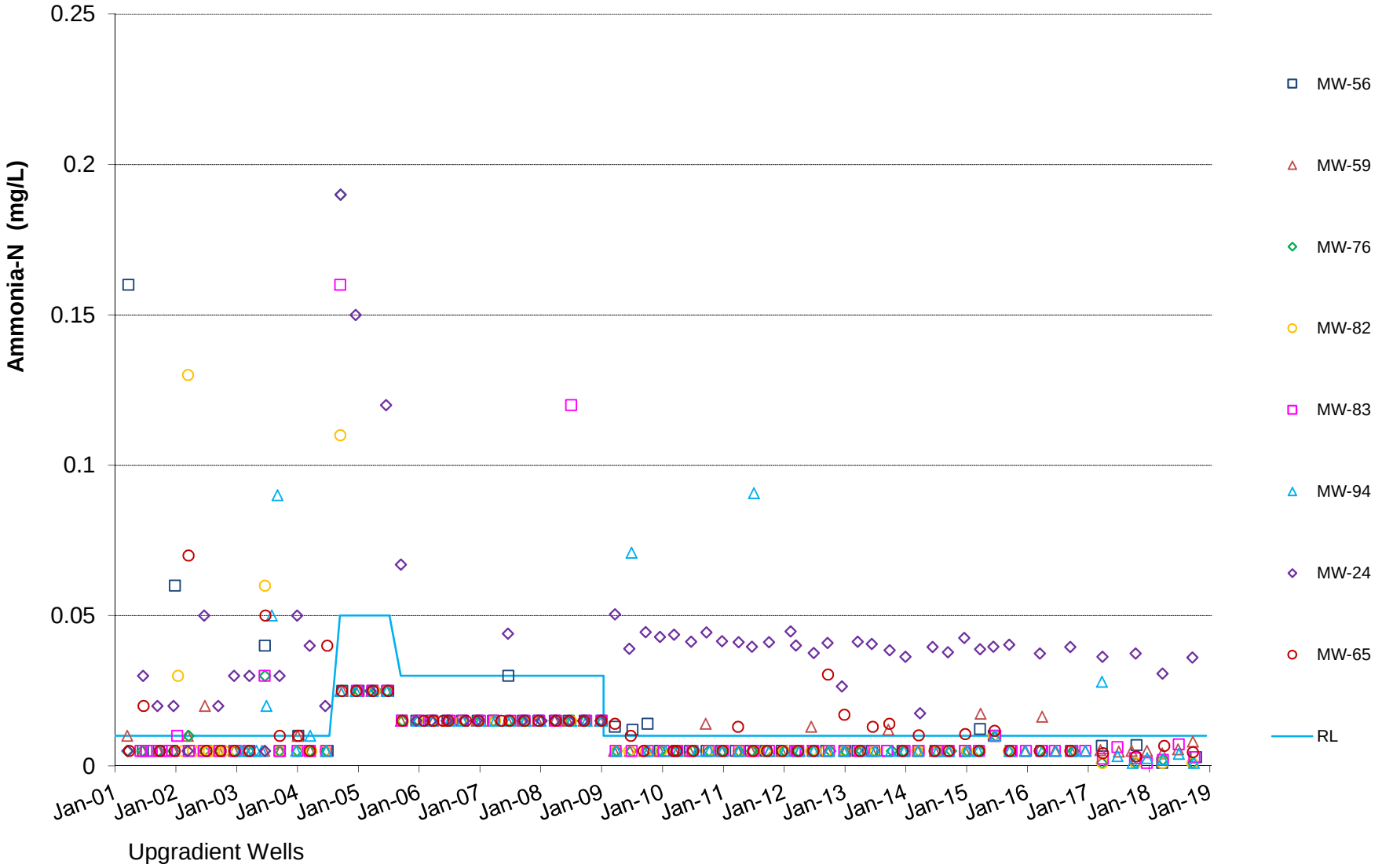

Alkalinity (mg/L)
250
200
150
100
50
0
Jan-01
Jan-02
Jan-03
Jan-04
Jan-05
Jan-06
Jan-07
Jan-08
Jan-09
Jan-10
Jan-11
Jan-12
Jan-13
Jan-14
Jan-15
Jan-16
Jan-17
Jan-18
Jan-19
Downgradient Wells
MW-74
MW-75
MW-87
MW-85
MW-86
MW-88
MW-89
RL

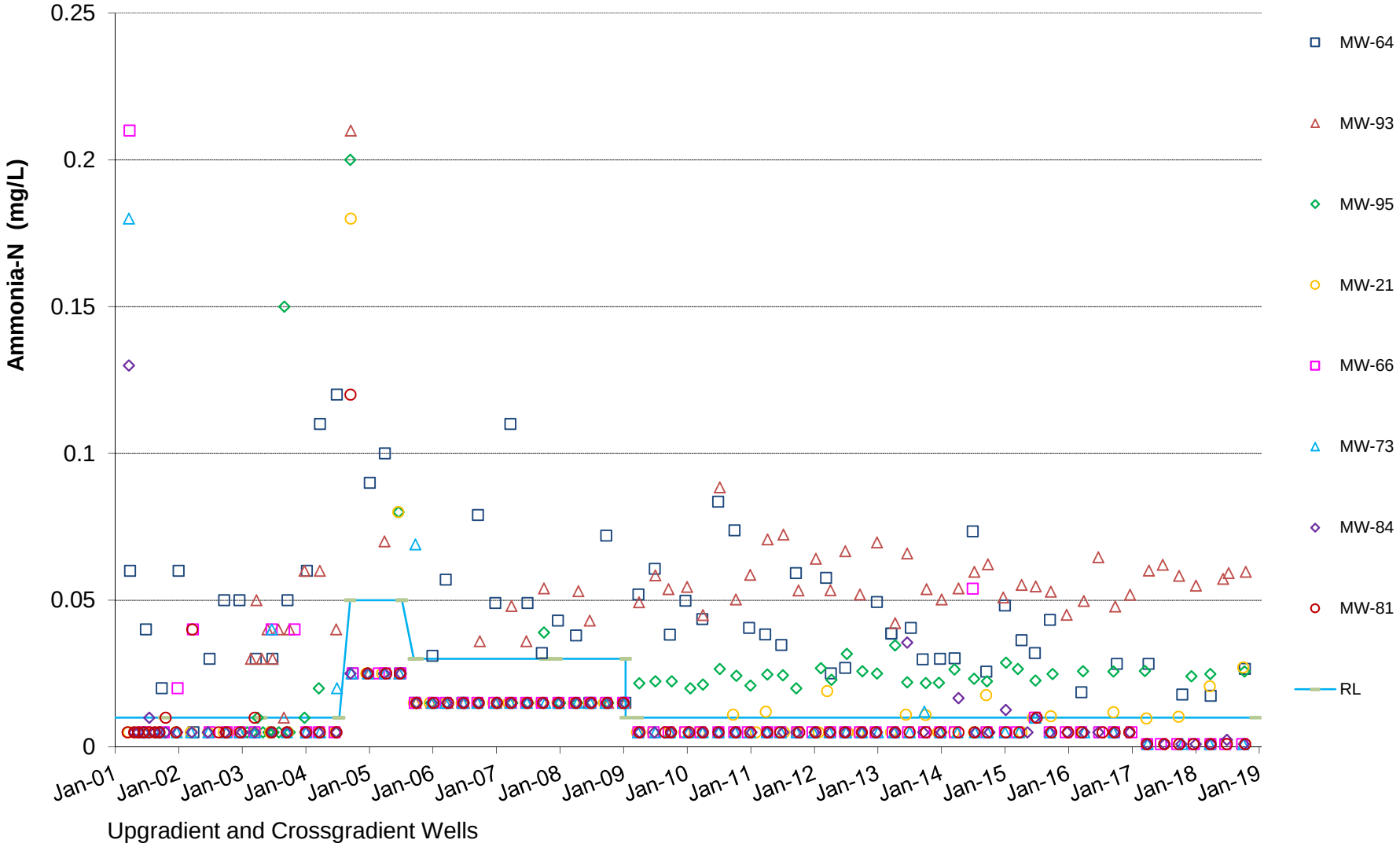

Chloride (mg/L)
100
80
60
40
20
0
Jan-01
Jan-02
Jan-03
Jan-04
Jan-05
Jan-06
Jan-07
Jan-08
Jan-09
Jan-10
Jan-11
Jan-12
Jan-13
Jan-14
Jan-15
Jan-16
Jan-17
Jan-18
Jan-19
Upgradient Wells
MW-56
MW-59
MW-76
MW-82
MW-83
MW-94
MW-24
MW-65
RL

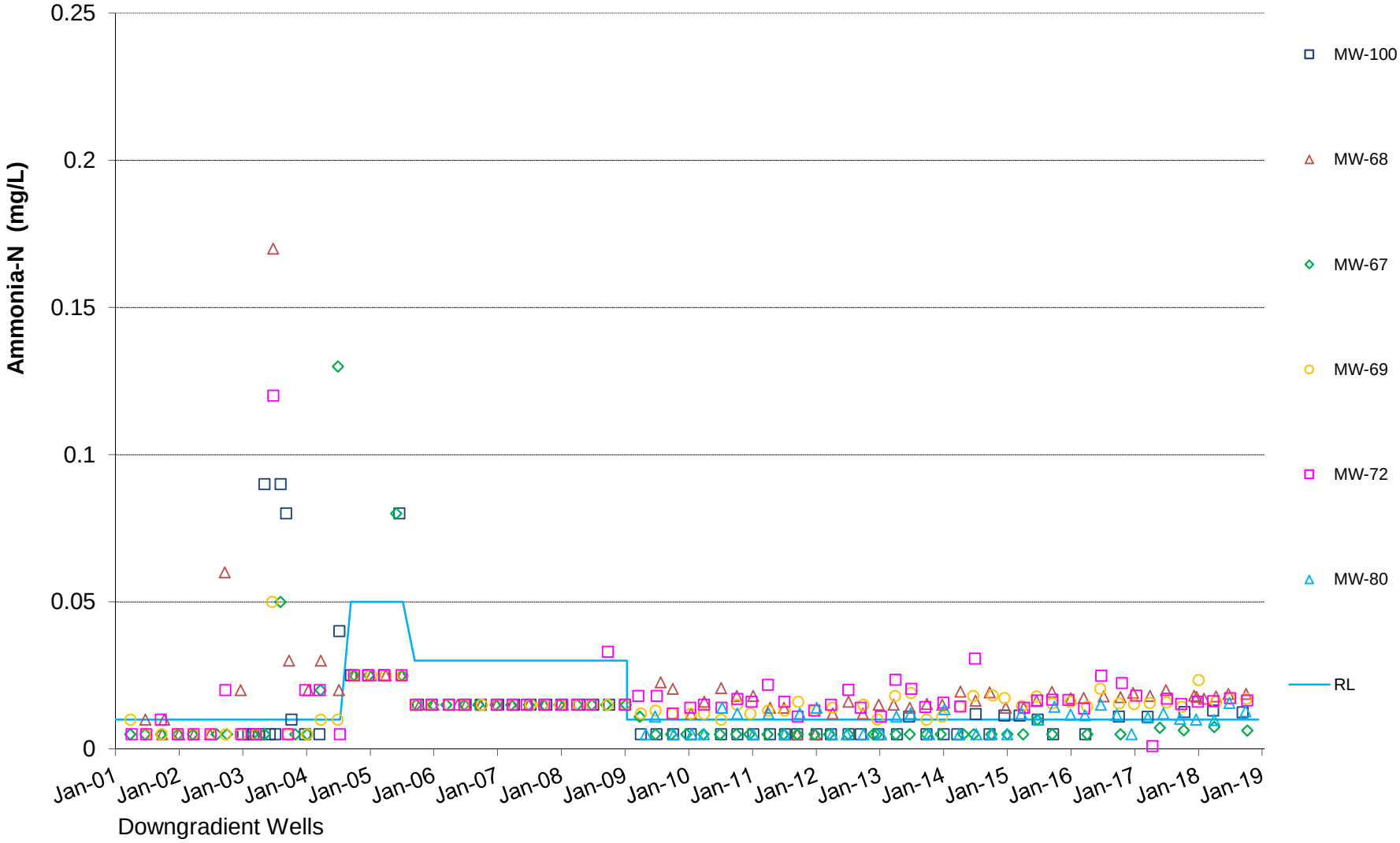

Chloride (mg/L)
100
80
60
40
20
0
Jan-01
Jan-02
Jan-03
Jan-04
Jan-05
Jan-06
Jan-07
Jan-08
Jan-09
Jan-10
Jan-11
Jan-12
Jan-13
Jan-14
Jan-15
Jan-16
Jan-17
Jan-18
Jan-19
Upgradient and Crossgradient Wells
MW-64
MW-93
MW-95
MW-21
MW-66
MW-73
MW-84
MW-81
RL

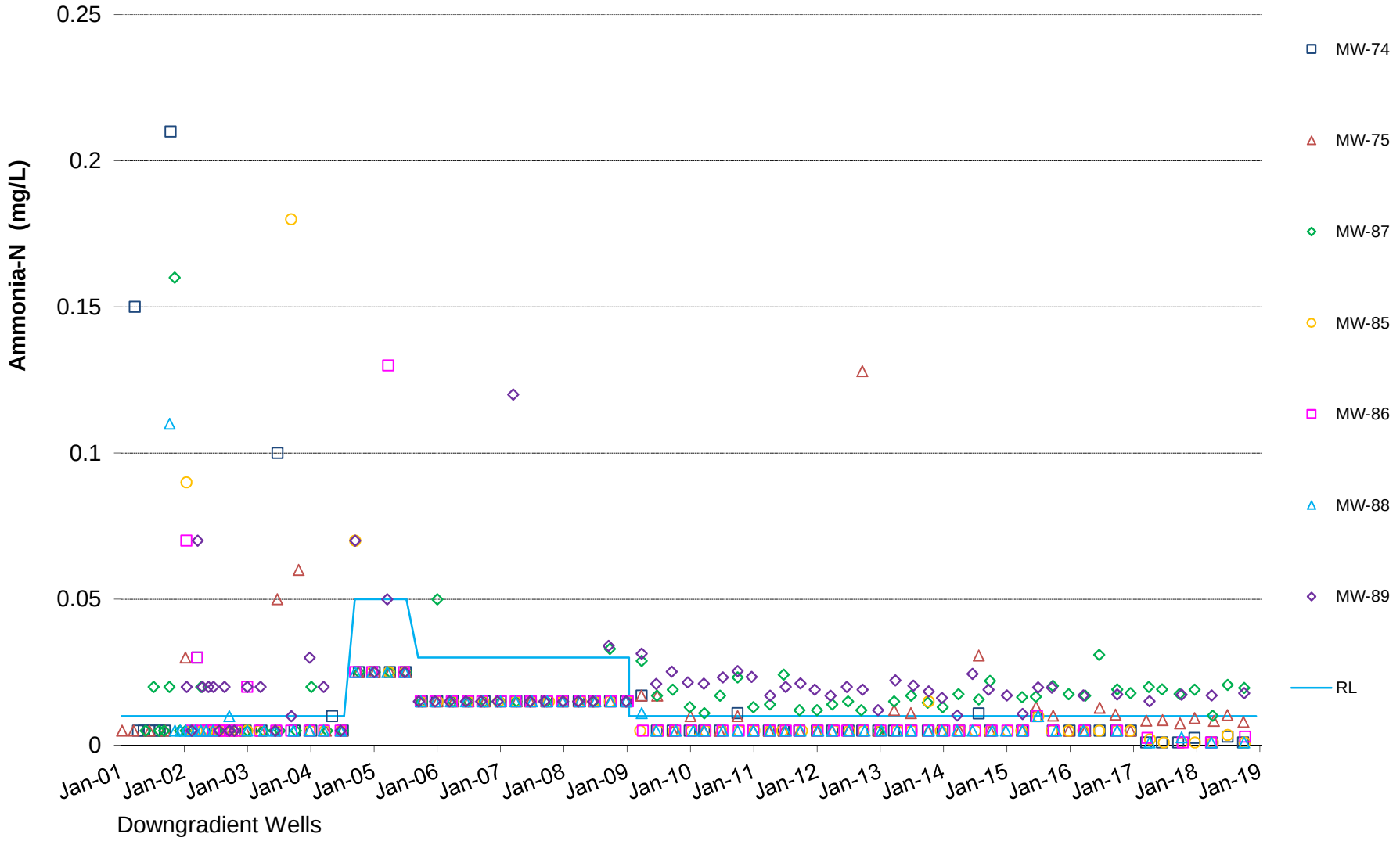

Chloride (mg/L)
100
80
60
40
20
0
Jan-01
Jan-02
Jan-03
Jan-04
Jan-05
Jan-06
Jan-07
Jan-08
Jan-09
Jan-10
Jan-11
Jan-12
Jan-13
Jan-14
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Jan-18
Jan-19
Downgradient Wells
MW-100
MW-68
MW-67
MW-69
MW-72
MW-80
RL

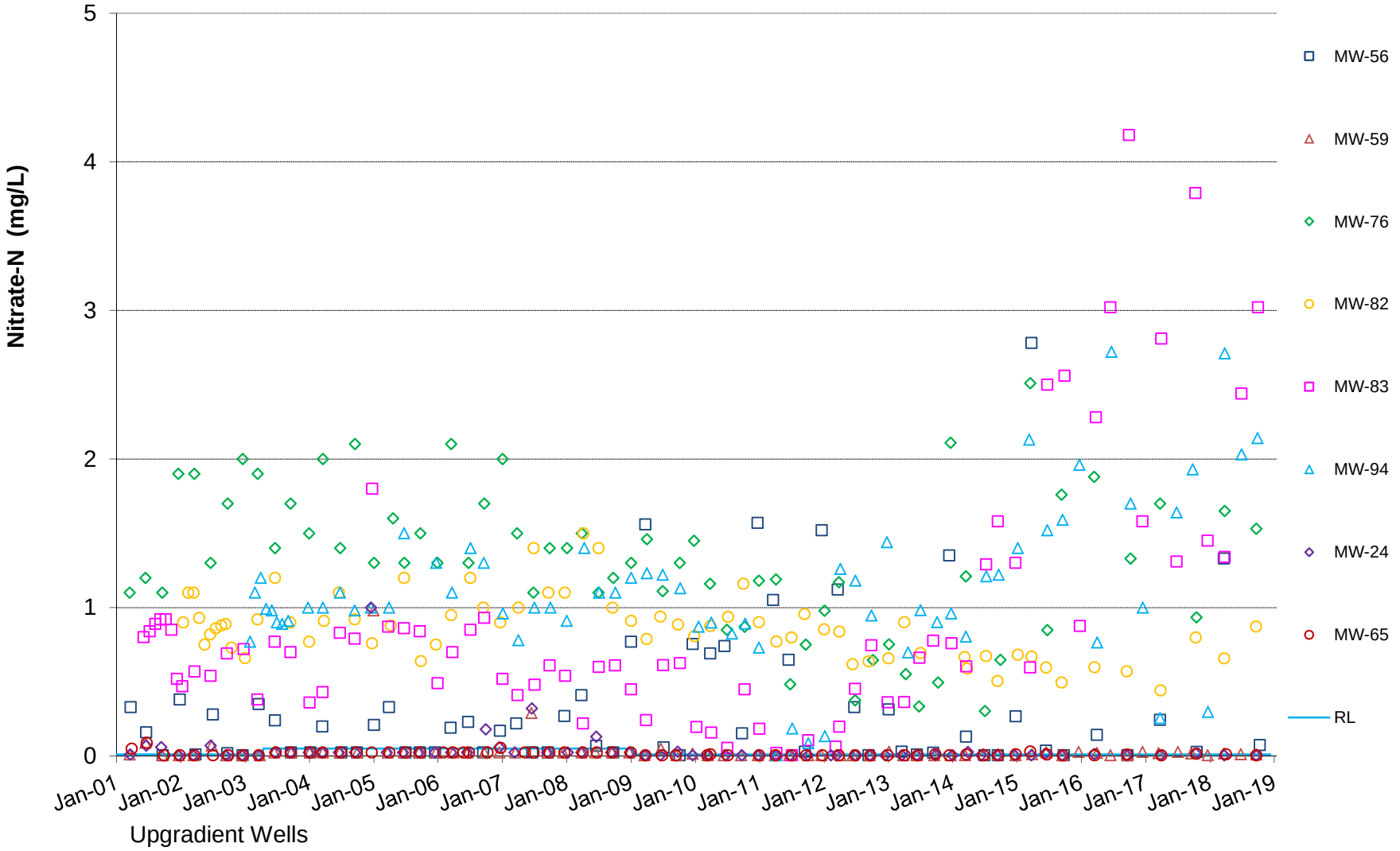

Chloride (mg/L)
100
80
60
40
20
0
Jan-01
Jan-02
Jan-03
Jan-04
Jan-05
Jan-06
Jan-07
Jan-08
Jan-09
Jan-10
Jan-11
Jan-12
Jan-13
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Jan-15
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Jan-19
Downgradient Wells
MW-74
MW-75
MW-87
MW-85
MW-86
MW-88
MW-89
RL

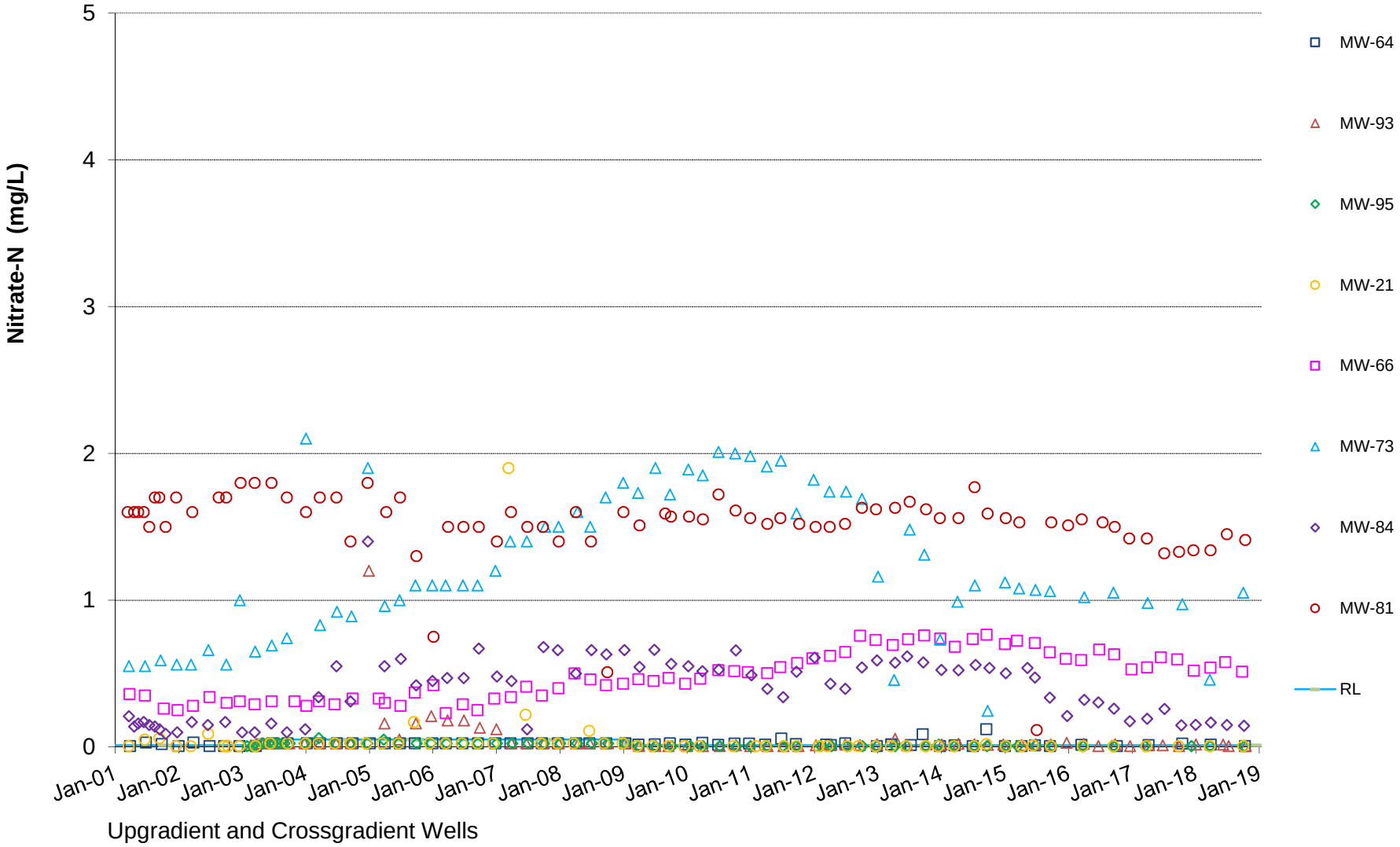

Ammonia-N (mg/L)
0.25
0.2
0.15
0.1
0.05
0
Jan-01
Jan-02
Jan-03
Jan-04
Jan-05
Jan-06
Jan-07
Jan-08
Jan-09
Jan-10
Jan-11
Jan-12
Jan-13
Jan-14
Jan-15
Jan-16
Jan-17
Jan-18
Jan-19
Upgradient Wells
MW-56
MW-59
MW-76
MW-82
MW-83
MW-94
MW-24
MW-65
RL

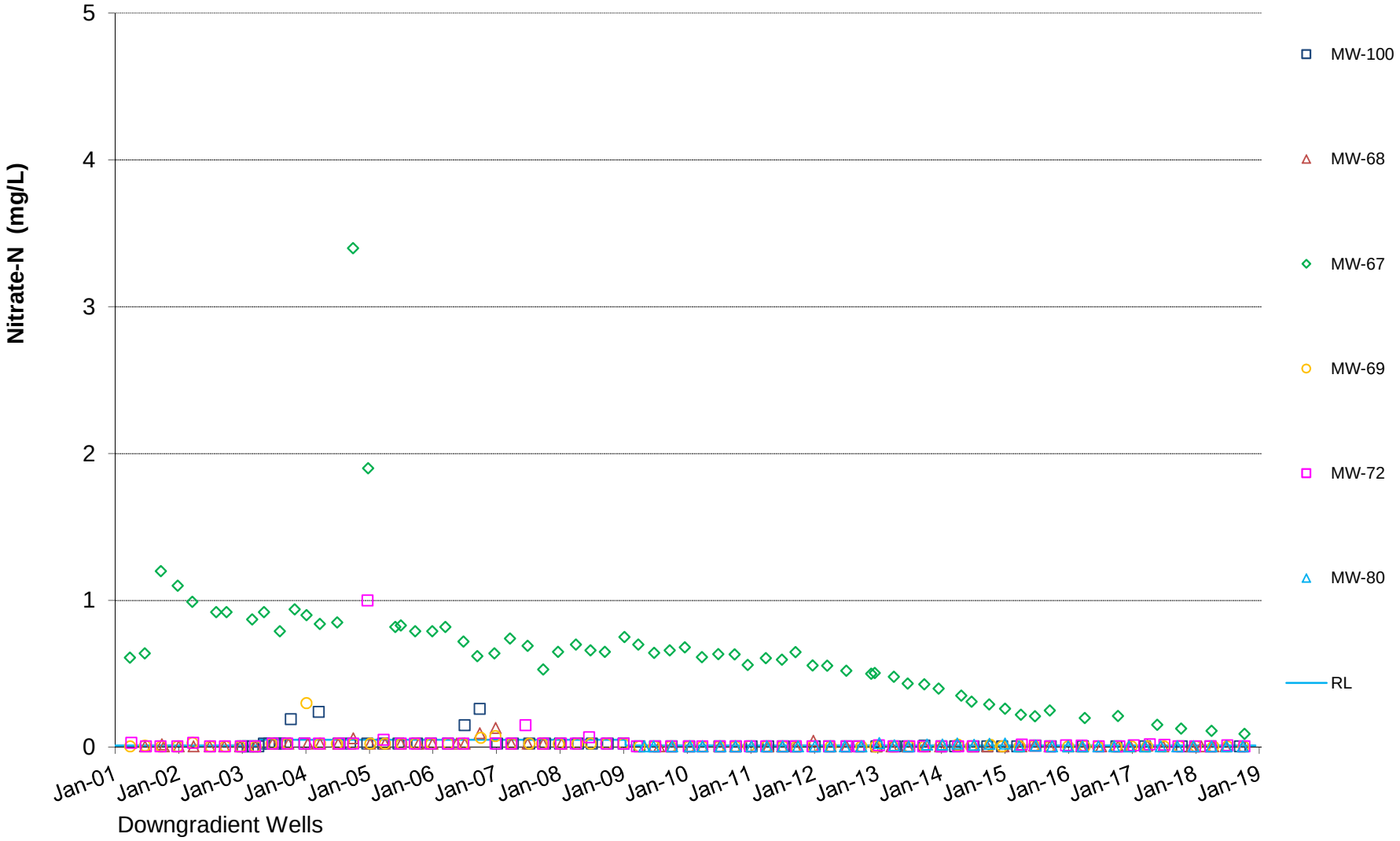

0.25
0.2
0.15
0.1
0.05
0
Ammonia-N (mg/L)
Jan-01
Jan-02
Jan-03
Jan-04
Jan-05
Jan-06
Jan-07
Jan-08
Jan-09
Jan-10
Jan-11
Jan-12
Jan-13
Jan-14
Jan-15
Jan-16
Jan-17
Jan-18
Jan-19
Upgradient and Crossgradient Wells
MW-64
MW-93
MW-95
MW-21
MW-66
MW-73
MW-84
MW-81
RL

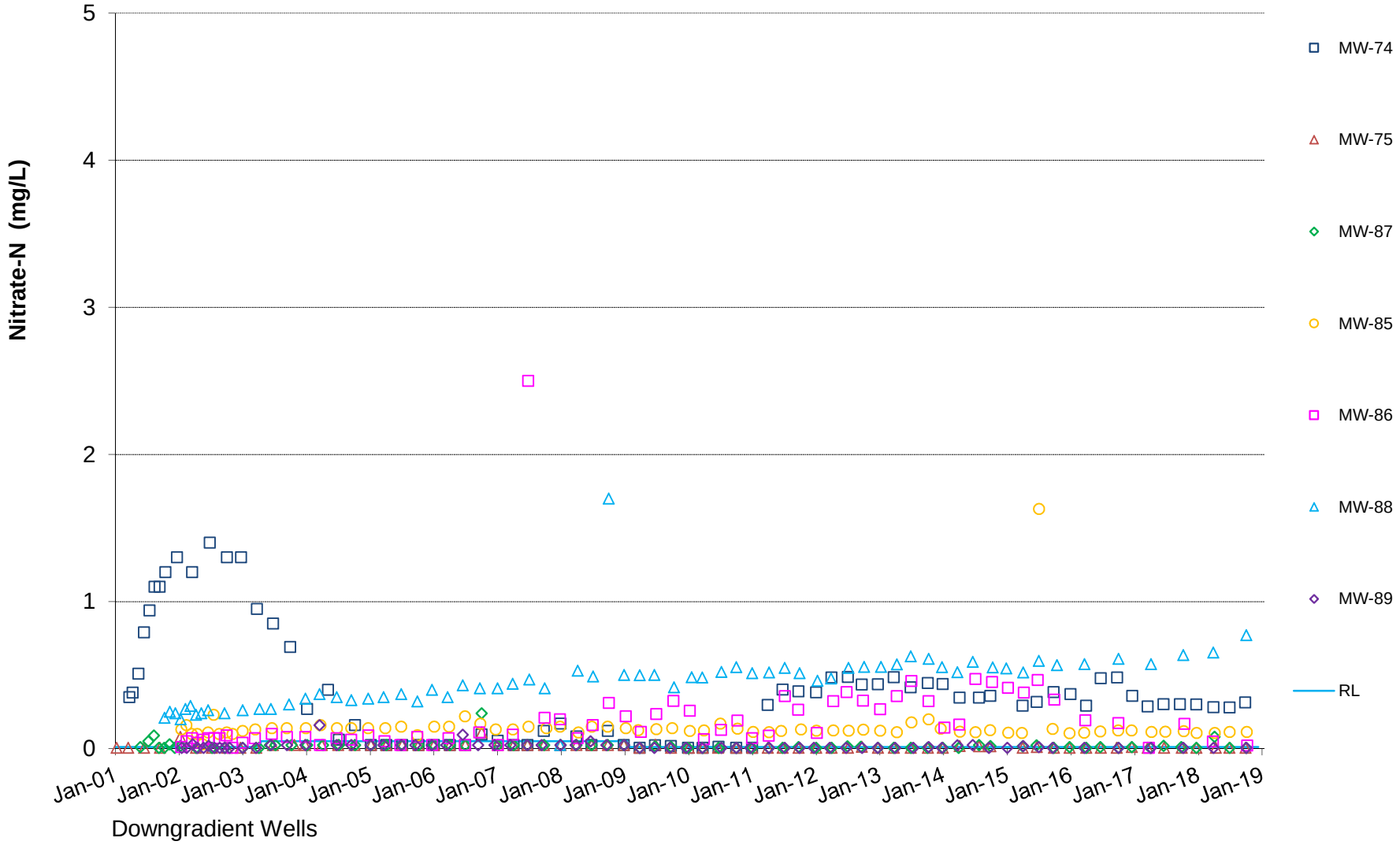

0.25
0.2
0.15
0.1
0.05
0
Ammonia-N (mg/L)
Jan-01
Jan-02
Jan-03
Jan-04
Jan-05
Jan-06
Jan-07
Jan-08
Jan-09
Jan-10
Jan-11
Jan-12
Jan-13
Jan-14
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Jan-19
Downgradient Wells
MW-100
MW-68
MW-67
MW-69
MW-72
MW-80
RL

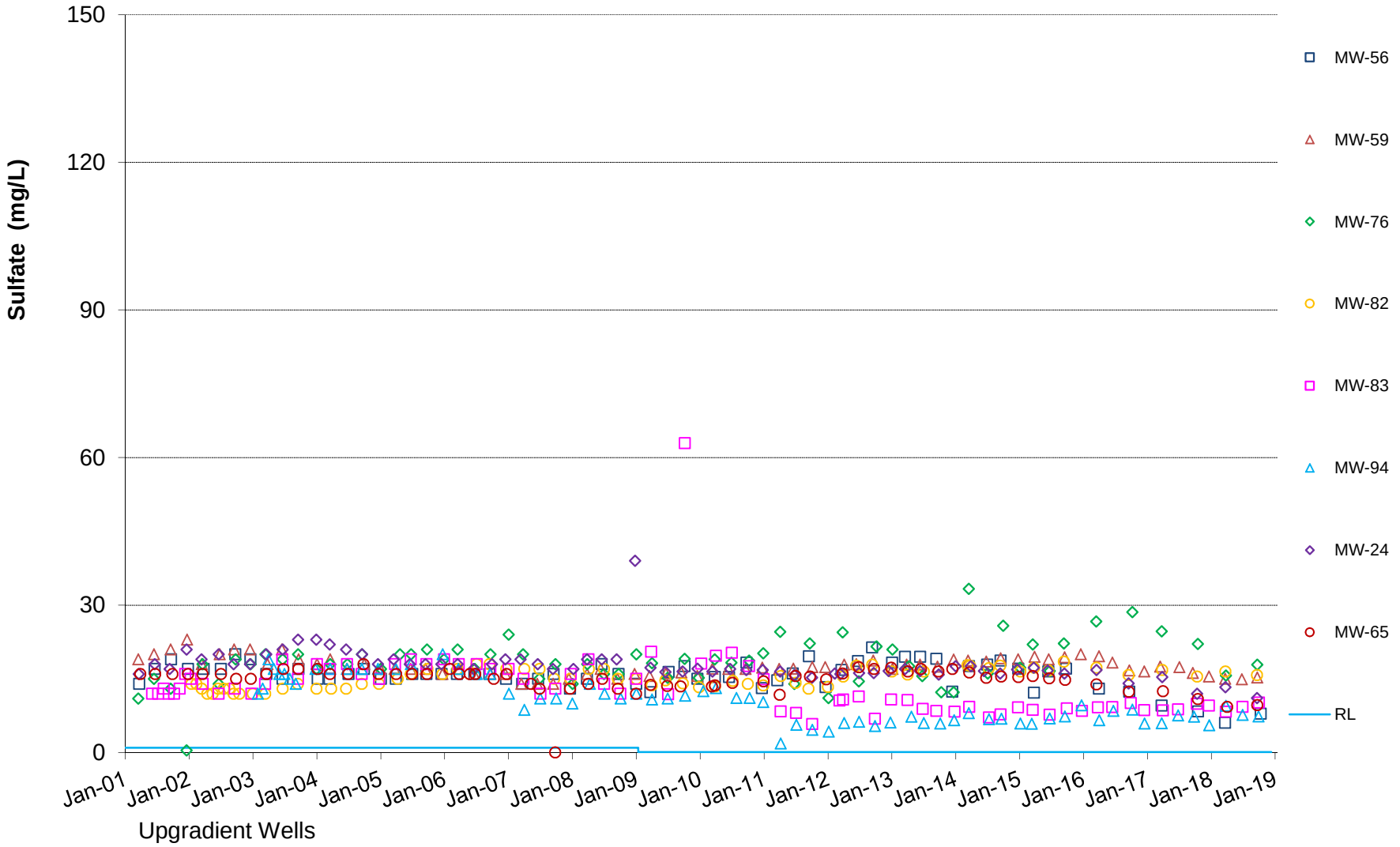

0.25
0.2
0.15
0.1
0.05
0
Ammonia-N (mg/L)
Jan-01
Jan-02
Jan-03
Jan-04
Jan-05
Jan-06
Jan-07
Jan-08
Jan-09
Jan-10
Jan-11
Jan-12
Jan-13
Jan-14
Jan-15
Jan-16
Jan-17
Jan-18
Jan-19
Downgradient Wells
MW-74
MW-75
MW-87
MW-85
MW-86
MW-88
MW-89
RL

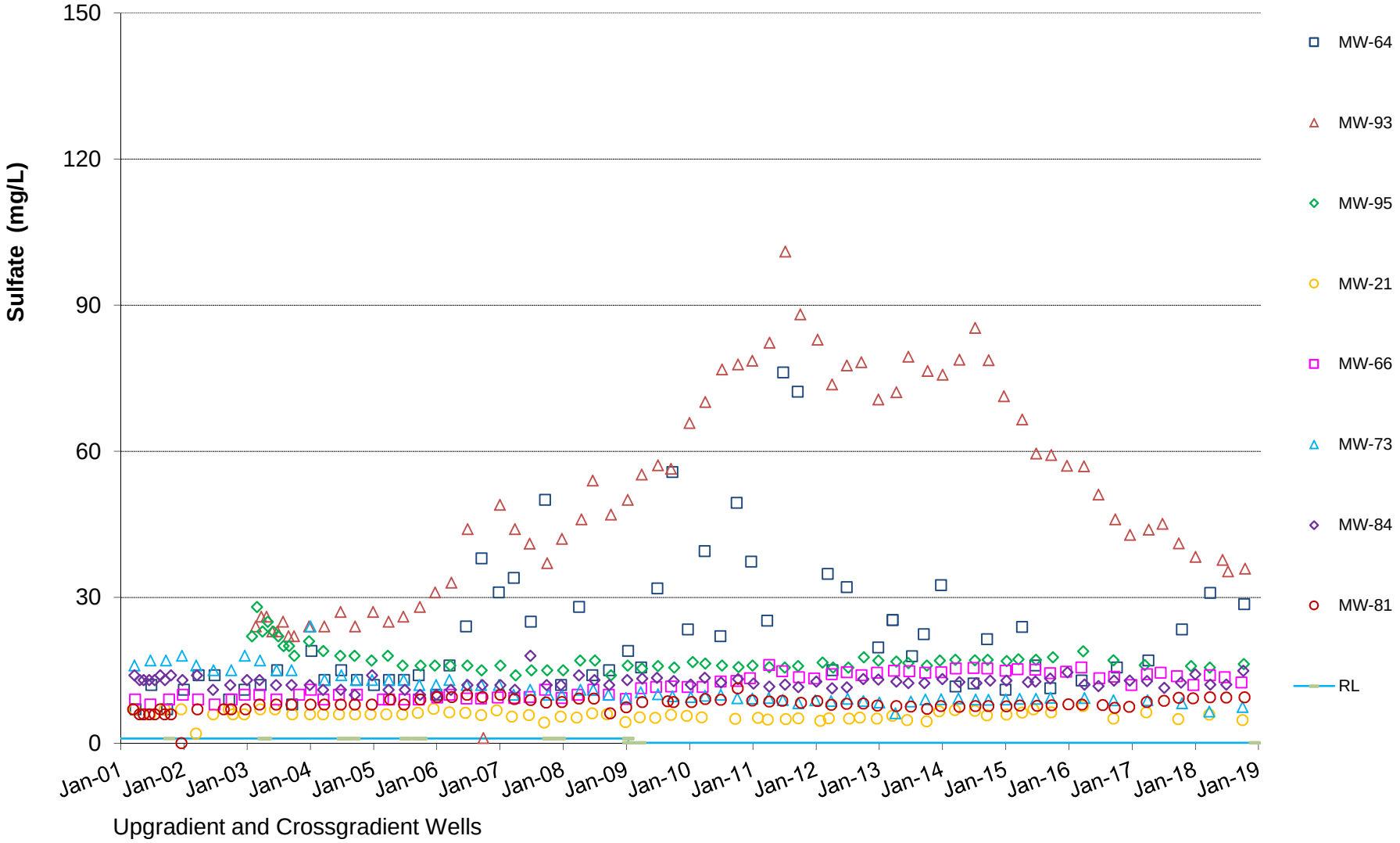

Nitrate-N (mg/L)
5
4
3
2
1
0
Jan-01
Jan-02
Jan-03
Jan-04
Jan-05
Jan-06
Jan-07
Jan-08
Jan-09
Jan-10
Jan-11
Jan-12
Jan-13
Jan-14
Jan-15
Jan-16
Jan-17
Jan-18
Jan-19
Upgradient Wells
MW-56
MW-59
MW-76
MW-82
MW-83
MW-94
MW-24
MW-65
RL

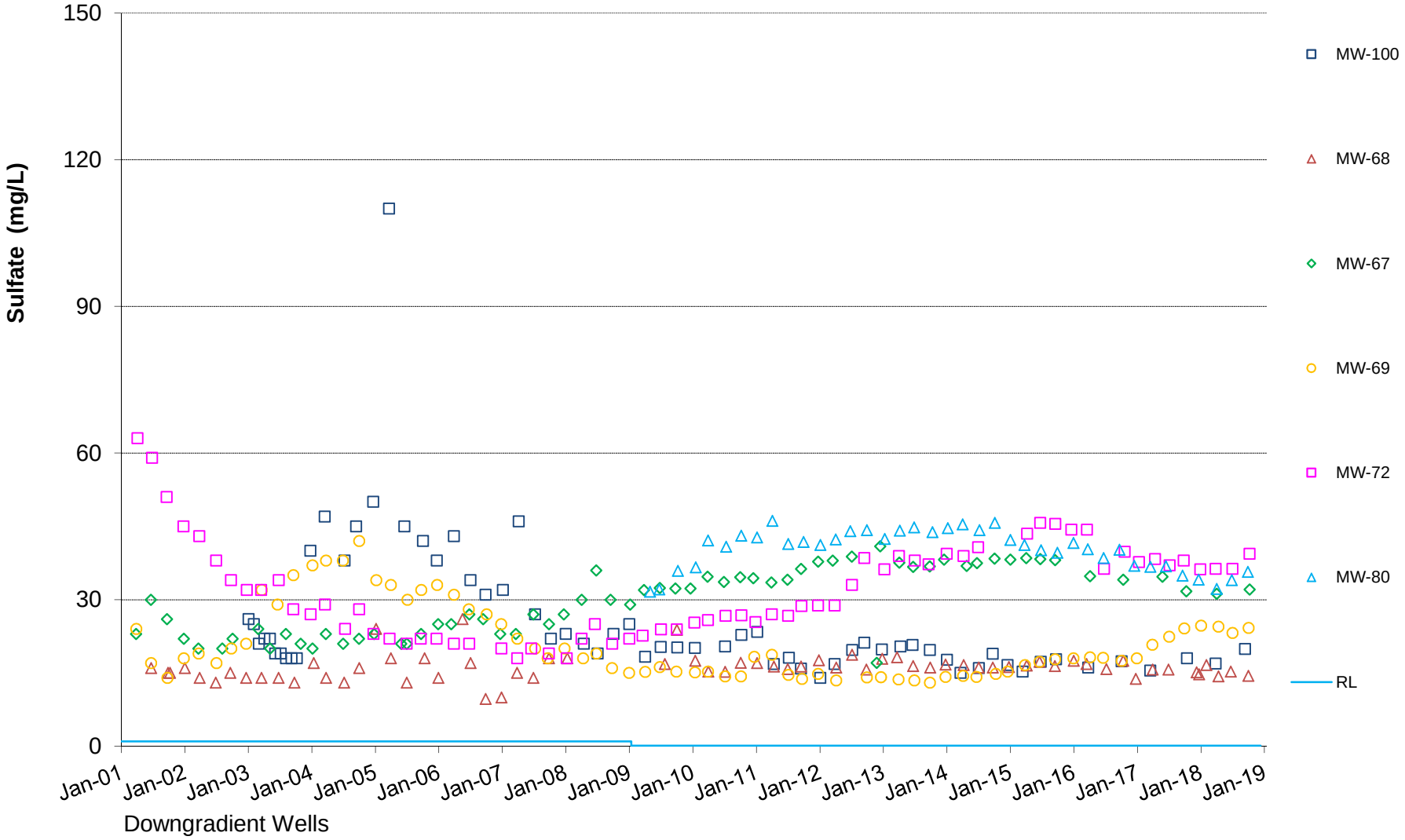

Nitrate-N (mg/L)
5
4
3
2
1
0
Jan-01
Jan-02
Jan-03
Jan-04
Jan-05
Jan-06
Jan-07
Jan-08
Jan-09
Jan-10
Jan-11
Jan-12
Jan-13
Jan-14
Jan-15
Jan-16
Jan-17
Jan-18
Jan-19
Upgradient and Crossgradient Wells
MW-64
MW-93
MW-95
MW-21
MW-66
MW-73
MW-84
MW-81
RL

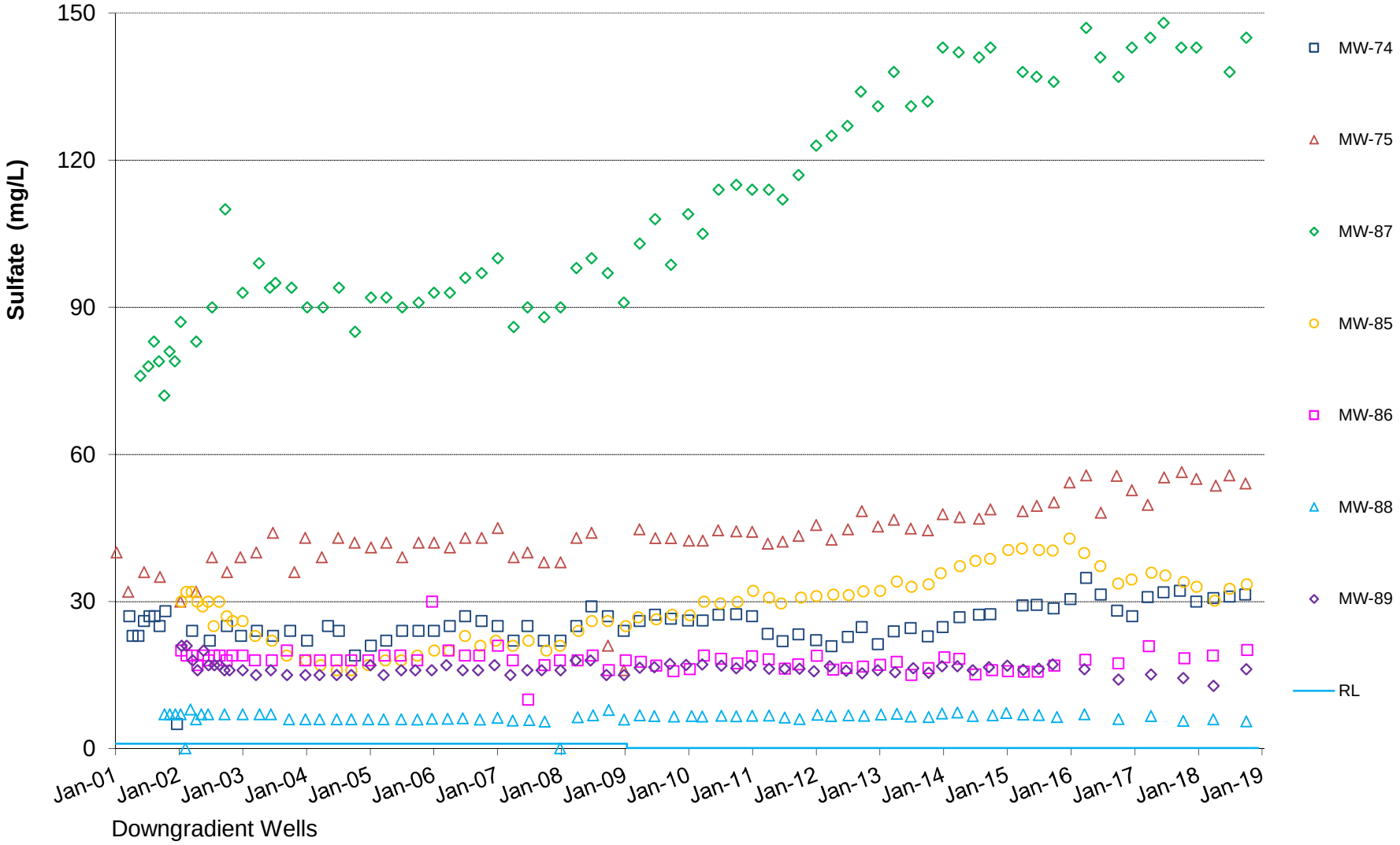

Nitrate-N (mg/L)
5
4
3
2
1
0
Jan-01
Jan-02
Jan-03
Jan-04
Jan-05
Jan-06
Jan-07
Jan-08
Jan-09
Jan-10
Jan-11
Jan-12
Jan-13
Jan-14
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Jan-19
Downgradient Wells
MW-100
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MW-69
MW-72
MW-80
RL

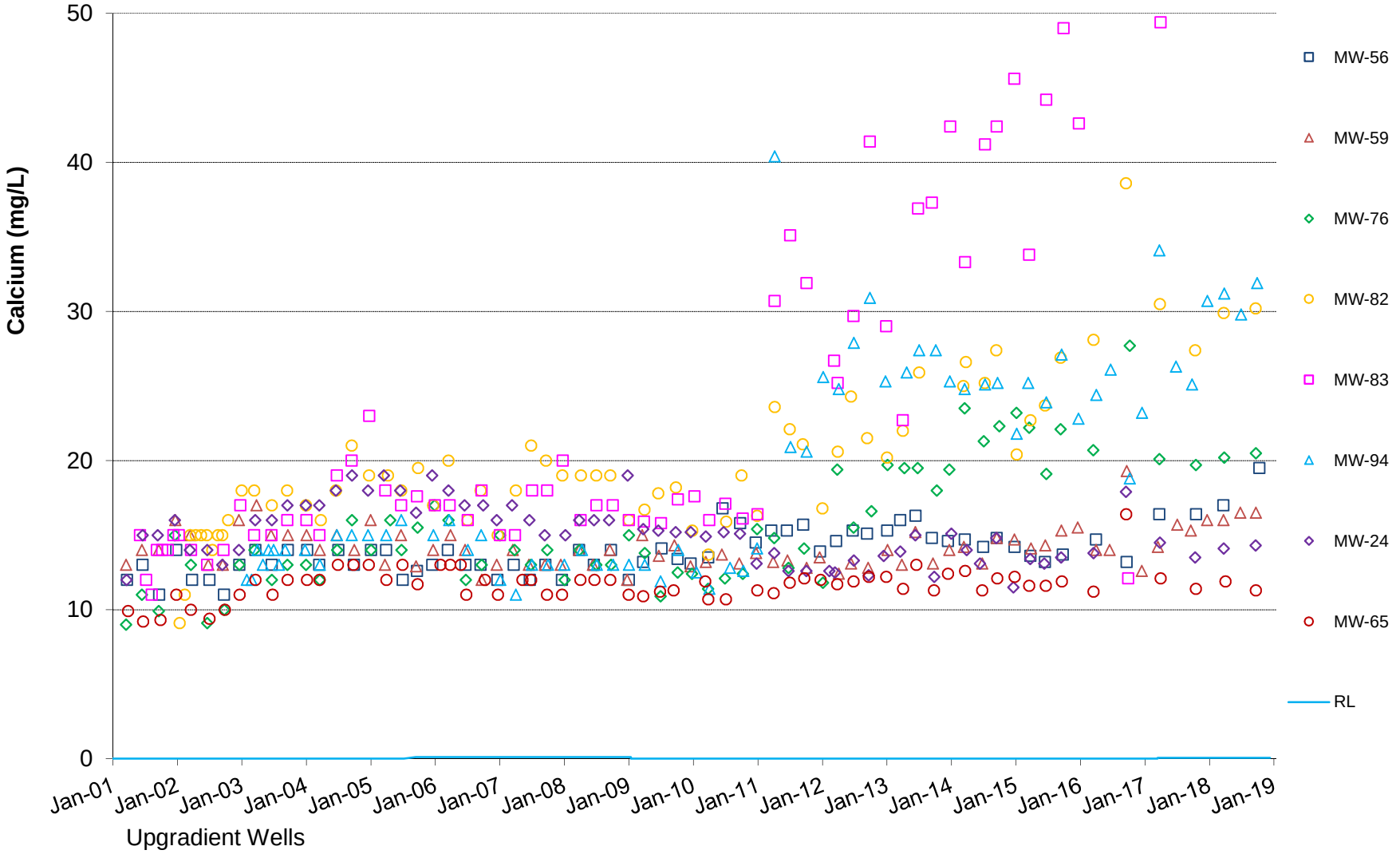

Nitrate-N (mg/L)
5
4
3
2
1
0
Jan-01
Jan-02
Jan-03
Jan-04
Jan-05
Jan-06
Jan-07
Jan-08
Jan-09
Jan-10
Jan-11
Jan-12
Jan-13
Jan-14
Jan-15
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Downgradient Wells
MW-74
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MW-86
MW-88
MW-89
RL

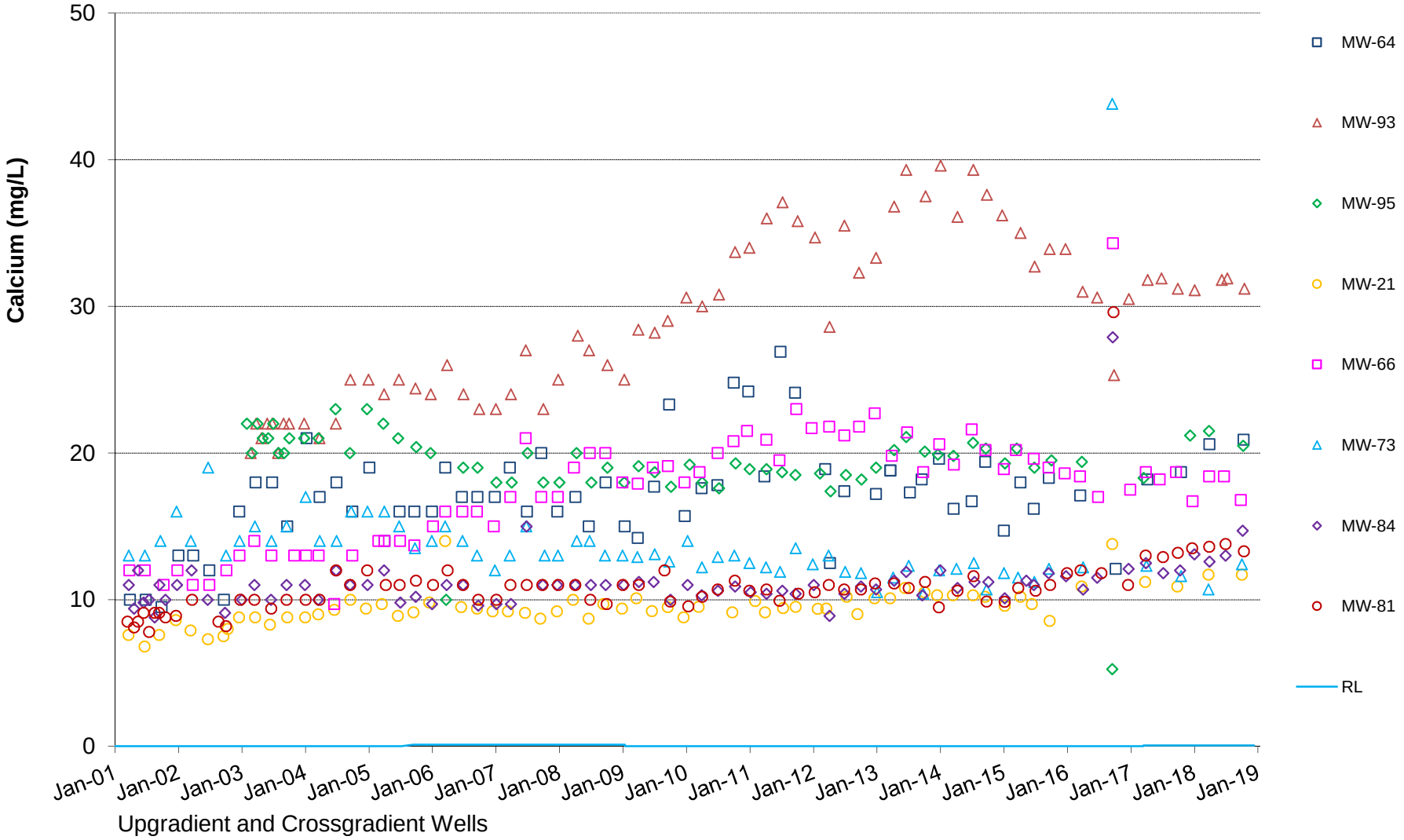

Sulfate (mg/L)
150
120
90
60
30
0
Jan-01
Jan-02
Jan-03
Jan-04
Jan-05
Jan-06
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Jan-08
Jan-09
Jan-10
Jan-11
Jan-12
Jan-13
Jan-14
Jan-15
Jan-16
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Upgradient Wells
MW-56
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MW-76
MW-82
MW-83
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MW-24
MW-65
RL

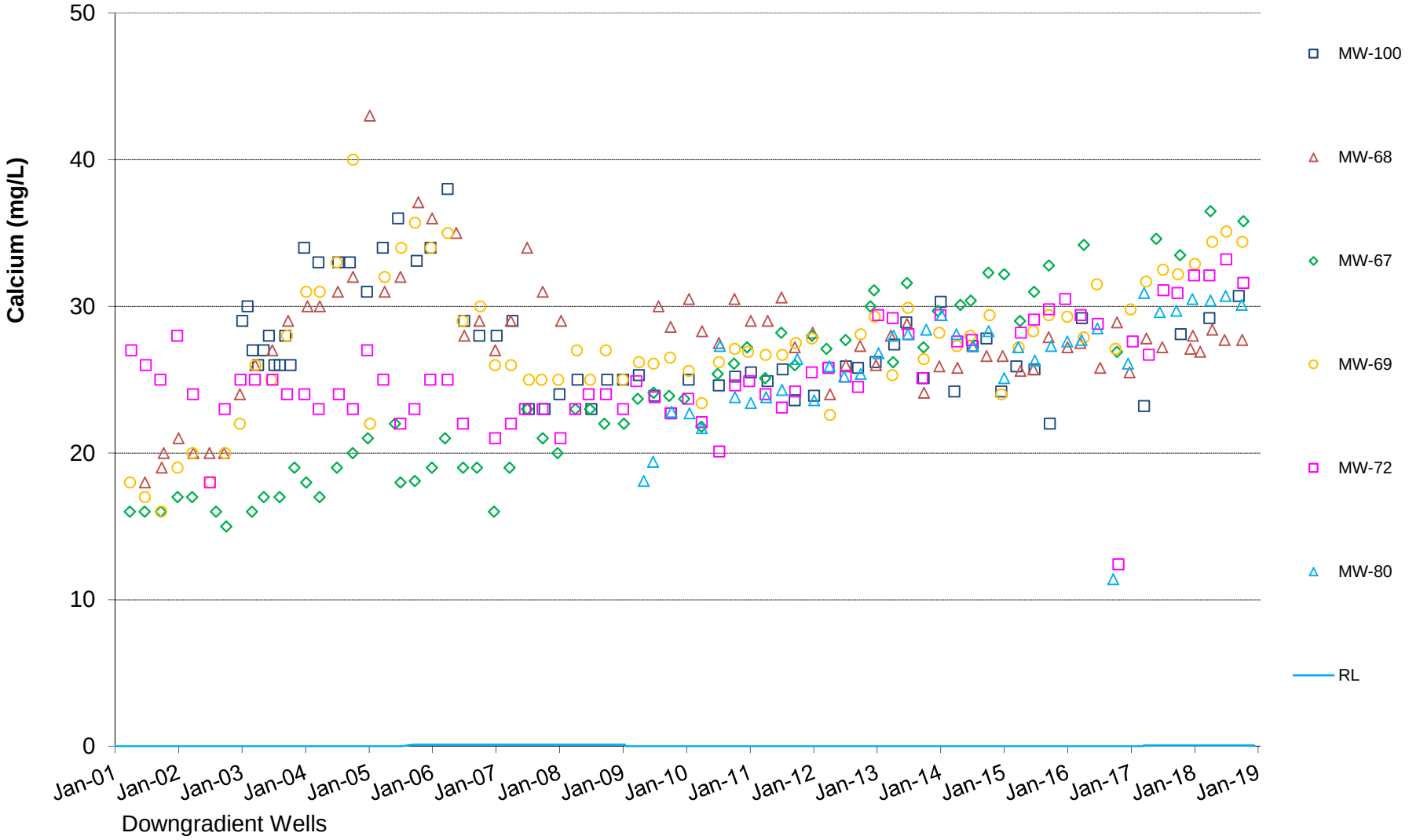

Sulfate (mg/L)
150
120
90
60
30
0
Jan-01
Jan-02
Jan-03
Jan-04
Jan-05
Jan-06
Jan-07
Jan-08
Jan-09
Jan-10
Jan-11
Jan-12
Jan-13
Jan-14
Jan-15
Jan-16
Jan-17
Jan-18
Jan-19
Upgradient and Crossgradient Wells
MW-64
MW-93
MW-95
MW-21
MW-66
MW-73
MW-84
MW-81
RL

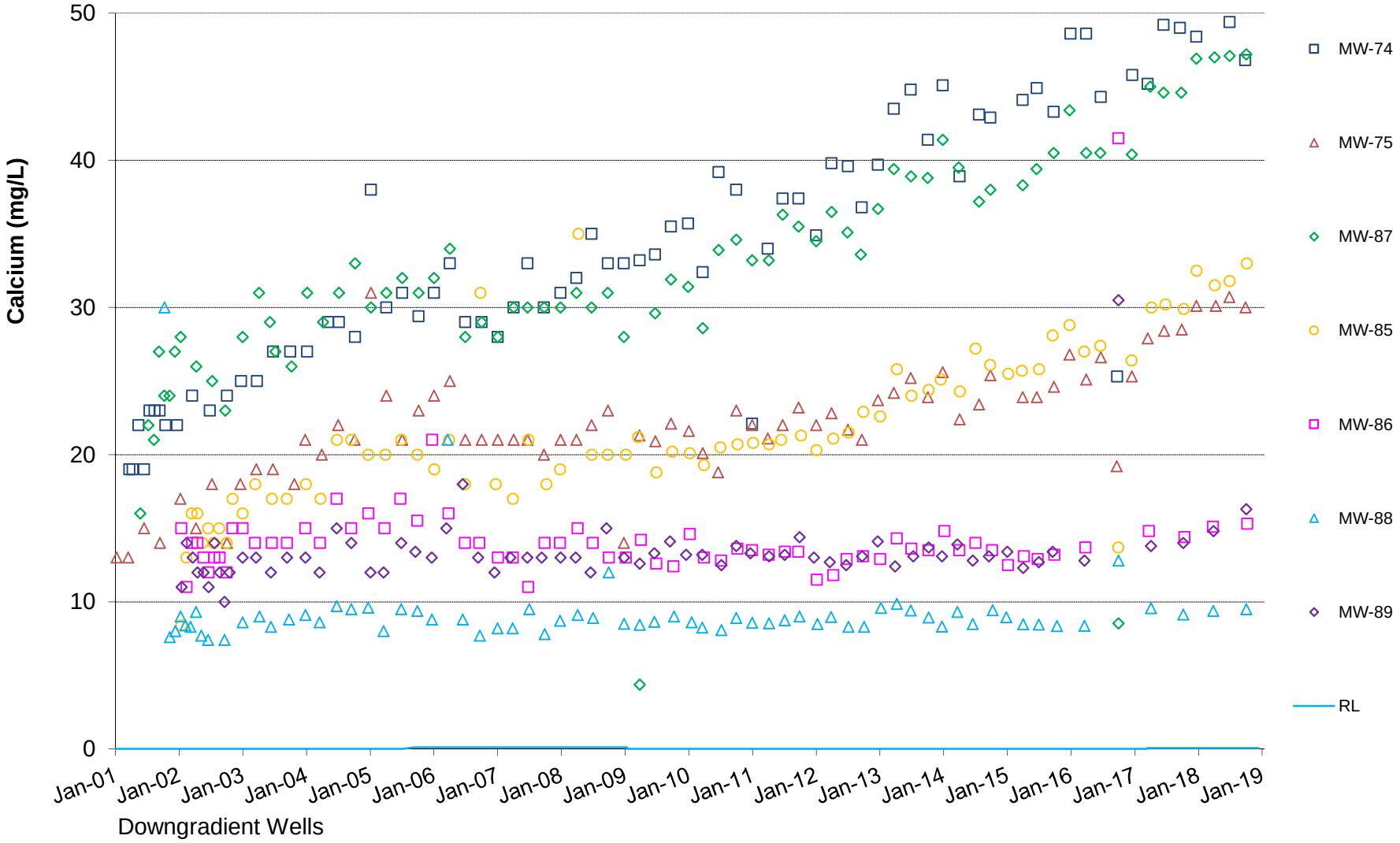

150
120
90
60
30
0
Sulfate (mg/L)
Jan-01
Jan-02
Jan-03
Jan-04
Jan-05
Jan-06
Jan-07
Jan-08
Jan-09
Jan-10
Jan-11
Jan-12
Jan-13
Jan-14
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Jan-19
Downgradient Wells
MW-100
MW-68
MW-67
MW-69
MW-72
MW-80
RL

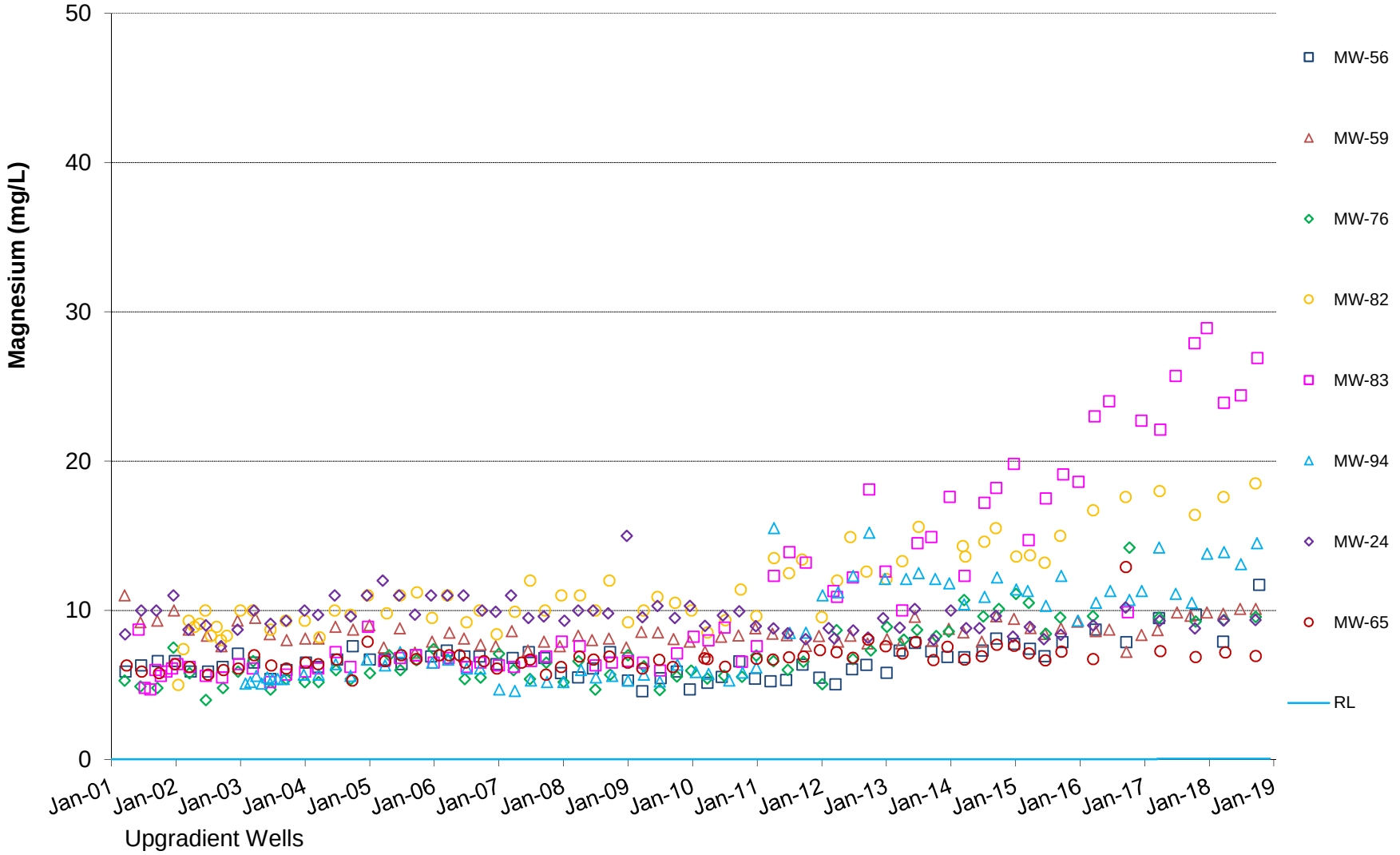

Sulfate (mg/L)
150
120
90
60
30
0
Jan-01
Jan-02
Jan-03
Jan-04
Jan-05
Jan-06
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Jan-08
Jan-09
Jan-10
Jan-11
Jan-12
Jan-13
Jan-14
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Downgradient Wells
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MW-75
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MW-88
MW-89
RL

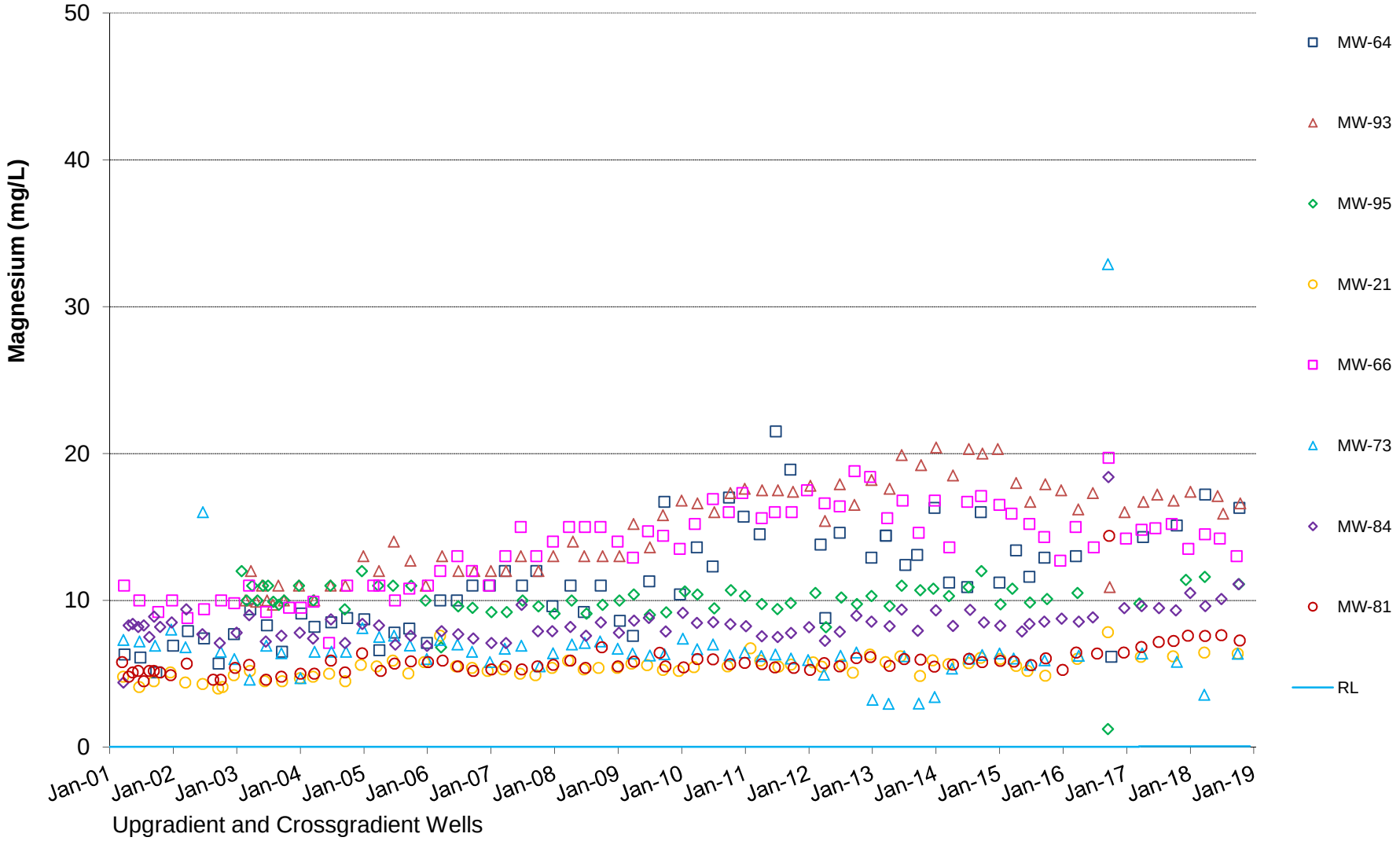

Calcium (mg/L)
50
40
30
20
10
0
Jan-01
Jan-02
Jan-03
Jan-04
Jan-05
Jan-06
Jan-07
Jan-08
Jan-09
Jan-10
Jan-11
Jan-12
Jan-13
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Jan-16
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Jan-19
Upgradient Wells
MW-56
MW-59
MW-76
MW-82
MW-83
MW-94
MW-24
MW-65
RL

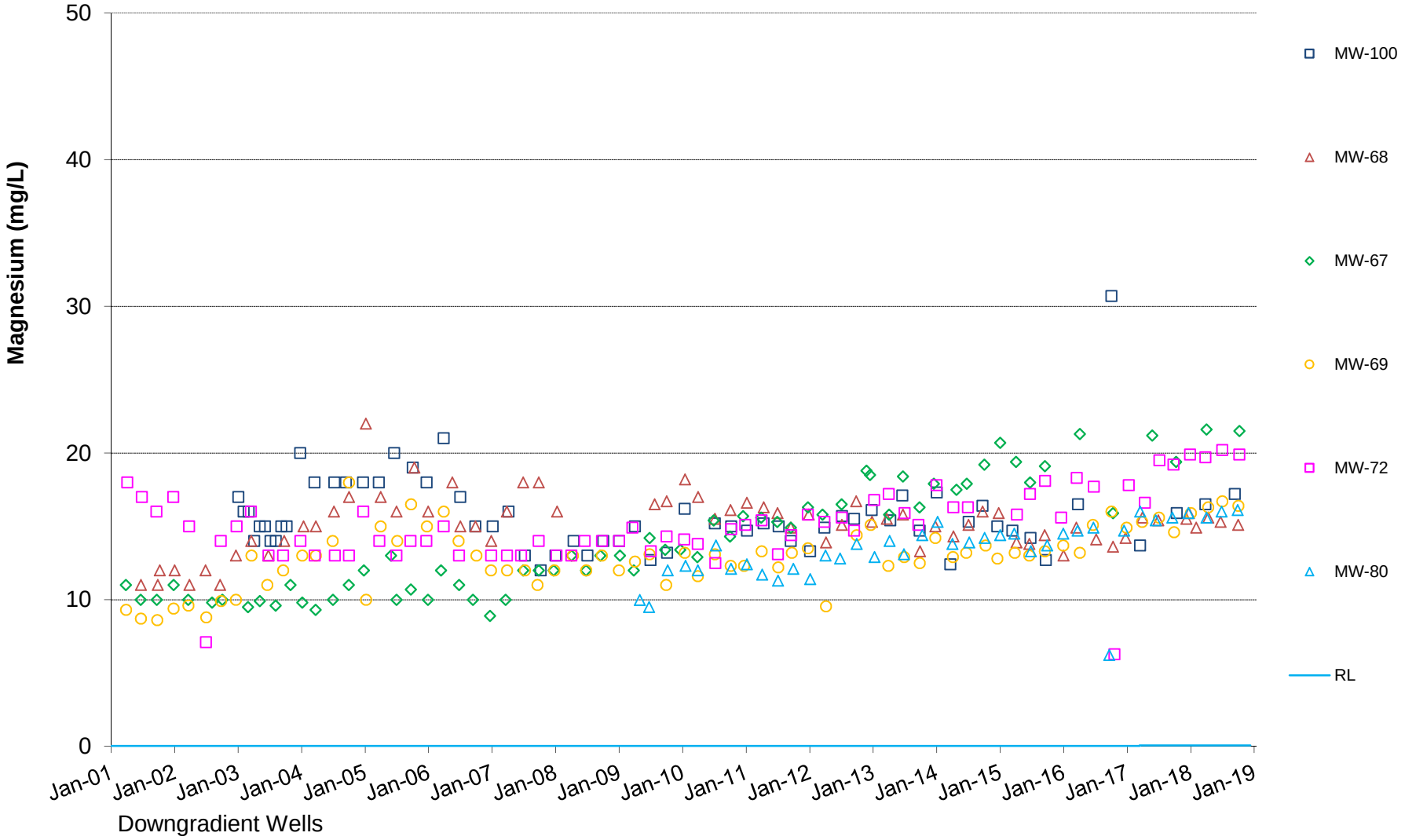

Calcium (mg/L)
50
40
30
20
10
0
Jan-01
Jan-02
Jan-03
Jan-04
Jan-05
Jan-06
Jan-07
Jan-08
Jan-09
Jan-10
Jan-11
Jan-12
Jan-13
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Jan-17
Jan-18
Jan-19
Upgradient and Crossgradient Wells
MW-64
MW-93
MW-95
MW-21
MW-66
MW-73
MW-84
MW-81
RL

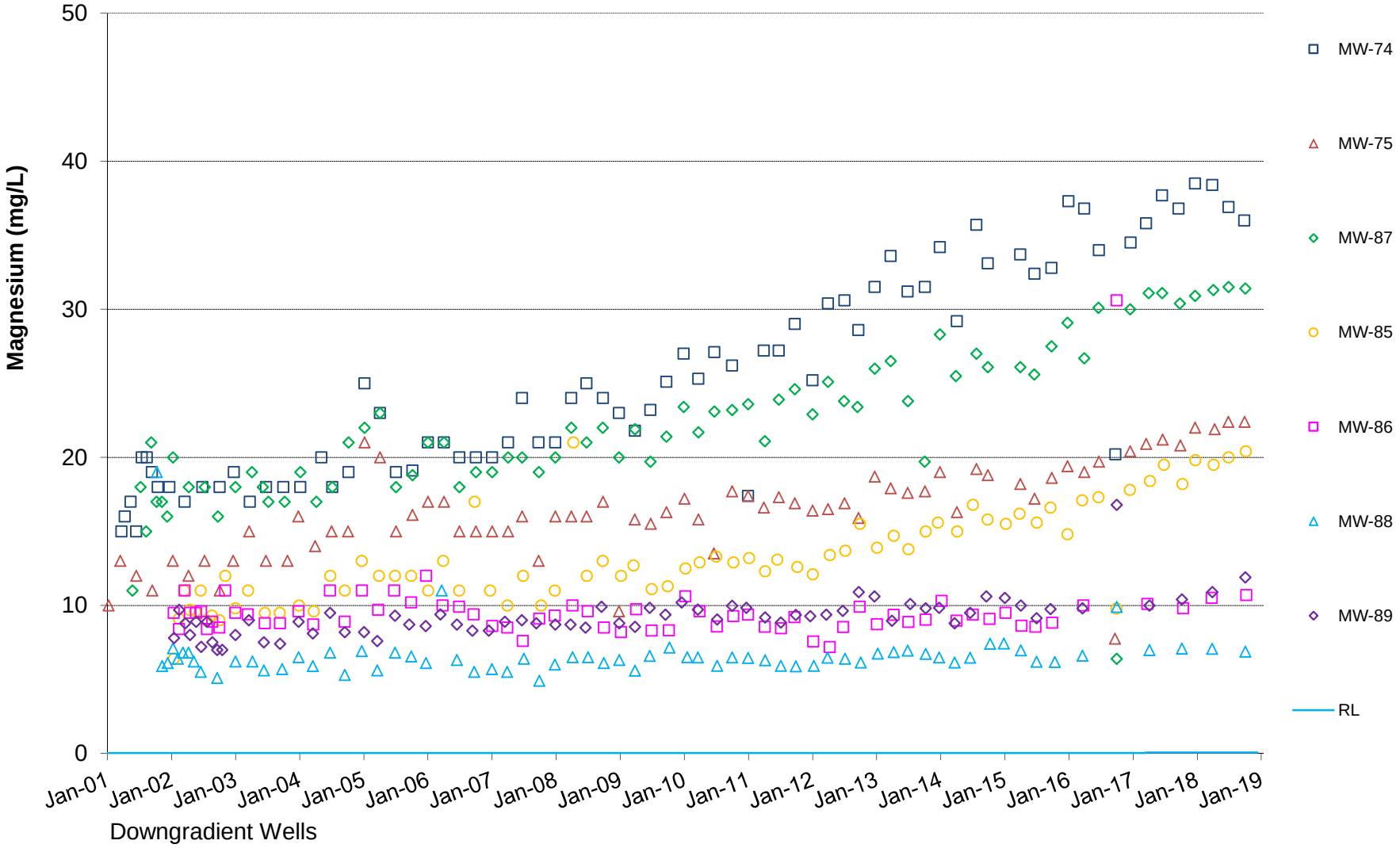

Calcium (mg/L)
50
40
30
20
10
0
Jan-01
Jan-02
Jan-03
Jan-04
Jan-05
Jan-06
Jan-07
Jan-08
Jan-09
Jan-10
Jan-11
Jan-12
Jan-13
Jan-14
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Jan-19
Downgradient Wells
MW-100
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MW-72
MW-80
RL

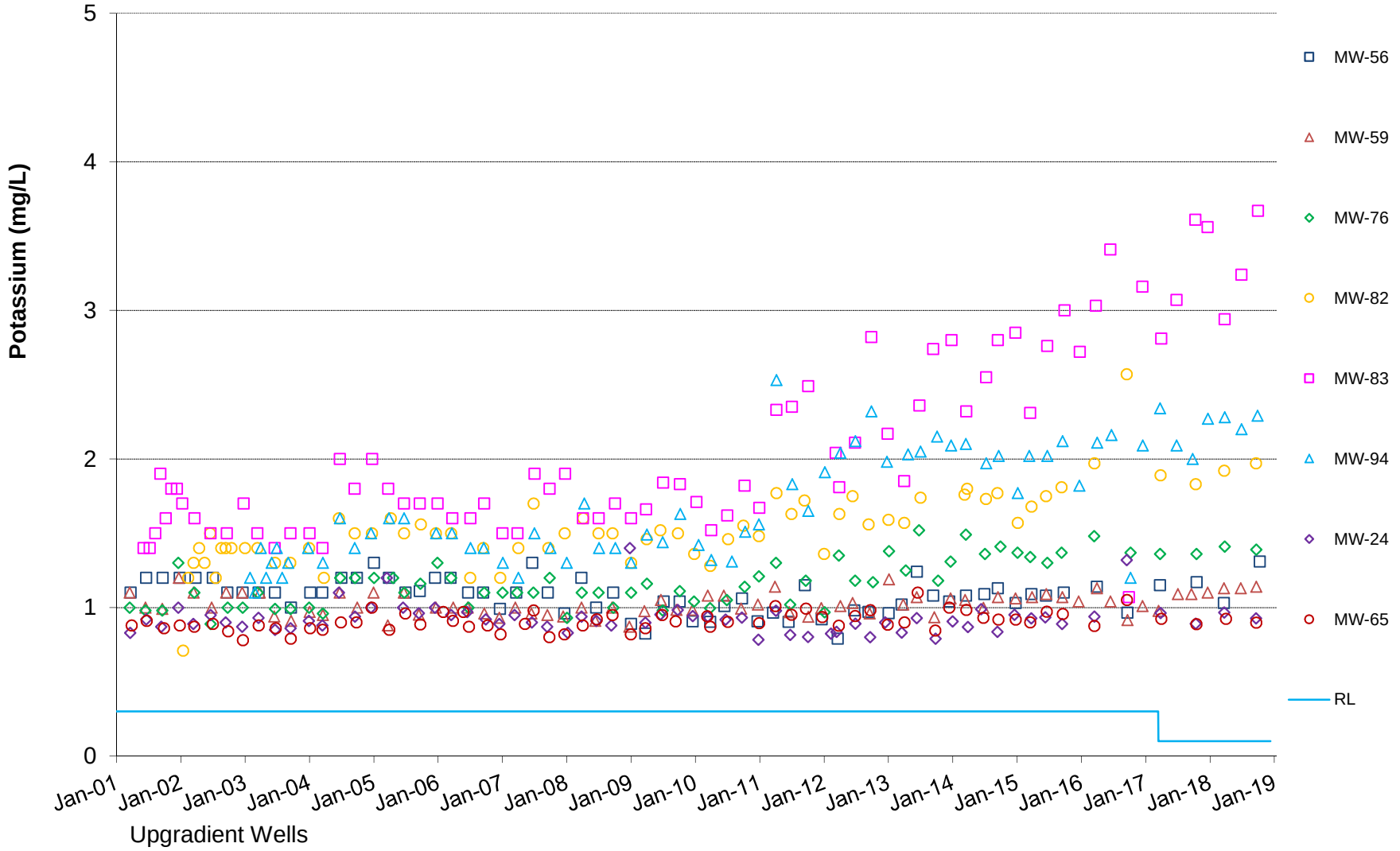

Calcium (mg/L)
50
40
30
20
10
0
Jan-01
Jan-02
Jan-03
Jan-04
Jan-05
Jan-06
Jan-07
Jan-08
Jan-09
Jan-10
Jan-11
Jan-12
Jan-13
Jan-14
Jan-15
Jan-16
Jan-17
Jan-18
Jan-19
Downgradient Wells
MW-74
MW-75
MW-87
MW-85
MW-86
MW-88
MW-89
RL

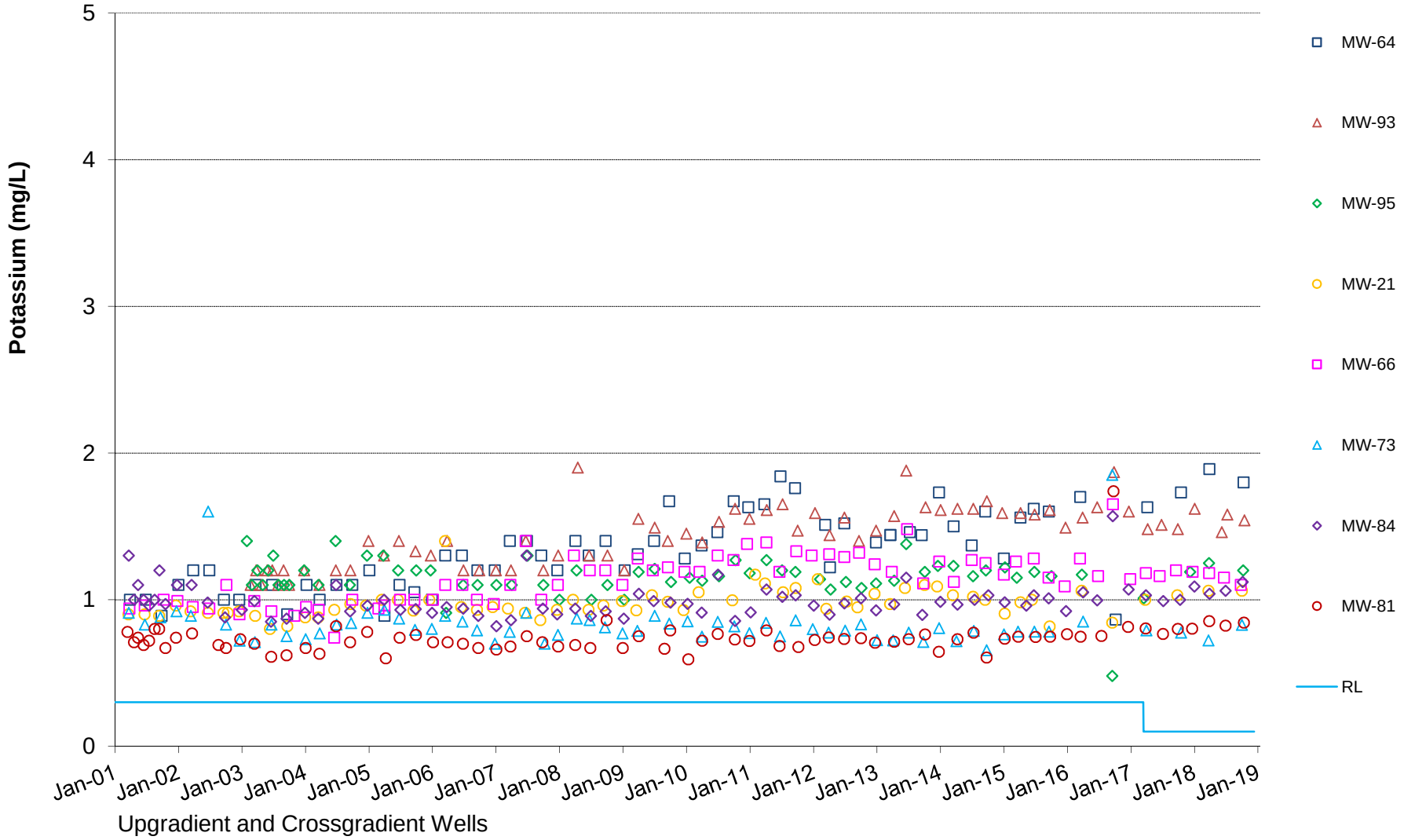

Magnesium (mg/L)
50
40
30
20
10
0
Jan-01
Jan-02
Jan-03
Jan-04
Jan-05
Jan-06
Jan-07
Jan-08
Jan-09
Jan-10
Jan-11
Jan-12
Jan-13
Jan-14
Jan-15
Jan-16
Jan-17
Jan-18
Jan-19
Upgradient Wells
MW-56
MW-59
MW-76
MW-82
MW-83
MW-94
MW-24
MW-65
RL

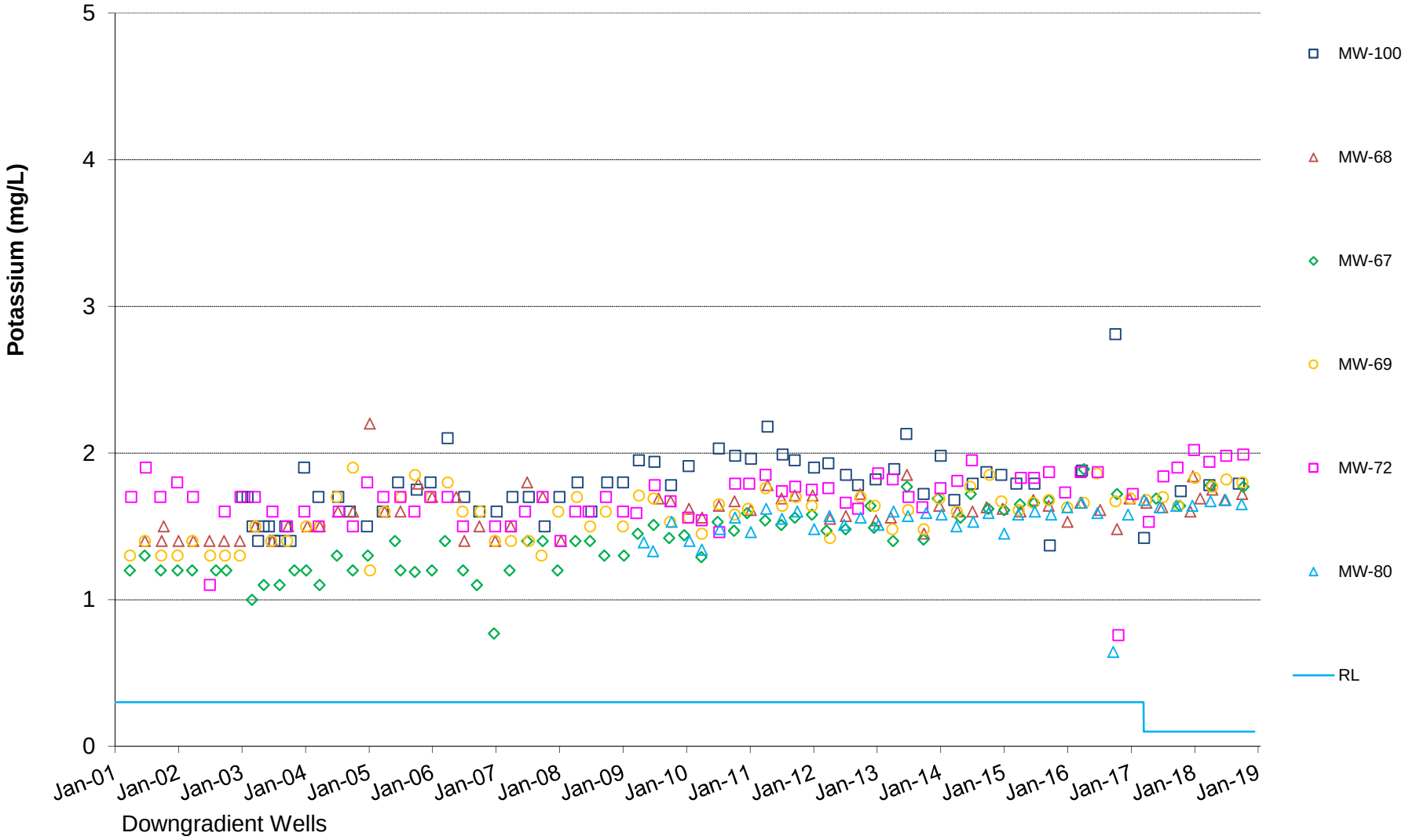

Magnesium (mg/L)
50
40
30
20
10
0
Jan-01
Jan-02
Jan-03
Jan-04
Jan-05
Jan-06
Jan-07
Jan-08
Jan-09
Jan-10
Jan-11
Jan-12
Jan-13
Jan-14
Jan-15
Jan-16
Jan-17
Jan-18
Jan-19
Upgradient and Crossgradient Wells
MW-64
MW-93
MW-95
MW-21
MW-66
MW-73
MW-84
MW-81
RL

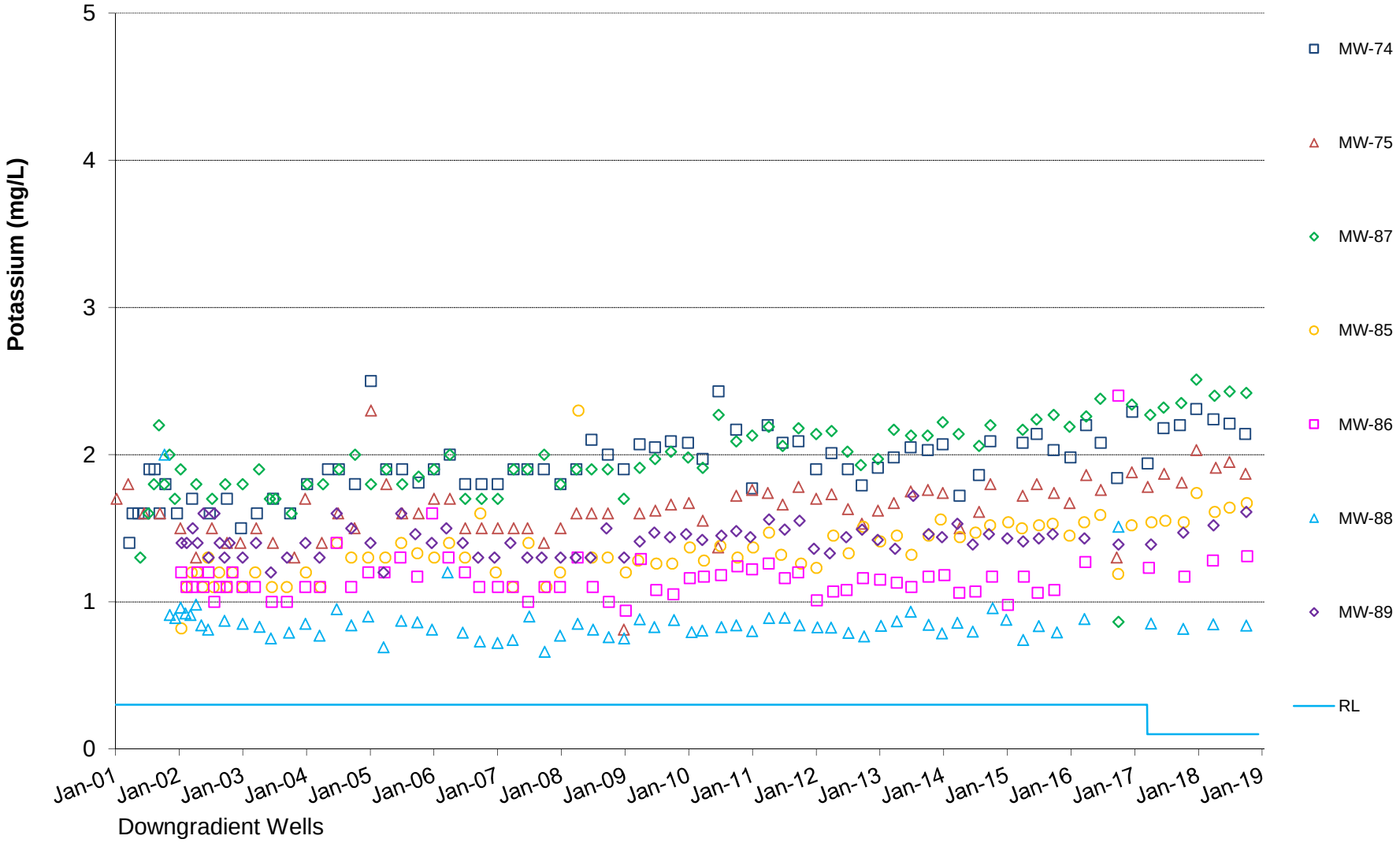

Magnesium (mg/L)
50
40
30
20
10
0
Jan-01
Jan-02
Jan-03
Jan-04
Jan-05
Jan-06
Jan-07
Jan-08
Jan-09
Jan-10
Jan-11
Jan-12
Jan-13
Jan-14
Jan-15
Jan-16
Jan-17
Jan-18
Jan-19
Downgradient Wells
MW-100
MW-68
MW-67
MW-69
MW-72
MW-80
RL

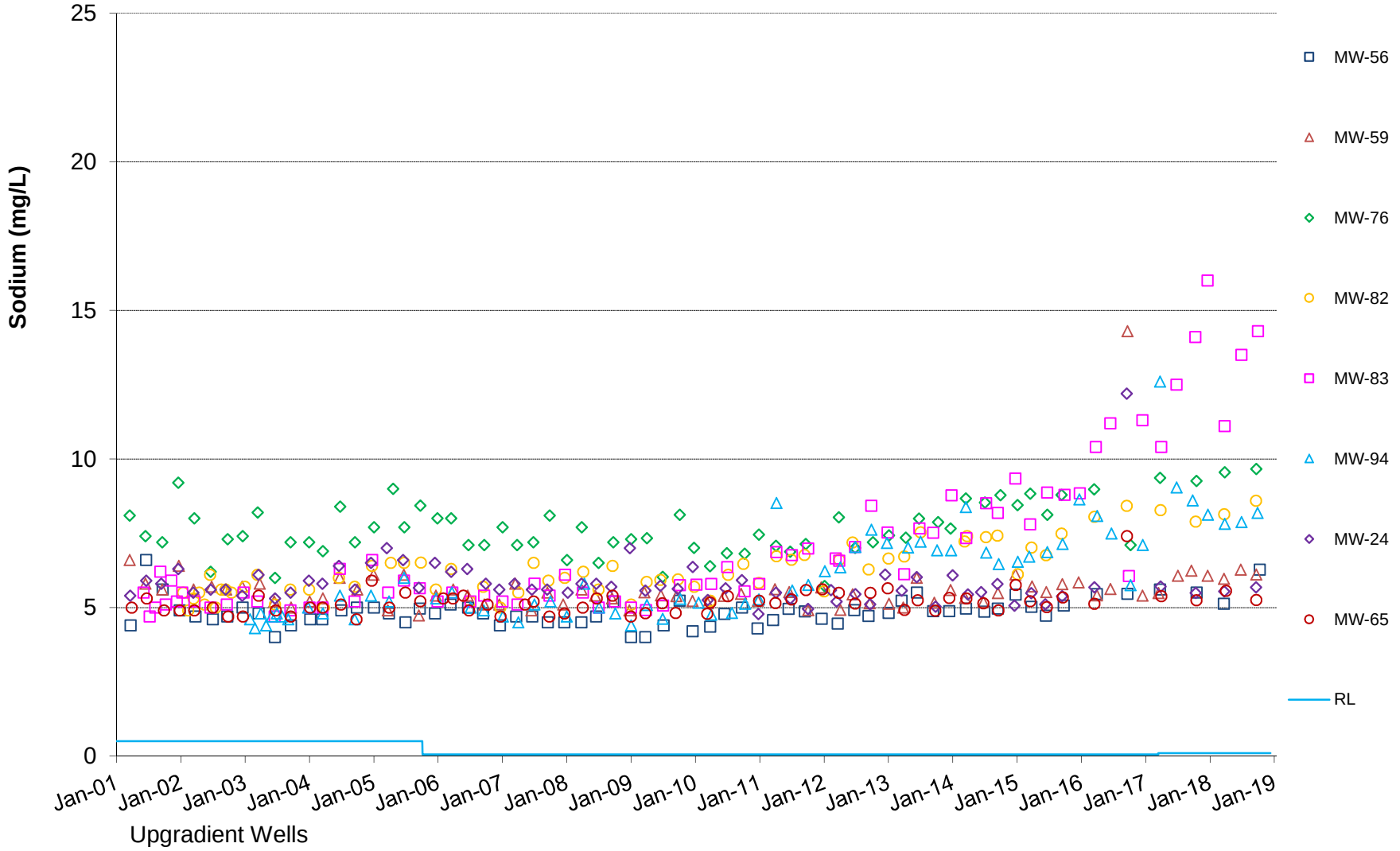

Magnesium (mg/L)
50
40
30
20
10
0
Jan-01
Jan-02
Jan-03
Jan-04
Jan-05
Jan-06
Jan-07
Jan-08
Jan-09
Jan-10
Jan-11
Jan-12
Jan-13
Jan-14
Jan-15
Jan-16
Jan-17
Jan-18
Jan-19
Downgradient Wells
MW-74
MW-75
MW-87
MW-85
MW-86
MW-88
MW-89
RL

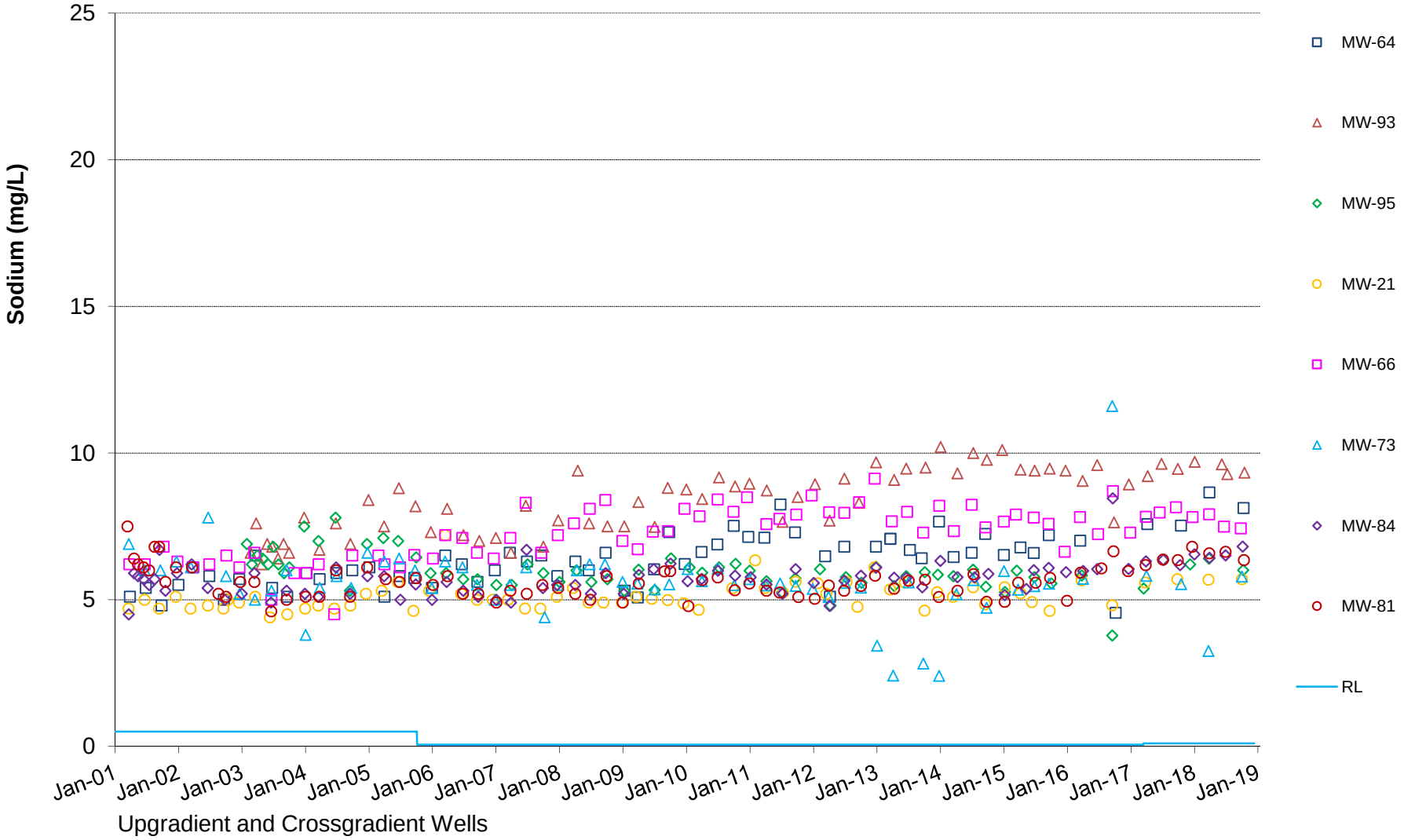

Potassium (mg/L)
5
4
3
2
1
0
Jan-01
Jan-02
Jan-03
Jan-04
Jan-05
Jan-06
Jan-07
Jan-08
Jan-09
Jan-10
Jan-11
Jan-12
Jan-13
Jan-14
Jan-15
Jan-16
Jan-17
Jan-18
Jan-19
Upgradient Wells
MW-56
MW-59
MW-76
MW-82
MW-83
MW-94
MW-24
MW-65
RL

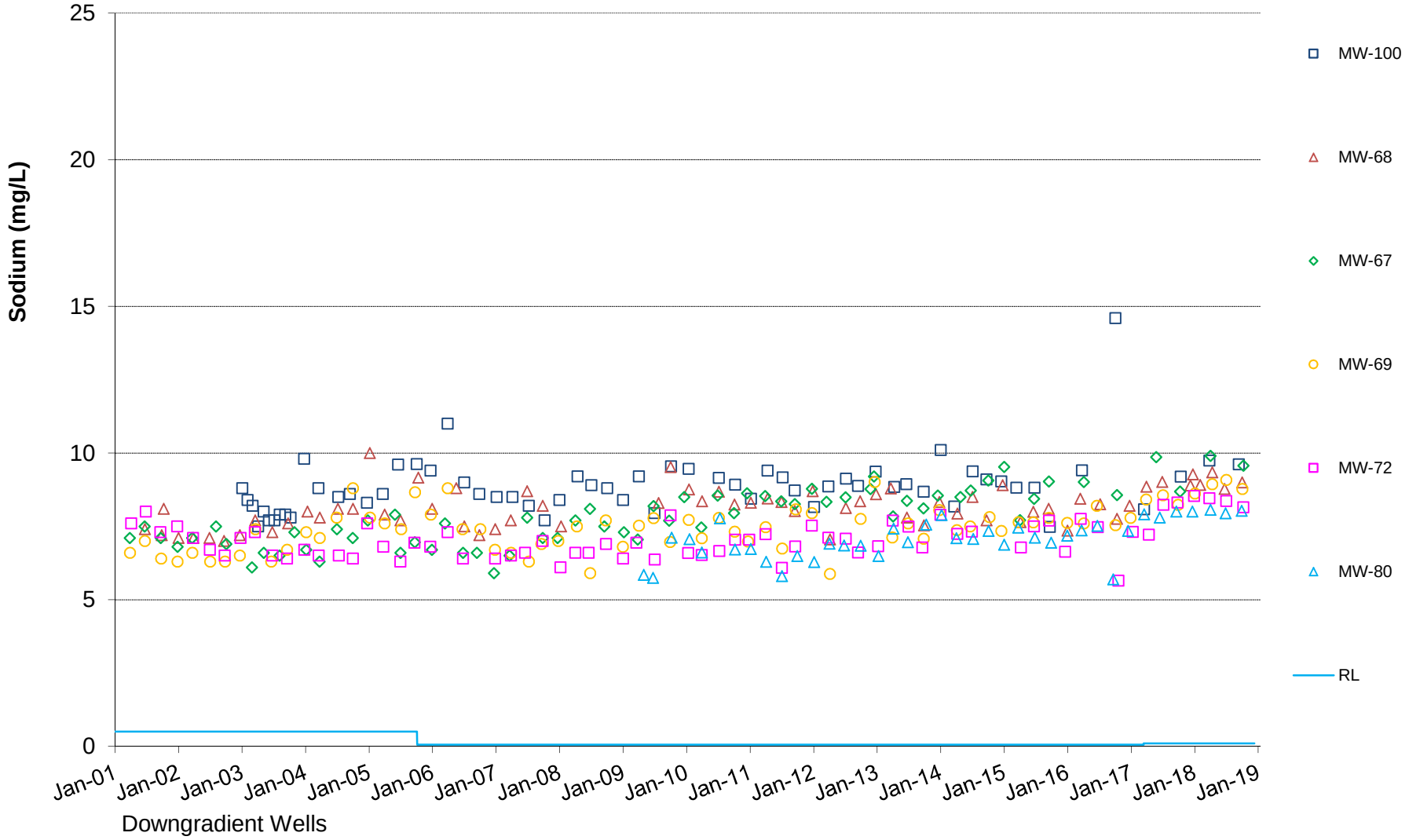

Potassium (mg/L)
5
4
3
2
1
0
Jan-01
Jan-02
Jan-03
Jan-04
Jan-05
Jan-06
Jan-07
Jan-08
Jan-09
Jan-10
Jan-11
Jan-12
Jan-13
Jan-14
Jan-15
Jan-16
Jan-17
Jan-18
Jan-19
Upgradient and Crossgradient Wells
MW-64
MW-93
MW-95
MW-21
MW-66
MW-73
MW-84
MW-81
RL

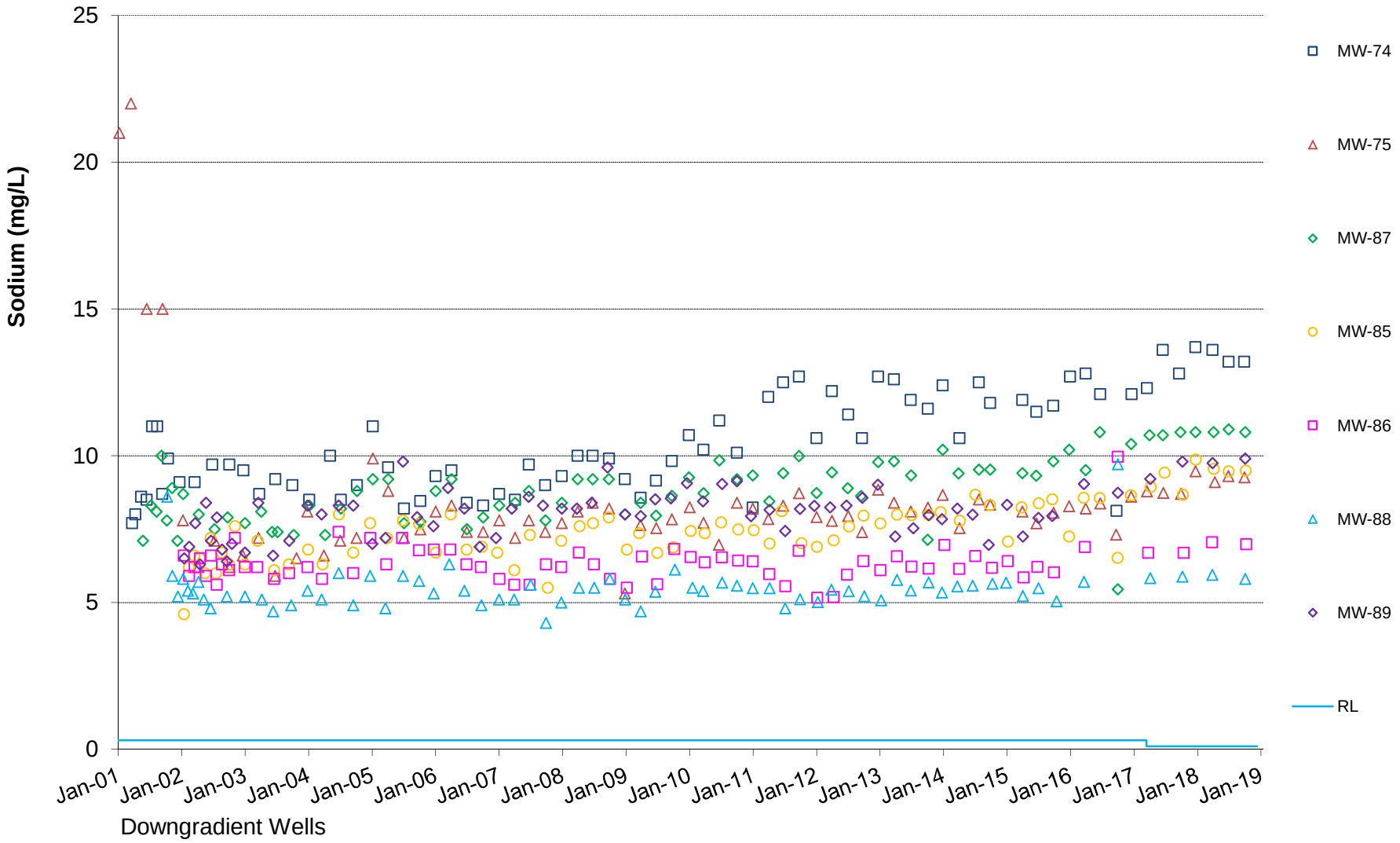

Potassium (mg/L)
5
4
3
2
1
0
Jan-01
Jan-02
Jan-03
Jan-04
Jan-05
Jan-06
Jan-07
Jan-08
Jan-09
Jan-10
Jan-11
Jan-12
Jan-13
Jan-14
Jan-15
Jan-16
Jan-17
Jan-18
Jan-19
Downgradient Wells
MW-100
MW-68
MW-67
MW-69
MW-72
MW-80
RL

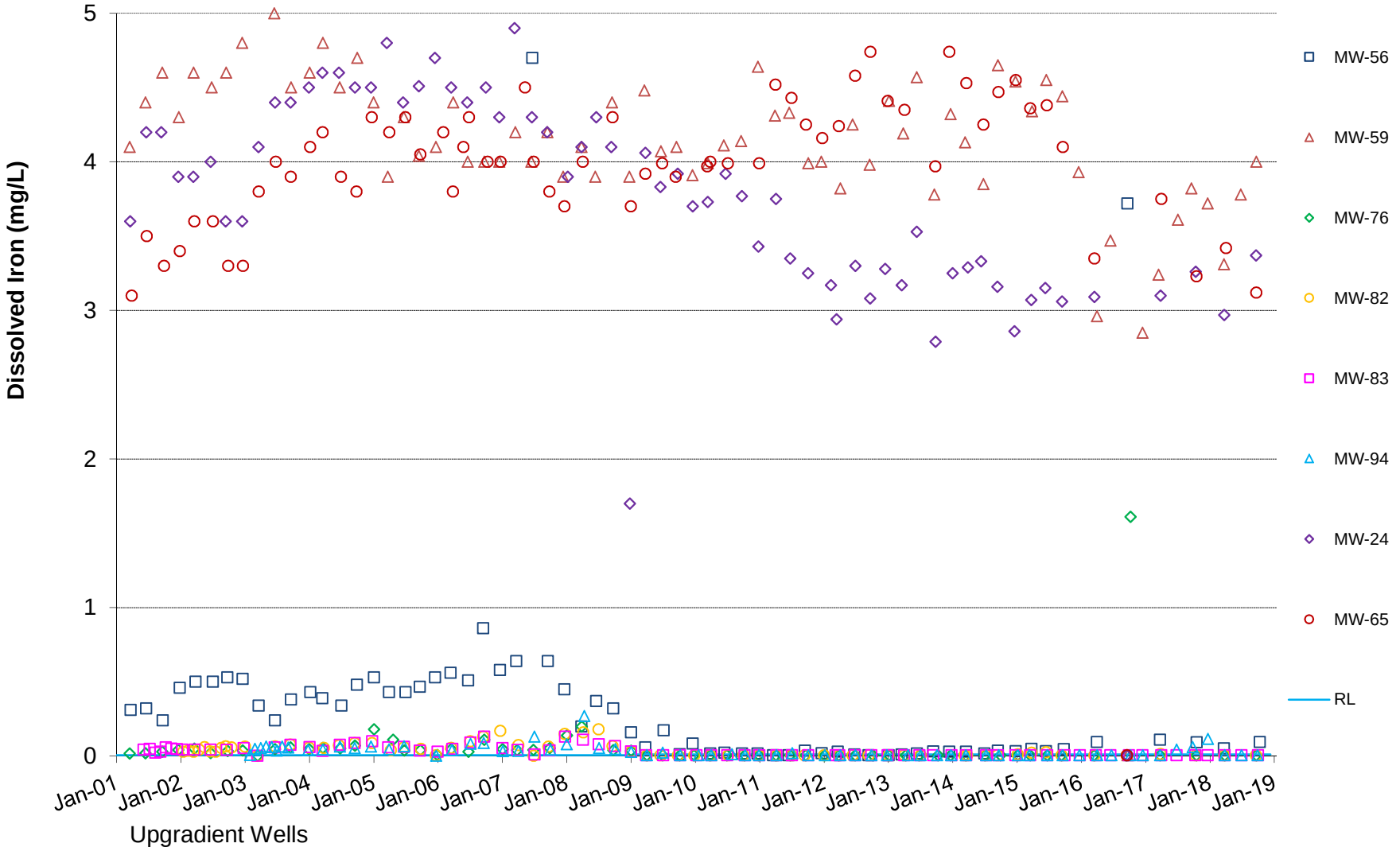

Potassium (mg/L)
5
4
3
2
1
0
Jan-01
Jan-02
Jan-03
Jan-04
Jan-05
Jan-06
Jan-07
Jan-08
Jan-09
Jan-10
Jan-11
Jan-12
Jan-13
Jan-14
Jan-15
Jan-16
Jan-17
Jan-18
Jan-19
Downgradient Wells
MW-74
MW-75
MW-87
MW-85
MW-86
MW-88
MW-89
RL

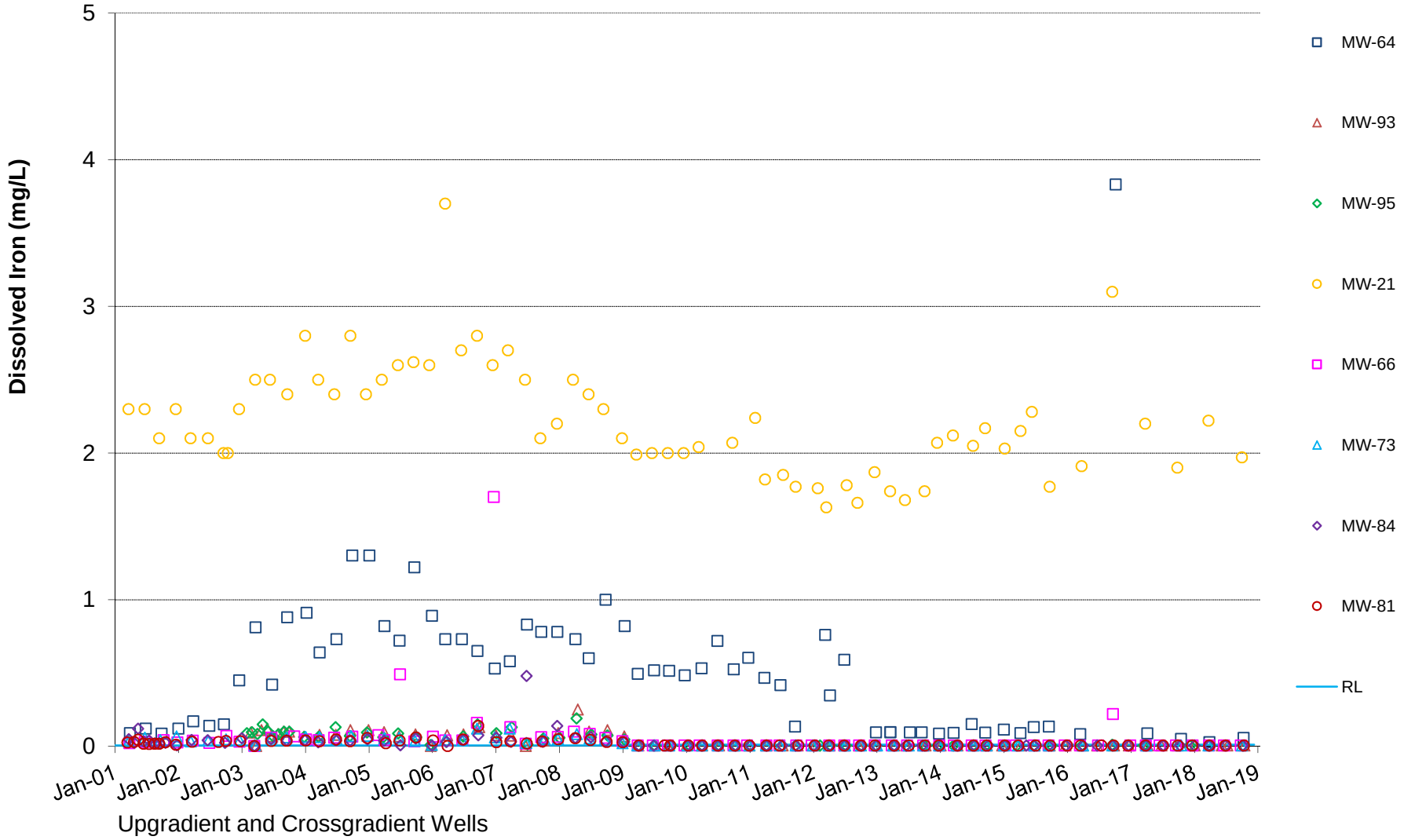

Sodium (mg/L)
25
20
15
10
5
0
Jan-01
Jan-02
Jan-03
Jan-04
Jan-05
Jan-06
Jan-07
Jan-08
Jan-09
Jan-10
Jan-11
Jan-12
Jan-13
Jan-14
Jan-15
Jan-16
Jan-17
Jan-18
Jan-19
Upgradient Wells
MW-56
MW-59
MW-76
MW-82
MW-83
MW-94
MW-24
MW-65
RL

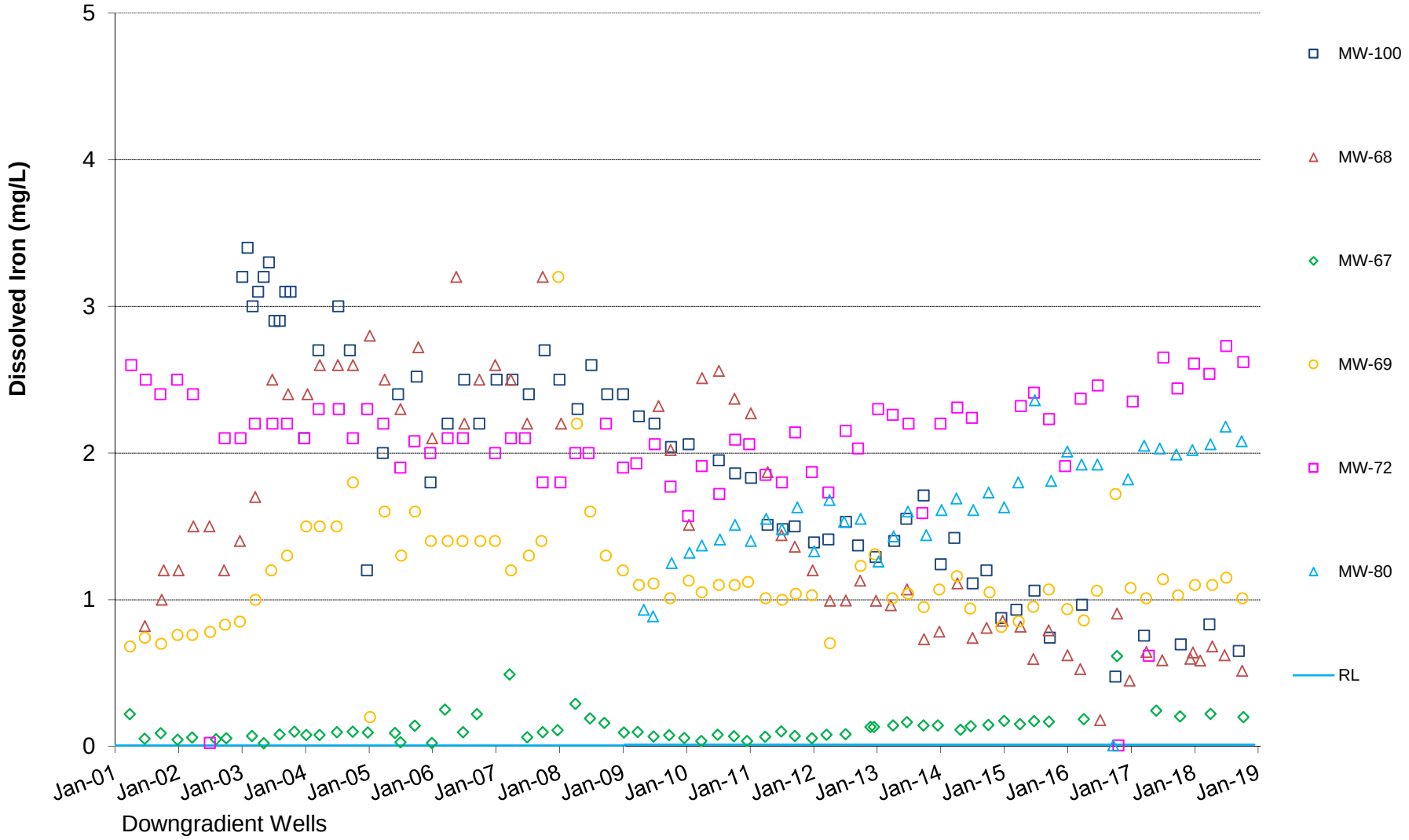

Sodium (mg/L)
25
20
15
10
5
0
Jan-01
Jan-02
Jan-03
Jan-04
Jan-05
Jan-06
Jan-07
Jan-08
Jan-09
Jan-10
Jan-11
Jan-12
Jan-13
Jan-14
Jan-15
Jan-16
Jan-17
Jan-18
Jan-19
Upgradient and Crossgradient Wells
MW-64
MW-93
MW-95
MW-21
MW-66
MW-73
MW-84
MW-81
RL

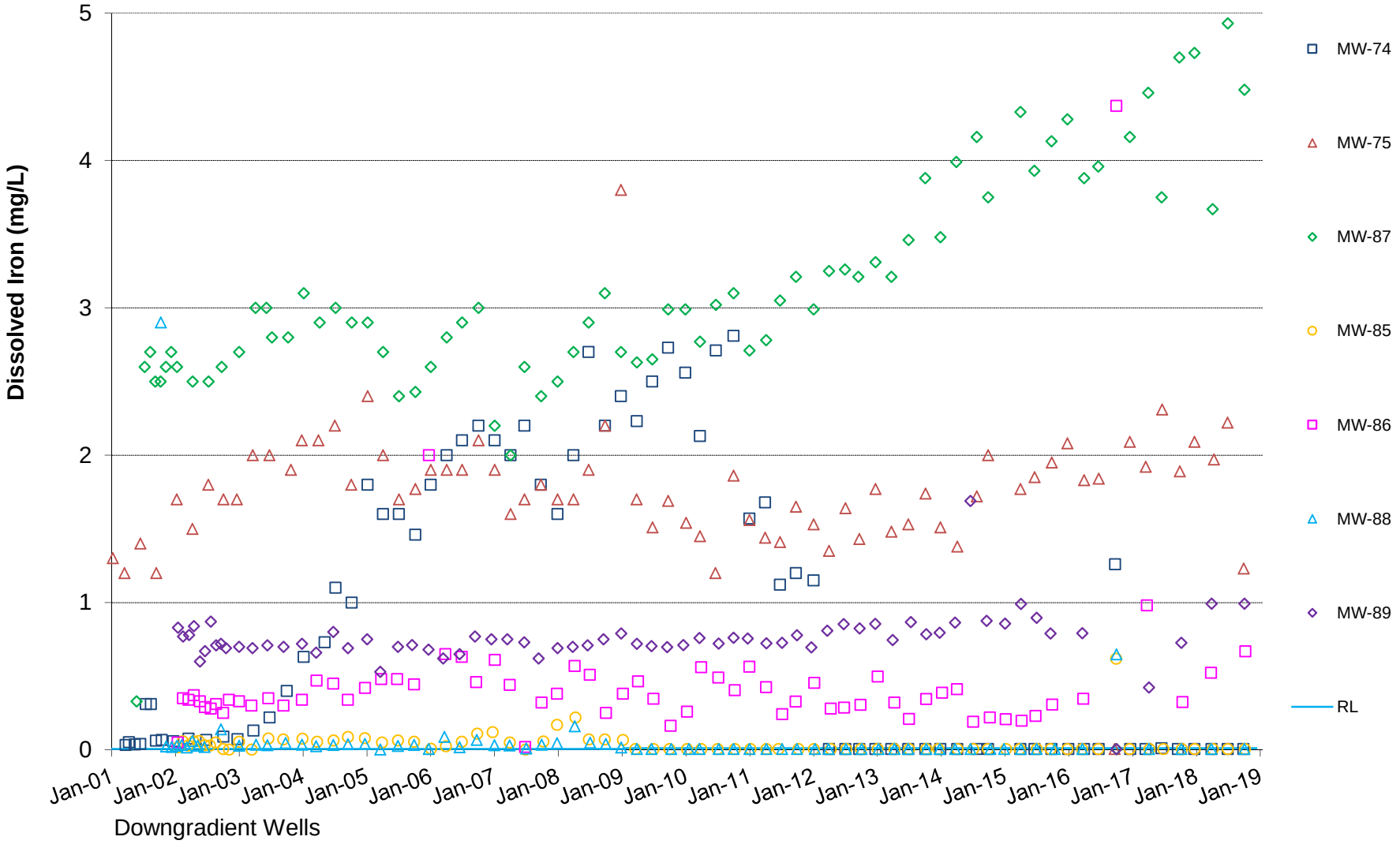

Sodium (mg/L)
25
20
15
10
5
0
Jan-01
Jan-02
Jan-03
Jan-04
Jan-05
Jan-06
Jan-07
Jan-08
Jan-09
Jan-10
Jan-11
Jan-12
Jan-13
Jan-14
Jan-15
Jan-16
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Jan-18
Jan-19
Downgradient Wells
MW-100
MW-68
MW-67
MW-69
MW-72
MW-80
RL

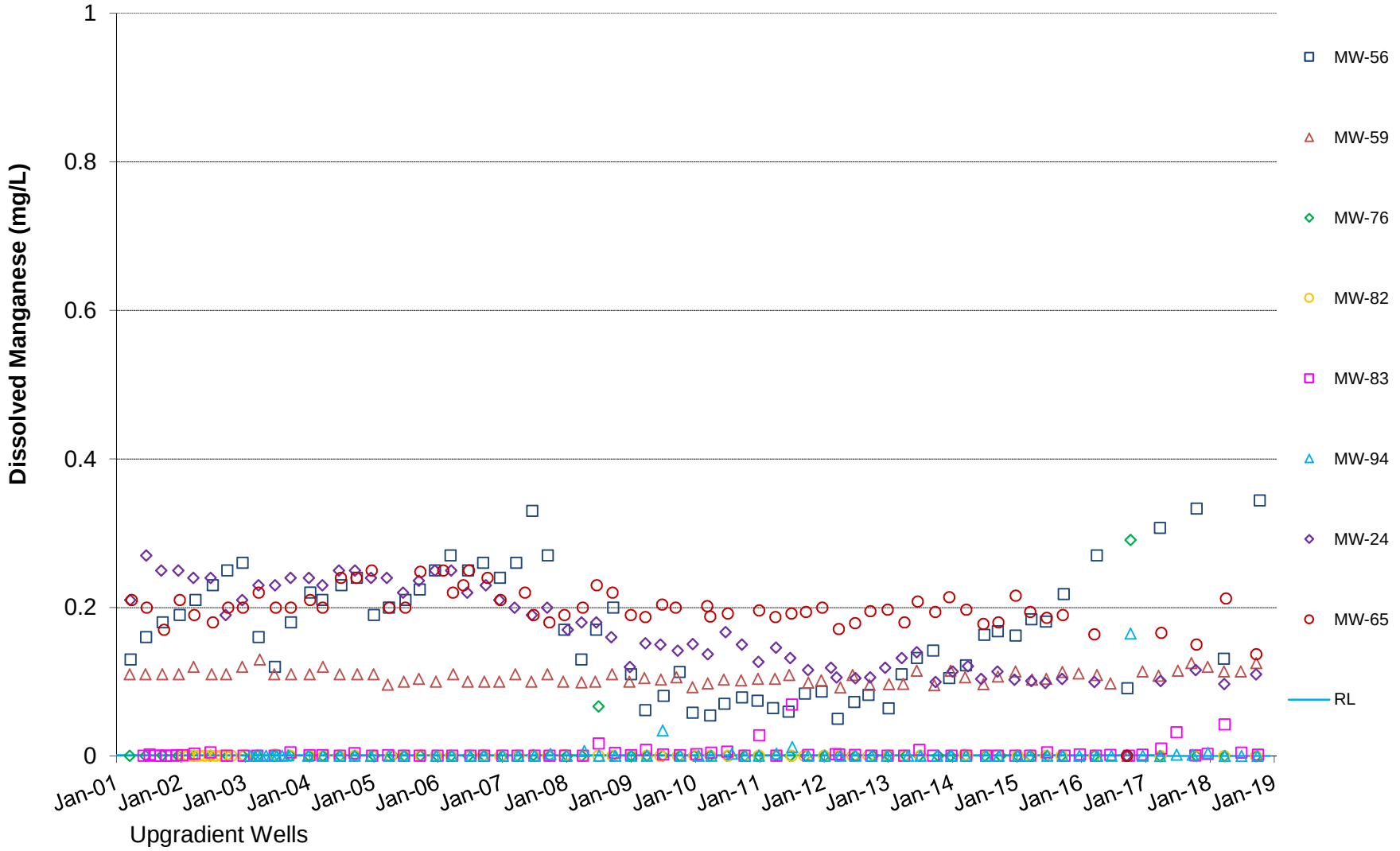

Sodium (mg/L)
25
20
15
10
5
0
Jan-01
Jan-02
Jan-03
Jan-04
Jan-05
Jan-06
Jan-07
Jan-08
Jan-09
Jan-10
Jan-11
Jan-12
Jan-13
Jan-14
Jan-15
Jan-16
Jan-17
Jan-18
Jan-19
Downgradient Wells
MW-74
MW-75
MW-87
MW-85
MW-86
MW-88
MW-89
RL

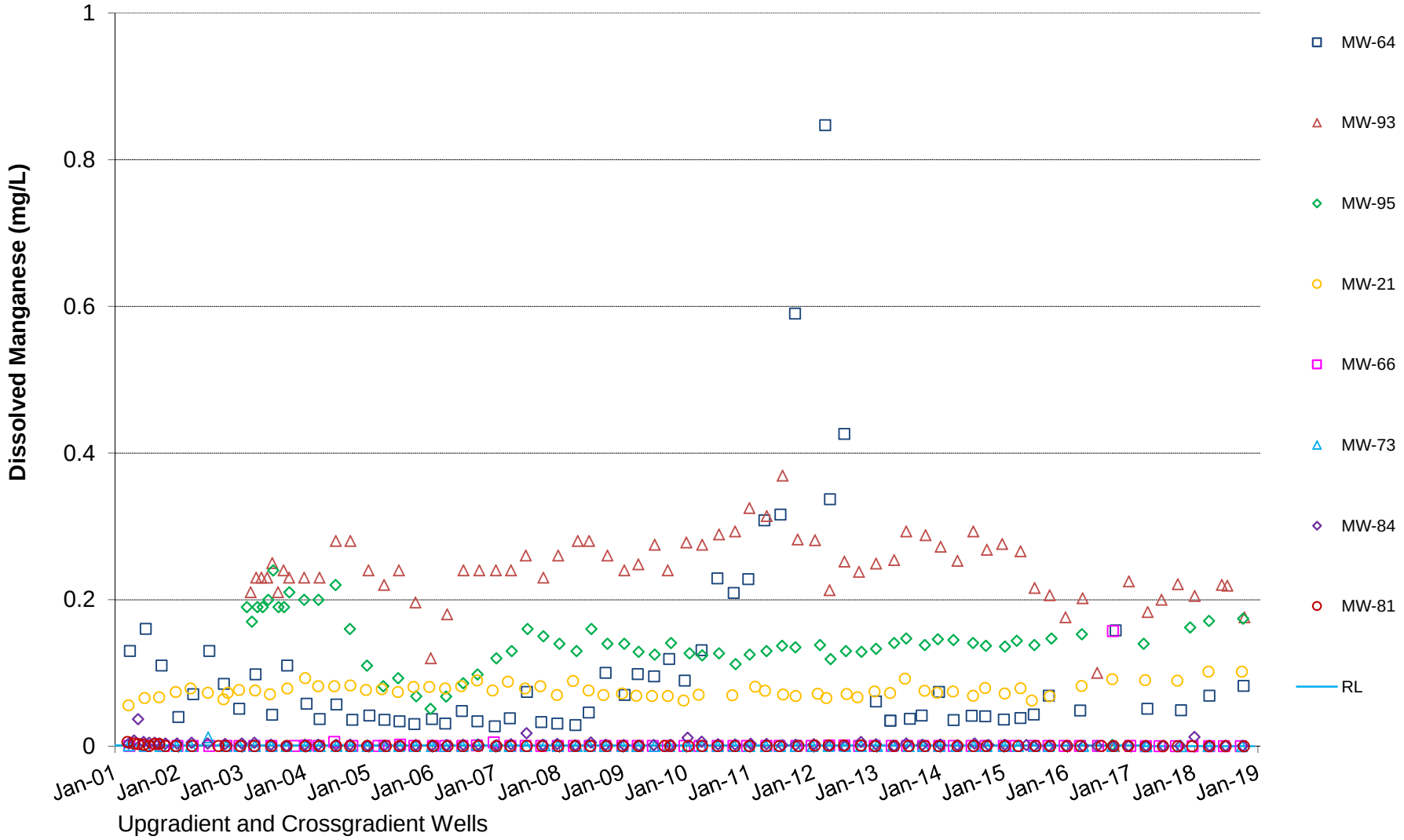

Dissolved Iron (mg/L)
5
4
3
2
1
0
Jan-01
Jan-02
Jan-03
Jan-04
Jan-05
Jan-06
Jan-07
Jan-08
Jan-09
Jan-10
Jan-11
Jan-12
Jan-13
Jan-14
Jan-15
Jan-16
Jan-17
Jan-18
Jan-19
Upgradient Wells
MW-56
MW-59
MW-76
MW-82
MW-83
MW-94
MW-24
MW-65
RL

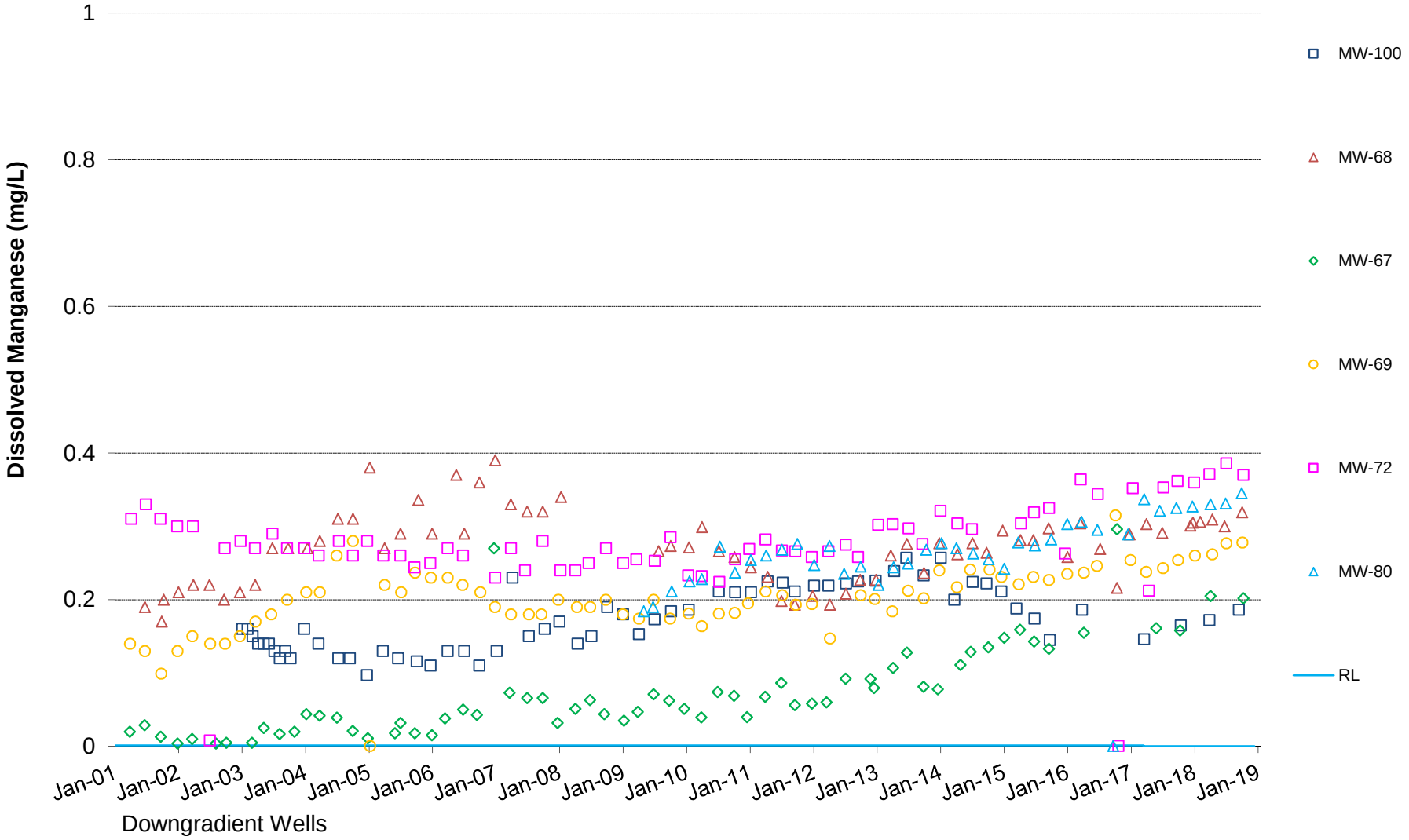

Dissolved Iron (mg/L)
5
4
3
2
1
0
Jan-01
Jan-02
Jan-03
Jan-04
Jan-05
Jan-06
Jan-07
Jan-08
Jan-09
Jan-10
Jan-11
Jan-12
Jan-13
Jan-14
Jan-15
Jan-16
Jan-17
Jan-18
Jan-19
Upgradient and Crossgradient Wells
MW-64
MW-93
MW-95
MW-21
MW-66
MW-73
MW-84
MW-81
RL

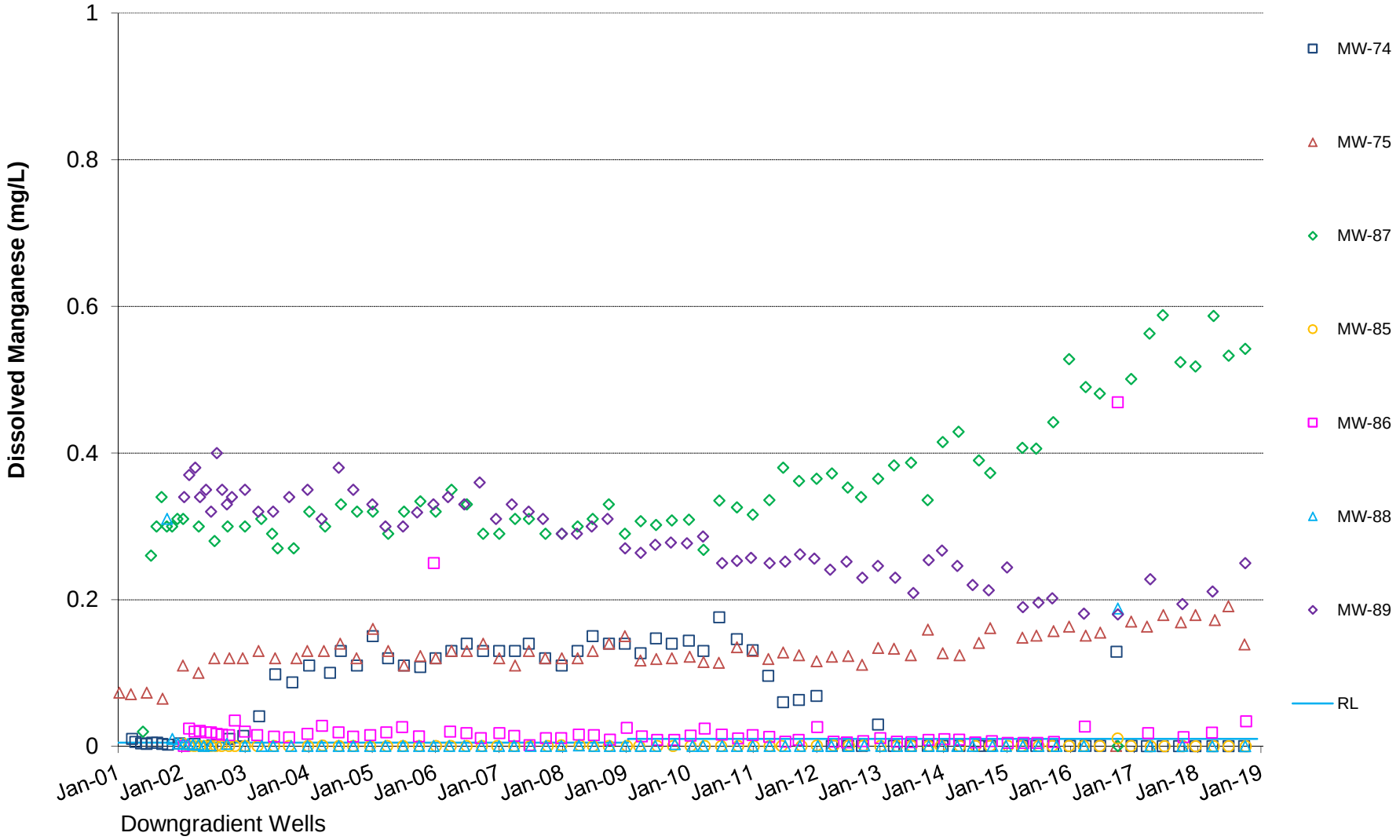

Dissolved Iron (mg/L)
5
4
3
2
1
0
Jan-01
Jan-02
Jan-03
Jan-04
Jan-05
Jan-06
Jan-07
Jan-08
Jan-09
Jan-10
Jan-11
Jan-12
Jan-13
Jan-14
Jan-15
Jan-16
Jan-17
Jan-18
Jan-19
Downgradient Wells
MW-100
MW-68
MW-67
MW-69
MW-72
MW-80
RL

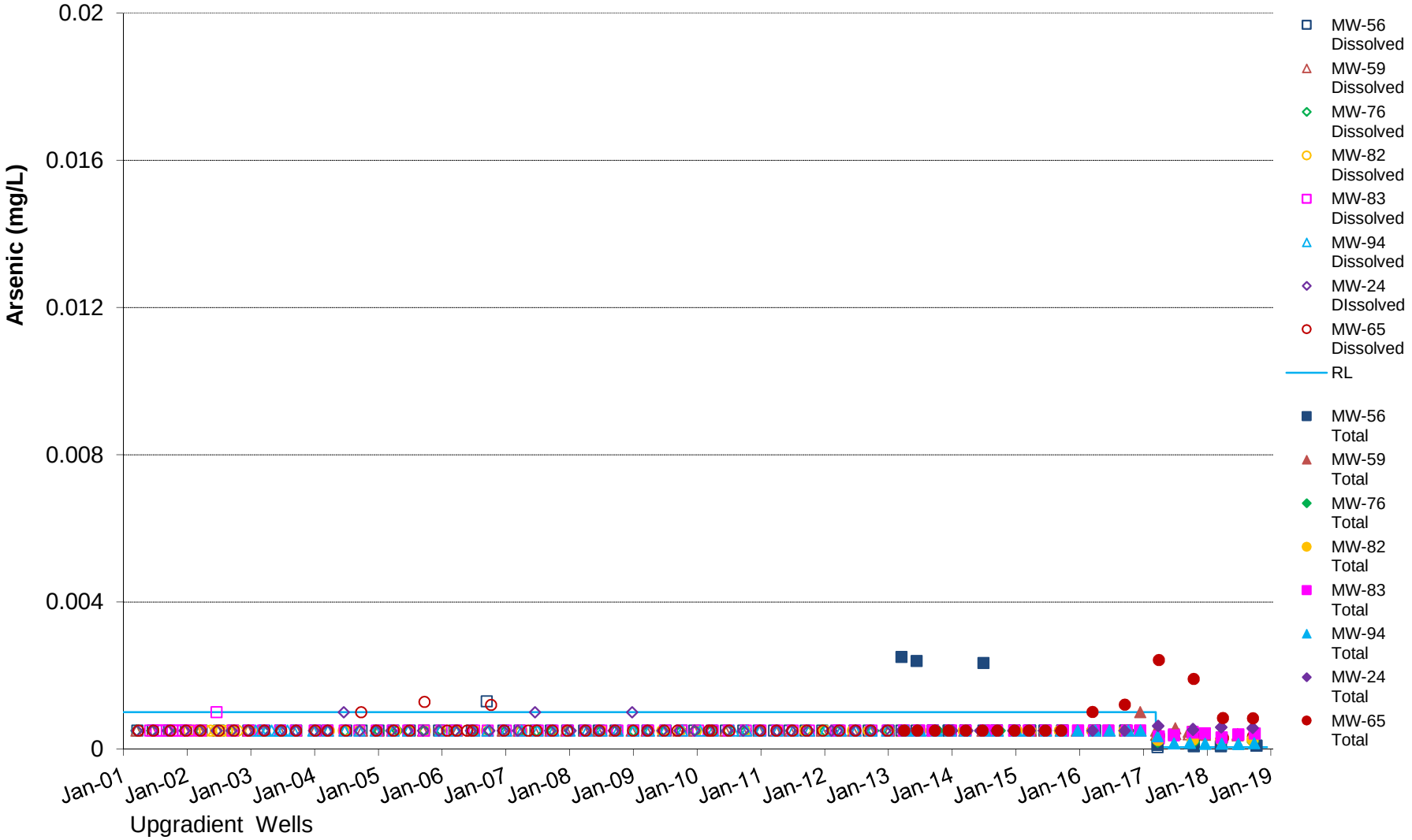

Dissolved Iron (mg/L)
5
4
3
2
1
0
Jan-01
Jan-02
Jan-03
Jan-04
Jan-05
Jan-06
Jan-07
Jan-08
Jan-09
Jan-10
Jan-11
Jan-12
Jan-13
Jan-14
Jan-15
Jan-16
Jan-17
Jan-18
Jan-19
Downgradient Wells
MW-74
MW-75
MW-87
MW-85
MW-86
MW-88
MW-89
RL

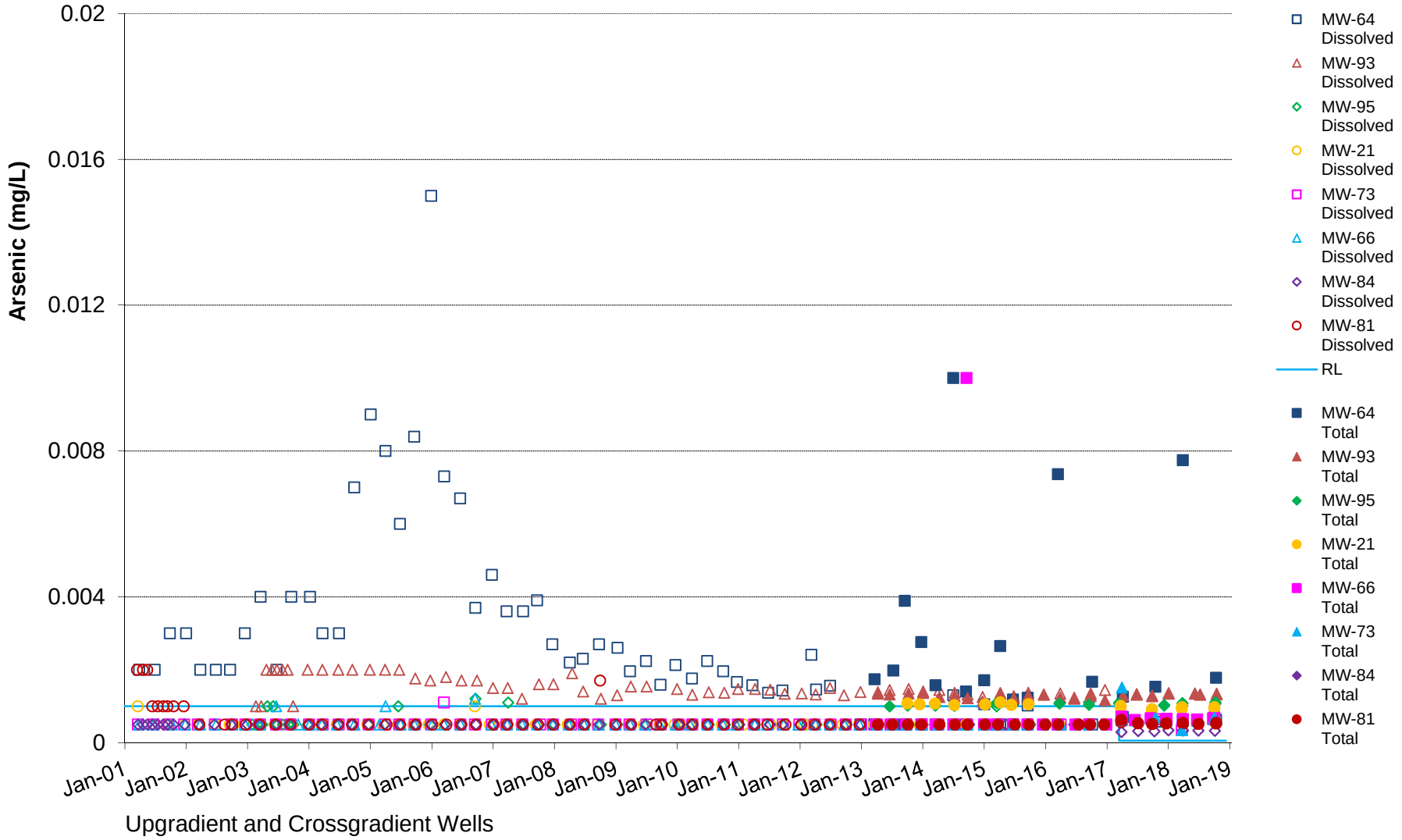

Dissolved Manganese (mg/L)
1
0.8
0.6
0.4
0.2
0
Jan-01
Jan-02
Jan-03
Jan-04
Jan-05
Jan-06
Jan-07
Jan-08
Jan-09
Jan-10
Jan-11
Jan-12
Jan-13
Jan-14
Jan-15
Jan-16
Jan-17
Jan-18
Jan-19
Upgradient Wells
MW-56
MW-59
MW-76
MW-82
MW-83
MW-94
MW-24
MW-65
RL

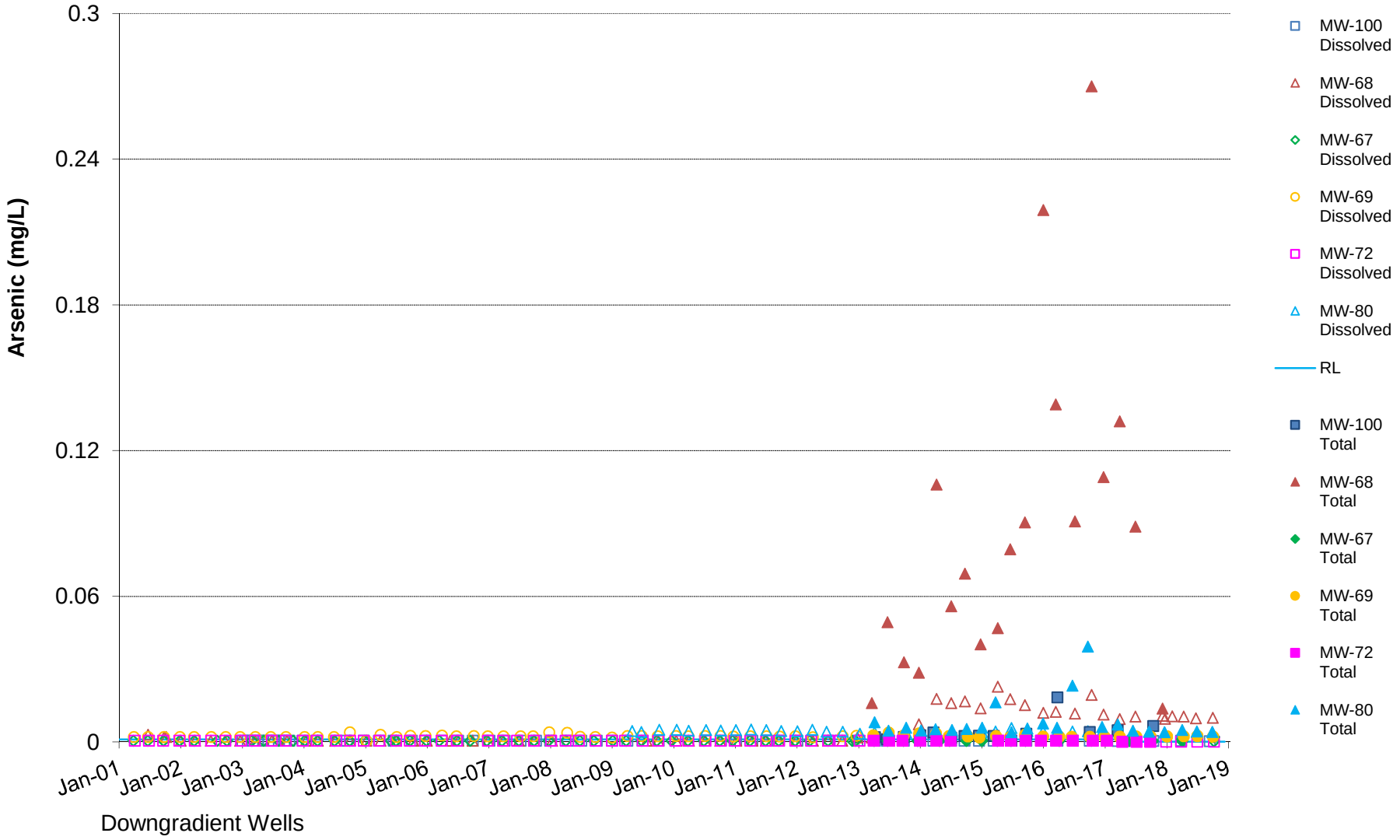

Dissolved Manganese (mg/L)
1
0.8
0.6
0.4
0.2
0
Jan-01
Jan-02
Jan-03
Jan-04
Jan-05
Jan-06
Jan-07
Jan-08
Jan-09
Jan-10
Jan-11
Jan-12
Jan-13
Jan-14
Jan-15
Jan-16
Jan-17
Jan-18
Jan-19
Upgradient and Crossgradient Wells
MW-64
MW-93
MW-95
MW-21
MW-66
MW-73
MW-84
MW-81
RL

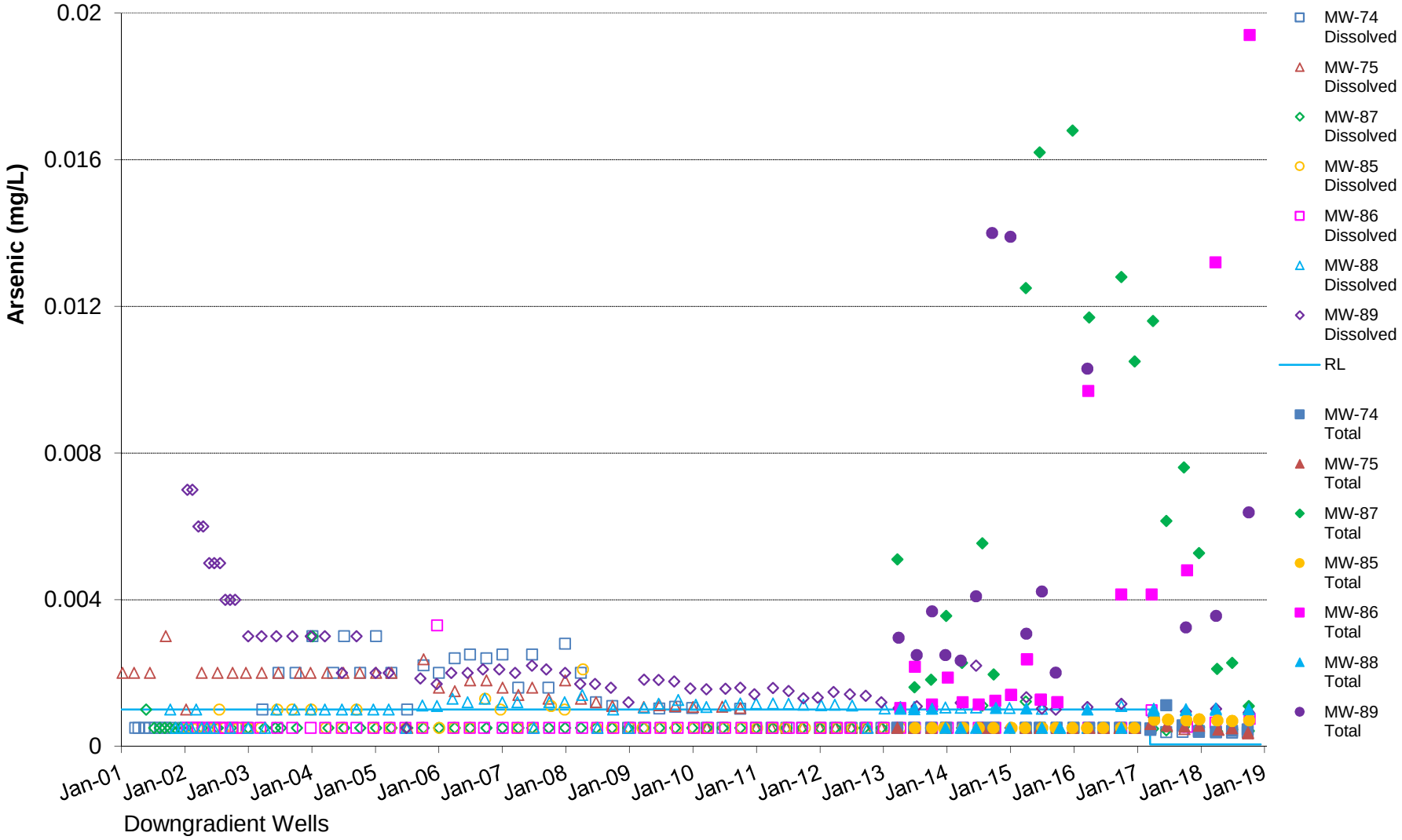

Dissolved Manganese (mg/L)
1
0.8
0.6
0.4
0.2
0
Jan-01
Jan-02
Jan-03
Jan-04
Jan-05
Jan-06
Jan-07
Jan-08
Jan-09
Jan-10
Jan-11
Jan-12
Jan-13
Jan-14
Jan-15
Jan-16
Jan-17
Jan-18
Jan-19
Downgradient Wells
MW-100
MW-68
MW-67
MW-69
MW-72
MW-80
RL

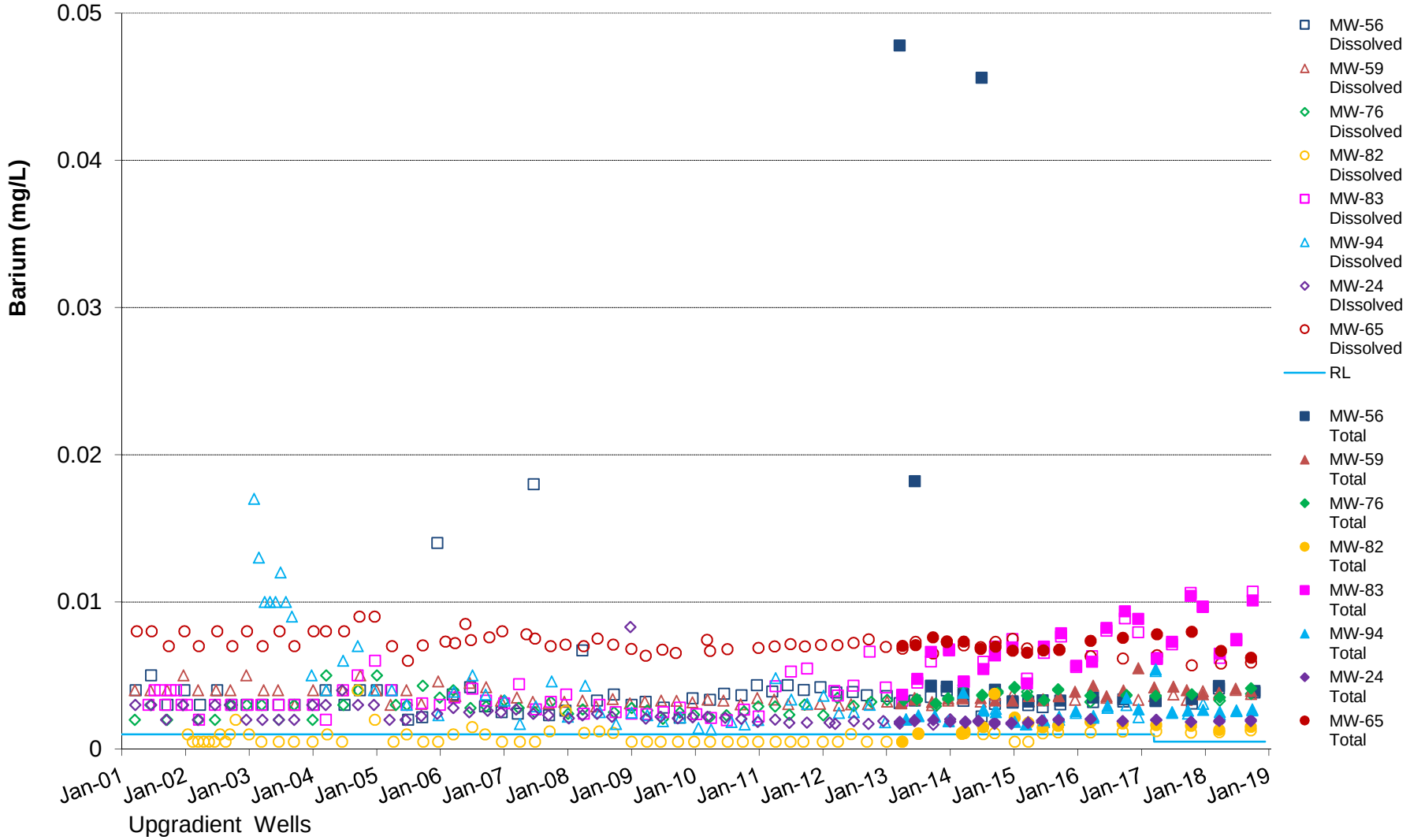

Dissolved Manganese (mg/L)
1
0.8
0.6
0.4
0.2
0
Jan-01
Jan-02
Jan-03
Jan-04
Jan-05
Jan-06
Jan-07
Jan-08
Jan-09
Jan-10
Jan-11
Jan-12
Jan-13
Jan-14
Jan-15
Jan-16
Jan-17
Jan-18
Jan-19
Downgradient Wells
MW-74
MW-75
MW-87
MW-85
MW-86
MW-88
MW-89
RL

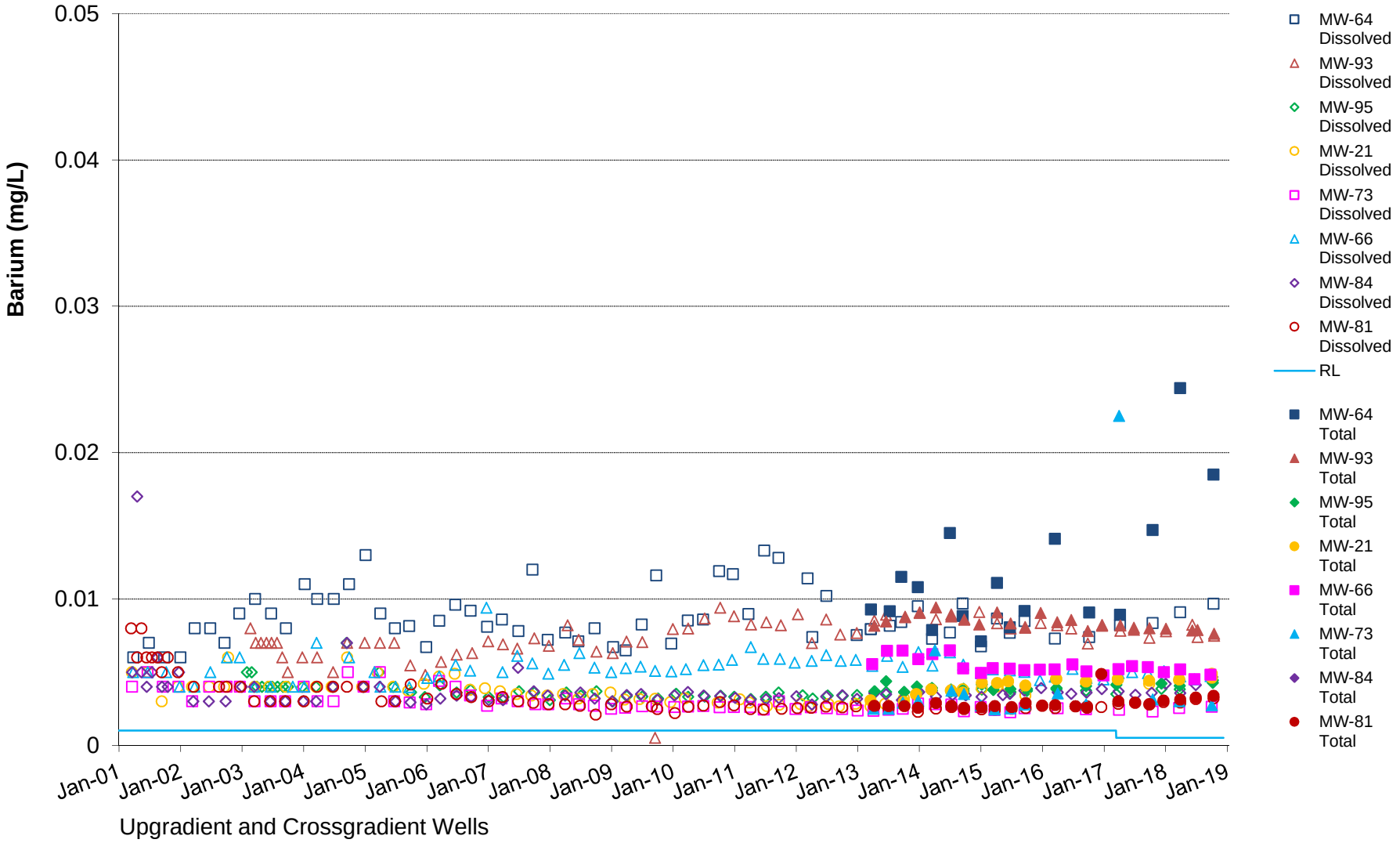

0.02
0.016
0.012
0.008
0.004
0
Arsenic (mg/L)
Jan-01
Jan-02
Jan-03
Jan-04
Jan-05
Jan-06
Jan-07
Jan-08
Jan-09
Jan-10
Jan-11
Jan-12
Jan-13
Jan-14
Jan-15
Jan-16
Jan-17
Jan-18
Jan-19
Upgradient Wells
MW-56 Dissolved
MW-59 Dissolved
MW-76 Dissolved
MW-82 Dissolved
MW-83 Dissolved
MW-94 Dissolved
MW-24 DIssolved
MW-65 Dissolved
RL
MW-56 Total
MW-59 Total
MW-76 Total
MW-82 Total
MW-83 Total
MW-94 Total
MW-24 Total
MW-65 Total

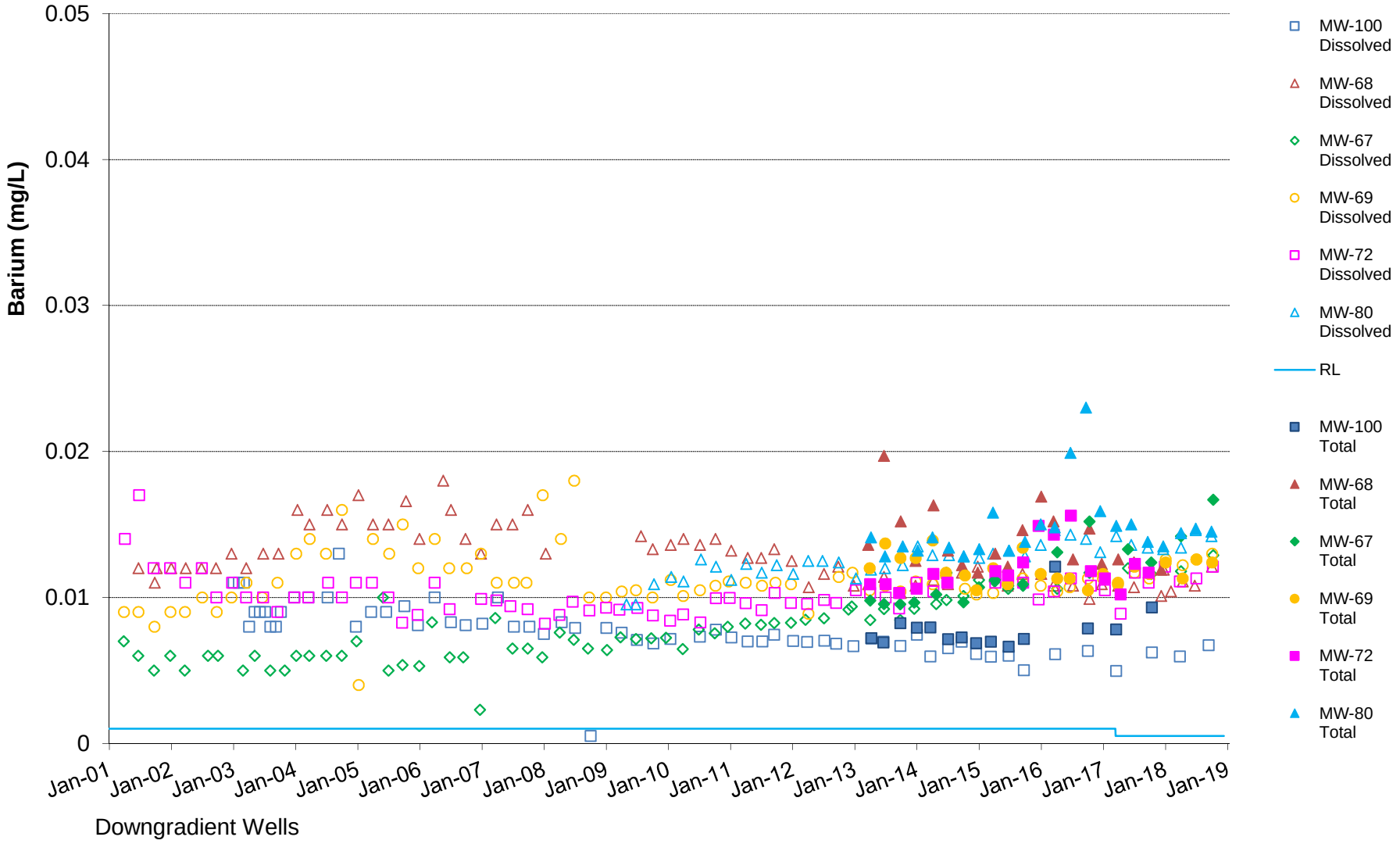

Arsenic (mg/L)
0.02
0.016
0.012
0.008
0.004
0
Jan-01
Jan-02
Jan-03
Jan-04
Jan-05
Jan-06
Jan-07
Jan-08
Jan-09
Jan-10
Jan-11
Jan-12
Jan-13
Jan-14
Jan-15
Jan-16
Jan-17
Jan-18
Jan-19
Upgradient and Crossgradient Wells
MW-64 Dissolved
MW-93 Dissolved
MW-95 Dissolved
MW-21 Dissolved
MW-73 Dissolved
MW-66 Dissolved
MW-84 Dissolved
MW-81 Dissolved
RL
MW-64 Total
MW-93 Total
MW-95 Total
MW-21 Total
MW-66 Total
MW-73 Total
MW-84 Total
MW-81 Total

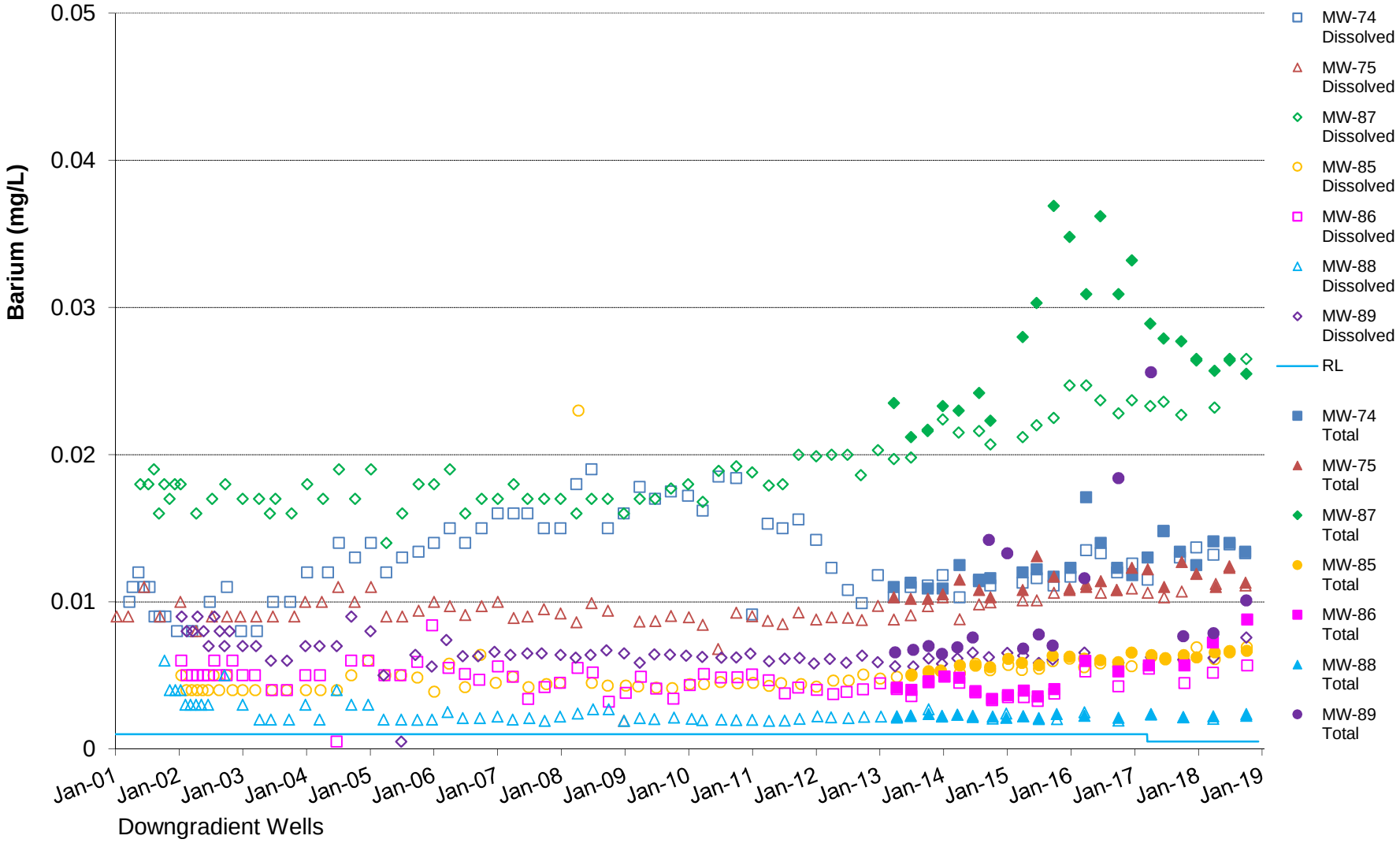

0.3
0.24
0.18
0.12
0.06
0
Arsenic (mg/L)
Jan-01
Jan-02
Jan-03
Jan-04
Jan-05
Jan-06
Jan-07
Jan-08
Jan-09
Jan-10
Jan-11
Jan-12
Jan-13
Jan-14
Jan-15
Jan-16
Jan-17
Jan-18
Jan-19
Downgradient Wells
MW-100 Dissolved
MW-68 Dissolved
MW-67 Dissolved
MW-69 Dissolved
MW-72 Dissolved
MW-80 Dissolved
RL
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MW-68 Total
MW-67 Total
MW-69 Total
MW-72 Total
MW-80 Total

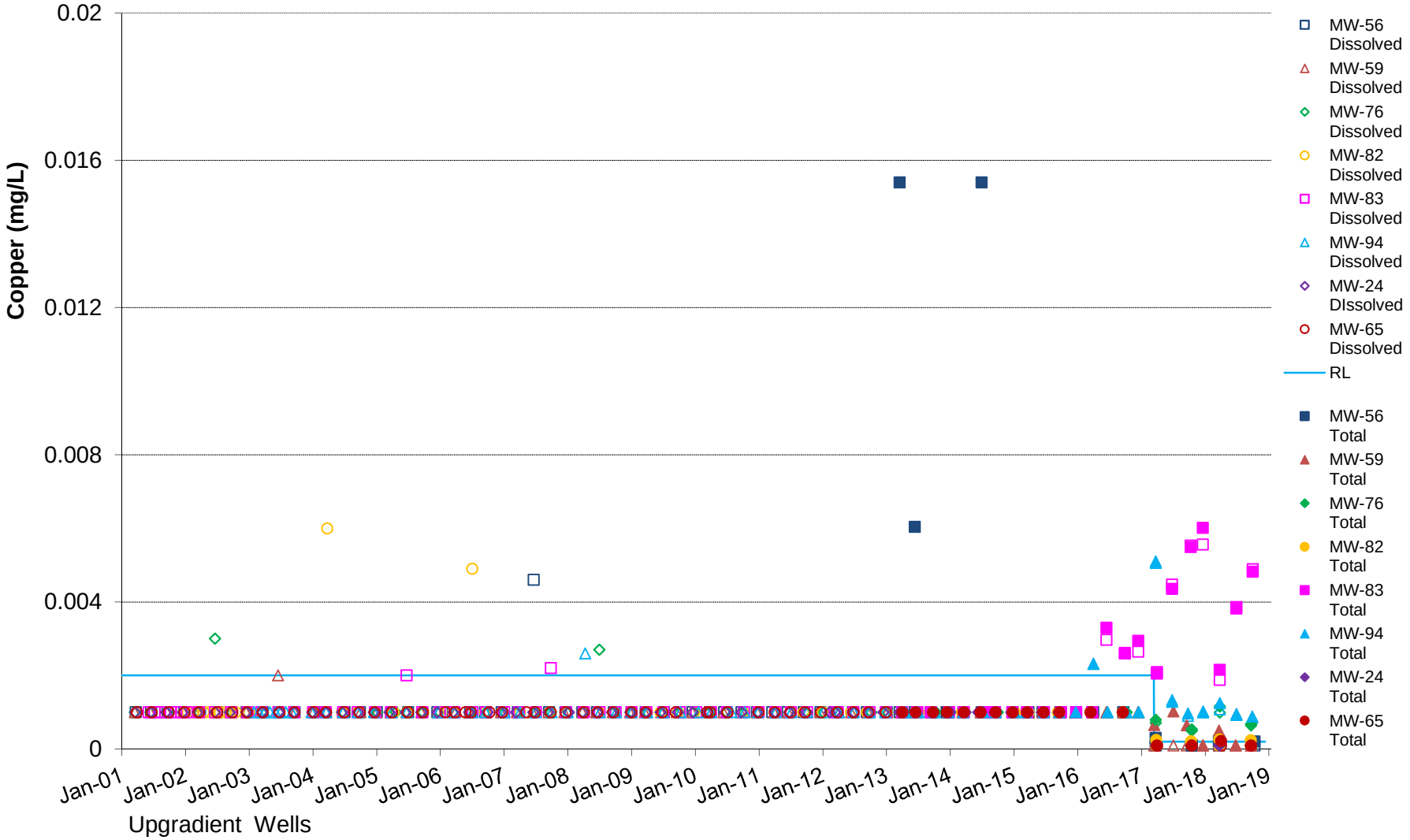

0.02
0.016
0.012
0.008
0.004
0
Arsenic (mg/L)
Jan-01
Jan-02
Jan-03
Jan-04
Jan-05
Jan-06
Jan-07
Jan-08
Jan-09
Jan-10
Jan-11
Jan-12
Jan-13
Jan-14
Jan-15
Jan-16
Jan-17
Jan-18
Jan-19
Downgradient Wells
MW-74 Dissolved
MW-75 Dissolved
MW-87 Dissolved
MW-85 Dissolved
MW-86 Dissolved
MW-88 Dissolved
MW-89 Dissolved
RL
MW-74 Total
MW-75 Total
MW-87 Total
MW-85 Total
MW-86 Total
MW-88 Total
MW-89 Total

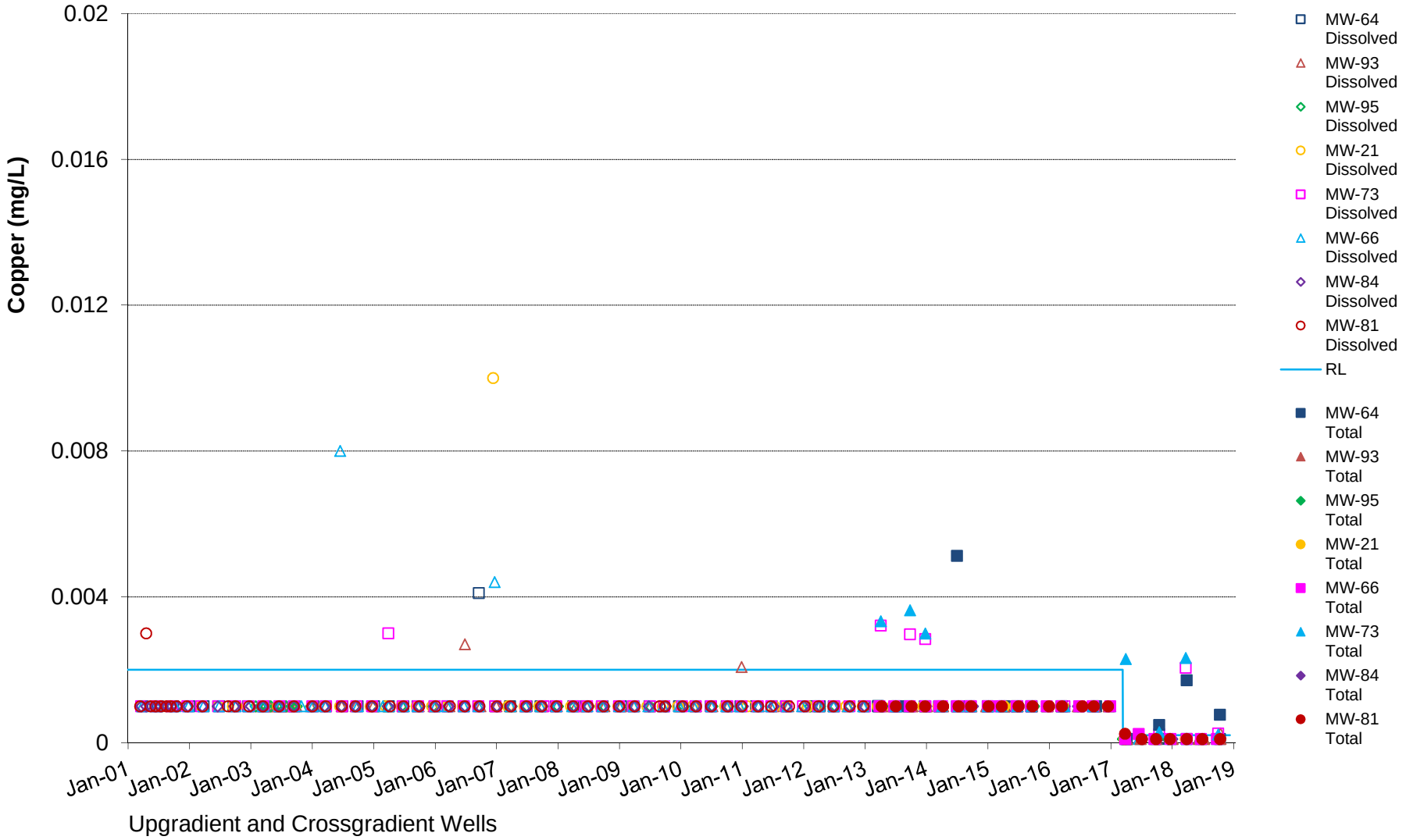

Barium (mg/L)
0.05
0.04
0.03
0.02
0.01
0
Jan-01
Jan-02
Jan-03
Jan-04
Jan-05
Jan-06
Jan-07
Jan-08
Jan-09
Jan-10
Jan-11
Jan-12
Jan-13
Jan-14
Jan-15
Jan-16
Jan-17
Jan-18
Jan-19
Upgradient Wells
MW-56 Dissolved
MW-59 Dissolved
MW-76 Dissolved
MW-82 Dissolved
MW-83 Dissolved
MW-94 Dissolved
MW-24 DIssolved
MW-65 Dissolved
RL
MW-56 Total
MW-59 Total
MW-76 Total
MW-82 Total
MW-83 Total
MW-94 Total
MW-24 Total
MW-65 Total

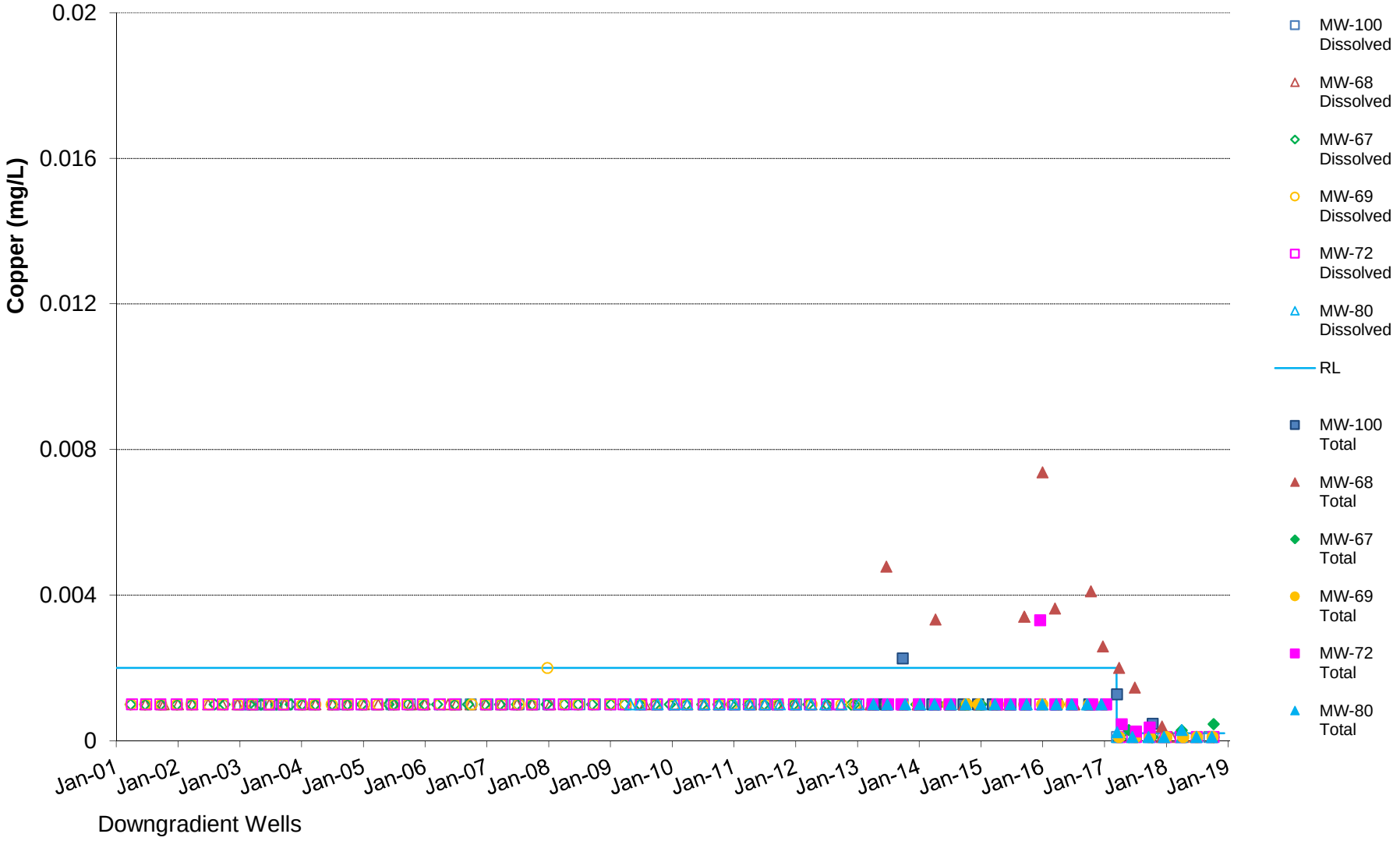

Barium (mg/L)
0.05
0.04
0.03
0.02
0.01
0
Jan-01
Jan-02
Jan-03
Jan-04
Jan-05
Jan-06
Jan-07
Jan-08
Jan-09
Jan-10
Jan-11
Jan-12
Jan-13
Jan-14
Jan-15
Jan-16
Jan-17
Jan-18
Jan-19
Upgradient and Crossgradient Wells
MW-64 Dissolved
MW-93 Dissolved
MW-95 Dissolved
MW-21 Dissolved
MW-73 Dissolved
MW-66 Dissolved
MW-84 Dissolved
MW-81 Dissolved
RL
MW-64 Total
MW-93 Total
MW-95 Total
MW-21 Total
MW-66 Total
MW-73 Total
MW-84 Total
MW-81 Total

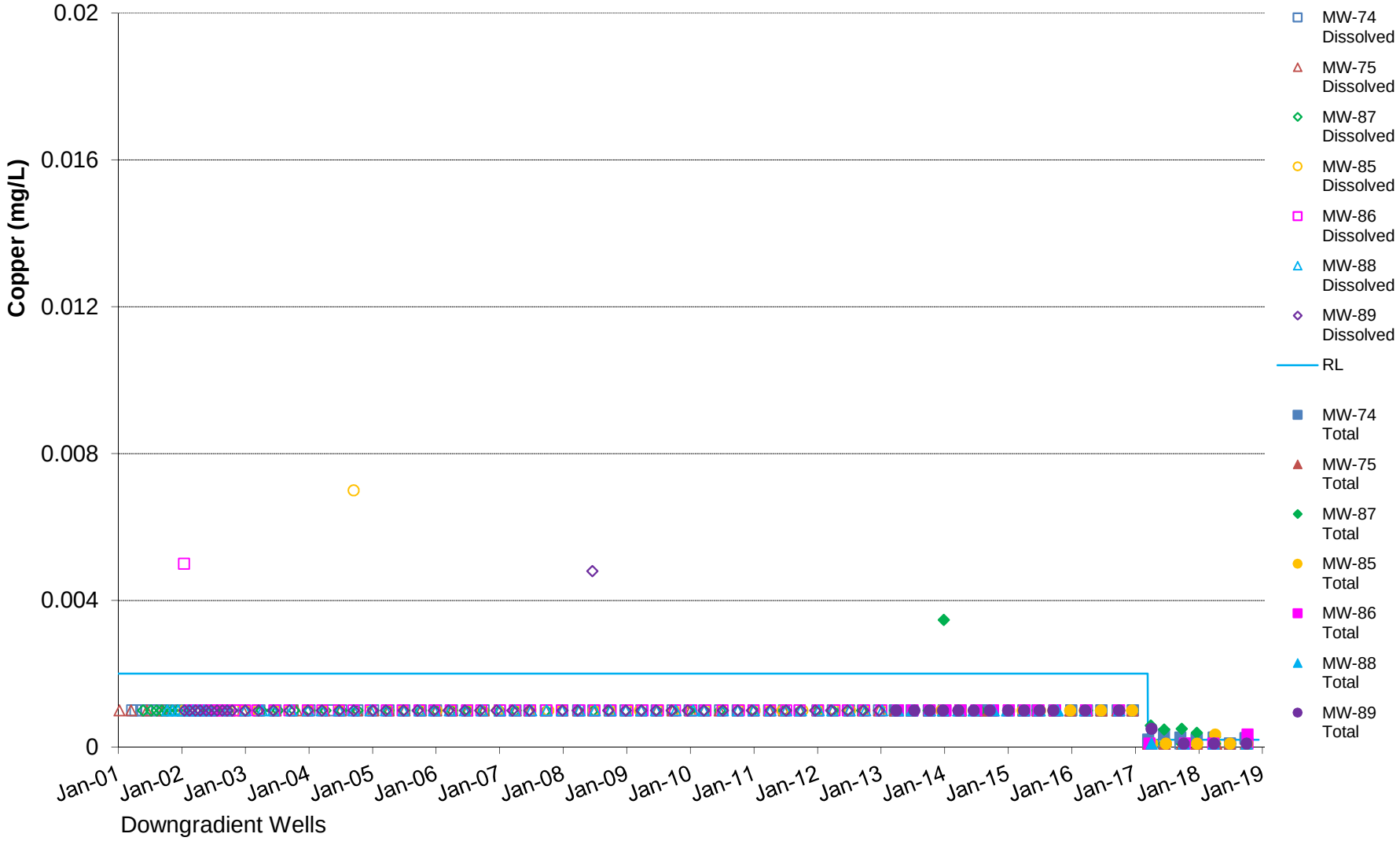

Barium (mg/L)
0.05
0.04
0.03
0.02
0.01
0
Jan-01
Jan-02
Jan-03
Jan-04
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Jan-06
Jan-07
Jan-08
Jan-09
Jan-10
Jan-11
Jan-12
Jan-13
Jan-14
Jan-15
Jan-16
Jan-17
Jan-18
Jan-19
Downgradient Wells
MW-100 Dissolved
MW-68 Dissolved
MW-67 Dissolved
MW-69 Dissolved
MW-72 Dissolved
MW-80 Dissolved
RL
MW-100 Total
MW-68 Total
MW-67 Total
MW-69 Total
MW-72 Total
MW-80 Total

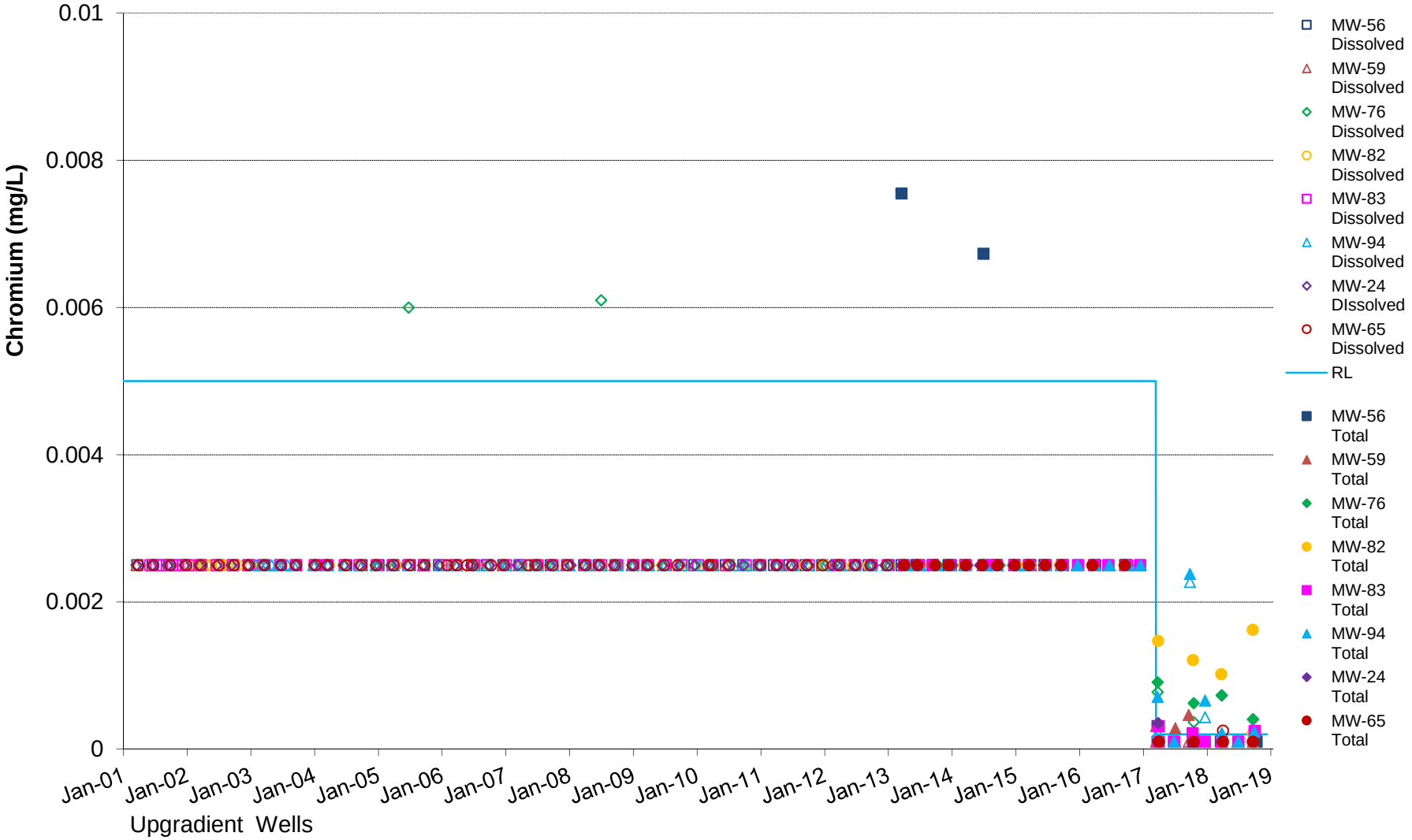

Barium (mg/L)
0.05
0.04
0.03
0.02
0.01
0
Jan-01
Jan-02
Jan-03
Jan-04
Jan-05
Jan-06
Jan-07
Jan-08
Jan-09
Jan-10
Jan-11
Jan-12
Jan-13
Jan-14
Jan-15
Jan-16
Jan-17
Jan-18
Jan-19
Downgradient Wells
MW-74 Dissolved
MW-75 Dissolved
MW-87 Dissolved
MW-85 Dissolved
MW-86 Dissolved
MW-88 Dissolved
MW-89 Dissolved
RL
MW-74 Total
MW-75 Total
MW-87 Total
MW-85 Total
MW-86 Total
MW-88 Total
MW-89 Total

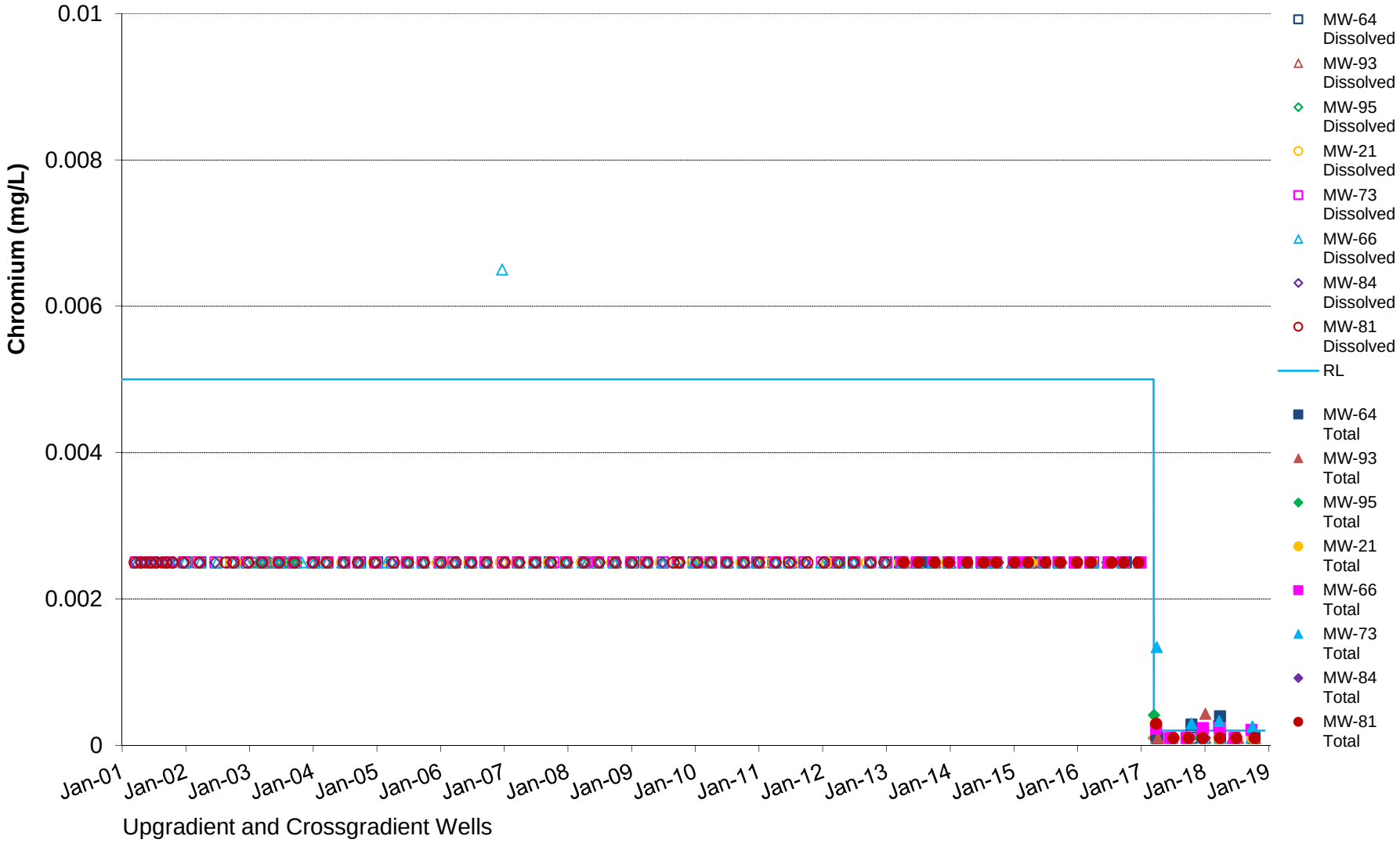

0.02
0.016
0.012
0.008
0.004
0
Copper (mg/L)
Jan-01
Jan-02
Jan-03
Jan-04
Jan-05
Jan-06
Jan-07
Jan-08
Jan-09
Jan-10
Jan-11
Jan-12
Jan-13
Jan-14
Jan-15
Jan-16
Jan-17
Jan-18
Jan-19
Upgradient Wells
MW-56 Dissolved
MW-59 Dissolved
MW-76 Dissolved
MW-82 Dissolved
MW-83 Dissolved
MW-94 Dissolved
MW-24 DIssolved
MW-65 Dissolved
RL
MW-56 Total
MW-59 Total
MW-76 Total
MW-82 Total
MW-83 Total
MW-94 Total
MW-24 Total
MW-65 Total

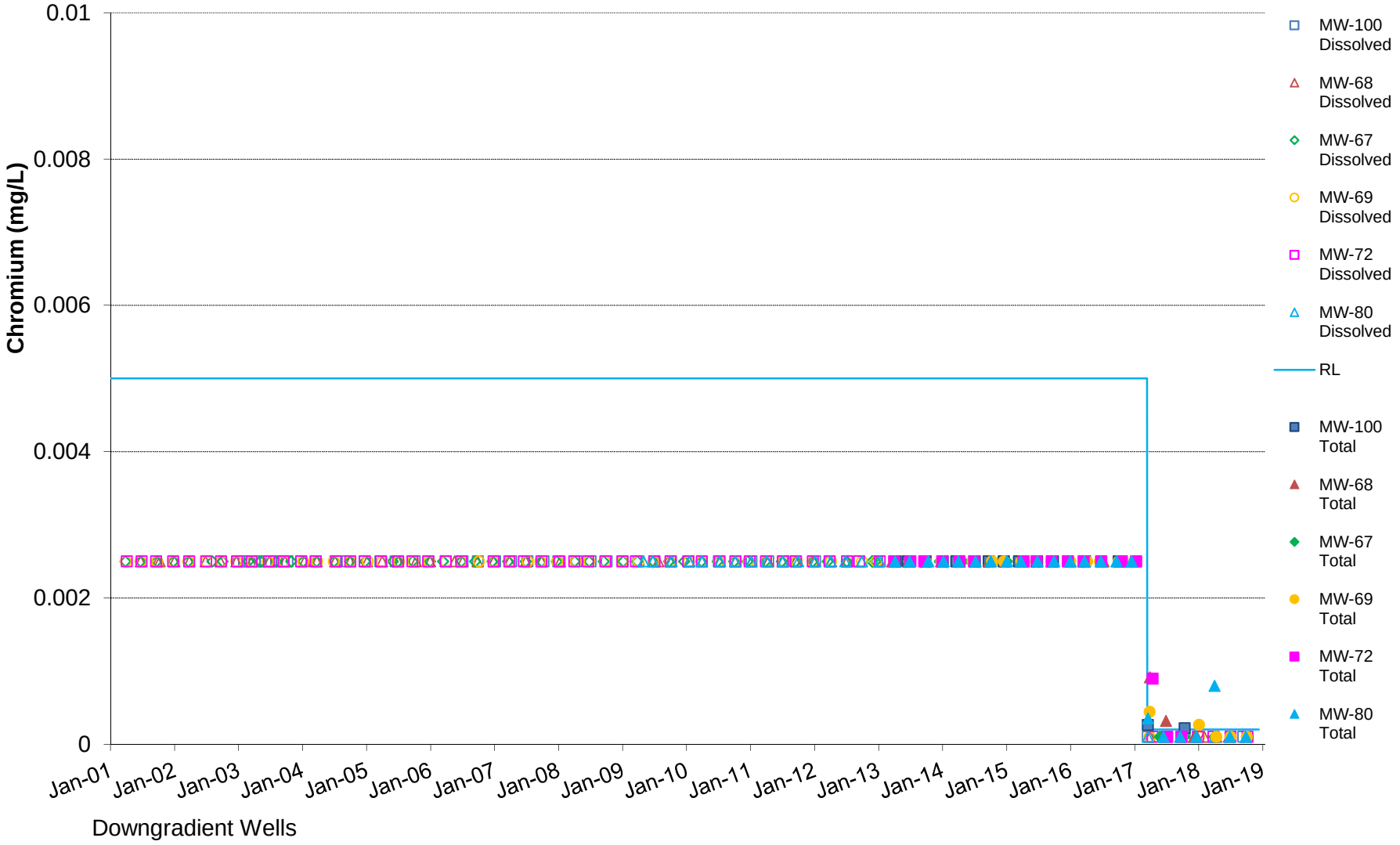

Copper (mg/L)
0.02
0.016
0.012
0.008
0.004
0
Jan-01
Jan-02
Jan-03
Jan-04
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Jan-06
Jan-07
Jan-08
Jan-09
Jan-10
Jan-11
Jan-12
Jan-13
Jan-14
Jan-15
Jan-16
Jan-17
Jan-18
Jan-19
Upgradient and Crossgradient Wells
MW-64 Dissolved
MW-93 Dissolved
MW-95 Dissolved
MW-21 Dissolved
MW-73 Dissolved
MW-66 Dissolved
MW-84 Dissolved
MW-81 Dissolved
RL
MW-64 Total
MW-93 Total
MW-95 Total
MW-21 Total
MW-66 Total
MW-73 Total
MW-84 Total
MW-81 Total

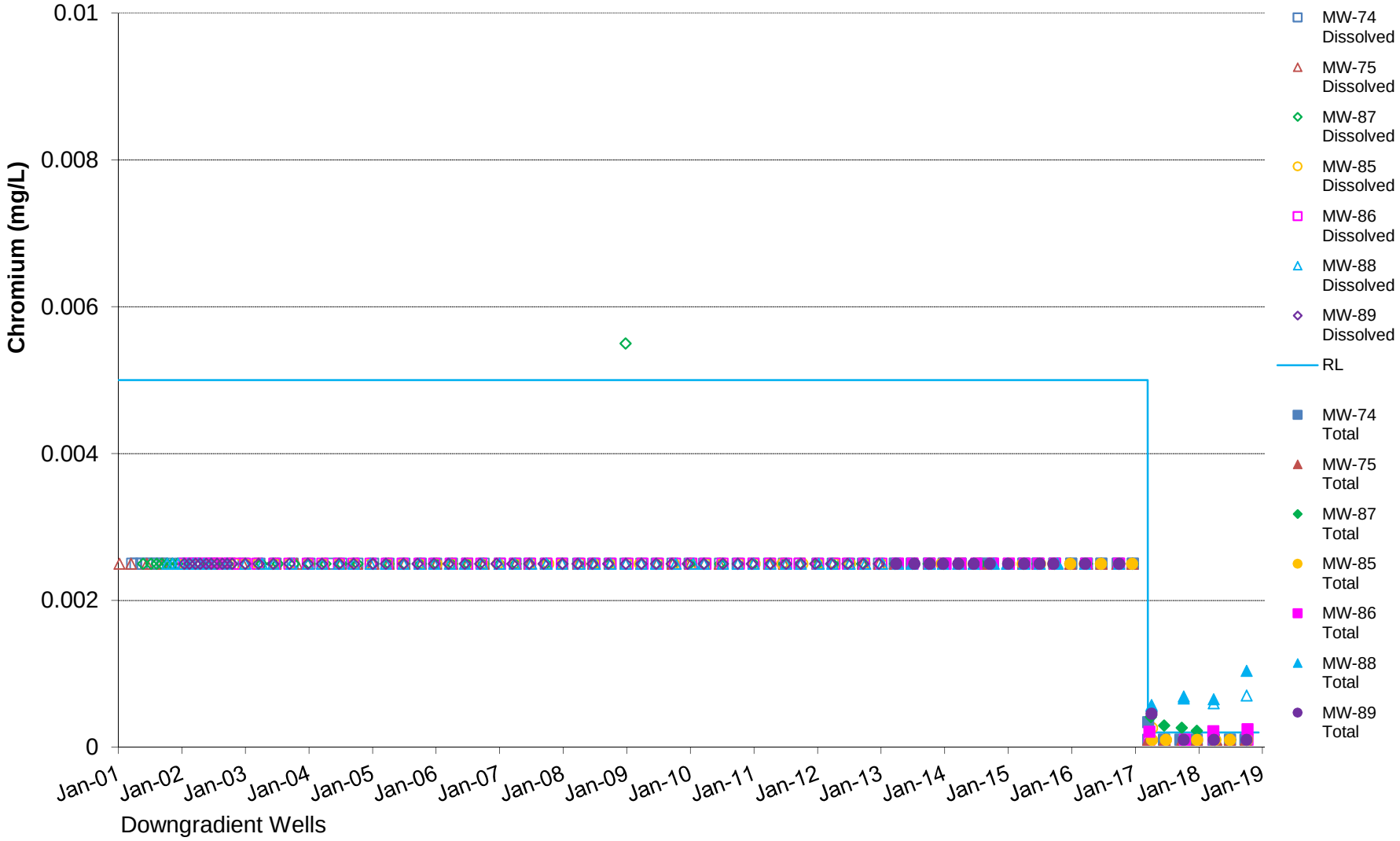

0.02
0.016
0.012
0.008
0.004
0
Copper (mg/L)
Jan-01
Jan-02
Jan-03
Jan-04
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Jan-06
Jan-07
Jan-08
Jan-09
Jan-10
Jan-11
Jan-12
Jan-13
Jan-14
Jan-15
Jan-16
Jan-17
Jan-18
Jan-19
Downgradient Wells
MW-100 Dissolved
MW-68 Dissolved
MW-67 Dissolved
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MW-80 Dissolved
RL
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MW-68 Total
MW-67 Total
MW-69 Total
MW-72 Total
MW-80 Total

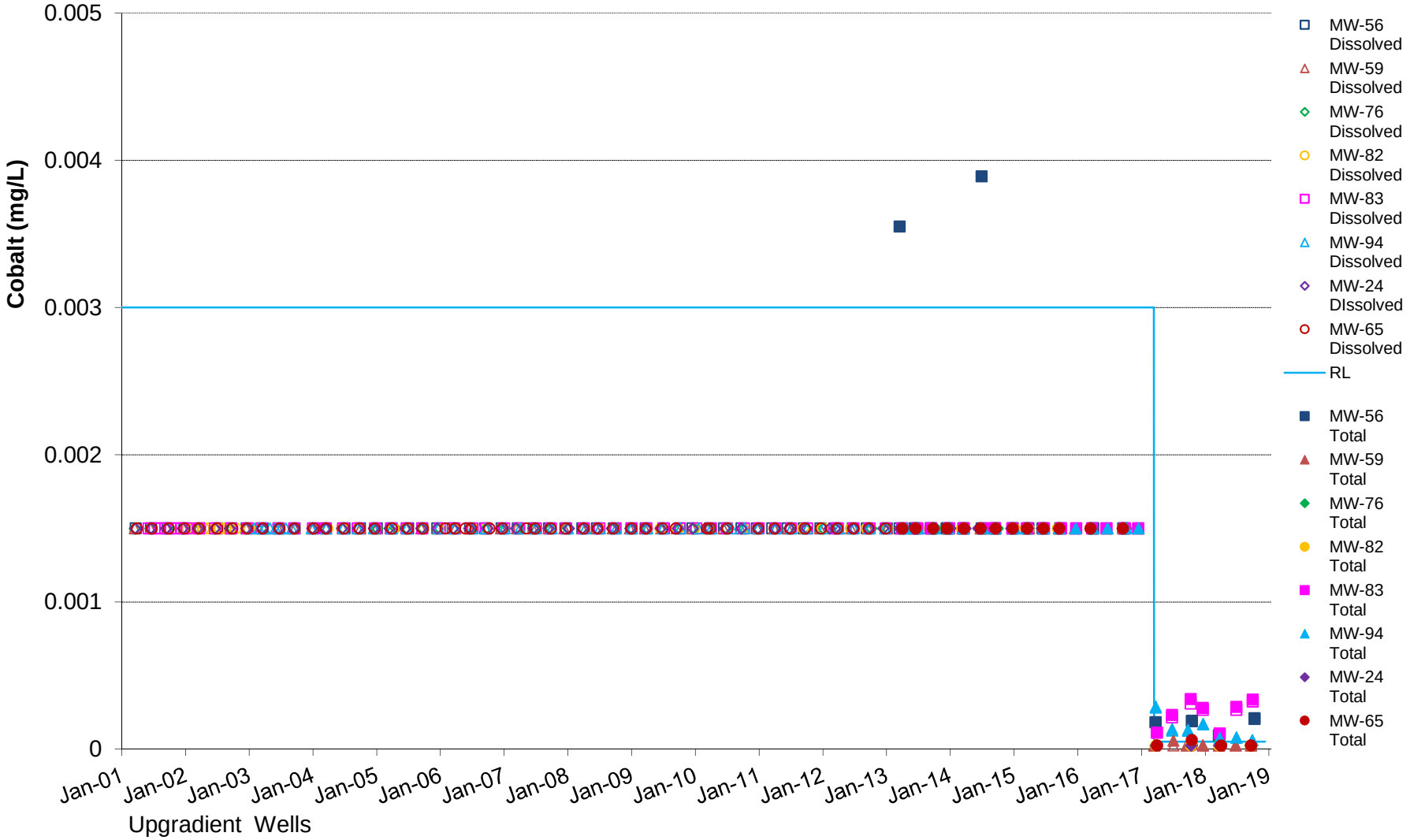

0.02
0.016
0.012
0.008
0.004
0
Copper (mg/L)
Jan-01
Jan-02
Jan-03
Jan-04
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Jan-06
Jan-07
Jan-08
Jan-09
Jan-10
Jan-11
Jan-12
Jan-13
Jan-14
Jan-15
Jan-16
Jan-17
Jan-18
Jan-19
Downgradient Wells
MW-74 Dissolved
MW-75 Dissolved
MW-87 Dissolved
MW-85 Dissolved
MW-86 Dissolved
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MW-86 Total
MW-88 Total
MW-89 Total

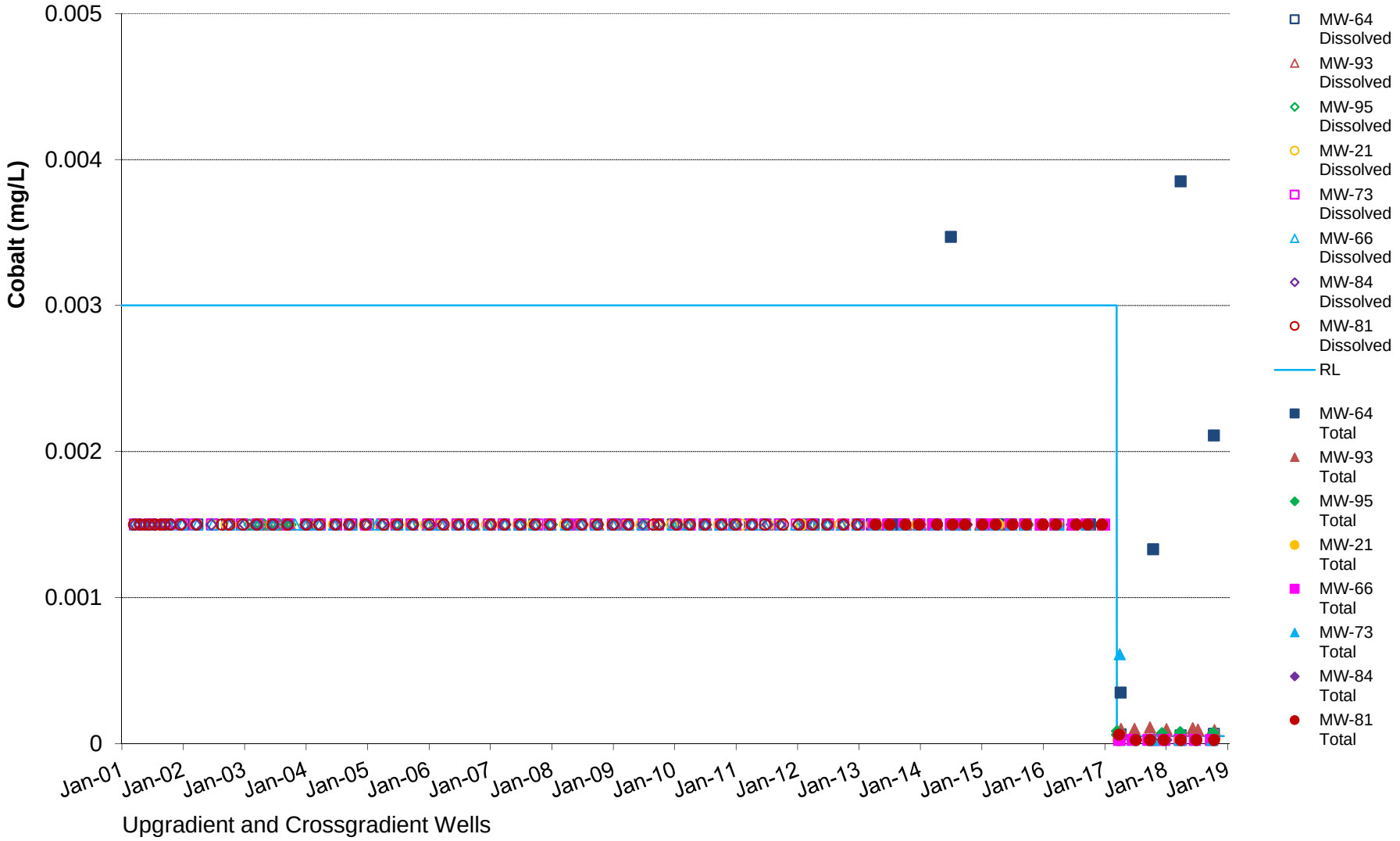

0.01
0.008
0.006
0.004
0.002
0
Chromium (mg/L)
Jan-01
Jan-02
Jan-03
Jan-04
Jan-05
Jan-06
Jan-07
Jan-08
Jan-09
Jan-10
Jan-11
Jan-12
Jan-13
Jan-14
Jan-15
Jan-16
Jan-17
Jan-18
Jan-19
Upgradient Wells
MW-56 Dissolved
MW-59 Dissolved
MW-76 Dissolved
MW-82 Dissolved
MW-83 Dissolved
MW-94 Dissolved
MW-24 DIssolved
MW-65 Dissolved
RL
MW-56 Total
MW-59 Total
MW-76 Total
MW-82 Total
MW-83 Total
MW-94 Total
MW-24 Total
MW-65 Total

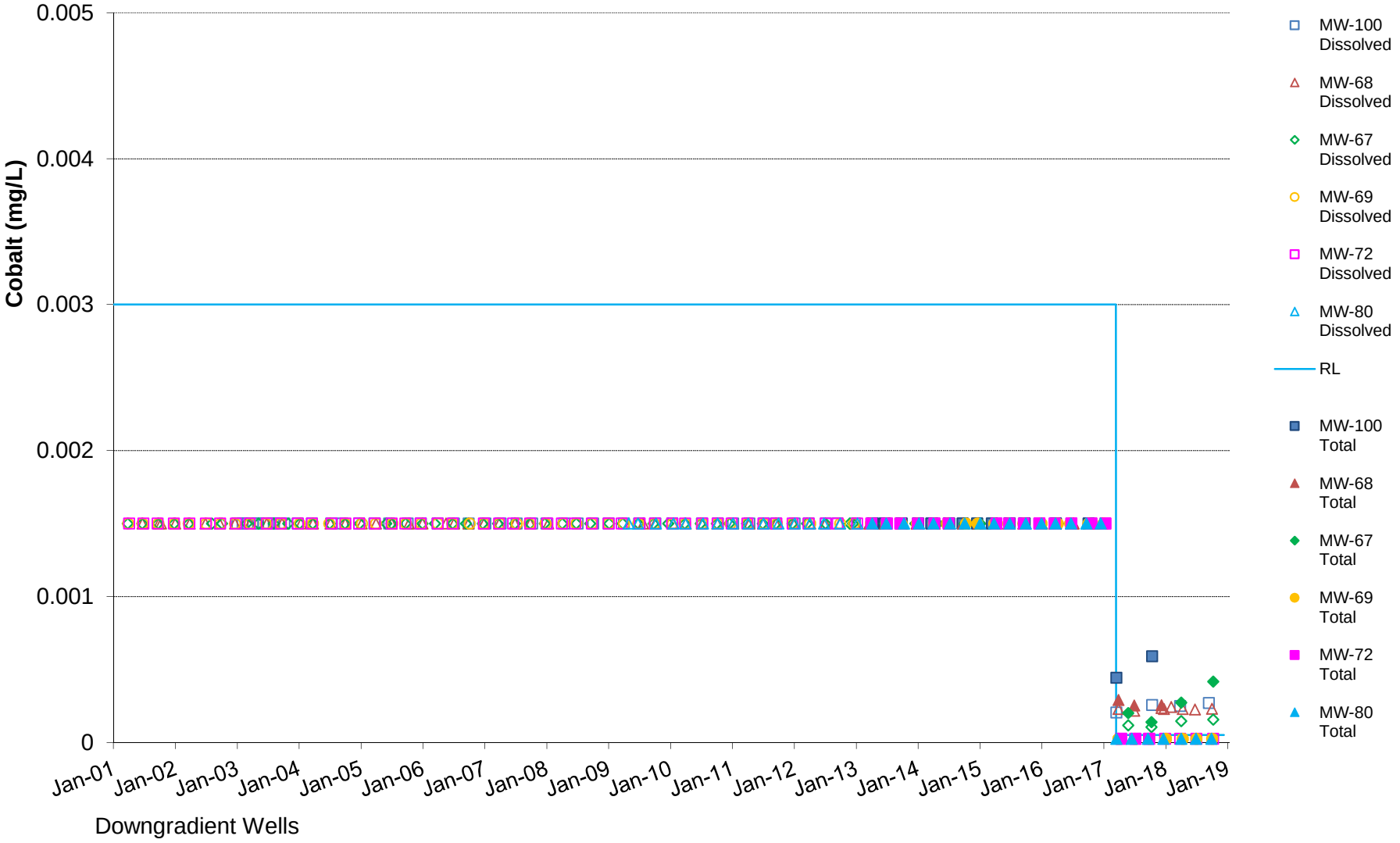

Chromium (mg/L)
0.01
0.008
0.006
0.004
0.002
0
Jan-01
Jan-02
Jan-03
Jan-04
Jan-05
Jan-06
Jan-07
Jan-08
Jan-09
Jan-10
Jan-11
Jan-12
Jan-13
Jan-14
Jan-15
Jan-16
Jan-17
Jan-18
Jan-19
Upgradient and Crossgradient Wells
MW-64 Dissolved
MW-93 Dissolved
MW-95 Dissolved
MW-21 Dissolved
MW-73 Dissolved
MW-66 Dissolved
MW-84 Dissolved
MW-81 Dissolved
RL
MW-64 Total
MW-93 Total
MW-95 Total
MW-21 Total
MW-66 Total
MW-73 Total
MW-84 Total
MW-81 Total

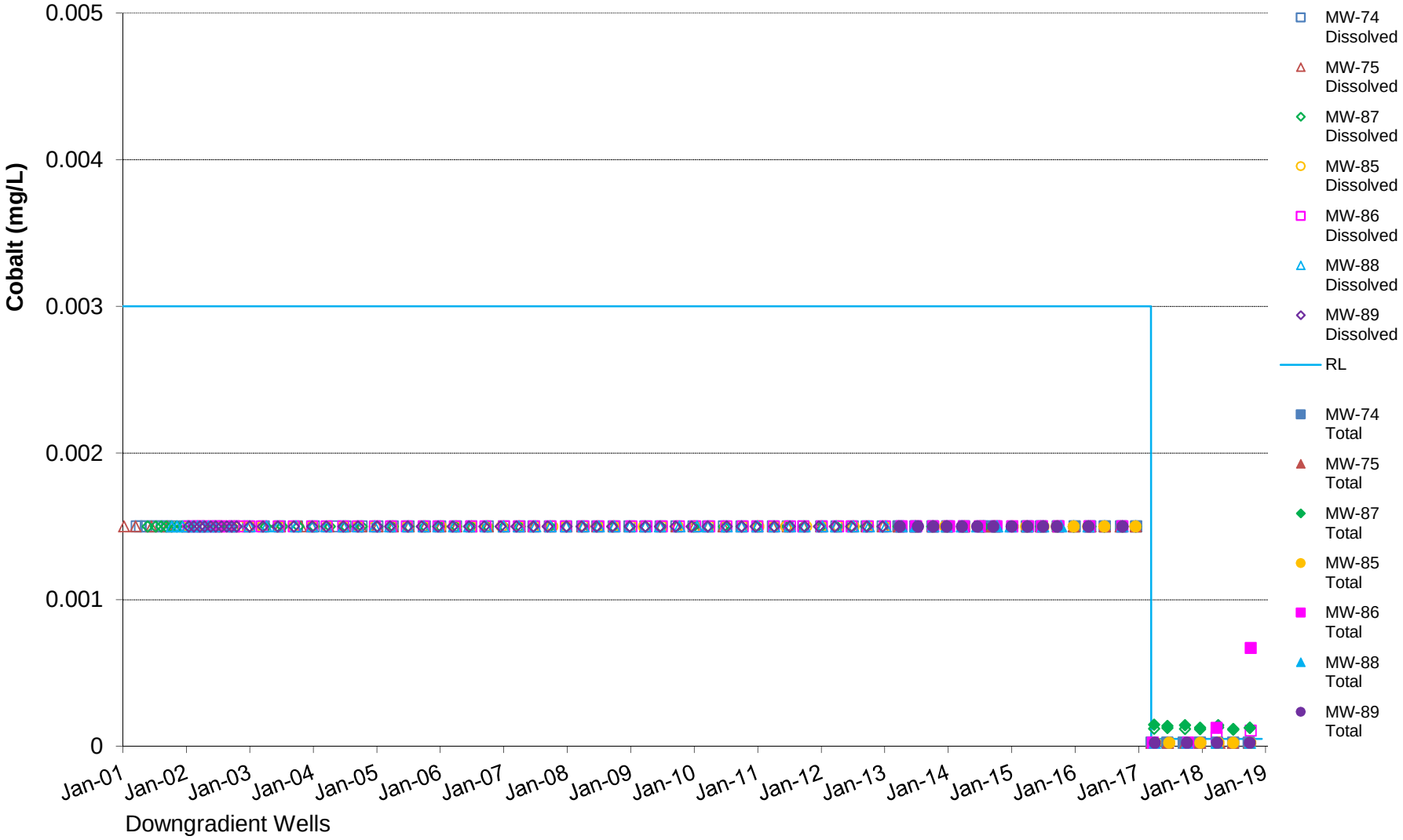

0.01
0.008
0.006
0.004
0.002
0
Chromium (mg/L)
Jan-01
Jan-02
Jan-03
Jan-04
Jan-05
Jan-06
Jan-07
Jan-08
Jan-09
Jan-10
Jan-11
Jan-12
Jan-13
Jan-14
Jan-15
Jan-16
Jan-17
Jan-18
Jan-19
Downgradient Wells
MW-100 Dissolved
MW-68 Dissolved
MW-67 Dissolved
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MW-69 Total
MW-72 Total
MW-80 Total

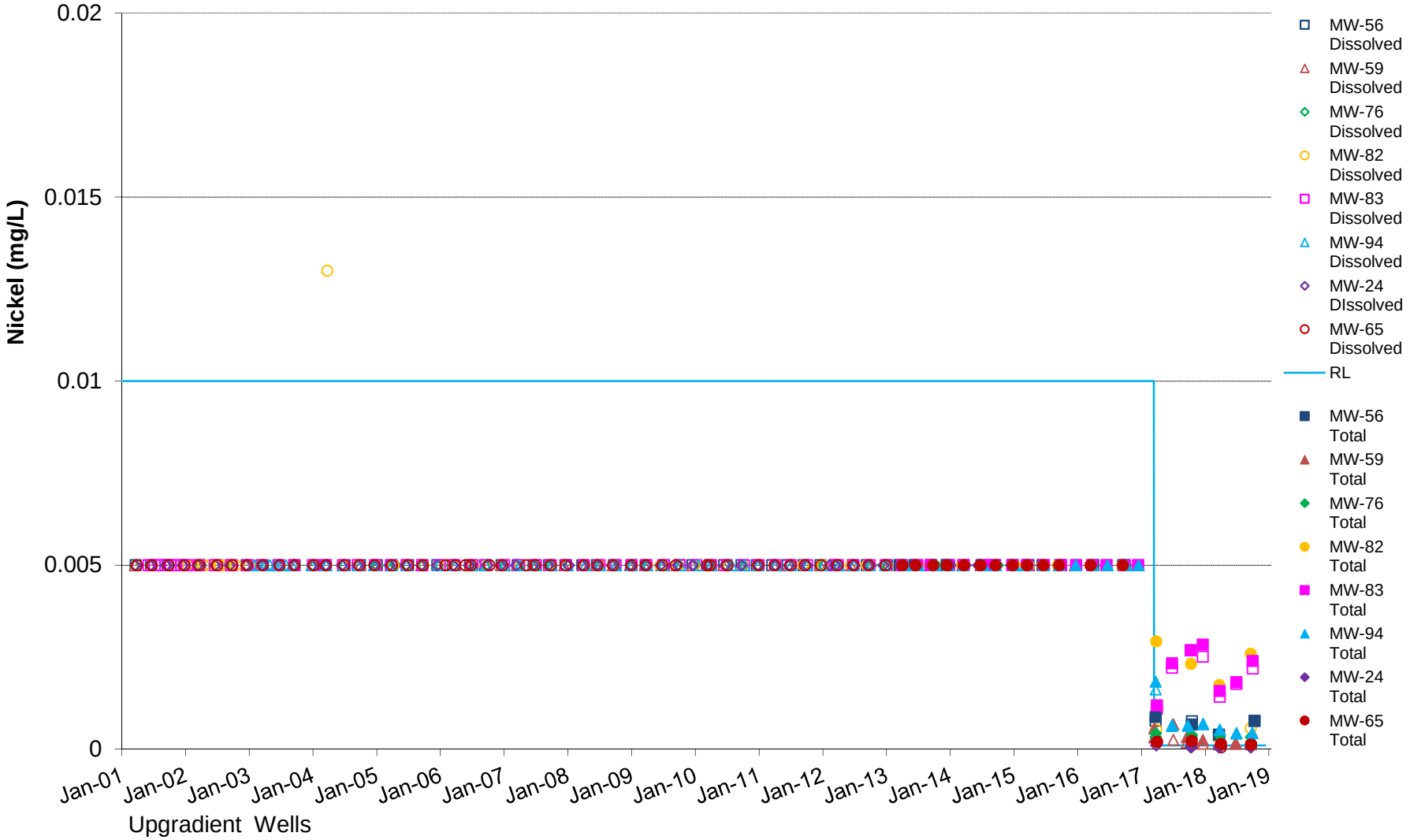

0.01
0.008
0.006
0.004
0.002
0
Chromium (mg/L)
Jan-01
Jan-02
Jan-03
Jan-04
Jan-05
Jan-06
Jan-07
Jan-08
Jan-09
Jan-10
Jan-11
Jan-12
Jan-13
Jan-14
Jan-15
Jan-16
Jan-17
Jan-18
Jan-19
Downgradient Wells
MW-74 Dissolved
MW-75 Dissolved
MW-87 Dissolved
MW-85 Dissolved
MW-86 Dissolved
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RL
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MW-86 Total
MW-88 Total
MW-89 Total

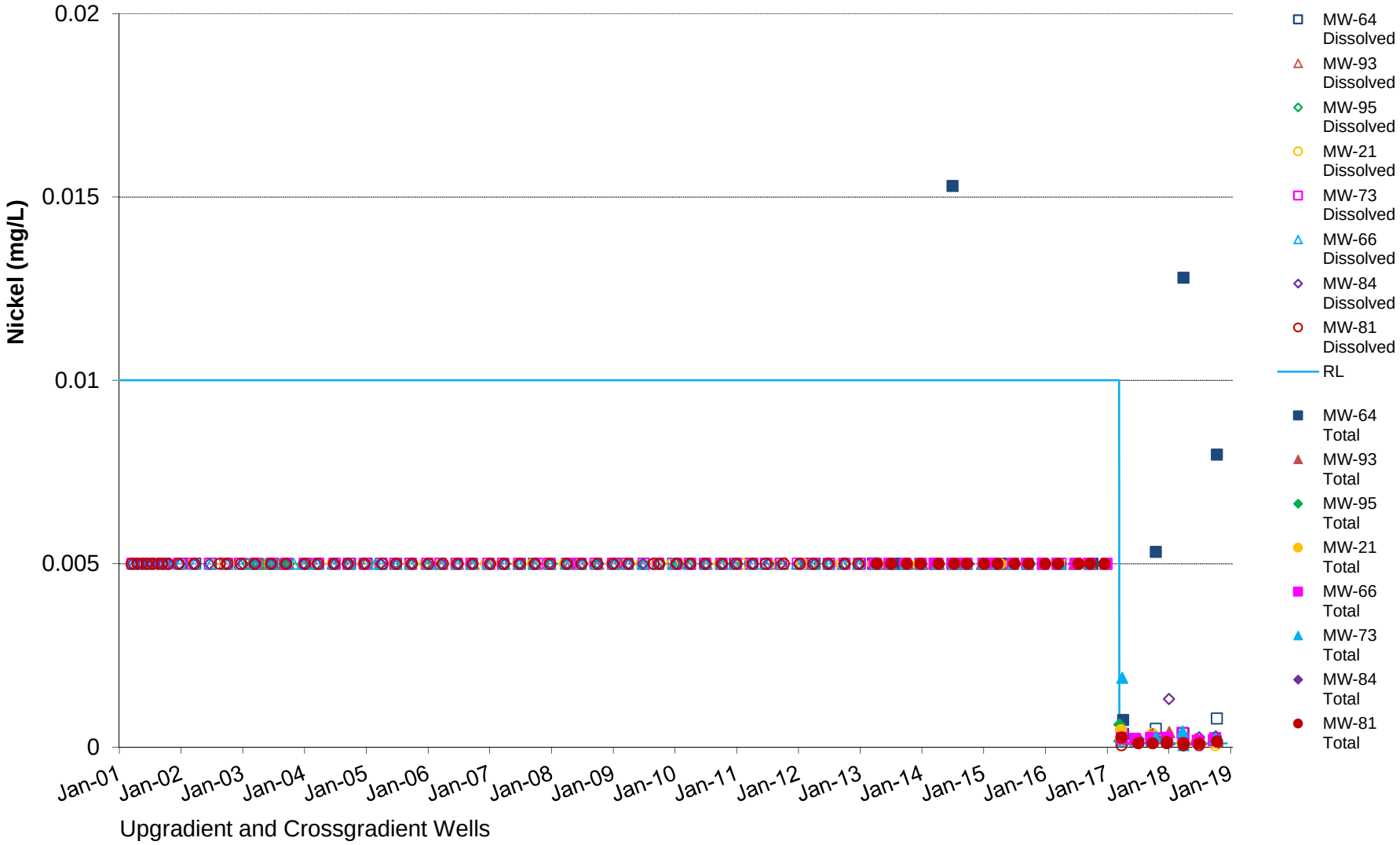

0.005
0.004
0.003
0.002
0.001
0
Cobalt (mg/L)
Jan-01
Jan-02
Jan-03
Jan-04
Jan-05
Jan-06
Jan-07
Jan-08
Jan-09
Jan-10
Jan-11
Jan-12
Jan-13
Jan-14
Jan-15
Jan-16
Jan-17
Jan-18
Jan-19
Upgradient Wells
MW-56 Dissolved
MW-59 Dissolved
MW-76 Dissolved
MW-82 Dissolved
MW-83 Dissolved
MW-94 Dissolved
MW-24 DIssolved
MW-65 Dissolved
RL
MW-56 Total
MW-59 Total
MW-76 Total
MW-82 Total
MW-83 Total
MW-94 Total
MW-24 Total
MW-65 Total

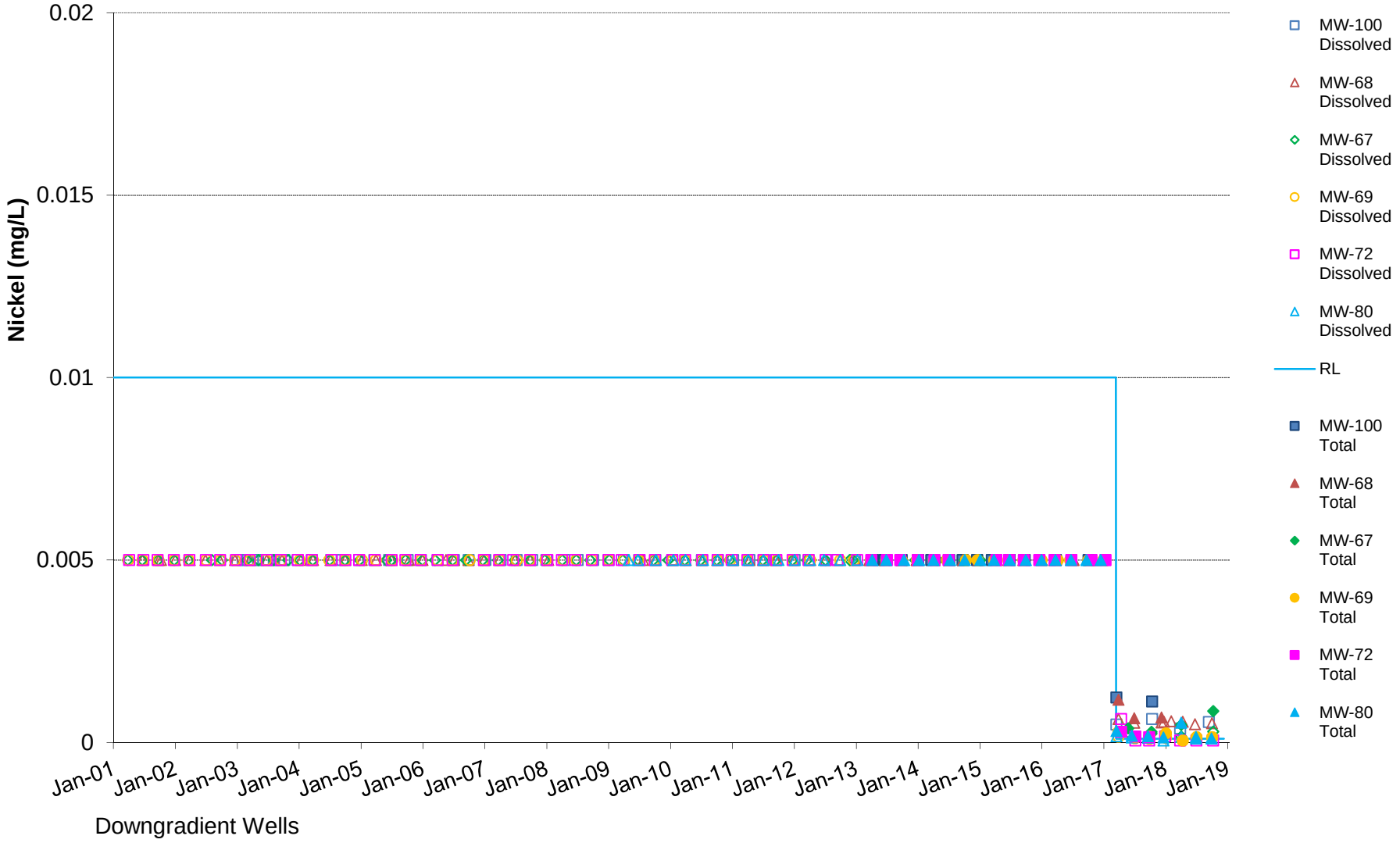

0.005
0.004
0.003
0.002
0.001
0
Cobalt (mg/L)
Jan-01
Jan-02
Jan-03
Jan-04
Jan-05
Jan-06
Jan-07
Jan-08
Jan-09
Jan-10
Jan-11
Jan-12
Jan-13
Jan-14
Jan-15
Jan-16
Jan-17
Jan-18
Jan-19
Upgradient and Crossgradient Wells
MW-64 Dissolved
MW-93 Dissolved
MW-95 Dissolved
MW-21 Dissolved
MW-73 Dissolved
MW-66 Dissolved
MW-84 Dissolved
MW-81 Dissolved
RL
MW-64 Total
MW-93 Total
MW-95 Total
MW-21 Total
MW-66 Total
MW-73 Total
MW-84 Total
MW-81 Total

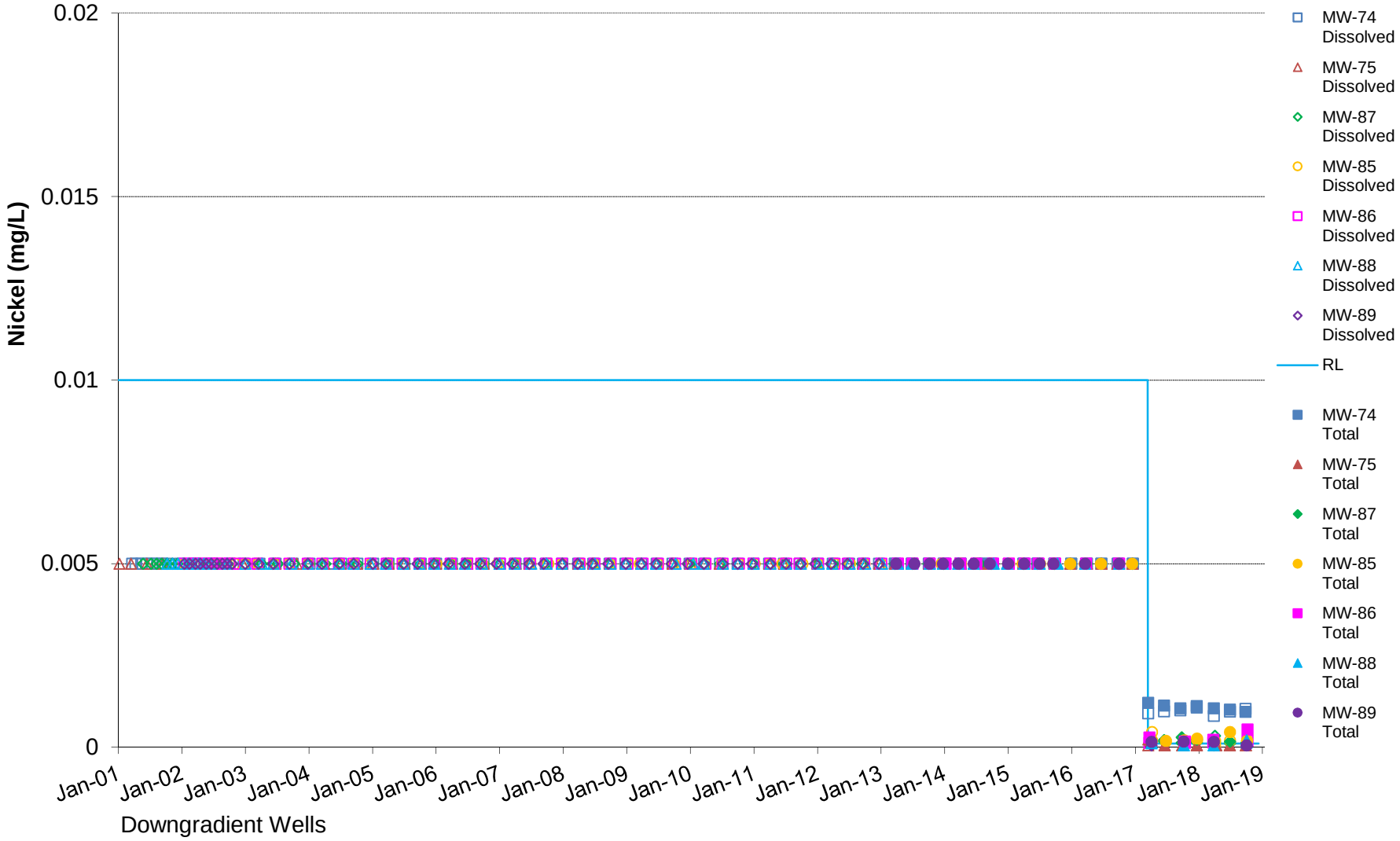

0.005
0.004
0.003
0.002
0.001
0
Cobalt (mg/L)
Jan-01
Jan-02
Jan-03
Jan-04
Jan-05
Jan-06
Jan-07
Jan-08
Jan-09
Jan-10
Jan-11
Jan-12
Jan-13
Jan-14
Jan-15
Jan-16
Jan-17
Jan-18
Jan-19
Downgradient Wells
MW-100 Dissolved
MW-68 Dissolved
MW-67 Dissolved
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MW-80 Total

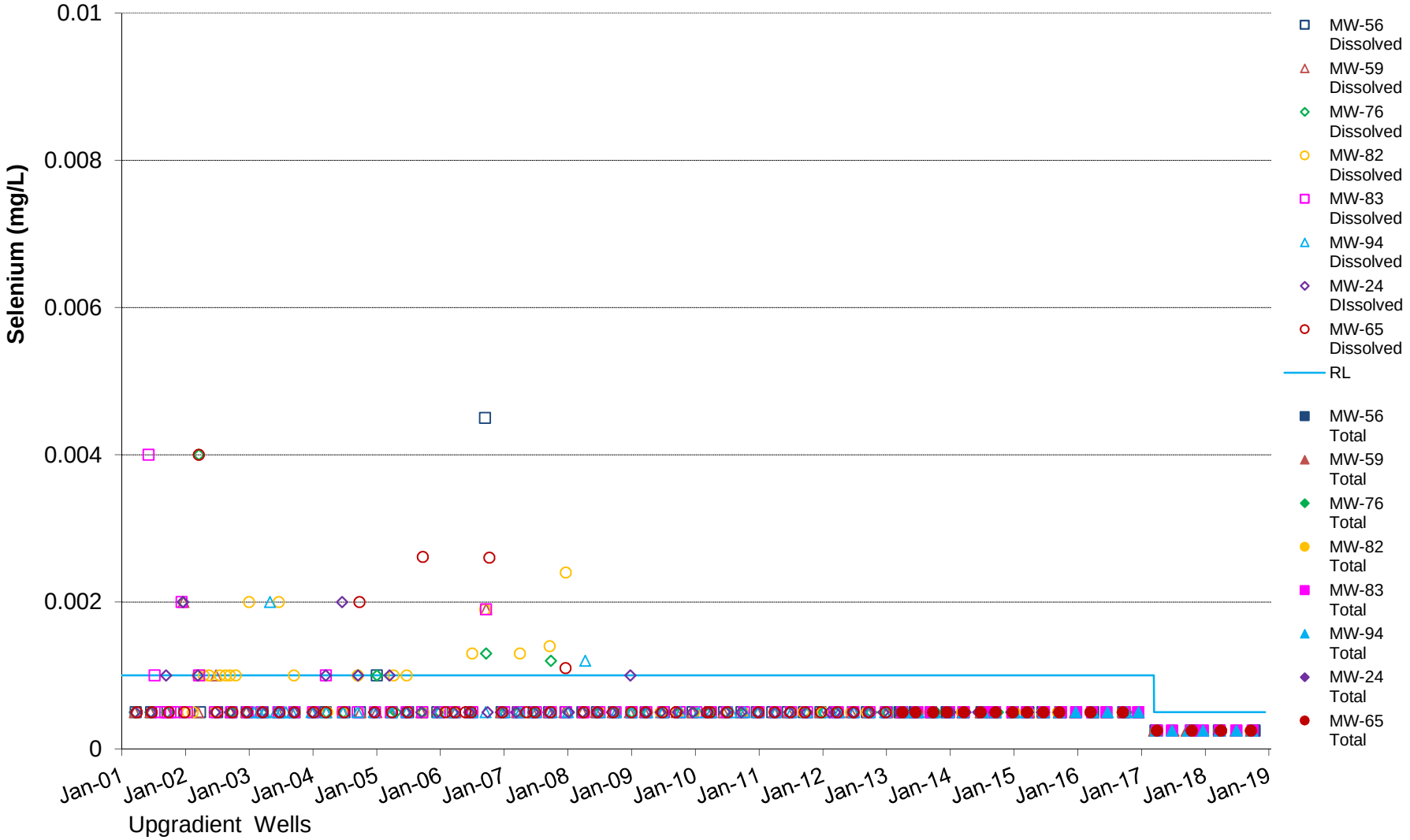

0.005
0.004
0.003
0.002
0.001
0
Cobalt (mg/L)
Jan-01
Jan-02
Jan-03
Jan-04
Jan-05
Jan-06
Jan-07
Jan-08
Jan-09
Jan-10
Jan-11
Jan-12
Jan-13
Jan-14
Jan-15
Jan-16
Jan-17
Jan-18
Jan-19
Downgradient Wells
MW-74 Dissolved
MW-75 Dissolved
MW-87 Dissolved
MW-85 Dissolved
MW-86 Dissolved
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MW-86 Total
MW-88 Total
MW-89 Total

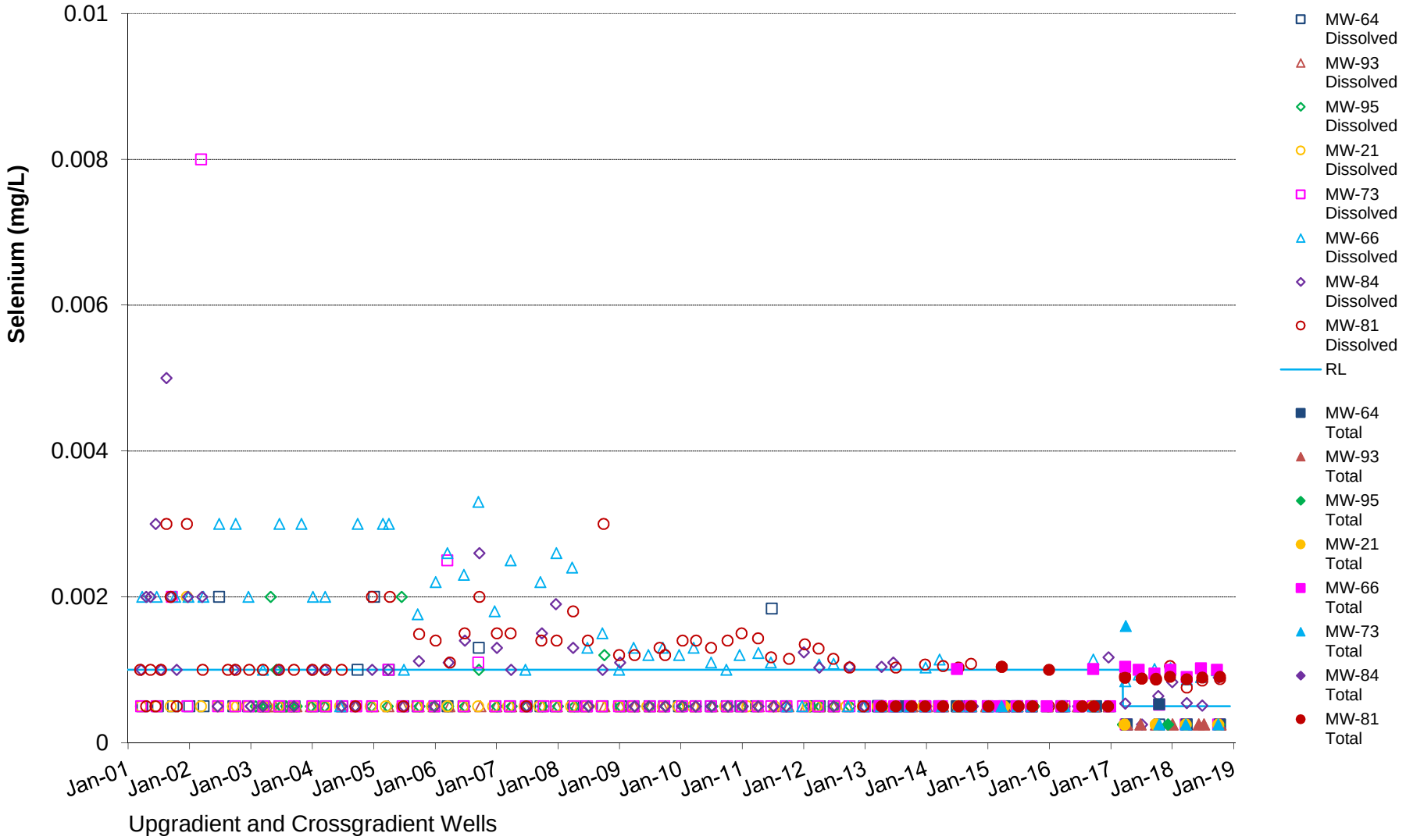

0.02
0.015
0.01
0.005
0
Nickel (mg/L)
Jan-01
Jan-02
Jan-03
Jan-04
Jan-05
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Jan-07
Jan-08
Jan-09
Jan-10
Jan-11
Jan-12
Jan-13
Jan-14
Jan-15
Jan-16
Jan-17
Jan-18
Jan-19
Upgradient Wells
MW-56 Dissolved
MW-59 Dissolved
MW-76 Dissolved
MW-82 Dissolved
MW-83 Dissolved
MW-94 Dissolved
MW-24 DIssolved
MW-65 Dissolved
RL
MW-56 Total
MW-59 Total
MW-76 Total
MW-82 Total
MW-83 Total
MW-94 Total
MW-24 Total
MW-65 Total

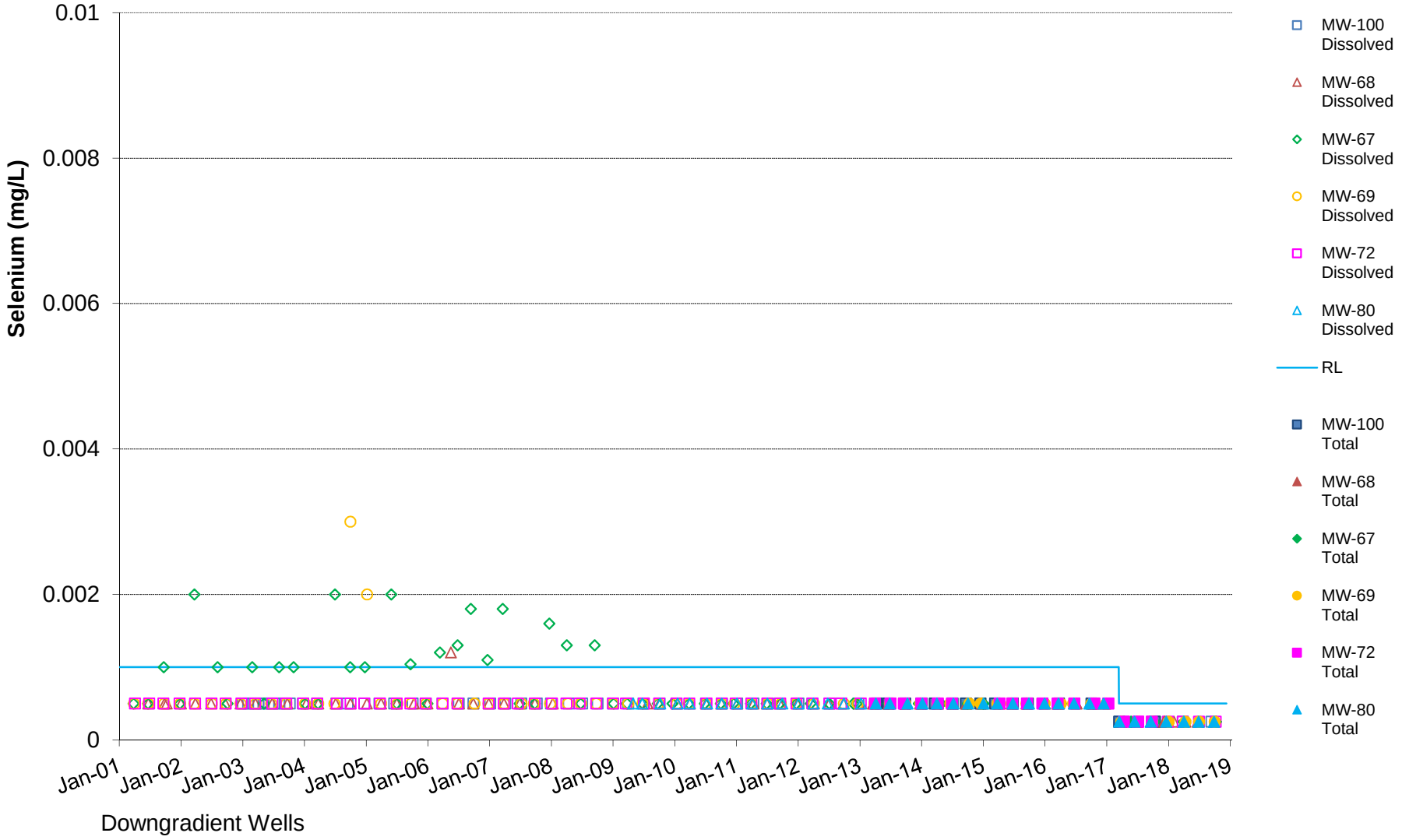

0.02
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0.01
0.005
0
Nickel (mg/L)
Jan-01
Jan-02
Jan-03
Jan-04
Jan-05
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Jan-07
Jan-08
Jan-09
Jan-10
Jan-11
Jan-12
Jan-13
Jan-14
Jan-15
Jan-16
Jan-17
Jan-18
Jan-19
Upgradient and Crossgradient Wells
MW-64 Dissolved
MW-93 Dissolved
MW-95 Dissolved
MW-21 Dissolved
MW-73 Dissolved
MW-66 Dissolved
MW-84 Dissolved
MW-81 Dissolved
RL
MW-64 Total
MW-93 Total
MW-95 Total
MW-21 Total
MW-66 Total
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MW-84 Total
MW-81 Total

