Attachment F

Annual Summary of Groundwater Monitoring Results

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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 2020	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	☒	

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2/9/2021
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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TABLE OF CONTENTS

Page

PART 1 GROUNDWATER DATA EVALUATION

1.0 INTRODUCTION 1

2.0 GEOLOGY AND HYDROGEOLOGY 2
- 2.1 Local Perched Water Bearing Zones 3
- 2.2 Regional Aquifer 3

3.0 DATA COLLECTION AND EVALUATION 5
- 3.1 Data Quality Assurance/Quality Control Program 5
- 3.2 Groundwater Elevation and Flow 6
- 3.3 Evaluation of Groundwater Data 6
- 3.4 Groundwater Quality Standards 9
- 3.5 Lower Limit of Quantitation 9

4.0 GROUNDWATER QUALITY EVALUATION 10
- 4.1 Regional Aquifer Groundwater Elevation and Flow 10
- 4.2 Regional Aquifer Water Quality 11
- 4.3 Perched Groundwater 23

5.0 SUMMARY AND CONCLUSIONS 27
- 5.1 Regional Aquifer 27
- 5.2 Perched Zones 29

6.0 REFERENCES 30

PART 2 TABLES

Table 2-1 Summary of Cedar Hills Regional Landfill Site Groundwater Monitoring Wells
Table 3-1 Water Quality Standards for Groundwaters of the State of Washington
Table 4-1a Groundwater Quality Standard Exceedances Regional Aquifer
Table 4-1b Groundwater Quality Standard Exceedances Perched Zones
Table 4-2a Statistical Summary of Upgradient and Crossgradient Groundwater Quality
Table 4-2b Statistical Summary of Downgradient Groundwater Quality
Table 4-2c Statistical Summary of Perched Zones Quality Groundwater Quality
Table 4-3a Regional Aquifer Upgradient Groundwater Trend Test Results
Table 4-3b Regional Aquifer Downgradient Groundwater Trend Test Results
Table 4-3c Perched Zones Groundwater Trend Test Results
Table 4-4a Regional Aquifer Groundwater Prediction Limit Values and Results
Table 4-4b Perched Zones Groundwater Prediction Limit Values and Results

PART 3 FIGURES

Figure 2-1 Site Location
Figure 2-2a Groundwater Monitoring Network
Figure 2-2b Stormwater Monitoring Network
Figure 2-2c Leachate Monitoring Network
Figure 2-3 Regional Cross Section N-S
Figure 2-4 Regional Cross Section NW-SE
Figure 2-5 Regional Cross Section Location Map
Figure 4-1 Regional Aquifer Flow Paths
Figure 4-2 Regional Aquifer Monitoring Well Locations and Capture Zones

PART 4 POTENTIOMETRIC GROUNDWATER SURFACE MAPS AND GROUNDWATER VELOCITY CALCULATIONS

PART 5 TIME-CONCENTRATION PLOTS. MONITORING WELL HYDROGRAPHS

PART 6 TRILINEAR DIAGRAMS AND ION BALANCE CALCULATIONS

PART 7 FIELD AND ANALYTICAL DATA FOR 2020

CEDAR HILLS REGIONAL LANDFILL
2020 ANNUAL REPORT

ATTACHMENT F PART 1
GROUNDWATER DATA EVALUATION

1.0 INTRODUCTION

This Cedar Hills Regional Landfill (CHRLF) 2020 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 (2013)* (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. Regional cross section location map that shows where these cross sections are taken is provided in Figure 2-5.

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 perched zone 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 monitoring wells MW-30A, MW-47, MW-62, MW-102, MW-103, MW-104, MW-107, MW-108, MW-109, MW-110, MW-111 and MW-112 and piezometer EB-6 for both water levels and water quality; and, by wells MW-28, MW-29, MW-45, MW-48, MW-50, MW-55, MW-63, MW-79, MW-98 and piezometers EB-5S and EB-5 for water levels only. Extraction well EW-25 (decommissioned 2nd quarter of 2018, as described in the *Cedar Hills Regional Landfill – EPZ Extraction Well Decommissioning Technical Memorandum*) provided monitoring of the EPZ historically.

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 forty-four (44) monitoring and one (1) production well where water level measurements are obtained. Thirty one (31) of the regional monitoring wells were also sampled and analyzed for water quality on either a quarterly or semi-annual basis in 2020, 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. Three new monitoring wells, MW-113, MW-114 and MW-115 were installed in 2020 to replace them. Monitoring wells MW-69, and MW-79 were damaged, so no samples have been collected since the first quarter of 2020.

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 2020, the average horizontal groundwater flow velocities for the regional aquifer have been calculated to range from 0.008 to 0.01 ft/day in the south landfill area, from 1.99 to 2.33 ft/day in the central area, and from 1.87 to 2.04 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 are 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 are 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 two most recent two years of data (long-term data set), and the second subset only consists of the most recent two years of data (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. Utilizing two years of most recent data for short term statistical analysis has the advantage of representing the current groundwater condition but at the same time, less data produce less reliable statistics to those semi-annual wells where only four data points have been sampled in two years.

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 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 Trend Summary Tables (Table 4-3a, Table 4-3b, and Table 4-3c). Statistically significant decreasing trends are denoted by "D" while the corresponding cell in the table is filled with green, and statistically significant increasing trends by "I" with red cell color. 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 (quarterly or semi-annual 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 multiple 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 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 (2016-2020) and the second for the period 2001-2020 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 are 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 2020 started to increase relative to the low rainfall in 2019. 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, which 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). Groundwater samples collected at upgradient wells south, northwest and northeast all have alkalinity values generally less than 150 mg/L $CaCO_3$ excluding groundwater sample results collected at MW-83 for which alkalinity value is higher. 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, MW-56 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 the downgradient wells MW-74R, MW-75, MW-85, MW-87 and MW-89 in the north landfill area. Concentrations of chloride in the wells remain below the Washington State Groundwater Quality Standard (WAC 173-200) of 250 mg/L; the highest chloride concentrations in the collected groundwater samples are below 100 mg/L. 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, iron, manganese and trichloroethene (TCE).

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 31 regional wells in 2020. 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-21, MW-64, MW-67, MW-68, MW-80, MW-86, MW-98, MW-89, MW-93, MW-95 and MW-100. 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. Based on the recent sampling and hydrogeochemical evaluation of the data, six (6) groundwater wells have been selected and then re-developed through a work order at the CHRLF: MW-67, MW-80, MW-85, MW-84, MW-86, and MW-89. The total depths of the wells range from 231 feet below ground surface (bgs) to 292 feet bgs. Redevelopment had been performed by a Washington State licensed drilling company, under the supervision of a qualified hydrogeologist. A report on the well redevelopment will be provided by 2021. Redevelopment of these wells to clear fines and restore aquifer conditions was likely necessary to ensure monitoring results are representative of aquifer water quality. Post-redevelopment groundwater chemical analyses will be reflected from the first quarter of 2021 reports and analysis.

4.2.4.2 CVOCs Exceedances

For 2020, TCE exceeded criteria in both semi-annual samples from two upgradient wells (MW-76, MW-82) and the two new regional upgradient wells (MW-114 and MW-115) while TCE exceeds primary standards at MW-114 and MW-76 in 2020. Vinyl chloride exceeds in two upgradient wells (MW-24 and MW-65). TCE was also consistently detected in wells MW-83 and MW-94 at concentrations 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 2020 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 2020 include arsenic, dissolved iron, dissolved manganese, TCE and Vinyl chloride. 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.

TCE exceedance above the secondary criteria occur in MW-114, MW-115 and MW-82 while Vinyl chloride exceedance above the secondary criteria occur in MW-24 and MW-65. All these 5 (five) wells are located along the south property line close to QCF and impacted by compounds migrating from the QCF site.

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 most recent two years of data; and, long term which covers the 50 previous data points. Generally, the short-term data subset is considered to be the most representative of current conditions yet we acknowledge that utilizing two years of most recent data for short term trend analysis is less reliable for the semi-annual wells where only four data points have been sampled in two years. 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, 65 and 82 exhibited long term decreasing trends while MW-83 and MW-94 exhibited a long term increasing trend. A short term decreasing trend was also calculated for MW-59.

For northwest flow path monitoring wells, MW-21, 64, 73 and 84 exhibited long term decreasing trends, while MW-66 exhibited a long term increasing trend.

Downgradient:

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

4.2.5.2 Appendix I Metals

Historically, the dissolved fraction has been used to evaluate trends. 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 4-3a and Table 4-3b.

Total Arsenic

Upgradient and Cross Gradient:

Upgradient and cross gradient monitoring wells MW-56, 76, 82, 83, 84, and 94 exhibited long term decreasing trends for total arsenic, while MW-24, 65, 66 and 81 exhibited an increasing trend. Also, cross gradient wells MW-93 and 95 exhibited a short term increasing trend.

Downgradient:

For downgradient wells, MW-67, 85, 86 and 100 exhibited long term increasing trends for total arsenic, while MW-72 exhibited a long term decreasing trend. Also, trend calculations for MW-85 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, all monitoring well MW-59, 83, and 94 exhibited long term increasing trends. Short term trend calculations for MW-94 showed similar increasing trends.

For northwest flow path monitoring wells, MW-21, 81 and 84 exhibited long term increasing trends for total barium, while MW-66 exhibited a long term decreasing trends.

For northeast flow path cross gradient monitoring wells, MW-93 exhibited a long term decreasing trend for total barium. Short term trend analysis for total barium in MW-95 showed an increasing trend.

Downgradient:

For downgradient wells, MW-67, 72, 74R, 75, 85, 86, and 89 exhibited long term increasing trends for total barium, while MW-68 exhibited a long term decreasing trend. Also, short term trend calculations for MW-67 and 75 showed an increasing trend, while MW-74R and 100 showed decreasing trends.

Total Chromium

Upgradient and Cross Gradient:

Along the south property line, monitoring wells MW-56, 59, 76, 82, 83 and 94 exhibited long term and MW-94 also exhibited a short term decreasing trends for total chromium.

For northeast flow path monitoring wells, MW-66 and MW-73 exhibited long term decreasing trends for total chromium.

Downgradient:

For downgradient wells, MW-68, 72, 86, 87, 88 and 100 exhibited long term and MW-80 exhibited short term decreasing trends for total chromium.

Total Cobalt

Upgradient and Cross Gradient:

Along the south property line, monitoring well MW-56, 83 and 94 exhibited a long term decreasing trend while MW-94 exhibited short term decreasing trend as well for total cobalt.

Cross gradient well MW-93 exhibited long term decreasing trend while short term increasing trend. Also, MW-95 exhibited a short term decreasing trend for total cobalt.

Downgradient:

For downgradient wells, MW-67, 68 and 87 exhibited long term decreasing trends for total cobalt as well as MW-100 for a long term period.

Total Copper

Upgradient and Cross Gradient:

Along the south property line, monitoring well MW-83 exhibited a long term increasing trend for total copper. MW-56, 59 and 82 exhibited a long term decreasing trend for total copper

Downgradient:

For downgradient wells, MW-67, 68, 72, 74R, 87and 100 exhibited long term decreasing trends for total copper.

Total Lead

Upgradient and Cross Gradient:

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

Downgradient:

For downgradient wells, MW-72, 87 and 100 exhibited a long term decreasing trends for total lead.

Total Nickel

Upgradient and Cross Gradient:

Along the south property line, monitoring wells MW-56, 59, 65, 76, 82, 83 and 94 exhibited long term decreasing trends while MW-94 exhibited short term decreasing trend as well for total nickel.

Upgradient and cross gradient wells MW-21, 66, 73, 81, 84 and 93 exhibited long term decreasing trends while MW- 95 exhibited short term decreasing trend for total nickel. Also, short term trend calculations for MW-84 showed an increasing trend, although this monitoring well exhibited a long term decreasing trend for total nickel. Monitoring wells, MW-21, 76, 82, and 95 showed short term decreasing trends for total nickel as well.

Downgradient:

For downgradient wells, MW-67, 68, 72, 74R, 80, 85, 86, 87, 89 and 100 exhibited long term decreasing trends for total nickel while MW-74R showed short term decreasing trends as well.

Total Selenium

Upgradient and Cross Gradient:

For northwest flow path monitoring wells, MW-66, 81 and 84 exhibited a long term increasing trend.

Downgradient:

For downgradient wells, MW-74R and 88 exhibited a long term increasing trend for total selenium, MW-86 exhibited a long term decreasing trend.

Total Vanadium

Upgradient and Cross Gradient:

Along the south property line, monitoring well MW-56, 76 and 83 exhibited a short term decreasing trend for total vanadium.

For northwest flow path monitoring wells, MW-66 and 84 exhibited a long term decreasing trend. For northeast flow path monitoring wells, MW-81 exhibited long term increasing trends for total vanadium.

For cross gradient well MW-93 exhibited a long term increasing trend. Short term trend analysis for MW-95 exhibited a decreasing trend.

Downgradient:

For downgradient wells, MW-68, 72, 74R and 85 exhibited a long term decreasing trend while MW-85 showed short term decreasing trend as well.

Total Zinc

Detection of zinc occurs in regional wells at a relatively low frequency (approximately 10% of all samples).

Upgradient and Cross Gradient:

Along the south property line, monitoring well MW-56, 82, 83 and 94 exhibited long term decreasing trends for total zinc. Also, short term trend calculations for MW-59 showed a decreasing trend.

For northwest flow path monitoring wells, MW-66 exhibited both long and short term decreasing trend for total zinc. MW-81 and 84 exhibited long term decreasing trends 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-67, 68, 74R, 75, 80, 86, 87 and 88 exhibited long term decreasing trends for total zinc. Also, short term trend calculations for MW-72 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 trends 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, and MW-96 also showed a short term decreasing trend 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 is 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-59, MW-80, MW-85, MW-93, MW-94 and MW-95 by trends in associated parameters alkalinity, specific 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 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 2020. 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 4-4a lists wells and parameters that have been evaluated for intrawell prediction limit exceedances in the retesting strategy for 2020, 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 the black font used for results that did not exceed the UPL. 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-100, MW-93, MW-56, MW-93, MW-67.
- Total Barium: MW-84, MW-93, MW-76, MW-67.
- Zinc: MW-87
- Total Cobalt, total Copper and total Vanadium: MW-56,
- Total Vanadium: MW-67.
- Vinyl Chloride: MW-24.

Prediction limit exceedances for Barium and Arsenic in 2019 were reported previously for MW-84 and MW-67. Although these prediction limit exceedances are all below Primary and Secondary Federal Drinking Water Maximum Contaminant Levels (MCLs), the Solid Waste Division performed well redevelopment program that includes MW-84 and MW-67. The program was agreed to with Seattle/King County Department of Public Health (PHSKC) and Ecology.

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-56 and 76) 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 2020 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 2020:

- Total arsenic: MW-30A, 47, 50, 62, 102, 103, 104, 107, 108, 109, 110, 111, 112, EB6
- 1,1-dichloroethane: MW-30A
- Nitrate: MW-30A
- Vinyl chloride: MW-47, 107, 109, 110
- Benzene: MW-109 with a "JT" qualifier
- Chromium: MW-109
- Sodium: MW-104, 108, 109, 110
- Toluene: MW-109

Secondary standards were exceeded for pH in MW-30A, 62, 102, 107, 110, 111, EB6 and for dissolved iron in MW-47, 68, 107, 109, 110, and dissolved manganese in MW-47, 68, 103, 107, 109, 110, and 112.

EPZ wells were analyzed for Appendix III analytes in 2020 per WAC 173-351-440 and the CHRLF SAP. No exceedances of Appendix III analytes occurred for EPZ wells in 2020.

4.3.2.2 SSWA Exceedances

In the SSWA perched zone in 2020, 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 4th quarter of 2020.

Secondary standards were exceeded only for pH in a sample collected from MW-101 in the 2nd and 4th quarter of 2020.

SSWA wells were analyzed for Appendix III analytes in 2020 per WAC 173-351-440 and the CHRLF SAP. No exceedances of Appendix III analytes occurred for SSWA wells in 2020.

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 2016 per the SAP to establish baseline characterization for leachate aeration pond leak detection. This well will continue to be monitored for field specific conductance as a performance measure for leak detection. In 2020, the conductivity at MW-105 were field measured at 215.3, 174.8, 163.8 and 204.6 µmhos/cm in the first, second, third and fourth quarters correspondingly.

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 short term increasing trends for VOC Trichloroethene, while short term decreasing trend for water quality parameters including dissolved Potassium, dissolved Sodium, Nitrate and Specific Conductance. Nitrate and pH showed long term increase in MW-30 while long term decreasing trend for VOC including 1,1-Dichloroethane, Trichloroethene, and cis 1,2-Dichloroethene and, for many water quality indicator parameters including conductivity, alkalinity, ammonia, chloride, sulfate, and dissolved iron, barium, calcium, manganese, magnesium, potassium and total barium, chromium, cobalt, lead, nickel and zinc.

MW-47 exhibited short term decreasing trend for VOC, 1,2-Dichloroethane and water quality parameters dissolved Barium, dissolved Calcium, dissolved Magnesium and total Barium. However, MW-47 exhibited long term increasing trend for VOA 1,1-Dichloroethane, 1,2-Dichloroethane, and Vinyl Chloride and long term decreasing trend for water quality parameters Chloride, nitrate, pH, sulfate, total chromium, cobalt, copper, nickel, zinc.

Other long-term trend increases were calculated for TDS, alkalinity, and dissolved iron, manganese, calcium, magnesium, and sodium.

MW-62 exhibited long term decreasing trends for VOCs, including 1,1-DCA, *cis*-1,2-DCE, and TCE. Other long term decreasing trends calculated included specific conductance, chloride, nitrate, sulfate, and dissolved arsenic, barium, iron, calcium, magnesium, potassium and total chromium, cobalt and

nickel. Short term increasing trend has been observed for chloride for MW-62. Alternatively, long term increasing trend was observed for total vanadium.

Specific conductance showed decreasing trend for MW-30, MW-62.

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 long term for MW-47. However dissolved calcium and magnesium is decreasing in MW-47 in short term.

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 2020, MW-101 continued to exhibit long term declining trends for nickel and vinyl chloride as well as declining trends for total chromium, cobalt, copper, dissolved solids, nickel, vanadium, zinc and total barium, calcium, magnesium, manganese, potassium. MW-101 exhibited a long term increasing trend for *cis*-1,2-DCE.

For VOCs, MW-101 exhibited long term increasing trends for 1,1-Dichloroethane, 1,2-Dichloroethane and cis 1,2-Dichloroethene.

No short term trend has been observed in MW-101.

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 4-4b. For the EPZ, total Vanadium exceeded the UPL in MW-47 for the 4th quarters of 2020.

For the SSWA, there was no prediction limit exceedances.

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.

Regional Aquifer analysis results for upgradient, downgradient and cross gradient wells for 2020 are generally consistent with past results. Several upgradient wells continue to show elevated concentrations of several parameters indicating changing water quality upgradient of 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 only in two wells (MW-76 and MW-114). Vinyl chloride was detected in one upgradient well MW-65 in the 2nd and 4th quarters and is likely a degradation byproduct. Overall, primary groundwater criteria were exceeded in some upgradient wells for TCE and total arsenic. Some wells also exceeded secondary standards for pH, 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-74R, 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. Concentrations of chloride in the wells remain below the Washington State Groundwater Quality Standard (WAC 173-200).

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-74R, MW-75, and MW-85. Concentrations have stabilized in MW-74R 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 total arsenic and secondary standards for pH, dissolved iron and manganese in 2020. 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. Reports covering the interim action are available on the Ecology website at https://apps.ecology.wa.gov/gsp/Sitepage.aspx?csid=7027.

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PART 2

Tables

Table 2-1	**Summary of Cedar Hills Regional Landfill Site Groundwater Monitoring Wells**
Table 3-1	**Water Quality Standards for Groundwaters of the State of Washington**
Table 4-1a	**Groundwater Quality Standard Exceedances Regional Aquifer Groundwater**
Table 4-1b	**Quality Standard Exceedances Perched Zones**
Table 4-2a	**Statistical Summary of Regional Aquifer Upgradient and Crossgradient**
Table 4-2b	**Groundwater Data**
Table 4-2c	**Statistical Summary of Regional Aquifer Downgradient Groundwater Data**
Table 4-3a	**Statistical Summary of Perched Zones Groundwater Data**
Table 4-3b	**Regional Aquifer Upgradient Groundwater Trend Test Results**
Table 4-3c	**Regional Aquifer Downgradient Groundwater Trend Test Results**
Table 4-4a	**Perched Zones Groundwater Trend Test Results**
Table 4-4b	**Regional Aquifer Groundwater Prediction Limit Values and Results**
	Perched Zones Groundwater Prediction Limit Values and Results

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TABLE 2.1
CEDAR HILLS REGIONAL LANDFILL GROUNDWATER MONITORING WELLS

Well Name	General Condition				Recommendations				
	Well 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 43 (Downgradient)	5	325	30/4/85	Deep	Detection	WL only	Quarterly	None	
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 indicate slow movement of QCF contaminants through this area.
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	WL only	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
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 GW quality from off-site area east of facility. Retain as monitoring point for potential LFG impacts to GW. 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 indicate slow movement of QCF contaminants through this area.
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 GW 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.

TABLE 2.1 *(continued)*
CEDAR HILLS REGIONAL LANDFILL GROUNDWATER MONITORING WELLS

Well Name	General Condition				Recommendations				
	Well 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-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.
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.
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 southwest end of facility. Downgradient flow paths poorly defined and may by-pass facility.
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.
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.
MW-106 (Cross gradient)	4	203	2/19/09	Water Table	Detection	WL only	Quarterly	None	Defines east side flow paths.
MW-113 (Upgradient)	4	220	4/03/20	Water Table	Detection	Background	Quarterly	Quarterly	New monitoring well as of 2nd quarter 2020
MW-114 (Upgradient)	4	150	4/10/20	Water Table	Detection	Background	Quarterly	Quarterly	New monitoring well as of 2nd quarter 2020
MW-115 (Upgradient)	4	145	4/14/20	Water Table	Detection	Background	Quarterly	Quarterly	New monitoring well as of 2nd quarter 2020
NPW1	8	382	8/221990	Deep	Non-Potable	WL only	Quarterly	None	Well provides non potable water to the fire supression tank on-site
NPW3	6	376	6/51990	Deep	Non-Potable	WL only	Quarterly	None	Well provides non potable water to the fire supression tank on-site
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		Quarterly	Quarterly	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		Quarterly	Quarterly	Key EPZ compliance well. Temporary monitoring point sampled with passive diffusion sampler. Decommissioned 2nd quarter of 2018.
MW 25	3	43	3/6/83	EPZ	Assessment	WL only	Quarterly	None	
MW 27A	2	80	3/10/85	EPZ	Assessment	WL only	Quarterly	None	
MW 28	3	39	21/6/83	EPZ	Assessment	WL only	Quarterly	None	
MW 29	3	60	23/6/83	EPZ	Assessment	WL only	Quarterly	None	
MW-30A	3	35	6/09/89	EPZ	Assessment		Quarterly	Quarterly	Monitor attenuating VOCs.
MW-41S	3	51	7/12/83	EPZ	Assessment	WL only	Quarterly	None	
MW-41D	3	51	7/12/83	EPZ	Assessment	WL only	Quarterly		
MW 45	2	64	5/17/85	EPZ	Assessment	WL only	Quarterly	None	
MW-47	2	44	5/31/85	EPZ	Assessment		Quarterly	Quarterly	Key EPZ compliance well.
MW 48	2	63	5/24/85	EPZ	Assessment	WL only	Quarterly	None	
MW-50	2	40	6/03/85	EPZ	Assessment		Quarterly	Quarterly	
MW 55	2	67	10/02/86	EPZ	Assessment	WL only	Quarterly	None	

TABLE 2.1 *(continued)*
CEDAR HILLS REGIONAL LANDFILL GROUNDWATER MONITORING WELLS

Well Name	General Condition				Recommendations				
	Well 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-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 79	2	56	11/05/99	EPZ	Assessment	WL only	Quarterly		THIS WELL IS BROKEN; needs to be fixed. No statics are taken since it is still broken.
MW 98	2	23	3/09/01	EPZ	Assessment	WL only	Quarterly	None	
MW-102	2	50	1/27/09	EPZ	Assessment		Quarterly	Quarterly	EPZ monitoring well.
MW-103	2	35	1/28/09	EPZ	Assessment		Quarterly	Quarterly	EPZ monitoring well.
MW-104	2	32	1/29/09	EPZ	Assessment		Quarterly	Quarterly	EPZ monitoring well.
MW-107	2	39	6/07/18	EPZ	Assessment		Quarterly	Quarterly	EPZ monitoring well.
MW-108	2	17	6/08/18	EPZ	Assessment		Quarterly	Quarterly	EPZ monitoring well.
MW-109	2	13	6/09/18	EPZ	Assessment		Quarterly	Quarterly	EPZ monitoring well.
MW-110	2	19	6/11/18	EPZ	Assessment		Quarterly	Quarterly	EPZ monitoring well.
MW-111	2	14	6/11/18	EPZ	Assessment		Quarterly	Quarterly	EPZ monitoring well.
MW-112	2	17	6/11/18	EPZ	Assessment		Quarterly	Quarterly	EPZ monitoring well.
South Solid Waste Area Perched Zone									
MW-101	2	54	2/06/06	SSWA	Assessment		Quarterly	Quarterly	Key SSWA perched zone compliance well
MW 105	2	30	1/30/09	EPZ	Assessment	Conductance only	Quarterly	Quarterly	Well located near leachate lagoons; FE measures conductance every quarter on this well as a check of the leachate lagoons

Notes:
(1) The following wells were decommissioned: MW-70, MW-77, MW-78, MW-96, MW-97, and EW-25 as of 2019.
(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

Water Quality Standards for Groundwaters of the State of Washington

	Analyte	CAS No.	Ground Water Quality Criteria Criterion*	
I.	PRIMARY AND SECONDARY CONTAMINANTS AND RADIONUCLIDES			
	A. Primary Contaminants			
	Barium	7440-39-3	1	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	mg/L
	Nitrate	14797-55-8	10	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	mg/L
	Iron	7439-89-6	0.3	mg/L
	Manganese	7439-96-5	0.05	mg/L
	Zinc	7440-66-6	5	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	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	ug/L
	2-Methylaniline	95-53-4	0.2	ug/L
	2-Methylaniline 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	ug/L
	3,3-Dimethylbenzidine	119-93-7	0.007	ug/L
	4,4'-Methylene bis(N,N'-dimethyl) aniline	101-61-1	2	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 *(continued)*

Water Quality Standards for Groundwaters of the State of Washington

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	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	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
CEDAR HILLS REGIONAL LANDFILL
REGIONAL AQUIFER GROUNDWATER QUALITY STANDARD EXCEEDANCES
(Data collected from January 1, 2020 to March 31, 2020)

Parameter	Units	Well ID	Sample Date	Sample ID	Sample Value
Upgradient and Crossgradient Wells					
pH (Field)	pH Units	No pH exceedances this quarter.			
Arsenic, Total	mg/L	MW-66	1/6/2020	W66-200106-	0.000725
		MW-59	1/21/2020	W59-200121-	0.00045
		MW-84	1/21/2020	W84-200121-	0.00032
		MW-81	1/21/2020	W81-200121-	0.000507
		MW-93	1/22/2020	W93-200122-	0.00133
		MW-83	1/22/2020	W83-200122-	0.000392
		MW-94	1/22/2020	W94-200122-	0.000113
		MW-68	2/13/2020	W68-200213-	0.0209
Iron, Dissolved	mg/L	MW-59	1/21/2020	W59-200121-	4.58
		MW-68	2/13/2020	W68-200213-	0.574
Manganese, Dissolved	mg/L	MW-59	1/21/2020	W59-200121-	0.126
		MW-84	1/21/2020	W84-200121-	0.0718
		MW-93	1/22/2020	W93-200122-	0.188
		MW-83	1/22/2020	W83-200122-	0.0655
		MW-68	2/13/2020	W68-200213-	0.313
Downgradient Wells					
Arsenic, Total	mg/L	MW-72	1/17/2020	W72-200117-	0.000127
		MW-74R	1/21/2020	W74R200121-	0.000391
		MW-75	1/21/2020	W75-200121-	0.0005
		MW-87	1/21/2020	W87-200121-	0.000719
		MW-85	1/22/2020	W85-200122-	0.000702
		MW-80	2/13/2020	W80-200213-	0.00371
Iron, Dissolved	mg/L	MW-72	1/17/2020	W72-200117-	2.78
		MW-75	1/21/2020	W75-200121-	2.54
		MW-87	1/21/2020	W87-200121-	4.92
		MW-80	2/13/2020	W80-200213-	2.23
Manganese, Dissolved	mg/L	MW-72	1/17/2020	W72-200117-	0.377
		MW-75	1/21/2020	W75-200121-	0.217
		MW-87	1/21/2020	W87-200121-	0.548
		MW-80	2/13/2020	W80-200213-	0.35

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 *(continued)*
CEDAR HILLS REGIONAL LANDFILL:
REGIONAL AQUIFER GROUNDWATER QUALITY STANDARD EXCEEDANCES
(Data Collected from April 1, 2020 to June 30, 2020)

Parameter	Units	Well ID	Sample Date	Sample ID	Sample Value
Upgradient and Crossgradient Wells					
pH (Field)	pH Units	MW-76	5/12/2020	W76-200512-	6.43
Arsenic, Total	mg/L	MW-21	5/13/2020	W21-200513-	0.000893
		MW-24	4/30/2020	W24-200430-	0.000613
		MW-56	5/4/2020	W56-200504-	0.0000807
		MW-59	5/4/2020	W59-200504-	0.000423
		MW-64	5/12/2020	W64-200512-	0.00127
		MW-65	5/11/2020	W65-200511-	0.000784
		MW-66	4/29/2020	W66-200429-	0.000698
		MW-73	4/29/2020	W73-200429-	0.000711
		MW-68	4/9/2020	W68-200409-	0.0324
		MW-76	5/12/2020	W76-200512-	0.000215
		MW-95	5/4/2020	W95-200504-	0.00102
		MW-81	5/12/2020	W81-200512-	0.000528
		MW-82	4/30/2020	W82-200430-	0.00028
		MW-93	5/13/2020	W93-200513-	0.00134
		MW-83	5/12/2020	W83-200512-	0.00031
		MW-94	5/12/2020	W94-200512-	0.000135
Iron, Dissolved	mg/L	MW-21	5/13/2020	W21-200513-	1.97
		MW-24	4/30/2020	W24-200430-	3.05
		MW-59	5/4/2020	W59-200504-	4.14
		MW-65	5/11/2020	W65-200511-	3.36
		MW-68	4/9/2020	W68-200409-	0.597
Manganese, Dissolved	mg/L	MW-21	5/13/2020	W21-200513-	0.114
		MW-24	4/30/2020	W24-200430-	0.0978
		MW-56	5/4/2020	W56-200504-	0.0905
		MW-59	5/4/2020	W59-200504-	0.126
		MW-65	5/11/2020	W65-200511-	0.191
		MW-68	4/9/2020	W68-200409-	0.304
		MW-83	5/12/2020	W83-200512-	0.118
		MW-93	5/13/2020	W93-200513-	0.188
		MW-95	5/4/2020	W95-200504-	0.168
Trichloroethene	µg/L	MW-76	5/12/2020	W76-200512-	7.42
		MW-82	4/30/2020	W82-200430-	4.82
Vinyl Chloride	µg/L	MW-65	5/11/2020	W65-200511-	0.0468

Table 4-1a *(continued)*
CEDAR HILLS REGIONAL LANDFILL:
REGIONAL AQUIFER GROUNDWATER QUALITY STANDARD EXCEEDANCES
(Data Collected from April 1, 2020 to June 30, 2020)

Parameter	Units	Well ID	Sample Date	Sample ID	Sample Value
Downgradient Wells					
Arsenic, Total	mg/L	MW-100	5/13/2020	W100200513-	0.0165
		MW-67	5/11/2020	W67-200511-	0.00386
		MW-72	4/30/2020	W72-200430-	0.000153
		MW-74R	5/12/2020	W74R200512-	0.000383
		MW-75	5/12/2020	W75-200512-	0.000456
		MW-80	4/9/2020	W80-200409-	0.0037
		MW-85	5/14/2020	W85-200514-	0.000695
		MW-86	5/13/2020	W86-200513-	0.00685
		MW-87	5/12/2020	W87-200512-	0.000718
		MW-88	5/14/2020	W88-200514-	0.00101
		MW-89	5/14/2020	W89-200514-	0.0024
Iron, Dissolved	mg/L	MW-100	5/13/2020	W100200513-	0.756
		MW-67	5/11/2020	W67-200511-	0.785
		MW-72	4/30/2020	W72-200430-	3.08
		MW-75	5/12/2020	W75-200512-	2.52
		MW-80	4/9/2020	W80-200409-	2.18
		MW-86	5/13/2020	W86-200513-	0.717
		MW-87	5/12/2020	W87-200512-	4.62
		MW-89	5/14/2020	W89-200514-	1.22
Manganese, Dissolved	mg/L	MW-100	5/13/2020	W100200513-	0.132
		MW-67	5/11/2020	W67-200511-	0.38
		MW-72	4/30/2020	W72-200430-	0.378
		MW-75	5/12/2020	W75-200512-	0.217
		MW-80	4/9/2020	W80-200409-	0.342
		MW-87	5/12/2020	W87-200512-	0.553
		MW-89	5/14/2020	W89-200514-	0.28
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 *(continued)*
CEDAR HILLS REGIONAL LANDFILL
REGIONAL AQUIFER GROUNDWATER QUALITY STANDARD EXCEEDANCES
(Data collected from Jul 1, 2020 to Sept 30, 2020)

Parameter	Units	Well ID	Sample Date	Sample ID	Sample Value
Upgradient and Crossgradient Wells					
pH (Field)	pH Units	MW-94	7/20/2020	W94-200707-	6.17
		MW-83	7/20/2020	W83-200707-	6.34
		MW-115	7/8/2020	W115200708-	6.33
Arsenic, Total	mg/L	MW-113	7/9/2020	W113200709-	0.000705
		MW-114	7/9/2020	W114200709-	0.000354
		MW-115	7/8/2020	W115200708-	0.000328
		MW-59	7/8/2020	W59-200708-	0.000417
		MW-66	7/7/2020	W66-200707-	0.000655
		MW-68	7/20/2020	W68-200720-	0.033
		MW-81	7/8/2020	W81-200708-	0.000514
		MW-83	7/7/2020	W83-200707-	0.000364
		MW-84	7/9/2020	W84-200709-	0.000307
		MW-93	7/9/2020	W93-200709-	0.00144
		MW-94	7/7/2020	W94-200707-	0.000127
Iron, Dissolved	mg/L	MW-113	7/9/2020	W113200709-	0.823
		MW-59	7/8/2020	W59-200708-	4.34
		MW-68	7/20/2020	W68-200720-	0.639
Manganese, Dissolved	mg/L	MW-113	7/9/2020	W113200709-	0.416
		MW-59	7/8/2020	W59-200708-	0.133
		MW-68	7/20/2020	W68-200720-	0.291 D
		MW-93	7/9/2020	W93-200709-	0.182
Trichloroethene	ug/L	MW-114	7/9/2020	W114200709-	9.97
		MW-115	7/8/2020	W115200708-	4.93
Downgradient Wells					
Arsenic, Total	mg/L	MW-72	7/7/2020	W72-200707-	0.00013
		MW-74R	7/8/2020	W74R200708-	0.000392
		MW-75	7/8/2020	W75-200708-	0.00046
		MW-80	7/20/2020	W80-200720-	0.00381
		MW-85	7/9/2020	W85-200709-	0.000689
		MW-87	7/9/2020	W87-200709-	0.000686
Iron, Dissolved	mg/L	MW-72	7/7/2020	W72-200707-	2.72
		MW-75	7/8/2020	W75-200708-	2.7
		MW-87	7/9/2020	W87-200709-	4.94
		MW-80	7/20/2020	W80-200720-	2.36
Manganese, Dissolved	mg/L	MW-72	7/7/2020	W72-200707-	0.365
		MW-75	7/8/2020	W75-200708-	0.232
		MW-87	7/9/2020	W87-200709-	0.543
		MW-80	7/20/2020	W80-200720-	0.344 D

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 *(continued)*
CEDAR HILLS REGIONAL LANDFILL:
REGIONAL AQUIFER GROUNDWATER QUALITY STANDARD EXCEEDANCES
(Data Collected from October 1, 2020 to December 31, 2020)

Parameter	Units	Well ID	Sample Date	Sample ID	Sample Value
Upgradient and Crossgradient Wells					
pH (Field)	pH Units	MW-115	10/20/2020	W115201020-	6.48
		MW-73	10/20/2020	W73-201002-	6.41
		MW-76	10/16/2020	W76-201016-	6.42
		MW-94	10/16/2020	W94-201016-	6.36
Arsenic, Total	mg/L	MW-113	10/16/2020	W113201016-	0.000571
		MW-114	10/15/2020	W114201015-	0.000289
		MW-115	10/20/2020	W115201020-	0.000301
		MW-21	10/2/2020	W21-201002-	0.00088
		MW-24	10/8/2020	W24-201008-	0.000493
		MW-56	10/13/2020	W56-201013-	0.00253
		MW-59	10/15/2020	W59-201015-	0.000436
		MW-64	10/7/2020	W64-201007-	0.00209
		MW-65	10/15/2020	W65-201015-	0.00111
		MW-66	10/6/2020	W66-201006-	0.000665
		MW-68	10/14/2020	W68-201014-	0.0345
		MW-73	10/2/2020	W73-201002-	0.000735
		MW-76	10/16/2020	W76-201016-	0.000215
		MW-81	10/14/2020	W81-201014-	0.000529
		MW-82	10/16/2020	W82-201016-	0.000264
		MW-83	10/16/2020	W83-201016-	0.000396
		MW-84	10/13/2020	W84-201013-	0.000332
		MW-93	10/7/2020	W93-201007-	0.00144
		MW-94	10/16/2020	W94-201016-	0.000131
		MW-95	10/12/2020	W95-201012-	0.00106
Iron, Dissolved	mg/L	MW-113	10/16/2020	W113201016-	1.17
		MW-21	10/2/2020	W21-201002-	1.73
		MW-24	10/8/2020	W24-201008-	3.51
		MW-59	10/15/2020	W59-201015-	4.53
		MW-65	10/15/2020	W65-201015-	2.87
		MW-68	10/14/2020	W68-201014-	0.536
Manganese, Dissolved	mg/L	MW-113	10/16/2020	W113201016-	0.415
		MW-21	10/2/2020	W21-201002-	0.106
		MW-24	10/8/2020	W24-201008-	0.109
		MW-56	10/13/2020	W56-201013-	0.221
		MW-59	10/15/2020	W59-201015-	0.138
		MW-65	10/15/2020	W65-201015-	0.131
		MW-68	10/14/2020	W68-201014-	0.279
		MW-93	10/7/2020	W93-201007-	0.154
		MW-95	10/12/2020	W95-201012-	0.161
Trichloroethene	µg/L	MW-114	10/15/2020	W114201015-	9.38
		MW-115	10/20/2020	W115201020-	4.79
		MW-76	10/16/2020	W76-201016-	7.63
		MW-82	10/16/2020	W82-201016-	4.22
Vinyl Chloride	µg/L	MW-24	10/8/2020	W24-201008-	0.0276
		MW-65	10/15/2020	W65-201015-	0.0288 DL

Table 4-1a *(continued)*
CEDAR HILLS REGIONAL LANDFILL:
REGIONAL AQUIFER GROUNDWATER QUALITY STANDARD EXCEEDANCES
(Data Collected from October 1, 2020 to December 31, 2020)

Parameter	Units	Well ID	Sample Date	Sample ID	Sample Value
Downgradient Wells					
pH (Field)	pH Units	MW-85	10/7/2020	W85-201007-	6.42
		MW-86	10/7/2020	W86-201007-	6.3
Arsenic, Total	**mg/L**	MW-100	10/8/2020	W100201008-	0.00134
		MW-67	10/6/2020	W67-201006-	0.0101
		MW-72	10/12/2020	W72-201012-	0.000117
		MW-74R	10/2/2020	W74R201002-	0.000743
		MW-75	10/2/2020	W75-201002-	0.000419
		MW-80	10/14/2020	W80-201014-	0.00365
		MW-85	10/7/2020	W85-201007-	0.0007
		MW-86	10/7/2020	W86-201007-	0.012
		MW-87	10/13/2020	W87-201013-	0.00143
		MW-88	10/6/2020	W88-201006-	0.000995
		MW-89	10/6/2020	W89-201006-	0.00268
Iron, Dissolved	mg/L	MW-100	10/8/2020	W100201008-	0.764
		MW-72	10/12/2020	W72-201012-	2.55
		MW-75	10/2/2020	W75-201002-	2.5
		MW-80	10/14/2020	W80-201014-	2.21
		MW-86	10/7/2020	W86-201007-	0.741 D
		MW-87	10/13/2020	W87-201013-	4.69
		MW-89	10/6/2020	W89-201006-	1.26 D
Manganese, Dissolved	mg/L	MW-100	10/8/2020	W100201008-	0.14
		MW-67	10/6/2020	W67-201006-	0.382
		MW-72	10/12/2020	W72-201012-	0.338
		MW-75	10/2/2020	W75-201002-	0.214
		MW-80	10/14/2020	W80-201014-	0.329
		MW-87	10/13/2020	W87-201013-	0.485
		MW-89	10/6/2020	W89-201006-	0.249
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
CEDAR HILLS REGIONAL LANDFILL
PERCHED ZONES GROUNDWATER QUALITY STANDARD EXCEEDANCES
(Data Collected from January 1, 2020 to March 31, 2020)

Parameter	Units	Well ID	Sample Date	Sample ID	Sample Value
East Perched Zone Wells					
pH (Field)	pH Units	MW-102	2/21/2020	W102200221-	6.33
		MW-107	2/18/2020	W107200218-	5.76
		MW-111	2/20/2020	W111200220-	5.8
1,1-Dichloroethane	µg/L	MW-30A	2/19/2020	W30A200219-	1.56
Arsenic, Total	mg/L	MW-102	2/21/2020	W102200221-	0.000269
		MW-107	2/18/2020	W107200218-	0.0019
		MW-108	2/14/2020	W108200214-	0.00194
		MW-109	2/14/2020	W109200214-	0.0383
		MW-111	2/20/2020	W111200220-	0.000552
		MW-112	2/19/2020	W112200219-	0.00307
		MW-30A	2/19/2020	W30A200219-	0.000522
		MW-47	2/19/2020	W47-200219-	0.00277
		MW-62	2/18/2020	W62-200218-	0.000216
		MW-EB6	2/19/2020	WB6-200219-	0.00304
Benzene	ug/L	MW-109	2/14/2020	W109200214-	1.57 JT
Chromium	mg/L	MW-109	2/14/2020	W109200214-	0.0744
Iron, Dissolved	mg/L	MW-109	2/14/2020	W109200214-	10.2
		MW-107	2/18/2020	W107200218-	1.29
		MW-47	2/19/2020	W47-200219-	4.13
Manganese, Dissolved	mg/L	MW-109	2/14/2020	W109200214-	1.21
		MW-107	2/18/2020	W107200218-	2.22
		MW-112	2/19/2020	W112200219-	0.18
		MW-47	2/19/2020	W47-200219-	1.37 D
Nitrate	mg/l	MW-30A	2/19/2020	W30A200219-	12.5
Toluene	µg/L	MW-109	2/14/2020	W109200214-	1610 D
Vinyl Chloride	µg/L	MW-107	2/18/2020	W107200218-	0.328 D
		MW-109	2/14/2020	W109200214-	0.265 D
		MW-110	2/14/2020	W110200214-	0.0924 D
		MW-47	2/19/2020	W47-200219-	4.64 DG
South Solid Waste Area Perched Wells					
pH (Field)	pH Units	None.			
Arsenic, Total	mg/L	MW-101	2/18/2020	W101200218-	0.894
Manganese, Dissolved	mg/L	MW-101	2/18/2020	W101200218-	0.99 D
Vinyl Chloride	µg/L	MW-101	2/18/2020	W101200218-	0.319 DG

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 (*continued)*
CEDAR HILLS REGIONAL LANDFILL
PERCHED ZONES GROUNDWATER QUALITY STANDARD EXCEEDANCES
(Data Collected from April 1, 2020 to June 30, 2020)

Parameter	Units	Well ID	Sample Date	Sample ID	Sample Value
East Perched Zone Wells					
pH (Field)	pH Units	MW-107	4/8/2020	W107200408-	5.75
		MW-110	4/14/2020	W110200414-	6.31
		MW-111	4/13/2020	W111200413-	5.45
		MW-62	5/11/2020	W62-200511-	6.44
		MW-EB6	4/8/2020	WB6-200408-	6.34
1,1-Dichloroethane	µg/L	MW-30A	4/8/2020	W30A200408-	1.53
Arsenic, Total	mg/L	MW-102	4/16/2020	W102200416-	0.000323
		MW-103	5/5/2020	W103200505-	0.00523
		MW-104	4/16/2020	W104200416-	0.00169
		MW-107	4/8/2020	W107200408-	0.00232
		MW-108	4/9/2020	W108200409-	0.00193
		MW-109	5/5/2020	W109200505-	0.0433
		MW-110	4/14/2020	W110200414-	0.00918
		MW-111	4/13/2020	W111200413-	0.00064
		MW-112	4/9/2020	W112200409-	0.00301
		MW-30A	4/8/2020	W30A200408-	0.000495
		MW-47	4/8/2020	W47-200408-	0.00313
		MW-50	4/21/2020	W50-200421-	0.00473
		MW-62	5/11/2020	W62-200511-	0.000165
		MW-EB6	4/8/2020	WB6-200408-	0.00409
Benzene	ug/L	MW-109	5/5/2020	W109200505-	1.25 JT
Chromium	mg/L	MW-109	5/5/2020	W109200505-	0.122
Iron, Dissolved	mg/L	MW-107	4/8/2020	W107200408-	1.61
		MW-109	5/5/2020	W109200505-	11.7
		MW-110	4/14/2020	W110200414-	0.749
		MW-47	4/8/2020	W47-200408-	3.1
Manganese, Dissolved	mg/L	MW-103	5/5/2020	W103200505-	0.0796
		MW-107	4/8/2020	W107200408-	2.23
		MW-109	5/5/2020	W109200505-	1.43 D
		MW-110	4/14/2020	W110200414-	3.85
		MW-112	4/9/2020	W112200409-	0.135
		MW-47	4/8/2020	W47-200408-	2.23
Nitrate	mg/l	MW-30A	4/8/2020	W30A200408-	11.8
Sodium	mg/l	MW-108	4/9/2020	W108200409-	42.9
		MW-109	5/5/2020	W109200505-	1510 D
		MW-110	4/14/2020	W110200414-	54.4
Vinyl Chloride	µg/L	MW-107	4/8/2020	W107200408-	0.26
		MW-109	5/5/2020	W109200505-	0.199 JT
		MW-110	4/14/2020	W110200414-	0.307 D
		MW-47	4/8/2020	W47-200408-	7.06
South Solid Waste Area Perched Wells					
pH (Field)	pH Units	None.			
Arsenic, Total	mg/L	MW-101	5/13/2020	W101200513-	0.00591
Manganese, Dissolved	mg/L	MW-101	5/13/2020	W101200513-	0.577

TABLE 4-1b *(continued)*
CEDAR HILLS REGIONAL LANDFILL
PERCHED ZONES GROUNDWATER QUALITY STANDARD EXCEEDANCES
(Data Collected from April 1, 2020 to June 30, 2020)

Parameter	Units	Well ID	Sample Date	Sample ID	Sample Value
Vinyl Chloride	µg/L	MW-101	5/13/2020	W101200513-	0.114

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 *(continued)*
CEDAR HILLS REGIONAL LANDFILL
PERCHED ZONES GROUNDWATER QUALITY STANDARD EXCEEDANCES
(Data Collected from July 1, 2020 through September 30, 2020)

Parameter	Units	Well ID	Sample Date	Sample ID	Sample Value
East Perched Zone Wells					
pH (Field)	pH Units	MW-102	7/13/2020	W102200713-	6.48
		MW-102	7/29/2020	W102200729-	6.02
		MW-107	7/20/2020	W107200720-	5.48
		MW-108	7/21/2020	W108200721-	6.14
		MW-110	7/20/2020	W110200720-	6.22
		MW-111	7/20/2020	W111200720-	5.4
		MW-62	7/8/2020	W62-200708-	6.17
		MW-EB6	7/22/2020	WEB6200722-	6.23
1,1-Dichloroethane	µg/L	MW-30A	7/20/2020	W30A200720-	1.73
Arsenic, Total	mg/L	MW-102	7/13/2020	W102200713-	0.000313
		MW-103	7/21/2020	W103200721-	0.00555
		MW-104	7/21/2020	W104200721-	0.000997
		MW-107	7/20/2020	W107200720-	0.00103
		MW-108	7/21/2020	W108200721-	0.00171
		MW-109	7/21/2020	W109200721-	0.028
		MW-110	7/20/2020	W110200720-	0.00948
		MW-111	7/20/2020	W111200720-	0.00121
		MW-112	7/20/2020	W112200720-	0.00366
		MW-30A	7/20/2020	W30A200720-	0.000505
		MW-47	7/13/2020	W47-200713-	0.00117
		MW-50	7/13/2020	W50-200713-	0.00469
		MW-62	7/8/2020	W62-200708-	0.000151
		MW-EB6	7/22/2020	WEB6200722-	0.00413
Chromium	mg/L	MW-109	7/21/2020	W109200721-	0.0522
Iron, Dissolved	mg/L	MW-107	7/20/2020	W107200720-	0.595
		MW-109	7/21/2020	W109200721-	7.03
		MW-110	7/20/2020	W110200720-	1.25
		MW-47	7/13/2020	W47-200713-	1.28
Manganese, Dissolved	mg/L	MW-107	7/20/2020	W107200720-	1.31 D
		MW-109	7/21/2020	W109200721-	1.04 D
		MW-110	7/20/2020	W110200720-	4.52 D
		MW-112	7/20/2020	W112200720-	0.272 D
		MW-47	7/13/2020	W47-200713-	1.01
Sodium	mg/l	MW-104	7/21/2020	W104200721-	23.7
		MW-108	7/21/2020	W108200721-	21.8
		MW-109	7/21/2020	W109200721-	644 D
		MW-110	7/20/2020	W110200720-	60.5
Vinyl Chloride	µg/L	MW-107	7/20/2020	W107200720-	0.0441
		MW-109	7/21/2020	W109200721-	0.244
		MW-110	7/20/2020	W110200720-	0.21
		MW-47	7/13/2020	W47-200713-	5.68
South Solid Waste Area Perched Wells					
Arsenic, Total	mg/L	MW-101	7/13/2020	W101200713-	0.0111
Iron, Dissolved	mg/L	MW-101	7/13/2020	W101200713-	0.783
Manganese, Dissolved	mg/L	MW-101	7/13/2020	W101200713-	1.15
Vinyl Chloride	µg/L	MW-101	7/13/2020	W101200713-	0.067

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 *(continued)*
CEDAR HILLS REGIONAL LANDFILL
PERCHED ZONES GROUNDWATER QUALITY STANDARD EXCEEDANCES
(Data Collected from October 1, 2020 to December 31, 2020)

Parameter	Units	Well ID	Sample Date	Sample ID	Sample Value
East Perched Zone Wells					
pH (Field)	pH Units	MW-102	10/19/2020	W102201019-	6.3
		MW-107	10/19/2020	W107201019-	5.55
		MW-110	10/20/2020	W110201020-	6.41
1,1-Dichloroethane	µg/L	MW-30A	10/19/2020	W30A201019-	1.71
Arsenic, Total	mg/L	MW-102	10/19/2020	W102201019-	0.000451
		MW-103	10/16/2020	W103201016-	0.00893
		MW-107	10/19/2020	W107201019-	0.00313
		MW-110	10/20/2020	W110201020-	0.00419
		MW-30A	10/19/2020	W30A201019-	0.000523
		MW-47	10/19/2020	W47-201019-	0.000748
Iron, Dissolved	mg/L	MW-107	10/19/2020	W107201019-	2.52
		MW-110	10/20/2020	W110201020-	0.793
Manganese, Dissolved	mg/L	MW-107	10/19/2020	W107201019-	1.94
		MW-110	10/20/2020	W110201020-	3.4
		MW-47	10/19/2020	W47-201019-	1.3
Sodium	mg/l	MW-110	10/20/2020	W110201020-	35.1
Vinyl Chloride	µg/L	MW-47	10/19/2020	W47-201019-	3.72 DL
		MW-110	10/20/2020	W110201020-	0.382 DL
South Solid Waste Area Perched Wells					
pH (Field)	pH Units	None.			
Arsenic, Total	mg/L	MW-101	10/22/2020	W101201022-	0.00236
Manganese, Dissolved	mg/L	MW-101	10/22/2020	W101201022-	1.04 D
Vinyl Chloride	µg/L	MW-101	10/22/2020	W101201022-	0.315 DL

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 and Crossgradient Wells
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	71	4	77	8	70	4	67	5	76	9	68	8	71	4	72	4
No. of Detections	71	4	77	8	70	4	67	5	76	9	68	8	71	4	72	4
Maximum	7.58	6.99	7.62	7.02	6.81	6.43	7.69	6.83	7.61	6.76	7.49	6.89	7.28	7.01	7.59	7.65
Minimum	6.6	6.61	6.33	6.42	5.91	6.29	6.54	6.65	6.54	6.34	6.29	6.17	6.49	6.85	6.66	6.51
Mean	7.0	6.8	7.0	6.8	6.5	6.4	6.9	6.8	7.0	6.6	7.0	6.5	7.0	6.9	7.0	7.0
Standard Deviation	0.2	0.2	0.2	0.2	0.2	0.1	0.2	0.1	0.2	0.1	0.2	0.2	0.2	0.1	0.2	0.5
Median	7.04	6.84	7.02	6.76	6.53	6.36	6.9	6.77	6.995	6.63	6.97	6.54	7.05	6.875	7	6.825
Specific Conductance, (Field) uS/cm																
No. of Analyses	71	4	77	8	70	4	67	5	76	9	68	8	71	4	72	4
No. of Detections	71	4	77	8	70	4	67	5	76	9	68	8	71	4	72	4
Maximum	355.3	254.8	211.8	228.2	255	367	322.2	309.3	683	665	355.3	337.8	215	185	175	146
Minimum	110	204.7	136.9	192.8	115	232.5	150	286	100	528	115	276.4	110	167.4	100	139.4
Mean	146.90563	226.175	171.65195	210.25	163.81	279.45	205.75821	302.6	254.35658	598.61111	194.29118	322.7375	178.50141	179.925	142.80694	143.8
Standard Deviation	30.564512	21.963967	14.619477	11.902821	34.37411	61.950545	43.170234	9.5809707	146.48704	45.766758	68.949304	20.139438	18.995108	8.3965767	11.794942	2.9832868
Median	145	222.6	170	211.05	157.5	259.15	195	305.8	170	601	150	330	180	183.65	142.45	144.9
Total Dissolved Solids, mg/L																
No. of Analyses	71	4	77	8	71	4	67	5	74	8	68	8	71	4	72	4
No. of Detections	71	4	77	8	71	4	67	5	74	8	68	8	71	4	72	4
Maximum	136	141	127	164	194	182	210	200	449	418	220	231	200	113	170	98.7
Minimum	56	136	27	114	60	146	97	183	42	328	33	170	83	105	31	84
Mean	94.377465	137.75	106.2987	130.375	112.25352	163.75	144.34328	193.6	171.82432	370.5	133.04412	206.625	114.85915	109.25	91.651389	92.225
Standard Deviation	15.697818	2.2173558	15.438388	15.972633	28.900182	19.939492	30.190583	8.3845095	99.747813	32.919816	46.083129	20.583888	17.017047	3.8622101	16.277644	6.8684666
Median	95	137	110	126	100	163.5	138	199	120	375	117	207.5	112	109.5	92.25	93.1
Alkalinity, total (CaCO3), mg/L																
No. of Analyses	71	4	77	8	71	4	67	5	75	8	68	8	71	4	72	4
No. of Detections	71	4	77	8	71	4	67	5	75	8	68	8	71	4	72	4
Maximum	74.3	83.9	78	72	73.1	87.8	133	128	194	215	150	121	110	69.2	76	52.4
Minimum	44.2	68.2	54	66.7	38	67.8	38	117	49.9	160	44	94.5	3	65	48	50.3
Mean	54.395775	75.9	65.205195	69.35	52.005634	77.1	90.089552	121.6	93.648	192.375	72.964706	112.0625	70.811268	66.675	53.031944	51.25
Standard Deviation	4.7021101	6.7414143	4.3793744	1.8616429	9.5234731	10.799383	19.650115	4.0373258	43.536212	19.38289	25.788744	9.5932919	12.223205	1.8856917	3.5708454	1.0598742
Median	54	75.75	64	69.15	49.5	76.4	82	121	66	197	56.3	115.5	70	66.25	52.85	51.15
Ammonia as N, mg/L																
No. of Analyses	71	4	77	8	71	4	67	5	75	8	68	8	71	4	72	4
No. of Detections	15	0	19	8	5	1	4	1	11	8	12	2	56	4	23	4
Maximum	0.16	ND	0.03	0.007	0.19	0.0074	0.13	0.0058	0.3	0.0226	0.9	0.0046	0.44	0.0386	0.07	0.0054
Minimum	ND	ND	ND	0.0049	ND	ND	ND	ND	ND	0.0022	ND	ND	ND	0.0314	ND	0.0025
Mean	0.0130113	ID	0.0096195	0.005975	0.011762	ID	0.0123731	ID	0.0153253	0.0068	0.0256426	ID	0.0430451	0.03435	0.0133708	0.003925
Standard Deviation	0.0202193	ID	0.0065093	0.0007869	0.0231563	ID	0.0210777	ID	0.0401816	0.0069667	0.1090402	ID	0.0554743	0.0034073	0.012172	0.0012527
Median	0.005	ID	0.005	0.00595	0.005	ID	0.005	ID	0.005	0.00335	0.005	ID	0.0378	0.0337	0.0101	0.0039
Chloride, mg/L																
No. of Analyses	71	4	77	8	71	4	67	5	75	8	68	8	71	4	72	4
No. of Detections	71	4	77	8	71	4	67	5	75	8	68	8	71	4	71	4
Maximum	18.6	20.8	7.74	12.1	18.5	23	12.2	12.6	81	71.9	32.3	27.2	7.8	5.49	5.04	5.14
Minimum	2	16.2	2.9	8.3	2	15.3	4	9.82	3	53.2	3	17.9	3	4.86	ND	3.75
Mean	4.6523944	18	3.972987	10.0175	7.4980282	18.95	6.7807463	11.144	18.557733	60.625	10.848971	23.225	3.8890141	5.1125	3.7801389	4.4075
Standard Deviation	3.3382842	1.9916492	1.0102919	1.3483826	4.5896021	3.7775654	2.0473133	1.0073133	21.034053	6.8083457	8.3359436	2.9769351	0.7392374	0.3048907	0.5668134	0.6133175
Median	3.92	17.5	4	10.145	5	18.75	6.3	11.1	5.1	58.75	4.3	23.1	3.9	5.05	4	4.37

Table 4-2a
Statistical Summary of Regional Aquifer - Upgradient and Crossgradient Wells
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	70	4	67	8	64	4	71	4	79	8	71	4	76	7	77	8
No. of Detections	70	4	67	8	64	4	71	4	79	8	71	4	76	7	77	8
Maximum	7.76	7.07	7.55	7.2	7.62	7.45	7.93	8.04	7.47	7.36	7.45	7.06	7.64	7.37	7.71	7.53
Minimum	6.39	6.71	6.65	6.66	6.72	7.14	6.63	7.35	6.18	6.66	5.99	6.41	6.14	6.65	6.45	6.71
Mean	7.1	6.9	7.2	7.0	7.4	7.3	7.4	7.5	7.1	7.0	6.9	6.8	6.9	6.9	7.2	7.1
Standard Deviation	0.2	0.2	0.2	0.2	0.2	0.1	0.3	0.3	0.2	0.3	0.3	0.3	0.2	0.3	0.2	0.3
Median	7.11	6.895	7.23	7.02	7.415	7.21	7.38	7.385	7.1	7.05	6.96	6.84	6.97	6.88	7.22	7.14
Specific Conductance, (Field) uS/cm																
No. of Analyses	70	4	67	8	64	4	71	4	79	8	71	4	76	7	77	8
No. of Detections	70	4	67	8	64	4	71	4	79	8	71	4	76	7	77	8
Maximum	340	232	365	330.3	230.9	229.7	145.4	145.5	280	218.6	170	141.1	199.8	211	168.1	167.1
Minimum	120	191.4	190	313.2	110	209.3	85	139.6	150	198.9	98	125.3	100	196.5	95	149.3
Mean	195.13571	219.4	284.13582	323.6	195.6375	223.95	115.83239	142.625	210.4139	209.575	140.607	133.825	143.1526	202.9	122.9675	161.825
Standard Deviation	42.300296	18.860187	49.850846	7.3352378	20.708594	9.8432718	11.354933	2.415747	32.83568	6.190488	17.03772	6.816341	16.26908	5.313818	16.23697	5.541983
Median	185	227.1	290	327.55	195	228.4	115	142.7	219.3	209.7	143.6	134.45	140	202.6	120	163.05
Total Dissolved Solids, mg/L																
No. of Analyses	70	4	68	8	63	4	71	4	76	8	71	4	76	7	77	8
No. of Detections	69	4	68	8	63	4	71	4	76	8	71	4	75	7	76	8
Maximum	224	166	650	223	150	147	140	97.3	181	139	1100	104	130	132	140	124
Minimum	ND	127	130	200	107	135	47	85.3	47	124	61	92.7	ND	120	ND	100
Mean	123.62857	142	206.08824	208.125	130.46032	139.5	74.794366	91.225	134.1447	130.875	112.0056	98.025	92.45132	125.5714	88.69221	109
Standard Deviation	35.001934	16.792856	70.243656	8.4081168	10.436946	5.7445626	13.698528	5.6929049	29.13678	5.383507	119.7369	4.809279	17.58077	4.685337	16.13809	8.815571
Median	124.5	137.5	205	204	130	138	74.4	91.15	139	130.5	100	97.7	94.15	125	90	106.5
Alkalinity, total (CaCO3), mg/L																
No. of Analyses	70	4	68	8	63	4	71	4	77	8	71	4	76	7	77	8
No. of Detections	70	4	68	8	63	4	71	4	77	8	71	4	76	7	77	8
Maximum	111	102	123	125	100	90	60	60.7	122	87.9	78	54.5	72.1	82	66	57.7
Minimum	49.7	83.6	64	118	77.3	87.6	38	59.1	70	81.3	32.8	50.3	30	75.1	4	54.5
Mean	81.178571	96.65	104.29559	121.125	87.298413	89	49.542254	59.95	96.05065	84.45	56.44789	51.95	59.03289	78.12857	47.81429	55.5625
Standard Deviation	13.335654	8.7382302	13.437888	2.2951813	5.2709946	1.086278	4.5428016	0.6608076	16.60154	2.34033	8.771836	1.821172	5.638543	2.530951	6.164579	1.037769
Median	80.75	100.5	100	121	86.7	89.2	50	60	97.8	84.2	55.6	51.5	59.6	77.6	48	55.4
Ammonia as N, mg/L																
No. of Analyses	70	4	68	8	63	4	71	4	77	8	71	4	76	7	77	8
No. of Detections	63	4	58	8	40	4	15	4	7	0	5	0	6	2	3	0
Maximum	0.12	0.0284	0.21	0.063	0.2	0.0269	0.18	0.0553	0.21	ND	0.18	ND	0.13	0.0888	0.04	ND
Minimum	ND	0.0144	ND	0.0501	ND	0.0226	ND	0.0155	ND	ND	ND	ND	ND	ND	ND	ND
Mean	0.0441843	0.022	0.0497324	0.055925	0.0254302	0.024725	0.0129817	0.033175	0.015077	ID	0.011901	ID	0.009911	ID	0.008078	ID
Standard Deviation	0.0249086	0.0058401	0.0261651	0.0041393	0.0297175	0.0019033	0.0225915	0.0197338	0.030963	ID	0.022616	ID	0.015513	ID	0.006937	ID
Median	0.03825	0.0226	0.0524	0.0555	0.022	0.0247	0.005	0.03095	0.005	ID	0.005	ID	0.005	ID	0.005	ID
Chloride, mg/L																
No. of Analyses	70	4	68	8	63	4	71	4	77	8	71	4	76	7	77	8
No. of Detections	70	4	68	8	63	4	70	4	76	8	70	4	75	7	76	8
Maximum	6	2.77	8	2.95	8.03	6.27	7.63	2.43	13	4.46	4.59	2.39	5.74	5.41	5.59	5.36
Minimum	2	2.68	1.6	2.56	3.8	5.84	ND	2.22	ND	4.06	ND	2.18	ND	3.85	ND	4.73
Mean	3.2535714	2.72	3.0066176	2.7875	4.8534921	6.0725	2.8856338	2.325	7.710649	4.2725	2.764127	2.2725	3.423684	4.32	3.052987	5.07625
Standard Deviation	0.683567	0.0391578	0.668314	0.1282576	0.7732424	0.1796988	0.7495803	0.1053565	1.930268	0.146945	0.671607	0.090323	0.579337	0.540339	1.150586	0.194197
Median	3.235	2.715	2.98	2.825	5	6.09	2.83	2.325	7.99	4.295	2.96	2.26	3.445	4.11	2.74	5.09

Table 4-2a
Statistical Summary of Regional Aquifer - Upgradient and Crossgradient Wells
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	71	4	77	8	71	4	67	5	75	8	68	8	71	4	72	4
No. of Detections	49	3	22	4	71	4	67	5	74	8	67	8	17	1	12	2
Maximum	2.78	1.01	0.98	0.02	6	0.961	1.5	1.12	4.18	4.09	2.72	1.48	1	0.01	0.09	0.014
Minimum	ND	ND	ND	ND	0.303	0.209	0.443	0.821	ND	0.681	ND	0.28	ND	ND	ND	ND
Mean	0.3260901	0.5605	0.0367039	0.010125	1.3610141	0.54225	0.863791	0.9374	0.933252	2.133875	1.1252103	0.7055	0.0495634	ID	0.01625	ID
Standard Deviation	0.5052722	0.4149173	0.1172196	0.0061514	0.7294411	0.3771944	0.2163434	0.121121	0.8626825	1.1852113	0.5194246	0.3675447	0.1536274	ID	0.0149136	ID
Median	0.153	0.6135	0.017	0.0075	1.3	0.4995	0.875	0.907	0.69	2.105	1	0.594	0.01	ID	0.0115	ID
Sulfate, mg/L																
No. of Analyses	71	4	77	8	70	4	67	5	75	8	68	8	71	4	72	4
No. of Detections	71	4	77	8	69	4	67	5	75	8	68	8	71	4	71	4
Maximum	24	8.54	23	15.9	33.3	17.7	18.5	16.9	62.9	12.7	20	9.93	39	13.4	20	9.62
Minimum	6.1	7.18	14	14.5	ND	13.3	12	12.8	5.84	9.42	1.85	7.38	11.1	10.2	ND	8.49
Mean	16.074789	7.895	17.661039	15.1375	18.06	15.75	15.11791	14.94	13.642133	10.57	10.626176	8.6725	17.594366	11.725	15.061111	9.0675
Standard Deviation	3.1144529	0.5581816	1.8337591	0.5343554	4.5220042	1.9621417	1.9058065	1.7742604	6.9698271	1.0436748	4.4243209	0.9454515	3.3623073	1.611159	2.6152917	0.5607361
Median	16	7.93	17.4	15	18	16	15	15.4	12	10.3	10.55	8.725	17	11.65	16	9.08
Dissolved Iron, mg/L																
No. of Analyses	71	4	77	8	71	4	67	5	75	9	68	8	71	4	72	4
No. of Detections	67	4	77	8	37	0	37	1	35	1	34	1	71	4	72	4
Maximum	4.7	0.0852	5.3	4.58	8.8	ND	0.18	0.035	0.13	0.0119	0.27	0.0156	4.9	3.51	8.4	3.36
Minimum	ND	0.0107	2.85	3.86	ND	ND	ND	ND	ND	ND	ND	ND	1.7	3.05	3.1	2.76
Mean	0.3168225	0.045275	4.1888312	4.2475	0.1543113	ID	0.0385075	ID	0.0298347	ID	0.0298515	ID	3.7569014	3.2825	4.0369444	3.07
Standard Deviation	0.5751325	0.0392249	0.4336139	0.2369298	1.0415037	ID	0.0441518	ID	0.0328647	ID	0.0401811	ID	0.6085594	0.2515784	0.6694262	0.2992212
Median	0.22	0.0426	4.2	4.215	0.014	ID	0.023	ID	0.005	ID	0.0065	ID	3.77	3.285	3.995	3.08
Dissolved Manganese, mg/L																
No. of Analyses	71	4	77	8	71	4	67	5	75	9	68	8	71	4	71	4
No. of Detections	71	4	77	8	6	1	5	2	39	9	13	7	71	4	71	4
Maximum	0.344	0.269	0.13	0.138	0.067	0.000155	0.002	0.000754	0.0694	0.118	0.0345	0.00141	0.27	0.109	0.25	0.191
Minimum	0.0501	0.0905	0.0913	0.112	ND	ND	ND	ND	ND	0.000811	ND	ND	0.0914	0.0978	0.137	0.131
Mean	0.1738366	0.187375	0.1077883	0.1265	0.0015352	ID	0.0005444	ID	0.0041845	0.0450123	0.0014528	0.0004298	0.1746113	0.102575	0.2010282	0.1565
Standard Deviation	0.0778119	0.0764105	0.0089394	0.0097101	0.0079035	ID	0.0003106	ID	0.0103412	0.0411218	0.0044079	0.0005005	0.0573913	0.0050189	0.0229764	0.026602
Median	0.18	0.195	0.109	0.127	0.0005	ID	0.0005	ID	0.001	0.0281	0.0005	0.0001965	0.17	0.10175	0.2	0.152
Dissolved Calcium, mg/L																
No. of Analyses	71	4	77	8	71	4	67	5	75	9	68	8	71	4	72	4
No. of Detections	71	4	77	8	71	4	67	5	75	9	68	8	71	4	72	4
Maximum	19.5	24.5	17	18.5	23.5	26.4	30.5	30.3	67.9	73.6	40.4	36.1	19	14.8	13	11.6
Minimum	11	20.5	12	16.2	8.8	21.1	11	28	11	54.9	11	28.2	11	14	9.2	11.4
Mean	14.128169	22.275	14.167532	17.4	15.019718	23.725	19.792537	28.9	26.968	63.9	19.491176	32.8375	14.842254	14.5	11.631944	11.45
Standard Deviation	1.6094527	1.7932745	1.2758322	0.7445037	3.8249788	2.8651643	4.583115	0.8573214	15.669045	6.3914005	7.2030204	2.3975806	1.9735872	0.3829708	0.9255111	0.1
Median	14	22.05	14	17.4	14	23.7	19	28.8	18	63.5	15	33	14.9	14.6	11.85	11.4
Dissolved Magnesium, mg/L																
No. of Analyses	71	4	77	8	71	4	67	5	75	9	68	8	71	4	72	4
No. of Detections	71	4	77	8	71	4	67	5	75	9	68	8	71	4	72	4
Maximum	11.7	13.6	11	11.5	11.1	12.1	18.5	17.6	28.9	30	15.5	15.6	15	9.5	8.03	7.05
Minimum	4.57	9.84	7.17	10.2	4	9.53	7.4	16.7	4.4	23.2	4.6	12.6	7.1	9.24	5.3	6.78
Mean	6.6985915	11.435	8.5292208	10.6875	6.6939437	10.8575	11.389701	17.28	11.198667	27.144444	8.4861765	14.6875	9.375493	9.3675	6.7273611	6.87
Standard Deviation	1.2064556	1.5831088	0.7780555	0.4611709	1.7992002	1.2818834	2.6928767	0.3768289	6.8086011	2.3701852	3.2986841	0.9642725	1.2425697	0.1099621	0.5352609	0.1219289
Median	6.6	11.15	8.42	10.55	6.02	10.9	10.5	17.5	7.2	27.5	6.6	15	9.32	9.365	6.74	6.825

Table 4-2a
Statistical Summary of Regional Aquifer - Upgradient and Crossgradient Wells
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	70	4	68	8	63	4	71	4	77	8	71	4	76	7	77	8
No. of Detections	27	2	35	4	3	0	9	0	77	8	71	4	76	7	76	8
Maximum	2	0.013	1.2	0.031	0.06	ND	1.9	ND	0.765	0.49	2.1	1.14	1.4	0.191	1.8	1.68
Minimum	ND	ND	ND	ND	ND	ND	ND	ND	0.23	0.352	0.246	1.06	0.09	0.123	ND	1.46
Mean	0.0481457	ID	0.0492926	0.012875	0.0146825	ID	0.0516761	ID	0.472532	0.422125	1.16369	1.1075	0.394632	0.153143	1.499623	1.555
Standard Deviation	0.2373359	ID	0.1491071	0.0101761	0.0122103	ID	0.2269097	ID	0.158022	0.039959	0.51047	0.03594	0.227162	0.024361	0.302446	0.067188
Median	0.021	ID	0.018	0.009	0.005	ID	0.005	ID	0.46	0.4255	1.1	1.115	0.44	0.145	1.56	1.56
Sulfate, mg/L																
No. of Analyses	70	4	67	8	63	4	71	4	77	8	71	4	76	7	77	8
No. of Detections	70	4	67	8	63	4	71	4	77	8	70	4	76	7	75	8
Maximum	76.2	18.2	101	42.6	28	16	8	6.55	16.1	13.6	24	8.49	18	17.3	11.3	10.9
Minimum	7	11	1.1	35	14	15.2	2	5.92	2.2	12.8	ND	7.46	10	15.5	ND	8.83
Mean	21.814286	13.5	50.947761	38.9	17.304762	15.65	5.961831	6.1925	11.45974	13.225	11.56282	7.925	12.55	16.01429	7.925714	9.94
Standard Deviation	13.928204	3.2393415	22.19332	2.8440414	2.5826611	0.4123106	1.0087663	0.2926175	2.853634	0.296407	3.824519	0.469219	1.203606	0.679285	1.612857	0.598546
Median	16	12.4	47	38.9	16.6	15.7	6	6.15	11.3	13.2	10	7.875	12.6	15.7	8	9.975
Dissolved Iron, mg/L																
No. of Analyses	70	4	69	8	63	4	71	4	77	8	70	4	76	8	77	8
No. of Detections	70	3	26	0	30	0	71	4	37	0	36	0	36	0	35	0
Maximum	1.3	0.0522	0.25	ND	0.19	ND	3.7	2.03	1.7	ND	0.12	ND	0.48	ND	0.98	ND
Minimum	0.0278	ND	ND	ND	ND	ND	1.63	1.73	ND	ND	ND	ND	ND	ND	ND	ND
Mean	0.4382871	0.026175	0.0385029	ID	0.0422365	ID	2.1816901	1.9225	0.054184	ID	0.027879	ID	0.028076	ID	0.031508	ID
Standard Deviation	0.3410748	0.0195916	0.0492689	ID	0.0476342	ID	0.358138	0.1320038	0.199634	ID	0.028254	ID	0.058588	ID	0.111605	ID
Median	0.435	0.02375	0.005	ID	0.005	ID	2.1	1.965	0.005	ID	0.00855	ID	0.005	ID	0.005	ID
Dissolved Manganese, mg/L																
No. of Analyses	70	4	69	8	63	4	71	4	77	8	70	4	76	8	77	8
No. of Detections	70	4	68	8	63	4	71	4	8	0	9	1	65	8	6	2
Maximum	0.847	0.0982	0.369	0.208	0.24	0.168	0.102	0.114	0.006	ND	0.008	0.000152	0.037	0.0718	0.25	0.000304
Minimum	0.027	0.0271	ND	0.154	0.051	0.161	0.044	0.103	ND	ND	ND	ND	ND	0.000501	ND	ND
Mean	0.1134143	0.06555	0.2381087	0.188375	0.1438429	0.1655	0.0741056	0.107	0.000628	ID	0.000681	ID	0.003278	0.010246	0.0039	ID
Standard Deviation	0.1363613	0.0372768	0.0521167	0.0160885	0.036434	0.0033166	0.01138	0.0048305	0.000846	ID	0.000958	ID	0.004865	0.02491	0.028428	ID
Median	0.06495	0.06845	0.24	0.19	0.14	0.1665	0.074	0.1055	0.0005	ID	0.0005	ID	0.00211	0.000774	0.0005	ID
Dissolved Calcium, mg/L																
No. of Analyses	70	4	69	8	63	4	71	4	77	8	70	4	76	8	77	8
No. of Detections	70	4	68	8	63	4	71	4	77	8	70	4	76	8	77	8
Maximum	26.9	19.9	39.6	32.9	23	22.4	14	12.5	23	17.4	18	12.9	15	17.6	14	14.7
Minimum	9.5	16.2	ND	31.2	10	21.7	6.8	12	9.7	15.2	10.4	11.8	8.4	15.3	0.026	13.8
Mean	16.905714	18.5	28.750797	31.9625	19.549206	22.075	9.3509859	12.2	17.2	16.55	13.39429	12.375	10.94447	16.5	10.58553	14.125
Standard Deviation	3.4445877	1.6227549	6.5471199	0.6479363	1.8270259	0.2986079	1.1781052	0.2160247	3.330323	0.665475	1.746623	0.478714	1.140806	0.876682	1.811591	0.291548
Median	17	18.95	30	31.8	19.5	22.1	9.39	12.15	18.2	16.6	13	12.4	11	16.6	10.8	14.1
Dissolved Magnesium, mg/L																
No. of Analyses	70	4	69	8	63	4	71	4	77	8	70	4	76	8	77	8
No. of Detections	70	4	68	8	63	4	71	4	77	8	70	4	76	8	76	8
Maximum	21.5	15	20.4	17.1	12	12	7.6	6.87	18.8	13.5	9	6.56	11.1	13.1	7.63	7.91
Minimum	5.1	11.7	ND	16.3	6.8	11.5	4	6.67	7.1	12.1	2.95	6.09	6.4	11.1	ND	7.29
Mean	11.020714	13.8	14.763877	16.6875	10.184921	11.725	5.3185915	6.7375	13.43247	12.9125	6.384714	6.405	8.336974	12.1875	5.709448	7.61125
Standard Deviation	3.4635093	1.4445299	3.5789376	0.3136764	0.8977766	0.2061553	0.6905759	0.0899537	2.641094	0.476408	1.209706	0.212995	0.884686	0.723952	0.961191	0.208357
Median	11	14.25	15.9	16.8	10	11.7	5.4	6.705	13.6	13	6.4	6.485	8.29	12.3	5.65	7.58

Table 4-2a
Statistical Summary of Regional Aquifer - Upgradient and Crossgradient Wells
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	70	4	76	8	70	4	66	5	74	9	67	8	70	4	71	4
No. of Detections	70	4	76	8	70	4	66	5	74	9	67	8	70	4	71	4
Maximum	1.31	1.28	1.2	1.22	1.52	1.65	1.97	1.92	3.67	3.93	2.53	2.57	1.4	1.01	1.1	0.927
Minimum	0.791	1.11	0.87	1.11	0.89	1.45	1.2	1.72	1.3	3.12	1.1	2.17	0.73	0.937	0.78	0.824
Mean	1.0931857	1.215	1.0298947	1.1525	1.1595143	1.515	1.5330303	1.858	2.0894595	3.5088889	1.7120896	2.37875	0.9123714	0.9805	0.9046761	0.8965
Standard Deviation	0.1205532	0.0732575	0.0717629	0.0409704	0.1593284	0.0925563	0.1982071	0.0819756	0.6211145	0.2756104	0.37263	0.1119231	0.0946789	0.0309031	0.0580413	0.049034
Median	1.1	1.235	1.015	1.14	1.125	1.48	1.5	1.87	1.815	3.52	1.6	2.38	0.903	0.9875	0.899	0.9175
Dissolved Sodium, mg/L																
No. of Analyses	71	4	77	8	71	4	67	5	75	9	68	8	71	4	72	4
No. of Detections	71	4	77	8	71	4	67	5	75	9	68	8	71	4	72	4
Maximum	6.6	6.96	6.6	6.6	9.66	12.1	8.59	8.54	16	15.7	12.6	8.71	7	5.89	5.9	5.38
Minimum	4	6.12	4.73	6.21	5.72	10.4	4.9	7.34	4.5	11.8	4.3	7.46	4.78	5.78	4.55	5.29
Mean	4.8607042	6.3725	5.5335065	6.36875	7.6473239	11.2	6.2374627	8.202	6.9652	13.877778	6.1145588	8.16	5.6740845	5.8575	5.1255556	5.3175
Standard Deviation	0.460209	0.3954217	0.3987671	0.1694898	0.8596361	0.875595	0.8826361	0.4979157	2.5602024	1.4973124	1.5600521	0.3865599	0.4500875	0.0525198	0.2846688	0.0419325
Median	4.82	6.205	5.5	6.28	7.43	11.15	6.1	8.4	5.8	13.7	5.45	8.205	5.6	5.88	5.125	5.3
Total Arsenic, mg/L																
No. of Analyses	17	4	23	8	17	4	16	5	23	9	23	8	17	4	17	4
No. of Detections	7	4	8	8	4	4	4	5	7	9	7	8	4	4	6	4
Maximum	0.0025	0.00253	0.001	0.000567	0.0005	0.000215	0.0005	0.00028	0.0005	0.000434	0.0005	0.000152	0.00063	0.000613	0.00242	0.00256
Minimum	ND	0.0000772	ND	0.000409	ND	0.000189	ND	0.000223	ND	0.000306	ND	0.000113	ND	0.000493	ND	0.000784
Mean	0.0007407	0.0006935	0.0005093	0.000455	0.0004282	0.000203	0.000438	0.0002506	0.0004659	0.0003757	0.0004027	0.0001341	0.0005191	0.0005678	0.0008077	0.001436
Standard Deviation	0.0008156	0.0012244	0.0001125	5.06E-05	0.0001335	1.395E-05	0.0001109	2.196E-05	5.869E-05	5.108E-05	0.0001555	1.427E-05	4.026E-05	5.53E-05	0.0005624	0.000778
Median	0.0005	8.335E-05	0.0005	0.000443	0.0005	0.000204	0.0005	0.000245	0.0005	0.000392	0.0005	0.000133	0.0005	0.0005825	0.0005	0.0012
Total Barium, mg/L																
No. of Analyses	17	4	23	8	17	4	16	5	23	9	23	8	17	4	17	4
No. of Detections	17	4	23	8	17	4	15	5	23	9	23	8	17	4	17	4
Maximum	0.0478	0.0448	0.00548	0.00452	0.00434	0.00469	0.00376	0.00201	0.0104	0.0109	0.00542	0.00272	0.00205	0.0021	0.00797	0.00844
Minimum	0.00323	0.0043	0.00318	0.00376	0.0031	0.00354	ND	0.00119	0.00369	0.00705	0.00168	0.00197	0.00172	0.00185	0.0062	0.00614
Mean	0.0095759	0.01478	0.00376	0.0041375	0.0036824	0.0041325	0.0016106	0.001508	0.0069461	0.0092756	0.0025974	0.0022138	0.0018935	0.00201	0.0070706	0.0069275
Standard Deviation	0.014418	0.0200205	0.0005108	0.0002663	0.0003415	0.0005338	0.0006865	0.0003321	0.0018431	0.0015245	0.0007896	0.0002272	8.58E-05	0.0001105	0.0004815	0.0010281
Median	0.00373	0.00501	0.0036	0.00409	0.00364	0.00415	0.001545	0.00147	0.00671	0.00964	0.00252	0.002165	0.00191	0.002045	0.00701	0.006565
Total Copper, mg/L																
No. of Analyses	17	4	23	8	17	4	16	5	23	9	23	8	17	4	17	4
No. of Detections	6	2	4	2	4	4	4	3	10	9	8	8	0	1	1	1
Maximum	0.0154	0.0177	0.00102	0.000581	0.00116	0.00168	0.001	0.000419	0.00601	0.0079	0.0051	0.00122	ND	0.000606	0.001	0.000219
Minimum	ND	ND	ND	ND	ND	0.000918	ND	ND	ND	0.00209	ND	0.000939	ND	ND	ND	ND
Mean	0.0028038	ID	0.0008313	ID	0.0009518	0.001357	0.0008102	0.0002314	0.0021987	0.0044667	0.0012496	0.0010936	ID	ID	ID	ID
Standard Deviation	0.0049203	ID	0.0003212	ID	0.0001459	0.0003203	0.0003396	0.000135	0.0016548	0.0021433	0.0008856	8.84E-05	ID	ID	ID	ID
Median	0.001	ID	0.001	ID	0.001	0.001415	0.001	0.000255	0.001	0.00396	0.001	0.001115	ID	ID	ID	ID
Total Vanadium, mg/L																
No. of Analyses	17	4	23	8	17	4	16	5	23	9	23	8	17	4	17	4
No. of Detections	5	4	0	2	4	4	4	5	7	9	7	8	0	0	0	0
Maximum	0.0178	0.0181	ND	0.000116	0.001	0.000618	0.00134	0.00144	0.00101	0.00115	0.00132	0.00139	ND	ND	ND	ND
Minimum	ND	0.000203	ND	ND	ND	0.000567	ND	0.0013	ND	0.000751	ND	0.000962	ND	ND	ND	ND
Mean	0.002688	0.0047088	ID	ID	0.0008991	0.0005945	0.00108	0.001364	0.0009558	0.0009387	0.0010274	0.0012253	ID	ID	ID	ID
Standard Deviation	0.0053874	0.0089276	ID	ID	0.0001877	2.105E-05	0.0001432	6.229E-05	8.165E-05	0.0001389	9.931E-05	0.0001407	ID	ID	ID	ID
Median	0.001	0.000266	ID	ID	0.001	0.0005965	0.001	0.00134	0.001	0.000939	0.001	0.001245	ID	ID	ID	ID
cis 1,2-Dichloroethene, ug/L																
No. of Analyses	71	4	77	8	72	4	67	4	75	8	68	8	71	4	72	4
No. of Detections	67	4	41	8	70	4	0	0	0	0	0	0	32	1	0	0
Maximum	1.8	1.48	1.37	1.41	3.1	0.327	ND	ND	ND	ND	ND	ND	0.39	0.107	ND	ND
Minimum	ND	1.13	ND	1.16	ND	0.148	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Mean	1.065169	1.3725	0.4540519	1.32125	1.1375139	0.24925	ID	ID	ID	ID	ID	ID	0.1682254	ID	ID	ID
Standard Deviation	0.3630525	0.1629673	0.4069913	0.0965753	0.7091229	0.0918055	ID	ID	ID	ID	ID	ID	0.0873852	ID	ID	ID
Median	1.1	1.44	0.31	1.37	0.93	0.261	ID	ID	ID	ID	ID	ID	0.1	ID	ID	ID
Tetrachloroethene, ug/L																

Table 4-2a
Statistical Summary of Regional Aquifer - Upgradient and Crossgradient Wells
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	69	4	68	8	62	4	70	4	75	8	69	4	75	8	76	8
No. of Detections	69	4	67	8	62	4	70	4	75	8	69	4	75	8	75	8
Maximum	1.89	1.74	1.9	1.61	1.4	1.27	1.4	1.12	1.48	1.17	1.1	0.844	1.3	1.27	1.1	0.895
Minimum	0.89	1.39	ND	1.5	0.91	1.12	0.8	1.09	0.74	1.08	0.655	0.798	0.82	1.13	ND	0.784
Mean	1.3473913	1.6475	1.4097059	1.56	1.1654839	1.215	0.9722429	1.1025	1.131333	1.135	0.822754	0.819	0.983173	1.195	0.724711	0.85025
Standard Deviation	0.2503272	0.1717314	0.2450097	0.036645	0.0941341	0.0655744	0.092425	0.015	0.144169	0.033381	0.088905	0.018991	0.089007	0.043095	0.098004	0.033328
Median	1.31	1.73	1.455	1.56	1.165	1.235	0.96	1.1	1.15	1.15	0.805	0.817	0.98	1.18	0.73	0.8585
Dissolved Sodium, mg/L																
No. of Analyses	70	4	69	8	63	4	71	4	77	8	70	4	76	8	77	8
No. of Detections	70	4	68	8	63	4	71	4	77	8	70	4	76	8	77	8
Maximum	8.65	8.11	10.2	10.1	7.8	6.56	7.2	6.08	9.12	7.72	7.1	6.05	6.81	7.65	7.5	6.88
Minimum	4.8	7.29	ND	9.27	4.8	6.1	4.4	5.99	4.5	7.05	2.4	5.91	4.6	6.67	1.2	6.31
Mean	6.3598571	7.8025	8.2455797	9.58	6.0031746	6.3275	5.1039437	6.0325	7.21026	7.40125	5.543	5.9875	5.7	7.19625	5.576364	6.58875
Standard Deviation	0.8215177	0.3562186	1.4815983	0.2930626	0.5561731	0.2177728	0.4681223	0.0492443	0.859137	0.220093	0.931929	0.061305	0.484696	0.305705	0.729893	0.189242
Median	6.43	7.905	8.5	9.55	5.92	6.325	5	6.03	7.32	7.385	5.615	5.995	5.755	7.235	5.58	6.58
Total Arsenic, mg/L																
No. of Analyses	17	4	23	8	17	4	16	4	23	8	17	4	23	8	23	8
No. of Detections	17	4	23	8	8	4	12	4	7	8	4	4	7	8	7	8
Maximum	0.01	0.00274	0.00136	0.00144	0.00111	0.00108	0.00111	0.000988	0.000718	0.000725	0.00151	0.000735	0.0005	0.000338	0.000625	0.000554
Minimum	0.00118	0.00122	0.00113	0.00126	ND	0.00102	ND	0.00088	ND	0.000641	ND	0.000681	ND	0.000307	ND	0.000507
Mean	0.0030271	0.00183	0.0012861	0.0013388	0.0007647	0.0010525	0.0008958	0.0009233	0.000548	0.000679	0.000571	0.000714	0.000452	0.000325	0.000515	0.000528
Standard Deviation	0.0026847	0.000726	6.301E-05	6.749E-05	0.0002904	0.000025	0.0002417	4.849E-05	7.65E-05	3.21E-05	0.000253	2.45E-05	7.43E-05	1.05E-05	2.93E-05	1.79E-05
Median	0.00174	0.00168	0.00129	0.001325	0.0005	0.001055	0.00102	0.0009125	0.0005	0.000678	0.0005	0.000721	0.0005	0.000323	0.0005	0.000529
Total Barium, mg/L																
No. of Analyses	17	4	23	8	17	4	16	4	23	8	17	4	23	8	23	8
No. of Detections	17	4	23	8	17	4	16	4	23	8	17	4	23	8	23	8
Maximum	0.0244	0.0299	0.00942	0.0108	0.00437	0.00473	0.00461	0.00516	0.00649	0.00452	0.0225	0.00314	0.00435	0.00503	0.00487	0.00351
Minimum	0.00711	0.0118	0.00761	0.00739	0.00365	0.00407	0.00298	0.00468	0.00452	0.00404	0.00245	0.00271	0.00325	0.00471	0.00256	0.00299
Mean	0.0115924	0.020675	0.0083561	0.0082788	0.0039612	0.00439	0.0040356	0.0049625	0.005393	0.004278	0.004281	0.002985	0.003663	0.004896	0.002896	0.003228
Standard Deviation	0.0044841	0.0075212	0.0004798	0.0010729	0.0002235	0.0002741	0.0005238	0.0002021	0.000553	0.000229	0.004789	0.000194	0.000288	9.69E-05	0.000487	0.000213
Median	0.00928	0.0205	0.00825	0.00797	0.00392	0.00438	0.00426	0.005005	0.00523	0.004265	0.00291	0.003045	0.0036	0.004915	0.00272	0.00317
Total Copper, mg/L																
No. of Analyses	17	4	23	8	17	4	16	4	23	8	17	4	23	8	23	8
No. of Detections	4	4	0	4	0	0	0	0	1	0	7	4	0	1	1	4
Maximum	0.00512	0.00148	ND	0.001	ND	ND	ND	ND	0.001	ND	0.00363	0.000578	ND	0.000675	0.001	0.000623
Minimum	ND	0.000401	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.000216	ND	ND	ND	ND
Mean	0.0011871	0.000953	ID	0.0003116	ID	ID	ID	ID	ID	ID	0.001475	0.000331	ID	ID	ID	0.000264
Standard Deviation	0.0010611	0.0004408	ID	0.0003314	ID	ID	ID	ID	ID	ID	0.001031	0.000167	ID	ID	ID	0.000219
Median	0.001	0.0009655	ID	0.000164	ID	ID	ID	ID	ID	ID	0.001	0.000265	ID	ID	ID	0.000164
Total Vanadium, mg/L																
No. of Analyses	17	4	23	8	17	4	16	4	23	8	17	4	23	8	23	8
No. of Detections	4	4	10	8	3	4	0	1	7	8	4	4	7	8	8	8
Maximum	0.00606	0.00119	0.00231	0.00265	0.001	0.000374	ND	0.0000808	0.001	0.000815	0.00315	0.00142	0.001	0.000596	0.00253	0.00185
Minimum	ND	0.000404	ND	0.0019	ND	0.000263	ND	ND	ND	0.000668	ND	0.00127	ND	0.000451	ND	0.00159
Mean	0.0012291	0.000829	0.0015148	0.0021425	0.0008346	0.000314	ID	ID	0.0009	0.00074	0.001139	0.001323	0.000846	0.000506	0.001276	0.001695
Standard Deviation	0.001273	0.0003271	0.0006023	0.0002281	0.0003096	4.917E-05	ID	ID	0.000156	4.39E-05	0.000522	6.65E-05	0.000239	4.58E-05	0.000424	8.38E-05
Median	0.001	0.000861	0.001	0.002115	0.001	0.0003095	ID	ID	0.001	0.000738	0.001	0.0013	0.001	0.000515	0.001	0.00167
cis 1,2-Dichloroethene, ug/L																
No. of Analyses	70	4	68	8	64	4	71	4	78	8	71	4	76	7	77	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																

Table 4-2a
Statistical Summary of Regional Aquifer - Upgradient and Crossgradient Wells
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															
No. of Analyses	71	4	77	8	72	4	67	4	75	8	68	8	71	4	72	4
No. of Detections	0	0	0	0	71	4	1	0	0	0	0	0	0	0	0	0
Maximum	ND	ND	ND	ND	0.89	0.401	0.31	ND	ND	ND	ND	ND	ND	ND	ND	ND
Minimum	ND	ND	ND	ND	ND	0.309	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Mean	ID	ID	ID	ID	0.5073889	0.368	ID	ID	ID	ID	ID	ID	ID	ID	ID	ID
Standard Deviation	ID	ID	ID	ID	0.1159255	0.0405791	ID	ID	ID	ID	ID	ID	ID	ID	ID	ID
Median	ID	ID	ID	ID	0.5	0.381	ID	ID	ID	ID	ID	ID	ID	ID	ID	ID
Trichloroethene, ug/L																
No. of Analyses	71	4	77	8	72	4	67	4	75	8	68	8	71	4	72	4
No. of Detections	0	0	1	0	72	4	66	4	75	8	67	8	0	0	0	0
Maximum	ND	ND	0.45	ND	17	7.89	11	4.82	3.8	2.2	5.4	2.42	ND	ND	ND	ND
Minimum	ND	ND	ND	ND	6.69	6.07	ND	4.22	0.504	1.41	ND	1.61	ND	ND	ND	ND
Mean	ID	ID	ID	ID	11.043472	7.2525	6.6267164	4.4775	2.0150933	1.82125	2.8846912	2.14375	ID	ID	ID	ID
Standard Deviation	ID	ID	ID	ID	2.3812047	0.8114339	1.855286	0.2800446	0.5375665	0.2643287	1.0925598	0.2701818	ID	ID	ID	ID
Median	ID	ID	ID	ID	11	7.525	6.3	4.435	2	1.79	2.77	2.26	ID	ID	ID	ID
Vinyl Chloride, ug/L																
No. of Analyses	71	4	77	8	72	4	67	4	75	8	68	8	71	4	72	4
No. of Detections	0	0	0	1	0	0	0	0	0	0	1	1	2	2	70	4
Maximum	ND	ND	ND	0.0103	ND	ND	ND	ND	ND	ND	0.02	0.0109	0.016	0.0276	0.18	0.0468
Minimum	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.0261
Mean	ID	ID	ID	ID	ID	ID	ID	ID	ID	ID	ID	ID	ID	ID	0.0647556	0.033375
Standard Deviation	ID	ID	ID	ID	ID	ID	ID	ID	ID	ID	ID	ID	ID	ID	0.0307796	0.0092478
Median	ID	ID	ID	ID	ID	ID	ID	ID	ID	ID	ID	ID	ID	ID	0.06365	0.0303

Table 4-2a
Statistical Summary of Regional Aquifer - Upgradient and Crossgradient Wells
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															
No. of Analyses	70	4	68	8	64	4	71	4	78	8	71	4	76	7	77	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	70	4	68	8	64	4	71	4	78	8	71	4	76	7	77	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	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
Vinyl Chloride, ug/L																
No. of Analyses	71	4	68	8	64	4	71	4	78	8	71	4	76	7	77	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	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

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

Well Location	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-80 Long	MW-80 Short	MW-74R Long	MW-74R 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	64	4	70	9	72	5	75	8	39	8	190	8	192	8	187	8	75	8	68	4	69	4	69	4
No. of Detections	64	4	70	9	72	5	75	8	39	8	190	8	192	8	187	8	75	8	68	4	69	4	69	4
Maximum	7.13	6.91	7.45	7.15	7.71	7.02	7.64	7.08	7.65	7.81	7.52	7	7.74	7.07	7.21	6.87	7.35	7.16	7.69	6.9	7.67	6.89	7.67	7.21
Minimum	6.59	6.62	6.59	6.62	6.49	6.51	6.51	6.67	6.53	6.74	6.55	6.6	6.57	6.61	5.43	6.66	6.63	6.42	6.59	6.3	6.64	6.5	6.99	7.02
Mean	6.9	6.8	7.1	6.8	7.1	6.9	7.1	6.9	7.1	7.0	7.0	6.9	7.0	6.8	6.9	6.8	7.1	6.8	6.9	6.7	7.2	6.7	7.3	7.1
Standard Deviation	0.1	0.1	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.3	0.1	0.1	0.2	0.2	0.2	0.1	0.2	0.2	0.2	0.3	0.2	0.2	0.1	0.1
Median	6.9	6.8	7.1	6.9	7.1	7.0	7.2	6.9	7.1	6.9	7.0	6.9	7.0	6.7	6.9	6.8	7.1	6.7	7.0	6.8	7.2	6.7	7.3	7.1
Specific Conductance, (Field) uS/cm																								
No. of Analyses	64	4	70	9	72	5	75	8	39	8	190	8	192	8	187	8	75	8	68	4	69	4	69	4
No. of Detections	64	4	70	9	72	5	75	8	39	8	190	8	192	8	187	8	75	8	68	4	69	4	69	4
Maximum	360	309.1	340	292	386.7	378.6	374.5	364.1	318.9	319	1250	571	370	388.8	536	548	354.6	379.8	220	201.3	135	127.3	225.2	259.3
Minimum	170	284.4	180	261.6	165	345.2	220	322.6	210	274.9	260	494.2	170	350.6	2.5	493.3	165	340.3	130	183.4	100	115.5	140	232.4
Mean	278.1484	299.875	269.7614	279.9667	240.2958	369.7	275.1173	353.875	262.8923	308.05	372.9579	527.9375	258.5042	377.375	363.846	534.85	229.904	362.225	168.1956	194.175	112.4449	124.1	174.9464	242.75
Standard Deviation	38.63389	10.72112	35.55432	8.496028	51.81982	14.27042	39.90506	13.463681	38.99724	14.72859	93.02759	27.51856	34.00875	12.27329	59.0772	17.445753	51.54397	12.76633	17.58427	7.605426	8.318204	5.747463	16.57822	12.69449
Median	275	303	275	282.4	225	377.9	260	357.3	265	314.05	362.5	525.5	250	379.65	350	540.95	210	367.55	170	196	110	126.8	170	239.65
Total Dissolved Solids, mg/L																								
No. of Analyses	64	4	69	9	71	4	76	8	39	8	78	8	79	8	77	8	74	8	68	4	68	4	68	4
No. of Detections	64	4	69	9	71	4	76	8	39	8	78	8	79	8	77	8	74	8	68	4	68	4	68	4
Maximum	250	183	310	185	248	245	223	249	313	219	358	354	260	267	377	405	220	245	150	144	96	96.7	150	167
Minimum	124	168	110	159	87	220	88	208	143	191	140	279	90	232	160	363	100	213	58	118	40	86.7	65	145
Mean	174.3438	174.75	176.3913	165.8889	165.6056	232	181.5263	220.25	185.8974	198.875	249.6026	317.875	181.6835	244.75	275.2468	379.25	155.0135	223.625	109.0441	128.5	77.88382	90.9	115.1324	156.25
Standard Deviation	23.326	7.889867	29.241	7.623064	38.88315	12.83225	27.50199	12.969745	27.64797	8.475806	55.22383	29.24008	31.6967	13.39243	55.69847	16.051257	34.9432	12.36282	12.39335	11	10.56489	4.46393	15.45326	12.41974
Median	170	174	173	164	160	231.5	178	216.5	183	196.5	250	321	182	237.5	262	373	143.5	218.5	110	126	80	90.1	120	156.5
Alkalinity, total (CaCO3), mg/L																								
No. of Analyses	64	4	70	9	71	4	76	8	39	8	78	8	79	8	78	8	74	8	68	4	68	4	68	4
No. of Detections	64	4	70	9	71	4	76	8	39	8	78	8	79	8	78	8	74	8	68	4	68	4	68	4
Maximum	160	133	160	125	159	167	130	136	113	116	235	221	110	115	157	110	130	142	82	70.9	58	52.4	82	87.4
Minimum	94.6	121	46	121	75	162	26	124	73.6	111	97	196	74	108	47	104	65	132	50	68.9	46.8	50.8	67	79.4
Mean	131.3531	128.25	134.3857	123	100.8394	164	113.7895	128.75	94.70513	114.125	164.0641	211.25	94.34684	110.5	91.15256	107.875	91.51757	137.375	66.75294	69.875	51.71176	51.4	73.56618	84.7
Standard Deviation	11.18529	5.251984	19.53391	1.732051	24.7415	2.160247	12.19543	3.6936238	12.47773	1.552648	45.24345	8.795291	7.824384	2.070197	10.19744	2.0310096	15.68682	3.777282	4.519559	0.818026	2.185196	0.765942	3.733415	3.609247
Median	131.5	129.5	131	123	91	163.5	114.5	128	92.8	114.5	158.5	212	95.9	110	90	108	87	137.5	67	69.85	52	51.2	73	86
Ammonia as N, mg/L																								
No. of Analyses	64	4	70	9	71	4	76	8	39	8	78	8	79	8	78	8	74	8	68	4	68	4	68	4
No. of Detections	15	4	48	9	9	4	46	8	22	8	11	0	24	8	46	8	6	0	6	1	4	0	48	4
Maximum	0.09	0.011	0.17	0.0189	0.13	0.0093	0.12	0.0188	0.0156	0.0206	0.53	ND	0.128	0.0112	0.16	0.0703	0.18	ND	0.13	0.0021	0.11	ND	0.12	0.0191
Minimum	ND	0.009	ND	0.0158	ND	0.0066	ND	0.0141	ND	0.0095	ND	ND	ND	0.0082	ND	0.0153	ND	ND	ND	ND	ND	ND	ND	0.018
Mean	0.014691	0.009825	0.019054	0.0175	0.011668	0.007425	0.016539	0.01635	0.009062	0.012813	0.02076	ID	0.013134	0.0093	0.017435	0.025325	0.0119	ID	0.011138	ID	0.009731	ID	0.021196	0.01835
Standard Deviation	0.019497	0.000995	0.019887	0.000963	0.018124	0.001282	0.013677	0.0015278	0.003808	0.003444	0.065701	ID	0.016365	0.00095	0.018045	0.0186542	0.023798	ID	0.017611	ID	0.013723	ID	0.016612	0.00052
Median	0.0075	0.00965	0.01635	0.0177	0.005	0.0069	0.015	0.01635	0.0102	0.0125	0.005	ID	0.0084	0.009	0.015	0.0177	0.005	ID	0.005	ID	0.005	ID	0.019	0.01815
Chloride, mg/L																								
No. of Analyses	64	4	70	9	71	4	76	8	39	8	77	8	79	8	78	8	74	8	68	4	68	4	68	4
No. of Detections	64	4	70	9	71	4	76	8	39	8	76	8	79	8	78	8	74	8	68	4	66	4	68	4
Maximum	5.9	3.63	4	3.1	6	5.05	8.01	7.18	6.72	4.61	35	27	12	11.7	13	15.1	10.8	11.4	7.6	4.73	3.6	1.83	11.6	13
Minimum	2.36	2.66	2	2.8	3.49	4.82	2.7	5.84	4.11	1.85	ND	18.2	2	9.72	2	12.4	4	9.36	3.1	4.31	ND	1.73	2	12.3
Mean	3.072031	3.135	2.888571	2.941111	4.53662	4.91	4.278289	6.6925	5.188974	4.15	24.05974	23.475	7.52962	10.8775	4.78859	13.9125	6.787703	10.64	4.783971	4.53	2.2175	1.7825	3.639559	12.7
Standard Deviation	0.555698	0.403691	0.314837	0.094266	0.449466	0.102307	1.038062	0.4320301	0.527635	0.934176	6.321085	2.895686	2.080858	0.646789	2.937045	0.8201698	1.972939	0.726085	0.837361	0.197821	0.463302	0.045735	2.008157	0.294392
Median	3	3.125	2.9	2.9	4.6	4.885	4	6.76	5.1	4.5	25	23.9	7.98	11.05	4.16	14.1	6.21	10.9	4.655	4.54	2.2	1.785	3.255	12.75
Nitrate as N, mg/L																								
No. of Analyses	64	4	70	9	71	4	76	8	39	8	79	8	79	8	80	8	74	8	68	4	68	4	68	4
No. of Detections	7	0	8	0	71	4	18	1	8	1	61	8	10	2	24	1	74	8	61	3	67	4	10	0
Maximum	300	ND	0.7	ND	3.4	0.091	1	0.01	0.028	0.01	1.4	0.403	2	0.015	320	0.01	270	0.111	570	0.017	1.7	0.795	0.16	ND
Minimum	ND	ND	ND	ND	0.091	0.055	ND	ND	ND	ND	ND	0.239	ND	ND	ND	ND	0.03	0.094	ND	ND	ND	0.656	ND	ND
Mean	4.712344	ID	0.024544	ID	0.703254	0.077	0.030461	ID	0.008103	ID	0.365595	0.317125	0.039532	ID	4.019341	ID	3.796689	0.104125	8.576404	0.0115	0.457191	0.73725	0.016618	ID
Standard Deviation	37.49688	ID	0.08439	ID	0.453403	0.016166	0.114816	ID	0.006585	ID	0.371038	0.062247	0.223979	ID	35.77491	ID	31.36991	0.005566	69.09948	0.005	0.207943	0.058807	0.022763	ID
Median	0.005	ID	0.005	ID	0.65	0.081	0.005	ID	0.005	ID	0.302	0.3215	0.005	ID	0.0125	ID	0.1255	0.105	0.103	0.012	0.4795	0.749	0.005	ID

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

Well Location	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-80 Long	MW-80 Short	MW-74R Long	MW-74R 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	63	4	70	9	70	4	75	8	39	8	77	8	78	8	77	8	73	8	68	4	68	4	68	4
No. of Detections	63	4	70	9	70	4	75	8	39	8	77	8	78	8	77	8	73	8	68	4	66	4	68	4
Maximum	110	20.5	26	15.6	40.9	30.3	72	42.4	46.1	35.4	34.8	37.5	56.4	64.6	164	145	42.8	34.7	30	20.8	8	6.43	21	18.4
Minimum	14	14.7	9.7	14.4	17.1	24.6	18	35.3	31.6	14	5	26.8	16	53.9	72	131	16	27.7	10	18.2	ND	5.94	12.8	16.5
Mean	25.00635	17.55	16.03714	14.88889	29.76571	26.225	34.51867	38.85	40.15128	32.0625	25.43506	32.975	43.60769	60.35	110.8675	137.625	28.83699	32.6625	17.98676	19.925	6.353382	6.1925	16.30588	17.55
Standard Deviation	14.21952	2.381176	2.512183	0.362093	6.39354	2.742718	12.95395	2.6289596	4.116582	7.327431	3.933184	3.189156	7.212719	3.453363	23.71002	4.8971566	6.905262	2.337849	2.209201	1.203813	1.153283	0.21945	1.325624	0.785281
Median	20.3	17.5	16	14.8	30	25	33	38.85	41.2	34.5	25	33.35	43	60.15	103	136.5	30	33.45	18	20.35	6.615	6.2	16.05	17.65
Dissolved Iron, mg/L																								
No. of Analyses	64	4	70	9	71	5	76	8	39	8	78	8	79	8	79	8	76	8	68	4	68	4	68	4
No. of Detections	64	4	70	9	71	5	76	8	39	8	53	1	79	8	78	8	34	0	68	4	34	0	68	4
Maximum	3.6	1.39	3.2	0.639	8.5	0.785	2.9	3.08	2.36	2.36	2.81	0.0134	3.8	2.7	4.93	4.94	0.22	ND	2	0.981	0.16	ND	1.69	1.26
Minimum	0.65	0.707	0.179	0.536	0.02	0.197	0.617	2.55	0.886	2.1	ND	ND	1.1	2.23	ND	4.23	ND	ND	0.019	0.694	ND	ND	0.423	0.958
Mean	2.002484	0.90425	1.502671	0.583556	0.232759	0.329	2.166013	2.81875	1.653513	2.19375	0.882437	ID	1.741266	2.5025	3.103481	4.635	0.033128	ID	0.406926	0.78325	0.022532	ID	0.762971	1.1245
Standard Deviation	0.798975	0.324812	0.812893	0.033366	0.998191	0.255179	0.347296	0.1797965	0.326939	0.07891	0.991318	ID	0.375241	0.142302	0.760477	0.2698677	0.041879	ID	0.244752	0.133223	0.028769	ID	0.149281	0.140669
Median	2.05	0.76	1.2	0.574	0.097	0.222	2.175	2.815	1.61	2.18	0.175	ID	1.72	2.52	2.99	4.655	0.005	ID	0.346	0.729	0.00565	ID	0.7375	1.14
Dissolved Manganese, mg/L																								
No. of Analyses	64	4	69	9	71	5	76	8	39	8	78	8	79	8	79	8	76	8	68	4	68	4	68	4
No. of Detections	64	4	69	9	69	5	76	8	39	8	54	2	79	8	78	8	3	1	68	4	16	1	68	4
Maximum	0.257	0.152	0.39	0.313	0.27	0.382	0.386	0.381	0.345	0.35	0.176	0.000427	0.191	0.232	0.588	0.553	0.0015	0.000114	0.25	0.0194	0.01	0.000175	0.4	0.28
Minimum	0.097	0.132	0.17	0.279	ND	0.212	0.212	0.338	0.184	0.329	ND	ND	0.065	0.2	ND	0.485	ND	ND	0.0015	0.0165	ND	ND	0.181	0.249
Mean	0.172234	0.14325	0.268464	0.298778	0.065858	0.306	0.288921	0.36625	0.269923	0.338125	0.061057	ID	0.129051	0.21675	0.352677	0.53275	0.000489	ID	0.017967	0.0183	0.000907	ID	0.28575	0.26625
Standard Deviation	0.041523	0.009069	0.049137	0.010281	0.057843	0.07358	0.041721	0.0139156	0.039742	0.006707	0.061948	ID	0.025033	0.010138	0.091876	0.0229394	0.000215	ID	0.029443	0.001329	0.001353	ID	0.054622	0.014773
Median	0.1675	0.1445	0.271	0.303	0.051	0.278	0.278	0.3675	0.27	0.3355	0.0353	ID	0.127	0.217	0.32	0.5425	0.0005	ID	0.0142	0.01865	0.0005	ID	0.288	0.268
Dissolved Calcium, mg/L																								
No. of Analyses	64	4	70	9	71	5	76	8	39	8	78	8	79	8	79	8	76	8	68	4	68	4	68	4
No. of Detections	64	4	70	9	71	5	76	8	39	8	78	8	79	8	79	8	76	8	68	4	68	4	68	4
Maximum	38	29.6	43	27.5	36.5	39	33.2	34.8	30.9	32.4	50.5	49.8	31	33.1	47.2	48.6	35	35.3	21	16.2	21	9.66	18	19.6
Minimum	22	25.7	18	25.9	15	36	20.1	32.1	18.1	30.6	19	41.5	11	30.2	4.38	45.9	13	33.2	11	15.7	7.4	9.4	10	17.1
Mean	27.31719	27.6	27.41143	26.93333	23.68451	37.16	26.01316	33.2125	26.50256	31.25	34.40513	46.025	21.59241	31.65	33.03519	47.025	21.87368	34.1375	13.88676	15.85	8.919118	9.53	13.14559	18.55
Standard Deviation	3.532819	1.618641	4.316283	0.519615	5.974055	1.258173	3.367584	0.9613049	3.03163	0.570714	8.794802	2.367488	4.539704	0.944155	7.124449	1.0306032	5.177885	0.738604	1.512427	0.238048	1.651332	0.133915	1.167269	1.066146
Median	26	27.55	27.5	27.2	22	36.9	25	33.15	27.3	31.15	33.4	45.95	21.8	31.55	31.4	46.95	20.9	34.25	13.7	15.75	8.665	9.53	13	18.75
Dissolved Magnesium, mg/L																								
No. of Analyses	64	4	70	9	71	5	76	8	39	8	78	8	79	8	79	8	76	8	68	4	68	4	68	4
No. of Detections	64	4	70	9	71	5	76	8	39	8	78	8	79	8	79	8	76	8	68	4	68	4	68	4
Maximum	21	16.8	22	16.7	21.6	21.9	20.2	20.5	16.1	18.1	38.5	36.3	22.4	23.8	31.5	33.8	21	22.2	12	11.3	11	7.13	11.9	14
Minimum	12	15	10	14.4	8.9	20.9	12.5	19.7	9.5	15.4	15	32.3	8.5	20.1	0.919	31.2	9	19.7	7.19	10.9	4.9	6.9	7	12.3
Mean	15.49844	16.075	14.98429	15.02222	13.82254	21.32	15.54079	20	13.62	16.3125	25.45385	34.9125	16.10253	22.7375	22.27113	32	13.36711	20.875	9.357941	11.15	6.392941	7.0175	9.108676	13.35
Standard Deviation	1.915807	0.813941	2.102975	0.697814	3.75489	0.402492	2.114154	0.3023716	1.65027	0.832273	7.019207	1.33142	3.348056	1.131292	5.099235	0.8847921	3.187575	0.831092	0.936509	0.173205	0.778203	0.102429	0.992121	0.759386
Median	15	16.25	15.2	14.9	12.9	21.3	15.1	19.9	13.8	16.15	24.5	35.2	16.3	22.95	21.7	31.7	12.8	20.9	9.36	11.2	6.4	7.02	9.025	13.55
Dissolved Potassium, mg/L																								
No. of Analyses	63	4	69	9	69	5	75	8	39	8	77	8	78	8	78	8	75	8	67	4	67	4	67	4
No. of Detections	63	4	69	9	69	5	75	8	39	8	77	8	78	8	77	8	75	8	67	4	67	4	67	4
Maximum	2.18	1.81	2.2	1.75	1.89	1.83	2.02	2.09	1.68	1.78	2.5	2.22	2.3	2.07	2.51	2.53	2.3	1.76	1.6	1.32	1.2	0.866	1.72	1.73
Minimum	1.37	1.72	1.2	1.54	0.77	1.78	1.4	1.78	1.33	1.58	1.4	2.01	0.81	1.85	ND	2.32	1.1	1.64	0.94	1.26	0.66	0.824	1.2	1.62
Mean	1.745397	1.78	1.599565	1.676667	1.394493	1.798	1.7132	1.9625	1.550769	1.69375	1.928442	2.1475	1.658974	1.97875	1.986667	2.4325	1.366267	1.6975	1.150881	1.2925	0.840313	0.8485	1.423731	1.68
Standard Deviation	0.192319	0.040825	0.147822	0.058949	0.220224	0.020494	0.141366	0.0942262	0.092974	0.054494	0.219947	0.06364	0.208922	0.073764	0.306296	0.0768579	0.196295	0.04062	0.109135	0.025	0.078845	0.017635	0.101621	0.049666
Median	1.78	1.795	1.6	1.69	1.4	1.8	1.7	1.975	1.58	1.7	1.9	2.155	1.665	1.995	1.99	2.42	1.33	1.695	1.15	1.295	0.839	0.852	1.42	1.685
Dissolved Sodium, mg/L																								
No. of Analyses	64	4	70	9	71	5	76	8	39	8	78	8	79	8	79	8	76	8	68	4	68	4	68	4
No. of Detections	64	4	70	9	71	5	76	8	39	8	78	8	79	8	79	8	76	8	68	4	68	4	68	4
Maximum	11	9.41	10	10.2	9.9	10.1	8.53	8.78	8.06	9.09	13.7	13.2	46	9.46	10.9	11.5	14	10.4	7.4	7.57	6.3	6.04	9.9	10.8
Minimum	7.48	8.76	6	8.69	5.9	9.41	6.08	8.24	5.74	7.52	7.7	12.2	5.3	7.86	4.44	10.5	5.5	9.24	5.16	6.98	4.3	5.67	6.3	9.65
Mean	8.778125	9.13	8.111	9.001111	7.764648	9.782	7.127237	8.49875	7.113846	8.03875	10.40923	12.6625	10.12987	9.1	8.875696	10.8875	7.651711	9.825	6.306618	7.2375	5.392206	5.8575	8.063529	10.1875
Standard Deviation	0.680504	0.302104	0.713363	0.467184	0.936897	0.261859	0.609368	0.1826345	0.630328	0.472393	1.695064	0.297309	7.183576	0.511496	1.140845	0.3522884	1.350898	0.344093	0.49264	0.249583	0.384742	0.154569	0.883272	0.487126
Median	8.81	9.175	8.1	8.86	7.69	9.87	7.09	8.465	7.1	7.955	10	12.65	8.1	9.245	8.8	10.9	7.475	9.86	6.3	7.2	5.405	5.86	8.195	10.15

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

Well Location	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-80 Long	MW-80 Short	MW-74R Long	MW-74R 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	17	4	24	9	17	5	21	8	23	8	22	8	22	8	22	8	23	8	17	4	17	4	17	4
No. of Detections	16	4	24	9	5	5	6	8	23	8	7	8	7	8	22	8	7	8	17	4	10	4	17	4
Maximum	0.0183	0.0165	0.27	0.0451	0.00202	0.0101	0.0005	0.000277	0.0392	0.00386	0.00112	0.00145	0.000603	0.000523	0.0256	0.00143	0.000736	0.000741	0.0194	0.012	0.00104	0.00101	0.0266	0.00376
Minimum	ND	0.00134	0.0118	0.0177	ND	0.00386	ND	0.0000879	0.00397	0.00358	ND	0.000383	ND	0.000419	0.0011	0.000598	ND	0.000689	0.00104	0.00377	ND	0.000963	0.00201	0.0024
Mean	0.003841	0.0064	0.073021	0.028167	0.000736	0.007006	0.000375	0.0001347	0.008063	0.003709	0.000515	0.000634	0.000504	0.000472	0.008404	0.0008391	0.000565	0.00071	0.004201	0.00803	0.000803	0.000988	0.007414	0.002845
Standard Deviation	0.004028	0.006856	0.066272	0.00874	0.000466	0.002694	0.000185	6.18E-05	0.008095	8.92E-05	0.000141	0.000365	4.21E-05	3.34E-05	0.006898	0.0002619	0.000101	1.79E-05	0.005168	0.003534	0.000261	1.98E-05	0.007285	0.000621
Median	0.0026	0.00388	0.0526	0.0248	0.0005	0.00824	0.0005	0.000122	0.00533	0.0037	0.0005	0.000478	0.0005	0.000462	0.005845	0.0007295	0.0005	0.000703	0.00187	0.008175	0.001	0.00099	0.00368	0.00261
Total Barium, mg/L																								
No. of Analyses	17	4	24	9	17	5	21	8	23	8	22	8	22	8	22	8	23	8	17	4	17	4	17	4
No. of Detections	17	4	24	9	17	5	21	8	23	8	22	8	22	8	22	8	23	8	17	4	17	4	17	4
Maximum	0.0121	0.0108	0.0197	0.0116	0.0167	0.0298	0.0156	0.0163	0.023	0.0153	0.0171	0.0133	0.0131	0.0133	0.0369	0.0293	0.00667	0.00724	0.0088	0.00729	0.00237	0.00223	0.0256	0.00958
Minimum	0.00663	0.00634	0.0106	0.0108	0.00953	0.0196	0.0102	0.0115	0.0128	0.0137	0.0109	0.0115	0.0102	0.0117	0.0212	0.0233	0.00482	0.00643	0.0034	0.00587	0.00209	0.00204	0.00647	0.00827
Mean	0.00786	0.00787	0.013229	0.011211	0.011683	0.02396	0.012143	0.0132	0.014757	0.014388	0.012645	0.012438	0.011277	0.012588	0.027682	0.0254875	0.00596	0.006804	0.004926	0.006408	0.002225	0.00215	0.010095	0.009063
Standard Deviation	0.001314	0.001995	0.002211	0.000302	0.00216	0.004424	0.00152	0.0014832	0.00233	0.000606	0.001501	0.000752	0.000842	0.000479	0.004665	0.0019809	0.000518	0.000247	0.001428	0.000616	8.76E-05	8.76E-05	0.005233	0.000579
Median	0.0074	0.00717	0.01255	0.0111	0.0109	0.0244	0.0118	0.01315	0.0141	0.01435	0.0123	0.01255	0.011	0.01255	0.0271	0.0257	0.00612	0.0068	0.00459	0.006235	0.00223	0.002165	0.00766	0.0092
Total Copper, mg/L																								
No. of Analyses	17	4	24	9	17	5	21	8	23	8	22	8	22	8	22	8	23	8	17	4	17	4	17	4
No. of Detections	4	3	14	9	3	5	8	4	2	0	6	7	0	1	5	2	1	1	1	0	0	0	1	2
Maximum	0.00226	0.00131	0.00737	0.0017	0.001	0.00115	0.00331	0.000664	0.001	ND	0.001	0.000488	ND	0.001	0.00347	0.00213	0.001	0.000277	0.001	ND	ND	ND	0.001	0.000484
Minimum	ND	ND	ND	0.000241	ND	0.000495	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Mean	0.000983	0.00048	0.001835	0.000795	0.000831	0.000906	0.000942	0.0002126	ID	ID	0.000757	0.000295	ID	ID	0.000897	ID	ID	ID	ID	ID	ID	ID	ID	ID
Standard Deviation	0.000426	0.000558	0.001769	0.000482	0.00032	0.000267	0.000655	0.0001907	ID	ID	0.000367	0.000107	ID	ID	0.000667	ID	ID	ID	ID	ID	ID	ID	ID	ID
Median	0.001	0.000255	0.001	0.000721	0.001	0.00099	0.001	0.0001545	ID	ID	0.001	0.000302	ID	ID	0.001	ID	ID	ID	ID	ID	ID	ID	ID	ID
Total Vanadium, mg/L																								
No. of Analyses	17	4	24	9	17	5	21	8	23	8	22	8	22	8	22	8	23	8	17	4	17	4	17	4
No. of Detections	2	3	13	9	4	5	4	4	1	3	7	8	0	3	15	8	7	8	3	4	17	4	4	4
Maximum	0.001	0.000535	0.0037	0.000862	0.0011	0.00366	0.001	0.000165	0.001	0.00016	0.001	0.00112	ND	0.000181	0.00468	0.000308	0.001	0.00105	0.00336	0.000645	0.00285	0.00281	0.00135	0.000144
Minimum	ND	ND	ND	0.000304	ND	0.0014	ND	ND	ND	ND	ND	0.00059	ND	ND	ND	0.0000836	ND	0.000898	ND	0.00042	0.0024	0.00263	ND	0.000094
Mean	ID	0.00019	0.001299	0.000535	0.000916	0.002836	0.000708	0.0000731	ID	6.46E-05	0.000893	0.000745	ID	7E-05	0.001813	0.0001434	0.000972	0.000961	0.001107	0.000531	0.002685	0.002723	0.000873	0.000111
Standard Deviation	ID	0.000232	0.001042	0.000185	0.000211	0.001028	0.000428	4.552E-05	ID	4.4E-05	0.000171	0.000169	ID	5.22E-05	0.001249	7.247E-05	4.78E-05	6.16E-05	0.000638	0.000124	0.000109	8.62E-05	0.000349	2.28E-05
Median	ID	9.31E-05	0.001	0.000593	0.001	0.00346	0.001	5.915E-05	ID	3.75E-05	0.001	0.000725	ID	3.75E-05	0.0013	0.0001275	0.001	0.000945	0.001	0.00053	0.00271	0.002725	0.001	0.000103

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

Well Location	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-80 Long	MW-80 Short	MW-74R Long	MW-74R 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	64	4	69	9	72	4	76	8	39	8	189	8	192	8	186	8	75	8	68	4	69	4	69	4
No. of Detections	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	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
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
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
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
Tetrachloroethene, ug/L																								
No. of Analyses	64	4	69	9	72	4	76	8	39	8	189	8	192	8	186	8	75	8	68	4	69	4	69	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
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
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
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
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
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
Trichloroethene, ug/L																								
No. of Analyses	64	4	69	9	72	4	76	8	39	8	189	8	192	8	186	8	75	8	68	4	69	4	69	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
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
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
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
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
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
Vinyl Chloride, ug/L																								
No. of Analyses	64	4	69	9	72	4	76	8	39	8	189	8	192	8	186	8	75	8	68	4	69	4	69	4
No. of Detections	0	0	0	0	0	0	0	0	0	1	0	0	3	0	2	0	0	0	0	0	1	0	1	0
Maximum	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.0101	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
Mean	ID	ID	ID	ID	ID	ID	ID	ID	ID	ID	ID	ID	0.010495	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	0.00571	ID	ID	ID	ID	ID	ID	ID	ID	ID	ID	ID
Median	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

Table 4-2c
Statistical Summary of Perched Zones Wells
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	81	8	84	10	50	6	44	9
No. of Detections	81	8	84	10	50	6	44	9
Maximum	6.84	7.81	7.19	6.93	7.33	7.03	8.89	7.33
Minimum	6.03	6.18	6.31	6.54	6.04	6.17	6.46	6.48
Mean	6.4	6.6	6.9	6.8	6.7	6.6	7.0	6.9
Standard Deviation	0.2	0.5	0.2	0.1	0.3	0.4	0.3	0.3
Median	6.43	6.465	6.92	6.725	6.675	6.465	6.965	6.85
Specific Conductance, (Field) uS/cm								
No. of Analyses	81	8	84	10	50	6	44	9
No. of Detections	81	8	84	10	50	6	44	9
Maximum	370	296.1	1195	1180	320	158.7	827	555.6
Minimum	200	230.3	2.1	730	130	114.4	250	390
Mean	281.8123	264.1875	781.8976	1012.32	215.806	142.6	565.5682	473.0556
Standard Deviation	44.25944	25.102614	180.2953	133.5163	39.31869	15.13605	121.3985	62.96876
Median	272.4	268.8	770	1004.85	210	146.1	562.5	486.5
Total Dissolved Solids, mg/L								
No. of Analyses	79	8	82	8	51	6	44	8
No. of Detections	79	8	82	8	51	6	44	8
Maximum	300	221	1500	705	220	175	490	329
Minimum	170	183	120	612	95	100	62.7	293
Mean	212.8228	200.625	604.5854	666.625	149.902	119.6667	382.925	312.125
Standard Deviation	23.00934	13.907218	146.509	33.10994	24.07842	27.95473	82.74995	15.12271
Median	211	198.5	616	671.5	147	111.5	391	313.5
Alkalinity, total (CaCO3), mg/L								
No. of Analyses	79	8	82	8	51	6	44	8
No. of Detections	79	8	82	8	51	6	44	8
Maximum	200	79.3	716	660	110	52.2	520	301
Minimum	59.7	66.9	410	541	42	38.6	122	234
Mean	142.1278	73.475	587.6829	611	71.27843	44.48333	354.8409	264.625
Standard Deviation	37.0616	3.7070396	77.56334	42.08155	15.00996	4.382427	81.59	23.3173
Median	150	74.35	607.5	615.5	70	44.05	343	272
Ammonia as N, mg/L								
No. of Analyses	79	8	82	8	51	6	44	8
No. of Detections	8	1	76	8	2	1	33	8
Maximum	0.09	0.003	0.156	0.0525	0.025	0.0052	0.11	0.0155
Minimum	ND	ND	ND	0.0288	ND	ND	ND	0.0054
Mean	0.011427	ID	0.06824	0.037963	ID	ID	0.017284	0.01245
Standard Deviation	0.016155	ID	0.03094	0.008023	ID	ID	0.01559	0.003768
Median	0.005	ID	0.06965	0.0371	ID	ID	0.01505	0.01425
Chloride, mg/L								
No. of Analyses	79	8	82	8	51	6	44	8
No. of Detections	79	8	82	8	51	6	44	8
Maximum	6.1	2.13	15	5.78	14.4	4.63	8.9	2.78
Minimum	0.8	0.908	3.8	5.09	2.98	2.9	2.34	2.13
Mean	1.711544	1.162625	7.839512	5.3975	6.026471	3.631667	4.538864	2.56375
Standard Deviation	1.001582	0.4008986	1.883254	0.227141	2.662364	0.587551	1.994038	0.205352
Median	1.3	1.025	7.69	5.38	5.3	3.56	3.825	2.63
Nitrate as N, mg/L								
No. of Analyses	79	8	82	8	51	6	44	8
No. of Detections	79	8	11	1	51	6	12	5
Maximum	16	17	1.1	0.014	7.7	3.56	0.0593	0.062
Minimum	0.081	6.86	ND	ND	2.16	2.11	ND	ND
Mean	3.781241	12.84375	0.027927	ID	4.348824	2.658333	0.014186	0.018875
Standard Deviation	3.833594	3.5229125	0.122012	ID	1.432224	0.502172	0.013572	0.019853
Median	2.3	12.35	0.005	ID	3.8	2.62	0.005	0.013
Sulfate, mg/L								
No. of Analyses	79	8	82	8	51	6	44	8
No. of Detections	79	8	82	8	51	6	44	8
Maximum	37	8.13	8.5	6.91	36	11.6	20.9	4.37
Minimum	5.64	6.08	1.6	6.28	11	9.73	3.35	3.01
Mean	15.47772	6.52125	6.290122	6.67	20.43922	10.915	5.476591	3.8375
Standard Deviation	7.61189	0.68497	0.973537	0.264143	5.484454	0.880812	2.832868	0.466131
Median	13.9	6.215	6.2	6.78	20	11.35	5.025	3.955

Table 4-2c
Statistical Summary of Perched Zones Wells
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	80	8	83	8	51	6	44	8
No. of Detections	41	0	83	8	29	3	44	8
Maximum	7.1	ND	4.77	4.51	0.31	0.0384	3.5	1.01
Minimum	ND	ND	0.031	0.0621	ND	ND	0.0269	0.0765
Mean	0.146141	ID	1.015608	2.777263	0.041569	0.013	0.848868	0.606188
Standard Deviation	0.792179	ID	1.156238	1.836892	0.058888	0.01296	0.744895	0.361333
Median	0.0105	ID	0.555	3.615	0.013	0.0082	0.6195	0.755
Dissolved Manganese, mg/L								
No. of Analyses	80	8	82	8	51	6	44	8
No. of Detections	13	4	82	8	8	6	44	8
Maximum	1.7	0.000141	4.71	2.23	0.0103	0.00288	2	1.16
Minimum	ND	ND	0.54	1.01	ND	0.000354	0.154	0.577
Mean	0.021965	8.688E-05	1.692439	1.515	0.000792	0.001176	1.253591	1.013625
Standard Deviation	0.189989	4.097E-05	0.786226	0.408796	0.001487	0.000923	0.425462	0.189762
Median	0.0005	0.0000775	1.65	1.515	0.0005	0.001105	1.315	1.055
Dissolved Calcium, mg/L								
No. of Analyses	80	8	83	8	51	6	44	8
No. of Detections	80	8	83	8	51	6	44	8
Maximum	53	23.2	160	147	32	15.2	98	58
Minimum	16.7	19.7	63	118	12.7	12.9	23.7	44.6
Mean	27.48	21.0125	114.3976	132.5	20.08431	13.78333	61.98409	51.975
Standard Deviation	6.460482	1.2721607	21.531	12.39816	3.817296	1.014725	12.69061	3.982013
Median	26.65	20.55	117	132	19.3	13.35	61.45	52.05
Dissolved Magnesium, mg/L								
No. of Analyses	80	8	83	8	51	6	44	8
No. of Detections	80	8	83	8	51	6	44	8
Maximum	26	12.9	79.5	73	11	4.1	50	35.1
Minimum	8.32	10.8	31	57.7	3.57	3.23	15.3	25
Mean	15.57188	11.75	55.08072	65.8375	6.743333	3.561667	36.00682	30.7125
Standard Deviation	3.381371	0.7030546	10.33999	6.329509	1.764053	0.340318	6.840488	2.840743
Median	15.45	11.7	55.7	66.9	6.71	3.475	36.9	31.05
Dissolved Potassium, mg/L								
No. of Analyses	79	8	82	8	50	6	44	8
No. of Detections	79	8	82	8	50	6	44	8
Maximum	38	1.53	6.16	5.52	1.5	0.842	3.7	2.86
Minimum	1.3	1.27	3.13	4.69	0.742	0.729	1.92	2.49
Mean	2.095443	1.445	4.766707	5.225	1.05538	0.772667	2.866591	2.67125
Standard Deviation	4.096483	0.0819407	0.547384	0.293111	0.150156	0.045527	0.348732	0.124492
Median	1.6	1.465	4.765	5.26	1.04	0.752	2.835	2.63
Dissolved Sodium, mg/L								
No. of Analyses	80	8	83	8	51	6	44	8
No. of Detections	80	8	83	8	51	6	44	8
Maximum	110	15.7	21	20.2	20	11.6	25	18.5
Minimum	10.5	12.2	13	17.6	10.5	9.22	9.05	16.1
Mean	15.06	14.3875	16.98916	19.0125	14.44314	10.63667	16.32841	16.8875
Standard Deviation	10.9036	1.0709642	2.004994	0.990581	1.56694	0.833827	2.290816	0.791811
Median	13.5	14.6	16.8	19.15	14.3	10.85	16.5	16.75
Total Arsenic, mg/L								
No. of Analyses	26	8	28	8	18	6	23	8
No. of Detections	7	8	16	8	5	6	23	8
Maximum	0.000862	0.000602	0.0113	0.00313	0.000589	0.000216	0.0135	0.0126
Minimum	ND	0.000468	ND	0.000657	ND	0.000151	0.00198	0.00236
Mean	0.000519	0.0005183	0.002288	0.002023	0.000489	0.000187	0.007665	0.007975
Standard Deviation	7.32E-05	4.406E-05	0.002915	0.001008	3.92E-05	2.47E-05	0.004177	0.003869
Median	0.0005	0.0005135	0.000927	0.002385	0.0005	0.000192	0.00705	0.00855
Total Barium, mg/L								
No. of Analyses	26	8	28	8	18	6	23	8
No. of Detections	26	8	28	8	18	6	23	8
Maximum	0.00774	0.00426	0.0458	0.042	0.0038	0.0024	0.0359	0.0249
Minimum	0.00389	0.00359	0.0361	0.0348	0.00144	0.00164	0.0148	0.0161
Mean	0.004961	0.003925	0.040264	0.039338	0.002353	0.002075	0.0233	0.020063
Standard Deviation	0.00087	0.0002788	0.002639	0.002363	0.000544	0.0003	0.005308	0.002994
Median	0.00474	0.003865	0.03975	0.0392	0.002265	0.002165	0.0229	0.0192

Table 4-2c
Statistical Summary of Perched Zones Wells
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	26	8	28	8	18	6	23	8
No. of Detections	6	1	7	8	4	6	7	8
Maximum	0.0015	0.0000737	0.0015	0.000612	0.0015	0.000127	0.0015	0.000552
Minimum	ND	ND	ND	0.0003	ND	6.78E-05	ND	0.000195
Mean	0.001119	ID	0.001242	0.0004	0.001117	9.21E-05	0.001136	0.000301
Standard Deviation	0.000641	ID	0.000459	9.99E-05	0.000637	2.08E-05	0.000564	0.000111
Median	0.0015	ID	0.0015	0.000381	0.0015	9.23E-05	0.0015	0.000273
Total Copper, mg/L								
No. of Analyses	26	8	28	8	18	6	23	8
No. of Detections	8	8	4	3	5	6	5	8
Maximum	0.0103	0.000473	0.0105	0.00166	0.00198	0.00173	0.00416	0.000846
Minimum	ND	0.000219	ND	ND	ND	0.000298	ND	0.000205
Mean	0.001365	0.0003738	0.00134	0.000382	0.000951	0.000737	0.000938	0.000494
Standard Deviation	0.00188	8.171E-05	0.002032	0.000543	0.000329	0.000517	0.000786	0.000211
Median	0.001	0.000392	0.001	0.0001	0.001	0.000548	0.001	0.00049
Total Vanadium, mg/L								
No. of Analyses	26	8	28	8	18	6	23	8
No. of Detections	18	8	7	8	5	6	8	8
Maximum	0.00331	0.00247	0.00307	0.00317	0.00212	0.000898	0.00387	0.00076
Minimum	ND	0.00201	ND	0.000178	ND	0.000663	ND	0.00026
Mean	0.001889	0.0022025	0.001019	0.000605	0.001214	0.000763	0.000987	0.000482
Standard Deviation	0.000671	0.0001598	0.00064	0.001037	0.000388	9.03E-05	0.000689	0.000175
Median	0.00209	0.002255	0.001	0.000242	0.001	0.000734	0.001	0.000452
Benzene, ug/L								
No. of Analyses	80	8	83	8	51	6	44	8
No. of Detections	0	0	2	0	0	0	0	0
Maximum	ND	ND	0.36	ND	ND	ND	ND	ND
Minimum	ND	ND	ND	ND	ND	ND	ND	ND
Mean	ID	ID	ID	ID	ID	ID	ID	ID
Standard Deviation	ID	ID	ID	ID	ID	ID	ID	ID
Median	ID	ID	ID	ID	ID	ID	ID	ID
Dichlorodifluoromethane, ug/L								
No. of Analyses	80	8	82	8	51	6	44	8
No. of Detections	11	0	76	8	0	0	0	0
Maximum	0.67	ND	32	7.85	ND	ND	ND	ND
Minimum	ND	ND	ND	1.09	ND	ND	ND	ND
Mean	0.141375	ID	5.854524	4.3275	ID	ID	ID	ID
Standard Deviation	0.130178	ID	6.489955	2.002254	ID	ID	ID	ID
Median								
1,1-Dichloroethane, ug/L								
No. of Analyses	80	8	83	8	51	6	44	8
No. of Detections	79	8	78	8	50	5	7	5
Maximum	13	2.22	2.1	0.73	13	0.582	0.21	0.192
Minimum	ND	1.34	ND	0.52	ND	ND	ND	ND
Mean	4.74825	1.70875	0.540506	0.6065	2.771412	0.332833	0.107409	0.11625
Standard Deviation	3.285949	0.2579832	0.251493	0.063275	2.54957	0.196244	0.024334	0.058066
Median	3.385	1.72	0.51	0.604	1.8	0.319	0.1	0.135

Table 4-2c
Statistical Summary of Perched Zones Wells
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	80	8	83	8	51	6	44	8
No. of Detections	13	0	7	3	0	0	7	5
Maximum	0.52	ND	0.441	0.114	ND	ND	0.22	0.233
Minimum	ND	ND	ND	ND	ND	ND	ND	ND
Mean	0.142125	ID	0.106843	0.073375	ID	ID	0.1125	0.11175
Standard Deviation	0.114081	ID	0.040518	0.032297	ID	ID	0.035466	0.062755
Median	0.1	ID	0.1	0.05	ID	ID	0.1	0.1195
cis 1,2-Dichloroethene, ug/L								
No. of Analyses	80	8	83	8	51	6	44	8
No. of Detections	80	8	79	8	51	5	11	8
Maximum	20	3.03	11	1.98	14	1.41	0.238	0.277
Minimum	1.9	1.41	ND	1.29	1.17	ND	ND	0.104
Mean	7.89075	2.10625	1.434494	1.5425	4.675686	0.803	0.12825	0.17375
Standard Deviation	5.432259	0.5162208	1.431295	0.244584	2.877104	0.493953	0.050134	0.059189
Median	5.67	1.985	0.954	1.55	4.05	0.817	0.1	0.1825
Tetrachloroethene, ug/L								
No. of Analyses	80	8	83	8	51	6	44	8
No. of Detections	5	5	0	0	0	0	0	0
Maximum	0.121	0.5	ND	ND	ND	ND	ND	ND
Minimum	ND	ND	ND	ND	ND	ND	ND	ND
Mean	0.099638	0.15325	ID	ID	ID	ID	ID	ID
Standard Deviation	0.008952	0.1448494	ID	ID	ID	ID	ID	ID
Median	0.1	0.1155	ID	ID	ID	ID	ID	ID
Toluene, ug/L								
No. of Analyses	80	8	83	8	51	6	44	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	ID	ID	ID	ID
Standard Deviation	ID	ID	ID	ID	ID	ID	ID	ID
Median	ID	ID	ID	ID	ID	ID	ID	ID
Trichloroethene, ug/L								
No. of Analyses	80	8	83	8	51	6	44	8
No. of Detections	80	8	1	0	15	2	0	0
Maximum	2.2	1.01	0.23	ND	0.47	0.113	ND	ND
Minimum	0.62	0.558	ND	ND	ND	ND	ND	ND
Mean	1.269613	0.8105	ID	ID	0.139569	ID	ID	ID
Standard Deviation	0.32048	0.12325	ID	ID	0.081126	ID	ID	ID
Median	1.25	0.8235	ID	ID	0.1	ID	ID	ID
Vinyl Chloride, ug/L								
No. of Analyses	80	8	83	8	51	6	44	8
No. of Detections	11	2	83	8	2	0	43	8
Maximum	0.38	0.0123	12	7.06	0.23	ND	0.9	0.507
Minimum	ND	ND	1.4	3.72	ND	ND	ND	0.067
Mean	0.021501	ID	5.230602	5.44625	ID	ID	0.437236	0.33025
Standard Deviation	0.049353	ID	1.892982	1.04623	ID	ID	0.208728	0.163118
Median	0.01	ID	5.17	5.505	ID	ID	0.4095	0.364

Table 4-3a
Summary of Regional Aquifer Data Trend Tests
Appendix I Analytes

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	I	--	D	--	--	--	I	--	D	--	D	--	D	--	D	--	--	--	--	--	I	--	--	--	D	--	I	--	--	I	I	--
Total Barium, mg/L	Trend	--	--	--	--	I	--	--	--	--	--	--	--	I	--	I	--	--	--	I	--	D	--	--	--	I	--	I	--	D	--	I	--
Total Antimony, mg/L	Trend	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Total Berryllium, mg/L	Trend	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Total Cadmium, mg/L	Trend	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	D	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Total Chromium, mg/L	Trend	--	--	D	--	D	--	--	--	D	--	D	--	D	--	D	--	--	--	--	--	D	--	D	--	--	--	--	--	--	--	--	--
Total Cobalt, mg/L	Trend	--	--	D	--	--	--	--	--	--	--	--	--	D	--	D	--	--	--	--	--	--	--	--	--	--	--	--	--	D	I	D	--
Total Copper, mg/L	Trend	--	--	D	--	D	--	--	--	--	--	D	--	I	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Total Lead, mg/L	Trend	--	--	D	--	D	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Total Nickel, mg/L	Trend	--	--	D	--	D	--	D	--	D	--	D	--	D	--	D	--	--	--	D	--	D	--	D	--	D	I	D	--	D	--	D	--
Total Selenium, mg/L	Trend	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	I	--	--	--	I	--	I	--	--	--	--	--
Total Silver, mg/L	Trend	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Total Thallium, mg/L	Trend	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Total Vanadium, mg/L	Trend	--	--	D	--	--	--	--	--	D	--	I	--	D	--	--	--	--	--	--	--	D	--	--	--	D	--	I	--	I	--	D	--
Total Zinc, mg/L	Trend	--	--	D	--	--	D	--	--	--	--	D	--	D	--	D	--	--	--	--	--	D	D	--	--	D	--	D	--	D	--	--	--
Nitrate as N, mg/L	Trend	D	--	--	--	--	--	D	--	--	--	D	--	I	--	I	--	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
Summary of Regional Aquifer Data Trend Tests
Appendix II Analytes

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	I	I	--	--	--	--	D	D	--	I	--	I	--	I	--	--	--
Total Dissolved Solids, mg/L	Trend	--	--	I	--	I	--	I	--	I	--	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	--	I	--	I	D	I	--
Ammonia as N, mg/L	Trend	--	--	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	--	D	--	--	--	I	--	--	--	I	--
Nitrate as N, mg/L	Trend	D	--	--	--	--	--	D	--	--	--	D	--	I	--	I	--	D	--	D	--	I	--	D	--	D	--	--	--	D	--	--	--
Sulfate, mg/L	Trend	D	--	--	--	I	--	--	--	--	--	--	--	D	--	D	--	--	--	--	--	I	--	D	--	--	--	--	--	--	--	I	--
Dissolved Iron, mg/L	Trend	D	--	D	--	--	--	--	--	D	--	D	--	D	--	D	--	D	--	D	--	D	--	D	--	D	--	D	--	D	--	D	--
Dissolved Manganese, mg/L	Trend	D	--	--	--	I	--	D	--	--	--	D	--	--	--	--	--	I	--	--	--	D	--	D	--	D	--	--	--	D	D	I	--
Dissolved Calcium, mg/L	Trend	D	--	I	--	I	--	--	--	I	--	I	--	I	--	I	--	I	--	I	--	--	--	D	--	I	--	I	--	I	--	--	--
Dissolved Magnesium, mg/L	Trend	D	--	I	--	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	--	--	--	D	--	I	--	I	--	I	--	--	--
Dissolved Sodium, mg/L	Trend	D	--	I	--	I	--	--	--	I	--	I	--	I	--	I	--	I	--	--	--	--	--	D	--	I	--	I	--	I	I	--	--

D	Decreasing Trend
I	Increasing Trend
--	No Trend

Table 4-3b
Summary of Regional Aquifer Data Trend Tests
Appendix I Analytes

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-74R Long	MW-74R 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	--	--	--	I	--	D	--	--	--	--	--	--	--	--	--	I	D	I	--	--	--	--	--
Total Barium, mg/L	Trend	--	--	D	--	I	--	I	--	I	--	I	--	--	--	--	--	I	--	I	--	--	--	I	--
Total Antimony, mg/L	Trend	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Total Berryllium, mg/L	Trend	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Total Cadmium, mg/L	Trend	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Total Chromium, mg/L	Trend	D	--	D	--	--	--	D	--	--	--	--	--	--	D	D	--	--	--	D	--	D	--	--	--
Total Cobalt, mg/L	Trend	D	--	D	--	D	--	--	--	--	--	--	--	--	--	D	--	--	--	--	--	--	--	--	--
Total Copper, mg/L	Trend	D	--	D	--	D	--	D	--	D	--	--	--	--	--	D	--	--	--	--	--	--	--	--	--
Total Lead, mg/L	Trend	D	--	--	--	--	--	D	--	--	--	--	--	--	--	D	--	--	--	--	--	--	--	--	--
Total Nickel, mg/L	Trend	D	--	D	--	D	--	D	D	D	--	--	--	D	--	D	--	D	--	D	--	--	--	D	--
Total Selenium, mg/L	Trend	--	--	--	--	--	--	--	--	I	--	--	--	--	--	--	--	--	--	D	--	I	--	--	--
Total Silver, mg/L	Trend	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Total Thallium, mg/L	Trend	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Total Vanadium, mg/L	Trend	--	--	D	--	--	--	D	--	D	--	--	--	--	--	--	--	D	D	--	--	--	--	--	--
Total Zinc, mg/L	Trend	--	--	D	--	D	--	--	D	D	--	D	--	D	--	D	--	--	--	D	--	D	--	--	--
Nitrate as N, mg/L	Trend	D	--	D	--	D	--	D	--	I	--	D	--	--	--	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
Summary of Regional Aquifer Data Trend Tests
Appendix II Analytes

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-74R Long	MW-74R 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	--	D	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Specific Conductance, (Field) uS/cm	Trend	D	--	--	--	I	--	I	--	I	--	I	--	I	--	--	--	I	--	--	--	--	--	--	--
Total Dissolved Solids, mg/L	Trend	--	--	D	--	I	--	I	--	I	--	I	--	I	I	I	--	I	I	--	--	I	--	I	--
Alkalinity, total (CaCO3), mg/L	Trend	I	--	D	D	I	--	I	--	I	--	I	--	I	--	--	--	I	I	D	--	I	--	--	--
Ammonia as N, mg/L	Trend	D	--	I	--	D	--	--	--	D	--	D	--	--	--	I	--	D	--	D	--	--	--	--	--
Chloride, mg/L	Trend	D	--	D	--	I	--	I	--	D	--	I	--	--	--	I	I	I	--	--	--	--	--	I	--
Nitrate as N, mg/L	Trend	D	--	D	--	D	--	D	--	I	--	D	--	--	--	D	--	D	D	I	--	I	--	D	--
Sulfate, mg/L	Trend	D	--	--	--	I	--	I	--	I	--	I	--	D	--	I	--	I	--	--	--	I	--	--	--
Dissolved Iron, mg/L	Trend	D	--	D	--	I	--	I	--	D	--	--	--	I	I	I	--	D	--	--	--	D	--	I	--
Dissolved Manganese, mg/L	Trend	I	--	--	--	I	I	I	--	D	--	I	--	I	--	I	--	--	--	D	--	D	--	D	--
Dissolved Calcium, mg/L	Trend	--	--	D	--	I	--	I	--	I	--	I	--	I	--	I	--	I	I	--	--	--	--	--	--
Dissolved Magnesium, mg/L	Trend	--	--	D	--	I	--	I	--	I	--	I	--	I	--	I	--	I	--	--	--	I	--	I	--
Dissolved Potassium, mg/L	Trend	--	--	--	--	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
Summary of Perched Zones Data Trend Tests
Appendix I Analytes

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	D	--	--	D	--	--	--	--
Total Antimony, mg/L	Trend	--	--	--	--	--	--	--	--
Total Berryllium, mg/L	Trend	--	--	--	--	--	--	--	--
Total Cadmium, mg/L	Trend	--	--	--	--	--	--	--	--
Total Chromium, mg/L	Trend	D	--	D	--	D	--	D	--
Total Cobalt, mg/L	Trend	D	--	D	--	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	--	--	--	--	--	--	--	--
Total Silver, mg/L	Trend	--	--	--	--	--	--	--	--
Total Thallium, mg/L	Trend	--	--	--	--	--	--	--	--
Total Vanadium, mg/L	Trend	--	--	--	--	I	--	D	--
Total Zinc, mg/L	Trend	D	--	D	--	--	--	D	--
Nitrate as N, mg/L	Trend	I	D	D	--	D	--	--	--
1,1-Dichloroethane, ug/L	Trend	D	--	I	--	D	--	I	--
1,2-Dichloroethane, ug/L	Trend	--	--	I	D	--	--	I	--
Dichlorodifluoromethane, ug/L	Trend	--	--	--	--	--	--	--	--
cis 1,2-Dichloroethene, ug/L	Trend	D	--	I	--	D	--	I	--
1,2-Dichloropropane, ug/L	Trend	--	--	--	--	--	--	--	--
Tetrachloroethene, ug/L	Trend	--	--	--	--	--	--	--	--
Trichloroethene, ug/L	Trend	D	I	--	--	D	--	--	--
Vinyl Chloride, ug/L	Trend	--	--	I	--	--	--	D	--

D	Decreasing Trend
I	Increasing Trend
--	No Trend

Table 4-3c
Summary of Perched Zones Data Trend Tests
Appendix II Analytes

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	
pH, (Field) Standard Units	Trend	I	--	D	--	D	--	--	--
Specific Conductance, (Field) uS/cm	Trend	D	D	--	--	D	--	D	--
Total Dissolved Solids, mg/L	Trend	--	--	I	D	--	--	D	--
Alkalinity, total (CaCO3), mg/L	Trend	D	--	I	--	--	--	D	--
Ammonia as N, mg/L	Trend	D	--	--	--	--	--	--	--
Chloride, mg/L	Trend	D	--	D	--	D	I	D	--
Nitrate as N, mg/L	Trend	I	D	D	--	D	--	--	--
Sulfate, mg/L	Trend	D	--	D	--	D	--	D	--
Dissolved Iron, mg/L	Trend	D	--	I	--	D	--	--	--
Dissolved Manganese, mg/L	Trend	D	--	I	--	D	--	D	--
Dissolved Calcium, mg/L	Trend	D	--	I	D	D	--	D	--
Dissolved Magnesium, mg/L	Trend	D	--	I	D	--	--	D	--
Dissolved Potassium, mg/L	Trend	D	D	--	--	D	--	D	--
Dissolved Sodium, mg/L	Trend	--	D	I	--	--	--	--	--

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 AND RESULTS
(Data Collected from January 1, 2020 to March 31, 2020)

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	0.0051	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	1.41	0.2	0.45	0.02
	Result	< 0.0003	0.00045	0.00387	< 0.0001	< 0.00005	0.000301	< 0.00005	< 0.0002	< 0.0001	0.000253	< 0.0005	< 0.00004	< 0.0001	< 0.000075	0.00097	< 0.01	1.37	< 0.1	< 0.1	< 0.01
MW-66	Limit	0.001	0.001	0.0068	0.001	0.002	0.005	0.003	0.002	0.001	0.01	0.00104	0.003	0.001	0.002	0.004	0.910	0.2	0.2	0.2	0.02
	Result	< 0.0003	0.000725	0.0041	< 0.0001	< 0.00005	0.000335	< 0.00005	< 0.0002	< 0.0001	0.000304	0.00102	< 0.00004	< 0.0001	0.000711	0.000964	0.352	< 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	1.732	0.2	0.2	0.2	0.02
	Result	< 0.0003	0.000507	0.0030	< 0.0001	< 0.00005	< 0.0002	< 0.00005	< 0.0002	< 0.0001	0.000113	0.000786	< 0.00004	< 0.0001	0.00163	0.000966	1.68	< 0.1	< 0.1	< 0.1	< 0.01
MW-83	Limit	0.001	0.001	0.0121	0.001	0.002	0.0723	0.003	0.0079	0.001	0.01	0.001	0.003	0.001	0.002	0.004	5.43	0.2	0.2	2.80	0.02
	Result	< 0.0003	0.000392	0.0108	< 0.0001	< 0.00005	0.000986	0.000332	0.00438	< 0.0001	0.00226	< 0.0005	< 0.00004	< 0.0001	0.000863	0.00147	4.09	< 0.1	< 0.1	1.71	< 0.01
MW-84	Limit	0.001	0.001	0.0050	0.001	0.002	0.005	0.003	0.002	0.001	0.01	0.001	0.003	0.001	0.002	0.004	0.680	0.2	0.2	0.20	0.02
	Result	< 0.0003	0.00032	0.00488	< 0.0001	< 0.00005	0.000318	0.000147	0.000675	< 0.0001	0.00831	0.000673	< 0.00004	< 0.0001	0.000463	0.00391	0.191	< 0.1	< 0.1	< 0.1	< 0.01
MW-93	Limit	0.001	0.0014	0.0095	0.0010	0.002	0.005	0.003	0.002	0.001	0.01	0.001	0.003	0.001	0.00231	0.0112	0.0549	0.2	0.2	0.2	0.02
	Result	< 0.0003	0.00133	0.0074	< 0.0001	< 0.00005	< 0.0002	0.000097	< 0.0002	< 0.0001	0.000243	< 0.0005	< 0.00004	< 0.0001	0.00208	0.0011	< 0.01	< 0.1	< 0.1	< 0.1	< 0.01
MW-94	Limit	0.001	0.001	0.0054	0.001	0.002	0.005	0.003	0.0051	0.001	0.01	0.001	0.003	0.001	0.002	0.004	2.55	0.2	0.2	3.71	0.02
	Result	< 0.0003	0.000113	0.0020	< 0.0001	< 0.00005	< 0.0002	0.0000896	0.00113	< 0.0001	0.000542	< 0.0005	< 0.00004	< 0.0001	0.000962	0.000508	0.28	< 0.1	< 0.1	2.25	< 0.01
Downgradient Wells																					
MW-68	Limit	0.001	0.389	0.0197	0.001	0.002	0.005	0.003	0.0068	0.001	0.01	0.001	0.003	0.001	0.0037	0.004	0.13	0.2	1	0.2	0.02
	Result	< 0.0003	0.021	0.0111	< 0.0001	< 0.00005	< 0.0002	0.000202	0.000293	< 0.0001	0.000466	< 0.0005	< 0.00004	< 0.0001	0.000344	0.000665	< 0.01	< 0.1	< 0.1	< 0.1	< 0.01
MW-69*	Limit	0.001	0.004	0.0142	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	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-72	Limit	0.001	0.001	0.0166	0.001	0.002	0.005	0.003	0.00331	0.00104	0.01	0.001	0.003	0.001	0.002	0.0264	0.15	0.2	0.2	0.2	0.02
	Result	< 0.0003	0.0001	0.0129	< 0.0001	< 0.00005	0.000257	< 0.00005	0.0002	< 0.0001	0.000149	< 0.0005	< 0.00004	< 0.0001	< 0.000075	0.00156	< 0.01	< 0.1	< 0.1	< 0.1	< 0.01
MW-74R	Limit	0.001	0.001	0.0162	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	0.0004	0.0116	< 0.0001	< 0.00005	< 0.0002	< 0.00005	< 0.0002	< 0.0001	0.000853	0.000549	< 0.00004	< 0.0001	0.0006	0.000503	0.403	< 0.1	< 0.1	< 0.1	< 0.01
MW-75	Limit	0.001	0.001	0.0136	0.001	0.002	0.005	0.003	0.002	0.001	0.01	0.001	0.003	0.001	0.002	0.004	0.05	0.2	0.2	0.2	0.02
	Result	< 0.0003	0.001	0.0117	< 0.0001	< 0.00005	< 0.0002	< 0.00005	< 0.0002	< 0.0001	< 0.0001	< 0.0005	< 0.00004	< 0.0001	< 0.000075	0.00066	< 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	1	0.2	0.02
	Result	< 0.0003	0.004	0.0138	< 0.0001	< 0.00005	< 0.0002	< 0.00005	< 0.0002	< 0.0001	0.000121	< 0.0005	< 0.00004	< 0.0001	< 0.000075	0.000505	< 0.01	< 0.1	< 0.1	< 0.1	< 0.01
MW-85	Limit	0.001	0.001	0.0074	0.001	0.002	0.005	0.003	0.002	0.001	0.01	0.00135	0.003	0.001	0.002	0.004	1.630	0.2	0.2	0.2	0.02
	Result	< 0.0003	0.001	0.00643	< 0.0001	< 0.00005	< 0.0002	< 0.00005	< 0.0002	< 0.0001	0.000182	0.000836	< 0.00004	< 0.0001	0.0009	< 0.0005	0.105	< 0.1	< 0.1	< 0.1	< 0.01
MW-87	Limit	0.001	0.067	0.0380	0.001	0.002	0.005	0.003	0.00347	0.001	0.01	0.001	0.003	0.001	0.005	0.004	0.0803	0.2	0.2	0.2	0.02
	Result	< 0.0003	0.001	0.0235	< 0.0001	< 0.00005	< 0.0002	0.000133	< 0.0002	< 0.0001	0.000156	< 0.0005	< 0.00004	< 0.0001	0.0001	< 0.0005	< 0.01	< 0.1	< 0.1	< 0.1	< 0.01

NOTE:
Results greater than Limit Value in **RED Bold**
* MW-69 No sample collected; well was damaged.

TABLE 4-4a *(continued)*

INTRAWELL PREDICTION LIMIT VALUES AND RESULTS.

CEDAR HILLS REGIONAL LANDFILL REGIONAL AQUIFER QUARTERLY AND SEMI-ANNUAL MONITORING WELLS

(Data Collected from April 1, 2020 - June 30, 2020)

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	0.00116412	0.005586	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	0.000893	0.005	< 0.0001	< 0.00005	< 0.0002	< 0.00005	< 0.0002	< 0.0001	0.000132	< 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	0.002118	0.001	0.002	0.005	0.003	0.002	0.001	0.01	0.001	0.003	0.001	0.002	0.004	0.32	0.39	0.2	0.2	0.0247
	Result	< 0.0003	0.000613	0.0021	< 0.0001	< 0.00005	< 0.0002	< 0.00005	< 0.0002	< 0.0001	0.000111	< 0.0005	< 0.00004	< 0.0001	< 0.000075	0.000768	< 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	0.0235	2.78	1.90741308	0.2	0.2	0.02
	Result	< 0.0003	0.0000807	0.00552	< 0.0001	< 0.00005	< 0.0002	0.0000796	< 0.0002	< 0.0001	0.000733	< 0.0005	< 0.00004	< 0.0001	0.000286	0.00128	1.01	< 0.1	< 0.1	< 0.1	< 0.01
MW-59	Limit	0.001	0.001	0.0051	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	1.41	0.2	0.45	0.02
	Result	< 0.0003	0.000423	0.00408	< 0.0001	< 0.00005	0.000207	< 0.00005	< 0.0002	< 0.0001		< 0.0005	< 0.00004	< 0.0001	< 0.000075	0.000956	< 0.01	< 0.1	< 0.1	< 0.1	< 0.01
MW-64	Limit	0.001	0.01	0.0299	0.001	0.002	0.005	0.00385	0.00512	0.001	0.0155	0.001	0.003	0.001	0.00606	0.0385	0.121	0.2	0.2	0.2	0.5
	Result	< 0.0003	0.00127	0.0188	< 0.0001	0.00025	< 0.0002	0.00224	0.000959	< 0.0001	0.00654	< 0.0005	< 0.00004	< 0.0001	0.000798	0.00377	0.013 T	< 0.1	< 0.1	< 0.1	< 0.01
MW-65	Limit	0.001	0.00256	0.008541	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	0.132956
	Result	< 0.0003	0.000784	0.00614	< 0.0001	< 0.00005	< 0.0002	< 0.00005	< 0.0002	< 0.0001	0.000124	< 0.0005	< 0.00004	< 0.0001	< 0.000075	0.000606	0.01 T	< 0.1	< 0.1	< 0.1	0.05
MW-66	Limit	0.001	0.001	0.006775	0.001	0.002	0.005	0.003	0.002	0.001	0.01	0.00104	0.003	0.001	0.002	0.004	0.9097973	0.2	0.2	0.2	0.02
	Result	< 0.0003	0.000698	0.00404	< 0.0001	< 0.00005	0.000534	< 0.00005	< 0.0002	< 0.0001	0.000533	0.000967	< 0.00004	< 0.0001	0.000726	0.000723	0.405	< 0.1	< 0.1	< 0.1	< 0.01
MW-73	Limit	0.001	0.00151	0.0225	0.001	0.002	0.005	0.003	0.00363	0.00237	0.01	0.0016	0.003	0.001	0.00315	0.0066	2.01	0.2	0.2	0.2	0.02
	Result	< 0.0003	0.000711	0.0031	< 0.0001	< 0.00005	0.000332	< 0.00005	0.000578	< 0.0001	0.000283	< 0.0005	< 0.00004	< 0.0001	0.0013	0.000864	1.13	< 0.1	< 0.1	< 0.1	< 0.01
MW-76	Limit	0.001	0.001	0.0045	0.001	0.002	0.005	0.003	0.002	0.001	0.01	0.001	0.003	0.001	0.002	0.004	6	2.45296442	0.66715	14.39923	0.02
	Result	< 0.0003	0.000215	0.00446	< 0.0001	< 0.00005	0.000506	0.0000757	0.00168	< 0.0001	0.000621	< 0.0005	< 0.00004	< 0.0001	0.000599	0.000675	0.209	< 0.1	0.377	7.42	< 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	1.7322327	0.2	0.2	0.2	0.02
	Result	< 0.0003	0.000528	0.00318	< 0.0001	< 0.00005	< 0.0002	< 0.00005	< 0.0002	< 0.0001	0.000168	0.000871	< 0.00004	< 0.0001	0.00167	0.00141	1.56	< 0.1	< 0.1	< 0.1	< 0.01
MW-82	Limit	0.001	0.001	0.00376	0.001	0.002	0.005	0.003	0.002	0.001	0.01	0.001	0.003	0.001	0.002	0.004	1.409877	0.2	0.2	8.8	0.02
	Result	< 0.0003	0.00028	0.00201	< 0.0001	< 0.00005	0.00353	0.0000719	0.000419	0.000112	0.0054	< 0.0005	< 0.00004	< 0.0001	0.00144	0.00122	0.821	< 0.1	< 0.1	4.82	< 0.01
MW-83	Limit	0.001	0.001	0.012075	0.001	0.002	0.0723	0.003	0.0079	0.001	0.01	0.001	0.003	0.001	0.002	0.004	5.4257758	0.2	0.2	2.802958	0.02
	Result	< 0.0003	0.00031	0.00705	< 0.0001	< 0.00005	0.000241	0.000108	0.00209	< 0.0001	0.0021	< 0.0005	< 0.00004	< 0.0001	0.000771	0.000867	0.681	< 0.1	< 0.1	1.64	< 0.01
MW-84*	Limit	0.001	0.001	0.00503	0.001	0.002	0.005	0.003	0.002	0.001	0.01	0.001	0.003	0.001	0.002	0.004	0.68	0.2	0.2	0.2	0.02
	Result	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
MW-93	Limit	0.001	0.00141993	0.009455	0.001	0.002	0.005	0.003	0.002	0.001	0.01	0.001	0.003	0.001	0.00231	0.0112	0.0549	0.2	0.2	0.2	0.02
	Result	< 0.0003	0.00134	0.0079	< 0.0001	< 0.00005	< 0.0002	0.000111	< 0.0002	< 0.0001	0.000257	< 0.0005	< 0.00004	< 0.0001	0.00212	0.00116	0.013 T	< 0.1	< 0.1	< 0.1	< 0.01
MW-94	Limit	0.001	0.001	0.00542	0.001	0.002	0.005	0.003	0.0051	0.001	0.01	0.001	0.003	0.001	0.002	0.004	2.5526094	0.2	0.2	3.713146	0.02
	Result	< 0.0003	0.000135	0.00211	< 0.0001	< 0.00005	< 0.0002	0.000106	0.00122	< 0.0001	0.000681	< 0.0005	< 0.00004	< 0.0001	0.00118	< 0.0005	0.614	< 0.1	< 0.1	2.42	< 0.01
MW-95	Limit	0.001	0.00111	0.004733	0.001	0.002	0.005	0.003	0.002	0.001	0.01	0.001	0.003	0.001	0.002	0.004	0.05	0.2	0.2	0.2	0.02
	Result	< 0.0003	0.00102	0.00407	< 0.0001	< 0.00005	< 0.0002	0.0000703	< 0.0002	< 0.0001	0.0002	< 0.0005	< 0.00004	< 0.0001	0.000374	0.00129	< 0.01	< 0.1	< 0.1	< 0.1	< 0.01

NOTE:

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

TABLE 4-4a *(continued)*

INTRAWELL PREDICTION LIMIT VALUES AND RESULTS.