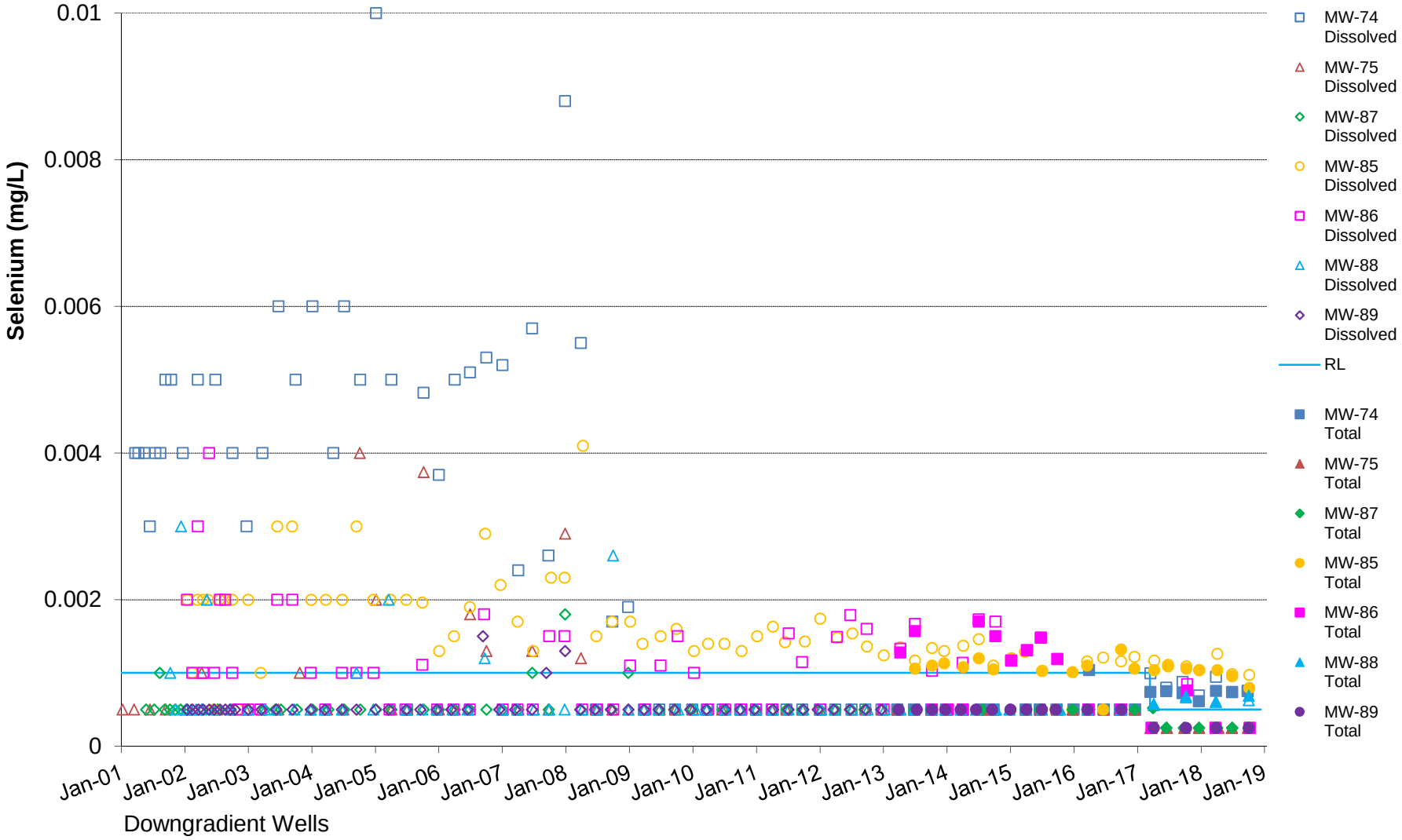

0.02
0.015
0.01
0.005
0
Nickel (mg/L)
Jan-01
Jan-02
Jan-03
Jan-04
Jan-05
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Jan-07
Jan-08
Jan-09
Jan-10
Jan-11
Jan-12
Jan-13
Jan-14
Jan-15
Jan-16
Jan-17
Jan-18
Jan-19
Downgradient Wells
MW-100 Dissolved
MW-68 Dissolved
MW-67 Dissolved
MW-69 Dissolved
MW-72 Dissolved
MW-80 Dissolved
RL
MW-100 Total
MW-68 Total
MW-67 Total
MW-69 Total
MW-72 Total
MW-80 Total

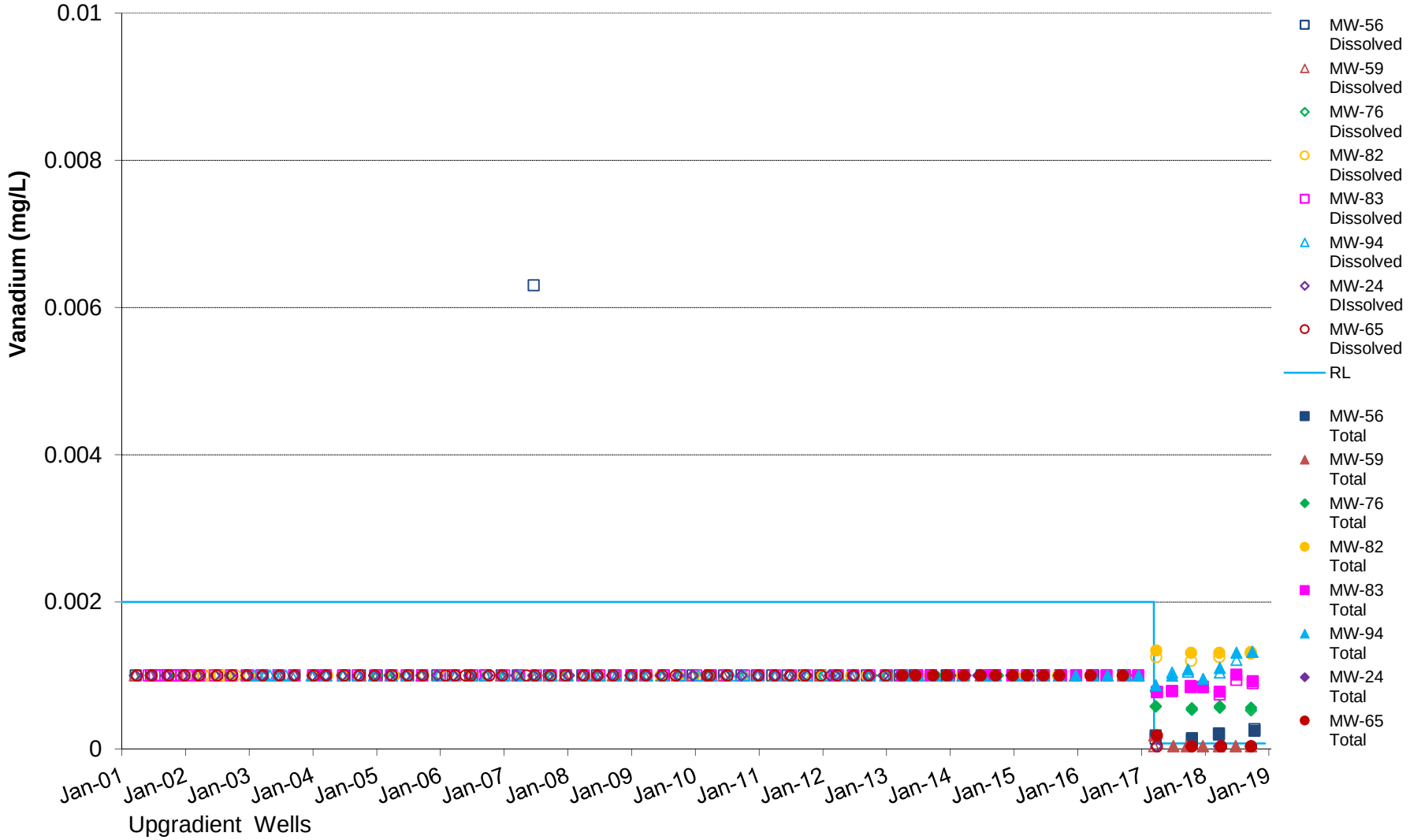

0.02
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0.005
0
Nickel (mg/L)
Jan-01
Jan-02
Jan-03
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Jan-07
Jan-08
Jan-09
Jan-10
Jan-11
Jan-12
Jan-13
Jan-14
Jan-15
Jan-16
Jan-17
Jan-18
Jan-19
Downgradient Wells
MW-74 Dissolved
MW-75 Dissolved
MW-87 Dissolved
MW-85 Dissolved
MW-86 Dissolved
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MW-86 Total
MW-88 Total
MW-89 Total

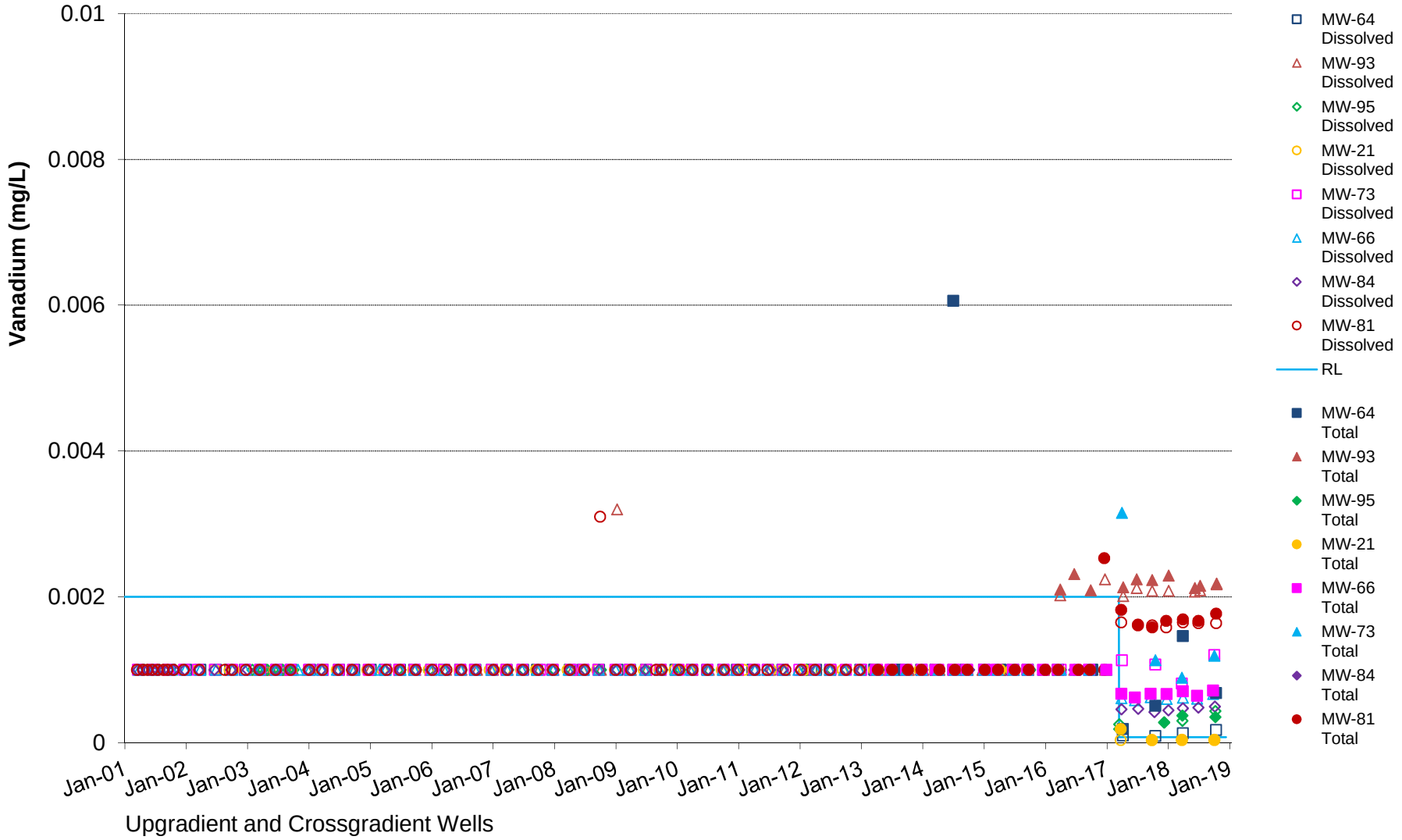

0.01
0.008
0.006
0.004
0.002
0
Selenium (mg/L)
Jan-01
Jan-02
Jan-03
Jan-04
Jan-05
Jan-06
Jan-07
Jan-08
Jan-09
Jan-10
Jan-11
Jan-12
Jan-13
Jan-14
Jan-15
Jan-16
Jan-17
Jan-18
Jan-19
Upgradient Wells
MW-56 Dissolved
MW-59 Dissolved
MW-76 Dissolved
MW-82 Dissolved
MW-83 Dissolved
MW-94 Dissolved
MW-24 DIssolved
MW-65 Dissolved
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MW-94 Total
MW-24 Total
MW-65 Total

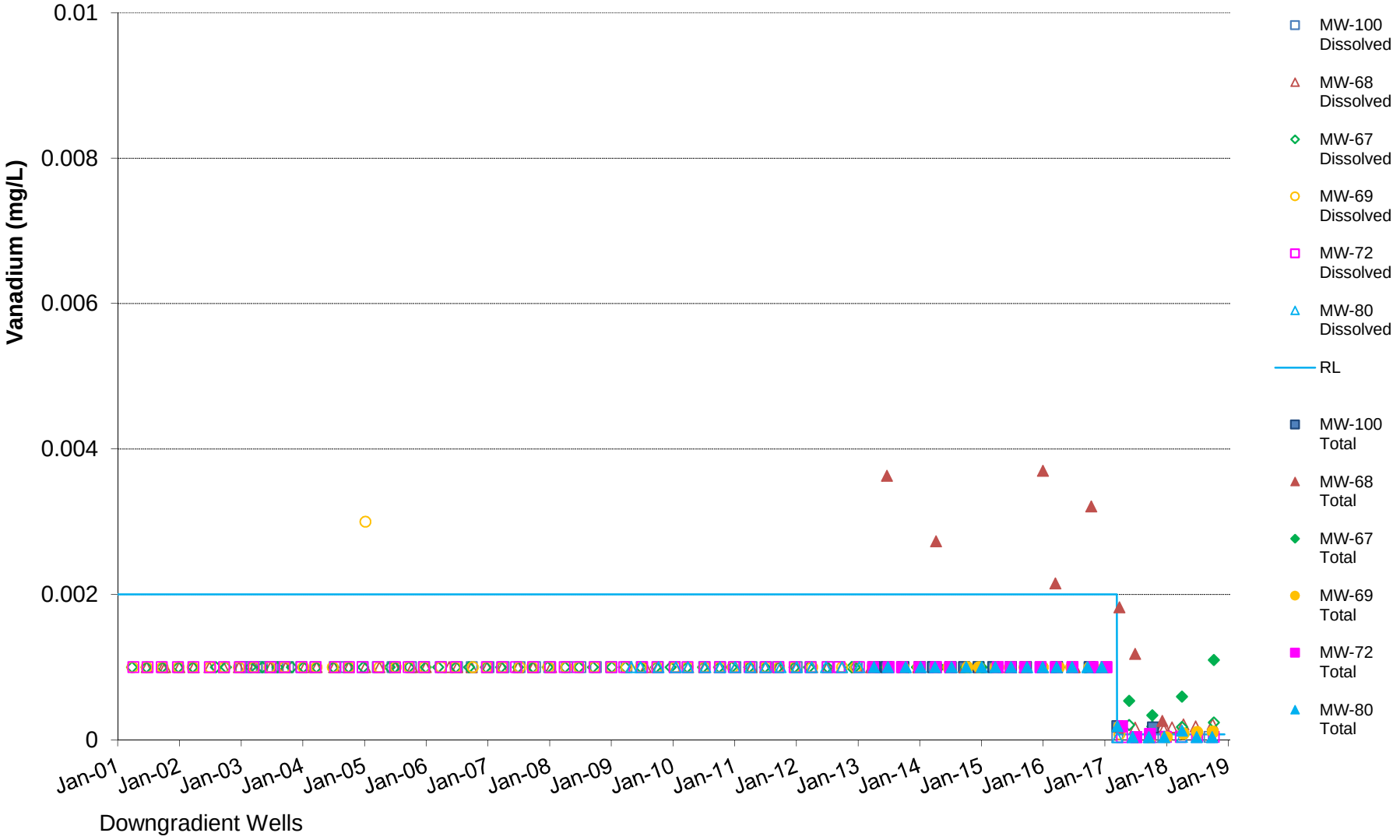

Selenium (mg/L)
0.01
0.008
0.006
0.004
0.002
0
Jan-01
Jan-02
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Jan-04
Jan-05
Jan-06
Jan-07
Jan-08
Jan-09
Jan-10
Jan-11
Jan-12
Jan-13
Jan-14
Jan-15
Jan-16
Jan-17
Jan-18
Jan-19
Upgradient and Crossgradient Wells
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MW-95 Dissolved
MW-21 Dissolved
MW-73 Dissolved
MW-66 Dissolved
MW-84 Dissolved
MW-81 Dissolved
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MW-81 Total

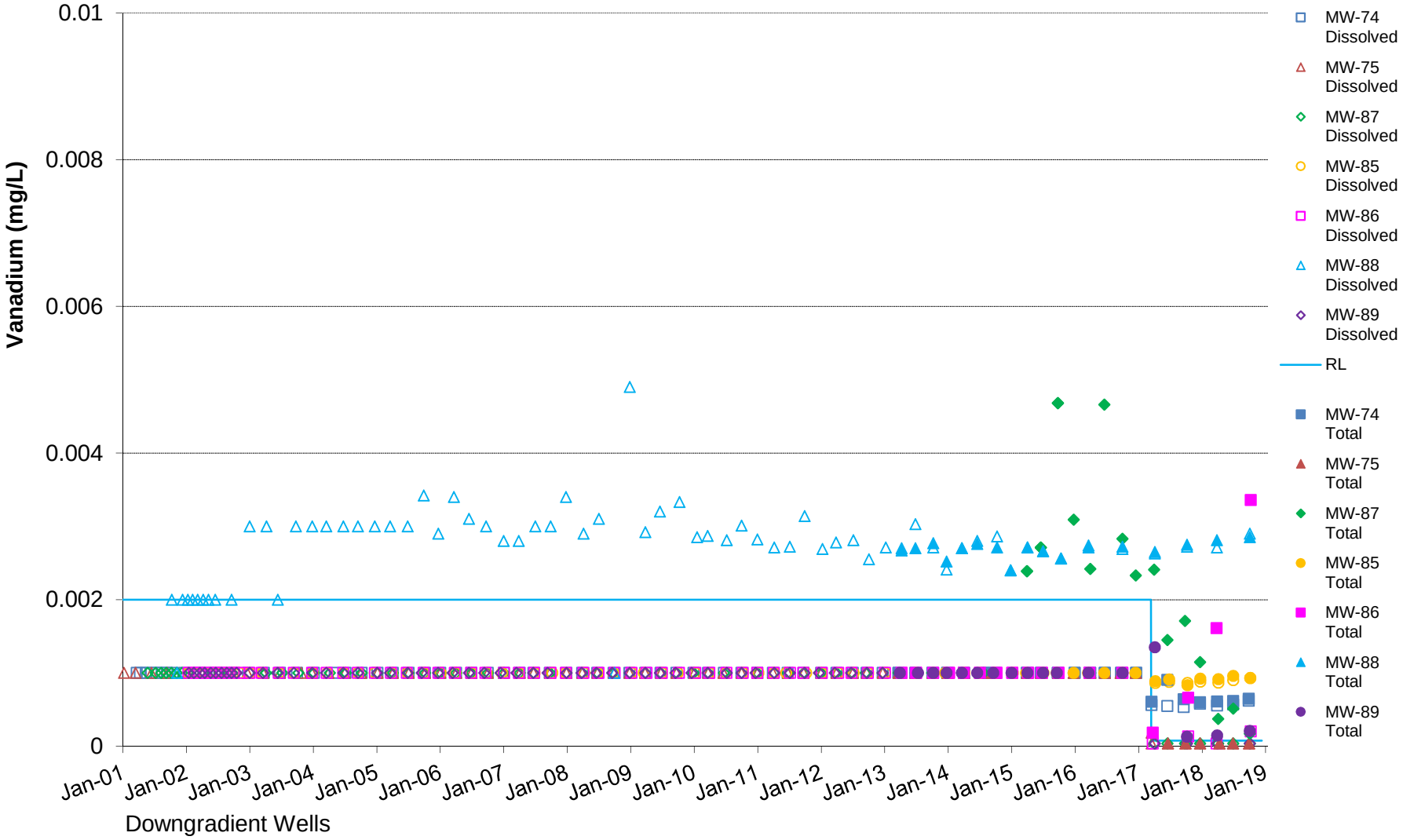

Selenium (mg/L)
0.01
0.008
0.006
0.004
0.002
0
Jan-01
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Jan-06
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Jan-08
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Jan-14
Jan-15
Jan-16
Jan-17
Jan-18
Jan-19
Downgradient Wells
MW-100 Dissolved
MW-68 Dissolved
MW-67 Dissolved
MW-69 Dissolved
MW-72 Dissolved
MW-80 Dissolved
RL
MW-100 Total
MW-68 Total
MW-67 Total
MW-69 Total
MW-72 Total
MW-80 Total

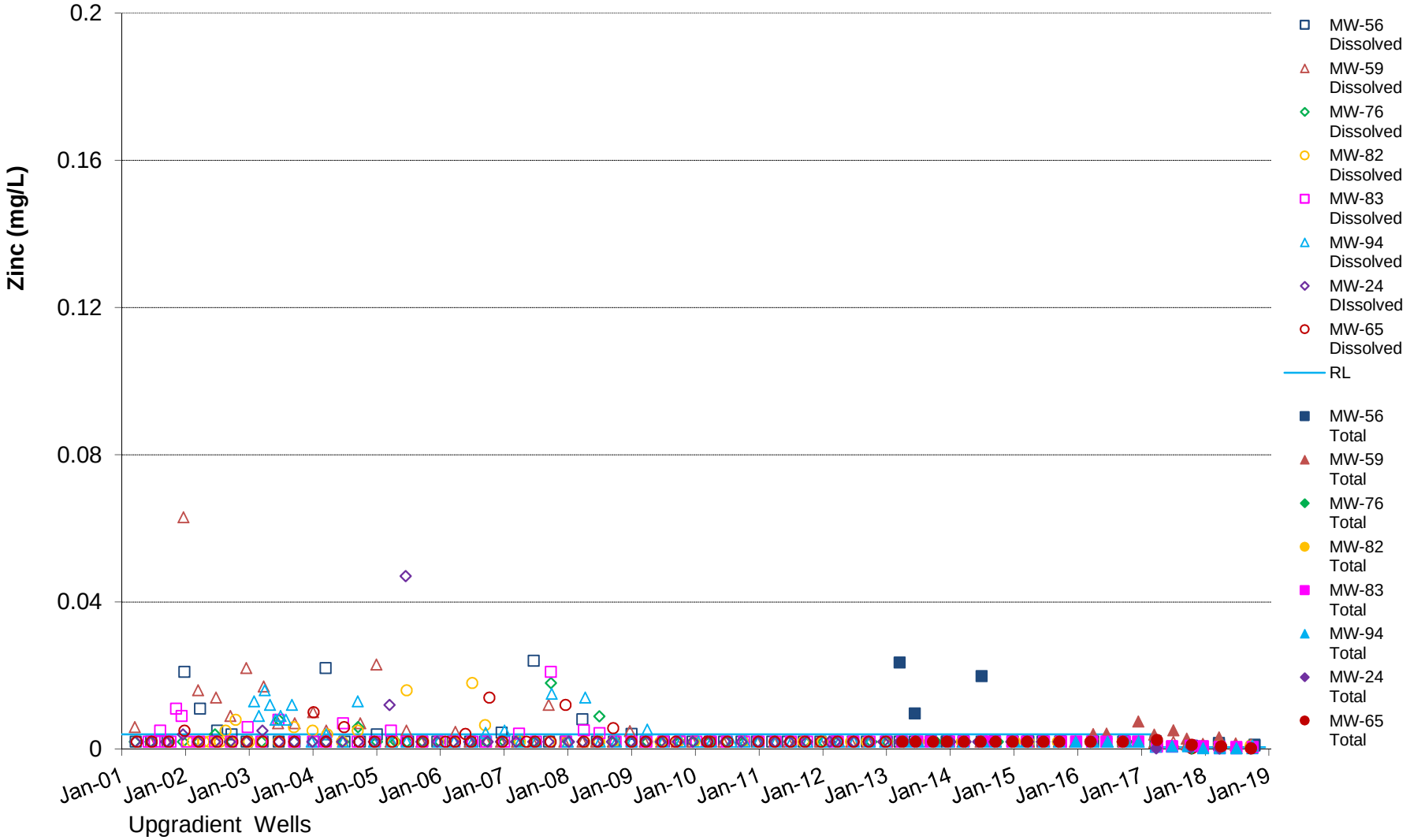

0.01
0.008
0.006
0.004
0.002
0
Selenium (mg/L)
Jan-01
Jan-02
Jan-03
Jan-04
Jan-05
Jan-06
Jan-07
Jan-08
Jan-09
Jan-10
Jan-11
Jan-12
Jan-13
Jan-14
Jan-15
Jan-16
Jan-17
Jan-18
Jan-19
Downgradient Wells
MW-74 Dissolved
MW-75 Dissolved
MW-87 Dissolved
MW-85 Dissolved
MW-86 Dissolved
MW-88 Dissolved
MW-89 Dissolved
RL
MW-74 Total
MW-75 Total
MW-87 Total
MW-85 Total
MW-86 Total
MW-88 Total
MW-89 Total

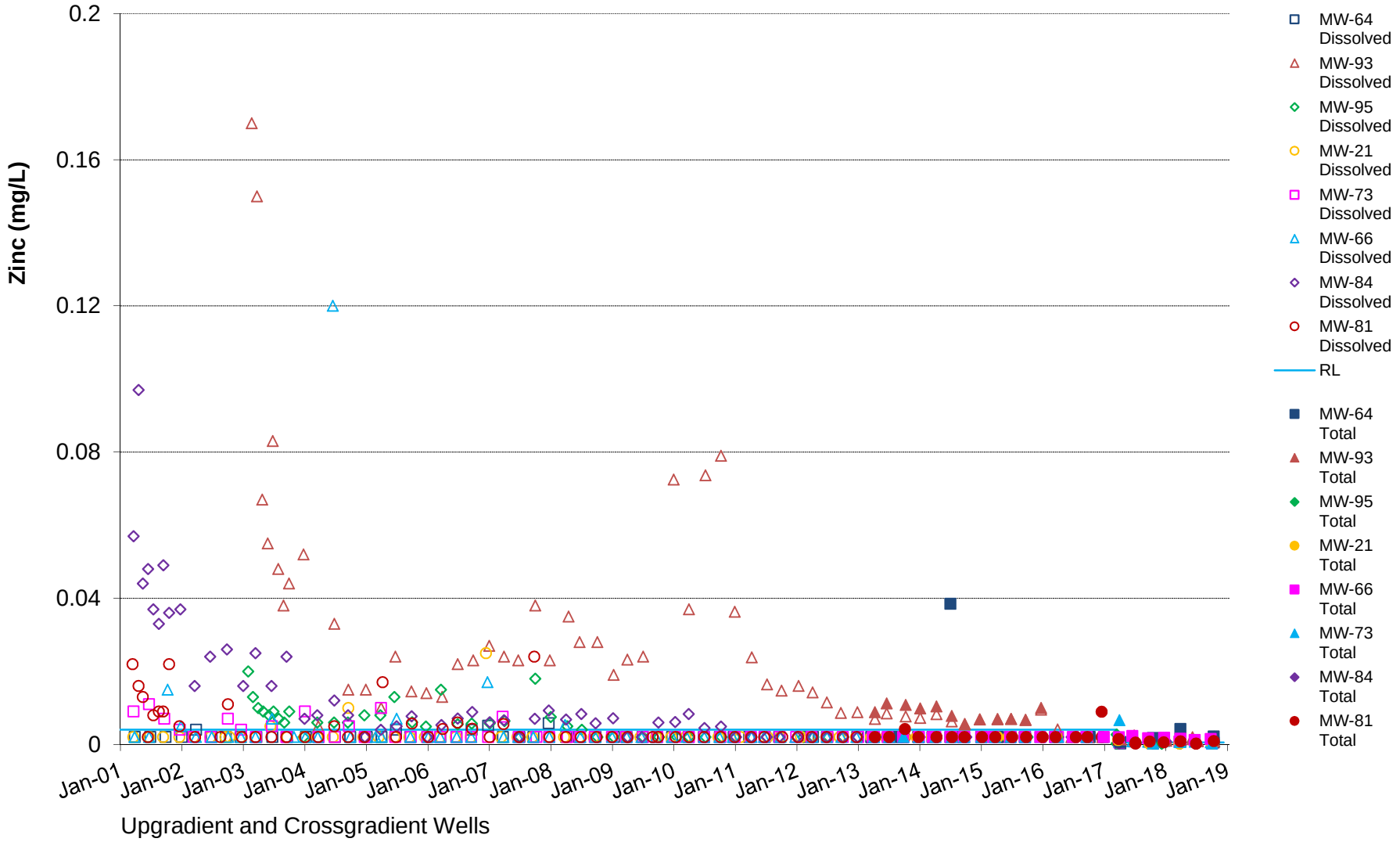

0.01
0.008
0.006
0.004
0.002
0
Vanadium (mg/L)
Jan-01
Jan-02
Jan-03
Jan-04
Jan-05
Jan-06
Jan-07
Jan-08
Jan-09
Jan-10
Jan-11
Jan-12
Jan-13
Jan-14
Jan-15
Jan-16
Jan-17
Jan-18
Jan-19
Upgradient Wells
MW-56 Dissolved
MW-59 Dissolved
MW-76 Dissolved
MW-82 Dissolved
MW-83 Dissolved
MW-94 Dissolved
MW-24 DIssolved
MW-65 Dissolved
RL
MW-56 Total
MW-59 Total
MW-76 Total
MW-82 Total
MW-83 Total
MW-94 Total
MW-24 Total
MW-65 Total

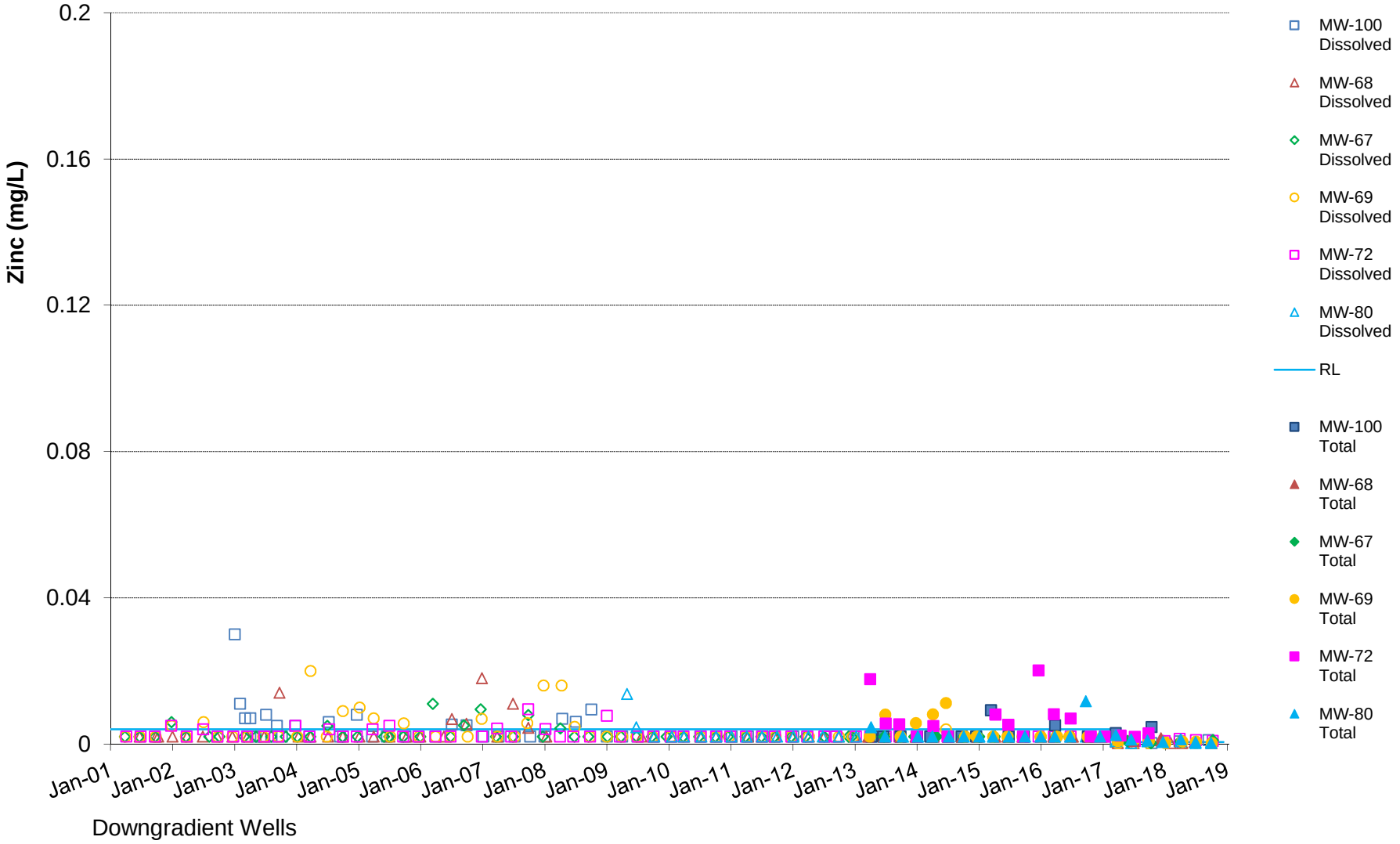

Vanadium (mg/L)
0.01
0.008
0.006
0.004
0.002
0
Jan-01
Jan-02
Jan-03
Jan-04
Jan-05
Jan-06
Jan-07
Jan-08
Jan-09
Jan-10
Jan-11
Jan-12
Jan-13
Jan-14
Jan-15
Jan-16
Jan-17
Jan-18
Jan-19
Upgradient and Crossgradient Wells
MW-64 Dissolved
MW-93 Dissolved
MW-95 Dissolved
MW-21 Dissolved
MW-73 Dissolved
MW-66 Dissolved
MW-84 Dissolved
MW-81 Dissolved
RL
MW-64 Total
MW-93 Total
MW-95 Total
MW-21 Total
MW-66 Total
MW-73 Total
MW-84 Total
MW-81 Total

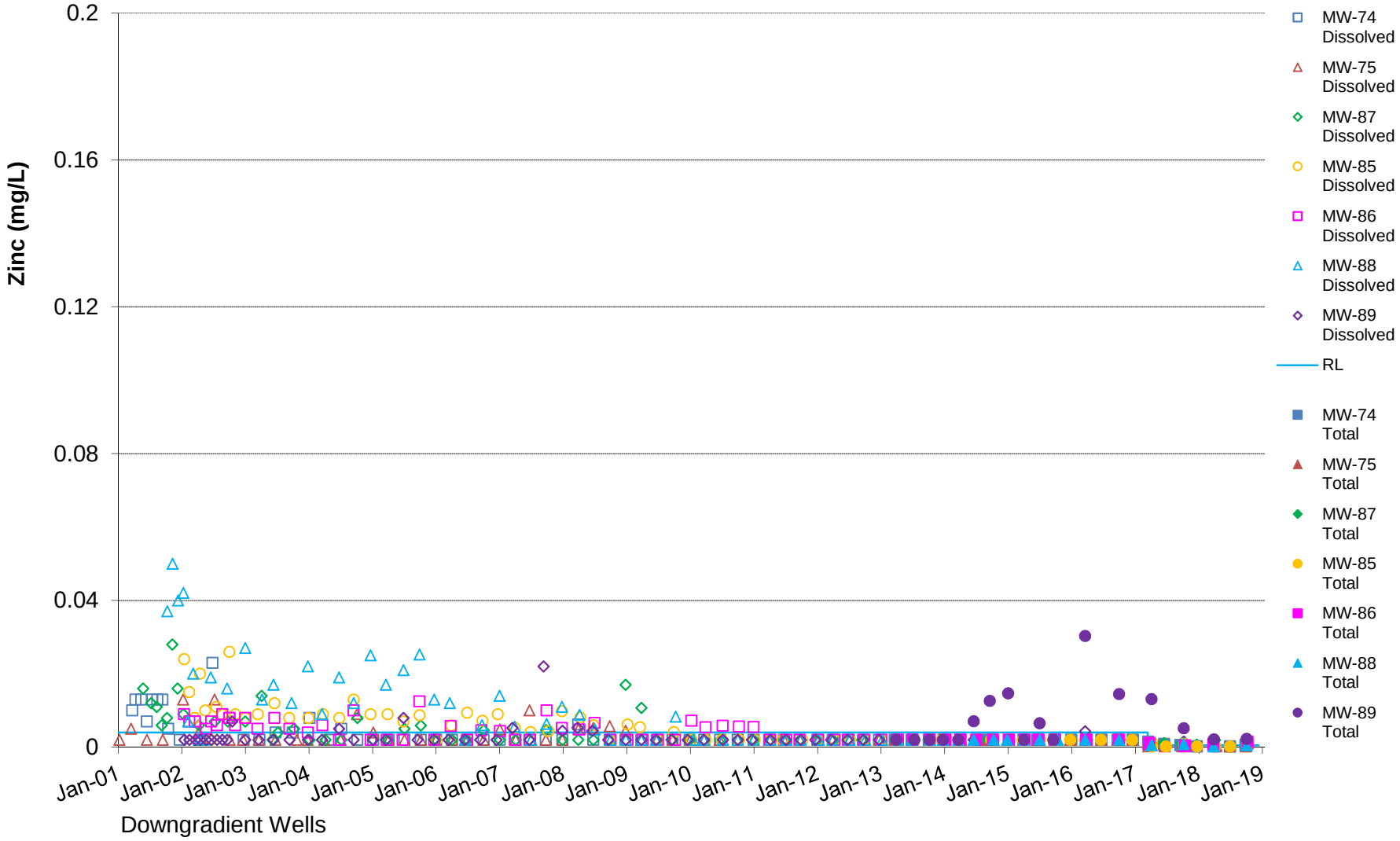

0.01
0.008
0.006
0.004
0.002
0
Vanadium (mg/L)
Jan-01
Jan-02
Jan-03
Jan-04
Jan-05
Jan-06
Jan-07
Jan-08
Jan-09
Jan-10
Jan-11
Jan-12
Jan-13
Jan-14
Jan-15
Jan-16
Jan-17
Jan-18
Jan-19
Downgradient Wells
MW-100 Dissolved
MW-68 Dissolved
MW-67 Dissolved
MW-69 Dissolved
MW-72 Dissolved
MW-80 Dissolved
RL
MW-100 Total
MW-68 Total
MW-67 Total
MW-69 Total
MW-72 Total
MW-80 Total

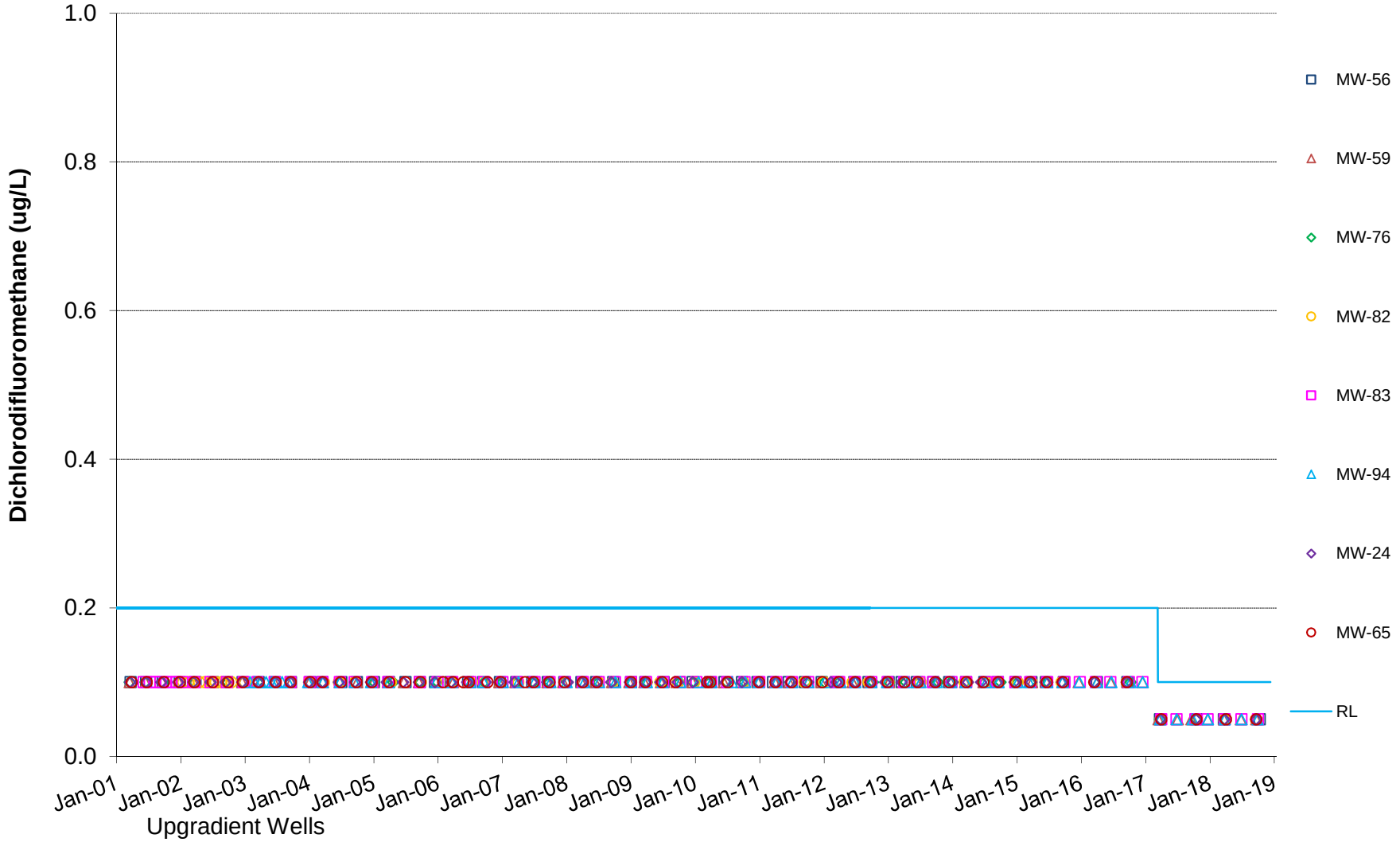

0.01
0.008
0.006
0.004
0.002
0
Vanadium (mg/L)
Jan-01
Jan-02
Jan-03
Jan-04
Jan-05
Jan-06
Jan-07
Jan-08
Jan-09
Jan-10
Jan-11
Jan-12
Jan-13
Jan-14
Jan-15
Jan-16
Jan-17
Jan-18
Jan-19
Downgradient Wells
MW-74 Dissolved
MW-75 Dissolved
MW-87 Dissolved
MW-85 Dissolved
MW-86 Dissolved
MW-88 Dissolved
MW-89 Dissolved
RL
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MW-85 Total
MW-86 Total
MW-88 Total
MW-89 Total

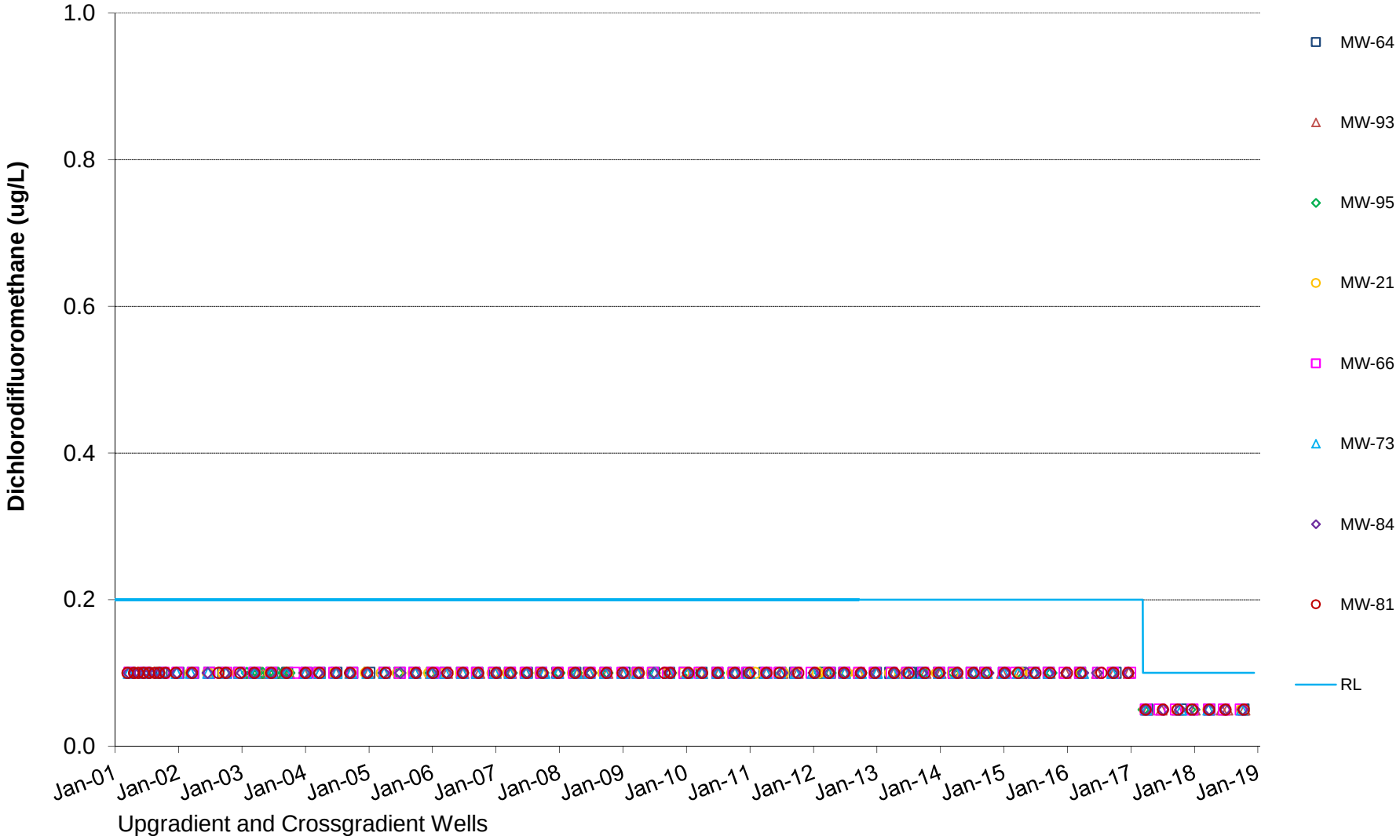

Zinc (mg/L)
0.2
0.16
0.12
0.08
0.04
0
Jan-01
Jan-02
Jan-03
Jan-04
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Jan-06
Jan-07
Jan-08
Jan-09
Jan-10
Jan-11
Jan-12
Jan-13
Jan-14
Jan-15
Jan-16
Jan-17
Jan-18
Jan-19
Upgradient Wells
MW-56 Dissolved
MW-59 Dissolved
MW-76 Dissolved
MW-82 Dissolved
MW-83 Dissolved
MW-94 Dissolved
MW-24 DIssolved
MW-65 Dissolved
RL
MW-56 Total
MW-59 Total
MW-76 Total
MW-82 Total
MW-83 Total
MW-94 Total
MW-24 Total
MW-65 Total

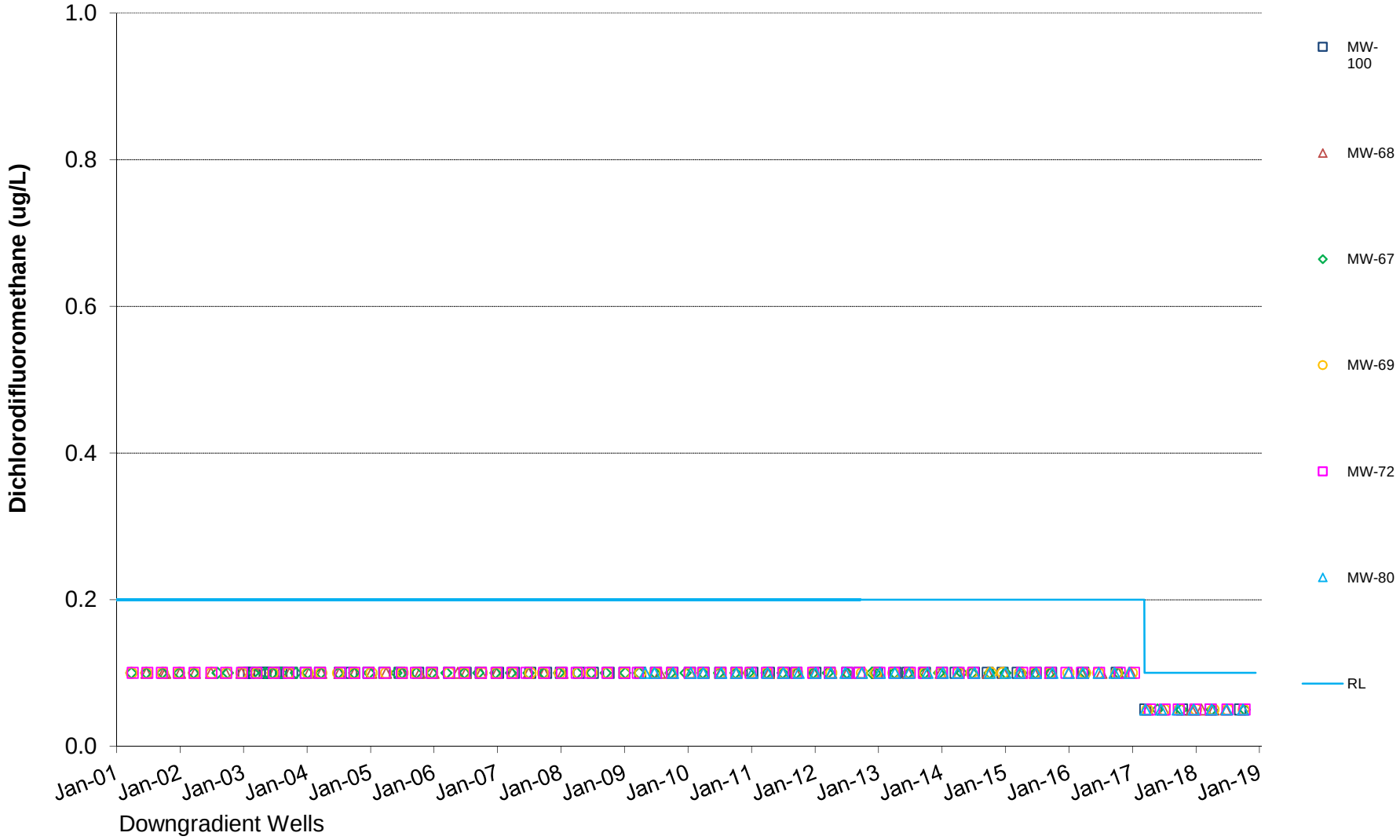

Zinc (mg/L)
0.2
0.16
0.12
0.08
0.04
0
Jan-01
Jan-02
Jan-03
Jan-04
Jan-05
Jan-06
Jan-07
Jan-08
Jan-09
Jan-10
Jan-11
Jan-12
Jan-13
Jan-14
Jan-15
Jan-16
Jan-17
Jan-18
Jan-19
Upgradient and Crossgradient Wells
MW-64 Dissolved
MW-93 Dissolved
MW-95 Dissolved
MW-21 Dissolved
MW-73 Dissolved
MW-66 Dissolved
MW-84 Dissolved
MW-81 Dissolved
RL
MW-64 Total
MW-93 Total
MW-95 Total
MW-21 Total
MW-66 Total
MW-73 Total
MW-84 Total
MW-81 Total

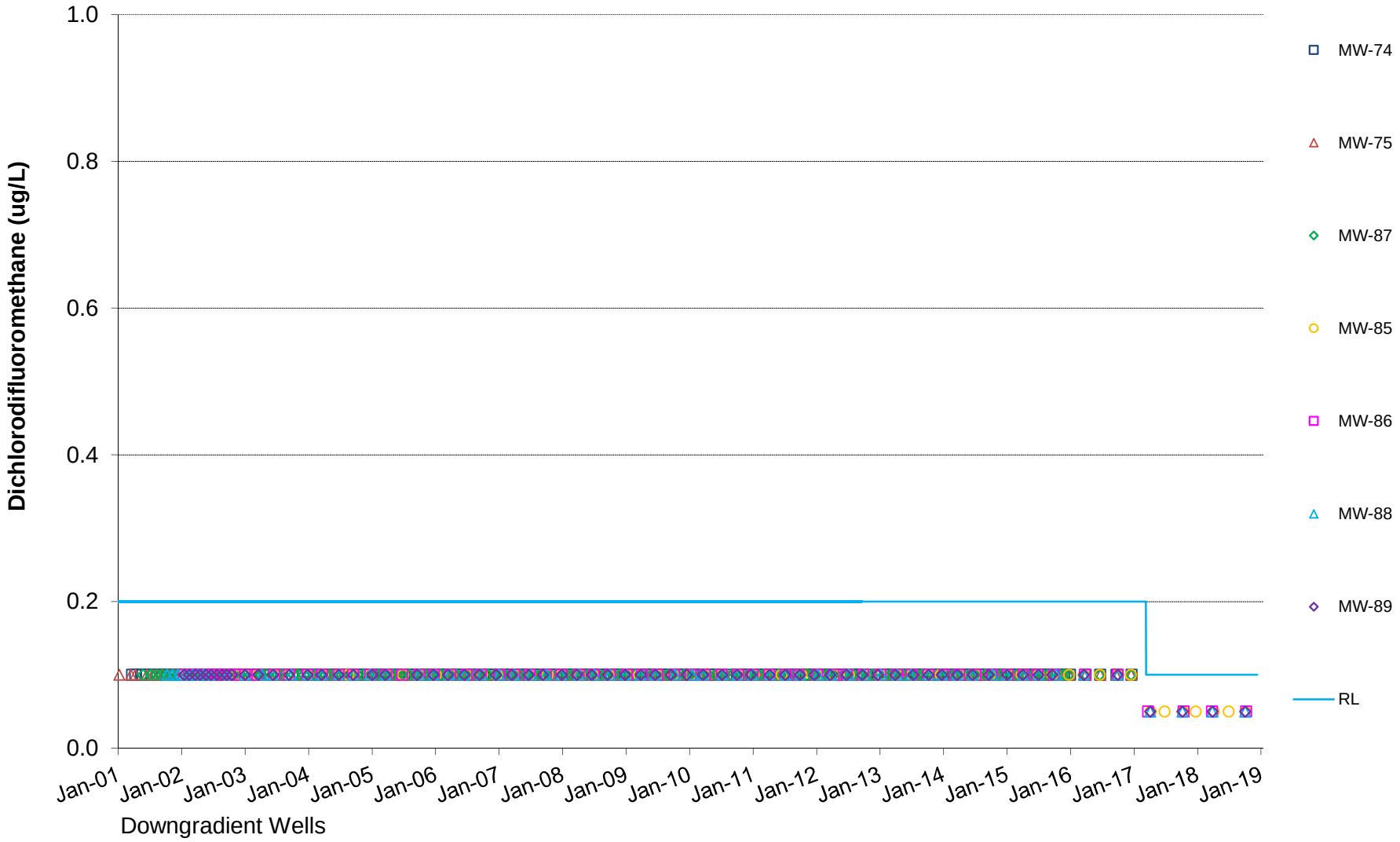

0.2
0.16
0.12
0.08
0.04
0
Zinc (mg/L)
Jan-01
Jan-02
Jan-03
Jan-04
Jan-05
Jan-06
Jan-07
Jan-08
Jan-09
Jan-10
Jan-11
Jan-12
Jan-13
Jan-14
Jan-15
Jan-16
Jan-17
Jan-18
Jan-19
Downgradient Wells
MW-100 Dissolved
MW-68 Dissolved
MW-67 Dissolved
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MW-80 Dissolved
RL
MW-100 Total
MW-68 Total
MW-67 Total
MW-69 Total
MW-72 Total
MW-80 Total

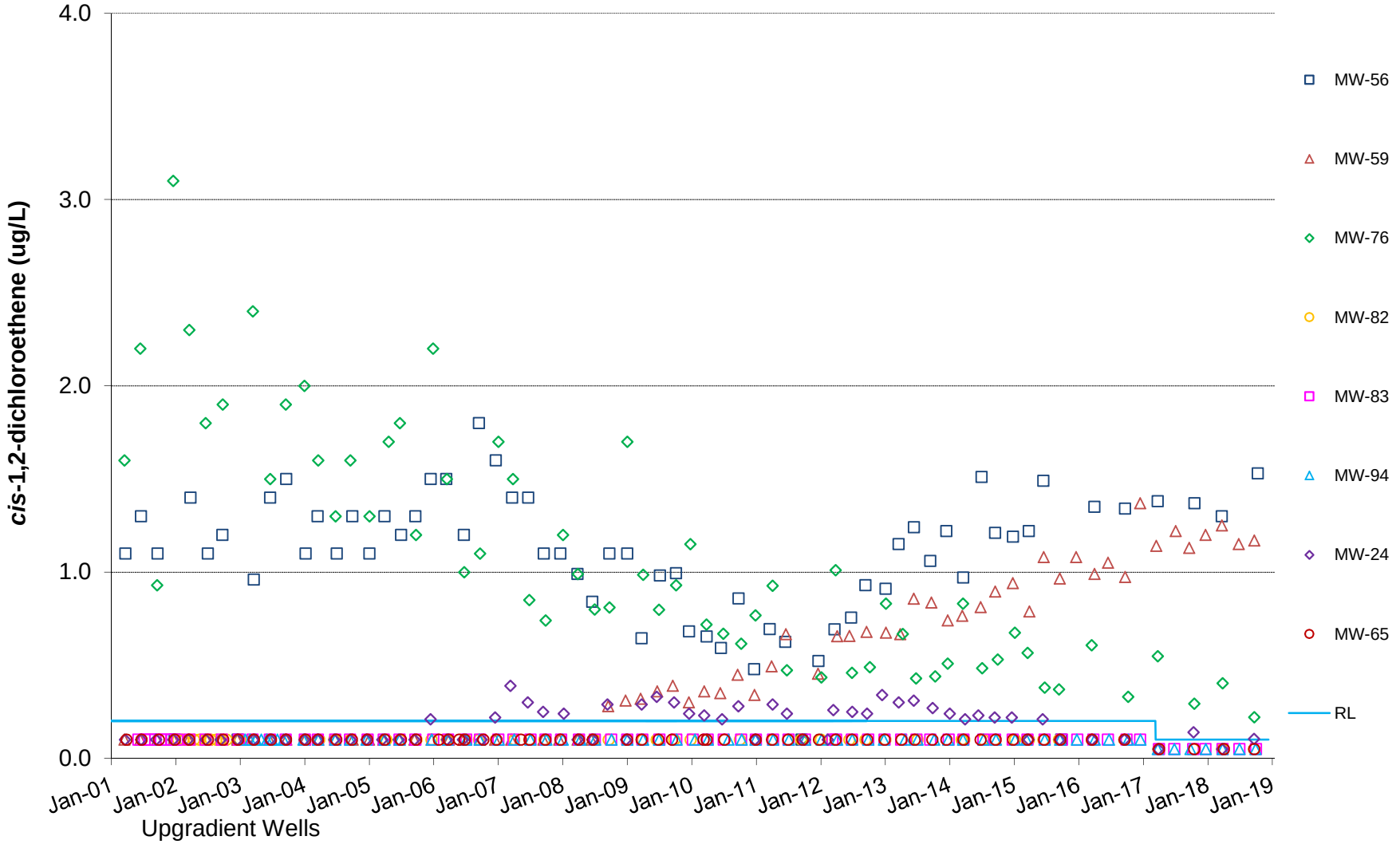

0.2
0.16
0.12
0.08
0.04
0
Zinc (mg/L)
Jan-01
Jan-02
Jan-03
Jan-04
Jan-05
Jan-06
Jan-07
Jan-08
Jan-09
Jan-10
Jan-11
Jan-12
Jan-13
Jan-14
Jan-15
Jan-16
Jan-17
Jan-18
Jan-19
Downgradient Wells
MW-74 Dissolved
MW-75 Dissolved
MW-87 Dissolved
MW-85 Dissolved
MW-86 Dissolved
MW-88 Dissolved
MW-89 Dissolved
RL
MW-74 Total
MW-75 Total
MW-87 Total
MW-85 Total
MW-86 Total
MW-88 Total
MW-89 Total

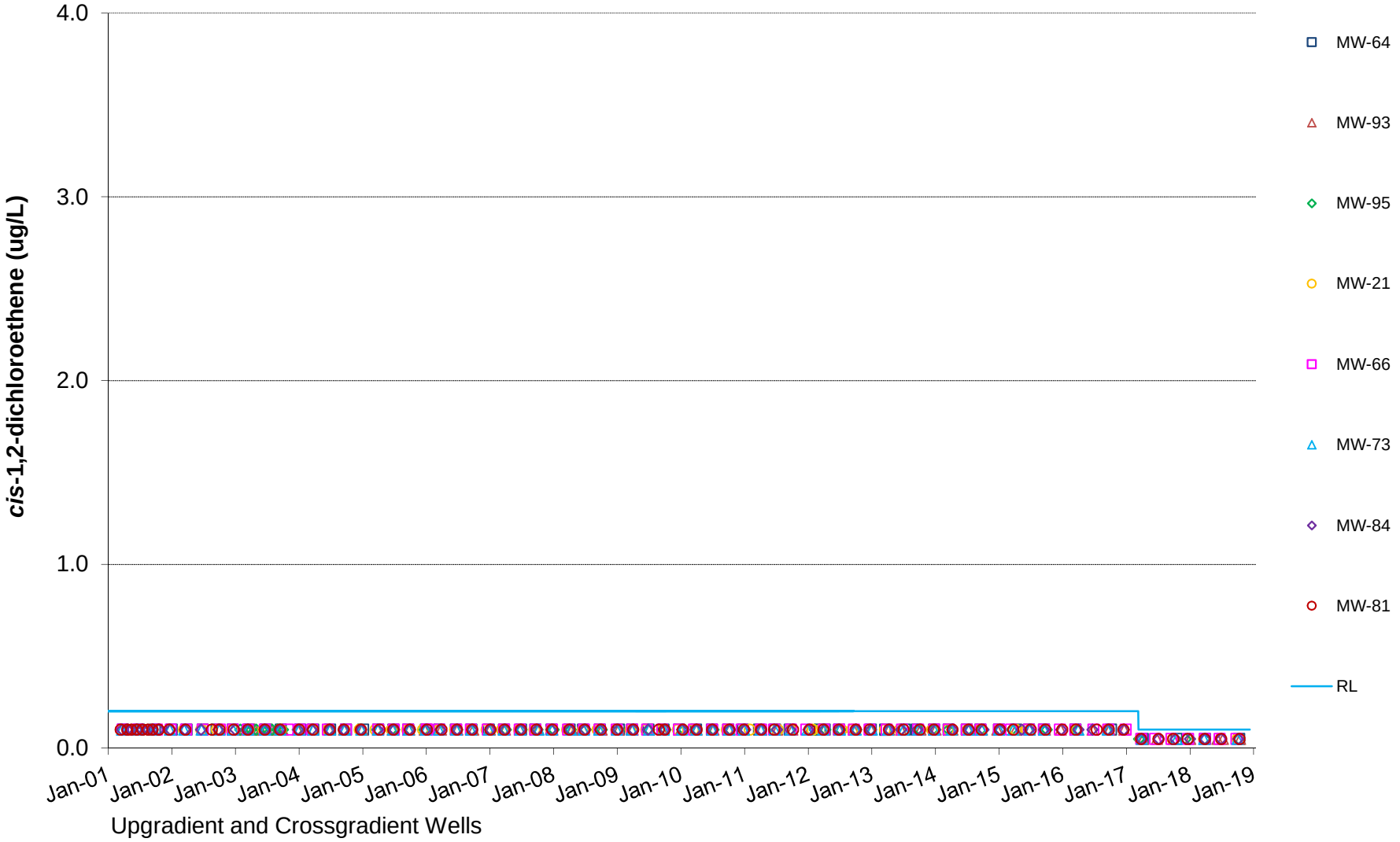

Dichlorodifluoromethane (ug/L)
1.0
0.8
0.6
0.4
0.2
0.0
Jan-01
Jan-02
Jan-03
Jan-04
Jan-05
Jan-06
Jan-07
Jan-08
Jan-09
Jan-10
Jan-11
Jan-12
Jan-13
Jan-14
Jan-15
Jan-16
Jan-17
Jan-18
Jan-19
Upgradient Wells
MW-56
MW-59
MW-76
MW-82
MW-83
MW-94
MW-24
MW-65
RL

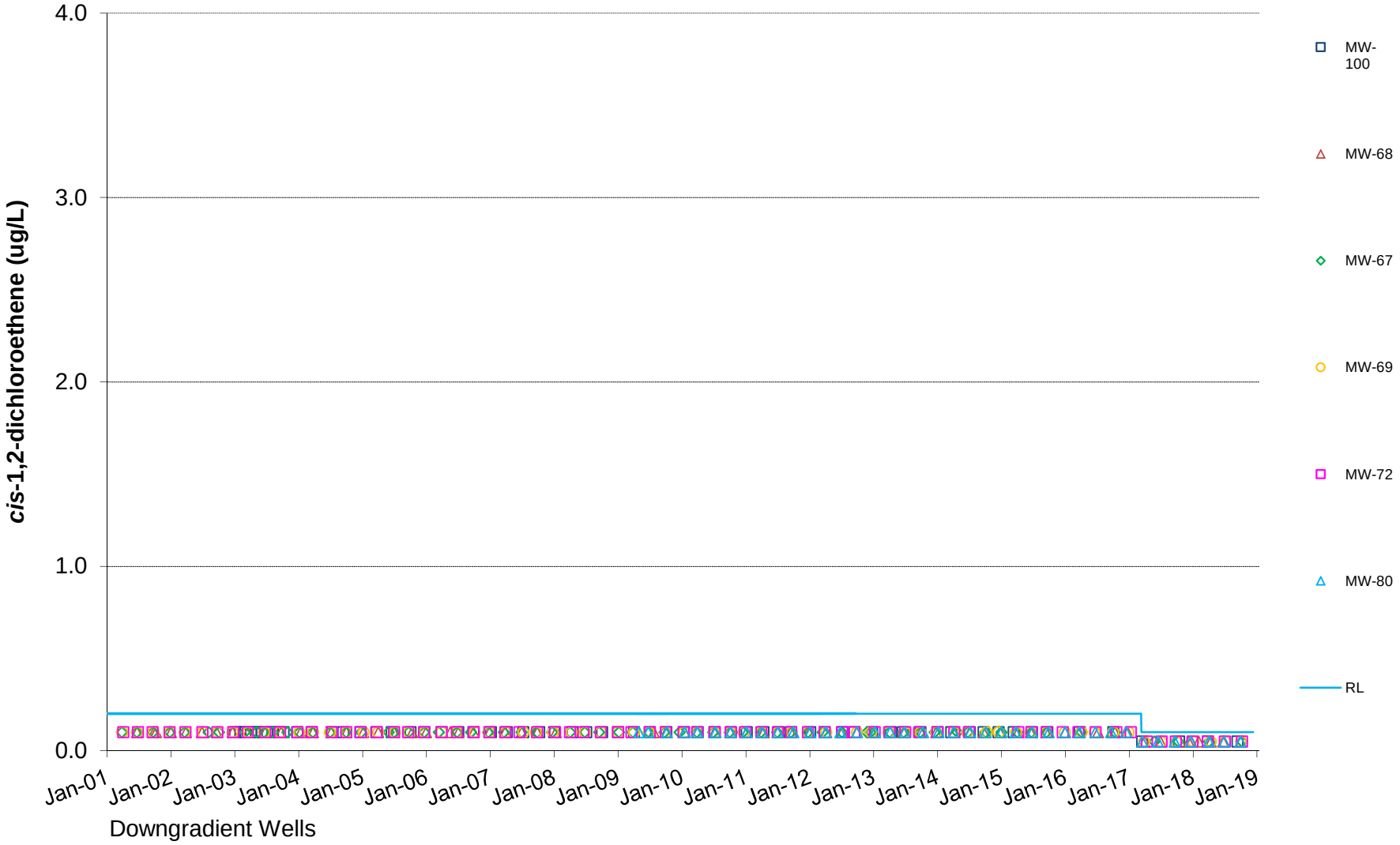

Dichlorodifluoromethane (ug/L)
1.0
0.8
0.6
0.4
0.2
0.0
Jan-01
Jan-02
Jan-03
Jan-04
Jan-05
Jan-06
Jan-07
Jan-08
Jan-09
Jan-10
Jan-11
Jan-12
Jan-13
Jan-14
Jan-15
Jan-16
Jan-17
Jan-18
Jan-19
Upgradient and Crossgradient Wells
MW-64
MW-93
MW-95
MW-21
MW-66
MW-73
MW-84
MW-81
RL

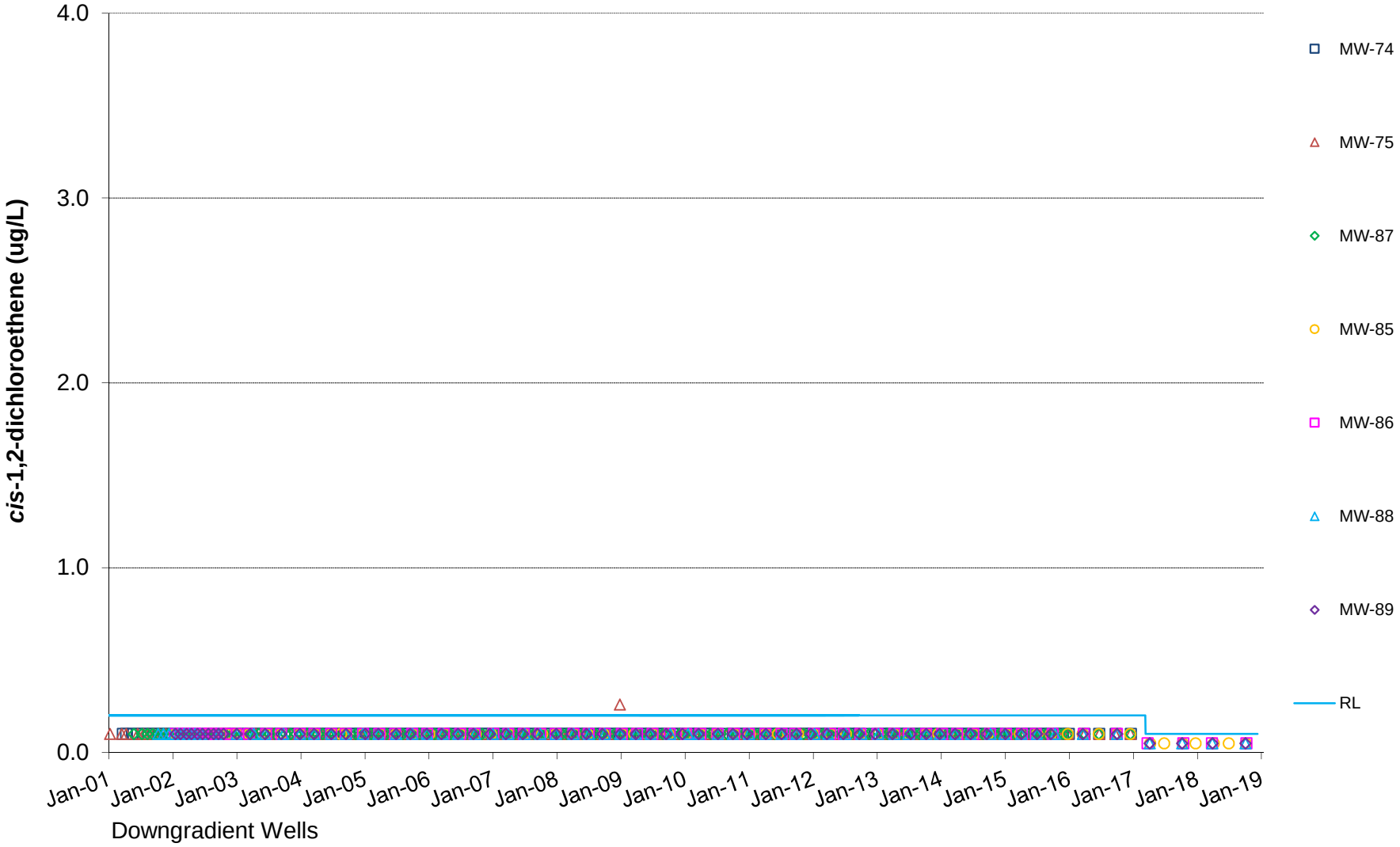

Dichlorodifluoromethane (ug/L)
1.0
0.8
0.6
0.4
0.2
0.0
Jan-01
Jan-02
Jan-03
Jan-04
Jan-05
Jan-06
Jan-07
Jan-08
Jan-09
Jan-10
Jan-11
Jan-12
Jan-13
Jan-14
Jan-15
Jan-16
Jan-17
Jan-18
Jan-19
Downgradient Wells
MW-100
MW-68
MW-67
MW-69
MW-72
MW-80
RL

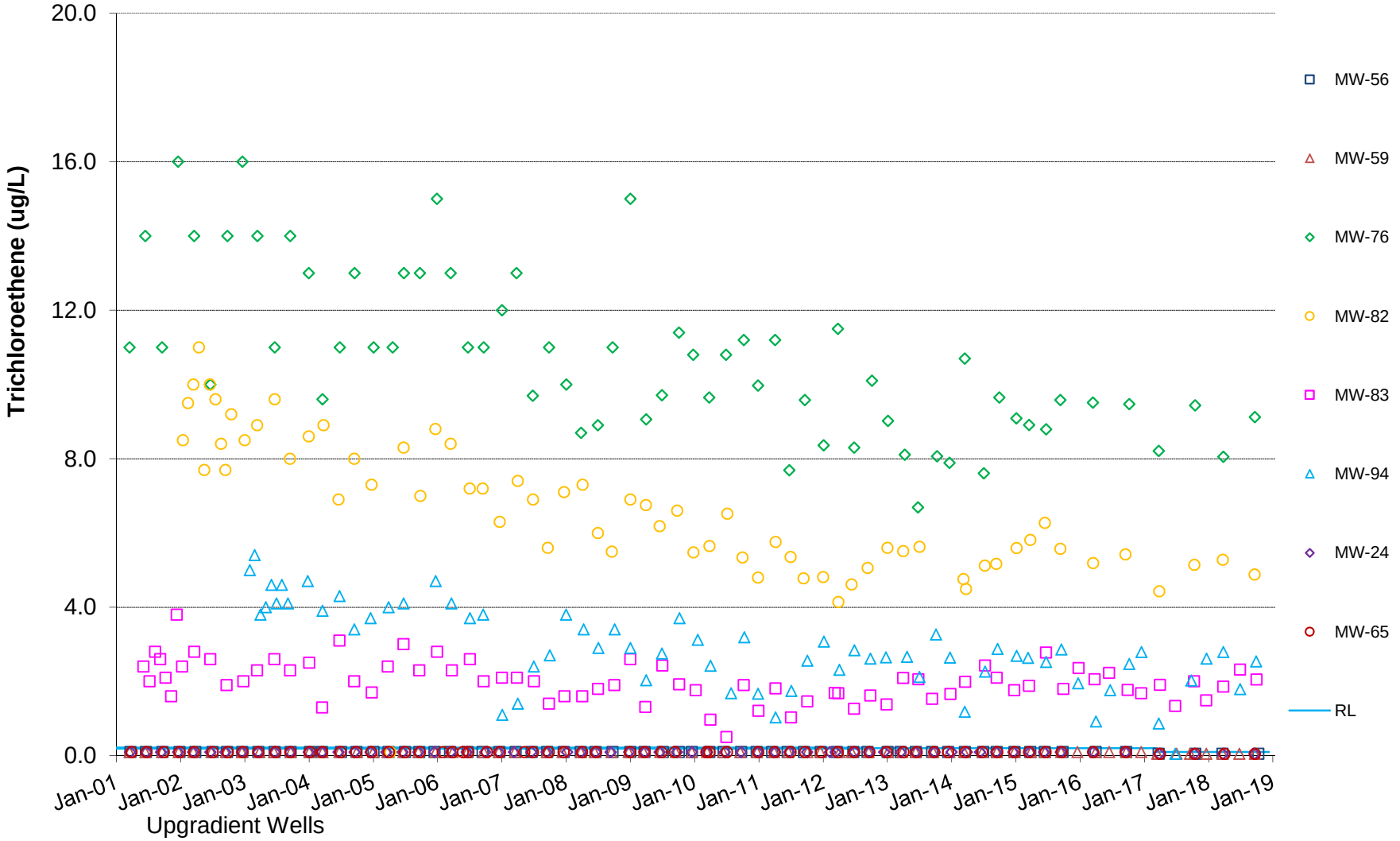

Dichlorodifluoromethane (ug/L)
1.0
0.8
0.6
0.4
0.2
0.0
Jan-01
Jan-02
Jan-03
Jan-04
Jan-05
Jan-06
Jan-07
Jan-08
Jan-09
Jan-10
Jan-11
Jan-12
Jan-13
Jan-14
Jan-15
Jan-16
Jan-17
Jan-18
Jan-19
Downgradient Wells
MW-74
MW-75
MW-87
MW-85
MW-86
MW-88
MW-89
RL

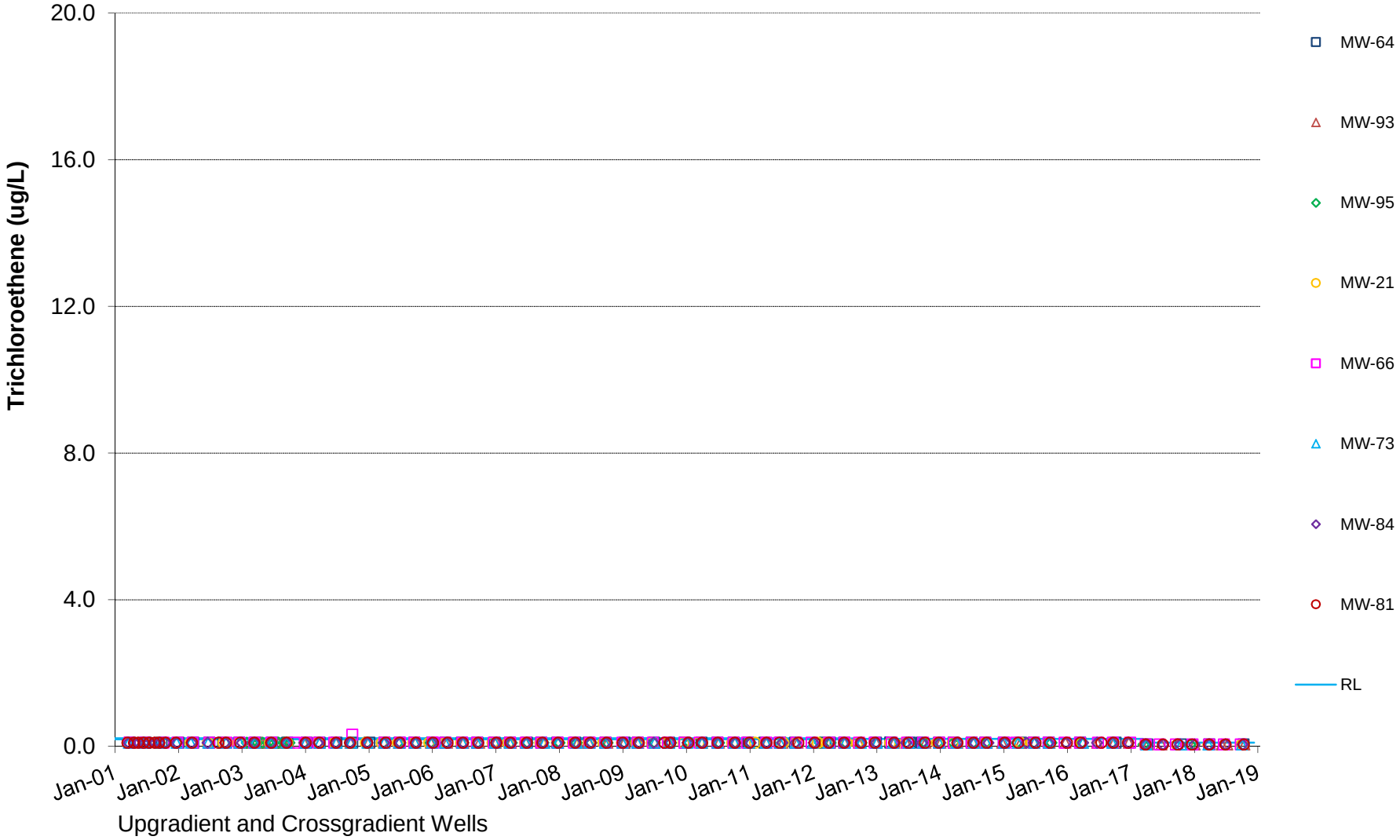

4.0
3.0
2.0
1.0
0.0
cis-1,2-dichloroethene (ug/L)
Jan-01
Jan-02
Jan-03
Jan-04
Jan-05
Jan-06
Jan-07
Jan-08
Jan-09
Jan-10
Jan-11
Jan-12
Jan-13
Jan-14
Jan-15
Jan-16
Jan-17
Jan-18
Jan-19
Upgradient Wells
MW-56
MW-59
MW-76
MW-82
MW-83
MW-94
MW-24
MW-65
RL

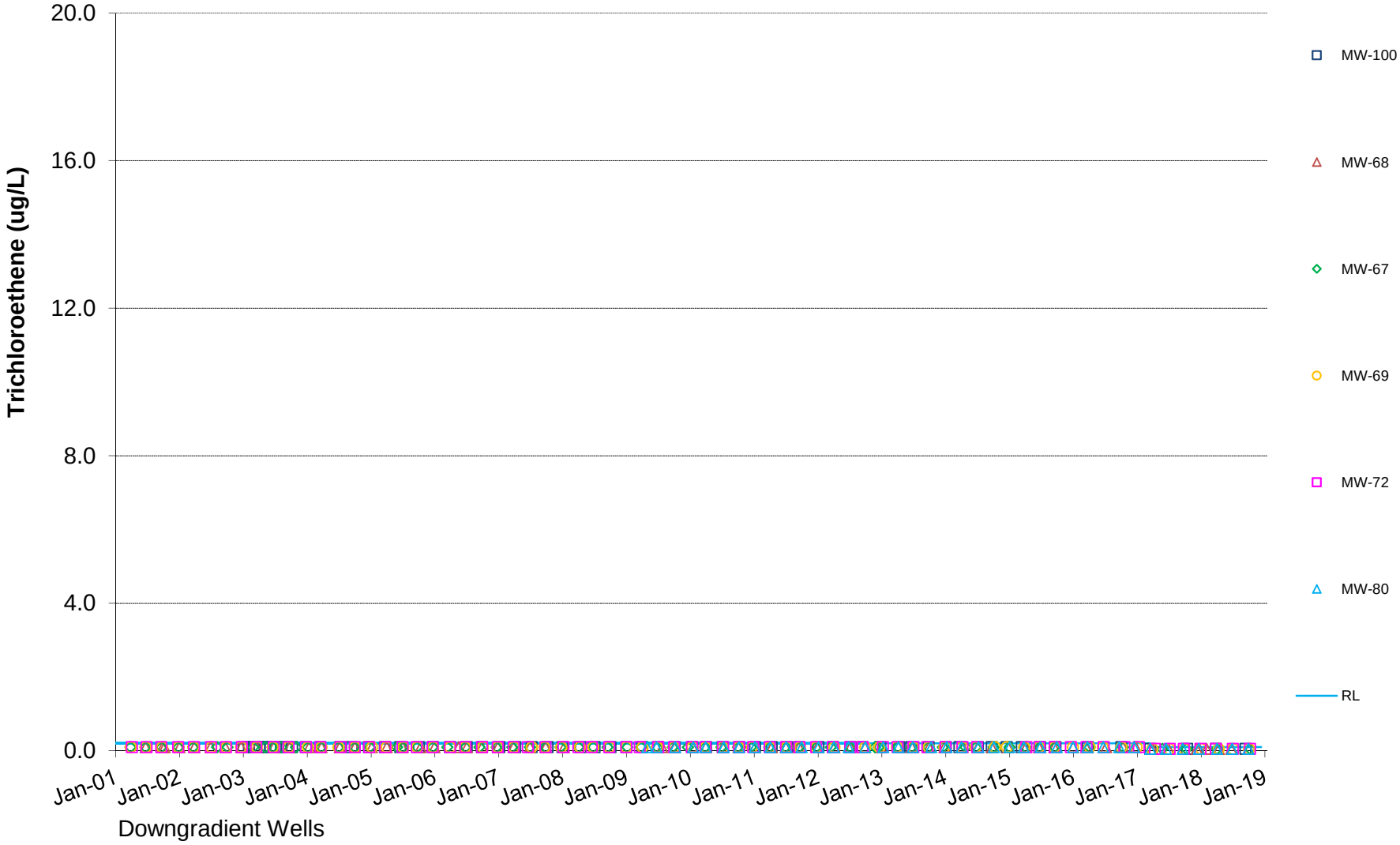

4.0
3.0
2.0
1.0
0.0
cis-1,2-dichloroethene (ug/L)
Jan-01
Jan-02
Jan-03
Jan-04
Jan-05
Jan-06
Jan-07
Jan-08
Jan-09
Jan-10
Jan-11
Jan-12
Jan-13
Jan-14
Jan-15
Jan-16
Jan-17
Jan-18
Jan-19
Upgradient and Crossgradient Wells
MW-64
MW-93
MW-95
MW-21
MW-66
MW-73
MW-84
MW-81
RL

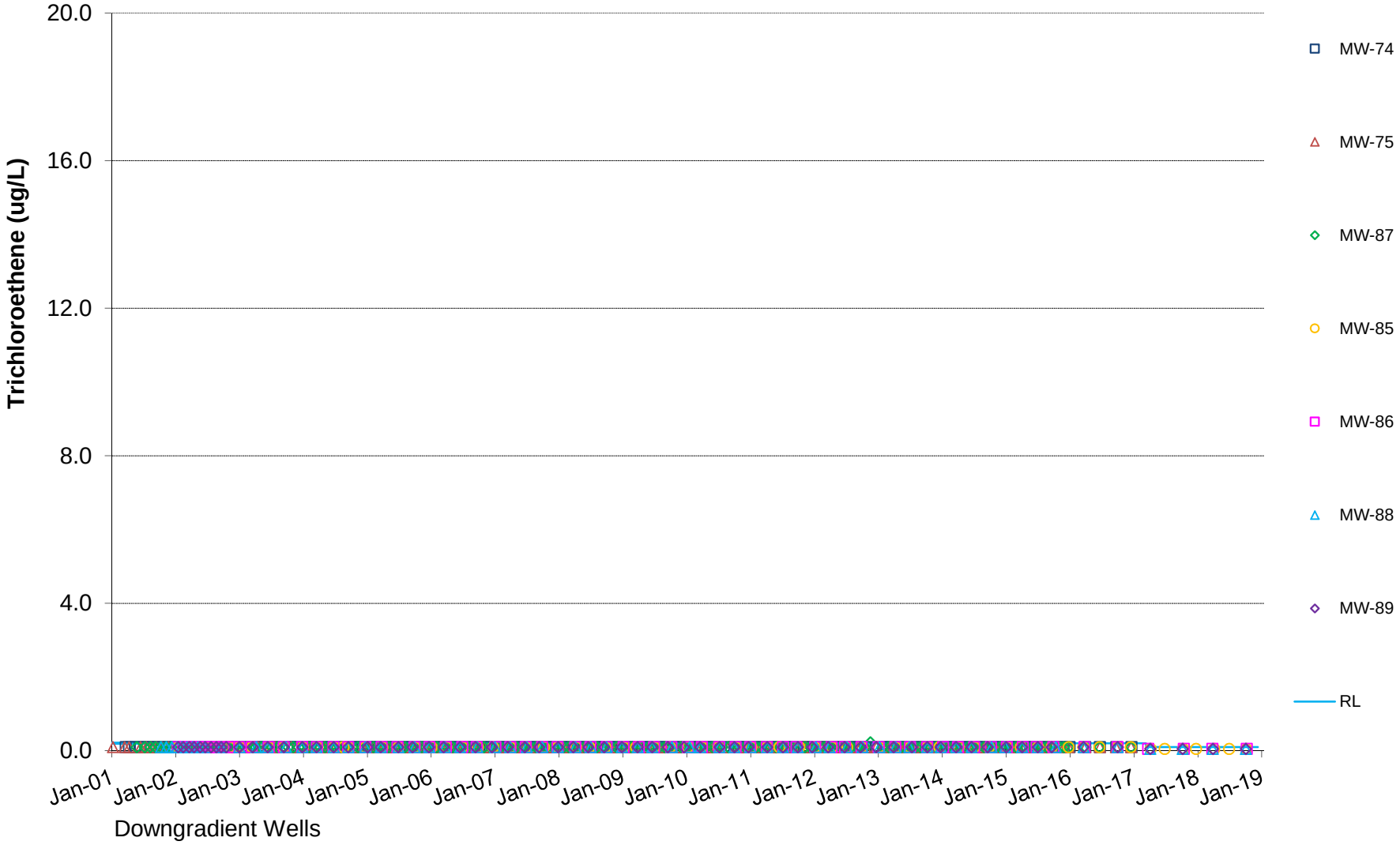

4.0
3.0
2.0
1.0
0.0
cis-1,2-dichloroethene (ug/L)
Jan-01
Jan-02
Jan-03
Jan-04
Jan-05
Jan-06
Jan-07
Jan-08
Jan-09
Jan-10
Jan-11
Jan-12
Jan-13
Jan-14
Jan-15
Jan-16
Jan-17
Jan-18
Jan-19
Downgradient Wells
MW-100
MW-68
MW-67
MW-69
MW-72
MW-80
RL

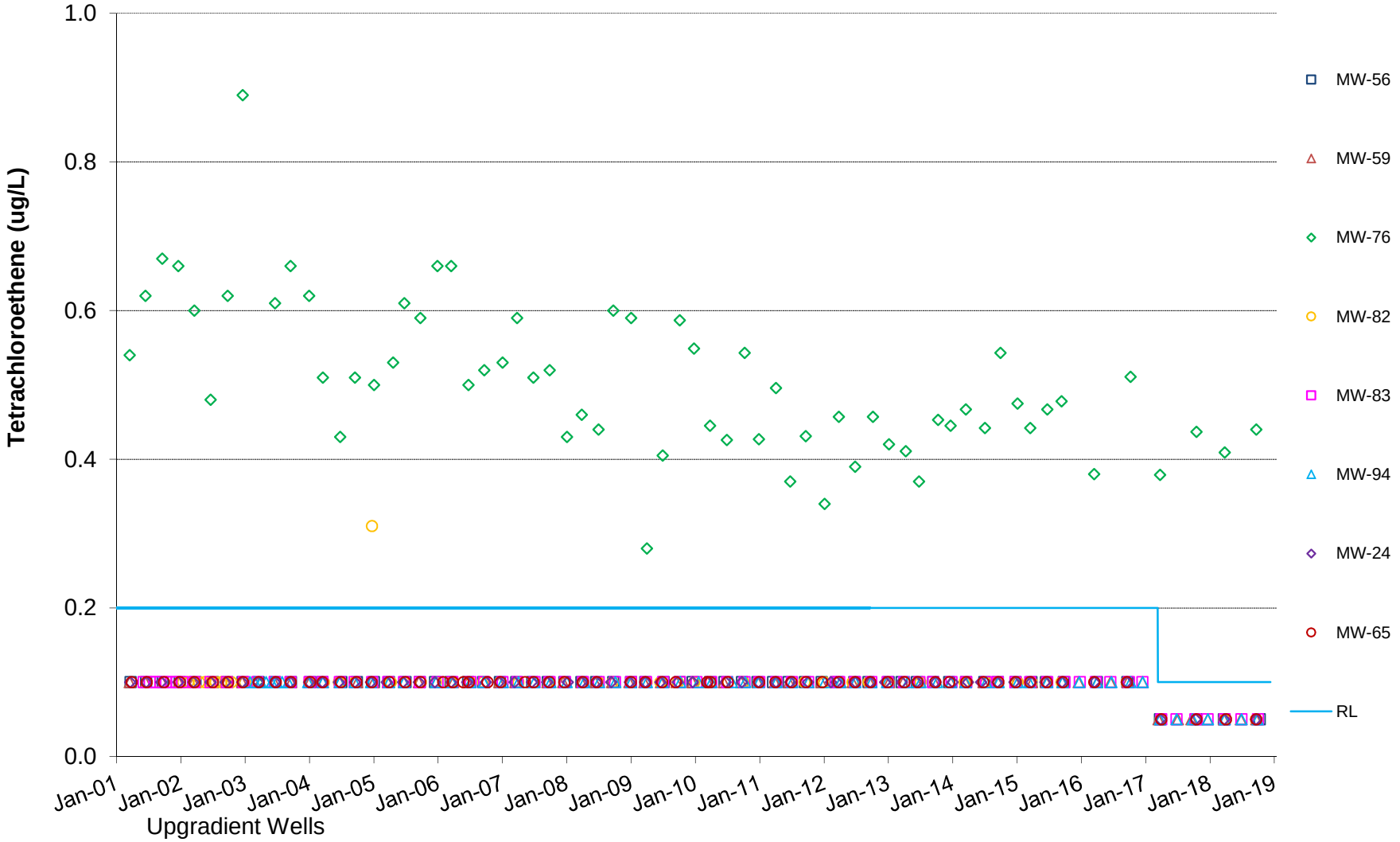

4.0
3.0
2.0
1.0
0.0
cis-1,2-dichloroethene (ug/L)
Jan-01
Jan-02
Jan-03
Jan-04
Jan-05
Jan-06
Jan-07
Jan-08
Jan-09
Jan-10
Jan-11
Jan-12
Jan-13
Jan-14
Jan-15
Jan-16
Jan-17
Jan-18
Jan-19
Downgradient Wells
MW-74
MW-75
MW-87
MW-85
MW-86
MW-88
MW-89
RL

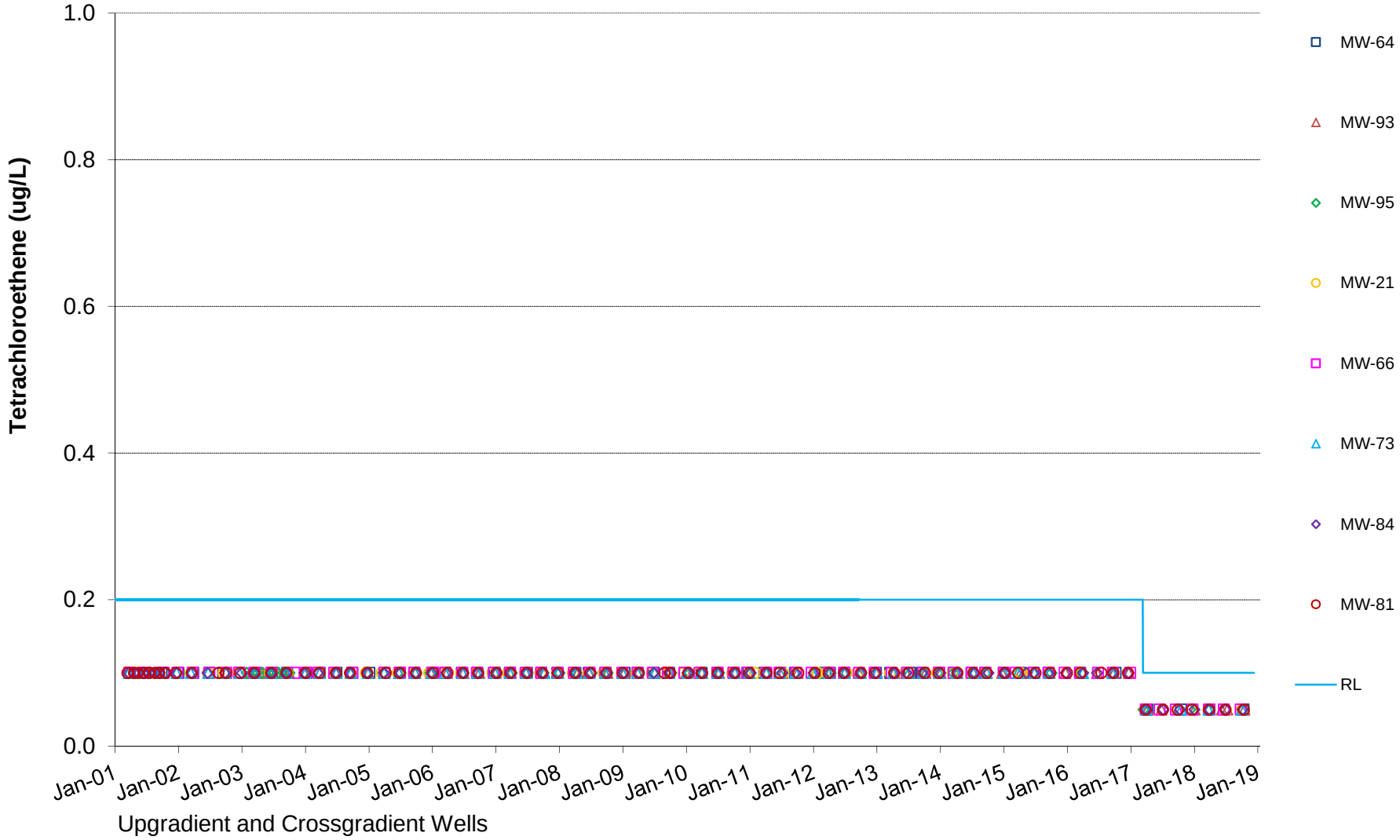

Trichloroethene (ug/L)
20.0
16.0
12.0
8.0
4.0
0.0
Jan-01
Jan-02
Jan-03
Jan-04
Jan-05
Jan-06
Jan-07
Jan-08
Jan-09
Jan-10
Jan-11
Jan-12
Jan-13
Jan-14
Jan-15
Jan-16
Jan-17
Jan-18
Jan-19
Upgradient Wells
MW-56
MW-59
MW-76
MW-82
MW-83
MW-94
MW-24
MW-65
RL

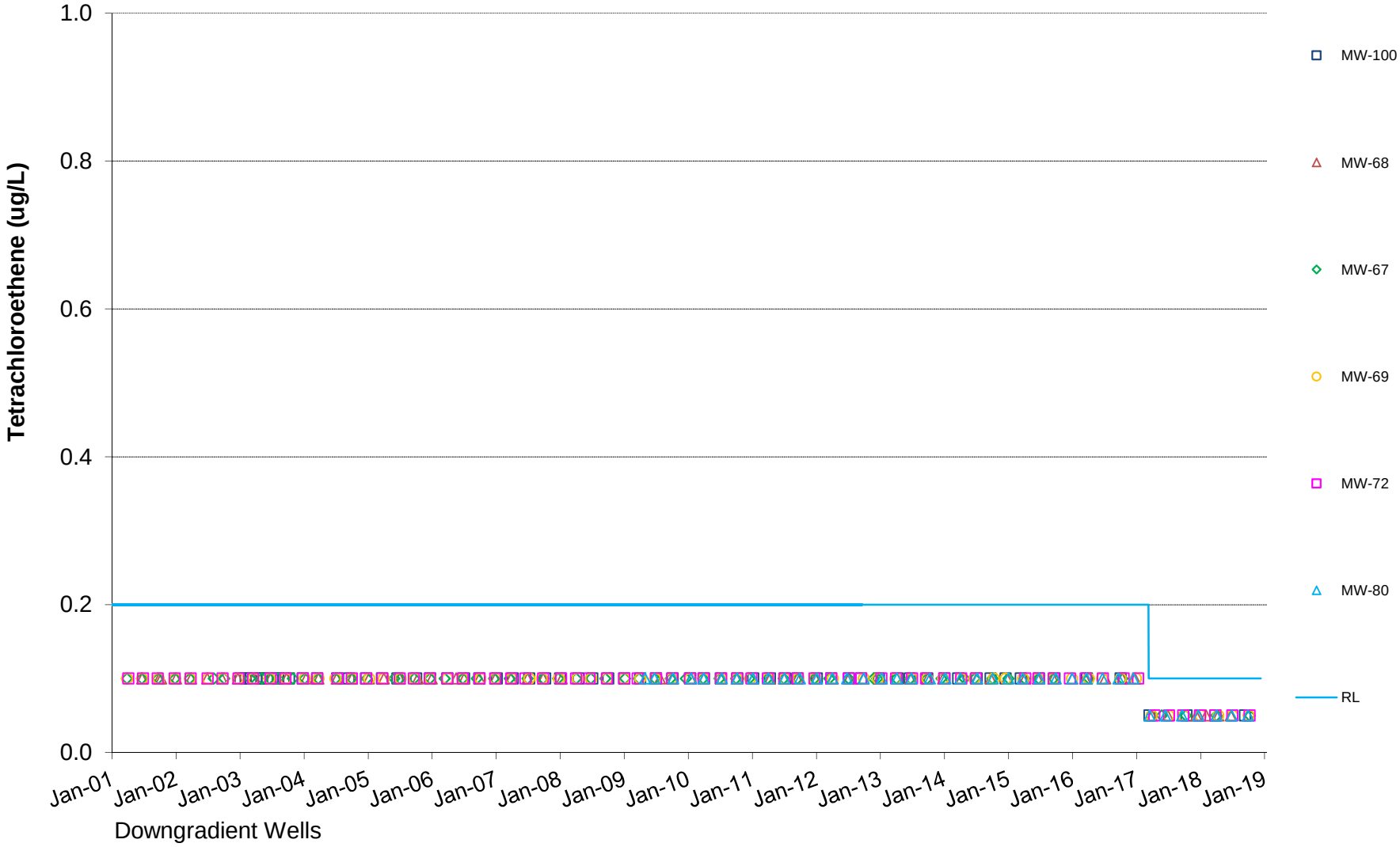

20.0
16.0
12.0
8.0
4.0
0.0
Trichloroethene (ug/L)
Jan-01
Jan-02
Jan-03
Jan-04
Jan-05
Jan-06
Jan-07
Jan-08
Jan-09
Jan-10
Jan-11
Jan-12
Jan-13
Jan-14
Jan-15
Jan-16
Jan-17
Jan-18
Jan-19
Upgradient and Crossgradient Wells
MW-64
MW-93
MW-95
MW-21
MW-66
MW-73
MW-84
MW-81
RL

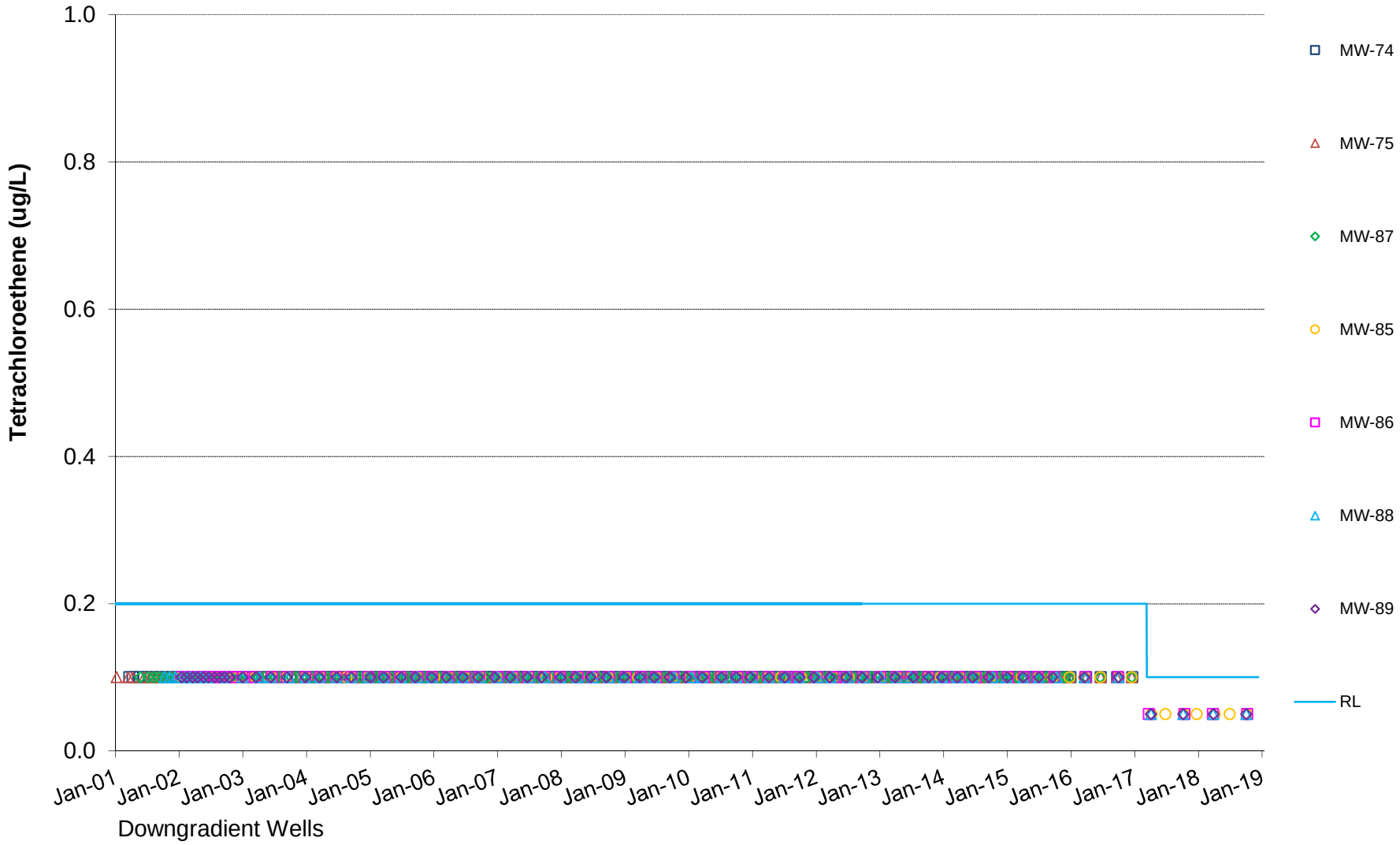

20.0
16.0
12.0
8.0
4.0
0.0
Trichloroethene (ug/L)
Jan-01
Jan-02
Jan-03
Jan-04
Jan-05
Jan-06
Jan-07
Jan-08
Jan-09
Jan-10
Jan-11
Jan-12
Jan-13
Jan-14
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Jan-19
Downgradient Wells
MW-100
MW-68
MW-67
MW-69
MW-72
MW-80
RL

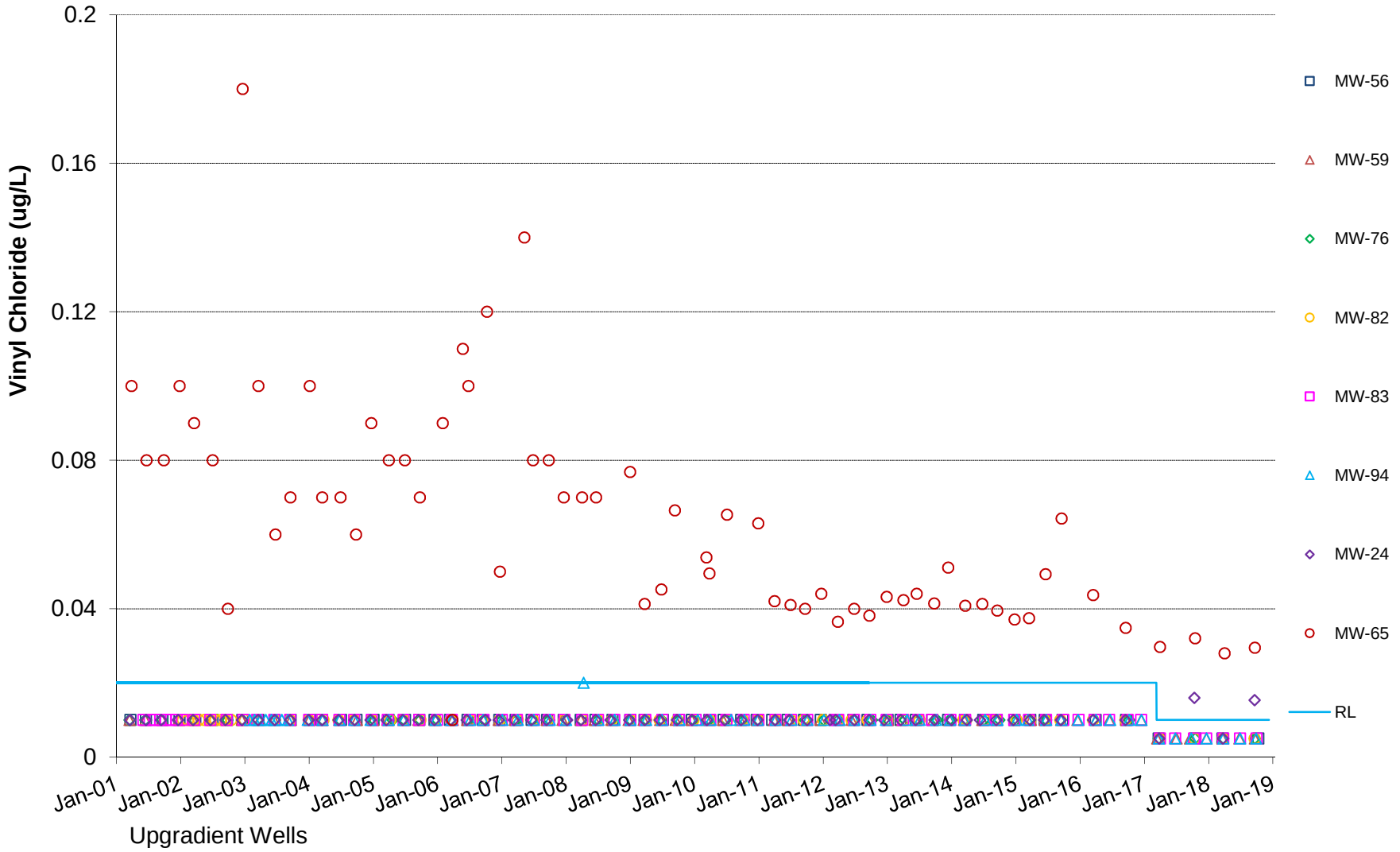

20.0
16.0
12.0
8.0
4.0
0.0
Trichloroethene (ug/L)
Jan-01
Jan-02
Jan-03
Jan-04
Jan-05
Jan-06
Jan-07
Jan-08
Jan-09
Jan-10
Jan-11
Jan-12
Jan-13
Jan-14
Jan-15
Jan-16
Jan-17
Jan-18
Jan-19
Downgradient Wells
MW-74
MW-75
MW-87
MW-85
MW-86
MW-88
MW-89
RL

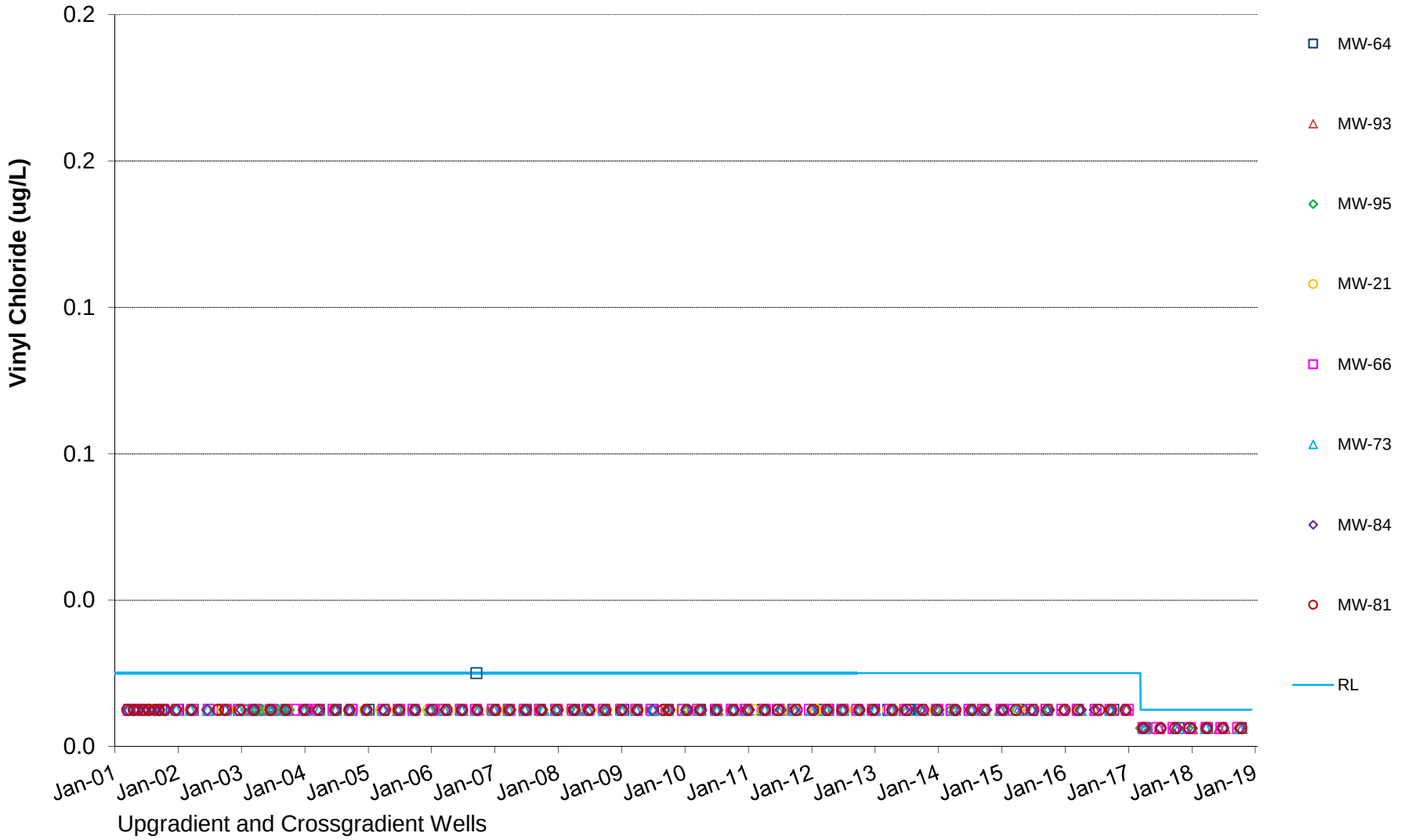

Tetrachloroethene (ug/L)
1.0
0.8
0.6
0.4
0.2
0.0
Jan-01
Jan-02
Jan-03
Jan-04
Jan-05
Jan-06
Jan-07
Jan-08
Jan-09
Jan-10
Jan-11
Jan-12
Jan-13
Jan-14
Jan-15
Jan-16
Jan-17
Jan-18
Jan-19
Upgradient Wells
MW-56
MW-59
MW-76
MW-82
MW-83
MW-94
MW-24
MW-65
RL

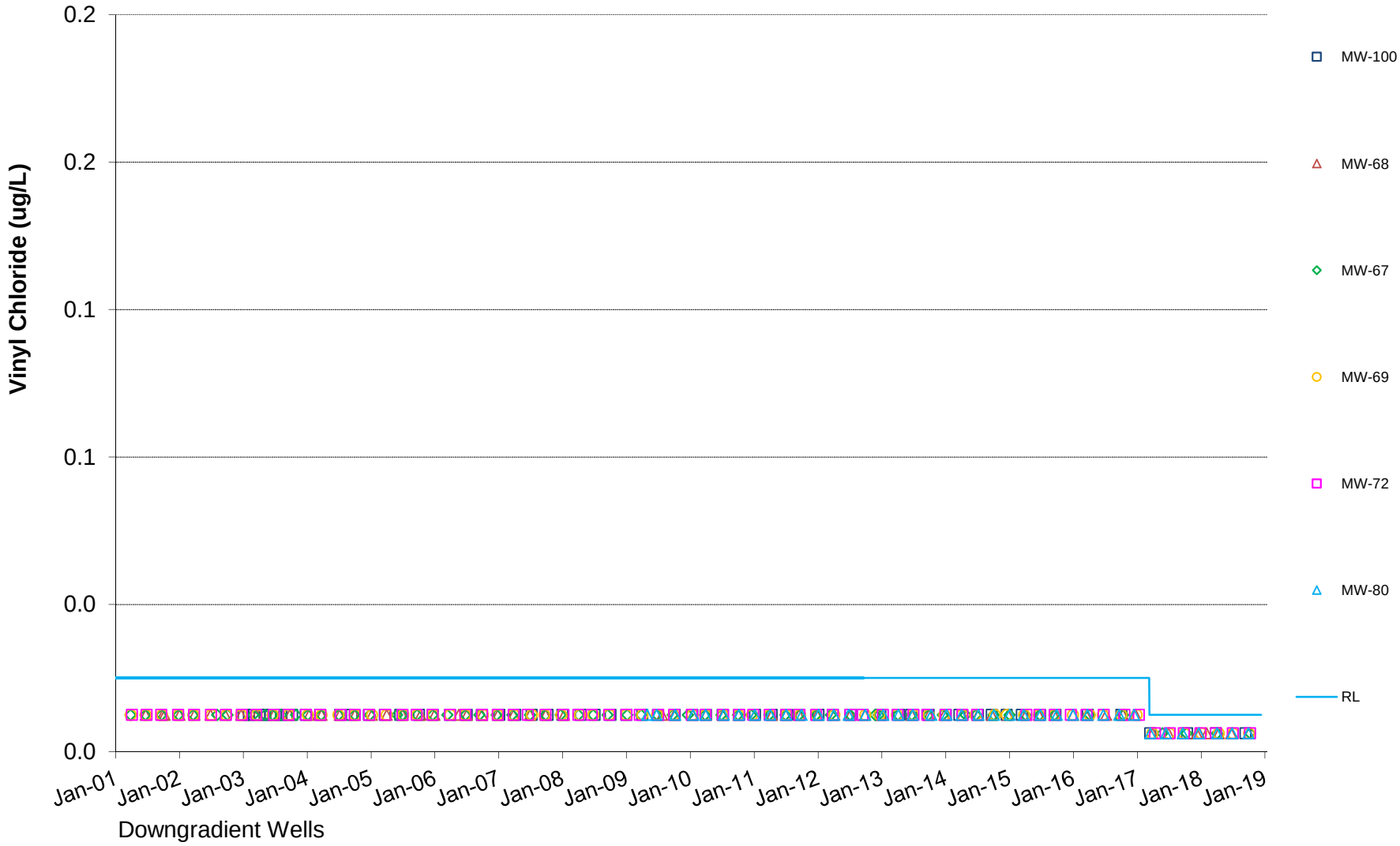

Tetrachloroethene (ug/L)
1.0
0.8
0.6
0.4
0.2
0.0
Jan-01
Jan-02
Jan-03
Jan-04
Jan-05
Jan-06
Jan-07
Jan-08
Jan-09
Jan-10
Jan-11
Jan-12
Jan-13
Jan-14
Jan-15
Jan-16
Jan-17
Jan-18
Jan-19
Upgradient and Crossgradient Wells
MW-64
MW-93
MW-95
MW-21
MW-66
MW-73
MW-84
MW-81
RL

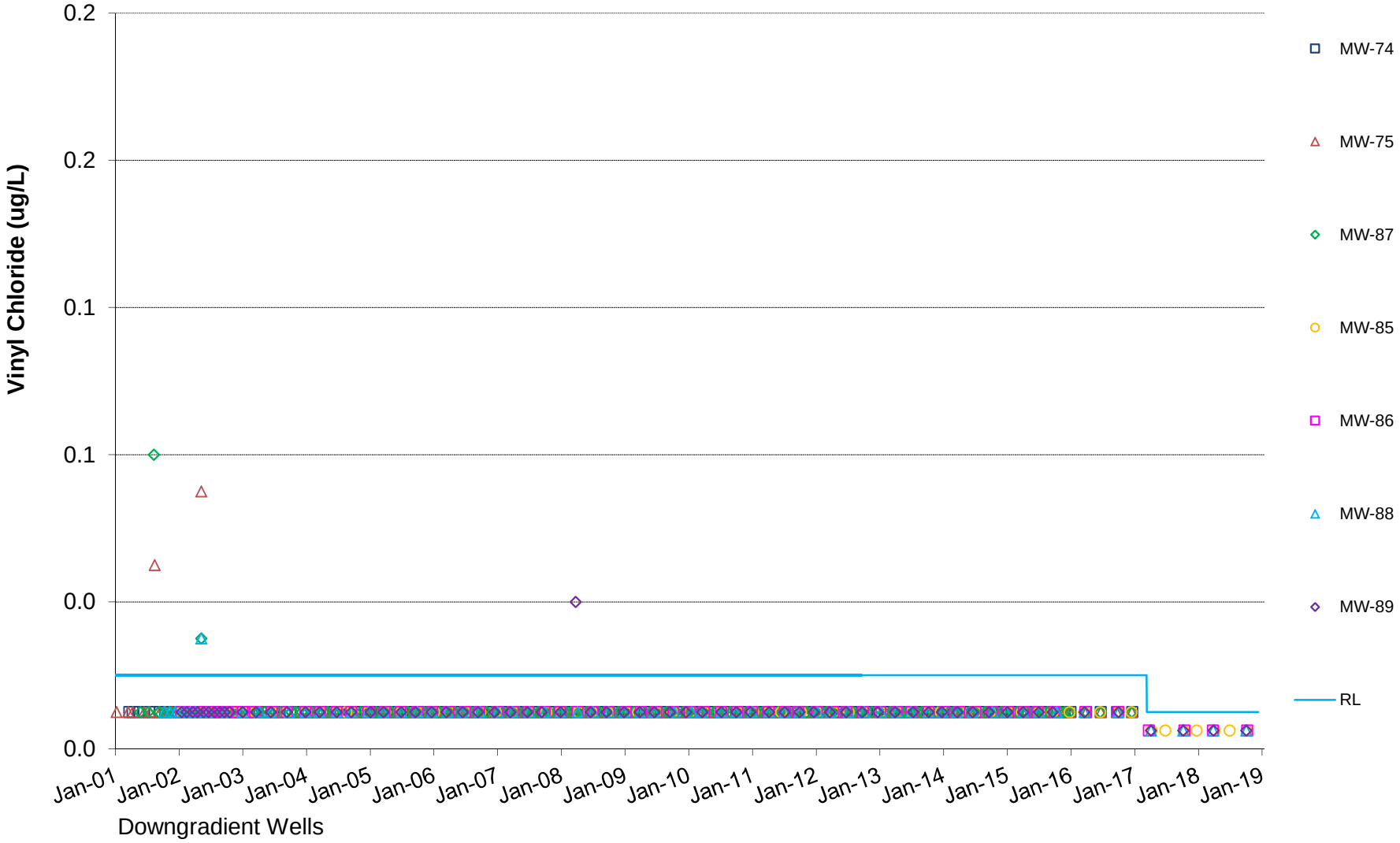

1.0
0.8
0.6
0.4
0.2
0.0
Tetrachloroethene (ug/L)
Jan-01
Jan-02
Jan-03
Jan-04
Jan-05
Jan-06
Jan-07
Jan-08
Jan-09
Jan-10
Jan-11
Jan-12
Jan-13
Jan-14
Jan-15
Jan-16
Jan-17
Jan-18
Jan-19
Downgradient Wells
MW-100
MW-68
MW-67
MW-69
MW-72
MW-80
RL

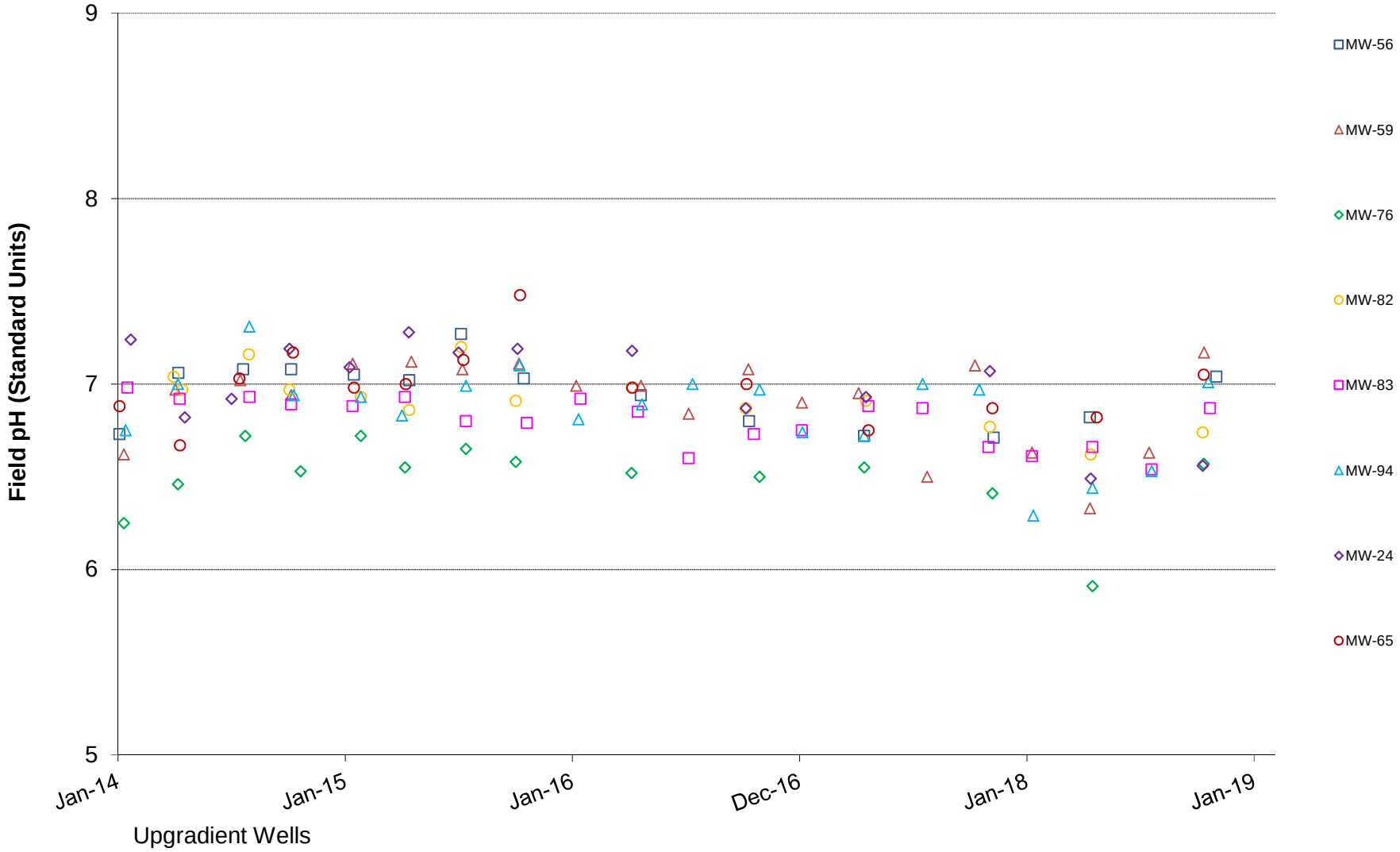

1.0
0.8
0.6
0.4
0.2
0.0
Tetrachloroethene (ug/L)
Jan-01
Jan-02
Jan-03
Jan-04
Jan-05
Jan-06
Jan-07
Jan-08
Jan-09
Jan-10
Jan-11
Jan-12
Jan-13
Jan-14
Jan-15
Jan-16
Jan-17
Jan-18
Jan-19
Downgradient Wells
MW-74
MW-75
MW-87
MW-85
MW-86
MW-88
MW-89
RL

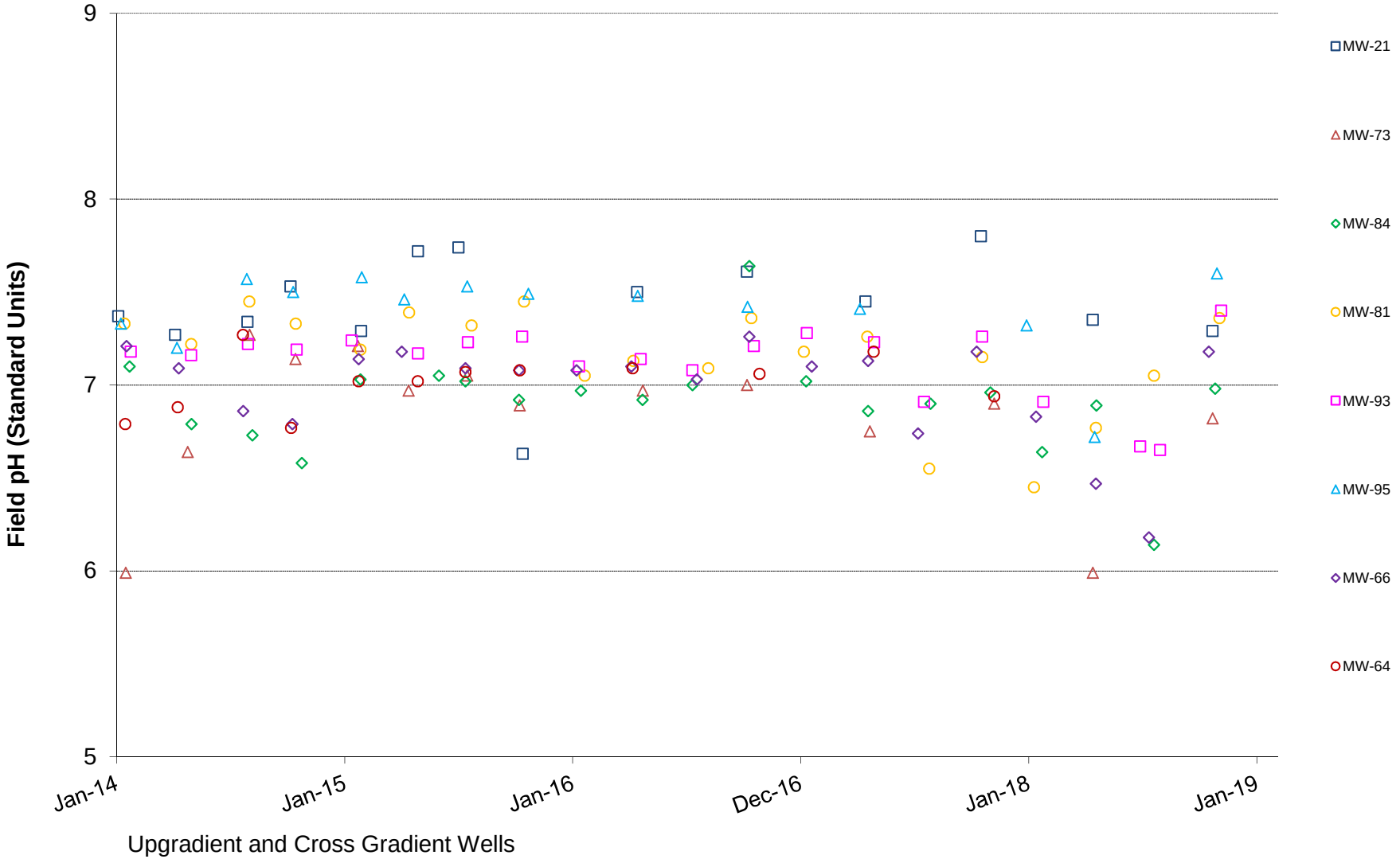

0.2
0.16
0.12
0.08
0.04
0
Vinyl Chloride (ug/L)
Jan-01
Jan-02
Jan-03
Jan-04
Jan-05
Jan-06
Jan-07
Jan-08
Jan-09
Jan-10
Jan-11
Jan-12
Jan-13
Jan-14
Jan-15
Jan-16
Jan-17
Jan-18
Jan-19
Upgradient Wells
MW-56
MW-59
MW-76
MW-82
MW-83
MW-94
MW-24
MW-65
RL

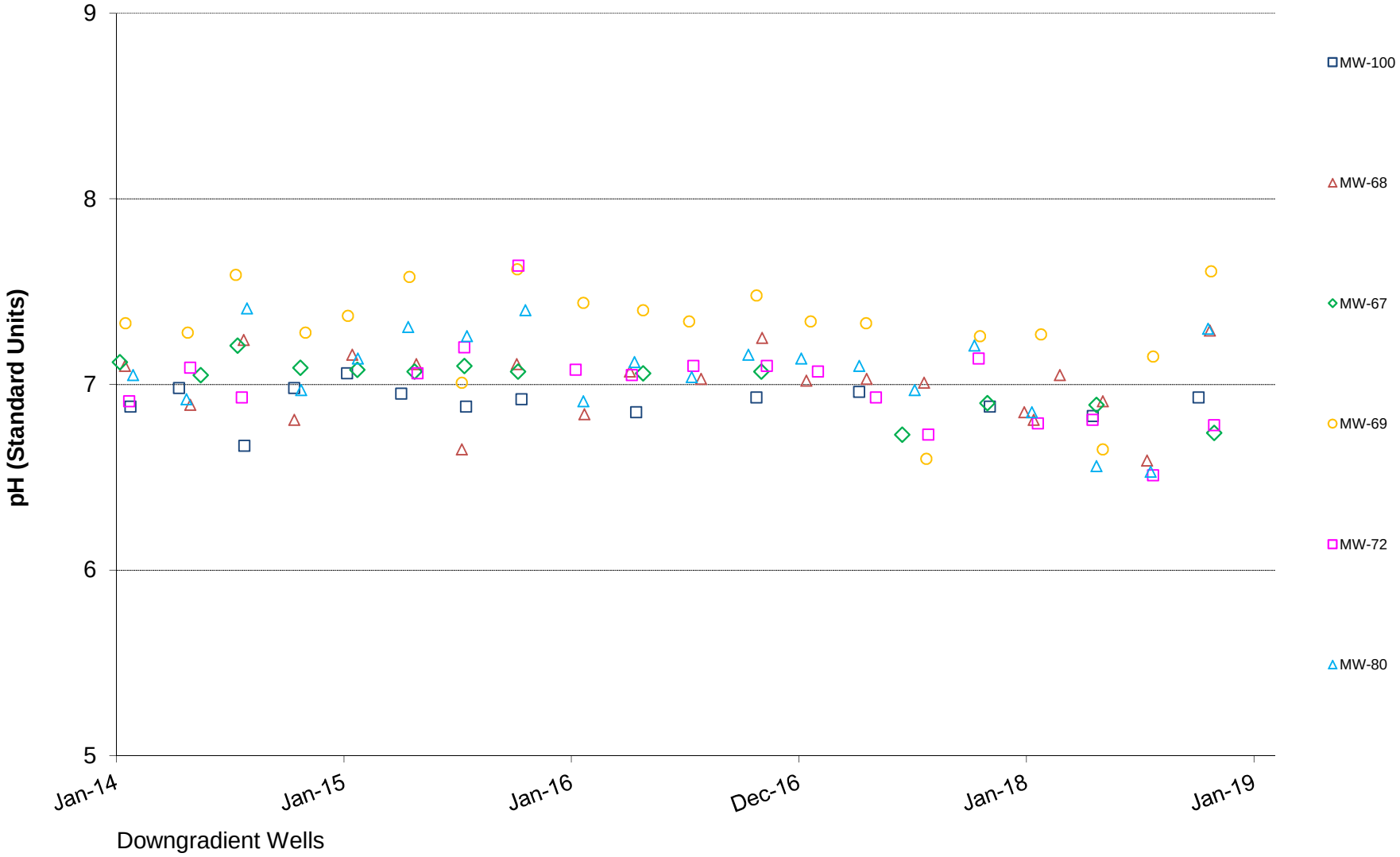

Vinyl Chloride (ug/L)
0.2
0.2
0.1
0.1
0.0
0.0
Jan-01
Jan-02
Jan-03
Jan-04
Jan-05
Jan-06
Jan-07
Jan-08
Jan-09
Jan-10
Jan-11
Jan-12
Jan-13
Jan-14
Jan-15
Jan-16
Jan-17
Jan-18
Jan-19
Upgradient and Crossgradient Wells
MW-64
MW-93
MW-95
MW-21
MW-66
MW-73
MW-84
MW-81
RL

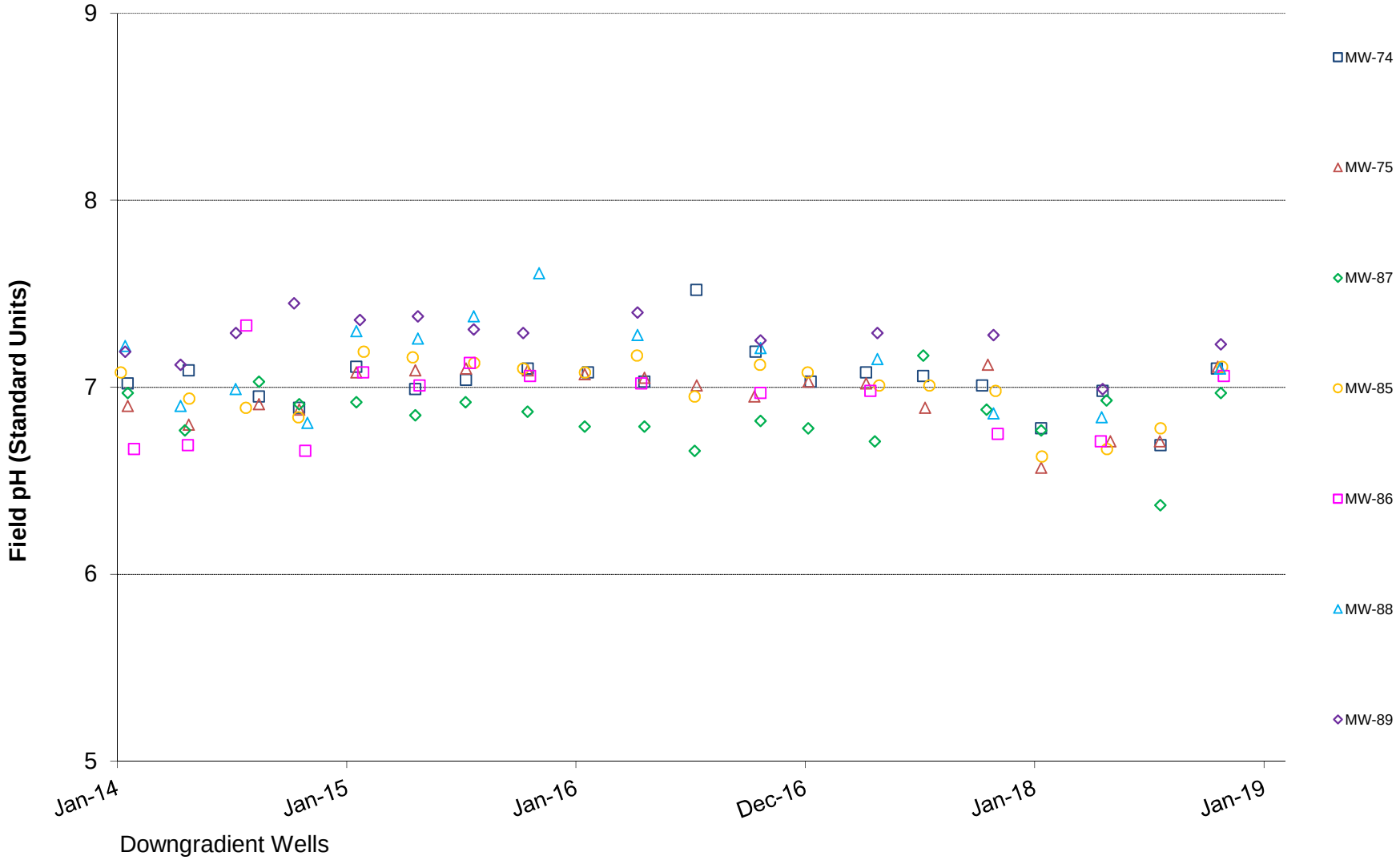

Vinyl Chloride (ug/L)
0.2
0.2
0.1
0.1
0.0
0.0
Jan-01
Jan-02
Jan-03
Jan-04
Jan-05
Jan-06
Jan-07
Jan-08
Jan-09
Jan-10
Jan-11
Jan-12
Jan-13
Jan-14
Jan-15
Jan-16
Jan-17
Jan-18
Jan-19
Downgradient Wells
MW-100
MW-68
MW-67
MW-69
MW-72
MW-80
RL

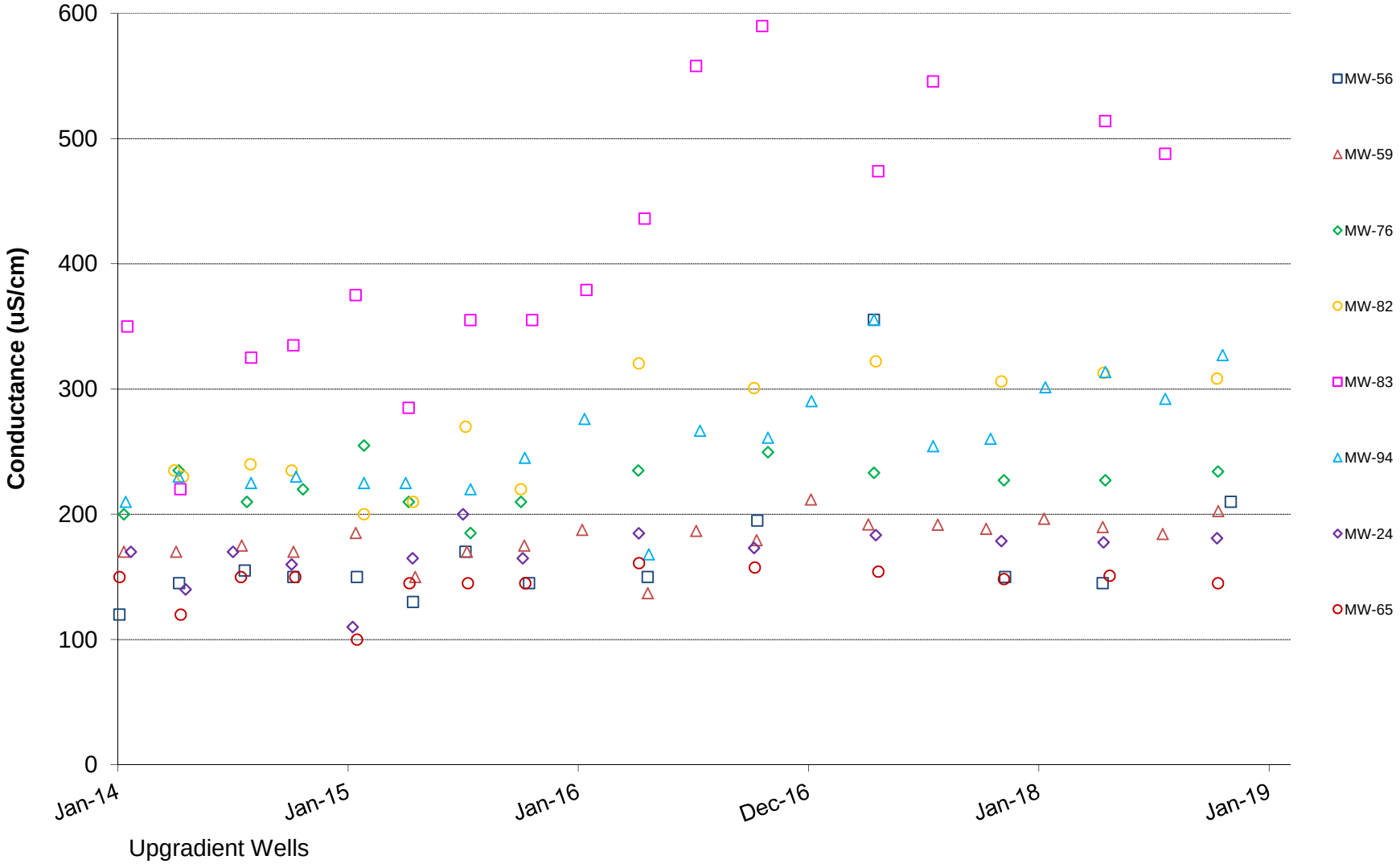

Vinyl Chloride (ug/L)
0.2
0.2
0.1
0.1
0.0
0.0
Jan-01
Jan-02
Jan-03
Jan-04
Jan-05
Jan-06
Jan-07
Jan-08
Jan-09
Jan-10
Jan-11
Jan-12
Jan-13
Jan-14
Jan-15
Jan-16
Jan-17
Jan-18
Jan-19
Downgradient Wells
MW-74
MW-75
MW-87
MW-85
MW-86
MW-88
MW-89
RL

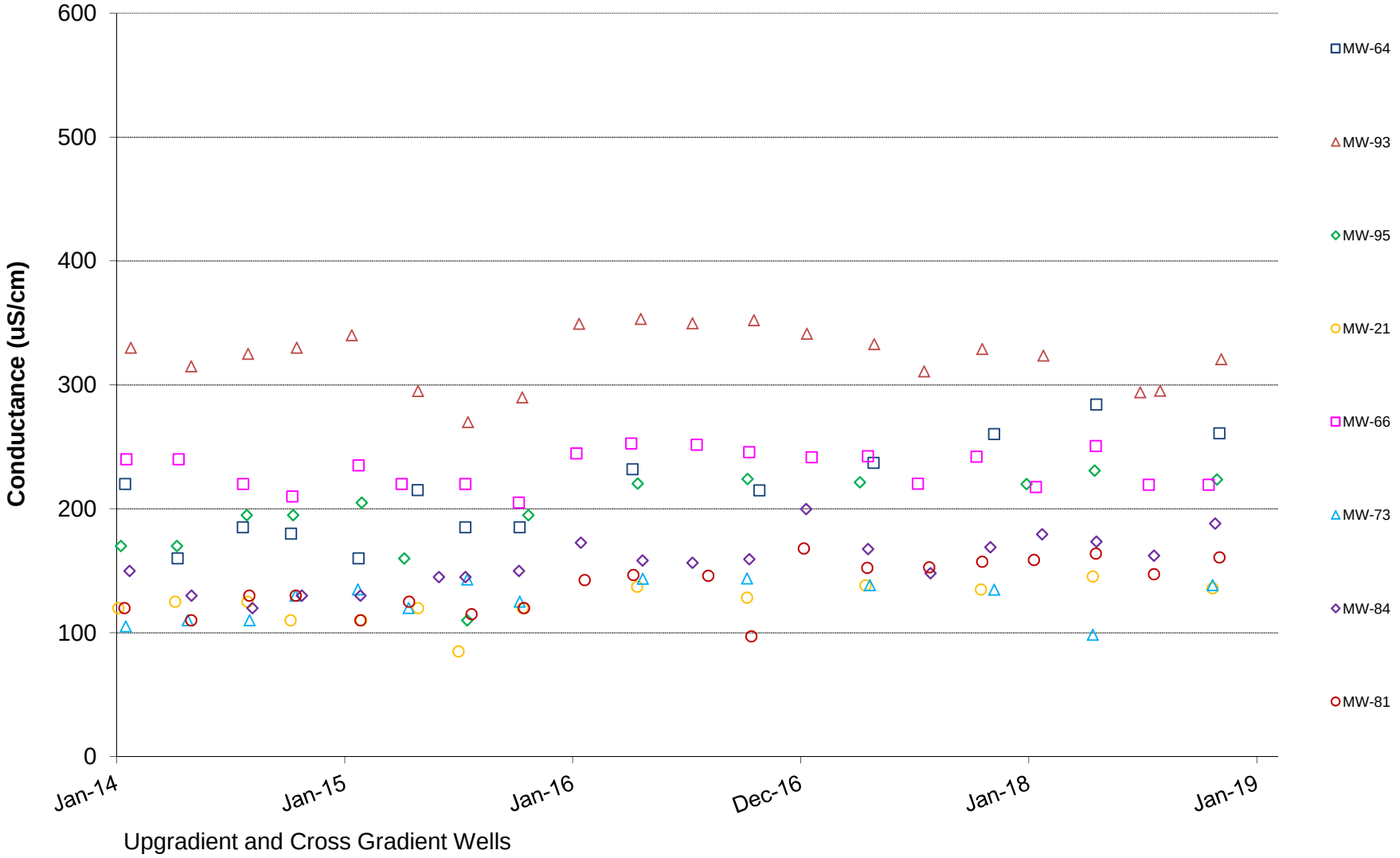

Field pH (Standard Units)
9
8
7
6
5
Jan-14
Jan-15
Jan-16
Dec-16
Jan-18
Jan-19
Upgradient Wells
MW-56
MW-59
MW-76
MW-82
MW-83
MW-94
MW-24
MW-65

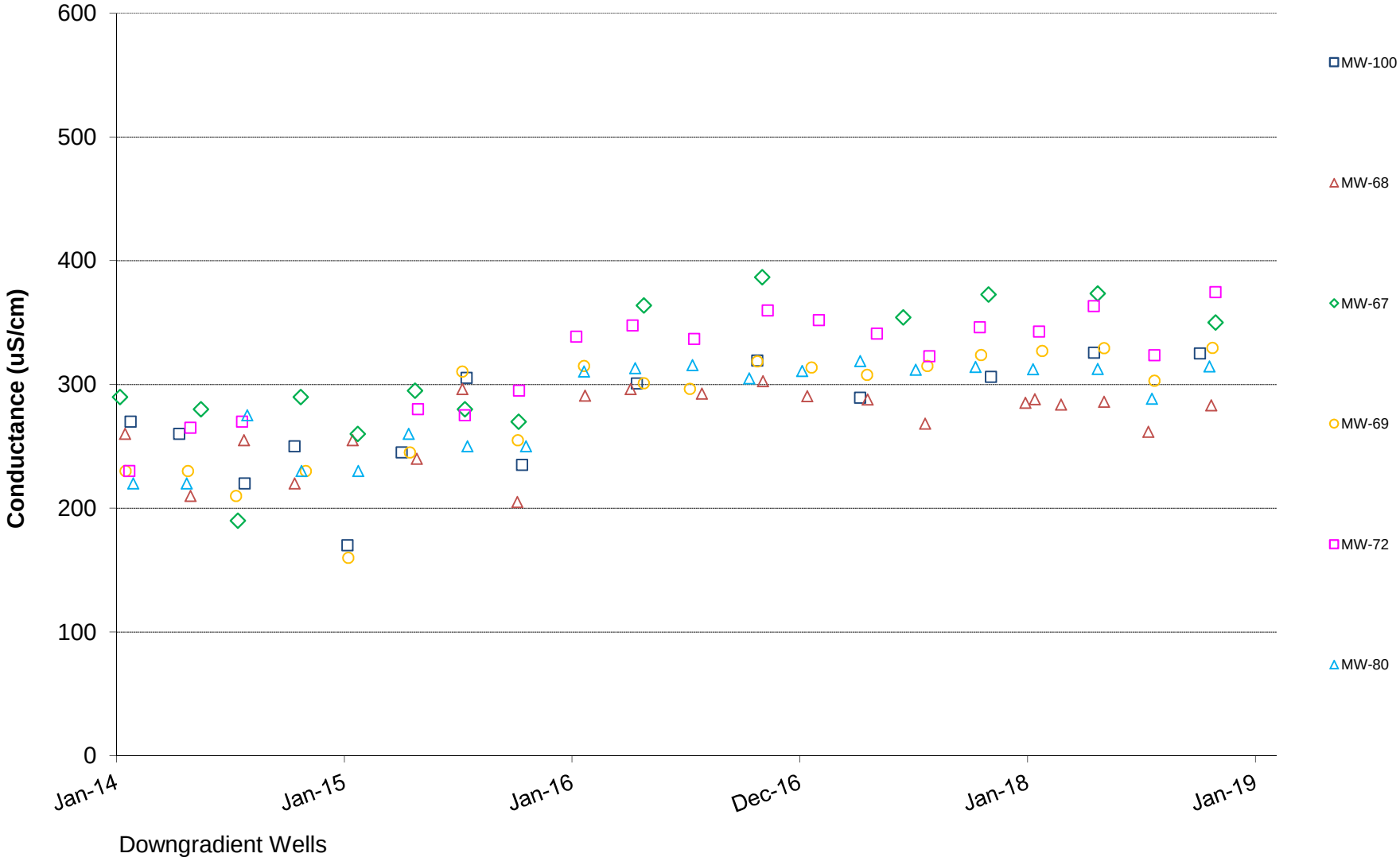

9
8
7
6
5
Field pH (Standard Units)
Jan-14
Jan-15
Jan-16
Dec-16
Jan-18
Jan-19
Upgradient and Cross Gradient Wells
MW-21
MW-73
MW-84
MW-81
MW-93
MW-95
MW-66
MW-64

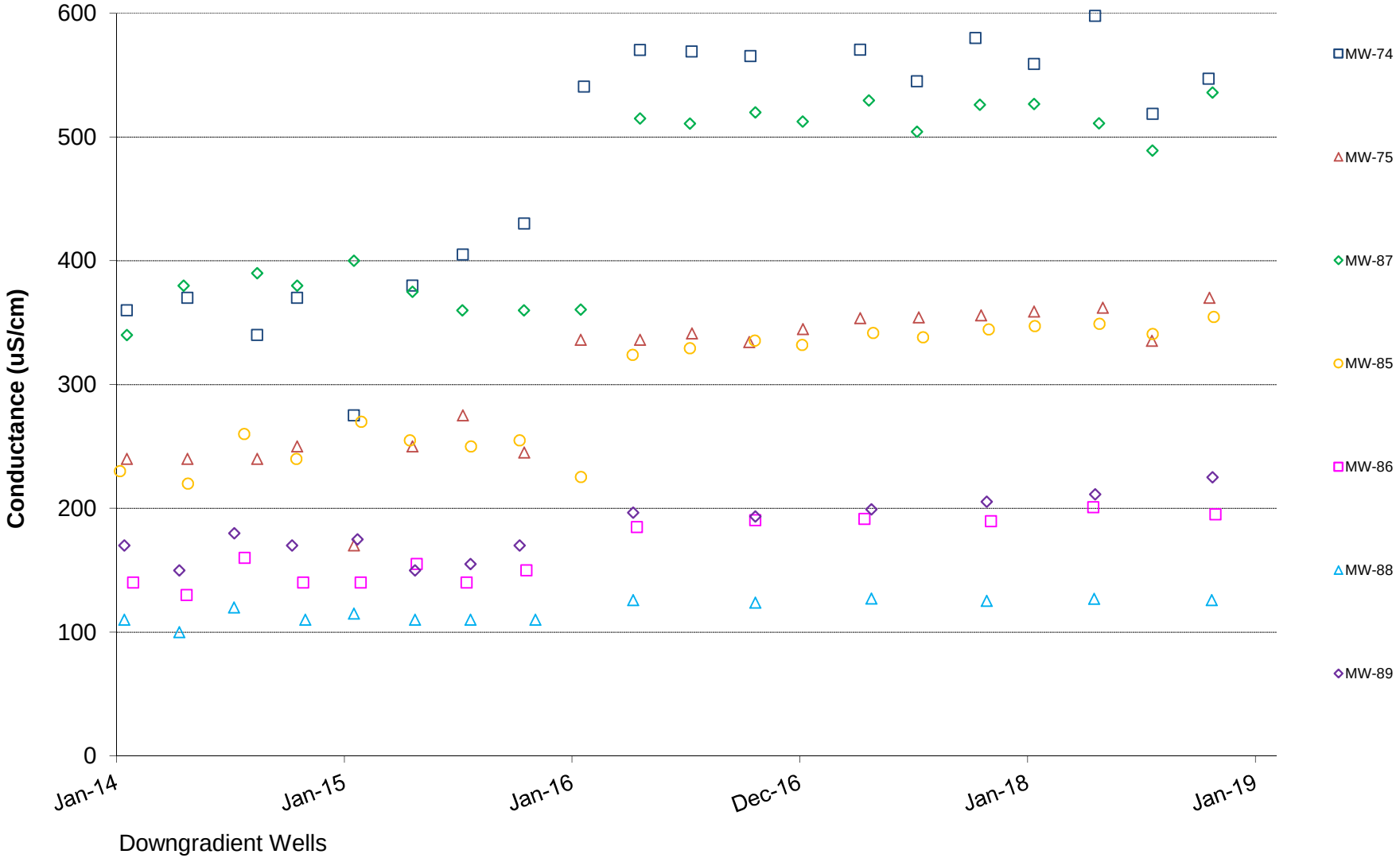

9
8
7
6
5
pH (Standard Units)
Jan-14
Jan-15
Jan-16
Dec-16
Jan-18
Jan-19
Downgradient Wells
MW-100
MW-68
MW-67
MW-69
MW-72
MW-80

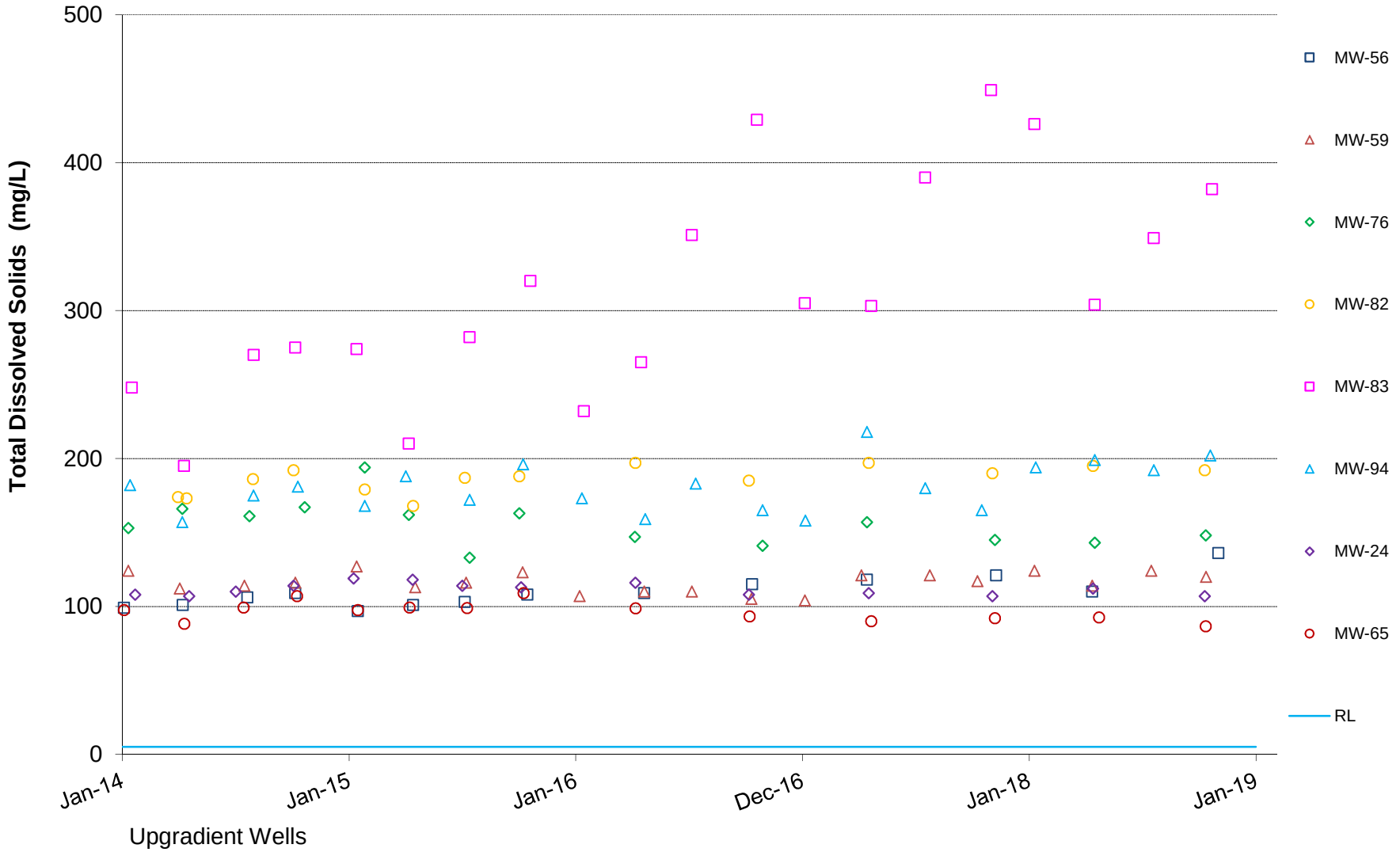

9
8
7
6
5
Field pH (Standard Units)
Jan-14
Jan-15
Jan-16
Dec-16
Jan-18
Jan-19
Downgradient Wells
MW-74
MW-75
MW-87
MW-85
MW-86
MW-88
MW-89

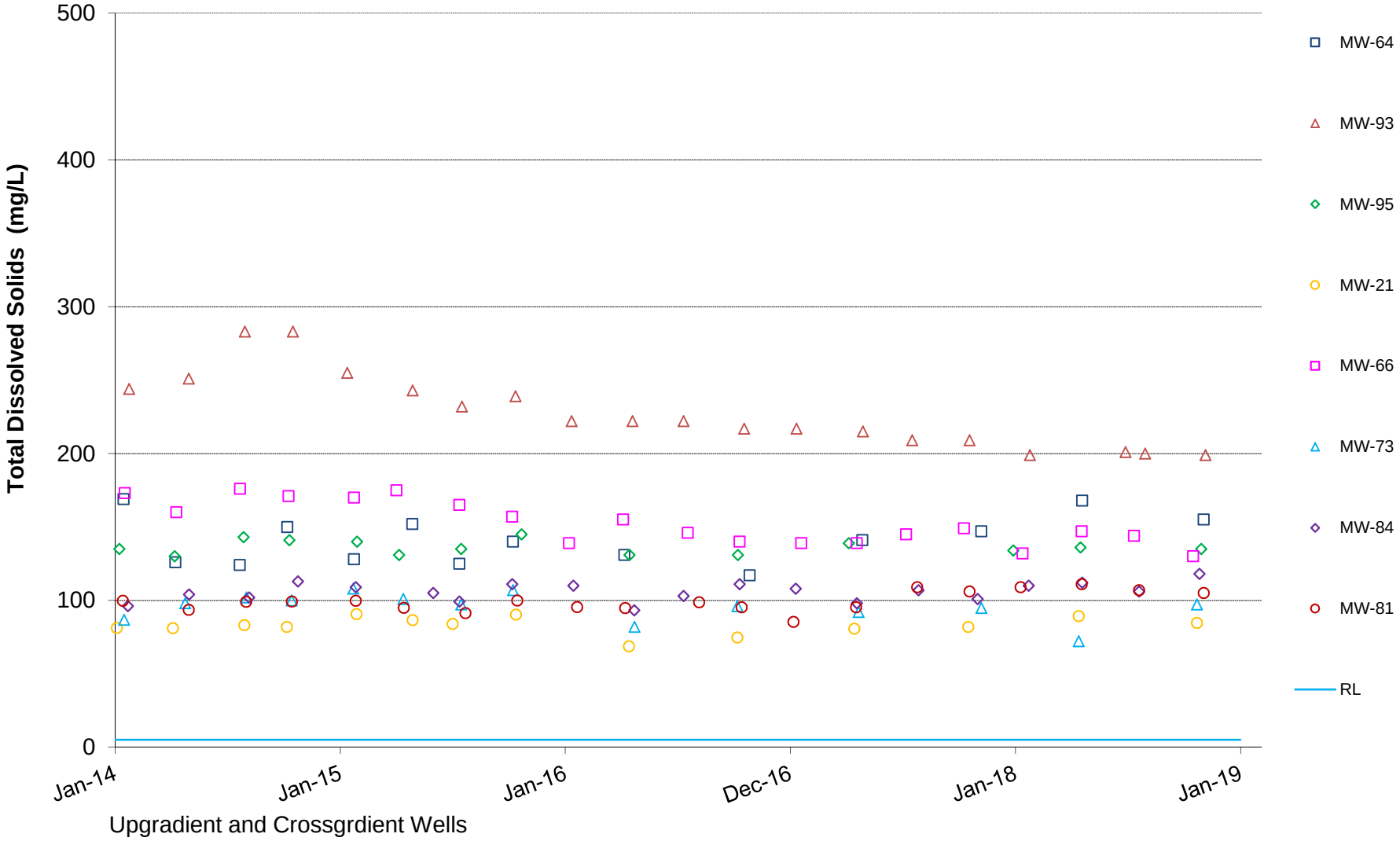

600
500
400
300
200
100
0
Conductance (uS/cm)
Jan-14
Jan-15
Jan-16
Dec-16
Jan-18
Jan-19
Upgradient Wells
MW-56
MW-59
MW-76
MW-82
MW-83
MW-94
MW-24
MW-65

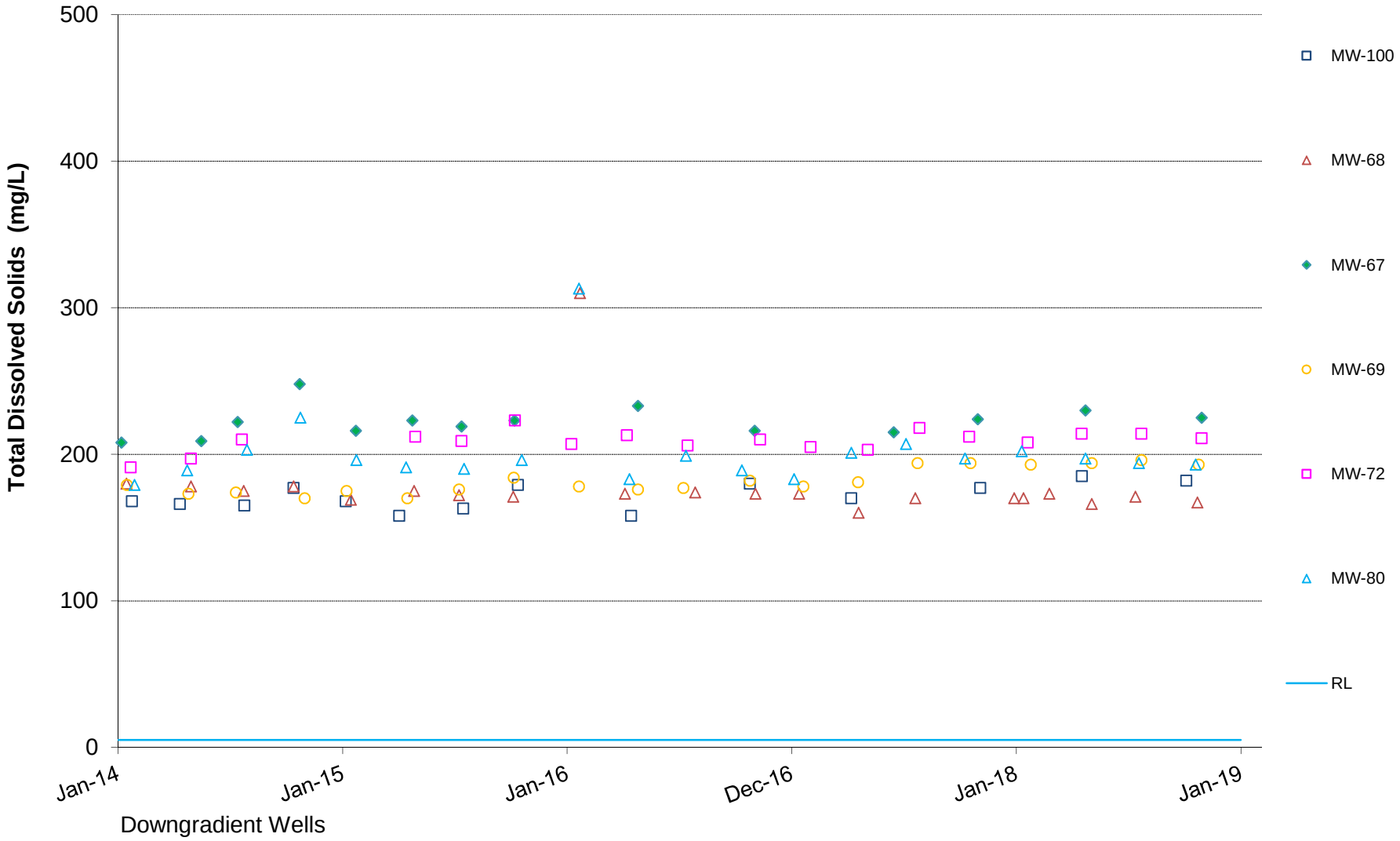

600
500
400
300
200
100
0
Conductance (uS/cm)
Jan-14
Jan-15
Jan-16
Dec-16
Jan-18
Jan-19
Upgradient and Cross Gradient Wells
MW-64
MW-93
MW-95
MW-21
MW-66
MW-73
MW-84
MW-81

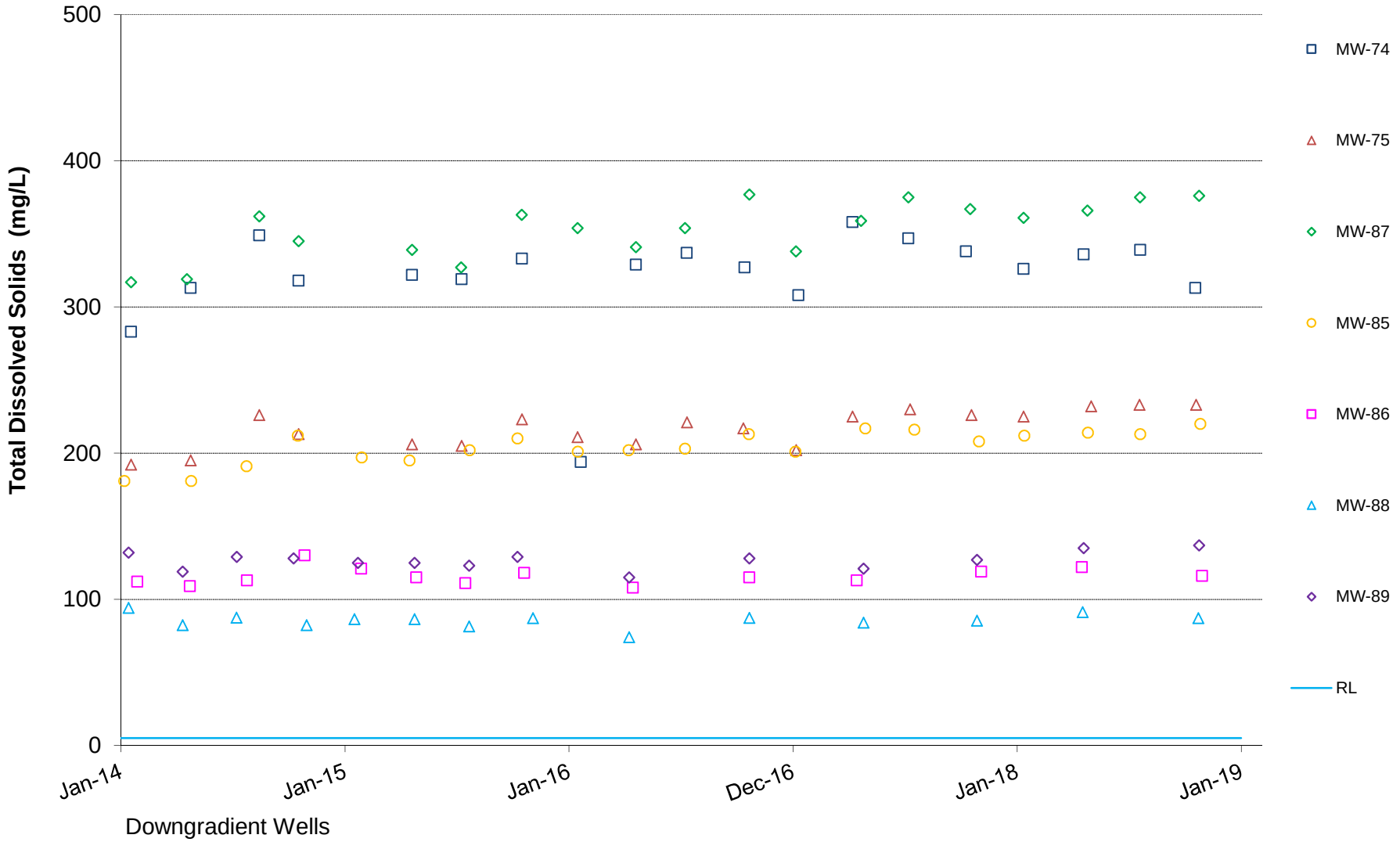

600
500
400
300
200
100
0
Conductance (uS/cm)
Jan-14
Jan-15
Jan-16
Dec-16
Jan-18
Jan-19
Downgradient Wells
MW-100
MW-68
MW-67
MW-69
MW-72
MW-80

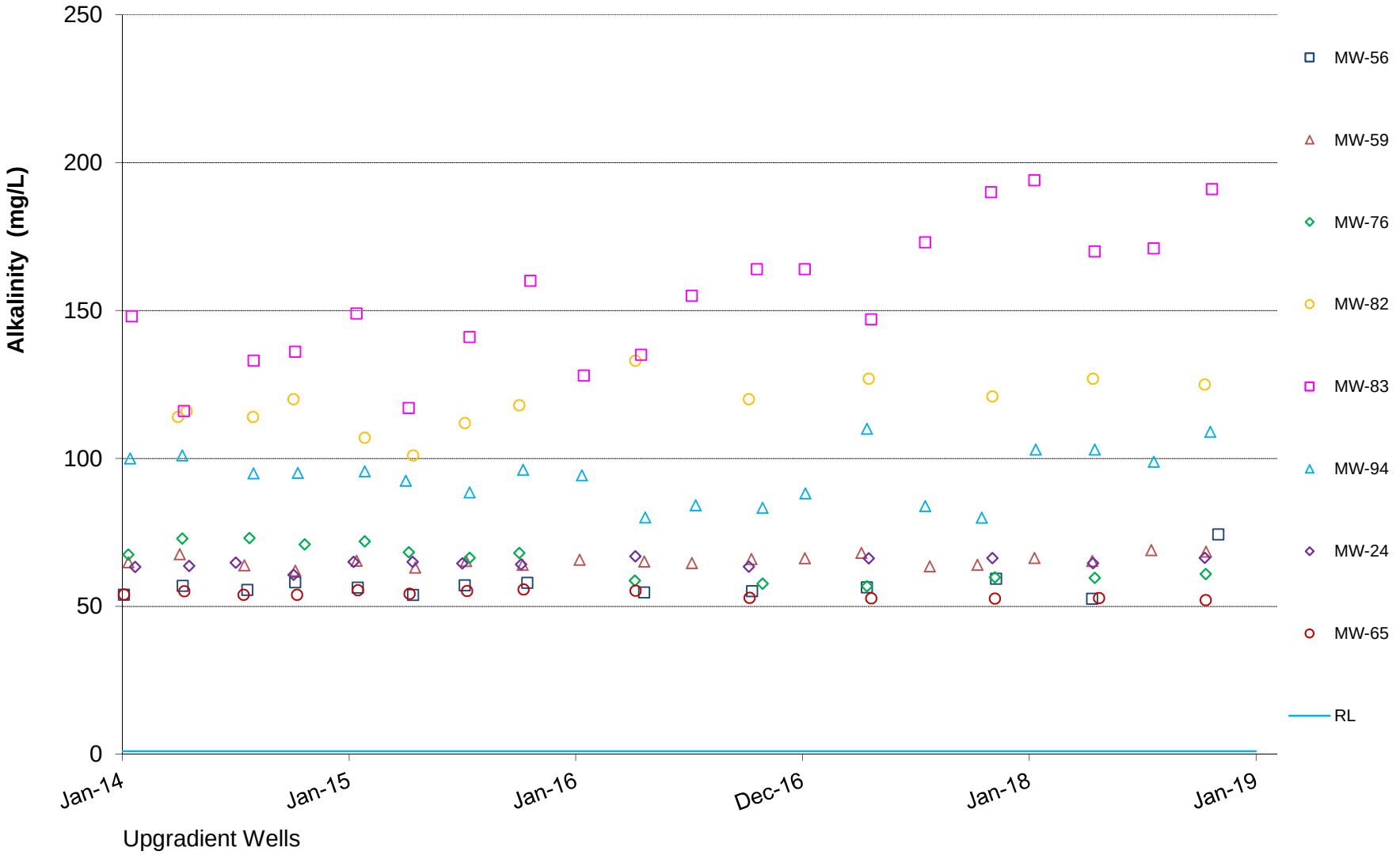

600
500
400
300
200
100
0
Conductance (uS/cm)
Jan-14
Jan-15
Jan-16
Dec-16
Jan-18
Jan-19
Downgradient Wells
MW-74
MW-75
MW-87
MW-85
MW-86
MW-88
MW-89

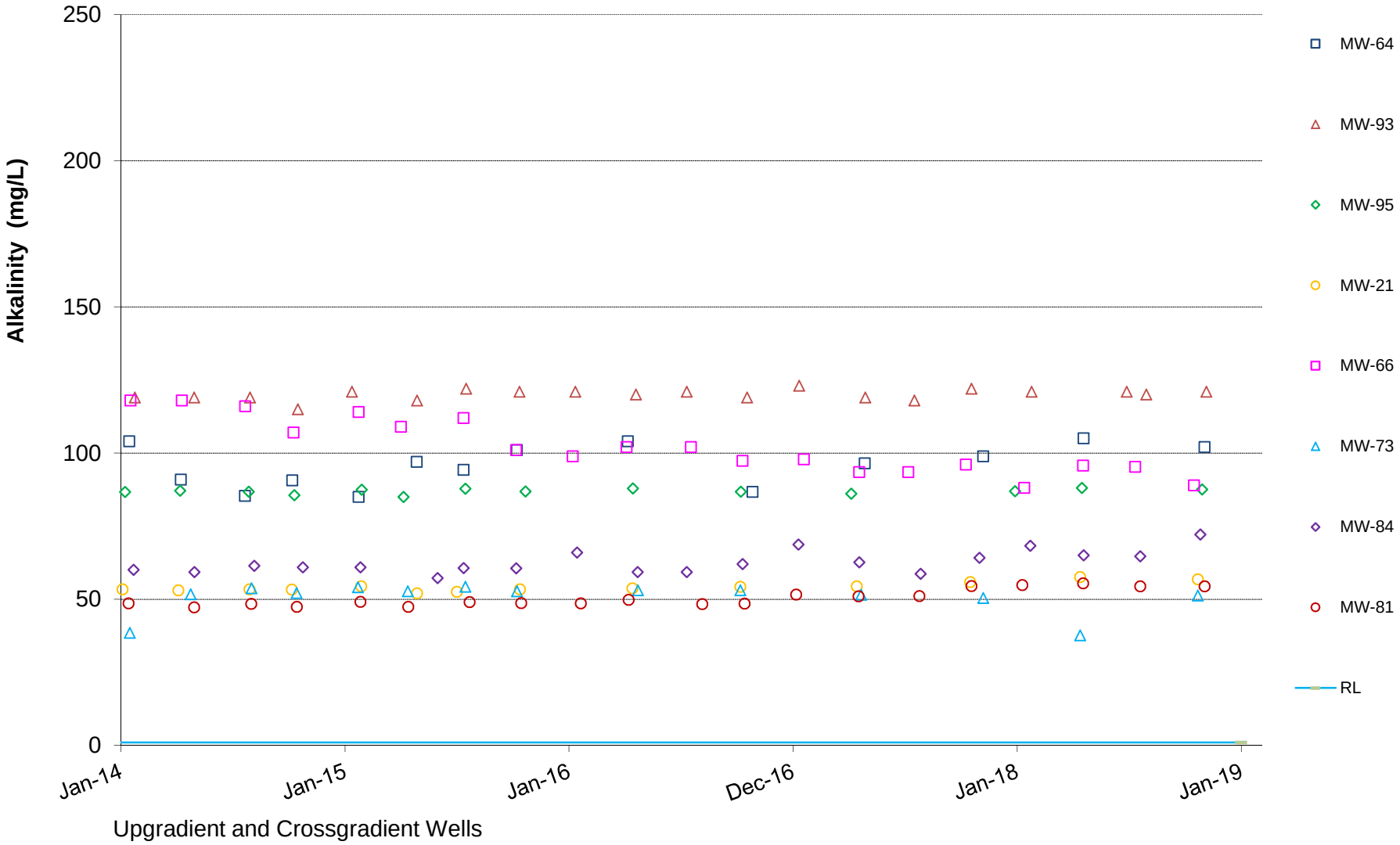

Total Dissolved Solids (mg/L)
500
400
300
200
100
0
Jan-14
Jan-15
Jan-16
Dec-16
Jan-18
Jan-19
Upgradient Wells
MW-56
MW-59
MW-76
MW-82
MW-83
MW-94
MW-24
MW-65
RL

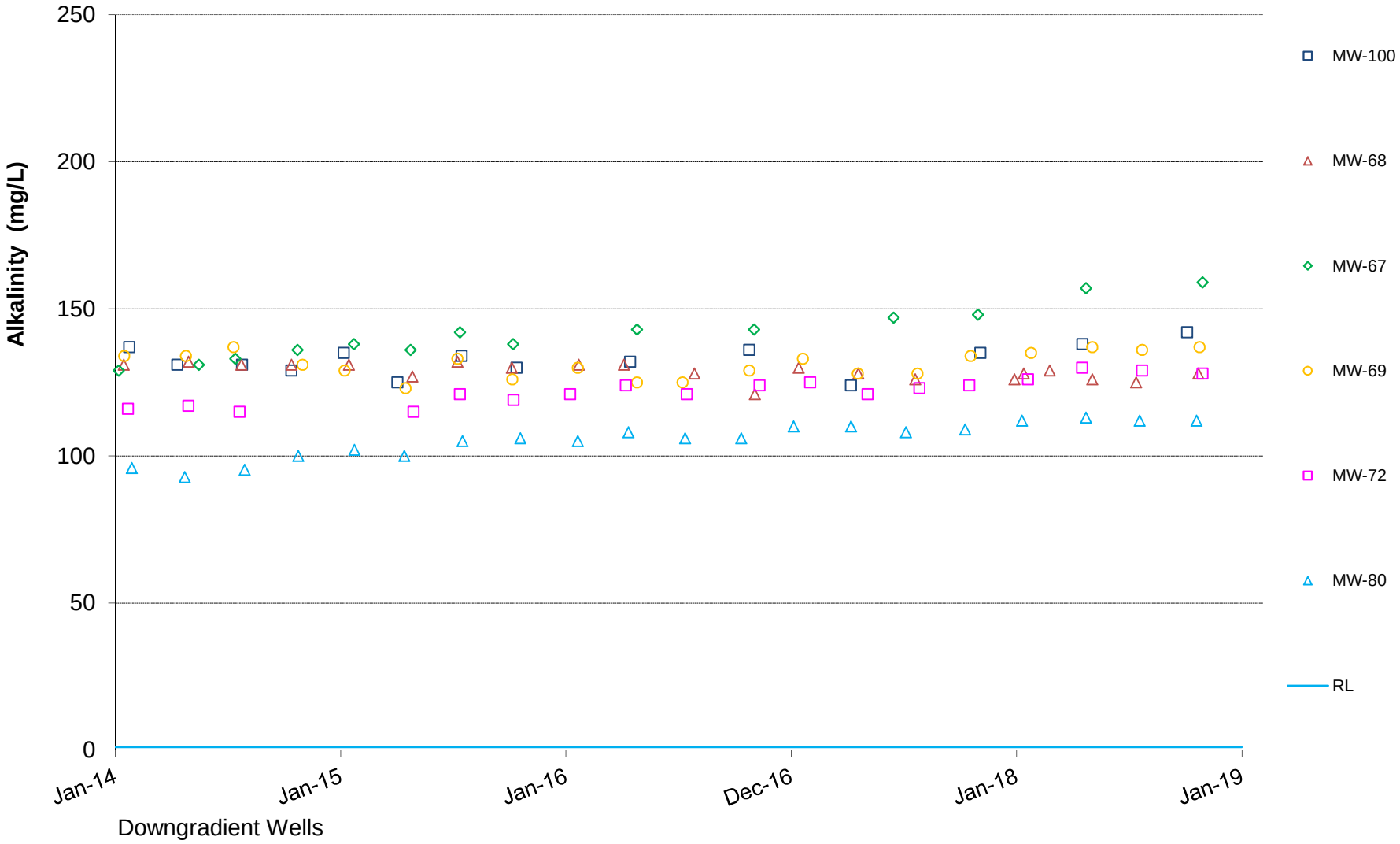

Total Dissolved Solids (mg/L)
500
400
300
200
100
0
Jan-14
Jan-15
Jan-16
Dec-16
Jan-18
Jan-19
Upgradient and Crossgrdient Wells
MW-64
MW-93
MW-95
MW-21
MW-66
MW-73
MW-84
MW-81
RL

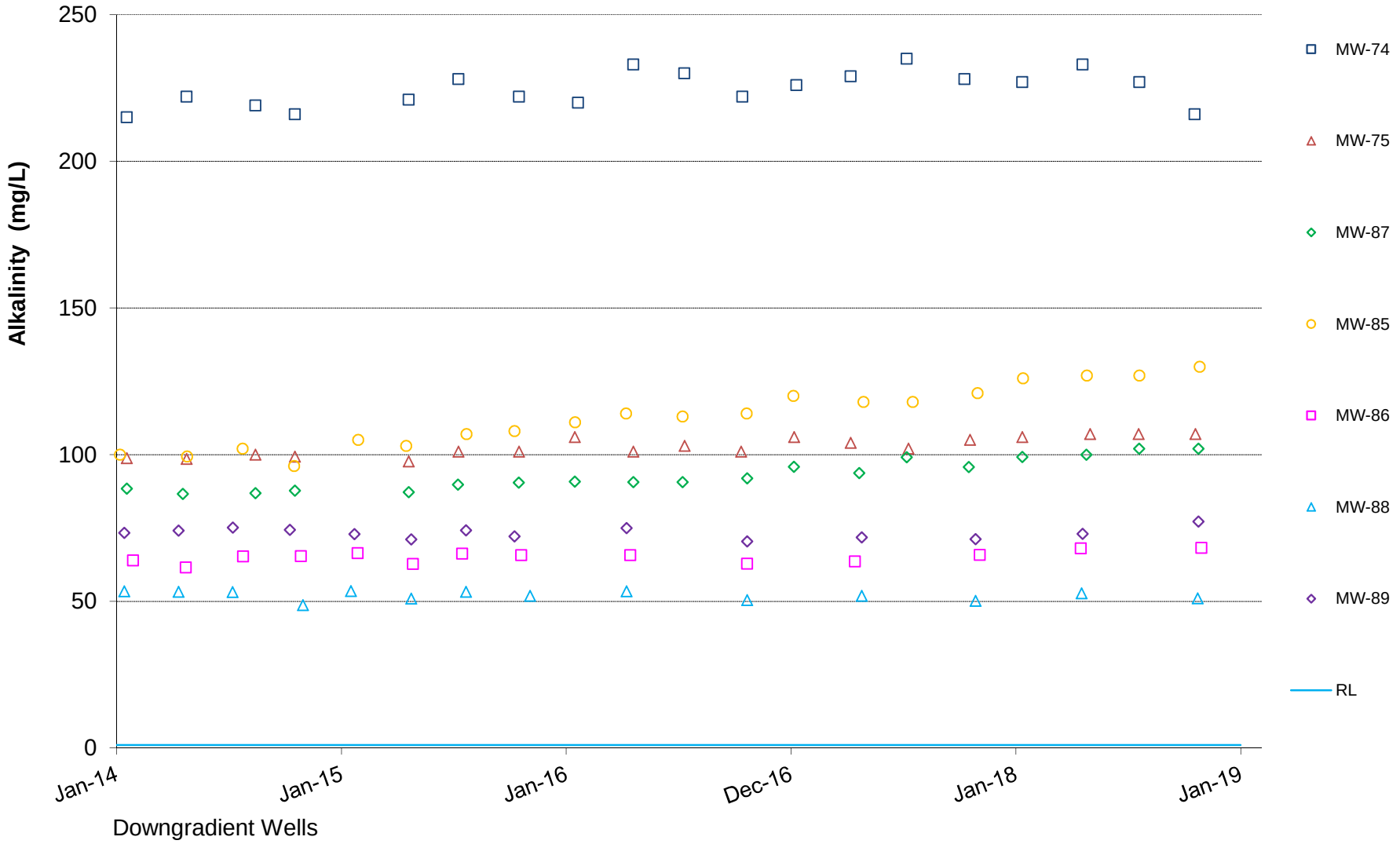

Total Dissolved Solids (mg/L)
500
400
300
200
100
0
Jan-14
Jan-15
Jan-16
Dec-16
Jan-18
Jan-19
Downgradient Wells
MW-100
MW-68
MW-67
MW-69
MW-72
MW-80
RL

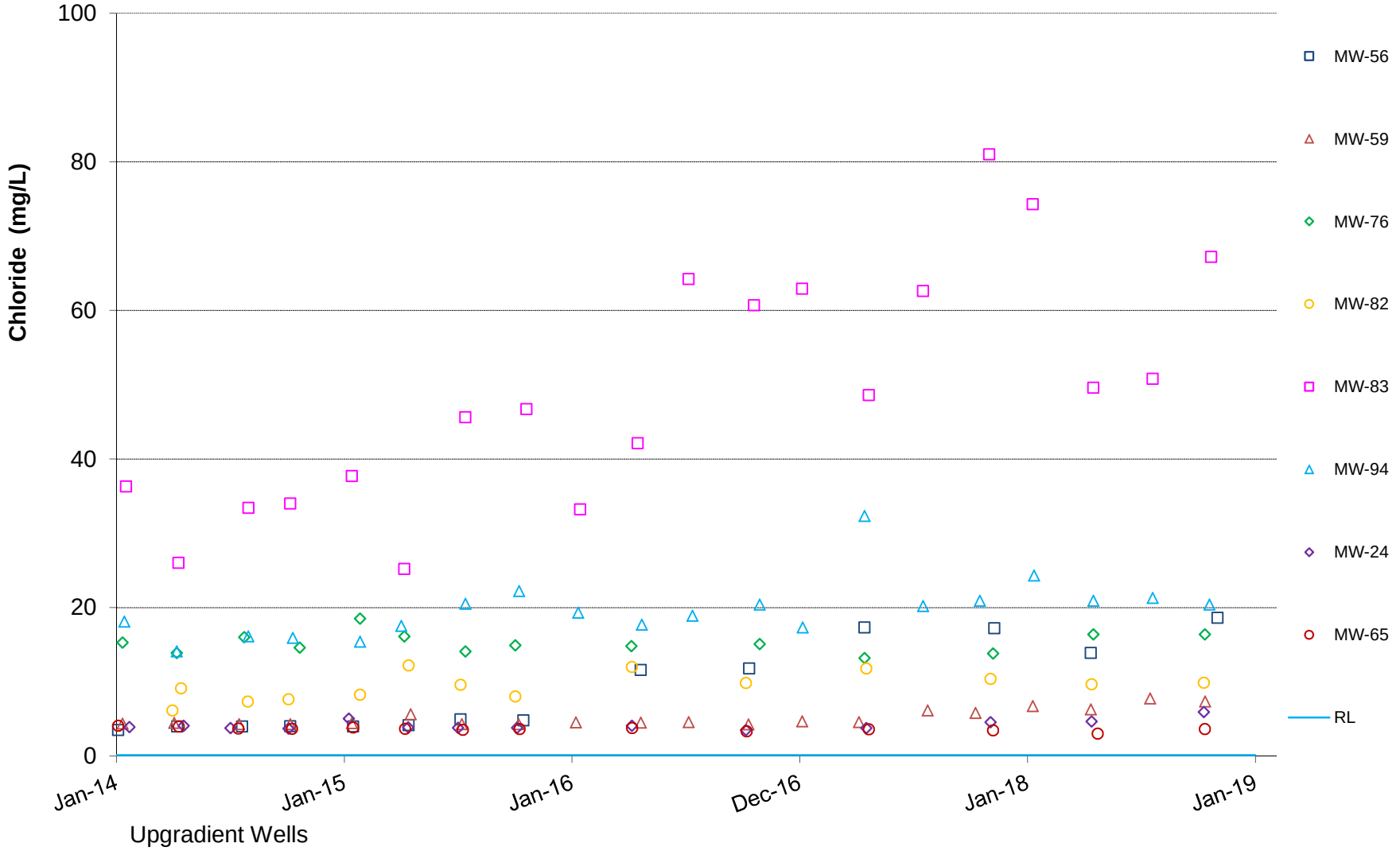

Total Dissolved Solids (mg/L)
500
400
300
200
100
0
Jan-14
Jan-15
Jan-16
Dec-16
Jan-18
Jan-19
Downgradient Wells
MW-74
MW-75
MW-87
MW-85
MW-86
MW-88
MW-89
RL

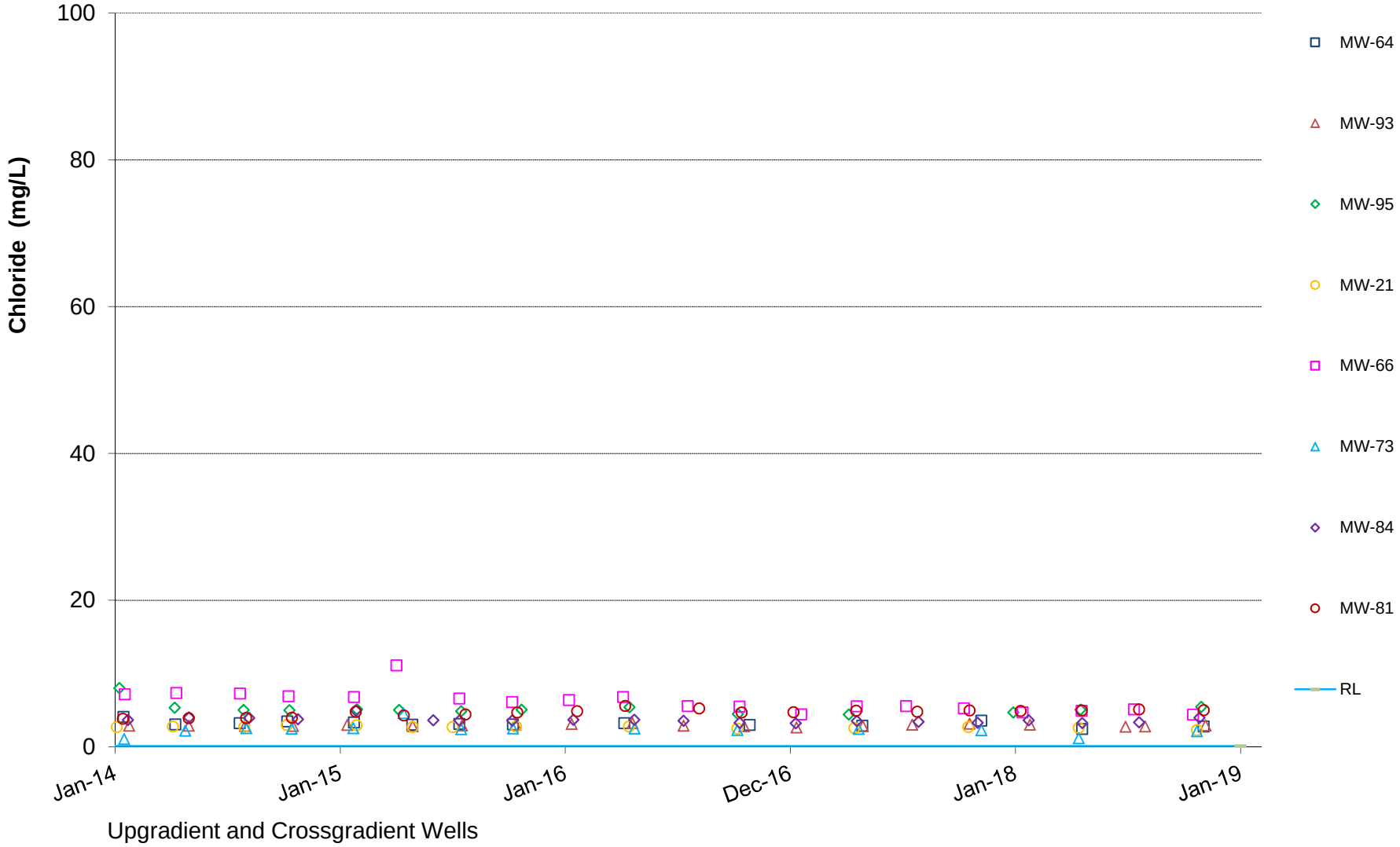

Alkalinity (mg/L)
250
200
150
100
50
0
Jan-14
Jan-15
Jan-16
Dec-16
Jan-18
Jan-19
Upgradient Wells
MW-56
MW-59
MW-76
MW-82
MW-83
MW-94
MW-24
MW-65
RL

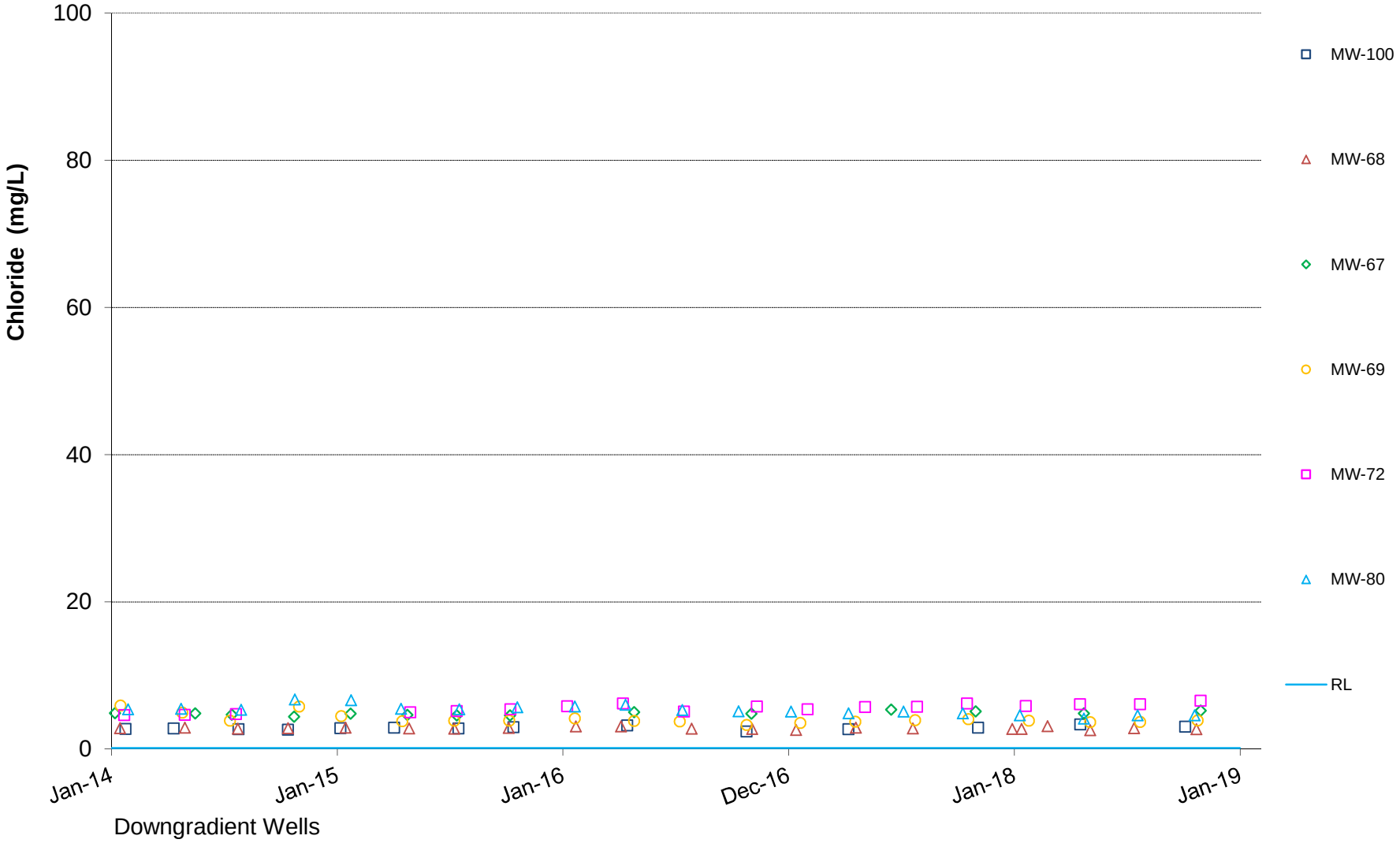

Alkalinity (mg/L)
250
200
150
100
50
0
Jan-14
Jan-15
Jan-16
Dec-16
Jan-18
Jan-19
Upgradient and Crossgradient Wells
MW-64
MW-93
MW-95
MW-21
MW-66
MW-73
MW-84
MW-81
RL

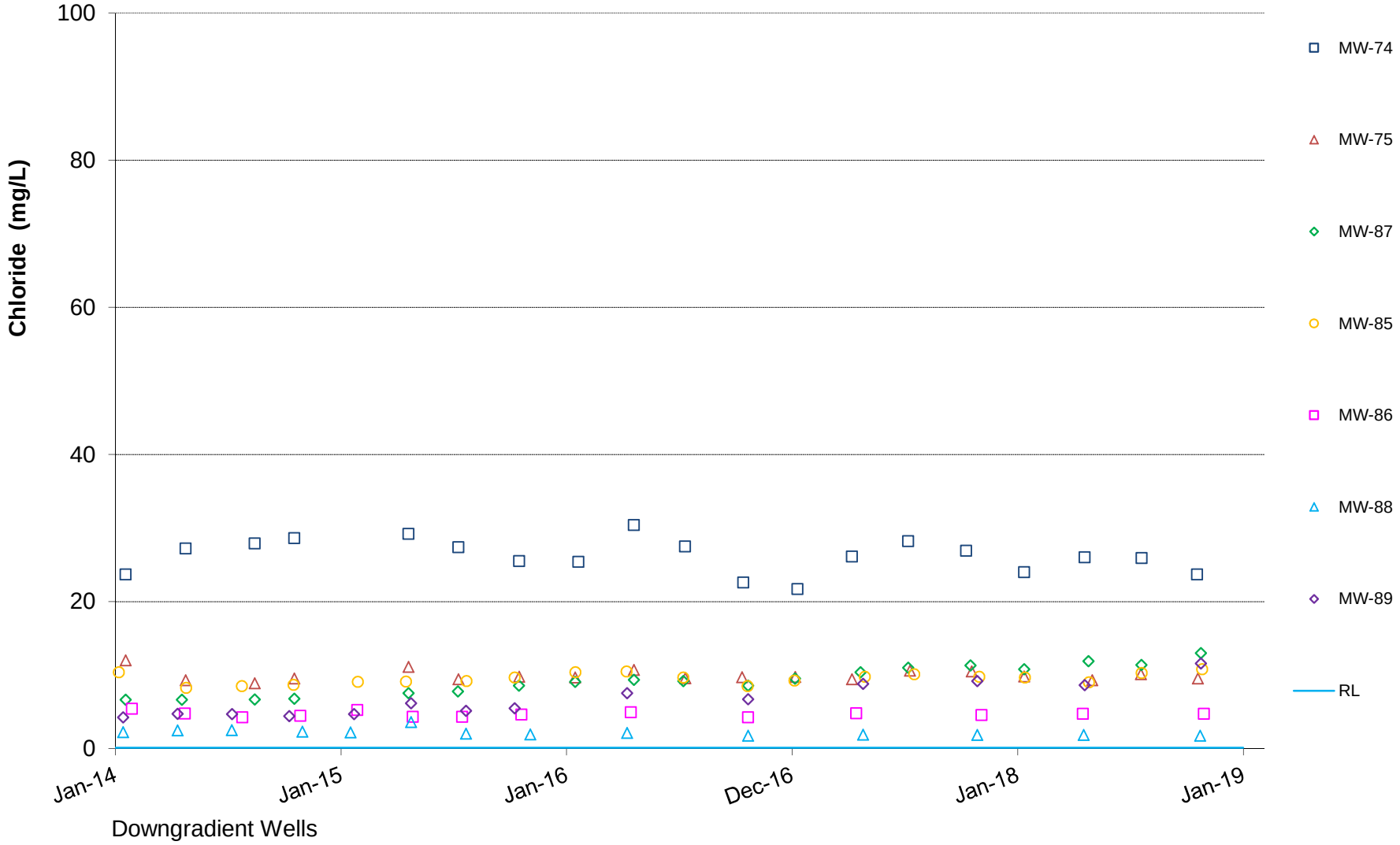

Alkalinity (mg/L)
250
200
150
100
50
0
Jan-14
Jan-15
Jan-16
Dec-16
Jan-18
Jan-19
Downgradient Wells
MW-100
MW-68
MW-67
MW-69
MW-72
MW-80
RL

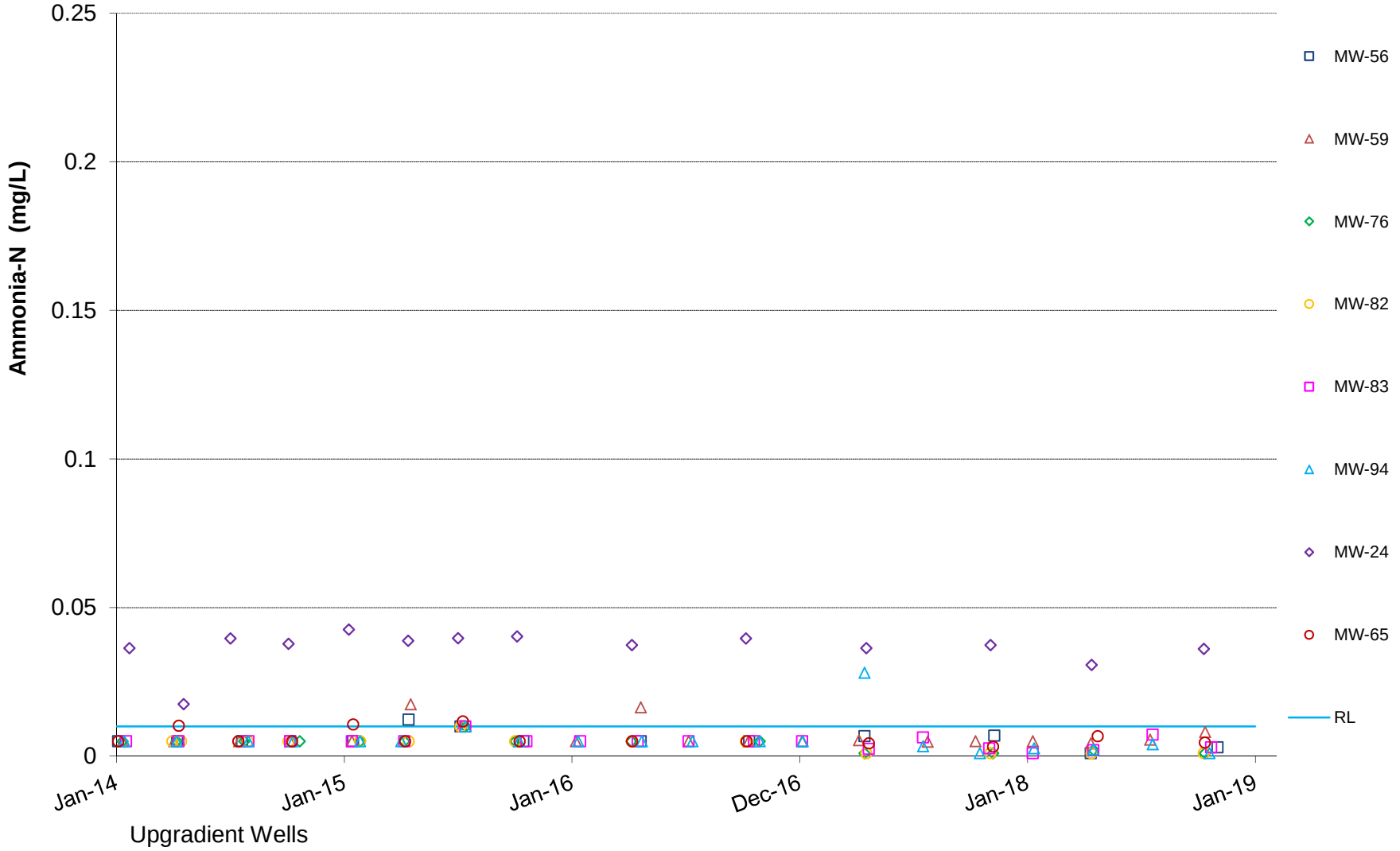

Alkalinity (mg/L)
250
200
150
100
50
0
Jan-14
Jan-15
Jan-16
Dec-16
Jan-18
Jan-19
Downgradient Wells
MW-74
MW-75
MW-87
MW-85
MW-86
MW-88
MW-89
RL

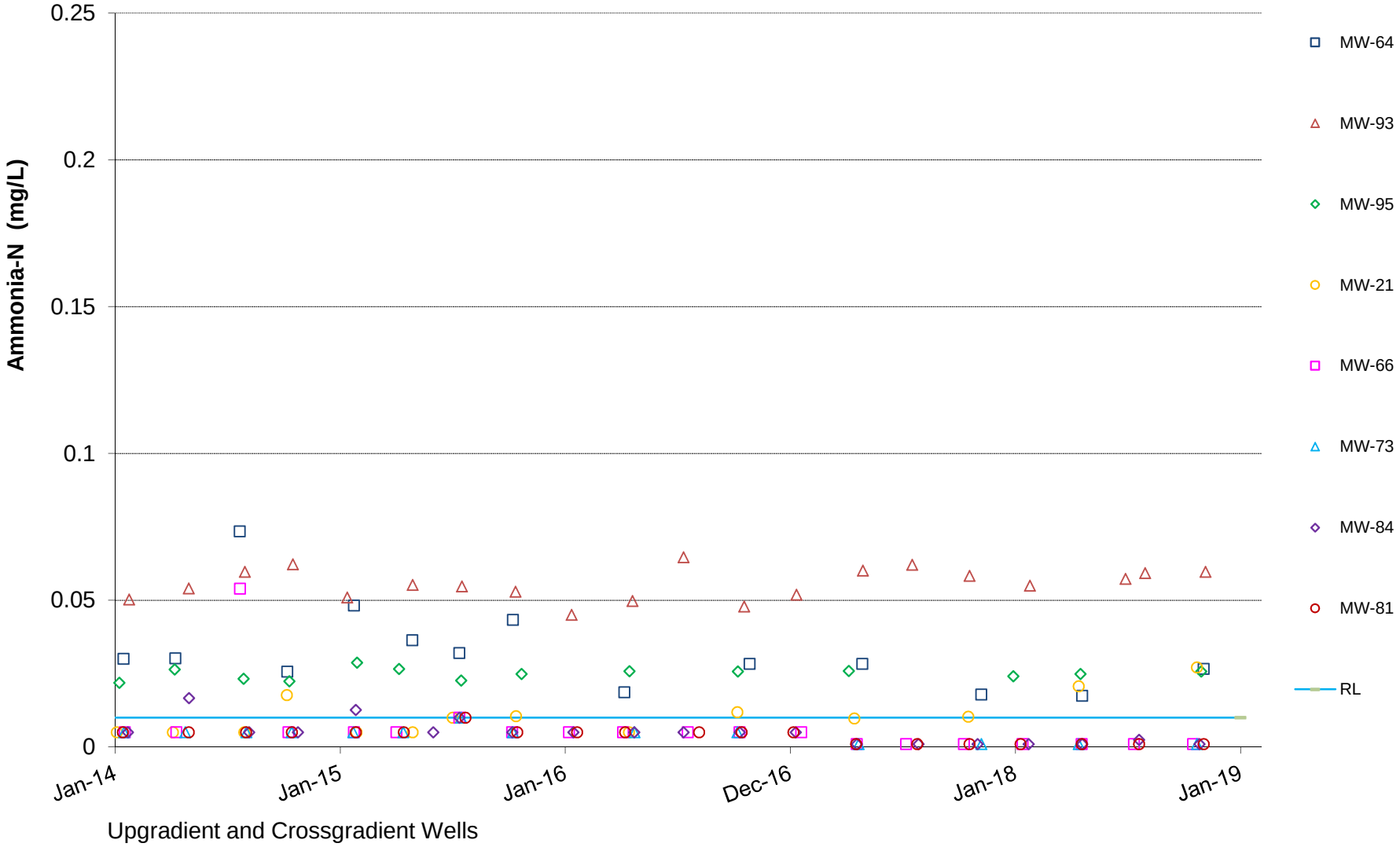

Chloride (mg/L)
100
80
60
40
20
0
Jan-14
Jan-15
Jan-16
Dec-16
Jan-18
Jan-19
Upgradient Wells
MW-56
MW-59
MW-76
MW-82
MW-83
MW-94
MW-24
MW-65
RL

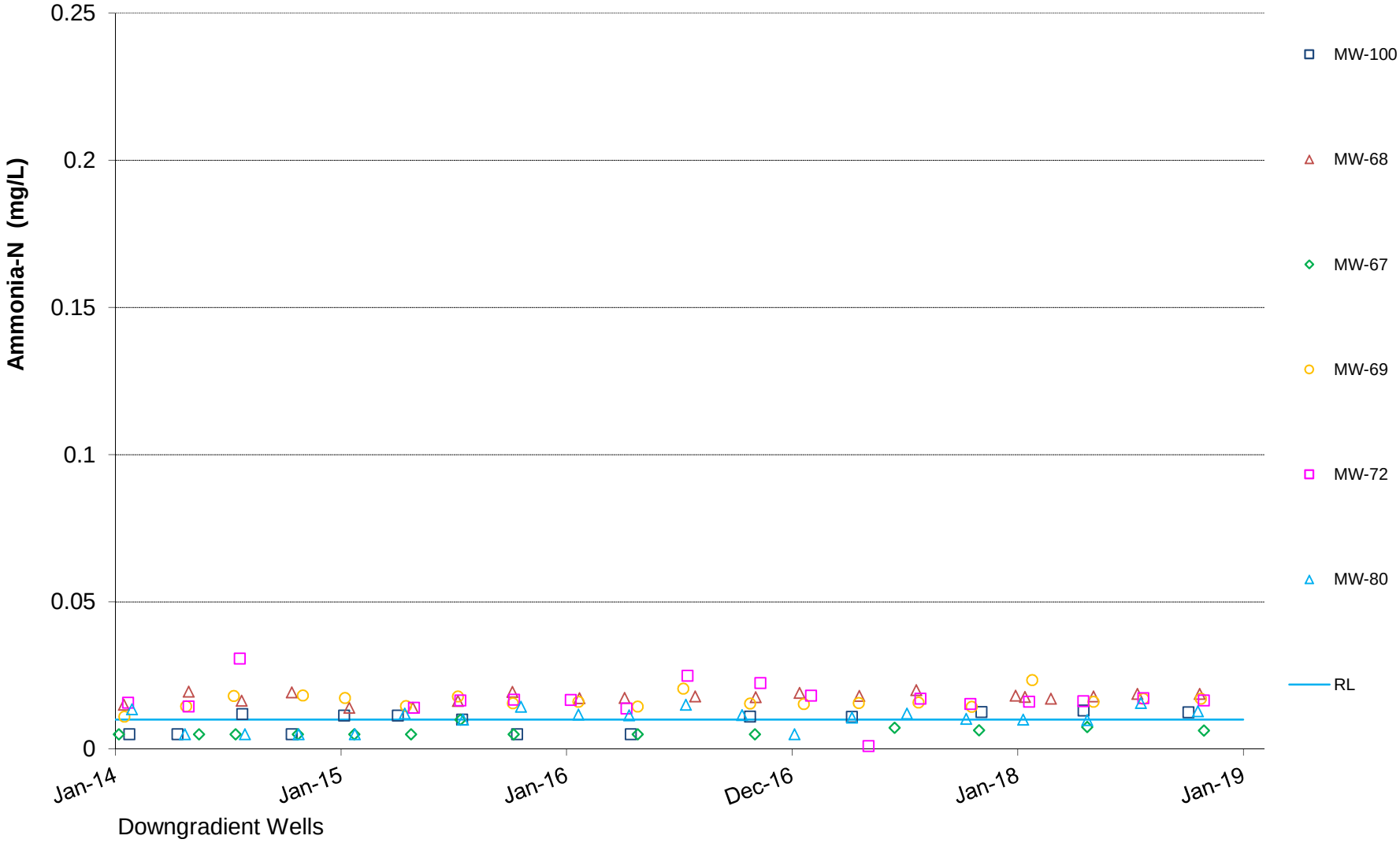

Chloride (mg/L)
100
80
60
40
20
0
Jan-14
Jan-15
Jan-16
Dec-16
Jan-18
Jan-19
Upgradient and Crossgradient Wells
MW-64
MW-93
MW-95
MW-21
MW-66
MW-73
MW-84
MW-81
RL

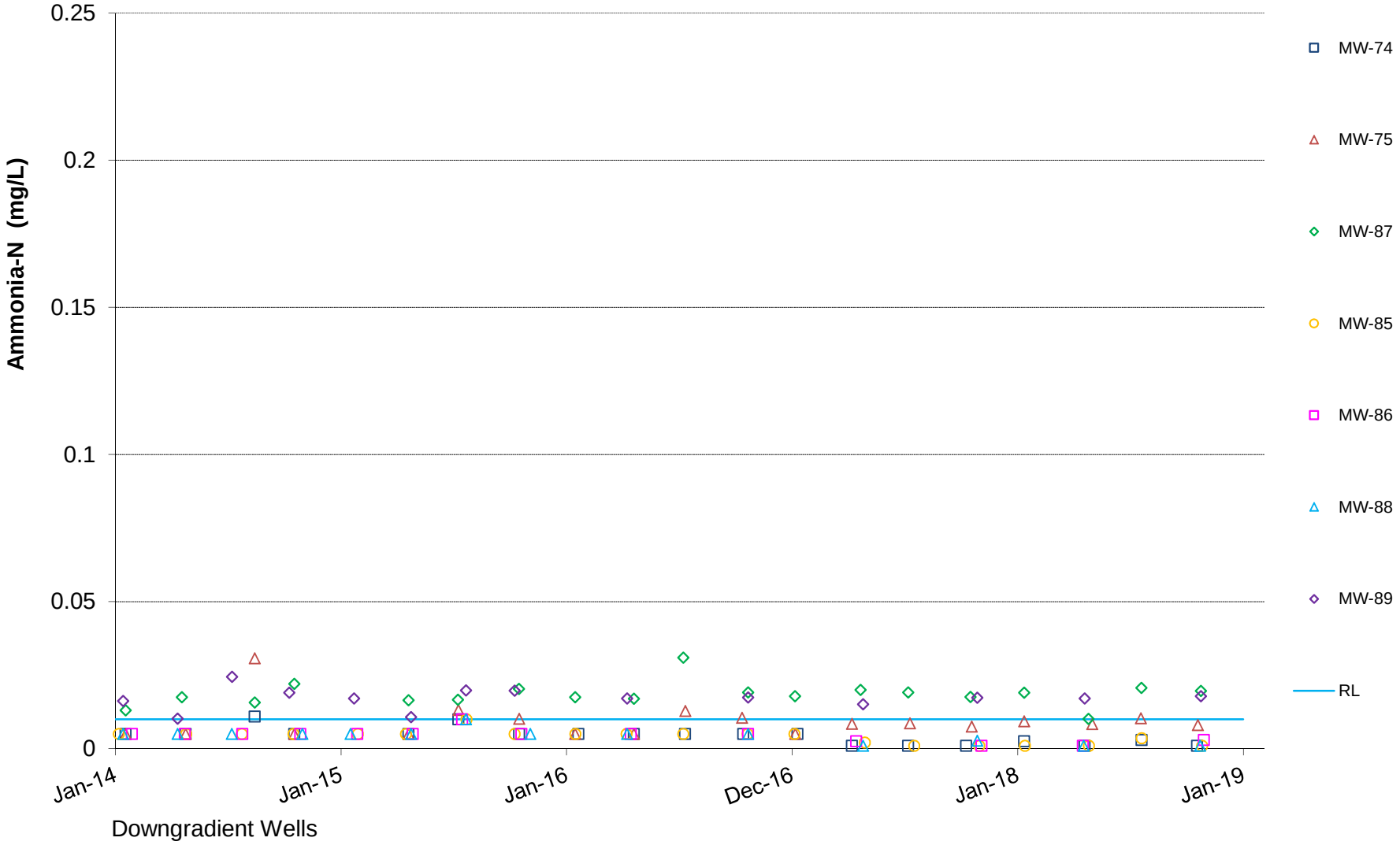

100
80
60
40
20
0
Chloride (mg/L)
Jan-14
Jan-15
Jan-16
Dec-16
Jan-18
Jan-19
Downgradient Wells
MW-100
MW-68
MW-67
MW-69
MW-72
MW-80
RL

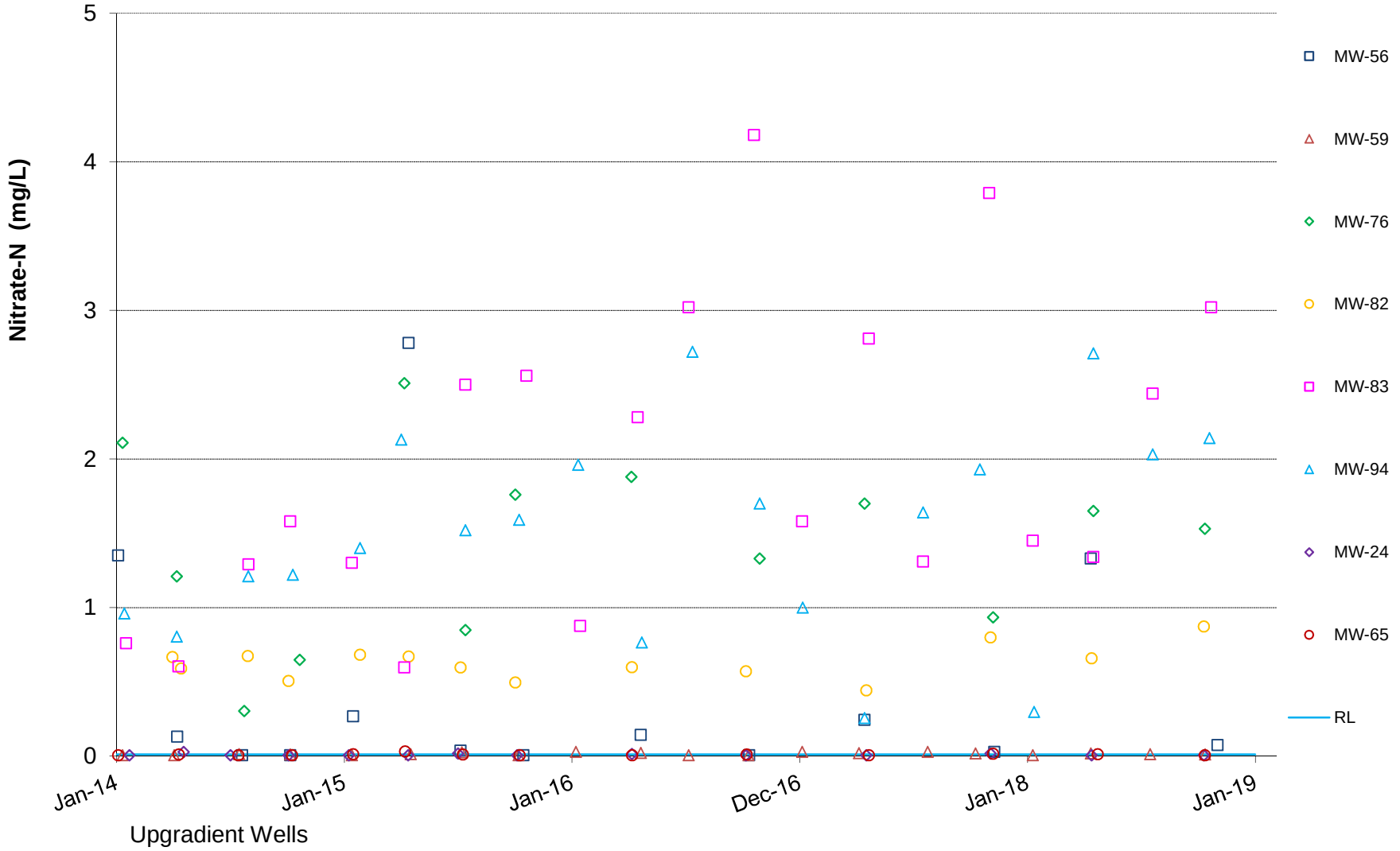

Chloride (mg/L)
100
80
60
40
20
0
Jan-14
Jan-15
Jan-16
Dec-16
Jan-18
Jan-19
Downgradient Wells
MW-74
MW-75
MW-87
MW-85
MW-86
MW-88
MW-89
RL

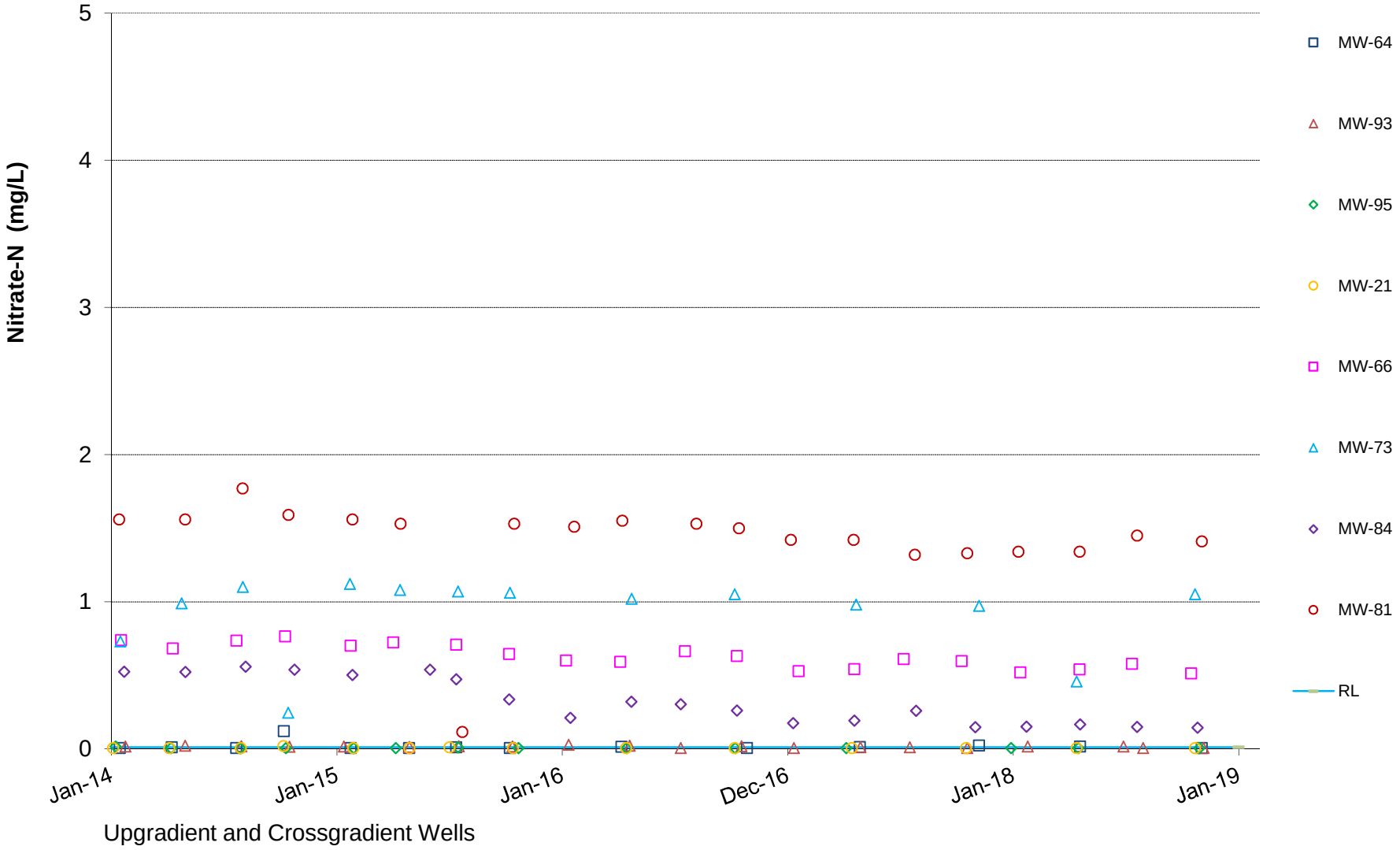

0.25
0.2
0.15
0.1
0.05
0
Ammonia-N (mg/L)
Jan-14
Jan-15
Jan-16
Dec-16
Jan-18
Jan-19
Upgradient Wells
MW-56
MW-59
MW-76
MW-82
MW-83
MW-94
MW-24
MW-65
RL

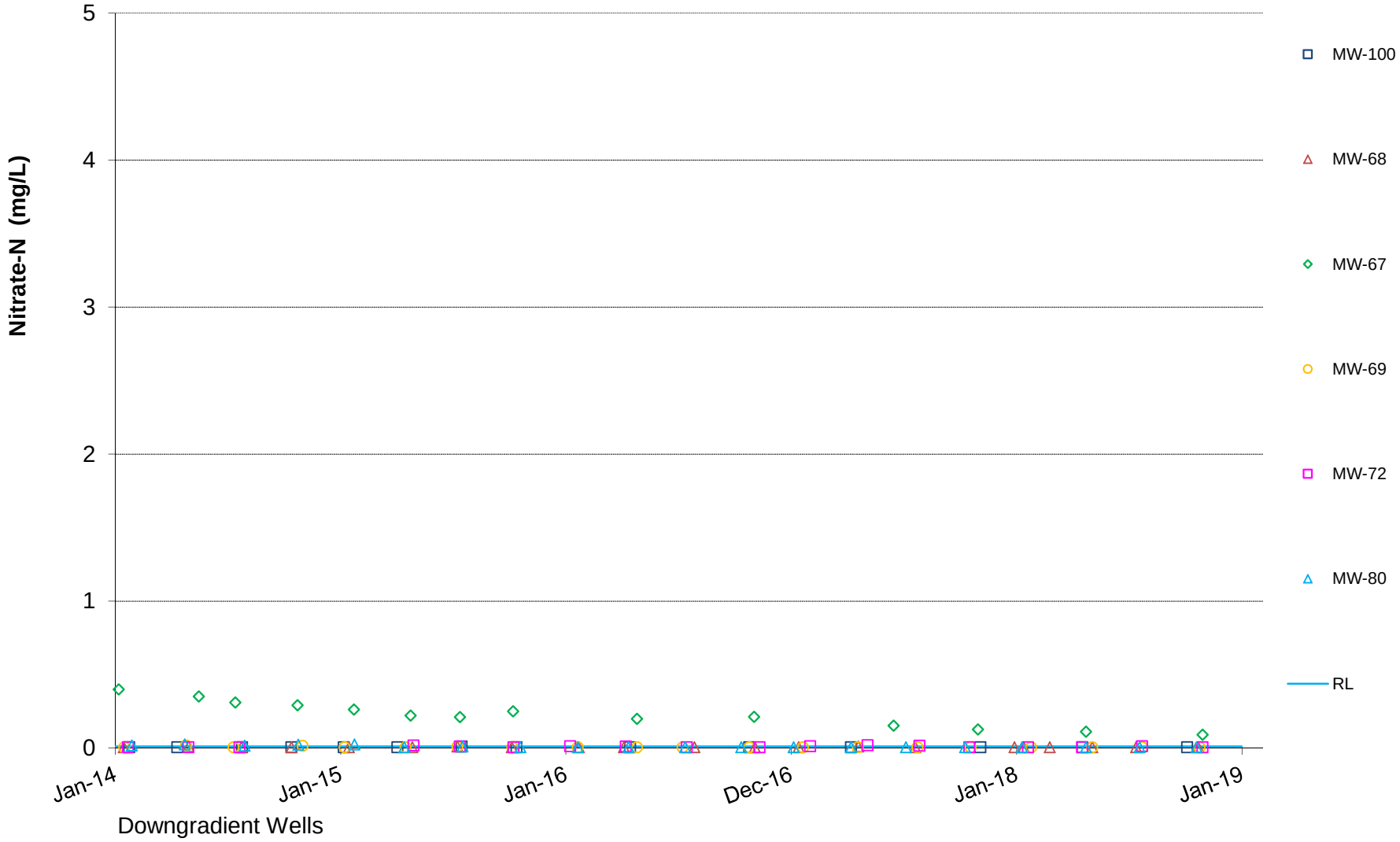

0.25
0.2
0.15
0.1
0.05
0
Ammonia-N (mg/L)
Jan-14
Jan-15
Jan-16
Dec-16
Jan-18
Jan-19
Upgradient and Crossgradient Wells
MW-64
MW-93
MW-95
MW-21
MW-66
MW-73
MW-84
MW-81
RL

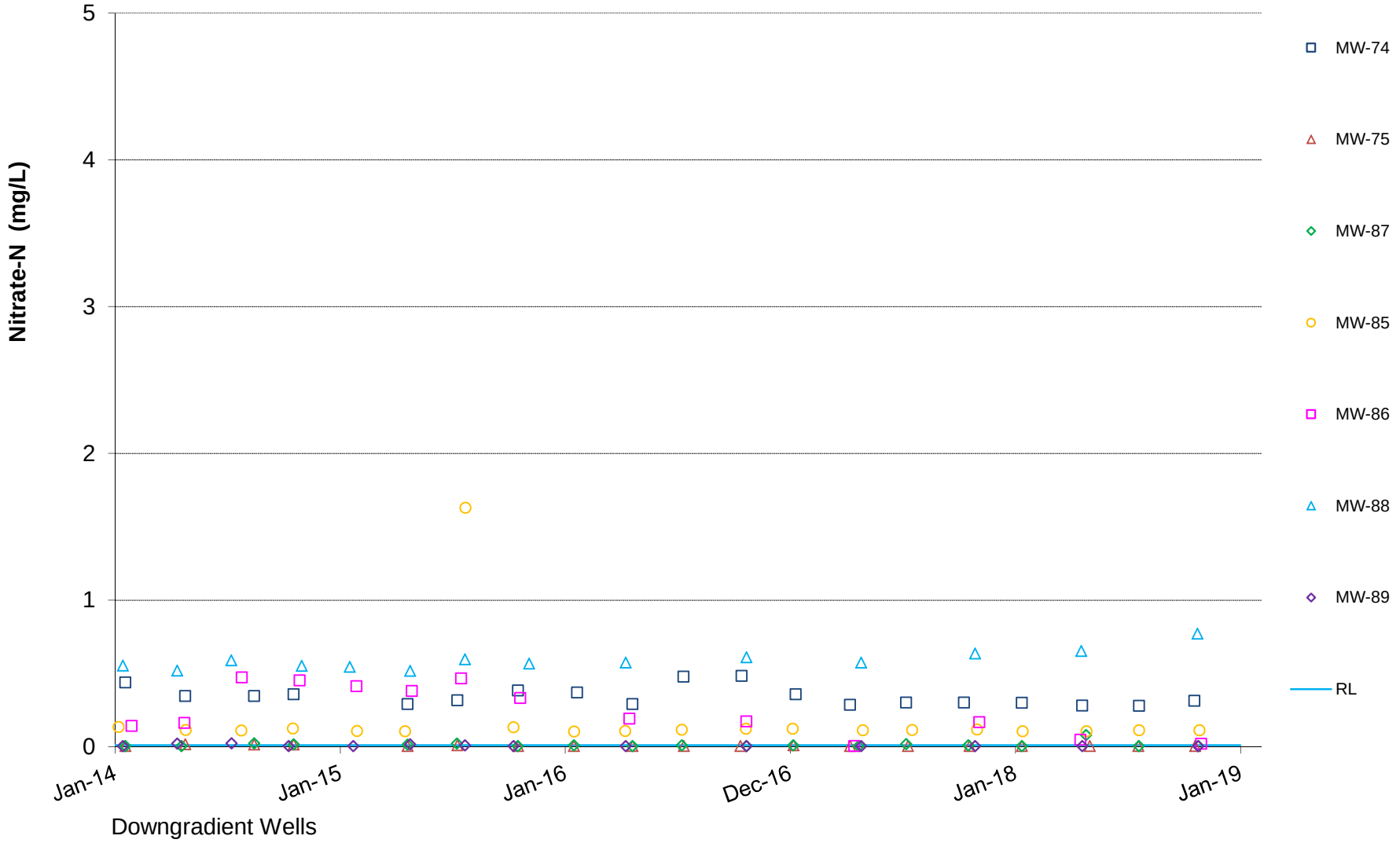

0.25
0.2
0.15
0.1
0.05
0
Ammonia-N (mg/L)
Jan-14
Jan-15
Jan-16
Dec-16
Jan-18
Jan-19
Downgradient Wells
MW-100
MW-68
MW-67
MW-69
MW-72
MW-80
RL

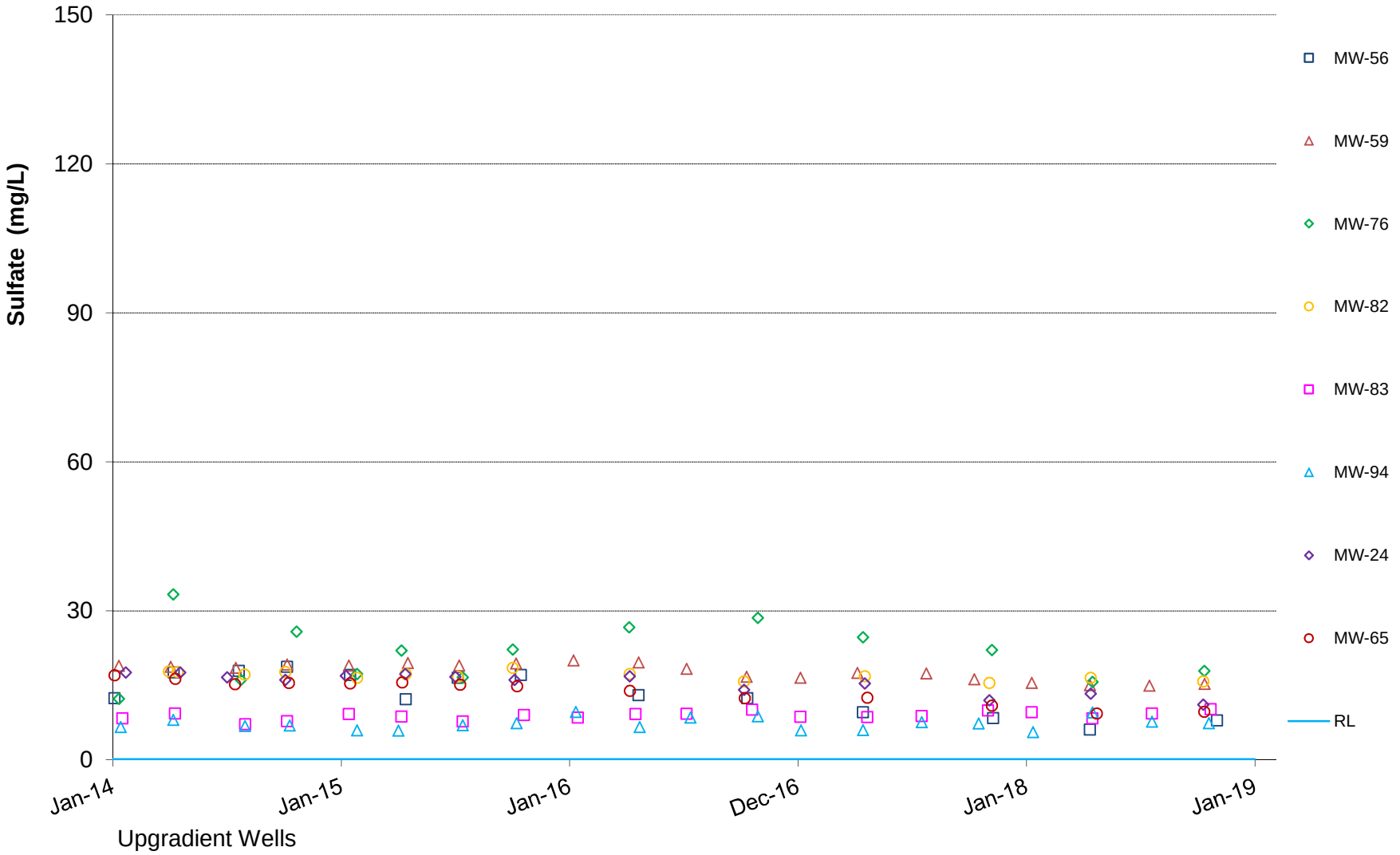

0.25
0.2
0.15
0.1
0.05
0
Ammonia-N (mg/L)
Jan-14
Jan-15
Jan-16
Dec-16
Jan-18
Jan-19
Downgradient Wells
MW-74
MW-75
MW-87
MW-85
MW-86
MW-88
MW-89
RL

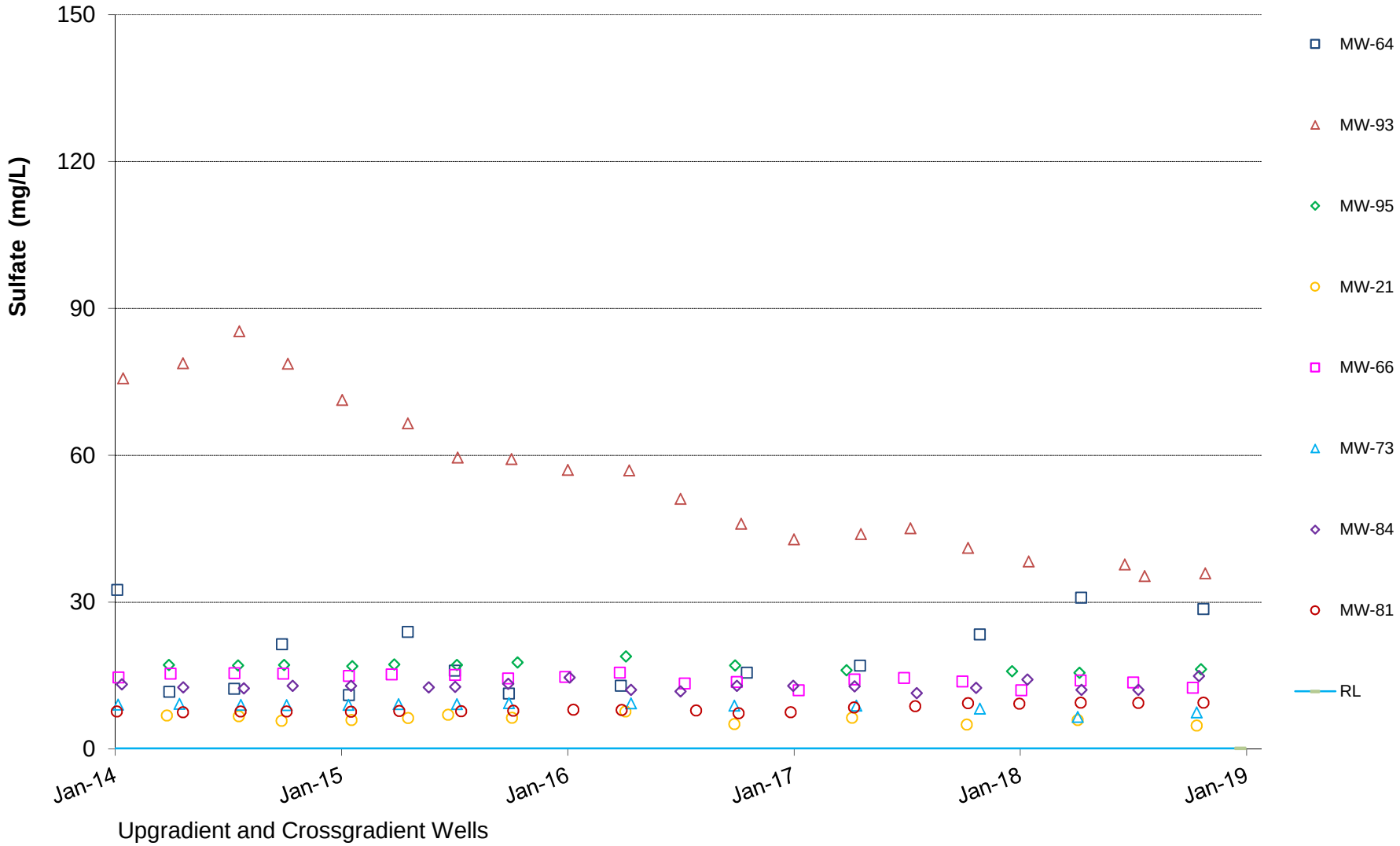

Nitrate-N (mg/L)
5
4
3
2
1
0
Jan-14
Jan-15
Jan-16
Dec-16
Jan-18
Jan-19
Upgradient Wells
MW-56
MW-59
MW-76
MW-82
MW-83
MW-94
MW-24
MW-65
RL

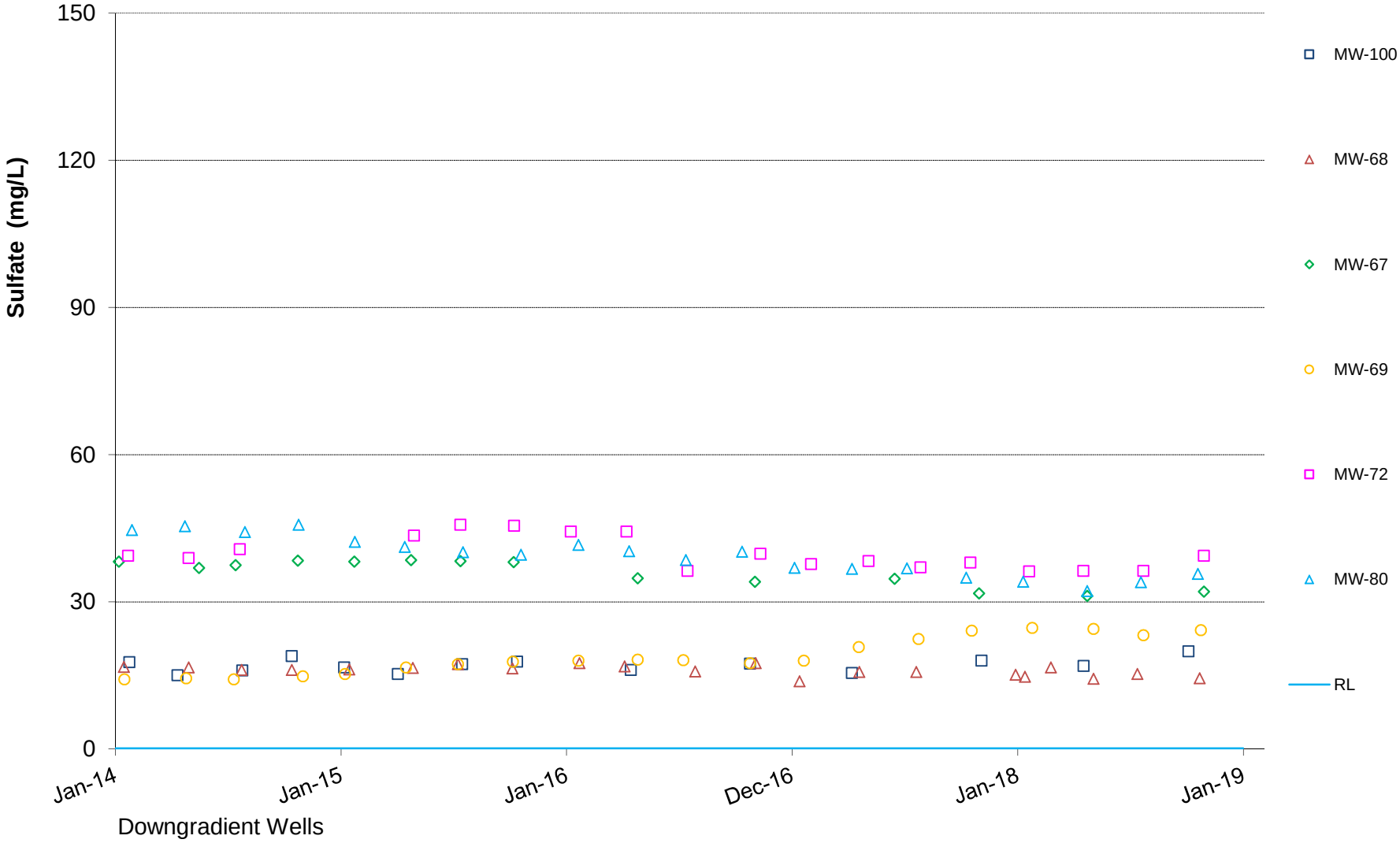

Nitrate-N (mg/L)
5
4
3
2
1
0
Jan-14
Jan-15
Jan-16
Dec-16
Jan-18
Jan-19
Upgradient and Crossgradient Wells
MW-64
MW-93
MW-95
MW-21
MW-66
MW-73
MW-84
MW-81
RL

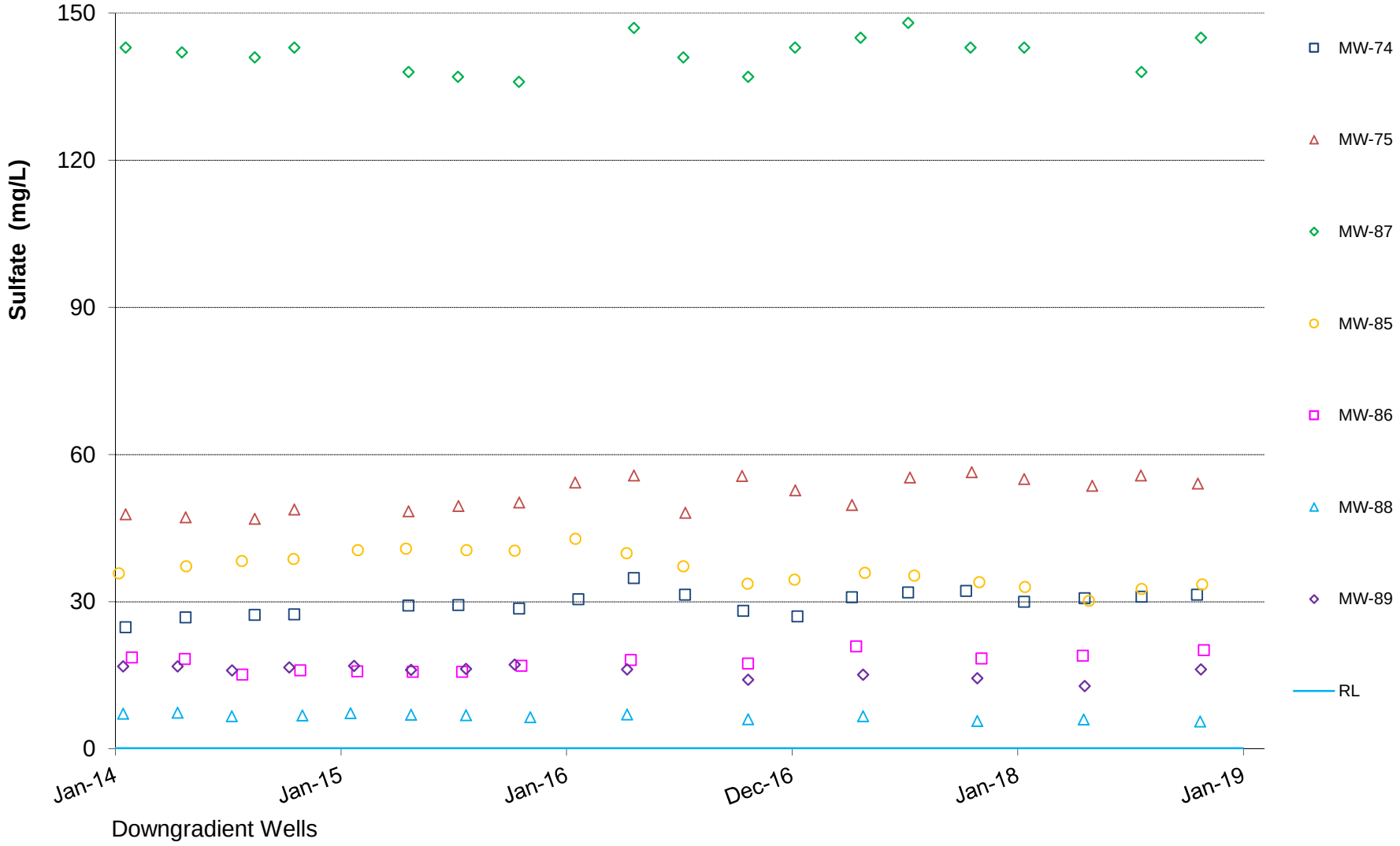

Nitrate-N (mg/L)
5
4
3
2
1
0
Jan-14
Jan-15
Jan-16
Dec-16
Jan-18
Jan-19
Downgradient Wells
MW-100
MW-68
MW-67
MW-69
MW-72
MW-80
RL

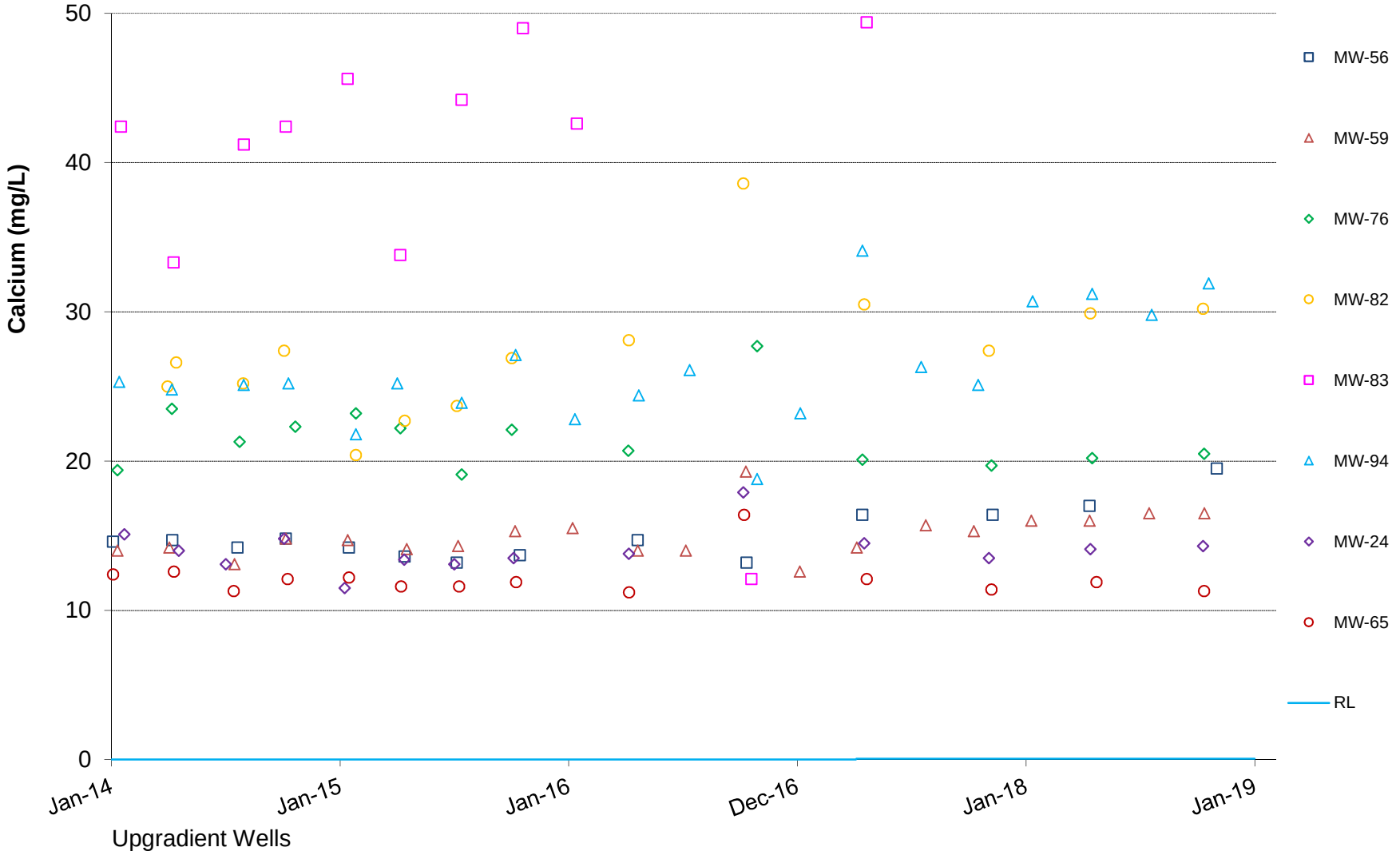

Nitrate-N (mg/L)
5
4
3
2
1
0
Jan-14
Jan-15
Jan-16
Dec-16
Jan-18
Jan-19
Downgradient Wells
MW-74
MW-75
MW-87
MW-85
MW-86
MW-88
MW-89
RL

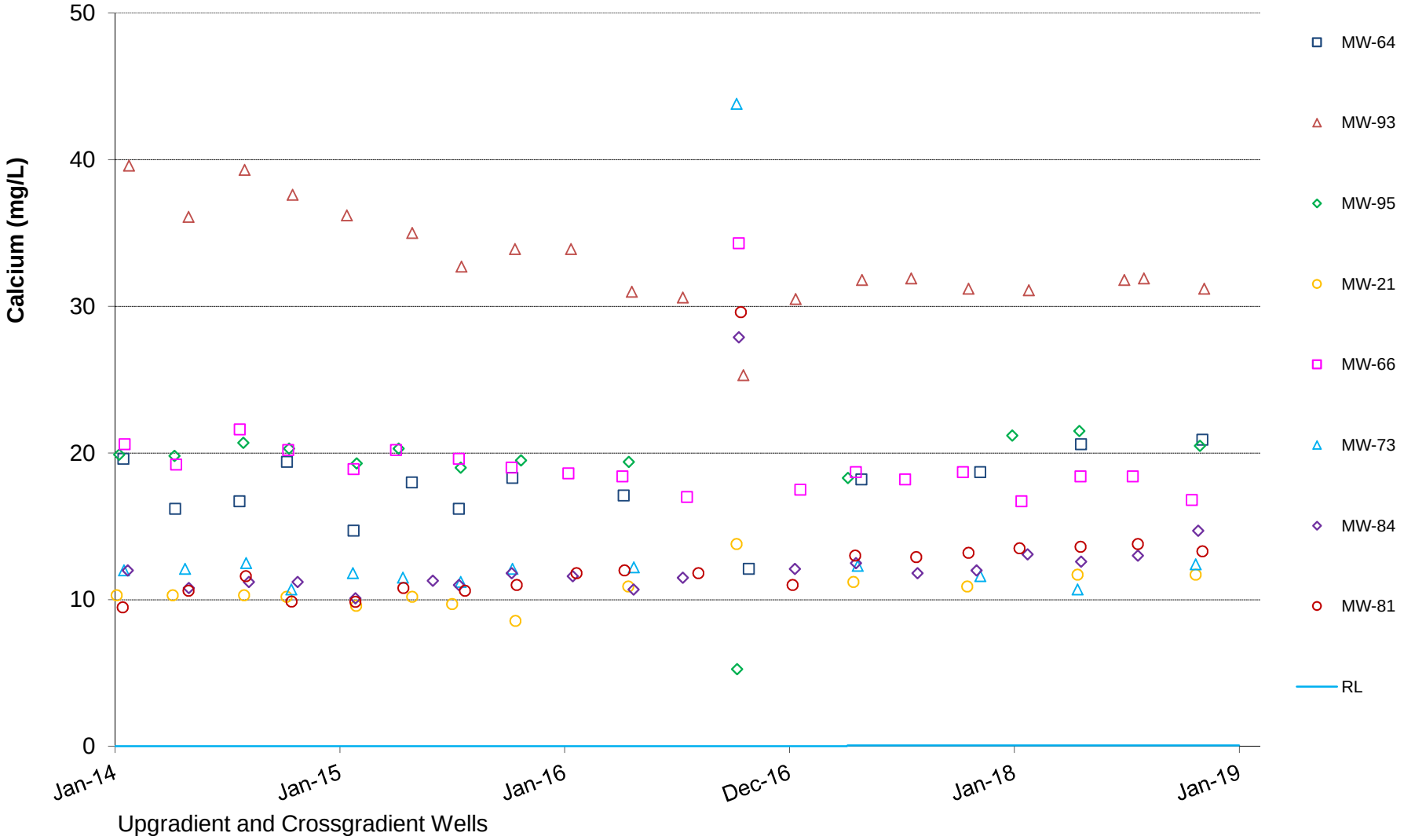

150
120
90
60
30
0
Sulfate (mg/L)
Jan-14
Jan-15
Jan-16
Dec-16
Jan-18
Jan-19
Upgradient Wells
MW-56
MW-59
MW-76
MW-82
MW-83
MW-94
MW-24
MW-65
RL

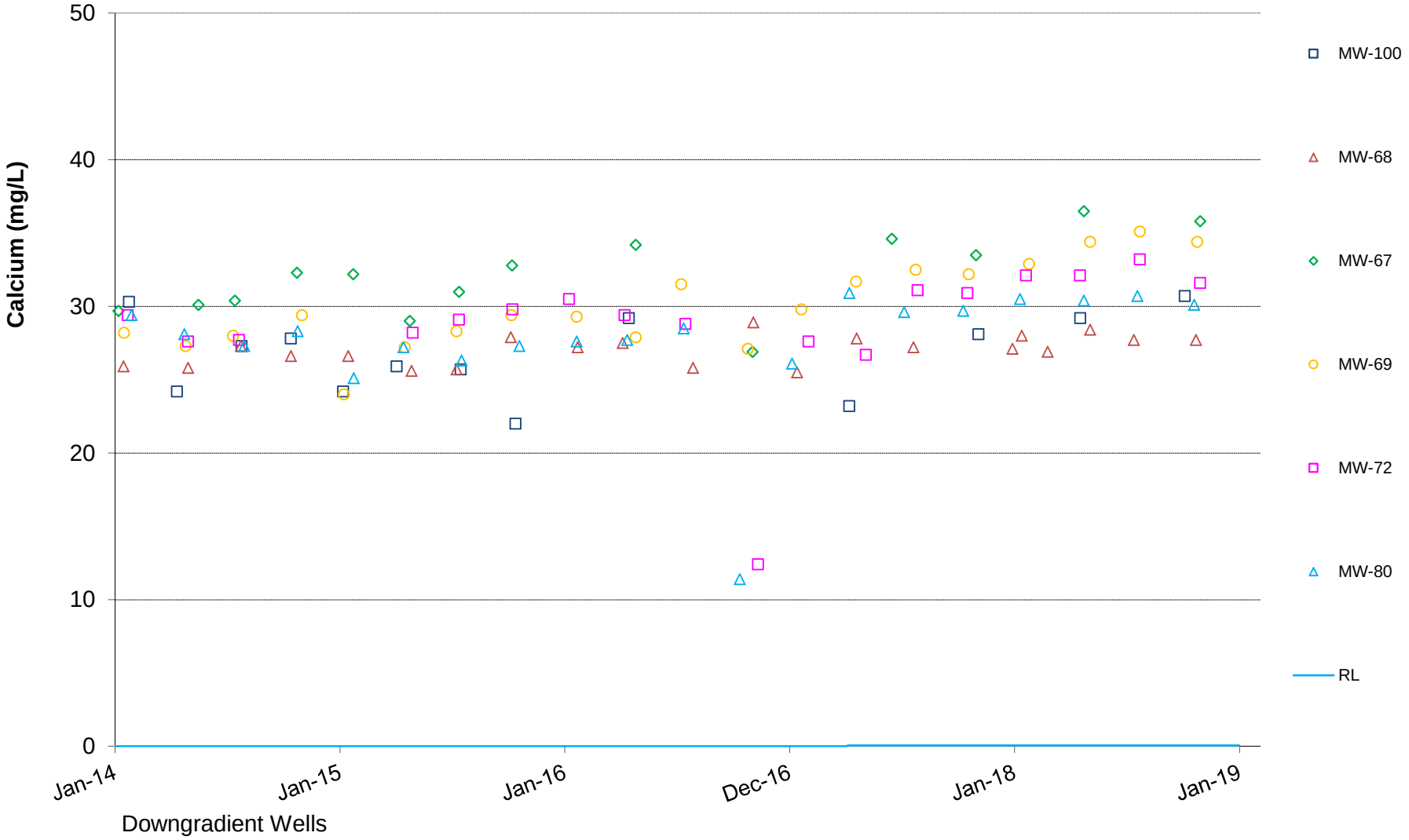

150
120
90
60
30
0
Sulfate (mg/L)
Jan-14
Jan-15
Jan-16
Jan-17
Jan-18
Jan-19
Upgradient and Crossgradient Wells
MW-64
MW-93
MW-95
MW-21
MW-66
MW-73
MW-84
MW-81
RL

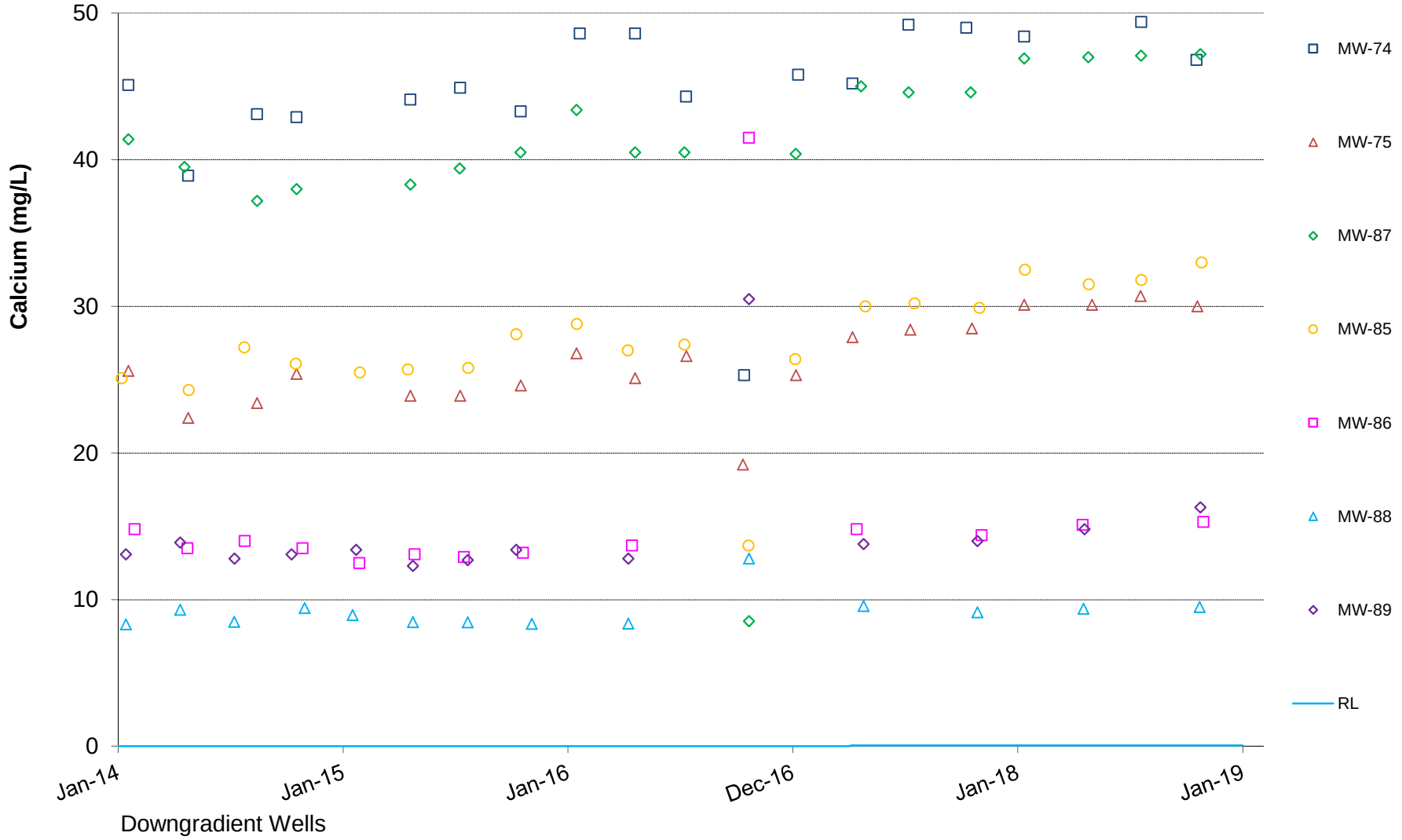

Sulfate (mg/L)
150
120
90
60
30
0
Jan-14
Jan-15
Jan-16
Dec-16
Jan-18
Jan-19
Downgradient Wells
MW-100
MW-68
MW-67
MW-69
MW-72
MW-80
RL

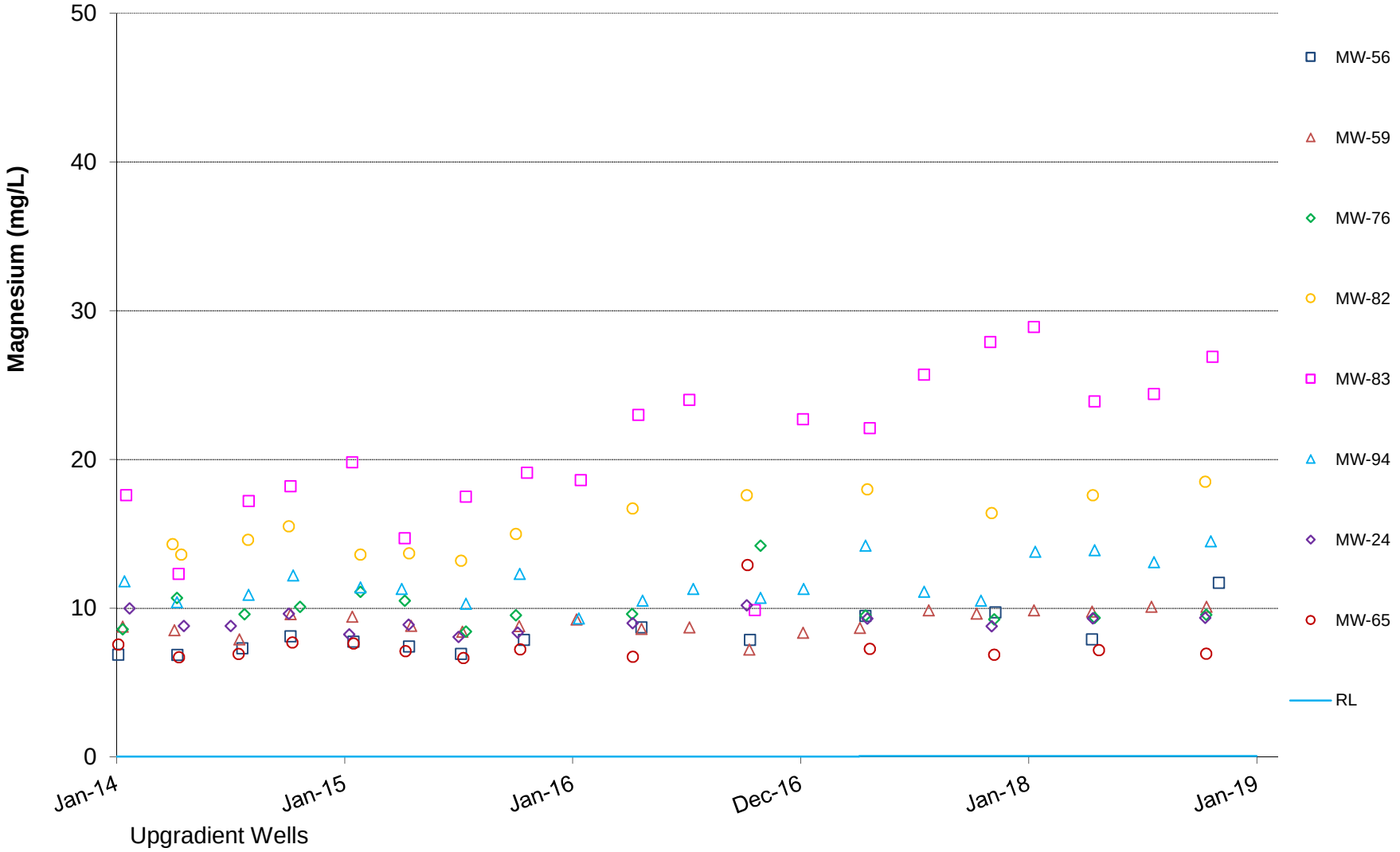

Sulfate (mg/L)
150
120
90
60
30
0
Jan-14
Jan-15
Jan-16
Dec-16
Jan-18
Jan-19
Downgradient Wells
MW-74
MW-75
MW-87
MW-85
MW-86
MW-88
MW-89
RL

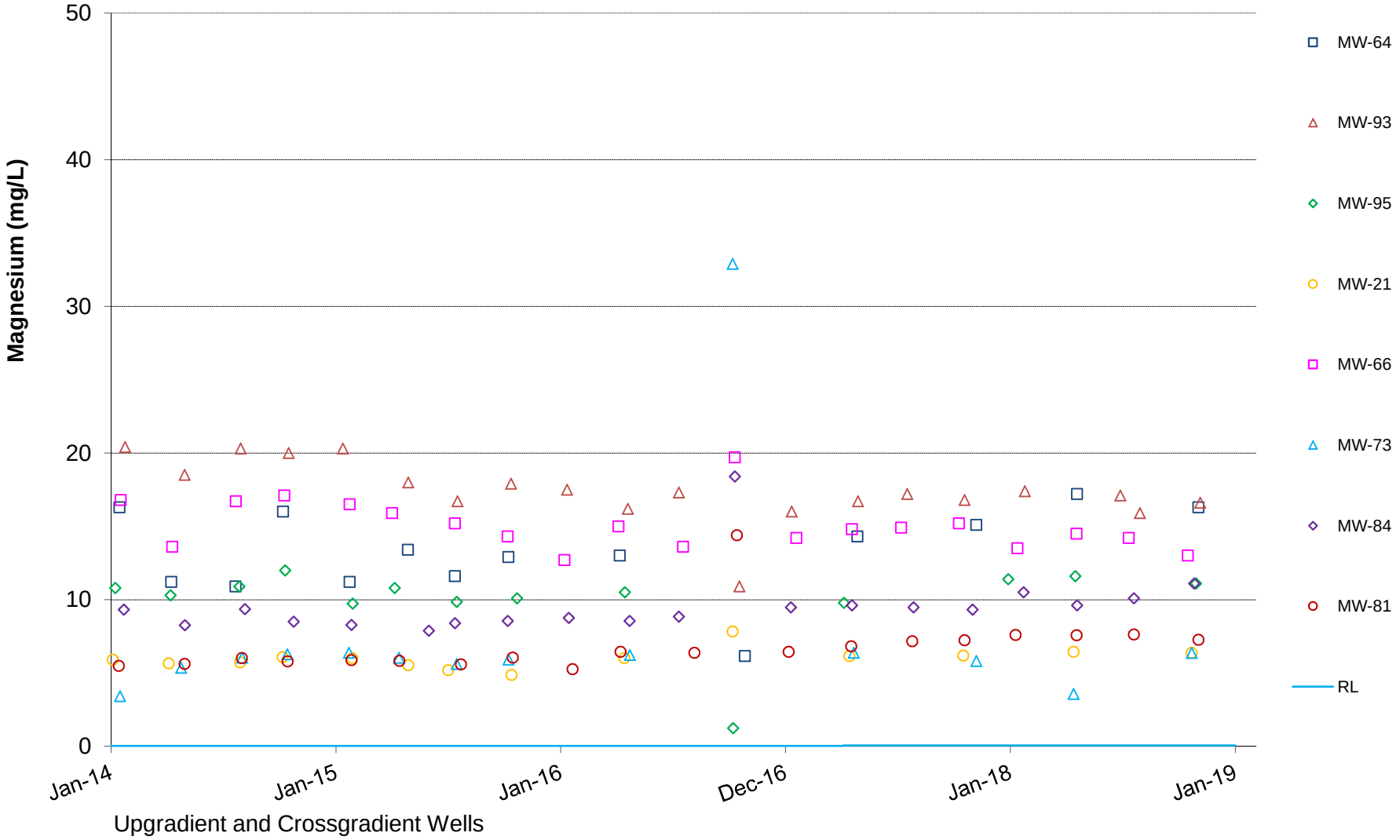

Calcium (mg/L)
50
40
30
20
10
0
Jan-14
Jan-15
Jan-16
Dec-16
Jan-18
Jan-19
Upgradient Wells
MW-56
MW-59
MW-76
MW-82
MW-83
MW-94
MW-24
MW-65
RL

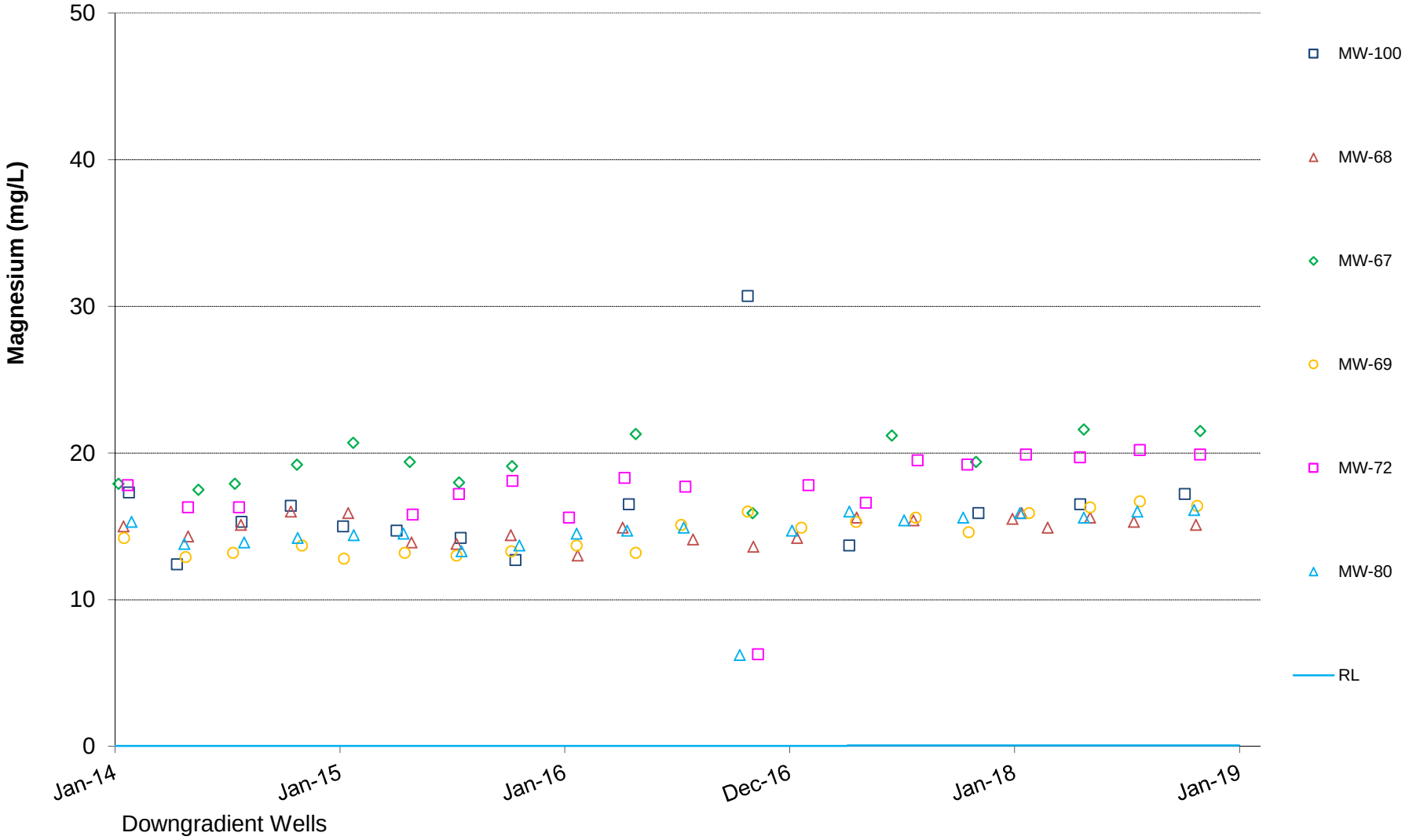

Calcium (mg/L)
50
40
30
20
10
0
Jan-14
Jan-15
Jan-16
Dec-16
Jan-18
Jan-19
Upgradient and Crossgradient Wells
MW-64
MW-93
MW-95
MW-21
MW-66
MW-73
MW-84
MW-81
RL

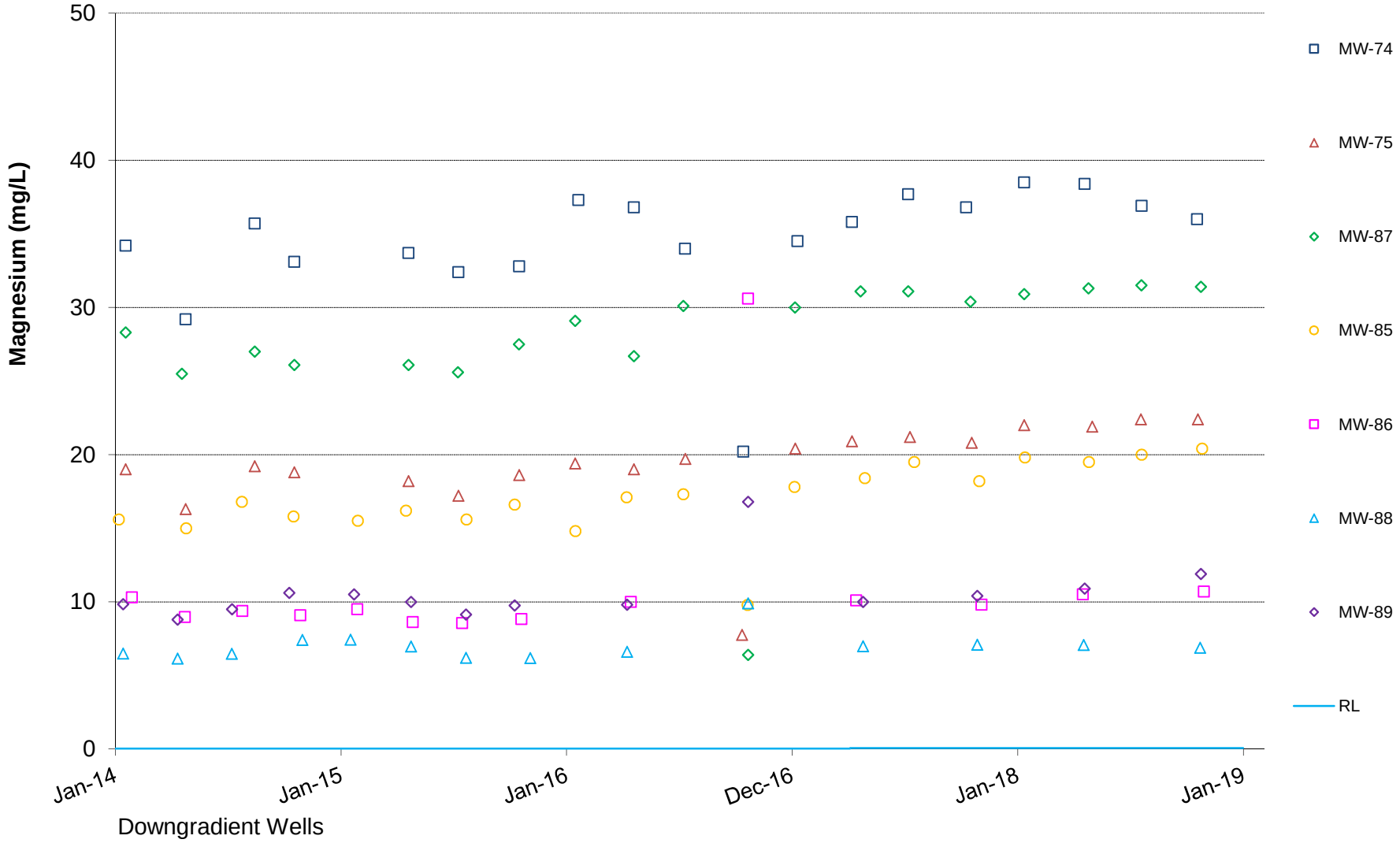

Calcium (mg/L)
50
40
30
20
10
0
Jan-14
Jan-15
Jan-16
Dec-16
Jan-18
Jan-19
Downgradient Wells
MW-100
MW-68
MW-67
MW-69
MW-72
MW-80
RL

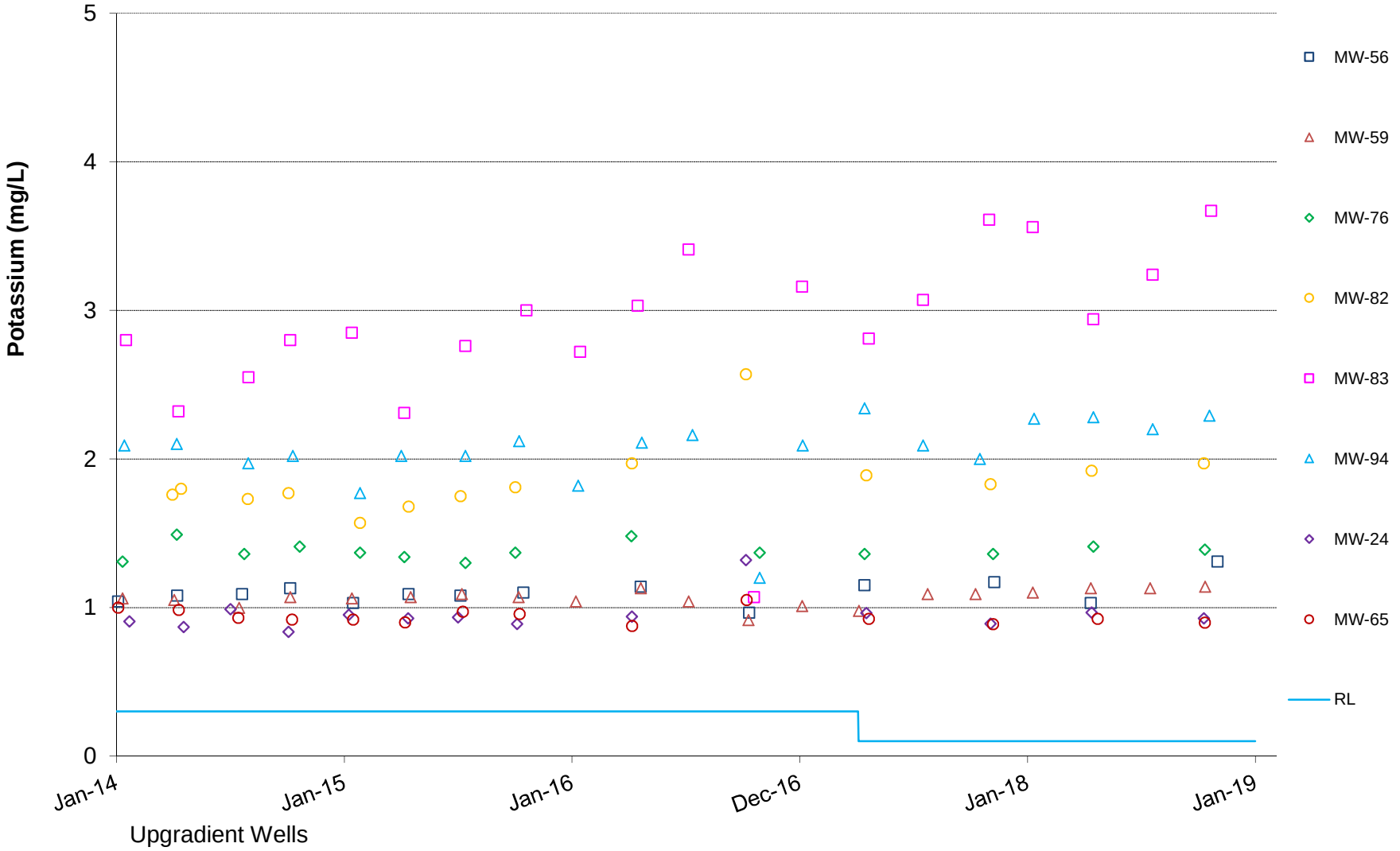

Calcium (mg/L)
50
40
30
20
10
0
Jan-14
Jan-15
Jan-16
Dec-16
Jan-18
Jan-19
Downgradient Wells
MW-74
MW-75
MW-87
MW-85
MW-86
MW-88
MW-89
RL

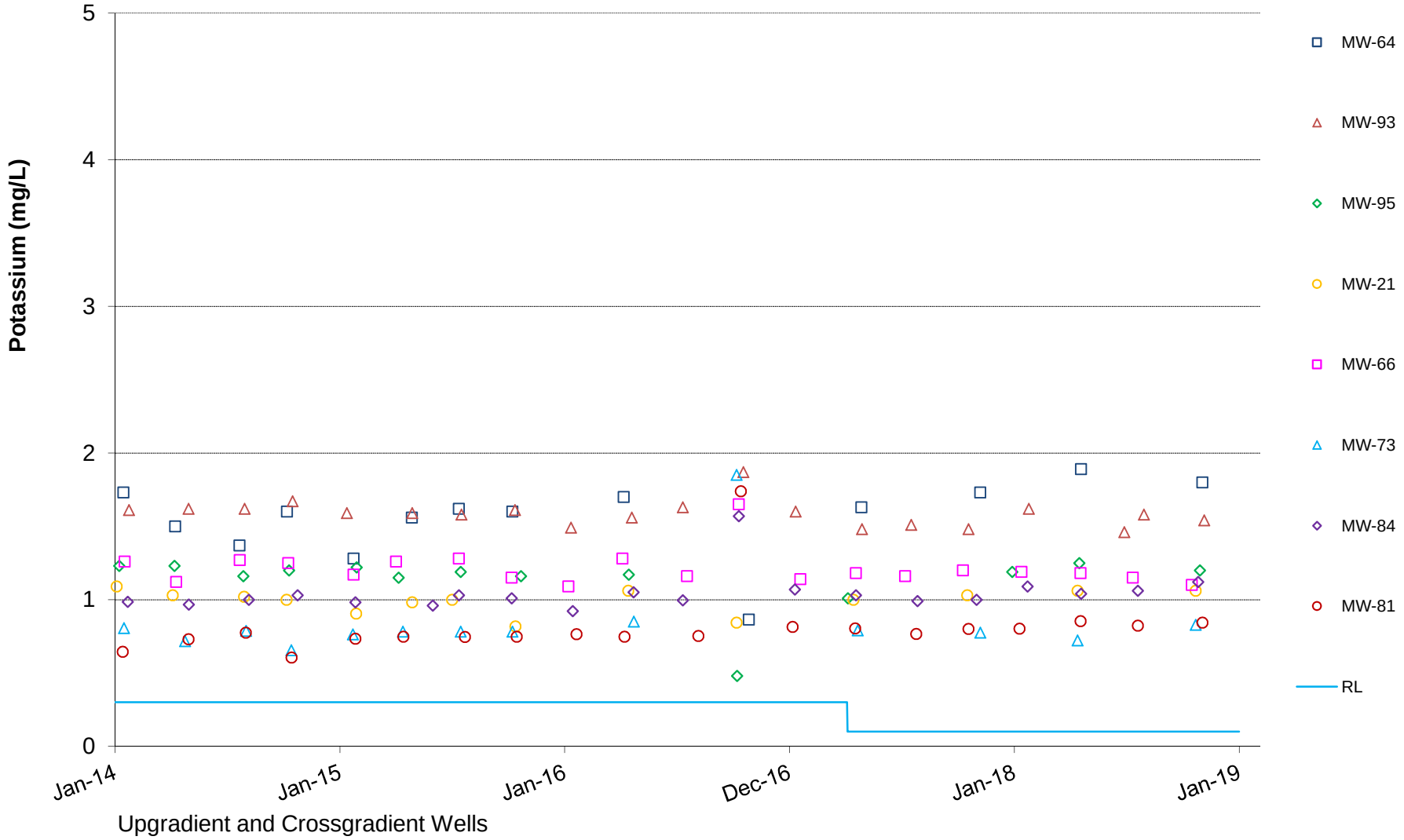

Magnesium (mg/L)
50
40
30
20
10
0
Jan-14
Jan-15
Jan-16
Dec-16
Jan-18
Jan-19
Upgradient Wells
MW-56
MW-59
MW-76
MW-82
MW-83
MW-94
MW-24
MW-65
RL

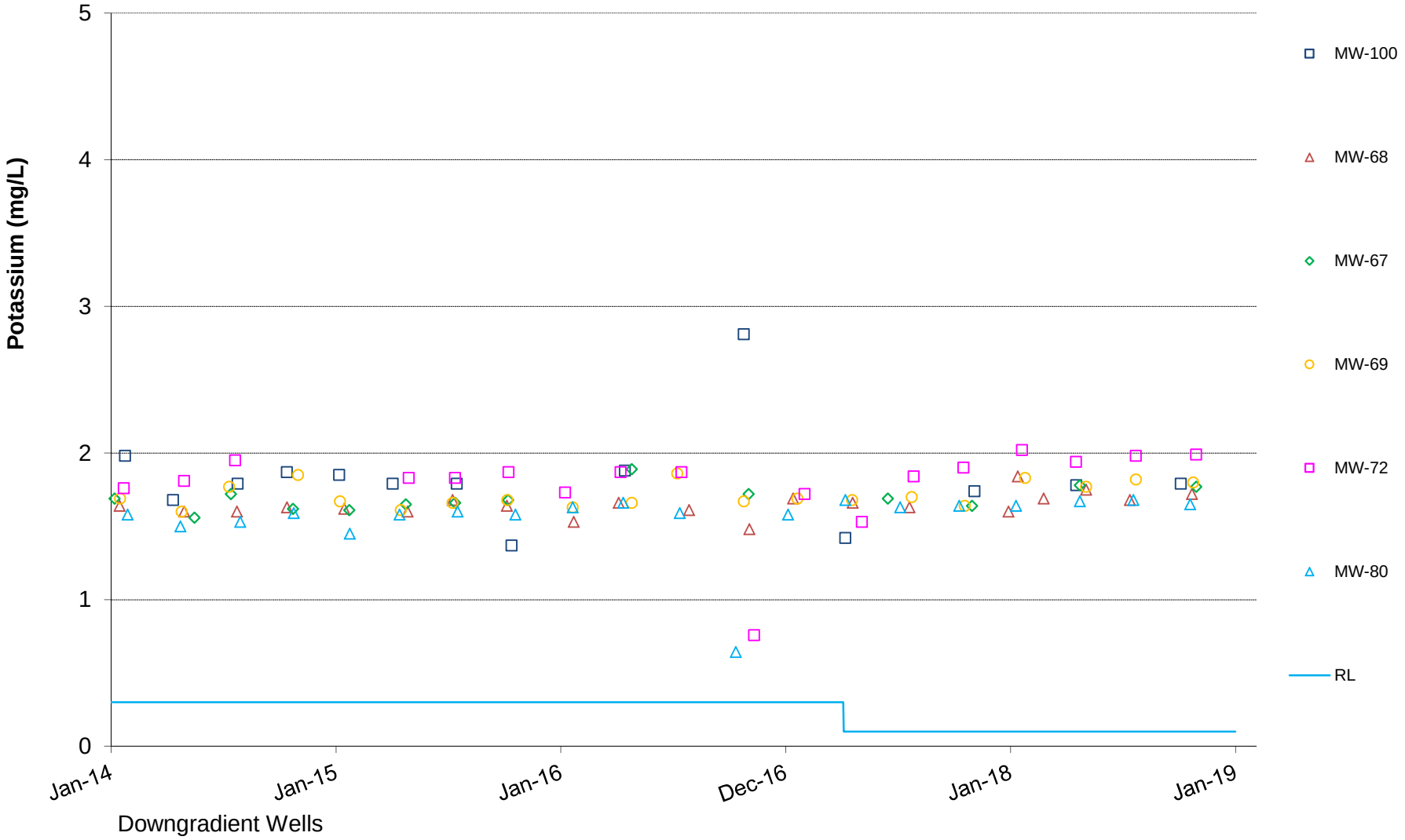

Magnesium (mg/L)
50
40
30
20
10
0
Jan-14
Jan-15
Jan-16
Dec-16
Jan-18
Jan-19
Upgradient and Crossgradient Wells
MW-64
MW-93
MW-95
MW-21
MW-66
MW-73
MW-84
MW-81
RL

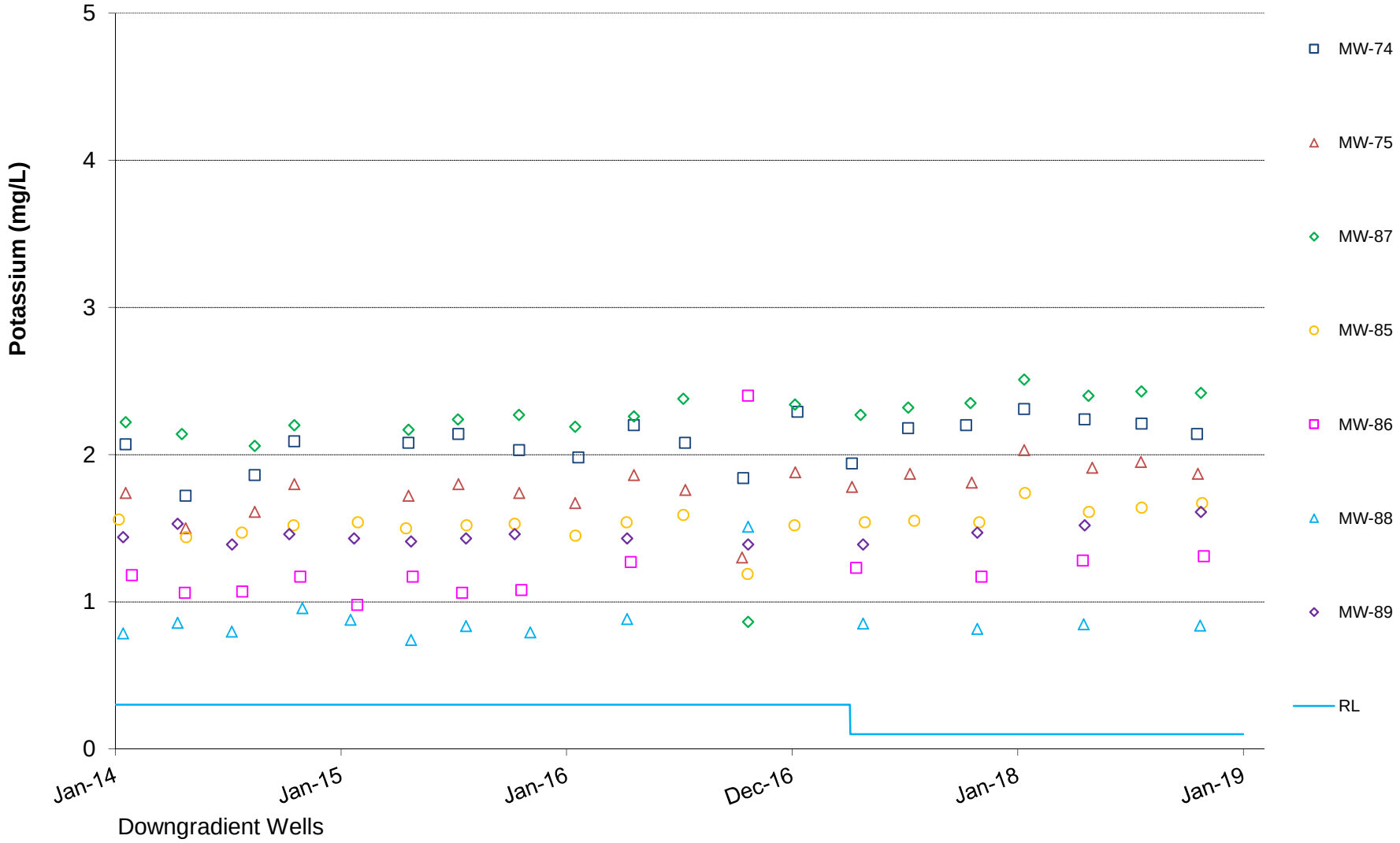

Magnesium (mg/L)
50
40
30
20
10
0
Jan-14
Jan-15
Jan-16
Dec-16
Jan-18
Jan-19
Downgradient Wells
MW-100
MW-68
MW-67
MW-69
MW-72
MW-80
RL

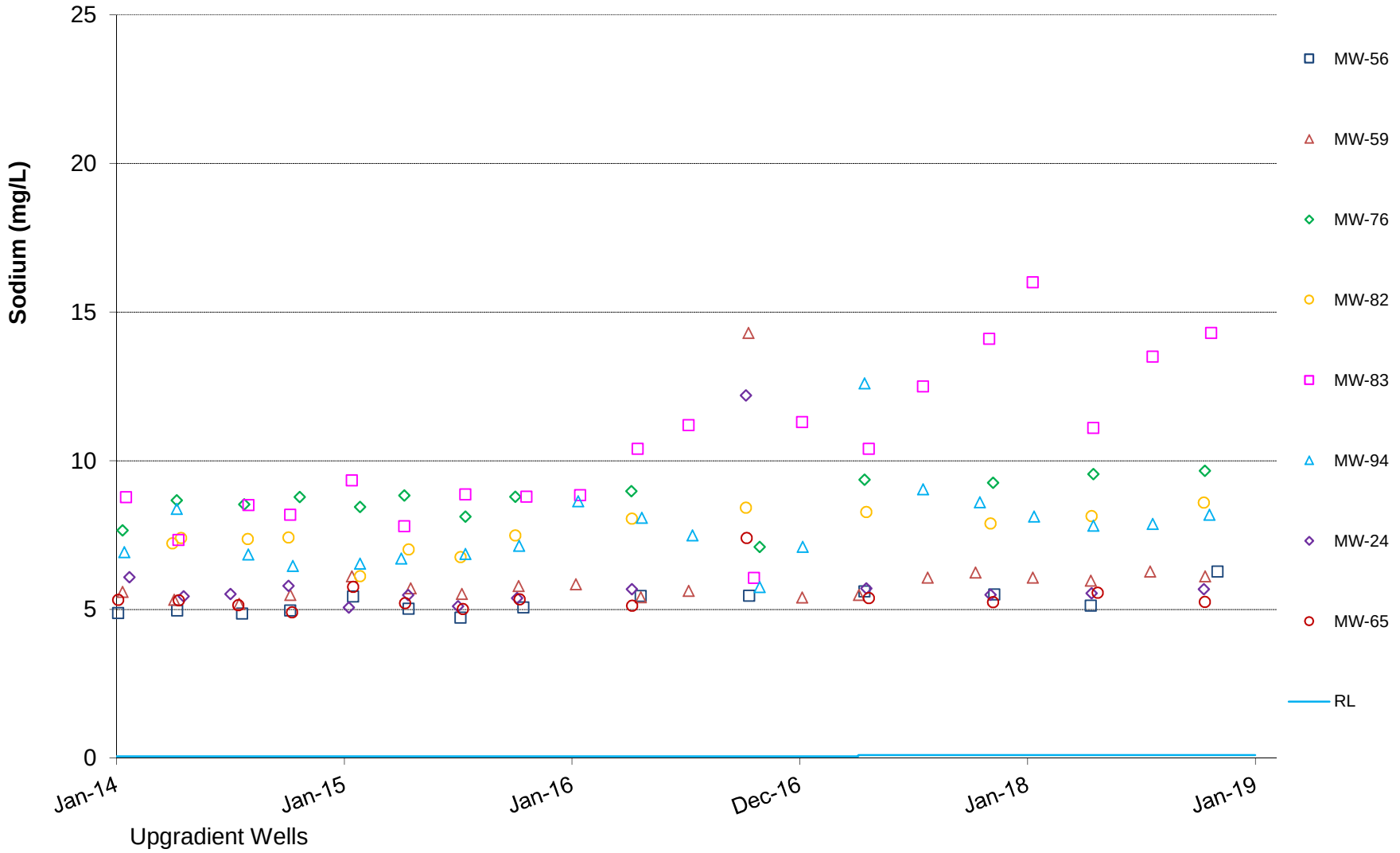

Magnesium (mg/L)
50
40
30
20
10
0
Jan-14
Jan-15
Jan-16
Dec-16
Jan-18
Jan-19
Downgradient Wells
MW-74
MW-75
MW-87
MW-85
MW-86
MW-88
MW-89
RL

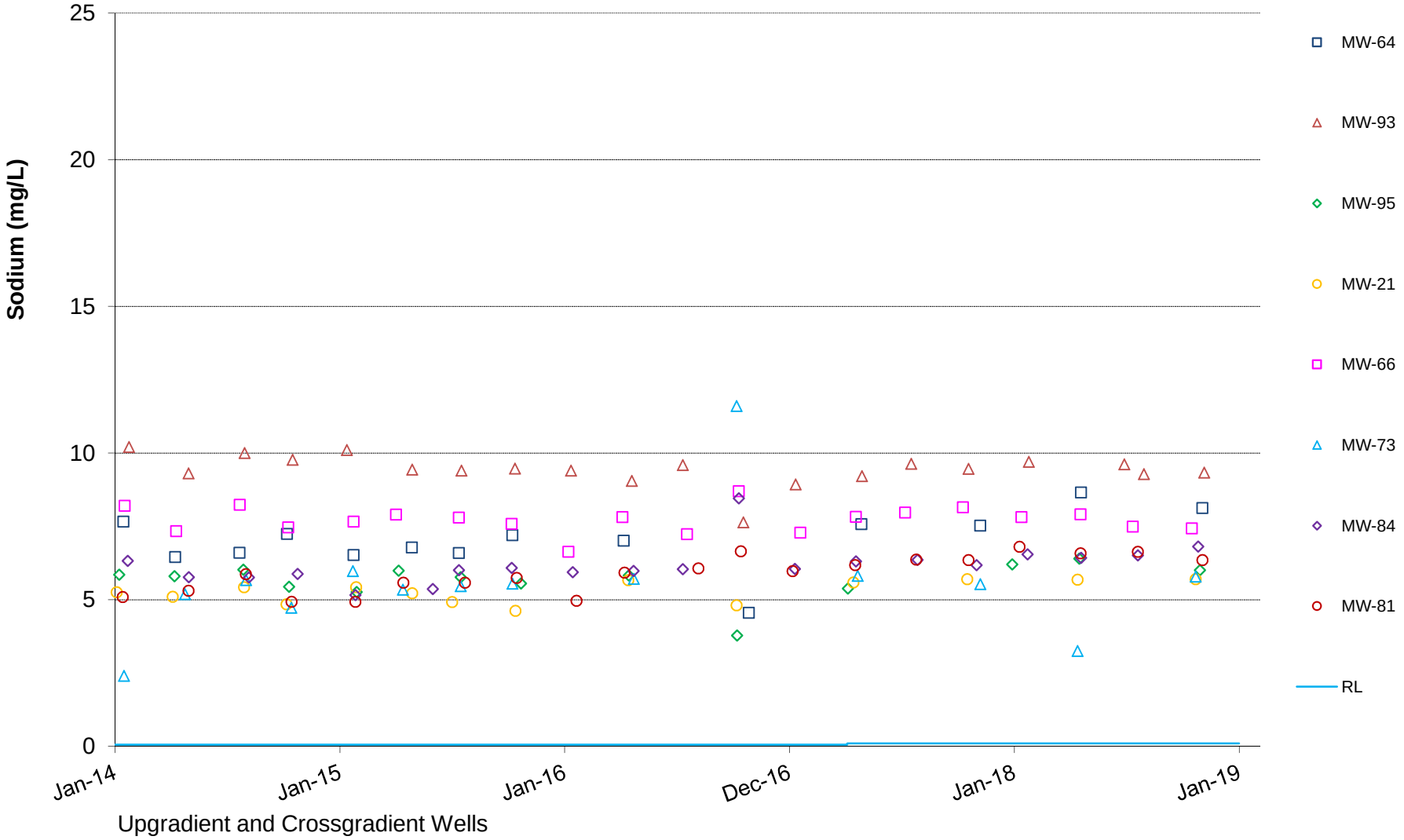

Potassium (mg/L)
5
4
3
2
1
0
Jan-14
Jan-15
Jan-16
Dec-16
Jan-18
Jan-19
Upgradient Wells
MW-56
MW-59
MW-76
MW-82
MW-83
MW-94
MW-24
MW-65
RL

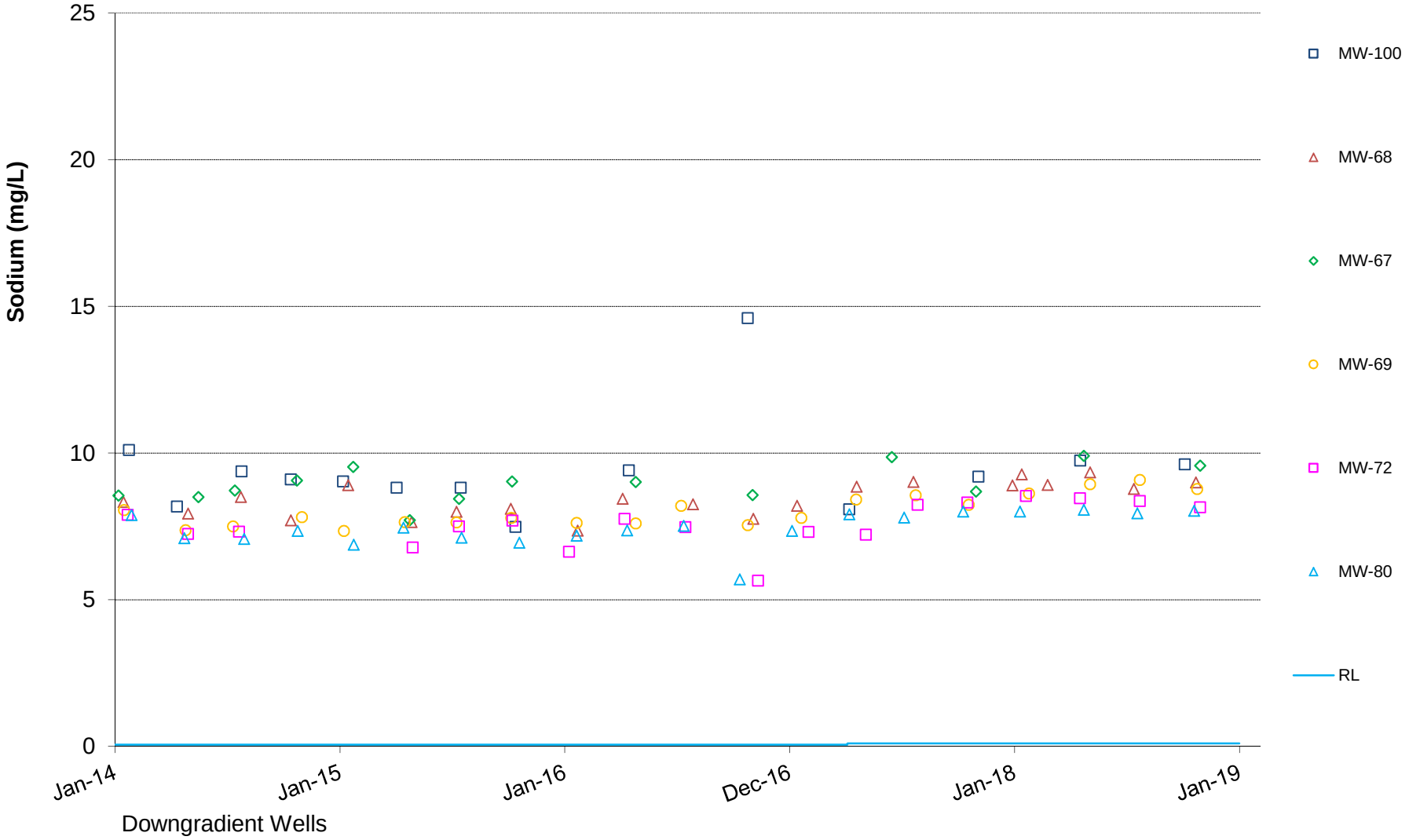

Potassium (mg/L)
5
4
3
2
1
0
Jan-14
Jan-15
Jan-16
Dec-16
Jan-18
Jan-19
Upgradient and Crossgradient Wells
MW-64
MW-93
MW-95
MW-21
MW-66
MW-73
MW-84
MW-81
RL

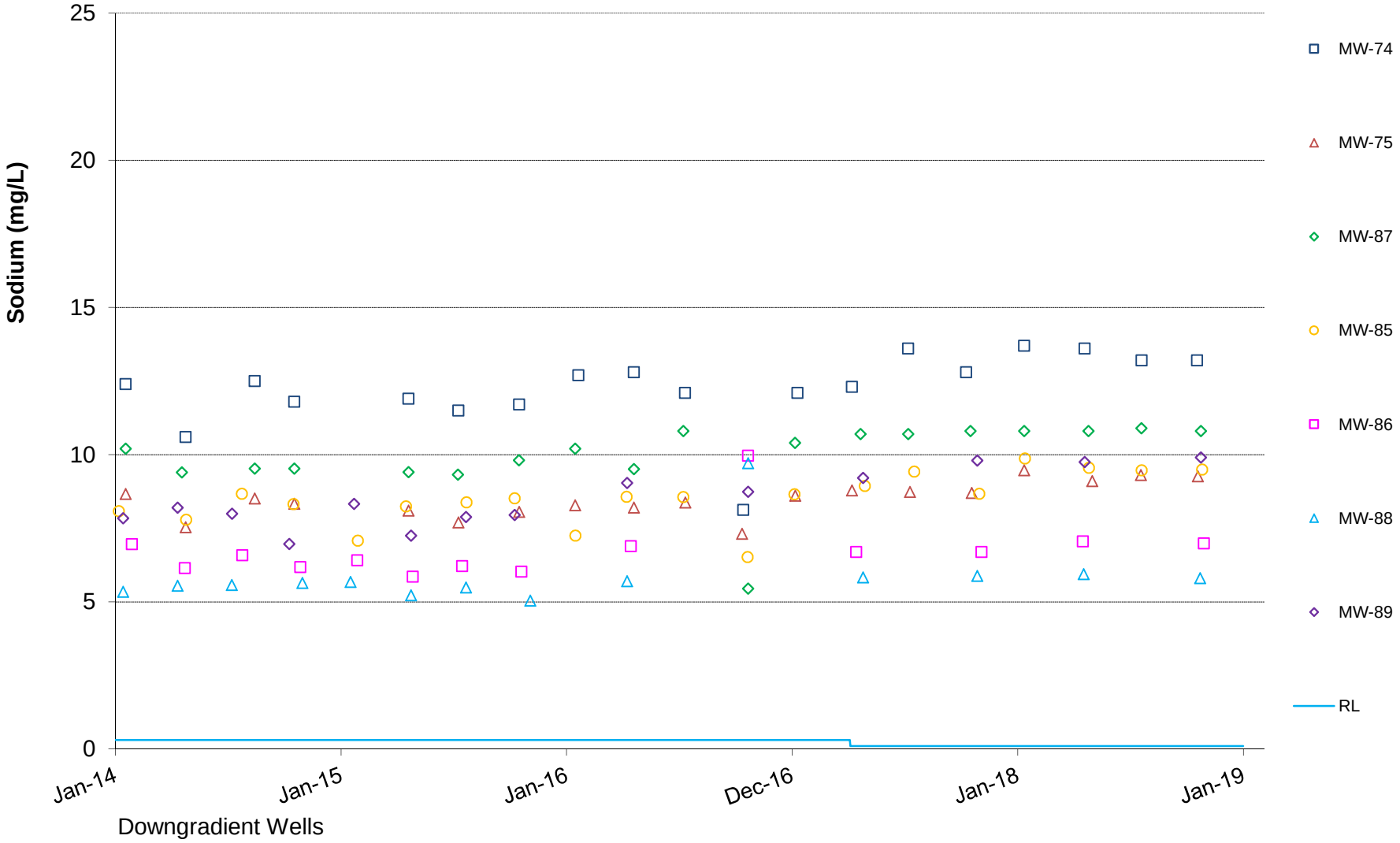

Potassium (mg/L)
5
4
3
2
1
0
Jan-14
Jan-15
Jan-16
Dec-16
Jan-18
Jan-19
Downgradient Wells
MW-100
MW-68
MW-67
MW-69
MW-72
MW-80
RL

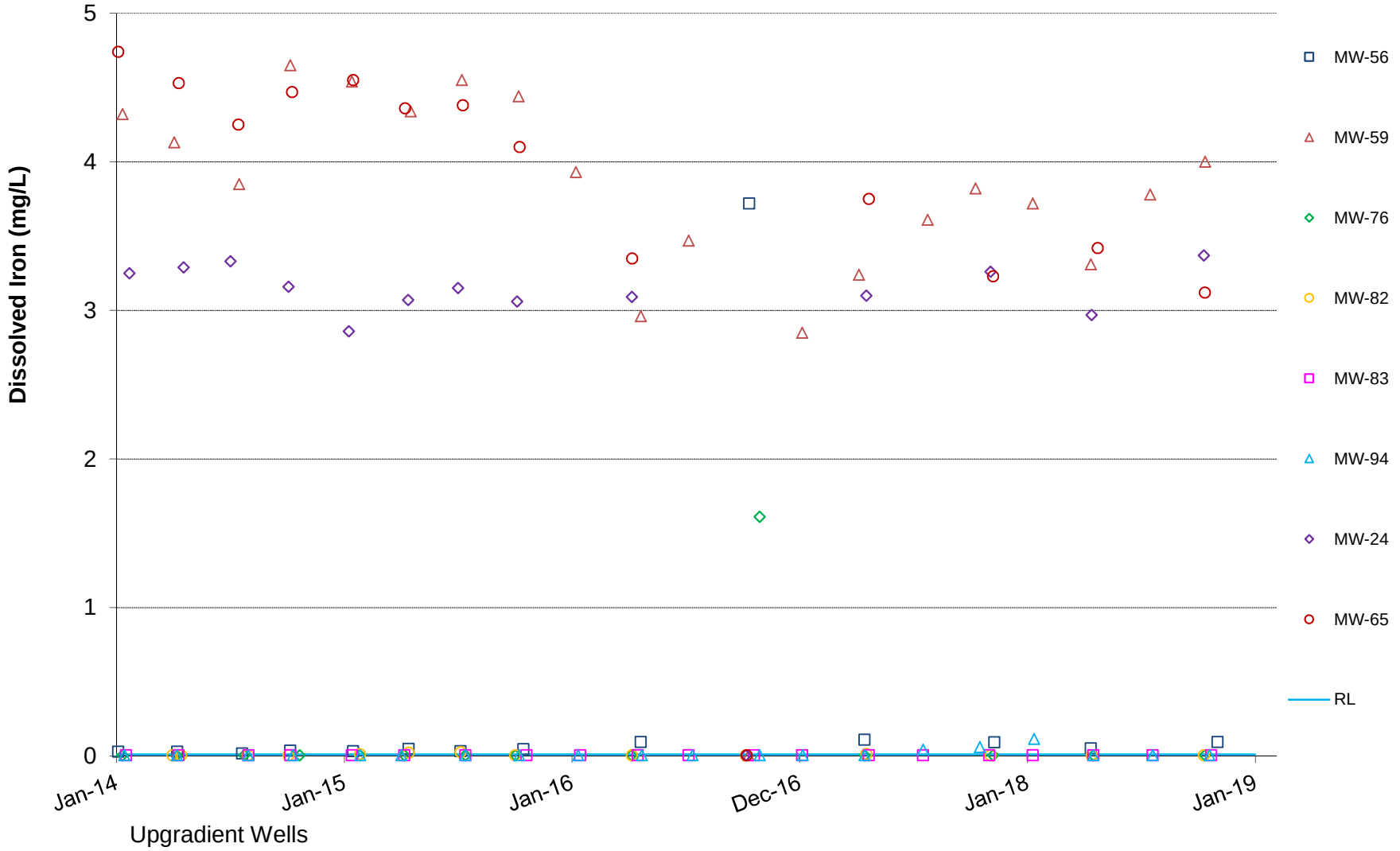

Potassium (mg/L)
5
4
3
2
1
0
Jan-14
Jan-15
Jan-16
Dec-16
Jan-18
Jan-19
Downgradient Wells
MW-74
MW-75
MW-87
MW-85
MW-86
MW-88
MW-89
RL

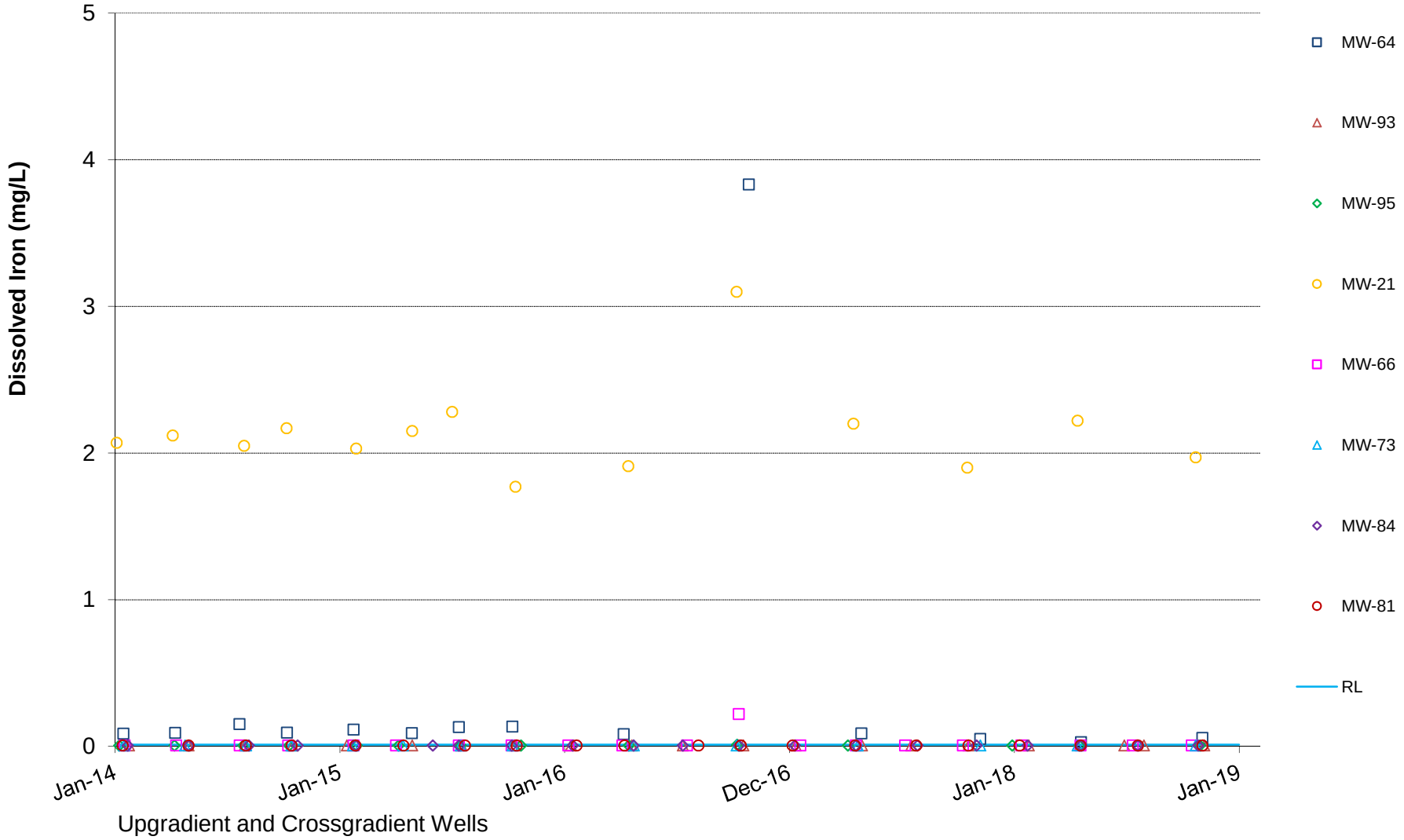

Sodium (mg/L)
25
20
15
10
5
0
Jan-14
Jan-15
Jan-16
Dec-16
Jan-18
Jan-19
Upgradient Wells
MW-56
MW-59
MW-76
MW-82
MW-83
MW-94
MW-24
MW-65
RL

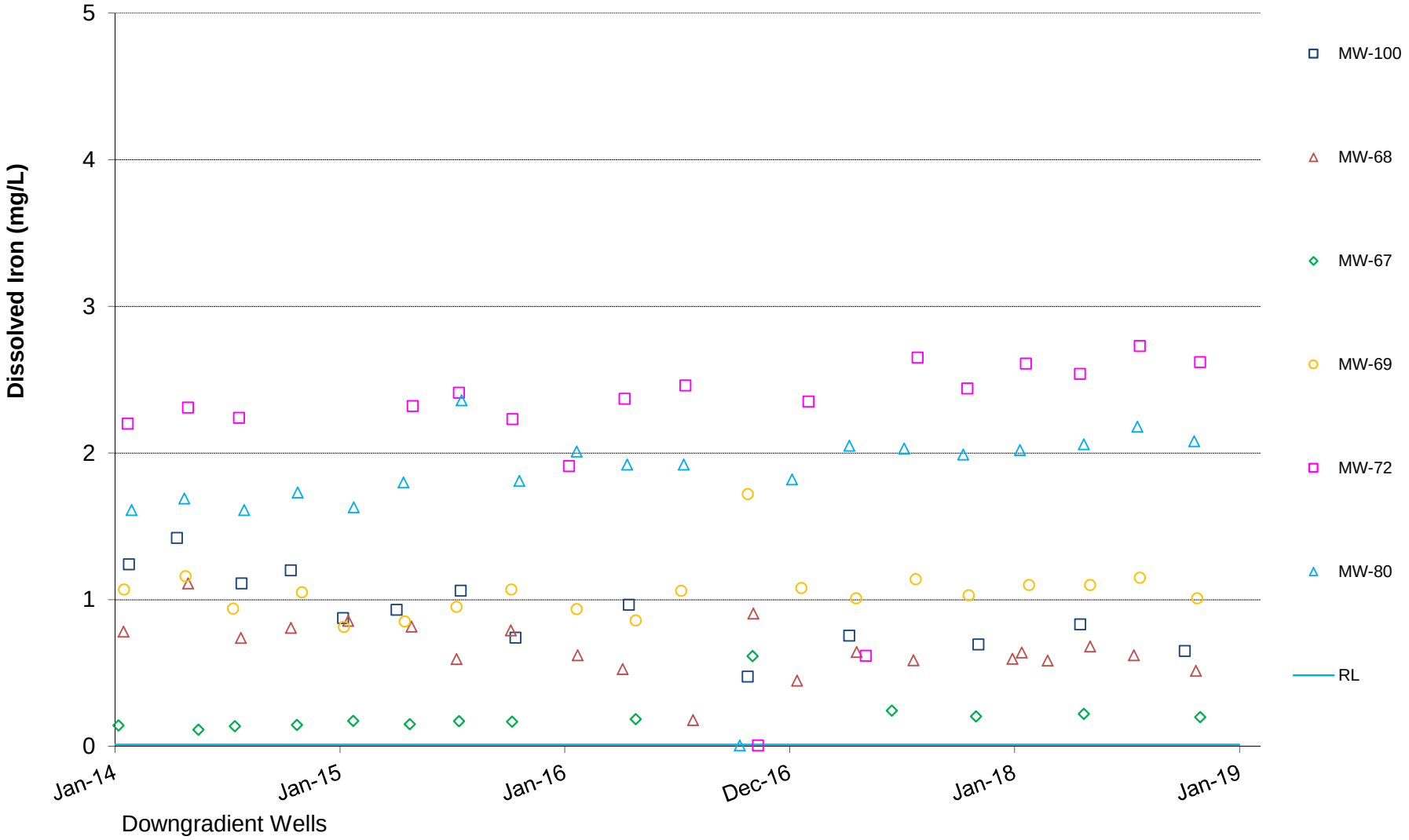

Sodium (mg/L)
25
20
15
10
5
0
Jan-14
Jan-15
Jan-16
Dec-16
Jan-18
Jan-19
Upgradient and Crossgradient Wells
MW-64
MW-93
MW-95
MW-21
MW-66
MW-73
MW-84
MW-81
RL

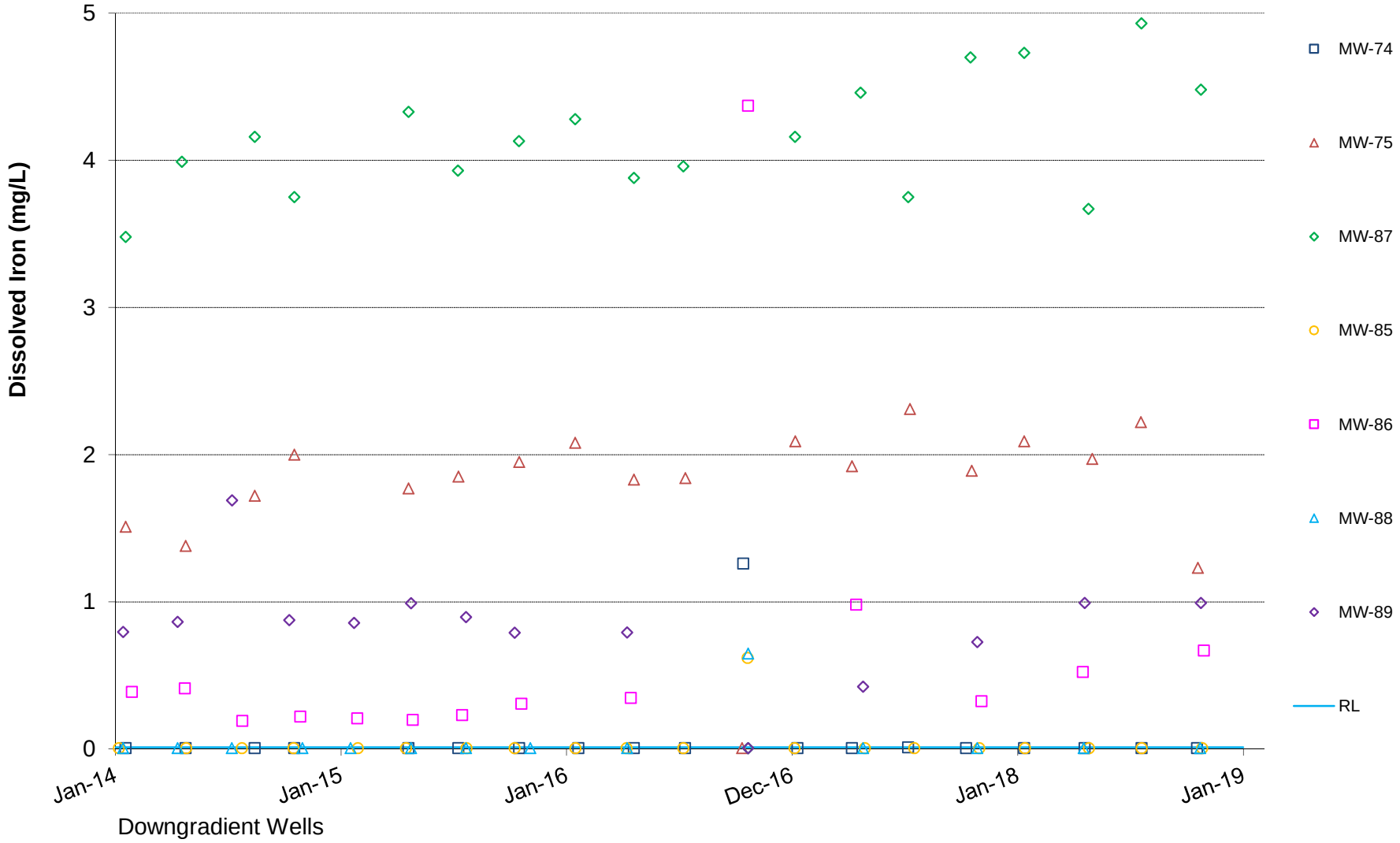

Sodium (mg/L)
25
20
15
10
5
0
Jan-14
Jan-15
Jan-16
Dec-16
Jan-18
Jan-19
Downgradient Wells
MW-100
MW-68
MW-67
MW-69
MW-72
MW-80
RL

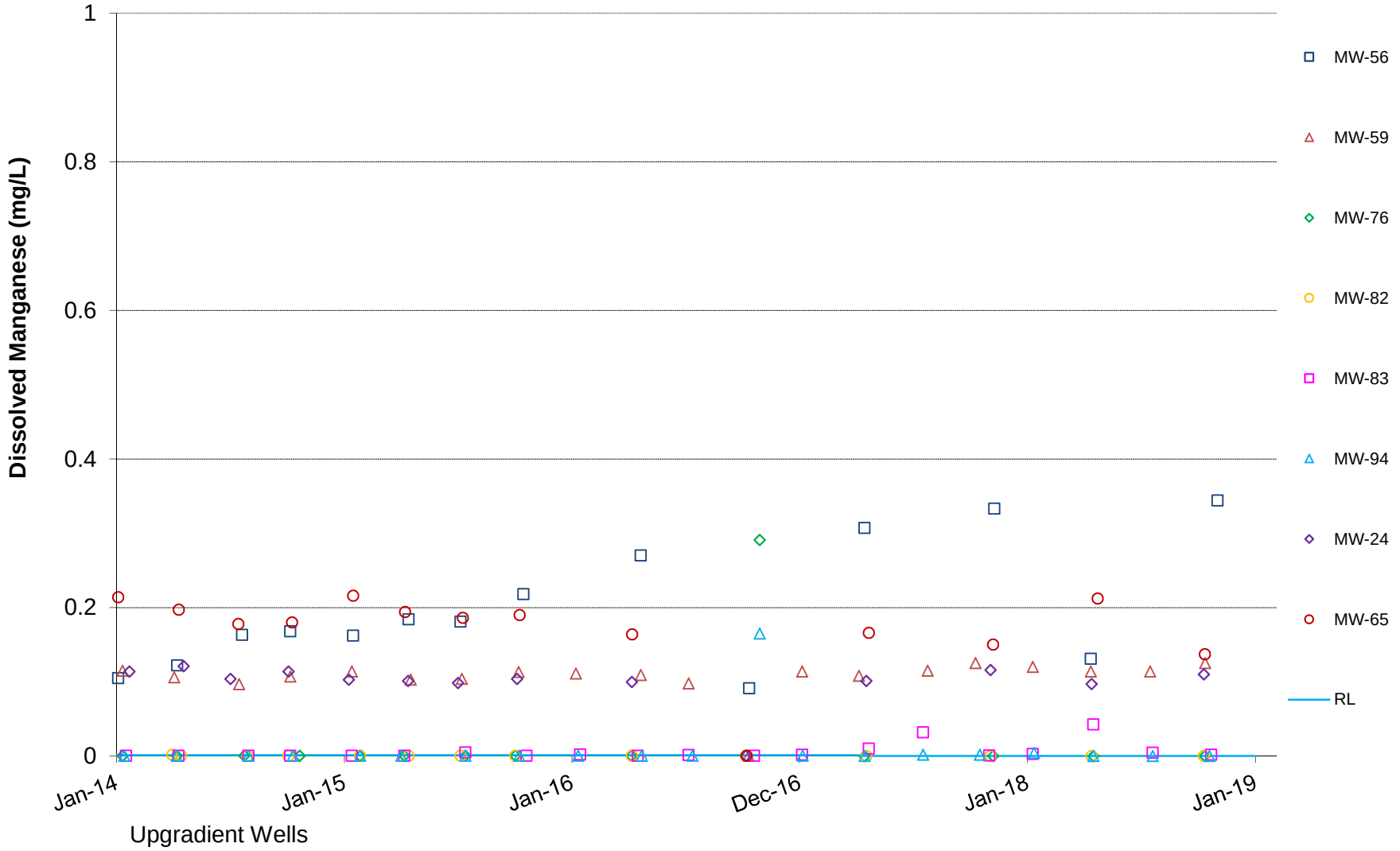

Sodium (mg/L)
25
20
15
10
5
0
Jan-14
Jan-15
Jan-16
Dec-16
Jan-18
Jan-19
Downgradient Wells
MW-74
MW-75
MW-87
MW-85
MW-86
MW-88
MW-89
RL

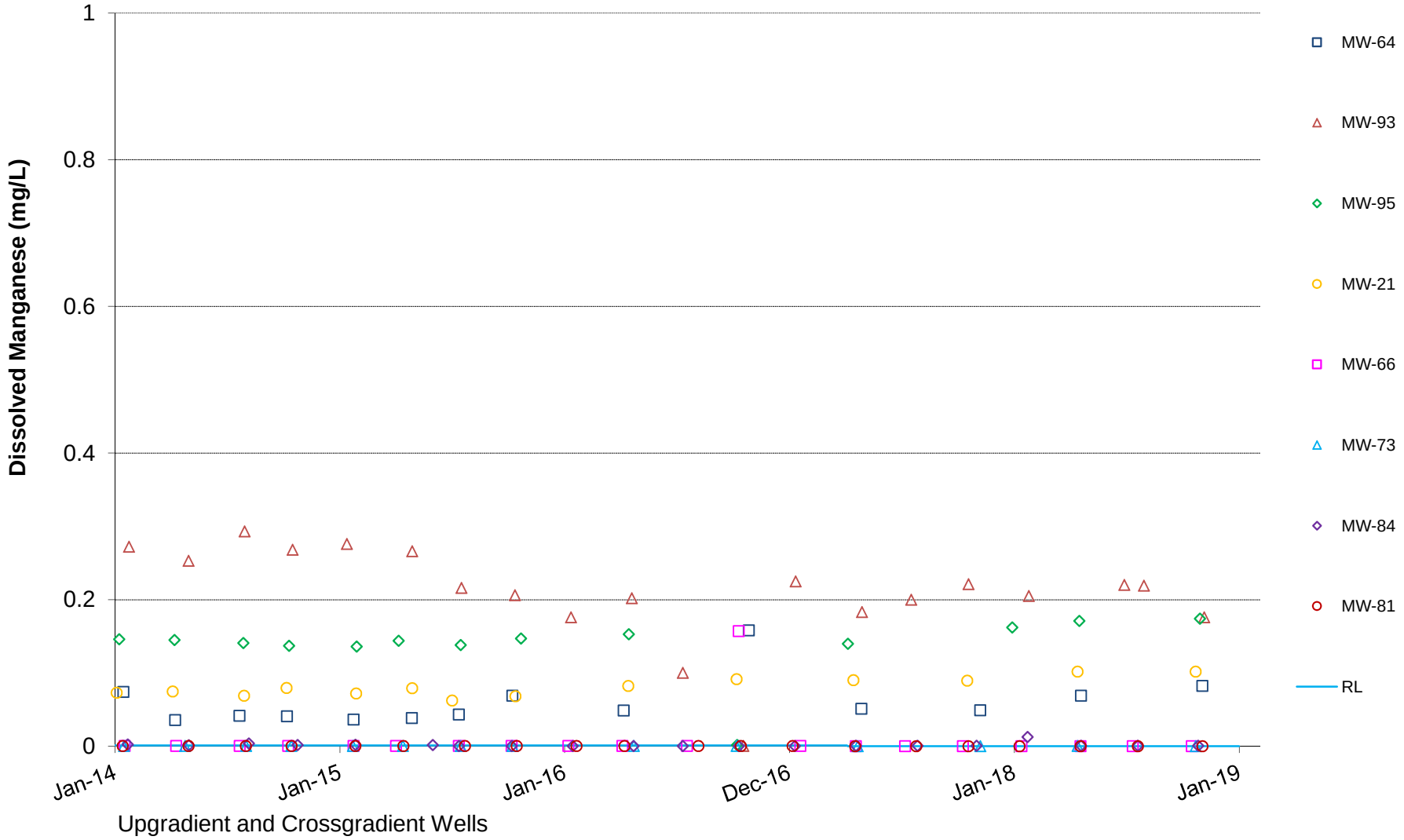

Dissolved Iron (mg/L)
5
4
3
2
1
0
Jan-14
Jan-15
Jan-16
Dec-16
Jan-18
Jan-19
Upgradient Wells
MW-56
MW-59
MW-76
MW-82
MW-83
MW-94
MW-24
MW-65
RL

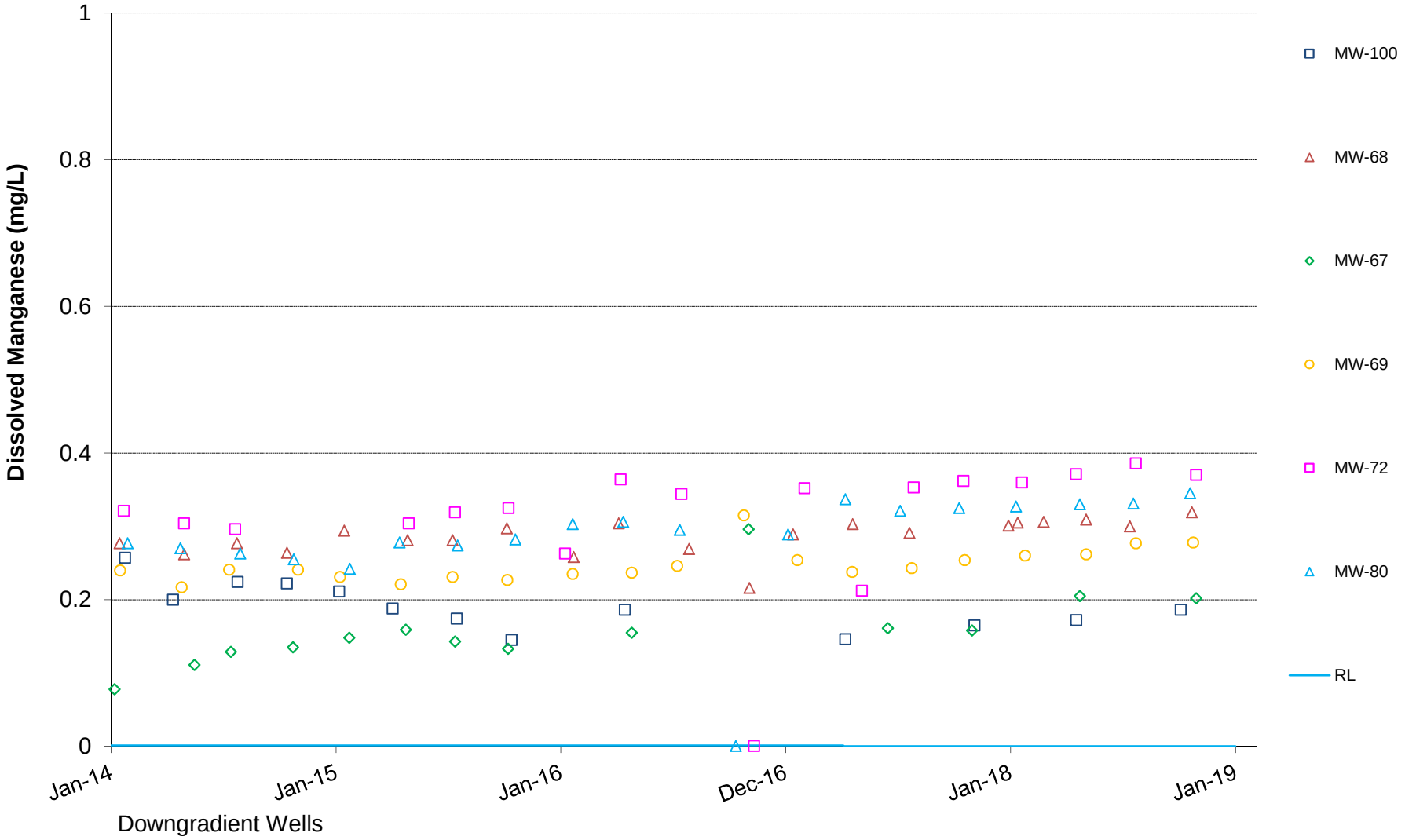

Dissolved Iron (mg/L)
5
4
3
2
1
0
Jan-14
Jan-15
Jan-16
Dec-16
Jan-18
Jan-19
Upgradient and Crossgradient Wells
MW-64
MW-93
MW-95
MW-21
MW-66
MW-73
MW-84
MW-81
RL

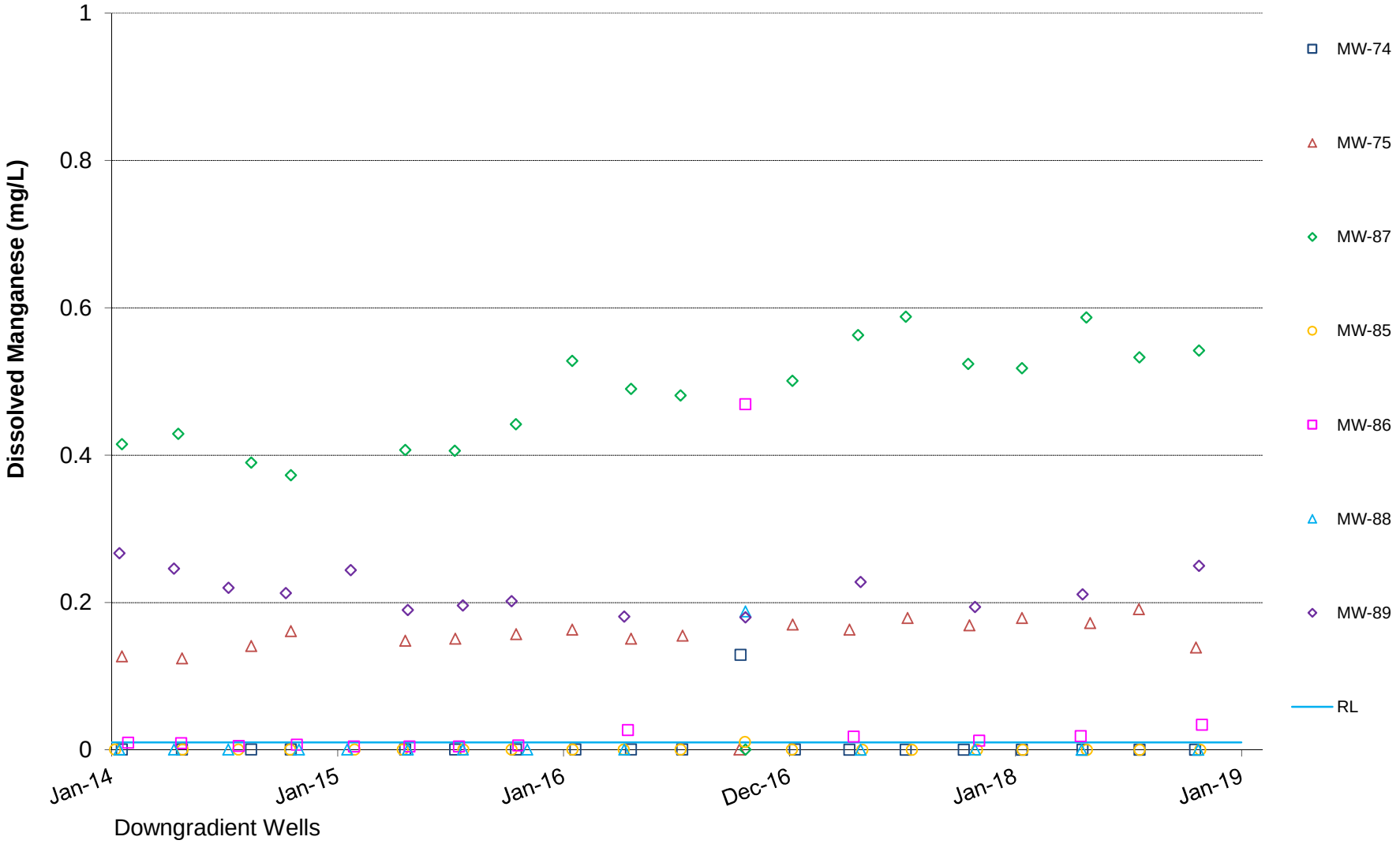

Dissolved Iron (mg/L)
5
4
3
2
1
0
Jan-14
Jan-15
Jan-16
Dec-16
Jan-18
Jan-19
Downgradient Wells
MW-100
MW-68
MW-67
MW-69
MW-72
MW-80
RL

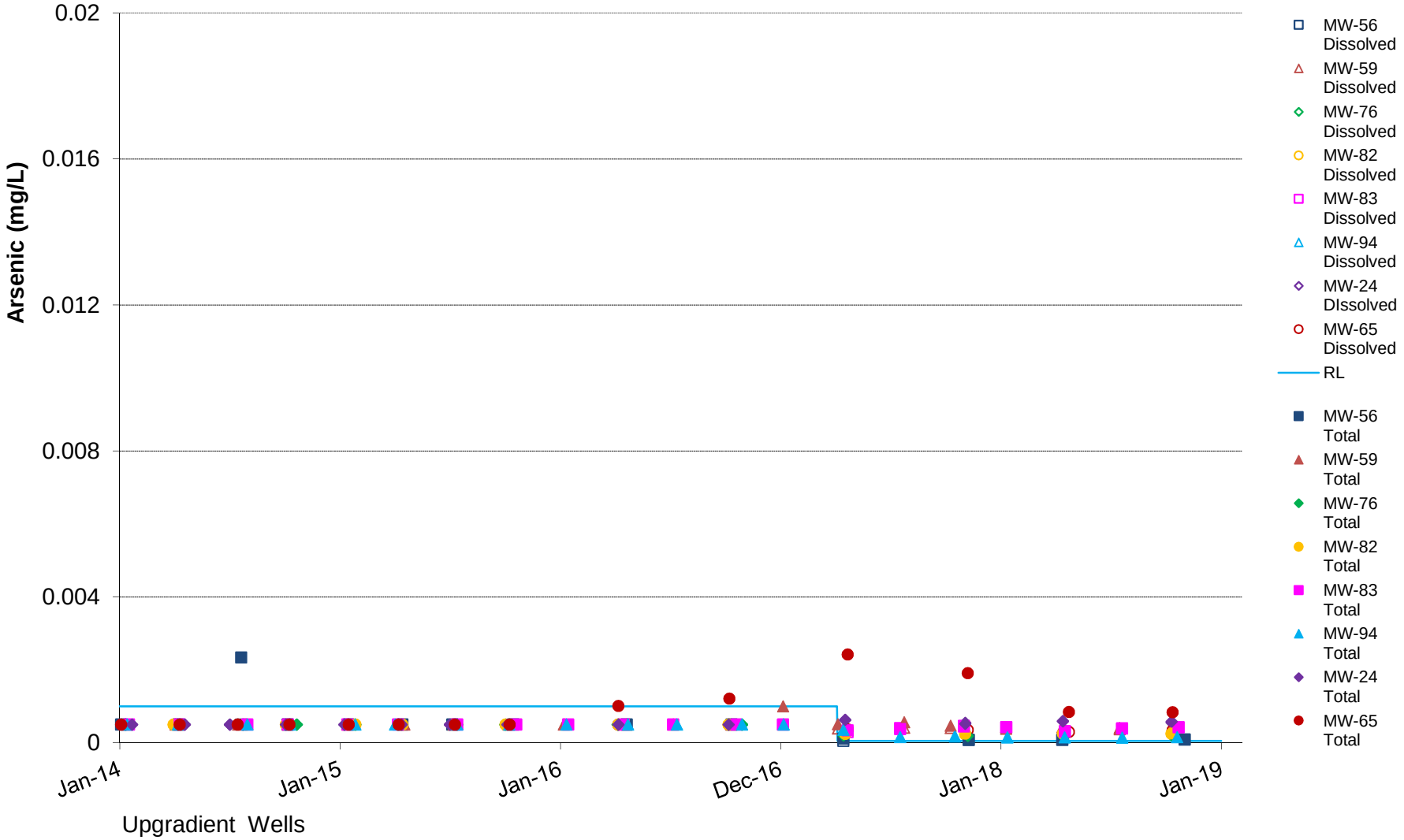

Dissolved Iron (mg/L)
5
4
3
2
1
0
Jan-14
Jan-15
Jan-16
Dec-16
Jan-18
Jan-19
Downgradient Wells
MW-74
MW-75
MW-87
MW-85
MW-86
MW-88
MW-89
RL

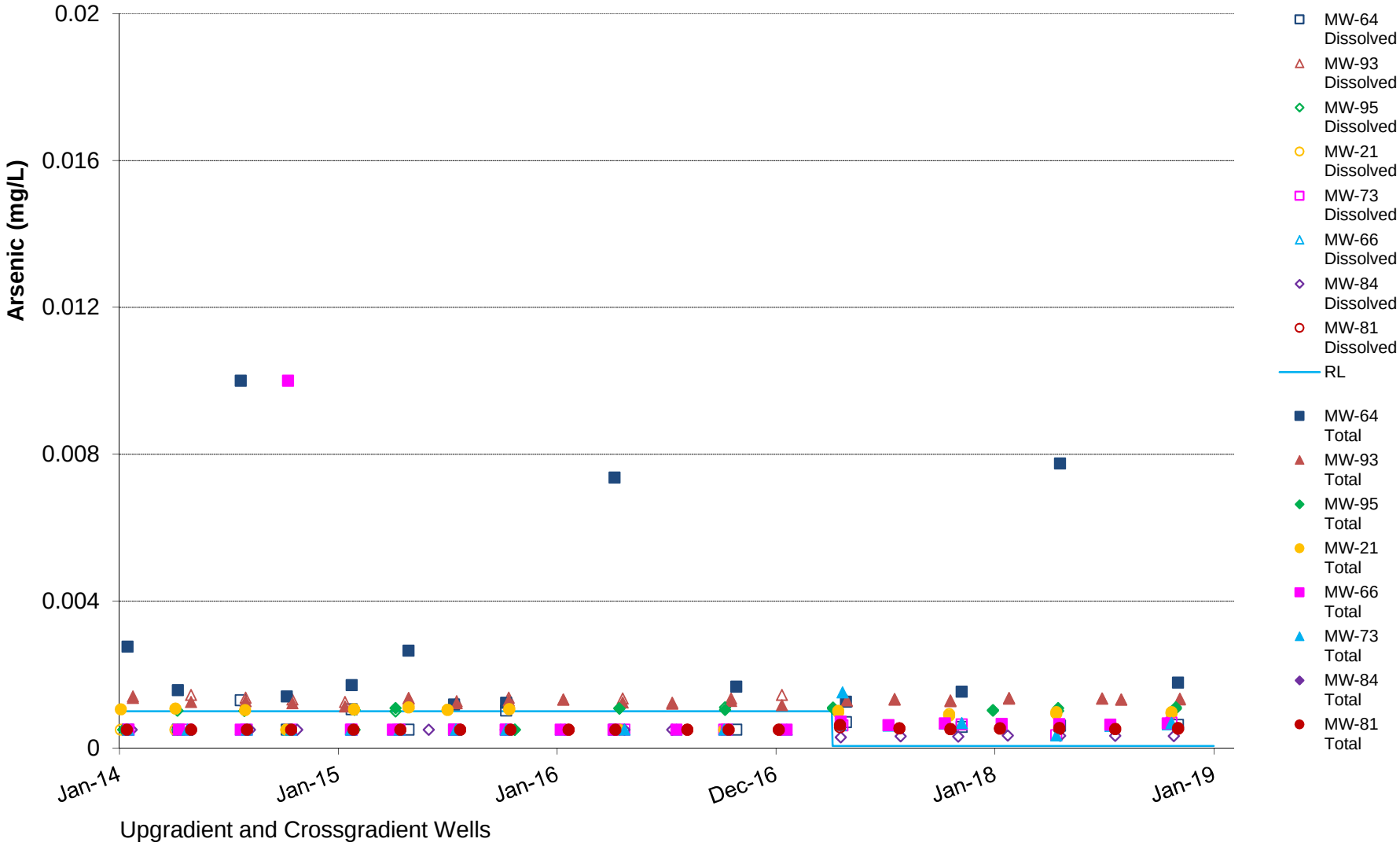

Dissolved Manganese (mg/L)
1
0.8
0.6
0.4
0.2
0
Jan-14
Jan-15
Jan-16
Dec-16
Jan-18
Jan-19
Upgradient Wells
MW-56
MW-59
MW-76
MW-82
MW-83
MW-94
MW-24
MW-65
RL

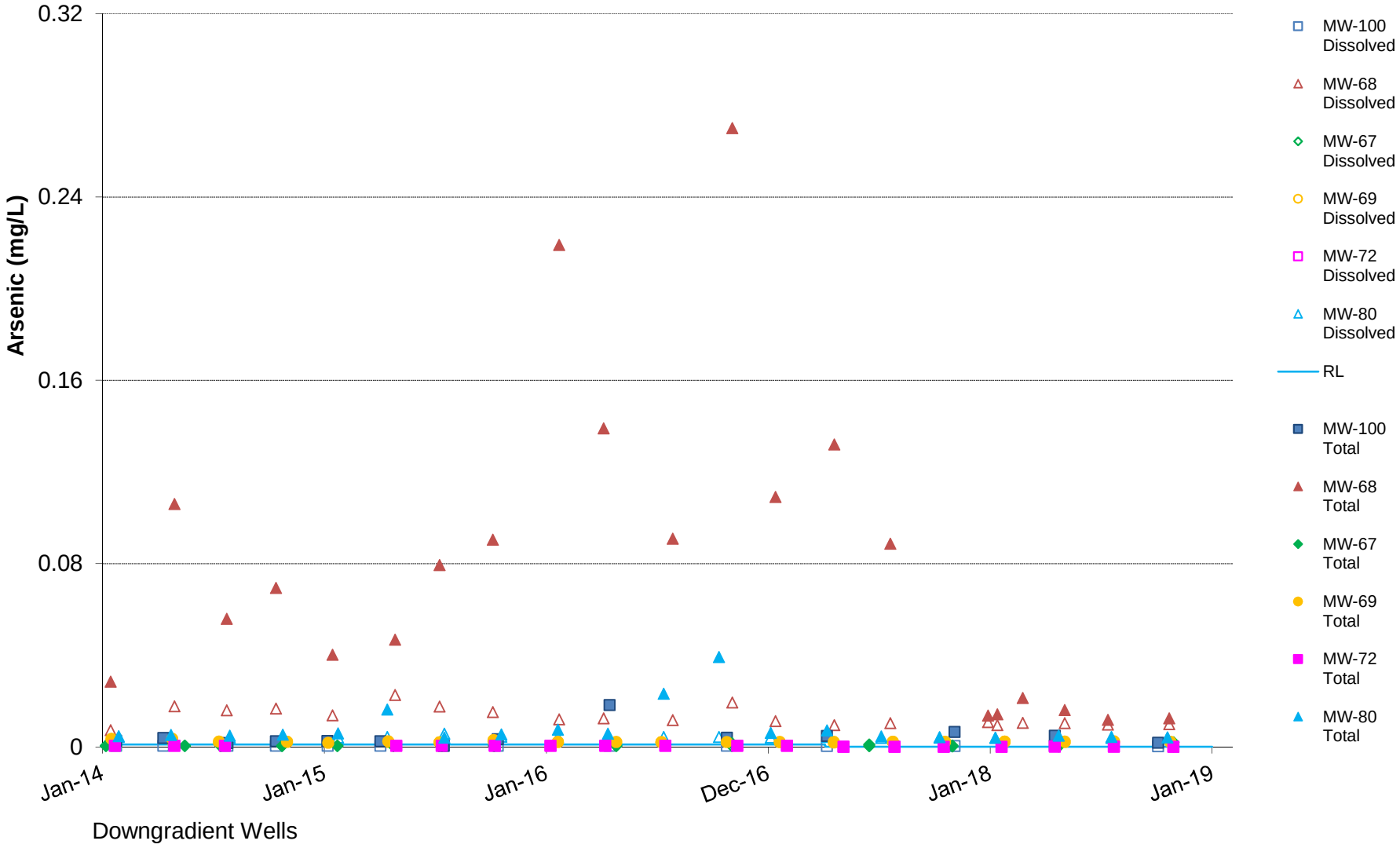

Dissolved Manganese (mg/L)
1
0.8
0.6
0.4
0.2
0
Jan-14
Jan-15
Jan-16
Dec-16
Jan-18
Jan-19
Upgradient and Crossgradient Wells
MW-64
MW-93
MW-95
MW-21
MW-66
MW-73
MW-84
MW-81
RL

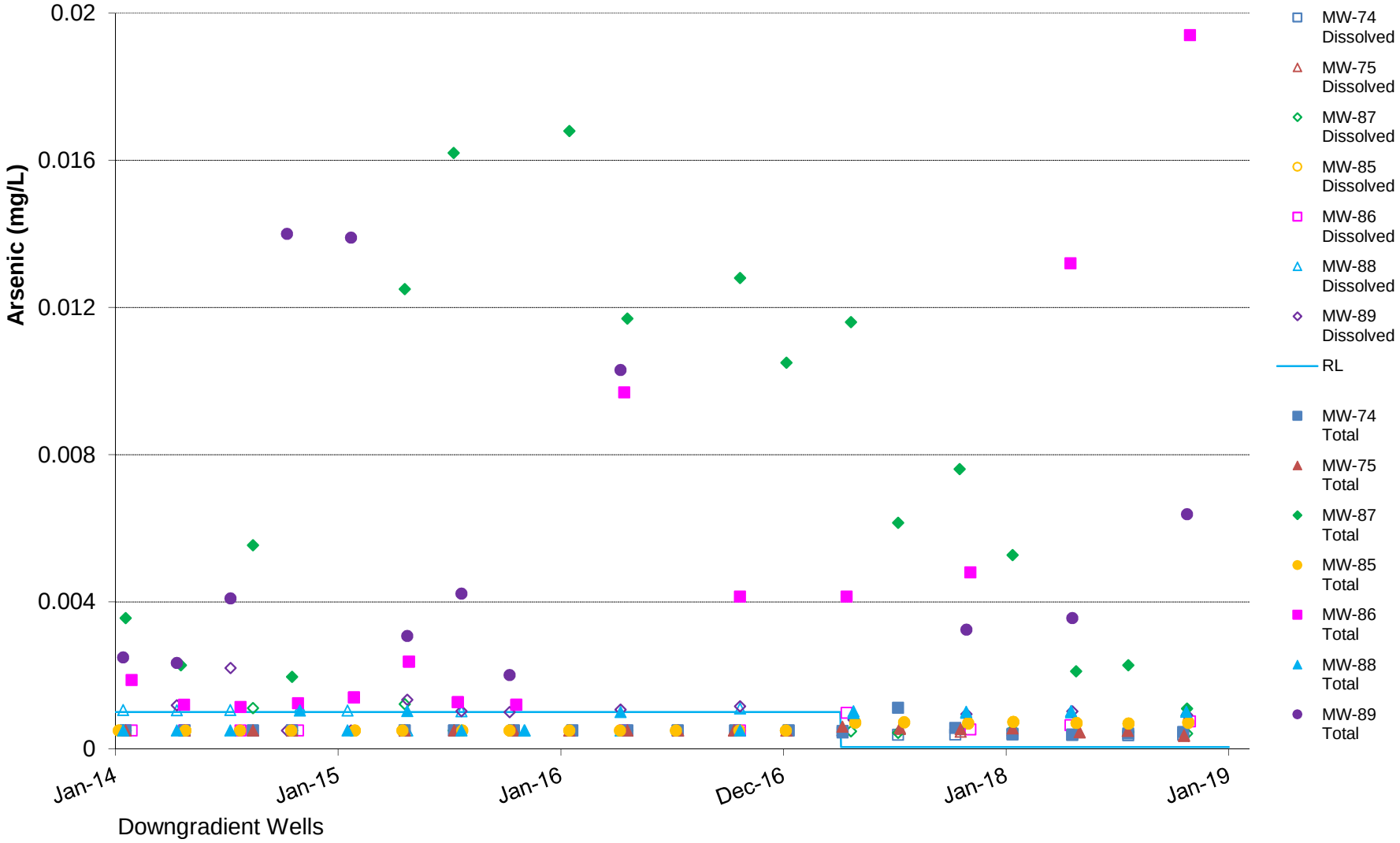

Dissolved Manganese (mg/L)
1
0.8
0.6
0.4
0.2
0
Jan-14
Jan-15
Jan-16
Dec-16
Jan-18
Jan-19
Downgradient Wells
MW-100
MW-68
MW-67
MW-69
MW-72
MW-80
RL

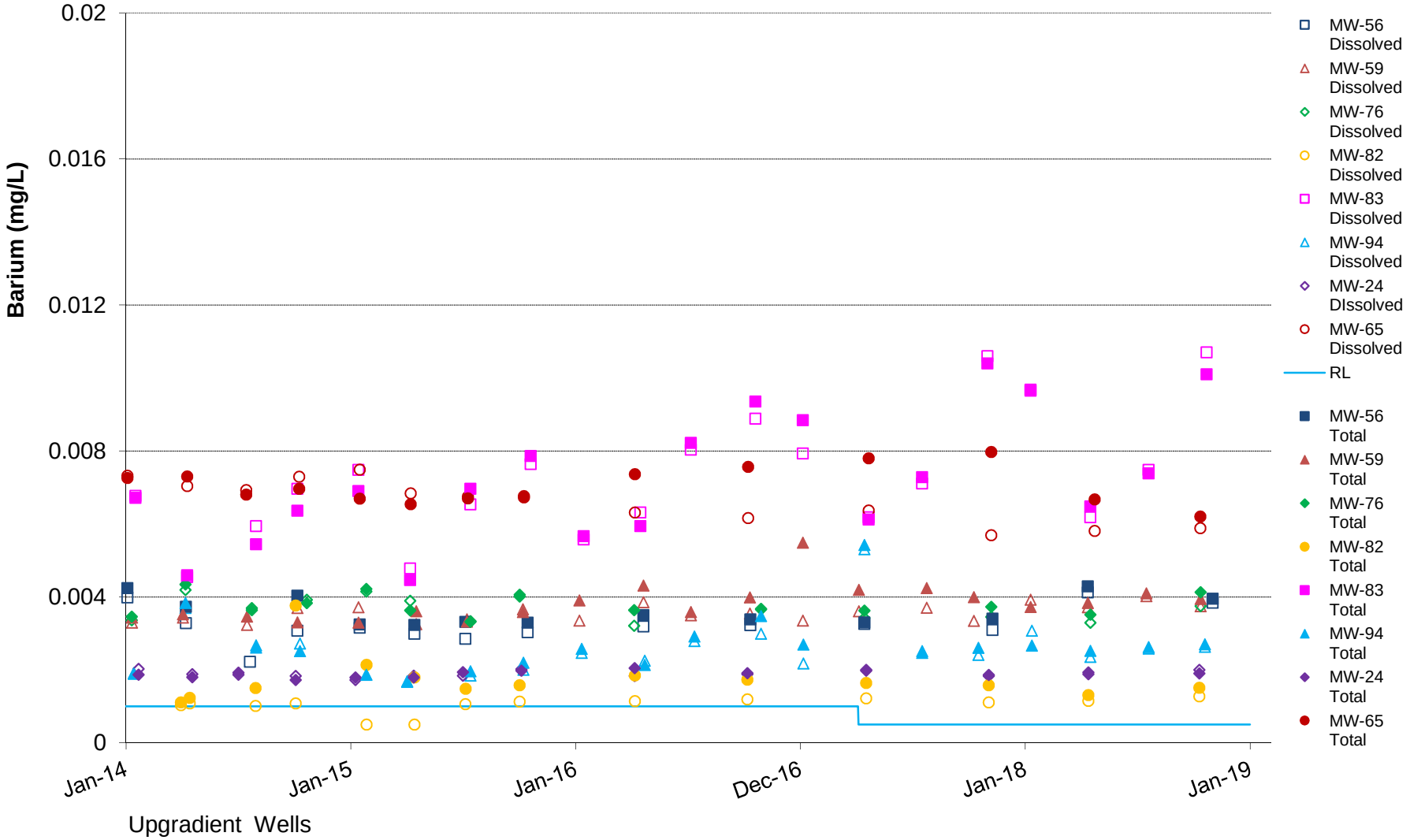

Dissolved Manganese (mg/L)
1
0.8
0.6
0.4
0.2
0
Jan-14
Jan-15
Jan-16
Dec-16
Jan-18
Jan-19
Downgradient Wells
MW-74
MW-75
MW-87
MW-85
MW-86
MW-88
MW-89
RL

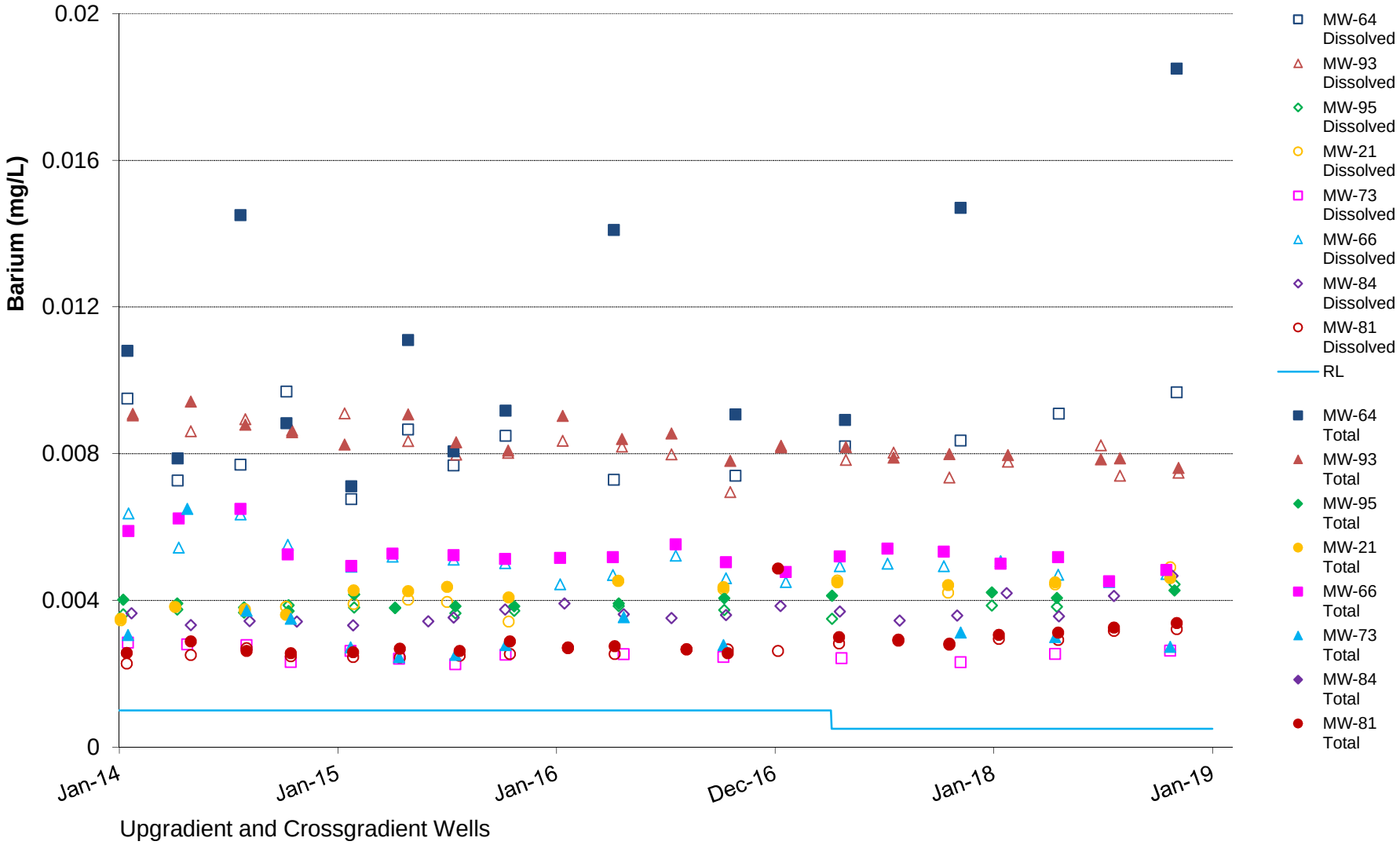

0.02
0.016
0.012
0.008
0.004
0
Arsenic (mg/L)
Jan-14
Jan-15
Jan-16
Dec-16
Jan-18
Jan-19
Upgradient Wells
MW-56 Dissolved
MW-59 Dissolved
MW-76 Dissolved
MW-82 Dissolved
MW-83 Dissolved
MW-94 Dissolved
MW-24 DIssolved
MW-65 Dissolved
RL
MW-56 Total
MW-59 Total
MW-76 Total
MW-82 Total
MW-83 Total
MW-94 Total
MW-24 Total
MW-65 Total

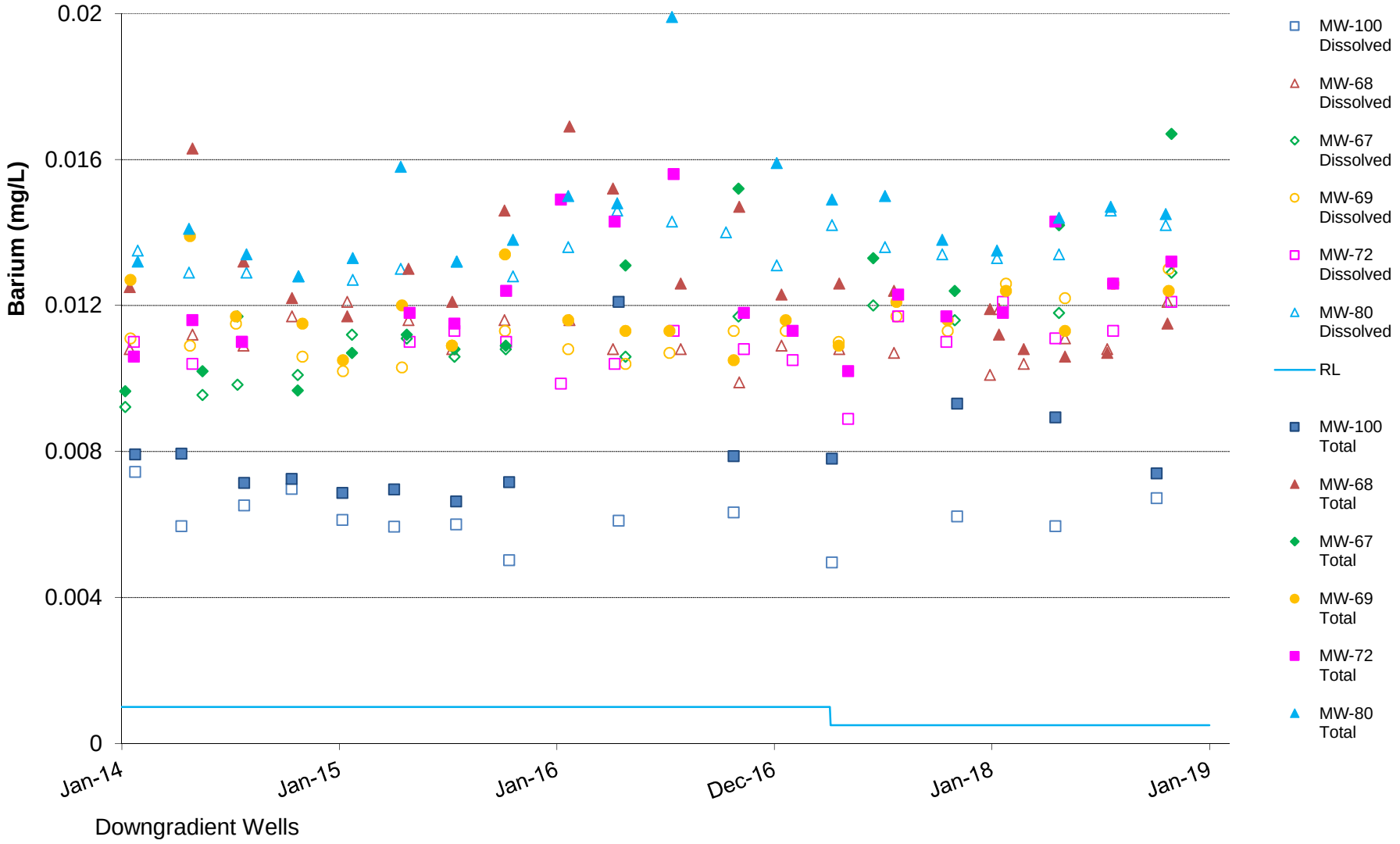

0.02
0.016
0.012
0.008
0.004
0
Arsenic (mg/L)
Jan-14
Jan-15
Jan-16
Dec-16
Jan-18
Jan-19
Upgradient and Crossgradient Wells
MW-64 Dissolved
MW-93 Dissolved
MW-95 Dissolved
MW-21 Dissolved
MW-73 Dissolved
MW-66 Dissolved
MW-84 Dissolved
MW-81 Dissolved
RL
MW-64 Total
MW-93 Total
MW-95 Total
MW-21 Total
MW-66 Total
MW-73 Total
MW-84 Total
MW-81 Total

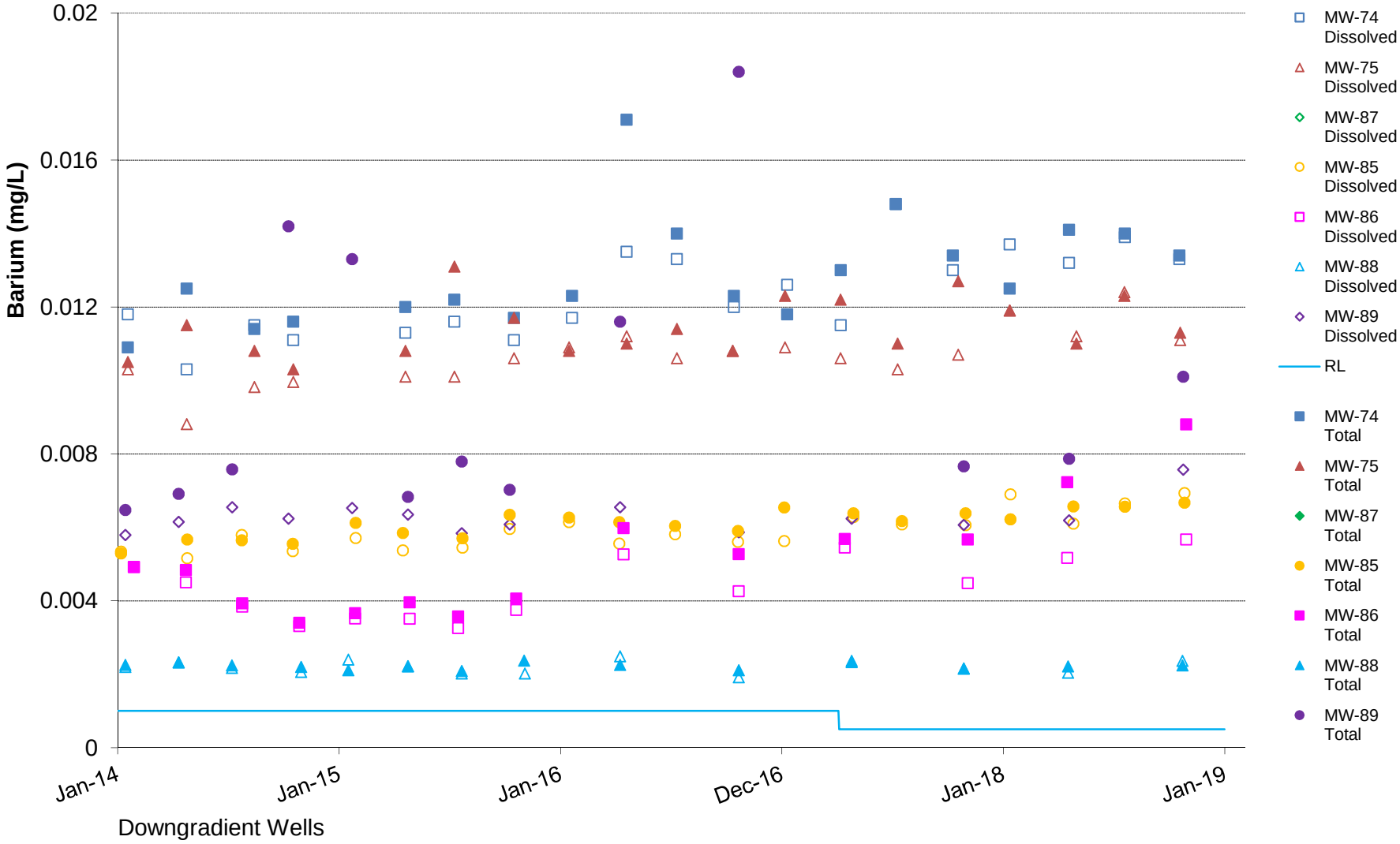

0.32
0.24
0.16
0.08
0
Arsenic (mg/L)
Jan-14
Jan-15
Jan-16
Dec-16
Jan-18
Jan-19
Downgradient Wells
MW-100 Dissolved
MW-68 Dissolved
MW-67 Dissolved
MW-69 Dissolved
MW-72 Dissolved
MW-80 Dissolved
RL
MW-100 Total
MW-68 Total
MW-67 Total
MW-69 Total
MW-72 Total
MW-80 Total

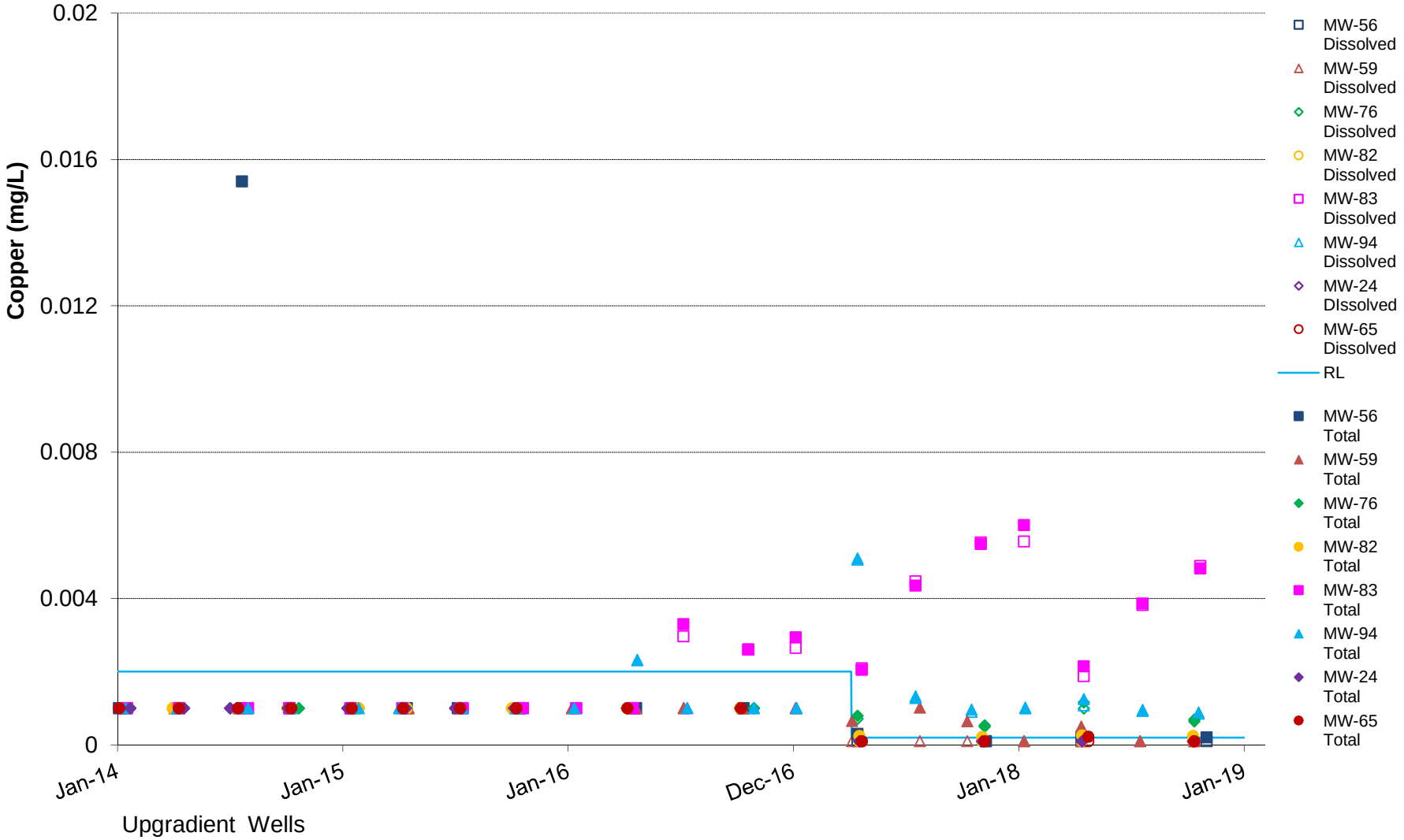

0.02
0.016
0.012
0.008
0.004
0
Arsenic (mg/L)
Jan-14
Jan-15
Jan-16
Dec-16
Jan-18
Jan-19
Downgradient Wells
MW-74 Dissolved
MW-75 Dissolved
MW-87 Dissolved
MW-85 Dissolved
MW-86 Dissolved
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MW-89 Dissolved
RL
MW-74 Total
MW-75 Total
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MW-89 Total

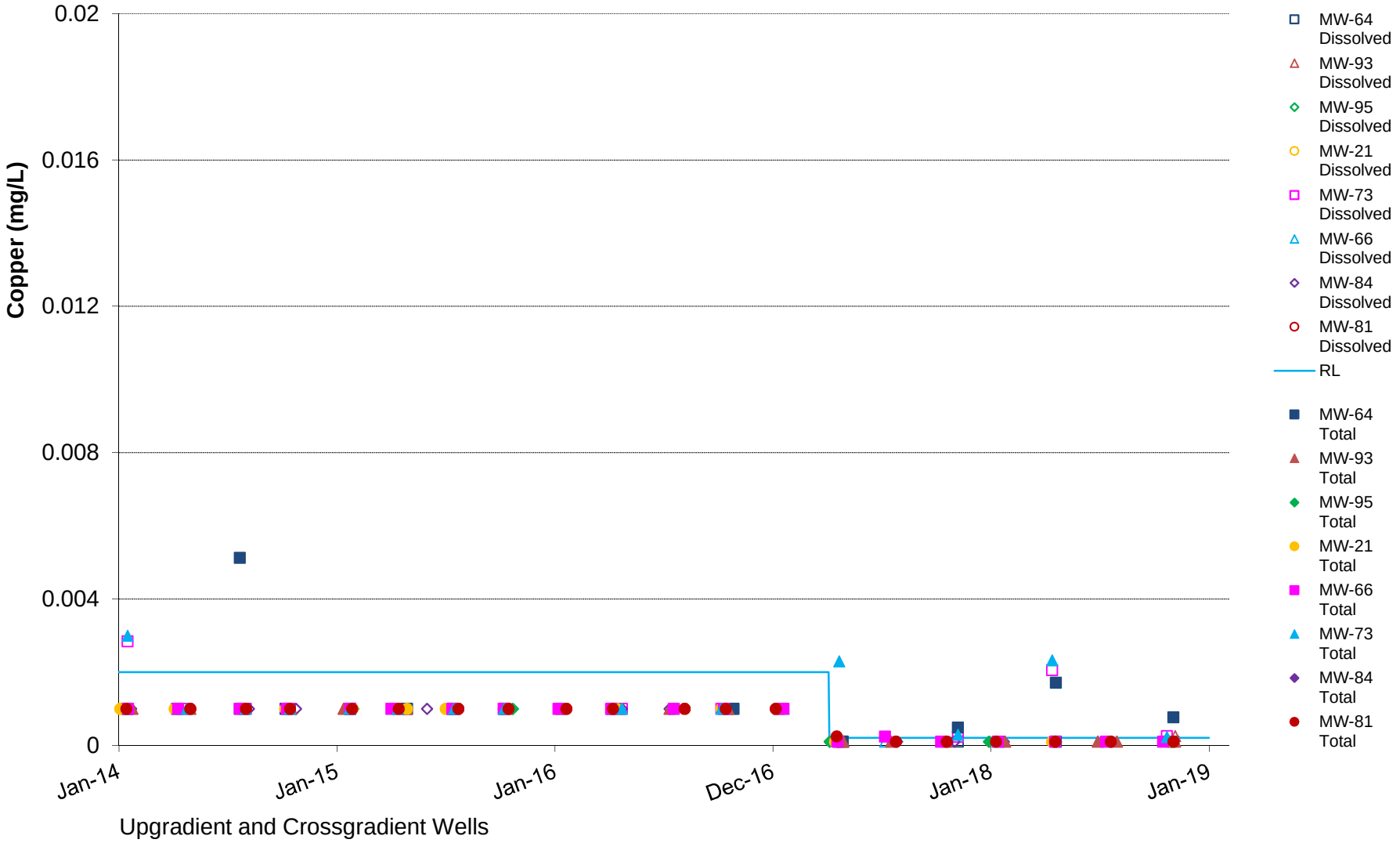

Barium (mg/L)
0.02
0.016
0.012
0.008
0.004
0
Jan-14
Jan-15
Jan-16
Dec-16
Jan-18
Jan-19
Upgradient Wells
MW-56 Dissolved
MW-59 Dissolved
MW-76 Dissolved
MW-82 Dissolved
MW-83 Dissolved
MW-94 Dissolved
MW-24 DIssolved
MW-65 Dissolved
RL
MW-56 Total
MW-59 Total
MW-76 Total
MW-82 Total
MW-83 Total
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MW-24 Total
MW-65 Total

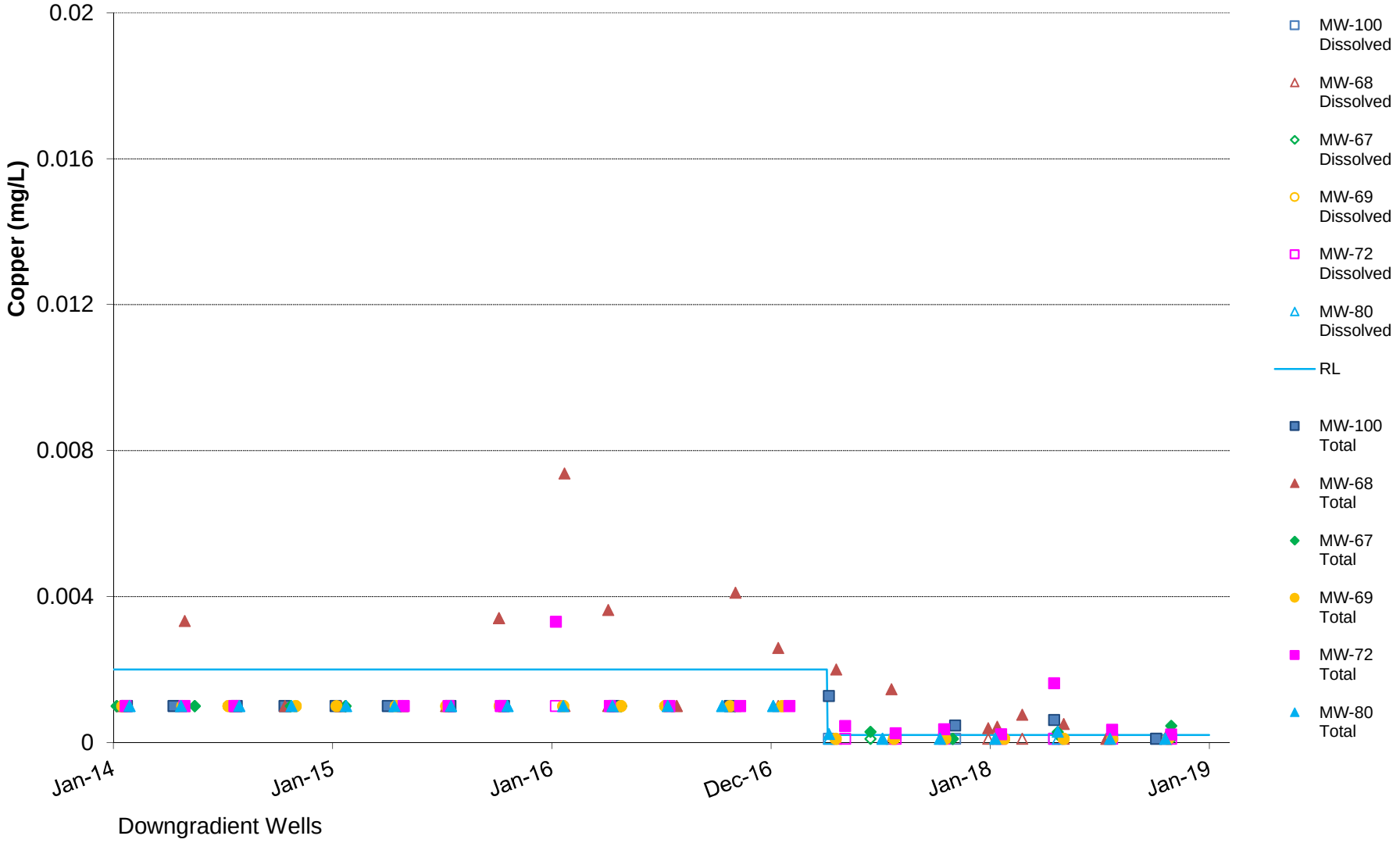

Barium (mg/L)
0.02
0.016
0.012
0.008
0.004
0
Jan-14
Jan-15
Jan-16
Dec-16
Jan-18
Jan-19
Upgradient and Crossgradient Wells
MW-64 Dissolved
MW-93 Dissolved
MW-95 Dissolved
MW-21 Dissolved
MW-73 Dissolved
MW-66 Dissolved
MW-84 Dissolved
MW-81 Dissolved
RL
MW-64 Total
MW-93 Total
MW-95 Total
MW-21 Total
MW-66 Total
MW-73 Total
MW-84 Total
MW-81 Total

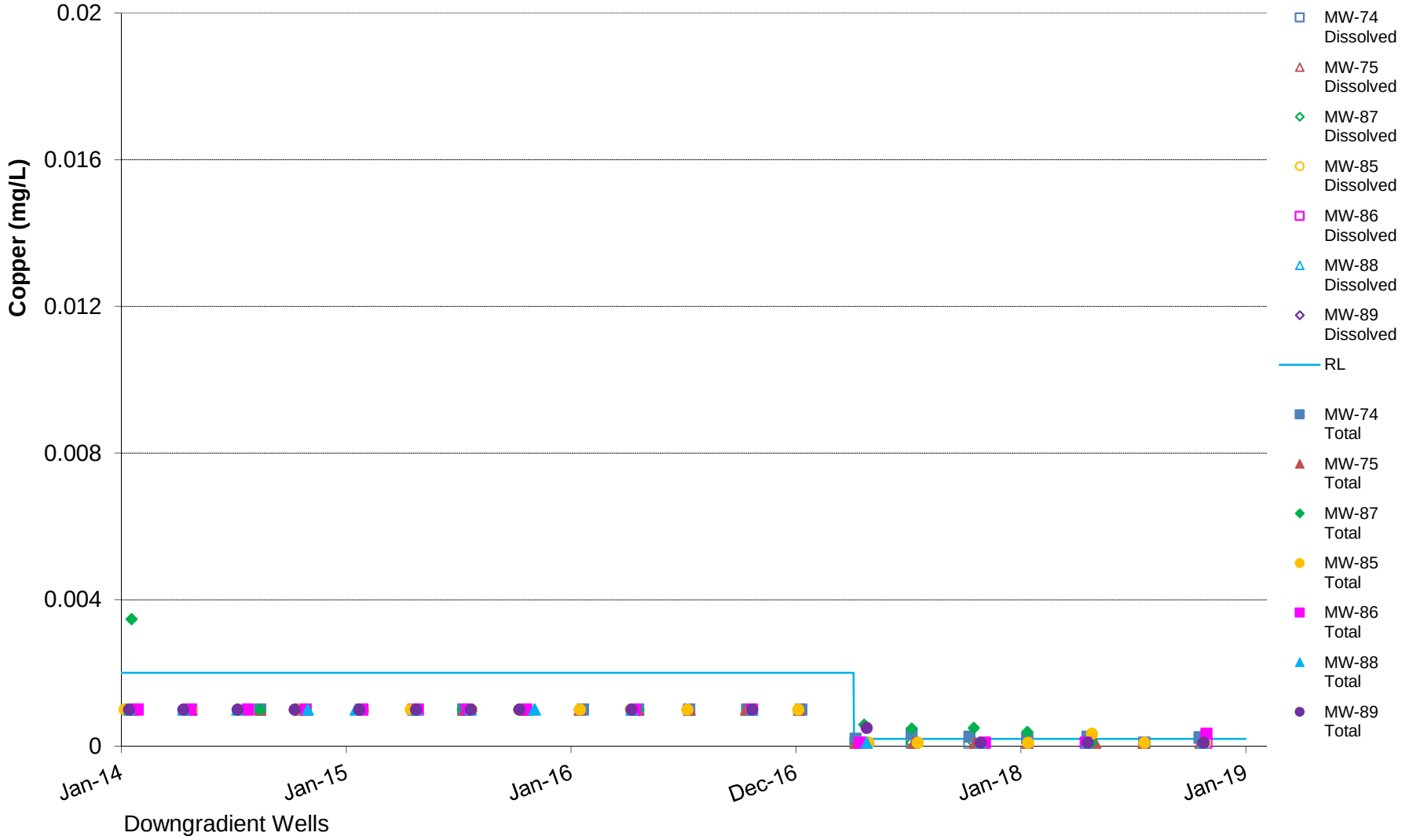

Barium (mg/L)
0.02
0.016
0.012
0.008
0.004
0
Jan-14
Jan-15
Jan-16
Dec-16
Jan-18
Jan-19
Downgradient Wells
MW-100 Dissolved
MW-68 Dissolved
MW-67 Dissolved
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MW-67 Total
MW-69 Total
MW-72 Total
MW-80 Total

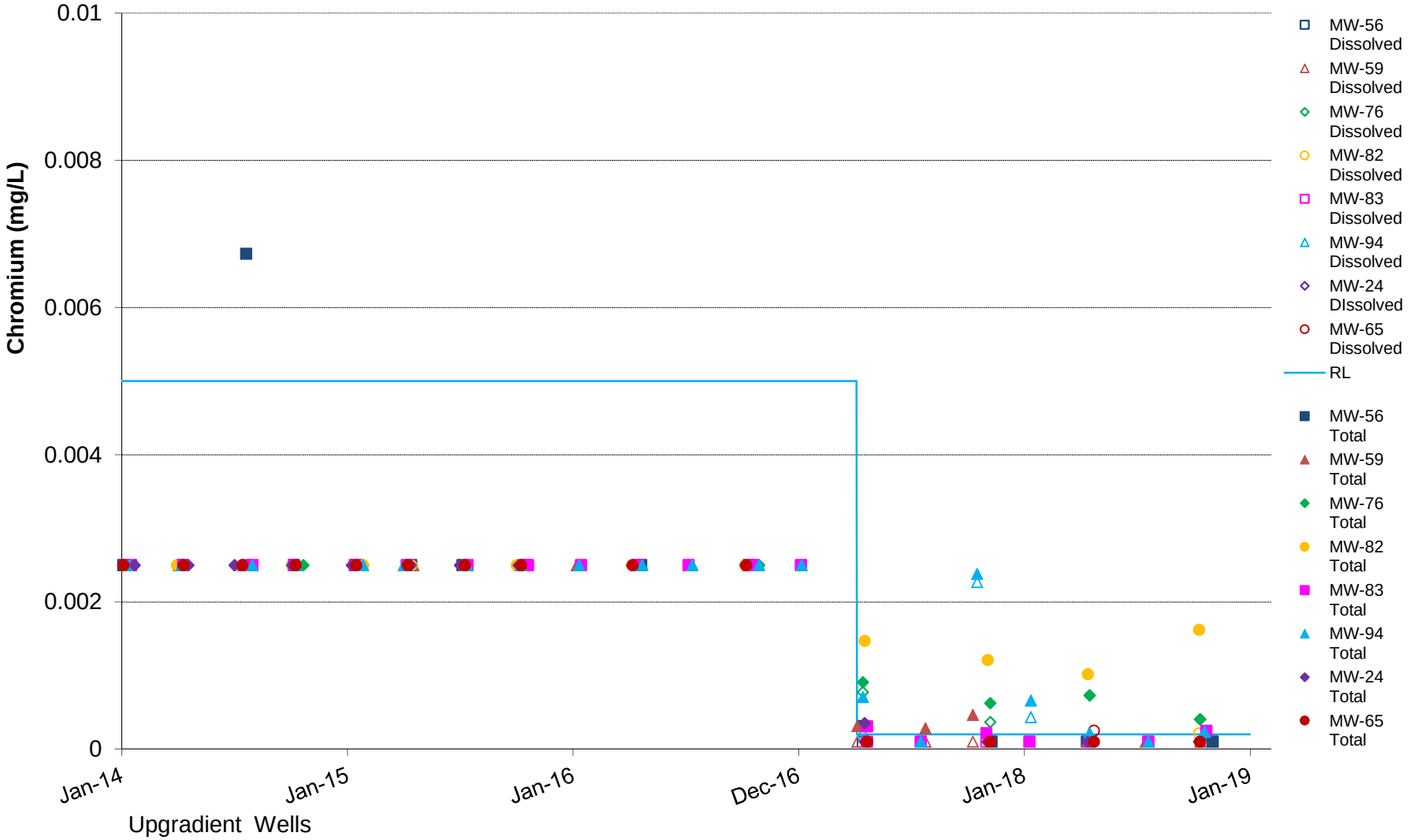

0.02
0.016
0.012
0.008
0.004
0
Barium (mg/L)
Jan-14
Jan-15
Jan-16
Dec-16
Jan-18
Jan-19
Downgradient Wells
MW-74 Dissolved
MW-75 Dissolved
MW-87 Dissolved
MW-85 Dissolved
MW-86 Dissolved
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MW-89 Total

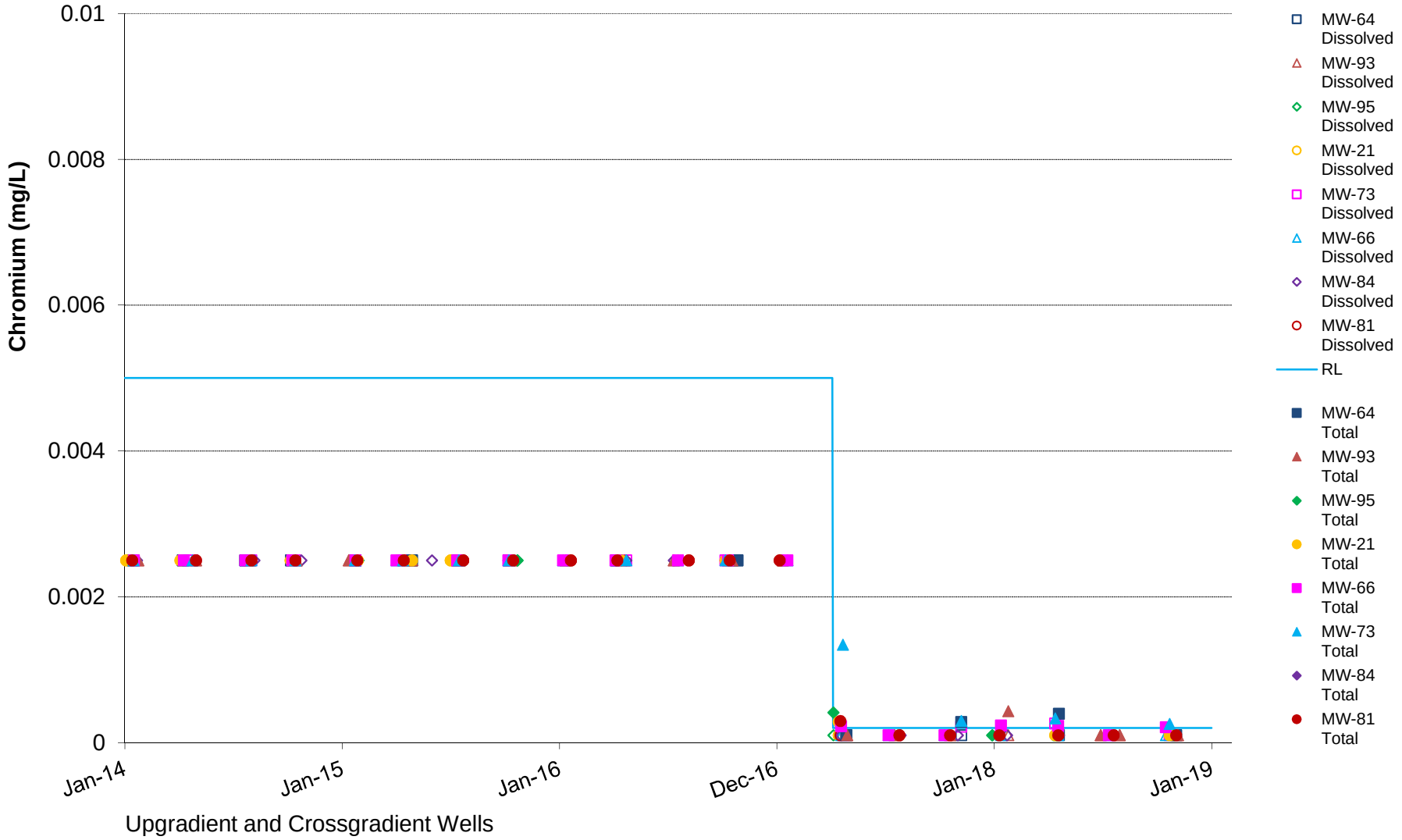

0.02
0.016
0.012
0.008
0.004
0
Copper (mg/L)
Jan-14
Jan-15
Jan-16
Dec-16
Jan-18
Jan-19
Upgradient Wells
MW-56 Dissolved
MW-59 Dissolved
MW-76 Dissolved
MW-82 Dissolved
MW-83 Dissolved
MW-94 Dissolved
MW-24 DIssolved
MW-65 Dissolved
RL
MW-56 Total
MW-59 Total
MW-76 Total
MW-82 Total
MW-83 Total
MW-94 Total
MW-24 Total
MW-65 Total

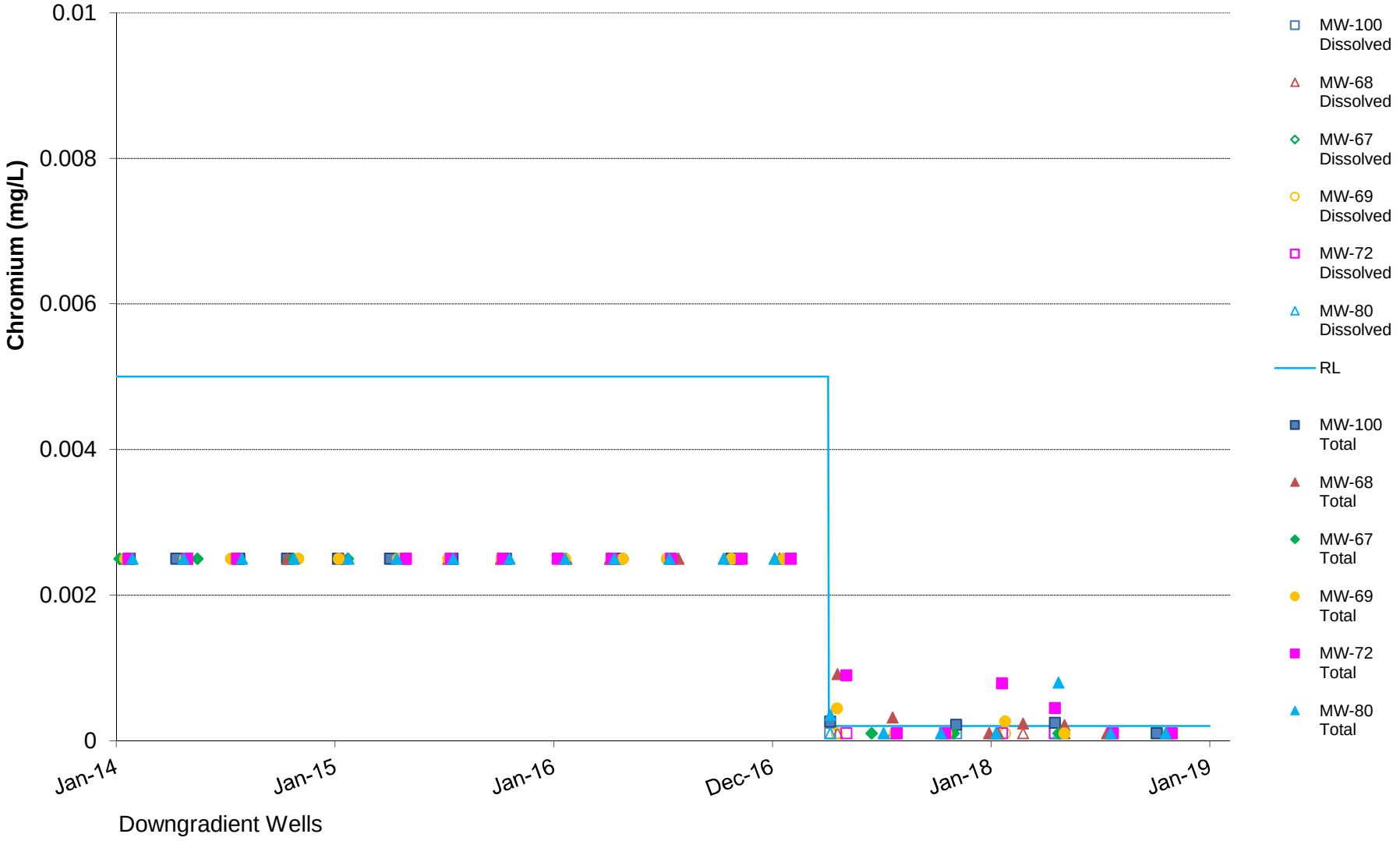

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0.008
0.004
0
Copper (mg/L)
Jan-14
Jan-15
Jan-16
Dec-16
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Jan-19
Upgradient and Crossgradient Wells
MW-64 Dissolved
MW-93 Dissolved
MW-95 Dissolved
MW-21 Dissolved
MW-73 Dissolved
MW-66 Dissolved
MW-84 Dissolved
MW-81 Dissolved
RL
MW-64 Total
MW-93 Total
MW-95 Total
MW-21 Total
MW-66 Total
MW-73 Total
MW-84 Total
MW-81 Total

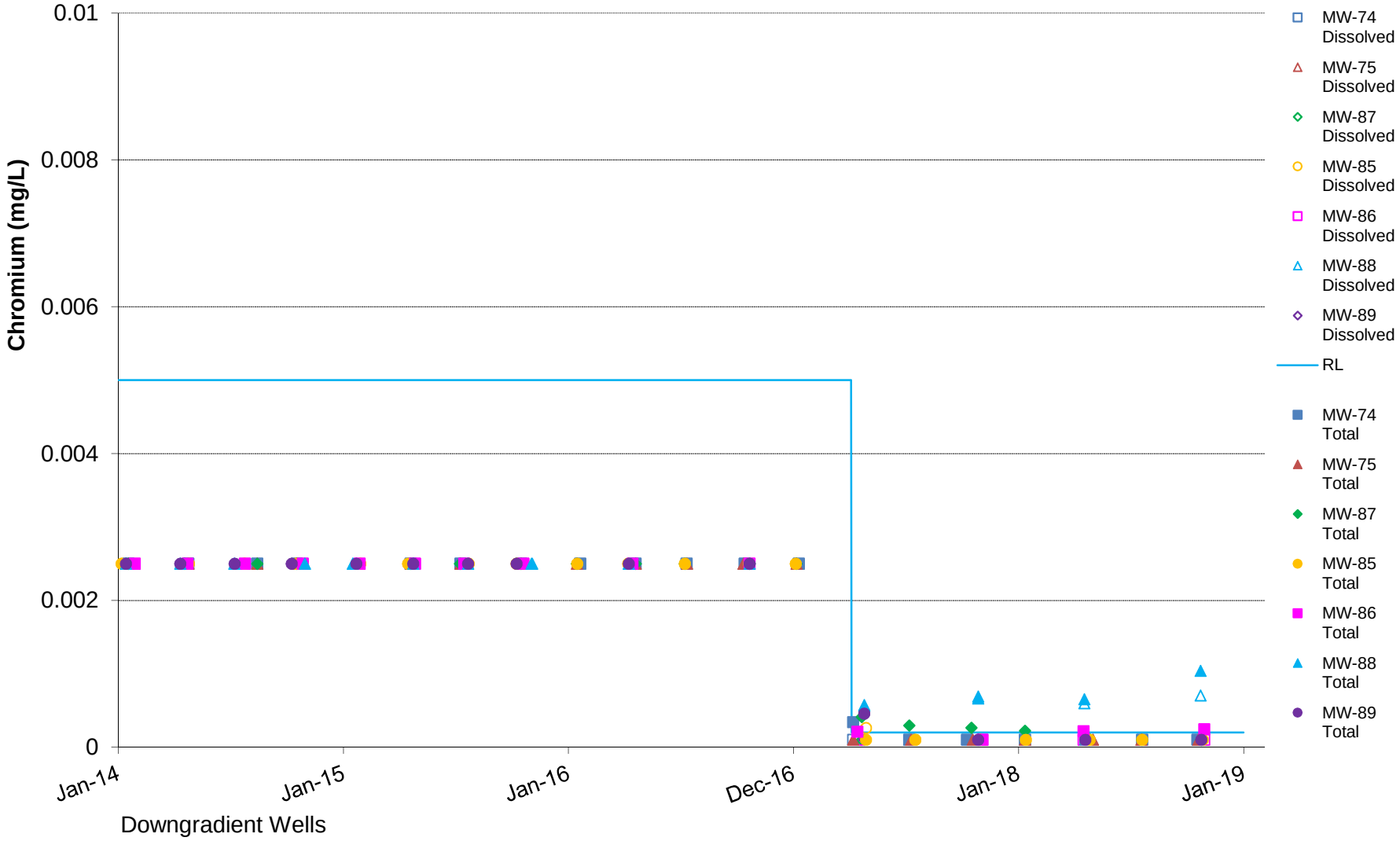

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0.008
0.004
0
Copper (mg/L)
Jan-14
Jan-15
Jan-16
Dec-16
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Jan-19
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MW-67 Dissolved
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MW-80 Dissolved
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MW-69 Total
MW-72 Total
MW-80 Total

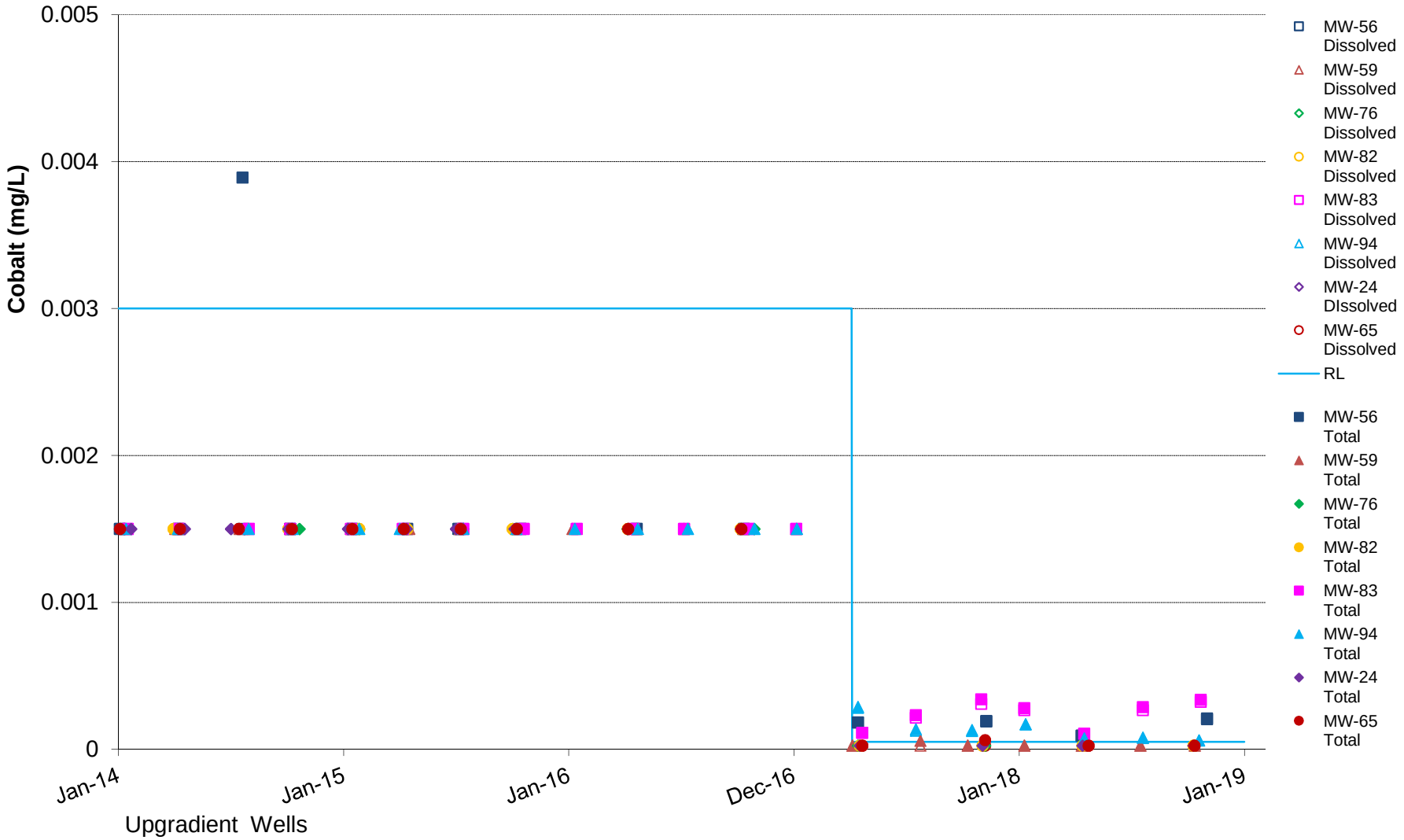

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0.016
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0.008
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Copper (mg/L)
Jan-14
Jan-15
Jan-16
Dec-16
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Jan-19
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MW-89 Total

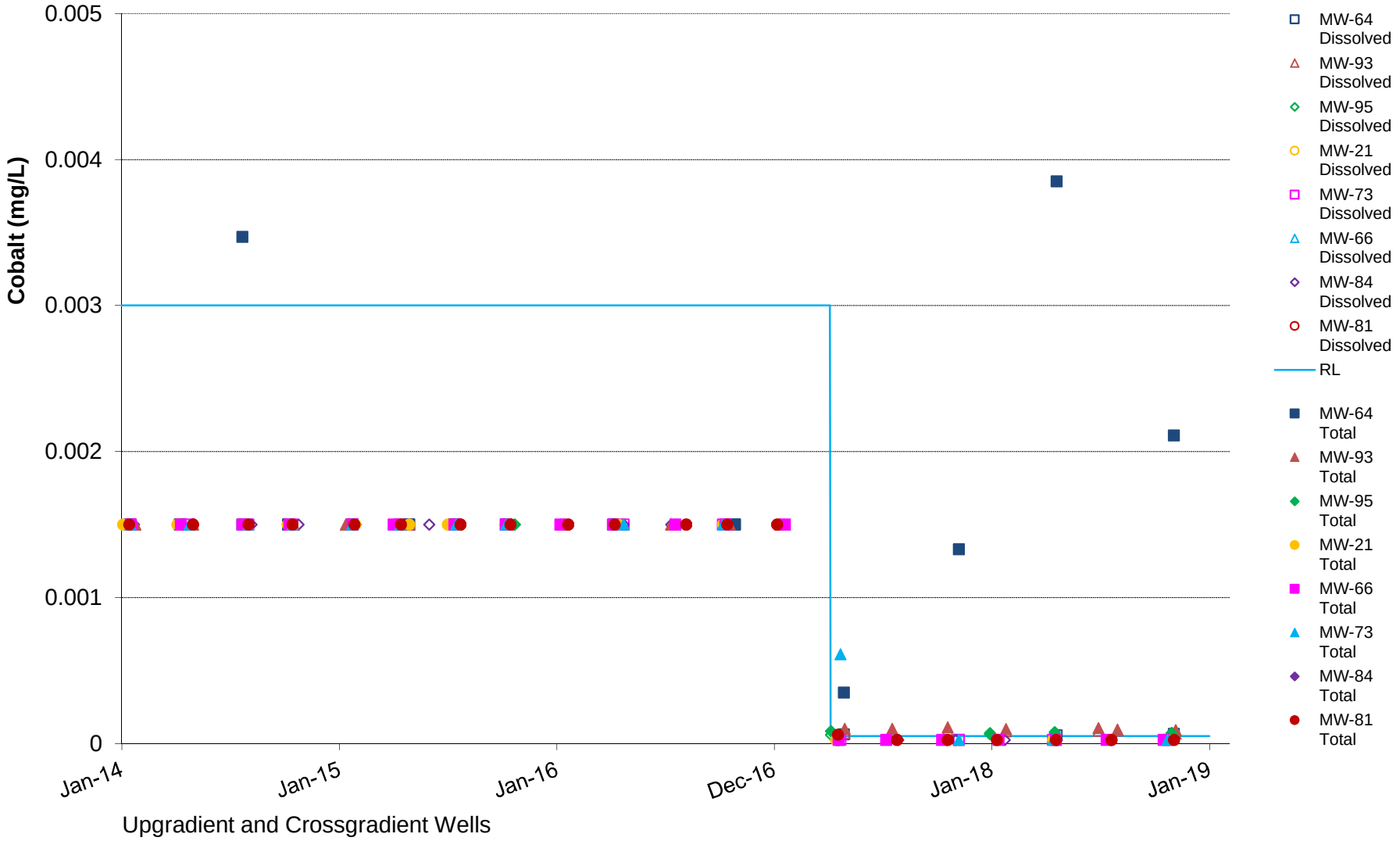

0.01
0.008
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0.004
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0
Chromium (mg/L)
Jan-14
Jan-15
Jan-16
Dec-16
Jan-18
Jan-19
Upgradient Wells
MW-56 Dissolved
MW-59 Dissolved
MW-76 Dissolved
MW-82 Dissolved
MW-83 Dissolved
MW-94 Dissolved
MW-24 DIssolved
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MW-94 Total
MW-24 Total
MW-65 Total

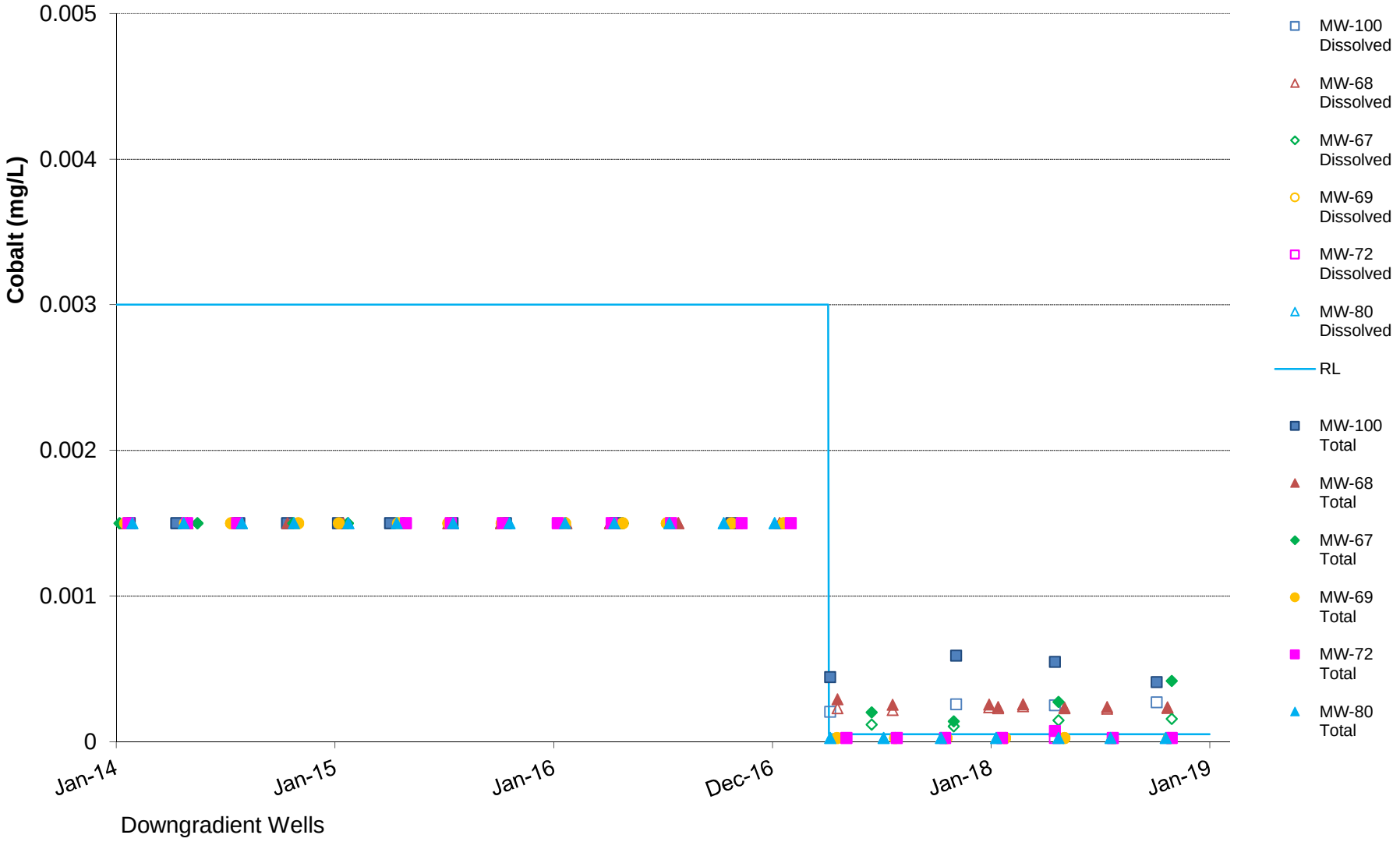

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0.004
0.002
0
Chromium (mg/L)
Jan-14
Jan-15
Jan-16
Dec-16
Jan-18
Jan-19
Upgradient and Crossgradient Wells
MW-64 Dissolved
MW-93 Dissolved
MW-95 Dissolved
MW-21 Dissolved
MW-73 Dissolved
MW-66 Dissolved
MW-84 Dissolved
MW-81 Dissolved
RL
MW-64 Total
MW-93 Total
MW-95 Total
MW-21 Total
MW-66 Total
MW-73 Total
MW-84 Total
MW-81 Total

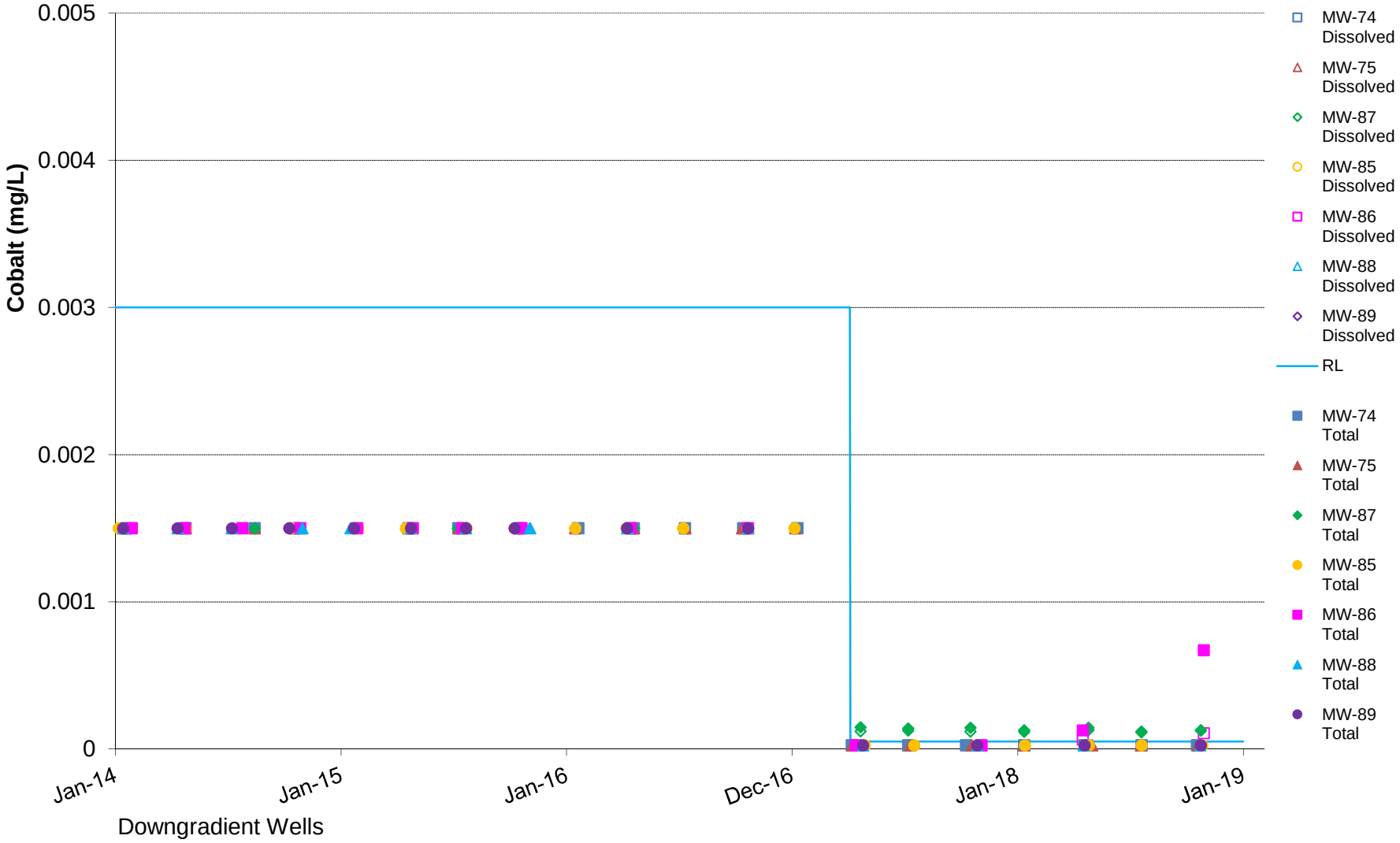

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0.008
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0.004
0.002
0
Chromium (mg/L)
Jan-14
Jan-15
Jan-16
Dec-16
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Jan-19
Downgradient Wells
MW-100 Dissolved
MW-68 Dissolved
MW-67 Dissolved
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MW-69 Total
MW-72 Total
MW-80 Total

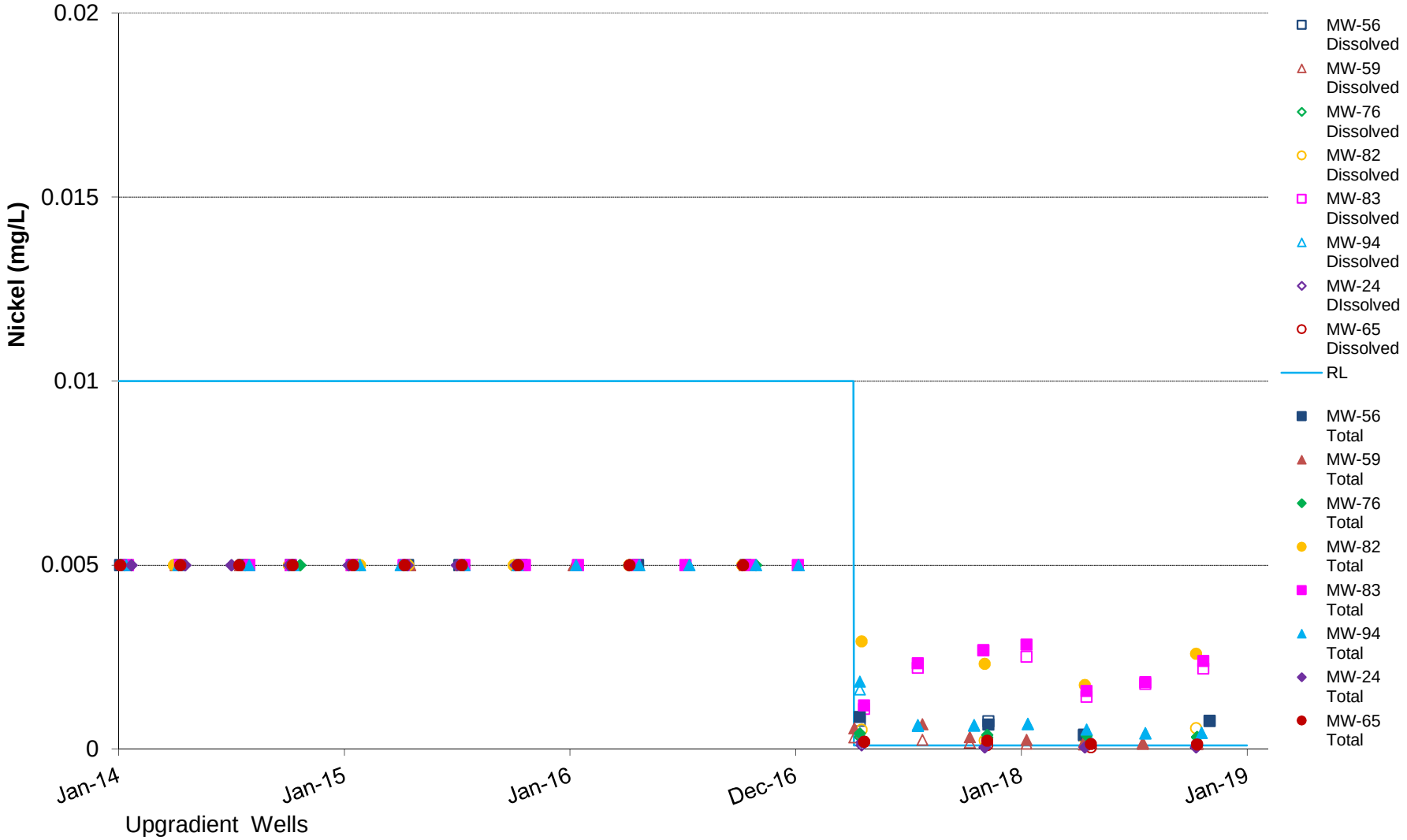

0.01
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0.004
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Chromium (mg/L)
Jan-14
Jan-15
Jan-16
Dec-16
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Jan-19
Downgradient Wells
MW-74 Dissolved
MW-75 Dissolved
MW-87 Dissolved
MW-85 Dissolved
MW-86 Dissolved
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MW-89 Total

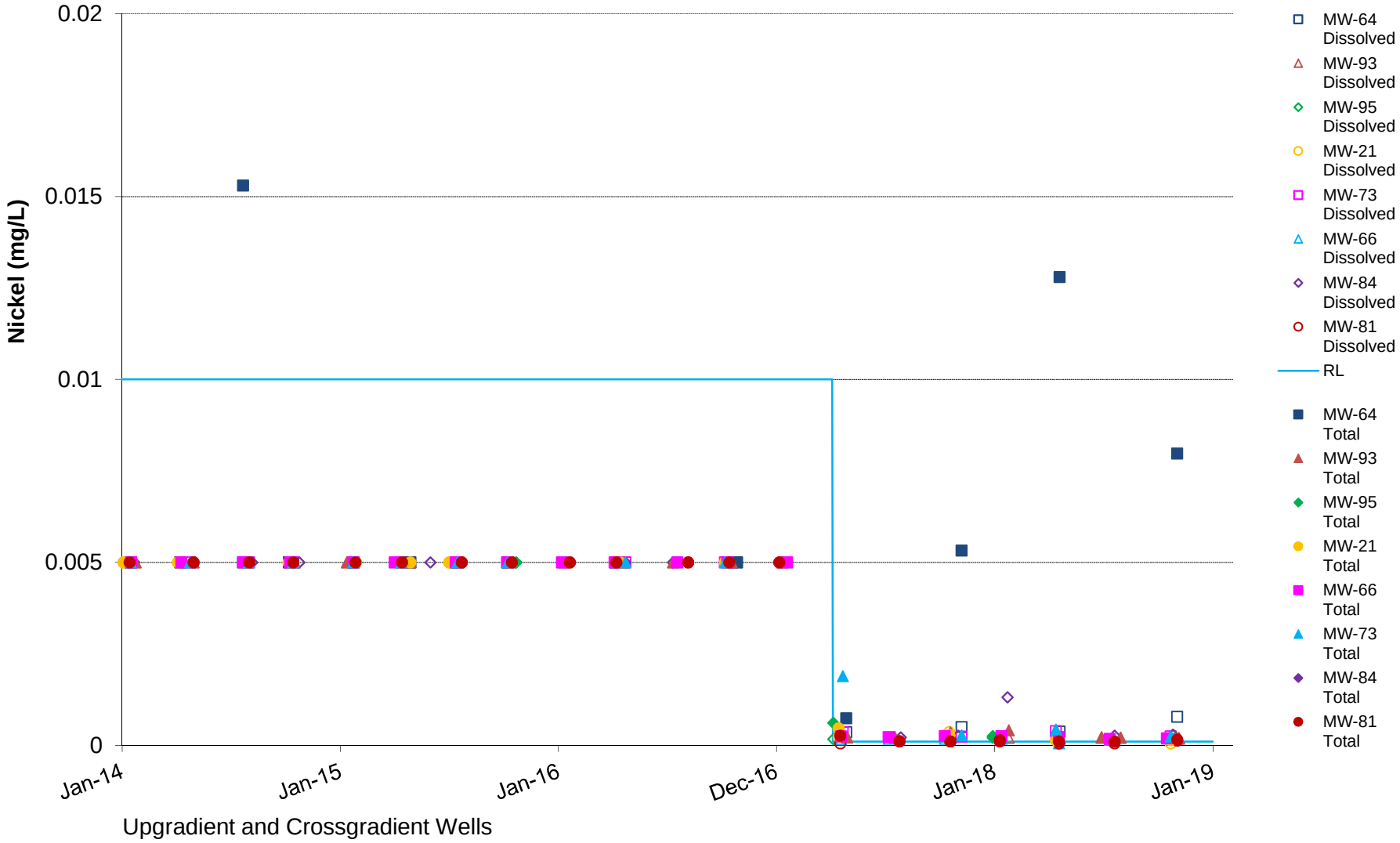

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0.002
0.001
0
Cobalt (mg/L)
Jan-14
Jan-15
Jan-16
Dec-16
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Jan-19
Upgradient Wells
MW-56 Dissolved
MW-59 Dissolved
MW-76 Dissolved
MW-82 Dissolved
MW-83 Dissolved
MW-94 Dissolved
MW-24 DIssolved
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MW-65 Total

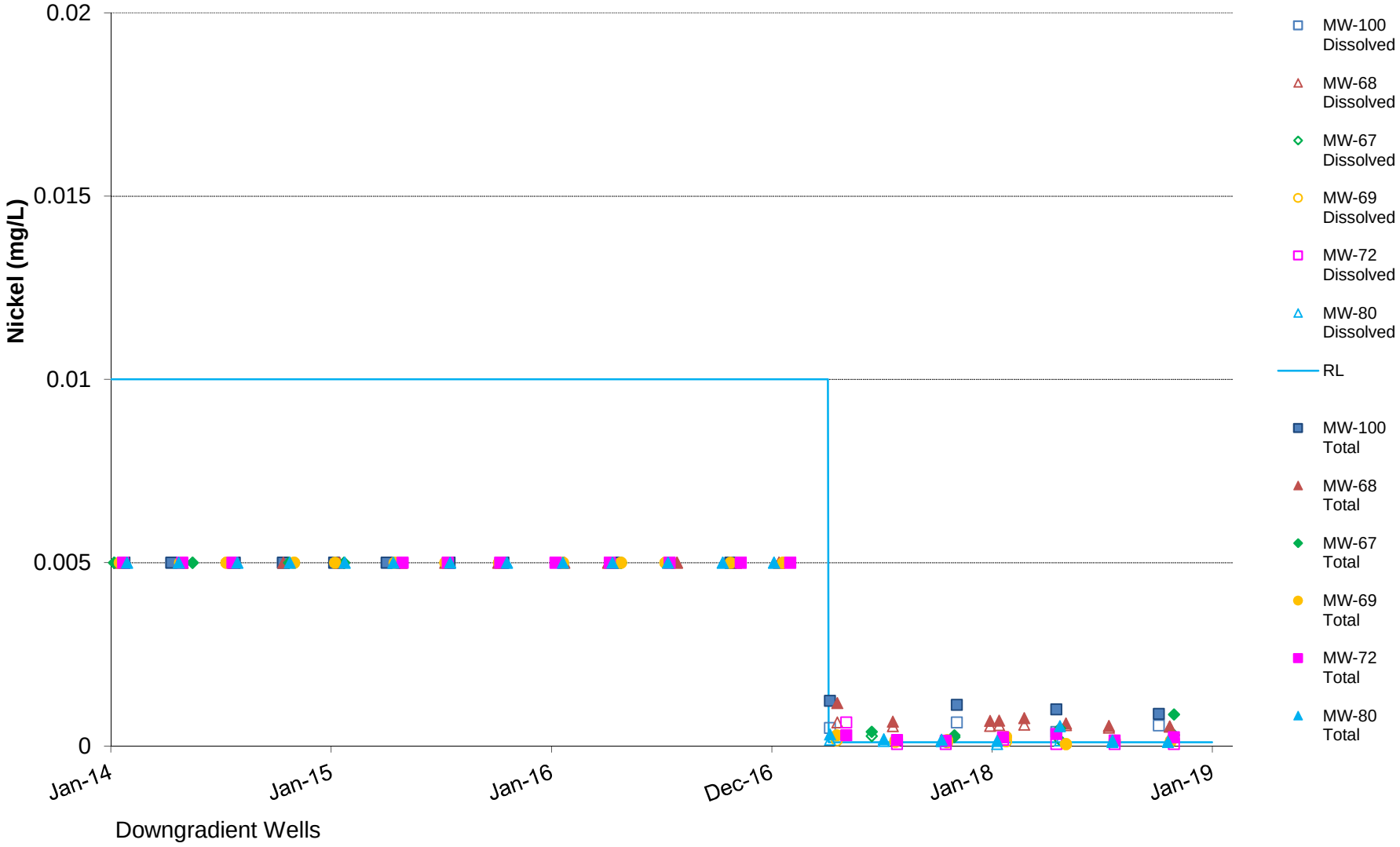

0.005
0.004
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0.002
0.001
0
Cobalt (mg/L)
Jan-14
Jan-15
Jan-16
Dec-16
Jan-18
Jan-19
Upgradient and Crossgradient Wells
MW-64 Dissolved
MW-93 Dissolved
MW-95 Dissolved
MW-21 Dissolved
MW-73 Dissolved
MW-66 Dissolved
MW-84 Dissolved
MW-81 Dissolved
RL
MW-64 Total
MW-93 Total
MW-95 Total
MW-21 Total
MW-66 Total
MW-73 Total
MW-84 Total
MW-81 Total

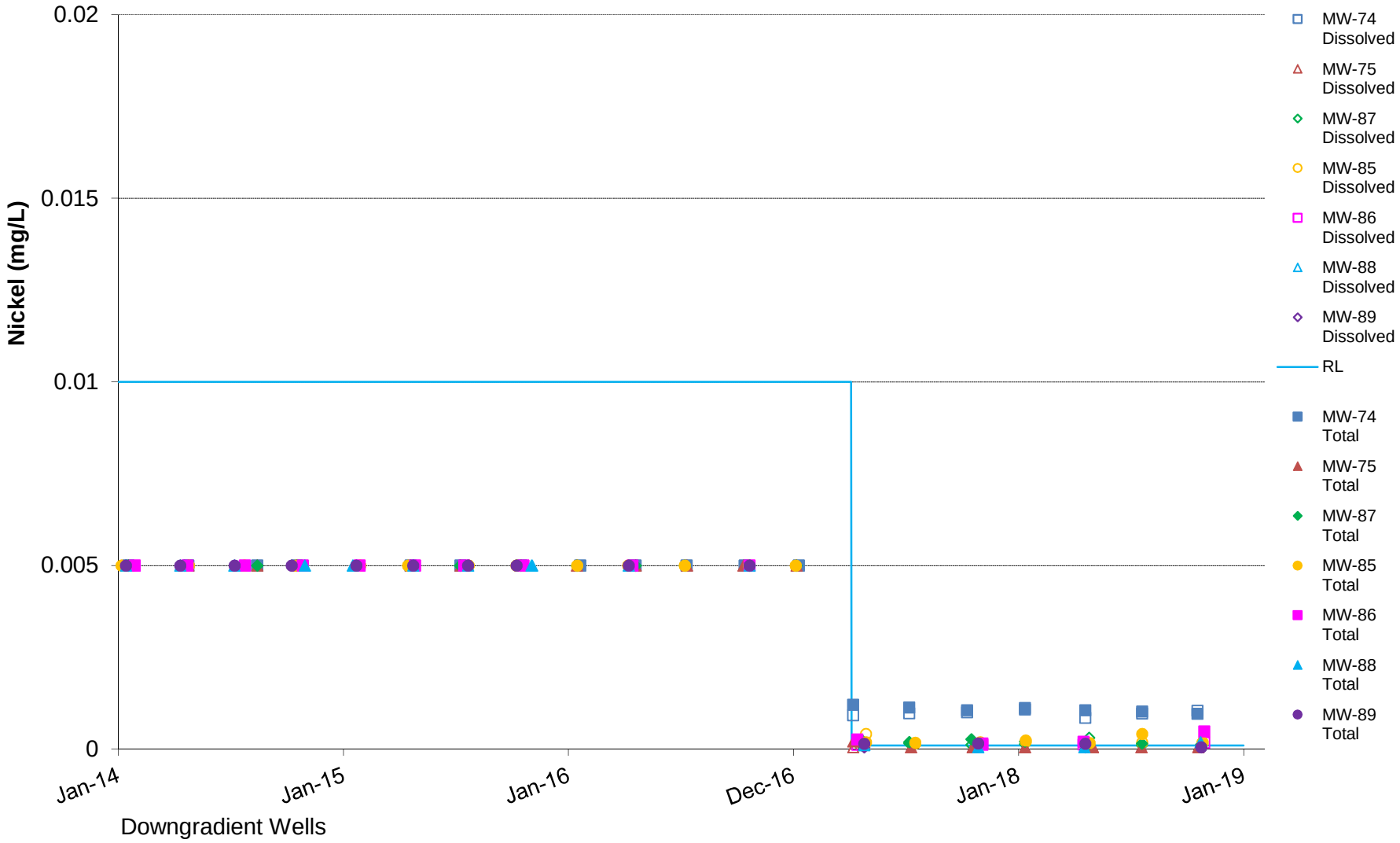

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0
Cobalt (mg/L)
Jan-14
Jan-15
Jan-16
Dec-16
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Jan-19
Downgradient Wells
MW-100 Dissolved
MW-68 Dissolved
MW-67 Dissolved
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MW-72 Total
MW-80 Total

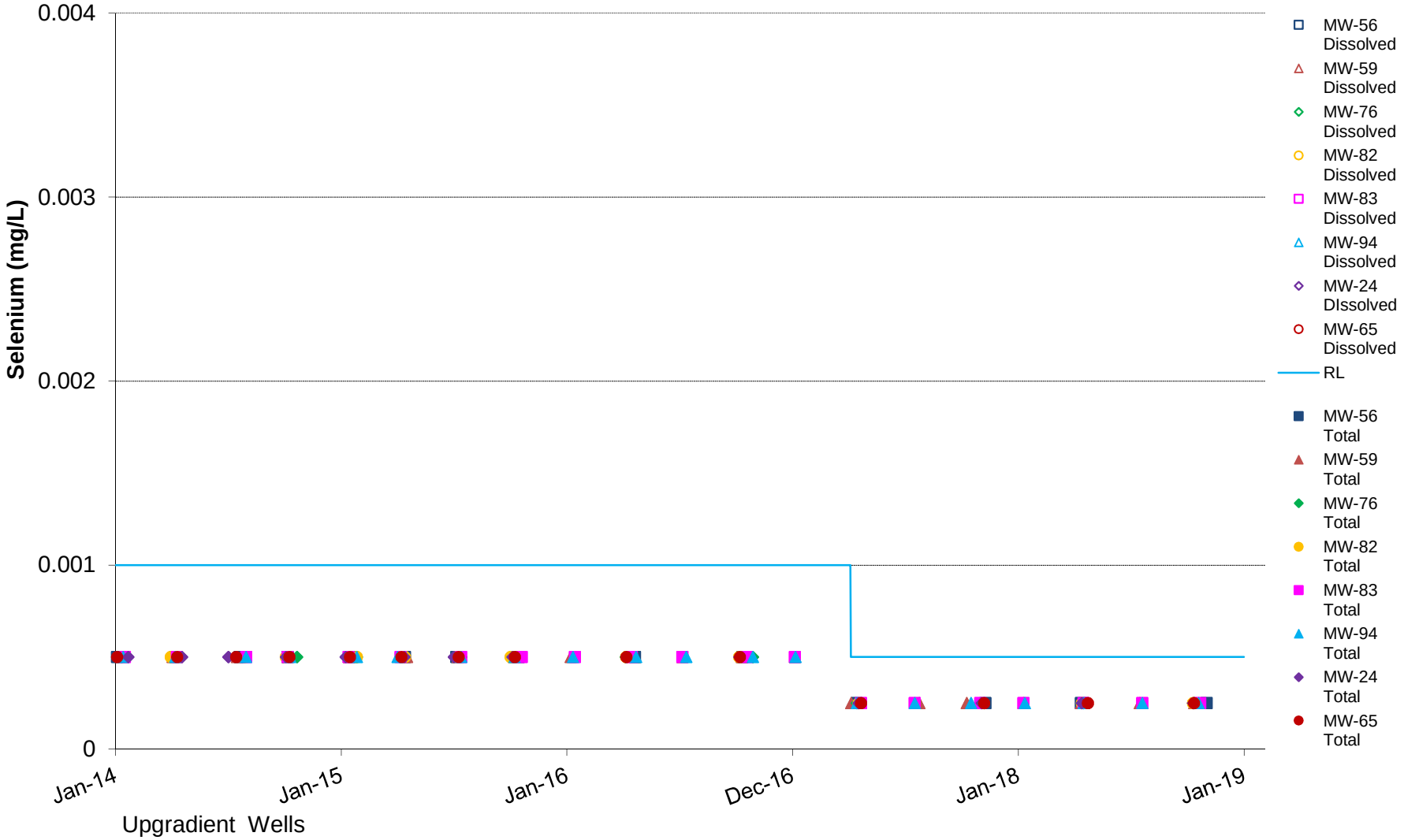

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Cobalt (mg/L)
Jan-14
Jan-15
Jan-16
Dec-16
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Jan-19
Downgradient Wells
MW-74 Dissolved
MW-75 Dissolved
MW-87 Dissolved
MW-85 Dissolved
MW-86 Dissolved
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MW-88 Total
MW-89 Total

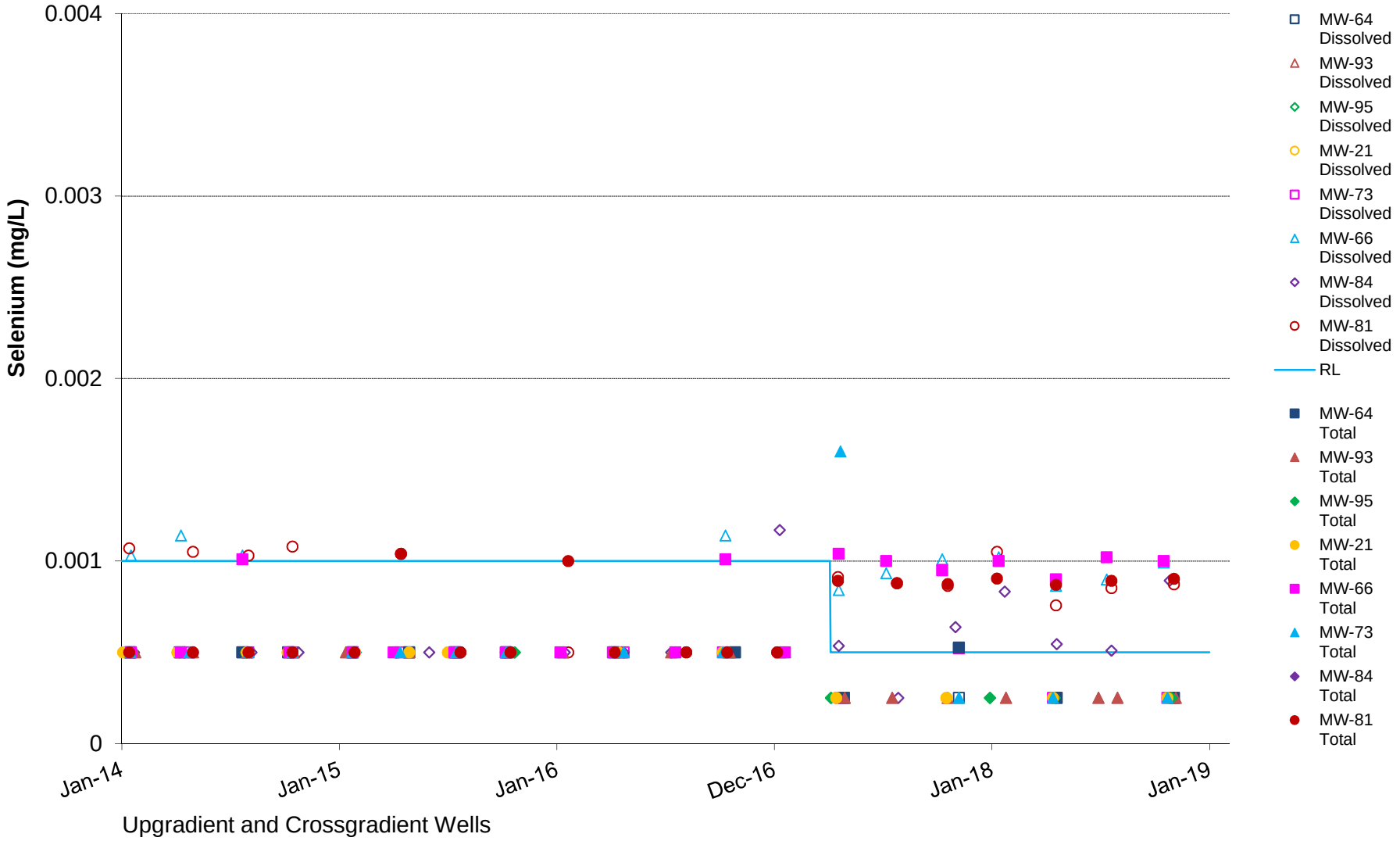

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Nickel (mg/L)
Jan-14
Jan-15
Jan-16
Dec-16
Jan-18
Jan-19
Upgradient Wells
MW-56 Dissolved
MW-59 Dissolved
MW-76 Dissolved
MW-82 Dissolved
MW-83 Dissolved
MW-94 Dissolved
MW-24 DIssolved
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MW-24 Total
MW-65 Total

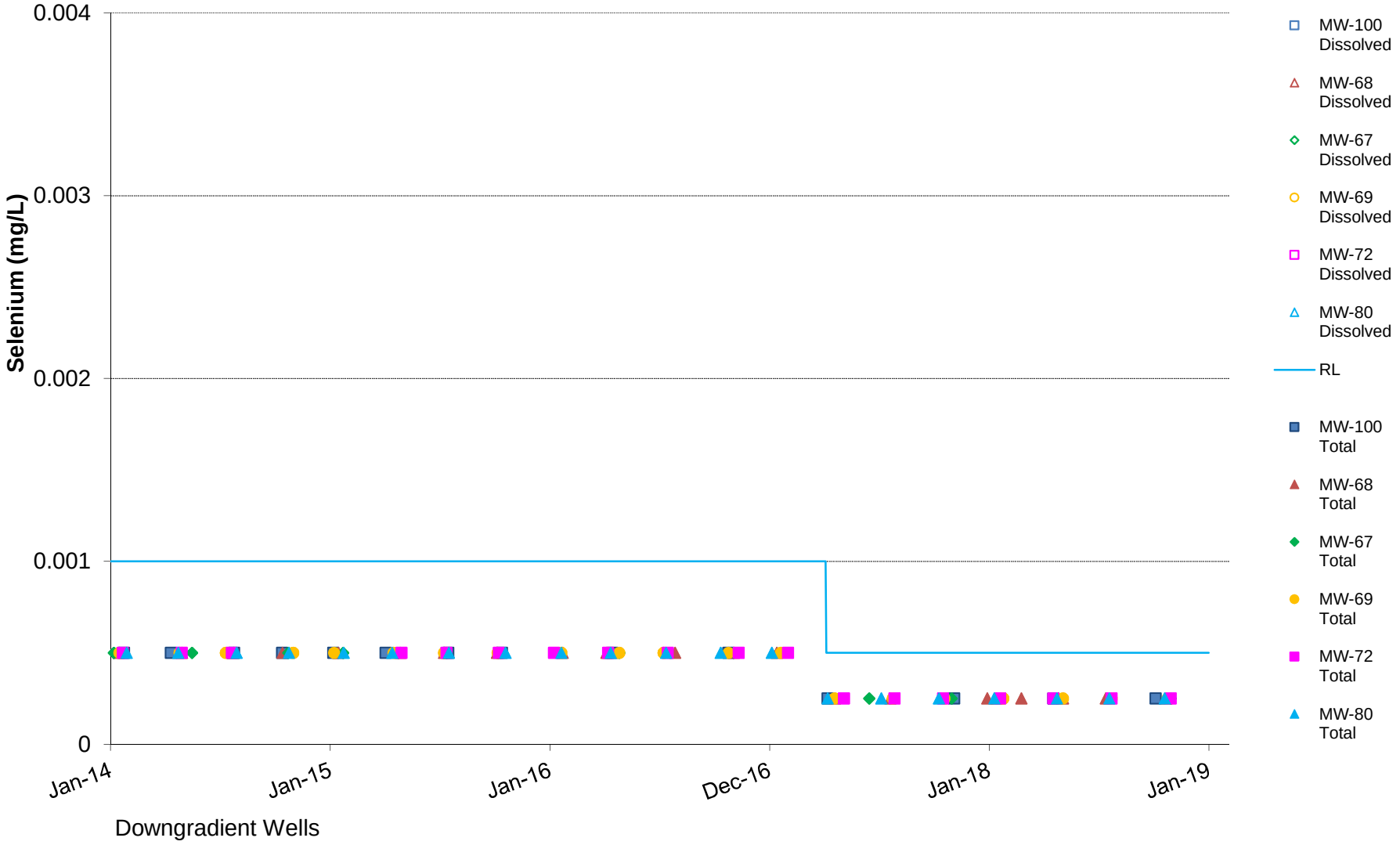

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Nickel (mg/L)
Jan-14
Jan-15
Jan-16
Dec-16
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Upgradient and Crossgradient Wells
MW-64 Dissolved
MW-93 Dissolved
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MW-84 Dissolved
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MW-95 Total
MW-21 Total
MW-66 Total
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MW-81 Total

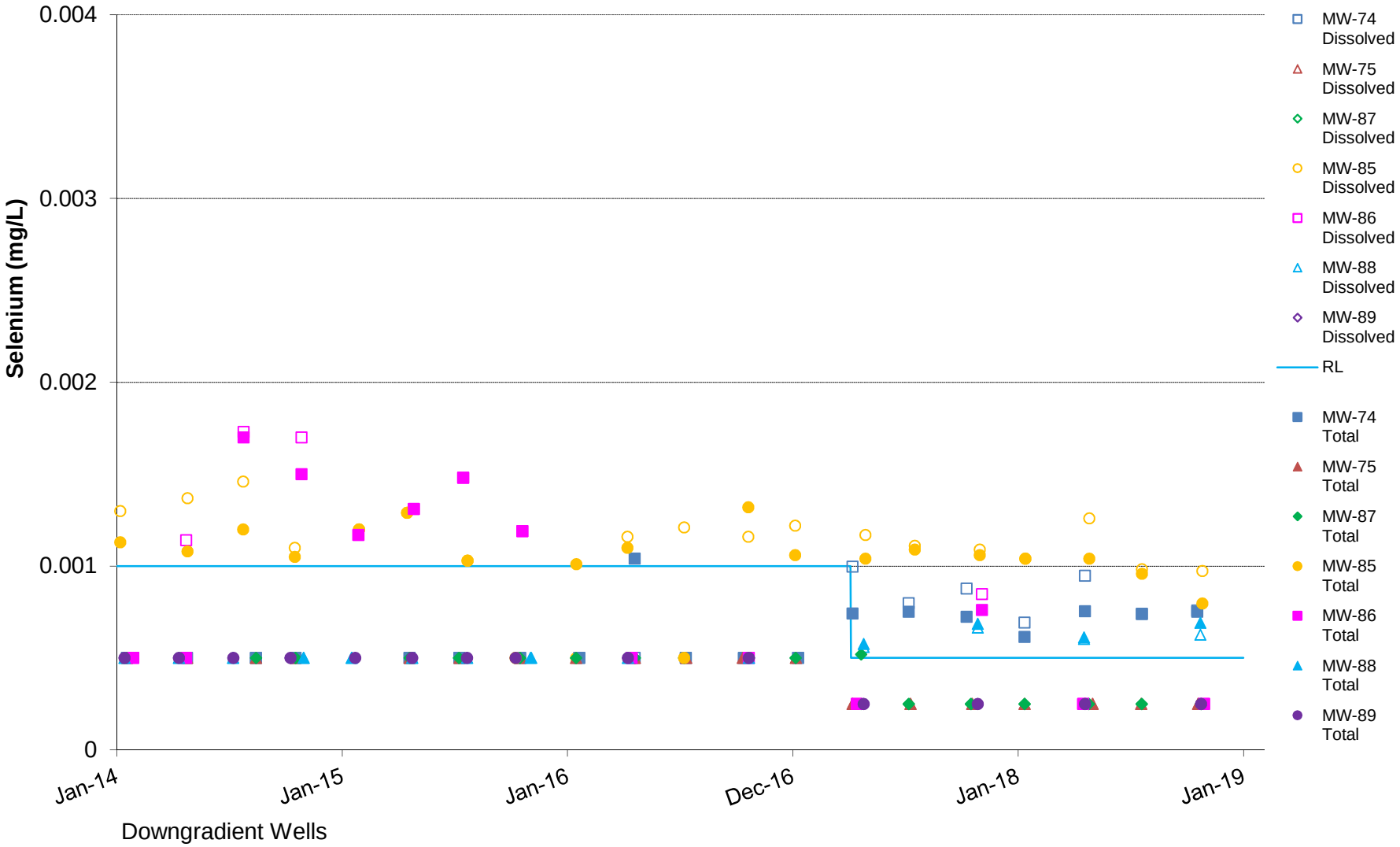

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0
Nickel (mg/L)
Jan-14
Jan-15
Jan-16
Dec-16
Jan-18
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Downgradient Wells
MW-100 Dissolved
MW-68 Dissolved
MW-67 Dissolved
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MW-80 Total

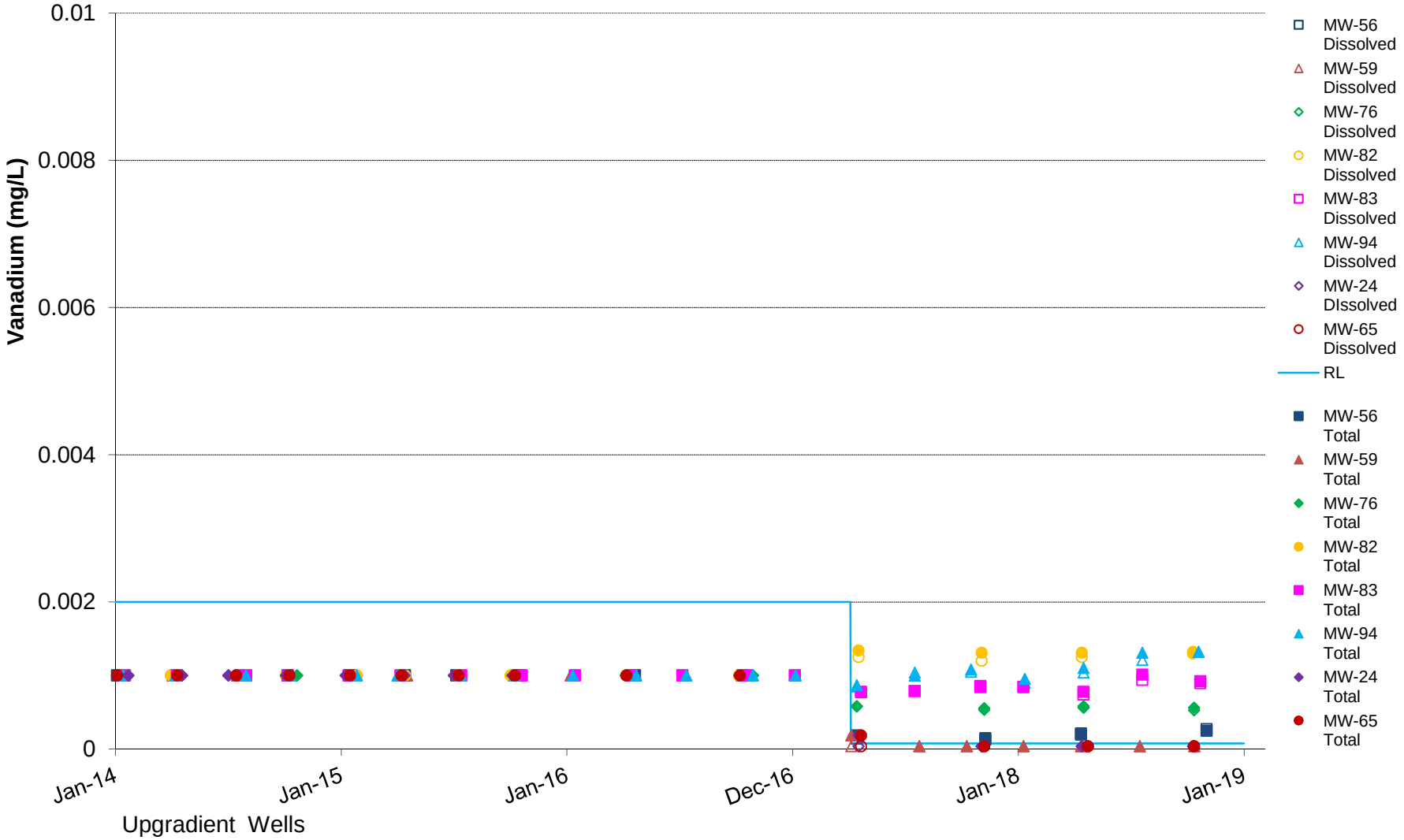

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Nickel (mg/L)
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Jan-15
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Dec-16
Jan-18
Jan-19
Downgradient Wells
MW-74 Dissolved
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MW-85 Dissolved
MW-86 Dissolved
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RL
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MW-75 Total
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MW-89 Total

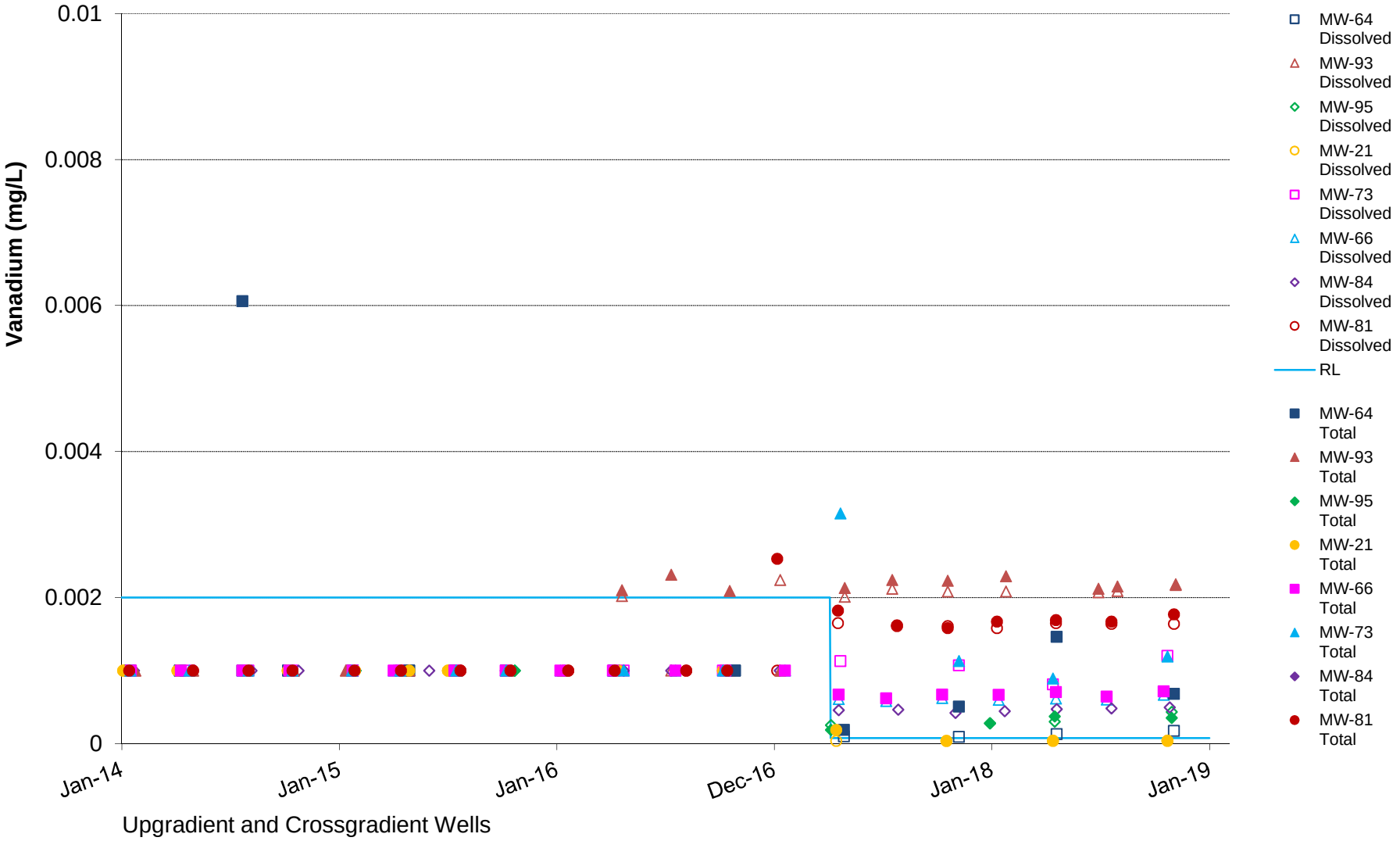

0.004
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Selenium (mg/L)
Jan-14
Jan-15
Jan-16
Dec-16
Jan-18
Jan-19
Upgradient Wells
MW-56 Dissolved
MW-59 Dissolved
MW-76 Dissolved
MW-82 Dissolved
MW-83 Dissolved
MW-94 Dissolved
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MW-56 Total
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MW-65 Total

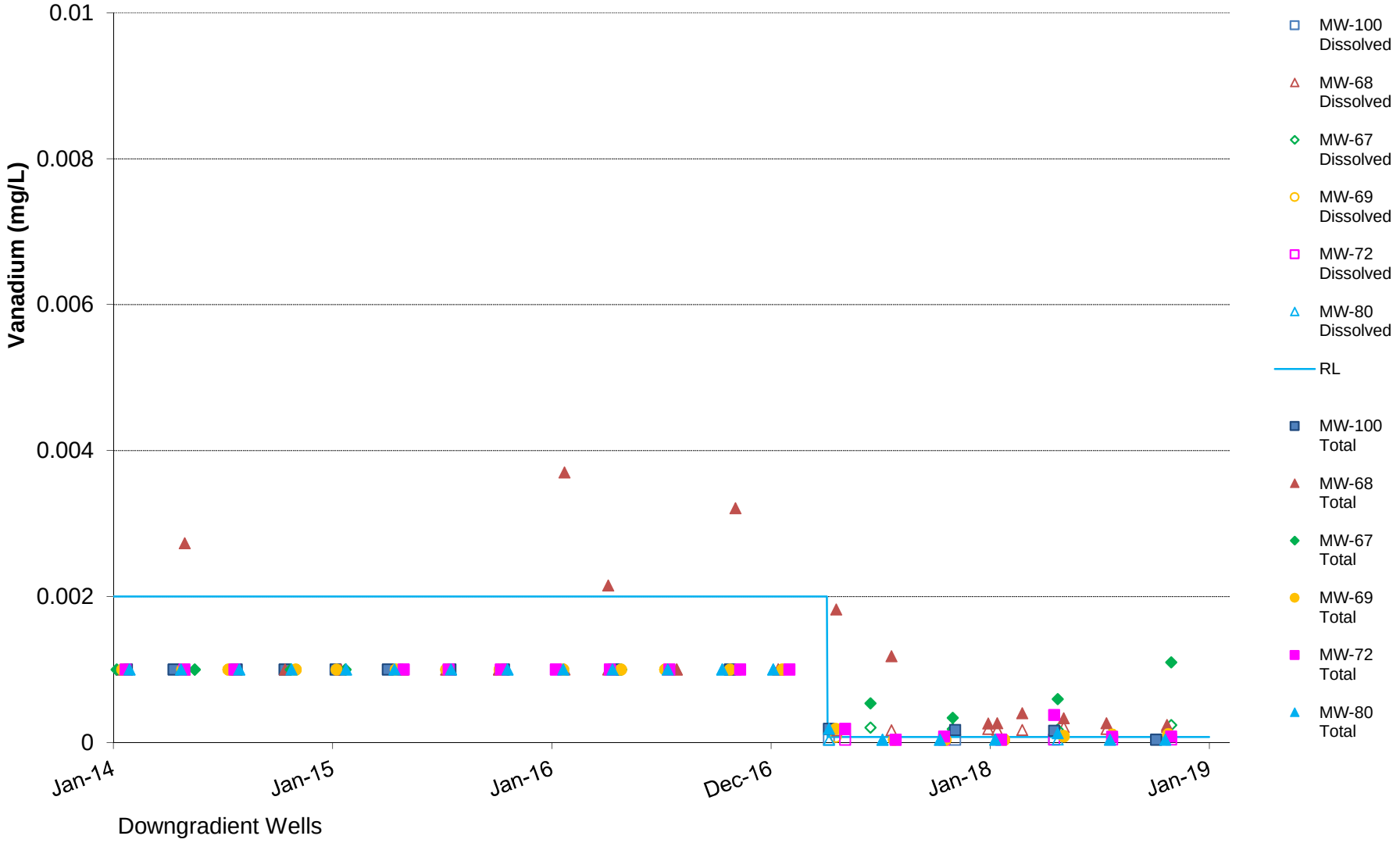

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Selenium (mg/L)
Jan-14
Jan-15
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Dec-16
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Jan-19
Upgradient and Crossgradient Wells
MW-64 Dissolved
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MW-95 Dissolved
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MW-73 Dissolved
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MW-84 Dissolved
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MW-81 Total

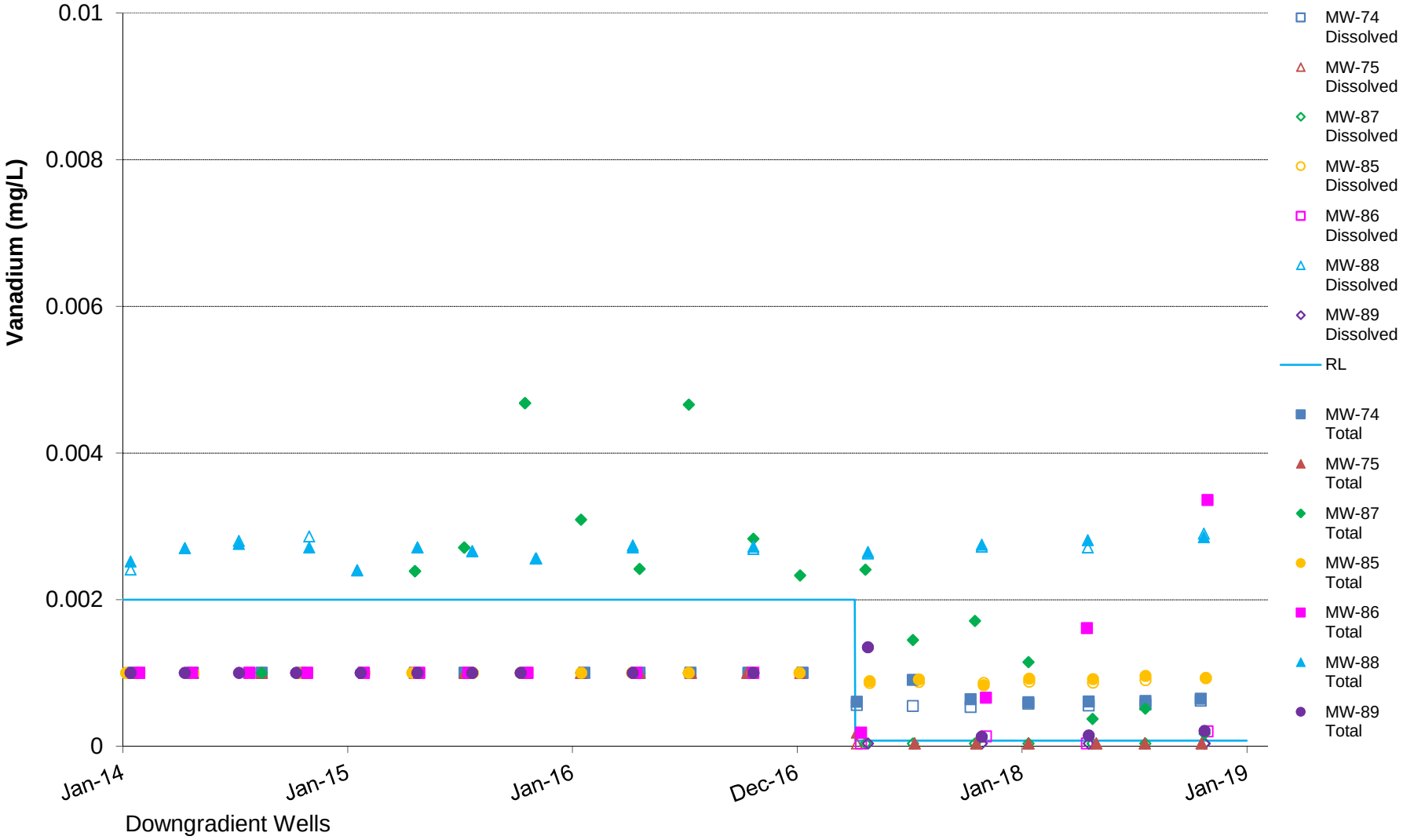

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Selenium (mg/L)
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Jan-15
Jan-16
Dec-16
Jan-18
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MW-80 Total

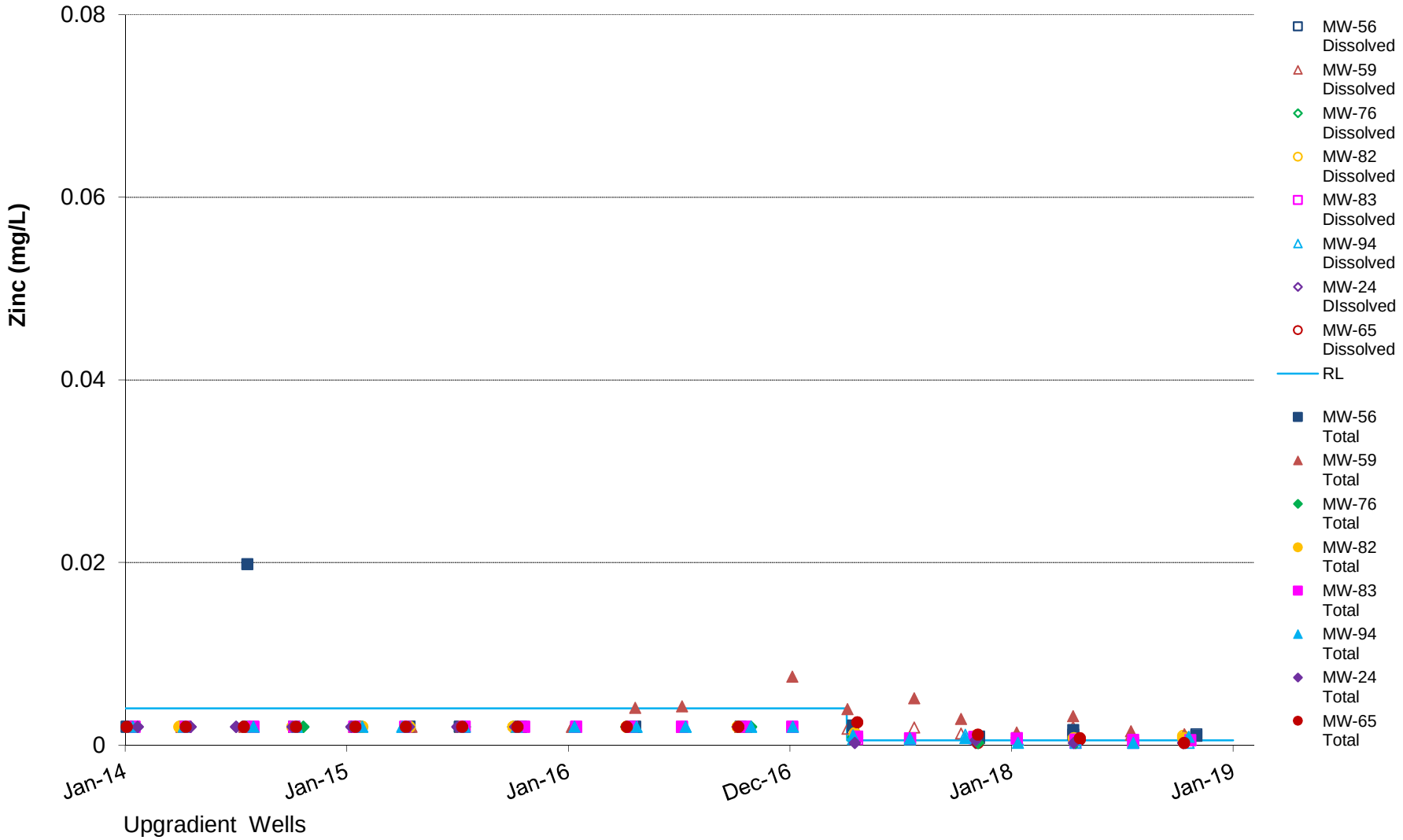

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Selenium (mg/L)
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Dec-16
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MW-85 Dissolved
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MW-75 Total
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MW-89 Total

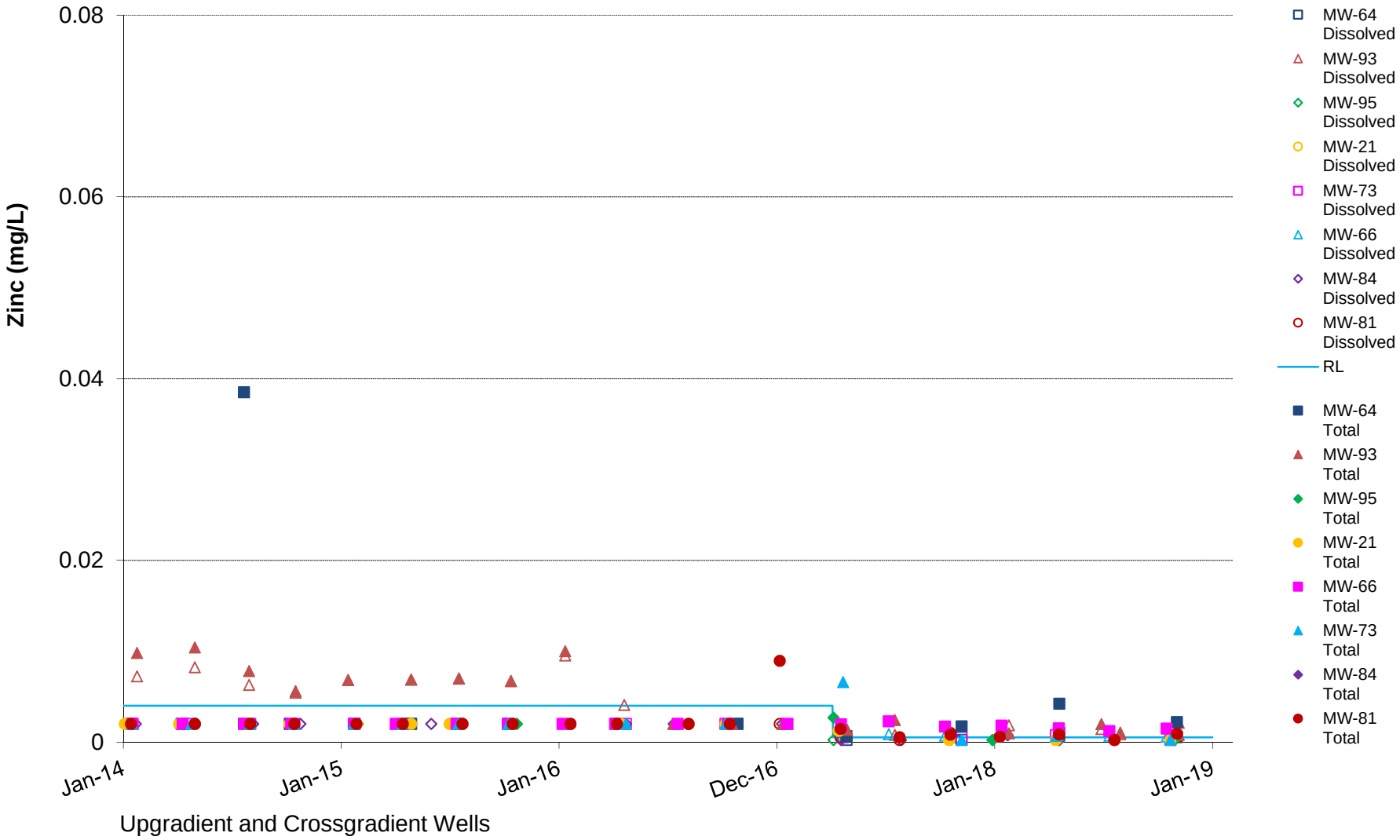

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Vanadium (mg/L)
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Jan-16
Dec-16
Jan-18
Jan-19
Upgradient Wells
MW-56 Dissolved
MW-59 Dissolved
MW-76 Dissolved
MW-82 Dissolved
MW-83 Dissolved
MW-94 Dissolved
MW-24 DIssolved
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MW-65 Total

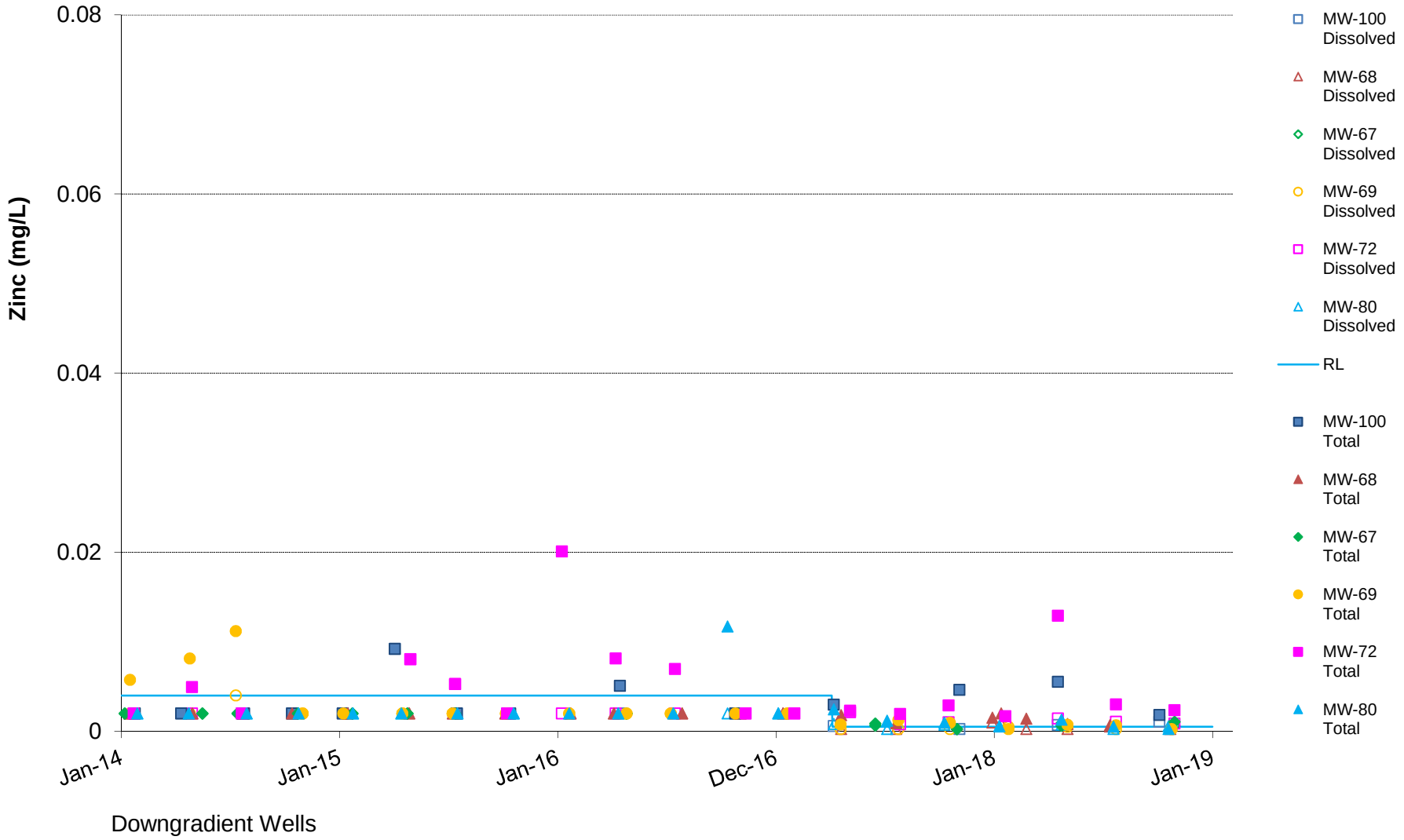

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Vanadium (mg/L)
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Jan-15
Jan-16
Dec-16
Jan-18
Jan-19
Upgradient and Crossgradient Wells
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MW-93 Dissolved
MW-95 Dissolved
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MW-81 Dissolved
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MW-93 Total
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MW-73 Total
MW-84 Total
MW-81 Total

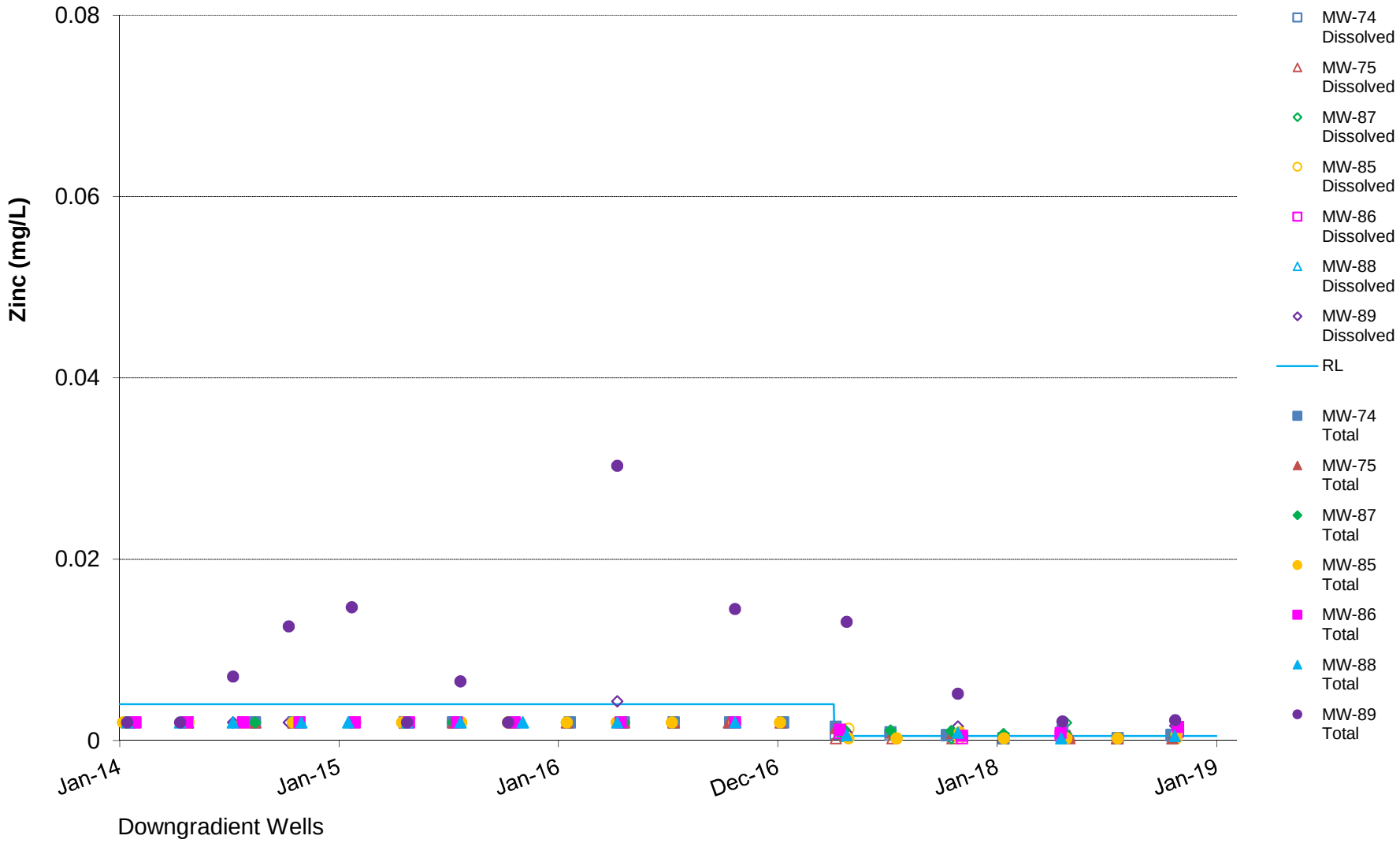

0.01
0.008
0.006
0.004
0.002
0
Vanadium (mg/L)
Jan-14
Jan-15
Jan-16
Dec-16
Jan-18
Jan-19
Downgradient Wells
MW-100 Dissolved
MW-68 Dissolved
MW-67 Dissolved
MW-69 Dissolved
MW-72 Dissolved
MW-80 Dissolved
RL
MW-100 Total
MW-68 Total
MW-67 Total
MW-69 Total
MW-72 Total
MW-80 Total

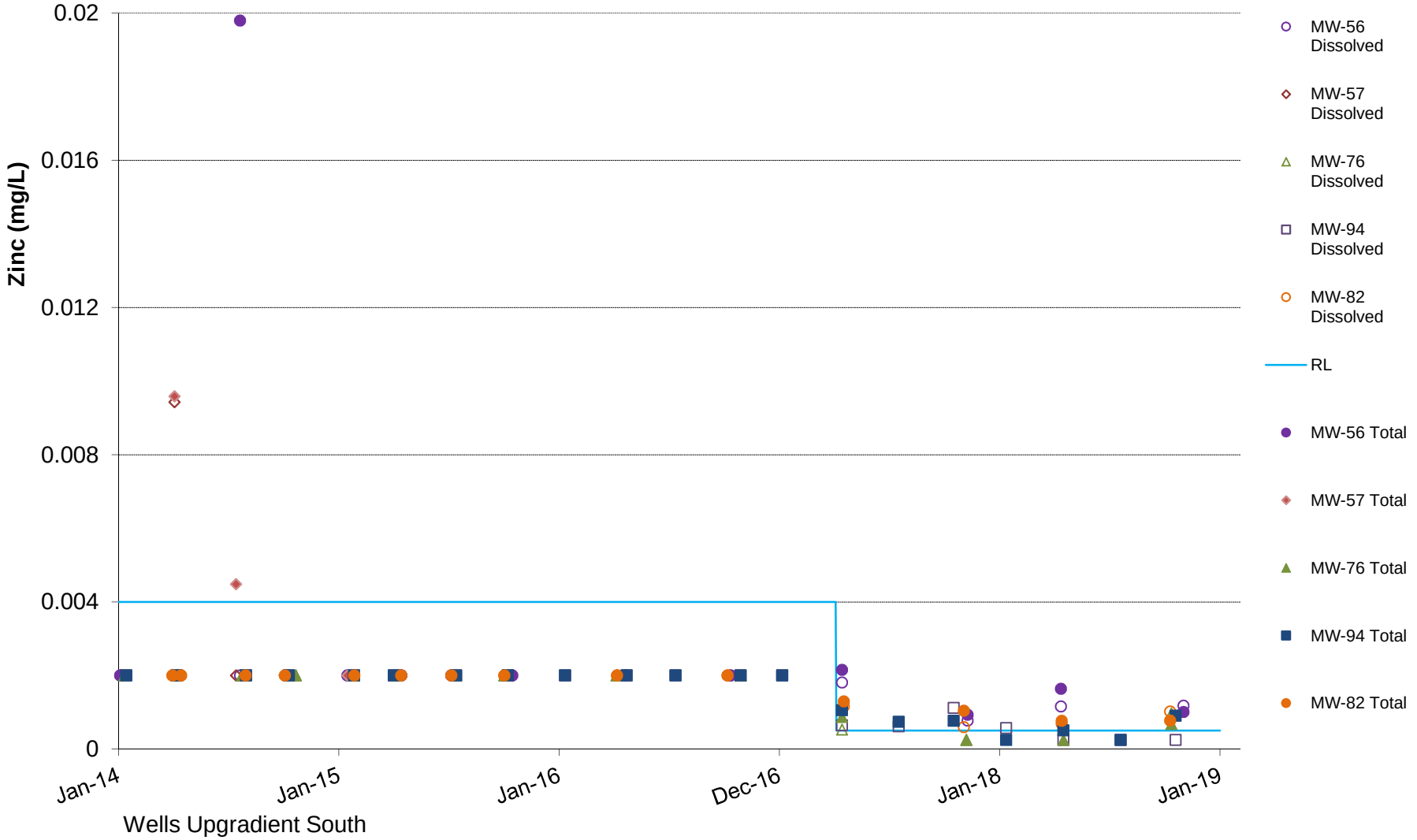

0.01
0.008
0.006
0.004
0.002
0
Vanadium (mg/L)
Jan-14
Jan-15
Jan-16
Dec-16
Jan-18
Jan-19
Downgradient Wells
MW-74 Dissolved
MW-75 Dissolved
MW-87 Dissolved
MW-85 Dissolved
MW-86 Dissolved
MW-88 Dissolved
MW-89 Dissolved
RL
MW-74 Total
MW-75 Total
MW-87 Total
MW-85 Total
MW-86 Total
MW-88 Total
MW-89 Total

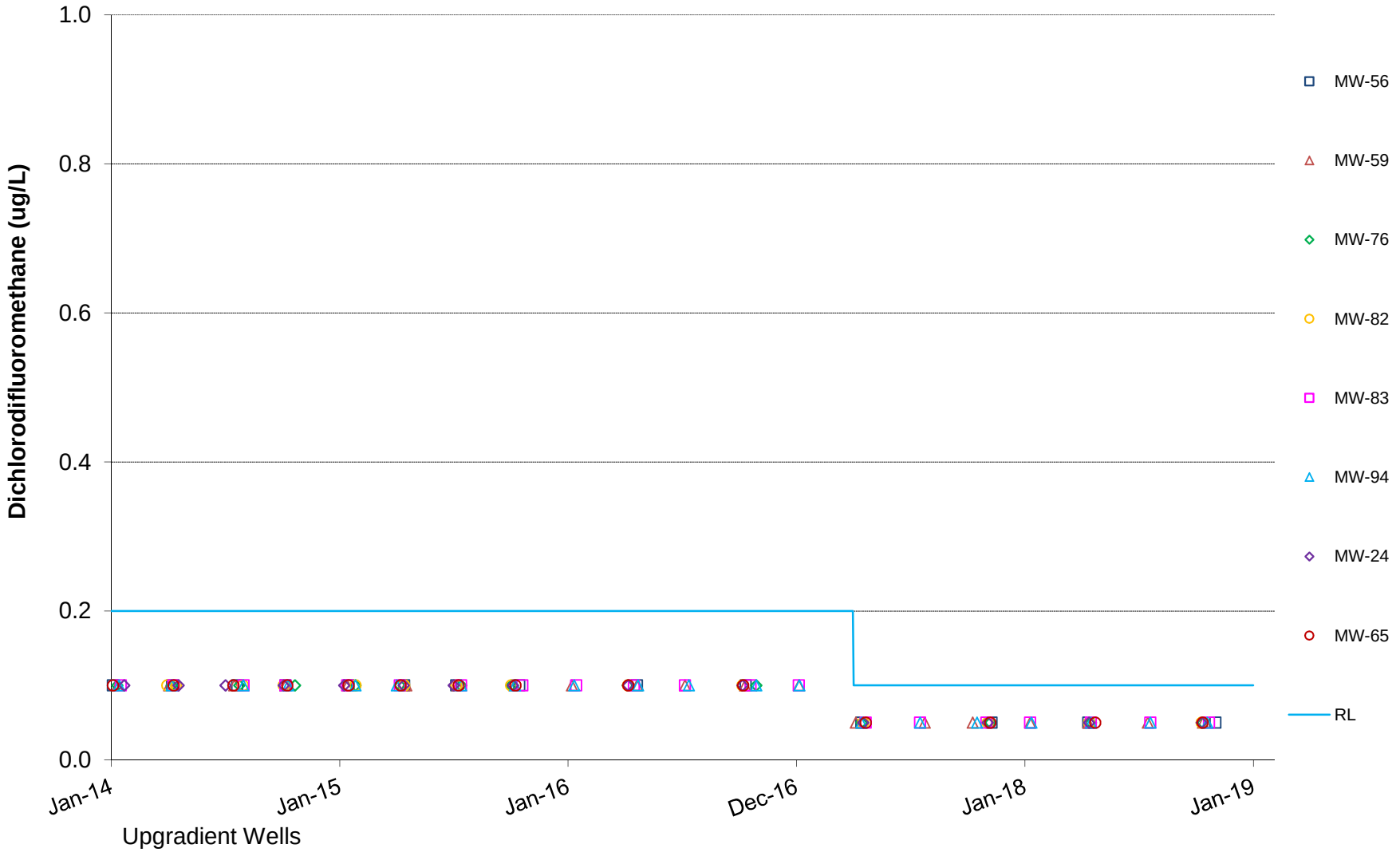

0.08
0.06
0.04
0.02
0
Zinc (mg/L)
Jan-14
Jan-15
Jan-16
Dec-16
Jan-18
Jan-19
Upgradient Wells
MW-56 Dissolved
MW-59 Dissolved
MW-76 Dissolved
MW-82 Dissolved
MW-83 Dissolved
MW-94 Dissolved
MW-24 DIssolved
MW-65 Dissolved
RL
MW-56 Total
MW-59 Total
MW-76 Total
MW-82 Total
MW-83 Total
MW-94 Total
MW-24 Total
MW-65 Total

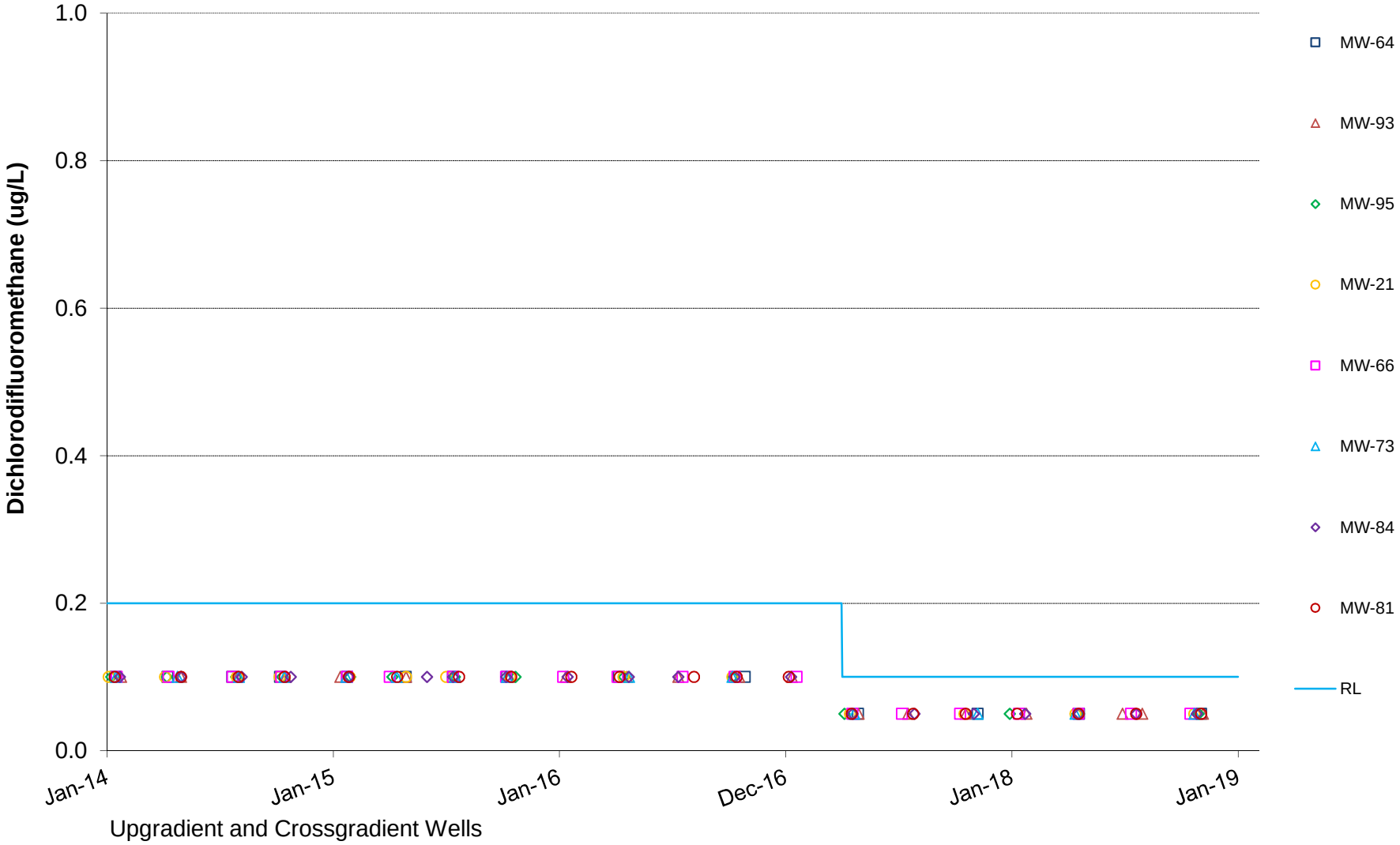

0.08
0.06
0.04
0.02
0
Zinc (mg/L)
Jan-14
Jan-15
Jan-16
Dec-16
Jan-18
Jan-19
Upgradient and Crossgradient Wells
MW-64 Dissolved
MW-93 Dissolved
MW-95 Dissolved
MW-21 Dissolved
MW-73 Dissolved
MW-66 Dissolved
MW-84 Dissolved
MW-81 Dissolved
RL
MW-64 Total
MW-93 Total
MW-95 Total
MW-21 Total
MW-66 Total
MW-73 Total
MW-84 Total
MW-81 Total

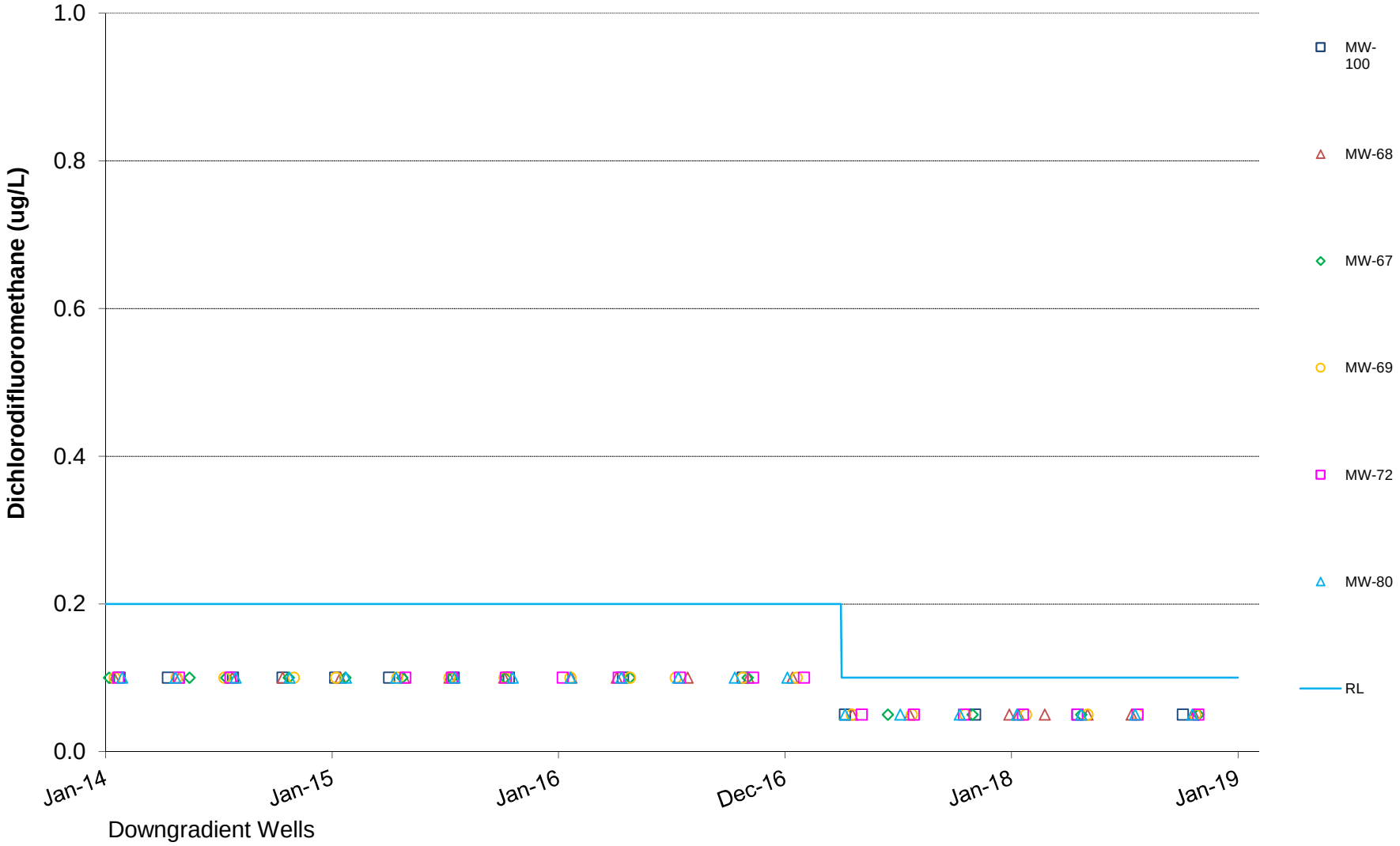

0.08
0.06
0.04
0.02
0
Zinc (mg/L)
Jan-14
Jan-15
Jan-16
Dec-16
Jan-18
Jan-19
Downgradient Wells
MW-100 Dissolved
MW-68 Dissolved
MW-67 Dissolved
MW-69 Dissolved
MW-72 Dissolved
MW-80 Dissolved
RL
MW-100 Total
MW-68 Total
MW-67 Total
MW-69 Total
MW-72 Total
MW-80 Total

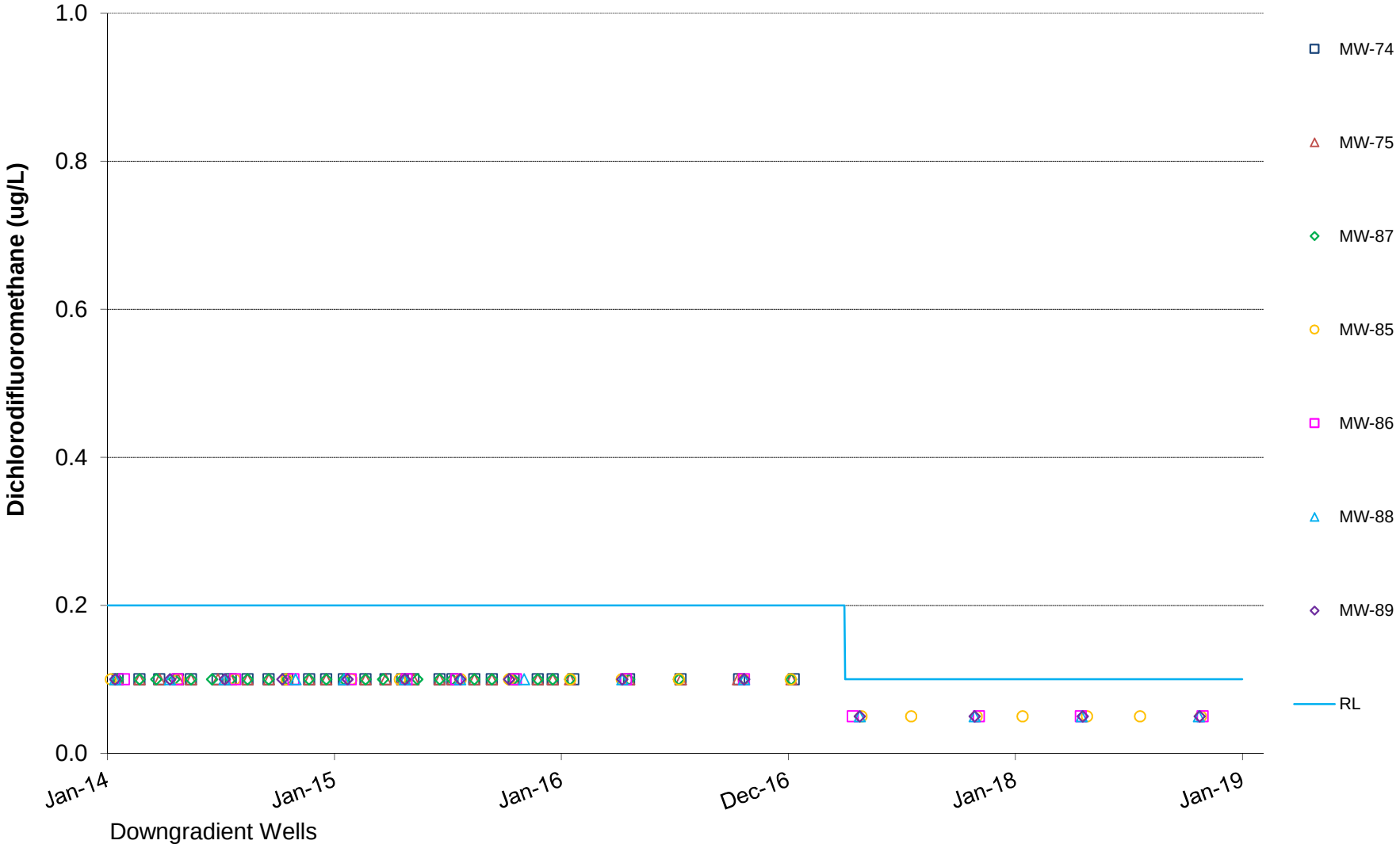

0.08
0.06
0.04
0.02
0
Zinc (mg/L)
Jan-14
Jan-15
Jan-16
Dec-16
Jan-18
Jan-19
Downgradient Wells
MW-74 Dissolved
MW-75 Dissolved
MW-87 Dissolved
MW-85 Dissolved
MW-86 Dissolved
MW-88 Dissolved
MW-89 Dissolved
RL
MW-74 Total
MW-75 Total
MW-87 Total
MW-85 Total
MW-86 Total
MW-88 Total
MW-89 Total

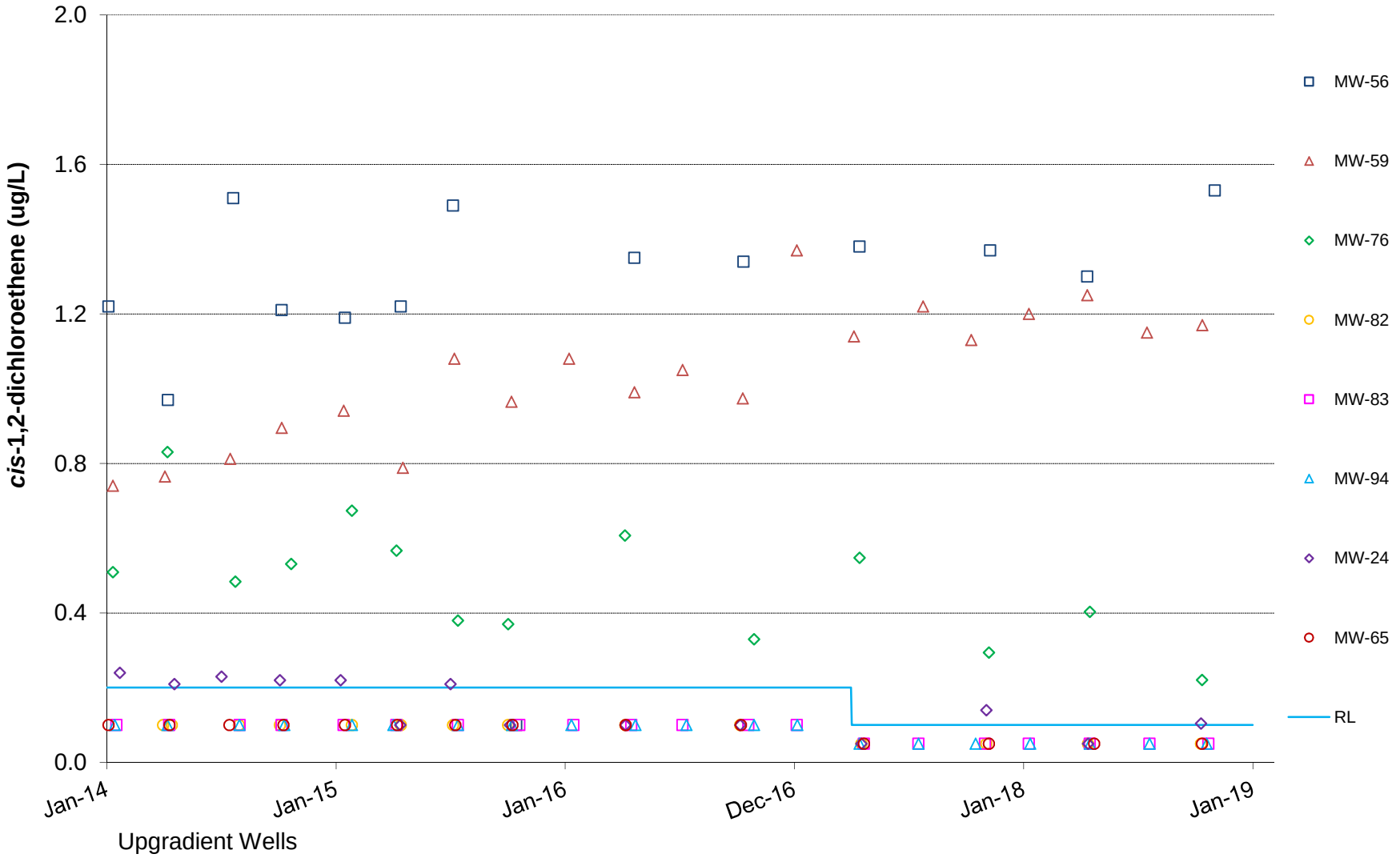

0.02
0.016
0.012
0.008
0.004
0
Zinc (mg/L)
Jan-14
Jan-15
Jan-16
Dec-16
Jan-18
Jan-19
Wells Upgradient South
MW-56 Dissolved
MW-57 Dissolved
MW-76 Dissolved
MW-94 Dissolved
MW-82 Dissolved
RL
MW-56 Total
MW-57 Total
MW-76 Total
MW-94 Total
MW-82 Total

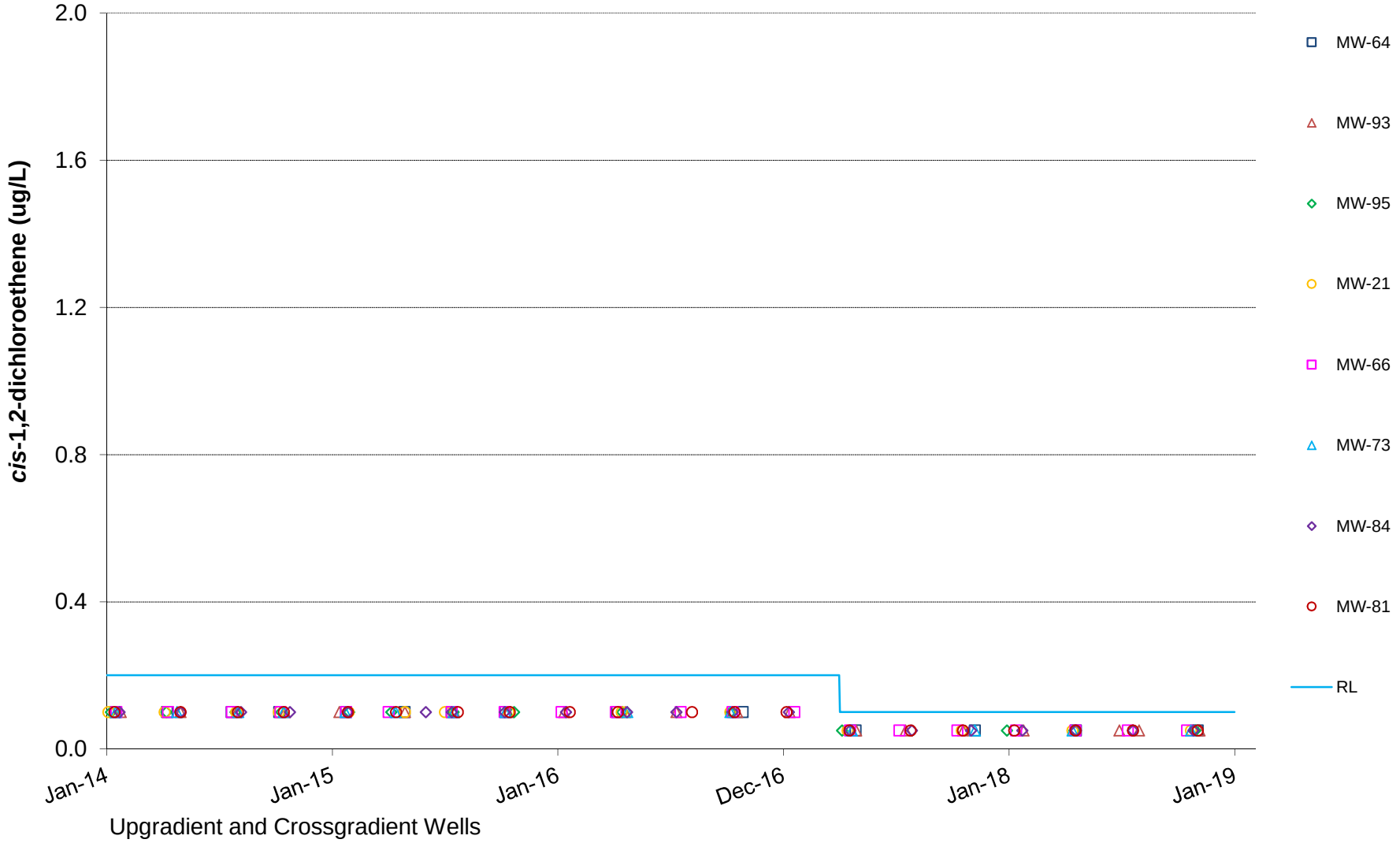

Dichlorodifluoromethane (ug/L)
1.0
0.8
0.6
0.4
0.2
0.0
Jan-14
Jan-15
Jan-16
Dec-16
Jan-18
Jan-19
Upgradient Wells
MW-56
MW-59
MW-76
MW-82
MW-83
MW-94
MW-24
MW-65
RL

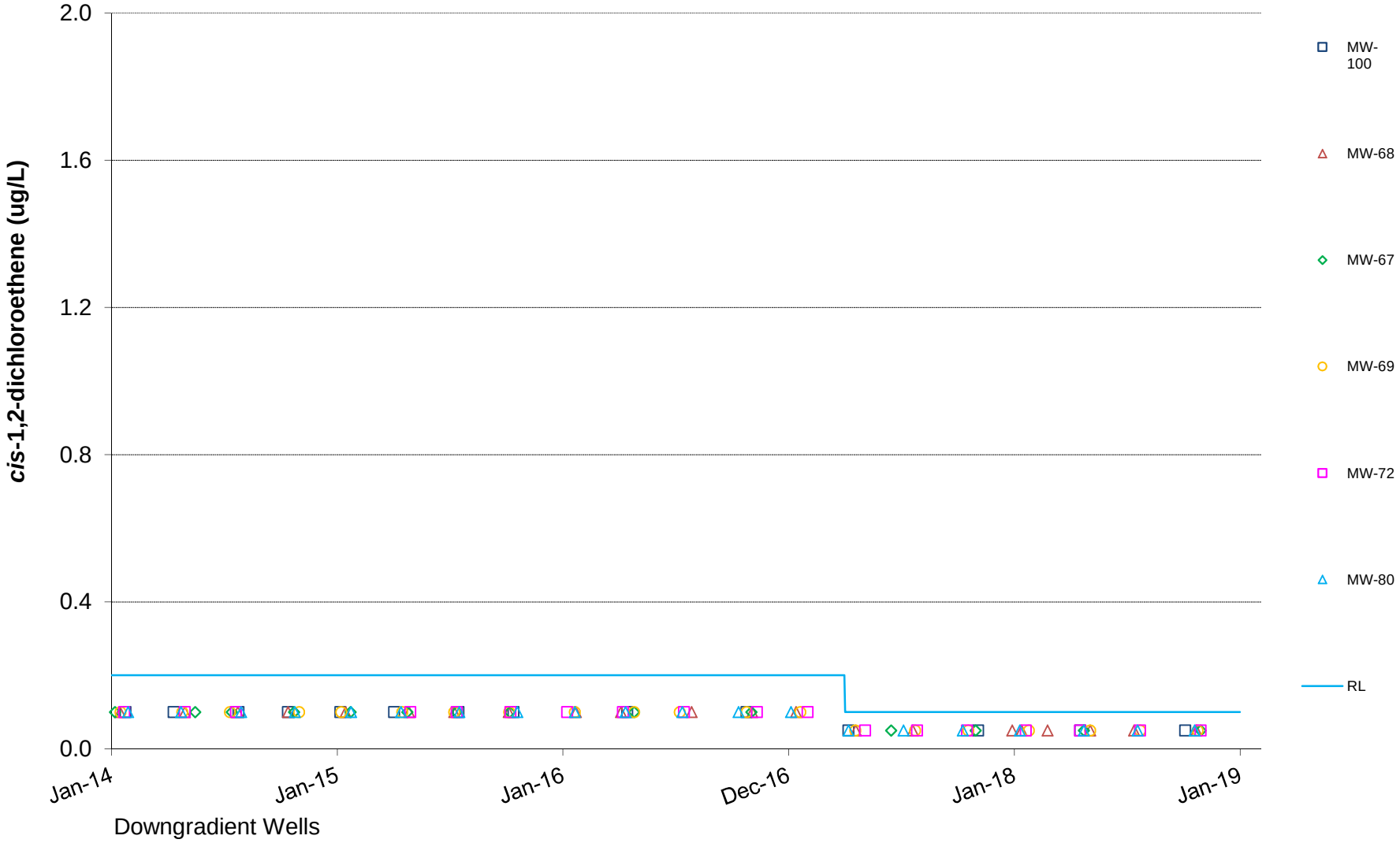

1.0
0.8
0.6
0.4
0.2
0.0
Dichlorodifluoromethane (ug/L)
Jan-14
Jan-15
Jan-16
Dec-16
Jan-18
Jan-19
Upgradient and Crossgradient Wells
MW-64
MW-93
MW-95
MW-21
MW-66
MW-73
MW-84
MW-81
RL

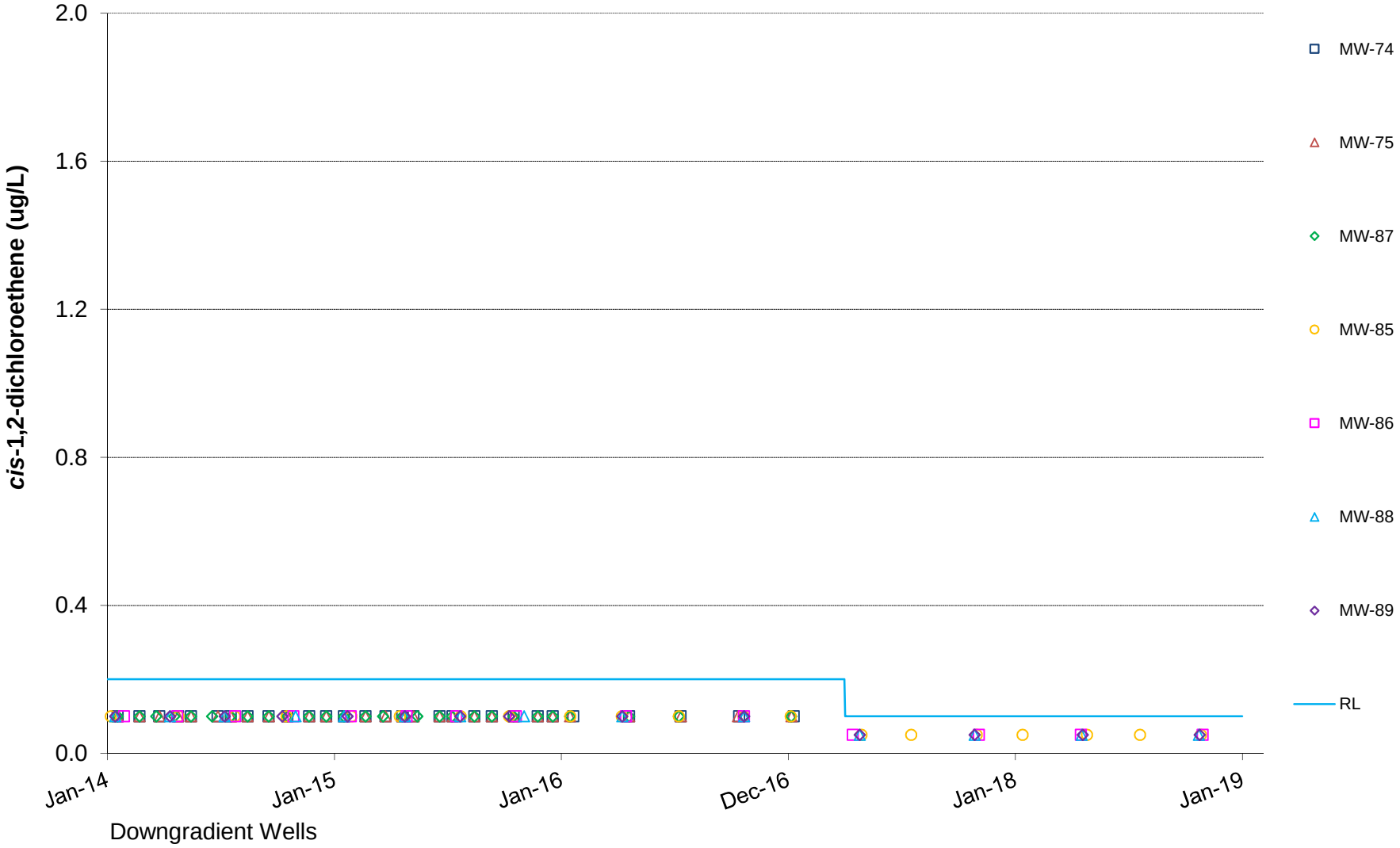

1.0
0.8
0.6
0.4
0.2
0.0
Dichlorodifluoromethane (ug/L)
Jan-14
Jan-15
Jan-16
Dec-16
Jan-18
Jan-19
Downgradient Wells
MW-100
MW-68
MW-67
MW-69
MW-72
MW-80
RL