CEDAR HILLS REGIONAL LANDFILL REGIONAL AQUIFER QUARTERLY AND SEMI-ANNUAL MONITORING WELLS

(Data Collected from April 1, 2020 - June 30, 2020)

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	0.00833	0.0264	0.001	0.002	0.005	0.003	0.002	0.001	0.01	0.001	0.003	0.001	0.00357	0.004	0.83	0.2	0.2	0.2	0.02
	Result	< 0.0003	0.00386	0.0196	< 0.0001	< 0.00005	0.000227	0.000655	0.000495	0.000184	0.000708	< 0.0005	< 0.00004	< 0.0001	0.0014	0.00151	0.075	< 0.1	< 0.1	< 0.1	< 0.01
MW-68	Limit	0.001	0.389	0.0197	0.001	0.002	0.005	0.003	0.0068	0.001	0.01	0.001	0.003	0.001	0.0037	0.004	0.13	0.2	1	0.2	0.02
	Result	< 0.0003	0.0324	0.0116	< 0.0001	< 0.00005	< 0.0002	0.000194	0.00119	< 0.0001	0.000419	< 0.0005	< 0.00004	< 0.0001	0.000614	0.000724	< 0.01	< 0.1	< 0.1	< 0.1	< 0.01
MW-69*	Limit	0.001	0.004	0.0142	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	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
MW-72	Limit	0.001	0.001	0.0166	0.001	0.002	0.005	0.003	0.00331	0.00104	0.01	0.001	0.003	0.001	0.002	0.0264	0.15	0.2	0.2	0.2	0.02
	Result	< 0.0003	0.000153	0.0136	< 0.0001	< 0.00005	< 0.0002	< 0.00005	0.000218	< 0.0001	< 0.0001	< 0.0005	< 0.00004	< 0.0001	0.000092	0.00156	< 0.01	< 0.1	< 0.1	< 0.1	< 0.01
MW-74	Limit	0.001	0.001	0.0162	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	0.000383	0.0131	< 0.0001	< 0.00005	0.000245	< 0.00005	0.000328	< 0.0001	0.000994	0.000706	< 0.00004	< 0.0001	0.00061	0.00108	0.248	< 0.1	< 0.1	< 0.1	< 0.01
MW-75	Limit	0.001	0.001	0.0136	0.001	0.002	0.005	0.003	0.002	0.001	0.01	0.001	0.003	0.001	0.002	0.004	0.05	0.2	0.2	0.2	0.02
	Result	< 0.0003	0.000456	0.0126	< 0.0001	< 0.00005	< 0.0002	< 0.00005	< 0.0002	< 0.0001	< 0.0001	< 0.0005	< 0.00004	< 0.0001	< 0.000075	0.00106	< 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	1	0.2	0.02
	Result	< 0.0003	0.0037	0.0151	< 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-85	Limit	0.001	0.001	0.0074	0.001	0.002	0.005	0.003	0.002	0.001	0.01	0.00135	0.003	0.001	0.002	0.004	1.630	0.2	0.2	0.2	0.02
	Result	< 0.0003	0.000695	0.00682	< 0.0001	< 0.00005	< 0.0002	< 0.00005	< 0.0002	< 0.0001	0.000232	0.000905	< 0.00004	< 0.0001	0.000899	0.00107	0.1	< 0.1	< 0.1	< 0.1	< 0.01
MW-86	Limit	0.001	0.0194	0.008554	0.001	0.002	0.005	0.003	0.002	0.001	0.01	0.0017	0.003	0.001	0.00336	0.004	1.4237609	0.2	0.2	0.2	0.02
	Result	< 0.0003	0.00685	0.00616	< 0.0001	< 0.00005	< 0.0002	0.0000971	< 0.0002	< 0.0001	0.000131	< 0.0005	< 0.00004	< 0.0001	0.00042	0.000781	0.013	< 0.1	< 0.1	< 0.1	< 0.01
MW-87	Limit	0.001	0.067	0.0380	0.001	0.002	0.005	0.003	0.00347	0.001	0.01	0.001	0.003	0.001	0.005	0.004	0.0803	0.2	0.2	0.2	0.02
	Result	< 0.0003	0.000718	0.0258	< 0.0001	< 0.00005	< 0.0002	0.000159	< 0.0002	< 0.0001	0.000177	< 0.0005	< 0.00004	< 0.0001	0.000111	0.00151	< 0.01	< 0.1	< 0.1	< 0.1	< 0.01
MW-88	Limit	0.001	0.0010525	0.002448	0.001	0.002	0.005	0.003	0.002	0.001	0.01	0.001	0.003	0.001	0.0029411	0.004	1.7	0.2	0.2	0.2	0.02
	Result	< 0.0003	0.00101	0.00212	< 0.0001	< 0.00005	0.000662	< 0.00005	< 0.0002	< 0.0001	0.000237	0.000584	< 0.00004	< 0.0001	0.00278	0.00102	0.758	< 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	0.03980597	0.095	0.2	0.2	0.2	0.04
	Result	< 0.0003	0.0024	0.00901	< 0.0001	< 0.00005	< 0.0002	< 0.00005	0.000484	< 0.0001	0.000128	< 0.0005	< 0.00004	< 0.0001	0.000109	0.00209	< 0.01	< 0.1	< 0.1	< 0.1	< 0.01
MW-100	Limit	0.001	0.01585452	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	**0.0165**	0.0108	0.000123	< 0.00005	0.000673	0.000571	0.00131	0.000512	0.001	< 0.0005	< 0.00004	< 0.0001	0.000535	0.00826	< 0.01	< 0.1	< 0.1	< 0.1	< 0.01

NOTE:

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

* MW-84 No sample collected; well was broken.

* MW-69 No sample collected; well was damaged.

TABLE 4-4a *(continued)*
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, 2020 to September 30, 2020)

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	0.000417	0.0042	< 0.0001	< 0.00005	0.0002	< 0.00005	< 0.0002	< 0.0001	0.000156	< 0.0005	< 0.00004	< 0.0001	0.000116	0.000935	< 0.01	1.22	< 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	0.861	0.2	0.2	0.2	0.02
	Result	< 0.0003	0.000655	0.00452	< 0.0001	< 0.00005	0.000201	< 0.00005	< 0.0002	< 0.0001	0.000178	0.00091	< 0.00004	< 0.0001	0.000759	0.000743	0.443	< 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	1.731459782	0.2	0.2	0.2	0.02
	Result	< 0.0003	0.000514	0.00347	< 0.0001	< 0.00005	0.0002	< 0.00005	< 0.0002	< 0.0001	0.000163	0.000822	< 0.00004	< 0.0001	0.00185	< 0.0005	1.46	< 0.1	< 0.1	< 0.1	< 0.01
MW-83	Limit	0.001	0.001	0.0115	0.001	0.002	0.005	0.003	0.00601	0.001	0.01	0.001	0.003	0.001	0.002	0.004	4.68	0.2	0.2	2.87	0.02
	Result	< 0.0003	0.000364	0.00935	< 0.0001	< 0.00005	0.000326	0.000237	0.00317	< 0.0001	0.00165	< 0.0005	< 0.00004	< 0.0001	0.000939	< 0.0005	1.24	< 0.1	< 0.1	2.2	< 0.01
MW-84	Limit	0.001	0.001	0.0044	0.001	0.002	0.005	0.003	0.002	0.001	0.01	0.001	0.003	0.001	0.002	0.004	0.680	0.2	0.2	0.2	0.02
	Result	< 0.0003	0.000307	**0.00471**	< 0.0001	< 0.00005	0.0002	< 0.00005	< 0.0002	< 0.0001	0.000496	0.000636	< 0.00004	< 0.0001	0.000596	0.000526	0.123	< 0.1	< 0.1	< 0.1	< 0.01
MW-93	Limit	0.001	0.001430965	0.0095	0.001	0.002	0.005	0.003	0.002	0.001	0.01	0.001	0.003	0.001	0.00231	0.0112	0.18	0.2	0.2	0.2	0.02
	Result	< 0.0003	**0.00144**	**0.0108**	< 0.0001	9.82E-05	0.000352	0.000141	0.001	0.000357	0.000479	< 0.0005	< 0.00004	< 0.0001	**0.00265**	0.00691	0.025	< 0.1	< 0.1	< 0.1	< 0.01
MW-94	Limit	0.001	0.001	0.0054	0.001	0.002	0.005	0.003	0.0051	0.001	0.01	0.001	0.003	0.001	0.002	0.004	2.72	0.2	0.2	3.81	0.02
	Result	< 0.0003	0.000127	0.0022	< 0.0001	< 0.00005	0.000525	0.000105	0.00114	< 0.0001	0.000716	< 0.0005	< 0.00004	< 0.0001	0.0013	< 0.0005	0.515	< 0.1	< 0.1	1.89	< 0.01
Downgradient Wells																					
MW-68	Limit	0.001	0.499	0.0191	0.001	0.002	0.005	0.003	0.0072851	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	0.033	0.0109	< 0.0001	< 0.00005	0.0002	0.000227	0.000942	< 0.0001	0.00046	< 0.0005	< 0.00004	< 0.0001	0.000669	0.000505	< 0.01	< 0.1	< 0.1	< 0.1	< 0.01
MW-69*	Limit	0.001	0.004	0.0142	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	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-72	Limit	0.001	0.001	0.0162	0.001	0.002	0.005	0.003	0.00331	0.00104	0.01	0.001	0.003	0.001	0.002	0.0257499	0.15	0.2	0.2	0.2	0.02
	Result	< 0.0003	0.00013	0.0134	< 0.0001	< 0.00005	0.000283	< 0.00005	< 0.0002	< 0.0001	0.00014	< 0.0005	< 0.00004	< 0.0001	9.70E-05	0.000822	< 0.01	< 0.1	< 0.1	< 0.1	< 0.01
MW-74R	Limit	0.001	0.001	0.0166	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	0.000392	0.0133	< 0.0001	< 0.00005	0.000254	< 0.00005	0.000247	< 0.0001	0.00099	0.00061	< 0.00004	< 0.0001	0.000721	0.000726	0.239	< 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	0.05	0.2	0.2	0.2	0.02
	Result	< 0.0003	0.00046	0.0133	< 0.0001	< 0.00005	0.0002	< 0.00005	< 0.0002	< 0.0001	0.0001	< 0.0005	< 0.00004	< 0.0001	0.000181	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	0.00381	0.0141	< 0.0001	< 0.00005	0.0002	< 0.00005	< 0.0002	< 0.0001	0.00015	< 0.0005	< 0.00004	< 0.0001	8.23E-05	0.00179	< 0.01	< 0.1	< 0.1	< 0.1	< 0.01
MW-85	Limit	0.001	0.001	0.0072	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	0.000689	0.00699	< 0.0001	< 0.00005	0.0002	< 0.00005	< 0.0002	< 0.0001	0.000212	0.00082	< 0.00004	< 0.0001	0.00104	0.0005	0.094	< 0.1	< 0.1	< 0.1	< 0.01
MW-87	Limit	0.001	0.059	0.0392	0.001	0.002	0.005	0.003	0.00347	0.001	0.01	0.001	0.003	0.001	0.005	0.004	0.0803	0.2	0.2	0.2	0.02
	Result	< 0.0003	0.000686	0.0267	< 0.0001	8.96E-05	0.0002	0.000129	0.000715	< 0.0001	0.000302	< 0.0005	< 0.00004	< 0.0001	0.000161	**0.00492**	< 0.01	< 0.1	< 0.1	< 0.1	< 0.01

NOTE:
Results greater than Limit Value in **RED Bold**
* MW-69 - No sample collected; well was damaged.

TABLE 4-4a *(continued)*

INTRAWELL PREDICTION LIMIT VALUES AND RESULTS.

CEDAR HILLS REGIONAL LANDFILL REGIONAL AQUIFER QUARTERLY AND SEMI-ANNUAL MONITORING WELLS

(Data Collected from October 1, 2020 - December 31, 2020)

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	0.00116412	0.005586	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	0.00088	0.00501	< 0.0001	< 0.00005	< 0.0002	< 0.00005	< 0.0002	< 0.0001	0.000111	< 0.0005	< 0.00004	< 0.0001	0.0000808	< 0.0005	< 0.01	< 0.1	< 0.1	< 0.1	< 0.01
MW-24	Limit	0.001	0.001	0.002118	0.001	0.002	0.005	0.003	0.002	0.001	0.01	0.001	0.003	0.001	0.002	0.004	0.32	0.39	0.2	0.2	0.0247
	Result	< 0.0003	0.000493	0.00206	< 0.0001	< 0.00005	< 0.0002	< 0.00005	0.000606	< 0.0001	< 0.0001	< 0.0005	< 0.00004	< 0.0001	< 0.000075	< 0.0005	0.01	< 0.1	< 0.1	< 0.1	**0.03**
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	0.0235	2.78	1.90741308	0.2	0.2	0.02
	Result	< 0.0003	**0.00253**	0.0448	0.000217	0.00011	0.00745	**0.00611**	**0.0177**	0.00321	0.00839	< 0.0005	0.000839	< 0.0001	**0.0181**	0.0209	< 0.01	1.43	< 0.1	< 0.1	< 0.01
MW-59	Limit	0.001	0.001	0.0051	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	1.41	0.2	0.45	0.02
	Result	< 0.0003	0.000436	0.00449	< 0.0001	< 0.00005	0.000315	< 0.00005	< 0.0002	< 0.0001	0.000147	< 0.0005	< 0.00004	< 0.0001	< 0.000075	0.000899	< 0.01	1.16	< 0.1	< 0.1	< 0.01
MW-64	Limit	0.001	0.01	0.0299	0.001	0.002	0.005	0.00385	0.00512	0.001	0.0155	0.001	0.003	0.001	0.00606	0.0385	0.121	0.2	0.2	0.2	0.5
	Result	< 0.0003	0.00209	0.0222	< 0.0001	0.00032	< 0.0002	0.00266	0.000972	< 0.0001	0.00767	< 0.0005	< 0.00004	< 0.0001	0.000924	0.00262	< 0.01	< 0.1	< 0.1	< 0.1	< 0.01
MW-65	Limit	0.001	0.00256	0.008541	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	0.132956
	Result	< 0.0003	0.00111	0.00658	< 0.0001	< 0.00005	< 0.0002	< 0.00005	0.000219	< 0.0001	0.000117	< 0.0005	< 0.00004	< 0.0001	< 0.000075	0.000882	< 0.01	< 0.1	< 0.1	< 0.1	0.03
MW-66	Limit	0.001	0.001	0.006775	0.001	0.002	0.005	0.003	0.002	0.001	0.01	0.00104	0.003	0.001	0.002	0.004	0.9097973	0.2	0.2	0.2	0.02
	Result	< 0.0003	0.000665	0.0041	< 0.0001	< 0.00005	< 0.0002	< 0.00005	< 0.0002	< 0.0001	0.000125	0.000904	< 0.00004	< 0.0001	0.000668	0.00053	0.49	< 0.1	< 0.1	< 0.1	< 0.01
MW-73	Limit	0.001	0.00151	0.0225	0.001	0.002	0.005	0.003	0.00363	0.00237	0.01	0.0016	0.003	0.001	0.00315	0.0066	2.01	0.2	0.2	0.2	0.02
	Result	< 0.0003	0.000735	0.00314	< 0.0001	< 0.00005	0.000303	< 0.00005	0.000286	< 0.0001	0.000313	< 0.0005	< 0.00004	< 0.0001	0.00142	< 0.0005	1.14	< 0.1	< 0.1	< 0.1	< 0.01
MW-76	Limit	0.001	0.001	0.0045	0.001	0.002	0.005	0.003	0.002	0.001	0.01	0.001	0.003	0.001	0.002	0.004	6	2.45296442	0.66715	14.39923	0.02
	Result	< 0.0003	0.000215	**0.00469**	< 0.0001	0.0000748	0.000233	0.0000608	0.00137	< 0.0001	0.00055	< 0.0005	< 0.00004	< 0.0001	0.000618	0.000597	0.238	0.15	0.385	7.63	< 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	1.7322327	0.2	0.2	0.2	0.02
	Result	< 0.0003	0.000529	0.00343	< 0.0001	< 0.00005	0.000214	< 0.00005	0.000228	< 0.0001	0.000182	0.000794	< 0.00004	< 0.0001	0.00166	0.00119	1.56	< 0.1	< 0.1	< 0.1	< 0.01
MW-82	Limit	0.001	0.001	0.00376	0.001	0.002	0.005	0.003	0.002	0.001	0.01	0.001	0.003	0.001	0.002	0.004	1.409877	0.2	0.2	8.8	0.02
	Result	< 0.0003	0.000264	0.00163	< 0.0001	< 0.00005	0.00188	< 0.00005	0.000283	< 0.0001	0.0034	< 0.0005	< 0.00004	< 0.0001	0.00142	0.000631	0.991	< 0.1	< 0.1	4.22	< 0.01
MW-83	Limit	0.001	0.001	0.012075	0.001	0.002	0.0723	0.003	0.0079	0.001	0.01	0.001	0.003	0.001	0.002	0.004	5.4257758	0.2	0.2	2.802958	0.02
	Result	< 0.0003	0.000396	0.0106	< 0.0001	< 0.00005	0.00379	0.000303	0.00396	< 0.0001	0.00233	< 0.0005	< 0.00004	< 0.0001	0.000981	< 0.0005	1.51	< 0.1	< 0.1	1.98	< 0.01
MW-84	Limit	0.001	0.001	0.00503	0.001	0.002	0.005	0.003	0.002	0.001	0.01	0.001	0.003	0.001	0.002	0.004	0.68	0.2	0.2	0.2	0.02
	Result	< 0.0003	0.000332	0.00493	< 0.0001	< 0.00005	< 0.0002	< 0.00005	< 0.0002	< 0.0001	0.000752	0.000712	< 0.00004	< 0.0001	0.000512	0.00257	0.149	< 0.1	< 0.1	< 0.1	< 0.01
MW-93	Limit	0.001	0.00141993	0.009455	0.001	0.002	0.005	0.003	0.002	0.001	0.01	0.001	0.003	0.001	0.00231	0.0112	0.0549	0.2	0.2	0.2	0.02
	Result	< 0.0003	**0.00144**	0.00835	< 0.0001	< 0.00005	0.00025	0.000103	0.000632	0.000147	0.000359	< 0.0005	< 0.00004	< 0.0001	0.00217	0.00768	0.031	< 0.1	< 0.1	< 0.1	< 0.01
MW-94	Limit	0.001	0.001	0.00542	0.001	0.002	0.005	0.003	0.0051	0.001	0.01	0.001	0.003	0.001	0.002	0.004	2.5526094	0.2	0.2	3.713146	0.02
	Result	< 0.0003	0.000131	0.00272	< 0.0001	< 0.00005	0.000338	0.0000938	0.00101	< 0.0001	0.00059	< 0.0005	< 0.00004	< 0.0001	0.00132	0.000556	0.574	< 0.1	< 0.1	2.31	0.01
MW-95	Limit	0.001	0.00111	0.004733	0.001	0.002	0.005	0.003	0.002	0.001	0.01	0.001	0.003	0.001	0.002	0.004	0.05	0.2	0.2	0.2	0.02
	Result	< 0.0003	0.00106	0.00444	< 0.0001	< 0.00005	< 0.0002	0.0000675	< 0.0002	< 0.0001	0.000157	< 0.0005	< 0.00004	< 0.0001	0.000263	< 0.0005	< 0.01	< 0.1	< 0.1	< 0.1	< 0.01

NOTE:

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

TABLE 4-4a *(continued)*

INTRAWELL PREDICTION LIMIT VALUES AND RESULTS.

CEDAR HILLS REGIONAL LANDFILL REGIONAL AQUIFER QUARTERLY AND SEMI-ANNUAL MONITORING WELLS

(Data Collected from October 1, 2020 - December 31, 2020)

	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	0.00833	0.0264	0.001	0.002	0.005	0.003	0.002	0.001	0.01	0.001	0.003	0.001	0.00357	0.004	0.83	0.2	0.2	0.2	0.02
	Result	< 0.0003	**0.0101**	**0.0298**	< 0.0001	0.0000842	< 0.0002	0.00135	0.00099	< 0.0001	0.00123	< 0.0005	< 0.00004	< 0.0001	**0.00366**	0.00149	0.055	< 0.1	< 0.1	< 0.1	< 0.01
MW-68	Limit	0.001	0.389	0.0197	0.001	0.002	0.005	0.003	0.0068	0.001	0.01	0.001	0.003	0.001	0.0037	0.004	0.13	0.2	1	0.2	0.02
	Result	< 0.0003	0.0345	0.0116	< 0.0001	< 0.00005	< 0.0002	0.00021	0.000721	< 0.0001	0.000463	< 0.0005	< 0.00004	< 0.0001	0.000593	< 0.0005	< 0.01	< 0.1	< 0.1	< 0.1	< 0.01
MW-69*	Limit	0.001	0.004	0.0142	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	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
MW-72	Limit	0.001	0.001	0.0166	0.001	0.002	0.005	0.003	0.00331	0.00104	0.01	0.001	0.003	0.001	0.002	0.0264	0.15	0.2	0.2	0.2	0.02
	Result	< 0.0003	0.000117	0.0133	< 0.0001	< 0.00005	0.000229	< 0.00005	< 0.0002	< 0.0001	0.00013	< 0.0005	< 0.00004	< 0.0001	< 0.000075	0.00113	< 0.01	< 0.1	< 0.1	< 0.1	< 0.01
MW-74	Limit	0.001	0.001	0.0162	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	0.000743	0.0124	< 0.0001	< 0.00005	< 0.0002	< 0.00005	0.000284	< 0.0001	0.000889	0.000617	< 0.00004	< 0.0001	0.000765	0.000791	0.34	< 0.1	< 0.1	< 0.1	< 0.01
MW-75	Limit	0.001	0.001	0.0136	0.001	0.002	0.005	0.003	0.002	0.001	0.01	0.001	0.003	0.001	0.002	0.004	0.05	0.2	0.2	0.2	0.02
	Result	< 0.0003	0.000419	0.0131	< 0.0001	< 0.00005	< 0.0002	< 0.00005	< 0.0002	< 0.0001	< 0.0001	< 0.0005	< 0.00004	< 0.0001	0.000104	0.000691	< 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	1	0.2	0.02
	Result	< 0.0003	0.00365	0.0153	< 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-85	Limit	0.001	0.001	0.0074	0.001	0.002	0.005	0.003	0.002	0.001	0.01	0.00135	0.003	0.001	0.002	0.004	1.630	0.2	0.2	0.2	0.02
	Result	< 0.0003	0.0007	0.00724	< 0.0001	< 0.00005	< 0.0002	< 0.00005	< 0.0002	< 0.0001	0.000194	0.000902	< 0.00004	< 0.0001	0.000898	< 0.0005	0.101	< 0.1	< 0.1	< 0.1	< 0.01
MW-86	Limit	0.001	0.0194	0.008554	0.001	0.002	0.005	0.003	0.002	0.001	0.01	0.0017	0.003	0.001	0.00336	0.004	1.4237609	0.2	0.2	0.2	0.02
	Result	< 0.0003	0.012	0.00729	< 0.0001	< 0.00005	< 0.0002	0.000187	< 0.0002	< 0.0001	0.000196	< 0.0005	< 0.00004	< 0.0001	0.000645	0.000979	0.011	< 0.1	< 0.1	< 0.1	< 0.01
MW-87	Limit	0.001	0.067	0.0380	0.001	0.002	0.005	0.003	0.00347	0.001	0.01	0.001	0.003	0.001	0.005	0.004	0.0803	0.2	0.2	0.2	0.02
	Result	< 0.0003	0.00143	0.0293	< 0.0001	0.000134	0.000467	0.000176	0.00213	0.000521	0.000651	< 0.0005	< 0.00004	< 0.0001	0.000308	**0.00892**	< 0.01	< 0.1	< 0.1	< 0.1	< 0.01
MW-88	Limit	0.001	0.0010525	0.002448	0.001	0.002	0.005	0.003	0.002	0.001	0.01	0.001	0.003	0.001	0.0029411	0.004	1.7	0.2	0.2	0.2	0.02
	Result	< 0.0003	0.000995	0.00221	< 0.0001	< 0.00005	0.000653	< 0.00005	< 0.0002	< 0.0001	< 0.0001	0.000519	< 0.00004	< 0.0001	0.00281	< 0.0005	0.795	< 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	0.03980597	0.095	0.2	0.2	0.2	0.04
	Result	< 0.0003	0.00268	0.00958	< 0.0001	< 0.00005	< 0.0002	< 0.00005	0.000248	< 0.0001	0.000144	< 0.0005	< 0.00004	< 0.0001	0.0000975	0.000906	< 0.01	< 0.1	< 0.1	< 0.1	< 0.01
MW-100	Limit	0.001	0.01585452	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	0.00134	0.00634	< 0.0001	< 0.00005	< 0.0002	0.000236	< 0.0002	< 0.0001	0.000458	< 0.0005	< 0.00004	< 0.0001	< 0.000075	0.000611	< 0.01	< 0.1	< 0.1	< 0.1	< 0.01

NOTE:

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

* MW-69 No sample collected; well was damaged.

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, 2020 - March 31, 2020)

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	0.0071	0.001	0.002	0.005	0.003	0.0103	0.001	0.01	0.001	0.003	0.001	0.00331	0.0188	17	4.56	2.00	0.20	9.46	0.20	1.55	0.03
	Result	< 0.0003	0.0005	0.0042	< 0.0001	< 0.00005	0.0008	0.0000737	0.000440	< 0.0001	0.000812	< 0.0005	< 0.00004	< 0.0001	0.00227	0.001040	12.5	1.56	< 0.1	< 0.1	1.86	< 0.1	1.01	< 0.01
MW-47	Limit	0.001	0.0113	0.0464	0.001	0.002	0.005	0.003	0.0105	0.00143	0.01	0.001	0.003	0.001	0.00307	0.168	0.05	1.02	2.00	0.44	6.64	0.41	0.23	8.46
	Result	< 0.0003	0.0028	0.0394	< 0.0001	< 0.00005	0.000237	0.000368	< 0.0002	< 0.0001	0.00238	< 0.0005	< 0.00004	< 0.0001	0.000178	0.00183	< 0.01	0.52	< 0.1	< 0.1	1.47	< 0.1	< 0.1	4.64
MW-62	Limit	0.001	0.001	0.0036	0.001	0.002	0.005	0.003	0.002	0.001	0.01	0.001	0.003	0.001	0.00212	0.004	7.97	10.76	0.20	0.20	16.21	0.21	0.47	0.02
	Result	< 0.0003	0.000216	0.0024	< 0.0001	< 0.00005	0.000338	0.0000961	0.000472	< 0.0001	0.000475	< 0.0005	< 0.00004	< 0.0001	0.000714	0.00128	2.63	0.245	< 0.1	< 0.1	0.715	< 0.1	< 0.1	< 0.01
South Solid Waste Area Wells																								
MW-101	Limit	0.001	0.014	0.0353	0.001	0.002	0.005	0.003	0.00416	0.00109	0.01	0.001	0.003	0.001	0.0039	0.00729	0.062	0.21	0.20	0.23	0.28	0.20	0.20	0.91
	Result	< 0.0003	0.0115	0.0186	< 0.0001	< 0.00005	0.000492	0.000283	0.000846	< 0.0001	0.00353	< 0.0005	< 0.00004	< 0.0001	0.000335	0.00116	0.013	< 0.1	< 0.1	< 0.1	0.12	< 0.1	< 0.1	0.32

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

TABLE 4-4b *(continued)*
INTRAWELL PREDICTION LIMIT VALUES AND RESULTS
CEDAR HILLS REGIONAL LANDFILL PERCHED ZONES MONITORING WELLS
(Data Collected from April 1, 2020- June 30, 2020)

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	0.0071	0.001	0.002	0.005	0.003	0.0103	0.001	0.01	0.001	0.003	0.001	0.00331	0.0188	17	4.56	2.00	0.20	9.46	0.20	1.55	0.03
	Result	< 0.0003	0.0005	0.0042	< 0.0001	< 0.00005	0.0006	< 0.00005	0.000420	< 0.0001	0.000717	< 0.0005	< 0.00004	< 0.0001	0.00202	0.001700	11.8	1.53	< 0.1	< 0.1	1.67	< 0.1	0.84	0.01
MW-47	Limit	0.001	0.0113	0.0464	0.001	0.002	0.005	0.003	0.0105	0.00143	0.01	0.001	0.003	0.001	0.00307	0.168	0.05	1.02	2.00	0.44	6.64	0.41	0.23	8.46
	Result	< 0.0003	0.0031	0.038	< 0.0001	< 0.00005	< 0.0002	0.000300	< 0.0002	< 0.0001	0.00169	< 0.0005	< 0.00004	< 0.0001	0.000251	0.000809	< 0.01	0.62	< 0.1	< 0.1	1.63	< 0.1	< 0.1	7.06
MW-62	Limit	0.001	0.001	0.0036	0.001	0.002	0.005	0.003	0.002	0.001	0.01	0.001	0.003	0.001	0.00212	0.004	7.970285	10.76	0.20	0.20	16.21	0.21	0.47	0.02
	Result	< 0.0003	0.000165	0.00227	< 0.0001	< 0.00005	0.000396	0.0000678	0.00173	< 0.0001	0.000604	< 0.0005	< 0.00004	< 0.0001	0.000663	0.00169	2.75	0.582	< 0.1	< 0.1	1.41	< 0.1	0.103	< 0.01
South Solid Waste Area Wells																								
MW-101	Limit	0.001	0.014	0.0353	0.001	0.002	0.005	0.003	0.00416	0.00109	0.01	0.001	0.003	0.001	0.0039	0.00729	0.062	0.21	0.20	0.23	0.28	0.20	0.20	0.91
	Result	< 0.0003	0.00591	0.0161	< 0.0001	< 0.00005	0.000219	0.000349	0.000611	0.000157	0.00351	< 0.0005	< 0.00004	< 0.0001	0.00026	0.00229	0.034	< 0.1	< 0.1	< 0.1	0.12	< 0.1	< 0.1	0.11

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

TABLE 4-4b *(continued)*
CEDAR HILLS REGIONAL LANDFILL PERCHED ZONES MONITORING WELLS
SMMARY OF WAC 173-351 APPENDIX I INTRAWELL PREDICTION LIMIT VALES
(Data Collected from July 1, 2020 - September 30, 2020)

Well	Parameter / nits	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	0.0071	0.001	0.002	0.005	0.003	0.0103	0.001	0.01	0.001	0.003	0.001	0.00331	0.0188	17	4.56	2.00	0.20	9.46	0.20	1.55	0.03
	Result	0.0003	0.000505	0.00363	0.0001	0.00005	0.000621	0.00005	0.00041	0.0001	0.000743	0.0005	0.00004	0.0001	0.00228	0.000904	9.89	1.73	<0.1	<0.1	2.02	<0.1	0.839	0.01
MW-47	Limit	0.001	0.0113	0.0464	0.001	0.002	0.005	0.003	0.0105	0.00143	0.01	0.001	0.003	0.001	0.00307	0.168	0.05	1.02	2.00	0.44	6.64	0.41	0.23	8.46
	Result	0.0003	0.00117	0.0348	0.0001	0.00005	0.0002	0.000306	0.0002	0.0001	0.0013	0.0005	0.00004	0.0001	0.000231	0.0005	0.01	0.553	<0.1	<0.1	1.3	<0.1	0.10	5.68
MW-62	Limit	0.001	0.001	0.0036	0.001	0.002	0.005	0.003	0.002	0.001	0.01	0.001	0.003	0.001	0.00212	0.004	7.970285	10.76	0.20	0.20	16.21	0.21	0.47	0.02
	Result	0.0003	0.000151	0.00228	0.0001	0.00005	0.000341	8.84E-05	0.0006	0.0001	0.000726	0.0005	0.00004	0.0001	0.000704	0.00164	2.29	<0.1	<0.1	<0.1	0.1	<0.1	0.1	0.01
South Solid Waste Area Wells																								
MW-101	Limit	0.001	0.014	0.0353	0.001	0.002	0.005	0.003	0.00416	0.00109	0.01	0.001	0.003	0.001	0.0039	0.00729	0.062	0.21	0.20	0.23	0.28	0.20	0.20	0.91
	Result	0.0003	0.0111	0.0197	0.0001	0.00005	0.00111	0.000276	0.000359	0.0001	0.00372	0.0005	0.00004	0.0001	0.000479	0.00124	0.014	<0.1	<0.1	<0.1	0.104	<0.1	0.10	0.067

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

TABLE 4-4b *(continued)*
INTRAWELL PREDICTION LIMIT VALUES AND RESULTS
CEDAR HILLS REGIONAL LANDFILL PERCHED ZONES MONITORING WELLS
(Data Collected from October 1, 2020- December 31, 2020)

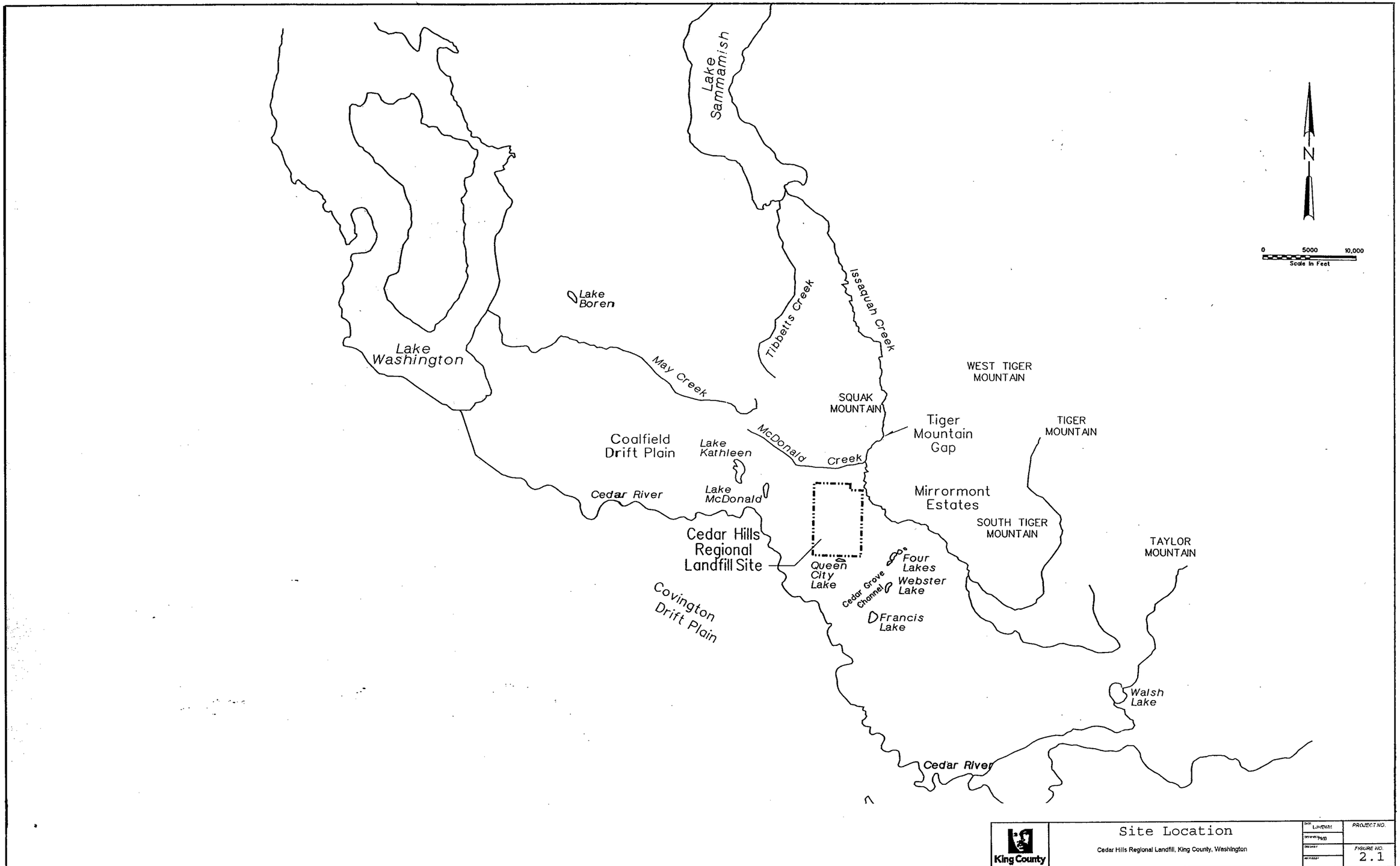
Well	Parameter / Units	Total Antimony mg/L	Total Arsenic mg/L	Total Barium mg/L	Total Beryllium mg/L	Total Cadmium mg/L	Total Chromium mg/L	Total Cobalt mg/L	Total Copper mg/L	Total Lead mg/L	Total Nickel mg/L	Total Selenium mg/L	Total Silver mg/L	Total Thallium mg/L	Total Vanadium mg/L	Total Zinc mg/L	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	0.0071	0.001	0.002	0.005	0.003	0.0103	0.001	0.01	0.001	0.003	0.001	0.00331	0.0188	17	4.56	2.00	0.20	9.46	0.20	1.55	0.03
	Result	< 0.0003	0.0005	0.0038	< 0.0001	< 0.00005	0.0009	< 0.00005	0.000374	< 0.0001	0.000767	< 0.0005	< 0.00004	< 0.0001	0.00227	0.000820	6.86	1.71	< 0.1	< 0.1	3.03	< 0.1	0.84	0.01
MW-47	Limit	0.001	0.0113	0.0464	0.001	0.002	0.005	0.003	0.0105	0.00143	0.01	0.001	0.003	0.001	0.00307	0.168	0.05	1.02	2.00	0.44	6.64	0.41	0.23	8.46
	Result	< 0.0003	0.0007	0.0386	< 0.0001	< 0.00005	0.00159	0.000612	0.00166	0.000143	0.00235	< 0.0005	< 0.00004	< 0.0001	**0.00317**	0.00224	< 0.01	0.58	< 0.1	< 0.1	1.29	< 0.1	< 0.1	3.72
MW-62*	Limit	0.001	0.001	0.0036	0.001	0.002	0.005	0.003	0.002	0.001	0.01	0.001	0.003	0.001	0.00212	0.004	7.970285	10.76	0.20	0.20	16.21	0.21	0.47	0.02
	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	0.014	0.0353	0.001	0.002	0.005	0.003	0.00416	0.00109	0.01	0.001	0.003	0.001	0.0039	0.00729	0.062	0.21	0.20	0.23	0.28	0.20	0.20	0.91
	Result	< 0.0003	0.00236	0.0227	< 0.0001	< 0.00005	0.000206	0.000195	0.000286	< 0.0001	0.00332	< 0.0005	< 0.00004	< 0.0001	0.000687	< 0.0005	< 0.01	0.15	< 0.1	0.13	0.20	< 0.1	< 0.1	0.32

NOTE: MW-62 was not sampled due to DTW below pump.
Results greater than Limit Value in **RED Bold**

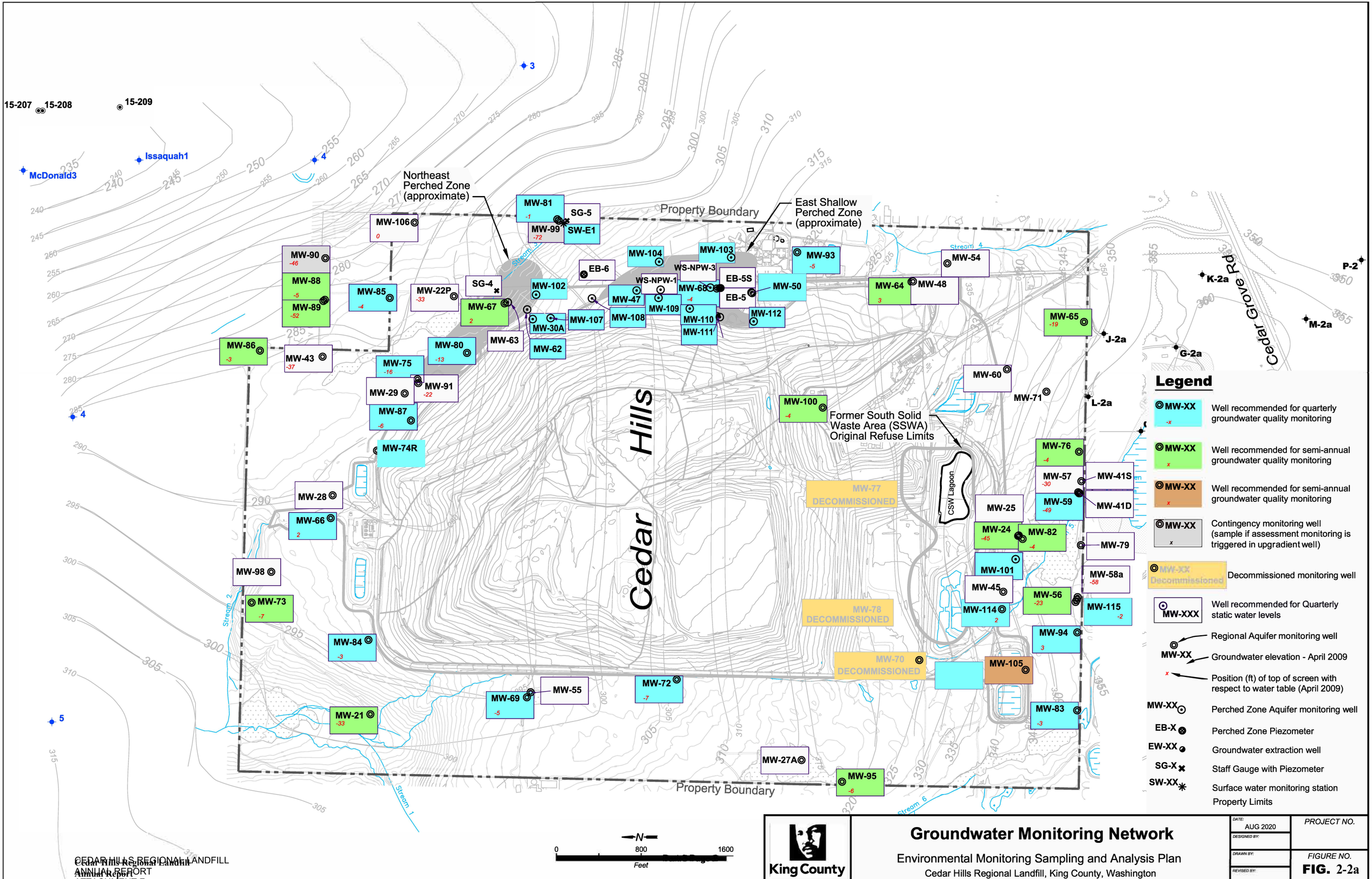
PART 3

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 NW-SE**
Figure 2-5	**Regional Cross Section Location Map**
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



King County

Groundwater Monitoring Network

Environmental Monitoring Sampling and Analysis Plan

Cedar Hills Regional Landfill, King County, Washington

DATE:	PROJECT NO.
AUG 2020	
DESIGNED BY:	
DRAWN BY:	FIGURE NO.
REVISED BY:	**FIG. 2-2a**

CEDAR HILLS REGIONAL LANDFILL
~~Cedar Hills Regional Landfill~~
ANNUAL REPORT
~~Annual Report~~
ATTACHMENT F
~~Attachment F~~

CAD Path: S:\CAD\CEDARHIL\GH Monitoring well and GP for CLEE quarterly Aug 2020\Fig 7.1 - Fig 1\Fig 1 GW Monitoring Network Aug 2020 2 change background map.dwg Figure 7.1 (11 x 17) || Coordinate System: NAD 1983 State Plane Washington North FIPS 4601 Feet || Date Saved: Jan 14, 2021

Property Boundary

SW-E1

SG-5

SW-S3

SW-SL3

SW-PF

PIPELINE

Stream 3

Stream 4

Stream 2

Stream 1

Stream 6

Cedar Hills

Cedar Grove Rd

CSW Lagoon

Queen City Lake

LEPI Decommissioned

Meteorological Station Location

SW-SV

SG-3

SG-7

SW-S2

SG-S1

SW-GS1

SG-6

SW-N4

SG-2

SW-N1

SW-W1

SG-1

SW-W2

SG-8

SG-9

SW-S1

SG-4

Legend

- SW-GS1 ✳ Primary Surface Water and Stormwater Monitoring Locations
- SW-S1 ✳ Contingency Surface Water Monitoring Locations
- SG-8 ✳ Staff Gage Locations
- Meteorological Station Location
- Property Limits

N

0 800 1600

Feet

King County

Surface Water and Storm Monitoring Network

Environmental Monitoring Sampling and Analysis Plan

Cedar Hills Regional Landfill, King County, Washington

DATE: AUG 2020

DESIGNED BY:

DRAWN BY:

REVIEWED BY:

PROJECT NO.

FIGURE NO. FIG. 2-2b

CAD Path: h:\S:\CAD\CEDARHIL\CH Monitoring well and GP for CLEE quarterly Aug 2020\Fig 2\Fig 2 Surface water and stormwater monitoring network.dwg Figure 7.1 (11 x 17) || Coordinate System: NAD 1983 State Plane Washington North FIPS 4601 Feet || Date Saved: Jan 14, 2021 9:16am || User:

Property Boundary

Stream 3

Stream 4

PS 2

Cedar Hills

Cedar Grove Rd

FLOW STATION

MH 46N

PS 1A

Outer cover liner limits

Stream 2

Stream 1

Stream 5

Stream 6

CSW Lagoon

CSW MH

PS 4

Queen City Lake

A8-1

A567

MH LEPS

LEPS

LV1A

LAPI

Decommissioned

Property Boundary

Legend

- PS-XX Leachate Monitoring Station
- Decommissioned Leachate Monitoring Station
- Property Limits

N

0 800 1600

Feet

King County

Leachate Monitoring Locations

Environmental Monitoring Sampling and Analysis Plan

Cedar Hills Regional Landfill, King County, Washington

DATE: AUG 2020

DESIGNED BY:

DRAWN BY:

REVISED BY:

PROJECT NO.

FIGURE NO.

FIG 2-2C

CAD Path: S:\CAD\CEDARHIL\CH Monitoring well and GP for CLEE quarterly Aug 2020\Fig 3\Fig 3 Leachate map rev 12-21-20.dwg Figure 7.1 (11 x 17) || Coordinate System: NAD 1983 State Plane Washington North FIPS 4601 Feet || Date Saved: Jan 14, 2021 9:29am || User: uedag

North

South

ELEVATION (FEET, NGVD 29)

ELEVATION (FEET, NGVD 29)

840
760
680
600
520
440
360
280
200
120

0
800
1600
2400
3200
4000
4800
5600
6200
7000
7800
8600
9200
10000
10800
11600

15-100 (Offset 510' E)
16-9 (Offset 260' SE)
16-10 (GWOS-4) (Offset 10' SW)
MW-86 (Offset 260' SW)
MW-43
MW-75 (Offset 260' SW)
MW-91 (Offset 260' NE)
Intersection - Cross section R2-R2'
MW-87 (Offset 120' SE)
Bend in Section
A5B-10 (Offset 510' W)
A6BH-5 (Offset 40' W)
MW-100 (Offset 410' W)
A6BH-4 (Offset 20' W)
MW-77 (Offset 370' E)
GP-54 (Offset 330' W)
MW-76
Queen City Lake
B(3) (Offset 100' W) (QCF)
F(2) (Offset 170' W) (QCF)
MW-67

McDonald Creek

Refuse
Unit B
Unit C
Unit D
Unit E
Unit F

Stratigraphic Units from Site Wide Report (2004)

Unit B	Vashon Recessional Outwash
Unit C	Vashon Till and Ice contact deposits, typically silty gravels
Unit D	Alluvial gravels, typically silty gravels with interbedded clean sands and gravels (Stratified Drift)
Unit E	Lacustrine and low energy fluvial deposits, predominantly sand and silty-sand w/ silt lenses
Unit F	Fluvial sands and silts with incised gravel channels

Legend

Well screen or open interval and water level April 2009. Open symbol from ATD or well log. Water table shown for wells screened within 10 feet of water table surface.

Approximate geologic unit contact (from site wide report, 2004)

Hydrostratigraphic unit within Regional Aquifer

Less permeable silts, silty sands, silty gravels, clays

More permeable sands, gravel, and sand and gravel mixtures

REPORTED SOIL DESCRIPTIONS

(Soil descriptions not shown above Unit E except for off-site wells)

Cl	= Clay	Pt	= Peat	occ	= occasional
Si	= Silt	Org	= Organic	sc	= scattered
Sa	= Sand	Pum	= Pumice	tr	= trace
Gr	= Gravel	Volc	= Volcanic	w/	= with
Co	= Cobbles	Wd	= Wood	li	= little
Bo	= Boulders			s	= some
Dr	= Dropstone	cem	= cemented	+	= and
Hp	= Hardpan	int	= interbeds	abd	= abundant
Till	= Glacial Till	lam	= laminations	f	= fine
Ts	= Topsoil	lay	= layers	m	= medium
		len	= lenses	c	= coarse
		ox	= oxidized	wb	= water bearing

Scale:
1" = 80' Vertical
1" = 800' Horizontal

0 800 1600 Feet

King County

Regional Cross Section North – South

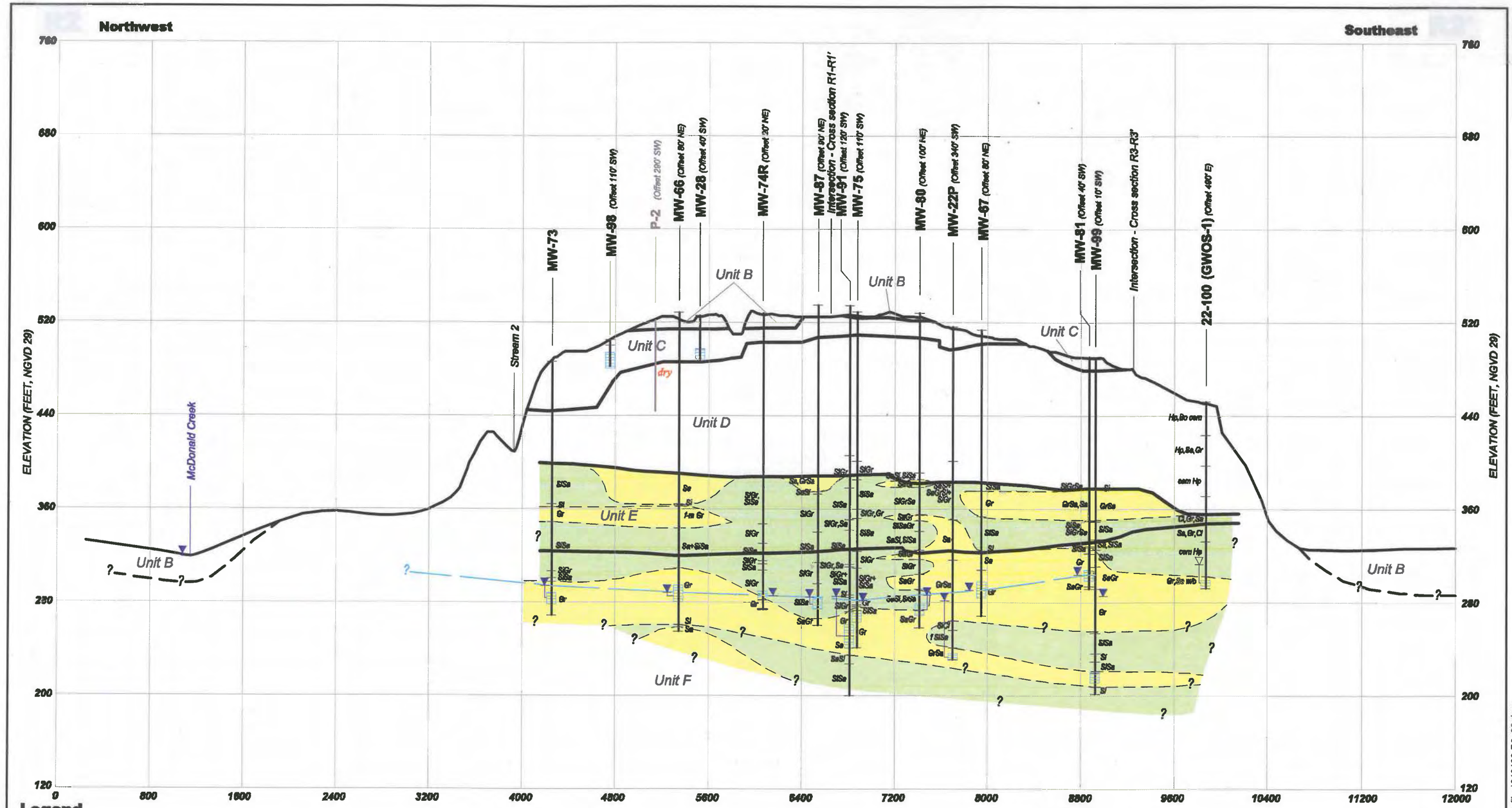
Cedar Hills Regional Landfill, King County, Washington

DATE	May 2009
DESIGNED BY	LJH/EWM
DRAWN BY	PMB
REVISED BY	EWM (March 2010)
PROJECT NO.	040122
FIGURE NO.	2.3

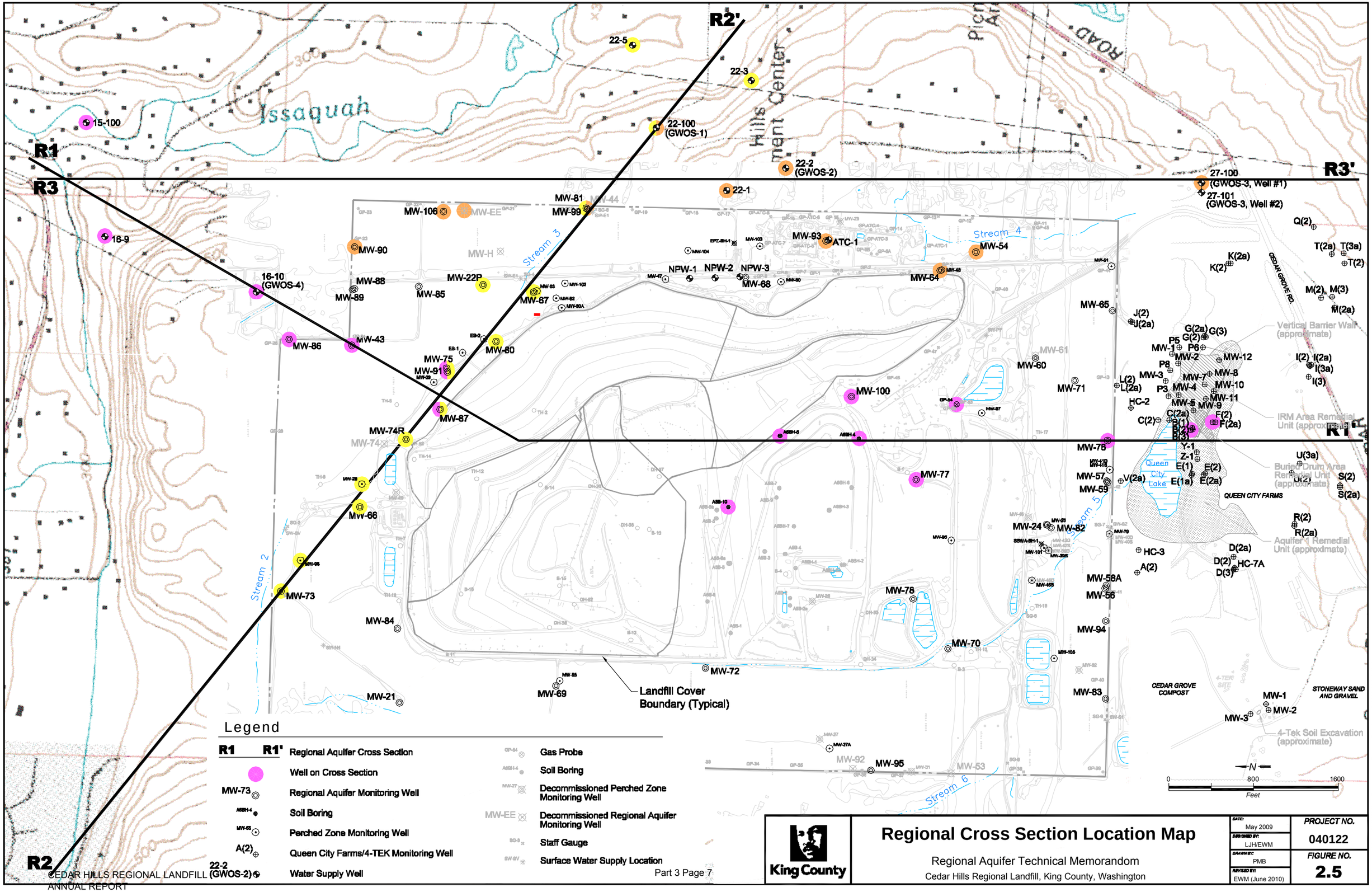
Q:\Cedar Hills\2009-05 Regional Zone Profiles\040122-R1_32.dwg

Cedar Hills Regional Landfill
Annual Report
Attachment F

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



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



Legend

R1 R1'	Regional Aquifer Cross Section
	Well on Cross Section
MW-73	Regional Aquifer Monitoring Well
A69H-4	Soil Boring
MW-55	Perched Zone Monitoring Well
A(2)	Queen City Farms/4-TEK Monitoring Well
22-2 (GWOS-2)	Water Supply Well
GP-54	Gas Probe
A69H-4	Soil Boring
MW-27	Decommissioned Perched Zone Monitoring Well
MW-EE	Decommissioned Regional Aquifer Monitoring Well
SG-8	Staff Gauge
SW-SV	Surface Water Supply Location

King County

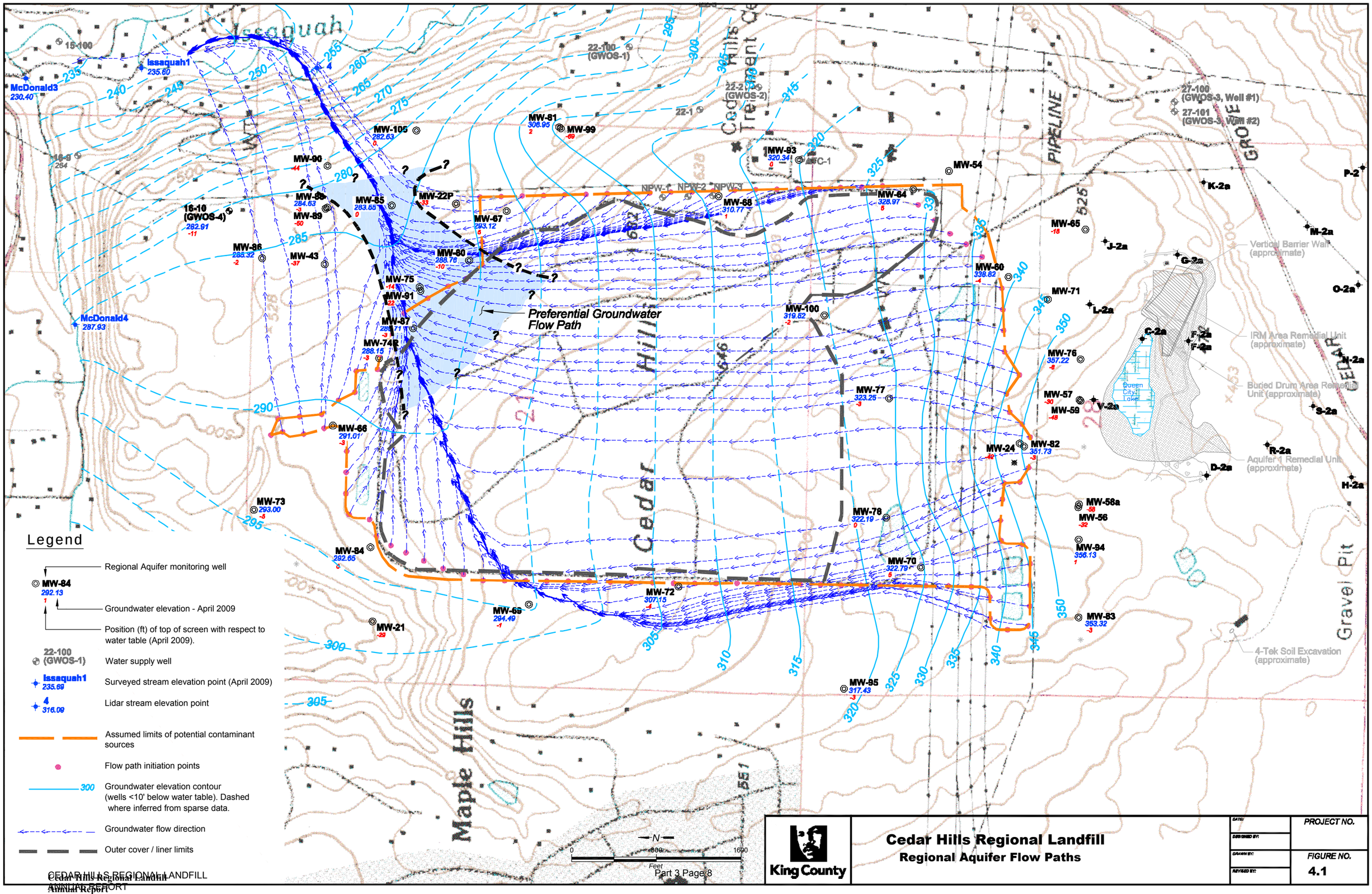
Regional Cross Section Location Map

Regional Aquifer Technical Memorandom

Cedar Hills Regional Landfill, King County, Washington

DATE: May 2009	PROJECT NO. 040122
DESIGNED BY: LJH/EWM	
DRAWN BY: PMB	FIGURE NO. 2.5
REVISED BY: EWM (June 2010)	

Q:\Cedar Hills\2009-05 Regional Zone Profiles\040122-02.dwg



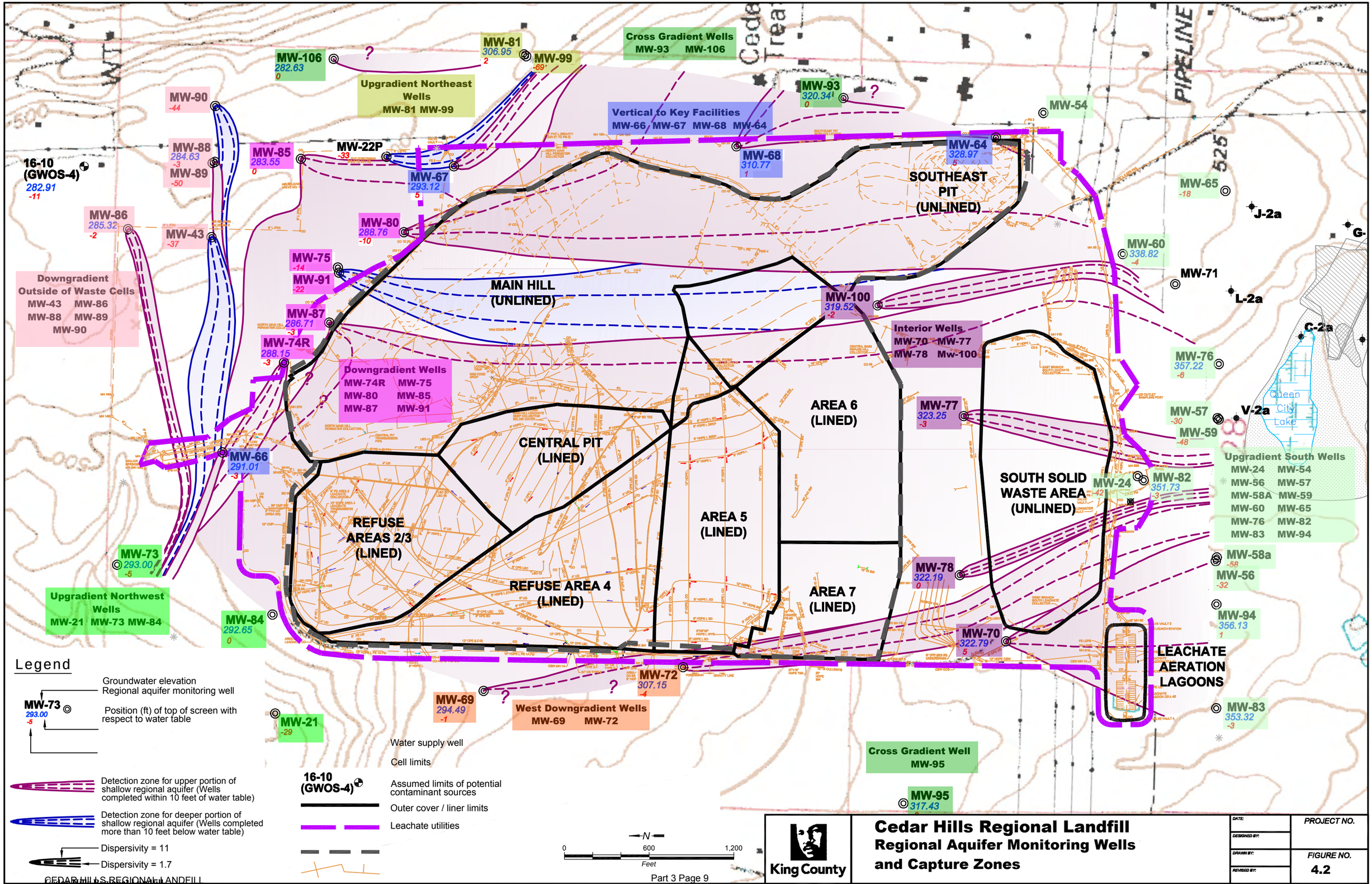
Legend

- 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:	PROJECT NO.
DESIGNED BY:	
DRAWN BY:	FIGURE NO. 4.1
REVISED BY:	


Cross Gradient Wells
MW-93 MW-106
MW-106
282.63
0
MW-81
306.95
2
MW-99
-69
Upgradient Northeast Wells
MW-81 MW-99
MW-93
320.34
0
Vertical to Key Facilities
MW-66 MW-67 MW-68 MW-64
MW-54
MW-90
-44
MW-88
284.63
-3
MW-89
-50
MW-85
283.55
0
MW-22P
-33
MW-67
293.12
5
MW-68
310.77
1
MW-64
328.97
5
16-10
(GWOS-4)
282.91
-11
SOUTHEAST
PIT
(UNLINED)
MW-65
-18
J-2a
MW-86
285.32
-2
MW-43
-37
MW-80
288.76
-10
MW-60
338.82
-4
G-
MW-71
L-2a
MW-75
-14
MW-91
-22
MAIN HILL
(UNLINED)
MW-100
319.52
-2
Downgradient
Outside of Waste Cells
MW-43 MW-86
MW-88 MW-89
MW-90
MW-87
286.71
-3
Interior Wells
MW-70 MW-77
MW-78 Mw-100
C-2a
MW-74R
288.15
-3
MW-76
357.22
-6
Downgradient Wells
MW-74R MW-75
MW-80 MW-85
MW-87 MW-91
AREA 6
(LINED)
MW-77
323.25
-3
MW-57
-30
V-2a
MW-59
-48
Queen City Lake
CENTRAL PIT
(LINED)
MW-66
291.01
-3
SOUTH SOLID
WASTE AREA
(UNLINED)
MW-24
-42
MW-82
351.73
-3
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
AREA 5
(LINED)
MW-73
293.00
-5
MW-78
322.19
0
MW-58a
-58
MW-56
-32
REFUSE
AREAS 2/3
(LINED)
REFUSE AREA 4
(LINED)
AREA 7
(LINED)
Upgradient Northwest Wells
MW-21 MW-73 MW-84
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
West Downgradient Wells
MW-69 MW-72
MW-83
353.32
-3
MW-21
-29
Cross Gradient Well
MW-95
MW-95
317.43
Legend
Groundwater elevation
Regional aquifer monitoring well
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
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

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Water and Land Resources Division
Department of Natural Resources and Parks
King Street Center
201 South Jackson Street, Suite 704
Seattle, WA 98104-3855
206-477-4800 Fax 206-296-0192
TTY Relay: 711

TECHNICAL MEMORANDUM

April 21, 2020

TO: Natalya Usova, Engineer I, Facility Engineering and Science 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 2020 Results
Cedar Hills Regional Landfill, King County, Washington
Project No. 1126980 – Task 25.106

The King County Water and Land Resources Division (WLRD) submits this memorandum report on groundwater conditions during the first quarter of 2020 for the regional aquifer beneath the Cedar Hills Regional Landfill (Landfill), in accordance with the *Proposal for Potentiometric Groundwater Surface Maps & Groundwater Velocity Calculations* (WLRD, 2020). King County Solid Waste Division (SWD) personnel measured regional aquifer groundwater levels at the Landfill on January 2, 2020. These measurements were received by WLRD on March 3, 2020 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 2019.

Groundwater Elevation Data

The SWD measured regional aquifer groundwater level measurements at 40 monitoring wells during the first quarter of 2020. These wells are 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 groundwater monitoring well identifications, locations, construction details, measured depth to groundwater levels and calculated groundwater elevations for monitoring wells screened in the regional aquifer. Water level measurements at monitoring well MW-69 remain unobtainable due to a damaged well. A total of 22 wells had measured water levels within ten feet of the top of the screened interval and were used for mapping potentiometric surface contours.

Figure A-1 shows calculated groundwater elevations at well locations and interpreted groundwater potentiometric surface contours for the regional aquifer based on measurements taken on January 2, 2020.

Direction of Groundwater Flow

Interpreted groundwater flow directions in the regional aquifer, based on measurements taken on January 2, 2020, are shown in Figure A-1. Calculated groundwater elevations during the first quarter of 2020 indicate that groundwater in the regional aquifer generally flows to the:

- northeast and north-northeast in the *northern portion* of the Landfill,
- north and north-northwest beneath the *central portion* of the Landfill, and
- north beneath the *southern portion* of the Landfill with minor components of flow to the north-northwest and north-northeast.

Table A-2 lists the flow direction for each portion of the regional aquifer beneath the Landfill based on measurements taken on January 2, 2020 and mapping of groundwater elevation contours.

Groundwater Parameters

Table A-2 presents a summary of the groundwater parameters. Mean horizontal hydraulic conductivity and effective porosity values were based on the ranges referred to in *Potentiometric Groundwater Surface Mapping and Groundwater Velocity Calculation – Cedar Hills Landfill* (Aspect, 2010). The mean horizontal hydraulic conductivity for the regional aquifer beneath the Landfill is 60 feet per day (ft/d) in the northern and central portions of the regional aquifer beneath the Landfill and 0.18 ft/d in the southern portion of the regional aquifer beneath the Landfill (Aspect 2010). Average effective porosities are 24 and 26 percent, respectively for the same areas (Aspect 2010).

The hydraulic gradient is greatest under the southern portion of the Landfill (0.012 ft/ft) and slightly lower under the rest of the Landfill based on measurements made during the first quarter 2020.

Average horizontal groundwater velocities for the regional aquifer beneath the Landfill, are based on spatial differences in aquifer parameters, hydraulic gradients, and calculations 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]

The mean horizontal groundwater velocities for the regional aquifer beneath the Landfill, are lowest under the southern portion of the landfill (0.008 ft/d) and much greater under the rest of the Landfill (up to 1.99 ft/d under the central portion).

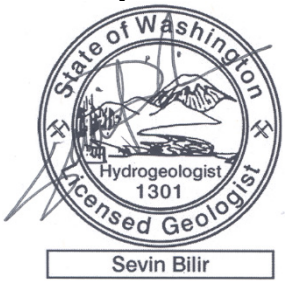
References

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

King County Water and Land Resources Division (WLRD). 2020. 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. February.

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

Sincerely,



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

Enclosures:

Table A-1:	Well Details and Groundwater Elevations – First Quarter 2020
Table A-2:	Groundwater Parameters – First Quarter 2020
Figure A-1:	Groundwater Potentiometric Surface Map – First Quarter 2020 – Regional Aquifer

							January 2, 2020	
	Well Identification	Easting[2] (ft)	Northing[2] (ft)	Top of Casing Elevation (ft MSL)	Top of Screen Elevation (ft)	Bottom of Screen Elevation (ft)	Measured Depth to Water[1] (ft)	Groundwater Elevations (ft MSL)
Wells with water levels within 10 ft of the top of screen	MW-60	1701154.47	167873.20	567.15	334.81	325.81	229.55	337.60
	MW-64	1701980.27	168772.19	596.55	334.03	320.23	266.39	330.16
	MW-66	1699750.19	174250.32	531.28	294.39	280.59	239.19	292.09
	MW-67	1701776.69	172610.65	516.43	297.80	284.00	220.56	295.87
	MW-68	1701917.32	170609.35	647.07	311.29	292.29	332.31	314.76
	MW-72	1698229.92	170987.71	671.87	303.63	294.03	360.87	311.00
	MW-73	1698954.95	174995.59	485.70	288.11	278.81	191.77	293.93
	MW-74R	1700386.85	173813.79	531.26	289.90	280.40	240.41	290.85
	MW-76	1700376.23	167193.13	491.71	351.06	341.56	137.89	353.82
	MW-81	1702568.87	172113.99	493.66	309.19	300.19	184.02	309.64
	MW-82	1699553.72	167725.31	474.85	348.88	339.38	126.54	348.31
	MW-83	1697939.89	167212.27	496.81	350.19	340.69	146.18	350.63
	MW-84	1698602.89	173894.54	530.80	292.46	282.96	236.46	294.34
	MW-85	1701828.95	173694.52	531.76	282.56	273.06	246.36	285.40
	MW-86	1701331.25	174917.90	536.04	283.43	274.63	250.15	285.89
	MW-87	1700670.27	173493.76	537.31	283.68	274.38	248.45	288.86
	MW-88	1701807.87	174303.06	513.68	281.52	272.22	227.78	285.90
	MW-93	1702259.35	169851.24	632.15	319.87	310.07	308.57	323.58
	MW-94	1698674.21	167210.22	495.51	357.22	348.52	144.48	351.03
	MW-95	1697265.32	169426.92	571.54	314.60	305.90	251.41	320.13
	MW-100	1700791.72	169610.46	620.32	319.06	309.06	298.14	322.18
	MW-106	1702536.99	173461.69	475.47	280.04	270.04	190.74	284.73
Wells with water levels greater than 10 ft above the top of screen	MW-21	1697901.86	173876.38	420.66	263.22	255.22	125.44	295.22
	MW-22P	1701844.34	173088.17	517.09	236.02	231.22	232.45	284.64
	MW-24	1699582.39	167767.76	475.99	286.76	281.76	146.17	329.82
	MW-43	1701274.23	174327.14	547.06	245.63	235.63	263.74	283.32
	MW-54	1702154.28	168435.53	580.43	250.25	228.25	279.15	301.28
	MW-56	1698980.77	167214.82	480.33	323.15	313.15	129.19	351.14
	MW-57	1699993.32	167201.99	456.64	326.65	311.65	104.98	351.66
	MW-58A	1699006.59	167207.16	479.27	270.05	260.05	149.85	329.42
	MW-59	1699983.91	167193.44	457.13	285.08	275.08	124.65	332.48
	MW-65	1701602.10	167146.55	545.83	317.71	308.91	210.10	335.73
	MW-75	1701059.70	173432.42	532.40	271.10	261.00	245.83	286.57
	MW-80	1701309.78	172964.99	530.41	279.17	269.67	239.09	291.32
	MW-89	1701799.57	174319.44	512.82	229.20	219.90	232.31	280.51
	MW-90	1702203.13	174300.67	502.22	235.16	226.16	221.90	280.32
	MW-91	1701023.09	173423.94	532.02	260.81	240.71	247.09	284.93
	MW-99	1702556.06	172098.73	493.64	221.77	212.77	200.58	293.06
	WS-NPW-1	1701906.96	171138.99	646.33	282.80	267.90	332.50	313.83
	WS-NPW-3	1701922.88	170663.28	645.81	285.00	273.90	334.25	311.56
Other	MW-69	1698061.86	172400.20	653.69	293.57	279.97	NM	NA

Notes:

1. Water level measurements made by SWD personnel.
2. Reference datum for northing and easting coordinates is the North American Datum of 1927 (NAD 27)

Elevations reported in feet (ft) above mean sea level (MSL) based on the National Geodetic Vertical Datum of 1929 (NGVD 29).

NM Not measured due to damaged well. Could not access water level.

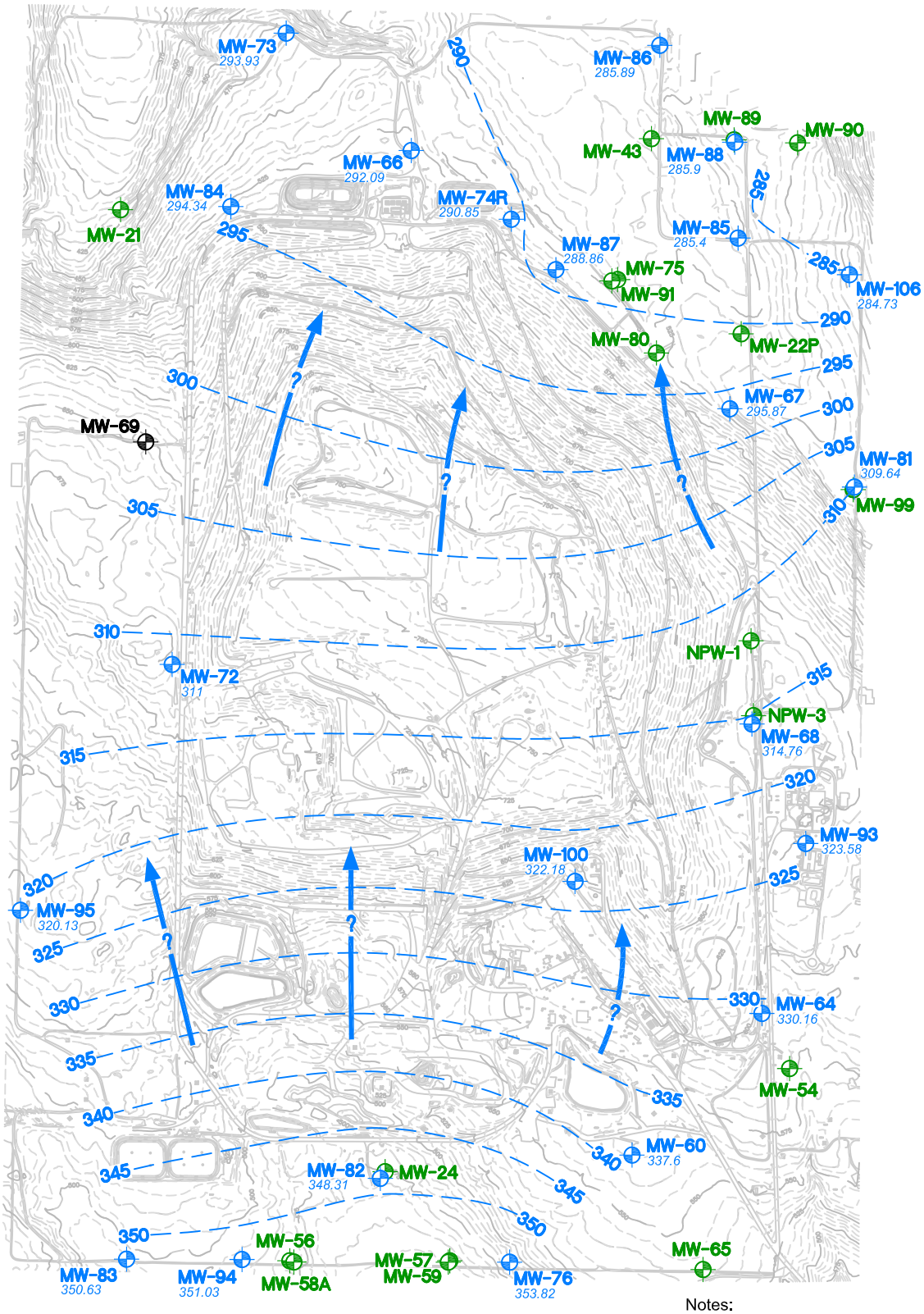
NA Not applicable.

Regional Aquifer Zone Beneath the Landfill	Horizontal Hydraulic Conductivity[1,3] (K) Range	(cm/s)	(ft/d)	Horizontal Hydraulic Gradient[2] (DH/DL) (ft/ft)	Effective Porosity[1] (n_{eff})	Horizontal Groundwater Velocity (v) (ft/d)	General Groundwater Flow Direction
Northern	Minimum	2.10E-03	6	0.0076	24%	0.19	NNE, NE
	Maximum	4.20E-02	120			3.78	
	Mean	2.10E-02	60			1.89	
Central	Minimum	2.10E-03	6	0.0080	24%	0.20	N, NNW
	Maximum	4.20E-02	120			3.98	
	Mean	2.10E-02	60			1.99	
Southern	Minimum	6.40E-06	0.018	0.012	26%	0.001	N, NNE, NNW
	Maximum	6.40E-04	1.8			0.082	
	Mean	6.40E-05	0.18			0.008	

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 A-1.
3. Mean hydraulic conductivity values are the geometric mean of the high and low values.

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.

MW-X — Wells completed in Regional Aquifer - Data not used or no measurement this quarter.

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

? — Inferred Horizontal Groundwater Flow Path

0 1000 2000 Feet

N

Contour Interval 5 Feet

Notes:

1. Groundwater measurements made on January 2, 2020.
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
First Quarter 2020 - Regional Aquifer
Cedar Hills Regional Landfill
King County, Washington

DATE: March 2020	PROJECT NO. 1126980
DESIGNED BY: SB	
DRAWN BY: KK	FIGURE NO. A-1
REVISED BY: SB	

CH_1Q2020.dwg

Water and Land Resources Division
Department of Natural Resources and Parks
King Street Center
201 South Jackson Street, Suite 704
Seattle, WA 98104-3855
206-477-4800 Fax 206-296-0192
TTY Relay: 711

TECHNICAL MEMORANDUM

August 11, 2020

TO: Subrina Tahsin, Engineer II, Facility Engineering and Science 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
Second Quarter 2020 Results
Cedar Hills Regional Landfill, King County, Washington
Project No. 1126980 – Task 25.106

The King County Water and Land Resources Division (WLRD) submits this memorandum report on groundwater conditions during the second quarter of 2020 for the regional aquifer beneath the Cedar Hills Regional Landfill (Landfill), in accordance with the *Proposal for Potentiometric Groundwater Surface Maps & Groundwater Velocity Calculations* (WLRD, 2020). King County Solid Waste Division (SWD) personnel measured regional aquifer groundwater levels at the Landfill on April 2, 2020. These measurements were received by WLRD on June 2, 2020 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 2020.

Groundwater Elevation Data

The SWD measured regional aquifer groundwater level measurements at 40 monitoring wells during the second quarter of 2020. These wells are 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 groundwater monitoring well identifications, locations, construction details, measured depth to groundwater levels and calculated groundwater elevations for monitoring wells screened in the regional aquifer. Water level measurements at monitoring well MW-69 remain unobtainable due to a damaged well. Due to an error in the measurement taken for well MW-94 during the April 2 monitoring event, the static water level taken on May 12, 2020, prior to sampling, is used in this report. A total of 22 wells had measured water levels within ten feet of the top of the screened interval and were used for mapping potentiometric surface contours.

Figure A-1 shows calculated groundwater elevations at well locations and interpreted groundwater potentiometric surface contours for the regional aquifer based on measurements taken during the second quarter of 2020.

Direction of Groundwater Flow

Interpreted groundwater flow directions in the regional aquifer, based on measurements taken on April 2, 2020, are shown in Figure A-1. Calculated groundwater elevations during the second quarter of 2020 indicate that groundwater in the regional aquifer generally flows to the:

- northeast and north-northeast in the *northern portion* of the Landfill,
- north and north-northwest beneath the *central portion* of the Landfill, and
- north beneath the *southern portion* of the Landfill with minor components of flow to the north-northwest and north-northeast.

Table A-2 lists the flow direction for each portion of the regional aquifer beneath the Landfill based on measurements taken during the second quarter of 2020 and mapping of groundwater elevation contours.

Groundwater Parameters

Table A-2 presents a summary of the groundwater parameters. Mean horizontal hydraulic conductivity and effective porosity values were based on the ranges referred to in *Potentiometric Groundwater Surface Mapping and Groundwater Velocity Calculation – Cedar Hills Landfill* (Aspect, 2010). The mean horizontal hydraulic conductivity for the regional aquifer beneath the Landfill is 60 feet per day (ft/d) in the northern and central portions and 0.18 ft/d in the southern portion of the regional aquifer beneath the Landfill (Aspect 2010). Average effective porosities are 24 and 26 percent, respectively for the same areas (Aspect 2010).

The hydraulic gradient is greatest under the southern portion of the Landfill (0.014 ft/ft) and slightly lower under the rest of the Landfill based on measurements made during the second quarter of 2020.

Average horizontal groundwater velocities for the regional aquifer beneath the Landfill, are based on spatial differences in aquifer parameters, hydraulic gradients, and calculations 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]

The mean horizontal groundwater velocities for the regional aquifer beneath the Landfill, are lowest under the southern portion of the Landfill (0.010 ft/d) and much greater under the rest of the Landfill (up to 2.08 ft/d under the central portion).

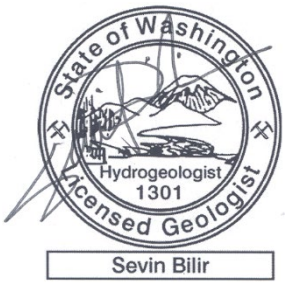
References

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

King County Water and Land Resources Division (WLRD). 2020. 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. February.

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

Sincerely,



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

Enclosures:

Table A-1: Well Details and Groundwater Elevations – Second Quarter 2020

Table A-2: Groundwater Parameters – Second Quarter 2020

Figure A-1: Groundwater Potentiometric Surface Map – Second Quarter 2020 – Regional Aquifer

							April 2, 2020	
	Well Identification	Easting[2] (ft)	Northing[2] (ft)	Top of Casing Elevation (ft MSL[3])	Top of Screen Elevation (ft)	Bottom of Screen Elevation (ft)	Measured Depth to Water[1] (ft)	Groundwater Elevations (ft MSL)
Wells with water levels within 10 ft of the top of screen	MW-60	1701154.47	167873.20	567.15	334.81	325.81	223.44	343.71
	MW-64	1701980.27	168772.19	596.55	334.03	320.23	265.61	330.94
	MW-66	1699750.19	174250.32	531.28	294.39	280.59	238.51	292.77
	MW-67	1701776.69	172610.65	516.43	297.80	284.00	220.41	296.02
	MW-68	1701917.32	170609.35	647.07	311.29	292.29	332.59	314.48
	MW-72	1698229.92	170987.71	671.87	303.63	294.03	361.25	310.62
	MW-73	1698954.95	174995.59	485.70	288.11	278.81	190.73	294.97
	MW-74R	1700386.85	173813.79	531.26	289.90	280.40	239.80	291.46
	MW-76	1700376.23	167193.13	491.71	351.06	341.56	134.05	357.66
	MW-81	1702568.87	172113.99	493.66	309.19	300.19	184.22	309.44
	MW-82	1699553.72	167725.31	474.85	348.88	339.38	120.78	354.07
	MW-83	1697939.89	167212.27	496.81	350.19	340.69	143.24	353.57
	MW-84	1698602.89	173894.54	530.80	292.46	282.96	236.13	294.67
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	MW-86	1701331.25	174917.90	536.04	283.43	274.63	249.08	286.96
	MW-87	1700670.27	173493.76	537.31	283.68	274.38	248.03	289.28
	MW-88	1701807.87	174303.06	513.68	281.52	272.22	226.76	286.92
	MW-93	1702259.35	169851.24	632.15	319.87	310.07	308.63	323.52
	MW-94[4]	1698674.21	167210.22	495.51	357.22	348.52	140.00	355.51
	MW-95	1697265.32	169426.92	571.54	314.60	305.90	251.21	320.33
	MW-100	1700791.72	169610.46	620.32	319.06	309.06	297.73	322.59
	MW-106	1702536.99	173461.69	475.47	280.04	270.04	189.67	285.80
Wells with water levels greater than 10 ft above the top of screen	MW-21	1697901.86	173876.38	420.66	263.22	255.22	125.25	295.41
	MW-22P	1701844.34	173088.17	517.09	236.02	231.22	231.88	285.21
	MW-24	1699582.39	167767.76	475.99	286.76	281.76	144.40	331.59
	MW-43	1701274.23	174327.14	547.06	245.63	235.63	262.88	284.18
	MW-54	1702154.28	168435.53	580.43	250.25	228.25	277.92	302.51
	MW-56	1698980.77	167214.82	480.33	323.15	313.15	124.21	356.12
	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	148.40	330.87
	MW-59	1699983.91	167193.44	457.13	285.08	275.08	121.74	335.39
	MW-65	1701602.10	167146.55	545.83	317.71	308.91	208.30	337.53
	MW-75	1701059.70	173432.42	532.40	271.10	261.00	244.96	287.44
	MW-80	1701309.78	172964.99	530.41	279.17	269.67	238.80	291.61
	MW-89	1701799.57	174319.44	512.82	229.20	219.90	231.30	281.52
	MW-90	1702203.13	174300.67	502.22	235.16	226.16	220.47	281.75
	MW-91	1701023.09	173423.94	532.02	260.81	240.71	246.39	285.63
	MW-99	1702556.06	172098.73	493.64	221.77	212.77	200.22	293.42
	WS-NPW-1	1701906.96	171138.99	646.33	282.80	267.90	333.43	312.90
	WS-NPW-3	1701922.88	170663.28	645.81	285.00	273.90	332.70	313.11
Other	MW-69[5]	1698061.86	172400.20	653.69	293.57	279.97	NM	NA

Notes:

NM Not measured. NA Not applicable.

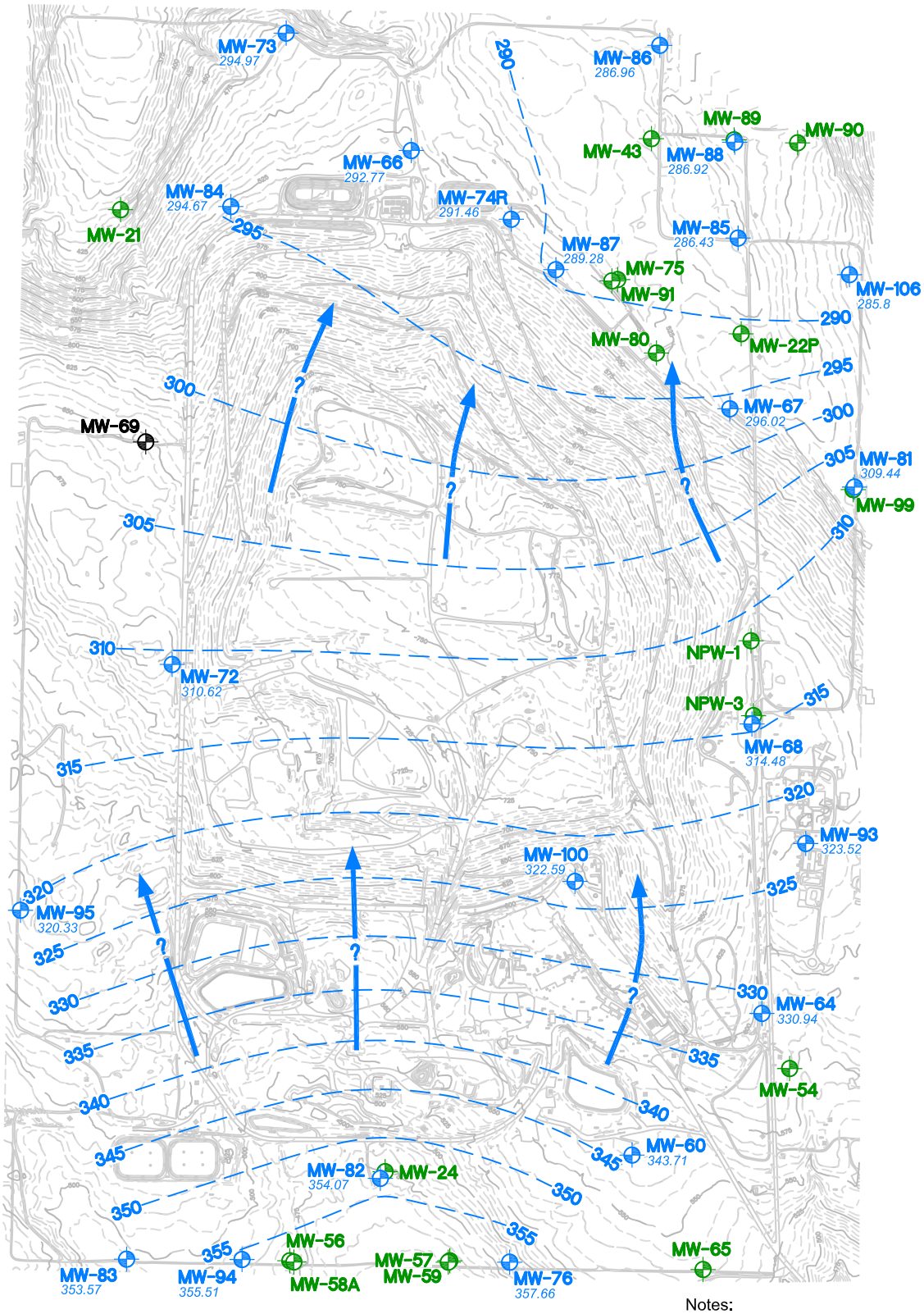
1. Water level measurements made by SWD personnel.
2. Reference datum for northing and easting coordinates is the North American Datum of 1927 (NAD 27)
3. Elevations reported in feet (ft) above mean sea level (MSL) based on the National Geodetic Vertical Datum of 1929 (NGVD 29).
4. Static water level from start of sampling event on May 12, 2020 reported here due to monitoring event water level recorded incorrectly.
5. Damaged well. No access to water level during monitoring event.

Regional Aquifer Zone Beneath the Landfill	Horizontal Hydraulic Conductivity[1,3] (K) Range	(cm/s)	(ft/d)	Horizontal Hydraulic Gradient[2] (DH/DL) (ft/ft)	Effective Porosity[1] (n_{eff})	Horizontal Groundwater Velocity (v) (ft/d)	General Groundwater Flow Direction
Northern	Minimum	2.10E-03	6	0.0075	24%	0.19	NNE, NE
	Maximum	4.20E-02	120			3.74	
	Mean	2.10E-02	60			1.87	
Central	Minimum	2.10E-03	6	0.0083	24%	0.21	N, NNW
	Maximum	4.20E-02	120			4.16	
	Mean	2.10E-02	60			2.08	
Southern	Minimum	6.40E-06	0.018	0.014	26%	0.001	N, NNE, NNW
	Maximum	6.40E-04	1.8			0.097	
	Mean	6.40E-05	0.18			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 A-1.
3. Mean hydraulic conductivity values are the geometric mean of the high and low values.

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.

MW-X — Wells completed in Regional Aquifer - Data not used or no measurement this quarter.

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

? — Inferred Horizontal Groundwater Flow Path

0 1000 2000 *Feet*

Contour Interval 5 Feet

N

Notes:

1. Groundwater measurements made on April 2 and May 12, 2020.
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
Second Quarter 2020 - Regional Aquifer
Cedar Hills Regional Landfill
King County, Washington

DATE: June 2020	PROJECT NO. 1126980
DESIGNED BY: SB	
DRAWN BY: KK	FIGURE NO. A-1
REVISED BY: SB	

CH_2Q2020.dwg

Water and Land Resources Division
Department of Natural Resources and Parks
King Street Center
201 South Jackson Street, Suite 704
Seattle, WA 98104-3855
206-477-4800 Fax 206-296-0192
TTY Relay: 711

TECHNICAL MEMORANDUM

October 27, 2020

TO: Subrina Tahsin, Engineer II, Facility Engineering and Science 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
Third Quarter 2020 Results
Cedar Hills Regional Landfill, King County, Washington
Project No. 1126980 – Task 25.106

The King County Water and Land Resources Division (WLRD) submits this memorandum report on groundwater conditions during the third quarter of 2020 for the regional aquifer beneath the Cedar Hills Regional Landfill (Landfill), in accordance with the *Proposal for Potentiometric Groundwater Surface Maps & Groundwater Velocity Calculations* (WLRD, 2020). King County Solid Waste Division (SWD) personnel measured regional aquifer groundwater levels at the Landfill on July 2, 2020. These measurements were received by WLRD on September 4, 2020 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 2020.

Groundwater Elevation Data

The SWD measured regional aquifer groundwater level measurements at 44 monitoring wells during the third quarter of 2020. These wells are completed in the regional aquifer as referred to in *Potentiometric Groundwater Surface Mapping and Groundwater*

Velocity Calculation – Cedar Hills Landfill (Aspect, 2010) and in *Area 8 Development, Monitoring Well Replacement Report* (HDR, 2020). This recent report by HDR documents new construction of three wells, MW-113, MW-114, and MW-115, in the southern area of the Landfill.

Table A-1 lists the groundwater monitoring well identifications, locations, construction details, measured depth to groundwater levels, and calculated groundwater elevations for monitoring wells screened in the regional aquifer. A total of 26 wells had measured water levels within ten feet of the top of the screened interval and were used for mapping potentiometric surface contours.

Figure A-1 shows calculated groundwater elevations at well locations and interpreted groundwater potentiometric surface contours for the regional aquifer based on measurements taken on July 6, 2020.

Direction of Groundwater Flow

Interpreted groundwater flow directions in the regional aquifer, based on measurements taken on July 2, 2020, are shown in Figure A-1. Calculated groundwater elevations during the third quarter of 2020 indicate that groundwater in the regional aquifer generally flows to the:

- northeast and north-northeast in the *northern portion* of the Landfill,
- north and north-northwest beneath the *central portion* of the Landfill, and
- north beneath the *southern portion* of the Landfill with minor components of flow to the north-northwest and north-northeast.

Table A-2 lists the flow direction for each portion of the regional aquifer beneath the Landfill based on measurements taken on July 6, 2020 and mapping of groundwater elevation contours.

Groundwater Parameters

Table A-2 presents a summary of the groundwater parameters. Mean horizontal hydraulic conductivity and effective porosity values were based on the ranges referred to in *Potentiometric Groundwater Surface Mapping and Groundwater Velocity Calculation – Cedar Hills Landfill* (Aspect, 2010). The mean horizontal hydraulic conductivity for the regional aquifer beneath the Landfill is 60 feet per day (ft/d) in the northern and central portions and 0.18 ft/d in the southern portion of the regional aquifer beneath the Landfill (Aspect 2010). Average effective porosities are 24 and 26 percent, respectively, for the same areas (Aspect 2010).

The hydraulic gradient is greatest under the southern portion of the Landfill (0.010 ft/ft) and slightly lower under the rest of the Landfill based on measurements made during the third quarter of 2020.

Average horizontal groundwater velocities for the regional aquifer beneath the Landfill, are based on spatial differences in aquifer parameters, hydraulic gradients, and calculations 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]

The mean horizontal groundwater velocities for the regional aquifer beneath the Landfill, are lowest under the southern portion of the Landfill (0.007 ft/d) and much greater under the rest of the Landfill (up to 2.33 ft/d under the central portion).

References

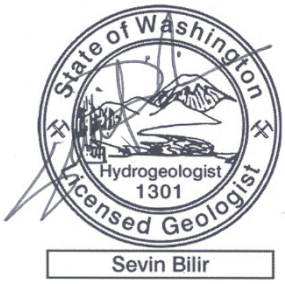
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Thank you for the opportunity to provide hydrogeologic services to SWD. If you have any questions, please feel free to contact me at 206-477-4646 or sevin.bilir@kingcounty.gov.

Sincerely,



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

Enclosures:

Table A-1: Well Details and Groundwater Elevations – Third Quarter 2020

Table A-2: Groundwater Parameters – Third Quarter 2020

Figure A-1: Groundwater Potentiometric Surface Map – Third Quarter 2020 – Regional Aquifer

							July 6, 2020	
	Well Identification	Easting[2] (ft)	Northing[2] (ft)	Top of Casing Elevation (ft MSL[3])	Top of Screen Elevation (ft)	Bottom of Screen Elevation (ft)	Measured Depth to Water[1] (ft)	Groundwater Elevations (ft MSL)
Wells with water levels within 10 ft of the top of screen	MW-60	1701154.47	167873.20	567.15	334.81	325.81	226.14	341.01
	MW-64	1701980.27	168772.19	596.55	334.03	320.23	265.40	331.15
	MW-66	1699750.19	174250.32	531.28	294.39	280.59	238.29	292.99
	MW-67	1701776.69	172610.65	516.43	297.80	284.00	220.19	296.24
	MW-68	1701917.32	170609.35	647.07	311.29	292.29	332.28	314.79
	MW-69	1698061.86	172400.20	653.69	293.57	279.97	355.88	297.81
	MW-72	1698229.92	170987.71	671.87	303.63	294.03	361.00	310.87
	MW-73	1698954.95	174995.59	485.70	288.11	278.81	190.78	294.92
	MW-74R	1700386.85	173813.79	531.26	289.90	280.40	239.60	291.66
	MW-76	1700376.23	167193.13	491.71	351.06	341.56	136.70	355.01
	MW-81	1702568.87	172113.99	493.66	309.19	300.19	183.84	309.82
	MW-82	1699553.72	167725.31	474.85	348.88	339.38	122.64	352.21
	MW-83	1697939.89	167212.27	496.81	350.19	340.69	143.87	352.94
	MW-84	1698602.89	173894.54	530.80	292.46	282.96	235.73	295.07
	MW-85	1701828.95	173694.52	531.76	282.56	273.06	245.53	286.23
	MW-86	1701331.25	174917.90	536.04	283.43	274.63	249.20	286.84
	MW-87	1700670.27	173493.76	537.31	283.68	274.38	247.77	289.54
	MW-88	1701807.87	174303.06	513.68	281.52	272.22	226.76	286.92
	MW-93	1702259.35	169851.24	632.15	319.87	310.07	308.25	323.90
	MW-94	1698674.21	167210.22	495.51	357.22	348.52	141.56	353.95
	MW-95	1697265.32	169426.92	571.54	314.60	305.90	251.44	320.10
	MW-100	1700791.72	169610.46	620.32	319.06	309.06	297.63	322.69
	MW-106	1702536.99	173461.69	475.47	280.04	270.04	189.91	285.56
	MW-113[4]	1698238.80	168478.70	531.09	334.79	325.09	187.69	343.40
	MW-114[4]	1698892.70	167919.80	490.45	353.65	344.05	138.42	352.03
	MW-115[4]	1698960.70	167225.80	484.87	352.87	343.27	130.33	354.54
Wells with water levels greater than 10 ft above the top of screen	MW-21	1697901.86	173876.38	420.66	263.22	255.22	124.85	295.81
	MW-22P	1701844.34	173088.17	517.09	236.02	231.22	231.96	285.13
	MW-24	1699582.39	167767.76	475.99	286.76	281.76	145.00	330.99
	MW-43	1701274.23	174327.14	547.06	245.63	235.63	263.04	284.02
	MW-54	1702154.28	168435.53	580.43	250.25	228.25	278.03	302.40
	MW-56	1698980.77	167214.82	480.33	323.15	313.15	126.41	353.92
	MW-57	1699993.32	167201.99	456.64	326.65	311.65	102.21	354.43
	MW-58A	1699006.59	167207.16	479.27	270.05	260.05	148.84	330.43
	MW-59	1699983.91	167193.44	457.13	285.08	275.08	123.65	333.48
	MW-65	1701602.10	167146.55	545.83	317.71	308.91	208.91	336.92
	MW-75	1701059.70	173432.42	532.40	271.10	261.00	245.16	287.24
	MW-80	1701309.78	172964.99	530.41	279.17	269.67	238.59	291.82
	MW-89	1701799.57	174319.44	512.82	229.20	219.90	231.64	281.18
	MW-90	1702203.13	174300.67	502.22	235.16	226.16	221.24	280.98
	MW-91	1701023.09	173423.94	532.02	260.81	240.71	246.42	285.60
	MW-99	1702556.06	172098.73	493.64	221.77	212.77	200.07	293.57
	WS-NPW-1	1701906.96	171138.99	646.33	282.80	267.90	334.22	312.11
	WS-NPW-3	1701922.88	170663.28	645.81	285.00	273.90	332.43	313.38

Notes:

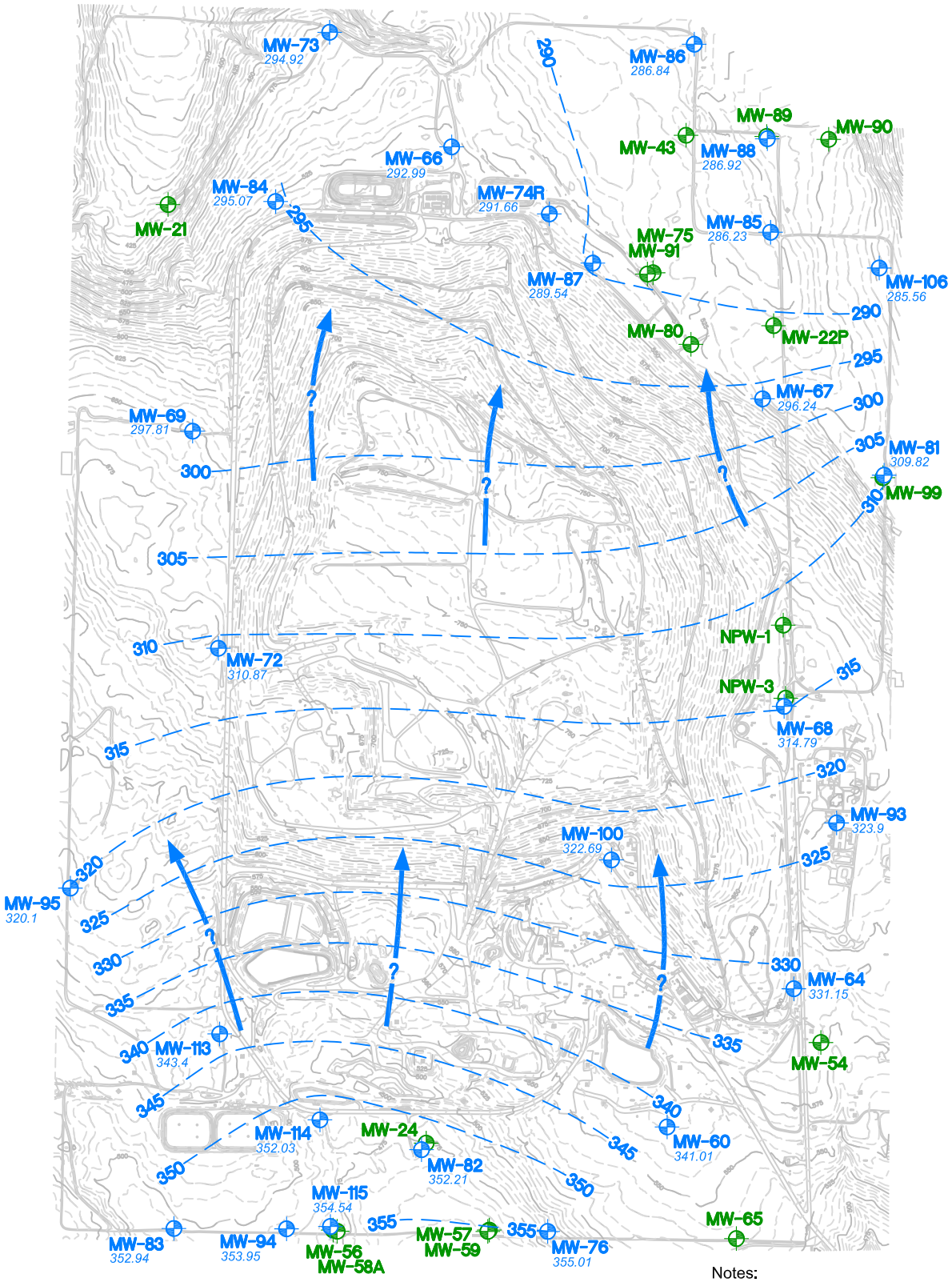
1. Water level measurements made by SWD personnel.
2. Reference datum for northing and easting coordinates is the North American Datum of 1927 (NAD 27)
3. Elevations reported in feet (ft) above mean sea level (MSL) based on the National Geodetic Vertical Datum of 1929 (NGVD 29).
4. Newly constructed wells in 2020 (HDR, 2020)..

Regional Aquifer Zone Beneath the Landfill	Horizontal Hydraulic Conductivity[1,3] (K) Range	(cm/s)	(ft/d)	Horizontal Hydraulic Gradient[2] (DH/DL) (ft/ft)	Effective Porosity[1] (n_{eff})	Horizontal Groundwater Velocity (v) (ft/d)	General Groundwater Flow Direction
Northern	Minimum	2.10E-03	6	0.008	24%	0.20	NNE, NE
	Maximum	4.20E-02	120			4.08	
	Mean	2.10E-02	60			2.04	
Central	Minimum	2.10E-03	6	0.009	24%	0.23	N, NNW
	Maximum	4.20E-02	120			4.66	
	Mean	2.10E-02	60			2.33	
Southern	Minimum	6.40E-06	0.018	0.010	26%	0.001	N, NNE, NNW
	Maximum	6.40E-04	1.8			0.073	
	Mean	6.40E-05	0.18			0.007	

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 A-1.
3. Mean hydraulic conductivity values are the geometric mean of the high and low values.

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*

Contour Interval 5 Feet

N

Notes:

1. Groundwater measurements made on July 6, 2020.
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
Third Quarter 2020 - Regional Aquifer
Cedar Hills Regional Landfill
King County, Washington

DATE: October 2020	PROJECT NO. 1126980
DESIGNED BY: SB	
DRAWN BY: KK	FIGURE NO. A-1
REVISED BY: SB	

CH_3Q2020.dwg

King County

Water and Land Resources Division
Department of Natural Resources and Parks
King Street Center
201 South Jackson Street, Suite 5600
Seattle, WA 98104-3855
206-477-4800 Fax 206-296-0192
TTY Relay: 711

TECHNICAL MEMORANDUM

January 26, 2021

TO: Subrina Tahsin, Engineer II, Facility Engineering and Science 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
Fourth Quarter 2020 Results
Cedar Hills Regional Landfill, King County, Washington
Project No. 1126980 – Task 25.106

The King County Water and Land Resources Division (WLRD) submits this memorandum report on groundwater conditions during the fourth quarter of 2020 for the regional aquifer beneath the Cedar Hills Regional Landfill (Landfill), in accordance with the *Proposal for Potentiometric Groundwater Surface Maps & Groundwater Velocity Calculations* (WLRD, 2020). King County Solid Waste Division (SWD) personnel measured regional aquifer groundwater levels at the Landfill on October 1, 2020. These measurements were received by WLRD on December 3, 2020 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 2020.

Groundwater Elevation Data

The SWD measured regional aquifer groundwater level measurements at 43 monitoring wells during the fourth quarter of 2020. These wells are completed in the regional aquifer as referred to in *Potentiometric Groundwater Surface Mapping and Groundwater*

Velocity Calculation – Cedar Hills Landfill (Aspect, 2010) and in *Area 8 Development, Monitoring Well Replacement Report* (HDR, 2020).

Table A-1 lists the groundwater monitoring well identifications, locations, construction details, measured depth to groundwater levels, and calculated groundwater elevations for monitoring wells screened in the regional aquifer. A total of 26 wells had measured water levels within ten feet of the top of the screened interval and were used for mapping potentiometric surface contours.

Figure A-1 shows calculated groundwater elevations at well locations and interpreted groundwater potentiometric surface contours for the regional aquifer based on measurements taken on October 1, 2020.

Direction of Groundwater Flow

Interpreted groundwater flow directions in the regional aquifer, based on measurements taken on October 1, 2020, are shown in Figure A-1. Calculated groundwater elevations during the fourth quarter of 2020 indicate that groundwater in the regional aquifer generally flows to the:

- northeast and north-northeast in the *northern portion* of the Landfill,
- north and north-northwest beneath the *central portion* of the Landfill, and
- north beneath the *southern portion* of the Landfill with minor components of flow to the north-northwest and north-northeast.

Table A-2 lists the flow direction for each portion of the regional aquifer beneath the Landfill based on measurements taken on October 1, 2020 and mapping of groundwater elevation contours.

Groundwater Parameters

Table A-2 presents a summary of the groundwater parameters. Mean horizontal hydraulic conductivity and effective porosity values were based on the ranges referred to in *Potentiometric Groundwater Surface Mapping and Groundwater Velocity Calculation – Cedar Hills Landfill* (Aspect, 2010). The mean horizontal hydraulic conductivity for the regional aquifer beneath the Landfill is 60 feet per day (ft/d) in the northern and central portions and 0.18 ft/d in the southern portion of the regional aquifer beneath the Landfill (Aspect 2010). Average effective porosities are 24 and 26 percent, respectively, for the same areas (Aspect 2010).

The hydraulic gradient is greatest under the southern portion of the Landfill (0.010 ft/ft) and slightly lower under the rest of the Landfill based on measurements made during the fourth quarter of 2020.

Average horizontal groundwater velocities for the regional aquifer beneath the Landfill, are based on spatial differences in aquifer parameters, hydraulic gradients, and calculations 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]

The mean horizontal groundwater velocities for the regional aquifer beneath the Landfill, are lowest under the southern portion of the Landfill (0.007 ft/d) and much greater under the rest of the Landfill (up to 2.24 ft/d under the central portion).

References

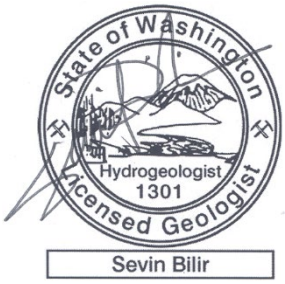
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Sincerely,



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

Enclosures:

Table A-1: Well Details and Groundwater Elevations – Fourth Quarter 2020

Table A-2: Groundwater Parameters – Fourth Quarter 2020

Figure A-1: Groundwater Potentiometric Surface Map – Fourth Quarter 2020 – Regional Aquifer

Table A-1: Well Details and Groundwater Elevations – Fourth Quarter 2020

Cedar Hills Regional Landfill
King County, Washington

							October 1, 2020	
	Well Identification	Easting[2] (ft)	Northing[2] (ft)	Top of Casing Elevation (ft MSL[3])	Top of Screen Elevation (ft)	Bottom of Screen Elevation (ft)	Measured Depth to Water[1] (ft)	Groundwater Elevations (ft MSL)
Wells with water levels within 10 ft of the top of screen	MW-60	1701154.47	167873.20	567.15	334.81	325.81	228.20	338.95
	MW-64	1701980.27	168772.19	596.55	334.03	320.23	265.86	330.69
	MW-66	1699750.19	174250.32	531.28	294.39	280.59	238.89	292.39
	MW-67	1701776.69	172610.65	516.43	297.80	284.00	220.72	295.71
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	MW-74R	1700386.85	173813.79	531.26	289.90	280.40	240.06	291.20
	MW-76	1700376.23	167193.13	491.71	351.06	341.56	140.70	351.01
	MW-80	1701309.78	172964.99	530.41	279.17	269.67	239.20	291.21
	MW-81	1702568.87	172113.99	493.66	309.19	300.19	184.13	309.53
	MW-82	1699553.72	167725.31	474.85	348.88	339.38	124.88	349.97
	MW-83	1697939.89	167212.27	496.81	350.19	340.69	144.98	351.83
	MW-84	1698602.89	173894.54	530.80	292.46	282.96	236.17	294.63
	MW-85	1701828.95	173694.52	531.76	282.56	273.06	246.37	285.39
	MW-86	1701331.25	174917.90	536.04	283.43	274.63	249.82	286.22
	MW-87	1700670.27	173493.76	537.31	283.68	274.38	248.44	288.87
	MW-88	1701807.87	174303.06	513.68	281.52	272.22	227.34	286.34
	MW-93	1702259.35	169851.24	632.15	319.87	310.07	308.63	323.52
	MW-94	1698674.21	167210.22	495.51	357.22	348.52	143.42	352.09
	MW-95	1697265.32	169426.92	571.54	314.60	305.90	251.27	320.27
	MW-100	1700791.72	169610.46	620.32	319.06	309.06	297.92	322.40
	MW-106	1702536.99	173461.69	475.47	280.04	270.04	190.66	284.81
	MW-113	1698238.80	168478.70	531.09	334.79	325.09	188.28	342.81
	MW-114	1698892.70	167919.80	490.45	353.65	344.05	140.02	350.43
	MW-115	1698960.70	167225.80	484.87	352.87	343.27	132.44	352.43
Wells with water levels greater than 10 ft above the top of screen	MW-75	1701059.70	173432.42	532.40	271.10	261.00	245.73	286.67
	MW-65	1701602.10	167146.55	545.83	317.71	308.91	210.27	335.56
	MW-91	1701023.09	173423.94	532.02	260.81	240.71	247.02	285.00
	MW-57	1699993.32	167201.99	456.64	326.65	311.65	105.35	351.29
	MW-56	1698980.77	167214.82	480.33	323.15	313.15	128.47	351.86
	WS-NPW-3	1701922.88	170663.28	645.81	285.00	273.90	331.29	314.52
	WS-NPW-1	1701906.96	171138.99	646.33	282.80	267.90	333.05	313.28
	MW-21	1697901.86	173876.38	420.66	263.22	255.22	125.21	295.45
	MW-43	1701274.23	174327.14	547.06	245.63	235.63	263.86	283.20
	MW-24	1699582.39	167767.76	475.99	286.76	281.76	145.99	330.00
	MW-90	1702203.13	174300.67	502.22	235.16	226.16	221.96	280.26
	MW-59	1699983.91	167193.44	457.13	285.08	275.08	125.02	332.11
	MW-22P	1701844.34	173088.17	517.09	236.02	231.22	232.69	284.40
	MW-89	1701799.57	174319.44	512.82	229.20	219.90	232.46	280.36
	MW-54	1702154.28	168435.53	580.43	250.25	228.25	278.81	301.62
	MW-58A	1699006.59	167207.16	479.27	270.05	260.05	150.01	329.26
	MW-99	1702556.06	172098.73	493.64	221.77	212.77	200.62	293.02
Other	MW-69	1698061.86	172400.20	653.69	293.57	279.97	NM	NA

Notes:

1. Water level measurements made by SWD personnel.
2. Reference datum for northing and easting coordinates is the North American Datum of 1927 (NAD 27).
3. Elevations reported in feet (ft) above mean sea level (MSL) based on the National Geodetic Vertical Datum of 1929 (NGVD 29).

NM Not measured due to damaged well. Cannot access water level.
NA Not Applicable

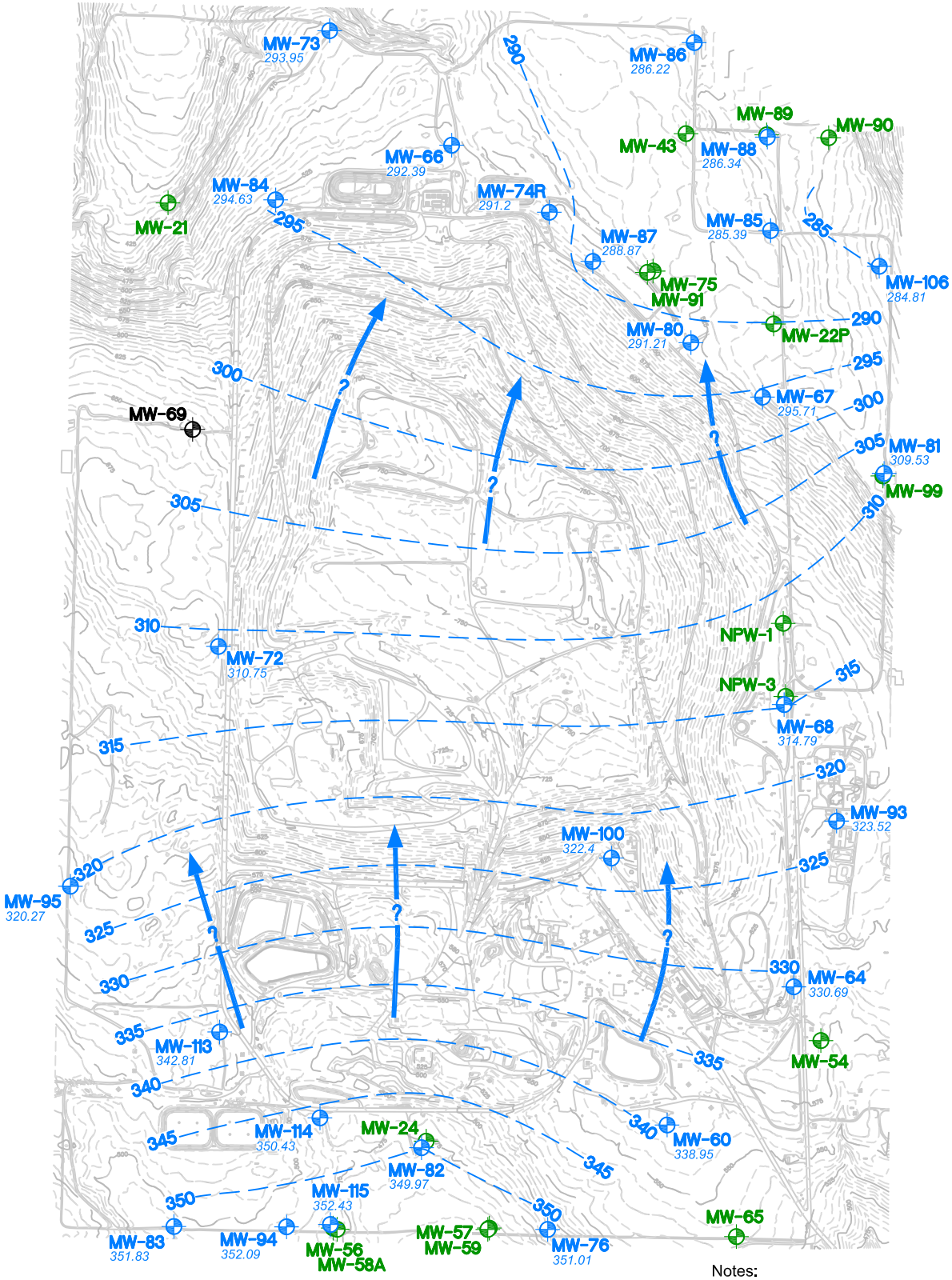
Table A-2: Groundwater Parameters – Fourth Quarter 2020
Cedar Hills Regional Landfill
King County, Washington

Regional Aquifer Zone Beneath the Landfill	Horizontal Hydraulic Conductivity[1,3] (K) Range	(cm/s)	(ft/d)	Horizontal Hydraulic Gradient[2] (DH/DL) (ft/ft)	Effective Porosity[1] (n_{eff})	Horizontal Groundwater Velocity (v) (ft/d)	General Groundwater Flow Direction
Northern	Minimum	2.10E-03	6	0.008	24%	0.19	NNE, NE
	Maximum	4.20E-02	120			3.83	
	Mean	2.10E-02	60			1.91	
Central	Minimum	2.10E-03	6	0.009	24%	0.22	N, NNW
	Maximum	4.20E-02	120			4.48	
	Mean	2.10E-02	60			2.24	
Southern	Minimum	6.40E-06	0.018	0.010	26%	0.001	N, NNE, NNW
	Maximum	6.40E-04	1.8			0.069	
	Mean	6.40E-05	0.18			0.007	

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 A-1.
3. Mean hydraulic conductivity values are the geometric mean of the high and low values.

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.

MW-X — Wells completed in Regional Aquifer - Data not used or no measurement this quarter.

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

? — Inferred Horizontal Groundwater Flow Path

0 1000 2000 Feet

N

Contour Interval 5 Feet

Notes:

1. Groundwater measurements made on October 1, 2020.
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 2020 - Regional Aquifer
Cedar Hills Regional Landfill
King County, Washington

DATE: December 2020	PROJECT NO. 1126980
DESIGNED BY: SB	
DRAWN BY: KK	FIGURE NO. A-1
REVISED BY: SB	

CEDAR HILLS REGIONAL LANDFILL
ANNUAL REPORT
ATTACHMENT F

CH_4Q2020.dwg

PART 5

Time-Concentration Plots
Monitoring Well Hydrographs

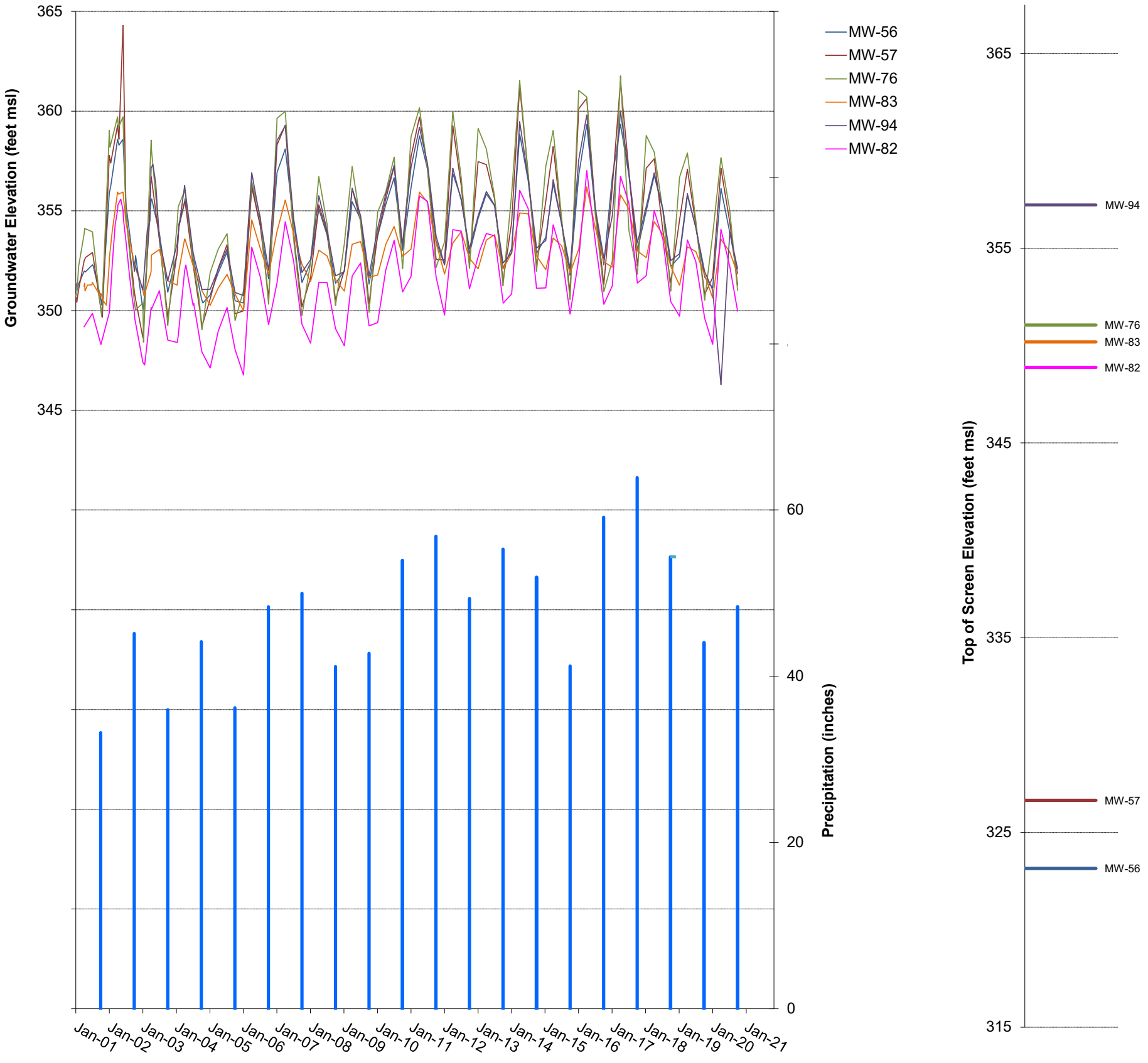
Regional Aquifer
- **Long Term**
- **Short Term**

North and West Perched Wells

East Main Hill Perched Zone

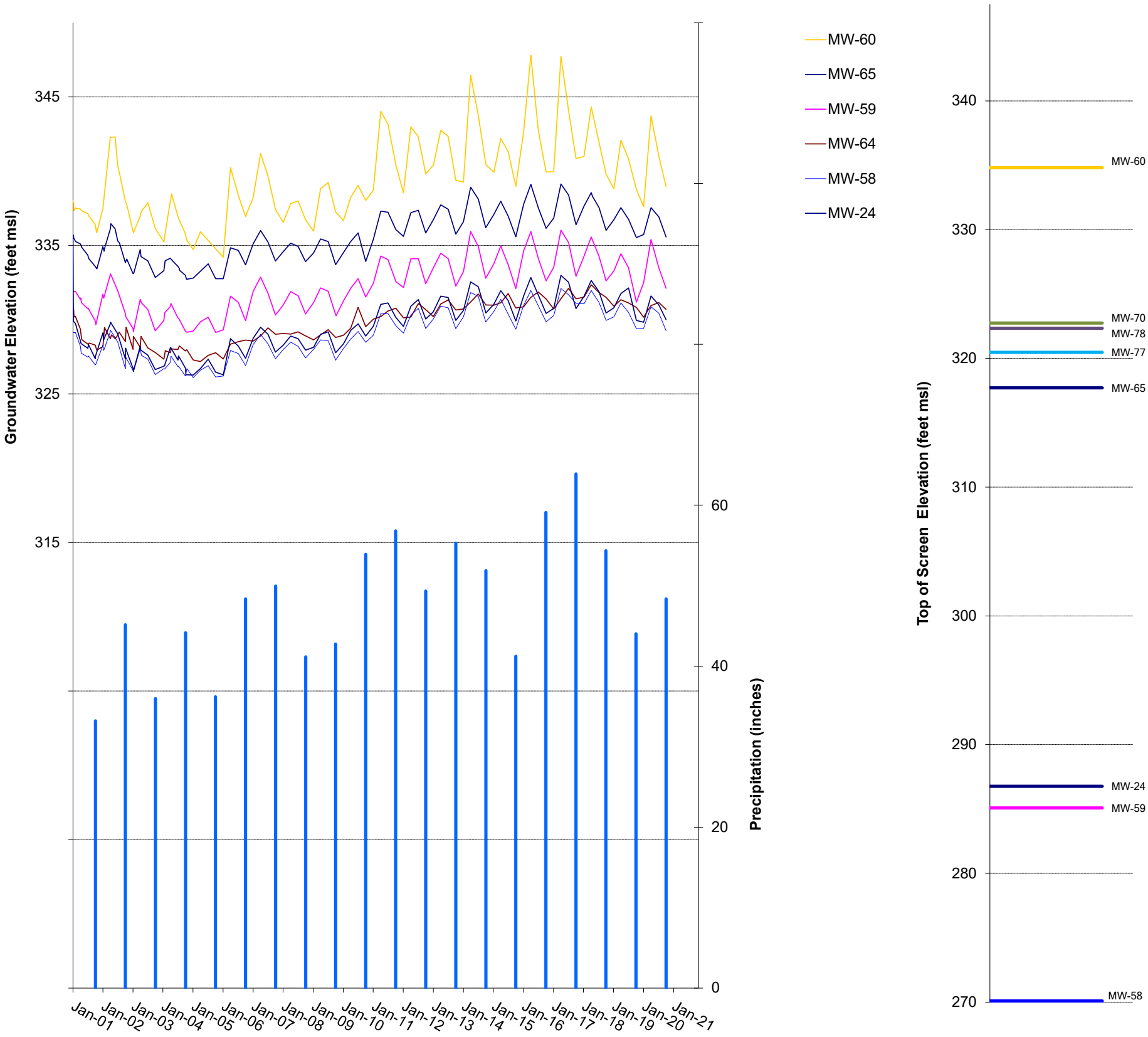
South Solid Waste Area Perched Wells
- **Long Term**
- **Short Term**

REGIONAL AQUIFER GROUNDWATER ELEVATIONS
POTENTIOMETRIC SURFACE 345-365 FT. MSL

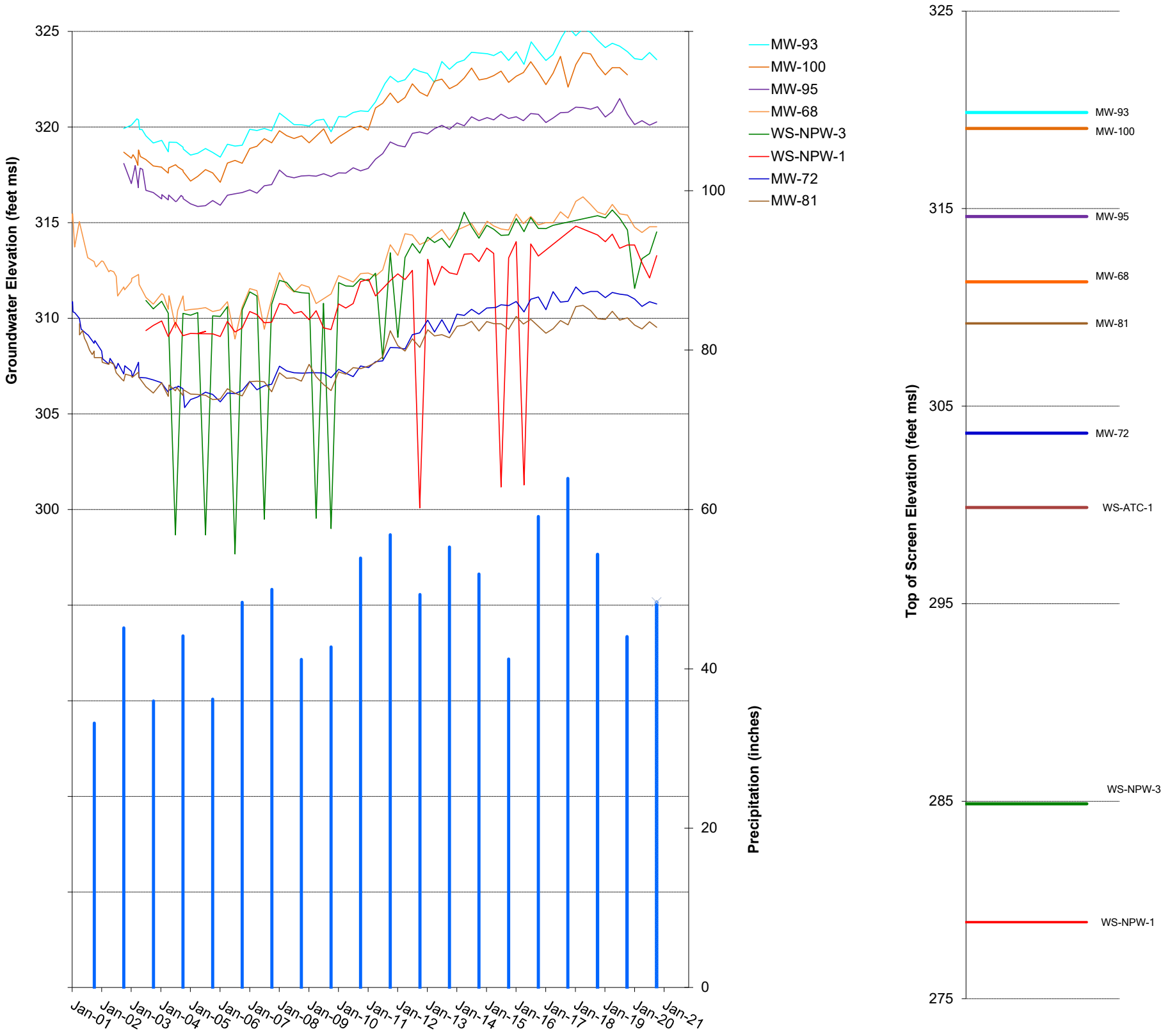


REGIONAL AQUIFER GROUNDWATER ELEVATIONS

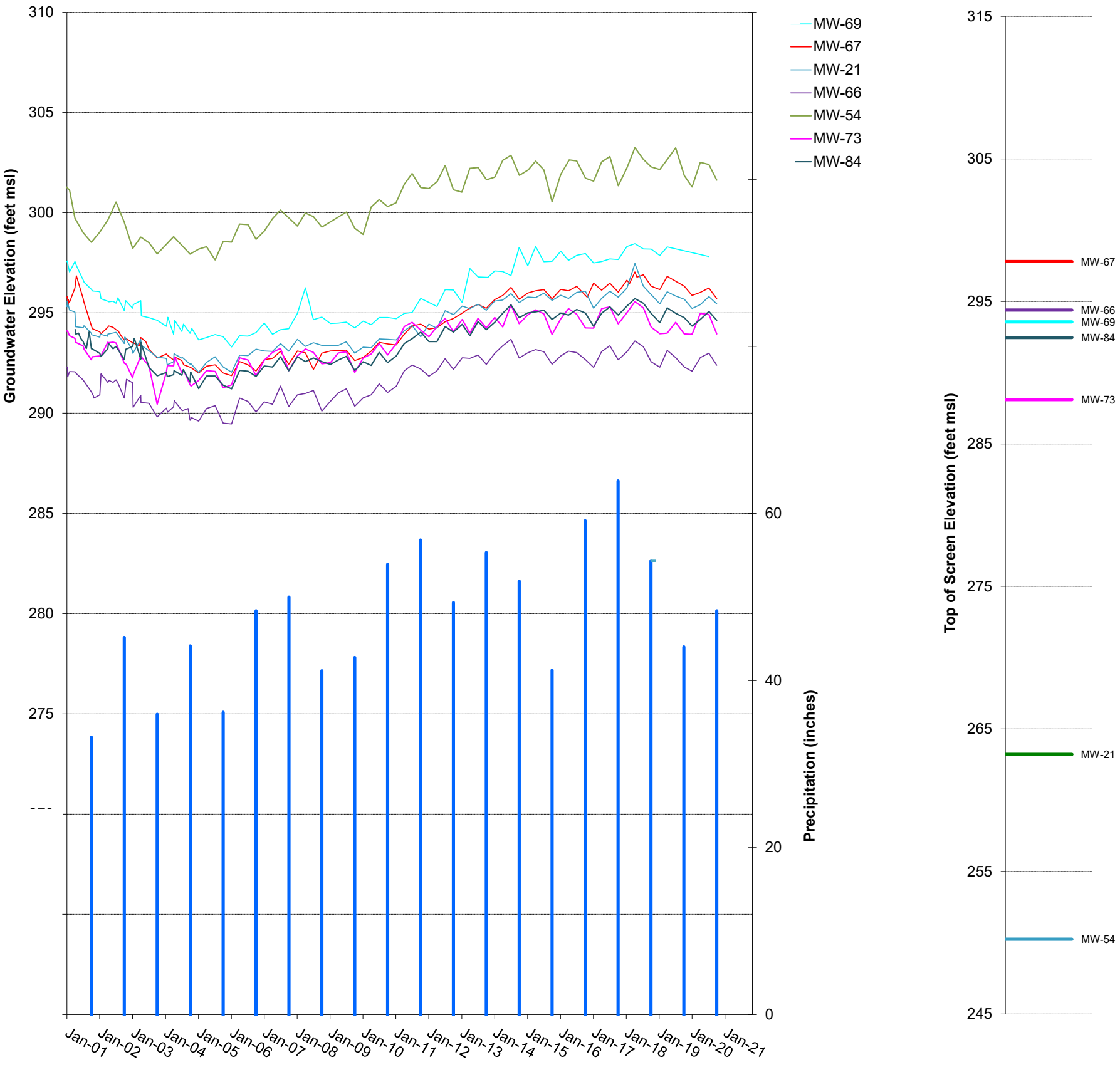
POTENTIOMETRIC SURFACE 320-345 FT. MSL



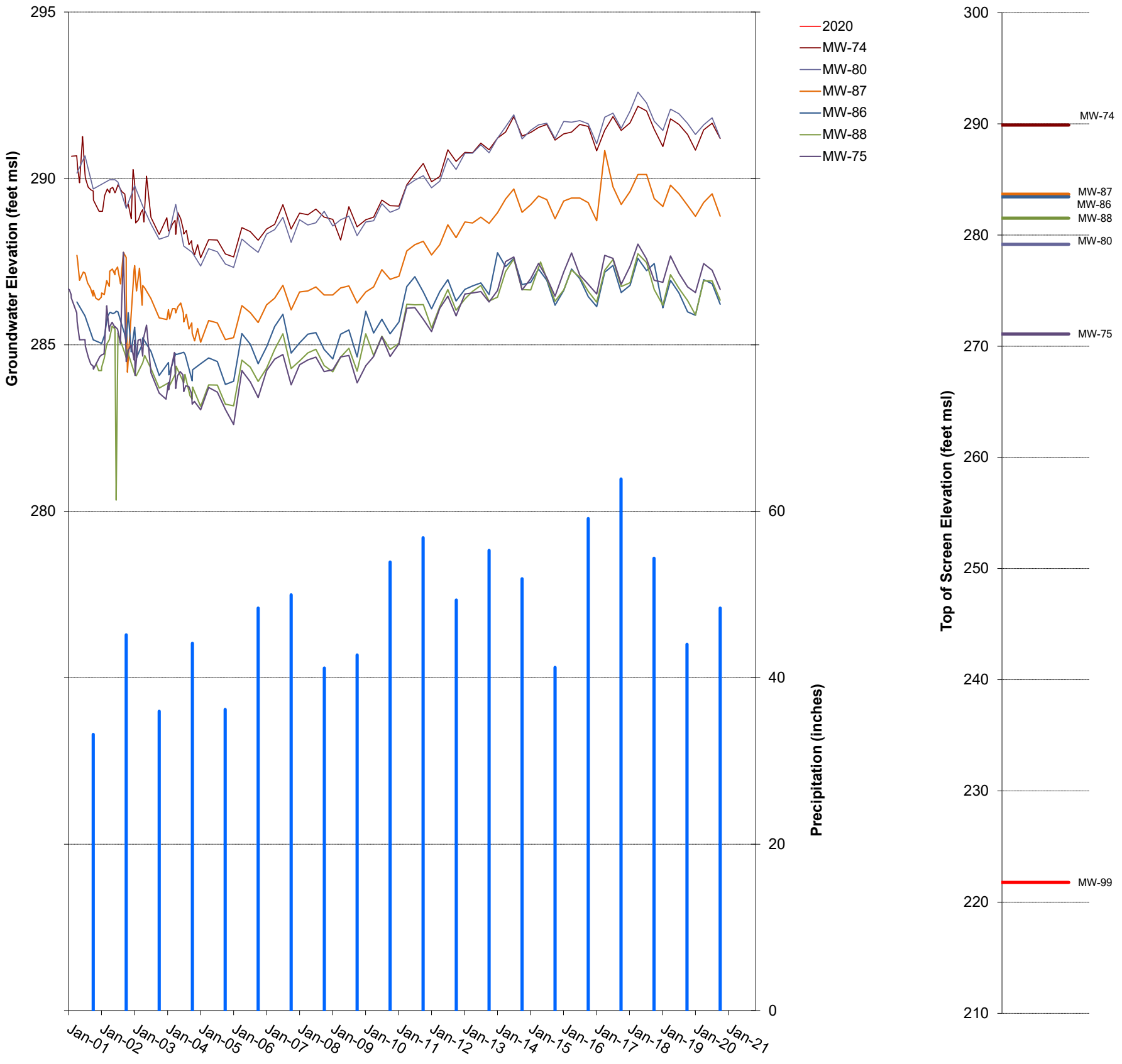
REGIONAL AQUIFER GROUNDWATER ELEVATIONS
POTENTIOMETRIC SURFACE 305-325 FT. MSL



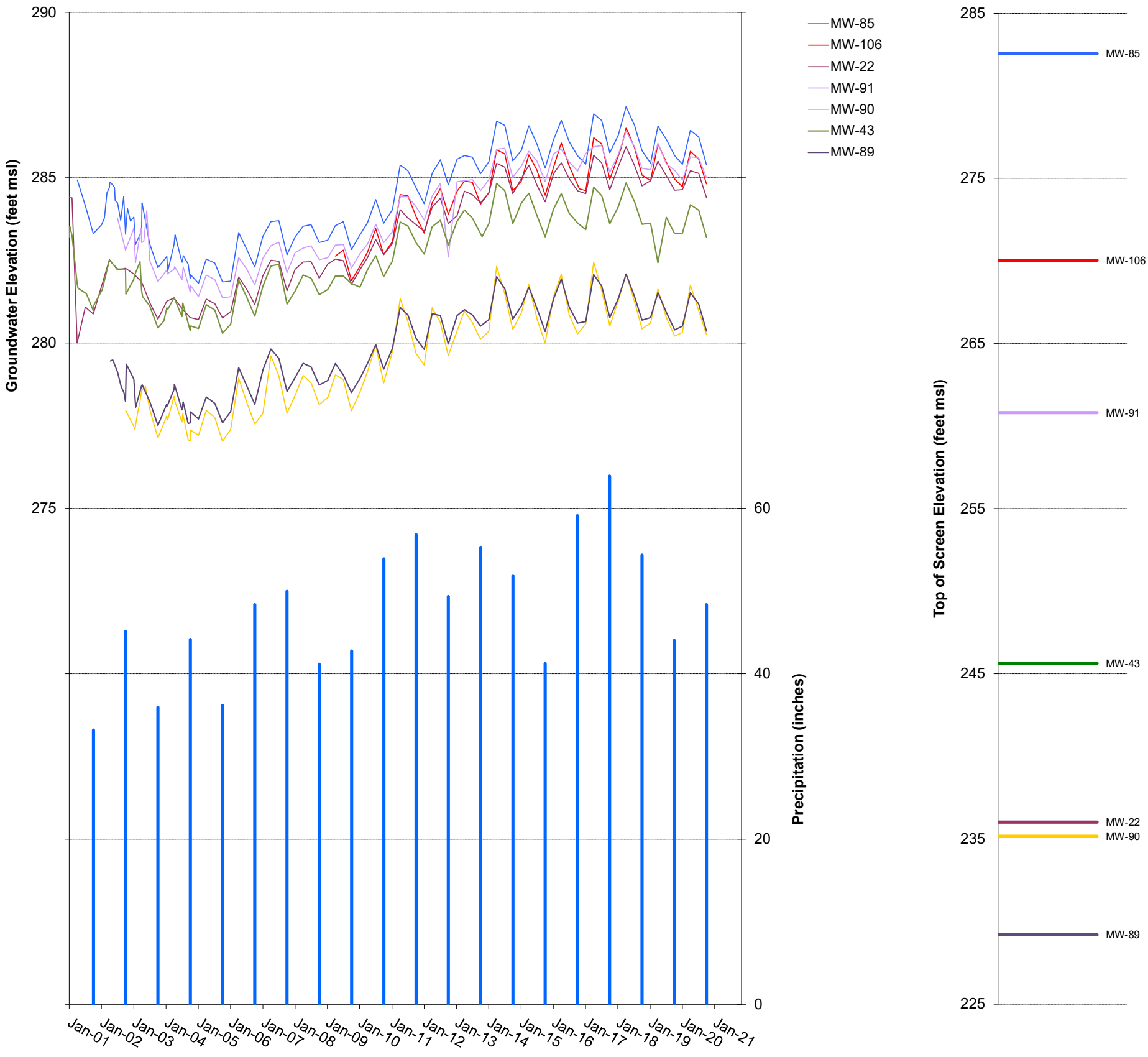
REGIONAL AQUIFER GROUNDWATER ELEVATIONS
POTENTIOMETRIC SURFACE 290-305 FT. MSL



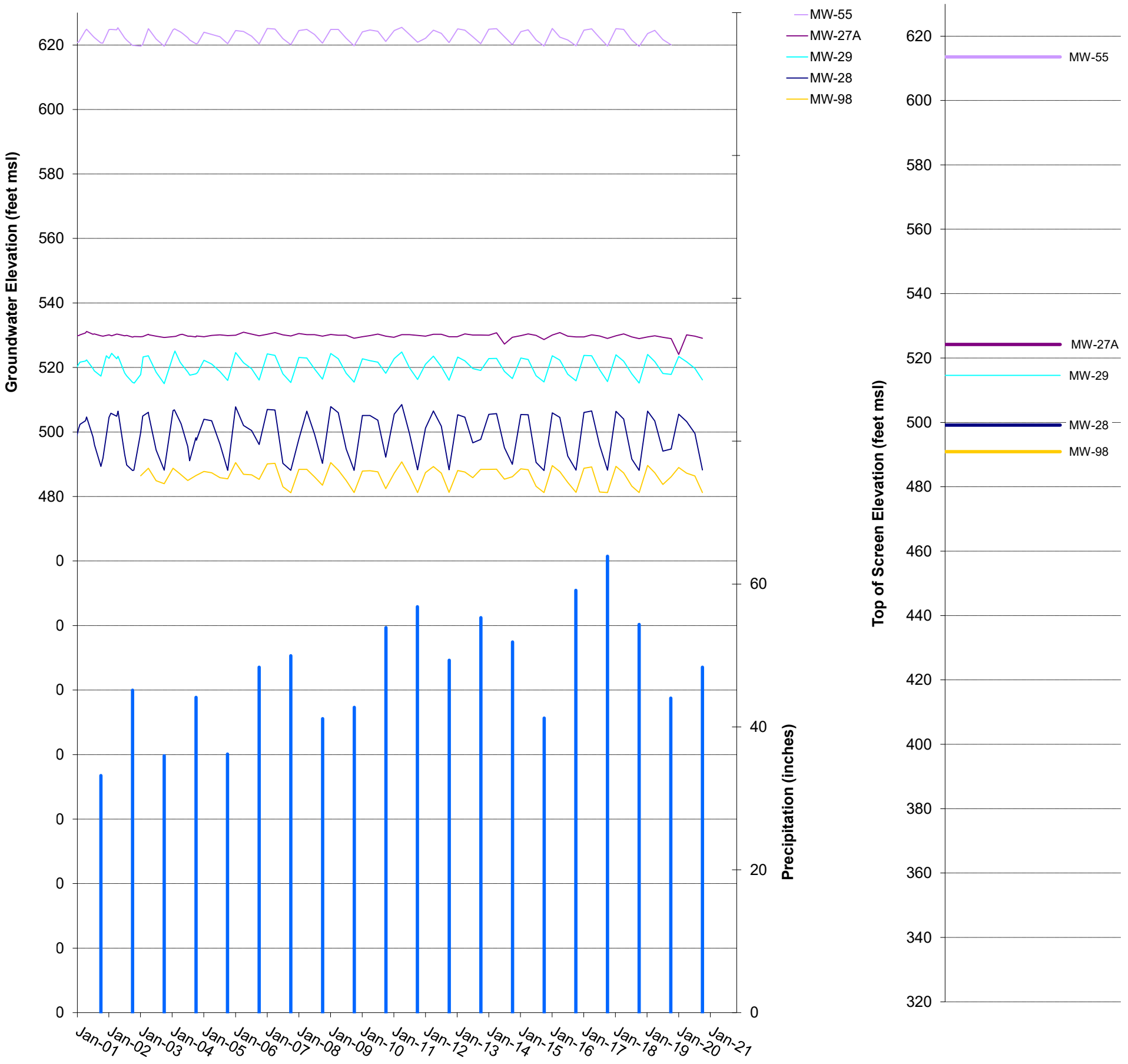
REGIONAL AQUIFER GROUNDWATER ELEVATIONS
POTENTIOMETRIC SURFACE 285-295 FT. MSL



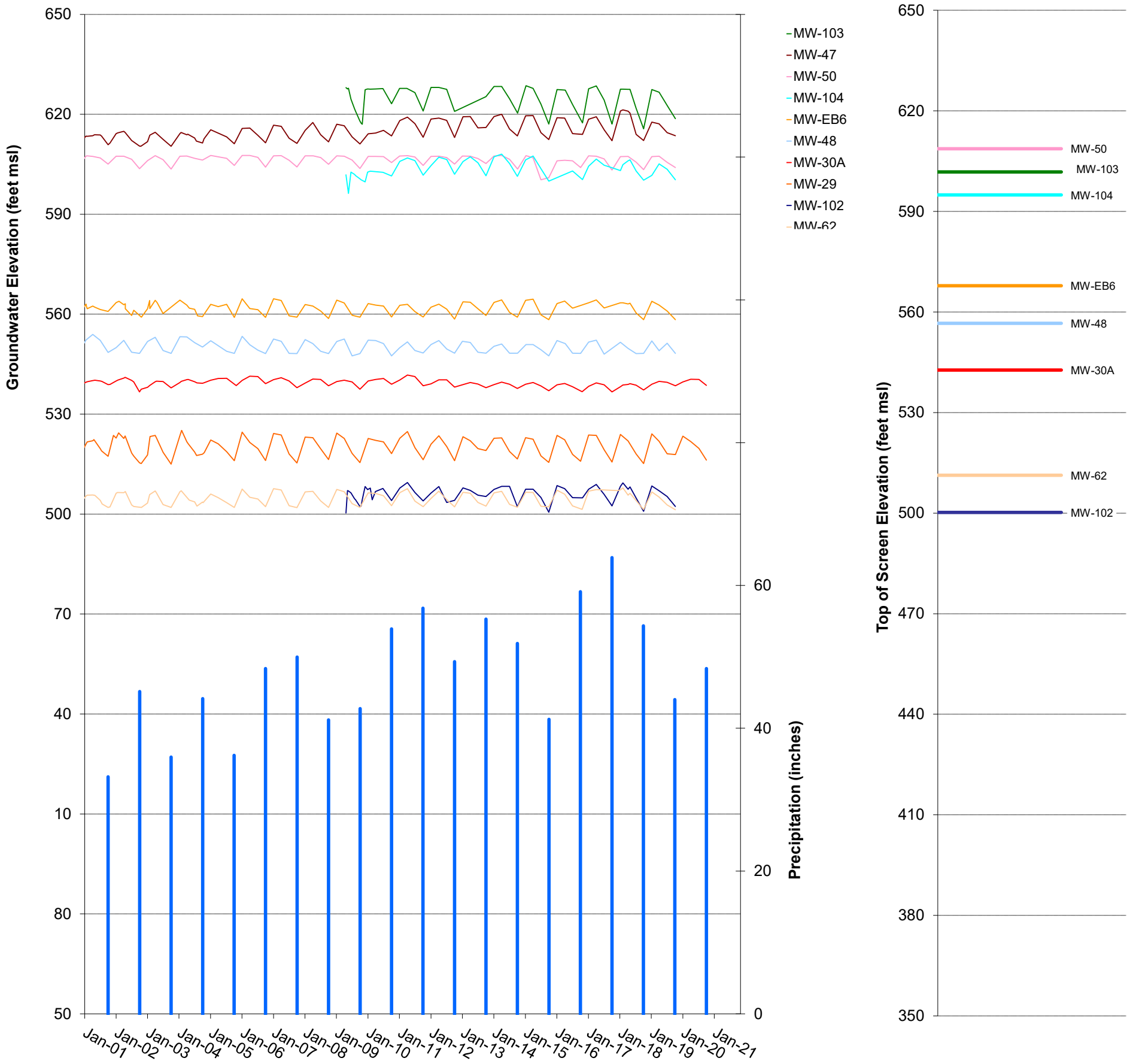
REGIONAL AQUIFER GROUNDWATER ELEVATIONS
POTENTIOMETRIC SURFACE 275-285 FT. MSL



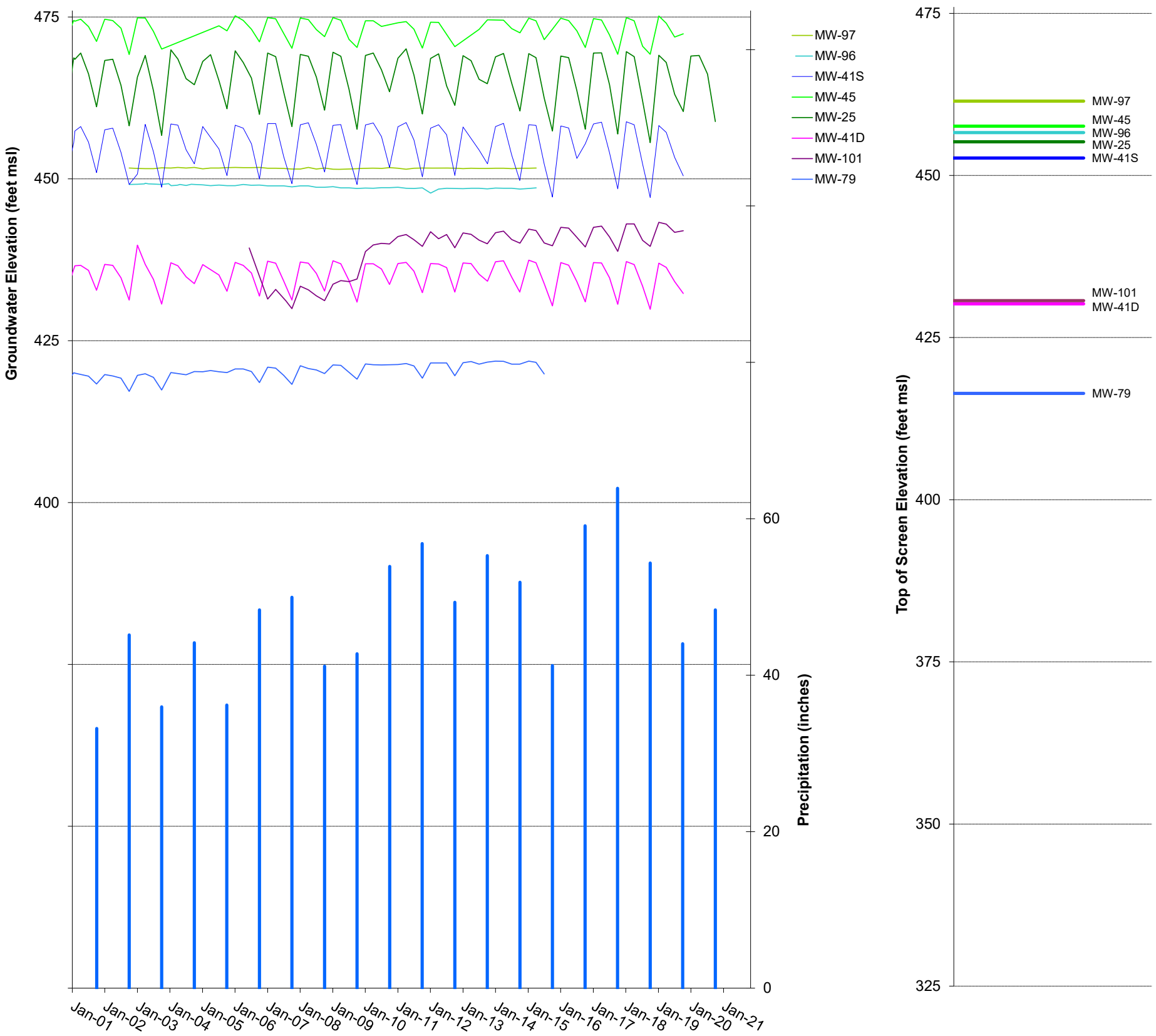
PERCHED ZONES GROUNDWATER ELEVATIONS
NORTH AND WEST WELLS

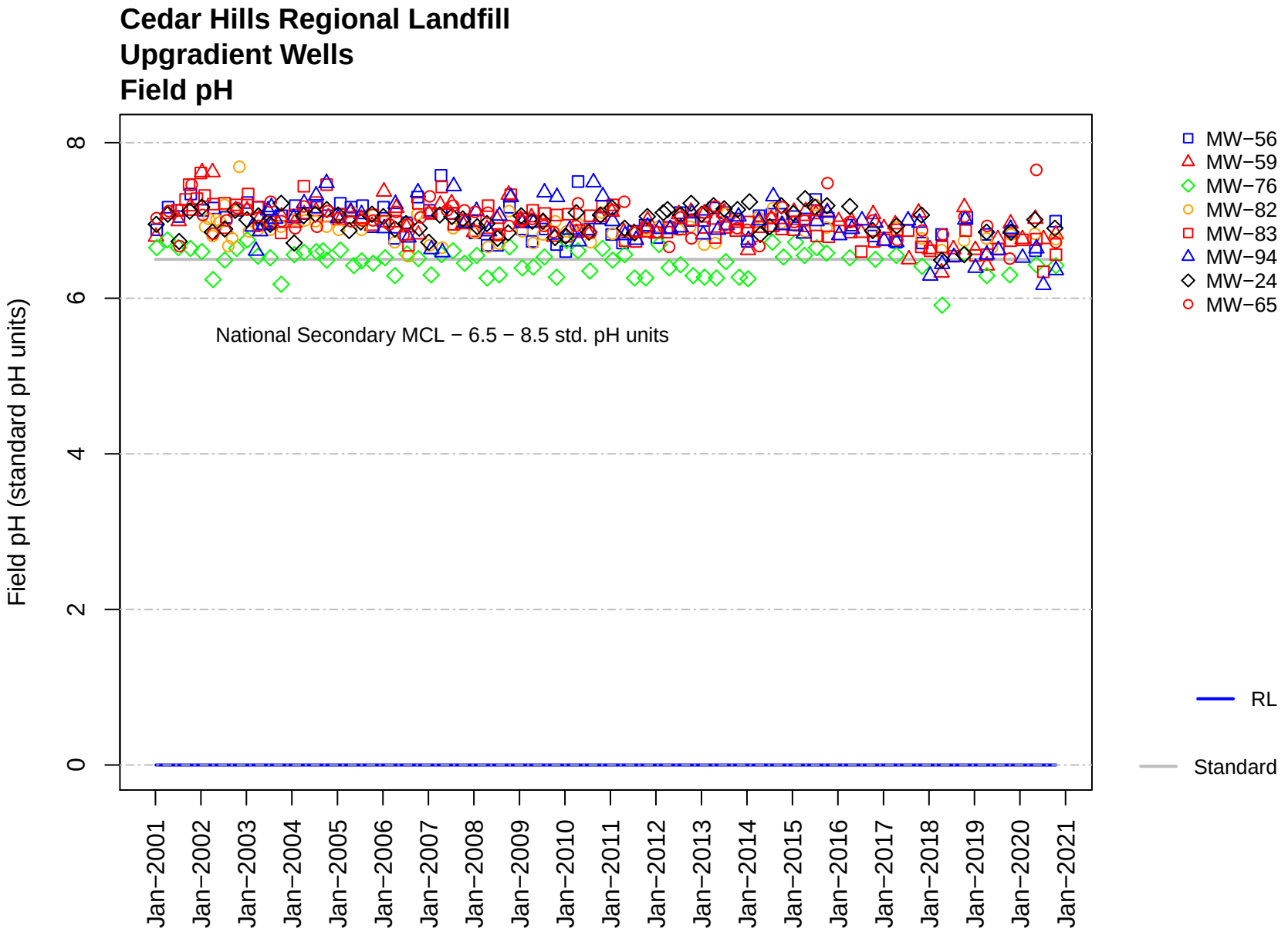


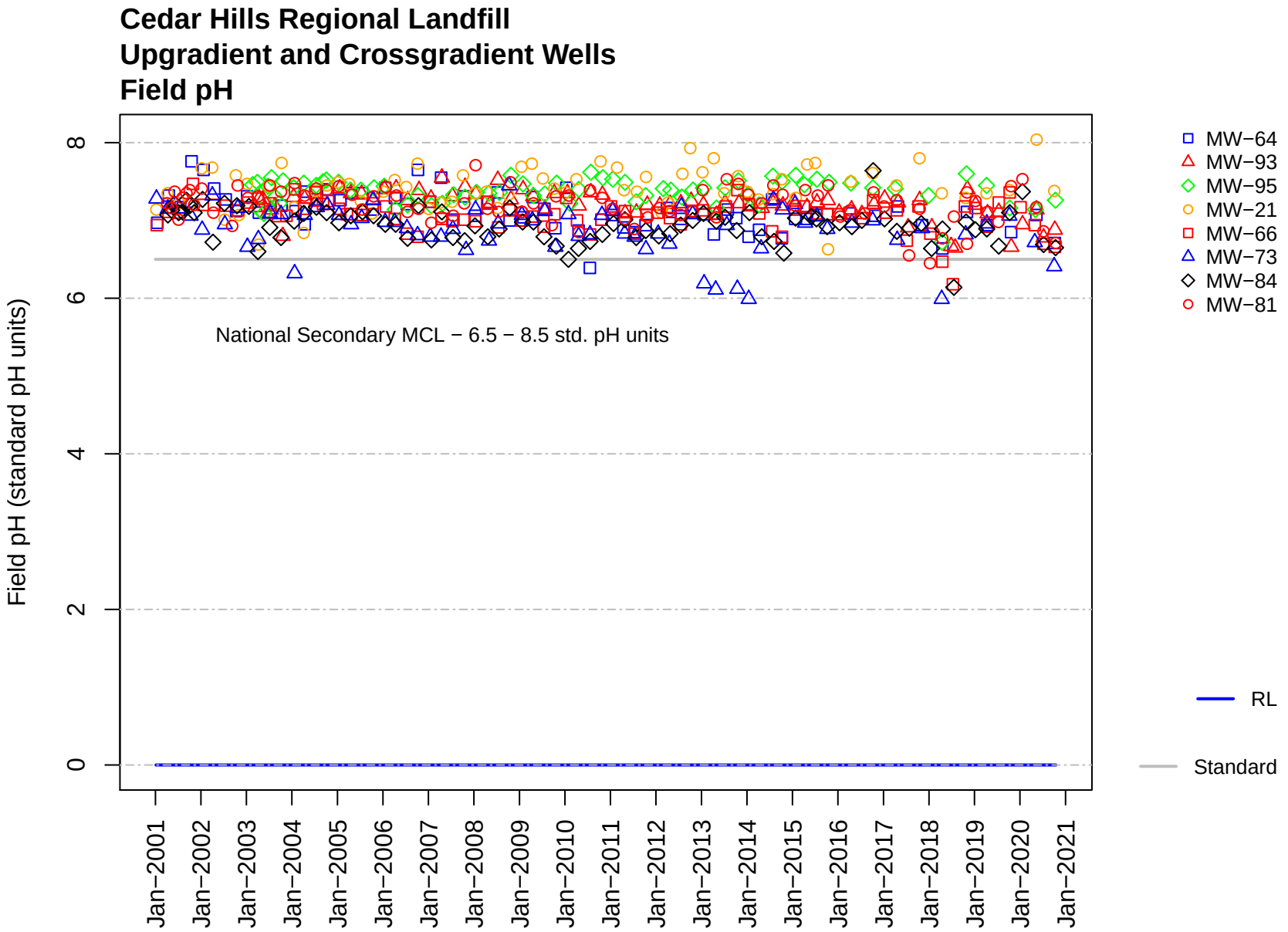
PERCHED ZONES GROUNDWATER ELEVATIONS
EAST MAIN HILL

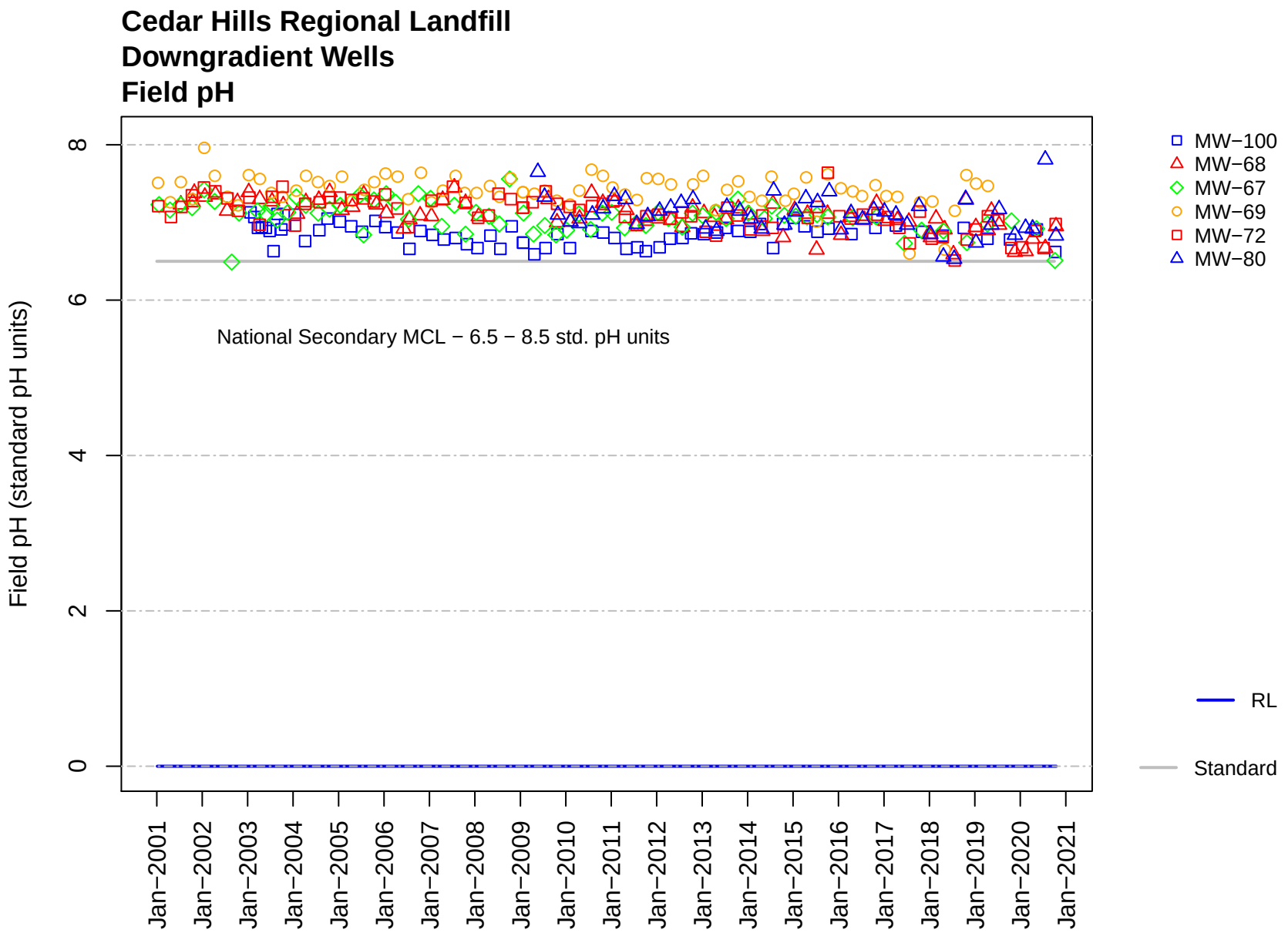


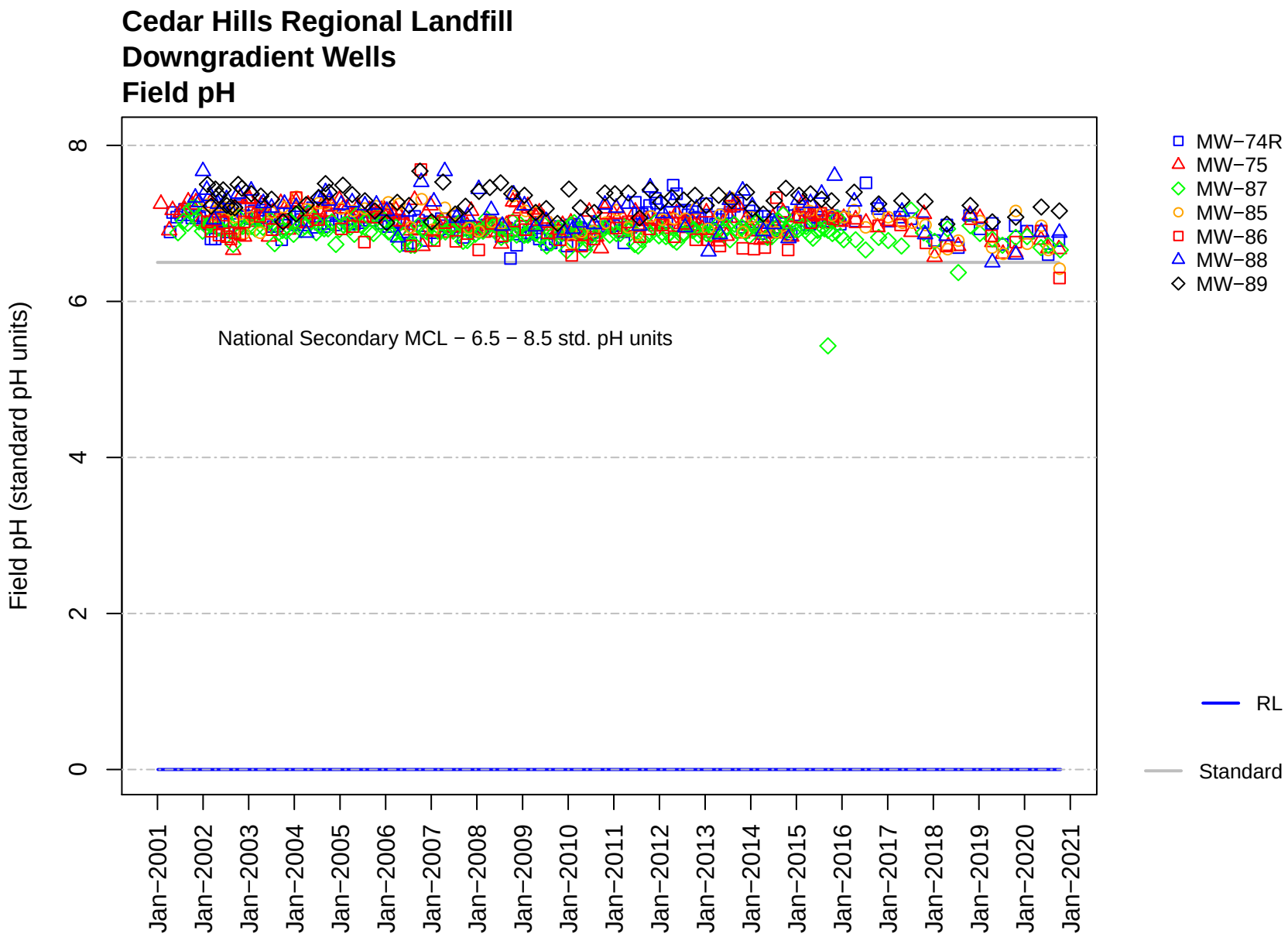
PERCHED ZONES GROUNDWATER ELEVATIONS
SOUTH SOLID WASTE AREA

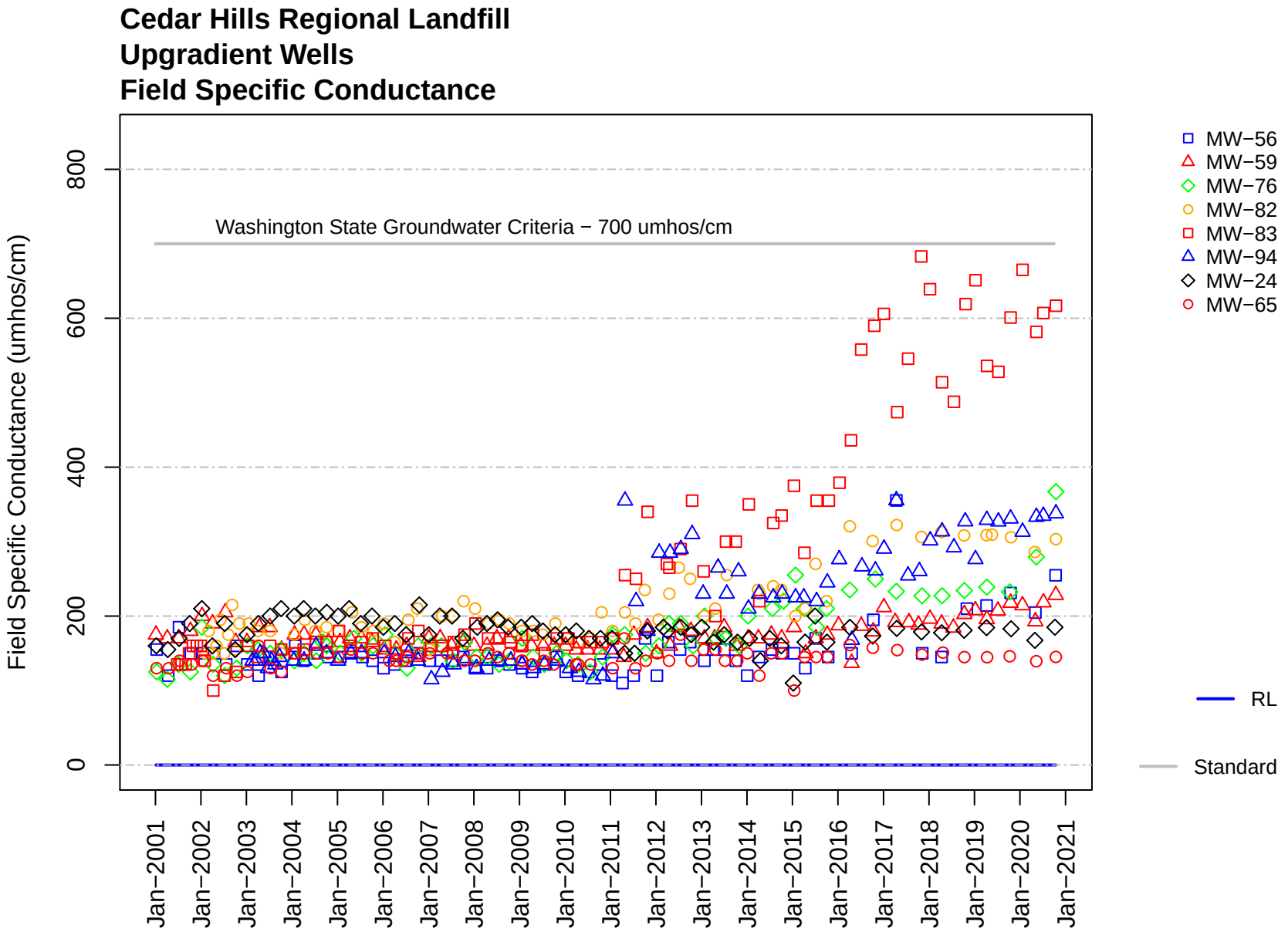


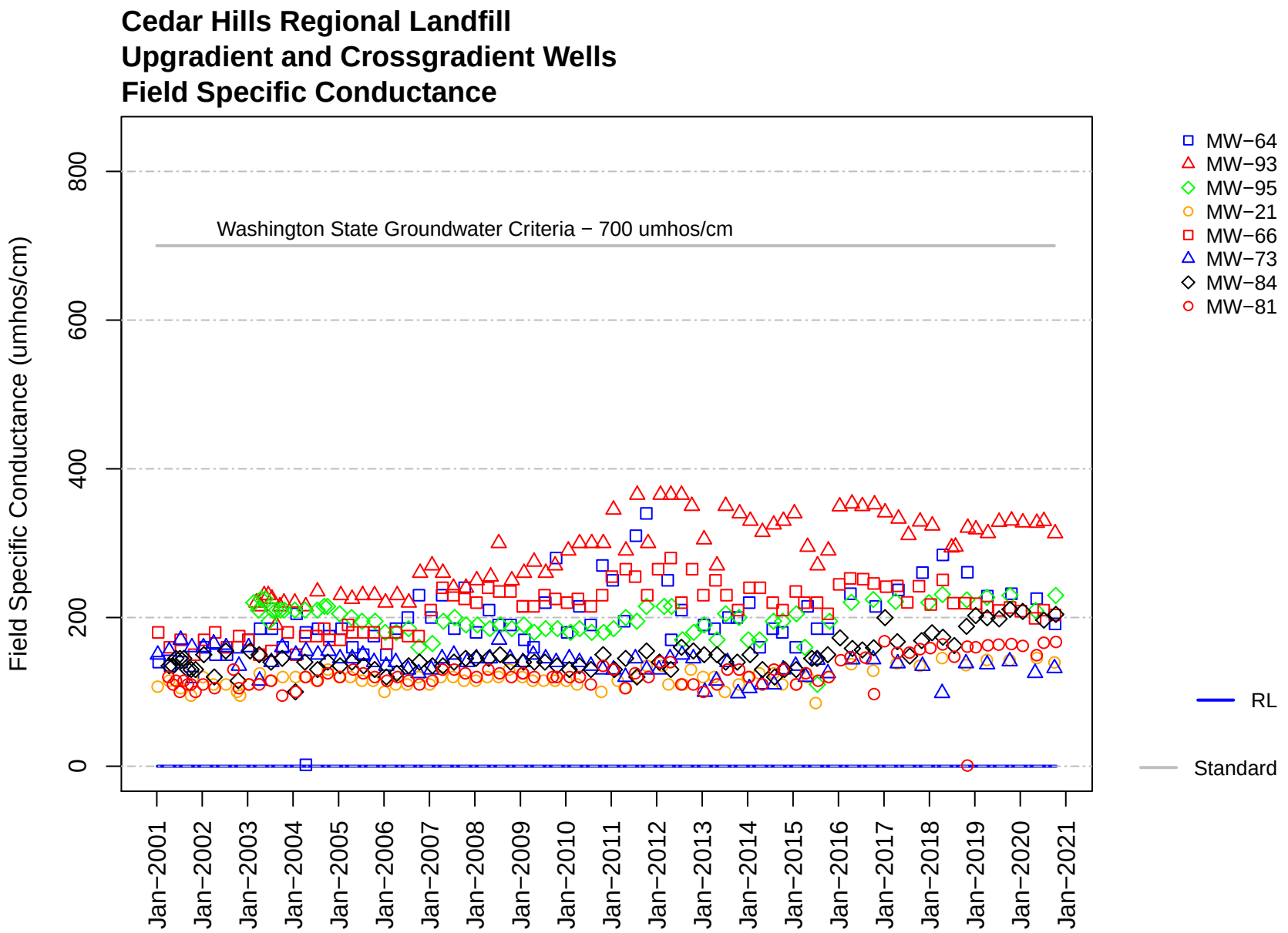

Cedar Hills Regional Landfill
Upgradient Wells
Field pH
Field pH (standard pH units)
0
2
4
6
8
National Secondary MCL − 6.5 − 8.5 std. pH units
Jan−2001
Jan−2002
Jan−2003
Jan−2004
Jan−2005
Jan−2006
Jan−2007
Jan−2008
Jan−2009
Jan−2010
Jan−2011
Jan−2012
Jan−2013
Jan−2014
Jan−2015
Jan−2016
Jan−2017
Jan−2018
Jan−2019
Jan−2020
Jan−2021
MW−56
MW−59
MW−76
MW−82
MW−83
MW−94
MW−24
MW−65
RL
Standard

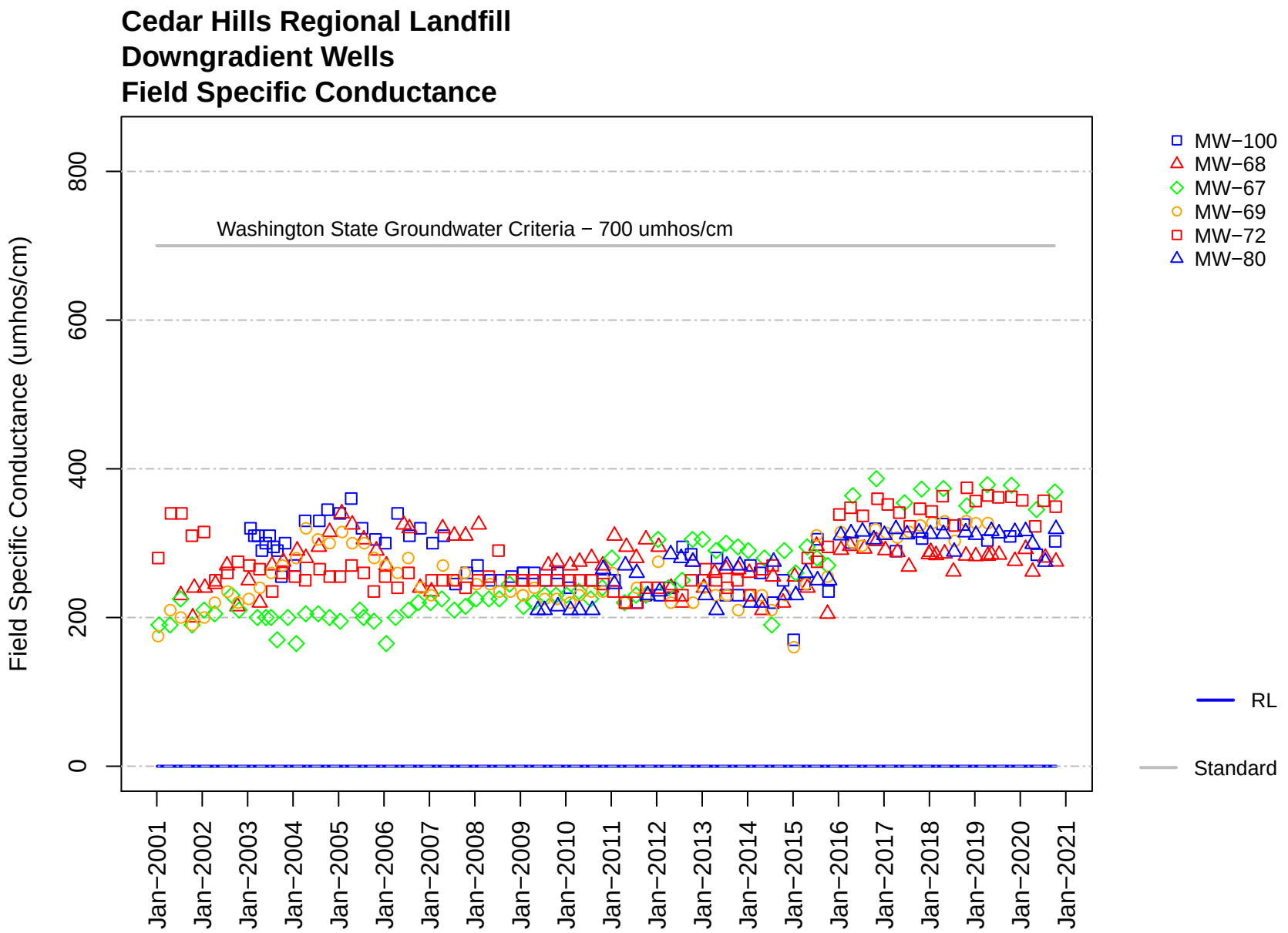

Cedar Hills Regional Landfill
Upgradient and Crossgradient Wells
Field pH
Field pH (standard pH units)
0
2
4
6
8
National Secondary MCL − 6.5 − 8.5 std. pH units
Jan−2001
Jan−2002
Jan−2003
Jan−2004
Jan−2005
Jan−2006
Jan−2007
Jan−2008
Jan−2009
Jan−2010
Jan−2011
Jan−2012
Jan−2013
Jan−2014
Jan−2015
Jan−2016
Jan−2017
Jan−2018
Jan−2019
Jan−2020
Jan−2021
MW−64
MW−93
MW−95
MW−21
MW−66
MW−73
MW−84
MW−81
RL
Standard

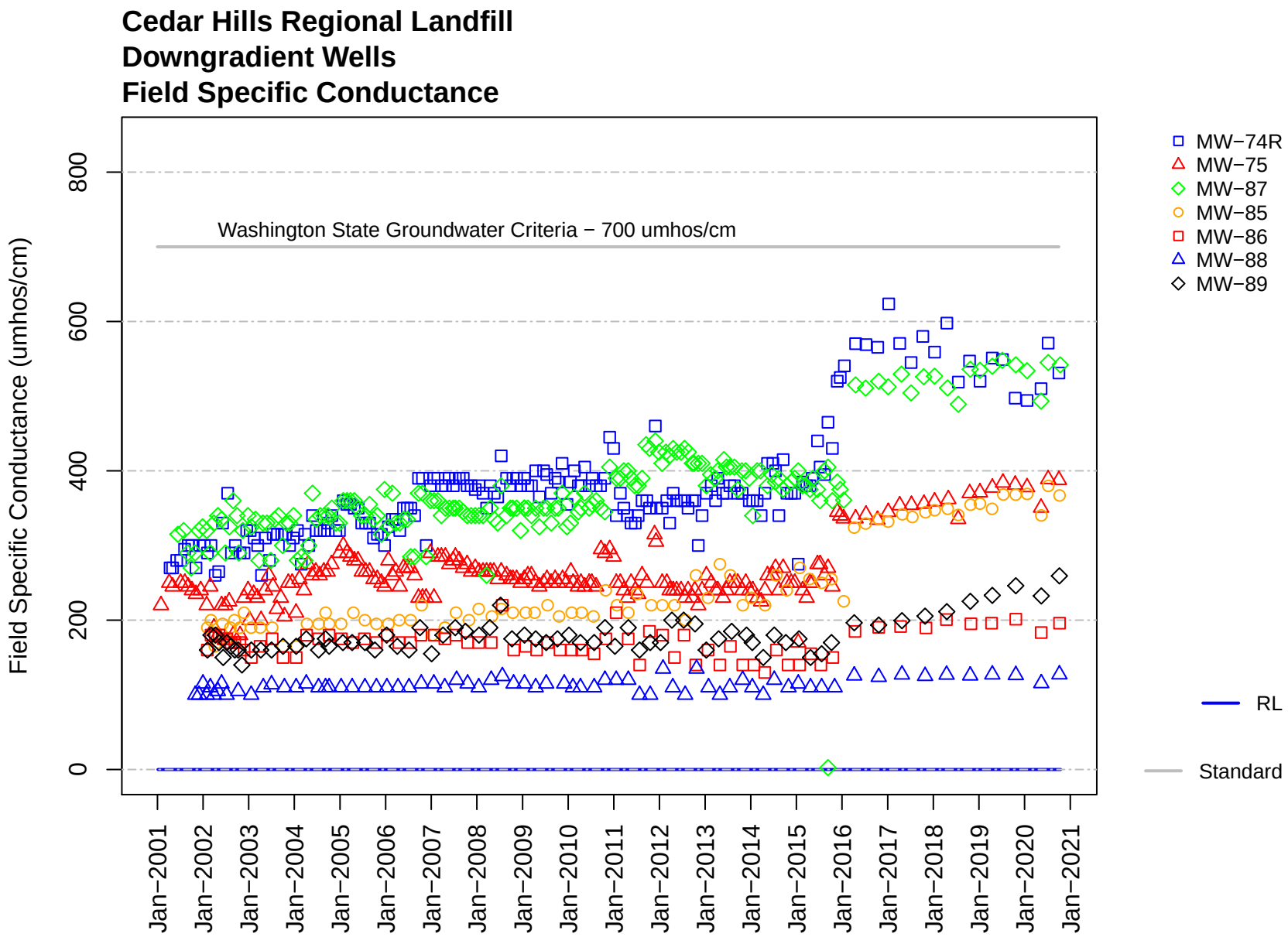

Cedar Hills Regional Landfill
Downgradient Wells
Field pH
Field pH (standard pH units)
0
2
4
6
8
National Secondary MCL − 6.5 − 8.5 std. pH units
Jan−2001
Jan−2002
Jan−2003
Jan−2004
Jan−2005
Jan−2006
Jan−2007
Jan−2008
Jan−2009
Jan−2010
Jan−2011
Jan−2012
Jan−2013
Jan−2014
Jan−2015
Jan−2016
Jan−2017
Jan−2018
Jan−2019
Jan−2020
Jan−2021
MW−100
MW−68
MW−67
MW−69
MW−72
MW−80
RL
Standard

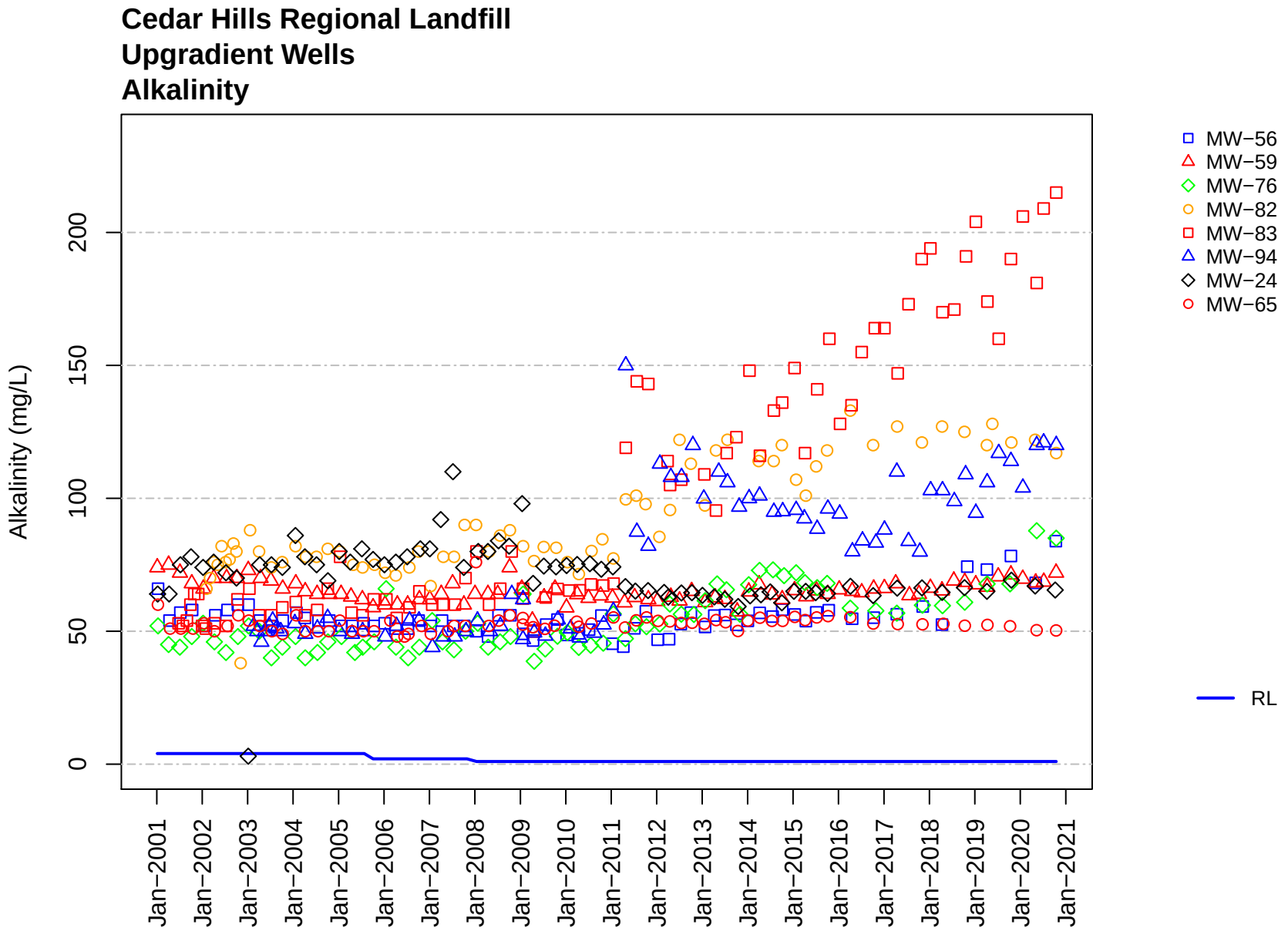

Cedar Hills Regional Landfill
Downgradient Wells
Field pH
Field pH (standard pH units)
0
2
4
6
8
National Secondary MCL − 6.5 − 8.5 std. pH units
Jan−2001
Jan−2002
Jan−2003
Jan−2004
Jan−2005
Jan−2006
Jan−2007
Jan−2008
Jan−2009
Jan−2010
Jan−2011
Jan−2012
Jan−2013
Jan−2014
Jan−2015
Jan−2016
Jan−2017
Jan−2018
Jan−2019
Jan−2020
Jan−2021
MW−74R
MW−75
MW−87
MW−85
MW−86
MW−88
MW−89
RL
Standard

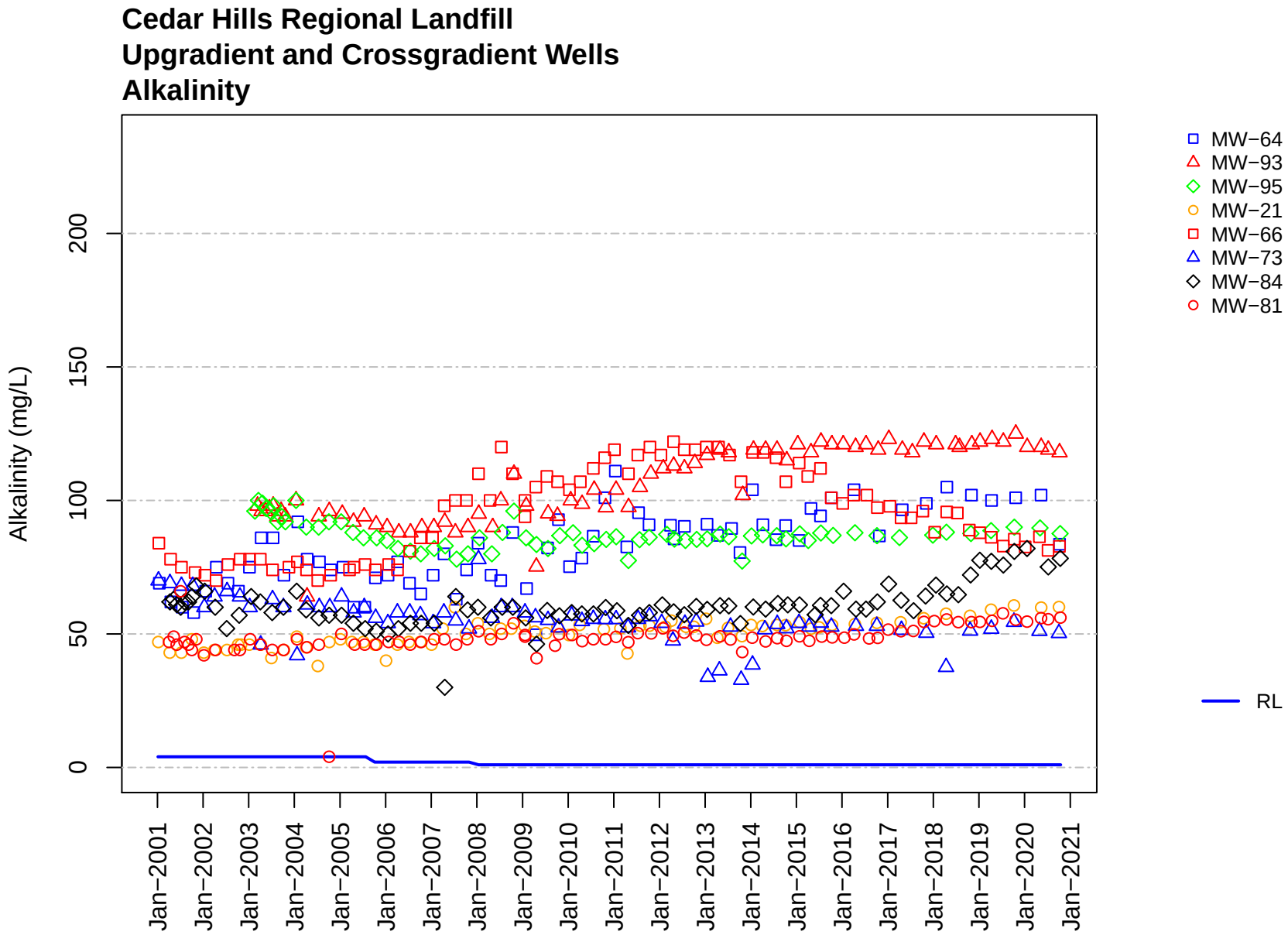

Cedar Hills Regional Landfill
Upgradient Wells
Field Specific Conductance
Field Specific Conductance (umhos/cm)
0
200
400
600
800
Washington State Groundwater Criteria − 700 umhos/cm
Jan−2001
Jan−2002
Jan−2003
Jan−2004
Jan−2005
Jan−2006
Jan−2007
Jan−2008
Jan−2009
Jan−2010
Jan−2011
Jan−2012
Jan−2013
Jan−2014
Jan−2015
Jan−2016
Jan−2017
Jan−2018
Jan−2019
Jan−2020
Jan−2021
MW−56
MW−59
MW−76
MW−82
MW−83
MW−94
MW−24
MW−65
RL
Standard

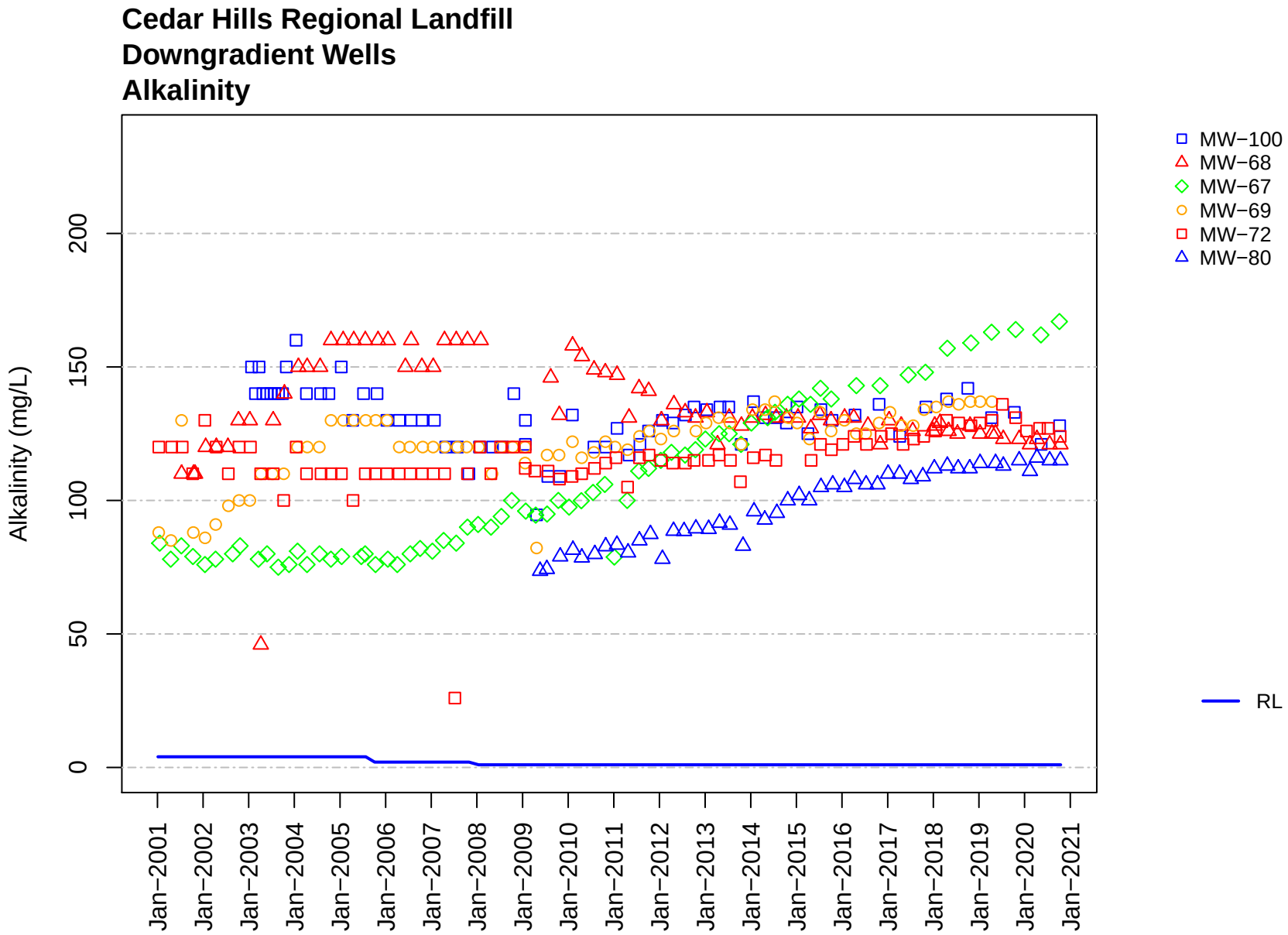

Cedar Hills Regional Landfill
Upgradient and Crossgradient Wells
Field Specific Conductance
Field Specific Conductance (umhos/cm)
0
200
400
600
800
Washington State Groundwater Criteria − 700 umhos/cm
Jan−2001
Jan−2002
Jan−2003
Jan−2004
Jan−2005
Jan−2006
Jan−2007
Jan−2008
Jan−2009
Jan−2010
Jan−2011
Jan−2012
Jan−2013
Jan−2014
Jan−2015
Jan−2016
Jan−2017
Jan−2018
Jan−2019
Jan−2020
Jan−2021
MW−64
MW−93
MW−95
MW−21
MW−66
MW−73
MW−84
MW−81
RL
Standard

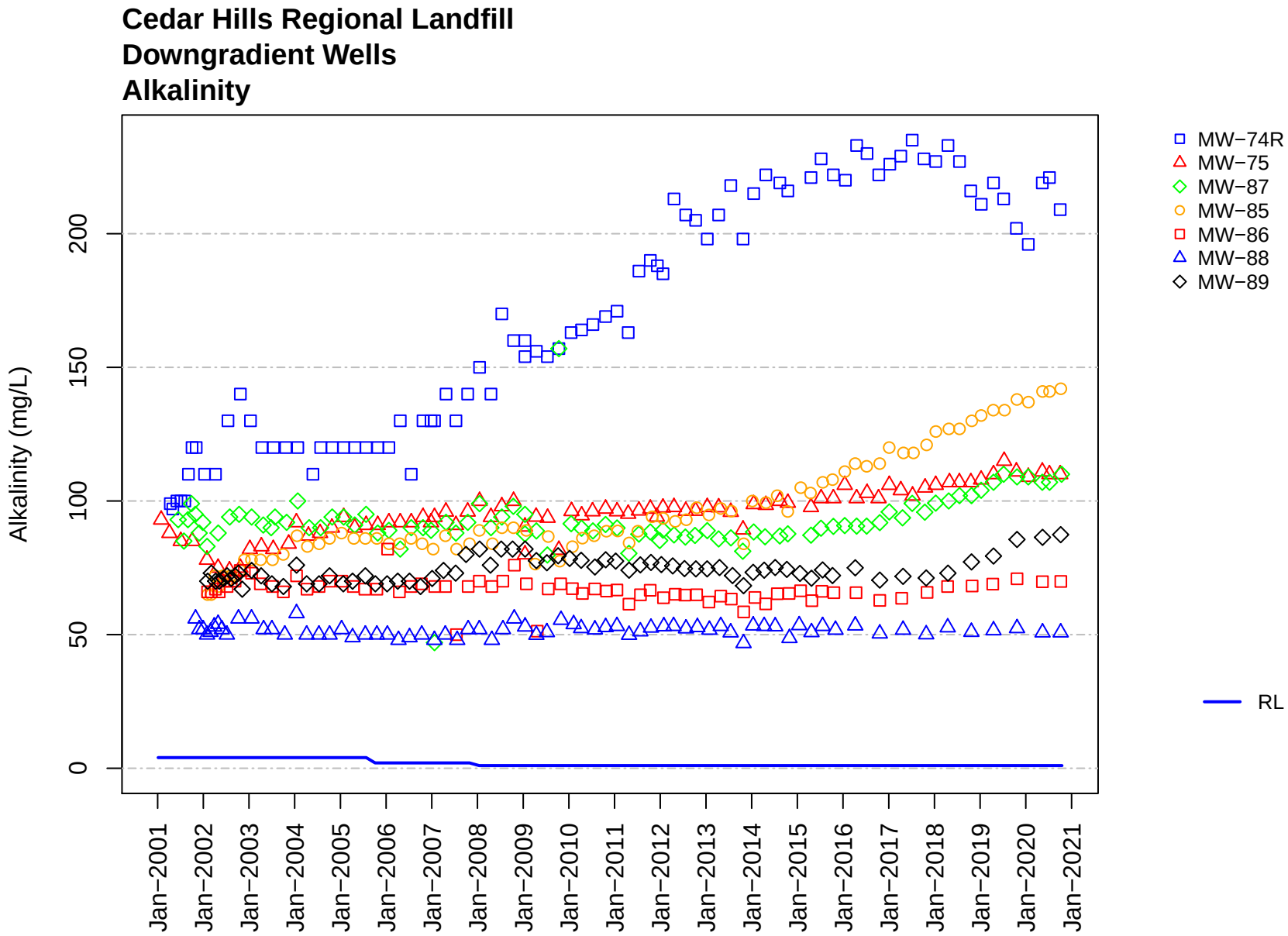

Cedar Hills Regional Landfill
Downgradient Wells
Field Specific Conductance
Field Specific Conductance (umhos/cm)
0
200
400
600
800
Washington State Groundwater Criteria − 700 umhos/cm
Jan−2001
Jan−2002
Jan−2003
Jan−2004
Jan−2005
Jan−2006
Jan−2007
Jan−2008
Jan−2009
Jan−2010
Jan−2011
Jan−2012
Jan−2013
Jan−2014
Jan−2015
Jan−2016
Jan−2017
Jan−2018
Jan−2019
Jan−2020
Jan−2021
MW−100
MW−68
MW−67
MW−69
MW−72
MW−80
RL
Standard

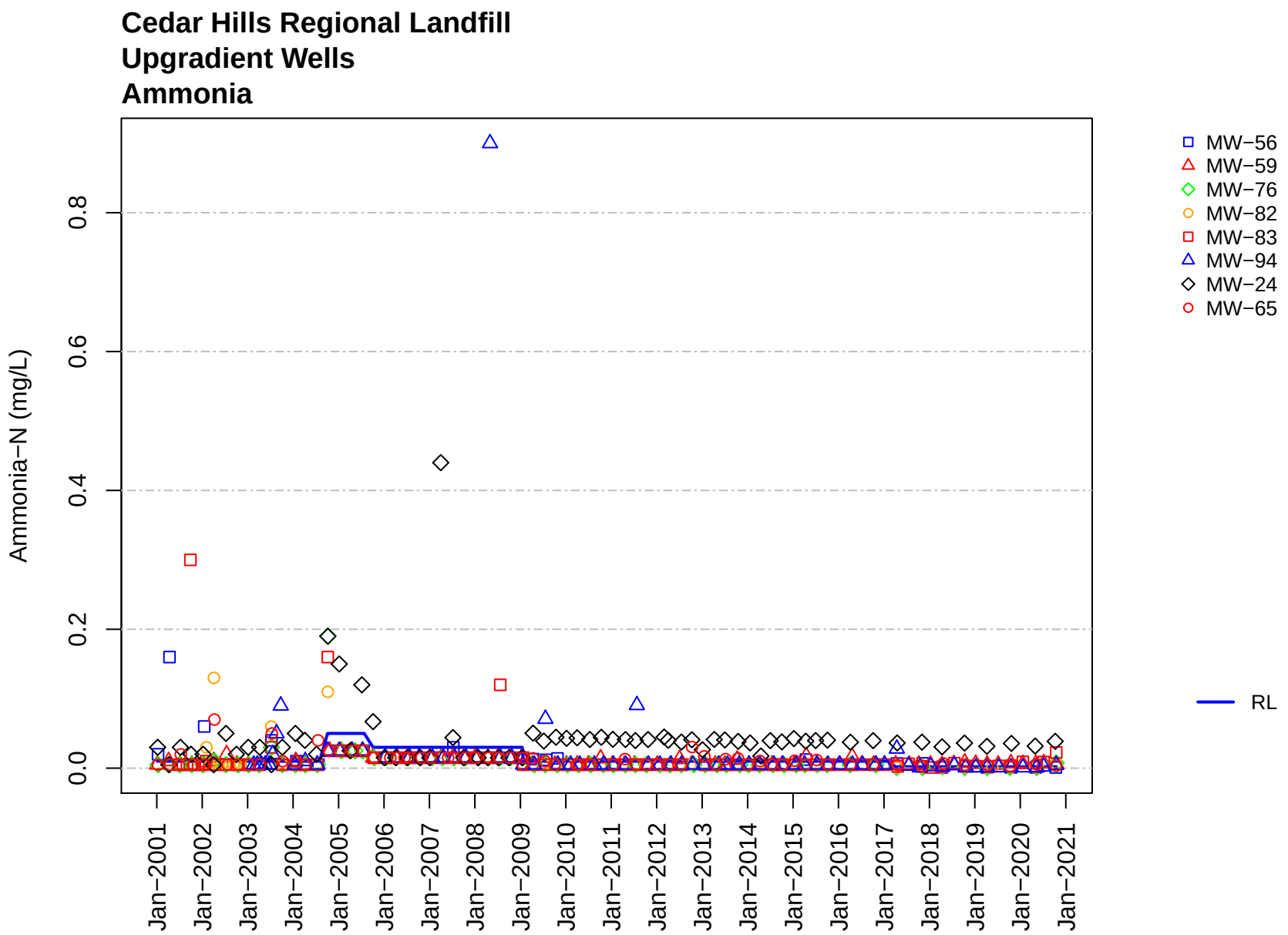

Cedar Hills Regional Landfill
Downgradient Wells
Field Specific Conductance
Field Specific Conductance (umhos/cm)
0
200
400
600
800
Washington State Groundwater Criteria − 700 umhos/cm
Jan−2001
Jan−2002
Jan−2003
Jan−2004
Jan−2005
Jan−2006
Jan−2007
Jan−2008
Jan−2009
Jan−2010
Jan−2011
Jan−2012
Jan−2013
Jan−2014
Jan−2015
Jan−2016
Jan−2017
Jan−2018
Jan−2019
Jan−2020
Jan−2021
MW−74R
MW−75
MW−87
MW−85
MW−86
MW−88
MW−89
RL
Standard

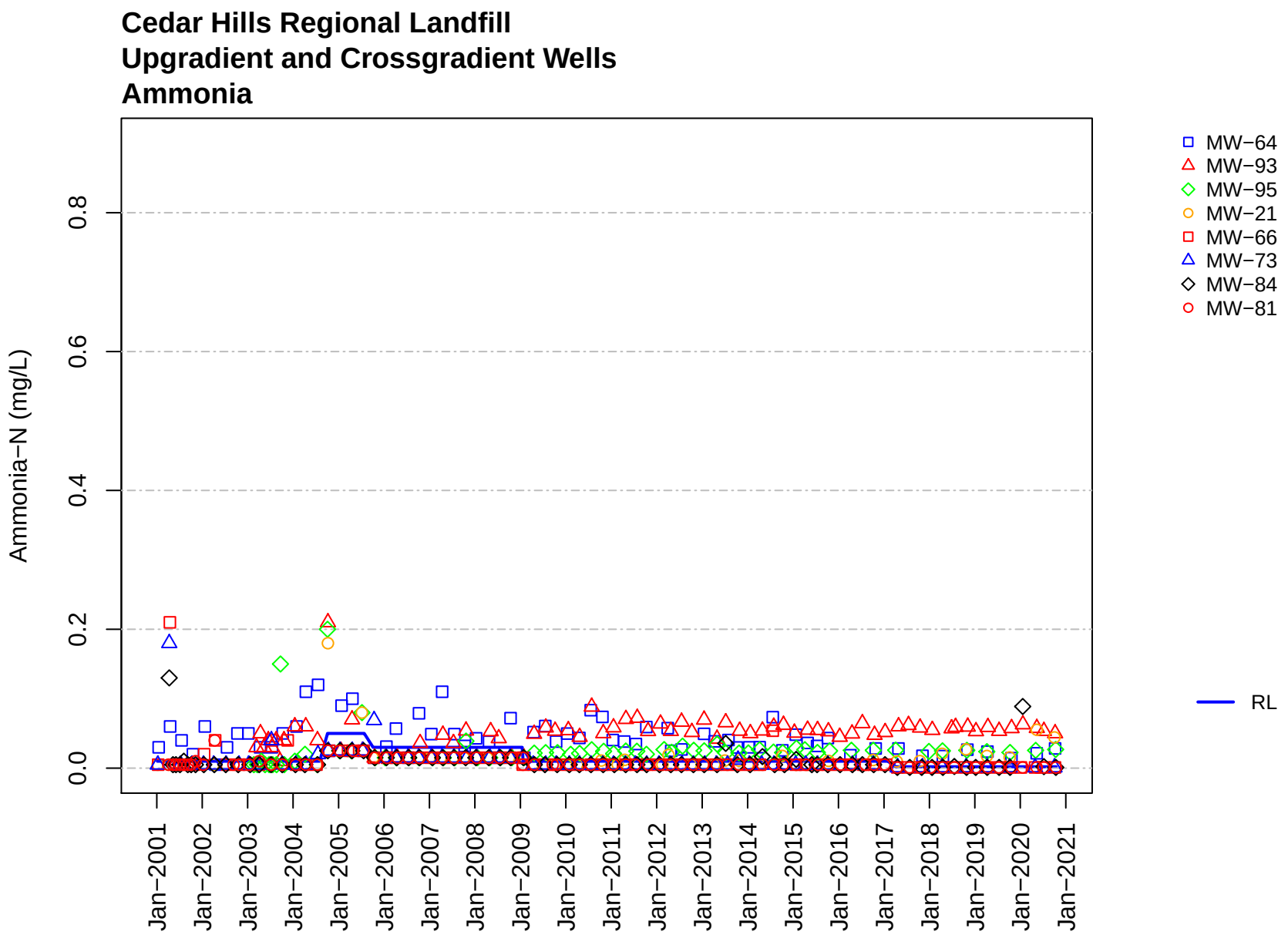

Cedar Hills Regional Landfill
Upgradient Wells
Alkalinity
Alkalinity (mg/L)
0
50
100
150
200
Jan−2001
Jan−2002
Jan−2003
Jan−2004
Jan−2005
Jan−2006
Jan−2007
Jan−2008
Jan−2009
Jan−2010
Jan−2011
Jan−2012
Jan−2013
Jan−2014
Jan−2015
Jan−2016
Jan−2017
Jan−2018
Jan−2019
Jan−2020
Jan−2021
MW−56
MW−59
MW−76
MW−82
MW−83
MW−94
MW−24
MW−65
RL

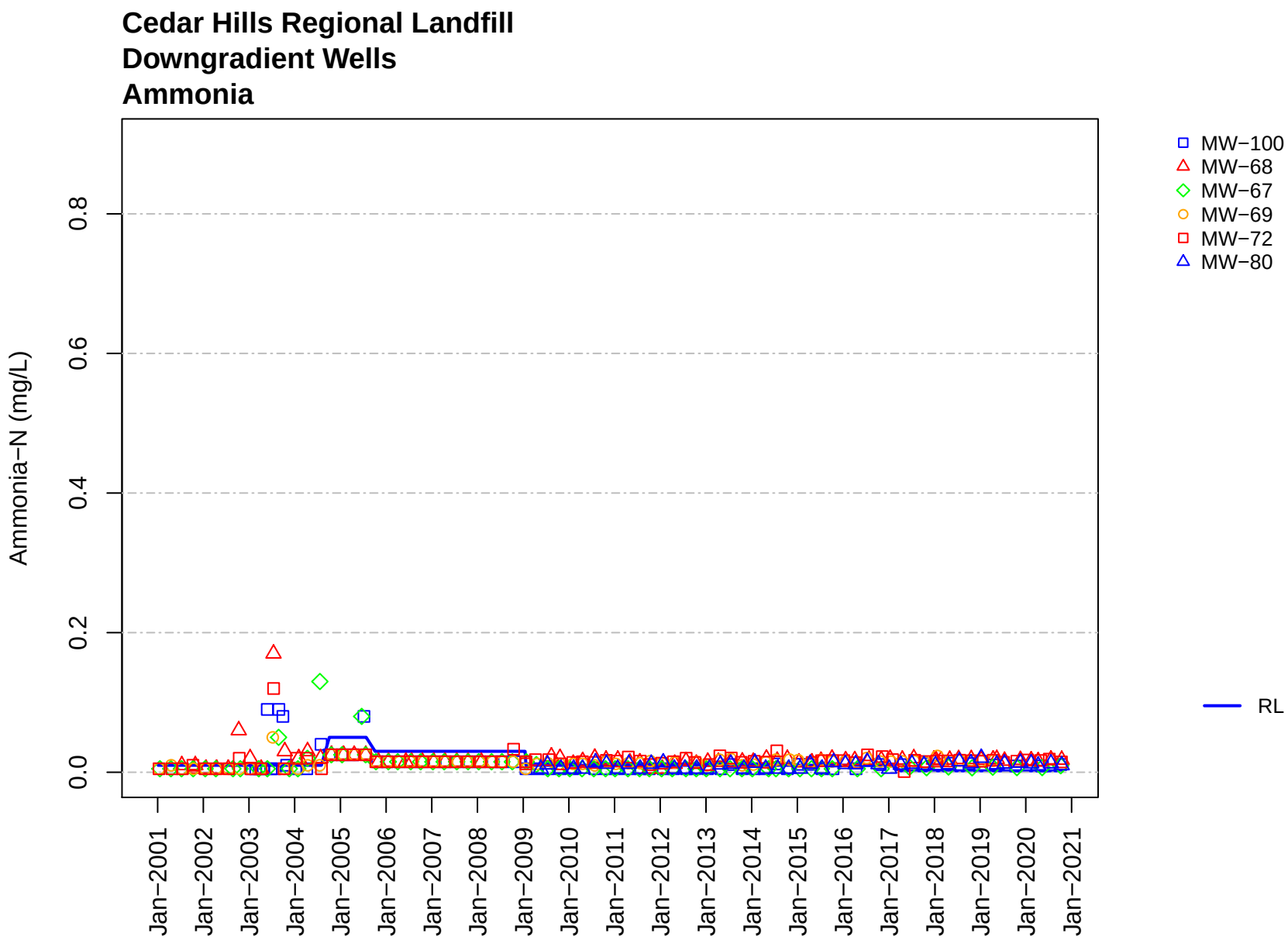

Cedar Hills Regional Landfill
Upgradient and Crossgradient Wells
Alkalinity
Alkalinity (mg/L)
0
50
100
150
200
Jan−2001
Jan−2002
Jan−2003
Jan−2004
Jan−2005
Jan−2006
Jan−2007
Jan−2008
Jan−2009
Jan−2010
Jan−2011
Jan−2012
Jan−2013
Jan−2014
Jan−2015
Jan−2016
Jan−2017
Jan−2018
Jan−2019
Jan−2020
Jan−2021
MW−64
MW−93
MW−95
MW−21
MW−66
MW−73
MW−84
MW−81
RL

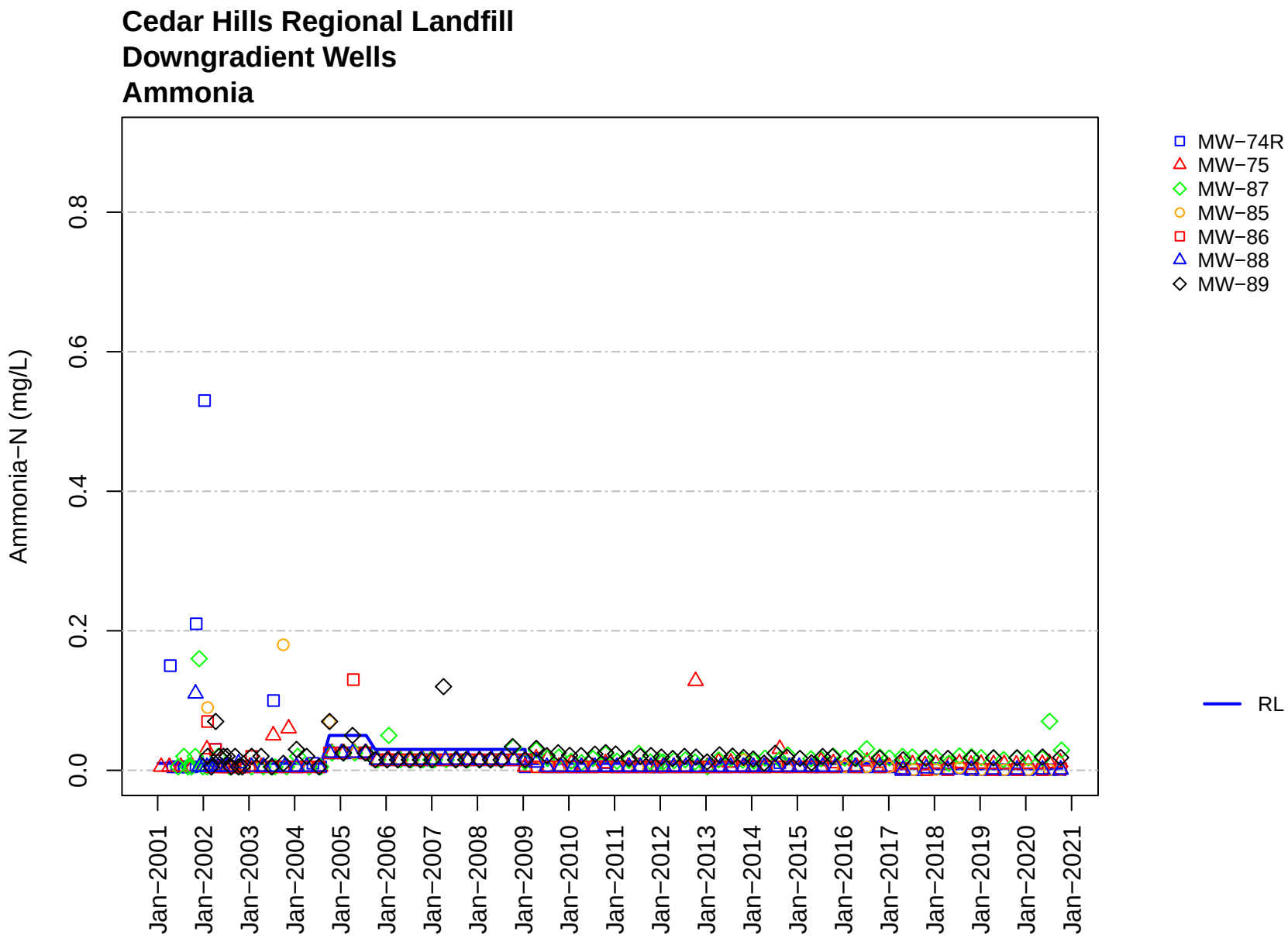

Cedar Hills Regional Landfill
Downgradient Wells
Alkalinity
Alkalinity (mg/L)
0
50
100
150
200
Jan−2001
Jan−2002
Jan−2003
Jan−2004
Jan−2005
Jan−2006
Jan−2007
Jan−2008
Jan−2009
Jan−2010
Jan−2011
Jan−2012
Jan−2013
Jan−2014
Jan−2015
Jan−2016
Jan−2017
Jan−2018
Jan−2019
Jan−2020
Jan−2021
MW−100
MW−68
MW−67
MW−69
MW−72
MW−80
RL

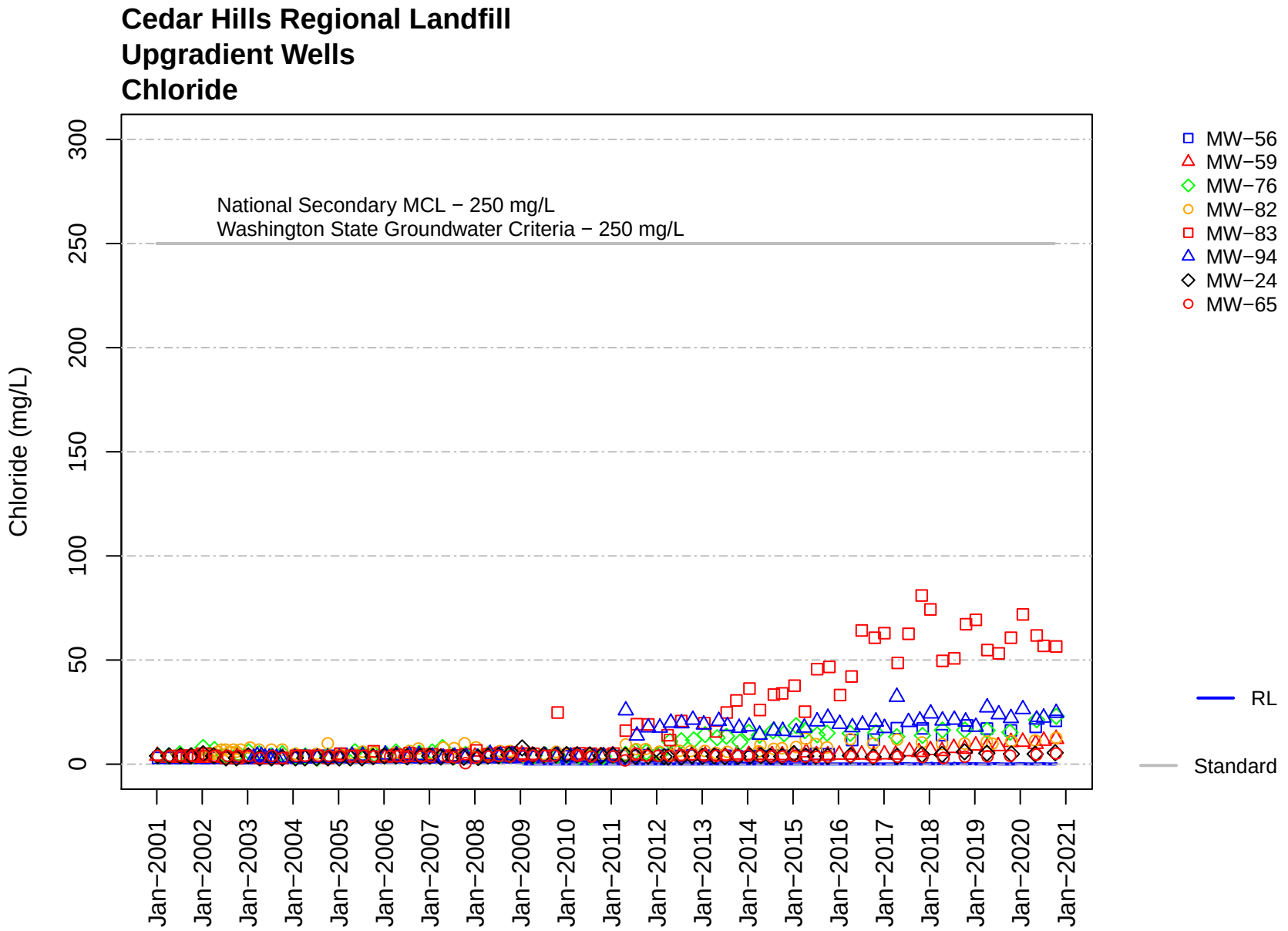

Cedar Hills Regional Landfill
Downgradient Wells
Alkalinity
Alkalinity (mg/L)
0
50
100
150
200
Jan−2001
Jan−2002
Jan−2003
Jan−2004
Jan−2005
Jan−2006
Jan−2007
Jan−2008
Jan−2009
Jan−2010
Jan−2011
Jan−2012
Jan−2013
Jan−2014
Jan−2015
Jan−2016
Jan−2017
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Jan−2019
Jan−2020
Jan−2021
MW−74R
MW−75
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MW−86
MW−88
MW−89
RL

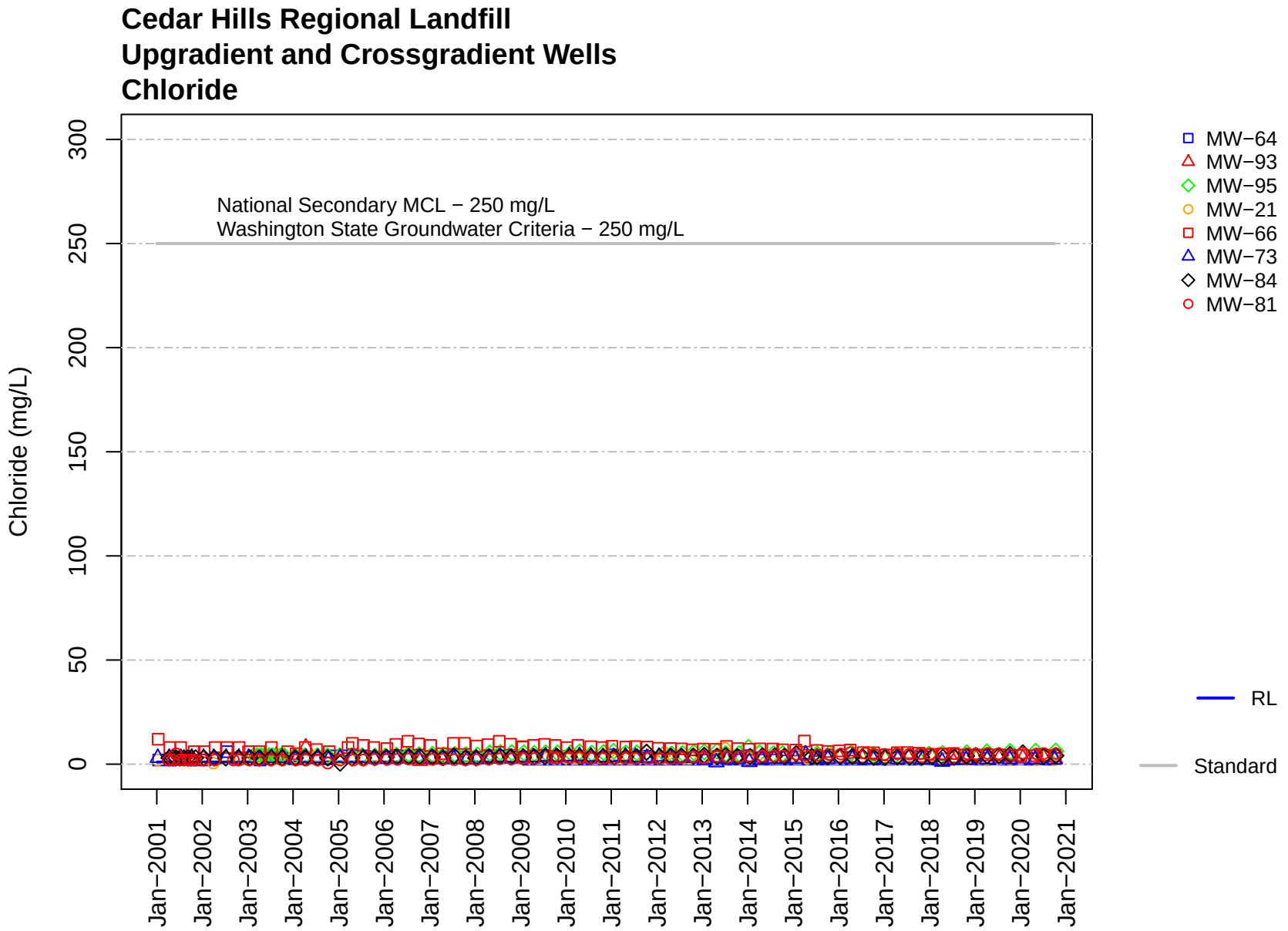

Cedar Hills Regional Landfill
Upgradient Wells
Ammonia
Ammonia−N (mg/L)
0.0
0.2
0.4
0.6
0.8
Jan−2001
Jan−2002
Jan−2003
Jan−2004
Jan−2005
Jan−2006
Jan−2007
Jan−2008
Jan−2009
Jan−2010
Jan−2011
Jan−2012
Jan−2013
Jan−2014
Jan−2015
Jan−2016
Jan−2017
Jan−2018
Jan−2019
Jan−2020
Jan−2021
MW−56
MW−59
MW−76
MW−82
MW−83
MW−94
MW−24
MW−65
RL

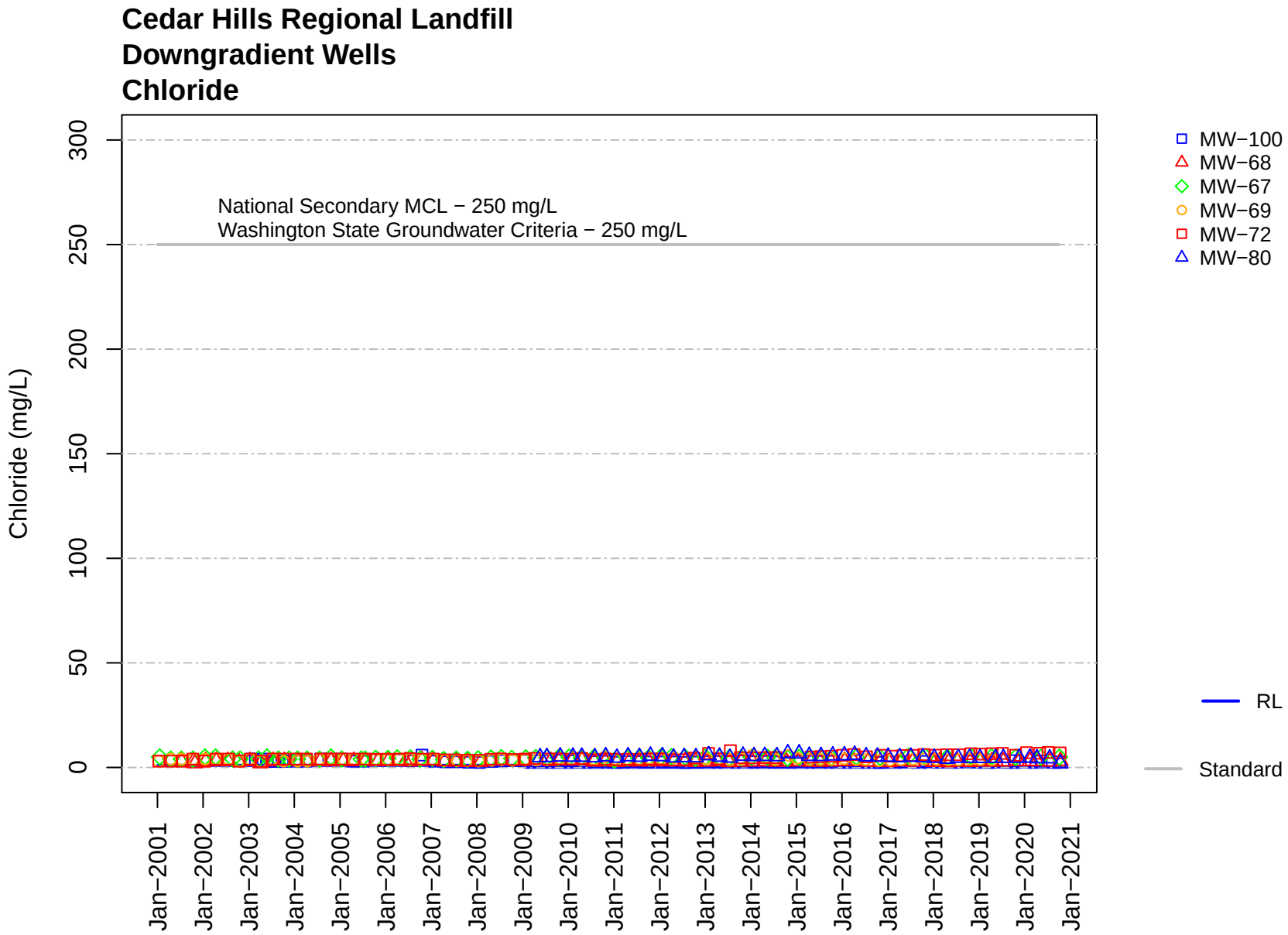

Cedar Hills Regional Landfill
Upgradient and Crossgradient Wells
Ammonia
Ammonia−N (mg/L)
0.0
0.2
0.4
0.6
0.8
Jan−2001
Jan−2002
Jan−2003
Jan−2004
Jan−2005
Jan−2006
Jan−2007
Jan−2008
Jan−2009
Jan−2010
Jan−2011
Jan−2012
Jan−2013
Jan−2014
Jan−2015
Jan−2016
Jan−2017
Jan−2018
Jan−2019
Jan−2020
Jan−2021
MW−64
MW−93
MW−95
MW−21
MW−66
MW−73
MW−84
MW−81
RL

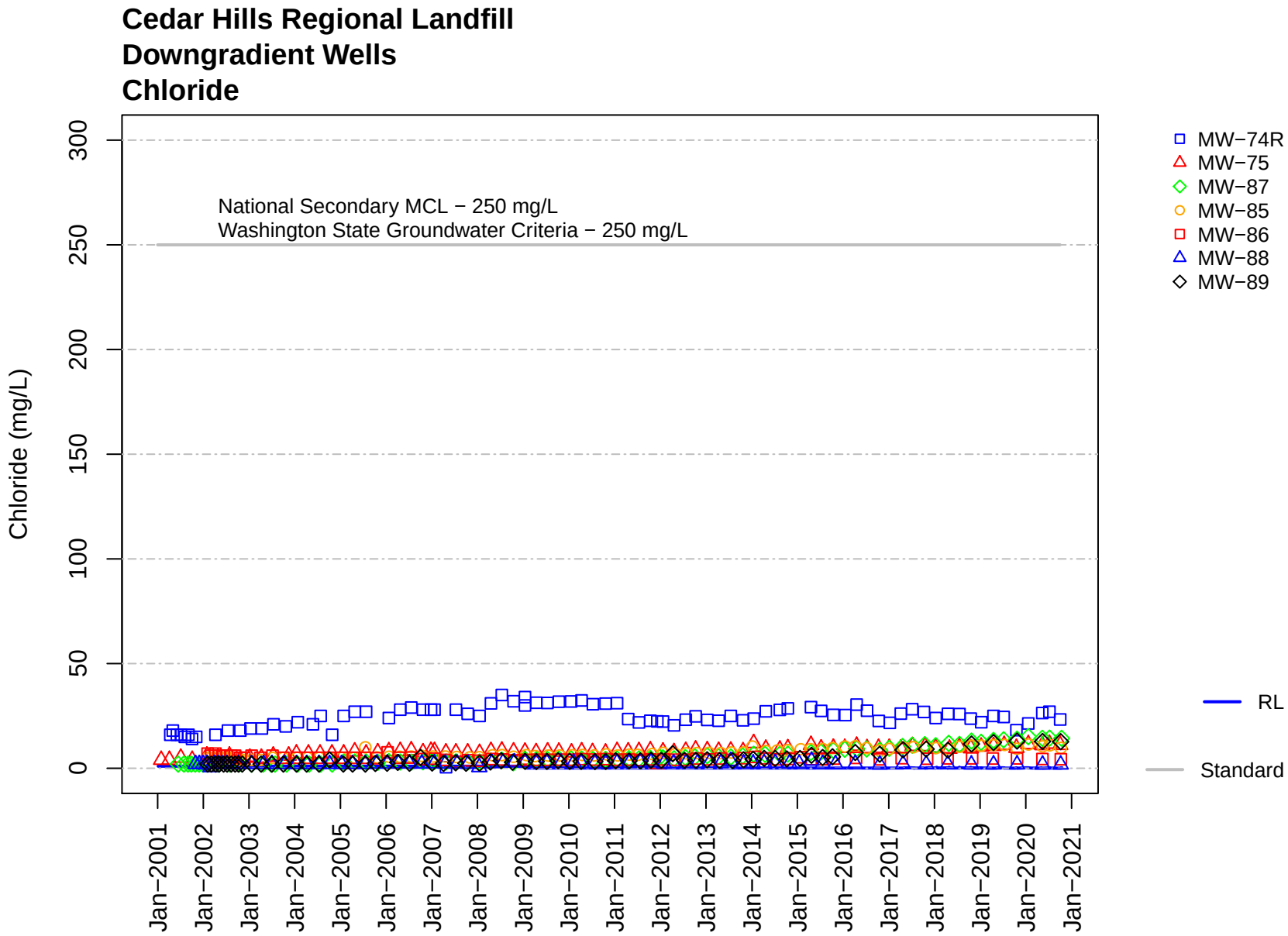

Cedar Hills Regional Landfill
Downgradient Wells
Ammonia
Ammonia−N (mg/L)
0.0
0.2
0.4
0.6
0.8
Jan−2001
Jan−2002
Jan−2003
Jan−2004
Jan−2005
Jan−2006
Jan−2007
Jan−2008
Jan−2009
Jan−2010
Jan−2011
Jan−2012
Jan−2013
Jan−2014
Jan−2015
Jan−2016
Jan−2017
Jan−2018
Jan−2019
Jan−2020
Jan−2021
MW−100
MW−68
MW−67
MW−69
MW−72
MW−80
RL

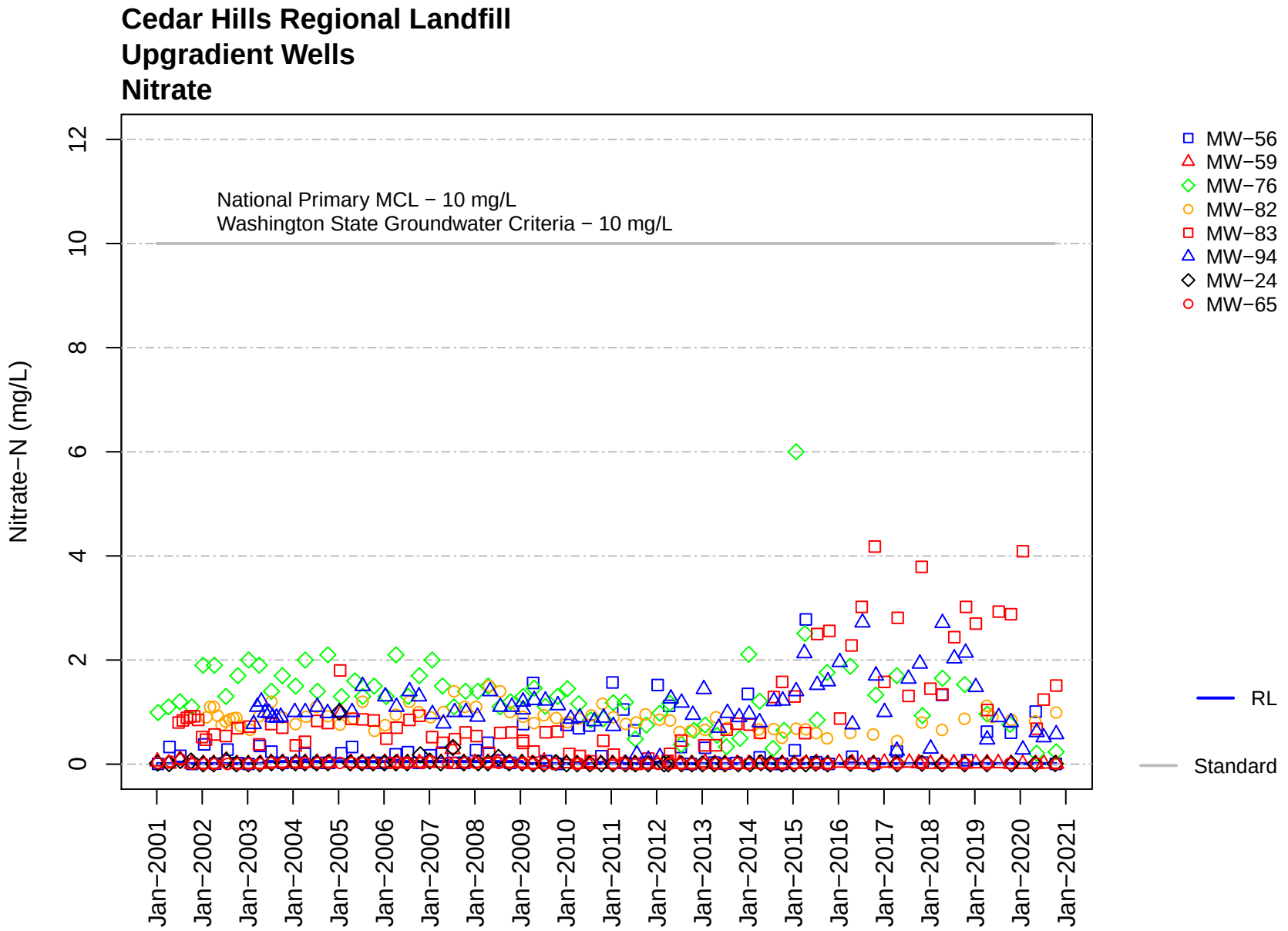

Cedar Hills Regional Landfill
Downgradient Wells
Ammonia
Ammonia−N (mg/L)
0.0
0.2
0.4
0.6
0.8
Jan−2001
Jan−2002
Jan−2003
Jan−2004
Jan−2005
Jan−2006
Jan−2007
Jan−2008
Jan−2009
Jan−2010
Jan−2011
Jan−2012
Jan−2013
Jan−2014
Jan−2015
Jan−2016
Jan−2017
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Jan−2021
MW−74R
MW−75
MW−87
MW−85
MW−86
MW−88
MW−89
RL

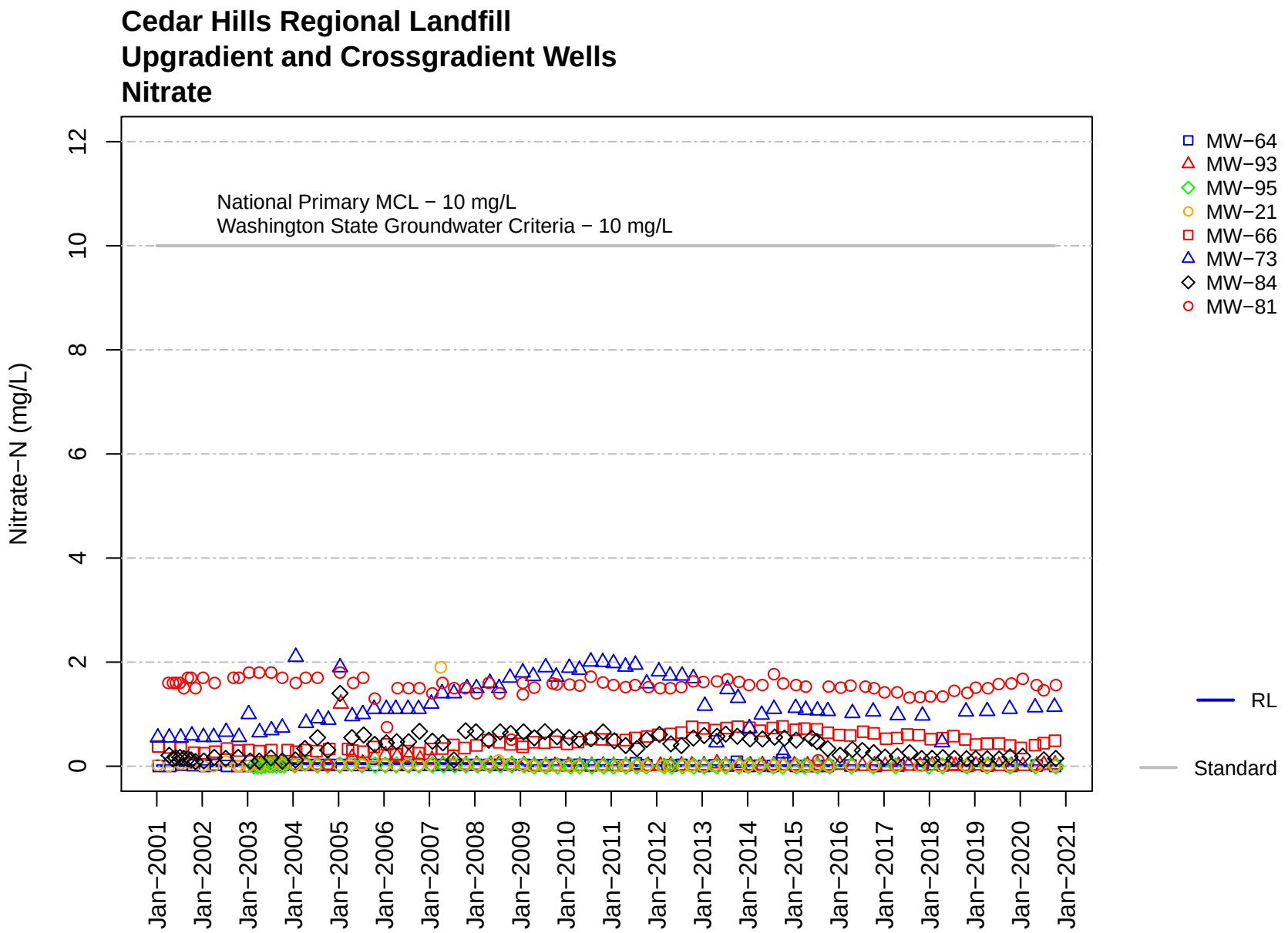

Cedar Hills Regional Landfill
Upgradient Wells
Chloride
Chloride (mg/L)
0
50
100
150
200
250
300
National Secondary MCL − 250 mg/L
Washington State Groundwater Criteria − 250 mg/L
Jan−2001
Jan−2002
Jan−2003
Jan−2004
Jan−2005
Jan−2006
Jan−2007
Jan−2008
Jan−2009
Jan−2010
Jan−2011
Jan−2012
Jan−2013
Jan−2014
Jan−2015
Jan−2016
Jan−2017
Jan−2018
Jan−2019
Jan−2020
Jan−2021
MW−56
MW−59
MW−76
MW−82
MW−83
MW−94
MW−24
MW−65
RL
Standard

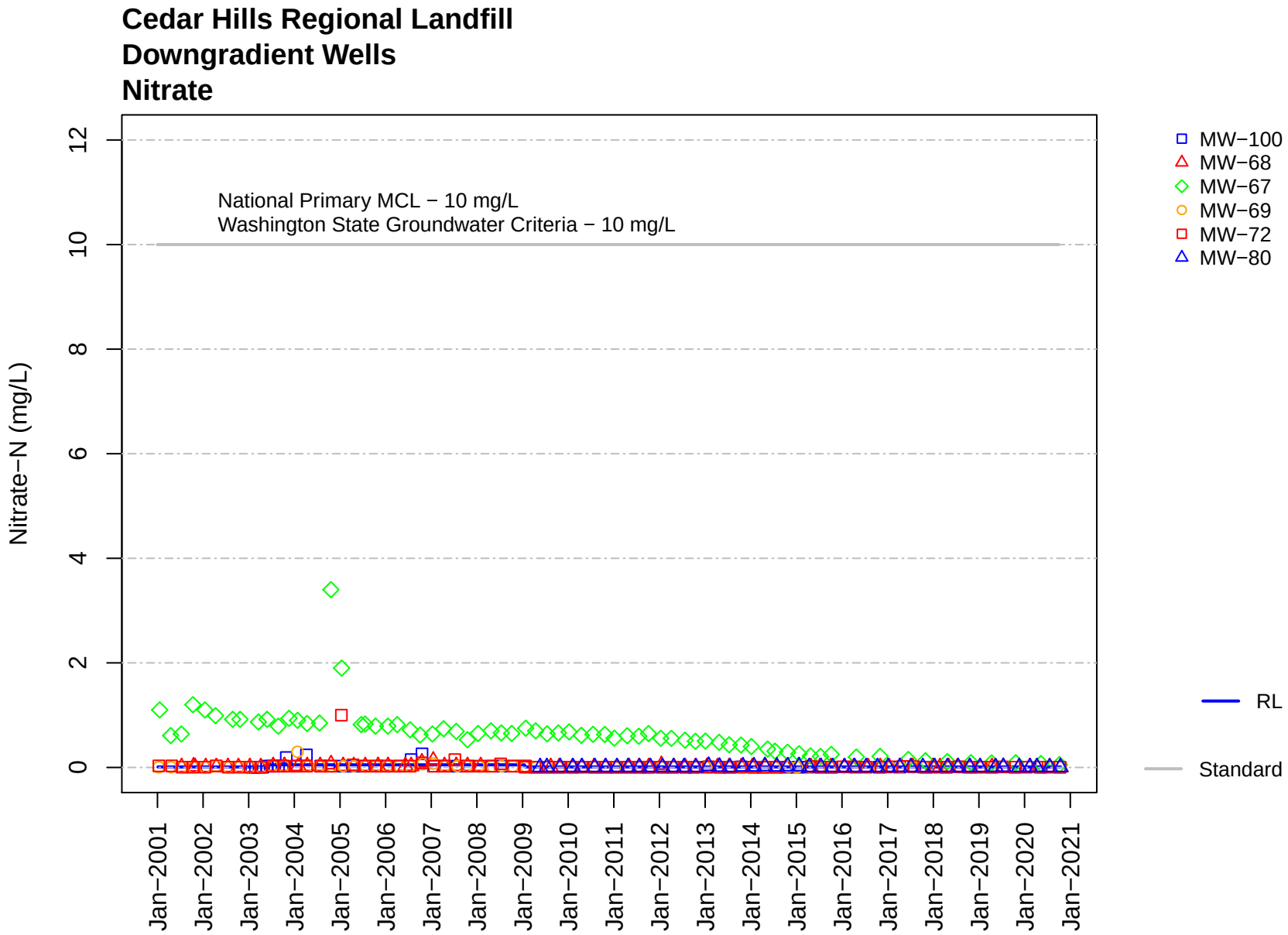

Cedar Hills Regional Landfill
Upgradient and Crossgradient Wells
Chloride
Chloride (mg/L)
0
50
100
150
200
250
300
National Secondary MCL − 250 mg/L
Washington State Groundwater Criteria − 250 mg/L
Jan−2001
Jan−2002
Jan−2003
Jan−2004
Jan−2005
Jan−2006
Jan−2007
Jan−2008
Jan−2009
Jan−2010
Jan−2011
Jan−2012
Jan−2013
Jan−2014
Jan−2015
Jan−2016
Jan−2017
Jan−2018
Jan−2019
Jan−2020
Jan−2021
MW−64
MW−93
MW−95
MW−21
MW−66
MW−73
MW−84
MW−81
RL
Standard

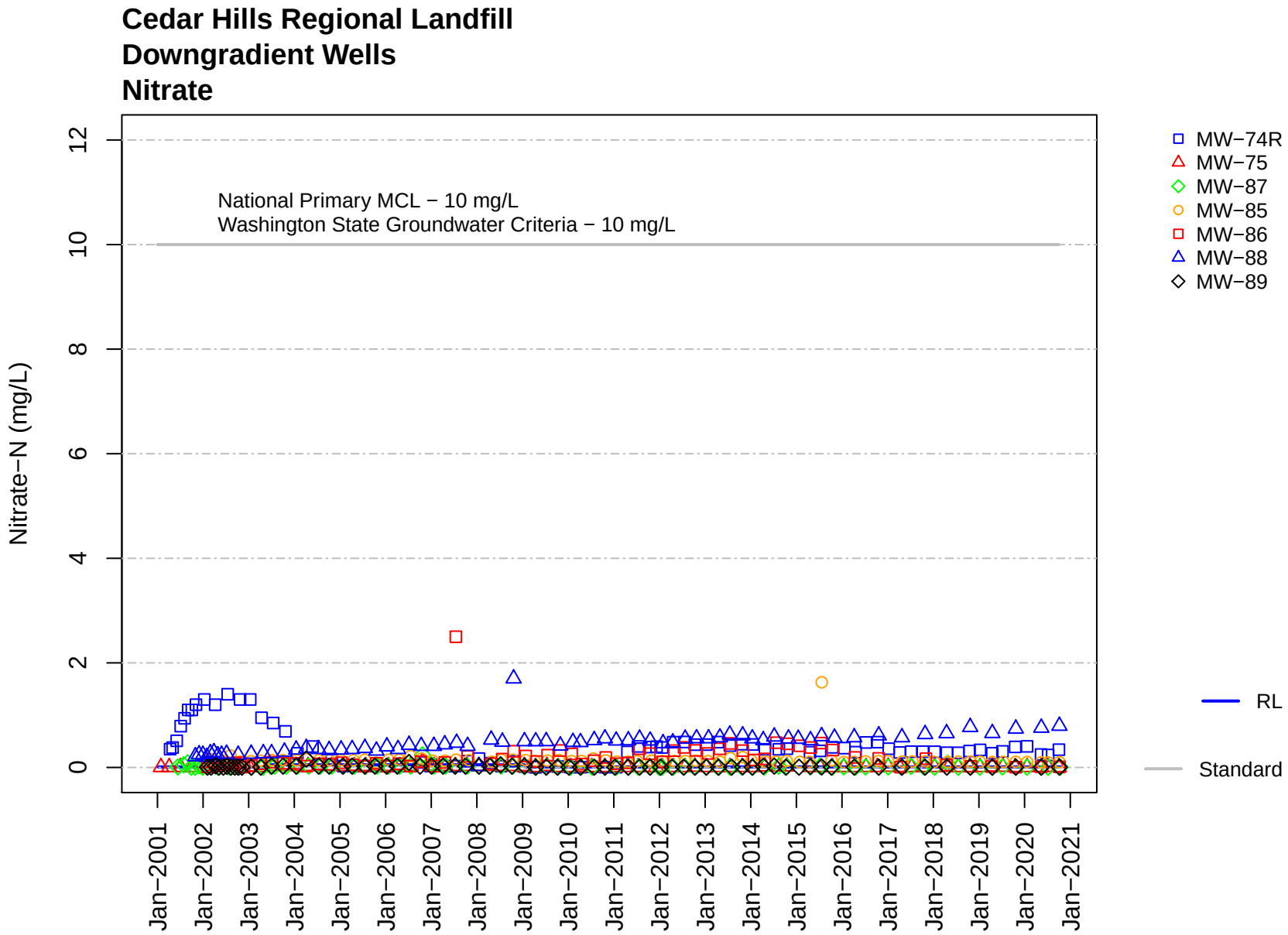

Cedar Hills Regional Landfill
Downgradient Wells
Chloride
Chloride (mg/L)
0
50
100
150
200
250
300
National Secondary MCL − 250 mg/L
Washington State Groundwater Criteria − 250 mg/L
Jan−2001
Jan−2002
Jan−2003
Jan−2004
Jan−2005
Jan−2006
Jan−2007
Jan−2008
Jan−2009
Jan−2010
Jan−2011
Jan−2012
Jan−2013
Jan−2014
Jan−2015
Jan−2016
Jan−2017
Jan−2018
Jan−2019
Jan−2020
Jan−2021
MW−100
MW−68
MW−67
MW−69
MW−72
MW−80
RL
Standard

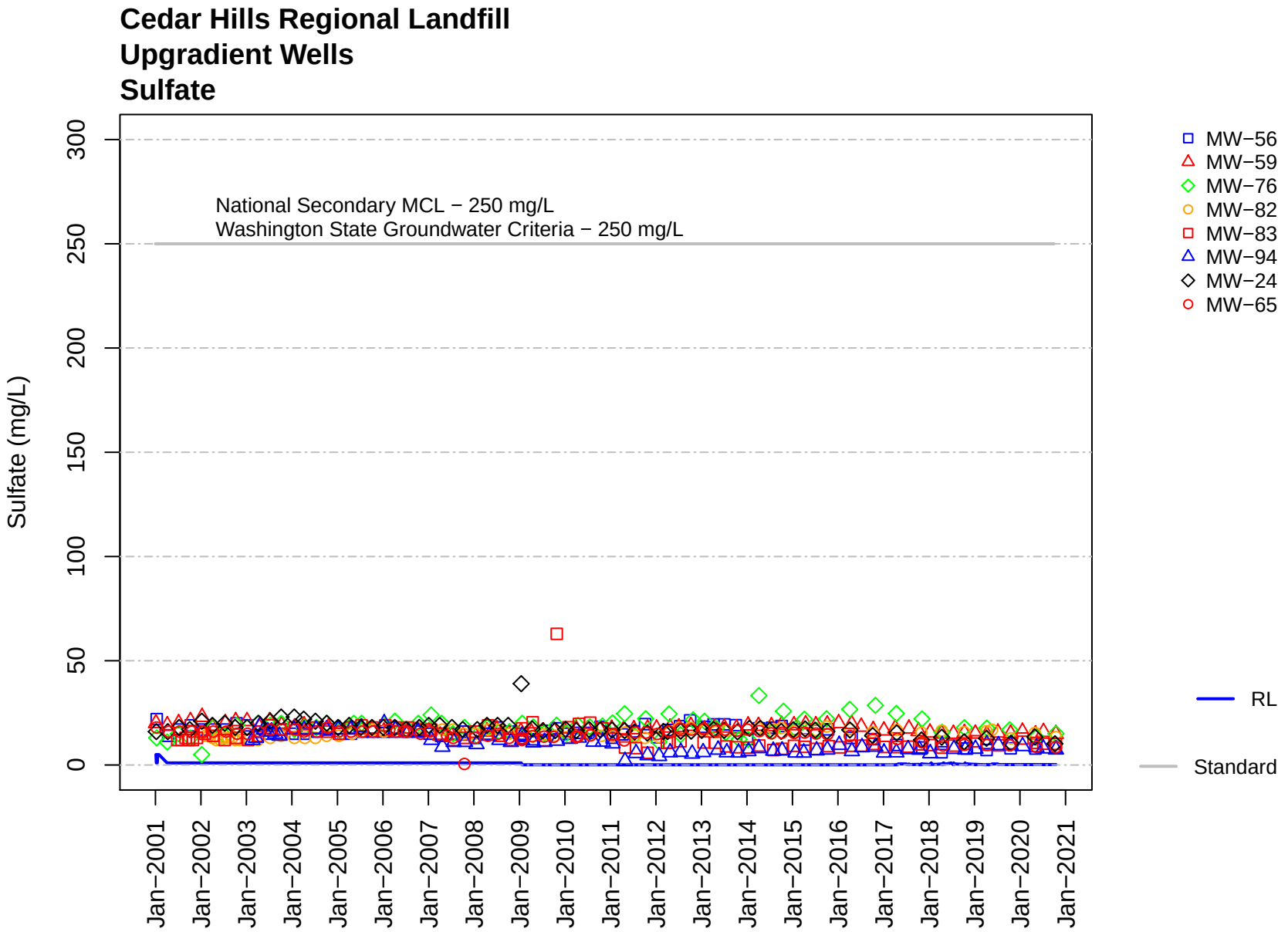

Cedar Hills Regional Landfill
Downgradient Wells
Chloride
Chloride (mg/L)
0
50
100
150
200
250
300
National Secondary MCL − 250 mg/L
Washington State Groundwater Criteria − 250 mg/L
Jan−2001
Jan−2002
Jan−2003
Jan−2004
Jan−2005
Jan−2006
Jan−2007
Jan−2008
Jan−2009
Jan−2010
Jan−2011
Jan−2012
Jan−2013
Jan−2014
Jan−2015
Jan−2016
Jan−2017
Jan−2018
Jan−2019
Jan−2020
Jan−2021
MW−74R
MW−75
MW−87
MW−85
MW−86
MW−88
MW−89
RL
Standard

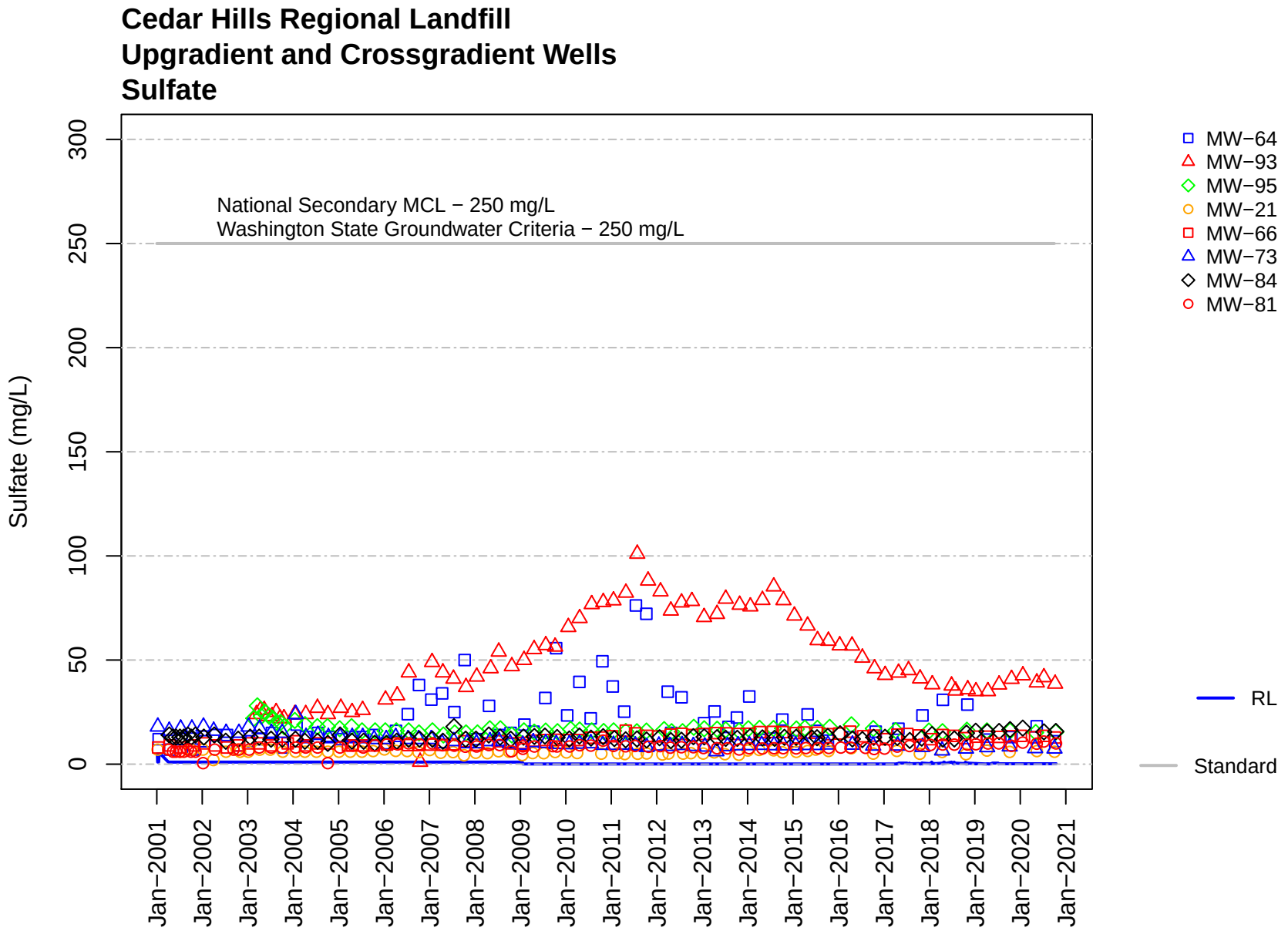

Cedar Hills Regional Landfill
Upgradient Wells
Nitrate
National Primary MCL − 10 mg/L
Washington State Groundwater Criteria − 10 mg/L
Nitrate−N (mg/L)
0
2
4
6
8
10
12
Jan−2001
Jan−2002
Jan−2003
Jan−2004
Jan−2005
Jan−2006
Jan−2007
Jan−2008
Jan−2009
Jan−2010
Jan−2011
Jan−2012
Jan−2013
Jan−2014
Jan−2015
Jan−2016
Jan−2017
Jan−2018
Jan−2019
Jan−2020
Jan−2021
MW−56
MW−59
MW−76
MW−82
MW−83
MW−94
MW−24
MW−65
RL
Standard

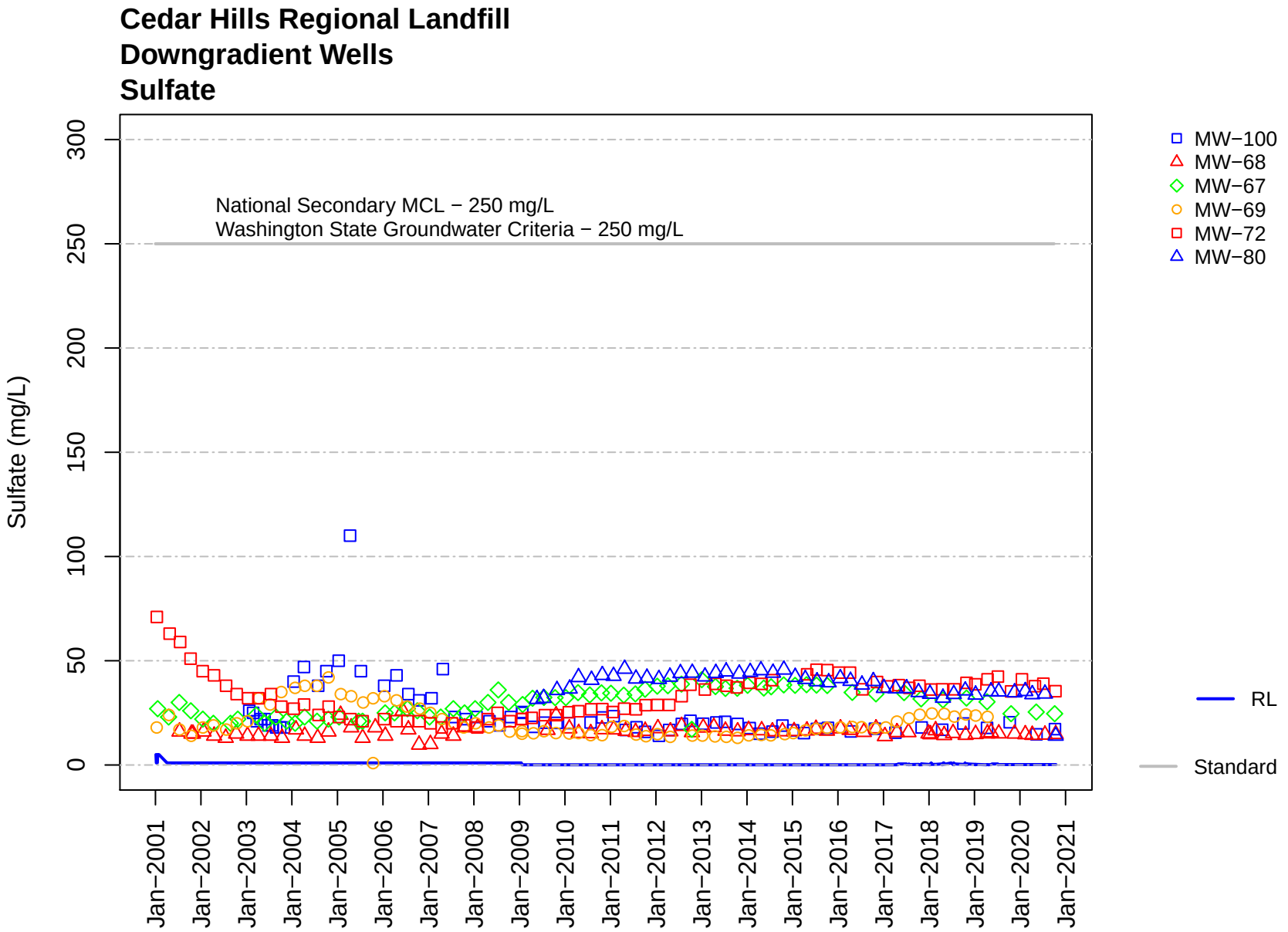

Cedar Hills Regional Landfill
Upgradient and Crossgradient Wells
Nitrate
National Primary MCL − 10 mg/L
Washington State Groundwater Criteria − 10 mg/L
Nitrate−N (mg/L)
0
2
4
6
8
10
12
Jan−2001
Jan−2002
Jan−2003
Jan−2004
Jan−2005
Jan−2006
Jan−2007
Jan−2008
Jan−2009
Jan−2010
Jan−2011
Jan−2012
Jan−2013
Jan−2014
Jan−2015
Jan−2016
Jan−2017
Jan−2018
Jan−2019
Jan−2020
Jan−2021
MW−64
MW−93
MW−95
MW−21
MW−66
MW−73
MW−84
MW−81
RL
Standard

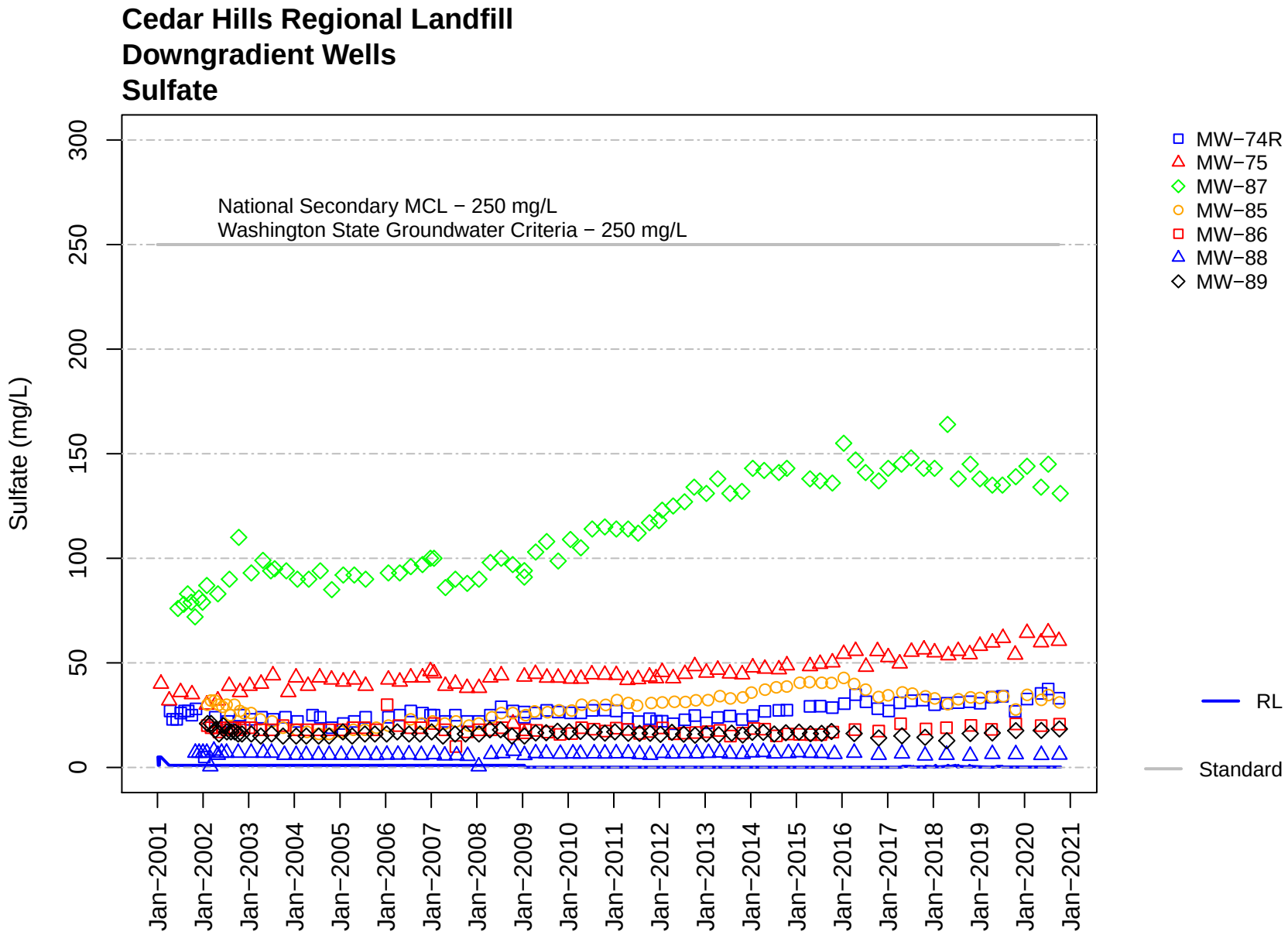

Cedar Hills Regional Landfill
Downgradient Wells
Nitrate
National Primary MCL − 10 mg/L
Washington State Groundwater Criteria − 10 mg/L
Nitrate−N (mg/L)
0
2
4
6
8
10
12
Jan−2001
Jan−2002
Jan−2003
Jan−2004
Jan−2005
Jan−2006
Jan−2007
Jan−2008
Jan−2009
Jan−2010
Jan−2011
Jan−2012
Jan−2013
Jan−2014
Jan−2015
Jan−2016
Jan−2017
Jan−2018
Jan−2019
Jan−2020
Jan−2021
MW−100
MW−68
MW−67
MW−69
MW−72
MW−80
RL
Standard

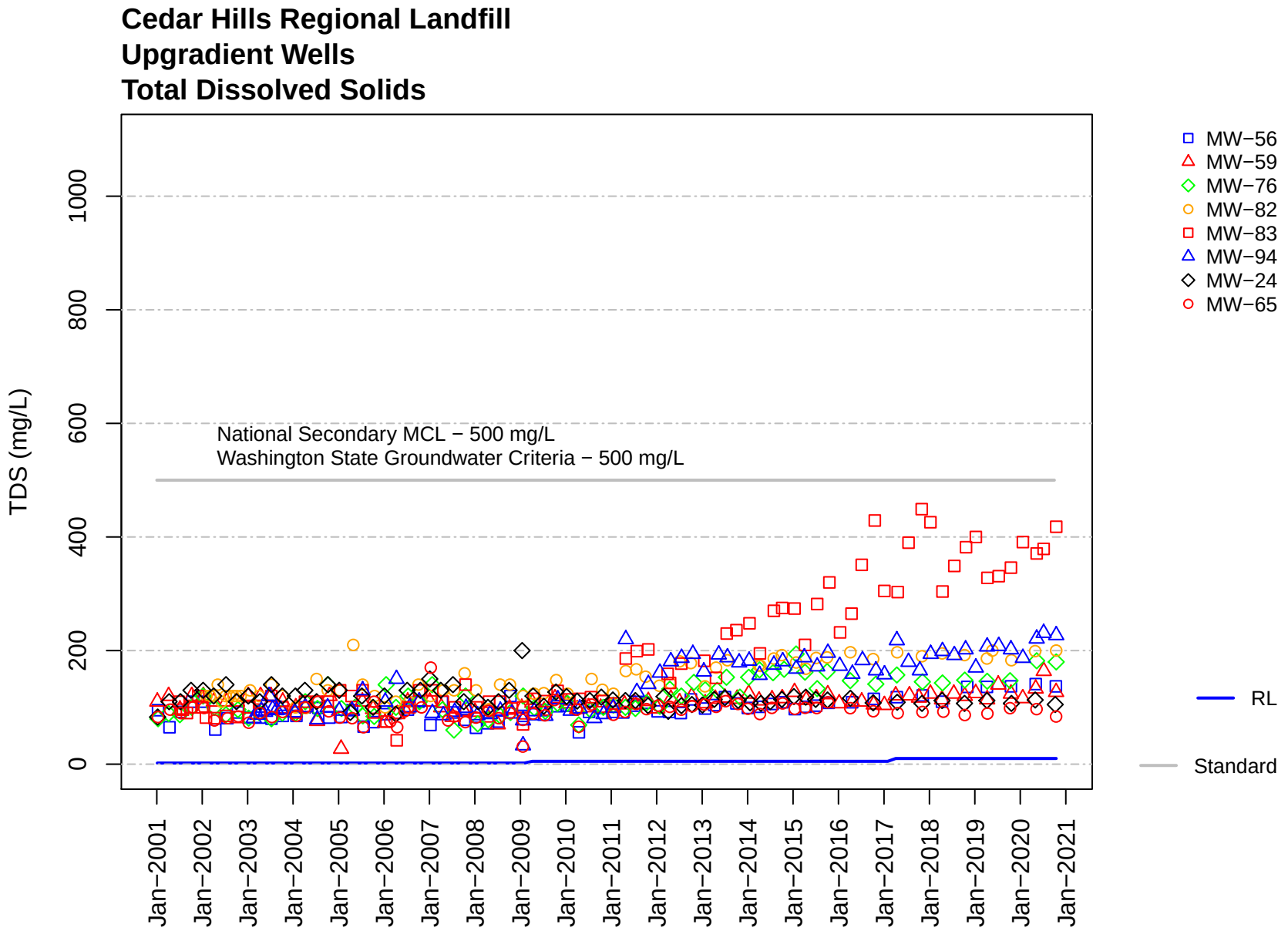

Cedar Hills Regional Landfill
Downgradient Wells
Nitrate
National Primary MCL − 10 mg/L
Washington State Groundwater Criteria − 10 mg/L
Nitrate−N (mg/L)
0
2
4
6
8
10
12
Jan−2001
Jan−2002
Jan−2003
Jan−2004
Jan−2005
Jan−2006
Jan−2007
Jan−2008
Jan−2009
Jan−2010
Jan−2011
Jan−2012
Jan−2013
Jan−2014
Jan−2015
Jan−2016
Jan−2017
Jan−2018
Jan−2019
Jan−2020
Jan−2021
MW−74R
MW−75
MW−87
MW−85
MW−86
MW−88
MW−89
RL
Standard

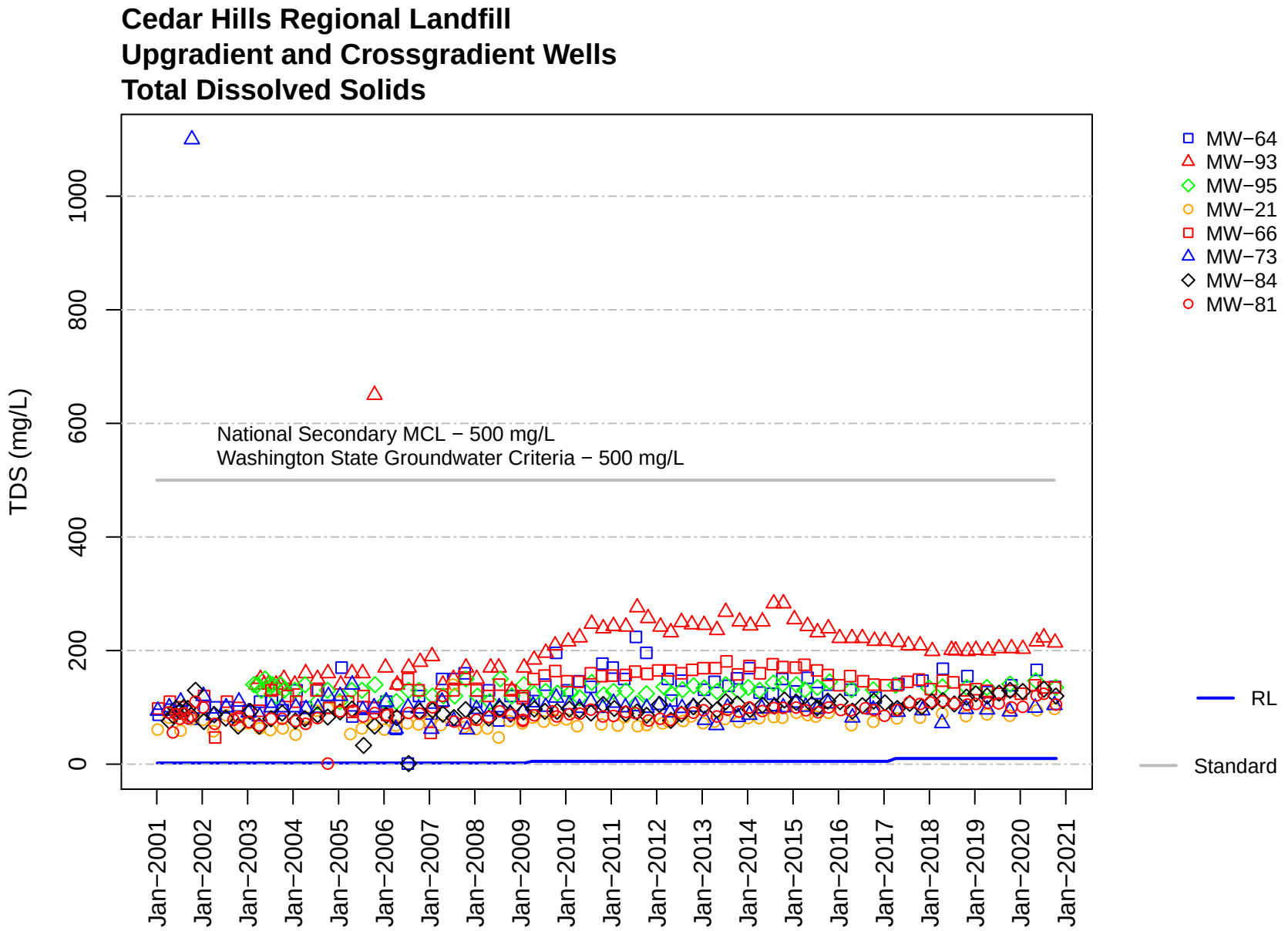

Cedar Hills Regional Landfill
Upgradient Wells
Sulfate
Sulfate (mg/L)
0
50
100
150
200
250
300
National Secondary MCL − 250 mg/L
Washington State Groundwater Criteria − 250 mg/L
Jan−2001
Jan−2002
Jan−2003
Jan−2004
Jan−2005
Jan−2006
Jan−2007
Jan−2008
Jan−2009
Jan−2010
Jan−2011
Jan−2012
Jan−2013
Jan−2014
Jan−2015
Jan−2016
Jan−2017
Jan−2018
Jan−2019
Jan−2020
Jan−2021
MW−56
MW−59
MW−76
MW−82
MW−83
MW−94
MW−24
MW−65
RL
Standard

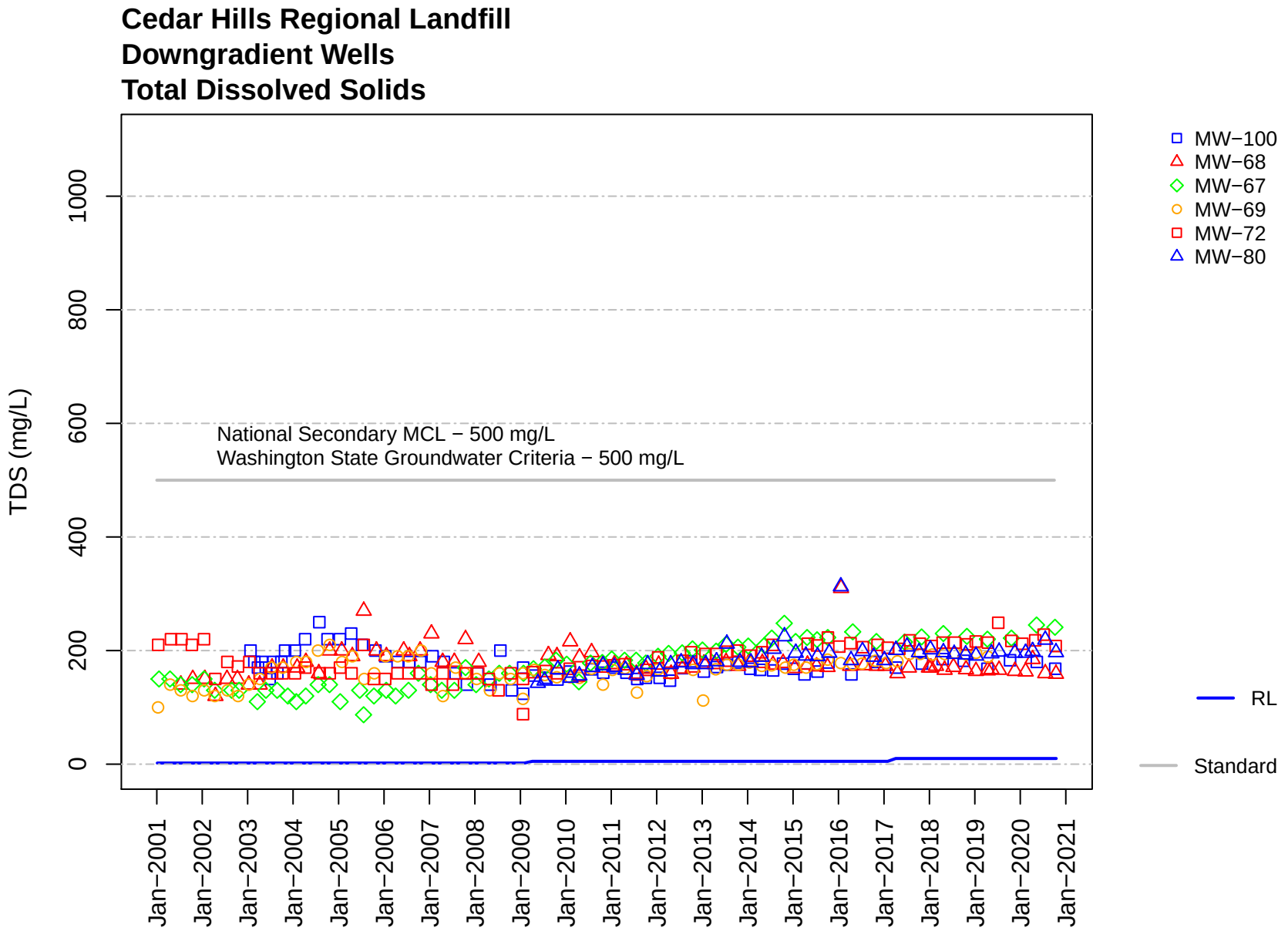

Cedar Hills Regional Landfill
Upgradient and Crossgradient Wells
Sulfate
Sulfate (mg/L)
0
50
100
150
200
250
300
National Secondary MCL − 250 mg/L
Washington State Groundwater Criteria − 250 mg/L
Jan−2001
Jan−2002
Jan−2003
Jan−2004
Jan−2005
Jan−2006
Jan−2007
Jan−2008
Jan−2009
Jan−2010
Jan−2011
Jan−2012
Jan−2013
Jan−2014
Jan−2015
Jan−2016
Jan−2017
Jan−2018
Jan−2019
Jan−2020
Jan−2021
MW−64
MW−93
MW−95
MW−21
MW−66
MW−73
MW−84
MW−81
RL
Standard

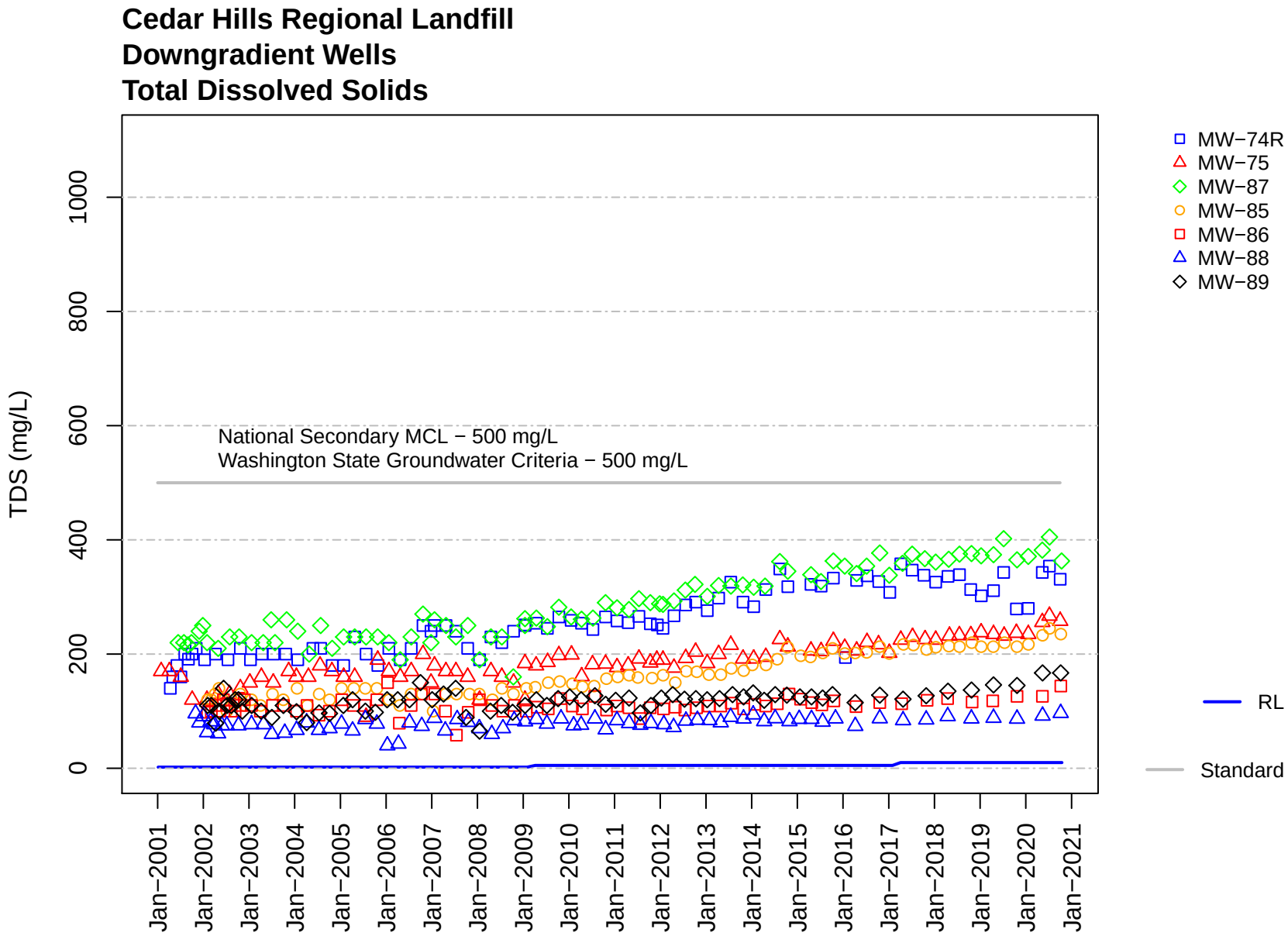

Cedar Hills Regional Landfill
Downgradient Wells
Sulfate
Sulfate (mg/L)
0
50
100
150
200
250
300
National Secondary MCL − 250 mg/L
Washington State Groundwater Criteria − 250 mg/L
Jan−2001
Jan−2002
Jan−2003
Jan−2004
Jan−2005
Jan−2006
Jan−2007
Jan−2008
Jan−2009
Jan−2010
Jan−2011
Jan−2012
Jan−2013
Jan−2014
Jan−2015
Jan−2016
Jan−2017
Jan−2018
Jan−2019
Jan−2020
Jan−2021
MW−100
MW−68
MW−67
MW−69
MW−72
MW−80
RL
Standard

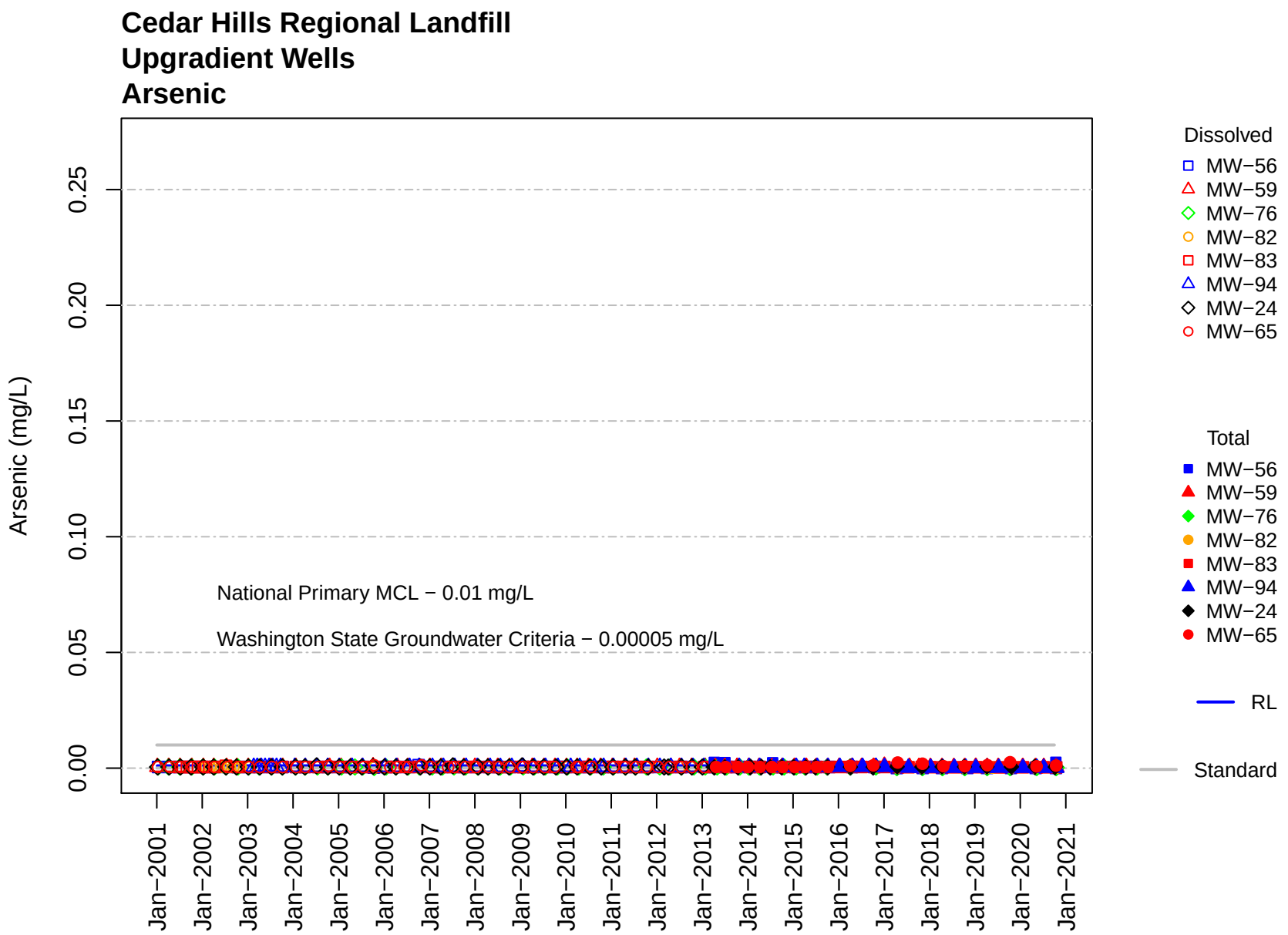

Cedar Hills Regional Landfill
Downgradient Wells
Sulfate
National Secondary MCL − 250 mg/L
Washington State Groundwater Criteria − 250 mg/L
Sulfate (mg/L)
0
50
100
150
200
250
300
Jan−2001
Jan−2002
Jan−2003
Jan−2004
Jan−2005
Jan−2006
Jan−2007
Jan−2008
Jan−2009
Jan−2010
Jan−2011
Jan−2012
Jan−2013
Jan−2014
Jan−2015
Jan−2016
Jan−2017
Jan−2018
Jan−2019
Jan−2020
Jan−2021
MW−74R
MW−75
MW−87
MW−85
MW−86
MW−88
MW−89
RL
Standard

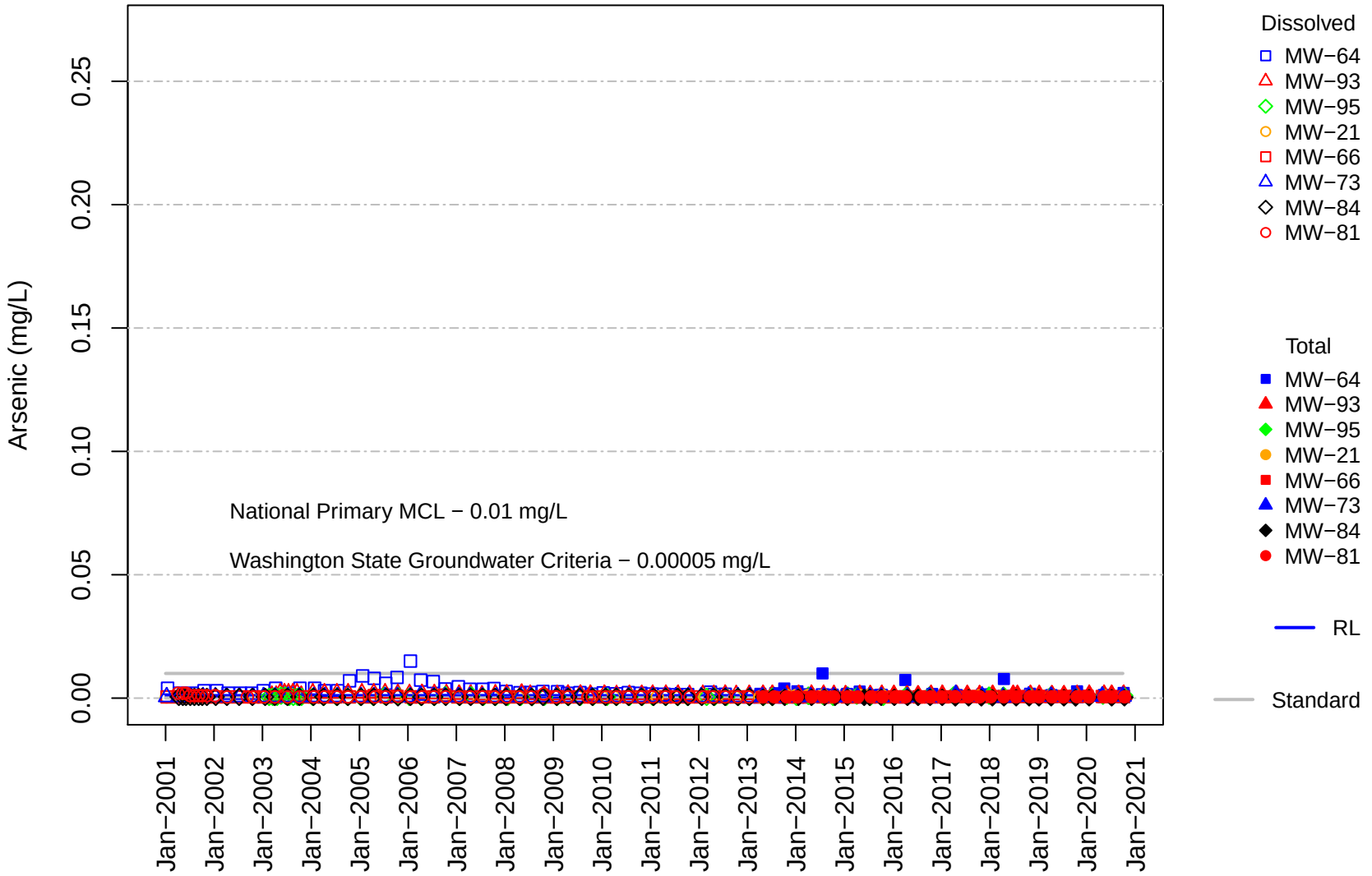

Cedar Hills Regional Landfill
Upgradient Wells
Total Dissolved Solids
TDS (mg/L)
0
200
400
600
800
1000
National Secondary MCL − 500 mg/L
Washington State Groundwater Criteria − 500 mg/L
Jan−2001
Jan−2002
Jan−2003
Jan−2004
Jan−2005
Jan−2006
Jan−2007
Jan−2008
Jan−2009
Jan−2010
Jan−2011
Jan−2012
Jan−2013
Jan−2014
Jan−2015
Jan−2016
Jan−2017
Jan−2018
Jan−2019
Jan−2020
Jan−2021
MW−56
MW−59
MW−76
MW−82
MW−83
MW−94
MW−24
MW−65
RL
Standard

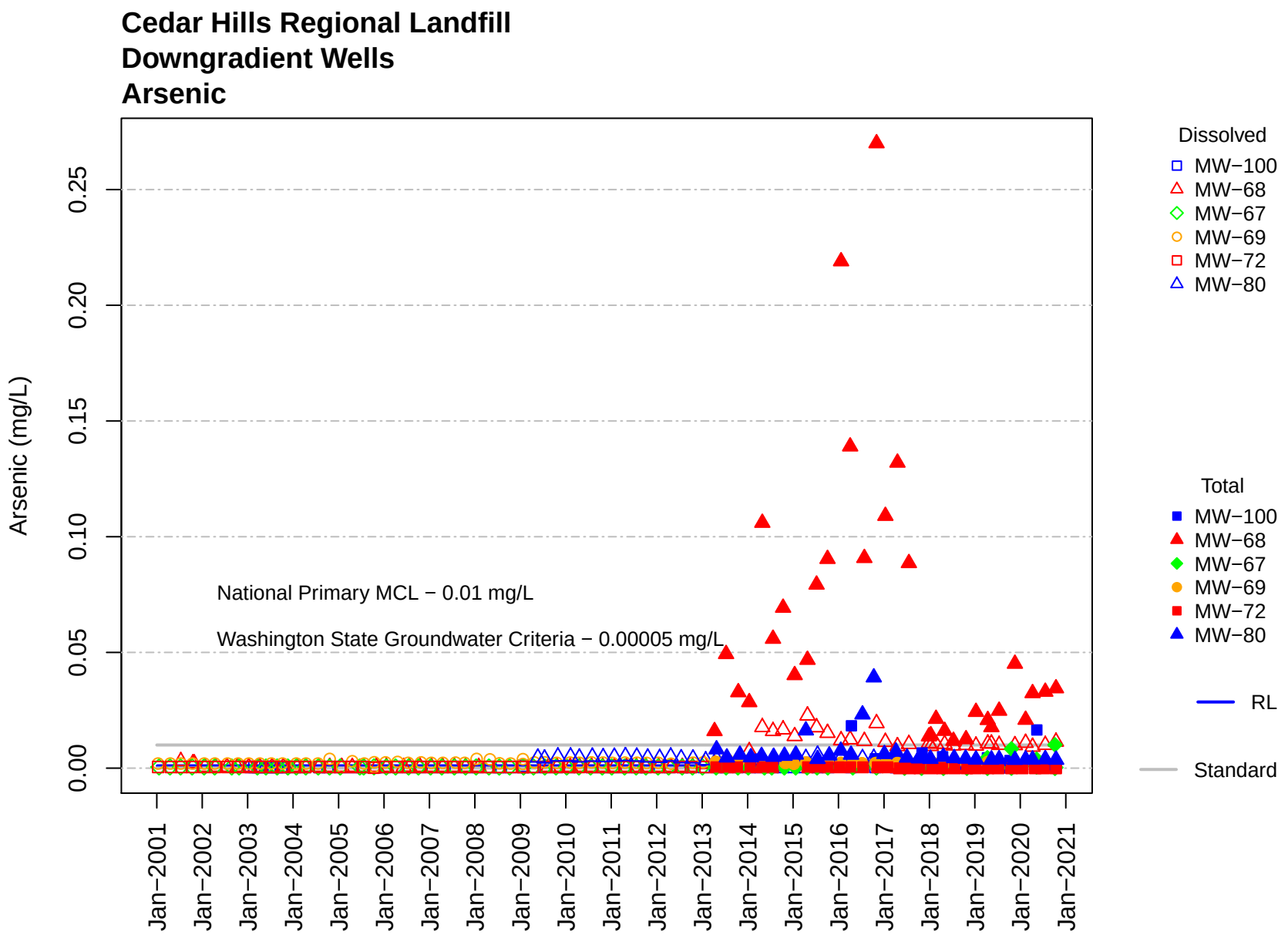

Cedar Hills Regional Landfill
Upgradient and Crossgradient Wells
Total Dissolved Solids
TDS (mg/L)
0
200
400
600
800
1000
National Secondary MCL − 500 mg/L
Washington State Groundwater Criteria − 500 mg/L
Jan−2001
Jan−2002
Jan−2003
Jan−2004
Jan−2005
Jan−2006
Jan−2007
Jan−2008
Jan−2009
Jan−2010
Jan−2011
Jan−2012
Jan−2013
Jan−2014
Jan−2015
Jan−2016
Jan−2017
Jan−2018
Jan−2019
Jan−2020
Jan−2021
MW−64
MW−93
MW−95
MW−21
MW−66
MW−73
MW−84
MW−81
RL
Standard

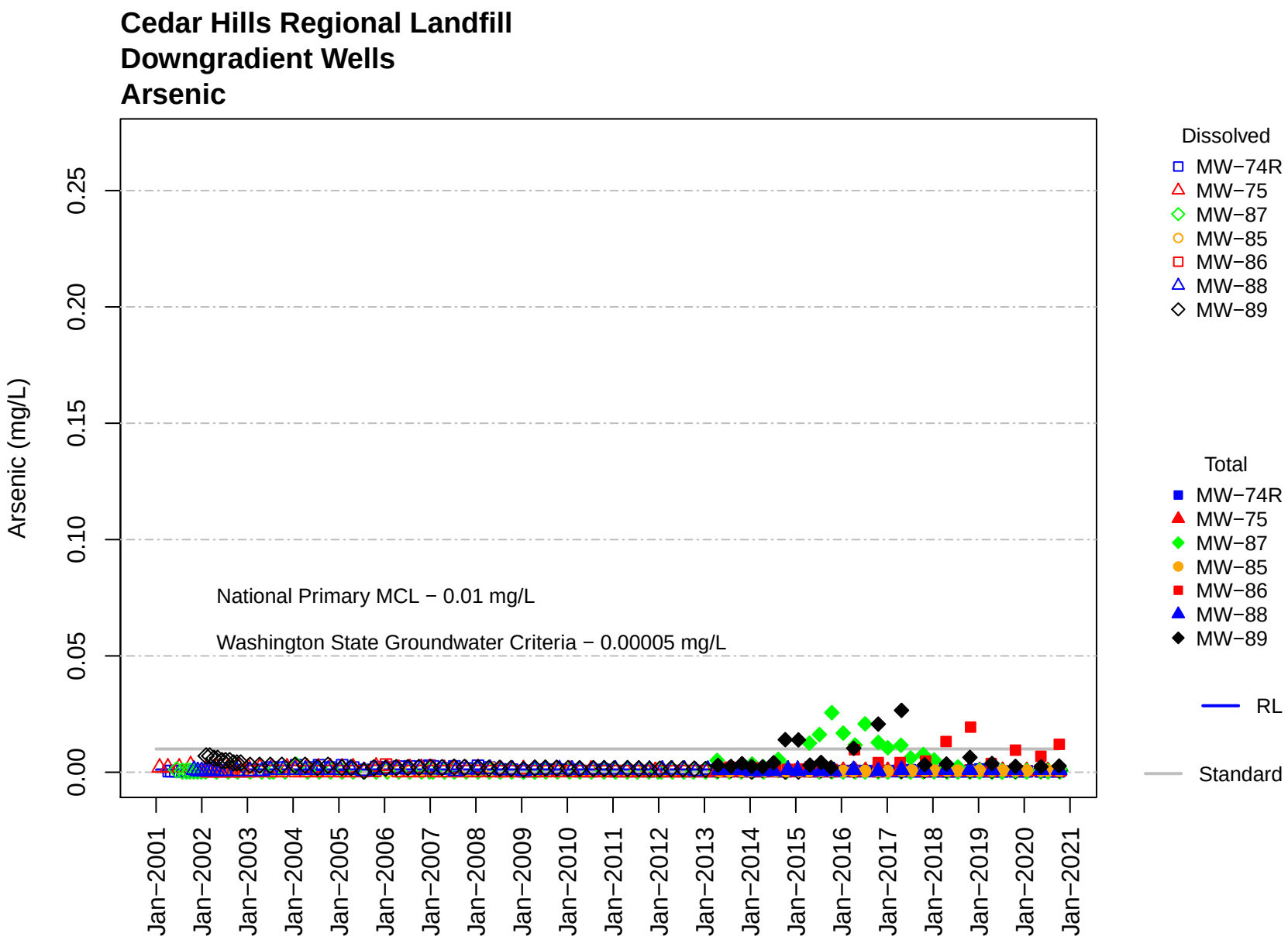

Cedar Hills Regional Landfill
Downgradient Wells
Total Dissolved Solids
TDS (mg/L)
0
200
400
600
800
1000
National Secondary MCL − 500 mg/L
Washington State Groundwater Criteria − 500 mg/L
Jan−2001
Jan−2002
Jan−2003
Jan−2004
Jan−2005
Jan−2006
Jan−2007
Jan−2008
Jan−2009
Jan−2010
Jan−2011
Jan−2012
Jan−2013
Jan−2014
Jan−2015
Jan−2016
Jan−2017
Jan−2018
Jan−2019
Jan−2020
Jan−2021
MW−100
MW−68
MW−67
MW−69
MW−72
MW−80
RL
Standard

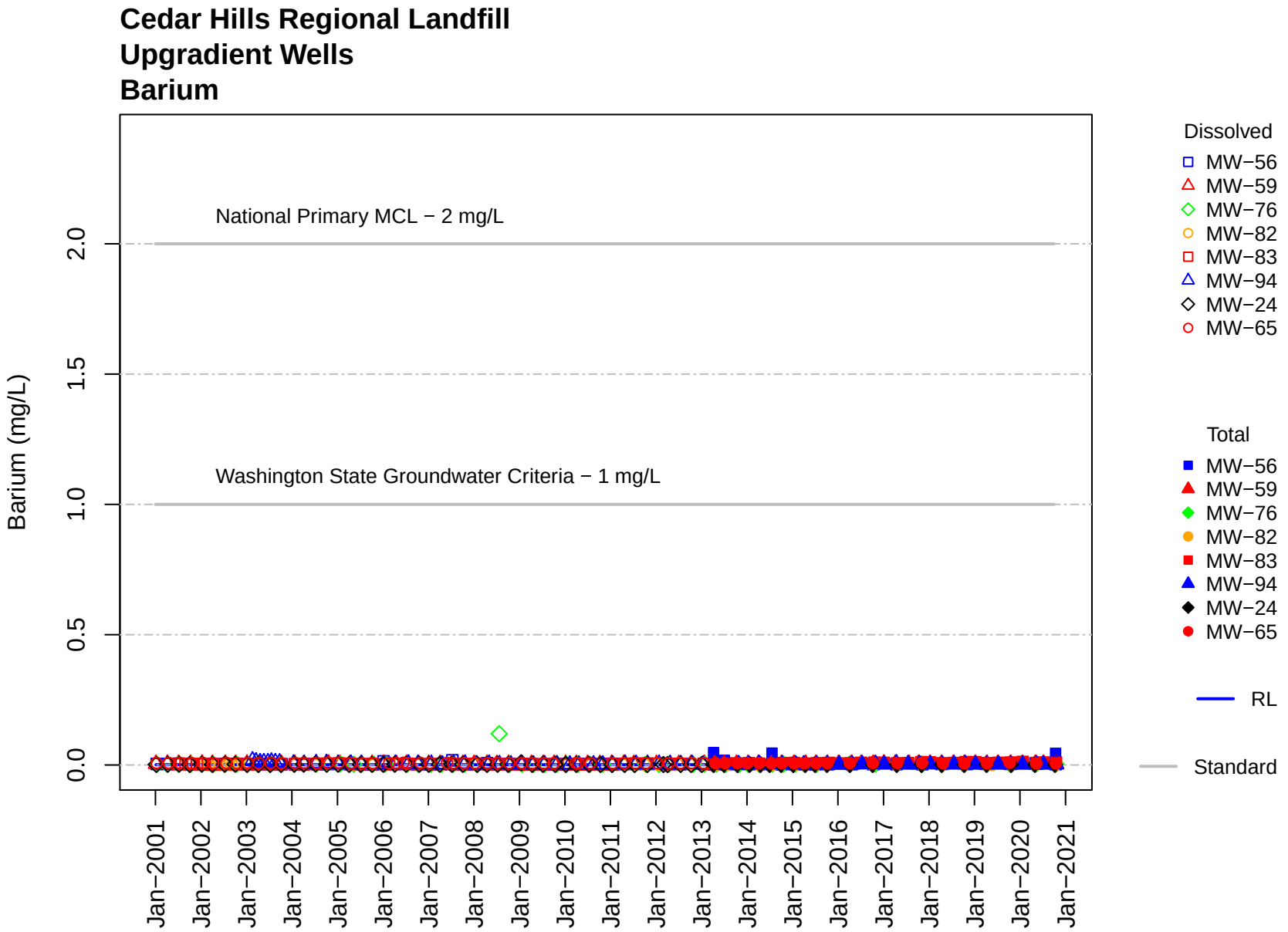

Cedar Hills Regional Landfill
Downgradient Wells
Total Dissolved Solids
TDS (mg/L)
0
200
400
600
800
1000
National Secondary MCL − 500 mg/L
Washington State Groundwater Criteria − 500 mg/L
Jan−2001
Jan−2002
Jan−2003
Jan−2004
Jan−2005
Jan−2006
Jan−2007
Jan−2008
Jan−2009
Jan−2010
Jan−2011
Jan−2012
Jan−2013
Jan−2014
Jan−2015
Jan−2016
Jan−2017
Jan−2018
Jan−2019
Jan−2020
Jan−2021
MW−74R
MW−75
MW−87
MW−85
MW−86
MW−88
MW−89
RL
Standard

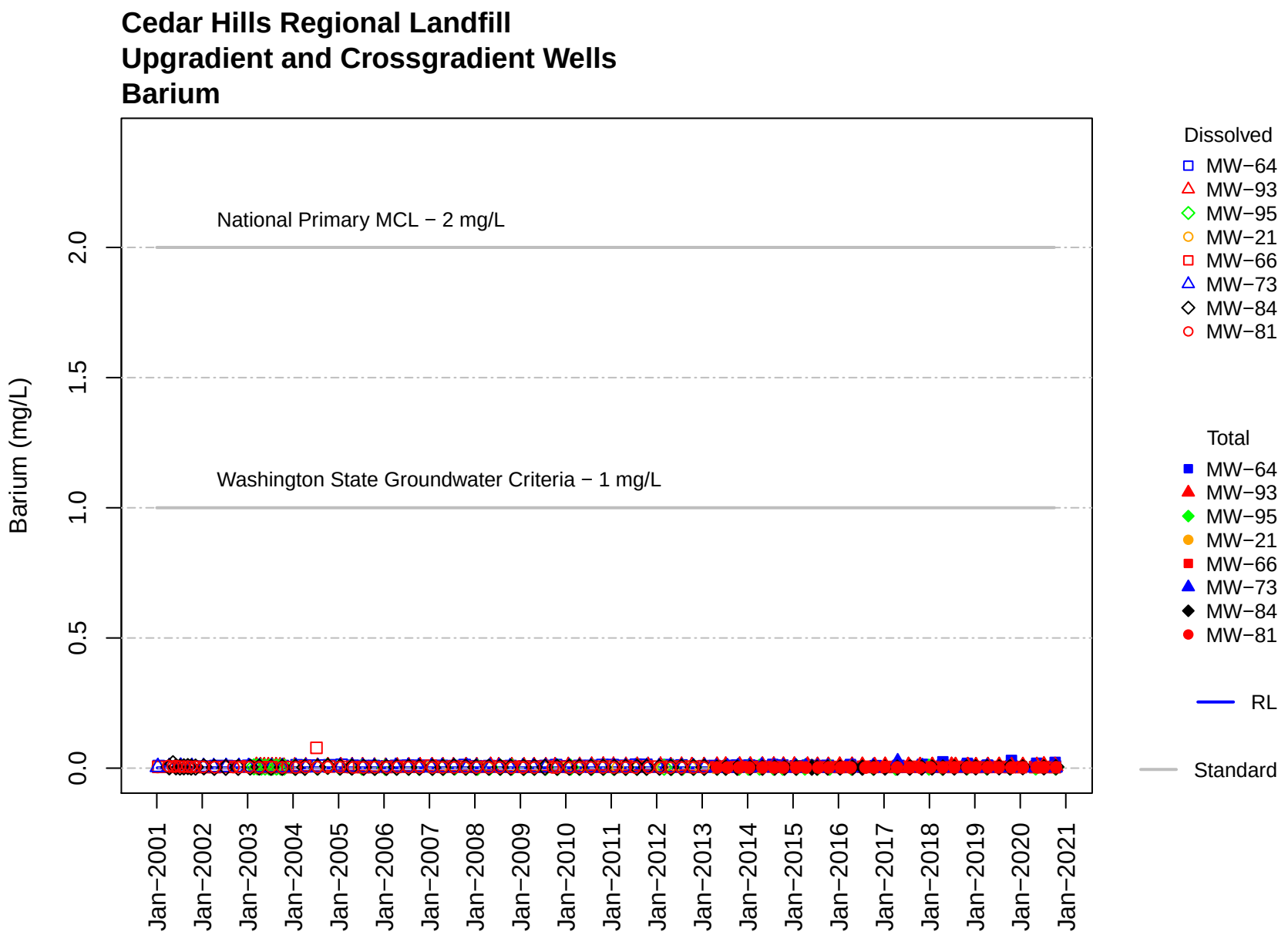

Cedar Hills Regional Landfill
Upgradient Wells
Arsenic
Arsenic (mg/L)
0.00
0.05
0.10
0.15
0.20
0.25
National Primary MCL − 0.01 mg/L
Washington State Groundwater Criteria − 0.00005 mg/L
Jan−2001
Jan−2002
Jan−2003
Jan−2004
Jan−2005
Jan−2006
Jan−2007
Jan−2008
Jan−2009
Jan−2010
Jan−2011
Jan−2012
Jan−2013
Jan−2014
Jan−2015
Jan−2016
Jan−2017
Jan−2018
Jan−2019
Jan−2020
Jan−2021
Dissolved
MW−56
MW−59
MW−76
MW−82
MW−83
MW−94
MW−24
MW−65
Total
MW−56
MW−59
MW−76
MW−82
MW−83
MW−94
MW−24
MW−65
RL
Standard

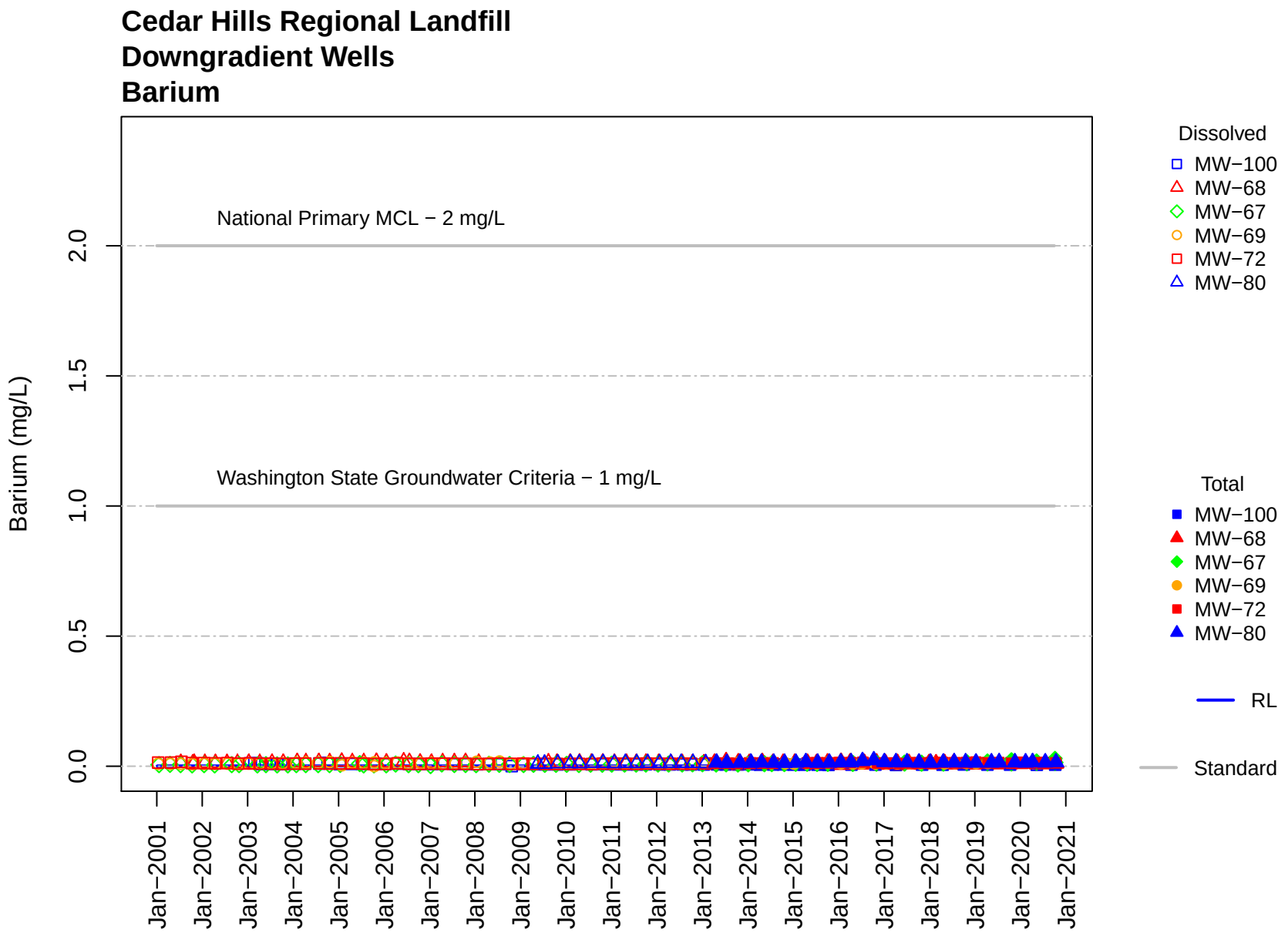

Cedar Hills Regional Landfill
Upgradient and Crossgradient Wells
Arsenic
Arsenic (mg/L)
0.00
0.05
0.10
0.15
0.20
0.25
National Primary MCL − 0.01 mg/L
Washington State Groundwater Criteria − 0.00005 mg/L
Jan−2001
Jan−2002
Jan−2003
Jan−2004
Jan−2005
Jan−2006
Jan−2007
Jan−2008
Jan−2009
Jan−2010
Jan−2011
Jan−2012
Jan−2013
Jan−2014
Jan−2015
Jan−2016
Jan−2017
Jan−2018
Jan−2019
Jan−2020
Jan−2021
Dissolved
MW−64
MW−93
MW−95
MW−21
MW−66
MW−73
MW−84
MW−81
Total
MW−64
MW−93
MW−95
MW−21
MW−66
MW−73
MW−84
MW−81
RL
Standard