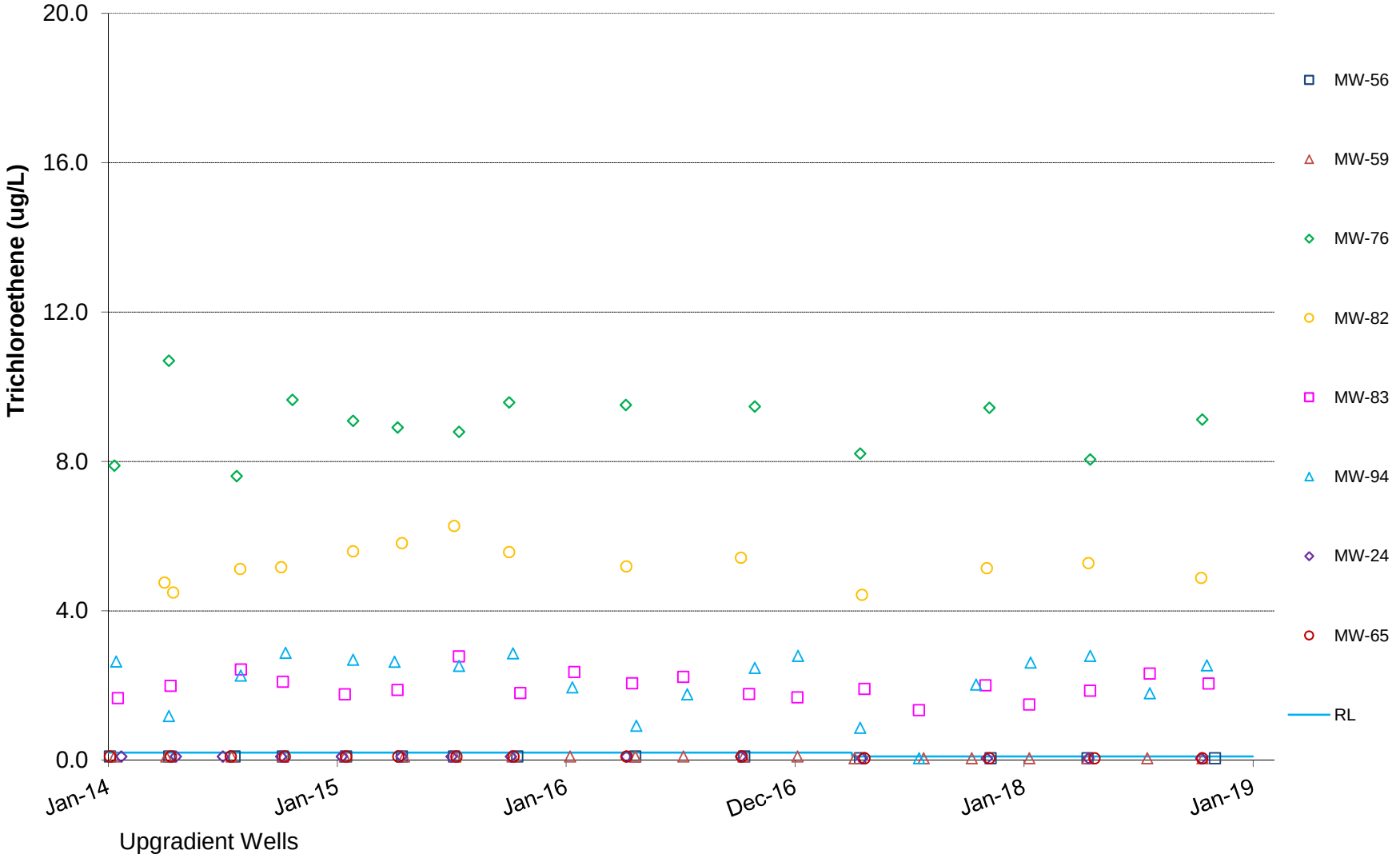

1.0
0.8
0.6
0.4
0.2
0.0
Dichlorodifluoromethane (ug/L)
Jan-14
Jan-15
Jan-16
Dec-16
Jan-18
Jan-19
Downgradient Wells
MW-74
MW-75
MW-87
MW-85
MW-86
MW-88
MW-89
RL

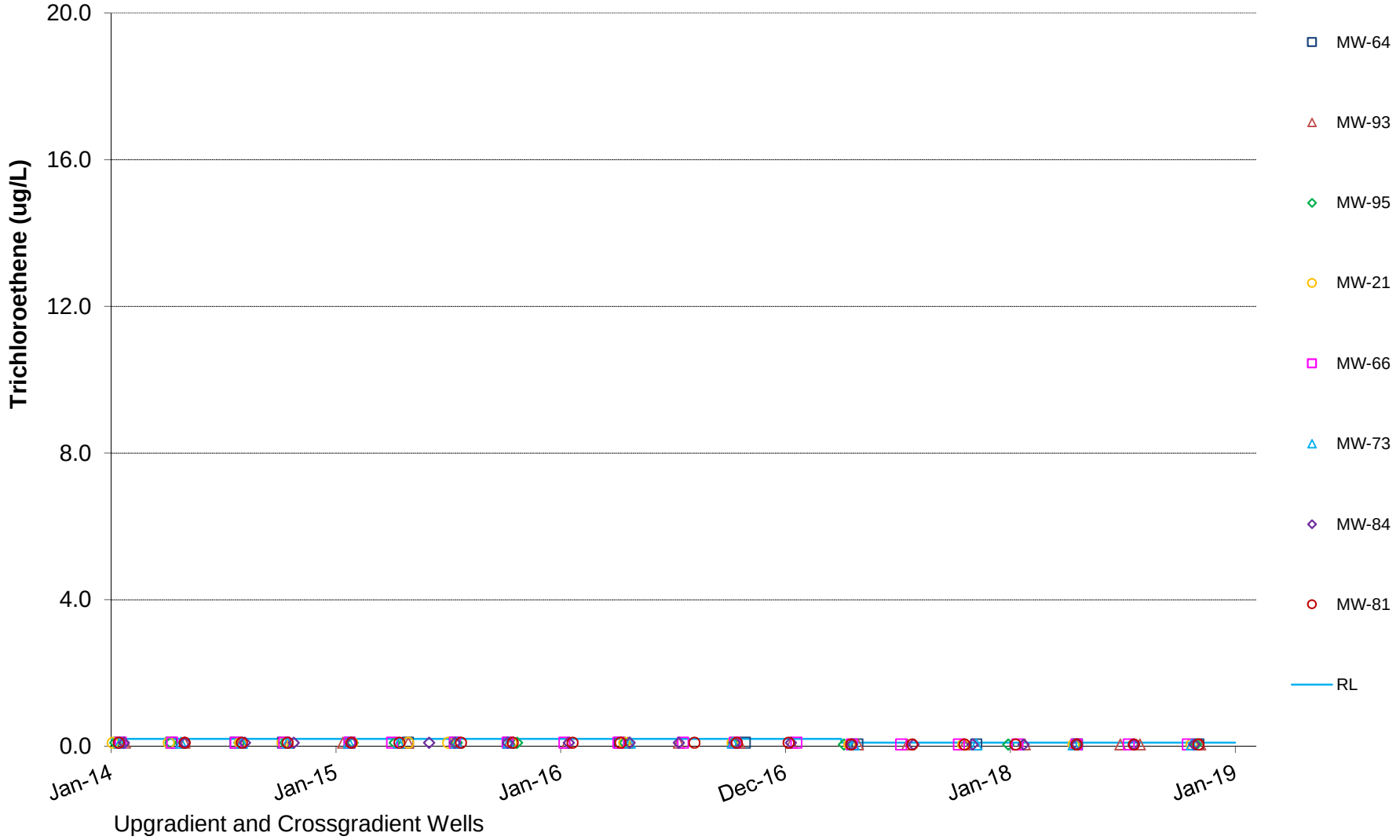

2.0
1.6
1.2
0.8
0.4
0.0
cis-1,2-dichloroethene (ug/L)
Jan-14
Jan-15
Jan-16
Dec-16
Jan-18
Jan-19
Upgradient Wells
MW-56
MW-59
MW-76
MW-82
MW-83
MW-94
MW-24
MW-65
RL

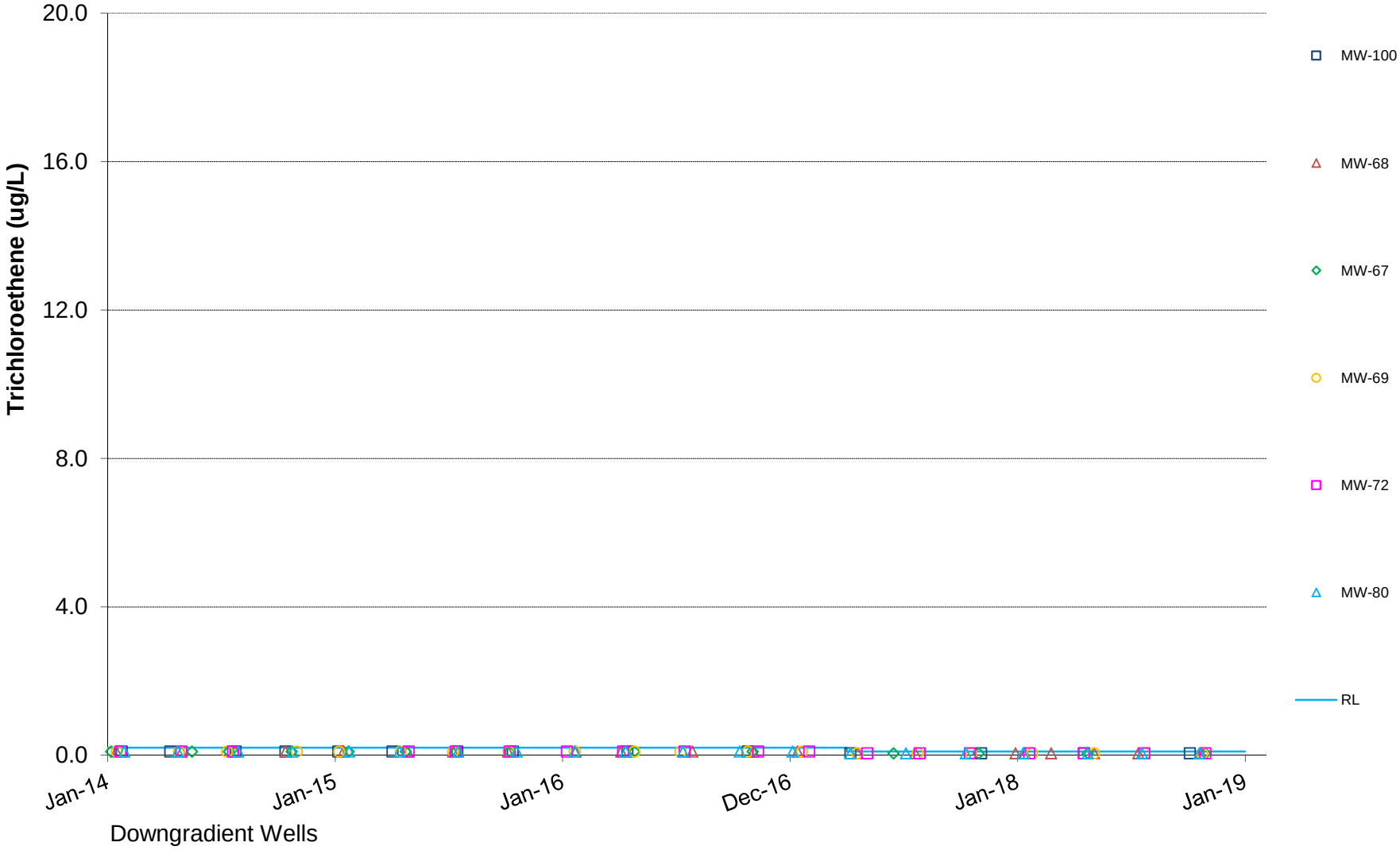

2.0
1.6
1.2
0.8
0.4
0.0
cis-1,2-dichloroethene (ug/L)
Jan-14
Jan-15
Jan-16
Dec-16
Jan-18
Jan-19
Upgradient and Crossgradient Wells
MW-64
MW-93
MW-95
MW-21
MW-66
MW-73
MW-84
MW-81
RL

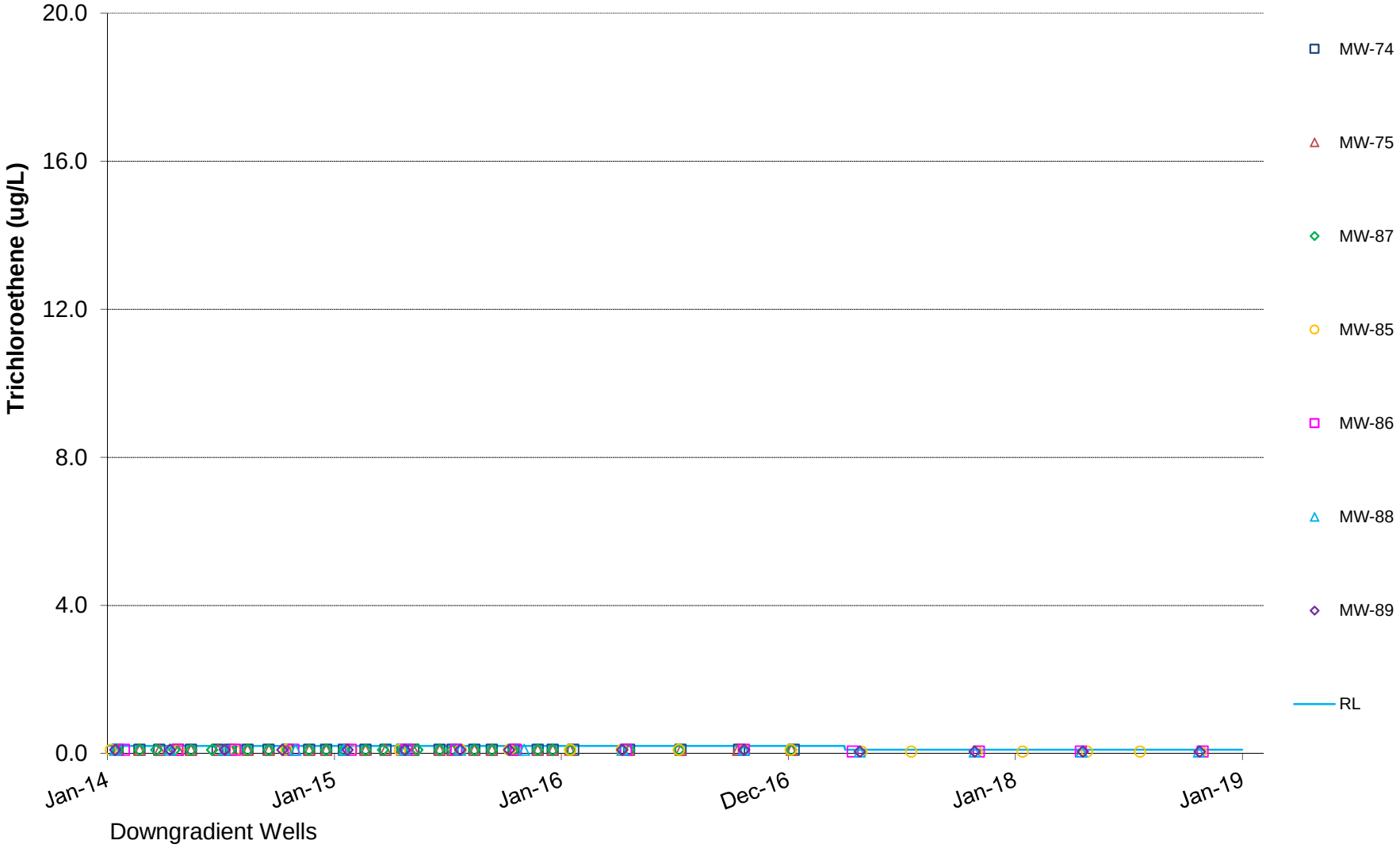

2.0
1.6
1.2
0.8
0.4
0.0
cis-1,2-dichloroethene (ug/L)
Jan-14
Jan-15
Jan-16
Dec-16
Jan-18
Jan-19
Downgradient Wells
MW-100
MW-68
MW-67
MW-69
MW-72
MW-80
RL

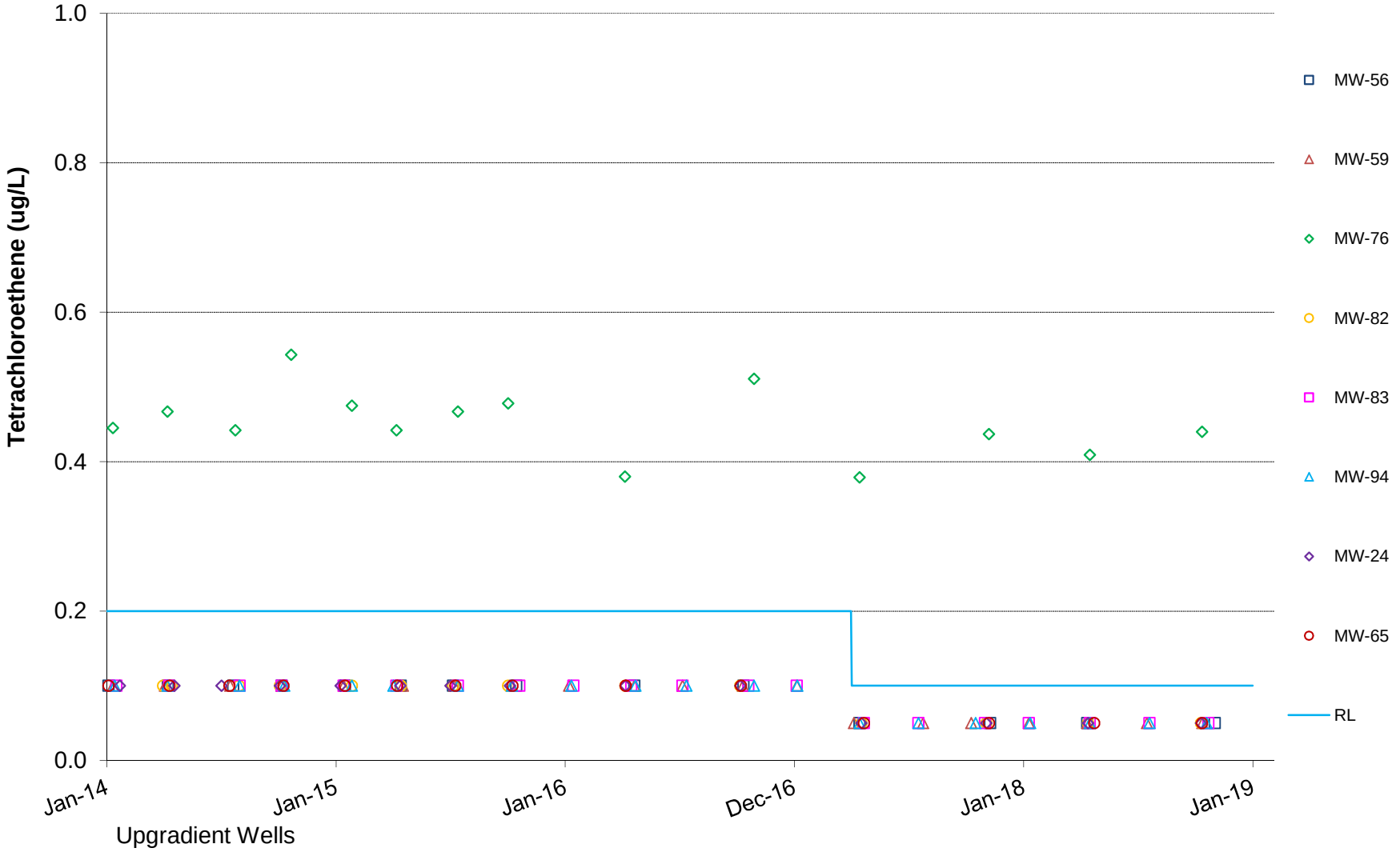

2.0
1.6
1.2
0.8
0.4
0.0
cis-1,2-dichloroethene (ug/L)
Jan-14
Jan-15
Jan-16
Dec-16
Jan-18
Jan-19
Downgradient Wells
MW-74
MW-75
MW-87
MW-85
MW-86
MW-88
MW-89
RL

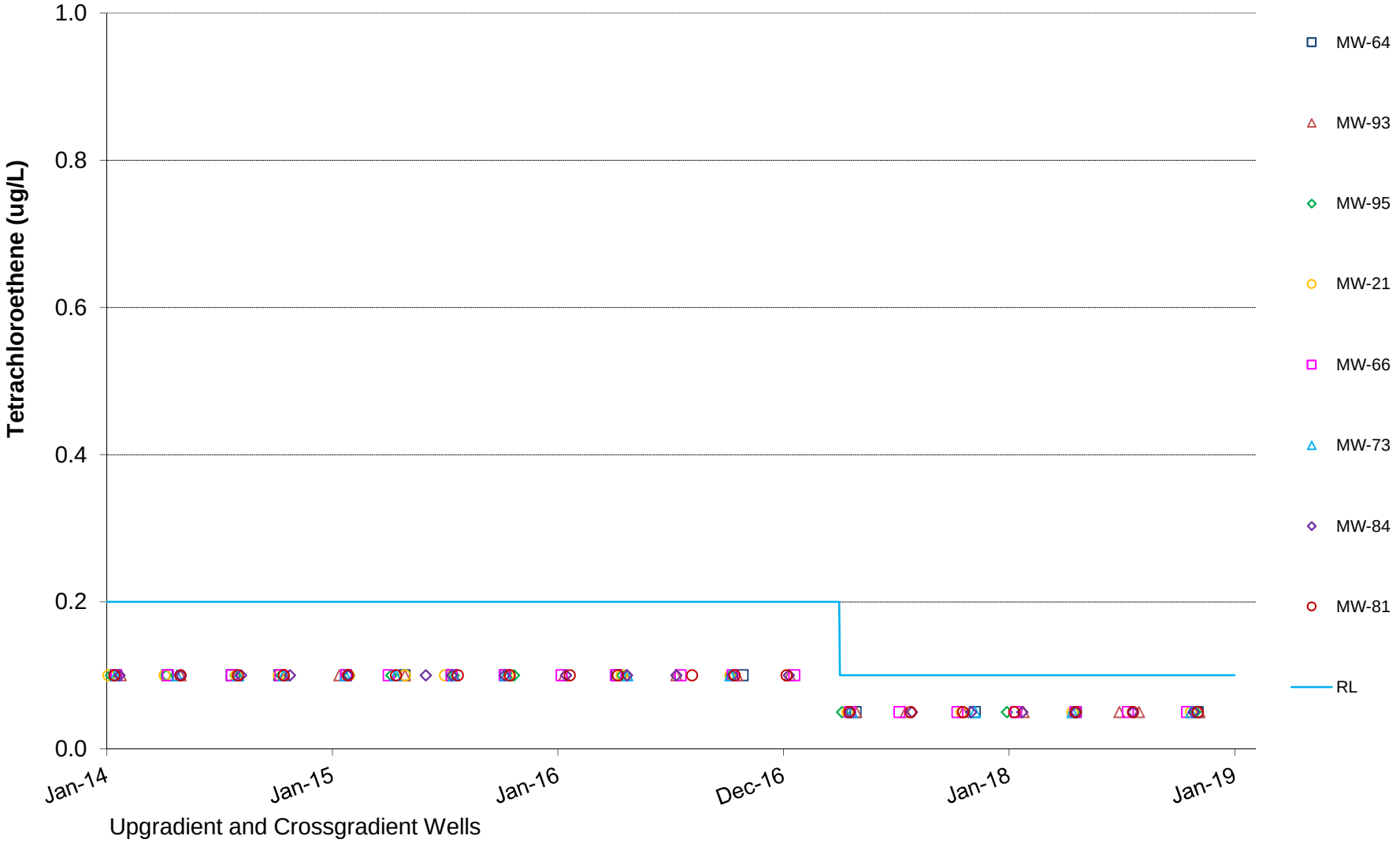

20.0
16.0
12.0
8.0
4.0
0.0
Trichloroethene (ug/L)
Jan-14
Jan-15
Jan-16
Dec-16
Jan-18
Jan-19
Upgradient Wells
MW-56
MW-59
MW-76
MW-82
MW-83
MW-94
MW-24
MW-65
RL

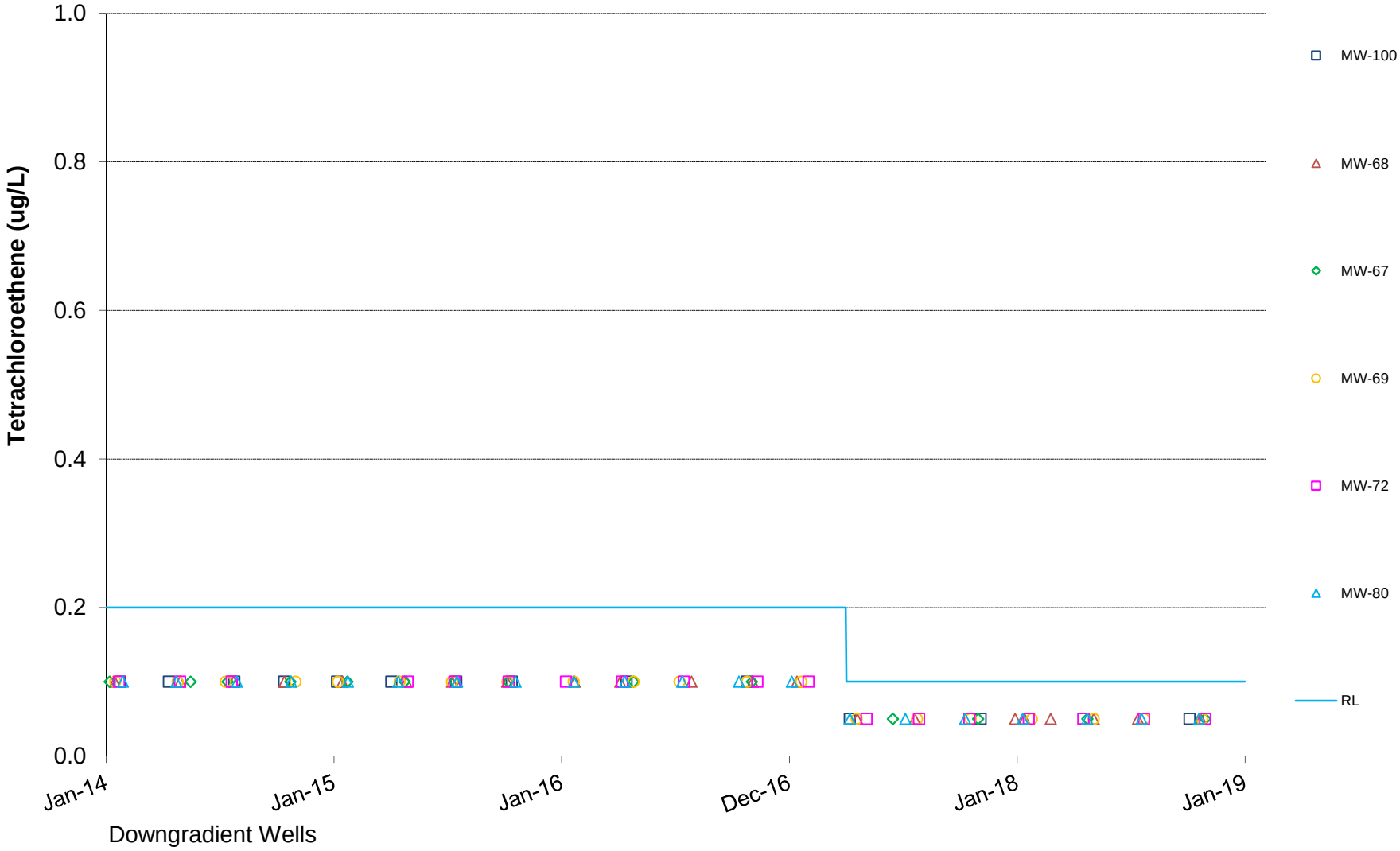

20.0
16.0
12.0
8.0
4.0
0.0
Trichloroethene (ug/L)
Jan-14
Jan-15
Jan-16
Dec-16
Jan-18
Jan-19
Upgradient and Crossgradient Wells
MW-64
MW-93
MW-95
MW-21
MW-66
MW-73
MW-84
MW-81
RL

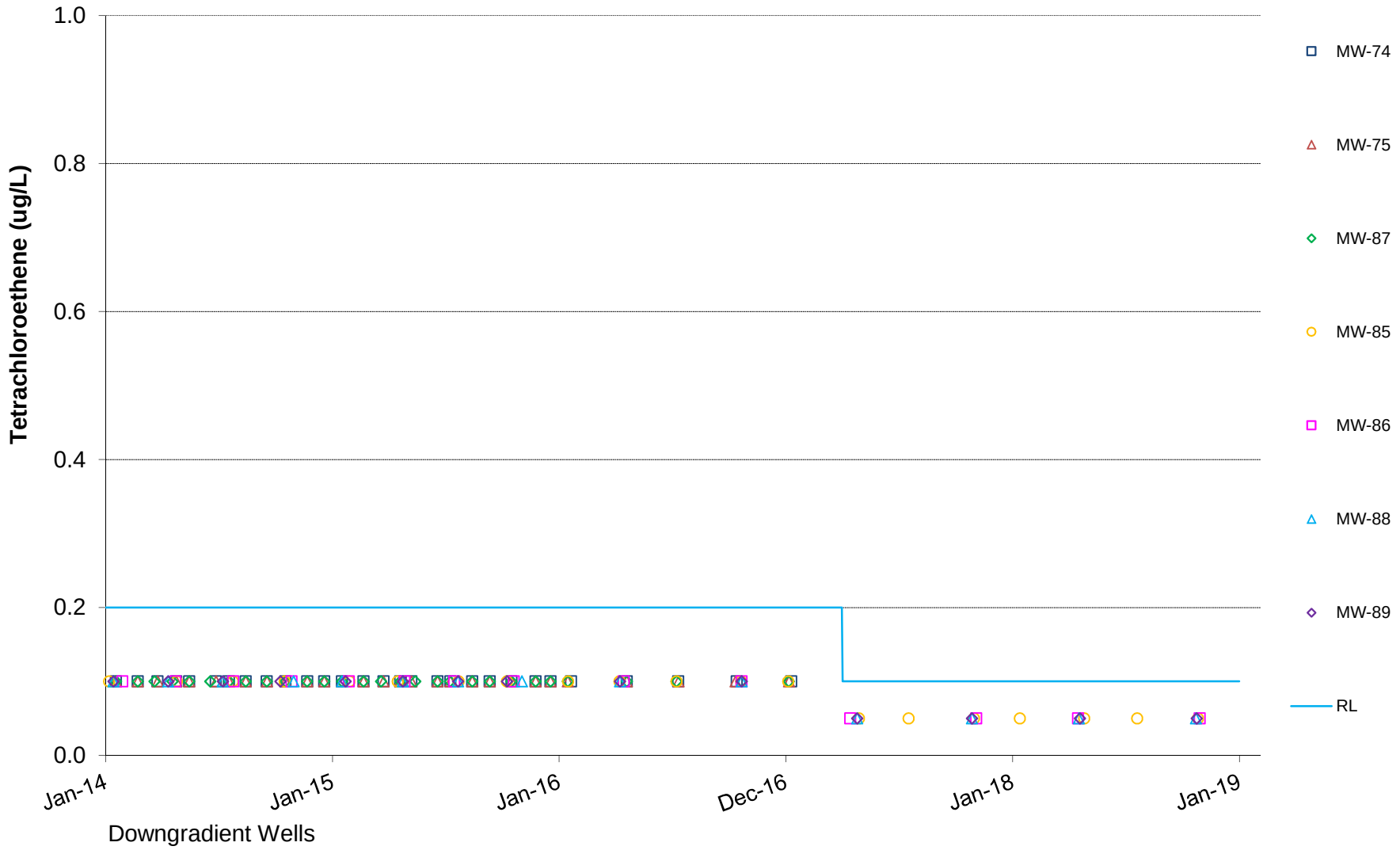

20.0
16.0
12.0
8.0
4.0
0.0
Trichloroethene (ug/L)
Jan-14
Jan-15
Jan-16
Dec-16
Jan-18
Jan-19
Downgradient Wells
MW-100
MW-68
MW-67
MW-69
MW-72
MW-80
RL

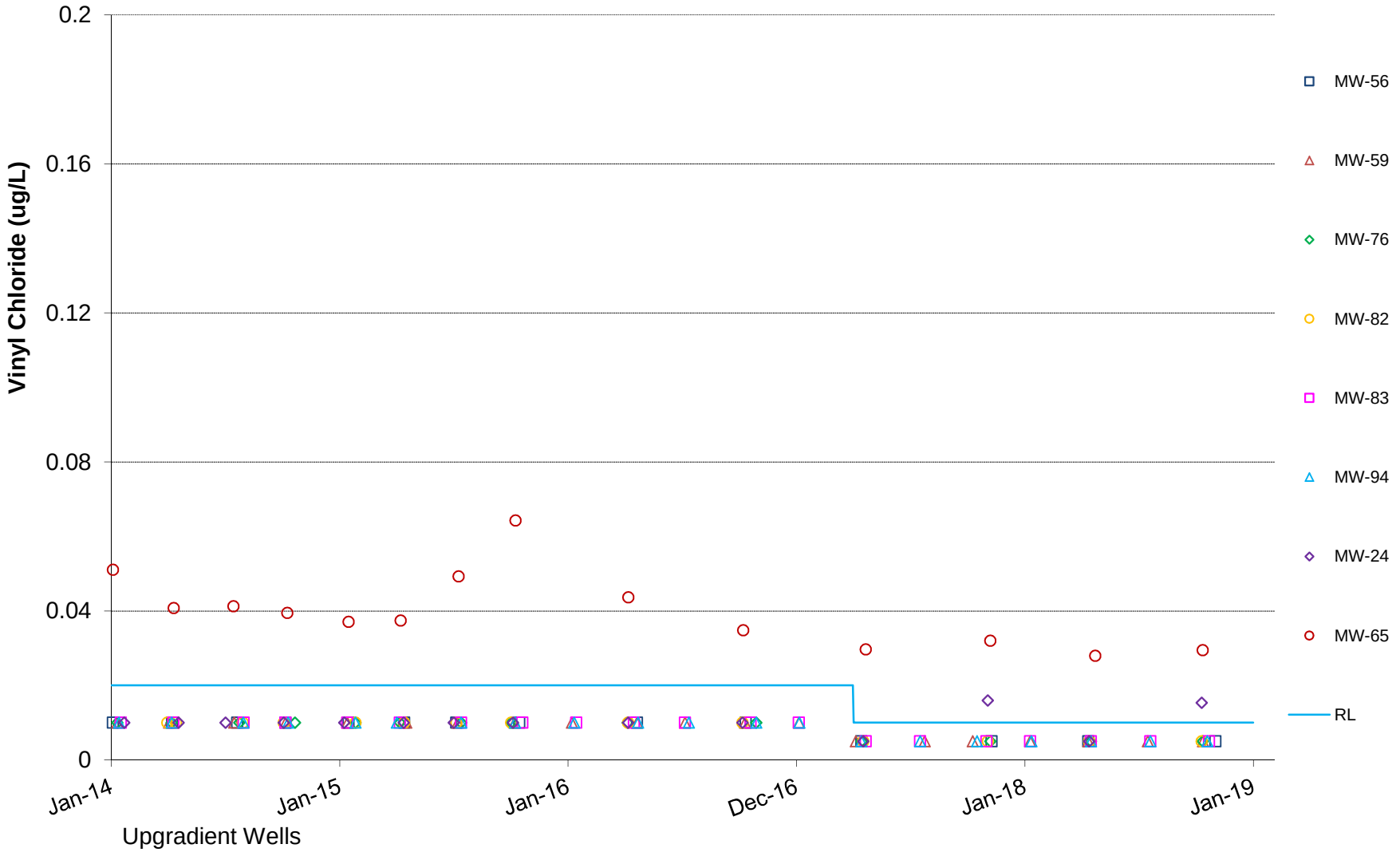

20.0
16.0
12.0
8.0
4.0
0.0
Trichloroethene (ug/L)
Jan-14
Jan-15
Jan-16
Dec-16
Jan-18
Jan-19
Downgradient Wells
MW-74
MW-75
MW-87
MW-85
MW-86
MW-88
MW-89
RL

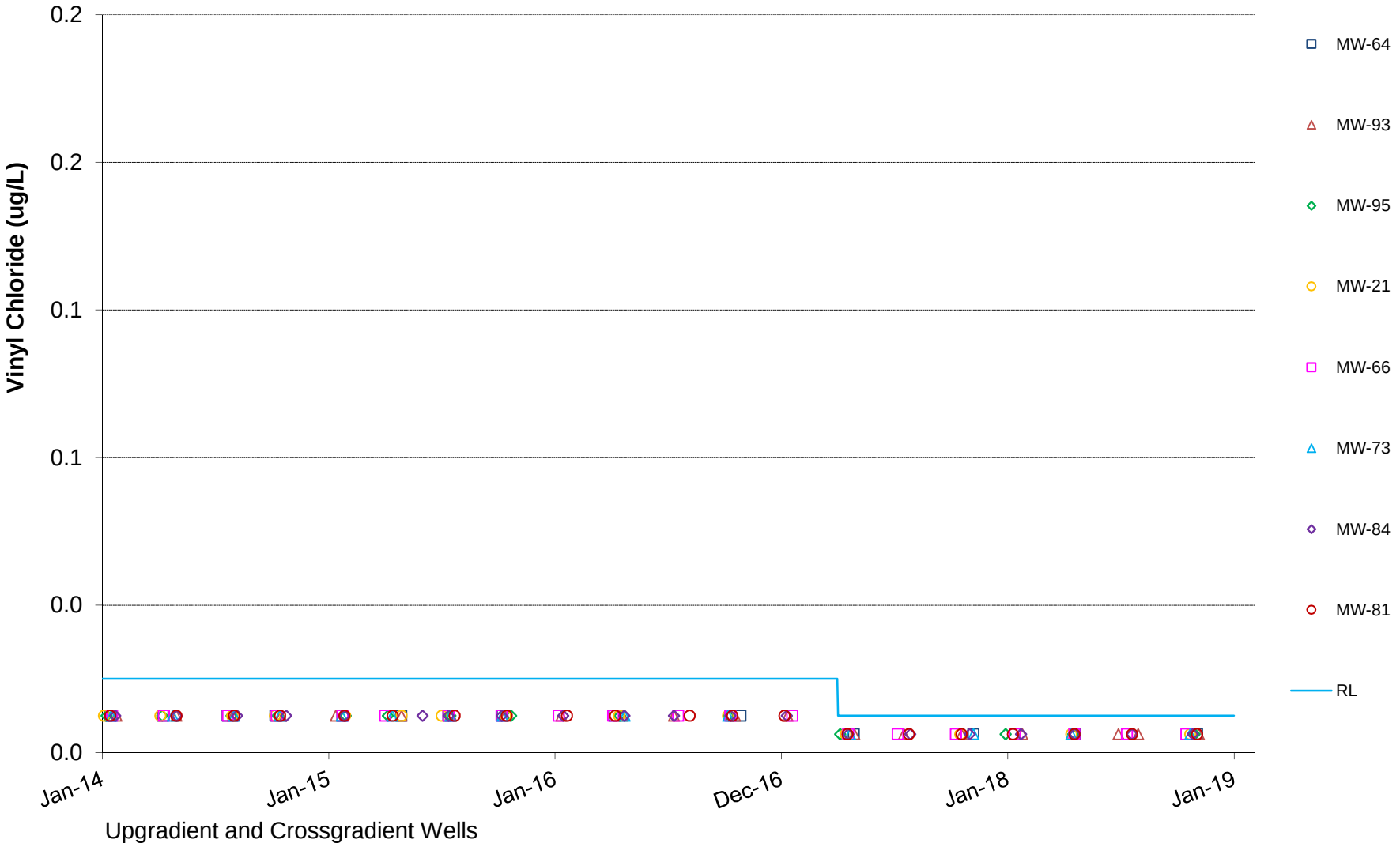

1.0
0.8
0.6
0.4
0.2
0.0
Tetrachloroethene (ug/L)
Jan-14
Jan-15
Jan-16
Dec-16
Jan-18
Jan-19
Upgradient Wells
MW-56
MW-59
MW-76
MW-82
MW-83
MW-94
MW-24
MW-65
RL

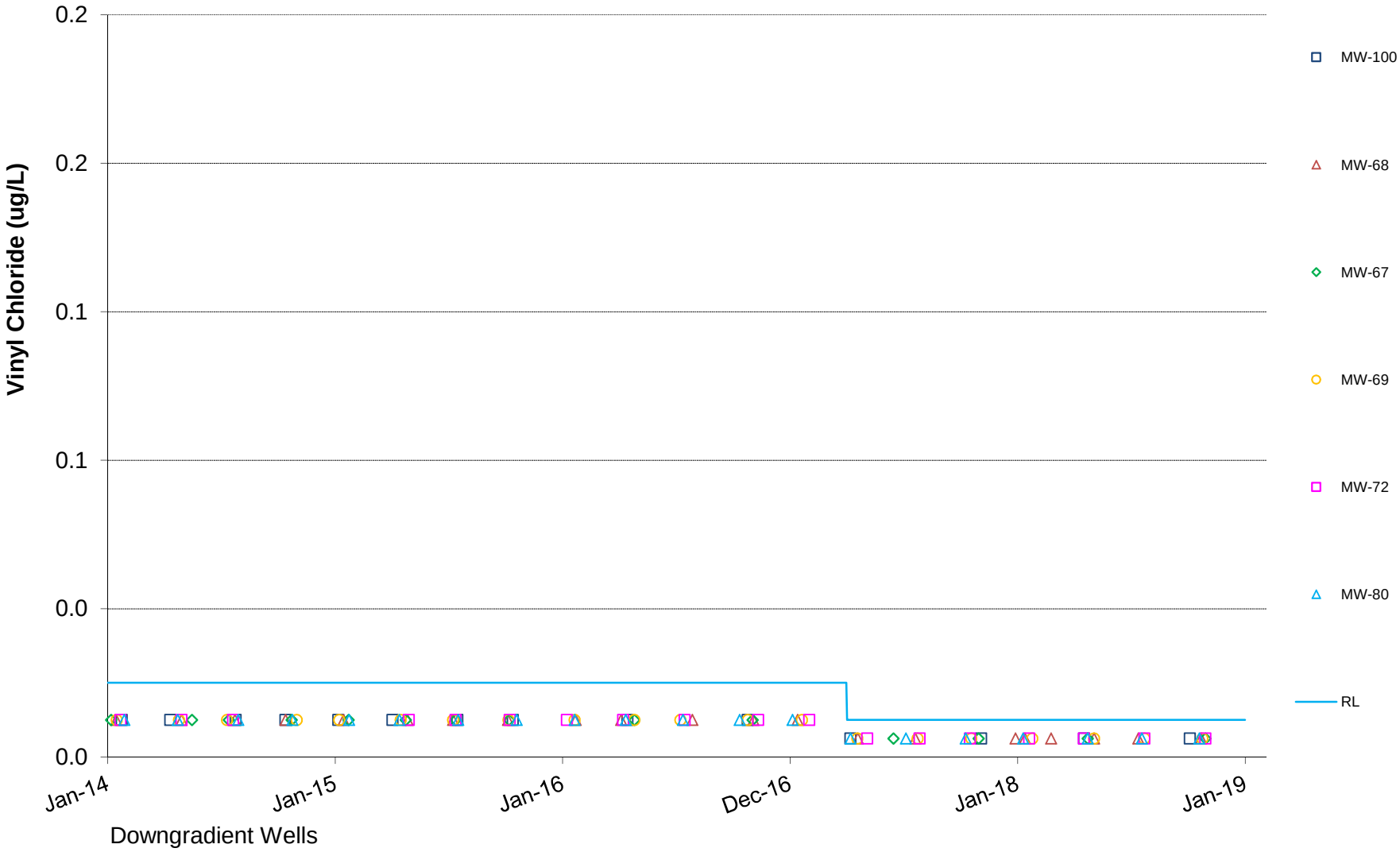

1.0
0.8
0.6
0.4
0.2
0.0
Tetrachloroethene (ug/L)
Jan-14
Jan-15
Jan-16
Dec-16
Jan-18
Jan-19
Upgradient and Crossgradient Wells
MW-64
MW-93
MW-95
MW-21
MW-66
MW-73
MW-84
MW-81
RL

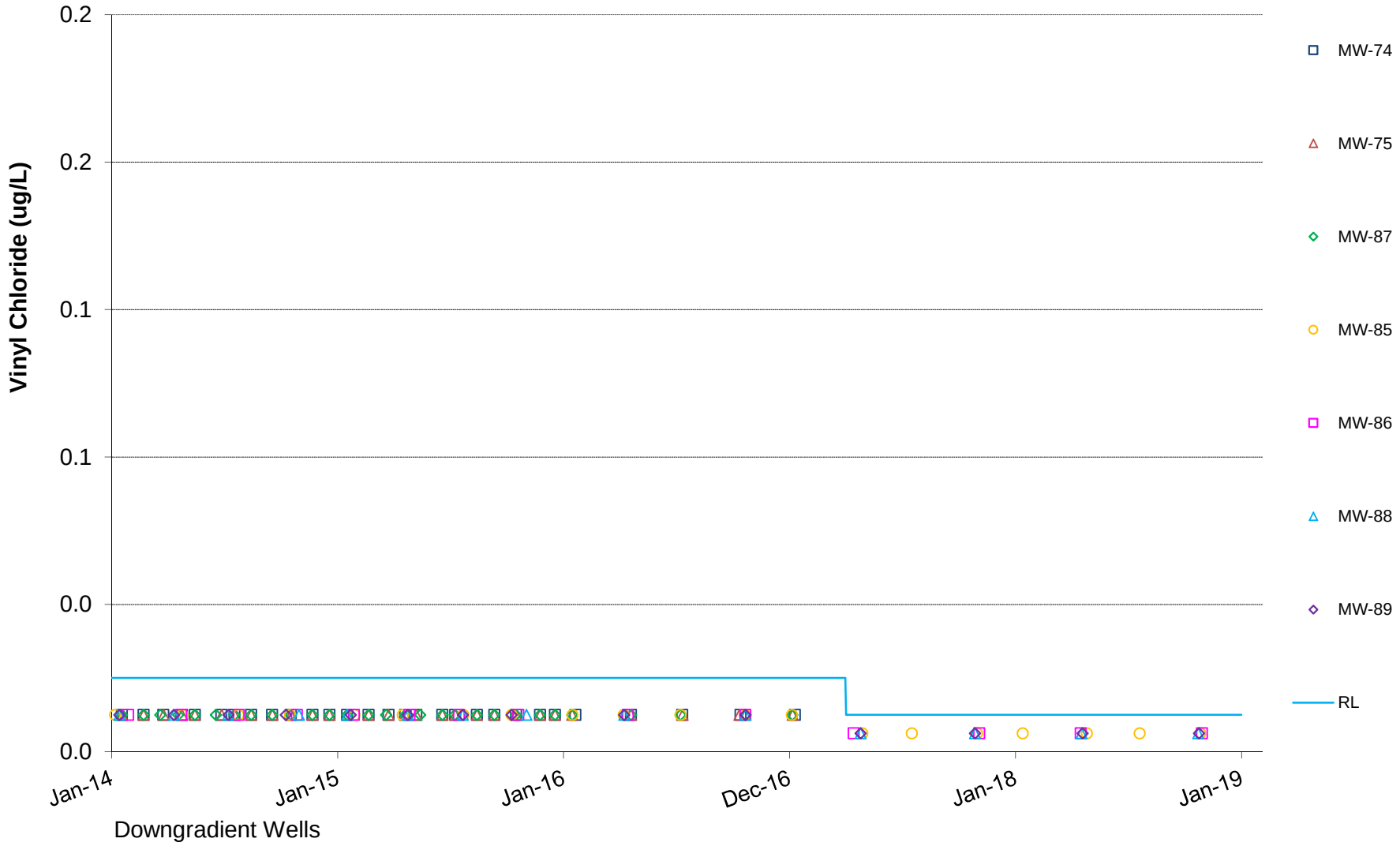

1.0
0.8
0.6
0.4
0.2
0.0
Tetrachloroethene (ug/L)
Jan-14
Jan-15
Jan-16
Dec-16
Jan-18
Jan-19
Downgradient Wells
MW-100
MW-68
MW-67
MW-69
MW-72
MW-80
RL


1.0
0.8
0.6
0.4
0.2
0.0
Tetrachloroethene (ug/L)
Jan-14
Jan-15
Jan-16
Dec-16
Jan-18
Jan-19
Downgradient Wells
MW-74
MW-75
MW-87
MW-85
MW-86
MW-88
MW-89
RL

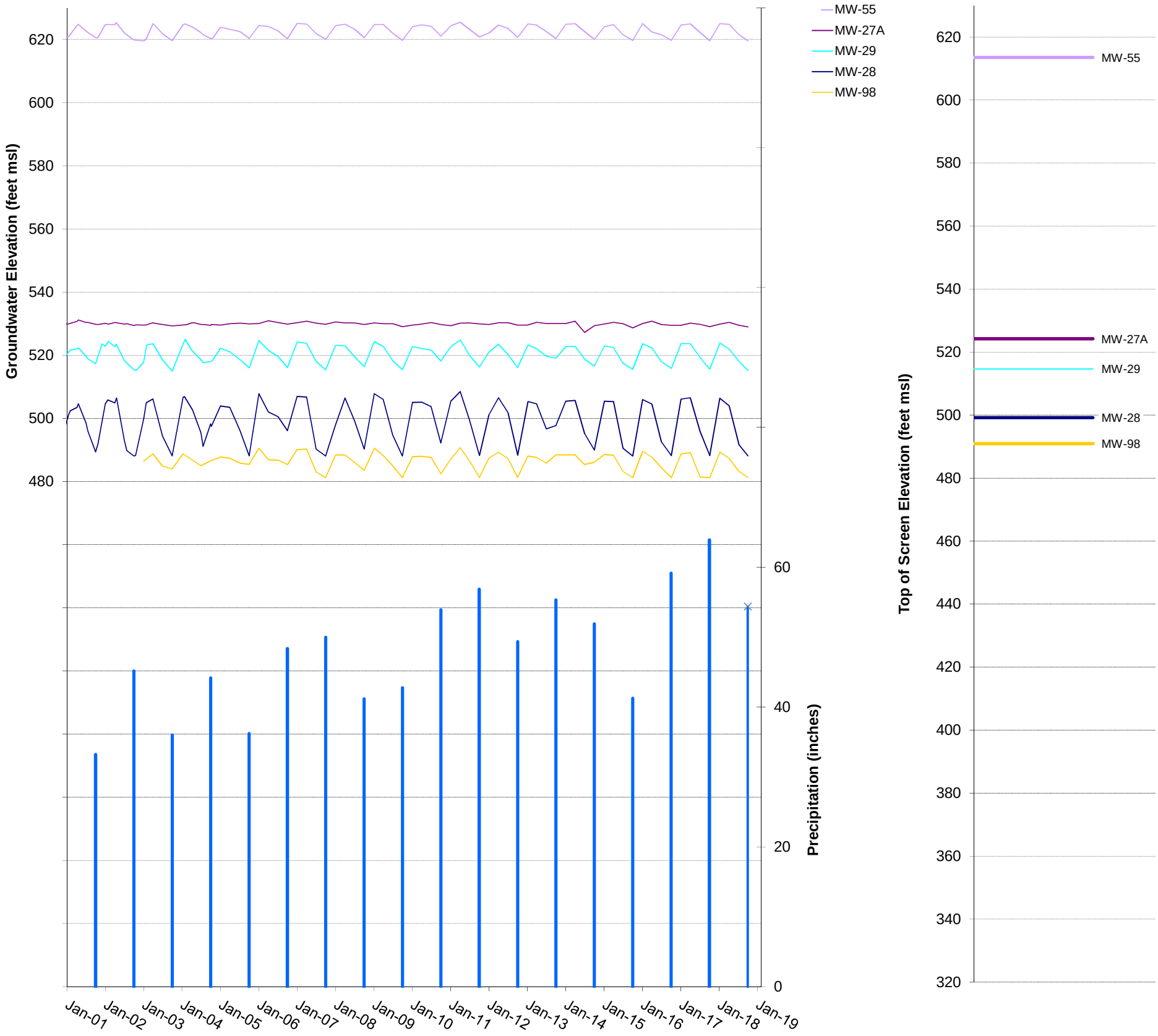

0.2
0.16
0.12
0.08
0.04
0
Vinyl Chloride (ug/L)
Jan-14
Jan-15
Jan-16
Dec-16
Jan-18
Jan-19
Upgradient Wells
MW-56
MW-59
MW-76
MW-82
MW-83
MW-94
MW-24
MW-65
RL


Vinyl Chloride (ug/L)
0.2
0.2
0.1
0.1
0.0
0.0
Jan-14
Jan-15
Jan-16
Dec-16
Jan-18
Jan-19
Upgradient and Crossgradient Wells
MW-64
MW-93
MW-95
MW-21
MW-66
MW-73
MW-84
MW-81
RL

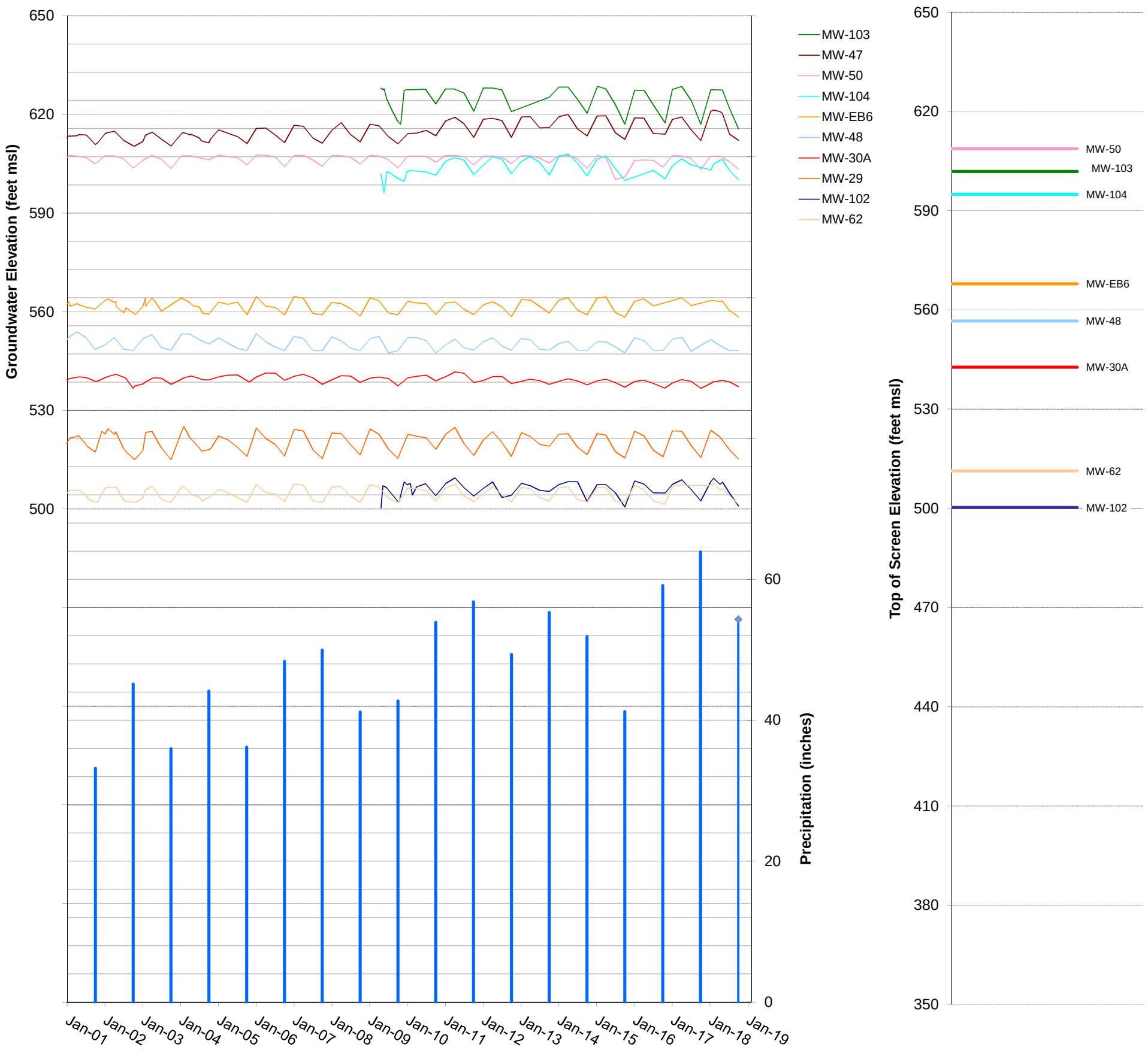

0.2
0.2
0.1
0.1
0.0
0.0
Vinyl Chloride (ug/L)
Jan-14
Jan-15
Jan-16
Dec-16
Jan-18
Jan-19
Downgradient Wells
MW-100
MW-68
MW-67
MW-69
MW-72
MW-80
RL


0.2
0.2
0.1
0.1
0.0
0.0
Vinyl Chloride (ug/L)
Jan-14
Jan-15
Jan-16
Dec-16
Jan-18
Jan-19
Downgradient Wells
MW-74
MW-75
MW-87
MW-85
MW-86
MW-88
MW-89
RL

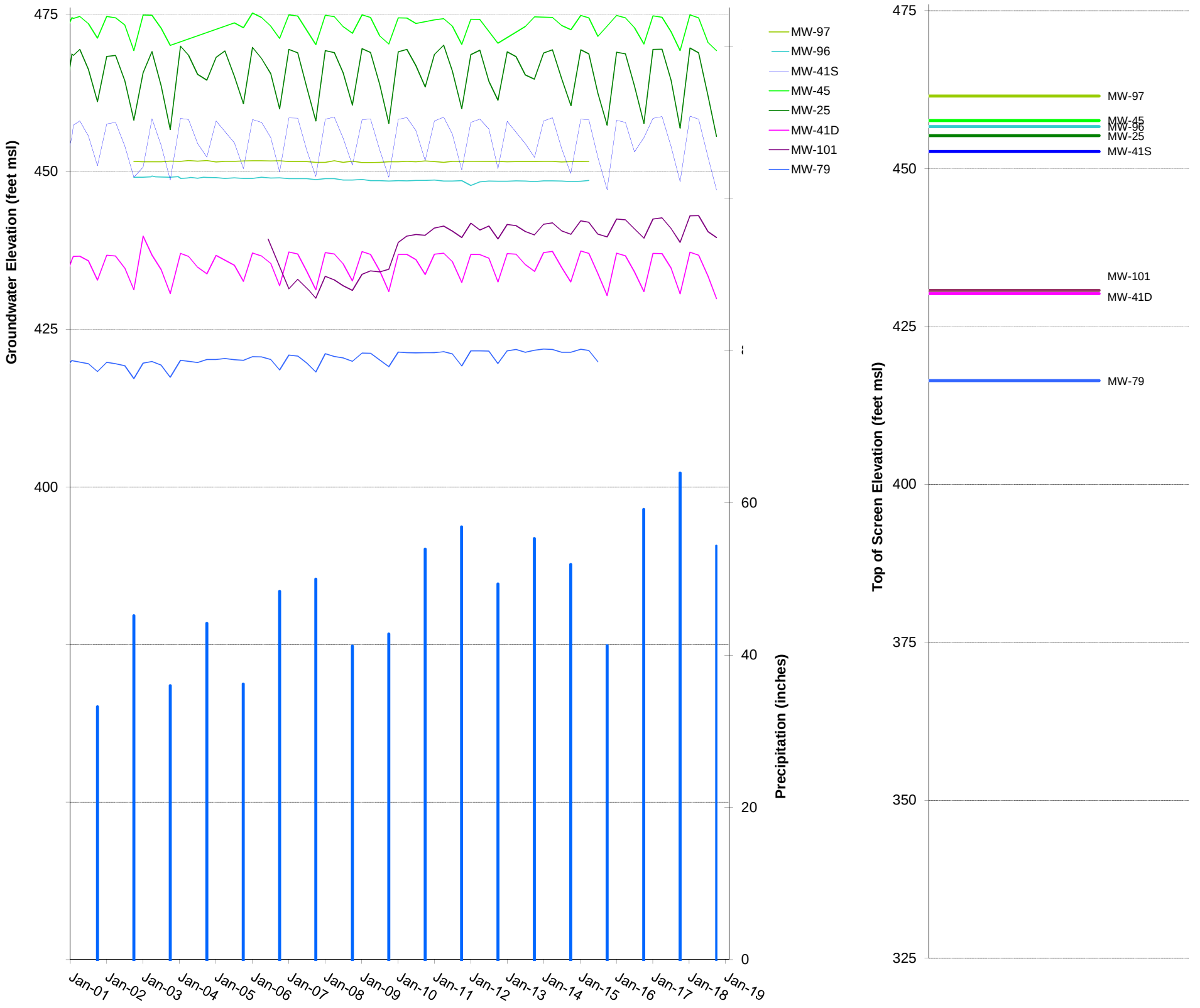
PERCHED ZONES GROUNDWATER ELEVATIONS
NORTH AND WEST WELLS

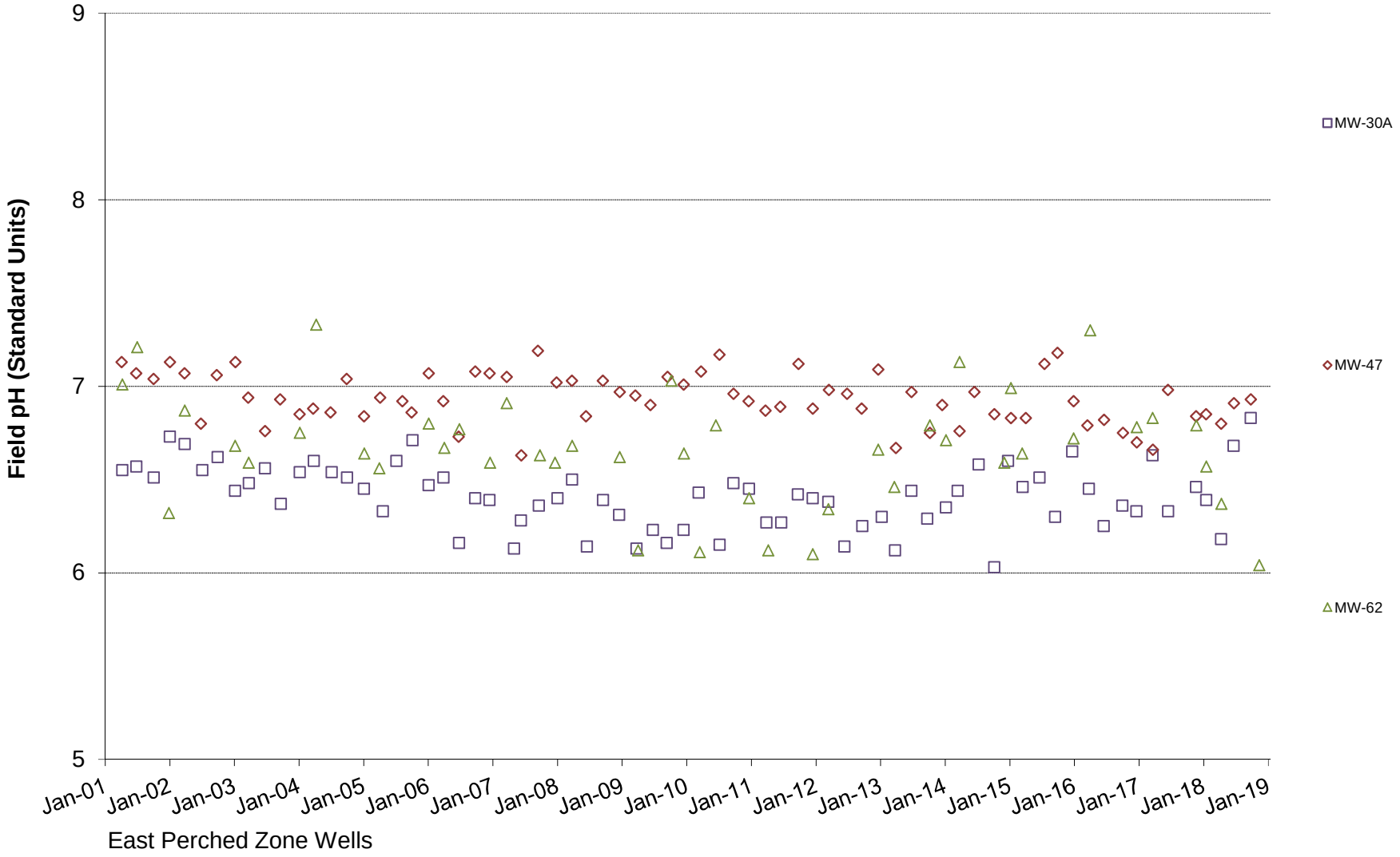


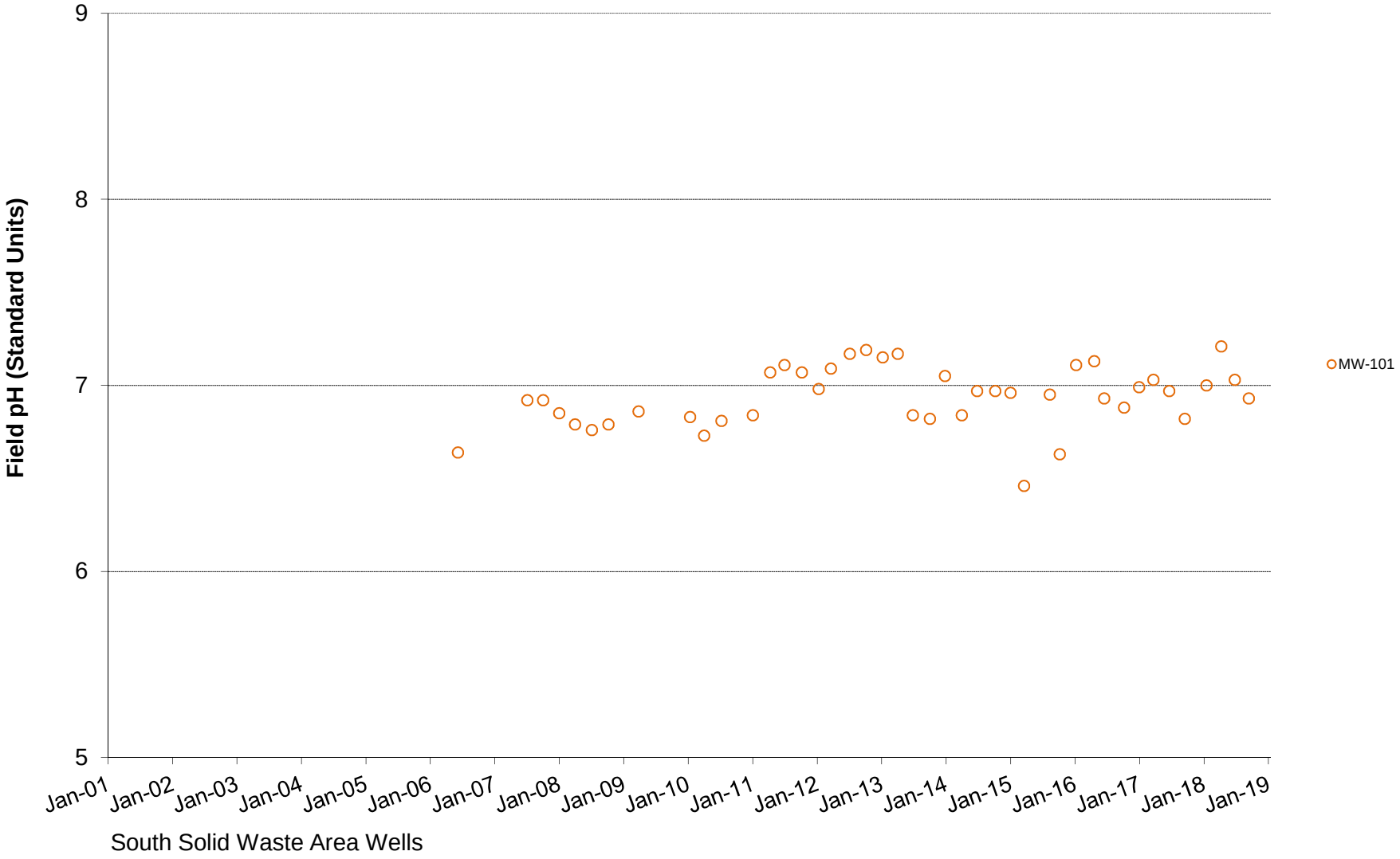
PERCHED ZONES GROUNDWATER ELEVATIONS
EAST MAIN HILL

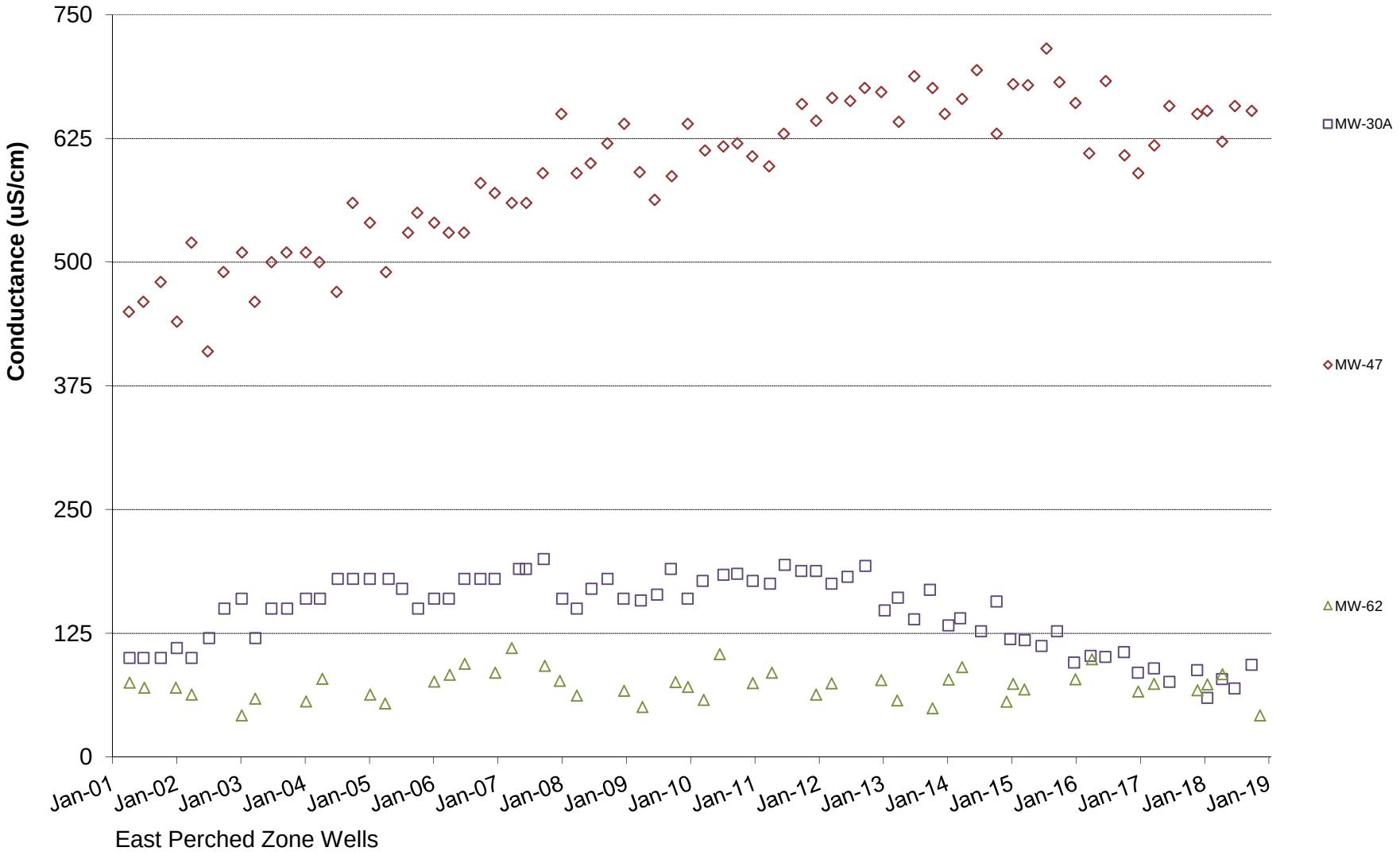


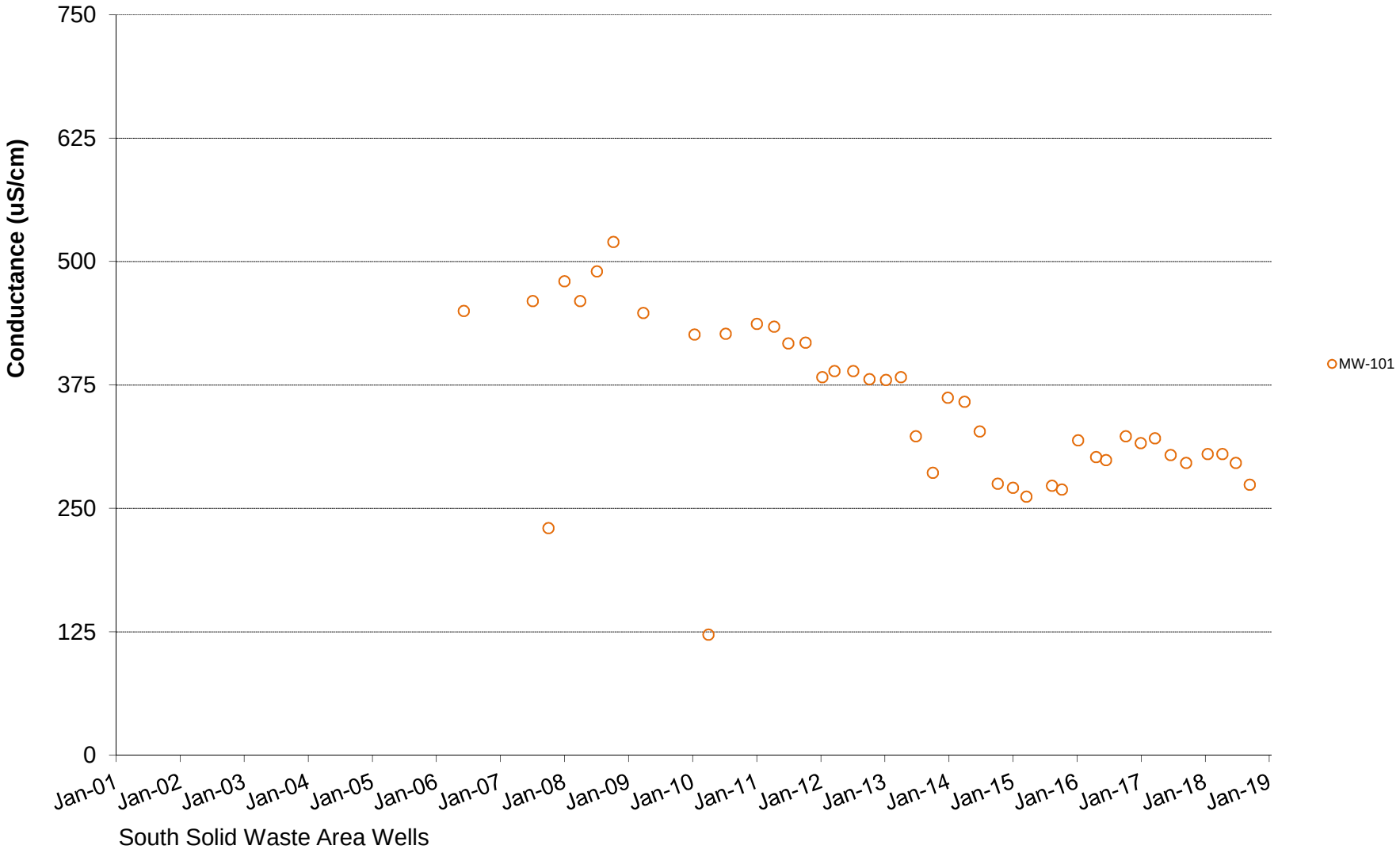
PERCHED ZONES GROUNDWATER ELEVATIONS
SOUTH SOLID WASTE AREA

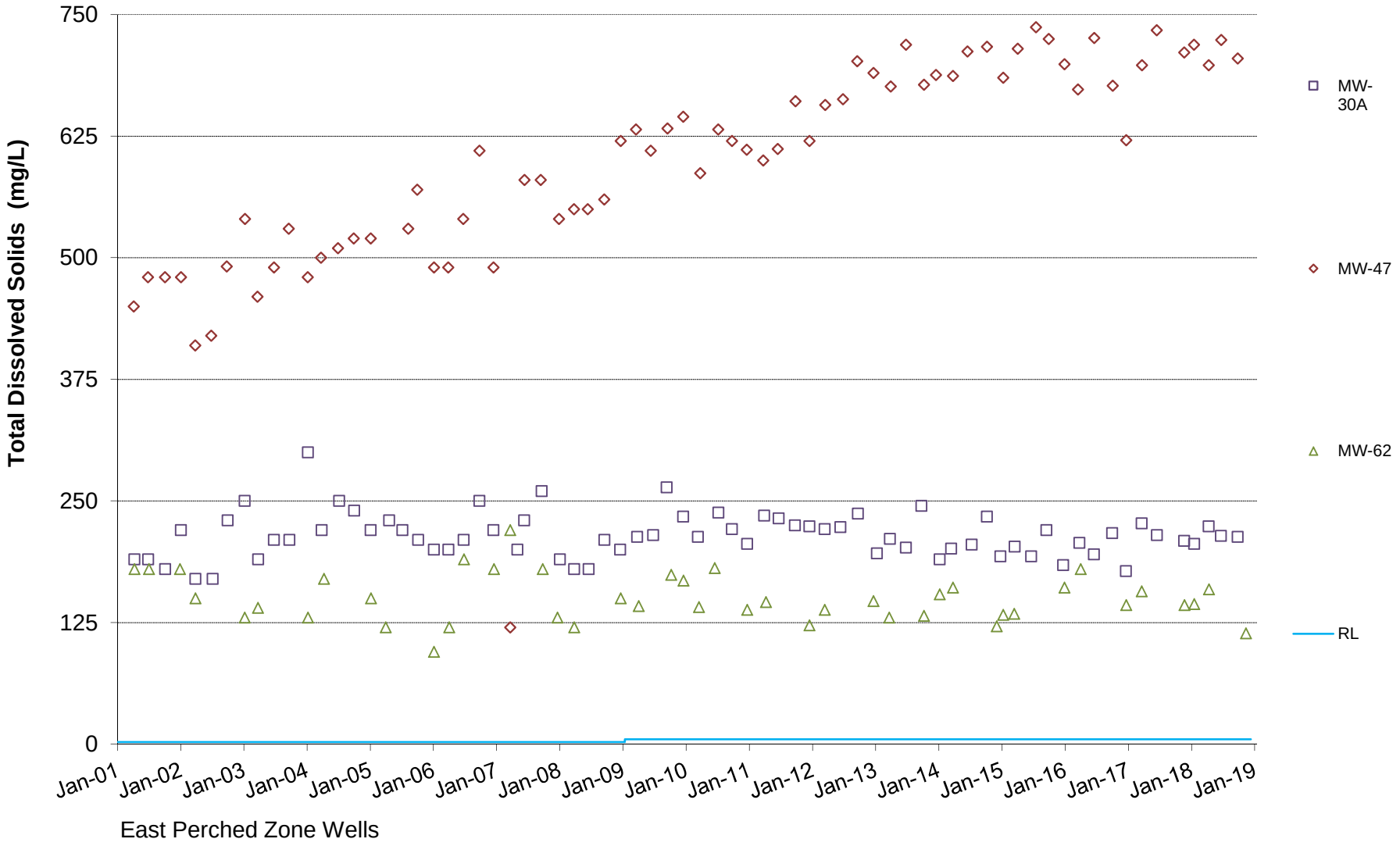


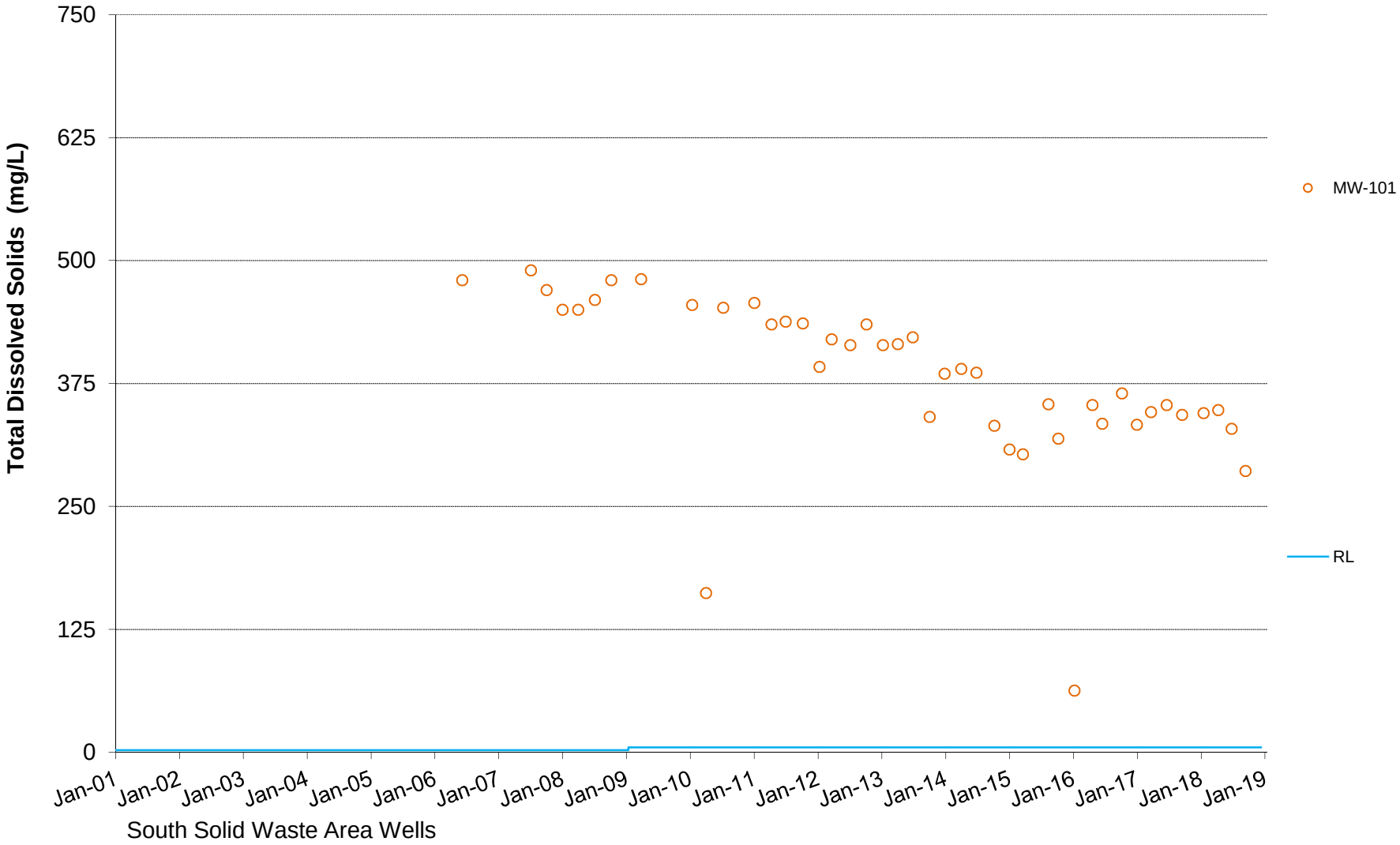

Field pH (Standard Units)
9
8
7
6
5
Jan-01
Jan-02
Jan-03
Jan-04
Jan-05
Jan-06
Jan-07
Jan-08
Jan-09
Jan-10
Jan-11
Jan-12
Jan-13
Jan-14
Jan-15
Jan-16
Jan-17
Jan-18
Jan-19
East Perched Zone Wells
MW-30A
MW-47
MW-62

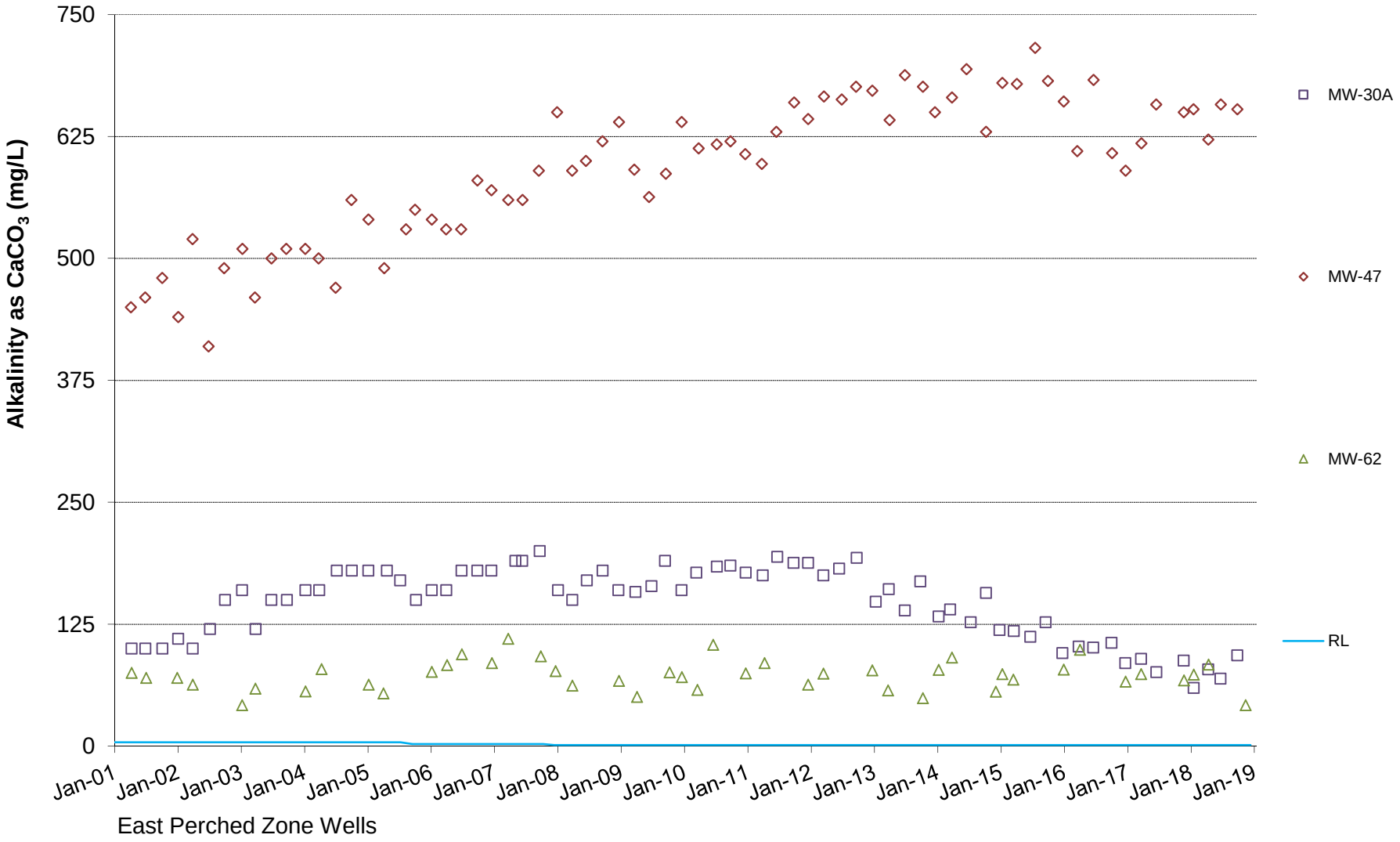

Field pH (Standard Units)
9
8
7
6
5
Jan-01
Jan-02
Jan-03
Jan-04
Jan-05
Jan-06
Jan-07
Jan-08
Jan-09
Jan-10
Jan-11
Jan-12
Jan-13
Jan-14
Jan-15
Jan-16
Jan-17
Jan-18
Jan-19
South Solid Waste Area Wells
MW-101

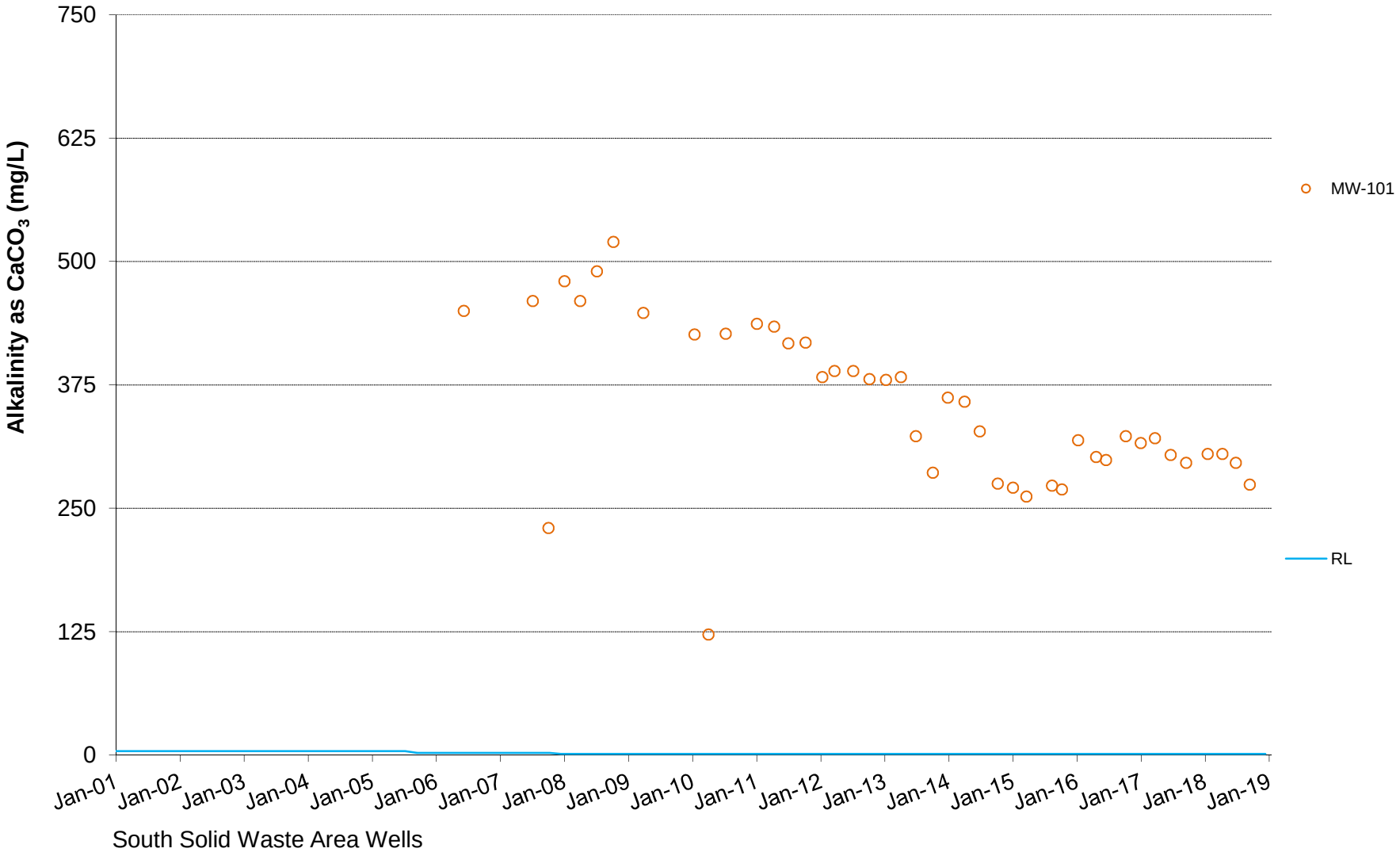

750
625
500
375
250
125
0
Conductance (uS/cm)
Jan-01
Jan-02
Jan-03
Jan-04
Jan-05
Jan-06
Jan-07
Jan-08
Jan-09
Jan-10
Jan-11
Jan-12
Jan-13
Jan-14
Jan-15
Jan-16
Jan-17
Jan-18
Jan-19
East Perched Zone Wells
MW-30A
MW-47
MW-62

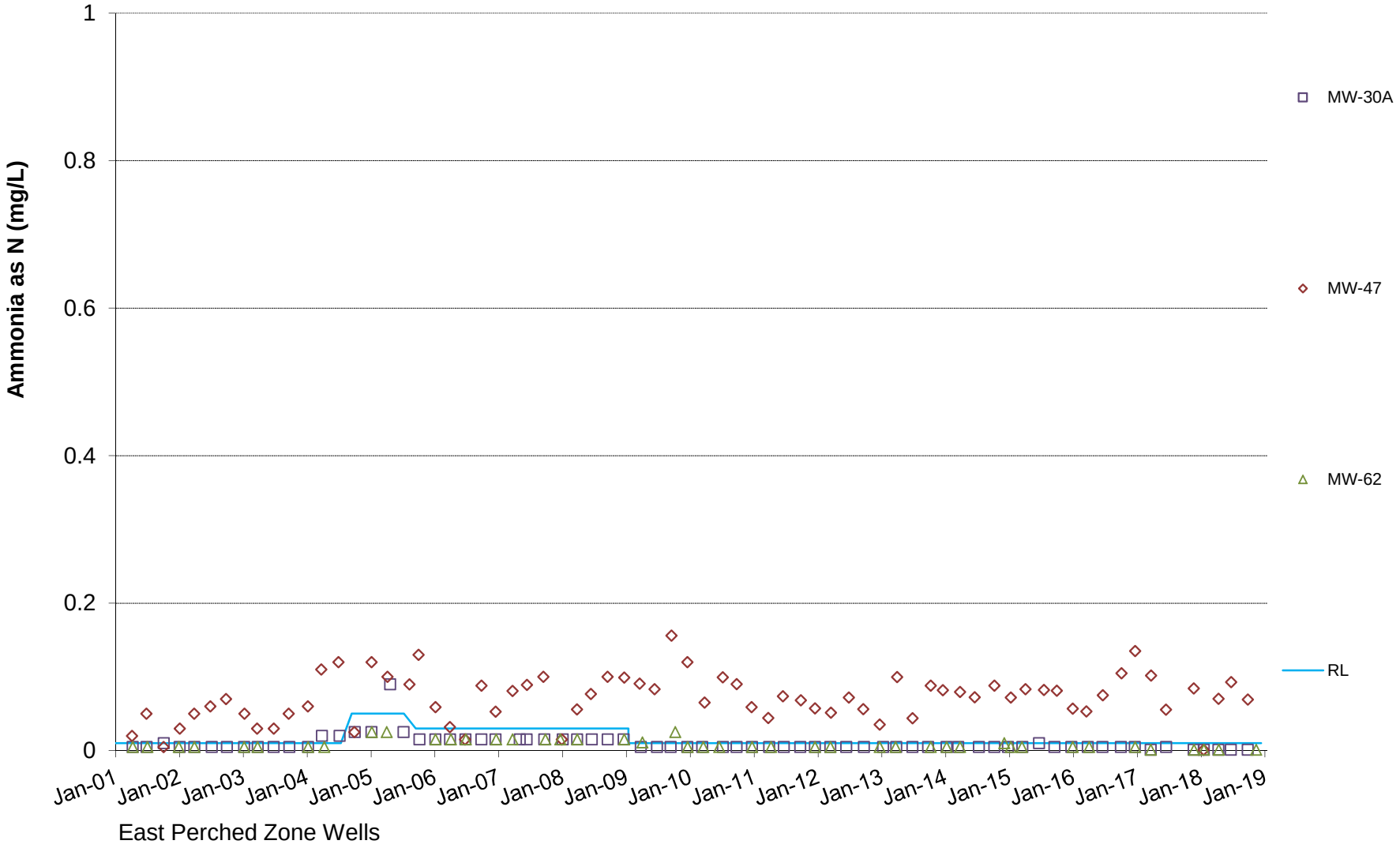

Conductance (uS/cm)
750
625
500
375
250
125
0
Jan-01
Jan-02
Jan-03
Jan-04
Jan-05
Jan-06
Jan-07
Jan-08
Jan-09
Jan-10
Jan-11
Jan-12
Jan-13
Jan-14
Jan-15
Jan-16
Jan-17
Jan-18
Jan-19
South Solid Waste Area Wells
MW-101

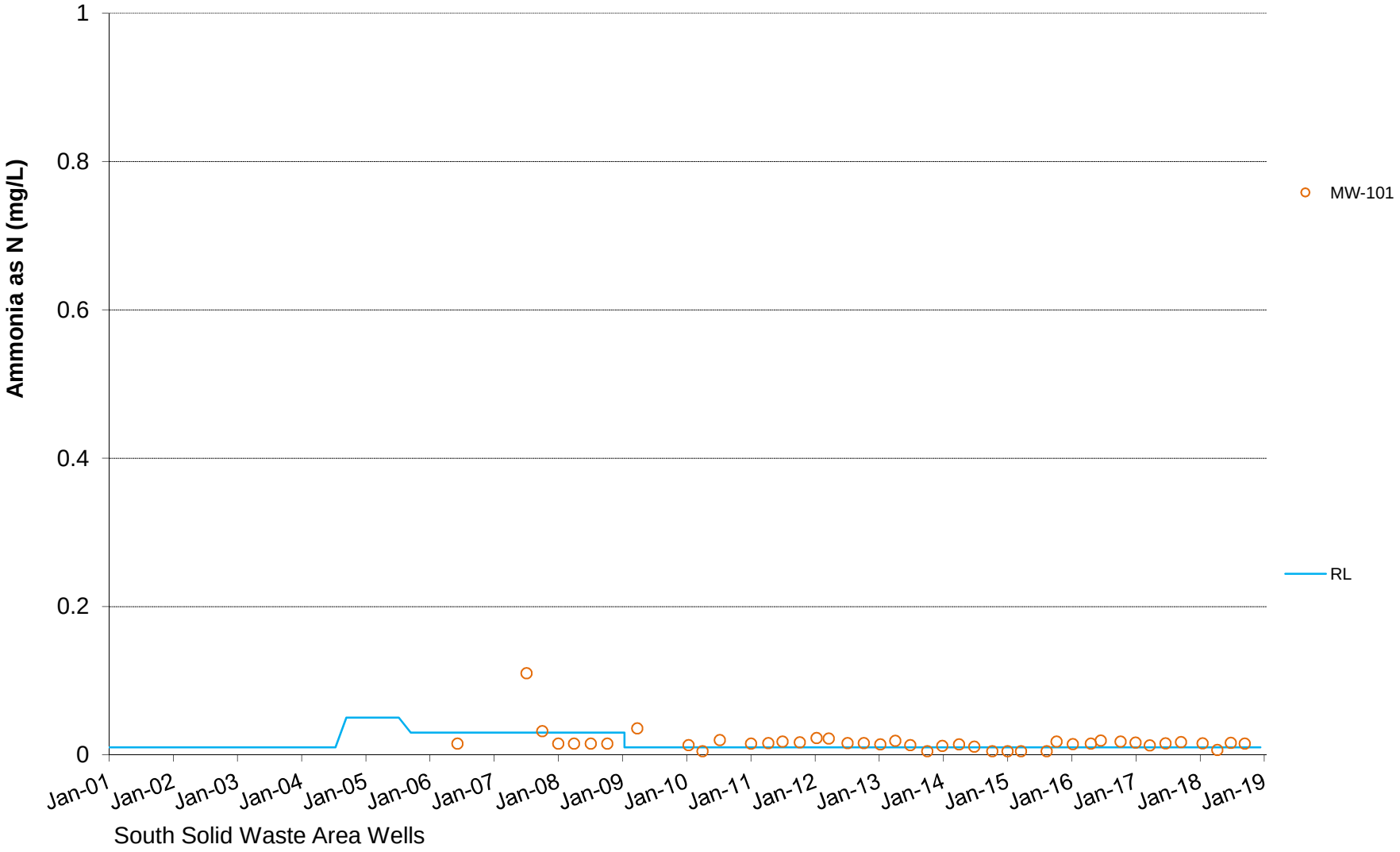

Total Dissolved Solids (mg/L)
750
625
500
375
250
125
0
Jan-01
Jan-02
Jan-03
Jan-04
Jan-05
Jan-06
Jan-07
Jan-08
Jan-09
Jan-10
Jan-11
Jan-12
Jan-13
Jan-14
Jan-15
Jan-16
Jan-17
Jan-18
Jan-19
East Perched Zone Wells
MW-30A
MW-47
MW-62
RL

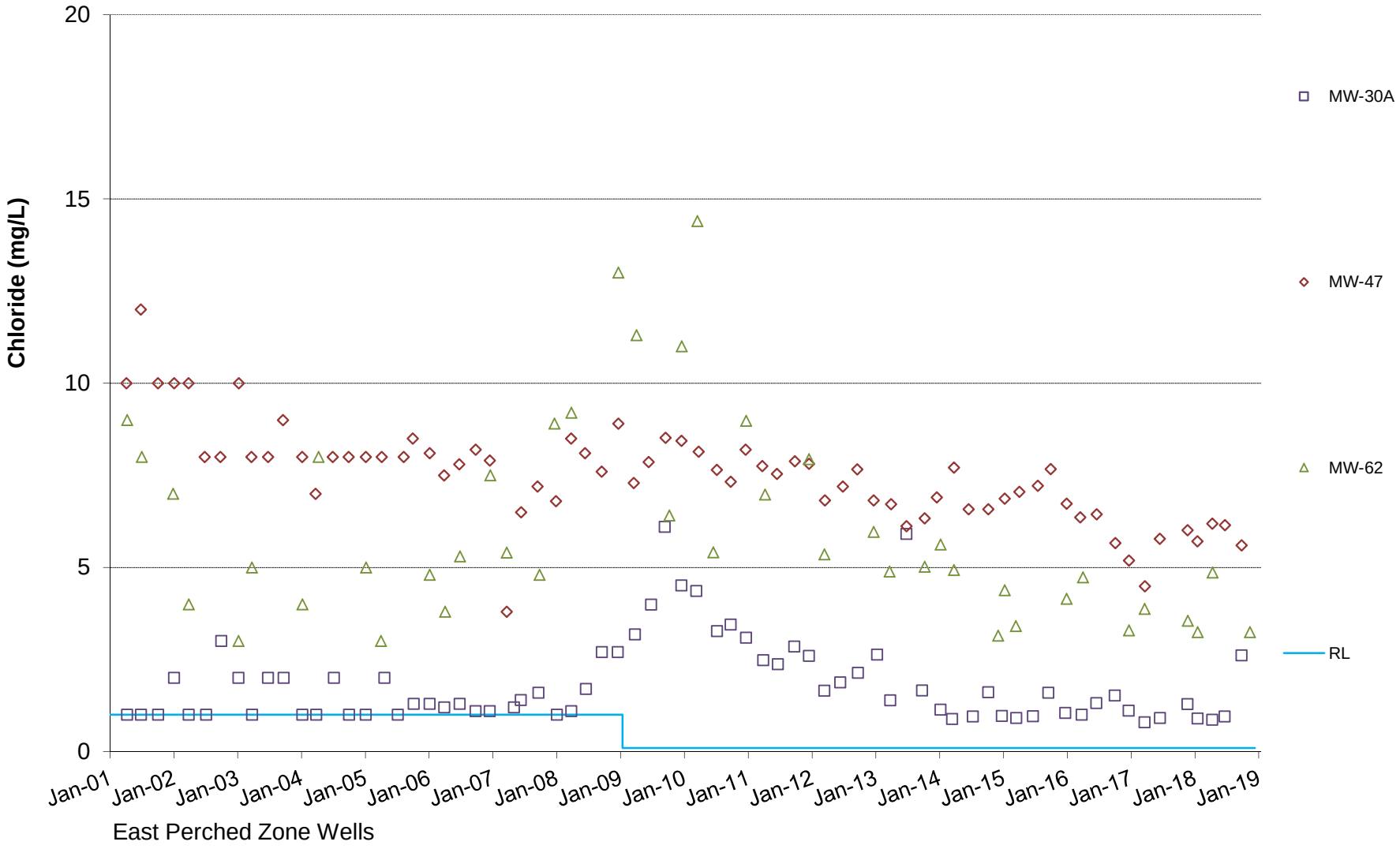

Total Dissolved Solids (mg/L)
750
625
500
375
250
125
0
Jan-01
Jan-02
Jan-03
Jan-04
Jan-05
Jan-06
Jan-07
Jan-08
Jan-09
Jan-10
Jan-11
Jan-12
Jan-13
Jan-14
Jan-15
Jan-16
Jan-17
Jan-18
Jan-19
South Solid Waste Area Wells
MW-101
RL

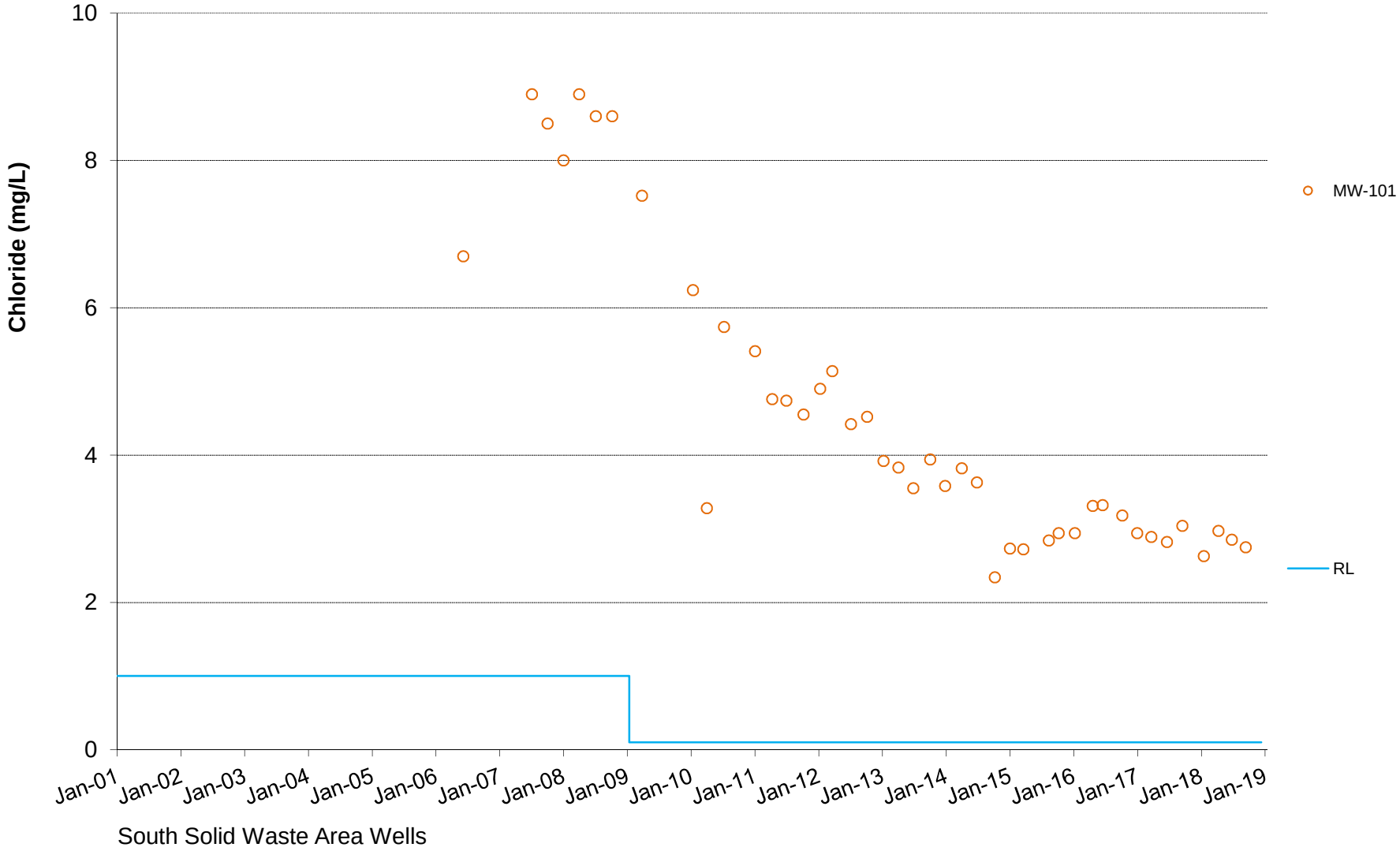

750
625
500
375
250
125
0
Alkalinity as CaCO3 (mg/L)
Jan-01
Jan-02
Jan-03
Jan-04
Jan-05
Jan-06
Jan-07
Jan-08
Jan-09
Jan-10
Jan-11
Jan-12
Jan-13
Jan-14
Jan-15
Jan-16
Jan-17
Jan-18
Jan-19
East Perched Zone Wells
MW-30A
MW-47
MW-62
RL

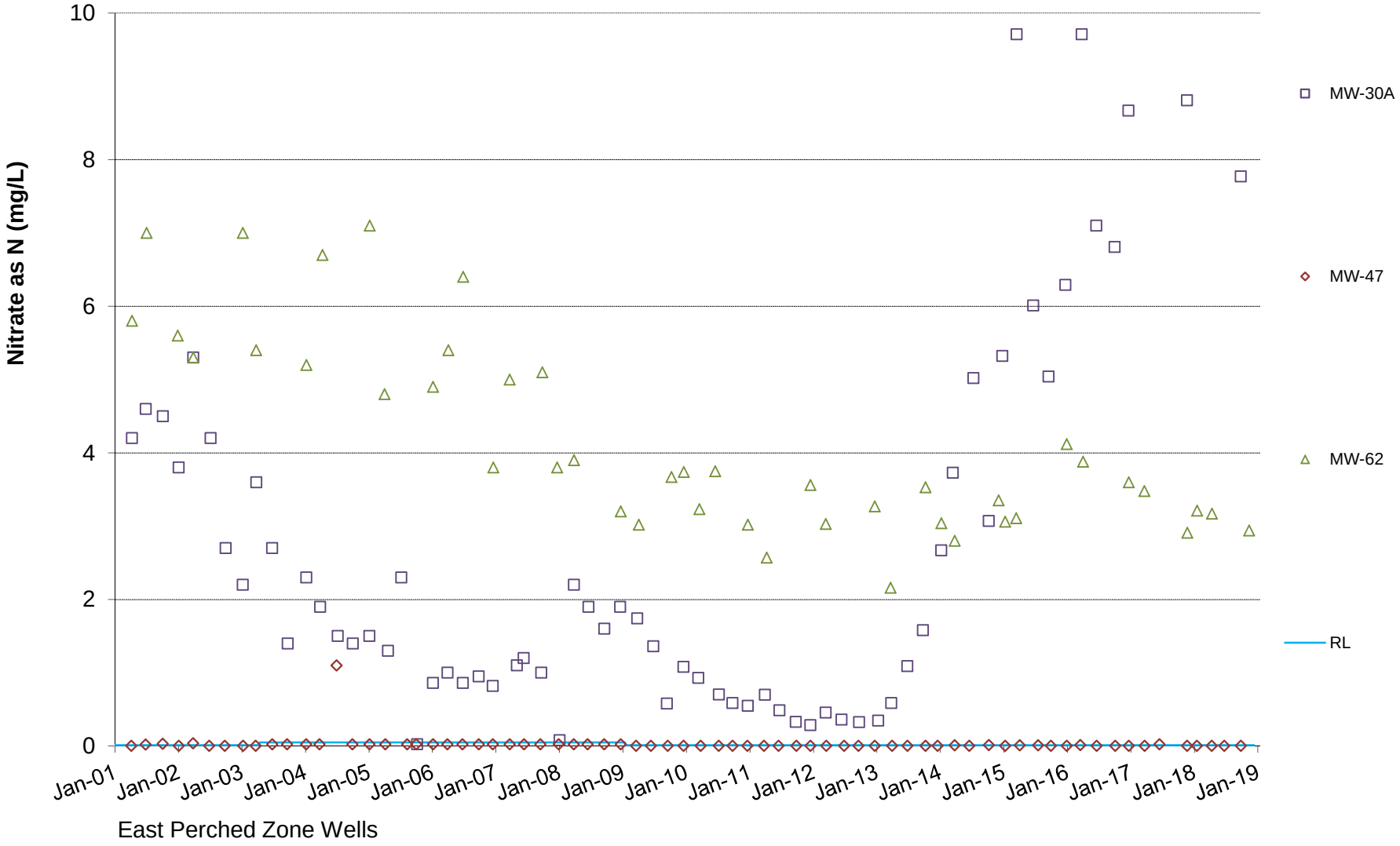

750
625
500
375
250
125
0
Alkalinity as CaCO3 (mg/L)
Jan-01
Jan-02
Jan-03
Jan-04
Jan-05
Jan-06
Jan-07
Jan-08
Jan-09
Jan-10
Jan-11
Jan-12
Jan-13
Jan-14
Jan-15
Jan-16
Jan-17
Jan-18
Jan-19
South Solid Waste Area Wells
MW-101
RL

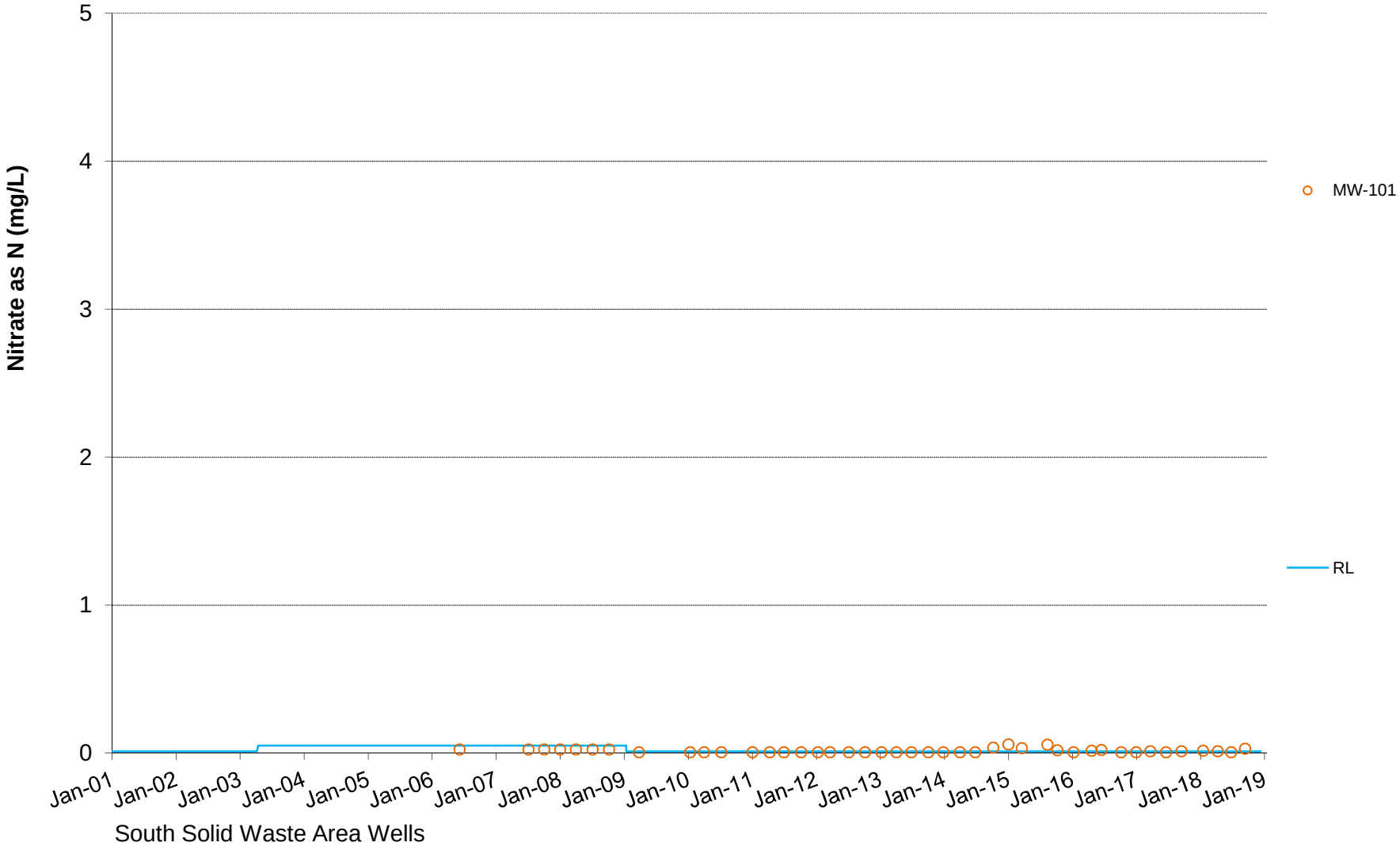

Ammonia as N (mg/L)
1
0.8
0.6
0.4
0.2
0
Jan-01
Jan-02
Jan-03
Jan-04
Jan-05
Jan-06
Jan-07
Jan-08
Jan-09
Jan-10
Jan-11
Jan-12
Jan-13
Jan-14
Jan-15
Jan-16
Jan-17
Jan-18
Jan-19
East Perched Zone Wells
MW-30A
MW-47
MW-62
RL

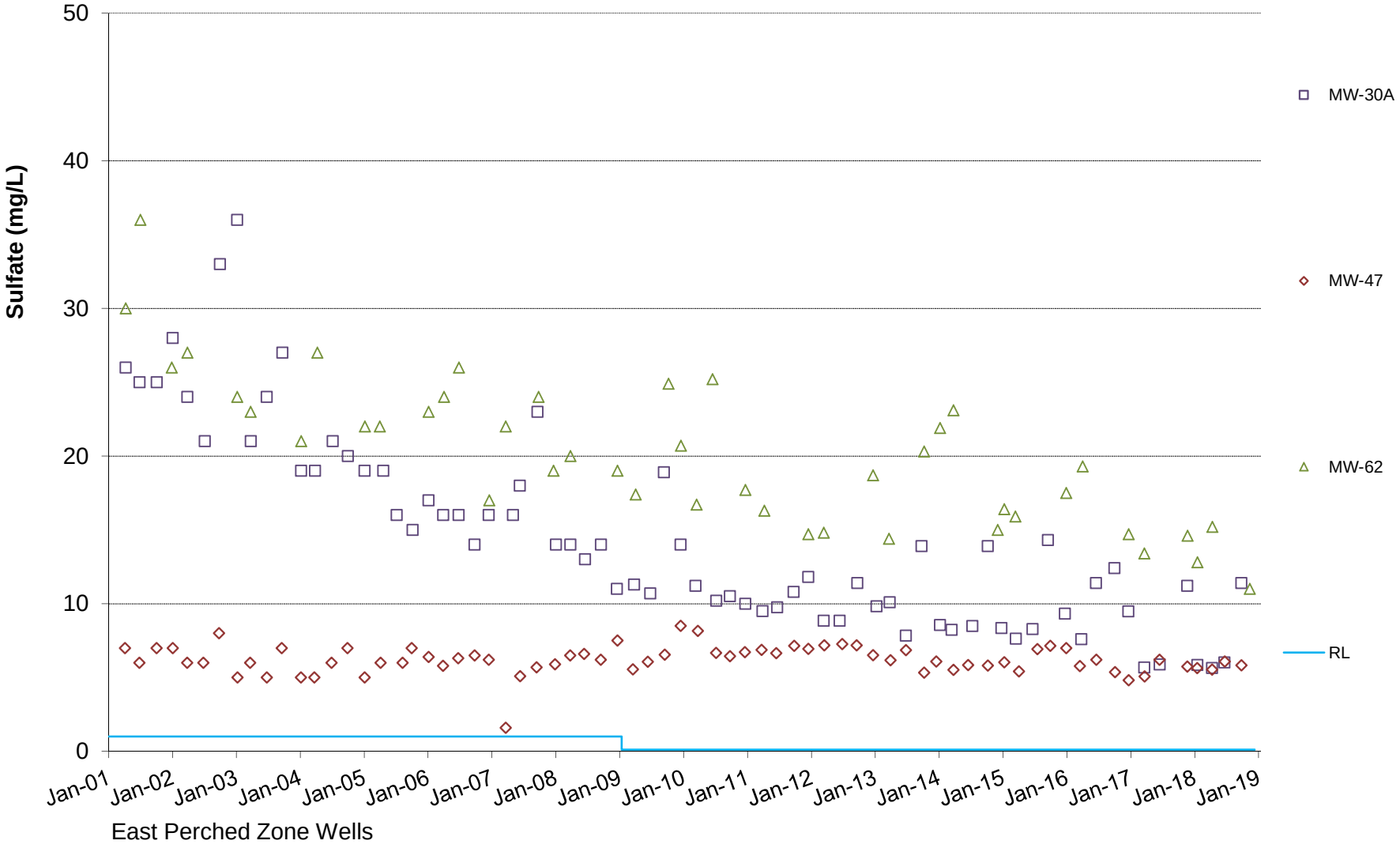

Ammonia as N (mg/L)
1
0.8
0.6
0.4
0.2
0
Jan-01
Jan-02
Jan-03
Jan-04
Jan-05
Jan-06
Jan-07
Jan-08
Jan-09
Jan-10
Jan-11
Jan-12
Jan-13
Jan-14
Jan-15
Jan-16
Jan-17
Jan-18
Jan-19
South Solid Waste Area Wells
MW-101
RL

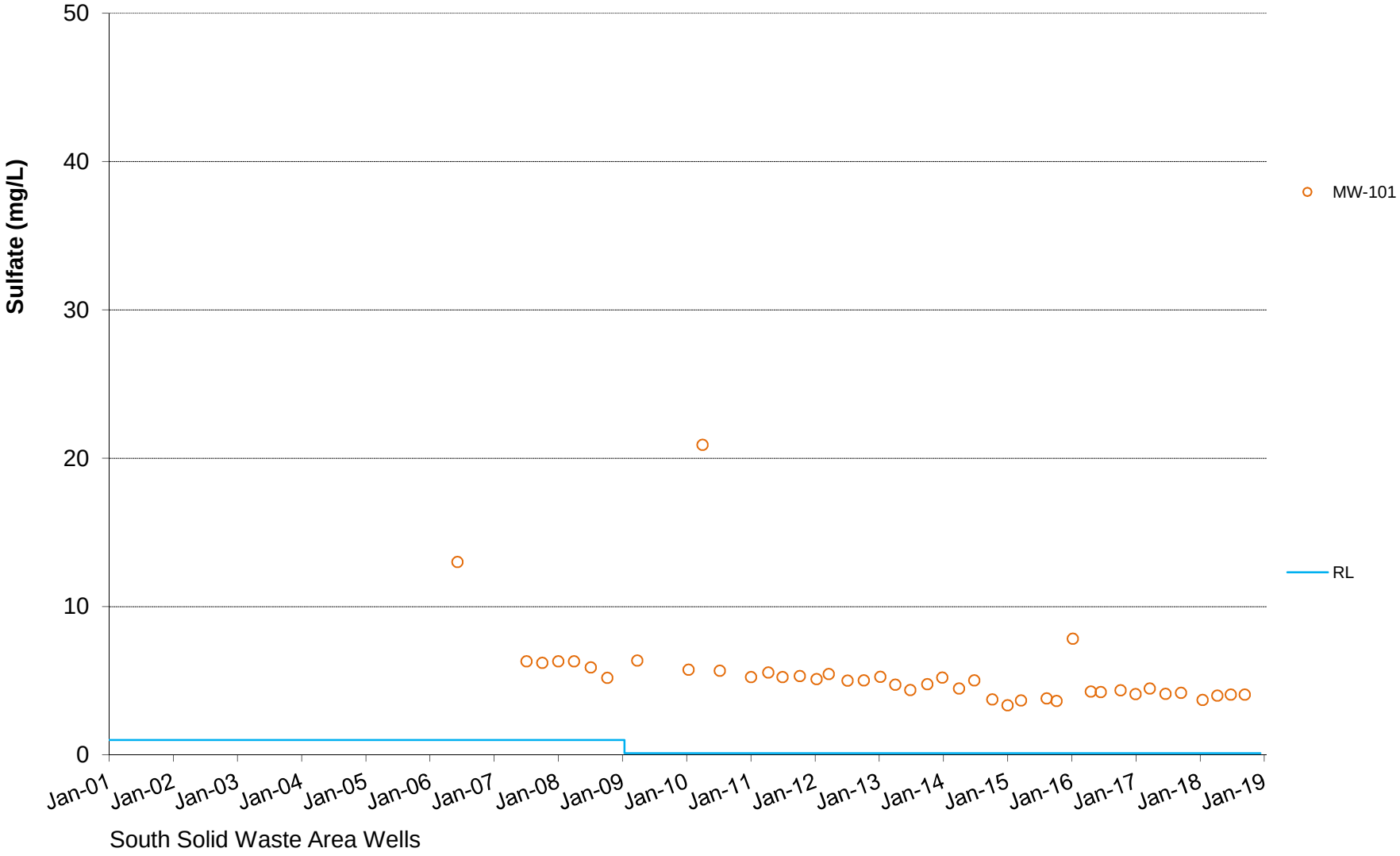

Chloride (mg/L)
20
15
10
5
0
Jan-01
Jan-02
Jan-03
Jan-04
Jan-05
Jan-06
Jan-07
Jan-08
Jan-09
Jan-10
Jan-11
Jan-12
Jan-13
Jan-14
Jan-15
Jan-16
Jan-17
Jan-18
Jan-19
East Perched Zone Wells
MW-30A
MW-47
MW-62
RL

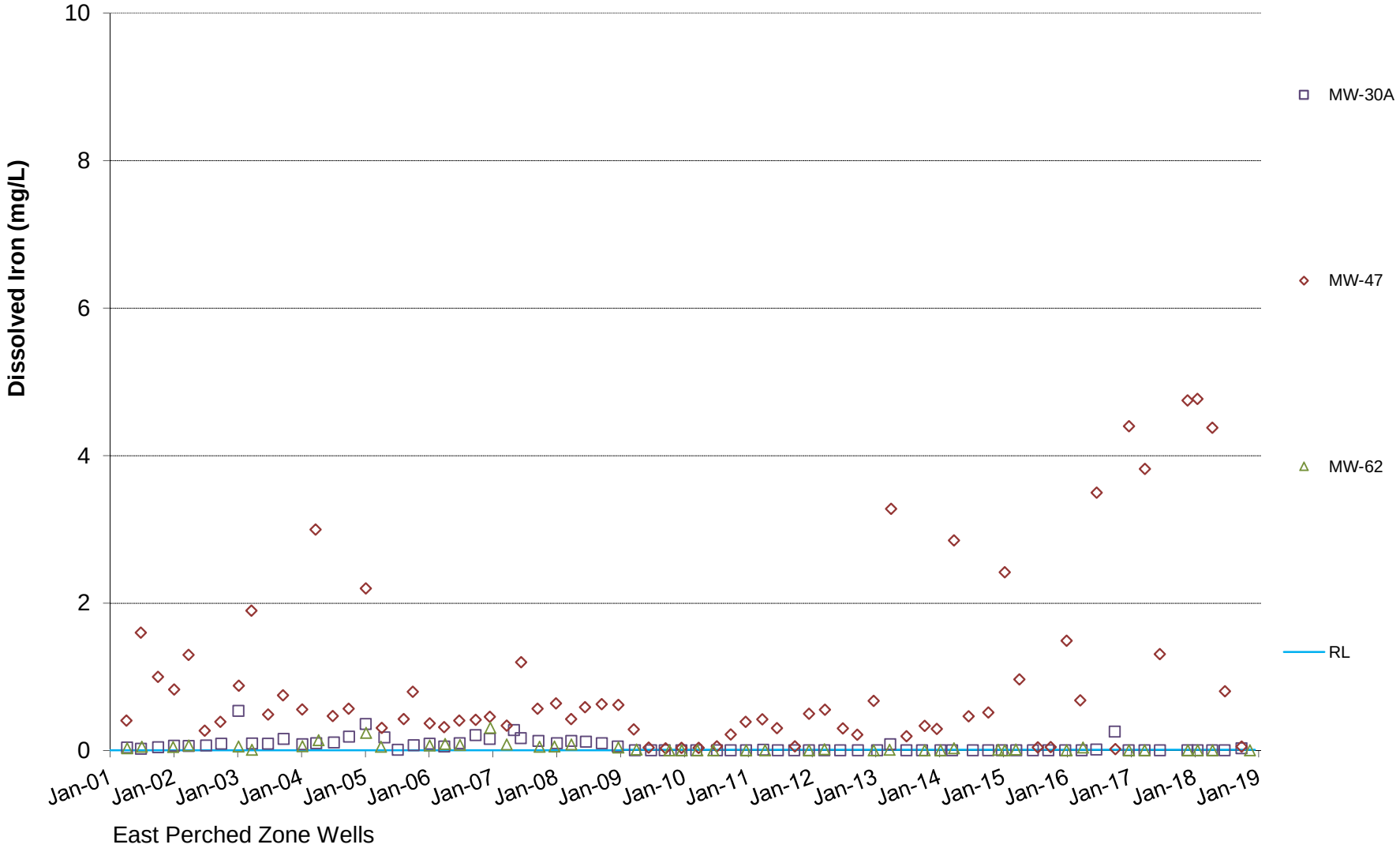

Chloride (mg/L)
10
8
6
4
2
0
Jan-01
Jan-02
Jan-03
Jan-04
Jan-05
Jan-06
Jan-07
Jan-08
Jan-09
Jan-10
Jan-11
Jan-12
Jan-13
Jan-14
Jan-15
Jan-16
Jan-17
Jan-18
Jan-19
South Solid Waste Area Wells
MW-101
RL

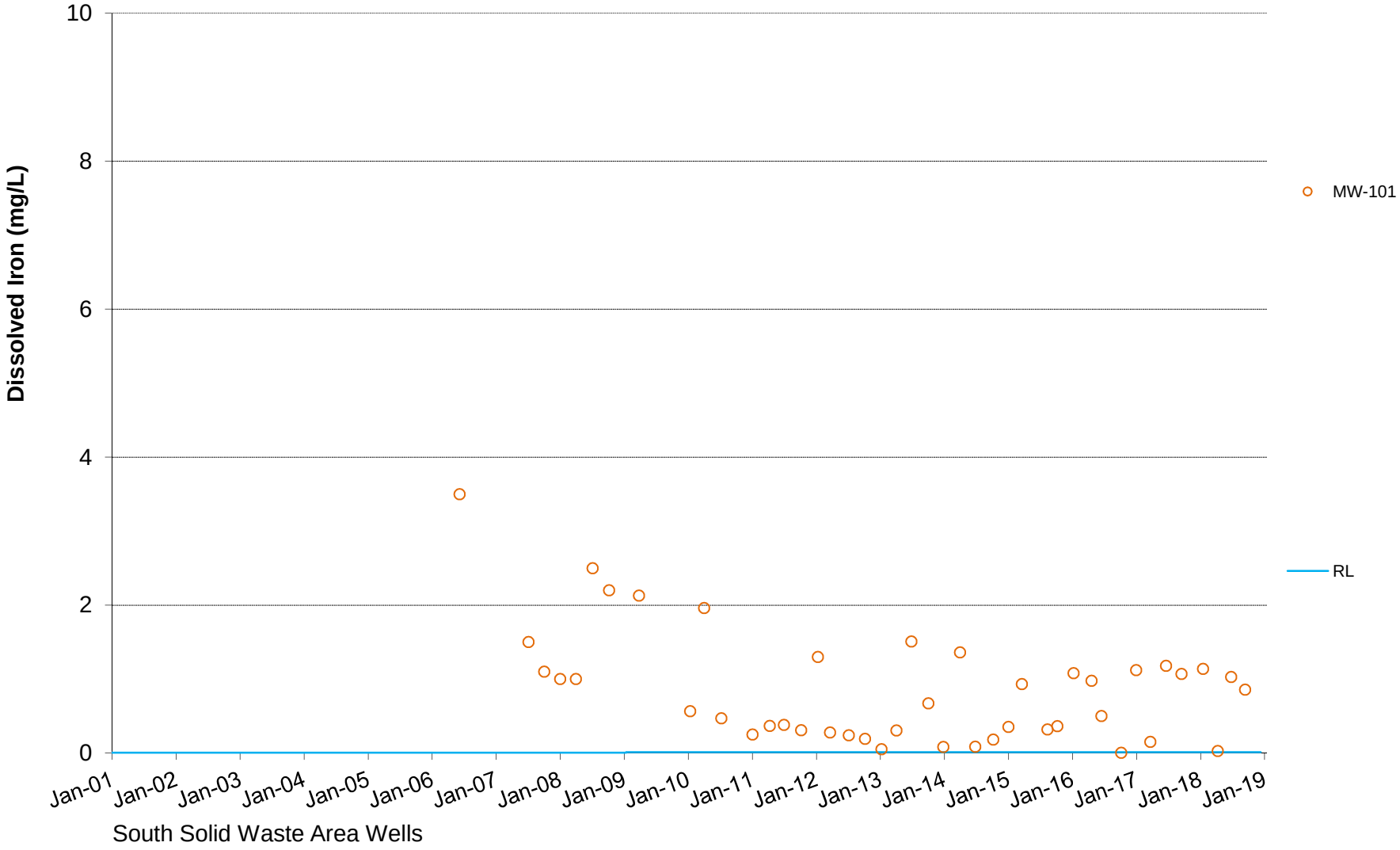

Nitrate as N (mg/L)
10
8
6
4
2
0
Jan-01
Jan-02
Jan-03
Jan-04
Jan-05
Jan-06
Jan-07
Jan-08
Jan-09
Jan-10
Jan-11
Jan-12
Jan-13
Jan-14
Jan-15
Jan-16
Jan-17
Jan-18
Jan-19
East Perched Zone Wells
MW-30A
MW-47
MW-62
RL

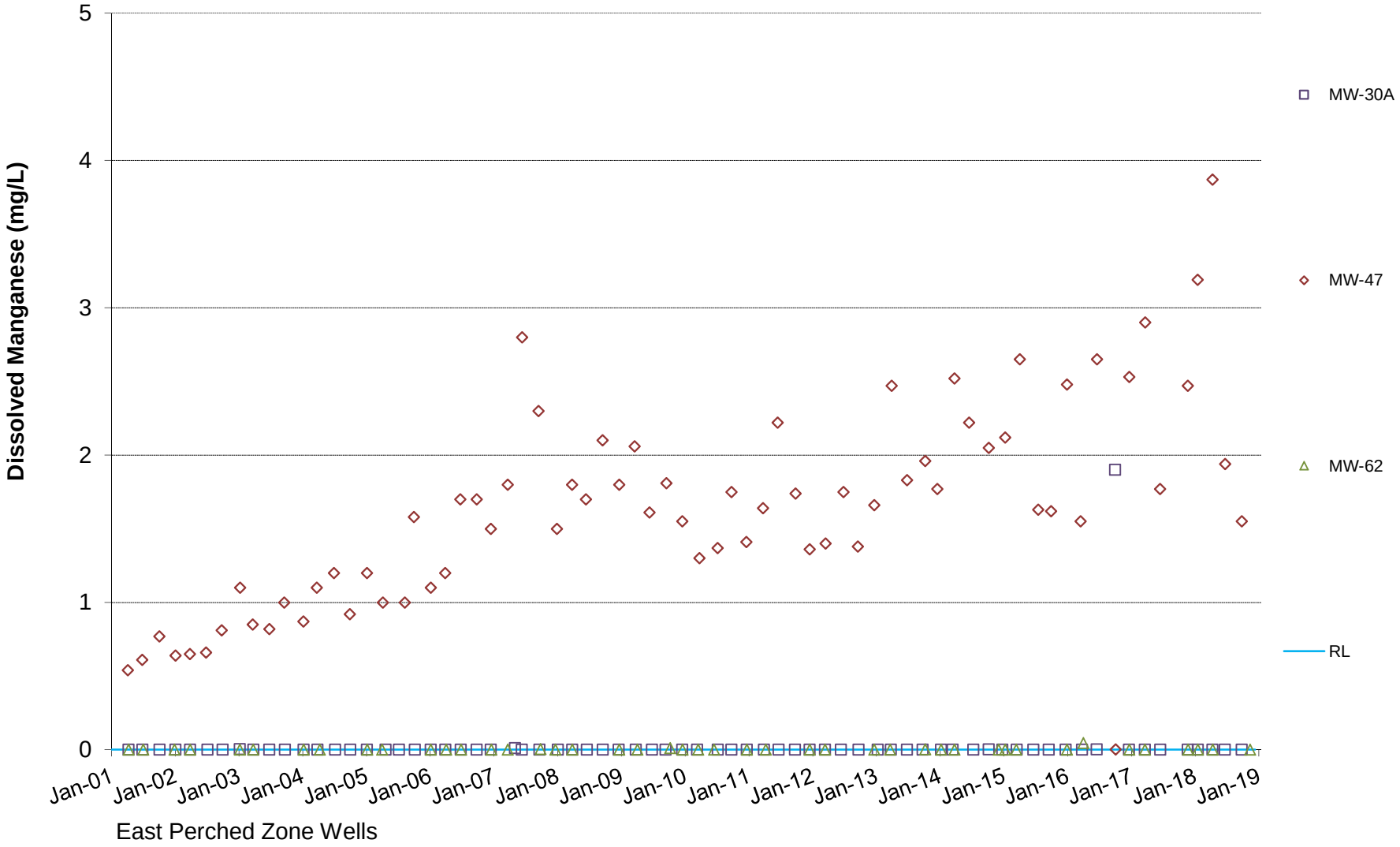

Nitrate as N (mg/L)
5
4
3
2
1
0
Jan-01
Jan-02
Jan-03
Jan-04
Jan-05
Jan-06
Jan-07
Jan-08
Jan-09
Jan-10
Jan-11
Jan-12
Jan-13
Jan-14
Jan-15
Jan-16
Jan-17
Jan-18
Jan-19
South Solid Waste Area Wells
MW-101
RL

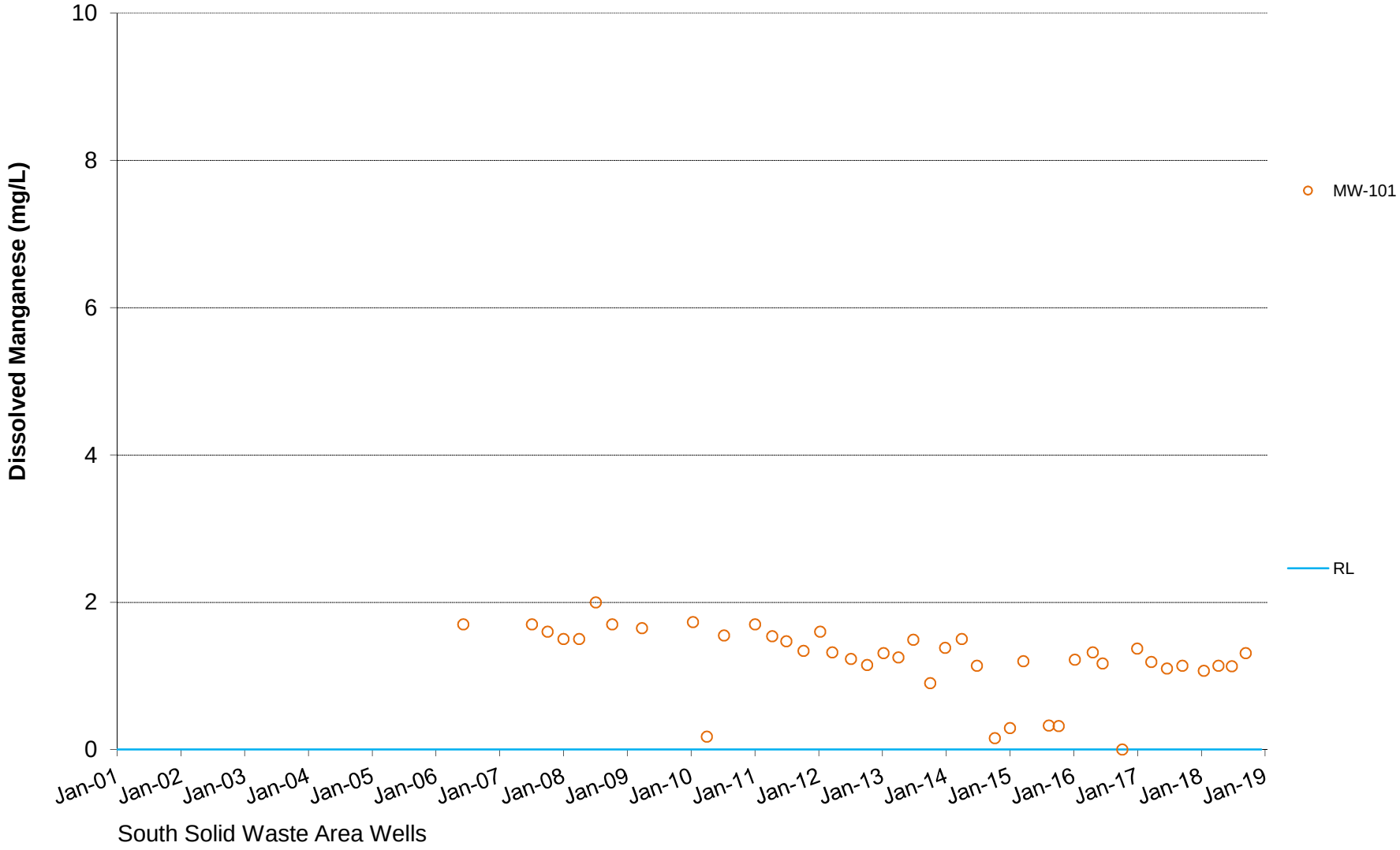

Sulfate (mg/L)
50
40
30
20
10
0
Jan-01
Jan-02
Jan-03
Jan-04
Jan-05
Jan-06
Jan-07
Jan-08
Jan-09
Jan-10
Jan-11
Jan-12
Jan-13
Jan-14
Jan-15
Jan-16
Jan-17
Jan-18
Jan-19
East Perched Zone Wells
MW-30A
MW-47
MW-62
RL

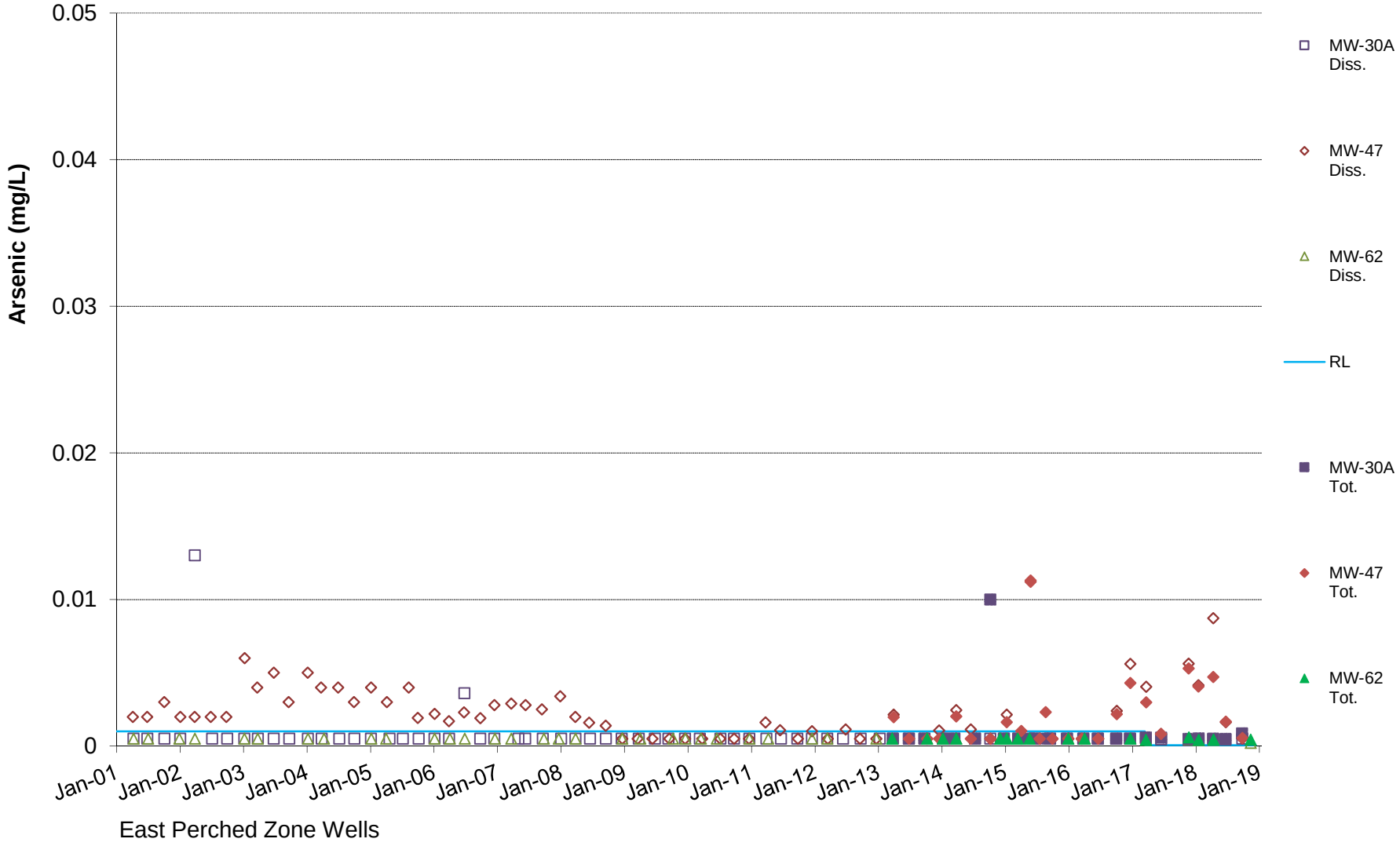

Sulfate (mg/L)
50
40
30
20
10
0
Jan-01
Jan-02
Jan-03
Jan-04
Jan-05
Jan-06
Jan-07
Jan-08
Jan-09
Jan-10
Jan-11
Jan-12
Jan-13
Jan-14
Jan-15
Jan-16
Jan-17
Jan-18
Jan-19
South Solid Waste Area Wells
MW-101
RL

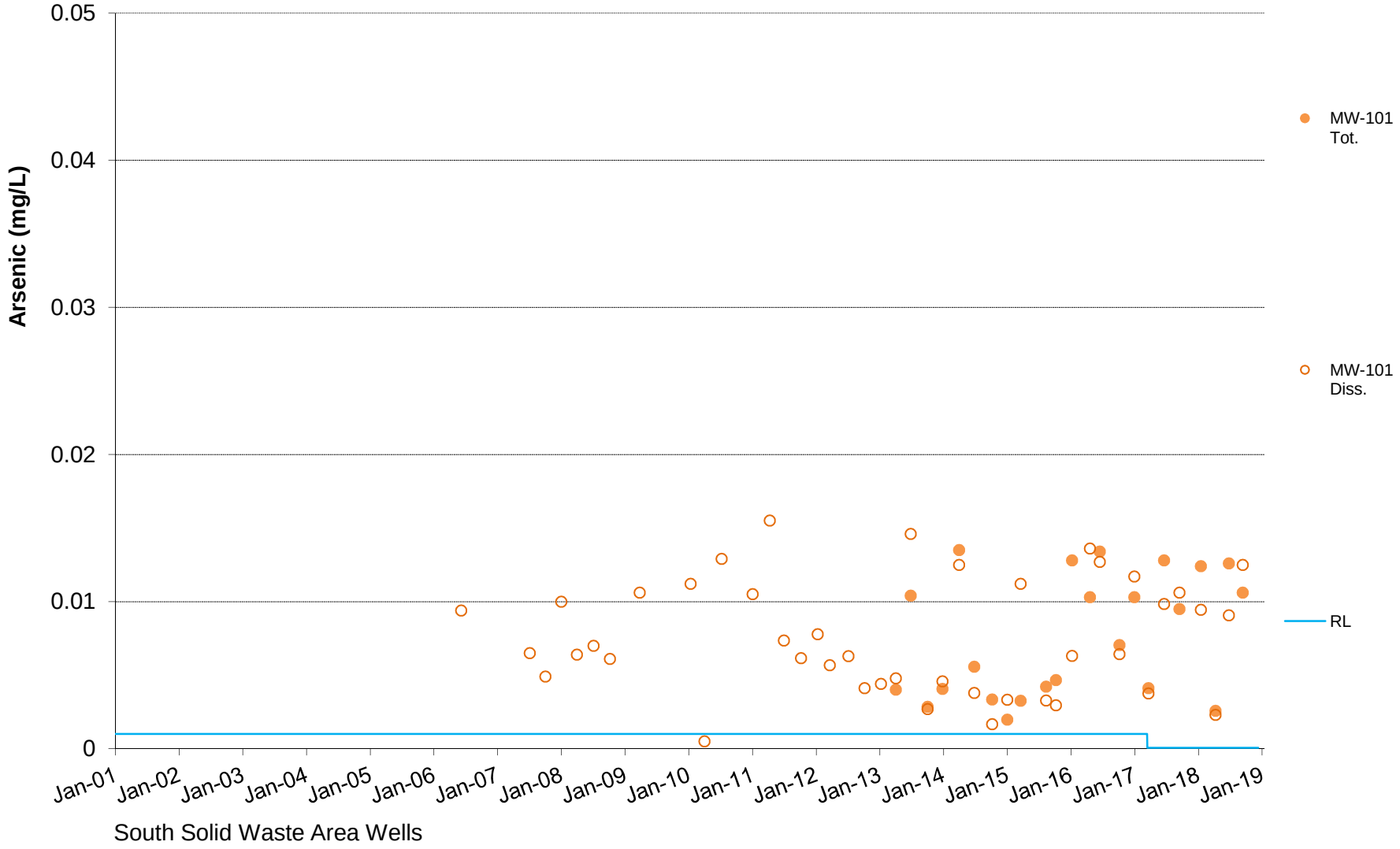

Dissolved Iron (mg/L)
10
8
6
4
2
0
Jan-01
Jan-02
Jan-03
Jan-04
Jan-05
Jan-06
Jan-07
Jan-08
Jan-09
Jan-10
Jan-11
Jan-12
Jan-13
Jan-14
Jan-15
Jan-16
Jan-17
Jan-18
Jan-19
East Perched Zone Wells
MW-30A
MW-47
MW-62
RL

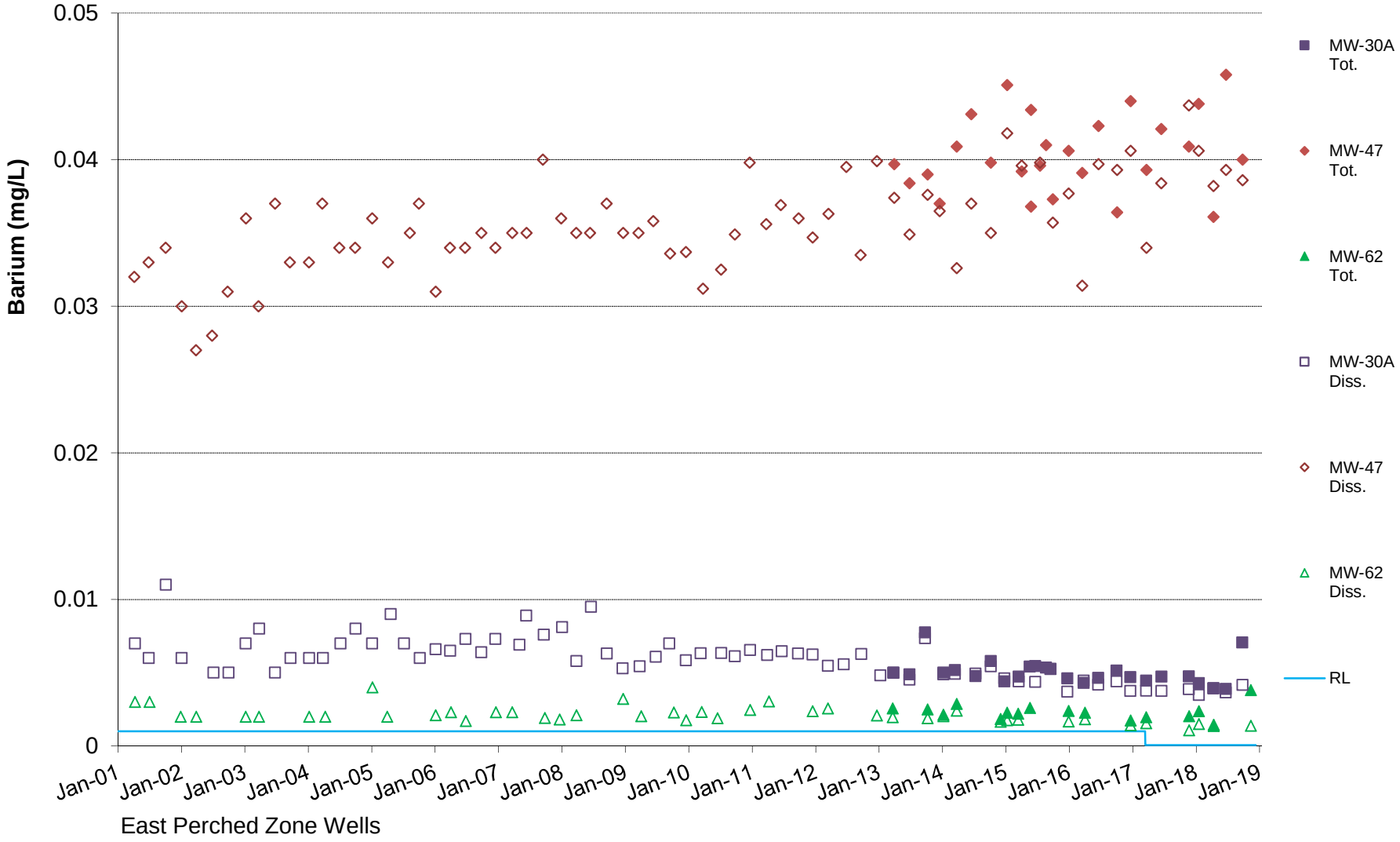

Dissolved Iron (mg/L)
10
8
6
4
2
0
Jan-01
Jan-02
Jan-03
Jan-04
Jan-05
Jan-06
Jan-07
Jan-08
Jan-09
Jan-10
Jan-11
Jan-12
Jan-13
Jan-14
Jan-15
Jan-16
Jan-17
Jan-18
Jan-19
South Solid Waste Area Wells
MW-101
RL

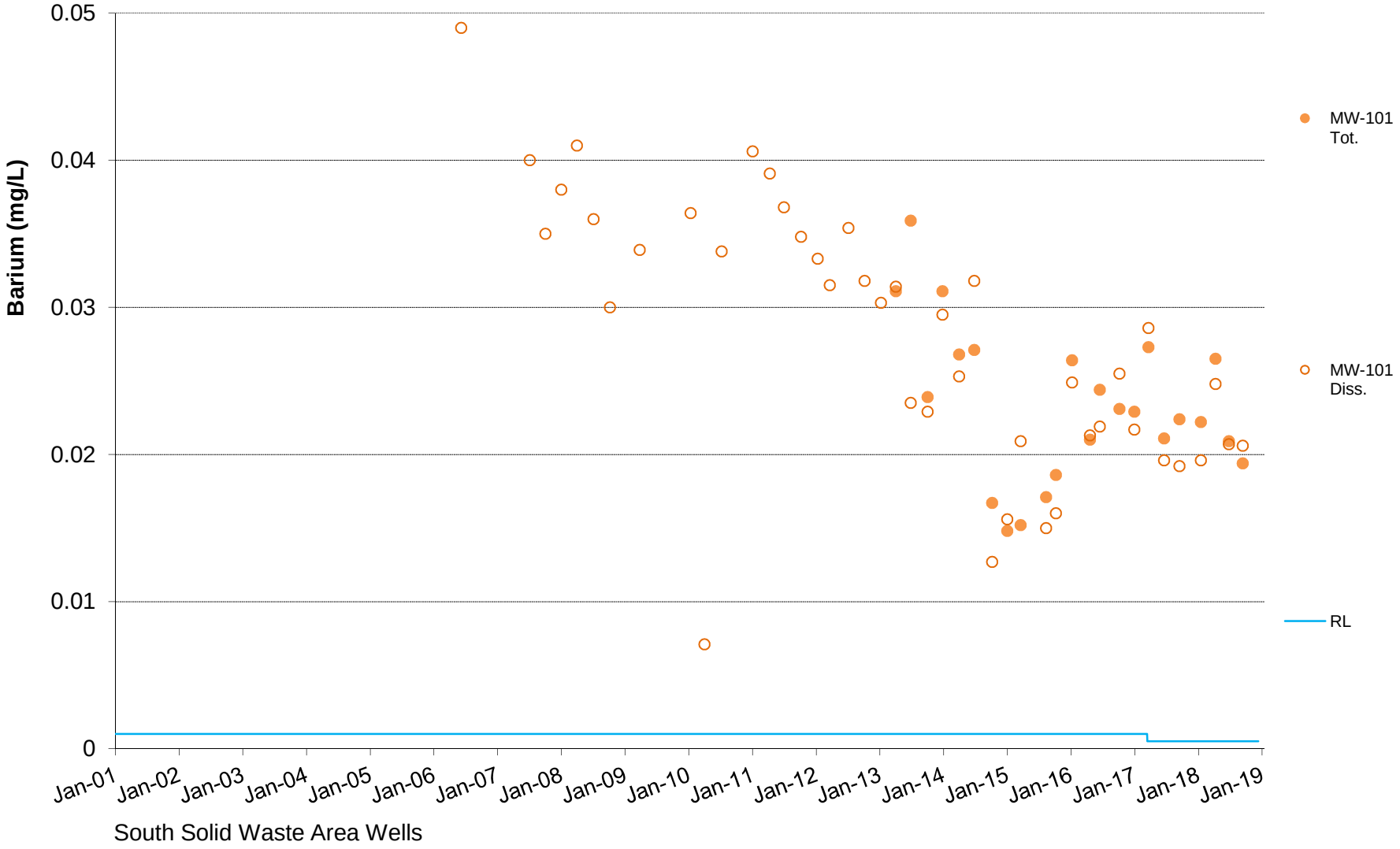

Dissolved Manganese (mg/L)
5
4
3
2
1
0
Jan-01
Jan-02
Jan-03
Jan-04
Jan-05
Jan-06
Jan-07
Jan-08
Jan-09
Jan-10
Jan-11
Jan-12
Jan-13
Jan-14
Jan-15
Jan-16
Jan-17
Jan-18
Jan-19
East Perched Zone Wells
MW-30A
MW-47
MW-62
RL

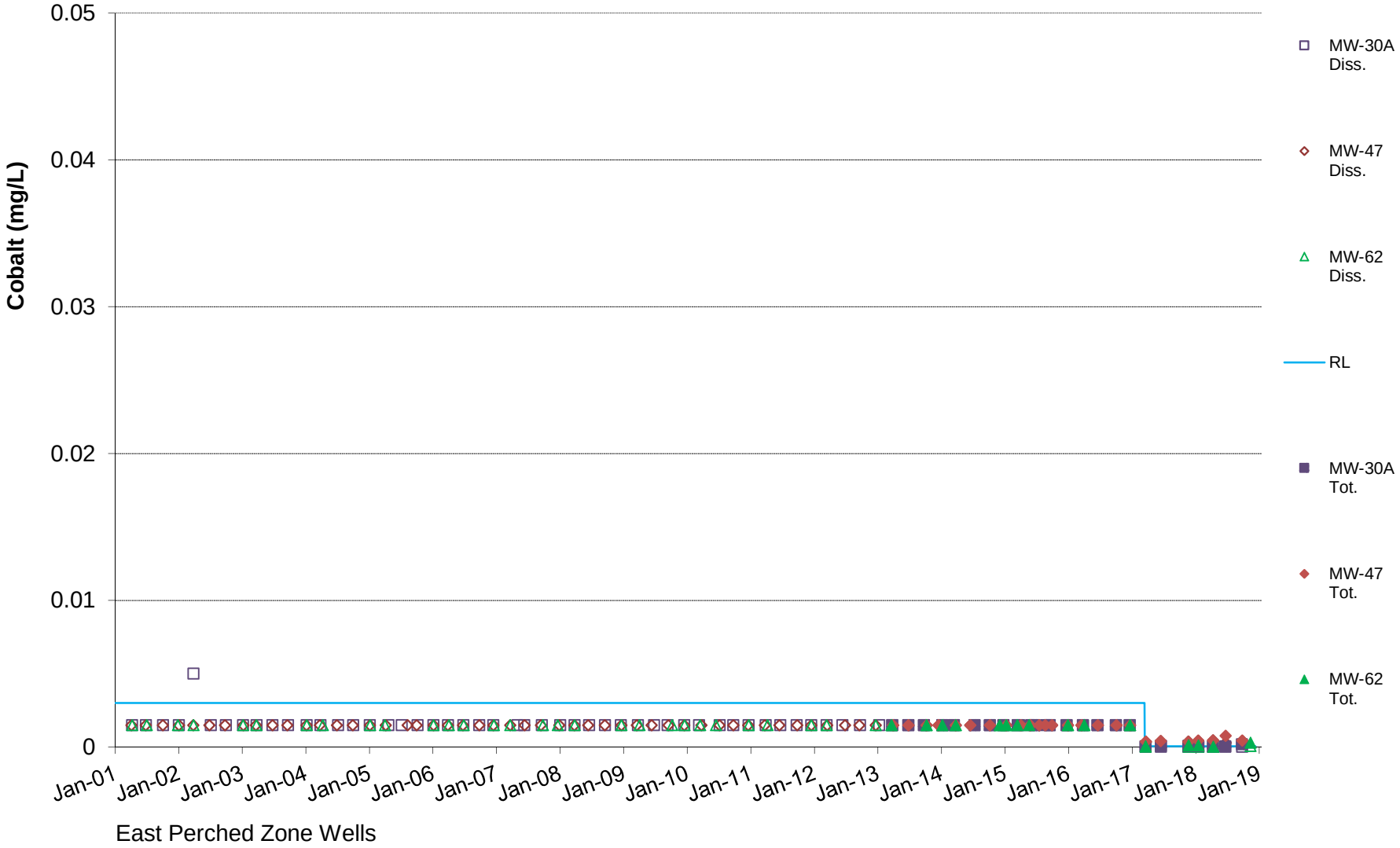

Dissolved Manganese (mg/L)
10
8
6
4
2
0
Jan-01
Jan-02
Jan-03
Jan-04
Jan-05
Jan-06
Jan-07
Jan-08
Jan-09
Jan-10
Jan-11
Jan-12
Jan-13
Jan-14
Jan-15
Jan-16
Jan-17
Jan-18
Jan-19
South Solid Waste Area Wells
MW-101
RL

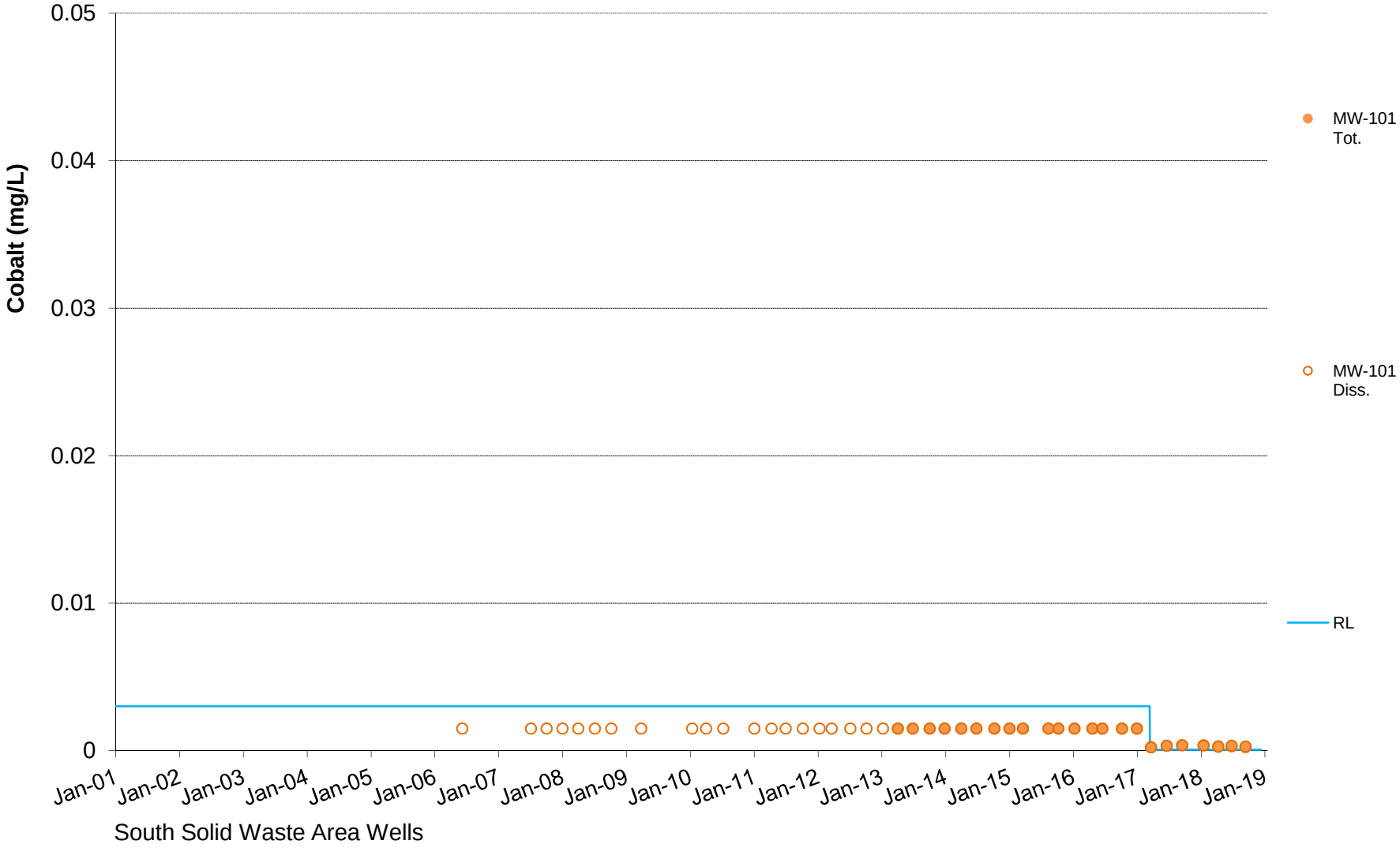

0.05
0.04
0.03
0.02
0.01
0
Arsenic (mg/L)
Jan-01
Jan-02
Jan-03
Jan-04
Jan-05
Jan-06
Jan-07
Jan-08
Jan-09
Jan-10
Jan-11
Jan-12
Jan-13
Jan-14
Jan-15
Jan-16
Jan-17
Jan-18
Jan-19
East Perched Zone Wells
MW-30A Diss.
MW-47 Diss.
MW-62 Diss.
RL
MW-30A Tot.
MW-47 Tot.
MW-62 Tot.

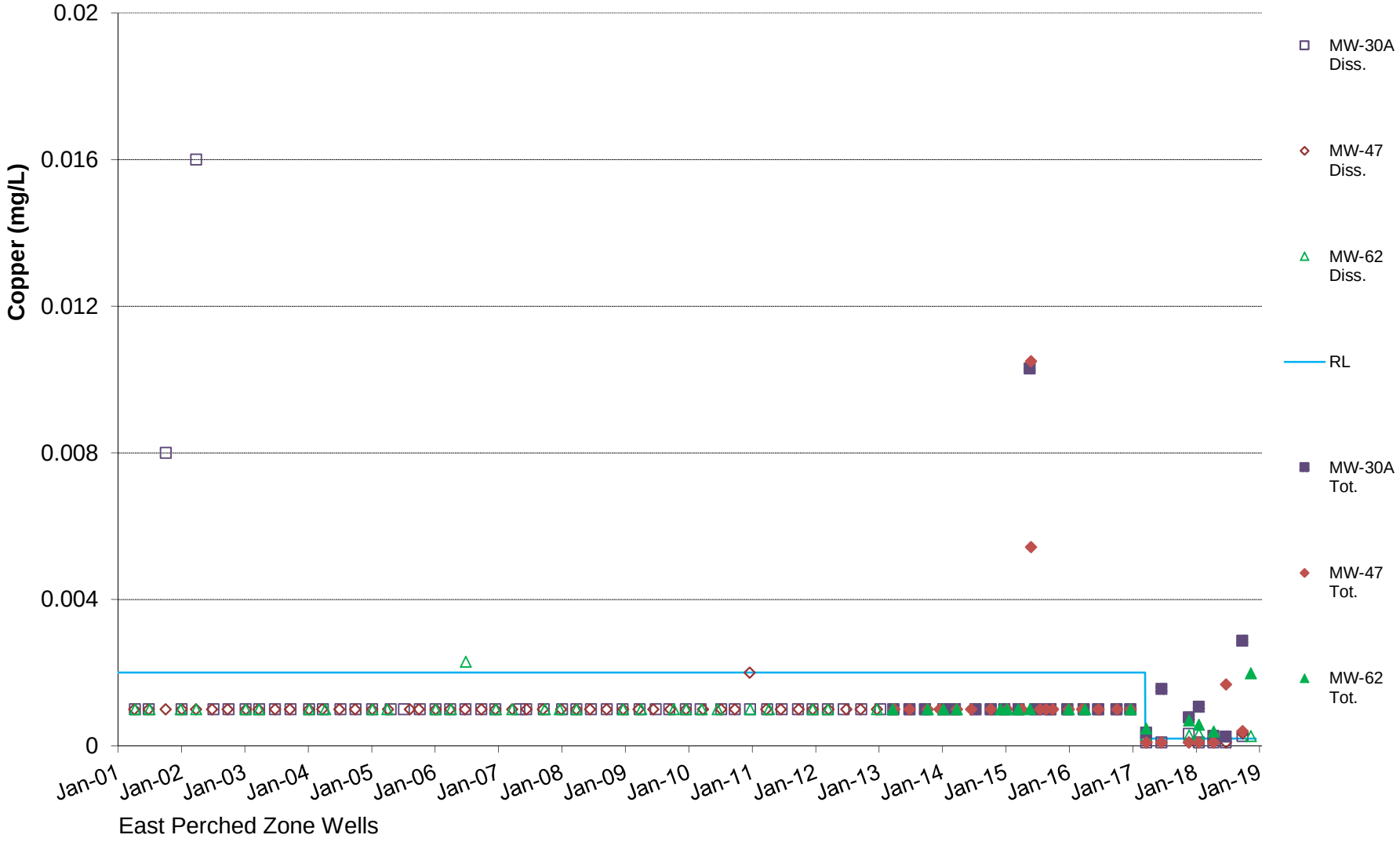

0.05
0.04
0.03
0.02
0.01
0
Arsenic (mg/L)
Jan-01
Jan-02
Jan-03
Jan-04
Jan-05
Jan-06
Jan-07
Jan-08
Jan-09
Jan-10
Jan-11
Jan-12
Jan-13
Jan-14
Jan-15
Jan-16
Jan-17
Jan-18
Jan-19
South Solid Waste Area Wells
MW-101 Tot.
MW-101 Diss.
RL

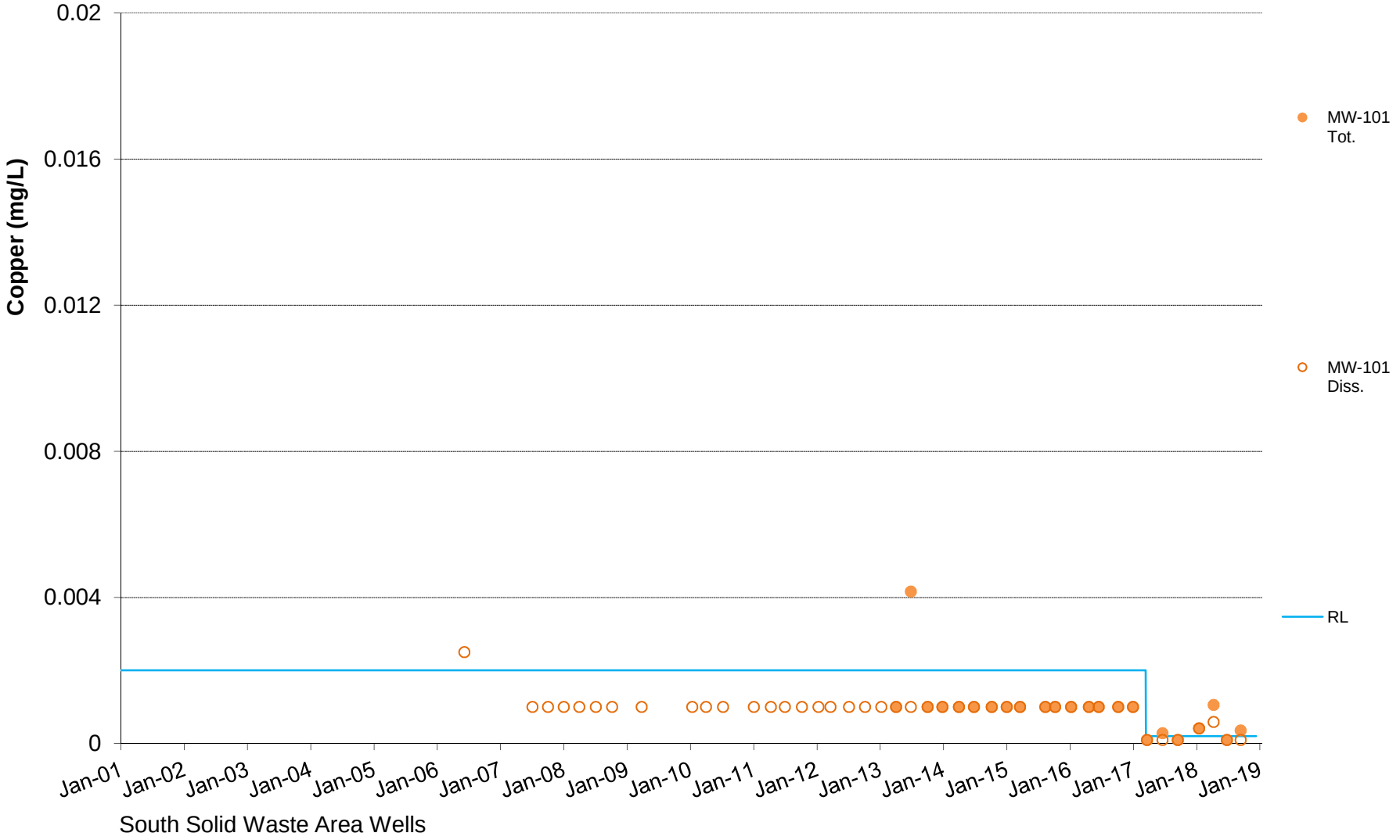

0.05
0.04
0.03
0.02
0.01
0
Barium (mg/L)
Jan-01
Jan-02
Jan-03
Jan-04
Jan-05
Jan-06
Jan-07
Jan-08
Jan-09
Jan-10
Jan-11
Jan-12
Jan-13
Jan-14
Jan-15
Jan-16
Jan-17
Jan-18
Jan-19
East Perched Zone Wells
MW-30A Tot.
MW-47 Tot.
MW-62 Tot.
MW-30A Diss.
MW-47 Diss.
MW-62 Diss.
RL

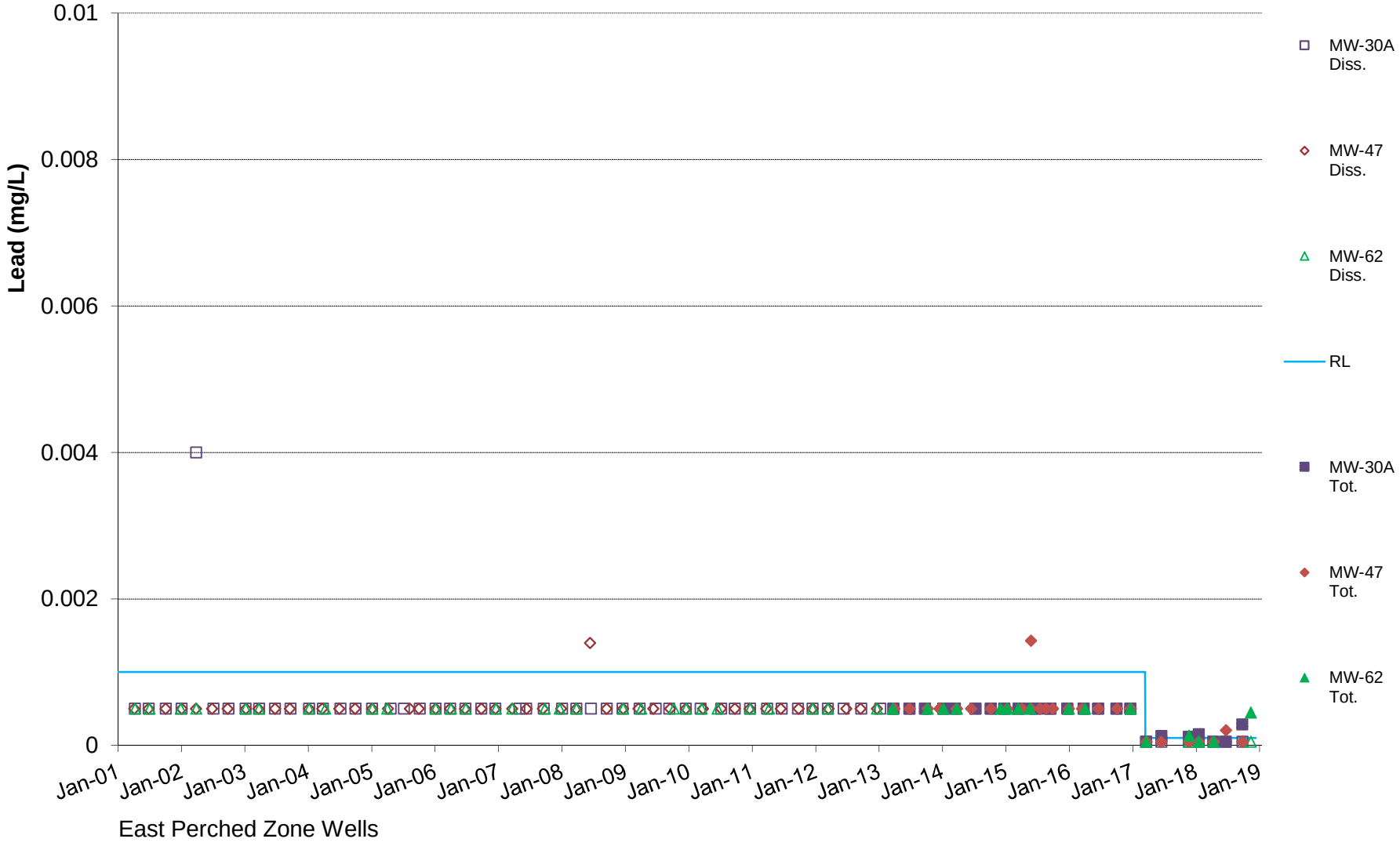

0.05
0.04
0.03
0.02
0.01
0
Barium (mg/L)
Jan-01
Jan-02
Jan-03
Jan-04
Jan-05
Jan-06
Jan-07
Jan-08
Jan-09
Jan-10
Jan-11
Jan-12
Jan-13
Jan-14
Jan-15
Jan-16
Jan-17
Jan-18
Jan-19
South Solid Waste Area Wells
MW-101 Tot.
MW-101 Diss.
RL

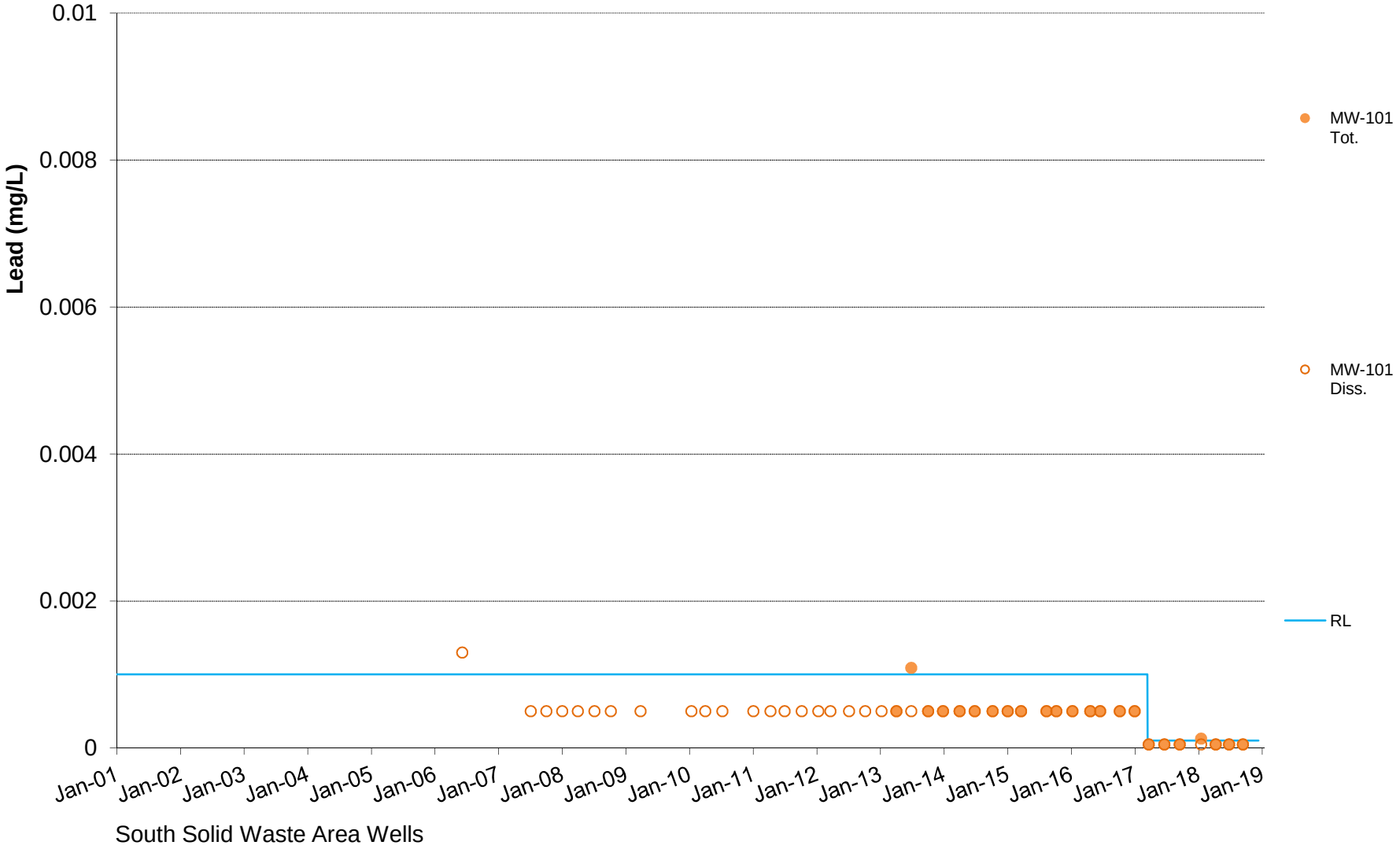

0.05
0.04
0.03
0.02
0.01
0
Cobalt (mg/L)
Jan-01
Jan-02
Jan-03
Jan-04
Jan-05
Jan-06
Jan-07
Jan-08
Jan-09
Jan-10
Jan-11
Jan-12
Jan-13
Jan-14
Jan-15
Jan-16
Jan-17
Jan-18
Jan-19
East Perched Zone Wells
MW-30A Diss.
MW-47 Diss.
MW-62 Diss.
RL
MW-30A Tot.
MW-47 Tot.
MW-62 Tot.

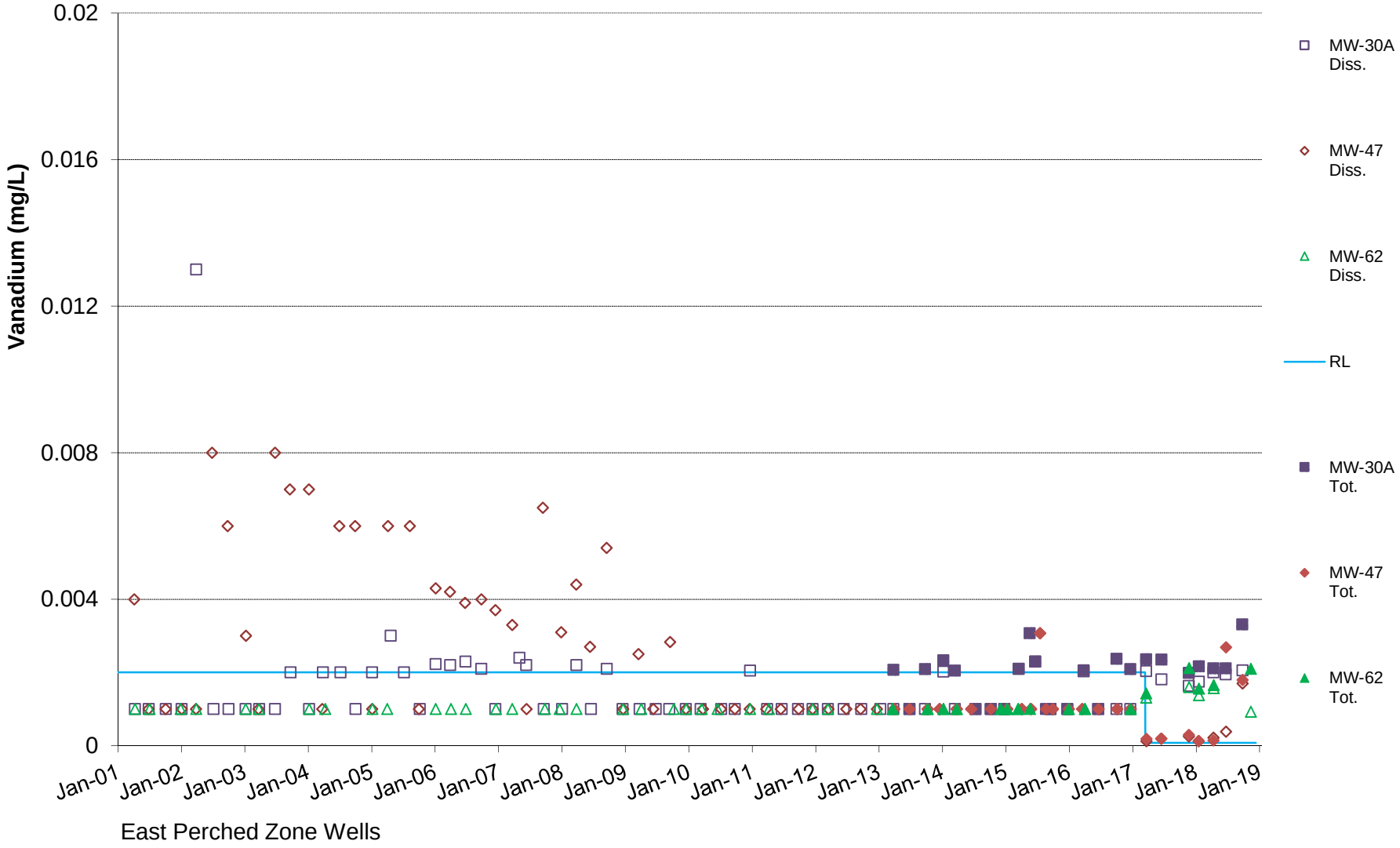

0.05
0.04
0.03
0.02
0.01
0
Cobalt (mg/L)
Jan-01
Jan-02
Jan-03
Jan-04
Jan-05
Jan-06
Jan-07
Jan-08
Jan-09
Jan-10
Jan-11
Jan-12
Jan-13
Jan-14
Jan-15
Jan-16
Jan-17
Jan-18
Jan-19
South Solid Waste Area Wells
MW-101 Tot.
MW-101 Diss.
RL

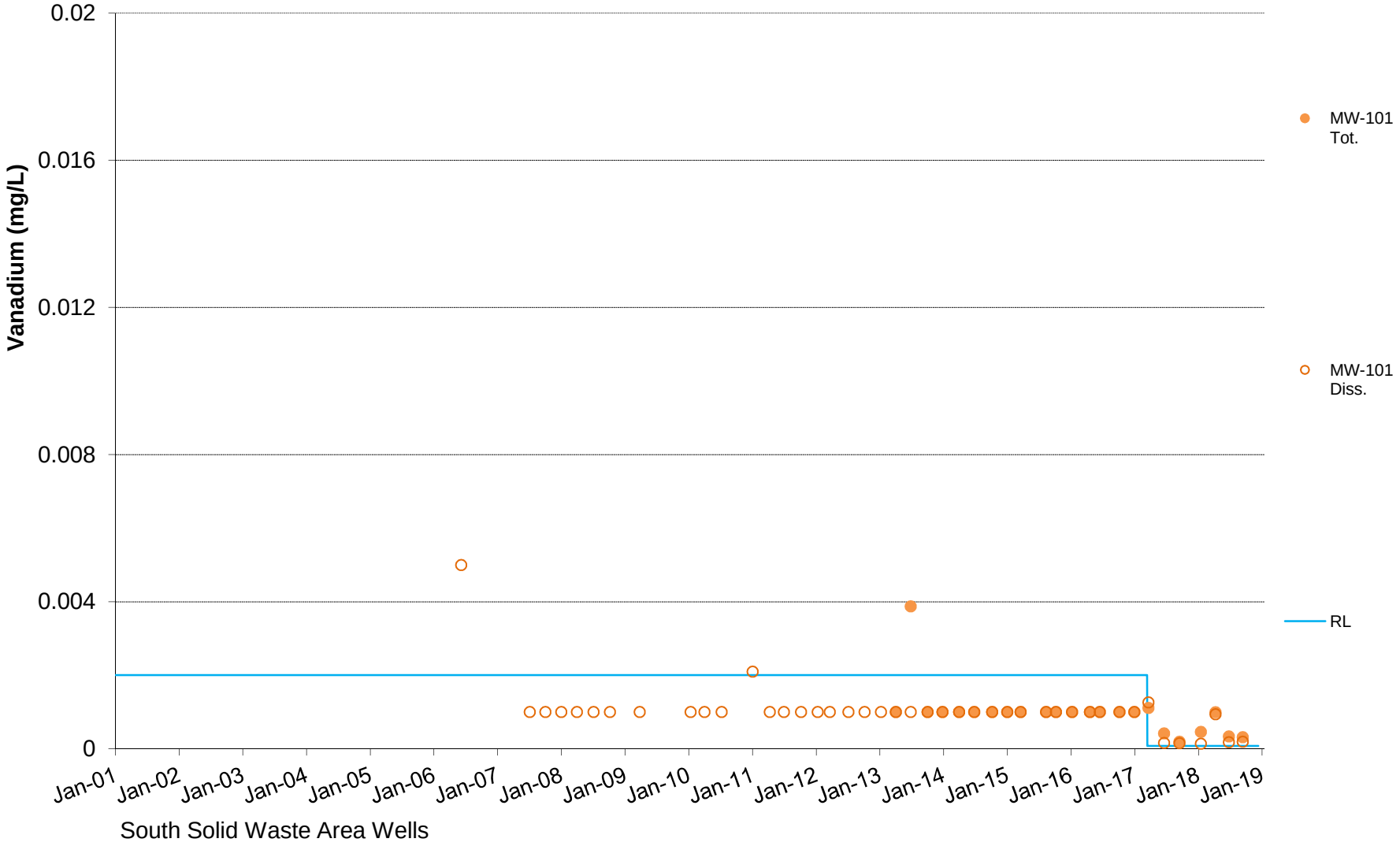

0.02
0.016
0.012
0.008
0.004
0
Copper (mg/L)
Jan-01
Jan-02
Jan-03
Jan-04
Jan-05
Jan-06
Jan-07
Jan-08
Jan-09
Jan-10
Jan-11
Jan-12
Jan-13
Jan-14
Jan-15
Jan-16
Jan-17
Jan-18
Jan-19
East Perched Zone Wells
MW-30A Diss.
MW-47 Diss.
MW-62 Diss.
RL
MW-30A Tot.
MW-47 Tot.
MW-62 Tot.

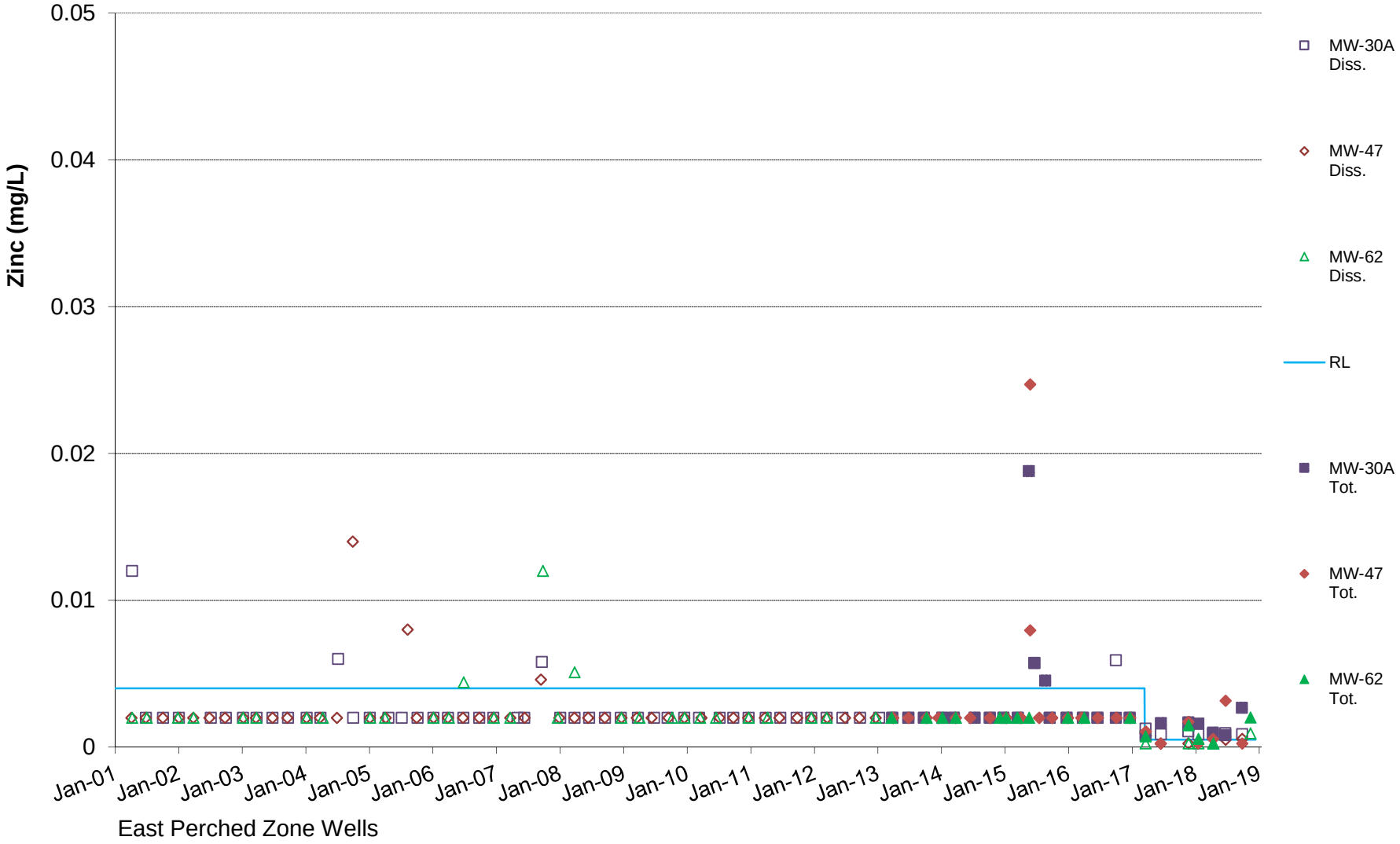

0.02
0.016
0.012
0.008
0.004
0
Copper (mg/L)
Jan-01
Jan-02
Jan-03
Jan-04
Jan-05
Jan-06
Jan-07
Jan-08
Jan-09
Jan-10
Jan-11
Jan-12
Jan-13
Jan-14
Jan-15
Jan-16
Jan-17
Jan-18
Jan-19
South Solid Waste Area Wells
MW-101 Tot.
MW-101 Diss.
RL

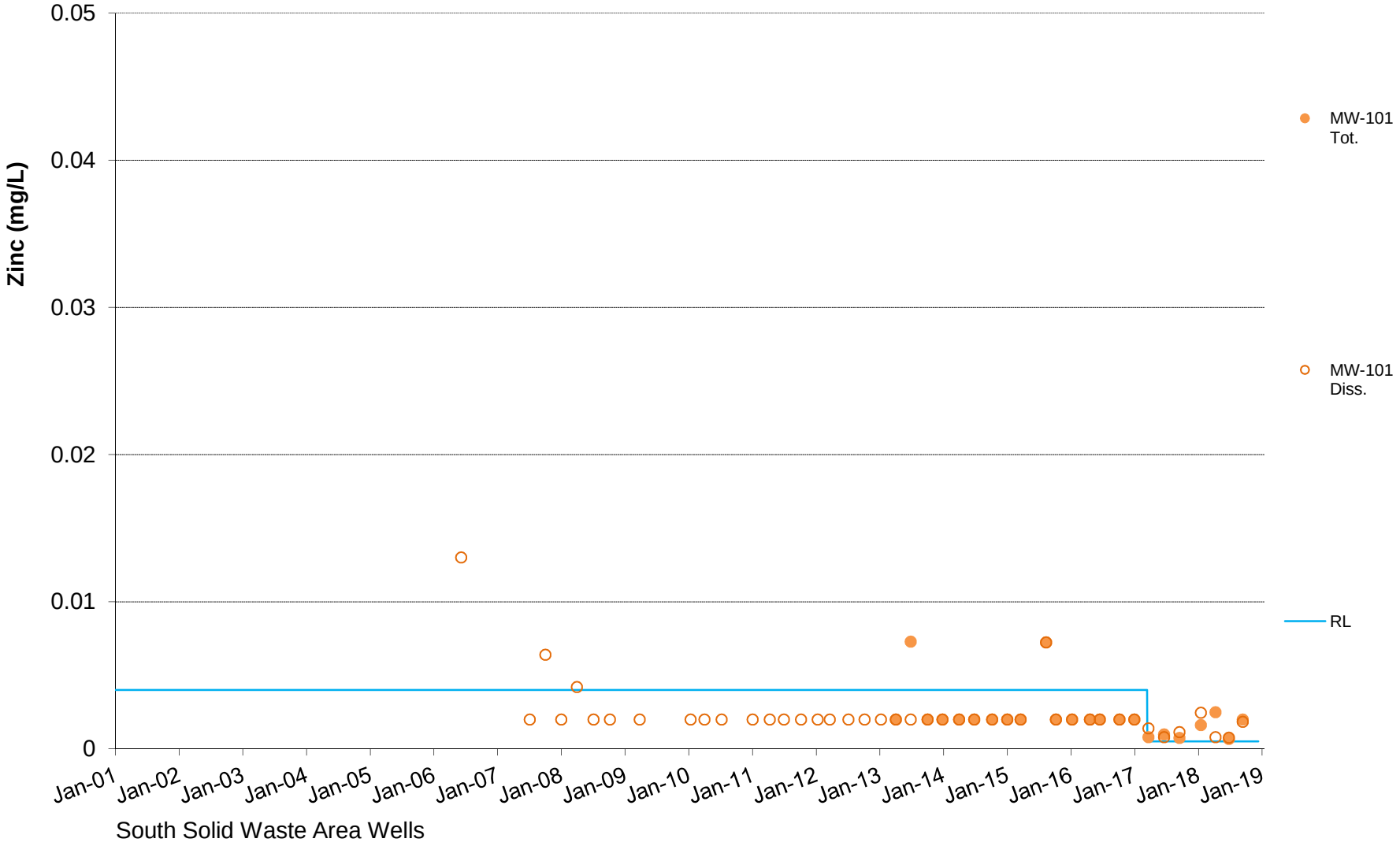

0.01
0.008
0.006
0.004
0.002
0
Lead (mg/L)
Jan-01
Jan-02
Jan-03
Jan-04
Jan-05
Jan-06
Jan-07
Jan-08
Jan-09
Jan-10
Jan-11
Jan-12
Jan-13
Jan-14
Jan-15
Jan-16
Jan-17
Jan-18
Jan-19
East Perched Zone Wells
MW-30A Diss.
MW-47 Diss.
MW-62 Diss.
RL
MW-30A Tot.
MW-47 Tot.
MW-62 Tot.

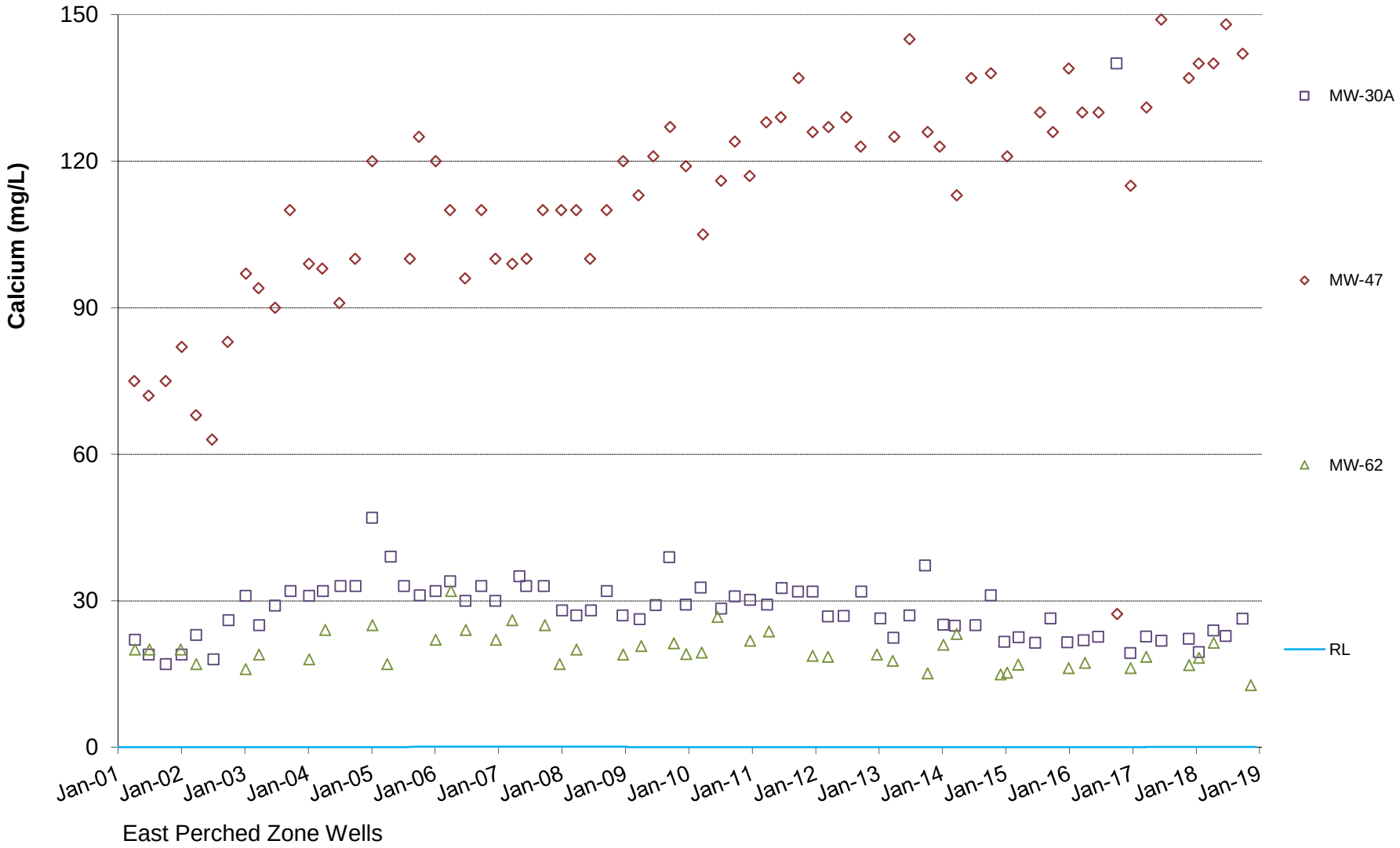

0.01
0.008
0.006
0.004
0.002
0
Lead (mg/L)
Jan-01
Jan-02
Jan-03
Jan-04
Jan-05
Jan-06
Jan-07
Jan-08
Jan-09
Jan-10
Jan-11
Jan-12
Jan-13
Jan-14
Jan-15
Jan-16
Jan-17
Jan-18
Jan-19
South Solid Waste Area Wells
MW-101 Tot.
MW-101 Diss.
RL

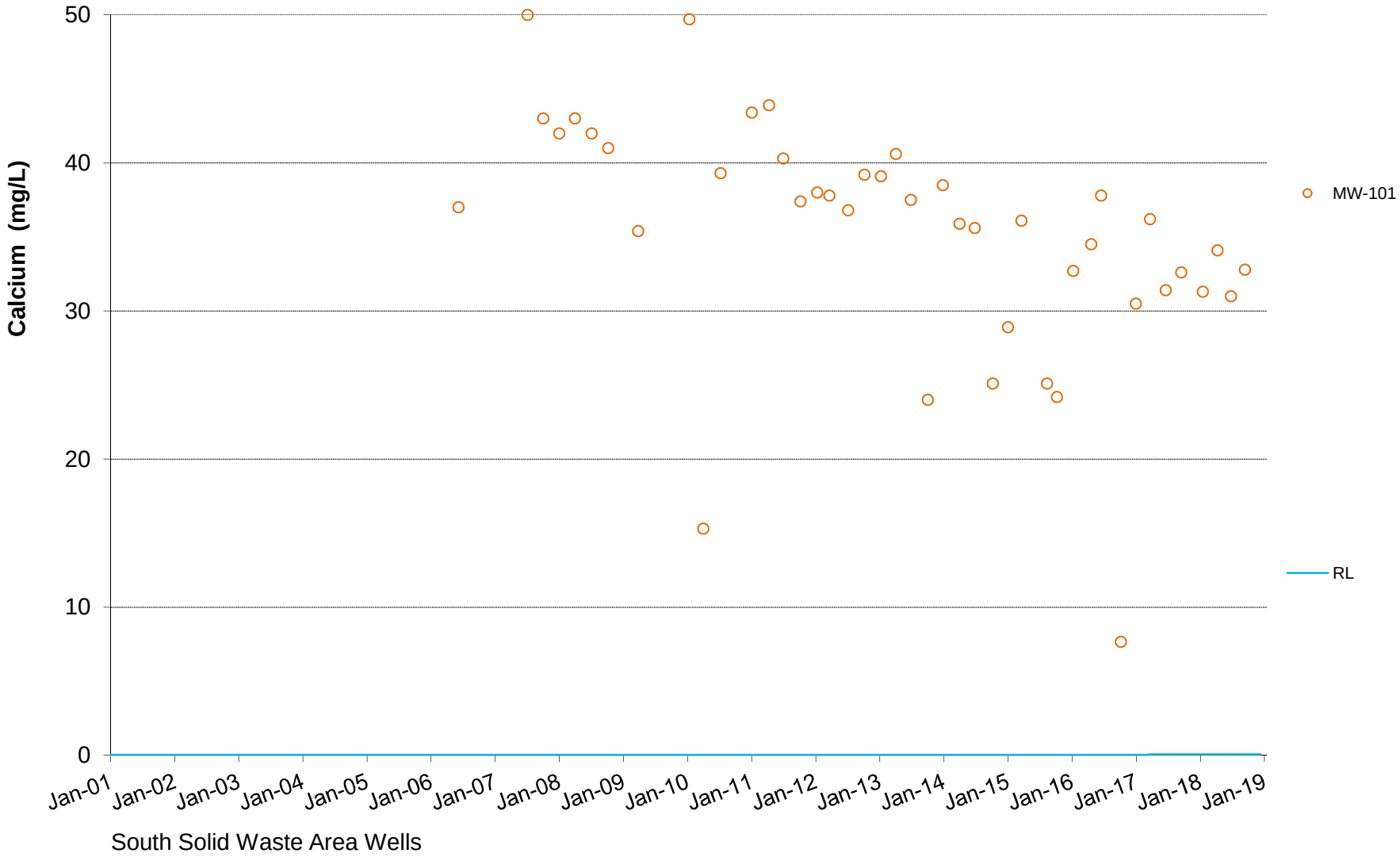

0.02
0.016
0.012
0.008
0.004
0
Vanadium (mg/L)
Jan-01
Jan-02
Jan-03
Jan-04
Jan-05
Jan-06
Jan-07
Jan-08
Jan-09
Jan-10
Jan-11
Jan-12
Jan-13
Jan-14
Jan-15
Jan-16
Jan-17
Jan-18
Jan-19
East Perched Zone Wells
MW-30A Diss.
MW-47 Diss.
MW-62 Diss.
RL
MW-30A Tot.
MW-47 Tot.
MW-62 Tot.

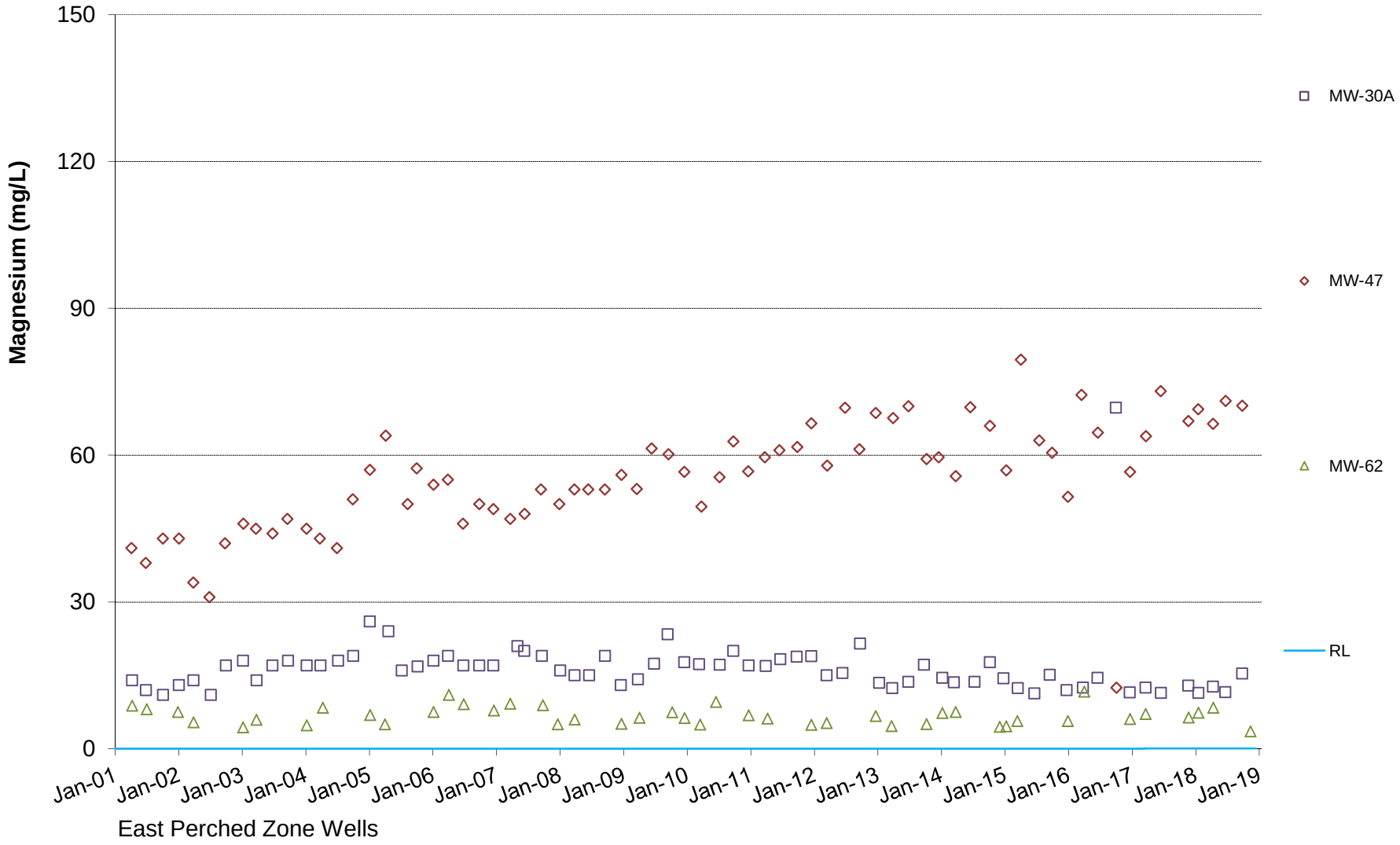

0.02
0.016
0.012
0.008
0.004
0
Vanadium (mg/L)
Jan-01
Jan-02
Jan-03
Jan-04
Jan-05
Jan-06
Jan-07
Jan-08
Jan-09
Jan-10
Jan-11
Jan-12
Jan-13
Jan-14
Jan-15
Jan-16
Jan-17
Jan-18
Jan-19
South Solid Waste Area Wells
MW-101 Tot.
MW-101 Diss.
RL

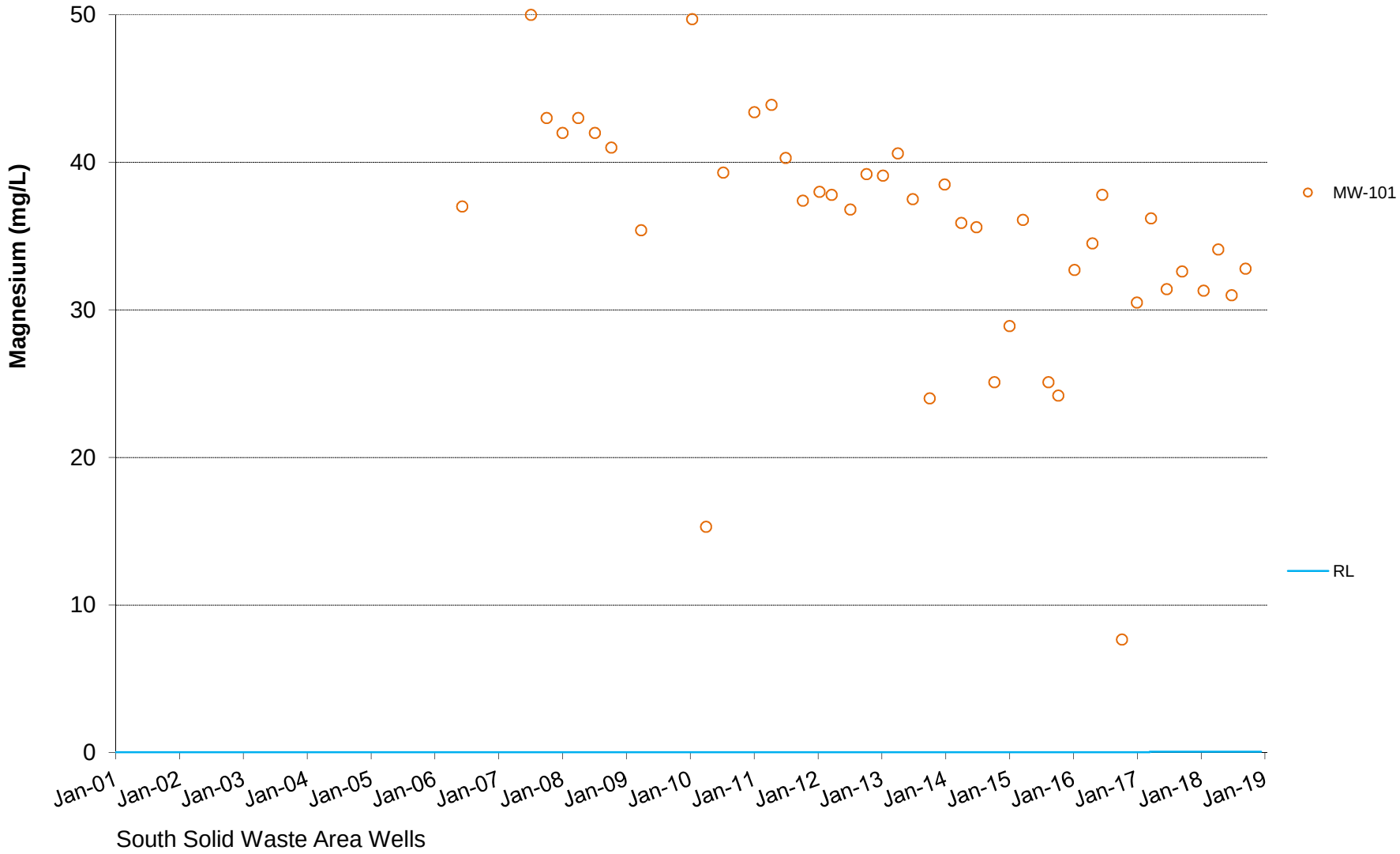

0.05
0.04
0.03
0.02
0.01
0
Zinc (mg/L)
Jan-01
Jan-02
Jan-03
Jan-04
Jan-05
Jan-06
Jan-07
Jan-08
Jan-09
Jan-10
Jan-11
Jan-12
Jan-13
Jan-14
Jan-15
Jan-16
Jan-17
Jan-18
Jan-19
East Perched Zone Wells
MW-30A Diss.
MW-47 Diss.
MW-62 Diss.
RL
MW-30A Tot.
MW-47 Tot.
MW-62 Tot.

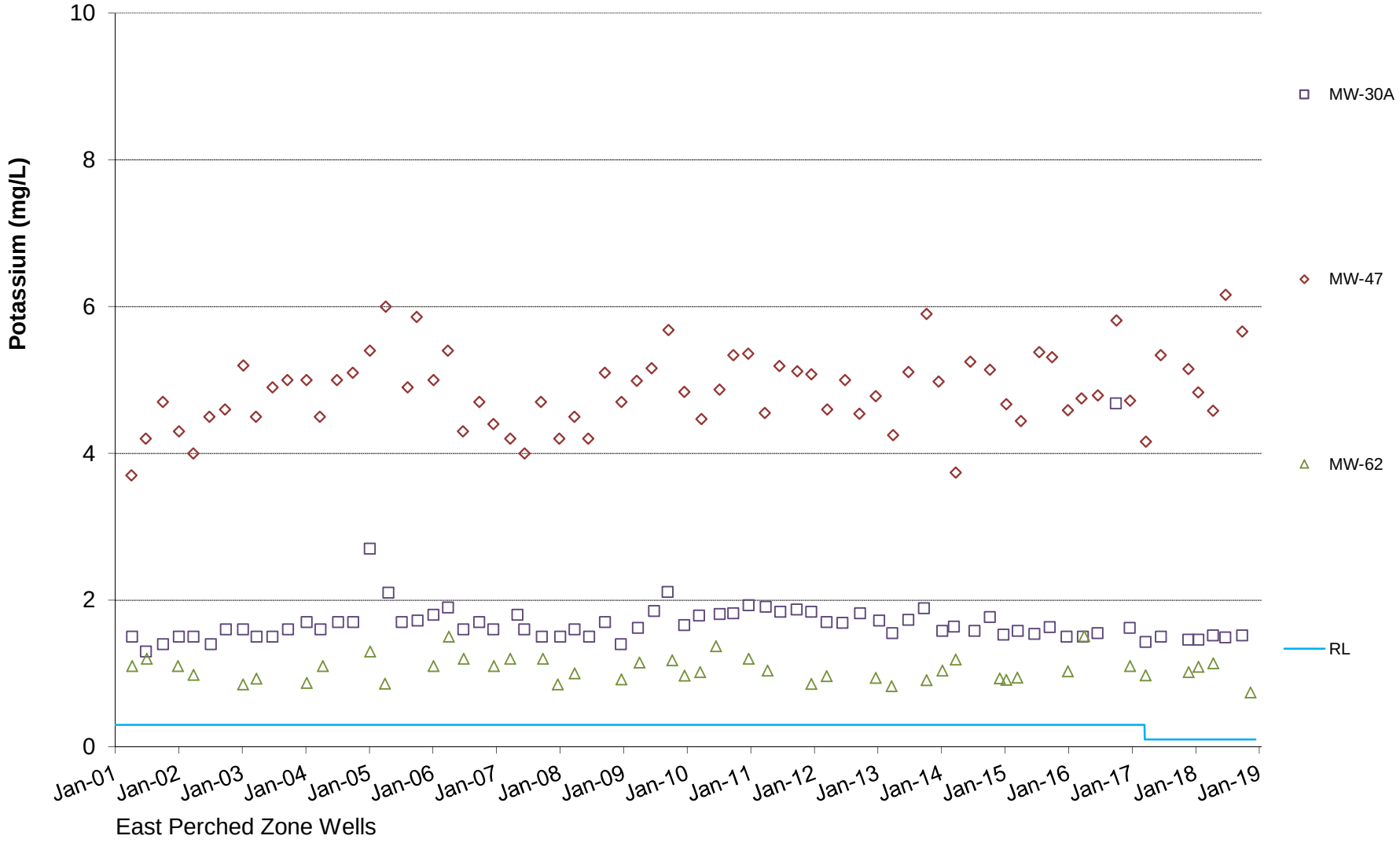

0.05
0.04
0.03
0.02
0.01
0
Zinc (mg/L)
Jan-01
Jan-02
Jan-03
Jan-04
Jan-05
Jan-06
Jan-07
Jan-08
Jan-09
Jan-10
Jan-11
Jan-12
Jan-13
Jan-14
Jan-15
Jan-16
Jan-17
Jan-18
Jan-19
South Solid Waste Area Wells
MW-101 Tot.
MW-101 Diss.
RL

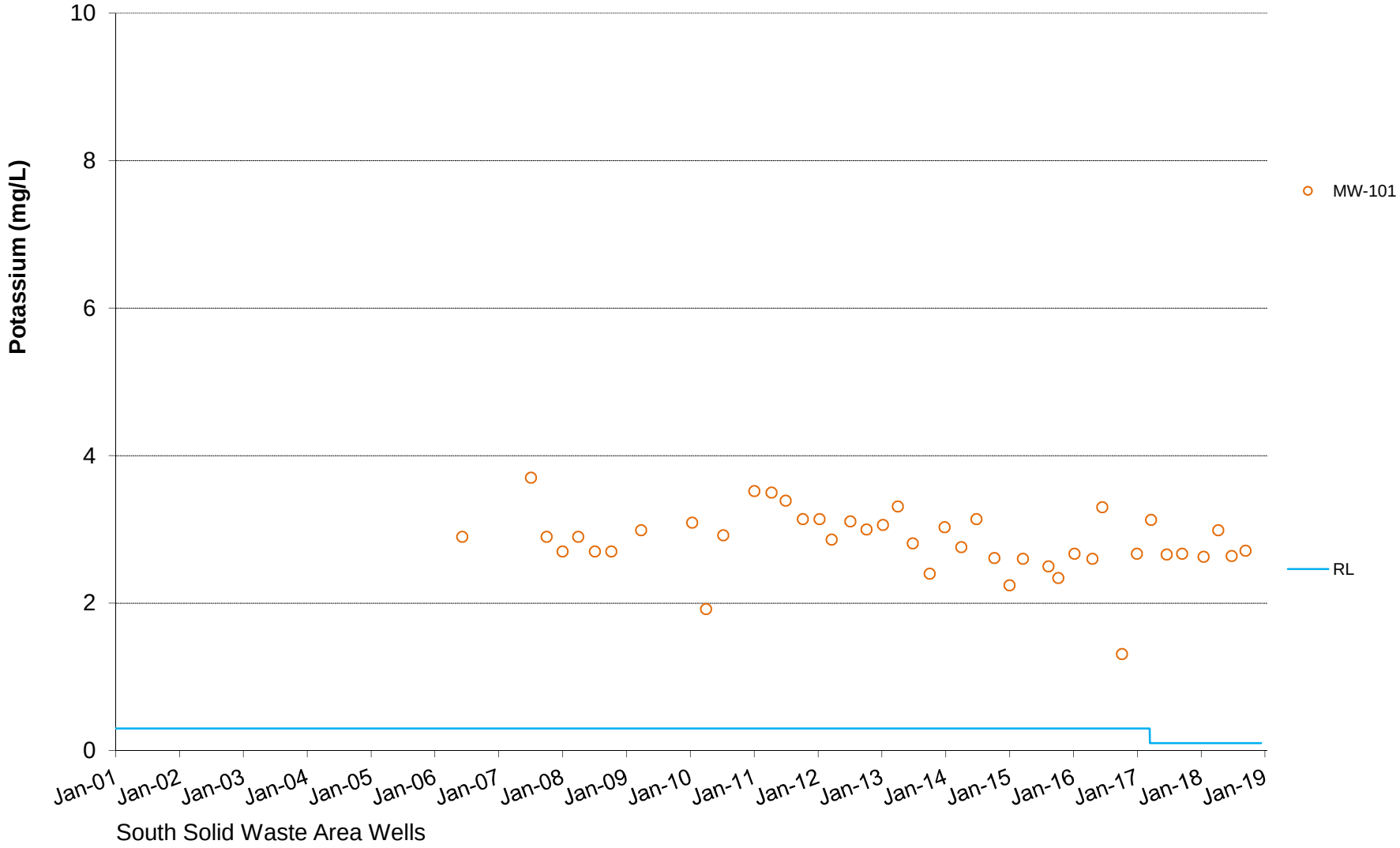

Calcium (mg/L)
150
120
90
60
30
0
Jan-01
Jan-02
Jan-03
Jan-04
Jan-05
Jan-06
Jan-07
Jan-08
Jan-09
Jan-10
Jan-11
Jan-12
Jan-13
Jan-14
Jan-15
Jan-16
Jan-17
Jan-18
Jan-19
East Perched Zone Wells
MW-30A
MW-47
MW-62
RL

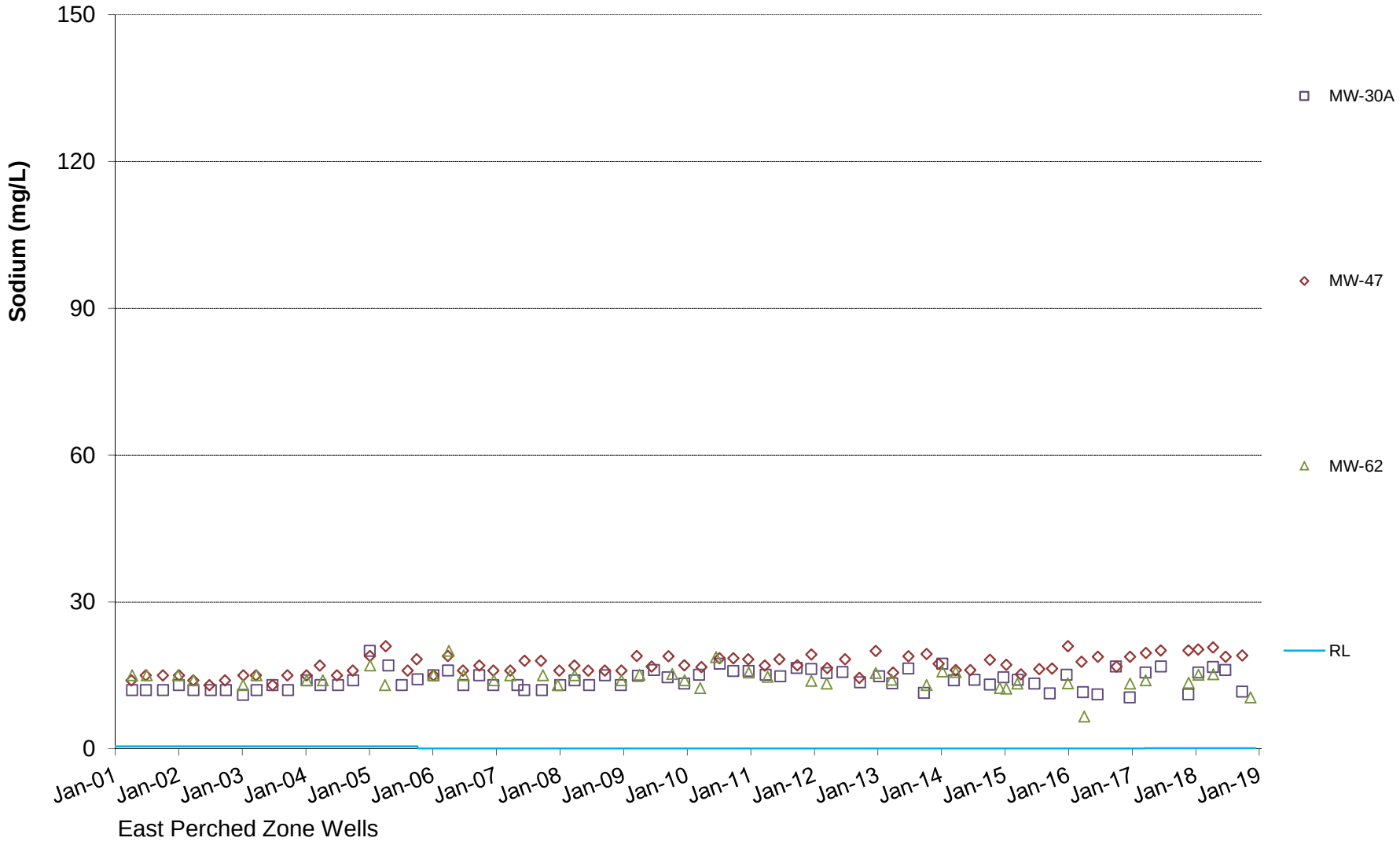

Calcium (mg/L)
50
40
30
20
10
0
Jan-01
Jan-02
Jan-03
Jan-04
Jan-05
Jan-06
Jan-07
Jan-08
Jan-09
Jan-10
Jan-11
Jan-12
Jan-13
Jan-14
Jan-15
Jan-16
Jan-17
Jan-18
Jan-19
South Solid Waste Area Wells
MW-101
RL

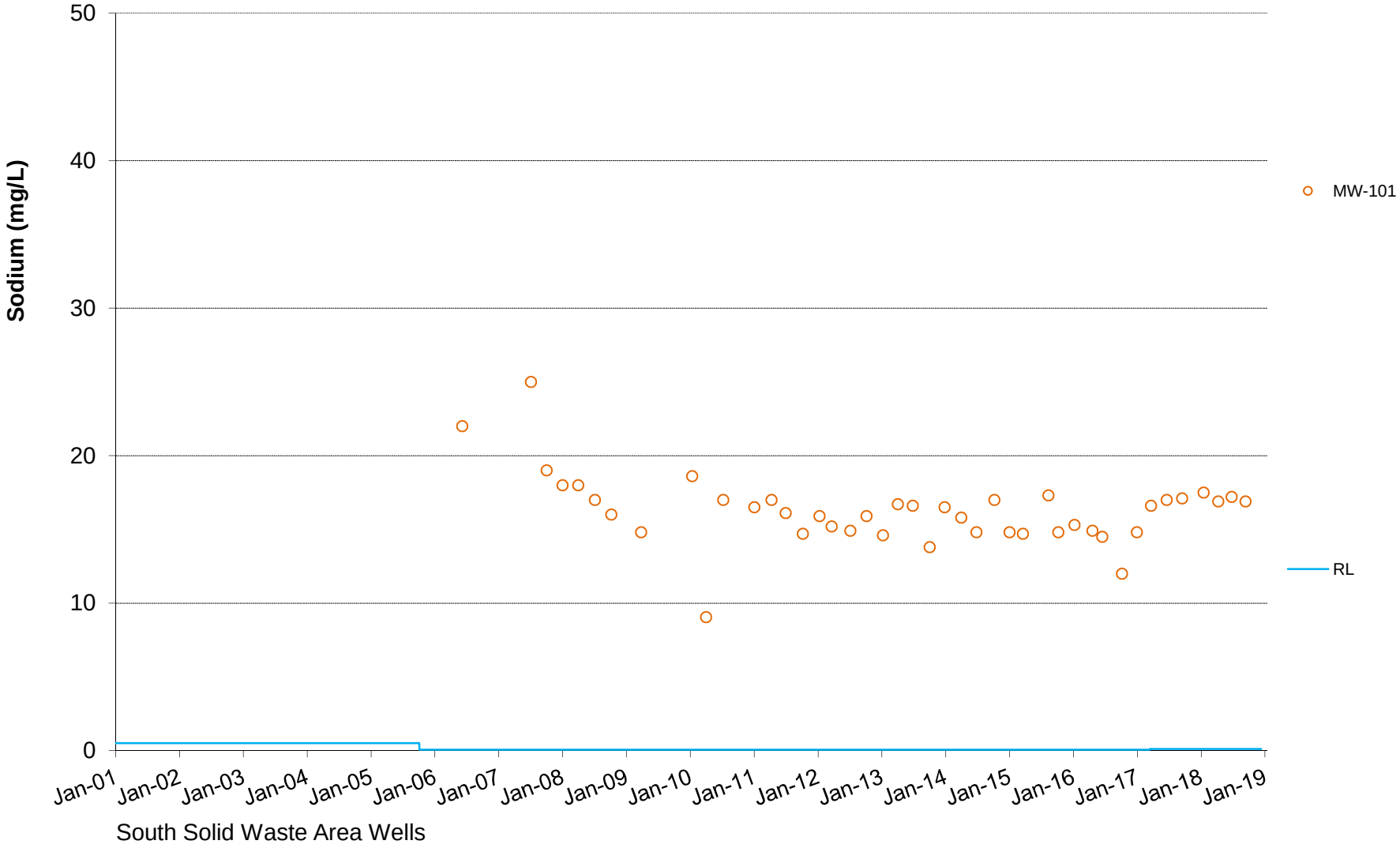

Magnesium (mg/L)
150
120
90
60
30
0
Jan-01
Jan-02
Jan-03
Jan-04
Jan-05
Jan-06
Jan-07
Jan-08
Jan-09
Jan-10
Jan-11
Jan-12
Jan-13
Jan-14
Jan-15
Jan-16
Jan-17
Jan-18
Jan-19
East Perched Zone Wells
MW-30A
MW-47
MW-62
RL

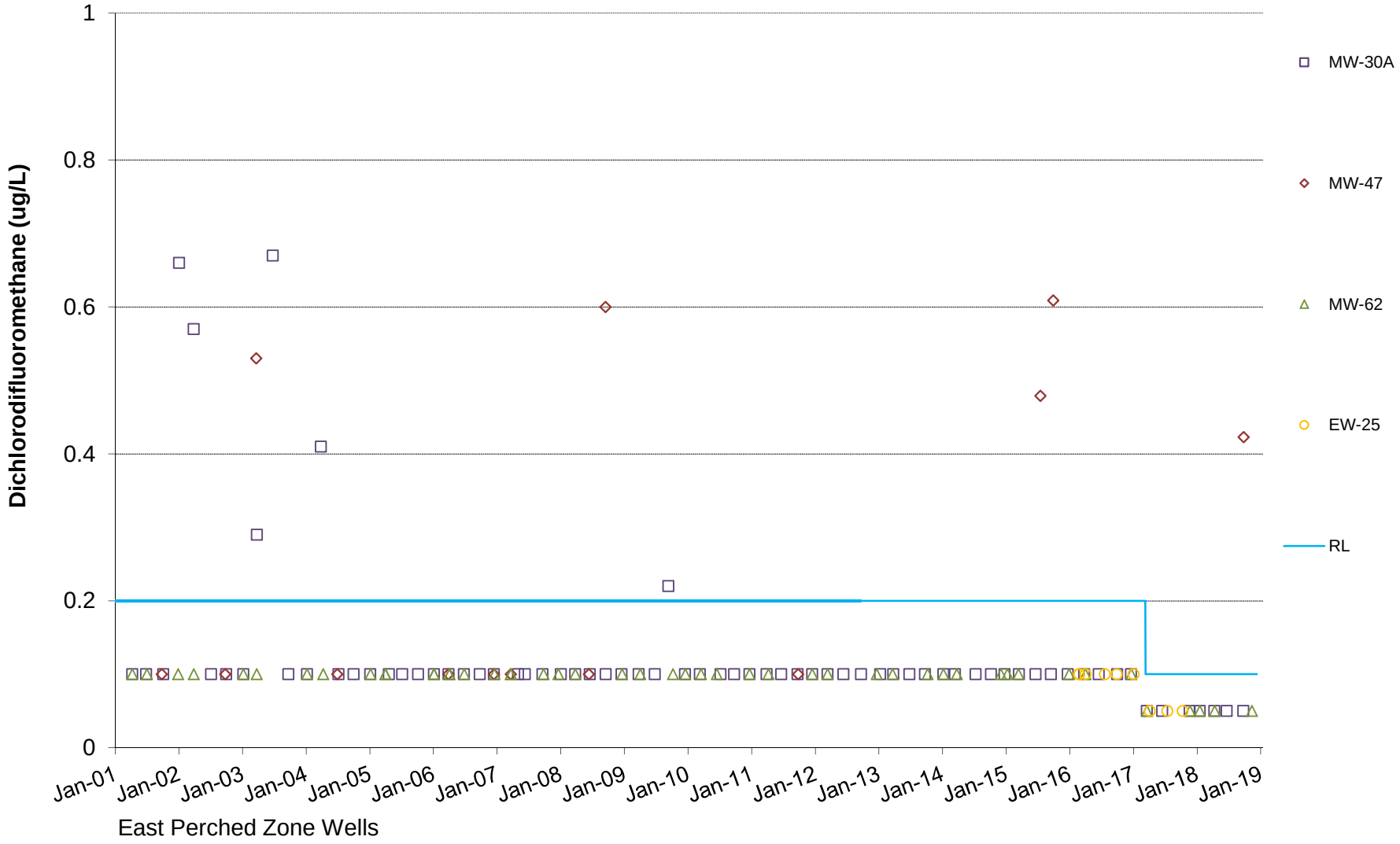

Magnesium (mg/L)
50
40
30
20
10
0
Jan-01
Jan-02
Jan-03
Jan-04
Jan-05
Jan-06
Jan-07
Jan-08
Jan-09
Jan-10
Jan-11
Jan-12
Jan-13
Jan-14
Jan-15
Jan-16
Jan-17
Jan-18
Jan-19
South Solid Waste Area Wells
MW-101
RL

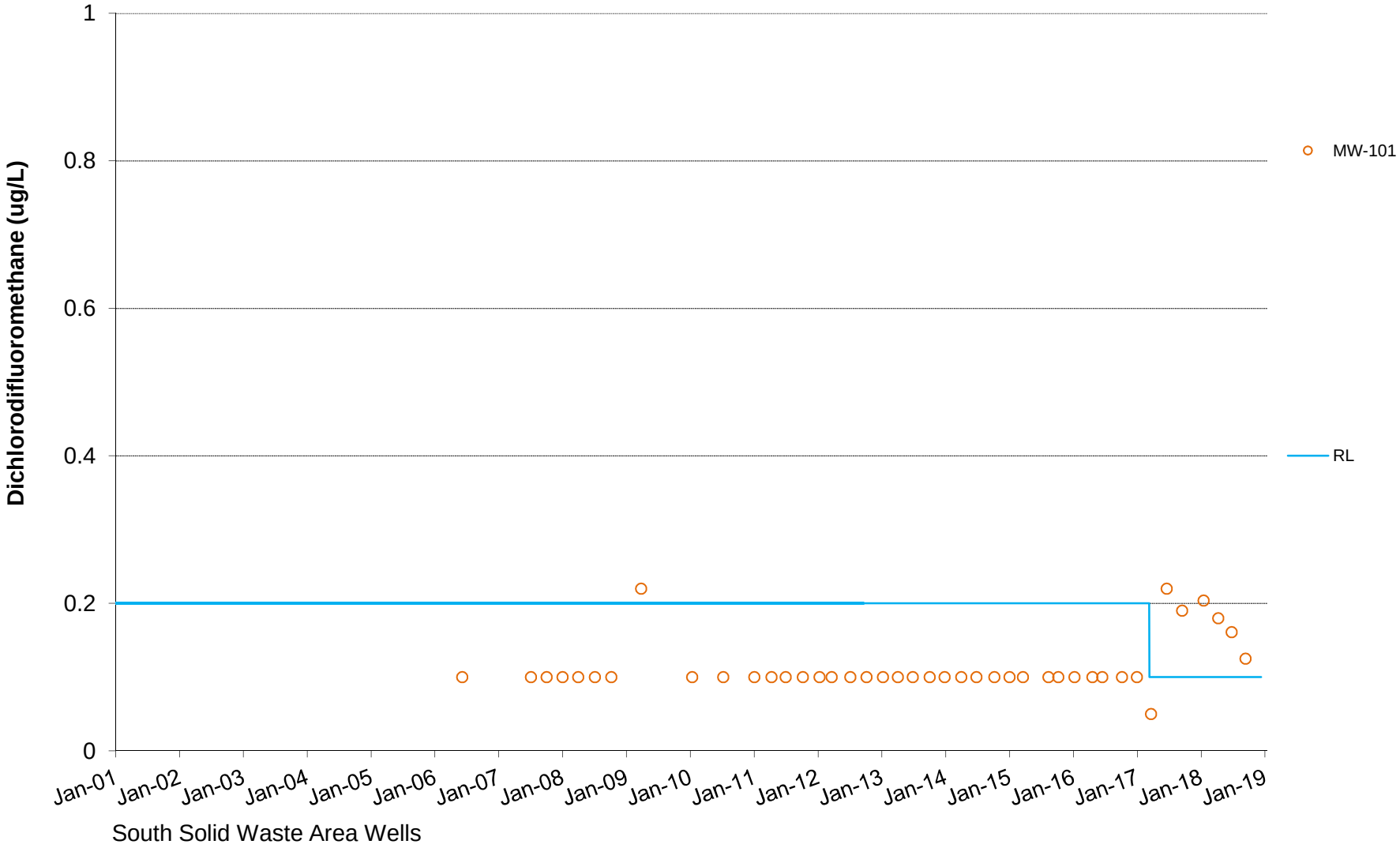

Potassium (mg/L)
10
8
6
4
2
0
Jan-01
Jan-02
Jan-03
Jan-04
Jan-05
Jan-06
Jan-07
Jan-08
Jan-09
Jan-10
Jan-11
Jan-12
Jan-13
Jan-14
Jan-15
Jan-16
Jan-17
Jan-18
Jan-19
East Perched Zone Wells
MW-30A
MW-47
MW-62
RL

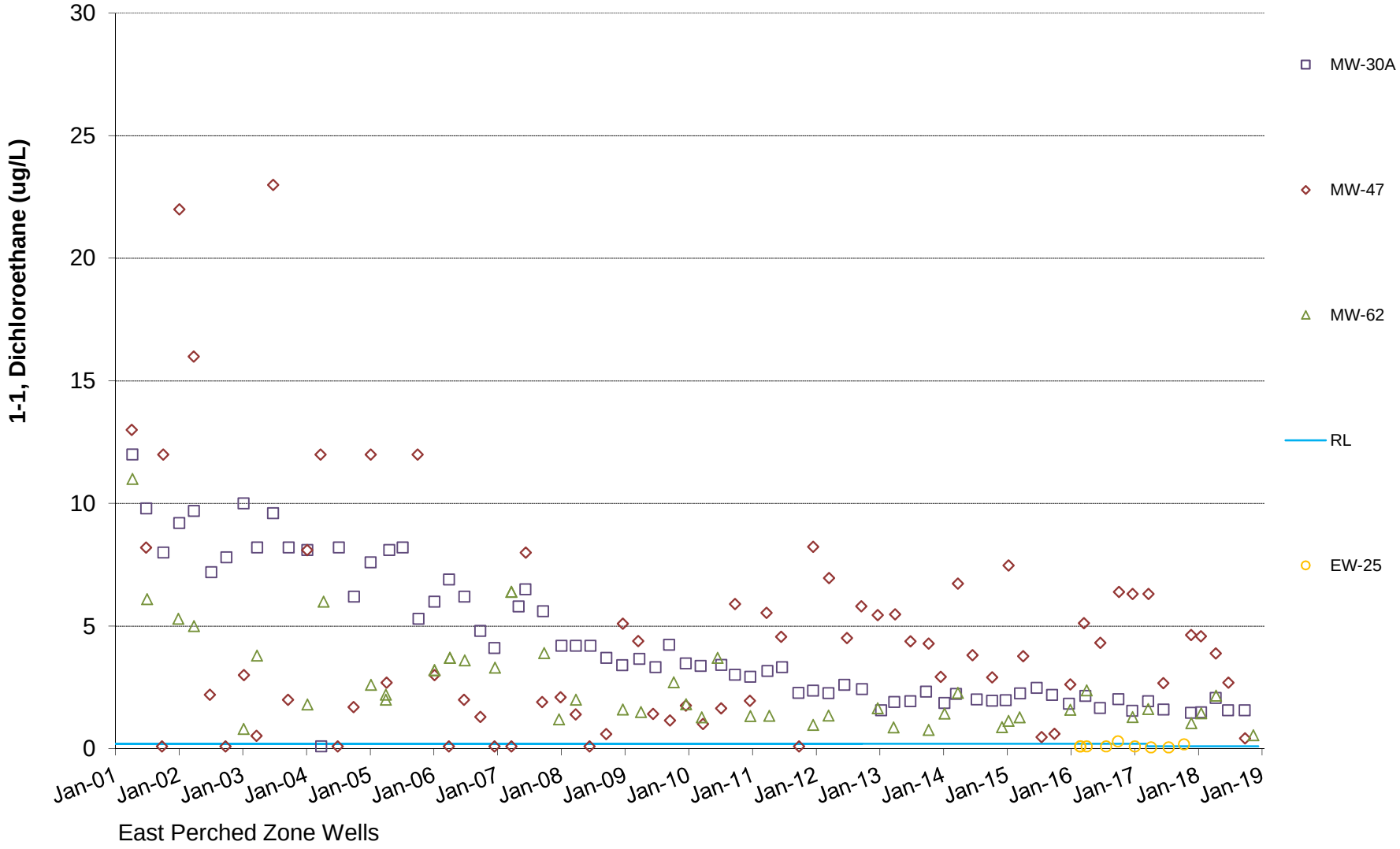

Potassium (mg/L)
10
8
6
4
2
0
Jan-01
Jan-02
Jan-03
Jan-04
Jan-05
Jan-06
Jan-07
Jan-08
Jan-09
Jan-10
Jan-11
Jan-12
Jan-13
Jan-14
Jan-15
Jan-16
Jan-17
Jan-18
Jan-19
South Solid Waste Area Wells
MW-101
RL

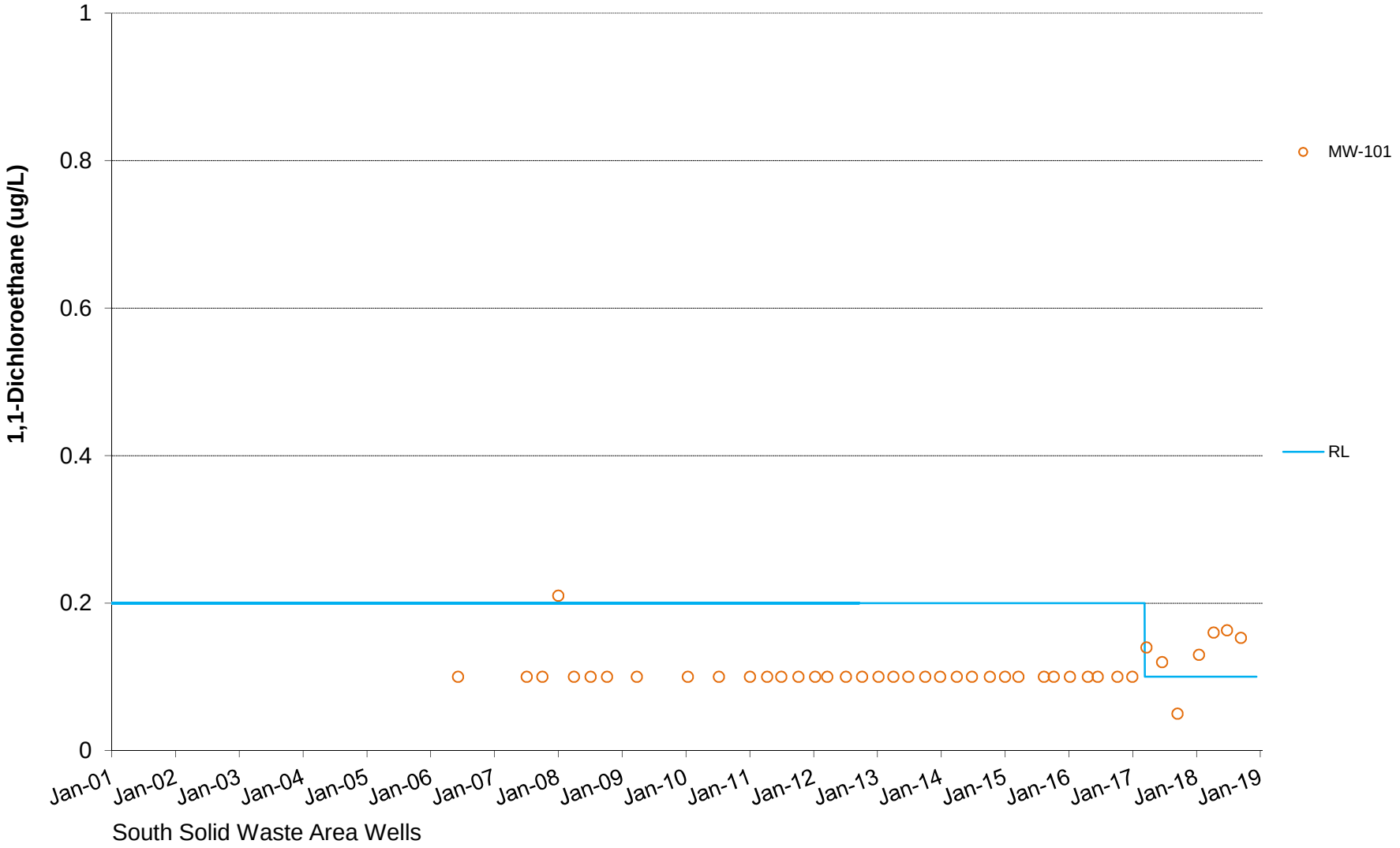

Sodium (mg/L)
150
120
90
60
30
0
Jan-01
Jan-02
Jan-03
Jan-04
Jan-05
Jan-06
Jan-07
Jan-08
Jan-09
Jan-10
Jan-11
Jan-12
Jan-13
Jan-14
Jan-15
Jan-16
Jan-17
Jan-18
Jan-19
East Perched Zone Wells
MW-30A
MW-47
MW-62
RL

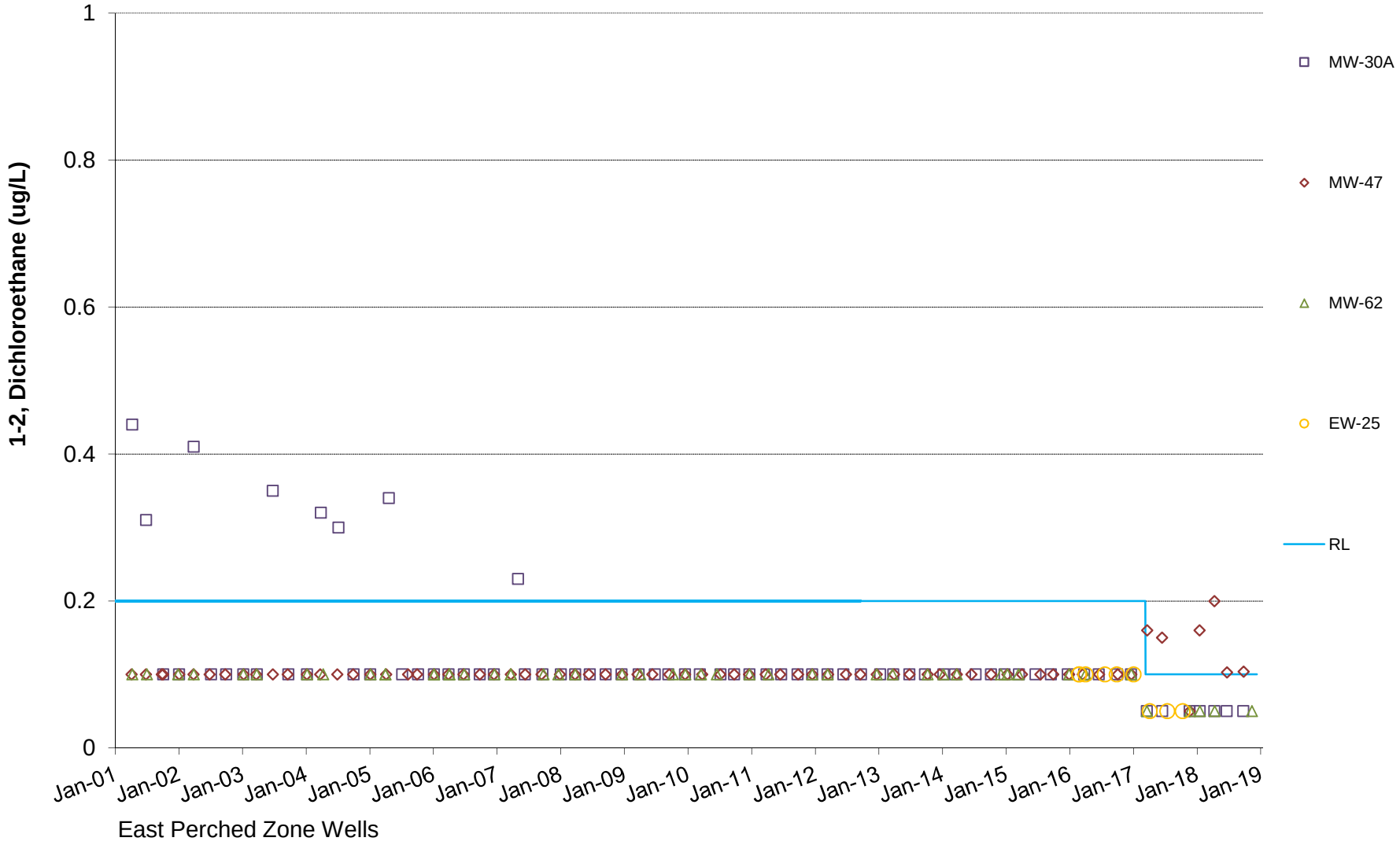

Sodium (mg/L)
50
40
30
20
10
0
Jan-01
Jan-02
Jan-03
Jan-04
Jan-05
Jan-06
Jan-07
Jan-08
Jan-09
Jan-10
Jan-11
Jan-12
Jan-13
Jan-14
Jan-15
Jan-16
Jan-17
Jan-18
Jan-19
South Solid Waste Area Wells
MW-101
RL

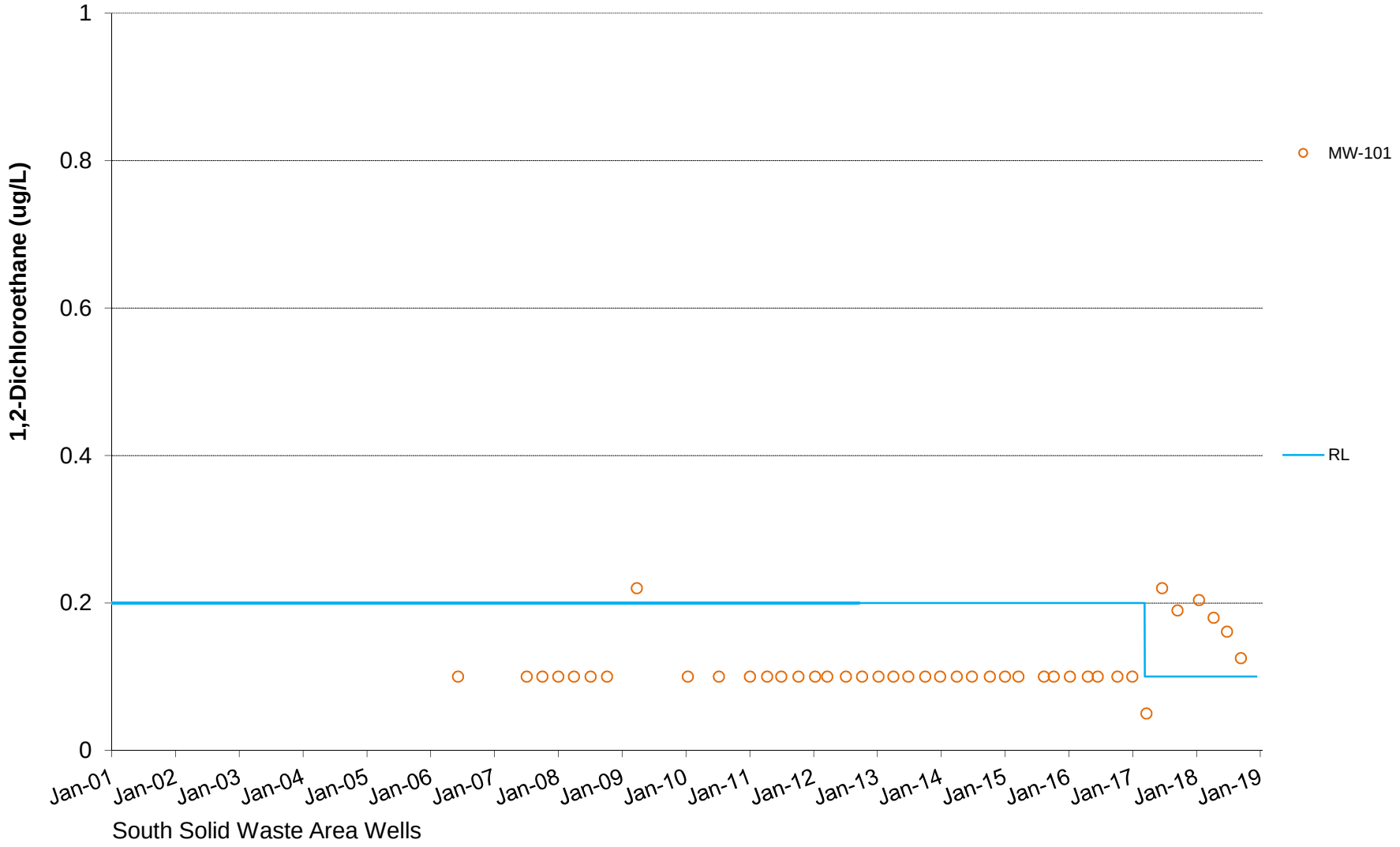

Dichlorodifluoromethane (ug/L)
1
0.8
0.6
0.4
0.2
0
Jan-01
Jan-02
Jan-03
Jan-04
Jan-05
Jan-06
Jan-07
Jan-08
Jan-09
Jan-10
Jan-11
Jan-12
Jan-13
Jan-14
Jan-15
Jan-16
Jan-17
Jan-18
Jan-19
East Perched Zone Wells
MW-30A
MW-47
MW-62
EW-25
RL

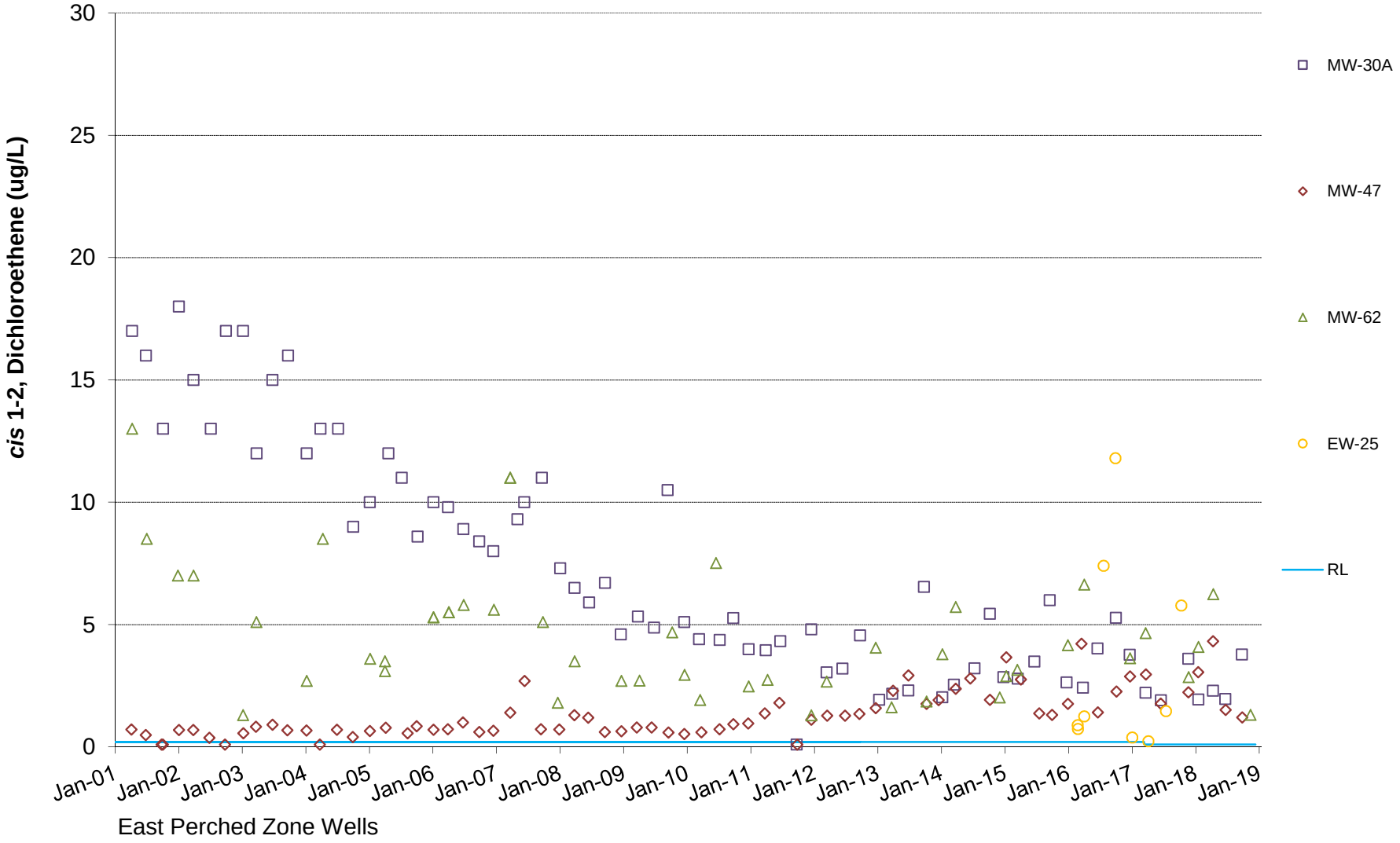

Dichlorodifluoromethane (ug/L)
1
0.8
0.6
0.4
0.2
0
Jan-01
Jan-02
Jan-03
Jan-04
Jan-05
Jan-06
Jan-07
Jan-08
Jan-09
Jan-10
Jan-11
Jan-12
Jan-13
Jan-14
Jan-15
Jan-16
Jan-17
Jan-18
Jan-19
South Solid Waste Area Wells
MW-101
RL

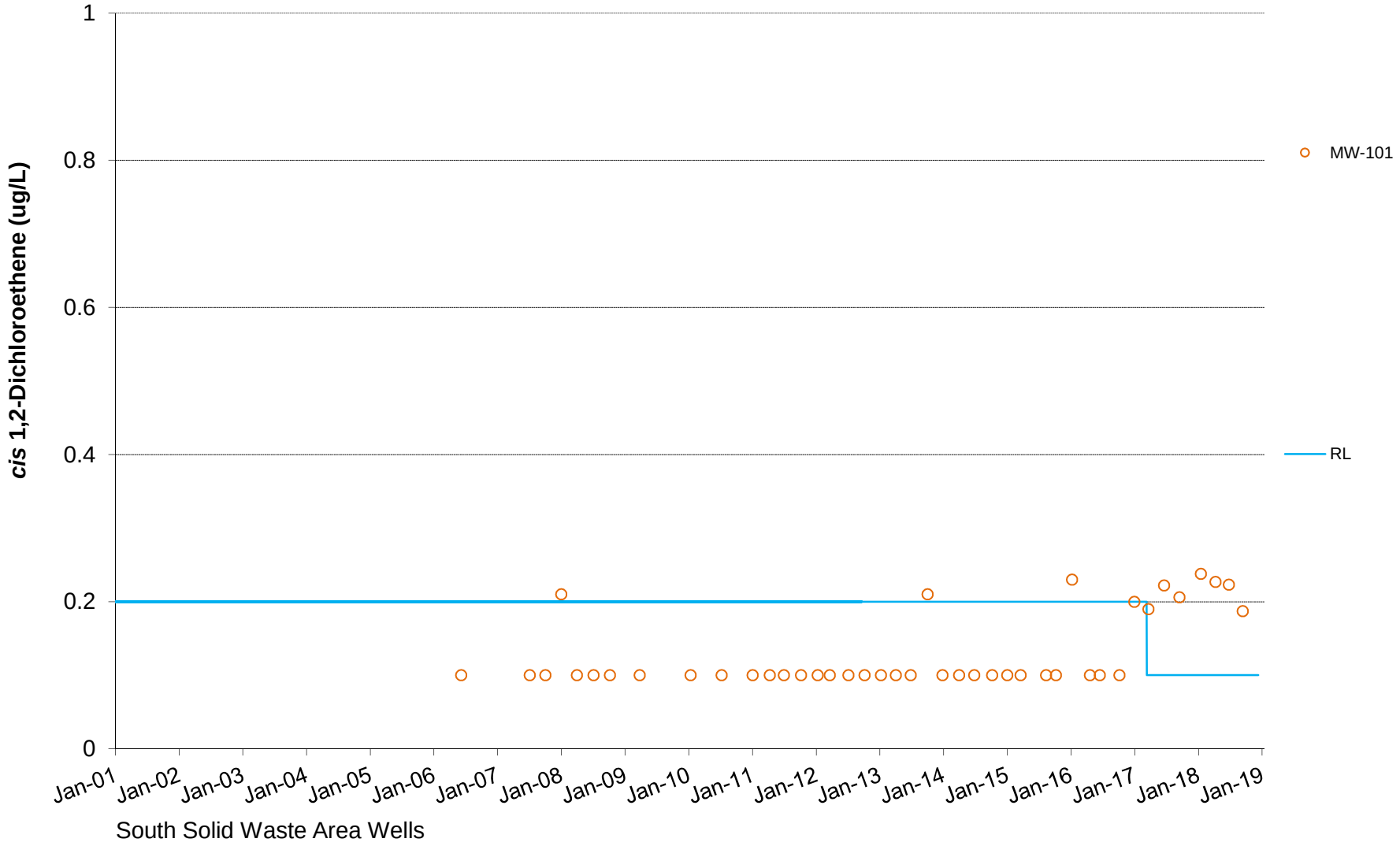

1-1, Dichloroethane (ug/L)
30
25
20
15
10
5
0
Jan-01
Jan-02
Jan-03
Jan-04
Jan-05
Jan-06
Jan-07
Jan-08
Jan-09
Jan-10
Jan-11
Jan-12
Jan-13
Jan-14
Jan-15
Jan-16
Jan-17
Jan-18
Jan-19
East Perched Zone Wells
MW-30A
MW-47
MW-62
RL
EW-25