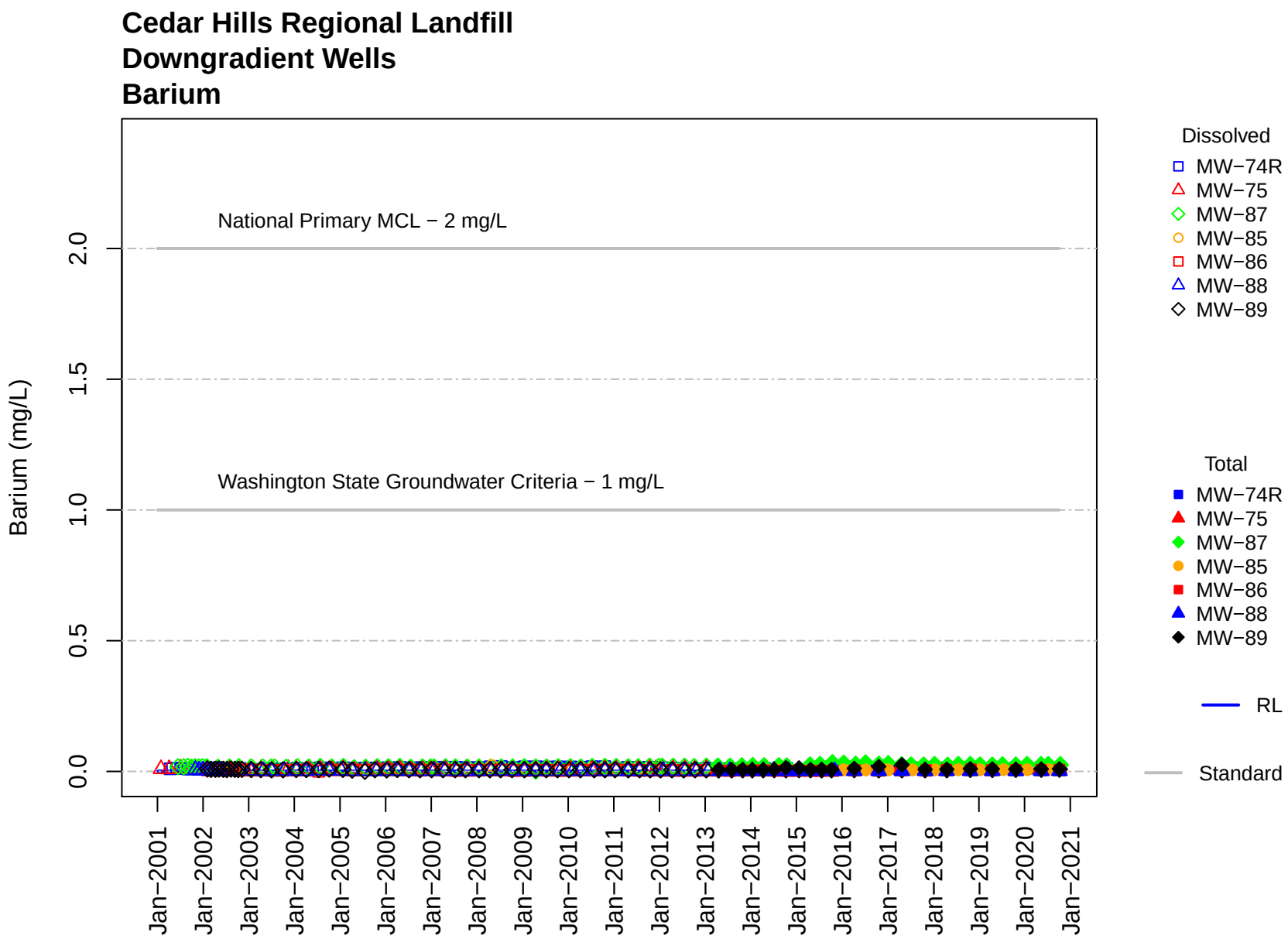

Cedar Hills Regional Landfill
Downgradient Wells
Arsenic
Arsenic (mg/L)
0.00
0.05
0.10
0.15
0.20
0.25
National Primary MCL − 0.01 mg/L
Washington State Groundwater Criteria − 0.00005 mg/L
Jan−2001
Jan−2002
Jan−2003
Jan−2004
Jan−2005
Jan−2006
Jan−2007
Jan−2008
Jan−2009
Jan−2010
Jan−2011
Jan−2012
Jan−2013
Jan−2014
Jan−2015
Jan−2016
Jan−2017
Jan−2018
Jan−2019
Jan−2020
Jan−2021
Dissolved
MW−100
MW−68
MW−67
MW−69
MW−72
MW−80
Total
MW−100
MW−68
MW−67
MW−69
MW−72
MW−80
RL
Standard

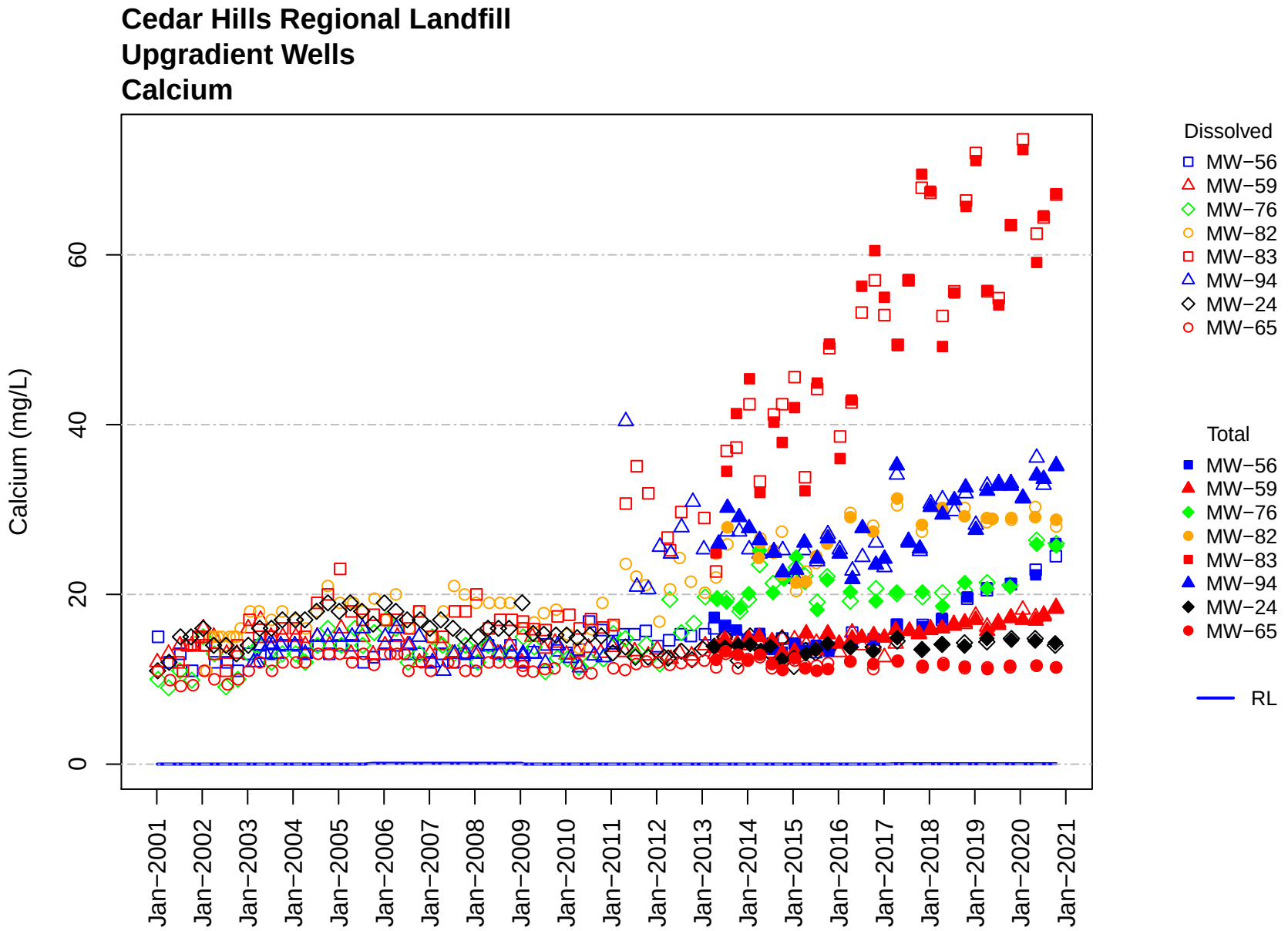

Cedar Hills Regional Landfill
Downgradient Wells
Arsenic
Arsenic (mg/L)
0.00
0.05
0.10
0.15
0.20
0.25
National Primary MCL − 0.01 mg/L
Washington State Groundwater Criteria − 0.00005 mg/L
Jan−2001
Jan−2002
Jan−2003
Jan−2004
Jan−2005
Jan−2006
Jan−2007
Jan−2008
Jan−2009
Jan−2010
Jan−2011
Jan−2012
Jan−2013
Jan−2014
Jan−2015
Jan−2016
Jan−2017
Jan−2018
Jan−2019
Jan−2020
Jan−2021
Dissolved
MW−74R
MW−75
MW−87
MW−85
MW−86
MW−88
MW−89
Total
MW−74R
MW−75
MW−87
MW−85
MW−86
MW−88
MW−89
RL
Standard

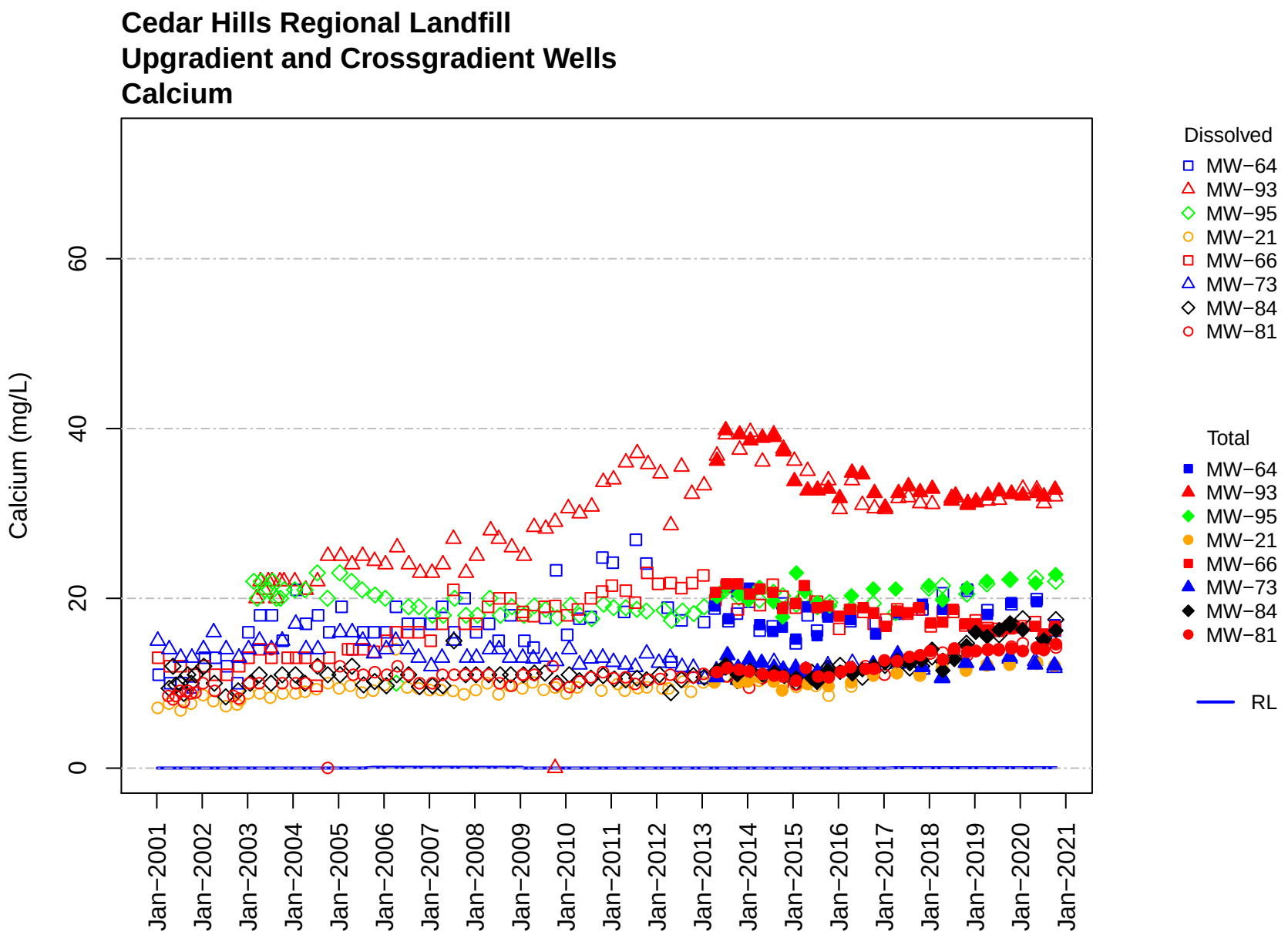

Cedar Hills Regional Landfill
Upgradient Wells
Barium
National Primary MCL − 2 mg/L
Washington State Groundwater Criteria − 1 mg/L
Barium (mg/L)
0.0
0.5
1.0
1.5
2.0
Jan−2001
Jan−2002
Jan−2003
Jan−2004
Jan−2005
Jan−2006
Jan−2007
Jan−2008
Jan−2009
Jan−2010
Jan−2011
Jan−2012
Jan−2013
Jan−2014
Jan−2015
Jan−2016
Jan−2017
Jan−2018
Jan−2019
Jan−2020
Jan−2021
Dissolved
MW−56
MW−59
MW−76
MW−82
MW−83
MW−94
MW−24
MW−65
Total
MW−56
MW−59
MW−76
MW−82
MW−83
MW−94
MW−24
MW−65
RL
Standard

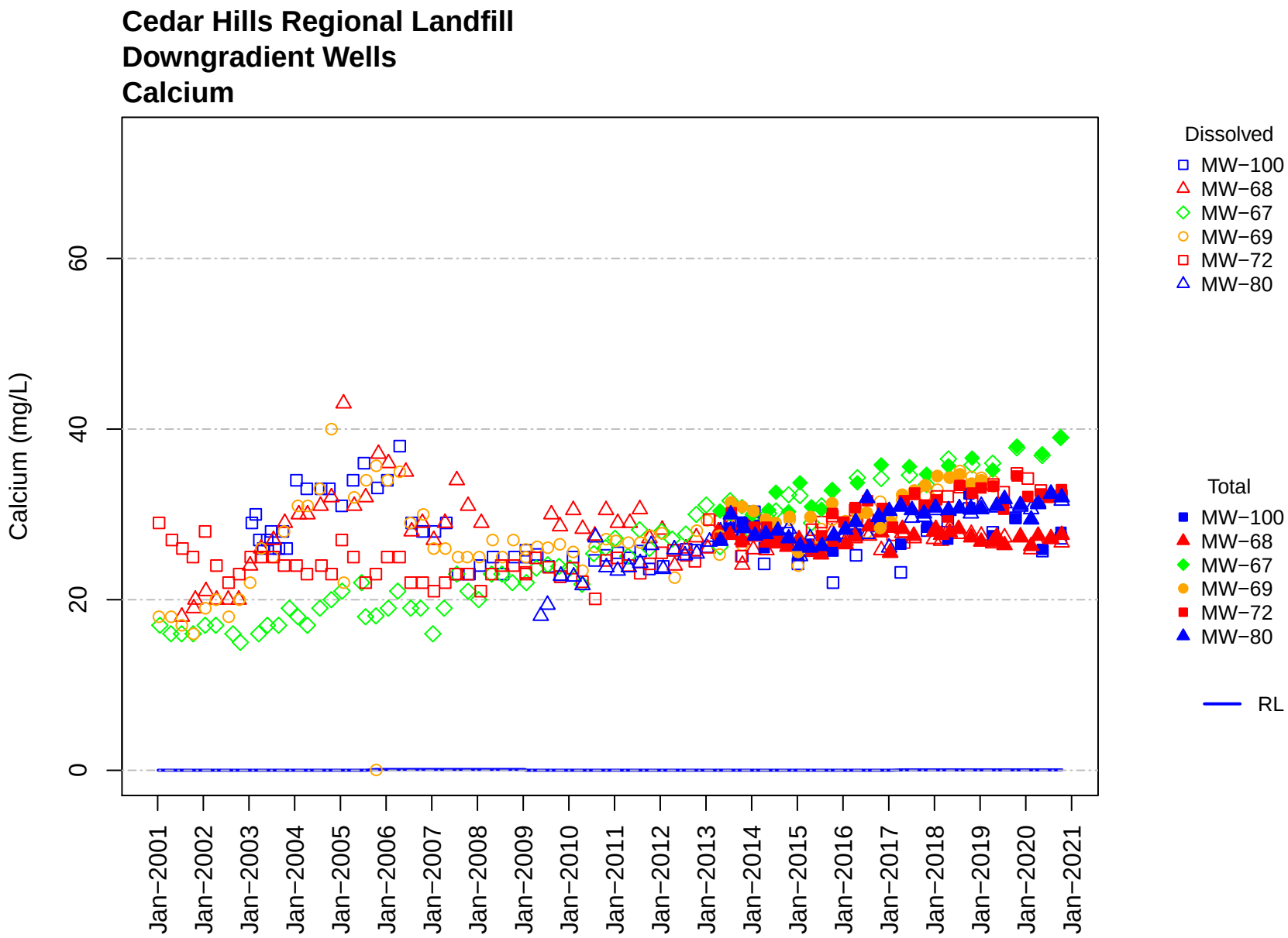

Cedar Hills Regional Landfill
Upgradient and Crossgradient Wells
Barium
Barium (mg/L)
0.0
0.5
1.0
1.5
2.0
National Primary MCL − 2 mg/L
Washington State Groundwater Criteria − 1 mg/L
Jan−2001
Jan−2002
Jan−2003
Jan−2004
Jan−2005
Jan−2006
Jan−2007
Jan−2008
Jan−2009
Jan−2010
Jan−2011
Jan−2012
Jan−2013
Jan−2014
Jan−2015
Jan−2016
Jan−2017
Jan−2018
Jan−2019
Jan−2020
Jan−2021
Dissolved
MW−64
MW−93
MW−95
MW−21
MW−66
MW−73
MW−84
MW−81
Total
MW−64
MW−93
MW−95
MW−21
MW−66
MW−73
MW−84
MW−81
RL
Standard

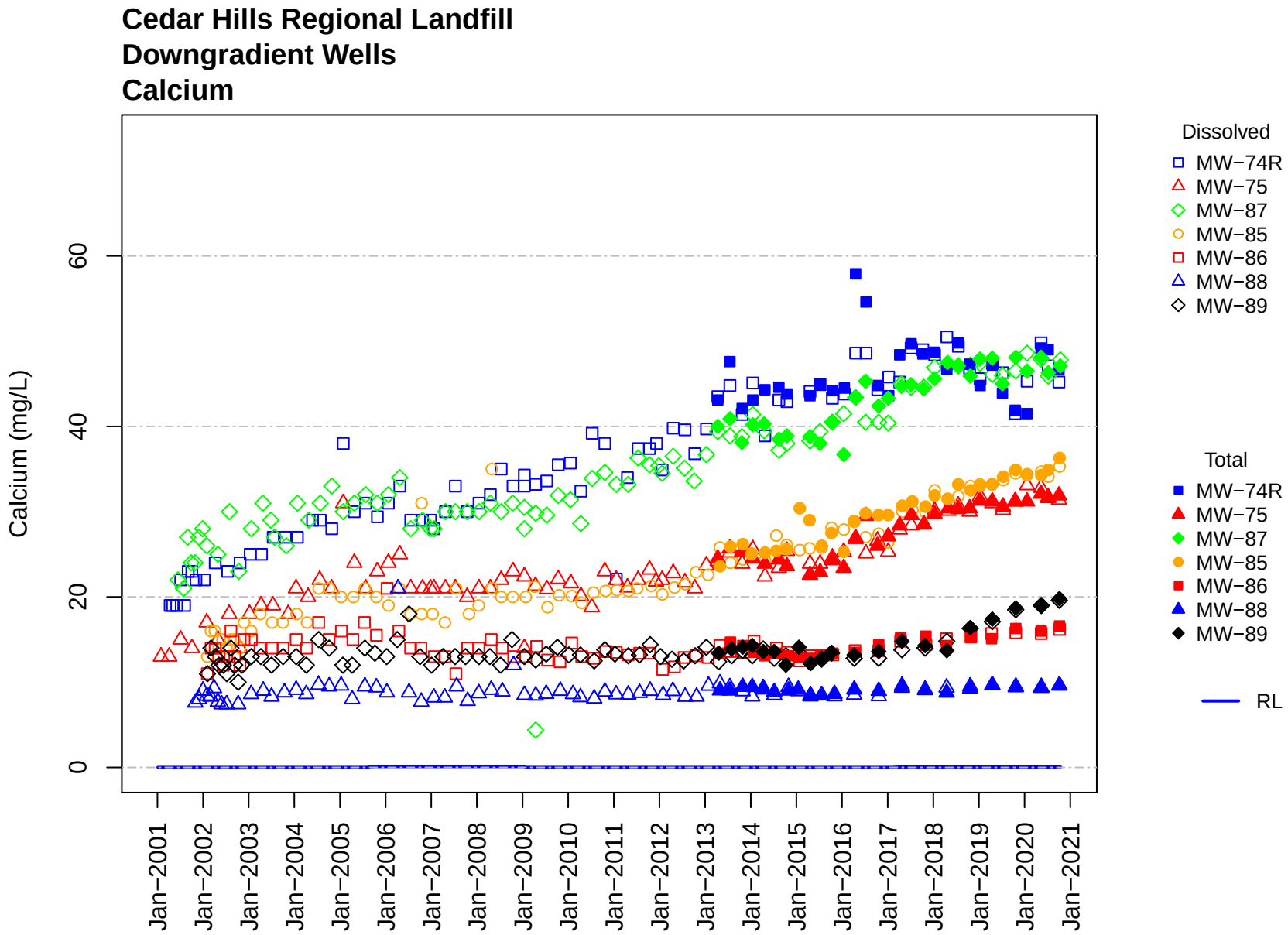

Cedar Hills Regional Landfill
Downgradient Wells
Barium
National Primary MCL − 2 mg/L
Washington State Groundwater Criteria − 1 mg/L
Barium (mg/L)
0.0
0.5
1.0
1.5
2.0
Jan−2001
Jan−2002
Jan−2003
Jan−2004
Jan−2005
Jan−2006
Jan−2007
Jan−2008
Jan−2009
Jan−2010
Jan−2011
Jan−2012
Jan−2013
Jan−2014
Jan−2015
Jan−2016
Jan−2017
Jan−2018
Jan−2019
Jan−2020
Jan−2021
Dissolved
MW−100
MW−68
MW−67
MW−69
MW−72
MW−80
Total
MW−100
MW−68
MW−67
MW−69
MW−72
MW−80
RL
Standard

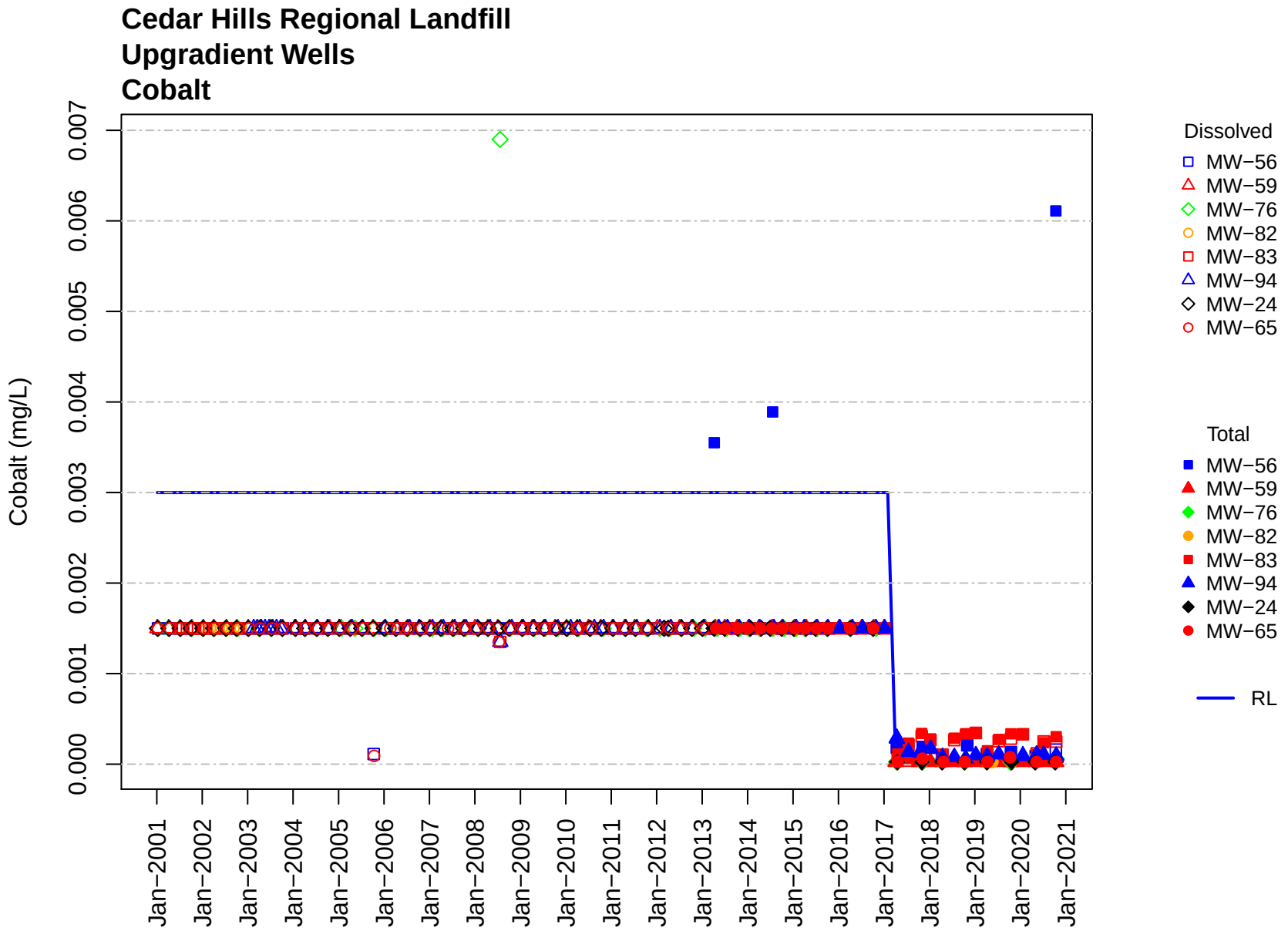

Cedar Hills Regional Landfill
Downgradient Wells
Barium
National Primary MCL − 2 mg/L
Washington State Groundwater Criteria − 1 mg/L
Barium (mg/L)
0.0
0.5
1.0
1.5
2.0
Jan−2001
Jan−2002
Jan−2003
Jan−2004
Jan−2005
Jan−2006
Jan−2007
Jan−2008
Jan−2009
Jan−2010
Jan−2011
Jan−2012
Jan−2013
Jan−2014
Jan−2015
Jan−2016
Jan−2017
Jan−2018
Jan−2019
Jan−2020
Jan−2021
Dissolved
MW−74R
MW−75
MW−87
MW−85
MW−86
MW−88
MW−89
Total
MW−74R
MW−75
MW−87
MW−85
MW−86
MW−88
MW−89
RL
Standard

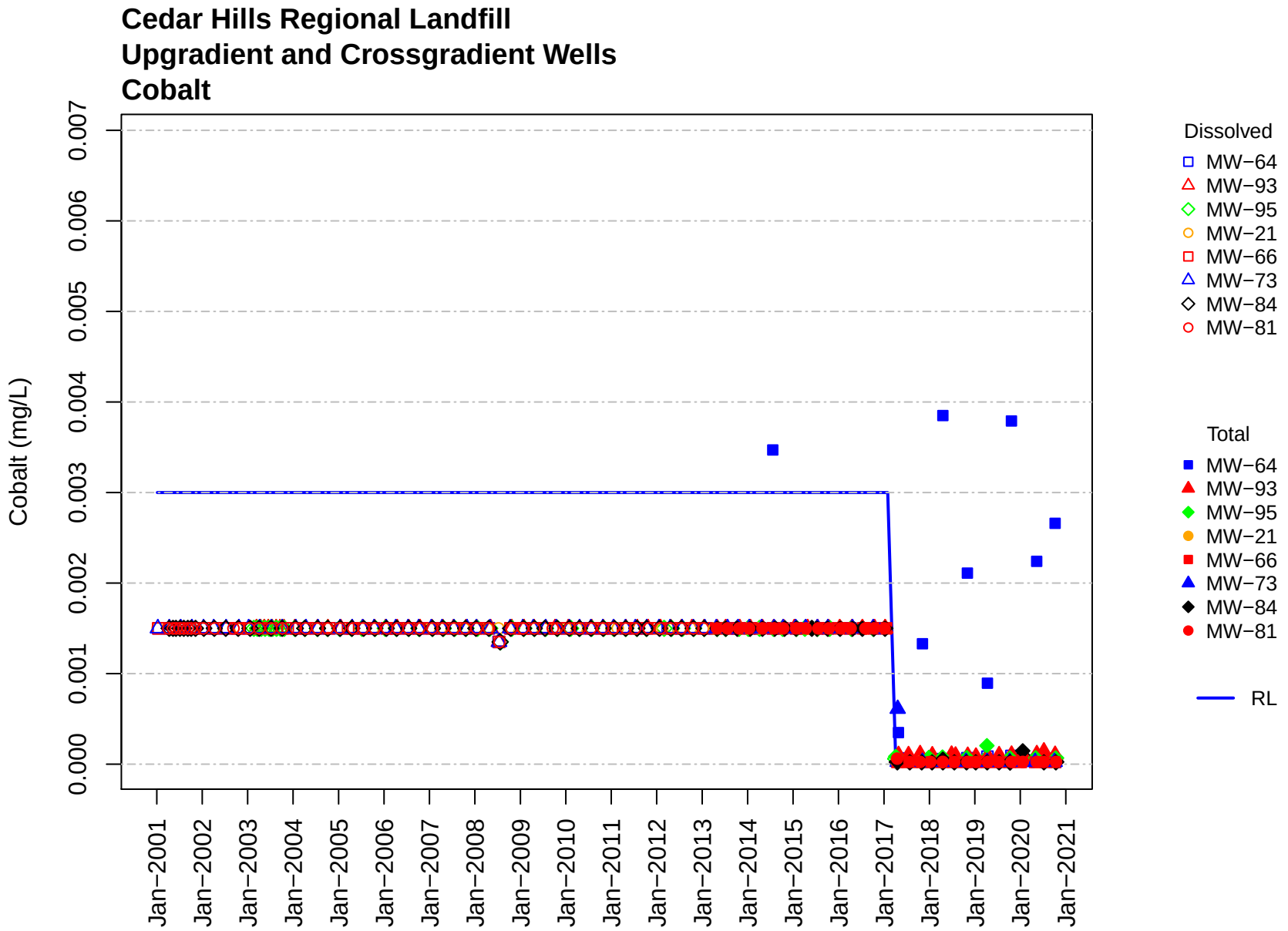

Cedar Hills Regional Landfill
Upgradient Wells
Calcium
Calcium (mg/L)
0
20
40
60
Jan−2001
Jan−2002
Jan−2003
Jan−2004
Jan−2005
Jan−2006
Jan−2007
Jan−2008
Jan−2009
Jan−2010
Jan−2011
Jan−2012
Jan−2013
Jan−2014
Jan−2015
Jan−2016
Jan−2017
Jan−2018
Jan−2019
Jan−2020
Jan−2021
Dissolved
MW−56
MW−59
MW−76
MW−82
MW−83
MW−94
MW−24
MW−65
Total
MW−56
MW−59
MW−76
MW−82
MW−83
MW−94
MW−24
MW−65
RL

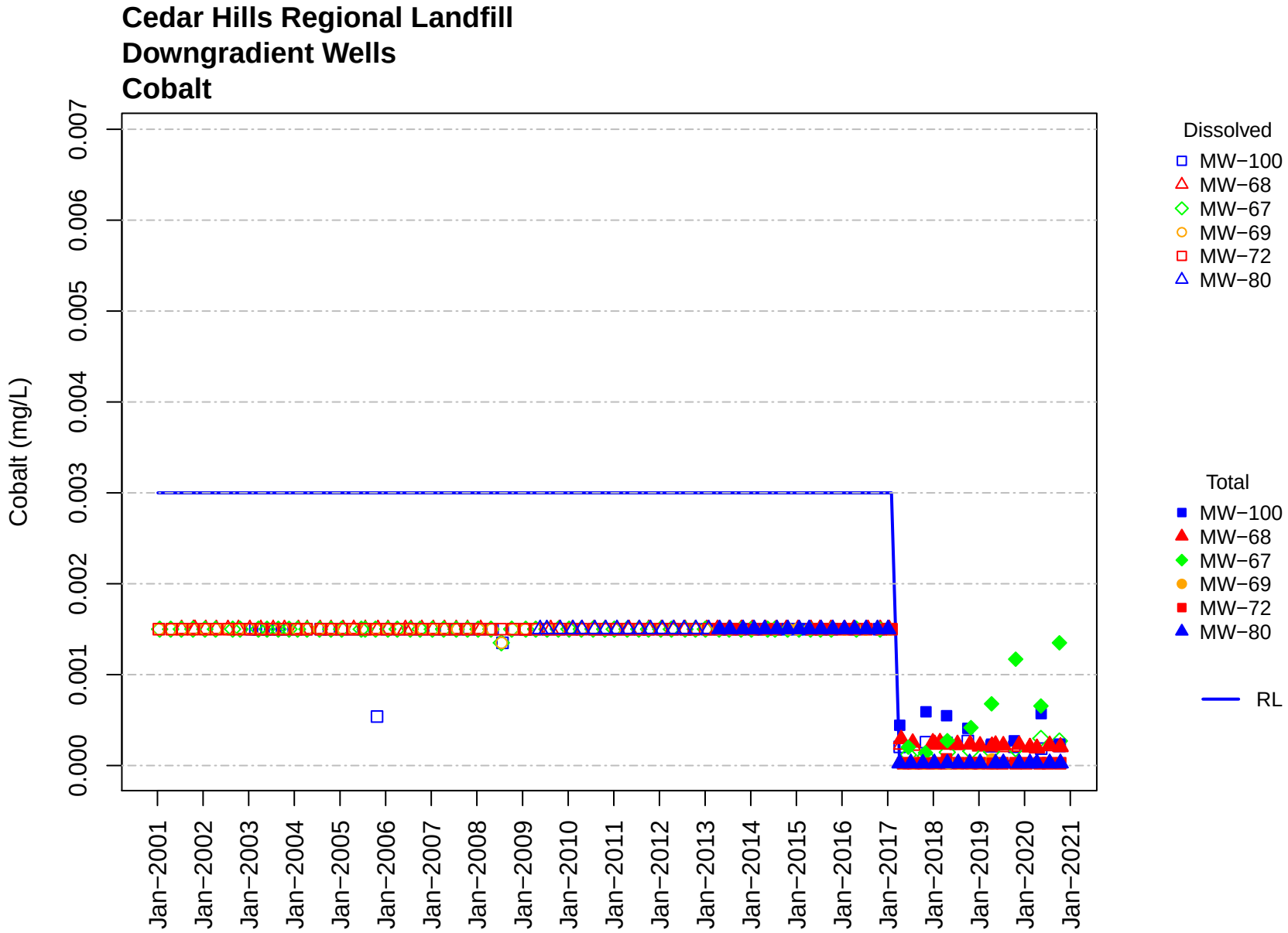

Cedar Hills Regional Landfill
Upgradient and Crossgradient Wells
Calcium
Calcium (mg/L)
0
20
40
60
Jan−2001
Jan−2002
Jan−2003
Jan−2004
Jan−2005
Jan−2006
Jan−2007
Jan−2008
Jan−2009
Jan−2010
Jan−2011
Jan−2012
Jan−2013
Jan−2014
Jan−2015
Jan−2016
Jan−2017
Jan−2018
Jan−2019
Jan−2020
Jan−2021
Dissolved
MW−64
MW−93
MW−95
MW−21
MW−66
MW−73
MW−84
MW−81
Total
MW−64
MW−93
MW−95
MW−21
MW−66
MW−73
MW−84
MW−81
RL

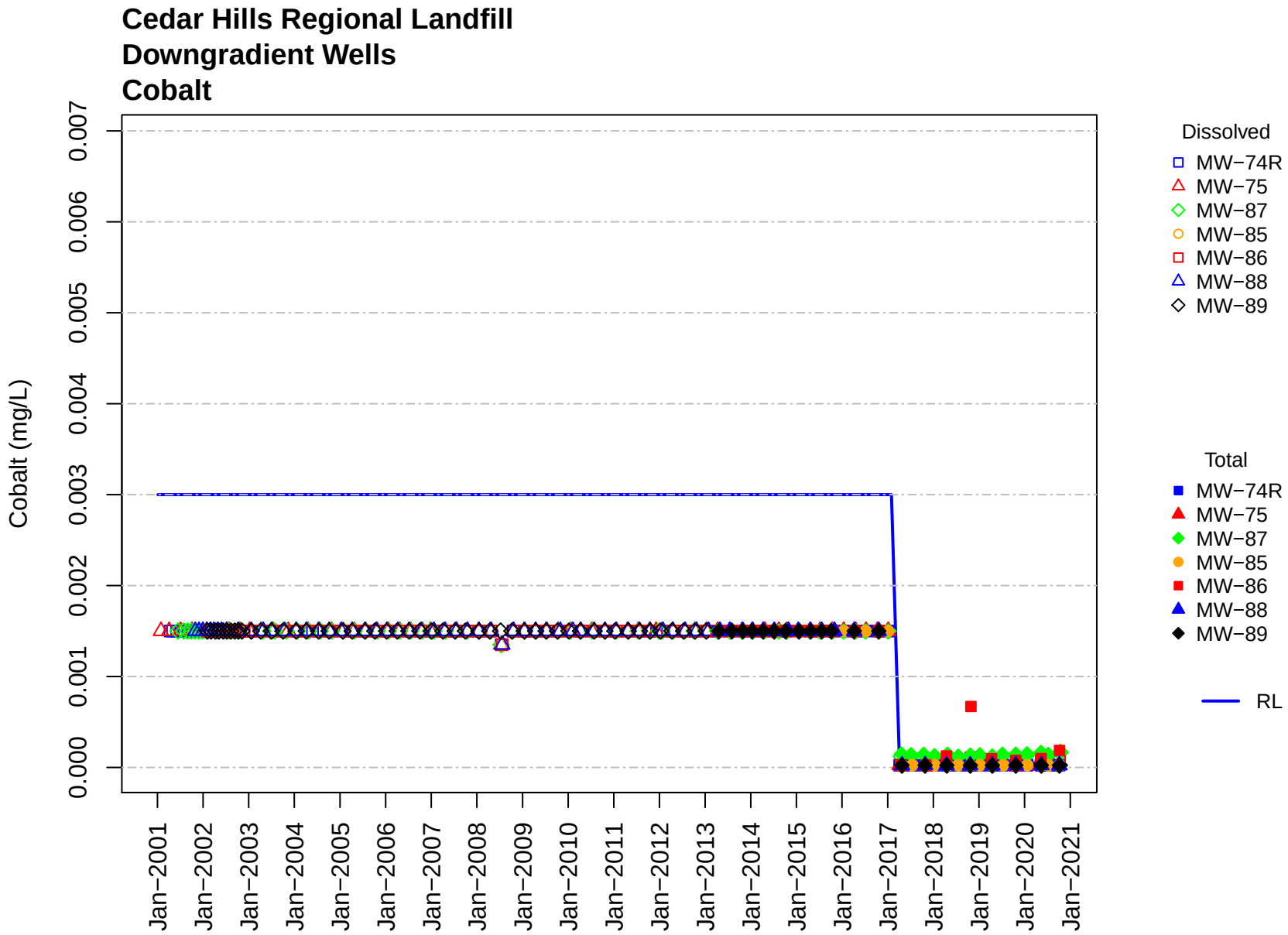

Cedar Hills Regional Landfill
Downgradient Wells
Calcium
Calcium (mg/L)
0
20
40
60
Jan−2001
Jan−2002
Jan−2003
Jan−2004
Jan−2005
Jan−2006
Jan−2007
Jan−2008
Jan−2009
Jan−2010
Jan−2011
Jan−2012
Jan−2013
Jan−2014
Jan−2015
Jan−2016
Jan−2017
Jan−2018
Jan−2019
Jan−2020
Jan−2021
Dissolved
MW−100
MW−68
MW−67
MW−69
MW−72
MW−80
Total
MW−100
MW−68
MW−67
MW−69
MW−72
MW−80
RL

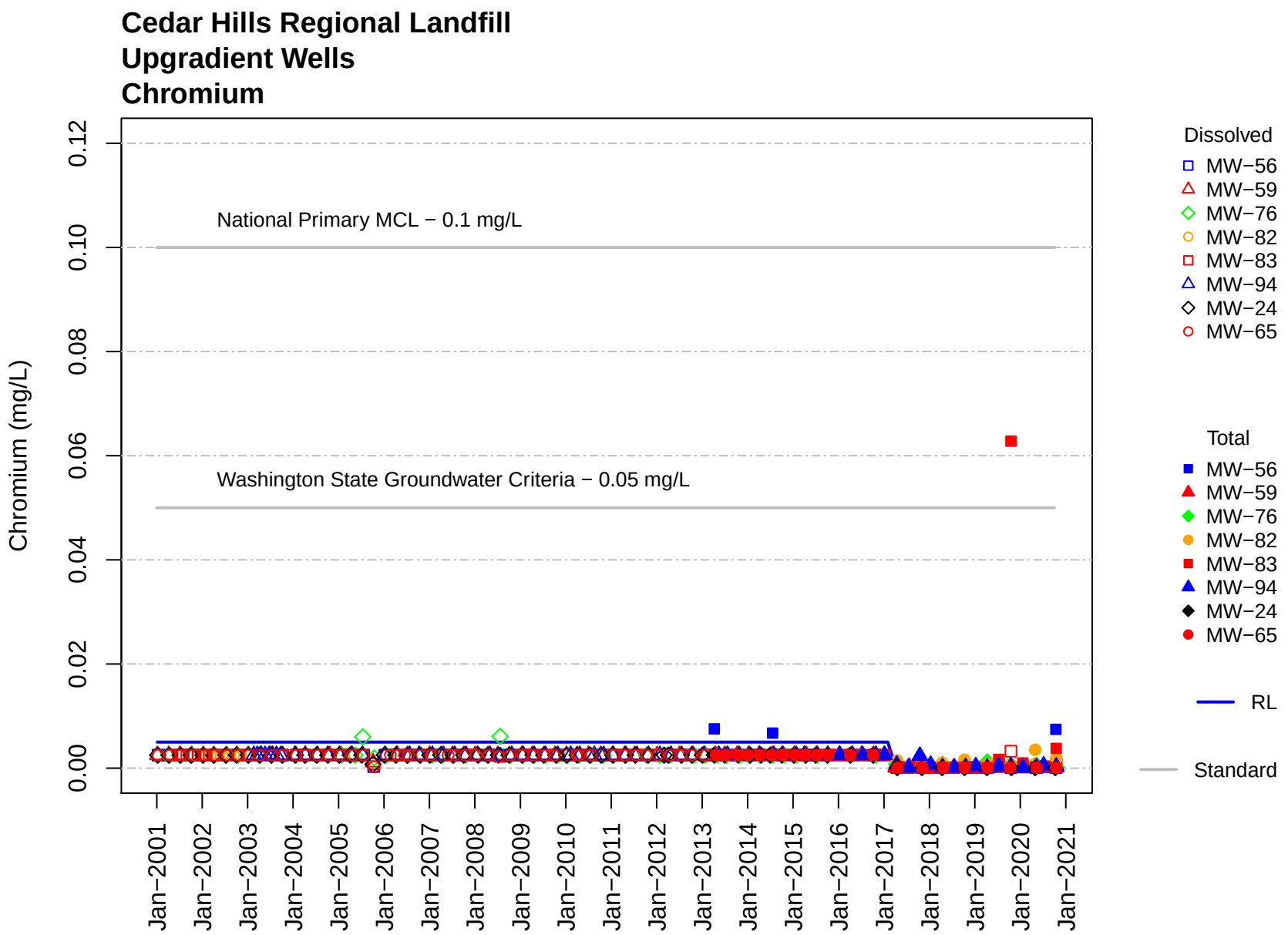

Cedar Hills Regional Landfill
Downgradient Wells
Calcium
Calcium (mg/L)
0
20
40
60
Jan−2001
Jan−2002
Jan−2003
Jan−2004
Jan−2005
Jan−2006
Jan−2007
Jan−2008
Jan−2009
Jan−2010
Jan−2011
Jan−2012
Jan−2013
Jan−2014
Jan−2015
Jan−2016
Jan−2017
Jan−2018
Jan−2019
Jan−2020
Jan−2021
Dissolved
MW−74R
MW−75
MW−87
MW−85
MW−86
MW−88
MW−89
Total
MW−74R
MW−75
MW−87
MW−85
MW−86
MW−88
MW−89
RL

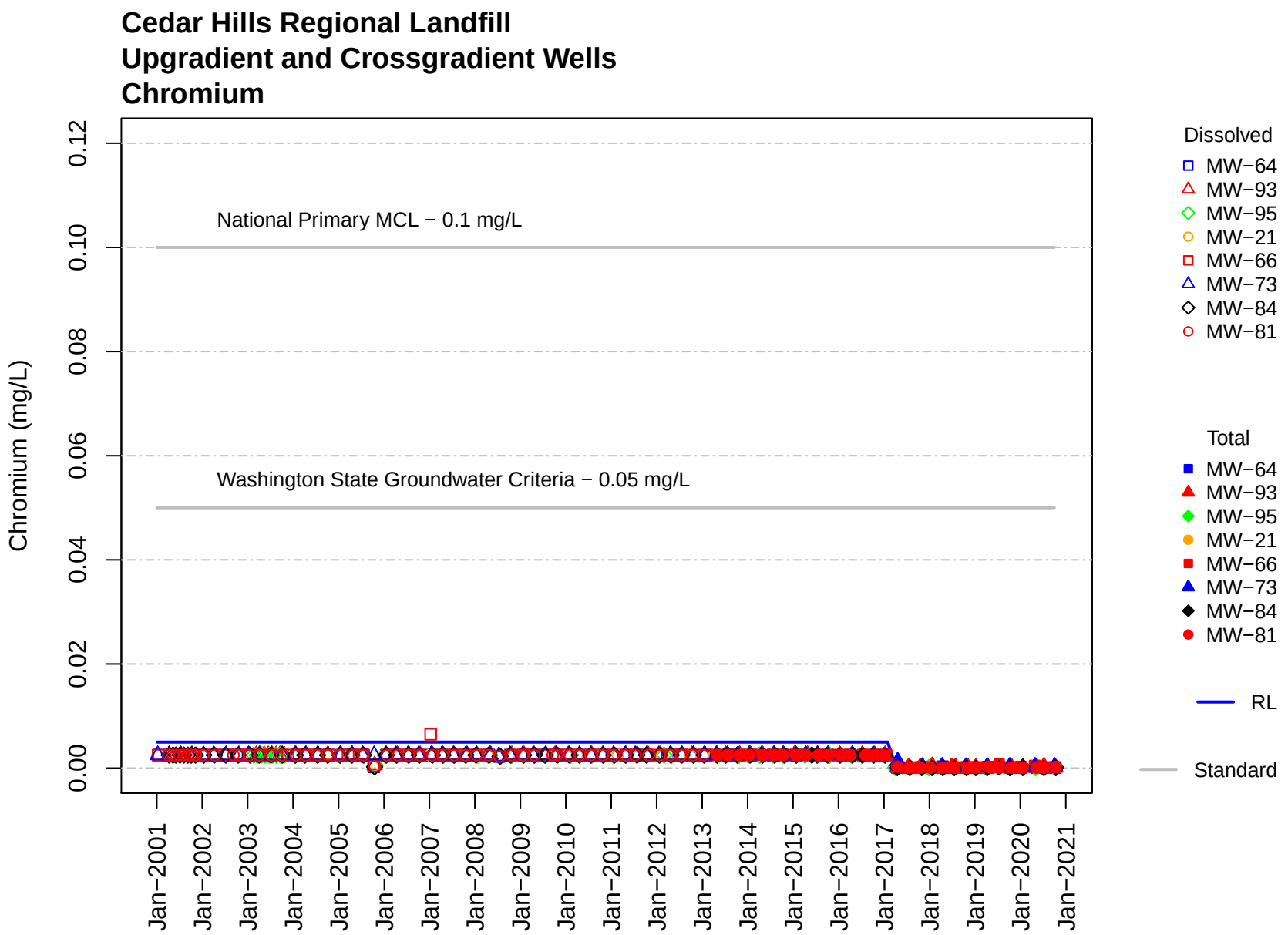

Cedar Hills Regional Landfill
Upgradient Wells
Cobalt
Cobalt (mg/L)
0.000
0.001
0.002
0.003
0.004
0.005
0.006
0.007
Jan−2001
Jan−2002
Jan−2003
Jan−2004
Jan−2005
Jan−2006
Jan−2007
Jan−2008
Jan−2009
Jan−2010
Jan−2011
Jan−2012
Jan−2013
Jan−2014
Jan−2015
Jan−2016
Jan−2017
Jan−2018
Jan−2019
Jan−2020
Jan−2021
Dissolved
MW−56
MW−59
MW−76
MW−82
MW−83
MW−94
MW−24
MW−65
Total
MW−56
MW−59
MW−76
MW−82
MW−83
MW−94
MW−24
MW−65
RL

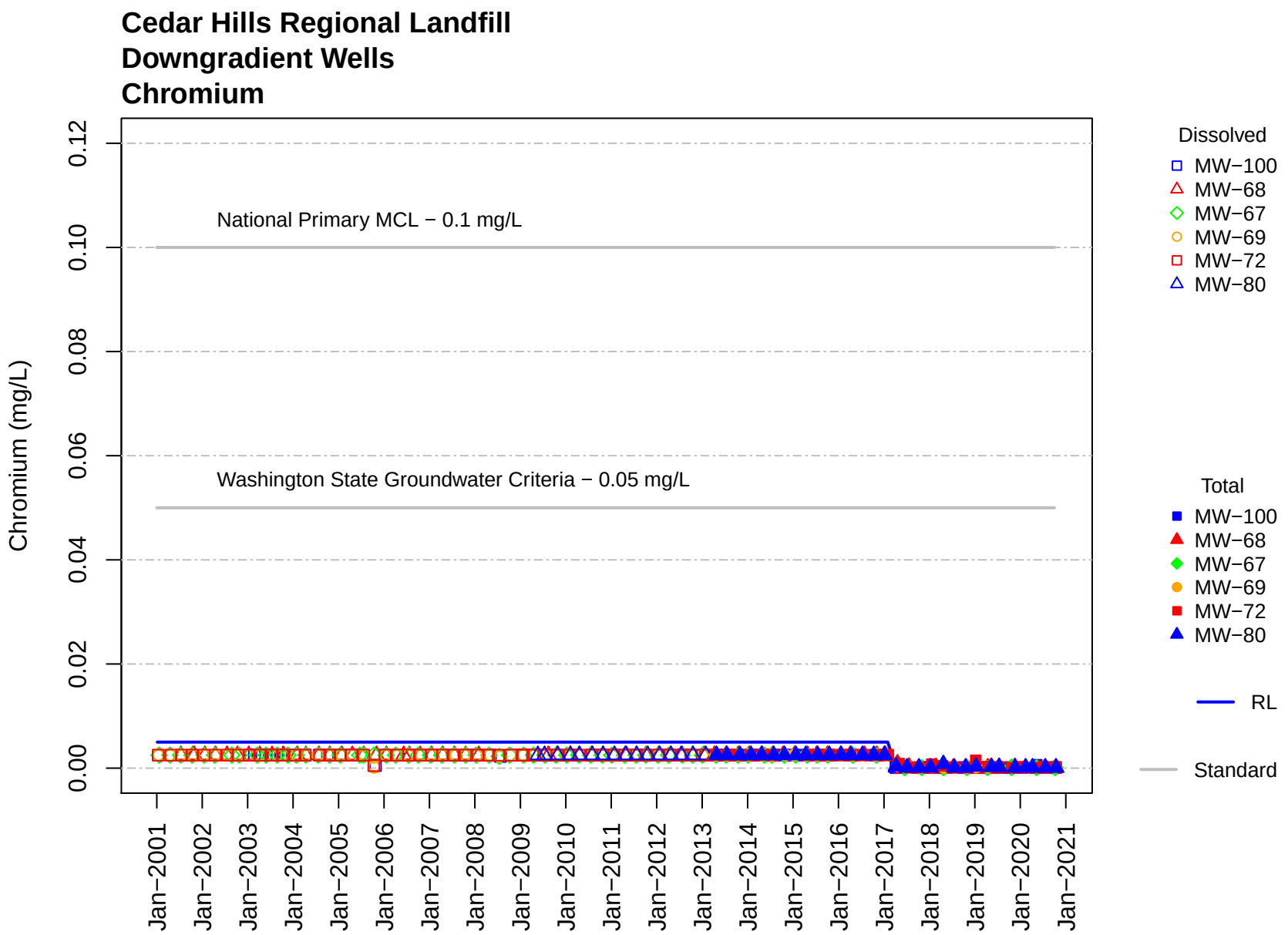

Cedar Hills Regional Landfill
Upgradient and Crossgradient Wells
Cobalt
Cobalt (mg/L)
0.000
0.001
0.002
0.003
0.004
0.005
0.006
0.007
Jan−2001
Jan−2002
Jan−2003
Jan−2004
Jan−2005
Jan−2006
Jan−2007
Jan−2008
Jan−2009
Jan−2010
Jan−2011
Jan−2012
Jan−2013
Jan−2014
Jan−2015
Jan−2016
Jan−2017
Jan−2018
Jan−2019
Jan−2020
Jan−2021
Dissolved
MW−64
MW−93
MW−95
MW−21
MW−66
MW−73
MW−84
MW−81
Total
MW−64
MW−93
MW−95
MW−21
MW−66
MW−73
MW−84
MW−81
RL

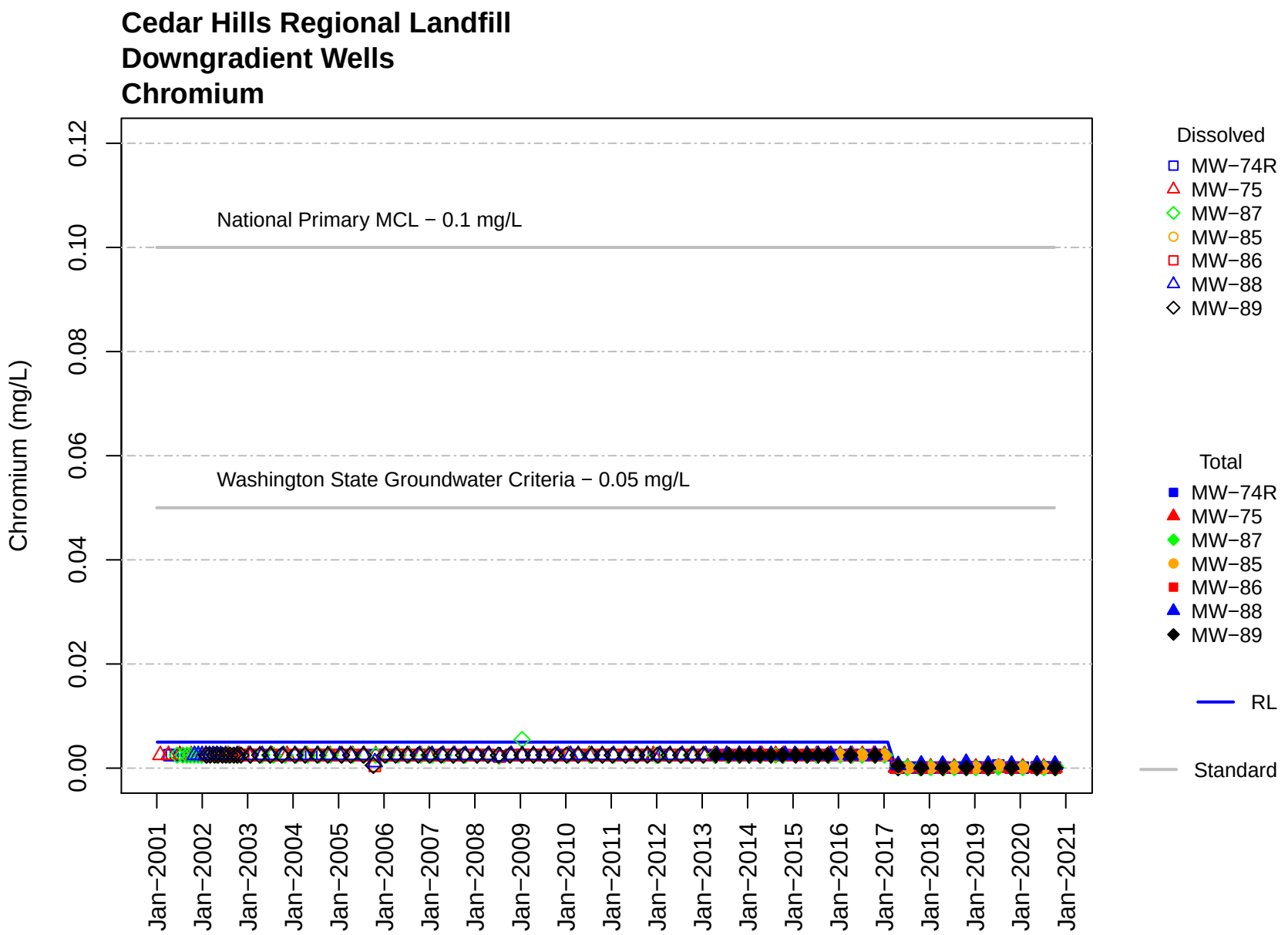

Cedar Hills Regional Landfill
Downgradient Wells
Cobalt
Cobalt (mg/L)
0.000
0.001
0.002
0.003
0.004
0.005
0.006
0.007
Jan−2001
Jan−2002
Jan−2003
Jan−2004
Jan−2005
Jan−2006
Jan−2007
Jan−2008
Jan−2009
Jan−2010
Jan−2011
Jan−2012
Jan−2013
Jan−2014
Jan−2015
Jan−2016
Jan−2017
Jan−2018
Jan−2019
Jan−2020
Jan−2021
Dissolved
MW−100
MW−68
MW−67
MW−69
MW−72
MW−80
Total
MW−100
MW−68
MW−67
MW−69
MW−72
MW−80
RL

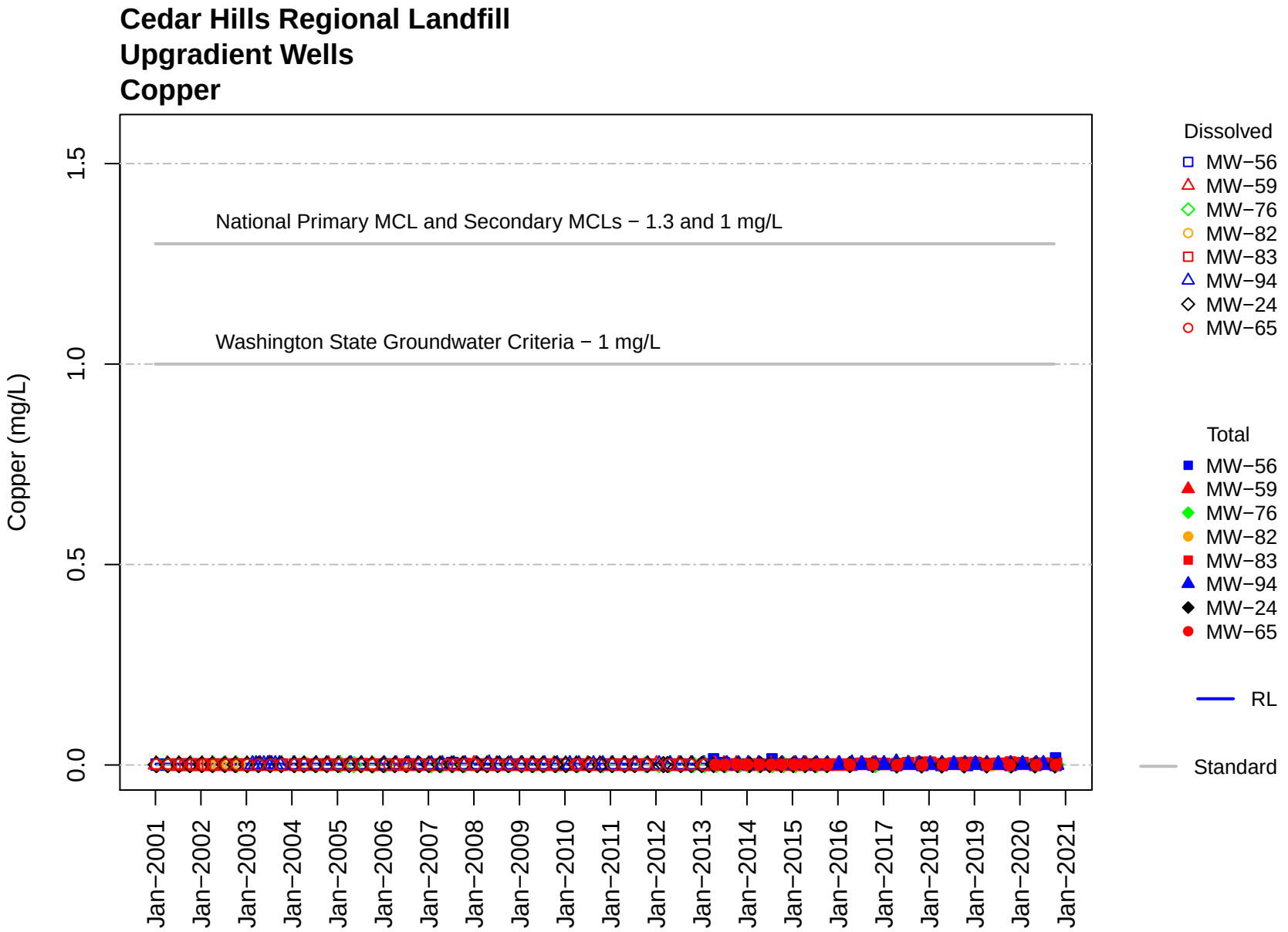

Cedar Hills Regional Landfill
Downgradient Wells
Cobalt
Cobalt (mg/L)
0.000
0.001
0.002
0.003
0.004
0.005
0.006
0.007
Jan−2001
Jan−2002
Jan−2003
Jan−2004
Jan−2005
Jan−2006
Jan−2007
Jan−2008
Jan−2009
Jan−2010
Jan−2011
Jan−2012
Jan−2013
Jan−2014
Jan−2015
Jan−2016
Jan−2017
Jan−2018
Jan−2019
Jan−2020
Jan−2021
Dissolved
MW−74R
MW−75
MW−87
MW−85
MW−86
MW−88
MW−89
Total
MW−74R
MW−75
MW−87
MW−85
MW−86
MW−88
MW−89
RL

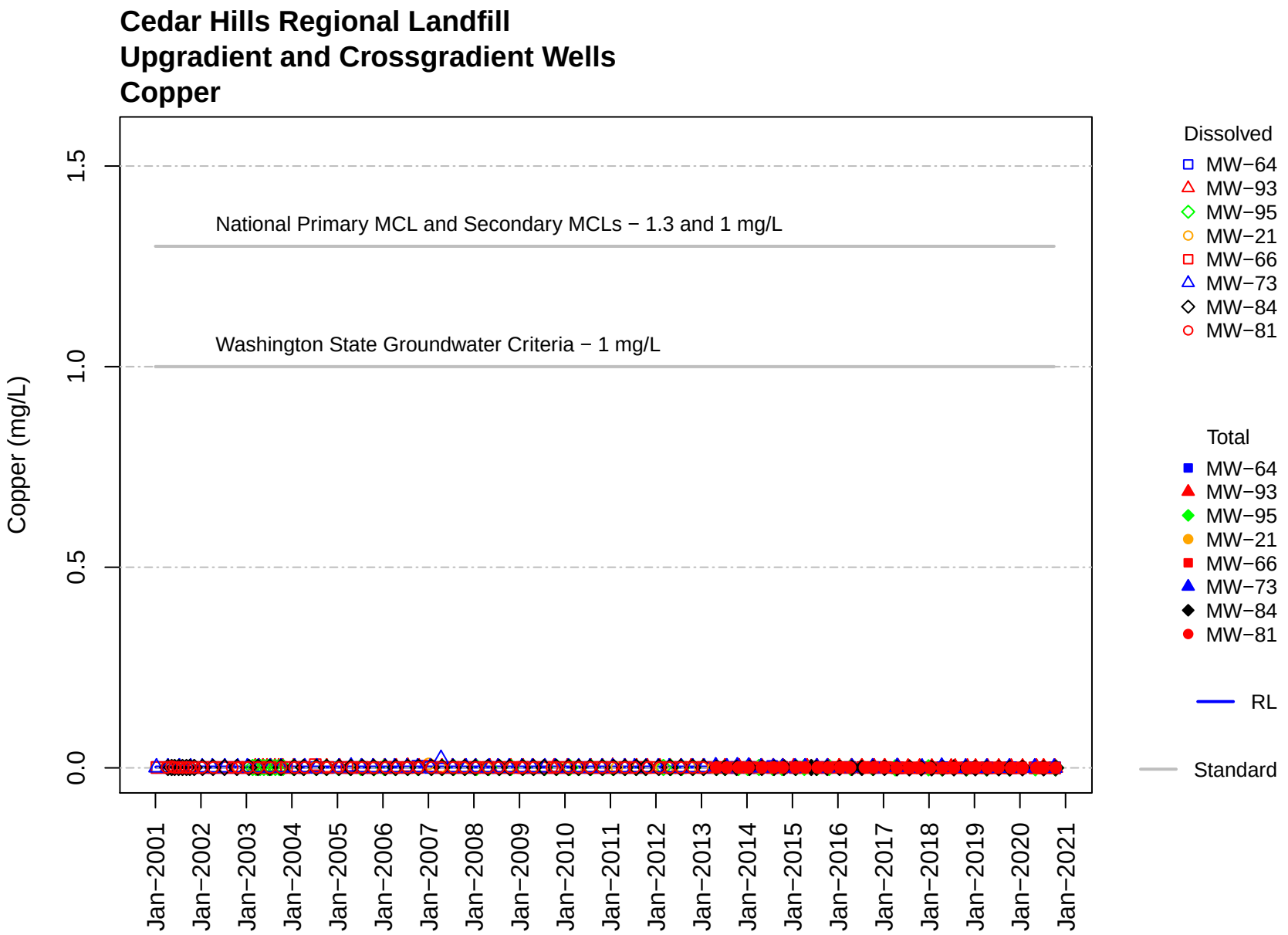

Cedar Hills Regional Landfill
Upgradient Wells
Chromium
Chromium (mg/L)
0.00
0.02
0.04
0.06
0.08
0.10
0.12
National Primary MCL − 0.1 mg/L
Washington State Groundwater Criteria − 0.05 mg/L
Jan−2001
Jan−2002
Jan−2003
Jan−2004
Jan−2005
Jan−2006
Jan−2007
Jan−2008
Jan−2009
Jan−2010
Jan−2011
Jan−2012
Jan−2013
Jan−2014
Jan−2015
Jan−2016
Jan−2017
Jan−2018
Jan−2019
Jan−2020
Jan−2021
Dissolved
MW−56
MW−59
MW−76
MW−82
MW−83
MW−94
MW−24
MW−65
Total
MW−56
MW−59
MW−76
MW−82
MW−83
MW−94
MW−24
MW−65
RL
Standard

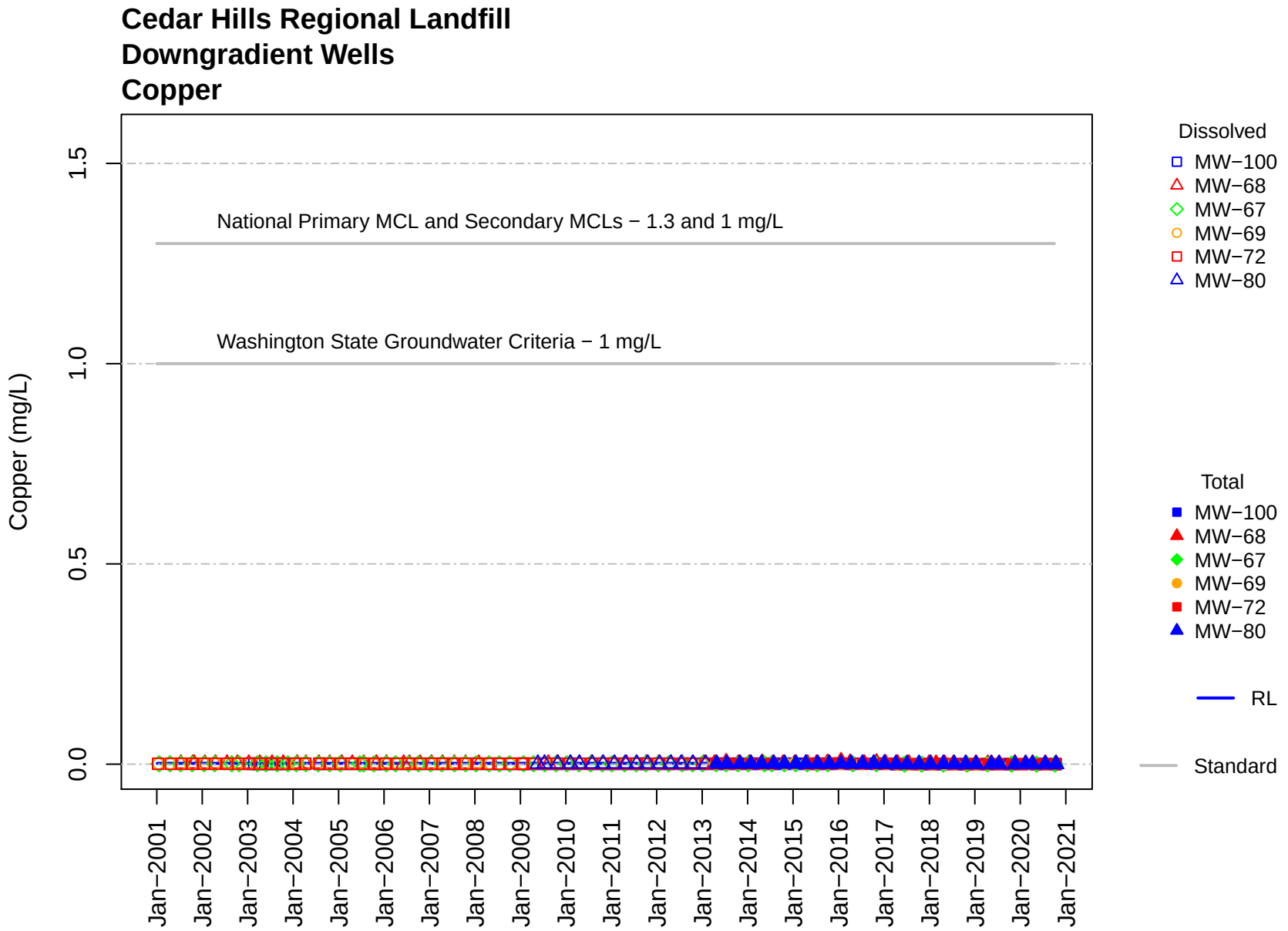

Cedar Hills Regional Landfill
Upgradient and Crossgradient Wells
Chromium
Chromium (mg/L)
0.00
0.02
0.04
0.06
0.08
0.10
0.12
National Primary MCL − 0.1 mg/L
Washington State Groundwater Criteria − 0.05 mg/L
Jan−2001
Jan−2002
Jan−2003
Jan−2004
Jan−2005
Jan−2006
Jan−2007
Jan−2008
Jan−2009
Jan−2010
Jan−2011
Jan−2012
Jan−2013
Jan−2014
Jan−2015
Jan−2016
Jan−2017
Jan−2018
Jan−2019
Jan−2020
Jan−2021
Dissolved
MW−64
MW−93
MW−95
MW−21
MW−66
MW−73
MW−84
MW−81
Total
MW−64
MW−93
MW−95
MW−21
MW−66
MW−73
MW−84
MW−81
RL
Standard

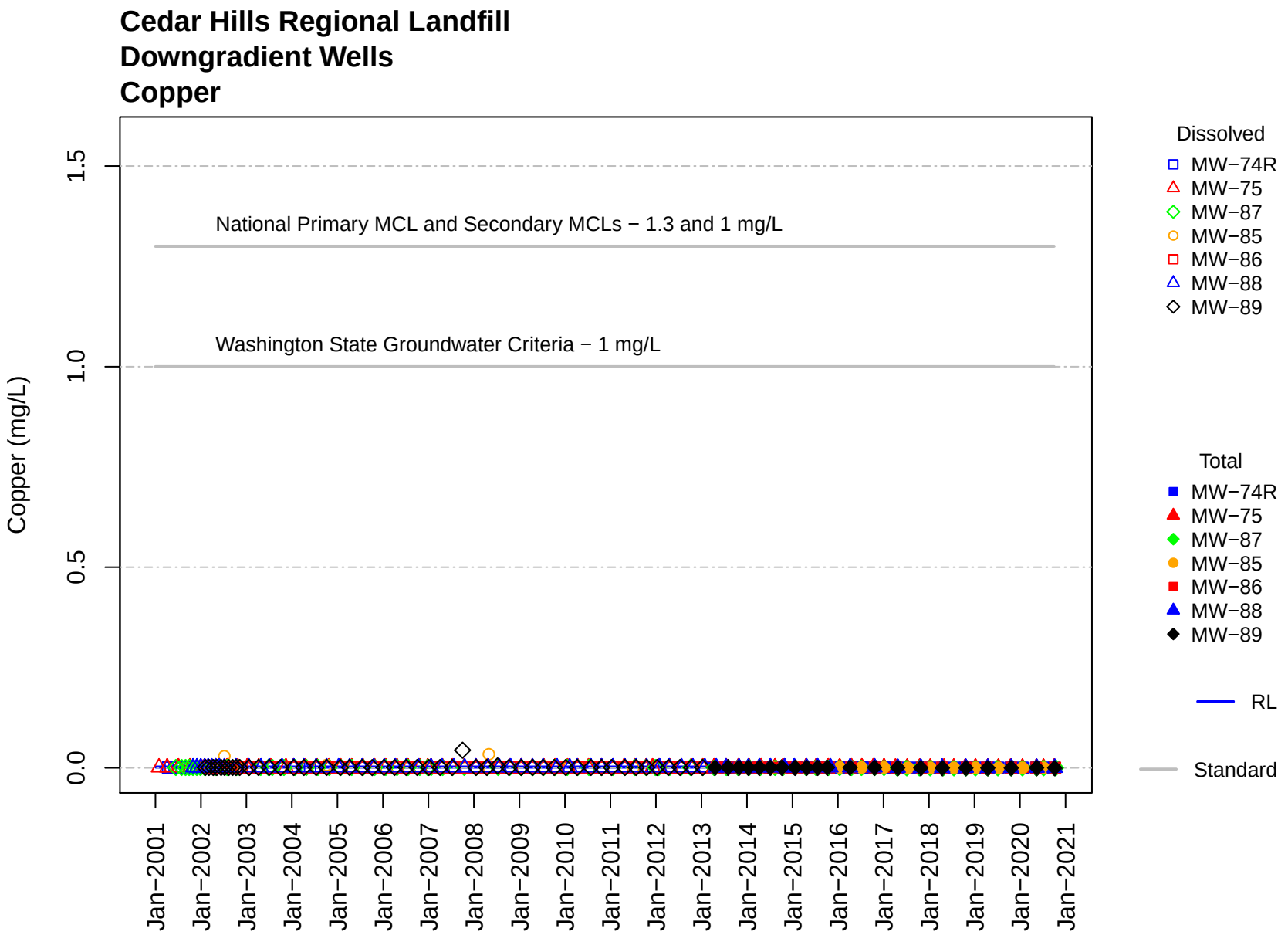

Cedar Hills Regional Landfill
Downgradient Wells
Chromium
Chromium (mg/L)
0.00
0.02
0.04
0.06
0.08
0.10
0.12
National Primary MCL − 0.1 mg/L
Washington State Groundwater Criteria − 0.05 mg/L
Jan−2001
Jan−2002
Jan−2003
Jan−2004
Jan−2005
Jan−2006
Jan−2007
Jan−2008
Jan−2009
Jan−2010
Jan−2011
Jan−2012
Jan−2013
Jan−2014
Jan−2015
Jan−2016
Jan−2017
Jan−2018
Jan−2019
Jan−2020
Jan−2021
Dissolved
MW−100
MW−68
MW−67
MW−69
MW−72
MW−80
Total
MW−100
MW−68
MW−67
MW−69
MW−72
MW−80
RL
Standard

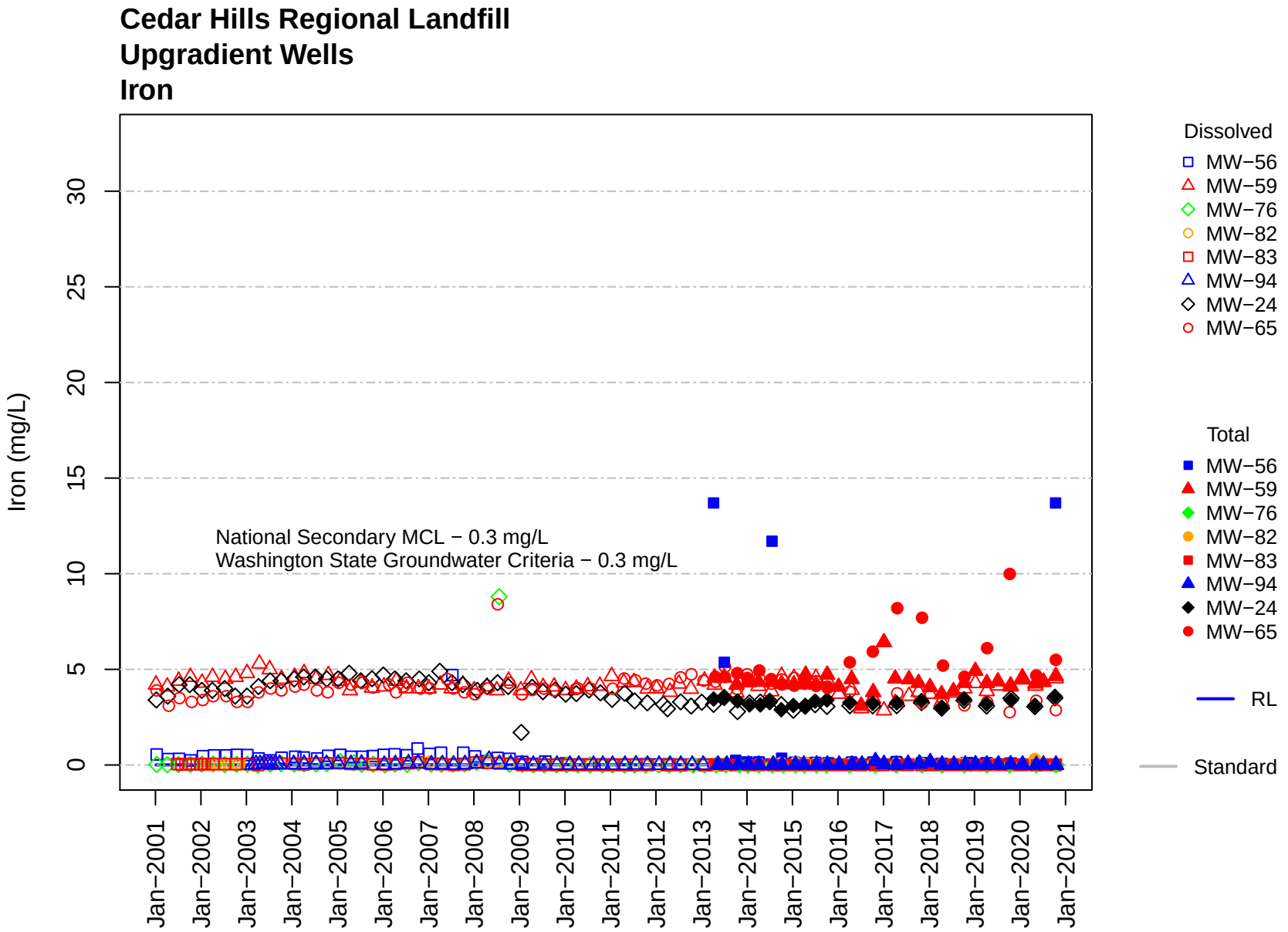

Cedar Hills Regional Landfill
Downgradient Wells
Chromium
Chromium (mg/L)
0.00
0.02
0.04
0.06
0.08
0.10
0.12
National Primary MCL − 0.1 mg/L
Washington State Groundwater Criteria − 0.05 mg/L
Jan−2001
Jan−2002
Jan−2003
Jan−2004
Jan−2005
Jan−2006
Jan−2007
Jan−2008
Jan−2009
Jan−2010
Jan−2011
Jan−2012
Jan−2013
Jan−2014
Jan−2015
Jan−2016
Jan−2017
Jan−2018
Jan−2019
Jan−2020
Jan−2021
Dissolved
MW−74R
MW−75
MW−87
MW−85
MW−86
MW−88
MW−89
Total
MW−74R
MW−75
MW−87
MW−85
MW−86
MW−88
MW−89
RL
Standard

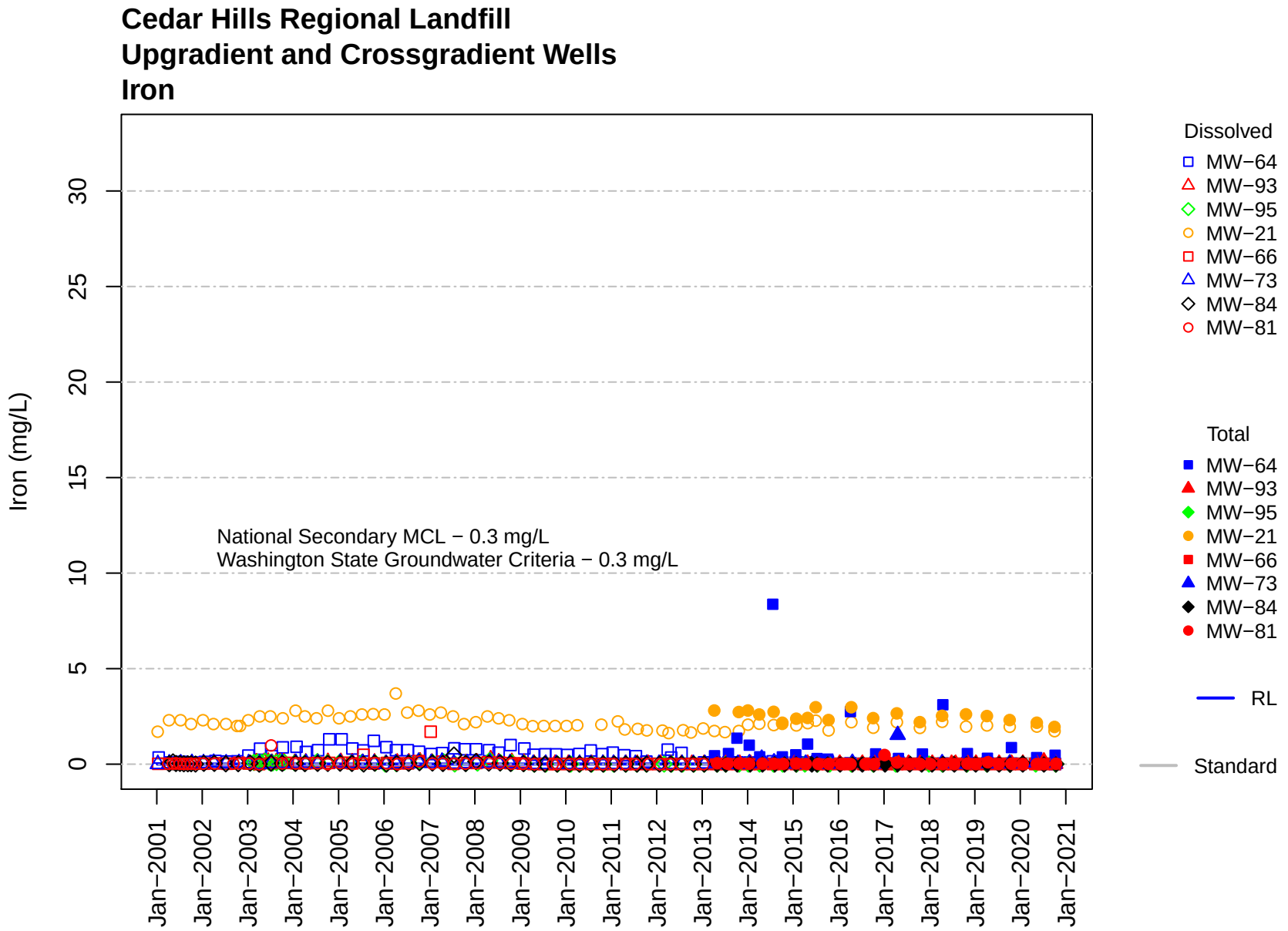

Cedar Hills Regional Landfill
Upgradient Wells
Copper
Copper (mg/L)
0.0
0.5
1.0
1.5
National Primary MCL and Secondary MCLs − 1.3 and 1 mg/L
Washington State Groundwater Criteria − 1 mg/L
Jan−2001
Jan−2002
Jan−2003
Jan−2004
Jan−2005
Jan−2006
Jan−2007
Jan−2008
Jan−2009
Jan−2010
Jan−2011
Jan−2012
Jan−2013
Jan−2014
Jan−2015
Jan−2016
Jan−2017
Jan−2018
Jan−2019
Jan−2020
Jan−2021
Dissolved
MW−56
MW−59
MW−76
MW−82
MW−83
MW−94
MW−24
MW−65
Total
MW−56
MW−59
MW−76
MW−82
MW−83
MW−94
MW−24
MW−65
RL
Standard

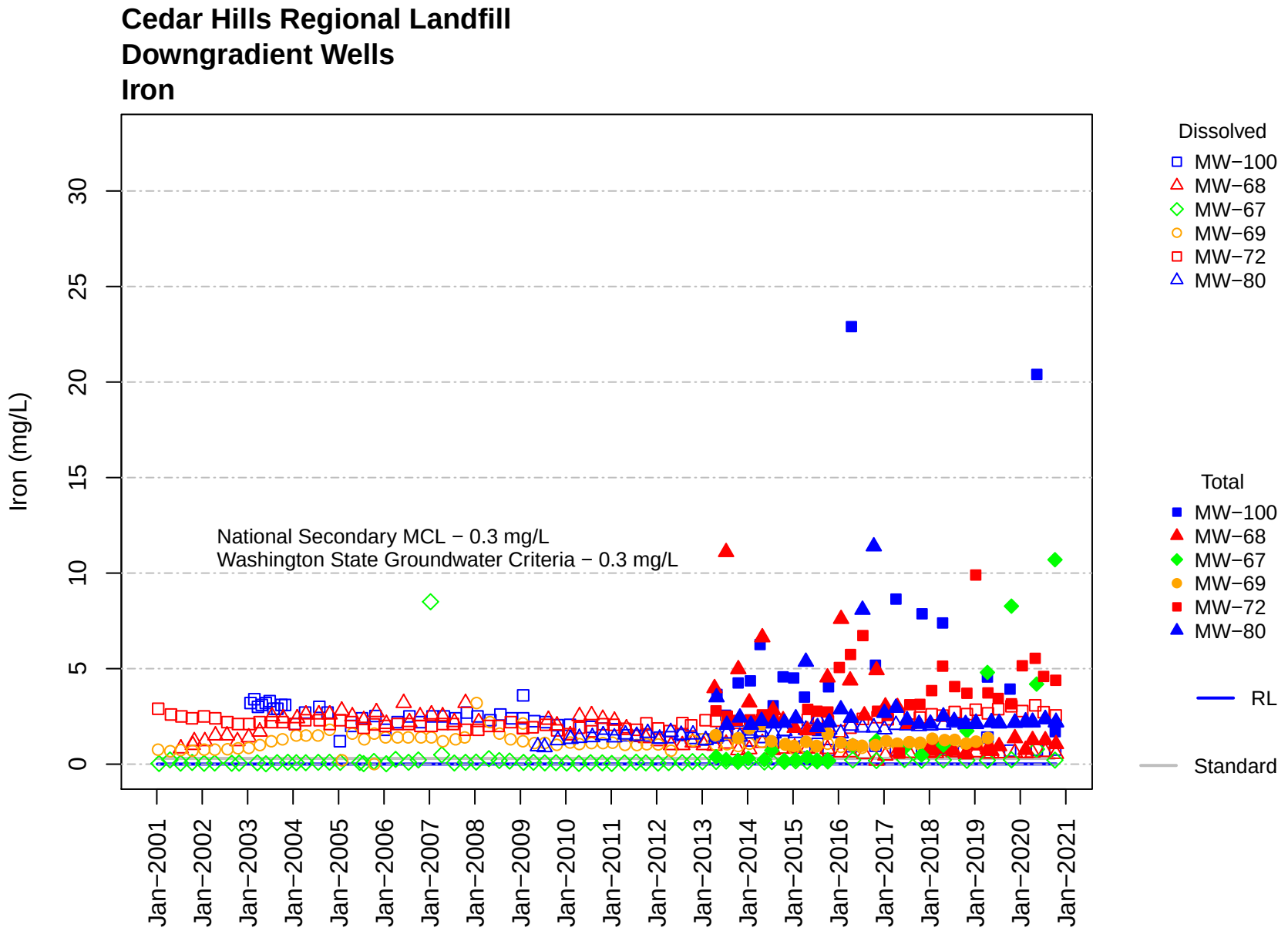

Cedar Hills Regional Landfill
Upgradient and Crossgradient Wells
Copper
Copper (mg/L)
0.0
0.5
1.0
1.5
National Primary MCL and Secondary MCLs − 1.3 and 1 mg/L
Washington State Groundwater Criteria − 1 mg/L
Jan−2001
Jan−2002
Jan−2003
Jan−2004
Jan−2005
Jan−2006
Jan−2007
Jan−2008
Jan−2009
Jan−2010
Jan−2011
Jan−2012
Jan−2013
Jan−2014
Jan−2015
Jan−2016
Jan−2017
Jan−2018
Jan−2019
Jan−2020
Jan−2021
Dissolved
MW−64
MW−93
MW−95
MW−21
MW−66
MW−73
MW−84
MW−81
Total
MW−64
MW−93
MW−95
MW−21
MW−66
MW−73
MW−84
MW−81
RL
Standard

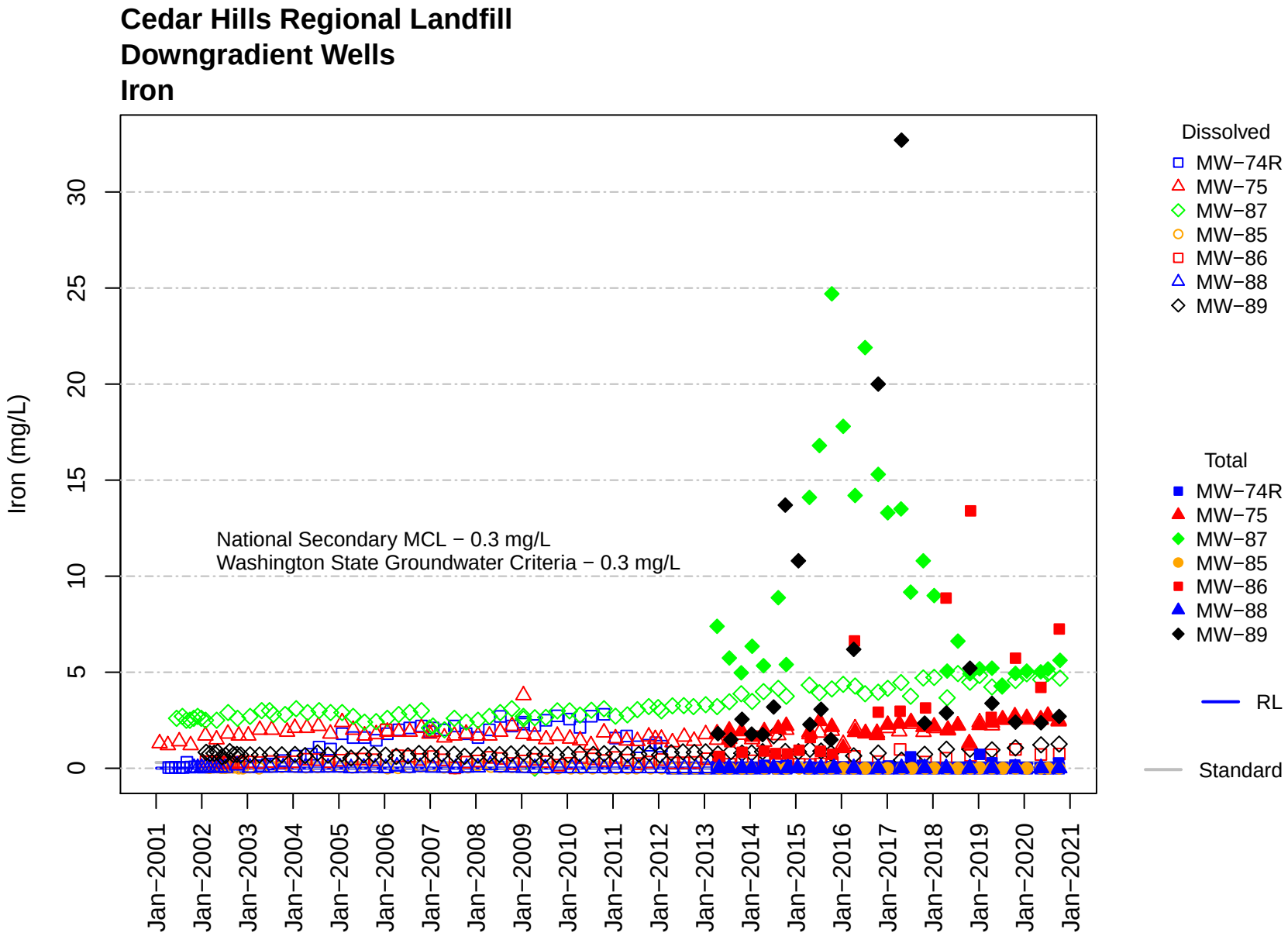

Cedar Hills Regional Landfill
Downgradient Wells
Copper
Copper (mg/L)
0.0
0.5
1.0
1.5
National Primary MCL and Secondary MCLs − 1.3 and 1 mg/L
Washington State Groundwater Criteria − 1 mg/L
Jan−2001
Jan−2002
Jan−2003
Jan−2004
Jan−2005
Jan−2006
Jan−2007
Jan−2008
Jan−2009
Jan−2010
Jan−2011
Jan−2012
Jan−2013
Jan−2014
Jan−2015
Jan−2016
Jan−2017
Jan−2018
Jan−2019
Jan−2020
Jan−2021
Dissolved
MW−100
MW−68
MW−67
MW−69
MW−72
MW−80
Total
MW−100
MW−68
MW−67
MW−69
MW−72
MW−80
RL
Standard

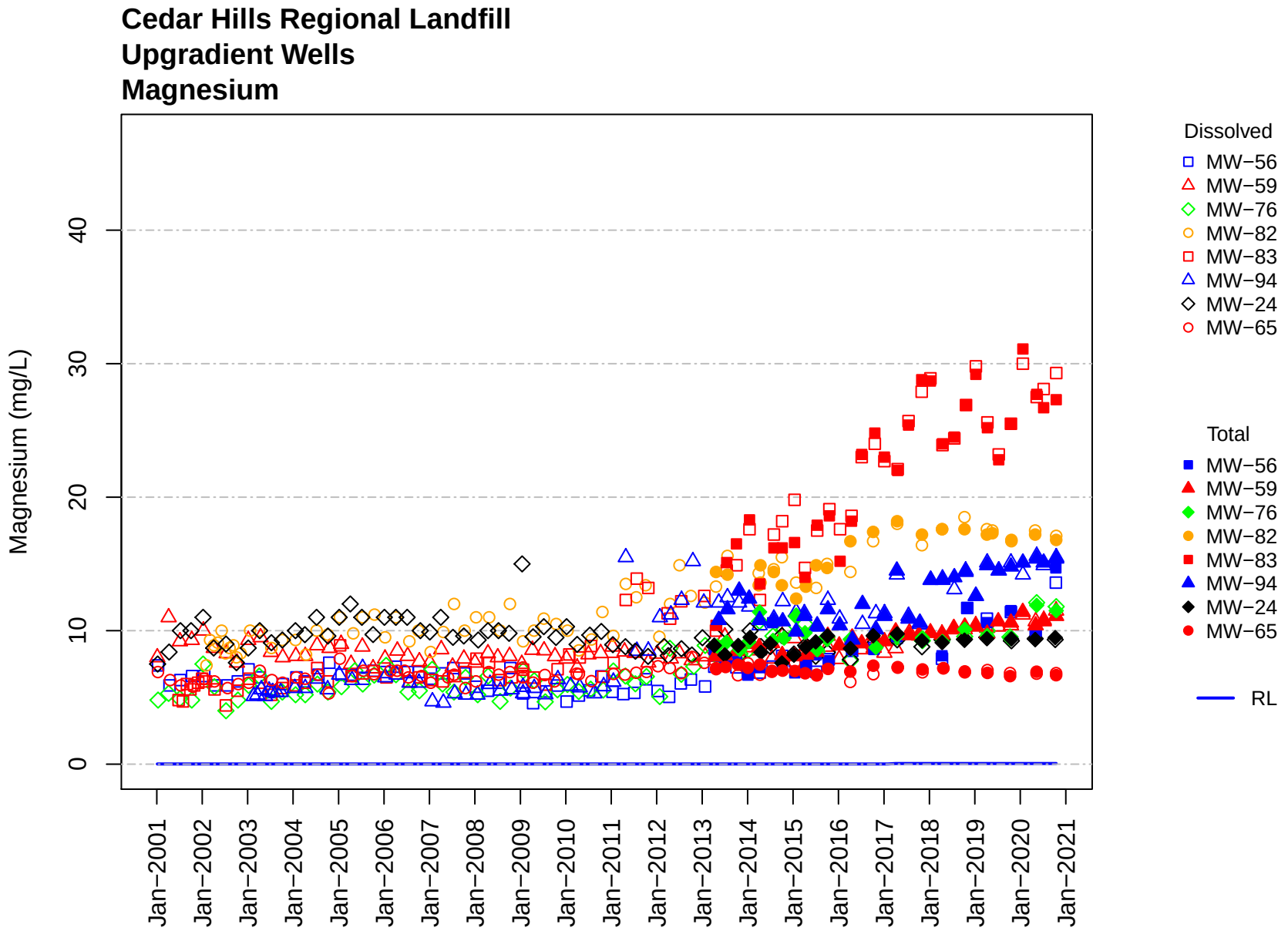

Cedar Hills Regional Landfill
Downgradient Wells
Copper
Copper (mg/L)
0.0
0.5
1.0
1.5
National Primary MCL and Secondary MCLs − 1.3 and 1 mg/L
Washington State Groundwater Criteria − 1 mg/L
Jan−2001
Jan−2002
Jan−2003
Jan−2004
Jan−2005
Jan−2006
Jan−2007
Jan−2008
Jan−2009
Jan−2010
Jan−2011
Jan−2012
Jan−2013
Jan−2014
Jan−2015
Jan−2016
Jan−2017
Jan−2018
Jan−2019
Jan−2020
Jan−2021
Dissolved
MW−74R
MW−75
MW−87
MW−85
MW−86
MW−88
MW−89
Total
MW−74R
MW−75
MW−87
MW−85
MW−86
MW−88
MW−89
RL
Standard

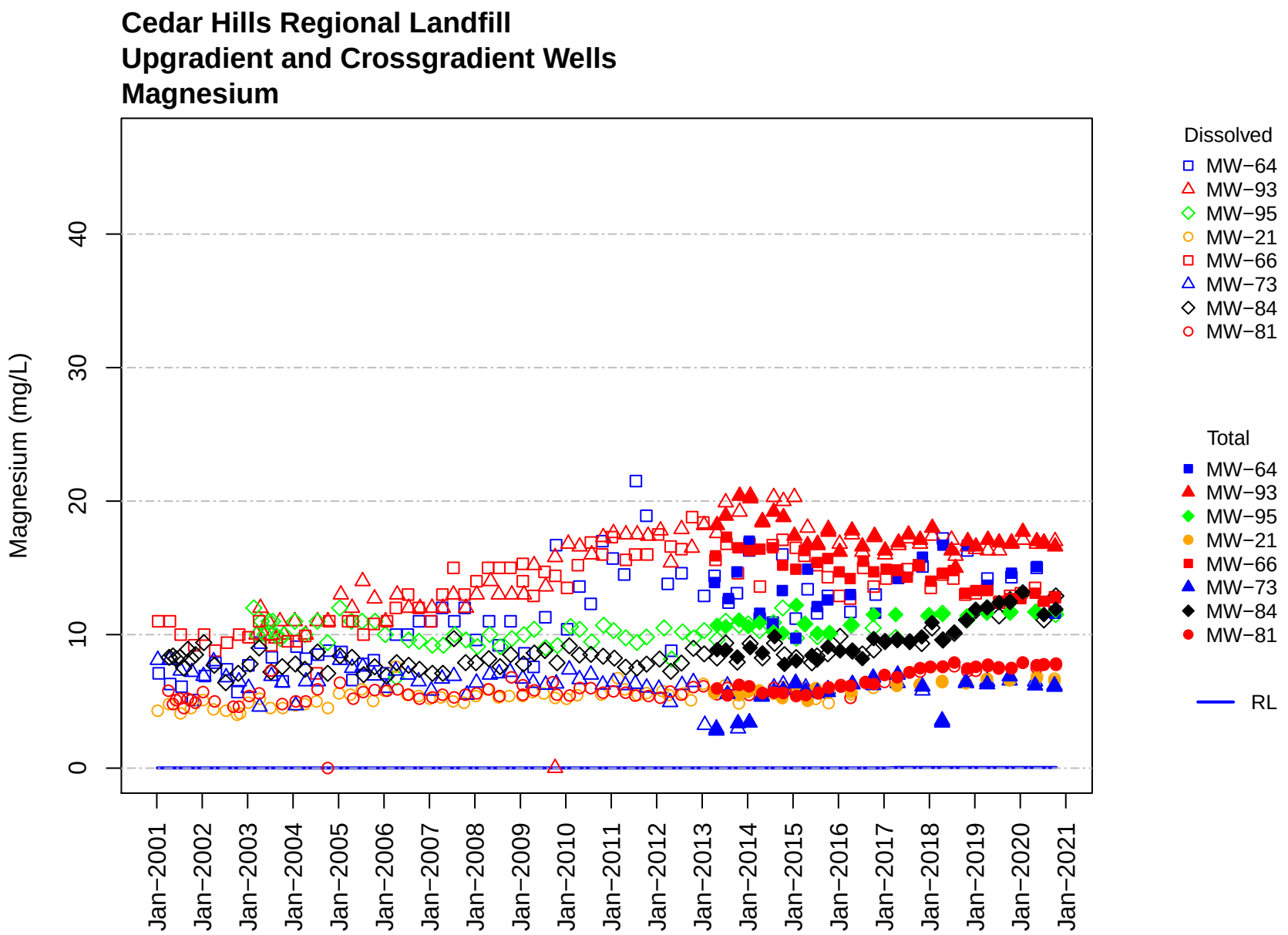

Cedar Hills Regional Landfill
Upgradient Wells
Iron
Iron (mg/L)
0
5
10
15
20
25
30
National Secondary MCL − 0.3 mg/L
Washington State Groundwater Criteria − 0.3 mg/L
Jan−2001
Jan−2002
Jan−2003
Jan−2004
Jan−2005
Jan−2006
Jan−2007
Jan−2008
Jan−2009
Jan−2010
Jan−2011
Jan−2012
Jan−2013
Jan−2014
Jan−2015
Jan−2016
Jan−2017
Jan−2018
Jan−2019
Jan−2020
Jan−2021
Dissolved
MW−56
MW−59
MW−76
MW−82
MW−83
MW−94
MW−24
MW−65
Total
MW−56
MW−59
MW−76
MW−82
MW−83
MW−94
MW−24
MW−65
RL
Standard

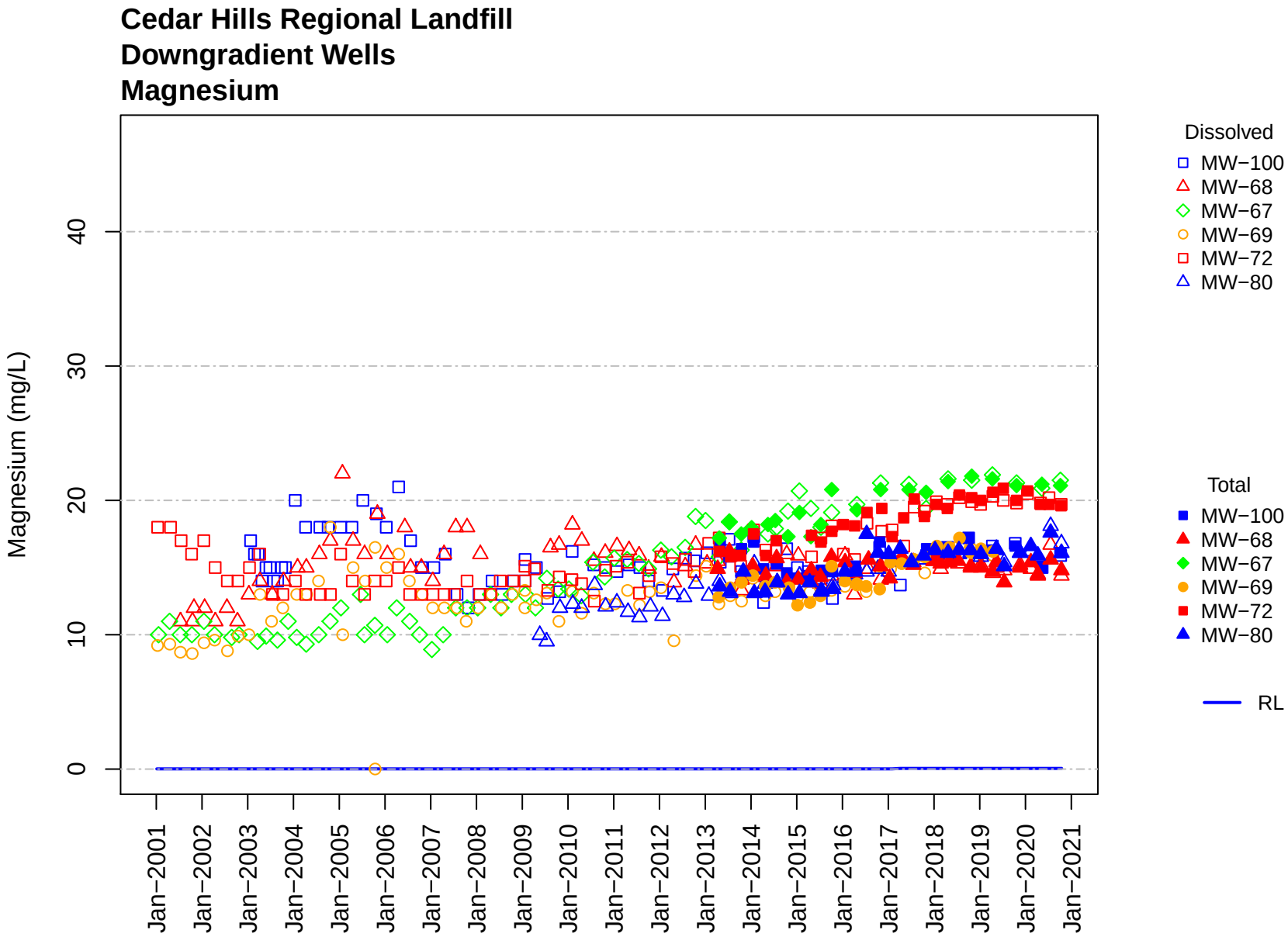

Cedar Hills Regional Landfill
Upgradient and Crossgradient Wells
Iron
Iron (mg/L)
0
5
10
15
20
25
30
National Secondary MCL − 0.3 mg/L
Washington State Groundwater Criteria − 0.3 mg/L
Jan−2001
Jan−2002
Jan−2003
Jan−2004
Jan−2005
Jan−2006
Jan−2007
Jan−2008
Jan−2009
Jan−2010
Jan−2011
Jan−2012
Jan−2013
Jan−2014
Jan−2015
Jan−2016
Jan−2017
Jan−2018
Jan−2019
Jan−2020
Jan−2021
Dissolved
MW−64
MW−93
MW−95
MW−21
MW−66
MW−73
MW−84
MW−81
Total
MW−64
MW−93
MW−95
MW−21
MW−66
MW−73
MW−84
MW−81
RL
Standard

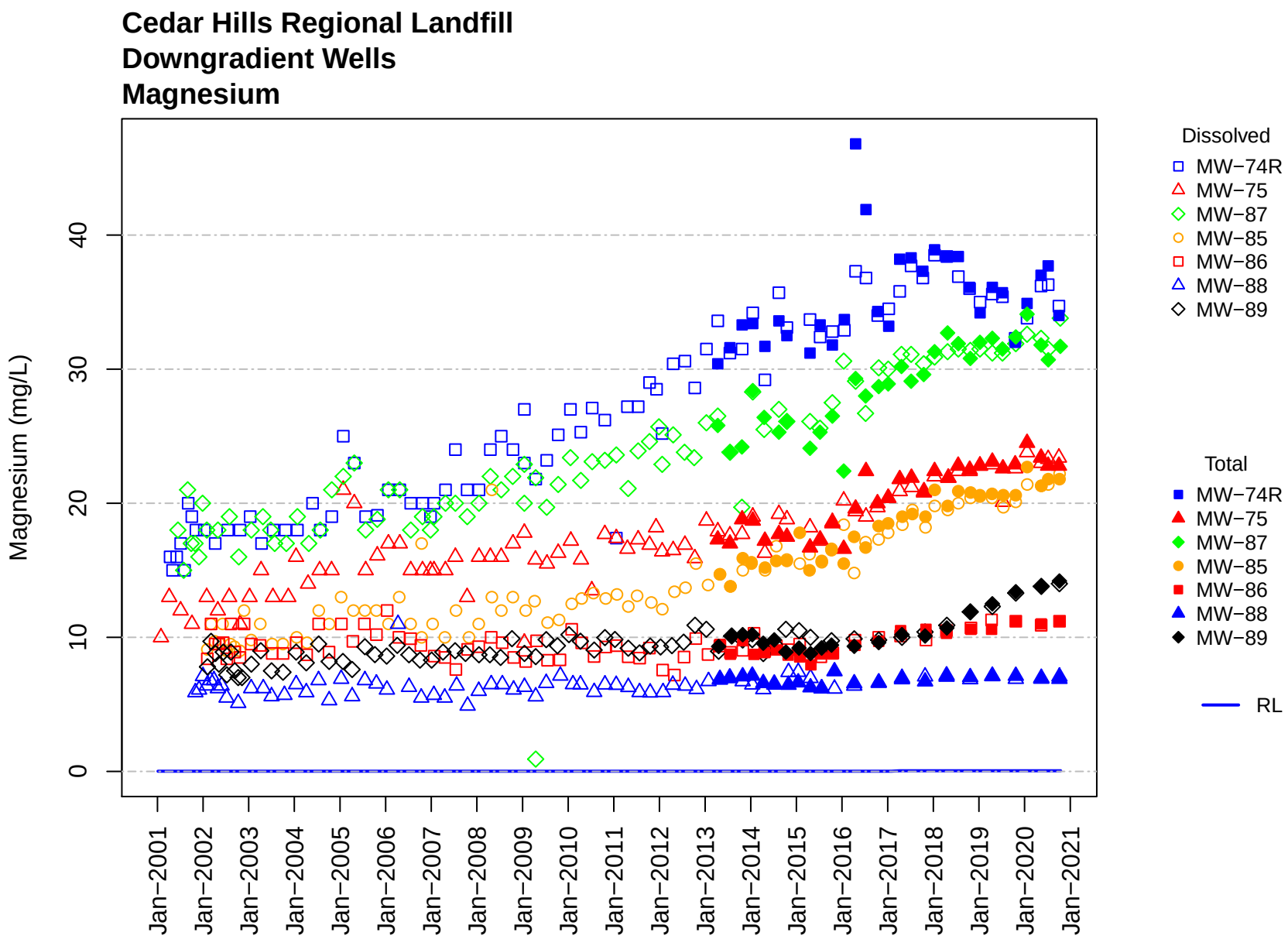

Cedar Hills Regional Landfill
Downgradient Wells
Iron
Iron (mg/L)
0
5
10
15
20
25
30
National Secondary MCL − 0.3 mg/L
Washington State Groundwater Criteria − 0.3 mg/L
Jan−2001
Jan−2002
Jan−2003
Jan−2004
Jan−2005
Jan−2006
Jan−2007
Jan−2008
Jan−2009
Jan−2010
Jan−2011
Jan−2012
Jan−2013
Jan−2014
Jan−2015
Jan−2016
Jan−2017
Jan−2018
Jan−2019
Jan−2020
Jan−2021
Dissolved
MW−100
MW−68
MW−67
MW−69
MW−72
MW−80
Total
MW−100
MW−68
MW−67
MW−69
MW−72
MW−80
RL
Standard

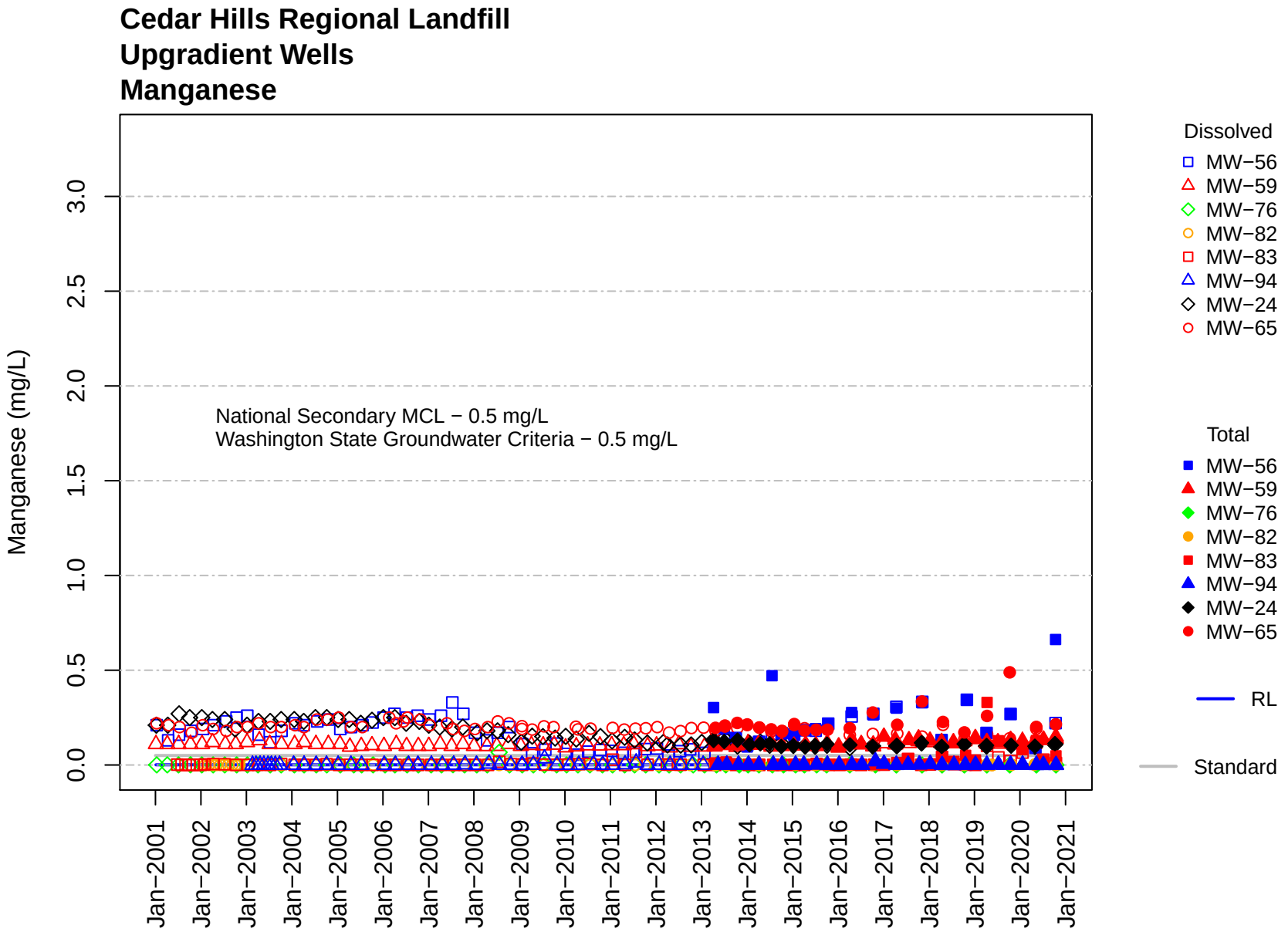

Cedar Hills Regional Landfill
Downgradient Wells
Iron
Iron (mg/L)
0
5
10
15
20
25
30
National Secondary MCL − 0.3 mg/L
Washington State Groundwater Criteria − 0.3 mg/L
Jan−2001
Jan−2002
Jan−2003
Jan−2004
Jan−2005
Jan−2006
Jan−2007
Jan−2008
Jan−2009
Jan−2010
Jan−2011
Jan−2012
Jan−2013
Jan−2014
Jan−2015
Jan−2016
Jan−2017
Jan−2018
Jan−2019
Jan−2020
Jan−2021
Dissolved
MW−74R
MW−75
MW−87
MW−85
MW−86
MW−88
MW−89
Total
MW−74R
MW−75
MW−87
MW−85
MW−86
MW−88
MW−89
RL
Standard

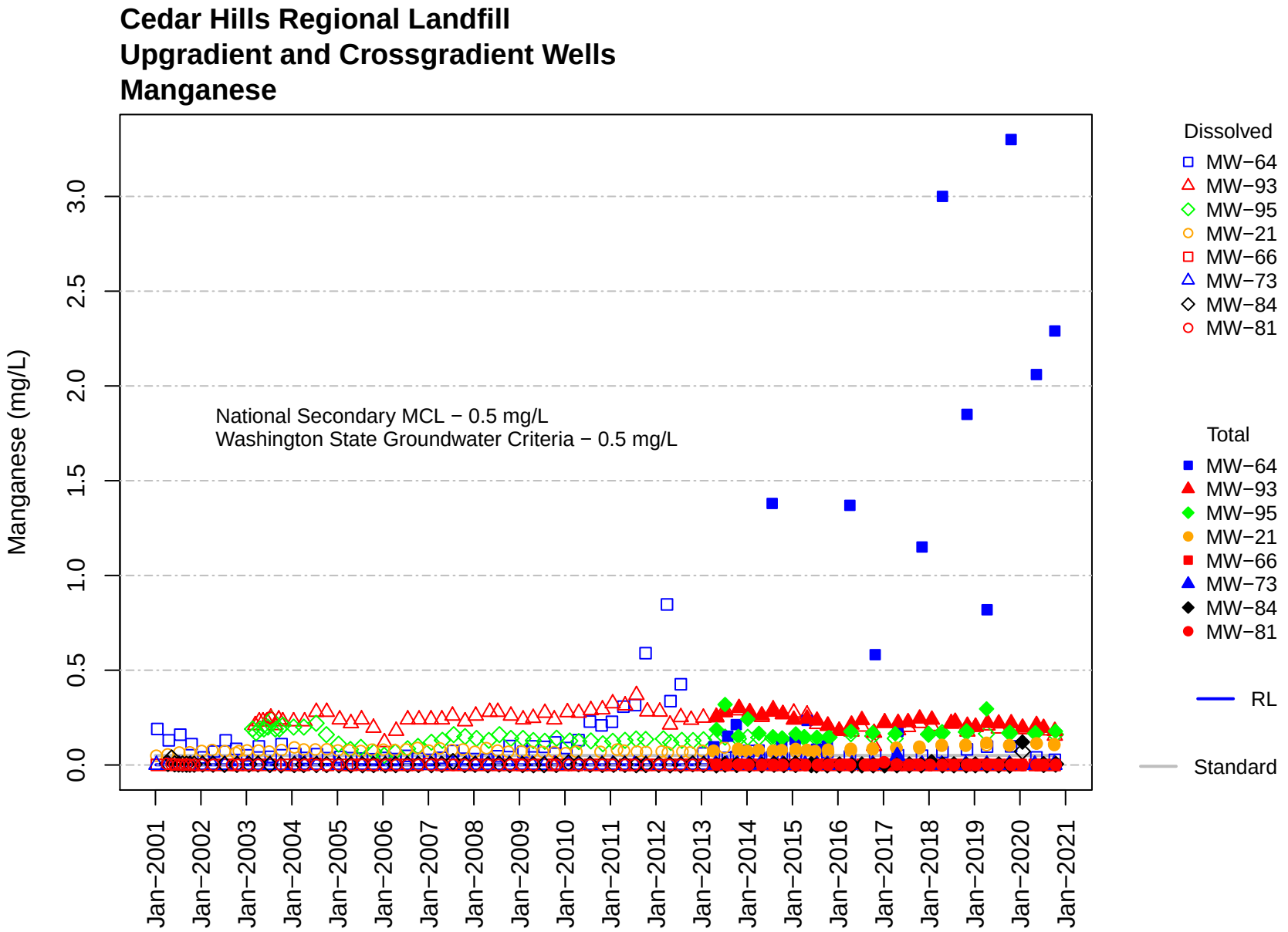

Cedar Hills Regional Landfill
Upgradient Wells
Magnesium
Magnesium (mg/L)
0
10
20
30
40
Jan−2001
Jan−2002
Jan−2003
Jan−2004
Jan−2005
Jan−2006
Jan−2007
Jan−2008
Jan−2009
Jan−2010
Jan−2011
Jan−2012
Jan−2013
Jan−2014
Jan−2015
Jan−2016
Jan−2017
Jan−2018
Jan−2019
Jan−2020
Jan−2021
Dissolved
MW−56
MW−59
MW−76
MW−82
MW−83
MW−94
MW−24
MW−65
Total
MW−56
MW−59
MW−76
MW−82
MW−83
MW−94
MW−24
MW−65
RL

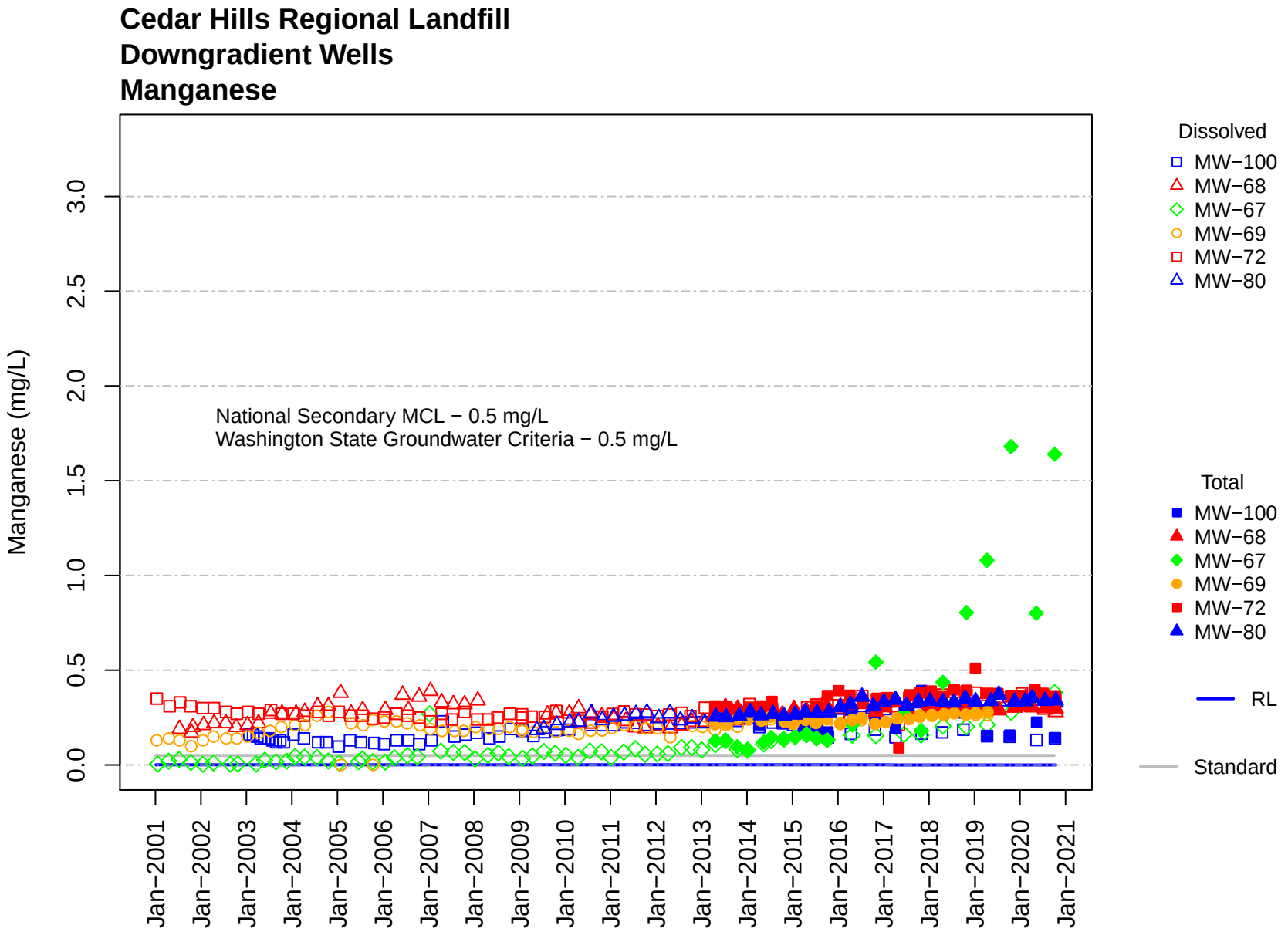

Cedar Hills Regional Landfill
Upgradient and Crossgradient Wells
Magnesium
Magnesium (mg/L)
0
10
20
30
40
Jan−2001
Jan−2002
Jan−2003
Jan−2004
Jan−2005
Jan−2006
Jan−2007
Jan−2008
Jan−2009
Jan−2010
Jan−2011
Jan−2012
Jan−2013
Jan−2014
Jan−2015
Jan−2016
Jan−2017
Jan−2018
Jan−2019
Jan−2020
Jan−2021
Dissolved
MW−64
MW−93
MW−95
MW−21
MW−66
MW−73
MW−84
MW−81
Total
MW−64
MW−93
MW−95
MW−21
MW−66
MW−73
MW−84
MW−81
RL

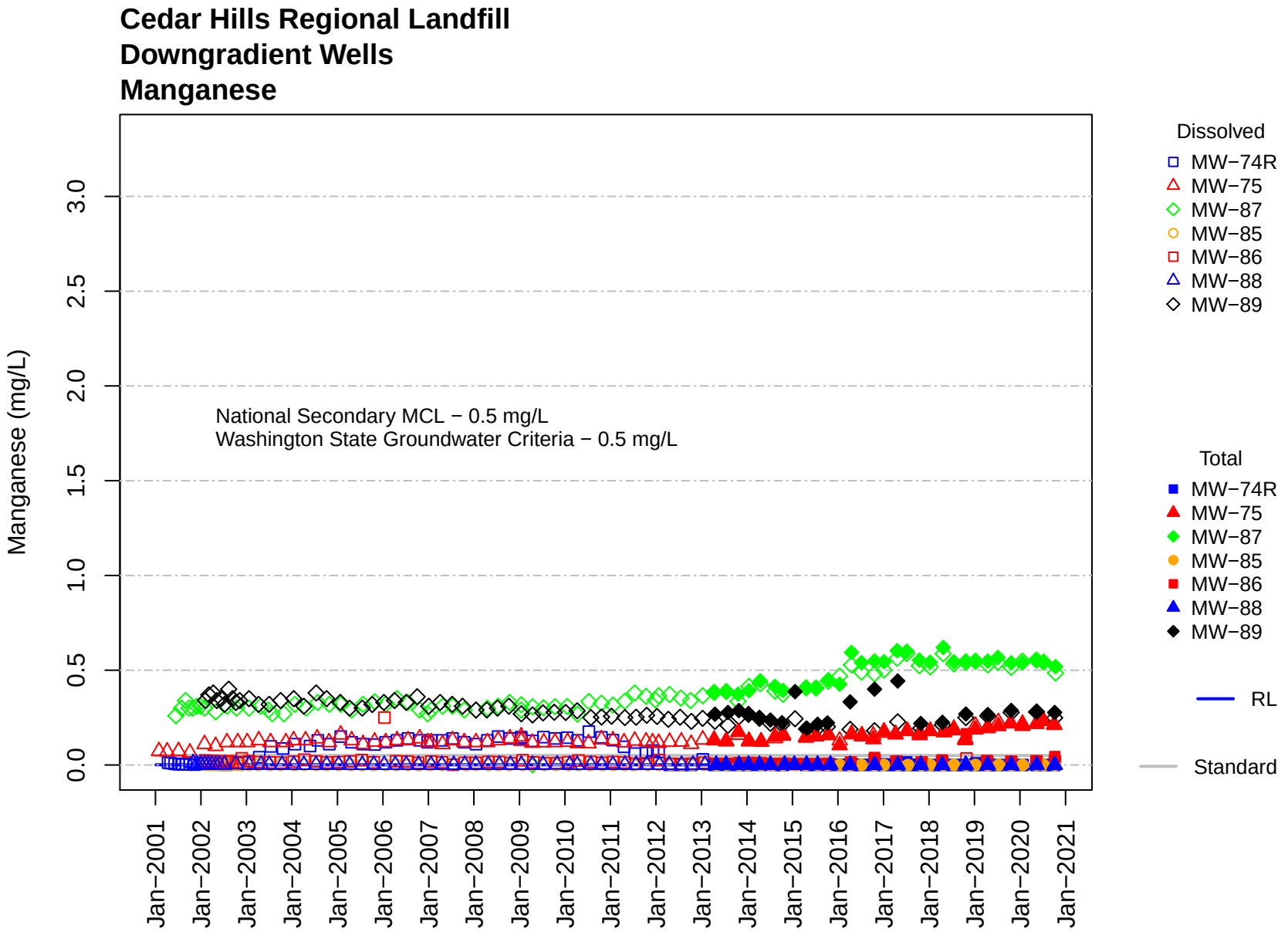

Cedar Hills Regional Landfill
Downgradient Wells
Magnesium
Magnesium (mg/L)
0
10
20
30
40
Jan−2001
Jan−2002
Jan−2003
Jan−2004
Jan−2005
Jan−2006
Jan−2007
Jan−2008
Jan−2009
Jan−2010
Jan−2011
Jan−2012
Jan−2013
Jan−2014
Jan−2015
Jan−2016
Jan−2017
Jan−2018
Jan−2019
Jan−2020
Jan−2021
Dissolved
MW−100
MW−68
MW−67
MW−69
MW−72
MW−80
Total
MW−100
MW−68
MW−67
MW−69
MW−72
MW−80
RL

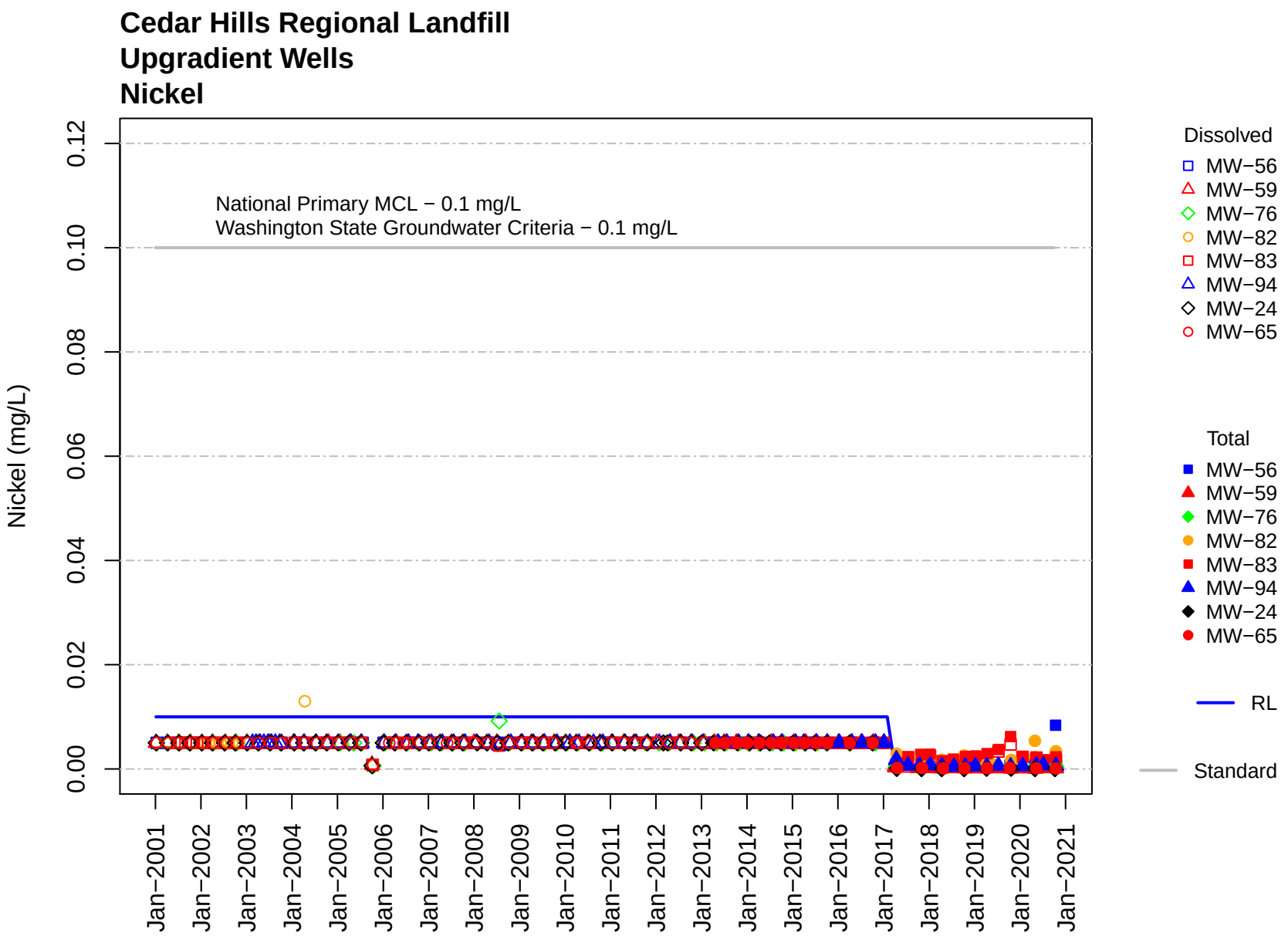

Cedar Hills Regional Landfill
Downgradient Wells
Magnesium
Magnesium (mg/L)
0
10
20
30
40
Jan−2001
Jan−2002
Jan−2003
Jan−2004
Jan−2005
Jan−2006
Jan−2007
Jan−2008
Jan−2009
Jan−2010
Jan−2011
Jan−2012
Jan−2013
Jan−2014
Jan−2015
Jan−2016
Jan−2017
Jan−2018
Jan−2019
Jan−2020
Jan−2021
Dissolved
MW−74R
MW−75
MW−87
MW−85
MW−86
MW−88
MW−89
Total
MW−74R
MW−75
MW−87
MW−85
MW−86
MW−88
MW−89
RL

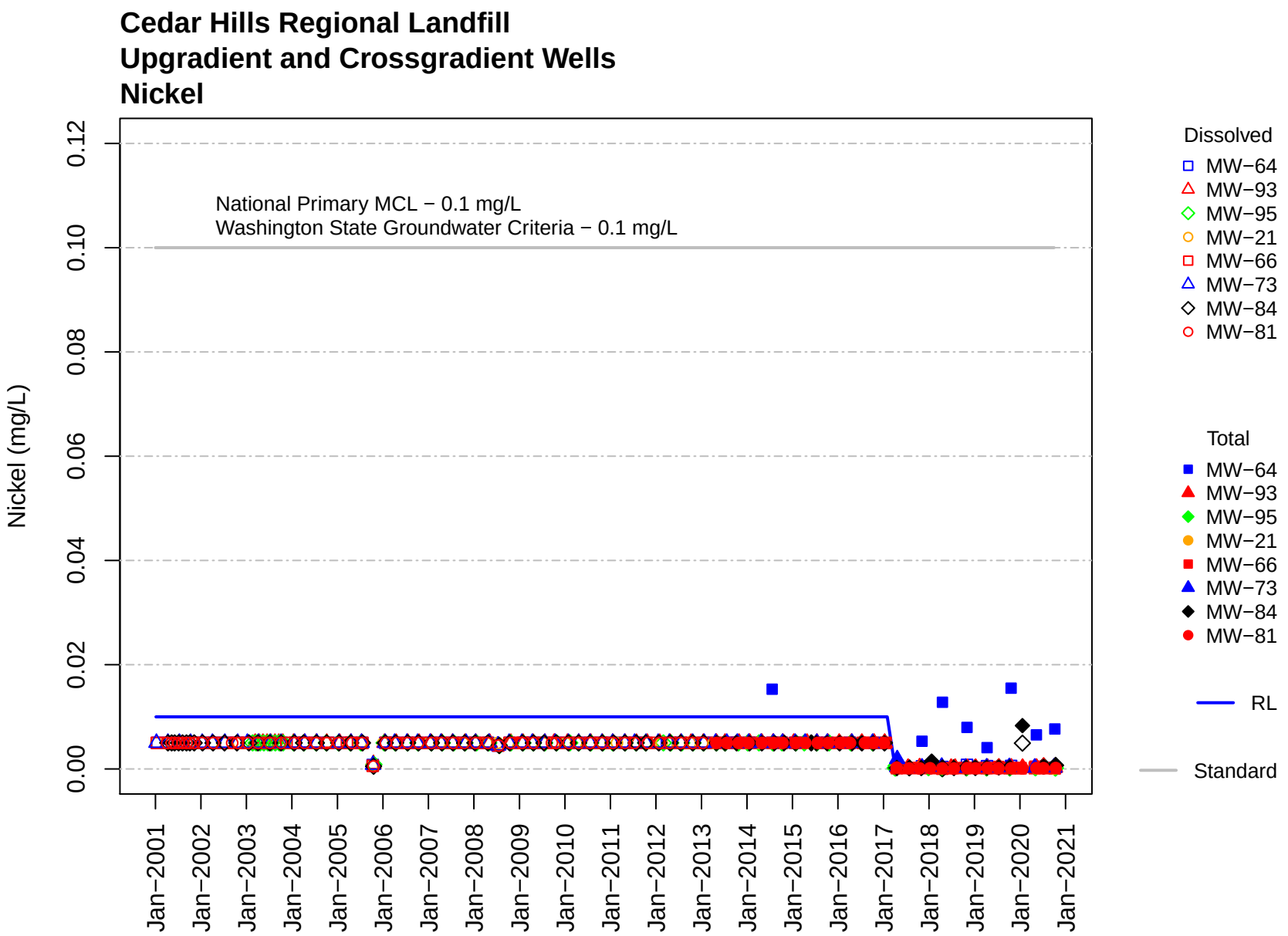

Cedar Hills Regional Landfill
Upgradient Wells
Manganese
Manganese (mg/L)
0.0
0.5
1.0
1.5
2.0
2.5
3.0
National Secondary MCL − 0.5 mg/L
Washington State Groundwater Criteria − 0.5 mg/L
Jan−2001
Jan−2002
Jan−2003
Jan−2004
Jan−2005
Jan−2006
Jan−2007
Jan−2008
Jan−2009
Jan−2010
Jan−2011
Jan−2012
Jan−2013
Jan−2014
Jan−2015
Jan−2016
Jan−2017
Jan−2018
Jan−2019
Jan−2020
Jan−2021
Dissolved
MW−56
MW−59
MW−76
MW−82
MW−83
MW−94
MW−24
MW−65
Total
MW−56
MW−59
MW−76
MW−82
MW−83
MW−94
MW−24
MW−65
RL
Standard

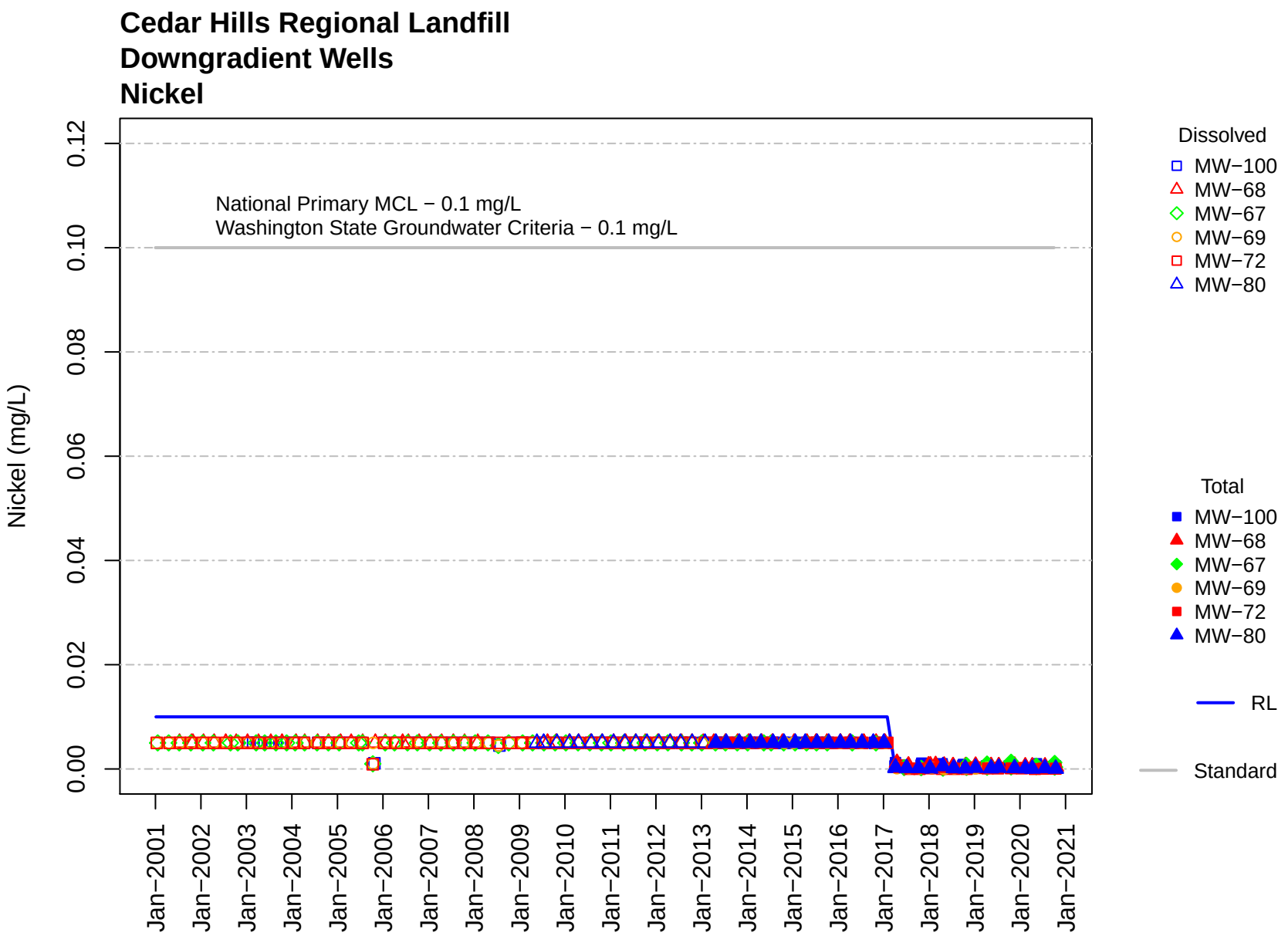

Cedar Hills Regional Landfill
Upgradient and Crossgradient Wells
Manganese
Manganese (mg/L)
0.0
0.5
1.0
1.5
2.0
2.5
3.0
National Secondary MCL − 0.5 mg/L
Washington State Groundwater Criteria − 0.5 mg/L
Jan−2001
Jan−2002
Jan−2003
Jan−2004
Jan−2005
Jan−2006
Jan−2007
Jan−2008
Jan−2009
Jan−2010
Jan−2011
Jan−2012
Jan−2013
Jan−2014
Jan−2015
Jan−2016
Jan−2017
Jan−2018
Jan−2019
Jan−2020
Jan−2021
Dissolved
MW−64
MW−93
MW−95
MW−21
MW−66
MW−73
MW−84
MW−81
Total
MW−64
MW−93
MW−95
MW−21
MW−66
MW−73
MW−84
MW−81
RL
Standard

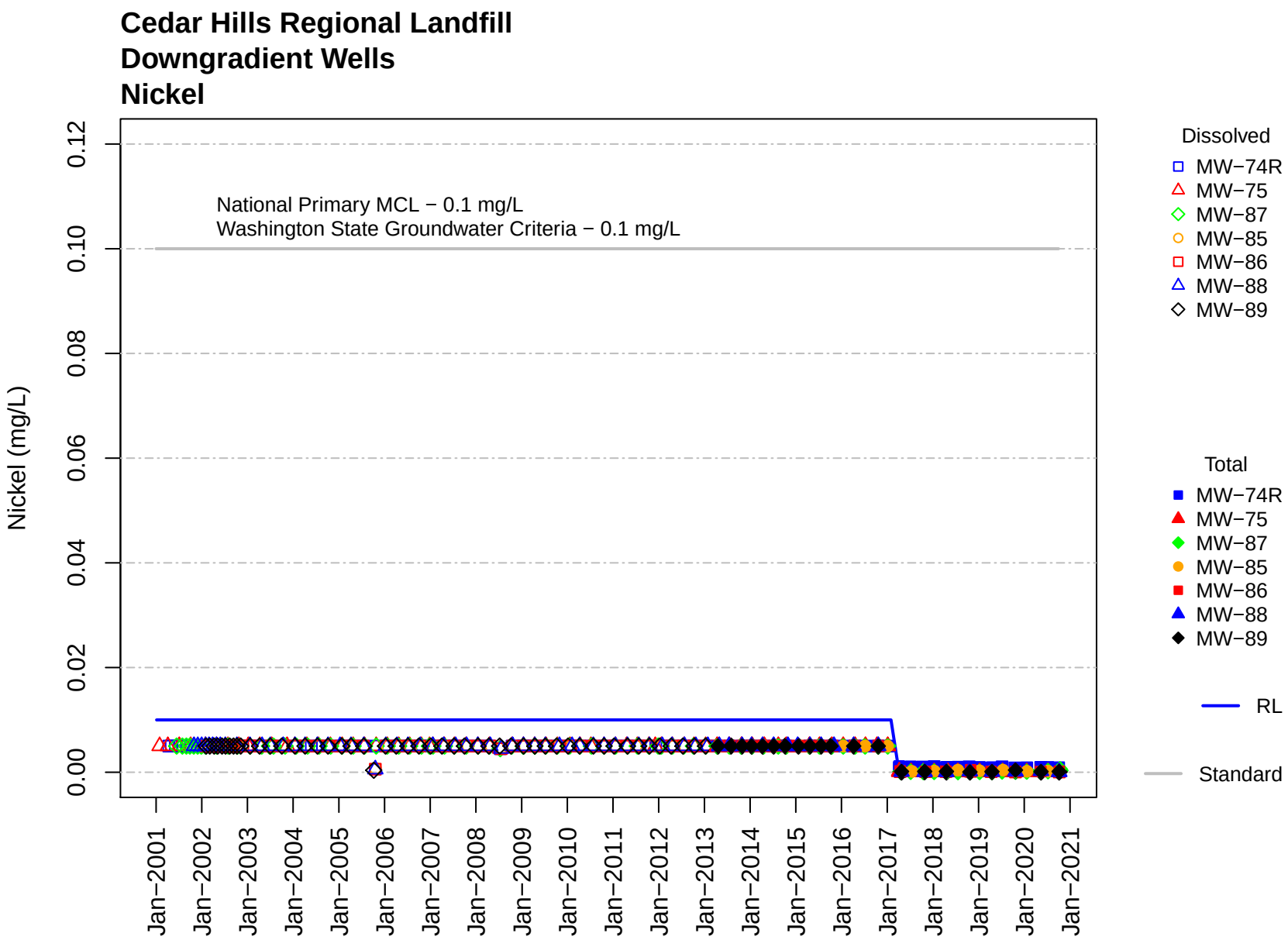

Cedar Hills Regional Landfill
Downgradient Wells
Manganese
Manganese (mg/L)
0.0
0.5
1.0
1.5
2.0
2.5
3.0
National Secondary MCL − 0.5 mg/L
Washington State Groundwater Criteria − 0.5 mg/L
Jan−2001
Jan−2002
Jan−2003
Jan−2004
Jan−2005
Jan−2006
Jan−2007
Jan−2008
Jan−2009
Jan−2010
Jan−2011
Jan−2012
Jan−2013
Jan−2014
Jan−2015
Jan−2016
Jan−2017
Jan−2018
Jan−2019
Jan−2020
Jan−2021
Dissolved
MW−100
MW−68
MW−67
MW−69
MW−72
MW−80
Total
MW−100
MW−68
MW−67
MW−69
MW−72
MW−80
RL
Standard

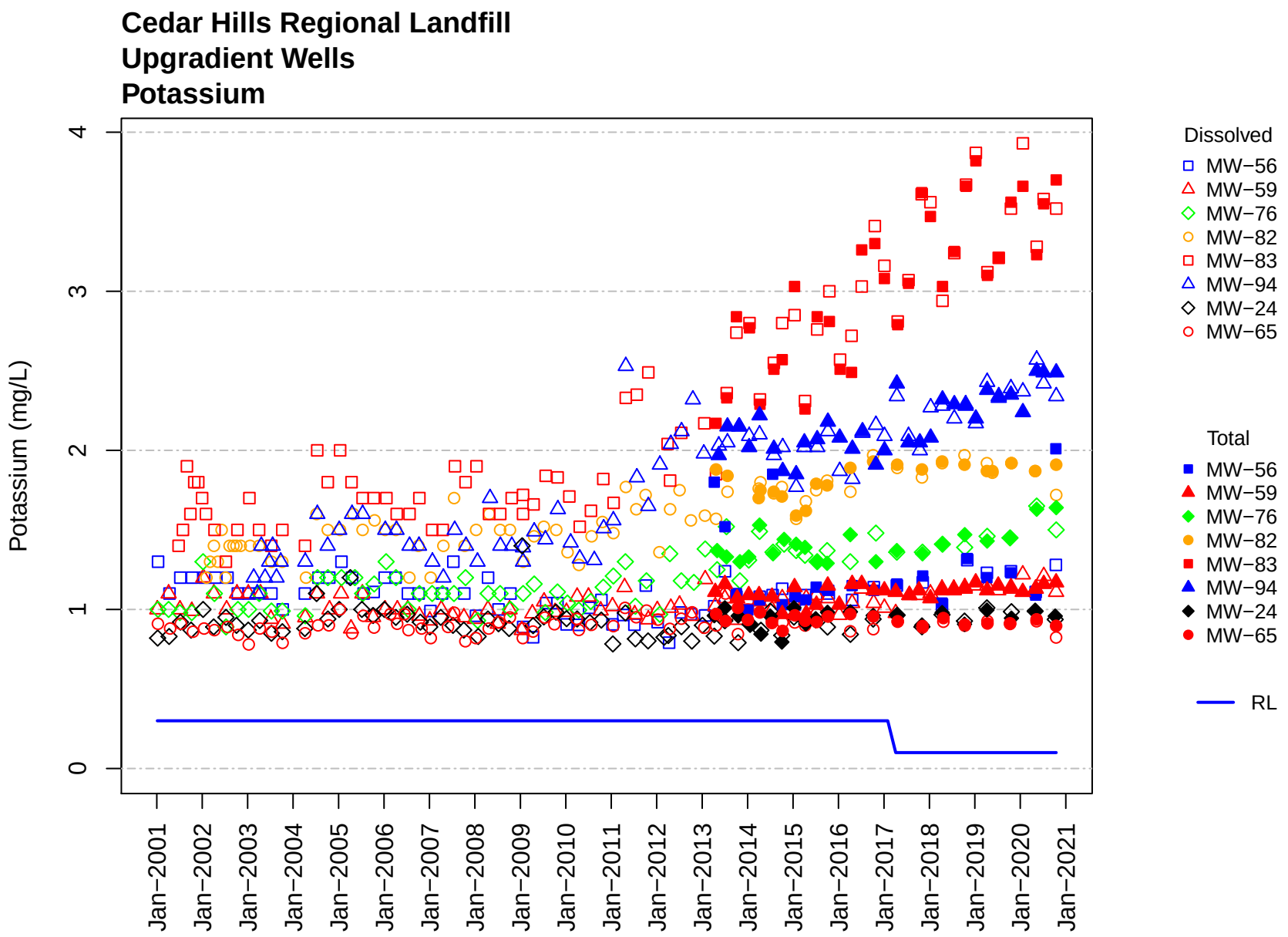

Cedar Hills Regional Landfill
Downgradient Wells
Manganese
Manganese (mg/L)
0.0
0.5
1.0
1.5
2.0
2.5
3.0
National Secondary MCL − 0.5 mg/L
Washington State Groundwater Criteria − 0.5 mg/L
Jan−2001
Jan−2002
Jan−2003
Jan−2004
Jan−2005
Jan−2006
Jan−2007
Jan−2008
Jan−2009
Jan−2010
Jan−2011
Jan−2012
Jan−2013
Jan−2014
Jan−2015
Jan−2016
Jan−2017
Jan−2018
Jan−2019
Jan−2020
Jan−2021
Dissolved
MW−74R
MW−75
MW−87
MW−85
MW−86
MW−88
MW−89
Total
MW−74R
MW−75
MW−87
MW−85
MW−86
MW−88
MW−89
RL
Standard

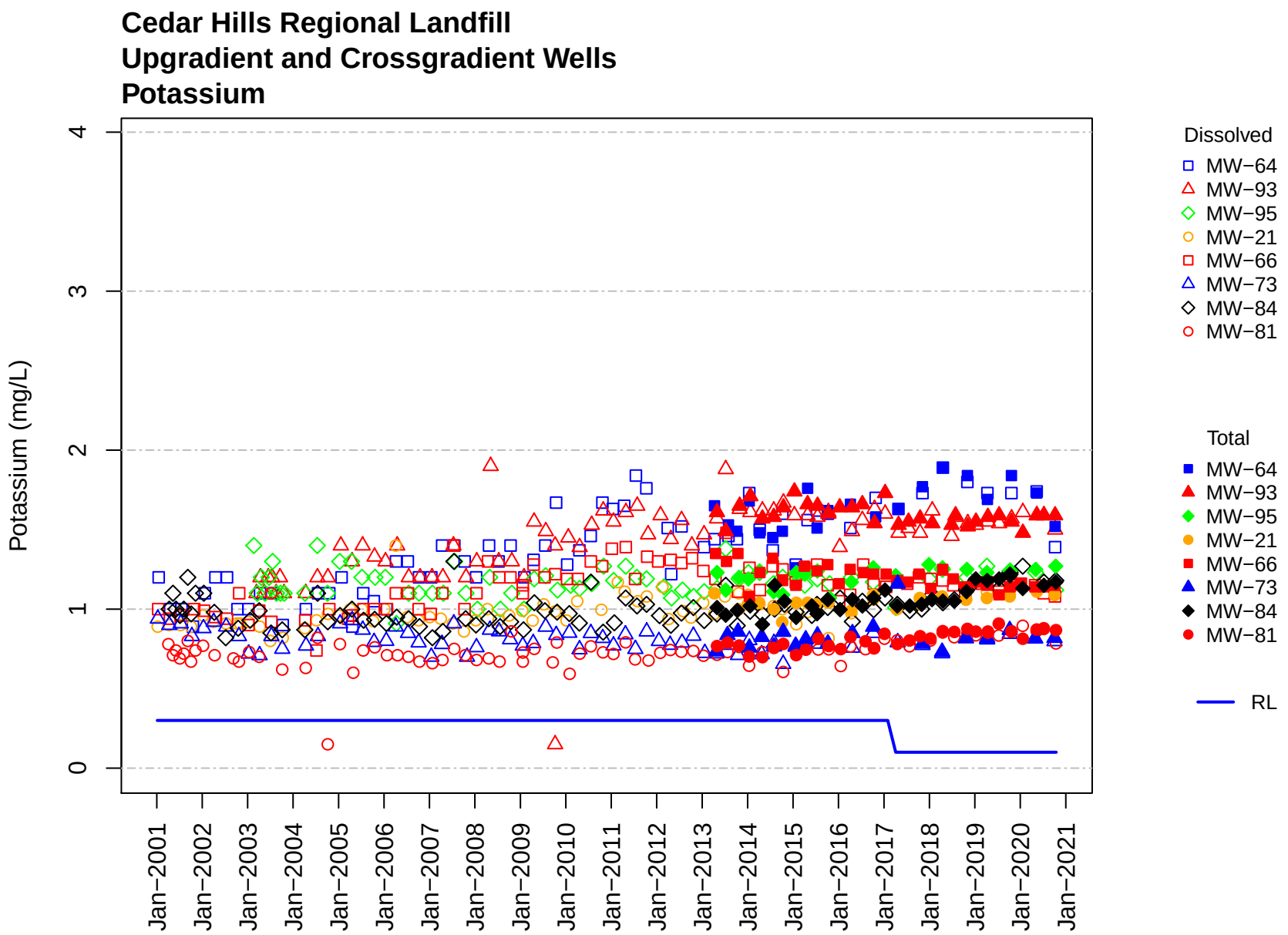

Cedar Hills Regional Landfill
Upgradient Wells
Nickel
National Primary MCL − 0.1 mg/L
Washington State Groundwater Criteria − 0.1 mg/L
Nickel (mg/L)
0.00
0.02
0.04
0.06
0.08
0.10
0.12
Jan−2001
Jan−2002
Jan−2003
Jan−2004
Jan−2005
Jan−2006
Jan−2007
Jan−2008
Jan−2009
Jan−2010
Jan−2011
Jan−2012
Jan−2013
Jan−2014
Jan−2015
Jan−2016
Jan−2017
Jan−2018
Jan−2019
Jan−2020
Jan−2021
Dissolved
MW−56
MW−59
MW−76
MW−82
MW−83
MW−94
MW−24
MW−65
Total
MW−56
MW−59
MW−76
MW−82
MW−83
MW−94
MW−24
MW−65
RL
Standard

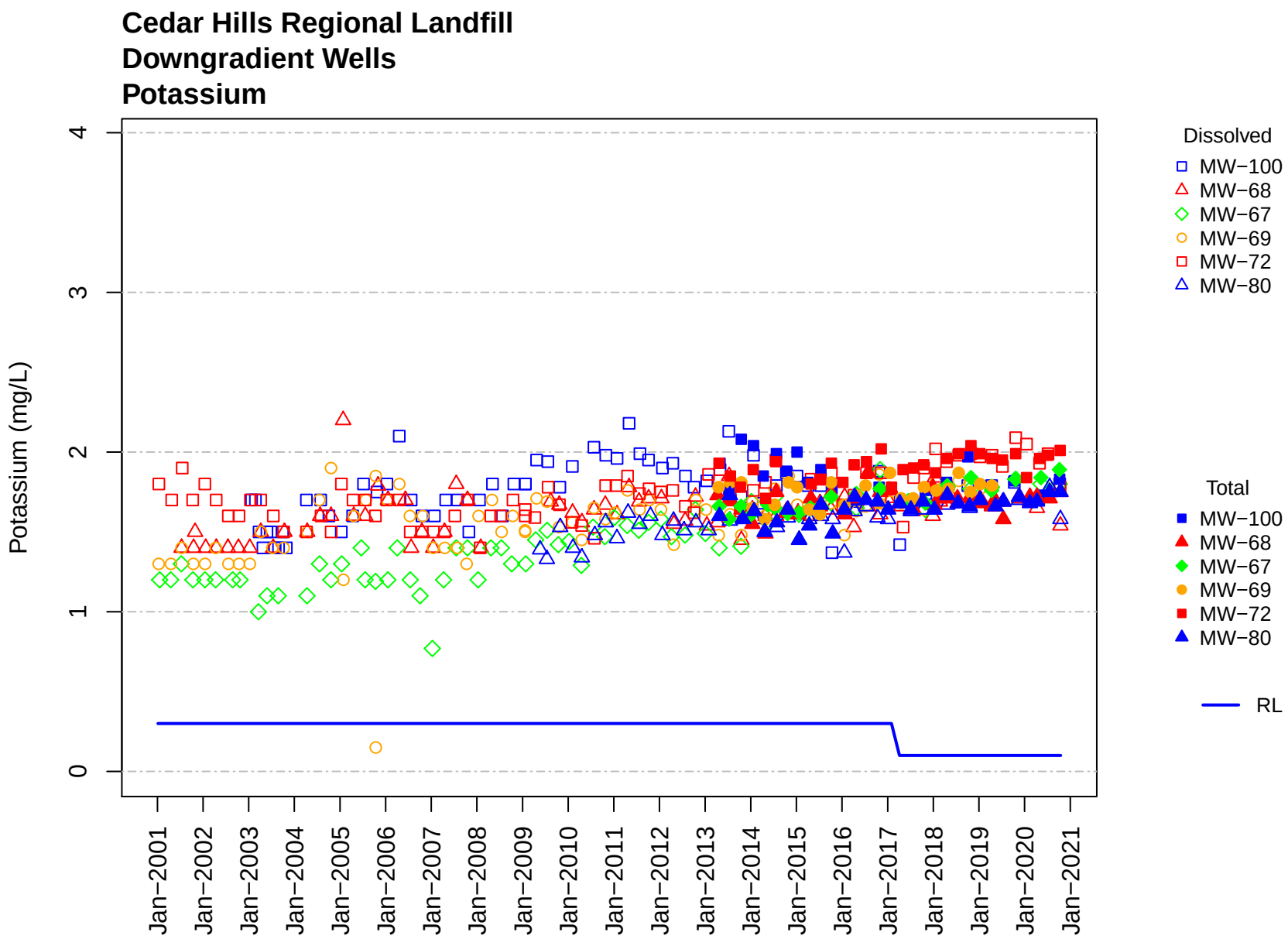

Cedar Hills Regional Landfill
Upgradient and Crossgradient Wells
Nickel
National Primary MCL − 0.1 mg/L
Washington State Groundwater Criteria − 0.1 mg/L
Nickel (mg/L)
0.00
0.02
0.04
0.06
0.08
0.10
0.12
Jan−2001
Jan−2002
Jan−2003
Jan−2004
Jan−2005
Jan−2006
Jan−2007
Jan−2008
Jan−2009
Jan−2010
Jan−2011
Jan−2012
Jan−2013
Jan−2014
Jan−2015
Jan−2016
Jan−2017
Jan−2018
Jan−2019
Jan−2020
Jan−2021
Dissolved
MW−64
MW−93
MW−95
MW−21
MW−66
MW−73
MW−84
MW−81
Total
MW−64
MW−93
MW−95
MW−21
MW−66
MW−73
MW−84
MW−81
RL
Standard

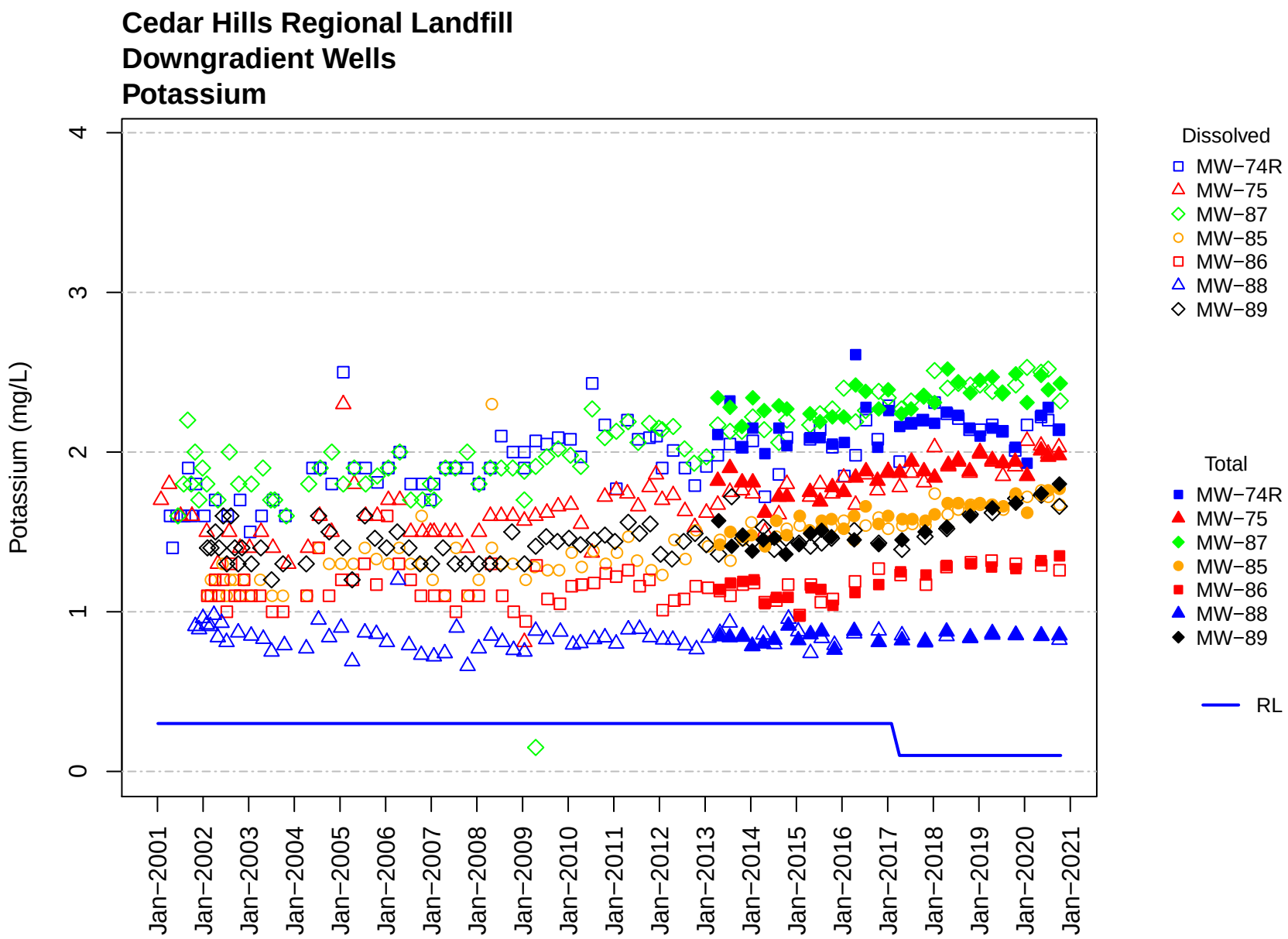

Cedar Hills Regional Landfill
Downgradient Wells
Nickel
National Primary MCL − 0.1 mg/L
Washington State Groundwater Criteria − 0.1 mg/L
Nickel (mg/L)
0.00
0.02
0.04
0.06
0.08
0.10
0.12
Jan−2001
Jan−2002
Jan−2003
Jan−2004
Jan−2005
Jan−2006
Jan−2007
Jan−2008
Jan−2009
Jan−2010
Jan−2011
Jan−2012
Jan−2013
Jan−2014
Jan−2015
Jan−2016
Jan−2017
Jan−2018
Jan−2019
Jan−2020
Jan−2021
Dissolved
MW−100
MW−68
MW−67
MW−69
MW−72
MW−80
Total
MW−100
MW−68
MW−67
MW−69
MW−72
MW−80
RL
Standard

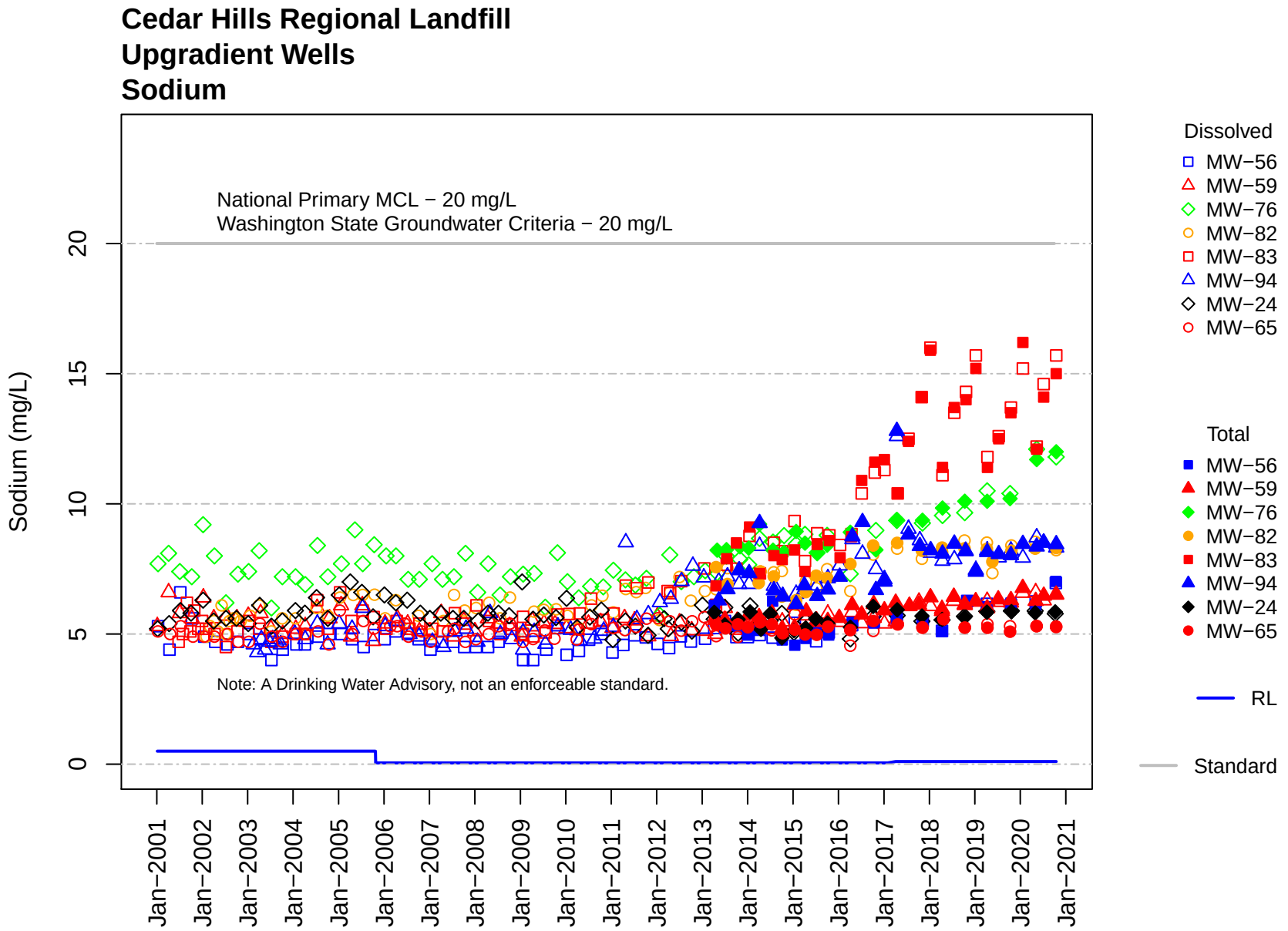

Cedar Hills Regional Landfill
Downgradient Wells
Nickel
National Primary MCL − 0.1 mg/L
Washington State Groundwater Criteria − 0.1 mg/L
Nickel (mg/L)
0.00
0.02
0.04
0.06
0.08
0.10
0.12
Jan−2001
Jan−2002
Jan−2003
Jan−2004
Jan−2005
Jan−2006
Jan−2007
Jan−2008
Jan−2009
Jan−2010
Jan−2011
Jan−2012
Jan−2013
Jan−2014
Jan−2015
Jan−2016
Jan−2017
Jan−2018
Jan−2019
Jan−2020
Jan−2021
Dissolved
MW−74R
MW−75
MW−87
MW−85
MW−86
MW−88
MW−89
Total
MW−74R
MW−75
MW−87
MW−85
MW−86
MW−88
MW−89
RL
Standard


Cedar Hills Regional Landfill
Upgradient Wells
Potassium
Potassium (mg/L)
0
1
2
3
4
Jan−2001
Jan−2002
Jan−2003
Jan−2004
Jan−2005
Jan−2006
Jan−2007
Jan−2008
Jan−2009
Jan−2010
Jan−2011
Jan−2012
Jan−2013
Jan−2014
Jan−2015
Jan−2016
Jan−2017
Jan−2018
Jan−2019
Jan−2020
Jan−2021
Dissolved
MW−56
MW−59
MW−76
MW−82
MW−83
MW−94
MW−24
MW−65
Total
MW−56
MW−59
MW−76
MW−82
MW−83
MW−94
MW−24
MW−65
RL

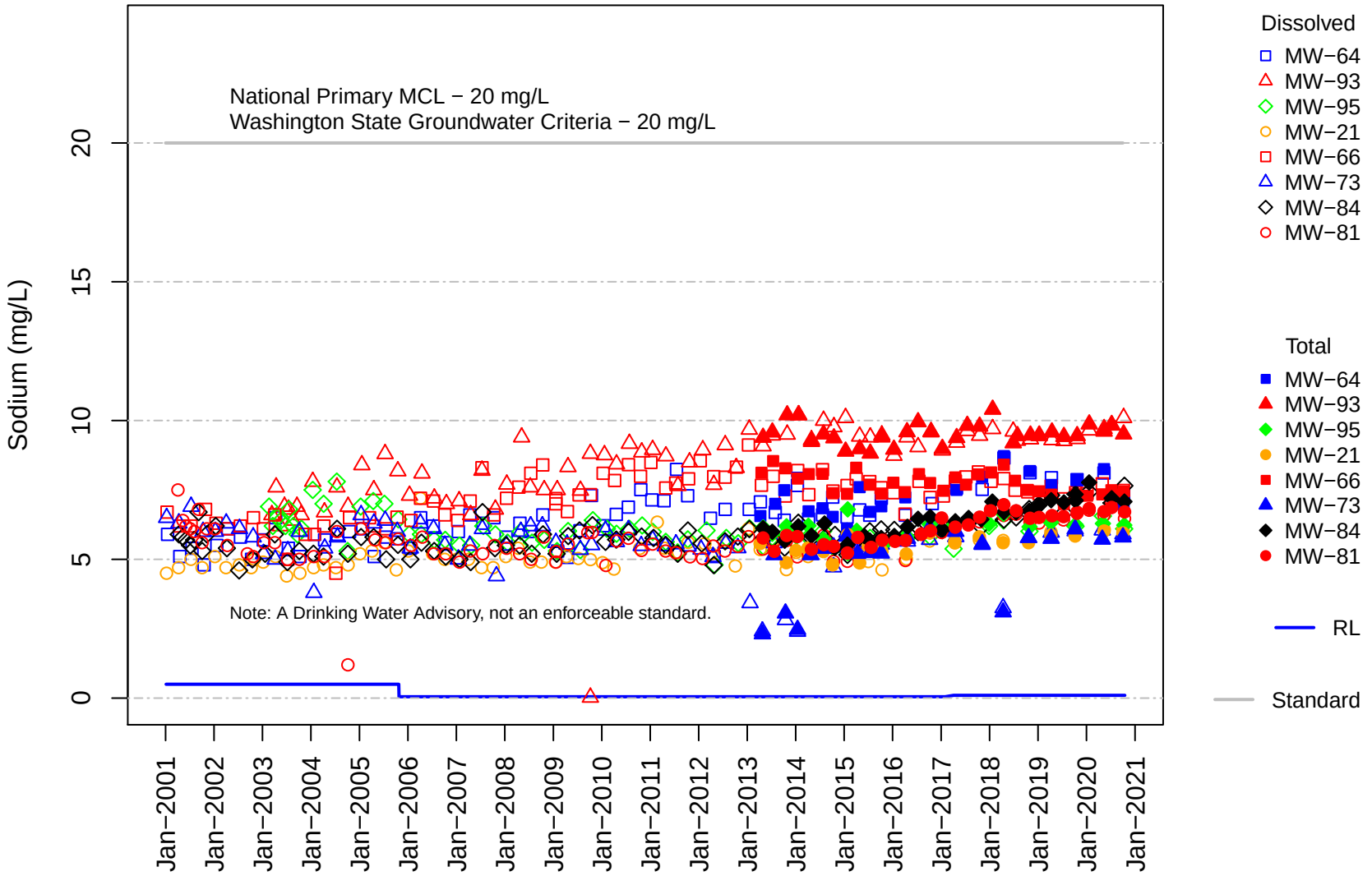

Cedar Hills Regional Landfill
Upgradient and Crossgradient Wells
Potassium
Potassium (mg/L)
0
1
2
3
4
Jan−2001
Jan−2002
Jan−2003
Jan−2004
Jan−2005
Jan−2006
Jan−2007
Jan−2008
Jan−2009
Jan−2010
Jan−2011
Jan−2012
Jan−2013
Jan−2014
Jan−2015
Jan−2016
Jan−2017
Jan−2018
Jan−2019
Jan−2020
Jan−2021
Dissolved
MW−64
MW−93
MW−95
MW−21
MW−66
MW−73
MW−84
MW−81
Total
MW−64
MW−93
MW−95
MW−21
MW−66
MW−73
MW−84
MW−81
RL

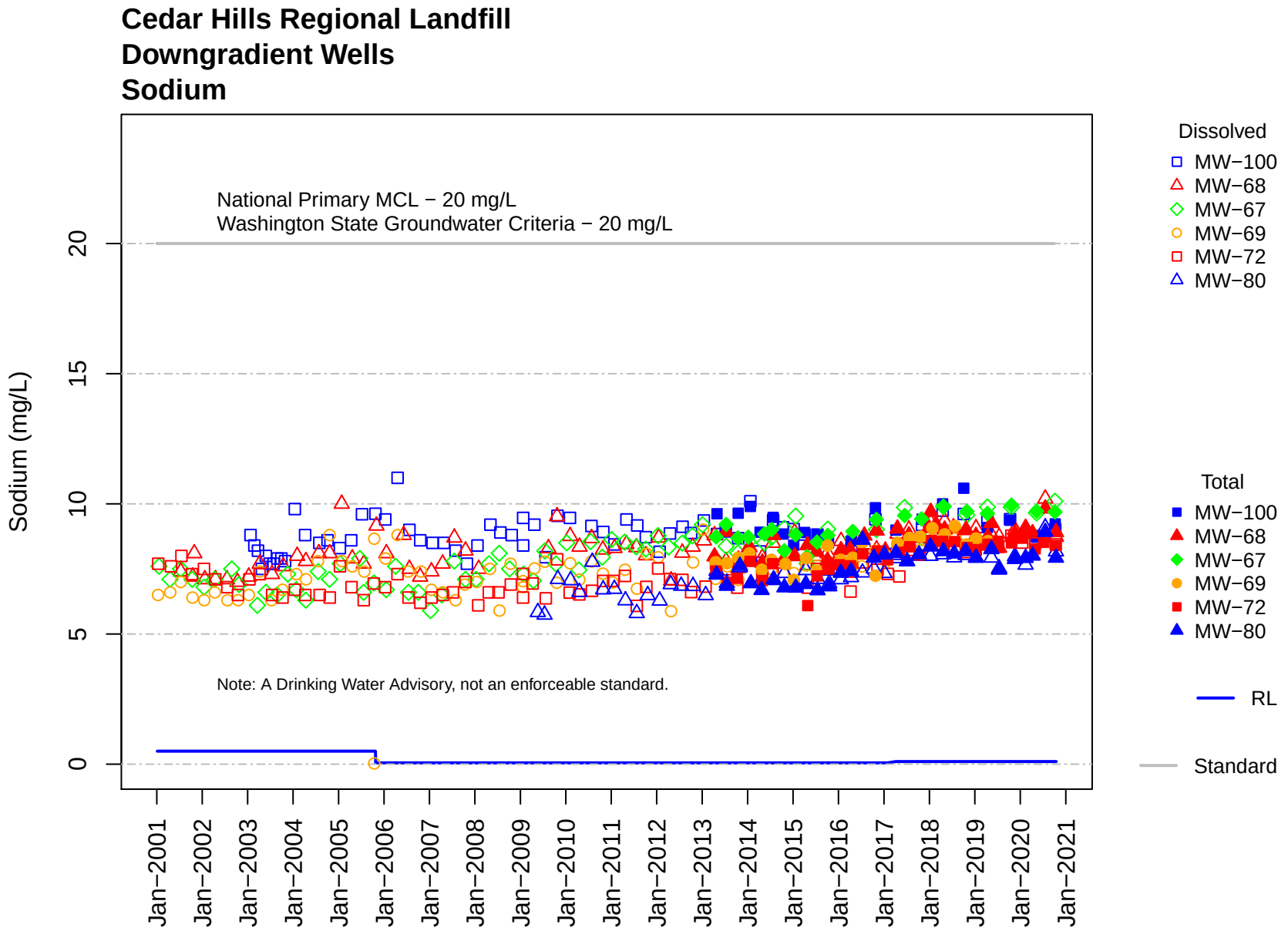

Cedar Hills Regional Landfill
Downgradient Wells
Potassium
Potassium (mg/L)
0
1
2
3
4
Jan−2001
Jan−2002
Jan−2003
Jan−2004
Jan−2005
Jan−2006
Jan−2007
Jan−2008
Jan−2009
Jan−2010
Jan−2011
Jan−2012
Jan−2013
Jan−2014
Jan−2015
Jan−2016
Jan−2017
Jan−2018
Jan−2019
Jan−2020
Jan−2021
Dissolved
MW−100
MW−68
MW−67
MW−69
MW−72
MW−80
Total
MW−100
MW−68
MW−67
MW−69
MW−72
MW−80
RL

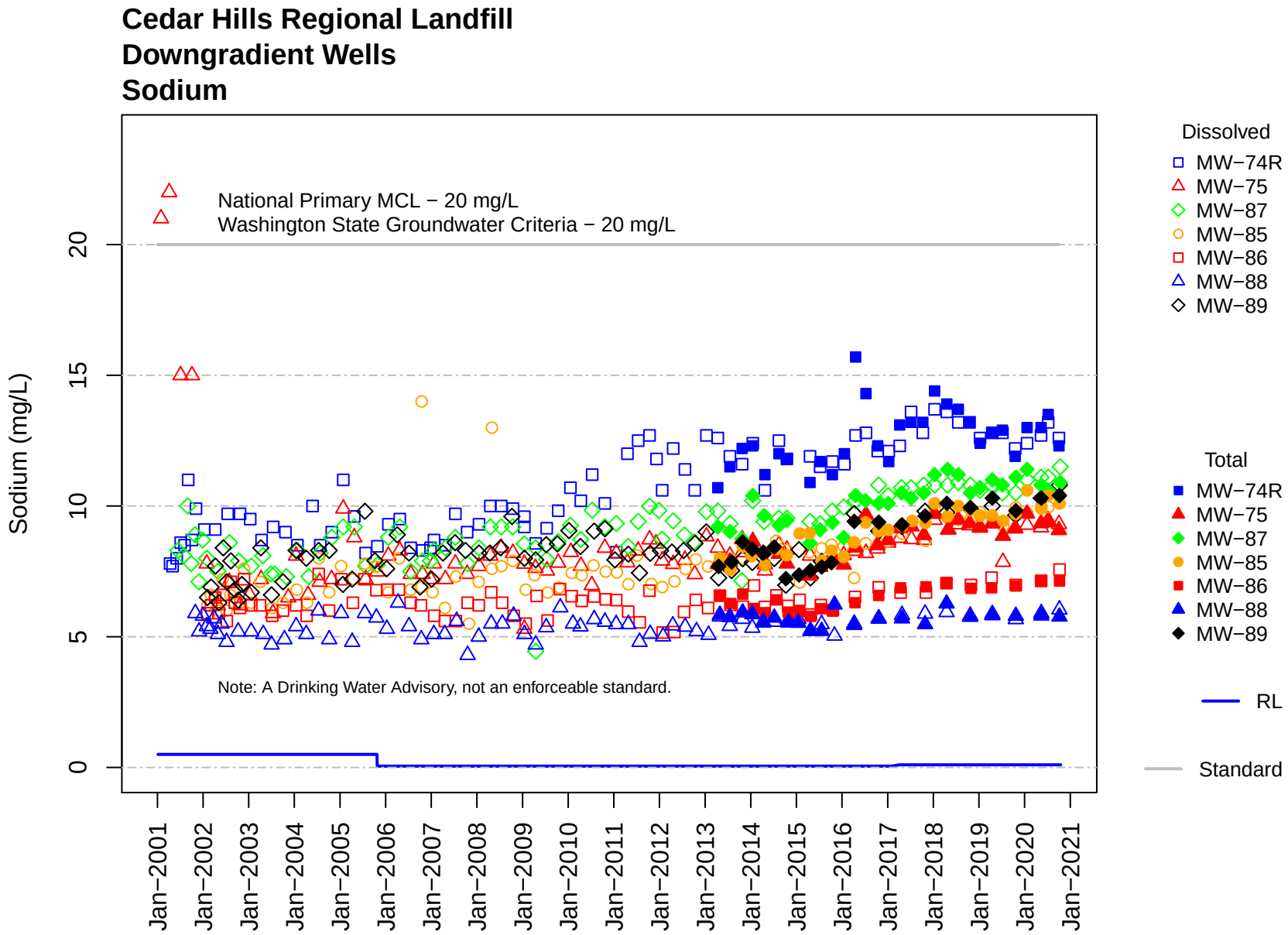

Cedar Hills Regional Landfill
Downgradient Wells
Potassium
Potassium (mg/L)
0
1
2
3
4
Jan−2001
Jan−2002
Jan−2003
Jan−2004
Jan−2005
Jan−2006
Jan−2007
Jan−2008
Jan−2009
Jan−2010
Jan−2011
Jan−2012
Jan−2013
Jan−2014
Jan−2015
Jan−2016
Jan−2017
Jan−2018
Jan−2019
Jan−2020
Jan−2021
Dissolved
MW−74R
MW−75
MW−87
MW−85
MW−86
MW−88
MW−89
Total
MW−74R
MW−75
MW−87
MW−85
MW−86
MW−88
MW−89
RL

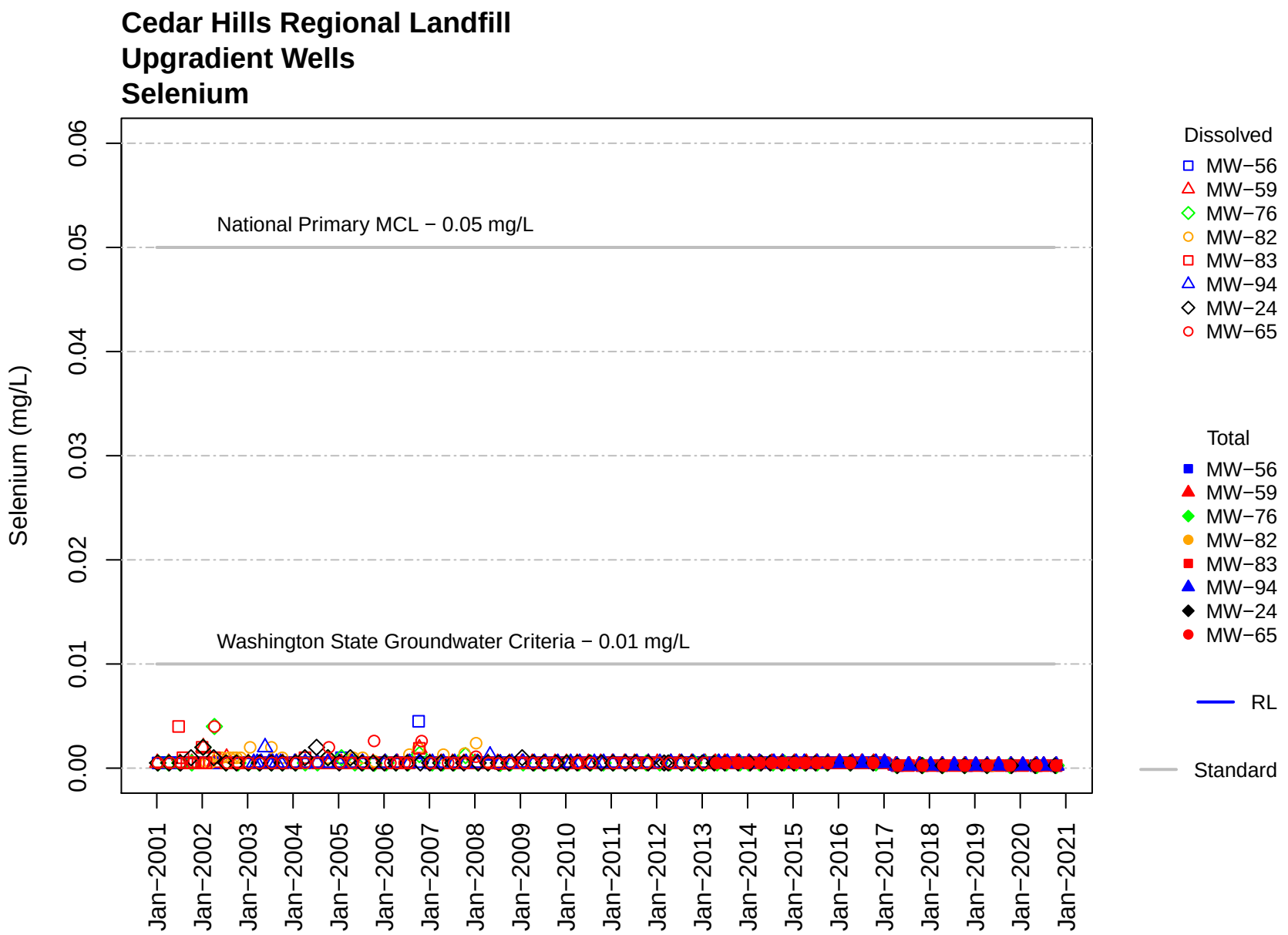

Cedar Hills Regional Landfill
Upgradient Wells
Sodium
National Primary MCL − 20 mg/L
Washington State Groundwater Criteria − 20 mg/L
Note: A Drinking Water Advisory, not an enforceable standard.
Sodium (mg/L)
0
5
10
15
20
Jan−2001
Jan−2002
Jan−2003
Jan−2004
Jan−2005
Jan−2006
Jan−2007
Jan−2008
Jan−2009
Jan−2010
Jan−2011
Jan−2012
Jan−2013
Jan−2014
Jan−2015
Jan−2016
Jan−2017
Jan−2018
Jan−2019
Jan−2020
Jan−2021
Dissolved
MW−56
MW−59
MW−76
MW−82
MW−83
MW−94
MW−24
MW−65
Total
MW−56
MW−59
MW−76
MW−82
MW−83
MW−94
MW−24
MW−65
RL
Standard

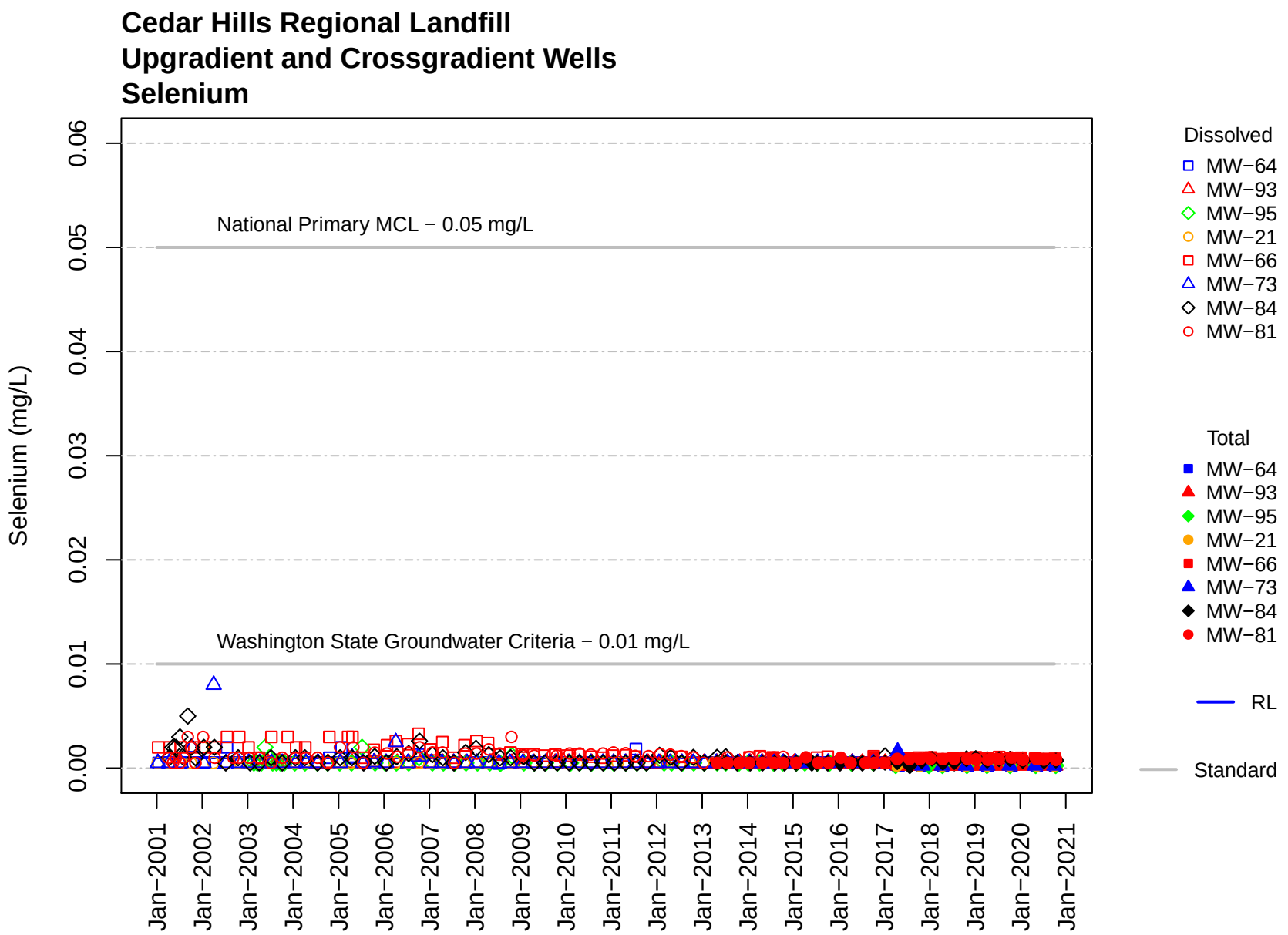
Cedar Hills Regional Landfill
Upgradient and Crossgradient Wells
Sodium

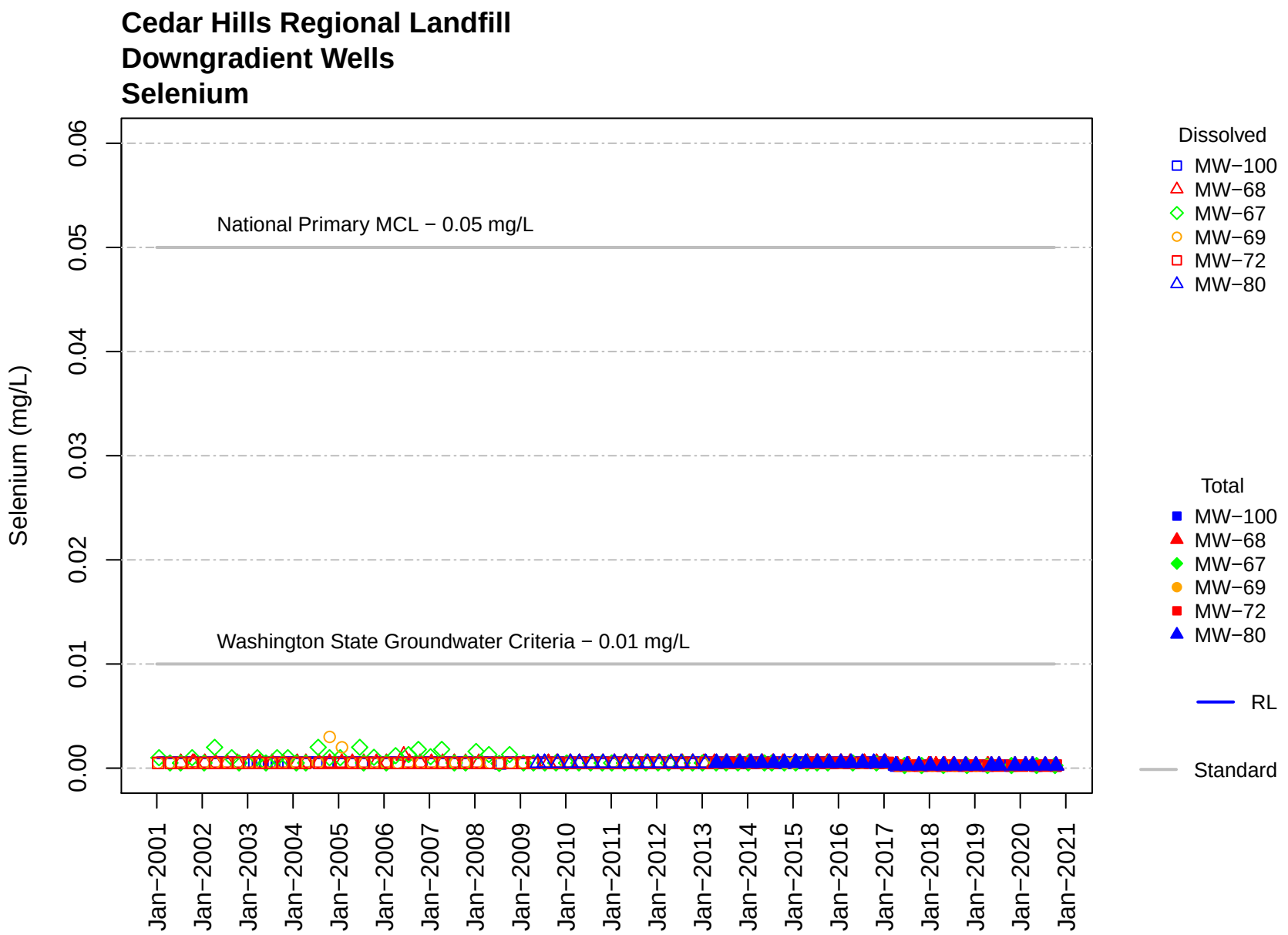


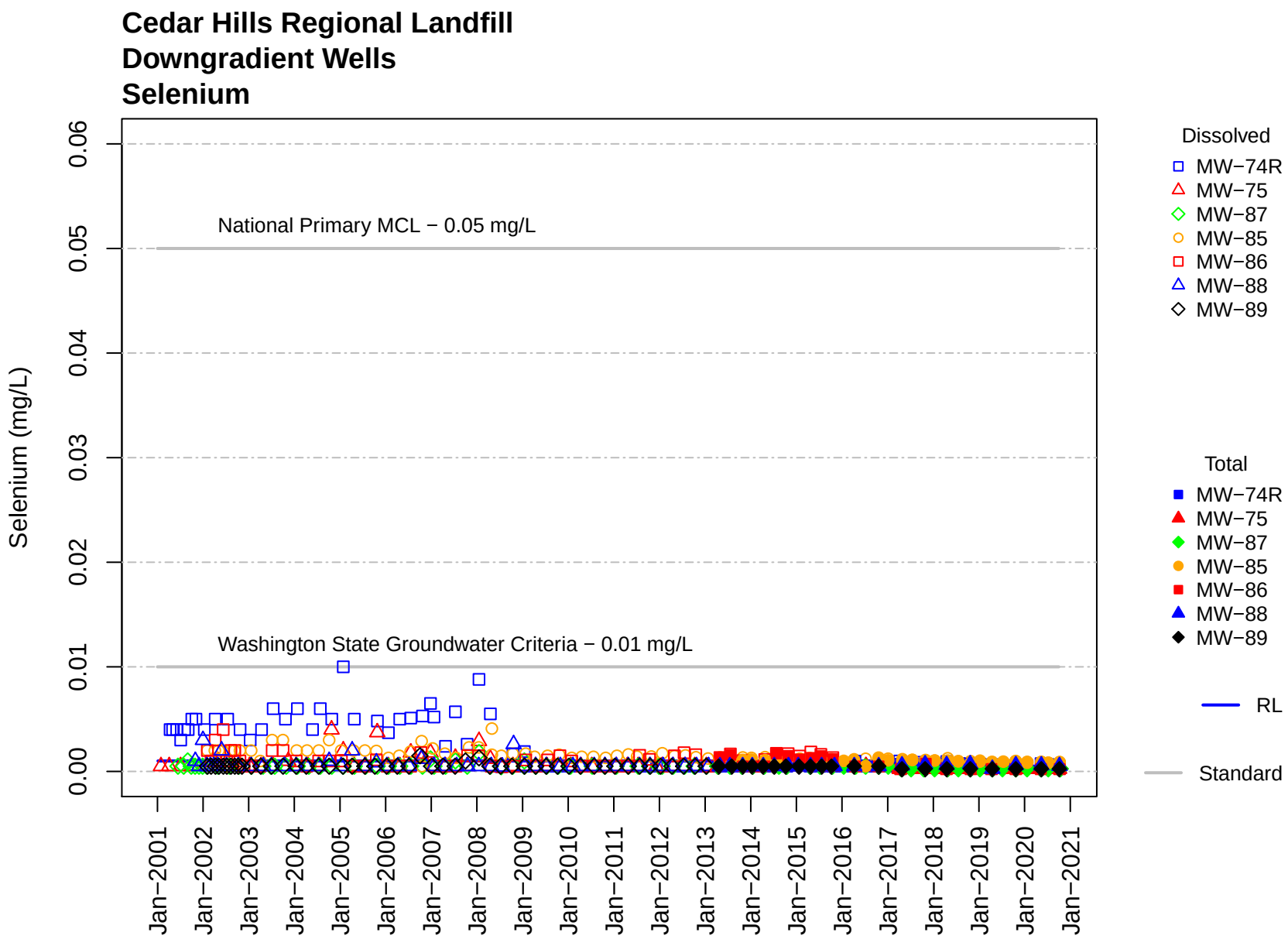

Cedar Hills Regional Landfill
Downgradient Wells
Sodium
National Primary MCL − 20 mg/L
Washington State Groundwater Criteria − 20 mg/L
Note: A Drinking Water Advisory, not an enforceable standard.
Sodium (mg/L)
0
5
10
15
20
Jan−2001
Jan−2002
Jan−2003
Jan−2004
Jan−2005
Jan−2006
Jan−2007
Jan−2008
Jan−2009
Jan−2010
Jan−2011
Jan−2012
Jan−2013
Jan−2014
Jan−2015
Jan−2016
Jan−2017
Jan−2018
Jan−2019
Jan−2020
Jan−2021
Dissolved
MW−100
MW−68
MW−67
MW−69
MW−72
MW−80
Total
MW−100
MW−68
MW−67
MW−69
MW−72
MW−80
RL
Standard

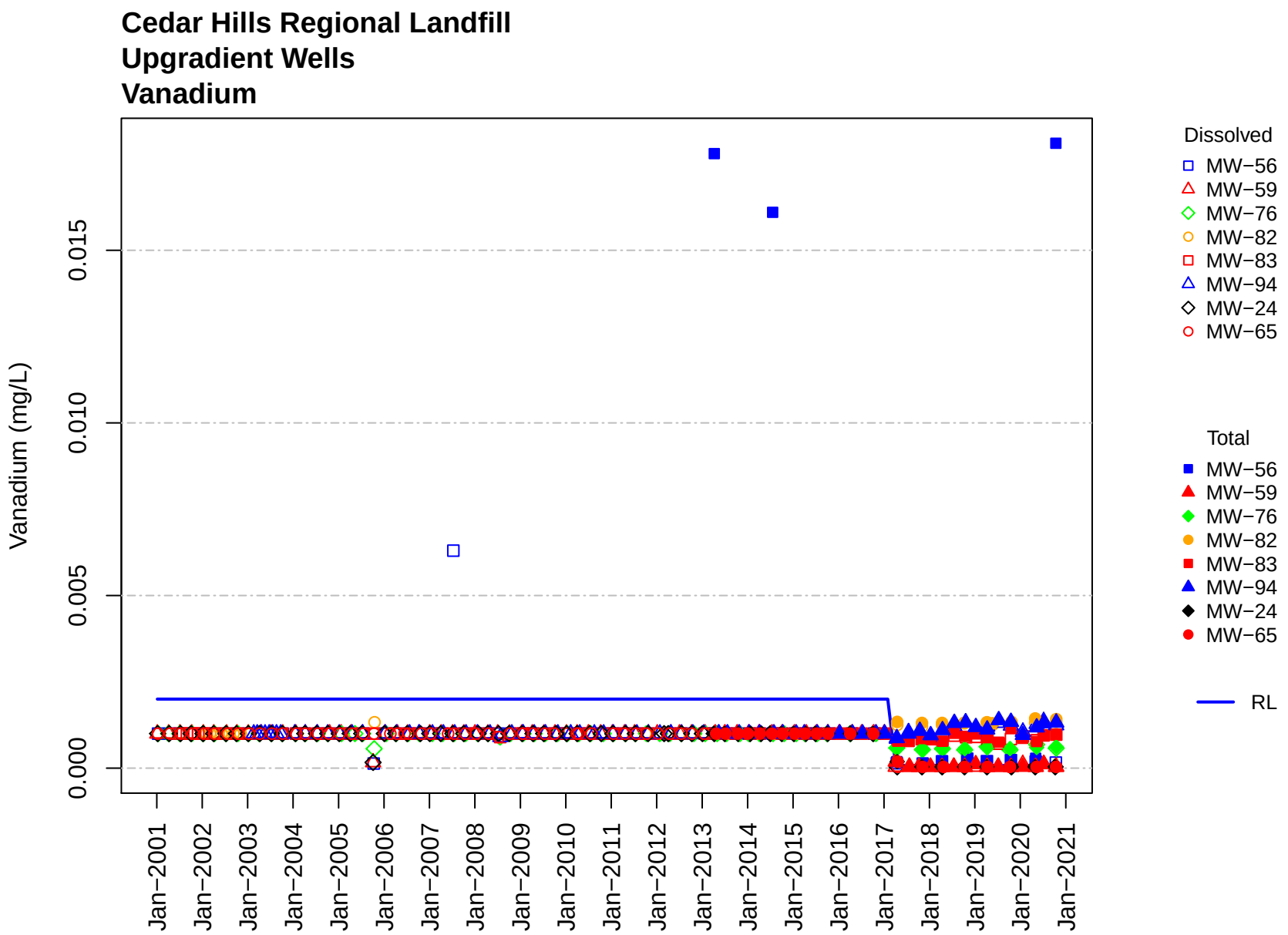

Cedar Hills Regional Landfill
Downgradient Wells
Sodium
National Primary MCL − 20 mg/L
Washington State Groundwater Criteria − 20 mg/L
Note: A Drinking Water Advisory, not an enforceable standard.
Sodium (mg/L)
0
5
10
15
20
Jan−2001
Jan−2002
Jan−2003
Jan−2004
Jan−2005
Jan−2006
Jan−2007
Jan−2008
Jan−2009
Jan−2010
Jan−2011
Jan−2012
Jan−2013
Jan−2014
Jan−2015
Jan−2016
Jan−2017
Jan−2018
Jan−2019
Jan−2020
Jan−2021
Dissolved
MW−74R
MW−75
MW−87
MW−85
MW−86
MW−88
MW−89
Total
MW−74R
MW−75
MW−87
MW−85
MW−86
MW−88
MW−89
RL
Standard

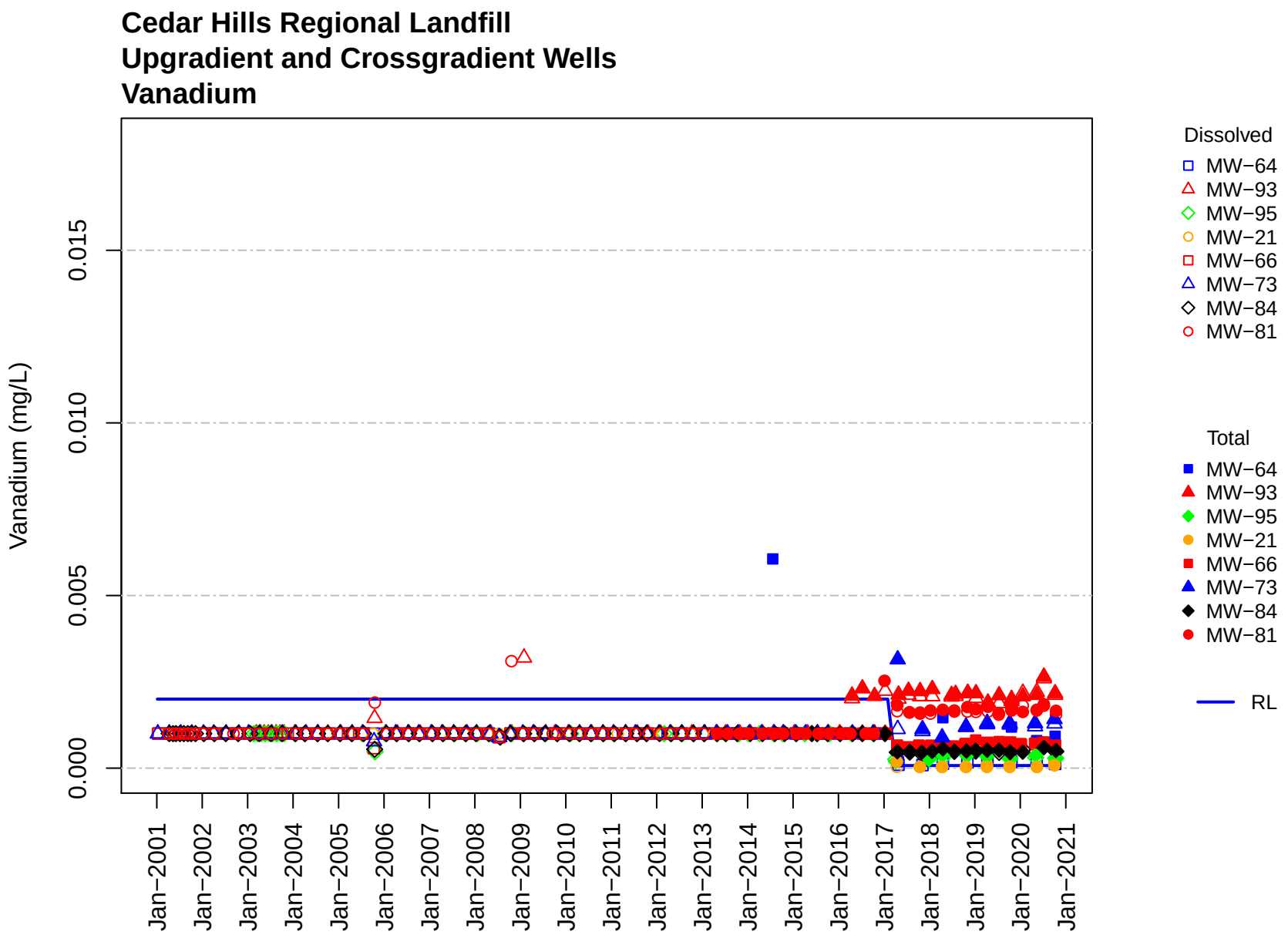

Cedar Hills Regional Landfill
Upgradient Wells
Selenium
Selenium (mg/L)
0.00
0.01
0.02
0.03
0.04
0.05
0.06
National Primary MCL − 0.05 mg/L
Washington State Groundwater Criteria − 0.01 mg/L
Jan−2001
Jan−2002
Jan−2003
Jan−2004
Jan−2005
Jan−2006
Jan−2007
Jan−2008
Jan−2009
Jan−2010
Jan−2011
Jan−2012
Jan−2013
Jan−2014
Jan−2015
Jan−2016
Jan−2017
Jan−2018
Jan−2019
Jan−2020
Jan−2021
Dissolved
MW−56
MW−59
MW−76
MW−82
MW−83
MW−94
MW−24
MW−65
Total
MW−56
MW−59
MW−76
MW−82
MW−83
MW−94
MW−24
MW−65
RL
Standard

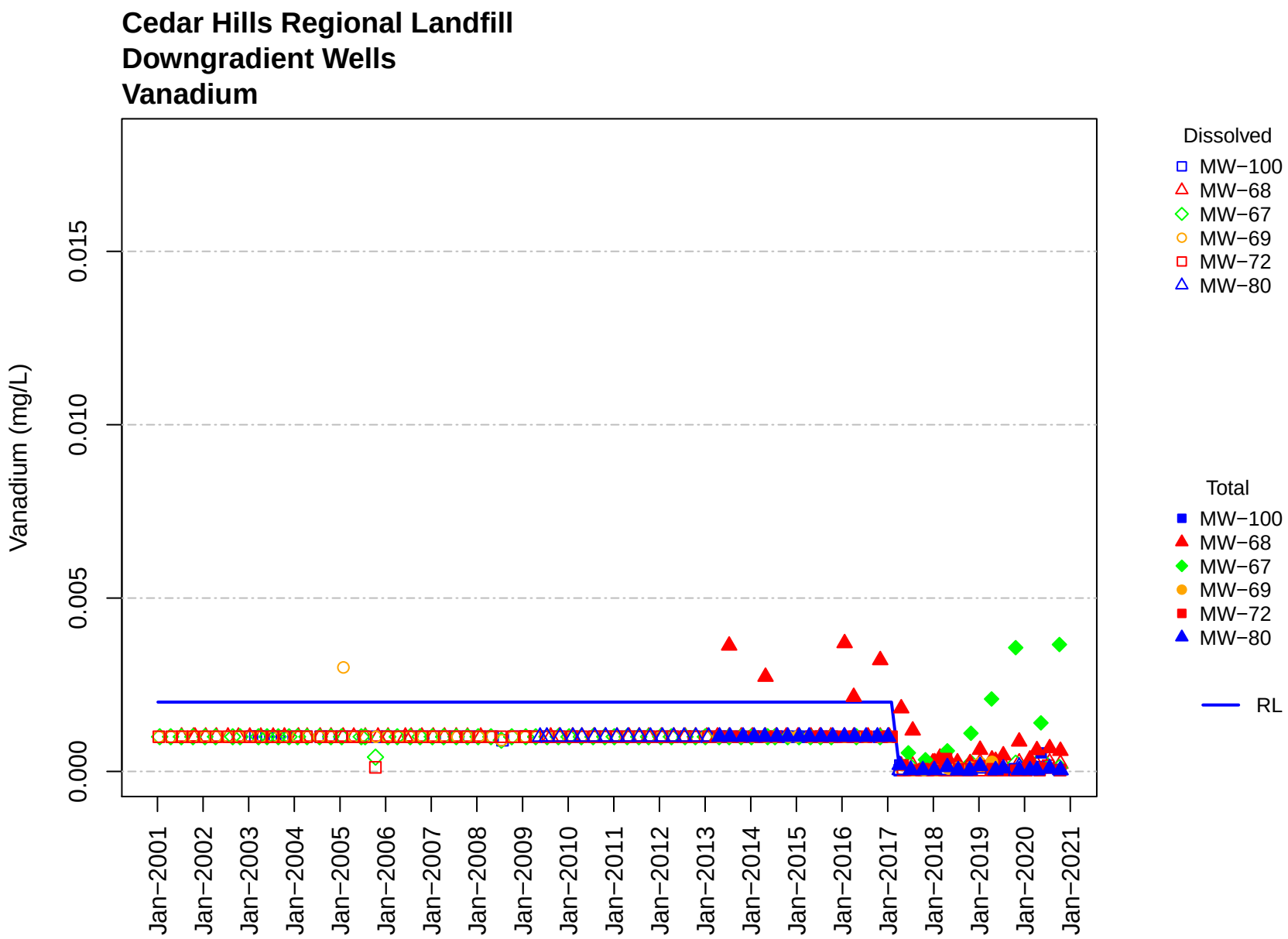

Cedar Hills Regional Landfill
Upgradient and Crossgradient Wells
Selenium
Selenium (mg/L)
0.00
0.01
0.02
0.03
0.04
0.05
0.06
National Primary MCL − 0.05 mg/L
Washington State Groundwater Criteria − 0.01 mg/L
Jan−2001
Jan−2002
Jan−2003
Jan−2004
Jan−2005
Jan−2006
Jan−2007
Jan−2008
Jan−2009
Jan−2010
Jan−2011
Jan−2012
Jan−2013
Jan−2014
Jan−2015
Jan−2016
Jan−2017
Jan−2018
Jan−2019
Jan−2020
Jan−2021
Dissolved
MW−64
MW−93
MW−95
MW−21
MW−66
MW−73
MW−84
MW−81
Total
MW−64
MW−93
MW−95
MW−21
MW−66
MW−73
MW−84
MW−81
RL
Standard

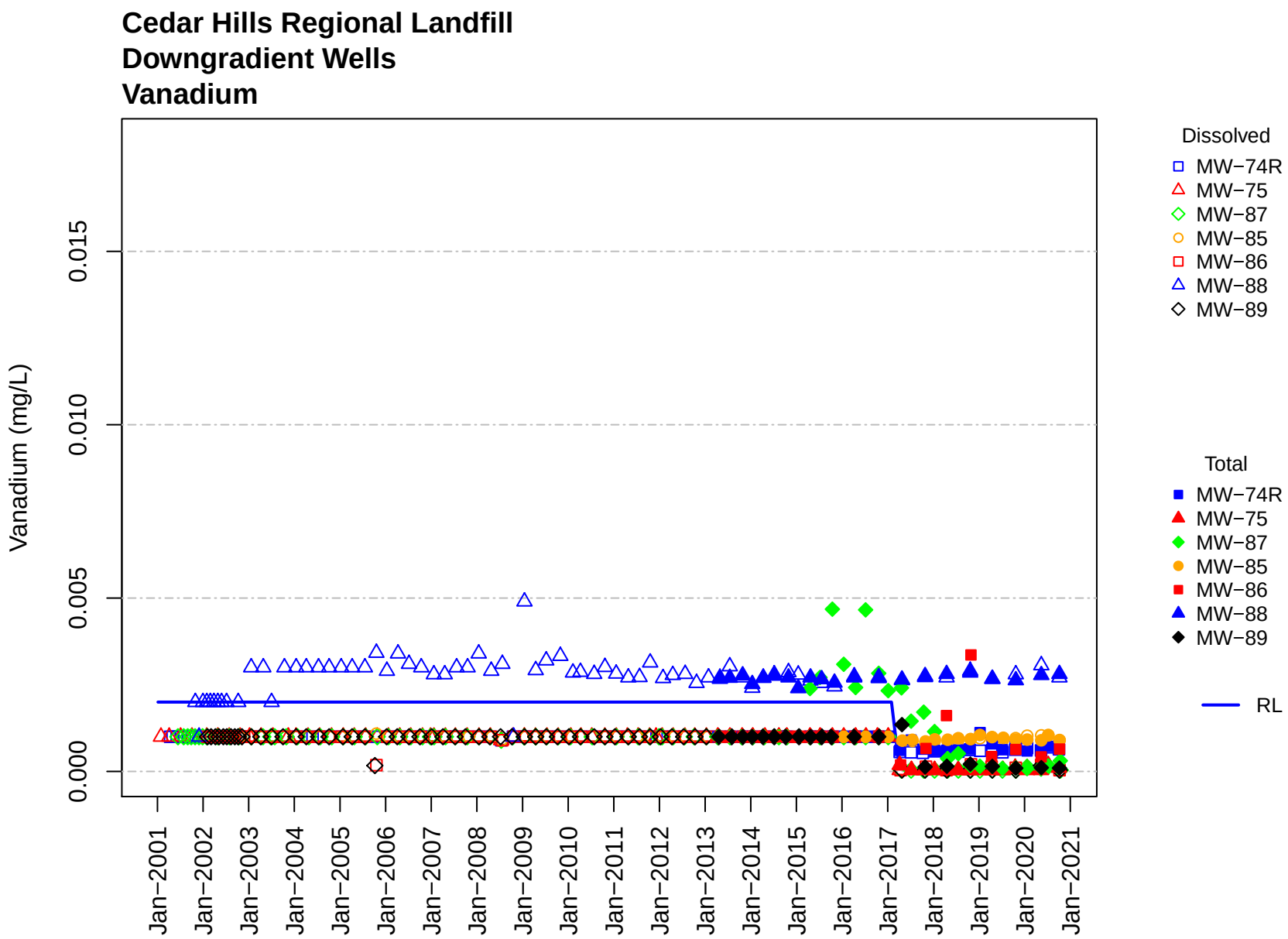

Cedar Hills Regional Landfill
Downgradient Wells
Selenium
Selenium (mg/L)
0.00
0.01
0.02
0.03
0.04
0.05
0.06
National Primary MCL − 0.05 mg/L
Washington State Groundwater Criteria − 0.01 mg/L
Jan−2001
Jan−2002
Jan−2003
Jan−2004
Jan−2005
Jan−2006
Jan−2007
Jan−2008
Jan−2009
Jan−2010
Jan−2011
Jan−2012
Jan−2013
Jan−2014
Jan−2015
Jan−2016
Jan−2017
Jan−2018
Jan−2019
Jan−2020
Jan−2021
Dissolved
MW−100
MW−68
MW−67
MW−69
MW−72
MW−80
Total
MW−100
MW−68
MW−67
MW−69
MW−72
MW−80
RL
Standard

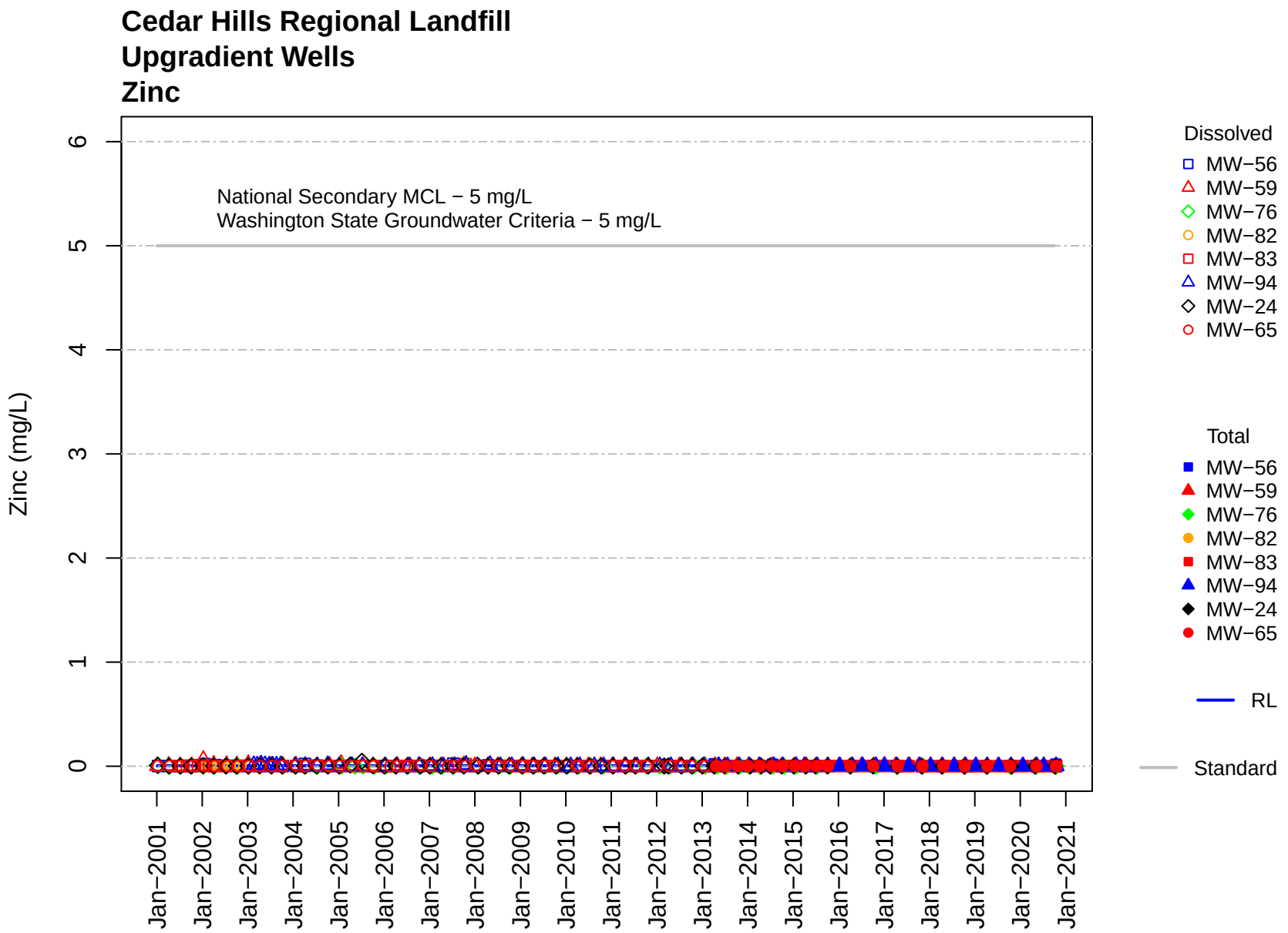

Cedar Hills Regional Landfill
Downgradient Wells
Selenium
Selenium (mg/L)
0.00
0.01
0.02
0.03
0.04
0.05
0.06
National Primary MCL − 0.05 mg/L
Washington State Groundwater Criteria − 0.01 mg/L
Jan−2001
Jan−2002
Jan−2003
Jan−2004
Jan−2005
Jan−2006
Jan−2007
Jan−2008
Jan−2009
Jan−2010
Jan−2011
Jan−2012
Jan−2013
Jan−2014
Jan−2015
Jan−2016
Jan−2017
Jan−2018
Jan−2019
Jan−2020
Jan−2021
Dissolved
MW−74R
MW−75
MW−87
MW−85
MW−86
MW−88
MW−89
Total
MW−74R
MW−75
MW−87
MW−85
MW−86
MW−88
MW−89
RL
Standard

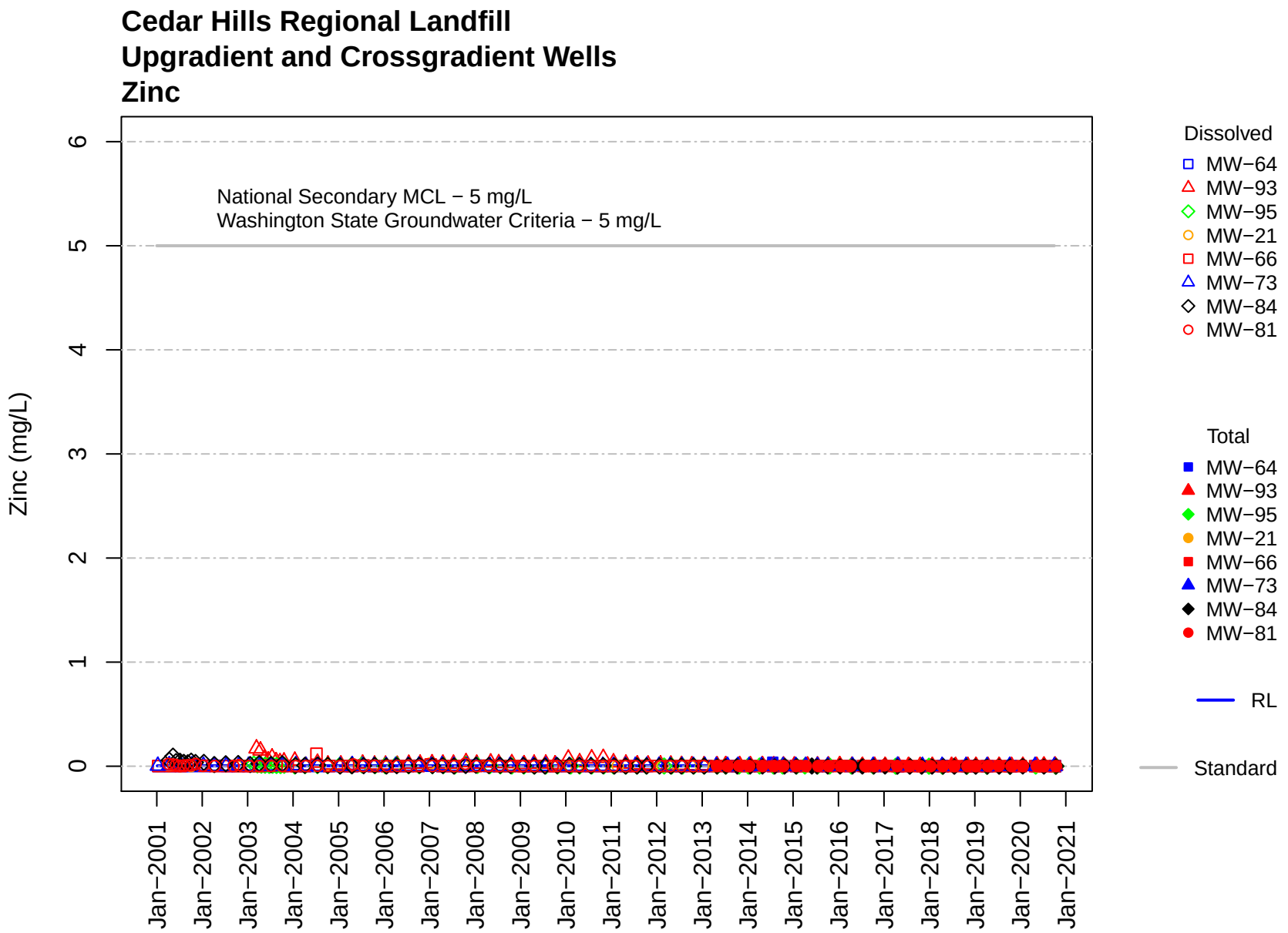

Cedar Hills Regional Landfill
Upgradient Wells
Vanadium
Vanadium (mg/L)
0.000
0.005
0.010
0.015
Jan−2001
Jan−2002
Jan−2003
Jan−2004
Jan−2005
Jan−2006
Jan−2007
Jan−2008
Jan−2009
Jan−2010
Jan−2011
Jan−2012
Jan−2013
Jan−2014
Jan−2015
Jan−2016
Jan−2017
Jan−2018
Jan−2019
Jan−2020
Jan−2021
Dissolved
MW−56
MW−59
MW−76
MW−82
MW−83
MW−94
MW−24
MW−65
Total
MW−56
MW−59
MW−76
MW−82
MW−83
MW−94
MW−24
MW−65
RL

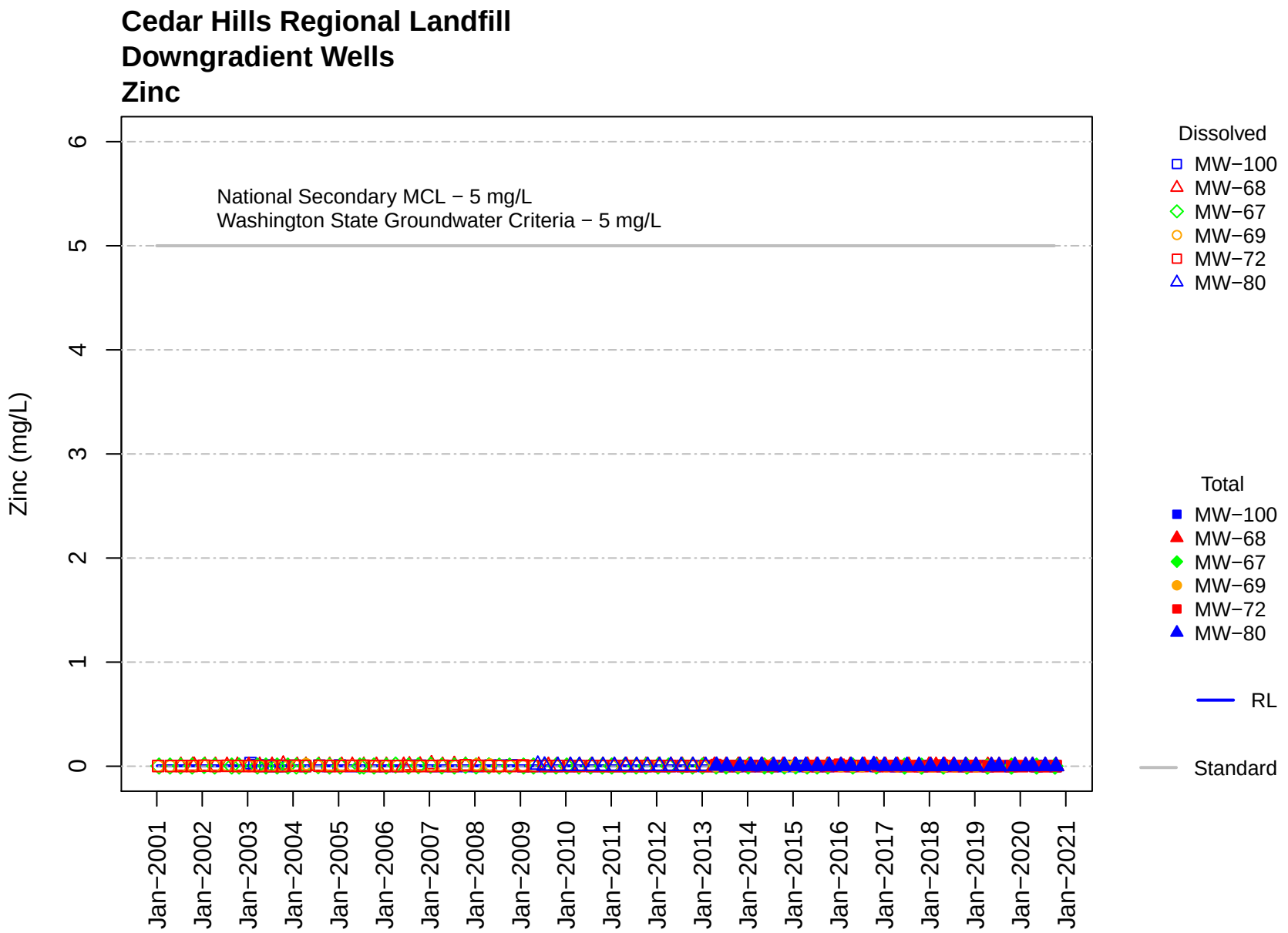

Cedar Hills Regional Landfill
Upgradient and Crossgradient Wells
Vanadium
Vanadium (mg/L)
0.000
0.005
0.010
0.015
Jan−2001
Jan−2002
Jan−2003
Jan−2004
Jan−2005
Jan−2006
Jan−2007
Jan−2008
Jan−2009
Jan−2010
Jan−2011
Jan−2012
Jan−2013
Jan−2014
Jan−2015
Jan−2016
Jan−2017
Jan−2018
Jan−2019
Jan−2020
Jan−2021
Dissolved
MW−64
MW−93
MW−95
MW−21
MW−66
MW−73
MW−84
MW−81
Total
MW−64
MW−93
MW−95
MW−21
MW−66
MW−73
MW−84
MW−81
RL

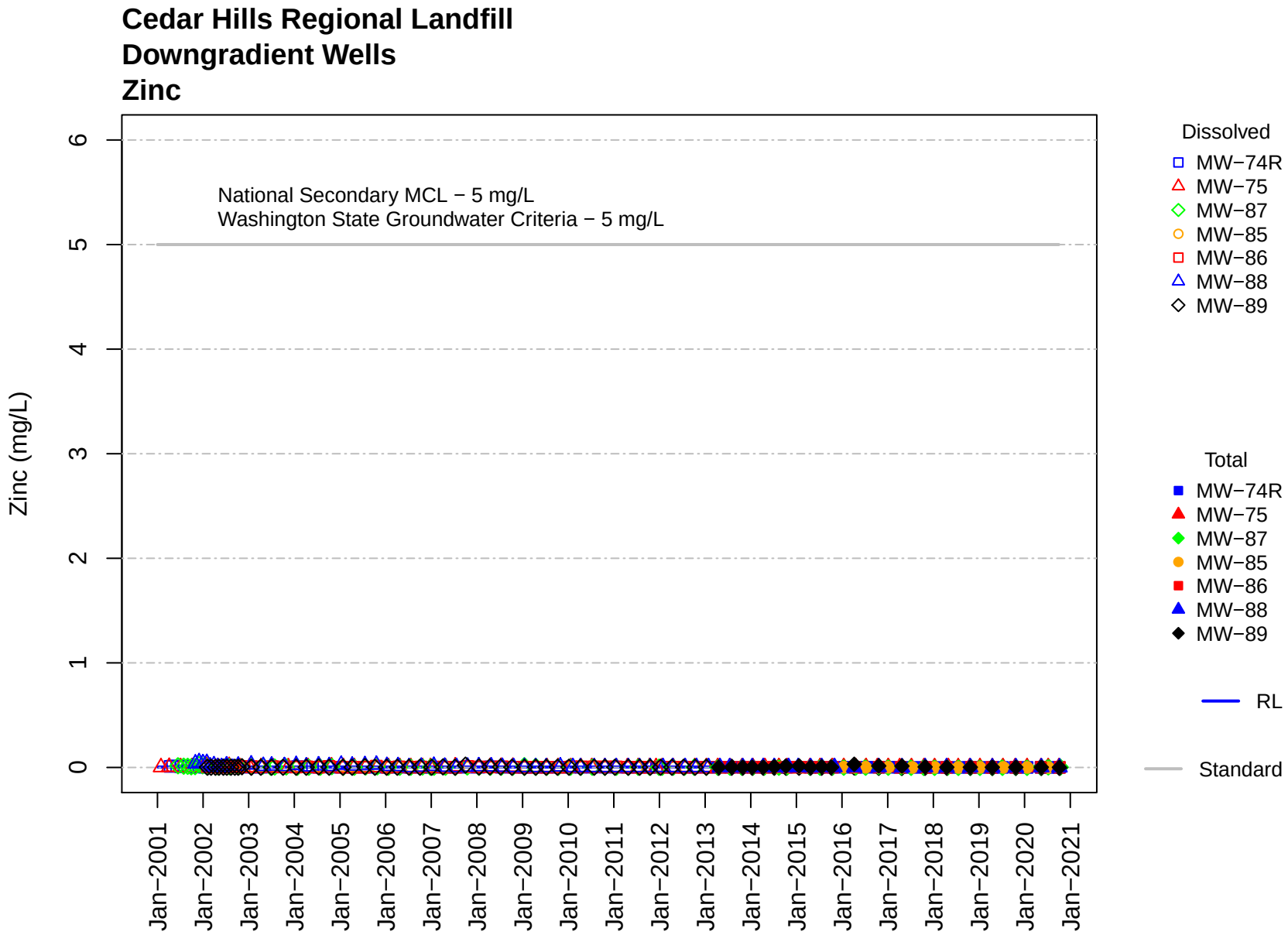

Cedar Hills Regional Landfill
Downgradient Wells
Vanadium
Vanadium (mg/L)
0.000
0.005
0.010
0.015
Jan−2001
Jan−2002
Jan−2003
Jan−2004
Jan−2005
Jan−2006
Jan−2007
Jan−2008
Jan−2009
Jan−2010
Jan−2011
Jan−2012
Jan−2013
Jan−2014
Jan−2015
Jan−2016
Jan−2017
Jan−2018
Jan−2019
Jan−2020
Jan−2021
Dissolved
MW−100
MW−68
MW−67
MW−69
MW−72
MW−80
Total
MW−100
MW−68
MW−67
MW−69
MW−72
MW−80
RL

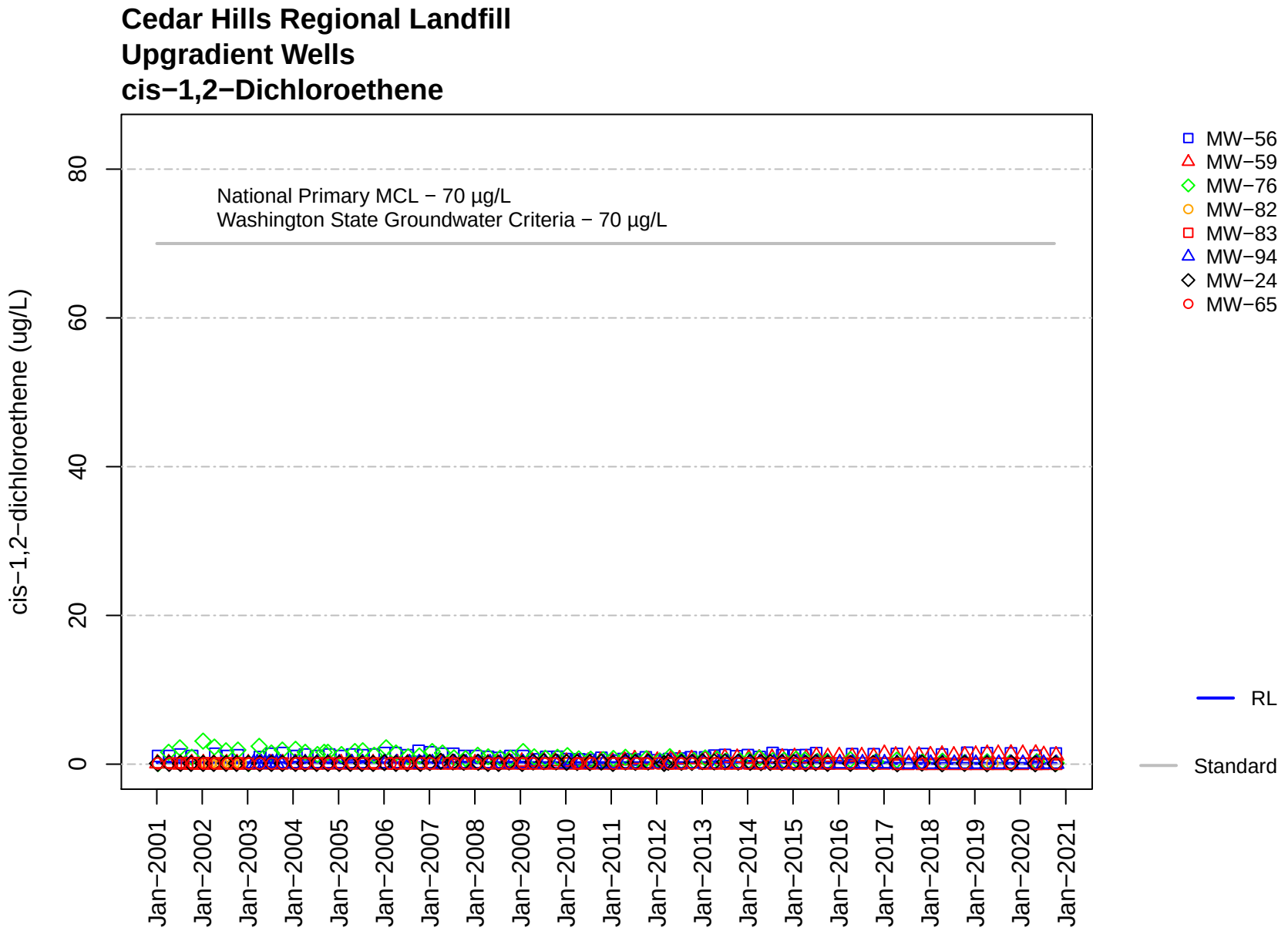

Cedar Hills Regional Landfill
Downgradient Wells
Vanadium
Vanadium (mg/L)
0.000
0.005
0.010
0.015
Jan−2001
Jan−2002
Jan−2003
Jan−2004
Jan−2005
Jan−2006
Jan−2007
Jan−2008
Jan−2009
Jan−2010
Jan−2011
Jan−2012
Jan−2013
Jan−2014
Jan−2015
Jan−2016
Jan−2017
Jan−2018
Jan−2019
Jan−2020
Jan−2021
Dissolved
MW−74R
MW−75
MW−87
MW−85
MW−86
MW−88
MW−89
Total
MW−74R
MW−75
MW−87
MW−85
MW−86
MW−88
MW−89
RL

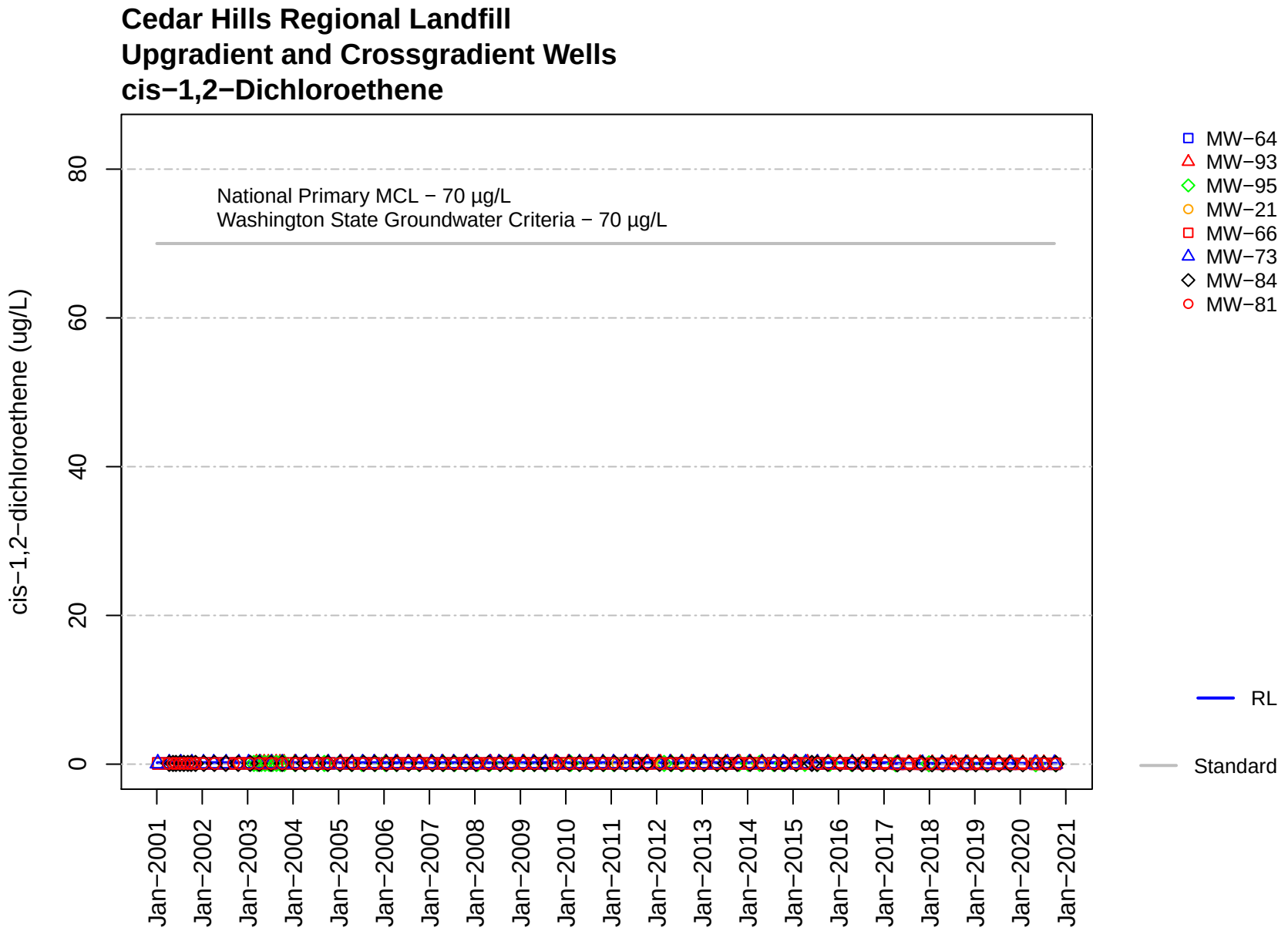

Cedar Hills Regional Landfill
Upgradient Wells
Zinc
Zinc (mg/L)
0
1
2
3
4
5
6
National Secondary MCL − 5 mg/L
Washington State Groundwater Criteria − 5 mg/L
Jan−2001
Jan−2002
Jan−2003
Jan−2004
Jan−2005
Jan−2006
Jan−2007
Jan−2008
Jan−2009
Jan−2010
Jan−2011
Jan−2012
Jan−2013
Jan−2014
Jan−2015
Jan−2016
Jan−2017
Jan−2018
Jan−2019
Jan−2020
Jan−2021
Dissolved
MW−56
MW−59
MW−76
MW−82
MW−83
MW−94
MW−24
MW−65
Total
MW−56
MW−59
MW−76
MW−82
MW−83
MW−94
MW−24
MW−65
RL
Standard

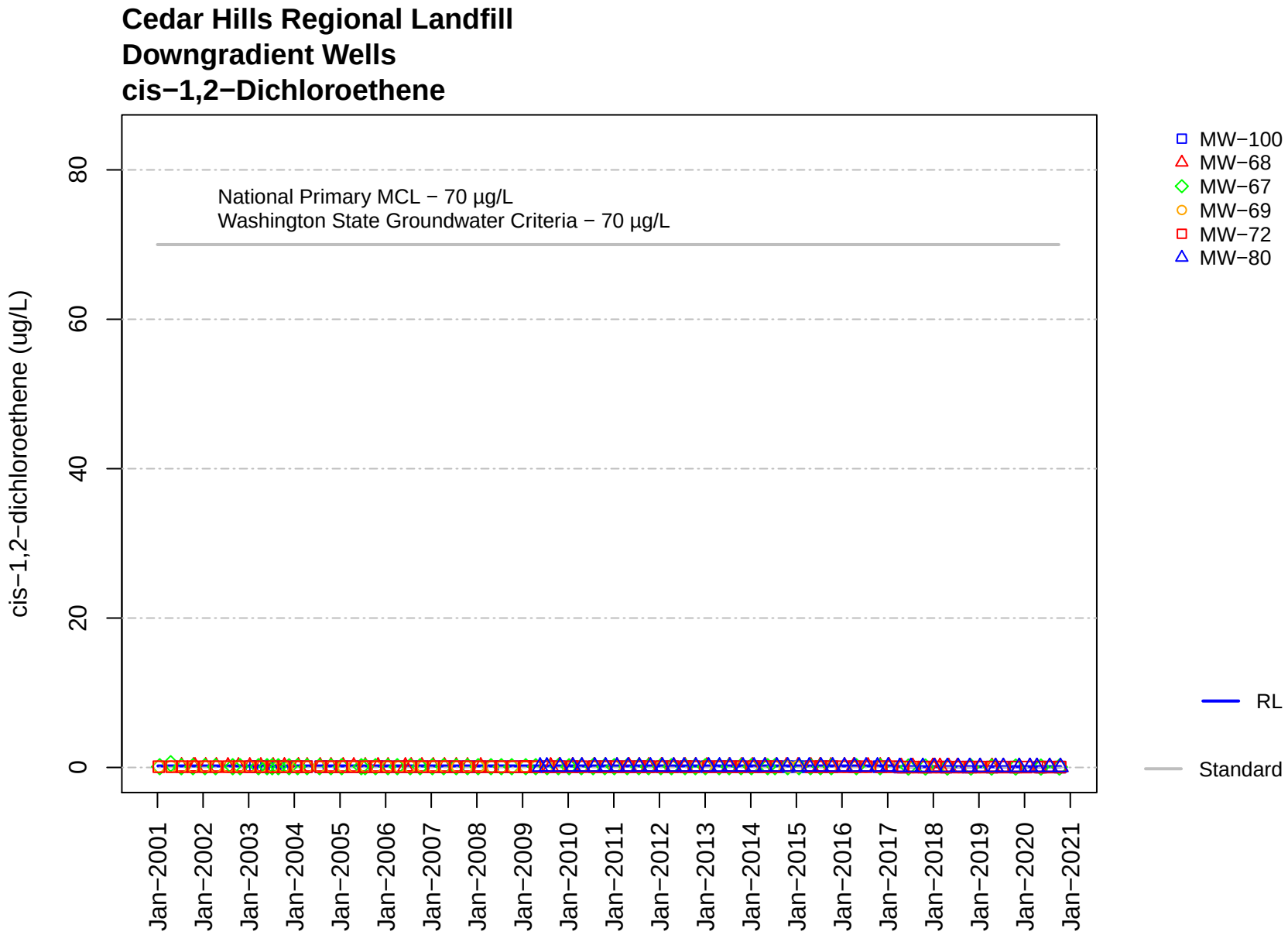

Cedar Hills Regional Landfill
Upgradient and Crossgradient Wells
Zinc
National Secondary MCL − 5 mg/L
Washington State Groundwater Criteria − 5 mg/L
Zinc (mg/L)
0
1
2
3
4
5
6
Jan−2001
Jan−2002
Jan−2003
Jan−2004
Jan−2005
Jan−2006
Jan−2007
Jan−2008
Jan−2009
Jan−2010
Jan−2011
Jan−2012
Jan−2013
Jan−2014
Jan−2015
Jan−2016
Jan−2017
Jan−2018
Jan−2019
Jan−2020
Jan−2021
Dissolved
MW−64
MW−93
MW−95
MW−21
MW−66
MW−73
MW−84
MW−81
Total
MW−64
MW−93
MW−95
MW−21
MW−66
MW−73
MW−84
MW−81
RL
Standard

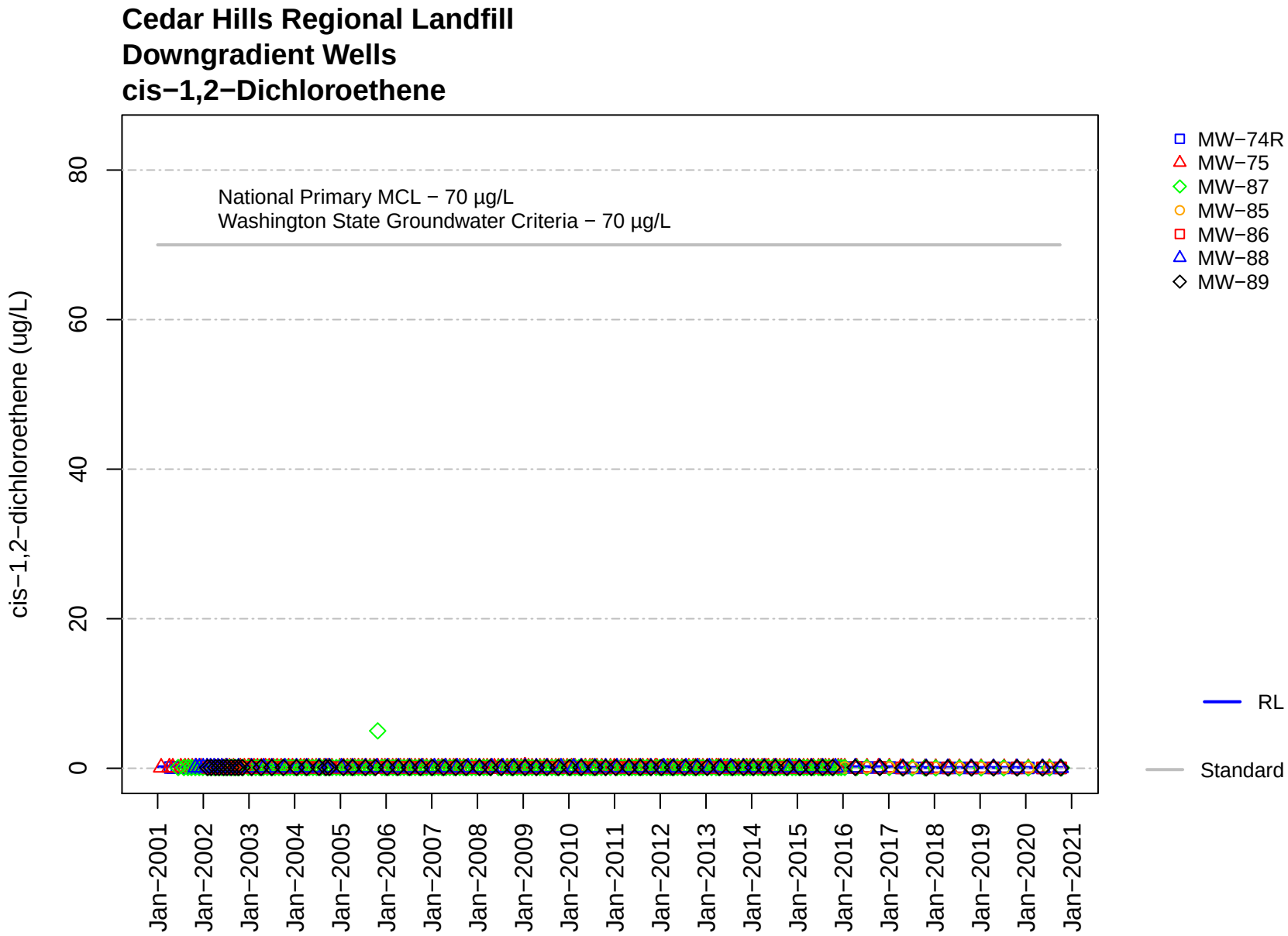

Cedar Hills Regional Landfill
Downgradient Wells
Zinc
National Secondary MCL − 5 mg/L
Washington State Groundwater Criteria − 5 mg/L
Zinc (mg/L)
0
1
2
3
4
5
6
Jan−2001
Jan−2002
Jan−2003
Jan−2004
Jan−2005
Jan−2006
Jan−2007
Jan−2008
Jan−2009
Jan−2010
Jan−2011
Jan−2012
Jan−2013
Jan−2014
Jan−2015
Jan−2016
Jan−2017
Jan−2018
Jan−2019
Jan−2020
Jan−2021
Dissolved
MW−100
MW−68
MW−67
MW−69
MW−72
MW−80
Total
MW−100
MW−68
MW−67
MW−69
MW−72
MW−80
RL
Standard

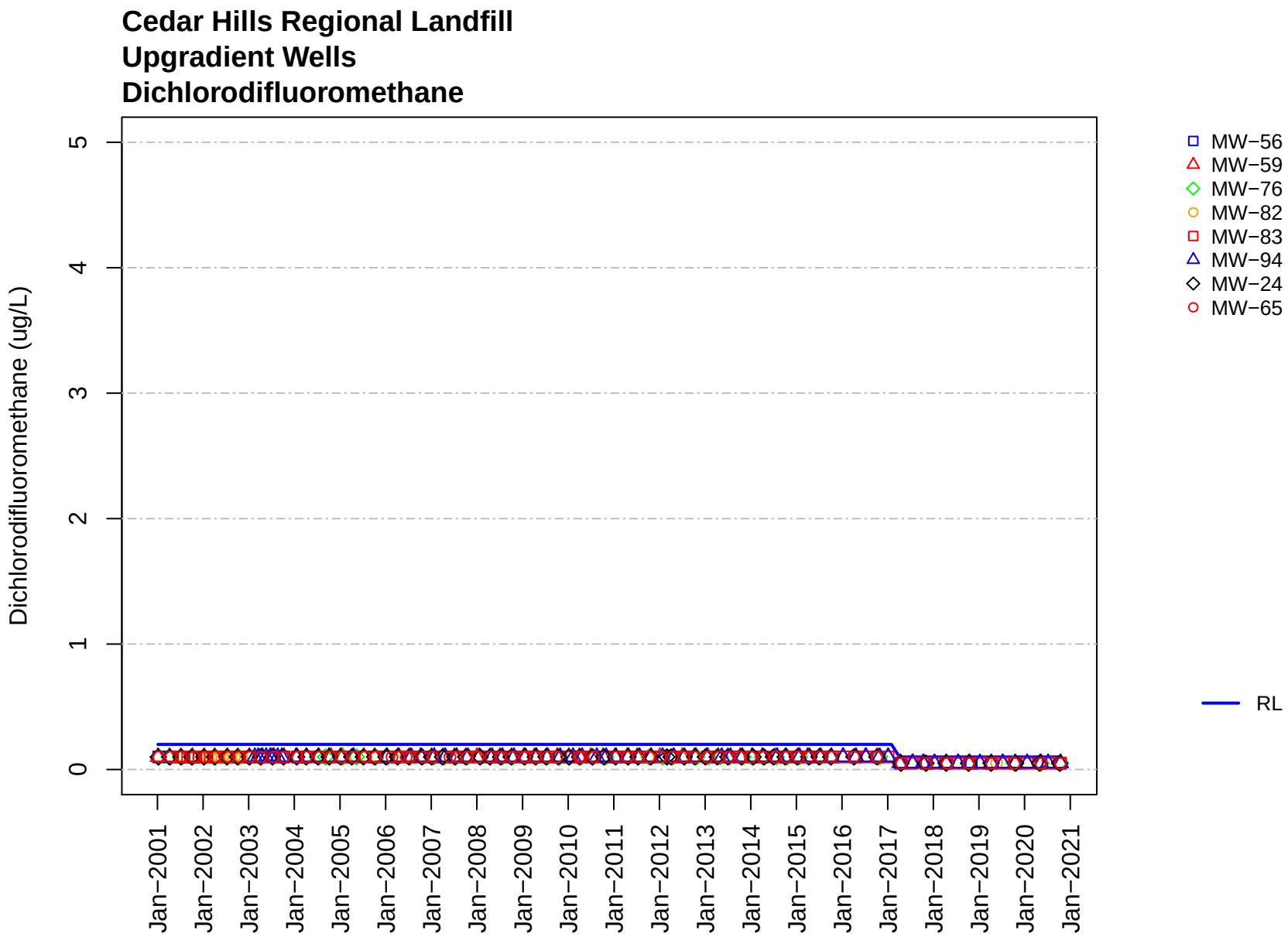

Cedar Hills Regional Landfill
Downgradient Wells
Zinc
National Secondary MCL − 5 mg/L
Washington State Groundwater Criteria − 5 mg/L
Zinc (mg/L)
0
1
2
3
4
5
6
Jan−2001
Jan−2002
Jan−2003
Jan−2004
Jan−2005
Jan−2006
Jan−2007
Jan−2008
Jan−2009
Jan−2010
Jan−2011
Jan−2012
Jan−2013
Jan−2014
Jan−2015
Jan−2016
Jan−2017
Jan−2018
Jan−2019
Jan−2020
Jan−2021
Dissolved
MW−74R
MW−75
MW−87
MW−85
MW−86
MW−88
MW−89
Total
MW−74R
MW−75
MW−87
MW−85
MW−86
MW−88
MW−89
RL
Standard

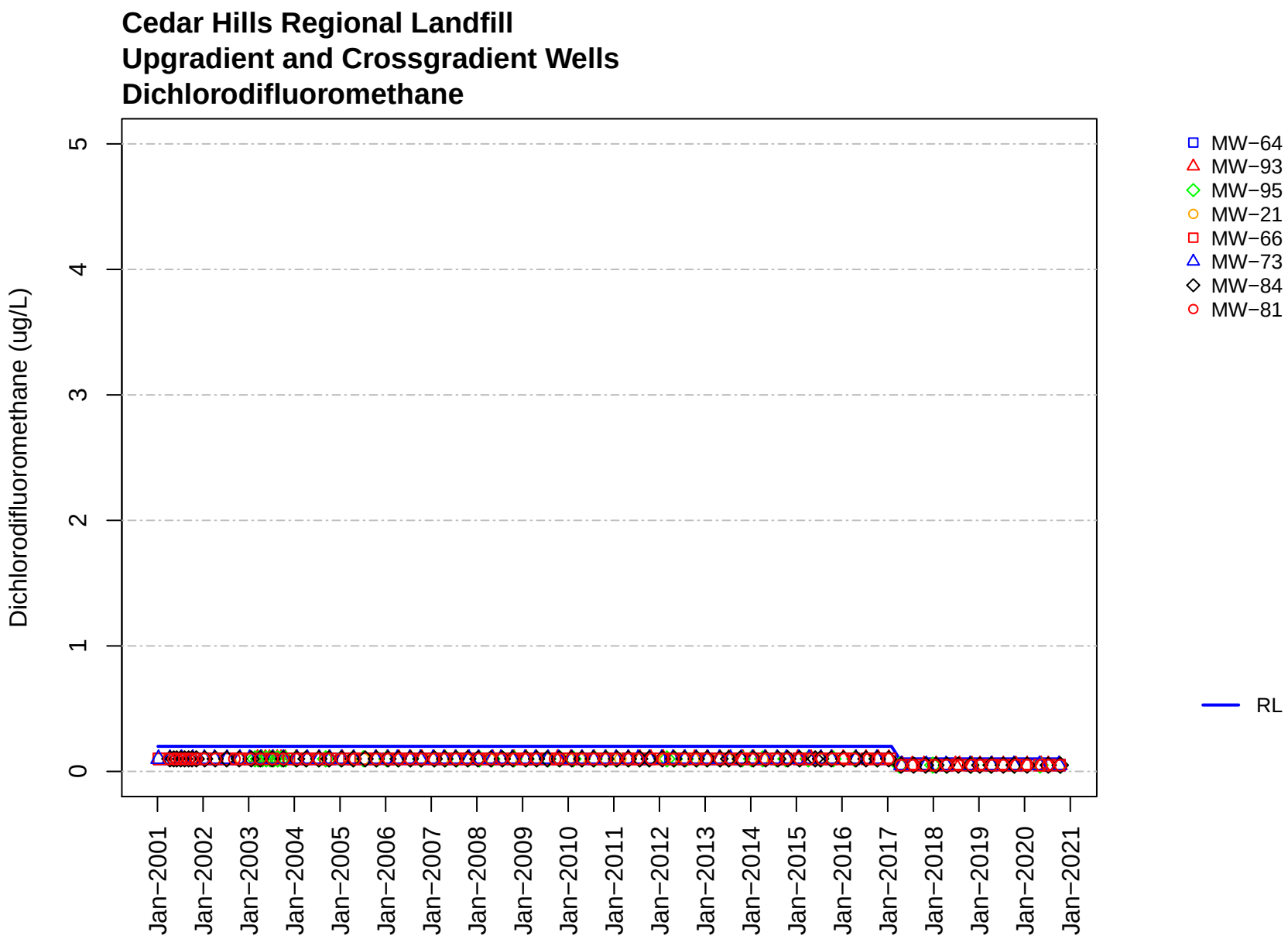

Cedar Hills Regional Landfill
Upgradient Wells
cis−1,2−Dichloroethene
National Primary MCL − 70 µg/L
Washington State Groundwater Criteria − 70 µg/L
cis−1,2−dichloroethene (ug/L)
0
20
40
60
80
Jan−2001
Jan−2002
Jan−2003
Jan−2004
Jan−2005
Jan−2006
Jan−2007
Jan−2008
Jan−2009
Jan−2010
Jan−2011
Jan−2012
Jan−2013
Jan−2014
Jan−2015
Jan−2016
Jan−2017
Jan−2018
Jan−2019
Jan−2020
Jan−2021
MW−56
MW−59
MW−76
MW−82
MW−83
MW−94
MW−24
MW−65
RL
Standard

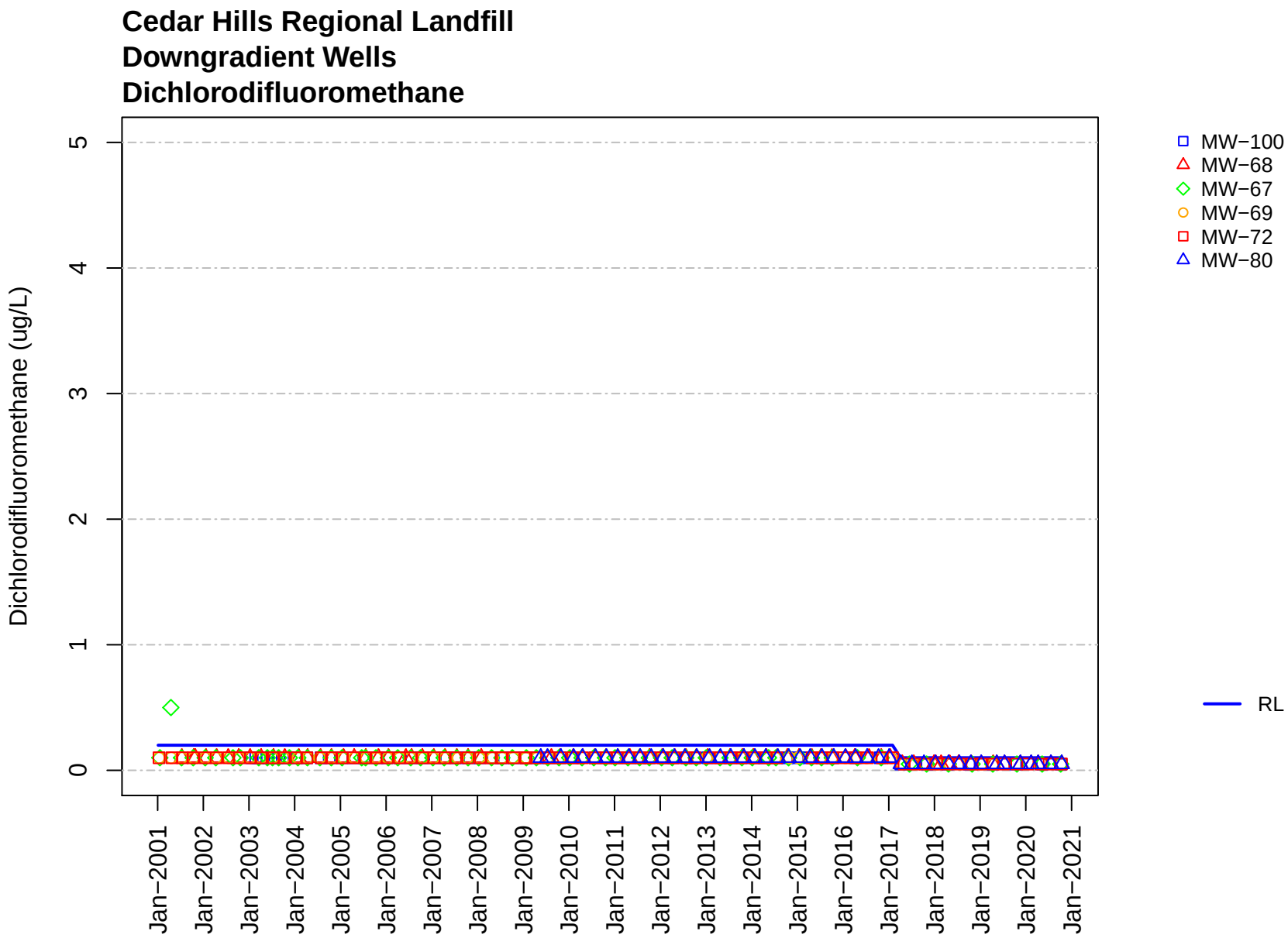

Cedar Hills Regional Landfill
Upgradient and Crossgradient Wells
cis−1,2−Dichloroethene
National Primary MCL − 70 µg/L
Washington State Groundwater Criteria − 70 µg/L
cis−1,2−dichloroethene (ug/L)
0
20
40
60
80
Jan−2001
Jan−2002
Jan−2003
Jan−2004
Jan−2005
Jan−2006
Jan−2007
Jan−2008
Jan−2009
Jan−2010
Jan−2011
Jan−2012
Jan−2013
Jan−2014
Jan−2015
Jan−2016
Jan−2017
Jan−2018
Jan−2019
Jan−2020
Jan−2021
MW−64
MW−93
MW−95
MW−21
MW−66
MW−73
MW−84
MW−81
RL
Standard

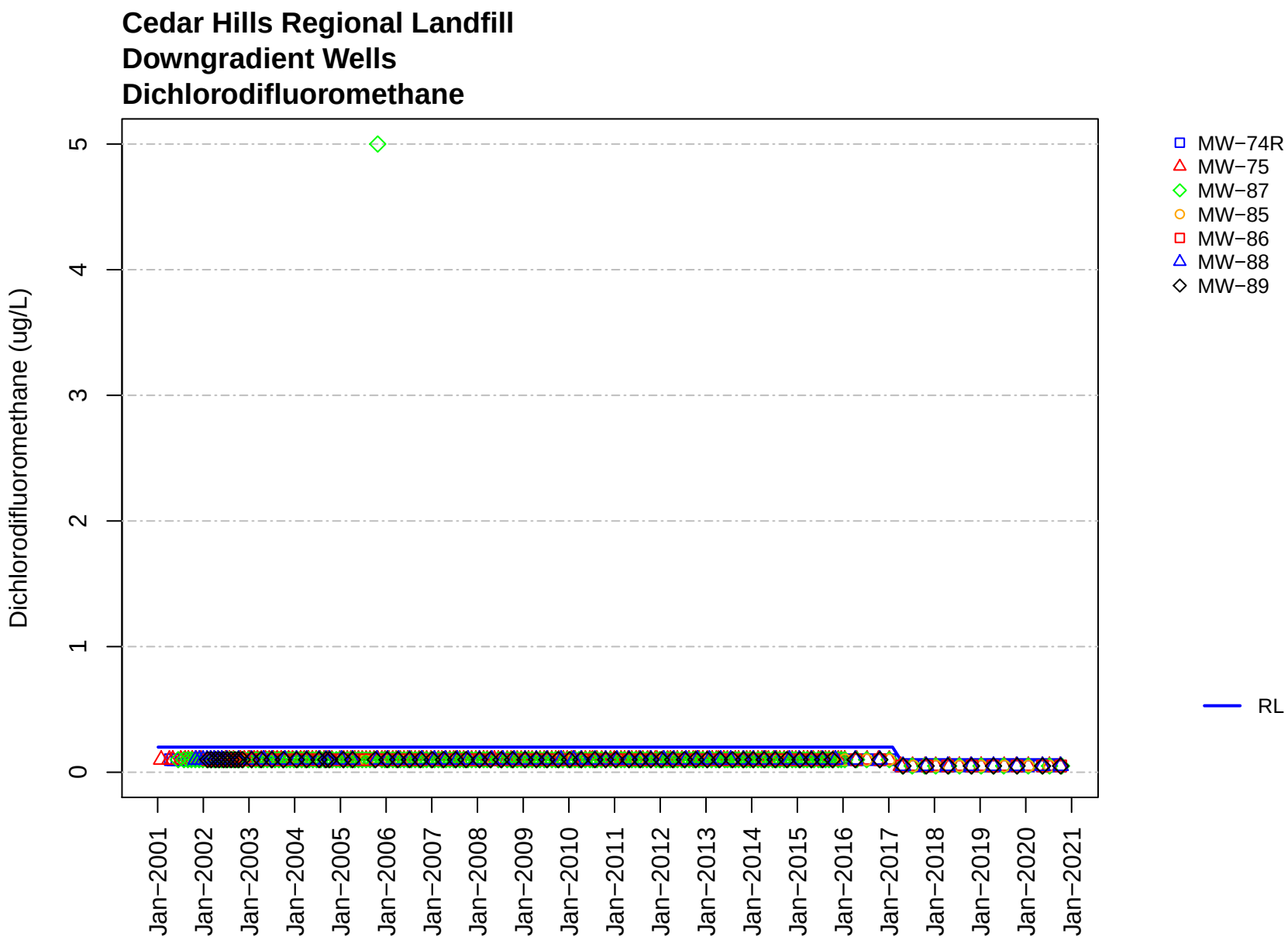

Cedar Hills Regional Landfill
Downgradient Wells
cis−1,2−Dichloroethene
National Primary MCL − 70 µg/L
Washington State Groundwater Criteria − 70 µg/L
cis−1,2−dichloroethene (ug/L)
0
20
40
60
80
Jan−2001
Jan−2002
Jan−2003
Jan−2004
Jan−2005
Jan−2006
Jan−2007
Jan−2008
Jan−2009
Jan−2010
Jan−2011
Jan−2012
Jan−2013
Jan−2014
Jan−2015
Jan−2016
Jan−2017
Jan−2018
Jan−2019
Jan−2020
Jan−2021
MW−100
MW−68
MW−67
MW−69
MW−72
MW−80
RL
Standard

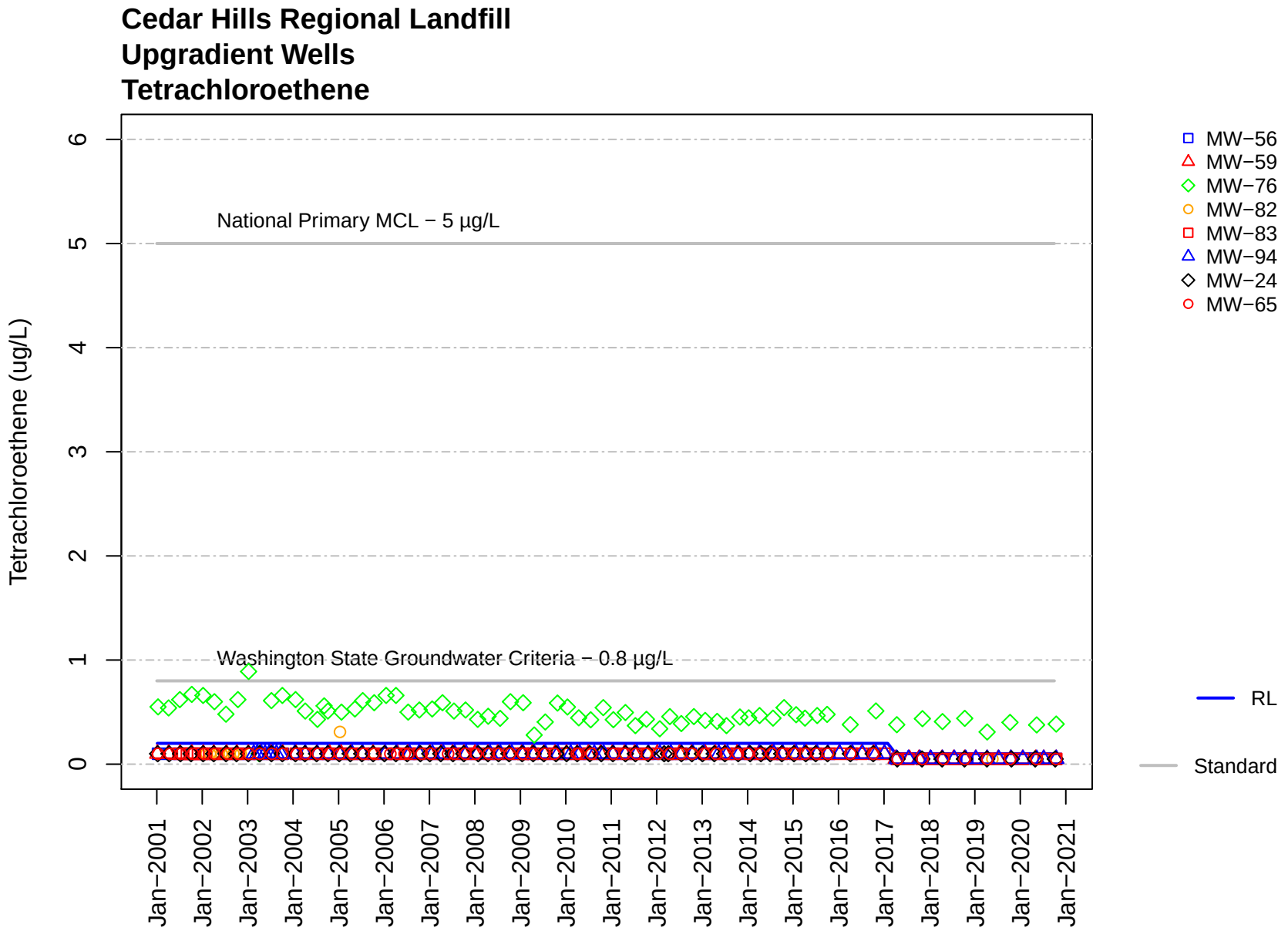

Cedar Hills Regional Landfill
Downgradient Wells
cis−1,2−Dichloroethene
National Primary MCL − 70 µg/L
Washington State Groundwater Criteria − 70 µg/L
cis−1,2−dichloroethene (ug/L)
0
20
40
60
80
Jan−2001
Jan−2002
Jan−2003
Jan−2004
Jan−2005
Jan−2006
Jan−2007
Jan−2008
Jan−2009
Jan−2010
Jan−2011
Jan−2012
Jan−2013
Jan−2014
Jan−2015
Jan−2016
Jan−2017
Jan−2018
Jan−2019
Jan−2020
Jan−2021
MW−74R
MW−75
MW−87
MW−85
MW−86
MW−88
MW−89
RL
Standard

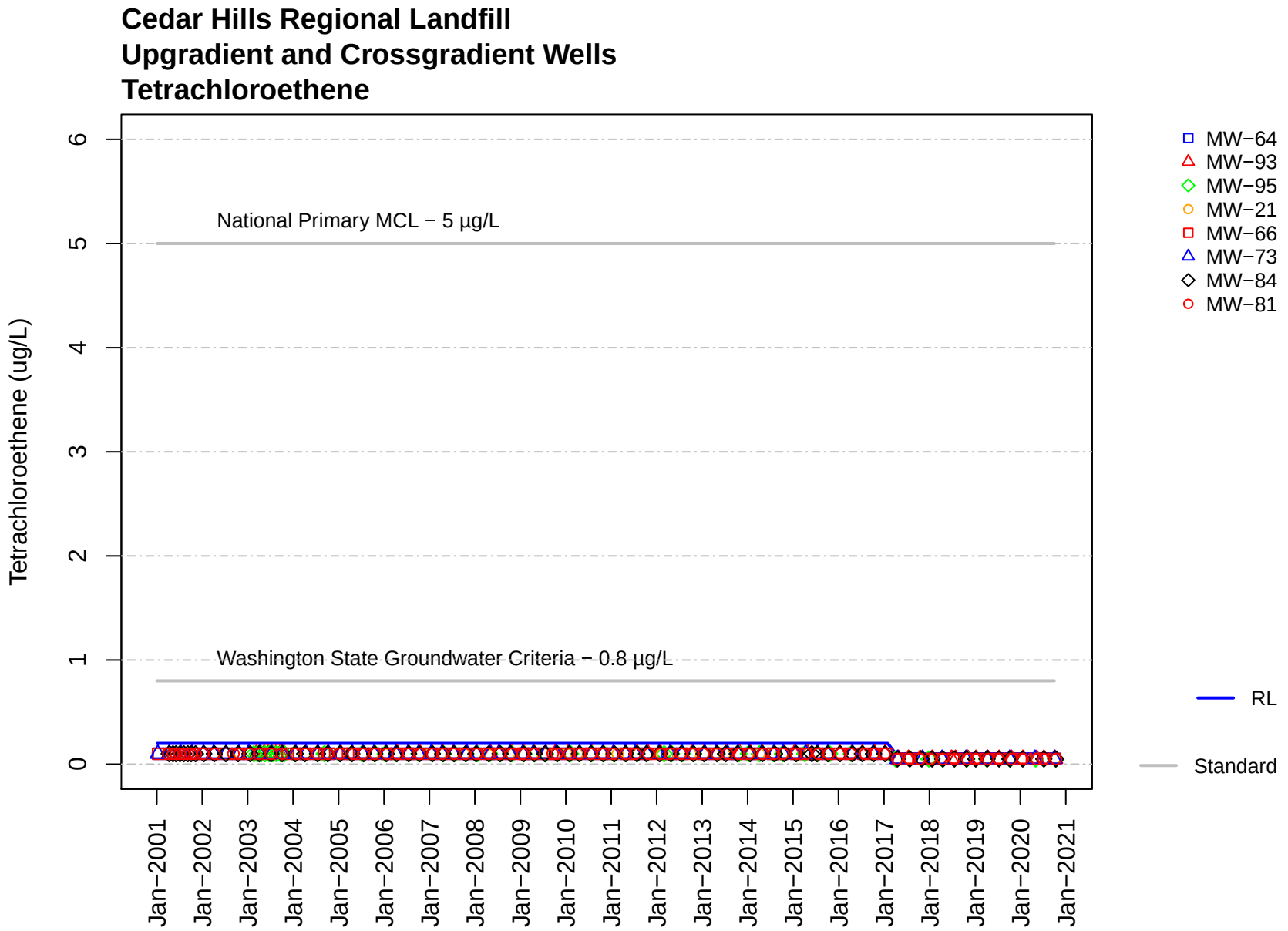

Cedar Hills Regional Landfill
Upgradient Wells
Dichlorodifluoromethane
Dichlorodifluoromethane (ug/L)
0
1
2
3
4
5
Jan−2001
Jan−2002
Jan−2003
Jan−2004
Jan−2005
Jan−2006
Jan−2007
Jan−2008
Jan−2009
Jan−2010
Jan−2011
Jan−2012
Jan−2013
Jan−2014
Jan−2015
Jan−2016
Jan−2017
Jan−2018
Jan−2019
Jan−2020
Jan−2021
MW−56
MW−59
MW−76
MW−82
MW−83
MW−94
MW−24
MW−65
RL

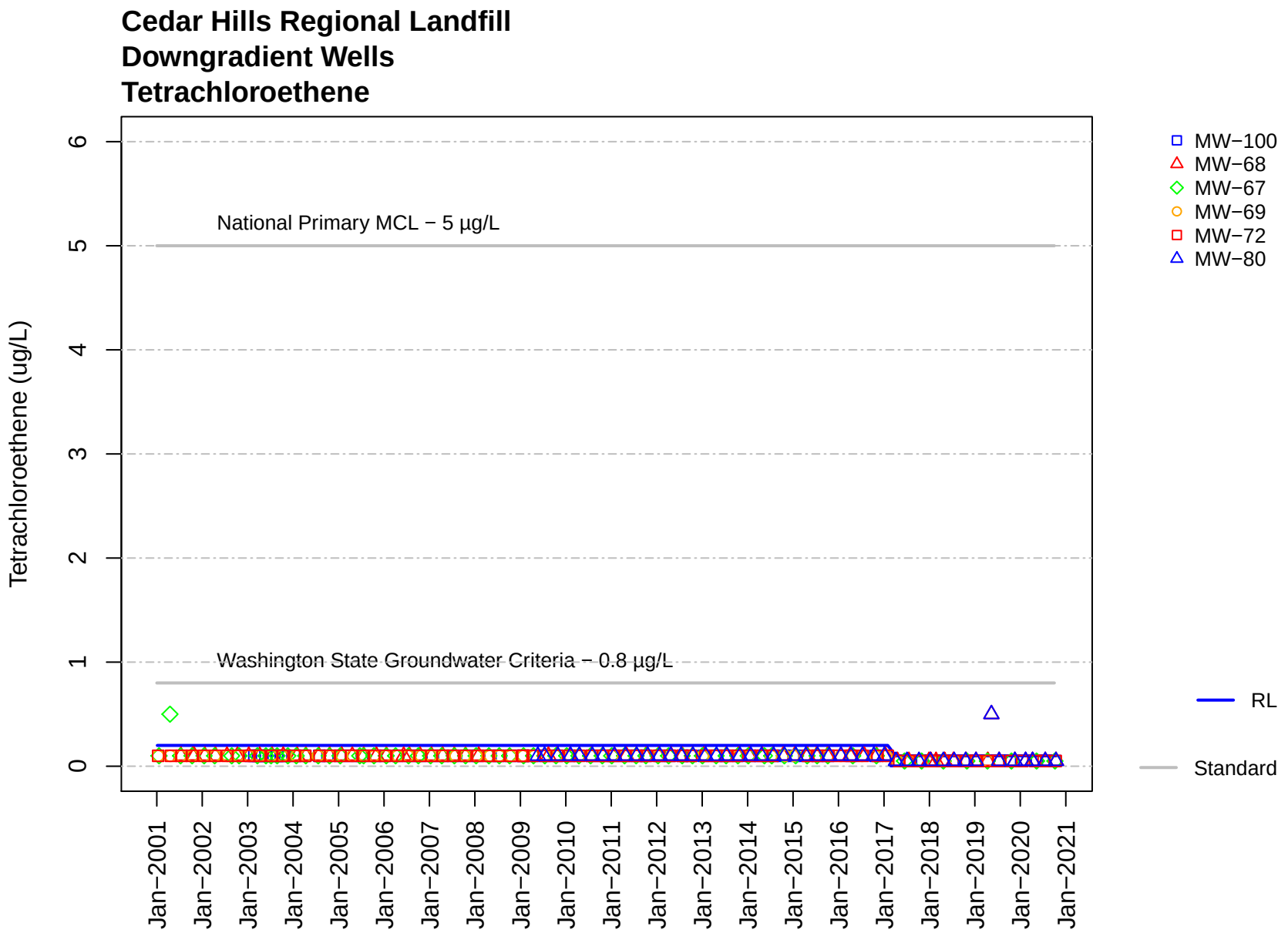

Cedar Hills Regional Landfill
Upgradient and Crossgradient Wells
Dichlorodifluoromethane
Dichlorodifluoromethane (ug/L)
0
1
2
3
4
5
Jan−2001
Jan−2002
Jan−2003
Jan−2004
Jan−2005
Jan−2006
Jan−2007
Jan−2008
Jan−2009
Jan−2010
Jan−2011
Jan−2012
Jan−2013
Jan−2014
Jan−2015
Jan−2016
Jan−2017
Jan−2018
Jan−2019
Jan−2020
Jan−2021
MW−64
MW−93
MW−95
MW−21
MW−66
MW−73
MW−84
MW−81
RL

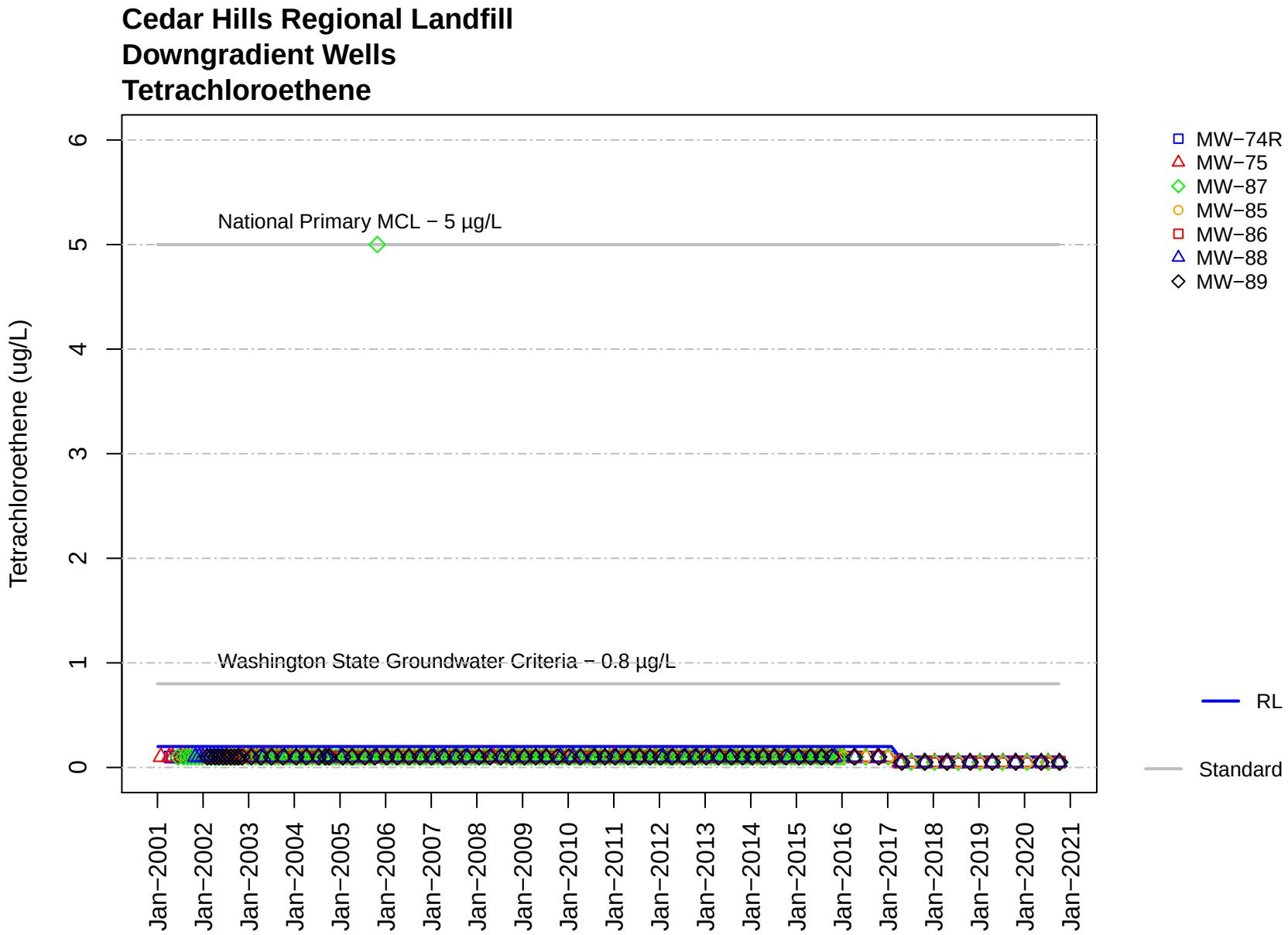

Cedar Hills Regional Landfill
Downgradient Wells
Dichlorodifluoromethane
Dichlorodifluoromethane (ug/L)
0
1
2
3
4
5
Jan−2001
Jan−2002
Jan−2003
Jan−2004
Jan−2005
Jan−2006
Jan−2007
Jan−2008
Jan−2009
Jan−2010
Jan−2011
Jan−2012
Jan−2013
Jan−2014
Jan−2015
Jan−2016
Jan−2017
Jan−2018
Jan−2019
Jan−2020
Jan−2021
MW−100
MW−68
MW−67
MW−69
MW−72
MW−80
RL

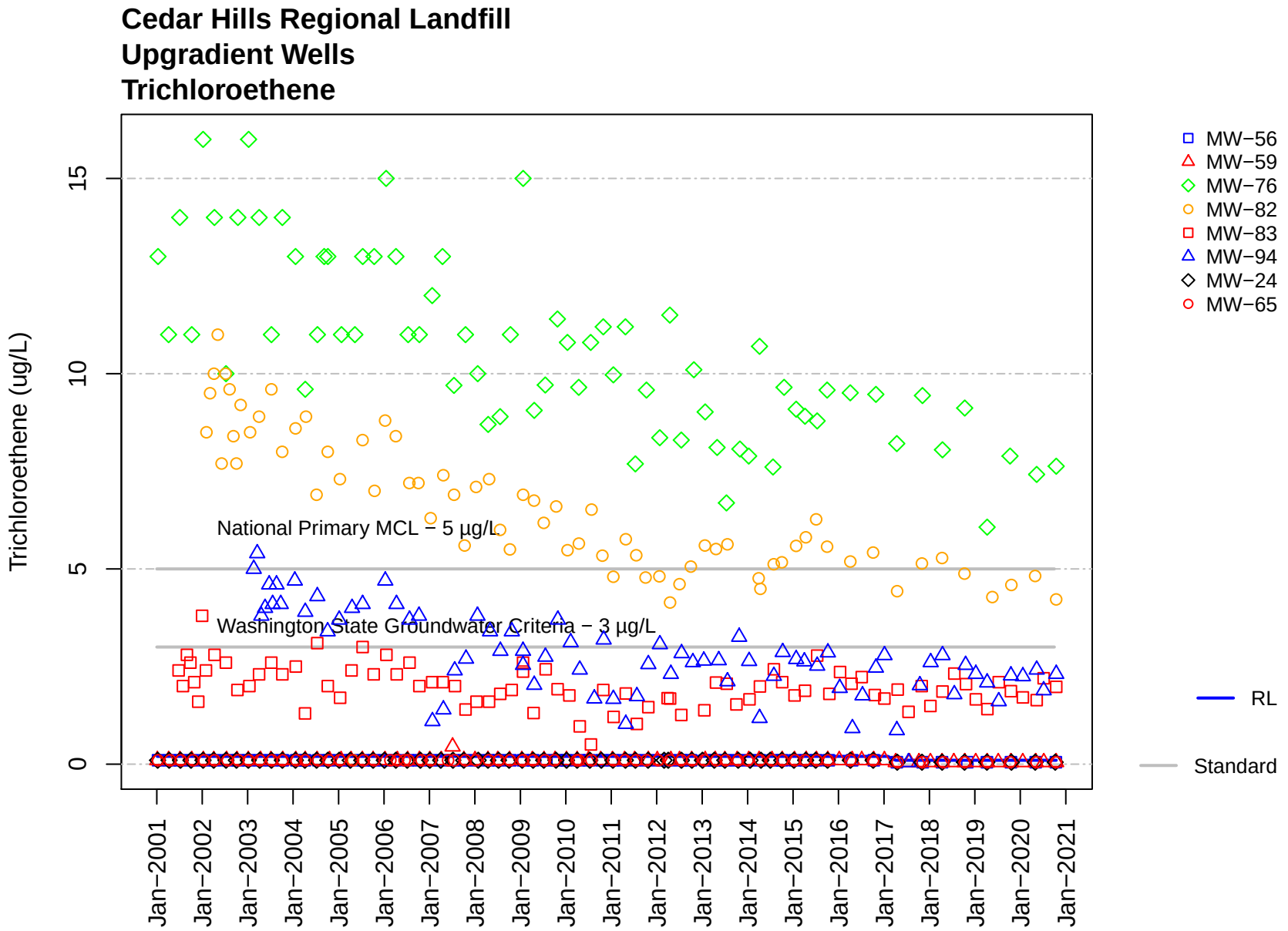

Cedar Hills Regional Landfill
Downgradient Wells
Dichlorodifluoromethane
Dichlorodifluoromethane (ug/L)
0
1
2
3
4
5
Jan−2001
Jan−2002
Jan−2003
Jan−2004
Jan−2005
Jan−2006
Jan−2007
Jan−2008
Jan−2009
Jan−2010
Jan−2011
Jan−2012
Jan−2013
Jan−2014
Jan−2015
Jan−2016
Jan−2017
Jan−2018
Jan−2019
Jan−2020
Jan−2021
MW−74R
MW−75
MW−87
MW−85
MW−86
MW−88
MW−89
RL

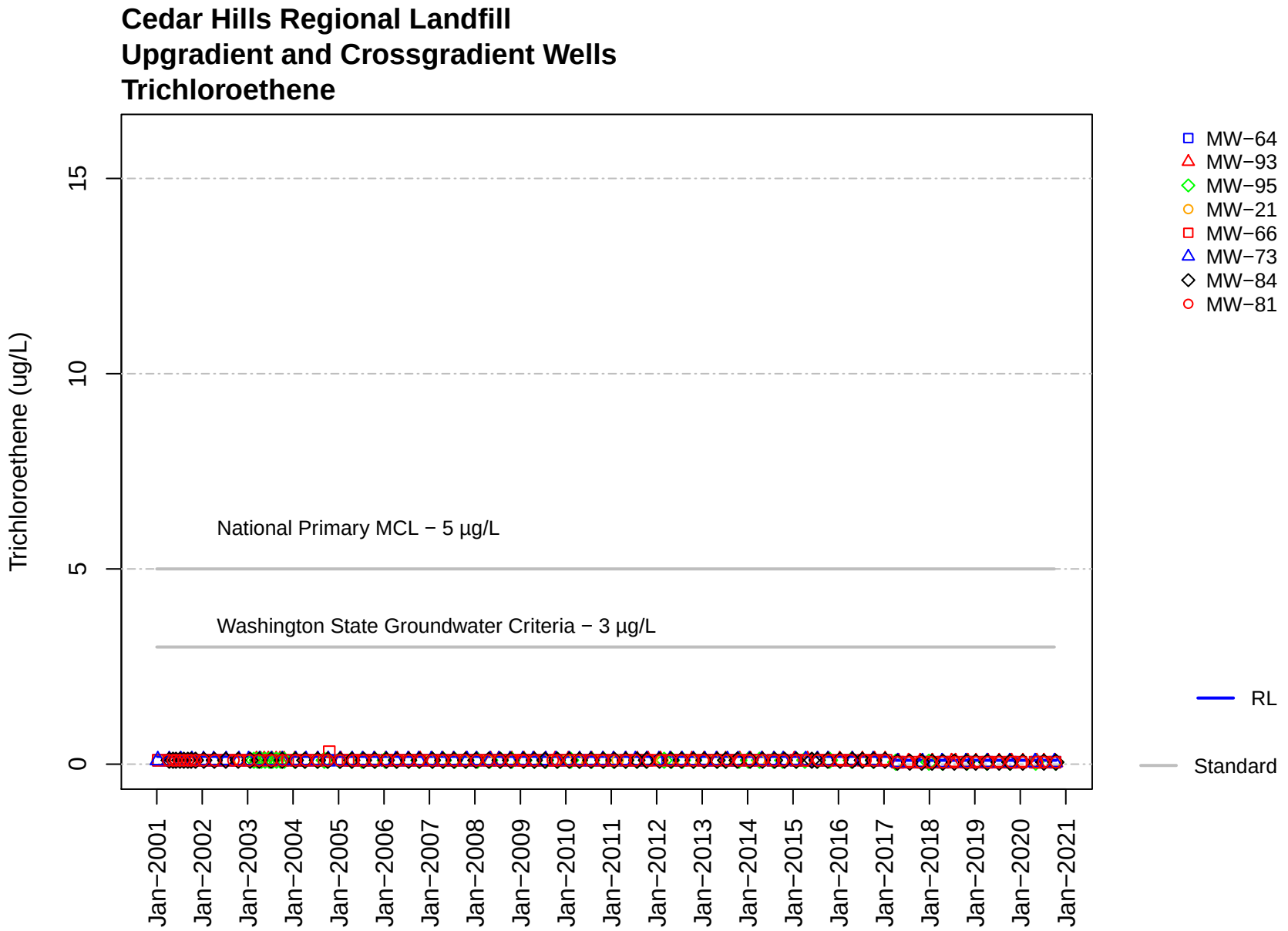

Cedar Hills Regional Landfill
Upgradient Wells
Tetrachloroethene
Tetrachloroethene (ug/L)
0
1
2
3
4
5
6
National Primary MCL − 5 µg/L
Washington State Groundwater Criteria − 0.8 µg/L
Jan−2001
Jan−2002
Jan−2003
Jan−2004
Jan−2005
Jan−2006
Jan−2007
Jan−2008
Jan−2009
Jan−2010
Jan−2011
Jan−2012
Jan−2013
Jan−2014
Jan−2015
Jan−2016
Jan−2017
Jan−2018
Jan−2019
Jan−2020
Jan−2021
MW−56
MW−59
MW−76
MW−82
MW−83
MW−94
MW−24
MW−65
RL
Standard

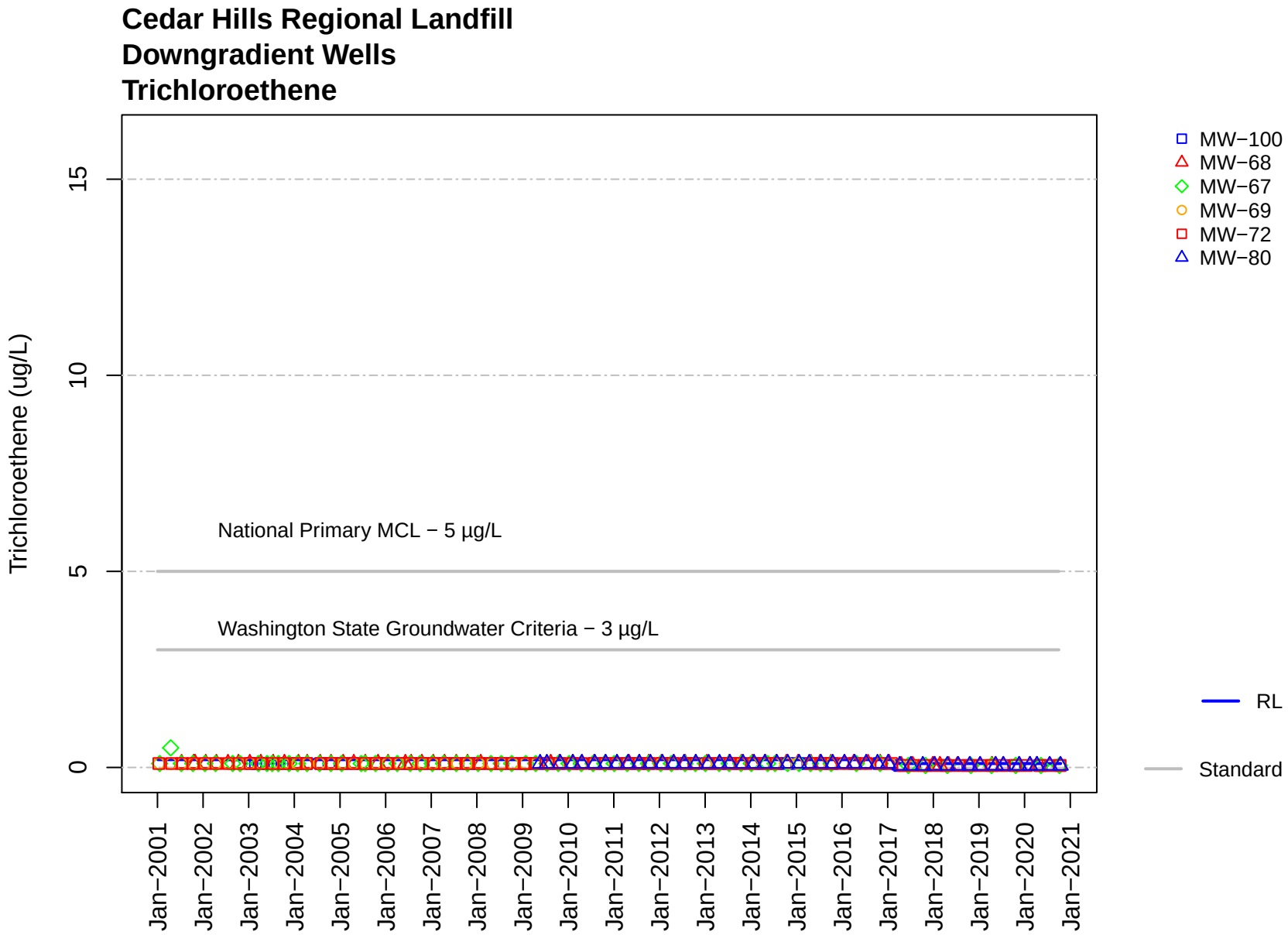

Cedar Hills Regional Landfill
Upgradient and Crossgradient Wells
Tetrachloroethene
Tetrachloroethene (ug/L)
0
1
2
3
4
5
6
National Primary MCL − 5 µg/L
Washington State Groundwater Criteria − 0.8 µg/L
Jan−2001
Jan−2002
Jan−2003
Jan−2004
Jan−2005
Jan−2006
Jan−2007
Jan−2008
Jan−2009
Jan−2010
Jan−2011
Jan−2012
Jan−2013
Jan−2014
Jan−2015
Jan−2016
Jan−2017
Jan−2018
Jan−2019
Jan−2020
Jan−2021
MW−64
MW−93
MW−95
MW−21
MW−66
MW−73
MW−84
MW−81
RL
Standard

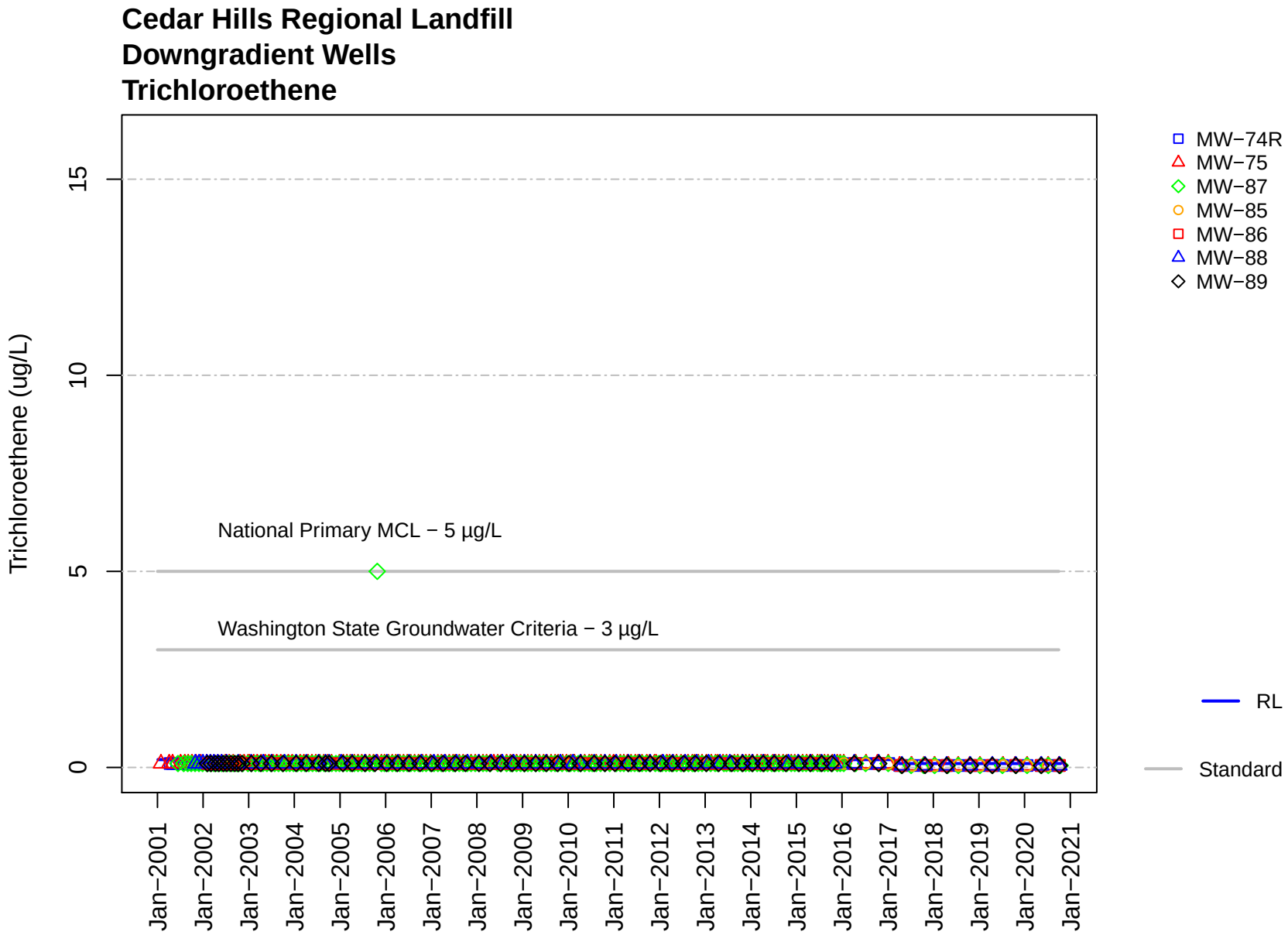

Cedar Hills Regional Landfill
Downgradient Wells
Tetrachloroethene
Tetrachloroethene (ug/L)
0
1
2
3
4
5
6
National Primary MCL − 5 µg/L
Washington State Groundwater Criteria − 0.8 µg/L
Jan−2001
Jan−2002
Jan−2003
Jan−2004
Jan−2005
Jan−2006
Jan−2007
Jan−2008
Jan−2009
Jan−2010
Jan−2011
Jan−2012
Jan−2013
Jan−2014
Jan−2015
Jan−2016
Jan−2017
Jan−2018
Jan−2019
Jan−2020
Jan−2021
MW−100
MW−68
MW−67
MW−69
MW−72
MW−80
RL
Standard

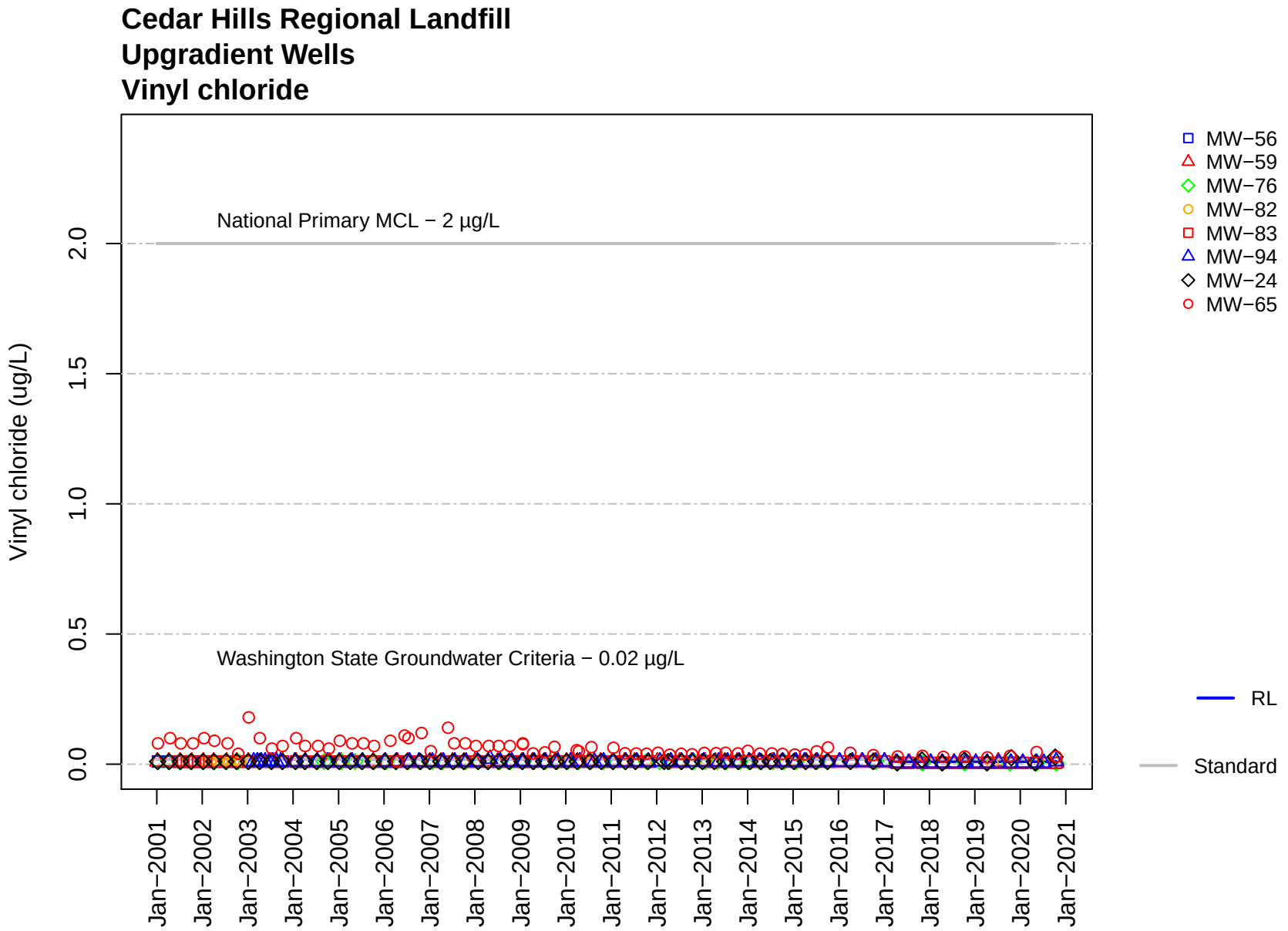

Cedar Hills Regional Landfill
Downgradient Wells
Tetrachloroethene
Tetrachloroethene (ug/L)
0
1
2
3
4
5
6
National Primary MCL − 5 µg/L
Washington State Groundwater Criteria − 0.8 µg/L
Jan−2001
Jan−2002
Jan−2003
Jan−2004
Jan−2005
Jan−2006
Jan−2007
Jan−2008
Jan−2009
Jan−2010
Jan−2011
Jan−2012
Jan−2013
Jan−2014
Jan−2015
Jan−2016
Jan−2017
Jan−2018
Jan−2019
Jan−2020
Jan−2021
MW−74R
MW−75
MW−87
MW−85
MW−86
MW−88
MW−89
RL
Standard

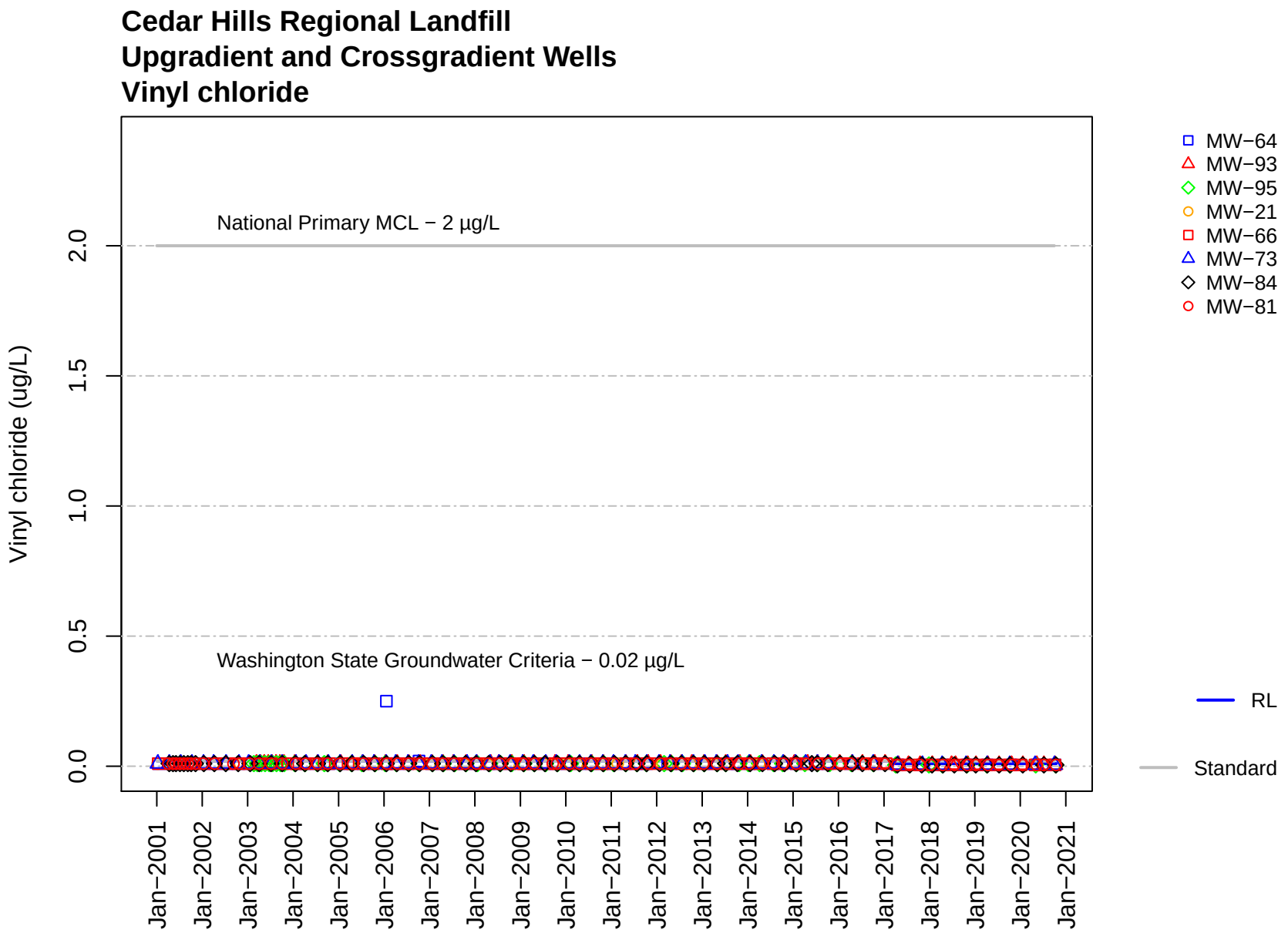

Cedar Hills Regional Landfill
Upgradient Wells
Trichloroethene
Trichloroethene (ug/L)
0
5
10
15
National Primary MCL = 5 µg/L
Washington State Groundwater Criteria = 3 µg/L
Jan−2001
Jan−2002
Jan−2003
Jan−2004
Jan−2005
Jan−2006
Jan−2007
Jan−2008
Jan−2009
Jan−2010
Jan−2011
Jan−2012
Jan−2013
Jan−2014
Jan−2015
Jan−2016
Jan−2017
Jan−2018
Jan−2019
Jan−2020
Jan−2021
MW−56
MW−59
MW−76
MW−82
MW−83
MW−94
MW−24
MW−65
RL
Standard

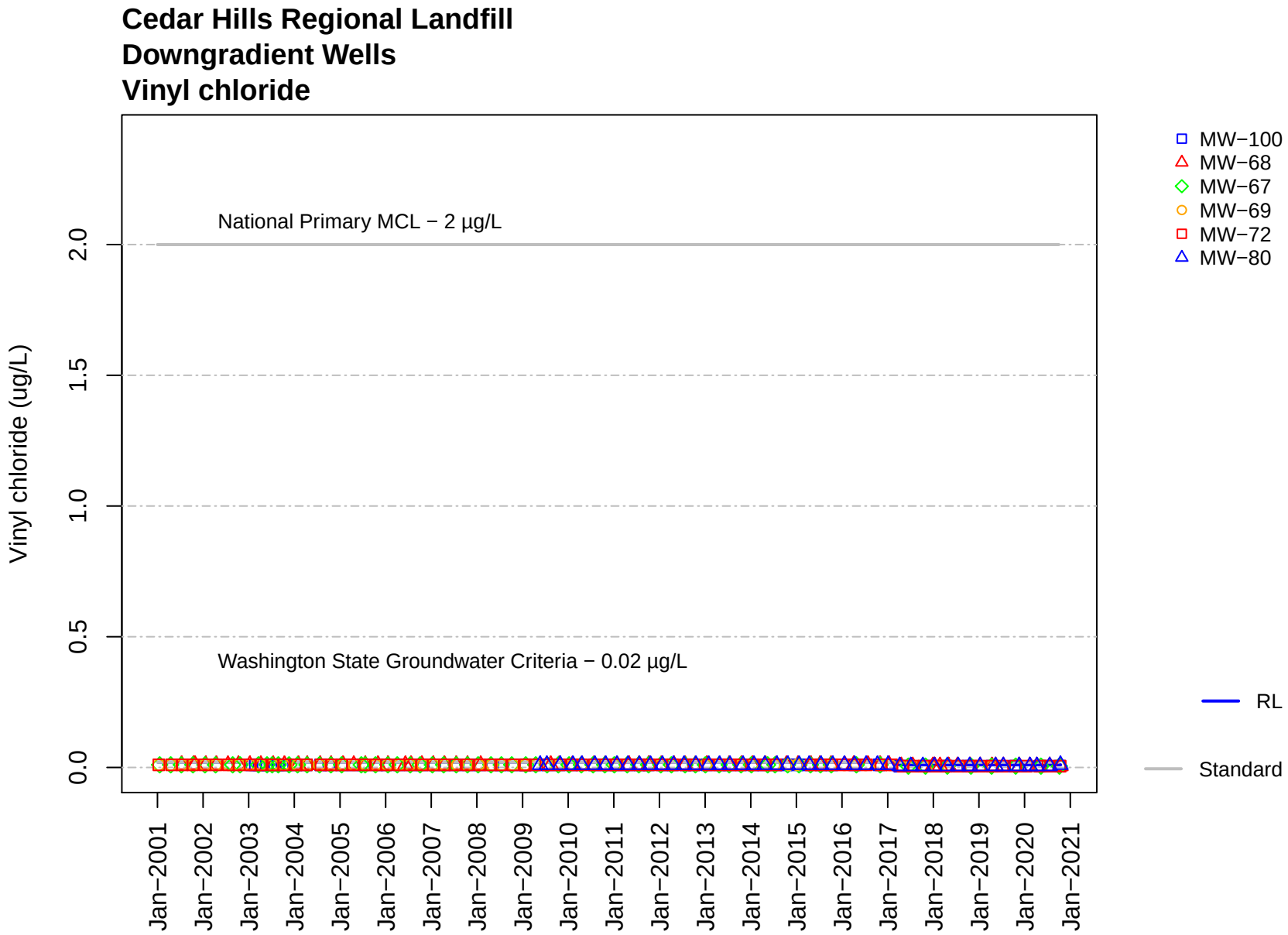

Cedar Hills Regional Landfill
Upgradient and Crossgradient Wells
Trichloroethene
Trichloroethene (ug/L)
0
5
10
15
National Primary MCL − 5 µg/L
Washington State Groundwater Criteria − 3 µg/L
Jan−2001
Jan−2002
Jan−2003
Jan−2004
Jan−2005
Jan−2006
Jan−2007
Jan−2008
Jan−2009
Jan−2010
Jan−2011
Jan−2012
Jan−2013
Jan−2014
Jan−2015
Jan−2016
Jan−2017
Jan−2018
Jan−2019
Jan−2020
Jan−2021
MW−64
MW−93
MW−95
MW−21
MW−66
MW−73
MW−84
MW−81
RL
Standard