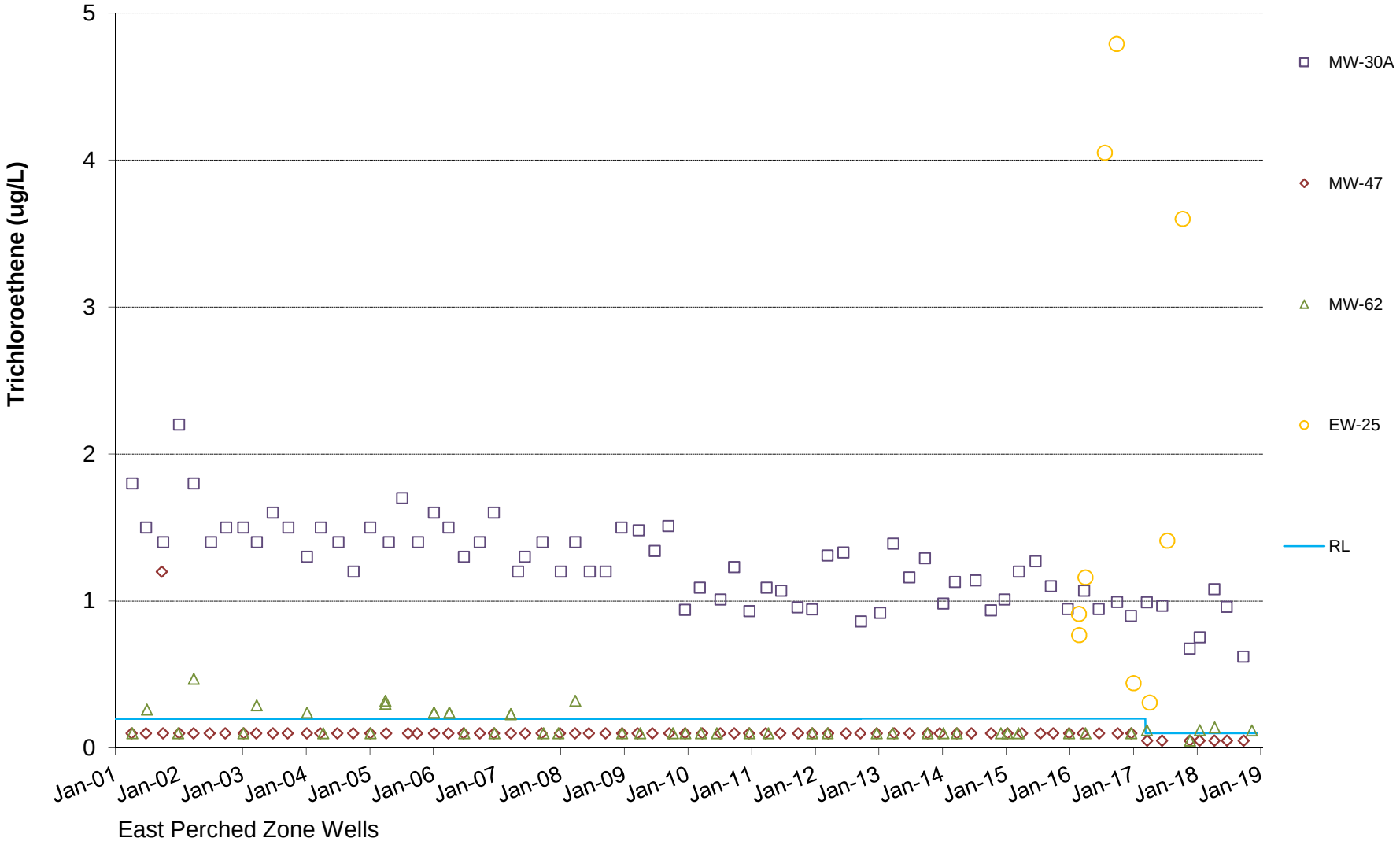

1
0.8
0.6
0.4
0.2
0
1,1-Dichloroethane (ug/L)
Jan-01
Jan-02
Jan-03
Jan-04
Jan-05
Jan-06
Jan-07
Jan-08
Jan-09
Jan-10
Jan-11
Jan-12
Jan-13
Jan-14
Jan-15
Jan-16
Jan-17
Jan-18
Jan-19
South Solid Waste Area Wells
MW-101
RL

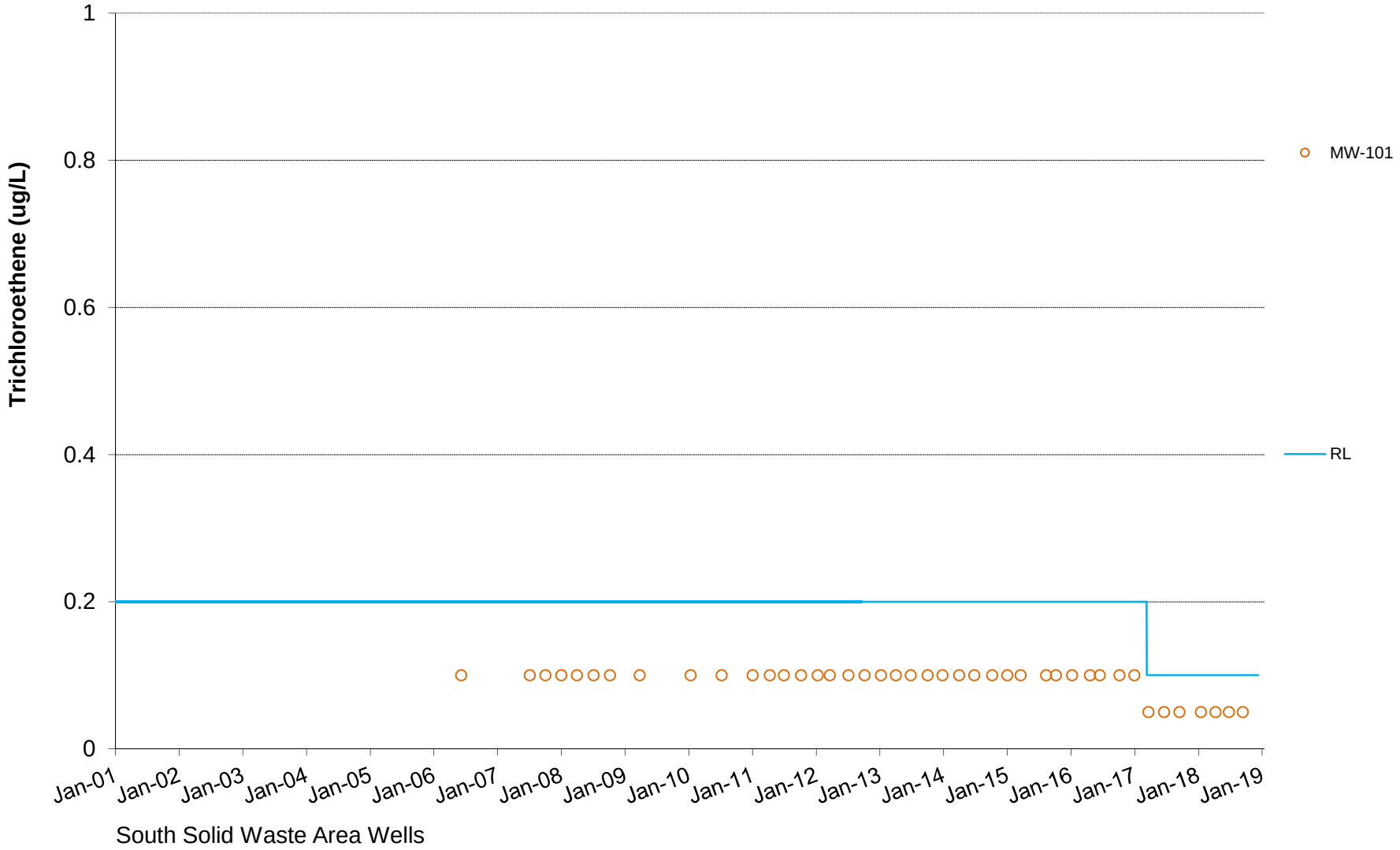

1
0.8
0.6
0.4
0.2
0
1-2, Dichloroethane (ug/L)
Jan-01
Jan-02
Jan-03
Jan-04
Jan-05
Jan-06
Jan-07
Jan-08
Jan-09
Jan-10
Jan-11
Jan-12
Jan-13
Jan-14
Jan-15
Jan-16
Jan-17
Jan-18
Jan-19
East Perched Zone Wells
MW-30A
MW-47
MW-62
EW-25
RL

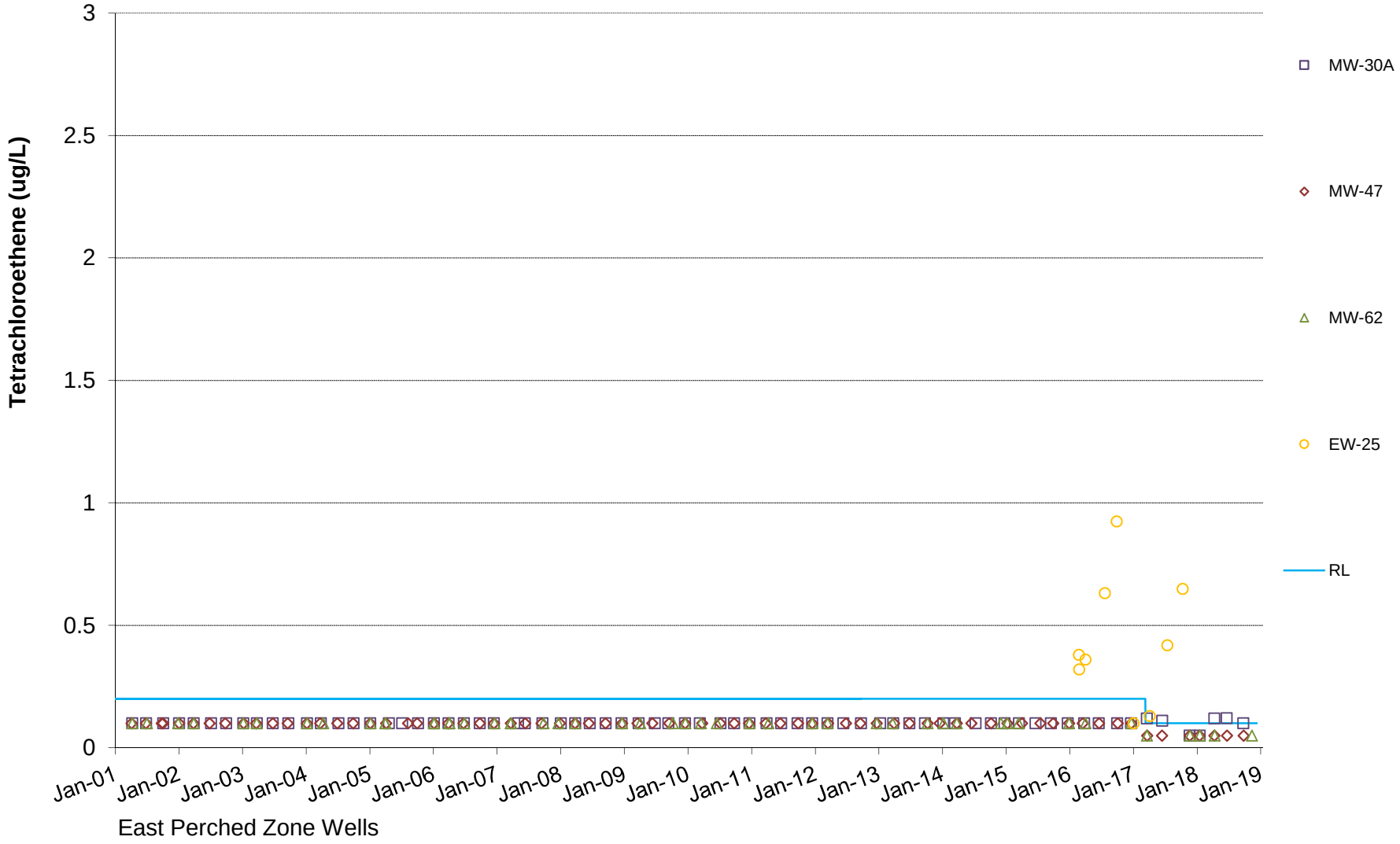

1,2-Dichloroethane (ug/L)
1
0.8
0.6
0.4
0.2
0
Jan-01
Jan-02
Jan-03
Jan-04
Jan-05
Jan-06
Jan-07
Jan-08
Jan-09
Jan-10
Jan-11
Jan-12
Jan-13
Jan-14
Jan-15
Jan-16
Jan-17
Jan-18
Jan-19
South Solid Waste Area Wells
MW-101
RL

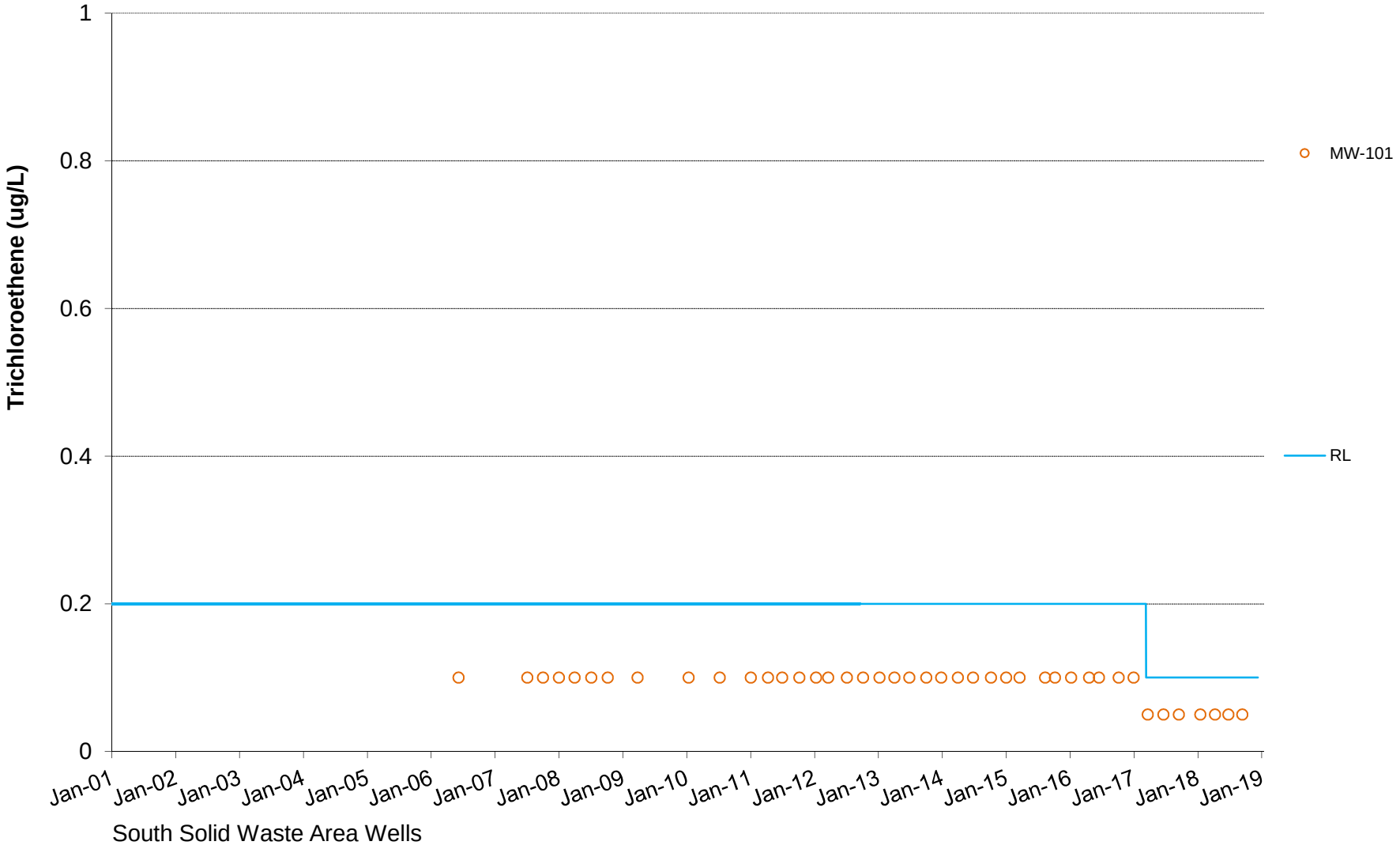

30
25
20
15
10
5
0
cis 1-2, Dichloroethene (ug/L)
Jan-01
Jan-02
Jan-03
Jan-04
Jan-05
Jan-06
Jan-07
Jan-08
Jan-09
Jan-10
Jan-11
Jan-12
Jan-13
Jan-14
Jan-15
Jan-16
Jan-17
Jan-18
Jan-19
East Perched Zone Wells
MW-30A
MW-47
MW-62
EW-25
RL

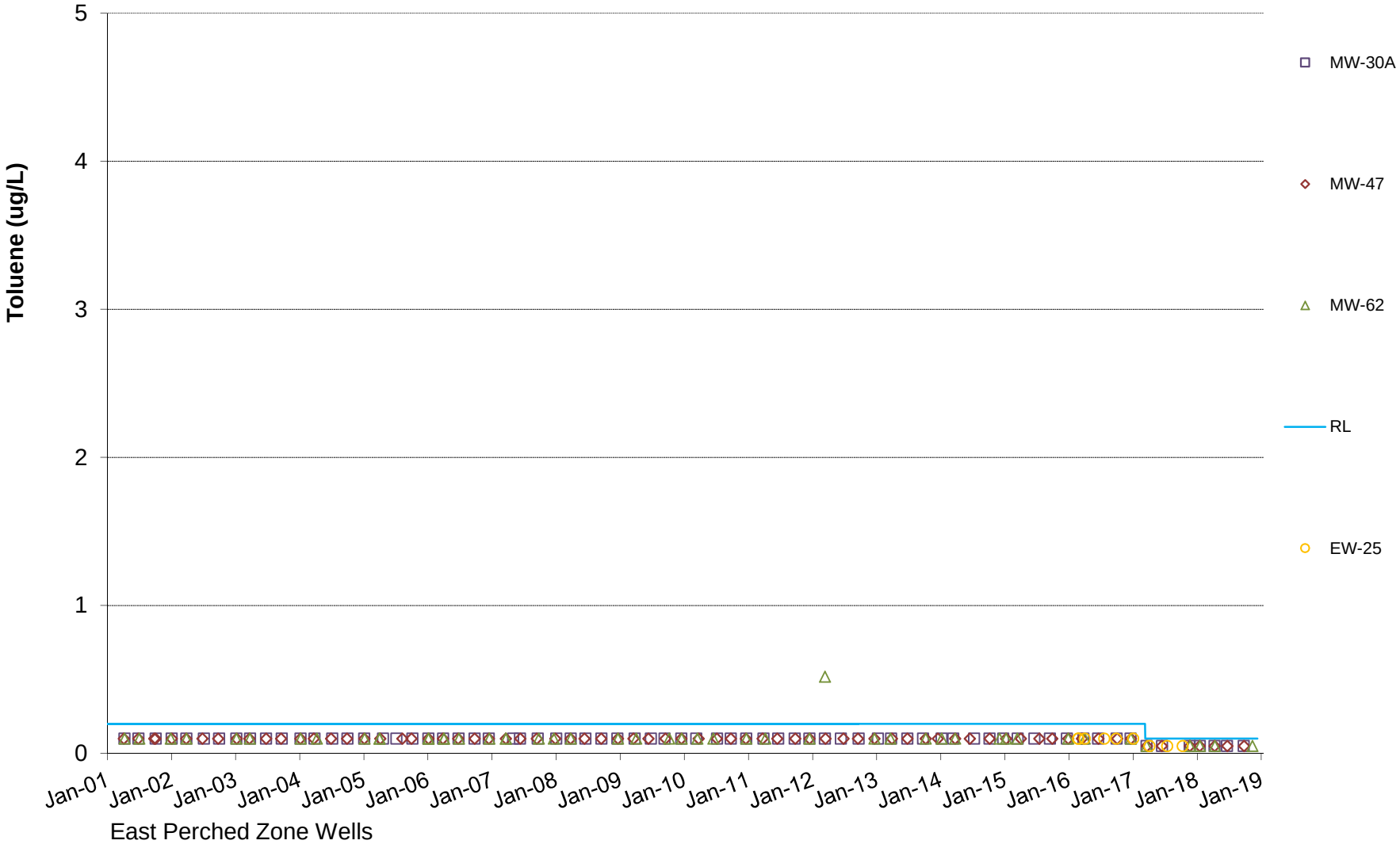

1
0.8
0.6
0.4
0.2
0
cis 1,2-Dichloroethene (ug/L)
Jan-01
Jan-02
Jan-03
Jan-04
Jan-05
Jan-06
Jan-07
Jan-08
Jan-09
Jan-10
Jan-11
Jan-12
Jan-13
Jan-14
Jan-15
Jan-16
Jan-17
Jan-18
Jan-19
South Solid Waste Area Wells
MW-101
RL

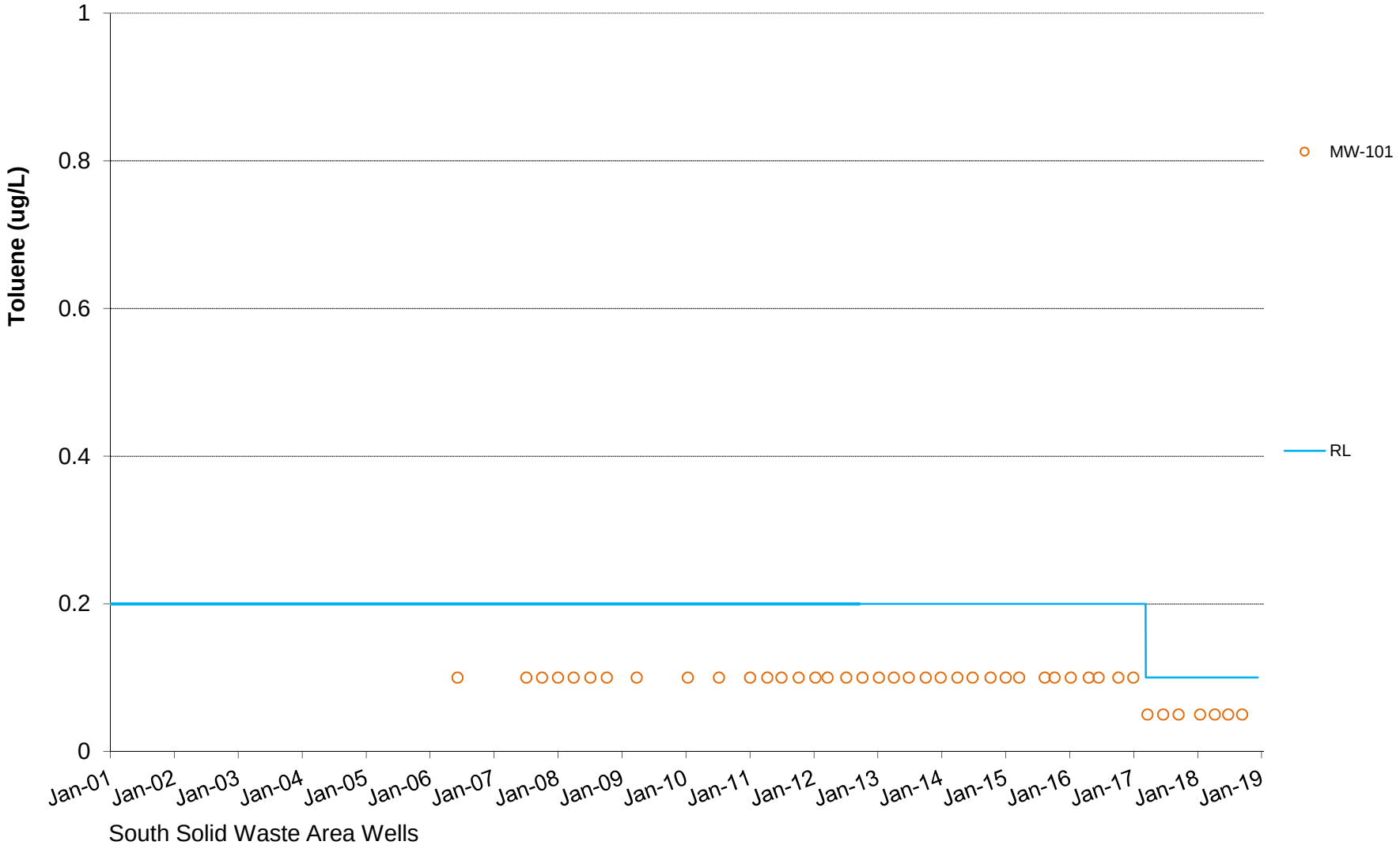

Trichloroethene (ug/L)
5
4
3
2
1
0
Jan-01
Jan-02
Jan-03
Jan-04
Jan-05
Jan-06
Jan-07
Jan-08
Jan-09
Jan-10
Jan-11
Jan-12
Jan-13
Jan-14
Jan-15
Jan-16
Jan-17
Jan-18
Jan-19
East Perched Zone Wells
MW-30A
MW-47
MW-62
EW-25
RL

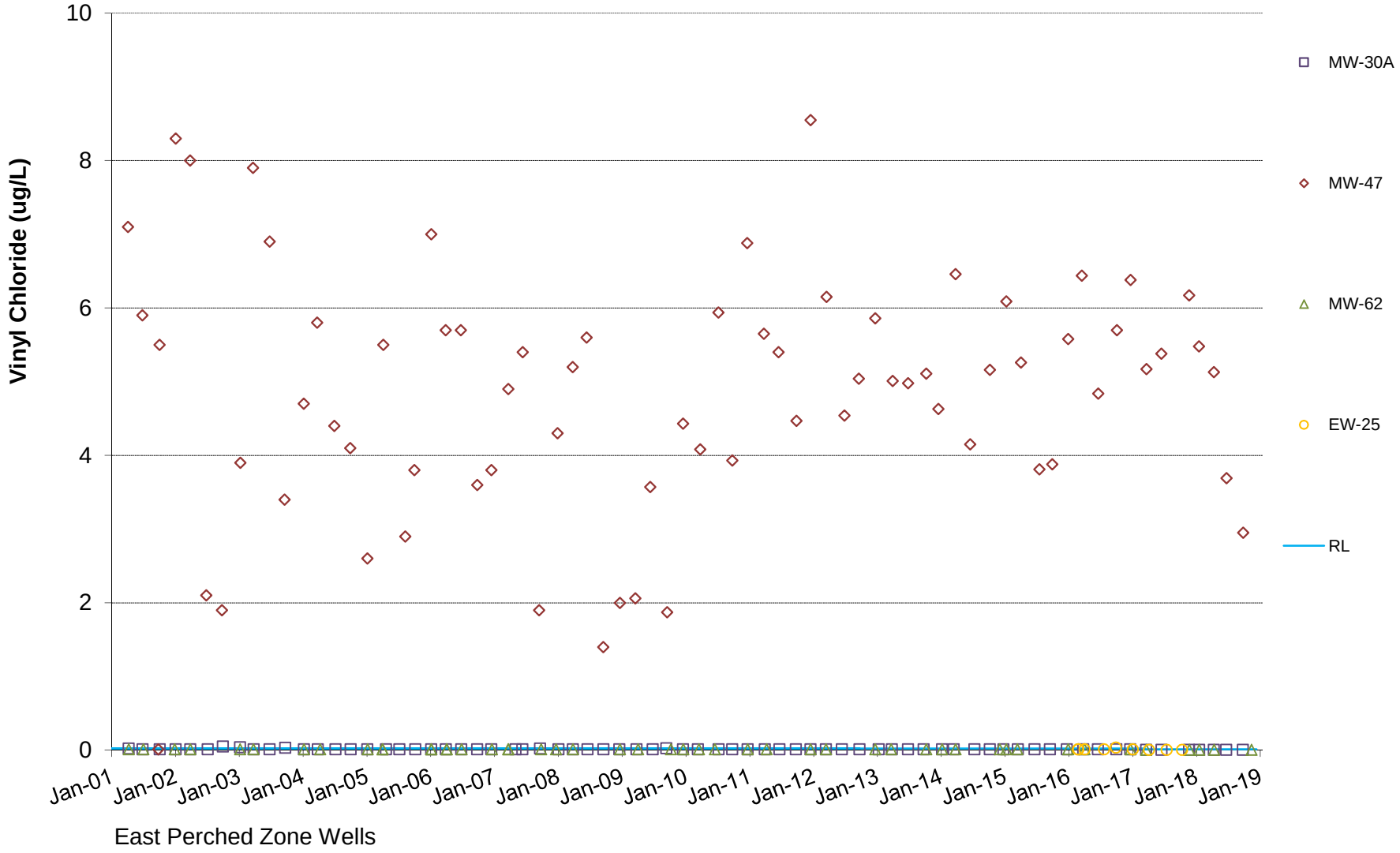

Trichloroethene (ug/L)
1
0.8
0.6
0.4
0.2
0
Jan-01
Jan-02
Jan-03
Jan-04
Jan-05
Jan-06
Jan-07
Jan-08
Jan-09
Jan-10
Jan-11
Jan-12
Jan-13
Jan-14
Jan-15
Jan-16
Jan-17
Jan-18
Jan-19
South Solid Waste Area Wells
MW-101
RL

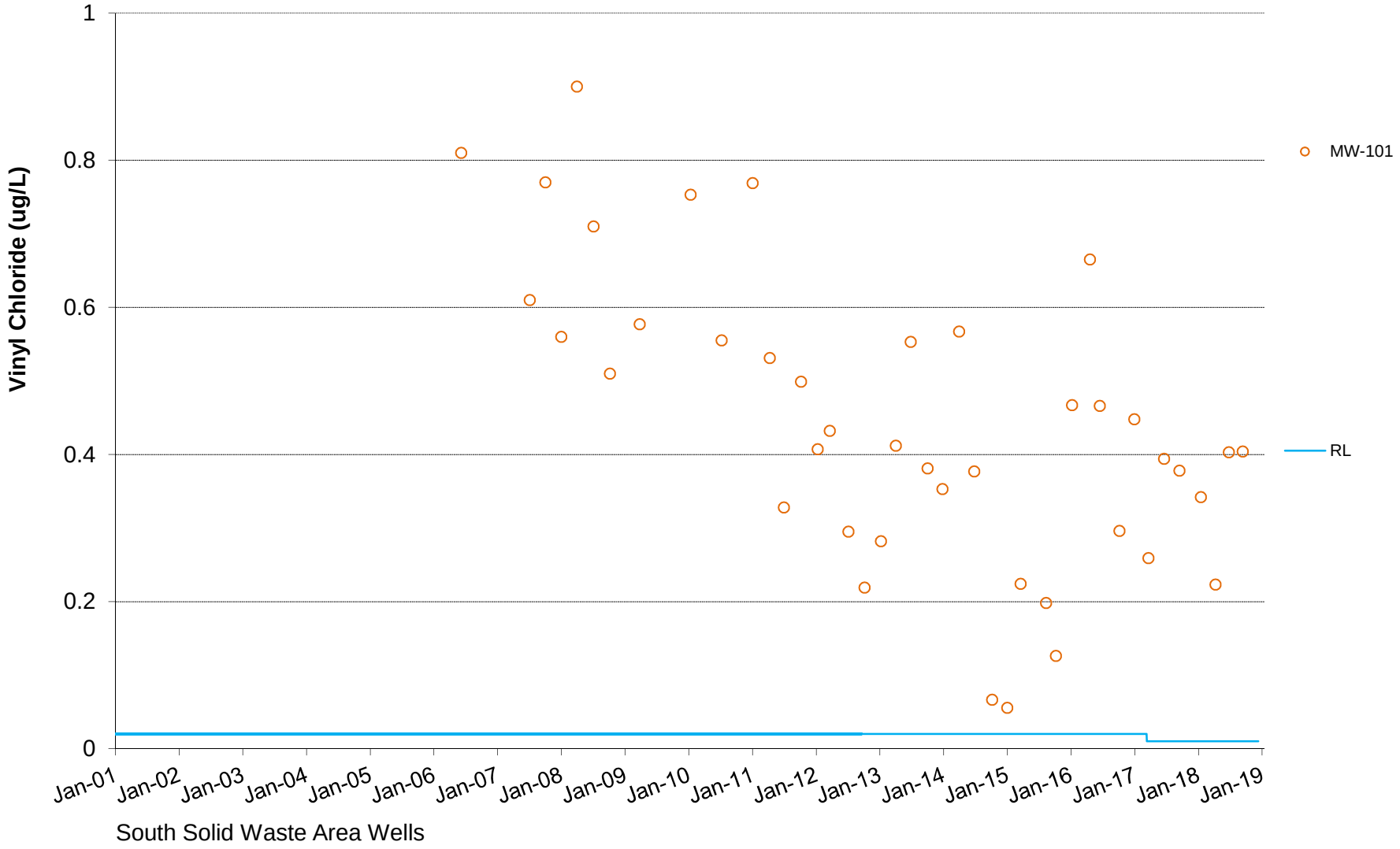

Tetrachloroethene (ug/L)
3
2.5
2
1.5
1
0.5
0
Jan-01
Jan-02
Jan-03
Jan-04
Jan-05
Jan-06
Jan-07
Jan-08
Jan-09
Jan-10
Jan-11
Jan-12
Jan-13
Jan-14
Jan-15
Jan-16
Jan-17
Jan-18
Jan-19
East Perched Zone Wells
MW-30A
MW-47
MW-62
EW-25
RL

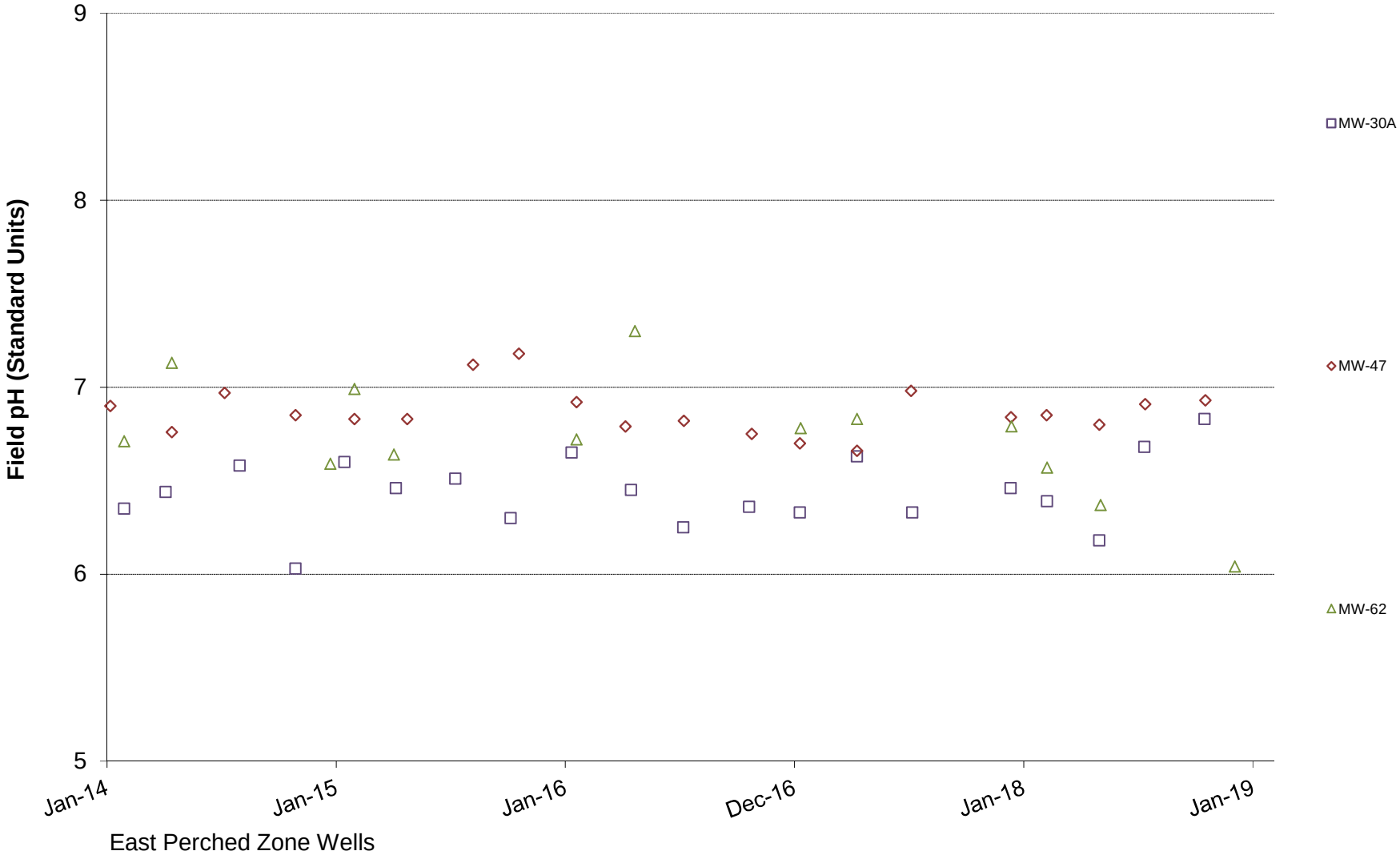

Trichloroethene (ug/L)
1
0.8
0.6
0.4
0.2
0
Jan-01
Jan-02
Jan-03
Jan-04
Jan-05
Jan-06
Jan-07
Jan-08
Jan-09
Jan-10
Jan-11
Jan-12
Jan-13
Jan-14
Jan-15
Jan-16
Jan-17
Jan-18
Jan-19
South Solid Waste Area Wells
MW-101
RL

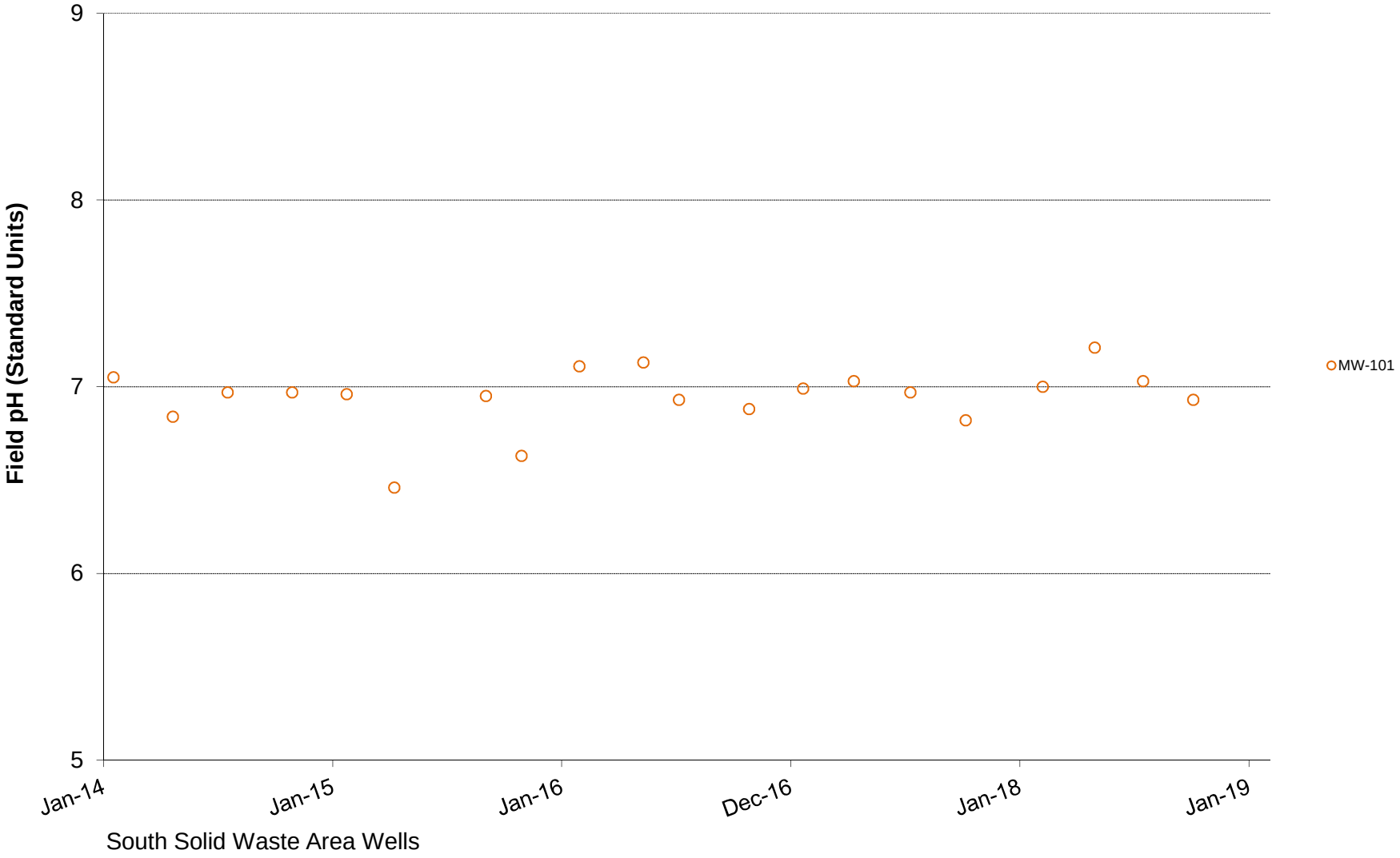

Toluene (ug/L)
5
4
3
2
1
0
Jan-01
Jan-02
Jan-03
Jan-04
Jan-05
Jan-06
Jan-07
Jan-08
Jan-09
Jan-10
Jan-11
Jan-12
Jan-13
Jan-14
Jan-15
Jan-16
Jan-17
Jan-18
Jan-19
East Perched Zone Wells
MW-30A
MW-47
MW-62
RL
EW-25

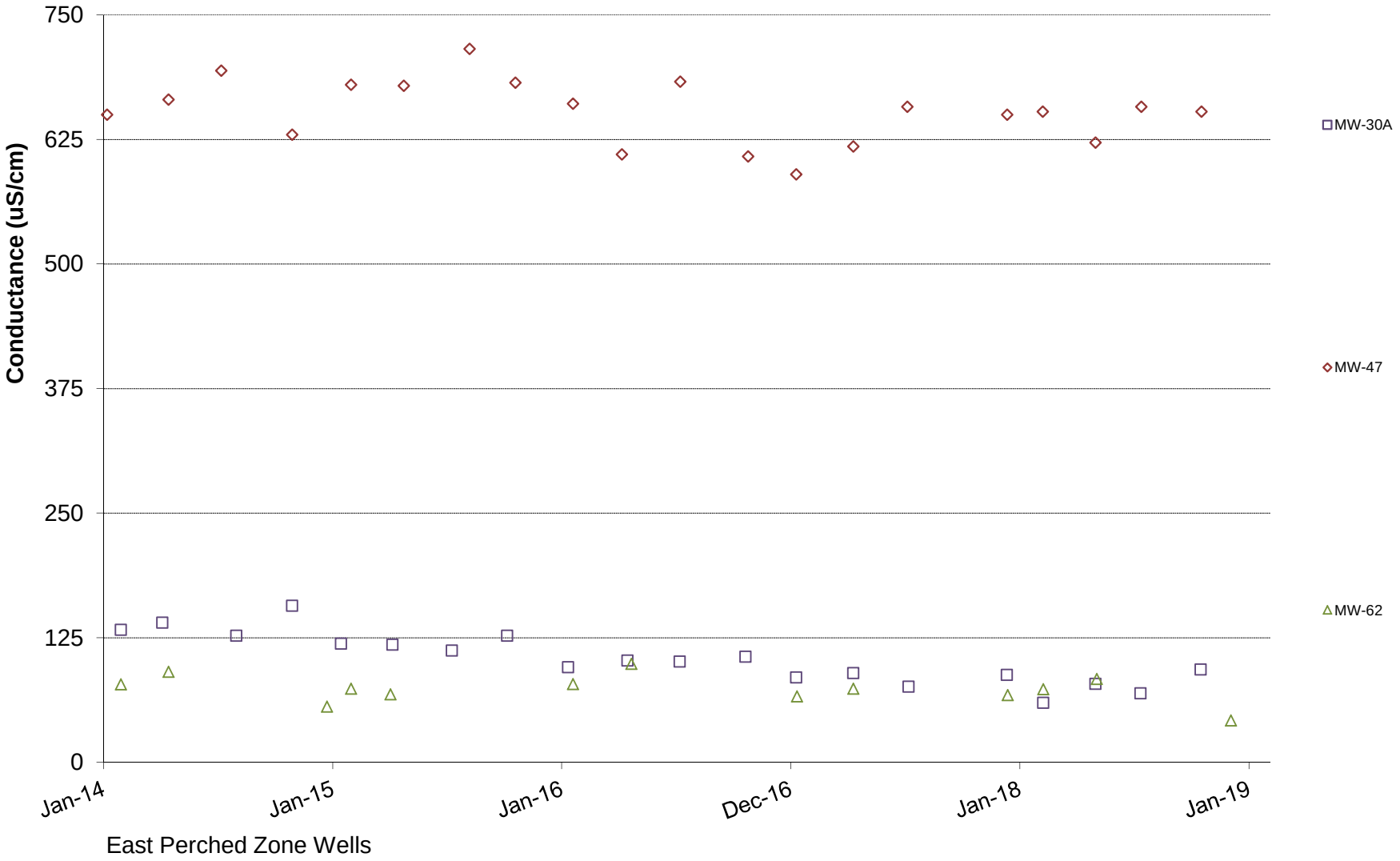

Toluene (ug/L)
1
0.8
0.6
0.4
0.2
0
Jan-01
Jan-02
Jan-03
Jan-04
Jan-05
Jan-06
Jan-07
Jan-08
Jan-09
Jan-10
Jan-11
Jan-12
Jan-13
Jan-14
Jan-15
Jan-16
Jan-17
Jan-18
Jan-19
South Solid Waste Area Wells
MW-101
RL

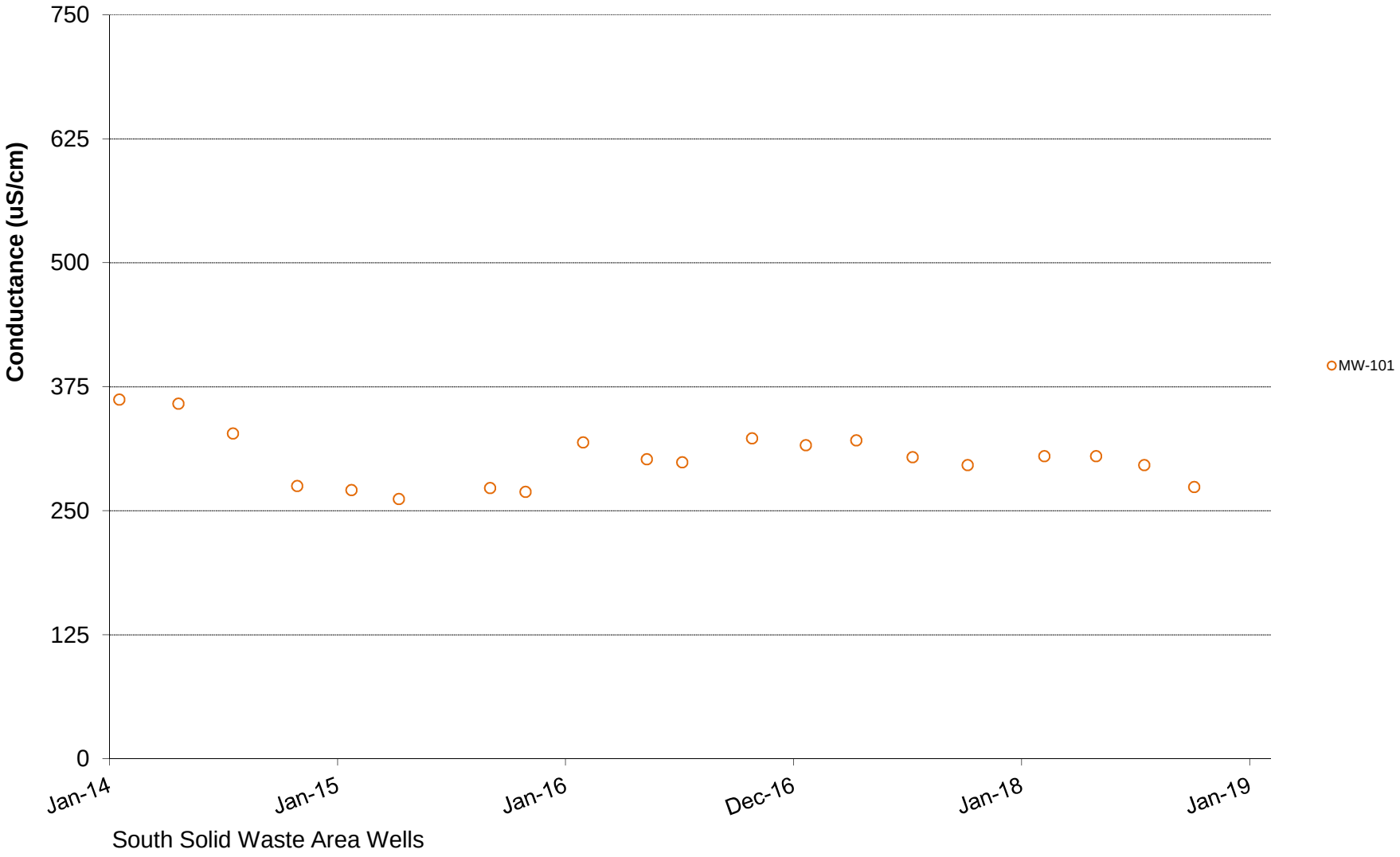

Vinyl Chloride (ug/L)
10
8
6
4
2
0
Jan-01
Jan-02
Jan-03
Jan-04
Jan-05
Jan-06
Jan-07
Jan-08
Jan-09
Jan-10
Jan-11
Jan-12
Jan-13
Jan-14
Jan-15
Jan-16
Jan-17
Jan-18
Jan-19
East Perched Zone Wells
MW-30A
MW-47
MW-62
EW-25
RL

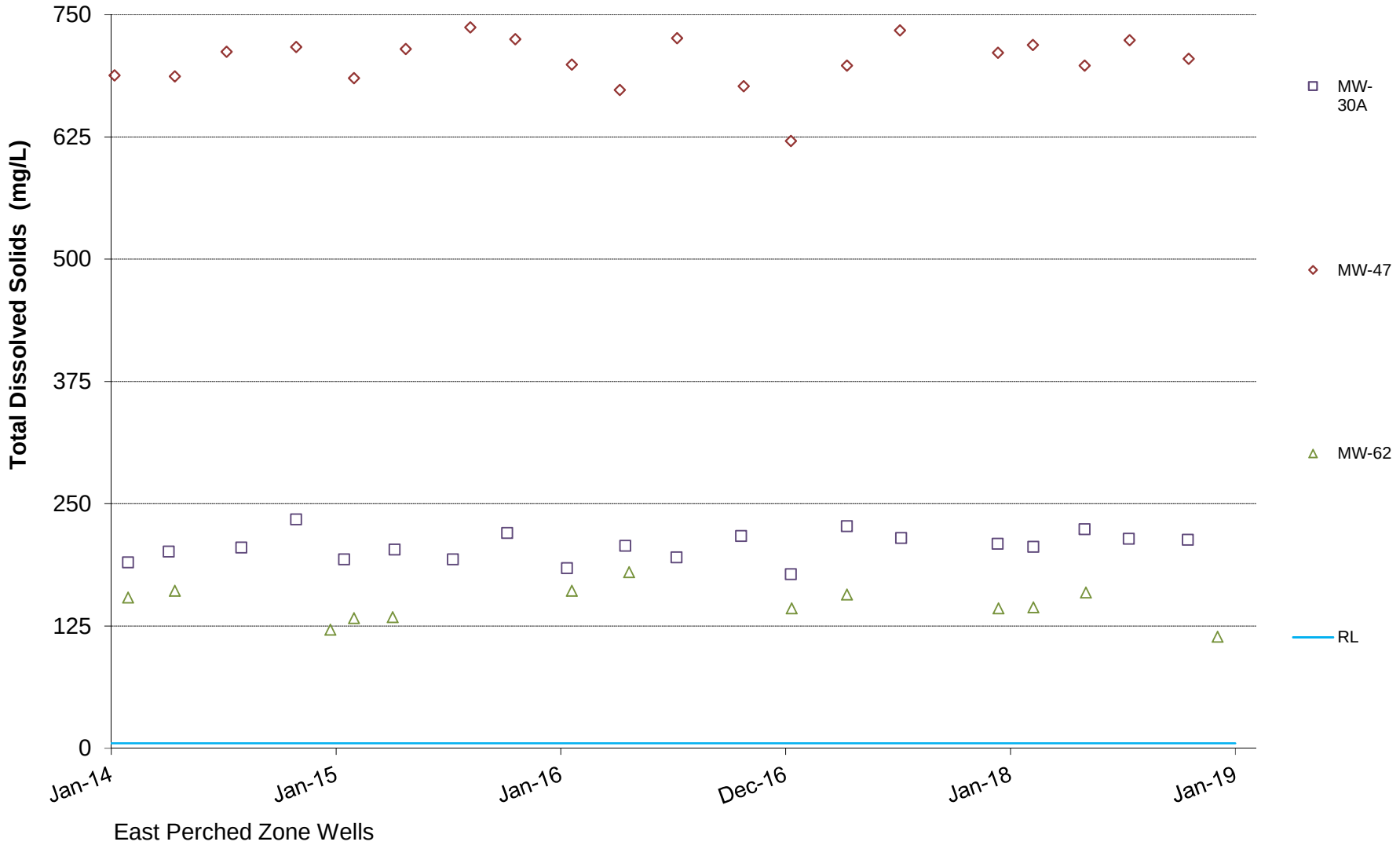

Vinyl Chloride (ug/L)
1
0.8
0.6
0.4
0.2
0
Jan-01
Jan-02
Jan-03
Jan-04
Jan-05
Jan-06
Jan-07
Jan-08
Jan-09
Jan-10
Jan-11
Jan-12
Jan-13
Jan-14
Jan-15
Jan-16
Jan-17
Jan-18
Jan-19
South Solid Waste Area Wells
MW-101
RL

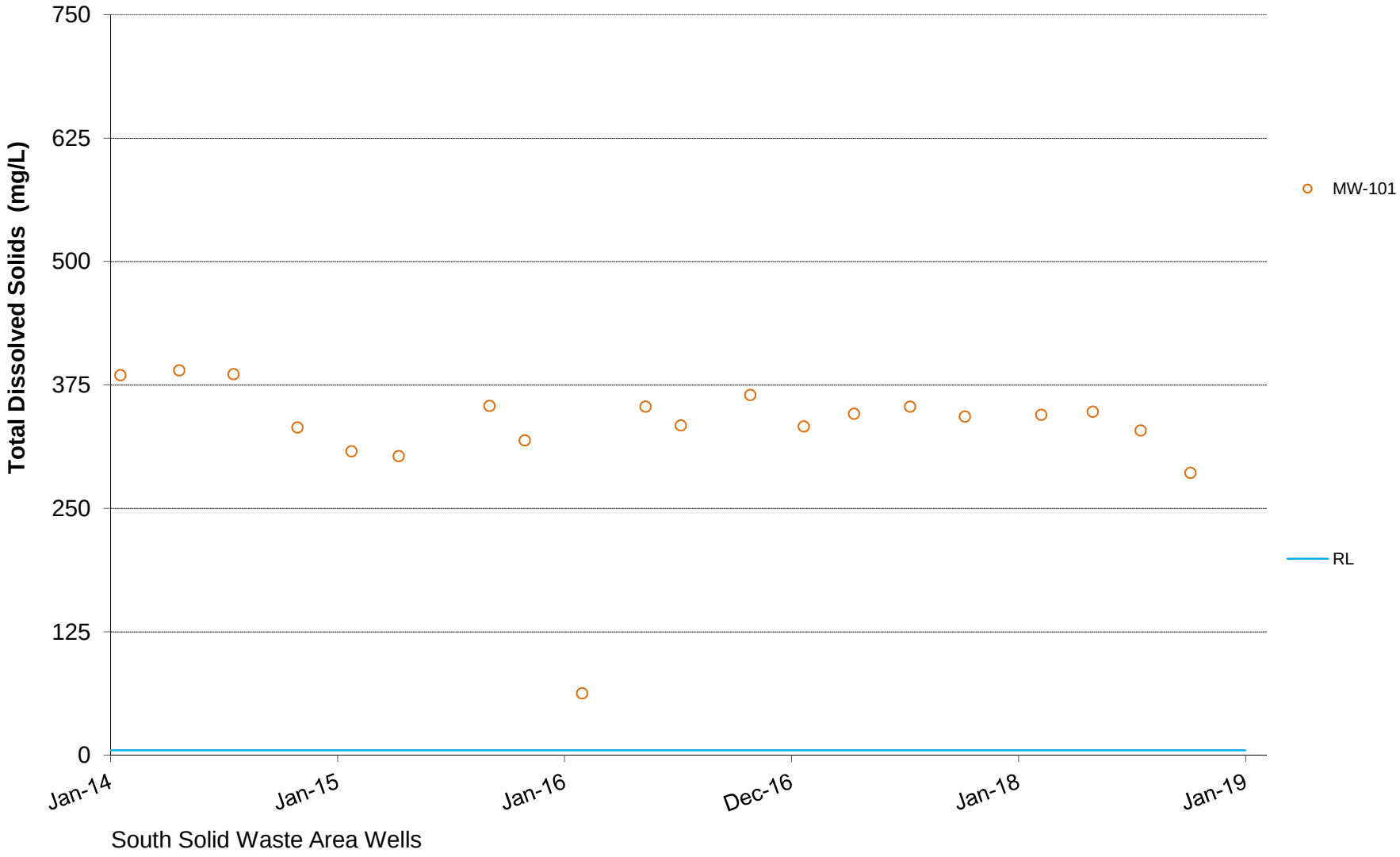

Field pH (Standard Units)
9
8
7
6
5
Jan-14
Jan-15
Jan-16
Dec-16
Jan-18
Jan-19
East Perched Zone Wells
MW-30A
MW-47
MW-62

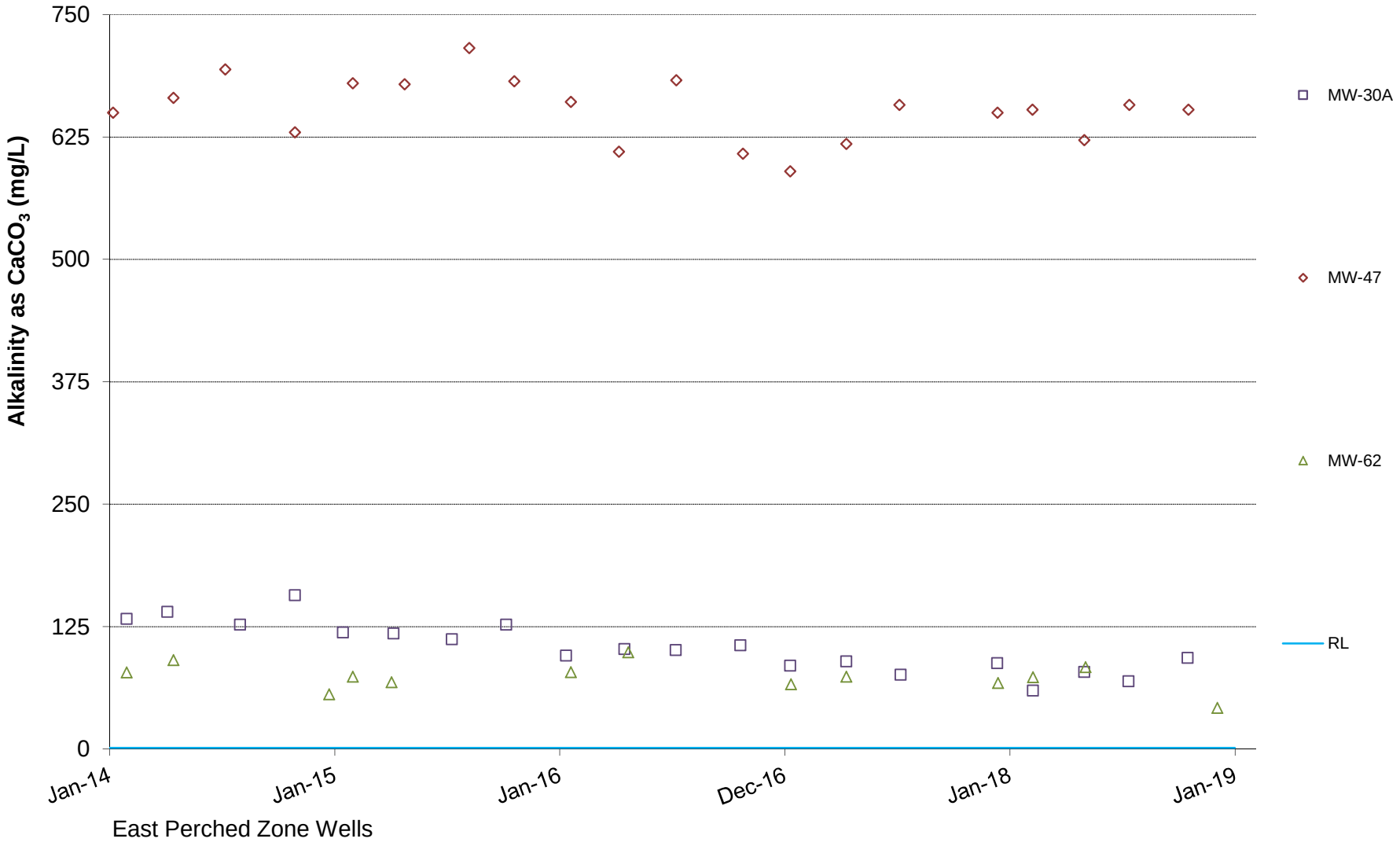

9
8
7
6
5
Field pH (Standard Units)
Jan-14
Jan-15
Jan-16
Dec-16
Jan-18
Jan-19
South Solid Waste Area Wells
MW-101

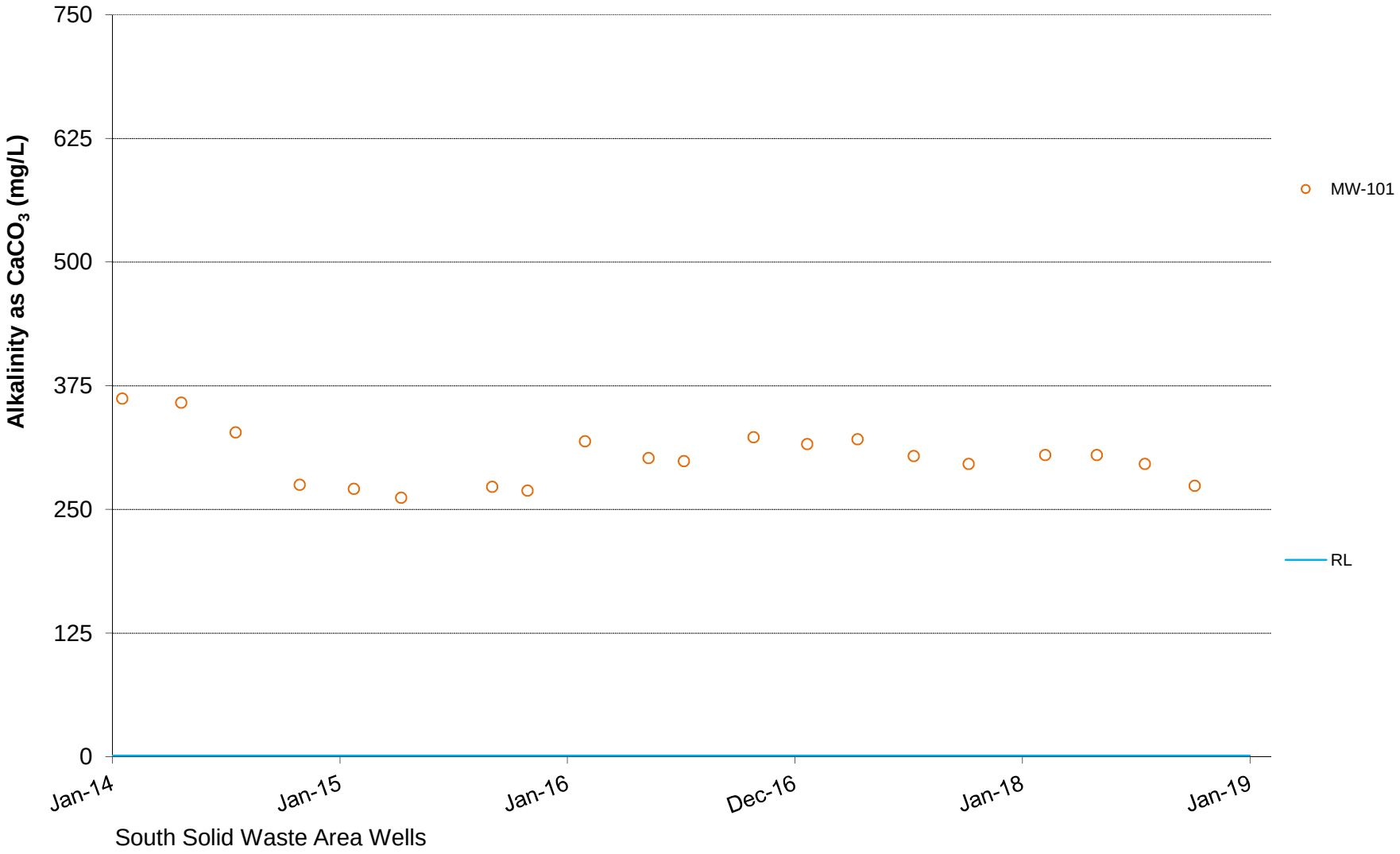

750
625
500
375
250
125
0
Conductance (uS/cm)
Jan-14
Jan-15
Jan-16
Dec-16
Jan-18
Jan-19
East Perched Zone Wells
MW-30A
MW-47
MW-62

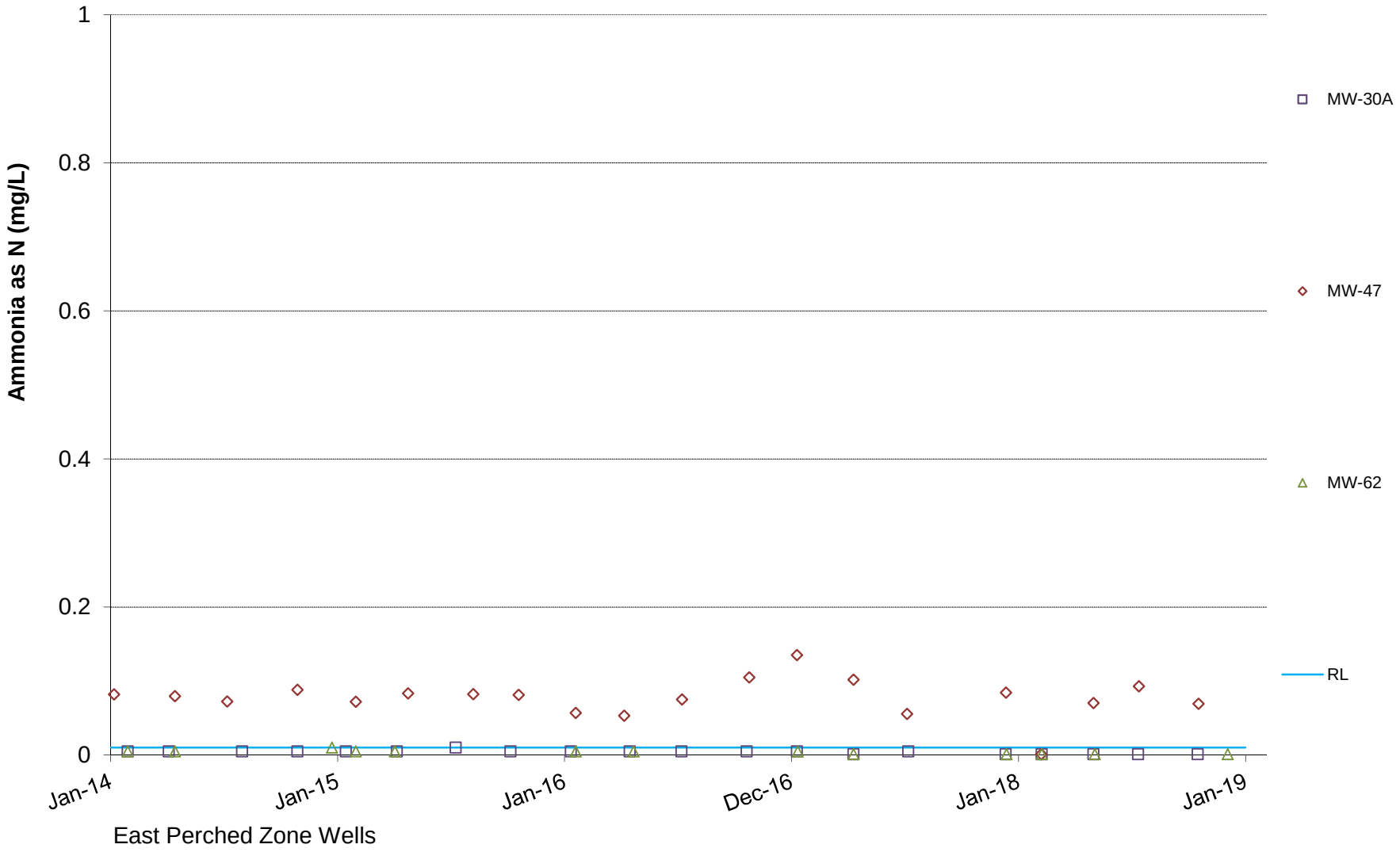

750
625
500
375
250
125
0
Conductance (uS/cm)
Jan-14
Jan-15
Jan-16
Dec-16
Jan-18
Jan-19
South Solid Waste Area Wells
MW-101

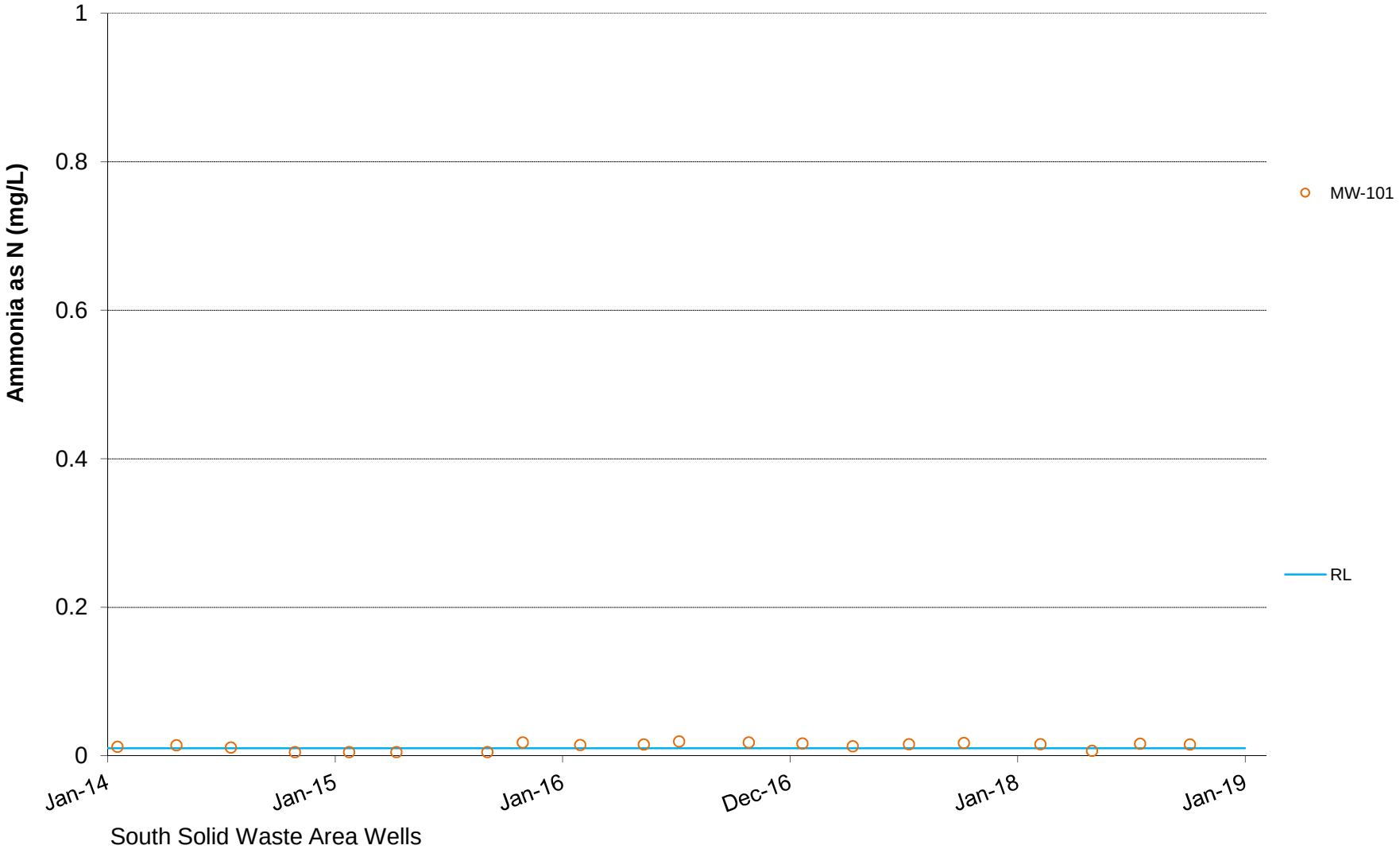

750
625
500
375
250
125
0
Total Dissolved Solids (mg/L)
Jan-14
Jan-15
Jan-16
Dec-16
Jan-18
Jan-19
East Perched Zone Wells
MW-30A
MW-47
MW-62
RL

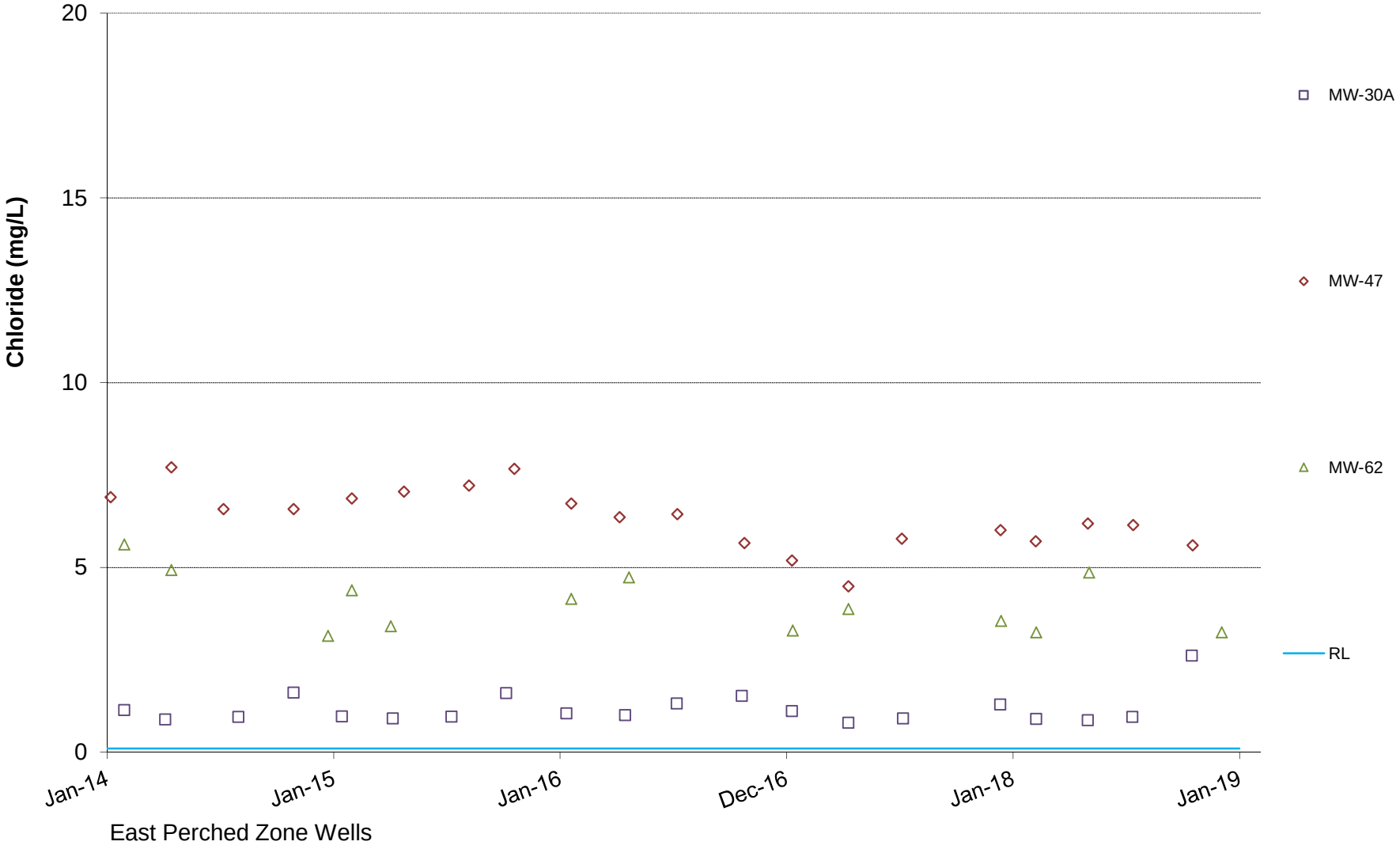

750
625
500
375
250
125
0
Total Dissolved Solids (mg/L)
Jan-14
Jan-15
Jan-16
Dec-16
Jan-18
Jan-19
South Solid Waste Area Wells
MW-101
RL

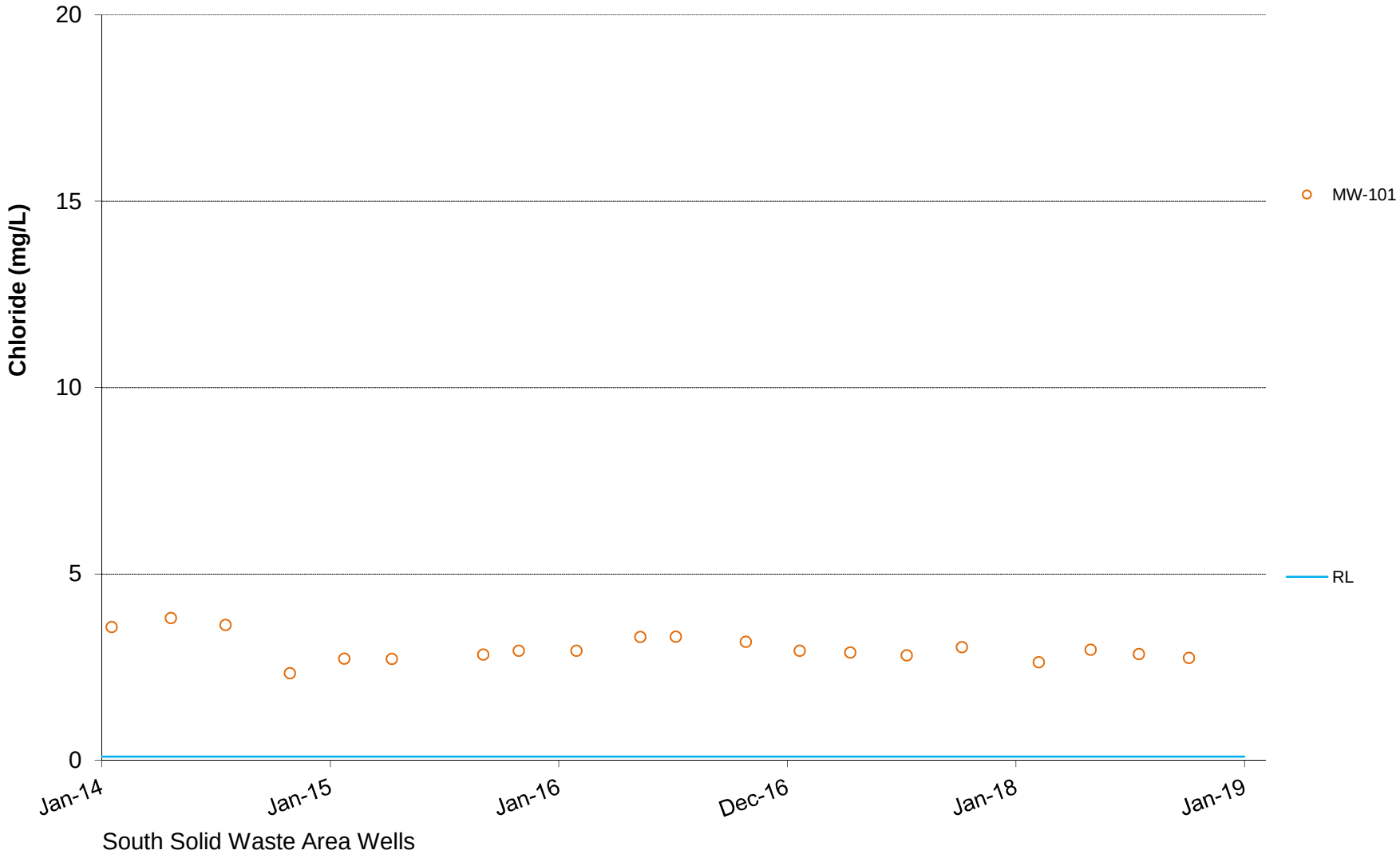

750
625
500
375
250
125
0
Alkalinity as CaCO3 (mg/L)
Jan-14
Jan-15
Jan-16
Dec-16
Jan-18
Jan-19
East Perched Zone Wells
MW-30A
MW-47
MW-62
RL

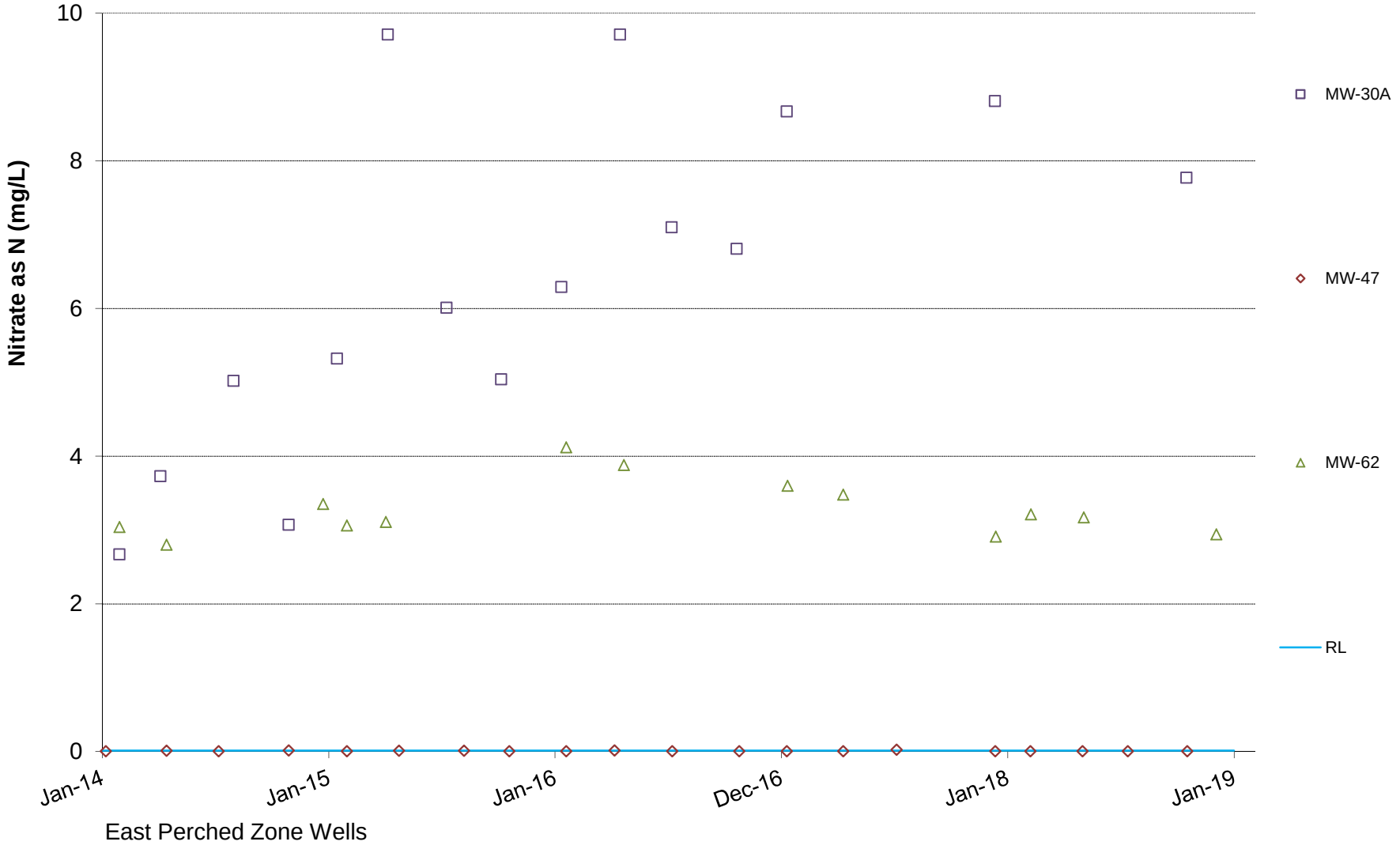

750
625
500
375
250
125
0
Alkalinity as CaCO3 (mg/L)
Jan-14
Jan-15
Jan-16
Dec-16
Jan-18
Jan-19
South Solid Waste Area Wells
MW-101
RL

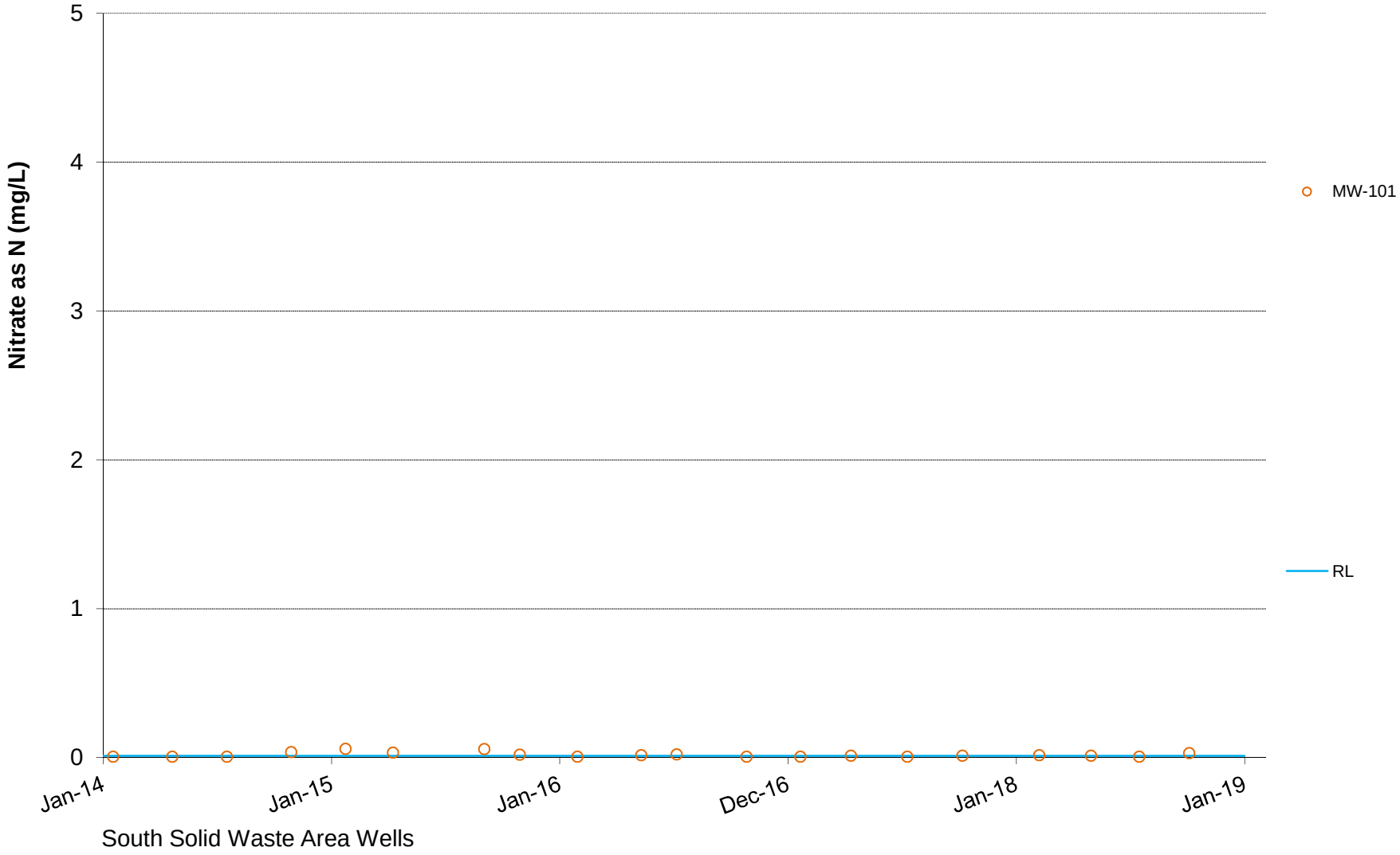

Ammonia as N (mg/L)
1
0.8
0.6
0.4
0.2
0
Jan-14
Jan-15
Jan-16
Dec-16
Jan-18
Jan-19
East Perched Zone Wells
MW-30A
MW-47
MW-62
RL

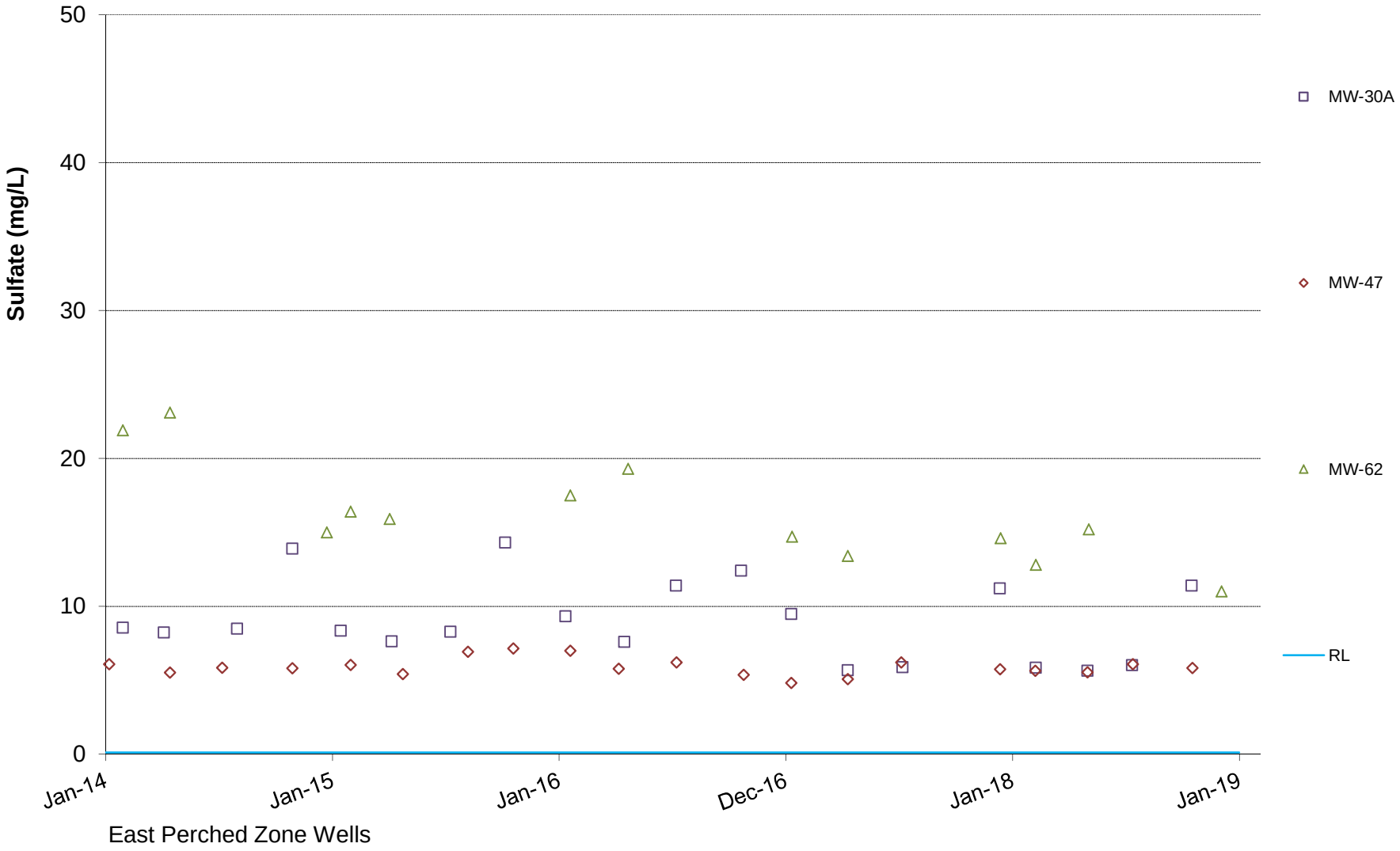

1
0.8
0.6
0.4
0.2
0
Ammonia as N (mg/L)
Jan-14
Jan-15
Jan-16
Dec-16
Jan-18
Jan-19
South Solid Waste Area Wells
MW-101
RL

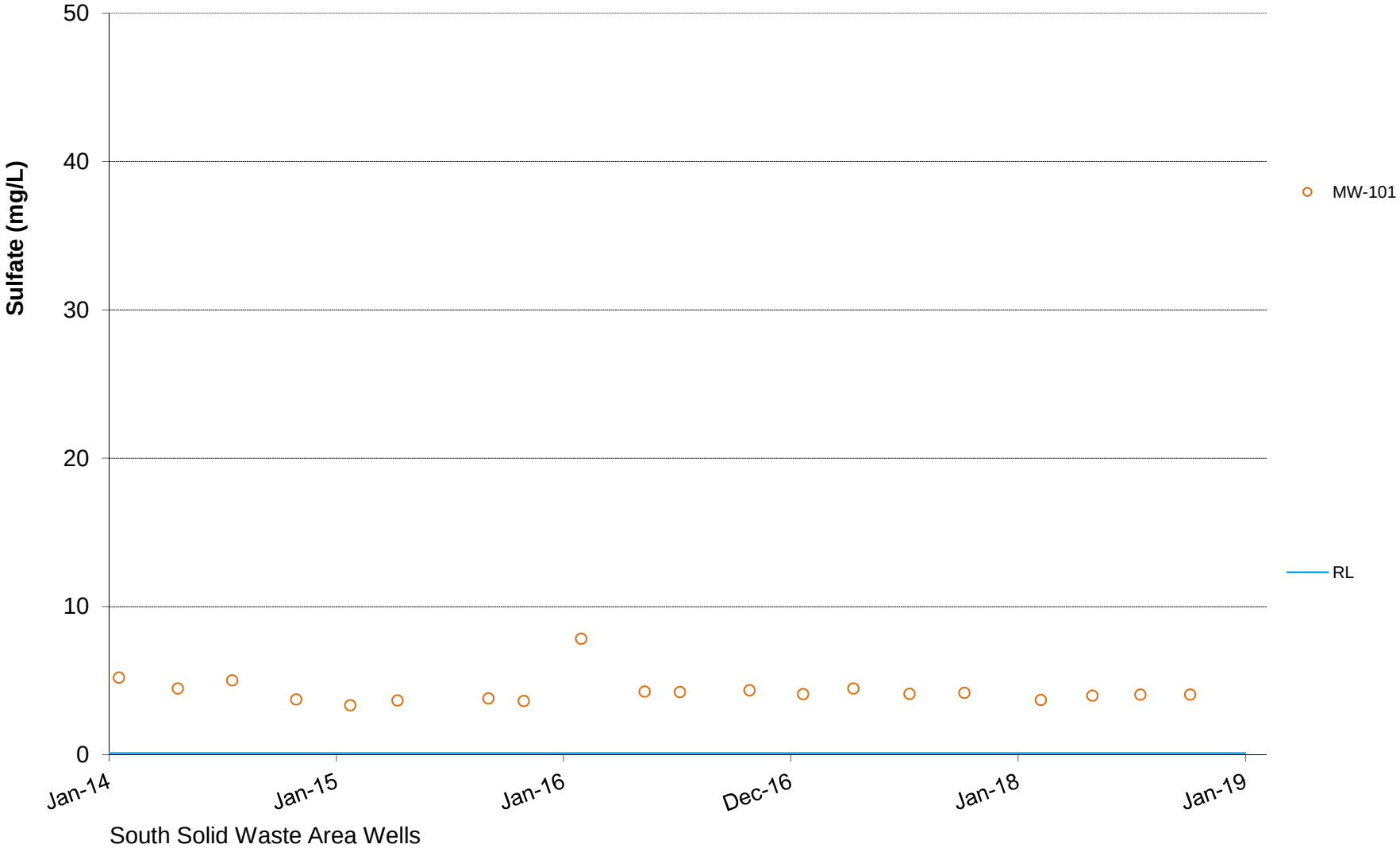

20
15
10
5
0
Chloride (mg/L)
Jan-14
Jan-15
Jan-16
Dec-16
Jan-18
Jan-19
East Perched Zone Wells
MW-30A
MW-47
MW-62
RL

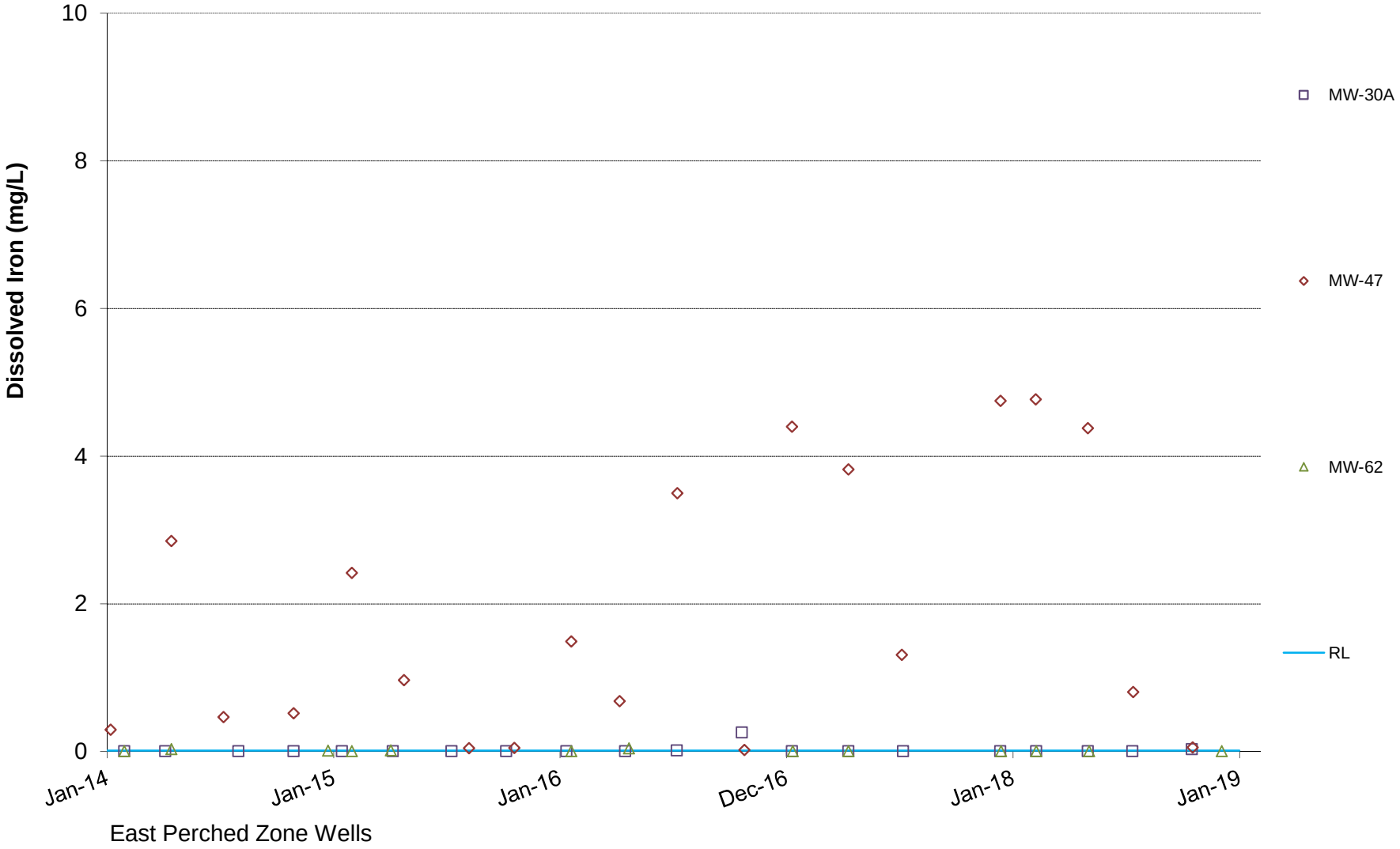

20
15
10
5
0
Chloride (mg/L)
Jan-14
Jan-15
Jan-16
Dec-16
Jan-18
Jan-19
South Solid Waste Area Wells
MW-101
RL

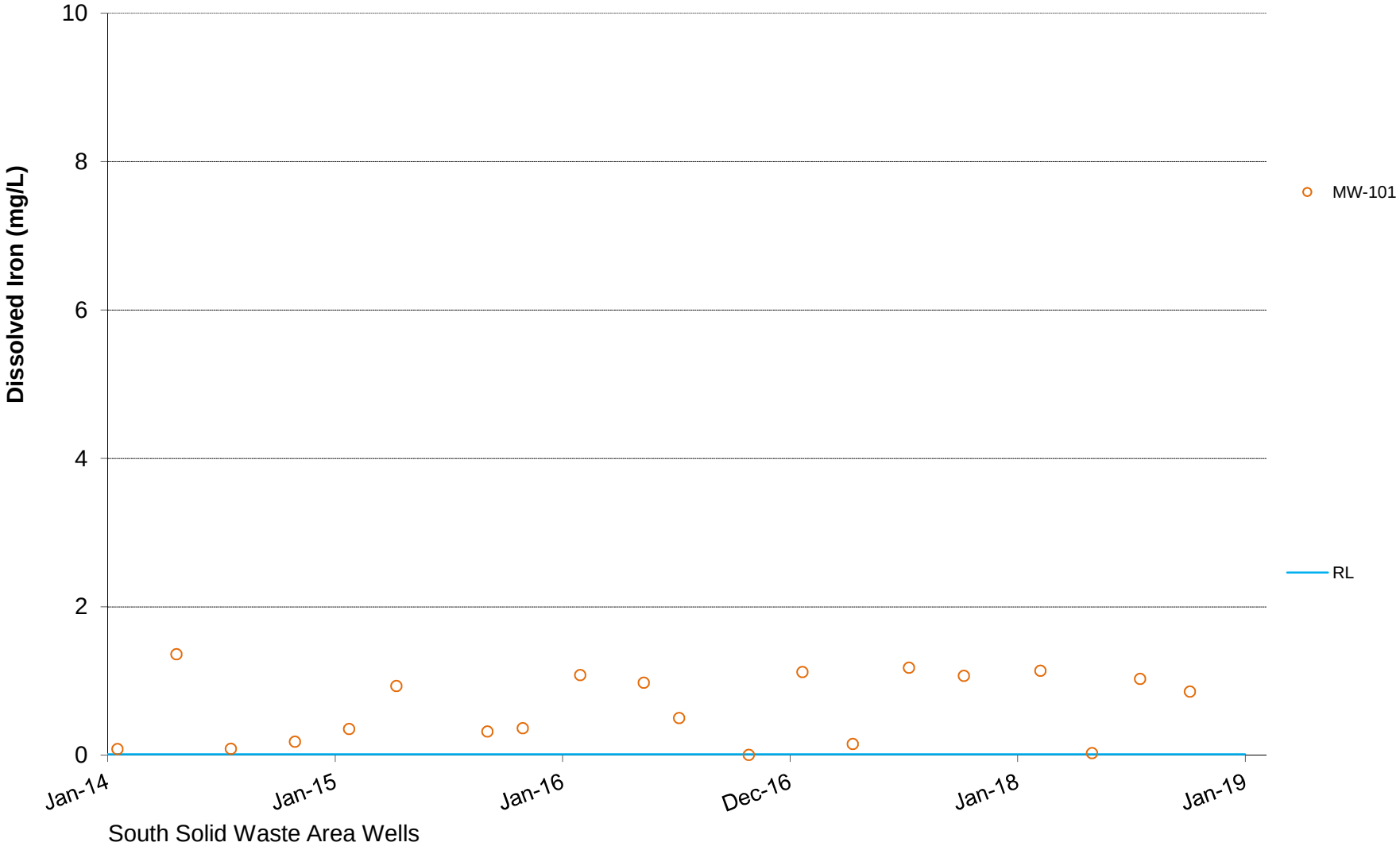

10
8
6
4
2
0
Nitrate as N (mg/L)
Jan-14
Jan-15
Jan-16
Dec-16
Jan-18
Jan-19
East Perched Zone Wells
MW-30A
MW-47
MW-62
RL

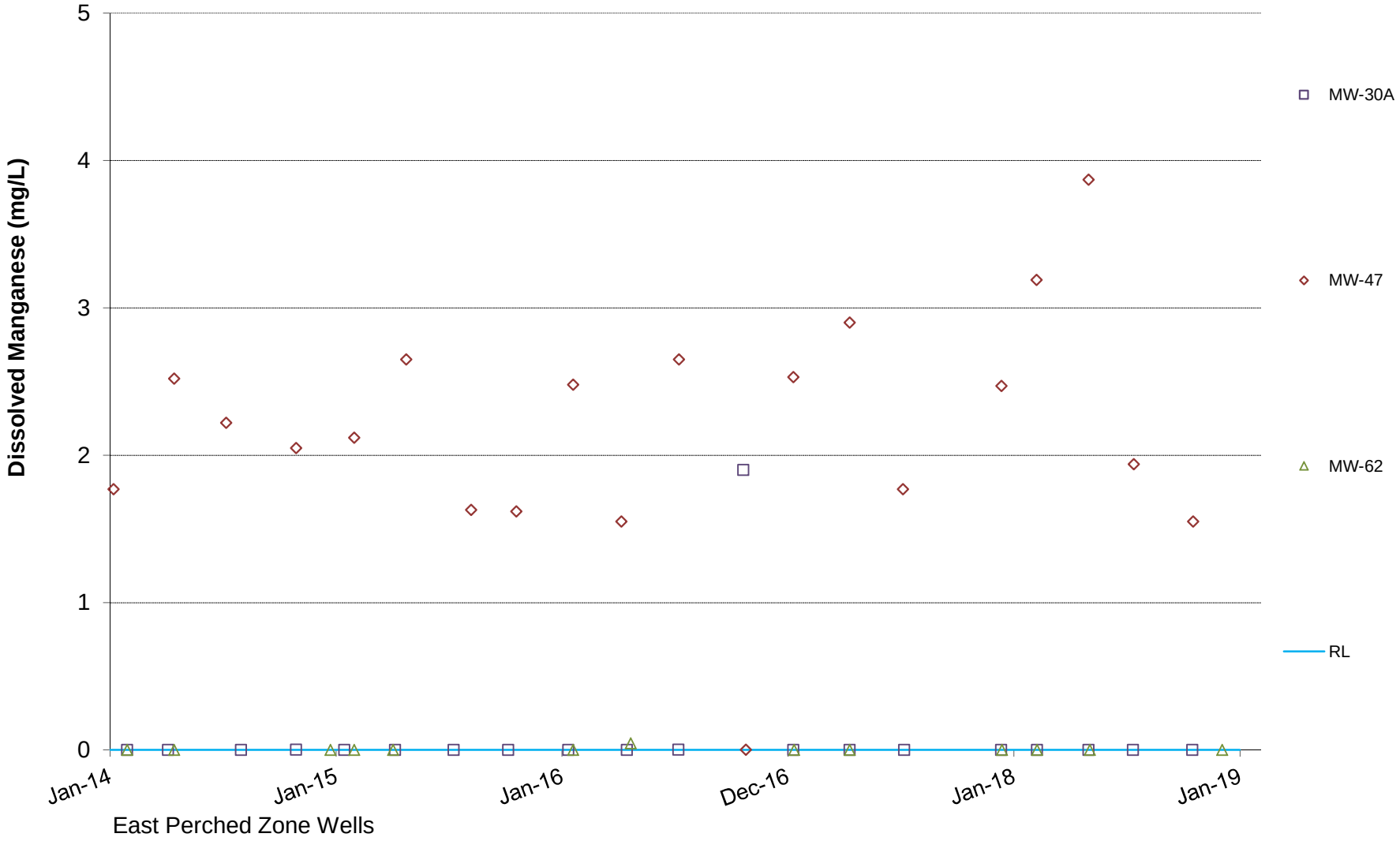

Nitrate as N (mg/L)
5
4
3
2
1
0
Jan-14
Jan-15
Jan-16
Dec-16
Jan-18
Jan-19
South Solid Waste Area Wells
MW-101
RL

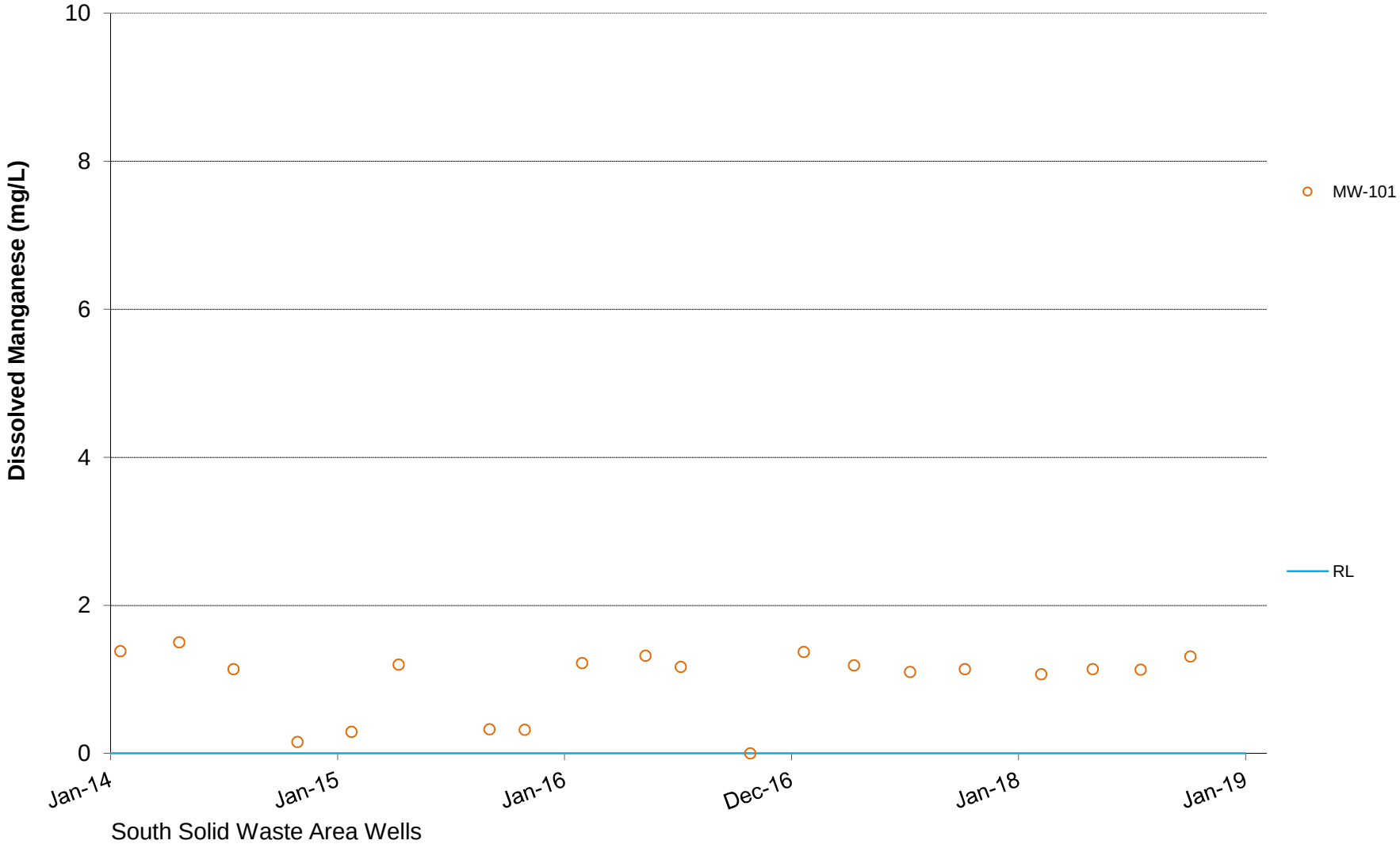

50
40
30
20
10
0
Sulfate (mg/L)
Jan-14
Jan-15
Jan-16
Dec-16
Jan-18
Jan-19
East Perched Zone Wells
MW-30A
MW-47
MW-62
RL

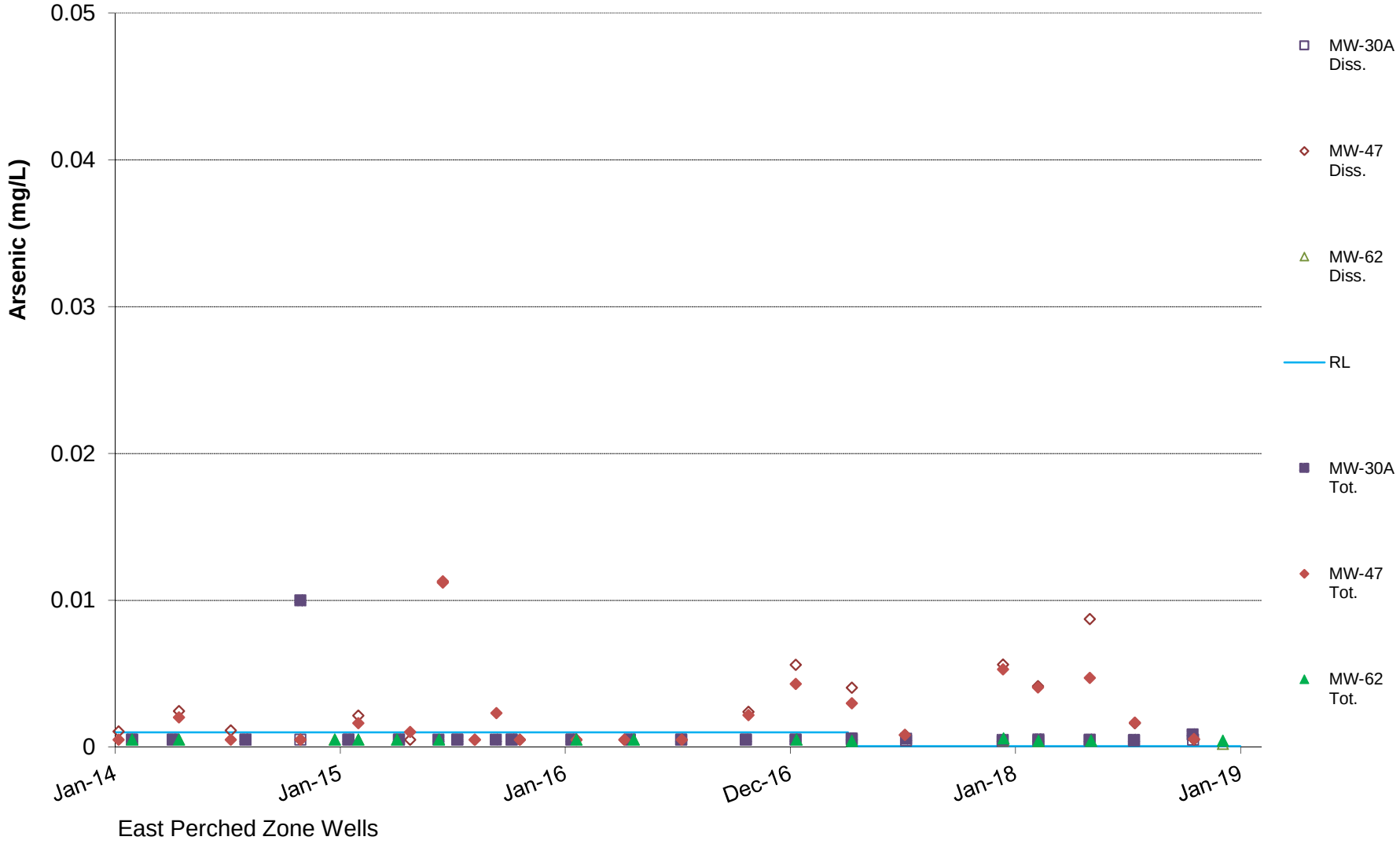

Sulfate (mg/L)
50
40
30
20
10
0
Jan-14
Jan-15
Jan-16
Dec-16
Jan-18
Jan-19
South Solid Waste Area Wells
MW-101
RL

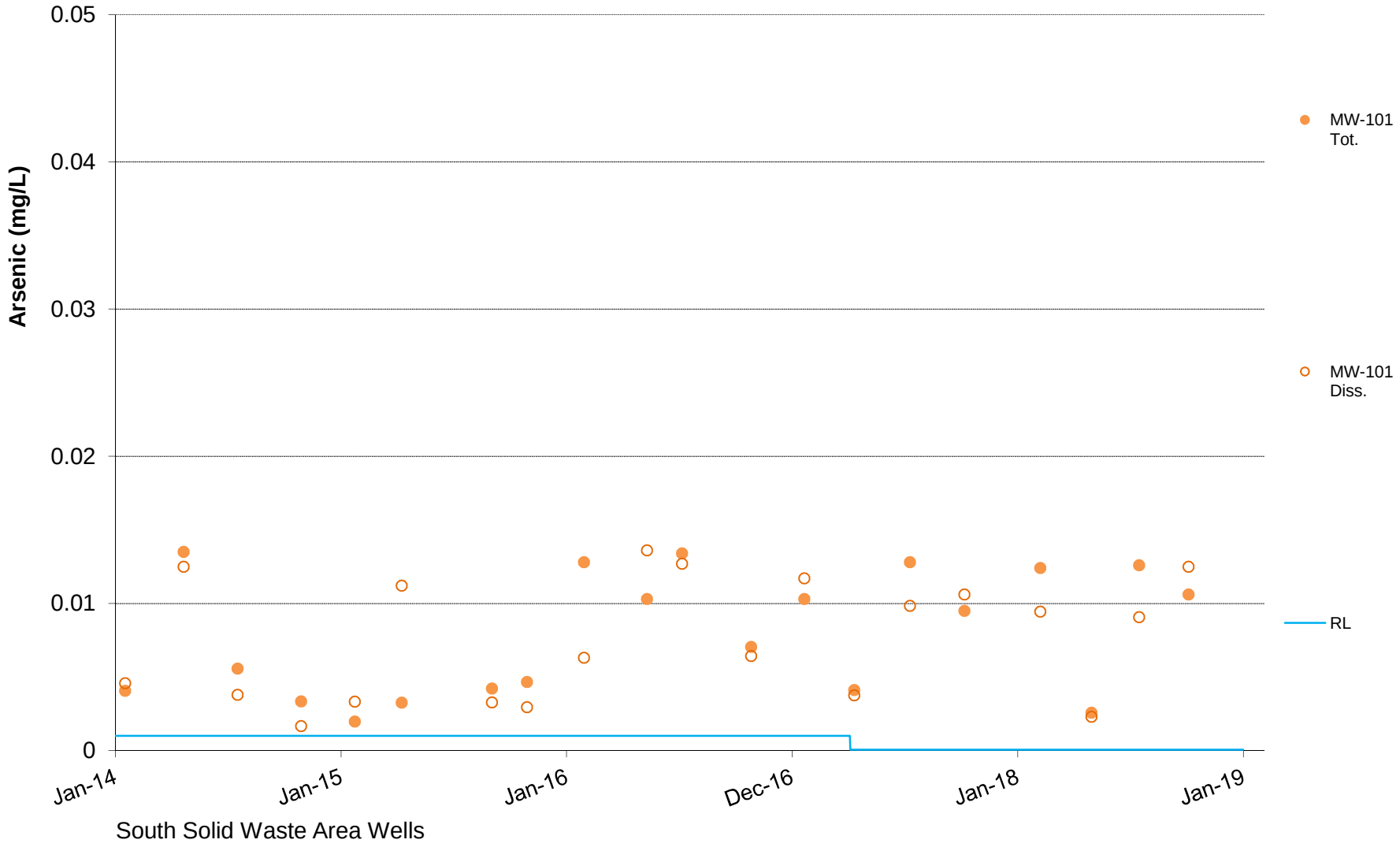

10
8
6
4
2
0
Dissolved Iron (mg/L)
Jan-14
Jan-15
Jan-16
Dec-16
Jan-18
Jan-19
East Perched Zone Wells
MW-30A
MW-47
MW-62
RL

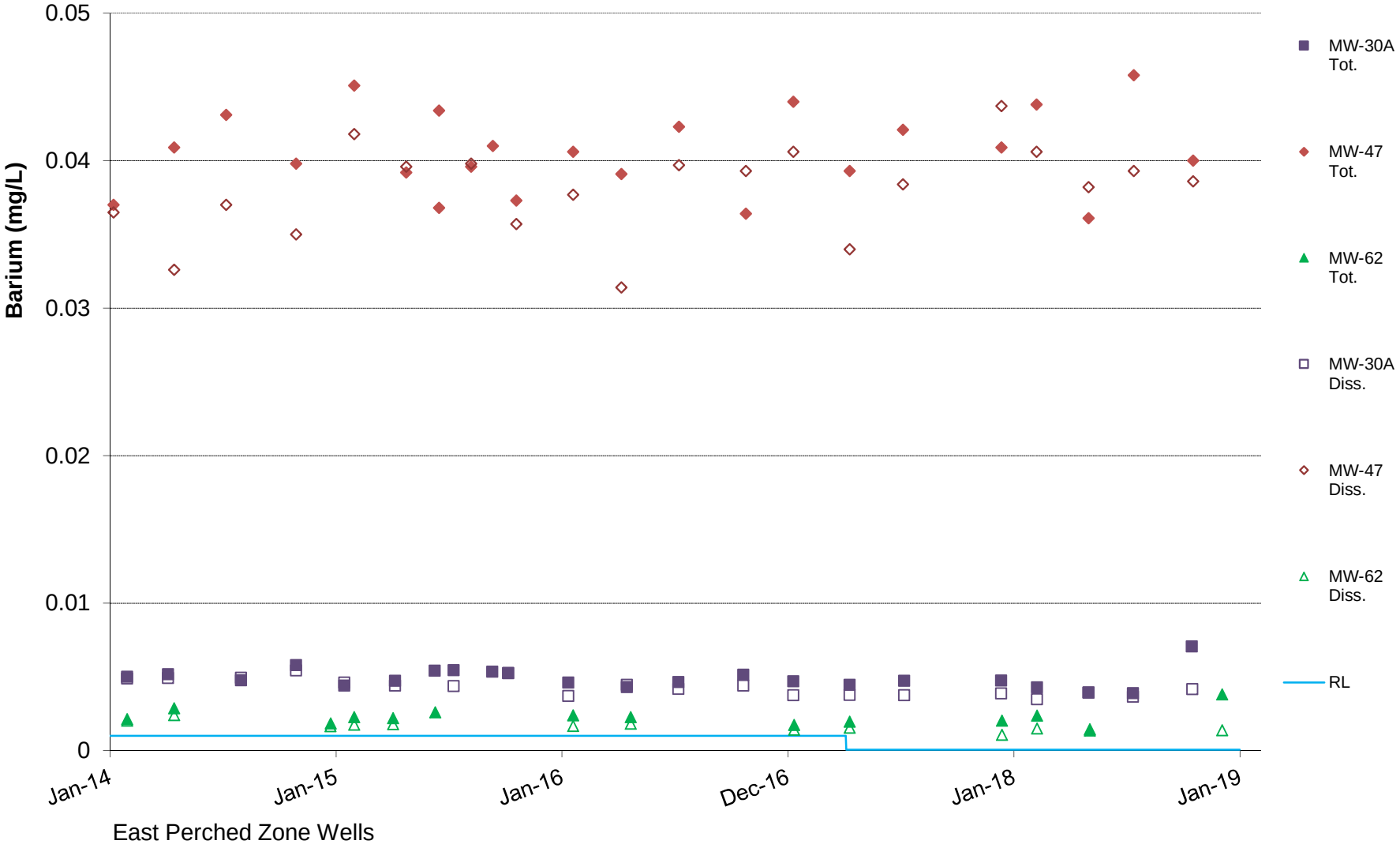

10
8
6
4
2
0
Dissolved Iron (mg/L)
Jan-14
Jan-15
Jan-16
Dec-16
Jan-18
Jan-19
South Solid Waste Area Wells
MW-101
RL

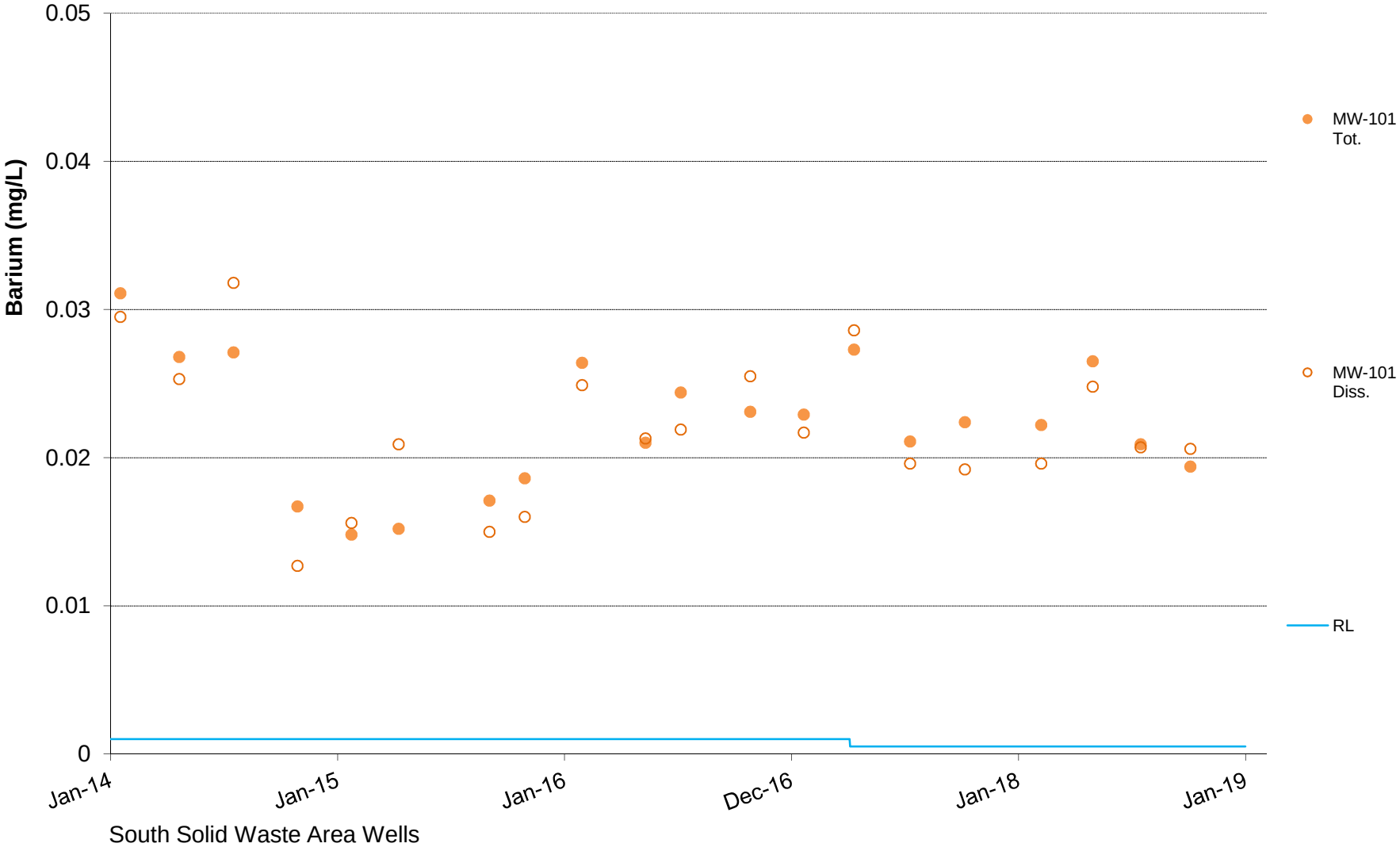

Dissolved Manganese (mg/L)
5
4
3
2
1
0
Jan-14
Jan-15
Jan-16
Dec-16
Jan-18
Jan-19
East Perched Zone Wells
MW-30A
MW-47
MW-62
RL

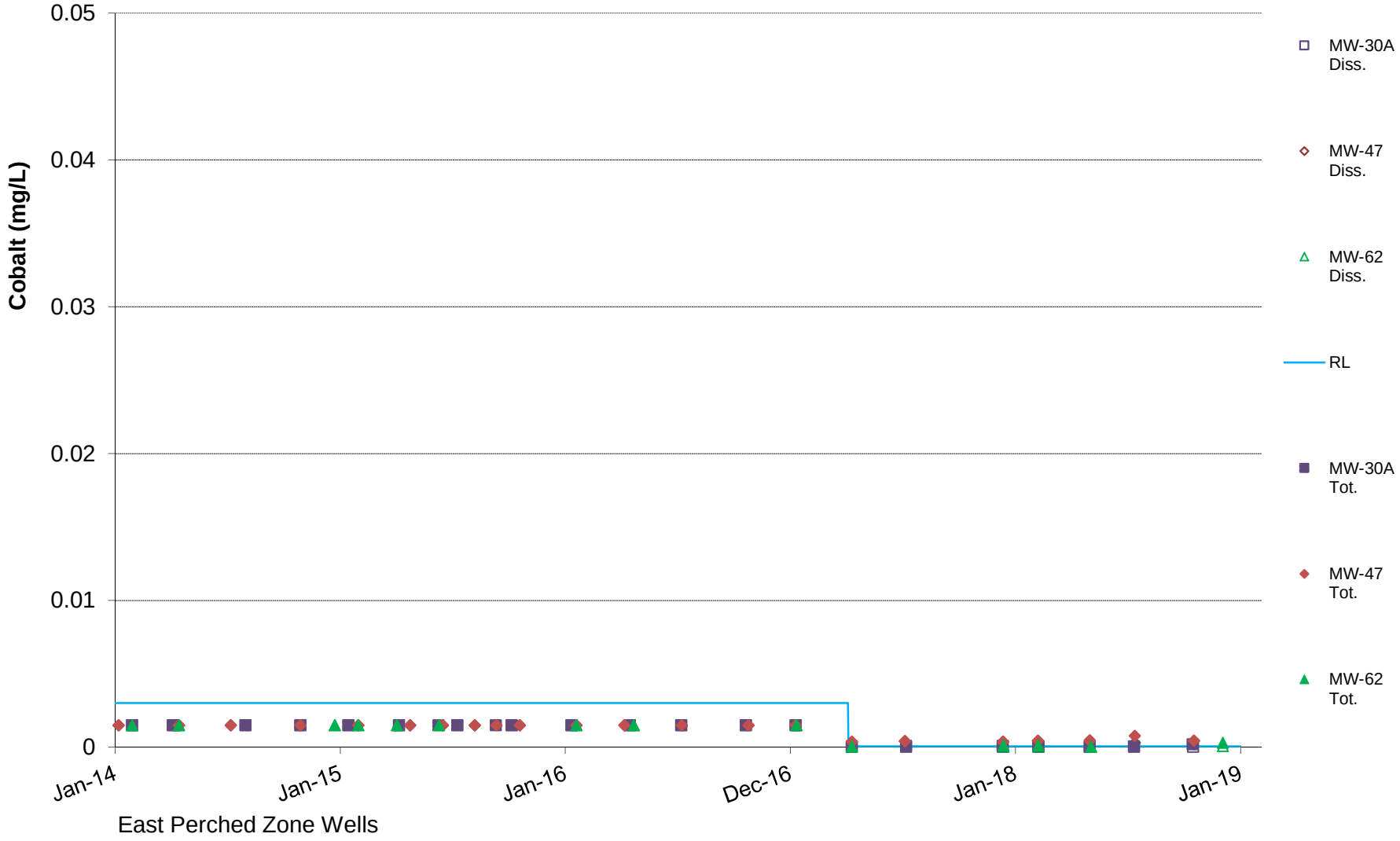

10
8
6
4
2
0
Dissolved Manganese (mg/L)
Jan-14
Jan-15
Jan-16
Dec-16
Jan-18
Jan-19
South Solid Waste Area Wells
MW-101
RL

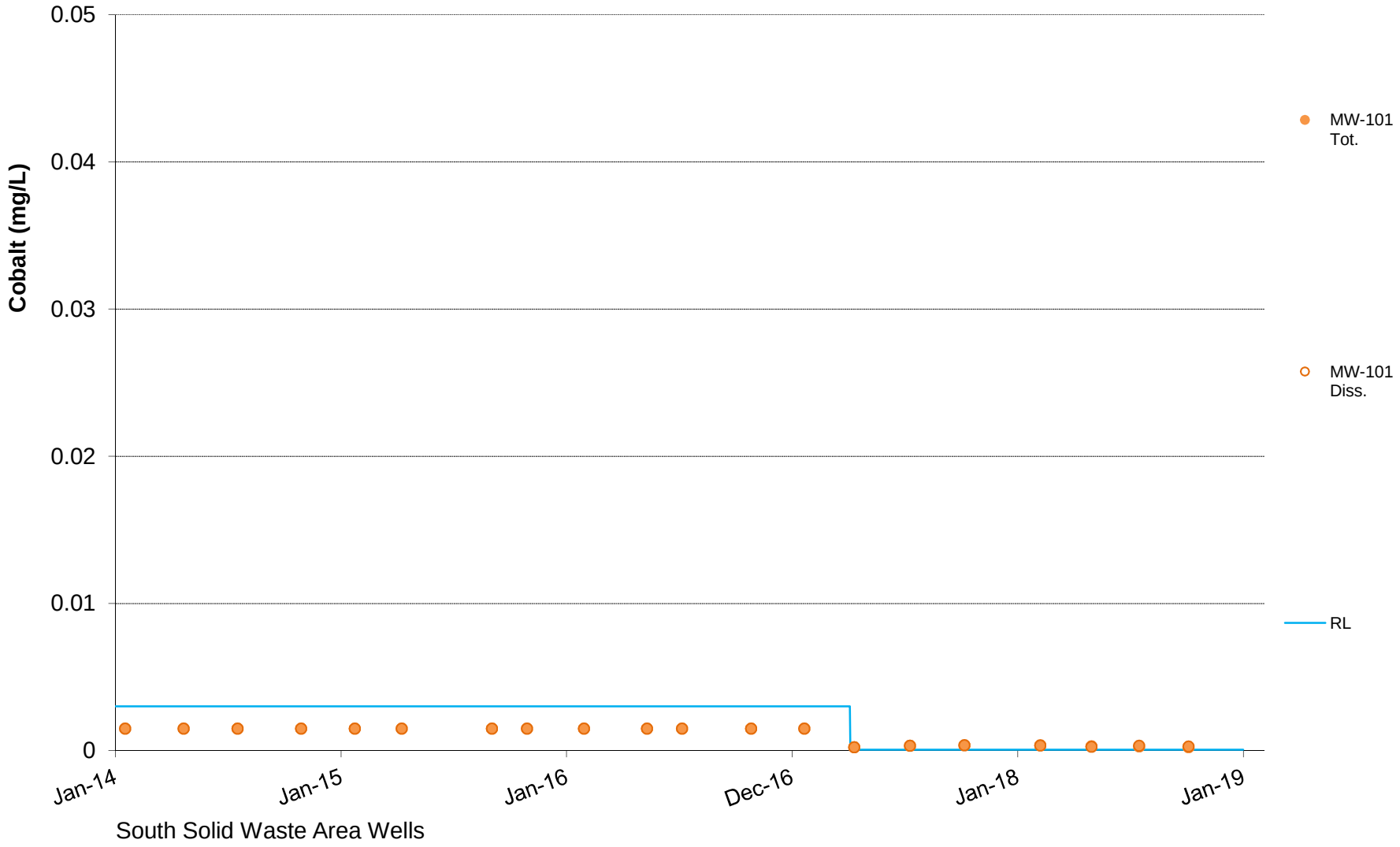

0.05
0.04
0.03
0.02
0.01
0
Arsenic (mg/L)
Jan-14
Jan-15
Jan-16
Dec-16
Jan-18
Jan-19
East Perched Zone Wells
MW-30A Diss.
MW-47 Diss.
MW-62 Diss.
RL
MW-30A Tot.
MW-47 Tot.
MW-62 Tot.

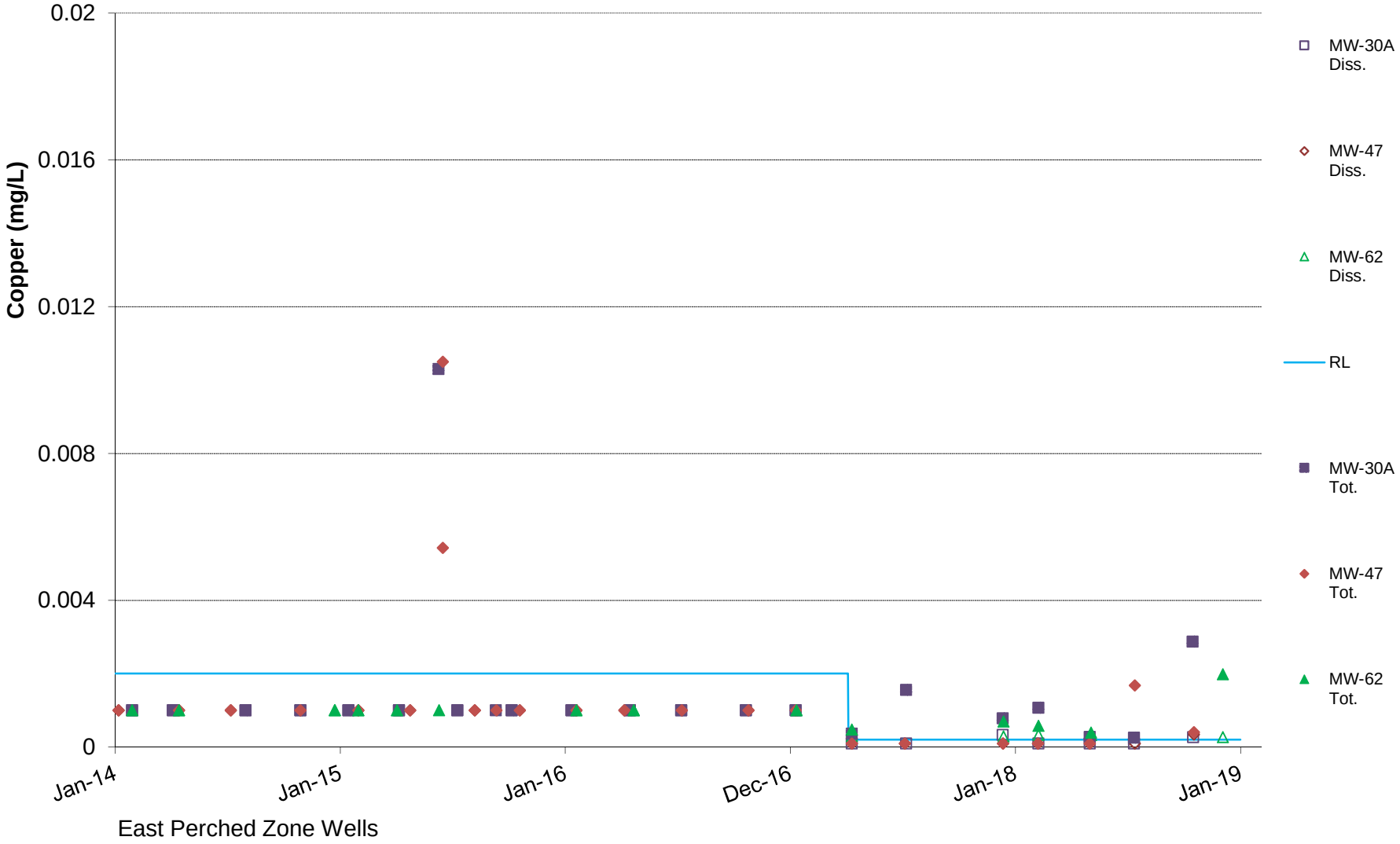

0.05
0.04
0.03
0.02
0.01
0
Arsenic (mg/L)
Jan-14
Jan-15
Jan-16
Dec-16
Jan-18
Jan-19
South Solid Waste Area Wells
MW-101 Tot.
MW-101 Diss.
RL

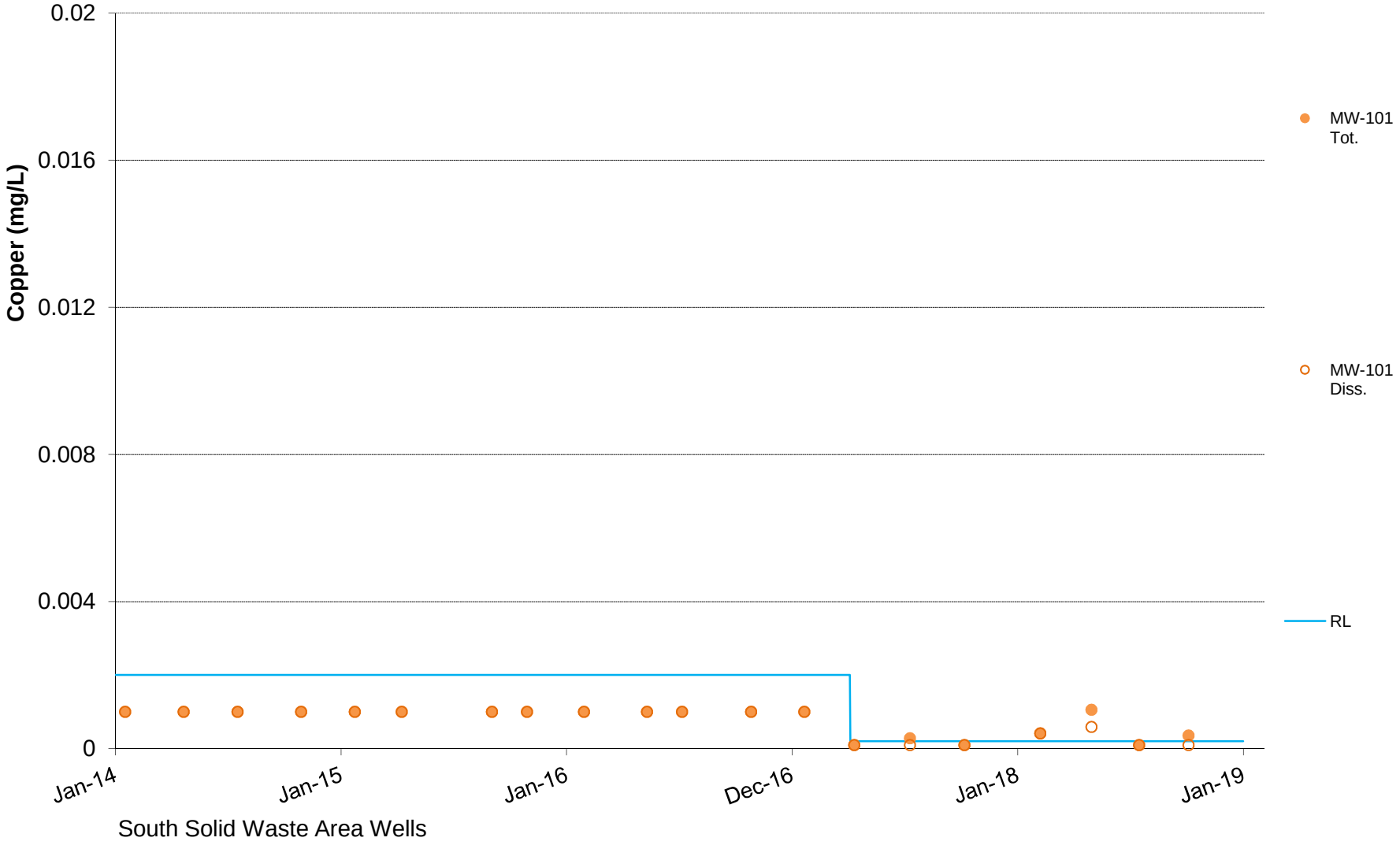

0.05
0.04
0.03
0.02
0.01
0
Barium (mg/L)
Jan-14
Jan-15
Jan-16
Dec-16
Jan-18
Jan-19
East Perched Zone Wells
MW-30A Tot.
MW-47 Tot.
MW-62 Tot.
MW-30A Diss.
MW-47 Diss.
MW-62 Diss.
RL

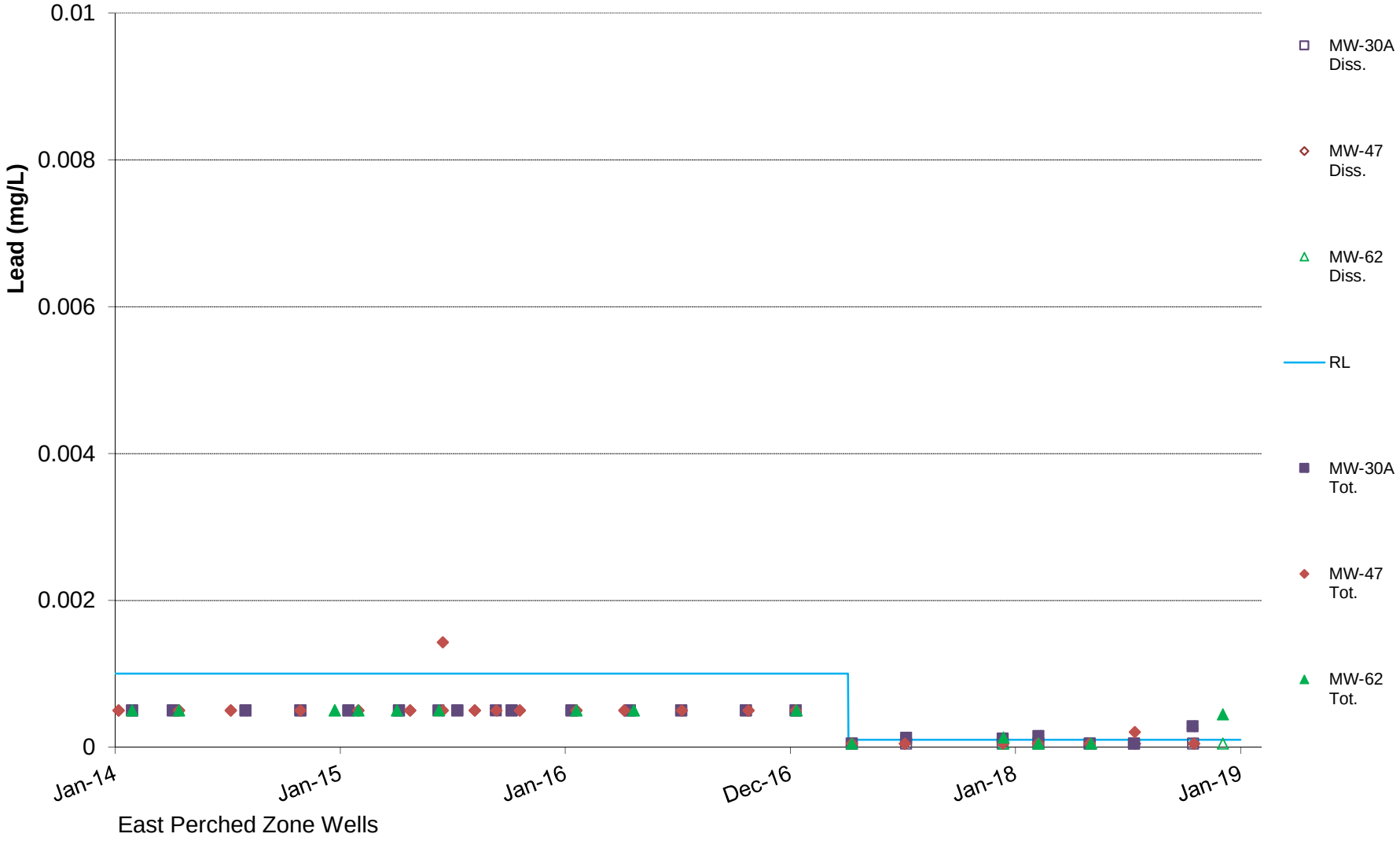

0.05
0.04
0.03
0.02
0.01
0
Barium (mg/L)
Jan-14
Jan-15
Jan-16
Dec-16
Jan-18
Jan-19
South Solid Waste Area Wells
MW-101 Tot.
MW-101 Diss.
RL

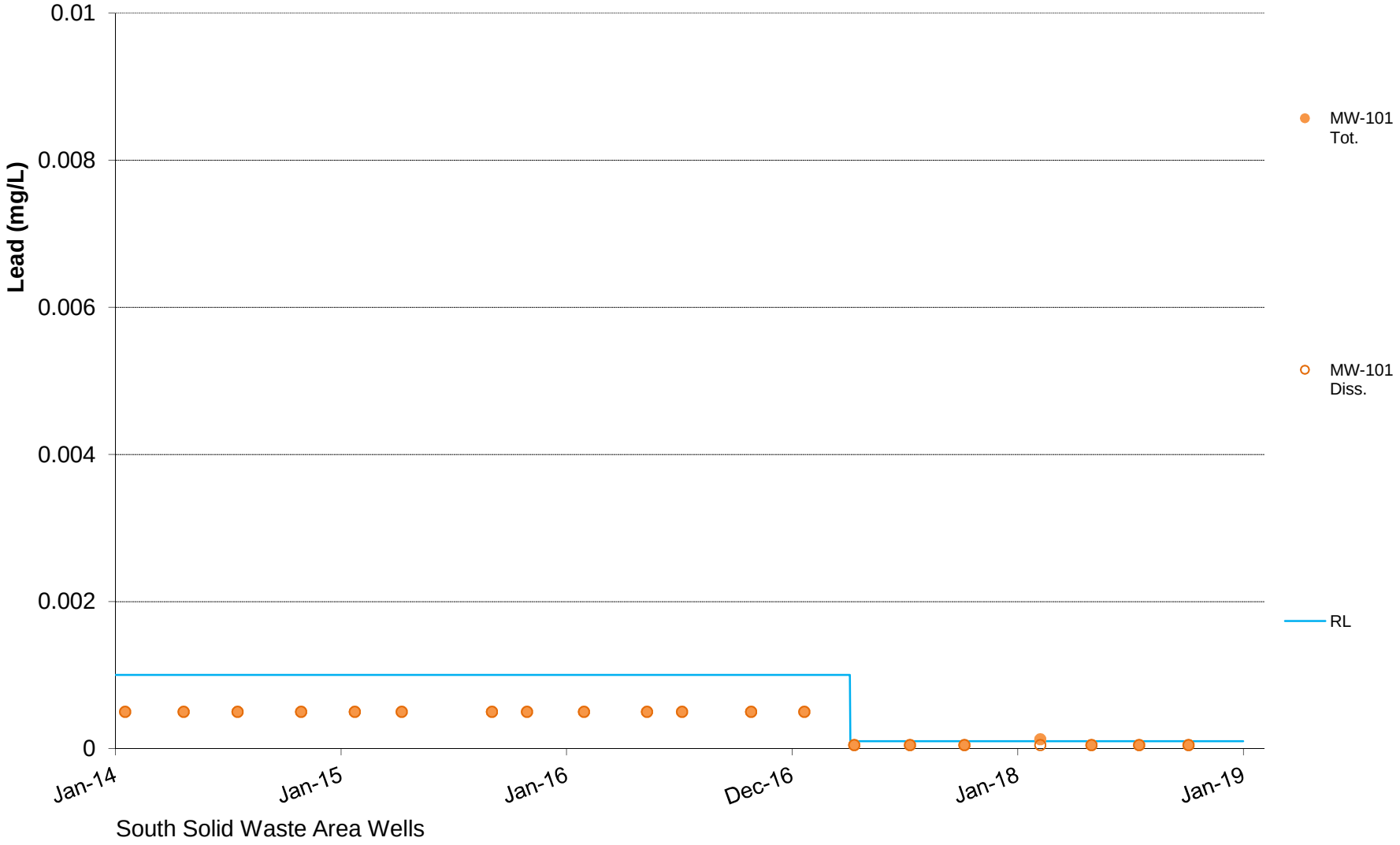

0.05
0.04
0.03
0.02
0.01
0
Cobalt (mg/L)
Jan-14
Jan-15
Jan-16
Dec-16
Jan-18
Jan-19
East Perched Zone Wells
MW-30A Diss.
MW-47 Diss.
MW-62 Diss.
RL
MW-30A Tot.
MW-47 Tot.
MW-62 Tot.

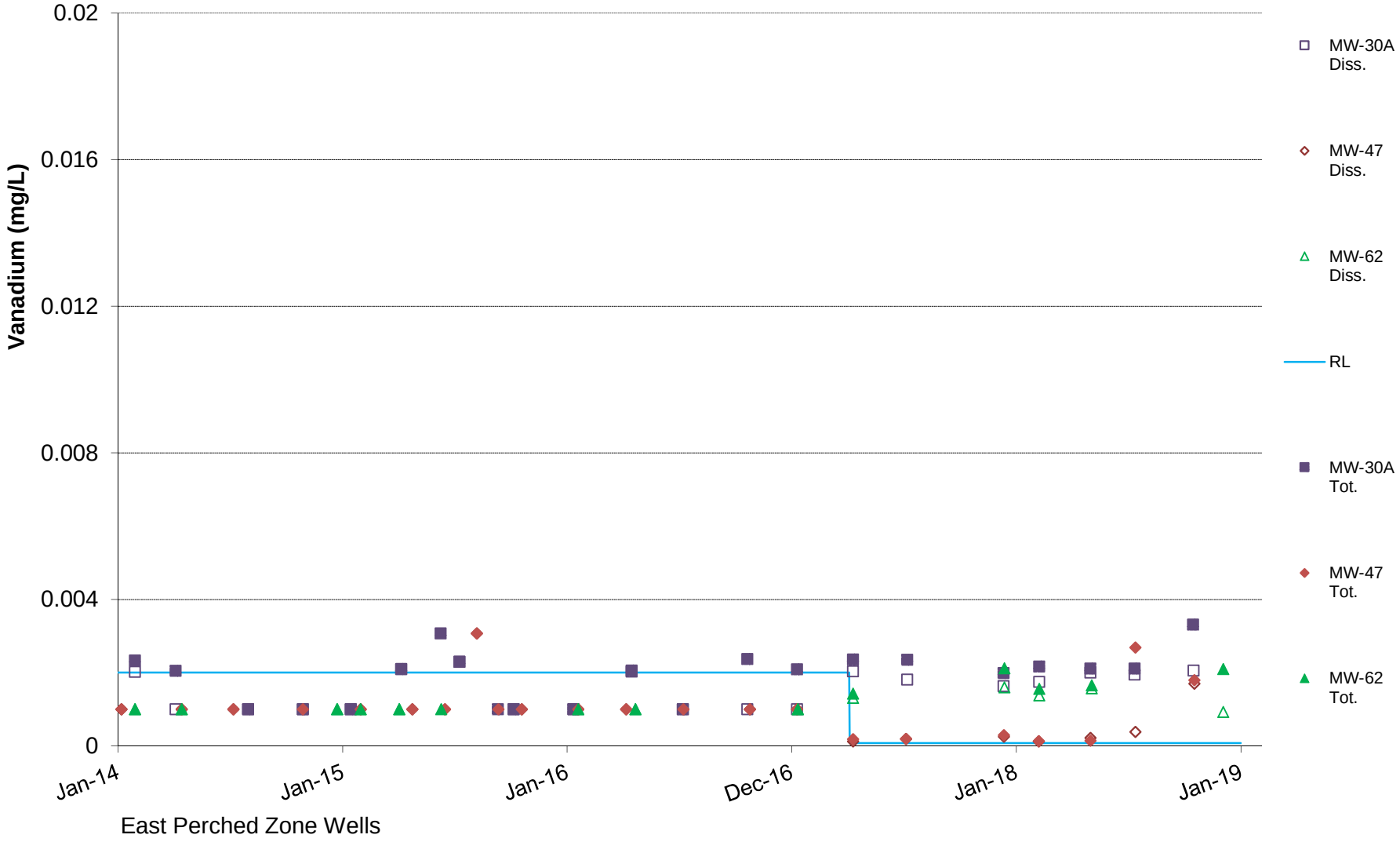

0.05
0.04
0.03
0.02
0.01
0
Cobalt (mg/L)
Jan-14
Jan-15
Jan-16
Dec-16
Jan-18
Jan-19
South Solid Waste Area Wells
MW-101 Tot.
MW-101 Diss.
RL

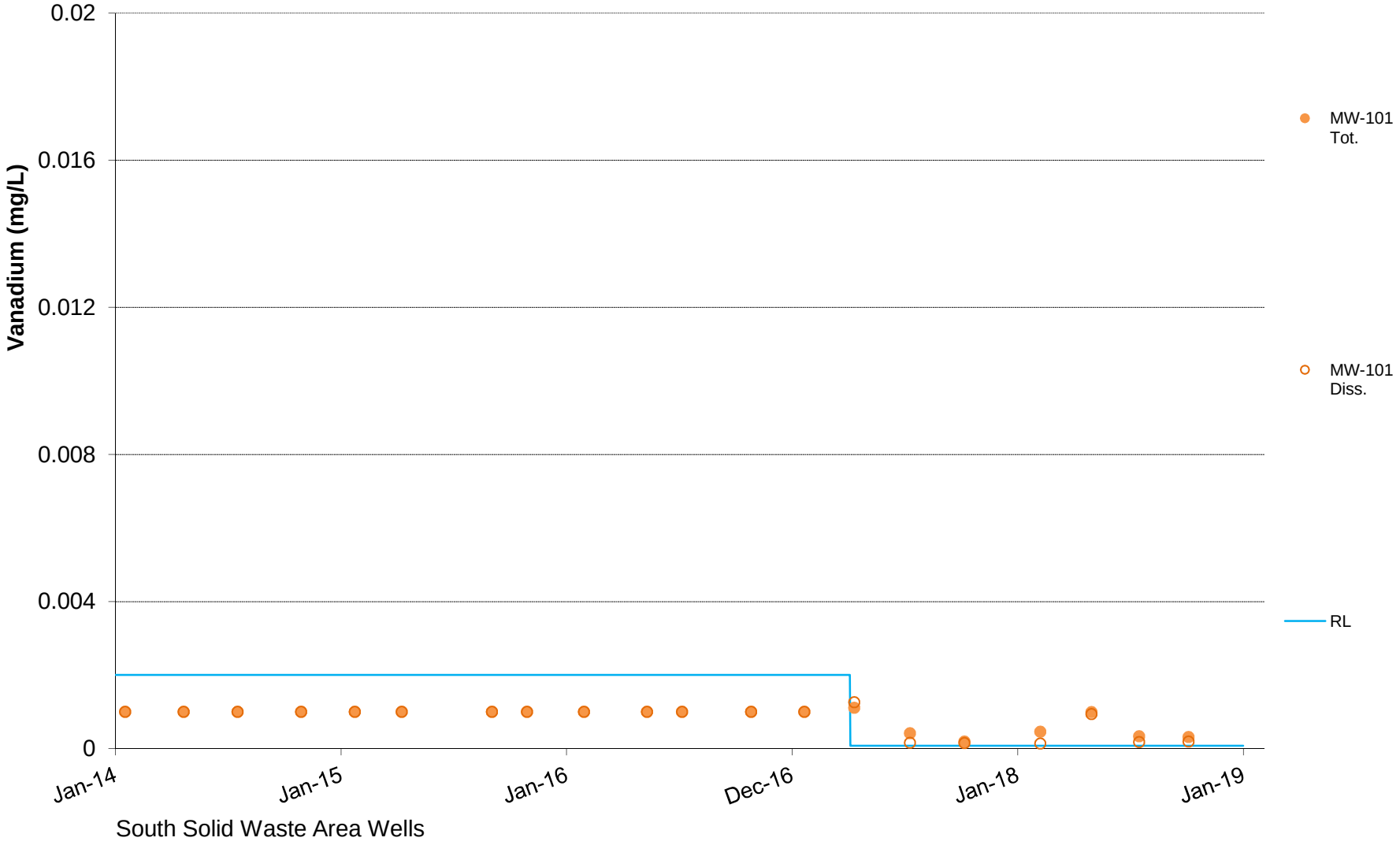

0.02
0.016
0.012
0.008
0.004
0
Copper (mg/L)
Jan-14
Jan-15
Jan-16
Dec-16
Jan-18
Jan-19
East Perched Zone Wells
MW-30A Diss.
MW-47 Diss.
MW-62 Diss.
RL
MW-30A Tot.
MW-47 Tot.
MW-62 Tot.

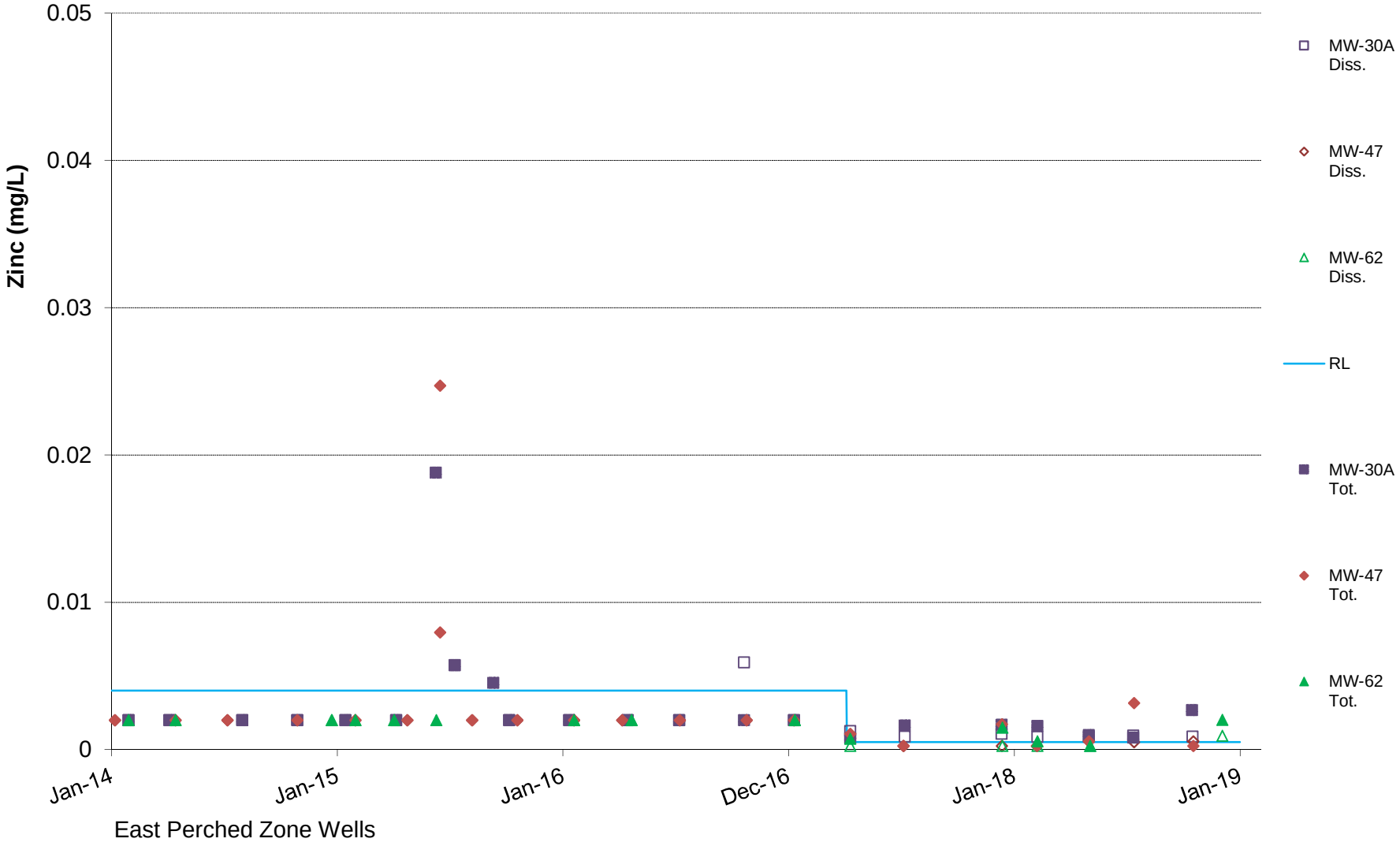

0.02
0.016
0.012
0.008
0.004
0
Copper (mg/L)
Jan-14
Jan-15
Jan-16
Dec-16
Jan-18
Jan-19
South Solid Waste Area Wells
MW-101 Tot.
MW-101 Diss.
RL

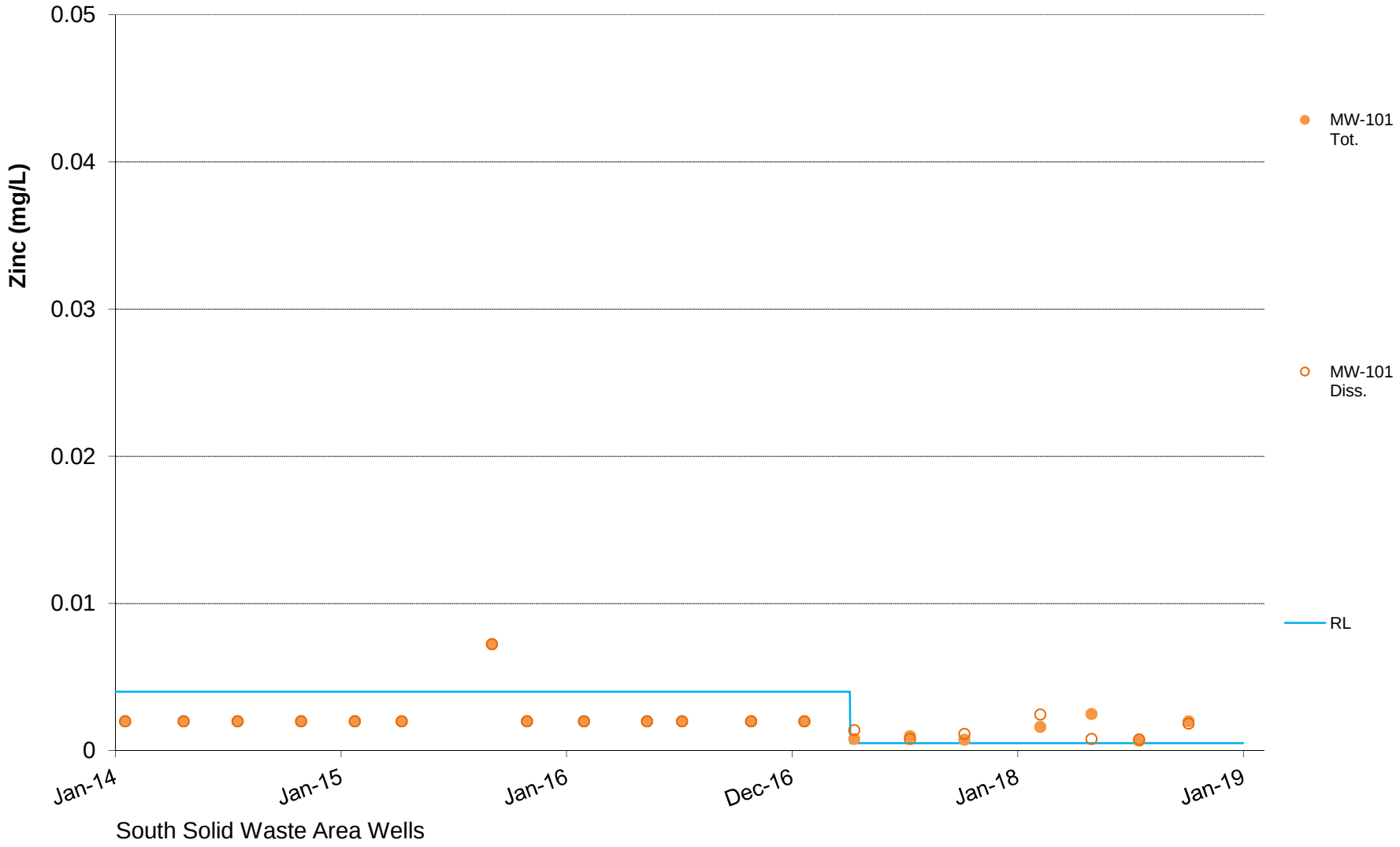

0.01
0.008
0.006
0.004
0.002
0
Lead (mg/L)
Jan-14
Jan-15
Jan-16
Dec-16
Jan-18
Jan-19
East Perched Zone Wells
MW-30A Diss.
MW-47 Diss.
MW-62 Diss.
RL
MW-30A Tot.
MW-47 Tot.
MW-62 Tot.

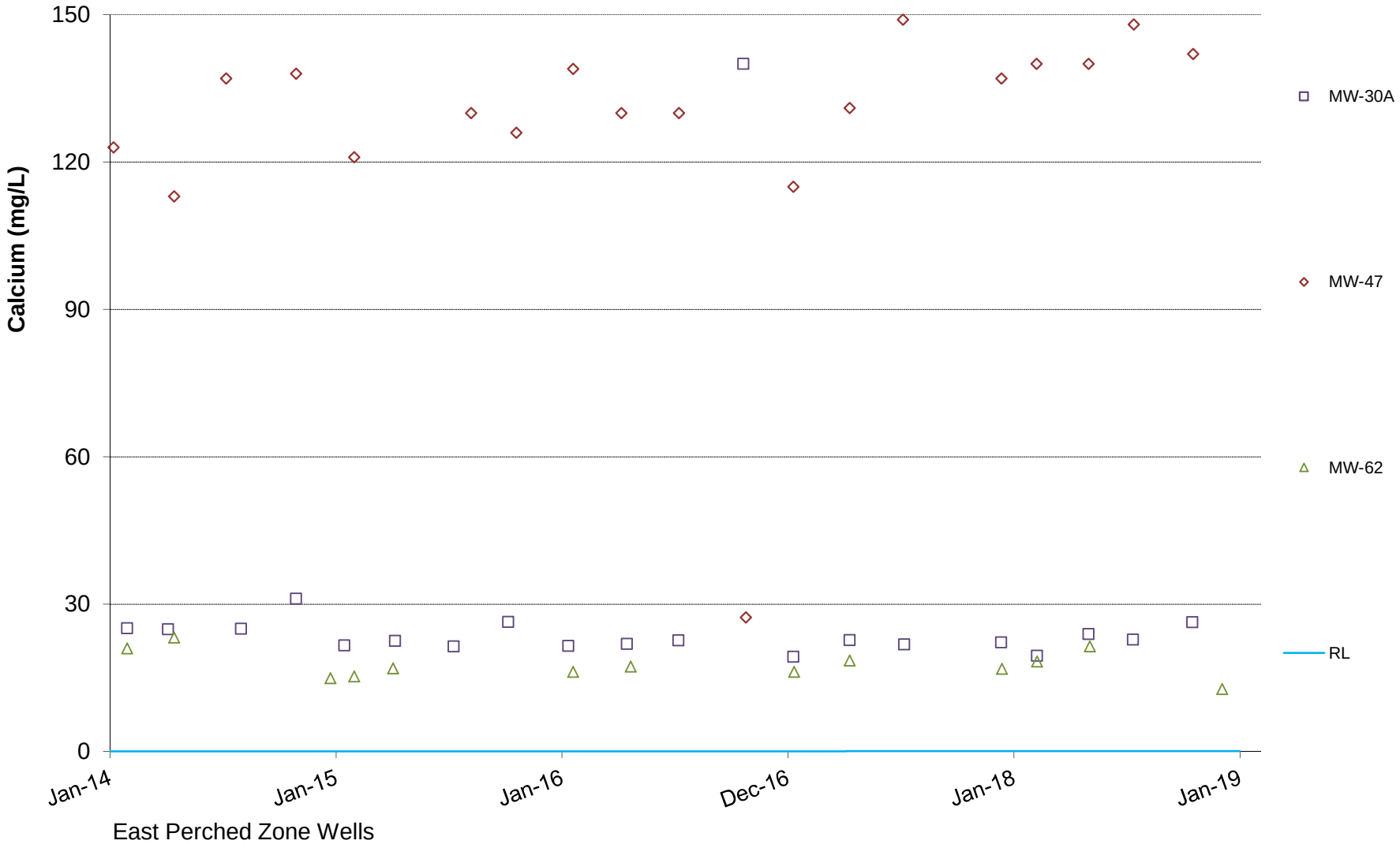

0.01
0.008
0.006
0.004
0.002
0
Lead (mg/L)
Jan-14
Jan-15
Jan-16
Dec-16
Jan-18
Jan-19
South Solid Waste Area Wells
MW-101 Tot.
MW-101 Diss.
RL

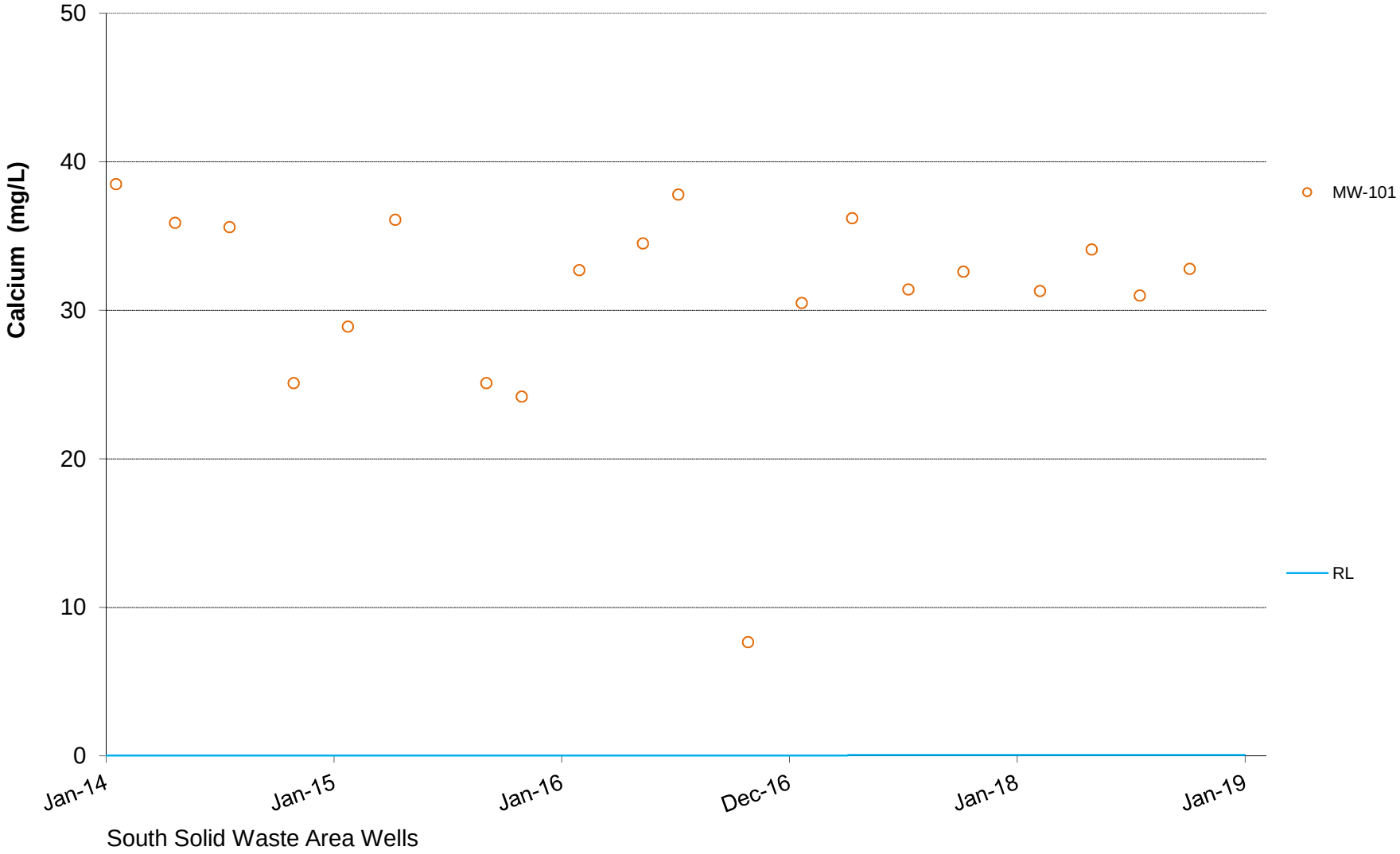

0.02
0.016
0.012
0.008
0.004
0
Vanadium (mg/L)
Jan-14
Jan-15
Jan-16
Dec-16
Jan-18
Jan-19
East Perched Zone Wells
MW-30A Diss.
MW-47 Diss.
MW-62 Diss.
RL
MW-30A Tot.
MW-47 Tot.
MW-62 Tot.

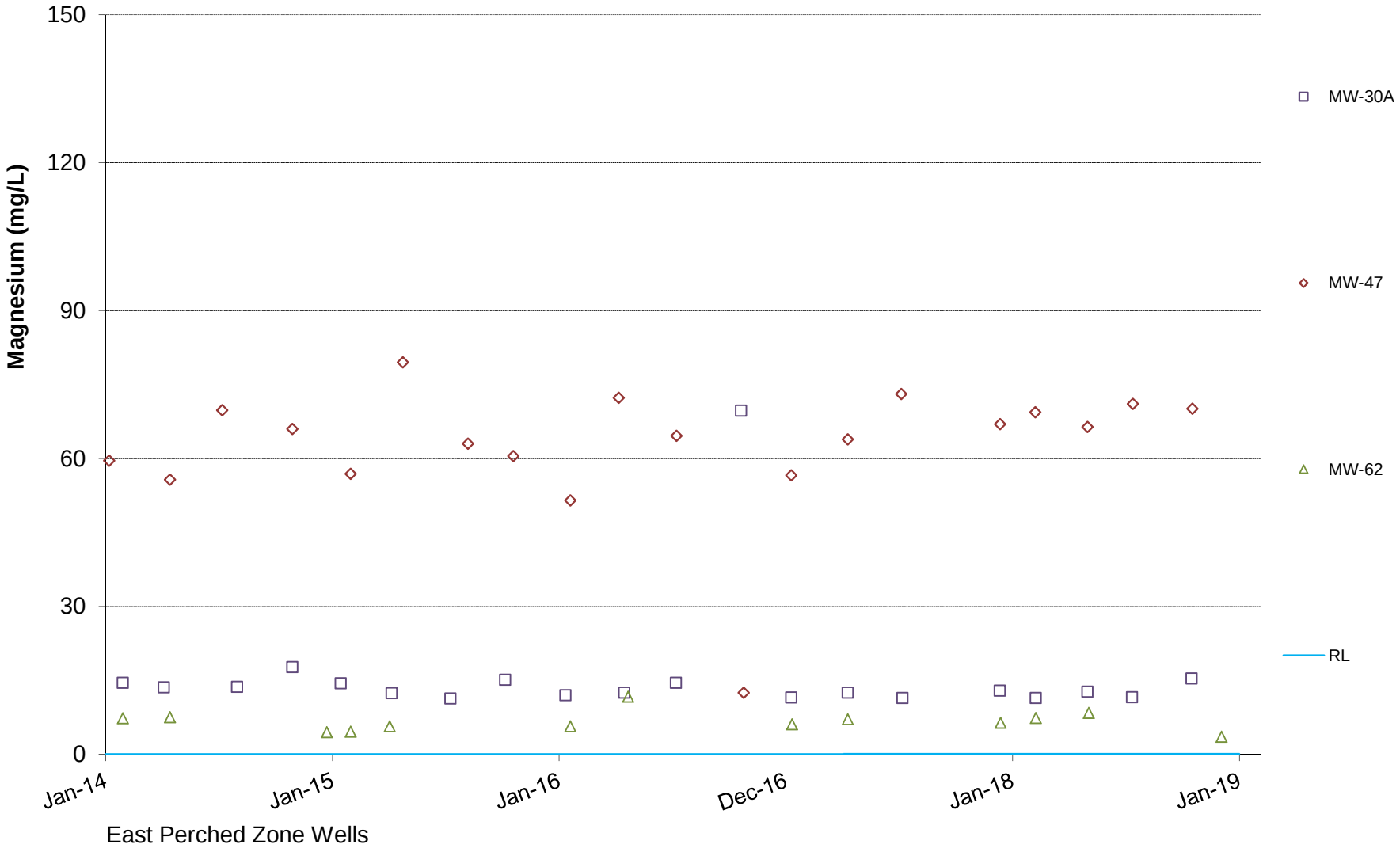

0.02
0.016
0.012
0.008
0.004
0
Vanadium (mg/L)
Jan-14
Jan-15
Jan-16
Dec-16
Jan-18
Jan-19
South Solid Waste Area Wells
MW-101 Tot.
MW-101 Diss.
RL

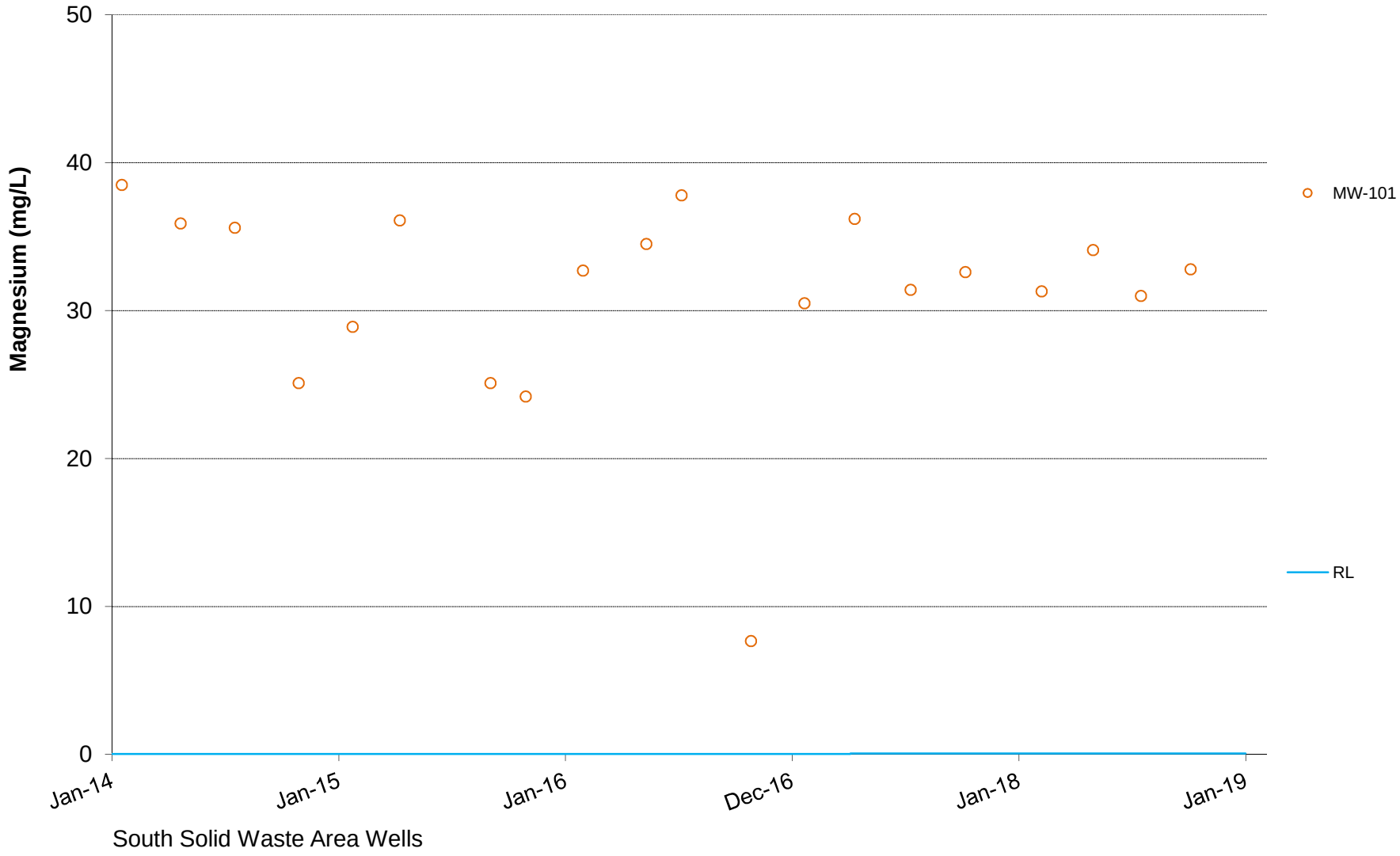

0.05
0.04
0.03
0.02
0.01
0
Zinc (mg/L)
Jan-14
Jan-15
Jan-16
Dec-16
Jan-18
Jan-19
East Perched Zone Wells
MW-30A Diss.
MW-47 Diss.
MW-62 Diss.
RL
MW-30A Tot.
MW-47 Tot.
MW-62 Tot.

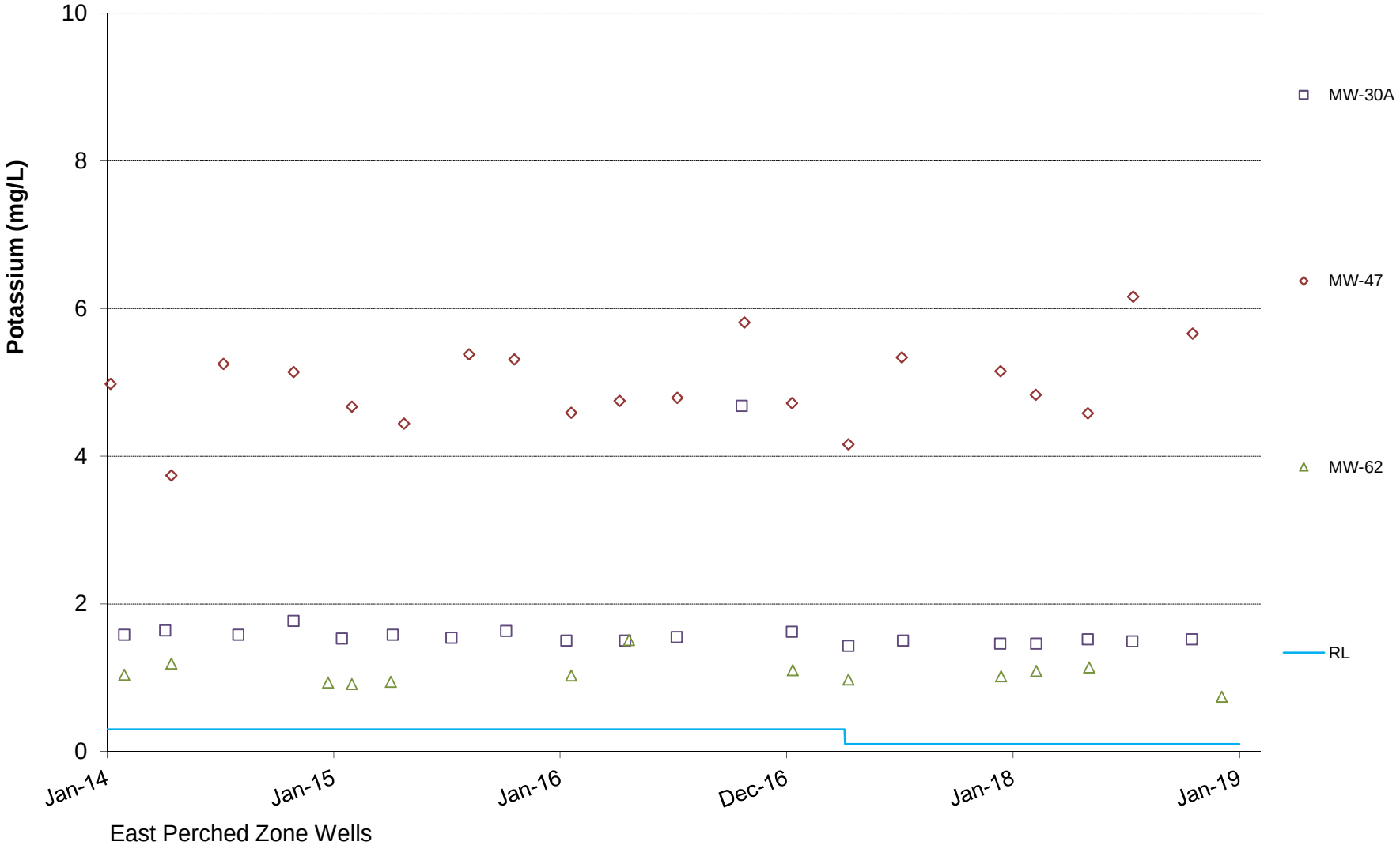

0.05
0.04
0.03
0.02
0.01
0
Zinc (mg/L)
Jan-14
Jan-15
Jan-16
Dec-16
Jan-18
Jan-19
South Solid Waste Area Wells
MW-101 Tot.
MW-101 Diss.
RL

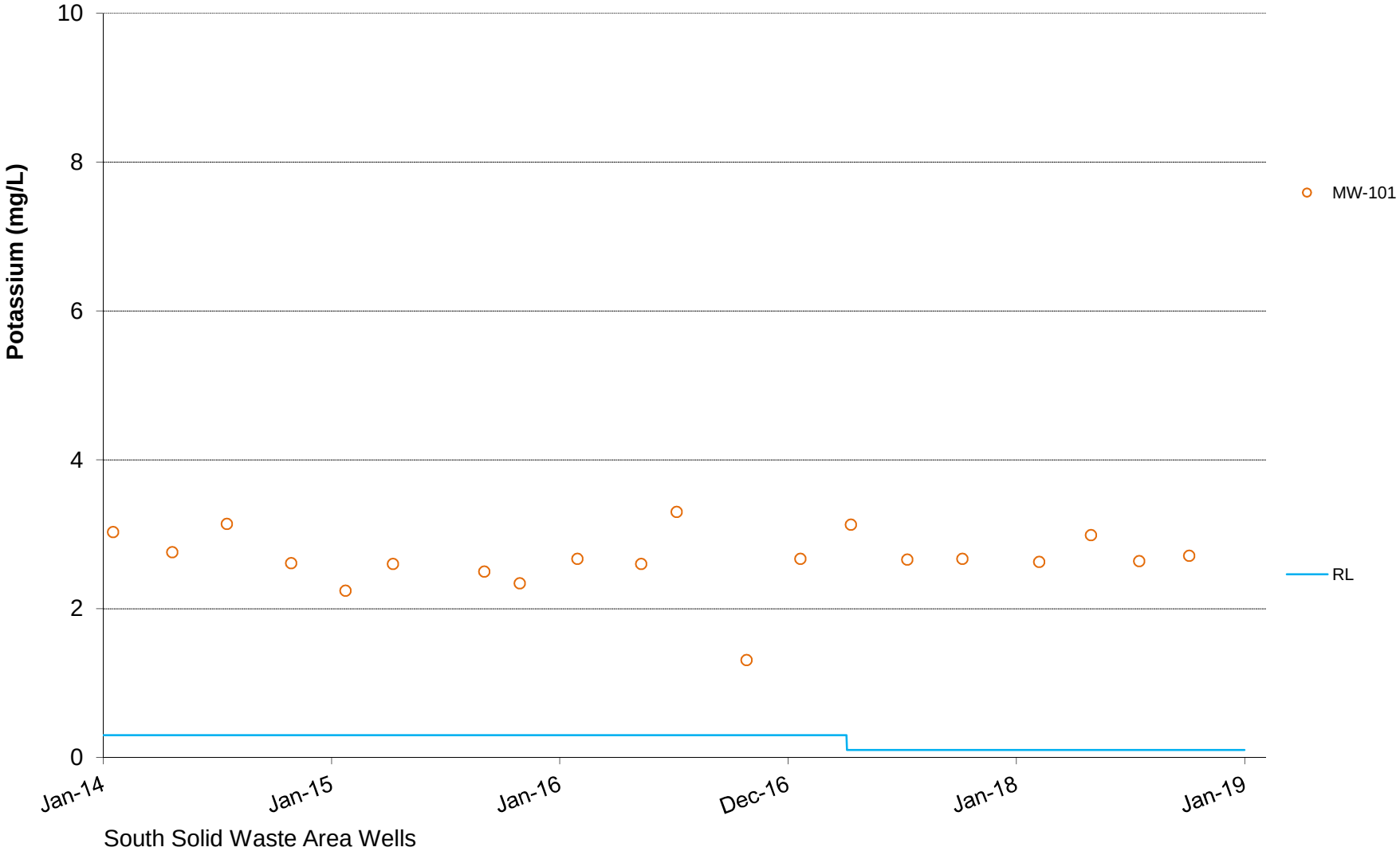

150
120
90
60
30
0
Calcium (mg/L)
Jan-14
Jan-15
Jan-16
Dec-16
Jan-18
Jan-19
East Perched Zone Wells
MW-30A
MW-47
MW-62
RL

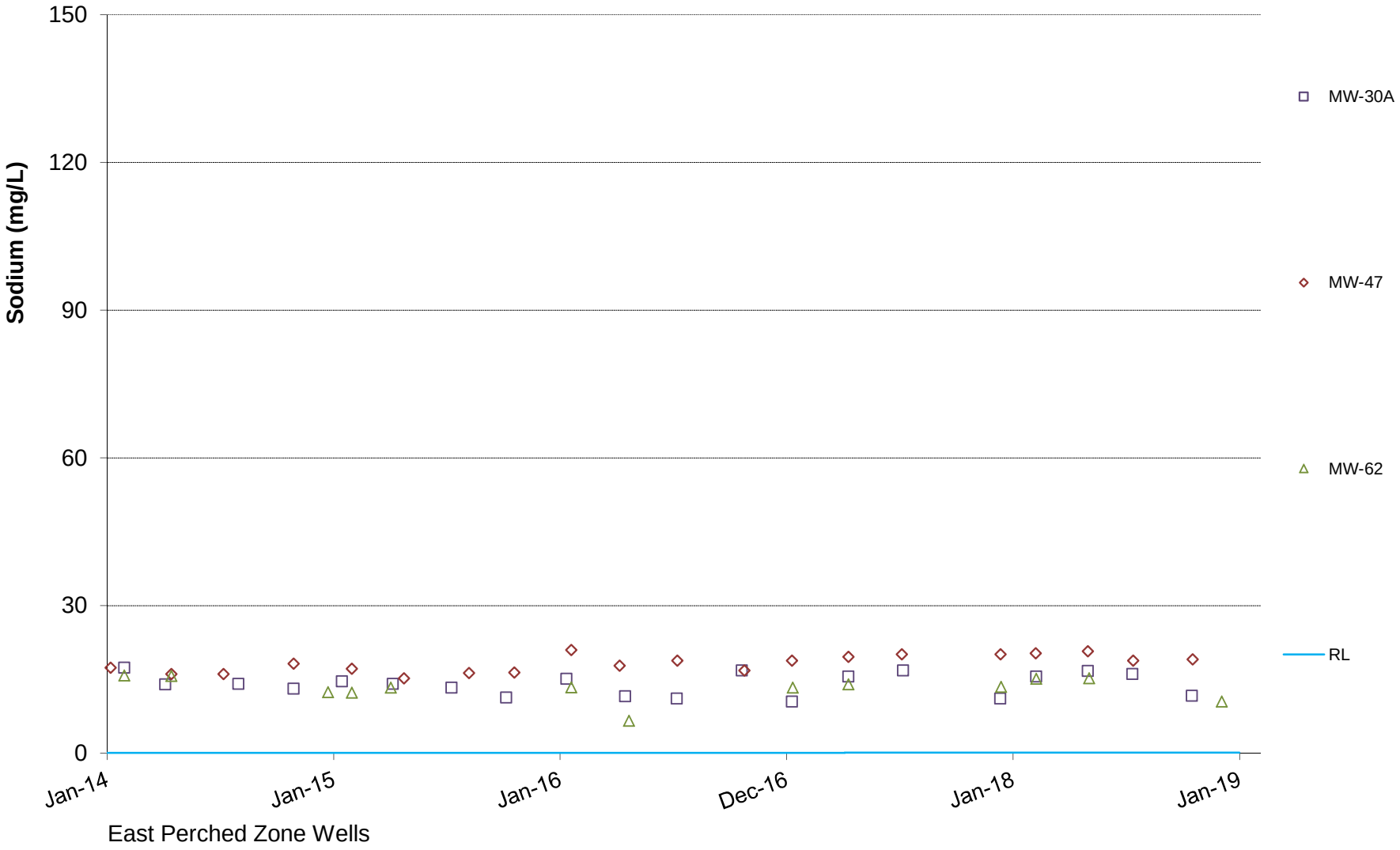

50
40
30
20
10
0
Calcium (mg/L)
Jan-14
Jan-15
Jan-16
Dec-16
Jan-18
Jan-19
South Solid Waste Area Wells
MW-101
RL

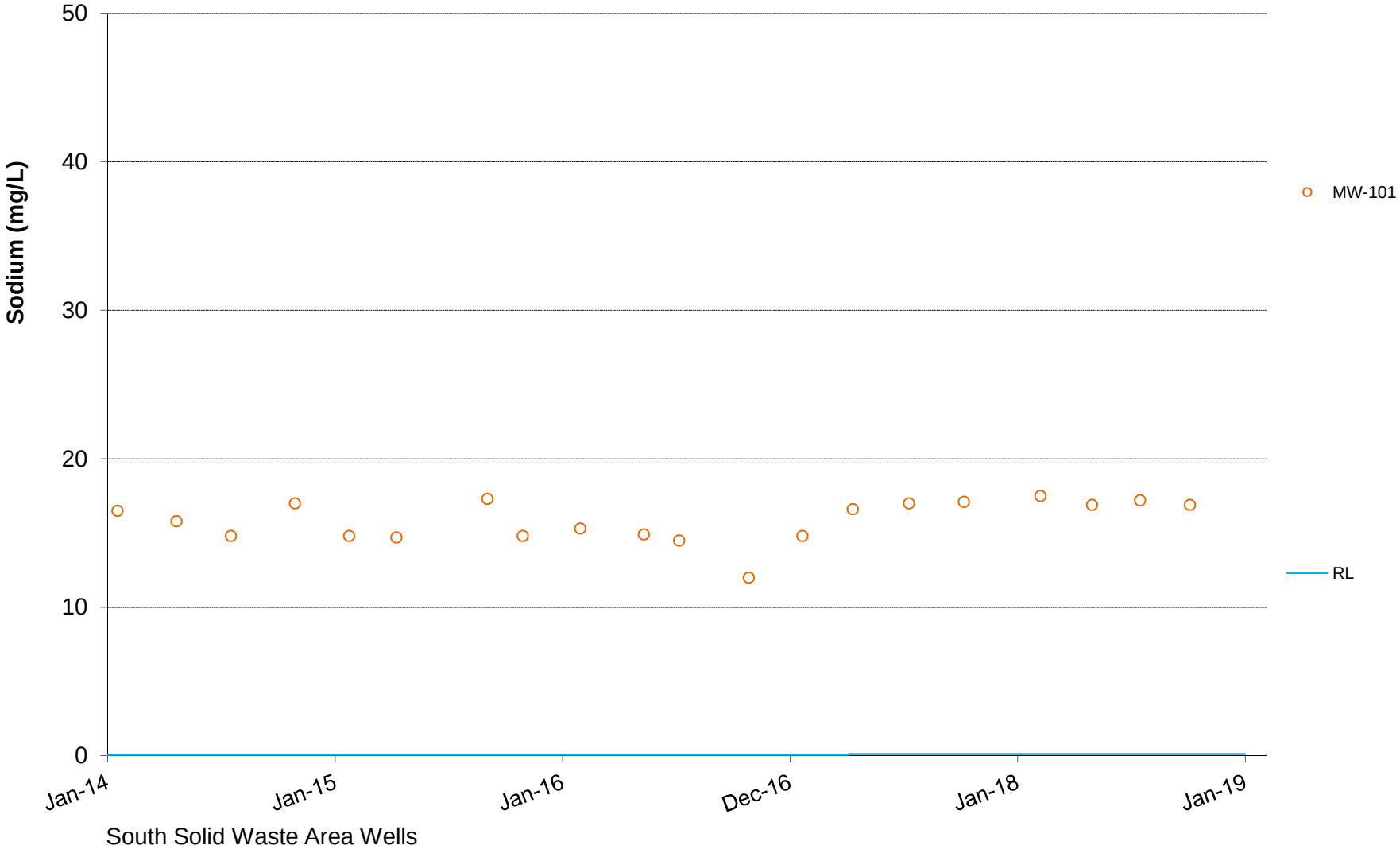

150
120
90
60
30
0
Magnesium (mg/L)
Jan-14
Jan-15
Jan-16
Dec-16
Jan-18
Jan-19
East Perched Zone Wells
MW-30A
MW-47
MW-62
RL

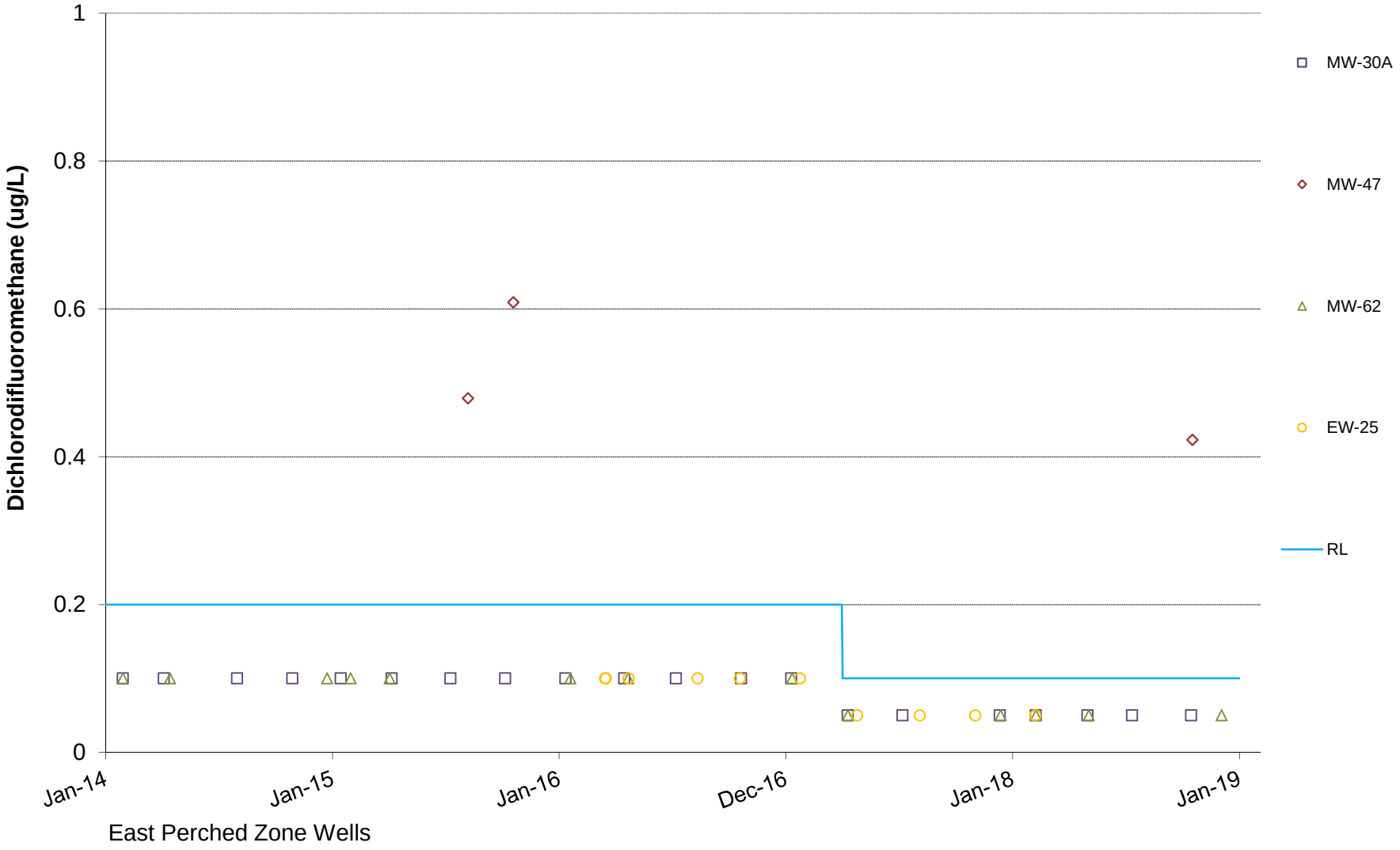

50
40
30
20
10
0
Magnesium (mg/L)
Jan-14
Jan-15
Jan-16
Dec-16
Jan-18
Jan-19
South Solid Waste Area Wells
MW-101
RL

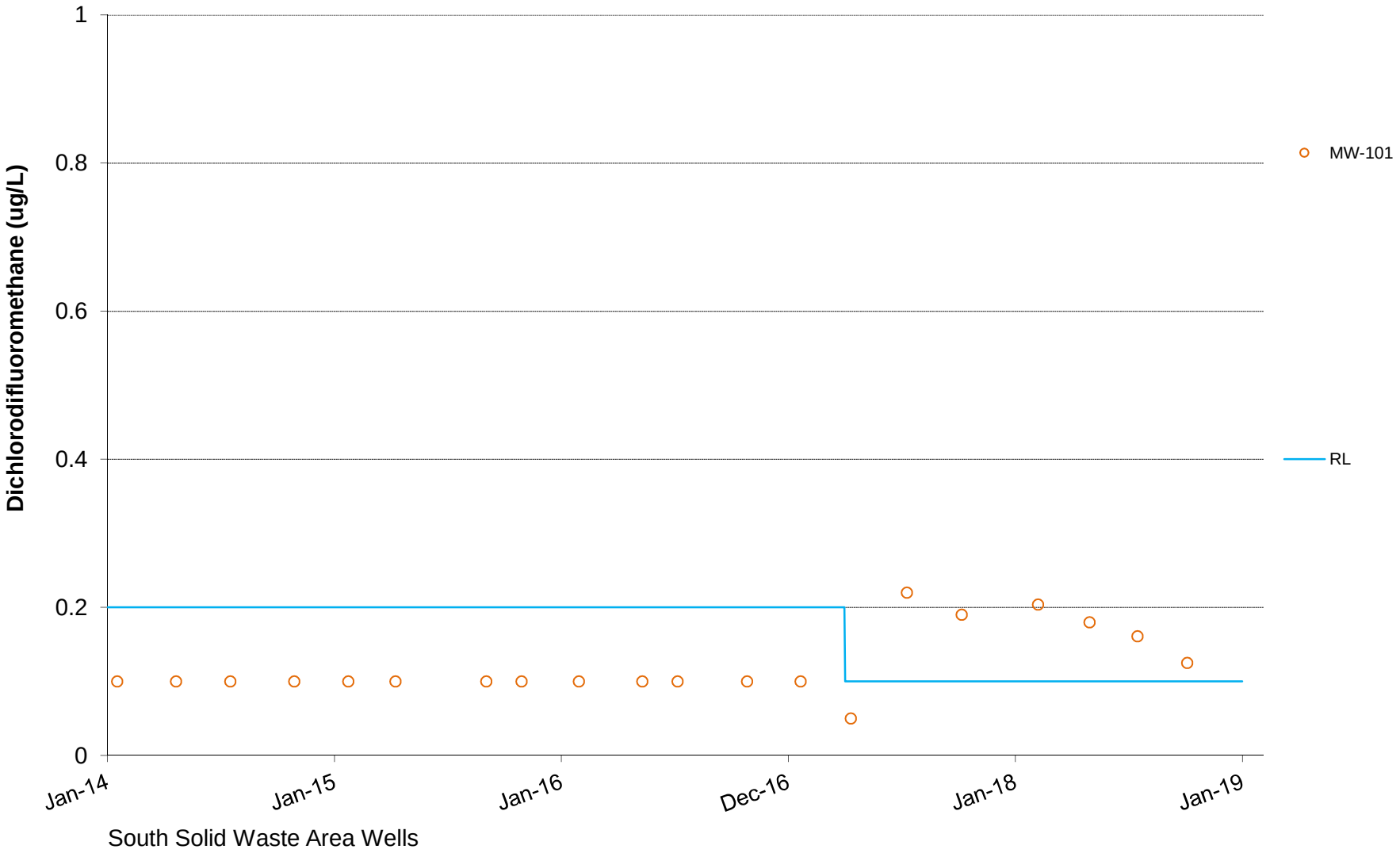

Potassium (mg/L)
10
8
6
4
2
0
Jan-14
Jan-15
Jan-16
Dec-16
Jan-18
Jan-19
East Perched Zone Wells
MW-30A
MW-47
MW-62
RL

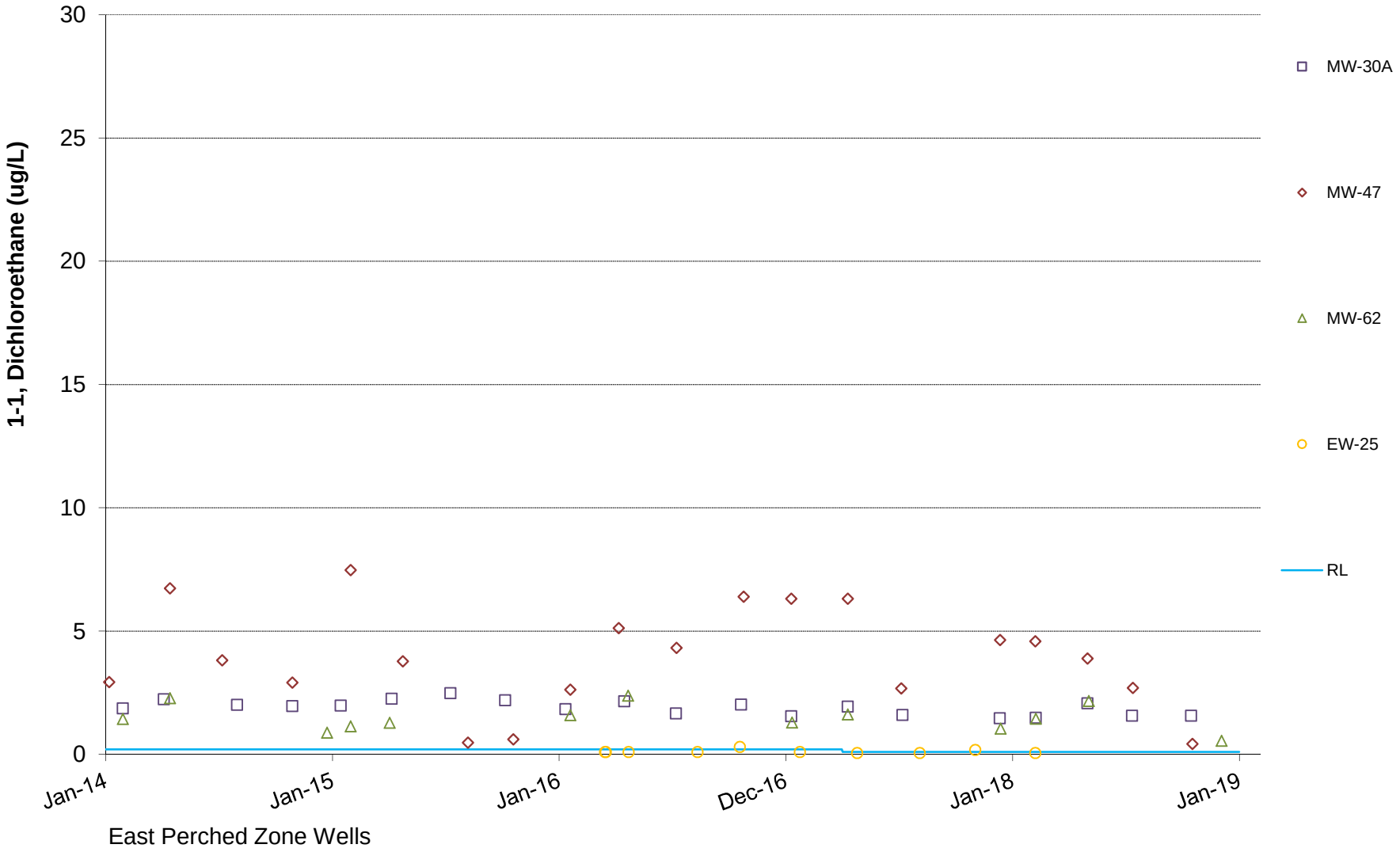

10
8
6
4
2
0
Potassium (mg/L)
Jan-14
Jan-15
Jan-16
Dec-16
Jan-18
Jan-19
South Solid Waste Area Wells
MW-101
RL

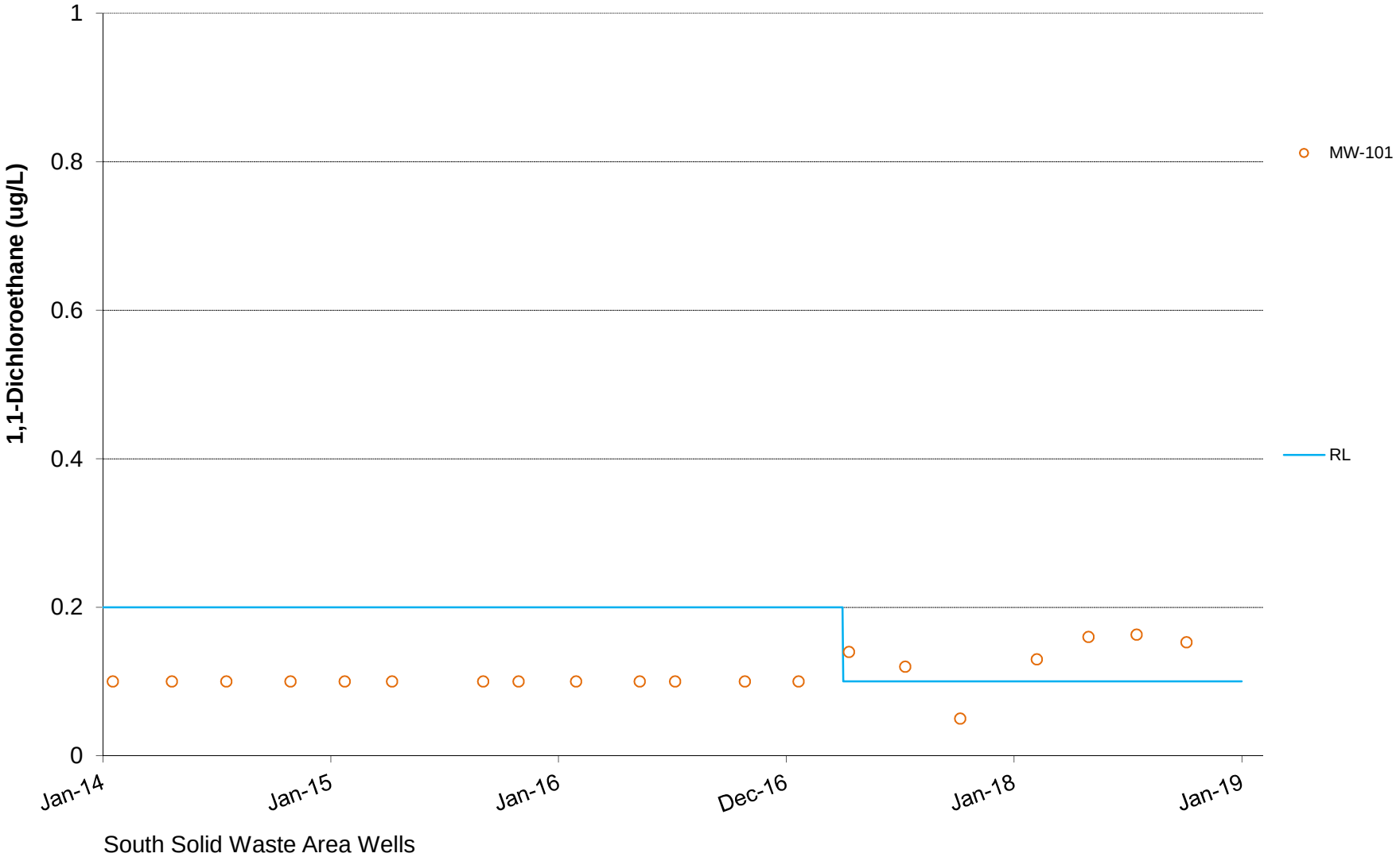

150
120
90
60
30
0
Sodium (mg/L)
Jan-14
Jan-15
Jan-16
Dec-16
Jan-18
Jan-19
East Perched Zone Wells
MW-30A
MW-47
MW-62
RL

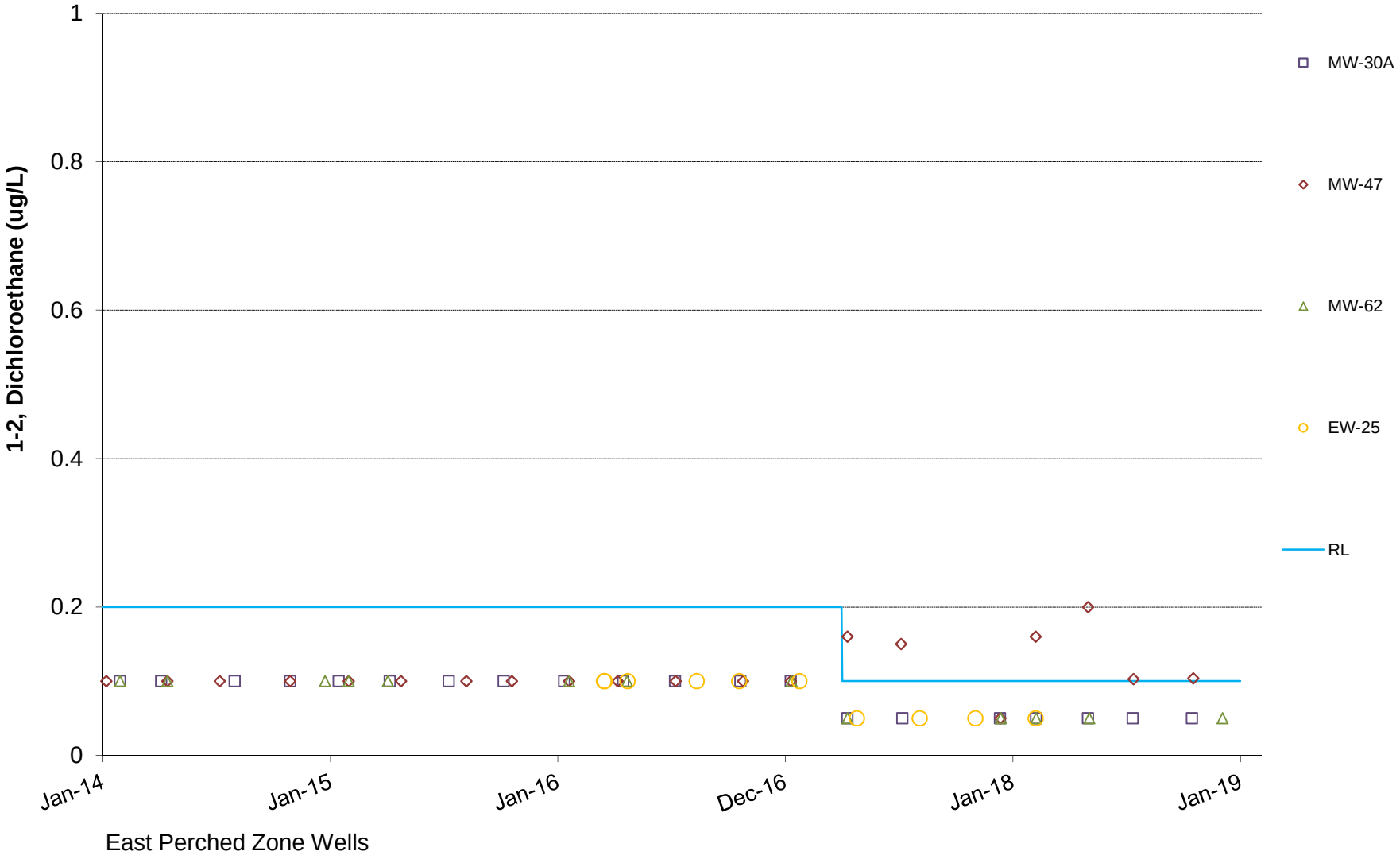

50
40
30
20
10
0
Sodium (mg/L)
Jan-14
Jan-15
Jan-16
Dec-16
Jan-18
Jan-19
South Solid Waste Area Wells
MW-101
RL

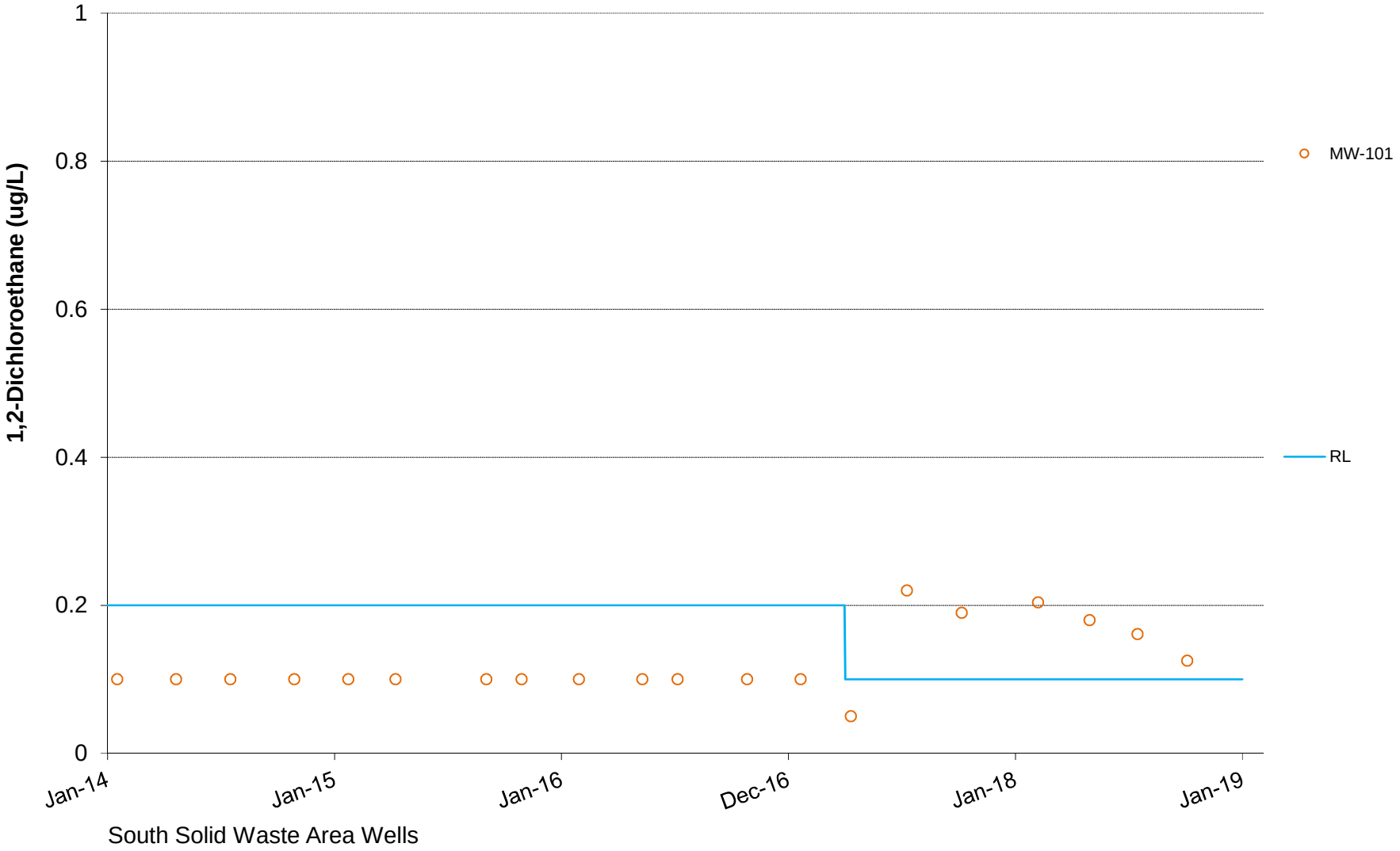

Dichlorodifluoromethane (ug/L)
1
0.8
0.6
0.4
0.2
0
Jan-14
Jan-15
Jan-16
Dec-16
Jan-18
Jan-19
East Perched Zone Wells
MW-30A
MW-47
MW-62
EW-25
RL

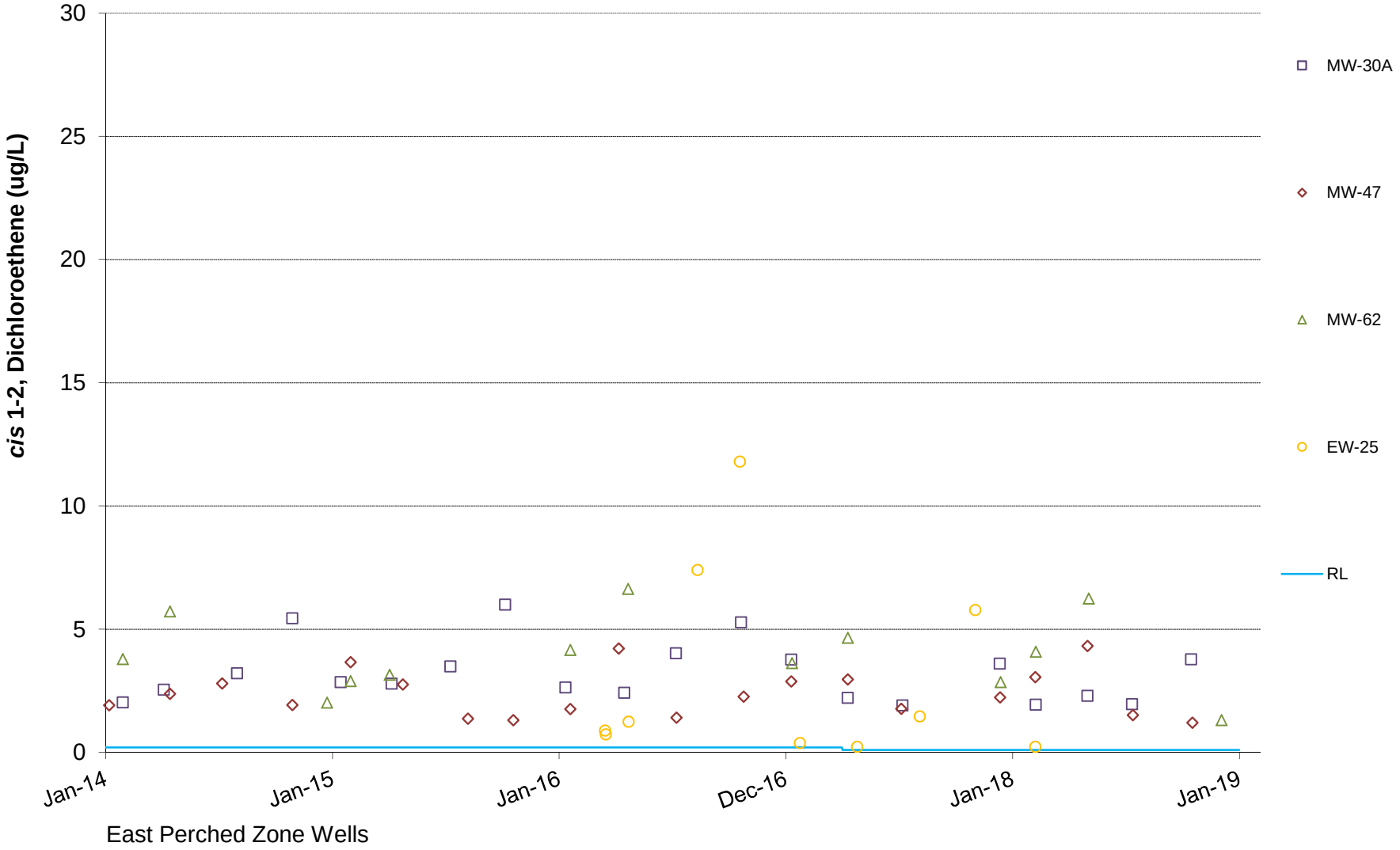

Dichlorodifluoromethane (ug/L)
1
0.8
0.6
0.4
0.2
0
Jan-14
Jan-15
Jan-16
Dec-16
Jan-18
Jan-19
South Solid Waste Area Wells
MW-101
RL

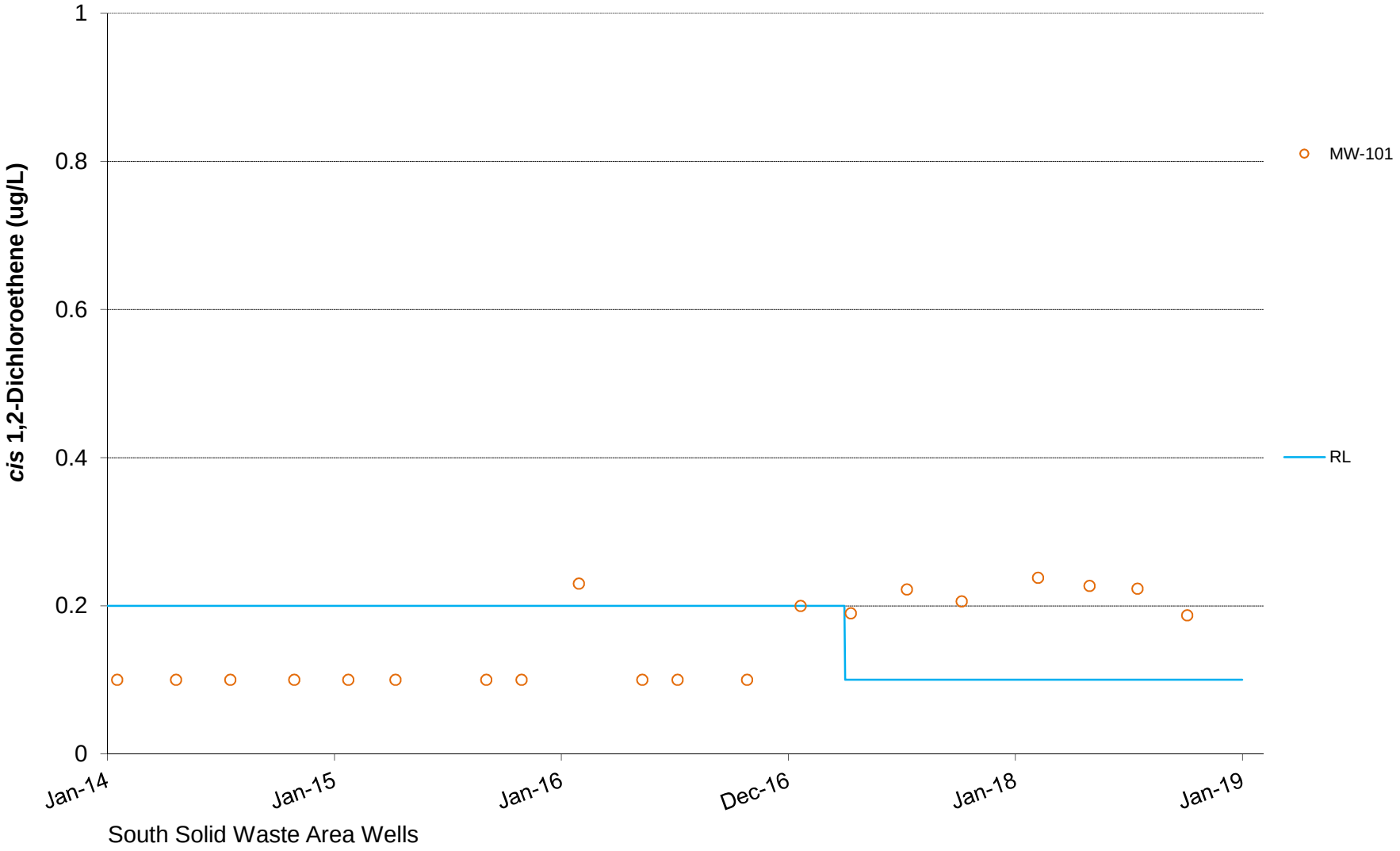

1-1, Dichloroethane (ug/L)
30
25
20
15
10
5
0
Jan-14
Jan-15
Jan-16
Dec-16
Jan-18
Jan-19
East Perched Zone Wells
MW-30A
MW-47
MW-62
EW-25
RL

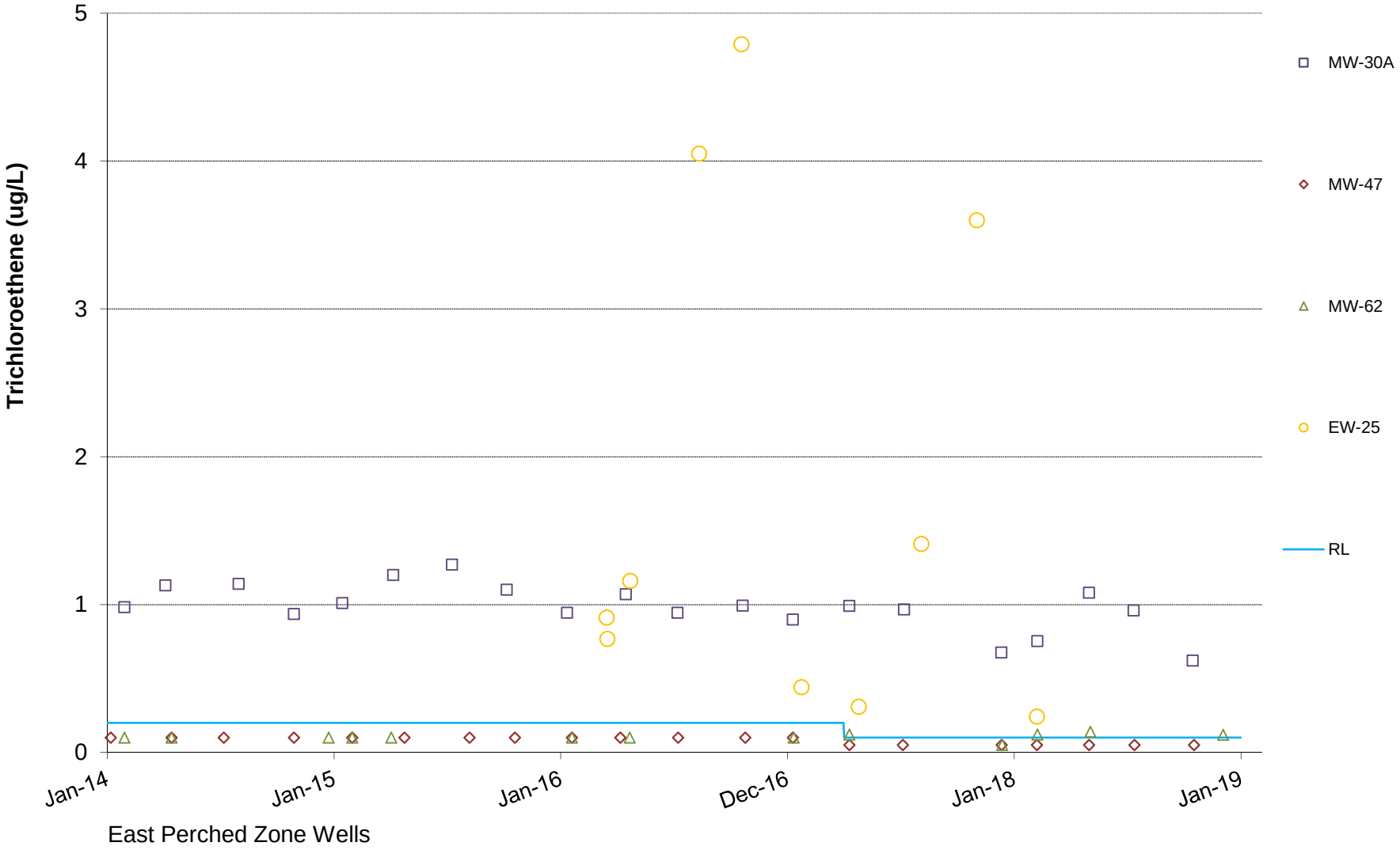

1
0.8
0.6
0.4
0.2
0
1,1-Dichloroethane (ug/L)
Jan-14
Jan-15
Jan-16
Dec-16
Jan-18
Jan-19
South Solid Waste Area Wells
MW-101
RL

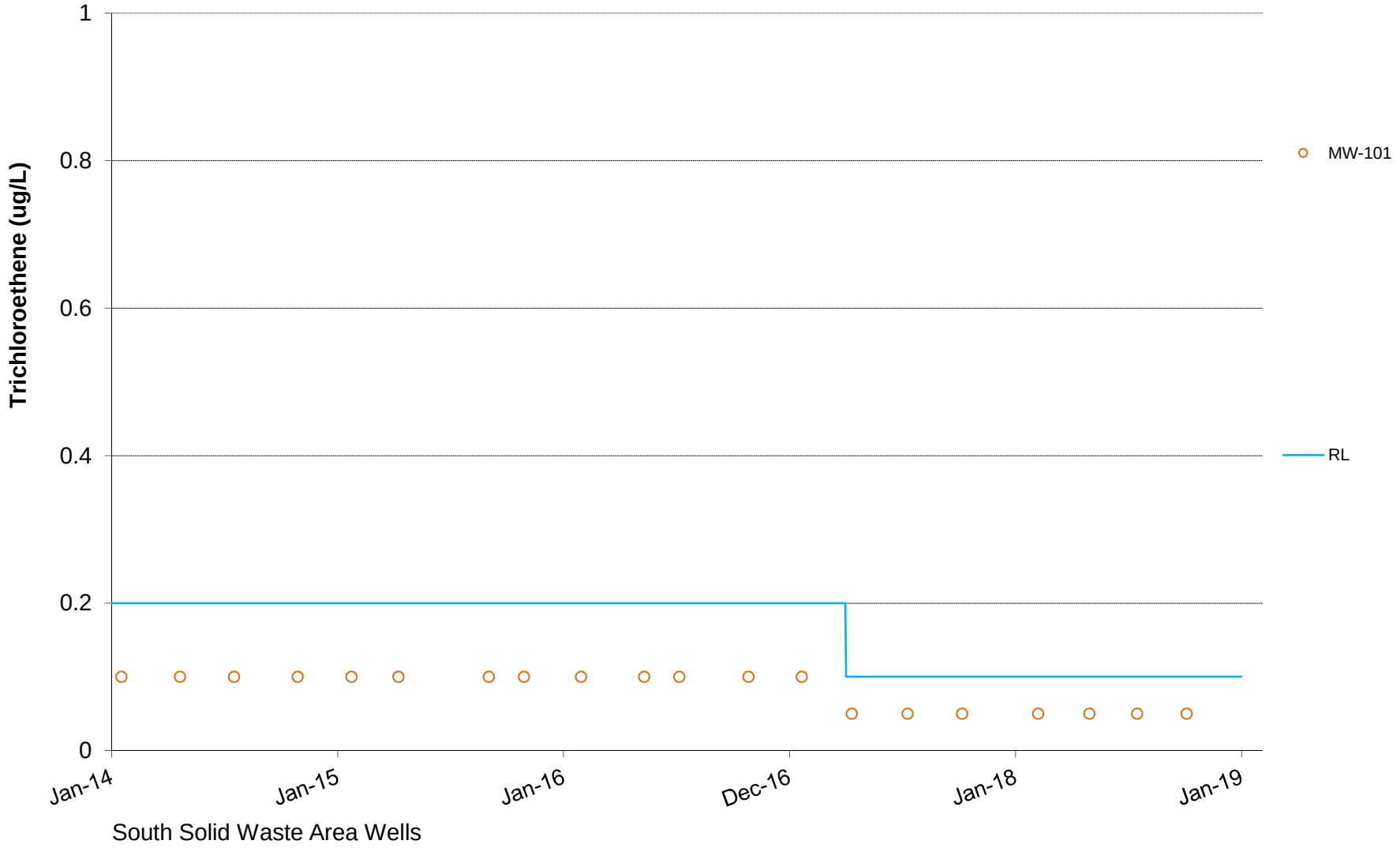

1
0.8
0.6
0.4
0.2
0
1-2, Dichloroethane (ug/L)
Jan-14
Jan-15
Jan-16
Dec-16
Jan-18
Jan-19
East Perched Zone Wells
MW-30A
MW-47
MW-62
EW-25
RL

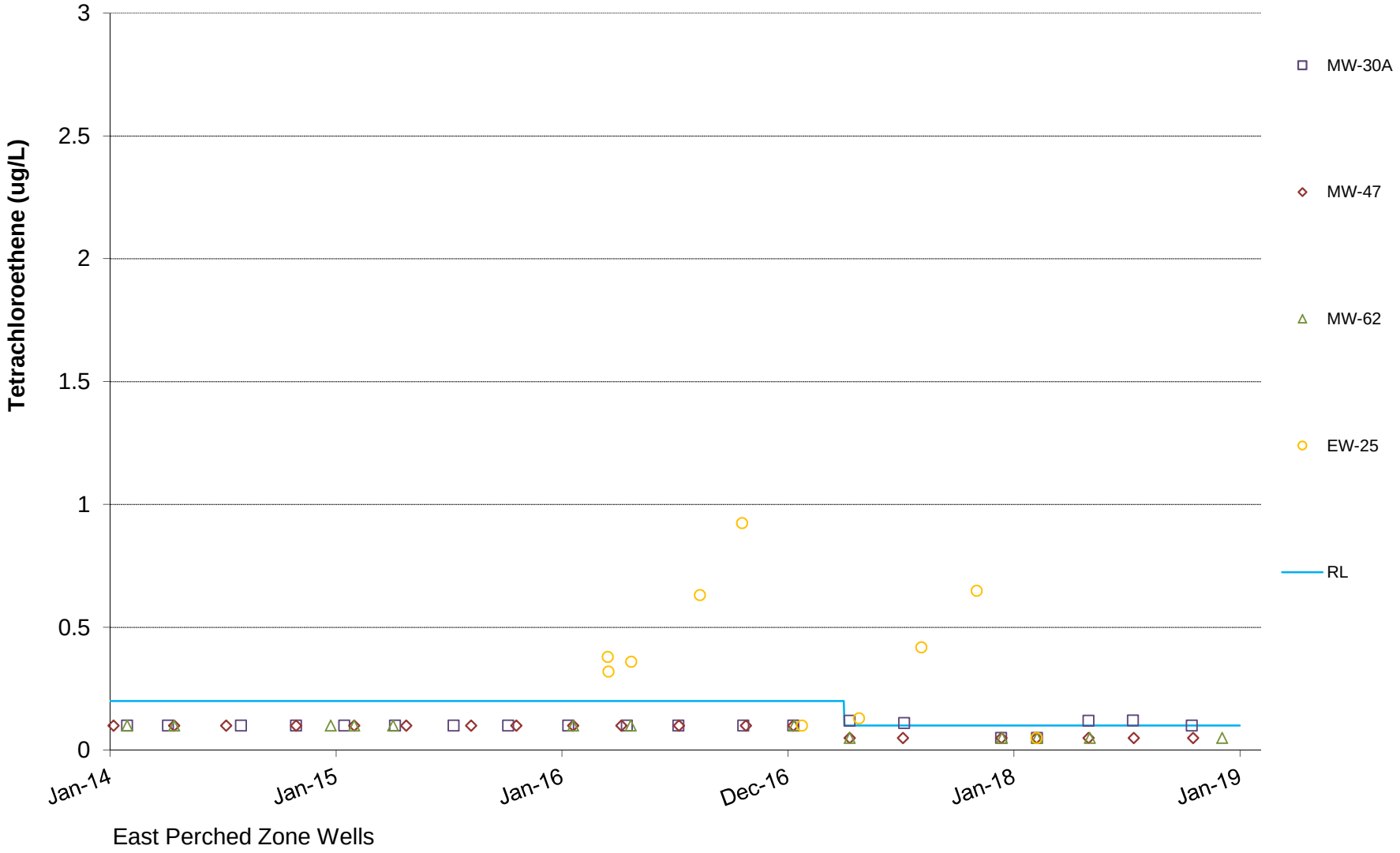

1
0.8
0.6
0.4
0.2
0
1,2-Dichloroethane (ug/L)
Jan-14
Jan-15
Jan-16
Dec-16
Jan-18
Jan-19
South Solid Waste Area Wells
MW-101
RL

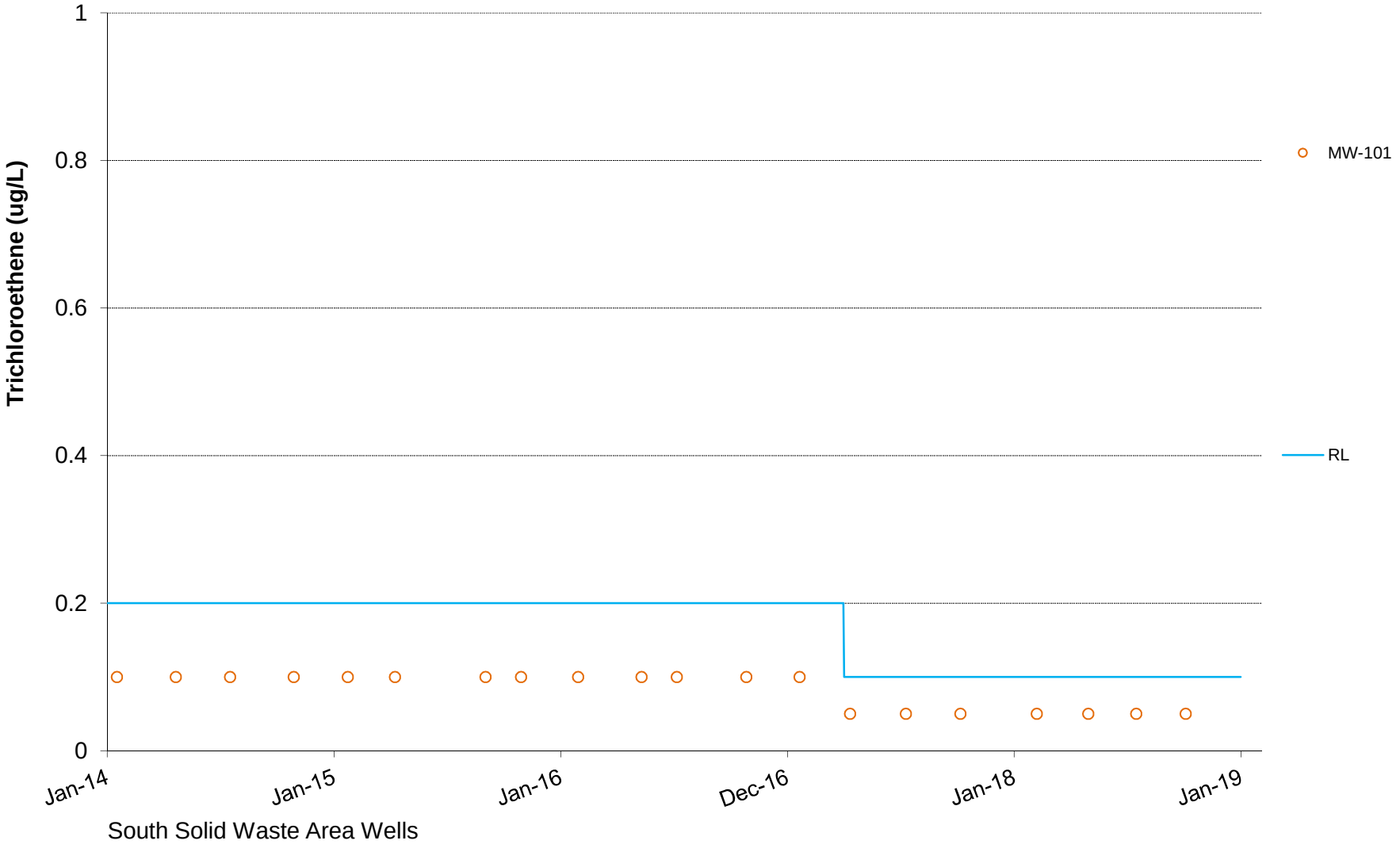

30
25
20
15
10
5
0
cis 1-2, Dichloroethene (ug/L)
Jan-14
Jan-15
Jan-16
Dec-16
Jan-18
Jan-19
East Perched Zone Wells
MW-30A
MW-47
MW-62
EW-25
RL

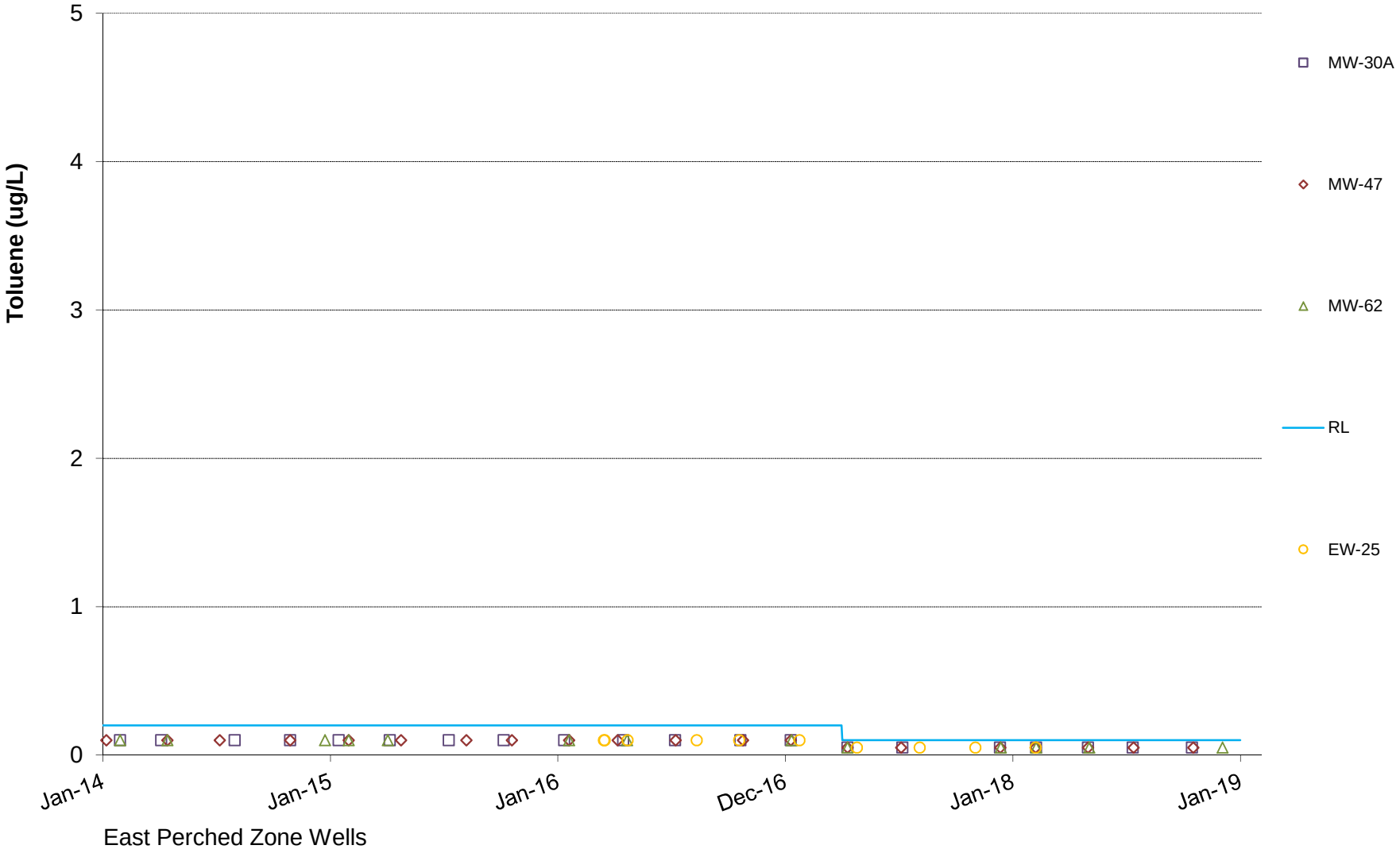

1
0.8
0.6
0.4
0.2
0
cis 1,2-Dichloroethene (ug/L)
Jan-14
Jan-15
Jan-16
Dec-16
Jan-18
Jan-19
South Solid Waste Area Wells
MW-101
RL

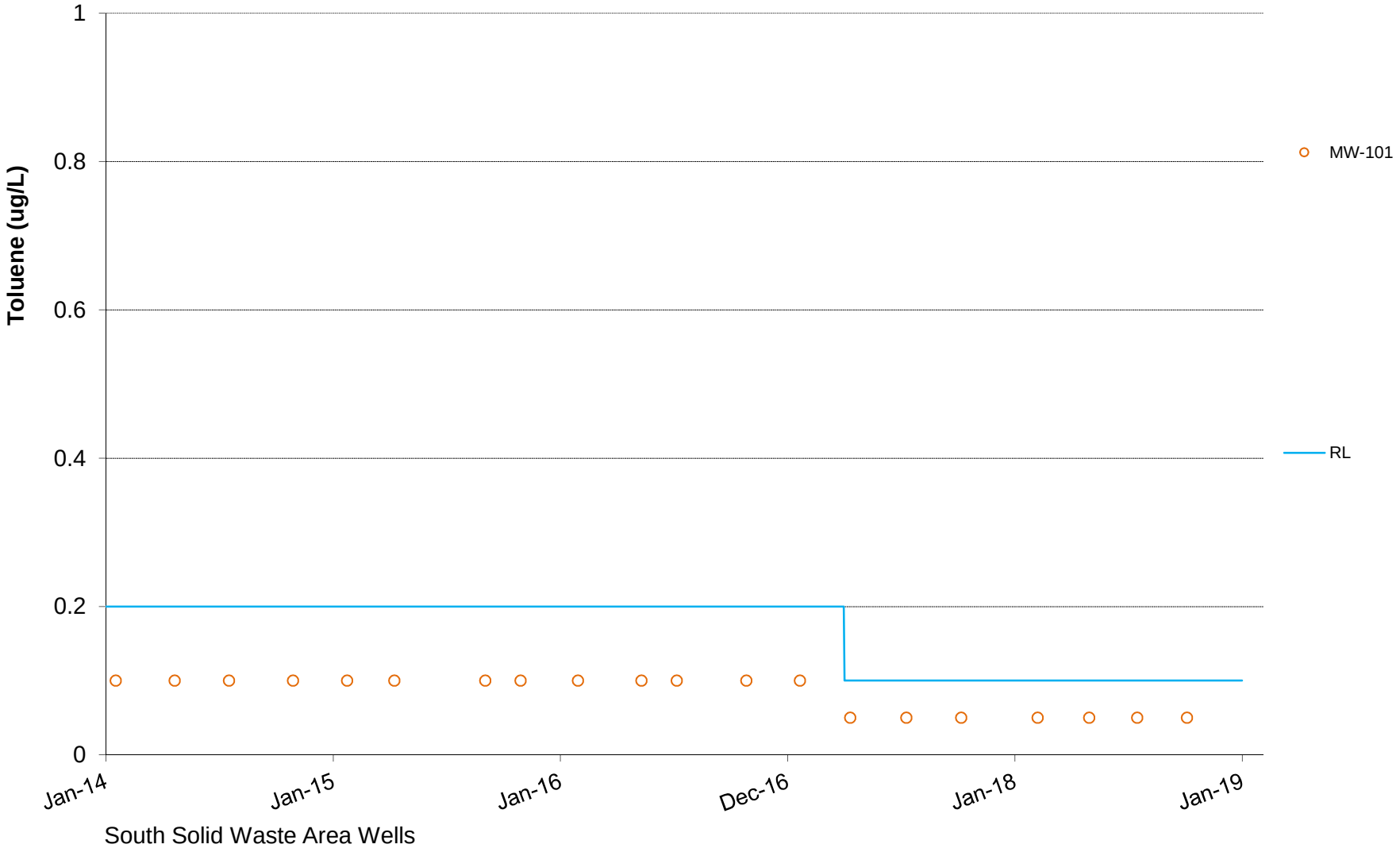

Trichloroethene (ug/L)
5
4
3
2
1
0
Jan-14
Jan-15
Jan-16
Dec-16
Jan-18
Jan-19
East Perched Zone Wells
MW-30A
MW-47
MW-62
EW-25
RL

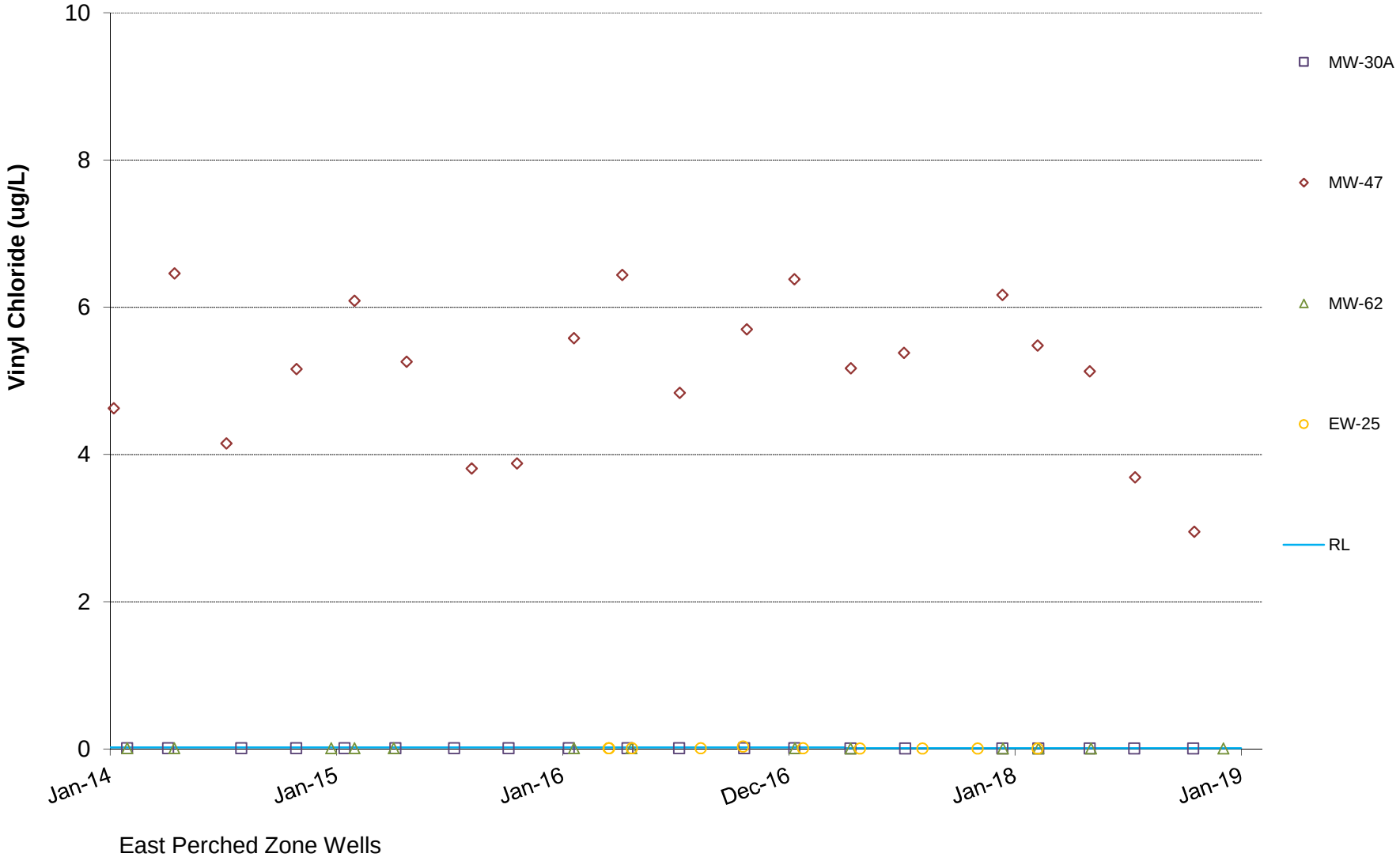

1
0.8
0.6
0.4
0.2
0
Trichloroethene (ug/L)
Jan-14
Jan-15
Jan-16
Dec-16
Jan-18
Jan-19
South Solid Waste Area Wells
MW-101
RL

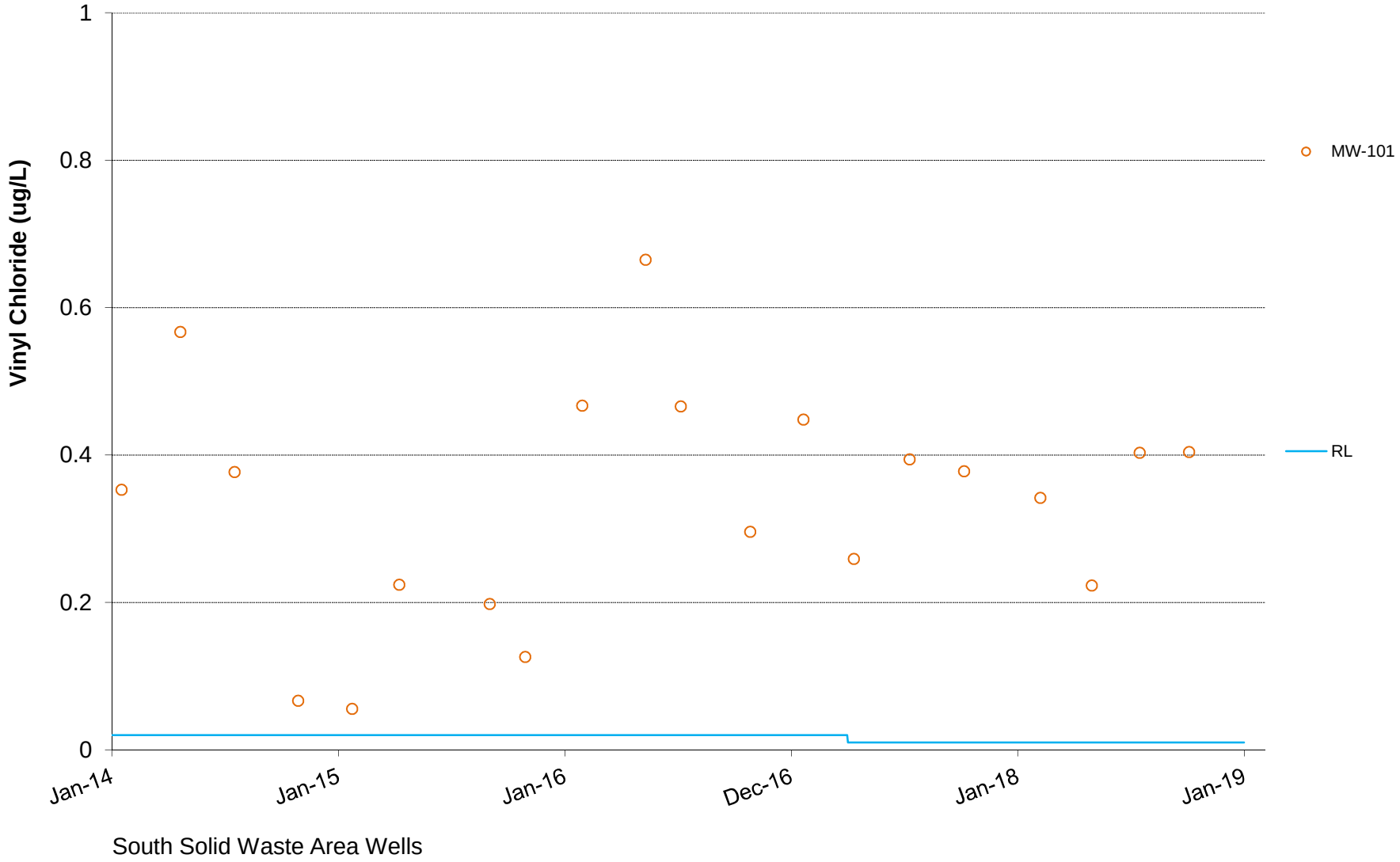

Tetrachloroethene (ug/L)
3
2.5
2
1.5
1
0.5
0
Jan-14
Jan-15
Jan-16
Dec-16
Jan-18
Jan-19
East Perched Zone Wells
MW-30A
MW-47
MW-62
EW-25
RL


1
0.8
0.6
0.4
0.2
0
Trichloroethene (ug/L)
Jan-14
Jan-15
Jan-16
Dec-16
Jan-18
Jan-19
South Solid Waste Area Wells
MW-101
RL


Toluene (ug/L)
5
4
3
2
1
0
Jan-14
Jan-15
Jan-16
Dec-16
Jan-18
Jan-19
East Perched Zone Wells
MW-30A
MW-47
MW-62
RL
EW-25


1
0.8
0.6
0.4
0.2
0
Toluene (ug/L)
Jan-14
Jan-15
Jan-16
Dec-16
Jan-18
Jan-19
South Solid Waste Area Wells
MW-101
RL


Vinyl Chloride (ug/L)
10
8
6
4
2
0
Jan-14
Jan-15
Jan-16
Dec-16
Jan-18
Jan-19
MW-30A
MW-47
MW-62
EW-25
RL
East Perched Zone Wells


Vinyl Chloride (ug/L)
1
0.8
0.6
0.4
0.2
0
Jan-14
Jan-15
Jan-16
Dec-16
Jan-18
Jan-19
MW-101
RL
South Solid Waste Area Wells