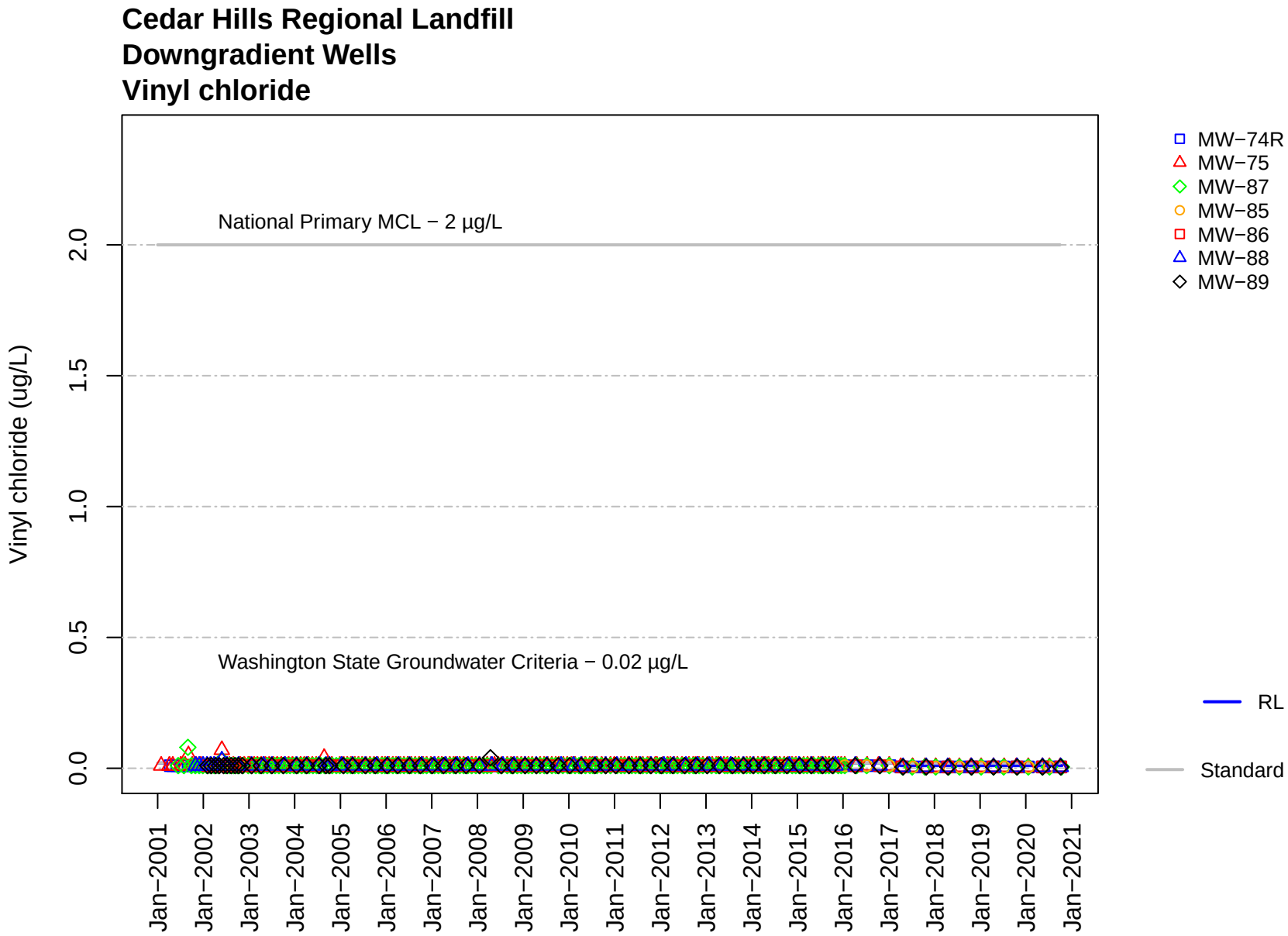

Cedar Hills Regional Landfill
Downgradient Wells
Trichloroethene
Trichloroethene (ug/L)
0
5
10
15
National Primary MCL − 5 µg/L
Washington State Groundwater Criteria − 3 µg/L
Jan−2001
Jan−2002
Jan−2003
Jan−2004
Jan−2005
Jan−2006
Jan−2007
Jan−2008
Jan−2009
Jan−2010
Jan−2011
Jan−2012
Jan−2013
Jan−2014
Jan−2015
Jan−2016
Jan−2017
Jan−2018
Jan−2019
Jan−2020
Jan−2021
MW−100
MW−68
MW−67
MW−69
MW−72
MW−80
RL
Standard

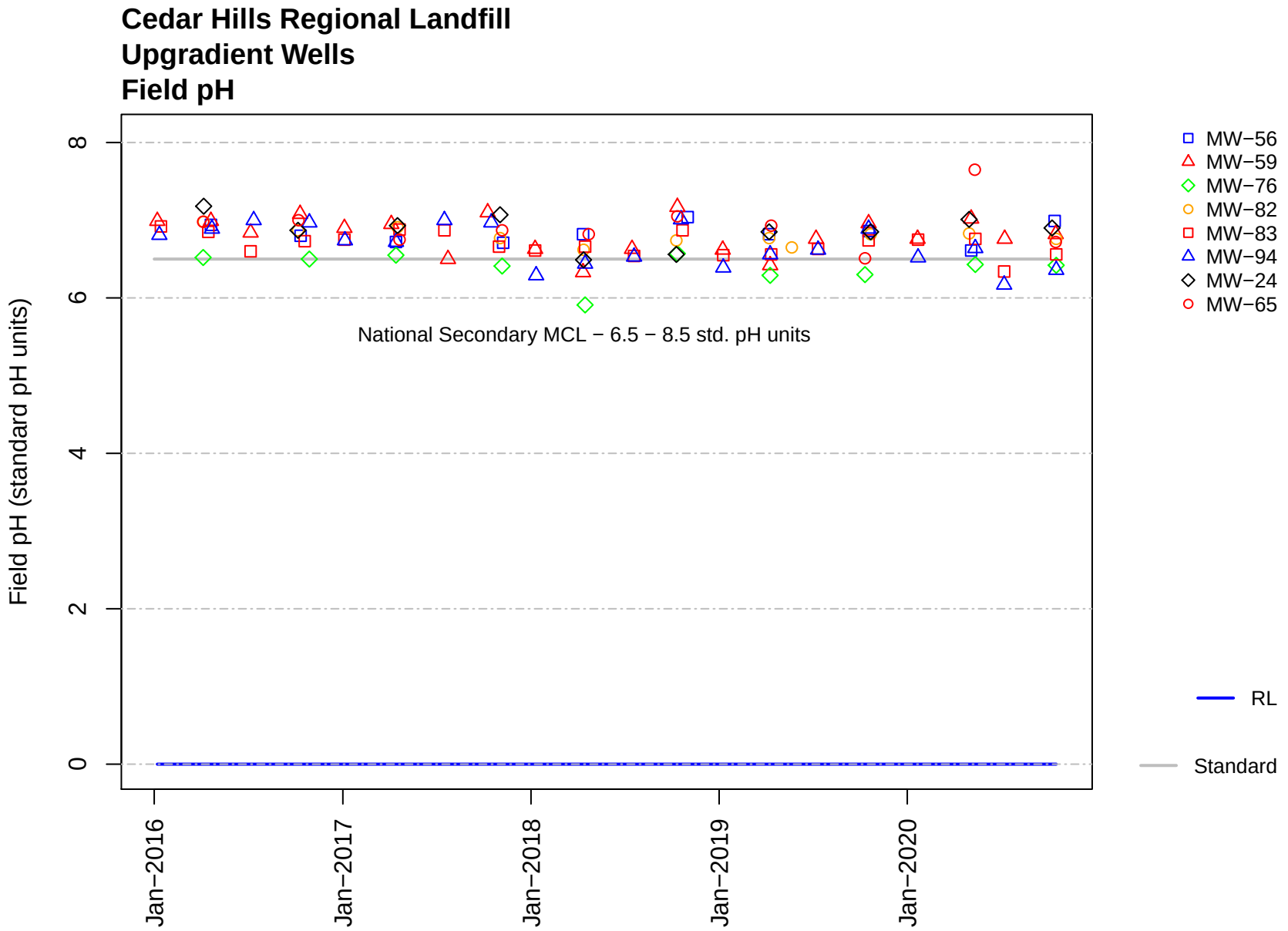

Cedar Hills Regional Landfill
Downgradient Wells
Trichloroethene
Trichloroethene (ug/L)
0
5
10
15
National Primary MCL − 5 µg/L
Washington State Groundwater Criteria − 3 µg/L
Jan−2001
Jan−2002
Jan−2003
Jan−2004
Jan−2005
Jan−2006
Jan−2007
Jan−2008
Jan−2009
Jan−2010
Jan−2011
Jan−2012
Jan−2013
Jan−2014
Jan−2015
Jan−2016
Jan−2017
Jan−2018
Jan−2019
Jan−2020
Jan−2021
MW−74R
MW−75
MW−87
MW−85
MW−86
MW−88
MW−89
RL
Standard

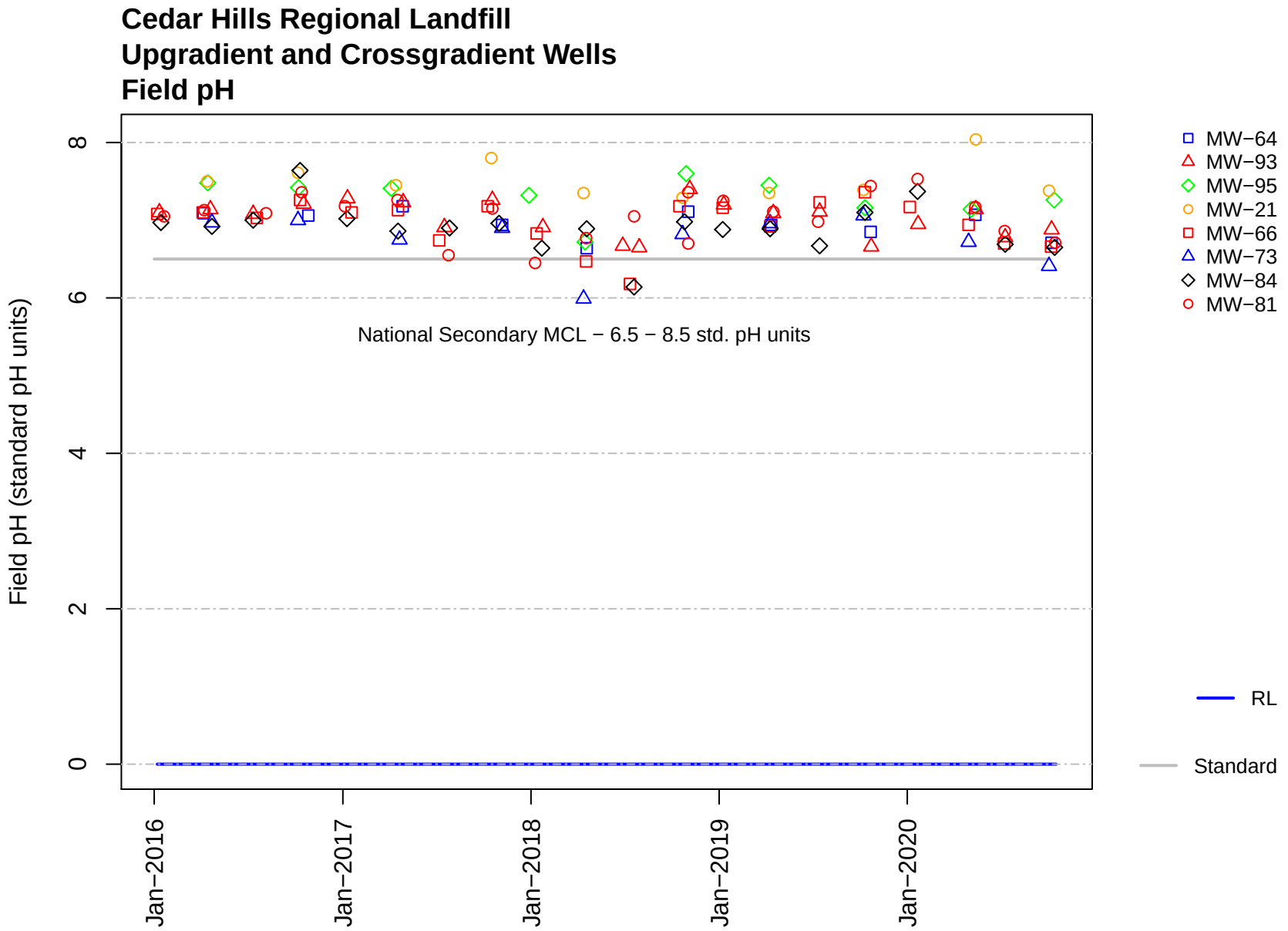

Cedar Hills Regional Landfill
Upgradient Wells
Vinyl chloride
National Primary MCL − 2 µg/L
Washington State Groundwater Criteria − 0.02 µg/L
Vinyl chloride (ug/L)
0.0
0.5
1.0
1.5
2.0
Jan−2001
Jan−2002
Jan−2003
Jan−2004
Jan−2005
Jan−2006
Jan−2007
Jan−2008
Jan−2009
Jan−2010
Jan−2011
Jan−2012
Jan−2013
Jan−2014
Jan−2015
Jan−2016
Jan−2017
Jan−2018
Jan−2019
Jan−2020
Jan−2021
MW−56
MW−59
MW−76
MW−82
MW−83
MW−94
MW−24
MW−65
RL
Standard

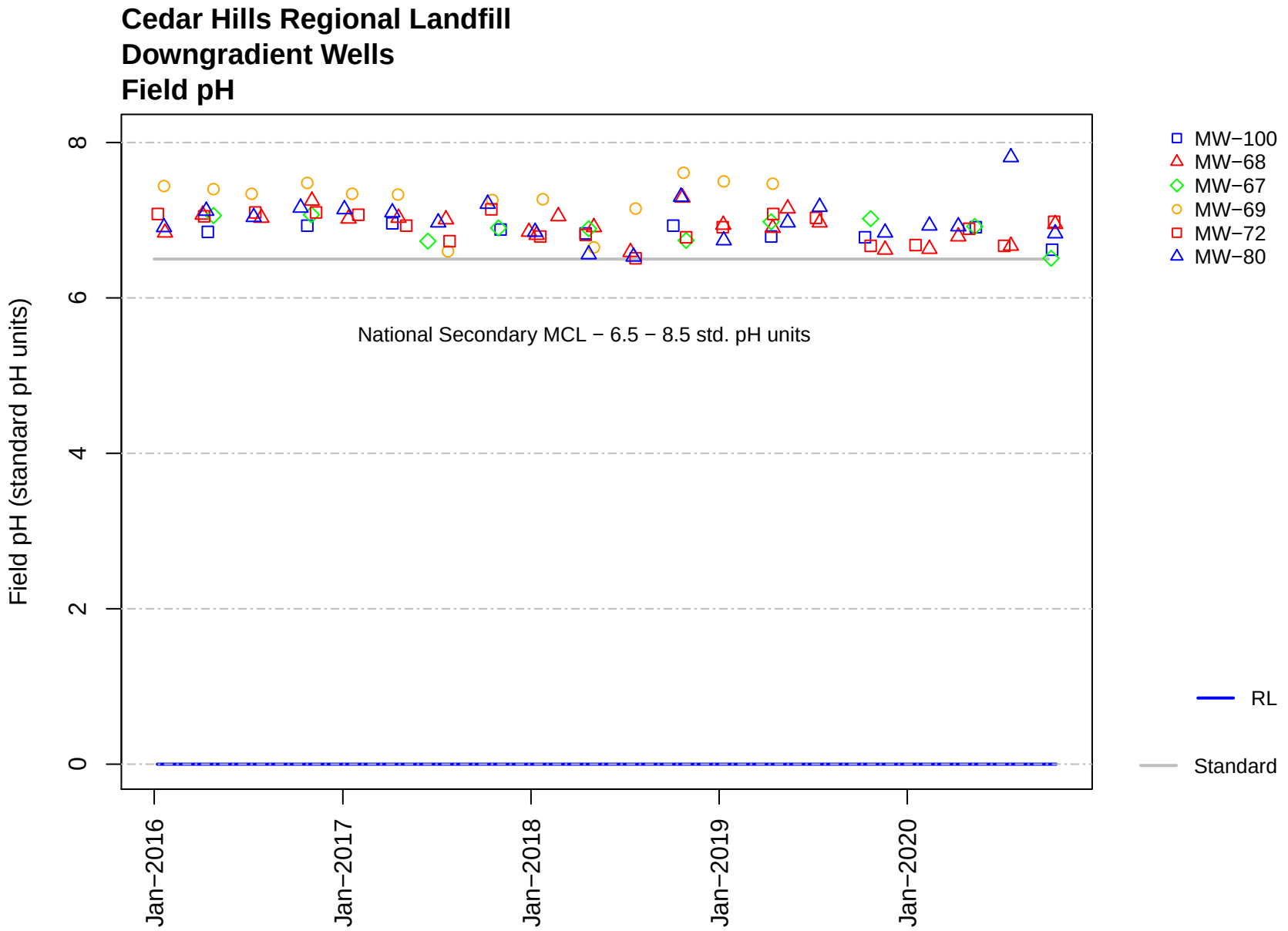

Cedar Hills Regional Landfill
Upgradient and Crossgradient Wells
Vinyl chloride
Vinyl chloride (ug/L)
0.0
0.5
1.0
1.5
2.0
National Primary MCL − 2 µg/L
Washington State Groundwater Criteria − 0.02 µg/L
Jan−2001
Jan−2002
Jan−2003
Jan−2004
Jan−2005
Jan−2006
Jan−2007
Jan−2008
Jan−2009
Jan−2010
Jan−2011
Jan−2012
Jan−2013
Jan−2014
Jan−2015
Jan−2016
Jan−2017
Jan−2018
Jan−2019
Jan−2020
Jan−2021
MW−64
MW−93
MW−95
MW−21
MW−66
MW−73
MW−84
MW−81
RL
Standard

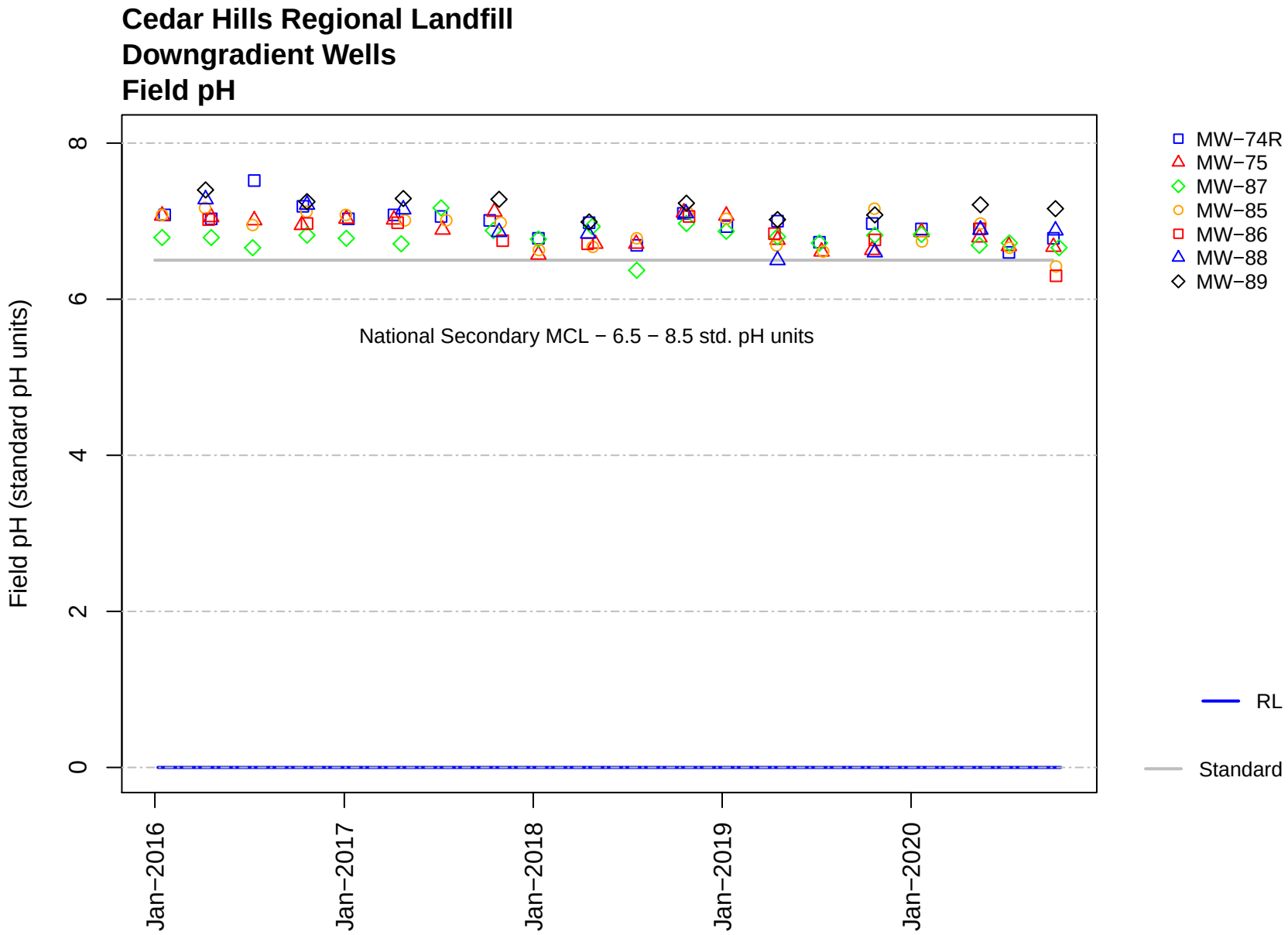

Cedar Hills Regional Landfill
Downgradient Wells
Vinyl chloride
Vinyl chloride (ug/L)
0.0
0.5
1.0
1.5
2.0
National Primary MCL − 2 µg/L
Washington State Groundwater Criteria − 0.02 µg/L
Jan−2001
Jan−2002
Jan−2003
Jan−2004
Jan−2005
Jan−2006
Jan−2007
Jan−2008
Jan−2009
Jan−2010
Jan−2011
Jan−2012
Jan−2013
Jan−2014
Jan−2015
Jan−2016
Jan−2017
Jan−2018
Jan−2019
Jan−2020
Jan−2021
MW−100
MW−68
MW−67
MW−69
MW−72
MW−80
RL
Standard

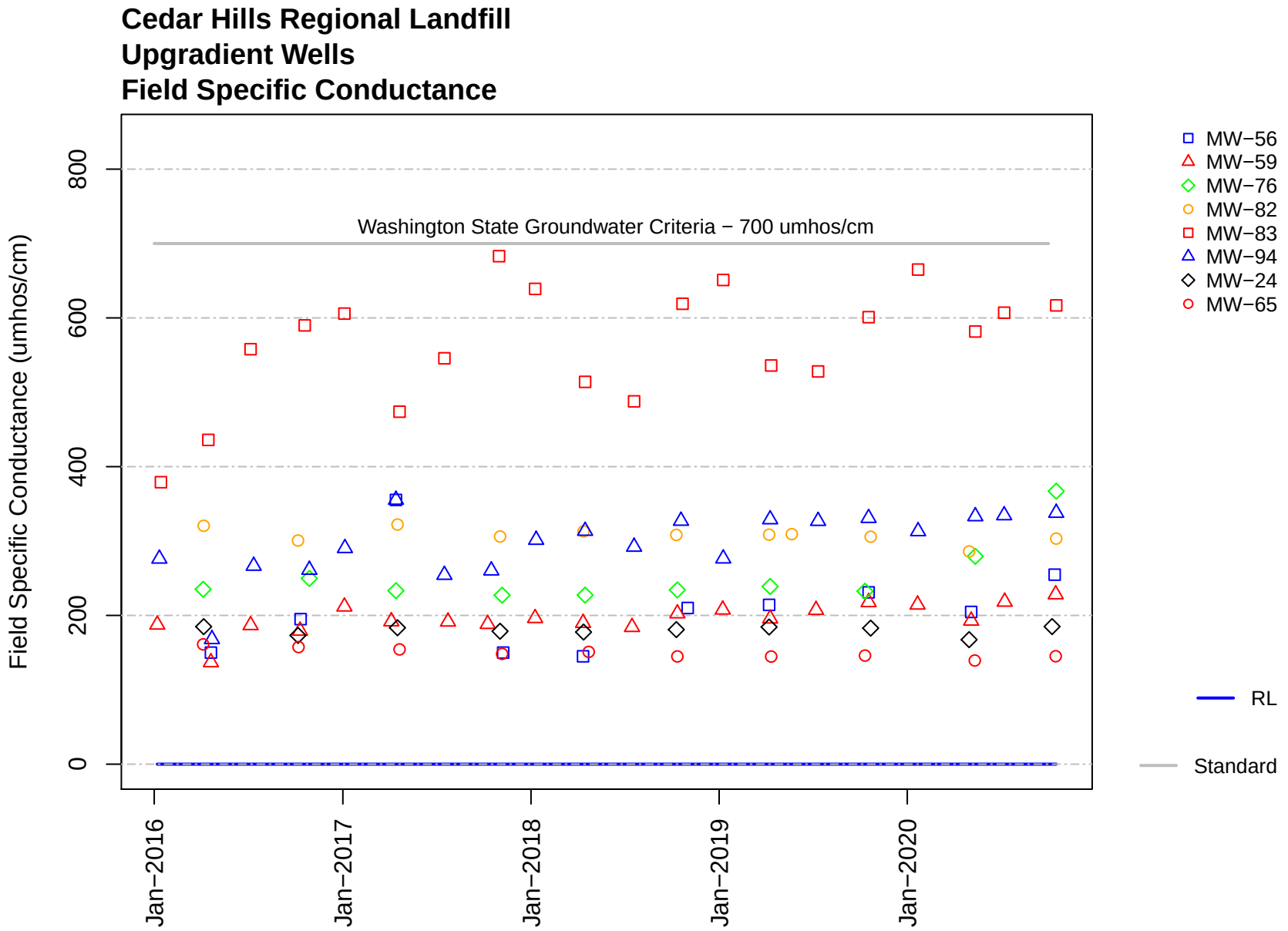

Cedar Hills Regional Landfill
Downgradient Wells
Vinyl chloride
National Primary MCL − 2 µg/L
Washington State Groundwater Criteria − 0.02 µg/L
Vinyl chloride (ug/L)
0.0
0.5
1.0
1.5
2.0
Jan−2001
Jan−2002
Jan−2003
Jan−2004
Jan−2005
Jan−2006
Jan−2007
Jan−2008
Jan−2009
Jan−2010
Jan−2011
Jan−2012
Jan−2013
Jan−2014
Jan−2015
Jan−2016
Jan−2017
Jan−2018
Jan−2019
Jan−2020
Jan−2021
MW−74R
MW−75
MW−87
MW−85
MW−86
MW−88
MW−89
RL
Standard

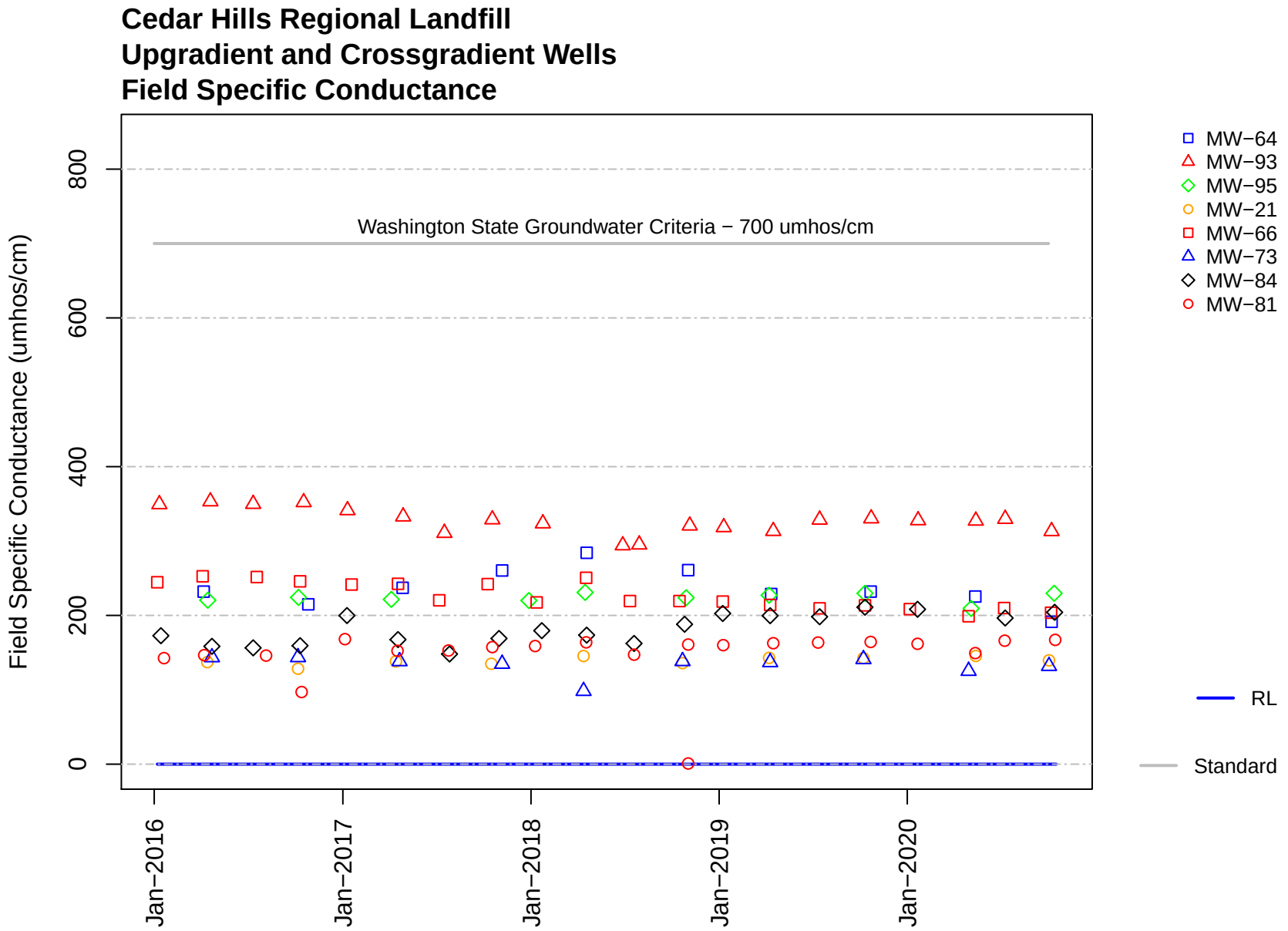

Cedar Hills Regional Landfill
Upgradient Wells
Field pH
Field pH (standard pH units)
0
2
4
6
8
National Secondary MCL − 6.5 − 8.5 std. pH units
Jan−2016
Jan−2017
Jan−2018
Jan−2019
Jan−2020
MW−56
MW−59
MW−76
MW−82
MW−83
MW−94
MW−24
MW−65
RL
Standard

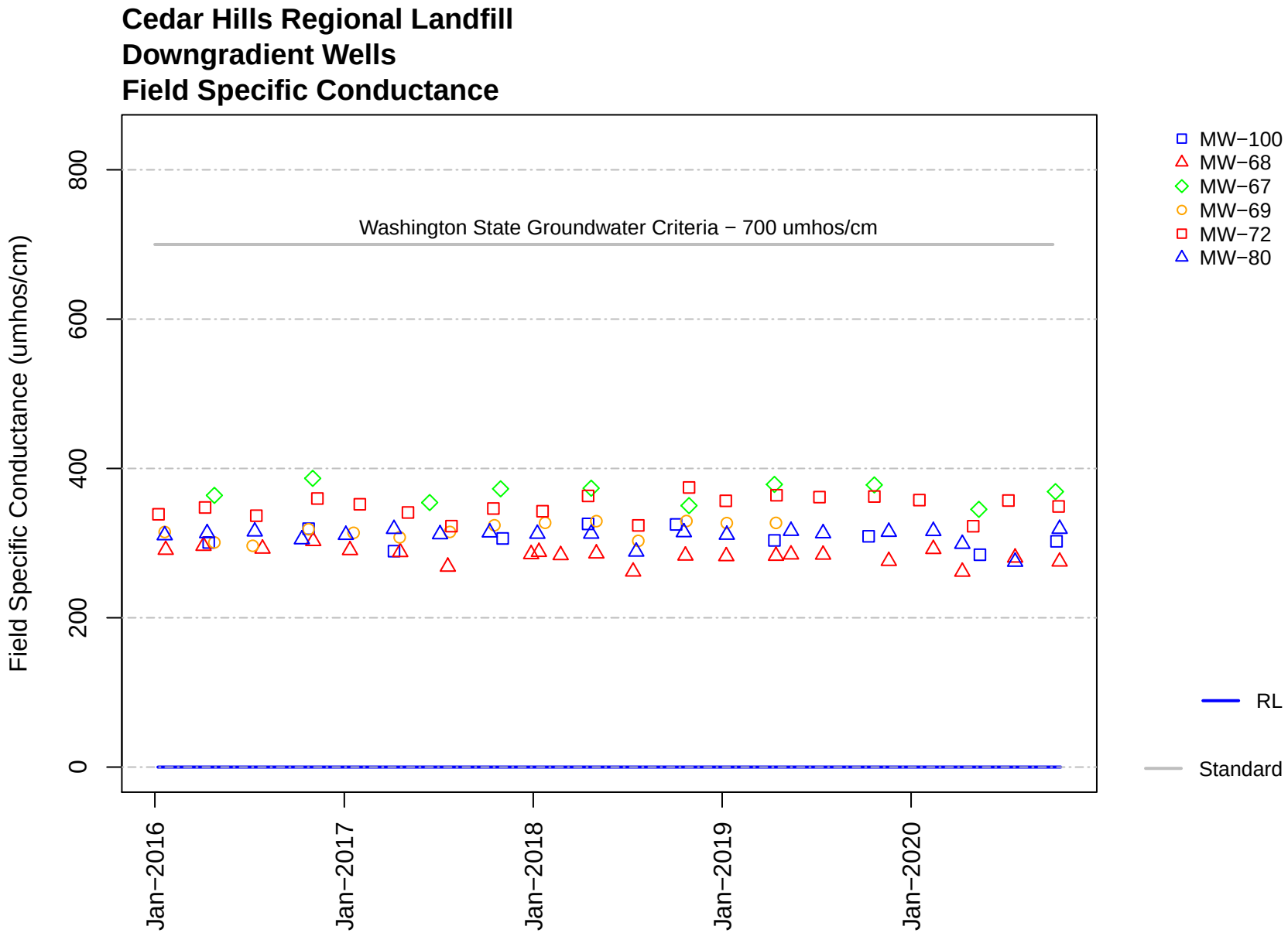

Cedar Hills Regional Landfill
Upgradient and Crossgradient Wells
Field pH
Field pH (standard pH units)
0
2
4
6
8
National Secondary MCL − 6.5 − 8.5 std. pH units
Jan−2016
Jan−2017
Jan−2018
Jan−2019
Jan−2020
MW−64
MW−93
MW−95
MW−21
MW−66
MW−73
MW−84
MW−81
RL
Standard

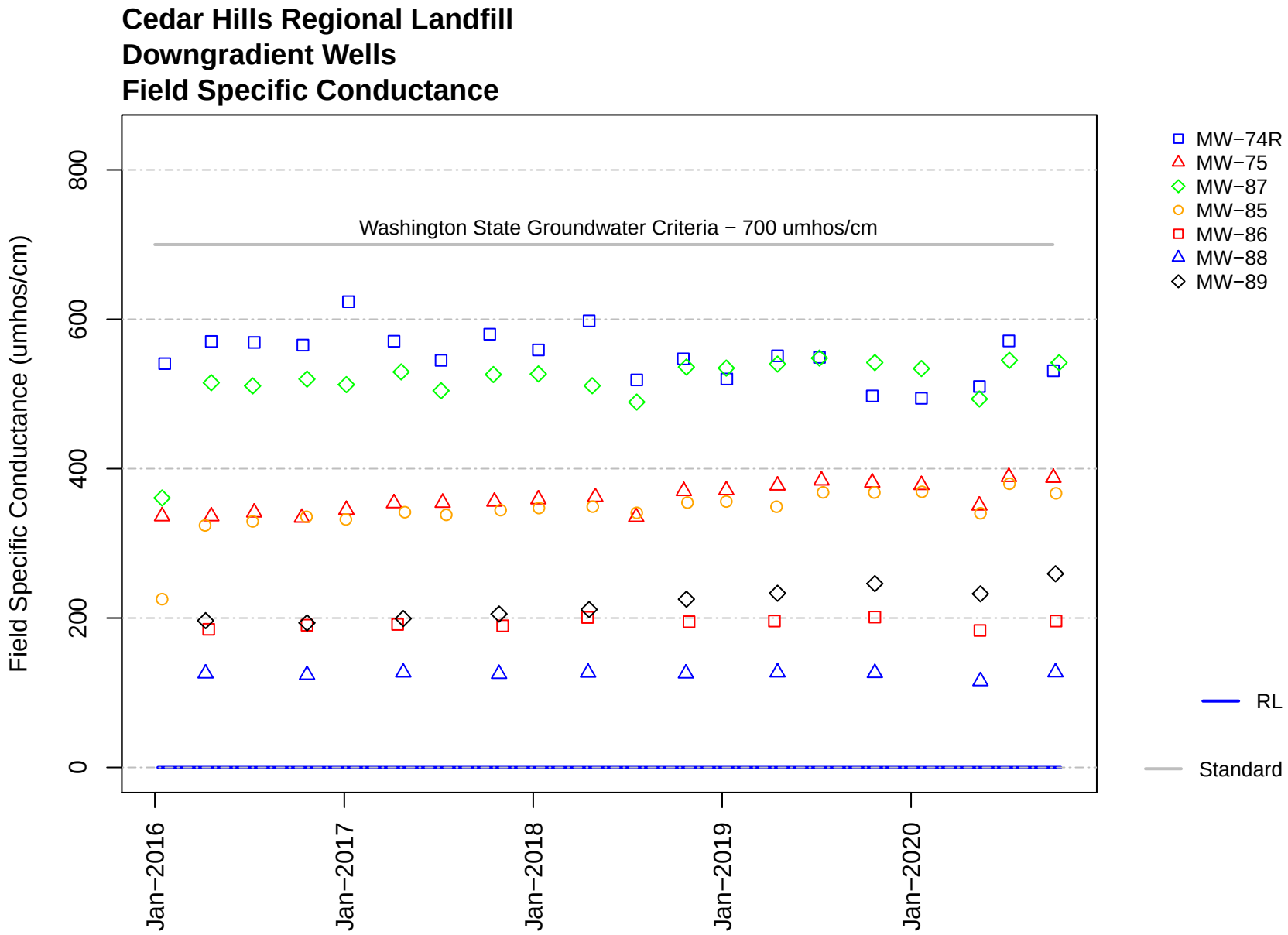

Cedar Hills Regional Landfill
Downgradient Wells
Field pH
Field pH (standard pH units)
0
2
4
6
8
National Secondary MCL − 6.5 − 8.5 std. pH units
Jan−2016
Jan−2017
Jan−2018
Jan−2019
Jan−2020
MW−100
MW−68
MW−67
MW−69
MW−72
MW−80
RL
Standard

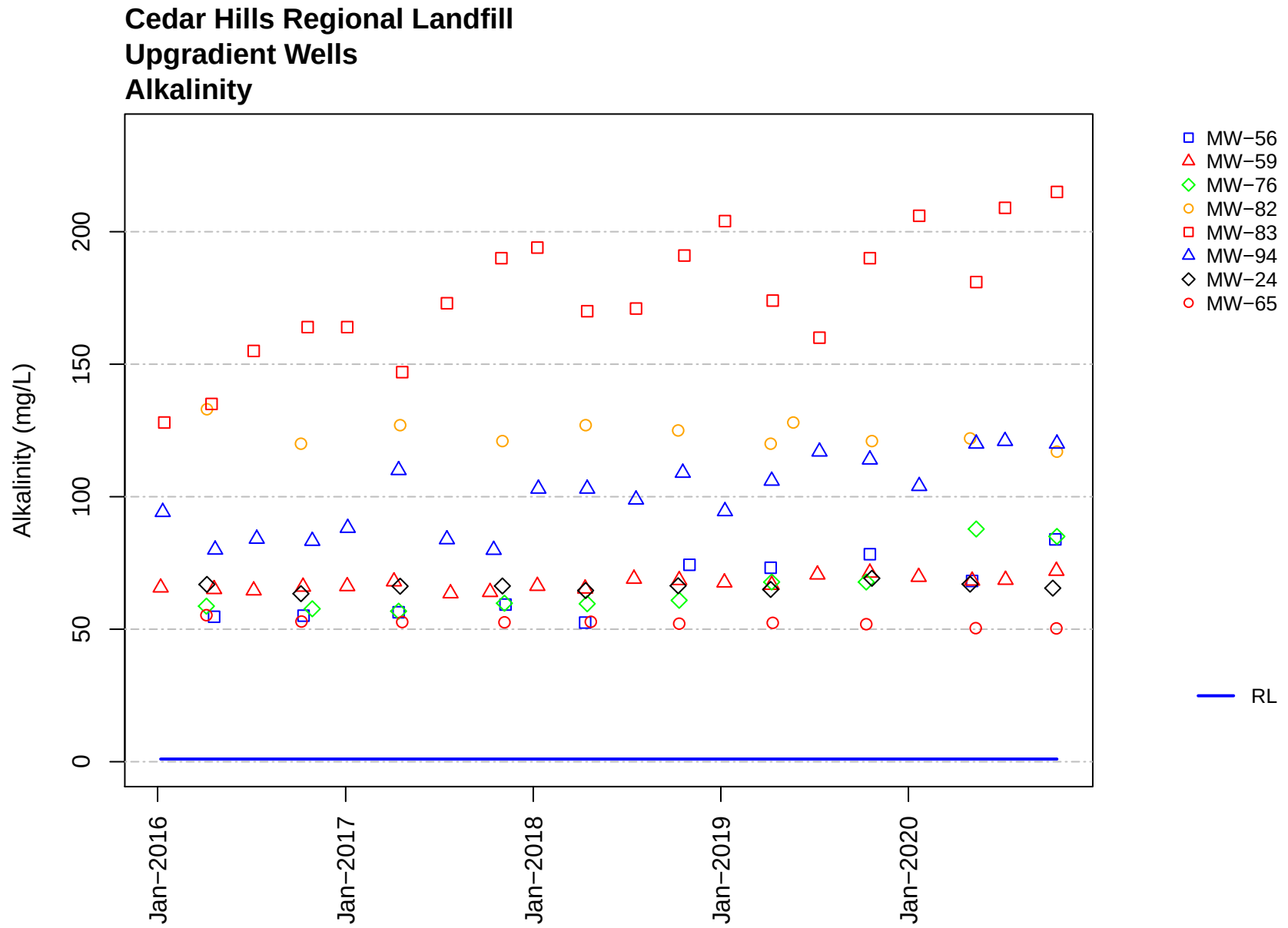

Cedar Hills Regional Landfill
Downgradient Wells
Field pH
Field pH (standard pH units)
0
2
4
6
8
National Secondary MCL − 6.5 − 8.5 std. pH units
Jan−2016
Jan−2017
Jan−2018
Jan−2019
Jan−2020
MW−74R
MW−75
MW−87
MW−85
MW−86
MW−88
MW−89
RL
Standard

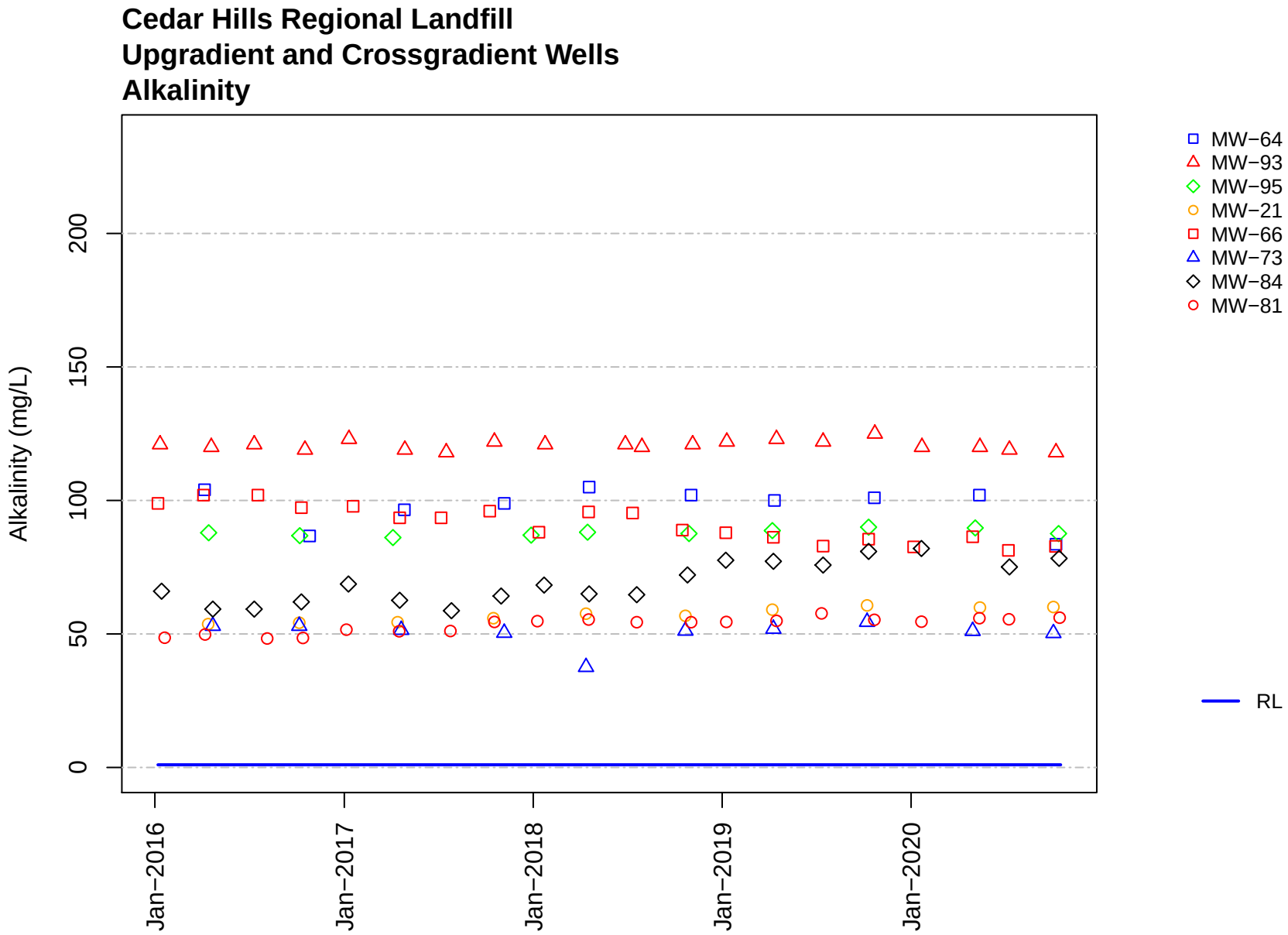

Cedar Hills Regional Landfill
Upgradient Wells
Field Specific Conductance
Field Specific Conductance (umhos/cm)
0
200
400
600
800
Washington State Groundwater Criteria − 700 umhos/cm
Jan−2016
Jan−2017
Jan−2018
Jan−2019
Jan−2020
MW−56
MW−59
MW−76
MW−82
MW−83
MW−94
MW−24
MW−65
RL
Standard

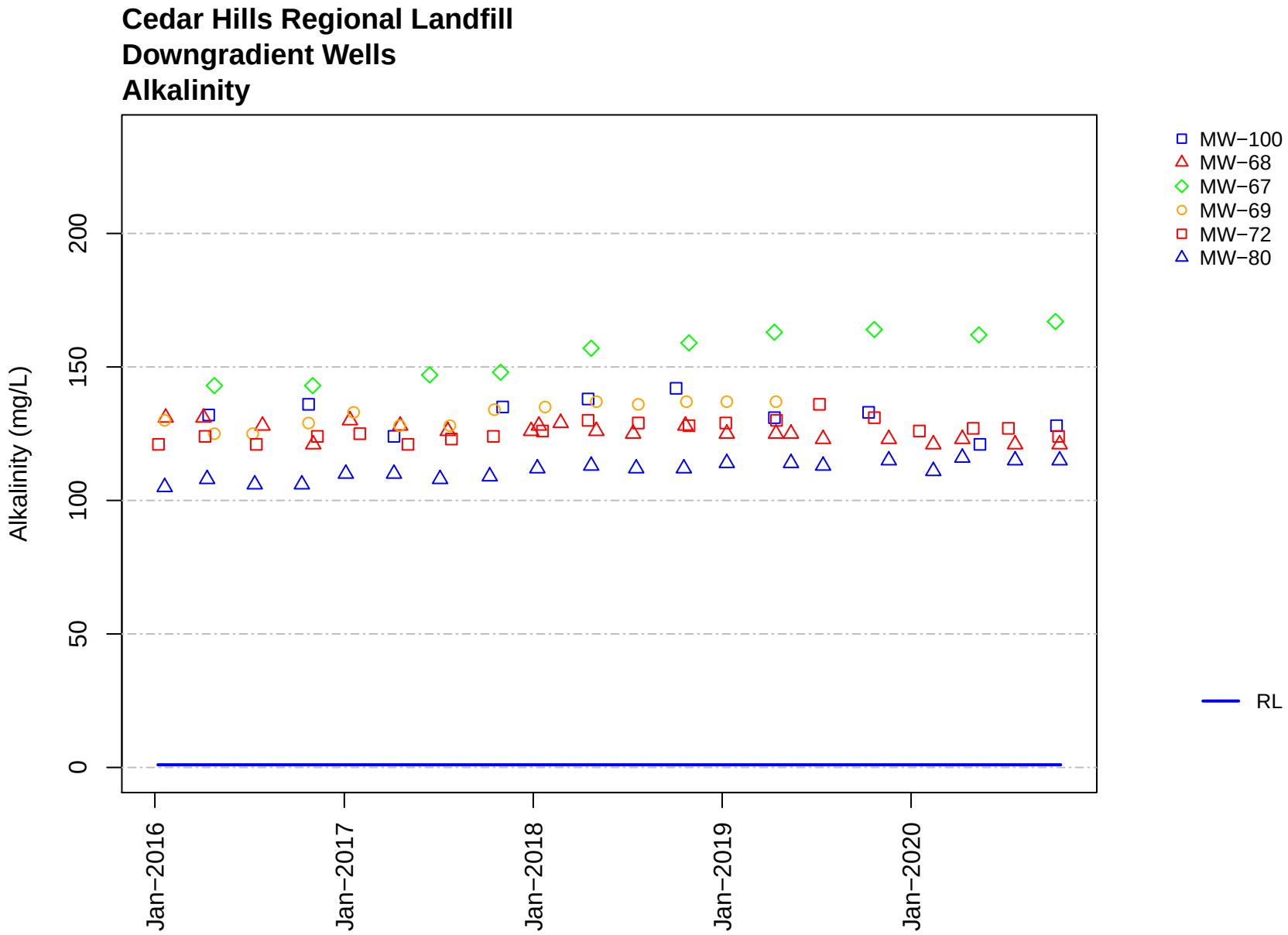

Cedar Hills Regional Landfill
Upgradient and Crossgradient Wells
Field Specific Conductance
Field Specific Conductance (umhos/cm)
0
200
400
600
800
Washington State Groundwater Criteria − 700 umhos/cm
Jan−2016
Jan−2017
Jan−2018
Jan−2019
Jan−2020
MW−64
MW−93
MW−95
MW−21
MW−66
MW−73
MW−84
MW−81
RL
Standard

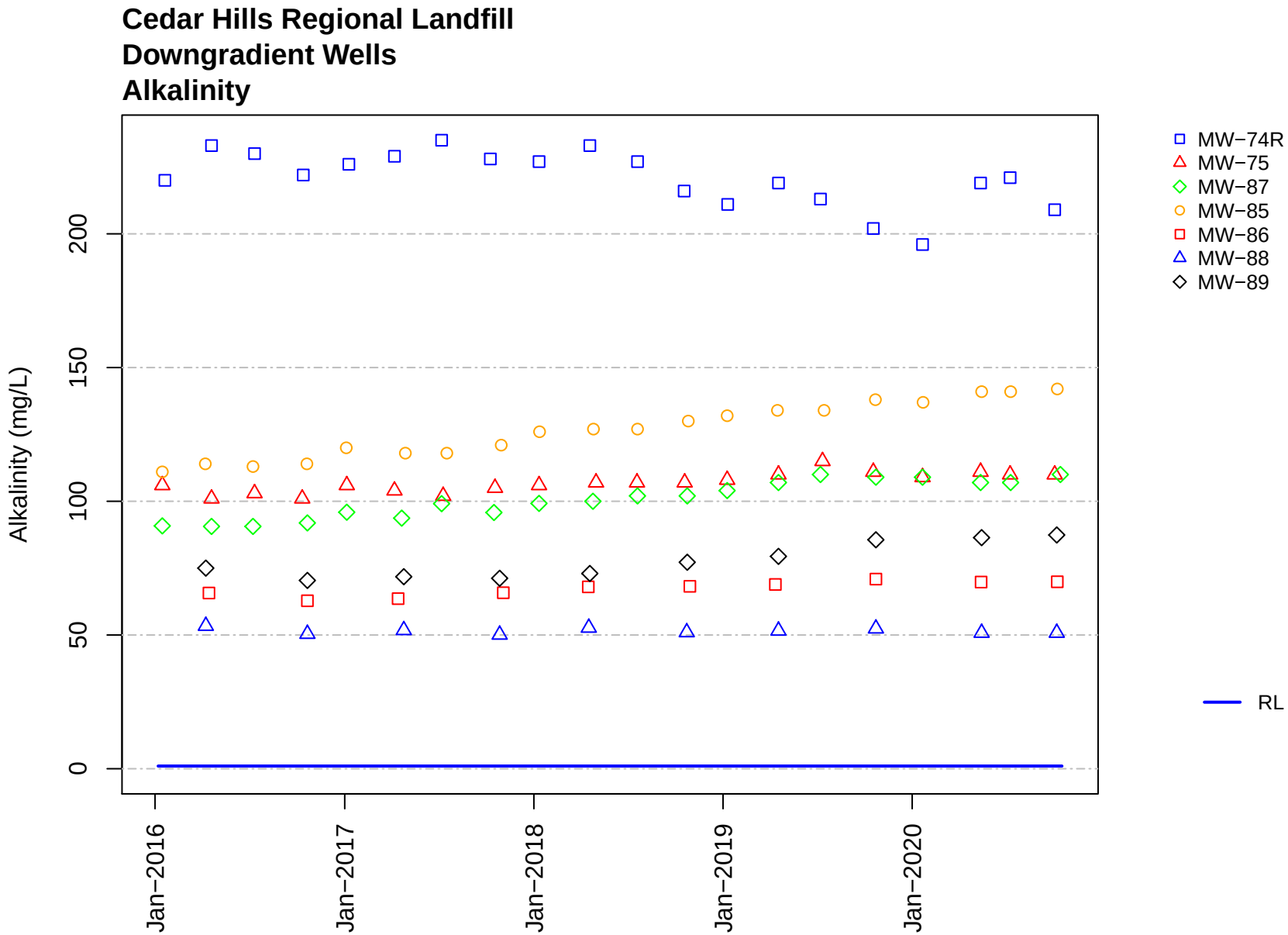

Cedar Hills Regional Landfill
Downgradient Wells
Field Specific Conductance
Field Specific Conductance (umhos/cm)
0
200
400
600
800
Washington State Groundwater Criteria − 700 umhos/cm
Jan−2016
Jan−2017
Jan−2018
Jan−2019
Jan−2020
MW−100
MW−68
MW−67
MW−69
MW−72
MW−80
RL
Standard

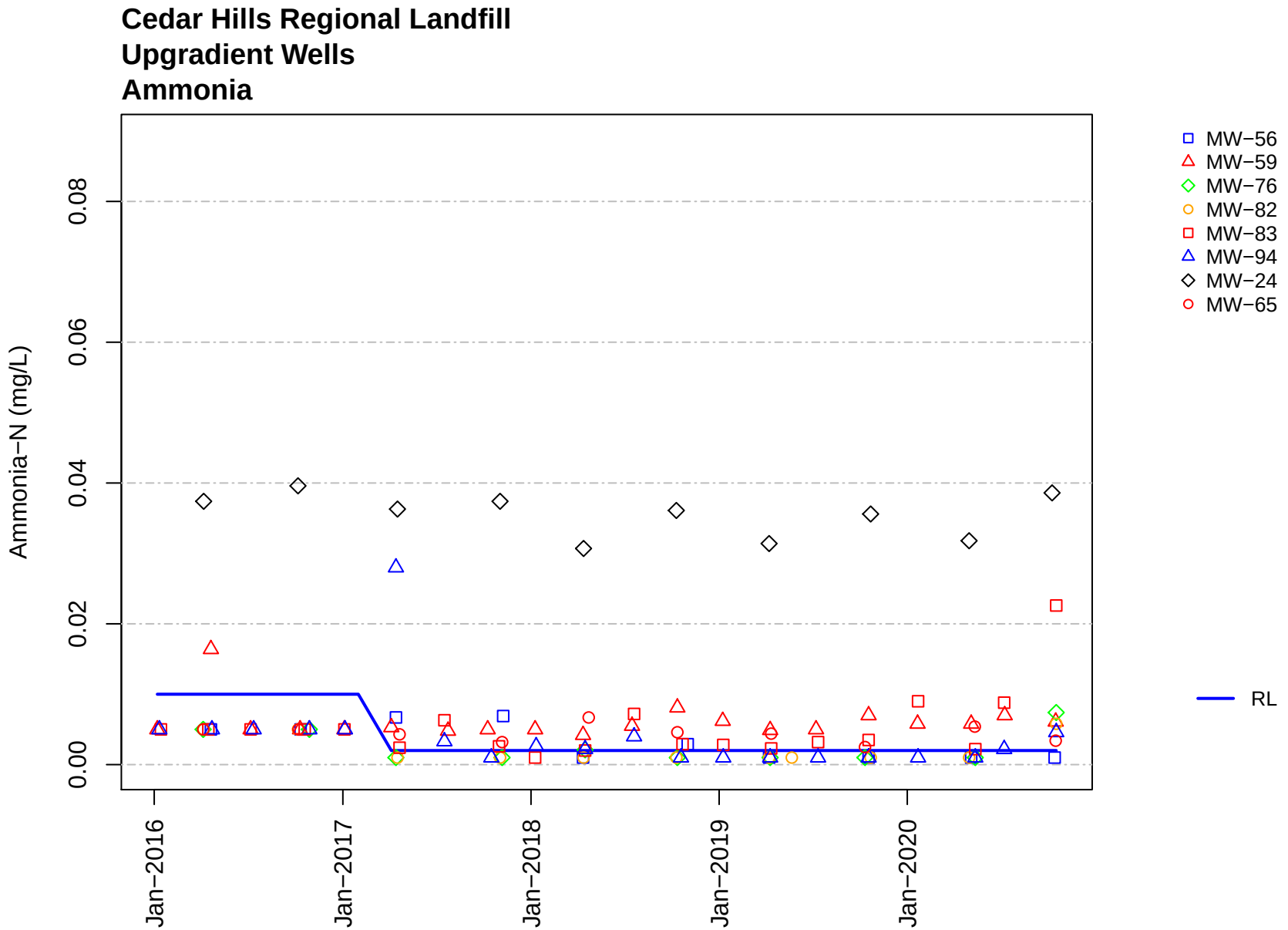

Cedar Hills Regional Landfill
Downgradient Wells
Field Specific Conductance
Field Specific Conductance (umhos/cm)
0
200
400
600
800
Washington State Groundwater Criteria − 700 umhos/cm
Jan−2016
Jan−2017
Jan−2018
Jan−2019
Jan−2020
MW−74R
MW−75
MW−87
MW−85
MW−86
MW−88
MW−89
RL
Standard

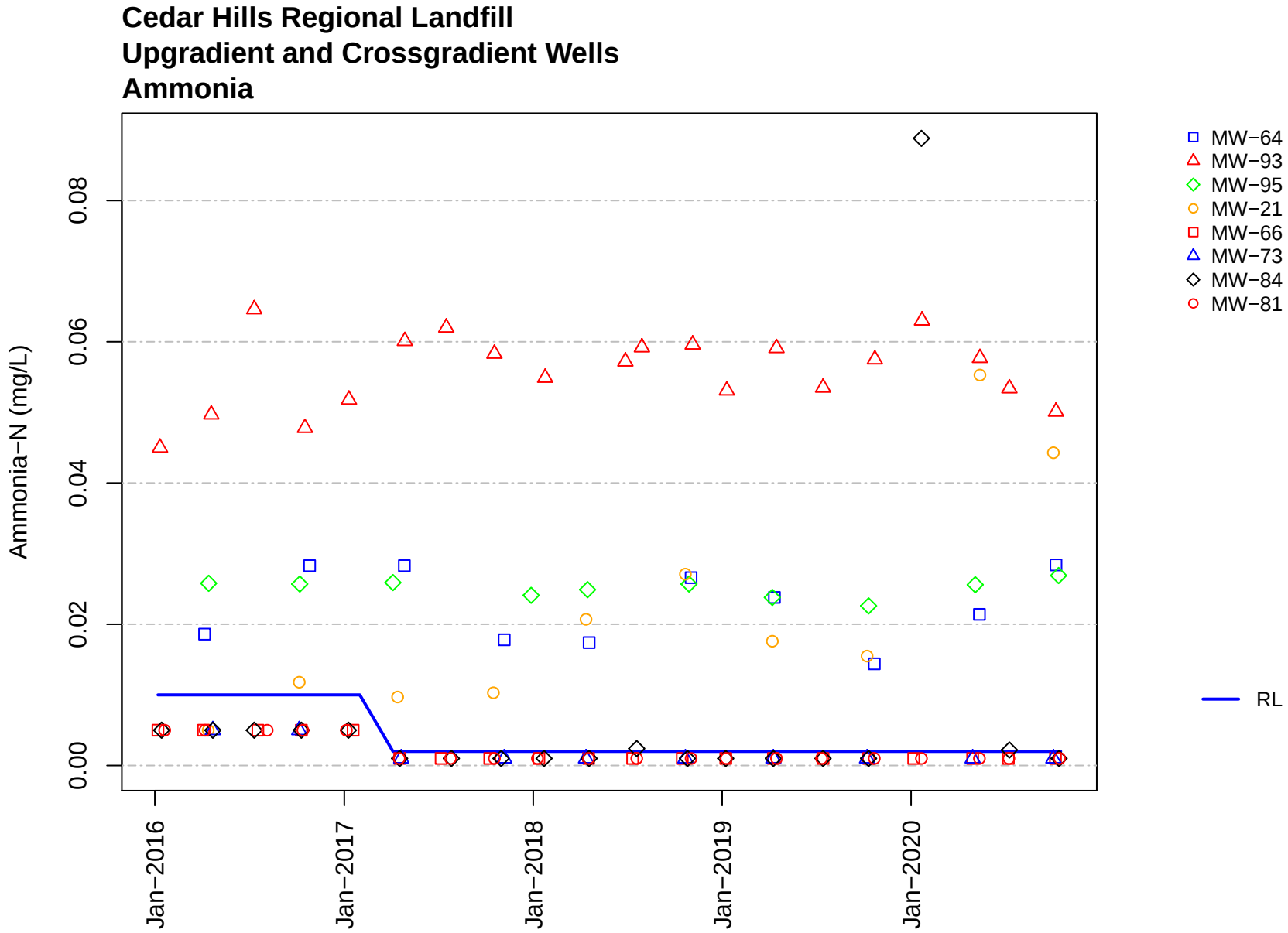

Cedar Hills Regional Landfill
Upgradient Wells
Alkalinity
Alkalinity (mg/L)
0
50
100
150
200
Jan−2016
Jan−2017
Jan−2018
Jan−2019
Jan−2020
MW−56
MW−59
MW−76
MW−82
MW−83
MW−94
MW−24
MW−65
RL

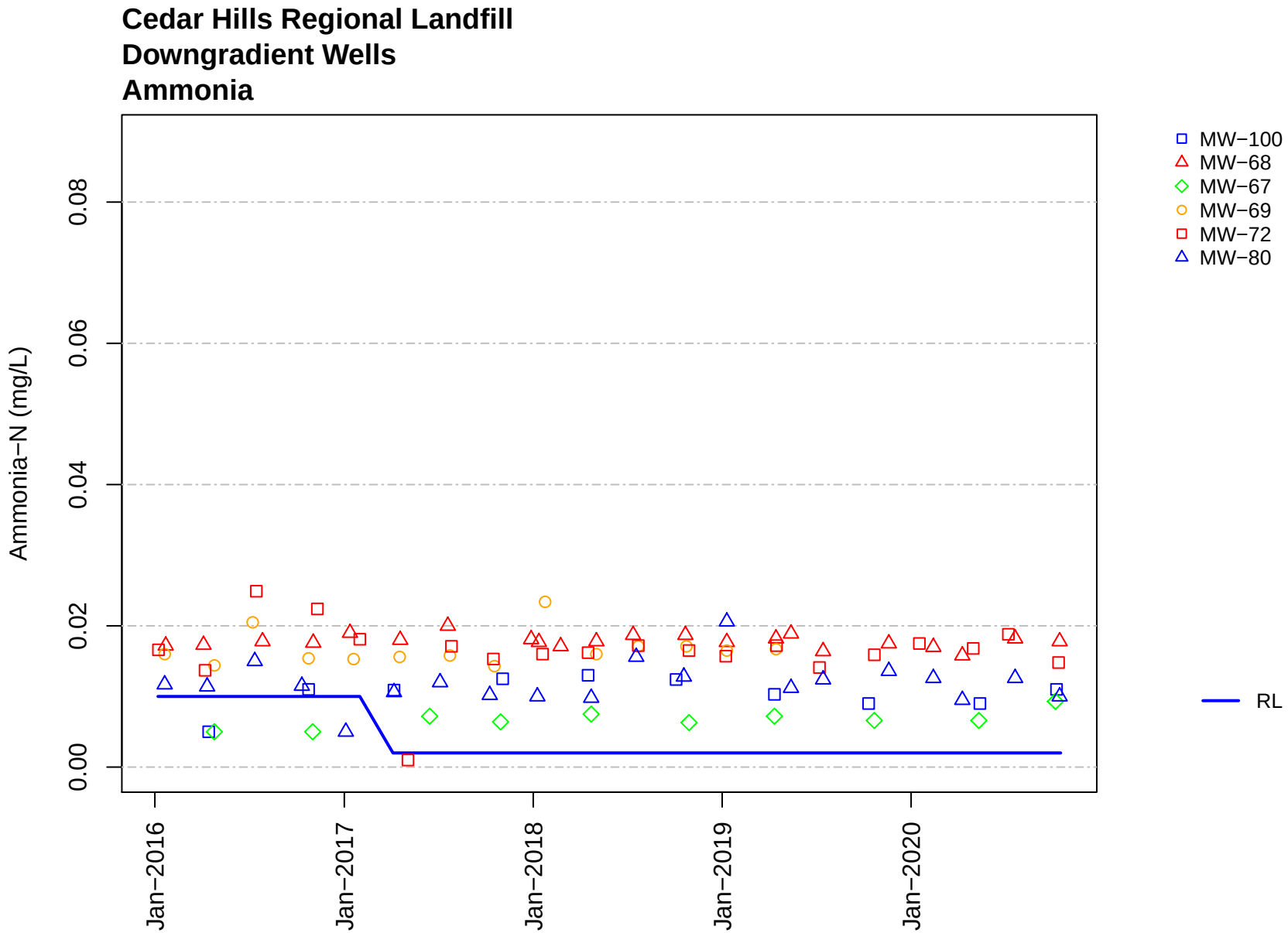

Cedar Hills Regional Landfill
Upgradient and Crossgradient Wells
Alkalinity
Alkalinity (mg/L)
0
50
100
150
200
Jan−2016
Jan−2017
Jan−2018
Jan−2019
Jan−2020
MW−64
MW−93
MW−95
MW−21
MW−66
MW−73
MW−84
MW−81
RL

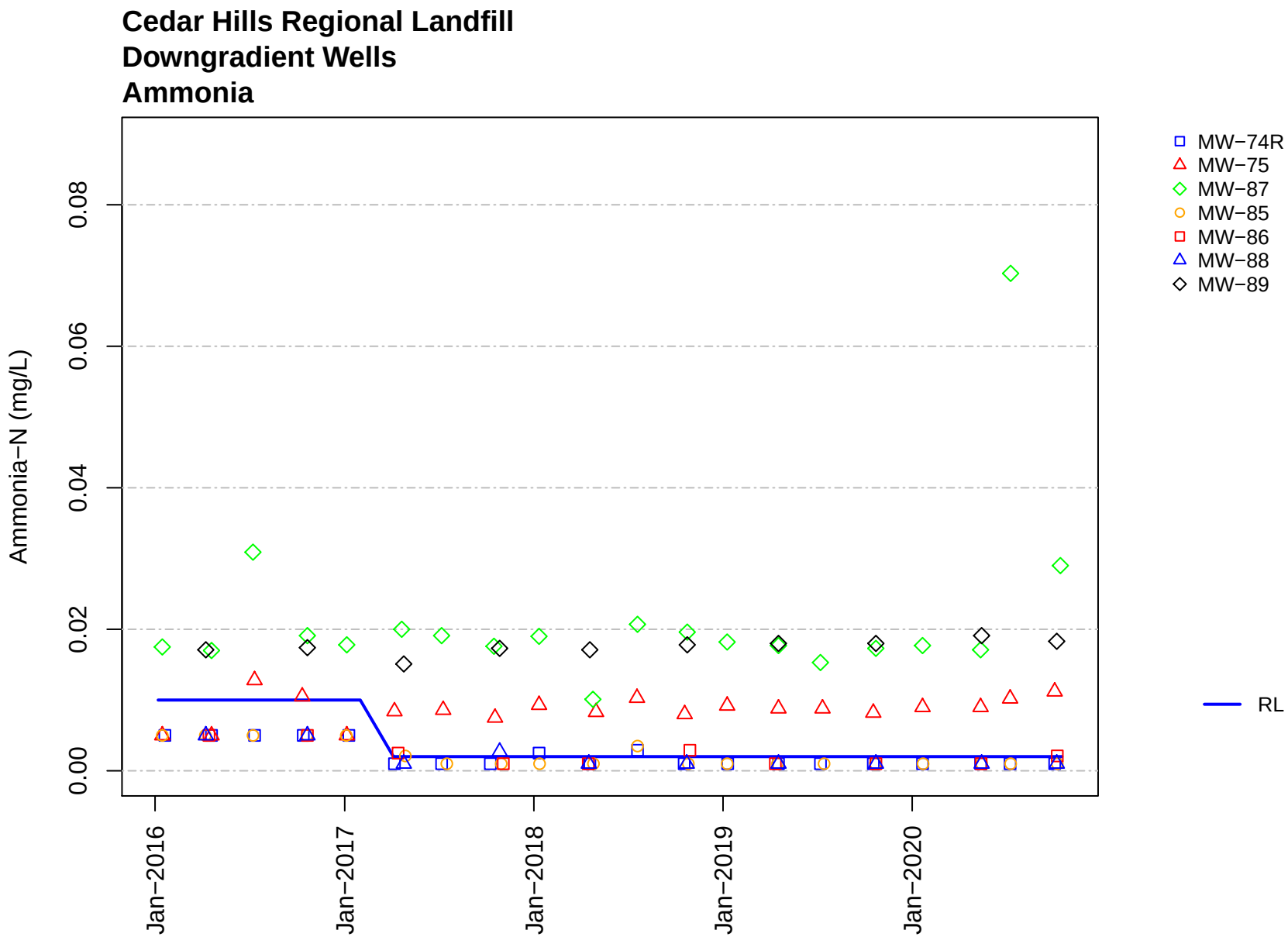

Cedar Hills Regional Landfill
Downgradient Wells
Alkalinity
Alkalinity (mg/L)
0
50
100
150
200
Jan−2016
Jan−2017
Jan−2018
Jan−2019
Jan−2020
MW−100
MW−68
MW−67
MW−69
MW−72
MW−80
RL

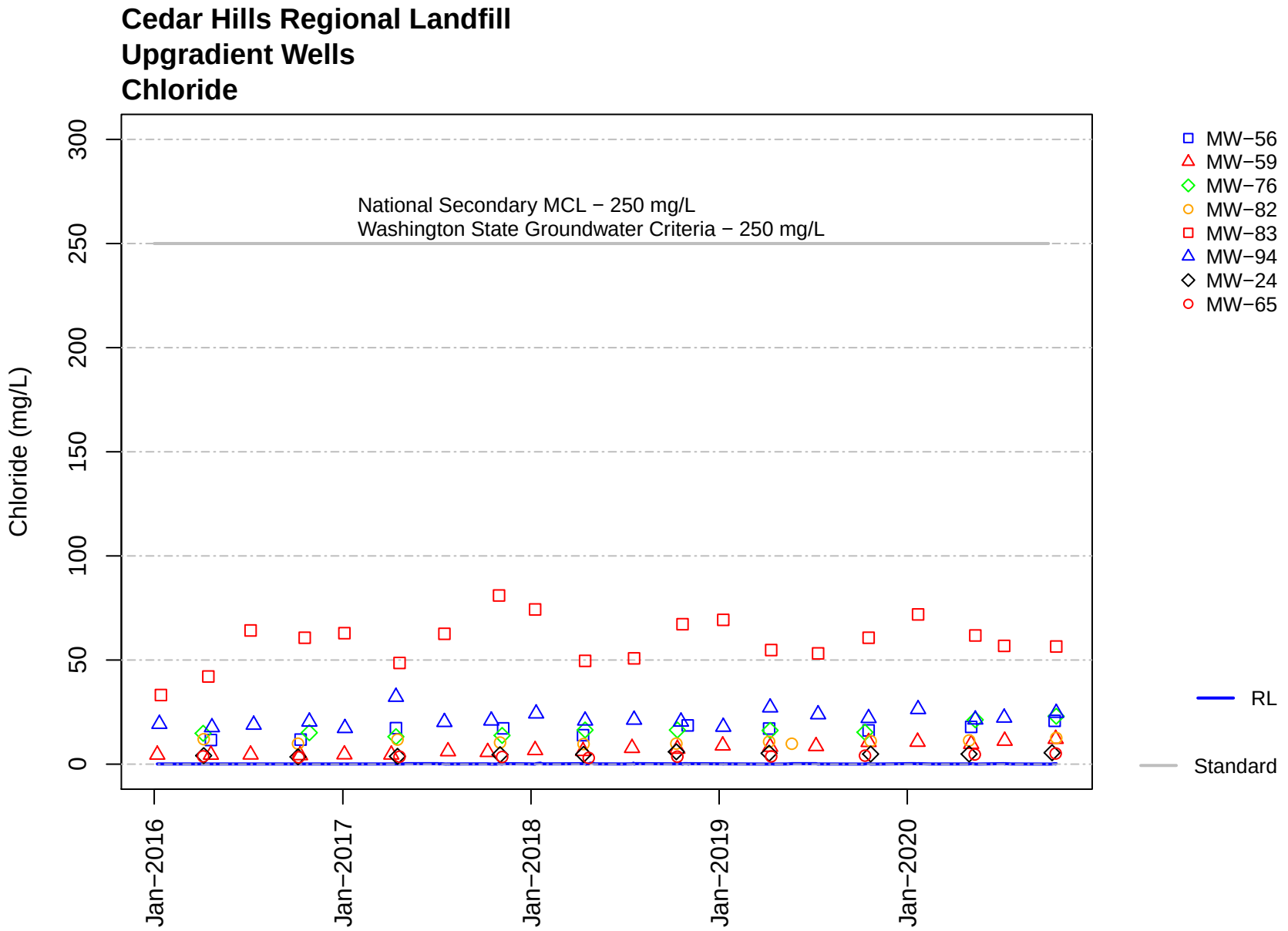

Cedar Hills Regional Landfill
Downgradient Wells
Alkalinity
Alkalinity (mg/L)
0
50
100
150
200
Jan−2016
Jan−2017
Jan−2018
Jan−2019
Jan−2020
MW−74R
MW−75
MW−87
MW−85
MW−86
MW−88
MW−89
RL

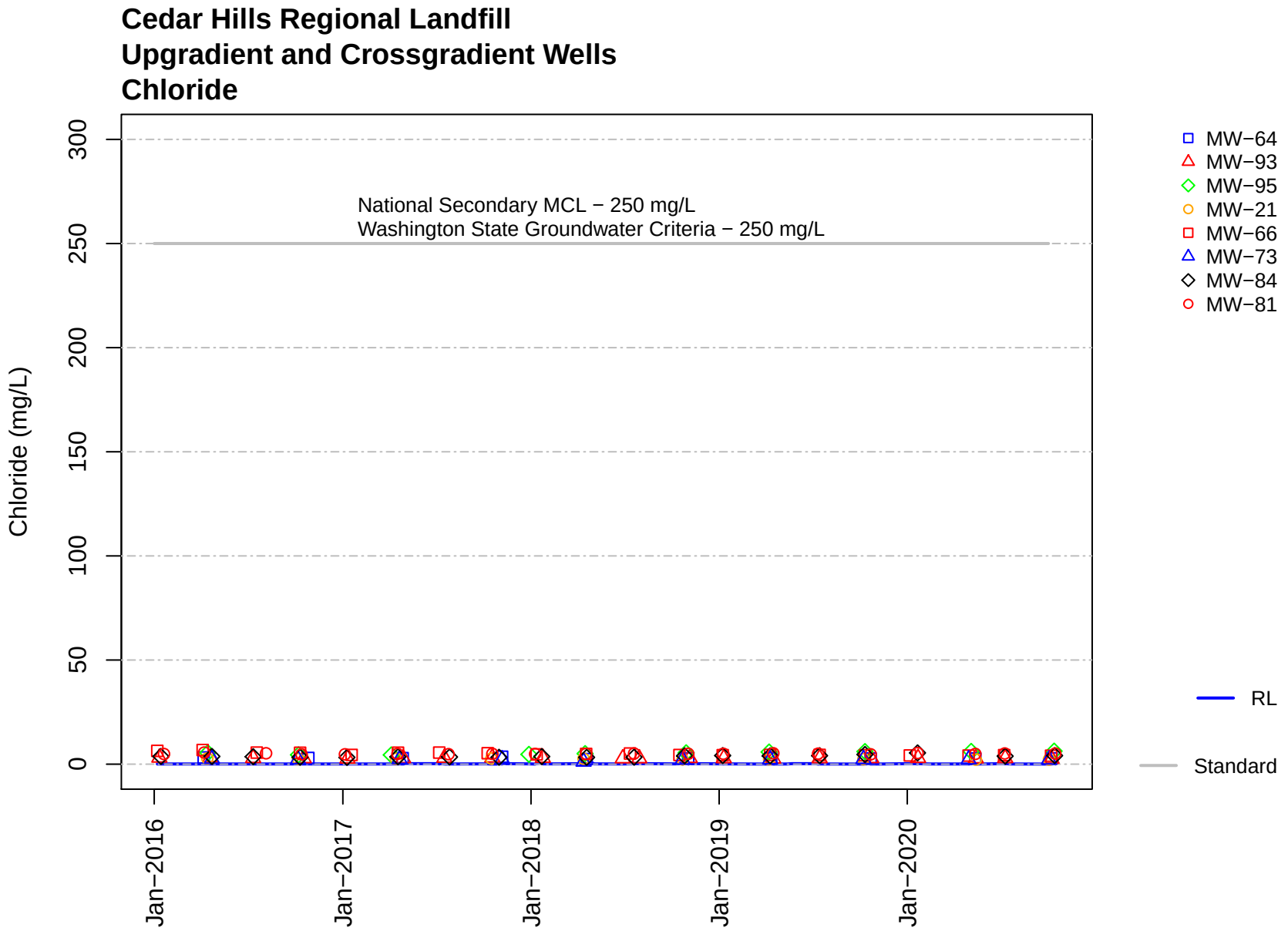

Cedar Hills Regional Landfill
Upgradient Wells
Ammonia
Ammonia−N (mg/L)
0.00
0.02
0.04
0.06
0.08
Jan−2016
Jan−2017
Jan−2018
Jan−2019
Jan−2020
MW−56
MW−59
MW−76
MW−82
MW−83
MW−94
MW−24
MW−65
RL

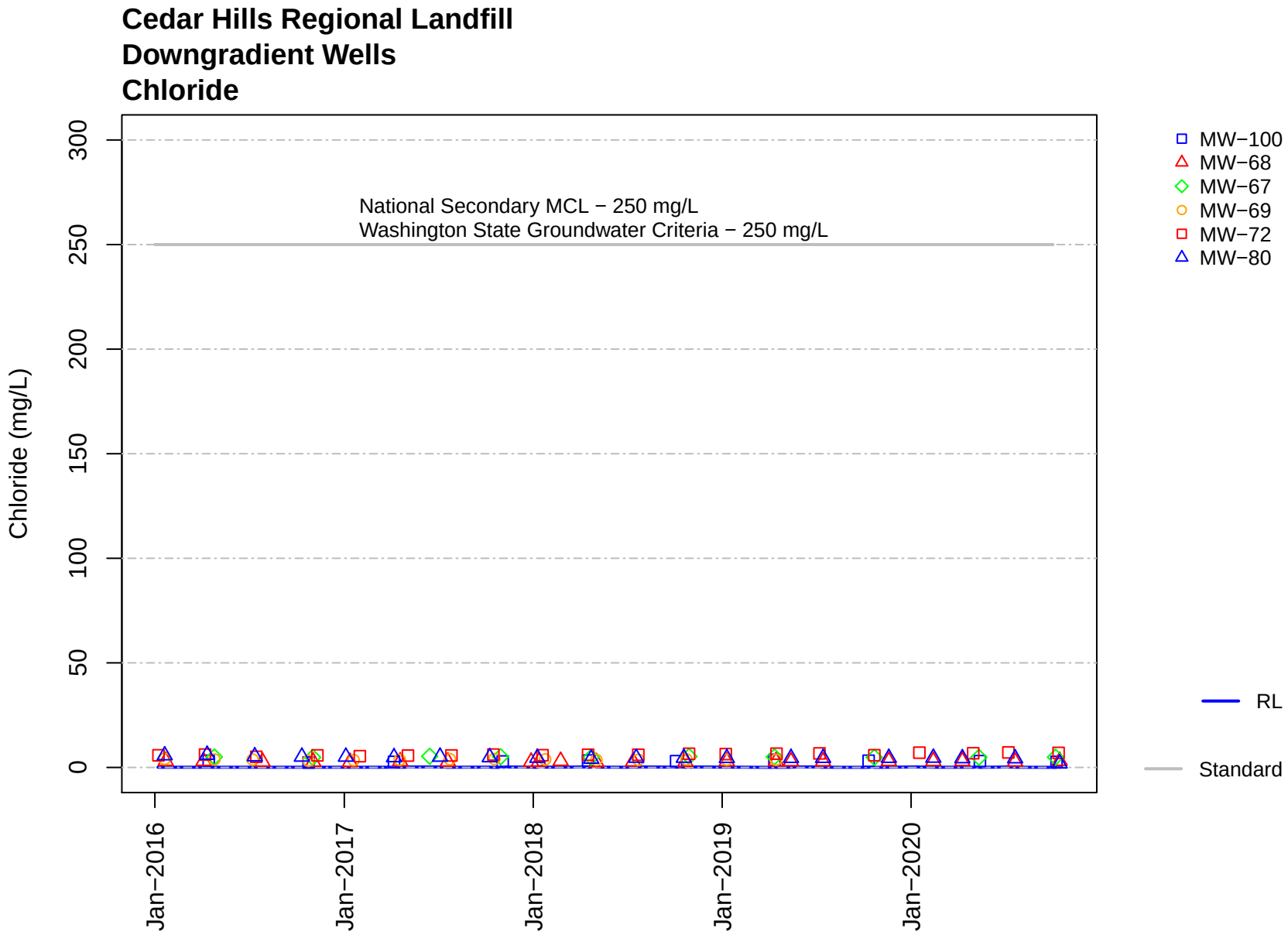

Cedar Hills Regional Landfill
Upgradient and Crossgradient Wells
Ammonia
Ammonia−N (mg/L)
0.00
0.02
0.04
0.06
0.08
Jan−2016
Jan−2017
Jan−2018
Jan−2019
Jan−2020
MW−64
MW−93
MW−95
MW−21
MW−66
MW−73
MW−84
MW−81
RL

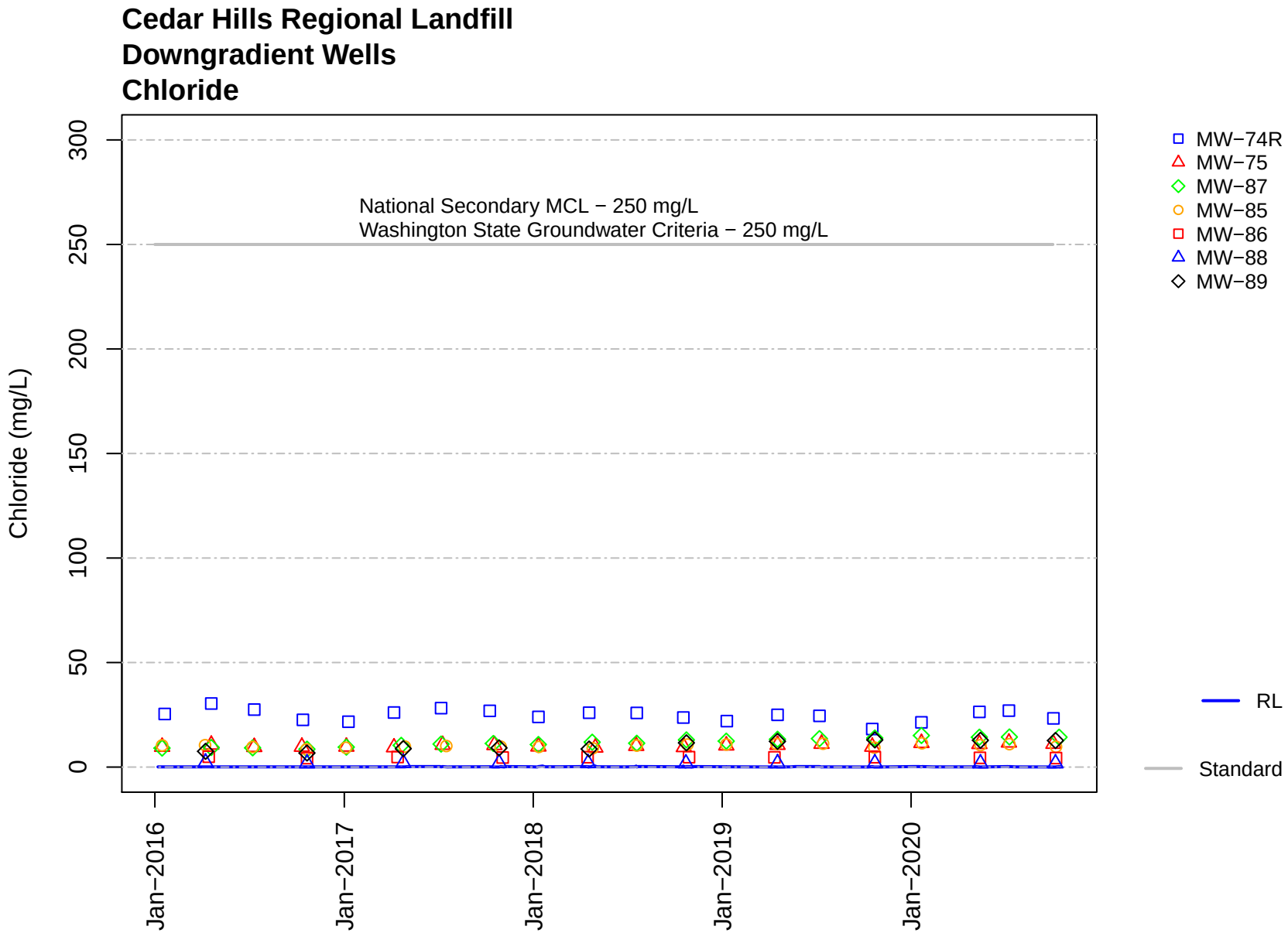

Cedar Hills Regional Landfill
Downgradient Wells
Ammonia
Ammonia−N (mg/L)
0.00
0.02
0.04
0.06
0.08
Jan−2016
Jan−2017
Jan−2018
Jan−2019
Jan−2020
MW−100
MW−68
MW−67
MW−69
MW−72
MW−80
RL

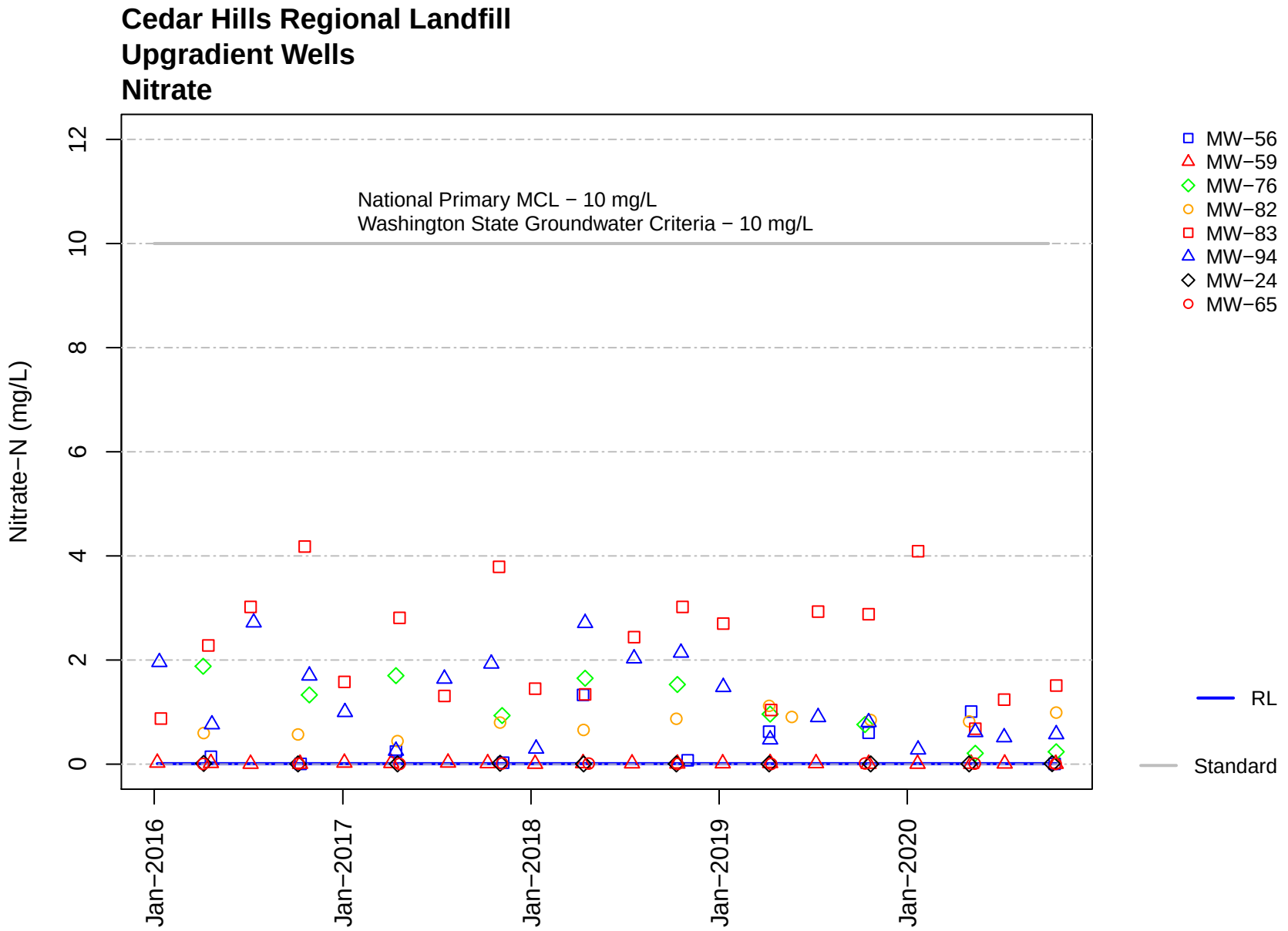

Cedar Hills Regional Landfill
Downgradient Wells
Ammonia
Ammonia−N (mg/L)
0.00
0.02
0.04
0.06
0.08
Jan−2016
Jan−2017
Jan−2018
Jan−2019
Jan−2020
MW−74R
MW−75
MW−87
MW−85
MW−86
MW−88
MW−89
RL

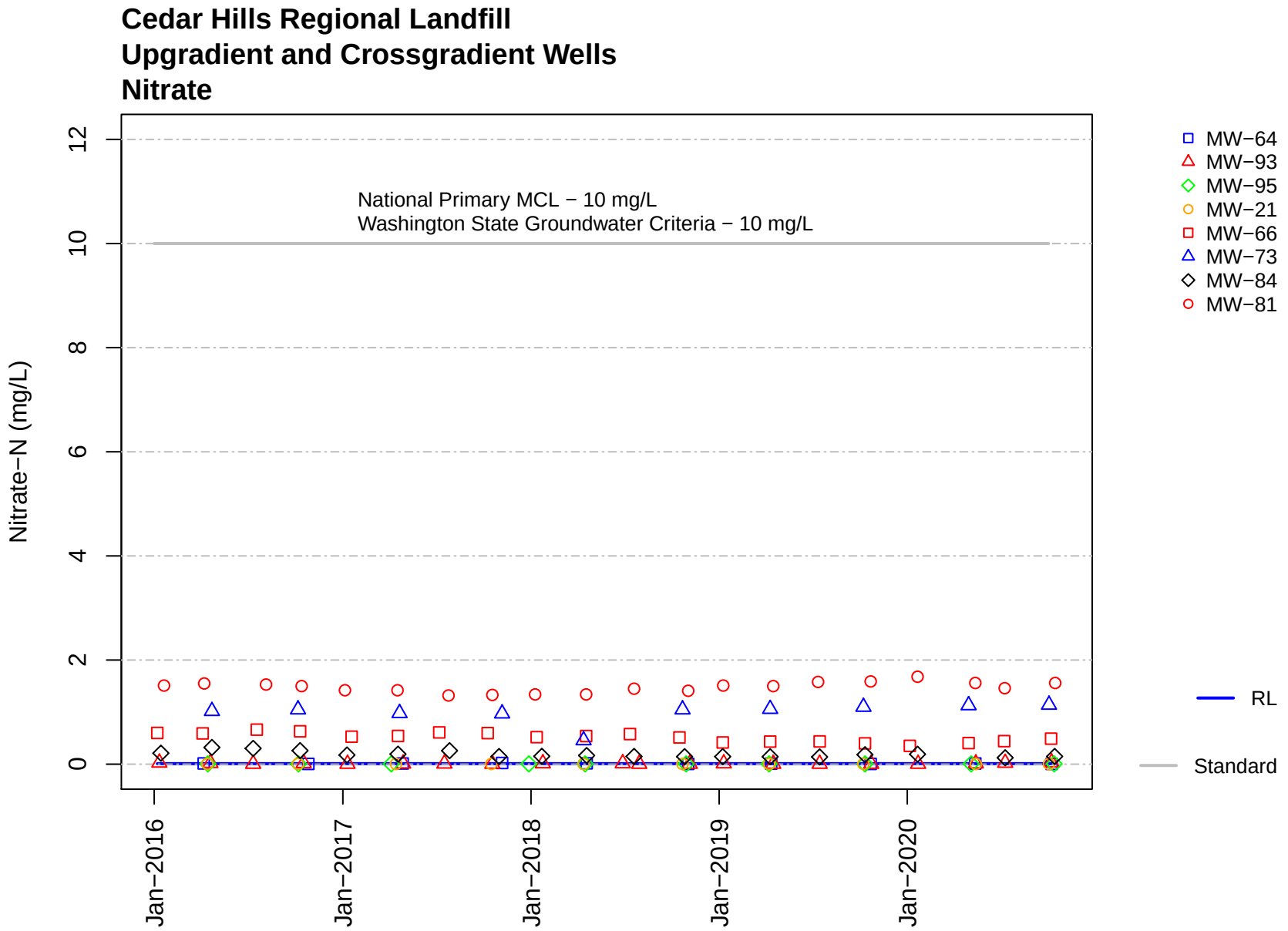

Cedar Hills Regional Landfill
Upgradient Wells
Chloride
Chloride (mg/L)
0
50
100
150
200
250
300
National Secondary MCL − 250 mg/L
Washington State Groundwater Criteria − 250 mg/L
Jan−2016
Jan−2017
Jan−2018
Jan−2019
Jan−2020
MW−56
MW−59
MW−76
MW−82
MW−83
MW−94
MW−24
MW−65
RL
Standard

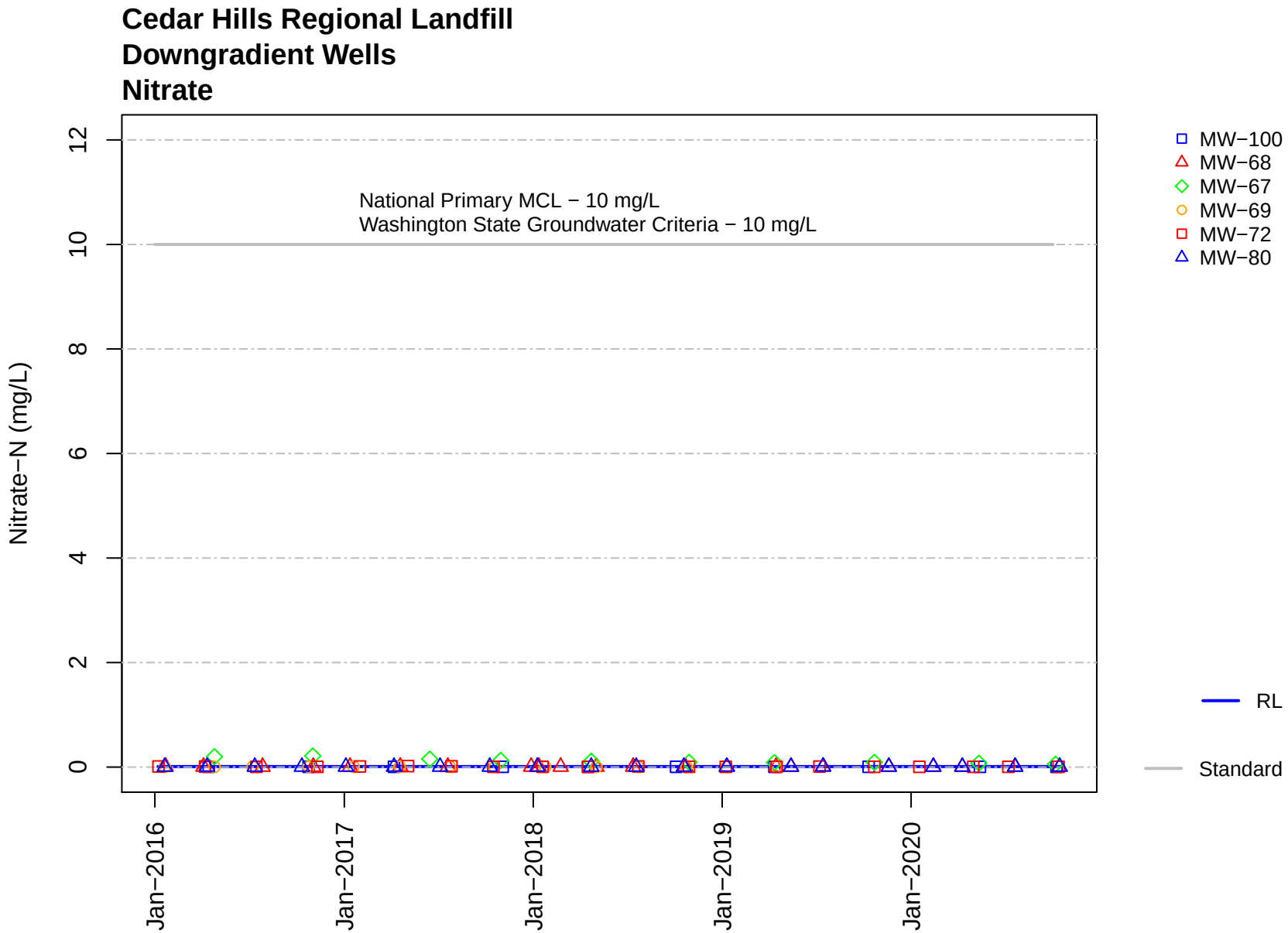

Cedar Hills Regional Landfill
Upgradient and Crossgradient Wells
Chloride
Chloride (mg/L)
0
50
100
150
200
250
300
National Secondary MCL − 250 mg/L
Washington State Groundwater Criteria − 250 mg/L
Jan−2016
Jan−2017
Jan−2018
Jan−2019
Jan−2020
MW−64
MW−93
MW−95
MW−21
MW−66
MW−73
MW−84
MW−81
RL
Standard

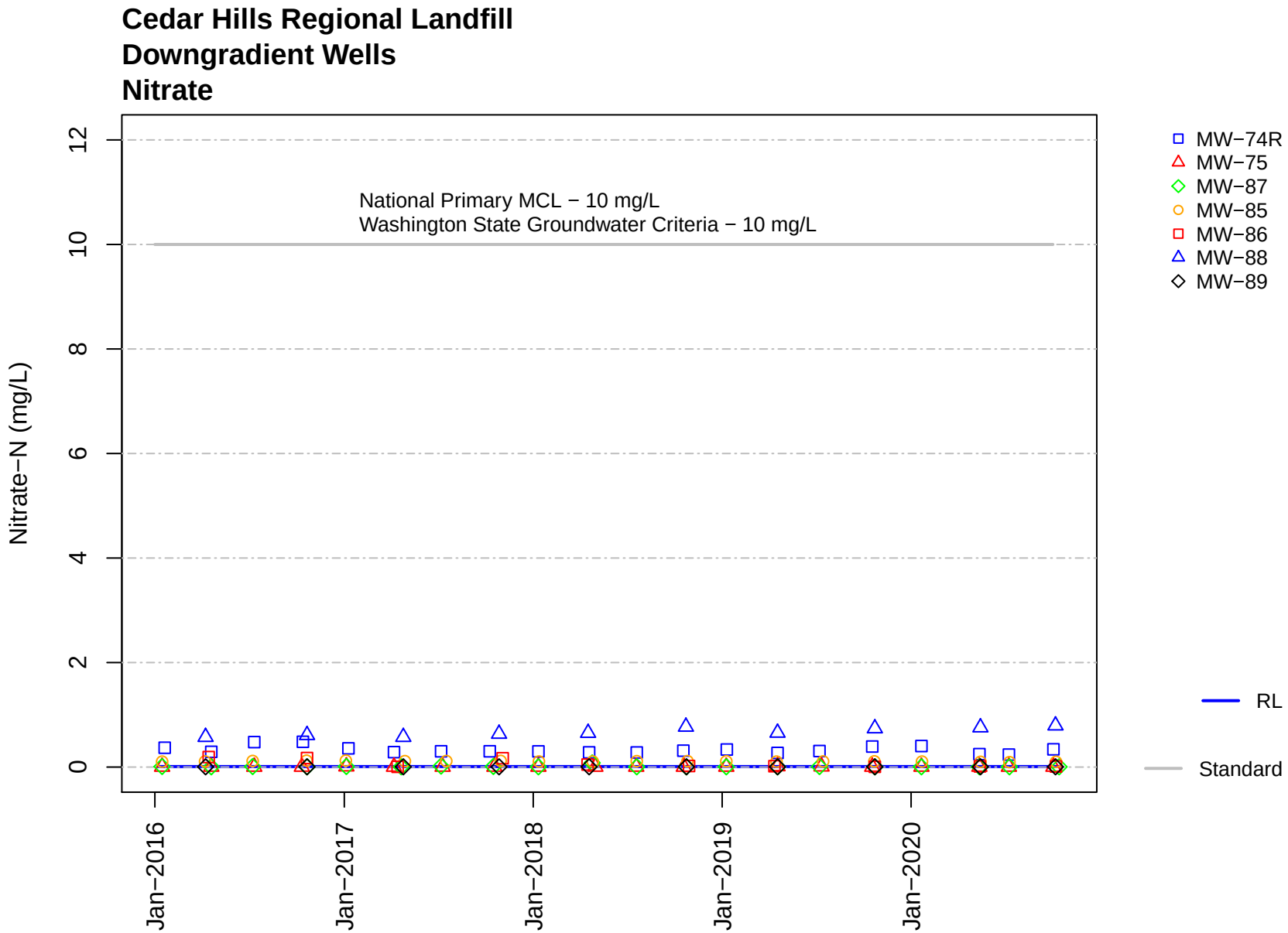

Cedar Hills Regional Landfill
Downgradient Wells
Chloride
Chloride (mg/L)
0
50
100
150
200
250
300
National Secondary MCL − 250 mg/L
Washington State Groundwater Criteria − 250 mg/L
Jan−2016
Jan−2017
Jan−2018
Jan−2019
Jan−2020
MW−100
MW−68
MW−67
MW−69
MW−72
MW−80
RL
Standard

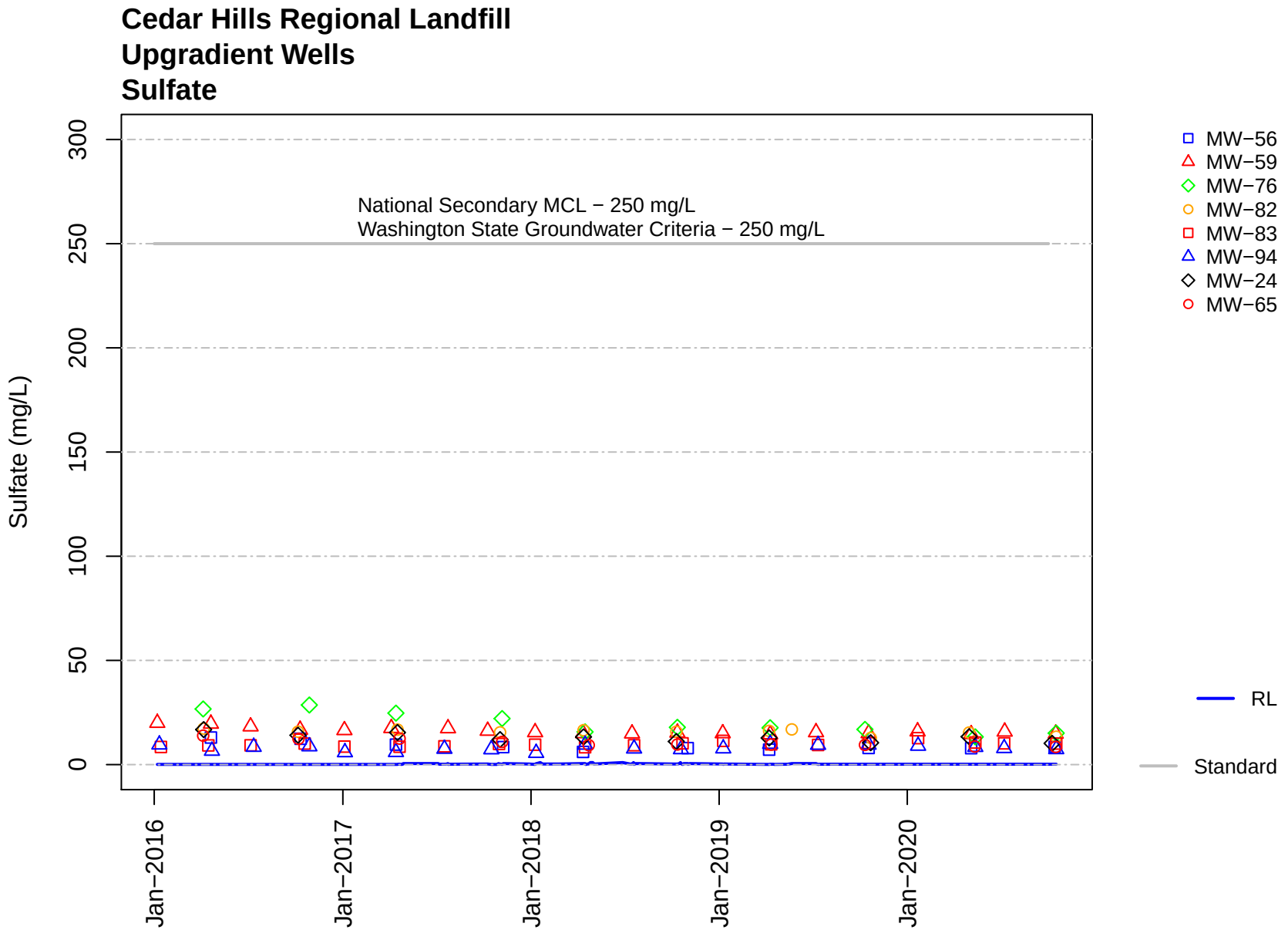

Cedar Hills Regional Landfill
Downgradient Wells
Chloride
Chloride (mg/L)
0
50
100
150
200
250
300
National Secondary MCL − 250 mg/L
Washington State Groundwater Criteria − 250 mg/L
Jan−2016
Jan−2017
Jan−2018
Jan−2019
Jan−2020
MW−74R
MW−75
MW−87
MW−85
MW−86
MW−88
MW−89
RL
Standard

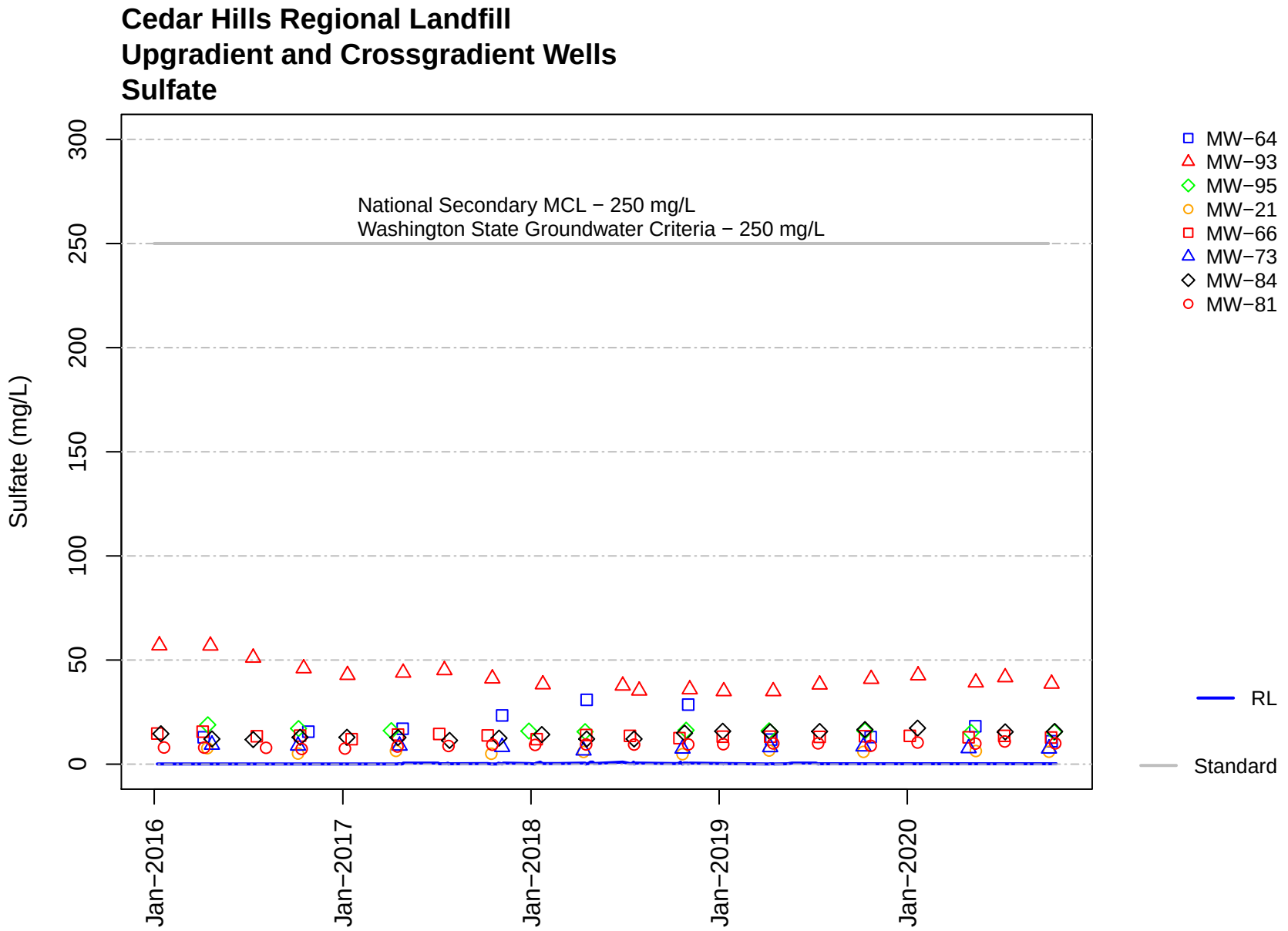

Cedar Hills Regional Landfill
Upgradient Wells
Nitrate
National Primary MCL − 10 mg/L
Washington State Groundwater Criteria − 10 mg/L
Nitrate−N (mg/L)
0
2
4
6
8
10
12
Jan−2016
Jan−2017
Jan−2018
Jan−2019
Jan−2020
MW−56
MW−59
MW−76
MW−82
MW−83
MW−94
MW−24
MW−65
RL
Standard

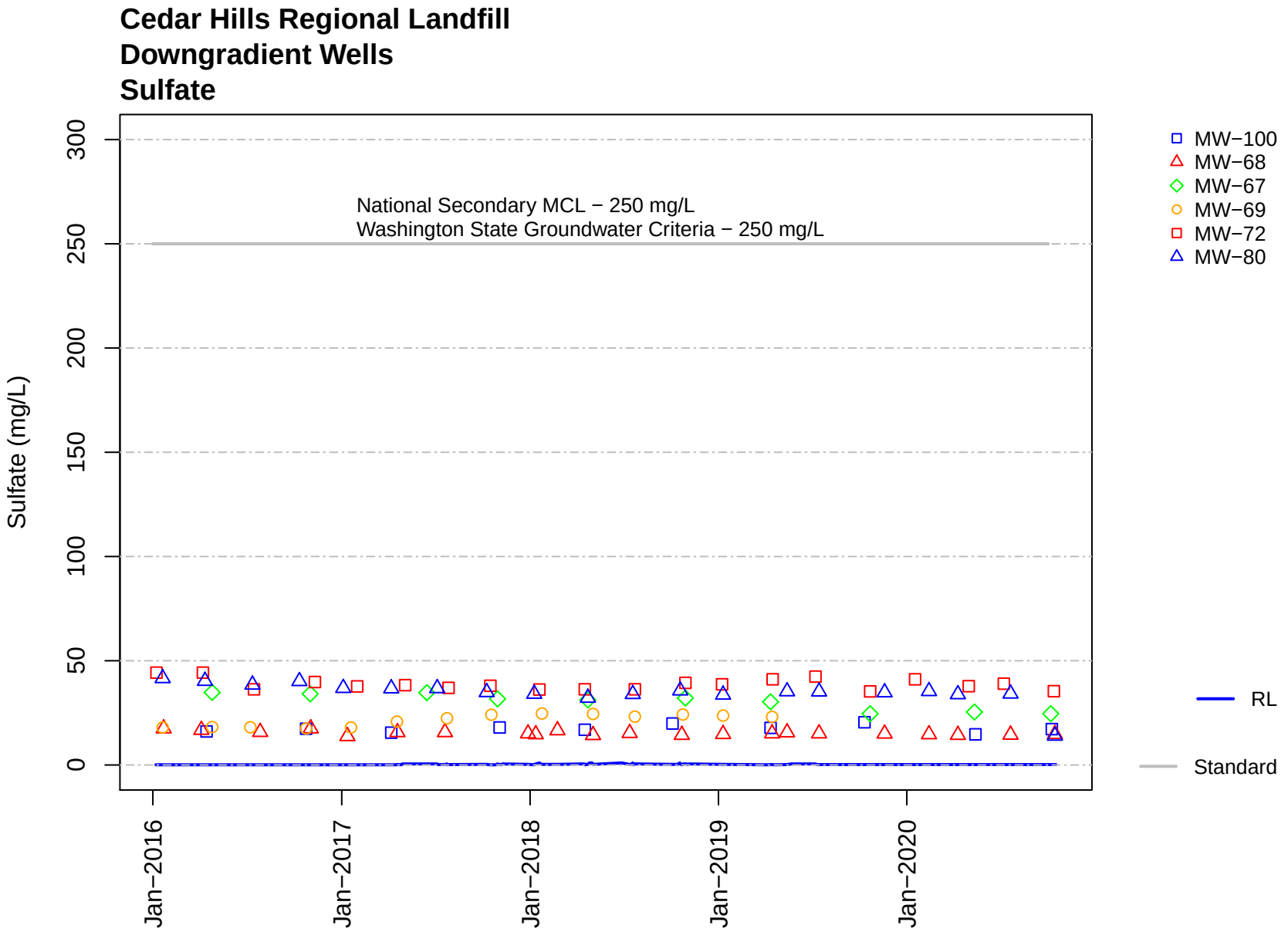

Cedar Hills Regional Landfill
Upgradient and Crossgradient Wells
Nitrate
National Primary MCL − 10 mg/L
Washington State Groundwater Criteria − 10 mg/L
Nitrate−N (mg/L)
0
2
4
6
8
10
12
Jan−2016
Jan−2017
Jan−2018
Jan−2019
Jan−2020
MW−64
MW−93
MW−95
MW−21
MW−66
MW−73
MW−84
MW−81
RL
Standard

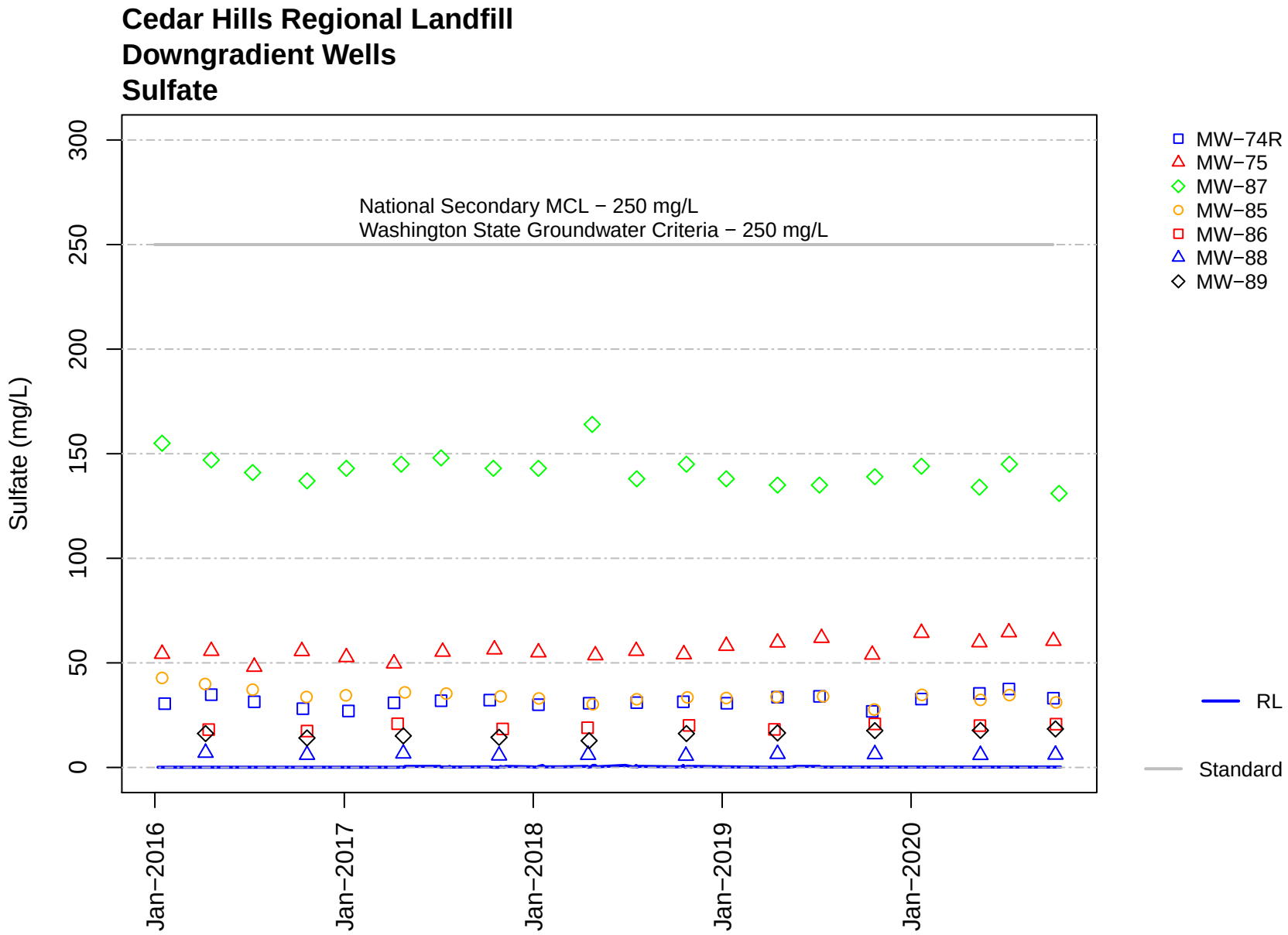

Cedar Hills Regional Landfill
Downgradient Wells
Nitrate
National Primary MCL − 10 mg/L
Washington State Groundwater Criteria − 10 mg/L
Nitrate−N (mg/L)
0
2
4
6
8
10
12
Jan−2016
Jan−2017
Jan−2018
Jan−2019
Jan−2020
MW−100
MW−68
MW−67
MW−69
MW−72
MW−80
RL
Standard

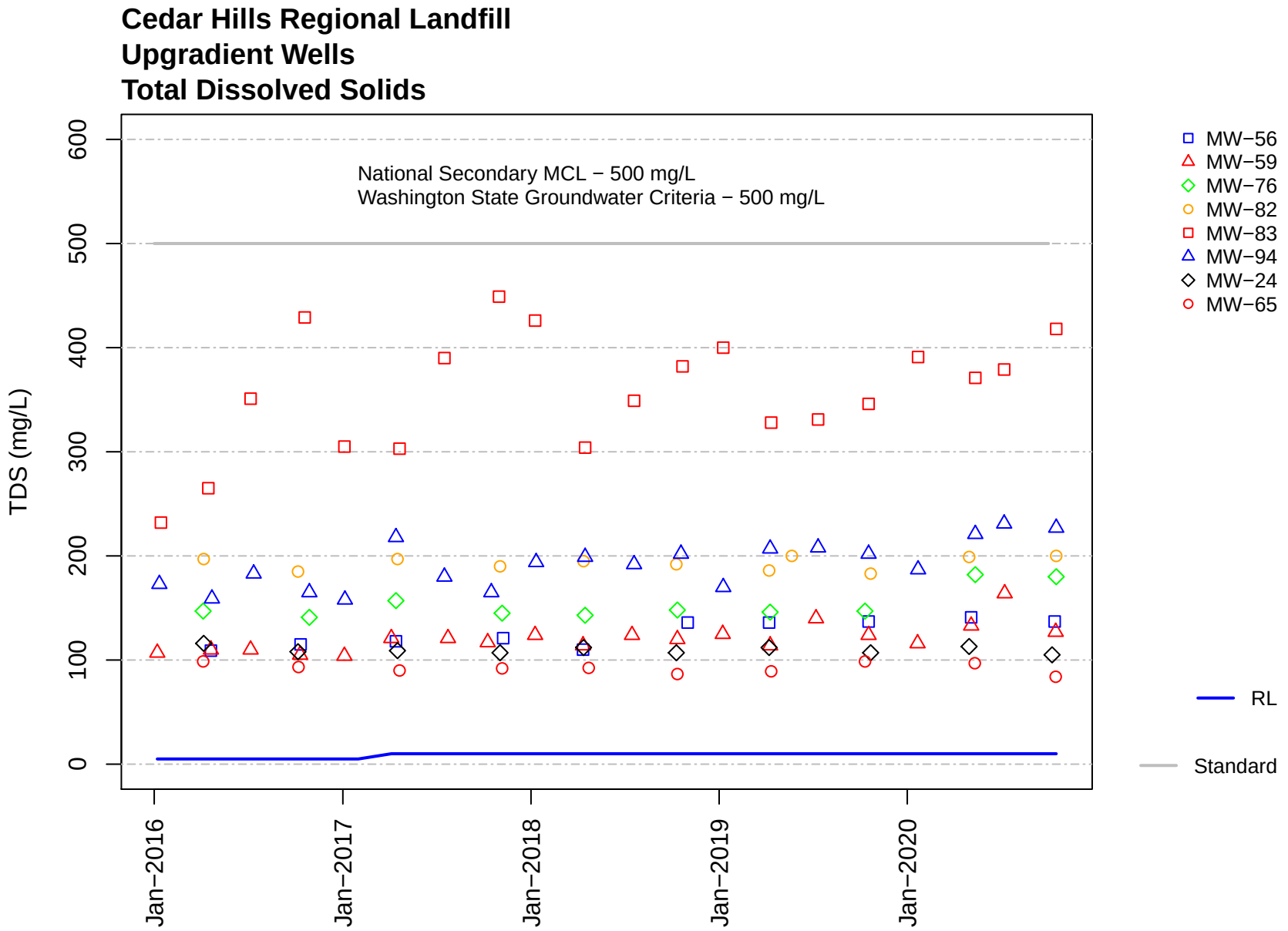

Cedar Hills Regional Landfill
Downgradient Wells
Nitrate
National Primary MCL − 10 mg/L
Washington State Groundwater Criteria − 10 mg/L
Nitrate−N (mg/L)
0
2
4
6
8
10
12
Jan−2016
Jan−2017
Jan−2018
Jan−2019
Jan−2020
MW−74R
MW−75
MW−87
MW−85
MW−86
MW−88
MW−89
RL
Standard

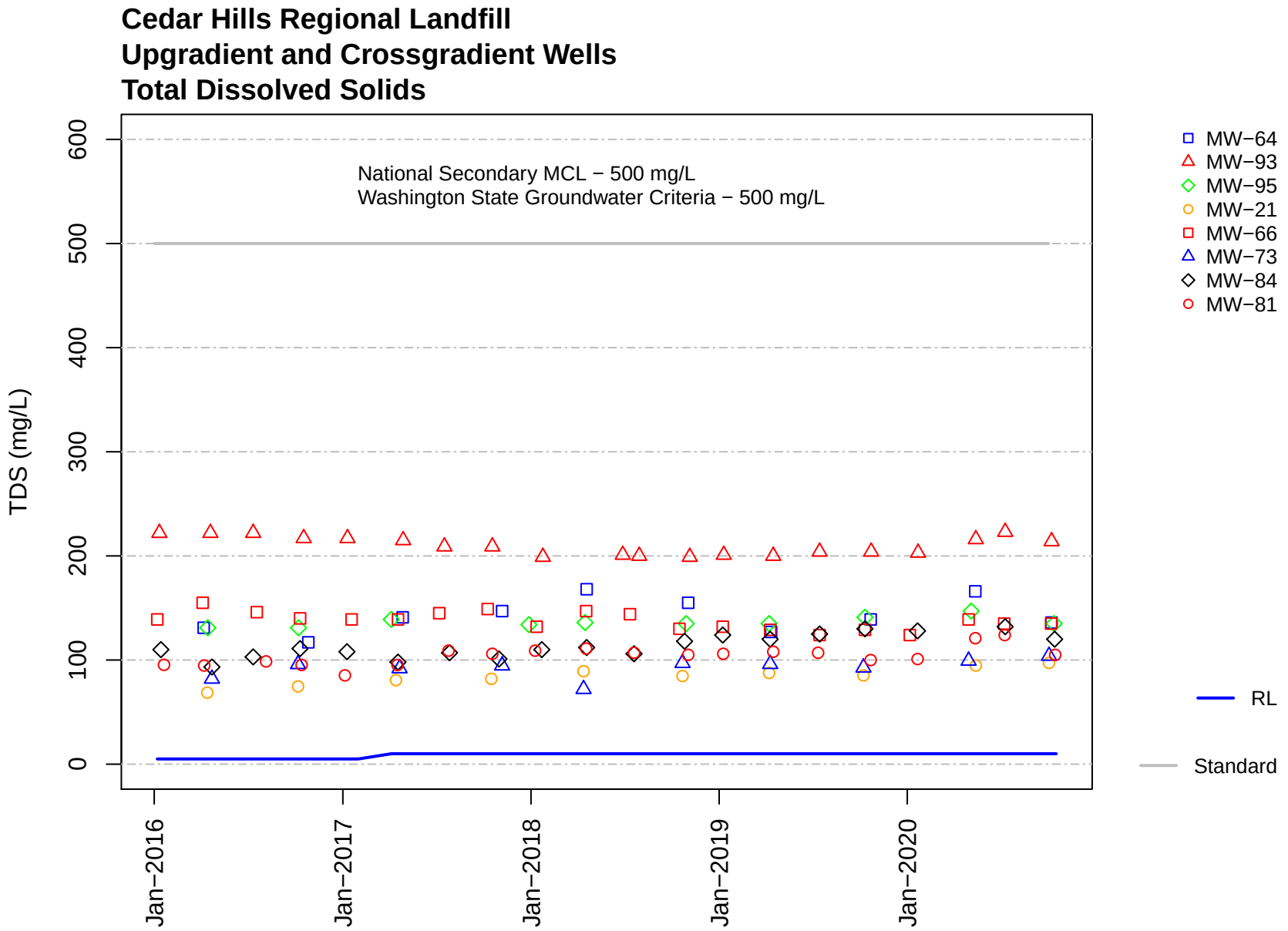

Cedar Hills Regional Landfill
Upgradient Wells
Sulfate
Sulfate (mg/L)
0
50
100
150
200
250
300
National Secondary MCL − 250 mg/L
Washington State Groundwater Criteria − 250 mg/L
Jan−2016
Jan−2017
Jan−2018
Jan−2019
Jan−2020
MW−56
MW−59
MW−76
MW−82
MW−83
MW−94
MW−24
MW−65
RL
Standard

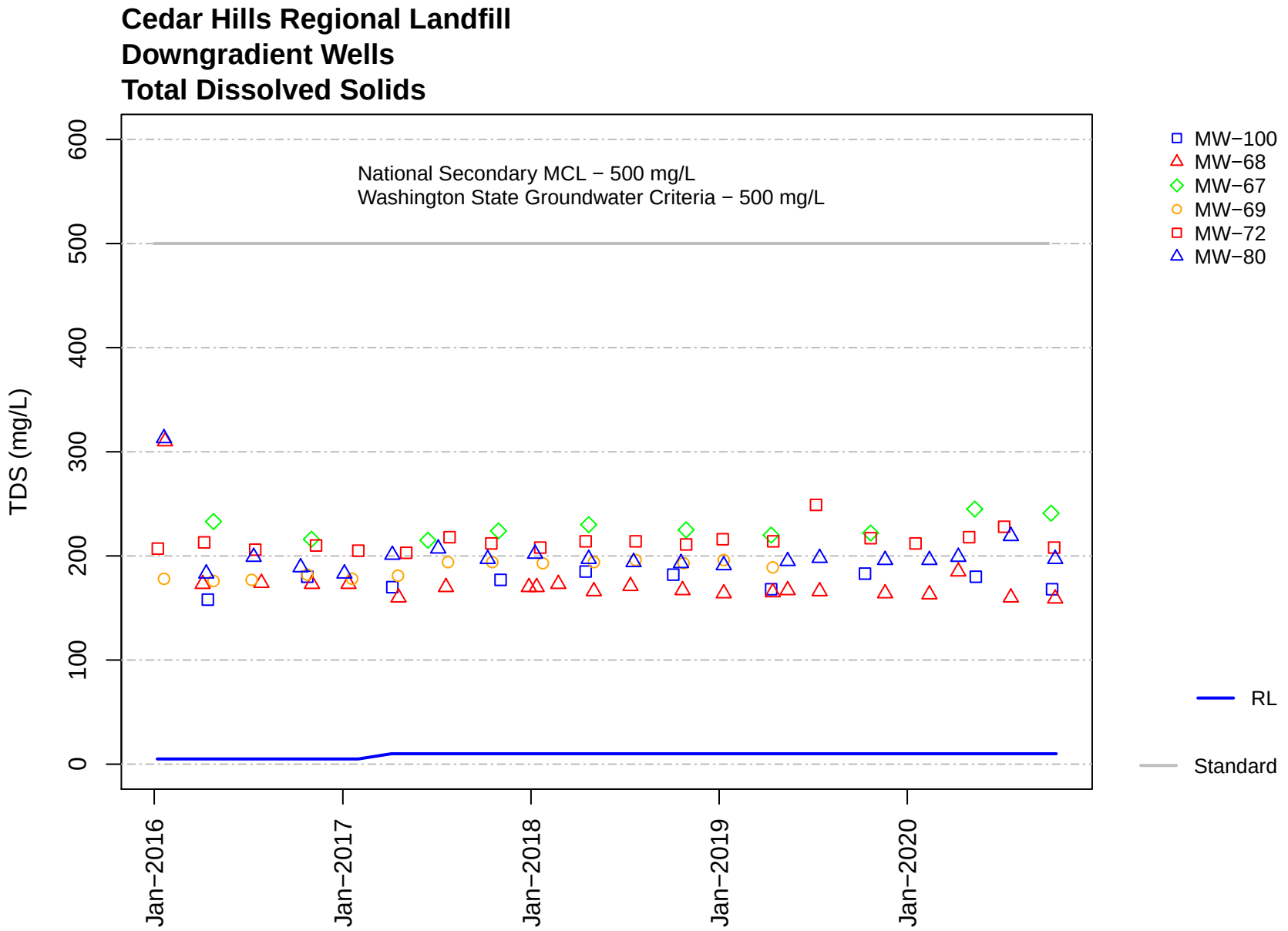

Cedar Hills Regional Landfill
Upgradient and Crossgradient Wells
Sulfate
Sulfate (mg/L)
0
50
100
150
200
250
300
National Secondary MCL − 250 mg/L
Washington State Groundwater Criteria − 250 mg/L
Jan−2016
Jan−2017
Jan−2018
Jan−2019
Jan−2020
MW−64
MW−93
MW−95
MW−21
MW−66
MW−73
MW−84
MW−81
RL
Standard

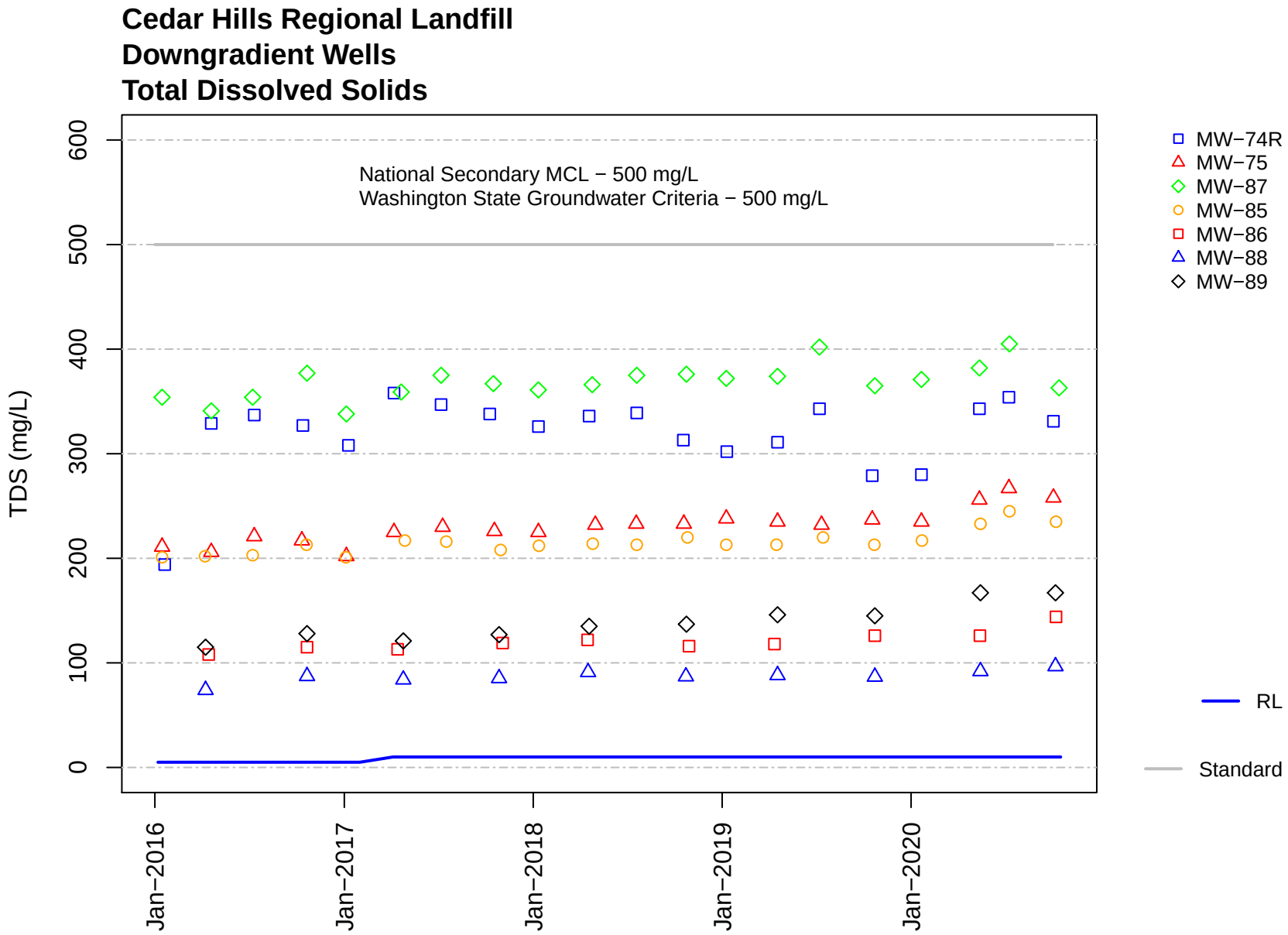

Cedar Hills Regional Landfill
Downgradient Wells
Sulfate
Sulfate (mg/L)
0
50
100
150
200
250
300
National Secondary MCL − 250 mg/L
Washington State Groundwater Criteria − 250 mg/L
Jan−2016
Jan−2017
Jan−2018
Jan−2019
Jan−2020
MW−100
MW−68
MW−67
MW−69
MW−72
MW−80
RL
Standard

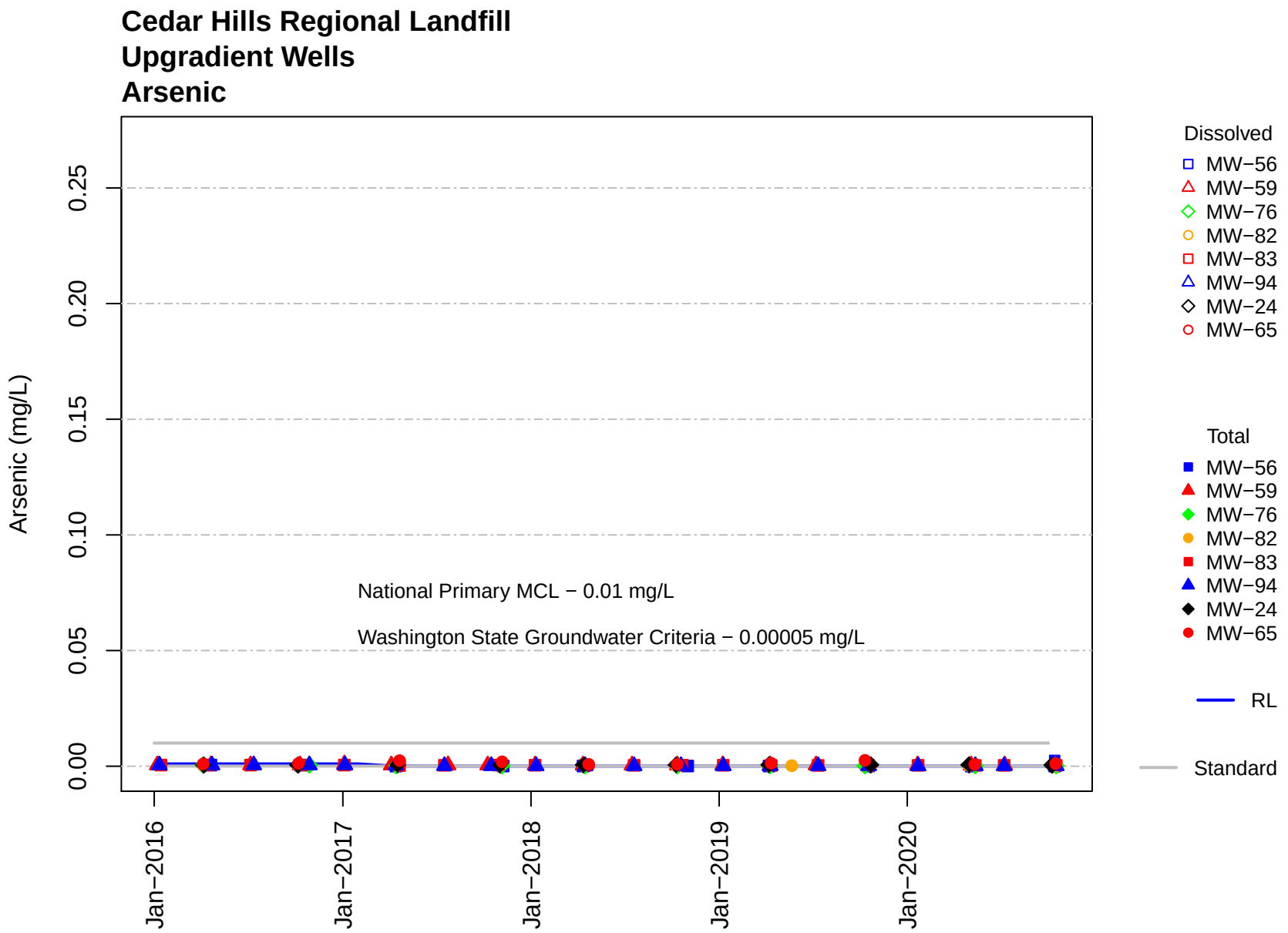

Cedar Hills Regional Landfill
Downgradient Wells
Sulfate
Sulfate (mg/L)
0
50
100
150
200
250
300
National Secondary MCL − 250 mg/L
Washington State Groundwater Criteria − 250 mg/L
Jan−2016
Jan−2017
Jan−2018
Jan−2019
Jan−2020
MW−74R
MW−75
MW−87
MW−85
MW−86
MW−88
MW−89
RL
Standard

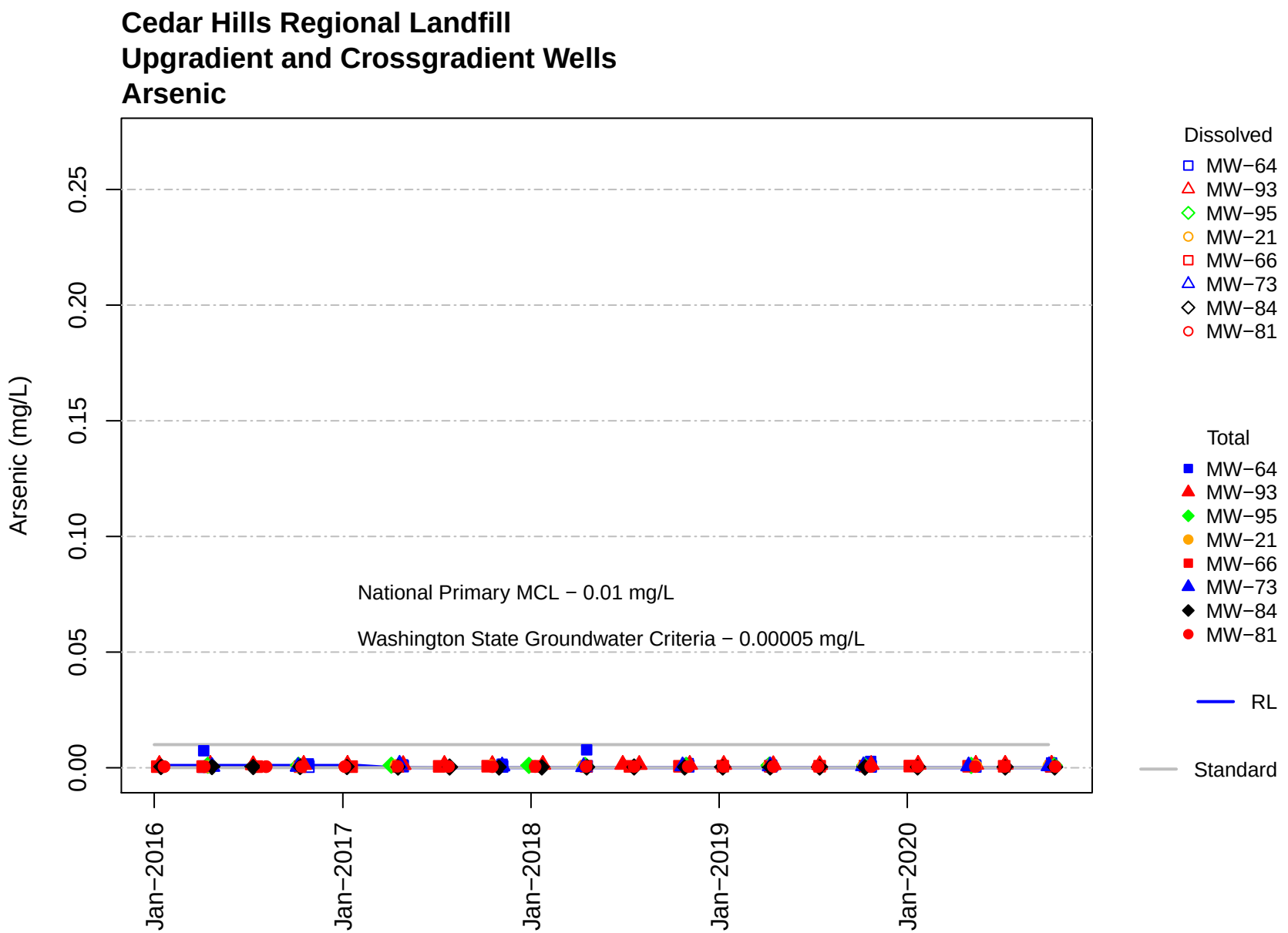

Cedar Hills Regional Landfill
Upgradient Wells
Total Dissolved Solids
National Secondary MCL − 500 mg/L
Washington State Groundwater Criteria − 500 mg/L
TDS (mg/L)
0
100
200
300
400
500
600
Jan−2016
Jan−2017
Jan−2018
Jan−2019
Jan−2020
MW−56
MW−59
MW−76
MW−82
MW−83
MW−94
MW−24
MW−65
RL
Standard

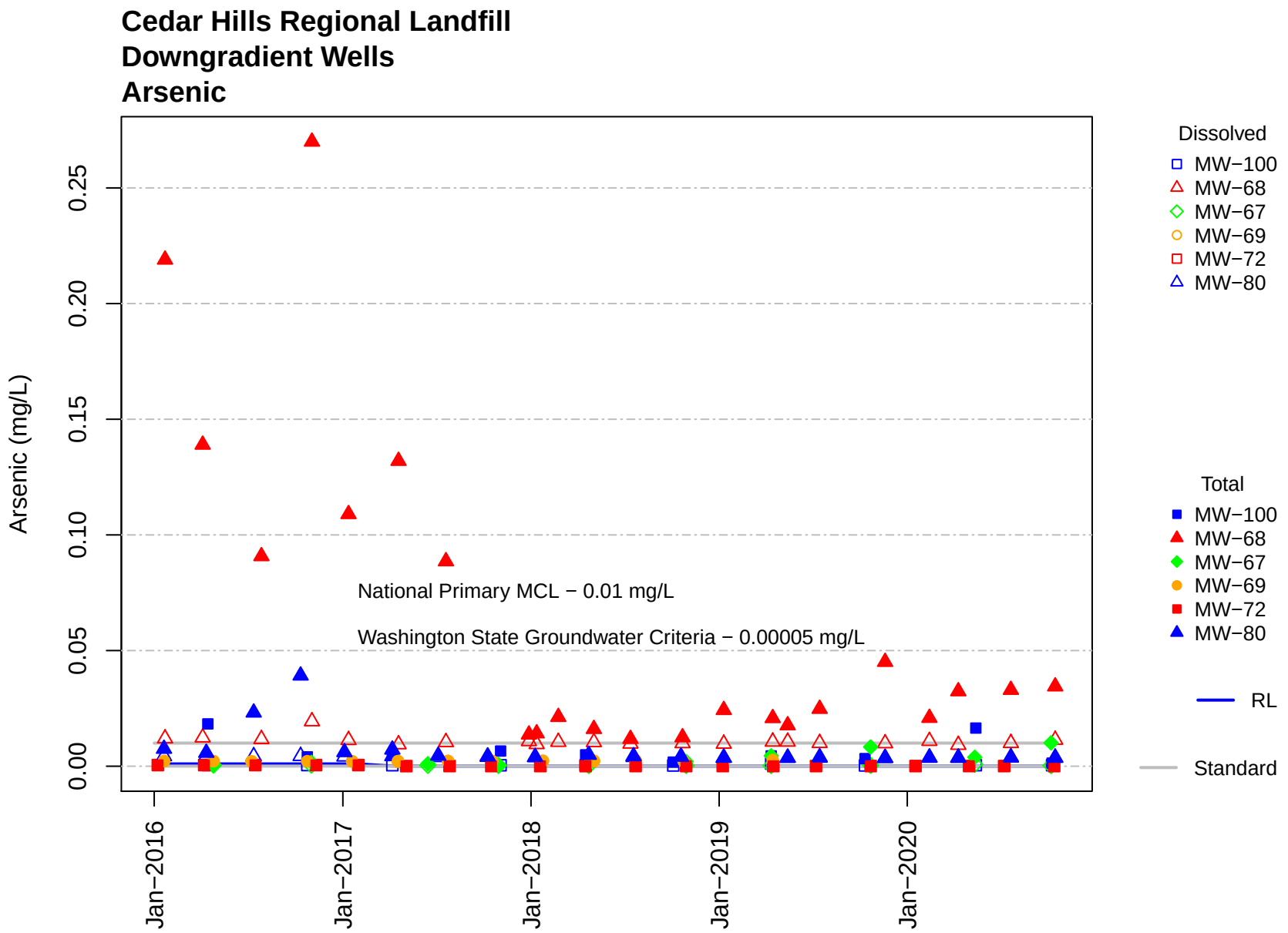

Cedar Hills Regional Landfill
Upgradient and Crossgradient Wells
Total Dissolved Solids
National Secondary MCL − 500 mg/L
Washington State Groundwater Criteria − 500 mg/L
TDS (mg/L)
0
100
200
300
400
500
600
Jan−2016
Jan−2017
Jan−2018
Jan−2019
Jan−2020
MW−64
MW−93
MW−95
MW−21
MW−66
MW−73
MW−84
MW−81
RL
Standard

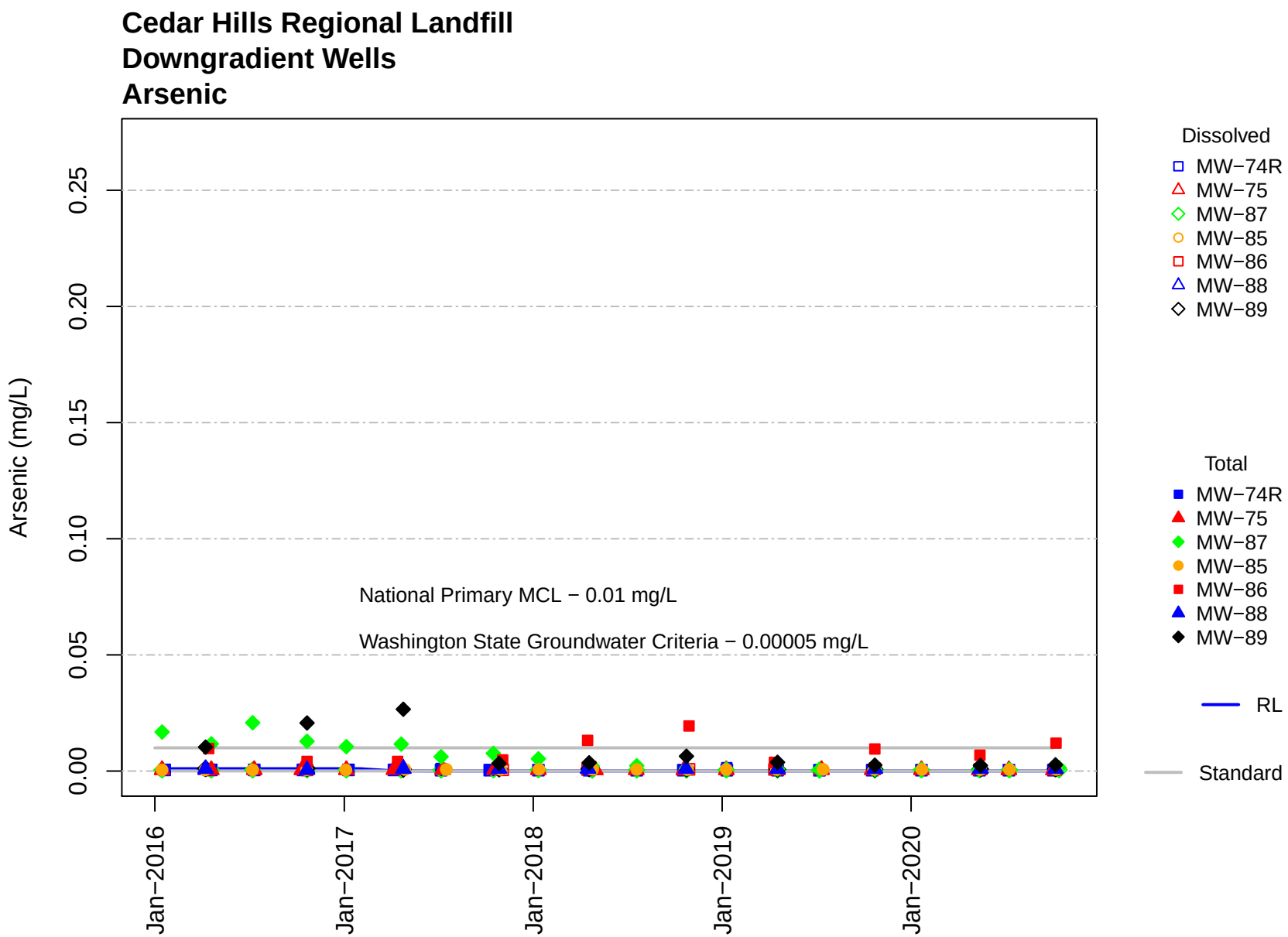

Cedar Hills Regional Landfill
Downgradient Wells
Total Dissolved Solids
National Secondary MCL − 500 mg/L
Washington State Groundwater Criteria − 500 mg/L
TDS (mg/L)
0
100
200
300
400
500
600
Jan−2016
Jan−2017
Jan−2018
Jan−2019
Jan−2020
MW−100
MW−68
MW−67
MW−69
MW−72
MW−80
RL
Standard

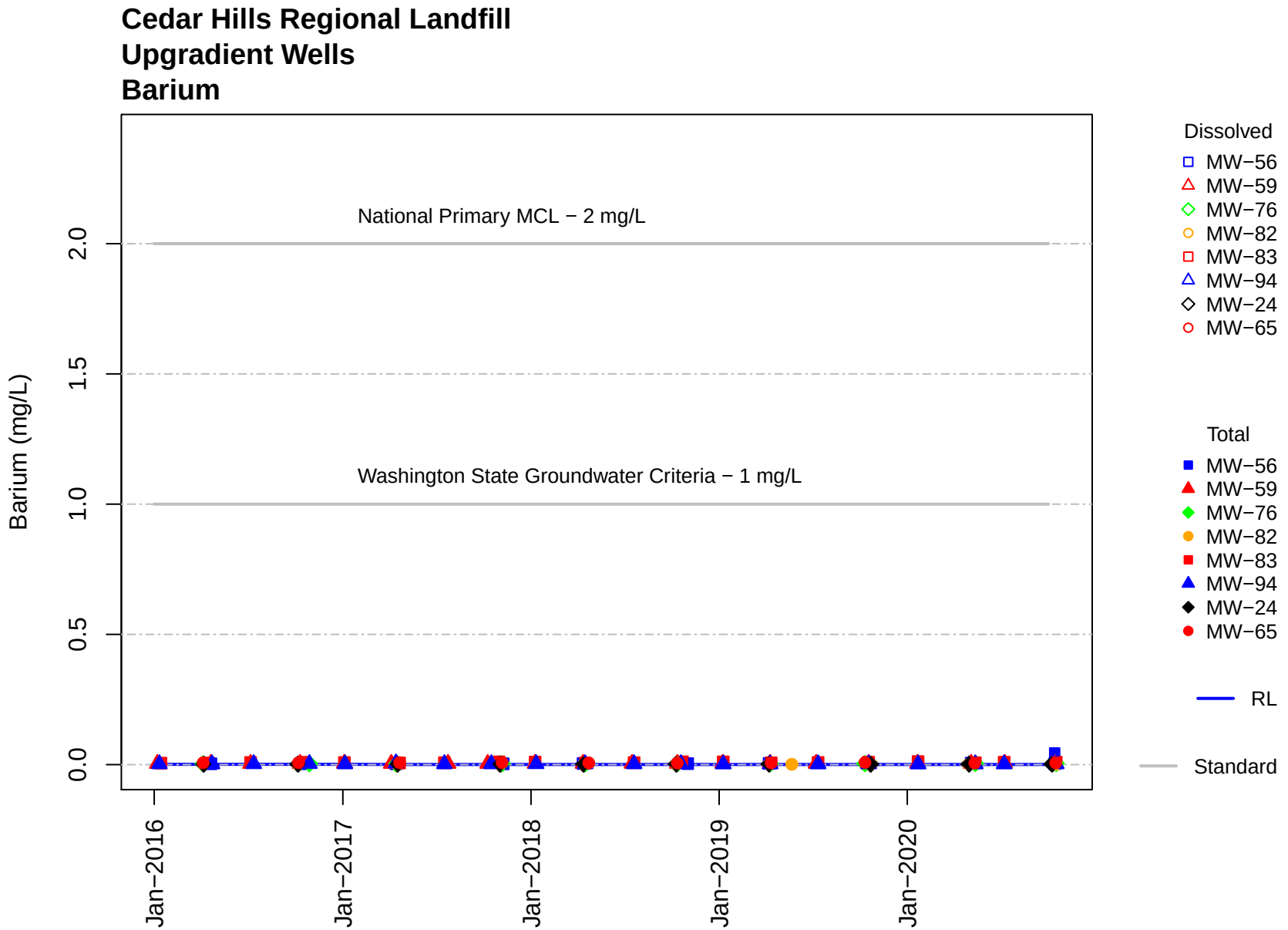

Cedar Hills Regional Landfill
Downgradient Wells
Total Dissolved Solids
National Secondary MCL − 500 mg/L
Washington State Groundwater Criteria − 500 mg/L
TDS (mg/L)
0
100
200
300
400
500
600
Jan−2016
Jan−2017
Jan−2018
Jan−2019
Jan−2020
MW−74R
MW−75
MW−87
MW−85
MW−86
MW−88
MW−89
RL
Standard

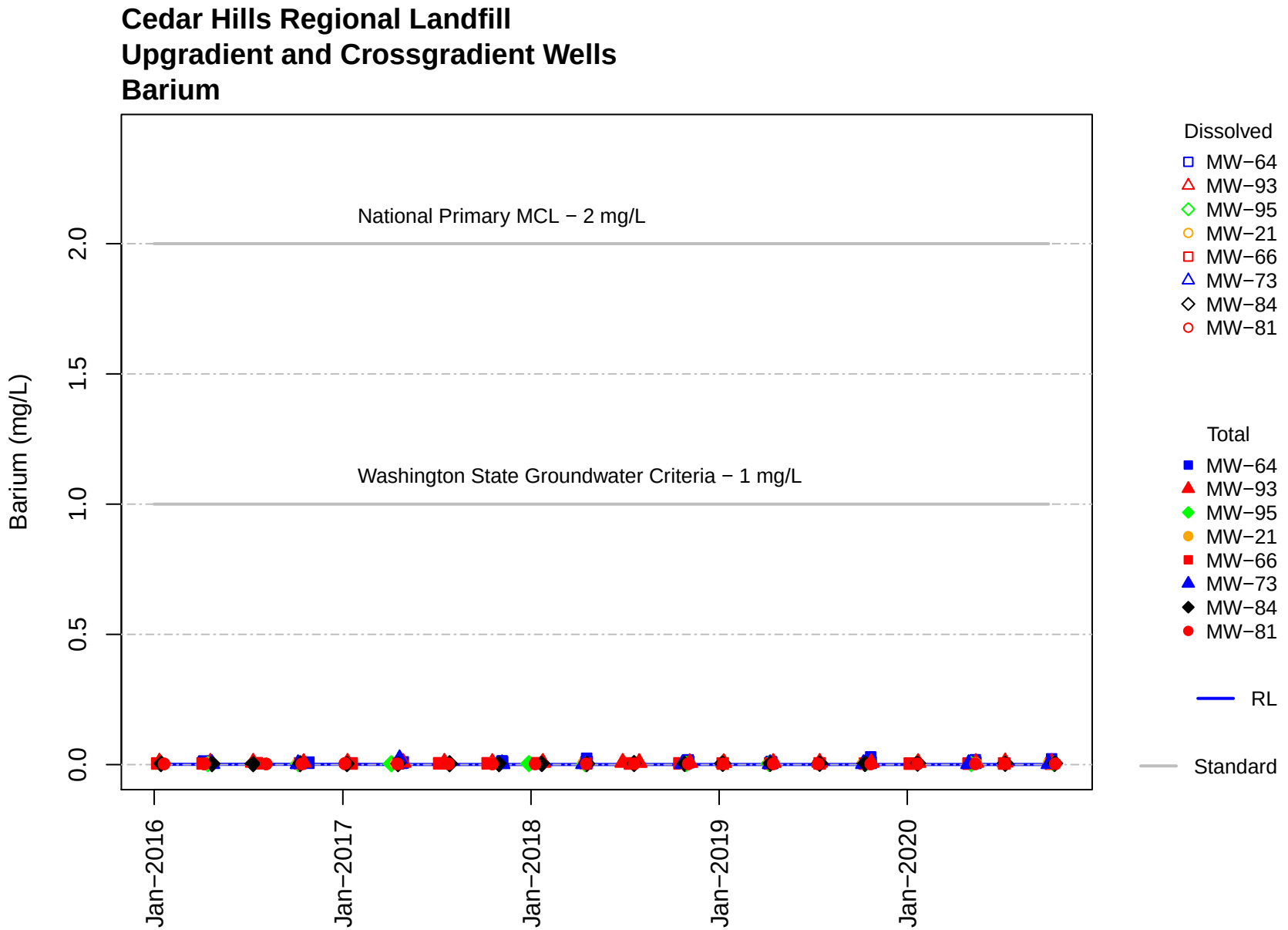

Cedar Hills Regional Landfill
Upgradient Wells
Arsenic
Arsenic (mg/L)
0.00
0.05
0.10
0.15
0.20
0.25
National Primary MCL − 0.01 mg/L
Washington State Groundwater Criteria − 0.00005 mg/L
Jan−2016
Jan−2017
Jan−2018
Jan−2019
Jan−2020
Dissolved
MW−56
MW−59
MW−76
MW−82
MW−83
MW−94
MW−24
MW−65
Total
MW−56
MW−59
MW−76
MW−82
MW−83
MW−94
MW−24
MW−65
RL
Standard

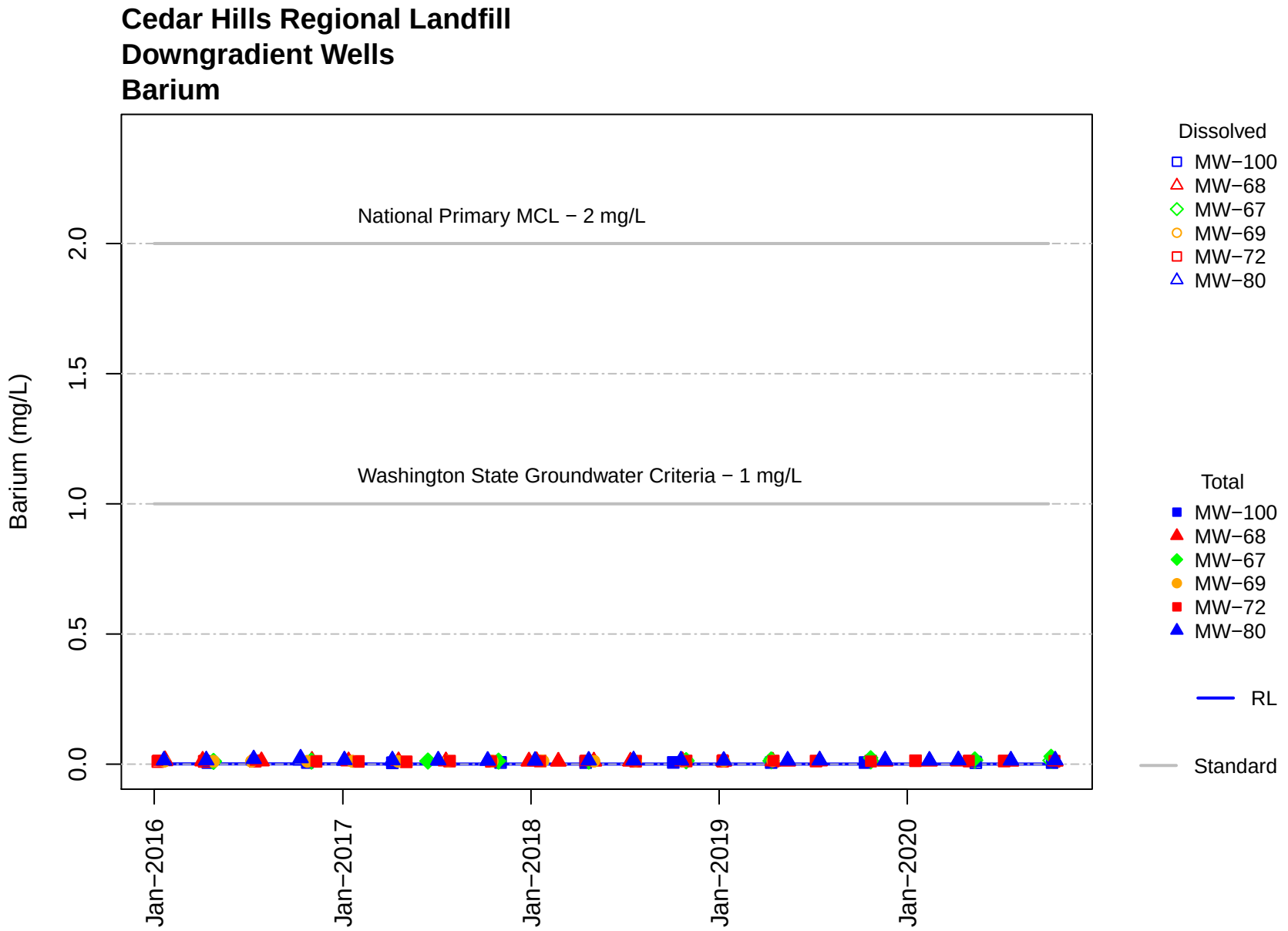

Cedar Hills Regional Landfill
Upgradient and Crossgradient Wells
Arsenic
Arsenic (mg/L)
0.00
0.05
0.10
0.15
0.20
0.25
National Primary MCL − 0.01 mg/L
Washington State Groundwater Criteria − 0.00005 mg/L
Jan−2016
Jan−2017
Jan−2018
Jan−2019
Jan−2020
Dissolved
MW−64
MW−93
MW−95
MW−21
MW−66
MW−73
MW−84
MW−81
Total
MW−64
MW−93
MW−95
MW−21
MW−66
MW−73
MW−84
MW−81
RL
Standard

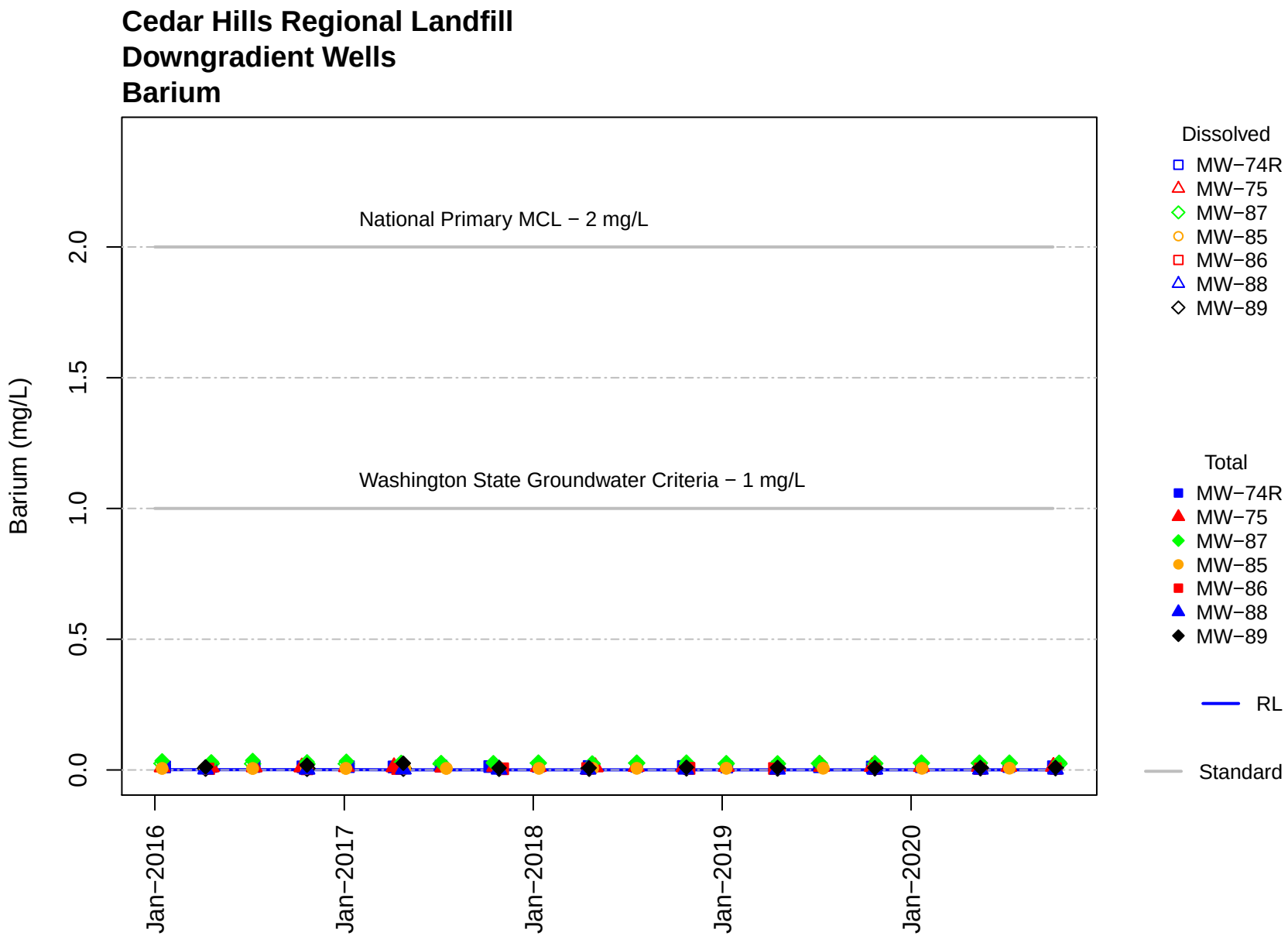

Cedar Hills Regional Landfill
Downgradient Wells
Arsenic
Arsenic (mg/L)
0.00
0.05
0.10
0.15
0.20
0.25
Jan−2016
Jan−2017
Jan−2018
Jan−2019
Jan−2020
National Primary MCL − 0.01 mg/L
Washington State Groundwater Criteria − 0.00005 mg/L
Dissolved
MW−100
MW−68
MW−67
MW−69
MW−72
MW−80
Total
MW−100
MW−68
MW−67
MW−69
MW−72
MW−80
RL
Standard

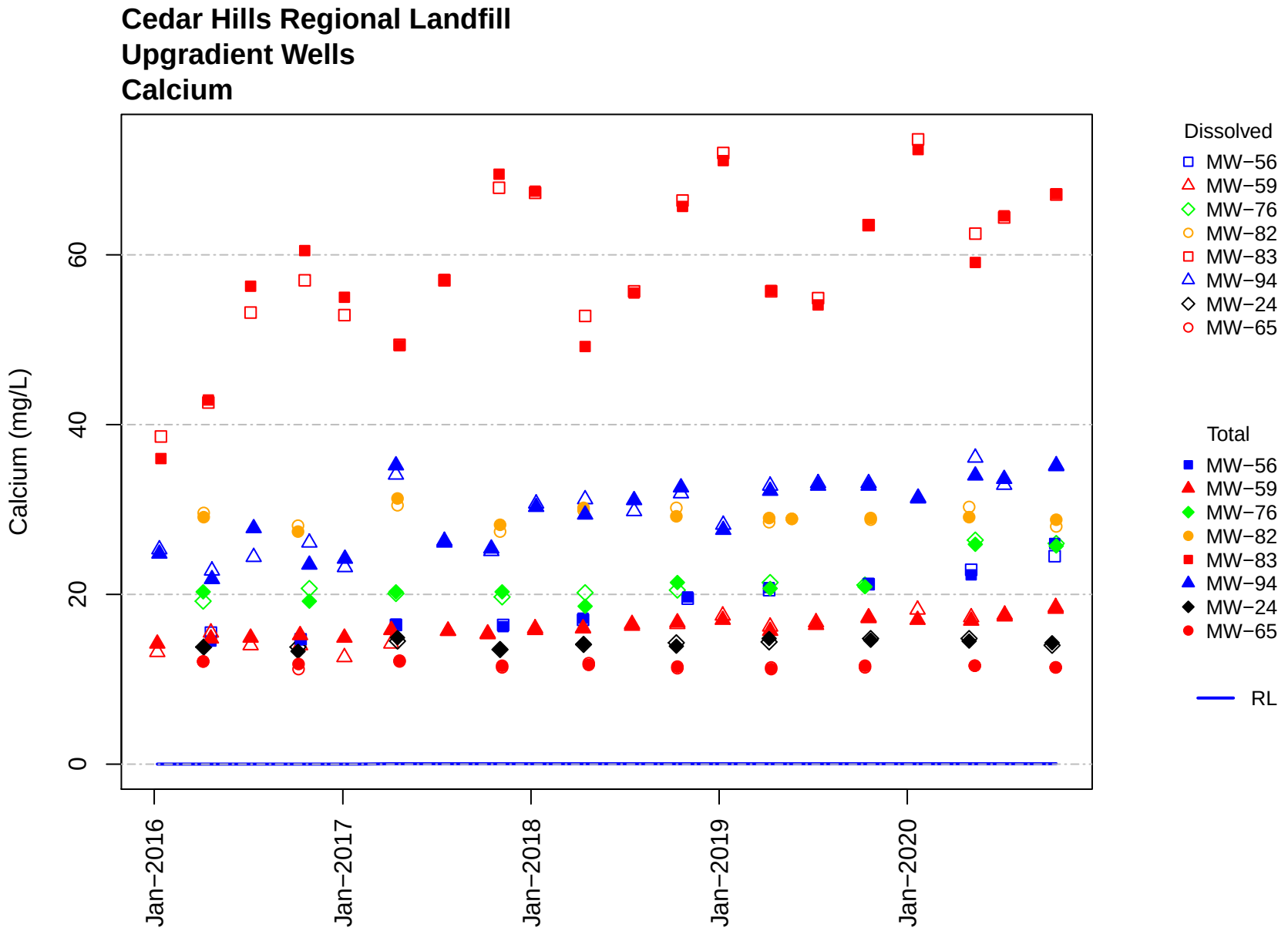

Cedar Hills Regional Landfill
Downgradient Wells
Arsenic
Arsenic (mg/L)
0.00
0.05
0.10
0.15
0.20
0.25
National Primary MCL − 0.01 mg/L
Washington State Groundwater Criteria − 0.00005 mg/L
Jan−2016
Jan−2017
Jan−2018
Jan−2019
Jan−2020
Dissolved
MW−74R
MW−75
MW−87
MW−85
MW−86
MW−88
MW−89
Total
MW−74R
MW−75
MW−87
MW−85
MW−86
MW−88
MW−89
RL
Standard

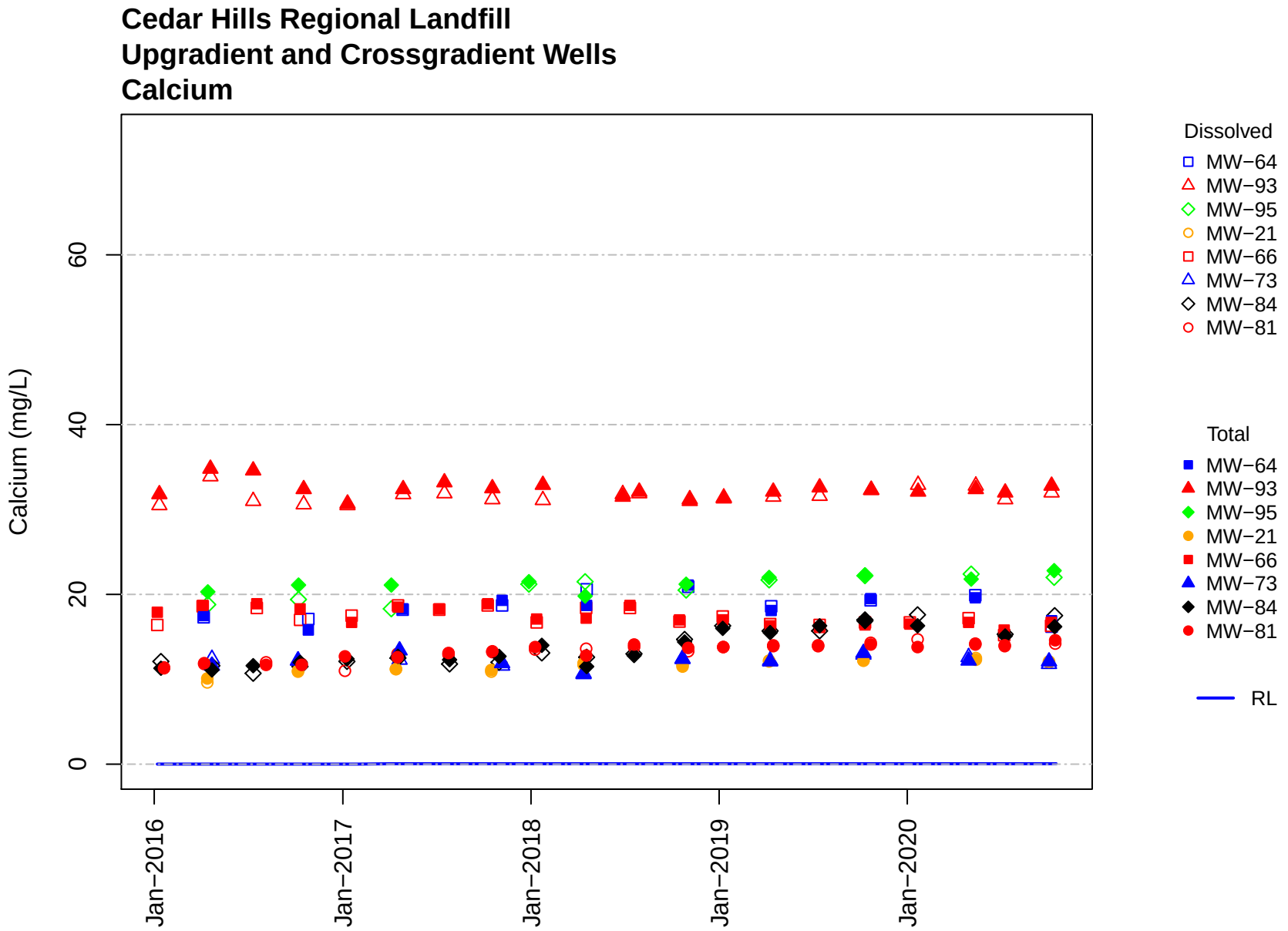

Cedar Hills Regional Landfill
Upgradient Wells
Barium
National Primary MCL − 2 mg/L
Washington State Groundwater Criteria − 1 mg/L
Barium (mg/L)
0.0
0.5
1.0
1.5
2.0
Jan−2016
Jan−2017
Jan−2018
Jan−2019
Jan−2020
Dissolved
MW−56
MW−59
MW−76
MW−82
MW−83
MW−94
MW−24
MW−65
Total
MW−56
MW−59
MW−76
MW−82
MW−83
MW−94
MW−24
MW−65
RL
Standard

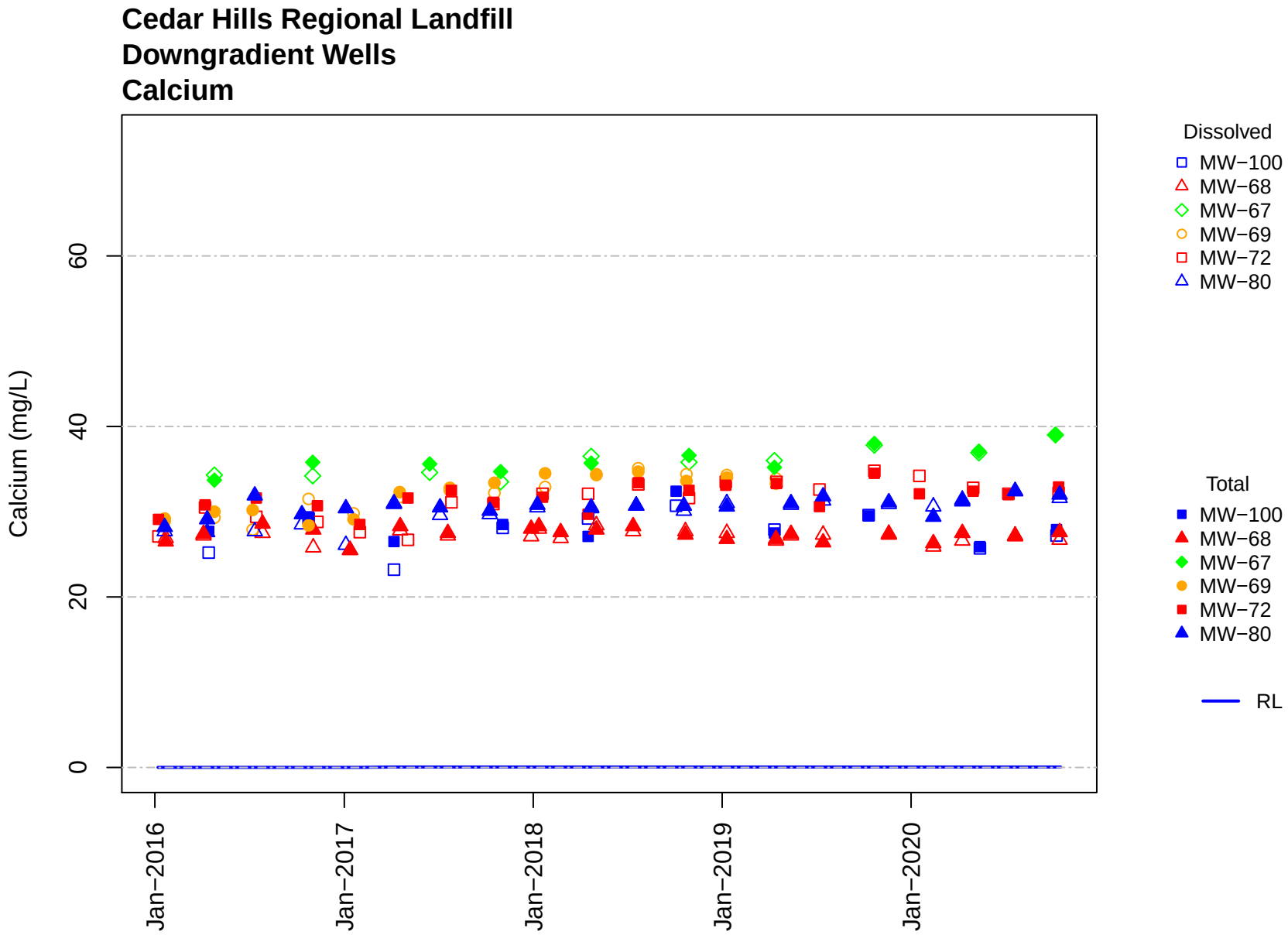

Cedar Hills Regional Landfill
Upgradient and Crossgradient Wells
Barium
National Primary MCL − 2 mg/L
Washington State Groundwater Criteria − 1 mg/L
Barium (mg/L)
0.0
0.5
1.0
1.5
2.0
Jan−2016
Jan−2017
Jan−2018
Jan−2019
Jan−2020
Dissolved
MW−64
MW−93
MW−95
MW−21
MW−66
MW−73
MW−84
MW−81
Total
MW−64
MW−93
MW−95
MW−21
MW−66
MW−73
MW−84
MW−81
RL
Standard

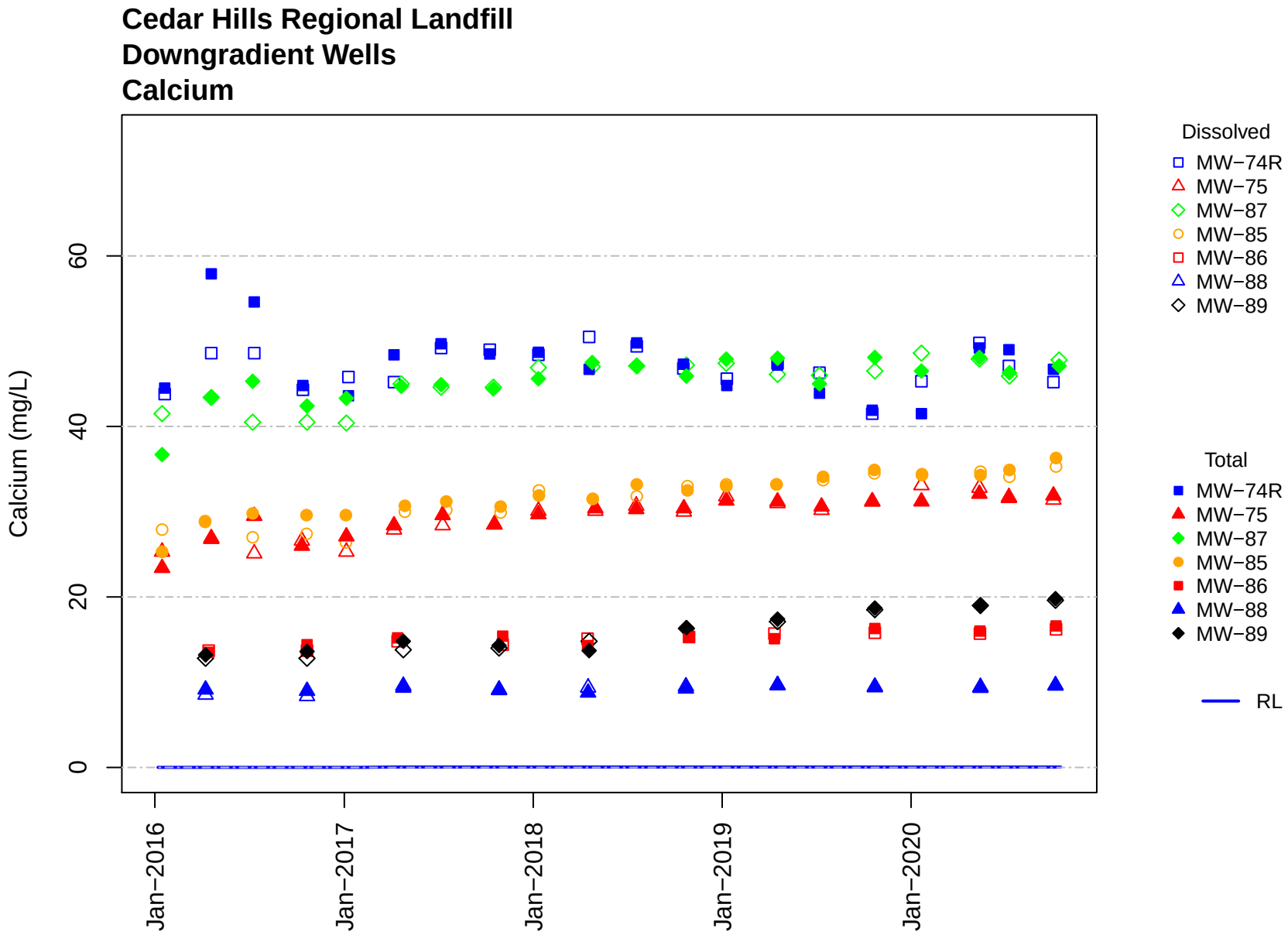

Cedar Hills Regional Landfill
Downgradient Wells
Barium
National Primary MCL − 2 mg/L
Washington State Groundwater Criteria − 1 mg/L
Barium (mg/L)
0.0
0.5
1.0
1.5
2.0
Jan−2016
Jan−2017
Jan−2018
Jan−2019
Jan−2020
Dissolved
MW−100
MW−68
MW−67
MW−69
MW−72
MW−80
Total
MW−100
MW−68
MW−67
MW−69
MW−72
MW−80
RL
Standard

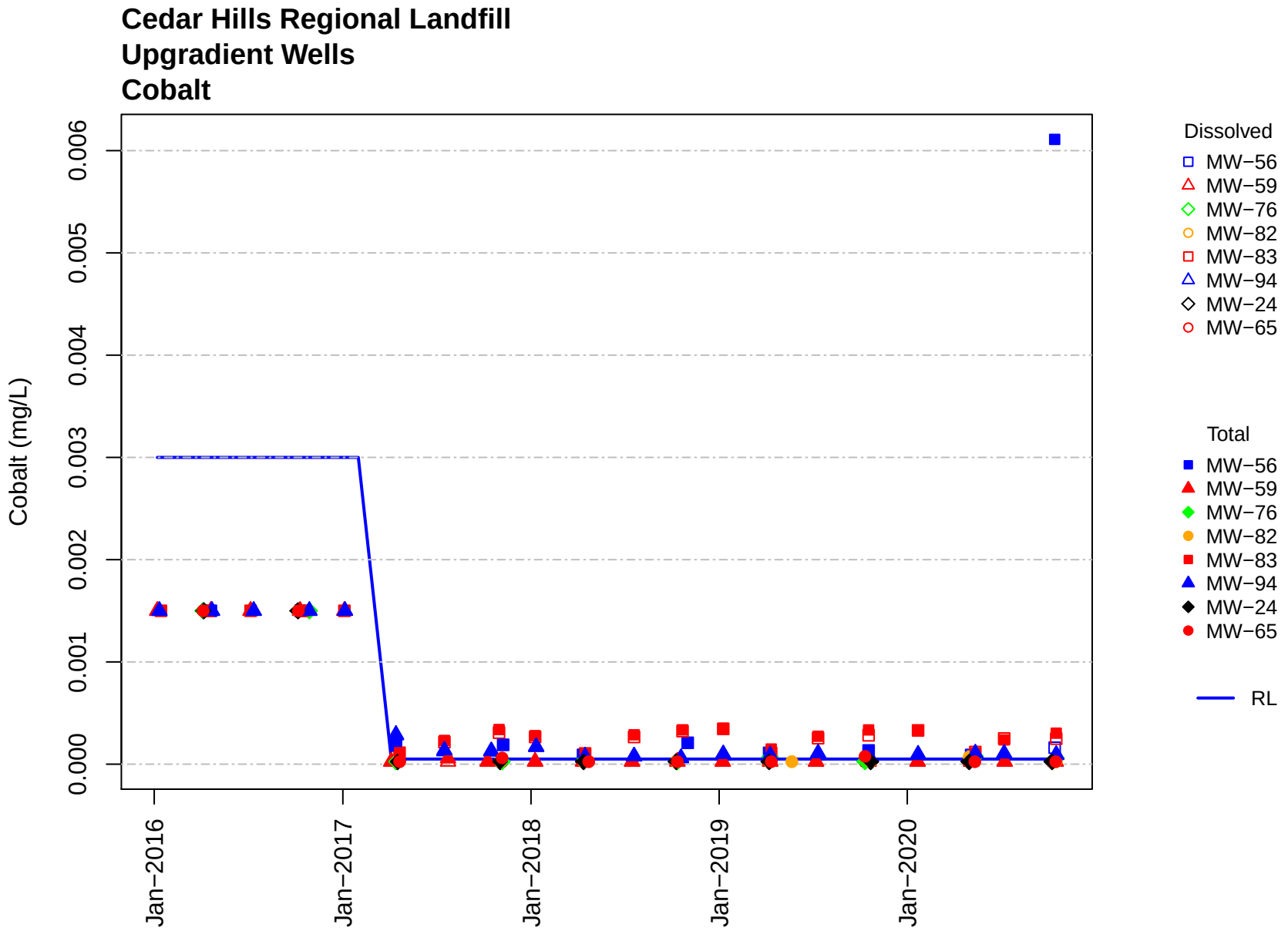

Cedar Hills Regional Landfill
Downgradient Wells
Barium
National Primary MCL − 2 mg/L
Washington State Groundwater Criteria − 1 mg/L
Barium (mg/L)
0.0
0.5
1.0
1.5
2.0
Jan−2016
Jan−2017
Jan−2018
Jan−2019
Jan−2020
Dissolved
MW−74R
MW−75
MW−87
MW−85
MW−86
MW−88
MW−89
Total
MW−74R
MW−75
MW−87
MW−85
MW−86
MW−88
MW−89
RL
Standard

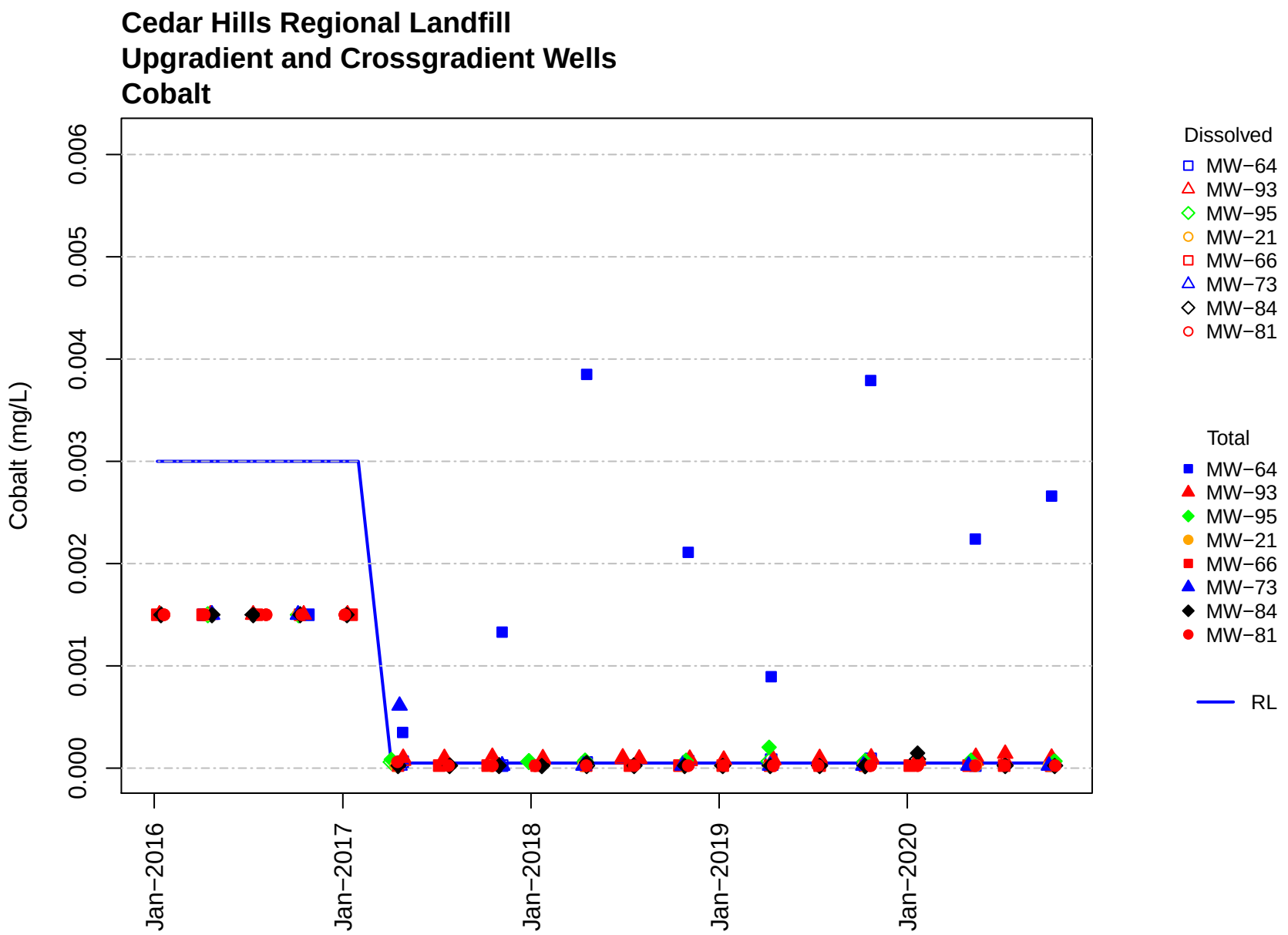

Cedar Hills Regional Landfill
Upgradient Wells
Calcium
Calcium (mg/L)
0
20
40
60
Jan−2016
Jan−2017
Jan−2018
Jan−2019
Jan−2020
Dissolved
MW−56
MW−59
MW−76
MW−82
MW−83
MW−94
MW−24
MW−65
Total
MW−56
MW−59
MW−76
MW−82
MW−83
MW−94
MW−24
MW−65
RL

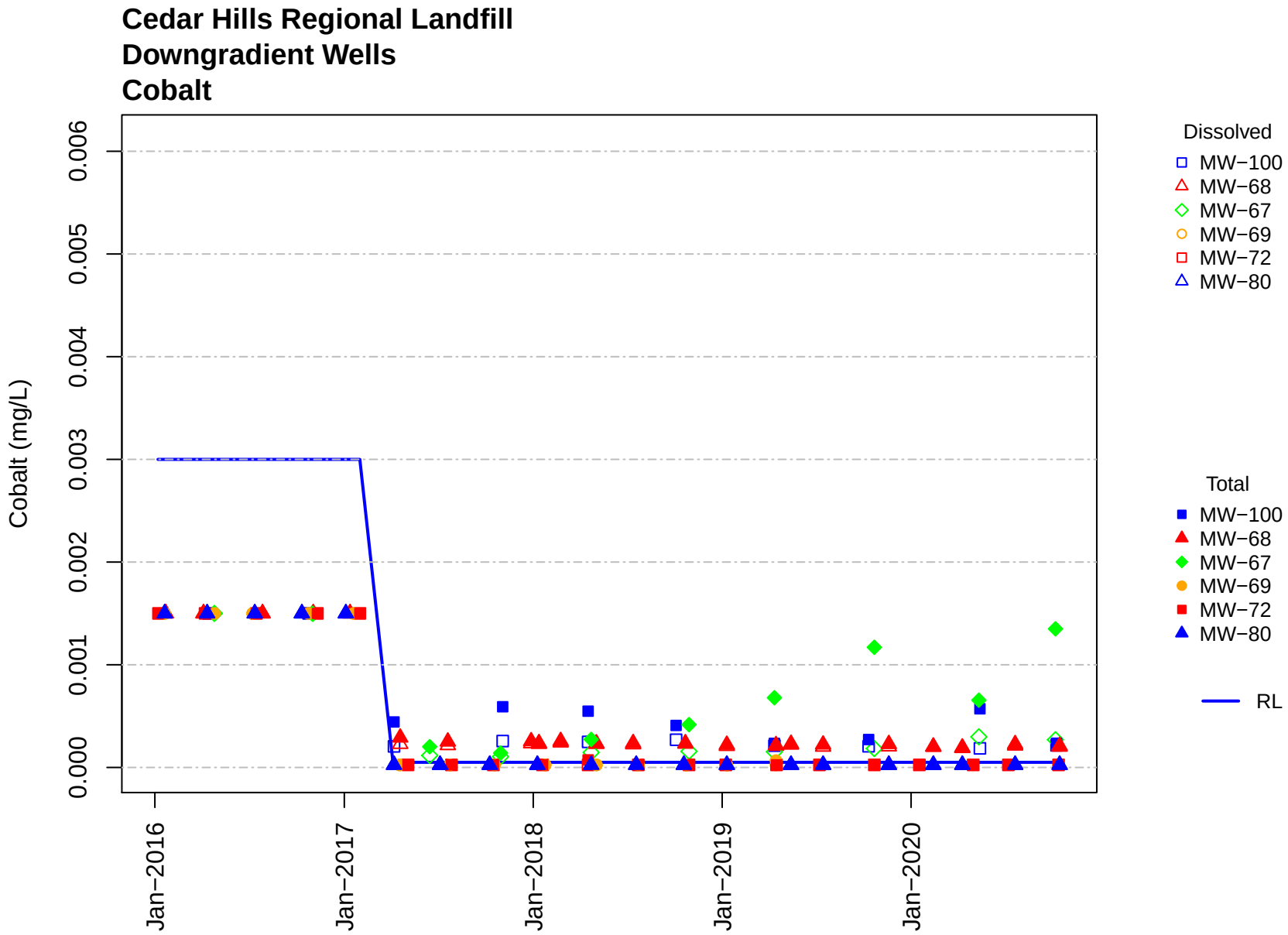

Cedar Hills Regional Landfill
Upgradient and Crossgradient Wells
Calcium
Calcium (mg/L)
0
20
40
60
Jan−2016
Jan−2017
Jan−2018
Jan−2019
Jan−2020
Dissolved
MW−64
MW−93
MW−95
MW−21
MW−66
MW−73
MW−84
MW−81
Total
MW−64
MW−93
MW−95
MW−21
MW−66
MW−73
MW−84
MW−81
RL

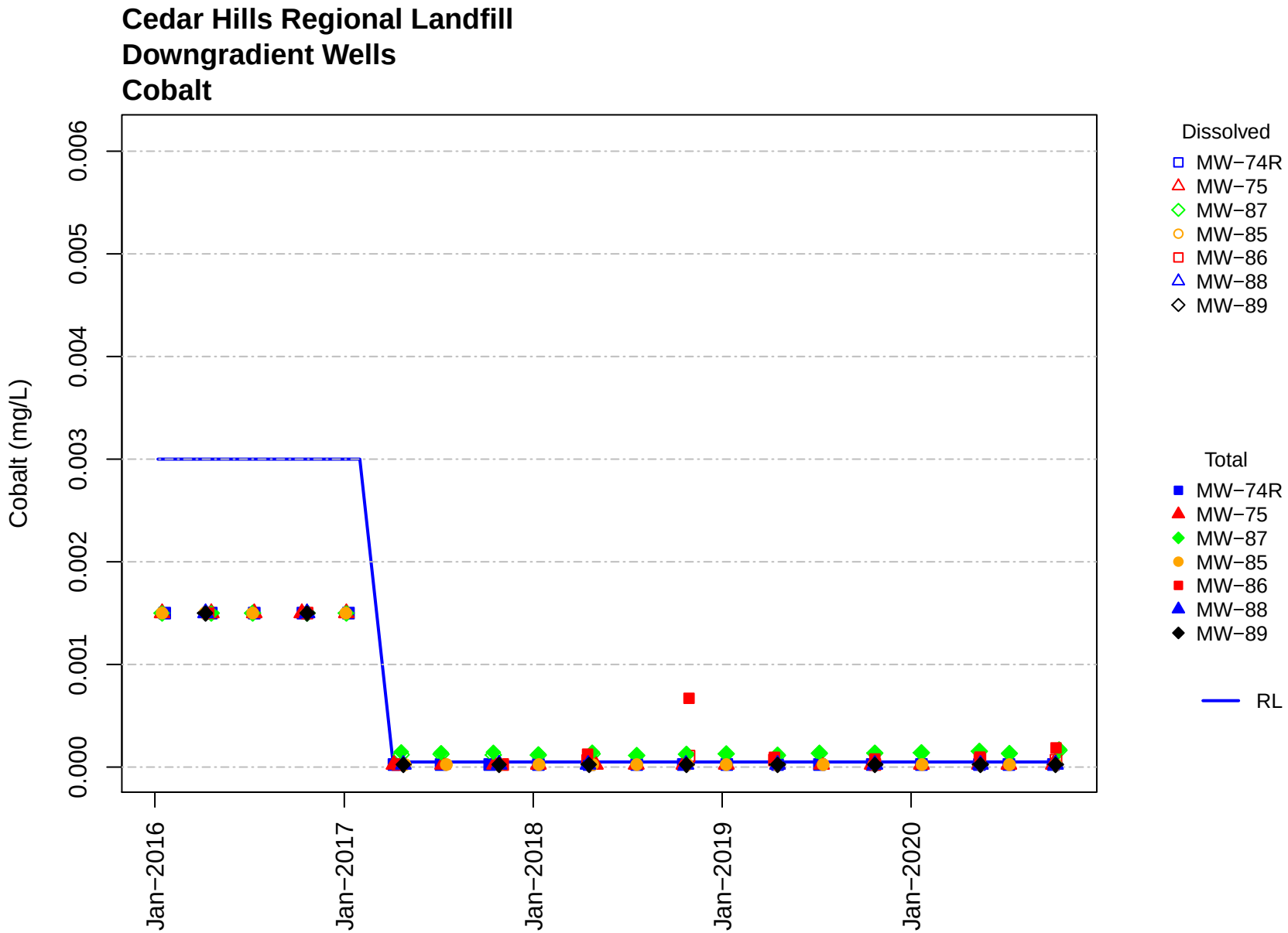

Cedar Hills Regional Landfill
Downgradient Wells
Calcium
Calcium (mg/L)
0
20
40
60
Jan−2016
Jan−2017
Jan−2018
Jan−2019
Jan−2020
Dissolved
MW−100
MW−68
MW−67
MW−69
MW−72
MW−80
Total
MW−100
MW−68
MW−67
MW−69
MW−72
MW−80
RL

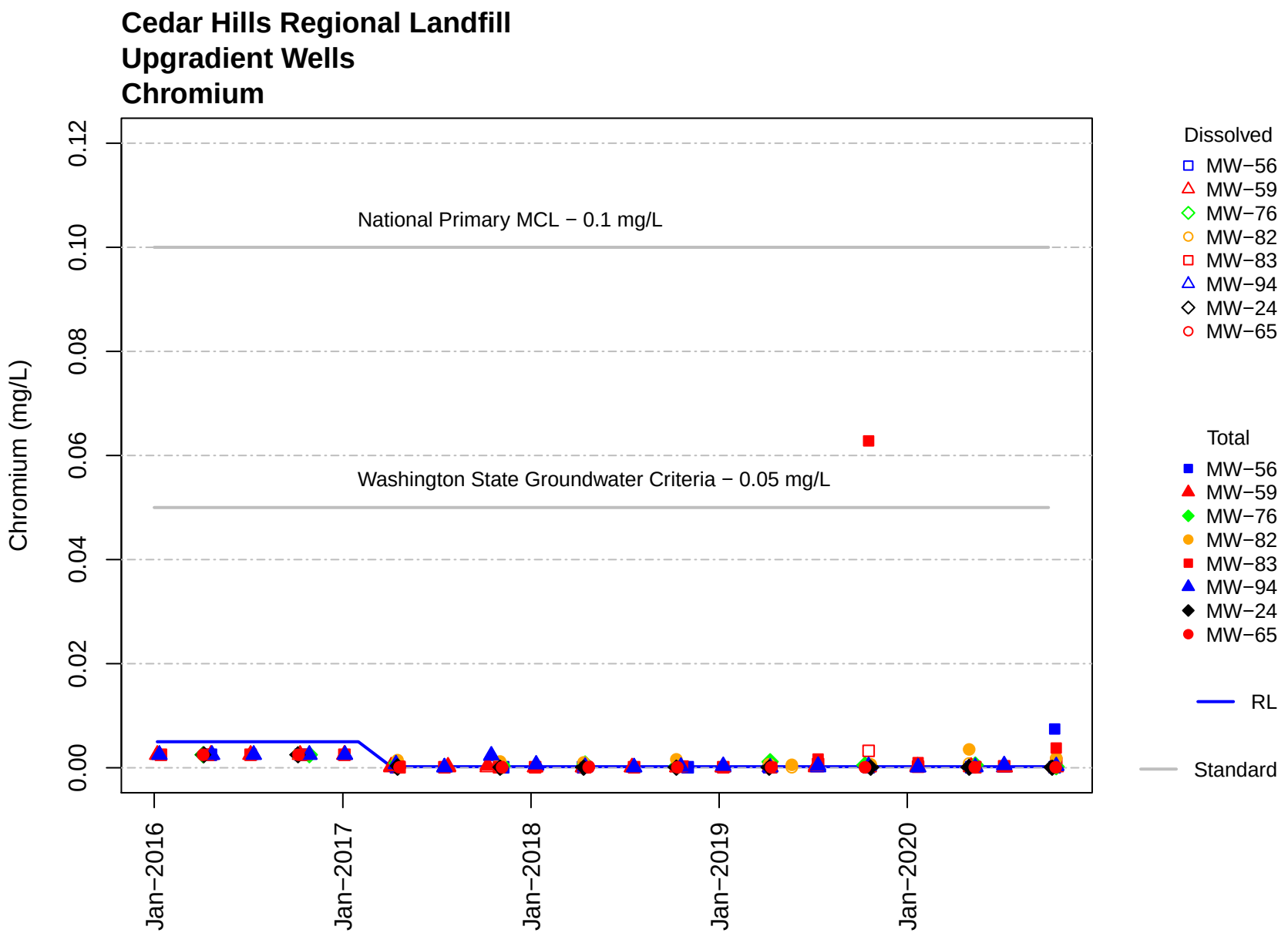

Cedar Hills Regional Landfill
Downgradient Wells
Calcium
Calcium (mg/L)
0
20
40
60
Jan−2016
Jan−2017
Jan−2018
Jan−2019
Jan−2020
Dissolved
MW−74R
MW−75
MW−87
MW−85
MW−86
MW−88
MW−89
Total
MW−74R
MW−75
MW−87
MW−85
MW−86
MW−88
MW−89
RL

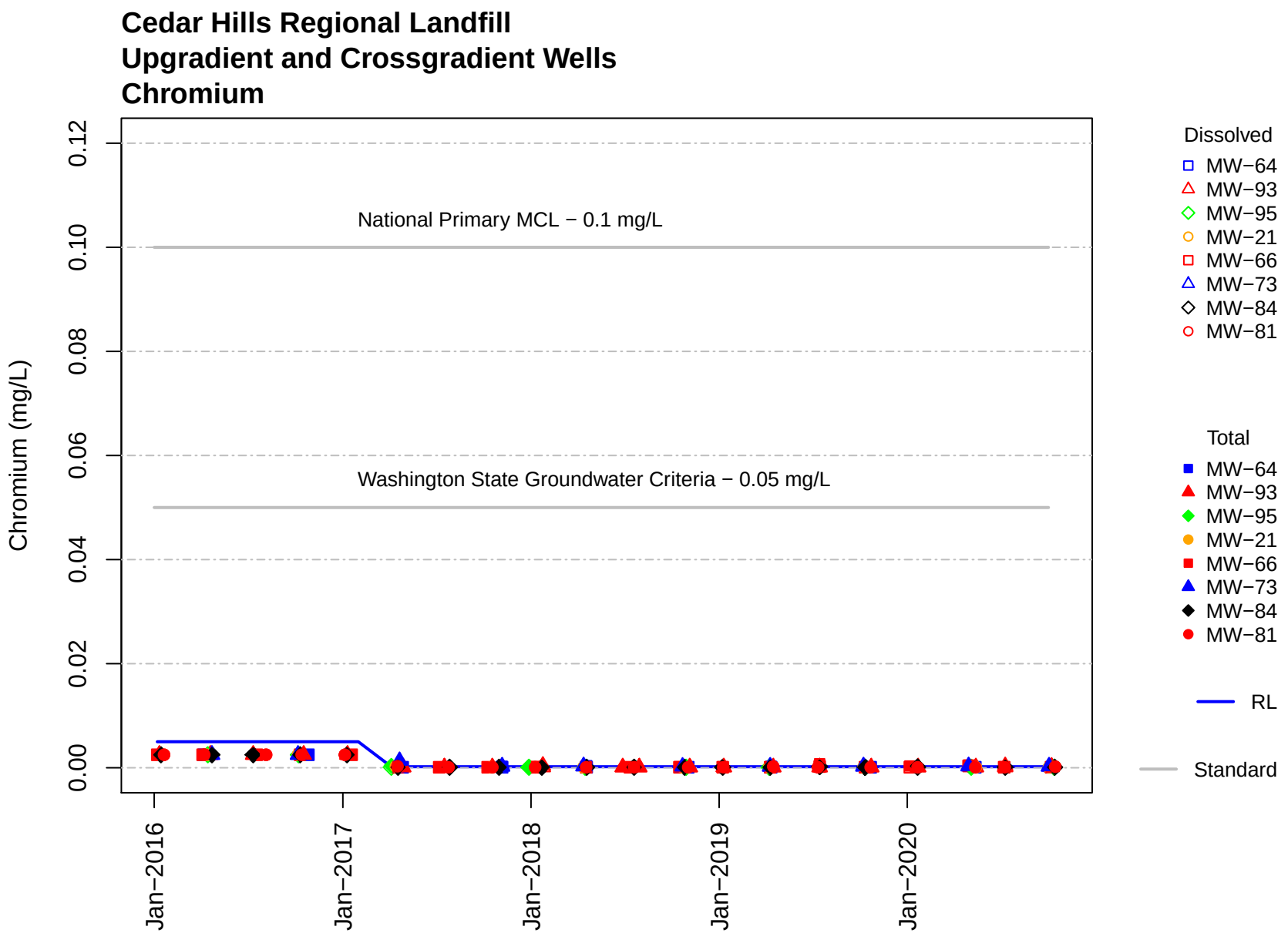

Cedar Hills Regional Landfill
Upgradient Wells
Cobalt
Cobalt (mg/L)
0.000
0.001
0.002
0.003
0.004
0.005
0.006
Jan−2016
Jan−2017
Jan−2018
Jan−2019
Jan−2020
Dissolved
MW−56
MW−59
MW−76
MW−82
MW−83
MW−94
MW−24
MW−65
Total
MW−56
MW−59
MW−76
MW−82
MW−83
MW−94
MW−24
MW−65
RL

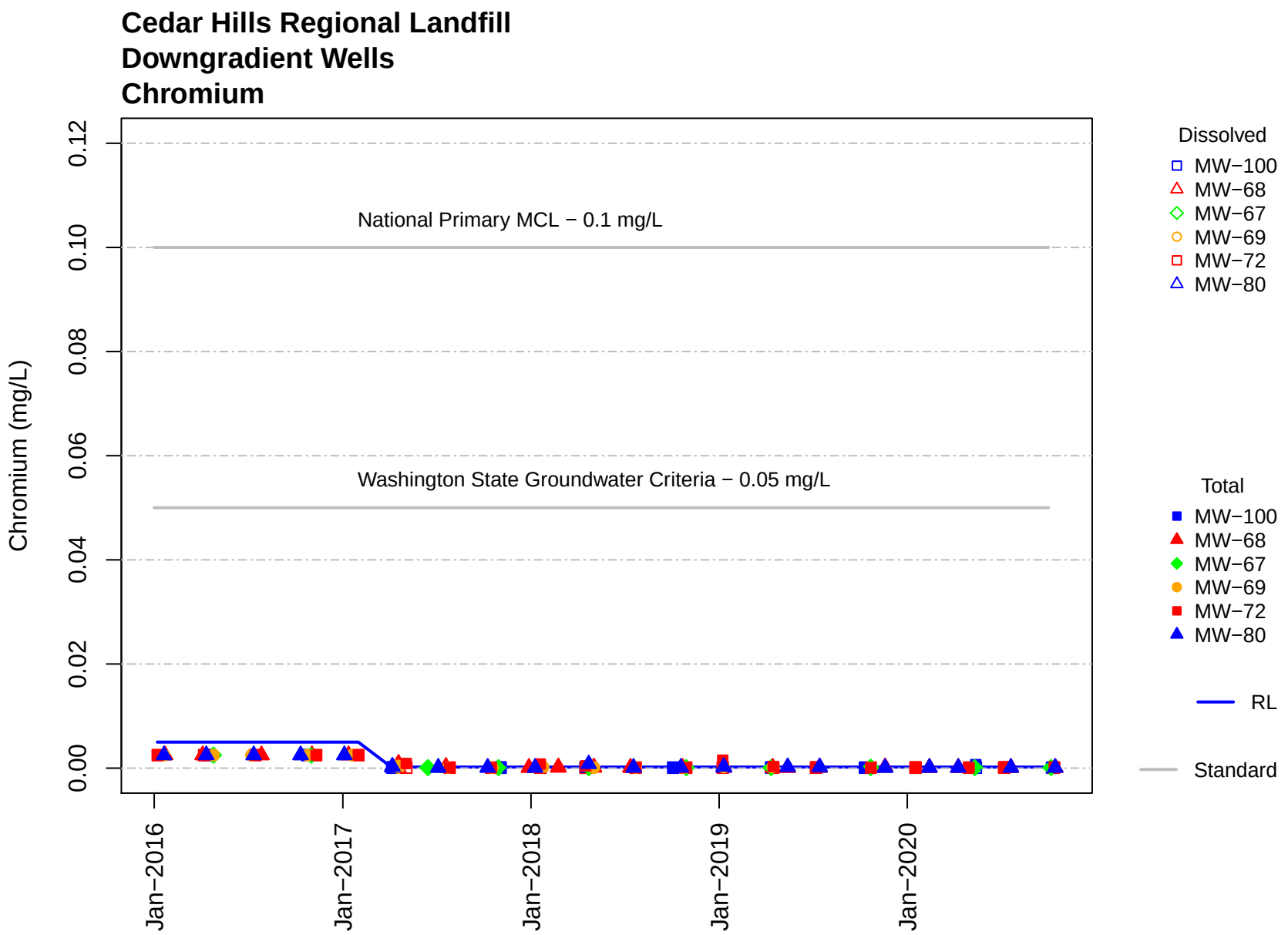

Cedar Hills Regional Landfill
Upgradient and Crossgradient Wells
Cobalt
Cobalt (mg/L)
0.000
0.001
0.002
0.003
0.004
0.005
0.006
Jan−2016
Jan−2017
Jan−2018
Jan−2019
Jan−2020
Dissolved
MW−64
MW−93
MW−95
MW−21
MW−66
MW−73
MW−84
MW−81
Total
MW−64
MW−93
MW−95
MW−21
MW−66
MW−73
MW−84
MW−81
RL

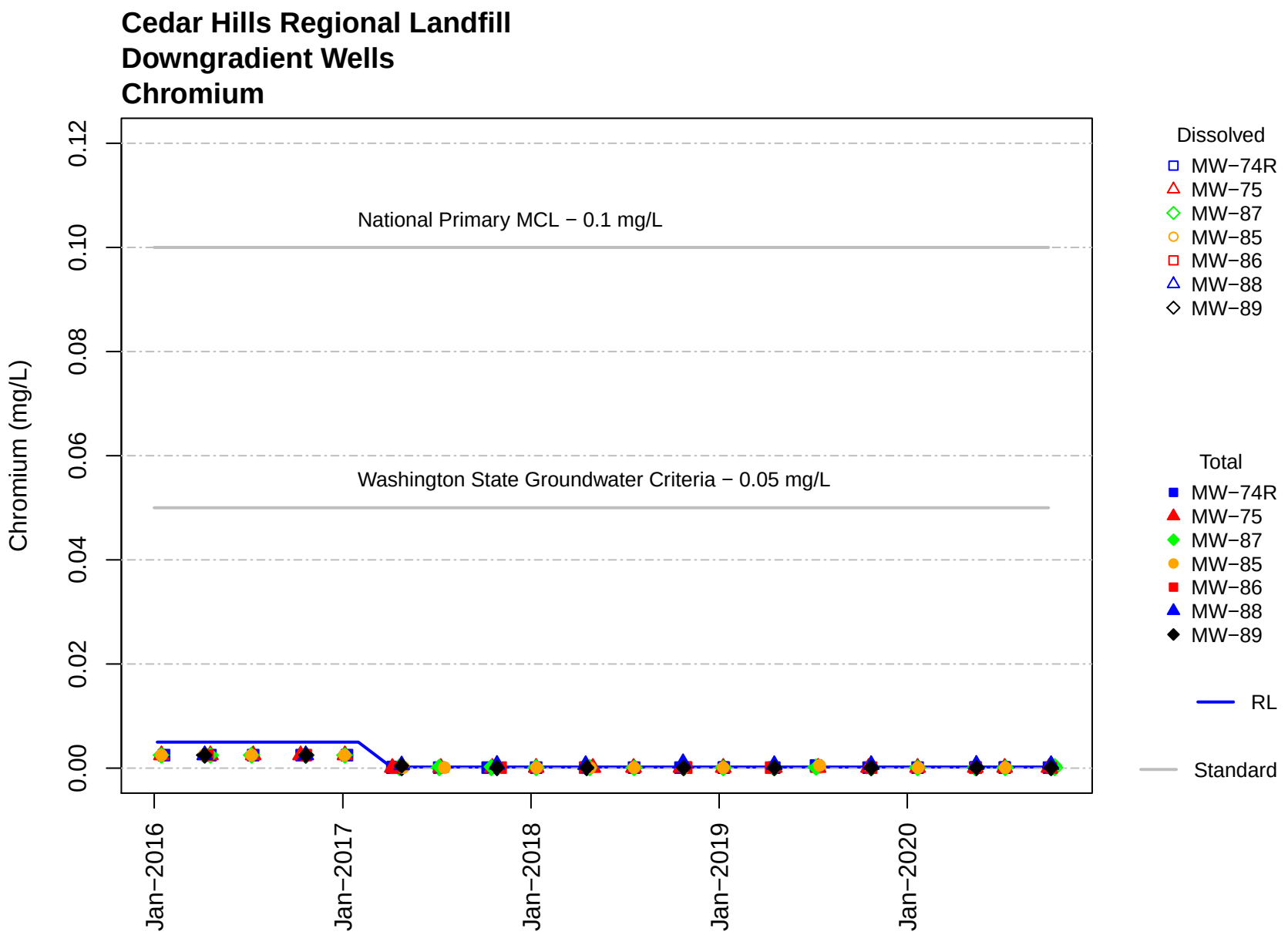

Cedar Hills Regional Landfill
Downgradient Wells
Cobalt
Cobalt (mg/L)
0.000
0.001
0.002
0.003
0.004
0.005
0.006
Jan−2016
Jan−2017
Jan−2018
Jan−2019
Jan−2020
Dissolved
MW−100
MW−68
MW−67
MW−69
MW−72
MW−80
Total
MW−100
MW−68
MW−67
MW−69
MW−72
MW−80
RL

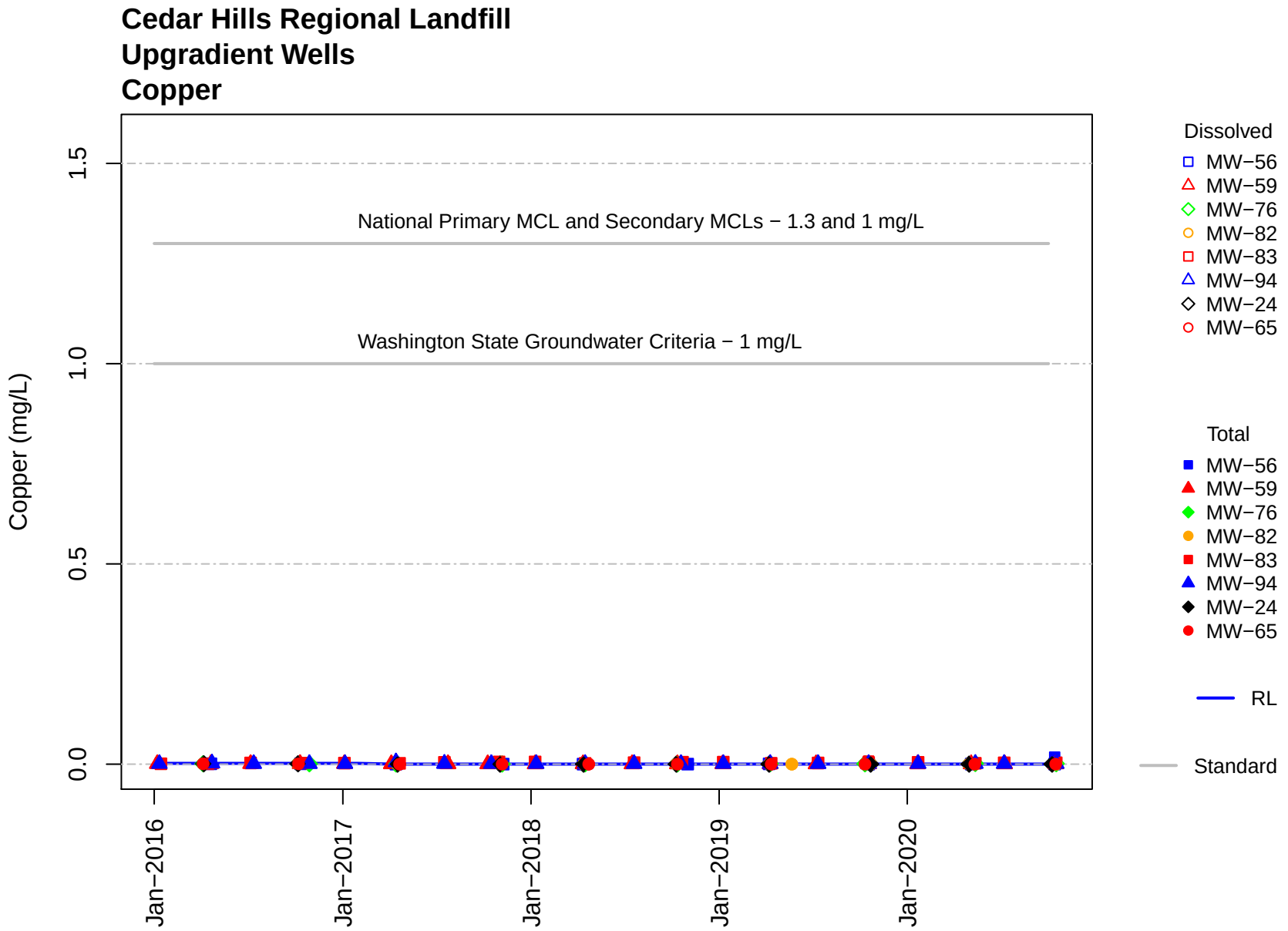

Cedar Hills Regional Landfill
Downgradient Wells
Cobalt
Cobalt (mg/L)
0.000
0.001
0.002
0.003
0.004
0.005
0.006
Jan−2016
Jan−2017
Jan−2018
Jan−2019
Jan−2020
Dissolved
MW−74R
MW−75
MW−87
MW−85
MW−86
MW−88
MW−89
Total
MW−74R
MW−75
MW−87
MW−85
MW−86
MW−88
MW−89
RL

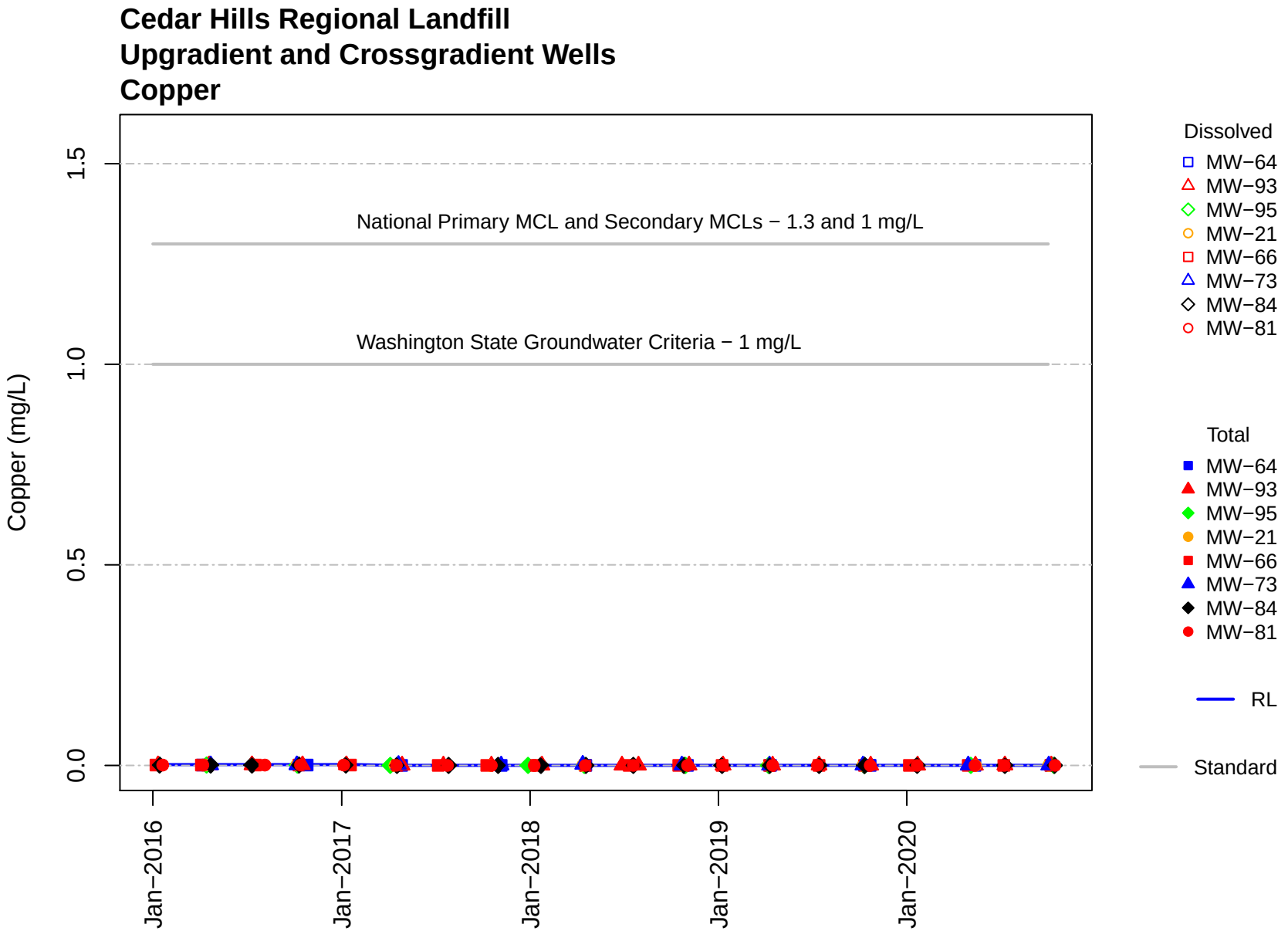

Cedar Hills Regional Landfill
Upgradient Wells
Chromium
Chromium (mg/L)
0.00
0.02
0.04
0.06
0.08
0.10
0.12
National Primary MCL − 0.1 mg/L
Washington State Groundwater Criteria − 0.05 mg/L
Jan−2016
Jan−2017
Jan−2018
Jan−2019
Jan−2020
Dissolved
MW−56
MW−59
MW−76
MW−82
MW−83
MW−94
MW−24
MW−65
Total
MW−56
MW−59
MW−76
MW−82
MW−83
MW−94
MW−24
MW−65
RL
Standard

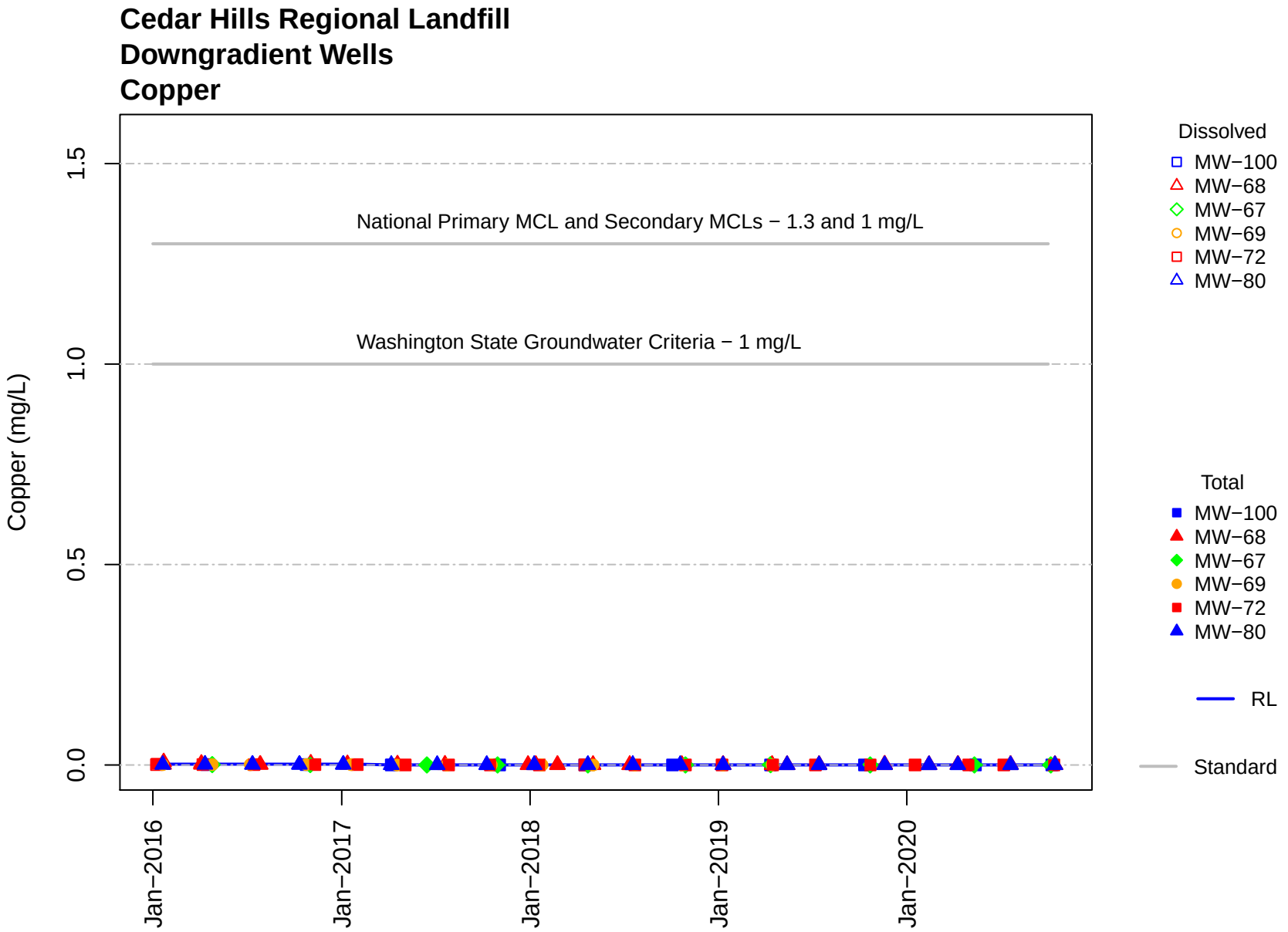

Cedar Hills Regional Landfill
Upgradient and Crossgradient Wells
Chromium
Chromium (mg/L)
0.00
0.02
0.04
0.06
0.08
0.10
0.12
National Primary MCL − 0.1 mg/L
Washington State Groundwater Criteria − 0.05 mg/L
Jan−2016
Jan−2017
Jan−2018
Jan−2019
Jan−2020
Dissolved
MW−64
MW−93
MW−95
MW−21
MW−66
MW−73
MW−84
MW−81
Total
MW−64
MW−93
MW−95
MW−21
MW−66
MW−73
MW−84
MW−81
RL
Standard

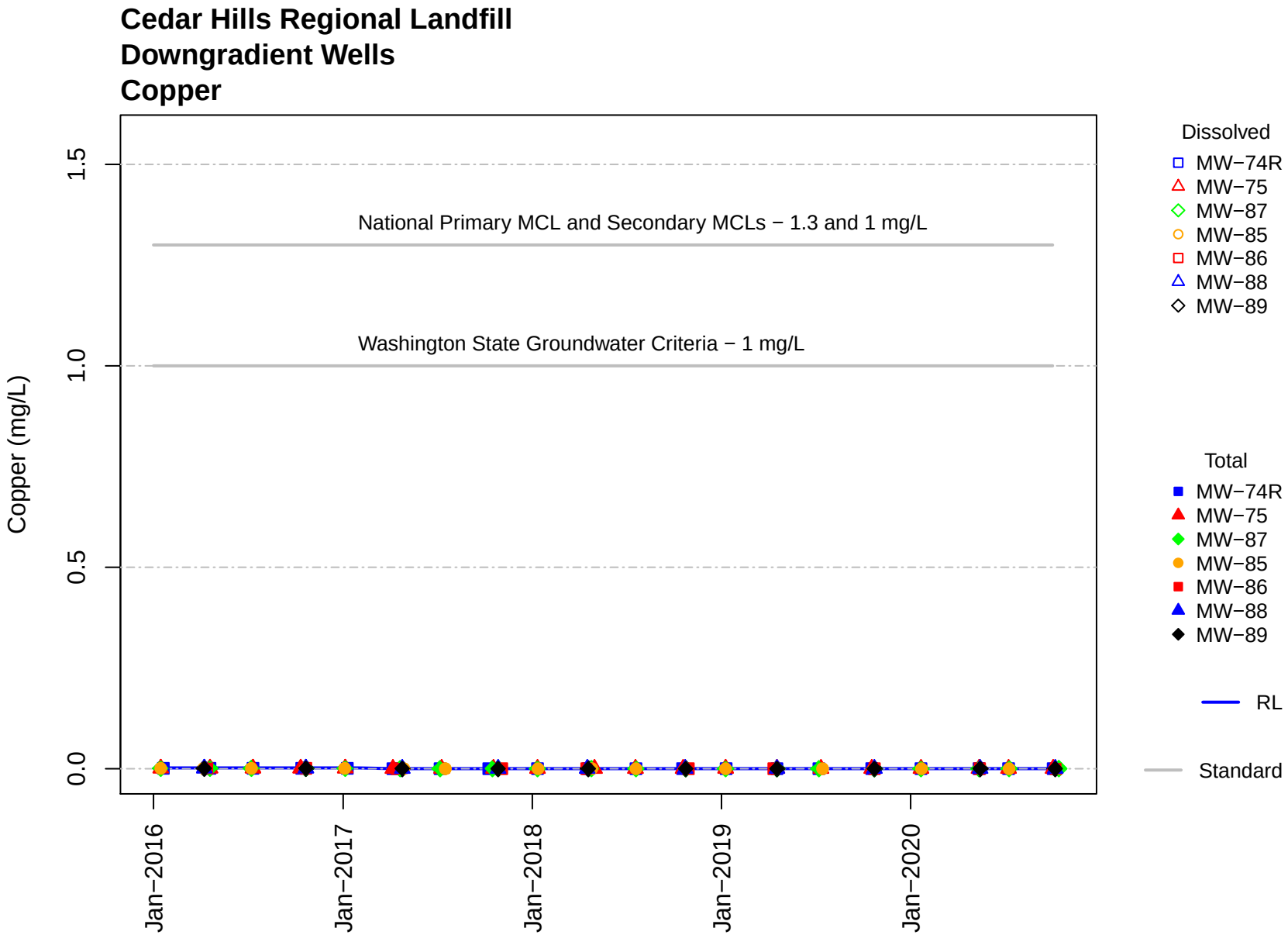

Cedar Hills Regional Landfill
Downgradient Wells
Chromium
Chromium (mg/L)
0.00
0.02
0.04
0.06
0.08
0.10
0.12
National Primary MCL − 0.1 mg/L
Washington State Groundwater Criteria − 0.05 mg/L
Jan−2016
Jan−2017
Jan−2018
Jan−2019
Jan−2020
Dissolved
MW−100
MW−68
MW−67
MW−69
MW−72
MW−80
Total
MW−100
MW−68
MW−67
MW−69
MW−72
MW−80
RL
Standard

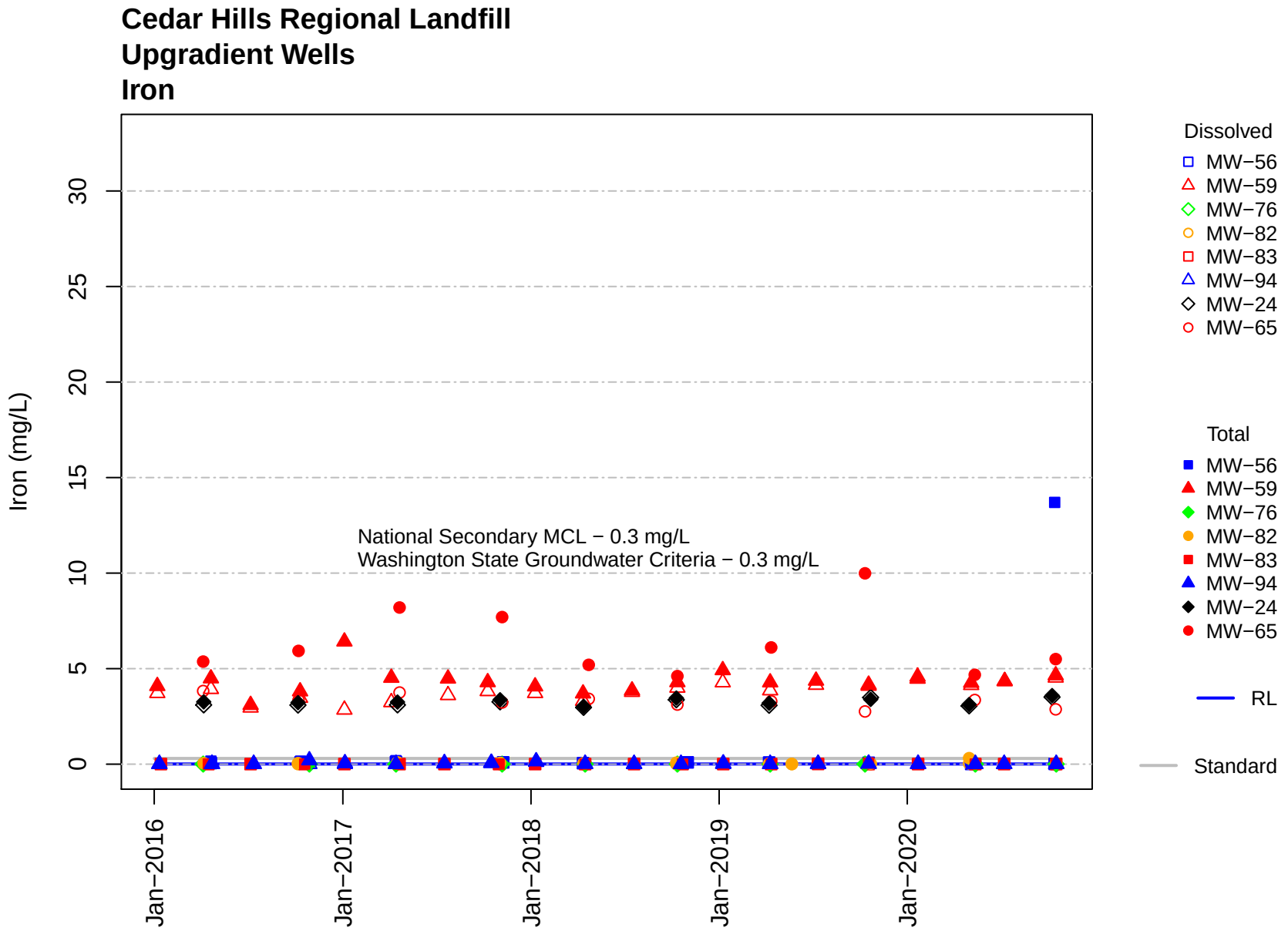

Cedar Hills Regional Landfill
Downgradient Wells
Chromium
Chromium (mg/L)
0.00
0.02
0.04
0.06
0.08
0.10
0.12
National Primary MCL − 0.1 mg/L
Washington State Groundwater Criteria − 0.05 mg/L
Jan−2016
Jan−2017
Jan−2018
Jan−2019
Jan−2020
Dissolved
MW−74R
MW−75
MW−87
MW−85
MW−86
MW−88
MW−89
Total
MW−74R
MW−75
MW−87
MW−85
MW−86
MW−88
MW−89
RL
Standard

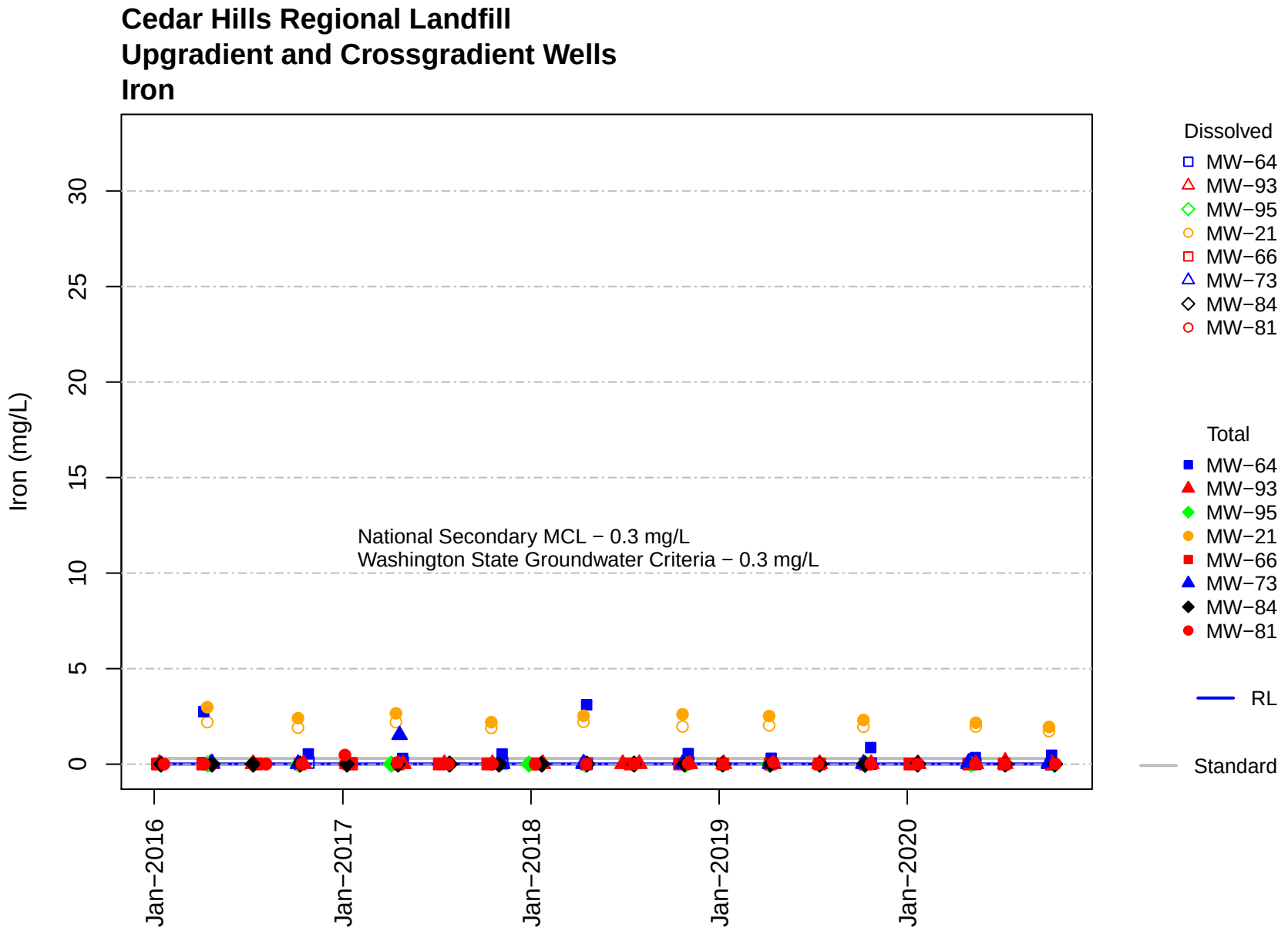

Cedar Hills Regional Landfill
Upgradient Wells
Copper
Copper (mg/L)
0.0
0.5
1.0
1.5
National Primary MCL and Secondary MCLs − 1.3 and 1 mg/L
Washington State Groundwater Criteria − 1 mg/L
Jan−2016
Jan−2017
Jan−2018
Jan−2019
Jan−2020
Dissolved
MW−56
MW−59
MW−76
MW−82
MW−83
MW−94
MW−24
MW−65
Total
MW−56
MW−59
MW−76
MW−82
MW−83
MW−94
MW−24
MW−65
RL
Standard

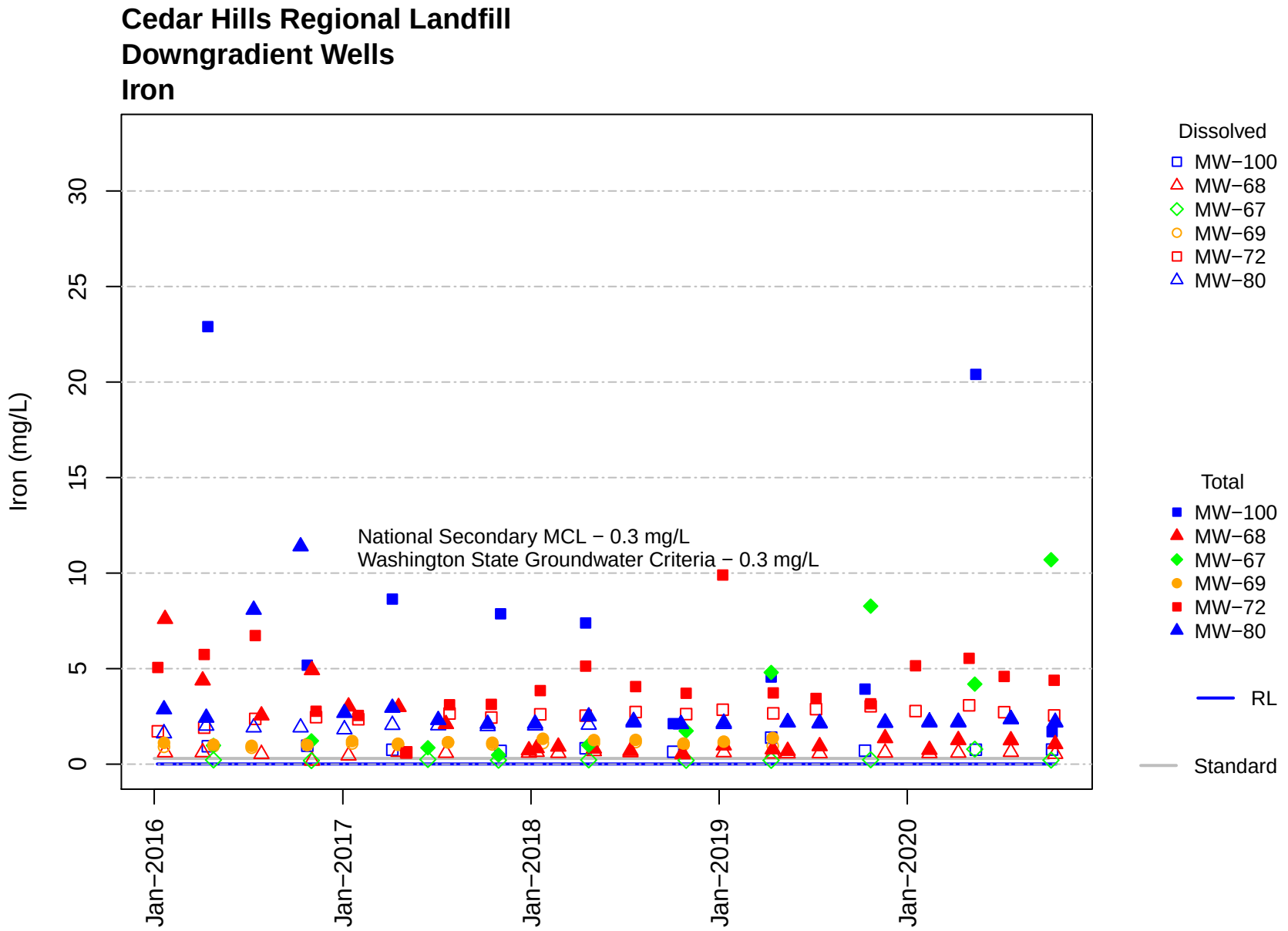

Cedar Hills Regional Landfill
Upgradient and Crossgradient Wells
Copper
Copper (mg/L)
0.0
0.5
1.0
1.5
National Primary MCL and Secondary MCLs − 1.3 and 1 mg/L
Washington State Groundwater Criteria − 1 mg/L
Jan−2016
Jan−2017
Jan−2018
Jan−2019
Jan−2020
Dissolved
MW−64
MW−93
MW−95
MW−21
MW−66
MW−73
MW−84
MW−81
Total
MW−64
MW−93
MW−95
MW−21
MW−66
MW−73
MW−84
MW−81
RL
Standard

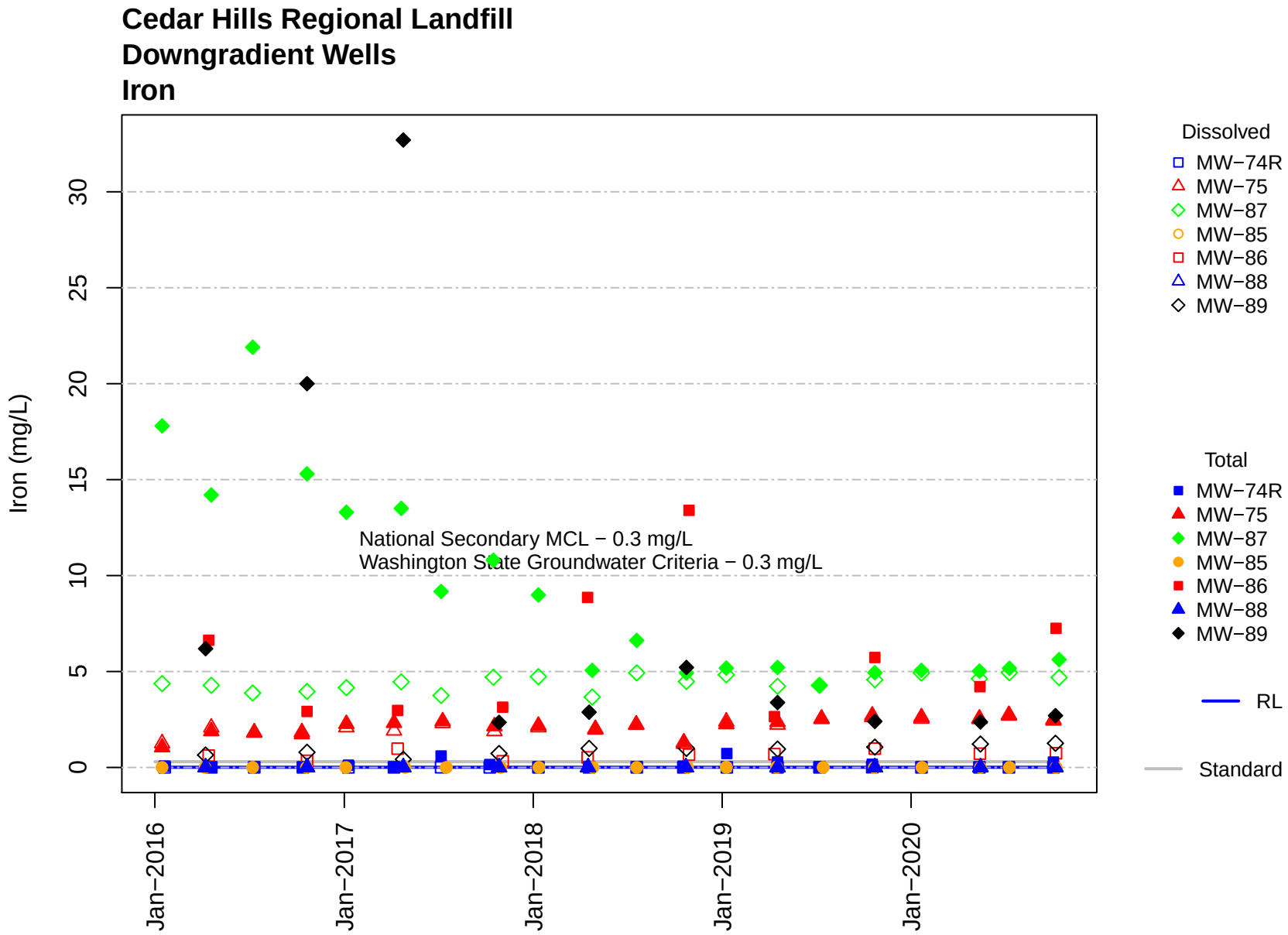

Cedar Hills Regional Landfill
Downgradient Wells
Copper
Copper (mg/L)
1.5
1.0
0.5
0.0
National Primary MCL and Secondary MCLs − 1.3 and 1 mg/L
Washington State Groundwater Criteria − 1 mg/L
Jan−2016
Jan−2017
Jan−2018
Jan−2019
Jan−2020
Dissolved
MW−100
MW−68
MW−67
MW−69
MW−72
MW−80
Total
MW−100
MW−68
MW−67
MW−69
MW−72
MW−80
RL
Standard

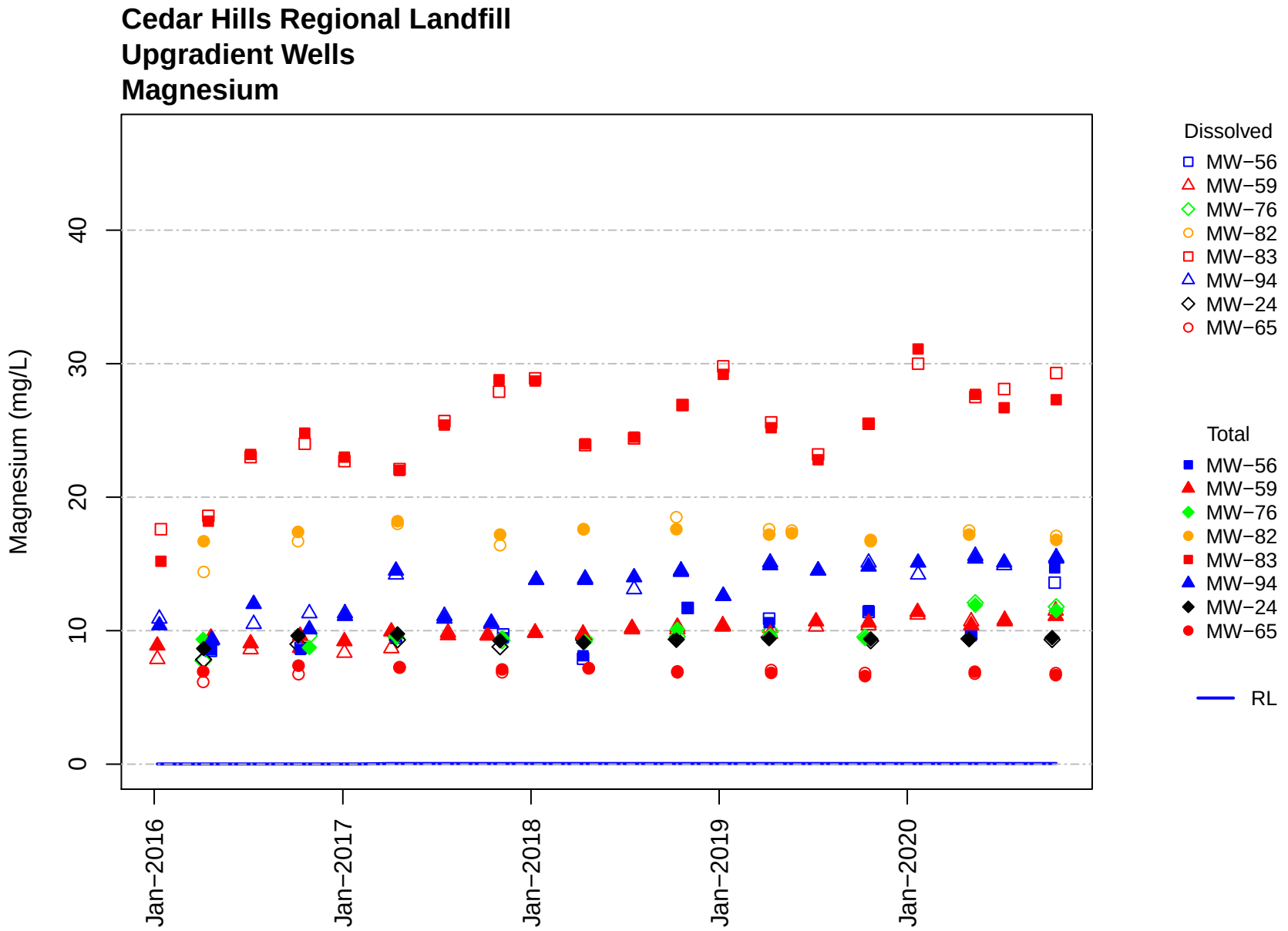

Cedar Hills Regional Landfill
Downgradient Wells
Copper
Copper (mg/L)
1.5
1.0
0.5
0.0
National Primary MCL and Secondary MCLs − 1.3 and 1 mg/L
Washington State Groundwater Criteria − 1 mg/L
Jan−2016
Jan−2017
Jan−2018
Jan−2019
Jan−2020
Dissolved
MW−74R
MW−75
MW−87
MW−85
MW−86
MW−88
MW−89
Total
MW−74R
MW−75
MW−87
MW−85
MW−86
MW−88
MW−89
RL
Standard

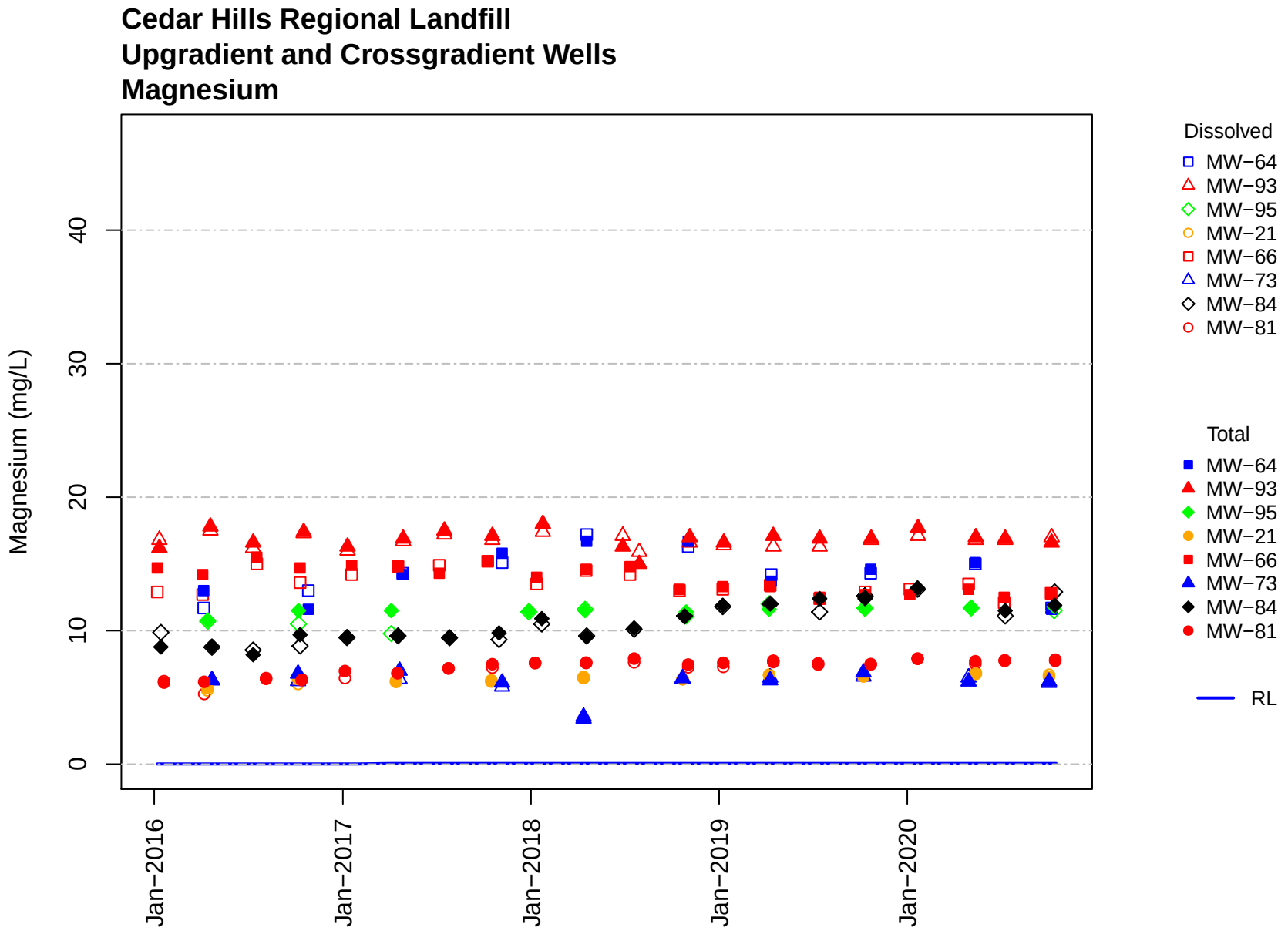

Cedar Hills Regional Landfill
Upgradient Wells
Iron
Iron (mg/L)
0
5
10
15
20
25
30
National Secondary MCL − 0.3 mg/L
Washington State Groundwater Criteria − 0.3 mg/L
Jan−2016
Jan−2017
Jan−2018
Jan−2019
Jan−2020
Dissolved
MW−56
MW−59
MW−76
MW−82
MW−83
MW−94
MW−24
MW−65
Total
MW−56
MW−59
MW−76
MW−82
MW−83
MW−94
MW−24
MW−65
RL
Standard

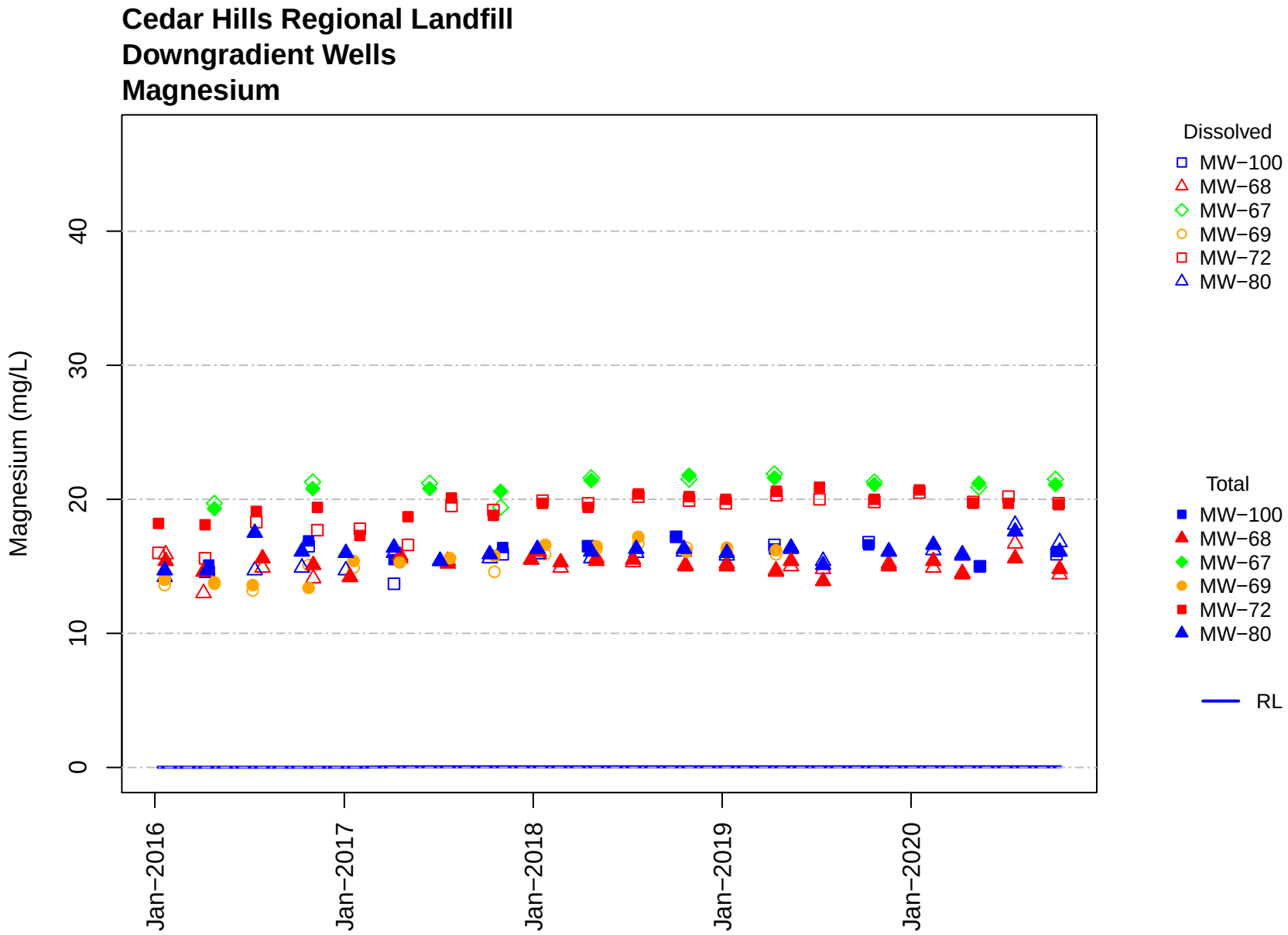

Cedar Hills Regional Landfill
Upgradient and Crossgradient Wells
Iron
Iron (mg/L)
0
5
10
15
20
25
30
National Secondary MCL − 0.3 mg/L
Washington State Groundwater Criteria − 0.3 mg/L
Jan−2016
Jan−2017
Jan−2018
Jan−2019
Jan−2020
Dissolved
MW−64
MW−93
MW−95
MW−21
MW−66
MW−73
MW−84
MW−81
Total
MW−64
MW−93
MW−95
MW−21
MW−66
MW−73
MW−84
MW−81
RL
Standard

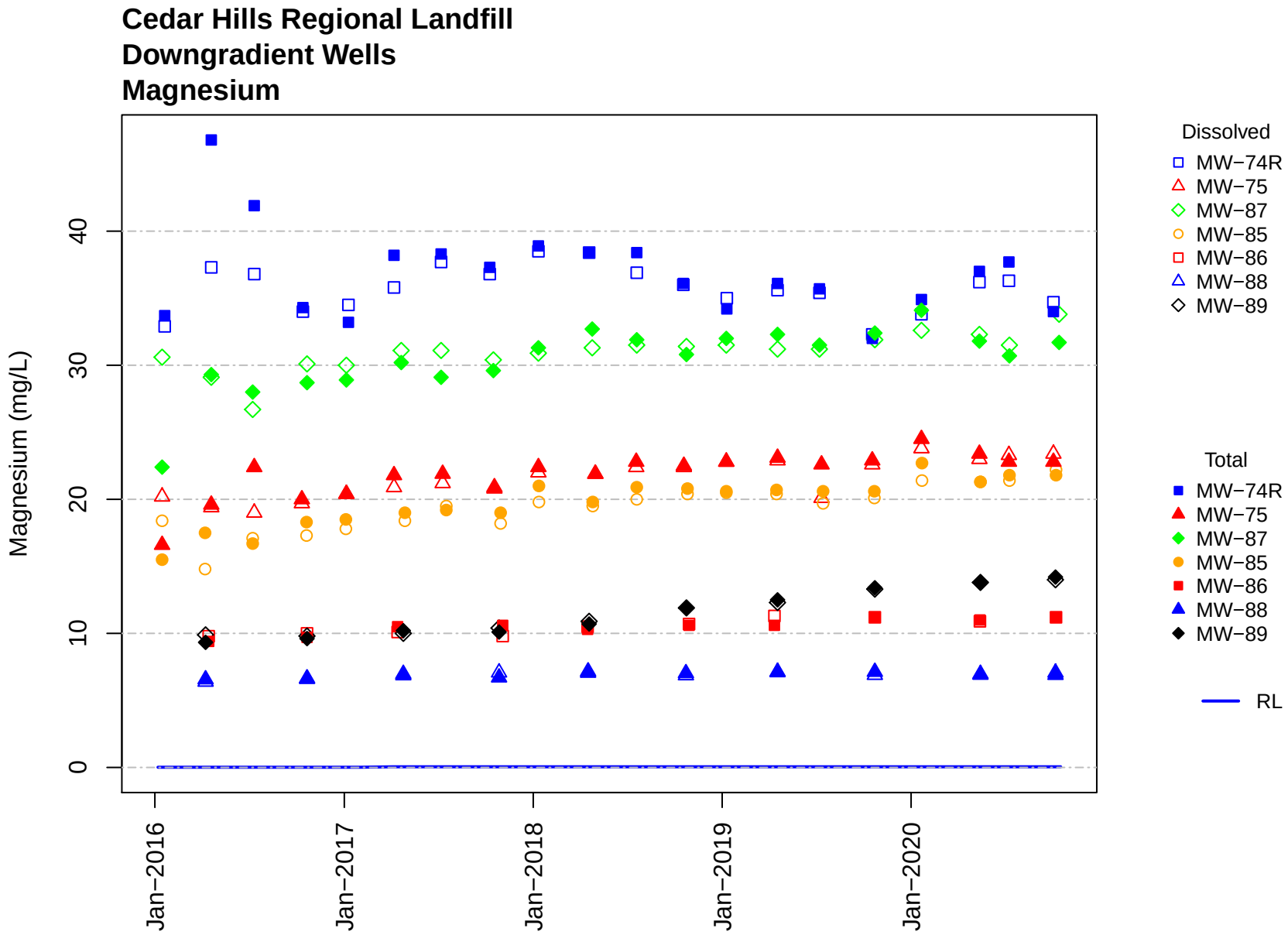

Cedar Hills Regional Landfill
Downgradient Wells
Iron
Iron (mg/L)
0
5
10
15
20
25
30
Jan−2016
Jan−2017
Jan−2018
Jan−2019
Jan−2020
National Secondary MCL − 0.3 mg/L
Washington State Groundwater Criteria − 0.3 mg/L
Dissolved
MW−100
MW−68
MW−67
MW−69
MW−72
MW−80
Total
MW−100
MW−68
MW−67
MW−69
MW−72
MW−80
RL
Standard

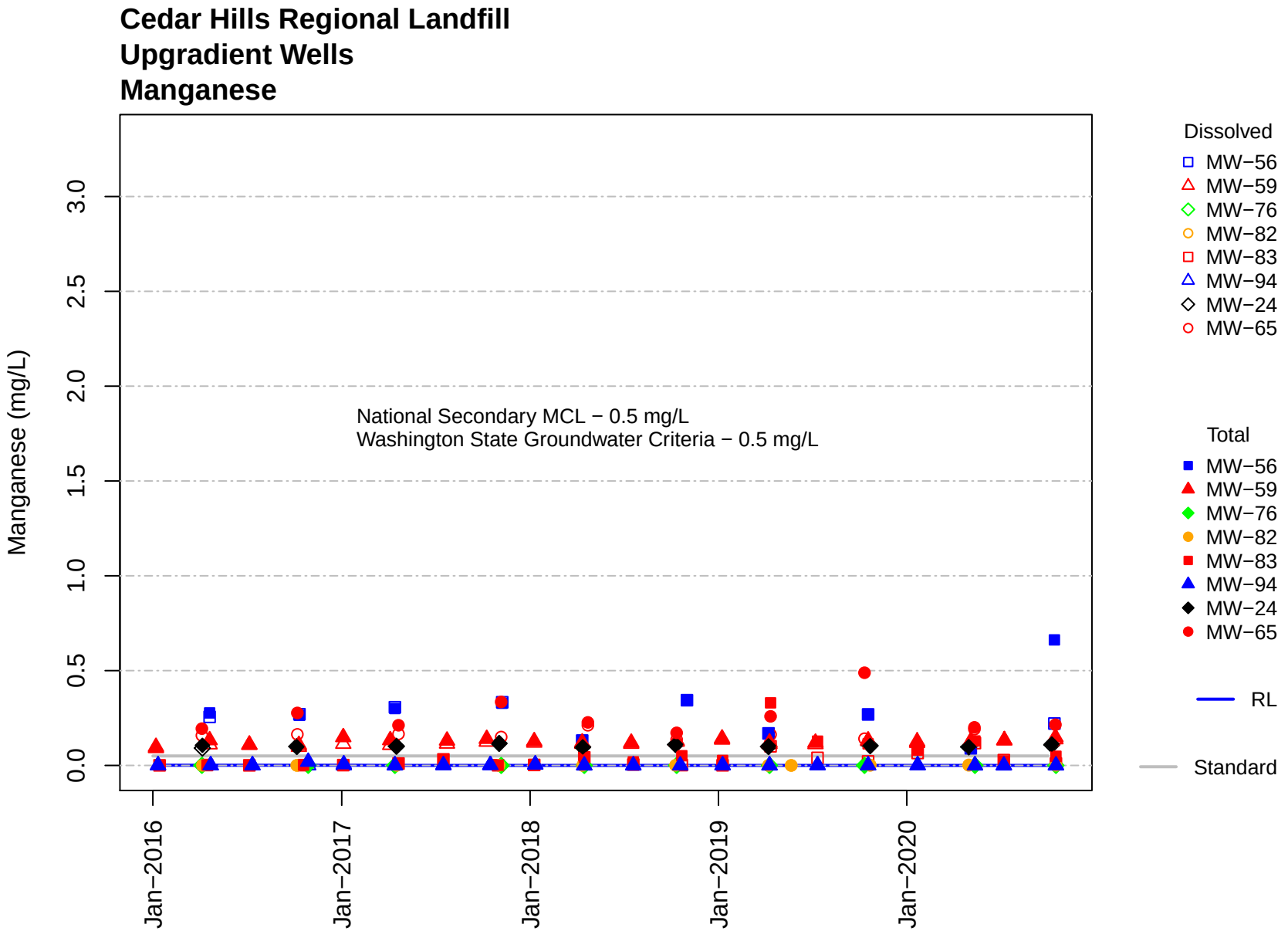

Cedar Hills Regional Landfill
Downgradient Wells
Iron
Iron (mg/L)
0
5
10
15
20
25
30
Jan−2016
Jan−2017
Jan−2018
Jan−2019
Jan−2020
National Secondary MCL − 0.3 mg/L
Washington State Groundwater Criteria − 0.3 mg/L
Dissolved
MW−74R
MW−75
MW−87
MW−85
MW−86
MW−88
MW−89
Total
MW−74R
MW−75
MW−87
MW−85
MW−86
MW−88
MW−89
RL
Standard

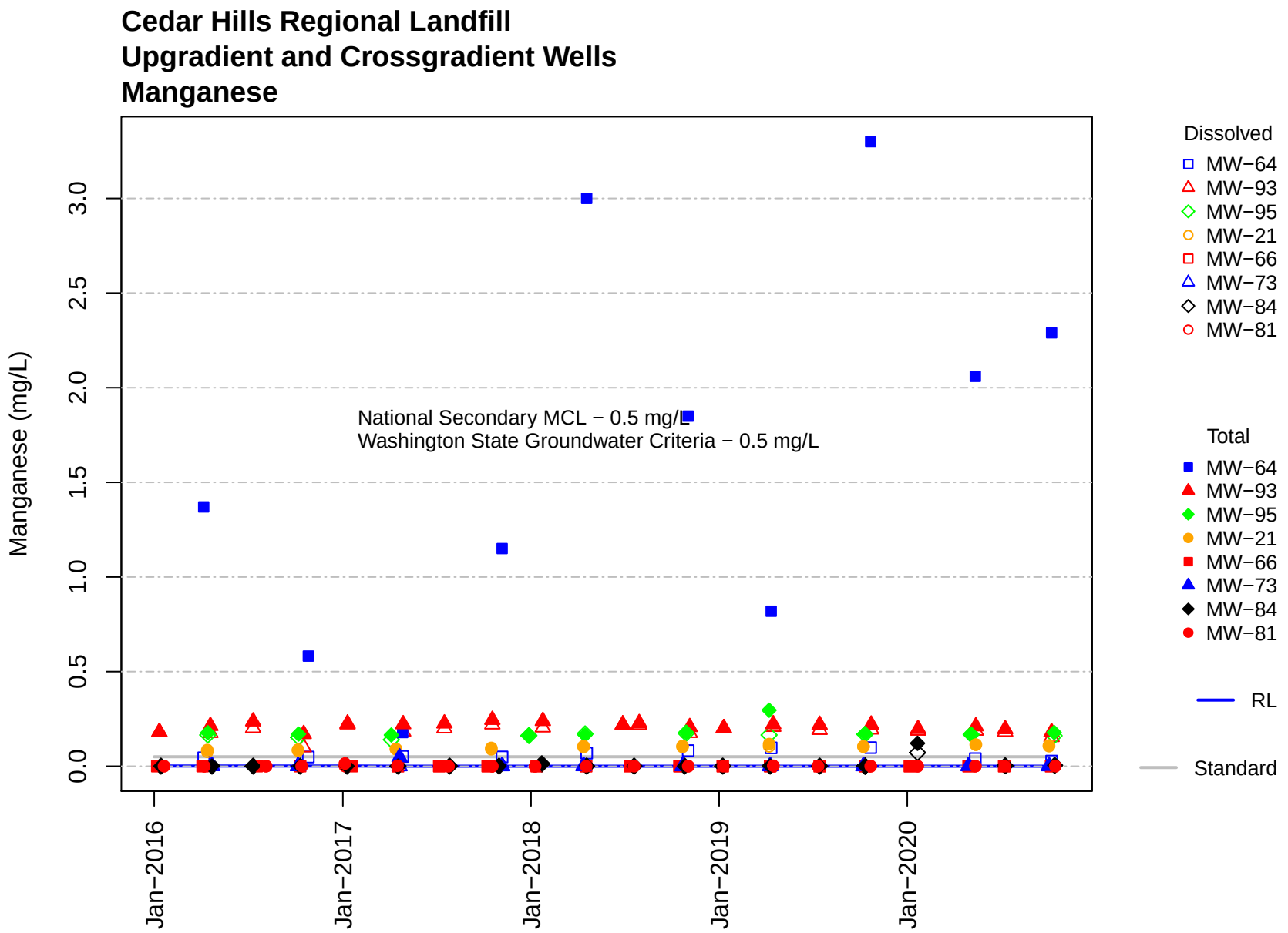

Cedar Hills Regional Landfill
Upgradient Wells
Magnesium
Magnesium (mg/L)
0
10
20
30
40
Jan−2016
Jan−2017
Jan−2018
Jan−2019
Jan−2020
Dissolved
MW−56
MW−59
MW−76
MW−82
MW−83
MW−94
MW−24
MW−65
Total
MW−56
MW−59
MW−76
MW−82
MW−83
MW−94
MW−24
MW−65
RL

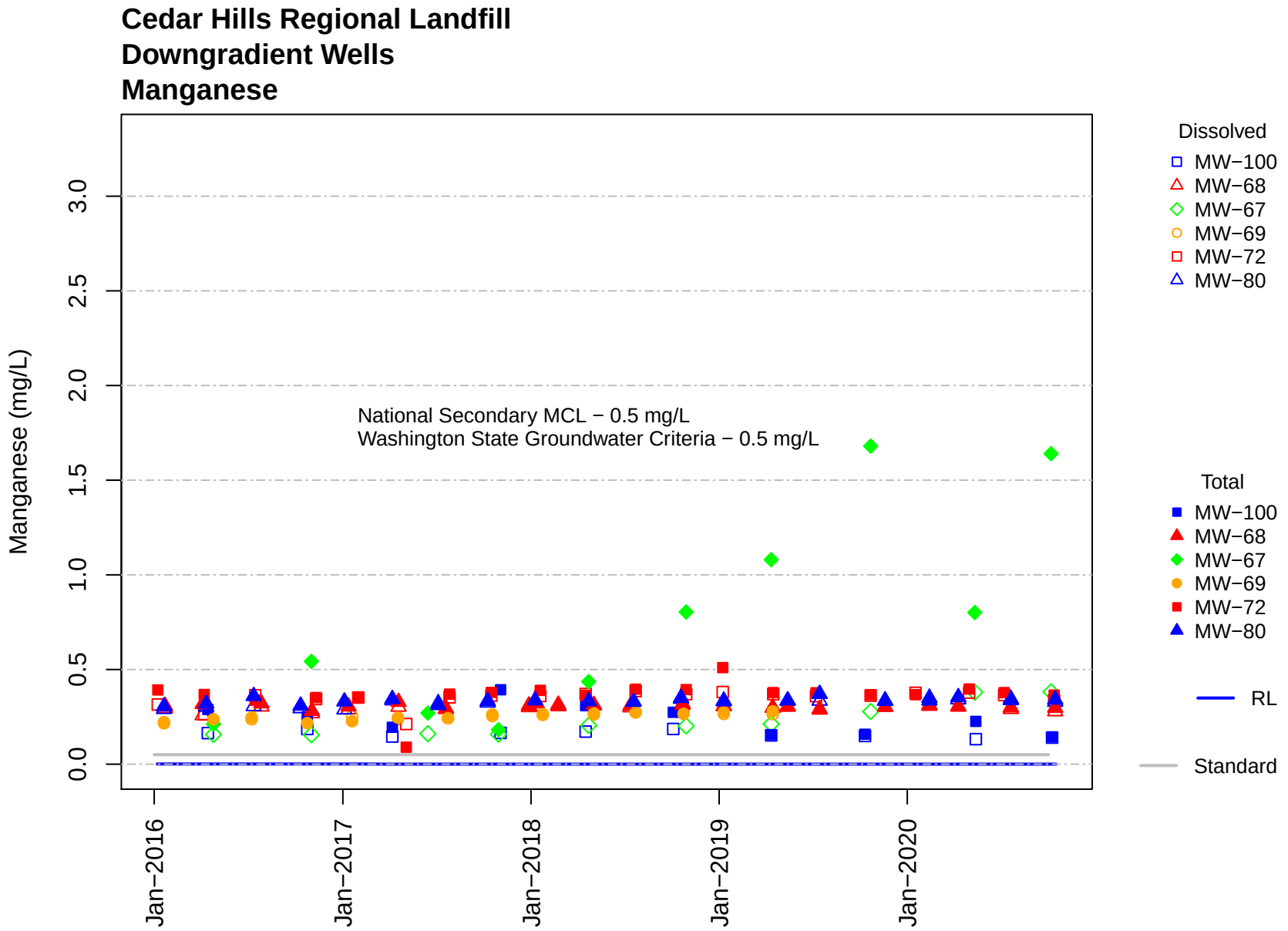

Cedar Hills Regional Landfill
Upgradient and Crossgradient Wells
Magnesium
Magnesium (mg/L)
0
10
20
30
40
Jan−2016
Jan−2017
Jan−2018
Jan−2019
Jan−2020
Dissolved
MW−64
MW−93
MW−95
MW−21
MW−66
MW−73
MW−84
MW−81
Total
MW−64
MW−93
MW−95
MW−21
MW−66
MW−73
MW−84
MW−81
RL

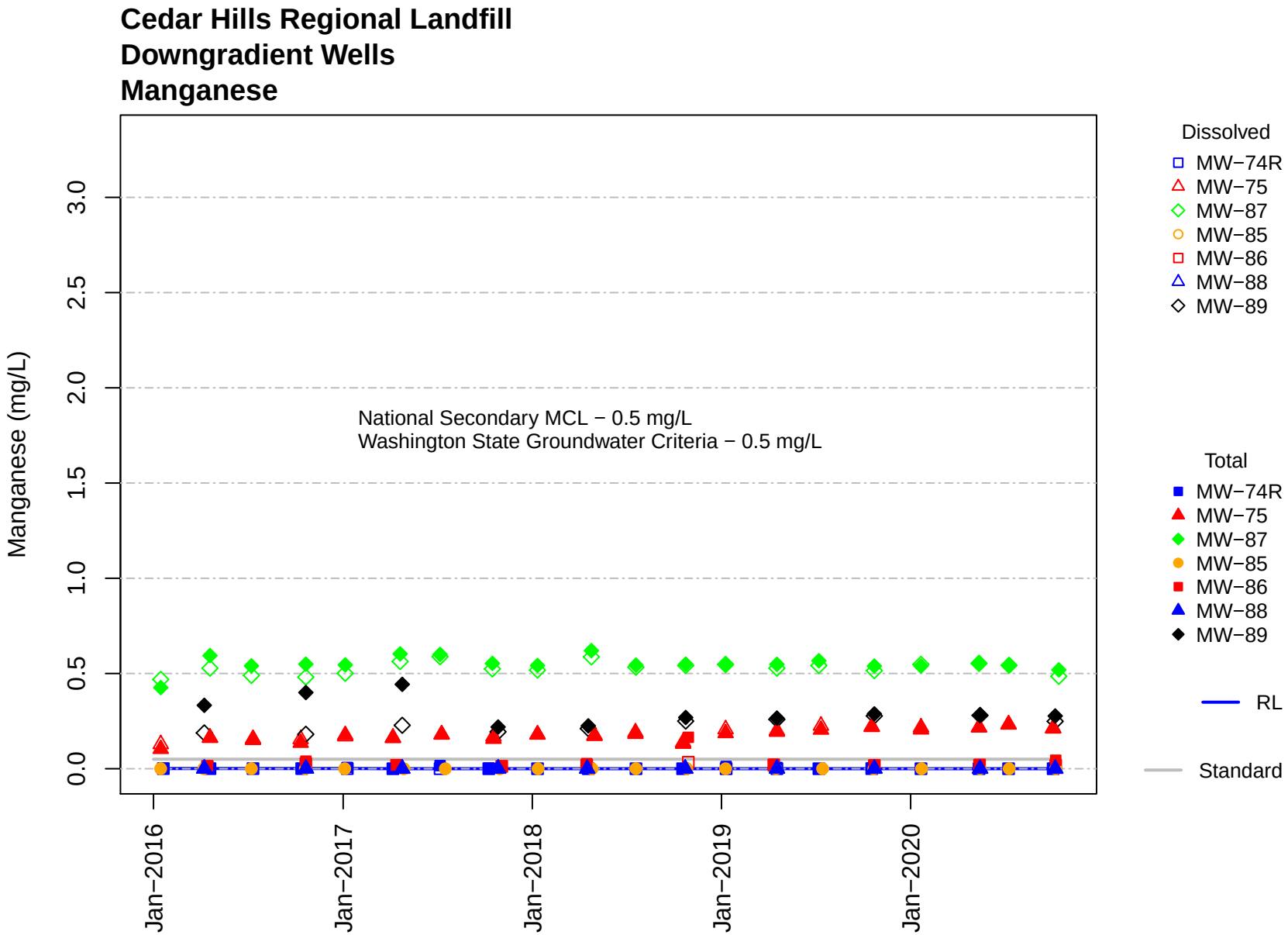

Cedar Hills Regional Landfill
Downgradient Wells
Magnesium
Magnesium (mg/L)
0
10
20
30
40
Jan−2016
Jan−2017
Jan−2018
Jan−2019
Jan−2020
Dissolved
MW−100
MW−68
MW−67
MW−69
MW−72
MW−80
Total
MW−100
MW−68
MW−67
MW−69
MW−72
MW−80
RL

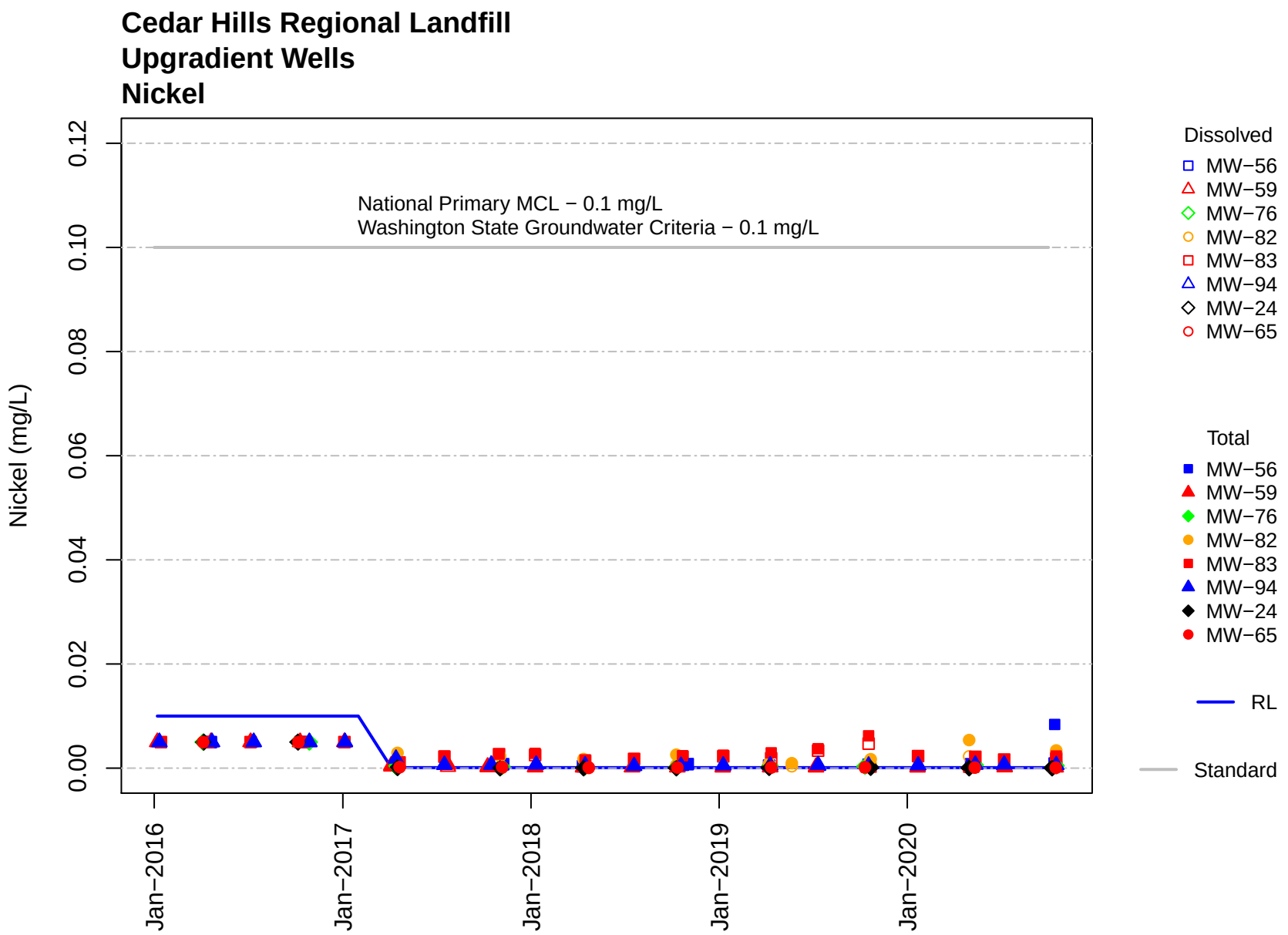

Cedar Hills Regional Landfill
Downgradient Wells
Magnesium
Magnesium (mg/L)
0
10
20
30
40
Jan−2016
Jan−2017
Jan−2018
Jan−2019
Jan−2020
Dissolved
MW−74R
MW−75
MW−87
MW−85
MW−86
MW−88
MW−89
Total
MW−74R
MW−75
MW−87
MW−85
MW−86
MW−88
MW−89
RL

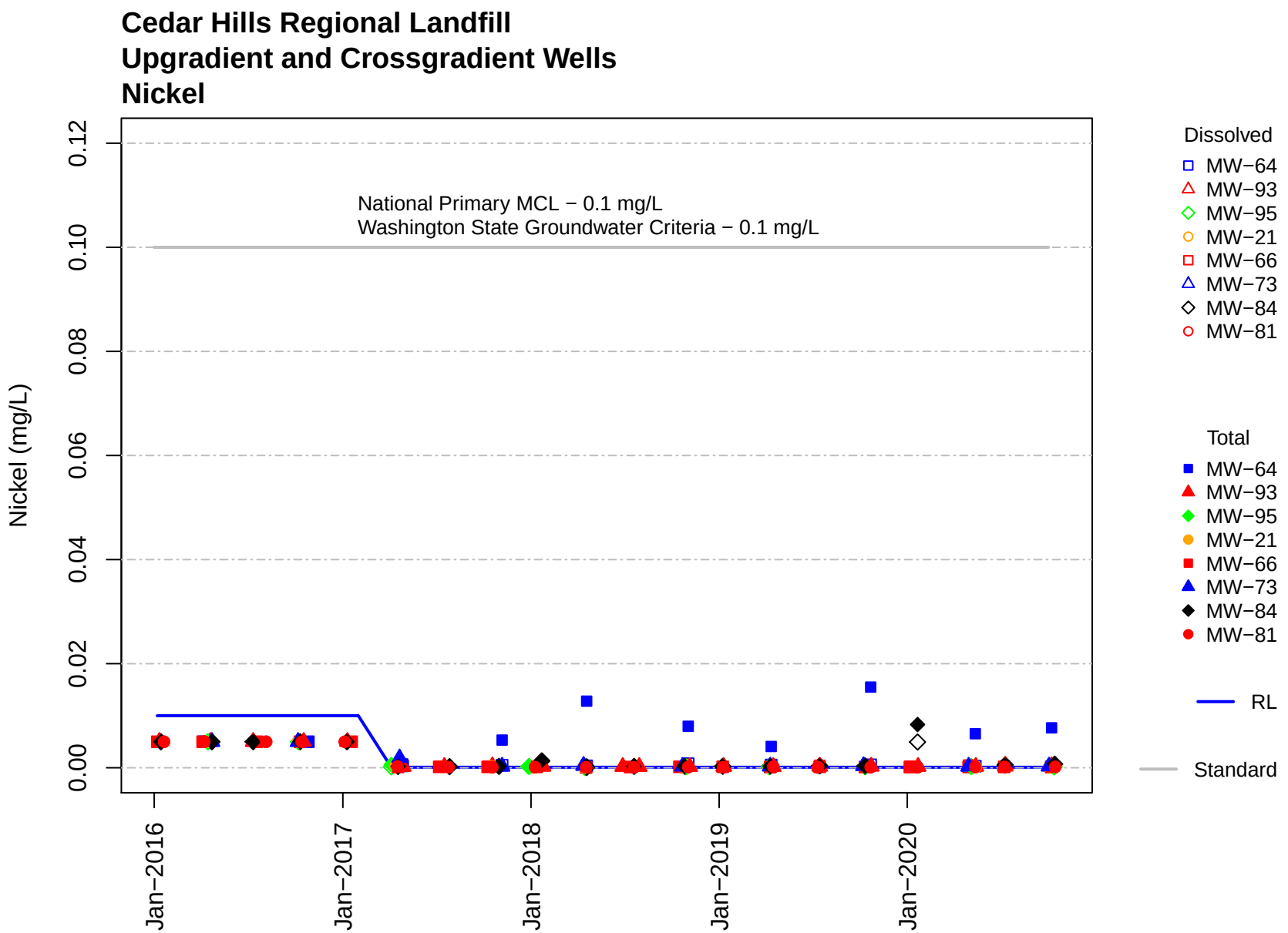

Cedar Hills Regional Landfill
Upgradient Wells
Manganese
Manganese (mg/L)
0.0
0.5
1.0
1.5
2.0
2.5
3.0
National Secondary MCL − 0.5 mg/L
Washington State Groundwater Criteria − 0.5 mg/L
Jan−2016
Jan−2017
Jan−2018
Jan−2019
Jan−2020
Dissolved
MW−56
MW−59
MW−76
MW−82
MW−83
MW−94
MW−24
MW−65
Total
MW−56
MW−59
MW−76
MW−82
MW−83
MW−94
MW−24
MW−65
RL
Standard

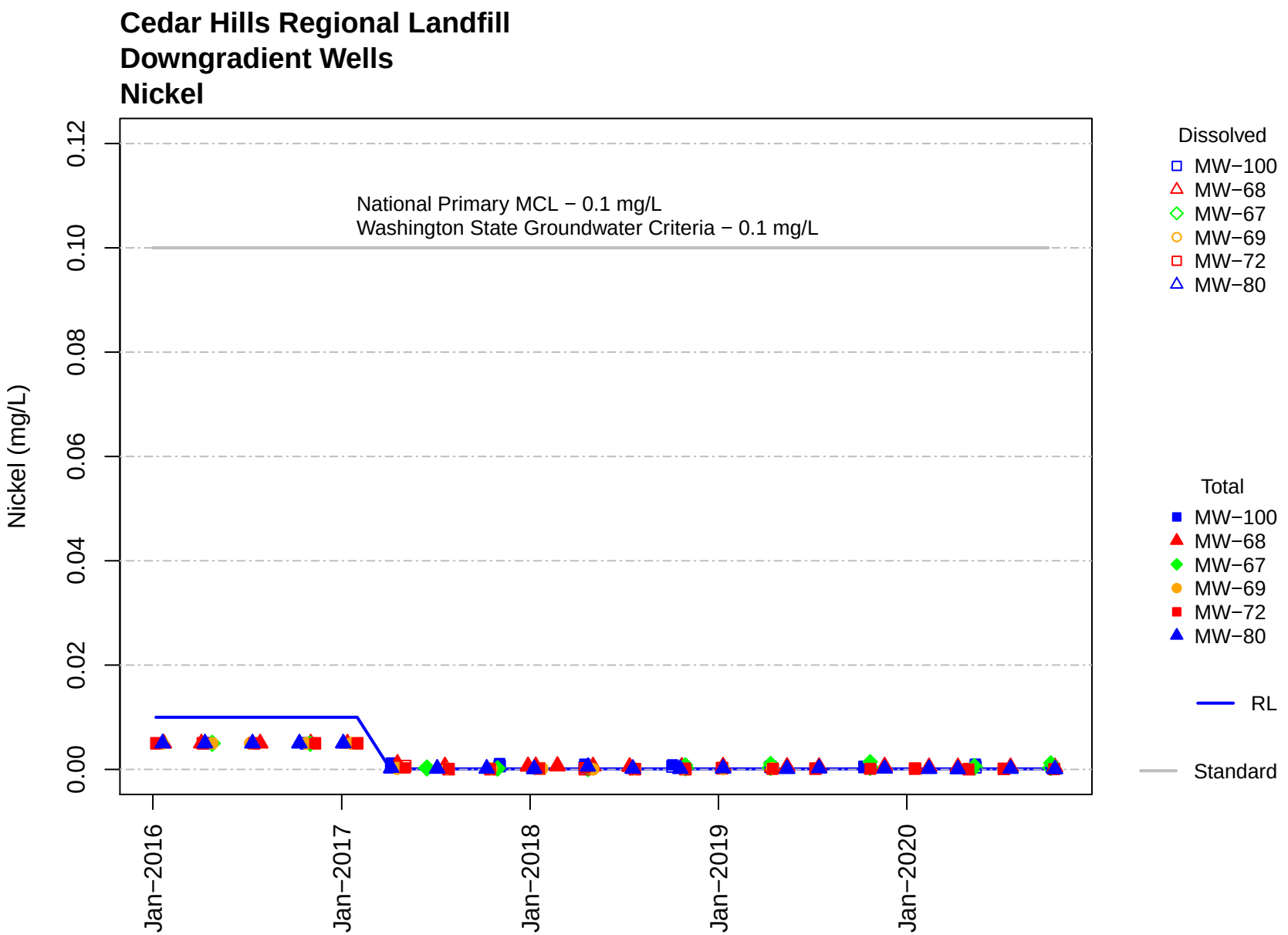

Cedar Hills Regional Landfill
Upgradient and Crossgradient Wells
Manganese
Manganese (mg/L)
0.0
0.5
1.0
1.5
2.0
2.5
3.0
National Secondary MCL − 0.5 mg/L
Washington State Groundwater Criteria − 0.5 mg/L
Jan−2016
Jan−2017
Jan−2018
Jan−2019
Jan−2020
Dissolved
MW−64
MW−93
MW−95
MW−21
MW−66
MW−73
MW−84
MW−81
Total
MW−64
MW−93
MW−95
MW−21
MW−66
MW−73
MW−84
MW−81
RL
Standard

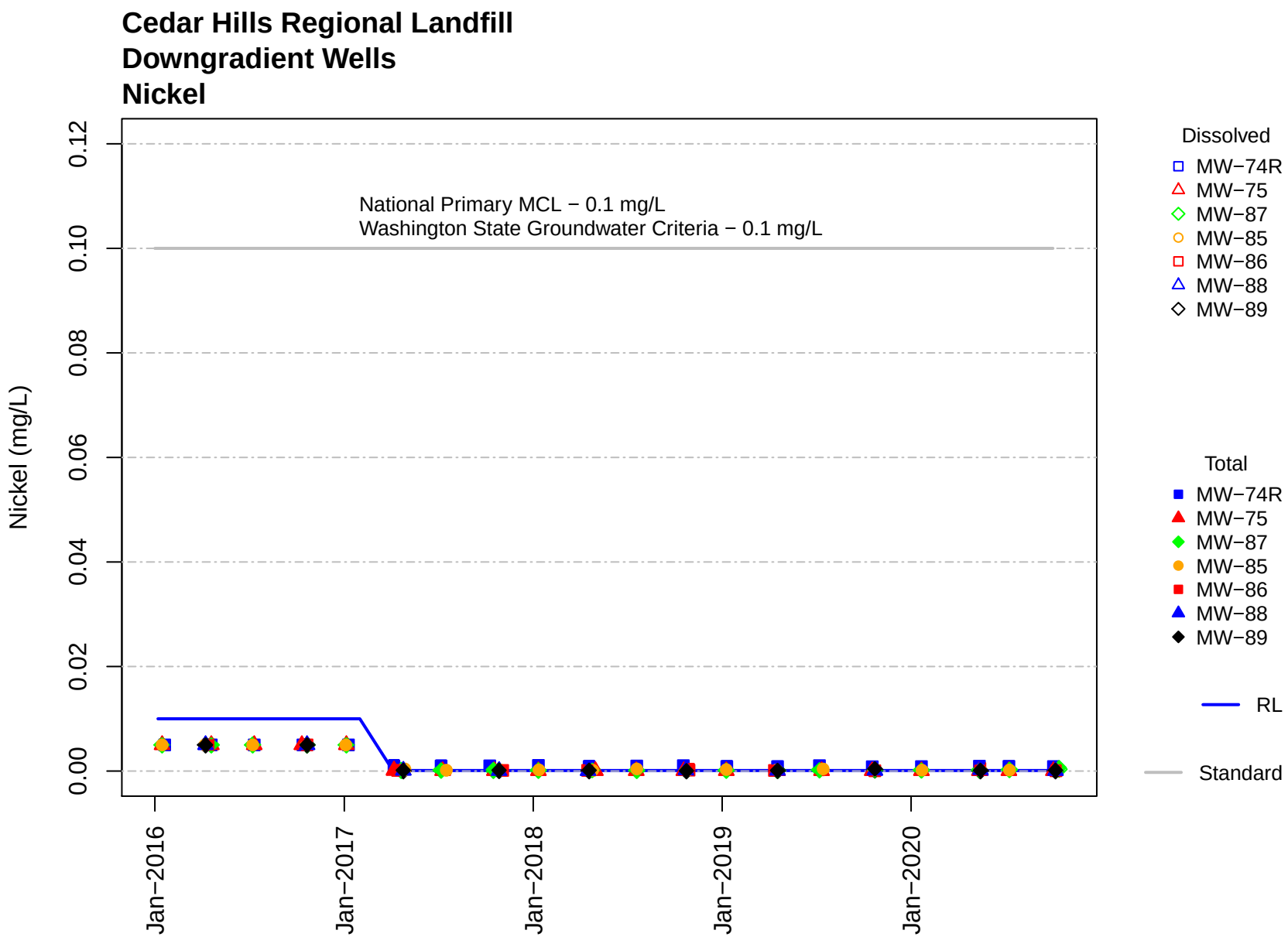

Cedar Hills Regional Landfill
Downgradient Wells
Manganese
Manganese (mg/L)
0.0
0.5
1.0
1.5
2.0
2.5
3.0
National Secondary MCL − 0.5 mg/L
Washington State Groundwater Criteria − 0.5 mg/L
Jan−2016
Jan−2017
Jan−2018
Jan−2019
Jan−2020
Dissolved
MW−100
MW−68
MW−67
MW−69
MW−72
MW−80
Total
MW−100
MW−68
MW−67
MW−69
MW−72
MW−80
RL
Standard

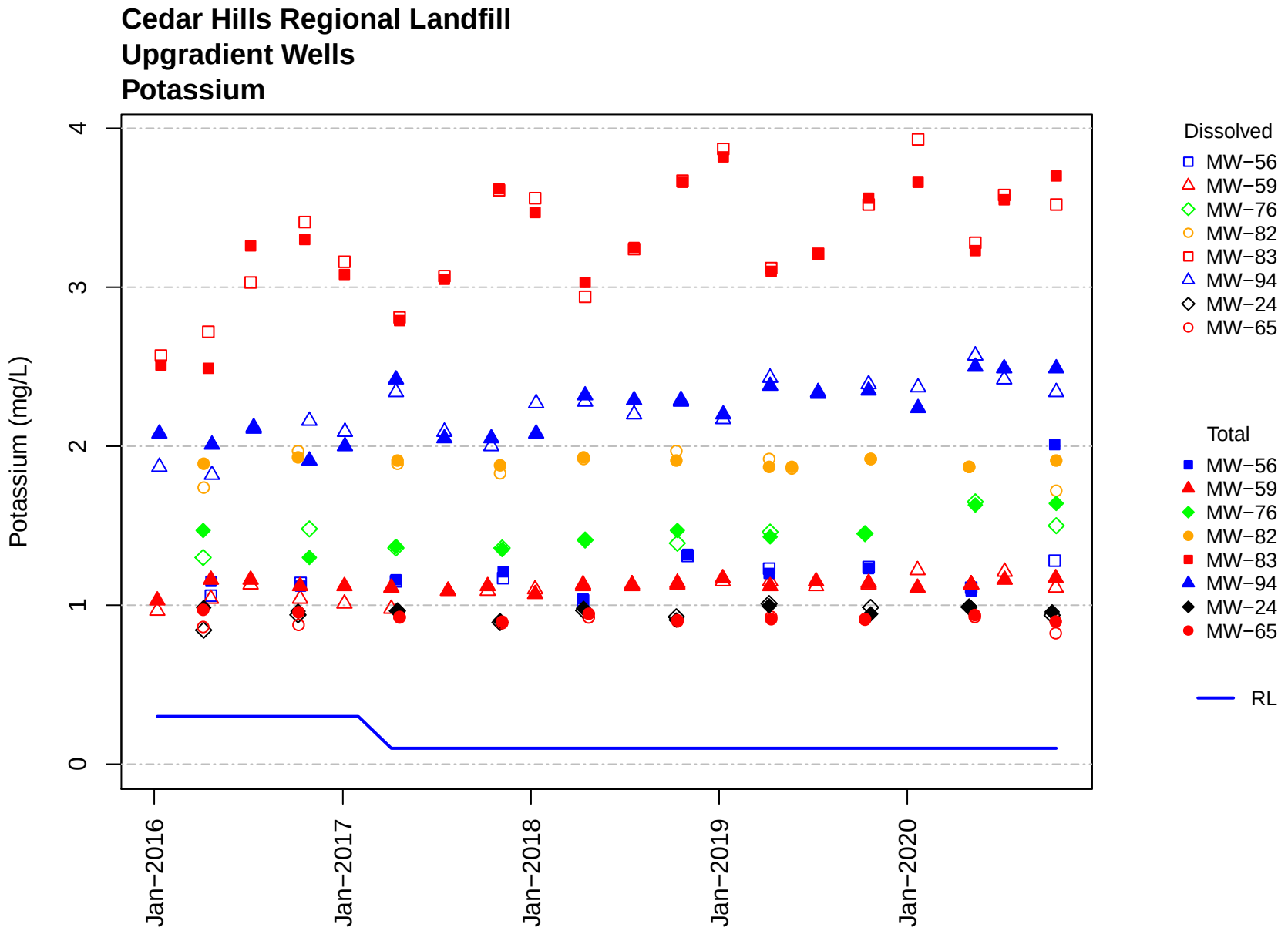

Cedar Hills Regional Landfill
Downgradient Wells
Manganese
Manganese (mg/L)
0.0
0.5
1.0
1.5
2.0
2.5
3.0
National Secondary MCL − 0.5 mg/L
Washington State Groundwater Criteria − 0.5 mg/L
Jan−2016
Jan−2017
Jan−2018
Jan−2019
Jan−2020
Dissolved
MW−74R
MW−75
MW−87
MW−85
MW−86
MW−88
MW−89
Total
MW−74R
MW−75
MW−87
MW−85
MW−86
MW−88
MW−89
RL
Standard

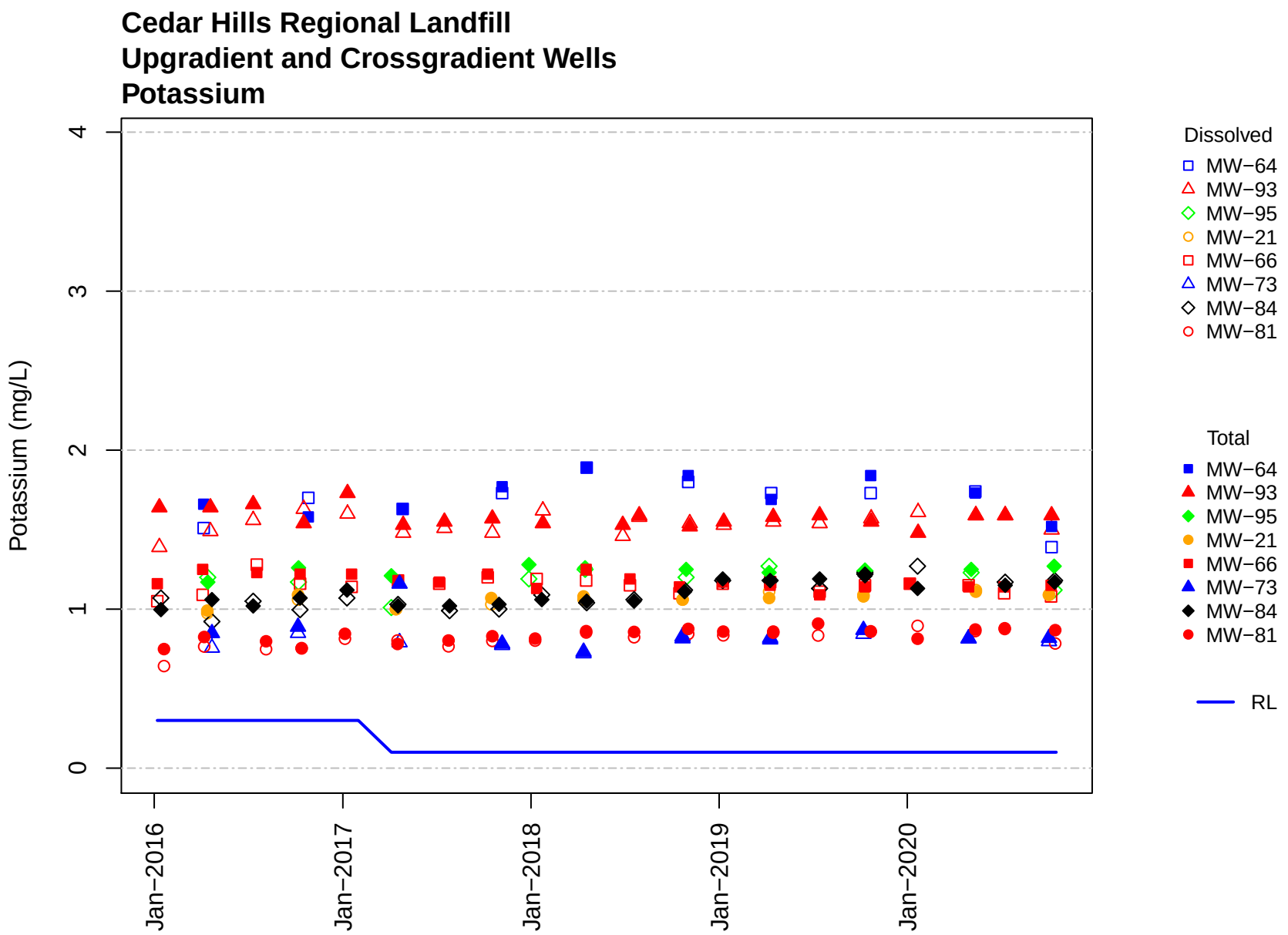

Cedar Hills Regional Landfill
Upgradient Wells
Nickel
National Primary MCL − 0.1 mg/L
Washington State Groundwater Criteria − 0.1 mg/L
Nickel (mg/L)
0.00
0.02
0.04
0.06
0.08
0.10
0.12
Jan−2016
Jan−2017
Jan−2018
Jan−2019
Jan−2020
Dissolved
MW−56
MW−59
MW−76
MW−82
MW−83
MW−94
MW−24
MW−65
Total
MW−56
MW−59
MW−76
MW−82
MW−83
MW−94
MW−24
MW−65
RL
Standard

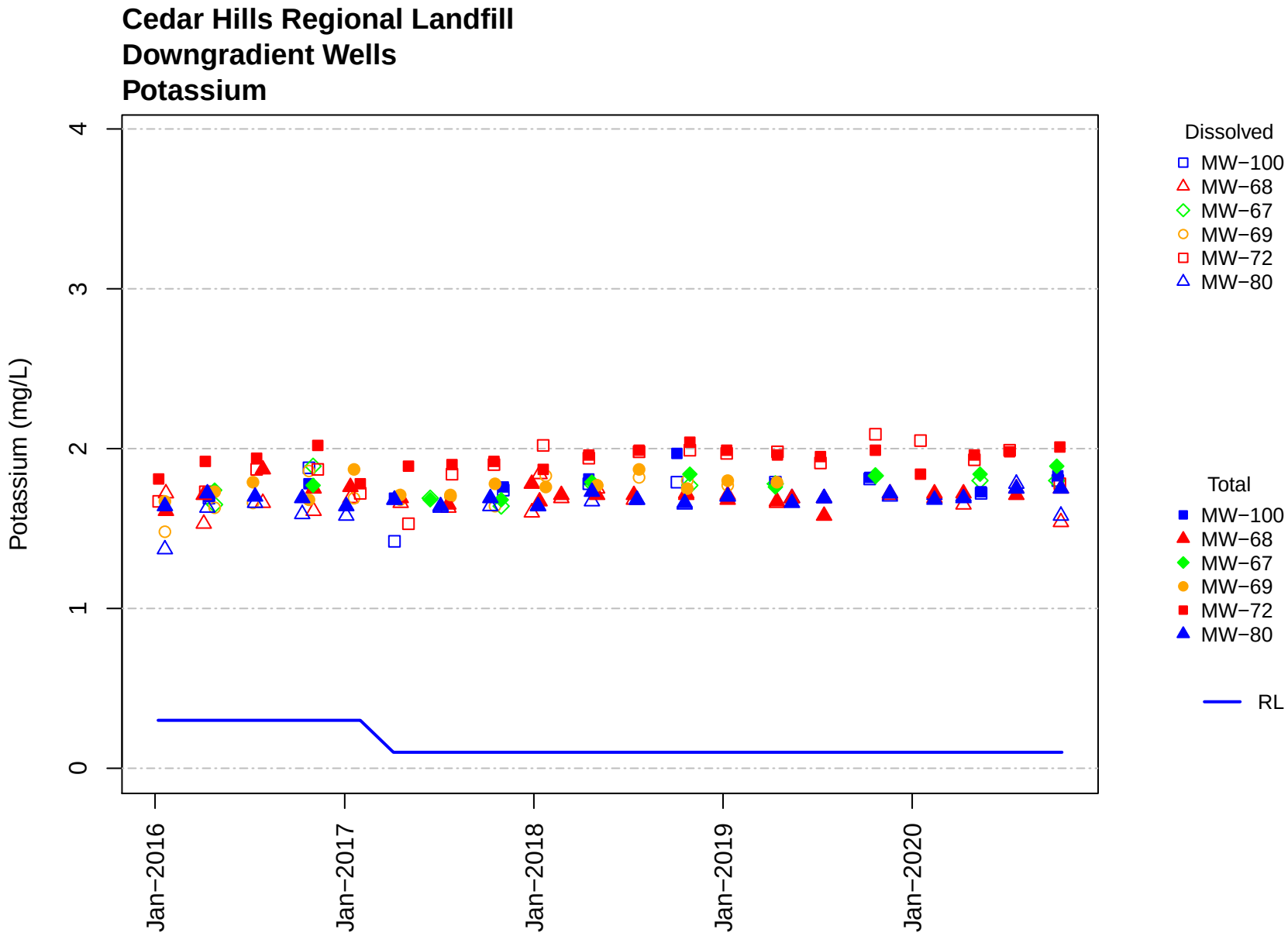

Cedar Hills Regional Landfill
Upgradient and Crossgradient Wells
Nickel
National Primary MCL − 0.1 mg/L
Washington State Groundwater Criteria − 0.1 mg/L
Nickel (mg/L)
0.00
0.02
0.04
0.06
0.08
0.10
0.12
Jan−2016
Jan−2017
Jan−2018
Jan−2019
Jan−2020
Dissolved
MW−64
MW−93
MW−95
MW−21
MW−66
MW−73
MW−84
MW−81
Total
MW−64
MW−93
MW−95
MW−21
MW−66
MW−73
MW−84
MW−81
RL
Standard

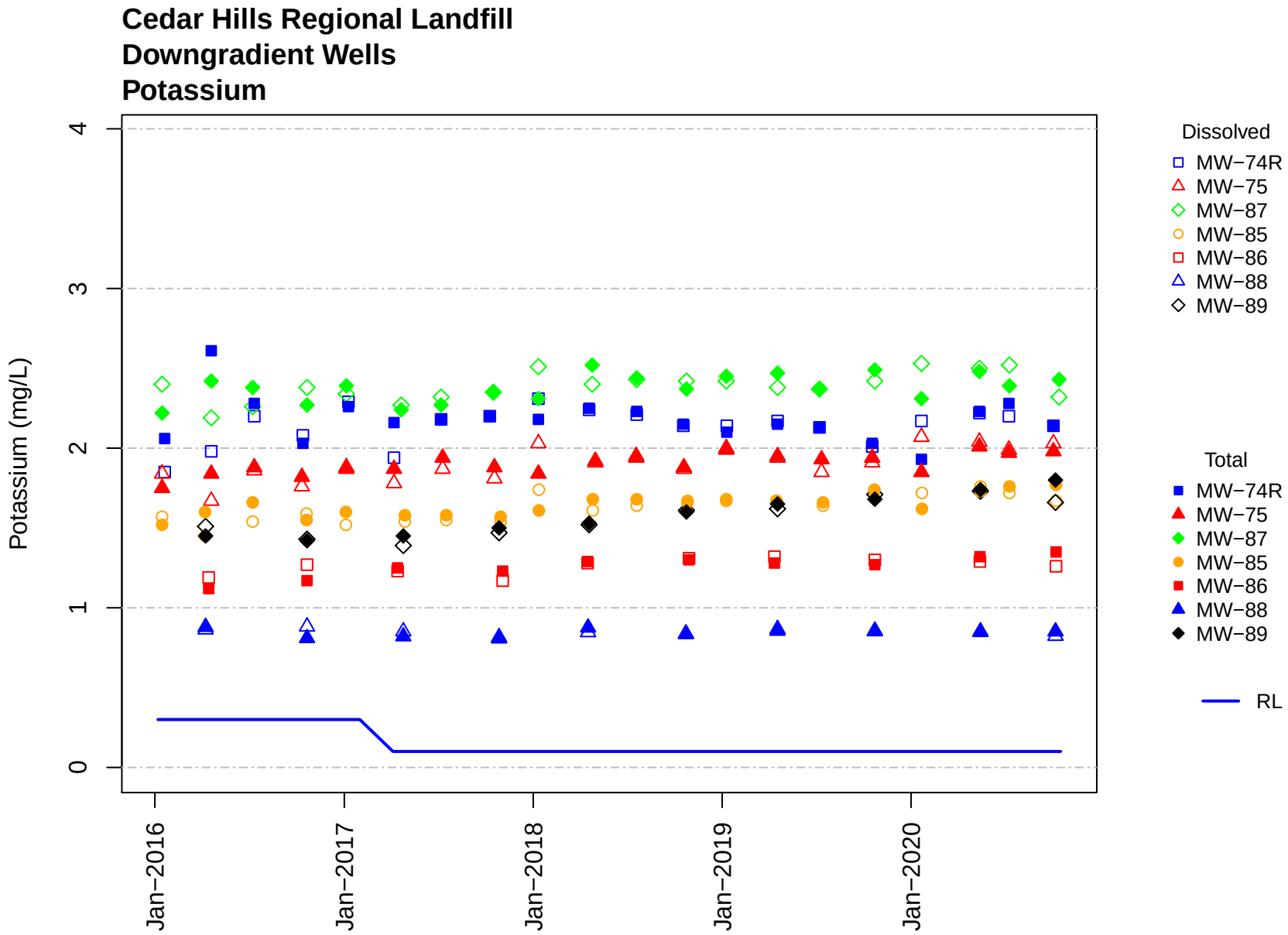

Cedar Hills Regional Landfill
Downgradient Wells
Nickel
Nickel (mg/L)
0.00
0.02
0.04
0.06
0.08
0.10
0.12
National Primary MCL − 0.1 mg/L
Washington State Groundwater Criteria − 0.1 mg/L
Jan−2016
Jan−2017
Jan−2018
Jan−2019
Jan−2020
Dissolved
MW−100
MW−68
MW−67
MW−69
MW−72
MW−80
Total
MW−100
MW−68
MW−67
MW−69
MW−72
MW−80
RL
Standard

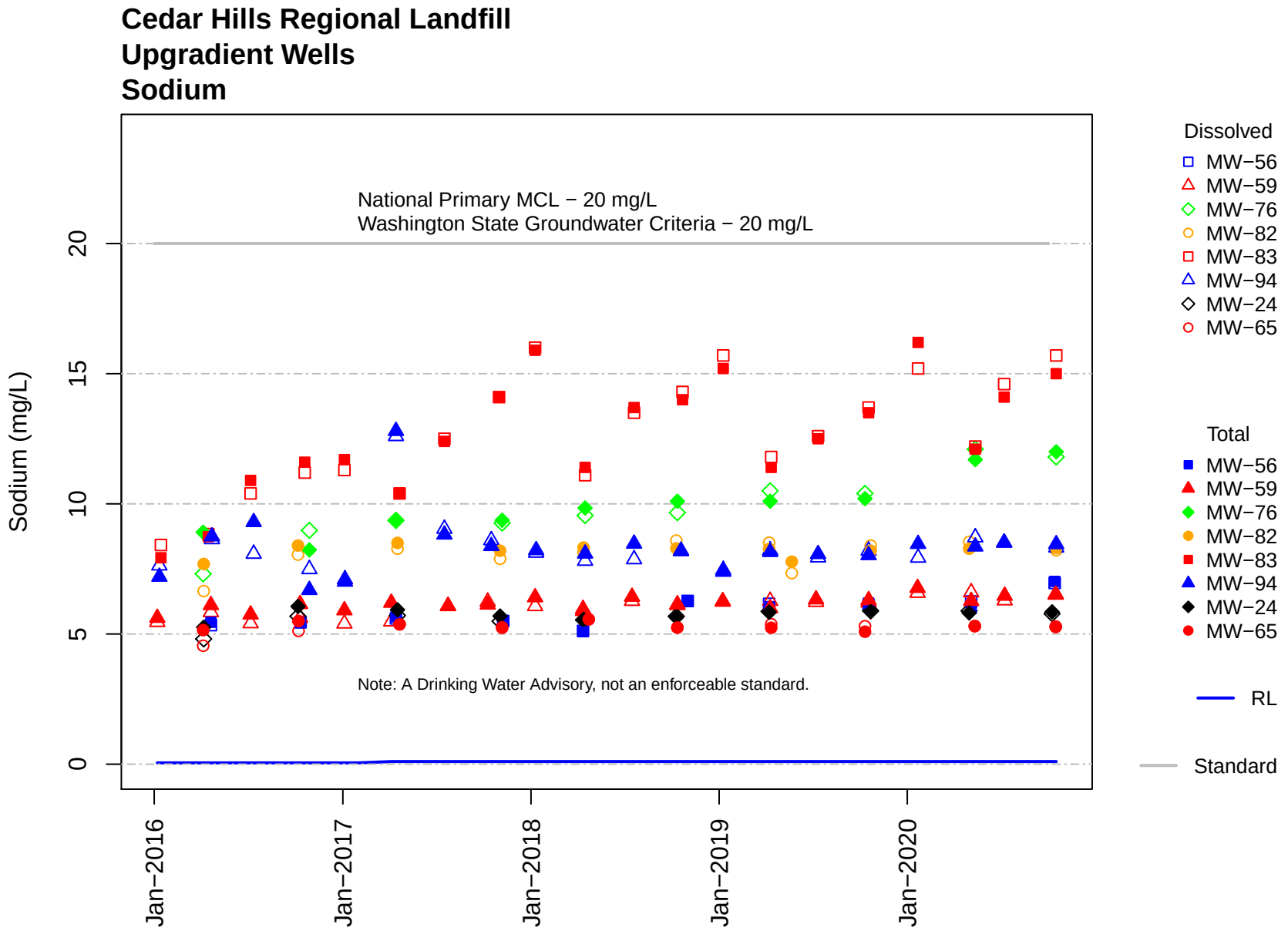

Cedar Hills Regional Landfill
Downgradient Wells
Nickel
National Primary MCL − 0.1 mg/L
Washington State Groundwater Criteria − 0.1 mg/L
Nickel (mg/L)
0.00
0.02
0.04
0.06
0.08
0.10
0.12
Jan−2016
Jan−2017
Jan−2018
Jan−2019
Jan−2020
Dissolved
MW−74R
MW−75
MW−87
MW−85
MW−86
MW−88
MW−89
Total
MW−74R
MW−75
MW−87
MW−85
MW−86
MW−88
MW−89
RL
Standard