PART 6

Trilinear Diagrams and Ion Balance Calculations

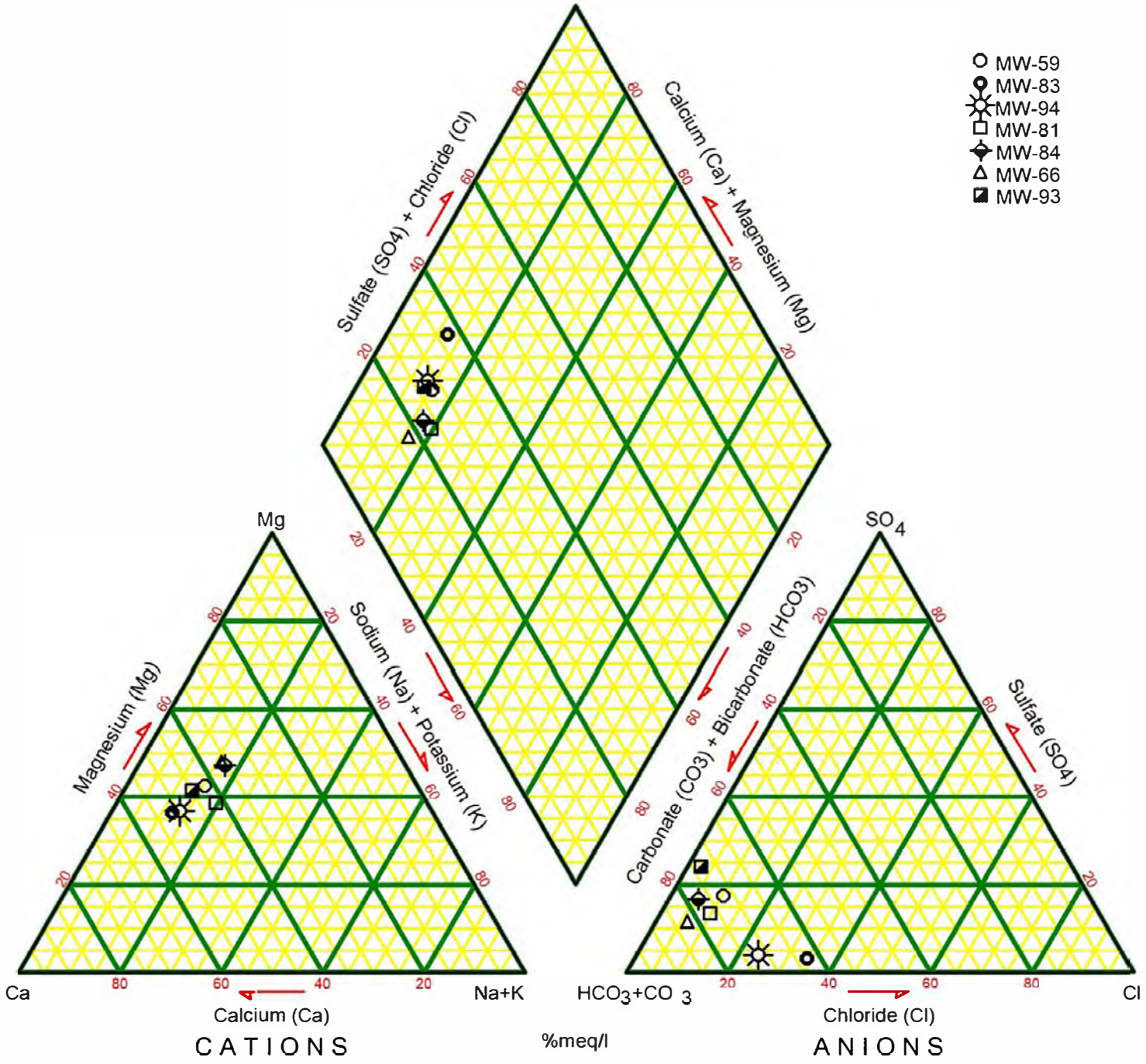
Regional Aquifer

East Main Hill Perched Zone

South Solid Waste Area Perched Wells

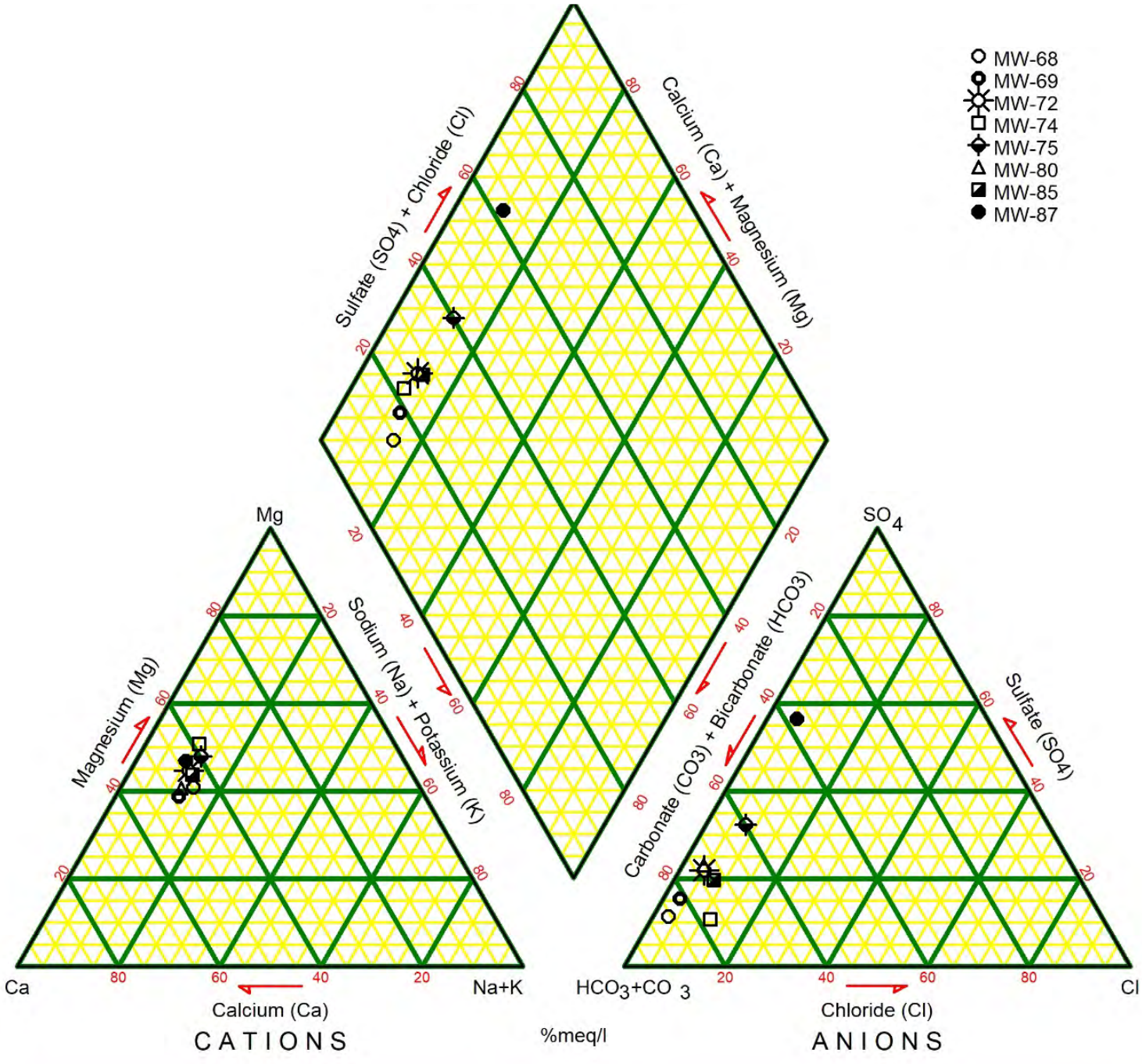
Cedar Hills Regional Landfill

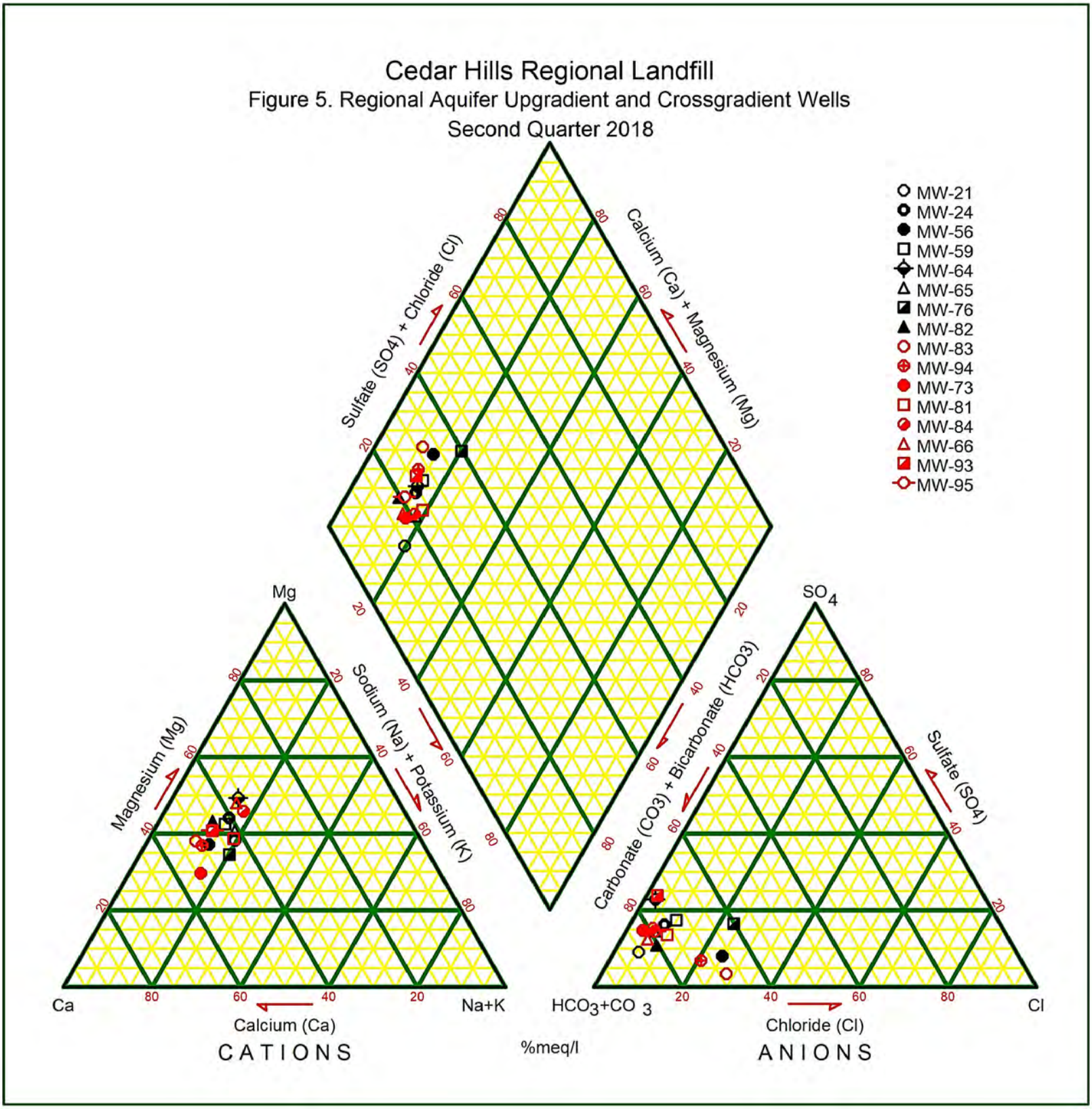
Figure 5. Regional Aquifer Upgradient Wells
First Quarter 2018

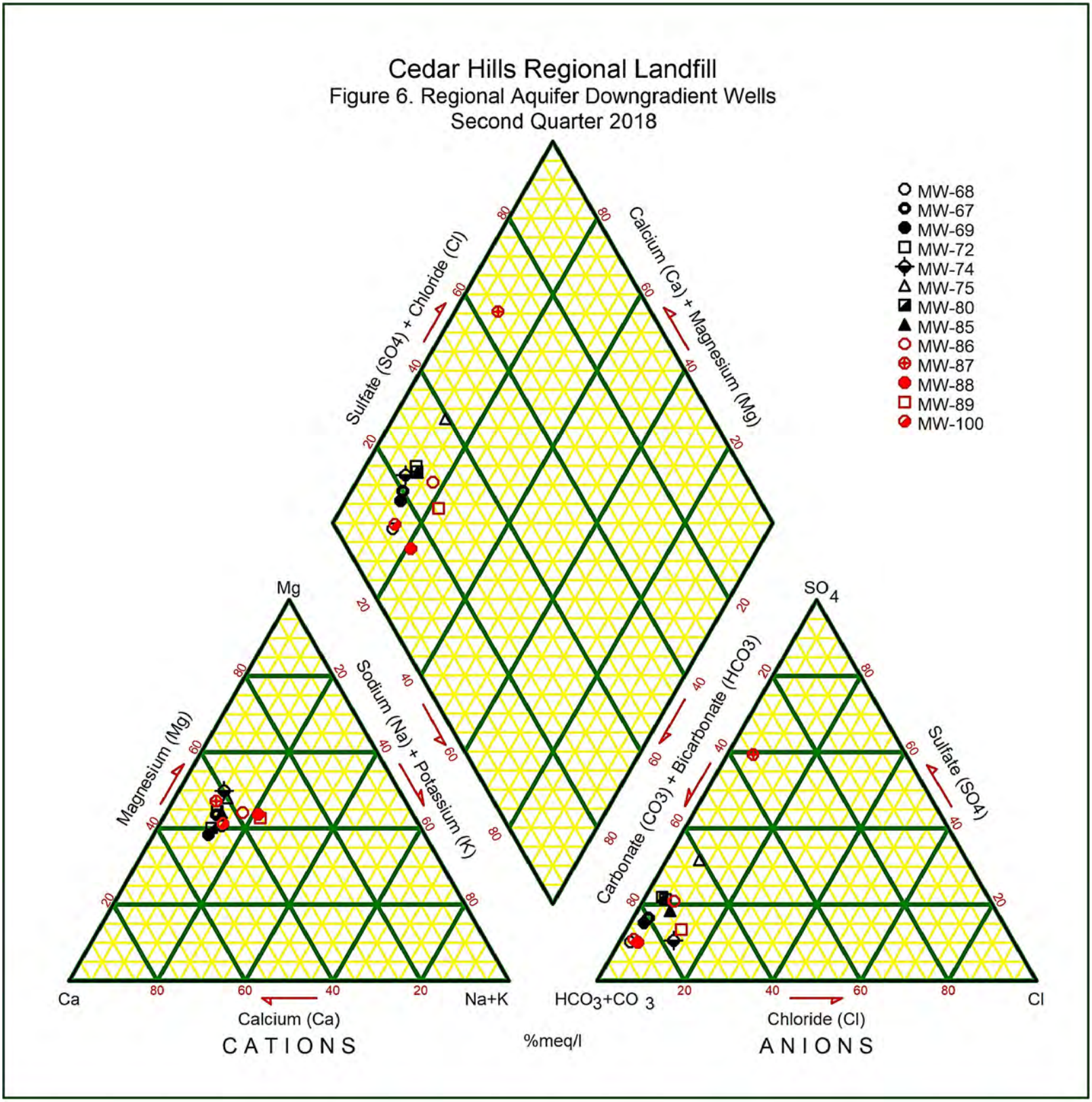


Cedar Hills Regional Landfill

Figure 6. Regional Aquifer Downgradient Wells
First Quarter 2018

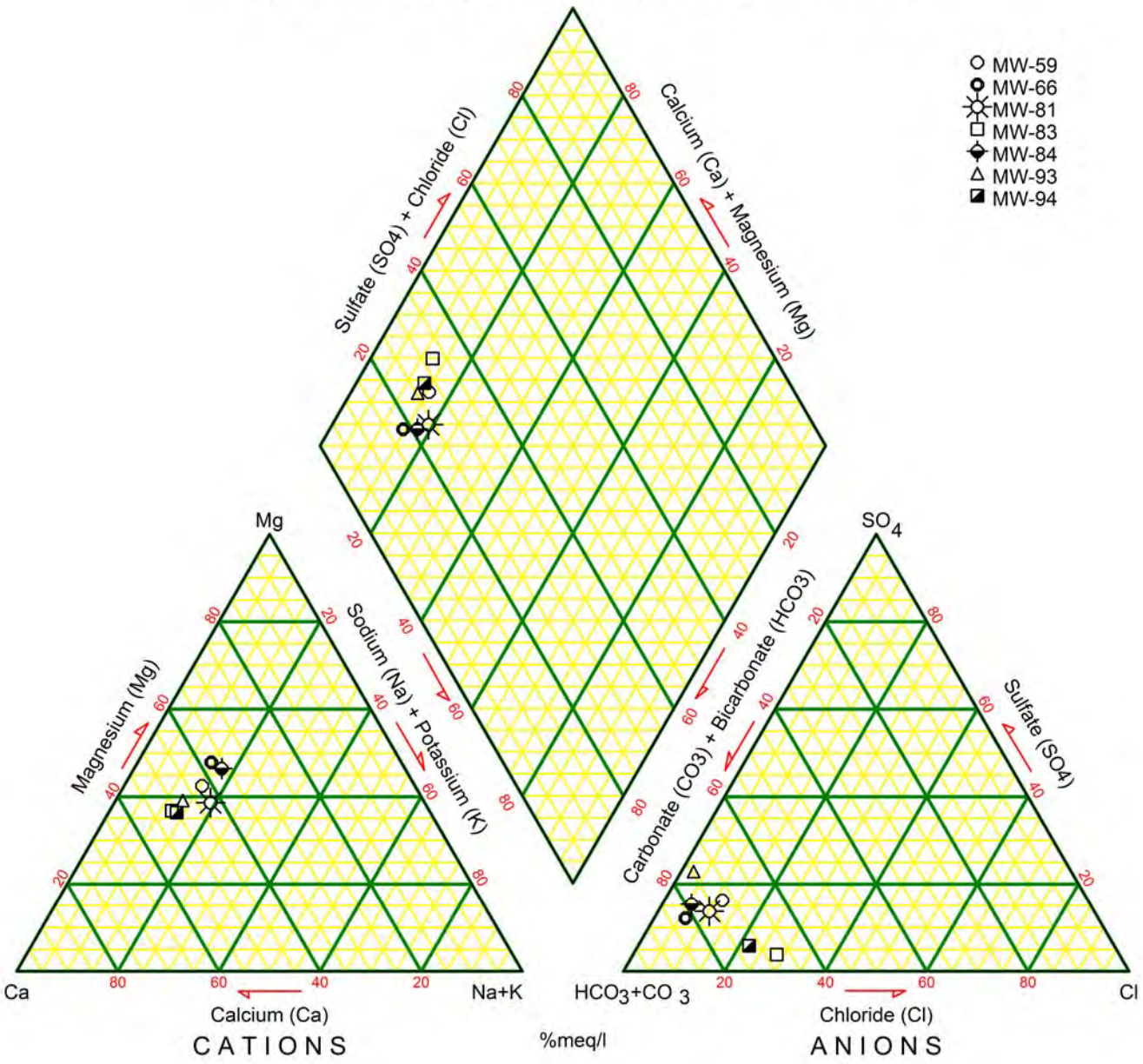



Cedar Hills Regional Landfill
Figure 5. Regional Aquifer Upgradient and Crossgradient Wells
Second Quarter 2018
MW-21
MW-24
MW-56
MW-59
MW-64
MW-65
MW-76
MW-82
MW-83
MW-94
MW-73
MW-81
MW-84
MW-66
MW-93
MW-95
Sulfate (SO4) + Chloride (Cl)
Calcium (Ca) + Magnesium (Mg)
Mg
Magnesium (Mg)
Sodium (Na) + Potassium (K)
Ca
Na+K
Calcium (Ca)
CATIONS
SO4
Carbonate (CO3) + Bicarbonate (HCO3)
Sulfate (SO4)
HCO3+CO 3
Cl
Chloride (Cl)
ANIONS
%meq/l


Cedar Hills Regional Landfill
Figure 6. Regional Aquifer Downgradient Wells
Second Quarter 2018
MW-68
MW-67
MW-69
MW-72
MW-74
MW-75
MW-80
MW-85
MW-86
MW-87
MW-88
MW-89
MW-100
Sulfate (SO4) + Chloride (Cl)
Calcium (Ca) + Magnesium (Mg)
Mg
Magnesium (Mg)
Sodium (Na) + Potassium (K)
Ca
Na+K
Calcium (Ca)
CATIONS
SO 4
Carbonate (CO3) + Bicarbonate (HCO3)
Sulfate (SO4)
HCO3+CO 3
Cl
Chloride (Cl)
ANIONS
%meq/l

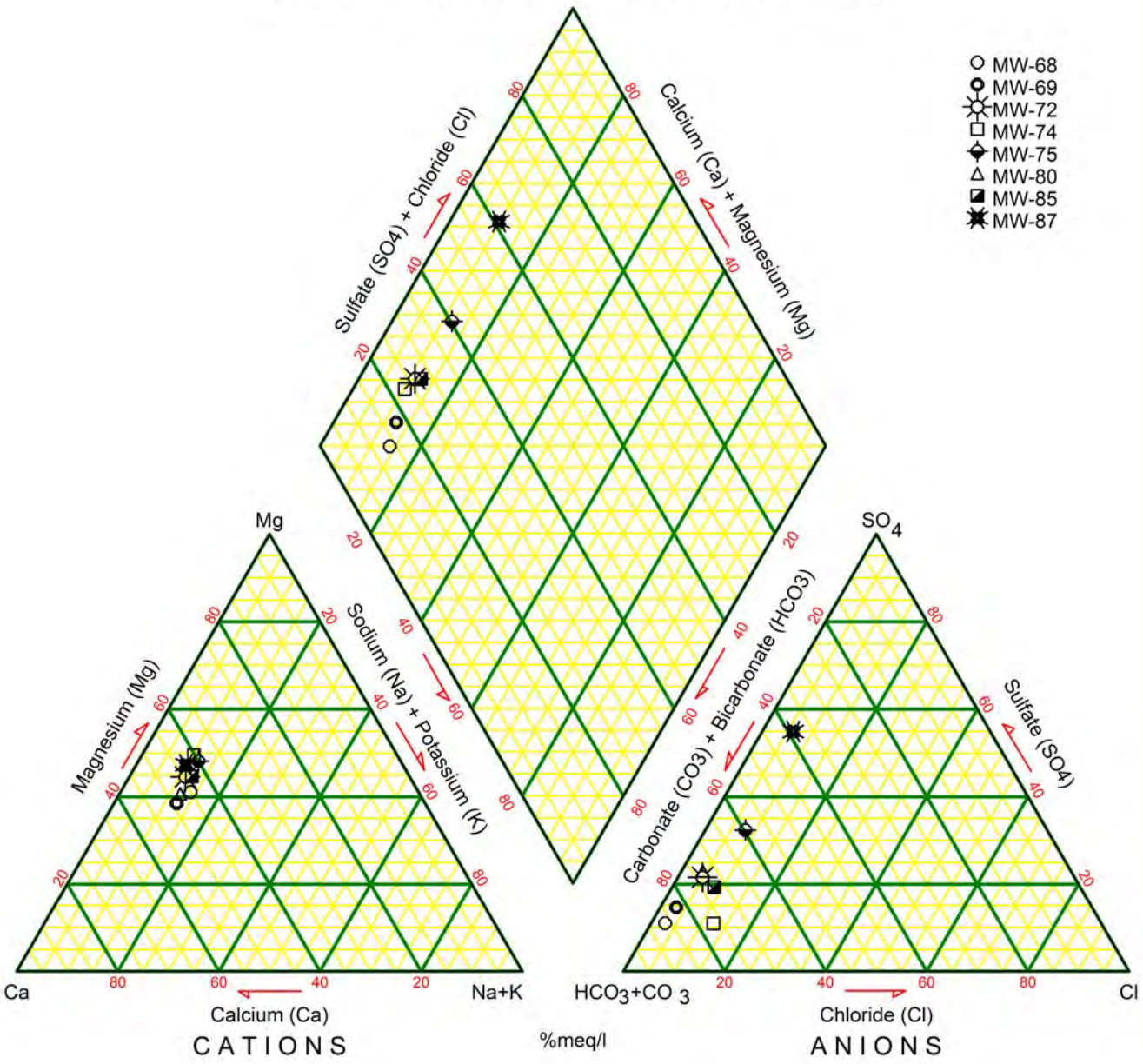
Cedar Hills Regional Landfill

Figure 5.Trilinear Diagram Up & Crossgradient Regional Wells



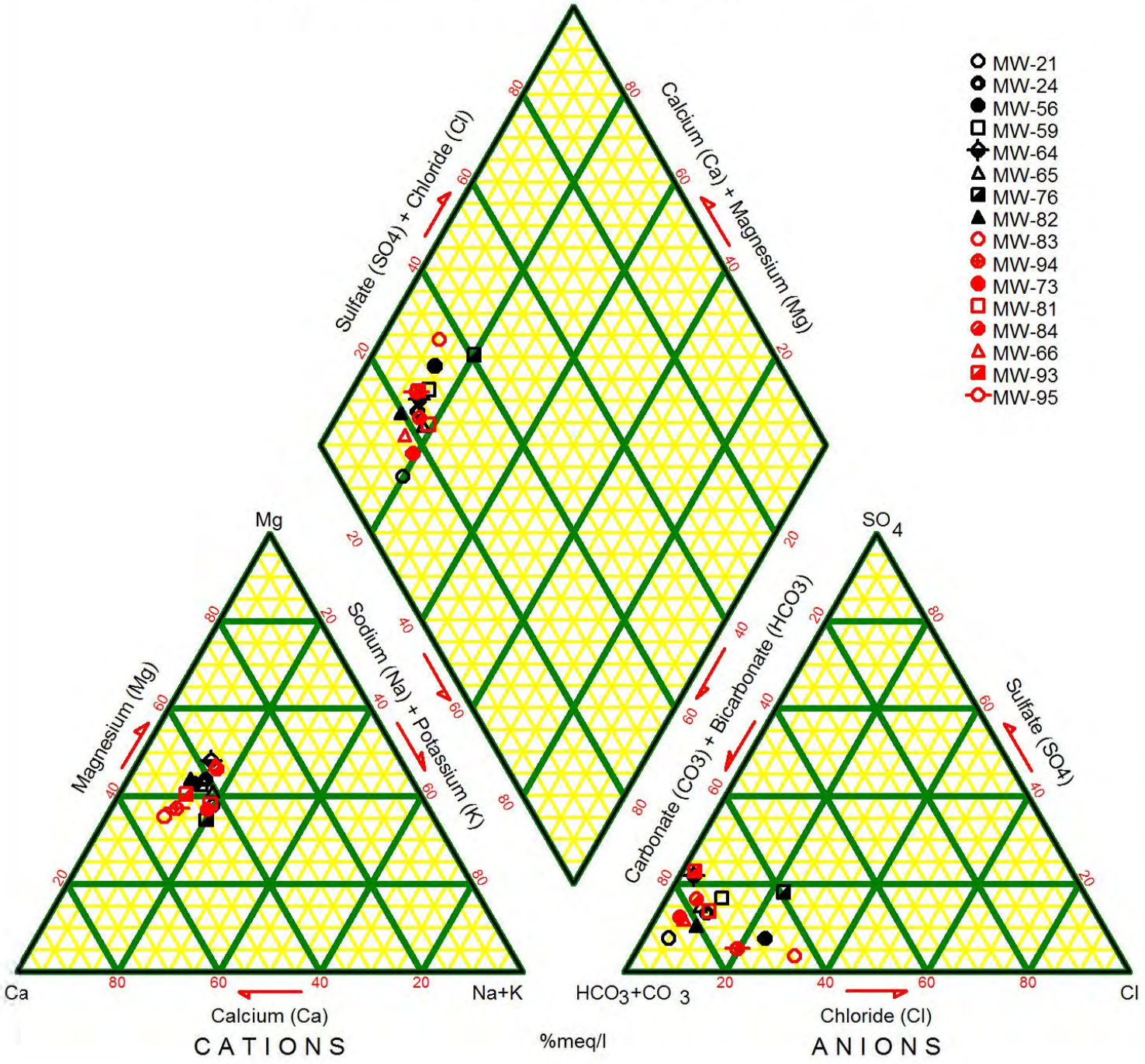
Cedar Hills Regional Landfill

Figure 6. Trilinear Diagram Downgradient Regional Wells



Cedar Hills Regional Landfill

Figure 5. Trilinear Diagram Up & Crossgradient Regional Wells



Cedar Hills Regional Landfill

Figure 6. Trilinear Diagram Downgradient Regional Wells

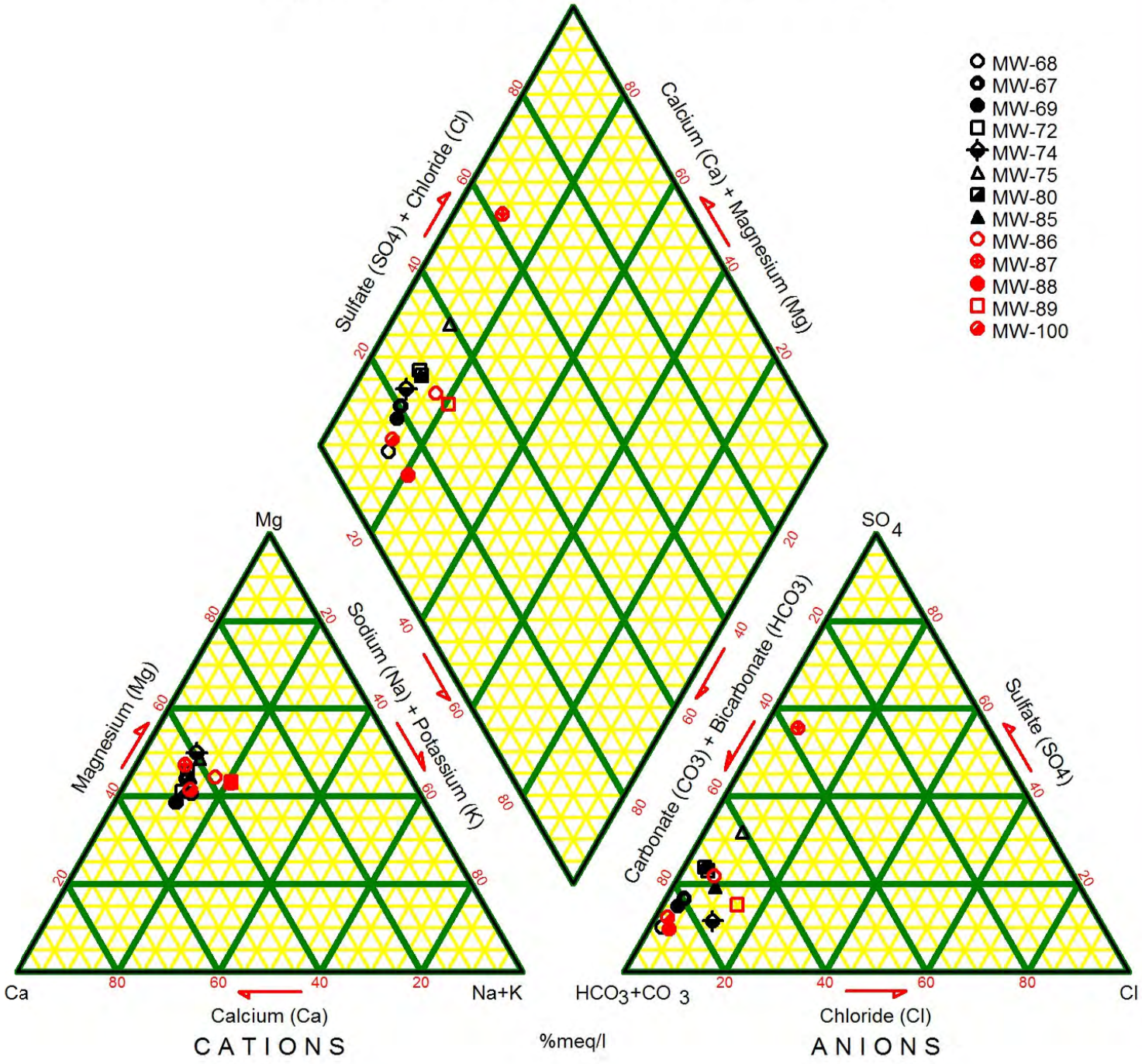


Table 4
Ion Balance Calculations
Cedar Hills Regional Landfill Quarterly and Semi-Annual Regional Aquifer Groundwater Monitoring

Data Collected from January 1, 2018 to March 31, 2018

			Upgradient and Crossgradient															
Site ID			**MW-59**			**MW-83**			**MW-94**			**MW-81**			**MW-84**			**MW-66**		
			1/9/18			1/9/18			1/11/18			1/9/18			1/22/18			1/12/18		
Cations	MW	n	mg/L	meq/L	%(meq)	mg/L	meq/L	%(meq)	mg/L	meq/L	%(meq)	mg/L	meq/L	%(meq)	mg/L	meq/L	%(meq)	mg/L	meq/L	%(meq)
pH			6.6			6.6			6.3			6.5			6.6			6.8		
Conductance			196			639			302			159			180			218		
TDSobs			124			426			194			109			110			132		
Calcium	40.1	2	16.0	0.7984	39.1	67.3	3.35828	51.5	30.7	1.53194	49.7	13.5	0.67365	41.7	13.1	0.65369	35.7	16.7	0.83333	36.0
Magnesium	24.3	2	9.9	0.81136	39.8	28.9	2.37811	36.5	13.8	1.13557	36.8	7.6	0.62456	38.7	10.5	0.86402	47.2	13.5	1.11088	48.0
Potassium	39.1	1	1.1	0.02813	1.4	3.6	0.09105	1.4	2.3	0.05806	1.9	0.8	0.02051	1.3	1.1	0.02788	1.5	1.2	0.03044	1.3
Sodium	23.0	1	6.1	0.26403	12.9	16.0	0.69596	10.7	8.1	0.3532	11.5	6.8	0.29578	18.3	6.6	0.28491	15.6	7.8	0.33972	14.7
Iron	55.8	2	3.72	0.13322	6.5	0.01	0.00036	0.0	0.12	0.00415	0.1	0.01	0.00036	0.0	0.01	0.00036	0.0	0.01	0.00036	0.0
Manganese	54.9	2	0.12	0.00437	0.2	0.00	9.7E-05	0.0	0.00	0.00016	0.0	0.00	3.6E-06	0.0	0.01	0.00047	0.0	0.00	4.3E-06	0.0
Ammonia-N	14.0	1	0.01	0.00036	0.0	0.00	0.00014	0.0	0.00	0.00019	0.0	0.00	0.00014	0.0	0.00	0.00014	0.0	0.00	0.00014	0.0
Total Cations (meq/L)				**2.0**			**6.5**			**3.1**			**1.6**			**1.8**			**2.3**	
Anions																				
Alkalinity, Total			66			194			103			55			68			88		
Carbonate	60.0	2	0.017	0.00057	0.0	0.04751	0.00158	0.0	0.01208	0.0004	0.0	0.00929	0.00031	0.0	0.01792	0.0006	0.0	0.0358	0.00119	0.1
Bicarbonate	61.0	1	80.85	1.32523	72.1	236.58	3.87783	61.8	125.64	2.05929	71.4	66.84	1.09553	72.0	83.29	1.3652	76.9	107.41	1.76054	80.7
Chloride	35.5	1	6.7	0.18926	10.3	74.3	2.09573	33.4	24.3	0.68541	23.8	4.9	0.13821	9.1	3.7	0.10295	5.8	4.7	0.13257	6.1
Nitrate-N	14.0	1	0.01	0.00071	0.0	1.45	0.10352	1.6	0.30	0.0212	0.7	1.34	0.09567	6.3	0.15	0.01078	0.6	0.52	0.03705	1.7
Sulfate	96.1	2	15.5	0.32272	17.6	9.6	0.19905	3.2	5.6	0.11618	4.0	9.3	0.19259	12.7	14.2	0.29566	16.7	12.0	0.24985	11.5
Total Anions (meq/L)				**1.8**			**6.3**			**2.9**			**1.5**			**1.8**			**2.2**	
Total Ions (meq/L)				**3.9**			**12.8**			**6.0**			**3.1**			**3.6**			**4.5**	
Cation/Anion Ratio				**1.11**			**1.04**			**1.07**			**1.06**			**1.03**			**1.06**	
Percent Difference			**5.2**			**1.9**			**3.4**			**3.0**			**1.6**			**3.0**		
Trilinear Diagram Data																				
sum (Ca, Mg, Na+K)				1.90			6.52			3.08			1.61			1.83			2.31	
Calcium					41.98			51.48			49.76			41.72			35.71			36.01
Magnesium					42.66			36.46			36.88			38.68			47.20			48.00
Sodium + Potassium					15.36			12.06			13.36			19.59			17.09			15.99
					100.0			100.0						100.0			100.0			100.0
sum (SO_4, Cl, HCO_3+CO_3)				1.84			6.17			2.86			1.43			1.76			2.14	
Sulfate					17.560			3.224			4.060			13.500			16.757			11.653
Chloride					10.299			33.943			23.955			9.688			5.835			6.183
Bicarbonate + Carbonate					72.141			62.833			71.985			76.812			77.408			82.165
					100.0			100.0												

Table 4
Ion Balance Calculations
Cedar Hills Regional Landfill Quarterly and Semi-Annual Regional Aquifer Groundwater Monitoring

Data Collected from January 1, 2018 to March 31, 2018

																Downgradient to Waste Cells and North End Facilities		
Site ID			**MW-93**			**MW-68**			**MW-69**			**MW-72**			**MW-74**			**MW-75**	
			1/24/18			2/23/18			1/24/18			1/19/18			1/11/18			1/11/18	
Cations	MW	n	mg/L	meq/L	%(meq)	mg/L	meq/L	%(meq)	mg/L	meq/L	%(meq)	mg/L	meq/L	%(meq)	mg/L	meq/L	%(meq)	mg/L	meq/L	%(meq)
pH			6.9			7.1			7.3			6.8			6.8			6.6		
Conductance			324			284			327			343			559			359		
TDSobs			199			173			193			208			326			225		
Calcium	40.1	2	31.1	1.5519	44.9	26.9	1.34232	44.3	32.9	1.64172	48.0	32.1	1.6018	42.5	48.4	2.41517	38.7	30.1	1.502	38.9
Magnesium	24.3	2	17.4	1.4318	41.4	14.9	1.22609	40.4	15.9	1.30837	38.2	19.9	1.63752	43.4	38.5	3.16807	50.8	22.0	1.81033	46.9
Potassium	39.1	1	1.6	0.04143	1.2	1.7	0.04322	1.4	1.8	0.04681	1.4	2.0	0.05166	1.4	2.3	0.05908	0.9	2.0	0.05192	1.3
Sodium	23.0	1	9.7	0.42193	12.2	8.9	0.38756	12.8	8.6	0.37495	11.0	8.5	0.37103	9.8	13.7	0.59592	9.6	9.5	0.41192	10.7
Iron	55.8	2	0.01	0.00036	0.0	0.58	0.02091	0.7	1.10	0.03939	1.2	2.61	0.09347	2.5	0.01	0.00036	0.0	2.09	0.07485	1.9
Manganese	54.9	2	0.21	0.00746	0.2	0.31	0.01114	0.4	0.26	0.00947	0.3	0.36	0.01311	0.3	0.00	3.6E-06	0.0	0.18	0.00652	0.2
Ammonia-N	14.0	1	0.05	0.00392	0.1	0.02	0.00122	0.0	0.02	0.00167	0.0	0.02	0.00114	0.0	0.00	0.00018	0.0	0.01	0.00066	0.0
Total Cations (meq/L)				**3.5**			**3.0**			**3.4**			**3.8**			**6.2**			**3.9**	
Anions																				
Alkalinity, Total			121			129			135			126			227			106		
Carbonate	60.0	2	0.0591	0.00197	0.1	0.08695	0.0029	0.1	0.15091	0.00503	0.2	0.0467	0.00156	0.0	0.08221	0.00274	0.0	0.02368	0.00079	0.0
Bicarbonate	61.0	1	147.50	2.41767	73.2	157.20	2.57671	85.5	164.39	2.69456	81.1	153.63	2.51806	73.2	276.77	4.53658	77.4	129.27	2.11889	59.8
Chloride	35.5	1	3.0	0.0849	2.6	3.1	0.08716	2.9	3.8	0.10803	3.3	5.9	0.16501	4.8	24.0	0.67695	11.5	9.8	0.2767	7.8
Nitrate-N	14.0	1	0.02	0.00107	0.0	0.01	0.00071	0.0	0.01	0.00071	0.0	0.01	0.00071	0.0	0.30	0.02142	0.4	0.01	0.00071	0.0
Sulfate	96.1	2	38.3	0.79744	24.1	16.6	0.34563	11.5	24.7	0.51427	15.5	36.2	0.75371	21.9	30.0	0.62463	10.7	55.0	1.14515	32.3
Total Anions (meq/L)				**3.3**			**3.0**			**3.3**			**3.4**			**5.9**			**3.5**	
Total Ions (meq/L)				**6.8**			**6.0**			**6.7**			**7.2**			**12.1**			**7.4**	
Cation/Anion Ratio				**1.05**			**1.01**			**1.03**			**1.10**			**1.06**			**1.09**	
Percent Difference			**2.3**			**0.3**			**1.5**			**4.6**			**3.1**			**4.3**	
Trilinear Diagram Data																				
sum (Ca, Mg, Na+K)				3.45			3.00			3.37			3.66			6.24			3.78	
Calcium					45.02			44.76			48.69			43.74			38.72			39.78
Magnesium					41.54			40.88			38.80			44.72			50.78			47.94
Sodium + Potassium					13.44			14.36			12.51			11.54			10.50			12.28
sum (SO_4, Cl, HCO_3+CO_3)				3.30			3.01			3.32			3.44			5.84			3.54	
Sulfate					24.150			11.473			15.481			21.921			10.694			32.335
Chloride					2.571			2.893			3.252			4.799			11.590			7.813
Bicarbonate + Carbonate					73.278			85.633			81.267			73.280			77.716			59.852

Table 4
Ion Balance Calculations
Cedar Hills Regional Landfill Quarterly and Semi-Annual Regional Aquifer Groundwater Monitoring

Data Collected from January 1, 2018 to March 31, 2018

Site ID			**MW-80**			**MW-85**			**MW-87**		
			1/9/18			1/12/18			1/11/18		
Cations	MW	n	mg/L	meq/L	%(meq)	mg/L	meq/L	%(meq)	mg/L	meq/L	%(meq)
pH			6.9			6.6			6.8		
Conductance			312			347			527		
TDSobs			202			212			361		
Calcium	40.1	2	30.5	1.52196	46.0	32.5	1.62176	43.5	46.9	2.34032	41.7
Magnesium	24.3	2	15.9	1.30837	39.6	19.8	1.62929	43.7	30.9	2.54269	45.4
Potassium	39.1	1	1.6	0.04195	1.3	1.7	0.0445	1.2	2.5	0.0642	1.1
Sodium	23.0	1	8.0	0.34798	10.5	9.9	0.42932	11.5	10.8	0.46977	8.4
Iron	55.8	2	2.02	0.07234	2.2	0.01	0.00036	0.0	4.73	0.16939	3.0
Manganese	54.9	2	0.33	0.0119	0.4	0.00	3.6E-06	0.0	0.52	0.01886	0.3
Ammonia-N	14.0	1	0.01	0.00071	0.0	0.00	0.00014	0.0	0.02	0.00136	0.0
Total Cations (meq/L)				**3.3**			**3.7**			**5.6**	
Anions											
Alkalinity, Total			112			126			99		
Carbonate	60.0	2	0.04765	0.00159	0.1	0.03231	0.00108	0.0	0.03511	0.00117	0.0
Bicarbonate	61.0	1	136.54	2.23807	72.7	153.65	2.51854	72.2	120.95	1.98253	37.6
Chloride	35.5	1	4.6	0.1289	4.2	9.7	0.27304	7.8	10.8	0.30463	5.8
Nitrate-N	14.0	1	0.01	0.00071	0.0	0.11	0.00764	0.2	0.01	0.00071	0.0
Sulfate	96.1	2	34.1	0.70999	23.1	33.0	0.68709	19.7	143.0	2.97738	56.5
Total Anions (meq/L)				**3.1**			**3.5**			**5.3**	
Total Ions (meq/L)				**6.4**			**7.2**			**10.9**	
Cation/Anion Ratio				**1.07**			**1.07**			**1.06**	
Percent Difference			**3.5**			**3.3**			**3.1**		
Trilinear Diagram Data											
sum (Ca, Mg, Na+K)				3.22			3.72			5.42	
Calcium					47.26			43.54			43.20
Magnesium					40.63			43.74			46.94
Sodium + Potassium					12.11			12.72			9.86
					100.0						
sum (SO_4, Cl, HCO_3+CO_3)				3.08			3.48			5.27	
Sulfate					23.062			19.745			56.543
Chloride					4.187			7.846			5.785
Bicarbonate + Carbonate					72.750			72.408			37.672
					100.0						

Table 4
Ion Balance Calculations
Cedar Hills Regional Landfill Quarterly and Semi-annual Regional Aquifer Groundwater Monitoring

Data Collected from April 1, 2018 to June 30, 2018

			Upgradient and Crossgradient																	
Site ID			**MW-21**			**MW-24**			**MW-56**			**MW-59**			**MW-64**			**MW-65**		
			4/13/18			4/13/18			4/12/18			4/12/18			4/19/18			4/23/18		
Cations	MW	n	mg/L	meq/L	%(meq)	mg/L	meq/L	%(meq)	mg/L	meq/L	%(meq)	mg/L	meq/L	%(meq)	mg/L	meq/L	%(meq)	mg/L	meq/L	%(meq)
pH			7.4			6.5			6.8			6.3			6.6			6.8		
Conductance			145			178			145			190			284			151		
TDSobs			89			112			110			114			168			93		
Calcium	40.1	2	11.7	0.583832	39.6	14.1	0.703593	38.1	17.0	0.848303	48.4	16.0	0.798403	39.7	20.6	1.027944	35.8	11.9	0.593812	37.6
Magnesium	24.3	2	6.4	0.529932	36.0	9.3	0.76692	41.5	7.9	0.650072	37.1	9.8	0.80395	39.9	17.2	1.415347	49.3	7.2	0.590825	37.4
Potassium	39.1	1	1.1	0.027111	1.8	1.0	0.024733	1.3	1.0	0.026344	1.5	1.1	0.028902	1.4	1.9	0.04834	1.7	0.9	0.023607	1.5
Sodium	23.0	1	5.7	0.247066	16.8	5.5	0.240977	13.0	5.1	0.222708	12.7	6.0	0.259246	12.9	8.7	0.376254	13.1	5.6	0.241847	15.3
Iron	55.8	2	2.22	0.079503	5.4	2.97	0.106362	5.8	0.05	0.001859	0.1	3.31	0.118538	5.9	0.03	0.000996	0.0	3.42	0.122477	7.7
Manganese	54.9	2	0.10	0.003713	0.3	0.10	0.003528	0.2	0.13	0.004769	0.3	0.11	0.00415	0.2	0.07	0.002508	0.1	0.21	0.007718	0.5
Ammonia-N	14.0	1	0.02	0.001478	0.1	0.03	0.002192	0.1	0.00	7.14E-05	0.0	0.00	0.0003	0.0	0.02	0.001242	0.0	0.01	0.000478	0.0
Total Cations (meq/L)				**1.5**			**1.8**			**1.8**			**2.0**			**2.9**			**1.6**	
Anions																				
Alkalinity, Total			58			65			53			65			105			53		
Carbonate	60.0	2	0.07738	0.002579	0.2	0.012003	0.0004	0.0	0.020847	0.000695	0.0	0.008395	0.00028	0.0	0.027554	0.000918	0.0	0.020967	0.000699	0.1
Bicarbonate	61.0	1	70.11	1.149247	85.2	78.79	1.291405	75.9	64.01	1.049147	63.1	79.65	1.305523	72.7	128.04	2.098765	74.6	64.37	1.055142	79.0
Chloride	35.5	1	2.6	0.073901	5.5	4.7	0.132006	7.8	13.9	0.392068	23.6	6.3	0.176854	9.8	2.4	0.068824	2.4	3.0	0.084901	6.4
Nitrate-N	14.0	1	0.01	0.000357	0.0	0.01	0.000357	0.0	1.33	0.094953	5.7	0.02	0.001214	0.1	0.02	0.001142	0.0	0.01	0.000857	0.1
Sulfate	96.1	2	5.9	0.122843	9.1	13.3	0.276917	16.3	6.1	0.127007	7.6	15.0	0.312313	17.4	30.9	0.643364	22.9	9.3	0.194467	14.6
Total Anions (meq/L)				**1.3**			**1.7**			**1.7**			**1.8**			**2.8**			**1.3**	
Total Ions (meq/L)				**2.8**			**3.5**			**3.4**			**3.8**			**5.7**			**2.9**	
Cation/Anion Ratio				**1.09**			**1.09**			**1.05**			**1.12**			**1.02**			**1.18**	
Percent Difference				**4.4**			**4.1**			**2.6**			**5.7**			**1.0**			**8.4**	
Trilinear Diagram Data																				
sum (Ca, Mg, Na+K)				1.39			1.74			1.75			1.89			2.87			1.45	
Calcium					42.06			40.52			48.55			42.23			35.84			40.95
Magnesium					38.18			44.17			37.20			42.53			49.35			40.74
Sodium + Potassium					19.75			15.30			14.25			15.24			14.81			18.31
														100.0						
sum (SO_4, Cl, HCO_3+CO_3)				1.35			1.70			1.57			1.79			2.81			1.34	
Sulfate					9.109			16.282			8.095			17.399			22.880			14.565
Chloride					5.480			7.762			24.990			9.853			2.448			6.359
Bicarbonate + Carbonate					85.411			75.956			66.915			72.748			74.672			79.077
														100.0						

Table 4
Ion Balance Calculations
Cedar Hills Regional Landfill Quarterly and Semi-annual Regional Aquifer Groundwater Monitoring

Data Collected from April 1, 2018 to June 30, 2018

			Upgradient and Crossgradient																	
Site ID			**MW-76**			**MW-82**			**MW-83**			**MW-94**			**MW-73**			**MW-81**		
			4/16/18			4/13/18			4/16/18			4/16/18			4/13/18			4/18/18		
Cations	MW	n	mg/L	meq/L	%(meq)	mg/L	meq/L	%(meq)	mg/L	meq/L	%(meq)	mg/L	meq/L	%(meq)	mg/L	meq/L	%(meq)	mg/L	meq/L	%(meq)
pH			5.9			6.6			6.7			6.4			6.0			6.8		
Conductance			227			313			514			314			98			164		
TDSobs			143			195			304			199			72			111		
Calcium	40.1	2	20.2	1.007984	45.2	29.9	1.492016	44.6	52.8	2.634731	51.0	31.2	1.556886	50.2	10.7	0.533932	54.1	13.6	0.678643	42.1
Magnesium	24.3	2	9.4	0.770212	34.5	17.6	1.448262	43.3	23.9	1.966674	38.1	13.9	1.143798	36.9	3.6	0.292944	29.7	7.6	0.62374	38.7
Potassium	39.1	1	1.4	0.036063	1.6	1.9	0.049107	1.5	2.9	0.075195	1.5	2.3	0.058315	1.9	0.7	0.018466	1.9	0.9	0.021817	1.4
Sodium	23.0	1	9.6	0.415402	18.6	8.1	0.354071	10.6	11.1	0.482823	9.4	7.8	0.339716	11.0	3.3	0.141367	14.3	6.6	0.286214	17.8
Iron	55.8	2	0.01	0.000179	0.0	0.01	0.000179	0.0	0.01	0.000179	0.0	0.01	0.000179	0.0	0.01	0.000179	0.0	0.01	0.000179	0.0
Manganese	54.9	2	0.00	1.82E-06	0.0	0.00	1.82E-06	0.0	0.04	0.001544	0.0	0.00	4E-06	0.0	0.00	1.1E-05	0.0	0.00	1.82E-06	0.0
Ammonia-N	14.0	1	0.00	0.00015	0.0	0.00	7.14E-05	0.0	0.00	0.000143	0.0	0.00	0.000157	0.0	0.00	7.14E-05	0.0	0.00	7.14E-05	0.0
Total Cations (meq/L)				**2.2**			**3.3**			**5.2**	**100.0**		**3.1**			**1.0**			**1.6**	
Anions																				
Alkalinity, Total			60			127			170			103			38			55		
Carbonate	60.0	2	0.002913	9.71E-05	0.0	0.031828	0.001061	0.0	0.046712	0.001557	0.0	0.017057	0.000569	0.0	0.00221	7.37E-05	0.0	0.019608	0.000654	0.0
Bicarbonate	61.0	1	72.71	1.191723	56.8	154.88	2.538556	79.3	207.31	3.39793	67.1	125.63	2.059121	67.7	45.87	0.751813	78.8	67.55	1.107179	71.9
Chloride	35.5	1	16.4	0.462584	22.0	9.7	0.273038	8.5	49.6	1.399035	27.6	20.9	0.589513	19.4	1.2	0.033566	3.5	5.0	0.140186	9.1
Nitrate-N	14.0	1	1.65	0.117798	5.6	0.66	0.046977	1.5	1.34	0.095666	1.9	2.71	0.193475	6.4	0.46	0.032698	3.4	1.34	0.095666	6.2
Sulfate	96.1	2	15.7	0.326887	15.6	16.5	0.343544	10.7	8.3	0.173438	3.4	9.5	0.198214	6.5	6.5	0.13596	14.2	9.5	0.196965	12.8
Total Anions (meq/L)				**2.1**			**3.2**			**5.1**	**100.0**		**3.0**			**1.0**			**1.5**	
Total Ions (meq/L)				**4.3**			**6.5**			**10.2**			**6.1**			**1.9**			**3.2**	
Cation/Anion Ratio				**1.06**			**1.04**			**1.02**			**1.02**			**1.03**			**1.05**	
Percent Difference				**3.0**			**2.1**			**0.9**			**0.9**			**1.7**			**2.2**	
Trilinear Diagram Data																				
sum (Ca, Mg, Na+K)				2.23			3.34			5.16			3.10			0.99			1.61	
Calcium					45.21			44.62			51.07			50.24			54.11			42.14
Magnesium					34.54			43.32			38.12			36.91			29.69			38.73
Sodium + Potassium					20.25			12.06			10.82			12.85			16.20			19.13
											100.0									100.0
sum (SO_4, Cl, HCO_3+CO_3)				1.98			3.16			4.97			2.85			0.92			1.44	
Sulfate					16.499			10.885			3.488			6.961			14.756			13.631
Chloride					23.348			8.651			28.139			20.703			3.643			9.702
Bicarbonate + Carbonate					60.154			80.464			68.373			72.335			81.602			76.668
											100.0									

Table 4
Ion Balance Calculations
Cedar Hills Regional Landfill Quarterly and Semi-annual Regional Aquifer Groundwater Monitoring

Data Collected from April 1, 2018 to June 30, 2018

			Upgradient and Crossgradient											
Site ID			**MW-84**			**MW-66**			**MW-93**			**MW-95**		
			4/19/18			4/18/18			6/28/18			4/16/18		
Cations	MW	n	mg/L	meq/L	%(meq)	mg/L	meq/L	%(meq)	mg/L	meq/L	%(meq)	mg/L	meq/L	%(meq)
pH			6.9			6.5			6.7			6.7		
Conductance			174			251			294			231		
TDSobs			112			147			201			136		
Calcium	40.1	2	12.6	0.628743	36.4	18.4	0.918164	36.9	31.8	1.586826	45.8	21.5	1.07285429	45.7
Magnesium	24.3	2	9.6	0.790784	45.8	14.5	1.19317	48.0	17.1	1.407118	40.6	11.6	0.9545361	40.7
Potassium	39.1	1	1.0	0.0266	1.5	1.2	0.03018	1.2	1.5	0.037342	1.1	1.3	0.0319707	1.4
Sodium	23.0	1	6.4	0.27969	16.2	7.9	0.344066	13.8	9.6	0.418012	12.1	6.4	0.27838469	11.9
Iron	55.8	2	0.01	0.000179	0.0	0.01	0.000179	0.0	0.01	0.000179	0.0	0.01	0.00017906	0.0
Manganese	54.9	2	0.00	2.3E-05	0.0	0.00	1.82E-06	0.0	0.22	0.008009	0.2	0.17	0.0062252	0.3
Ammonia-N	14.0	1	0.00	7.14E-05	0.0	0.00	7.14E-05	0.0	0.06	0.004084	0.1	0.02	0.00177768	0.1
Total Cations (meq/L)				**1.7**			**2.5**			**3.5**			**2.3**	
Anions														
Alkalinity, Total			65			96			121			88		
Carbonate	60.0	2	0.030322	0.001011	0.1	0.016981	0.000566	0.0	0.034022	0.001134	0.0	0.02779257	0.00092643	0.0
Bicarbonate	61.0	1	79.24	1.298793	78.4	116.72	1.913145	80.3	147.55	2.418501	73.7	107.43	1.76080802	79.0
Chloride	35.5	1	3.3	0.092235	5.6	4.9	0.138211	5.8	2.8	0.07785	2.4	5.1	0.1432883	6.4
Nitrate-N	14.0	1	0.17	0.011851	0.7	0.54	0.038552	1.6	0.02	0.001071	0.0	0.01	0.00035696	0.0
Sulfate	96.1	2	12.1	0.251932	15.2	14.0	0.291492	12.2	37.7	0.784946	23.9	15.6	0.32480512	14.6
Total Anions (meq/L)				**1.7**			**2.4**			**3.3**			**2.2**	
Total Ions (meq/L)				**3.4**			**4.9**			**6.7**			**4.6**	
Cation/Anion Ratio				**1.04**			**1.04**			**1.05**			**1.05**	
Percent Difference				**2.1**			**2.1**			**2.6**			**2.5**	
Trilinear Diagram Data														
sum (Ca, Mg, Na+K)				1.73			2.49			3.45			2.34	
Calcium					36.43			36.94			46.00			45.89
Magnesium					45.82			48.00			40.79			40.83
Sodium + Potassium					17.75			15.06			13.20			13.28
					100.0			100.0						
sum (SO_4, Cl, HCO_3+CO_3)				1.64			2.34			3.28			2.23	
Sulfate					15.325			12.439			23.914			14.566
Chloride					5.610			5.898			2.372			6.426
Bicarbonate + Carbonate					79.065			81.663			73.715			79.008

Table 4
Ion Balance Calculations
Cedar Hills Regional Landfill Quarterly and Semi-annual Regional Aquifer Groundwater Monitoring

Data Collected from April 1, 2018 to June 30, 2018

			Downgradient to Waste Cells and North End Facilities								
Site ID			**MW-68**			**MW-67**			**MW-69**		
			5/3/18			4/23/18			5/3/18		
Cations	MW	n	mg/L	meq/L	%(meq)	mg/L	meq/L	%(meq)	mg/L	meq/L	%(meq)
pH			6.9			6.9			6.7		
Conductance			286			374			329		
TDSobs			166			230			194		
Calcium	40.1	2	28.4	1.417166	44.4	36.5	1.821357	44.5	34.4	1.716567	48.5
Magnesium	24.3	2	15.6	1.283686	40.3	21.6	1.777412	43.4	16.3	1.341288	37.9
Potassium	39.1	1	1.8	0.044759	1.4	1.8	0.045526	1.1	1.8	0.045271	1.3
Sodium	23.0	1	9.3	0.406268	12.7	9.9	0.430626	10.5	8.9	0.388869	11.0
Iron	55.8	2	0.68	0.024352	0.8	0.22	0.007914	0.2	1.10	0.039393	1.1
Manganese	54.9	2	0.31	0.011249	0.4	0.21	0.007463	0.2	0.26	0.009538	0.3
Ammonia-N	14.0	1	0.02	0.001271	0.0	0.01	0.000535	0.0	0.02	0.001142	0.0
Total Cations (meq/L)				**3.2**			**4.1**			**3.5**	
Anions											
Alkalinity, Total			126			157			137		
Carbonate	60.0	2	0.061546	0.002052	0.1	0.073239	0.002441	0.1	0.036788	0.001226	0.0
Bicarbonate	61.0	1	153.59	2.517569	87.1	191.39	3.137086	79.7	167.07	2.738361	81.7
Chloride	35.5	1	2.5	0.071362	2.5	4.9	0.136801	3.5	3.6	0.102671	3.1
Nitrate-N	14.0	1	0.01	0.000357	0.0	0.11	0.007996	0.2	0.01	0.000357	0.0
Sulfate	96.1	2	14.3	0.297738	10.3	31.2	0.64961	16.5	24.5	0.510111	15.2
Total Anions (meq/L)				**2.9**			**3.9**			**3.4**	
Total Ions (meq/L)				**6.1**			**8.0**			**6.9**	
Cation/Anion Ratio				**1.10**			**1.04**			**1.06**	
Percent Difference				**4.9**			**2.0**			**2.7**	
Trilinear Diagram Data											
sum (Ca, Mg, Na+K)				3.15			4.07			3.49	
Calcium					44.96			44.70			49.16
Magnesium					40.73			43.62			38.41
Sodium + Potassium					14.31			11.68			12.43
sum (SO_4, Cl, HCO_3+CO_3)				2.89			3.93			3.35	
Sulfate					10.307			16.547			15.216
Chloride					2.470			3.485			3.063
Bicarbonate + Carbonate					87.223			79.969			81.721

Table 4
Ion Balance Calculations
Cedar Hills Regional Landfill Quarterly and Semi-annual Regional Aquifer Groundwater Monitoring

Data Collected from April 1, 2018 to June 30, 2018

			Downgradient to Waste Cells and North End Facilities																
Site ID			**MW-72**			**MW-74**			**MW-75**			**MW-80**			**MW-85**			**MW-86**		
			4/17/18			4/19/18			5/1/18			4/23/18			4/26/18			4/16/18		
Cations	MW	n	mg/L	meq/L	%(meq)	mg/L	meq/L	%(meq)	mg/L	meq/L	%(meq)	mg/L	meq/L	%(meq)	mg/L	meq/L	%(meq)	mg/L	meq/L	%(meq)
pH			6.8			7.0			6.7			6.6			6.7			6.7		
Conductance			363			598			362			313			349			201		
TDSobs			214			336			232			197			214			122		
Calcium	40.1	2	32.1	1.601796	42.8	50.5	2.51996	39.8	30.1	1.501996	39.3	30.4	1.516966	46.2	31.5	1.571856	43.3	15.1	0.753493	38.1
Magnesium	24.3	2	19.7	1.621066	43.3	38.4	3.159844	49.9	21.9	1.802098	47.1	15.6	1.283686	39.1	19.5	1.604608	44.2	10.5	0.86402	43.7
Potassium	39.1	1	1.9	0.049619	1.3	2.2	0.057291	0.9	1.9	0.048851	1.3	1.7	0.042713	1.3	1.6	0.041178	1.1	1.3	0.032738	1.7
Sodium	23.0	1	8.5	0.36799	9.8	13.6	0.591567	9.3	9.1	0.395828	10.3	8.1	0.350591	10.7	9.6	0.415402	11.4	7.1	0.306658	15.5
Iron	55.8	2	2.54	0.090963	2.4	0.01	0.000179	0.0	1.97	0.07055	1.8	2.06	0.073773	2.2	0.01	0.000179	0.0	0.52	0.01873	0.9
Manganese	54.9	2	0.37	0.013506	0.4	0.00	1.82E-06	0.0	0.17	0.006262	0.2	0.33	0.012014	0.4	0.00	1.82E-06	0.0	0.02	0.000681	0.0
Ammonia-N	14.0	1	0.02	0.001157	0.0	0.00	7.14E-05	0.0	0.01	0.000593	0.0	0.01	0.0007	0.0	0.00	7.14E-05	0.0	0.00	7.14E-05	0.0
Total Cations (meq/L)				**3.7**			**6.3**			**3.8**			**3.3**	**100.0**		**3.6**			**2.0**	
Anions																				
Alkalinity, Total			130			233			107			113			127			68		
Carbonate	60.0	2	0.050448	0.001682	0.0	0.133697	0.004457	0.1	0.032987	0.0011	0.0	0.024666	0.000822	0.0	0.035709	0.00119	0.0	0.020964	0.000699	0.0
Bicarbonate	61.0	1	158.50	2.597927	73.7	283.99	4.654841	76.9	130.47	2.138578	60.8	137.81	2.258837	74.1	154.87	2.538427	74.0	82.92	1.359096	71.8
Chloride	35.5	1	6.1	0.171495	4.9	26.0	0.733365	12.1	9.3	0.262601	7.5	4.1	0.115928	3.8	9.0	0.254703	7.4	4.7	0.133698	7.1
Nitrate-N	14.0	1	0.01	0.000357	0.0	0.28	0.020133	0.3	0.01	0.000357	0.0	0.01	0.000357	0.0	0.11	0.007639	0.2	0.05	0.003434	0.2
Sulfate	96.1	2	36.3	0.755797	21.4	30.7	0.6392	10.6	53.6	1.115997	31.7	32.2	0.670431	22.0	30.2	0.628789	18.3	19.0	0.395596	20.9
Total Anions (meq/L)				**3.5**			**6.1**			**3.5**			**3.0**	**100.0**		**3.4**			**1.9**	
Total Ions (meq/L)				**7.3**			**12.4**			**7.3**			**6.3**			**7.1**			**3.9**	
Cation/Anion Ratio				**1.06**			**1.05**			**1.09**			**1.08**			**1.06**			**1.04**	
Percent Difference				**3.0**			**2.2**			**4.2**			**3.7**			**2.9**			**2.2**	
Trilinear Diagram Data																				
sum (Ca, Mg, Na+K)				3.64			6.33			3.75			3.19			3.63			1.96	
Calcium					44.00			39.82			40.07			47.49			43.27			38.50
Magnesium					44.53			49.93			48.07			40.19			44.17			44.15
Sodium + Potassium					11.47			10.25			11.86			12.31			12.57			17.34
														100.0						
sum (SO_4, Cl, HCO_3+CO_3)				3.53			6.03			3.52			3.05			3.42			1.89	
Sulfate					21.429			10.597			31.720			22.010			18.369			20.941
Chloride					4.862			12.158			7.464			3.806			7.441			7.077
Bicarbonate + Carbonate					73.708			77.245			60.816			74.184			74.190			71.982
														100.0						

Table 4
Ion Balance Calculations
Cedar Hills Regional Landfill Quarterly and Semi-annual Regional Aquifer Groundwater Monitoring

Data Collected from April 1, 2018 to June 30, 2018

			Downgradient to Waste Cells and North End Facilities											
Site ID			**MW-87**			**MW-88**			**MW-89**			**MW-100**		
			4/25/18			4/17/18			4/19/18			4/17/18		
Cations	MW	n	mg/L	meq/L	%(meq)	mg/L	meq/L	%(meq)	mg/L	meq/L	%(meq)	mg/L	meq/L	%(meq)
pH			6.9			6.8			7.0			6.8		
Conductance			511			127			211			326		
TDSobs			366			91			135			185		
Calcium	40.1	2	47.0	2.345309	41.8	9.4	0.467565	35.2	14.8	0.738523	34.5	29.2	1.457086	43.9
Magnesium	24.3	2	31.3	2.575602	45.9	7.1	0.58095	43.7	10.9	0.896935	41.9	16.5	1.357745	40.9
Potassium	39.1	1	2.4	0.061384	1.1	0.8	0.021663	1.6	1.5	0.038876	1.8	1.8	0.045526	1.4
Sodium	23.0	1	10.8	0.469774	8.4	5.9	0.258376	19.4	9.8	0.424102	19.8	9.7	0.423667	12.8
Iron	55.8	2	3.67	0.131431	2.3	0.01	0.000179	0.0	0.99	0.035526	1.7	0.83	0.029796	0.9
Manganese	54.9	2	0.59	0.02137	0.4	0.00	6.7E-06	0.0	0.21	0.007681	0.4	0.17	0.006262	0.2
Ammonia-N	14.0	1	0.01	0.000721	0.0	0.00	7.14E-05	0.0	0.02	0.001221	0.1	0.01	0.000928	0.0
Total Cations (meq/L)				**5.6**			**1.3**			**2.1**			**3.3**	
Anions														
Alkalinity, Total			100			53			73			138		
Carbonate	60.0	2	0.051146	0.001705	0.0	0.021912	0.00073	0.1	0.042863	0.001429	0.1	0.056075	0.001869	0.1
Bicarbonate	61.0	1	121.90	1.997994	34.7	64.25	1.053111	82.5	88.97	1.458351	74.0	168.25	2.757715	86.0
Chloride	35.5	1	11.9	0.335656	5.8	1.9	0.052182	4.1	8.6	0.243703	12.4	3.3	0.093645	2.9
Nitrate-N	14.0	1	0.08	0.005733	0.1	0.65	0.04662	3.7	0.01	0.000357	0.0	0.01	0.000357	0.0
Sulfate	96.1	2	164.0	3.414618	59.3	6.0	0.124509	9.7	12.8	0.266507	13.5	16.9	0.351872	11.0
Total Anions (meq/L)				**5.8**			**1.3**			**2.0**			**3.2**	
Total Ions (meq/L)				**11.4**			**2.6**			**4.1**			**6.5**	
Cation/Anion Ratio				**0.97**			**1.04**			**1.09**			**1.04**	
Percent Difference				**-1.3**			**2.0**			**4.2**			**1.8**	
Trilinear Diagram Data														
sum (Ca, Mg, Na+K)				5.45			1.33			2.10			3.28	
Calcium					43.02			35.19			35.19			44.37
Magnesium					47.24			43.73			42.74			41.34
Sodium + Potassium					9.74			21.08			22.06			14.29
sum (SO_4, Cl, HCO_3+CO_3)				5.75			1.23			1.97			3.21	
Sulfate					59.385			10.118			13.528			10.979
Chloride					5.838			4.241			12.371			2.922
Bicarbonate + Carbonate					34.778			85.641			74.101			86.100

Table 4
Ion Balance Calculations
Cedar Hills Regional Landfill
Quarterly Regional Aquifer Groundwater Monitoring

Data Collected from July 1, 2018 to September 30, 2018

			Quarterly Upgradient and Crossgradient Wells																			
Site ID			**MW-59**			**MW-66**			**MW-81**			**MW-83**			**MW-84**			**MW-93**			**MW-94**		
			7/16/18			7/12/18			7/20/18			7/20/18			7/20/18			7/30/18			7/20/18		
Cations	MW	n	mg/L	meq/L	%(meq)	mg/L	meq/L	%(meq)	mg/L	meq/L	%(meq)	mg/L	meq/L	%(meq)	mg/L	meq/L	%(meq)	mg/L	meq/L	%(meq)	mg/L	meq/L	%(meq)
pH			6.6			6.2			7.1			6.5			6.1			6.7			6.5		
Conductance			184			219			147			488			162			295			292		
TDSobs			124			144			107			349			106			200			192		
Calcium	40.1	2	16.5	0.823353	39.3	18.4	0.918164	37.6	13.8	0.688623	42.3	55.7	2.779441	50.9	13.0	0.648703	36.2	31.9	1.591816	47.4	29.8	1.487026	50.2
Magnesium	24.3	2	10.1	0.831105	39.7	14.2	1.168484	47.8	7.6	0.627854	38.6	24.4	2.007817	36.8	10.1	0.831105	46.4	15.9	1.308373	39.0	13.1	1.077967	36.4
Potassium	39.1	1	1.1	0.028902	1.4	1.2	0.029413	1.2	0.8	0.02105	1.3	3.2	0.082868	1.5	1.1	0.027111	1.5	1.6	0.040411	1.2	2.2	0.056268	1.9
Sodium	23.0	1	6.3	0.27273	13.0	7.5	0.325797	13.3	6.6	0.288389	17.7	13.5	0.587218	10.8	6.5	0.283169	15.8	9.3	0.403658	12.0	7.9	0.342326	11.5
Iron	55.8	2	3.78	0.13537	6.5	0.01	0.000358	0.0	0.01	0.000358	0.0	0.01	0.000358	0.0	0.01	0.000358	0.0	0.01	0.000358	0.0	0.01	0.000358	0.0
Manganese	54.9	2	0.11	0.00415	0.2	0.00	5.93E-06	0.0	0.00	3.64E-06	0.0	0.00	0.00017	0.0	0.00	2.65E-05	0.0	0.22	0.007973	0.2	0.00	3.64E-06	0.0
Ammonia-N	14.0	1	0.01	0.000393	0.0	0.00	0.000143	0.0	0.00	0.000143	0.0	0.01	0.000514	0.0	0.00	0.000171	0.0	0.06	0.004226	0.1	0.00	0.000286	0.0
Total Cations (meq/L)				**2.096**			**2.4**			**1.6**			**5.5**			**1.8**			**3.4**			**3.0**	
Anions																							
Alkalinity, Total			69			95			54			171			65			120			99		
Carbonate	60.0	2	0.01769	0.00059	0.0	0.00867	0.000289	0.0	0.03667	0.001222	0.1	0.03565	0.001188	0.0	0.00537	0.000179	0.0	0.03222	0.001074	0.0	0.02015	0.000672	0.0
Bicarbonate	61.0	1	84.14	1.379202	72.2	116.25	1.905423	80.2	66.29	1.086614	70.9	208.55	3.418296	65.5	78.92	1.293626	78.3	146.33	2.398564	74.6	120.62	1.97703	68.6
Chloride	35.5	1	7.7	0.218317	11.4	5.1	0.144417	6.1	5.1	0.144699	9.4	50.8	1.432883	27.4	3.4	0.095055	5.8	2.8	0.078414	2.4	21.3	0.600795	20.8
Nitrate-N	14.0	1	0.01	0.000928	0.0	0.58	0.041265	1.7	1.45	0.10352	6.8	2.44	0.174199	3.3	0.15	0.010638	0.6	0.01	0.000714	0.0	2.03	0.144928	5.0
Sulfate	96.1	2	14.9	0.310231	16.2	13.6	0.283163	11.9	9.4	0.196132	12.8	9.3	0.193634	3.7	12.1	0.251932	15.3	35.3	0.734976	22.9	7.7	0.159904	5.5
Total Anions (meq/L)				**1.909**			**2.4**			**1.5**			**5.2**			**1.7**			**3.2**			**2.9**	
Total Ions (meq/L)				**4.0**			**4.8**			**3.2**			**10.7**			**3.4**			**6.6**			**5.8**	
Cation/Anion Ratio				**1.098**			**1.03**			**1.06**			**1.05**			**1.08**			**1.04**			**1.03**	
Percent Difference				**4.7**			**1.4**			**3.0**			**2.2**			**4.0**			**2.2**			**1.4**	
Trilinear Diagram Data																							
sum (Ca, Mg, Na+K)				1.96			2.44			1.63			5.46			1.79			3.34			2.96	
Calcium					42.09			37.60			42.35			50.93			36.24			47.60			50.18
Magnesium					42.49			47.85			38.62			36.79			46.43			39.12			36.37
Sodium + Potassium					15.42			14.55			19.03			12.28			17.33			13.28			13.45
					100.0									100.0			100.0			100.0			
sum (SO_4, Cl, HCO_3+CO_3)				1.91			2.33			1.43			5.05			1.64			3.21			2.74	
Sulfate					16.257			12.136			13.728			3.837			15.354			22.875			5.839
Chloride					11.440			6.189			10.128			28.396			5.793			2.440			21.940
Bicarbonate + Carbonate					72.303			81.675			76.143			67.766			78.852			74.685			72.221
					100.0																		

Table 4
Ion Balance Calculations
Cedar Hills Regional Landfill
Quarterly Regional Aquifer Groundwater Monitoring

Data Collected from July 1, 2018 to September 30, 2018

			Quarterly Downgradient to Waste Cells and North End Facilities																					
Site ID			**MW-68**			**MW-69**			**MW-72**			**MW-74**			**MW-75**			**MW-80**			**MW-85**			**MW-87**		
			7/13/18			7/23/18			7/23/18			7/20/18			7/19/18			7/19/18			7/20/18			7/20/18		
Cations	MW	n	mg/L	meq/L	%(meq)	mg/L	meq/L	%(meq)	mg/L	meq/L	%(meq)	mg/L	meq/L	%(meq)	mg/L	meq/L	%(meq)	mg/L	meq/L	%(meq)	mg/L	meq/L	%(meq)	mg/L	meq/L	%(meq)
pH			6.6			7.2			6.5			6.7			6.7			6.5			6.8			6.4		
Conductance			262			303			324			519			335			289			341			489		
TDSobs			171			196			214			339			233			194			213			375		
Calcium	40.1	2	27.7	1.382236	44.6	35.1	1.751497	48.4	33.2	1.656687	43.1	49.4	2.46507	40.2	30.7	1.531936	39.1	30.7	1.531936	46.0	31.8	1.586826	43.0	47.1	2.350299	41.4
Magnesium	24.3	2	15.3	1.259	40.6	16.7	1.374203	38.0	20.2	1.662209	43.2	36.9	3.036412	49.5	22.4	1.843242	47.1	16.0	1.316602	39.6	20.0	1.645752	44.6	31.5	2.592059	45.7
Potassium	39.1	1	1.7	0.042969	1.4	1.8	0.046549	1.3	2.0	0.050642	1.3	2.2	0.056524	0.9	2.0	0.049874	1.3	1.7	0.042969	1.3	1.6	0.041946	1.1	2.4	0.062151	1.1
Sodium	23.0	1	8.8	0.381474	12.3	9.1	0.394958	10.9	8.4	0.36364	9.5	13.2	0.574168	9.4	9.3	0.404528	10.3	7.9	0.345371	10.4	9.5	0.411922	11.2	10.9	0.474124	8.4
Iron	55.8	2	0.62	0.022204	0.7	1.15	0.041184	1.1	2.73	0.097767	2.5	0.01	0.000358	0.0	2.22	0.079503	2.0	2.18	0.07807	2.3	0.01	0.000358	0.0	4.93	0.176554	3.1
Manganese	54.9	2	0.30	0.010921	0.4	0.28	0.010084	0.3	0.39	0.014052	0.4	0.00	3.64E-06	0.0	0.19	0.006953	0.2	0.33	0.01205	0.4	0.00	3.64E-06	0.0	0.53	0.019404	0.3
Ammonia-N	14.0	1	0.02	0.001335	0.0	0.02	0.001221	0.0	0.02	0.001228	0.0	0.00	0.000207	0.0	0.01	0.000735	0.0	0.02	0.001114	0.0	0.00	0.00025	0.0	0.02	0.001478	0.0
Total Cations (meq/L)				**3.1**			**3.6**			**3.8**			**6.1**			**3.9**			**3.3**			**3.7**	**100.0**		**5.7**	
Anions																										
Alkalinity, Total			125			136			129			227			107			112			127			102		
Carbonate	60.0	2	0.02924	0.000975	0.0	0.11537	0.003846	0.1	0.0251	0.000837	0.0	0.06683	0.002228	0.0	0.03299	0.0011	0.0	0.02282	0.000761	0.0	0.046	0.001533	0.0	0.01438	0.000479	0.0
Bicarbonate	61.0	1	152.44	2.498649	86.2	165.69	2.715745	82.1	157.33	2.578774	73.5	276.80	4.537088	76.4	130.47	2.138578	59.7	136.59	2.238902	72.8	154.85	2.538084	72.2	124.41	2.039213	39.0
Chloride	35.5	1	2.8	0.07926	2.7	3.7	0.103799	3.1	6.1	0.171213	4.9	25.9	0.730545	12.3	10.1	0.284884	7.9	4.6	0.129185	4.2	10.3	0.290525	8.3	11.4	0.321552	6.1
Nitrate-N	14.0	1	0.01	0.000714	0.0	0.01	0.000714	0.0	0.01	0.000928	0.0	0.28	0.01999	0.3	0.01	0.000714	0.0	0.01	0.000714	0.0	0.11	0.008067	0.2	0.01	0.000714	0.0
Sulfate	96.1	2	15.3	0.318559	11.0	23.2	0.483044	14.6	36.3	0.755797	21.5	31.0	0.645446	10.9	55.7	1.159721	32.3	34.0	0.707909	23.0	32.6	0.678759	19.3	138.0	2.873276	54.9
Total Anions (meq/L)				**2.9**			**3.3**			**3.5**			**5.9**			**3.6**			**3.1**			**3.5**	**100.0**		**5.2**	
Total Ions (meq/L)				**6.0**			**6.9**			**7.4**			**12.1**			**7.5**			**6.4**			**7.2**			**10.9**	
Cation/Anion Ratio				**1.07**			**1.09**			**1.10**			**1.03**			**1.09**			**1.08**			**1.05**			**1.08**	
Percent Difference				**3.4**			**4.5**			**4.6**			**1.6**			**4.4**			**3.9**			**2.4**			**4.0**	
Trilinear Diagram Data																										
sum (Ca, Mg, Na+K)				3.07			3.57			3.73			6.13			3.83			3.24			3.69			5.48	
Calcium					45.09			49.10			44.38			40.20			40.00			47.33			43.04			42.90
Magnesium					41.07			38.52			44.53			49.52			48.13			40.68			44.64			47.31
Sodium + Potassium					13.84			12.38			11.10			10.28			11.87			12.00			12.31			9.79
																							100.0			
sum (SO_4, Cl, HCO_3+CO_3)				2.90			3.31			3.51			5.92			3.58			3.08			3.51			5.23	
Sulfate					10.994			14.609			21.553			10.911			32.356			23.008			19.344			54.891
Chloride					2.736			3.139			4.883			12.350			7.948			4.199			8.280			6.143
Bicarbonate + Carbonate					86.270			82.251			73.564			76.738			59.696			72.793			72.376			38.966
																							100.0			

Table 4
Ion Balance Calculations
Cedar Hills Regional Landfill Quarterly and Semi-annual Regional Aquifer Groundwater Monitoring

Data Collected from October 1, 2018 to December 31, 2018

			Upgradient and Crossgradient															
Site ID			**MW-21**			**MW-24**			**MW-56**			**MW-59**			**MW-64**			**MW-65**	
			10/22/18			10/10/18			11/1/18			10/12/18			11/2/18			10/12/18	
Cations	MW	n	mg/L	meq/L	%(meq)	mg/L	meq/L	%(meq)	mg/L	meq/L	%(meq)	mg/L	meq/L	%(meq)	mg/L	meq/L	%(meq)	mg/L	meq/L	%(meq)
pH			7.3			6.6			7.0			7.2			7.1			7.1		
Conductance			136			181			210			203			261			145		
TDSobs			85			107			136			120			155			87		
Calcium	40.1	2	11.7	0.58383	40.0	14.3	0.71357	37.9	19.5	0.97305	43.1	16.5	0.82335	39.2	20.9	1.04291	37.4	11.3	0.56387	37.5
Magnesium	24.3	2	6.4	0.52417	35.9	9.4	0.76939	40.9	11.7	0.96276	42.6	10.1	0.8311	39.6	16.3	1.34129	48.1	7.0	0.5719	38.0
Potassium	39.1	1	1.1	0.02711	1.9	0.9	0.02371	1.3	1.3	0.03351	1.5	1.1	0.02916	1.4	1.8	0.04604	1.6	0.9	0.02297	1.5
Sodium	23.0	1	5.7	0.24794	17.0	5.7	0.24707	13.1	6.3	0.27273	12.1	6.1	0.26577	12.7	8.1	0.3532	12.7	5.3	0.22836	15.2
Iron	55.8	2	1.97	0.07055	4.8	3.37	0.12069	6.4	0.09	0.00338	0.1	4.00	0.14325	6.8	0.06	0.00203	0.1	3.12	0.11173	7.4
Manganese	54.9	2	0.10	0.00371	0.3	0.11	0.004	0.2	0.34	0.01252	0.6	0.13	0.00455	0.2	0.08	0.003	0.1	0.14	0.00499	0.3
Ammonia-N	14.0	1	0.03	0.00193	0.1	0.04	0.00258	0.1	0.00	0.00021	0.0	0.01	0.00058	0.0	0.03	0.0019	0.1	0.00	0.00033	0.0
Total Cations (meq/L)				**1.5**			**1.9**			**2.3**			**2.1**			**2.8**			**1.5**	
Anions																				
Alkalinity, Total			57			66			74			69			102			52		
Carbonate	60.0	2	0.06648	0.00222	0.2	0.01449	0.00048	0.0	0.04894	0.00163	0.1	0.06085	0.00203	0.1	0.07893	0.00263	0.1	0.03512	0.00117	0.1
Bicarbonate	61.0	1	69.16	1.13361	87.1	80.98	1.32732	76.9	90.55	1.48414	68.1	83.45	1.36777	72.1	124.28	2.03706	75.1	63.49	1.04067	77.3
Chloride	35.5	1	2.3	0.06544	5.0	5.9	0.16755	9.7	18.6	0.52464	24.1	7.4	0.20732	10.9	2.8	0.07813	2.9	3.6	0.10239	7.6
Nitrate-N	14.0	1	0.01	0.00036	0.0	0.01	0.00036	0.0	0.07	0.0053	0.2	0.01	0.00071	0.0	0.01	0.00036	0.0	0.01	0.00036	0.0
Sulfate	96.1	2	4.8	0.09994	7.7	11.1	0.23111	13.4	7.9	0.16469	7.6	15.3	0.31856	16.8	28.6	0.59548	21.9	9.7	0.20113	14.9
Total Anions (meq/L)				**1.3**			**1.7**			**2.2**			**1.9**			**2.7**			**1.3**	
Total Ions (meq/L)				**2.8**			**3.6**			**4.4**			**4.0**			**5.5**			**2.8**	
Cation/Anion Ratio				**1.12**			**1.09**			**1.04**			**1.11**			**1.03**			**1.12**	
Percent Difference				**5.7**			**4.3**			**1.8**			**5.0**			**1.4**			**5.6**	
Trilinear Diagram Data																				
sum (Ca, Mg, Na+K)			1.38			1.75			2.24			1.95			2.78			1.39		
Calcium				42.21			40.69			43.40			42.24			37.47			40.65	
Magnesium				37.90			43.87			42.94			42.63			48.19			41.23	
Sodium + Potassium				19.89			15.44			13.66			15.13			14.34			18.12	
													100.0							
sum (SO_4, Cl, HCO_3+CO_3)			1.30			1.73			2.18			1.90			2.71			1.35		
Sulfate				7.681			13.386			7.572			16.805			21.947			14.950	
Chloride				5.029			9.705			24.120			10.936			2.880			7.611	
Bicarbonate + Carbonate				87.290			76.909			68.308			72.259			75.174			77.440	
													100.0							

Table 4
Ion Balance Calculations
Cedar Hills Regional Landfill Quarterly and Semi-annual Regional Aquifer Groundwater Monitoring

Data Collected from October 1, 2018 to December 31, 2018

			Upgradient and Crossgradient															
Site ID			**MW-76**			**MW-82**			**MW-83**			**MW-94**			**MW-73**			**MW-81**	
			10/12/18			10/10/18			10/22/18			10/19/18			10/22/18			11/2/18	
Cations	MW	n	mg/L	meq/L	%(meq)	mg/L	meq/L	%(meq)	mg/L	meq/L	%(meq)	mg/L	meq/L	%(meq)	mg/L	meq/L	%(meq)	mg/L	meq/L	%(meq)
pH			6.6			6.7			6.9			7.0			6.8			7.4		
Conductance			234			308			619			327			138			161		
TDSobs			148			192			382			202			97			105		
Calcium	40.1	2	20.5	1.02295	45.2	30.2	1.506986028	43.6	66.4	3.31337	53.1	31.9	1.59182	49.8	12.4	0.61876	43.7	13.3	0.66367	42.6
Magnesium	24.3	2	9.6	0.78667	34.7	18.5	1.52232051	44.1	26.9	2.21354	35.5	14.5	1.19317	37.3	6.4	0.52335	37.0	7.3	0.59741	38.3
Potassium	39.1	1	1.4	0.03555	1.6	2.0	0.050385822	1.5	3.7	0.09387	1.5	2.3	0.05857	1.8	0.8	0.02118	1.5	0.8	0.02159	1.4
Sodium	23.0	1	9.7	0.42019	18.5	8.6	0.373644451	10.8	14.3	0.62202	10.0	8.2	0.35581	11.1	5.8	0.25142	17.8	6.4	0.27621	17.7
Iron	55.8	2	0.01	0.00018	0.0	0.01	0.000179061	0.0	0.01	0.00018	0.0	0.01	0.00018	0.0	0.01	0.00018	0.0	0.01	0.00018	0.0
Manganese	54.9	2	0.00	1.8E-06	0.0	0.00	1.82023E-06	0.0	0.00	6.3E-05	0.0	0.00	1.8E-06	0.0	0.00	1.8E-06	0.0	0.00	1.8E-06	0.0
Ammonia-N	14.0	1	0.00	7.1E-05	0.0	0.00	7.13929E-05	0.0	0.00	0.00021	0.0	0.00	7.1E-05	0.0	0.00	7.1E-05	0.0	0.00	7.1E-05	0.0
Total Cations (meq/L)				**2.3**			**3.5**			**6.2**	**100.0**		**3.2**			**1.4**			**1.6**	
Anions																				
Alkalinity, Total			61			125			191			109			51			54		
Carbonate	60.0	2	0.0136	0.00045	0.0	0.04129	0.001376375	0.0	0.08509	0.00284	0.0	0.06701	0.00223	0.1	0.02033	0.00068	0.1	0.07478	0.00249	0.2
Bicarbonate	61.0	1	74.27	1.21736	56.3	152.42	2.498246859	78.8	232.85	3.81659	62.1	132.84	2.17744	71.1	62.42	1.02317	77.9	66.22	1.08534	71.1
Chloride	35.5	1	16.4	0.46258	21.4	9.9	0.278678814	8.8	67.2	1.89547	30.9	20.4	0.57541	18.8	2.1	0.06008	4.6	5.0	0.1416	9.3
Nitrate-N	14.0	1	1.53	0.10923	5.1	0.87	0.062254587	2.0	3.02	0.21561	3.5	2.14	0.15278	5.0	1.05	0.07496	5.7	1.41	0.10066	6.6
Sulfate	96.1	2	17.9	0.37269	17.2	15.8	0.328969285	10.4	10.2	0.21237	3.5	7.4	0.15303	5.0	7.5	0.15512	11.8	9.5	0.19738	12.9
Total Anions (meq/L)				**2.2**			**3.2**			**6.1**	**100.0**		**3.1**			**1.3**			**1.5**	
Total Ions (meq/L)				**4.4**			**6.6**			**12.4**			**6.3**			**2.7**			**3.1**	
Cation/Anion Ratio			**1.05**			**1.09**			**1.02**			**1.05**			**1.08**			**1.02**		
Percent Difference			**2.3**			**4.3**			**0.8**			**2.2**			**3.7**			**1.0**		
Trilinear Diagram Data																				
sum (Ca, Mg, Na+K)			2.27			3.45			6.24			3.20			1.41			1.56		
Calcium				45.16			43.64			53.08			49.75			43.74			42.57	
Magnesium				34.73			44.08			35.46			37.29			36.99			38.32	
Sodium + Potassium				20.12			12.28			11.47			12.95			19.27			19.10	
										100.0									100.0	
sum (SO_4, Cl, HCO_3+CO_3)			2.05			3.11			5.93			2.91			1.24			1.43		
Sulfate				18.153			10.587			3.583			5.262			12.519			13.834	
Chloride				22.531			8.969			31.979			19.786			4.849			9.924	
Bicarbonate + Carbonate				59.316			80.444			64.438			74.951			82.632			76.242	
										100.0										

Table 4
Ion Balance Calculations
Cedar Hills Regional Landfill Quarterly and Semi-annual Regional Aquifer Groundwater Monitoring

Data Collected from October 1, 2018 to December 31, 2018

			Upgradient and Crossgradient											
Site ID			**MW-84**			**MW-66**			**MW-93**			**MW-95**		
			10/26/18			10/16/18			11/5/18			10/19/18		
Cations	MW	n	mg/L	meq/L	%(meq)	mg/L	meq/L	%(meq)	mg/L	meq/L	%(meq)	mg/L	meq/L	%(meq)
pH			7.0			7.2			7.4			7.0		
Conductance			188			219			321			327		
TDSobs			118			130			199			202		
Calcium	40.1	2	14.7	0.73353	37.2	16.8	0.83832	37.1	31.2	1.55689	46.1	31.9	1.59181637	49.8
Magnesium	24.3	2	11.1	0.91339	46.3	13.0	1.06974	47.3	16.6	1.36597	40.4	14.5	1.19317013	37.3
Potassium	39.1	1	1.1	0.02865	1.5	1.1	0.02813	1.2	1.5	0.03939	1.2	2.3	0.05857032	1.8
Sodium	23.0	1	6.8	0.29622	15.0	7.4	0.32319	14.3	9.3	0.40583	12.0	8.2	0.35581043	11.1
Iron	55.8	2	0.01	0.00018	0.0	0.01	0.00018	0.0	0.01	0.00018	0.0	0.01	0.00017906	0.0
Manganese	54.9	2	0.00	2.9E-05	0.0	0.00	1.8E-06	0.0	0.18	0.00641	0.2	0.00	1.8202E-06	0.0
Ammonia-N	14.0	1	0.00	7.1E-05	0.0	0.00	7.1E-05	0.0	0.06	0.00426	0.1	0.00	7.1393E-05	0.0
Total Cations (meq/L)				**2.0**			**2.3**			**3.4**			**3.2**	
Anions														
Alkalinity, Total			72			89			121			109		
Carbonate	60.0	2	0.04137	0.00138	0.1	0.0808	0.00269	0.1	0.18234	0.00608	0.2	0.06701353	0.00223381	0.1
Bicarbonate	61.0	1	87.88	1.4404	76.8	108.29	1.77504	80.7	147.25	2.41356	74.3	132.84	2.17743782	71.1
Chloride	35.5	1	4.0	0.11283	6.0	4.4	0.12411	5.6	2.9	0.08264	2.5	20.4	0.5754097	18.8
Nitrate-N	14.0	1	0.15	0.01035	0.6	0.51	0.03662	1.7	0.01	0.00036	0.0	2.14	0.15278075	5.0
Sulfate	96.1	2	14.9	0.31023	16.5	12.5	0.26026	11.8	35.9	0.74747	23.0	7.4	0.15303318	5.0
Total Anions (meq/L)				**1.9**			**2.2**			**3.3**			**3.1**	
Total Ions (meq/L)				**3.8**			**4.5**			**6.6**			**6.3**	
Cation/Anion Ratio				**1.05**			**1.03**			**1.04**			**1.05**	
Percent Difference				**2.5**			**1.4**			**1.9**			**2.2**	
Trilinear Diagram Data														
sum (Ca, Mg, Na+K)			1.97			2.26			3.37			3.20		
Calcium				37.20			37.10			46.22			49.75	
Magnesium				46.32			47.35			40.56			37.29	
Sodium + Potassium				16.48			15.55			13.22			12.95	
				100.0			100.0							
sum (SO_4, Cl, HCO_3+CO_3)			1.86			2.16			3.25			2.91		
Sulfate				16.636			12.037			23.001			5.262	
Chloride				6.050			5.740			2.543			19.786	
Bicarbonate + Carbonate				77.314			82.222			74.456			74.951	

Table 4
Ion Balance Calculations
Cedar Hills Regional Landfill Quarterly and Semi-annual Regional Aquifer Groundwater Monitoring

Data Collected from October 1, 2018 to December 31, 2018

			Downgradient to Waste Cells and North End Facilities								
Site ID			**MW-68**			**MW-67**			**MW-69**		
			10/22/18			10/29/18			10/24/18		
Cations	MW	n	mg/L	meq/L	%(meq)	mg/L	meq/L	%(meq)	mg/L	meq/L	%(meq)
pH			7.3			6.7			7.6		
Conductance			283			350			330		
TDSobs			167			225			193		
Calcium	40.1	2	27.7	1.38224	44.7	35.8	1.78643	44.3	34.4	1.71657	48.5
Magnesium	24.3	2	15.1	1.24254	40.2	21.5	1.76918	43.9	16.4	1.34952	38.1
Potassium	39.1	1	1.7	0.04399	1.4	1.8	0.04527	1.1	1.8	0.04604	1.3
Sodium	23.0	1	9.0	0.39148	12.7	9.6	0.41627	10.3	8.8	0.38147	10.8
Iron	55.8	2	0.52	0.01844	0.6	0.20	0.00713	0.2	1.01	0.03617	1.0
Manganese	54.9	2	0.32	0.01161	0.4	0.20	0.00735	0.2	0.28	0.01012	0.3
Ammonia-N	14.0	1	0.02	0.00134	0.0	0.01	0.00045	0.0	0.02	0.00122	0.0
Total Cations (meq/L)				**3.1**			**4.0**			**3.5**	
Anions											
Alkalinity, Total			128			159			137		
Carbonate	60.0	2	0.14981	0.00499	0.2	0.05252	0.00175	0.0	0.3343	0.01114	0.3
Bicarbonate	61.0	1	155.86	2.55462	87.0	193.87	3.17777	79.4	166.46	2.72845	81.4
Chloride	35.5	1	2.7	0.07531	2.6	5.2	0.14752	3.7	3.9	0.10916	3.3
Nitrate-N	14.0	1	0.01	0.00036	0.0	0.09	0.0065	0.2	0.01	0.00036	0.0
Sulfate	96.1	2	14.4	0.29982	10.2	32.1	0.66835	16.7	24.2	0.50386	15.0
Total Anions (meq/L)				**2.9**			**4.0**			**3.4**	
Total Ions (meq/L)				**6.0**			**8.0**			**6.9**	
Cation/Anion Ratio			**1.05**			**1.01**			**1.06**		
Percent Difference			**2.6**			**0.4**			**2.7**		
Trilinear Diagram Data											
sum (Ca, Mg, Na+K)			3.06			4.02			3.49		
Calcium				45.17			44.47			49.13	
Magnesium				40.60			44.04			38.63	
Sodium + Potassium				14.23			11.49			12.24	
sum (SO_4, Cl, HCO_3+CO_3)			2.93			4.00			3.35		
Sulfate				10.216			16.728			15.029	
Chloride				2.566			3.692			3.256	
Bicarbonate + Carbonate				87.218			79.580			81.715	

Table 4
Ion Balance Calculations
Cedar Hills Regional Landfill Quarterly and Semi-annual Regional Aquifer
Groundwater Monitoring

Data Collected from October 1, 2018 to December 31, 2018

			Downgradient to Waste Cells and North End Facilities															
Site ID			**MW-72**			**MW-74**			**MW-75**			**MW-80**			**MW-85**			**MW-86**	
			10/29/18			10/18/18			10/19/18			10/19/18			10/26/18			10/29/18	
Cations	MW	n	mg/L	meq/L	%(meq)	mg/L	meq/L	%(meq)	mg/L	meq/L	%(meq)	mg/L	meq/L	%(meq)	mg/L	meq/L	%(meq)	mg/L	meq/L	%(meq)
pH			6.8			7.1			7.1			7.3			7.1			7.1		
Conductance			375			547			370			315			355			195		
TDSobs			211			313			233			193			220			116		
Calcium	40.1	2	31.6	1.57685	42.3	46.8	2.33533	39.4	30.0	1.49701	39.0	30.1	1.502	45.4	33.0	1.64671	43.6	15.3	0.76347	38.1
Magnesium	24.3	2	19.9	1.63752	43.9	36.0	2.96235	50.0	22.4	1.84324	48.0	16.1	1.32483	40.1	20.4	1.67867	44.4	10.7	0.88048	43.9
Potassium	39.1	1	2.0	0.0509	1.4	2.1	0.05473	0.9	1.9	0.04783	1.2	1.7	0.0422	1.3	1.7	0.04271	1.1	1.3	0.03351	1.7
Sodium	23.0	1	8.2	0.35451	9.5	13.2	0.57417	9.7	9.3	0.40279	10.5	8.0	0.34929	10.6	9.5	0.41279	10.9	7.0	0.30361	15.1
Iron	55.8	2	2.62	0.09383	2.5	0.01	0.00018	0.0	1.23	0.04405	1.1	2.08	0.07449	2.3	0.01	0.00018	0.0	0.67	0.02396	1.2
Manganese	54.9	2	0.37	0.01347	0.4	0.00	1.8E-06	0.0	0.14	0.00506	0.1	0.35	0.01256	0.4	0.00	1.8E-06	0.0	0.03	0.00124	0.1
Ammonia-N	14.0	1	0.02	0.00118	0.0	0.00	7.1E-05	0.0	0.01	0.00057	0.0	0.01	0.00091	0.0	0.00	7.1E-05	0.0	0.00	0.00021	0.0
Total Cations (meq/L)				**3.7**			**5.9**			**3.8**			**3.3**	**100.0**		**3.8**			**2.0**	
Anions																				
Alkalinity, Total			128			216			107			112			130			68		
Carbonate	60.0	2	0.04636	0.00155	0.0	0.16334	0.00544	0.1	0.0828	0.00276	0.1	0.13413	0.00447	0.1	0.10059	0.00335	0.1	0.04704	0.00157	0.1
Bicarbonate	61.0	1	156.07	2.55807	71.8	263.19	4.3139	76.2	130.37	2.13692	60.5	136.37	2.23519	71.8	158.40	2.59626	71.9	83.11	1.36223	71.0
Chloride	35.5	1	6.6	0.18475	5.2	23.7	0.66849	11.8	9.5	0.26852	7.6	4.6	0.1289	4.1	10.8	0.30463	8.4	4.8	0.13398	7.0
Nitrate-N	14.0	1	0.01	0.00036	0.0	0.31	0.02242	0.4	0.01	0.00036	0.0	0.01	0.00036	0.0	0.11	0.00814	0.2	0.02	0.0015	0.1
Sulfate	96.1	2	39.4	0.82034	23.0	31.4	0.65377	11.5	54.1	1.12641	31.9	35.7	0.7433	23.9	33.5	0.6975	19.3	20.1	0.4185	21.8
Total Anions (meq/L)				**3.6**			**5.7**			**3.5**			**3.1**	**100.0**		**3.6**			**1.9**	
Total Ions (meq/L)				**7.3**			**11.6**			**7.4**			**6.4**			**7.4**			**3.9**	
Cation/Anion Ratio				**1.05**			**1.05**			**1.09**			**1.06**			**1.05**			**1.05**	
Percent Difference				**2.2**			**2.3**			**4.1**			**3.0**			**2.3**			**2.3**	
Trilinear Diagram Data																				
sum (Ca, Mg, Na+K)			3.62			5.93			3.79			3.22			3.78			1.98		
Calcium				43.56			39.40			39.49			46.67			43.55			38.54	
Magnesium				45.24			49.98			48.62			41.17			44.40			44.44	
Sodium + Potassium				11.20			10.61			11.89			12.16			12.05			17.02	
													100.0							
sum (SO_4, Cl, HCO_3+CO_3)			3.56			5.64			3.53			3.11			3.60			1.92		
Sulfate				23.013			11.588			31.868			23.886			19.366			21.839	
Chloride				5.183			11.849			7.597			4.142			8.458			6.992	
Bicarbonate + Carbonate				71.804			76.562			60.535			71.972			72.177			71.169	
													100.0							

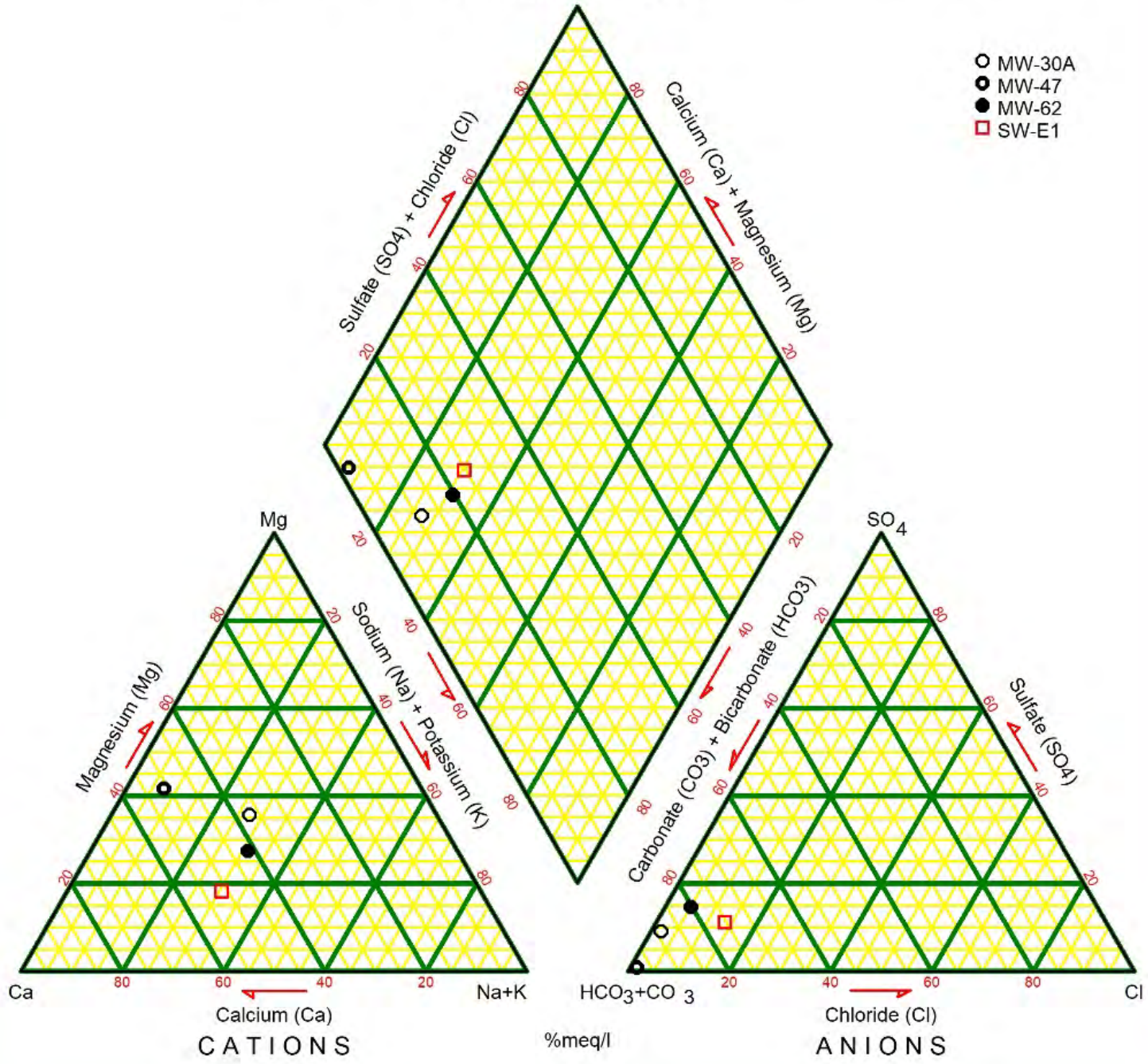
Table 4
Ion Balance Calculations
Cedar Hills Regional Landfill Quarterly and Semi-annual Regional Aquifer
Groundwater Monitoring

Data Collected from October 1, 2018 to December 31, 2018

			Downgradient to Waste Cells and North End Facilities											
Site ID			**MW-87**			**MW-88**			**MW-89**			**MW-100**		
			10/24/18			10/23/18			10/24/18			10/4/18		
Cations	MW	n	mg/L	meq/L	%(meq)	mg/L	meq/L	%(meq)	mg/L	meq/L	%(meq)	mg/L	meq/L	%(meq)
pH			7.0			7.1			7.2			6.9		
Conductance			536			126			225			325		
TDSobs			376			87			137			182		
Calcium	40.1	2	47.2	2.35529	41.7	9.5	0.47405	36.1	16.3	0.81337	35.2	30.7	1.53194	44.5
Magnesium	24.3	2	31.4	2.58383	45.7	6.9	0.56532	43.0	11.9	0.97922	42.4	17.2	1.41535	41.1
Potassium	39.1	1	2.4	0.0619	1.1	0.8	0.02143	1.6	1.6	0.04118	1.8	1.8	0.04578	1.3
Sodium	23.0	1	10.8	0.46977	8.3	5.8	0.25229	19.2	9.9	0.43063	18.6	9.6	0.41801	12.1
Iron	55.8	2	4.48	0.16044	2.8	0.01	0.00018	0.0	0.99	0.03556	1.5	0.65	0.02328	0.7
Manganese	54.9	2	0.54	0.01973	0.3	0.00	9E-06	0.0	0.25	0.0091	0.4	0.19	0.00677	0.2
Ammonia-N	14.0	1	0.02	0.0014	0.0	0.00	7.1E-05	0.0	0.02	0.00127	0.1	0.01	0.00089	0.0
Total Cations (meq/L)				**5.7**			**1.3**			**2.3**			**3.4**	
Anions														
Alkalinity, Total			102			51			77			142		
Carbonate	60.0	2	0.0572	0.00191	0.0	0.03857	0.00129	0.1	0.07872	0.00262	0.1	0.07263	0.00242	0.1
Bicarbonate	61.0	1	124.32	2.03779	37.6	62.14	1.01856	82.1	94.02	1.54114	69.8	173.09	2.83715	85.0
Chloride	35.5	1	13.0	0.36668	6.8	1.8	0.04964	4.0	11.6	0.32719	14.8	3.0	0.0849	2.5
Nitrate-N	14.0	1	0.01	0.00036	0.0	0.77	0.05504	4.4	0.01	0.00036	0.0	0.01	0.00036	0.0
Sulfate	96.1	2	145.0	3.01902	55.6	5.6	0.11576	9.3	16.2	0.3373	15.3	19.9	0.41433	12.4
Total Anions (meq/L)				**5.4**			**1.2**			**2.2**			**3.3**	
Total Ions (meq/L)				**11.1**			**2.6**			**4.5**			**6.8**	
Cation/Anion Ratio				**1.04**			**1.06**			**1.05**			**1.03**	
Percent Difference				**2.0**			**2.9**			**2.3**			**1.5**	
Trilinear Diagram Data														
sum (Ca, Mg, Na+K)			5.47			1.31			2.26			3.41		
Calcium				43.05			36.10			35.92			44.91	
Magnesium				47.23			43.05			43.24			41.49	
Sodium + Potassium				9.72			20.85			20.84			13.60	
sum (SO_4, Cl, HCO_3+CO_3)			5.43			1.19			2.21			3.34		
Sulfate				55.646			9.767			15.274			12.410	
Chloride				6.759			4.188			14.817			2.543	
Bicarbonate + Carbonate				37.595			86.045			69.909			85.047	

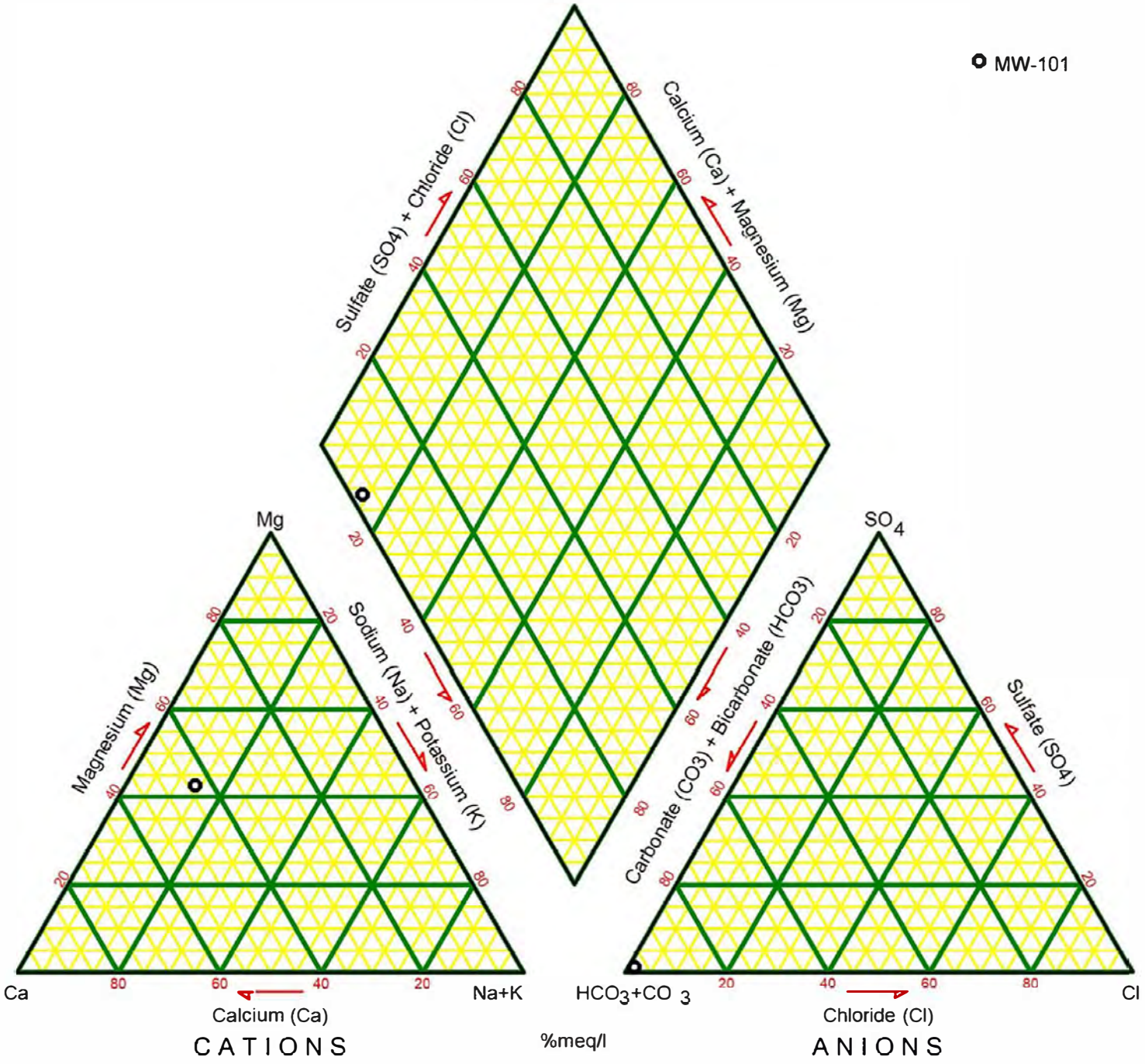
Cedar Hills Regional Landfill

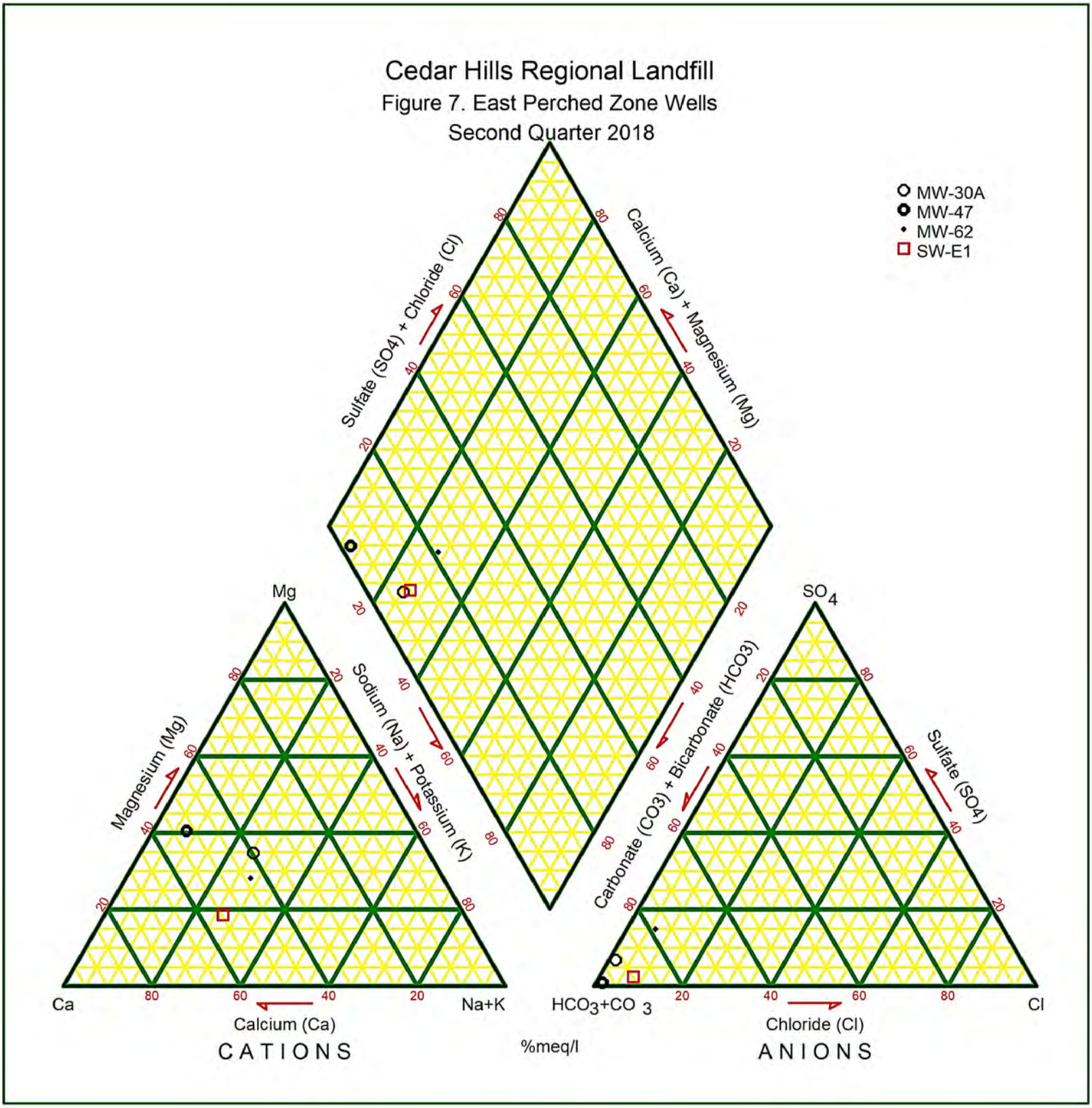
Figure 7. East Perched Zone Wells and Surface Water
First Quarter 2018

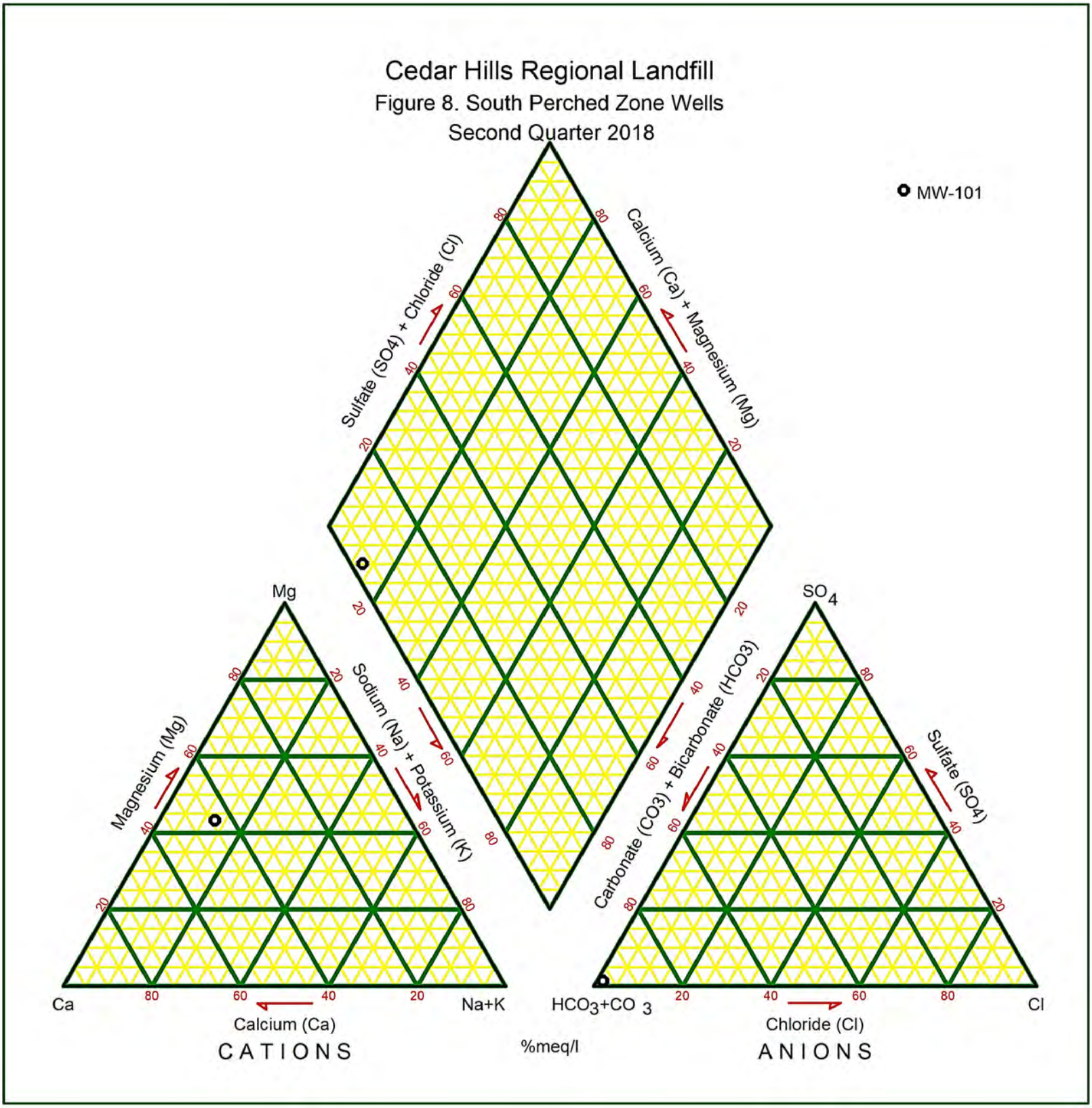


Cedar Hills Regional Landfill

Figure 8. South Perched Zone Wells
First Quarter 2018

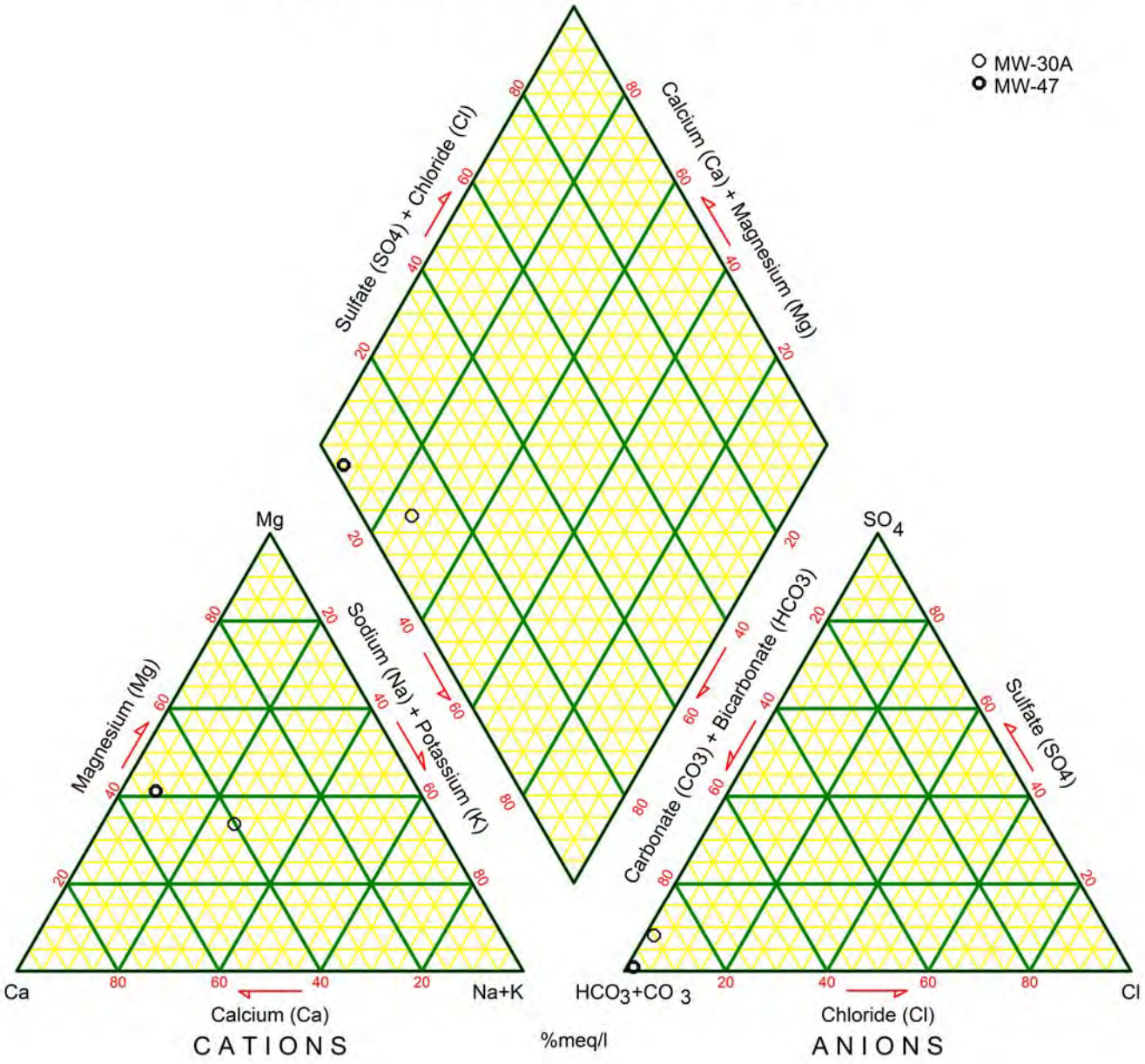



Cedar Hills Regional Landfill
Figure 7. East Perched Zone Wells
Second Quarter 2018
MW-30A
MW-47
MW-62
SW-E1
Sulfate (SO4) + Chloride (Cl)
Calcium (Ca) + Magnesium (Mg)
Mg
Magnesium (Mg)
Sodium (Na) + Potassium (K)
Ca
Na+K
Calcium (Ca)
CATIONS
SO4
Carbonate (CO3) + Bicarbonate (HCO3)
Sulfate (SO4)
HCO3+CO3
Cl
Chloride (Cl)
ANIONS
%meq/l


Cedar Hills Regional Landfill
Figure 8. South Perched Zone Wells
Second Quarter 2018
MW-101
Sulfate (SO4) + Chloride (Cl)
Calcium (Ca) + Magnesium (Mg)
Mg
Magnesium (Mg)
Sodium (Na) + Potassium (K)
Ca
Na+K
Calcium (Ca)
CATIONS
SO4
Carbonate (CO3) + Bicarbonate (HCO3)
Sulfate (SO4)
HCO3+CO 3
Cl
Chloride (Cl)
ANIONS
%meq/l

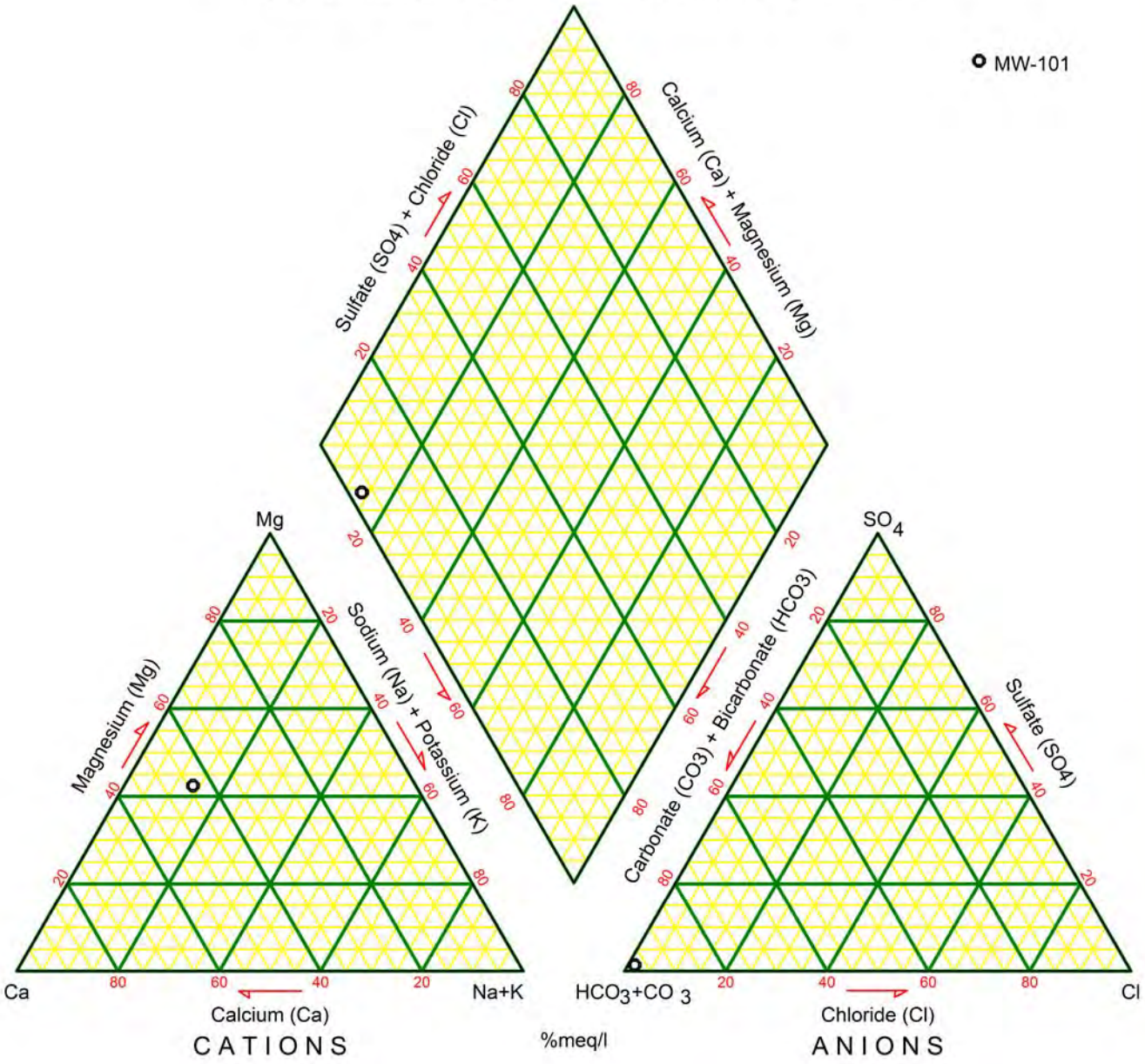
Cedar Hills Regional Landfill

Figure 7. Trilinear Diagram East Perched Zone Wells



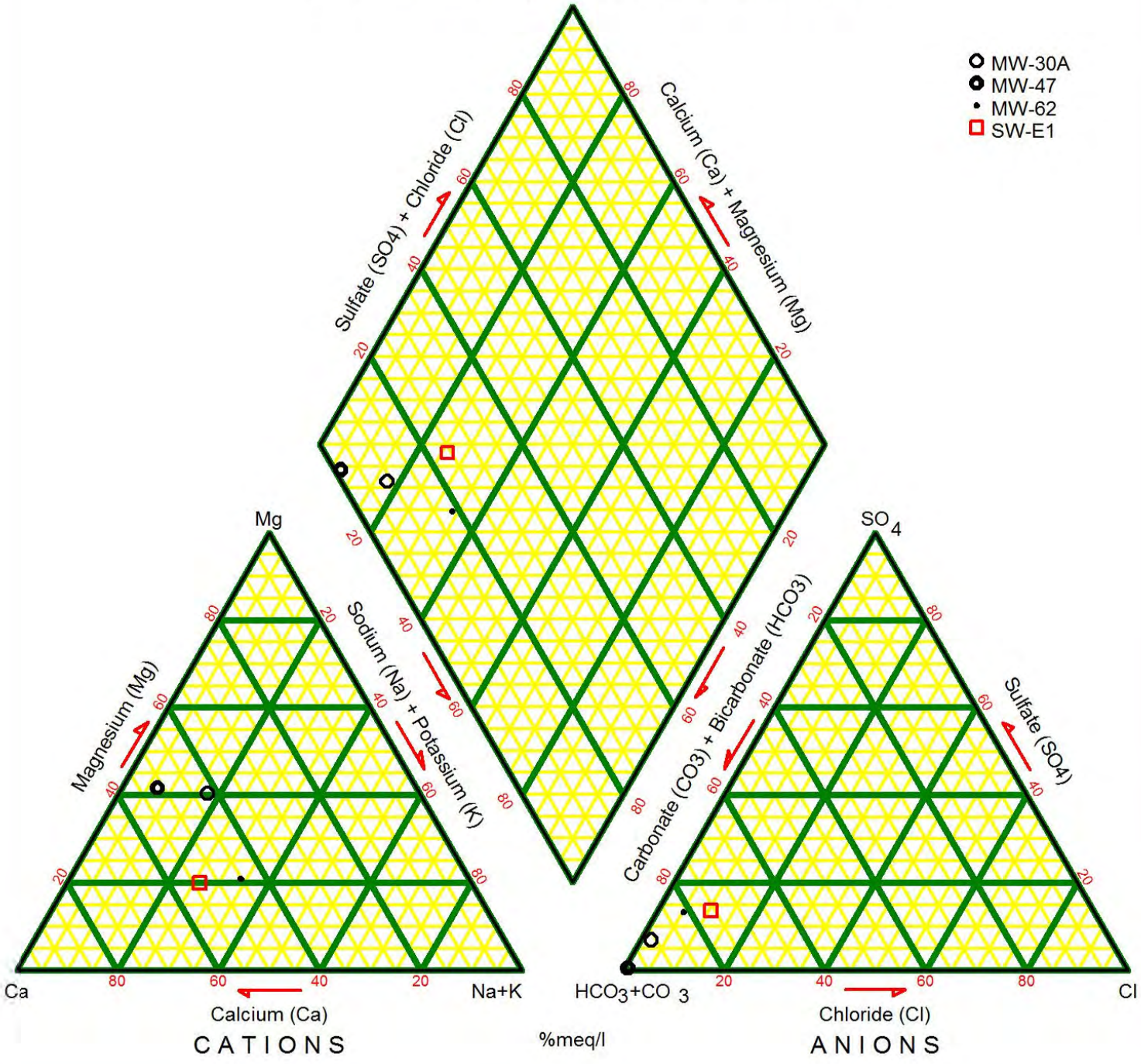
Cedar Hills Regional Landfill

Figure 8. Trilinear Diagram SSW Area Perched Zone Wells



Cedar Hills Regional Landfill

Figure 7. Trilinear Diagram East Area Perched Wells



Cedar Hills Regional Landfill

Figure 8. Trilinear Diagram SSW Perched Area Wells

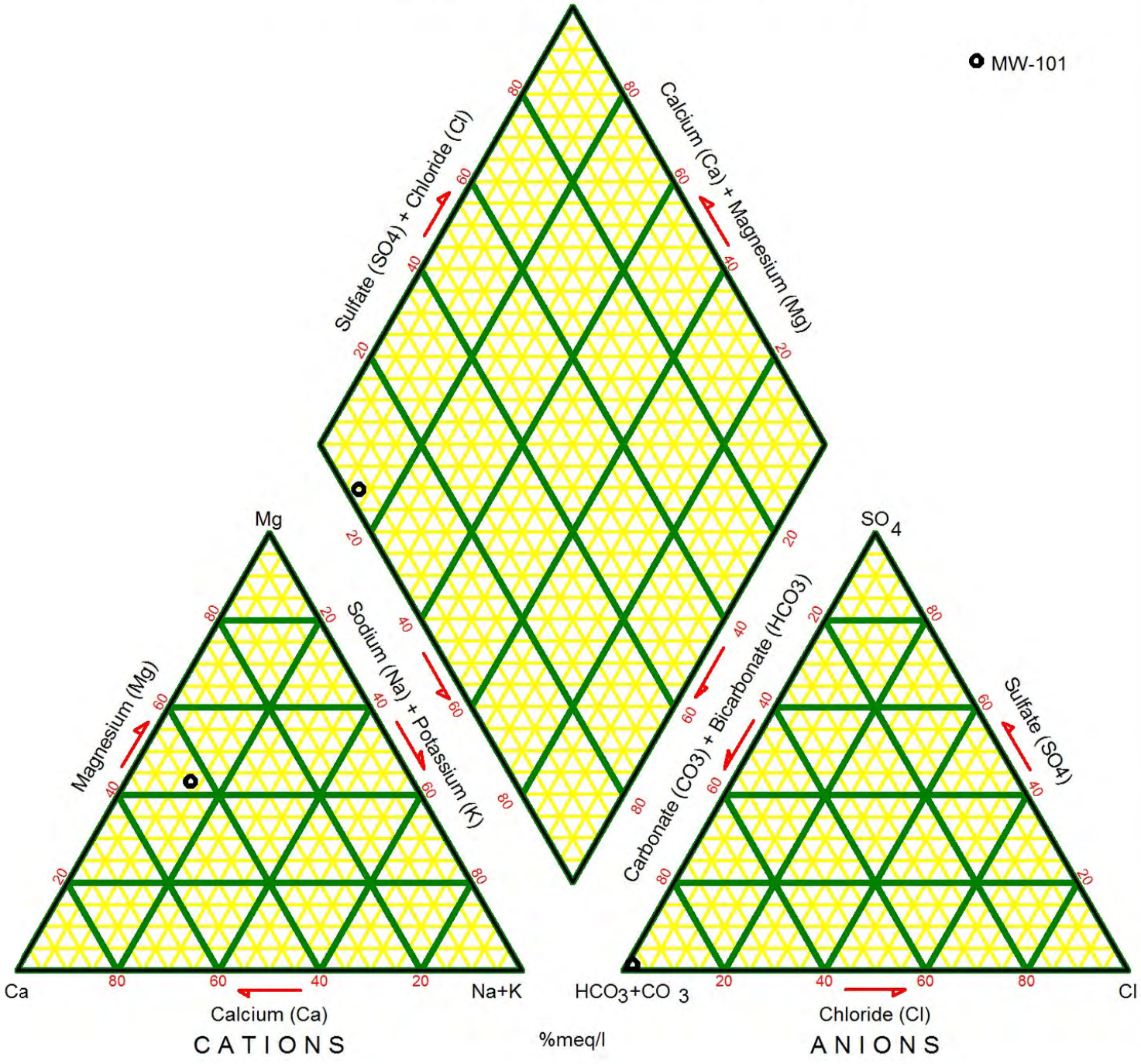


Table 8
Ion Balance Calculations
Cedar Hills Landfill Perched Zones GW Monitoring Wells

Data Collected from January 1, 2018 to March 31, 2018

		East Perched Zone												SSWA		
Site ID		**MW-30A**			**MW-47**			**MW-62**			**SW-E1**			**MW-101**		
Date		2/7/18			2/6/18			2/7/18			2/6/18			2/6/18		
Cations	Molecular Weight	mg/L	meq/L	%(meq)	mg/L	meq/L	%(meq)	mg/L	meq/L	%(meq)	mg/L	meq/L	%(meq)	mg/L	meq/L	%(meq)
pH		6.4			6.9			6.9			5.7			7.0		
Conductance		220			830			215			38			405		
TDSobs		206			719			144			43			345		
Calcium	40.1	19.5	0.97305	37.0	140.0	6.98603	49.9	18.3	0.91317	41.4	3.9	0.19261	51.1	52.6	2.62475	43.0
Magnesium	24.3	11.4	0.93808	35.7	69.4	5.71076	40.8	7.4	0.60481	27.5	0.8	0.06871	18.2	31.3	2.5756	42.2
Potassium	39.1	1.5	0.03734	1.4	4.8	0.12353	0.9	1.1	0.02788	1.3	0.4	0.0111	2.9	2.6	0.06727	1.1
Sodium	23.0	15.6	0.67856	25.8	20.3	0.883	6.3	15.1	0.65681	29.8	2.4	0.10352	27.5	17.5	0.76121	12.5
Iron	55.8	0.0	0.00036	0.0	4.8	0.17082	1.2	0.0	0.00036	0.0	0.0	0.00075	0.2	1.1	0.04083	0.7
Manganese	54.9	0.0	5.9E-06	0.0	3.2	0.11613	0.8	0.0	6E-06	0.0	0.0	0.00012	0.0	1.1	0.03895	0.6
Ammonia-N	14.0	0.0	0.00014	0.0	0.0	0.00014	0.0	0.0	0.00014	0.0	0.0	0.00022	0.1	0.0	0.0011	0.0
Total Cations (meq/L)			**2.6**			**14.0**			**2.2**			**0.4**			**6.1**	
Anions																
Alkalinity, Total		59.7			653			73.2			11.2			305		
Carbonate	60.0	0.00881	0.00029	0.0	0.27783	0.00926	0.1	0.03659	0.00122	0.1	0.00033	1.1E-05	0.0	0.18325	0.00611	0.1
Bicarbonate	61.0	72.82	1.19353	49.0	796.10	13.0488	97.8	89.23	1.46256	71.3	13.66	0.22396	70.6	371.73	6.09297	97.5
Chloride	35.5	0.9	0.02541	1.0	5.7	0.16106	1.2	3.2	0.09139	4.5	1.4	0.04005	12.6	2.6	0.07418	1.2
Nitrate-N	14.0	15.3	1.09231	44.9	0.0	0.00071	0.0	3.2	0.22917	11.2	0.3	0.01985	6.3	0.0	0.00114	0.0
Sulfate	96.1	5.9	0.1218	5.0	5.6	0.11743	0.9	12.8	0.26651	13.0	1.6	0.03331	10.5	3.7	0.07704	1.2
Total Anions (meq/L)			**2.4**			**13.3**			**2.1**			**0.3**			**6.3**	
Total Ions (meq/L)			**5.1**			**27.3**			**4.3**			**0.7**			**12.4**	
Cation/Anion Ratio			**1.08**			**1.05**			**1.07**			**1.19**			**0.98**	
Percent Difference			**3.8**			**2.4**			**3.6**			**8.6**			**-1**	
TRILINEAR DIAGRAM DATA																
sum (Ca, Mg, Na+K)			2.63			13.70			2.20			0.38			6.03	
Calcium				37.0			51.0			41.46			51.23			43.54
Magnesium				35.7			41.7			27.46			18.28			42.72
Sodium + Potassium				27.3			7.3			31.08			30.49			13.74
										100.0			100.0			
sum (SO_4, Cl, HCO_3+CO_3)			1.34			13.34			1.82			0.30			6.25	
Sulfate				9.1			0.9			14.6			11.2			1.2
Chloride				1.9			1.2			5.0			13.5			1.2
Bicarbonate + Carbonate				89.0			97.9			80.4			75.3			97.6
										100.0			100.0			

Table 8
Ion Balance Calculations
Cedar Hills Landfill Perched Zones GW Monitoring Wells

Data Collected from April 1, 2018 to June 30, 2018

		East Perched Zone												SSWA		
Site ID		**MW-30A**			**MW-47**			**MW-62**			**SW-E1**			**MW-101**		
Date		5/1/18			5/1/18			5/3/18			4/30/18			4/30/18		
Cations	Molecular Weight	mg/L	meq/L	%(meq)	mg/L	meq/L	%(meq)	mg/L	meq/L	%(meq)	mg/L	meq/L	%(meq)	mg/L	meq/L	%(meq)
pH		6.2			6.8			6.4			6.6			7.2		
Conductance		250			835			200			48			460		
TDSobs		224			698			159			50			348		
Calcium	40.1	23.9	1.19261	39.7	140.0	6.98603	50.7	21.4	1.06786	43.6	1.2	0.0594	11.3	57.2	2.85429	43.8
Magnesium	24.3	12.7	1.04505	34.8	66.4	5.4639	39.7	8.4	0.68875	28.1	5.1	0.423	80.6	34.1	2.80601	43.1
Potassium	39.1	1.5	0.03888	1.3	4.6	0.11714	0.9	1.1	0.02916	1.2	0.1	0.0013	0.3	3.0	0.07647	1.2
Sodium	23.0	16.7	0.72641	24.2	20.7	0.9004	6.5	15.2	0.66116	27.0	0.5	0.0201	3.8	16.9	0.73511	11.3
Iron	55.8	0.0	0.00018	0.0	4.4	0.15686	1.1	0.0	0.00018	0.0	0.5	0.0186	3.5	0.0	0.00096	0.0
Manganese	54.9	0.0	1.8E-06	0.0	3.9	0.14089	1.0	0.0	1.8E-06	0.0	0.1	0.0022	0.4	1.1	0.0415	0.6
Ammonia-N	14.0	0.0	7.1E-05	0.0	0.1	0.00501	0.0	0.0	7.1E-05	0.0	0.0	0.0003	0.1	0.0	0.00047	0.0
Total Cations (meq/L)			**3.0**			**13.8**			**2.4**			**0.5**			**6.5**	
Anions																
Alkalinity, Total		78.8			622			83.7			19.8			305		
Carbonate	60.0	0.00717	0.00024	0.0	0.23588	0.00786	0.1	0.0118	0.00039	0.0	0.004631	0.0002	0.0	0.29701	0.0099	0.2
Bicarbonate	61.0	96.12	1.57552	55.1	758.36	12.4303	97.7	102.09	1.67335	71.1	24.15	0.3958	75.1	371.50	6.08918	97.2
Chloride	35.5	0.9	0.02437	0.9	6.2	0.1746	1.4	4.9	0.13708	5.8	0.0	0.0008	0.2	3.0	0.08377	1.3
Nitrate-N	14.0	16.0	1.14229	39.9	0.0	0.00036	0.0	3.2	0.22632	9.6	1.1	0.0757	14.4	0.0	0.00093	0.0
Sulfate	96.1	5.6	0.11743	4.1	5.5	0.11535	0.9	15.2	0.31648	13.4	2.6	0.0548	10.4	4.0	0.08308	1.3
Total Anions (meq/L)			**2.9**			**12.7**			**2.4**			**0.5**			**6.3**	
Total Ions (meq/L)			**5.9**			**26.5**			**4.8**			**1.1**			**12.8**	
Cation/Anion Ratio			**1.05**			**1.08**			**1.04**			**1.00**			**1.04**	
Percent Difference			**2.4**			**3.9**			**1.9**			**0.2**			**2**	
TRILINEAR DIAGRAM DATA																
sum (Ca, Mg, Na+K)			3.00			13.47			2.45			0.50			6.47	
Calcium				39.7			51.9			43.64			11.79			44.10
Magnesium				34.8			40.6			28.15			83.96			43.36
Sodium + Potassium				25.5			7.6			28.21			4.25			12.54
										100.0			100.0			
sum (SO_4, Cl, HCO_3+CO_3)			1.72			12.73			2.13			0.45			6.27	
Sulfate				6.8			0.9			14.9			12.1			1.3
Chloride				1.4			1.4			6.4			0.2			1.3
Bicarbonate + Carbonate				91.7			97.7			78.7			87.7			97.3
										100.0			100.0			

Table 8
Ion Balance Calculations
Cedar Hills Landfill Perched Zones Groundwater Monitoring Wells

Data Collected from July 1, 2018 to September 30, 2018

		East Perched Zone						SSWA		
Site ID		**MW-30A**			**MW-47**			**MW-101**		
Date		7/12/18			7/13/18			7/16/18		
Cations	Molecular Weight	mg/L	meq/L	%(meq)	mg/L	meq/L	%(meq)	mg/L	meq/L	%(meq)
pH		6.7			6.9			7.0		
Conductance		270			920			460		
TDSobs		214			724			329		
Calcium	40.1	22.8	1.13772	40.2	148.0	7.38523	51.6	53.0	2.64471	43.4
Magnesium	24.3	11.6	0.95454	33.7	71.1	5.85065	40.9	31.0	2.55092	41.9
Potassium	39.1	1.5	0.03811	1.3	6.2	0.15755	1.1	2.6	0.06752	1.1
Sodium	23.0	16.1	0.70031	24.7	18.8	0.81776	5.7	17.2	0.74816	12.3
Iron	55.8	0.0	0.00036	0.0	0.8	0.0289	0.2	1.0	0.03689	0.6
Manganese	54.9	0.0	3.6E-06	0.0	1.9	0.07063	0.5	1.1	0.04114	0.7
Ammonia-N	14.0	0.0	0.00014	0.0	0.1	0.00663	0.0	0.0	0.00115	0.0
Total Cations (meq/L)			**2.8**			**14.3**			**6.1**	
Anions										
Alkalinity, Total		69.3			658			296		
Carbonate	60.0	0.01994	0.00066	0.0	0.32141	0.01071	0.1	0.19055	0.00635	0.1
Bicarbonate	61.0	84.51	1.38513	51.8	802.11	13.1473	97.7	360.73	5.91276	97.2
Chloride	35.5	1.0	0.02697	1.0	6.2	0.17347	1.3	2.9	0.08039	1.3
Nitrate-N	14.0	15.9	1.13515	42.5	0.0	0.00071	0.0	0.0	0.00071	0.0
Sulfate	96.1	6.0	0.12534	4.7	6.1	0.1268	0.9	4.1	0.08453	1.4
Total Anions (meq/L)			**2.7**			**13.5**			**6.1**	
Total Ions (meq/L)			**5.5**			**27.8**			**12.2**	
Cation/Anion Ratio			**1.06**			**1.06**			**1.00**	
Percent Difference			**2.9**			**3.1**			**0**	
TRILINEAR DIAGRAM DATA										
sum (Ca, Mg, Na+K)			2.83			14.21			6.01	
Calcium				40.2			52.0			44.00
Magnesium				33.7			41.2			42.44
Sodium + Potassium				26.1			6.9			13.57
sum (SO_4, Cl, HCO_3+CO_3)			1.54			13.46			6.08	
Sulfate				8.1			0.9			1.4
Chloride				1.8			1.3			1.3
Bicarbonate + Carbonate				90.1			97.8			97.3

Table 8
Ion Balance Calculations
Cedar Hills Landfill Perched Zones GW Monitoring Wells

Data Collected from October 1, 2018 to December 31, 2018

		East Perched Zone												SSWA		
	Site ID	**MW-30A**			**MW-47**			**MW-62**			**SW-E1**			**MW-101**		
	Date	10/15/18			10/17/18			12/3/18			10/19/18			10/4/18		
Cations	Molecular Weight	mg/L	meq/L	%(meq)	mg/L	meq/L	%(meq)	mg/L	meq/L	%(meq)	mg/L	meq/L	%(meq)	mg/L	meq/L	%(meq)
pH		6.8			6.9			6.0			5.9			6.9		
Conductance		265			880			130			46			510		
TDSobs		213			705			114			53			286		
Calcium	40.1	26.3	1.31238	41.9	142.0	7.08583	51.0	12.7	0.63373	45.1	4.7	0.2325	53.5	55.0	2.74451	43.4
Magnesium	24.3	15.4	1.26723	40.5	70.1	5.76836	41.5	3.6	0.29377	20.9	1.1	0.0864	19.9	32.8	2.69903	42.7
Potassium	39.1	1.5	0.03888	1.2	5.7	0.14476	1.0	0.7	0.01898	1.4	0.5	0.0137	3.2	2.7	0.06931	1.1
Sodium	23.0	11.7	0.50892	16.3	19.1	0.8308	6.0	10.5	0.45672	32.5	2.3	0.0996	22.9	16.9	0.73511	11.6
Iron	55.8	0.0	0.00118	0.0	0.1	0.00201	0.0	0.0	0.00036	0.0	0.0	0.0018	0.4	0.9	0.03076	0.5
Manganese	54.9	0.0	1.6E-05	0.0	1.6	0.05643	0.4	0.0	1.8E-05	0.0	0.0	0.0004	0.1	1.3	0.04769	0.8
Ammonia-N	14.0	0.0	0.00014	0.0	0.1	0.00495	0.0	0.0	0.00014	0.0	0.0	0.0005	0.1	0.0	0.00108	0.0
Total Cations (meq/L)			**3.1**			**13.9**			**1.4**			**0.4**			**6.3**	
Anions																
Alkalinity, Total		93.1			653			42			12.3			274		
Carbonate	60.0	0.03697	0.00123	0.0	0.33398	0.01113	0.1	0.00277	9.2E-05	0.0	0.0005742	2E-05	0.0	0.14014	0.00467	0.1
Bicarbonate	61.0	113.51	1.86049	68.2	795.98	13.0469	97.8	51.23	0.83978	61.3	15.00	0.2459	62.5	334.00	5.4745	97.0
Chloride	35.5	2.6	0.07362	2.7	5.6	0.15796	1.2	3.2	0.09139	6.7	2.0	0.0573	14.5	2.8	0.07757	1.4
Nitrate-N	14.0	7.8	0.55472	20.3	0.0	0.00071	0.0	2.9	0.2099	15.3	0.2	0.0165	4.2	0.0	0.00207	0.0
Sulfate	96.1	11.4	0.23736	8.7	5.8	0.12139	0.9	11.0	0.22903	16.7	3.6	0.0739	18.8	4.1	0.08474	1.5
Total Anions (meq/L)			**2.7**			**13.3**			**1.4**			**0.4**			**5.6**	
Total Ions (meq/L)			**5.9**			**27.2**			**2.8**			**0.8**			**12.0**	
Cation/Anion Ratio			**1.15**			**1.04**			**1.02**			**1.10**			**1.12**	
Percent Difference			**6.9**			**2.0**			**1.2**			**5.0**			**6**	
TRILINEAR DIAGRAM DATA																
sum (Ca, Mg, Na+K)			3.13			13.83			1.40			0.43			6.25	
Calcium				42.0			51.2			45.16			53.80			43.93
Magnesium				40.5			41.7			20.94			19.99			43.20
Sodium + Potassium				17.5			7.1			33.90			26.22			12.87
										100.0			100.0			
sum (SO_4, Cl, HCO_3+CO_3)			2.17			13.34			1.16			0.38			5.64	
Sulfate				10.9			0.9			19.7			19.6			1.5
Chloride				3.4			1.2			7.9			15.2			1.4
Bicarbonate + Carbonate				85.7			97.9			72.4			65.2			97.1
										100.0			100.0			

PART 7

Field and Analytical Data for 2018

- **Groundwater**
- **Surface Water and Stormwater**
- **Leachate**

KING COUNTY SOLID WASTE DIVISION
QUALIFIER INFORMATION
(Effective 8/27/2015)

QUAL	QUALIFIER DESCRIPTION
U	Undetected; Analyte Concentration Less than Method Detection Limit (< MDL)
T	Estimated; Less than Reporting Detection Limit (<RDL) but Greater than Method Detection Limit (> MDL)
J	Reported Value is an Estimate
B	Matrix Target Analyte Present in Blank, AND, Sample Result Less than or Equal to 10x Blank Detection
C	Confluent Growth
E	Estimated; Outside Expected Accuracy
H	Exceeds Holding Time
R	Data Rejected
S	Sample Handling Errors
X	Too Numerous to Count
D	Re-analysis Due to Dilution
P	PASS – Qualitative Result Acceptable
F	FAIL – Qualitative Result is not Acceptable
G	Estimated with Low Bias (Coliform; BOD; All Other Chemistry Parameters)
L	Estimated with High Bias (BOD; All Other Chemistry Parameters)

Groundwater Field and Analytical Data

Site	Date	Reference Elevation (msl)	Depth to Water (feet)	Ground-Water Elevation (msl)	Comment
EW-25	1/8/2018	643.61	5.7	637.91	
EW-25	2/5/2018	643.61	5.57	638.04	
EW-25	2/6/2018	643.61	5.74	637.87	
MW-21	1/8/2018	420.66	124.43	296.23	
MW-22	1/8/2018	517.09	231.75	285.34	
MW-24	1/8/2018	475.99	144.42	331.57	
MW-25	1/8/2018	474.41	4.78	469.63	
MW-27A	1/8/2018	584.23	54.41	529.82	
MW-28	1/8/2018	527.75	21.35	506.40	
MW-29	1/8/2018	532.92	9.02	523.90	
MW-30A	1/8/2018	568.43	30.23	538.20	
MW-30A	2/5/2018	568.43	29.71	538.72	
MW-30A	2/7/2018	568.43	29.77	538.66	
MW-41D	1/8/2018	462.32	25.1	437.22	
MW-41S	1/8/2018	462.44	3.63	458.81	
MW-43	1/8/2018	547.06	262.93	284.13	
MW-45	1/8/2018	488.4	13.51	474.89	
MW-47	1/8/2018	634.6	13.62	620.98	
MW-47	2/5/2018	634.6	13.28	621.32	
MW-47	2/6/2018	634.6	13.35	621.25	
MW-48	1/8/2018	594.49	42.95	551.54	
MW-50	1/8/2018	637.02	29.74	607.28	
MW-54	1/8/2018	580.43	278.2	302.23	
MW-55	1/8/2018	652.29	27.24	625.05	
MW-56	1/8/2018	480.33	125.34	354.99	
MW-57	1/8/2018	456.64	99.5	357.14	
MW-58A	1/8/2018	479.27	148.2	331.07	
MW-59	1/8/2018	457.13	122.86	334.27	
MW-59	1/9/2018	457.13	122.6	334.53	
MW-60	1/8/2018	567.15	226.17	340.98	
MW-62	1/8/2018	556.21	48.94	507.27	
MW-62	2/5/2018	556.21	48.37	507.84	
MW-62	2/7/2018	556.21	48.5	507.71	
MW-63	1/8/2018	515.88	10.1	505.78	
MW-63	2/5/2018	515.88	7.81	508.07	
MW-64	1/8/2018	596.55	265.04	331.51	

Site	Date	Reference Elevation (msl)	Depth to Water (feet)	Ground-Water Elevation (msl)	Comment
MW-65	1/8/2018	545.83	208.19	337.64	
MW-66	1/8/2018	531.28	238.22	293.06	
MW-66	1/12/2018	531.28	238.71	292.57	
MW-67	1/8/2018	516.43	219.8	296.63	
MW-67	2/5/2018	516.43	219.97	296.46	
MW-68	1/8/2018	647.07	330.96	316.11	

Site	Date	Reference Elevation (msl)	Depth to Water (feet)	Ground-Water Elevation (msl)	Comment
MW-68	1/12/2018	647.07	331.47	315.60	
MW-68	2/23/2018	647.07	331.45	315.62	
MW-69	1/8/2018	653.69	355.38	298.31	
MW-69	1/24/2018	653.69	355.44	298.25	
MW-72	1/8/2018	671.87	360.23	311.64	
MW-72	1/19/2018	671.87	360.75	311.12	
MW-73	1/8/2018	485.7	190.69	295.01	
MW-74	1/8/2018	531.26	239.59	291.67	
MW-74	1/11/2018	531.26	239.55	291.71	
MW-75	1/8/2018	532.4	245.04	287.36	
MW-75	1/11/2018	532.4	245.08	287.32	
MW-76	1/8/2018	491.71	132.93	358.78	
MW-79	1/8/2018	459.17			Damaged
MW-80	1/8/2018	530.41	238.39	292.02	
MW-80	1/9/2018	530.41	238.21	292.20	
MW-81	1/8/2018	493.66	183.05	310.61	
MW-81	1/9/2018	493.66	182.85	310.81	
MW-82	1/8/2018	474.85	123.1	351.75	
MW-83	1/8/2018	496.81	144.15	352.66	
MW-83	1/9/2018	496.81	144.07	352.74	
MW-84	1/8/2018	530.8	235.46	295.34	
MW-84	1/22/2018	530.8	235.99	294.81	
MW-85	1/8/2018	531.76	245.47	286.29	
MW-85	1/12/2018	531.76	245.91	285.85	
MW-86	1/8/2018	536.04	249.25	286.79	
MW-87	1/8/2018	537.31	247.7	289.61	
MW-87	1/11/2018	537.31	247.65	289.66	
MW-88	1/8/2018	513.68	226.81	286.87	
MW-89	1/8/2018	512.82	231.47	281.35	
MW-90	1/8/2018	502.22	220.93	281.29	
MW-91	1/8/2018	532.02	246.31	285.71	
MW-93	1/8/2018	632.15	307.37	324.78	
MW-93	1/24/2018	632.15	307.44	324.71	
MW-94	1/8/2018	495.51	140.3	355.21	
MW-94	1/11/2018	495.51	140.1	355.41	
MW-95	1/8/2018	571.54	250.5	321.04	

Site	Date	Reference Elevation (msl)	Depth to Water (feet)	Ground-Water Elevation (msl)	Comment
MW-98	1/8/2018	503.73	14.41	489.32	
MW-99	1/8/2018	493.64	199.81	293.83	
MW-100	1/8/2018	620.32	297.05	323.27	
MW-101	1/8/2018	474.72	31.70	443.02	
MW-101	2/6/2018	474.72	31.77	442.95	
MW-102	1/8/2018	552.48	44.16	508.32	

Site	Date	Reference Elevation (msl)	Depth to Water (feet)	Ground-Water Elevation (msl)	Comment
MW-102	2/5/2018	552.48	43.15	509.33	
MW-103	1/8/2018	639.08	11.55	627.53	
MW-103	2/5/2018	639.08	11.57	627.51	
MW-104	1/8/2018	629.68	26.6	603.08	
MW-104	2/5/2018	629.68	24.81	604.87	
MW-105	1/8/2018	521.23	19.34	501.89	
MW-105	1/22/2018	521.23	18.87	502.36	
MW-106	1/8/2018	475.47	198.97	276.50	
MW-106	2/5/2018	475.47	189.59	285.88	
MW-EB6	2/5/2018	589.61	26.21	563.4	
WS-NPW-1	1/8/2018	646.33	331.51	314.82	
WS-NPW-3	1/8/2018	645.81			Too much wiring to take water level

Site	Date	Sample ID	pH (Field) (std. Units)	Conductance (Field) (umhos/cm)	Temperature (^{o}C)	Purge Volume (gal)	Dissolved Oxygen (mg/L)	Turbidity NTU
EW-25	2/6/2018	EW25180206-			10.7			
MW-30A	2/7/2018	W30A180207-	6.39	220	11.6	3		2.6
MW-47	2/6/2018	W47-180206-	6.85	830	12.1	19.66		0.39
MW-59	1/9/2018	W59-180109-	6.63	196.3	9.68	3.5	0.8	1.84
MW-62	2/7/2018	W62-180207-	6.57	215	9.8	4.7		4.07
MW-66	1/12/2018	W66-180112-	6.83	217.5	9.88	3	5.92	0.84
MW-68	1/12/2018	W68-180112-	6.81	288.1	10.229	3.4	0.8	1.54
MW-68	2/23/2018	W68-180223-	7.05	283.8	9.59	2.5	1.01	3.28
MW-69	1/24/2018	W69-180124-	7.27	327.2	9.29	3.75	1.07	0.51
MW-72	1/19/2018	W72-180119-	6.79	342.7	9.82	4.25	1.06	17.2
MW-72 Duplicate	1/19/2018	W72-180119D	6.8	342.7	9.82	4.25	1.06	17.2
MW-74	1/11/2018	W74R180111-	6.78	559	9.875	3.1	4.64	0.52
MW-75	1/11/2018	W75-180111-	6.57	358.9	9.524	3.9	0.72	1.55
MW-80	1/9/2018	W80-180109-	6.85	312.4	9.724	3.75	1.02	0.87
MW-81	1/9/2018	W81-180109-	6.45	158.8	9.568	3	5.76	0.2
MW-83	1/9/2018	W83-180109-	6.61	639	10.51	3.6	0.71	0.21
MW-84	1/22/2018	W84-180122-	6.64	179.5	9.51	2	6.64	0.29
MW-85	1/12/2018	W85-180112-	6.63	347.3	9.516	2.5	3.43	0.59
MW-87	1/11/2018	W87-180111-	6.77	526.8	10.31	3	0.69	27.2
MW-93	1/24/2018	W93-180124-	6.91	323.6	10.755	4.5	0.88	0.22
MW-94	1/11/2018	W94-180111-	6.29	301.5	9.36	3	2.63	301.5
MW-101	2/6/2018	W101180206-	7	405	10.3	2.6		19.2
MW-105	1/22/2018	NA		170				
SW-E1	2/6/2018	SE1-180206Q	5.69	38.3	7.71		8.38	4.65
FIELD BLANK	2/6/2018	EW25180206F			12.6			
FIELD BLANK	2/7/2018	W62-180207F	6.92	1.2	9.9			
EQUIPMENT BLANK	3/1/2018	WU1H180301E	6.75	2.35	2.8			
EQUIPMENT BLANK	3/1/2018	WU1M180301E	6.75	2.35	2.8			
EQUIPMENT BLANK	3/1/2018	WU1S180301E	6.75	2.35	2.8			

Site	Date	Sample ID	Alkalinity, Total ($CaCO_3$) (mg/L)	Ammonia, (NH_3) (mg/L)	Chloride (mg/L)	Nitrate-Nitrogen, (NO_3 as N) (mg/L)	Nitrate + Nitrite (NO_3 + NO2 as N) (mg/L)	Phosphorus Soluble Reactive (mg/L)	Specific Conductance (umhos/cm)	Sulfate (SO4) (mg/L)	Total Dissolved Solids (mg/L)	Total Organic Carbon (mg/L)	Total Solids (mg/L)	Suspended Solids (mg/L)
MW-30A	2/7/2018	W30A180207-	59.7	0.002 U	0.901	15.3			276	5.85	206	0.5 U	217	2
MW-47	2/6/2018	W47-180206-	653	0.002 U	5.71	0.01 U			1170	5.64	719	3.99	738	0.5 U
MW-59	1/9/2018	W59-180109-	66.3	0.005 T	6.71	0.01 U			189	15.5	124	0.5 U	132	2.1
MW-62	2/7/2018	W62-180207-	73.2	0.002 U	3.24	3.21			215	12.8	144	0.5 U	151	0.9 T
MW-66	1/12/2018	W66-180112-	88.1	0.002 U	4.7	0.519			220	12	132	0.5 U	137	0.7 T
MW-68	1/12/2018	W68-180112-	128	0.0177	2.73	0.01 U			286	14.7	170	0.5 U	176	1.4
MW-68	2/23/2018	W68-180223-	129	0.0171	3.09	0.01 U			289	16.6	173	0.72 T	178	2.4
MW-69	1/24/2018	W69-180124-	135	0.0234	3.83	0.01 U			323	24.7	193	0.5 U	203	1.2 T
MW-72	1/19/2018	W72-180119-	126	0.016	5.85	0.01 U			340	36.2	208	0.5 U	222	9.3
MW-72 Duplicate	1/19/2018	W72-180119D	126.0	0.0162	5.95	0.01 U			339	37.1	205	0.5 U	222	9.2
MW-74	1/11/2018	W74R180111-	227	0.0025 T	24	0.3			556	30	326	0.5 U	338	0.5 U
MW-75	1/11/2018	W75-180111-	106	0.0093 T	9.81	0.01 U			354	55	225	0.5 U	240	2.8
MW-80	1/9/2018	W80-180109-	112	0.01 T	4.57	0.01 U			305	34.1	202	0.5 U	210	1 U
MW-81	1/9/2018	W81-180109-	54.8	0.002 U	4.9	1.34			160	9.25	109	0.5 U	115	0.5 U
MW-83	1/9/2018	W83-180109-	194	0.002 U	74.3	1.45			643	9.56	426	9.05	451	0.5 U
MW-84	1/22/2018	W84-180122-	68.3	0.002 U	3.65	0.151			180	14.2	110	0.5 U	114	0.5 U
MW-85	1/12/2018	W85-180112-	126	0.002 U	9.68	0.107			348	33	212	0.5 U	219	0.5 U
MW-87	1/11/2018	W87-180111-	99.2	0.019	10.8	0.01 U			516	143	361	0.55 T	388	20.8
MW-93	1/24/2018	W93-180124-	121	0.0549	3.01	0.015 T			324	38.3	199	0.5 U	206	0.5 U
MW-94	1/11/2018	W94-180111-	103	0.0026 T	24.3	0.297			303	5.58	194	3.26	196	0.5 U
MW-101	2/6/2018	W101180206-	305	0.0154	2.63	0.016 T			566	3.7	345	4.25	370	32.1
SW-E1	2/6/2018	SE1-180206Q	11.2	0.0031 T	1.42	0.278			38.9	1.6	43.4	3.08	50.6	3.8
FIELD BLANK	2/7/2018	W62-180207F	1 U	0.002 U	0.05 U	0.01 U			1.4 T	0.1 U	10 U	0.5 U	10 U	1 U
EQUIPMENT BLAN	3/1/2018	WU1M180301E		0.0021 T			0.02 T	0.0013 T						

Site	Date	Sample ID	Aluminum, dissolved (mg/L)	Antimony, dissolved (mg/L)	Antimony, total (mg/L)	Arsenic, dissolved (mg/L)	Arsenic, total (mg/L)	Barium, dissolved (mg/L)	Barium, total (mg/L)	Beryllium, dissolved (mg/L)	Beryllium, total (mg/L)	Cadmium, dissolved (mg/L)
MW-30A	2/7/2018	W30A180207-		< 0.0003 U	< 0.0003 U	0.000432	0.000511	0.00348	0.00428	< 0.0001 U	< 0.0001 U	< 5E-05 U
MW-47	2/6/2018	W47-180206-		< 0.0003 U	< 0.0003 U	0.00415	0.00407	0.0406	0.0438	< 0.0001 U	< 0.0001 U	< 5E-05 U
MW-59	1/9/2018	W59-180109-		< 0.0003 U	< 0.0003 U	0.000383	0.000422	0.00392	0.00372	< 0.0001 U	< 0.0001 U	< 5E-05 U
MW-62	2/7/2018	W62-180207-		< 0.0003 U	< 0.0003 U	0.000399	0.000423	0.0015	0.00237	< 0.0001 U	< 0.0001 U	< 5E-05 U
MW-66	1/12/2018	W66-180112-		< 0.0003 U	< 0.0003 U	0.000607	0.000654	0.00507	0.005	< 0.0001 U	< 0.0001 U	< 5E-05 U
MW-68	1/12/2018	W68-180112-		< 0.0003 U	< 0.0003 U	0.00952	0.0142	0.0119	0.0112	< 0.0001 U	< 0.0001 U	< 5E-05 U
MW-68	2/23/2018	W68-180223-		< 0.0003 U	< 0.0003 U	0.0105	0.0213	0.0104	0.0108	< 0.0001 U	< 0.0001 U	< 5E-05 U
MW-69	1/24/2018	W69-180124-		< 0.0003 U	< 0.0003 U	0.00225	0.00238	0.0126	0.0124	< 0.0001 U	< 0.0001 U	< 5E-05 U
MW-72	1/19/2018	W72-180119-		< 0.0003 U	< 0.0003 U	7.4E-05	0.000107	0.0121	0.0118	< 0.0001 U	< 0.0001 U	< 5E-05 U
MW-72	1/19/2018	W72-180119D		< 0.0003 U	< 0.0003 U	7.52E-05	0.000105	0.0122	0.0122	< 0.0001 U	< 0.0001 U	< 5E-05 U
MW-74	1/11/2018	W74R180111-		< 0.0003 U	< 0.0003 U	0.000392	0.000416	0.0137	0.0125	< 0.0001 U	< 0.0001 U	< 5E-05 U
MW-75	1/11/2018	W75-180111-		< 0.0003 U	< 0.0003 U	0.000512	0.000555	0.0119	0.0119	< 0.0001 U	< 0.0001 U	< 5E-05 U
MW-80	1/9/2018	W80-180109-		< 0.0003 U	< 0.0003 U	0.00388	0.004	0.0133	0.0135	< 0.0001 U	< 0.0001 U	< 5E-05 U
MW-81	1/9/2018	W81-180109-		< 0.0003 U	< 0.0003 U	0.000524	0.000541	0.00295	0.00306	< 0.0001 U	< 0.0001 U	< 5E-05 U
MW-83	1/9/2018	W83-180109-		< 0.0003 U	< 0.0003 U	0.000424	0.000428	0.00968	0.00965	< 0.0001 U	< 0.0001 U	< 5E-05 U
MW-84	1/22/2018	W84-180122-		< 0.0003 U	< 0.0003 U	0.000337	0.000353	0.0042	0.00412	< 0.0001 U	< 0.0001 U	< 5E-05 U
MW-85	1/12/2018	W85-180112-		< 0.0003 U	< 0.0003 U	0.000733	0.000736	0.0069	0.00622	< 0.0001 U	< 0.0001 U	< 5E-05 U
MW-87	1/11/2018	W87-180111-		< 0.0003 U	< 0.0003 U	0.000522	0.00527	0.0265	0.0264	< 0.0001 U	< 0.0001 U	< 5E-05 U
MW-93	1/24/2018	W93-180124-		< 0.0003 U	< 0.0003 U	0.00134	0.00136	0.00778	0.00796	< 0.0001 U	< 0.0001 U	< 5E-05 U
MW-94	1/11/2018	W94-180111-		< 0.0003 U	< 0.0003 U	0.000147	0.000148	0.00307	0.00266	< 0.0001 U	< 0.0001 U	< 5E-05 U
MW-101	2/6/2018	W101180206-		< 0.0003 U	< 0.0003 U	0.00945	0.0124	0.0196	0.0222	< 0.0001 U	< 0.0001 U	< 5E-05 U
SW-E1	2/6/2018	SE1-180206Q		0.0003 U	0.0003 U	0.00014	0.000202	0.00259	0.00443	0.0001 U	0.0001 U	5E-05 U
FIELD BLANK	2/7/2018	W62-180207F		< 0.0003 U	< 0.0003 U	< 5E-05 U	< 5E-05 U	< 0.0005 U	< 0.0005 U	< 0.0001 U	< 0.0001 U	< 5E-05 U
EQUIPMENT BLANK	3/1/2018	WU1H180301E	< 0.002 U	< 0.0003 U		< 5E-05 U		< 0.0005 U		< 0.0001 U		< 5E-05 U
EQUIPMENT BLANK	3/1/2018	WU1S180301E	< 0.002 U	< 0.0003 U		< 5E-05 U		< 0.0005 U		< 0.0001 U		< 5E-05 U

Site	Date	Sample ID	Cadmium, total (mg/L)	Calcium, dissolved (mg/L)	Calcium, total (mg/L)	Chromium, dissolved (mg/L)	Chromium total (mg/L)	Cobalt, dissolved (mg/L)	Cobalt, total (mg/L)	Copper, dissolved (mg/L)	Copper, total (mg/L)	Iron, dissolved (mg/L)
MW-30A	2/7/2018	W30A180207-	< 5E-05 U	19.5	20.3	0.000518	0.000786	< 5E-05 U	7.6E-05	< 0.0002 U	0.00107	< 0.01 U
MW-47	2/6/2018	W47-180206-	< 5E-05 U	140	141	< 0.0002 U	< 0.0002 U	0.000426	0.000453	< 0.0002 U	< 0.0002 U	4.77
MW-59	1/9/2018	W59-180109-	< 5E-05 U	16	15.8	< 0.0002 U	< 0.0002 U	< 5E-05 U	< 5E-05 U	< 0.0002 U	< 0.0002 U	3.72
MW-62	2/7/2018	W62-180207-	< 5E-05 U	18.3	18.6	< 0.0002 U	0.000502	< 5E-05 U	9.98E-05	0.00033	0.000574	< 0.01 U
MW-66	1/12/2018	W66-180112-	< 5E-05 U	16.7	17.1	< 0.0002 U	0.000236	< 5E-05 U	< 5E-05 U	< 0.0002 U	< 0.0002 U	< 0.01 U
MW-68	1/12/2018	W68-180112-	< 5E-05 U	28	28.3	< 0.0002 U	< 0.0002 U	0.000229	0.000237	< 0.0002 U	0.000428	0.64
MW-68	2/23/2018	W68-180223-	< 5E-05 U	26.9	27.6	< 0.0002 U	0.000235	0.000243	0.000257	< 0.0002 U	0.000755	0.584
MW-69	1/24/2018	W69-180124-	< 5E-05 U	32.9	34.5	< 0.0002 U	0.000266	< 5E-05 U	< 5E-05 U	< 0.0002 U	< 0.0002 U	1.1
MW-72	1/19/2018	W72-180119-	< 5E-05 U	32.1	31.7	< 0.0002 U	0.000785	< 5E-05 U	< 5E-05 U	< 0.0002 U	0.000222	2.61
MW-72	1/19/2018	W72-180119D	< 5E-05 U	32.4	32.7	< 0.0002 U	0.00083	< 5E-05 U	< 5E-05 U	< 0.0002 U	0.000208	2.64
MW-74	1/11/2018	W74R180111-	< 5E-05 U	48.4	48.7	< 0.0002 U	< 0.0002 U	< 5E-05 U	< 5E-05 U	0.000223	0.000213	< 0.01 U
MW-75	1/11/2018	W75-180111-	< 5E-05 U	30.1	29.7	< 0.0002 U	< 0.0002 U	< 5E-05 U	< 5E-05 U	< 0.0002 U	< 0.0002 U	2.09
MW-80	1/9/2018	W80-180109-	< 5E-05 U	30.5	30.8	< 0.0002 U	< 0.0002 U	< 5E-05 U	< 5E-05 U	< 0.0002 U	< 0.0002 U	2.02
MW-81	1/9/2018	W81-180109-	< 5E-05 U	13.5	13.8	< 0.0002 U	< 0.0002 U	< 5E-05 U	< 5E-05 U	< 0.0002 U	< 0.0002 U	< 0.01 U
MW-83	1/9/2018	W83-180109-	< 5E-05 U	67.3	67.5	< 0.0002 U	< 0.0002 U	0.000266	0.000279	0.00556	0.00601	< 0.01 U
MW-84	1/22/2018	W84-180122-	< 5E-05 U	13.1	14	< 0.0002 U	< 0.0002 U	< 5E-05 U	< 5E-05 U	< 0.0002 U	< 0.0002 U	< 0.01 U
MW-85	1/12/2018	W85-180112-	< 5E-05 U	32.5	31.9	< 0.0002 U	< 0.0002 U	< 5E-05 U	< 5E-05 U	< 0.0002 U	< 0.0002 U	< 0.01 U
MW-87	1/11/2018	W87-180111-	< 5E-05 U	46.9	45.6	< 0.0002 U	0.000225	0.000117	0.000128	< 0.0002 U	0.000389	4.73
MW-93	1/24/2018	W93-180124-	< 5E-05 U	31.1	32.9	< 0.0002 U	0.000429 J	8.32E-05	9.78E-05	< 0.0002 U	< 0.0002 U	< 0.01 U
MW-94	1/11/2018	W94-180111-	< 5E-05 U	30.7	30.3	0.000434	0.00066	0.000169	0.00017	0.000996	0.00102	0.116
MW-101	2/6/2018	W101180206-	< 5E-05 U	52.6	56.7	< 0.0002 U	0.00107	0.000347	0.000367	0.000414	0.000417	1.14
SW-E1	2/6/2018	SE1-180206Q	5E-05 U	3.86	4.09	0.0002 U	0.000329	5E-05 U	0.000097	0.000509	0.00083	0.021
FIELD BLANK	2/7/2018	W62-180207F	< 5E-05 U	< 0.05 U	< 0.05 U	< 0.0002 U	< 0.0002 U	< 5E-05 U	< 5E-05 U	< 0.0002 U	< 0.0002 U	< 0.01 U
EQUIPMENT BLANK	3/1/2018	WU1H180301E		< 0.05 U		< 0.0002 U		< 5E-05 U		< 0.0002 U		< 0.01 U
EQUIPMENT BLANK	3/1/2018	WU1S180301E		< 0.05 U		< 0.0002 U		< 5E-05 U		< 0.0002 U		< 0.01 U

Site	Date	Sample ID	Iron, total (mg/L)	Lead, dissolved (mg/L)	Lead, total (mg/L)	Magnesium, dissolved (mg/L)	Magnesium, total (mg/L)	Manganese, dissolved (mg/L)	Manganese, total (mg/L)	Mercury, dissolved (mg/L)	Mercury, total (mg/L)	Nickel, dissolved (mg/L)
MW-30A	2/7/2018	W30A180207-	0.174	< 0.0001 U	0.000153	11.4	11.5	0.000162	0.00262	< 5E-05 U	< 5E-05 U	0.000646
MW-47	2/6/2018	W47-180206-	4.8	< 0.0001 U	< 0.0001 U	69.4	72	3.19	3	< 5E-05 U	< 5E-05 U	0.00236
MW-59	1/9/2018	W59-180109-	4.07	< 0.0001 U	< 0.0001 U	9.86	9.83	0.12	0.128	< 5E-05 U	< 5E-05 U	0.000149
MW-62	2/7/2018	W62-180207-	0.156	< 0.0001 U	< 0.0001 U	7.35	7.23	0.000166	0.00285	< 5E-05 U	< 5E-05 U	0.000397
MW-66	1/12/2018	W66-180112-	0.0497	< 0.0001 U	< 0.0001 U	13.5	14	0.000119	0.00107	< 5E-05 U	< 5E-05 U	0.000172
MW-68	1/12/2018	W68-180112-	0.837	< 0.0001 U	< 0.0001 U	15.9	16.1	0.305	0.321	< 5E-05 U	< 5E-05 U	0.000567
MW-68	2/23/2018	W68-180223-	0.917	< 0.0001 U	< 0.0001 U	14.9	15.3	0.306	0.314	< 5E-05 U	< 5E-05 U	0.000583
MW-69	1/24/2018	W69-180124-	1.33	< 0.0001 U	< 0.0001 U	15.9	16.6	0.26	0.264	< 5E-05 U	< 5E-05 U	0.000128
MW-72	1/19/2018	W72-180119-	3.85	< 0.0001 U	< 0.0001 U	19.9	19.7	0.36	0.39	< 5E-05 U	< 5E-05 U	0.00017
MW-72	1/19/2018	W72-180119D	3.85	< 0.0001 U	< 0.0001 U	19.9	20.5	0.37	0.395	< 5E-05 U	< 5E-05 U	0.000188
MW-74	1/11/2018	W74R180111-	0.0195	< 0.0001 U	< 0.0001 U	38.5	38.9	< 0.0001 U	0.000288	< 5E-05 U	< 5E-05 U	0.00108
MW-75	1/11/2018	W75-180111-	2.18	< 0.0001 U	< 0.0001 U	22	22.4	0.179	0.18	< 5E-05 U	< 5E-05 U	< 0.0001 U
MW-80	1/9/2018	W80-180109-	2.12	< 0.0001 U	< 0.0001 U	15.9	16.3	0.327	0.337	< 5E-05 U	< 5E-05 U	< 0.0001 U
MW-81	1/9/2018	W81-180109-	< 0.01 U	< 0.0001 U	< 0.0001 U	7.59	7.57	0.0001 U	0.000152	< 5E-05 U	< 5E-05 U	0.000107
MW-83	1/9/2018	W83-180109-	< 0.01 U	< 0.0001 U	< 0.0001 U	28.9	28.7	0.00266	0.0028	< 5E-05 U	< 5E-05 U	0.00251
MW-84	1/22/2018	W84-180122-	< 0.01 U	< 0.0001 U	< 0.0001 U	10.5	10.9	0.0128	0.0138	< 5E-05 U	< 5E-05 U	0.00131
MW-85	1/12/2018	W85-180112-	< 0.01 U	0.000242	< 0.0001 U	19.8	21	< 0.0001 U	< 0.0001 U	< 5E-05 U	< 5E-05 U	0.000208
MW-87	1/11/2018	W87-180111-	8.99	< 0.0001 U	0.000109	30.9	31.3	0.518	0.542	< 5E-05 U	< 5E-05 U	0.000136
MW-93	1/24/2018	W93-180124-	< 0.01 U	< 0.0001 U	< 0.0001 U	17.4	18	0.205	0.239	< 5E-05 U	< 5E-05 U	0.000206
MW-94	1/11/2018	W94-180111-	0.149	< 0.0001 U	< 0.0001 U	13.8	13.8	0.00427	0.00458	< 5E-05 U	< 5E-05 U	0.00067
MW-101	2/6/2018	W101180206-	1.44	< 0.0001 U	0.000129	31.3	33.9	1.07	1.25	< 5E-05 U	< 5E-05 U	0.00392
SW-E1	2/6/2018	SE1-180206Q	0.164	0.0001 U	0.000216	0.835	0.946	0.0032	0.023	5E-05 U	5E-05 U	0.000245
FIELD BLANK	2/7/2018	W62-180207F	< 0.01 U	< 0.0001 U	< 0.0001 U	< 0.05 U	< 0.05 U	< 0.0001 U	< 0.0001 U	< 5E-05 U	< 5E-05 U	< 0.0001 U
EQUIPMENT BLANK	3/1/2018	WU1H180301E		< 0.0001 U		< 0.05 U		< 0.0001 U		< 5E-05 U		< 0.0001 U
EQUIPMENT BLANK	3/1/2018	WU1S180301E		< 0.0001 U		< 0.05 U		< 0.0001 U		< 5E-05 U		< 0.0001 U

Site	Date	Sample ID	Nickel, total (mg/L)	Potassium, dissolved (mg/L)	Potassium, total (mg/L)	Selenium, dissolved (mg/L)	Selenium, total (mg/L)	Silver, dissolved (mg/L)	Silver, total (mg/L)	Sodium, dissolved (mg/L)	Sodium, total (mg/L)	Thallium, dissolved (mg/L)
MW-30A	2/7/2018	W30A180207-	0.000834	1.46	1.56	< 0.0005 U	< 0.0005 U	< 4E-05 U	< 4E-05 U	15.6	16.4	< 0.0001 U
MW-47	2/6/2018	W47-180206-	0.00237	4.83	5.04	< 0.0005 U	< 0.0005 U	< 4E-05 U	< 4E-05 U	20.3	21.1	< 0.0001 U
MW-59	1/9/2018	W59-180109-	0.00025	1.1	1.07	< 0.0005 U	< 0.0005 U	< 4E-05 U	< 4E-05 U	6.07	6.41	< 0.0001 U
MW-62	2/7/2018	W62-180207-	0.000574	1.09	1.1	< 0.0005 U	< 0.0005 U	< 4E-05 U	< 4E-05 U	15.1	14.5	< 0.0001 U
MW-66	1/12/2018	W66-180112-	0.000249	1.19	1.13	0.00102	0.001	< 4E-05 U	< 4E-05 U	7.81	8.13	< 0.0001 U
MW-68	1/12/2018	W68-180112-	0.000687	1.84	1.67	< 0.0005 U	< 0.0005 U	< 4E-05 U	< 4E-05 U	9.27	9.69	< 0.0001 U
MW-68	2/23/2018	W68-180223-	0.000755	1.69	1.71	< 0.0005 U	< 0.0005 U	< 4E-05 U	< 4E-05 U	8.91	9.21	< 0.0001 U
MW-69	1/24/2018	W69-180124-	0.000248	1.83	1.76	< 0.0005 U	< 0.0005 U	< 4E-05 U	< 4E-05 U	8.62	9.07	< 0.0001 U
MW-72	1/19/2018	W72-180119-	0.000234	2.02	1.87	< 0.0005 U	< 0.0005 U	< 4E-05 U	< 4E-05 U	8.53	8.59	< 0.0001 U
MW-72	1/19/2018	W72-180119D	0.000206	2.03	1.93	< 0.0005 U	< 0.0005 U	< 4E-05 U	< 4E-05 U	8.67	8.69	< 0.0001 U
MW-74	1/11/2018	W74R180111-	0.00112	2.31	2.18	0.000692	0.000614	< 4E-05 U	< 4E-05 U	13.7	14.4	< 0.0001 U
MW-75	1/11/2018	W75-180111-	< 0.0001 U	2.03	1.84	< 0.0005 U	< 0.0005 U	< 4E-05 U	< 4E-05 U	9.47	9.7	< 0.0001 U
MW-80	1/9/2018	W80-180109-	0.000136	1.64	1.64	< 0.0005 U	< 0.0005 U	< 4E-05 U	< 4E-05 U	8	8.36	< 0.0001 U
MW-81	1/9/2018	W81-180109-	0.000142	0.802	0.815	0.00105	0.000904	< 4E-05 U	< 4E-05 U	6.8	6.75	< 0.0001 U
MW-83	1/9/2018	W83-180109-	0.00284	3.56	3.47	< 0.0005 U	< 0.0005 U	< 4E-05 U	< 4E-05 U	16	15.9	< 0.0001 U
MW-84	1/22/2018	W84-180122-	0.00145	1.09	1.06	0.000832	0.000878	< 4E-05 U	< 4E-05 U	6.55	7.08	< 0.0001 U
MW-85	1/12/2018	W85-180112-	0.000235	1.74	1.61	0.00104	0.00104	< 4E-05 U	< 4E-05 U	9.87	10.1	< 0.0001 U
MW-87	1/11/2018	W87-180111-	0.000208	2.51	2.31	< 0.0005 U	< 0.0005 U	< 4E-05 U	< 4E-05 U	10.8	11.2	< 0.0001 U
MW-93	1/24/2018	W93-180124-	0.00041 J	1.62	1.54	< 0.0005 U	< 0.0005 U	< 4E-05 U	< 4E-05 U	9.7	10.4	< 0.0001 U
MW-94	1/11/2018	W94-180111-	0.00069	2.27	2.08	< 0.0005 U	< 0.0005 U	< 4E-05 U	< 4E-05 U	8.12	8.22	< 0.0001 U
MW-101	2/6/2018	W101180206-	0.00437	2.63	2.77	< 0.0005 U	< 0.0005 U	< 4E-05 U	< 4E-05 U	17.5	17.7	< 0.0001 U
SW-E1	2/6/2018	SE1-180206Q	0.000353	0.434	0.5 U	0.0005 U	0.0005 U	4E-05 U	4E-05 U	2.38	2.44	0.0001 U
FIELD BLANK	2/7/2018	W62-180207F	< 0.0001 U	< 0.1 U	< 0.5 U	< 0.0005 U	< 0.0005 U	< 4E-05 U	< 4E-05 U	< 0.1 U	< 0.1 U	< 0.0001 U
EQUIPMENT BLANK	3/1/2018	WU1H180301E		< 0.1 U		< 0.0005 U		< 4E-05 U		< 0.1 U		< 0.0001 U
EQUIPMENT BLANK	3/1/2018	WU1S180301E		< 0.1 U		< 0.0005 U		< 4E-05 U		< 0.1 U		< 0.0001 U

Site	Date	Sample ID	Thallium, total (mg/L)	Tin dissolved (mg/L)	Vanadium, dissolved (mg/L)	Vanadium, total (mg/L)	Zinc, dissolved (mg/L)	Zinc, total (mg/L)
MW-30A	2/7/2018	W30A180207-	< 0.0001 U		0.00175	0.00217	0.000855	0.0016
MW-47	2/6/2018	W47-180206-	< 0.0001 U		0.000127	0.000135	< 0.0005 U	< 0.0005 JU
MW-59	1/9/2018	W59-180109-	< 0.0001 U		< 7.5E-05 U	< 7.5E-05 U	0.00116	0.00138
MW-62	2/7/2018	W62-180207-	< 0.0001 U		0.00138	0.00156	< 0.0005 U	0.000557
MW-66	1/12/2018	W66-180112-	< 0.0001 U		0.000597	0.000666	0.00094	0.00181
MW-68	1/12/2018	W68-180112-	< 0.0001 U		0.000173	0.000264	0.00087	0.00199
MW-68	2/23/2018	W68-180223-	< 0.0001 U		0.00017	0.000398	< 0.0005 U	0.00141
MW-69	1/24/2018	W69-180124-	< 0.0001 U		< 7.5E-05 U	< 7.5E-05 U	0.000511	< 0.0005 U
MW-72	1/19/2018	W72-180119-	< 0.0001 U		< 7.5E-05 U	< 7.5E-05 U	0.000802	0.0017
MW-72	1/19/2018	W72-180119D	< 0.0001 U		< 7.5E-05 U	< 7.5E-05 U	0.00109	0.00164
MW-74	1/11/2018	W74R180111-	< 0.0001 U		0.000581	0.000602	< 0.0005 U	< 0.0005 U
MW-75	1/11/2018	W75-180111-	< 0.0001 U		< 7.5E-05 U	< 7.5E-05 U	< 0.0005 U	0.000577
MW-80	1/9/2018	W80-180109-	< 0.0001 U		< 7.5E-05 U	< 7.5E-05 U	0.000638	0.000548
MW-81	1/9/2018	W81-180109-	< 0.0001 U		0.00158	0.00167	0.000594	0.000602
MW-83	1/9/2018	W83-180109-	< 0.0001 U		0.00084	0.000847	0.000749	0.000699
MW-84	1/22/2018	W84-180122-	< 0.0001 U		0.000444	0.000485	0.000767	0.000697
MW-85	1/12/2018	W85-180112-	< 0.0001 U		0.00088	0.000924	< 0.0005 U	< 0.0005 U
MW-87	1/11/2018	W87-180111-	< 0.0001 U		< 7.5E-05 U	0.00115	< 0.0005 U	0.000733
MW-93	1/24/2018	W93-180124-	< 0.0001 U		0.00208	0.00229	0.00185	0.000969
MW-94	1/11/2018	W94-180111-	< 0.0001 U		0.000899	0.000953	0.000572	< 0.0005 U
MW-101	2/6/2018	W101180206-	< 0.0001 U		0.000141	0.000461	0.00245	0.00161
SW-E1	2/6/2018	SE1-180206Q	0.0001 U		0.000366	0.000683	0.00174	0.00302
FIELD BLANK	2/7/2018	W62-180207F	< 0.0001 U		< 7.5E-05 U	< 7.5E-05 U	< 0.0005 U	< 0.0005 U
EQUIPMENT BLANK	3/1/2018	WU1H180301E		< 0.0005 U	< 7.5E-05 U		0.000775	
EQUIPMENT BLANK	3/1/2018	WU1S180301E		< 0.0005 U	< 7.5E-05 U		0.00081	

Site	Date	Sample ID	1,1,1,2-Tetrachloro-ethane 630-20-6 (ug/L)	1,1,1-Trichloro-ethane 71-55-6 (ug/L)	1,1,2,2-Tetrachloro-ethane 79-34-5 (ug/L)	1,1,2-Trichloro-ethane 79-00-5 (ug/L)	1,1-Dichloro-ethane 75-34-3 (ug/L)	1,1-Dichloro-ethene 75-35-4 (ug/L)	1,2,3-Trichloro-propane 96-18-4 (ug/L)	1,2-Dibromo-3-Chloropropane 96-12-8 (ug/L)	1,2-Dibromo-ethane 106-93-4 (ug/L)	1,2-Dichloro-benzene 95-50-1 (ug/L)	1,2-Dichloro-ethane 107-06-2 (ug/L)	1,2-Dichloro-propane 78-87-5 (ug/L)
EW-25	2/6/2018	EW25180206-	0.25 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	2.5 U	0.1 U	0.1 U	0.1 U	0.1 U
MW-30A	2/7/2018	W30A180207-	0.25 U	0.1 U	0.1 U	0.1 U	1.48	0.1 U	0.1 U	2.5 U	0.1 U	0.1 U	0.1 U	0.1 U
MW-47	2/6/2018	W47-180206-	0.25 U	0.1 U	0.1 U	0.1 U	0.732	0.1 U	0.1 U	2.5 U	0.1 U	0.1 U	0.16 JT	0.1 U
MW-59	1/9/2018	W59-180109-	0.25 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	2.5 U	0.1 U	0.1 U	0.1 U	0.1 U
MW-62	2/7/2018	W62-180207-	0.25 U	0.1 U	0.1 U	0.1 U	1.44	0.1 U	0.1 U	2.5 U	0.1 U	0.1 U	0.1 U	0.1 U
MW-66	1/12/2018	W66-180112-	0.25 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	2.5 U	0.1 U	0.1 U	0.1 U	0.1 U
MW-68	1/12/2018	W68-180112-	0.25 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	2.5 U	0.1 U	0.1 U	0.1 U	0.1 U
MW-68	2/23/2018	W68-180223-	0.25 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	2.5 U	0.1 U	0.1 U	0.1 U	0.1 U
MW-69	1/24/2018	W69-180124-	0.25 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	2.5 U	0.1 U	0.1 U	0.1 U	0.1 U
MW-72	1/19/2018	W72-180119-	0.25 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	2.5 U	0.1 U	0.1 U	0.1 U	0.1 U
MW-72	1/19/2018	W72-180119D	0.25 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	2.5 U	0.1 U	0.1 U	0.1 U	0.1 U
MW-74	1/11/2018	W74R180111-	0.25 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	2.5 U	0.1 U	0.1 U	0.1 U	0.1 U
MW-75	1/11/2018	W75-180111-	0.25 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	2.5 U	0.1 U	0.1 U	0.1 U	0.1 U
MW-80	1/9/2018	W80-180109-	0.25 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	2.5 U	0.1 U	0.1 U	0.1 U	0.1 U
MW-81	1/9/2018	W81-180109-	0.25 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	2.5 U	0.1 U	0.1 U	0.1 U	0.1 U
MW-83	1/9/2018	W83-180109-	0.25 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	2.5 U	0.1 U	0.1 U	0.1 U	0.1 U
MW-84	1/22/2018	W84-180122-	0.25 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	2.5 U	0.1 U	0.1 U	0.1 U	0.1 U
MW-85	1/12/2018	W85-180112-	0.25 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	2.5 U	0.1 U	0.1 U	0.1 U	0.1 U
MW-87	1/11/2018	W87-180111-	0.25 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	2.5 U	0.1 U	0.1 U	0.1 U	0.1 U
MW-93	1/24/2018	W93-180124-	0.25 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	2.5 U	0.1 U	0.1 U	0.1 U	0.1 U

Site	Date	Sample ID	1,1,1,2-Tetrachloro-ethane 630-20-6 (ug/L)	1,1,1-Trichloro-ethane 71-55-6 (ug/L)	1,1,2,2-Tetrachloro-ethane 79-34-5 (ug/L)	1,1,2-Trichloro-ethane 79-00-5 (ug/L)	1,1-Dichloro-ethane 75-34-3 (ug/L)	1,1-Dichloro-ethene 75-35-4 (ug/L)	1,2,3-Trichloro-propane 96-18-4 (ug/L)	1,2-Dibromo-3-Chloropropane 96-12-8 (ug/L)	1,2-Dibromo-ethane 106-93-4 (ug/L)	1,2-Dichloro-benzene 95-50-1 (ug/L)	1,2-Dichloro-ethane 107-06-2 (ug/L)	1,2-Dichloro-propane 78-87-5 (ug/L)
MW-94	1/11/2018	W94-180111-	0.25 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	2.5 U	0.1 U	0.1 U	0.1 U	0.1 U
MW-101	2/6/2018	W101180206-	0.25 U	0.1 U	0.1 U	0.1 U	0.13 JT	0.1 U	0.1 U	2.5 U	0.1 U	0.1 U	0.204	0.1 U
SW-E1	2/6/2018	SE1-180206Q	0.25 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	2.5 U	0.1 U	0.1 U	0.1 U	0.1 U
FIELD BLANK	2/6/2018	EW25180206F	0.25 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	2.5 U	0.1 U	0.1 U	0.1 U	0.1 U
FIELD BLANK	2/7/2018	W62-180207F	0.25 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	2.5 U	0.1 U	0.1 U	0.1 U	0.1 U
VOA TRIP BLANK	1/8/2018	VTRP180109X	0.25 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	2.5 U	0.1 U	0.1 U	0.1 U	0.1 U
VOA TRIP BLANK	1/8/2018	VTRP180109Y	0.25 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	2.5 U	0.1 U	0.1 U	0.1 U	0.1 U
VOA TRIP BLANK	1/10/2018	VTRP180111X	0.25 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	2.5 U	0.1 U	0.1 U	0.1 U	0.1 U
VOA TRIP BLANK	1/10/2018	VTRP180111Y	0.25 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	2.5 U	0.1 U	0.1 U	0.1 U	0.1 U
VOA TRIP BLANK	1/11/2018	VTRP180112X	0.25 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	2.5 U	0.1 U	0.1 U	0.1 U	0.1 U
VOA TRIP BLANK	1/11/2018	VTRP180112Y	0.25 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	2.5 U	0.1 U	0.1 U	0.1 U	0.1 U
VOA TRIP BLANK	1/16/2018	VTRP180119X	0.25 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	2.5 U	0.1 U	0.1 U	0.1 U	0.1 U
VOA TRIP BLANK	1/16/2018	VTRP180122Y	0.25 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	2.5 U	0.1 U	0.1 U	0.1 U	0.1 U
VOA TRIP BLANK	1/23/2018	VTRP180124X	0.25 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	2.5 U	0.1 U	0.1 U	0.1 U	0.1 U
VOA TRIP BLANK	1/23/2018	VTRP180124Y	0.25 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	2.5 U	0.1 U	0.1 U	0.1 U	0.1 U
VOA TRIP BLANK	2/5/2018	VTRP180206X	0.25 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	2.5 U	0.1 U	0.1 U	0.1 U	0.1 U
VOA TRIP BLANK	2/5/2018	VTRP180206X2	0.25 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	2.5 U	0.1 U	0.1 U	0.1 U	0.1 U
VOA TRIP BLANK	2/5/2018	VTRP180206Y	0.25 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	2.5 U	0.1 U	0.1 U	0.1 U	0.1 U
VOA TRIP BLANK	2/6/2018	VTRP180207X	0.25 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	2.5 U	0.1 U	0.1 U	0.1 U	0.1 U
VOA TRIP BLANK	2/6/2018	VTRP180207Y	0.25 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	2.5 U	0.1 U	0.1 U	0.1 U	0.1 U
VOA TRIP BLANK	2/21/2018	VTRP180223X	0.25 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	2.5 U	0.1 U	0.1 U	0.1 U	0.1 U

Site	Date	Sample ID	1,4-Dichloro-benzene 106-46-7 (ug/L)	2-Butanone 78-93-3 (ug/L)	2-Hexanone 591-78-6 (ug/L)	4-Methyl-2-Pentanone 108-10-1 (ug/L)	Acetone 67-64-1 (ug/L)	Acrylonitrile 107-13-1 (ug/L)	Benzene 71-43-2 (ug/L)	Bromo-chloro-methane 74-97-5 (ug/L)	Bromo-dichloro-methane 75-27-4 (ug/L)	Bromoform 75-25-2 (ug/L)	Bromo-methane 74-83-9 (ug/L)	Carbon Disulfide 75-15-0 (ug/L)
EW-25	2/6/2018	EW25180206-	0.1 U	1 U	0.5 U	2.5 U	12.7	0.035 U	0.1 U	0.1 U	0.25 U	0.5 U	0.1 U	0.1 U
MW-30A	2/7/2018	W30A180207-	0.1 U	1 U	0.5 U	2.5 U	2.5 U	0.035 U	0.1 U	0.1 U	0.25 U	0.5 U	0.1 U	0.1 U
MW-47	2/6/2018	W47-180206-	0.1 U	1 U	0.5 U	2.5 U	2.5 U	0.035 U	0.1 U	0.1 U	0.25 U	0.5 U	0.1 U	0.1 U
MW-59	1/9/2018	W59-180109-	0.1 U	1 U	0.5 U	2.5 U	2.5 U	0.035 U	0.1 U	0.1 U	0.25 U	0.5 U	0.1 U	0.12 JT
MW-62	2/7/2018	W62-180207-	0.1 U	1 U	0.5 U	2.5 U	2.5 U	0.035 U	0.1 U	0.1 U	0.25 U	0.5 U	0.1 U	0.1 U
MW-66	1/12/2018	W66-180112-	0.1 U	1 U	0.5 U	2.5 U	2.5 U	0.035 U	0.1 U	0.1 U	0.25 U	0.5 U	0.1 U	0.1 U
MW-68	1/12/2018	W68-180112-	0.1 U	1 U	0.5 U	2.5 U	2.5 U	0.035 U	0.1 U	0.1 U	0.25 U	0.5 U	0.1 U	0.1 U
MW-68	2/23/2018	W68-180223-	0.1 U	1 U	0.5 U	2.5 U	2.5 U	0.035 U	0.1 U	0.1 U	0.25 U	0.5 U	0.1 U	0.1 U
MW-69	1/24/2018	W69-180124-	0.1 U	1 U	0.5 U	2.5 U	2.5 U	0.035 U	0.1 U	0.1 U	0.25 U	0.5 U	0.1 U	0.15 JT
MW-72	1/19/2018	W72-180119-	0.1 U	1 U	0.5 U	2.5 U	2.5 U	0.035 U	0.1 U	0.1 U	0.25 U	0.5 U	0.1 U	0.1 U
MW-72	1/19/2018	W72-180119D	0.1 U	1 U	0.5 U	2.5 U	2.5 U	0.035 U	0.1 U	0.1 U	0.25 U	0.5 U	0.1 U	0.1 U
MW-74	1/11/2018	W74R180111-	0.1 U	1 U	0.5 U	2.5 U	2.5 U	0.035 U	0.1 U	0.1 U	0.25 U	0.5 U	0.1 U	0.1 U
MW-75	1/11/2018	W75-180111-	0.1 U	1 U	0.5 U	2.5 U	2.5 U	0.035 U	0.1 U	0.1 U	0.25 U	0.5 U	0.1 U	0.1 U
MW-80	1/9/2018	W80-180109-	0.1 U	1 U	0.5 U	2.5 U	2.5 U	0.035 U	0.1 U	0.1 U	0.25 U	0.5 U	0.1 U	0.235
MW-81	1/9/2018	W81-180109-	0.1 U	1 U	0.5 U	2.5 U	2.5 U	0.035 U	0.1 U	0.1 U	0.25 U	0.5 U	0.1 U	0.1 U
MW-83	1/9/2018	W83-180109-	0.1 U	1 U	0.5 U	2.5 U	2.5 U	0.035 U	0.1 U	0.1 U	0.25 U	0.5 U	0.1 U	0.1 U
MW-84	1/22/2018	W84-180122-	0.1 U	1 U	0.5 U	2.5 U	2.5 U	0.035 U	0.1 U	0.1 U	0.25 U	0.5 U	0.1 U	0.1 U
MW-85	1/12/2018	W85-180112-	0.1 U	1 U	0.5 U	2.5 U	2.5 U	0.035 U	0.1 U	0.1 U	0.25 U	0.5 U	0.1 U	0.1 U
MW-87	1/11/2018	W87-180111-	0.1 U	1 U	0.5 U	2.5 U	2.5 U	0.035 U	0.1 U	0.1 U	0.25 U	0.5 U	0.1 U	0.1 U
MW-93	1/24/2018	W93-180124-	0.1 U	1 U	0.5 U	2.5 U	2.5 U	0.035 U	0.1 U	0.1 U	0.25 U	0.5 U	0.1 U	0.1 U

Site	Date	Sample ID	1,4-Dichloro-benzene 106-46-7 (ug/L)	2-Butanone 78-93-3 (ug/L)	2-Hexanone 591-78-6 (ug/L)	4-Methyl-2-Pentanone 108-10-1 (ug/L)	Acetone 67-64-1 (ug/L)	Acrylonitrile 107-13-1 (ug/L)	Benzene 71-43-2 (ug/L)	Bromo-chloro-methane 74-97-5 (ug/L)	Bromo-dichloro-methane 75-27-4 (ug/L)	Bromoform 75-25-2 (ug/L)	Bromo-methane 74-83-9 (ug/L)	Carbon Disulfide 75-15-0 (ug/L)
MW-94	1/11/2018	W94-180111-	0.1 U	1 U	0.5 U	2.5 U	2.5 U	0.035 U	0.1 U	0.1 U	0.25 U	0.5 U	0.1 U	0.1 U
MW-101	2/6/2018	W101180206-	0.1 U	1 U	0.5 U	2.5 U	2.5 U	0.035 U	0.1 U	0.1 U	0.25 U	0.5 U	0.1 U	0.1 U
SW-E1	2/6/2018	SE1-180206Q	0.1 U	1 U	0.5 U	2.5 U	2.5 U	0.035 U	0.1 U	0.1 U	0.25 U	0.5 U	0.1 U	0.1 U
FIELD BLANK	2/6/2018	EW25180206F	0.1 U	1.1 JT	0.5 U	2.5 U	16.7	0.035 U	0.1 U	0.1 U	0.25 U	0.5 U	0.1 U	0.1 U
FIELD BLANK	2/7/2018	W62-180207F	0.1 U	1 U	0.5 U	2.5 U	2.5 U	0.035 U	0.1 U	0.1 U	0.25 U	0.5 U	0.1 U	0.1 U
VOA TRIP BLANK	1/8/2018	VTRP180109X	0.1 U	1 U	0.5 U	2.5 U	2.5 U	0.035 U	0.1 U	0.1 U	0.25 U	0.5 U	0.1 U	0.1 U
VOA TRIP BLANK	1/8/2018	VTRP180109Y	0.1 U	1 U	0.5 U	2.5 U	2.5 U	0.035 U	0.1 U	0.1 U	0.25 U	0.5 U	0.1 U	0.1 U
VOA TRIP BLANK	1/10/2018	VTRP180111X	0.1 U	1 U	0.5 U	2.5 U	2.5 U	0.035 U	0.1 U	0.1 U	0.25 U	0.5 U	0.1 U	0.1 U
VOA TRIP BLANK	1/10/2018	VTRP180111Y	0.1 U	1 U	0.5 U	2.5 U	2.5 U	0.035 U	0.1 U	0.1 U	0.25 U	0.5 U	0.1 U	0.1 U
VOA TRIP BLANK	1/11/2018	VTRP180112X	0.1 U	1 U	0.5 U	2.5 U	2.5 U	0.035 U	0.1 U	0.1 U	0.25 U	0.5 U	0.1 U	0.1 U
VOA TRIP BLANK	1/11/2018	VTRP180112Y	0.1 U	1 U	0.5 U	2.5 U	2.5 U	0.035 U	0.1 U	0.1 U	0.25 U	0.5 U	0.1 U	0.1 U
VOA TRIP BLANK	1/16/2018	VTRP180119X	0.1 U	1 U	0.5 U	2.5 U	2.5 U	0.035 U	0.1 U	0.1 U	0.25 U	0.5 U	0.1 U	0.1 U
VOA TRIP BLANK	1/16/2018	VTRP180122Y	0.1 U	1 U	0.5 U	2.5 U	2.5 U	0.035 U	0.1 U	0.1 U	0.25 U	0.5 U	0.1 U	0.1 U
VOA TRIP BLANK	1/23/2018	VTRP180124X	0.1 U	1 U	0.5 U	2.5 U	2.5 U	0.035 U	0.1 U	0.1 U	0.25 U	0.5 U	0.1 U	0.1 U
VOA TRIP BLANK	1/23/2018	VTRP180124Y	0.1 U	1 U	0.5 U	2.5 U	2.5 U	0.035 U	0.1 U	0.1 U	0.25 U	0.5 U	0.1 U	0.1 U
VOA TRIP BLANK	2/5/2018	VTRP180206X	0.1 U	1 U	0.5 U	2.5 U	2.5 U	0.035 U	0.1 U	0.1 U	0.25 U	0.5 U	0.1 U	0.1 U
VOA TRIP BLANK	2/5/2018	VTRP180206X2	0.1 U	1 U	0.5 U	2.5 U	2.5 U	0.035 U	0.1 U	0.1 U	0.25 U	0.5 U	0.1 U	0.1 U
VOA TRIP BLANK	2/5/2018	VTRP180206Y	0.1 U	1 U	0.5 U	2.5 U	2.5 U	0.035 U	0.1 U	0.1 U	0.25 U	0.5 U	0.1 U	0.1 U
VOA TRIP BLANK	2/6/2018	VTRP180207X	0.1 U	1 U	0.5 U	2.5 U	2.5 U	0.035 U	0.1 U	0.1 U	0.25 U	0.5 U	0.1 U	0.1 U
VOA TRIP BLANK	2/6/2018	VTRP180207Y	0.1 U	1 U	0.5 U	2.5 U	2.5 U	0.035 U	0.1 U	0.1 U	0.25 U	0.5 U	0.1 U	0.1 U
VOA TRIP BLANK	2/21/2018	VTRP180223X	0.1 U	1 U	0.5 U	2.5 U	2.5 U	0.035 U	0.1 U	0.1 U	0.25 U	0.5 U	0.1 U	0.1 U

Site	Date	Sample ID	Carbon Tetra-chloride 56-23-5 (ug/L)	Chloro-benzene 108-90-7 (ug/L)	Chloro-dibromo-methane 124-48-1 (ug/L)	Chloro-ethane 75-00-3 (ug/L)	Chloroform 67-66-3 (ug/L)	Chloro-methane 74-87-3 (ug/L)	*cis* -1,2-Dichloro-ethene 156-59-2 (ug/L)	*cis* -1,3-Dichloro-propene 10061-01-5 (ug/L)	Dibromo-methane 74-95-3 (ug/L)	Dichloro-difluoro-methane 75-71-8 (ug/L)	Ethyl-benzene 100-41-4 (ug/L)	M & P Xylene (ug/L)
EW-25	2/6/2018	EW25180206-	0.25 U	0.1 U	0.5 U	0.1 U	0.1 U	0.25 U	0.226	0.25 U	0.1 U	0.1 U	0.1 U	0.1 U
MW-30A	2/7/2018	W30A180207-	0.25 U	0.1 U	0.5 U	0.1 U	0.1 U	0.25 U	1.94	0.25 U	0.1 U	0.1 U	0.1 U	0.1 U
MW-47	2/6/2018	W47-180206-	0.25 U	0.1 U	0.5 U	0.249	0.1 U	0.25 U	3.06	0.25 U	0.1 U	4.59	0.1 U	0.1 U
MW-59	1/9/2018	W59-180109-	0.25 U	0.1 U	0.5 U	0.1 U	0.1 U	0.25 U	1.2	0.25 U	0.1 U	0.1 U	0.1 U	0.1 U
MW-62	2/7/2018	W62-180207-	0.25 U	0.1 U	0.5 U	0.1 U	0.1 U	0.25 U	4.08	0.25 U	0.1 U	0.1 U	0.1 U	0.1 U
MW-66	1/12/2018	W66-180112-	0.25 U	0.1 U	0.5 U	0.1 U	0.1 U	0.25 U	0.1 U	0.25 U	0.1 U	0.1 U	0.1 U	0.1 U
MW-68	1/12/2018	W68-180112-	0.25 U	0.1 U	0.5 U	0.1 U	0.1 U	0.25 U	0.1 U	0.25 U	0.1 U	0.1 U	0.1 U	0.1 U
MW-68	2/23/2018	W68-180223-	0.25 U	0.1 U	0.5 U	0.1 U	0.1 U	0.25 U	0.1 U	0.25 U	0.1 U	0.1 U	0.1 U	0.1 U
MW-69	1/24/2018	W69-180124-	0.25 U	0.1 U	0.5 U	0.1 U	0.1 U	0.25 U	0.1 U	0.25 U	0.1 U	0.1 U	0.1 U	0.1 U
MW-72	1/19/2018	W72-180119-	0.25 U	0.1 U	0.5 U	0.1 U	0.1 U	0.25 U	0.1 U	0.25 U	0.1 U	0.1 U	0.1 U	0.1 U
MW-72	1/19/2018	W72-180119D	0.25 U	0.1 U	0.5 U	0.1 U	0.1 U	0.25 U	0.1 U	0.25 U	0.1 U	0.1 U	0.1 U	0.1 U
MW-74	1/11/2018	W74R180111-	0.25 U	0.1 U	0.5 U	0.1 U	0.1 U	0.25 U	0.1 U	0.25 U	0.1 U	0.1 U	0.1 U	0.1 U
MW-75	1/11/2018	W75-180111-	0.25 U	0.1 U	0.5 U	0.1 U	0.1 U	0.25 U	0.1 U	0.25 U	0.1 U	0.1 U	0.1 U	0.1 U
MW-80	1/9/2018	W80-180109-	0.25 U	0.1 U	0.5 U	0.1 U	0.1 U	0.25 U	0.1 U	0.25 U	0.1 U	0.1 U	0.1 U	0.1 U
MW-81	1/9/2018	W81-180109-	0.25 U	0.1 U	0.5 U	0.1 U	0.1 U	0.25 U	0.1 U	0.25 U	0.1 U	0.1 U	0.1 U	0.1 U
MW-83	1/9/2018	W83-180109-	0.25 U	0.1 U	0.5 U	0.1 U	0.1 U	0.25 U	0.1 U	0.25 U	0.1 U	0.1 U	0.1 U	0.1 U
MW-84	1/22/2018	W84-180122-	0.25 U	0.1 U	0.5 U	0.1 U	0.1 U	0.25 U	0.1 U	0.25 U	0.1 U	0.1 U	0.1 U	0.1 U
MW-85	1/12/2018	W85-180112-	0.25 U	0.1 U	0.5 U	0.1 U	0.1 U	0.25 U	0.1 U	0.25 U	0.1 U	0.1 U	0.1 U	0.1 U
MW-87	1/11/2018	W87-180111-	0.25 U	0.1 U	0.5 U	0.1 U	0.1 U	0.25 U	0.1 U	0.25 U	0.1 U	0.1 U	0.1 U	0.1 U
MW-93	1/24/2018	W93-180124-	0.25 U	0.1 U	0.5 U	0.1 U	0.1 U	0.25 U	0.1 U	0.25 U	0.1 U	0.1 U	0.1 U	0.1 U

Site	Date	Sample ID	Carbon Tetra-chloride 56-23-5 (ug/L)	Chloro-benzene 108-90-7 (ug/L)	Chloro-dibromo-methane 124-48-1 (ug/L)	Chloro-ethane 75-00-3 (ug/L)	Chloroform 67-66-3 (ug/L)	Chloro-methane 74-87-3 (ug/L)	*cis* -1,2-Dichloro-ethene 156-59-2 (ug/L)	*cis* -1,3-Dichloro-propene 10061-01-5 (ug/L)	Dibromo-methane 74-95-3 (ug/L)	Dichloro-difluoro-methane 75-71-8 (ug/L)	Ethyl-benzene 100-41-4 (ug/L)	M & P Xylene (ug/L)
MW-94	1/11/2018	W94-180111-	0.25 U	0.1 U	0.5 U	0.1 U	0.1 U	0.25 U	0.1 U	0.25 U	0.1 U	0.1 U	0.1 U	0.1 U
MW-101	2/6/2018	W101180206-	0.25 U	0.1 U	0.5 U	0.19 JT	0.1 U	0.25 U	0.238	0.25 U	0.1 U	0.1 U	0.1 U	0.1 U
SW-E1	2/6/2018	SE1-180206Q	0.25 U	0.1 U	0.5 U	0.1 U	0.1 U	0.25 U	0.1 U	0.25 U	0.1 U	0.1 U	0.1 U	0.1 U
FIELD BLANK	2/6/2018	EW25180206F	0.25 U	0.1 U	0.5 U	0.1 U	0.1 U	0.25 U	0.1 U	0.25 U	0.1 U	0.1 U	0.1 U	0.1 U
FIELD BLANK	2/7/2018	W62-180207F	0.25 U	0.1 U	0.5 U	0.1 U	0.1 U	0.25 U	0.1 U	0.25 U	0.1 U	0.1 U	0.1 U	0.1 U
VOA TRIP BLANK	1/8/2018	VTRP180109X	0.25 U	0.1 U	0.5 U	0.1 U	0.1 U	0.25 U	0.1 U	0.25 U	0.1 U	0.1 U	0.1 U	0.1 U
VOA TRIP BLANK	1/8/2018	VTRP180109Y	0.25 U	0.1 U	0.5 U	0.1 U	0.1 U	0.25 U	0.1 U	0.25 U	0.1 U	0.1 U	0.1 U	0.1 U
VOA TRIP BLANK	1/10/2018	VTRP180111X	0.25 U	0.1 U	0.5 U	0.1 U	0.1 U	0.25 U	0.1 U	0.25 U	0.1 U	0.1 U	0.1 U	0.1 U
VOA TRIP BLANK	1/10/2018	VTRP180111Y	0.25 U	0.1 U	0.5 U	0.1 U	0.1 U	0.25 U	0.1 U	0.25 U	0.1 U	0.1 U	0.1 U	0.1 U
VOA TRIP BLANK	1/11/2018	VTRP180112X	0.25 U	0.1 U	0.5 U	0.1 U	0.1 U	0.25 U	0.1 U	0.25 U	0.1 U	0.1 U	0.1 U	0.1 U
VOA TRIP BLANK	1/11/2018	VTRP180112Y	0.25 U	0.1 U	0.5 U	0.1 U	0.1 U	0.25 U	0.1 U	0.25 U	0.1 U	0.1 U	0.1 U	0.1 U
VOA TRIP BLANK	1/16/2018	VTRP180119X	0.25 U	0.1 U	0.5 U	0.1 U	0.1 U	0.25 U	0.1 U	0.25 U	0.1 U	0.1 U	0.1 U	0.1 U
VOA TRIP BLANK	1/16/2018	VTRP180122Y	0.25 U	0.1 U	0.5 U	0.1 U	0.1 U	0.25 U	0.1 U	0.25 U	0.1 U	0.1 U	0.1 U	0.1 U
VOA TRIP BLANK	1/23/2018	VTRP180124X	0.25 U	0.1 U	0.5 U	0.1 U	0.1 U	0.25 U	0.1 U	0.25 U	0.1 U	0.1 U	0.1 U	0.1 U
VOA TRIP BLANK	1/23/2018	VTRP180124Y	0.25 U	0.1 U	0.5 U	0.1 U	0.1 U	0.25 U	0.1 U	0.25 U	0.1 U	0.1 U	0.1 U	0.1 U
VOA TRIP BLANK	2/5/2018	VTRP180206X	0.25 U	0.1 U	0.5 U	0.1 U	0.1 U	0.25 U	0.1 U	0.25 U	0.1 U	0.1 U	0.1 U	0.1 U
VOA TRIP BLANK	2/5/2018	VTRP180206X2	0.25 U	0.1 U	0.5 U	0.1 U	0.1 U	0.25 U	0.1 U	0.25 U	0.1 U	0.1 U	0.1 U	0.1 U
VOA TRIP BLANK	2/5/2018	VTRP180206Y	0.25 U	0.1 U	0.5 U	0.1 U	0.1 U	0.25 U	0.1 U	0.25 U	0.1 U	0.1 U	0.1 U	0.1 U
VOA TRIP BLANK	2/6/2018	VTRP180207X	0.25 U	0.1 U	0.5 U	0.1 U	0.1 U	0.25 U	0.1 U	0.25 U	0.1 U	0.1 U	0.1 U	0.1 U
VOA TRIP BLANK	2/6/2018	VTRP180207Y	0.25 U	0.1 U	0.5 U	0.1 U	0.1 U	0.25 U	0.1 U	0.25 U	0.1 U	0.1 U	0.1 U	0.1 U
VOA TRIP BLANK	2/21/2018	VTRP180223X	0.25 U	0.1 U	0.5 U	0.1 U	0.1 U	0.25 U	0.1 U	0.25 U	0.1 U	0.1 U	0.1 U	0.1 U

Site	Date	Sample ID	Methyl Iodide 74-88-4 (ug/L)	Methylene Chloride 75-09-2 (ug/L)	O-Xylene 95-47-6 (ug/L)	Styrene 100-42-5 (ug/L)	Tetra-chloro· ethene 127-18-4 (ug/L)	Toluene 108-88-3 (ug/L)	*trans* -1,2- Dichloro- ethene 156-60-5 (ug/L)	*trans* -1,3- Dichloro- propene 10061-02-6 (ug/L)	*trans* -1,4- Dichloro-2- Butene 110-57-6 (ug/L)	Trichloro- ethene 79-01-6 (ug/L)	Trichloro- fluoro- methane 75-69-4 (ug/L)	Vinyl Acetate 108-05-4 (ug/L)	Vinyl Chloride 75-01-4 (ug/L)
EW-25	2/6/2018	EW25180206-	0.1 U	2.5 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.5 U	5 U	0.242	0.1 U	0.1 U	0.01 U
MW-30A	2/7/2018	W30A180207-	0.1 U	2.5 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.5 U	5 U	0.753	0.1 U	0.1 U	0.01 U
MW-47	2/6/2018	W47-180206-	0.1 U	2.5 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.5 U	5 U	0.1 U	0.1 U	0.1 U	5.48
MW-59	1/9/2018	W59-180109-	0.1 U	2.5 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.5 U	5 U	0.1 U	0.1 U	0.1 U	0.01 U
MW-62	2/7/2018	W62-180207-	0.1 U	2.5 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.5 U	5 U	0.12 JT	0.1 U	0.1 U	0.01 U
MW-66	1/12/2018	W66-180112-	0.1 U	2.5 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.5 U	5 U	0.1 U	0.1 U	0.1 U	0.01 U
MW-68	1/12/2018	W68-180112-	0.1 U	2.5 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.5 U	5 U	0.1 U	0.1 U	0.1 U	0.01 U
MW-68	2/23/2018	W68-180223-	0.1 U	2.5 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.5 U	5 U	0.1 U	0.1 U	0.1 U	0.01 U
MW-69	1/24/2018	W69-180124-	0.1 U	2.5 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.5 U	5 U	0.1 U	0.1 U	0.1 U	0.01 U
MW-72	1/19/2018	W72-180119-	0.1 U	2.5 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.5 U	5 U	0.1 U	0.1 U	0.1 U	0.01 U
MW-72	1/19/2018	W72-180119D	0.1 U	2.5 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.5 U	5 U	0.1 U	0.1 U	0.1 U	0.01 U
MW-74	1/11/2018	W74R180111-	0.1 U	2.5 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.5 U	5 U	0.1 U	0.1 U	0.1 U	0.01 U
MW-75	1/11/2018	W75-180111-	0.1 U	2.5 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.5 U	5 U	0.1 U	0.1 U	0.1 U	0.01 U
MW-80	1/9/2018	W80-180109-	0.1 U	2.5 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.5 U	5 U	0.1 U	0.1 U	0.1 U	0.01 U
MW-81	1/9/2018	W81-180109-	0.1 U	2.5 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.5 U	5 U	0.1 U	0.1 U	0.1 U	0.01 U
MW-83	1/9/2018	W83-180109-	0.1 U	2.5 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.5 U	5 U	1.49	0.1 U	0.1 U	0.01 U
MW-84	1/22/2018	W84-180122-	0.1 U	2.5 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.5 U	5 U	0.1 U	0.1 U	0.1 U	0.01 U
MW-85	1/12/2018	W85-180112-	0.1 U	2.5 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.5 U	5 U	0.1 U	0.1 U	0.1 U	0.01 U
MW-87	1/11/2018	W87-180111-	0.1 U	2.5 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.5 U	5 U	0.1 U	0.1 U	0.1 U	0.01 U
MW-93	1/24/2018	W93-180124-	0.1 U	2.5 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.5 U	5 U	0.1 U	0.1 U	0.1 U	0.01 U

Site	Date	Sample ID	Methyl Iodide 74-88-4 (ug/L)	Methylene Chloride 75-09-2 (ug/L)	O-Xylene 95-47-6 (ug/L)	Styrene 100-42-5 (ug/L)	Tetra-chloro· ethene 127-18-4 (ug/L)	Toluene 108-88-3 (ug/L)	*trans* -1,2- Dichloro- ethene 156-60-5 (ug/L)	*trans* -1,3- Dichloro- propene 10061-02-6 (ug/L)	*trans* -1,4- Dichloro-2- Butene 110-57-6 (ug/L)	Trichloro- ethene 79-01-6 (ug/L)	Trichloro- fluoro- methane 75-69-4 (ug/L)	Vinyl Acetate 108-05-4 (ug/L)	Vinyl Chloride 75-01-4 (ug/L)
MW-94	1/11/2018	W94-180111-	0.1 U	2.5 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.5 U	5 U	2.61	0.1 U	0.1 U	0.01 U
MW-101	2/6/2018	W101180206-	0.1 U	2.5 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.5 U	5 U	0.1 U	0.1 U	0.1 U	0.342
SW-E1	2/6/2018	SE1-180206Q	0.1 U	2.5 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.5 U	5 U	0.1 U	0.1 U	0.1 U	0.01 U
FIELD BLANK	2/6/2018	EW25180206F	0.1 U	2.5 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.5 U	5 U	0.1 U	0.1 U	0.1 U	0.01 U
FIELD BLANK	2/7/2018	W62-180207F	0.1 U	2.5 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.5 U	5 U	0.1 U	0.1 U	0.1 U	0.01 U
VOA TRIP BLANK	1/8/2018	VTRP180109X	0.1 U	2.5 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.5 U	5 U	0.1 U	0.1 U	0.1 U	0.01 U
VOA TRIP BLANK	1/8/2018	VTRP180109Y	0.1 U	2.5 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.5 U	5 U	0.1 U	0.1 U	0.1 U	0.01 U
VOA TRIP BLANK	1/10/2018	VTRP180111X	0.1 U	2.5 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.5 U	5 U	0.1 U	0.1 U	0.1 U	0.01 U
VOA TRIP BLANK	1/10/2018	VTRP180111Y	0.1 U	2.5 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.5 U	5 U	0.1 U	0.1 U	0.1 U	0.01 U
VOA TRIP BLANK	1/11/2018	VTRP180112X	0.1 U	2.5 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.5 U	5 U	0.1 U	0.1 U	0.1 U	0.01 U
VOA TRIP BLANK	1/11/2018	VTRP180112Y	0.1 U	2.5 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.5 U	5 U	0.1 U	0.1 U	0.1 U	0.01 U
VOA TRIP BLANK	1/16/2018	VTRP180119X	0.1 U	2.5 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.5 U	5 U	0.1 U	0.1 U	0.1 U	0.01 U
VOA TRIP BLANK	1/16/2018	VTRP180122Y	0.1 U	2.5 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.5 U	5 U	0.1 U	0.1 U	0.1 U	0.01 U
VOA TRIP BLANK	1/23/2018	VTRP180124X	0.1 U	2.5 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.5 U	5 U	0.1 U	0.1 U	0.1 U	0.01 U
VOA TRIP BLANK	1/23/2018	VTRP180124Y	0.1 U	2.5 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.5 U	5 U	0.1 U	0.1 U	0.1 U	0.01 U
VOA TRIP BLANK	2/5/2018	VTRP180206X	0.1 U	2.5 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.5 U	5 U	0.1 U	0.1 U	0.1 U	0.01 U
VOA TRIP BLANK	2/5/2018	VTRP180206X2	0.1 U	2.5 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.5 U	5 U	0.1 U	0.1 U	0.1 U	0.01 U
VOA TRIP BLANK	2/5/2018	VTRP180206Y	0.1 U	2.5 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.5 U	5 U	0.1 U	0.1 U	0.1 U	0.01 U
VOA TRIP BLANK	2/6/2018	VTRP180207X	0.1 U	2.5 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.5 U	5 U	0.1 U	0.1 U	0.1 U	0.01 U
VOA TRIP BLANK	2/6/2018	VTRP180207Y	0.1 U	2.5 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.5 U	5 U	0.1 U	0.1 U	0.1 U	0.01 U
VOA TRIP BLANK	2/21/2018	VTRP180223X	0.1 U	2.5 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.5 U	5 U	0.1 U	0.1 U	0.1 U	0.01 U

Surface Water Analytical Data

Staff Gage	Location	Date	Reference Elevation Staff Gage 0' (msl)	Reference Elevation Top of Peizo (msl)	Depth to Water (Peizometer) (feet)	Staff Gage Reading (feet)	Surface Water Elevation (msl)	Comment
SW-G1	SW-W1	1/22/2018	415.38	418.84		0.82	416.20	
SW-G1	SW-W1	2/5/2018	415.38	418.84		0.83	416.21	
SW-G1	SW-W1	3/21/2018	415.38	418.84		0.72	416.10	
SW-G2	SW-N1	1/22/2018	355.68	358.21		0.98	356.66	
SW-G2	SW-N1	2/5/2018	355.68	358.21		0.98	356.66	
SW-G2	SW-N1	3/21/2018	355.68	358.21		0.42	356.10	
SW-G3	SW -V	1/22/2018	466.46	469.88		0.20	466.66	
SW-G3	SW -V	2/5/2018	466.46	469.88		0.20	466.66	
SW-G3	SW -V	3/21/2018	466.46	469.88	5.31		464.57	
SW-G4	Upstream of SW-E1	1/22/2018	502.41	505.85		0.46	502.87	
SW-G4	Upstream of SW-E1	2/5/2018	502.41	505.85		0.52	502.93	
SW-G4	Upstream of SW-E1	3/21/2018	502.41	505.85		0.22	502.63	
SW-G5	SW-E1	1/22/2018	486.92	490.34		0.70	487.62	
SW-G5	SW-E1	2/5/2018	486.92	490.34		0.80	487.72	
SW-G5	SW-E1	3/21/2018	486.92	490.34		0.57	487.49	
SW-G6	Upstream of SW-GS1	1/22/2018	490.72	494.12		0.80	491.52	
SW-G6	Upstream of SW-GS1	2/5/2018	490.72	494.12		0.90	491.62	
SW-G6	Upstream of SW-GS1	3/21/2018	490.72	494.12	3.65		490.47	
SW-G7	SW-S2	1/22/2018	453.03	456.41		0.36	453.39	
SW-G7	SW-S2	2/5/2018	453.03	456.41		1.29	454.32	
SW-G7	SW-S2	3/21/2018	453.03	456.41		0.52	453.55	
SW-G8	Upstream of SW-S1	1/22/2018	510.61	515.56		0.66	511.27	
SW-G8	Upstream of SW-S1	2/5/2018	510.61	515.56		0.86	511.47	
SW-G8	Upstream of SW-S1	3/21/2018	510.61	515.56		0.26	510.87	
SW-G9	SW-S1	1/22/2018	490.93	494.35		0.66	491.59	
SW-G9	SW-S1	2/5/2018	490.93	494.35		0.80	491.73	
SW-G9	SW-S1	3/21/2018	490.93	494.35		0.45	491.38	

Site	Date	Sample ID	pH (Field) (std. Units)	Conductance (Field) (umho/cm)	Temperature (^{o}C)	Turbidity (NTU)	Oxygen, Dissolved (mg/L)
SW-GS1	2/7/2018	SGS1180207P	6.53	111.9	8.33	34.4	6.68
SW-N4	2/7/2018	SN4-180207P	6.97	71	10.28	11.9	11.39
SW-SL3	2/12/2018	SSL3180212P	6.06	104.1	5.16		10.04
SW-TD1	2/7/2018	STD1180207-	7.36	300	8.8	131	10.07

Site	Date	Sample ID	Ammonia, (NH3) (mg/L)	Biological Oxygen Demand (mg/L)	Total Suspended Solids (mg/L)	Copper, total (mg/L)	Zinc, total (mg/L)	4-Methyl-phenol 106-44-5 (ug/L)	Alpha Terpineol 98-55-5 (ug/L)	Benzoic Acid 65-85-0 (ug/L)	Phenol 108-95-2 (ug/L)
SW-GS1	2/7/2018	SGS1180207P	0.375	2.6	3.3	0.00545	0.00754	< 0.48 U	< 0.48 U	< 9.6 U	< 0.48 U
SW-N4	2/7/2018	SN4-180207P	0.0208	< 2 U	1.4 T	0.0139	0.0238	< 0.5 U	< 0.5 U	< 9.9 U	< 0.5 U
SW-SL3	2/12/2018	SSL3180212P	0.0207	< 2 U	3.9		0.00641	< 0.48 U	< 0.48 U	< 9.6 U	< 0.48 U

Site	Date	Sample ID	pH (Field) (std. Units)	Conductance (Field) (umho/cm)	Temperature (Field) (oC)	Turbidity (Field) (NTU)	Alkalinity, Total (CaCO3) (mg/L)	Chemical Oxygen Demand (mg/L)	Chloride (mg/L)	Iron, dissolved (mg/L)	Iron, total (mg/L)	Sulfate (SO4) (mg/L)	Total Organic Carbon (mg/L)
SW-TD1	2/7/2018	STD1180207-	7.36	300	8.8	131	167	19 T	6.21	0.0148	6.38	20.8	9.22

Environmental Monitoring Data

Data Collected from April 1, 2018 to June 30, 2018
Cedar Hills Landfill --- Groundwater Elevation Data
Contact Person: Sendy Jimenez (206) 477-5224

Site	Date	Reference Elevation (msl)	Depth to Water (feet)	Ground-Water Elevation (msl)	Comment
MW-21	4/6/2018	420.66	123.19	297.47	
MW-22	4/6/2018	517.09	231.15	285.94	
MW-24	4/6/2018	475.99	143.36	332.63	
MW-25	4/6/2018	474.41	5.56	468.85	
MW-27A	4/6/2018	584.23	53.8	530.43	
MW-28	4/6/2018	527.75	23.72	504.03	
MW-29	4/6/2018	532.92	10.97	521.95	
MW-30A	4/6/2018	568.43	29.5	538.93	
MW-41D	4/6/2018	462.32	25.57	436.75	
MW-41S	4/6/2018	462.44	4.11	458.33	
MW-43	4/6/2018	547.06	262.22	284.84	
MW-45	4/6/2018	488.4	14	474.4	
MW-47	4/6/2018	634.6	13.71	620.89	
MW-48	4/6/2018	594.49	44.78	549.71	
MW-50	4/6/2018	637.02	29.68	607.34	
MW-54	4/6/2018	580.43	277.19	303.24	
MW-55	4/6/2018	652.29	27.48	624.81	
MW-56	4/6/2018	480.33	123.55	356.78	
MW-57	4/6/2018	456.64	99.03	357.61	
MW-58A	4/6/2018	479.27	147.31	331.96	
MW-59	4/6/2018	457.13	121.57	335.56	
MW-60	4/6/2018	567.15	222.83	344.32	
MW-62	4/6/2018	556.21	50.55	505.66	
MW-63	4/6/2018	515.88	13.1	502.78	
MW-64	4/6/2018	596.55	264.2	332.35	
MW-65	4/6/2018	545.83	207.28	338.55	
MW-66	4/6/2018	531.28	237.68	293.60	
MW-67	4/6/2018	516.43	219.38	297.05	
MW-68	4/6/2018	647.07	330.72	316.35	
MW-69	4/6/2018	653.69	355.23	298.46	
MW-72	4/6/2018	671.87	360.6	311.27	
MW-73	4/6/2018	485.7	190.13	295.57	
MW-74	4/6/2018	531.26	239.09	292.17	
MW-75	4/6/2018	532.4	244.37	288.03	
MW-76	4/6/2018	491.71	133.77	357.94	
MW-79	4/6/2018	459.17	--	--	Damaged
MW-80	4/6/2018	530.41	237.81	292.60	
MW-81	4/6/2018	493.66	182.98	310.68	
MW-82	4/6/2018	474.85	119.84	355.01	
MW-83	4/6/2018	496.81	142.35	354.46	
MW-84	4/6/2018	530.8	235.08	295.72	
MW-85	4/6/2018	531.76	244.61	287.15	
MW-86	4/6/2018	536.04	248.44	287.60	
MW-87	4/6/2018	537.31	247.19	290.12	

Environmental Monitoring Data

Data Collected from April 1, 2018 to June 30, 2018
Cedar Hills Landfill --- Groundwater Elevation Data
Contact Person: Sendy Jimenez (206) 477-5224

Site	Date	Reference Elevation (msl)	Depth to Water (feet)	Ground-Water Elevation (msl)	Comment
MW-88	4/6/2018	513.68	225.94	287.74	
MW-89	4/6/2018	512.82	230.73	282.09	
MW-90	4/6/2018	502.22	220.14	282.08	
MW-91	4/6/2018	532.02	245.61	286.41	
MW-93	4/6/2018	632.15	307	325.15	
MW-94	4/6/2018	495.51	138.6	356.91	
MW-95	4/6/2018	571.54	250.52	321.02	
MW-98	4/6/2018	503.73	16.43	487.3	
MW-99	4/6/2018	493.64	199.2	294.44	
MW-100	4/6/2018	620.32	296.43	323.89	
MW-101	4/6/2018	474.72	31.69	443.03	
MW-102	4/6/2018	552.48	45.02	507.46	
MW-103	4/6/2018	639.08	11.64	627.44	
MW-104	4/6/2018	629.68	23.64	606.04	
MW-105	4/6/2018	521.23	19.1	502.13	
MW-106	4/6/2018	475.47	188.97	286.50	
MW-EB5	4/6/2018	645.36	609.01	36.35	
MW-EB5S	4/6/2018	645.77	638.71	7.06	
MW-EB6	4/6/2018	589.61	26.54	563.07	
WS-NPW-1	4/6/2018	646.33	--	--	
WS-NPW-3	4/6/2018	645.81	--	--	

Environmental Monitoring Data

Data Collected from April 1, 2018 to June 30, 2018
Cedar Hills Landfill --- Groundwater Field Parameters
Contact Person: Sendy Jimenez (206) 477-5224

Site	Date	Sample ID	pH (Field) (std. Units)	Conductance (Field) (umhos/cm)	Temperature (^{o}C)	Purge Volume (gal)	Dissolved Oxygen (mg/L)	ORP mV	Turbidity NTU
MW-21	4/13/2018	W21-180413-	7.35	145.4	9.17	2.7	0.87	-181.6	2.6
MW-24	4/13/2018	W24-180413-	6.49	177.6	9.421	3.5	0.76	-56.7	0.52
MW-30A	5/1/2018	W30A180501-	6.18	250	11.1	2.79			1.26
MW-47	5/1/2018	W47-180501-	6.8	835	10.7	14.5			1.34
MW-56	4/12/2018	W56-180412-	6.82	145	9.5	13.8			0.45
MW-59	4/12/2018	W59-180412-	6.33	189.8	9.609	4.5	0.67	-33.2	3.83
MW-62	5/3/2018	W62-180503-	6.37	200	10.5	2.32			1.15
MW-62	5/3/2018	W62-180503D	6.37	200	10.5	2.32			1.15
MW-64	4/19/2018	W64-180419-	6.64	284.2	11.45	2.1	2.71	203.7	136
MW-65	4/23/2018	W65-180423-	6.82	151	10.38	2	1.4	-48	48.7
MW-66	4/18/2018	W66-180418-	6.47	250.6	9.67	3	5.52	346.3	1.17
MW-67	4/23/2018	W67-180423-	6.89	373.5	9.38	2.5	2.59	40.9	8.86
MW-68	5/3/2018	W68-180503-	6.91	286	10.56	2.75	0.78	-8.7	2.1
MW-69	5/3/2018	W69-180503-	6.65	329.4	9.62	4.25	1.08	-53.1	1.49
MW-72	4/17/2018	W72-180417-	6.81	363.2	9.88	3.5	1.35	-31.9	26.6
MW-73	4/13/2018	W73-180413-	5.99	98.3	9.16	3.3	10.56	311.9	1.42
MW-74	4/19/2018	W74R180419-	6.98	597.8	10.2	3	4.54	256.4	0.6
MW-75	5/1/2018	W75-180501-	6.71	362	9.65	3	0.81	-36.4	1.23
MW-76	4/16/2018	W76-180416-	5.91	227.3	9.453	3.3	6.81	278.6	0.45
MW-80	4/23/2018	W80-180423-	6.56	312.5	9.55	4.5	0.74	-57.1	1.99
MW-81	4/18/2018	W81-180418-	6.77	163.8	9.55	1.5	5.67	241.1	0.73
MW-82	4/13/2018	W82-180413-	6.62	313	9.606	2.5	8.52	173.2	1.83
MW-83	4/16/2018	W83-180416-	6.66	514	10.088	3	0.97	178.4	0.47
MW-84	4/19/2018	W84-180419-	6.89	173.5	9.74	2.5	1.77	261.4	0.7
MW-85	4/26/2018	W85-180426-	6.67	349.2	9.636	2.25	3.34	219.5	0.6
MW-86	4/16/2018	W86-180416-	6.71	200.8	8.98	4.5	1.05	36.3	114
MW-87	4/25/2018	W87-180425-	6.93	511	12.234	0.7	10.42	227.9	40.4
MW-88	4/17/2018	W88-180417-	6.84	126.9	9.206	3.4	5.22	275.3	0.44
MW-89	4/19/2018	W89-180419-	6.99	211.4	9.25	6.2	1.08	-53.1	11.2
MW-93	6/28/2018	W93-180628-	6.67	294.1	11.04	5	0.97	322.4	1.19
MW-94	4/16/2018	W94-180416-	6.44	313.6	9.296	3	3.73	269.5	1.03
MW-95	4/16/2018	W95-180416-	6.72	230.9	9.22	5	0.93	263.9	0.54
MW-100	4/17/2018	W100180417-	6.83	325.7	10.66	4	1.12	10.2	74.9
MW-101	4/30/2018	W101180430-	7.21	460	11	2.5			6.76
FIELD BLANK	4/4/2018	SSL3180404F	7.53	2.7	11.3				
FIELD BLANK	4/18/2018	W81-180418F	9.24	1.8	5.3				
FIELD BLANK	5/2/2018	LEPS180502F	8.01	3.2	11.8				
FIELD FILTER	5/22/2018	WU1H180522E	7.17	2.6	14.3				

Environmental Monitoring Data

Data Collected from April 1, 2018 to June 30, 2018
Cedar Hills Landfill --- Conventionals Analytical Data
Contact Person: Sendy Jimenez (206) 477-5224

Site	Date	Sample ID	Alkalinity, Total ($CaCO_3$) (mg/L)	Ammonia, (NH_3) (mg/L)	Chloride (mg/L)	Cyanide mg/l	Nitrate-Nitrogen, (NO_3 as N) (mg/L)	Specific Conductance (umhos/cm)	Sulfate (SO4) (mg/L)	Sulfide (mg/L)	Total Dissolved Solids (mg/L)	Total Organic Carbon (mg/L)	Total Solids (mg/L)	Suspended Solids (mg/L)
MW-21	4/13/2018	W21-180413-	57.6	0.0207	2.62		0.01 U	136	5.9		89.3	0.5 U	92.7	0.7 T
MW-24	4/13/2018	W24-180413-	64.6	0.0307	4.68		0.01 U	174	13.3		112	0.5 U	119	1.6
MW-30A	5/1/2018	W30A180501-	78.8	0.002 U	0.864		16	305	5.64		224	0.7 T	236	0.5 U
MW-47	5/1/2018	W47-180501-	622	0.0702	6.19		0.01 U	1120	5.54		698	4.19	720	4.8
MW-56	4/12/2018	W56-180412-	52.5	0.002 U	13.9		1.33	178	6.1		110	0.5 U	121	1 U
MW-59	4/12/2018	W59-180412-	65.3	0.0042 T	6.27		0.017 T	187	15		114	0.5 U	124	5.9
MW-62	5/3/2018	W62-180503-	83.7	0.002 U	4.86		3.17	243	15.2		159	0.91 T	162	0.5 U
MW-62	5/3/2018	W62-180503D	83.6	0.002 U	4.97		3.15	243	15.6		158	1.08	164	0.5 U
MW-64	4/19/2018	W64-180419-	105	0.0174	2.44		0.016 T	276	30.9		168	1.25	241	24
MW-65	4/23/2018	W65-180423-	52.8	0.0067 T	3.01		0.012 T	141	9.34		92.5	0.5 U	109	27.4
MW-66	4/18/2018	W66-180418-	95.7	0.002 U	4.9		0.54	238	14		147	0.5 U	156	0.9 T
MW-67	4/23/2018	W67-180423-	157	0.0075 T	4.85		0.112	374	31.2		230	0.5 U	239	1.3
MW-68	5/3/2018	W68-180503-	126	0.0178	2.53		0.01 U	285	14.3		166	1.13	178	1.9
MW-69	5/3/2018	W69-180503-	137	0.016	3.64		0.01 U	324	24.5		194	0.68 T	206	2.6
MW-72	4/17/2018	W72-180417-	130	0.0162	6.08		0.01 U	346	36.3		214	0.5 U	240	19.4
MW-73	4/13/2018	W73-180413-	37.6	0.002 U	1.19		0.458	98.8	6.53		72.1	1.41	74.3	2.1
MW-74	4/19/2018	W74R180419-	233	0.002 U	26		0.282	574	30.7		336	0.5 U	354	0.5 U
MW-75	5/1/2018	W75-180501-	107	0.0083 T	9.31		0.01 U	358	53.6		232	0.5 U	244	1.8
MW-76	4/16/2018	W76-180416-	59.6	0.0021 T	16.4		1.65	231	15.7		143	2.01	154	0.5 U
MW-80	4/23/2018	W80-180423-	113	0.0098 T	4.11		0.01 U	306	32.2		197	0.5 U	205	5
MW-81	4/18/2018	W81-180418-	55.4	0.002 U	4.97		1.34	160	9.46		111	0.5 U	112	0.5 U
MW-82	4/13/2018	W82-180413-	127	0.002 U	9.68		0.658	319	16.5		195	0.5 U	203	2.1
MW-83	4/16/2018	W83-180416-	170	0.002 T	49.6		1.34	518	8.33		304	3.82	350	0.5 U
MW-84	4/19/2018	W84-180419-	65	0.002 U	3.27		0.166	168	12.1		112	0.5 U	114	0.5 U
MW-85	4/26/2018	W85-180426-	127	0.002 U	9.03		0.107	349	30.2		214	0.5 U	221	0.5 U
MW-86	4/16/2018	W86-180416-	68	0.002 HSU	4.74		0.0481 HS	193	19		122	0.5 U	145	20.1
MW-87	4/25/2018	W87-180425-	100	0.0101	11.9		0.0803	520	164		366	0.5 U	405	16.5
MW-88	4/17/2018	W88-180417-	52.7	0.002 U	1.85		0.653	130	5.98		91.1	0.5 U	92.2	0.5 U
MW-89	4/19/2018	W89-180419-	73	0.0171	8.64		0.01 U	209	12.8		135	0.5 U	146	5.6
MW-93	6/28/2018	W93-180628-	121	0.0572	2.76		0.015 T	321	37.7		201	0.5 U	206	0.5 U
MW-94	4/16/2018	W94-180416-	103	0.0022 T	20.9		2.71	318	9.52		199	2.43	214	1 U
MW-95	4/16/2018	W95-180416-	88.1	0.0249	5.08		0.01 U	225	15.6		136	0.5 U	141	0.5 U
MW-100	4/17/2018	W100180417-	138	0.013	3.32		0.01 U	313	16.9		185	0.5 U	208	19.5
MW-101	4/30/2018	W101180430-	305	0.0066 T	2.97	0.002 U	0.013 T	560	3.99	0.01 GSU	348	4.46	355	0.91 T
FIELD BLANK	4/4/2018	SSL3180404F		0.002 U										0.5 U
FIELD BLANK	4/18/2018	W81-180418F	1 U	0.002 U	0.05 U		0.01 U	1.2 T	0.1 U		10 U	0.5 U	10 U	0.5 U

Data Collected from April 1, 2018 to June 30, 2018
Cedar Hills Landfill --- Metals Analytical Data
Contact Person: Sendy Jimenez (206) 477-5224

Site	Date	Sample ID	Aluminum, dissolved (mg/L)	Antimony, dissolved (mg/L)	Antimony, total (mg/L)	Arsenic, dissolved (mg/L)	Arsenic, total (mg/L)	Barium, dissolved (mg/L)	Barium, total (mg/L)	Beryllium, dissolved (mg/L)	Beryllium, total (mg/L)	Cadmium, dissolved (mg/L)
MW-21	4/13/2018	W21-180413-	0.0003 U	0.0003 U	0.000935	0.000974	0.00444	0.00449	0.0001 U	0.0001 U	5E-05 U	5E-05 U
MW-24	4/13/2018	W24-180413-	0.0003 U	0.0003 U	0.000598	0.000591	0.00188	0.00193	0.0001 U	0.0001 U	5E-05 U	5E-05 U
MW-30A	5/1/2018	W30A180501-	0.0003 U	0.0003 U	0.000472	0.000501	0.00392	0.00395	0.0001 U	0.0001 U	5E-05 U	5E-05 U
MW-47	5/1/2018	W47-180501-	0.0003 U	0.0003 U	0.00872	0.00472	0.0382	0.0361	0.0001 U	0.0001 U	5E-05 U	5E-05 U
MW-56	4/12/2018	W56-180412-	0.0003 U	0.0003 U	7.52E-05	8.44E-05	0.00412	0.00429	0.0001 U	0.0001 U	5E-05 U	5E-05 U
MW-59	4/12/2018	W59-180412-	0.0003 U	0.0003 U	0.000352	0.000424	0.00371	0.00383	0.0001 U	0.0001 U	5E-05 U	5E-05 U
MW-62	5/3/2018	W62-180503-	0.0003 U	0.0003 U	0.000413	0.000439	0.00135	0.00144	0.0001 U	0.0001 U	5E-05 U	5E-05 U
MW-62	5/3/2018	W62-180503D	0.0003 U	0.0003 U	0.000413	0.000436	0.00133	0.00148	0.0001 U	0.0001 U	5E-05 U	5E-05 U
MW-64	4/19/2018	W64-180419-	0.0003 U	0.000489	0.000604	0.00775	0.00909	0.0244	0.0001 U	0.0001 U	5E-05 U	0.000479
MW-65	4/23/2018	W65-180423-	0.0003 U	0.0003 U	0.0003	0.000843	0.00581	0.00667	0.0001 U	0.0001 U	5E-05 U	5E-05 U
MW-66	4/18/2018	W66-180418-	0.0003 U	0.0003 U	0.000603	0.000651	0.0047	0.00518	0.0001 U	0.0001 U	5E-05 U	5E-05 U
MW-67	4/23/2018	W67-180423-	0.0003 U	0.0003 U	0.000304	0.0011	0.0118	0.0142	0.0001 U	0.0001 U	5E-05 U	5E-05 U
MW-68	5/3/2018	W68-180503-	0.0003 U	0.0003 U	0.0104	0.0161	0.0111	0.0106	0.0001 U	0.0001 U	5E-05 U	5E-05 U
MW-69	5/3/2018	W69-180503-	0.0003 U	0.0003 U	0.00217	0.00237	0.0122	0.0113	0.0001 U	0.0001 U	5E-05 U	5E-05 U
MW-72	4/17/2018	W72-180417-	0.0003 U	0.0003 U	6.60E-05	0.000255	0.0111	0.0143	0.0001 U	0.0001 U	5E-05 U	5E-05 U
MW-73	4/13/2018	W73-180413-	0.0003 U	0.0003 U	0.000349	0.00034	0.00254	0.003	0.0001 U	0.0001 U	5E-05 U	5E-05 U
MW-74	4/19/2018	W74R180419-	0.0003 U	0.0003 U	0.000377	0.000389	0.0132	0.0141	0.0001 U	0.0001 U	5E-05 U	5E-05 U
MW-75	5/1/2018	W75-180501-	0.0003 U	0.0003 U	0.000445	0.000456	0.0112	0.011	0.0001 U	0.0001 U	5E-05 U	5E-05 U
MW-76	4/16/2018	W76-180416-	0.0003 U	0.0003 U	0.000182	0.000186	0.00329	0.00351	0.0001 U	0.0001 U	5E-05 U	5E-05 U
MW-80	4/23/2018	W80-180423-	0.0003 U	0.0003 U	0.00377	0.00494	0.0134	0.0144	0.0001 U	0.0001 U	5E-05 U	5E-05 U
MW-81	4/18/2018	W81-180418-	0.0003 U	0.0003 U	0.000517	0.000548	0.00292	0.00312	0.0001 U	0.0001 U	5E-05 U	5E-05 U
MW-82	4/13/2018	W82-180413-	0.0003 U	0.0003 U	0.000233	0.000249	0.00115	0.00131	0.0001 U	0.0001 U	5E-05 U	5E-05 U
MW-83	4/16/2018	W83-180416-	0.0003 U	0.0003 U	0.000317	0.000309	0.00618	0.00648	0.0001 U	0.0001 U	5E-05 U	5E-05 U
MW-84	4/19/2018	W84-180419-	0.0003 U	0.0003 U	0.000331	0.00037	0.00357	0.00403	0.0001 U	0.0001 U	5E-05 U	5E-05 U
MW-85	4/26/2018	W85-180426-	0.0003 U	0.0003 U	0.000699	0.00071	0.0061	0.00657	0.0001 U	0.0001 U	5E-05 U	5E-05 U
MW-86	4/16/2018	W86-180416-	0.0003 U	0.0003 U	0.000645	0.0132	0.00517	0.00723	0.0001 U	0.0001 U	5E-05 U	5E-05 U
MW-87	4/25/2018	W87-180425-	0.0003 U	0.0003 U	0.000406	0.00211	0.0232	0.0257	0.0001 U	0.0001 U	5E-05 U	5E-05 U
MW-88	4/17/2018	W88-180417-	0.0003 U	0.0003 U	0.000993	0.00103	0.00204	0.00221	0.0001 U	0.0001 U	5E-05 U	5E-05 U
MW-89	4/19/2018	W89-180419-	0.0003 U	0.0003 U	0.00102	0.00356	0.00619	0.00787	0.0001 U	0.0001 U	5E-05 U	5E-05 U
MW-93	6/28/2018	W93-180628-	0.0003 U	0.0003 U	0.00134	0.00135	0.00823	0.00784	0.0001 U	0.0001 U	5E-05 U	5E-05 U
MW-94	4/16/2018	W94-180416-	0.0003 U	0.0003 U	0.000145	0.000146	0.00235	0.00252	0.0001 U	0.0001 U	5E-05 U	5E-05 U
MW-95	4/16/2018	W95-180416-	0.0003 U	0.0003 U	0.00101	0.00109	0.00383	0.00407	0.0001 U	0.0001 U	5E-05 U	5E-05 U
MW-100	4/17/2018	W100180417-	0.0003 U	0.0003 U	0.000468	0.00493	0.00595	0.00893	0.0001 U	0.0001 U	5E-05 U	5E-05 U
MW-101	4/30/2018	W101180430-	0.0003 U	0.0003 U	0.0023	0.00257	0.0248	0.0265	0.0001 U	0.0001 U	5.08E-05	5E-05 U
FIELD BLANK	4/18/2018	W81-180418F	0.0003 U	0.0003 U	5E-05 U	5E-05 U	0.0005 U	0.0005 U	0.0001 U	0.0001 U	5E-05 U	5E-05 U
FIELD FILTER BLANK	5/22/2018	WU1H180522E	0.002 U	0.0003 U		0.00005 U		0.0005 U		0.0001 U		0.00005 U

Environmental Monitoring Data

Data Collected from April 1, 2018 to June 30, 2018
Cedar Hills Landfill --- Metals Analytical Data
Contact Person: Sendy Jimenez (206) 477-5224

Site	Date	Sample ID	Cadmium, total (mg/L)	Calcium, dissolved (mg/L)	Calcium, total (mg/L)	Chromium, dissolved (mg/L)	Chromium total (mg/L)	Cobalt, dissolved (mg/L)	Cobalt, total (mg/L)	Copper, dissolved (mg/L)	Copper, total (mg/L)	Iron, dissolved (mg/L)
MW-21	4/13/2018	W21-180413-	11.7	11.9	0.0002 U	0.0002 U	5E-05 U	5E-05 U	0.0002 U	0.0002 U	2.22	2.53
MW-24	4/13/2018	W24-180413-	14.1	14.2	0.0002 U	0.0002 U	5E-05 U	5E-05 U	0.0002 U	0.0002 U	2.97	3.02
MW-30A	5/1/2018	W30A180501-	23.9	24.1	0.00052	0.00127	5E-05 U	5E-05 U	0.0002 U	0.000274	0.01 U	0.0495
MW-47	5/1/2018	W47-180501-	140	134	0.0002 U	0.0002 U	0.00047	0.000446	0.0002 U	0.0002 U	4.38	4.14
MW-56	4/12/2018	W56-180412-	17	17.2	0.0002 U	0.0002 U	9.12E-05	9.34E-05	0.0002 U	0.000219	0.0519	0.0643
MW-59	4/12/2018	W59-180412-	16	16	0.0002 U	0.0002 U	5E-05 U	5E-05 U	0.0002 U	0.000503	3.31	3.7
MW-62	5/3/2018	W62-180503-	21.4	21.4	0.000256	0.000275	5E-05 U	5E-05 U	0.000325	0.00039	0.01 U	0.045
MW-62	5/3/2018	W62-180503D	21.6	22	0.000237	0.000305	5E-05 U	5E-05 U	0.000419	0.000436	0.01 U	0.0437
MW-64	4/19/2018	W64-180419-	20.6	18.7	0.0002 U	0.000395	5.53E-05	0.00385	0.0002 U	0.00171	0.0278	3.11
MW-65	4/23/2018	W65-180423-	11.9	11.7	0.000251	0.0002 U	5E-05 U	5E-05 U	0.0002 U	0.000222	3.42	5.2
MW-66	4/18/2018	W66-180418-	18.4	17.2	0.0002 U	0.000228	5E-05 U	5E-05 U	0.0002 U	0.0002 U	0.01 U	0.0357
MW-67	4/23/2018	W67-180423-	36.5	35.7	0.0002 U	0.0002 U	0.000146	0.000273	0.000219	0.000285	0.221	0.992
MW-68	5/3/2018	W68-180503-	28.4	27.9	0.0002 U	0.000213	0.000229	0.000234	0.0002 U	0.000507	0.68	0.814
MW-69	5/3/2018	W69-180503-	34.4	34.3	0.0002 U	0.0002 U	5E-05 U	5E-05 U	0.0002 U	0.0002 U	1.1	1.26
MW-72	4/17/2018	W72-180417-	32.1	29.7	0.0002 U	0.000446	5E-05 U	7.36E-05	0.0002 U	0.00162	2.54	5.13
MW-73	4/13/2018	W73-180413-	10.7	10.6	0.000261	0.00033	5E-05 U	5E-05 U	0.00205	0.00232	0.01 U	0.0501
MW-74	4/19/2018	W74R180419-	50.5	46.7	0.0002 U	0.0002 U	5E-05 U	5E-05 U	0.000256	0.000259	0.01 U	0.0115
MW-75	5/1/2018	W75-180501-	30.1	30.4	0.0002 U	0.0002 U	5E-05 U	5E-05 U	0.0002 U	0.0002 U	1.97	2.01
MW-76	4/16/2018	W76-180416-	20.2	18.6	0.000732	0.000731	5.02E-05	5.24E-05	0.000998	0.00116	0.01 U	0.01 U
MW-80	4/23/2018	W80-180423-	30.4	30.5	0.0002 U	0.000798	5E-05 U	5E-05 U	0.0002 U	0.000295	2.06	2.5
MW-81	4/18/2018	W81-180418-	13.6	12.8	0.0002 U	0.0002 U	5E-05 U	5E-05 U	0.0002 U	0.0002 U	0.01 U	0.01 U
MW-82	4/13/2018	W82-180413-	29.9	30.2	0.0002 U	0.00102	5E-05 U	5E-05 U	0.0002 U	0.00026	0.01 U	0.0493
MW-83	4/16/2018	W83-180416-	52.8	49.2	0.0002 U	0.0002 U	0.000105	0.000105	0.00188	0.00215	0.01 U	0.01 U
MW-84	4/19/2018	W84-180419-	12.6	11.5	0.0002 U	0.0002 U	5E-05 U	5.43E-05	0.0002 U	0.0002 U	0.01 U	0.0256
MW-85	4/26/2018	W85-180426-	31.5	31.5	0.0002 U	0.0002 U	5E-05 U	5E-05 U	0.0002 U	0.000345	0.01 U	0.01 U
MW-86	4/16/2018	W86-180416-	15.1	14.3	0.0002 U	0.000215	6.33E-05	0.000126	0.0002 U	0.0002 U	0.523	8.86
MW-87	4/25/2018	W87-180425-	47	47.5	0.0002 U	0.0002 U	0.000129	0.000145	0.000281	0.0002 U	3.67	5.06
MW-88	4/17/2018	W88-180417-	9.37	8.78	0.000598	0.000652	5E-05 U	5E-05 U	0.0002 U	0.0002 U	0.01 U	0.01 U
MW-89	4/19/2018	W89-180419-	14.8	13.7	0.0002 U	0.0002 U	5E-05 U	5E-05 U	0.0002 U	0.0002 U	0.992	2.88
MW-93	6/28/2018	W93-180628-	31.8	31.5	0.0002 U	0.0002 U	8.71E-05	0.000105	0.0002 U	0.0002 U	0.01 U	0.01 U
MW-94	4/16/2018	W94-180416-	31.2	29.4	0.0002 U	0.000217	7.80E-05	7.42E-05	0.00108	0.00125	0.01 U	0.0155
MW-95	4/16/2018	W95-180416-	21.5	19.8	0.0002 U	0.0002 U	6.44E-05	7.77E-05	0.0002 U	0.0002 U	0.01 U	0.01 U
MW-100	4/17/2018	W100180417-	29.2	27.1	0.0002 U	0.000246	0.000249	0.000548	0.0002 U	0.000612	0.832	7.39
MW-101	4/30/2018	W101180430-	57.2	55.7	0.0002 U	0.000307	0.000261	0.00029	0.000591	0.00106	0.0269	0.12
FIELD BLANK	4/18/2018	W81-180418F	0.05 U	0.05 U	0.0002 U	0.0002 U	5E-05 U	5E-05 U	0.0002 U	0.000324	0.01 U	0.01 U
FIELD FILTER BLANK	5/22/2018	WU1H180522E		0.05 U		0.0002 U		0.00005 U		0.0002 U		0.01 U

Environmental Monitoring Data

Data Collected from April 1, 2018 to June 30, 2018
Cedar Hills Landfill --- Metals Analytical Data
Contact Person: Sendy Jimenez (206) 477-5224

Site	Date	Sample ID	Iron, total (mg/L)	Lead, dissolved (mg/L)	Lead, total (mg/L)	Magnesium, dissolved (mg/L)	Magnesium, total (mg/L)	Manganese, dissolved (mg/L)	Manganese, total (mg/L)	Mercury, dissolved (mg/L)	Mercury, total (mg/L)	Nickel, dissolved (mg/L)
MW-21	4/13/2018	W21-180413-	0.0001 U	0.0001 U	6.44	6.53	0.102	0.106	5E-05 U	5E-05 U	0.000152	0.000137
MW-24	4/13/2018	W24-180413-	0.0001 U	0.0001 U	9.32	9.11	0.0969	0.0979	5E-05 U	5E-05 U	0.0001 U	0.0001 U
MW-30A	5/1/2018	W30A180501-	0.0001 U	0.0001 U	12.7	12.6	0.0001 U	0.000681	5E-05 U	5E-05 U	0.000605	0.000919
MW-47	5/1/2018	W47-180501-	0.0001 U	0.0001 U	66.4	64.8	3.87 D	4.01	5E-05 U	5E-05 U	0.00218	0.00205
MW-56	4/12/2018	W56-180412-	0.0001 U	0.0001 U	7.9	8.12	0.131	0.133	5E-05 U	5E-05 U	0.000369	0.000393
MW-59	4/12/2018	W59-180412-	0.0001 U	0.000123	9.77	9.7	0.114	0.121	5E-05 U	5E-05 U	0.000122	0.000201
MW-62	5/3/2018	W62-180503-	0.0001 U	0.0001 U	8.37	8.38	0.0001 U	0.000983	5E-05 U	5E-05 U	0.000374	0.000406
MW-62	5/3/2018	W62-180503D	0.0001 U	0.0001 U	8.45	8.66	0.0001 U	0.00108	5E-05 U	5E-05 U	0.000344	0.000362
MW-64	4/19/2018	W64-180419-	0.0001 U	0.0001 U	17.2	16.7	0.0689	3	5E-05 U	5E-05 U	0.000372	0.0128
MW-65	4/23/2018	W65-180423-	0.0001 U	0.0001 U	7.18	7.19	0.212	0.227	5E-05 U	5E-05 U	0.0001 U	0.000139
MW-66	4/18/2018	W66-180418-	0.0001 U	0.0001 U	14.5	14.6	0.0001 U	0.00059	5E-05 U	5E-05 U	0.0001 U	0.000222
MW-67	4/23/2018	W67-180423-	0.0001 U	0.0001 U	21.6	21.4	0.205	0.436	5E-05 U	5E-05 U	0.000159	0.000484
MW-68	5/3/2018	W68-180503-	0.0001 U	0.0001 U	15.6	15.4	0.309	0.313	5E-05 U	5E-05 U	0.000566	0.000616
MW-69	5/3/2018	W69-180503-	0.0001 U	0.0001 U	16.3	16.5	0.262	0.268	5E-05 U	5E-05 U	0.0001 U	0.0001 U
MW-72	4/17/2018	W72-180417-	0.0001 U	0.000579	19.7	19.4	0.371	0.364	5E-05 U	5E-05 U	0.0001 U	0.000325
MW-73	4/13/2018	W73-180413-	0.0001 U	0.0001 U	3.56	3.41	0.000303	0.00146	5E-05 U	5E-05 U	0.000386	0.000426
MW-74	4/19/2018	W74R180419-	0.0001 U	0.0001 U	38.4	38.4	0.0001 U	0.000312	5E-05 U	5E-05 U	0.000852	0.00106
MW-75	5/1/2018	W75-180501-	0.0001 U	0.0001 U	21.9	21.9	0.172	0.176	5E-05 U	5E-05 U	0.0001 U	0.0001 U
MW-76	4/16/2018	W76-180416-	0.0001 U	0.0001 U	9.36	9.18	0.0001 U	0.0001 U	5E-05 U	5E-05 U	0.00025	0.000372
MW-80	4/23/2018	W80-180423-	0.0001 U	0.0001 U	15.6	16.1	0.33	0.333	5E-05 U	5E-05 U	0.000151	0.000541
MW-81	4/18/2018	W81-180418-	0.0001 U	0.0001 U	7.58	7.61	0.0001 U	0.0001 U	5E-05 U	5E-05 U	0.0001 U	0.000108
MW-82	4/13/2018	W82-180413-	0.0001 U	0.0001 U	17.6	17.6	0.0001 U	0.00044	5E-05 U	5E-05 U	0.00029	0.00174
MW-83	4/16/2018	W83-180416-	0.0001 U	0.0001 U	23.9	24	0.0424	0.0427	5E-05 U	5E-05 U	0.00142	0.00158
MW-84	4/19/2018	W84-180419-	0.0001 U	0.0001 U	9.61	9.53	0.000631	0.0038	5E-05 U	5E-05 U	0.0001 U	0.000364
MW-85	4/26/2018	W85-180426-	0.0001 U	0.0001 U	19.5	19.8	0.0001 U	0.0001 U	5E-05 U	5E-05 U	0.0001 U	0.000167
MW-86	4/16/2018	W86-180416-	0.0001 U	0.0001 U	10.5	10.3	0.0187	0.0267	5E-05 U	5E-05 U	0.000123	0.000199
MW-87	4/25/2018	W87-180425-	0.0001 U	0.0001 U	31.3	32.7	0.587	0.62 D	5E-05 U	5E-05 U	0.000312	0.000139
MW-88	4/17/2018	W88-180417-	0.0001 U	0.0001 U	7.06	7.16	0.000184	0.000218	5E-05 U	5E-05 U	0.0001 U	0.0001 U
MW-89	4/19/2018	W89-180419-	0.0001 U	0.0001 U	10.9	10.7	0.211	0.225	5E-05 U	5E-05 U	0.0001 U	0.000147
MW-93	6/28/2018	W93-180628-	0.0001 U	0.0001 U	17.1	16.3	0.22	0.218	5E-05 U	5E-05 U	0.000205	0.000222
MW-94	4/16/2018	W94-180416-	0.0001 U	0.0001 U	13.9	13.8	0.00011	0.000127	5E-05 U	5E-05 U	0.000461	0.000532
MW-95	4/16/2018	W95-180416-	0.0001 U	0.0001 U	11.6	11.5	0.171	0.165	5E-05 U	5E-05 U	0.0001 U	0.000188
MW-100	4/17/2018	W100180417-	0.0001 U	0.000139	16.5	16.5	0.172	0.309	5E-05 U	5E-05 U	0.000383	0.000999
MW-101	4/30/2018	W101180430-	0.0001 U	0.0001 U	34.1	35.4	1.14	1.17 D	5E-05 U	5E-05 U	0.00382	0.00398
FIELD BLANK	4/18/2018	W81-180418F	0.0001 U	0.0001 U	0.05 U	0.05 U	0.0001 U	0.0001 U	5E-05 U	5E-05 U	0.0001 U	0.0001 U
FIELD FILTER BLANK	5/22/2018	WU1H180522E		0.0001 U		0.05 U		0.0001 U		0.00005 U		0.0001 U

Data Collected from April 1, 2018 to June 30, 2018
Cedar Hills Landfill --- Metals Analytical Data
Contact Person: Sendy Jimenez (206) 477-5224

Site	Date	Sample ID	Nickel, total (mg/L)	Potassium, dissolved (mg/L)	Potassium, total (mg/L)	Selenium, dissolved (mg/L)	Selenium, total (mg/L)	Silver, dissolved (mg/L)	Silver, total (mg/L)	Sodium, dissolved (mg/L)	Sodium, total (mg/L)	Thallium, dissolved (mg/L)
MW-21	4/13/2018	W21-180413-	1.06	1.08	0.0005 U	0.0005 U	4E-05 U	4E-05 U	5.68	5.6	0.0001 U	0.0001 U
MW-24	4/13/2018	W24-180413-	0.967	0.98	0.0005 U	0.0005 U	4E-05 U	4E-05 U	5.54	5.56	0.0001 U	0.0001 U
MW-30A	5/1/2018	W30A180501-	1.52	1.54	0.0005 U	0.0005 U	4E-05 U	4E-05 U	16.7	16.5	0.0001 U	0.0001 U
MW-47	5/1/2018	W47-180501-	4.58	4.41	0.0005 U	0.0005 U	4E-05 U	4E-05 U	20.7	20	0.0001 U	0.0001 U
MW-56	4/12/2018	W56-180412-	1.03	1.04	0.0005 U	0.0005 U	4E-05 U	4E-05 U	5.12	5.09	0.0001 U	0.0001 U
MW-59	4/12/2018	W59-180412-	1.13	1.12	0.0005 U	0.0005 U	4E-05 U	4E-05 U	5.96	5.88	0.0001 U	0.0001 U
MW-62	5/3/2018	W62-180503-	1.14	1.14	0.0005 U	0.0005 U	4E-05 U	4E-05 U	15.2	15	0.0001 U	0.0001 U
MW-62	5/3/2018	W62-180503D	1.14	1.17	0.0005 U	0.0005 U	4E-05 U	4E-05 U	15	15.2	0.0001 U	0.0001 U
MW-64	4/19/2018	W64-180419-	1.89	1.89	0.0005 U	0.0005 U	4E-05 U	4E-05 U	8.65	8.72	0.0001 U	0.0001 U
MW-65	4/23/2018	W65-180423-	0.923	0.946	0.0005 U	0.0005 U	4E-05 U	4E-05 U	5.56	5.57	0.0001 U	0.0001 U
MW-66	4/18/2018	W66-180418-	1.18	1.25	0.000864	0.0009	4E-05 U	4E-05 U	7.91	8.41	0.0001 U	0.0001 U
MW-67	4/23/2018	W67-180423-	1.78	1.79	0.0005 U	0.0005 U	4E-05 U	4E-05 U	9.9	9.91	0.0001 U	0.0001 U
MW-68	5/3/2018	W68-180503-	1.75	1.71	0.0005 U	0.0005 U	4E-05 U	4E-05 U	9.34	9.01	0.0001 U	0.0001 U
MW-69	5/3/2018	W69-180503-	1.77	1.77	0.0005 U	0.0005 U	4E-05 U	4E-05 U	8.94	8.83	0.0001 U	0.0001 U
MW-72	4/17/2018	W72-180417-	1.94	1.96	0.0005 U	0.0005 U	4E-05 U	4E-05 U	8.46	8.56	0.0001 U	0.0001 U
MW-73	4/13/2018	W73-180413-	0.722	0.732	0.0005 U	0.0005 U	4E-05 U	4E-05 U	3.25	3.1	0.0001 U	0.0001 U
MW-74	4/19/2018	W74R180419-	2.24	2.25	0.000948	0.000754	4E-05 U	4E-05 U	13.6	13.9	0.0001 U	0.0001 U
MW-75	5/1/2018	W75-180501-	1.91	1.92	0.0005 U	0.0005 U	4E-05 U	4E-05 U	9.1	9.1	0.0001 U	0.0001 U
MW-76	4/16/2018	W76-180416-	1.41	1.41	0.0005 U	0.0005 U	4E-05 U	4E-05 U	9.55	9.84	0.0001 U	0.0001 U
MW-80	4/23/2018	W80-180423-	1.67	1.73	0.0005 U	0.0005 U	4E-05 U	4E-05 U	8.06	8.18	0.0001 U	0.0001 U
MW-81	4/18/2018	W81-180418-	0.853	0.862	0.000757	0.000869	4E-05 U	4E-05 U	6.58	6.97	0.0001 U	0.0001 U
MW-82	4/13/2018	W82-180413-	1.92	1.93	0.0005 U	0.0005 U	4E-05 U	4E-05 U	8.14	8.32	0.0001 U	0.0001 U
MW-83	4/16/2018	W83-180416-	2.94	3.03	0.0005 U	0.0005 U	4E-05 U	4E-05 U	11.1	11.4	0.0001 U	0.0001 U
MW-84	4/19/2018	W84-180419-	1.04	1.05	0.000545	0.000522	4E-05 U	4E-05 U	6.43	6.7	0.0001 U	0.0001 U
MW-85	4/26/2018	W85-180426-	1.61	1.68	0.00126	0.00104	4E-05 U	4E-05 U	9.55	9.61	0.0001 U	0.0001 U
MW-86	4/16/2018	W86-180416-	1.28	1.29	0.0005 U	0.0005 U	4E-05 U	4E-05 U	7.05	7.07	0.0001 U	0.0001 U
MW-87	4/25/2018	W87-180425-	2.4	2.52	0.0005 U	0.0005 U	4E-05 U	4E-05 U	10.8	11.4	0.0001 U	0.0001 U
MW-88	4/17/2018	W88-180417-	0.847	0.876	0.000604	0.000612	4E-05 U	4E-05 U	5.94	6.27	0.0001 U	0.0001 U
MW-89	4/19/2018	W89-180419-	1.52	1.53	0.0005 U	0.0005 U	4E-05 U	4E-05 U	9.75	10.1	0.0001 U	0.0001 U
MW-93	6/28/2018	W93-180628-	1.46	1.53	0.0005 U	0.0005 U	4E-05 U	4E-05 U	9.61	9.19	0.0001 U	0.0001 U
MW-94	4/16/2018	W94-180416-	2.28	2.32	0.0005 U	0.0005 U	4E-05 U	4E-05 U	7.81	8.09	0.0001 U	0.0001 U
MW-95	4/16/2018	W95-180416-	1.25	1.26	0.0005 U	0.0005 U	4E-05 U	4E-05 U	6.4	6.64	0.0001 U	0.0001 U
MW-100	4/17/2018	W100180417-	1.78	1.81	0.0005 U	0.0005 U	4E-05 U	4E-05 U	9.74	10	0.0001 U	0.0001 U
MW-101	4/30/2018	W101180430-	2.99	3.05	0.0005 U	0.0005 U	4E-05 U	4E-05 U	16.9	17.3	0.0001 U	0.0001 U
FIELD BLANK	4/18/2018	W81-180418F	0.1 U	0.5 U	0.0005 U	0.0005 U	4E-05 U	4E-05 U	0.1 U	0.1 U	0.0001 U	0.0001 U
FIELD FILTER BLANK	5/22/2018	WU1H180522E		0.1 U		0.0005 U		0.00004 U		0.1 U		0.0001 U

Environmental Monitoring Data

Data Collected from April 1, 2018 to June 30, 2018
Cedar Hills Landfill --- Metals Analytical Data
Contact Person: Sendy Jimenez (206) 477-5224

Site	Date	Sample ID	Thallium, total (mg/L)	Tin, dissolved (mg/L)	Vanadium, dissolved (mg/L)	Vanadium, total (mg/L)	Zinc, dissolved (mg/L)	Zinc, total (mg/L)
MW-21	4/13/2018	W21-180413-			7.5E-05 U	7.5E-05 U	0.0005 U	0.0005 U
MW-24	4/13/2018	W24-180413-			7.5E-05 U	7.5E-05 U	0.000509	0.0005 U
MW-30A	5/1/2018	W30A180501-			0.002	0.00211	0.000867	0.000984
MW-47	5/1/2018	W47-180501-			0.000224	0.000144	0.000573	0.000554
MW-56	4/12/2018	W56-180412-			0.000195	0.000212	0.00116	0.00164
MW-59	4/12/2018	W59-180412-			7.5E-05 U	7.5E-05 U	0.00197	0.00316
MW-62	5/3/2018	W62-180503-			0.00157	0.00165	0.0005 U	0.0005 U
MW-62	5/3/2018	W62-180503D			0.00157	0.00169	0.000702	0.000531
MW-64	4/19/2018	W64-180419-			0.000129	0.00146 D	0.00102	0.00422
MW-65	4/23/2018	W65-180423-			7.5E-05 U	7.5E-05 U	0.000633	0.000756
MW-66	4/18/2018	W66-180418-			0.000616	0.000706 D	0.000659	0.00152
MW-67	4/23/2018	W67-180423-			0.000176	0.000594	0.000906	0.000629
MW-68	5/3/2018	W68-180503-			0.000212	0.000332	0.0005 U	0.000809
MW-69	5/3/2018	W69-180503-			9.20E-05	8.25E-05	0.000503	0.000748
MW-72	4/17/2018	W72-180417-			7.5E-05 U	0.000374 D	0.00144	0.0129
MW-73	4/13/2018	W73-180413-			0.00081	0.00089	0.000775	0.000666
MW-74	4/19/2018	W74R180419-			0.000557	0.000612 D	0.000565	0.00108
MW-75	5/1/2018	W75-180501-			7.5E-05 U	7.5E-05 U	0.000514	0.0005 U
MW-76	4/16/2018	W76-180416-			0.000562	0.000584 D	0.000691	0.0005 U
MW-80	4/23/2018	W80-180423-			7.5E-05 U	0.000125	0.000743	0.00129
MW-81	4/18/2018	W81-180418-			0.00165	0.00169 D	0.000611	0.000839
MW-82	4/13/2018	W82-180413-			0.00125	0.00131	0.000696	0.000768
MW-83	4/16/2018	W83-180416-			0.000742	0.000779 D	0.0005 U	0.000594
MW-84	4/19/2018	W84-180419-			0.000473	0.00056 D	0.0005 U	0.0006
MW-85	4/26/2018	W85-180426-			0.000867	0.000915	0.0005 U	0.0005 U
MW-86	4/16/2018	W86-180416-			7.5E-05 U	0.00161 D	0.000547	0.000838
MW-87	4/25/2018	W87-180425-			7.5E-05 U	0.000373	0.00197	0.000697
MW-88	4/17/2018	W88-180417-			0.00271	0.00281 D	0.0005 U	0.0005 U
MW-89	4/19/2018	W89-180419-			7.5E-05 U	0.000149 D	0.00107	0.00211
MW-93	6/28/2018	W93-180628-			0.00207 D	0.00212	0.00142	0.00197
MW-94	4/16/2018	W94-180416-			0.00104	0.0011 D	0.0005 U	0.000511
MW-95	4/16/2018	W95-180416-			0.000299	0.000372 D	0.000523	0.0005 U
MW-100	4/17/2018	W100180417-			7.5E-05 U	0.000161 D	0.000707	0.00554
MW-101	4/30/2018	W101180430-	0.0005 U	0.0005 U	0.000942	0.000994	0.000786	0.00249
FIELD BLANK	4/18/2018	W81-180418F	7.5E-05 U	7.5E-05 DU	0.0005 U	0.00136	0.0005 U	0.000527
FIELD FILTER BLANK	5/22/2018	WU1H180522E		0.0005 U	0.000075 U		0.0005 U	

Environmental Monitoring Data

Data Collected from April 1, 2018 to June 30, 2018
Cedar Hills Landfill --- Groundwater VOAs Analytical Data
Contact Person: Sendy Jimenez (206) 477-5224

Site	Date	Sample ID	1,1,1,2-Tetrachloroethane ug/l 630-20-6	1,1,1-Trichloroethane ug/l 71-55-6	1,1,2,2-Tetrachloroethane ug/l 79-34-5	1,1,2-Trichloroethane ug/l 79-00-5	1,1-Dichloroethane ug/l 75-34-3	1,1-Dichloroethene ug/l 75-35-4	1,2,3-Trichloropropane ug/l 96-18-4	1,2-Dibromo-3-Chloropropa ug/l 96-12-8	1,2-Dibromoethane ug/l 106-93-4	1,2-Dichlorobenzene ug/l 95-50-1	1,2-Dichloroethane ug/l 107-06-2
MW-21	4/13/2018	W21-180413-	0.25 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	2.5 U	0.1 U	0.1 U	0.1 U
MW-24	4/13/2018	W24-180413-	0.25 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	2.5 U	0.1 U	0.1 U	0.1 U
MW-30A	5/1/2018	W30A180501-	0.25 U	0.1 U	0.1 U	0.1 U	2.07	0.1 U	0.1 U	2.5 U	0.1 U	0.1 U	0.1 U
MW-47	5/1/2018	W47-180501-	0.25 U	0.1 U	0.1 U	0.1 U	0.836	0.1 U	0.1 U	2.5 U	0.1 U	0.1 U	0.2
MW-56	4/12/2018	W56-180412-	0.25 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	2.5 U	0.1 U	0.1 U	0.1 U
MW-59	4/12/2018	W59-180412-	0.25 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	2.5 U	0.1 U	0.1 U	0.1 U
MW-62	5/3/2018	W62-180503-	0.25 U	0.1 U	0.1 U	0.1 U	2.16	0.1 U	0.1 U	2.5 U	0.1 U	0.1 U	0.1 U
MW-62	5/3/2018	W62-180503D	0.25 U	0.1 U	0.1 U	0.1 U	2.2	0.1 U	0.1 U	2.5 U	0.1 U	0.1 U	0.1 U
MW-64	4/19/2018	W64-180419-	0.25 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	2.5 U	0.1 U	0.1 U	0.1 U
MW-65	4/23/2018	W65-180423-	0.25 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	2.5 U	0.1 U	0.1 U	0.1 U
MW-66	4/18/2018	W66-180418-	0.25 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	2.5 U	0.1 U	0.1 U	0.1 U
MW-67	4/23/2018	W67-180423-	0.25 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	2.5 U	0.1 U	0.1 U	0.1 U
MW-68	5/3/2018	W68-180503-	0.25 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	2.5 U	0.1 U	0.1 U	0.1 U
MW-69	5/3/2018	W69-180503-	0.25 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	2.5 U	0.1 U	0.1 U	0.1 U
MW-72	4/17/2018	W72-180417-	0.25 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	2.5 U	0.1 U	0.1 U	0.1 U
MW-73	4/13/2018	W73-180413-	0.25 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	2.5 U	0.1 U	0.1 U	0.1 U
MW-74	4/19/2018	W74R180419-	0.25 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	2.5 U	0.1 U	0.1 U	0.1 U
MW-75	5/1/2018	W75-180501-	0.25 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	2.5 U	0.1 U	0.1 U	0.1 U
MW-76	4/16/2018	W76-180416-	0.25 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	2.5 U	0.1 U	0.1 U	0.1 U
MW-80	4/23/2018	W80-180423-	0.25 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	2.5 U	0.1 U	0.1 U	0.1 U
MW-81	4/18/2018	W81-180418-	0.25 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	2.5 U	0.1 U	0.1 U	0.1 U
MW-82	4/13/2018	W82-180413-	0.25 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	2.5 U	0.1 U	0.1 U	0.1 U
MW-83	4/16/2018	W83-180416-	0.25 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	2.5 U	0.1 U	0.1 U	0.1 U
MW-84	4/19/2018	W84-180419-	0.25 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	2.5 U	0.1 U	0.1 U	0.1 U
MW-85	4/26/2018	W85-180426-	0.25 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	2.5 U	0.1 U	0.1 U	0.1 U
MW-86	4/16/2018	W86-180416-	0.25 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	2.5 U	0.1 U	0.1 U	0.1 U
MW-87	4/25/2018	W87-180425-	0.25 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	2.5 U	0.1 U	0.1 U	0.1 U
MW-88	4/17/2018	W88-180417-	0.25 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	2.5 U	0.1 U	0.1 U	0.1 U
MW-89	4/19/2018	W89-180419-	0.25 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	2.5 U	0.1 U	0.1 U	0.1 U
MW-93	6/28/2018	W93-180628-	0.25 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	2.5 U	0.1 U	0.1 U	0.1 U
MW-94	4/16/2018	W94-180416-	0.25 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	2.5 U	0.1 U	0.1 U	0.1 U
MW-95	4/16/2018	W95-180416-	0.25 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	2.5 U	0.1 U	0.1 U	0.1 U
MW-100	4/17/2018	W100180417-	0.25 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	2.5 U	0.1 U	0.1 U	0.1 U
MW-101	4/30/2018	W101180430-	0.25 U	0.1 U	0.1 U	0.1 U	0.16 JT	0.1 U	0.1 U	2.5 U	0.1 U	0.1 U	0.18 JT
FIELD BLANK	4/18/2018	W81-180418F	0.25 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	2.5 U	0.1 U	0.1 U	0.1 U
VOA TRIP BLANK	4/11/2018	VTRP180412Y	0.25 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	2.5 U	0.1 U	0.1 U	0.1 U
VOA TRIP BLANK	4/12/2018	VTRP180413Y	0.25 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	2.5 U	0.1 U	0.1 U	0.1 U

Environmental Monitoring Data

Data Collected from April 1, 2018 to June 30, 2018
Cedar Hills Landfill --- Groundwater VOAs Analytical Data
Contact Person: Sendy Jimenez (206) 477-5224

Site	Date	Sample ID	1,1,1,2-Tetrachloroethane ug/l 630-20-6	1,1,1-Trichloroethane ug/l 71-55-6	1,1,2,2-Tetrachloroethane ug/l 79-34-5	1,1,2-Trichloroethane ug/l 79-00-5	1,1-Dichloroethane ug/l 75-34-3	1,1-Dichloroethene ug/l 75-35-4	1,2,3-Trichloropropane ug/l 96-18-4	1,2-Dibromo-3-Chloropropa ug/l 96-12-8	1,2-Dibromoethane ug/l 106-93-4	1,2-Dichlorobenzene ug/l 95-50-1	1,2-Dichloroethane ug/l 107-06-2
VOA TRIP BLANK	4/13/2018	VTRP180416Y	0.25 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	2.5 U	0.1 U	0.1 U	0.1 U
VOA TRIP BLANK	4/16/2018	VTRP180417Y	0.25 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	2.5 U	0.1 U	0.1 U	0.1 U
VOA TRIP BLANK	4/17/2018	VTRP180418Y	0.25 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	2.5 U	0.1 U	0.1 U	0.1 U
VOA TRIP BLANK	4/18/2018	VTRP180419Y	0.25 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	2.5 U	0.1 U	0.1 U	0.1 U
VOA TRIP BLANK	4/20/2018	VTRP180423Y	0.25 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	2.5 U	0.1 U	0.1 U	0.1 U
VOA TRIP BLANK	4/23/2018	VTRP180425Y	0.25 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	2.5 U	0.1 U	0.1 U	0.1 U
VOA TRIP BLANK	4/25/2018	VTRP180426Y	0.25 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	2.5 U	0.1 U	0.1 U	0.1 U
VOA TRIP BLANK	4/30/2018	VTRP180501Y	0.25 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	2.5 U	0.1 U	0.1 U	0.1 U
VOA TRIP BLANK	4/11/2018	VTRP180413X	0.25 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	2.5 U	0.1 U	0.1 U	0.1 U
VOA TRIP BLANK	4/13/2018	VTRP180416X	0.25 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	2.5 U	0.1 U	0.1 U	0.1 U
VOA TRIP BLANK	4/16/2018	VTRP180417X	0.25 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	2.5 U	0.1 U	0.1 U	0.1 U
VOA TRIP BLANK	4/17/2018	VTRP180418X	0.25 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	2.5 U	0.1 U	0.1 U	0.1 U
VOA TRIP BLANK	4/18/2018	VTRP180419X	0.25 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	2.5 U	0.1 U	0.1 U	0.1 U
VOA TRIP BLANK	4/26/2018	VTRP180430X	0.25 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	2.5 U	0.1 U	0.1 U	0.1 U
VOA TRIP BLANK	5/1/2018	VTRP180501X	0.25 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	2.5 U	0.1 U	0.1 U	0.1 U
VOA TRIP BLANK	5/2/2018	VTRP180503Y	0.25 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	2.5 U	0.1 U	0.1 U	0.1 U
VOA TRIP BLANK	5/2/2018	VTRP180503X	0.25 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	2.5 U	0.1 U	0.1 U	0.1 U
VOA TRIP BLANK	6/28/2018	VTRP180628X	0.25 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	2.5 U	0.1 U	0.1 U	0.1 U

Environmental Monitoring Data

Data Collected from April 1, 2018 to June 30, 2018
Cedar Hills Landfill --- Groundwater VOAs Analytical Data
Contact Person: Sendy Jimenez (206) 477-5224

Site	Date	Sample ID	1,2-Dichloropropane ug/l 78-87-5	1,4-Dichlorobenzene ug/l 106-46-7	2-Butanone ug/l 78-93-3	2-Hexanone ug/l 591-78-6	4-Methyl-2-Pentanone ug/l 108-10-1	Acetone ug/l 67-64-1	Acrylonitrile ug/l 107-13-1	Benzene ug/l 71-43-2	Bromochloromethane ug/l 74-97-5	Bromochloromethane ug/l 75-27-4	Bromoform ug/l 75-25-2	Bromomethane ug/l 74-83-9
MW-21	4/13/2018	W21-180413-	0.1 U	0.1 U	1 U	0.5 U	2.5 U	2.5 U	0.035 U	0.1 U	0.1 U	0.25 U	0.5 U	0.1 U
MW-24	4/13/2018	W24-180413-	0.1 U	0.1 U	1 U	0.5 U	2.5 U	2.5 U	0.035 U	0.1 U	0.1 U	0.25 U	0.5 U	0.1 U
MW-30A	5/1/2018	W30A180501-	0.1 U	0.1 U	1 U	0.5 U	2.5 U	2.5 U	0.035 U	0.1 U	0.1 U	0.25 U	0.5 U	0.1 U
MW-47	5/1/2018	W47-180501-	0.1 U	0.1 U	1 U	0.5 U	2.5 U	2.5 U	0.035 U	0.11 JT	0.1 U	0.25 U	0.5 U	0.1 U
MW-56	4/12/2018	W56-180412-	0.1 U	0.1 U	1 U	0.5 U	2.5 U	2.5 U	0.035 U	0.1 U	0.1 U	0.25 U	0.5 U	0.1 U
MW-59	4/12/2018	W59-180412-	0.1 U	0.1 U	1 U	0.5 U	2.5 U	2.5 U	0.035 U	0.1 U	0.1 U	0.25 U	0.5 U	0.1 U
MW-62	5/3/2018	W62-180503-	0.11 JT	0.1 U	1 U	0.5 U	2.5 U	2.5 U	0.035 U	0.1 U	0.1 U	0.25 U	0.5 U	0.1 U
MW-62	5/3/2018	W62-180503D	0.11 JT	0.1 U	1 U	0.5 U	2.5 U	2.5 U	0.035 U	0.1 U	0.1 U	0.25 U	0.5 U	0.1 U
MW-64	4/19/2018	W64-180419-	0.1 U	0.1 U	1 U	0.5 U	2.5 U	2.5 U	0.035 U	0.1 U	0.1 U	0.25 U	0.5 U	0.1 U
MW-65	4/23/2018	W65-180423-	0.1 U	0.1 U	1 U	0.5 U	2.5 U	2.5 U	0.035 U	0.1 U	0.1 U	0.25 U	0.5 U	0.1 U
MW-66	4/18/2018	W66-180418-	0.1 U	0.1 U	1 U	0.5 U	2.5 U	2.5 U	0.035 U	0.1 U	0.1 U	0.25 U	0.5 U	0.1 U
MW-67	4/23/2018	W67-180423-	0.1 U	0.1 U	1 U	0.5 U	2.5 U	2.5 U	0.035 U	0.1 U	0.1 U	0.25 U	0.5 U	0.1 U
MW-68	5/3/2018	W68-180503-	0.1 U	0.1 U	1 U	0.5 U	2.5 U	2.5 U	0.035 U	0.1 U	0.1 U	0.25 U	0.5 U	0.1 U
MW-69	5/3/2018	W69-180503-	0.1 U	0.1 U	1 U	0.5 U	2.5 U	2.5 U	0.035 U	0.1 U	0.1 U	0.25 U	0.5 U	0.1 U
MW-72	4/17/2018	W72-180417-	0.1 U	0.1 U	1 U	0.5 U	2.5 U	2.5 U	0.035 U	0.1 U	0.1 U	0.25 U	0.5 U	0.1 U
MW-73	4/13/2018	W73-180413-	0.1 U	0.1 U	1 U	0.5 U	2.5 U	2.5 U	0.035 U	0.1 U	0.1 U	0.25 U	0.5 U	0.1 U
MW-74	4/19/2018	W74R180419-	0.1 U	0.1 U	1 U	0.5 U	2.5 U	2.5 U	0.035 U	0.1 U	0.1 U	0.25 U	0.5 U	0.1 U
MW-75	5/1/2018	W75-180501-	0.1 U	0.1 U	1 U	0.5 U	2.5 U	2.5 U	0.035 U	0.1 U	0.1 U	0.25 U	0.5 U	0.1 U
MW-76	4/16/2018	W76-180416-	0.1 U	0.1 U	1 U	0.5 U	2.5 U	2.5 U	0.035 U	0.1 U	0.1 U	0.25 U	0.5 U	0.1 U
MW-80	4/23/2018	W80-180423-	0.1 U	0.1 U	1 U	0.5 U	2.5 U	2.5 U	0.035 U	0.1 U	0.1 U	0.25 U	0.5 U	0.1 U
MW-81	4/18/2018	W81-180418-	0.1 U	0.1 U	1 U	0.5 U	2.5 U	2.5 U	0.035 U	0.1 U	0.1 U	0.25 U	0.5 U	0.1 U
MW-82	4/13/2018	W82-180413-	0.1 U	0.1 U	1 U	0.5 U	2.5 U	2.5 U	0.035 U	0.1 U	0.1 U	0.25 U	0.5 U	0.1 U
MW-83	4/16/2018	W83-180416-	0.1 U	0.1 U	1 U	0.5 U	2.5 U	2.5 U	0.035 U	0.1 U	0.1 U	0.25 U	0.5 U	0.1 U
MW-84	4/19/2018	W84-180419-	0.1 U	0.1 U	1 U	0.5 U	2.5 U	2.5 U	0.035 U	0.1 U	0.1 U	0.25 U	0.5 U	0.1 U
MW-85	4/26/2018	W85-180426-	0.1 U	0.1 U	1 U	0.5 U	2.5 U	2.5 U	0.035 U	0.1 U	0.1 U	0.25 U	0.5 U	0.1 U
MW-86	4/16/2018	W86-180416-	0.1 U	0.1 U	1 U	0.5 U	2.5 U	2.5 U	0.035 U	0.1 U	0.1 U	0.25 U	0.5 U	0.1 U
MW-87	4/25/2018	W87-180425-	0.1 U	0.1 U	1 U	0.5 U	2.5 U	2.5 U	0.035 U	0.1 U	0.1 U	0.25 U	0.5 U	0.1 U
MW-88	4/17/2018	W88-180417-	0.1 U	0.1 U	1 U	0.5 U	2.5 U	2.5 U	0.035 U	0.1 U	0.1 U	0.25 U	0.5 U	0.1 U
MW-89	4/19/2018	W89-180419-	0.1 U	0.1 U	1 U	0.5 U	2.5 U	2.5 U	0.035 U	0.1 U	0.1 U	0.25 U	0.5 U	0.1 U
MW-93	6/28/2018	W93-180628-	0.1 U	0.1 U	1 U	0.5 U	2.5 U	2.5 U	0.035 U	0.1 U	0.1 U	0.25 U	0.5 U	0.1 U
MW-94	4/16/2018	W94-180416-	0.1 U	0.1 U	1 U	0.5 U	2.5 U	2.5 U	0.035 U	0.1 U	0.1 U	0.25 U	0.5 U	0.1 U
MW-95	4/16/2018	W95-180416-	0.1 U	0.1 U	1 U	0.5 U	2.5 U	2.5 U	0.035 U	0.1 U	0.1 U	0.25 U	0.5 U	0.1 U
MW-100	4/17/2018	W100180417-	0.1 U	0.1 U	1 U	0.5 U	2.5 U	2.5 U	0.035 U	0.1 U	0.1 U	0.25 U	0.5 U	0.1 U
MW-101	4/30/2018	W101180430-	0.1 U	0.1 U	0.25 U	0.5 U	2.5 U	2.5 U	0.035 U	0.1 U	0.1 U	0.25 U	0.5 U	0.1 U
FIELD BLANK	4/18/2018	W81-180418F	0.1 U	0.1 U	20.5	0.5 U	2.5 U	2.5 U	0.035 U	0.1 U	0.1 U	0.25 U	0.5 U	0.1 U
VOA TRIP BLANK	4/11/2018	VTRP180412Y	0.1 U	0.1 U	1 U	0.5 U	2.5 U	2.5 U	0.035 U	0.1 U	0.1 U	0.25 U	0.5 U	0.1 U
VOA TRIP BLANK	4/12/2018	VTRP180413Y	0.1 U	0.1 U	1 U	0.5 U	2.5 U	2.5 U	0.035 U	0.1 U	0.1 U	0.25 U	0.5 U	0.1 U

Environmental Monitoring Data

Data Collected from April 1, 2018 to June 30, 2018
Cedar Hills Landfill --- Groundwater VOAs Analytical Data
Contact Person: Sendy Jimenez (206) 477-5224

Site	Date	Sample ID	1,2-Dichloropropane ug/l 78-87-5	1,4-Dichlorobenzene ug/l 106-46-7	2-Butanone ug/l 78-93-3	2-Hexanone ug/l 591-78-6	4-Methyl-2-Pentanone ug/l 108-10-1	Acetone ug/l 67-64-1	Acrylonitrile ug/l 107-13-1	Benzene ug/l 71-43-2	Bromochloromethane ug/l 74-97-5	Bromochloromethane ug/l 75-27-4	Bromoform ug/l 75-25-2	Bromomethane ug/l 74-83-9
VOA TRIP BLANK	4/13/2018	VTRP180416Y	0.1 U	0.1 U	1 U	0.5 U	2.5 U	2.5 U	0.035 U	0.1 U	0.1 U	0.25 U	0.5 U	0.1 U
VOA TRIP BLANK	4/16/2018	VTRP180417Y	0.1 U	0.1 U	1 U	0.5 U	2.5 U	2.5 U	0.035 U	0.1 U	0.1 U	0.25 U	0.5 U	0.1 U
VOA TRIP BLANK	4/17/2018	VTRP180418Y	0.1 U	0.1 U	1 U	0.5 U	2.5 U	2.5 U	0.035 U	0.1 U	0.1 U	0.25 U	0.5 U	0.1 U
VOA TRIP BLANK	4/18/2018	VTRP180419Y	0.1 U	0.1 U	1 U	0.5 U	2.5 U	2.5 U	0.035 U	0.1 U	0.1 U	0.25 U	0.5 U	0.1 U
VOA TRIP BLANK	4/20/2018	VTRP180423Y	0.1 U	0.1 U	1 U	0.5 U	2.5 U	2.5 U	0.035 U	0.1 U	0.1 U	0.25 U	0.5 U	0.1 U
VOA TRIP BLANK	4/23/2018	VTRP180425Y	0.1 U	0.1 U	1 U	0.5 U	2.5 U	2.5 U	0.035 U	0.1 U	0.1 U	0.25 U	0.5 U	0.1 U
VOA TRIP BLANK	4/25/2018	VTRP180426Y	0.1 U	0.1 U	1 U	0.5 U	2.5 U	2.5 U	0.035 U	0.1 U	0.1 U	0.25 U	0.5 U	0.1 U
VOA TRIP BLANK	4/30/2018	VTRP180501Y	0.1 U	0.1 U	1 U	0.5 U	2.5 U	2.5 U	0.035 U	0.1 U	0.1 U	0.25 U	0.5 U	0.1 U
VOA TRIP BLANK	4/11/2018	VTRP180413X	0.1 U	0.1 U	1 U	0.5 U	2.5 U	2.5 U	0.035 U	0.1 U	0.1 U	0.25 U	0.5 U	0.1 U
VOA TRIP BLANK	4/13/2018	VTRP180416X	0.1 U	0.1 U	1 U	0.5 U	2.5 U	2.5 U	0.035 U	0.1 U	0.1 U	0.25 U	0.5 U	0.1 U
VOA TRIP BLANK	4/16/2018	VTRP180417X	0.1 U	0.1 U	1 U	0.5 U	2.5 U	2.5 U	0.035 U	0.1 U	0.1 U	0.25 U	0.5 U	0.1 U
VOA TRIP BLANK	4/17/2018	VTRP180418X	0.1 U	0.1 U	1 U	0.5 U	2.5 U	2.5 U	0.035 U	0.1 U	0.1 U	0.25 U	0.5 U	0.1 U
VOA TRIP BLANK	4/18/2018	VTRP180419X	0.1 U	0.1 U	1 U	0.5 U	2.5 U	2.5 U	0.035 U	0.1 U	0.1 U	0.25 U	0.5 U	0.1 U
VOA TRIP BLANK	4/26/2018	VTRP180430X	0.1 U	0.1 U	1 U	0.5 U	2.5 U	2.5 U	0.035 U	0.1 U	0.1 U	0.25 U	0.5 U	0.1 U
VOA TRIP BLANK	5/1/2018	VTRP180501X	0.1 U	0.1 U	1 U	0.5 U	2.5 U	2.5 U	0.035 U	0.1 U	0.1 U	0.25 U	0.5 U	0.1 U
VOA TRIP BLANK	5/2/2018	VTRP180503Y	0.1 U	0.1 U	1 U	0.5 U	2.5 U	2.5 U	0.035 U	0.1 U	0.1 U	0.25 U	0.5 U	0.1 U
VOA TRIP BLANK	5/2/2018	VTRP180503X	0.1 U	0.1 U	1 U	0.5 U	2.5 U	2.5 U	0.035 U	0.1 U	0.1 U	0.25 U	0.5 U	0.1 U
VOA TRIP BLANK	6/28/2018	VTRP180628X	0.1 U	0.1 U	1 U	0.5 U	2.5 U	2.5 U	0.035 U	0.1 U	0.1 U	0.25 U	0.5 U	0.1 U

Environmental Monitoring Data

Data Collected from April 1, 2018 to June 30, 2018
Cedar Hills Landfill --- Groundwater VOAs Analytical Data
Contact Person: Sendy Jimenez (206) 477-5224

Site	Date	Sample ID	Carbon Disulfide ug/l 75-15-0	Carbon Tetrachloride ug/l 56-23-5	Chlorbenzene ug/l 108-90-7	Chlorodibromomethane ug/l 124-48-1	Chloroethane ug/l 75-00-3	Chloroform ug/l 67-66-3	Chloromethane ug/l 74-87-3	cis-1,2-Dichloroethene ug/l 156-59-2	cis-1,3-Dichloropropene ug/l 10061-01-5	Dibromomethane ug/l 74-95-3	Dichlorodifluoromethane ug/l 75-71-8	Ethylbenzene ug/l 100-41-4
MW-21	4/13/2018	W21-180413-	0.281	0.25 U	0.1 U	0.5 U	0.1 U	0.1 U	0.25 U	0.1 U	0.25 U	0.1 U	0.1 U	0.1 U
MW-24	4/13/2018	W24-180413-	0.12 JT	0.25 U	0.1 U	0.5 U	0.1 U	0.1 U	0.25 U	0.1 U	0.25 U	0.1 U	0.1 U	0.1 U
MW-30A	5/1/2018	W30A180501-	0.1 U	0.25 U	0.1 U	0.5 U	0.1 U	0.1 U	0.25 U	2.29	0.25 U	0.1 U	0.1 U	0.1 U
MW-47	5/1/2018	W47-180501-	0.1 U	0.25 U	0.1 U	0.5 U	0.247	0.1 U	0.25 U	4.32	0.25 U	0.1 U	3.89	0.1 U
MW-56	4/12/2018	W56-180412-	0.1 U	0.25 U	0.1 U	0.5 U	0.1 U	0.1 U	0.25 U	1.3	0.25 U	0.1 U	0.1 U	0.1 U
MW-59	4/12/2018	W59-180412-	0.17 JT	0.25 U	0.1 U	0.5 U	0.1 U	0.1 U	0.25 U	1.25	0.25 U	0.1 U	0.1 U	0.1 U
MW-62	5/3/2018	W62-180503-	0.1 U	0.25 U	0.1 U	0.5 U	0.1 U	0.1 U	0.25 U	6.24	0.25 U	0.1 U	0.1 U	0.1 U
MW-62	5/3/2018	W62-180503D	0.1 U	0.25 U	0.1 U	0.5 U	0.1 U	0.1 U	0.25 U	6.32	0.25 U	0.1 U	0.1 U	0.1 U
MW-64	4/19/2018	W64-180419-	0.1 U	0.25 U	0.1 U	0.5 U	0.1 U	0.1 U	0.25 U	0.1 U	0.25 U	0.1 U	0.1 U	0.1 U
MW-65	4/23/2018	W65-180423-	0.1 U	0.25 U	0.1 U	0.5 U	0.1 U	0.1 U	0.25 GU	0.1 U	0.25 U	0.1 U	0.1 U	0.1 U
MW-66	4/18/2018	W66-180418-	0.1 U	0.25 U	0.1 U	0.5 U	0.1 U	0.1 U	0.25 U	0.1 U	0.25 U	0.1 U	0.1 U	0.1 U
MW-67	4/23/2018	W67-180423-	0.1 U	0.25 U	0.1 U	0.5 U	0.1 U	0.1 U	0.25 GU	0.1 U	0.25 U	0.1 U	0.1 U	0.1 U
MW-68	5/3/2018	W68-180503-	0.1 U	0.25 U	0.1 U	0.5 U	0.1 U	0.1 U	0.25 U	0.1 U	0.25 U	0.1 U	0.1 U	0.1 U
MW-69	5/3/2018	W69-180503-	0.1 U	0.25 U	0.1 U	0.5 U	0.1 U	0.1 U	0.25 U	0.1 U	0.25 U	0.1 U	0.1 U	0.1 U
MW-72	4/17/2018	W72-180417-	0.1 U	0.25 U	0.1 U	0.5 U	0.1 U	0.1 U	0.25 U	0.1 U	0.25 U	0.1 U	0.1 U	0.1 U
MW-73	4/13/2018	W73-180413-	0.1 U	0.25 U	0.1 U	0.5 U	0.1 U	0.1 U	0.25 U	0.1 U	0.25 U	0.1 U	0.1 U	0.1 U
MW-74	4/19/2018	W74R180419-	0.1 U	0.25 U	0.1 U	0.5 U	0.1 U	0.1 U	0.25 U	0.1 U	0.25 U	0.1 U	0.1 U	0.1 U
MW-75	5/1/2018	W75-180501-	0.1 U	0.25 U	0.1 U	0.5 U	0.1 U	0.1 U	0.25 U	0.1 U	0.25 U	0.1 U	0.1 U	0.1 U
MW-76	4/16/2018	W76-180416-	0.1 U	0.25 U	0.1 U	0.5 U	0.1 U	0.1 U	0.25 U	0.403	0.25 U	0.1 U	0.1 U	0.1 U
MW-80	4/23/2018	W80-180423-	0.1 U	0.25 U	0.1 U	0.5 U	0.1 U	0.1 U	0.25 GU	0.1 U	0.25 U	0.1 U	0.1 U	0.1 U
MW-81	4/18/2018	W81-180418-	0.1 U	0.25 U	0.1 U	0.5 U	0.1 U	0.1 U	0.25 U	0.1 U	0.25 U	0.1 U	0.1 U	0.1 U
MW-82	4/13/2018	W82-180413-	0.1 U	0.25 U	0.1 U	0.5 U	0.1 U	0.1 U	0.25 U	0.1 U	0.25 U	0.1 U	0.1 U	0.1 U
MW-83	4/16/2018	W83-180416-	0.1 U	0.25 U	0.1 U	0.5 U	0.1 U	0.1 U	0.25 U	0.1 U	0.25 U	0.1 U	0.1 U	0.1 U
MW-84	4/19/2018	W84-180419-	0.1 U	0.25 U	0.1 U	0.5 U	0.1 U	0.1 U	0.25 U	0.1 U	0.25 U	0.1 U	0.1 U	0.1 U
MW-85	4/26/2018	W85-180426-	0.1 U	0.25 U	0.1 U	0.5 U	0.1 U	0.1 U	0.25 GU	0.1 U	0.25 U	0.1 U	0.1 U	0.1 U
MW-86	4/16/2018	W86-180416-	0.1 U	0.25 U	0.1 U	0.5 U	0.1 U	0.1 U	0.25 U	0.1 U	0.25 U	0.1 U	0.1 U	0.1 U
MW-87	4/25/2018	W87-180425-	0.1 U	0.25 U	0.1 U	0.5 U	0.1 U	0.1 U	0.25 GU	0.1 U	0.25 U	0.1 U	0.1 U	0.1 U
MW-88	4/17/2018	W88-180417-	0.1 U	0.25 U	0.1 U	0.5 U	0.1 U	0.1 U	0.25 U	0.1 U	0.25 U	0.1 U	0.1 U	0.1 U
MW-89	4/19/2018	W89-180419-	0.1 U	0.25 U	0.1 U	0.5 U	0.1 U	0.1 U	0.25 U	0.1 U	0.25 U	0.1 U	0.1 U	0.1 U
MW-93	6/28/2018	W93-180628-	0.1 U	0.25 U	0.1 U	0.5 U	0.1 U	0.1 U	0.25 U	0.1 U	0.25 U	0.1 U	0.1 U	0.1 U
MW-94	4/16/2018	W94-180416-	0.1 U	0.25 U	0.1 U	0.5 U	0.1 U	0.1 U	0.25 U	0.1 U	0.25 U	0.1 U	0.1 U	0.1 U
MW-95	4/16/2018	W95-180416-	0.11 JT	0.25 U	0.1 U	0.5 U	0.1 U	0.1 U	0.25 U	0.1 U	0.25 U	0.1 U	0.1 U	0.1 U
MW-100	4/17/2018	W100180417-	0.1 U	0.25 U	0.1 U	0.5 U	0.1 U	0.1 U	0.25 U	0.1 U	0.25 U	0.1 U	0.1 U	0.1 U
MW-101	4/30/2018	W101180430-	0.1 U	0.25 U	0.1 U	0.5 U	0.14 JT	0.1 U	0.25 U	0.227	0.25 U	0.1 U	0.1 U	0.1 U
FIELD BLANK	4/18/2018	W81-180418F	0.255	0.25 U	0.1 U	0.5 U	0.1 U	0.1 U	0.25 U	0.1 U	0.25 U	0.1 U	0.1 U	0.1 U
VOA TRIP BLANK	4/11/2018	VTRP180412Y	0.1 U	0.25 U	0.1 U	0.5 U	0.1 U	0.1 U	0.25 U	0.1 U	0.25 U	0.1 U	0.1 U	0.1 U
VOA TRIP BLANK	4/12/2018	VTRP180413Y	0.1 U	0.25 U	0.1 U	0.5 U	0.1 U	0.1 U	0.25 U	0.1 U	0.25 U	0.1 U	0.1 U	0.1 U

Environmental Monitoring Data

Data Collected from April 1, 2018 to June 30, 2018
Cedar Hills Landfill --- Groundwater VOAs Analytical Data
Contact Person: Sendy Jimenez (206) 477-5224

Site	Date	Sample ID	Carbon Disulfide ug/l 75-15-0	Carbon Tetrachloride ug/l 56-23-5	Chlorbenzene ug/l 108-90-7	Chlorodibromomethane ug/l 124-48-1	Chloroethane ug/l 75-00-3	Chloroform ug/l 67-66-3	Chloromethane ug/l 74-87-3	cis-1,2-Dichloroethene ug/l 156-59-2	cis-1,3-Dichloropropene ug/l 10061-01-5	Dibromomethane ug/l 74-95-3	Dichlorodifluoromethane ug/l 75-71-8	Ethylbenzene ug/l 100-41-4
VOA TRIP BLANK	4/13/2018	VTRP180416Y	0.1 U	0.25 U	0.1 U	0.5 U	0.1 U	0.1 U	0.25 U	0.1 U	0.25 U	0.1 U	0.1 U	0.1 U
VOA TRIP BLANK	4/16/2018	VTRP180417Y	0.1 U	0.25 U	0.1 U	0.5 U	0.1 U	0.1 U	0.25 U	0.1 U	0.25 U	0.1 U	0.1 U	0.1 U
VOA TRIP BLANK	4/17/2018	VTRP180418Y	0.1 U	0.25 U	0.1 U	0.5 U	0.1 U	0.1 U	0.25 U	0.1 U	0.25 U	0.1 U	0.1 U	0.1 U
VOA TRIP BLANK	4/18/2018	VTRP180419Y	0.1 U	0.25 U	0.1 U	0.5 U	0.1 U	0.1 U	0.25 U	0.1 U	0.25 U	0.1 U	0.1 U	0.1 U
VOA TRIP BLANK	4/20/2018	VTRP180423Y	0.1 U	0.25 U	0.1 U	0.5 U	0.1 U	0.1 U	0.25 GU	0.1 U	0.25 U	0.1 U	0.1 U	0.1 U
VOA TRIP BLANK	4/23/2018	VTRP180425Y	0.1 U	0.25 U	0.1 U	0.5 U	0.1 U	0.1 U	0.25 GU	0.1 U	0.25 U	0.1 U	0.1 U	0.1 U
VOA TRIP BLANK	4/25/2018	VTRP180426Y	0.1 U	0.25 U	0.1 U	0.5 U	0.1 U	0.1 U	0.25 GU	0.1 U	0.25 U	0.1 U	0.1 U	0.1 U
VOA TRIP BLANK	4/30/2018	VTRP180501Y	0.1 U	0.25 U	0.1 U	0.5 U	0.1 U	0.1 U	0.25 U	0.1 U	0.25 U	0.1 U	0.1 U	0.1 U
VOA TRIP BLANK	4/11/2018	VTRP180413X	0.1 U	0.25 U	0.1 U	0.5 U	0.1 U	0.1 U	0.25 U	0.1 U	0.25 U	0.1 U	0.1 U	0.1 U
VOA TRIP BLANK	4/13/2018	VTRP180416X	0.1 U	0.25 U	0.1 U	0.5 U	0.1 U	0.1 U	0.25 U	0.1 U	0.25 U	0.1 U	0.1 U	0.1 U
VOA TRIP BLANK	4/16/2018	VTRP180417X	0.1 U	0.25 U	0.1 U	0.5 U	0.1 U	0.1 U	0.25 U	0.1 U	0.25 U	0.1 U	0.1 U	0.1 U
VOA TRIP BLANK	4/17/2018	VTRP180418X	0.1 U	0.25 U	0.1 U	0.5 U	0.1 U	0.1 U	0.25 U	0.1 U	0.25 U	0.1 U	0.1 U	0.1 U
VOA TRIP BLANK	4/18/2018	VTRP180419X	0.1 U	0.25 U	0.1 U	0.5 U	0.1 U	0.1 U	0.25 U	0.1 U	0.25 U	0.1 U	0.1 U	0.1 U
VOA TRIP BLANK	4/26/2018	VTRP180430X	0.1 U	0.25 U	0.1 U	0.5 U	0.1 U	0.1 U	0.25 U	0.1 U	0.25 U	0.1 U	0.1 U	0.1 U
VOA TRIP BLANK	5/1/2018	VTRP180501X	0.1 U	0.25 U	0.1 U	0.5 U	0.1 U	0.1 U	0.25 U	0.1 U	0.25 U	0.1 U	0.1 U	0.1 U
VOA TRIP BLANK	5/2/2018	VTRP180503Y	0.1 U	0.25 U	0.1 U	0.5 U	0.1 U	0.1 U	0.25 U	0.1 U	0.25 U	0.1 U	0.1 U	0.1 U
VOA TRIP BLANK	5/2/2018	VTRP180503X	0.1 U	0.25 U	0.1 U	0.5 U	0.1 U	0.1 U	0.25 U	0.1 U	0.25 U	0.1 U	0.1 U	0.1 U
VOA TRIP BLANK	6/28/2018	VTRP180628X	0.1 U	0.25 U	0.1 U	0.5 U	0.1 U	0.1 U	0.25 U	0.1 U	0.25 U	0.1 U	0.1 U	0.1 U

Environmental Monitoring Data

Data Collected from April 1, 2018 to June 30, 2018
Cedar Hills Landfill --- Groundwater VOAs Analytical Data
Contact Person: Sendy Jimenez (206) 477-5224

Site	Date	Sample ID	M & P Xylene ug/l MPX	Methyl Iodide ug/l 74-88-4	Methylene Chloride ug/l 75-09-2	O-Xylene ug/l 95-47-6	Styrene ug/l 100-42-5	Tetrachloroethene ug/l 127-18-4	Toluene ug/l 108-88-3	Trans-1,2-Dichloroethene ug/l 156-60-5	Trans-1,3-Dichloropropene ug/l 10061-02-6	Trans-1,4-Dichloro-2-Butene ug/l 110-57-6
MW-21	4/13/2018	W21-180413-	0.1 U	0.1 U	2.5 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.5 U	5 U
MW-24	4/13/2018	W24-180413-	0.1 U	0.1 U	2.5 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.5 U	5 U
MW-30A	5/1/2018	W30A180501-	0.1 U	0.1 U	2.5 U	0.1 U	0.1 U	0.12 JT	0.1 U	0.1 U	0.5 U	5 U
MW-47	5/1/2018	W47-180501-	0.1 U	0.1 U	2.5 U	0.1 U	0.1 U	0.1 U	0.1 U	0.14 JT	0.5 U	5 U
MW-56	4/12/2018	W56-180412-	0.1 U	0.1 U	2.5 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.5 U	5 U
MW-59	4/12/2018	W59-180412-	0.1 U	0.1 U	2.5 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.5 U	5 U
MW-62	5/3/2018	W62-180503-	0.1 U	0.1 U	2.5 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.5 U	5 U
MW-62	5/3/2018	W62-180503D	0.1 U	0.1 U	2.5 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.5 U	5 U
MW-64	4/19/2018	W64-180419-	0.1 U	0.1 U	2.5 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.5 U	5 U
MW-65	4/23/2018	W65-180423-	0.1 U	0.1 U	2.5 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.5 U	5 U
MW-66	4/18/2018	W66-180418-	0.1 U	0.1 U	2.5 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.5 U	5 U
MW-67	4/23/2018	W67-180423-	0.1 U	0.1 U	2.5 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.5 U	5 U
MW-68	5/3/2018	W68-180503-	0.1 U	0.1 U	2.5 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.5 U	5 U
MW-69	5/3/2018	W69-180503-	0.1 U	0.1 U	2.5 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.5 U	5 U
MW-72	4/17/2018	W72-180417-	0.1 U	0.1 U	2.5 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.5 U	5 U
MW-73	4/13/2018	W73-180413-	0.1 U	0.1 U	2.5 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.5 U	5 U
MW-74	4/19/2018	W74R180419-	0.1 U	0.1 U	2.5 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.5 U	5 U
MW-75	5/1/2018	W75-180501-	0.1 U	0.1 U	2.5 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.5 U	5 U
MW-76	4/16/2018	W76-180416-	0.1 U	0.1 U	2.5 U	0.1 U	0.1 U	0.409	0.1 U	0.1 U	0.5 U	5 U
MW-80	4/23/2018	W80-180423-	0.1 U	0.1 U	2.5 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.5 U	5 U
MW-81	4/18/2018	W81-180418-	0.1 U	0.1 U	2.5 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.5 U	5 U
MW-82	4/13/2018	W82-180413-	0.1 U	0.1 U	2.5 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.5 U	5 U
MW-83	4/16/2018	W83-180416-	0.1 U	0.1 U	2.5 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.5 U	5 U
MW-84	4/19/2018	W84-180419-	0.1 U	0.1 U	2.5 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.5 U	5 U
MW-85	4/26/2018	W85-180426-	0.1 U	0.1 U	2.5 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.5 U	5 U
MW-86	4/16/2018	W86-180416-	0.1 U	0.1 U	2.5 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.5 U	5 U
MW-87	4/25/2018	W87-180425-	0.1 U	0.1 U	2.5 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.5 U	5 U
MW-88	4/17/2018	W88-180417-	0.1 U	0.1 U	2.5 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.5 U	5 U
MW-89	4/19/2018	W89-180419-	0.1 U	0.1 U	2.5 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.5 U	5 U
MW-93	6/28/2018	W93-180628-	0.1 U	0.1 U	2.5 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.5 U	5 U
MW-94	4/16/2018	W94-180416-	0.1 U	0.1 U	2.5 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.5 U	5 U
MW-95	4/16/2018	W95-180416-	0.1 U	0.1 U	2.5 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.5 U	5 U
MW-100	4/17/2018	W100180417-	0.1 U	0.1 U	2.5 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.5 U	5 U
MW-101	4/30/2018	W101180430-	0.1 U	0.1 U	2.5 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.5 U	0.5 U
FIELD BLANK	4/18/2018	W81-180418F	0.1 U	0.1 U	2.5 U	0.1 U	0.1 U	0.1 U	0.11 JT	0.1 U	0.5 U	5 U
VOA TRIP BLANK	4/11/2018	VTRP180412Y	0.1 U	0.1 U	2.5 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.5 U	5 U
VOA TRIP BLANK	4/12/2018	VTRP180413Y	0.1 U	0.1 U	2.5 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.5 U	5 U

Data Collected from April 1, 2018 to June 30, 2018
Cedar Hills Landfill --- Groundwater VOAs Analytical Data
Contact Person: Sendy Jimenez (206) 477-5224

Site	Date	Sample ID	M & P Xylene ug/l MPX	Methyl Iodide ug/l 74-88-4	Methylene Chloride ug/l 75-09-2	O-Xylene ug/l 95-47-6	Styrene ug/l 100-42-5	Tetrahachloroethene ug/l 127-18-4	Toluene ug/l 108-88-3	Trans-1,2-Dichloroethene ug/l 156-60-5	Trans-1,3-Dichloropropene ug/l 10061-02-6	Trans-1,4-Dichloro-2-Butene ug/l 110-57-6
VOA TRIP BLANK	4/13/2018	VTRP180416Y	0.1 U	0.1 U	2.5 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.5 U	5 U
VOA TRIP BLANK	4/16/2018	VTRP180417Y	0.1 U	0.1 U	2.5 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.5 U	5 U
VOA TRIP BLANK	4/17/2018	VTRP180418Y	0.1 U	0.1 U	2.5 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.5 U	5 U
VOA TRIP BLANK	4/18/2018	VTRP180419Y	0.1 U	0.1 U	2.5 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.5 U	5 U
VOA TRIP BLANK	4/20/2018	VTRP180423Y	0.1 U	0.1 U	2.5 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.5 U	5 U
VOA TRIP BLANK	4/23/2018	VTRP180425Y	0.1 U	0.1 U	2.5 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.5 U	5 U
VOA TRIP BLANK	4/25/2018	VTRP180426Y	0.1 U	0.1 U	2.5 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.5 U	5 U
VOA TRIP BLANK	4/30/2018	VTRP180501Y	0.1 U	0.1 U	2.5 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.5 U	5 U
VOA TRIP BLANK	4/11/2018	VTRP180413X	0.1 U	0.1 U	2.5 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.5 U	5 U
VOA TRIP BLANK	4/13/2018	VTRP180416X	0.1 U	0.1 U	2.5 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.5 U	5 U
VOA TRIP BLANK	4/16/2018	VTRP180417X	0.1 U	0.1 U	2.5 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.5 U	5 U
VOA TRIP BLANK	4/17/2018	VTRP180418X	0.1 U	0.1 U	2.5 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.5 U	5 U
VOA TRIP BLANK	4/18/2018	VTRP180419X	0.1 U	0.1 U	2.5 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.5 U	5 U
VOA TRIP BLANK	4/26/2018	VTRP180430X	0.1 U	0.1 U	2.5 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.5 U	5 U
VOA TRIP BLANK	5/1/2018	VTRP180501X	0.1 U	0.1 U	2.5 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.5 U	5 U
VOA TRIP BLANK	5/2/2018	VTRP180503Y	0.1 U	0.1 U	2.5 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.5 U	5 U
VOA TRIP BLANK	5/2/2018	VTRP180503X	0.1 U	0.1 U	2.5 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.5 U	5 U
VOA TRIP BLANK	6/28/2018	VTRP180628X	0.1 U	0.1 U	2.5 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.5 U	5 U

Environmental Monitoring Data

Data Collected from April 1, 2018 to June 30, 2018
Cedar Hills Landfill --- Groundwater VOAs Analytical Data
Contact Person: Sendy Jimenez (206) 477-5224

Site	Date	Sample ID	Trichloroethene ug/l 79-01-6	Trichlorofluoro methane ug/l 75-69-4	Vinyl Acetate ug/l 108-05-4	Vinyl Chloride ug/l 75-01-4
MW-21	4/13/2018	W21-180413-	0.1 U	0.1 U	0.1 U	0.01 U
MW-24	4/13/2018	W24-180413-	0.1 U	0.1 U	0.1 U	0.01 U
MW-30A	5/1/2018	W30A180501-	1.08	0.1 U	0.1 U	0.01 U
MW-47	5/1/2018	W47-180501-	0.1 U	0.1 U	0.1 U	5.13
MW-56	4/12/2018	W56-180412-	0.1 U	0.1 U	0.1 U	0.01 U
MW-59	4/12/2018	W59-180412-	0.1 U	0.1 U	0.1 U	0.01 U
MW-62	5/3/2018	W62-180503-	0.14 JT	0.1 U	0.1 U	0.01 U
MW-62	5/3/2018	W62-180503D	0.14 JT	0.1 U	0.1 U	0.01 U
MW-64	4/19/2018	W64-180419-	0.1 U	0.1 U	0.1 U	0.01 U
MW-65	4/23/2018	W65-180423-	0.1 U	0.1 U	0.1 U	0.028
MW-66	4/18/2018	W66-180418-	0.1 U	0.1 U	0.1 U	0.01 U
MW-67	4/23/2018	W67-180423-	0.1 U	0.1 U	0.1 U	0.01 U
MW-68	5/3/2018	W68-180503-	0.1 U	0.1 U	0.1 U	0.01 U
MW-69	5/3/2018	W69-180503-	0.1 U	0.1 U	0.1 U	0.01 U
MW-72	4/17/2018	W72-180417-	0.1 U	0.1 U	0.1 U	0.01 U
MW-73	4/13/2018	W73-180413-	0.1 U	0.1 U	0.1 U	0.01 U
MW-74	4/19/2018	W74R180419-	0.1 U	0.1 U	0.1 U	0.01 U
MW-75	5/1/2018	W75-180501-	0.1 U	0.1 U	0.1 U	0.01 U
MW-76	4/16/2018	W76-180416-	8.05	0.1 U	0.1 U	0.01 U
MW-80	4/23/2018	W80-180423-	0.1 U	0.1 U	0.1 U	0.01 U
MW-81	4/18/2018	W81-180418-	0.1 U	0.1 U	0.1 U	0.01 U
MW-82	4/13/2018	W82-180413-	5.28	0.1 U	0.1 U	0.01 U
MW-83	4/16/2018	W83-180416-	1.86	0.1 U	0.1 U	0.01 U
MW-84	4/19/2018	W84-180419-	0.1 U	0.1 U	0.1 U	0.01 U
MW-85	4/26/2018	W85-180426-	0.1 U	0.1 U	0.1 U	0.01 U
MW-86	4/16/2018	W86-180416-	0.1 U	0.1 U	0.1 U	0.01 U
MW-87	4/25/2018	W87-180425-	0.1 U	0.1 U	0.1 U	0.01 U
MW-88	4/17/2018	W88-180417-	0.1 U	0.1 U	0.1 U	0.01 U
MW-89	4/19/2018	W89-180419-	0.1 U	0.1 U	0.1 U	0.01 U
MW-93	6/28/2018	W93-180628-	0.1 U	0.1 U	0.1 U	0.01 U
MW-94	4/16/2018	W94-180416-	2.79	0.1 U	0.1 U	0.01 U
MW-95	4/16/2018	W95-180416-	0.1 U	0.1 U	0.1 U	0.01 U
MW-100	4/17/2018	W100180417-	0.1 U	0.1 U	0.1 U	0.01 U
MW-101	4/30/2018	W101180430-	0.1 U	0.1 U	0.1 U	0.223
FIELD BLANK	4/18/2018	W81-180418F	0.1 U	0.1 U	0.1 U	0.01 U
VOA TRIP BLANK	4/11/2018	VTRP180412Y	0.1 U	0.1 U	0.1 U	0.01 U
VOA TRIP BLANK	4/12/2018	VTRP180413Y	0.1 U	0.1 U	0.1 U	0.01 U

Environmental Monitoring Data

Data Collected from April 1, 2018 to June 30, 2018
Cedar Hills Landfill --- Groundwater VOAs Analytical Data
Contact Person: Sendy Jimenez (206) 477-5224

Site	Date	Sample ID	Trichloroethene ug/l 79-01-6	Trichlorofluoro methane ug/l 75-69-4	Vinyl Acetate ug/l 108-05-4	Vinyl Chloride ug/l 75-01-4
VOA TRIP BLANK	4/13/2018	VTRP180416Y	0.1 U	0.1 U	0.1 U	0.01 U
VOA TRIP BLANK	4/16/2018	VTRP180417Y	0.1 U	0.1 U	0.1 U	0.01 U
VOA TRIP BLANK	4/17/2018	VTRP180418Y	0.1 U	0.1 U	0.1 U	0.01 U
VOA TRIP BLANK	4/18/2018	VTRP180419Y	0.1 U	0.1 U	0.1 U	0.01 U
VOA TRIP BLANK	4/20/2018	VTRP180423Y	0.1 U	0.1 U	0.1 U	0.01 U
VOA TRIP BLANK	4/23/2018	VTRP180425Y	0.1 U	0.1 U	0.1 U	0.01 U
VOA TRIP BLANK	4/25/2018	VTRP180426Y	0.1 U	0.1 U	0.1 U	0.01 U
VOA TRIP BLANK	4/30/2018	VTRP180501Y	0.1 U	0.1 U	0.1 U	0.01 U
VOA TRIP BLANK	4/11/2018	VTRP180413X	0.1 U	0.1 U	0.1 U	0.01 U
VOA TRIP BLANK	4/13/2018	VTRP180416X	0.1 U	0.1 U	0.1 U	0.01 U
VOA TRIP BLANK	4/16/2018	VTRP180417X	0.1 U	0.1 U	0.1 U	0.01 U
VOA TRIP BLANK	4/17/2018	VTRP180418X	0.1 U	0.1 U	0.1 U	0.01 U
VOA TRIP BLANK	4/18/2018	VTRP180419X	0.1 U	0.1 U	0.1 U	0.01 U
VOA TRIP BLANK	4/26/2018	VTRP180430X	0.1 U	0.1 U	0.1 U	0.01 U
VOA TRIP BLANK	5/1/2018	VTRP180501X	0.1 U	0.1 U	0.1 U	0.01 U
VOA TRIP BLANK	5/2/2018	VTRP180503Y	0.1 U	0.1 U	0.1 U	0.01 U
VOA TRIP BLANK	5/2/2018	VTRP180503X	0.1 U	0.1 U	0.1 U	0.01 U
VOA TRIP BLANK	6/28/2018	VTRP180628X	0.1 U	0.1 U	0.1 U	0.01 U

Environmental Monitoring Data

Data Collected from April 1, 2018 to June 30, 2018
Cedar Hills Landfill --- MW-101 Appendix III Data
Contact Person: Sendy Jimenez (206) 477-5224

Site	Date	Sample ID	1,1-Dichloro-Propene	1,2,4,5-Tetrachloro-Benzene	1,2,4-Trichloro-Benzene	1,2-Diphenyl-Hydrazine	1,3,5-Trinitro-Benzene	1,3-Dichloro-Benzene	1,3-Dichloro-Propane	1,4-Naphtho-Quinone	1-Naphthyl-Amine	2,2-Dichloro-Propane
			563-58-6	95-94-3	120-82-1	122-66-7	99-35-4	541-73-1	142-28-9	130-15-4	134-32-7	594-20-7
			(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)
MW-101	4/30/2018	W101180430-	0.1 U	0.99 U	0.5 U	0.2 U	0.5 U	0.1 U	0.1 U	0.99 U	5 U	0.1 U

Data Collected from April 1, 2018 to June 30, 2018
Cedar Hills Landfill --- MW-101 Appendix III Data
Contact Person: Sendy Jimenez (206) 477-5224

Site	Date	Sample ID	2,2-Oxybis (1-Chloro-Propane)	2,4,5-T	2,4,5-Tp Silvex	2,4,5-Trichloro-Phenol	2,4,6-Trichloro-Phenol	2,4-D	2,4-Dichloro-Phenol	2,4-Dimethyl-Phenol	2,4-Dinitro-Phenol	2,4-Dinitro-Toluene	2,6-Dichloro-Phenol	2,6-Dinitro-Toluene
			108-60-1	93-76-5	93-72-1	95-95-4	88-06-2	94-75-7	120-83-2	105-67-9	51-28-5	121-14-2	87-65-0	606-20-2
			(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)
MW-101	4/30/2018	W101180430-	0.5 U	0.025 U	0.025 U	0.99 U	0.99 U	0.05 U	0.5 U	2 U	9.9 U	0.99 U	0.5 U	0.99 U

Environmental Monitoring Data

Data Collected from April 1, 2018 to June 30, 2018
Cedar Hills Landfill --- MW-101 Appendix III Data
Contact Person: Sendy Jimenez (206) 477-5224

Site	Date	Sample ID	2-Acetylamino-Fluorene	2-Chloro-Naphthalene	2-Chlorophenol	2-Methyl-1-Propanol	2-Methyl-Naphthalene	2-Methylphenol	2-Naphthylamine	2-Nitroaniline	2-Nitrophenol	2,3,7,8-Tcdd	3,3-Dichloro-Benzidine
			53-96-3	91-58-7	95-57-8	78-83-1	91-57-6	95-48-7	91-59-8	88-74-4	88-75-5	1746-01-6	91-94-1
			(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(pg/L)	(ug/L)
MW-101	4/30/2018	W101180430-	0.99 U	0.5 U	0.5 U	5 U	0.025 U	0.5 U	5 U	0.99 U	0.2 U	-	0.2 U

Environmental Monitoring Data

Data Collected from April 1, 2018 to June 30, 2018
Cedar Hills Landfill --- MW-101 Appendix III Data
Contact Person: Sendy Jimenez (206) 477-5224

Site	Date	Sample ID	3,3'-Dimethyl-Benzidine	3,4-Methylphenol Mixture	3-Chloro-Propene	3-Methylchlor-Anthrene	3-Nitroaniline	4,4'Ddd	4,4'Dde	4,4'Ddt	4,6-Dinitro-2-Methylphenol	4-Amino-Biphenyl	4-Bromophenyl Phenyl Ether
			119-93-7	15831-10-4	107-05-1	56-49-5	99-09-2	72-54-8	72-55-9	50-29-3	534-52-1	92-67-1	101-55-3
			(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)
MW-101	4/30/2018	W101180430-	5 GU	0.5 U	0.1 U	0.5 U	0.99 U	0.005 U	0.005 U	0.005 U	0.99 U	2 U	0.5 U

Environmental Monitoring Data

Data Collected from April 1, 2018 to June 30, 2018
Cedar Hills Landfill --- MW-101 Appendix III Data
Contact Person: Sendy Jimenez (206) 477-5224

Site	Date	Sample ID	4-Chloro-3-Methylphenol	4-Chlorophenyl Phenyl Ether	4-Dimethylaminoazobenzene	4-Nitroaniline	4-Nitrophenol	5-Nitro-O-Toluidine	7,12-Dimethylbenz-(A)Anthracene	Acenaphthylene	Acenapthalene
			59-50-7	7005-72-3	60-11-7	100-01-6	100-02-7	99-55-8	57-97-6	208-96-8	83-32-9
			(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)
MW-101	4/30/2018	W101180430-	0.5 U	0.5 U	0.99 U	5 U	5 U	2 U	0.5 U	0.025 U	0.025 U

Environmental Monitoring Data

Data Collected from April 1, 2018 to June 30, 2018
Cedar Hills Landfill --- MW-101 Appendix III Data
Contact Person: Sendy Jimenez (206) 477-5224

Site	Date	Sample ID	Acetonitrile	Acetophenone	Acrolein	Aldrin	Alpha Bhc	Alpha Chlordane	Alpha-Terpineol	Aniline	Anthracene	Aroclor 1016	Aroclor 1221	Aroclor 1232
			75-05-8 (ug/L)	98-86-2 (ug/L)	107-02-8 (ug/L)	309-00-2 (ug/L)	319-84-6 (ug/L)	5103-71-9 (ug/L)	98-55-5 (ug/L)	62-53-3 (ug/L)	120-12-7 (ug/L)	12674-11-2 (ug/L)	11104-28-2 (ug/L)	11141-16-5 (ug/L)
MW-101	4/30/2018	W101180430-	5 U	0.5 U	2.5 U	0.005 U	0.005 U	0.005 U	0.5 U	0.99 U	0.05 U	0.00625 U	0.00625 U	0.00625 U

Environmental Monitoring Data

Data Collected from April 1, 2018 to June 30, 2018
Cedar Hills Landfill --- MW-101 Appendix III Data
Contact Person: Sendy Jimenez (206) 477-5224

Site	Date	Sample ID	Aroclor 1242	Aroclor 1248	Aroclor 1254	Aroclor 1260	Benzo(A)-Anthracene	Benzo(A)Pyrene	Benzo(B,J,K)-Fluoranthrene	Benzo(G,H,I)-Perylene	Benzoic Acid	Benzyl Alcohol
			53469-21-9	12672-29-6	11097-69-1	11096-82-5	56-55-3	50-32-8	BJK	191-24-2	65-85-0	100-51-6
			(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)
MW-101	4/30/2018	W101180430-	0.00625 U	0.00625 U	0.00625 U	0.00625 U	0.05 U	0.05 U	0.05 U	0.05 U	9.9 U	5 U

Environmental Monitoring Data

Data Collected from April 1, 2018 to June 30, 2018
Cedar Hills Landfill --- MW-101 Appendix III Data
Contact Person: Sendy Jimenez (206) 477-5224

Site	Date	Sample ID	Beta Bhc	Bis-(2-Chloroethoxy)-Methane	Bis(2-Chloroethyl)-Ether	Bis(2-Ethylhexyl)-Phthalate	Butyl-Benzyl-Phthalate	Chlordecone (Kepone)	Chlorobenzilate	Chlorophenols	Chloroprene	Chrysene
			319-85-7	111-91-1	111-44-4	117-81-7	85-68-7	143-50-0	510-15-6	58-90-2	126-99-8	218-01-9
			(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)
MW-101	4/30/2018	W101180430-	0.005 U	0.5 U	0.5 U	34.7 DJ	1 U	5 U	0.5 U	0.99 U	0.1 U	0.05 U

Environmental Monitoring Data

Data Collected from April 1, 2018 to June 30, 2018
Cedar Hills Landfill --- MW-101 Appendix III Data
Contact Person: Sendy Jimenez (206) 477-5224

Site	Date	Sample ID	Cis-Diallate	Cygon	Delta Bhc	Diallate	Dibenzo(A,H)-Anthracene	Dibenzofuran	Dieldrin	Diethyl-Phthalate	Dimethyl-Phthalate	Di-N-Butylphthalate
			17708-57-5 (ug/L)	60-51-5 (ug/L)	319-86-8 (ug/L)	2303-16-4 (ug/L)	53-70-3 (ug/L)	132-64-9 (ug/L)	60-57-1 (ug/L)	84-66-2 (ug/L)	131-11-3 (ug/L)	84-74-2 (ug/L)
MW-101	4/30/2018	W101180430-	0.04 U	0.1 U	0.005 U	0.04 U	0.05 U	0.5 U	0.005 U	1.1 JT	1.6 JT	1 U

Environmental Monitoring Data

Data Collected from April 1, 2018 to June 30, 2018
Cedar Hills Landfill --- MW-101 Appendix III Data
Contact Person: Sendy Jimenez (206) 477-5224

Site	Date	Sample ID	Di-N-Octyl Phthalate	Dinoseb	Diphenylamine	Disulfoton	Endosulfan I	Endosulfan Ii	Endosulfan Sulfate	Endrin	Endrin Aldehyde	Ethyl Methacrylate
			117-84-0	88-85-7	122-39-4	298-04-4	959-98-8	33213-65-9	1031-07-8	72-20-8	7421-93-4	97-63-2
			(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)
MW-101	4/30/2018	W101180430-	1 U	0.025 U	0.5 U	0.04 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.1 U

Data Collected from April 1, 2018 to June 30, 2018
Cedar Hills Landfill --- MW-101 Appendix III Data
Contact Person: Sendy Jimenez (206) 477-5224

Site	Date	Sample ID	Ethyl Methane-Sulfonate	Famphur	Fluoranthene	Fluorene	Heptachlor	Heptachlor Epoxide	Hexachloro-Benzene	Hexachloro-Butadiene	Hexachloro-Cyclo-Pentadiene	Hexachloro-Ethane
			62-50-0	52-85-7	206-44-0	86-73-7	76-44-8	1024-57-3	118-74-1	87-68-3	77-47-4	67-72-1
			(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)
MW-101	4/30/2018	W101180430-	0.5 U	0.04 U	0.05 U	0.05 U	0.005 U	0.005 U	0.2 U	2 U	5 U	5 U

Environmental Monitoring Data

Data Collected from April 1, 2018 to June 30, 2018
Cedar Hills Landfill --- MW-101 Appendix III Data
Contact Person: Sendy Jimenez (206) 477-5224

Site	Date	Sample ID	Hexachloro-Propene	Indeno(1,2,3-C,D)-Pyrene	Isodrin	Isophorone	Isosafrole	Lindane (Gamma Bhc)	M-Dinitrobenzene	Methapyrilene	Methoxychlor	Methyl Methacrylate
			1888-71-7 (ug/L)	193-39-5 (ug/L)	465-73-6 (ug/L)	78-59-1 (ug/L)	120-58-1 (ug/L)	58-89-9 (ug/L)	99-65-0 (ug/L)	91-80-5 (ug/L)	72-43-5 (ug/L)	80-62-6 (ug/L)
MW-101	4/30/2018	W101180430-	2 U	0.05 U	0.005 U	0.5 U	0.5 U	0.005 U	0.99 U	50 U	0.025 U	0.25 U

Environmental Monitoring Data

Data Collected from April 1, 2018 to June 30, 2018
Cedar Hills Landfill --- MW-101 Appendix III Data
Contact Person: Sendy Jimenez (206) 477-5224

Site	Date	Sample ID	Methyl Methane-Sulfonate	Methyl Parathion	Methylacrylonitrile	Naphthalene	Nitrobenzene	N-Nitroso-Diethylamine	N-Nitroso-Dimethylamine	N-Nitrosodi-N-Butylamine	N-Nitroso-Diphenylamine
			66-27-3	298-00-0	126-98-7	91-20-3	98-95-3	55-18-5	62-75-9	924-16-3	86-30-6
			(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)
MW-101	4/30/2018	W101180430-	0.5 U	0.04 U	0.1 U	0.025 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U

Environmental Monitoring Data

Data Collected from April 1, 2018 to June 30, 2018
Cedar Hills Landfill --- MW-101 Appendix III Data
Contact Person: Sendy Jimenez (206) 477-5224

Site	Date	Sample ID	N-Nitroso-Dipropylamine	N-Nitroso-Methyl-Ethalamine	N-Nitroso-Piperidine	N-Nitroso-Pyrrolidine	O,O,O-Triethyl Phosphoro-Thioate	O,O-Diethyl O-Pyrazinyl Phosphoro-Thioate	O-Toluidine	Parathion	P-Chloroaniline	Pentachloro-Benzene
			621-64-7	10595-95-6	100-75-4	930-55-2	126-68-1	297-97-2	95-53-4	56-38-2	106-47-8	608-93-5
			(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)
MW-101	4/30/2018	W101180430-	0.5 U	0.5 U	0.99 U	0.99 U	0.04 U	0.04 U	0.099 U	0.04 U	0.99 U	0.5 U

Data Collected from April 1, 2018 to June 30, 2018
Cedar Hills Landfill --- MW-101 Appendix III Data
Contact Person: Sendy Jimenez (206) 477-5224

Site	Date	Sample ID	Pentachloronitrobenzene	Pentachlorophenol	Phenacetin	Phenanthrene	Phenol	Phorate	Phorate	P-Phenylene-Diamine	Proprionitrile	Propyzamide
			82-68-8 (ug/L)	87-86-5 (ug/L)	62-44-2 (ug/L)	85-01-8 (ug/L)	108-95-2 (ug/L)	122-08-8 (ug/L)	298-02-2 (ug/L)	106-50-3 (ug/L)	107-12-0 (ug/L)	23950-58-5 (ug/L)
MW-101	4/30/2018	W101180430-	0.5 U	2 U	0.5 U	0.05 U	0.5 U	20 GU	0.04 U	20 GU	0.5 U	0.04 U

Environmental Monitoring Data

Data Collected from April 1, 2018 to June 30, 2018
Cedar Hills Landfill --- MW-101 Appendix III Data
Contact Person: Sendy Jimenez (206) 477-5224

Site	Date	Sample ID	Pyrene	Safrole	Total Aroclors	Toxaphene	Trans-Chlordane	Trans-Diallate
			129-00-0 (ug/L)	94-59-7 (ug/L)	T_AROCLOR (ug/L)	8001-35-2 (ug/L)	5103-74-2 (ug/L)	17708-58-6 (ug/L)
MW-101	4/30/2018	W101180430-	0.05 U	0.99 U	0.00625 U	0.5 U	0.005 U	0.04 U

Site	Date	Reference Elevation (msl)	Depth to Water (feet)	Ground-Water Elevation (msl)	Comment
EW-25	7/9/2018	643.61			Decommissioned.
MW-100	7/9/2018	620.32	296.5	323.82	
MW-101	7/9/2018	474.72	34.24	440.48	
MW-102	7/9/2018	552.48	47.69	504.79	
MW-103	7/9/2018	639.08	17.28	621.8	
MW-104	7/9/2018	629.68	26.72	602.96	
MW-105	7/9/2018	521.23	21.4	499.83	
MW-106	7/9/2018	475.47	189.56	285.91	
MW-21	7/9/2018	420.66	124.33	296.33	
MW-22	7/9/2018	517.09	231.72	285.37	
MW-24	7/9/2018	475.99	144.11	331.88	
MW-25	7/9/2018	474.41	12.4	462.01	
MW-27A	7/9/2018	584.23	54.77	529.46	
MW-28	7/9/2018	527.75	36.1	491.65	
MW-29	7/9/2018	532.92	14.89	518.03	
MW-30A	7/9/2018	568.43	29.75	538.68	Water and insects in annulus
MW-41D	7/9/2018	462.32	28.9	433.42	
MW-41S	7/9/2018	462.44	10.15	452.29	
MW-43	7/9/2018	547.06	262.78	284.28	
MW-45	7/9/2018	488.4	17.92	470.48	
MW-47	7/9/2018	634.6	20.63	613.97	
MW-48	7/9/2018	632.15	46.3	585.85	Earwigs
MW-50	7/9/2018	637.02	31.41	605.61	
MW-54	7/9/2018	580.43	277.77	302.66	
MW-55	7/9/2018	652.29	30.8	621.49	Water in annulus
MW-56	7/9/2018	480.33	125.27	355.06	
MW-57	7/9/2018	456.64	102.62	354.02	
MW-58A	7/9/2018	479.27	148.12	331.15	
MW-59	7/9/2018	457.13	122.87	334.26	
MW-60	7/9/2018	567.15			Cannot access - down power line
MW-62	7/9/2018	556.21			Dry.
MW-63	7/9/2018	515.88	18.6	497.28	
MW-64	7/9/2018	594.49	264.73	329.76	
MW-65	7/9/2018	545.83	208.3	337.53	
MW-66	7/9/2018	531.28	237.97	293.31	
MW-67	7/9/2018	516.43	219.53	296.9	
MW-68	7/9/2018	647.07	331.12	315.95	

Site	Date	Reference Elevation (msl)	Depth to Water (feet)	Ground-Water Elevation (msl)	Comment
MW-69	7/9/2018	653.69	355.5	298.19	
MW-72	7/9/2018	671.87	360.47	311.4	
MW-73	7/9/2018	485.7	190.45	295.25	Earwigs
MW-74	7/9/2018	531.26	239.23	292.03	
MW-75	7/9/2018	532.4	244.82	287.58	
MW-76	7/9/2018	491.71	136.71	355	
MW-79	7/9/2018	459.17			
MW-80	7/9/2018	530.41	238.14	292.27	Wasps
MW-81	7/9/2018	493.66	183.26	310.4	
MW-82	7/9/2018	474.85	121.28	353.57	
MW-83	7/9/2018	496.81	142.99	353.82	
MW-84	7/9/2018	530.8	235.32	295.48	Tree debris blocking vehicle access
MW-85	7/9/2018	531.76	245.17	286.59	
MW-86	7/9/2018	536.04	248.81	287.23	
MW-87	7/9/2018	537.31	247.19	290.12	Wasps and insects
MW-88	7/9/2018	513.68	226.21	287.47	
MW-89	7/9/2018	512.82	231.41	281.41	Foliage covering well
MW-90	7/9/2018	502.22	220.96	281.26	
MW-91	7/9/2018	532.02	246.08	285.94	
MW-93	7/9/2018	632.15	307.2	324.95	
MW-94	7/9/2018	495.51	140.44	355.07	
MW-95	7/9/2018	571.54	250.61	320.93	
MW-98	7/9/2018	503.73	20.54	483.19	Insects
MW-99	7/9/2018	493.64	199.72	293.92	
MW-EB5	7/9/2018	645.36	40.16	605.2	
MW-EB5S	7/9/2018	645.77	13.84	631.93	
MW-EB6	7/9/2018	589.61	29.23	560.38	Ants

Site	Date	Sample ID	pH (Field) (std. Units)	Conductance (Field) (umhos/cm)	Temperature (^{o}C)	Purge Volume (gal)	Dissolved Oxygen (mg/L)	ORP mV	Turbidity NTU
MW-101	7/16/2018	W101180716-	7.03	460	13.1	2.5			3.13
MW-30A	7/12/2018	W30A180712-	6.68	270	6.4	3.5			1.64
MW-47	7/13/2018	W47-180713-	6.91	920	12.1	18.45			5.42
MW-59	7/16/2018	W59-180716-	6.63	184.3	10.57	4.5	0.73	-42.4	1.65
MW-66	7/12/2018	W66-180712-	6.18	219.3	10.22	2.5	5.93	312.2	0.5
MW-68	7/13/2018	W68-180713-	6.59	261.8	11.25	3.5	0.9	17.4	3.24
MW-69	7/23/2018	W69-180723-	7.15	303	10.49	3.8	1.21	-65	1.73
MW-72	7/23/2018	W72-180723-	6.51	323.7	10.69	4.5	1.21	2.3	9.94
MW-74	7/20/2018	W74R180720-	6.69	518.8	10.39	4	4.5	313.8	0.59
MW-75	7/19/2018	W75-180719-	6.71	335.3	9.96	3.8	0.79	-18.2	1.12
MW-80	7/19/2018	W80-180719-	6.53	288.5	10.18	3.5	1.05	-20	0.78
MW-81	7/20/2018	W81-180720-	7.05	147.2	10.03	2.5	5.75	358	0.23
MW-83	7/20/2018	W83-180720-	6.54	487.8	10.82	3	1.22	329.7	0.4
MW-84	7/20/2018	W84-180720-	6.14	162.3	9.99	3.2	1.5	192.7	0.33
MW-85	7/20/2018	W85-180720-	6.78	340.9	9.97	2.5	3.39	160.2	0.16
MW-87	7/20/2018	W87-180720-	6.37	489.1	10.97	3.5	0.68	1.2	12.8
MW-93	7/30/2018	W93-180730-	6.65	295.2	11.38	5	0.84	350	0.79
MW-93	7/30/2018	W93-180730D	6.65	295.2	11.38	5	0.84	350	0.79
MW-94	7/20/2018	W94-180720-	6.53	292.2	9.9	3	7.21	199.4	0.42
FIELD BLANK	7/12/2018	W66-180712F	6.31	3.3	17.5				

Site	Date	Sample ID	Alkalinity, Total ($CaCO_3$) (mg/L)	Ammonia, (NH_3) (mg/L)	Chloride (mg/L)	Nitrate-Nitrogen, (NO_3 as N) (mg/L)	Specific Conductance (umhos/cm)	Sulfate (SO4) (mg/L)	Total Dissolved Solids (mg/L)	Total Organic Carbon (mg/L)	Total Solids (mg/L)	Suspended Solids (mg/L)
MW-30A	7/12/2018	W30A180712-	69.3	0.002 U	0.956	15.9	288	6.02	214	0.87 T	219	0.9 T
MW-47	7/13/2018	W47-180713-	658	0.0928	6.15	0.01 U	1180	6.09	724	3.9	768	10.7
MW-59	7/16/2018	W59-180716-	69	0.0055 T	7.74	0.013 T	198	14.9	124	0.52 T	129	1.3
MW-66	7/12/2018	W66-180712-	95.3	0.002 U	5.12	0.578	238	13.6	144	0.5 U	153	0.74 T
MW-68	7/13/2018	W68-180713-	125	0.0187	2.81	0.01 U	284	15.3	171	0.57 T	177	1.39
MW-69	7/23/2018	W69-180723-	136	0.0171	3.68	0.01 U	322	23.2	196	0.59 T	201	2.3
MW-72	7/23/2018	W72-180723-	129	0.0172	6.07	0.013 T	346	36.3	214	0.57 T	223	8.34
MW-74	7/20/2018	W74R180720-	227	0.0029 T	25.9	0.28	562	31	339	0.5 U	343	0.5 U
MW-75	7/19/2018	W75-180719-	107	0.0103	10.1	0.01 U	359	55.7	233	0.5 U	244	2.93
MW-80	7/19/2018	W80-180719-	112	0.0156	4.58	0.01 U	306	34	194	0.5 U	205	1.72
MW-81	7/20/2018	W81-180720-	54.4	0.002 U	5.13	1.45	159	9.42	107	0.5 U	111	0.5 U
MW-83	7/20/2018	W83-180720-	171	0.0072 T	50.8	2.44	530	9.3	349	6.41	367	0.5 U
MW-84	7/20/2018	W84-180720-	64.7	0.0024 T	3.37	0.149	167	12.1	106	0.5 U	110	0.5 U
MW-85	7/20/2018	W85-180720-	127	0.0035 T	10.3	0.113	348	32.6	213	0.5 U	216	0.5 U
MW-87	7/20/2018	W87-180720-	102	0.0207	11.4	0.01 U	520	138	375	0.5 U	391	9.17
MW-93	7/30/2018	W93-180730-	120	0.0592	2.78	0.01 U	320	35.3	200	0.69 T	209	0.5 U
MW-94	7/20/2018	W94-180720-	98.9	0.004 T	21.3	2.03	298	7.68	192	2.48	200	0.5 U
MW-101	7/16/2018	W101180716-	296	0.0161	2.85	0.01 U	553	4.06	329	4.36	350	13.2
FIELD BLANK	7/12/2018	W66-180712F	1 U	0.002 U	0.05 U	0.01 U	2.8 T	0.1 U	10 U	0.5 U	10 U	0.5 U

Site	Date	Sample ID	Antimony, dissolved (mg/L)	Antimony, total (mg/L)	Arsenic, dissolved (mg/L)	Arsenic, total (mg/L)	Barium, dissolved (mg/L)	Barium, total (mg/L)	Beryllium, dissolved (mg/L)	Beryllium, total (mg/L)	Cadmium, dissolved (mg/L)	Cadmium, total (mg/L)
MW-30A	7/12/2018	W30A180712-	0.0003 U	0.0003 U	0.000455	0.000489	0.00366	0.00389	0.0001 U	0.0001 U	5E-05 U	5E-05 U
MW-47	7/13/2018	W47-180713-	0.0003 U	0.0003 U	0.00164	0.00167	0.0393	0.0458	0.0001 U	0.0001 U	5E-05 U	5E-05 U
MW-59	7/16/2018	W59-180716-	0.0003 U	0.0003 U	0.000371	0.000404	0.00402	0.00409	0.0001 U	0.0001 U	5E-05 U	5E-05 U
MW-66	7/12/2018	W66-180712-	0.0003 U	0.0003 U	0.0006	0.000632	0.0045	0.00452	0.0001 U	0.0001 U	5E-05 U	5E-05 U
MW-68	7/13/2018	W68-180713-	0.0003 U	0.0003 U	0.00974	0.0118	0.0108	0.0107	0.0001 U	0.0001 U	5E-05 U	5E-05 U
MW-69	7/23/2018	W69-180723-	0.0003 U	0.0003 U	0.00231	0.00253	0.0126	0.0126	0.0001 U	0.0001 U	5E-05 U	5E-05 U
MW-72	7/23/2018	W72-180723-	0.0003 U	0.0003 U	7.49E-05	0.000124	0.0113	0.0126	0.0001 U	0.0001 U	5E-05 U	5E-05 U
MW-74	7/20/2018	W74R180720-	0.0003 U	0.0003 U	0.000375	0.000417	0.0139	0.014	0.0001 U	0.0001 U	5E-05 U	5E-05 U
MW-75	7/19/2018	W75-180719-	0.0003 U	0.0003 U	0.000495	0.00049	0.0124	0.0123	0.0001 U	0.0001 U	5E-05 U	5E-05 U
MW-80	7/19/2018	W80-180719-	0.0003 U	0.0003 U	0.00395	0.00432	0.0146	0.0147	0.0001 U	0.0001 U	5E-05 U	5E-05 U
MW-81	7/20/2018	W81-180720-	0.0003 U	0.0003 U	0.000521	0.000521	0.00317	0.00326	0.0001 U	0.0001 U	5E-05 U	5E-05 U
MW-83	7/20/2018	W83-180720-	0.0003 U	0.0003 U	0.000386	0.000397	0.00748	0.00738	0.0001 U	0.0001 U	5E-05 U	5E-05 U
MW-84	7/20/2018	W84-180720-	0.0003 U	0.0003 U	0.000335	0.000324	0.00412	0.00396	0.0001 U	0.0001 U	5E-05 U	5E-05 U
MW-85	7/20/2018	W85-180720-	0.0003 U	0.0003 U	0.000692	0.000685	0.00665	0.00656	0.0001 U	0.0001 U	5E-05 U	5E-05 U
MW-87	7/20/2018	W87-180720-	0.0003 U	0.0003 U	0.000462	0.00228	0.0264	0.0265	0.0001 U	0.0001 U	5E-05 U	5E-05 U
MW-93	7/30/2018	W93-180730-	0.0003 U	0.0003 U	0.00131	0.00132	0.0074	0.00787	0.0001 U	0.0001 U	5E-05 U	5E-05 U
MW-94	7/20/2018	W94-180720-	0.0003 U	0.0003 U	0.000141	0.000139	0.00258	0.00262	0.0001 U	0.0001 U	5E-05 U	5E-05 U
MW-101	7/16/2018	W101180716-	0.0003 U	0.0003 U	0.00906	0.0126	0.0207	0.0209	0.0001 U	0.0001 U	5E-05 U	5E-05 U
FIELD BLANK	7/12/2018	W66-180712F	0.0003 U	0.0003 U	5E-05 U	5E-05 U	0.0005 U	0.0005 U	0.0001 U	0.0001 U	5E-05 U	5E-05 U

Site	Date	Sample ID	Calcium, dissolved (mg/L)	Calcium, total (mg/L)	Chromium, dissolved (mg/L)	Chromium total (mg/L)	Cobalt, dissolved (mg/L)	Cobalt, total (mg/L)	Copper, dissolved (mg/L)	Copper, total (mg/L)	Iron, dissolved (mg/L)	Iron, total (mg/L)
MW-30A	7/12/2018	W30A180712-	22.8	22.2	0.000519	0.00068	5E-05 U	5.78E-05	0.0002 U	0.000256	0.01 U	0.113
MW-47	7/13/2018	W47-180713-	148	148	0.0002 U	0.00153	0.000296	0.000768	0.0002 U	0.00168	0.807	2.64
MW-59	7/16/2018	W59-180716-	16.5	16.3	0.0002 U	0.0002 U	5E-05 U	5E-05 U	0.0002 U	0.0002 U	3.78	3.86
MW-66	7/12/2018	W66-180712-	18.4	18.7	0.0002 U	0.0002 U	5E-05 U	5E-05 U	0.0002 U	0.0002 U	0.01 U	0.0308
MW-68	7/13/2018	W68-180713-	27.7	28.3	0.0002 U	0.0002 U	0.000225	0.000237	0.0002 U	0.0002 U	0.62	0.697
MW-69	7/23/2018	W69-180723-	35.1	34.7	0.0002 U	0.0002 U	5E-05 U	5E-05 U	0.0002 U	0.0002 U	1.15	1.27
MW-72	7/23/2018	W72-180723-	33.2	33.4	0.0002 U	0.0002 U	5E-05 U	5E-05 U	0.0002 U	0.000347	2.73	4.06
MW-74	7/20/2018	W74R180720-	49.4	49.8	0.0002 U	0.0002 U	5E-05 U	5E-05 U	0.0002 U	0.0002 U	0.01 U	0.0413
MW-75	7/19/2018	W75-180719-	30.7	30.3	0.0002 U	0.0002 U	5E-05 U	5E-05 U	0.0002 U	0.0002 U	2.22	2.24
MW-80	7/19/2018	W80-180719-	30.7	30.7	0.0002 U	0.0002 U	5E-05 U	5E-05 U	0.0002 U	0.0002 U	2.18	2.26
MW-81	7/20/2018	W81-180720-	13.8	14.1	0.0002 U	0.0002 U	5E-05 U	5E-05 U	0.0002 U	0.0002 U	0.01 U	0.01 U
MW-83	7/20/2018	W83-180720-	55.7	55.5	0.0002 U	0.0002 U	0.000266	0.000287	0.00382	0.00386	0.01 U	0.01 U
MW-84	7/20/2018	W84-180720-	13	12.8	0.0002 U	0.0002 U	5E-05 U	5E-05 U	0.0002 U	0.0002 U	0.01 U	0.01 U
MW-85	7/20/2018	W85-180720-	31.8	33.2	0.0002 U	0.0002 U	5E-05 U	5E-05 U	0.0002 U	0.0002 U	0.01 U	0.01 U
MW-87	7/20/2018	W87-180720-	47.1	47.1	0.0002 U	0.0002 U	0.000113	0.000119	0.0002 U	0.0002 U	4.93	6.62
MW-93	7/30/2018	W93-180730-	31.9	32.1	0.0002 U	0.0002 U	8.89E-05	9.46E-05	0.0002 U	0.0002 U	0.01 U	0.01 U
MW-94	7/20/2018	W94-180720-	29.8	31.1	0.0002 U	0.0002 U	7.54E-05	7.87E-05	0.000957	0.000928	0.01 U	0.01 U
MW-101	7/16/2018	W101180716-	53	56.3	0.0002 U	0.000655	0.000332	0.000286	0.0002 U	0.0002 U	1.03	0.829
FIELD BLANK	7/12/2018	W66-180712F	0.05 U	0.05 U	0.0002 U	0.0002 U	5E-05 U	5E-05 U	0.0002 U	0.0002 U	0.01 U	0.01 U

Site	Date	Sample ID	Lead, dissolved (mg/L)	Lead, total (mg/L)	Magnesium, dissolved (mg/L)	Magnesium, total (mg/L)	Manganese, dissolved (mg/L)	Manganese, total (mg/L)	Mercury, dissolved (mg/L)	Mercury, total (mg/L)	Nickel, dissolved (mg/L)	Nickel, total (mg/L)
MW-30A	7/12/2018	W30A180712-	0.0001 U	0.0001 U	11.6	11.5	0.0001 U	0.00146	5E-05 U	5E-05 U	0.000624	0.000736
MW-47	7/13/2018	W47-180713-	0.0001 U	0.000205	71.1	74.8	1.94 D	1.68 D	5E-05 U	5E-05 U	0.00108	0.00266
MW-59	7/16/2018	W59-180716-	0.0001 U	0.0001 U	10.1	10.2	0.114	0.12	5E-05 U	5E-05 U	0.000142	0.000175
MW-66	7/12/2018	W66-180712-	0.0001 U	0.0001 U	14.2	14.8	0.000163	0.000529	5E-05 U	5E-05 U	0.000148	0.000172
MW-68	7/13/2018	W68-180713-	0.0001 U	0.0001 U	15.3	15.5	0.3 D	0.309 D	5E-05 U	5E-05 U	0.0005	0.000544
MW-69	7/23/2018	W69-180723-	0.0001 U	0.0001 U	16.7	17.2	0.277	0.273	5E-05 U	5E-05 U	0.000124	0.00015
MW-72	7/23/2018	W72-180723-	0.0001 U	0.000116	20.2	20.4	0.386	0.396	5E-05 U	5E-05 U	0.0001 U	0.000147
MW-74	7/20/2018	W74R180720-	0.0001 U	0.0001 U	36.9	38.4	0.0001 U	0.000795	5E-05 U	5E-05 U	0.000969	0.00102
MW-75	7/19/2018	W75-180719-	0.0001 U	0.0001 U	22.4	22.8	0.191	0.183	5E-05 U	5E-05 U	0.0001 U	0.0001 U
MW-80	7/19/2018	W80-180719-	0.0001 U	0.0001 U	16	16.3	0.331	0.329	5E-05 U	5E-05 U	0.000109	0.000146
MW-81	7/20/2018	W81-180720-	0.0001 U	0.0001 U	7.63	7.91	0.0001 U	0.0001 U	5E-05 U	5E-05 U	0.0001 U	0.000101
MW-83	7/20/2018	W83-180720-	0.0001 U	0.0001 U	24.4	24.5	0.00468	0.0189	5E-05 U	5E-05 U	0.00177	0.00182
MW-84	7/20/2018	W84-180720-	0.0001 U	0.0001 U	10.1	10.2	0.000729	0.00105	5E-05 U	5E-05 U	0.000262	0.000243
MW-85	7/20/2018	W85-180720-	0.0001 U	0.0001 U	20	20.9	0.0001 U	0.000227	5E-05 U	5E-05 U	0.000178	0.000414
MW-87	7/20/2018	W87-180720-	0.0001 U	0.0001 U	31.5	31.9	0.533	0.544	5E-05 U	5E-05 U	0.000107	0.000152
MW-93	7/30/2018	W93-180730-	0.0001 U	0.0001 U	15.9	15	0.219	0.228	5E-05 U	5E-05 U	0.000209	0.000201
MW-94	7/20/2018	W94-180720-	0.0001 U	0.0001 U	13.1	14	0.0001 U	0.000101	5E-05 U	5E-05 U	0.00043	0.000423
MW-101	7/16/2018	W101180716-	0.0001 U	0.0001 U	31	34.5	1.13	1.31	5E-05 U	5E-05 U	0.00369	0.00406
FIELD BLANK	7/12/2018	W66-180712F	0.0001 U	0.0001 U	0.05 U	0.05 U	0.0001 U	0.0001 U	5E-05 U	5E-05 U	0.0001 U	0.0001 U

Site	Date	Sample ID	Potassium, dissolved (mg/L)	Potassium, total (mg/L)	Selenium, dissolved (mg/L)	Selenium, total (mg/L)	Silver, dissolved (mg/L)	Silver, total (mg/L)	Sodium, dissolved (mg/L)	Sodium, total (mg/L)	Thallium, dissolved (mg/L)	Thallium, total (mg/L)
MW-30A	7/12/2018	W30A180712-	1.49	1.46	0.0005 U	0.0005 U	4E-05 U	4E-05 U	16.1	16.2	0.0001 U	0.0001 U
MW-47	7/13/2018	W47-180713-	6.16	5.76	0.0005 U	0.0005 U	4E-05 U	4E-05 U	18.8	19.9	0.0001 U	0.0001 U
MW-59	7/16/2018	W59-180716-	1.13	1.12	0.0005 U	0.0005 U	4E-05 U	4E-05 U	6.27	6.43	0.0001 U	0.0001 U
MW-66	7/12/2018	W66-180712-	1.15	1.19	0.000898	0.00102	4E-05 U	4E-05 U	7.49	7.83	0.0001 U	0.0001 U
MW-68	7/13/2018	W68-180713-	1.68	1.71	0.0005 U	0.0005 U	4E-05 U	4E-05 U	8.77	9.1	0.0001 U	0.0001 U
MW-69	7/23/2018	W69-180723-	1.82	1.87	0.0005 U	0.0005 U	4E-05 U	4E-05 U	9.08	9.15	0.0001 U	0.0001 U
MW-72	7/23/2018	W72-180723-	1.98	1.99	0.0005 U	0.0005 U	4E-05 U	4E-05 U	8.36	8.55	0.0001 U	0.0001 U
MW-74	7/20/2018	W74R180720-	2.21	2.23	0.000741	0.000739	4E-05 U	4E-05 U	13.2	13.7	0.0001 U	0.0001 U
MW-75	7/19/2018	W75-180719-	1.95	1.94	0.0005 U	0.0005 U	4E-05 U	4E-05 U	9.3	9.48	0.0001 U	0.0001 U
MW-80	7/19/2018	W80-180719-	1.68	1.68	0.0005 U	0.0005 U	4E-05 U	4E-05 U	7.94	8.09	0.0001 U	0.0001 U
MW-81	7/20/2018	W81-180720-	0.823	0.857	0.000852	0.000892	4E-05 U	4E-05 U	6.63	6.75	0.0001 U	0.0001 U
MW-83	7/20/2018	W83-180720-	3.24	3.25	0.0005 U	0.0005 U	4E-05 U	4E-05 U	13.5	13.7	0.0001 U	0.0001 U
MW-84	7/20/2018	W84-180720-	1.06	1.05	0.000509	0.000568	4E-05 U	4E-05 U	6.51	6.69	0.0001 U	0.0001 U
MW-85	7/20/2018	W85-180720-	1.64	1.68	0.000983	0.000958	4E-05 U	4E-05 U	9.47	10	0.0001 U	0.0001 U
MW-87	7/20/2018	W87-180720-	2.43	2.44	0.0005 U	0.0005 U	4E-05 U	4E-05 U	10.9	11.2	0.0001 U	0.0001 U
MW-93	7/30/2018	W93-180730-	1.58	1.59	0.0005 U	0.0005 U	4E-05 U	4E-05 U	9.28	9.45	0.0001 U	0.0001 U
MW-94	7/20/2018	W94-180720-	2.2	2.29	0.0005 U	0.0005 U	4E-05 U	4E-05 U	7.87	8.47	0.0001 U	0.0001 U
MW-101	7/16/2018	W101180716-	2.64	2.76	0.0005 U	0.0005 U	4E-05 U	4E-05 U	17.2	17.6	0.0001 U	0.0001 U
FIELD BLANK	7/12/2018	W66-180712F	0.1 U	0.1 U	0.0005 U	0.0005 U	4E-05 U	4E-05 U	0.1 U	0.1 U	0.0001 U	0.0001 U

Site	Date	Sample ID	Vanadium, dissolved (mg/L)	Vanadium, total (mg/L)	Zinc, dissolved (mg/L)	Zinc, total (mg/L)
MW-30A	7/12/2018	W30A180712-	0.00195	0.00211	0.000954	0.000807
MW-47	7/13/2018	W47-180713-	0.000386	0.00269	0.000507	0.00315
MW-59	7/16/2018	W59-180716-	7.5E-05 U	7.5E-05 U	0.00112	0.0015
MW-66	7/12/2018	W66-180712-	0.0006	0.000643	0.000695	0.00121
MW-68	7/13/2018	W68-180713-	0.000184	0.000262	0.000528	0.000688
MW-69	7/23/2018	W69-180723-	7.89E-05	0.000109	0.0005 U	0.000685
MW-72	7/23/2018	W72-180723-	7.5E-05 U	7.65E-05	0.00106	0.00301
MW-74	7/20/2018	W74R180720-	0.00057	0.000617	0.0005 U	0.0005 U
MW-75	7/19/2018	W75-180719-	7.5E-05 U	7.5E-05 U	0.0005 U	0.0005 U
MW-80	7/19/2018	W80-180719-	7.5E-05 U	7.5E-05 U	0.0005 U	0.000516
MW-81	7/20/2018	W81-180720-	0.00164	0.00167	0.0005 U	0.0005 U
MW-83	7/20/2018	W83-180720-	0.000941	0.00101	0.0005 JU	0.000568
MW-84	7/20/2018	W84-180720-	0.000482	0.000492	0.0005 U	0.0005 U
MW-85	7/20/2018	W85-180720-	0.000902	0.000959	0.0005 U	0.0005 U
MW-87	7/20/2018	W87-180720-	7.5E-05 U	0.000514	0.0005 U	0.0005 U
MW-93	7/30/2018	W93-180730-	0.00209	0.00215	0.000848	0.00103
MW-94	7/20/2018	W94-180720-	0.00121	0.00131	0.0005 U	0.0005 U
MW-101	7/16/2018	W101180716-	0.000181	0.000335	0.000759	0.000677
FIELD BLANK	7/12/2018	W66-180712F	7.5E-05 U	7.5E-05 U	0.0005 U	0.0005 U

Site	Date	Sample ID	1,1,1,2-Tetrachloroethane ug/l 630-20-6	1,1,1-Trichloroethane ug/l 71-55-6	1,1,2,2-Tetrachloroethane ug/l 79-34-5	1,1,2-Trichloroethane ug/l 79-00-5	1,1-Dichloroethane ug/l 75-34-3	1,1-Dichloroethene ug/l 75-35-4	1,2,3-Trichloropropane ug/l 96-18-4	1,2-Dibromo-3-Chloropropa ug/l 96-12-8	1,2-Dibromoethane ug/l 106-93-4	1,2-Dichlorobenzene ug/l 95-50-1	1,2-Dichloroethane ug/l 107-06-2
MW-30A	7/12/2018	W30A180712-	0.25 U	0.1 U	0.1 U	0.1 U	1.57	0.1 U	0.1 U	2.5 U	0.1 U	0.1 U	0.1 U
MW-47	7/13/2018	W47-180713-	0.25 U	0.1 U	0.1 U	0.1 U	0.579	0.1 U	0.1 U	2.5 U	0.1 U	0.1 U	0.103 JT
MW-59	7/16/2018	W59-180716-	0.25 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	2.5 U	0.1 U	0.1 U	0.1 U
MW-66	7/12/2018	W66-180712-	0.25 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	2.5 U	0.1 U	0.1 U	0.1 U
MW-68	7/13/2018	W68-180713-	0.25 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	2.5 U	0.1 U	0.1 U	0.1 U
MW-69	7/23/2018	W69-180723-	0.25 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	2.5 U	0.1 U	0.1 U	0.1 U
MW-72	7/23/2018	W72-180723-	0.25 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	2.5 U	0.1 U	0.1 U	0.1 U
MW-74	7/20/2018	W74R180720-	0.25 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	2.5 U	0.1 U	0.1 U	0.1 U
MW-75	7/19/2018	W75-180719-	0.25 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	2.5 U	0.1 U	0.1 U	0.1 U
MW-80	7/19/2018	W80-180719-	0.25 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	2.5 U	0.1 U	0.1 U	0.1 U
MW-81	7/20/2018	W81-180720-	0.25 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	2.5 U	0.1 U	0.1 U	0.1 U
MW-83	7/20/2018	W83-180720-	0.25 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	2.5 U	0.1 U	0.1 U	0.1 U
MW-84	7/20/2018	W84-180720-	0.25 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	2.5 U	0.1 U	0.1 U	0.1 U
MW-85	7/20/2018	W85-180720-	0.25 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	2.5 U	0.1 U	0.1 U	0.1 U
MW-87	7/20/2018	W87-180720-	0.25 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	2.5 U	0.1 U	0.1 U	0.1 U
MW-93	7/30/2018	W93-180730-	0.25 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	2.5 U	0.1 U	0.1 U	0.1 U
MW-94	7/20/2018	W94-180720-	0.25 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	2.5 U	0.1 U	0.1 U	0.1 U
MW-101	7/16/2018	W101180716-	0.25 U	0.1 U	0.1 U	0.1 U	0.163 JT	0.1 U	0.1 U	2.5 U	0.1 U	0.1 U	0.161 JT
FIELD BLANK	7/12/2018	W66-180712F	0.25 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	2.5 U	0.1 U	0.1 U	0.1 U
VOA TRIP BLANK	7/9/2018	VTRP180712X	0.25 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	2.5 U	0.1 U	0.1 U	0.1 U
VOA TRIP BLANK	7/11/2018	VTRP180713X	0.25 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	2.5 U	0.1 U	0.1 U	0.1 U
VOA TRIP BLANK	7/13/2018	VTRP180716X	0.25 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	2.5 U	0.1 U	0.1 U	0.1 U
VOA TRIP BLANK	7/12/2018	VTRP180719X	0.25 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	2.5 U	0.1 U	0.1 U	0.1 U
VOA TRIP BLANK	7/16/2018	VTRP180720X	0.25 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	2.5 U	0.1 U	0.1 U	0.1 U
VOA TRIP BLANK	7/16/2018	VTRP180720Y	0.25 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	2.5 U	0.1 U	0.1 U	0.1 U
VOA TRIP BLANK	7/19/2018	VTRP180723X	0.25 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	2.5 U	0.1 U	0.1 U	0.1 U

Site	Date	Sample ID	1,2-Dichloropropane ug/l 78-87-5	1,4-Dichlorobenzene ug/l 106-46-7	2-Butanone ug/l 78-93-3	2-Hexanone ug/l 591-78-6	4-Methyl-2-Pentanone ug/l 108-10-1	Acetone ug/l 67-64-1	Acrylonitrile ug/l 107-13-1	Benzene ug/l 71-43-2	Bromochloromethane ug/l 74-97-5	Bromochloromethane ug/l 75-27-4	Bromoform ug/l 75-25-2	Bromomethane ug/l 74-83-9
MW-30A	7/12/2018	W30A180712-	0.1 U	0.1 U	1 U	0.5 U	2.5 U	2.5 U	0.035 U	0.1 U	0.1 U	0.25 U	0.5 U	0.1 U
MW-47	7/13/2018	W47-180713-	0.1 U	0.1 U	1 U	0.5 U	2.5 U	2.5 U	0.035 U	0.1 U	0.1 U	0.25 U	0.5 U	0.1 U
MW-59	7/16/2018	W59-180716-	0.1 U	0.1 U	1 U	0.5 U	2.5 U	2.5 U	0.035 U	0.1 U	0.1 U	0.25 U	0.5 U	0.1 U
MW-66	7/12/2018	W66-180712-	0.1 U	0.1 U	1 U	0.5 U	2.5 U	2.5 U	0.035 U	0.1 U	0.1 U	0.25 U	0.5 U	0.1 U
MW-68	7/13/2018	W68-180713-	0.1 U	0.1 U	1 U	0.5 U	2.5 U	2.5 U	0.035 U	0.1 U	0.1 U	0.25 U	0.5 U	0.1 U
MW-69	7/23/2018	W69-180723-	0.1 U	0.1 U	1 U	0.5 U	2.5 U	2.5 U	0.035 U	0.1 U	0.1 U	0.25 U	0.5 U	0.1 U
MW-72	7/23/2018	W72-180723-	0.1 U	0.1 U	1 U	0.5 U	2.5 U	2.5 U	0.035 U	0.1 U	0.1 U	0.25 U	0.5 U	0.1 U
MW-74	7/20/2018	W74R180720-	0.1 U	0.1 U	1 U	0.5 U	2.5 U	2.5 U	0.035 U	0.1 U	0.1 U	0.25 U	0.5 U	0.1 U
MW-75	7/19/2018	W75-180719-	0.1 U	0.1 U	1 U	0.5 U	2.5 U	2.5 U	0.035 U	0.1 U	0.1 U	0.25 U	0.5 U	0.1 U
MW-80	7/19/2018	W80-180719-	0.1 U	0.1 U	1 U	0.5 U	2.5 U	2.5 U	0.035 U	0.1 U	0.1 U	0.25 U	0.5 U	0.1 U
MW-81	7/20/2018	W81-180720-	0.1 U	0.1 U	1 U	0.5 U	2.5 U	2.5 U	0.035 U	0.1 U	0.1 U	0.25 U	0.5 U	0.1 U
MW-83	7/20/2018	W83-180720-	0.1 U	0.1 U	1 U	0.5 U	2.5 U	2.5 U	0.035 U	0.1 U	0.1 U	0.25 U	0.5 U	0.1 U
MW-84	7/20/2018	W84-180720-	0.1 U	0.1 U	1 U	0.5 U	2.5 U	2.5 U	0.035 U	0.1 U	0.1 U	0.25 U	0.5 U	0.1 U
MW-85	7/20/2018	W85-180720-	0.1 U	0.1 U	1 U	0.5 U	2.5 U	2.5 U	0.035 U	0.1 U	0.1 U	0.25 U	0.5 U	0.1 U
MW-87	7/20/2018	W87-180720-	0.1 U	0.1 U	1 U	0.5 U	2.5 U	2.5 U	0.035 U	0.1 U	0.1 U	0.25 U	0.5 U	0.1 U
MW-93	7/30/2018	W93-180730-	0.1 U	0.1 U	1 U	0.5 U	2.5 U	2.5 U	0.035 U	0.1 U	0.1 U	0.25 U	0.5 U	0.1 U
MW-94	7/20/2018	W94-180720-	0.1 U	0.1 U	1 U	0.5 U	2.5 U	2.5 U	0.035 U	0.1 U	0.1 U	0.25 U	0.5 U	0.1 U
MW-101	7/16/2018	W101180716-	0.1 U	0.1 U	1 U	0.5 U	2.5 U	2.5 U	0.035 U	0.1 U	0.1 U	0.25 U	0.5 U	0.1 U
FIELD BLANK	7/12/2018	W66-180712F	0.1 U	0.1 U	38.7	0.5 U	2.5 U	8.07	0.035 U	0.1 U	0.1 U	0.25 U	0.5 U	0.1 U
VOA TRIP BLANK	7/9/2018	VTRP180712X	0.1 U	0.1 U	1 U	0.5 U	2.5 U	2.5 U	0.035 U	0.1 U	0.1 U	0.25 U	0.5 U	0.1 U
VOA TRIP BLANK	7/11/2018	VTRP180713X	0.1 U	0.1 U	1 U	0.5 U	2.5 U	2.5 U	0.035 U	0.1 U	0.1 U	0.25 U	0.5 U	0.1 U
VOA TRIP BLANK	7/13/2018	VTRP180716X	0.1 U	0.1 U	1 U	0.5 U	2.5 U	2.5 U	0.035 U	0.1 U	0.1 U	0.25 U	0.5 U	0.1 U
VOA TRIP BLANK	7/12/2018	VTRP180719X	0.1 U	0.1 U	1 U	0.5 U	2.5 U	2.5 U	0.035 U	0.1 U	0.1 U	0.25 U	0.5 U	0.1 U
VOA TRIP BLANK	7/16/2018	VTRP180720X	0.1 U	0.1 U	1 U	0.5 U	2.5 U	2.5 U	0.035 U	0.1 U	0.1 U	0.25 U	0.5 U	0.1 U
VOA TRIP BLANK	7/16/2018	VTRP180720Y	0.1 U	0.1 U	1 U	0.5 U	2.5 U	2.5 U	0.035 U	0.1 U	0.1 U	0.25 U	0.5 U	0.1 U
VOA TRIP BLANK	7/19/2018	VTRP180723X	0.1 U	0.1 U	1 U	0.5 U	2.5 U	2.5 U	0.035 U	0.1 U	0.1 U	0.25 U	0.5 U	0.1 U

Site	Date	Sample ID	Carbon Disulfide	Carbon Tetrachloride	Chlorbenzene	Chlorodibromomethane	Chloroethane	Chloroform	Chloromethane	cis-1,2-Dichloroethene	cis-1,3-Dichloropropene	Dibromomethane	Dichlorodifluoromethane	Ethylbenzene
			ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l
			75-15-0	56-23-5	108-90-7	124-48-1	75-00-3	67-66-3	74-87-3	156-59-2	10061-01-5	74-95-3	75-71-8	100-41-4
MW-30A	7/12/2018	W30A180712-	0.1 U	0.25 U	0.1 U	0.5 U	0.1 U	0.1 U	0.25 U	1.96	0.25 U	0.1 U	0.1 U	0.1 U
MW-47	7/13/2018	W47-180713-	0.1 U	0.25 U	0.1 U	0.5 U	0.214	0.1 U	0.25 U	1.51	0.25 U	0.1 U	2.7	0.1 U
MW-59	7/16/2018	W59-180716-	0.1 U	0.25 U	0.1 U	0.5 U	0.1 U	0.1 U	0.25 U	1.15	0.25 U	0.1 U	0.1 U	0.1 U
MW-66	7/12/2018	W66-180712-	0.1 U	0.25 U	0.1 U	0.5 U	0.1 U	0.1 U	0.25 U	0.1 U	0.25 U	0.1 U	0.1 U	0.1 U
MW-68	7/13/2018	W68-180713-	0.1 U	0.25 U	0.1 U	0.5 U	0.1 U	0.1 U	0.25 U	0.1 U	0.25 U	0.1 U	0.1 U	0.1 U
MW-69	7/23/2018	W69-180723-	0.1 U	0.25 U	0.1 U	0.5 U	0.1 U	0.1 U	0.25 U	0.1 U	0.25 U	0.1 U	0.1 U	0.1 U
MW-72	7/23/2018	W72-180723-	0.1 U	0.25 U	0.1 U	0.5 U	0.1 U	0.1 U	0.25 U	0.1 U	0.25 U	0.1 U	0.1 U	0.1 U
MW-74	7/20/2018	W74R180720-	0.1 U	0.25 U	0.1 U	0.5 U	0.1 U	0.1 U	0.25 U	0.1 U	0.25 U	0.1 U	0.1 U	0.1 U
MW-75	7/19/2018	W75-180719-	0.1 U	0.25 U	0.1 U	0.5 U	0.1 U	0.1 U	0.25 U	0.1 U	0.25 U	0.1 U	0.1 U	0.1 U
MW-80	7/19/2018	W80-180719-	0.1 U	0.25 U	0.1 U	0.5 U	0.1 U	0.1 U	0.25 U	0.1 U	0.25 U	0.1 U	0.1 U	0.1 U
MW-81	7/20/2018	W81-180720-	0.1 U	0.25 U	0.1 U	0.5 U	0.1 U	0.1 U	0.25 U	0.1 U	0.25 U	0.1 U	0.1 U	0.1 U
MW-83	7/20/2018	W83-180720-	0.1 U	0.25 U	0.1 U	0.5 U	0.1 U	0.1 U	0.25 U	0.1 U	0.25 U	0.1 U	0.1 U	0.1 U
MW-84	7/20/2018	W84-180720-	0.1 U	0.25 U	0.1 U	0.5 U	0.1 U	0.1 U	0.25 U	0.1 U	0.25 U	0.1 U	0.1 U	0.1 U
MW-85	7/20/2018	W85-180720-	0.1 U	0.25 U	0.1 U	0.5 U	0.1 U	0.1 U	0.25 U	0.1 U	0.25 U	0.1 U	0.1 U	0.1 U
MW-87	7/20/2018	W87-180720-	0.1 U	0.25 U	0.1 U	0.5 U	0.1 U	0.1 U	0.25 U	0.1 U	0.25 U	0.1 U	0.1 U	0.1 U
MW-93	7/30/2018	W93-180730-	0.1 U	0.25 U	0.1 U	0.5 U	0.1 U	0.1 U	0.25 U	0.1 U	0.25 U	0.1 U	0.1 U	0.1 U
MW-94	7/20/2018	W94-180720-	0.1 U	0.25 U	0.1 U	0.5 U	0.1 U	0.1 U	0.25 U	0.1 U	0.25 U	0.1 U	0.1 U	0.1 U
MW-101	7/16/2018	W101180716-	0.1 U	0.25 U	0.1 U	0.5 U	0.115 JT	0.1 U	0.25 U	0.223	0.25 U	0.1 U	0.1 U	0.1 U
FIELD BLANK	7/12/2018	W66-180712F	0.1 U	0.25 U	0.1 U	0.5 U	0.1 U	0.1 U	0.25 U	0.1 U	0.25 U	0.1 U	0.1 U	0.1 U
VOA TRIP BLANK	7/9/2018	VTRP180712X	0.1 U	0.25 U	0.1 U	0.5 U	0.1 U	0.1 U	0.25 U	0.1 U	0.25 U	0.1 U	0.1 U	0.1 U
VOA TRIP BLANK	7/11/2018	VTRP180713X	0.1 U	0.25 U	0.1 U	0.5 U	0.1 U	0.1 U	0.25 U	0.1 U	0.25 U	0.1 U	0.1 U	0.1 U
VOA TRIP BLANK	7/13/2018	VTRP180716X	0.1 U	0.25 U	0.1 U	0.5 U	0.1 U	0.1 U	0.25 U	0.1 U	0.25 U	0.1 U	0.1 U	0.1 U
VOA TRIP BLANK	7/12/2018	VTRP180719X	0.1 U	0.25 U	0.1 U	0.5 U	0.1 U	0.1 U	0.25 U	0.1 U	0.25 U	0.1 U	0.1 U	0.1 U
VOA TRIP BLANK	7/16/2018	VTRP180720X	0.1 U	0.25 U	0.1 U	0.5 U	0.1 U	0.1 U	0.25 U	0.1 U	0.25 U	0.1 U	0.1 U	0.1 U
VOA TRIP BLANK	7/16/2018	VTRP180720Y	0.1 U	0.25 U	0.1 U	0.5 U	0.1 U	0.1 U	0.25 U	0.1 U	0.25 U	0.1 U	0.1 U	0.1 U
VOA TRIP BLANK	7/19/2018	VTRP180723X	0.1 U	0.25 U	0.1 U	0.5 U	0.1 U	0.1 U	0.25 U	0.1 U	0.25 U	0.1 U	0.1 U	0.1 U

Site	Date	Sample ID	M & P Xylene ug/l MPX	Methyl Iodide ug/l 74-88-4	Methylene Chloride ug/l 75-09-2	O-Xylene ug/l 95-47-6	Styrene ug/l 100-42-5	Tetrachloroethene ug/l 127-18-4	Toluene ug/l 108-88-3	Trans-1,2-Dichloroethene ug/l 156-60-5	Trans-1,3-Dichloropropene ug/l 10061-02-6	Trans-1,4-Dichloro-2-Butene ug/l 110-57-6
MW-30A	7/12/2018	W30A180712-	0.1 U	0.1 U	2.5 U	0.1 U	0.1 U	0.121 JT	0.1 U	0.1 U	0.5 U	5 U
MW-47	7/13/2018	W47-180713-	0.1 U	0.1 U	2.5 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.5 U	5 U
MW-59	7/16/2018	W59-180716-	0.1 U	0.1 U	2.5 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.5 U	5 U
MW-66	7/12/2018	W66-180712-	0.1 U	0.1 U	2.5 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.5 U	5 U
MW-68	7/13/2018	W68-180713-	0.1 U	0.1 U	2.5 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.5 U	5 U
MW-69	7/23/2018	W69-180723-	0.1 U	0.1 U	2.5 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.5 U	5 U
MW-72	7/23/2018	W72-180723-	0.1 U	0.1 U	2.5 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.5 U	5 U
MW-74	7/20/2018	W74R180720-	0.1 U	0.1 U	2.5 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.5 U	5 U
MW-75	7/19/2018	W75-180719-	0.1 U	0.1 U	2.5 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.5 U	5 U
MW-80	7/19/2018	W80-180719-	0.1 U	0.1 U	2.5 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.5 U	5 U
MW-81	7/20/2018	W81-180720-	0.1 U	0.1 U	2.5 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.5 U	5 U
MW-83	7/20/2018	W83-180720-	0.1 U	0.1 U	2.5 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.5 U	5 U
MW-84	7/20/2018	W84-180720-	0.1 U	0.1 U	2.5 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.5 U	5 U
MW-85	7/20/2018	W85-180720-	0.1 U	0.1 U	2.5 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.5 U	5 U
MW-87	7/20/2018	W87-180720-	0.1 U	0.1 U	2.5 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.5 U	5 U
MW-93	7/30/2018	W93-180730-	0.1 U	0.1 U	2.5 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.5 U	5 U
MW-94	7/20/2018	W94-180720-	0.1 U	0.1 U	2.5 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.5 U	5 U
MW-101	7/16/2018	W101180716-	0.1 U	0.1 U	2.5 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.5 U	5 U
FIELD BLANK	7/12/2018	W66-180712F	0.1 U	0.1 U	2.5 U	0.1 U	0.101 JT	0.1 U	0.257	0.1 U	0.5 U	5 U
VOA TRIP BLANK	7/9/2018	VTRP180712X	0.1 U	0.1 U	2.5 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.5 U	5 U
VOA TRIP BLANK	7/11/2018	VTRP180713X	0.1 U	0.1 U	2.5 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.5 U	5 U
VOA TRIP BLANK	7/13/2018	VTRP180716X	0.1 U	0.1 U	2.5 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.5 U	5 U
VOA TRIP BLANK	7/12/2018	VTRP180719X	0.1 U	0.1 U	2.5 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.5 U	5 U
VOA TRIP BLANK	7/16/2018	VTRP180720X	0.1 U	0.1 U	2.5 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.5 U	5 U
VOA TRIP BLANK	7/16/2018	VTRP180720Y	0.1 U	0.1 U	2.5 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.5 U	5 U
VOA TRIP BLANK	7/19/2018	VTRP180723X	0.1 U	0.1 U	2.5 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.5 U	5 U

Site	Date	Sample ID	Trichloroethene ug/l 79-01-6	Trichlorofluoromethane ug/l 75-69-4	Vinyl Acetate ug/l 108-05-4	Vinyl Chloride ug/l 75-01-4
MW-30A	7/12/2018	W30A180712-	0.959	0.1 U	0.1 U	0.01 U
MW-47	7/13/2018	W47-180713-	0.1 U	0.1 U	0.1 U	3.69
MW-59	7/16/2018	W59-180716-	0.1 U	0.1 U	0.1 U	0.01 U
MW-66	7/12/2018	W66-180712-	0.1 U	0.1 U	0.1 U	0.01 U
MW-68	7/13/2018	W68-180713-	0.1 U	0.1 U	0.1 U	0.01 U
MW-69	7/23/2018	W69-180723-	0.1 U	0.1 U	0.1 U	0.01 U
MW-72	7/23/2018	W72-180723-	0.1 U	0.1 U	0.1 U	0.01 U
MW-74	7/20/2018	W74R180720-	0.1 U	0.1 U	0.1 U	0.01 U
MW-75	7/19/2018	W75-180719-	0.1 U	0.1 U	0.1 U	0.01 U
MW-80	7/19/2018	W80-180719-	0.1 U	0.1 U	0.1 U	0.01 U
MW-81	7/20/2018	W81-180720-	0.1 U	0.1 U	0.1 U	0.01 U
MW-83	7/20/2018	W83-180720-	2.32	0.1 U	0.1 U	0.01 U
MW-84	7/20/2018	W84-180720-	0.1 U	0.1 U	0.1 U	0.01 U
MW-85	7/20/2018	W85-180720-	0.1 U	0.1 U	0.1 U	0.01 U
MW-87	7/20/2018	W87-180720-	0.1 U	0.1 U	0.1 U	0.01 U
MW-93	7/30/2018	W93-180730-	0.1 U	0.1 U	0.1 U	0.01 U
MW-94	7/20/2018	W94-180720-	1.79	0.1 U	0.1 U	0.01 U
MW-101	7/16/2018	W101180716-	0.1 U	0.1 U	0.1 U	0.403
FIELD BLANK	7/12/2018	W66-180712F	0.1 U	0.1 U	0.1 U	0.01 U
VOA TRIP BLANK	7/9/2018	VTRP180712X	0.1 U	0.1 U	0.1 U	0.01 U
VOA TRIP BLANK	7/11/2018	VTRP180713X	0.1 U	0.1 U	0.1 U	0.01 U
VOA TRIP BLANK	7/13/2018	VTRP180716X	0.1 U	0.1 U	0.1 U	0.01 U
VOA TRIP BLANK	7/12/2018	VTRP180719X	0.1 U	0.1 U	0.1 U	0.01 U
VOA TRIP BLANK	7/16/2018	VTRP180720X	0.1 U	0.1 U	0.1 U	0.01 U
VOA TRIP BLANK	7/16/2018	VTRP180720Y	0.1 U	0.1 U	0.1 U	0.01 U
VOA TRIP BLANK	7/19/2018	VTRP180723X	0.1 U	0.1 U	0.1 U	0.01 U

Environmental Monitoring Data

Data Collected from October 1, 2018 to December 31, 2018
Cedar Hills Landfill --- Groundwater Elevation Data
Contact Person: Sendy Jimenez (206) 477-5224

Site	Date	Reference Elevation (msl)	Depth to Water (feet)	Ground-Water Elevation (msl)	Comment
EW-25	10/3/2018	643.61			Decommissioned
MW-100	10/3/2018	620.32	297.1	323.22	
MW-101	10/3/2018	474.72	35.15	439.57	
MW-102	10/3/2018	552.48	51.62	500.86	New to this list
MW-103	10/3/2018	639.08	23.43	615.65	
MW-104	10/3/2018	629.68	29.48	600.2	
MW-105	10/3/2018	521.23	23.47	497.76	
MW-106	10/3/2018	475.47	190.39	285.08	
MW-21	10/3/2018	420.66	124.75	295.91	
MW-22	10/3/2018	517.09	232.34	284.75	
MW-24	10/3/2018	475.99	145.54	330.45	
MW-25	10/3/2018	474.41	18.81	455.6	
MW-27A	10/3/2018	584.23	55.29	528.94	
MW-28	10/3/2018	527.75	39.62	488.13	
MW-29	10/3/2018	532.92	17.77	515.15	
MW-30A	10/3/2018	568.43	31.2	537.23	Water in annulus
MW-41D	10/3/2018	462.32	32.46	429.86	
MW-41S	10/3/2018	462.44	15.31	447.13	
MW-43	10/3/2018	547.06	263.47	283.59	
MW-45	10/3/2018	488.4	19.17	469.23	
MW-47	10/3/2018	634.6	22.46	612.14	
MW-48	10/3/2018	594.49	46.25	548.24	
MW-50	10/3/2018	637.02	33.67	603.35	
MW-54	10/3/2018	580.43	278.15	302.28	
MW-55	10/3/2018	652.29	32.73	619.56	
MW-56	10/3/2018	480.33	128.11	352.22	Water in annulus
MW-57	10/3/2018	456.64	105.23	351.41	Water in annulus
MW-58A	10/3/2018	479.27	149.33	329.94	
MW-59	10/3/2018	457.13	124.53	332.6	
MW-60	10/3/2018	567.15	227.36	339.79	
MW-62	10/3/2018	556.21	54.87	501.34	Below pump; water in annulus
MW-63	10/3/2018	515.88	18.57	497.31	
MW-64	10/3/2018	596.55	265.05	331.5	
MW-65	10/3/2018	545.83	209.82	336.01	
MW-66	10/3/2018	531.28	238.72	292.56	
MW-67	10/3/2018	516.43	220.1	296.33	
MW-68	10/3/2018	647.07	331.51	315.56	

Environmental Monitoring Data

Data Collected from October 1, 2018 to December 31, 2018
Cedar Hills Landfill --- Groundwater Elevation Data
Contact Person: Sendy Jimenez (206) 477-5224

Site	Date	Reference Elevation (msl)	Depth to Water (feet)	Ground-Water Elevation (msl)	Comment
MW-69	10/3/2018	653.69	355.51	298.18	
MW-72	10/3/2018	671.87	360.47	311.4	
MW-73	10/3/2018	485.7	191.41	294.29	
MW-74	10/3/2018	531.26	239.78	291.48	
MW-75	10/3/2018	532.4	245.46	286.94	
MW-76	10/3/2018	491.71	140.73	350.98	
MW-79	10/3/2018	459.17			Needs to be fixed
MW-80	10/3/2018	530.41	238.69	291.72	Insects
MW-81	10/3/2018	493.66	183.68	309.98	
MW-82	10/3/2018	474.85	124.4	350.45	
MW-83	10/3/2018	496.81	144.6	352.21	
MW-84	10/3/2018	530.8	235.83	294.97	
MW-85	10/3/2018	531.76	245.94	285.82	Insects in annulus.
MW-86	10/3/2018	536.04	248.6	287.44	
MW-87	10/3/2018	537.31	247.92	289.39	
MW-88	10/3/2018	513.68	227.02	286.66	
MW-89	10/3/2018	512.82	232.13	280.69	Covered by vegetation
MW-90	10/3/2018	502.22	221.79	280.43	
MW-91	10/3/2018	532.02	246.74	285.28	
MW-93	10/3/2018	632.15	307.61	324.54	
MW-94	10/3/2018	495.51	143	352.51	
MW-95	10/3/2018	571.54	250.48	321.06	
MW-98	10/3/2018	503.73	22.49	481.24	Insects in annulus.
MW-99	10/3/2018	493.64	200.32	293.32	
MW-EB5	10/3/2018	645.36	44.1	601.26	
MW-EB5S	10/3/2018	645.77	21.2	624.57	
MW-EB6	10/3/2018	589.61	31.25	558.36	
WS-NPW-1	10/3/2018	646.33	331.97	314.36	From upper plug
WS-NPW-3	10/3/2018	645.81	330.45	315.36	From lower plug

Environmental Monitoring Data

Data Collected from October 1, 2018 to December 31, 2018
Cedar Hills Landfill --- Groundwater Field Data
Contact Person: Sendy Jimenez (206) 477-5224

Site	Date	Sample ID	pH (Field) (std. Units)	Conductance (Field) (umhos/cm)	Temperature (^{o}C)	Purge Volume (gal)	Dissolved Oxygen (mg/L)	ORP mV	Turbidity NTU
MW-100	10/4/2018	W100181004-	6.93	325	11.76	3.5	1.52	166.5	11.5
MW-101	10/4/2018	W101181004-	6.93	510	10.3	2			3.63
MW-21	10/22/2018	W21-181022-	7.29	135.9	9.38	2.25	0.86	-148.7	5.74
MW-24	10/10/2018	W24-181010-	6.56	180.9	9.66	4.5	0.73	-41.9	2.48
MW-30A	10/15/2018	W30A181015-1	6.82	265	10.9				5.61
MW-30A	10/16/2018	W30A181015-2	6.84	270	10.8				2.84
MW-47	10/17/2018	W47-181017-	6.93	880	6.3	14.5			38.6
MW-56	11/1/2018	W56-181101-	7.04	210	10	27.45			1.9
MW-59	10/12/2018	W59-181012-	7.17	202.6	9.84	5.1	0.66	-33.4	1.27
MW-62	12/3/2018	W62-181203-	6.04	130	9.2	4			14.2
MW-64	11/2/2018	W64-181102-	7.11	260.9	12.06	3	1.31	306.2	7.83
MW-65	10/12/2018	W65-181012-	7.05	144.9	9.28	2.75	1.05	66.1	17
MW-66	10/16/2018	W66-181016-	7.18	219.3	9.96	3.5	5.82	343.8	2.48
MW-67	10/29/2018	W67-181029-	6.74	350.2	10.21	5	1.15	105.7	9
MW-68	10/22/2018	W68-181022-	7.29	283.2	10.31	3.5	0.82	143.9	0.56
MW-69	10/24/2018	W69-181024-	7.61	329.6	9.67	4.6	0.94	-26.9	0.79
MW-72	10/29/2018	W72-181029-	6.78	374.5	9.57	2.8	2.23	278.5	11.6
MW-73	10/22/2018	W73-181022-	6.82	138.4	9.37	2	9.7	378.5	0.76
MW-74	10/18/2018	W74R181018-	7.1	547	10.15	3	4.88	309.3	0.73
MW-75	10/19/2018	W75-181019-	7.11	370	9.59	1.6	1.84	141	0.84
MW-76	10/12/2018	W76-181012-	6.57	234.2	9.74	1.6	7.76	323.8	0.23
MW-80	10/19/2018	W80-181019-	7.3	314.5	10.13	3	1.28	22.5	0.39
MW-81	11/2/2018	W81-181102-	7.36	160.8	9.96	2.3	9.96	336.7	0.76
MW-81	11/2/2018	W81-181102F	6.7	0.9	13.3				
MW-82	10/10/2018	W82-181010-	6.74	308.3	9.96	2.7	7.85	337.3	3.71
MW-83	10/22/2018	W83-181022-	6.87	619	10.34	2.5	1.35	309	0.27
MW-84	10/26/2018	W84-181026-	6.98	188.1	10.16	3	1.81	356.6	0.31
MW-85	10/26/2018	W85-181026-	7.11	354.6	9.76	2.5	3.4	380.5	1.25
MW-86	10/29/2018	W86-181029-	7.06	195.1	9.36	3.4	1.65	259.8	77.3
MW-87	10/24/2018	W87-181024-	6.97	536	11.69	2.5	1.08	115.3	4.19
MW-88	10/23/2018	W88-181023-	7.1	125.8	9.31	2.7	6.14	350.7	0.2
MW-89	10/24/2018	W89-181024-	7.23	225.2	9.8	2.7	2.42	144.5	41.2
MW-93	11/5/2018	W93-181105-	7.4	320.7	11.18	3.7	1.04	318.9	0.28
MW-94	10/19/2018	W94-181019-	7.01	327.1	9.89	2	7.23	313.7	0.26
MW-94	10/19/2018	W94-181019D	7.01	327.1	9.89	2	7.23	313.7	0.26

Environmental Monitoring Data

Data Collected from October 1, 2018 to December 31, 2018
Cedar Hills Landfill --- Groundwater Field Data
Contact Person: Sendy Jimenez (206) 477-5224

Site	Date	Sample ID	pH (Field) (std. Units)	Conductance (Field) (umhos/cm)	Temperature (^{o}C)	Purge Volume (gal)	Dissolved Oxygen (mg/L)	ORP mV	Turbidity NTU
MW-95	10/29/2018	W95-181029-	7.6	223.8	9.77	3.5	1.3	318.9	0.22
WS-OS-1	10/8/2018	WOS1181008-	7.31	175	10	117			
WS-OS-2	10/8/2018	WOS2181008-	7.71	145	10.7	6.5			
WS-OS-3	10/11/2018	WOS3181011-	8.16	250	12.6	90			
WS-OS-3	10/11/2018	WOS3181011F	9.07	1	8.7				
WS-OS-4	10/8/2018	WOS4181008-	7.29	160	13.1	45			
FIELD BLANK	12/11/2018	LEPS181211F	8.92	1.8	7.8				

Environmental Monitoring Data

Data Collected from October 1, 2018 to December 31, 2018
Cedar Hills Landfill --- Groundwater Conventional Data
Contact Person: Sendy Jimenez (206) 477-5224

Site	Date	Sample ID	Alkalinity, Total ($CaCO_3$) (mg/L)	Ammonia, (NH_3) (mg/L)	Chloride (mg/L)	Nitrate-Nitrogen, (NO_3 as N) (mg/L)	Specific Conductance (umhos/cm)	Sulfate (SO4) (mg/L)	Total Dissolved Solids (mg/L)	Total Organic Carbon (mg/L)	Total Solids (mg/L)	Suspended Solids (mg/L)
MW-21	W21-181022-	10/22/2018	56.8	0.0271	2.32	0.01 U	131	4.8	84.7	0.5 U	84.7	1.3 T
MW-24	W24-181010-	10/10/2018	66.4	0.0361	5.94	0.01 U	173	11.1	107	0.5 U	117	4.26
MW-30A	W30A181015-1	10/15/2018	93.1	0.002 U	2.61	7.77	269	11.4	213	0.95 T	218	
MW-30A	W30A181015-2	10/16/2018										4.14
MW-47	W47-181017-	10/17/2018	653	0.0693	5.6	0.01 U	1130	5.83	705	3.66	714	2.86
MW-56	W56-181101-	11/1/2018	74.3	0.0029 T	18.6 S	0.0742	226	7.91 S	136	0.73 T	142	1 U
MW-59	W59-181012-	10/12/2018	68.5	0.0081 T	7.35	0.01 T	185	15.3	120	0.5 U	126	2.64
MW-62	W62-181203-	12/3/2018	42	0.002 U	3.24	2.94	142	11	114	0.95 T	110	6.1
MW-64	W64-181102-	11/2/2018	102 S	0.0266	2.77 S	0.01 U	261 S	28.6 S	155	0.5 U	166	6.4
MW-65	W65-181012-	10/12/2018	52.1	0.0046 T	3.63	0.01 U	133	9.66	86.6	0.5 U	101	10.6
MW-66	W66-181016-	10/16/2018	88.9	0.002 U	4.4	0.513	215	12.5	130	0.5 U	133	0.63 T
MW-67	W67-181029-	10/29/2018	159	0.0063 T	5.23	0.091	374	32.1	225	0.5 U	233	5
MW-67	W67-181029D	10/29/2018	159	0.0065 T	5.24	0.092	363	32.2	227	0.5 U	239	5.6
MW-68	W68-181022-	10/22/2018	128	0.0187	2.67	0.01 U	286	14.4	167	0.5 U	166	1.03
MW-69	W69-181024-	10/24/2018	137	0.0171	3.87	0.01 U	316	24.2	193	0.5 U	201	1.4
MW-72	W72-181029-	10/29/2018	128	0.0165	6.55	0.01 U	341	39.4	211	0.52 T	224	4.8
MW-73	W73-181022-	10/22/2018	51.2	0.002 U	2.13	1.05	139	7.45	97.1	0.5 U	98.9	0.95 T
MW-74	W74R181018-	10/18/2018	216	0.002 U	23.7	0.314	533	31.4	313	0.52 T	320	1 U
MW-75	W75-181019-	10/19/2018	107	0.008 T	9.52	0.01 U	360	54.1	233	0.5 U	243	1.69
MW-76	W76-181012-	10/12/2018	60.9	0.002 U	16.4	1.53	226	17.9	148	1.37	151	0.5 U
MW-80	W80-181019-	10/19/2018	112	0.0128	4.57	0.01 U	305	35.7	193	0.5 U	197	3.32
MW-81	W81-181102-	11/2/2018	54.4 S	0.002 U	5.02 S	1.41	155 S	9.48 S	105	0.5 U	108	0.7 T
MW-81	W81-181102F	11/2/2018	1 SU	0.002 U	0.05 SU	0.01 U	1.4 ST	0.1 SU	10 U	0.5 U	10 U	0.5 U
MW-82	W82-181010-	10/10/2018	125	0.002 U	9.88	0.872	311	15.8	192	0.74 T	199	4.29
MW-83	W83-181022-	10/22/2018	191	0.0029 T	67.2	3.02	609	10.2	382	7.17	411	0.5 U
MW-84	W84-181026-	10/26/2018	72.1	0.002 U	4	0.145	185	14.9	118	0.5 U	119	0.5 U
MW-85	W85-181026-	10/26/2018	130	0.002 U	10.8	0.114	347	33.5	220	0.5 U	228	0.5 U
MW-86	W86-181029-	10/29/2018	68.2	0.0029 T	4.75	0.021 T	191	20.1	116	0.5 U	146	22.6
MW-87	W87-181024-	10/24/2018	102	0.0196	13	0.01 U	511	145	376	0.5 U	395	4.9
MW-88	W88-181023-	10/23/2018	51	0.002 U	1.76	0.771	126	5.56	87	0.5 U	86.4	0.5 U
MW-89	W89-181024-	10/24/2018	77.2	0.0178	11.6	0.01 U	216	16.2	137	0.5 U	154	16.4
MW-93	W93-181105-	11/5/2018	121 S	0.0596	2.93 S	0.01 U	308 S	35.9 S	199	0.5 U	205	0.5 U
MW-94	W94-181019-	10/19/2018	109	0.002 U	20.4	2.14	318	7.35	202	2.13	215	0.5 U
MW-94	W94-181019D	10/19/2018	109	0.002 U	20.2	2.12	318	7.27	202	1.97	208	0.5 U
MW-95	W95-181029-	10/29/2018	87.6	0.0257	5.47	0.01 U	216	16.3	135	0.58 T	134	1 U

Environmental Monitoring Data

Data Collected from October 1, 2018 to December 31, 2018
Cedar Hills Landfill --- Groundwater Conventional Data
Contact Person: Sendy Jimenez (206) 477-5224

Site	Date	Sample ID	Alkalinity, Total ($CaCO_3$) (mg/L)	Ammonia, (NH_3) (mg/L)	Chloride (mg/L)	Nitrate-Nitrogen, (NO_3 as N) (mg/L)	Specific Conductance (umhos/cm)	Sulfate (SO4) (mg/L)	Total Dissolved Solids (mg/L)	Total Organic Carbon (mg/L)	Total Solids (mg/L)	Suspended Solids (mg/L)
MW-100	W100181004-	10/4/2018	142	0.0124	3.01	0.01 U	316	19.9	182	0.5 U	195	3.98
MW-101	W101181004-	10/4/2018	274	0.0151	2.75	0.029 T	504	4.07	286	4.2	307	3.46
WS-OS-1	WOS1181008-	10/8/2018	75.8	0.002 U	3.89	1.21	193	10.6	127	0.5 U	129	0.5 U
WS-OS-2	WOS2181008-	10/8/2018	70	0.0068 T	2.09	0.177	159	7.17	106	0.5 U	157	31.8
WS-OS-3	WOS3181011-	10/11/2018	115	0.002 U	8.31	0.01 U	248	3.45	161	0.5 U	167	0.5 U
WS-OS-3	WOS3181011F	10/11/2018	1 U	0.002 U	0.05 U	0.01 U	1.5 T	0.1 U	10 U	0.5 U	10 U	0.5 U
WS-OS-4	WOS4181008-	10/8/2018	63.4	0.002 U	3.2	0.758	164	10.3	106	0.5 U	110	0.5 U

Environmental Monitoring Data

Data Collected from October 1, 2018 to December 31, 2018
Cedar Hills Landfill --- Groundwater Metals Data
Contact Person: Sendy Jimenez (206) 477-5224

Site	Date	Sample ID	Antimony, dissolved (mg/L)	Antimony, total (mg/L)	Arsenic, dissolved (mg/L)	Arsenic, total (mg/L)	Barium, dissolved (mg/L)	Barium, total (mg/L)	Beryllium, dissolved (mg/L)	Beryllium, total (mg/L)	Cadmium, dissolved (mg/L)	Cadmium, total (mg/L)
MW-21	W21-181022-	10/22/2018	0.0003 U	0.0003 U	0.000941	0.000979	0.0049	0.00461	0.0001 U	0.0001 U	5E-05 U	5E-05 U
MW-24	W24-181010-	10/10/2018	0.0003 U	0.0003 U	0.000557	0.00058	0.002	0.0019	0.0001 U	0.0001 U	5E-05 U	5E-05 U
MW-30A	W30A181015-1	10/15/2018		0.0003 U		0.000862		0.00706		0.0001 U		5E-05 U
MW-30A	W30A181015-2	10/16/2018	0.0003 U		0.000508		0.00417		0.0001 U		5E-05 U	
MW-47	W47-181017-	10/17/2018	0.0003 U	0.0003 U	0.000518	0.000547	0.0386	0.04	0.0001 U	0.0001 U	5E-05 U	5E-05 U
MW-56	W56-181101-	11/1/2018	0.0003 U	0.0003 U	0.0000897	0.0000878	0.00384	0.00395	0.0001 U	0.0001 U	5E-05 U	5E-05 U
MW-59	W59-181012-	10/12/2018	0.0003 U	0.0003 U	4.10E-04	0.000431	0.00374	0.00394	0.0001 U	0.0001 U	5E-05 U	5E-05 U
MW-62	W62-181203-	12/3/2018	0.0003 U	0.0003 U	0.000217	0.000431	0.00138	0.0038	0.0001 U	0.0001 U	5E-05 U	5E-05 U
MW-64	W64-181102-	11/2/2018	0.0003 U	0.0003 U	0.00063	0.00178	0.00967	0.0185	0.0001 U	0.0001 U	5E-05 U	0.000269
MW-65	W65-181012-	10/12/2018	0.0003 U	0.0003 U	0.000346	0.000838	0.00588	0.0062	0.0001 U	0.0001 U	5E-05 U	5E-05 U
MW-66	W66-181016-	10/16/2018	0.0003 U	0.0003 U	0.000638	0.000667	0.00472	0.00483	0.0001 U	0.0001 U	5E-05 U	5E-05 U
MW-67	W67-181029-	10/29/2018	0.0003 U	0.0003 U	0.000316	0.00202	0.0129	0.0167	0.0001 U	0.0001 U	5E-05 U	5E-05 U
MW-67	W67-181029D	10/29/2018	0.0003 U	0.0003 U	0.000313	0.00167	0.0134	0.0158	0.0001 U	0.0001 U	5E-05 U	5E-05 U
MW-68	W68-181022-	10/22/2018	0.0003 U	0.0003 U	0.00994	0.0125	0.0121	0.0115	0.0001 U	0.0001 U	5E-05 U	5E-05 U
MW-69	W69-181024-	10/24/2018	0.0003 U	0.0003 U	0.00208	0.00222	0.013	0.0124	0.0001 U	0.0001 U	5E-05 U	5E-05 U
MW-72	W72-181029-	10/29/2018	0.0003 U	0.0003 U	0.0000714	0.000105	0.0121	0.0132	0.0001 U	0.0001 U	5E-05 U	5E-05 U
MW-73	W73-181022-	10/22/2018	0.0003 U	0.0003 U	0.00069	0.000679	0.00263	0.00273	0.0001 U	0.0001 U	5E-05 U	5E-05 U
MW-74	W74R181018-	10/18/2018	0.0003 U	0.0003 U	0.000386	0.000459	0.0133	0.0134	0.0001 U	0.0001 U	5E-05 U	5E-05 U
MW-75	W75-181019-	10/19/2018	0.0003 U	0.0003 U	0.000349	0.000375	0.0111	0.0113	0.0001 U	0.0001 U	5E-05 U	5E-05 U
MW-76	W76-181012-	10/12/2018	0.0003 U	0.0003 U	0.000184	0.000203	0.00375	0.00413	0.0001 U	0.0001 U	5E-05 U	5E-05 U
MW-80	W80-181019-	10/19/2018	0.0003 U	0.0003 U	0.00397	0.00409	0.0142	0.0145	0.0001 U	0.0001 U	5E-05 U	5E-05 U
MW-81	W81-181102-	11/2/2018	0.0003 U	0.0003 U	0.000523	0.000545	0.00322	0.00338	0.0001 U	0.0001 U	5E-05 U	5E-05 U
MW-81	W81-181102F	11/2/2018	0.0003 U	0.0003 U	5E-05 U	5E-05 U	0.0005 U	0.0005 U	0.0001 U	0.0001 U	5E-05 U	5E-05 U
MW-82	W82-181010-	10/10/2018	0.0003 U	0.0003 U	0.000241	0.00026	0.00127	0.00151	0.0001 U	0.0001 U	5E-05 U	5E-05 U
MW-83	W83-181022-	10/22/2018	0.0003 U	0.0003 U	0.000423	0.00042	0.0107	0.0101	0.0001 U	0.0001 U	5E-05 U	5E-05 U
MW-84	W84-181026-	10/26/2018	0.0003 U	0.0003 U	0.000328	0.00032	0.00467	0.00435	0.0001 U	0.0001 U	5E-05 U	5E-05 U
MW-85	W85-181026-	10/26/2018	0.0003 U	0.0003 U	0.000734	0.000708	0.00693	0.00667	0.0001 U	0.0001 U	5E-05 U	5E-05 U
MW-86	W86-181029-	10/29/2018	0.0003 U	0.0003 U	0.000746	0.0194	0.00567	0.0088	0.0001 U	0.0001 U	5E-05 U	5E-05 U
MW-87	W87-181024-	10/24/2018	0.0003 U	0.0003 U	0.000421	0.0011	0.0265	0.0255	0.0001 U	0.0001 U	5E-05 U	5E-05 U
MW-88	W88-181023-	10/23/2018	0.0003 U	0.0003 U	0.00104	0.00101	0.00236	0.00224	0.0001 U	0.0001 U	5E-05 U	5E-05 U
MW-89	W89-181024-	10/24/2018	0.0003 U	0.0003 U	0.000918	0.00638	0.00757	0.0101	0.0001 U	0.0001 U	5E-05 U	5E-05 U
MW-93	W93-181105-	11/5/2018	0.0003 U	0.0003 U	0.00134	0.00132	0.00748	0.00761	0.0001 U	0.0001 U	5E-05 U	5E-05 U
MW-94	W94-181019-	10/19/2018	0.0003 U	0.0003 U	0.000155	0.000156	0.00263	0.0027	0.0001 U	0.0001 U	5E-05 U	5E-05 U
MW-94	W94-181019D	10/19/2018	0.0003 U	0.0003 U	0.00016	0.000159	0.00264	0.00267	0.0001 U	0.0001 U	5E-05 U	5E-05 U
MW-95	W95-181029-	10/29/2018	0.0003 U	0.0003 U	0.00107	0.00111	0.00444	0.00427	0.0001 U	0.0001 U	5E-05 U	5E-05 U

Environmental Monitoring Data

Data Collected from October 1, 2018 to December 31, 2018
Cedar Hills Landfill --- Groundwater Metals Data
Contact Person: Sendy Jimenez (206) 477-5224

Site	Date	Sample ID	Antimony, dissolved (mg/L)	Antimony, total (mg/L)	Arsenic, dissolved (mg/L)	Arsenic, total (mg/L)	Barium, dissolved (mg/L)	Barium, total (mg/L)	Beryllium, dissolved (mg/L)	Beryllium, total (mg/L)	Cadmium, dissolved (mg/L)	Cadmium, total (mg/L)
MW-100	W100181004-	10/4/2018	0.0003 U	0.0003 U	0.000312	0.00178	0.00672	0.0074	0.0001 U	0.0001 U	5E-05 U	5E-05 U
MW-101	W101181004-	10/4/2018	0.0003 U	0.0003 U	0.0125	0.0106	0.0206	0.0194	0.0001 U	0.0001 U	5E-05 U	5E-05 U
WS-OS-1	WOS1181008-	10/8/2018		0.0003 U		0.000424		0.00238		0.0001 U		5E-05 U
WS-OS-2	WOS2181008-	10/8/2018		0.0003 U		0.000698		0.00716		0.0001 U		5E-05 U
WS-OS-3	WOS3181011-	10/11/2018		0.0003 U		0.00483		0.00502		0.0001 U		5E-05 U
WS-OS-3	WOS3181011F	10/11/2018		0.0003 U		5E-05 U		0.0005 U		0.0001 U		5E-05 U
WS-OS-4	WOS4181008-	10/8/2018		0.0003 U		0.000856		0.00173		0.0001 U		5E-05 U

Environmental Monitoring Data

Data Collected from October 1, 2018 to December 31, 2018
Cedar Hills Landfill --- Groundwater Metals Data
Contact Person: Sendy Jimenez (206) 477-5224

Site	Date	Sample ID	Calcium, dissolved (mg/L)	Calcium, total (mg/L)	Chromium, dissolved (mg/L)	Chromium total (mg/L)	Cobalt, dissolved (mg/L)	Cobalt, total (mg/L)	Copper, dissolved (mg/L)	Copper, total (mg/L)	Iron, dissolved (mg/L)	Iron, total (mg/L)
MW-21	W21-181022-	10/22/2018	11.7	11.5	0.0002 U	0.0002 U	5E-05 U	5E-05 U	0.0002 U	0.0002 U	1.97	2.61
MW-24	W24-181010-	10/10/2018	14.3	13.9	0.0002 U	0.0002 U	5E-05 U	5E-05 U	0.0002 U	0.0002 U	3.37	3.46
MW-30A	W30A181015-1	10/15/2018		25.5		0.00167		0.000196		0.00287		0.732
MW-30A	W30A181015-2	10/16/2018	26.3		0.000754		5E-05 U		0.000267		0.0329	
MW-47	W47-181017-	10/17/2018	142	145	0.000311	2.38E-04	0.000434	0.000445	0.000343	0.000408	0.056	0.121
MW-56	W56-181101-	11/1/2018	19.5	19.7	0.0002 U	0.0002 U	0.000209	0.000205	0.0002 U	0.000204	0.0945	0.112
MW-59	W59-181012-	10/12/2018	16.5	16.7	0.0002 U	0.0002 U	5E-05 U	5E-05 U	0.0002 U	0.0002 U	4	4.29
MW-62	W62-181203-	12/3/2018	12.7	12.6	0.000227	0.00106 J	6.57E-05	0.000298	0.000269	0.00198	0.01 U	0.73
MW-64	W64-181102-	11/2/2018	20.9	21.1	0.0002 U	0.0002 U	0.0000659	0.00211	0.0002 U	0.000765	0.0568	0.554
MW-65	W65-181012-	10/12/2018	11.3	11.5	0.0002 U	0.0002 U	5E-05 U	5E-05 U	0.0002 U	0.0002 U	3.12	4.61
MW-66	W66-181016-	10/16/2018	16.8	17	0.0002 U	0.000212	5E-05 U	5E-05 U	0.0002 U	0.0002 U	0.01 U	0.034
MW-67	W67-181029-	10/29/2018	35.8	36.6	0.0002 U	0.0002 U	0.000157	0.000417	0.0002 U	0.000457	0.199	1.74
MW-67	W67-181029D	10/29/2018	35.8	37.3	0.0002 U	0.0002 U	0.000154	0.000344	0.0002 U	0.000368	0.203	1.43
MW-68	W68-181022-	10/22/2018	27.7	27.3	0.0002 U	0.0002 U	0.000231	0.000235	0.0002 U	0.000213	0.515	0.569
MW-69	W69-181024-	10/24/2018	34.4	33.6	0.0002 U	0.0002 U	5E-05 U	5E-05 U	0.0002 U	0.0002 U	1.01	1.08
MW-72	W72-181029-	10/29/2018	31.6	32.5	0.0002 U	0.0002 U	5E-05 U	5E-05 U	0.0002 U	0.000218	2.62	3.71
MW-73	W73-181022-	10/22/2018	12.4	12.4	0.0002 U	0.000257	5E-05 U	5E-05 U	0.000254	0.000221	0.01 U	0.0201
MW-74	W74R181018-	10/18/2018	46.8	47.3	0.0002 U	0.0002 U	5E-05 U	5E-05 U	0.000225	0.000249	0.01 U	0.0683
MW-75	W75-181019-	10/19/2018	30	30.4	0.0002 U	0.0002 U	5E-05 U	5E-05 U	0.0002 U	0.0002 U	1.23	1.31
MW-76	W76-181012-	10/12/2018	20.5	21.4	0.000405	0.000406	5E-05 U	5E-05 U	0.000643	0.00069	0.01 U	0.01 U
MW-80	W80-181019-	10/19/2018	30.1	30.7	0.0002 U	0.0002 U	5E-05 U	5E-05 U	0.0002 U	0.0002 U	2.08	2.1
MW-81	W81-181102-	11/2/2018	13.3	13.7	0.0002 U	0.0002 U	5E-05 U	5E-05 U	0.0002 U	0.0002 U	0.01 U	0.0295
MW-81	W81-181102F	11/2/2018	0.05 U	0.05 U	0.0002 U	0.0002 U	5E-05 U	5E-05 U	0.0002 U	0.0002 U	0.01 U	0.01 U
MW-82	W82-181010-	10/10/2018	30.2	29.2	0.000213	0.00162	5E-05 U	5E-05 U	0.0002 U	0.000242	0.01 U	0.0762
MW-83	W83-181022-	10/22/2018	66.4	65.7	0.000223	0.000249	0.000323	0.000336	0.00489	0.00482	0.01 U	0.01 U
MW-84	W84-181026-	10/26/2018	14.7	14.4	0.0002 U	0.0002 U	5E-05 U	5E-05 U	0.0002 U	0.0002 U	0.01 U	0.01 U
MW-85	W85-181026-	10/26/2018	33	32.5	0.0002 U	0.0002 U	5E-05 U	5E-05 U	0.0002 U	0.0002 U	0.01 U	0.01 U
MW-86	W86-181029-	10/29/2018	15.3	15.3	0.0002 U	0.000244	0.000107	0.00067	0.0002 U	0.000344	0.669	13.4
MW-87	W87-181024-	10/24/2018	47.2	45.9	0.0002 U	0.0002 U	0.000125	0.000128	0.0002 U	0.0002 U	4.48	4.92
MW-88	W88-181023-	10/23/2018	9.5	9.25	0.000703	1.04E-03	5E-05 U	5E-05 U	0.0002 U	0.0002 U	0.01 U	0.01 U
MW-89	W89-181024-	10/24/2018	16.3	16.4	0.0002 U	0.0002 U	5E-05 U	5E-05 U	0.0002 U	0.0002 U	0.993	5.21
MW-93	W93-181105-	11/5/2018	31.2	31	0.0002 U	0.0002 U	6.81E-05	0.0000923	0.00025 J	0.0002 U	0.01 U	0.01 U
MW-94	W94-181019-	10/19/2018	31.9	32.6	0.0002 U	0.000233	0.000059	0.0000611	0.000849	0.000887	0.01 U	0.01 U
MW-94	W94-181019D	10/19/2018	31.9	31.8	0.0002 U	0.000262	0.0000611	0.0000624	0.000849	0.000839	0.01 U	0.01 U
MW-95	W95-181029-	10/29/2018	20.5	21.2	0.0002 U	0.0002 U	0.000069	0.0000721	0.0002 U	0.0002 U	0.01 U	0.01 U

Environmental Monitoring Data

Data Collected from October 1, 2018 to December 31, 2018
Cedar Hills Landfill --- Groundwater Metals Data
Contact Person: Sendy Jimenez (206) 477-5224

Site	Date	Sample ID	Calcium, dissolved (mg/L)	Calcium, total (mg/L)	Chromium, dissolved (mg/L)	Chromium total (mg/L)	Cobalt, dissolved (mg/L)	Cobalt, total (mg/L)	Copper, dissolved (mg/L)	Copper, total (mg/L)	Iron, dissolved (mg/L)	Iron, total (mg/L)
MW-100	W100181004-	10/4/2018	30.7	32.4	0.0002 U	0.0002 U	0.00027	0.000409	0.0002 U	0.0002 U	0.65	2.12
MW-101	W101181004-	10/4/2018	55	53.9	0.0002 U	0.000719	0.000272	0.000234	0.0002 U	0.00036	0.859	0.829
WS-OS-1	WOS1181008-	10/8/2018		18.6		0.0002 U		5E-05 U		0.000692		0.01 U
WS-OS-2	WOS2181008-	10/8/2018		15.2		0.00124		0.000464		0.0295		0.95
WS-OS-3	WOS3181011-	10/11/2018		19		0.0002 U		5E-05 U		0.00275		0.0157
WS-OS-3	WOS3181011F	10/11/2018		0.05 U		0.0002 U		5E-05 U		0.0002 U		0.01 U
WS-OS-4	WOS4181008-	10/8/2018		13.7		0.0002 U		5E-05 U		0.00476		0.01 U

Environmental Monitoring Data

Data Collected from October 1, 2018 to December 31, 2018
Cedar Hills Landfill --- Groundwater Metals Data
Contact Person: Sendy Jimenez (206) 477-5224

Site	Date	Sample ID	Lead, dissolved (mg/L)	Lead, total (mg/L)	Magnesium, dissolved (mg/L)	Magnesium, total (mg/L)	Manganese, dissolved (mg/L)	Manganese, total (mg/L)	Mercury, dissolved (mg/L)	Mercury, total (mg/L)	Nickel, dissolved (mg/L)	Nickel, total (mg/L)
MW-21	W21-181022-	10/22/2018	0.0001 U	0.0001 U	6.37	6.36	0.102	0.107	5E-05 U	5E-05 U	0.0001 U	0.000136
MW-24	W24-181010-	10/10/2018	0.0001 U	0.0001 U	9.35	9.29	0.11	0.111	5E-05 U	5E-05 U	0.0001 U	0.0001 U
MW-30A	W30A181015-1	10/15/2018		0.000285		14.5		0.00601		5E-05 U		0.00195
MW-30A	W30A181015-2	10/16/2018	0.0001 U		15.4		0.00044		5E-05 U		0.000981	
MW-47	W47-181017-	10/17/2018	0.0001 U	0.0001 U	70.1	71.8	1.55 D	1.56 D	5E-05 U	5E-05 U	0.00197	0.00183
MW-56	W56-181101-	11/1/2018	0.0001 U	0.0001 U	11.7	11.7	0.344	0.343	5E-05 U	5E-05 U	0.000767	0.000762
MW-59	W59-181012-	10/12/2018	0.0001 U	0.0001 U	10.1	10.3	0.125	0.13	5E-05 U	5E-05 U	0.000134	0.000168
MW-62	W62-181203-	12/3/2018	0.0001 U	0.000447	3.57	3.41	0.000497	0.0136	5E-05 U	5E-05 U	0.000467	0.00119
MW-64	W64-181102-	11/2/2018	0.0001 U	0.0001 U	16.3	16.7	0.0824	1.85	5E-05 U	5E-05 U	0.00078	0.00797
MW-65	W65-181012-	10/12/2018	0.0001 U	0.0001 U	6.95	6.88	0.137	0.172	5E-05 U	5E-05 U	0.000142	0.000123
MW-66	W66-181016-	10/16/2018	0.0001 U	0.0001 U	13	13.1	0.0001 U	0.001	5E-05 U	5E-05 U	0.000184	0.000192
MW-67	W67-181029-	10/29/2018	0.0001 U	0.0001 U	21.5	21.8	0.202	0.804	0.0001 U	0.0001 U	0.000302	0.00086
MW-67	W67-181029D	10/29/2018	0.0001 U	0.0001 U	21.4	21.8	0.201	0.579	5E-05 U	5E-05 U	0.000291	0.00066
MW-68	W68-181022-	10/22/2018	0.0001 U	0.0001 U	15.1	15	0.319	0.314	5E-05 U	5E-05 U	0.000525	0.000533
MW-69	W69-181024-	10/24/2018	0.0001 U	0.0001 U	16.4	16.1	0.278	0.266	5E-05 U	5E-05 U	0.000139	0.000143
MW-72	W72-181029-	10/29/2018	0.0001 U	0.0001 U	19.9	20.2	0.37	0.394	5E-05 U	5E-05 U	0.0001 U	0.000235
MW-73	W73-181022-	10/22/2018	0.0001 U	0.0001 U	6.36	6.44	0.0001 U	0.00061	5E-05 U	5E-05 U	0.000241	0.00024
MW-74	W74R181018-	10/18/2018	0.0001 U	0.0001 U	36	36.1	0.0001 U	0.000523	5E-05 U	5E-05 U	0.00104	0.000962
MW-75	W75-181019-	10/19/2018	0.0001 U	0.0001 U	22.4	22.5	0.139	0.131	5E-05 U	5E-05 U	0.0001 U	0.0001 U
MW-76	W76-181012-	10/12/2018	0.0001 U	0.0001 U	9.56	10.1	0.0001 U	0.0001 U	5E-05 U	5E-05 U	0.000323	0.000334
MW-80	W80-181019-	10/19/2018	0.0001 U	0.0001 U	16.1	16.3	0.345	0.35	5E-05 U	5E-05 U	0.000129	0.000107
MW-81	W81-181102-	11/2/2018	0.0001 U	0.0001 U	7.26	7.46	0.0001 U	0.000725	5E-05 U	5E-05 U	0.000124	0.000158
MW-81	W81-181102F	11/2/2018	0.0001 U	0.0001 U	0.05 U	0.05 U	0.0001 U	0.0001 U	5E-05 U	5E-05 U	0.0001 U	0.0001 U
MW-82	W82-181010-	10/10/2018	0.0001 U	0.0001 U	18.5	17.6	0.0001 U	0.00106	5E-05 U	5E-05 U	0.000573	0.00259
MW-83	W83-181022-	10/22/2018	0.0001 U	0.0001 U	26.9	26.9	0.00172	0.0512	5E-05 U	5E-05 U	0.00219	0.00239
MW-84	W84-181026-	10/26/2018	0.0001 U	0.0001 U	11.1	11.1	0.000804	0.000802	5E-05 U	5E-05 U	0.00029	0.000298
MW-85	W85-181026-	10/26/2018	0.0001 U	0.0001 U	20.4	20.8	0.0001 U	0.0001 U	5E-05 U	5E-05 U	0.000172	0.000179
MW-86	W86-181029-	10/29/2018	0.0001 U	0.0001 U	10.7	10.6	0.0341	0.165	0.0001 U	0.0001 U	0.000174	0.000479
MW-87	W87-181024-	10/24/2018	0.0001 U	0.0001 U	31.4	30.8	0.542 D	0.549	5E-05 U	5E-05 U	0.000127	0.000124
MW-88	W88-181023-	10/23/2018	0.0001 U	0.0001 U	6.87	7.03	0.000247	0.000176	5E-05 U	5E-05 U	0.000123	0.000185
MW-89	W89-181024-	10/24/2018	0.0001 U	0.0001 U	11.9	11.9	0.25	0.269	5E-05 U	5E-05 U	0.0001 U	0.0001 U
MW-93	W93-181105-	11/5/2018	0.0001 U	0.0001 U	16.6	17	0.176	0.207	5E-05 U	5E-05 U	0.000178	0.000203
MW-94	W94-181019-	10/19/2018	0.0001 U	0.0001 U	14.5	14.4	0.0001 U	0.000127	5E-05 U	5E-05 U	0.000441	0.000434
MW-94	W94-181019D	10/19/2018	0.0001 U	0.0001 U	14.3	14.4	0.0001 U	0.000114	5E-05 U	5E-05 U	0.000425	0.000486
MW-95	W95-181029-	10/29/2018	0.0001 U	0.0001 U	11.1	11.4	0.174	0.18	5E-05 U	5E-05 U	0.000198	0.000198

Environmental Monitoring Data

Data Collected from October 1, 2018 to December 31, 2018
Cedar Hills Landfill --- Groundwater Metals Data
Contact Person: Sendy Jimenez (206) 477-5224

Site	Date	Sample ID	Lead, dissolved (mg/L)	Lead, total (mg/L)	Magnesium, dissolved (mg/L)	Magnesium, total (mg/L)	Manganese, dissolved (mg/L)	Manganese, total (mg/L)	Mercury, dissolved (mg/L)	Mercury, total (mg/L)	Nickel, dissolved (mg/L)	Nickel, total (mg/L)
MW-100	W100181004-	10/4/2018	0.0001 U	0.0001 U	17.2	17.2	0.186	0.274	5E-05 U	5E-05 U	0.000562	0.000872
MW-101	W101181004-	10/4/2018	0.0001 U	0.0001 U	32.8	29.6	1.31 D	1.11	5E-05 U	5E-05 U	0.0036	0.00374
WS-OS-1	WOS1181008-	10/8/2018		0.0001 U		8.38		0.000114		5E-05 U		0.0001 U
WS-OS-2	WOS2181008-	10/8/2018		0.00377		7.05		0.059		5E-05 U		0.00164
WS-OS-3	WOS3181011-	10/11/2018		0.0001 U		5.43		0.033		5E-05 U		0.0001 U
WS-OS-3	WOS3181011F	10/11/2018		0.0001 U		0.05 U		0.0001 U		5E-05 U		0.0001 U
WS-OS-4	WOS4181008-	10/8/2018		0.000143		8.45		0.000893		5E-05 U		0.000157

Data Collected from October 1, 2018 to December 31, 2018
Cedar Hills Landfill --- Groundwater Metals Data
Contact Person: Sendy Jimenez (206) 477-5224

Site	Date	Sample ID	Potassium, dissolved (mg/L)	Potassium, total (mg/L)	Selenium, dissolved (mg/L)	Selenium, total (mg/L)	Silver, dissolved (mg/L)	Silver, total (mg/L)	Sodium, dissolved (mg/L)	Sodium, total (mg/L)	Thallium, dissolved (mg/L)	Thallium, total (mg/L)
MW-21	W21-181022-	10/22/2018	1.06	1.06	0.0005 U	0.0005 U	4E-05 U	4E-05 U	5.7	5.6	0.0001 U	0.0001 U
MW-24	W24-181010-	10/10/2018	0.927	0.907	0.0005 U	0.0005 U	4E-05 DU	4E-05 DU	5.68	5.64	0.0001 U	0.0001 U
MW-30A	W30A181015-1	10/15/2018		1.55		0.0005 U		4E-05 U		11.9		0.0001 U
MW-30A	W30A181015-2	10/16/2018	1.52		0.0005 U		4E-05 U		11.7		0.0001 U	
MW-47	W47-181017-	10/17/2018	5.66	5.85	0.0005 U	0.0005 U	4E-05 U	4E-05 U	19.1	19.5	0.0001 U	0.0001 U
MW-56	W56-181101-	11/1/2018	1.31	1.32	0.0005 U	0.0005 U	4E-05 U	4E-05 U	6.27	6.25	0.0001 U	0.0001 U
MW-59	W59-181012-	10/12/2018	1.14	1.13	0.0005 U	0.0005 U	4E-05 DU	4E-05 DU	6.11	6.14	0.0001 U	0.0001 U
MW-62	W62-181203-	12/3/2018	0.742	0.814	0.0005 U	0.0005 U	4E-05 U	4E-05 U	10.5	10.6	0.0001 U	0.0001 U
MW-64	W64-181102-	11/2/2018	1.8	1.84	0.0005 U	0.0005 U	4E-05 U	4E-05 U	8.12	8.18	0.0001 U	0.0001 U
MW-65	W65-181012-	10/12/2018	0.898	0.905	0.0005 U	0.0005 U	4E-05 DU	4E-05 DU	5.25	5.25	0.0001 U	0.0001 U
MW-66	W66-181016-	10/16/2018	1.1	1.14	0.000991	0.001	4E-05 U	4E-05 U	7.43	7.5	0.0001 U	0.0001 U
MW-67	W67-181029-	10/29/2018	1.77	1.84	0.0005 U	0.0005 U	4E-05 U	4E-05 U	9.57	9.71	0.0001 U	0.0001 U
MW-67	W67-181029D	10/29/2018	1.76	1.84	0.0005 U	0.0005 U	4E-05 U	4E-05 U	9.52	9.72	0.0001 U	0.0001 U
MW-68	W68-181022-	10/22/2018	1.72	1.71	0.0005 U	0.0005 U	4E-05 U	4E-05 U	9	8.99	0.0001 U	0.0001 U
MW-69	W69-181024-	10/24/2018	1.8	1.75	0.0005 U	0.0005 U	4E-05 U	4E-05 U	8.77	8.44	0.0001 U	0.0001 U
MW-72	W72-181029-	10/29/2018	1.99	2.04	0.0005 U	0.0005 U	4E-05 U	4E-05 U	8.15	8.32	0.0001 U	0.0001 U
MW-73	W73-181022-	10/22/2018	0.828	0.816	0.0005 U	0.0005 U	4E-05 U	4E-05 U	5.78	5.78	0.0001 U	0.0001 U
MW-74	W74R181018-	10/18/2018	2.14	2.15	0.000758	0.000752	4E-05 U	4E-05 U	13.2	13.2	0.0001 U	0.0001 U
MW-75	W75-181019-	10/19/2018	1.87	1.88	0.0005 U	0.0005 U	4E-05 U	4E-05 U	9.26	9.34	0.0001 U	0.0001 U
MW-76	W76-181012-	10/12/2018	1.39	1.47	0.0005 U	0.0005 U	4E-05 DU	4E-05 DU	9.66	10.1	0.0001 U	0.0001 U
MW-80	W80-181019-	10/19/2018	1.65	1.66	0.0005 U	0.0005 U	4E-05 U	4E-05 U	8.03	8.18	0.0001 U	0.0001 U
MW-81	W81-181102-	11/2/2018	0.844	0.876	0.000873	0.000903	4E-05 U	4E-05 U	6.35	6.48	0.0001 U	0.0001 U
MW-81	W81-181102F	11/2/2018	0.1 U	0.1 U	0.0005 U	0.0005 U	4E-05 U	4E-05 U	0.1 U	0.1 U	0.0001 U	0.0001 U
MW-82	W82-181010-	10/10/2018	1.97	1.91	0.0005 U	0.0005 U	4E-05 DU	4E-05 DU	8.59	8.29	0.0001 U	0.0001 U
MW-83	W83-181022-	10/22/2018	3.67	3.66	0.0005 U	0.0005 U	4E-05 U	4E-05 U	14.3	14	0.0001 U	0.0001 U
MW-84	W84-181026-	10/26/2018	1.12	1.11	0.000893	0.000829	4E-05 U	4E-05 U	6.81	6.75	0.0001 U	0.0001 U
MW-85	W85-181026-	10/26/2018	1.67	1.66	0.000974	0.000796	4E-05 U	4E-05 U	9.49	9.84	0.0001 U	0.0001 U
MW-86	W86-181029-	10/29/2018	1.31	1.3	0.0005 U	0.0005 U	4E-05 U	4E-05 U	6.98	6.85	0.0001 U	0.0001 U
MW-87	W87-181024-	10/24/2018	2.42	2.37	0.0005 U	0.0005 U	4E-05 U	4E-05 U	10.8	10.5	0.0001 U	0.0001 U
MW-88	W88-181023-	10/23/2018	0.838	0.835	0.000627	0.000691	4E-05 U	4E-05 U	5.8	5.76	0.0001 U	0.0001 U
MW-89	W89-181024-	10/24/2018	1.61	1.6	0.0005 U	0.0005 U	4E-05 U	4E-05 U	9.9	9.94	0.0001 U	0.0001 U
MW-93	W93-181105-	11/5/2018	1.54	1.52	0.0005 U	0.0005 U	4E-05 U	4E-05 U	9.33	9.47	0.0001 U	0.0001 U
MW-94	W94-181019-	10/19/2018	2.29	2.28	0.0005 U	0.0005 U	4E-05 U	4E-05 U	8.18	8.2	0.0001 U	0.0001 U
MW-94	W94-181019D	10/19/2018	2.22	2.24	0.0005 U	0.0005 U	4E-05 U	4E-05 U	8.08	8.03	0.0001 U	0.0001 U
MW-95	W95-181029-	10/29/2018	1.2	1.25	0.0005 U	0.0005 U	4E-05 U	4E-05 U	6.01	6.17	0.0001 U	0.0001 U

Environmental Monitoring Data

Data Collected from October 1, 2018 to December 31, 2018
Cedar Hills Landfill --- Groundwater Metals Data
Contact Person: Sendy Jimenez (206) 477-5224

Site	Date	Sample ID	Potassium, dissolved (mg/L)	Potassium, total (mg/L)	Selenium, dissolved (mg/L)	Selenium, total (mg/L)	Silver, dissolved (mg/L)	Silver, total (mg/L)	Sodium, dissolved (mg/L)	Sodium, total (mg/L)	Thallium, dissolved (mg/L)	Thallium, total (mg/L)
MW-100	W100181004-	10/4/2018	1.79	1.97	0.0005 U	0.0005 U	4E-05 DU	4E-05 U	9.61	10.6	0.0001 U	0.0001 U
MW-101	W101181004-	10/4/2018	2.71	2.7	0.0005 U	0.0005 U	4E-05 DU	4E-05 U	16.9	17.3	0.0001 U	0.0001 U
WS-OS-1	WOS1181008-	10/8/2018		0.917		0.000795		4E-05 U		7.44		0.0001 U
WS-OS-2	WOS2181008-	10/8/2018		1.12		0.0005 U		4E-05 U		6.67		0.0001 U
WS-OS-3	WOS3181011-	10/11/2018		1.72		0.0005 U		4E-05 DU		30.4		0.0001 U
WS-OS-3	WOS3181011F	10/11/2018		0.1 U		0.0005 U		4E-05 DU		0.1 U		0.0001 U
WS-OS-4	WOS4181008-	10/8/2018		0.98		0.00168		4E-05 U		6.72		0.0001 U

Environmental Monitoring Data

Data Collected from October 1, 2018 to December 31, 2018
Cedar Hills Landfill --- Groundwater Metals Data
Contact Person: Sendy Jimenez (206) 477-5224

Site	Date	Sample ID	Vanadium, dissolved (mg/L)	Vanadium, total (mg/L)	Zinc, dissolved (mg/L)	Zinc, total (mg/L)
MW-21	W21-181022-	10/22/2018	7.5E-05 U	7.5E-05 U	0.0005 U	0.0005 U
MW-24	W24-181010-	10/10/2018	7.5E-05 U	7.5E-05 U	0.0005 U	0.0005 U
MW-30A	W30A181015-1	10/15/2018		0.00331		0.00268
MW-30A	W30A181015-2	10/16/2018	0.00206		0.000881	
MW-47	W47-181017-	10/17/2018	0.0017	0.0018	0.000558	0.0005 JU
MW-56	W56-181101-	11/1/2018	2.72E-04	0.000249	0.00118	0.00101
MW-59	W59-181012-	10/12/2018	7.5E-05 U	7.5E-05 U	0.00117	0.00115
MW-62	W62-181203-	12/3/2018	0.000929	0.0021	0.000929	0.00201
MW-64	W64-181102-	11/2/2018	0.000172	0.000682	0.000545	0.00219
MW-65	W65-181012-	10/12/2018	7.5E-05 U	7.5E-05 U	0.0005 U	0.0005 U
MW-66	W66-181016-	10/16/2018	0.000666	0.000716	0.000606	0.00147
MW-67	W67-181029-	10/29/2018	0.000238	0.0011	0.000596	0.00108
MW-67	W67-181029D	10/29/2018	0.000283	0.000873	0.0005 U	0.000912
MW-68	W68-181022-	10/22/2018	0.000213	0.00024	0.0005 U	0.000574
MW-69	W69-181024-	10/24/2018	0.0001	0.000115	0.0005 U	0.0005 U
MW-72	W72-181029-	10/29/2018	7.5E-05 U	0.0000815	0.000885	0.00237
MW-73	W73-181022-	10/22/2018	0.0012	0.00119	0.0005 U	0.0005 U
MW-74	W74R181018-	10/18/2018	0.000622	0.000649	0.000626	0.000557
MW-75	W75-181019-	10/19/2018	7.5E-05 U	7.5E-05 U	0.0005 U	0.0005 U
MW-76	W76-181012-	10/12/2018	0.000527	0.000564	0.000967	0.000678
MW-80	W80-181019-	10/19/2018	7.5E-05 U	7.5E-05 U	0.000569	0.0005 U
MW-81	W81-181102-	11/2/2018	0.00164	0.00177	0.000513	0.000939
MW-81	W81-181102F	11/2/2018	0.000108	0.000109	0.0005 U	0.0005 U
MW-82	W82-181010-	10/10/2018	0.0013	0.00132	0.00102	0.000776
MW-83	W83-181022-	10/22/2018	0.000895	0.000921	0.000523	0.000549
MW-84	W84-181026-	10/26/2018	0.000494	0.000495	0.0005 U	0.0005 U
MW-85	W85-181026-	10/26/2018	0.000928	0.000932	0.0005 U	0.000644
MW-86	W86-181029-	10/29/2018	0.000203	0.00336	0.00097	0.00151
MW-87	W87-181024-	10/24/2018	7.5E-05 U	0.000172	0.000685	0.000639
MW-88	W88-181023-	10/23/2018	0.0029	0.00285	0.00085	0.000511
MW-89	W89-181024-	10/24/2018	7.5E-05 U	0.000211	0.00163	0.00226
MW-93	W93-181105-	11/5/2018	0.00217	0.00218	0.00212 J	0.000781
MW-94	W94-181019-	10/19/2018	0.00132	0.00132	0.0005 U	0.000904
MW-94	W94-181019D	10/19/2018	0.00127	0.0013	0.00103 J	0.000812
MW-95	W95-181029-	10/29/2018	0.000434	0.000353	0.00063	0.0005 U

Environmental Monitoring Data

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Contact Person: Sendy Jimenez (206) 477-5224

Site	Date	Sample ID	Vanadium, dissolved (mg/L)	Vanadium, total (mg/L)	Zinc, dissolved (mg/L)	Zinc, total (mg/L)
MW-100	W100181004-	10/4/2018	7.5E-05 U	7.5E-05 U	0.00106	0.00183
MW-101	W101181004-	10/4/2018	0.000197	0.000314	0.00183	0.002
WS-OS-1	WOS1181008-	10/8/2018		0.00179		0.00942
WS-OS-2	WOS2181008-	10/8/2018		0.00391		0.0726
WS-OS-3	WOS3181011-	10/11/2018		7.5E-05 U		0.00462
WS-OS-3	WOS3181011F	10/11/2018		7.5E-05 U		0.0005 U
WS-OS-4	WOS4181008-	10/8/2018		0.00118		0.0986

Data Collected from October 1, 2018 to December 31, 2018
Cedar Hills Landfill --- Groundwater VOAs Data
Contact Person: Sendy Jimenez (206) 477-5224

Site	Date	Sample ID	1,1,1,2-Tetrachloroethane ug/l 630-20-6	1,1,1-Trichloroethane ug/l 71-55-6	1,1,2,2-Tetrachloroethane ug/l 79-34-5	1,1,2-Trichloroethane ug/l 79-00-5	1,1-Dichloroethane ug/l 75-34-3	1,1-Dichloroethene ug/l 75-35-4	1,2,3-Trichloropropane ug/l 96-18-4	1,2-Dibromo-3-Chloropropa ug/l 96-12-8	1,2-Dibromoethane ug/l 106-93-4	1,2-Dichlorobenzene ug/l 95-50-1	1,2-Dichloroethane ug/l 107-06-2
MW-21	W21-181022-	10/22/2018	0.25 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	2.5 U	0.1 U	0.1 U	0.1 U
MW-24	W24-181010-	10/10/2018	0.25 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	2.5 U	0.1 U	0.1 U	0.1 U
MW-30A	W30A181015-1	10/15/2018	0.25 U	0.1 U	0.1 U	0.1 U	1.57	0.1 U	0.1 U	2.5 U	0.1 U	0.1 U	0.1 U
MW-47	W47-181017-	10/17/2018	0.25 U	0.1 U	0.1 U	0.1 U	0.555	0.1 U	0.1 U	2.5 U	0.1 U	0.1 U	0.104 JT
MW-56	W56-181101-	11/1/2018	0.25 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	2.5 U	0.1 U	0.1 U	0.1 U
MW-59	W59-181012-	10/12/2018	0.25 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	2.5 U	0.1 U	0.1 U	0.1 U
MW-62	W62-181203-	12/3/2018	0.25 U	0.1 U	0.1 U	0.1 U	0.548	0.1 U	0.1 U	2.5 U	0.1 U	0.1 U	0.1 U
MW-64	W64-181102-	11/2/2018	0.25 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	2.5 U	0.1 U	0.1 U	0.1 U
MW-65	W65-181012-	10/12/2018	0.25 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	2.5 U	0.1 U	0.1 U	0.1 U
MW-66	W66-181016-	10/16/2018	0.25 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	2.5 U	0.1 U	0.1 U	0.1 U
MW-67	W67-181029-	10/29/2018	0.25 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	2.5 U	0.1 U	0.1 U	0.1 U
MW-67	W67-181029D	10/29/2018	0.25 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	2.5 U	0.1 U	0.1 U	0.1 U
MW-68	W68-181022-	10/22/2018	0.25 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	2.5 U	0.1 U	0.1 U	0.1 U
MW-69	W69-181024-	10/24/2018	0.25 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	2.5 U	0.1 U	0.1 U	0.1 U
MW-72	W72-181029-	10/29/2018	0.25 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	2.5 U	0.1 U	0.1 U	0.1 U
MW-73	W73-181022-	10/22/2018	0.25 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	2.5 U	0.1 U	0.1 U	0.1 U
MW-74	W74R181018-	10/18/2018	0.25 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	2.5 U	0.1 U	0.1 U	0.1 U
MW-75	W75-181019-	10/19/2018	0.25 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	2.5 U	0.1 U	0.1 U	0.1 U
MW-76	W76-181012-	10/12/2018	0.25 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	2.5 U	0.1 U	0.1 U	0.1 U
MW-80	W80-181019-	10/19/2018	0.25 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	2.5 U	0.1 U	0.1 U	0.1 U
MW-81	W81-181102-	11/2/2018	0.25 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	2.5 U	0.1 U	0.1 U	0.1 U
MW-81	W81-181102F	11/2/2018	0.25 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	2.5 U	0.1 U	0.1 U	0.1 U
MW-82	W82-181010-	10/10/2018	0.25 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	2.5 U	0.1 U	0.1 U	0.1 U
MW-83	W83-181022-	10/22/2018	0.25 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	2.5 U	0.1 U	0.1 U	0.1 U
MW-84	W84-181026-	10/26/2018	0.25 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	2.5 U	0.1 U	0.1 U	0.1 U
MW-85	W85-181026-	10/26/2018	0.25 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	2.5 U	0.1 U	0.1 U	0.1 U
MW-86	W86-181029-	10/29/2018	0.25 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	2.5 U	0.1 U	0.1 U	0.1 U
MW-87	W87-181024-	10/24/2018	0.25 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	2.5 U	0.1 U	0.1 U	0.1 U
MW-88	W88-181023-	10/23/2018	0.25 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	2.5 U	0.1 U	0.1 U	0.1 U
MW-89	W89-181024-	10/24/2018	0.25 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	2.5 U	0.1 U	0.1 U	0.1 U
MW-93	W93-181105-	11/5/2018	0.25 SU	0.1 SU	0.1 SU	0.1 SU	0.1 SU	0.1 SU	0.1 SU	2.5 SU	0.1 SU	0.1 SU	0.1 SU
MW-94	W94-181019-	10/19/2018	0.25 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	2.5 U	0.1 U	0.1 U	0.1 U
MW-94	W94-181019D	10/19/2018	0.25 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	2.5 U	0.1 U	0.1 U	0.1 U
MW-95	W95-181029-	10/29/2018	0.25 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	2.5 U	0.1 U	0.1 U	0.1 U
MW-100	W100181004-	10/4/2018	0.25 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	2.5 U	0.1 U	0.1 U	0.1 U

Environmental Monitoring Data

Data Collected from October 1, 2018 to December 31, 2018
Cedar Hills Landfill --- Groundwater VOAs Data
Contact Person: Sendy Jimenez (206) 477-5224

Site	Date	Sample ID	1,1,1,2-Tetrachloroethane ug/l 630-20-6	1,1,1-Trichloroethane ug/l 71-55-6	1,1,2,2-Tetrachloroethane ug/l 79-34-5	1,1,2-Trichloroethane ug/l 79-00-5	1,1-Dichloroethane ug/l 75-34-3	1,1-Dichloroethene ug/l 75-35-4	1,2,3-Trichloropropane ug/l 96-18-4	1,2-Dibromo-3-Chloropropa ug/l 96-12-8	1,2-Dibromoethane ug/l 106-93-4	1,2-Dichlorobenzene ug/l 95-50-1	1,2-Dichloroethane ug/l 107-06-2
MW-101	W101181004-	10/4/2018	0.25 U	0.1 U	0.1 U	0.1 U	0.153 JT	0.1 U	0.1 U	2.5 U	0.1 U	0.1 U	0.125 JT
WS-OS-1	WOS1181008-	10/8/2018	0.25 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	2.5 U	0.1 U	0.1 U	0.1 U
WS-OS-2	WOS2181008-	10/8/2018	0.25 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	2.5 U	0.1 U	0.1 U	0.1 U
WS-OS-3	WOS3181011-	10/11/2018	0.25 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	2.5 U	0.1 U	0.1 U	0.1 U
WS-OS-3	WOS3181011F	10/11/2018	0.25 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	2.5 U	0.1 U	0.1 U	0.1 U
WS-OS-4	WOS4181008-	10/8/2018	0.25 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	2.5 U	0.1 U	0.1 U	0.1 U
VOA TRIP BLANK	VTRP181004Y	10/2/2018	0.25 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	2.5 U	0.1 U	0.1 U	0.1 U
VOA TRIP BLANK	VTRP181008X	10/4/2018	0.25 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	2.5 U	0.1 U	0.1 U	0.1 U
VOA TRIP BLANK	VTRP181010X	10/9/2018	0.25 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	2.5 U	0.1 U	0.1 U	0.1 U
VOA TRIP BLANK	VTRP181011X	10/9/2018	0.25 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	2.5 U	0.1 U	0.1 U	0.1 U
VOA TRIP BLANK	VTRP181012Y	10/4/2018	0.25 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	2.5 U	0.1 U	0.1 U	0.1 U
VOA TRIP BLANK	VTRP181016Y	10/12/2018	0.25 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	2.5 U	0.1 U	0.1 U	0.1 U
VOA TRIP BLANK	VTRP181018Y	10/12/2018	0.25 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	2.5 U	0.1 U	0.1 U	0.1 U
VOA TRIP BLANK	VTRP181019Y	10/12/2018	0.25 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	2.5 U	0.1 U	0.1 U	0.1 U
VOA TRIP BLANK	VTRP181022X	10/18/2018	0.25 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	2.5 U	0.1 U	0.1 U	0.1 U
VOA TRIP BLANK	VTRP181022Y	10/22/2018	0.25 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	2.5 U	0.1 U	0.1 U	0.1 U
VOA TRIP BLANK	VTRP181029X	10/24/2018	0.25 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	2.5 U	0.1 U	0.1 U	0.1 U
VOA TRIP BLANK	VTRP181029Y	10/26/2018	0.25 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	2.5 U	0.1 U	0.1 U	0.1 U
VOA TRIP BLANK	VTRP181101Y	10/26/2018	0.25 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	2.5 U	0.1 U	0.1 U	0.1 U
VOA TRIP BLANK	VTRP181102Y	10/29/2018	0.25 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	2.5 U	0.1 U	0.1 U	0.1 U
VOA TRIP BLANK	VTRP181105Y	11/1/2018	0.25 SU	0.1 SU	0.1 SU	0.1 SU	0.1 SU	0.1 SU	0.1 SU	2.5 SU	0.1 SU	0.1 SU	0.1 SU

Environmental Monitoring Data

Data Collected from October 1, 2018 to December 31, 2018
Cedar Hills Landfill --- Groundwater VOAs Data
Contact Person: Sendy Jimenez (206) 477-5224

Site	Date	Sample ID	1,2-Dichloropropane ug/l 78-87-5	1,4-Dichlorobenzene ug/l 106-46-7	2-Butanone ug/l 78-93-3	2-Hexanone ug/l 591-78-6	4-Methyl-2-Pentanone ug/l 108-10-1	Acetone ug/l 67-64-1	Acrylonitrile ug/l 107-13-1	Benzene ug/l 71-43-2	Bromochloromethane ug/l 74-97-5	Bromodichloromethane ug/l 75-27-4	Bromoform ug/l 75-25-2	Bromomethane ug/l 74-83-9
MW-21	W21-181022-	10/22/2018	0.1 U	0.1 U	1 U	0.5 U	2.5 U	2.5 U	0.035 U	0.1 U	0.1 U	0.25 U	0.5 U	0.1 U
MW-24	W24-181010-	10/10/2018	0.1 U	0.1 U	1 U	0.5 U	2.5 U	2.5 U	0.035 U	0.1 U	0.1 U	0.25 U	0.5 U	0.1 U
MW-30A	W30A181015-1	10/15/2018	0.1 U	0.1 U	0.25 U	0.5 U	2.5 U	2.5 U	0.035 U	0.1 U	0.1 U	0.25 U	0.5 U	0.1 U
MW-47	W47-181017-	10/17/2018	0.1 U	0.1 U	0.25 U	0.5 U	2.5 U	2.5 U	0.035 U	0.1 U	0.1 U	0.25 U	0.5 U	0.1 U
MW-56	W56-181101-	11/1/2018	0.1 U	0.1 U	1 U	0.5 U	2.5 U	2.5 U	0.035 U	0.1 U	0.1 U	0.25 U	0.5 U	0.1 U
MW-59	W59-181012-	10/12/2018	0.1 U	0.1 U	1 U	0.5 U	2.5 U	2.5 U	0.035 U	0.1 U	0.1 U	0.25 U	0.5 U	0.1 U
MW-62	W62-181203-	12/3/2018	0.1 U	0.1 U	0.25 U	0.5 U	2.5 U	2.5 U	0.035 U	0.1 U	0.1 U	0.25 U	0.5 U	0.1 U
MW-64	W64-181102-	11/2/2018	0.1 U	0.1 U	1 U	0.5 U	2.5 U	2.5 U	0.035 U	0.1 U	0.1 U	0.25 U	0.5 U	0.1 U
MW-65	W65-181012-	10/12/2018	0.1 U	0.1 U	1 U	0.5 U	2.5 U	2.5 U	0.035 U	0.1 U	0.1 U	0.25 U	0.5 U	0.1 U
MW-66	W66-181016-	10/16/2018	0.1 U	0.1 U	1 U	0.5 U	2.5 U	2.5 U	0.035 U	0.1 U	0.1 U	0.25 U	0.5 U	0.1 U
MW-67	W67-181029-	10/29/2018	0.1 U	0.1 U	1 U	0.5 U	2.5 U	2.5 U	0.035 U	0.1 U	0.1 U	0.25 U	0.5 U	0.1 U
MW-67	W67-181029D	10/29/2018	0.1 U	0.1 U	1 U	0.5 U	2.5 U	2.5 U	0.035 U	0.1 U	0.1 U	0.25 U	0.5 U	0.1 U
MW-68	W68-181022-	10/22/2018	0.1 U	0.1 U	1 U	0.5 U	2.5 U	2.5 U	0.035 U	0.1 U	0.1 U	0.25 U	0.5 U	0.1 U
MW-69	W69-181024-	10/24/2018	0.1 U	0.1 U	1 U	0.5 U	2.5 U	2.5 U	0.035 U	0.1 U	0.1 U	0.25 U	0.5 U	0.1 U
MW-72	W72-181029-	10/29/2018	0.1 U	0.1 U	1 U	0.5 U	2.5 U	2.5 U	0.035 U	0.1 U	0.1 U	0.25 U	0.5 U	0.1 U
MW-73	W73-181022-	10/22/2018	0.1 U	0.1 U	1 U	0.5 U	2.5 U	2.5 U	0.035 U	0.1 U	0.1 U	0.25 U	0.5 U	0.1 U
MW-74	W74R181018-	10/18/2018	0.1 U	0.1 U	1 U	0.5 U	2.5 U	2.5 U	0.035 U	0.1 U	0.1 U	0.25 U	0.5 U	0.1 U
MW-75	W75-181019-	10/19/2018	0.1 U	0.1 U	1 U	0.5 U	2.5 U	2.5 U	0.035 U	0.1 U	0.1 U	0.25 U	0.5 U	0.1 U
MW-76	W76-181012-	10/12/2018	0.1 U	0.1 U	1 U	0.5 U	2.5 U	2.5 U	0.035 U	0.1 U	0.1 U	0.25 U	0.5 U	0.1 U
MW-80	W80-181019-	10/19/2018	0.1 U	0.1 U	1 U	0.5 U	2.5 U	2.5 U	0.035 U	0.1 U	0.1 U	0.25 U	0.5 U	0.1 U
MW-81	W81-181102-	11/2/2018	0.1 U	0.1 U	1 U	0.5 U	2.5 U	2.5 U	0.035 U	0.1 U	0.1 U	0.25 U	0.5 U	0.1 U
MW-81	W81-181102F	11/2/2018	0.1 U	0.1 U	1 U	0.5 U	2.5 U	2.5 U	0.035 U	0.1 U	0.1 U	0.25 U	0.5 U	0.1 U
MW-82	W82-181010-	10/10/2018	0.1 U	0.1 U	1 U	0.5 U	2.5 U	2.5 U	0.035 U	0.1 U	0.1 U	0.25 U	0.5 U	0.1 U
MW-83	W83-181022-	10/22/2018	0.1 U	0.1 U	1 U	0.5 U	2.5 U	2.5 U	0.035 U	0.1 U	0.1 U	0.25 U	0.5 U	0.1 U
MW-84	W84-181026-	10/26/2018	0.1 U	0.1 U	1 U	0.5 U	2.5 U	2.5 U	0.035 U	0.1 U	0.1 U	0.25 U	0.5 U	0.1 U
MW-85	W85-181026-	10/26/2018	0.1 U	0.1 U	1 U	0.5 U	2.5 U	2.5 U	0.035 U	0.1 U	0.1 U	0.25 U	0.5 U	0.1 U
MW-86	W86-181029-	10/29/2018	0.1 U	0.1 U	1 U	0.5 U	2.5 U	2.5 U	0.035 U	0.1 U	0.1 U	0.25 U	0.5 U	0.1 U
MW-87	W87-181024-	10/24/2018	0.1 U	0.1 U	1 U	0.5 U	2.5 U	2.5 U	0.035 U	0.1 U	0.1 U	0.25 U	0.5 U	0.1 U
MW-88	W88-181023-	10/23/2018	0.1 U	0.1 U	1 U	0.5 U	2.5 U	2.5 U	0.035 U	0.1 U	0.1 U	0.25 U	0.5 U	0.1 U
MW-89	W89-181024-	10/24/2018	0.1 U	0.1 U	1 U	0.5 U	2.5 U	2.5 U	0.035 U	0.1 U	0.1 U	0.25 U	0.5 U	0.1 U
MW-93	W93-181105-	11/5/2018	0.1 SU	0.1 SU	1 SU	0.5 SU	2.5 SU	2.5 SU	0.035 SU	0.1 SU	0.1 SU	0.25 SU	0.5 SU	0.1 SU
MW-94	W94-181019-	10/19/2018	0.1 U	0.1 U	1 U	0.5 U	2.5 U	2.5 U	0.035 U	0.1 U	0.1 U	0.25 U	0.5 U	0.1 U
MW-94	W94-181019D	10/19/2018	0.1 U	0.1 U	1 U	0.5 U	2.5 U	2.5 U	0.035 U	0.1 U	0.1 U	0.25 U	0.5 U	0.1 U
MW-95	W95-181029-	10/29/2018	0.1 U	0.1 U	1 U	0.5 U	2.5 U	2.5 U	0.035 U	0.1 U	0.1 U	0.25 U	0.5 U	0.1 U
MW-100	W100181004-	10/4/2018	0.1 U	0.1 U	1 U	0.5 U	2.5 U	2.5 U	0.035 U	0.1 U	0.1 U	0.25 U	0.5 U	0.1 U

Environmental Monitoring Data

Data Collected from October 1, 2018 to December 31, 2018
Cedar Hills Landfill --- Groundwater VOAs Data
Contact Person: Sendy Jimenez (206) 477-5224

Site	Date	Sample ID	1,2-Dichloropropane ug/l 78-87-5	1,4-Dichlorobenzene ug/l 106-46-7	2-Butanone ug/l 78-93-3	2-Hexanone ug/l 591-78-6	4-Methyl-2-Pentanone ug/l 108-10-1	Acetone ug/l 67-64-1	Acrylonitrile ug/l 107-13-1	Benzene ug/l 71-43-2	Bromochloromethane ug/l 74-97-5	Bromodichloromethane ug/l 75-27-4	Bromoform ug/l 75-25-2	Bromomethane ug/l 74-83-9
MW-101	W101181004-	10/4/2018	0.1 U	0.1 U	1 U	0.5 U	2.5 U	2.5 U	0.035 U	0.1 U	0.1 U	0.25 U	0.5 U	0.1 U
WS-OS-1	WOS1181008-	10/8/2018	0.1 U	0.1 U	1 U	0.5 U	2.5 U	2.5 U	0.035 U	0.1 U	0.1 U	0.25 U	0.5 U	0.1 U
WS-OS-2	WOS2181008-	10/8/2018	0.1 U	0.1 U	1 U	0.5 U	2.5 U	2.5 U	0.035 U	0.1 U	0.1 U	0.25 U	0.5 U	0.1 U
WS-OS-3	WOS3181011-	10/11/2018	0.1 U	0.1 U	1 U	0.5 U	2.5 U	2.5 U	0.035 U	0.1 U	0.1 U	3.61	0.5 U	0.1 U
WS-OS-3	WOS3181011F	10/11/2018	0.1 U	0.1 U	7.02	0.5 U	2.5 U	2.5 U	0.035 U	0.1 U	0.1 U	0.25 U	0.5 U	0.1 U
WS-OS-4	WOS4181008-	10/8/2018	0.1 U	0.1 U	1 U	0.5 U	2.5 U	2.5 U	0.035 U	0.1 U	0.1 U	0.25 U	0.5 U	0.1 U
VOA TRIP BLANK	VTRP181004Y	10/2/2018	0.1 U	0.1 U	1 U	0.5 U	2.5 U	2.5 U	0.035 U	0.1 U	0.1 U	0.25 U	0.5 U	0.1 U
VOA TRIP BLANK	VTRP181008X	10/4/2018	0.1 U	0.1 U	1 U	0.5 U	2.5 U	2.5 U	0.035 U	0.1 U	0.1 U	0.25 U	0.5 U	0.1 U
VOA TRIP BLANK	VTRP181010X	10/9/2018	0.1 U	0.1 U	1 U	0.5 U	2.5 U	2.5 U	0.035 U	0.1 U	0.1 U	0.25 U	0.5 U	0.1 U
VOA TRIP BLANK	VTRP181011X	10/9/2018	0.1 U	0.1 U	1 U	0.5 U	2.5 U	2.5 U	0.035 U	0.1 U	0.1 U	0.25 U	0.5 U	0.1 U
VOA TRIP BLANK	VTRP181012Y	10/4/2018	0.1 U	0.1 U	1 U	0.5 U	2.5 U	2.5 U	0.035 U	0.1 U	0.1 U	0.25 U	0.5 U	0.1 U
VOA TRIP BLANK	VTRP181016Y	10/12/2018	0.1 U	0.1 U	1 U	0.5 U	2.5 U	2.5 U	0.035 U	0.1 U	0.1 U	0.25 U	0.5 U	0.1 U
VOA TRIP BLANK	VTRP181018Y	10/12/2018	0.1 U	0.1 U	1 U	0.5 U	2.5 U	2.5 U	0.035 U	0.1 U	0.1 U	0.25 U	0.5 U	0.1 U
VOA TRIP BLANK	VTRP181019Y	10/12/2018	0.1 U	0.1 U	1 U	0.5 U	2.5 U	2.5 U	0.035 U	0.1 U	0.1 U	0.25 U	0.5 U	0.1 U
VOA TRIP BLANK	VTRP181022X	10/18/2018	0.1 U	0.1 U	1 U	0.5 U	2.5 U	2.5 U	0.035 U	0.1 U	0.1 U	0.25 U	0.5 U	0.1 U
VOA TRIP BLANK	VTRP181022Y	10/22/2018	0.1 U	0.1 U	1 U	0.5 U	2.5 U	2.5 U	0.035 U	0.1 U	0.1 U	0.25 U	0.5 U	0.1 U
VOA TRIP BLANK	VTRP181029X	10/24/2018	0.1 U	0.1 U	1 U	0.5 U	2.5 U	2.5 U	0.035 U	0.1 U	0.1 U	0.25 U	0.5 U	0.1 U
VOA TRIP BLANK	VTRP181029Y	10/26/2018	0.1 U	0.1 U	1 U	0.5 U	2.5 U	2.5 U	0.035 U	0.1 U	0.1 U	0.25 U	0.5 U	0.1 U
VOA TRIP BLANK	VTRP181101Y	10/26/2018	0.1 U	0.1 U	1 U	0.5 U	2.5 U	2.5 U	0.035 U	0.1 U	0.1 U	0.25 U	0.5 U	0.1 U
VOA TRIP BLANK	VTRP181102Y	10/29/2018	0.1 U	0.1 U	1 U	0.5 U	2.5 U	2.5 U	0.035 U	0.1 U	0.1 U	0.25 U	0.5 U	0.1 U
VOA TRIP BLANK	VTRP181105Y	11/1/2018	0.1 SU	0.1 SU	1 SU	0.5 SU	2.5 SU	2.5 SU	0.035 SU	0.1 SU	0.1 SU	0.25 SU	0.5 SU	0.1 SU

Environmental Monitoring Data

Data Collected from October 1, 2018 to December 31, 2018
Cedar Hills Landfill --- Groundwater VOAs Data
Contact Person: Sendy Jimenez (206) 477-5224

Site	Date	Sample ID	Carbon Disulfide ug/l 75-15-0	Carbon Tetrachloride ug/l 56-23-5	Chlorbenzene ug/l 108-90-7	Chlorodibromomethane ug/l 124-48-1	Chloroethane ug/l 75-00-3	Chloroform ug/l 67-66-3	Chloromethane ug/l 74-87-3	cis-1,2-Dichloroethene ug/l 156-59-2	cis-1,3-Dichloropropene ug/l 10061-01-5	Dibromomethane ug/l 74-95-3	Dichlorodifluoromethane ug/l 75-71-8	Ethylbenzene ug/l 100-41-4
MW-21	W21-181022-	10/22/2018	0.1 U	0.25 U	0.1 U	0.5 U	0.1 U	0.1 U	0.25 U	0.1 U	0.25 U	0.1 U	0.1 U	0.1 U
MW-24	W24-181010-	10/10/2018	0.135 JT	0.25 U	0.1 U	0.5 U	0.1 U	0.1 U	0.25 U	0.104 JT	0.25 U	0.1 U	0.1 U	0.1 U
MW-30A	W30A181015-1	10/15/2018	0.1 U	0.25 U	0.1 U	0.5 U	0.1 U	0.1 U	0.25 U	3.77	0.25 U	0.1 U	0.1 U	0.1 U
MW-47	W47-181017-	10/17/2018	0.1 U	0.25 U	0.1 U	0.5 U	0.16 JT	0.1 U	0.25 U	1.21	0.25 U	0.1 U	0.423	0.1 U
MW-56	W56-181101-	11/1/2018	0.1 U	0.25 U	0.1 U	0.5 U	0.1 U	0.1 U	0.25 U	1.53	0.25 U	0.1 U	0.1 U	0.1 U
MW-59	W59-181012-	10/12/2018	0.1 U	0.25 U	0.1 U	0.5 U	0.1 U	0.1 U	0.25 U	1.17	0.25 U	0.1 U	0.1 U	0.1 U
MW-62	W62-181203-	12/3/2018	0.1 U	0.25 U	0.1 U	0.5 U	0.1 U	0.1 U	0.25 GU	1.31	0.25 U	0.1 U	0.1 U	0.1 U
MW-64	W64-181102-	11/2/2018	0.1 U	0.25 U	0.1 U	0.5 U	0.1 U	0.1 U	0.25 U	0.1 U	0.25 U	0.1 U	0.1 U	0.1 U
MW-65	W65-181012-	10/12/2018	0.1 U	0.25 U	0.1 U	0.5 U	0.1 U	0.1 U	0.25 U	0.1 U	0.25 U	0.1 U	0.1 U	0.1 U
MW-66	W66-181016-	10/16/2018	0.1 U	0.25 U	0.1 U	0.5 U	0.1 U	0.1 U	0.25 U	0.1 U	0.25 U	0.1 U	0.1 U	0.1 U
MW-67	W67-181029-	10/29/2018	0.1 U	0.25 U	0.1 U	0.5 U	0.1 U	0.1 U	0.25 U	0.1 U	0.25 U	0.1 U	0.1 U	0.1 U
MW-67	W67-181029D	10/29/2018	0.1 U	0.25 U	0.1 U	0.5 U	0.1 U	0.1 U	0.25 U	0.1 U	0.25 U	0.1 U	0.1 U	0.1 U
MW-68	W68-181022-	10/22/2018	0.1 U	0.25 U	0.1 U	0.5 U	0.1 U	0.1 U	0.25 U	0.1 U	0.25 U	0.1 U	0.1 U	0.1 U
MW-69	W69-181024-	10/24/2018	0.1 U	0.25 U	0.1 U	0.5 U	0.1 U	0.1 U	0.25 U	0.1 U	0.25 U	0.1 U	0.1 U	0.1 U
MW-72	W72-181029-	10/29/2018	0.124 JT	0.25 U	0.1 U	0.5 U	0.1 U	0.1 U	0.25 U	0.1 U	0.25 U	0.1 U	0.1 U	0.1 U
MW-73	W73-181022-	10/22/2018	0.1 U	0.25 U	0.1 U	0.5 U	0.1 U	0.1 U	0.25 U	0.1 U	0.25 U	0.1 U	0.1 U	0.1 U
MW-74	W74R181018-	10/18/2018	0.1 U	0.25 U	0.1 U	0.5 U	0.1 U	0.1 U	0.25 U	0.1 U	0.25 U	0.1 U	0.1 U	0.1 U
MW-75	W75-181019-	10/19/2018	0.1 U	0.25 U	0.1 U	0.5 U	0.1 U	0.1 U	0.25 U	0.1 U	0.25 U	0.1 U	0.1 U	0.1 U
MW-76	W76-181012-	10/12/2018	0.1 U	0.25 U	0.1 U	0.5 U	0.1 U	0.1 U	0.25 U	0.221	0.25 U	0.1 U	0.1 U	0.1 U
MW-80	W80-181019-	10/19/2018	0.1 U	0.25 U	0.1 U	0.5 U	0.1 U	0.1 U	0.25 U	0.1 U	0.25 U	0.1 U	0.1 U	0.1 U
MW-81	W81-181102-	11/2/2018	0.1 U	0.25 U	0.1 U	0.5 U	0.1 U	0.1 U	0.25 U	0.1 U	0.25 U	0.1 U	0.1 U	0.1 U
MW-81	W81-181102F	11/2/2018	0.1 U	0.25 U	0.1 U	0.5 U	0.1 U	0.105 JT	0.25 U	0.1 U	0.25 U	0.1 U	0.1 U	0.1 U
MW-82	W82-181010-	10/10/2018	0.1 U	0.25 U	0.1 U	0.5 U	0.1 U	0.1 U	0.25 U	0.1 U	0.25 U	0.1 U	0.1 U	0.1 U
MW-83	W83-181022-	10/22/2018	0.1 U	0.25 U	0.1 U	0.5 U	0.1 U	0.1 U	0.25 U	0.1 U	0.25 U	0.1 U	0.1 U	0.1 U
MW-84	W84-181026-	10/26/2018	0.1 U	0.25 U	0.1 U	0.5 U	0.1 U	0.1 U	0.25 U	0.1 U	0.25 U	0.1 U	0.1 U	0.1 U
MW-85	W85-181026-	10/26/2018	0.1 U	0.25 U	0.1 U	0.5 U	0.1 U	0.1 U	0.25 U	0.1 U	0.25 U	0.1 U	0.1 U	0.1 U
MW-86	W86-181029-	10/29/2018	0.1 U	0.25 U	0.1 U	0.5 U	0.1 U	0.1 U	0.25 U	0.1 U	0.25 U	0.1 U	0.1 U	0.1 U
MW-87	W87-181024-	10/24/2018	0.178 JT	0.25 U	0.1 U	0.5 U	0.1 U	0.1 U	0.25 U	0.1 U	0.25 U	0.1 U	0.1 U	0.1 U
MW-88	W88-181023-	10/23/2018	0.1 U	0.25 U	0.1 U	0.5 U	0.1 U	0.1 U	0.25 U	0.1 U	0.25 U	0.1 U	0.1 U	0.1 U
MW-89	W89-181024-	10/24/2018	0.1 U	0.25 U	0.1 U	0.5 U	0.1 U	0.1 U	0.25 U	0.1 U	0.25 U	0.1 U	0.1 U	0.1 U
MW-93	W93-181105-	11/5/2018	0.1 SU	0.25 SU	0.1 SU	0.5 SU	0.1 SU	0.1 SU	0.25 SU	0.1 SU	0.25 SU	0.1 SU	0.1 SU	0.1 SU
MW-94	W94-181019-	10/19/2018	0.1 U	0.25 U	0.1 U	0.5 U	0.1 U	0.1 U	0.25 U	0.1 U	0.25 U	0.1 U	0.1 U	0.1 U
MW-94	W94-181019D	10/19/2018	0.1 U	0.25 U	0.1 U	0.5 U	0.1 U	0.1 U	0.25 U	0.1 U	0.25 U	0.1 U	0.1 U	0.1 U
MW-95	W95-181029-	10/29/2018	0.151 JT	0.25 U	0.1 U	0.5 U	0.1 U	0.1 U	0.25 U	0.1 U	0.25 U	0.1 U	0.1 U	0.1 U
MW-100	W100181004-	10/4/2018	0.19 JT	0.25 U	0.1 U	0.5 U	0.1 U	0.1 U	0.25 U	0.1 U	0.25 U	0.1 U	0.1 U	0.1 U

Environmental Monitoring Data

Data Collected from October 1, 2018 to December 31, 2018
Cedar Hills Landfill --- Groundwater VOAs Data
Contact Person: Sendy Jimenez (206) 477-5224

Site	Date	Sample ID	Carbon Disulfide ug/l 75-15-0	Carbon Tetrachloride ug/l 56-23-5	Chlorbenzene ug/l 108-90-7	Chlorodibromomethane ug/l 124-48-1	Chloroethane ug/l 75-00-3	Chloroform ug/l 67-66-3	Chloromethane ug/l 74-87-3	cis-1,2-Dichloroethene ug/l 156-59-2	cis-1,3-Dichloropropene ug/l 10061-01-5	Dibromomethane ug/l 74-95-3	Dichlorodifluoromethane ug/l 75-71-8	Ethylbenzene ug/l 100-41-4
MW-101	W101181004-	10/4/2018	0.1 U	0.25 U	0.1 U	0.5 U	0.102 JT	0.1 U	0.25 U	0.187 JT	0.25 U	0.1 U	0.1 U	0.1 U
WS-OS-1	WOS1181008-	10/8/2018	0.1 U	0.25 U	0.1 U	0.5 U	0.1 U	0.1 U	0.25 U	0.1 U	0.25 U	0.1 U	0.1 U	0.1 U
WS-OS-2	WOS2181008-	10/8/2018	0.1 U	0.25 U	0.1 U	0.5 U	0.1 U	0.1 U	0.25 U	0.1 U	0.25 U	0.1 U	0.1 U	0.1 U
WS-OS-3	WOS3181011-	10/11/2018	0.1 U	0.25 U	0.1 U	1.19	0.1 U	10.2	0.25 U	0.1 U	0.25 U	0.1 U	0.1 U	0.1 U
WS-OS-3	WOS3181011F	10/11/2018	0.185 JT	0.25 U	0.1 U	0.5 U	0.1 U	0.417	0.25 U	0.1 U	0.25 U	0.1 U	0.1 U	0.1 U
WS-OS-4	WOS4181008-	10/8/2018	0.1 U	0.25 U	0.1 U	0.5 U	0.1 U	0.1 U	0.25 U	0.1 U	0.25 U	0.1 U	0.1 U	0.1 U
VOA TRIP BLANK	VTRP181004Y	10/2/2018	0.1 U	0.25 U	0.1 U	0.5 U	0.1 U	0.1 U	0.25 U	0.1 U	0.25 U	0.1 U	0.1 U	0.1 U
VOA TRIP BLANK	VTRP181008X	10/4/2018	0.1 U	0.25 U	0.1 U	0.5 U	0.1 U	0.1 U	0.25 U	0.1 U	0.25 U	0.1 U	0.1 U	0.1 U
VOA TRIP BLANK	VTRP181010X	10/9/2018	0.1 U	0.25 U	0.1 U	0.5 U	0.1 U	0.1 U	0.25 U	0.1 U	0.25 U	0.1 U	0.1 U	0.1 U
VOA TRIP BLANK	VTRP181011X	10/9/2018	0.1 U	0.25 U	0.1 U	0.5 U	0.1 U	0.1 U	0.25 U	0.1 U	0.25 U	0.1 U	0.1 U	0.1 U
VOA TRIP BLANK	VTRP181012Y	10/4/2018	0.1 U	0.25 U	0.1 U	0.5 U	0.1 U	0.1 U	0.25 U	0.1 U	0.25 U	0.1 U	0.1 U	0.1 U
VOA TRIP BLANK	VTRP181016Y	10/12/2018	0.1 U	0.25 U	0.1 U	0.5 U	0.1 U	0.1 U	0.25 U	0.1 U	0.25 U	0.1 U	0.1 U	0.1 U
VOA TRIP BLANK	VTRP181018Y	10/12/2018	0.1 U	0.25 U	0.1 U	0.5 U	0.1 U	0.1 U	0.25 U	0.1 U	0.25 U	0.1 U	0.1 U	0.1 U
VOA TRIP BLANK	VTRP181019Y	10/12/2018	0.1 U	0.25 U	0.1 U	0.5 U	0.1 U	0.1 U	0.25 U	0.1 U	0.25 U	0.1 U	0.1 U	0.1 U
VOA TRIP BLANK	VTRP181022X	10/18/2018	0.1 U	0.25 U	0.1 U	0.5 U	0.1 U	0.1 U	0.25 U	0.1 U	0.25 U	0.1 U	0.1 U	0.1 U
VOA TRIP BLANK	VTRP181022Y	10/22/2018	0.1 U	0.25 U	0.1 U	0.5 U	0.1 U	0.1 U	0.25 U	0.1 U	0.25 U	0.1 U	0.1 U	0.1 U
VOA TRIP BLANK	VTRP181029X	10/24/2018	0.1 U	0.25 U	0.1 U	0.5 U	0.1 U	0.1 U	0.25 U	0.1 U	0.25 U	0.1 U	0.1 U	0.1 U
VOA TRIP BLANK	VTRP181029Y	10/26/2018	0.1 U	0.25 U	0.1 U	0.5 U	0.1 U	0.1 U	0.25 U	0.1 U	0.25 U	0.1 U	0.1 U	0.1 U
VOA TRIP BLANK	VTRP181101Y	10/26/2018	0.1 U	0.25 U	0.1 U	0.5 U	0.1 U	0.1 U	0.25 U	0.1 U	0.25 U	0.1 U	0.1 U	0.1 U
VOA TRIP BLANK	VTRP181102Y	10/29/2018	0.1 U	0.25 U	0.1 U	0.5 U	0.1 U	0.1 U	0.25 U	0.1 U	0.25 U	0.1 U	0.1 U	0.1 U
VOA TRIP BLANK	VTRP181105Y	11/1/2018	0.1 SU	0.25 SU	0.1 SU	0.5 SU	0.1 SU	0.1 SU	0.25 SU	0.1 SU	0.25 SU	0.1 SU	0.1 SU	0.1 SU

Data Collected from October 1, 2018 to December 31, 2018
Cedar Hills Landfill --- Groundwater VOAs Data
Contact Person: Sendy Jimenez (206) 477-5224

Site	Date	Sample ID	M & P Xylene ug/l MPX	Methyl Iodide ug/l 74-88-4	Methylene Chloride ug/l 75-09-2	O-Xylene ug/l 95-47-6	Styrene ug/l 100-42-5	Tetrachloroethene ug/l 127-18-4	Toluene ug/l 108-88-3	Trans-1,2-Dichloroethene ug/l 156-60-5	Trans-1,3-Dichloropropene ug/l 10061-02-6
MW-21	W21-181022-	10/22/2018	0.1 U	0.1 U	2.5 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.5 U
MW-24	W24-181010-	10/10/2018	0.1 U	0.1 U	2.5 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.5 U
MW-30A	W30A181015-1	10/15/2018	0.1 U	0.1 U	2.5 U	0.1 U	0.1 U	0.1 JT	0.1 U	0.106 JT	0.5 U
MW-47	W47-181017-	10/17/2018	0.1 U	0.1 U	2.5 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.5 U
MW-56	W56-181101-	11/1/2018	0.1 U	0.1 U	2.5 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.5 U
MW-59	W59-181012-	10/12/2018	0.1 U	0.1 U	2.5 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.5 U
MW-62	W62-181203-	12/3/2018	0.1 U	0.1 U	2.5 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.5 U
MW-64	W64-181102-	11/2/2018	0.1 U	0.1 U	2.5 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.5 U
MW-65	W65-181012-	10/12/2018	0.1 U	0.1 U	2.5 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.5 U
MW-66	W66-181016-	10/16/2018	0.1 U	0.1 U	2.5 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.5 U
MW-67	W67-181029-	10/29/2018	0.1 U	0.1 U	2.5 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.5 U
MW-67	W67-181029D	10/29/2018	0.1 U	0.1 U	2.5 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.5 U
MW-68	W68-181022-	10/22/2018	0.1 U	0.1 U	2.5 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.5 U
MW-69	W69-181024-	10/24/2018	0.1 U	0.1 U	2.5 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.5 U
MW-72	W72-181029-	10/29/2018	0.1 U	0.1 U	2.5 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.5 U
MW-73	W73-181022-	10/22/2018	0.1 U	0.1 U	2.5 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.5 U
MW-74	W74R181018-	10/18/2018	0.1 U	0.1 U	2.5 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.5 U
MW-75	W75-181019-	10/19/2018	0.1 U	0.1 U	2.5 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.5 U
MW-76	W76-181012-	10/12/2018	0.1 U	0.1 U	2.5 U	0.1 U	0.1 U	0.44	0.1 U	0.1 U	0.5 U
MW-80	W80-181019-	10/19/2018	0.1 U	0.1 U	2.5 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.5 U
MW-81	W81-181102-	11/2/2018	0.1 U	0.1 U	2.5 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.5 U
MW-81	W81-181102F	11/2/2018	0.1 U	0.1 U	2.5 U	0.1 U	0.1 U	0.1 U	0.116 JT	0.1 U	0.5 U
MW-82	W82-181010-	10/10/2018	0.1 U	0.1 U	2.5 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.5 U
MW-83	W83-181022-	10/22/2018	0.1 U	0.1 U	2.5 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.5 U
MW-84	W84-181026-	10/26/2018	0.1 U	0.1 U	2.5 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.5 U
MW-85	W85-181026-	10/26/2018	0.1 U	0.1 U	2.5 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.5 U
MW-86	W86-181029-	10/29/2018	0.1 U	0.1 U	2.5 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.5 U
MW-87	W87-181024-	10/24/2018	0.1 U	0.1 U	2.5 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.5 U
MW-88	W88-181023-	10/23/2018	0.1 U	0.1 U	2.5 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.5 U
MW-89	W89-181024-	10/24/2018	0.1 U	0.1 U	2.5 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.5 U
MW-93	W93-181105-	11/5/2018	0.1 SU	0.1 SU	2.5 SU	0.1 SU	0.1 SU	0.1 SU	0.1 SU	0.1 SU	0.5 SU
MW-94	W94-181019-	10/19/2018	0.1 U	0.1 U	2.5 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.5 U
MW-94	W94-181019D	10/19/2018	0.1 U	0.1 U	2.5 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.5 U
MW-95	W95-181029-	10/29/2018	0.1 U	0.1 U	2.5 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.5 U
MW-100	W100181004-	10/4/2018	0.1 U	0.1 U	2.5 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.5 U

Environmental Monitoring Data

Data Collected from October 1, 2018 to December 31, 2018
Cedar Hills Landfill --- Groundwater VOAs Data
Contact Person: Sendy Jimenez (206) 477-5224

Site	Date	Sample ID	M & P Xylene ug/l MPX	Methyl Iodide ug/l 74-88-4	Methylene Chloride ug/l 75-09-2	O-Xylene ug/l 95-47-6	Styrene ug/l 100-42-5	Tetrachloroethene ug/l 127-18-4	Toluene ug/l 108-88-3	Trans-1,2-Dichloroethene ug/l 156-60-5	Trans-1,3-Dichloropropene ug/l 10061-02-6
MW-101	W101181004-	10/4/2018	0.1 U	0.1 U	2.5 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.5 U
WS-OS-1	WOS1181008-	10/8/2018	0.1 U	0.1 U	2.5 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.5 U
WS-OS-2	WOS2181008-	10/8/2018	0.1 U	0.1 U	2.5 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.5 U
WS-OS-3	WOS3181011-	10/11/2018	0.1 U	0.1 U	2.5 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.5 U
WS-OS-3	WOS3181011F	10/11/2018	0.1 U	0.1 U	2.5 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.5 U
WS-OS-4	WOS4181008-	10/8/2018	0.1 U	0.1 U	2.5 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.5 U
VOA TRIP BLANK	VTRP181004Y	10/2/2018	0.1 U	0.1 U	2.5 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.5 U
VOA TRIP BLANK	VTRP181008X	10/4/2018	0.1 U	0.1 U	2.5 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.5 U
VOA TRIP BLANK	VTRP181010X	10/9/2018	0.1 U	0.1 U	2.5 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.5 U
VOA TRIP BLANK	VTRP181011X	10/9/2018	0.1 U	0.1 U	2.5 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.5 U
VOA TRIP BLANK	VTRP181012Y	10/4/2018	0.1 U	0.1 U	2.5 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.5 U
VOA TRIP BLANK	VTRP181016Y	10/12/2018	0.1 U	0.1 U	2.5 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.5 U
VOA TRIP BLANK	VTRP181018Y	10/12/2018	0.1 U	0.1 U	2.5 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.5 U
VOA TRIP BLANK	VTRP181019Y	10/12/2018	0.1 U	0.1 U	2.5 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.5 U
VOA TRIP BLANK	VTRP181022X	10/18/2018	0.1 U	0.1 U	2.5 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.5 U
VOA TRIP BLANK	VTRP181022Y	10/22/2018	0.1 U	0.1 U	2.5 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.5 U
VOA TRIP BLANK	VTRP181029X	10/24/2018	0.1 U	0.1 U	2.5 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.5 U
VOA TRIP BLANK	VTRP181029Y	10/26/2018	0.1 U	0.1 U	2.5 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.5 U
VOA TRIP BLANK	VTRP181101Y	10/26/2018	0.1 U	0.1 U	2.5 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.5 U
VOA TRIP BLANK	VTRP181102Y	10/29/2018	0.1 U	0.1 U	2.5 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.5 U
VOA TRIP BLANK	VTRP181105Y	11/1/2018	0.1 SU	0.1 SU	2.5 SU	0.1 SU	0.1 SU	0.1 SU	0.1 SU	0.1 SU	0.5 SU

Environmental Monitoring Data

Data Collected from October 1, 2018 to December 31, 2018
Cedar Hills Landfill --- Groundwater VOAs Data
Contact Person: Sendy Jimenez (206) 477-5224

Site	Date	Sample ID	Trans-1,4-Dichloro-2-Butene ug/l 110-57-6	Trichloroethene ug/l 79-01-6	Trichlorofluoromethane ug/l 75-69-4	Vinyl Acetate ug/l 108-05-4	Vinyl Chloride ug/l 75-01-4
MW-21	W21-181022-	10/22/2018	5 U	0.1 U	0.1 U	0.1 U	0.01 U
MW-24	W24-181010-	10/10/2018	5 U	0.1 U	0.1 U	0.1 U	0.0154 JT
MW-30A	W30A181015-1	10/15/2018	0.5 U	0.62	0.1 U	0.1 U	0.01 U
MW-47	W47-181017-	10/17/2018	0.5 U	0.1 U	0.1 U	0.1 U	2.95
MW-56	W56-181101-	11/1/2018	5 U	0.1 U	0.1 U	0.1 U	0.01 U
MW-59	W59-181012-	10/12/2018	5 U	0.1 U	0.1 U	0.1 U	0.01 U
MW-62	W62-181203-	12/3/2018	0.5 U	0.118 JT	0.1 U	0.1 U	0.01 GU
MW-64	W64-181102-	11/2/2018	5 U	0.1 U	0.1 U	0.1 U	0.01 U
MW-65	W65-181012-	10/12/2018	5 U	0.1 U	0.1 U	0.1 U	0.0295
MW-66	W66-181016-	10/16/2018	5 U	0.1 U	0.1 U	0.1 U	0.01 U
MW-67	W67-181029-	10/29/2018	5 U	0.1 U	0.1 U	0.1 U	0.01 U
MW-67	W67-181029D	10/29/2018	5 U	0.1 U	0.1 U	0.1 U	0.01 U
MW-68	W68-181022-	10/22/2018	5 U	0.1 U	0.1 U	0.1 U	0.01 U
MW-69	W69-181024-	10/24/2018	5 U	0.1 U	0.1 U	0.1 U	0.01 U
MW-72	W72-181029-	10/29/2018	5 U	0.1 U	0.1 U	0.1 U	0.01 U
MW-73	W73-181022-	10/22/2018	5 U	0.1 U	0.1 U	0.1 U	0.01 U
MW-74	W74R181018-	10/18/2018	5 U	0.1 U	0.1 U	0.1 U	0.01 U
MW-75	W75-181019-	10/19/2018	5 U	0.1 U	0.1 U	0.1 U	0.01 U
MW-76	W76-181012-	10/12/2018	5 U	9.12	0.1 U	0.1 U	0.01 U
MW-80	W80-181019-	10/19/2018	5 U	0.1 U	0.1 U	0.1 U	0.01 U
MW-81	W81-181102-	11/2/2018	5 U	0.1 U	0.1 U	0.1 U	0.01 U
MW-81	W81-181102F	11/2/2018	5 U	0.1 U	0.1 U	0.1 U	0.01 U
MW-82	W82-181010-	10/10/2018	5 U	4.88	0.1 U	0.1 U	0.01 U
MW-83	W83-181022-	10/22/2018	5 U	2.05	0.1 U	0.1 U	0.01 U
MW-84	W84-181026-	10/26/2018	5 U	0.1 U	0.1 U	0.1 U	0.01 U
MW-85	W85-181026-	10/26/2018	5 U	0.1 U	0.1 U	0.1 U	0.01 U
MW-86	W86-181029-	10/29/2018	5 U	0.1 U	0.1 U	0.1 U	0.01 U
MW-87	W87-181024-	10/24/2018	5 U	0.1 U	0.1 U	0.1 U	0.01 U
MW-88	W88-181023-	10/23/2018	5 U	0.1 U	0.1 U	0.1 U	0.01 U
MW-89	W89-181024-	10/24/2018	5 U	0.1 U	0.1 U	0.1 U	0.01 U
MW-93	W93-181105-	11/5/2018	5 SU	0.1 SU	0.1 SU	0.1 SU	0.01 SU
MW-94	W94-181019-	10/19/2018	5 U	2.54	0.1 U	0.1 U	0.01 U
MW-94	W94-181019D	10/19/2018	5 U	2.54	0.1 U	0.1 U	0.01 U
MW-95	W95-181029-	10/29/2018	5 U	0.1 U	0.1 U	0.1 U	0.01 U
MW-100	W100181004-	10/4/2018	5 U	0.1 U	0.1 U	0.1 U	0.01 U

Environmental Monitoring Data

Data Collected from October 1, 2018 to December 31, 2018
Cedar Hills Landfill --- Groundwater VOAs Data
Contact Person: Sendy Jimenez (206) 477-5224

Site	Date	Sample ID	Trans-1,4-Dichloro-2-Butene ug/l 110-57-6	Trichloroethene ug/l 79-01-6	Trichlorofluoromethane ug/l 75-69-4	Vinyl Acetate ug/l 108-05-4	Vinyl Chloride ug/l 75-01-4
MW-101	W101181004-	10/4/2018	5 U	0.1 U	0.1 U	0.1 U	0.404
WS-OS-1	WOS1181008-	10/8/2018	5 U	0.1 U	0.1 U	0.1 U	0.01 U
WS-OS-2	WOS2181008-	10/8/2018	5 U	0.1 U	0.1 U	0.1 U	0.01 U
WS-OS-3	WOS3181011-	10/11/2018	5 U	0.1 U	0.1 U	0.1 U	0.01 U
WS-OS-3	WOS3181011F	10/11/2018	5 U	0.1 U	0.1 U	0.1 U	0.01 U
WS-OS-4	WOS4181008-	10/8/2018	5 U	0.1 U	0.1 U	0.1 U	0.01 U
VOA TRIP BLANK	VTRP181004Y	10/2/2018	5 U	0.1 U	0.1 U	0.1 U	0.01 U
VOA TRIP BLANK	VTRP181008X	10/4/2018	5 U	0.1 U	0.1 U	0.1 U	0.01 U
VOA TRIP BLANK	VTRP181010X	10/9/2018	5 U	0.1 U	0.1 U	0.1 U	0.01 U
VOA TRIP BLANK	VTRP181011X	10/9/2018	5 U	0.1 U	0.1 U	0.1 U	0.01 U
VOA TRIP BLANK	VTRP181012Y	10/4/2018	5 U	0.1 U	0.1 U	0.1 U	0.01 U
VOA TRIP BLANK	VTRP181016Y	10/12/2018	5 U	0.1 U	0.1 U	0.1 U	0.01 U
VOA TRIP BLANK	VTRP181018Y	10/12/2018	5 U	0.1 U	0.1 U	0.1 U	0.01 U
VOA TRIP BLANK	VTRP181019Y	10/12/2018	5 U	0.1 U	0.1 U	0.1 U	0.01 U
VOA TRIP BLANK	VTRP181022X	10/18/2018	5 U	0.1 U	0.1 U	0.1 U	0.01 U
VOA TRIP BLANK	VTRP181022Y	10/22/2018	5 U	0.1 U	0.1 U	0.1 U	0.01 U
VOA TRIP BLANK	VTRP181029X	10/24/2018	5 U	0.1 U	0.1 U	0.1 U	0.01 U
VOA TRIP BLANK	VTRP181029Y	10/26/2018	5 U	0.1 U	0.1 U	0.1 U	0.01 U
VOA TRIP BLANK	VTRP181101Y	10/26/2018	5 U	0.1 U	0.1 U	0.1 U	0.01 U
VOA TRIP BLANK	VTRP181102Y	10/29/2018	5 U	0.1 U	0.1 U	0.1 U	0.01 U
VOA TRIP BLANK	VTRP181105Y	11/1/2018	5 SU	0.1 SU	0.1 SU	0.1 SU	0.01 SU

Data Collected from October 1, 2018 to December 31, 2018
Cedar Hills Landfill --- Groundwater Appendix III Analytical Data
Contact Person: Sendy Jimenez (206) 477-5224

Site	Date	Sample ID	1,1-Dichloro-Propene	1,2,4,5-Tetrachloro-Benzene	1,2,4-Trichloro-Benzene	1,2-Diphenyl-Hydrazine	1,3,5-Trinitro-Benzene	1,3-Dichloro-Benzene	1,3-Dichloro-Propane	1,4-Naphtho-Quinone	1-Naphthyl-Amine	2,2-Dichloro-Propane
			563-58-6	95-94-3	120-82-1	122-66-7	99-35-4	541-73-1	142-28-9	130-15-4	134-32-7	594-20-7
			(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)
MW-30A	10/15/2018	W30A181015-1	0.1 U	1.05 U	0.526 U	0.211 U	0.526 U	0.1 U	0.1 U	1.05 U	5.26 U	0.1 U
MW-47	10/17/2018	W47-181017-	0.1 U	0.99 U	0.495 U	0.198 U	0.495 U	0.1 U	0.1 U	0.99 U	4.95 U	0.1 U
MW-62	12/3/2018	W62-181203-	0.1 U	0.952 U	0.476 U	0.19 U	0.476 U	0.1 U	0.1 U	0.952 U	4.76 U	0.1 U
SW-E1	12/3/2018	SE1-181203-	0.1 U	0.943 U	0.472 U	0.189 U	0.472 U	0.1 U	0.1 U	0.943 U	4.72 U	0.1 U

Environmental Monitoring Data

Data Collected from October 1, 2018 to December 31, 2018
Cedar Hills Landfill --- Groundwater Appendix III Analytical Data
Contact Person: Sendy Jimenez (206) 477-5224

Site	Date	Sample ID	2,2-Oxybis (1-Chloro-Propane)	2,4,5-T	2,4,5-Tp Silvex	2,4,5-Trichloro-Phenol	2,4,6-Trichloro-Phenol	2,4-D	2,4-Dichloro-Phenol	2,4-Dimethyl-Phenol	2,4-Dinitro-Phenol	2,4-Dinitro-Toluene	2,6-Dichloro-Phenol	2,6-Dinitro-Toluene
			108-60-1 (ug/L)	93-76-5 (ug/L)	93-72-1 (ug/L)	95-95-4 (ug/L)	88-06-2 (ug/L)	94-75-7 (ug/L)	120-83-2 (ug/L)	105-67-9 (ug/L)	51-28-5 (ug/L)	121-14-2 (ug/L)	87-65-0 (ug/L)	606-20-2 (ug/L)
MW-30A	10/15/2018	W30A181015-1	0.526 U	0.025 U	0.025 U	1.05 U	1.05 U	0.05 U	0.526 U	2.11 U	10.5 U	1.05 U	0.526 U	1.05 U
MW-47	10/17/2018	W47-181017-	0.495 U	0.025 U	0.025 U	0.99 U	0.99 U	0.05 U	0.495 U	1.98 U	9.9 U	0.99 U	0.495 U	0.99 U
MW-62	12/3/2018	W62-181203-	0.476 U	0.025 U	0.025 U	0.952 U	0.952 U	0.05 U	0.476 U	1.9 U	9.52 U	0.952 U	0.476 U	0.952 U
SW-E1	12/3/2018	SE1-181203-	0.472 U	0.025 U	0.025 U	0.943 U	0.943 U	0.05 U	0.472 U	1.89 U	9.43 U	0.943 U	0.472 U	0.943 U

Data Collected from October 1, 2018 to December 31, 2018
Cedar Hills Landfill --- Groundwater Appendix III Analytical Data
Contact Person: Sendy Jimenez (206) 477-5224

Site	Date	Sample ID	2-Acetylamino-Fluorene	2-Chloro-Naphthalene	2-Chlorophenol	2-Methyl-1-Propanol	2-Methyl-Naphthalene	2-Methylphenol	2-Naphthylamine	2-Nitroaniline	2-Nitrophenol	2,3,7,8-Tcdd	13C12 - 2,3,7,8-TCDD
			53-96-3 (ug/L)	91-58-7 (ug/L)	95-57-8 (ug/L)	78-83-1 (ug/L)	91-57-6 (ug/L)	95-48-7 (ug/L)	91-59-8 (ug/L)	88-74-4 (ug/L)	88-75-5 (ug/L)	1746-01-6 (pg/L)	76523-40-5 (%)
MW-30A	10/15/2018	W30A181015-1	1.05 U	0.526 U	0.526 U	5 U	0.0238 U	0.526 U	5.26 U	1.05 U	0.211 U	0.026 U J	88
MW-47	10/17/2018	W47-181017-	0.99 U	0.495 U	0.495 U	5 U	0.0243 U	0.495 U	4.95 GU	0.99 U	0.198 U	0.003 U J	128
MW-62	12/3/2018	W62-181203-	0.952 U	0.476 U	0.476 U	5 U	0.024 U	0.476 U	4.76 U	0.952 U	0.19 U		
SW-E1	12/3/2018	SE1-181203-	0.943 U	0.472 U	0.472 U	5 U	0.0236 U	0.472 U	4.72 U	0.943 U	0.189 U		

Data Collected from October 1, 2018 to December 31, 2018
Cedar Hills Landfill --- Groundwater Appendix III Analytical Data
Contact Person: Sendy Jimenez (206) 477-5224

Site	Date	Sample ID	37C4 -2,3,7,8-TCDD	3,3-Dichloro-Benzidine	3,3'-Dimethyl-Benzidine	3,4-Methylphenol Mixture	3-Chloro-Propene	3-Methylchlor-Anthrene	3-Nitroaniline	4,4'DDD	4,4'DDE	4,4'DDT	4,6-Dinitro-2-Methylphenol
			85508-50-5	91-94-1	119-93-7	15831-10-4	107-05-1	56-49-5	99-09-2	72-54-8	72-55-9	50-29-3	534-52-1
			(%)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)
MW-30A	10/15/2018	W30A181015-1	86	< 0.19 U	< 4.7 U	< 0.47 U	< 0.1 U	< 0.47 U	< 0.94 U	< 0.005 U	< 0.005 U	< 0.005 U	< 0.94 U
MW-47	10/17/2018	W47-181017-	80	< 0.19 U	< 4.7 U	< 0.47 U	< 0.1 U	< 0.47 U	< 0.94 U	< 0.005 U	< 0.005 U	< 0.005 U	< 0.94 U
MW-62	12/3/2018	W62-181203-		< 0.19 U	< 4.8 U	< 0.48 U	< 0.1 U	< 0.48 U	< 0.96 U	< 0.005 U	< 0.005 U	< 0.005 U	< 0.96 U
SW-E1	12/3/2018	SE1-181203-		0.189 U	4.72 U	0.472 U	0.1 U	0.472 U	0.943 U	0.005 U	0.005 U	0.005 U	0.943 U

Environmental Monitoring Data

Data Collected from October 1, 2018 to December 31, 2018
Cedar Hills Landfill --- Groundwater Appendix III Analytical Data
Contact Person: Sendy Jimenez (206) 477-5224

Site	Date	Sample ID	4-Amino-Biphenyl	4-Bromophenyl Phenyl Ether	4-Chloro-3-Methylphenol	4-Chlorophenyl Phenyl Ether	4-Dimethylaminoazobenzene	4-Nitroaniline	4-Nitrophenol	5-Nitro-O-Toluidine	7,12-Dimethylbenz-(A)Anthracene
			92-67-1 (ug/L)	101-55-3 (ug/L)	59-50-7 (ug/L)	7005-72-3 (ug/L)	60-11-7 (ug/L)	100-01-6 (ug/L)	100-02-7 (ug/L)	99-55-8 (ug/L)	57-97-6 (ug/L)
MW-30A	10/15/2018	W30A181015-1	< 1.9 U	< 0.47 U	< 0.47 U	< 0.47 U	< 0.94 U	< 4.7 U	< 4.7 U	< 1.9 U	< 0.47 U
MW-47	10/17/2018	W47-181017-	< 1.9 U	< 0.47 U	< 0.47 U	< 0.47 U	< 0.94 U	< 4.7 U	< 4.7 U	< 1.9 U	< 0.47 U
MW-62	12/3/2018	W62-181203-	< 1.9 U	< 0.48 U	< 0.48 U	< 0.48 U	< 0.96 U	< 4.8 U	< 4.8 U	< 1.9 U	< 0.48 U
SW-E1	12/3/2018	SE1-181203-	1.89 U	0.472 U	0.472 U	0.472 U	0.943 U	4.72 U	4.72 U	1.89 U	0.472 U

Environmental Monitoring Data

Data Collected from October 1, 2018 to December 31, 2018
Cedar Hills Landfill --- Groundwater Appendix III Analytical Data
Contact Person: Sendy Jimenez (206) 477-5224

Site	Date	Sample ID	Acenaphthylene 208-96-8 (ug/L)	Acenapthalene 83-32-9 (ug/L)	Acetonitrile 75-05-8 (ug/L)	Acetophenone 98-86-2 (ug/L)	Acrolein 107-02-8 (ug/L)	Aldrin 309-00-2 (ug/L)	Alpha Bhc 319-84-6 (ug/L)	Alpha Chlordane 5103-71-9 (ug/L)	Alpha-Terpineol 98-55-5 (ug/L)	Aniline 62-53-3 (ug/L)	Anthracene 120-12-7 (ug/L)
MW-30A	10/15/2018	W30A181015-1	< 0.024 U	< 0.024 U	< 5 U	< 0.47 U	< 2.5 U	< 0.005 U	< 0.005 U	< 0.005 U	< 0.47 U	< 0.94 U	< 0.047 U
MW-47	10/17/2018	W47-181017-	< 0.024 U	< 0.024 U	< 5 U	< 0.47 U	< 2.5 U	< 0.005 U	< 0.005 U	< 0.005 U	< 0.47 U	< 0.94 U	< 0.047 U
MW-62	12/3/2018	W62-181203-	< 0.024 U	< 0.024 U	< 5 U	< 0.48 U	< 2.5 U	< 0.005 U	< 0.005 U	< 0.005 U	< 0.48 U	< 0.96 U	< 0.047 U
SW-E1	12/3/2018	SE1-181203-	0.0236 U	0.0236 U	5 U	0.472 U	2.5 U	0.005 U	0.005 U	0.005 U	0.472 U	0.943 U	0.0472 U

Data Collected from October 1, 2018 to December 31, 2018
Cedar Hills Landfill --- Groundwater Appendix III Analytical Data
Contact Person: Sendy Jimenez (206) 477-5224

Site	Date	Sample ID	Aroclor 1016	Aroclor 1221	Aroclor 1232	Aroclor 1242	Aroclor 1248	Aroclor 1254	Aroclor 1260	Benzo(A)-Anthracene	Benzo(A)Pyrene	Benzo(B,J,K)-Fluoranthrene
			12674-11-2	11104-28-2	11141-16-5	53469-21-9	12672-29-6	11097-69-1	11096-82-5	56-55-3	50-32-8	BJK
			(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)
MW-30A	10/15/2018	W30A181015-1	< 0.00625 U	< 0.0125 U	< 0.00625 U	< 0.00625 U	< 0.00625 U	< 0.00625 U	< 0.00625 U	< 0.047 U	< 0.047 U	< 0.047 U
MW-47	10/17/2018	W47-181017-	< 0.00625 U	< 0.00625 U	< 0.00625 U	< 0.00625 U	< 0.00625 U	< 0.00625 U	< 0.00625 U	< 0.047 U	< 0.047 U	< 0.047 U
MW-62	12/3/2018	W62-181203-	< 0.00625 U	< 0.00625 U	< 0.00625 U	< 0.00625 U	< 0.00625 U	< 0.00625 U	< 0.00625 U	< 0.047 U	< 0.047 U	< 0.047 U
SW-E1	12/3/2018	SE1-181203-	0.00625 U	0.00625 U	0.00625 U	0.00625 U	0.00625 U	0.00625 U	0.00625 U	0.0472 U	0.0472 U	0.0472 U

Environmental Monitoring Data

Data Collected from October 1, 2018 to December 31, 2018
Cedar Hills Landfill --- Groundwater Appendix III Analytical Data
Contact Person: Sendy Jimenez (206) 477-5224

Site	Date	Sample ID	Benzo(G,H,I)-Perylene	Benzoic Acid	Benzyl Alcohol	Beta Bhc	Bis-(2-Chloroethoxy)-Methane	Bis(2-Chloroethyl)-Ether	Bis(2-Ethylhexyl)-Phthalate	Butyl-Benzyl-Phthalate	Chlordecone (Kepone)	Chlorobenzilate
			191-24-2 (ug/L)	65-85-0 (ug/L)	100-51-6 (ug/L)	319-85-7 (ug/L)	111-91-1 (ug/L)	111-44-4 (ug/L)	117-81-7 (ug/L)	85-68-7 (ug/L)	143-50-0 (ug/L)	510-15-6 (ug/L)
MW-30A	10/15/2018	W30A181015-1	< 0.047 U	< 9.4 U	< 4.7 U	< 0.005 U	< 0.47 U	< 0.47 U	57.7 DJ	< 0.94 U	< 4.7 GU	< 0.47 U
MW-47	10/17/2018	W47-181017-	< 0.047 U	< 9.4 U	< 4.7 U	< 0.005 U	< 0.47 U	< 0.47 U	11.9 DJ	< 0.94 U	< 4.7 GU	< 0.47 U
MW-62	12/3/2018	W62-181203-	< 0.047 U	< 9.6 U	< 4.8 U	< 0.005 U	< 0.48 U	< 0.48 U	2.83 J	< 0.94 U	< 4.8 GU	< 0.48 U
SW-E1	12/3/2018	SE1-181203-	0.0472 U	9.43 U	4.72 U	0.005 U	0.472 U	0.472 U	1.89	0.943 U	4.72 U	0.472 U

Data Collected from October 1, 2018 to December 31, 2018
Cedar Hills Landfill --- Groundwater Appendix III Analytical Data
Contact Person: Sendy Jimenez (206) 477-5224

Site	Date	Sample ID	Chlorophenols	Chloroprene	Chrysene	Cis-Diallate	Cygon	Delta Bhc	Diallate	Dibenzo(A,H)-Anthracene	Dibenzofuran	Dieldrin
			58-90-2 (ug/L)	126-99-8 (ug/L)	218-01-9 (ug/L)	17708-57-5 (ug/L)	60-51-5 (ug/L)	319-86-8 (ug/L)	2303-16-4 (ug/L)	53-70-3 (ug/L)	132-64-9 (ug/L)	60-57-1 (ug/L)
MW-30A	10/15/2018	W30A181015-1	< 0.94 U	< 0.1 U	< 0.047 U	< 0.038 U	< 0.094 U	< 0.005 U	< 0.038 U	< 0.047 U	< 0.47 U	< 0.005 U
MW-47	10/17/2018	W47-181017-	< 0.94 U	< 0.1 U	< 0.047 U	< 0.038 U	< 0.094 U	< 0.005 U	< 0.038 U	< 0.047 U	< 0.47 U	< 0.005 U
MW-62	12/3/2018	W62-181203-	< 0.96 U	< 0.1 U	< 0.047 U	< 0.038 U	< 0.094 U	< 0.005 U	< 0.038 U	< 0.047 U	< 0.48 U	< 0.005 U
SW-E1	12/3/2018	SE1-181203-	0.943 U	0.1 U	0.0472 U	0.0377 U	0.0943 U	0.005 U	0.0377 U	0.0472 U	0.472 U	0.005 U

Data Collected from October 1, 2018 to December 31, 2018
Cedar Hills Landfill --- Groundwater Appendix III Analytical Data
Contact Person: Sendy Jimenez (206) 477-5224

Site	Date	Sample ID	Diethyl-Phthalate	Dimethyl-Phthalate	Di-N-Butylphthalate	Di-N-Octyl Phthalate	Dinoseb	Diphenylamine	Disulfoton	Endosulfan I	Endosulfan Ii	Endosulfan Sulfate
			84-66-2 (ug/L)	131-11-3 (ug/L)	84-74-2 (ug/L)	117-84-0 (ug/L)	88-85-7 (ug/L)	122-39-4 (ug/L)	298-04-4 (ug/L)	959-98-8 (ug/L)	33213-65-9 (ug/L)	1031-07-8 (ug/L)
MW-30A	10/15/2018	W30A181015-1	< 0.94 U	< 0.94 U	< 0.94 U	< 0.94 U	< 0.025 U	< 0.47 U	< 0.038 U	< 0.005 U	< 0.005 U	< 0.005 U
MW-47	10/17/2018	W47-181017-	< 0.94 U	< 0.94 U	< 0.94 U	< 0.94 U	< 0.0248 U	< 0.47 U	< 0.038 U	< 0.005 U	< 0.005 U	< 0.005 U
MW-62	12/3/2018	W62-181203-	< 0.94 U	< 0.94 U	< 0.94 U	< 0.94 U	< 0.025 U	< 0.48 U	< 0.038 U	< 0.005 U	< 0.005 U	< 0.005 U
SW-E1	12/3/2018	SE1-181203-	0.943 U	0.943 U	0.943 U	0.943 U	0.025 U	0.472 U	0.0377 U	0.005 U	0.005 U	0.005 U

Data Collected from October 1, 2018 to December 31, 2018
Cedar Hills Landfill --- Groundwater Appendix III Analytical Data
Contact Person: Sendy Jimenez (206) 477-5224

Site	Date	Sample ID	Endrin	Endrin Aldehyde	Ethyl Methacrylate	Ethyl Methane Sulfonate	Famphur	Fluoranthene	Fluorene	Heptachlor	Heptachlor Epoxide	Hexachloro-Benzene
			72-20-8 (ug/L)	7421-93-4 (ug/L)	97-63-2 (ug/L)	62-50-0 (ug/L)	52-85-7 (ug/L)	206-44-0 (ug/L)	86-73-7 (ug/L)	76-44-8 (ug/L)	1024-57-3 (ug/L)	118-74-1 (ug/L)
MW-30A	10/15/2018	W30A181015-1	< 0.005 U	< 0.005 U	< 0.1 U	< 0.47 U	< 0.038 U	< 0.047 U	< 0.047 U	< 0.005 U	< 0.005 U	< 0.19 U
MW-47	10/17/2018	W47-181017-	< 0.005 U	< 0.005 U	< 0.1 U	< 0.47 U	< 0.038 U	< 0.047 U	< 0.047 U	< 0.005 U	< 0.005 U	< 0.19 U
MW-62	12/3/2018	W62-181203-	< 0.005 U	< 0.005 U	< 0.1 U	< 0.48 U	< 0.038 U	< 0.047 U	< 0.047 U	< 0.005 U	< 0.005 U	< 0.19 U
SW-E1	12/3/2018	SE1-181203-	0.005 U	0.005 U	0.1 U	0.472 U	0.0377 U	0.0472 U	0.0472 U	0.005 U	0.005 U	0.189 U

Data Collected from October 1, 2018 to December 31, 2018
Cedar Hills Landfill --- Groundwater Appendix III Analytical Data
Contact Person: Sendy Jimenez (206) 477-5224

Site	Date	Sample ID	Hexachloro-Butadiene	Hexachloro-Cyclo-Pentadiene	Hexachloro-Ethane	Hexachloro-Propene	Indeno(1,2,3-C,D)-Pyrene	Isodrin	Isophorone	Isosafrole	Lindane (Gamma Bhc)	M-Dinitrobenzene
			87-68-3	77-47-4	67-72-1	1888-71-7	193-39-5	465-73-6	78-59-1	120-58-1	58-89-9	99-65-0
			(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)
MW-30A	10/15/2018	W30A181015-1	< 1.9 U	< 4.7 U	< 4.7 U	< 1.9 U	< 0.047 U	< 0.005 U	< 0.47 U	< 0.47 U	< 0.005 U	< 0.94 U
MW-47	10/17/2018	W47-181017-	< 1.9 U	< 4.7 U	< 4.7 U	< 1.9 U	< 0.047 U	< 0.005 U	< 0.47 U	< 0.47 U	< 0.005 U	< 0.94 U
MW-62	12/3/2018	W62-181203-	< 1.9 U	< 4.8 U	< 4.8 U	< 1.9 U	< 0.047 U	< 0.005 U	< 0.48 U	< 0.48 U	< 0.005 U	< 0.96 U
SW-E1	12/3/2018	SE1-181203-	1.89 U	4.72 U	4.72 U	1.89 U	0.0472 U	0.005 U	0.472 U	0.472 U	0.005 U	0.943 U

Data Collected from October 1, 2018 to December 31, 2018
Cedar Hills Landfill --- Groundwater Appendix III Analytical Data
Contact Person: Sendy Jimenez (206) 477-5224

Site	Date	Sample ID	Methapyrilene	Methoxychlor	Methyl Methacrylate	Methyl Methane-Sulfonate	Methyl Parathion	Methylacrylonitrile	Naphthalene	Nitrobenzene	N-Nitroso-Diethylamine	N-Nitroso-Dimethylamine
			91-80-5 (ug/L)	72-43-5 (ug/L)	80-62-6 (ug/L)	66-27-3 (ug/L)	298-00-0 (ug/L)	126-98-7 (ug/L)	91-20-3 (ug/L)	98-95-3 (ug/L)	55-18-5 (ug/L)	62-75-9 (ug/L)
MW-30A	10/15/2018	W30A181015-1	< 47 U	< 0.025 U	< 0.25 U	< 0.47 U	< 0.038 U	< 0.1 U	< 0.024 U	< 0.47 U	< 0.47 U	< 0.47 U
MW-47	10/17/2018	W47-181017-	< 47 U	< 0.025 U	< 0.25 U	< 0.47 U	< 0.038 U	< 0.1 U	< 0.024 U	< 0.47 U	< 0.47 U	< 0.47 U
MW-62	12/3/2018	W62-181203-	< 48 U	< 0.025 U	< 0.25 U	< 0.48 U	< 0.038 U	< 0.1 U	< 0.024 U	< 0.48 U	< 0.48 U	< 0.48 U
SW-E1	12/3/2018	SE1-181203-	47.2 GU	0.025 U	0.25 U	0.472 U	0.0377 U	0.1 U	0.0236 U	0.472 U	0.472 U	0.472 U

Data Collected from October 1, 2018 to December 31, 2018
Cedar Hills Landfill --- Groundwater Appendix III Analytical Data
Contact Person: Sendy Jimenez (206) 477-5224

Site	Date	Sample ID	N-Nitrosodi-N-Butylamine	N-Nitroso-Diphenylamine	N-Nitroso-Dipropylamine	N-Nitroso-Methyl-Ethalamine	N-Nitroso-Piperidine	N-Nitroso-Pyrrolidine	O,O,O-Triethyl Phosphoro-Thioate	O,O-Diethyl O-Pyrazinyl Phosphoro-Thioate	O-Toluidine
			924-16-3 (ug/L)	86-30-6 (ug/L)	621-64-7 (ug/L)	10595-95-6 (ug/L)	100-75-4 (ug/L)	930-55-2 (ug/L)	126-68-1 (ug/L)	297-97-2 (ug/L)	95-53-4 (ug/L)
MW-30A	10/15/2018	W30A181015-1	< 0.47 U	< 0.47 U	< 0.47 U	< 0.47 U	< 0.94 U	< 0.94 U	< 0.038 U	< 0.038 U	< 0.094 U
MW-47	10/17/2018	W47-181017-	< 0.47 U	< 0.47 U	< 0.47 U	< 0.47 U	< 0.94 U	< 0.94 U	< 0.038 U	< 0.038 U	< 0.094 U
MW-62	12/3/2018	W62-181203-	< 0.48 U	< 0.48 U	< 0.48 U	< 0.48 U	< 0.96 U	< 0.96 U	< 0.038 U	< 0.038 U	< 0.096 U
SW-E1	12/3/2018	SE1-181203-	0.472 U	0.472 U	0.472 U	0.472 U	0.943 U	0.943 U	0.0377 U	0.0377 U	0.0943 U

Data Collected from October 1, 2018 to December 31, 2018
Cedar Hills Landfill --- Groundwater Appendix III Analytical Data
Contact Person: Sendy Jimenez (206) 477-5224

Site	Date	Sample ID	Parathion	P-Chloroaniline	Pentachloro-Benzene	Pentachloronitrobenzene	Pentachlorophenol	Phenacetin	Phenanthrene	Phenol	Phentermine	Phorate
			56-38-2 (ug/L)	106-47-8 (ug/L)	608-93-5 (ug/L)	82-68-8 (ug/L)	87-86-5 (ug/L)	62-44-2 (ug/L)	85-01-8 (ug/L)	108-95-2 (ug/L)	122-09-8 (ug/L)	298-02-2 (ug/L)
MW-30A	10/15/2018	W30A181015-1	< 0.038 U	< 0.94 U	< 0.47 U	< 0.47 U	< 1.9 GU	< 0.47 U	< 0.047 U	< 0.47 U	< 19 GU	< 0.038 U
MW-47	10/17/2018	W47-181017-	< 0.038 U	< 0.94 U	< 0.47 U	< 0.47 U	< 1.9 GU	< 0.47 U	< 0.047 U	< 0.47 U	< 19 GU	< 0.038 U
MW-62	12/3/2018	W62-181203-	< 0.038 U	< 0.96 U	< 0.48 U	< 0.48 U	< 1.9 GU	< 0.48 U	< 0.047 U	< 0.48 U	< 19 GU	< 0.038 U
SW-E1	12/3/2018	SE1-181203-	0.0377 U	0.943 U	0.472 U	0.472 U	1.89 U	0.472 U	0.0472 U	0.472 U	18.9 GU	0.0377 U

Data Collected from October 1, 2018 to December 31, 2018
Cedar Hills Landfill --- Groundwater Appendix III Analytical Data
Contact Person: Sendy Jimenez (206) 477-5224

Site	Date	Sample ID	P-Phenylene-Diamine	Proprionitrile	Propyzamide	Pyrene	Safrole	Total Aroclors	Toxaphene	Trans-Chlordane	Trans-Diallate
			106-50-3	107-12-0	23950-58-5	129-00-0	94-59-7	T_AROCLOR	8001-35-2	5103-74-2	17708-58-6
			(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)
MW-30A	10/15/2018	W30A181015-1	< 19 GU	< 0.5 U	< 0.038 U	< 0.047 U	< 0.94 U	< 0.0125 U	< 0.5 U	< 0.005 U	< 0.038 U
MW-47	10/17/2018	W47-181017-	< 19 GU	< 0.5 U	< 0.038 U	< 0.047 U	< 0.94 U	< 0.00625 U	< 0.5 U	< 0.005 U	< 0.038 U
MW-62	12/3/2018	W62-181203-	< 19 GU	< 0.5 U	< 0.038 U	< 0.047 U	< 0.96 U	< 0.00625 U	< 0.5 U	< 0.005 U	< 0.038 U
SW-E1	12/3/2018	SE1-181203-	18.9 GU	0.5 U	0.0377 U	0.0472 U	0.943 U	0.00625 U	0.5 U	0.005 U	0.0377 U

Surface Water Field and Analytical Data

Environmental Monitoring Data

Data Collected from April 1, 2018 to June 30, 2018
Cedar Hills Landfill ---Surface Water Elevation-Staff Gage Measurements
Contact Person: Sendy Jimenez (206) 477-5224

Staff Gage	Location	Date	Reference Elevation Staff Gage 0' (msl)	Reference Elevation Top of Peizo (msl)	Depth to Water (Peizometer) (feet)	Staff Gage Reading (feet)	Surface Water Elevation (msl)
SW-G1	SW-W1	4/6/2018	415.38	418.84		0.76	416.14
SW-G1	SW-W1	5/2/2018	415.38	418.84		0.78	416.16
SW-G1	SW-W1	6/20/2018	415.38	418.84		2.48	417.86
SW-G2	SW-N1	4/6/2018	355.68	358.21		0.68	356.36
SW-G2	SW-N1	5/2/2018	355.68	358.21		0.46	356.14
SW-G2	SW-N1	6/20/2018	355.68	358.21		0.28	360.21
SW-G3	SW -V	4/6/2018	466.46	469.88		4.53	469.88
SW-G3	SW -V	5/2/2018	466.46	469.88		4.76	466.46
SW-G3	SW -V	6/20/2018	466.46	469.88			466.84
SW-G4	Upstream of SW-E1	4/6/2018	502.41	505.85		0.38	505.85
SW-G4	Upstream of SW-E1	4/30/2018	502.41	505.85		0.26	502.41
SW-G4	Upstream of SW-E1	5/2/2018	502.41	505.85		0.28	503.01
SW-G4	Upstream of SW-E1	6/20/2018	502.41	505.85			503.01
SW-G5	SW-E1	4/6/2018	486.92	490.34		0.60	487.52
SW-G5	SW-E1	4/30/2018	486.92	490.34		0.60	491.82
SW-G5	SW-E1	5/2/2018	486.92	490.34		0.60	490.34
SW-G5	SW-E1	6/20/2018	486.92	490.34		4.90	490.34
SW-G6	Upstream of SW-GS1	4/6/2018	490.72	494.12		2.73	491.50
SW-G6	Upstream of SW-GS1	5/2/2018	490.72	494.12		3.06	491.30
SW-G6	Upstream of SW-GS1	6/20/2018	490.72	494.12			497.84
SW-G7	SW-S2	4/6/2018	453.03	456.41		0.78	453.45
SW-G7	SW-S2	5/2/2018	453.03	456.41		0.58	453.03
SW-G7	SW-S2	6/20/2018	453.03	456.41		7.12	453.57
SW-G8	Upstream of SW-S1	4/6/2018	510.61	515.56		0.54	511.09
SW-G8	Upstream of SW-S1	5/2/2018	510.61	515.56		0.42	515.56
SW-G8	Upstream of SW-S1	6/20/2018	510.61	515.56			515.56
SW-G9	SW-S1	4/6/2018	490.93	494.35		0.54	494.35
SW-G9	SW-S1	5/2/2018	490.93	494.35		0.48	494.35
SW-G9	SW-S1	6/20/2018	490.93	494.35		3.53	494.35

Environmental Monitoring Data

Data Collected from April 1, 2018 to June 30, 2018
Cedar Hills Landfill ---Surface Water Field Parameters
Contact Person: Sendy Jimenez (206) 477-5224

Site	Date	Sample ID	pH (Field) (std. Units)	Conductance (Field) (umho/cm)	Temperature (^{o}C)	Turbidity (NTU)	Oxygen, Dissolved (mg/L)
SW-E1	4/30/2018	SE1-180430Q	6.59	47.6	9.63	1.53	7.44
SW-GS1	4/4/2018	SGS1180404P	6.34	214.4	10.43	4.56	7.84
SW-N4	4/4/2018	SN4-180404P	6.49	100.2	9.506	-	11.48
SW-SL3	4/4/2018	SSL3180404P	6.75	102.8	90.8	-	9.96
SW-EMER	5/24/2018	SWET180524E	6.95	2300	16.1	-	-

Environmental Monitoring Data

Data Collected from April 1, 2018 to June 30, 2018
Cedar Hills Landfill ---Surface Water ISGP Analytes
Contact Person: Sendy Jimenez (206) 477-5224

Site	Date	Sample ID	Ammonia, (NH3) (mg/L)	Biological Oxygen Demand (mg/L)	Total Suspended Solids (mg/L)	Copper, total (mg/L)	Zinc, total (mg/L)
SW-GS1	4/4/2018	SGS1180404P	0.319	2 U	3	2.1	0.00139
SW-N4	4/4/2018	SN4-180404P	0.0282	2 U	1.1	9.4	0.0124
SW-SL3	4/4/2018	SSL3180404P	0.006 T	2 U	3	15.1	0.0092
SW-SL3	4/4/2018	SSL3180404F	0.002 U	2 U	0.5 U	-	0.0005 U
EMER	5/24/2018	SWET180524E	189	452	20.2	0.0312	0.153

Environmental Monitoring Data

Data Collected from April 1, 2018 to June 30, 2018
Cedar Hills Landfill ---Surface Water VOAs Analytes
Contact Person: Sendy Jimenez (206) 477-5224

Site	Date	Sample ID	4-Methyl-phenol 106-44-5 (ug/L)	Alpha Terpineol 98-55-5 (ug/L)	Benzoic Acid 65-85-0 (ug/L)	Phenol 108-95-2 (ug/L)
SW-GS1	4/4/2018	SGS1180404P	0.47 U	0.47 U	9.4 U	0.47 U
SW-N4	4/4/2018	SN4-180404P	0.49 U	0.49 U	9.8 U	0.49 U
SW-SL3	4/4/2018	SSL3180404P	0.5 U	0.5 U	10 U	0.5 U
SW-SL3	4/4/2018	SSL3180404F	0.5 U	0.5 U	10 U	0.5 U

Environmental Monitoring Data

Data Collected from April 1, 2018 to June 30, 2018
Cedar Hills Landfill ---SW-E1 Analytical Data
Contact Person: Sendy Jimenez (206) 477-5224

Site	Date	Sample ID	1,1,1,2-TETRACHLOROETHANE	1,1,1-TRICHLOROETHANE	1,1,2,2-TETRACHLOROETHANE	1,1,2-TRICHLOROETHANE	1,1-DICHLOROETHANE	1,1-DICHLOROETHENE	1,2,3-TRICHLOROPROPANE	1,2-DIBROMO-3-CHLOROPR	1,2-DIBROMOETHANE	1,2-DICHLOROBENZENE
			630-20-6	71-55-6	79-34-5	79-00-5	75-34-3	75-35-4	96-18-4	96-12-8	106-93-4	95-50-1
			ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l
			N	N	N	N	N	N	N	N	N	N
SW-E1	4/30/2018	SE1-180430Q	0.25 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	2.5 U	0.1 U	0.1 U

Data Collected from April 1, 2018 to June 30, 2018
Cedar Hills Landfill ---SW-E1 Analytical Data
Contact Person: Sendy Jimenez (206) 477-5224

Site	Date	Sample ID	1,2-DICHLOROETHANE	1,2-DICHLOROPROP	1,4-DICHLOROBENZ	2-BUTANONE	2-HEXANONE	4-METHYL-2-	ACETONE	ACRYLONITRILE	ALKALINITY, TOTAL	AMMONIA AS N	ANTIMONY	ANTIMONY
			107-06-2	78-87-5	106-46-7	78-93-3	591-78-6	108-10-1	67-64-1	107-13-1	ALK	7664-41-7	7440-36-0	7440-36-0
			ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	mg/l	mg/l	mg/l	mg/l
			N	N	N	N	N	N	N	N	N	N	D	T
SW-E1	4/30/2018	SE1-180430Q	0.1 U	0.1 U	0.1 U	1 U	0.5 U	2.5 U	2.5 U	0.035 U	19.8	0.0044 T	0.0003 U	0.0003 U

Environmental Monitoring Data

Data Collected from April 1, 2018 to June 30, 2018
Cedar Hills Landfill ---SW-E1 Analytical Data
Contact Person: Sendy Jimenez (206) 477-5224

Site	Date	Sample ID	ARSENIC	ARSENIC	BARIUM	BARIUM	BENZENE	BERYLLIUM	BERYLLIUM	BROMOCHLOROMETHANE	BROMODICHLOROMETHANE	BROMOFORM	BROMOMETHANE
			7440-38-2	7440-38-2	7440-39-3	7440-39-3	71-43-2	7440-41-7	7440-41-7	74-97-5	75-27-4	75-25-2	74-83-9
			mg/l	mg/l	mg/l	mg/l	ug/l	mg/l	mg/l	ug/l	ug/l	ug/l	ug/l
			D	T	D	T	N	D	T	N	N	N	N
SW-E1	4/30/2018	SE1-180430Q	0.000284	0.000446	0.0031	0.0158	0.1 U	0.0001 U	0.0001 U	0.1 U	0.25 U	0.5 U	0.1 U

Environmental Monitoring Data

Data Collected from April 1, 2018 to June 30, 2018
Cedar Hills Landfill ---SW-E1 Analytical Data
Contact Person: Sendy Jimenez (206) 477-5224

Site	Date	Sample ID	CADMIUM	CADMIUM	CALCIUM	CALCIUM	CARBON DISULFIDE	CARBON TETRACHLORIDE	CHLORIDE	CHLOROBENZENE	CHLORODIBROMOMETHANE	CHLOROETHANE	CHLOROFORM
			7440-43-9	7440-43-9	7440-70-2	7440-70-2	75-15-0	56-23-5	16887-00-6	108-90-7	124-48-1	75-00-3	67-66-3
			mg/l	mg/l	mg/l	mg/l	ug/l	ug/l	mg/l	ug/l	ug/l	ug/l	ug/l
			D	T	D	T	N	N	N	N	N	N	N
SW-E1	4/30/2018	SE1-180430Q	5E-05 U	5E-05 U	5.14	5.35	0.1 U	0.25 U	1.19	0.1 U	0.5 U	0.1 U	0.1 U

Environmental Monitoring Data

Data Collected from April 1, 2018 to June 30, 2018
Cedar Hills Landfill ---SW-E1 Analytical Data
Contact Person: Sendy Jimenez (206) 477-5224

Site	Date	Sample ID	CHLOROMETHANE	CHROMIUM	CHROMIUM	CIS-1,2-DICHLOROETHEN	CIS-1,3-DICHLOROPROPE	COBALT	COBALT	COPPER	COPPER
			74-87-3	7440-47-3	7440-47-3	156-59-2	10061-01-5	7440-48-4	7440-48-4	7440-50-8	7440-50-8
			ug/l	mg/l	mg/l	ug/l	ug/l	mg/l	mg/l	mg/l	mg/l
			N	D	T	N	N	D	T	D	T
SW-E1	4/30/2018	SE1-180430Q	0.25 U	0.0002 U	0.000389	0.1 U	0.25 U	7.74E-05	0.00033	0.00057	0.00109

Environmental Monitoring Data

Data Collected from April 1, 2018 to June 30, 2018
Cedar Hills Landfill ---SW-E1 Analytical Data
Contact Person: Sendy Jimenez (206) 477-5224

Site	Date	Sample ID	DIBROMOMETHANE	DICHLORODIFLUOROMETHANE	ETHYLBENZENE	IRON	IRON	LEAD	LEAD	M & P XYLENE	MAGNESIUM	MAGNESIUM	MANGANESE	MANGANESE
			74-95-3	75-71-8	100-41-4	7439-89-6	7439-89-6	7439-92-1	7439-92-1	MPX	7439-95-4	7439-95-4	7439-96-5	7439-96-5
			ug/l	ug/l	ug/l	mg/l	mg/l	mg/l	mg/l	ug/l	mg/l	mg/l	mg/l	mg/l
			N	N	N	D	T	D	T	N	D	T	D	T
SW-E1	4/30/2018	SE1-180430Q	0.1 U	0.1 U	0.1 U	0.0612	0.307	0.0001 U	0.000383	0.1 U	1.06	1.26	0.0519	0.258

Environmental Monitoring Data

Data Collected from April 1, 2018 to June 30, 2018
Cedar Hills Landfill ---SW-E1 Analytical Data
Contact Person: Sendy Jimenez (206) 477-5224

Site	Date	Sample ID	MERCURY	MERCURY	METHYL IODIDE	METHYLENE CHLORIDE	NICKEL	NICKEL	NITRATE	O-XYLENE	POTASSIUM	POTASSIUM
			7439-97-6	7439-97-6	74-88-4	75-09-2	7440-02-0	7440-02-0	14797-55-8	95-47-6	7440-09-7	7440-09-7
			mg/l	mg/l	ug/l	ug/l	mg/l	mg/l	mg/l	ug/l	mg/l	mg/l
			D	T	N	N	D	T	N	N	D	T
SW-E1	4/30/2018	SE1-180430Q	5E-05 U	5E-05 U	0.1 U	2.5 U	0.000193	0.000485	0.03 T	0.1 U	0.462	0.55

Environmental Monitoring Data

Data Collected from April 1, 2018 to June 30, 2018
Cedar Hills Landfill ---SW-E1 Analytical Data
Contact Person: Sendy Jimenez (206) 477-5224

Site	Date	Sample ID	SELENIUM	SELENIUM	SILVER	SILVER	SODIUM	SODIUM	SPECIFIC CONDUCTANCE	STYRENE	SULFATE	TETRACHLOROETHENE
			7782-49-2	7782-49-2	7440-22-4	7440-22-4	7440-23-5	7440-23-5	COND	100-42-5	14808-79-8	127-18-4
			mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	umhos/cm	ug/l	mg/l	ug/l
			D	T	D	T	D	T	N	N	N	N
SW-E1	4/30/2018	SE1-180430Q	0.0005 U	0.0005 U	4E-05 U	4E-05 U	2.63	2.8	50	0.1 U	0.518	0.1 U

Environmental Monitoring Data

Data Collected from April 1, 2018 to June 30, 2018
Cedar Hills Landfill ---SW-E1 Analytical Data
Contact Person: Sendy Jimenez (206) 477-5224

Site	Date	Sample ID	THALLIUM	THALLIUM	TOLUENE	TOTAL DISSOLVED SOLIDS	TOTAL ORGANIC CARBON	TOTAL SOLIDS	TOTAL SUSPENDED SOLIDS	TRANS-1,2-DICHLOROETHENE	TRANS-1,3-DICHLOROPROPENE	TRANS-1,4-DICHLORO-2-BUTENE
			7440-28-0	7440-28-0	108-88-3	TDS	TOC	TS	TSS	156-60-5	10061-02-6	110-57-6
			mg/l	mg/l	ug/l	mg/l	mg/l	mg/l	mg/l	ug/l	ug/l	ug/l
			D	T	N	N	N	N	N	N	N	N
SW-E1	4/30/2018	SE1-180430Q	0.0001 U	0.0001 U	0.1 U	49.5	3.28	64.7	10.2	0.1 U	0.5 U	5 U

Environmental Monitoring Data

Data Collected from April 1, 2018 to June 30, 2018
Cedar Hills Landfill ---SW-E1 Analytical Data
Contact Person: Sendy Jimenez (206) 477-5224

Site	Date	Sample ID	TRICHLOROETHENE	TRICHLOROFLUOROMETHANE	VANADIUM	VANADIUM	VINYL ACETATE	VINYL CHLORIDE	ZINC	ZINC
			79-01-6	75-69-4	7440-62-2	7440-62-2	108-05-4	75-01-4	7440-66-6	7440-66-6
			ug/l	ug/l	mg/l	mg/l	ug/l	ug/l	mg/l	mg/l
			N	N	D	T	N	N	D	T
SW-E1	4/30/2018	SE1-180430Q	0.1 U	0.1 U	0.000353	0.000815	0.1 U	0.01 U	0.00186	0.00312

Staff Gage	Location	Date	Reference Elevation Staff Gage 0' (msl)	Staff Gage Reading (feet)	Reference Elevation Top of Peizo (msl)	Depth to Water (Peizometer) (feet)	Surface Water Elevation (msl)
SW-G1	SW-W1	9/27/2018	415.38	0.68	418.84	--	416.06
SW-G2	SW-N1	9/27/2018	355.68	--	358.21	3.59	354.62
SW-G3	SW -V	9/27/2018	466.46	--	469.88	5.38	464.50
SW-G4	Upstream of SW-E1	9/27/2018	502.41	--	505.85	6.25	499.60
SW-G5	SW-E1	9/27/2018	486.92	--	490.34	5.34	485.00
SW-G6	Upstream of SW-GS1	9/27/2018	490.72	--	494.12	7.24	486.88
SW-G7	SW-S2	9/27/2018	453.03	--	456.41	8.87	447.54
SW-G8	Upstream of SW-S1	9/27/2018	510.61	--	515.56	4.75	510.81
SW-G9	SW-S1	9/27/2018	490.93	--	494.35	6.39	487.96

Site	Date	Sample ID	pH (Field) (std. Units)	Conductance (Field) (umho/cm)	Temperature (^{o}C)	Turbidity (NTU)	Oxygen, Dissolved (mg/L)
SW-GS1	9/26/2018	SGS1180926P	7.32	230.9	13.36	4.53	5.99

Site	Date	Sample ID	Ammonia, (NH3) (mg/L)	Biological Oxygen Demand (mg/L)	Total Suspended Solids (mg/L)	Copper, total (mg/L)	Zinc, total (mg/L)
SW-GS1	9/26/2018	SGS1180926P	0.0723	2 U	0.5 U	0.00579	0.00109

Site	Date	Sample ID	4-Methyl-phenol 106-44-5 (ug/L)	Alpha Terpineol 98-55-5 (ug/L)	Benzoic Acid 65-85-0 (ug/L)	Phenol 108-95-2 (ug/L)
SW-GS1	9/26/2018	SGS1180926P	0.476 U	0.476 U	9.52 U	0.476 U

Environmental Monitoring Data

Data Collected from October 1, 2018 to December 31, 2018
Cedar Hills Landfill --- Stormwater Elevation Data
Contact Person: Sendy Jimenez (206) 477-5224

Staff Gage	Location	Date	Reference Elevation Staff Gage 0' (msl)	Staff Gage Reading (feet)	Reference Elevation Top of Peizo (msl)	Depth to Water (Peizometer) (feet)	Surface Water Elevation (msl)
SW-G1	SW-W1	9/27/2018	415.38	0.68	418.84	--	416.06
SW-G2	SW-N1	9/27/2018	355.68	--	358.21	3.59	354.62
SW-G3	SW -V	9/27/2018	466.46	--	469.88	5.38	464.50
SW-G4	Upstream of SW-E1	9/27/2018	502.41	--	505.85	6.25	499.60
SW-G5	SW-E1	9/27/2018	486.92	--	490.34	5.34	485.00
SW-G6	Upstream of SW-GS1	9/27/2018	490.72	--	494.12	7.24	486.88
SW-G7	SW-S2	9/27/2018	453.03	--	456.41	8.87	447.54
SW-G8	Upstream of SW-S1	9/27/2018	510.61	--	515.56	4.75	510.81
SW-G9	SW-S1	9/27/2018	490.93	--	494.35	6.39	487.96

Environmental Monitoring Data

Data Collected from October 1, 2018 to December 31, 2018
Cedar Hills Landfill --- Stormwater Elevation Data
Contact Person: Sendy Jimenez (206) 477-5224

Site	Date	Sample ID	pH (Field) (std. Units)	Conductance (Field) (umho/cm)	Temperature (^{o}C)	Turbidity (NTU)	Oxygen, Dissolved (mg/L)
SW-E1	12/3/2018	SE1-181203-	5.89	46.4	6.67	13.5	3.16
SW-GS1	10/9/2018	SGS1181009P	6.78	182.7	13.41	13	7.16
SW-N4	10/9/2018	SN4-181009P	6.98	191.6	13.04		9.79
SW-SL3	10/9/2018	SSL3181009P	6.79	168.1	12.73		7.61

Environmental Monitoring Data

Data Collected from October 1, 2018 to December 31, 2018
Cedar Hills Landfill --- Stormwater Conventional Data
Contact Person: Sendy Jimenez (206) 477-5224

Site	Date	Sample ID	Ammonia, (NH3) (mg/L)	Biological Oxygen Demand (mg/L)	Total Suspended Solids (mg/L)	Copper, total (mg/L)	Zinc, total (mg/L)

Environmental Monitoring Data

Data Collected from October 1, 2018 to December 31, 2018
Cedar Hills Landfill --- Stormwater VOAs Data
Contact Person: Sendy Jimenez (206) 477-5224

Site	Date	Sample ID	3-4-Methyl-phenol 106-44-5 (ug/L)	Alpha Terpineol 98-55-5 (ug/L)	Benzoic Acid 65-85-0 (ug/L)	Phenol 108-95-2 (ug/L)
SW-GS1	10/9/2018	SGS1181009P	0.476 U	0.476 U	9.52 U	0.476 U
SW-N4	10/9/2018	SN4-181009P	0.5 U	0.5 U	10 U	0.5 U
SW-SL3	10/9/2018	SSL3181009P	0.5 U	0.5 U	10 U	0.5 U

Environmental Monitoring Data

Data Collected from October 1, 2018 to December 31, 2018
Cedar Hills Landfill --- Surface Water Stn. E Data
Contact Person: Sendy Jimenez (206) 477-5224

Site	Date	Sample ID	1,1,1,2-Tetrachloroethane	1,1,1-Trichloroethane	1,1,2,2-Tetrachloroethane	1,1,2-Trichloroethane	1,1-Dichloroethane	1,1-Dichloroethene	1,2,3-Trichloropropane	1,2-Dibromo-3-Chloropropane	1,2-Dibromoethane	1,2-Dichlorobenzene
			630-20-6	71-55-6	79-34-5	79-00-5	75-34-3	75-35-4	96-18-4	96-12-8	106-93-4	95-50-1
			ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l
			N	N	N	N	N	N	N	N	N	N
SW-E1	SE1-181203-	12/3/18 8:30 AM	0.25 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	2.5 U	0.1 U	0.1 U

Environmental Monitoring Data

Data Collected from October 1, 2018 to December 31, 2018
Cedar Hills Landfill --- Surface Water Stn. E Data
Contact Person: Sendy Jimenez (206) 477-5224

Site	Date	Sample ID	1,2-Dichloroethane	1,2-Dichloropropane	1,4-Dichlorobenzene	2-Butanone	2-Hexanone	4-Methyl-2-Pentanone	Acetone	Acrylonitrile	Alkalinity, Total (As CaCO3)	Ammonia As N	Antimony	Antimony
			107-06-2	78-87-5	106-46-7	78-93-3	591-78-6	108-10-1	67-64-1	107-13-1	ALK	7664-41-7	7440-36-0	7440-36-0
			ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	mg/l	mg/l	mg/l	mg/l
			N	N	N	N	N	N	N	N	N	N	D	T
SW-E1	SE1-181203-	12/3/18 8:30 AM	0.1 U	0.1 U	0.1 U	0.25 U	0.5 U	2.5 U	2.5 U	0.035 U	12.3	0.0068 T	0.0003 U	0.0003 U

Environmental Monitoring Data

Data Collected from October 1, 2018 to December 31, 2018
Cedar Hills Landfill --- Surface Water Stn. E Data
Contact Person: Sendy Jimenez (206) 477-5224

Site	Date	Sample ID	Arsenic	Arsenic	Barium	Barium	Benzene	Beryllium	Beryllium	Bromochloromethane	Bromodichloromethane	Bromoform	Bromomethane
			7440-38-2	7440-38-2	7440-39-3	7440-39-3	71-43-2	7440-41-7	7440-41-7	74-97-5	75-27-4	75-25-2	74-83-9
			mg/l	mg/l	mg/l	mg/l	ug/l	mg/l	mg/l	ug/l	ug/l	ug/l	ug/l
			D	T	D	T	N	D	T	N	N	N	N
SW-E1	SE1-181203-	12/3/18 8:30 AM	0.00019	0.000433	0.00373	0.00984	0.1 U	0.0001 U	0.0001 U	0.1 U	0.25 U	0.5 U	0.1 U

Environmental Monitoring Data

Data Collected from October 1, 2018 to December 31, 2018
Cedar Hills Landfill --- Surface Water Stn. E Data
Contact Person: Sendy Jimenez (206) 477-5224

Site	Date	Sample ID	Cadmium	Cadmium	Calcium	Calcium	Carbon Disulfide	Carbon Tetrachloride	Chloride	Chlorobenzene	Chlorodibromomethane	Chloroethane	Chloroform
			7440-43-9	7440-43-9	7440-70-2	7440-70-2	75-15-0	56-23-5	16887-00-6	108-90-7	124-48-1	75-00-3	67-66-3
			mg/l	mg/l	mg/l	mg/l	ug/l	ug/l	mg/l	ug/l	ug/l	ug/l	ug/l
			D	T	D	T	N	N	N	N	N	N	N
SW-E1	SE1-181203-	12/3/18 8:30 AM	5E-05 U	5E-05 U	4.66	5.08	0.1 U	0.25 U	2.03	0.1 U	0.5 U	0.1 U	0.1 U

Environmental Monitoring Data

Data Collected from October 1, 2018 to December 31, 2018
Cedar Hills Landfill --- Surface Water Stn. E Data
Contact Person: Sendy Jimenez (206) 477-5224

Site	Date	Sample ID	Chloromethane	Chromium	Chromium	Cis-1,2-Dichloroethene	Cis-1,3-Dichloropropene	Cobalt	Cobalt	Copper	Copper
			74-87-3	7440-47-3	7440-47-3	156-59-2	10061-01-5	7440-48-4	7440-48-4	7440-50-8	7440-50-8
			ug/l	mg/l	mg/l	ug/l	ug/l	mg/l	mg/l	mg/l	mg/l
			N	D	T	N	N	D	T	D	T
SW-E1	SE1-181203-	12/3/18 8:30 AM	0.25 U	0.000207	0.000854	0.1 U	0.25 U	5E-05 U	0.000398	0.000973	0.00193

Environmental Monitoring Data

Data Collected from October 1, 2018 to December 31, 2018
Cedar Hills Landfill --- Surface Water Stn. E Data
Contact Person: Sendy Jimenez (206) 477-5224

Site	Date	Sample ID	Dibromomethane	Dichlorodifluoromethane	Ethylbenzene	Iron	Iron	Lead	Lead	M & P Xylene	Magnesium	Magnesium	Manganese	Manganese
			74-95-3	75-71-8	100-41-4	7439-89-6	7439-89-6	7439-92-1	7439-92-1	MPX	7439-95-4	7439-95-4	7439-96-5	7439-96-5
			ug/l	ug/l	ug/l	mg/l	mg/l	mg/l	mg/l	ug/l	mg/l	mg/l	mg/l	mg/l
			N	N	N	D	T	D	T	N	D	T	D	T
SW-E1	SE1-181203-	12/3/18 8:30 AM	0.1 U	0.1 U	0.1 U	0.0489	0.519	0.0001 U	0.0007	0.1 U	1.05	1.11	0.0107	0.19

Environmental Monitoring Data

Data Collected from October 1, 2018 to December 31, 2018
Cedar Hills Landfill --- Surface Water Stn. E Data
Contact Person: Sendy Jimenez (206) 477-5224

Site	Date	Sample ID	Mercury	Mercury	Methyl Iodide	Methylene Chloride	Nickel	Nickel	Nitrate	O-Xylene	Potassium	Potassium
			7439-97-6	7439-97-6	74-88-4	75-09-2	7440-02-0	7440-02-0	14797-55-8	95-47-6	7440-09-7	7440-09-7
			mg/l	mg/l	ug/l	ug/l	mg/l	mg/l	mg/l	ug/l	mg/l	mg/l
			D	T	N	N	D	T	N	N	D	T
SW-E1	SE1-181203-	12/3/18 8:30 AM	5E-05 U	5E-05 U	0.1 U	2.5 U	0.000258	0.000995	0.231	0.1 U	0.536	0.578

Environmental Monitoring Data

Data Collected from October 1, 2018 to December 31, 2018
Cedar Hills Landfill --- Surface Water Stn. E Data
Contact Person: Sendy Jimenez (206) 477-5224

Site	Date	Sample ID	Selenium	Selenium	Silver	Silver	Sodium	Sodium	Specific Conductance	Styrene	Sulfate	Tetrachloroethene
			7782-49-2	7782-49-2	7440-22-4	7440-22-4	7440-23-5	7440-23-5	COND	100-42-5	14808-79-8	127-18-4
			mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	umhos/cm	ug/l	mg/l	ug/l
			D	T	D	T	D	T	N	N	N	N
SW-E1	SE1-181203-	12/3/18 8:30 AM	0.0005 U	0.0005 U	4E-05 U	4E-05 U	2.29	2.3	45.2	0.1 U	3.55	0.1 U

Environmental Monitoring Data

Data Collected from October 1, 2018 to December 31, 2018
Cedar Hills Landfill --- Surface Water Stn. E Data
Contact Person: Sendy Jimenez (206) 477-5224

Site	Date	Sample ID	Thallium	Thallium	Toluene	Total Dissolved Solids	Total Organic Carbon	Total Solids	Total Suspended Solids	Trans-1,2-Dichloroethene	Trans-1,3-Dichloropropene	Trans-1,4-Dichloro-2-Butene
			7440-28-0	7440-28-0	108-88-3	TDS	TOC	TS	TSS	156-60-5	10061-02-6	110-57-6
			mg/l	mg/l	ug/l	mg/l	mg/l	mg/l	mg/l	ug/l	ug/l	ug/l
			D	T	N	N	N	N	N	N	N	N
SW-E1	SE1-181203-	12/3/18 8:30 AM	0.0001 U	0.0001 U	0.1 U	53.4	7.16	74.4	18.5	0.1 U	0.5 U	0.5 U

Environmental Monitoring Data

Data Collected from October 1, 2018 to December 31, 2018
Cedar Hills Landfill --- Surface Water Stn. E Data
Contact Person: Sendy Jimenez (206) 477-5224

Site	Date	Sample ID	Trichloroethene	Trichlorofluoromethane	Vanadium	Vanadium	Vinyl Acetate	Vinyl Chloride	Zinc	Zinc
			79-01-6	75-69-4	7440-62-2	7440-62-2	108-05-4	75-01-4	7440-66-6	7440-66-6
			ug/l	ug/l	mg/l	mg/l	ug/l	ug/l	mg/l	mg/l
			N	N	D	T	N	N	D	T
SW-E1	SE1-181203-	12/3/18 8:30 AM	0.1 U	0.1 U	0.000733	0.00185	0.1 U	0.01 U	0.00206	0.00763

Environmental Monitoring Data

Data Collected from October 1, 2013 to December 31, 2013
Cedar Hills Landfill --- Area 5 Top Deck Surface Water Monitoring Data
Contact Person: Sendy Jimenez (206) 296-4411

Site	Date	Sample ID	pH (Field) (std. Units)	Conductance (Field) (umho/cm)	Temperature (Field) (oC)	Turbidity (Field) (NTU)	Alkalinity, Total (CaCO3) (mg/L)	Chemical Oxygen Demand (mg/L)	Chloride (mg/L)	Iron, dissolved (mg/L)	Iron, total (mg/L)	Sulfate (SO4) (mg/L)	Total Organic Carbon (mg/L)
SW-TD1	12/27/2018	STD1181227-	7.04	261.9	4.27	18.2	79.4	14 T	2.93	0.0216	0.789	42.8	5.81

Leachate Field and Analytical Data

Site	Date	Sample ID	pH (Field) (std. Units)	Conductance (Field) (umho/cm)	Temperature (o C)
LS-API	1/10/2018	LAPI180110M	8.24	5000	10.3
LS-API	2/15/2018	LAPI180215M	7.26	4100	8.3
LS-API	3/14/2018	LAPI180314M	8.24	6400	14
LS-CSW	2/15/2018	LCSWE180215I	7.12	4250	8
LS-CSW	3/14/2018	LCSW180314I	7.58	3500	8
LS-LEPS	1/1/2018	LEPS180101E73	7.95	4000	11.5
LS-LEPS	1/3/2018	LEPS180103E74	8.04	4400	12.6
LS-LEPS	1/4/2018	LEPS180104E75	8.09	4750	12.4
LS-LEPS	1/10/2018	LEPS180110E76	8.02	4650	11.6
LS-LEPS	1/10/2018	LEPS180109M	7.95	4000	9.3
LS-LEPS	1/10/2018	LEPS180109P	7.95	4000	9.3
LS-LEPS	1/11/2018	LEPS180111E77	8	4500	13.7
LS-LEPS	1/12/2018	LEPS180112E78	7.92	4100	12.9
LS-LEPS	1/13/2018	LEPS180113E79	7.94	3900	14.2
LS-LEPS	1/14/2018	LEPS180114E80	7.91	3950	13.4
LS-LEPS	1/15/2018	LEPS180115E81	7.9	4000	14.1
LS-LEPS	1/16/2018	LEPS180116E82	7.86	3950	13.3
LS-LEPS	1/17/2018	LEPS180117E83	7.88	4000	14.4
LS-LEPS	1/18/2018	LEPS180118E84	7.88	3900	13.2
LS-LEPS	1/19/2018	LEPS180119E85	7.86	3850	13.3
LS-LEPS	1/21/2018	LEPS180121E86	7.85	4000	11.8
LS-LEPS	1/22/2018	LEPS180122E87	7.86	4200	14.1
LS-LEPS	1/24/2018	LEPS180124E88	7.91	3950	11.2
LS-LEPS	1/25/2018	LEPS180125E89	7.83	3850	13
LS-LEPS	1/26/2018	LEPS180126E90	7.9	3750	11.3
LS-LEPS	1/27/2018	LEPS180127E91	7.85	3600	12.8
LS-LEPS	1/28/2018	LEPS180128E92	7.85	3600	12.5
LS-LEPS	1/29/2018	LEPS180129E93	7.9	3650	13.6
LS-LEPS	1/30/2018	LEPS180130E94	7.93	3600	11.8
LS-LEPS	1/31/2018	LEPS180131E95	7.99	3650	12.5
LS-LEPS	2/15/2018	LEPS180214D	8.48	4150	10
LS-LEPS	2/15/2018	LEPS180214M	8.48	4150	10
LS-LEPS	2/15/2018	LEPS180214P	8.48	4150	10
LS-LEPS	3/14/2018	LEPS180313M	8.4	5200	11.5
LS-LEPS	3/14/2018	LEPS180313P	8.4	5200	11.5
LS-MH46N	1/10/2018	L46N180110M	7.25	7900	25.7
LS-MH46N	2/15/2018	L46N180215M	7.37	8100	23.2
LS-MH46N	3/14/2018	L46N180314M	7.1	7500	23.5
LS-MH5	2/15/2018	LMH5180215I	8.41	10350	28.3
LS-MH5	3/14/2018	LMH5180314I	8.21	11600	25.1

Site	Date	Sample ID	pH (Field) (std. Units)	Conductance (Field) (umho/cm)	Temperature (o C)
LS-PS1A	2/15/2018	LP1A180215I	7.45	2200	12.4
LS-PS1A	3/14/2018	LP1A180314I	7.46	2500	13.9
LS-PS2A	1/10/2018	LP2A180110M	7.57	125	8.1
LS-PS2A	2/15/2018	LP2A180215M	6.78	230	9.2
LS-PS2A	3/14/2018	LP2A180314M	6.9	345	8.9
LS-PS4	2/15/2018	LP4-180215I	7.55	1300	11.9
LS-PS4	3/14/2018	LP4-180314I	6.86	1200	11.1

Site	Date	Sample ID	Alkalinity, Total (CaCO3) (mg/L)	Ammonia, (NH3 as N) (mg/L)	Biological Oxygen Demand (mg/L)	Chemical Oxygen Demand (mg/L)	Chloride (mg/L)	Coliforms, Fecal (CFU/100mL)	Coliforms, Total (CFU/100mL)	Cyanide (mg/L)	Fluoride (mg/L)	Nitrate+Nitrite (NO3+NO2 as N) (mg/L)
LS-API	1/10/2018	LAPI180110M	2020	387	1280	2570	474	12000	130000	< 0.008 SU	< 1 U	0.32 T
LS-API	2/15/2018	LAPI180215M	2940	543	1200	2590	767	18000	53000 RS	0.0092 ST	< 5 U	0.21 T
LS-API	3/14/2018	LAPI180314M	3580	630	1120	2840 S	825	46000	600000	0.011 ST	< 1 U	0.14 T
LS-CSW	2/15/2018	LCSW180215I										
LS-LEPS	1/9/2018	LEPS180109M	2190	397	539	1670	509	7600 H	320000	< 0.008 SU	< 1 U	< 0.1 U
LS-LEPS	2/14/2018	LEPS180214D	1970	337	239	1050	523	7800 H	26000 HRS	< 0.008 SU	< 1 U	< 0.1 U
LS-LEPS	2/14/2018	LEPS180214M	2020	345	236	1110	518	6200 H	9700 HRS	< 0.008 SU	< 1 U	< 0.1 U
LS-LEPS	3/13/2018	LEPS180313M	2980	507 H	488	2080 S	666	19000 H	240000 H	< 0.008 SU	< 1 U	< 0.1 HU
LS-MH46N	1/10/2018	L46N180110M	3550	663	62	2160	2090	< 1 U	4	0.018 ST	2 T	< 0.1 U
LS-MH46N	2/15/2018	L46N180215M	3330	575	77.5	2000 S	2090	< 1 U	< 1 RSU	0.014 ST	< 2 U	< 0.1 U
LS-MH46N	3/14/2018	L46N180314M	3490	681	71.5	1840 S	1900	< 1 U	< 1 U	0.016 ST	< 4 U	< 0.1 U
LS-PS2A	1/10/2018	LP2A180110M	36.7	1.2 T	4.88	22.9	2.8	< 1 U	110	< 0.008 U	0.0481	0.893

Site	Date	Sample ID	Phosphorus, Sol. Reactive (mg/L)	Phosphorus, Total, as P (mg/L)	Specific Conductance (umho/cm)	Sulfate (SO4) (mg/L)	Sulfide Total (mg/L)	Total Fats, Oils and Grease (mg/L)	Total Kjeldahl Nitrogen (mg/L)	Total Organic Carbon (mg/L)	Total Suspended Solids (mg/L)	Total Volatile Solids (mg/L)	Volatile Suspended Solids (mg/L)
LS-API	1/10/2018	LAPI180110M	0.784	3.3	5630	60.5	0.22 T	7.2 B	431	879 S	113	1800	44.3
LS-API	2/15/2018	LAPI180215M	2	5.05	7840	39.6	< 2.5 U	5.3 B	623	896 S	80	1470	55
LS-API	3/14/2018	LAPI180314M	3.13	6.02	9180	29.5	0.53	7.6 B	820 S	982 S	104	1720	75.3
LS-CSW	2/15/2018	LCSW180215I		4.68									
LS-LEPS	1/9/2018	LEPS180109M	0.0447	3.39	5800	55.2	< 0.25 U	9.2 B	435	415 S	184	1320	160
LS-LEPS	2/14/2018	LEPS180214D	0.106	2.81	5360	45.2	0.77 T	3.8 BT	405	292	124	940	100
LS-LEPS	2/14/2018	LEPS180214M	0.107	3.55	5350	45.2	< 0.5 U	4.2 BT	405	269	207	904	176
LS-LEPS	3/13/2018	LEPS180313M	0.0424 H	5.33	7510	40.7	0.444	5.9 B	640 S	507 S	400	1450	342
LS-MH46N	1/10/2018	L46N180110M	2.62	4.48	12400	< 2 U	1.35 H	5.6 B	698	658 S	< 1 U	1870	< 1 U
LS-MH46N	2/15/2018	L46N180215M	3	4.15	11900	< 2 U	1.54	6.8 B	699 S	722 S	< 0.5 U	1380	< 0.5 U
LS-MH46N	3/14/2018	L46N180314M	3.2	4.45	12300	< 2 U	1.49	6.8 B	778 S	802 S	< 0.5 U	1460	0.5 T
LS-PS2A	1/10/2018	LP2A180110M	0.0113	< 1 U	115	7.36	< 0.05 U	3.6 BT	1.93	8.3	1.47	54	1.16 B

Site	Date	Sample ID	Aluminum, dissolved (mg/L)	Aluminum, total (mg/L)	Antimony, dissolved (mg/L)	Antimony, total (mg/L)	Arsenic, dissolved (mg/L)	Arsenic, total (mg/L)	Barium, dissolved (mg/L)	Barium, total (mg/L)	Beryllium, dissolved (mg/L)	Beryllium, total (mg/L)
LS-API	1/10/2018	LAPI180110M	0.0836 H	3.45	0.00602 H	0.00664	0.0558 H	0.067	0.0748 H	0.116	< 0.001 HU	< 0.001 U
LS-API	2/15/2018	LAPI180215M	0.181	1.24	0.00864	0.00995	0.104	0.109	0.108	0.147	< 0.001 U	< 0.001 U
LS-API	3/14/2018	LAPI180314M	0.216	1.79	0.0126	0.0147	0.159	0.165	0.122	0.175	< 0.001 U	< 0.001 U
LS-CSW	2/15/2018	LCSW180215I	0.0841	2.07	0.00536	0.00702	0.0123	0.0231	0.13	0.148	< 0.001 U	< 0.001 U
LS-CSW	3/14/2018	LCSW180314I	0.0439	4.11	0.00352	0.00428	0.0127	0.0198	0.0615	0.125	< 0.001 U	< 0.001 U
LS-LEPS	1/1/2018	LEPS180101E73						0.0584				
LS-LEPS	1/3/2018	LEPS180103E74						0.0657				
LS-LEPS	1/4/2018	LEPS180104E75						0.0683				
LS-LEPS	1/10/2018	LEPS180110E76						0.0698				
LS-LEPS	1/11/2018	LEPS180111E77						0.0684				
LS-LEPS	1/12/2018	LEPS180112E78						0.0605				
LS-LEPS	1/13/2018	LEPS180113E79						0.0586				
LS-LEPS	1/14/2018	LEPS180114E80						0.055				
LS-LEPS	1/15/2018	LEPS180115E81						0.0563				
LS-LEPS	1/16/2018	LEPS180116E82						0.0562				
LS-LEPS	1/17/2018	LEPS180117E83						0.0546				
LS-LEPS	1/18/2018	LEPS180118E84						0.0553				
LS-LEPS	1/19/2018	LEPS180119E85						0.0525				
LS-LEPS	1/21/2018	LEPS180121E86						0.0561				
LS-LEPS	1/22/2018	LEPS180122E87						0.0591				
LS-LEPS	1/24/2018	LEPS180124E88						0.0567				
LS-LEPS	1/25/2018	LEPS180125E89						0.0551				
LS-LEPS	1/26/2018	LEPS180126E90						0.0525				
LS-LEPS	1/27/2018	LEPS180127E91						0.0528				
LS-LEPS	1/28/2018	LEPS180128E92						0.0502				
LS-LEPS	1/29/2018	LEPS180129E93						0.0507				
LS-LEPS	1/30/2018	LEPS180130E94						0.0503				
LS-LEPS	1/31/2018	LEPS180131E95						0.0537				

Site	Date	Sample ID	Aluminum, dissolved (mg/L)	Aluminum, total (mg/L)	Antimony, dissolved (mg/L)	Antimony, total (mg/L)	Arsenic, dissolved (mg/L)	Arsenic, total (mg/L)	Barium, dissolved (mg/L)	Barium, total (mg/L)	Beryllium, dissolved (mg/L)	Beryllium, total (mg/L)
LS-LEPS	1/9/2018	LEPS180109M	0.0745 H	1.09	0.00805 H	0.0079	0.0615 H	0.0777	0.0953 H	0.109	< 0.001 HU	< 0.001 U
LS-LEPS	2/14/2018	LEPS180214D	0.0806	1.07	0.00688	0.00754	0.0696	0.0756	0.09	0.102	< 0.001 U	< 0.001 U
LS-LEPS	2/14/2018	LEPS180214M	0.0815	1.14	0.00687	0.00812	0.0715	0.0764	0.0899	0.103	< 0.001 U	< 0.001 U
LS-LEPS	3/13/2018	LEPS180313M	0.115	1.51	0.00976	0.0114	0.0991	0.111	0.115	0.154	< 0.001 U	< 0.001 U
LS-LEPS	1/9/2018	LEPS180109P										
LS-LEPS	2/14/2018	LEPS180214P										
LS-LEPS	3/13/2018	LEPS180313P										
LS-MH46N	1/10/2018	L46N180110M	0.0353 H	0.0386	< 0.003 HU	< 0.003 U	0.0888 H	0.0947	0.597 H	0.523	< 0.001 HU	< 0.001 U
LS-MH46N	2/15/2018	L46N180215M		0.041		< 0.003 U		0.0941		0.5		< 0.001 U
LS-MH46N	3/14/2018	L46N180314M		0.046		< 0.003 U		0.0963		0.574		< 0.001 U
LS-MH5	2/15/2018	LMH5180215I	0.404	29.2	0.0159	0.0219	0.289	0.333	0.414	0.618	< 0.001 U	< 0.001 U
LS-MH5	3/14/2018	LMH5180314I	0.407	3.2	0.0176	0.0188	0.297	0.305	0.399	0.467	< 0.001 U	< 0.001 U
LS-PS1A	2/15/2018	LP1A180215I	0.0359	0.115	0.00561	0.00594	0.0285	0.0305	0.0589	0.0602	< 0.001 U	< 0.001 U
LS-PS2A	1/10/2018	LP2A180110M	0.1 H	0.163	< 0.003 HU	< 0.003 U	0.000892 H	0.00122	0.00623 H	0.00605	< 0.001 HU	< 0.001 U
LS-PS2A	2/15/2018	LP2A180215M		0.193		< 0.003 U		0.00185		0.00561		< 0.001 U
LS-PS2A	3/14/2018	LP2A180314M		0.118		< 0.003 U		0.00179		0.006		< 0.001 U
LS-PS4	2/15/2018	LP4-180215I	0.0618	2.73	0.00467	0.00545	0.0492	0.0516	0.0456	0.0664	< 0.001 U	< 0.001 U
LS-PS4	3/14/2018	LP4-180314I	0.0303	1.58	< 0.003 U	0.00374	0.0312	0.0331	0.0417	0.067	< 0.001 U	< 0.001 U

Site	Date	Sample ID	Cadmium, dissolved (mg/L)	Cadmium, total (mg/L)	Calcium, dissolved (mg/L)	Calcium, total (mg/L)	Chromium, dissolved (mg/L)	Chromium, total (mg/L)	Cobalt, dissolved (mg/L)	Cobalt, total (mg/L)	Copper, dissolved (mg/L)	Copper, total (mg/L)
LS-API	1/10/2018	LAPI180110M	< 0.0005 HU	< 0.0005 U	116 H	120	0.0522 H	0.0611	0.0192 H	0.0228	< 0.002 HU	0.0179
LS-API	2/15/2018	LAPI180215M	< 0.0005 U	< 0.0005 U	94.3	96.6	0.0809	0.09	0.0222	0.0235	0.00273	0.0109
LS-API	3/14/2018	LAPI180314M	< 0.0005 U	< 0.0005 U	87.2	93.1	0.0923	0.107	0.0222	0.0249	0.00276	0.0109
LS-CSW	2/15/2018	LCSW180215I	< 0.0005 U	0.000514	400	410	0.0379	0.0491	0.0283	0.035	< 0.002 U	0.0164
LS-CSW	3/14/2018	LCSW180314I	< 0.0005 U	< 0.0005 U	183	201	0.0219	0.0354	0.00941	0.0139	< 0.002 U	0.0187
LS-LEPS	1/1/2018	LEPS180101E73		< 0.0005 U				0.0521				0.0105
LS-LEPS	1/3/2018	LEPS180103E74		< 0.0005 U				0.0584				0.00996
LS-LEPS	1/4/2018	LEPS180104E75		< 0.0005 U				0.0588				0.00959
LS-LEPS	1/10/2018	LEPS180110E76		< 0.0005 U				0.0561				0.00857
LS-LEPS	1/11/2018	LEPS180111E77		< 0.0005 U				0.0574				0.00901
LS-LEPS	1/12/2018	LEPS180112E78		< 0.0005 U				0.0506				0.00801
LS-LEPS	1/13/2018	LEPS180113E79		< 0.0005 U				0.0494				0.00846
LS-LEPS	1/14/2018	LEPS180114E80		< 0.0005 U				0.046				0.00754
LS-LEPS	1/15/2018	LEPS180115E81		< 0.0005 U				0.0478				0.00726
LS-LEPS	1/16/2018	LEPS180116E82		< 0.0005 U				0.048				0.00854
LS-LEPS	1/17/2018	LEPS180117E83		< 0.0005 U				0.0484				0.00894
LS-LEPS	1/18/2018	LEPS180118E84		< 0.0005 U				0.0478				0.00887
LS-LEPS	1/19/2018	LEPS180119E85		< 0.0005 U				0.0433				0.00889
LS-LEPS	1/21/2018	LEPS180121E86		< 0.0005 U				0.0458				0.00827
LS-LEPS	1/22/2018	LEPS180122E87		< 0.0005 U				0.051				0.00881
LS-LEPS	1/24/2018	LEPS180124E88		< 0.0005 U				0.0472				0.00824
LS-LEPS	1/25/2018	LEPS180125E89		< 0.0005 U				0.0483				0.00827
LS-LEPS	1/26/2018	LEPS180126E90		< 0.0005 U				0.0473				0.0084
LS-LEPS	1/27/2018	LEPS180127E91		< 0.0005 U				0.0468				0.00918
LS-LEPS	1/28/2018	LEPS180128E92		< 0.0005 U				0.0438				0.00762
LS-LEPS	1/29/2018	LEPS180129E93		< 0.0005 U				0.045				0.00739
LS-LEPS	1/30/2018	LEPS180130E94		< 0.0005 U				0.0435				0.00723
LS-LEPS	1/31/2018	LEPS180131E95		< 0.00025 U				0.0437				0.00715

Site	Date	Sample ID	Cadmium, dissolved (mg/L)	Cadmium, total (mg/L)	Calcium, dissolved (mg/L)	Calcium, total (mg/L)	Chromium, dissolved (mg/L)	Chromium, total (mg/L)	Cobalt, dissolved (mg/L)	Cobalt, total (mg/L)	Copper, dissolved (mg/L)	Copper, total (mg/L)
LS-LEPS	1/9/2018	LEPS180109M	< 0.0005 HU	< 0.0005 U	102 H	105	0.0596 H	0.0635	0.0189 H	0.0209	< 0.002 HU	0.0117
LS-LEPS	2/14/2018	LEPS180214D	< 0.0005 U	< 0.0005 U	79.2	82.5	0.0543	0.0593	0.0164	0.0178	0.00233	0.00922
LS-LEPS	2/14/2018	LEPS180214M	< 0.0005 U	< 0.0005 U	79.9	82.5	0.0539	0.0629	0.0167	0.0181	0.00233	0.00975
LS-LEPS	3/13/2018	LEPS180313M	< 0.0005 U	< 0.0005 U	110	127	0.0704	0.0849	0.0186	0.0225	< 0.002 U	0.00916
LS-LEPS	1/9/2018	LEPS180109P		< 0.0005 U				0.063				0.0108
LS-LEPS	2/14/2018	LEPS180214P		< 0.0005 U				0.056				0.00874
LS-LEPS	3/13/2018	LEPS180313P		< 0.0005 U				0.0851				0.00914
LS-MH46N	1/10/2018	L46N180110M	< 0.0005 HU	< 0.0005 U	111 H	109	0.123 H	0.119	0.0381 H	0.0395	< 0.002 HU	< 0.002 U
LS-MH46N	2/15/2018	L46N180215M		< 0.0005 U		99.7		0.113		0.0359		< 0.002 U
LS-MH46N	3/14/2018	L46N180314M		< 0.0005 U		100		0.119		0.037		< 0.002 U
LS-MH5	2/15/2018	LMH5180215I	< 0.0005 U	0.000574	72.5	112	0.193	0.237	0.0549	0.102	< 0.002 U	0.0558
LS-MH5	3/14/2018	LMH5180314I	< 0.0005 U	< 0.0005 U	72.2	80.7	0.206	0.224	0.0599	0.0642	< 0.002 U	0.00823
LS-PS1A	2/15/2018	LP1A180215I	< 0.0005 U	< 0.0005 U	31.1	32	0.0101	0.0106	0.00454	0.00487	0.00463	0.00815
LS-PS2A	1/10/2018	LP2A180110M	< 0.0005 HU	< 0.0005 U	10.4 H	10.9	0.00257 H	0.00249	0.000622 H	0.000625	0.0263 H	0.0275
LS-PS2A	2/15/2018	LP2A180215M		< 0.0005 U		9.45		0.00214		0.000644		0.0213
LS-PS2A	3/14/2018	LP2A180314M		< 0.0005 U		10.5		< 0.002 U		0.00061		0.0154
LS-PS4	2/15/2018	LP4-180215I	< 0.0005 U	< 0.0005 U	38.7	41.2	0.0103	0.0148	0.00391	0.00528	0.00354	0.0125
LS-PS4	3/14/2018	LP4-180314I	< 0.0005 U	< 0.0005 U	37.1	41.9	0.00908	0.0127	0.00372	0.00463	0.00369	0.00987

Site	Date	Sample ID	Iron, dissolved (mg/L)	Iron, total (mg/L)	Lead, dissolved (mg/L)	Lead, total (mg/L)	Magnesium, dissolved	Magnesium, total	Manganese, dissolved	Manganese, total	Mercury, dissolved	Mercury, total
LS-API	1/10/2018	LAPI180110M	2.78 H	16.4	< 0.001 HU	0.00538	37.7 H	39.8	1.26 H	1.51	< 0.0001 HU	< 0.0001 U
LS-API	2/15/2018	LAPI180215M	4.47	8.94	< 0.001 U	0.00276	45.3	46.1	1.12	1.21	< 0.0001 U	< 0.0001 U
LS-API	3/14/2018	LAPI180314M	3.34	5.91	< 0.001 U	0.00289	51.1	52.8	1.02	1.15	< 0.0001 U	< 0.0001 U
LS-CSW	2/15/2018	LCSW180215I	31.2	40.7	< 0.001 U	0.00739	60.4	62.4	4.16	4.26	< 0.0001 U	< 0.0001 U
LS-CSW	3/14/2018	LCSW180314I	1.52	13.1	< 0.001 U	0.00585	45	49.9	1.44	1.74	< 0.0001 U	< 0.0001 U
LS-LEPS	1/1/2018	LEPS180101E73				0.00228						
LS-LEPS	1/3/2018	LEPS180103E74				0.00221						
LS-LEPS	1/4/2018	LEPS180104E75				0.00235						
LS-LEPS	1/10/2018	LEPS180110E76				0.00182						
LS-LEPS	1/11/2018	LEPS180111E77				0.00207						
LS-LEPS	1/12/2018	LEPS180112E78				0.00204						
LS-LEPS	1/13/2018	LEPS180113E79				0.00213						
LS-LEPS	1/14/2018	LEPS180114E80				0.00207						
LS-LEPS	1/15/2018	LEPS180115E81				0.00202						
LS-LEPS	1/16/2018	LEPS180116E82				0.00222						
LS-LEPS	1/17/2018	LEPS180117E83				0.00286						
LS-LEPS	1/18/2018	LEPS180118E84				0.00279						
LS-LEPS	1/19/2018	LEPS180119E85				0.0023						
LS-LEPS	1/21/2018	LEPS180121E86				0.00202						
LS-LEPS	1/22/2018	LEPS180122E87				0.00212						
LS-LEPS	1/24/2018	LEPS180124E88				0.00226						
LS-LEPS	1/25/2018	LEPS180125E89				0.0021						
LS-LEPS	1/26/2018	LEPS180126E90				0.00202						
LS-LEPS	1/27/2018	LEPS180127E91				0.00212						
LS-LEPS	1/28/2018	LEPS180128E92				0.00189						
LS-LEPS	1/29/2018	LEPS180129E93				0.00206						
LS-LEPS	1/30/2018	LEPS180130E94				0.00171						
LS-LEPS	1/31/2018	LEPS180131E95				0.00204						

Site	Date	Sample ID	Iron, dissolved (mg/L)	Iron, total (mg/L)	Lead, dissolved (mg/L)	Lead, total (mg/L)	Magnesium, dissolved	Magnesium, total	Manganese, dissolved	Manganese, total	Mercury, dissolved	Mercury, total
LS-LEPS	1/9/2018	LEPS180109M	4.89 H	10	< 0.001 HU	0.00265	37.7 H	39.7	1.12 H	1.3	< 0.0001 HU	< 0.0001 U
LS-LEPS	2/14/2018	LEPS180214D	6.18	8.43	< 0.001 U	0.0028	31.5	32.2	0.942	1.03	< 0.0001 U	< 0.0001 U
LS-LEPS	2/14/2018	LEPS180214M	6.31	8.59	< 0.001 U	0.00287	31.7	32.4	0.949	1.02	< 0.0001 U	< 0.0001 U
LS-LEPS	3/13/2018	LEPS180313M	5.52	8.23	< 0.001 U	0.00354	47.3	52	1.04	1.3	< 0.0001 U	< 0.0001 U
LS-LEPS	1/9/2018	LEPS180109P				0.00269						
LS-LEPS	2/14/2018	LEPS180214P				0.00272						
LS-LEPS	3/13/2018	LEPS180313P				0.00346						
LS-MH46N	1/10/2018	L46N180110M	2.59 H	2.66	< 0.001 HU	< 0.001 U	61.1 H	61.7	0.565 H	0.578	< 0.0001 HU	< 0.0001 U
LS-MH46N	2/15/2018	L46N180215M		2.6		< 0.001 U		56		0.51		< 0.0001 U
LS-MH46N	3/14/2018	L46N180314M		2.53		< 0.001 U		56.5		0.51		< 0.0001 U
LS-MH5	2/15/2018	LMH5180215I	3.9	42	0.00109	0.0141	87.2	97.4	0.536	1.37	< 0.0001 U	< 0.0001 U
LS-MH5	3/14/2018	LMH5180314I	2.93	8.25	< 0.001 U	0.00394	91.2	97.1	0.479	0.621	< 0.0001 U	< 0.0001 U
LS-PS1A	2/15/2018	LP1A180215I	0.485	0.92	< 0.001 U	< 0.001 U	12.3	12.7	0.285	0.303	< 0.0001 U	< 0.0001 U
LS-PS2A	1/10/2018	LP2A180110M	0.313 H	0.731	< 0.001 HU	< 0.001 U	3.78 H	3.79	0.096 H	0.1	< 0.0001 HU	< 0.0001 U
LS-PS2A	2/15/2018	LP2A180215M		0.737		< 0.001 U		3.41		0.0852		< 0.0001 U
LS-PS2A	3/14/2018	LP2A180314M		0.863		< 0.001 U		3.97		0.0967		< 0.0001 U
LS-PS4	2/15/2018	LP4-180215I	1.1	4.47	< 0.001 U	0.0024	15.1	15.9	1.27	1.38	< 0.0001 U	< 0.0001 U
LS-PS4	3/14/2018	LP4-180314I	1.02	3.64	< 0.001 U	0.00165	15.2	16.1	0.939	1.07	< 0.0001 U	< 0.0001 U

Site	Date	Sample ID	Nickel, dissolved	Nickel, total	Potassium, dissolved	Potassium, total	Selenium, dissolved	Selenium, total	Silver, dissolved	Silver, total	Sodium, dissolved
LS-API	1/10/2018	LAPI180110M	0.0729 H	0.0884	185 H	179	< 0.005 HU	< 0.005 U	< 0.0004 HU	< 0.0004 U	483 H
LS-API	2/15/2018	LAPI180215M	0.0909	0.094	258	256	< 0.005 U	< 0.005 U	< 0.0004 U	< 0.0004 U	724
LS-API	3/14/2018	LAPI180314M	0.102	0.108	299	314	< 0.005 U	< 0.005 U	< 0.0004 U	< 0.0004 U	853
LS-CSW	2/15/2018	LCSW180215I	0.0947	0.104	162	163	< 0.005 U	< 0.005 U	< 0.0004 U	< 0.0004 U	345
LS-CSW	3/14/2018	LCSW180314I	0.0568	0.0671	133	147	< 0.005 U	< 0.005 U	< 0.0004 U	< 0.0004 U	295
LS-LEPS	1/1/2018	LEPS180101E73		0.0647							
LS-LEPS	1/3/2018	LEPS180103E74		0.0724							
LS-LEPS	1/4/2018	LEPS180104E75		0.0734							
LS-LEPS	1/10/2018	LEPS180110E76		0.0768							
LS-LEPS	1/11/2018	LEPS180111E77		0.074							
LS-LEPS	1/12/2018	LEPS180112E78		0.0672							
LS-LEPS	1/13/2018	LEPS180113E79		0.0653							
LS-LEPS	1/14/2018	LEPS180114E80		0.061							
LS-LEPS	1/15/2018	LEPS180115E81		0.0618							
LS-LEPS	1/16/2018	LEPS180116E82		0.0665							
LS-LEPS	1/17/2018	LEPS180117E83		0.0696							
LS-LEPS	1/18/2018	LEPS180118E84		0.0669							
LS-LEPS	1/19/2018	LEPS180119E85		0.0658							
LS-LEPS	1/21/2018	LEPS180121E86		0.0665							
LS-LEPS	1/22/2018	LEPS180122E87		0.0696							
LS-LEPS	1/24/2018	LEPS180124E88		0.0656							
LS-LEPS	1/25/2018	LEPS180125E89		0.0658							
LS-LEPS	1/26/2018	LEPS180126E90		0.0629							
LS-LEPS	1/27/2018	LEPS180127E91		0.0631							
LS-LEPS	1/28/2018	LEPS180128E92		0.0577							
LS-LEPS	1/29/2018	LEPS180129E93		0.0575							
LS-LEPS	1/30/2018	LEPS180130E94		0.0556							
LS-LEPS	1/31/2018	LEPS180131E95		0.0569							

Site	Date	Sample ID	Nickel, dissolved	Nickel, total	Potassium, dissolved	Potassium, total	Selenium, dissolved	Selenium, total	Silver, dissolved	Silver, total	Sodium, dissolved
LS-LEPS	1/9/2018	LEPS180109M	0.0757 H	0.0844	195 H	192	< 0.005 HU	< 0.005 U	< 0.0004 HU	< 0.0004 U	537 H
LS-LEPS	2/14/2018	LEPS180214D	0.0656	0.0682	172	176	< 0.005 U	< 0.005 U	< 0.0004 U	< 0.0004 U	483
LS-LEPS	2/14/2018	LEPS180214M	0.0669	0.0692	174	172	< 0.005 U	< 0.005 U	< 0.0004 U	< 0.0004 U	490
LS-LEPS	3/13/2018	LEPS180313M	0.0911	0.0972	242	269	< 0.005 U	< 0.005 U	< 0.0004 U	< 0.0004 U	681
LS-LEPS	1/9/2018	LEPS180109P		0.0783							
LS-LEPS	2/14/2018	LEPS180214P		0.0695							
LS-LEPS	3/13/2018	LEPS180313P		0.0999							
LS-MH46N	1/10/2018	L46N180110M	0.167 H	0.18	415 H	416	< 0.005 HU	< 0.005 U	< 0.0004 HU	< 0.0004 U	1450 H
LS-MH46N	2/15/2018	L46N180215M		0.153		402		< 0.005 U		< 0.0004 U	
LS-MH46N	3/14/2018	L46N180314M		0.159		421		< 0.005 U		< 0.0004 U	
LS-MH5	2/15/2018	LMH5180215I	0.234	0.277	628	647	< 0.005 U	0.00663	< 0.0004 U	0.00255	2020
LS-MH5	3/14/2018	LMH5180314I	0.25	0.259	670	724	< 0.005 U	< 0.005 U	< 0.0004 U	< 0.0004 U	2200
LS-PS1A	2/15/2018	LP1A180215I	0.0199	0.0205	49.4	51	< 0.005 U	< 0.005 U	< 0.0004 U	< 0.0004 U	169
LS-PS2A	1/10/2018	LP2A180110M	0.00776 H	0.00864	2.23 H	< 5 U	< 0.005 HU	< 0.005 U	< 0.0004 HU	< 0.0004 U	3.95 H
LS-PS2A	2/15/2018	LP2A180215M		0.00764		< 5 U		< 0.005 U		< 0.0004 U	
LS-PS2A	3/14/2018	LP2A180314M		0.00717		< 5 U		< 0.005 U		< 0.0004 U	
LS-PS4	2/15/2018	LP4-180215I	0.0159	0.0192	37.4	37.9	< 0.005 U	< 0.005 U	< 0.0004 U	< 0.0004 U	112
LS-PS4	3/14/2018	LP4-180314I	0.0136	0.0162	33.1	37.1	< 0.005 U	< 0.005 U	< 0.0004 U	< 0.0004 U	105

Site	Date	Sample ID	Sodium, total	Thallium, dissolved	Thallium, total	Tin, dissolved	Tin, total	Vanadium, dissolved	Vanadium, total	Zinc, dissolved	Zinc, total
LS-API	1/10/2018	LAPI180110M	507	< 0.001 HU	< 0.001 U	0.0082 H	0.00969	0.0139 H	0.0258	0.151 H	0.603
LS-API	2/15/2018	LAPI180215M	726	< 0.001 U	< 0.001 U	0.0142	0.0146	0.028	0.0317	0.0915	0.367
LS-API	3/14/2018	LAPI180314M	893	< 0.001 U	< 0.001 U	0.0143	0.019	0.0348	0.0394	0.0955	0.295
LS-CSW	2/15/2018	LCSW180215I	350	< 0.001 U	< 0.001 U	< 0.005 U	< 0.005 U	0.00687	0.0117	0.0148	1.91
LS-CSW	3/14/2018	LCSW180314I	320	< 0.001 U	< 0.001 U	< 0.005 U	< 0.005 U	0.00588	0.0176	0.0314	0.666
LS-LEPS	1/1/2018	LEPS180101E73									0.282
LS-LEPS	1/3/2018	LEPS180103E74									0.357
LS-LEPS	1/4/2018	LEPS180104E75									0.339
LS-LEPS	1/10/2018	LEPS180110E76									0.366
LS-LEPS	1/11/2018	LEPS180111E77									0.351
LS-LEPS	1/12/2018	LEPS180112E78									0.285
LS-LEPS	1/13/2018	LEPS180113E79									0.265
LS-LEPS	1/14/2018	LEPS180114E80									0.26
LS-LEPS	1/15/2018	LEPS180115E81									0.257
LS-LEPS	1/16/2018	LEPS180116E82									0.357
LS-LEPS	1/17/2018	LEPS180117E83									0.441
LS-LEPS	1/18/2018	LEPS180118E84									0.414
LS-LEPS	1/19/2018	LEPS180119E85									0.41
LS-LEPS	1/21/2018	LEPS180121E86									0.393
LS-LEPS	1/22/2018	LEPS180122E87									0.39
LS-LEPS	1/24/2018	LEPS180124E88									0.337
LS-LEPS	1/25/2018	LEPS180125E89									0.316
LS-LEPS	1/26/2018	LEPS180126E90									0.305
LS-LEPS	1/27/2018	LEPS180127E91									0.3
LS-LEPS	1/28/2018	LEPS180128E92									0.257
LS-LEPS	1/29/2018	LEPS180129E93									0.266
LS-LEPS	1/30/2018	LEPS180130E94									0.239
LS-LEPS	1/31/2018	LEPS180131E95									0.237

Site	Date	Sample ID	Sodium, total	Thallium, dissolved	Thallium, total	Tin, dissolved	Tin, total	Vanadium, dissolved	Vanadium, total	Zinc, dissolved	Zinc, total
LS-LEPS	1/9/2018	LEPS180109M	554	< 0.001 HU	< 0.001 U	0.00918 H	0.0105	0.0175 H	0.0228	0.0782 H	0.452
LS-LEPS	2/14/2018	LEPS180214D	497	< 0.001 U	< 0.001 U	0.00913	0.00747	0.0198	0.0226	0.0732	0.276
LS-LEPS	2/14/2018	LEPS180214M	496	< 0.001 U	< 0.001 U	0.00913	0.00782	0.0202	0.0223	0.082	0.274
LS-LEPS	3/13/2018	LEPS180313M	733	< 0.001 U	< 0.001 U	0.0104	0.0125	0.0264	0.0318	0.0591	0.37
LS-LEPS	1/9/2018	LEPS180109P									0.446
LS-LEPS	2/14/2018	LEPS180214P									0.28
LS-LEPS	3/13/2018	LEPS180313P									0.376
LS-MH46N	1/10/2018	L46N180110M	1540	< 0.001 HU	< 0.001 U	< 0.005 HU	< 0.005 U	0.158 H	0.163	< 0.005 HU	< 0.005 U
LS-MH46N	2/15/2018	L46N180215M	1420		< 0.001 U		< 0.005 U		0.158		< 0.005 U
LS-MH46N	3/14/2018	L46N180314M	1460		< 0.001 U		< 0.005 U		0.165		< 0.005 U
LS-MH5	2/15/2018	LMH5180215I	2060	< 0.001 U	< 0.001 U	0.042	0.0333	0.124	0.183	0.0359	0.457
LS-MH5	3/14/2018	LMH5180314I	2340	< 0.001 U	< 0.001 U	0.0461	0.0502	0.129	0.14	0.0371	0.134
LS-PS1A	2/15/2018	LP1A180215I	175	< 0.001 U	< 0.001 U	< 0.005 U	< 0.005 U	0.0116	0.0125	0.0106	0.0112
LS-PS2A	1/10/2018	LP2A180110M	4.26	< 0.001 HU	< 0.001 U	< 0.005 HU	< 0.005 U	0.00131 H	0.00187	0.0155 H	0.0152
LS-PS2A	2/15/2018	LP2A180215M	5.81		< 0.001 U		< 0.005 U		0.00255		0.0188
LS-PS2A	3/14/2018	LP2A180314M	5.8		< 0.001 U		< 0.005 U		0.00224		0.0179
LS-PS4	2/15/2018	LP4-180215I	111	< 0.001 U	< 0.001 U	< 0.005 U	< 0.005 U	0.00485	0.00978	0.0236	0.0457
LS-PS4	3/14/2018	LP4-180314I	111	< 0.001 U	< 0.001 U	< 0.005 U	< 0.005 U	0.0047	0.00828	0.0157	0.0404

Site	Date	Sample ID	1,1,1,2-Tetrachloro-ethane	1,1,1-Trichloro-ethane	1,1,2,2-Tetrachloro-ethane	1,1,2-Trichloro-ethane	1,1-Dichloro-ethane	1,1-Dichloro-ethene	1,1-Dichloro-propene	1,2,3-Trichloro-propane	1,2-Dibromo-3-Chloropropane
			630-20-6 (ug/L)	71-55-6 (ug/L)	79-34-5 (ug/L)	79-00-5 (ug/L)	75-34-3 (ug/L)	75-35-4 (ug/L)	563-58-6 (ug/L)	96-18-4 (ug/L)	96-12-8 (ug/L)
LS-API	1/10/2018	LAPI180110M	< 2.5 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 25 U
LS-API	2/15/2018	LAPI180215M	< 2.5 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 25 U
LS-API	3/14/2018	LAPI180314M	< 2.5 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 25 U
LS-LEPS	1/9/2018	LEPS180109M	< 2.5 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 25 U
LS-LEPS	2/14/2018	LEPS180214D	< 2.5 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 25 U
LS-LEPS	2/14/2018	LEPS180214M	< 2.5 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 25 U
LS-LEPS	3/13/2018	LEPS180313M	< 2.5 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 25 U
LS-MH46N	1/10/2018	L46N180110M	< 2.5 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 25 U
LS-MH46N	2/15/2018	L46N180215M	< 2.5 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 25 U
LS-MH46N	3/14/2018	L46N180314M	< 2.5 SU	< 1 SU	< 1 SU	< 1 SU	< 1 SU	< 1 SU	< 1 SU	< 1 SU	< 25 SU
LS-PS2A	1/10/2018	LP2A180110M	< 2.5 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 25 U
LS-PS2A	2/15/2018	LP2A180215M	< 2.5 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 25 U
LS-PS2A	3/14/2018	LP2A180314M	< 2.5 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 25 U
VOA TRIP BLANK	1/9/2018	VTRP180109Y2	< 0.25 U	< 0.1 U	< 0.1 U	< 0.1 U	< 0.1 U	< 0.1 U	< 0.1 U	< 0.1 U	< 2.5 U
VOA TRIP BLANK	2/14/2018	VTRP180215Y	< 0.25 U	< 0.1 U	< 0.1 U	< 0.1 U	< 0.1 U	< 0.1 U	< 0.1 U	< 0.1 U	< 2.5 U
VOA TRIP BLANK	2/14/2018	VTRP180215X2	< 0.25 U	< 0.1 U	< 0.1 U	< 0.1 U	< 0.1 U	< 0.1 U	< 0.1 U	< 0.1 U	< 2.5 U
VOA TRIP BLANK	3/13/2018	VTRP180314Y	< 0.25 U	< 0.1 U	< 0.1 U	< 0.1 U	< 0.1 U	< 0.1 U	< 0.1 U	< 0.1 U	< 2.5 U
VOA TRIP BLANK	3/13/2018	VTRP180314X	< 0.25 U	< 0.1 U	< 0.1 U	< 0.1 U	< 0.1 U	< 0.1 U	< 0.1 U	< 0.1 U	< 2.5 U

Site	Date	Sample ID	1,2-Dibromo-ethane	1,2-Dichloro-benzene	1,2-Dichloro-ethane	1,2-Dichloro-propane	1,3 Dichloro-benzene	1,3-Dichloro-propane	1,4-Dichloro-benzene	2,2-Dichloro-propane	2-Butanone
			106-93-4 (ug/L)	95-50-1 (ug/L)	107-06-2 (ug/L)	78-87-5 (ug/L)	541-73-1 (ug/L)	142-28-9 (ug/L)	106-46-7 (ug/L)	594-20-7 (ug/L)	78-93-3 (ug/L)
LS-API	1/10/2018	LAPI180110M	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	1870 D
LS-API	2/15/2018	LAPI180215M	< 1 U	< 1 U	1.1 JT	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	1650 D
LS-API	3/14/2018	LAPI180314M	< 1 U	< 1 U	1.1 JT	< 1 U	< 1 U	< 1 U	1.2 JT	< 1 U	2330 D
LS-LEPS	1/9/2018	LEPS180109M	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	1170 D
LS-LEPS	2/14/2018	LEPS180214D	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	213
LS-LEPS	2/14/2018	LEPS180214M	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	217
LS-LEPS	3/13/2018	LEPS180313M	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	150
LS-MH46N	1/10/2018	L46N180110M	< 1 U	2.36	< 1 U	< 1 U	< 1 U	< 1 U	9.74	< 1 U	< 2.5 U
LS-MH46N	2/15/2018	L46N180215M	< 1 U	2.57	< 1 U	< 1 U	< 1 U	< 1 U	10.6	< 1 U	< 2.5 U
LS-MH46N	3/14/2018	L46N180314M	< 1 SU	2.71 S	< 1 SU	< 1 SU	< 1 SU	< 1 SU	10.9 S	< 1 SU	< 2.5 SU
LS-PS2A	1/10/2018	LP2A180110M	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	13.8
LS-PS2A	2/15/2018	LP2A180215M	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	12.2
LS-PS2A	3/14/2018	LP2A180314M	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	18.1
VOA TRIP BLANK	1/9/2018	VTRP180109Y2	< 0.1 U	< 0.1 U	< 0.1 U	< 0.1 U	< 0.1 U	< 0.1 U	< 0.1 U	< 0.1 U	< 0.25 U
VOA TRIP BLANK	2/14/2018	VTRP180215Y	< 0.1 U	< 0.1 U	< 0.1 U	< 0.1 U	< 0.1 U	< 0.1 U	< 0.1 U	< 0.1 U	< 0.25 U
VOA TRIP BLANK	2/14/2018	VTRP180215X2	< 0.1 U	< 0.1 U	< 0.1 U	< 0.1 U	< 0.1 U	< 0.1 U	< 0.1 U	< 0.1 U	< 0.25 U
VOA TRIP BLANK	3/13/2018	VTRP180314Y	< 0.1 U	< 0.1 U	< 0.1 U	< 0.1 U	< 0.1 U	< 0.1 U	< 0.1 U	< 0.1 U	< 0.25 U
VOA TRIP BLANK	3/13/2018	VTRP180314X	< 0.1 U	< 0.1 U	< 0.1 U	< 0.1 U	< 0.1 U	< 0.1 U	< 0.1 U	< 0.1 U	< 0.25 U

Site	Date	Sample ID	2-Hexanone	2-Methyl-1-propanol	3-Chloro-propene	4-Methyl-2-Pentanone	Acetone	Acetonitrile	Acrolein	Acrylonitrile	Benzene
			591-78-6 (ug/L)	78-83-1 (ug/L)	107-05-1 (ug/L)	108-10-1 (ug/L)	67-64-1 (ug/L)	75-05-8 (ug/L)	107-02-8 (ug/L)	107-13-1 (ug/L)	71-43-2 (ug/L)
LS-API	1/10/2018	LAPI180110M	12.9	76 JT	< 1 U	< 25 U	1460 D	< 50 U	< 25 U	< 0.35 U	< 1 U
LS-API	2/15/2018	LAPI180215M	8.9 JT	< 50 U	< 1 U	< 25 U	1450 D	< 50 U	< 25 U	< 0.35 U	< 1 U
LS-API	3/14/2018	LAPI180314M	10.4	55 JT	< 1 U	28 JT	2690 D	63 JT	< 25 U	< 0.35 U	< 1 U
LS-LEPS	1/9/2018	LEPS180109M	11.1	< 50 U	< 1 U	< 25 U	1060 D	< 50 U	< 25 U	< 0.35 U	< 1 U
LS-LEPS	2/14/2018	LEPS180214D	< 5 U	< 50 U	< 1 U	< 25 U	320	< 50 U	< 25 U	< 0.35 U	< 1 U
LS-LEPS	2/14/2018	LEPS180214M	< 5 U	< 50 U	< 1 U	< 25 U	329	< 50 U	< 25 U	< 0.35 U	< 1 U
LS-LEPS	3/13/2018	LEPS180313M	6 JT	< 50 U	< 1 U	< 25 U	656 D	< 50 U	< 25 U	< 0.35 U	< 1 U
LS-MH46N	1/10/2018	L46N180110M	< 5 U	< 50 U	< 1 U	< 25 U	< 25 U	< 50 U	< 25 U	< 0.35 U	3.32
LS-MH46N	2/15/2018	L46N180215M	< 5 U	< 50 U	< 1 U	< 25 U	< 25 U	< 50 U	< 25 U	< 0.35 U	4.1
LS-MH46N	3/14/2018	L46N180314M	< 5 SU	< 50 SU	< 1 SU	< 25 SU	< 25 SU	< 50 SU	< 25 SU	< 0.35 SU	3.94 S
LS-PS2A	1/10/2018	LP2A180110M	< 5 U	< 50 U	< 1 U	< 25 U	< 25 U	< 50 U	< 25 U	< 0.35 U	< 1 U
LS-PS2A	2/15/2018	LP2A180215M	< 5 U	< 50 U	< 1 U	< 25 U	< 25 U	< 50 U	< 25 U	< 0.35 U	< 1 U
LS-PS2A	3/14/2018	LP2A180314M	< 5 U	< 50 U	< 1 U	< 25 U	< 25 U	< 50 U	< 25 U	< 0.35 U	< 1 U
VOA TRIP BLANK	1/9/2018	VTRP180109Y2	< 0.5 U	< 5 U	< 0.1 U	< 2.5 U	< 2.5 U	< 5 U	< 2.5 U	< 0.035 U	< 0.1 U
VOA TRIP BLANK	2/14/2018	VTRP180215Y	< 0.5 U	< 5 U	< 0.1 U	< 2.5 U	< 2.5 U	< 5 U	< 2.5 U	< 0.035 U	< 0.1 U
VOA TRIP BLANK	2/14/2018	VTRP180215X2	< 0.5 U	< 5 U	< 0.1 U	< 2.5 U	< 2.5 U	< 5 U	< 2.5 U	< 0.035 U	< 0.1 U
VOA TRIP BLANK	3/13/2018	VTRP180314Y	< 0.5 U	< 5 U	< 0.1 U	< 2.5 U	< 2.5 U	< 5 U	< 2.5 U	< 0.035 U	< 0.1 U
VOA TRIP BLANK	3/13/2018	VTRP180314X	< 0.5 U	< 5 U	< 0.1 U	< 2.5 U	< 2.5 U	< 5 U	< 2.5 U	< 0.035 U	< 0.1 U

Site	Date	Sample ID	Bromochloro-methane	Bromodichloro-methane	Bromoform	Bromo-methane	Carbon Disulfide	Carbon Tetrachloride	Chloro-benzene	Chloro-dibromo-methane	Chloroethane
			74-97-5 (ug/L)	75-27-4 (ug/L)	75-25-2 (ug/L)	74-83-9 (ug/L)	75-15-0 (ug/L)	56-23-5 (ug/L)	108-90-7 (ug/L)	124-48-1 (ug/L)	75-00-3 (ug/L)
LS-API	1/10/2018	LAPI180110M	< 1 U	< 2.5 U	< 5 U	< 1 U	< 1 U	< 2.5 U	< 1 U	< 5 U	< 1 U
LS-API	2/15/2018	LAPI180215M	< 1 U	< 2.5 U	< 5 U	< 1 U	< 1 U	< 2.5 U	< 1 U	< 5 U	< 1 U
LS-API	3/14/2018	LAPI180314M	< 1 U	< 2.5 U	< 5 U	< 1 U	< 1 U	< 2.5 U	< 1 U	< 5 U	< 1 U
LS-LEPS	1/9/2018	LEPS180109M	< 1 U	< 2.5 U	< 5 U	< 1 U	< 1 U	< 2.5 U	< 1 U	< 5 U	< 1 U
LS-LEPS	2/14/2018	LEPS180214D	< 1 U	< 2.5 U	< 5 U	< 1 U	< 1 U	< 2.5 U	< 1 U	< 5 U	< 1 U
LS-LEPS	2/14/2018	LEPS180214M	< 1 U	< 2.5 U	< 5 U	< 1 U	< 1 U	< 2.5 U	< 1 U	< 5 U	< 1 U
LS-LEPS	3/13/2018	LEPS180313M	< 1 U	< 2.5 U	< 5 U	< 1 U	< 1 U	< 2.5 U	< 1 U	< 5 U	< 1 U
LS-MH46N	1/10/2018	L46N180110M	< 1 U	< 2.5 U	< 5 U	< 1 U	< 1 U	< 2.5 U	2.14	< 5 U	< 1 U
LS-MH46N	2/15/2018	L46N180215M	< 1 U	< 2.5 U	< 5 U	< 1 U	< 1 U	< 2.5 U	2.33	< 5 U	< 1 U
LS-MH46N	3/14/2018	L46N180314M	< 1 SU	< 2.5 SU	< 5 SU	< 1 SU	< 1 SU	< 2.5 SU	2.4 S	< 5 SU	< 1 SU
LS-PS2A	1/10/2018	LP2A180110M	< 1 U	< 2.5 U	< 5 U	< 1 U	< 1 U	< 2.5 U	< 1 U	< 5 U	< 1 U
LS-PS2A	2/15/2018	LP2A180215M	< 1 U	< 2.5 U	< 5 U	< 1 U	< 1 U	< 2.5 U	< 1 U	< 5 U	< 1 U
LS-PS2A	3/14/2018	LP2A180314M	< 1 U	< 2.5 U	< 5 U	< 1 U	< 1 U	< 2.5 U	< 1 U	< 5 U	< 1 U
VOA TRIP BLANK	1/9/2018	VTRP180109Y2	< 0.1 U	< 0.25 U	< 0.5 U	< 0.1 U	< 0.1 U	< 0.25 U	< 0.1 U	< 0.5 U	< 0.1 U
VOA TRIP BLANK	2/14/2018	VTRP180215Y	< 0.1 U	< 0.25 U	< 0.5 U	< 0.1 U	< 0.1 U	< 0.25 U	< 0.1 U	< 0.5 U	< 0.1 U
VOA TRIP BLANK	2/14/2018	VTRP180215X2	< 0.1 U	< 0.25 U	< 0.5 U	< 0.1 U	< 0.1 U	< 0.25 U	< 0.1 U	< 0.5 U	< 0.1 U
VOA TRIP BLANK	3/13/2018	VTRP180314Y	< 0.1 U	< 0.25 U	< 0.5 U	< 0.1 U	< 0.1 U	< 0.25 U	< 0.1 U	< 0.5 U	< 0.1 U
VOA TRIP BLANK	3/13/2018	VTRP180314X	< 0.1 U	< 0.25 U	< 0.5 U	< 0.1 U	< 0.1 U	< 0.25 U	< 0.1 U	< 0.5 U	< 0.1 U

Site	Date	Sample ID	Chloroform	Chloro-methane	Chloroprene	cis-1,2-Dichloro-ethene	cis-1,3-Dichloro-propene	Dibromo-methane	Dichloro-difluoro-methane	Ethylbenzene	m & p Xylenes
			67-66-3	74-87-3	126-99-8	156-59-2	10061-01-5	74-95-3	75-71-8	100-41-4	mpx
			(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)
LS-API	1/10/2018	LAPI180110M	< 1 U	< 2.5 GU	< 1 U	< 1 U	< 2.5 U	< 1 U	< 1 U	1.4 JT	3.06
LS-API	2/15/2018	LAPI180215M	< 1 U	< 2.5 U	< 1 U	< 1 U	< 2.5 U	< 1 U	< 1 U	1.2 JT	2.91
LS-API	3/14/2018	LAPI180314M	< 1 U	< 2.5 U	< 1 U	< 1 U	< 2.5 U	< 1 U	< 1 U	1.5 JT	3.49
LS-LEPS	1/9/2018	LEPS180109M	< 1 U	< 2.5 GU	< 1 U	< 1 U	< 2.5 U	< 1 U	< 1 U	< 1 U	< 1 U
LS-LEPS	2/14/2018	LEPS180214D	< 1 U	< 2.5 U	< 1 U	< 1 U	< 2.5 U	< 1 U	< 1 U	< 1 U	< 1 U
LS-LEPS	2/14/2018	LEPS180214M	< 1 U	< 2.5 U	< 1 U	< 1 U	< 2.5 U	< 1 U	< 1 U	< 1 U	< 1 U
LS-LEPS	3/13/2018	LEPS180313M	< 1 U	< 2.5 U	< 1 U	< 1 U	< 2.5 U	< 1 U	< 1 U	< 1 U	< 1 U
LS-MH46N	1/10/2018	L46N180110M	< 1 U	< 2.5 GU	< 1 U	2.47	< 2.5 U	< 1 U	< 1 U	42.1	56
LS-MH46N	2/15/2018	L46N180215M	< 1 U	< 2.5 U	< 1 U	2.55	< 2.5 U	< 1 U	< 1 U	46	62.5
LS-MH46N	3/14/2018	L46N180314M	< 1 SU	< 2.5 SU	< 1 SU	2 JST	< 2.5 SU	< 1 SU	< 1 SU	47.4 S	57.3 S
LS-PS2A	1/10/2018	LP2A180110M	< 1 U	< 2.5 GU	< 1 U	< 1 U	< 2.5 U	< 1 U	< 1 U	< 1 U	< 1 U
LS-PS2A	2/15/2018	LP2A180215M	< 1 U	< 2.5 U	< 1 U	< 1 U	< 2.5 U	< 1 U	< 1 U	< 1 U	< 1 U
LS-PS2A	3/14/2018	LP2A180314M	< 1 U	< 2.5 U	< 1 U	< 1 U	< 2.5 U	< 1 U	< 1 U	< 1 U	< 1 U
VOA TRIP BLANK	1/9/2018	VTRP180109Y2	< 0.1 U	< 0.25 GU	< 0.1 U	< 0.1 U	< 0.25 U	< 0.1 U	< 0.1 U	< 0.1 U	< 0.1 U
VOA TRIP BLANK	2/14/2018	VTRP180215Y	< 0.1 U	< 0.25 U	< 0.1 U	< 0.1 U	< 0.25 U	< 0.1 U	< 0.1 U	< 0.1 U	< 0.1 U
VOA TRIP BLANK	2/14/2018	VTRP180215X2	< 0.1 U	< 0.25 U	< 0.1 U	< 0.1 U	< 0.25 U	< 0.1 U	< 0.1 U	< 0.1 U	< 0.1 U
VOA TRIP BLANK	3/13/2018	VTRP180314Y	< 0.1 U	< 0.25 U	< 0.1 U	< 0.1 U	< 0.25 U	< 0.1 U	< 0.1 U	< 0.1 U	< 0.1 U
VOA TRIP BLANK	3/13/2018	VTRP180314X	< 0.1 U	< 0.25 U	< 0.1 U	< 0.1 U	< 0.25 U	< 0.1 U	< 0.1 U	< 0.1 U	< 0.1 U

Site	Date	Sample ID	Methyl Iodide	Methyl Methacrylate	Methylacrylo-nitrile	Methylene Chloride	o-Xylene	Proprionitrile	Styrene	Tetrachloro-ethene	Toluene
			74-88-4 (ug/L)	80-62-6 (ug/L)	126-98-7 (ug/L)	75-09-2 (ug/L)	95-47-6 (ug/L)	107-12-0 (ug/L)	100-42-5 (ug/L)	127-18-4 (ug/L)	108-88-3 (ug/L)
LS-API	1/10/2018	LAPI180110M	< 1 U	< 2.5 U	< 1 U	< 25 U	1.6 JT	< 5 U	< 1 U	< 1 U	4.31
LS-API	2/15/2018	LAPI180215M	< 1 U	< 2.5 U	< 1 U	< 25 U	1.5 JT	< 5 U	< 1 U	< 1 U	3.91
LS-API	3/14/2018	LAPI180314M	< 1 U	< 2.5 U	< 1 U	< 25 U	1.9 JT	< 5 U	< 1 U	< 1 U	4.96
LS-LEPS	1/9/2018	LEPS180109M	< 1 U	< 2.5 U	< 1 U	< 25 U	< 1 U	< 5 U	< 1 U	< 1 U	< 1 U
LS-LEPS	2/14/2018	LEPS180214D	< 1 U	< 2.5 U	< 1 U	< 25 U	< 1 U	< 5 U	< 1 U	< 1 U	< 1 U
LS-LEPS	2/14/2018	LEPS180214M	< 1 U	< 2.5 U	< 1 U	< 25 U	< 1 U	< 5 U	< 1 U	< 1 U	< 1 U
LS-LEPS	3/13/2018	LEPS180313M	< 1 U	< 2.5 U	< 1 U	< 25 U	< 1 U	< 5 U	< 1 U	< 1 U	1.4 JT
LS-MH46N	1/10/2018	L46N180110M	< 1 U	< 2.5 U	< 1 U	< 25 U	4.95	< 5 U	1.2 JT	< 1 U	4.97
LS-MH46N	2/15/2018	L46N180215M	< 1 U	< 2.5 U	< 1 U	< 25 U	5.06	< 5 U	1.4 JT	< 1 U	4.76
LS-MH46N	3/14/2018	L46N180314M	< 1 SU	< 2.5 SU	< 1 SU	< 25 SU	4.55 S	< 5 SU	1.1 JST	< 1 SU	5.5 S
LS-PS2A	1/10/2018	LP2A180110M	< 1 U	< 2.5 U	< 1 U	< 25 U	< 1 U	< 5 U	< 1 U	< 1 U	< 1 U
LS-PS2A	2/15/2018	LP2A180215M	< 1 U	< 2.5 U	< 1 U	< 25 U	< 1 U	< 5 U	< 1 U	< 1 U	< 1 U
LS-PS2A	3/14/2018	LP2A180314M	< 1 U	< 2.5 U	< 1 U	< 25 U	< 1 U	< 5 U	< 1 U	< 1 U	< 1 U
VOA TRIP BLANK	1/9/2018	VTRP180109Y2	< 0.1 U	< 0.25 U	< 0.1 U	< 2.5 U	< 0.1 U	< 0.5 U	< 0.1 U	< 0.1 U	< 0.1 U
VOA TRIP BLANK	2/14/2018	VTRP180215Y	< 0.1 U	< 0.25 U	< 0.1 U	< 2.5 U	< 0.1 U	< 0.5 U	< 0.1 U	< 0.1 U	< 0.1 U
VOA TRIP BLANK	2/14/2018	VTRP180215X2	< 0.1 U	< 0.25 U	< 0.1 U	< 2.5 U	< 0.1 U	< 0.5 U	< 0.1 U	< 0.1 U	< 0.1 U
VOA TRIP BLANK	3/13/2018	VTRP180314Y	< 0.1 U	< 0.25 U	< 0.1 U	< 2.5 U	< 0.1 U	< 0.5 U	< 0.1 U	< 0.1 U	< 0.1 U
VOA TRIP BLANK	3/13/2018	VTRP180314X	< 0.1 U	< 0.25 U	< 0.1 U	< 2.5 U	< 0.1 U	< 0.5 U	< 0.1 U	< 0.1 U	< 0.1 U

Site	Date	Sample ID	trans-1,2-Dichloro-ethene	trans-1,3-Dichloro-propene	trans-1,4-Dichloro-2-butene	Trichloro-ethene	Trichloro-fluoro-methane	Vinyl Acetate	Vinyl Chloride
			156-60-5	10061-02-6	110-57-6	79-01-6	75-69-4	108-05-4	75-01-4
			(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)
LS-API	1/10/2018	LAPI180110M	< 1 U	< 5 U	< 5 U	< 1 U	< 1 U	< 1 U	0.11 GJT
LS-API	2/15/2018	LAPI180215M	< 1 U	< 5 U	< 5 U	< 1 U	< 1 U	< 1 U	< 0.1 U
LS-API	3/14/2018	LAPI180314M	< 1 U	< 5 U	< 5 U	< 1 U	< 1 U	< 1 U	< 0.1 U
LS-LEPS	1/9/2018	LEPS180109M	< 1 U	< 5 U	< 5 U	< 1 U	< 1 U	< 1 U	< 0.1 GU
LS-LEPS	2/14/2018	LEPS180214D	< 1 U	< 5 U	< 5 U	< 1 U	< 1 U	< 1 U	< 0.1 U
LS-LEPS	2/14/2018	LEPS180214M	< 1 U	< 5 U	< 5 U	< 1 U	< 1 U	< 1 U	< 0.1 U
LS-LEPS	3/13/2018	LEPS180313M	< 1 U	< 5 U	< 5 U	< 1 U	< 1 U	< 1 U	< 0.1 U
LS-MH46N	1/10/2018	L46N180110M	< 1 U	< 5 U	< 5 U	< 1 U	< 1 U	< 1 U	3.91 G
LS-MH46N	2/15/2018	L46N180215M	< 1 U	< 5 U	< 5 U	< 1 U	< 1 U	< 1 U	5.29
LS-MH46N	3/14/2018	L46N180314M	< 1 SU	< 5 SU	< 5 SU	< 1 SU	< 1 SU	< 1 SU	3.62 S
LS-PS2A	1/10/2018	LP2A180110M	< 1 U	< 5 U	< 5 U	< 1 U	< 1 U	< 1 U	< 0.1 GU
LS-PS2A	2/15/2018	LP2A180215M	< 1 U	< 5 U	< 5 U	< 1 U	< 1 U	< 1 U	< 0.1 U
LS-PS2A	3/14/2018	LP2A180314M	< 1 U	< 5 U	< 5 U	< 1 U	< 1 U	< 1 U	< 0.1 U
VOA TRIP BLANK	1/9/2018	VTRP180109Y2	< 0.1 U	< 0.5 U	< 0.5 U	< 0.1 U	< 0.1 U	< 0.1 U	< 0.01 GU
VOA TRIP BLANK	2/14/2018	VTRP180215Y	< 0.1 U	< 0.5 U	< 0.5 U	< 0.1 U	< 0.1 U	< 0.1 U	< 0.01 U
VOA TRIP BLANK	2/14/2018	VTRP180215X2	< 0.1 U	< 0.5 U	< 0.5 U	< 0.1 U	< 0.1 U	< 0.1 U	< 0.01 U
VOA TRIP BLANK	3/13/2018	VTRP180314Y	< 0.1 U	< 0.5 U	< 0.5 U	< 0.1 U	< 0.1 U	< 0.1 U	< 0.01 U
VOA TRIP BLANK	3/13/2018	VTRP180314X	< 0.1 U	< 0.5 U	< 0.5 U	< 0.1 U	< 0.1 U	< 0.1 U	< 0.01 U

Site	Date	Sample ID	2,4,5-T	2,4,5-TP	2,4-D	4,4'-DDD	4,4'-DDE	4,4'-DDT	Aldrin	Alpha BHC	Alpha Chlordane	Aroclor 1016
			93-76-5	93-72-1	94-75-7	72-54-8	72-55-9	50-29-3	309-00-2	319-84-6	57-74-9	12674-11-2
			(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)
LS-API	1/10/2018	LAPI180110M	< 0.5 U	< 1.5 U	4.39 J	< 0.025 GU	< 0.025 GU	< 0.025 GU	< 0.025 GU	< 0.025 U	< 0.025 GU	< 0.025 U
LS-API	2/15/2018	LAPI180215M	< 0.5 U	< 1.5 U	2.78 J	< 0.025 U	< 0.025 U	< 0.025 U	< 0.025 U	< 0.025 U	< 0.025 GU	< 0.025 U
LS-API	3/14/2018	LAPI180314M	< 0.5 U	< 1 U	1.1 J	< 0.025 U	< 0.025 U	< 0.025 U	< 0.025 U	< 0.025 U	< 0.025 U	< 0.025 U
LS-LEPS	1/9/2018	LEPS180109M	< 0.5 U	< 0.5 U	3.5	< 0.025 GU	< 0.025 GU	< 0.025 GU	< 0.025 GU	< 0.025 U	< 0.025 GU	< 0.025 U
LS-LEPS	2/14/2018	LEPS180214D	< 0.5 U	< 1 U	< 1 U	< 0.025 U	< 0.025 U	< 0.025 U	< 0.025 U	< 0.025 U	< 0.025 GU	< 0.025 U
LS-LEPS	2/14/2018	LEPS180214M	< 0.5 U	< 0.5 U	1.05	< 0.025 U	< 0.025 U	< 0.025 U	< 0.025 U	< 0.025 U	< 0.025 GU	< 0.025 U
LS-LEPS	3/13/2018	LEPS180313M	< 0.5 U	< 1 U	1.67 J	< 0.025 U	< 0.025 U	< 0.025 U	< 0.025 U	< 0.025 U	< 0.025 U	< 0.025 U
LS-MH46N	1/10/2018	L46N180110M	< 0.5 U	2.11	12.8	< 0.01 U	< 0.01 U	< 0.01 U	< 0.01 U	< 0.01 U	0.0127 J	< 0.025 U
LS-MH46N	2/15/2018	L46N180215M	< 0.5 U	1.34	2.19 J	< 0.01 U	< 0.01 U	< 0.01 U	< 0.01 U	< 0.01 U	< 0.01 U	< 0.025 U
LS-MH46N	3/14/2018	L46N180314M	< 0.5 U	1.51	5.69	< 0.01 U	< 0.01 U	< 0.01 U	< 0.01 U	< 0.01 U	< 0.01 U	< 0.025 U
LS-PS2A	1/10/2018	LP2A180110M	< 0.5 U	< 0.5 U	< 1 U	< 0.01 U	< 0.01 U	< 0.01 U	< 0.01 U	< 0.01 U	< 0.01 U	< 0.025 U
LS-PS2A	2/15/2018	LP2A180215M	< 0.5 U	< 0.5 U	< 1 U	< 0.01 U	< 0.01 U	< 0.01 U	< 0.01 U	< 0.01 U	< 0.01 U	< 0.025 U
LS-PS2A	3/14/2018	LP2A180314M	< 0.5 U	< 0.5 U	< 1 U	< 0.01 U	< 0.01 U	< 0.01 U	< 0.01 U	< 0.01 U	< 0.01 U	< 0.025 U

Site	Date	Sample ID	Aroclor 1221 11104-28-2 (ug/L)	Aroclor 1232 11141-16-5 (ug/L)	Aroclor 1242 53469-21-9 (ug/L)	Aroclor 1248 12672-29-6 (ug/L)	Aroclor 1254 11097-69-1 (ug/L)	Aroclor 1260 11096-82-5 (ug/L)	Beta BHC 319-85-7 (ug/L)	Delta BHC 319-86-8 (ug/L)	Dieldrin 60-57-1 (ug/L)	Dinoseb 88-85-7 (ug/L)
LS-API	1/10/2018	LAPI180110M	< 0.025 U	< 0.025 U	0.0534	< 0.025 U	0.0388	< 0.025 U	< 0.025 U	< 0.025 U	< 0.025 GU	< 0.5 U
LS-API	2/15/2018	LAPI180215M	< 0.075 U	< 0.025 U	0.0767	< 0.025 U	0.0584	< 0.025 U	< 0.025 U	< 0.025 U	< 0.025 U	< 0.5 U
LS-API	3/14/2018	LAPI180314M	< 0.125 U	< 0.025 U	0.0895	< 0.025 U	0.0492	< 0.025 U	< 0.025 U	< 0.025 U	< 0.025 U	< 0.5 U
LS-LEPS	1/9/2018	LEPS180109M	< 0.05 U	< 0.025 U	0.0331	< 0.025 U	< 0.025 U	< 0.025 U	< 0.025 U	< 0.025 U	< 0.025 GU	< 0.5 U
LS-LEPS	2/14/2018	LEPS180214D	< 0.025 U	< 0.025 U	0.0308	< 0.025 U	< 0.025 U	< 0.025 U	< 0.025 U	< 0.025 U	< 0.025 U	< 0.5 U
LS-LEPS	2/14/2018	LEPS180214M	< 0.025 U	< 0.025 U	0.0335	< 0.025 U	< 0.025 U	< 0.025 U	< 0.025 U	< 0.025 U	< 0.025 U	< 0.5 U
LS-LEPS	3/13/2018	LEPS180313M	< 0.025 U	< 0.025 U	0.039	< 0.025 U	< 0.025 U	< 0.025 U	< 0.025 U	< 0.025 U	< 0.025 U	< 0.5 U
LS-MH46N	1/10/2018	L46N180110M	< 0.15 U	< 0.025 U	0.202	< 0.025 U	< 0.025 U	< 0.025 U	0.059 J	0.0126 J	< 0.02 U	< 1 U
LS-MH46N	2/15/2018	L46N180215M	< 0.1 U	< 0.025 U	0.212	< 0.025 U	< 0.025 U	< 0.025 U	0.0492 J	< 0.04 U	0.0238	< 0.5 U
LS-MH46N	3/14/2018	L46N180314M	< 0.1 U	< 0.025 U	0.251	< 0.025 U	< 0.025 U	< 0.025 U	0.0529 J	< 0.02 U	0.0174 J	< 0.5 U
LS-PS2A	1/10/2018	LP2A180110M	< 0.025 U	< 0.025 U	< 0.025 U	< 0.025 U	< 0.025 U	< 0.025 U	< 0.01 U	< 0.01 U	< 0.01 U	< 0.5 U
LS-PS2A	2/15/2018	LP2A180215M	< 0.025 U	< 0.025 U	< 0.025 U	< 0.025 U	< 0.025 U	< 0.025 U	< 0.01 U	< 0.01 U	< 0.01 U	< 0.5 U
LS-PS2A	3/14/2018	LP2A180314M	< 0.025 U	< 0.025 U	< 0.025 U	< 0.025 U	< 0.025 U	< 0.025 U	< 0.01 U	< 0.01 U	< 0.01 U	< 0.5 U

Site	Date	Sample ID	Endo-sulfan I 959-98-8 (ug/L)	Endo-sulfan II 33213-65-9 (ug/L)	Endosulfan Sulfate 1031-07-8 (ug/L)	Endrin 72-20-8 (ug/L)	Endrin Aldehyde 7421-93-4 (ug/L)	Heptachlor 76-44-8 (ug/L)	Heptachlor Epoxide 1024-57-3 (ug/L)	Isodrin 465-73-6 (ug/L)	Lindane 58-89-9 (ug/L)	Methoxy-chlor 72-43-5 (ug/L)
LS-API	1/10/2018	LAPI180110M	< 0.025 U	< 0.025 U	< 0.025 U	< 0.025 U	< 0.025 GU	< 0.025 GU	< 0.025 GU	< 0.025 GU	< 0.025 U	< 0.125 GU
LS-API	2/15/2018	LAPI180215M	< 0.025 U	< 0.025 U	< 0.025 U	< 0.025 U	< 0.025 GU	< 0.025 U	< 0.025 U	< 0.025 U	< 0.025 U	< 0.125 U
LS-API	3/14/2018	LAPI180314M	< 0.025 U	< 0.025 U	< 0.025 U	< 0.025 U	< 0.025 GU	< 0.025 U	< 0.025 U	< 0.025 U	< 0.025 U	< 0.125 U
LS-LEPS	1/9/2018	LEPS180109M	< 0.025 U	< 0.025 U	< 0.025 U	< 0.025 U	< 0.025 GU	< 0.025 GU	< 0.025 GU	< 0.025 GU	< 0.025 U	< 0.125 GU
LS-LEPS	2/14/2018	LEPS180214D	< 0.025 U	< 0.025 U	< 0.025 U	< 0.025 U	< 0.025 GU	< 0.025 U	< 0.025 U	< 0.025 U	< 0.025 U	< 0.125 U
LS-LEPS	2/14/2018	LEPS180214M	< 0.025 U	< 0.025 U	< 0.025 U	< 0.025 U	< 0.025 GU	< 0.025 U	< 0.025 U	< 0.025 U	< 0.025 U	< 0.125 U
LS-LEPS	3/13/2018	LEPS180313M	< 0.025 U	< 0.025 U	< 0.025 U	< 0.025 U	< 0.025 GU	< 0.025 U	< 0.025 U	< 0.025 U	< 0.025 U	< 0.125 U
LS-MH46N	1/10/2018	L46N180110M	< 0.01 U	< 0.01 U	< 0.01 U	< 0.01 U	< 0.01 U	< 0.01 U	< 0.01 U	< 0.01 U	0.0458 J	< 0.05 U
LS-MH46N	2/15/2018	L46N180215M	< 0.03 U	< 0.01 U	< 0.01 U	< 0.01 U	< 0.01 U	< 0.05 U	< 0.01 U	< 0.01 U	0.0785 J	< 0.05 U
LS-MH46N	3/14/2018	L46N180314M	< 0.02 U	< 0.01 U	< 0.01 U	< 0.01 U	< 0.01 U	< 0.01 U	< 0.01 U	< 0.01 U	0.0615	< 0.05 U
LS-PS2A	1/10/2018	LP2A180110M	< 0.01 U	< 0.01 U	< 0.01 U	< 0.01 U	< 0.01 U	< 0.01 U	< 0.01 U	< 0.01 U	< 0.01 U	< 0.05 U
LS-PS2A	2/15/2018	LP2A180215M	< 0.01 U	< 0.01 U	< 0.01 U	< 0.01 U	< 0.01 U	< 0.01 U	< 0.01 U	< 0.01 U	< 0.01 U	< 0.05 U
LS-PS2A	3/14/2018	LP2A180314M	< 0.01 U	< 0.01 U	< 0.01 U	< 0.01 U	< 0.01 U	< 0.01 U	< 0.01 U	< 0.01 U	< 0.01 U	< 0.05 U

Site	Date	Sample ID	Total Aroclors 1336-36-3 (ug/L)	Toxaphene 8001-35-2 (ug/L)	*trans*-Chlordane 5103-74-2 (ug/L)
LS-API	1/10/2018	LAPI180110M	0.0922	< 2.5 U	< 0.025 GU
LS-API	2/15/2018	LAPI180215M	0.1351	< 2.5 U	< 0.025 GU
LS-API	3/14/2018	LAPI180314M	0.1387	< 2.5 U	< 0.025 GU
LS-LEPS	1/9/2018	LEPS180109M	0.0331	< 2.5 U	< 0.025 GU
LS-LEPS	2/14/2018	LEPS180214D	0.0308	< 2.5 U	< 0.025 GU
LS-LEPS	2/14/2018	LEPS180214M	0.0335	< 2.5 U	< 0.025 GU
LS-LEPS	3/13/2018	LEPS180313M	0.039	< 2.5 U	< 0.025 GU
LS-MH46N	1/10/2018	L46N180110M	0.202	< 1 U	< 0.01 U
LS-MH46N	2/15/2018	L46N180215M	0.212	< 1 U	< 0.01 U
LS-MH46N	3/14/2018	L46N180314M	0.251	< 1 U	< 0.01 U
LS-PS2A	1/10/2018	LP2A180110M	< 0.025 U	< 1 U	< 0.01 U
LS-PS2A	2/15/2018	LP2A180215M	< 0.025 U	< 1 U	< 0.01 U
LS-PS2A	3/14/2018	LP2A180314M	< 0.025 U	< 1 U	< 0.01 U

Environmental Monitoring Data

Data Collected from April 1, 2018 to June 30, 2018
Cedar Hills Landfill ---Leachate Field Parameters
Contact Person: Sendy Jimenez (206) 477-5224

Site	Date	Sample ID	pH (Field) (std. Units)	Conductance (Field) (umho/cm)	Temperature (o C)
LS-API	4/11/2018	LAPI180411M	8.19	5150	12.9
LS-API	5/2/2018	LAPI180502M	7.94	14000	19.7
LS-API	6/6/2018	LAPI180606M	8.28	13500	23.2
LS-CSW	4/11/2018	LCSW180411I	7.46	1850	11.1
LS-CSW	5/2/2018	LCSW180502I	7.13	6500	14
LS-CSW	6/6/2018	LCSW180606I	7.94	15000	14.3
LS-LEPS	4/11/2018	LEPS180410M	8.36	4700	13.1
LS-LEPS	4/11/2018	LEPS180410P	8.36	4700	13.1
LS-LEPS	4/16/2018	LEPS180416P	8.23	3350	11.5
LS-LEPS	5/2/2018	LEPS180501M	8.33	6400	15.8
LS-LEPS	5/2/2018	LEPS180501P	8.33	6400	15.8
LS-LEPS	5/14/2018	LEPS180514P	8.43	7700	18.7
LS-LEPS	6/6/2018	LEPS180605M	8.54	9100	16.2
LS-LEPS	6/6/2018	LEPS180605P	8.54	9100	16.2
LS-LEPS	6/6/2018	LEPS180606F	9.27	8.3	14.2
LS-LEPS	6/18/2018	LEPS180618R	8.64	10500	20.1
LS-MH46N	4/11/2018	L46N180411M	7.01	8200	24.4
LS-MH46N	5/2/2018	L46N180502M	7.26	6800	22.7
LS-MH46N	6/6/2018	LP2A180606M	7.92	6400	12.5
LS-MH5	4/11/2018	LMH5180411I	6.34	15000	29.6
LS-MH5	5/2/2018	LMH5180502I	8.13	15000	29.5
LS-MH5	6/6/2018	LMH5180606I	8.11	17500	31.1
LS-PS1A	4/11/2018	LP1A180411I	7.45	1200	13
LS-PS1A	5/2/2018	LP1A180502I	7.67	3900	15.9
LS-PS1A	6/6/2018	LP1A180606I	7.71	6600	19
LS-PS2A	4/11/2018	LP2A180411D	7.85	100	11.3
LS-PS2A	4/11/2018	LP2A180411M	7.85	100	11.3
LS-PS2A	5/2/2018	LP2A180502M	8.31	160	10.1
LS-PS2A	6/6/2018	L46N180606M	7.02	7900	27.9
LS-PS4	4/11/2018	LP4-180411I	7.62	3400	14
LS-PS4	5/2/2018	LP4-180502I	7.59	1200	15.1
LS-PS4	6/6/2018	LPS4180606I	8.28	5200	18.1
FIELD BLANK	5/2/2018	LEPS180502F	8.01	3.2	11.8
LS-EMERGENCY	4/6/2018	LA6C180406E	7.21	8000	18.4
LS-EMERGENCY	4/6/2018	LA6C180406E2	8.3	17000	14

Data Collected from April 1, 2018 to June 30, 2018
Cedar Hills Landfill ---Leachate Conventionals Analytical Data
Contact Person: Sendy Jimenez (206) 477-5224

Site	Date	Sample ID	Alkalinity, Total (CaCO3) (mg/L)	Ammonia, (NH3 as N) (mg/L)	Biological Oxygen Demand (mg/L)	Chemical Oxygen Demand (mg/L)	Chloride (mg/L)	Coliforms, Fecal (CFU/100mL)	Coliforms, Total (CFU/100mL)	Cyanide (mg/L)	Fluoride (mg/L)	Nitrate+Nitrite (NO3+NO2 as N) (mg/L)
LS-API	4/11/2018	LAPI180411M	2160	405	508	1470	504	44000	470000	0.008 SU	1 U	0.11 T
LS-API	5/1/2018	LAPI180501M	4280	863	1700	3890	1110	77000	1000000	0.012 ST	2 U	1 U
LS-API	6/6/2018	LAPI180606M	10100	1800	3600	8720 S	2450	14000 C	650000	0.036 ST	4 U	0.21 T
LS-LEPS	4/10/2018	LEPS180410M	2330	400	173	1050	597	8200 H	37000 H	0.0085 ST	0.627	0.1 U
LS-LEPS	5/1/2018	LEPS180501M	3080	538	486	2040	774	13000 CH	410000 H	0.008 SU	1 U	0.1 U
LS-LEPS	6/6/2018	LEPS180605M	5850	969	391	2990 S	1570	22000 CH	150000 H	0.018 ST	1.11	0.2 HU
LS-MH46N	4/11/2018	L46N180411M	3570	683	66.1	2180	2080	1 U	1 U	0.018 ST	3 U	0.1 U
LS-MH46N	5/2/2018	L46N180502M	3380	626	86.1	1990	1980	1 U	9 CU	0.015 ST	2 U	0.44
LS-MH46N	6/6/2018	LP2A180606M	2510	364	119	1910	1300	1 U	400	0.018 ST	2 U	3.06
LS-PS2A	4/11/2018	LP2A180411D	37.5	0.869	5.46	22.9	2.33	1 U	50	0.008 U	0.0475	0.708
LS-PS2A	4/11/2018	LP2A180411M	37.9	0.864	6.76	24.9	2.32	1 U	45	0.008 U	0.0503	0.695
LS-PS2A	5/2/2018	LP2A180502M	41	3.81	2 U	22.6	8.07	1 U	50	0.008 U	0.0572	1.07
LS-PS2A	6/6/2018	L46N180606M	3470	660	81	2040	2020	1 U	1 U	0.018 ST	2 U	0.1 U
LS-EMERGENCY	4/6/2018	LA6C180406E2	13300	2980	7270	16800 S	3150	9 CU	90 CU	0.075 ST	3 U	0.5 U

Environmental Monitoring Data

Data Collected from April 1, 2018 to June 30, 2018
Cedar Hills Landfill ---Leachate Conventionals Analytical Data
Contact Person: Sendy Jimenez (206) 477-5224

Site	Date	Sample ID	Phosphorus, Sol. Reactive (mg/L)	Specific Conductance (umho/cm)	Sulfate (SO4) (mg/L)	Sulfide Total (mg/L)	Total Fats, Oils and Grease (mg/L)	Total Kjeldahl Nitrogen (mg/L)	Total Organic Carbon (mg/L)	Total Suspended Solids (mg/L)	Total Volatile Solids (mg/L)	Volatile Suspended Solids (mg/L)
LS-API	4/11/2018	LAPI180411M	1.96	5730	30.5	0.341	8.3 B	475	380 S	67	1060	35
LS-API	5/1/2018	LAPI180501M	3.5	11000	54.2	0.419	57.1	894	1270 S	135	2330	88
LS-API	6/6/2018	LAPI180606M	9.41 H	23100	35.9	1.01	15.2 B	2050 S	2820 S	104	5520	87.7
LS-LEPS	4/10/2018	LEPS180410M	0.0748	6060	35.1	0.15 T	10.2 B	474	199 S	342	1020	248
LS-LEPS	5/1/2018	LEPS180501M	0.05	7680	63.4	0.424	2.7 BT	608	480	600	1600	490
LS-LEPS	6/6/2018	LEPS180605M	0.117	13700	67.3	0.532	5.2 BT	1140 S	507 S	869	2510	713
LS-MH46N	4/11/2018	L46N180411M	5.91	12500	2 U	1.47	7.7 BG	759	597 S	0.7 T	1570	1
LS-MH46N	5/2/2018	L46N180502M	2.24	11900	2.9 T	1.47	7.6 B	707	633 S	2.2	1400	1.8
LS-MH46N	6/6/2018	LP2A180606M	0.773	8080	42.9	0.05 U	6.8 B	570	562 S	6.67	1540	4.67
LS-PS2A	4/11/2018	LP2A180411D	0.012	115	7.31	0.01 T	5 BT	1.5	9.61	2.1	51.4	1.3
LS-PS2A	4/11/2018	LP2A180411M	0.0134	107	7.18	0.01 T	2.4 BT	1.56	8.83	2.2	47.1	1.6
LS-PS2A	5/2/2018	LP2A180502M	0.0146	178	14.4	0.1 U	3.3 BT	4.09	7.85	1.1	46.4	0.8 T
LS-PS2A	6/6/2018	L46N180606M	3.34 H	12100	5 U	0.501	7 B	724	638 S	1.34	1520	1.34
LS-EMERGENCY	4/6/2018	LA6C180406E2	13.2	31600	25 T	1 SU	6.5	3000 S	5720 S	207	9520	118

Environmental Monitoring Data

Data Collected from April 1, 2018 to June 30, 2018
Cedar Hills Landfill ---Leachate Metals Analytical Data
Contact Person: Sendy Jimenez (206) 477-5224

Site	Date	Sample ID	Aluminum, total (mg/L)	Antimony, total (mg/L)	Arsenic, total (mg/L)	Barium, total (mg/L)	Beryllium, total (mg/L)	Cadmium, total (mg/L)	Calcium, total (mg/L)	Chromium, total (mg/L)	Cobalt, total (mg/L)	Copper, total (mg/L)
LS-API	4/11/2018	LAPI180411M	1.49	0.00777	0.0913	0.105	0.001 U	0.0005 U	44.3	0.0656	0.0153	0.0112
LS-API	5/1/2018	LAPI180501M	1.45	0.0147	0.169	0.179	0.001 U	0.0005 DU	116	0.141	0.0331	0.00911
LS-API	6/6/2018	LAPI180606M	1.23	0.025	0.358	0.333	0.001 U	0.000547	181	0.308	0.0625	0.0109
LS-CSW	4/11/2018	LCSW180411I	10	0.003 U	0.0141	0.12	0.001 U	0.0005 U	116	0.0293	0.0138	0.0267
LS-CSW	5/2/2018	LCSW180502I	1.98	0.0121	0.0365	0.27	0.001 U	0.000623 D	730	0.0941	0.0319	0.0315
LS-CSW	6/6/2018	LCSW180606I	9.07	0.0143	0.0927	0.293	0.001 U	0.000871	173	0.261	0.0631	0.0367
LS-LEPS	4/10/2018	LEPS180410M	2.17	0.00769	0.0927	0.121	0.001 U	0.0005 U	68.5	0.0672	0.0178	0.0142
LS-LEPS	4/11/2018	LEPS180410P						0.0005 U		0.0714		0.0157
LS-LEPS	4/16/2018	LEPS180416P						0.0005 U		0.05		0.0126
LS-LEPS	5/1/2018	LEPS180501P			0.114			0.0005 DU		0.0963		0.0125
LS-LEPS	5/14/2018	LEPS180514P			0.176			0.0005 U		0.14		0.0127
LS-LEPS	6/6/2018	LEPS180605P	1.23	0.0238	0.254	0.159	0.001 U	0.0005 U	91.1	0.193	0.0433	0.0111
LS-LEPS	6/6/2018	LEPS180606F	0.002 U	0.0003 U	5E-05 U	0.0005 U	0.0001 U	5E-05 U	0.05 U	0.0002 U	5E-05 U	0.00022
LS-LEPS	6/18/2018	LEPS180618R	1.1	0.0275	0.282	0.198	0.001 U	0.0005 U	92.4	0.226	0.048	0.0131 D
LS-MH46N	4/11/2018	L46N180411M	0.0477	0.003 U	0.0991	0.555	0.001 U	0.0005 U	102	0.127	0.0393	0.002 U
LS-MH46N	5/2/2018	L46N180502M	0.0503	0.003 U	0.0978	0.544	0.001 U	0.0005 DU	91.1	0.128	0.0372	0.002 U
LS-MH46N	6/6/2018	LP2A180606M	0.539	0.00562	0.034	0.032	0.001 U	0.000942	37.9	0.0608	0.0413	0.216
LS-MH5	4/11/2018	LMH5180411I	6.11	0.0162	0.273	0.471	0.001 U	0.0005 U	86.1	0.219	0.0679	0.0129
LS-MH5	5/2/2018	LMH5180502I	15.4	0.0252	0.316	1.11	0.001 U	0.000503 D	317	0.247	0.0812	0.0278
LS-MH5	6/6/2018	LMH5180606I	22.5	0.0304	0.351	1.23	0.001 U	0.000815	237	0.29	0.0941	0.039
LS-PS1A	4/11/2018	LP1A180411I	0.213	0.00332	0.0211	0.0452	0.001 U	0.0005 U	25.7	0.00738	0.00355	0.0118
LS-PS1A	5/2/2018	LP1A180502I	0.2	0.0111	0.0605	0.113	0.001 U	0.0005 DU	40.1	0.0207	0.00888	0.00633
LS-PS1A	6/6/2018	LP1A180606I	0.255	0.0276	0.17	0.252	0.001 U	0.0005 U	73.6	0.0491	0.0204	0.00616
LS-PS2A	4/11/2018	LP2A180411D	0.231	0.003 U	0.00237	0.00615	0.001 U	0.0005 U	10.5	0.00302	0.000927	0.0272
LS-PS2A	4/11/2018	LP2A180411M	0.225	0.003 U	0.00247	0.00638	0.001 U	0.0005 U	9.8	0.00298	0.000913	0.0276
LS-PS2A	5/2/2018	LP2A180502M	0.107	0.003 U	0.00241	0.00619	0.001 U	0.0005 DU	11.4	0.00222	0.00066	0.0185
LS-PS2A	6/6/2018	L46N180606M	0.0387 J	0.003 U	0.0982	0.51	0.001 U	0.0005 U	92	0.12	0.0353	0.002 U
LS-PS4	4/11/2018	LP4-180411I	1.65	0.00488	0.0504	0.0777	0.001 U	0.0005 U	77.9	0.0443	0.0116	0.0104
LS-PS4	5/2/2018	LP4-180502I	1.01	0.0146	0.138	0.0713	0.001 U	0.0005 DU	49.7	0.0218	0.00618	0.0135
LS-PS4	6/6/2018	LPS4180606I	0.973	0.0164	0.131	0.132	0.001 U	0.0005 U	61.8	0.0532	0.0131	0.0203
FIELD BLANK	5/2/2018	LEPS180502F			0.0005 U			0.0005 DU		0.002 U		0.002 U
LS-EMERGENCY	4/6/2018	LA6C180406E	0.562	0.0211	0.0453	0.22	0.001 U	0.0005 U	339	0.115	0.0315	0.00417
LS-EMERGENCY	4/6/2018	LA6C180406E2	1.83	0.263	1.11	0.534	0.001 U	0.0005 U	75.1	0.347	0.0699	0.0101

Environmental Monitoring Data

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Cedar Hills Landfill ---Leachate Metals Analytical Data
Contact Person: Sendy Jimenez (206) 477-5224

Site	Date	Sample ID	Iron, total (mg/L)	Lead, total (mg/L)	Magnesium, total (mg/L)	Manganese, total (mg/L)	Mercury, total (mg/L)	Nickel, total (mg/L)	Potassium, total (mg/L)	Selenium, total (mg/L)	Silver, total (mg/L)	Sodium, total (mg/L)
LS-API	4/11/2018	LAPI180411M	4.55	0.00196	29.4	0.577	0.0001 U	0.0664	182	0.005 U	0.0004 U	516
LS-API	5/1/2018	LAPI180501M	11.6	0.00281	61.6	1.17	0.0001 U	0.139	370	0.005 U	0.0004 U	1050
LS-API	6/6/2018	LAPI180606M	8.54	0.00532	119	1.49	0.000101	0.264	844	0.005 U	0.0004 U	2450 D
LS-CSW	4/11/2018	LCSW180411I	17.4	0.00703	28	1.21	0.0001 U	0.0525	71.1	0.005 U	0.0004 U	155
LS-CSW	5/2/2018	LCSW180502I	27.5	0.014	127	4.76	0.0001 U	0.176	350	0.005 U	0.0004 U	820
LS-CSW	6/6/2018	LCSW180606I	22.9	0.014	210	1.05	0.000118	0.334	766	0.00544	0.0004 U	1900
LS-LEPS	4/10/2018	LEPS180410M	7.83	0.00431	35.8	0.788	0.0001 U	0.0791	207	0.005 U	0.0004 U	570
LS-LEPS	4/11/2018	LEPS180410P		0.0044				0.0806				
LS-LEPS	4/16/2018	LEPS180416P		0.00281				0.0593				
LS-LEPS	5/1/2018	LEPS180501P		0.00442				0.106				
LS-LEPS	5/14/2018	LEPS180514P		0.00427				0.143				
LS-LEPS	6/6/2018	LEPS180605P	9.21	0.00426	85.5	1.02	0.0001 U	0.186	537	0.005 U	0.0004 U	1510
LS-LEPS	6/6/2018	LEPS180606F	0.01 U	0.0001 U	0.05 U	0.0001 U	0.0001 U	0.0001 U	0.5 U	0.0005 U	4E-05 U	0.1 U
LS-LEPS	6/18/2018	LEPS180618R	7.65	0.00424	89.7	1.29	0.0001 U	0.207	583	0.005 U	0.0004 U	1660
LS-MH46N	4/11/2018	L46N180411M	2.76	0.001 U	58.3	0.528	0.0001 U	0.173	425	0.005 U	0.0004 U	1520
LS-MH46N	5/2/2018	L46N180502M	2.65	0.001 U	54.7	0.467	0.0001 U	0.16	400	0.005 U	0.0004 U	1430
LS-MH46N	6/6/2018	LP2A180606M	11.1	0.00323	23	0.207	0.000128	0.167	373	0.005 U	0.000774	1140
LS-MH5	4/11/2018	LMH5180411I	18	0.00573	96.2	0.928	0.0001 U	0.265	688	0.005 U	0.000873	2240
LS-MH5	5/2/2018	LMH5180502I	68.9	0.0108	109	4.75	0.0001 U	0.313	702	0.005 U	0.0004 U	2240
LS-MH5	6/6/2018	LMH5180606I	123	0.019	115	3.61	0.000197	0.333	791	0.0078	0.000463	2690 D
LS-PS1A	4/11/2018	LP1A180411I	1.14	0.001 U	10.6	0.335	0.0001 U	0.0143	37.6	0.005 U	0.0004 U	126
LS-PS1A	5/2/2018	LP1A180502I	1.1	0.001 U	18.7	0.375	0.0001 U	0.0361	90.1	0.005 U	0.000687	314
LS-PS1A	6/6/2018	LP1A180606I	1.51	0.00338	39.8	0.652	0.0001 U	0.0782	213	0.005 U	0.0004 U	752
LS-PS2A	4/11/2018	LP2A180411D	2.3	0.001 U	3.59	0.11	0.0001 U	0.00857	5 U	0.005 U	0.0004 U	3.83
LS-PS2A	4/11/2018	LP2A180411M	2.34	0.001 U	3.57	0.108	0.0001 U	0.00873	5 U	0.005 U	0.0004 U	3.94
LS-PS2A	5/2/2018	LP2A180502M	0.854	0.001 U	4.67	0.0794	0.0001 U	0.0085	5 U	0.005 U	0.0004 U	9.08
LS-PS2A	6/6/2018	L46N180606M	2.65	0.001 U	53.3	0.49	0.0001 U	0.152	400	0.005 U	0.0004 U	1370
LS-PS4	4/11/2018	LP4-180411I	4.9	0.00197	34.2	1.32	0.0001 U	0.0529	115	0.005 U	0.0004 U	318
LS-PS4	5/2/2018	LP4-180502I	2.76	0.00166	21.8	1.15	0.0001 U	0.0271	63.9	0.005 U	0.000565	182
LS-PS4	6/6/2018	LPS4180606I	3.17	0.00221	35.8	1.46	0.0001 U	0.0552	141	0.005 U	0.0004 U	439
FIELD BLANK	5/2/2018	LEPS180502F		0.001 U				0.001 U				
LS-EMERGENCY	4/6/2018	LA6C180406E	1.65	0.00165	127	4.85	0.0001 U	0.17	392	0.005 U	0.0004 U	1040
LS-EMERGENCY	4/6/2018	LA6C180406E2	18.9	0.0167	106	0.309	0.000817	0.207	1110	0.005 U	0.0004 U	3300

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Contact Person: Sendy Jimenez (206) 477-5224

Site	Date	Sample ID	Thallium, total (mg/L)	Tin, total (mg/L)	Vanadium, total (mg/L)	Zinc, total (mg/L)
LS-API	4/11/2018	LAPI180411M	0.001 U	0.0112	0.0249	0.131
LS-API	5/1/2018	LAPI180501M	0.001 DU	0.0213	0.0432	0.399
LS-API	6/6/2018	LAPI180606M	0.001 U	0.0489	0.0908	0.811
LS-CSW	4/11/2018	LCSW180411I	0.001 U	0.005 U	0.0256	0.46
LS-CSW	5/2/2018	LCSW180502I	0.001 DU	0.00656	0.0289	1.83
LS-CSW	6/6/2018	LCSW180606I	0.001 U	0.0164	0.0841	0.992
LS-LEPS	4/10/2018	LEPS180410M	0.001 U	0.0086	0.0296	0.277
LS-LEPS	4/11/2018	LEPS180410P				0.275
LS-LEPS	4/16/2018	LEPS180416P				0.194
LS-LEPS	5/1/2018	LEPS180501P				0.485
LS-LEPS	5/14/2018	LEPS180514P				0.418
LS-LEPS	6/6/2018	LEPS180605P	0.001 U	0.0233	0.0635	0.498
LS-LEPS	6/6/2018	LEPS180606F	0.0001 U	0.0005 U	7.5E-05 U	0.0005 U
LS-LEPS	6/18/2018	LEPS180618R	0.001 U	0.0228 J	0.0704	0.486 D
LS-MH46N	4/11/2018	L46N180411M	0.001 U	0.005 U	0.182	0.005 U
LS-MH46N	5/2/2018	L46N180502M	0.001 DU	0.005 U	0.172	0.0149
LS-MH46N	6/6/2018	LP2A180606M	0.001 U	0.174	0.023	0.273
LS-MH5	4/11/2018	LMH5180411I	0.001 U	0.0461	0.143	0.276
LS-MH5	5/2/2018	LMH5180502I	0.001 DU	0.0478	0.16	0.957
LS-MH5	6/6/2018	LMH5180606I	0.001 U	0.0713	0.18	0.986
LS-PS1A	4/11/2018	LP1A180411I	0.001 U	0.005 U	0.00886	0.0292
LS-PS1A	5/2/2018	LP1A180502I	0.001 DU	0.005 U	0.024	0.034
LS-PS1A	6/6/2018	LP1A180606I	0.001 U	0.0052	0.0588	0.0274
LS-PS2A	4/11/2018	LP2A180411D	0.001 U	0.005 U	0.00491	0.0194
LS-PS2A	4/11/2018	LP2A180411M	0.001 U	0.005 U	0.00485	0.0207
LS-PS2A	5/2/2018	LP2A180502M	0.001 DU	0.005 U	0.00245	0.0495
LS-PS2A	6/6/2018	L46N180606M	0.001 U	0.005 U	0.175	0.005 U
LS-PS4	4/11/2018	LP4-180411I	0.001 U	0.0078	0.0177	0.0858
LS-PS4	5/2/2018	LP4-180502I	0.001 DU	0.00579	0.00953	0.0828
LS-PS4	6/6/2018	LPS4180606I	0.001 U	0.0134	0.0205	0.0869
FIELD BLANK	5/2/2018	LEPS180502F				0.005 U
LS-EMERGENCY	4/6/2018	LA6C180406E	0.001 U	0.0147	0.0467	0.159
LS-EMERGENCY	4/6/2018	LA6C180406E2	0.001 U	0.184	0.0875	0.365

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Contact Person: Sendy Jimenez (206) 477-5224

Site	Date	Sample ID	1,1,1,2-Tetrachloro-ethane 630-20-6 (ug/L)	1,1,1-Trichloro-ethane 71-55-6 (ug/L)	1,1,2,2-Tetrachloro-ethane 79-34-5 (ug/L)	1,1,2-Trichloro-ethane 79-00-5 (ug/L)	1,1-Dichloro-ethane 75-34-3 (ug/L)	1,1-Dichloro-ethene 75-35-4 (ug/L)	1,1-Dichloro-propene 563-58-6 (ug/L)	1,2,3-Trichloro-propane 96-18-4 (ug/L)	1,2-Dibromo-3-Chloropropane 96-12-8 (ug/L)
LS-API	4/11/2018	LAPI180411M	2.5 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	25 U
LS-API	5/1/2018	LAPI180501M	2.5 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	25 U
LS-API	6/6/2018	LAPI180606M	2.5 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	25 U
LS-LEPS	4/10/2018	LEPS180410M	2.5 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	25 U
LS-LEPS	5/1/2018	LEPS180501M	2.5 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	25 U
LS-LEPS	6/6/2018	LEPS180605M	2.5 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	25 U
LS-MH46N	4/11/2018	L46N180411M	2.5 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	25 U
LS-MH46N	5/2/2018	L46N180502M	2.5 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	25 U
LS-MH46N	6/6/2018	LP2A180606M	2.5 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	25 U
LS-PS2A	4/11/2018	LP2A180411D	2.5 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	25 U
LS-PS2A	4/11/2018	LP2A180411M	2.5 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	25 U
LS-PS2A	5/2/2018	LP2A180502M	2.5 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	25 U
LS-PS2A	6/6/2018	L46N180606M	2.5 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	25 U
LS-EMERGENCY	4/6/2018	LA6C180406E2	25 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	250 U
VOA TRIP BLANK	4/10/2018	VTRP180410X2	0.25 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	2.5 U
VOA TRIP BLANK	5/1/2018	VTRP180501X2	0.25 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	2.5 U
VOA TRIP BLANK	5/1/2018	VTRP180501Y2	0.25 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	2.5 U
VOA TRIP BLANK	6/4/2018	VTRP180606Y	0.25 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	2.5 U
VOA TRIP BLANK	6/6/2018	VTRP180606X2	0.25 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	2.5 U

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Contact Person: Sendy Jimenez (206) 477-5224

Site	Date	Sample ID	1,2-Dibromo-ethane	1,2-Dichloro-benzene	1,2-Dichloro-ethane	1,2-Dichloro-propane	1,3 Dichloro-benzene	1,3-Dichloro-propane	1,4-Dichloro-benzene	2,2-Dichloro-propane	2-Butanone
			106-93-4 (ug/L)	95-50-1 (ug/L)	107-06-2 (ug/L)	78-87-5 (ug/L)	541-73-1 (ug/L)	142-28-9 (ug/L)	106-46-7 (ug/L)	594-20-7 (ug/L)	78-93-3 (ug/L)
LS-API	4/11/2018	LAPI180411M	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1200 D
LS-API	5/1/2018	LAPI180501M	1 U	1 U	1.2 JT	1 U	1 U	1 U	1.3 JT	1 U	3100 D
LS-API	6/6/2018	LAPI180606M	1 U	1 U	1.9 JT	1 U	1 U	1 U	1.2 JT	1 U	5760 D
LS-LEPS	4/10/2018	LEPS180410M	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	9.05
LS-LEPS	5/1/2018	LEPS180501M	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	68.8 B
LS-LEPS	6/6/2018	LEPS180605M	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	6.49
LS-MH46N	4/11/2018	L46N180411M	1 U	2.51	1 U	1 U	1 U	1 U	10.3	1 U	2.5 U
LS-MH46N	5/2/2018	L46N180502M	1 U	2.53	1 U	1 U	1 U	1 U	10	1 U	14.6 B
LS-MH46N	6/6/2018	LP2A180606M	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	2.5 U
LS-PS2A	4/11/2018	LP2A180411D	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	2.5 U
LS-PS2A	4/11/2018	LP2A180411M	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	2.5 U
LS-PS2A	5/2/2018	LP2A180502M	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	16.4 B
LS-PS2A	6/6/2018	L46N180606M	1 U	2.25	1 U	1 U	1 U	1 U	8.93	1 U	2.5 U
LS-EMERGENCY	4/6/2018	LA6C180406E2	10 U	10 U	10 U	10 U	10 U	10 U	14 JT	10 U	19700 D
VOA TRIP BLANK	4/10/2018	VTRP180410X2	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.25 U
VOA TRIP BLANK	5/1/2018	VTRP180501X2	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.25 U
VOA TRIP BLANK	5/1/2018	VTRP180501Y2	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.25 U
VOA TRIP BLANK	6/4/2018	VTRP180606Y	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.25 U
VOA TRIP BLANK	6/6/2018	VTRP180606X2	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.25 U

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Contact Person: Sendy Jimenez (206) 477-5224

Site	Date	Sample ID	2-Hexanone	2-Methyl-1-propanol	3-Chloro-propene	4-Methyl-2-Pentanone	Acetone	Acetonitrile	Acrolein	Acrylonitrile	Benzene
			591-78-6 (ug/L)	78-83-1 (ug/L)	107-05-1 (ug/L)	108-10-1 (ug/L)	67-64-1 (ug/L)	75-05-8 (ug/L)	107-02-8 (ug/L)	107-13-1 (ug/L)	71-43-2 (ug/L)
LS-API	4/11/2018	LAPI180411M	8.1 JT	50 U	1 U	25 U	1300 D	50 U	25 U	0.35 U	1 U
LS-API	5/1/2018	LAPI180501M	10.4	72 JT	1 U	29 JT	3200 D	50 JT	25 U	0.35 U	1 U
LS-API	6/6/2018	LAPI180606M	20.5	50 U	1 U	78	6290 D	50 U	25 U	0.35 U	1 U
LS-LEPS	4/10/2018	LEPS180410M	5 U	50 U	1 U	25 U	100	50 U	25 U	0.35 U	1 U
LS-LEPS	5/1/2018	LEPS180501M	5.8 JT	50 U	1 U	25 U	170	50 U	25 U	0.35 U	1 U
LS-LEPS	6/6/2018	LEPS180605M	5 U	50 U	1 U	25 U	58.9	50 U	25 U	0.35 U	1 U
LS-MH46N	4/11/2018	L46N180411M	5 U	50 U	1 U	25 U	25 U	50 U	25 U	0.35 U	4.01
LS-MH46N	5/2/2018	L46N180502M	5 U	50 U	1 U	25 U	25 U	50 U	25 U	0.35 U	4.15
LS-MH46N	6/6/2018	LP2A180606M	5 U	50 U	1 U	25 U	25 U	50 U	25 U	0.35 U	1 U
LS-PS2A	4/11/2018	LP2A180411D	5 U	50 U	1 U	25 U	25 U	50 U	25 U	0.35 U	1 U
LS-PS2A	4/11/2018	LP2A180411M	5 U	50 U	1 U	25 U	25 U	50 U	25 U	0.35 U	1 U
LS-PS2A	5/2/2018	LP2A180502M	5 U	50 U	1 U	25 U	25 U	50 U	25 U	0.35 U	1 U
LS-PS2A	6/6/2018	L46N180606M	5 U	50 U	1 U	25 U	25 U	50 U	25 U	0.35 U	3.41
LS-EMERGENCY	4/6/2018	LA6C180406E2	102	500 U	10 U	601	31400 D	500 U	250 U	3.5 U	15 JT
VOA TRIP BLANK	4/10/2018	VTRP180410X2	0.5 U	5 U	0.1 U	2.5 U	2.5 U	5 U	2.5 U	0.035 U	0.1 U
VOA TRIP BLANK	5/1/2018	VTRP180501X2	0.5 U	5 U	0.1 U	2.5 U	2.5 U	5 U	2.5 U	0.035 U	0.1 U
VOA TRIP BLANK	5/1/2018	VTRP180501Y2	0.5 U	5 U	0.1 U	2.5 U	2.5 U	5 U	2.5 U	0.035 U	0.1 U
VOA TRIP BLANK	6/4/2018	VTRP180606Y	0.5 U	5 U	0.1 U	2.5 U	2.5 U	5 U	2.5 U	0.035 U	0.1 U
VOA TRIP BLANK	6/6/2018	VTRP180606X2	0.5 U	5 U	0.1 U	2.5 U	2.5 U	5 U	2.5 U	0.035 U	0.1 U

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Site	Date	Sample ID	Bromochloro-methane	Bromodichloro-methane	Bromoform	Bromo-methane	Carbon Disulfide	Carbon Tetrachloride	Chloro-benzene	Chloro-dibromo-methane	Chloroethane
			74-97-5 (ug/L)	75-27-4 (ug/L)	75-25-2 (ug/L)	74-83-9 (ug/L)	75-15-0 (ug/L)	56-23-5 (ug/L)	108-90-7 (ug/L)	124-48-1 (ug/L)	75-00-3 (ug/L)
LS-API	4/11/2018	LAPI180411M	1 U	2.5 U	5 U	1 U	1 U	2.5 U	1 U	5 U	1 U
LS-API	5/1/2018	LAPI180501M	1 U	2.5 U	5 U	1 U	1 U	2.5 U	1 U	5 U	1 U
LS-API	6/6/2018	LAPI180606M	1 U	2.5 U	5 U	1 U	1.4 JT	2.5 U	1 U	5 U	1 U
LS-LEPS	4/10/2018	LEPS180410M	1 U	2.5 U	5 U	1 U	1 U	2.5 U	1 U	5 U	1 U
LS-LEPS	5/1/2018	LEPS180501M	1 U	2.5 U	5 U	1 U	1 U	2.5 U	1 U	5 U	1 U
LS-LEPS	6/6/2018	LEPS180605M	1 U	2.5 U	5 U	1 U	1 U	2.5 U	1 U	5 U	1 U
LS-MH46N	4/11/2018	L46N180411M	1 U	2.5 U	5 U	1 U	1 U	2.5 U	2.32	5 U	1 U
LS-MH46N	5/2/2018	L46N180502M	1 U	2.5 U	5 U	1 U	1 U	2.5 U	2.38	5 U	1 U
LS-MH46N	6/6/2018	LP2A180606M	1 U	2.5 U	5 U	1 U	1 U	2.5 U	1 U	5 U	1 U
LS-PS2A	4/11/2018	LP2A180411D	1 U	2.5 U	5 U	1 U	1 U	2.5 U	1 U	5 U	1 U
LS-PS2A	4/11/2018	LP2A180411M	1 U	2.5 U	5 U	1 U	1 U	2.5 U	1 U	5 U	1 U
LS-PS2A	5/2/2018	LP2A180502M	1 U	2.5 U	5 U	1 U	1 U	2.5 U	1 U	5 U	1 U
LS-PS2A	6/6/2018	L46N180606M	1 U	2.5 U	5 U	1 U	1 U	2.5 U	2.12	5 U	1 U
LS-EMERGENCY	4/6/2018	LA6C180406E2	10 U	25 U	50 U	10 U	10 U	25 U	10 U	50 U	10 U
VOA TRIP BLANK	4/10/2018	VTRP180410X2	0.1 U	0.25 U	0.5 U	0.1 U	0.1 U	0.25 U	0.1 U	0.5 U	0.1 U
VOA TRIP BLANK	5/1/2018	VTRP180501X2	0.1 U	0.25 U	0.5 U	0.1 U	0.1 U	0.25 U	0.1 U	0.5 U	0.1 U
VOA TRIP BLANK	5/1/2018	VTRP180501Y2	0.1 U	0.25 U	0.5 U	0.1 U	0.1 U	0.25 U	0.1 U	0.5 U	0.1 U
VOA TRIP BLANK	6/4/2018	VTRP180606Y	0.1 U	0.25 U	0.5 U	0.1 U	0.1 U	0.25 U	0.1 U	0.5 U	0.1 U
VOA TRIP BLANK	6/6/2018	VTRP180606X2	0.1 U	0.25 U	0.5 U	0.1 U	0.1 U	0.25 U	0.1 U	0.5 U	0.1 U

Data Collected from April 1, 2018 to June 30, 2018
Cedar Hills Landfill ---Leachate VOAs Analytical Data
Contact Person: Sendy Jimenez (206) 477-5224

Site	Date	Sample ID	Chloroform	Chloro-methane	Chloroprene	cis-1,2-Dichloro-ethene	cis-1,3-Dichloro-propene	Dibromo-methane	Dichloro-difluoro-methane	Ethylbenzene	m & p Xylenes
			67-66-3 (ug/L)	74-87-3 (ug/L)	126-99-8 (ug/L)	156-59-2 (ug/L)	10061-01-5 (ug/L)	74-95-3 (ug/L)	75-71-8 (ug/L)	100-41-4 (ug/L)	mpx (ug/L)
LS-API	4/11/2018	LAPI180411M	1 U	2.5 U	1 U	1 U	2.5 U	1 U	1 U	1 U	2.04
LS-API	5/1/2018	LAPI180501M	1 U	2.5 U	1 U	1 U	2.5 U	1 U	1 U	1.9 JT	4.73
LS-API	6/6/2018	LAPI180606M	1 U	2.5 U	1 U	1.1 JT	2.5 U	1 U	1 U	1.6 JT	4.32
LS-LEPS	4/10/2018	LEPS180410M	1 U	2.5 U	1 U	1 U	2.5 U	1 U	1 U	1 U	1 U
LS-LEPS	5/1/2018	LEPS180501M	1 U	2.5 U	1 U	1 U	2.5 U	1 U	1 U	1 U	1 U
LS-LEPS	6/6/2018	LEPS180605M	1 U	2.5 U	1 U	1 U	2.5 U	1 U	1 U	1 U	1 U
LS-MH46N	4/11/2018	L46N180411M	1 U	2.5 U	1 U	2.49	2.5 U	1 U	1 U	44.9	57.2
LS-MH46N	5/2/2018	L46N180502M	1 U	2.5 U	1 U	2.47	2.5 U	1 U	1 U	43	55.5
LS-MH46N	6/6/2018	LP2A180606M	1 U	2.5 U	1 U	1 U	2.5 U	1 U	1 U	1 U	1 U
LS-PS2A	4/11/2018	LP2A180411D	1 U	2.5 U	1 U	1 U	2.5 U	1 U	1 U	1 U	1 U
LS-PS2A	4/11/2018	LP2A180411M	1 U	2.5 U	1 U	1 U	2.5 U	1 U	1 U	1 U	1 U
LS-PS2A	5/2/2018	LP2A180502M	1 U	2.5 U	1 U	1 U	2.5 U	1 U	1 U	1 U	1 U
LS-PS2A	6/6/2018	L46N180606M	1 U	2.5 U	1 U	1.7 JT	2.5 U	1 U	1 U	37.9	51.8
LS-EMERGENCY	4/6/2018	LA6C180406E2	10 U	25 U	10 U	10 U	25 U	10 U	10 U	48.7	102
VOA TRIP BLANK	4/10/2018	VTRP180410X2	0.1 U	0.25 U	0.1 U	0.1 U	0.25 U	0.1 U	0.1 U	0.1 U	0.1 U
VOA TRIP BLANK	5/1/2018	VTRP180501X2	0.1 U	0.25 U	0.1 U	0.1 U	0.25 U	0.1 U	0.1 U	0.1 U	0.1 U
VOA TRIP BLANK	5/1/2018	VTRP180501Y2	0.1 U	0.25 U	0.1 U	0.1 U	0.25 U	0.1 U	0.1 U	0.1 U	0.1 U
VOA TRIP BLANK	6/4/2018	VTRP180606Y	0.1 U	0.25 U	0.1 U	0.1 U	0.25 U	0.1 U	0.1 U	0.1 U	0.1 U
VOA TRIP BLANK	6/6/2018	VTRP180606X2	0.1 U	0.25 U	0.1 U	0.1 U	0.25 U	0.1 U	0.1 U	0.1 U	0.1 U

Data Collected from April 1, 2018 to June 30, 2018
Cedar Hills Landfill ---Leachate VOAs Analytical Data
Contact Person: Sendy Jimenez (206) 477-5224

Site	Date	Sample ID	Methyl Iodide	Methyl Methacrylate	Methylacrylo-nitrile	Methylene Chloride	o-Xylene	Proprionitrile	Styrene	Tetrachloro-ethene	Toluene
			74-88-4 (ug/L)	80-62-6 (ug/L)	126-98-7 (ug/L)	75-09-2 (ug/L)	95-47-6 (ug/L)	107-12-0 (ug/L)	100-42-5 (ug/L)	127-18-4 (ug/L)	108-88-3 (ug/L)
LS-API	4/11/2018	LAPI180411M	1 U	2.5 U	1 U	25 U	1.1 JT	5 U	1 U	1 U	2.79
LS-API	5/1/2018	LAPI180501M	1 U	2.5 U	1 U	25 U	2.55	5 U	1 U	1 U	6.84
LS-API	6/6/2018	LAPI180606M	1 U	2.5 U	1 U	25 U	2.64	5 U	1 U	1 U	6.98
LS-LEPS	4/10/2018	LEPS180410M	1 U	2.5 U	1 U	25 U	1 U	5 U	1 U	1 U	1 U
LS-LEPS	5/1/2018	LEPS180501M	1 U	2.5 U	1 U	25 U	1 U	5 U	1 U	1 U	1.7 JT
LS-LEPS	6/6/2018	LEPS180605M	1 U	2.5 U	1 U	25 U	1 U	5 U	1 U	1 U	1 U
LS-MH46N	4/11/2018	L46N180411M	1 U	2.5 U	1 U	25 U	4.69	5 U	1.2 JT	1 U	6.11
LS-MH46N	5/2/2018	L46N180502M	1 U	2.5 U	1 U	25 U	5.31	5 U	1.2 JT	1 U	6.51
LS-MH46N	6/6/2018	LP2A180606M	1 U	2.5 U	1 U	25 U	1 U	5 U	1 U	1 U	1 U
LS-PS2A	4/11/2018	LP2A180411D	1 U	2.5 U	1 U	25 U	1 U	5 U	1 U	1 U	1 U
LS-PS2A	4/11/2018	LP2A180411M	1 U	2.5 U	1 U	25 U	1 U	5 U	1 U	1 U	1 U
LS-PS2A	5/2/2018	LP2A180502M	1 U	2.5 U	1 U	25 U	1 U	5 U	1 U	1 U	1 U
LS-PS2A	6/6/2018	L46N180606M	1 U	2.5 U	1 U	25 U	4.2	5 U	1.2 JT	1 U	5.2
LS-EMERGENCY	4/6/2018	LA6C180406E2	10 U	25 U	10 U	250 U	49	50 U	10 U	10 U	177
VOA TRIP BLANK	4/10/2018	VTRP180410X2	0.1 U	0.25 U	0.1 U	2.5 U	0.1 U	0.5 U	0.1 U	0.1 U	0.1 U
VOA TRIP BLANK	5/1/2018	VTRP180501X2	0.1 U	0.25 U	0.1 U	2.5 U	0.1 U	0.5 U	0.1 U	0.1 U	0.1 U
VOA TRIP BLANK	5/1/2018	VTRP180501Y2	0.1 U	0.25 U	0.1 U	2.5 U	0.1 U	0.5 U	0.1 U	0.1 U	0.1 U
VOA TRIP BLANK	6/4/2018	VTRP180606Y	0.1 U	0.25 U	0.1 U	2.5 U	0.1 U	0.5 U	0.1 U	0.1 U	0.1 U
VOA TRIP BLANK	6/6/2018	VTRP180606X2	0.1 U	0.25 U	0.1 U	2.5 U	0.1 U	0.5 U	0.1 U	0.1 U	0.1 U

Data Collected from April 1, 2018 to June 30, 2018
Cedar Hills Landfill ---Leachate VOAs Analytical Data
Contact Person: Sendy Jimenez (206) 477-5224

Site	Date	Sample ID	trans-1,2-Dichloro-ethene	trans-1,3-Dichloro-propene	trans-1,4-Dichloro-2-butene	Trichloro-ethene	Trichloro-fluoro-methane	Vinyl Acetate	Vinyl Chloride
			156-60-5 (ug/L)	10061-02-6 (ug/L)	110-57-6 (ug/L)	79-01-6 (ug/L)	75-69-4 (ug/L)	108-05-4 (ug/L)	75-01-4 (ug/L)
LS-API	4/11/2018	LAPI180411M	1 U	5 U	5 U	1 U	1 U	1 U	0.1 U
LS-API	5/1/2018	LAPI180501M	1 U	5 U	5 U	1 U	1 U	1 U	0.1 U
LS-API	6/6/2018	LAPI180606M	1 U	5 U	5 U	1 U	1 U	1 U	0.1 U
LS-LEPS	4/10/2018	LEPS180410M	1 U	5 U	5 U	1 U	1 U	1 U	0.1 U
LS-LEPS	5/1/2018	LEPS180501M	1 U	5 U	5 U	1 U	1 U	1 U	0.1 U
LS-LEPS	6/6/2018	LEPS180605M	1 U	5 U	5 U	1 U	1 U	1 U	0.1 U
LS-MH46N	4/11/2018	L46N180411M	1 U	5 U	5 U	1 U	1 U	1 U	4.12
LS-MH46N	5/2/2018	L46N180502M	1 U	5 U	5 U	1 U	1 U	1 U	4.43
LS-MH46N	6/6/2018	LP2A180606M	1 U	5 U	5 U	1 U	1 U	1 U	0.1 U
LS-PS2A	4/11/2018	LP2A180411D	1 U	5 U	5 U	1 U	1 U	1 U	0.1 U
LS-PS2A	4/11/2018	LP2A180411M	1 U	5 U	5 U	1 U	1 U	1 U	0.1 U
LS-PS2A	5/2/2018	LP2A180502M	1 U	5 U	5 U	1 U	1 U	1 U	0.1 U
LS-PS2A	6/6/2018	L46N180606M	1 U	5 U	5 U	1 U	1 U	1 U	4.09
LS-EMERGENCY	4/6/2018	LA6C180406E2	10 U	50 U	50 U	10 U	10 U	10 U	1 U
VOA TRIP BLANK	4/10/2018	VTRP180410X2	0.1 U	0.5 U	0.5 U	0.1 U	0.1 U	0.1 U	0.01 U
VOA TRIP BLANK	5/1/2018	VTRP180501X2	0.1 U	0.5 U	0.5 U	0.1 U	0.1 U	0.1 U	0.01 U
VOA TRIP BLANK	5/1/2018	VTRP180501Y2	0.1 U	0.5 U	0.5 U	0.1 U	0.1 U	0.1 U	0.01 U
VOA TRIP BLANK	6/4/2018	VTRP180606Y	0.1 U	0.5 U	0.5 U	0.1 U	0.1 U	0.1 U	0.01 U
VOA TRIP BLANK	6/6/2018	VTRP180606X2	0.1 U	0.5 U	0.5 U	0.1 U	0.1 U	0.1 U	0.01 U

Environmental Monitoring Data

Data Collected from April 1, 2018 to June 30, 2018
Cedar Hills Landfill ---Leachate PCB Analytical Data
Contact Person: Sendy Jimenez (206) 477-5224

Site	Date	Sample ID	2,4,5-T	2,4,5-TP SILVEX	2,4-D	4,4'DDD	4,4'DDE	4,4'DDT	ALDRIN
			93-76-5	93-72-1	94-75-7	72-54-8	72-55-9	50-29-3	309-00-2
			ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l
LS-API	4/11/2018	LAPI180411M	0.5 U	0.5 U	1 U	0.025 U	0.025 GU	0.025 U	0.025 GU
LS-API	5/1/2018	LAPI180501M	0.5 U	4 U	2.23 J	0.025 U	0.0961 GJ	0.025 U	0.2 U
LS-API	6/6/2018	LAPI180606M	0.5 U	1.5 U	2.5 U	0.125 U	0.125 GU	0.125 GU	0.375 GU
LS-LEPS	4/10/2018	LEPS180410M	0.5 U	0.5 U	1 U	0.025 U	0.025 GU	0.025 U	0.025 GU
LS-LEPS	5/1/2018	LEPS180501M	0.5 U	0.5 U	2.59	0.025 U	0.025 GU	0.025 U	0.025 U
LS-LEPS	6/6/2018	LEPS180605M	0.5 U	1 U	1.5 U	0.025 U	0.025 U	0.025 U	0.025 U
LS-MH46N	4/11/2018	L46N180411M	0.5 U	1.36	6.93	0.01 U	0.01 U	0.01 U	0.01 GU
LS-MH46N	5/2/2018	L46N180502M	0.5 U	1.32	5.03	0.01 U	0.0134 J	0.02 U	0.01 U
LS-MH46N	6/6/2018	LP2A180606M	0.5 U	4.38	1.18	0.01 U	0.0117 J	0.01 U	0.01 U
LS-PS2A	4/11/2018	LP2A180411D	0.5 U	0.5 U	1 U	0.01 U	0.01 U	0.01 U	0.01 GU
LS-PS2A	4/11/2018	LP2A180411M	0.5 U	0.5 U	1 U	0.01 U	0.01 U	0.01 U	0.01 GU
LS-PS2A	5/2/2018	LP2A180502M	0.5 U	0.5 U	1 U	0.01 U	0.01 U	0.01 U	0.01 U
LS-PS2A	6/6/2018	L46N180606M	0.5 U	1.5 U	2.51 J	0.05 U	0.05 U	0.05 U	0.05 U
LS-EMERGENC	4/6/2018	LA6C180406E2	0.697	3.15	2 U	0.025 GU	0.025 GU	0.025 GU	0.025 GU

Data Collected from April 1, 2018 to June 30, 2018
Cedar Hills Landfill ---Leachate PCB Analytical Data
Contact Person: Sendy Jimenez (206) 477-5224

ALPHA BHC	ALPHA CHLORDANE	AROCLOR 1016	AROCLOR 1221	AROCLOR 1232	AROCLOR 1242	AROCLOR 1248	AROCLOR 1254	AROCLOR 1260	BETA BHC
BHC	Chlordane	1016	1221	1232	1242	1248	1254	1260	BHC
319-84-6	5103-71-9	12674-11-2	11104-28-2	11141-16-5	53469-21-9	12672-29-6	11097-69-1	11096-82-5	319-85-7
ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l
0.025 U	0.025 GU	0.025 U	0.15 U	0.025 U	0.0644	0.025 U	0.0355	0.025 U	0.025 U
0.025 U	0.025 U	0.025 U	0.2 U	0.025 U	0.075	0.025 U	0.0392	0.025 U	0.025 U
0.125 U	0.125 GU	0.025 U	1.2 U	0.5 U	0.178	0.025 U	0.069	0.025 U	0.188 U
0.025 U	0.025 GU	0.025 U	0.025 U	0.025 U	0.025 U	0.025 U	0.025 U	0.025 U	0.025 U
0.025 U	0.025 U	0.025 U	0.1 U	0.025 U	0.0378	0.025 U	0.025 U	0.025 U	0.0318
0.025 U	0.025 U	0.025 U	0.025 U	0.025 U	0.0717	0.025 U	0.0323 J	0.025 U	0.121
0.01 U	0.0189 J	0.025 U	0.0945	0.025 U	0.196	0.025 U	0.025 U	0.025 U	0.0609 J
0.01 U	0.01 U	0.025 U	0.0652 J	0.025 U	0.236	0.025 U	0.025 U	0.025 U	0.08 U
0.01 U	0.01 U	0.025 U	0.025 U	0.025 U	0.172	0.025 U	0.143	0.117	0.0209 J
0.01 U	0.01 U	0.025 U	0.025 U	0.025 U	0.025 U	0.025 U	0.025 U	0.025 U	0.01 U
0.01 U	0.01 U	0.025 U	0.025 U	0.025 U	0.025 U	0.025 U	0.025 U	0.025 U	0.01 U
0.01 U	0.01 U	0.025 U	0.025 U	0.025 U	0.025 U	0.025 U	0.025 U	0.025 U	0.01 U
0.05 U	0.05 U	0.025 U	0.0546 J	0.025 U	0.202	0.025 U	0.025 U	0.025 U	0.05 U
0.025 U	0.025 GU	0.025 U	0.15 U	0.025 U	0.109	0.025 U	0.025 U	0.025 U	0.25 GU

Data Collected from April 1, 2018 to June 30, 2018
Cedar Hills Landfill ---Leachate PCB Analytical Data
Contact Person: Sendy Jimenez (206) 477-5224

DELTA BHC	DIELDRIN	DINOSEB	ENDOSULFAN I	ENDOSULFAN II	ENDOSULFAN SULFATE	ENDRIN	ENDRIN ALDEHYDE	HEPTACHLOR	HEPTACHLOR EPOXIDE
BHC			sulfan I	sulfan II	Sulfate		Aldehyde		Epoxide
319-86-8	60-57-1	88-85-7	959-98-8	33213-65-9	1031-07-8	72-20-8	7421-93-4	76-44-8	1024-57-3
ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l
0.025 U	0.025 U	0.5 U	0.025 U	0.025 U	0.025 U	0.025 U	0.025 GU	0.025 U	0.025 U
0.025 U	0.025 U	1 U	0.025 U	0.1 U	0.025 U	0.025 U	0.025 GU	0.125 U	0.025 U
0.188 U	0.125 U	1.5 U	0.125 U	0.125 U	0.125 U	0.125 U	0.125 GU	0.125 U	0.125 U
0.025 U	0.025 U	0.5 U	0.025 U	0.025 U	0.025 U	0.025 U	0.025 GU	0.025 U	0.025 U
0.025 U	0.025 U	1 U	0.025 U	0.025 U	0.025 U	0.025 U	0.025 GU	0.025 U	0.025 U
0.025 U	0.025 U	2.5 U	0.025 U	0.025 U	0.025 U	0.025 U	0.025 U	0.025 U	0.025 U
0.06 U	0.03 U	0.5 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U
0.04 U	0.0256 J	0.5 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.02 U	0.01 U
0.02 U	0.01 U	0.5 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U
0.01 U	0.01 U	0.5 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U
0.01 U	0.01 U	0.5 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U
0.01 U	0.01 U	0.5 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U
0.05 U	0.05 U	0.5 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U
0.025 GU	0.025 GU	2.5 GU	0.025 U	0.025 U	0.025 GU	0.025 U	0.025 GU	0.15 U	0.025 U

Data Collected from April 1, 2018 to June 30, 2018
Cedar Hills Landfill ---Leachate PCB Analytical Data
Contact Person: Sendy Jimenez (206) 477-5224

ISODRIN	LINDANE(GAMMA BHC)	METHOXYCHLOR chlor	Total Aroclors	TOXAPHENE	trans-Chlordane
465-73-6	58-89-9	72-43-5	T_AROCLOR	8001-35-2	5103-74-2
ug/l	ug/l	ug/l	ug/l	ug/l	ug/l
0.025 GU	0.025 U	0.125 U	0.0999	2.5 U	0.025 GU
0.0464 J	0.025 U	0.125 U	0.1142	2.5 U	0.025 GU
0.125 U	0.125 U	0.625 U	0.247	12.5 U	0.125 GU
0.025 GU	0.025 U	0.125 U	0.025 U	2.5 U	0.025 GU
0.025 U	0.025 U	0.125 U	0.0378	2.5 U	0.025 GU
0.025 U	0.025 U	0.125 U	0.104	2.5 U	0.025 U
0.01 U	0.0501 J	0.05 U	0.2905	1 U	0.01 U
0.01 U	0.06 U	0.05 U	0.3012	1 U	0.01 U
0.01 U	0.03 U	0.05 U	0.432	1 U	0.01 U
0.01 U	0.01 U	0.05 U	0.025 U	1 U	0.01 U
0.01 U	0.01 U	0.05 U	0.025 U	1 U	0.01 U
0.01 U	0.01 U	0.05 U	0.025 U	1 U	0.01 U
0.05 U	0.05 U	0.25 U	0.2566	5 U	0.05 U
0.025 U	0.025 U	0.125 U	0.109	2.5 U	0.025 GU

Site	Date	Sample ID	pH (Field) (std. Units)	Conductance (Field) (umho/cm)	Temperature (o C)
LS-API	7/10/2018	LAPI180710M	8.29	19000	28.3
LS-API	8/22/2018	LAPI180822M	8.23	11500	25.9
LS-API	9/11/2018	LAPI180912M	8.45	21000	24
LS-CSW	7/11/2018	LCSW180711I	7.54	5300	14
LS-CSW	9/12/2018	LCSW180912I	8.42	5700	15.7
LS-LEPS	7/10/2018	LEPS180710D	8.83	2400	18.6
LS-LEPS	7/10/2018	LEPS180710P	8.83	2400	18.6
LS-LEPS	7/10/2018	LEPS180710M	8.83	2400	18.6
LS-LEPS	7/11/2018	LEPS180710M	8.83	2400	18.6
LS-LEPS	8/20/2018	LEPS180820M	8.73	10800	19.2
LS-LEPS	8/20/2018	LEPS180820P	8.73	10800	19.2
LS-LEPS	9/11/2018	LEPS180911M	8.84	11000	16.9
LS-LEPS	9/11/2018	LEPS180911P	8.84	11000	16.9
LS-MH46N	7/11/2018	L46N180711M	7.39	8900	27.6
LS-MH46N	8/20/2018	L46N180820M	7.57	8100	17.5
LS-MH46N	9/12/2018	L46N180912M	7.43	9850	25.8
LS-MH5	8/23/2018	LMH5180823I	8.03	11600	29.1
LS-PS1A	7/11/2018	LP1A180711I	8.11	8100	21.2
LS-PS1A	7/11/2018	LPS4180711I	8.08	3250	18.3
LS-PS1A	8/20/2018	LP1A180820I	8.25	8700	20.1
LS-PS1A	9/12/2018	LP1A180912I	8.17	10400	20.6
LS-PS2	9/12/2018	LP2A180912D	7.44	1050	15
LS-PS2	9/12/2018	LP2A180912M	7.44	1050	15
LS-PS2A	7/11/2018	LP2A180711M	7.62	1450	14.9
LS-PS2A	8/20/2018	LP2A180820M	8.04	4500	18.1
LS-PS4	8/20/2018	LP4-180820I	8.21	2900	21.1
LS-PS4	9/12/2018	LP4-180912I	7.99	3500	20.5
FIELD BLANK	7/12/2018	W66-180712F	6.31	3.3	17.5

Site	Date	Sample ID	Alkalinity, Total (CaCO3) (mg/L)	Ammonia, (NH3 as N) (mg/L)	Biological Oxygen Demand (mg/L)	Chemical Oxygen Demand (mg/L)	Chloride (mg/L)	Coliforms, Fecal (CFU/100mL)	Coliforms, Total (CFU/100mL)	Cyanide (mg/L)	Fluoride (mg/L)	Nitrate+Nitrite (NO3+NO2 as N) (mg/L)
LS-API	7/10/2018	LAPI180710M	10800	2260	9450	15600 S	2500	12000 H	170000 H	0.02 ST	10 U	0.2 U
LS-API	8/22/2018	LAPI180822M	12000	2200	3550	8320 S	2550	2300 H	50000 H	0.018 ST	20 U	0.2 U
LS-API	9/11/2018	LAPI180912M	9670	2000 H	2740	7520 S	2380	48000 H	1000000 H	0.026 ST	2 U	0.5 HU
LS-LEPS	7/10/2018	LEPS180710M	6520	1290	134	2880 S	1990	27000 H	90000 H	0.018 ST	1 U	0.25 U
LS-LEPS	8/20/2018	LEPS180820M	6750	1050	92.2	2720 S	2060	2300 H	38000 H	0.016 ST	1 U	0.2 U
LS-LEPS	9/11/2018	LEPS180911M	6750	1210 H	158	2830 S	2200	3000 H	69000 H	0.016 ST	1 U	0.5 HU
LS-MH46N	7/11/2018	L46N180711M	3570	773	97.9	2130 S	2130	1 U	1 U	0.016 ST	10 U	0.1 U
LS-MH46N	8/20/2018	L46N180820M	3880	685	94.8	2260	2230	1 U	80	0.017 ST	4 U	0.2 U
LS-MH46N	9/11/2018	L46N180912M	3850	738	90.8	2280 S	2270	29	4000	0.015 ST	4 U	0.2 U
LS-PS2	9/12/2018	LP2A180912M	141	33.7	27.7	124	101	10	22000	0.008 U	0.1	19.3
LS-PS2A	7/11/2018	LP2A180711M	1	69.5	17.1	121	106	1 U	300	0.008 U	0.082 T	5.1
LS-PS2A	8/20/2018	LP2A180820M	1130	391	20.7	588	478	6	300000	0.011 ST	0.26 T	75.6

Site	Date	Sample ID	Phosphorus, Sol. Reactive (mg/L)	Specific Conductance (umho/cm)	Sulfate (SO4) (mg/L)	Sulfide Total (mg/L)	Total Fats, Oils and Grease (mg/L)	Total Kjeldahl Nitrogen (mg/L)	Total Organic Carbon (mg/L)	Total Suspended Solids (mg/L)	Total Volatile Solids (mg/L)	Volatile Suspended Solids (mg/L)
LS-API	7/10/2018	LAPI180710M	3.15	25000	103	1.6	8.5 B	2490 S	5500 S	620	8520	266
LS-API	8/22/2018	LAPI180822M	6.04	25200	34.1	15.1	9.8 B	2230 S	2960 S	160	6300	101
LS-API	9/11/2018	LAPI180912M	6.91 H	21900	28.2	0.37 T	3 BT	2020 S	2390 S	39.9	5010	31
LS-LEPS	7/10/2018	LEPS180710M	2.07	15700	77.9	0.19 T	3.9 BT	1410 S	611 S	588	2560	520
LS-LEPS	8/20/2018	LEPS180820M	2.41	16000	67	0.26 T	7.5 B	1300 S	678 S	798	2860	507
LS-LEPS	9/11/2018	LEPS180911M	2.32 H	16200	71.5	0.19 T	5.9 B	1230 S	620 S	977	2770	822
LS-MH46N	7/11/2018	L46N180711M	2.69	12600	103	0.646	8 B	758 S	728 S	0.53 U	2020	0.53 U
LS-MH46N	8/20/2018	L46N180820M	2.53	13100	2.1 T	1.36	8.8 B	817	643	0.51 U	2000	0.51 U
LS-MH46N	9/11/2018	L46N180912M	2.94	13100	1 U	0.943	7.1 B	830 S	1130 S	0.89 T	1890	0.66 T
LS-PS2	9/12/2018	LP2A180912M	0.12	941	43.4	0.1 U	2.6 BT	31.8	49 T	4.25	204	3.45
LS-PS2A	7/11/2018	LP2A180711M	0.0209	1370	368	0.03 T	3.2 BT	73.1	33	24.4	226	17.1
LS-PS2A	8/20/2018	LP2A180820M	0.49	5570	515	0.099 T	5.6 BG	419	164	3.88	727	3.38

Site	Date	Sample ID	Aluminum, total (mg/L)	Antimony, total (mg/L)	Arsenic, total (mg/L)	Barium, total (mg/L)	Beryllium, total (mg/L)	Cadmium, total (mg/L)	Calcium, total (mg/L)	Chromium, total (mg/L)	Cobalt, total (mg/L)	Copper, total (mg/L)
LS-API	7/10/2018	LAPI180710M	0.834	0.026	0.216	0.232	0.001 U	0.00115	552	0.193	0.0654	0.0186
LS-API	8/22/2018	LAPI180822M	0.0735	0.00224	0.103	0.647	0.0005 U	0.00025 U	99.7	0.134	0.0398	0.001 U
LS-API	9/11/2018	LAPI180912M	1.35	0.0262	0.402	0.337	0.001 U	0.0005 U	64.5	0.297	0.0627	0.00829 D
LS-CSW	7/11/2018	LCSW180711I	10.8	0.0061	0.0483	0.232	0.001 U	0.0005 U	118 D	0.0833	0.0397	0.0484
LS-CSW	9/12/2018	LCSW180912I	3.34	0.0117	0.136	0.171	0.001 U	0.000628	98.1	0.108	0.0442	0.0237 D
LS-LEPS	7/10/2018	LEPS180710P	1.3	0.0246	0.303	0.156	0.001 U	0.0005 U	75.6 D	0.231	0.051	0.00986
LS-LEPS	8/20/2018	LEPS180820P	1.98	0.0248	0.344	0.269 J	0.0005 U	0.000367	77	0.252	0.0543	0.0134
LS-LEPS	9/11/2018	LEPS180911P	1.81	0.0323	0.36	0.276	0.001 U	0.0005 U	78.6	0.263	0.0574	0.0157
LS-MH46N	7/11/2018	L46N180711M	0.0478	0.003 U	0.0998	0.548	0.001 U	0.0005 U	96	0.123	0.0383	0.002 U
LS-MH46N	8/20/2018	L46N180820M	0.172	0.0573	0.322	0.266	0.0005 U	0.00025 U	47.7	0.0756	0.0345	0.0116
LS-MH46N	9/11/2018	L46N180912M	0.05 U	0.003 U	0.106	0.48	0.001 U	0.0005 U	100	0.14	0.0426	0.002 DU
LS-MH5	8/23/2018	LMH5180823I	7.83	0.0215	0.395	0.756	0.001 U	0.0005 U	140	0.357	0.0932	0.0208
LS-PS1A	7/11/2018	LP1A180711I	0.103	0.0421	0.242	0.305	0.001 U	0.0005 U	74.7 D	0.0632	0.0284	0.002 U
LS-PS1A	8/20/2018	LP1A180820I	1.22	0.0172	0.0787	0.107	0.0005 U	0.000338	45.7	0.0357	0.00908	0.0199
LS-PS1A	9/12/2018	LP1A180912I	0.172	0.0693	0.349	0.349	0.001 U	0.0005 U	67.4	0.0774	0.0396	0.00951 D
LS-PS2	9/12/2018	LP2A180912M	0.0716	0.00403	0.00716	0.0124	0.001 U	0.0005 U	15	0.00474	0.00609	0.0306 D
LS-PS2A	7/11/2018	LP2A180711M	0.261	0.00691	0.0199	0.0288	0.001 U	0.0005 U	19.1	0.00383	0.00356	0.0211
LS-PS2A	8/20/2018	LP2A180820M	0.109	0.0645	0.0813	0.0546	0.0005 U	0.000435	27.1	0.0138	0.0226	0.0424
LS-PS4	7/11/2018	LP4-180711I	2.22	0.0203	0.201	0.117	0.001 U	0.000556	57.5 D	0.133	0.0179	0.0173
LS-PS4	8/20/2018	LP4-180820I	1.3	0.018	0.0919	0.108	0.001 U	0.0005 U	51.2	0.0395	0.0108	0.0232
LS-PS4	9/12/2018	LP4-180912I	4.79	0.0408	0.191	0.118	0.001 U	0.0005 U	53.8	0.0416	0.0125	0.0246 D
FIELD BLANK	7/12/2018	W66-180712F		0.0003 U	5E-05 U	0.0005 U	0.0001 U	5E-05 U	0.05 U	0.0002 U	5E-05 U	0.0002 U

Site	Date	Sample ID	Iron, total (mg/L)	Lead, total (mg/L)	Magnesium, total (mg/L)	Manganese, total (mg/L)	Mercury, total (mg/L)	Nickel, total (mg/L)	Potassium, total (mg/L)	Selenium, total (mg/L)	Silver, total (mg/L)	Sodium, total (mg/L)
LS-API	7/10/2018	LAPI180710M	41.3	0.0118	251	2.87 D	0.000121	0.389	1040 D	0.00852	0.0004 U	2390
LS-API	8/22/2018	LAPI180822M	2.75	0.0005 U	60.5	0.496	0.000138	0.163	444	0.0025 U	0.0002 U	1540
LS-API	9/11/2018	LAPI180912M	5.76	0.00382	103	0.651	0.0001 U	0.264	831	0.005 U	0.0004 U	2320 D
LS-CSW	7/11/2018	LCSW180711I	24.5	0.0146	71.3	0.879	0.000127	0.224	276	0.005 DGU	0.0004 U	972
LS-CSW	9/12/2018	LCSW180912I	19.8	0.00471	50.3	1.36	0.000101	0.14	253	0.005 U	0.0004 U	714
LS-LEPS	7/10/2018	LEPS180710P	8.1	0.00441	91.3	1.08	0.0001 U	0.226	645	0.005 DU	0.0004 U	1780
LS-LEPS	8/20/2018	LEPS180820P	8.39	0.00578	101	2.16	0.000176	0.223	711	0.00327	0.0002 U	1980
LS-LEPS	9/11/2018	LEPS180911P	8.72	0.00518	98.5	1.5	0.0001 U	0.229	698	0.005 U	0.0004 U	1970
LS-MH46N	7/11/2018	L46N180711M	2.57	0.001 U	58	0.498	0.0001 U	0.16	417	0.005 U	0.0004 U	1470
LS-MH46N	8/20/2018	L46N180820M	3.85	0.000666	61.7	0.274	0.0001 U	0.121	359	0.0025 U	0.0002 U	1270
LS-MH46N	9/11/2018	L46N180912M	2.61	0.001 U	58.3	0.481	0.0001 U	0.185	449	0.005 U	0.0004 U	1580
LS-MH5	8/23/2018	LMH5180823I	33.2	0.00982	166	1.54	0.0001 U	0.373	832 D	0.00697	0.0004 U	2710 D
LS-PS1A	7/11/2018	LP1A180711I	1.17	0.001 U	50.2	0.489	0.0001 U	0.108	291	0.005 DU	0.0004 U	1020
LS-PS1A	8/20/2018	LP1A180820I	3.6	0.00362	24.9	0.987	0.0001 U	0.0333	94.4	0.0025 U	0.0002 U	283
LS-PS1A	9/12/2018	LP1A180912I	1.97	0.001 U	66.2	0.409	0.000145	0.122	411	0.005 U	0.0004 U	1500
LS-PS2	9/12/2018	LP2A180912M	0.687	0.001 U	7.23	0.396	0.0001 U	0.029	36.1	0.005 U	0.0004 U	106
LS-PS2A	7/11/2018	LP2A180711M	7.4	0.001 U	9.65	0.21	0.0001 U	0.0129	30.6	0.005 U	0.0004 U	91.7
LS-PS2A	8/20/2018	LP2A180820M	2.65	0.0005 U	14.6	1.22	0.00013	0.103	152	0.0025 U	0.0002 U	489
LS-PS4	7/11/2018	LP4-180711I	7.74	0.00216	32.4	33.5	0.0001 U	0.0537	108	0.005 DU	0.0004 U	317
LS-PS4	8/20/2018	LP4-180820I	4.33	0.00393	26.1	1.11	0.0001 U	0.04	104	0.005 U	0.0004 U	312
LS-PS4	9/12/2018	LP4-180912I	7.97	0.00432	33.1	1.22	0.0001 U	0.0494	103	0.005 U	0.0004 U	297
FIELD BLANK	7/12/2018	W66-180712F	0.01 U	0.0001 U	0.05 U	0.0001 U	5E-05 U	0.0001 U	0.1 U	0.0005 U	4E-05 U	0.1 U

Site	Date	Sample ID	Thallium, total (mg/L)	Tin, total (mg/L)	Vanadium, total (mg/L)	Zinc, total (mg/L)
LS-API	7/10/2018	LAPI180710M	0.001 U	0.022	0.0541	3.02
LS-API	8/22/2018	LAPI180822M	0.0005 U	0.00472	0.192	0.00551
LS-API	9/11/2018	LAPI180912M	0.001 U	0.0344	0.0939	0.325
LS-CSW	7/11/2018	LCSW180711I	0.001 U	0.00583	0.0712 D	0.839
LS-CSW	9/12/2018	LCSW180912I	0.001 U	0.00822	0.0592	0.352
LS-LEPS	7/10/2018	LEPS180710P	0.001 U	0.0334	0.0751 D	0.371
LS-LEPS	8/20/2018	LEPS180820P	0.0005 U	0.0219 G	0.08	0.411
LS-LEPS	9/11/2018	LEPS180911P	0.001 U	0.0296 G	0.0868	0.4
LS-MH46N	7/11/2018	L46N180711M	0.001 U	0.005 U	0.186	0.005 U
LS-MH46N	8/20/2018	L46N180820M	0.0005 U	0.00601	0.0985	0.0256
LS-MH46N	9/11/2018	L46N180912M	0.001 U	0.005 U	0.207	0.005 U
LS-MH5	8/23/2018	LMH5180823I	0.001 U	0.0612	0.195	0.433
LS-PS1A	7/11/2018	LP1A180711I	0.001 U	0.00559	0.078 D	0.0121
LS-PS1A	8/20/2018	LP1A180820I	0.0005 U	0.00935	0.0157	0.0703
LS-PS1A	9/12/2018	LP1A180912I	0.001 U	0.0085	0.0886	0.0213
LS-PS2	9/12/2018	LP2A180912M	0.001 U	0.00571	0.0026	0.0553
LS-PS2A	7/11/2018	LP2A180711M	0.001 U	0.005 U	0.00601	0.137
LS-PS2A	8/20/2018	LP2A180820M	0.0005 U	0.0115	0.00472	0.196
LS-PS4	7/11/2018	LP4-180711I	0.001 U	0.01	0.0257 D	0.0898
LS-PS4	8/20/2018	LP4-180820I	0.001 U	0.00996	0.0179	0.083
LS-PS4	9/12/2018	LP4-180912I	0.001 U	0.0107	0.0228	0.105
FIELD BLANK	7/12/2018	W66-180712F	0.0001 U		7.5E-05 U	0.0005 U

Site	Date	Sample ID	1,1,1,2-Tetrachloro-ethane	1,1,1-Trichloro-ethane	1,1,2,2-Tetrachloro-ethane	1,1,2-Trichloro-ethane	1,1-Dichloro-ethane	1,1-Dichloro-ethene	1,1-Dichloro-propene	1,2,3-Trichloro-propane	1,2-Dibromo-3-Chloropropane
			630-20-6 (ug/L)	71-55-6 (ug/L)	79-34-5 (ug/L)	79-00-5 (ug/L)	75-34-3 (ug/L)	75-35-4 (ug/L)	563-58-6 (ug/L)	96-18-4 (ug/L)	96-12-8 (ug/L)
LS-API	7/10/2018	LAPI180710M	25 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	250 U
LS-API	8/22/2018	LAPI180822M	25 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	250 U
LS-API	9/11/2018	LAPI180912M	2.5 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	25 U
LS-LEPS	7/10/2018	LEPS180710M	2.5 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	25 U
LS-LEPS	8/20/2018	LEPS180820M	2.5 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	25 U
LS-LEPS	9/11/2018	LEPS180911M	2.5 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	25 U
LS-MH46N	7/11/2018	L46N180711M	2.5 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	25 U
LS-MH46N	8/20/2018	L46N180820M	2.5 SU	1 SU	1 SU	1 SU	1 SU	1 SU	1 SU	1 SU	25 SU
LS-MH46N	9/11/2018	L46N180912M	2.5 SU	1 SU	1 SU	1 SU	1 SU	1 SU	1 SU	1 SU	25 SU
LS-PS2	9/12/2018	LP2A180912M	2.5 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	25 U
LS-PS2A	7/11/2018	LP2A180711M	2.5 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	25 U
LS-PS2A	8/20/2018	LP2A180820M	2.5 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	25 U
FIELD BLANK	7/12/2018	W66-180712F	0.25 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U		0.1 U	2.5 U
VOA TRIP BLANK	7/9/2018	VTRP180711X	0.25 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	2.5 U
VOA TRIP BLANK	7/9/2018	VTRP180711Y	0.25 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	2.5 U
VOA TRIP BLANK	8/17/2018	VTRP180820X	0.25 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	2.5 U
VOA TRIP BLANK	8/17/2018	VTRP180821X2	0.25 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	2.5 U
VOA TRIP BLANK	8/23/2018	VTRP180823Y	0.25 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	2.5 U

Site	Date	Sample ID	1,2-Dibromo-ethane 106-93-4 (ug/L)	1,2-Dichloro-benzene 95-50-1 (ug/L)	1,2-Dichloro-ethane 107-06-2 (ug/L)	1,2-Dichloro-propane 78-87-5 (ug/L)	1,3 Dichloro-benzene 541-73-1 (ug/L)	1,3-Dichloro-propane 142-28-9 (ug/L)	1,4-Dichloro-benzene 106-46-7 (ug/L)	2,2-Dichloro-propane 594-20-7 (ug/L)	2-Butanone 78-93-3 (ug/L)
LS-API	7/10/2018	LAPI180710M	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	27200 D
LS-API	8/22/2018	LAPI180822M	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	26300 D
LS-API	9/11/2018	LAPI180912M	1 U	1 U	2.02	1 U	1 U	1 U	1.91 JT	1 U	4530 D
LS-LEPS	7/10/2018	LEPS180710M	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	2.5 U
LS-LEPS	8/20/2018	LEPS180820M	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	2.5 U
LS-LEPS	9/11/2018	LEPS180911M	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	2.5 U
LS-MH46N	7/11/2018	L46N180711M	1 U	1.97 JT	1 U	1 U	1 U	1 U	7.92	1 U	2.5 U
LS-MH46N	8/20/2018	L46N180820M	1 SU	1.68 JST	1 SU	1 SU	1 SU	1 SU	7.04 S	1 SU	2.5 SU
LS-MH46N	9/11/2018	L46N180912M	1 SU	1.92 JST	1 SU	1 SU	1 SU	1 SU	8.07 S	1 SU	2.5 SU
LS-PS2	9/12/2018	LP2A180912M	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	2.5 U
LS-PS2A	7/11/2018	LP2A180711M	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	2.5 U
LS-PS2A	8/20/2018	LP2A180820M	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	2.5 U
FIELD BLANK	7/12/2018	W66-180712F	0.1 U	0.1 U	0.1 U	0.1 U			0.1 U		38.7
VOA TRIP BLANK	7/9/2018	VTRP180711X	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.25 U
VOA TRIP BLANK	7/9/2018	VTRP180711Y	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.25 U
VOA TRIP BLANK	8/17/2018	VTRP180820X	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.25 U
VOA TRIP BLANK	8/17/2018	VTRP180821X2	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.25 U
VOA TRIP BLANK	8/23/2018	VTRP180823Y	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.25 U

Site	Date	Sample ID	2-Hexanone	2-Methyl-1-propanol	3-Chloro-propene	4-Methyl-2-Pentanone	Acetone	Acetonitrile	Acrolein	Acrylonitrile	Benzene
			591-78-6 (ug/L)	78-83-1 (ug/L)	107-05-1 (ug/L)	108-10-1 (ug/L)	67-64-1 (ug/L)	75-05-8 (ug/L)	107-02-8 (ug/L)	107-13-1 (ug/L)	71-43-2 (ug/L)
LS-API	7/10/2018	LAPI180710M	50 U	500 U	10 U	250 U	24300 D	500 U	250 U	3.5 U	10 U
LS-API	8/22/2018	LAPI180822M	50 U	500 U	10 U	250 U	27000 D	500 U	250 U	3.5 U	10 U
LS-API	9/11/2018	LAPI180912M	11.6	50 U	1 U	57.2	6010 D	50 U	25 U	0.35 U	1 U
LS-LEPS	7/10/2018	LEPS180710M	5 U	50 U	1 U	25 U	32.7 JT	50 U	25 U	0.35 U	1 U
LS-LEPS	8/20/2018	LEPS180820M	5 U	50 U	1 U	25 U	25 U	50 U	25 U	0.35 U	1 U
LS-LEPS	9/11/2018	LEPS180911M	5 U	50 U	1 U	25 U	25 U	50 U	25 U	0.35 U	1 U
LS-MH46N	7/11/2018	L46N180711M	5 U	50 U	1 U	25 U	25 U	50 U	25 U	0.35 U	3.46
LS-MH46N	8/20/2018	L46N180820M	5 SU	50 SU	1 SU	25 SU	25 SU	50 SU	25 SU	0.35 SU	2.88 S
LS-MH46N	9/11/2018	L46N180912M	5 SU	50 SU	1 SU	25 SU	25 SU	50 SU	25 SU	0.35 SU	3.22 S
LS-PS2	9/12/2018	LP2A180912M	5 U	50 U	1 U	25 U	25 U	50 U	25 U	0.35 U	1 U
LS-PS2A	7/11/2018	LP2A180711M	5 U	50 U	1 U	25 U	25 U	50 U	25 U	0.35 U	1 U
LS-PS2A	8/20/2018	LP2A180820M	5 U	50 U	1 U	25 U	25 U	50 U	25 U	0.35 U	1 U
FIELD BLANK	7/12/2018	W66-180712F	0.5 U			2.5 U	8.07			0.035 U	0.1 U
VOA TRIP BLANK	7/9/2018	VTRP180711X	0.5 U	5 U	0.1 U	2.5 U	2.5 U	5 U	2.5 U	0.035 U	0.1 U
VOA TRIP BLANK	7/9/2018	VTRP180711Y	0.5 U	5 U	0.1 U	2.5 U	2.5 U	5 U	2.5 U	0.035 U	0.1 U
VOA TRIP BLANK	8/17/2018	VTRP180820X	0.5 U	5 U	0.1 U	2.5 U	2.5 U	5 U	2.5 U	0.035 U	0.1 U
VOA TRIP BLANK	8/17/2018	VTRP180821X2	0.5 U	5 U	0.1 U	2.5 U	2.5 U	5 U	2.5 U	0.035 U	0.1 U
VOA TRIP BLANK	8/23/2018	VTRP180823Y	0.5 U	5 U	0.1 U	2.5 U	2.5 U	5 U	2.5 U	0.035 U	0.1 U

Site	Date	Sample ID	Bromochloro-methane	Bromodichloro-methane	Bromoform	Bromo-methane	Carbon Disulfide	Carbon Tetrachloride	Chloro-benzene	Chloro-dibromo-methane	Chloroethane
			74-97-5 (ug/L)	75-27-4 (ug/L)	75-25-2 (ug/L)	74-83-9 (ug/L)	75-15-0 (ug/L)	56-23-5 (ug/L)	108-90-7 (ug/L)	124-48-1 (ug/L)	75-00-3 (ug/L)
LS-API	7/10/2018	LAPI180710M	10 U	25 U	50 U	10 U	10 U	25 U	10 U	50 U	10 U
LS-API	8/22/2018	LAPI180822M	10 U	25 U	50 U	10 U	10 U	25 U	10 U	50 U	10 U
LS-API	9/11/2018	LAPI180912M	1 U	2.5 U	5 U	1 U	1.28 JT	2.5 U	1 U	5 U	1 U
LS-LEPS	7/10/2018	LEPS180710M	1 U	2.5 U	5 U	1 U	1 U	2.5 U	1 U	5 U	1 U
LS-LEPS	8/20/2018	LEPS180820M	1 U	2.5 U	5 U	1 U	1 U	2.5 U	1 U	5 U	1 U
LS-LEPS	9/11/2018	LEPS180911M	1 U	2.5 U	5 U	1 U	1 U	2.5 U	1 U	5 U	1 U
LS-MH46N	7/11/2018	L46N180711M	1 U	2.5 U	5 U	1 U	1 U	2.5 U	1.92 JT	5 U	1 U
LS-MH46N	8/20/2018	L46N180820M	1 SU	2.5 SU	5 SU	1 SU	1 SU	2.5 SU	1.6 JST	5 SU	1 SU
LS-MH46N	9/11/2018	L46N180912M	1 SU	2.5 SU	5 SU	1 SU	1 SU	2.5 SU	1.84 JST	5 SU	1 SU
LS-PS2	9/12/2018	LP2A180912M	1 U	2.5 U	5 U	1 U	1 U	2.5 U	1 U	5 U	1 U
LS-PS2A	7/11/2018	LP2A180711M	1 U	2.5 U	5 U	1 U	1 U	2.5 U	1 U	5 U	1 U
LS-PS2A	8/20/2018	LP2A180820M	1 U	2.5 U	5 U	1 U	1 U	2.5 U	1 U	5 U	1 U
FIELD BLANK	7/12/2018	W66-180712F	0.1 U	0.25 U	0.5 U	0.1 U	0.1 U	0.25 U	0.1 U	0.5 U	0.1 U
VOA TRIP BLANK	7/9/2018	VTRP180711X	0.1 U	0.25 U	0.5 U	0.1 U	0.1 U	0.25 U	0.1 U	0.5 U	0.1 U
VOA TRIP BLANK	7/9/2018	VTRP180711Y	0.1 U	0.25 U	0.5 U	0.1 U	0.1 U	0.25 U	0.1 U	0.5 U	0.1 U
VOA TRIP BLANK	8/17/2018	VTRP180820X	0.1 U	0.25 U	0.5 U	0.1 U	0.1 U	0.25 U	0.1 U	0.5 U	0.1 U
VOA TRIP BLANK	8/17/2018	VTRP180821X2	0.1 U	0.25 U	0.5 U	0.1 U	0.1 U	0.25 U	0.1 U	0.5 U	0.1 U
VOA TRIP BLANK	8/23/2018	VTRP180823Y	0.1 U	0.25 U	0.5 U	0.1 U	0.1 U	0.25 U	0.1 U	0.5 U	0.1 U

Site	Date	Sample ID	Chloroform	Chloro-methane	Chloroprene	cis-1,2-Dichloro-ethene	cis-1,3-Dichloro-propene	Dibromo-methane	Dichloro-difluoro-methane	Ethylbenzene	m & p Xylenes
			67-66-3 (ug/L)	74-87-3 (ug/L)	126-99-8 (ug/L)	156-59-2 (ug/L)	10061-01-5 (ug/L)	74-95-3 (ug/L)	75-71-8 (ug/L)	100-41-4 (ug/L)	mpx (ug/L)
LS-API	7/10/2018	LAPI180710M	10 U	25 U	10 U	10 U	25 U	10 U	10 U	10 U	11.8 JT
LS-API	8/22/2018	LAPI180822M	10 U	25 U	10 U	10 U	25 U	10 U	10 U	10 U	10 U
LS-API	9/11/2018	LAPI180912M	1 U	2.5 U	1 U	1.15 JT	2.5 U	1 U	1 U	1.88 JT	4.44
LS-LEPS	7/10/2018	LEPS180710M	1 U	2.5 U	1 U	1 U	2.5 U	1 U	1 U	1 U	1 U
LS-LEPS	8/20/2018	LEPS180820M	1 U	2.5 U	1 U	1 U	2.5 U	1 U	1 U	1 U	1 U
LS-LEPS	9/11/2018	LEPS180911M	1 U	2.5 U	1 U	1 U	2.5 U	1 U	1 U	1 U	1 U
LS-MH46N	7/11/2018	L46N180711M	1 U	2.5 U	1 U	1.96 JT	2.5 U	1 U	1 U	34.3	44.8
LS-MH46N	8/20/2018	L46N180820M	1 SU	2.5 SU	1 SU	1.08 JST	2.5 SU	1 SU	1 SU	26.3 S	30.4 S
LS-MH46N	9/11/2018	L46N180912M	1 SU	2.5 SU	1 SU	1.52 JST	2.5 SU	1 SU	1 SU	32.5 S	40.3 S
LS-PS2	9/12/2018	LP2A180912M	1 U	2.5 U	1 U	1 U	2.5 U	1 U	1 U	1 U	1 U
LS-PS2A	7/11/2018	LP2A180711M	1 U	2.5 U	1 U	1 U	2.5 U	1 U	1 U	1 U	1 U
LS-PS2A	8/20/2018	LP2A180820M	1 U	2.5 U	1 U	1 U	2.5 U	1 U	1 U	1 U	1 U
FIELD BLANK	7/12/2018	W66-180712F	0.1 U	0.25 U		0.1 U	0.25 U	0.1 U	0.1 U	0.1 U	0.1 U
VOA TRIP BLANK	7/9/2018	VTRP180711X	0.1 U	0.25 U	0.1 U	0.1 U	0.25 U	0.1 U	0.1 U	0.1 U	0.1 U
VOA TRIP BLANK	7/9/2018	VTRP180711Y	0.1 U	0.25 U	0.1 U	0.1 U	0.25 U	0.1 U	0.1 U	0.1 U	0.1 U
VOA TRIP BLANK	8/17/2018	VTRP180820X	0.1 U	0.25 U	0.1 U	0.1 U	0.25 U	0.1 U	0.1 U	0.1 U	0.1 U
VOA TRIP BLANK	8/17/2018	VTRP180821X2	0.1 U	0.25 U	0.1 U	0.1 U	0.25 U	0.1 U	0.1 U	0.1 U	0.1 U
VOA TRIP BLANK	8/23/2018	VTRP180823Y	0.1 U	0.25 U	0.1 U	0.1 U	0.25 U	0.1 U	0.1 U	0.1 U	0.1 U

Site	Date	Sample ID	Methyl Iodide	Methyl Methacrylate	Methylacrylo-nitrile	Methylene Chloride	o-Xylene	Proprionitrile	Styrene	Tetrachloro-ethene	Toluene
			74-88-4 (ug/L)	80-62-6 (ug/L)	126-98-7 (ug/L)	75-09-2 (ug/L)	95-47-6 (ug/L)	107-12-0 (ug/L)	100-42-5 (ug/L)	127-18-4 (ug/L)	108-88-3 (ug/L)
LS-API	7/10/2018	LAPI180710M	10 U	25 U	10 U	250 U	10 U	50 U	10 U	10 U	33.9
LS-API	8/22/2018	LAPI180822M	10 U	25 U	10 U	250 U	10 U	50 U	10 U	10 U	30.7
LS-API	9/11/2018	LAPI180912M	1 U	2.5 U	1 U	25 U	2.77	5 U	1 U	1 U	6.98
LS-LEPS	7/10/2018	LEPS180710M	1 U	2.5 U	1 U	25 U	1 U	5 U	1 U	1 U	1 U
LS-LEPS	8/20/2018	LEPS180820M	1 U	2.5 U	1 U	25 U	1 U	5 U	1 U	1 U	1 U
LS-LEPS	9/11/2018	LEPS180911M	1 U	2.5 U	1 U	25 U	1 U	5 U	1 U	1 U	1 U
LS-MH46N	7/11/2018	L46N180711M	1 U	2.5 U	1 U	25 U	3.47	5 U	1 U	1 U	4.73
LS-MH46N	8/20/2018	L46N180820M	1 SU	2.5 SU	1 SU	25 SU	3.2 S	5 SU	1 SU	1 SU	3.8 S
LS-MH46N	9/11/2018	L46N180912M	1 SU	2.5 SU	1 SU	25 SU	4.12 S	5 SU	1 SU	1 SU	4.65 S
LS-PS2	9/12/2018	LP2A180912M	1 U	2.5 U	1 U	25 U	1 U	5 U	1 U	1 U	1 U
LS-PS2A	7/11/2018	LP2A180711M	1 U	2.5 U	1 U	25 U	1 U	5 U	1 U	1 U	1 U
LS-PS2A	8/20/2018	LP2A180820M	1 U	2.5 U	1 U	25 U	1 U	5 U	1 U	1 U	1 U
FIELD BLANK	7/12/2018	W66-180712F	0.1 U			2.5 U	0.1 U		0.101 JT	0.1 U	0.257
VOA TRIP BLANK	7/9/2018	VTRP180711X	0.1 U	0.25 U	0.1 U	2.5 U	0.1 U	0.5 U	0.1 U	0.1 U	0.1 U
VOA TRIP BLANK	7/9/2018	VTRP180711Y	0.1 U	0.25 U	0.1 U	2.5 U	0.1 U	0.5 U	0.1 U	0.1 U	0.1 U
VOA TRIP BLANK	8/17/2018	VTRP180820X	0.1 U	0.25 U	0.1 U	2.5 U	0.1 U	0.5 U	0.1 U	0.1 U	0.1 U
VOA TRIP BLANK	8/17/2018	VTRP180821X2	0.1 U	0.25 U	0.1 U	2.5 U	0.1 U	0.5 U	0.1 U	0.1 U	0.1 U
VOA TRIP BLANK	8/23/2018	VTRP180823Y	0.1 U	0.25 U	0.1 U	2.5 U	0.1 U	0.5 U	0.1 U	0.1 U	0.1 U

Site	Date	Sample ID	trans-1,2-Dichloro-ethene	trans-1,3-Dichloro-propene	trans-1,4-Dichloro-2-butene	Trichloro-ethene	Trichloro-fluoro-methane	Vinyl Acetate	Vinyl Chloride
			156-60-5 (ug/L)	10061-02-6 (ug/L)	110-57-6 (ug/L)	79-01-6 (ug/L)	75-69-4 (ug/L)	108-05-4 (ug/L)	75-01-4 (ug/L)
LS-API	7/10/2018	LAPI180710M	10 U	50 U	50 U	10 U	10 U	10 U	1 U
LS-API	8/22/2018	LAPI180822M	10 U	50 U	50 U	10 U	10 U	10 U	1 U
LS-API	9/11/2018	LAPI180912M	1 U	5 U	5 U	1 U	1 U	1 U	0.1 U
LS-LEPS	7/10/2018	LEPS180710M	1 U	5 U	5 U	1 U	1 U	1 U	0.1 U
LS-LEPS	8/20/2018	LEPS180820M	1 U	5 U	5 U	1 U	1 U	1 U	0.1 U
LS-LEPS	9/11/2018	LEPS180911M	1 U	5 U	5 U	1 U	1 U	1 U	0.1 U
LS-MH46N	7/11/2018	L46N180711M	1 U	5 U	5 U	1 U	1 U	1 U	3.91
LS-MH46N	8/20/2018	L46N180820M	1 SU	5 SU	5 SU	1 SU	1 SU	1 SU	1.96 S
LS-MH46N	9/11/2018	L46N180912M	1 SU	5 SU	5 SU	1 SU	1 SU	1 SU	3 S
LS-PS2	9/12/2018	LP2A180912M	1 U	5 U	5 U	1 U	1 U	1 U	0.1 U
LS-PS2A	7/11/2018	LP2A180711M	1 U	5 U	5 U	1 U	1 U	1 U	0.1 U
LS-PS2A	8/20/2018	LP2A180820M	1 U	5 U	5 U	1 U	1 U	1 U	0.1 U
FIELD BLANK	7/12/2018	W66-180712F	0.1 U	0.5 U	5 U	0.1 U	0.1 U	0.1 U	0.01 U
VOA TRIP BLANK	7/9/2018	VTRP180711X	0.1 U	0.5 U	0.5 U	0.1 U	0.1 U	0.1 U	0.01 U
VOA TRIP BLANK	7/9/2018	VTRP180711Y	0.1 U	0.5 U	0.5 U	0.1 U	0.1 U	0.1 U	0.01 U
VOA TRIP BLANK	8/17/2018	VTRP180820X	0.1 U	0.5 U	0.5 U	0.1 U	0.1 U	0.1 U	0.01 U
VOA TRIP BLANK	8/17/2018	VTRP180821X2	0.1 U	0.5 U	0.5 U	0.1 U	0.1 U	0.1 U	0.01 U
VOA TRIP BLANK	8/23/2018	VTRP180823Y	0.1 U	0.5 U	0.5 U	0.1 U	0.1 U	0.1 U	0.01 U

Site	Date	Sample ID	2,4,5-T	2,4,5-TP SILVEX	2,4-D	4,4'DDD	4,4'DDE	4,4'DDT	ALDRIN	ALPHA BHC	ALPHA CHLORDANE	AROCLOR 1016
										BHC	Chlordane	1016
			93-76-5	93-72-1	94-75-7	72-54-8	72-55-9	50-29-3	309-00-2	319-84-6	5103-71-9	12674-11-2
			ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l
LS-API	7/10/2018	LAPI180710M	0.5 U	0.957	1 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U
LS-API	8/22/2018	LAPI180822M	0.5 U	0.753	1 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.05 U
LS-API	9/11/2018	LAPI180912M	0.5 U	2 U	1 U	0.1 U	0.1 GU	0.1 GU	0.1 U	0.1 U	0.1 GU	0.025 U
LS-LEPS	7/10/2018	LEPS180710M	0.5 U	2.13	1 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U
LS-LEPS	8/20/2018	LEPS180820M	0.5 U	0.817	1 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U
LS-LEPS	9/11/2018	LEPS180911M	0.5 U	1.44	1 U	0.1 U	0.1 GU	0.1 GU	0.1 U	0.1 U	0.1 GU	0.025 U
LS-MH46N	7/11/2018	L46N180711M	0.5 U	1.31	4.36	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.0237 J	0.05 U
LS-MH46N	8/20/2018	L46N180820M	0.5 U	1.36	2.68	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.0244 J	0.05 U
LS-MH46N	9/11/2018	L46N180912M	0.5 U	1.03	3.62	0.04 U	0.04 U	0.04 U	0.04 U	0.04 U	0.04 U	0.025 U
LS-PS2	9/12/2018	LP2A180912M	0.5 U	0.5 U	1 U	0.04 U	0.04 U	0.04 U	0.04 U	0.04 U	0.04 U	0.025 U
LS-PS2A	7/11/2018	LP2A180711M	0.5 U	0.5 U	1 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.025 U
LS-PS2A	8/20/2018	LP2A180820M	0.5 U	0.975	1 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.025 U

Site	Date	Sample ID	AROCLOR 1221	AROCLOR 1232	AROCLOR 1242	AROCLOR 1248	AROCLOR 1254	AROCLOR 1260	BETA BHC	DELTA BHC	DIELDRIN	DINOSEB
			1221	1232	1242	1248	1254	1260	BHC	BHC		
			11104-28-2	11141-16-5	53469-21-9	12672-29-6	11097-69-1	11096-82-5	319-85-7	319-86-8	60-57-1	88-85-7
			ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l
LS-API	7/10/2018	LAPI180710M	0.15 U	0.05 U	0.214	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	4 U
LS-API	8/22/2018	LAPI180822M	0.3 U	0.05 U	0.303	0.05 U	0.1 U	0.05 U	0.2 U	0.2 U	0.2 U	4 U
LS-API	9/11/2018	LAPI180912M	0.025 U	0.025 U	0.428	0.025 U	0.104	0.025 U	0.1 U	0.1 U	0.1 U	1.2 U
LS-LEPS	7/10/2018	LEPS180710M	0.05 U	0.05 U	0.112	0.05 U	0.0686	0.05 U	0.075 U	0.05 U	0.05 U	4 U
LS-LEPS	8/20/2018	LEPS180820M	0.05 U	0.05 U	0.141	0.05 U	0.0608	0.05 U	0.05 U	0.05 U	0.05 U	2 U
LS-LEPS	9/11/2018	LEPS180911M	0.025 U	0.025 U	0.153	0.025 U	0.0605	0.025 U	0.1 U	0.1 U	0.1 U	3 U
LS-MH46N	7/11/2018	L46N180711M	0.0784	0.05 U	0.235	0.05 U	0.05 U	0.05 U	0.0562 J	0.02 U	0.0226 J	0.5 U
LS-MH46N	8/20/2018	L46N180820M	0.05 U	0.05 U	0.25	0.05 U	0.05 U	0.05 U	0.0562 J	0.02 U	0.02 U	0.5 U
LS-MH46N	9/11/2018	L46N180912M	0.025 U	0.025 U	0.202	0.025 U	0.025 U	0.025 U	0.04 U	0.04 U	0.04 U	0.5 U
LS-PS2	9/12/2018	LP2A180912M	0.025 U	0.025 U	0.279	0.025 U	0.114	0.0523	0.04 U	0.04 U	0.04 U	0.5 U
LS-PS2A	7/11/2018	LP2A180711M	0.025 U	0.025 U	0.025 U	0.025 U	0.025 U	0.025 U	0.01 U	0.01 U	0.01 U	0.5 U
LS-PS2A	8/20/2018	LP2A180820M	0.025 U	0.025 U	0.175	0.025 U	0.092	0.0486	0.03 U	0.01 U	0.01 U	0.5 U

Site	Date	Sample ID	ENDOSULFAN I	ENDOSULFAN II	ENDOSULFAN SULFATE	ENDRIN	ENDRIN ALDEHYDE	HEPTACHLOR	HEPTACHLOR EPOXIDE	ISODRIN	LINDANE(GAMMA BHC)	METHOXYCHLOR
			sulfan I	sulfan II	Sulfate		Aldehyde		Epoxide			chlor
			959-98-8	33213-65-9	1031-07-8	72-20-8	7421-93-4	76-44-8	1024-57-3	465-73-6	58-89-9	72-43-5
			ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l
LS-API	7/10/2018	LAPI180710M	0.05 U	0.05 GU	0.05 GU	0.05 U	0.05 GU	0.05 U	0.05 U	0.05 U	0.05 U	0.25 U
LS-API	8/22/2018	LAPI180822M	0.2 U	0.2 U	0.2 U	0.2 U	0.2 GU	0.2 U	0.2 U	0.2 U	0.2 U	1 U
LS-API	9/11/2018	LAPI180912M	0.1 U	0.1 U	0.1 U	0.1 U	0.1 GU	0.1 U	0.1 U	0.1 U	0.1 U	0.5 U
LS-LEPS	7/10/2018	LEPS180710M	0.05 U	0.05 U	0.05 U	0.05 U	0.05 GU	0.05 U	0.05 U	0.05 U	0.05 U	0.25 U
LS-LEPS	8/20/2018	LEPS180820M	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.25 U
LS-LEPS	9/11/2018	LEPS180911M	0.1 U	0.1 U	0.1 U	0.1 U	0.1 GU	0.1 U	0.1 U	0.1 U	0.1 U	0.5 U
LS-MH46N	7/11/2018	L46N180711M	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.08 U	0.1 U
LS-MH46N	8/20/2018	L46N180820M	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.0343 J	0.1 U
LS-MH46N	9/11/2018	L46N180912M	0.04 U	0.04 U	0.04 U	0.04 U	0.04 U	0.04 U	0.04 U	0.04 U	0.078 J	0.2 U
LS-PS2	9/12/2018	LP2A180912M	0.04 U	0.04 U	0.04 U	0.04 U	0.04 U	0.04 U	0.04 U	0.04 U	0.04 U	0.2 U
LS-PS2A	7/11/2018	LP2A180711M	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.05 U
LS-PS2A	8/20/2018	LP2A180820M	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.05 U

Site	Date	Sample ID	Total Aroclors	TOXAPHENE	trans-Chlordane
			T_AROCLOR	8001-35-2	5103-74-2
			ug/l	ug/l	ug/l
LS-API	7/10/2018	LAPI180710M	0.214	5 U	0.05 U
LS-API	8/22/2018	LAPI180822M	0.303	20 U	0.2 U
LS-API	9/11/2018	LAPI180912M	0.532	10 U	0.1 GU
LS-LEPS	7/10/2018	LEPS180710M	0.1806	5 U	0.05 U
LS-LEPS	8/20/2018	LEPS180820M	0.2018	5 U	0.05 U
LS-LEPS	9/11/2018	LEPS180911M	0.2135	10 U	0.1 GU
LS-MH46N	7/11/2018	L46N180711M	0.3134	2 U	0.02 U
LS-MH46N	8/20/2018	L46N180820M	0.25	2 U	0.02 U
LS-MH46N	9/11/2018	L46N180912M	0.202	4 U	0.04 U
LS-PS2	9/12/2018	LP2A180912M	0.4453	4 U	0.04 U
LS-PS2A	7/11/2018	LP2A180711M	0.025 U	1 U	0.01 U
LS-PS2A	8/20/2018	LP2A180820M	0.3156	1 U	0.01 U

Environmental Monitoring Data

Data Collected from October 1, 2018 to December 31, 2018
Cedar Hills Landfill --- Leachate Conventional Data
Contact Person: Sendy Jimenez (206) 477-5224

Site	Date	Sample ID	Alkalinity, Total (CaCO3) (mg/L)	Ammonia, (NH3 as N) (mg/L)	Biological Oxygen Demand (mg/L)	Chemical Oxygen Demand (mg/L)	Chloride (mg/L)	Coliforms, Fecal (CFU/100mL)	Coliforms, Total (CFU/100mL)	Cyanide (mg/L)	Fluoride (mg/L)	Nitrate+Nitrite (NO3+NO2 as N) (mg/L)
LS-API	10/1/2018	LAPI181001M	8290	527	2230	6170 S	2100	520000 H	5200000 H	0.024 ST	1 U	0.448
LS-API	11/6/2018	LAPI181106M	2580 S	537	590 S	1830	653 S	30000	350000	0.008 SU	0.4 SU	0.462
LS-API	12/10/2018	LAPI181210M	6080	1080	1510	4260 S	1720	190	530000	0.02 ST	2 U	0.44 T
LS-LEPS	10/1/2018	LEPS181001M	6260	1060	199	2070 S	1960	8600 H	75000 H	0.019 ST	1.83	1.22
LS-LEPS	11/6/2018	LEPS181106M	2150 S	400	83.6 S	1670 S	951 S	1900	9400	0.022 ST	0.8 ST	160
LS-LEPS	12/10/2018	LEPS181210M	2360	393	292	1390	693	23000 CH	150000 H	0.013 ST	1 U	31.7
LS-MH46N	10/2/2018	L46N181002M	3820	747	86.2	2230	2350	3	2200	0.012 ST	2.5 T	0.1 U
LS-MH46N	11/7/2018	L46N181107M	3830 S	745	109 S	2320 S	2270 S	8	5400	0.013 ST	2.7 S	0.13 T
LS-MH46N	12/11/2018	L46N181211M	3650	723	77.6	2170	2430	16000 R	13000 R	0.018 ST	2 U	0.13 T
LS-PS2A	10/2/2018	LP2A181002M	57.9	6.01	6.49	23	7.59	2	1800	0.008 U	0.0748	2.31
LS-PS2A	11/7/2018	LP2A181107M	27 S	1.17	3.21 S	30.6	2.8 S	5	900 CU	0.008 SU	0.0751 S	1.75
LS-PS2A	12/11/2018	LP2A181211M	36.9	1.61	4.63	23.7	3.02	1 U	170	0.008 U	0.0566	0.97

Environmental Monitoring Data

Data Collected from October 1, 2018 to December 31, 2018
Cedar Hills Landfill --- Leachate Conventional Data
Contact Person: Sendy Jimenez (206) 477-5224

Site	Date	Sample ID	Phosphorus, Sol. Reactive (mg/L)	Specific Conductance (umho/cm)	Sulfate (SO4) (mg/L)	Sulfide Total (mg/L)	Total Fats, Oils and Grease (mg/L)	Total Kjeldahl Nitrogen (mg/L)	Total Organic Carbon (mg/L)	Total Suspended Solids (mg/L)	Total Volatile Solids (mg/L)	Volatile Suspended Solids (mg/L)
LS-API	10/1/2018	LAPI181001M	2.66	19400	27.1	0.31 T	15.1 B	1830 S	2190 S	65.1	4750	51.5
LS-API	11/6/2018	LAPI181106M	2.52	6800 S	26.1 S	0.12 T	3.4 BST	573 S	480 ST	38.5 HS	1320	15.5 HS
LS-API	12/10/2018	LAPI181210M	6.51	14400	19.7	0.637	4.7 T	1340 S	1390 S	27	3000	17
LS-LEPS	10/1/2018	LEPS181001M	1.74	15000	77.8	0.22 T	3 BT	1140 S	583 S	660	2870	526
LS-LEPS	11/6/2018	LEPS181106M	1.19	7790 S	48.3 S	2.5 U	1.5 BST	452 S	369 S	429 HS	1500	314 HS
LS-LEPS	12/10/2018	LEPS181210M	1.43	5880	29.2	0.96 T	1.5 GU	444	388 S	132	1150	108
LS-MH46N	10/2/2018	L46N181002M	2.93	13300	1 U	1.17	8.2 B	828	786 S	0.91 T	1790	0.96 T
LS-MH46N	11/7/2018	L46N181107M	3.72	13300 S	2 SU	1.01	3.9 BST	790 S	696 S	0.74 ST	1520	1.05 S
LS-MH46N	12/11/2018	L46N181211M	3.38	12500	1.2 T	1.08	2.3 T	765	722 S	1.5	1560	1.2
LS-PS2A	10/2/2018	LP2A181002M	0.0094 T	228	18.5	0.012 T	3.1 BT	7.26	11.1	1.61	66.8	1.56
LS-PS2A	11/7/2018	LP2A181107M	0.0226	129 S	13.1 S	0.01 U	1.4 SU	1.98 S	11.9 S	3.4 S	47.7	2 S
LS-PS2A	12/11/2018	LP2A181211M	0.0135	135	12.4	0.022 T	1.5 U	2.3	11.5	3.7	54.3	2.2

Data Collected from October 1, 2018 to December 31, 2018
Cedar Hills Landfill --- Leachate Metals Data
Contact Person: Sendy Jimenez (206) 477-5224

Site	Date	Sample ID	Aluminum, total (mg/L)	Antimony, total (mg/L)	Arsenic, total (mg/L)	Barium, total (mg/L)	Beryllium, total (mg/L)	Cadmium, total (mg/L)	Calcium, total (mg/L)	Chromium, total (mg/L)	Cobalt, total (mg/L)	Copper, total (mg/L)
LS-API	10/1/2018	LAPI181001M	1.75	0.028	0.369	0.288	0.001 U	0.0005 U	63	0.278	0.0564	0.00941
LS-API	11/6/2018	LAPI181106M	1.99	0.0106	0.122	0.117	0.001 U	0.0005 U	37.2	0.0881	0.02	0.018
LS-API	12/10/2018	LAPI181210M	1.07	0.0154	0.226	0.234	0.001 U	0.0005 U	55.8	0.21	0.0422	0.0087
LS-CSW	10/2/2018	LCSW181002I	0.582	0.003 U	0.0177	0.0268	0.001 U	0.0005 U	45.3	0.0118	0.00441	0.00502
LS-CSW	11/7/2018	LCSW181107I	4.01	0.003 U	0.0035	0.0333	0.001 U	0.0005 U	29.7	0.00648	0.00348	0.0167
LS-CSW	12/11/2018	LCSW181211I	3.92	0.003 U	0.00412	0.0428	0.001 U	0.0005 U	30.5	0.00811	0.00297	0.0172
LS-LEPS	10/1/2018	LEPS181001P	2	0.0282	0.347	0.245	0.001 U	0.0005 U	66.1	0.231	0.0522	0.0127
LS-LEPS	10/30/2018	LEPS181030R	1.97	0.0229	0.264	0.224	0.001 U	0.0005 U	68.1	0.173	0.0423	0.0202
LS-LEPS	11/6/2018	LEPS181106P	1.51	0.0156	0.176	0.154	0.001 U	0.0005 U	51.4	0.126	0.0297	0.018
LS-LEPS	11/13/2018	LEPS181114P	1.5	0.0117	0.133	0.138	0.001 U	0.0005 U	48.4	0.0974	0.0238	0.0159
LS-LEPS	11/20/2018	LEPS181120P	0.949	0.0129	0.147	0.139	0.001 U	0.0005 U	49.6	0.108	0.0248	0.0134
LS-LEPS	11/27/2018	LEPS181127P	0.953	0.00965	0.102	0.104	0.001 U	0.0005 U	38.4	0.0803	0.0171	0.0127
LS-LEPS	12/4/2018	LEPS181204P	1.07	0.00589	0.0657	0.0757	0.001 U	0.0005 U	39	0.0512	0.0122	0.0113
LS-LEPS	12/10/2018	LEPS181210P	0.728	0.0104	0.107	0.11	0.001 U	0.0005 U	38.1	0.086	0.0183	0.0108
LS-LEPS	12/18/2018	LEPS181218P	0.971	0.00906	0.0954	0.0968	0.001 U	0.0005 U	37.7	0.0713	0.0157	0.0115
LS-LEPS	12/24/2018	LEPS181224P	0.61 J	0.00808	0.087	0.0854	0.001 U	0.0005 U	34.3	0.068	0.0149	0.00972
LS-LEPS	12/31/2018	LEPS181231P	0.533	0.0084	0.0861	0.0804	0.001 U	0.0005 U	34.4	0.0573	0.0138	0.0102
LS-MH46N	10/2/2018	L46N181002M	0.05 U	0.003 U	0.106	0.601	0.001 U	0.0005 U	96.6	0.137	0.0429	0.002 U
LS-MH46N	11/7/2018	L46N181107M	0.05 U	0.003 U	0.106	0.586	0.001 U	0.0005 U	95.5	0.138	0.0439	0.002 U
LS-MH46N	12/11/2018	L46N181211M	0.05 U	0.003 U	0.101	0.574	0.001 U	0.0005 U	95.2	0.141	0.0411	0.002 U
LS-MH5	10/2/2018	LMH5181002I	0.7	0.0155	0.326	0.451	0.001 U	0.0005 U	58.5	0.267	0.0721	0.0049
LS-MH5	11/7/2018	LMH5181107I	1.81	0.016	0.335	0.545	0.001 U	0.0005 U	86.9	0.226	0.069	0.0065
LS-MH5	12/11/2018	LMH5181211I	0.893	0.0119	0.279	0.434	0.001 U	0.0005 U	69.5	0.231	0.0628	0.00681
LS-PS1A	10/2/2018	LP1A181002I	0.361	0.032	0.201	0.239	0.001 U	0.0005 U	57.8	0.0499	0.0236	0.0103
LS-PS1A	11/7/2018	LP1A181107I	0.0789	0.003 U	0.0134	0.0267	0.001 U	0.0005 U	18.7	0.00498	0.00226	0.0116
LS-PS1A	12/11/2018	LP1A181211I	0.0992	0.00656	0.0272	0.0636	0.001 U	0.0005 U	29.5	0.0115	0.00506	0.0105
LS-PS2A	10/2/2018	LP2A181002M	0.0521	0.003 U	0.00236	0.00871	0.001 U	0.0005 U	14.9	0.002 U	0.000827	0.0164
LS-PS2A	11/7/2018	LP2A181107M	0.117	0.003 U	0.00194	0.00533	0.001 U	0.0005 U	10.8	0.00261	0.00061	0.0302
LS-PS2A	12/11/2018	LP2A181211M	0.101	0.003 U	0.00176	0.00554	0.001 U	0.0005 U	11.2	0.00236	0.000582	0.0235
LS-PS4	10/2/2018	LP4-181002I	3.2	0.00437	0.0222	0.0845	0.001 U	0.0005 U	37	0.0189	0.00577	0.0226
LS-PS4	11/7/2018	LP4-181107I	3.82	0.003 U	0.0227	0.0665	0.001 U	0.0005 U	33.5	0.0186	0.00591	0.0196
LS-PS4	12/11/2018	LP4-181211I	2.93	0.003 U	0.0163	0.0589	0.001 U	0.0005 U	26.2	0.0107	0.00351	0.0137

Environmental Monitoring Data

Data Collected from October 1, 2018 to December 31, 2018
Cedar Hills Landfill --- Leachate Metals Data
Contact Person: Sendy Jimenez (206) 477-5224

Site	Date	Sample ID	Iron, total (mg/L)	Lead, total (mg/L)	Magnesium, total (mg/L)	Manganese, total (mg/L)	Mercury, total (mg/L)	Nickel, total (mg/L)	Potassium, total (mg/L)	Selenium, total (mg/L)	Silver, total (mg/L)	Sodium, total (mg/L)
LS-API	10/1/2018	LAPI181001M	8.26	0.00331	92.3	0.762	0.0001 U	0.221	713	0.005 U	0.0004 U	2040
LS-API	11/6/2018	LAPI181106M	4.31	0.00262	32.2	0.452	0.0001 U	0.0817	216	0.005 U	0.0004 U	620
LS-API	12/10/2018	LAPI181210M	4.42	0.00276	71.6	0.487	0.0001 U	0.176	515	0.005 U	0.0004 U	1470
LS-CSW	10/2/2018	LCSW181002I	1.31	0.001 U	9.05	0.228	0.0001 U	0.0161	38	0.005 U	0.0004 U	92.3
LS-CSW	11/7/2018	LCSW181107I	5.04	0.00186	4.56	0.204	0.0001 U	0.0101	4.67	0.005 U	0.000992	8.39
LS-CSW	12/11/2018	LCSW181211I	6.2	0.00266	9.58	0.37	0.0001 U	0.0114	9.04	0.005 U	0.0004 U	16.2
LS-LEPS	10/1/2018	LEPS181001P	8.06	0.0046	90.4	0.961	0.0001 U	0.205	657	0.005 U	0.0004 U	1880
LS-LEPS	10/30/2018	LEPS181030R	7.29	0.00635	69	1.09	0.0001 U	0.165	481	0.005 U	0.0004 U	1380
LS-LEPS	11/6/2018	LEPS181106P	5.2	0.00418	47.7	0.727	0.0001 U	0.117	318	0.005 U	0.0004 U	927
LS-LEPS	11/13/2018	LEPS181114P	4.55	0.00352	37.5	0.655	0.0001 U	0.0921	246	0.005 U	0.0004 U	701
LS-LEPS	11/20/2018	LEPS181120P	4.28	0.00315	40.6	0.623	0.0001 U	0.0944	275	0.005 U	0.0004 U	785
LS-LEPS	11/27/2018	LEPS181127P	3.63	0.00236	30.6	0.497	0.0001 U	0.0688	193	0.005 U	0.0004 U	562
LS-LEPS	12/4/2018	LEPS181204P	2.84	0.00212	22.5	0.492	0.0001 U	0.0481	134	0.005 U	0.0004 U	363
LS-LEPS	12/10/2018	LEPS181210P	3.02	0.00194	31.3	0.447	0.0001 U	0.0747	202	0.005 U	0.0004 U	574
LS-LEPS	12/18/2018	LEPS181218P	3.33	0.00261	27.7	0.444	0.0001 U	0.0657	184	0.005 U	0.0004 U	517
LS-LEPS	12/24/2018	LEPS181224P	2.63	0.00166	26.1	0.4	0.0001 U	0.0604	171	0.005 U	0.0004 U	484
LS-LEPS	12/31/2018	LEPS181231P	2.48	0.00136	23.7	0.379	0.0001 U	0.0581	161	0.005 U	0.0004 U	425
LS-MH46N	10/2/2018	L46N181002M	2.61	0.001 U	60.8	0.477	0.0001 U	0.178	450	0.005 U	0.0004 U	1630
LS-MH46N	11/7/2018	L46N181107M	2.52	0.001 U	57.3	0.483	0.0001 U	0.183	445	0.005 U	0.0004 U	1550
LS-MH46N	12/11/2018	L46N181211M	2.7	0.001 U	57.6	0.469	0.0001 U	0.173	438	0.005 U	0.0004 U	1510
LS-MH5	10/2/2018	LMH5181002I	4.36	0.00316	102	0.334	0.0001 U	0.283	816	0.005 U	0.0004 U	2700 D
LS-MH5	11/7/2018	LMH5181107I	19.4	0.00412	96.1	0.93	0.0001 U	0.286	753	0.005 U	0.0004 U	2390
LS-MH5	12/11/2018	LMH5181211I	4.68	0.00299	96.7	0.413	0.0001 U	0.256	721	0.005 U	0.0004 U	2330
LS-PS1A	10/2/2018	LP1A181002I	1.12	0.001	43.7	0.364	0.0001 U	0.0817	235	0.005 U	0.0004 U	873
LS-PS1A	11/7/2018	LP1A181107I	0.401	0.001 U	6.45	0.126	0.0001 U	0.00958	19.4	0.005 U	0.0004 U	66.7
LS-PS1A	12/11/2018	LP1A181211I	0.687	0.001 U	12.6	0.271	0.0001 U	0.0197	49.8	0.005 U	0.0004 U	168
LS-PS2A	10/2/2018	LP2A181002M	0.356	0.001 U	5.72	0.133	0.0001 U	0.00851	2.92	0.005 U	0.0004 U	5.39
LS-PS2A	11/7/2018	LP2A181107M	1.13	0.001 U	3.84	0.082	0.0001 U	0.00878	1.84	0.005 U	0.0004 U	3.12
LS-PS2A	12/11/2018	LP2A181211M	1.23	0.001 U	4.16	0.0962	0.0001 U	0.00723	1.88	0.005 U	0.0004 U	3.58
LS-PS4	10/2/2018	LP4-181002I	5.78	0.00298	17.8	0.831	0.0001 U	0.0202	41	0.005 U	0.0004 U	130
LS-PS4	11/7/2018	LP4-181107I	5.26	0.00293	14.6	0.513	0.0001 U	0.0215	39.7	0.005 U	0.0004 U	116
LS-PS4	12/11/2018	LP4-181211I	4.2	0.00281	10.9	0.373	0.0001 U	0.0131	21.5	0.005 U	0.0004 U	62

Data Collected from October 1, 2018 to December 31, 2018
Cedar Hills Landfill --- Leachate Metals Data
Contact Person: Sendy Jimenez (206) 477-5224

Site	Date	Sample ID	Thallium, total (mg/L)	Tin, total (mg/L)	Vanadium, total (mg/L)	Zinc, total (mg/L)
LS-API	10/1/2018	LAPI181001M	0.001 U	0.0389	0.0839 D	0.261
LS-API	11/6/2018	LAPI181106M	0.001 U	0.0115	0.0346	0.0983
LS-API	12/10/2018	LAPI181210M	0.001 U	0.029	0.0649	0.152
LS-CSW	10/2/2018	LCSW181002I	0.001 U	0.005 U	0.009 D	0.0171
LS-CSW	11/7/2018	LCSW181107I	0.001 U	0.005 U	0.00904	0.0688
LS-CSW	12/11/2018	LCSW181211I	0.001 U	0.005 U	0.0126	0.0338
LS-LEPS	10/1/2018	LEPS181001P	0.001 U	0.0254	0.0824	0.312
LS-LEPS	10/30/2018	LEPS181030R	0.001 U	0.0182	0.0659	0.391
LS-LEPS	11/6/2018	LEPS181106P	0.001 U	0.0153	0.0472	0.218
LS-LEPS	11/13/2018	LEPS181114P	0.001 U	0.0135	0.0375	0.201
LS-LEPS	11/20/2018	LEPS181120P	0.001 U	0.0146	0.0389	0.145
LS-LEPS	11/27/2018	LEPS181127P	0.001 U	0.0109	0.0276	0.101
LS-LEPS	12/4/2018	LEPS181204P	0.001 U	0.00685	0.0197	0.0819
LS-LEPS	12/10/2018	LEPS181210P	0.001 U	0.012	0.0274	0.0923
LS-LEPS	12/18/2018	LEPS181218P	0.001 U	0.00964	0.0245	0.115
LS-LEPS	12/24/2018	LEPS181224P	0.001 U	0.00885	0.0223	0.0787
LS-LEPS	12/31/2018	LEPS181231P	0.001 U	0.00818	0.0193	0.0792
LS-MH46N	10/2/2018	L46N181002M	0.001 U	0.005 U	0.218 D	0.00809 J
LS-MH46N	11/7/2018	L46N181107M	0.001 U	0.005 U	0.231	0.00513
LS-MH46N	12/11/2018	L46N181211M	0.001 U	0.005 U	0.195	0.005 U
LS-MH5	10/2/2018	LMH5181002I	0.001 U	0.0616	0.158 D	0.0971
LS-MH5	11/7/2018	LMH5181107I	0.001 U	0.0343	0.172	0.254
LS-MH5	12/11/2018	LMH5181211I	0.001 U	0.0445	0.133	0.129
LS-PS1A	10/2/2018	LP1A181002I	0.001 U	0.005 U	0.0658 D	0.0224
LS-PS1A	11/7/2018	LP1A181107I	0.001 U	0.005 U	0.00587	0.00949
LS-PS1A	12/11/2018	LP1A181211I	0.001 U	0.005 U	0.0141	0.0123
LS-PS2A	10/2/2018	LP2A181002M	0.001 U	0.005 U	0.00148 D	0.0464
LS-PS2A	11/7/2018	LP2A181107M	0.001 U	0.005 U	0.00298	0.0181
LS-PS2A	12/11/2018	LP2A181211M	0.001 U	0.005 U	0.00307	0.0153
LS-PS4	10/2/2018	LP4-181002I	0.001 U	0.005 U	0.0127 D	0.08
LS-PS4	11/7/2018	LP4-181107I	0.001 U	0.005 U	0.0145	0.0646
LS-PS4	12/11/2018	LP4-181211I	0.001 U	0.005 U	0.0098	0.0566

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Cedar Hills Landfill --- Leachate VOAs Data
Contact Person: Sendy Jimenez (206) 477-5224

Site	Date	Sample ID	1,1,1,2-Tetrachloro-ethane 630-20-6 (ug/L)	1,1,1-Trichloro-ethane 71-55-6 (ug/L)	1,1,2,2-Tetrachloro-ethane 79-34-5 (ug/L)	1,1,2-Trichloro-ethane 79-00-5 (ug/L)	1,1-Dichloro-ethane 75-34-3 (ug/L)	1,1-Dichloro-ethene 75-35-4 (ug/L)	1,1-Dichloro-propene 563-58-6 (ug/L)	1,2,3-Trichloro-propane 96-18-4 (ug/L)	1,2-Dibromo-3-Chloropropane 96-12-8 (ug/L)
LS-API	10/1/2018	LAPI181001M	2.5 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	25 U
LS-API	11/6/2018	LAPI181106M	2.5 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	25 U
LS-API	12/10/2018	LAPI181210M	2.5 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	25 U
LS-LEPS	10/1/2018	LEPS181001M	2.5 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	25 U
LS-LEPS	11/6/2018	LEPS181106M	2.5 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	25 U
LS-LEPS	12/10/2018	LEPS181210M	2.5 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	25 U
LS-MH46N	10/2/2018	L46N181002M	2.5 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	25 U
LS-MH46N	11/7/2018	L46N181107M	2.5 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	25 U
LS-MH46N	12/11/2018	L46N181211M	2.5 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	25 U
LS-PS2A	10/2/2018	LP2A181002M	2.5 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	25 U
LS-PS2A	11/7/2018	LP2A181107M	2.5 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	25 U
LS-PS2A	12/11/2018	LP2A181211M	2.5 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	25 U
VOA TRIP BLANK	10/1/2018	VTRP181001X2	0.25 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	2.5 U
VOA TRIP BLANK	10/1/2018	VTRP181002Y	0.25 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	2.5 U
VOA TRIP BLANK	11/5/2018	VTRP181106X2	0.25 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	2.5 U
VOA TRIP BLANK	11/5/2018	VTRP181107Y	0.25 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	2.5 U
VOA TRIP BLANK	12/10/2018	VTRP181211X	0.25 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	2.5 U
VOA TRIP BLANK	12/10/2018	VTRP181211Y	0.25 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	2.5 U

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Site	Date	Sample ID	1,2-Dibromo-ethane 106-93-4 (ug/L)	1,2-Dichloro-benzene 95-50-1 (ug/L)	1,2-Dichloro-ethane 107-06-2 (ug/L)	1,2-Dichloro-propane 78-87-5 (ug/L)	1,3 Dichloro-benzene 541-73-1 (ug/L)	1,3-Dichloro-propane 142-28-9 (ug/L)	1,4-Dichloro-benzene 106-46-7 (ug/L)	2,2-Dichloro-propane 594-20-7 (ug/L)	2-Butanone 78-93-3 (ug/L)
LS-API	10/1/2018	LAPI181001M	1 U	1 U	2.52	1 U	1 U	1 U	1.94 JT	1 U	3210 D
LS-API	11/6/2018	LAPI181106M	1 U	1 U	1.01 JT	1 U	1 U	1 U	1 U	1 U	1280 D
LS-API	12/10/2018	LAPI181210M	1 U	1 U	1.23 JT	1 U	1 U	1 U	1.73 JT	1 U	1920 D
LS-LEPS	10/1/2018	LEPS181001M	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	2.5 U
LS-LEPS	11/6/2018	LEPS181106M	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	21.2
LS-LEPS	12/10/2018	LEPS181210M	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	527
LS-MH46N	10/2/2018	L46N181002M	1 U	2.12	1 U	1 U	1 U	1 U	8.62	1 U	2.5 U
LS-MH46N	11/7/2018	L46N181107M	1 U	2.1	1 U	1 U	1 U	1 U	8.9	1 U	2.5 U
LS-MH46N	12/11/2018	L46N181211M	1 U	2.02	1 U	1 U	1 U	1 U	8.73	1 U	2.5 U
LS-PS2A	10/2/2018	LP2A181002M	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	2.5 U
LS-PS2A	11/7/2018	LP2A181107M	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	2.5 U
LS-PS2A	12/11/2018	LP2A181211M	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	2.5 U
VOA TRIP BLANK	10/1/2018	VTRP181001X2	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.25 U
VOA TRIP BLANK	10/1/2018	VTRP181002Y	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.25 U
VOA TRIP BLANK	11/5/2018	VTRP181106X2	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.25 U
VOA TRIP BLANK	11/5/2018	VTRP181107Y	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.25 U
VOA TRIP BLANK	12/10/2018	VTRP181211X	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.25 U
VOA TRIP BLANK	12/10/2018	VTRP181211Y	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.25 U

Environmental Monitoring Data

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Site	Date	Sample ID	2-Hexanone	2-Methyl-1-propanol	3-Chloro-propene	4-Methyl-2-Pentanone	Acetone	Acetonitrile	Acrolein	Acrylonitrile	Benzene
			591-78-6 (ug/L)	78-83-1 (ug/L)	107-05-1 (ug/L)	108-10-1 (ug/L)	67-64-1 (ug/L)	75-05-8 (ug/L)	107-02-8 (ug/L)	107-13-1 (ug/L)	71-43-2 (ug/L)
LS-API	10/1/2018	LAPI181001M	8.18 JT	50 U	1 U	41.6 JT	4220 D	53.1 JT	25 U	0.35 U	1 U
LS-API	11/6/2018	LAPI181106M	5 U	58.2 JT	1 U	25 U	1490 D	50 U	25 U	0.35 U	1 U
LS-API	12/10/2018	LAPI181210M	5 U	50 U	1 U	25 U	2440 D	56.1 JT	25 U	0.35 U	1 U
LS-LEPS	10/1/2018	LEPS181001M	5 U	50 U	1 U	25 U	25 U	50 U	25 U	0.35 U	1 U
LS-LEPS	11/6/2018	LEPS181106M	5 U	50 U	1 U	25 U	127	50 U	25 U	0.35 U	1 U
LS-LEPS	12/10/2018	LEPS181210M	5 U	50 U	1 U	25 U	843	50 U	25 U	0.35 U	1 U
LS-MH46N	10/2/2018	L46N181002M	5 U	50 U	1 U	25 U	25 U	50 U	25 U	0.35 U	1 U
LS-MH46N	11/7/2018	L46N181107M	5 U	50 U	1 U	25 U	25 U	50 U	25 U	0.35 U	3.81
LS-MH46N	12/11/2018	L46N181211M	5 U	50 U	1 U	25 U	25 U	50 U	25 U	0.35 U	3.35
LS-PS2A	10/2/2018	LP2A181002M	5 U	50 U	1 U	25 U	25 U	50 U	25 U	0.35 U	1 U
LS-PS2A	11/7/2018	LP2A181107M	5 U	50 U	1 U	25 U	25 U	50 U	25 U	0.35 U	1 U
LS-PS2A	12/11/2018	LP2A181211M	5 U	50 U	1 U	25 U	25 U	50 U	25 U	0.35 U	1 U
VOA TRIP BLANK	10/1/2018	VTRP181001X2	0.5 U	5 U	0.1 U	2.5 U	2.5 U	5 U	2.5 U	0.035 U	0.1 U
VOA TRIP BLANK	10/1/2018	VTRP181002Y	0.5 U	5 U	0.1 U	2.5 U	2.5 U	5 U	2.5 U	0.035 U	0.1 U
VOA TRIP BLANK	11/5/2018	VTRP181106X2	0.5 U	5 U	0.1 U	2.5 U	2.5 U	5 U	2.5 U	0.035 U	0.1 U
VOA TRIP BLANK	11/5/2018	VTRP181107Y	0.5 U	5 U	0.1 U	2.5 U	2.5 U	5 U	2.5 U	0.035 U	0.1 U
VOA TRIP BLANK	12/10/2018	VTRP181211X	0.5 U	5 U	0.1 U	2.5 U	2.5 U	5 U	2.5 U	0.035 U	0.1 U
VOA TRIP BLANK	12/10/2018	VTRP181211Y	0.5 U	5 U	0.1 U	2.5 U	2.5 U	5 U	2.5 U	0.035 U	0.1 U

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Site	Date	Sample ID	Bromochloro-methane	Bromodichloro-methane	Bromoform	Bromo-methane	Carbon Disulfide	Carbon Tetrachloride	Chloro-benzene	Chloro-dibromo-methane	Chloroethane
			74-97-5 (ug/L)	75-27-4 (ug/L)	75-25-2 (ug/L)	74-83-9 (ug/L)	75-15-0 (ug/L)	56-23-5 (ug/L)	108-90-7 (ug/L)	124-48-1 (ug/L)	75-00-3 (ug/L)
LS-API	10/1/2018	LAPI181001M	1 U	2.5 U	5 U	1 U	1.11 JT	2.5 U	1 U	5 U	1 U
LS-API	11/6/2018	LAPI181106M	1 U	2.5 U	5 U	1 U	1 U	2.5 U	1 U	5 U	1 U
LS-API	12/10/2018	LAPI181210M	1 U	2.5 U	5 U	1 U	1 U	2.5 U	1 U	5 U	1 U
LS-LEPS	10/1/2018	LEPS181001M	1 U	2.5 U	5 U	1 U	1 U	2.5 U	1 U	5 U	1 U
LS-LEPS	11/6/2018	LEPS181106M	1 U	2.5 U	5 U	3.01	1 U	2.5 U	1 U	5 U	1 U
LS-LEPS	12/10/2018	LEPS181210M	1 U	2.5 U	5 U	1 U	1 U	2.5 U	1 U	5 U	1 U
LS-MH46N	10/2/2018	L46N181002M	1 U	2.5 U	5 U	1 U	1 U	2.5 U	2.03	5 U	1 U
LS-MH46N	11/7/2018	L46N181107M	1 U	2.5 U	5 U	1 U	1 U	2.5 U	2.11	5 U	1 U
LS-MH46N	12/11/2018	L46N181211M	1 U	2.5 U	5 U	1 U	1 U	2.5 U	1.93 JT	5 U	1 U
LS-PS2A	10/2/2018	LP2A181002M	1 U	2.5 U	5 U	1 U	1 U	2.5 U	1 U	5 U	1 U
LS-PS2A	11/7/2018	LP2A181107M	1 U	2.5 U	5 U	1 U	1 U	2.5 U	1 U	5 U	1 U
LS-PS2A	12/11/2018	LP2A181211M	1 U	2.5 U	5 U	1 U	1 U	2.5 U	1 U	5 U	1 U
VOA TRIP BLANK	10/1/2018	VTRP181001X2	0.1 U	0.25 U	0.5 U	0.1 U	0.1 U	0.25 U	0.1 U	0.5 U	0.1 U
VOA TRIP BLANK	10/1/2018	VTRP181002Y	0.1 U	0.25 U	0.5 U	0.1 U	0.1 U	0.25 U	0.1 U	0.5 U	0.1 U
VOA TRIP BLANK	11/5/2018	VTRP181106X2	0.1 U	0.25 U	0.5 U	0.1 U	0.1 U	0.25 U	0.1 U	0.5 U	0.1 U
VOA TRIP BLANK	11/5/2018	VTRP181107Y	0.1 U	0.25 U	0.5 U	0.1 U	0.1 U	0.25 U	0.1 U	0.5 U	0.1 U
VOA TRIP BLANK	12/10/2018	VTRP181211X	0.1 U	0.25 U	0.5 U	0.1 U	0.1 U	0.25 U	0.1 U	0.5 U	0.1 U
VOA TRIP BLANK	12/10/2018	VTRP181211Y	0.1 U	0.25 U	0.5 U	0.1 U	0.1 U	0.25 U	0.1 U	0.5 U	0.1 U

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Site	Date	Sample ID	Chloroform	Chloro-methane	Chloroprene	cis-1,2-Dichloro-ethene	cis-1,3-Dichloro-propene	Dibromo-methane	Dichloro-difluoro-methane	Ethylbenzene	m & p Xylenes
			67-66-3 (ug/L)	74-87-3 (ug/L)	126-99-8 (ug/L)	156-59-2 (ug/L)	10061-01-5 (ug/L)	74-95-3 (ug/L)	75-71-8 (ug/L)	100-41-4 (ug/L)	mpx (ug/L)
LS-API	10/1/2018	LAPI181001M	1 U	2.5 U	1 U	1.27 JT	2.5 U	1 U	1 U	2.33	5.73
LS-API	11/6/2018	LAPI181106M	1 U	2.5 U	1 U	1 U	2.5 U	1 U	1 U	1.49 JT	3.39
LS-API	12/10/2018	LAPI181210M	1 U	2.5 U	1 U	1.11 JT	2.5 U	1 U	1 U	2.69	6.08
LS-LEPS	10/1/2018	LEPS181001M	1 U	2.5 U	1 U	1 U	2.5 U	1 U	1 U	1 U	1 U
LS-LEPS	11/6/2018	LEPS181106M	1 U	3.3 JT	1 U	1 U	2.5 U	1 U	1 U	1 U	1 U
LS-LEPS	12/10/2018	LEPS181210M	1 U	2.5 U	1 U	1 U	2.5 U	1 U	1 U	1 U	2.07
LS-MH46N	10/2/2018	L46N181002M	1 U	2.5 U	1 U	1.79 JT	2.5 U	1 U	1 U	35.9	45.9
LS-MH46N	11/7/2018	L46N181107M	1 U	2.5 U	1 U	1.57 JT	2.5 U	1 U	1 U	38.2	49.4
LS-MH46N	12/11/2018	L46N181211M	1 U	2.5 U	1 U	1.99 JT	2.5 U	1 U	1 U	35.3	49.2
LS-PS2A	10/2/2018	LP2A181002M	1 U	2.5 U	1 U	1 U	2.5 U	1 U	1 U	1 U	1 U
LS-PS2A	11/7/2018	LP2A181107M	1 U	2.5 U	1 U	1 U	2.5 U	1 U	1 U	1 U	1 U
LS-PS2A	12/11/2018	LP2A181211M	1 U	2.5 U	1 U	1 U	2.5 U	1 U	1 U	1 U	1 U
VOA TRIP BLANK	10/1/2018	VTRP181001X2	0.1 U	0.25 U	0.1 U	0.1 U	0.25 U	0.1 U	0.1 U	0.1 U	0.1 U
VOA TRIP BLANK	10/1/2018	VTRP181002Y	0.1 U	0.25 U	0.1 U	0.1 U	0.25 U	0.1 U	0.1 U	0.1 U	0.1 U
VOA TRIP BLANK	11/5/2018	VTRP181106X2	0.1 U	0.25 U	0.1 U	0.1 U	0.25 U	0.1 U	0.1 U	0.1 U	0.1 U
VOA TRIP BLANK	11/5/2018	VTRP181107Y	0.1 U	0.25 U	0.1 U	0.1 U	0.25 U	0.1 U	0.1 U	0.1 U	0.1 U
VOA TRIP BLANK	12/10/2018	VTRP181211X	0.1 U	0.25 U	0.1 U	0.1 U	0.25 U	0.1 U	0.1 U	0.1 U	0.1 U
VOA TRIP BLANK	12/10/2018	VTRP181211Y	0.1 U	0.25 U	0.1 U	0.1 U	0.25 U	0.1 U	0.1 U	0.1 U	0.1 U

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Site	Date	Sample ID	Methyl Iodide	Methyl Methacrylate	Methylacrylo-nitrile	Methylene Chloride	o-Xylene	Proprionitrile	Styrene	Tetrachloro-ethene	Toluene
			74-88-4 (ug/L)	80-62-6 (ug/L)	126-98-7 (ug/L)	75-09-2 (ug/L)	95-47-6 (ug/L)	107-12-0 (ug/L)	100-42-5 (ug/L)	127-18-4 (ug/L)	108-88-3 (ug/L)
LS-API	10/1/2018	LAPI181001M	1 U	2.5 U	1 U	25 U	3.44	5 U	1 U	1 U	11
LS-API	11/6/2018	LAPI181106M	1 U	2.5 U	1 U	25 U	1.82 JT	5 U	1 U	1 U	5.02
LS-API	12/10/2018	LAPI181210M	1 U	2.5 U	1 U	25 U	3.27	5 U	1 U	1 U	10.2
LS-LEPS	10/1/2018	LEPS181001M	1 U	2.5 U	1 U	25 U	1 U	5 U	1 U	1 U	1 U
LS-LEPS	11/6/2018	LEPS181106M	1 U	2.5 U	1 U	25 U	1 U	5 U	1 U	1 U	1 U
LS-LEPS	12/10/2018	LEPS181210M	1 U	2.5 U	1 U	25 U	1.09 JT	5 U	1 U	1 U	3.76
LS-MH46N	10/2/2018	L46N181002M	1 U	2.5 U	1 U	25 U	4.98	5 U	1 JT	1 U	5.19
LS-MH46N	11/7/2018	L46N181107M	1 U	2.5 U	1 U	25 U	6.36	5 U	1 U	1 U	6.31
LS-MH46N	12/11/2018	L46N181211M	1 U	2.5 U	1 U	25 U	6.77	5 U	1 U	1 U	5.58
LS-PS2A	10/2/2018	LP2A181002M	1 U	2.5 U	1 U	25 U	1 U	5 U	1 U	1 U	1 U
LS-PS2A	11/7/2018	LP2A181107M	1 U	2.5 U	1 U	25 U	1 U	5 U	1 U	1 U	1 U
LS-PS2A	12/11/2018	LP2A181211M	1 U	2.5 U	1 U	25 U	1 U	5 U	1 U	1 U	1 U
VOA TRIP BLANK	10/1/2018	VTRP181001X2	0.1 U	0.25 U	0.1 U	2.5 U	0.1 U	0.5 U	0.1 U	0.1 U	0.1 U
VOA TRIP BLANK	10/1/2018	VTRP181002Y	0.1 U	0.25 U	0.1 U	2.5 U	0.1 U	0.5 U	0.1 U	0.1 U	0.1 U
VOA TRIP BLANK	11/5/2018	VTRP181106X2	0.1 U	0.25 U	0.1 U	2.5 U	0.1 U	0.5 U	0.1 U	0.1 U	0.1 U
VOA TRIP BLANK	11/5/2018	VTRP181107Y	0.1 U	0.25 U	0.1 U	2.5 U	0.1 U	0.5 U	0.1 U	0.1 U	0.1 U
VOA TRIP BLANK	12/10/2018	VTRP181211X	0.1 U	0.25 U	0.1 U	2.5 U	0.1 U	0.5 U	0.1 U	0.1 U	0.1 U
VOA TRIP BLANK	12/10/2018	VTRP181211Y	0.1 U	0.25 U	0.1 U	2.5 U	0.1 U	0.5 U	0.1 U	0.1 U	0.1 U

Data Collected from October 1, 2018 to December 31, 2018
Cedar Hills Landfill --- Leachate VOAs Data
Contact Person: Sendy Jimenez (206) 477-5224

Site	Date	Sample ID	trans-1,2-Dichloro-ethene 156-60-5 (ug/L)	trans-1,3-Dichloro-propene 10061-02-6 (ug/L)	trans-1,4-Dichloro-2-butene 110-57-6 (ug/L)	Trichloro-ethene 79-01-6 (ug/L)	Trichloro-fluoro-methane 75-69-4 (ug/L)	Vinyl Acetate 108-05-4 (ug/L)	Vinyl Chloride 75-01-4 (ug/L)
LS-API	10/1/2018	LAPI181001M	1 U	5 U	5 U	1 U	1 U	1 U	0.1 U
LS-API	11/6/2018	LAPI181106M	1 U	5 U	5 U	1 U	1 U	1 U	0.1 U
LS-API	12/10/2018	LAPI181210M	1 U	5 U	5 U	1 U	1 U	1 U	0.1 U
LS-LEPS	10/1/2018	LEPS181001M	1 U	5 U	5 U	1 U	1 U	1 U	0.1 U
LS-LEPS	11/6/2018	LEPS181106M	1 U	5 U	5 U	1 U	1 U	1 U	0.1 U
LS-LEPS	12/10/2018	LEPS181210M	1 U	5 U	5 U	1 U	1 U	1 U	0.1 U
LS-MH46N	10/2/2018	L46N181002M	1 U	5 U	5 U	1 U	1 U	1 U	4.17
LS-MH46N	11/7/2018	L46N181107M	1 U	5 U	5 U	1 U	1 U	1 U	3.87
LS-MH46N	12/11/2018	L46N181211M	1 U	5 U	5 U	1 U	1 U	1 U	3.53
LS-PS2A	10/2/2018	LP2A181002M	1 U	5 U	5 U	1 U	1 U	1 U	0.1 U
LS-PS2A	11/7/2018	LP2A181107M	1 U	5 U	5 U	1 U	1 U	1 U	0.1 U
LS-PS2A	12/11/2018	LP2A181211M	1 U	5 U	5 U	1 U	1 U	1 U	0.1 U
VOA TRIP BLANK	10/1/2018	VTRP181001X2	0.1 U	0.5 U	0.5 U	0.1 U	0.1 U	0.1 U	0.01 U
VOA TRIP BLANK	10/1/2018	VTRP181002Y	0.1 U	0.5 U	0.5 U	0.1 U	0.1 U	0.1 U	0.01 U
VOA TRIP BLANK	11/5/2018	VTRP181106X2	0.1 U	0.5 U	0.5 U	0.1 U	0.1 U	0.1 U	0.01 U
VOA TRIP BLANK	11/5/2018	VTRP181107Y	0.1 U	0.5 U	0.5 U	0.1 U	0.1 U	0.1 U	0.01 U
VOA TRIP BLANK	12/10/2018	VTRP181211X	0.1 U	0.5 U	0.5 U	0.1 U	0.1 U	0.1 U	0.01 U
VOA TRIP BLANK	12/10/2018	VTRP181211Y	0.1 U	0.5 U	0.5 U	0.1 U	0.1 U	0.1 U	0.01 U

Environmental Monitoring Data

Data Collected from October 1, 2018 to December 31, 2018
Cedar Hills Landfill --- Leachate Pestacides, Herbacides, PCBs Data
Contact Person: Sendy Jimenez (206) 477-5224

Site	Date	Sample ID	2,4,5-T	2,4,5-TP Silvex	2,4-D	4,4' DDD	4,4' DDE	4,4' DDT	Aldrin	Alpha BHC	Alpha Chlordane	Aroclor 1016
										BHC	Chlordane	1016
			93-76-5	93-72-1	94-75-7	72-54-8	72-55-9	50-29-3	309-00-2	319-84-6	5103-71-9	12674-11-2
			ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l
LS-API	10/1/2018	LAPI181001M	0.5 U	2.5 U	2.5 U	0.025 U	0.05 U	0.05 U	0.025 U	0.025 U	0.05 U	0.025 U
LS-API	11/6/2018	LAPI181106M	0.5 SU	0.5 SU	1 SU	0.025 GSU	0.025 GSU	0.025 GSU	0.025 GSU	0.025 SU	0.025 GSU	0.025 SU
LS-API	12/10/2018	LAPI181210M	0.5 U	1.5 U	1.5 U	0.025 U	0.04 G	0.025 U	0.025 U	0.025 U	0.025 GU	0.025 U
LS-LEPS	10/1/2018	LEPS181001M	0.5 U	2 U	1 U	0.025 U	0.0299 J	0.025 U	0.025 U	0.025 U	0.025 U	0.025 U
LS-LEPS	11/6/2018	LEPS181106M	0.5 SU	0.5 SU	1 SU	0.025 GSU	0.0446 GS	0.025 GSU	0.025 GSU	0.025 SU	0.025 GSU	0.025 SU
LS-LEPS	12/10/2018	LEPS181210M	0.5 U	0.5 U	1 U	0.025 U	0.025 GU	0.025 U	0.025 U	0.025 U	0.025 GU	0.025 U
LS-MH46N	10/2/2018	L46N181002M	0.5 U	1.59	2.54	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.0428 J	0.025 U
LS-MH46N	11/7/2018	L46N181107M	0.5 SU	1.71 S	2.26 S	0.03 SU	0.0233 JS	0.01 SU	0.01 SU	0.01 SU	0.0504 JS	0.025 SU
LS-MH46N	12/11/2018	L46N181211M	0.5 U	1.38	3.16	0.01 U	0.04 U	0.01 U	0.01 U	0.01 U	0.0293 J	0.025 U
LS-PS2A	10/2/2018	LP2A181002M	0.5 U	0.5 U	1 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.025 U
LS-PS2A	11/7/2018	LP2A181107M	0.5 SU	0.5 SU	1 SU	0.01 SU	0.01 SU	0.01 SU	0.01 SU	0.01 SU	0.01 SU	0.025 SU
LS-PS2A	12/11/2018	LP2A181211M	0.5 U	0.5 U	1 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.025 U

Environmental Monitoring Data

Data Collected from October 1, 2018 to December 31, 2018
Cedar Hills Landfill --- Leachate Pestacides, Herbacides, PCBs Data
Contact Person: Sendy Jimenez (206) 477-5224

Site	Date	Sample ID	Aroclor 1221	Aroclor 1232	Aroclor 1242	Aroclor 1248	Aroclor 1254	Aroclor 1260	Beta Bhc	Delta Bhc	Dieldrin	Dinoseb
			1221	1232	1242	1248	1254	1260	BHC	BHC		
			11104-28-2	11141-16-5	53469-21-9	12672-29-6	11097-69-1	11096-82-5	319-85-7	319-86-8	60-57-1	88-85-7
			ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l
LS-API	10/1/2018	LAPI181001M	0.4 U	0.025 U	0.531	0.025 U	0.122	0.025 U	0.3 GU	0.1 U	0.025 U	1 U
LS-API	11/6/2018	LAPI181106M	0.025 SU	0.025 SU	0.0952 S	0.025 SU	0.0379 S	0.025 SU	0.0306 GS	0.025 GSU	0.025 GSU	0.5 SU
LS-API	12/10/2018	LAPI181210M	0.025 U	0.025 U	0.189	0.025 U	0.0686	0.025 U	0.075 GU	0.025 GU	0.025 U	0.5 U
LS-LEPS	10/1/2018	LEPS181001M	0.025 U	0.025 U	0.154	0.025 U	0.0624	0.025 U	0.075 GU	0.025 U	0.025 U	2.5 U
LS-LEPS	11/6/2018	LEPS181106M	0.025 SU	0.025 SU	0.0767 S	0.025 SU	0.0349 S	0.025 SU	0.025 GSU	0.025 GSU	0.025 GSU	1.5 SU
LS-LEPS	12/10/2018	LEPS181210M	0.025 U	0.025 U	0.068	0.025 U	0.025 U	0.025 U	0.05 GU	0.025 GU	0.025 U	0.5 U
LS-MH46N	10/2/2018	L46N181002M	0.025 U	0.025 U	0.226	0.025 U	0.025 U	0.025 U	0.0516 J	0.01 U	0.01 U	2.5 U
LS-MH46N	11/7/2018	L46N181107M	0.0787 JS	0.025 SU	0.217 S	0.025 SU	0.0292 S	0.025 SU	0.0347 JS	0.05 SU	0.01 SU	0.5 SU
LS-MH46N	12/11/2018	L46N181211M	0.15 U	0.025 U	0.237	0.025 U	0.025 U	0.025 U	0.0767 J	0.1 U	0.0404 J	0.5 U
LS-PS2A	10/2/2018	LP2A181002M	0.025 U	0.025 U	0.025 U	0.025 U	0.025 U	0.025 U	0.01 U	0.01 U	0.01 U	0.5 U
LS-PS2A	11/7/2018	LP2A181107M	0.025 SU	0.025 SU	0.025 SU	0.025 SU	0.025 SU	0.025 SU	0.01 SU	0.01 SU	0.01 SU	0.5 SU
LS-PS2A	12/11/2018	LP2A181211M	0.025 U	0.025 U	0.025 U	0.025 U	0.025 U	0.025 U	0.01 U	0.01 U	0.01 U	0.5 U

Environmental Monitoring Data

Data Collected from October 1, 2018 to December 31, 2018
Cedar Hills Landfill --- Leachate Pestacides, Herbacides, PCBs Data
Contact Person: Sendy Jimenez (206) 477-5224

Site	Date	Sample ID	Endosulfan I	Endosulfan II	Endosulfan Sulfate	Endrin	Endrin Aldehyde	Heptachlor	Heptachlor Epoxide	Isodrin	Lindane(Gamma BHC)	Methoxychlor
			sulfan I	sulfan II	Sulfate		Aldehyde		Epoxide			chlor
			959-98-8	33213-65-9	1031-07-8	72-20-8	7421-93-4	76-44-8	1024-57-3	465-73-6	58-89-9	72-43-5
			ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l
LS-API	10/1/2018	LAPI181001M	0.025 U	0.1 U	0.025 U	0.05 U	0.075 GU	0.125 U	0.05 U	0.025 U	0.0509 J	0.125 U
LS-API	11/6/2018	LAPI181106M	0.025 SU	0.025 SU	0.025 SU	0.025 SU	0.025 GSU	0.025 GSU	0.025 GSU	0.025 GSU	0.025 SU	0.125 SU
LS-API	12/10/2018	LAPI181210M	0.025 U	0.025 U	0.025 U	0.025 U	0.025 GU	0.025 U	0.025 U	0.025 U	0.025 U	0.125 U
LS-LEPS	10/1/2018	LEPS181001M	0.025 U	0.025 U	0.025 U	0.025 U	0.025 GU	0.05 U	0.025 U	0.025 U	0.05 U	0.125 U
LS-LEPS	11/6/2018	LEPS181106M	0.025 SU	0.025 SU	0.025 SU	0.025 SU	0.025 GSU	0.025 GSU	0.025 GSU	0.025 GSU	0.025 SU	0.125 SU
LS-LEPS	12/10/2018	LEPS181210M	0.025 U	0.025 U	0.025 U	0.025 U	0.025 GU	0.025 U	0.025 U	0.025 U	0.025 U	0.125 U
LS-MH46N	10/2/2018	L46N181002M	0.01 U	0.01 U	0.01 U	0.01 U	0.02 U	0.01 U	0.02 U	0.01 U	0.0404 J	0.05 U
LS-MH46N	11/7/2018	L46N181107M	0.01 SU	0.01 SU	0.01 SU	0.01 SU	0.01 SU	0.01 SU	0.01 SU	0.01 SU	0.01 SU	0.05 SU
LS-MH46N	12/11/2018	L46N181211M	0.01 U	0.01 U	0.01 U	0.01 U	0.0113 J	0.01 U	0.01 U	0.01 U	0.06 U	0.05 U
LS-PS2A	10/2/2018	LP2A181002M	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.05 U
LS-PS2A	11/7/2018	LP2A181107M	0.01 SU	0.01 SU	0.01 SU	0.01 SU	0.01 SU	0.01 SU	0.01 SU	0.01 SU	0.01 SU	0.05 SU
LS-PS2A	12/11/2018	LP2A181211M	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.05 U

Environmental Monitoring Data

Data Collected from October 1, 2018 to December 31, 2018
Cedar Hills Landfill --- Leachate Pestacides, Herbacides, PCBs Data
Contact Person: Sendy Jimenez (206) 477-5224

Site	Date	Sample ID	Total Aroclors	Toxaphene	Trans-Chlordane
			T_AROCLOR	8001-35-2	5103-74-2
			ug/l	ug/l	ug/l
LS-API	10/1/2018	LAPI181001M	0.653	2.5 U	0.025 GU
LS-API	11/6/2018	LAPI181106M	0.1331	2.5 SU	0.025 GSU
LS-API	12/10/2018	LAPI181210M	0.2576	2.5 U	0.025 GU
LS-LEPS	10/1/2018	LEPS181001M	0.2164	2.5 U	0.025 GU
LS-LEPS	11/6/2018	LEPS181106M	0.1116	2.5 SU	0.025 GSU
LS-LEPS	12/10/2018	LEPS181210M	0.068	2.5 U	0.025 GU
LS-MH46N	10/2/2018	L46N181002M	0.226	1 U	0.01 U
LS-MH46N	11/7/2018	L46N181107M	0.3249	1 SU	0.01 SU
LS-MH46N	12/11/2018	L46N181211M	0.237	1 U	0.01 U
LS-PS2A	10/2/2018	LP2A181002M	0.025 U	1 U	0.01 U
LS-PS2A	11/7/2018	LP2A181107M	0.025 U	1 SU	0.01 SU
LS-PS2A	12/11/2018	LP2A181211M	0.025 U	1 U	0.01 U