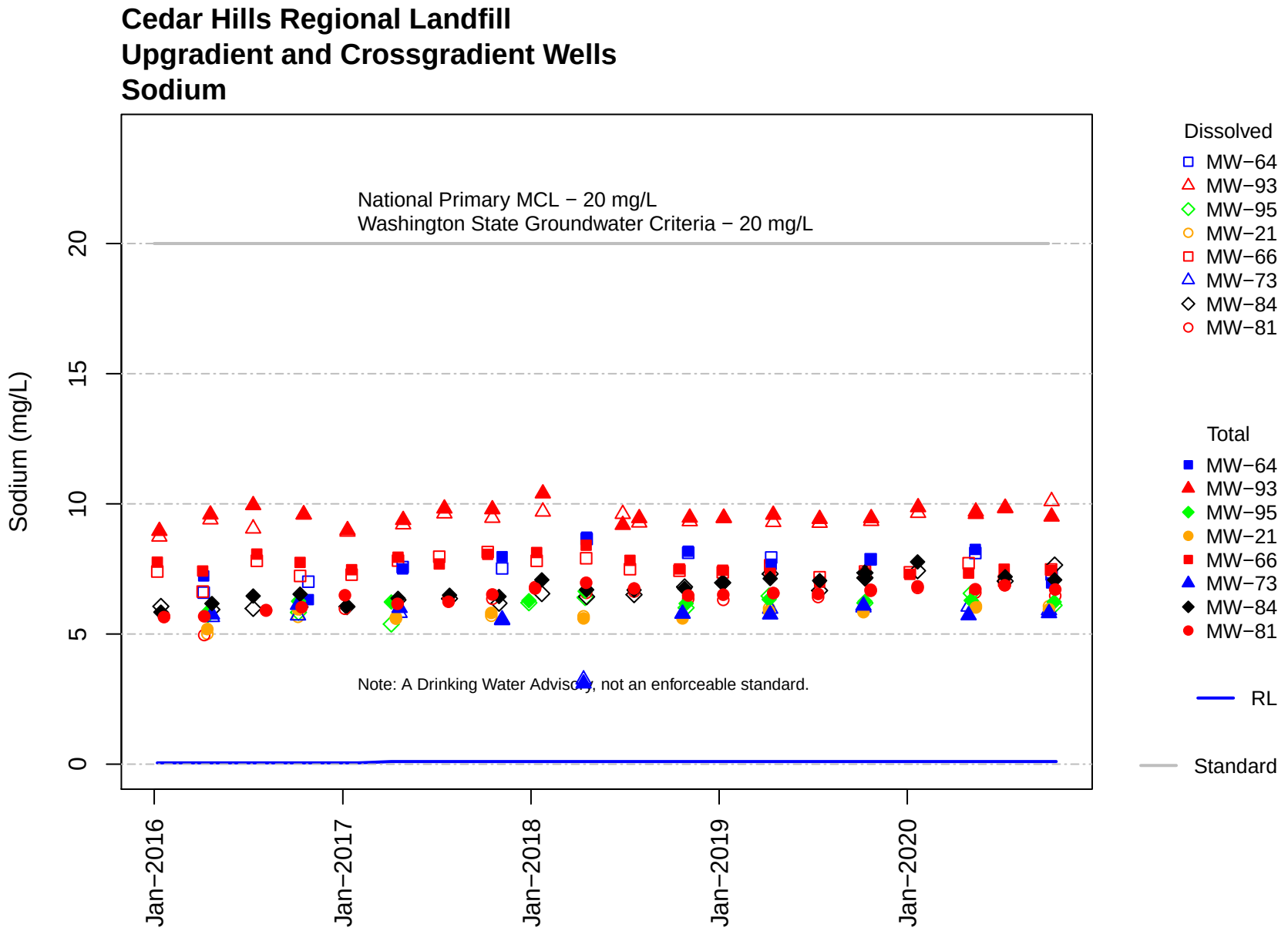

Cedar Hills Regional Landfill
Upgradient Wells
Potassium
Potassium (mg/L)
0
1
2
3
4
Jan−2016
Jan−2017
Jan−2018
Jan−2019
Jan−2020
Dissolved
MW−56
MW−59
MW−76
MW−82
MW−83
MW−94
MW−24
MW−65
Total
MW−56
MW−59
MW−76
MW−82
MW−83
MW−94
MW−24
MW−65
RL

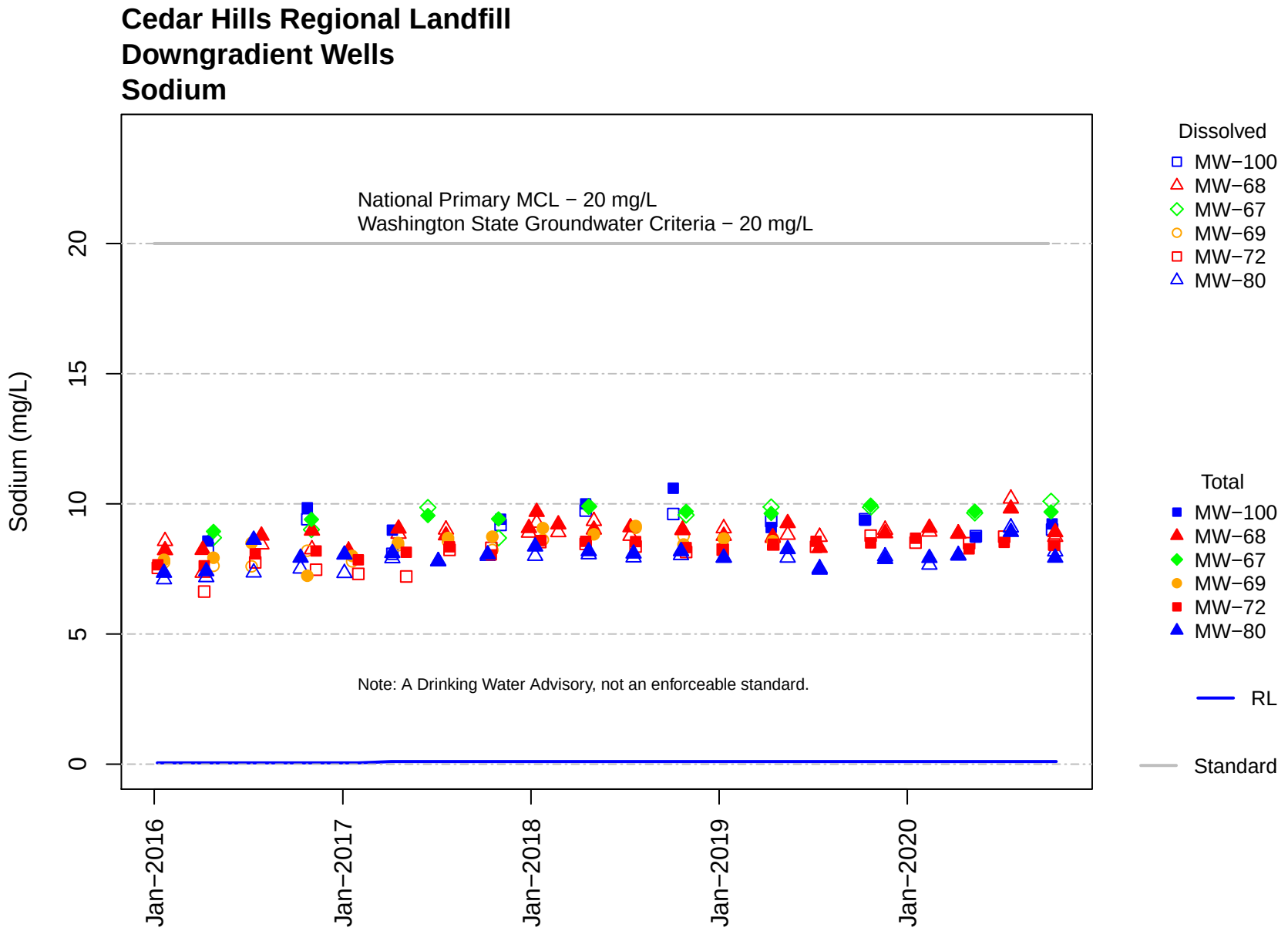

Cedar Hills Regional Landfill
Upgradient and Crossgradient Wells
Potassium
Potassium (mg/L)
0
1
2
3
4
Jan−2016
Jan−2017
Jan−2018
Jan−2019
Jan−2020
Dissolved
MW−64
MW−93
MW−95
MW−21
MW−66
MW−73
MW−84
MW−81
Total
MW−64
MW−93
MW−95
MW−21
MW−66
MW−73
MW−84
MW−81
RL

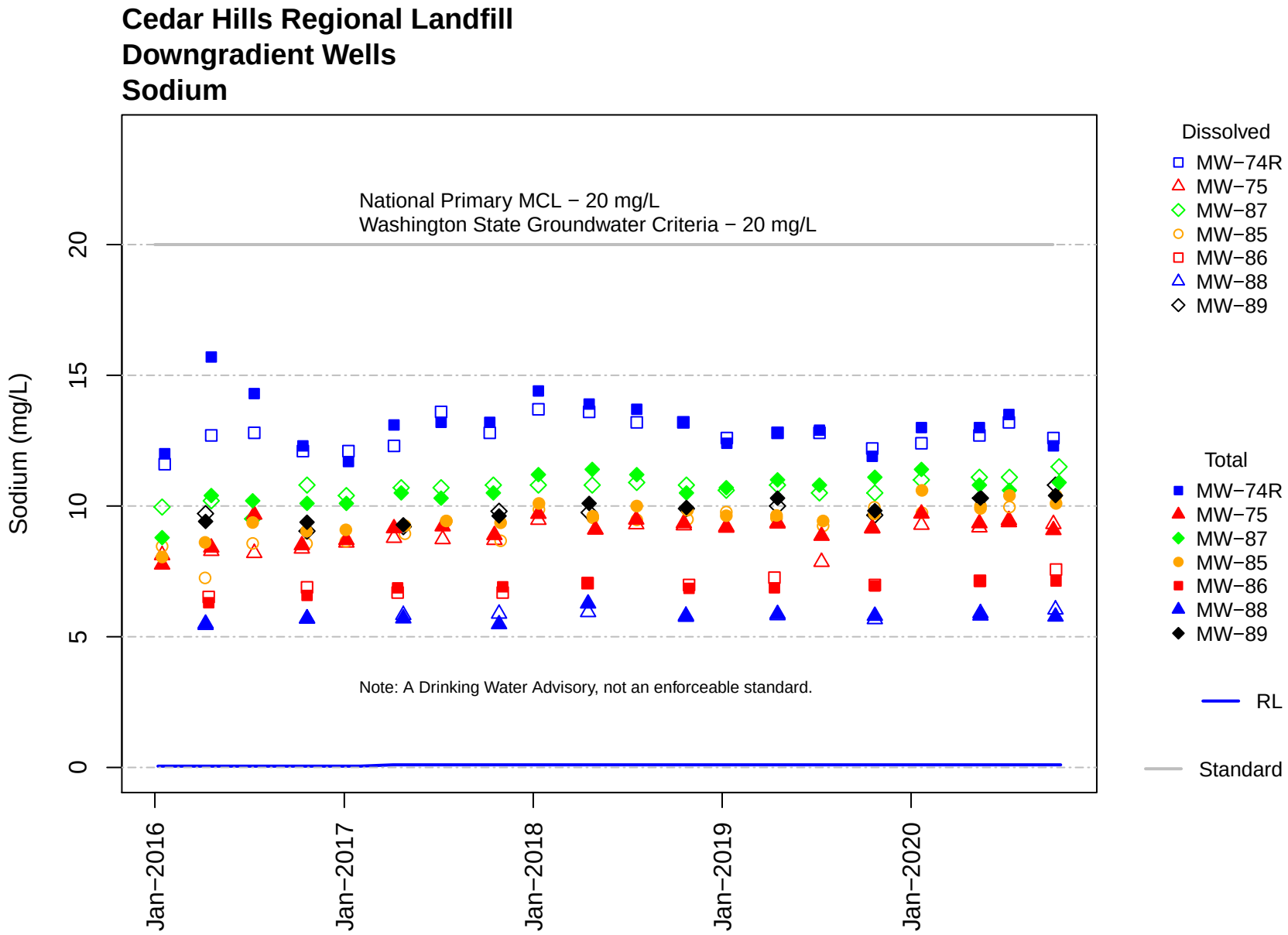

Cedar Hills Regional Landfill
Downgradient Wells
Potassium
Potassium (mg/L)
0
1
2
3
4
Jan−2016
Jan−2017
Jan−2018
Jan−2019
Jan−2020
Dissolved
MW−100
MW−68
MW−67
MW−69
MW−72
MW−80
Total
MW−100
MW−68
MW−67
MW−69
MW−72
MW−80
RL

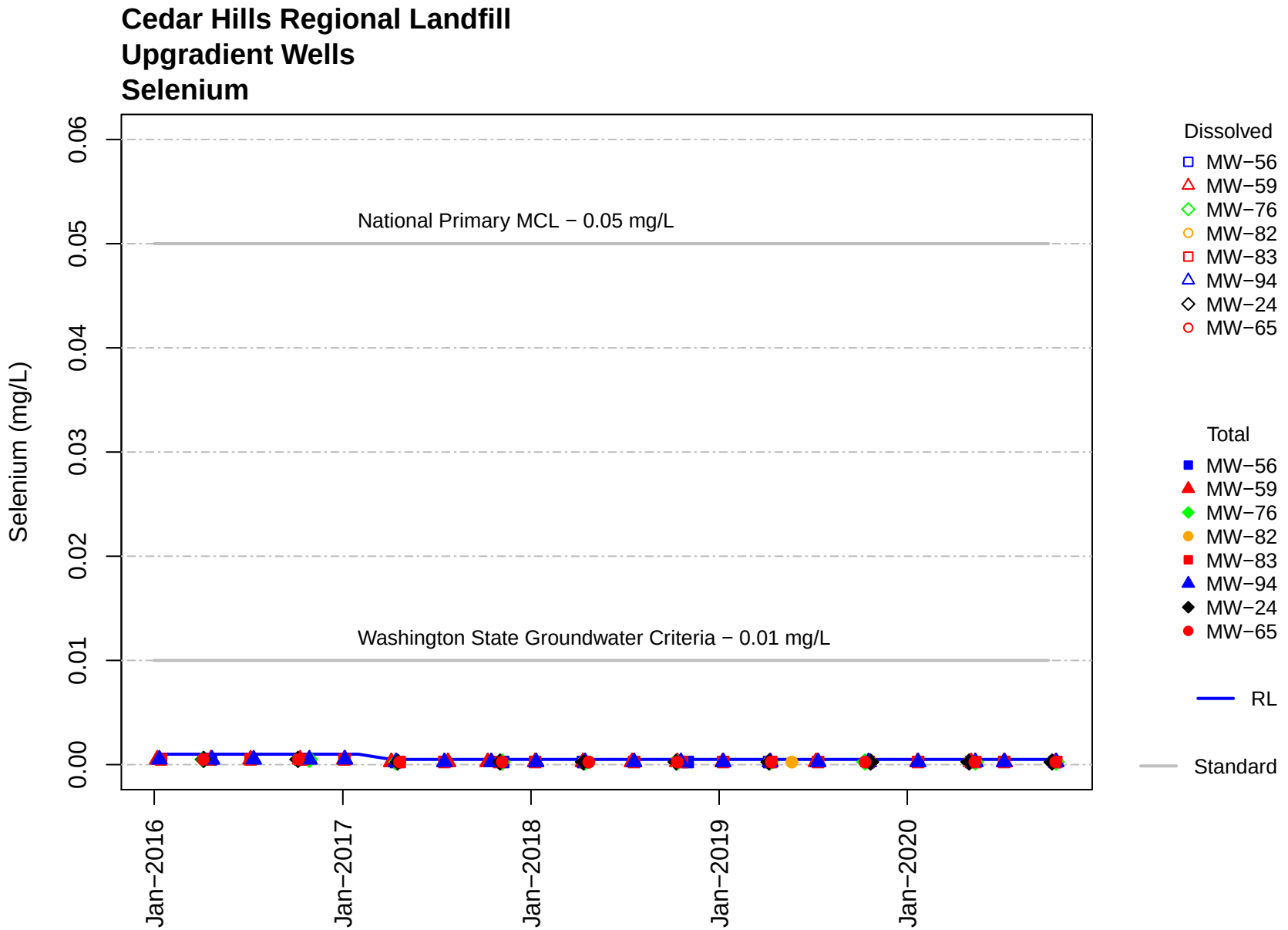

Cedar Hills Regional Landfill
Downgradient Wells
Potassium
Potassium (mg/L)
0
1
2
3
4
Jan−2016
Jan−2017
Jan−2018
Jan−2019
Jan−2020
Dissolved
MW−74R
MW−75
MW−87
MW−85
MW−86
MW−88
MW−89
Total
MW−74R
MW−75
MW−87
MW−85
MW−86
MW−88
MW−89
RL

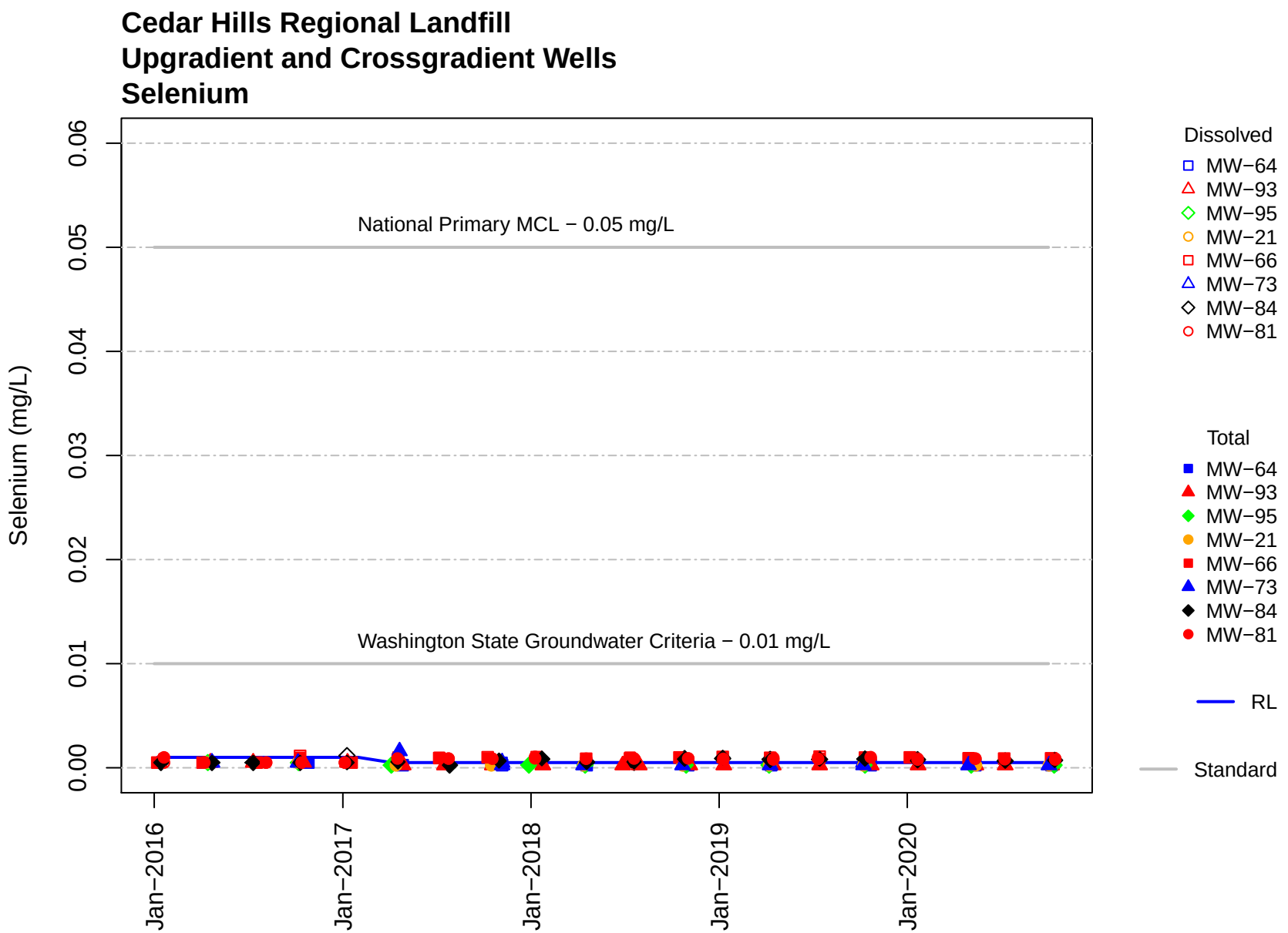

Cedar Hills Regional Landfill
Upgradient Wells
Sodium
National Primary MCL − 20 mg/L
Washington State Groundwater Criteria − 20 mg/L
Note: A Drinking Water Advisory, not an enforceable standard.
Sodium (mg/L)
0
5
10
15
20
Jan−2016
Jan−2017
Jan−2018
Jan−2019
Jan−2020
Dissolved
MW−56
MW−59
MW−76
MW−82
MW−83
MW−94
MW−24
MW−65
Total
MW−56
MW−59
MW−76
MW−82
MW−83
MW−94
MW−24
MW−65
RL
Standard

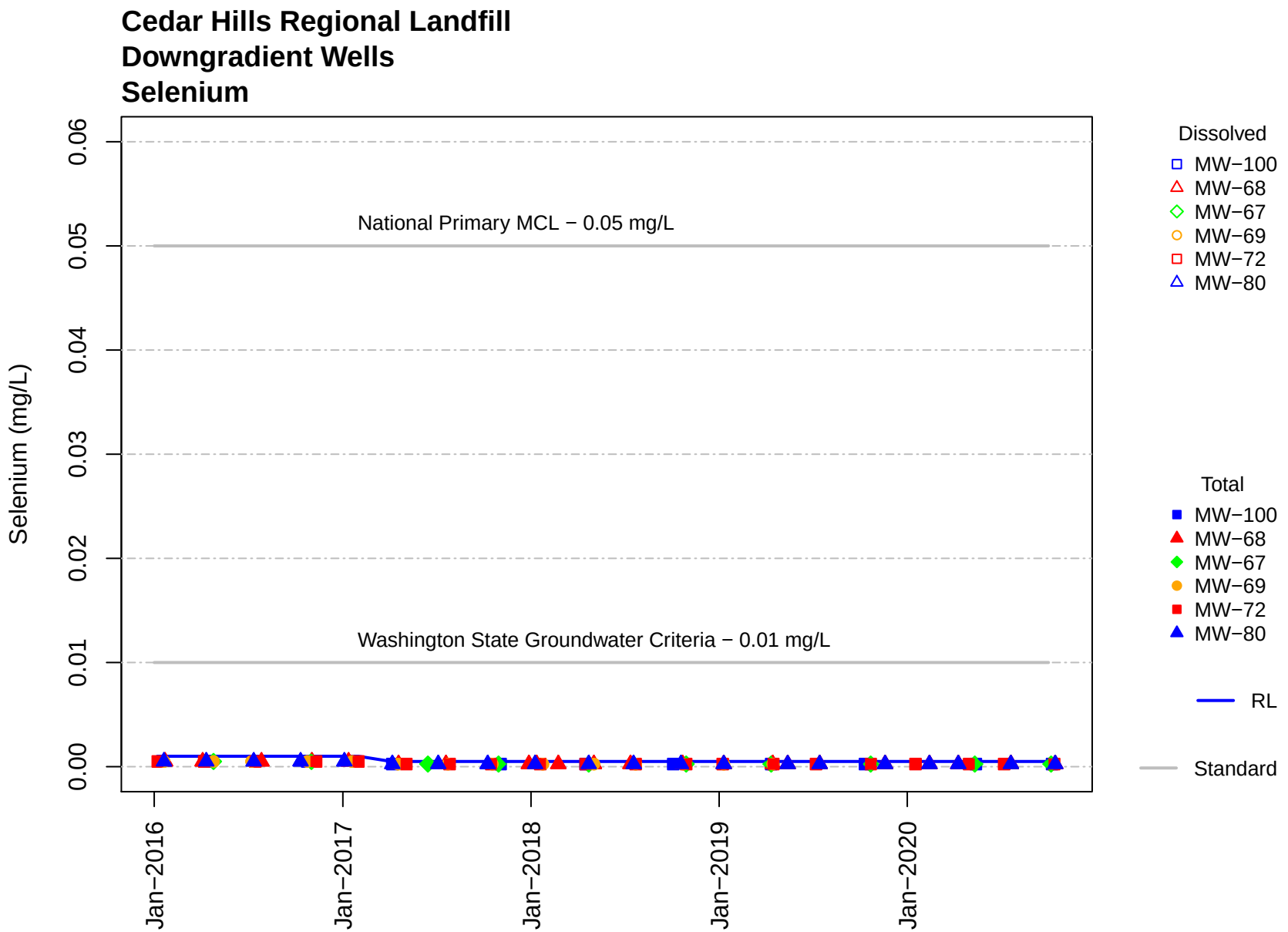

Cedar Hills Regional Landfill
Upgradient and Crossgradient Wells
Sodium
National Primary MCL − 20 mg/L
Washington State Groundwater Criteria − 20 mg/L
Note: A Drinking Water Advisory, not an enforceable standard.
Sodium (mg/L)
0
5
10
15
20
Jan−2016
Jan−2017
Jan−2018
Jan−2019
Jan−2020
Dissolved
MW−64
MW−93
MW−95
MW−21
MW−66
MW−73
MW−84
MW−81
Total
MW−64
MW−93
MW−95
MW−21
MW−66
MW−73
MW−84
MW−81
RL
Standard

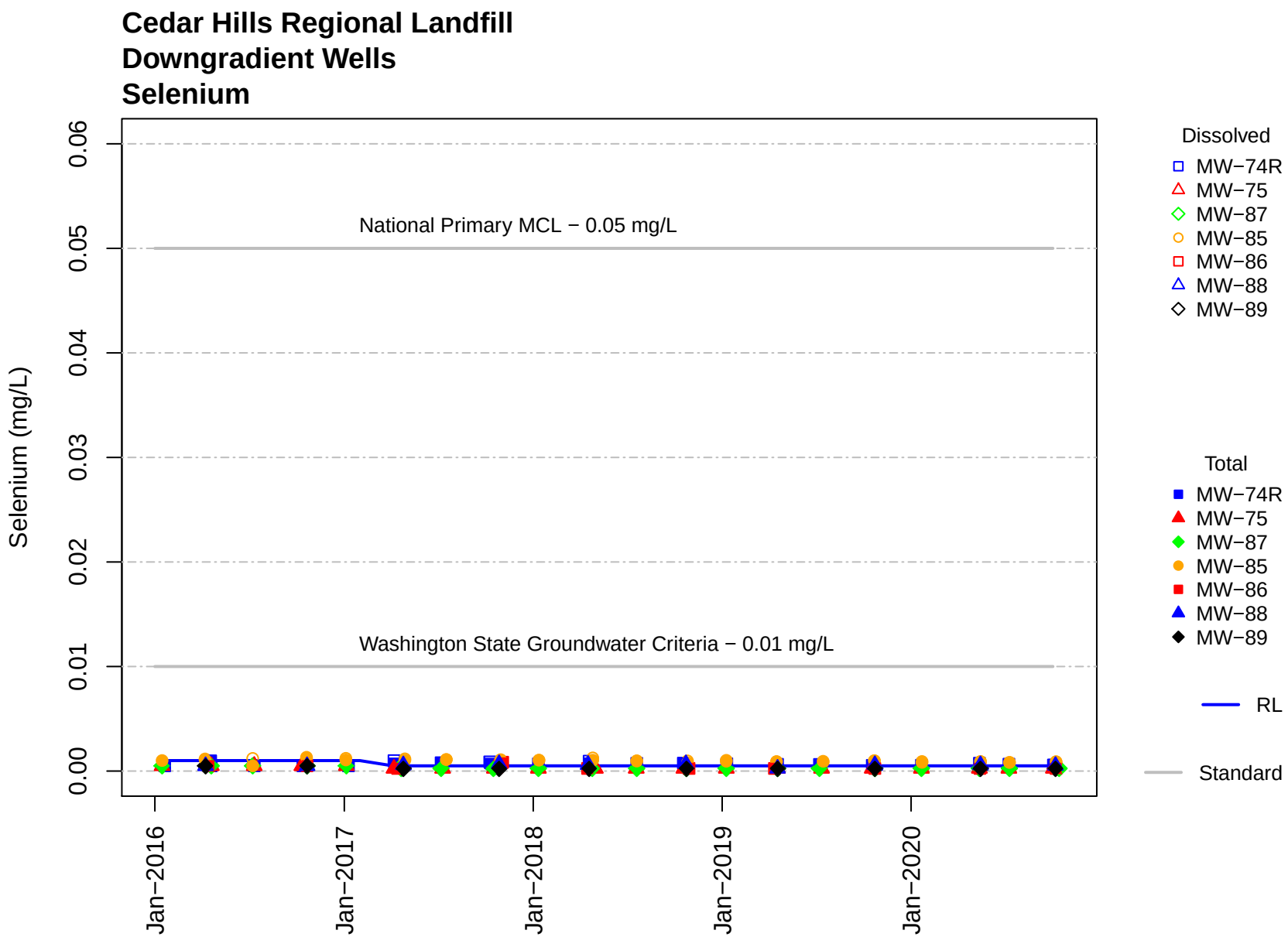

Cedar Hills Regional Landfill
Downgradient Wells
Sodium
National Primary MCL − 20 mg/L
Washington State Groundwater Criteria − 20 mg/L
Note: A Drinking Water Advisory, not an enforceable standard.
Sodium (mg/L)
0
5
10
15
20
Jan−2016
Jan−2017
Jan−2018
Jan−2019
Jan−2020
Dissolved
MW−100
MW−68
MW−67
MW−69
MW−72
MW−80
Total
MW−100
MW−68
MW−67
MW−69
MW−72
MW−80
RL
Standard

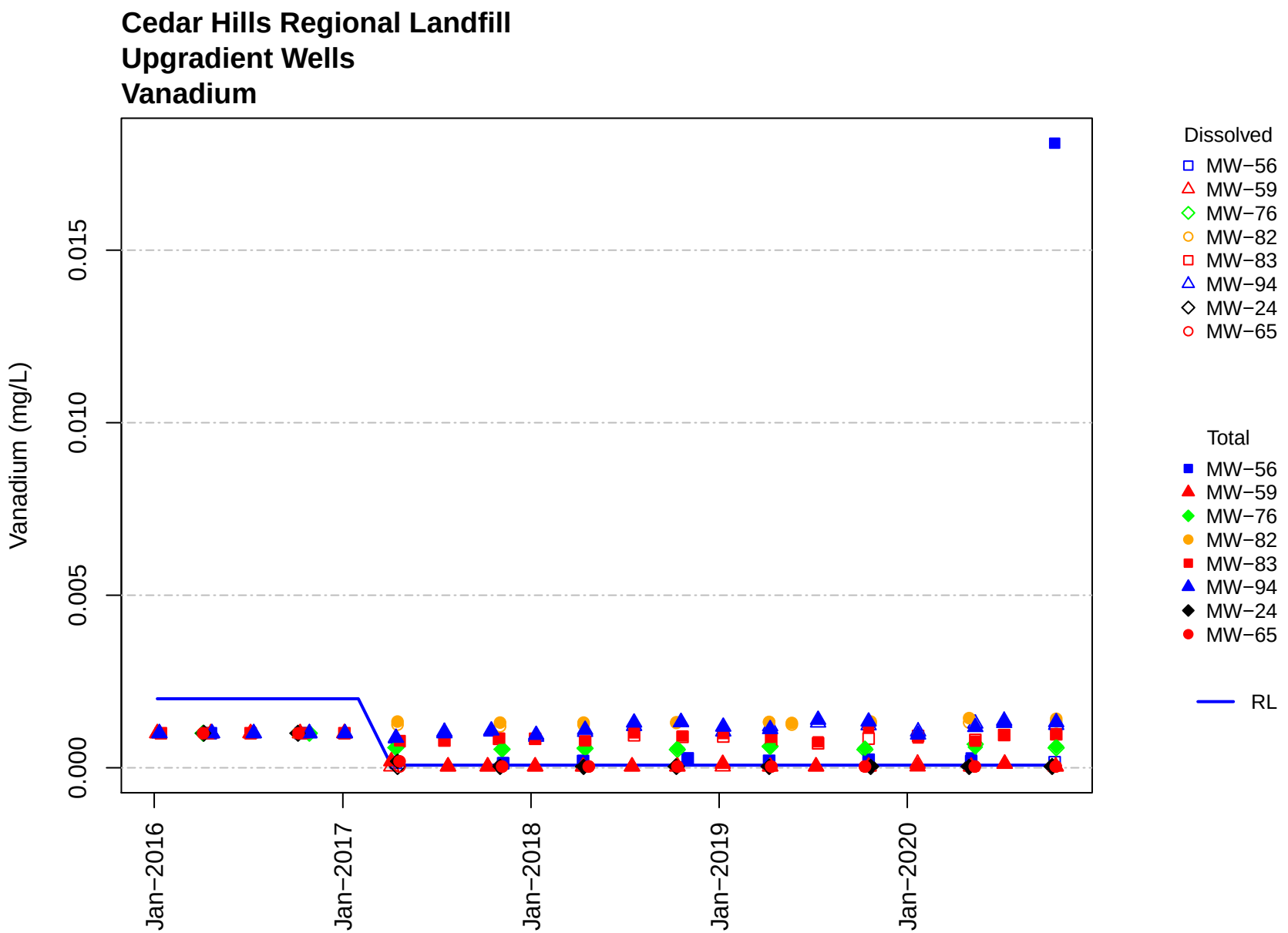

Cedar Hills Regional Landfill
Downgradient Wells
Sodium
National Primary MCL − 20 mg/L
Washington State Groundwater Criteria − 20 mg/L
Note: A Drinking Water Advisory, not an enforceable standard.
Sodium (mg/L)
0
5
10
15
20
Jan−2016
Jan−2017
Jan−2018
Jan−2019
Jan−2020
Dissolved
MW−74R
MW−75
MW−87
MW−85
MW−86
MW−88
MW−89
Total
MW−74R
MW−75
MW−87
MW−85
MW−86
MW−88
MW−89
RL
Standard

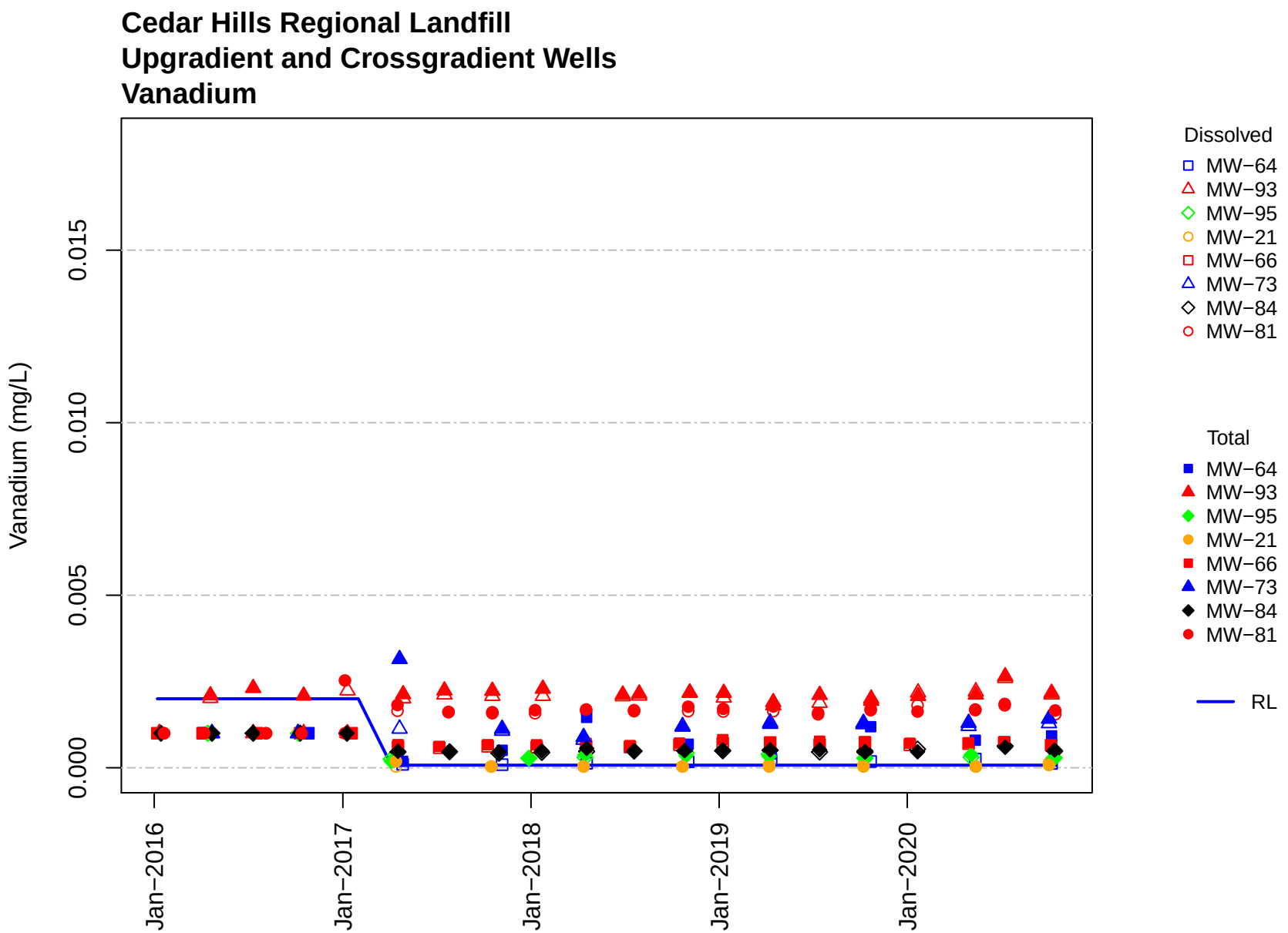

Cedar Hills Regional Landfill
Upgradient Wells
Selenium
Selenium (mg/L)
0.00
0.01
0.02
0.03
0.04
0.05
0.06
National Primary MCL − 0.05 mg/L
Washington State Groundwater Criteria − 0.01 mg/L
Jan−2016
Jan−2017
Jan−2018
Jan−2019
Jan−2020
Dissolved
MW−56
MW−59
MW−76
MW−82
MW−83
MW−94
MW−24
MW−65
Total
MW−56
MW−59
MW−76
MW−82
MW−83
MW−94
MW−24
MW−65
RL
Standard

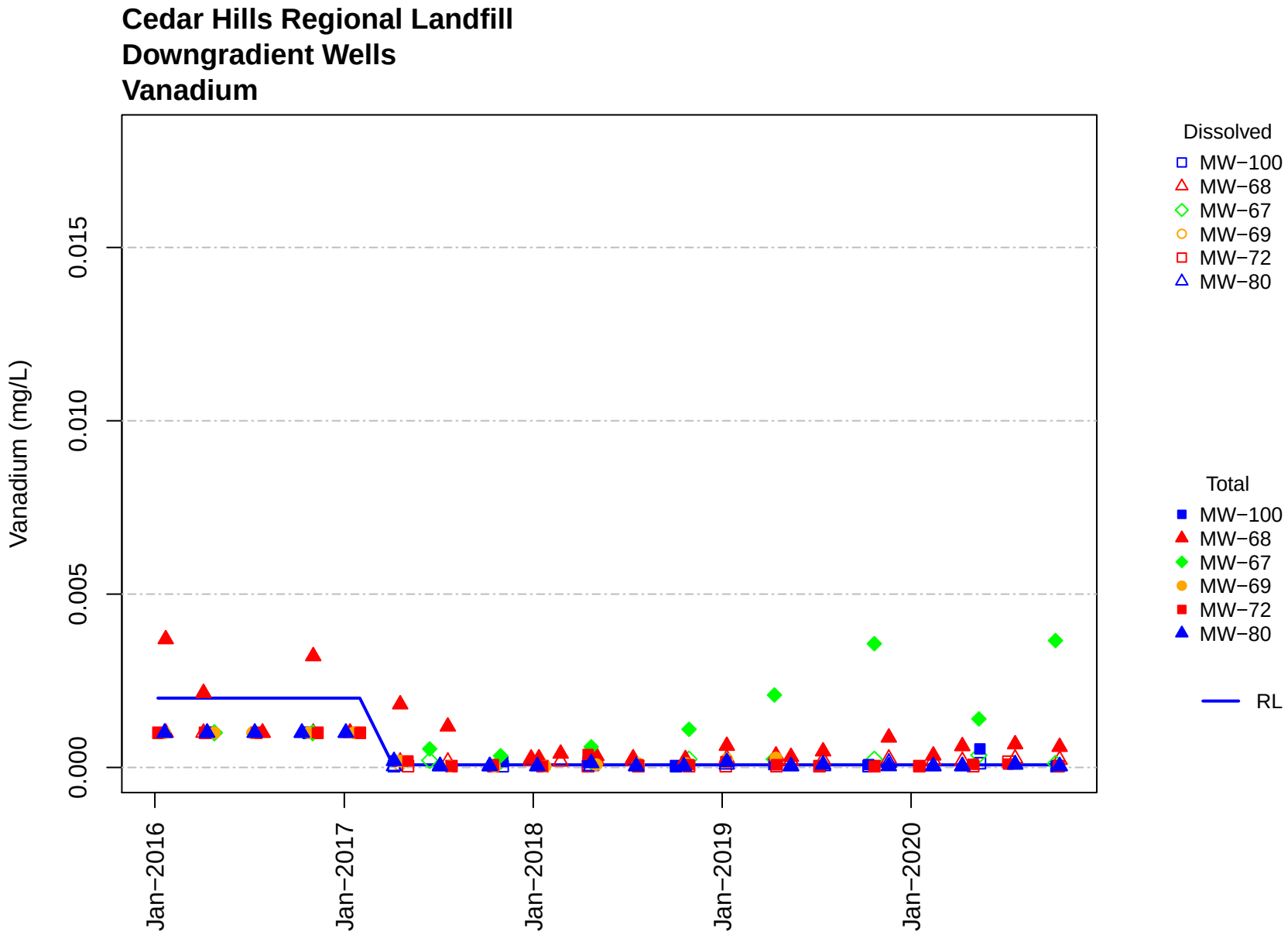

Cedar Hills Regional Landfill
Upgradient and Crossgradient Wells
Selenium
Selenium (mg/L)
0.00
0.01
0.02
0.03
0.04
0.05
0.06
National Primary MCL − 0.05 mg/L
Washington State Groundwater Criteria − 0.01 mg/L
Jan−2016
Jan−2017
Jan−2018
Jan−2019
Jan−2020
Dissolved
MW−64
MW−93
MW−95
MW−21
MW−66
MW−73
MW−84
MW−81
Total
MW−64
MW−93
MW−95
MW−21
MW−66
MW−73
MW−84
MW−81
RL
Standard

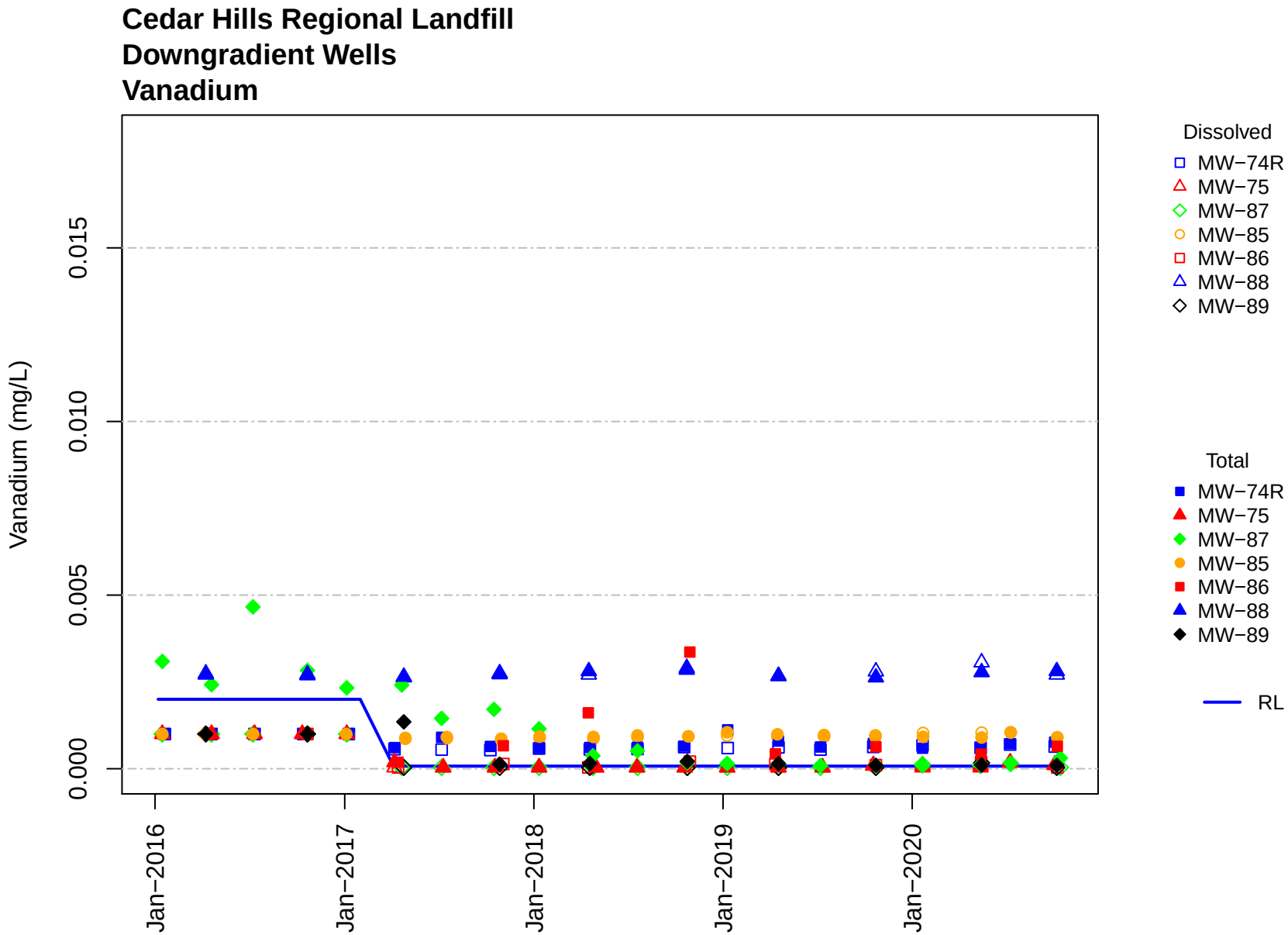

Cedar Hills Regional Landfill
Downgradient Wells
Selenium
Selenium (mg/L)
0.00
0.01
0.02
0.03
0.04
0.05
0.06
National Primary MCL − 0.05 mg/L
Washington State Groundwater Criteria − 0.01 mg/L
Jan−2016
Jan−2017
Jan−2018
Jan−2019
Jan−2020
Dissolved
MW−100
MW−68
MW−67
MW−69
MW−72
MW−80
Total
MW−100
MW−68
MW−67
MW−69
MW−72
MW−80
RL
Standard

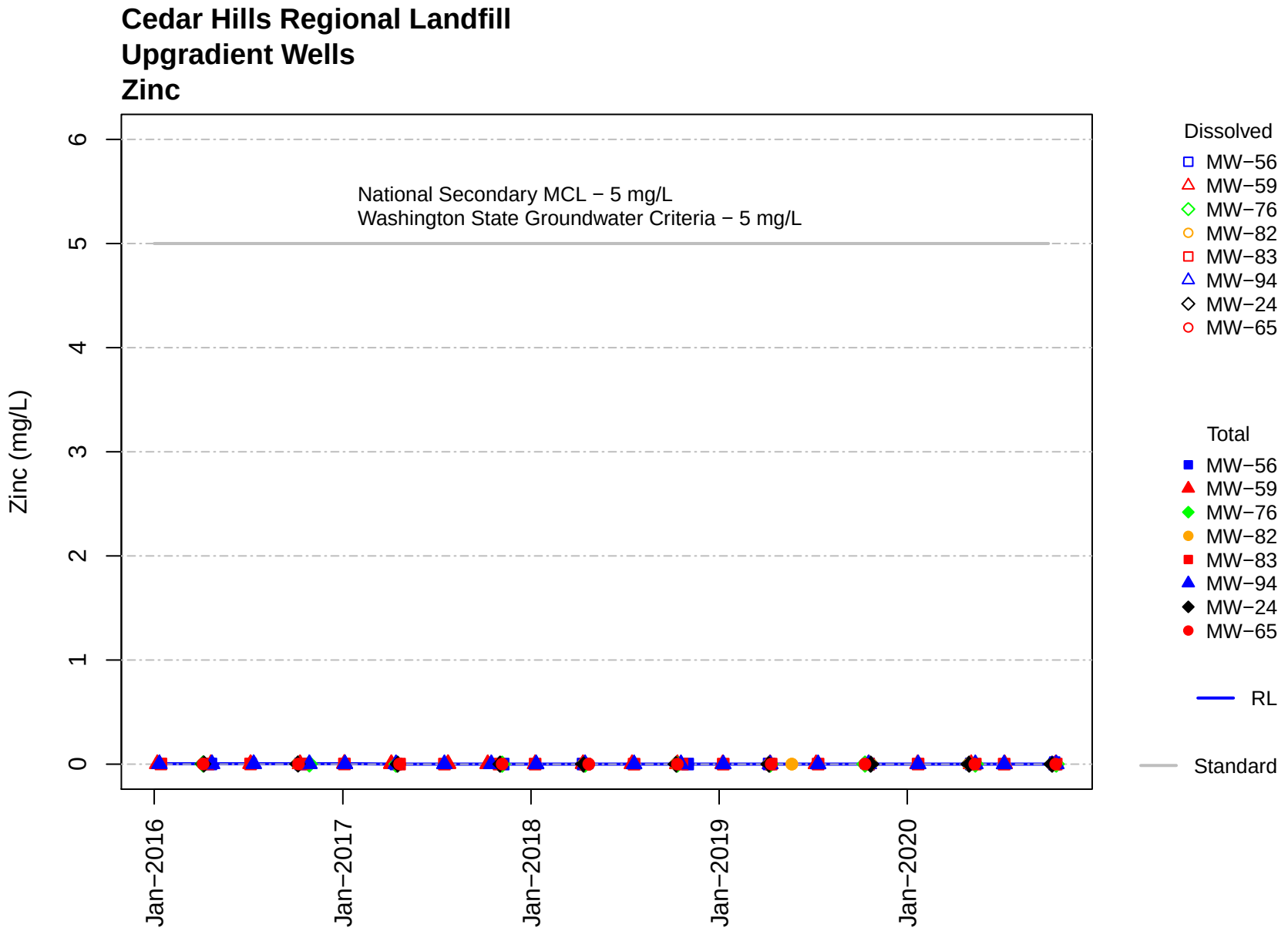

Cedar Hills Regional Landfill
Downgradient Wells
Selenium
Selenium (mg/L)
0.00
0.01
0.02
0.03
0.04
0.05
0.06
National Primary MCL − 0.05 mg/L
Washington State Groundwater Criteria − 0.01 mg/L
Jan−2016
Jan−2017
Jan−2018
Jan−2019
Jan−2020
Dissolved
MW−74R
MW−75
MW−87
MW−85
MW−86
MW−88
MW−89
Total
MW−74R
MW−75
MW−87
MW−85
MW−86
MW−88
MW−89
RL
Standard

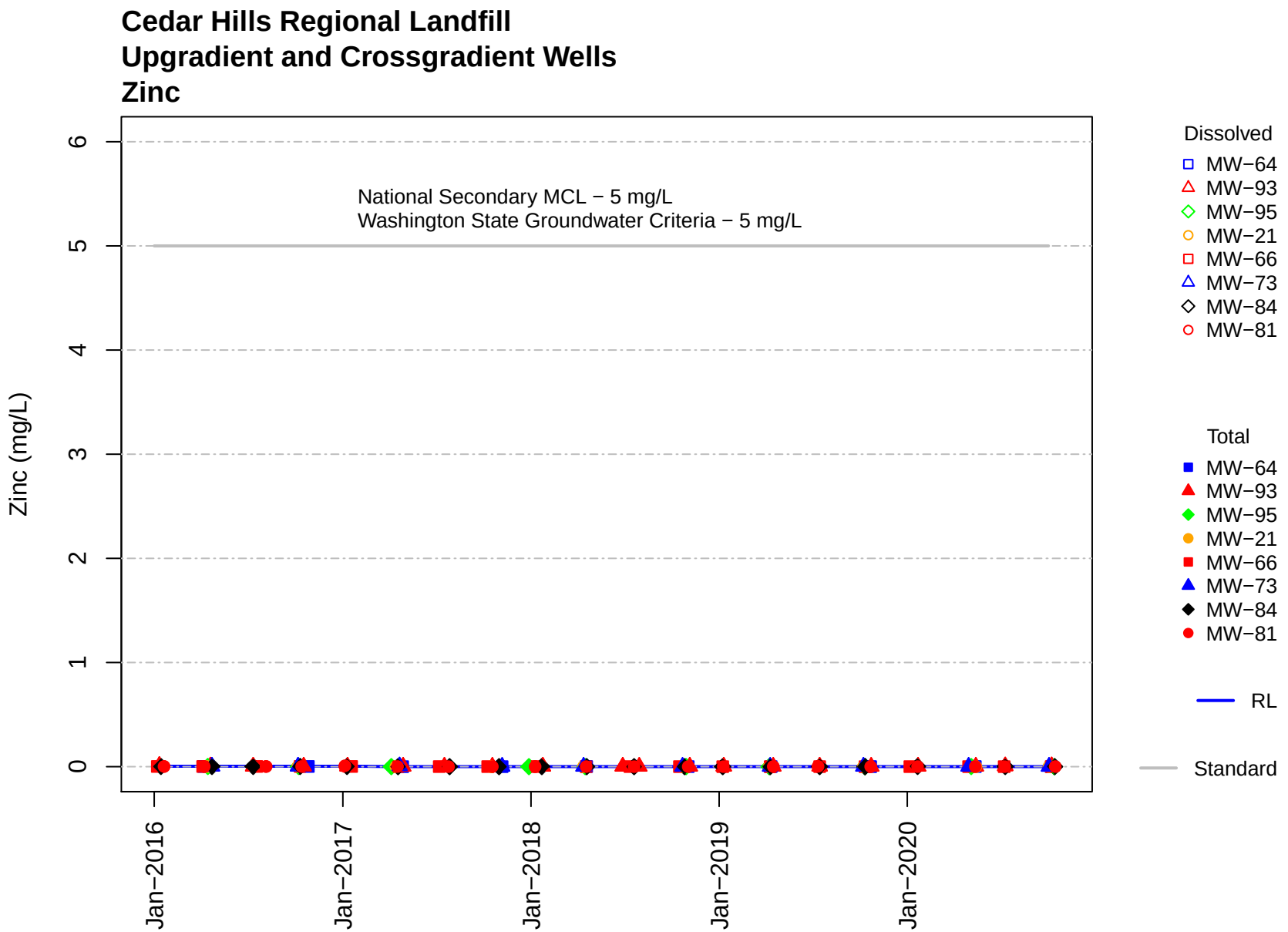

Cedar Hills Regional Landfill
Upgradient Wells
Vanadium
Vanadium (mg/L)
0.000
0.005
0.010
0.015
Jan−2016
Jan−2017
Jan−2018
Jan−2019
Jan−2020
Dissolved
MW−56
MW−59
MW−76
MW−82
MW−83
MW−94
MW−24
MW−65
Total
MW−56
MW−59
MW−76
MW−82
MW−83
MW−94
MW−24
MW−65
RL

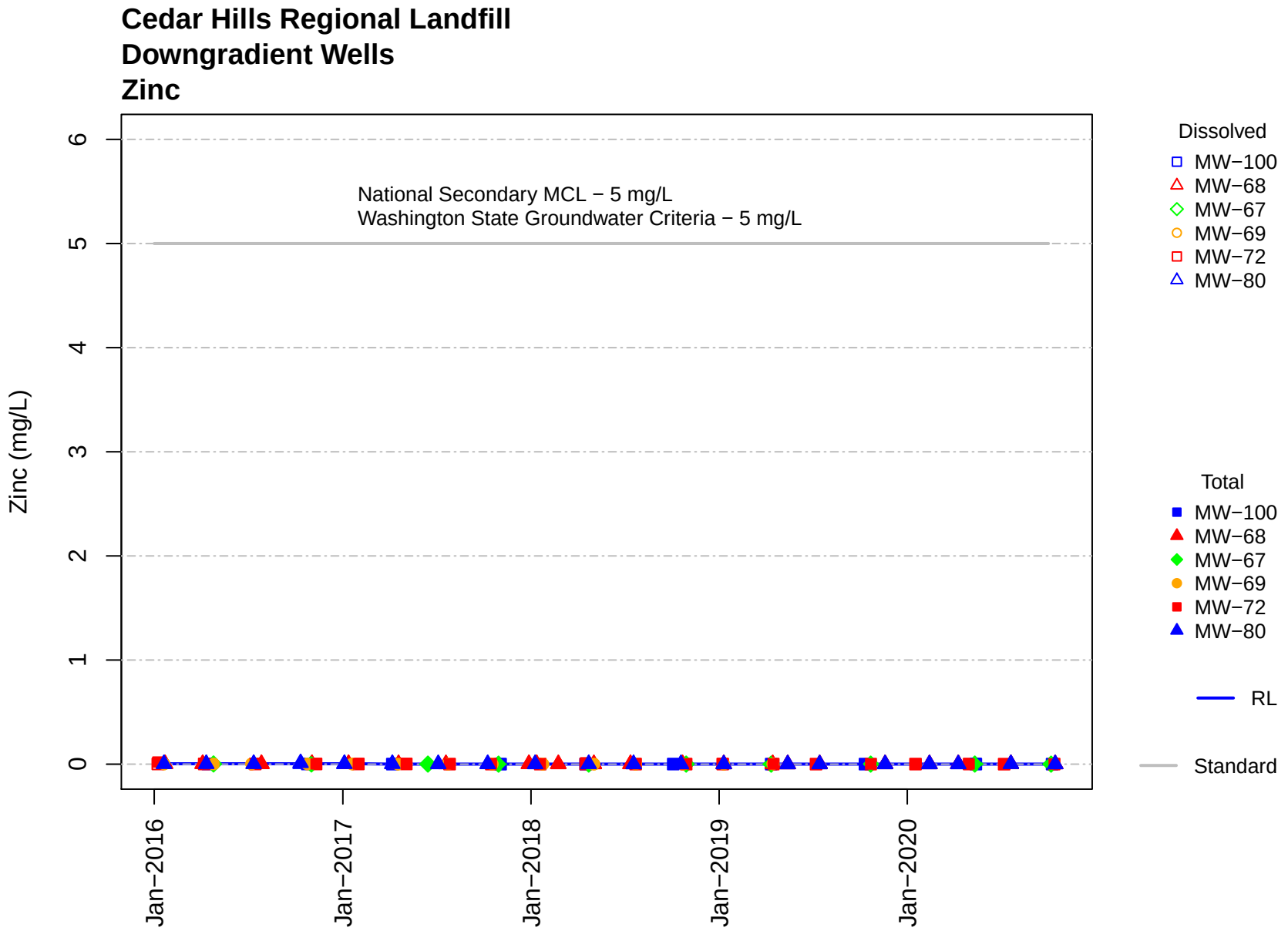

Cedar Hills Regional Landfill
Upgradient and Crossgradient Wells
Vanadium
Vanadium (mg/L)
0.000
0.005
0.010
0.015
Jan−2016
Jan−2017
Jan−2018
Jan−2019
Jan−2020
Dissolved
MW−64
MW−93
MW−95
MW−21
MW−66
MW−73
MW−84
MW−81
Total
MW−64
MW−93
MW−95
MW−21
MW−66
MW−73
MW−84
MW−81
RL

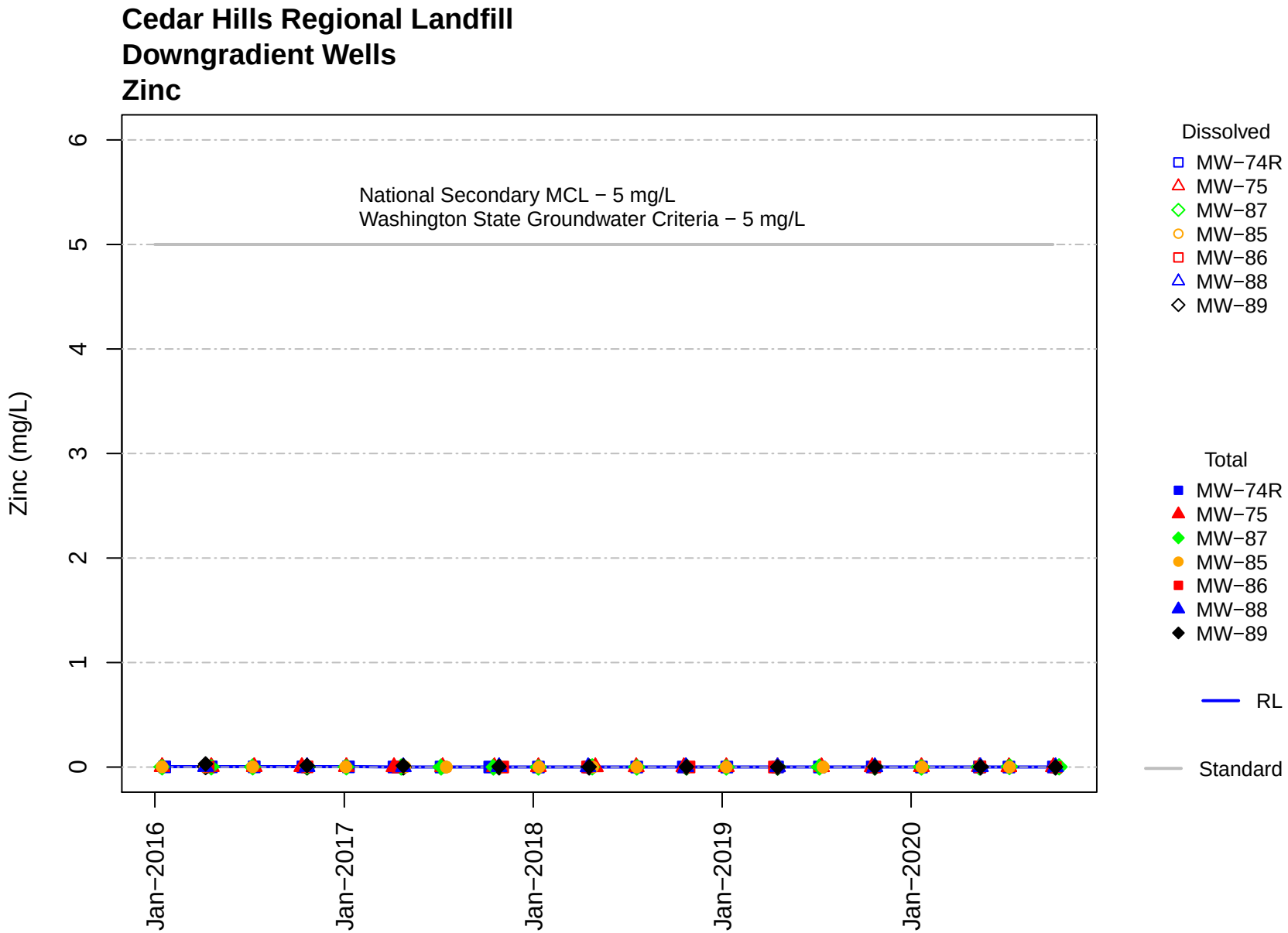

Cedar Hills Regional Landfill
Downgradient Wells
Vanadium
Vanadium (mg/L)
0.000
0.005
0.010
0.015
Jan−2016
Jan−2017
Jan−2018
Jan−2019
Jan−2020
Dissolved
MW−100
MW−68
MW−67
MW−69
MW−72
MW−80
Total
MW−100
MW−68
MW−67
MW−69
MW−72
MW−80
RL

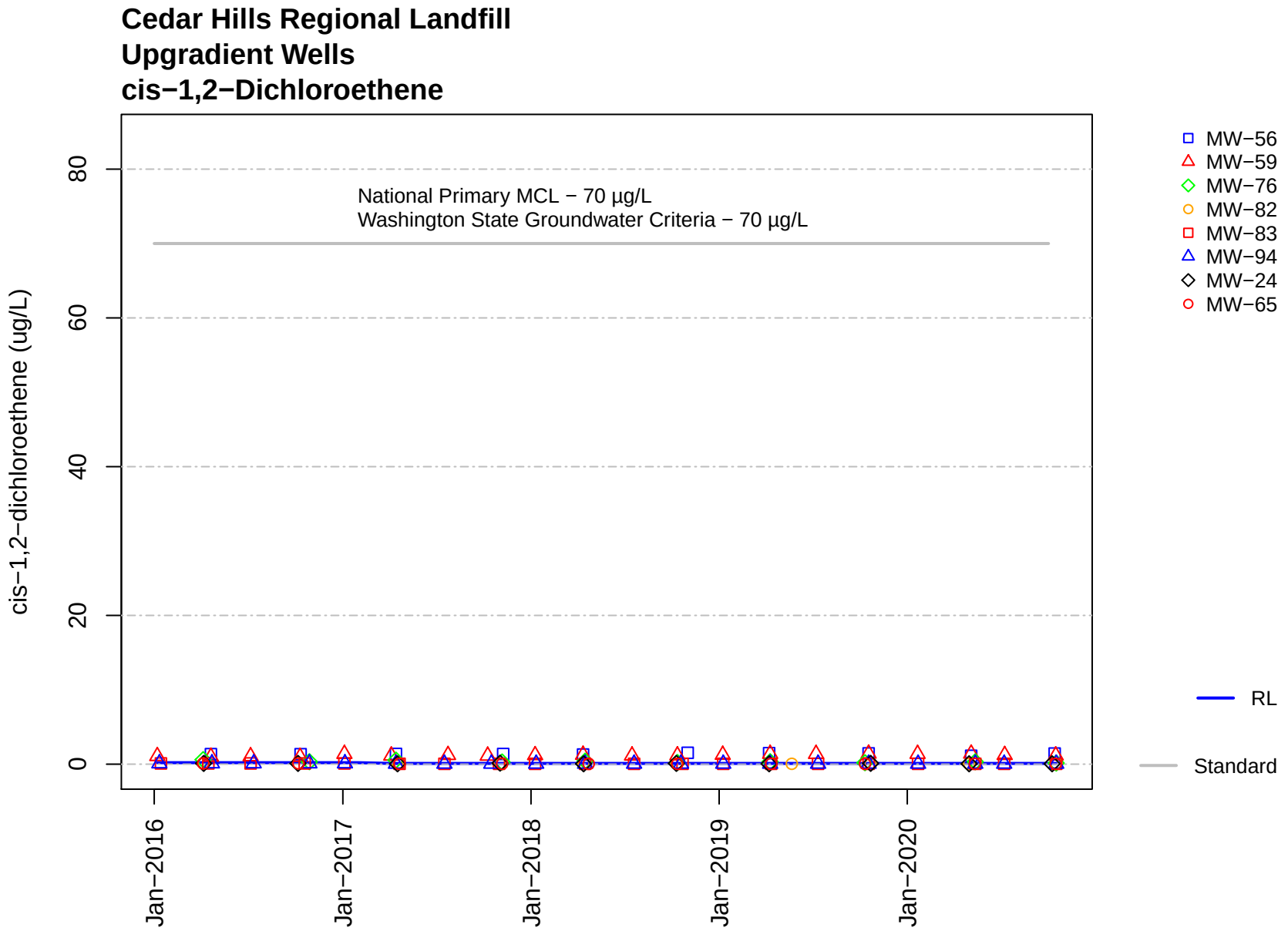

Cedar Hills Regional Landfill
Downgradient Wells
Vanadium
Vanadium (mg/L)
0.000
0.005
0.010
0.015
Jan−2016
Jan−2017
Jan−2018
Jan−2019
Jan−2020
Dissolved
MW−74R
MW−75
MW−87
MW−85
MW−86
MW−88
MW−89
Total
MW−74R
MW−75
MW−87
MW−85
MW−86
MW−88
MW−89
RL

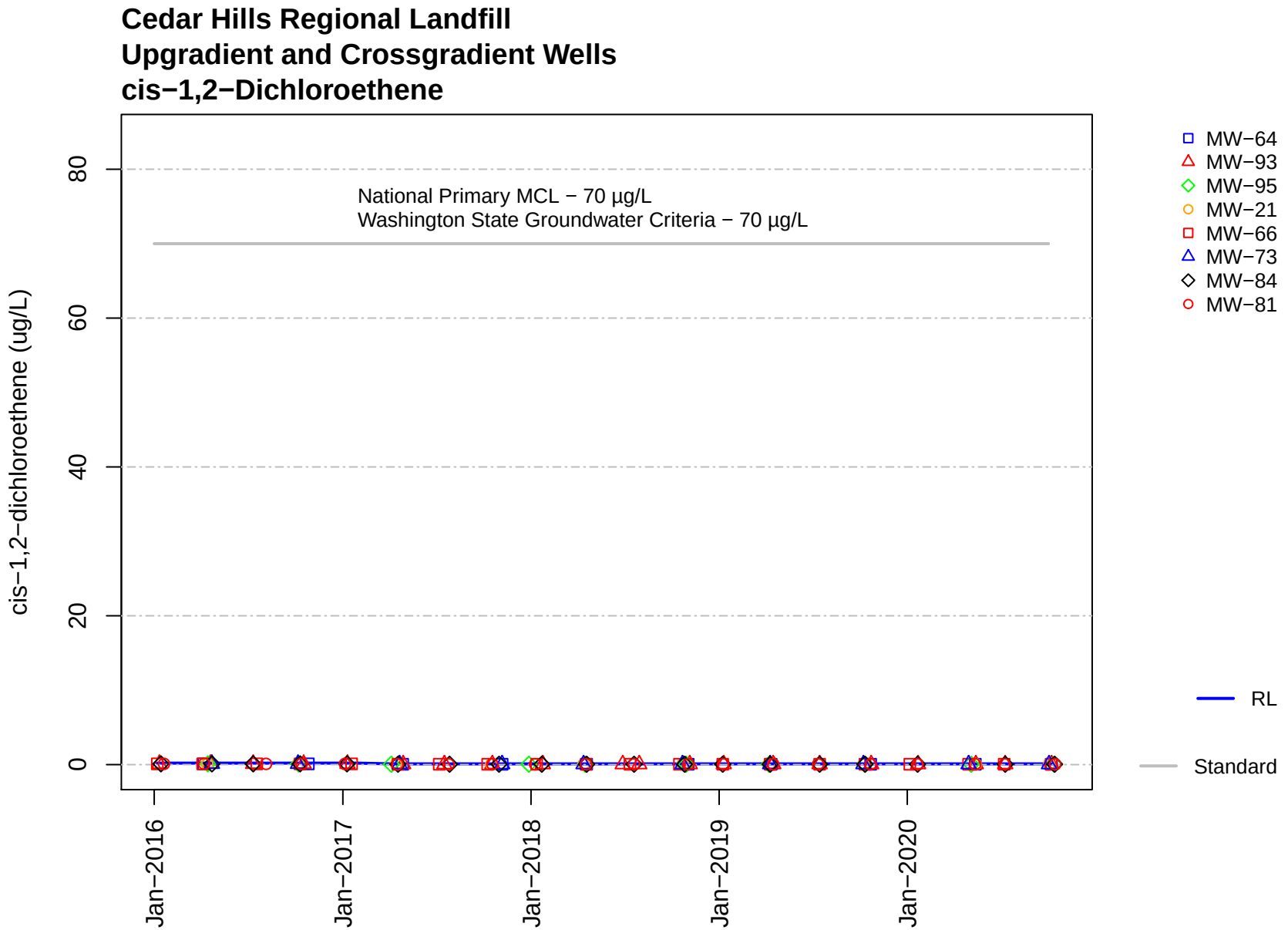

Cedar Hills Regional Landfill
Upgradient Wells
Zinc
National Secondary MCL − 5 mg/L
Washington State Groundwater Criteria − 5 mg/L
Zinc (mg/L)
0
1
2
3
4
5
6
Jan−2016
Jan−2017
Jan−2018
Jan−2019
Jan−2020
Dissolved
MW−56
MW−59
MW−76
MW−82
MW−83
MW−94
MW−24
MW−65
Total
MW−56
MW−59
MW−76
MW−82
MW−83
MW−94
MW−24
MW−65
RL
Standard

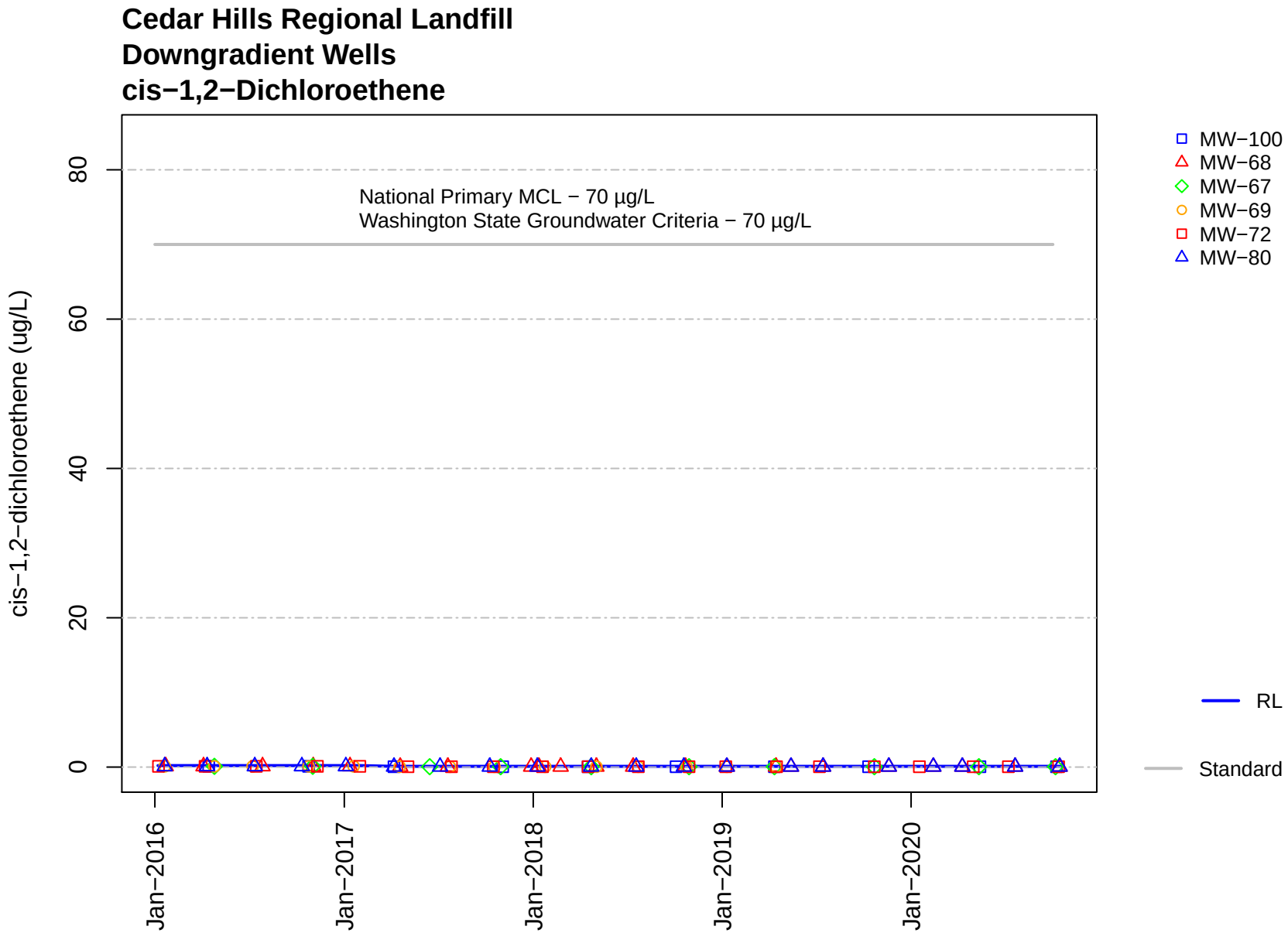

Cedar Hills Regional Landfill
Upgradient and Crossgradient Wells
Zinc
Zinc (mg/L)
0
1
2
3
4
5
6
National Secondary MCL − 5 mg/L
Washington State Groundwater Criteria − 5 mg/L
Jan−2016
Jan−2017
Jan−2018
Jan−2019
Jan−2020
Dissolved
MW−64
MW−93
MW−95
MW−21
MW−66
MW−73
MW−84
MW−81
Total
MW−64
MW−93
MW−95
MW−21
MW−66
MW−73
MW−84
MW−81
RL
Standard

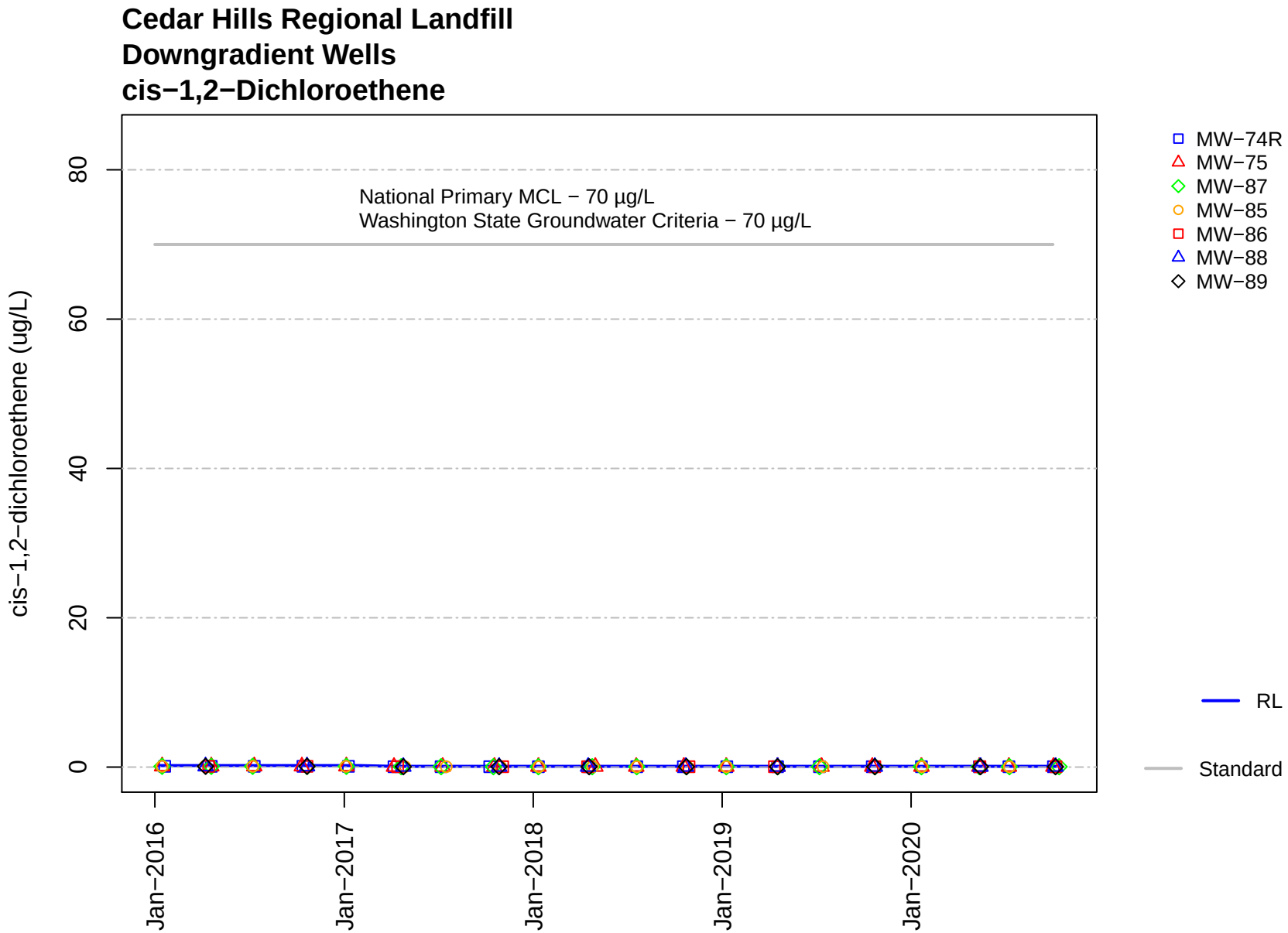

Cedar Hills Regional Landfill
Downgradient Wells
Zinc
National Secondary MCL − 5 mg/L
Washington State Groundwater Criteria − 5 mg/L
Zinc (mg/L)
0
1
2
3
4
5
6
Jan−2016
Jan−2017
Jan−2018
Jan−2019
Jan−2020
Dissolved
MW−100
MW−68
MW−67
MW−69
MW−72
MW−80
Total
MW−100
MW−68
MW−67
MW−69
MW−72
MW−80
RL
Standard

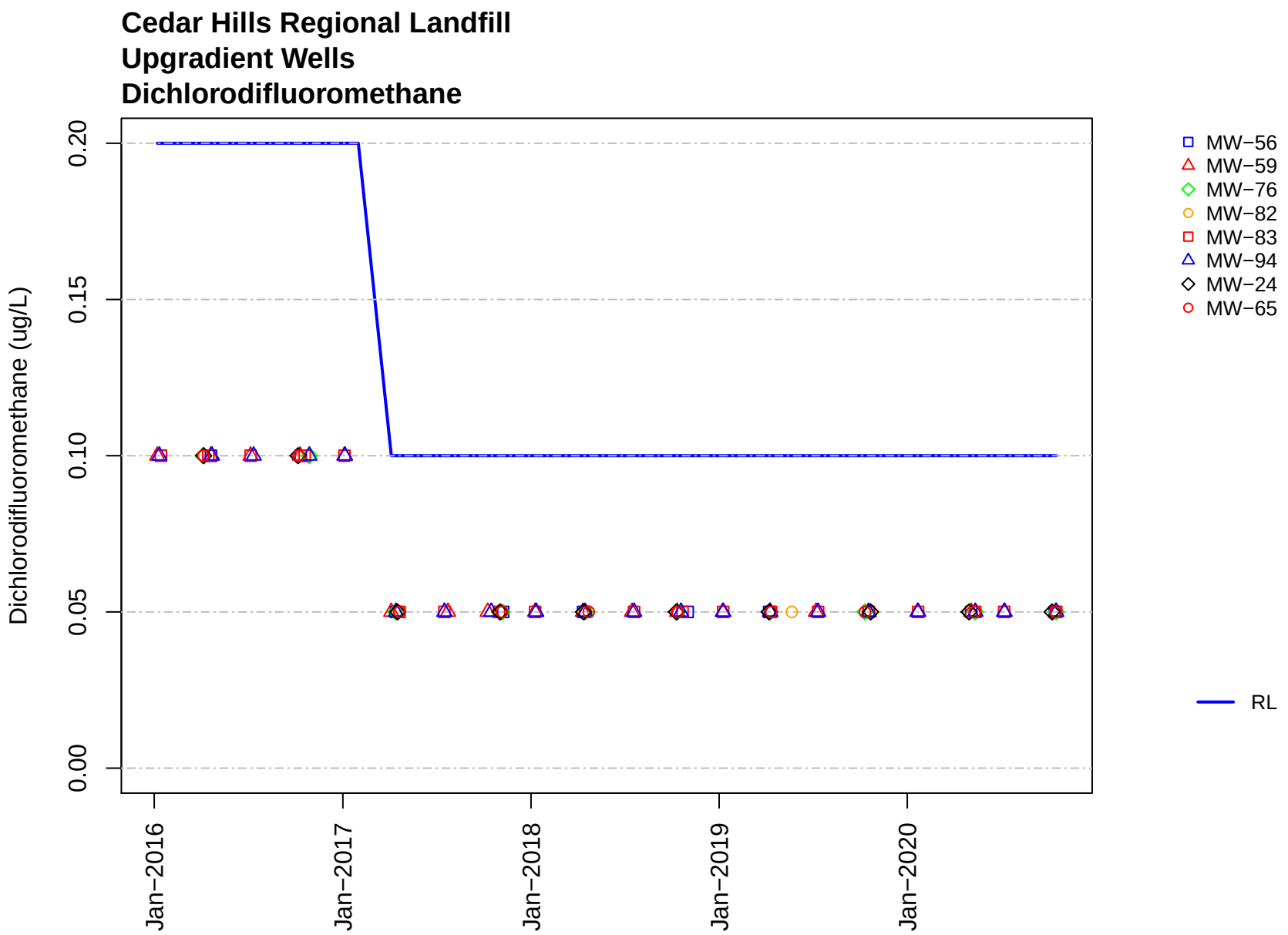

Cedar Hills Regional Landfill
Downgradient Wells
Zinc
National Secondary MCL − 5 mg/L
Washington State Groundwater Criteria − 5 mg/L
Zinc (mg/L)
0
1
2
3
4
5
6
Jan−2016
Jan−2017
Jan−2018
Jan−2019
Jan−2020
Dissolved
MW−74R
MW−75
MW−87
MW−85
MW−86
MW−88
MW−89
Total
MW−74R
MW−75
MW−87
MW−85
MW−86
MW−88
MW−89
RL
Standard

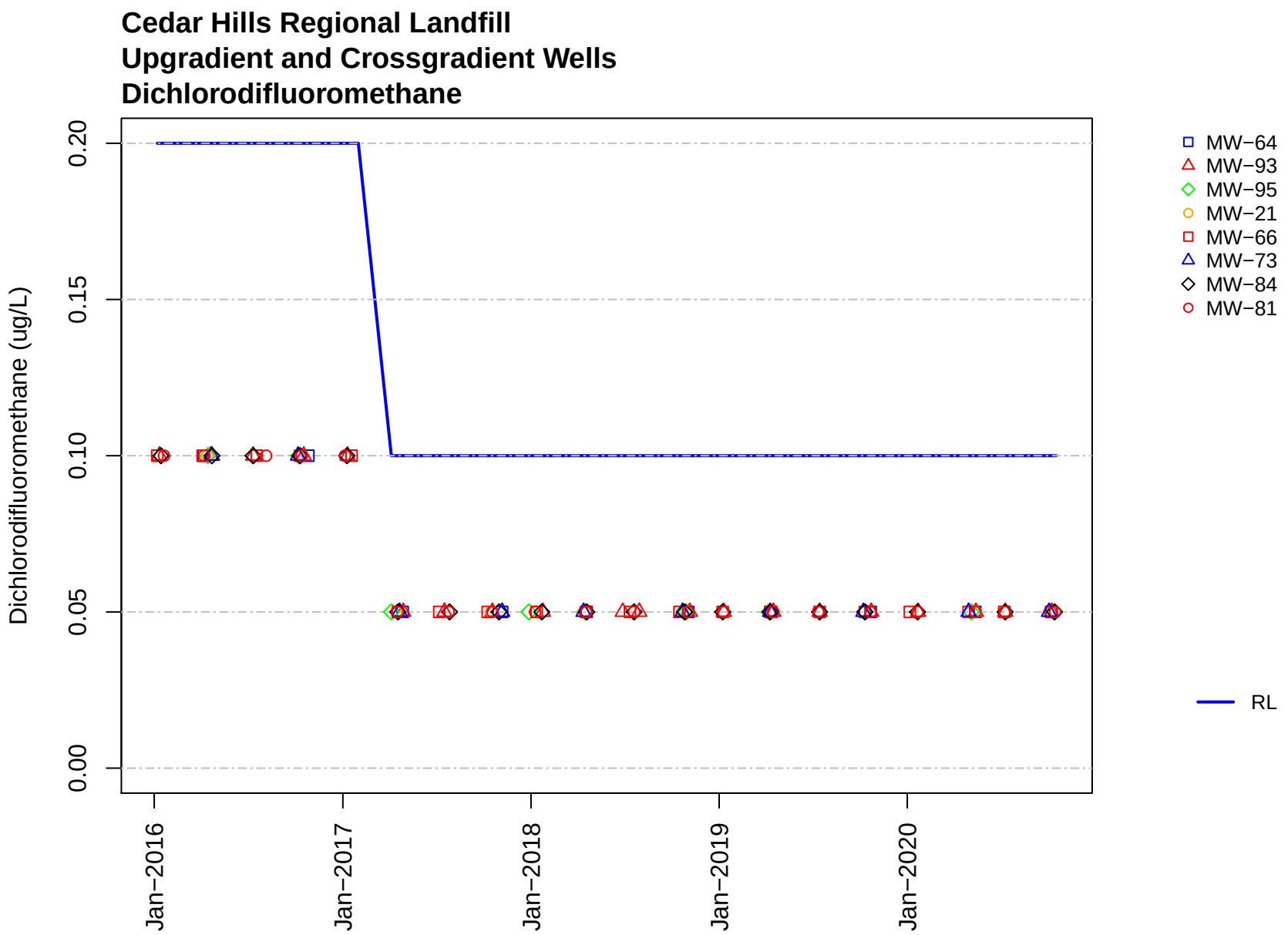

Cedar Hills Regional Landfill
Upgradient Wells
cis−1,2−Dichloroethene
National Primary MCL − 70 µg/L
Washington State Groundwater Criteria − 70 µg/L
cis−1,2−dichloroethene (ug/L)
0
20
40
60
80
Jan−2016
Jan−2017
Jan−2018
Jan−2019
Jan−2020
MW−56
MW−59
MW−76
MW−82
MW−83
MW−94
MW−24
MW−65
RL
Standard

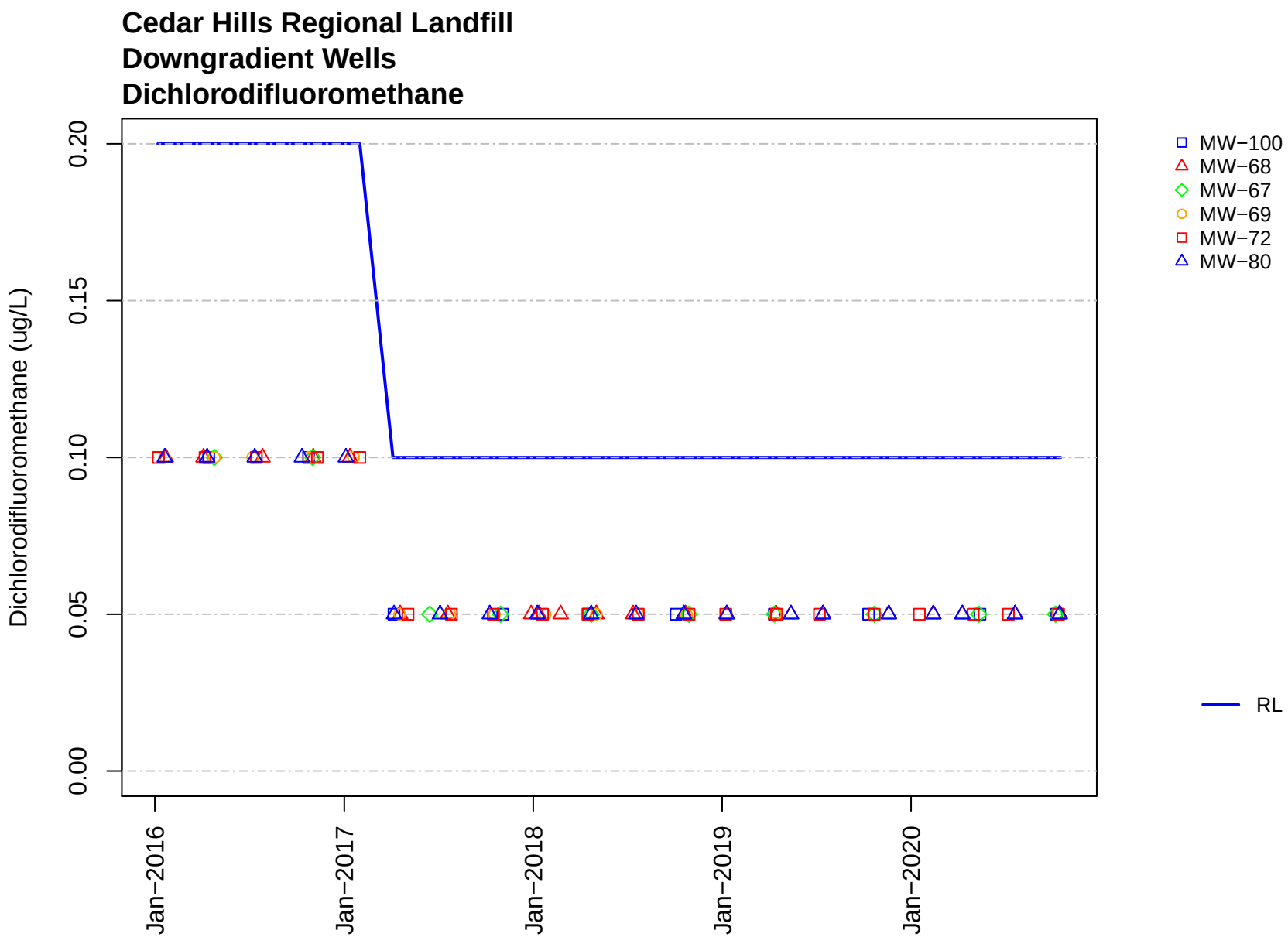

Cedar Hills Regional Landfill
Upgradient and Crossgradient Wells
cis−1,2−Dichloroethene
cis−1,2−dichloroethene (ug/L)
0
20
40
60
80
National Primary MCL − 70 µg/L
Washington State Groundwater Criteria − 70 µg/L
Jan−2016
Jan−2017
Jan−2018
Jan−2019
Jan−2020
MW−64
MW−93
MW−95
MW−21
MW−66
MW−73
MW−84
MW−81
RL
Standard

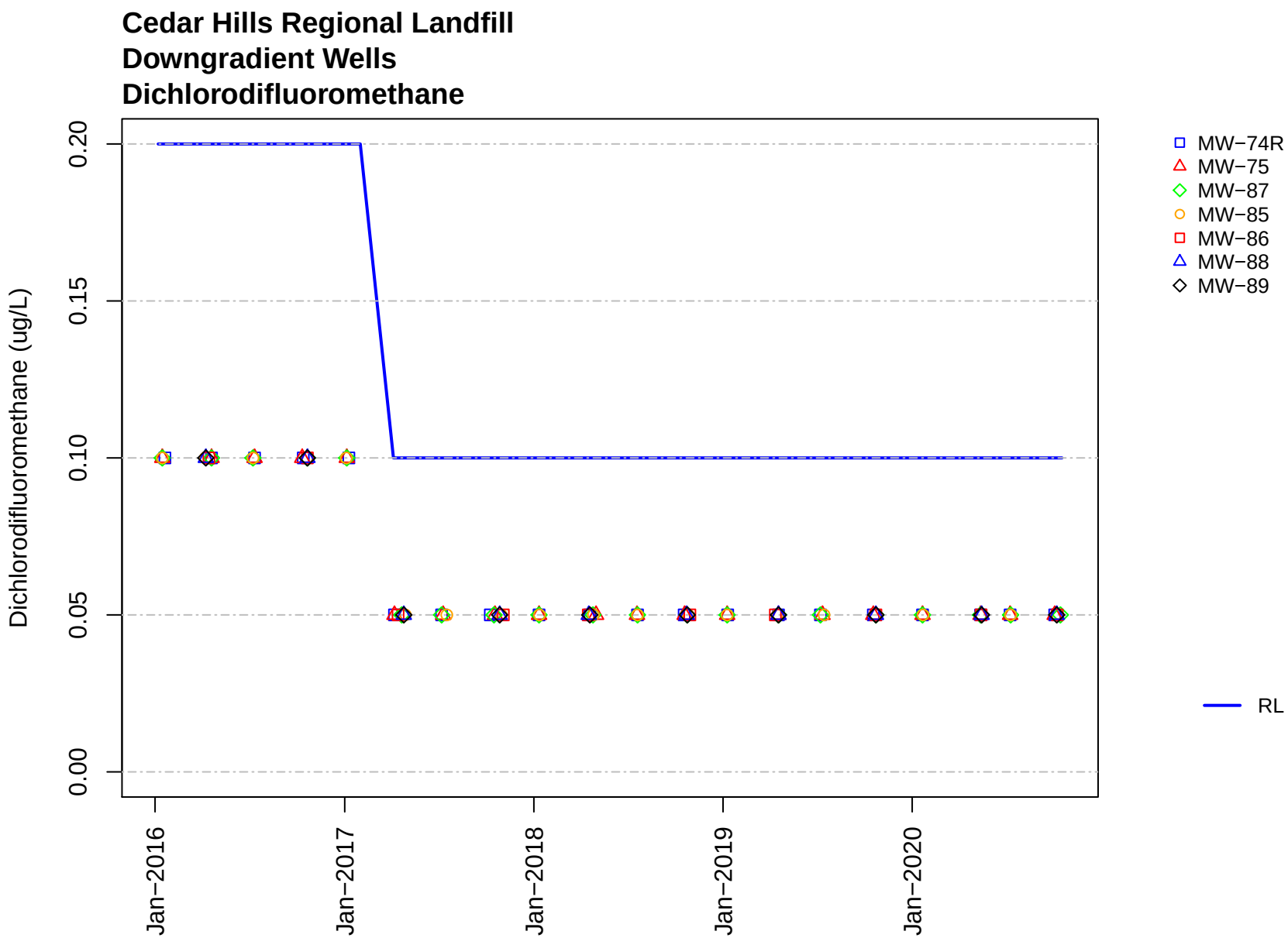

Cedar Hills Regional Landfill
Downgradient Wells
cis−1,2−Dichloroethene
National Primary MCL − 70 µg/L
Washington State Groundwater Criteria − 70 µg/L
cis−1,2−dichloroethene (ug/L)
0
20
40
60
80
Jan−2016
Jan−2017
Jan−2018
Jan−2019
Jan−2020
MW−100
MW−68
MW−67
MW−69
MW−72
MW−80
RL
Standard

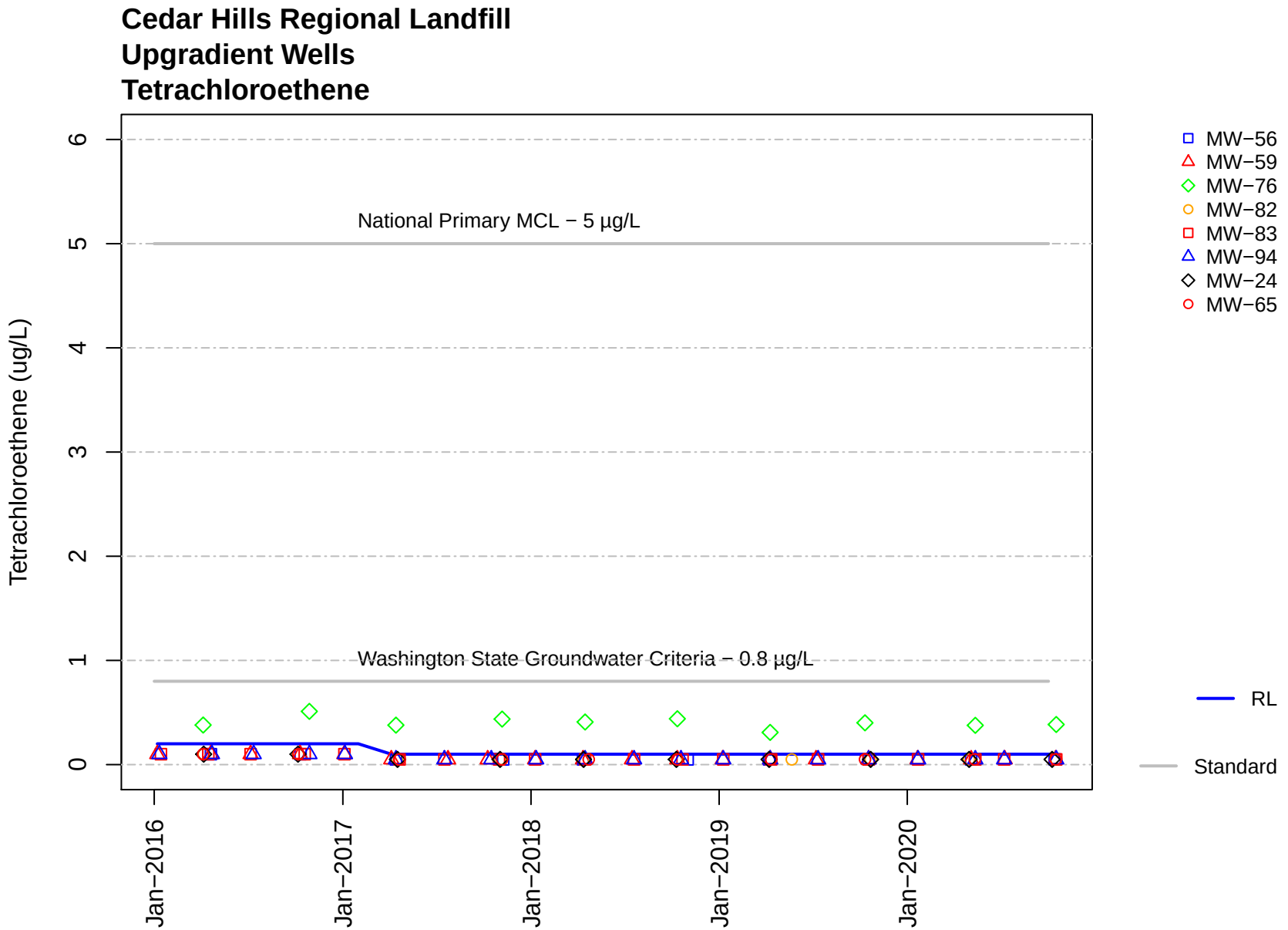

Cedar Hills Regional Landfill
Downgradient Wells
cis−1,2−Dichloroethene
National Primary MCL − 70 µg/L
Washington State Groundwater Criteria − 70 µg/L
cis−1,2−dichloroethene (ug/L)
0
20
40
60
80
Jan−2016
Jan−2017
Jan−2018
Jan−2019
Jan−2020
MW−74R
MW−75
MW−87
MW−85
MW−86
MW−88
MW−89
RL
Standard

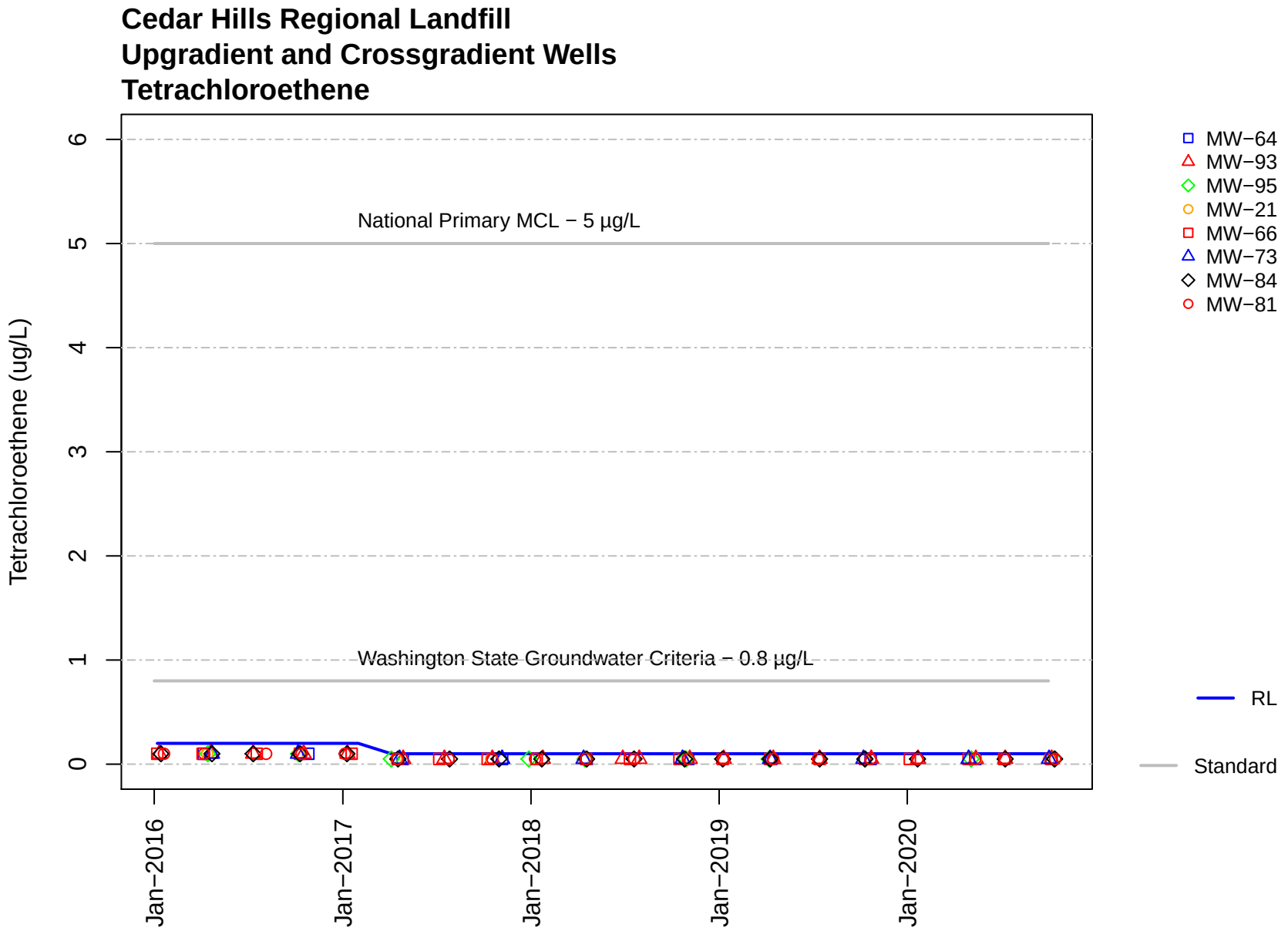

Cedar Hills Regional Landfill
Upgradient Wells
Dichlorodifluoromethane
Dichlorodifluoromethane (ug/L)
0.00
0.05
0.10
0.15
0.20
Jan−2016
Jan−2017
Jan−2018
Jan−2019
Jan−2020
MW−56
MW−59
MW−76
MW−82
MW−83
MW−94
MW−24
MW−65
RL

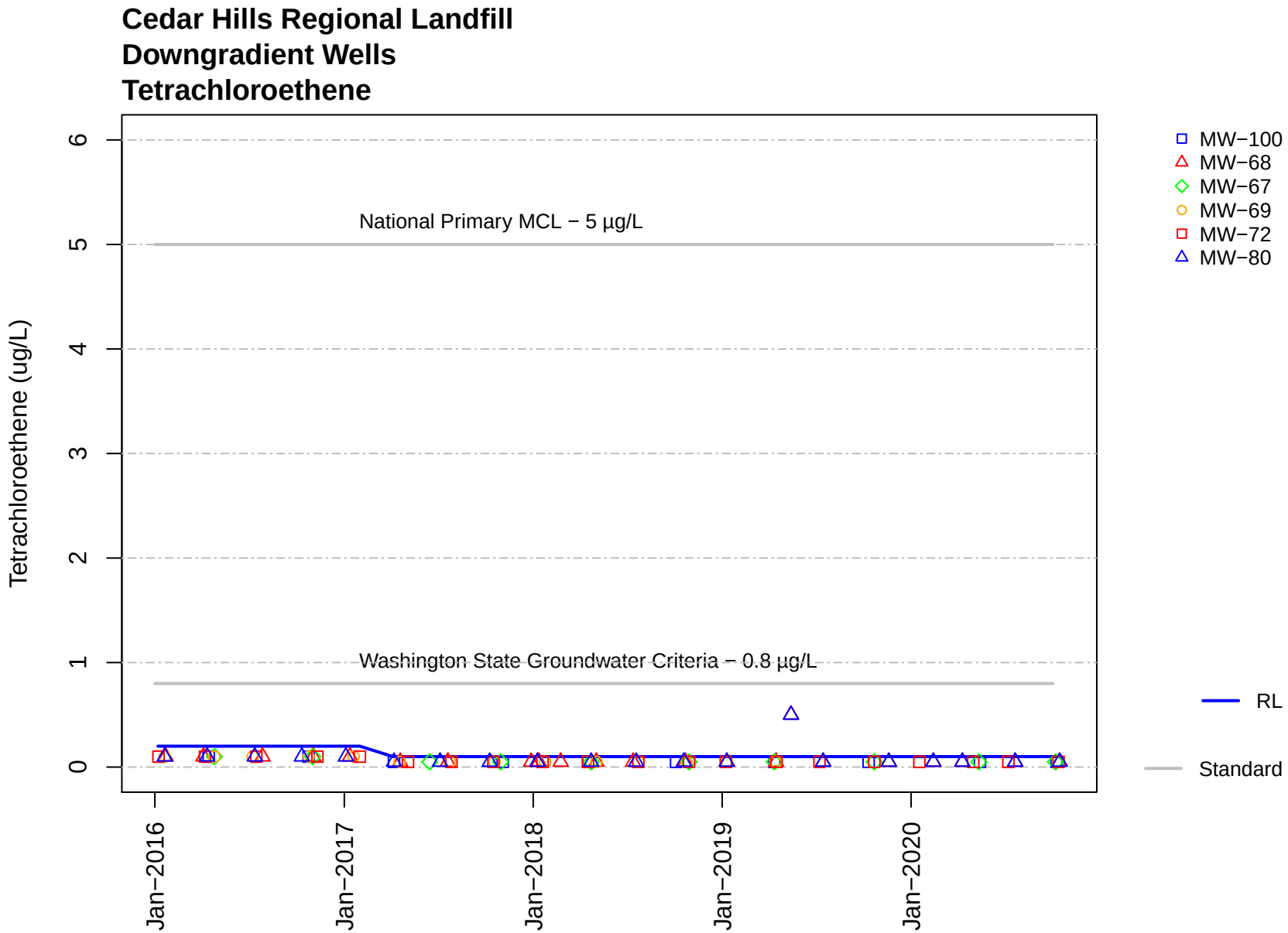

Cedar Hills Regional Landfill
Upgradient and Crossgradient Wells
Dichlorodifluoromethane
Dichlorodifluoromethane (ug/L)
0.00
0.05
0.10
0.15
0.20
Jan−2016
Jan−2017
Jan−2018
Jan−2019
Jan−2020
MW−64
MW−93
MW−95
MW−21
MW−66
MW−73
MW−84
MW−81
RL

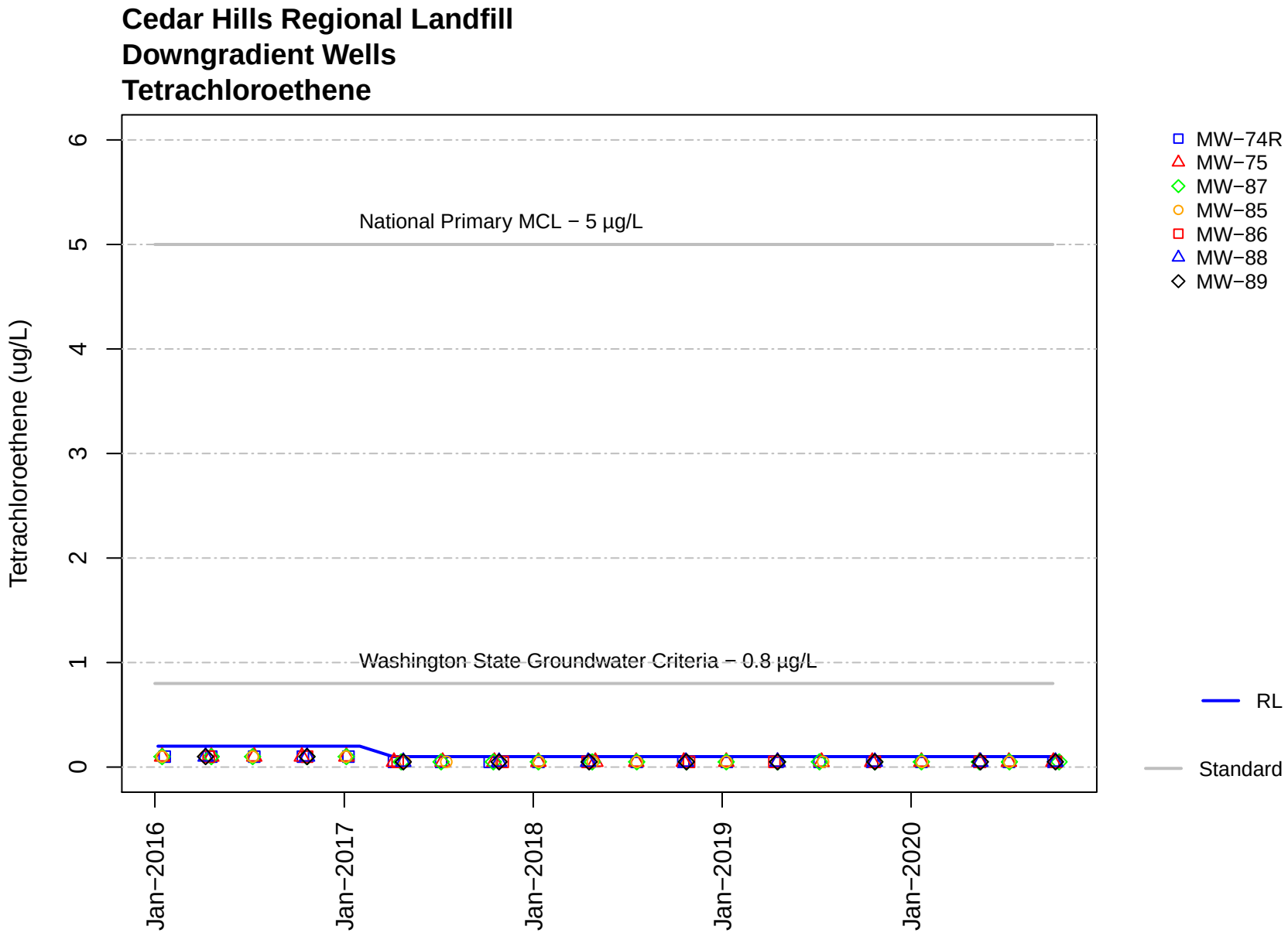

Cedar Hills Regional Landfill
Downgradient Wells
Dichlorodifluoromethane
Dichlorodifluoromethane (ug/L)
0.00
0.05
0.10
0.15
0.20
Jan−2016
Jan−2017
Jan−2018
Jan−2019
Jan−2020
MW−100
MW−68
MW−67
MW−69
MW−72
MW−80
RL

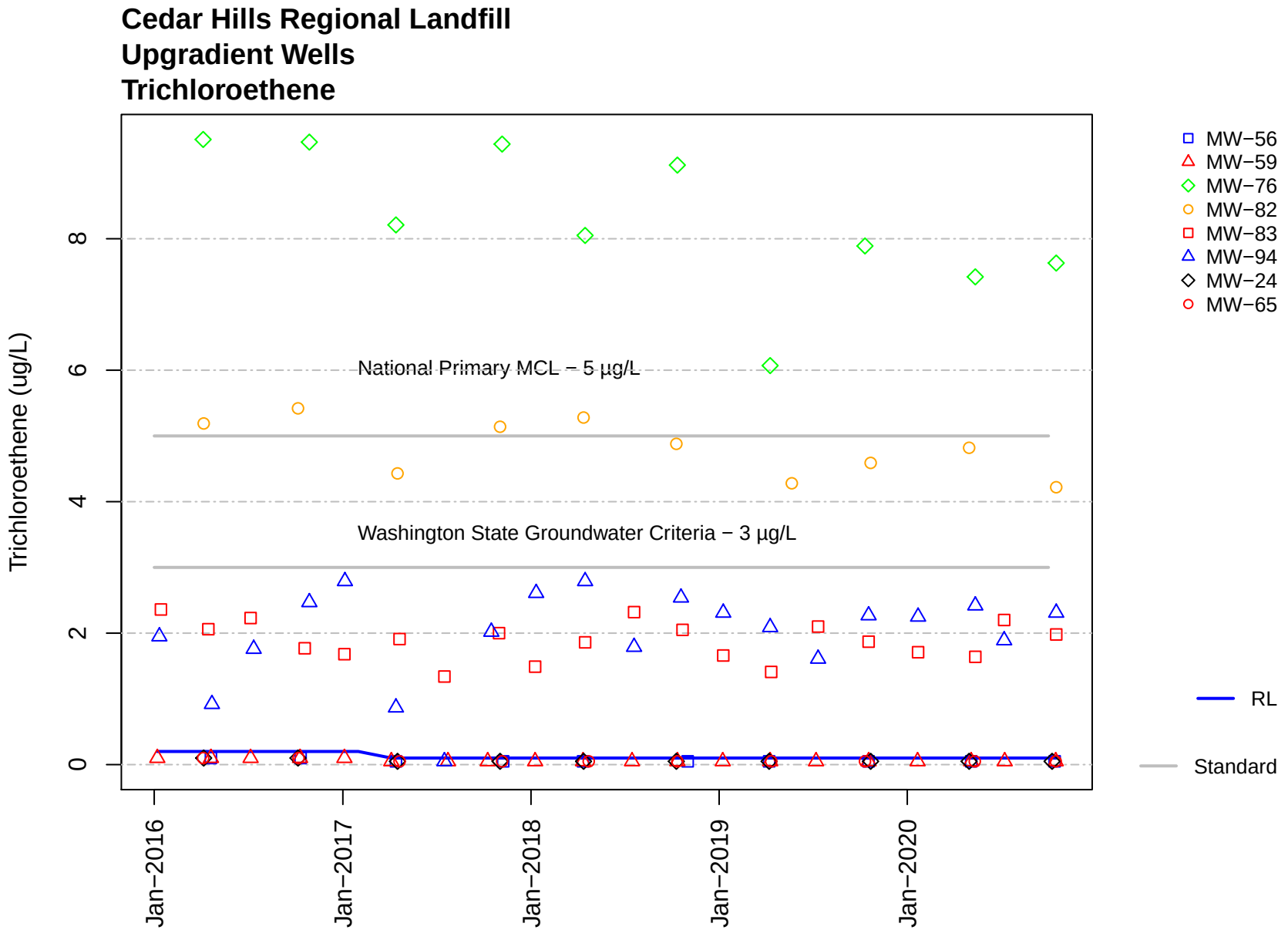

Cedar Hills Regional Landfill
Downgradient Wells
Dichlorodifluoromethane
Dichlorodifluoromethane (ug/L)
0.00
0.05
0.10
0.15
0.20
Jan−2016
Jan−2017
Jan−2018
Jan−2019
Jan−2020
MW−74R
MW−75
MW−87
MW−85
MW−86
MW−88
MW−89
RL

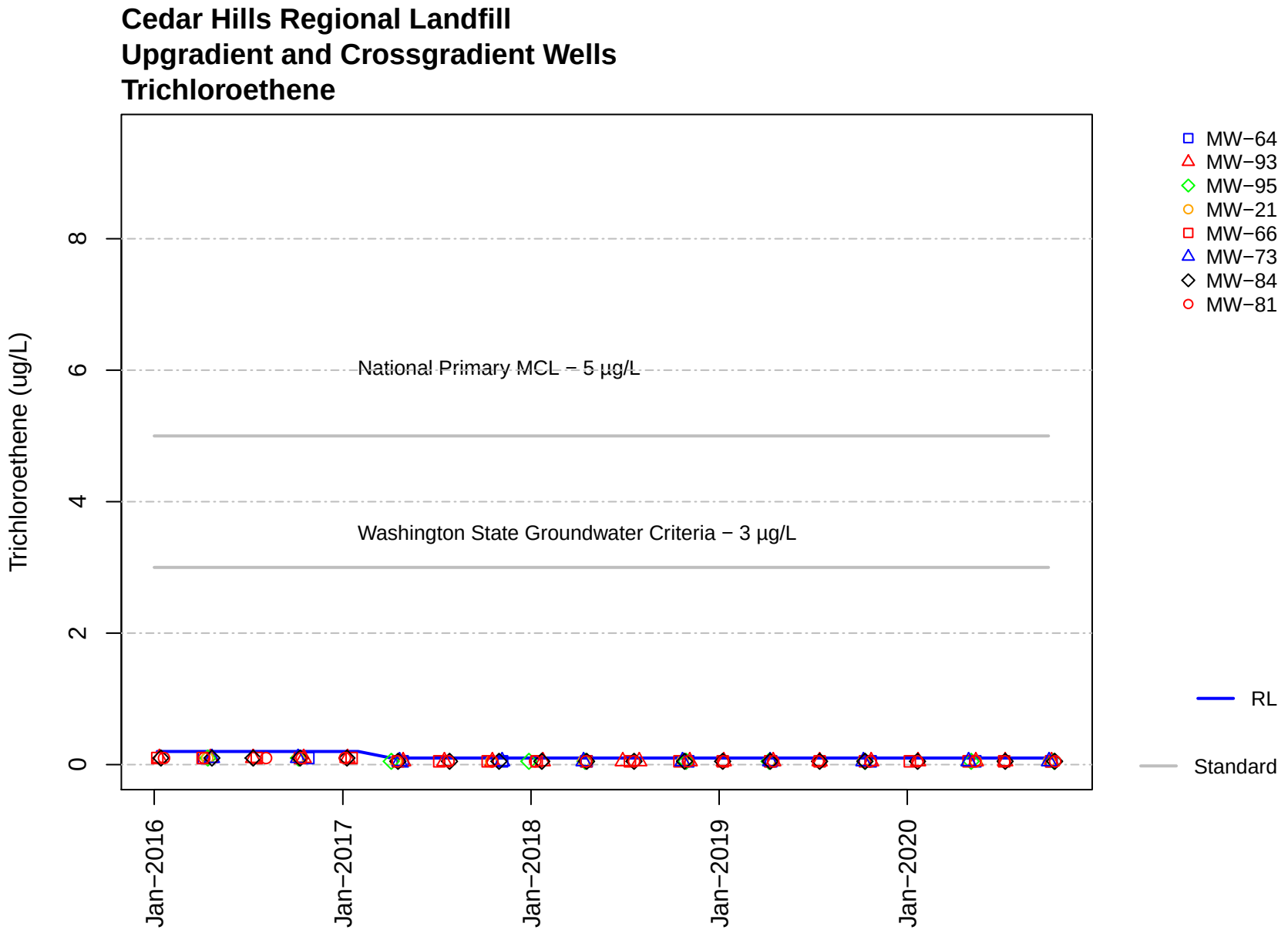

Cedar Hills Regional Landfill
Upgradient Wells
Tetrachloroethene
Tetrachloroethene (ug/L)
0
1
2
3
4
5
6
National Primary MCL − 5 µg/L
Washington State Groundwater Criteria − 0.8 µg/L
Jan−2016
Jan−2017
Jan−2018
Jan−2019
Jan−2020
MW−56
MW−59
MW−76
MW−82
MW−83
MW−94
MW−24
MW−65
RL
Standard

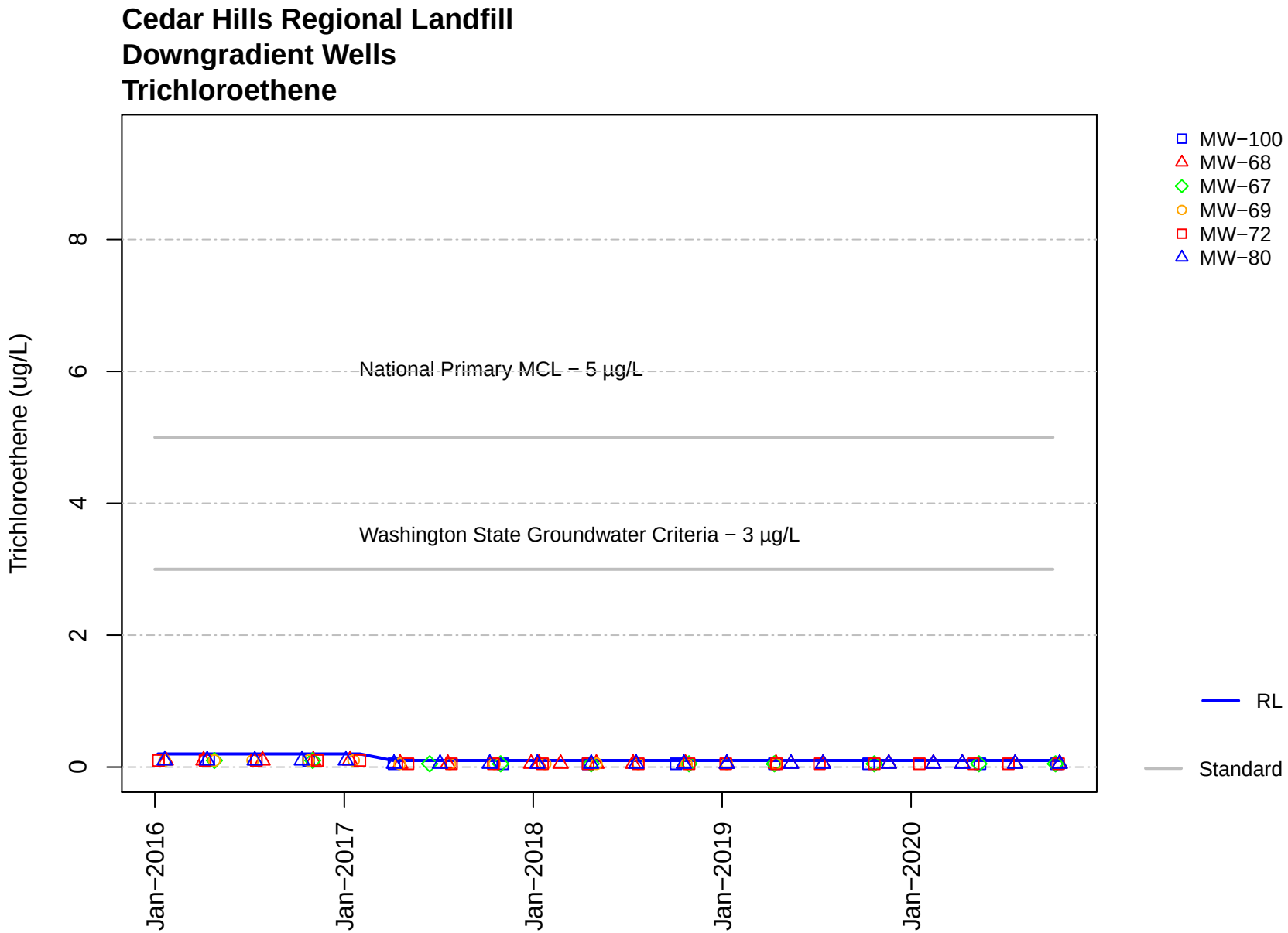

Cedar Hills Regional Landfill
Upgradient and Crossgradient Wells
Tetrachloroethene
Tetrachloroethene (ug/L)
0
1
2
3
4
5
6
National Primary MCL − 5 µg/L
Washington State Groundwater Criteria − 0.8 µg/L
Jan−2016
Jan−2017
Jan−2018
Jan−2019
Jan−2020
MW−64
MW−93
MW−95
MW−21
MW−66
MW−73
MW−84
MW−81
RL
Standard

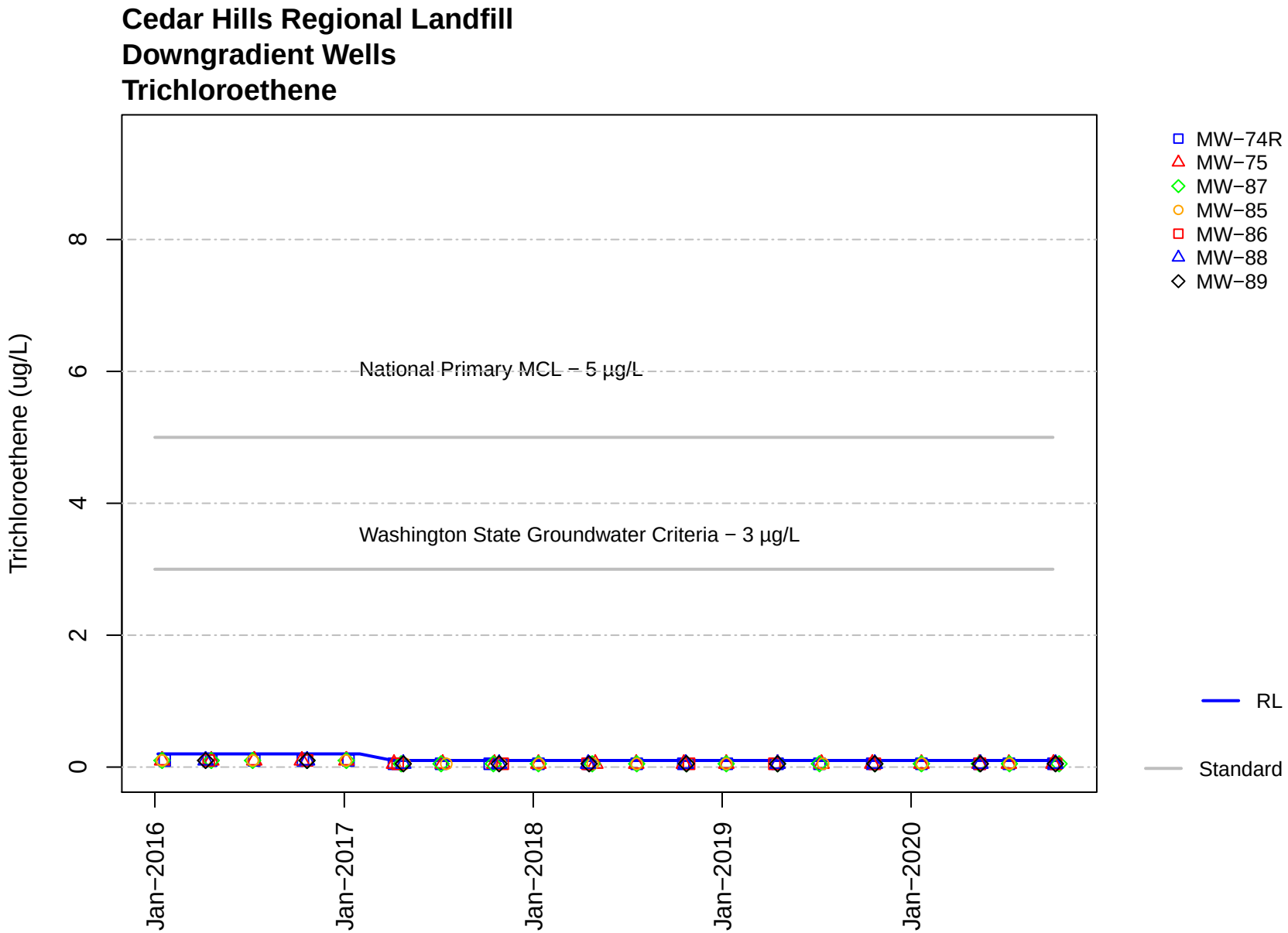

Cedar Hills Regional Landfill
Downgradient Wells
Tetrachloroethene
Tetrachloroethene (ug/L)
0
1
2
3
4
5
6
National Primary MCL − 5 µg/L
Washington State Groundwater Criteria − 0.8 µg/L
Jan−2016
Jan−2017
Jan−2018
Jan−2019
Jan−2020
MW−100
MW−68
MW−67
MW−69
MW−72
MW−80
RL
Standard

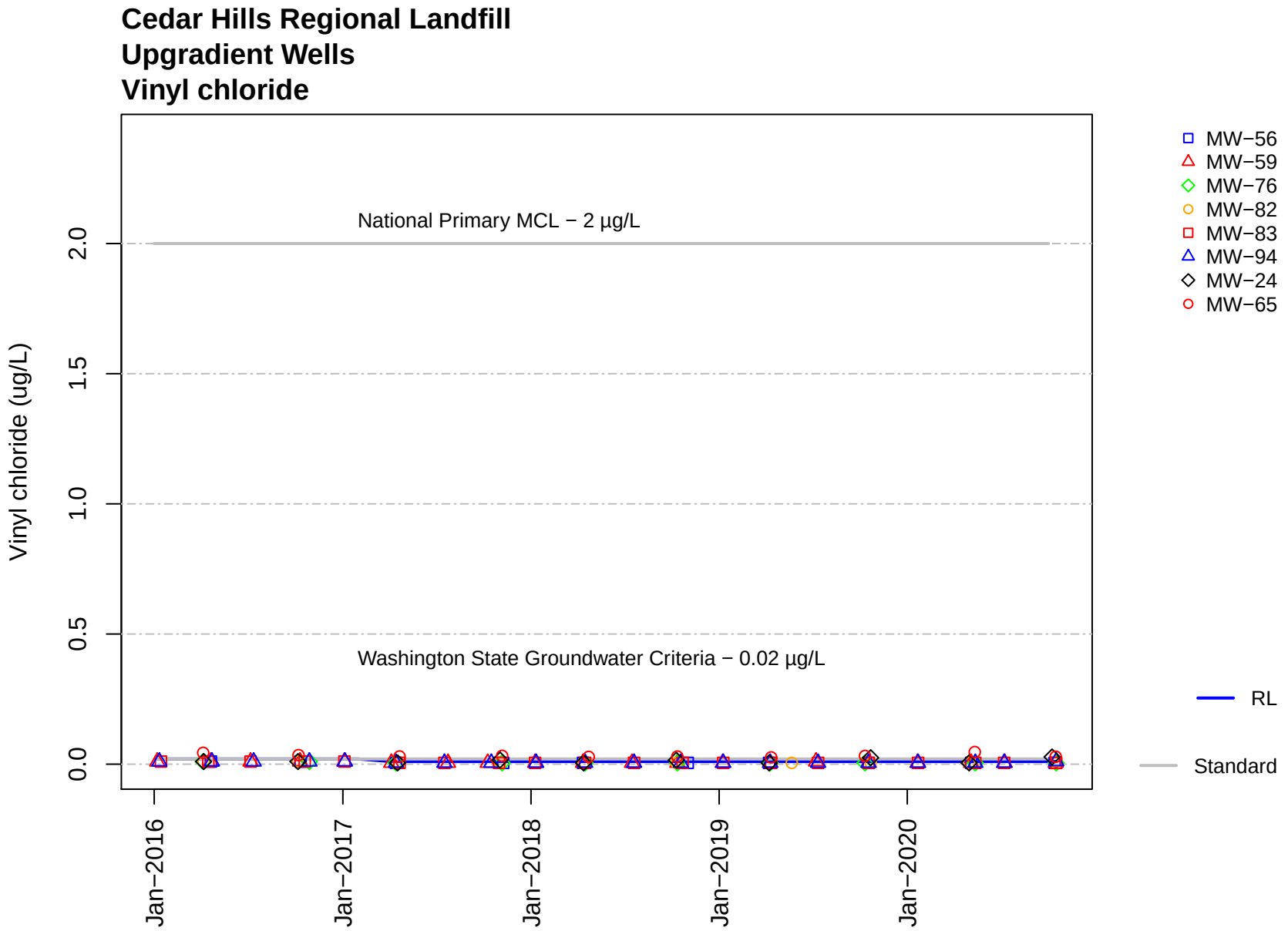

Cedar Hills Regional Landfill
Downgradient Wells
Tetrachloroethene
Tetrachloroethene (ug/L)
0
1
2
3
4
5
6
National Primary MCL − 5 µg/L
Washington State Groundwater Criteria − 0.8 µg/L
Jan−2016
Jan−2017
Jan−2018
Jan−2019
Jan−2020
MW−74R
MW−75
MW−87
MW−85
MW−86
MW−88
MW−89
RL
Standard

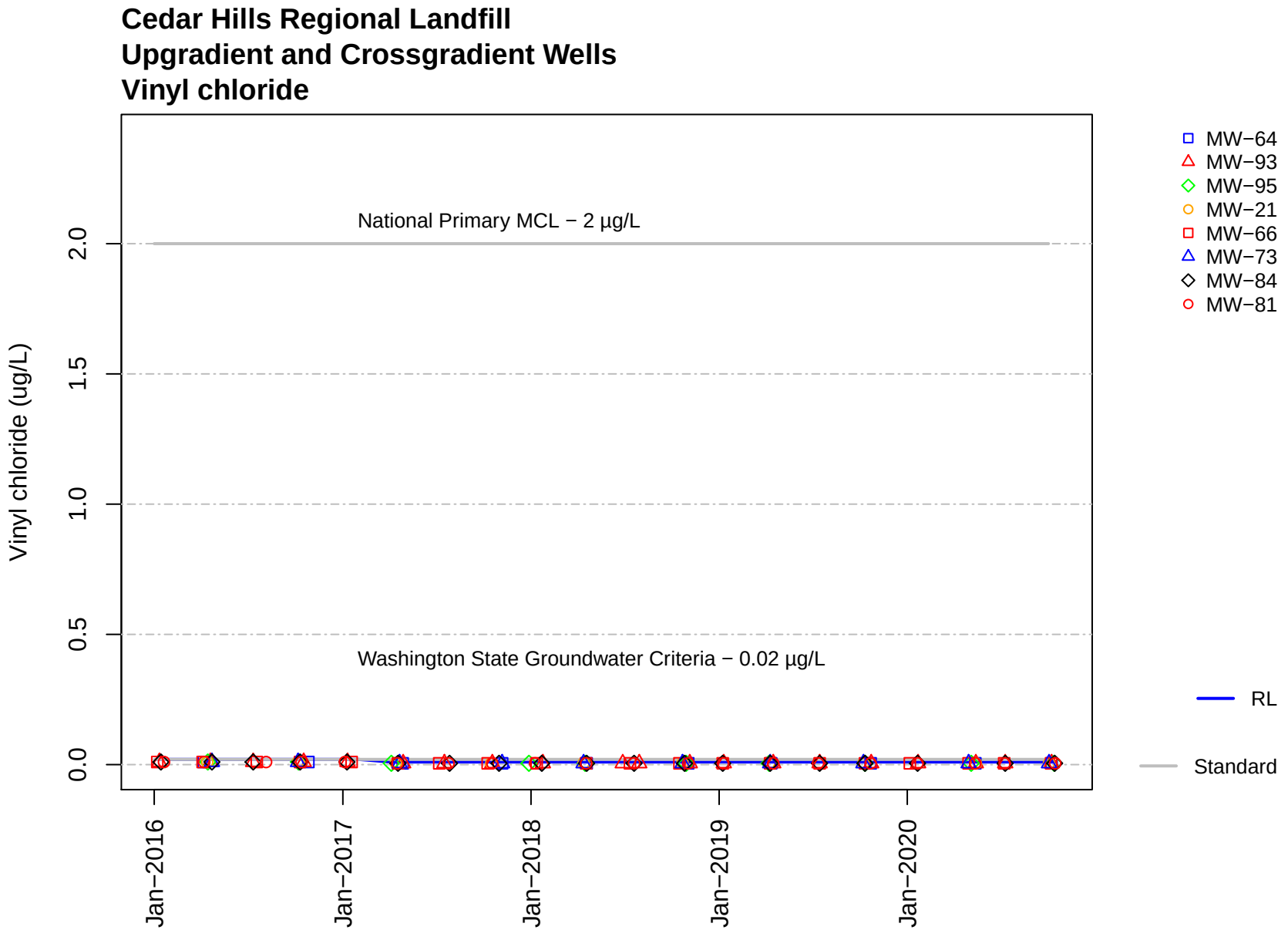

Cedar Hills Regional Landfill
Upgradient Wells
Trichloroethene
Trichloroethene (ug/L)
0
2
4
6
8
National Primary MCL – 5 µg/L
Washington State Groundwater Criteria – 3 µg/L
Jan–2016
Jan–2017
Jan–2018
Jan–2019
Jan–2020
MW–56
MW–59
MW–76
MW–82
MW–83
MW–94
MW–24
MW–65
RL
Standard

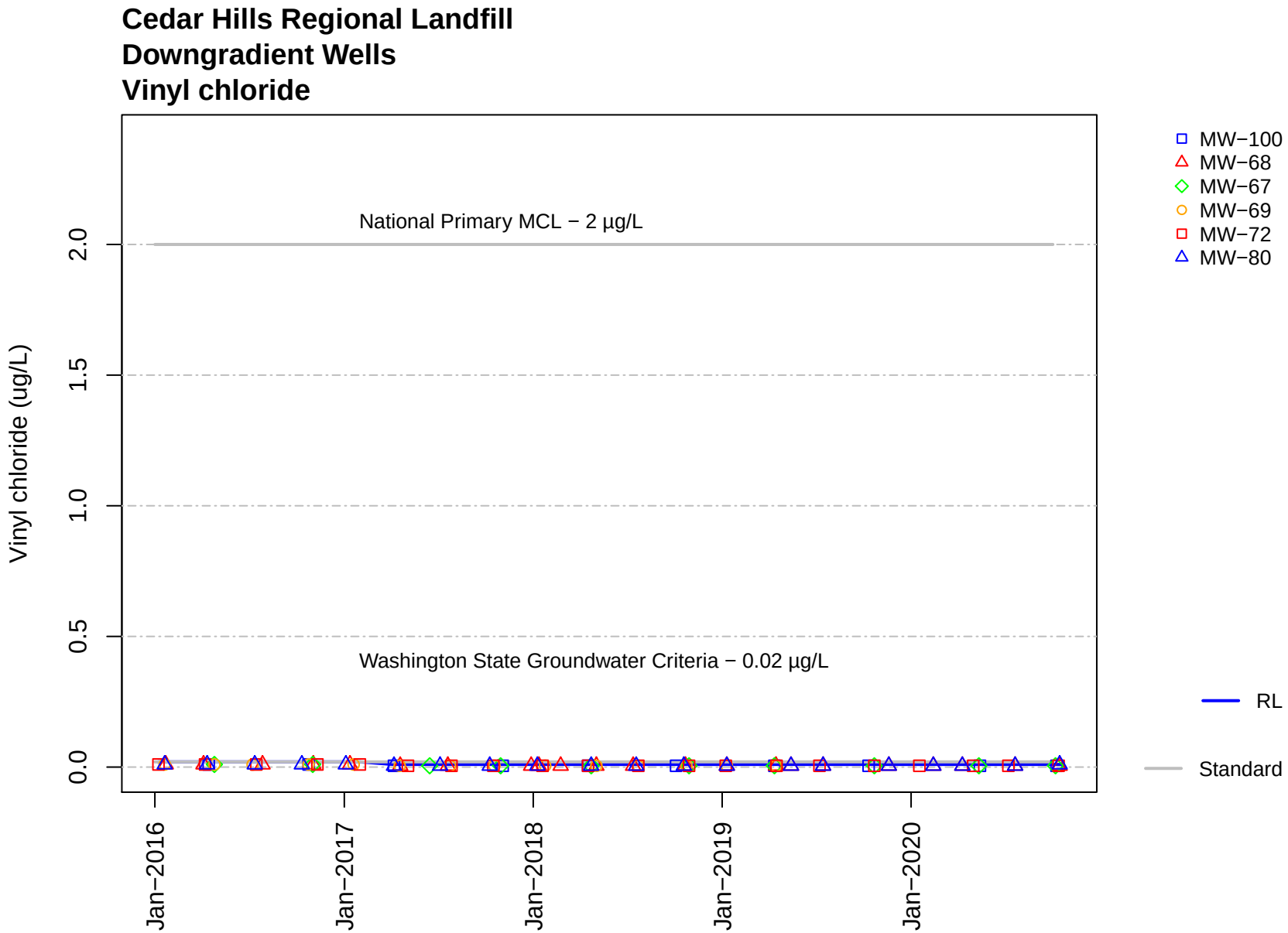

Cedar Hills Regional Landfill
Upgradient and Crossgradient Wells
Trichloroethene
Trichloroethene (ug/L)
0
2
4
6
8
National Primary MCL − 5 µg/L
Washington State Groundwater Criteria − 3 µg/L
Jan−2016
Jan−2017
Jan−2018
Jan−2019
Jan−2020
MW−64
MW−93
MW−95
MW−21
MW−66
MW−73
MW−84
MW−81
RL
Standard

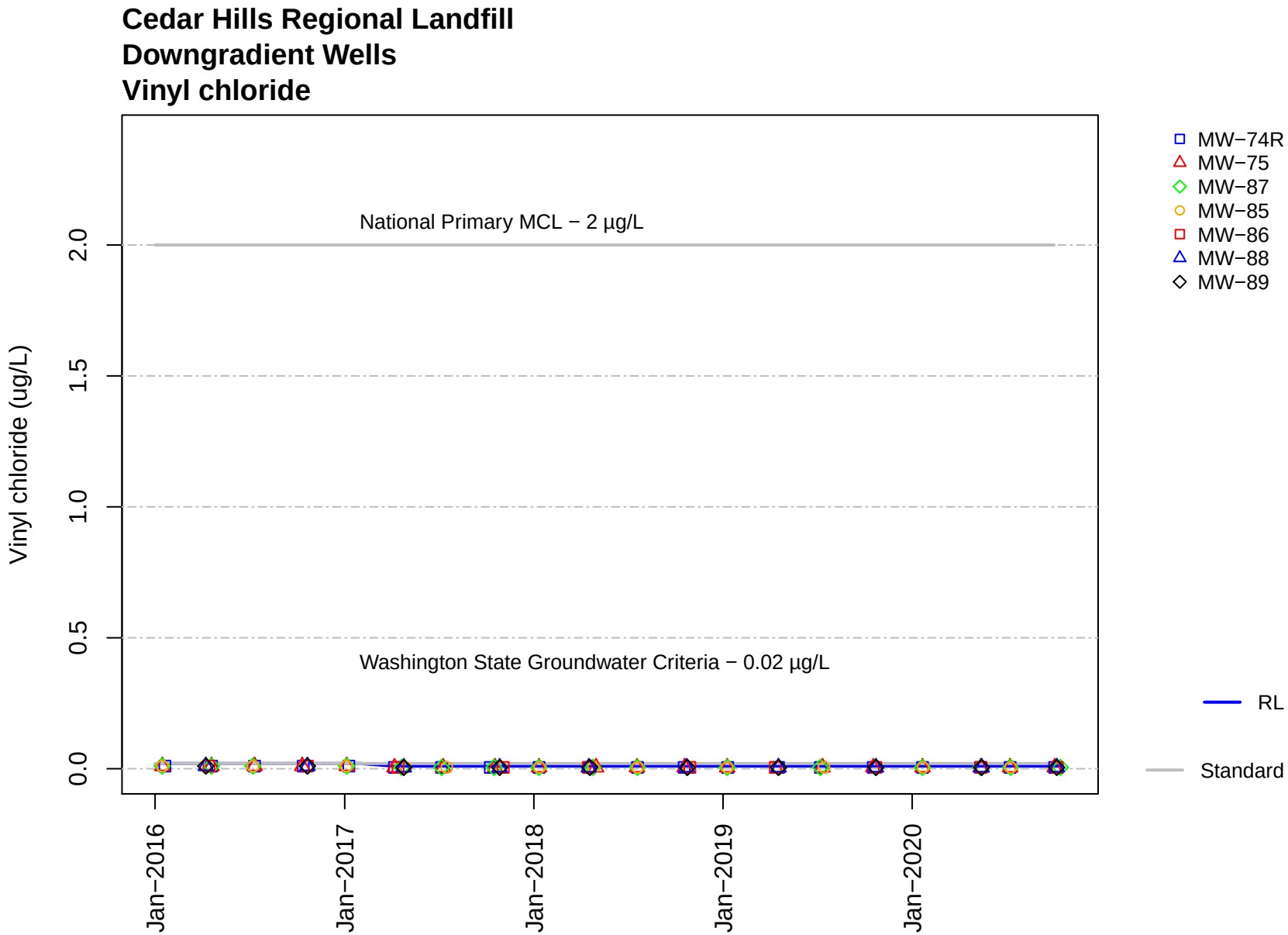

Cedar Hills Regional Landfill
Downgradient Wells
Trichloroethene
Trichloroethene (ug/L)
0
2
4
6
8
National Primary MCL − 5 µg/L
Washington State Groundwater Criteria − 3 µg/L
Jan−2016
Jan−2017
Jan−2018
Jan−2019
Jan−2020
MW−100
MW−68
MW−67
MW−69
MW−72
MW−80
RL
Standard

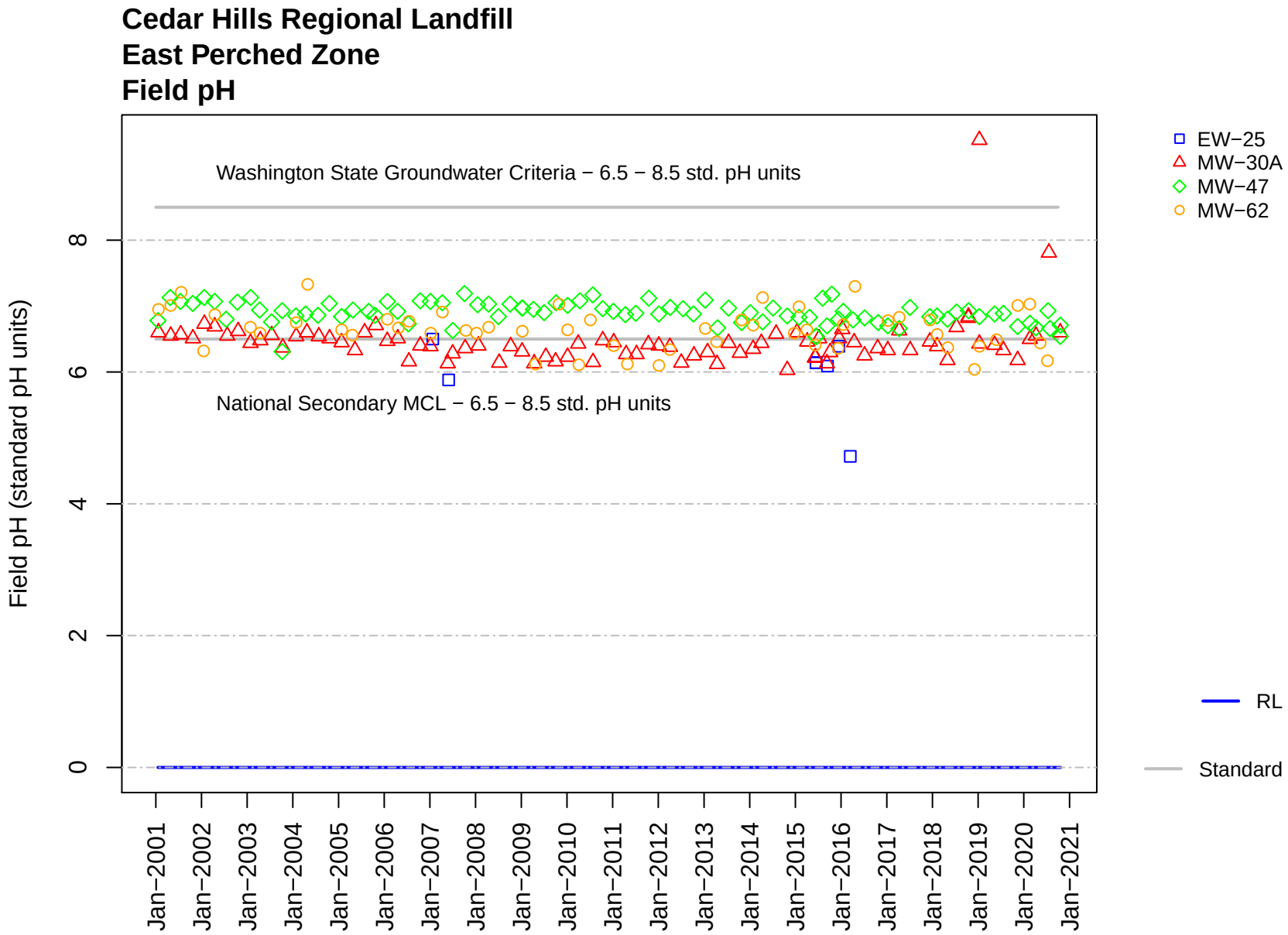

Cedar Hills Regional Landfill
Downgradient Wells
Trichloroethene
Trichloroethene (ug/L)
0
2
4
6
8
National Primary MCL − 5 µg/L
Washington State Groundwater Criteria − 3 µg/L
Jan−2016
Jan−2017
Jan−2018
Jan−2019
Jan−2020
MW−74R
MW−75
MW−87
MW−85
MW−86
MW−88
MW−89
RL
Standard

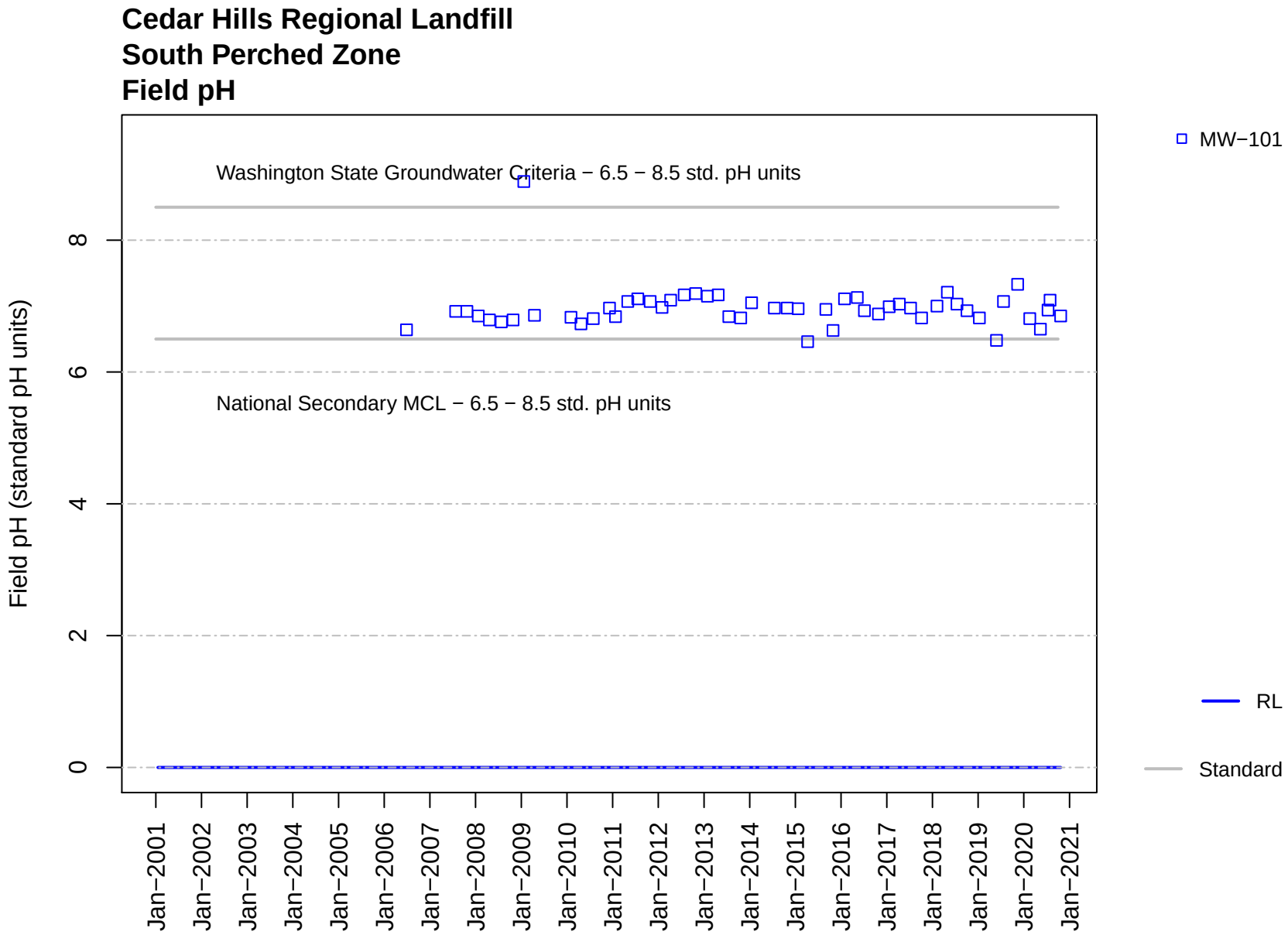

Cedar Hills Regional Landfill
Upgradient Wells
Vinyl chloride
Vinyl chloride (ug/L)
0.0
0.5
1.0
1.5
2.0
National Primary MCL − 2 µg/L
Washington State Groundwater Criteria − 0.02 µg/L
Jan−2016
Jan−2017
Jan−2018
Jan−2019
Jan−2020
MW−56
MW−59
MW−76
MW−82
MW−83
MW−94
MW−24
MW−65
RL
Standard

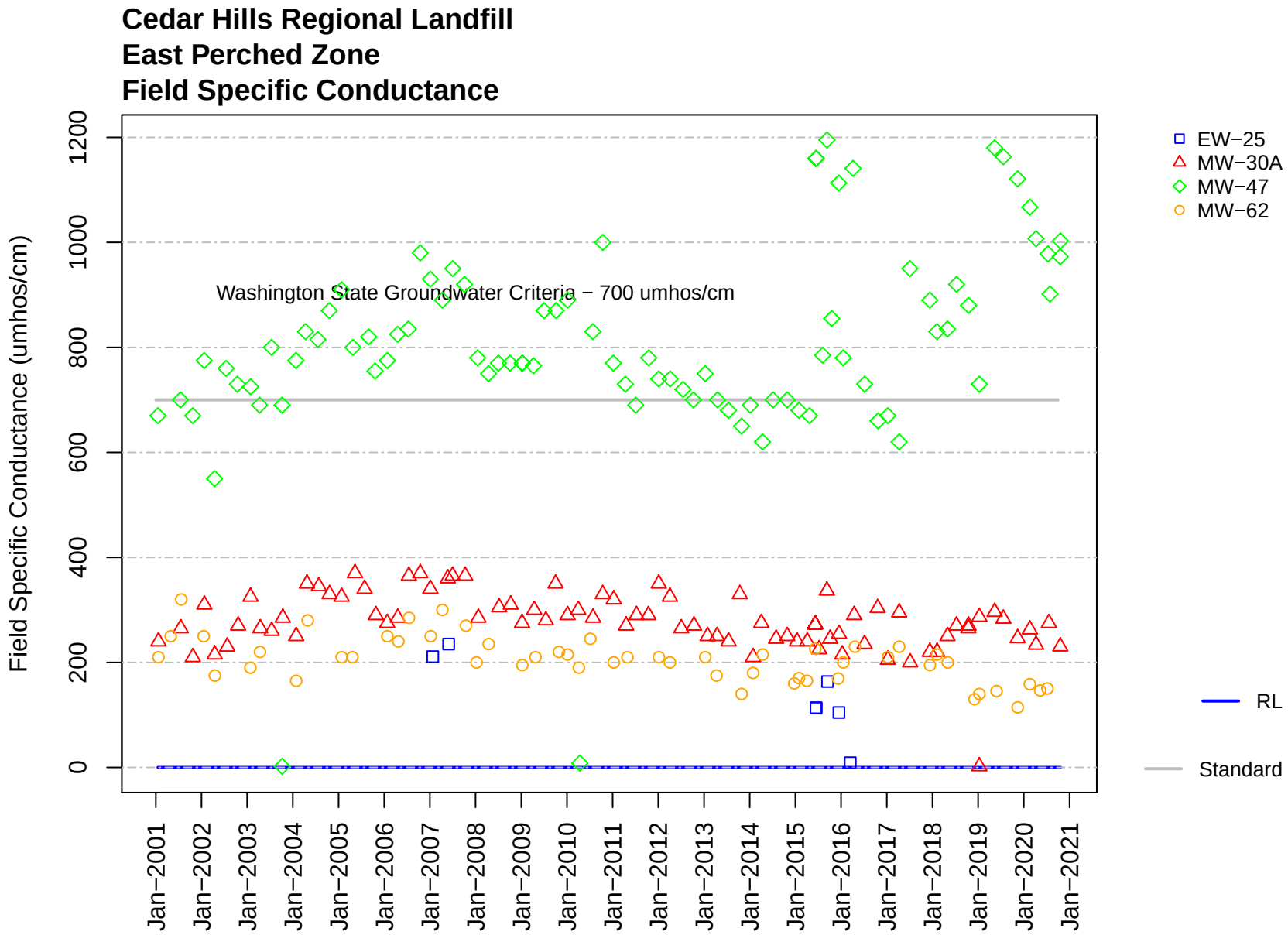

Cedar Hills Regional Landfill
Upgradient and Crossgradient Wells
Vinyl chloride
National Primary MCL − 2 µg/L
Washington State Groundwater Criteria − 0.02 µg/L
Vinyl chloride (ug/L)
0.0
0.5
1.0
1.5
2.0
Jan−2016
Jan−2017
Jan−2018
Jan−2019
Jan−2020
MW−64
MW−93
MW−95
MW−21
MW−66
MW−73
MW−84
MW−81
RL
Standard

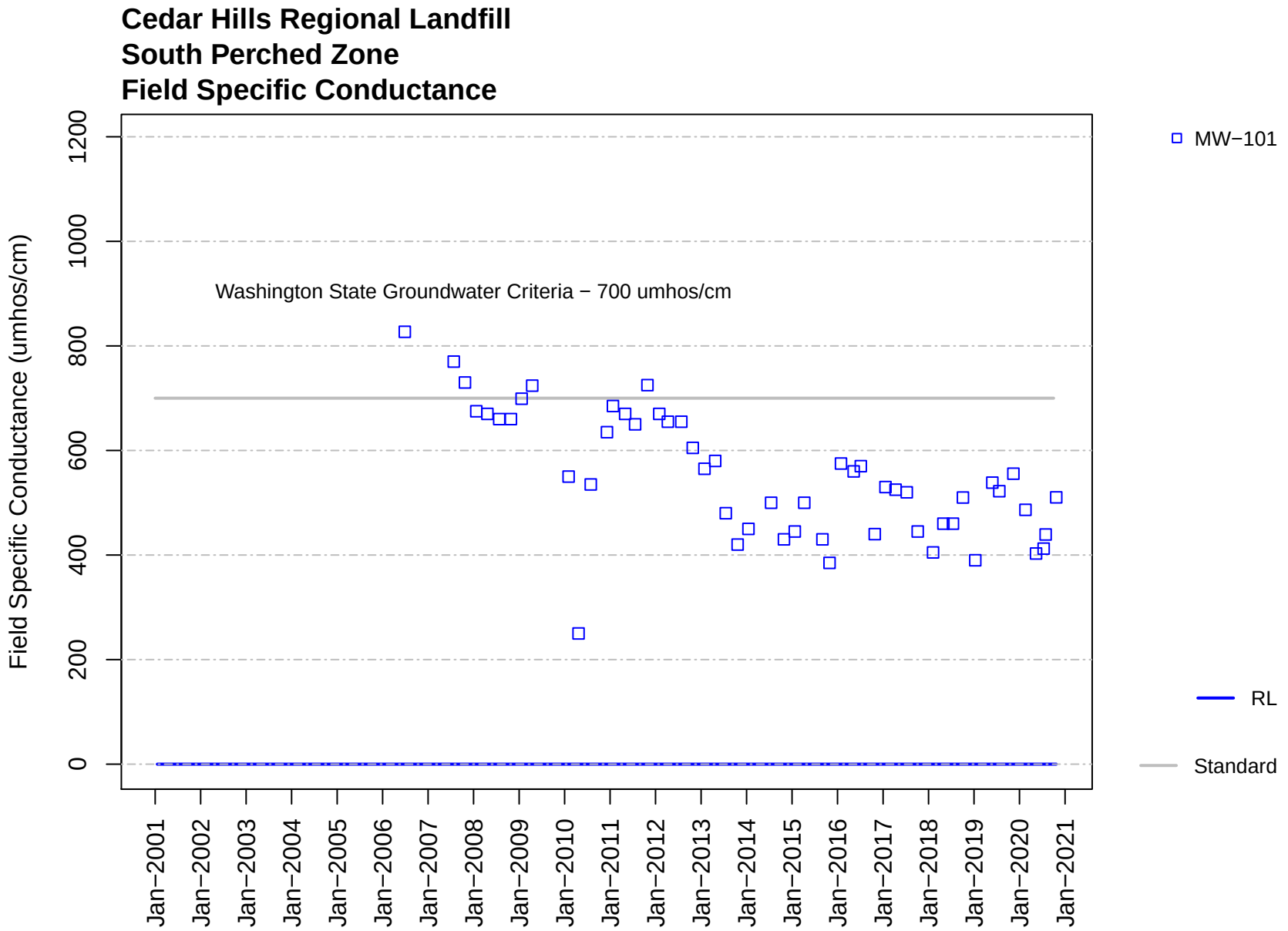

Cedar Hills Regional Landfill
Downgradient Wells
Vinyl chloride
Vinyl chloride (ug/L)
0.0
0.5
1.0
1.5
2.0
National Primary MCL − 2 µg/L
Washington State Groundwater Criteria − 0.02 µg/L
Jan−2016
Jan−2017
Jan−2018
Jan−2019
Jan−2020
MW−100
MW−68
MW−67
MW−69
MW−72
MW−80
RL
Standard

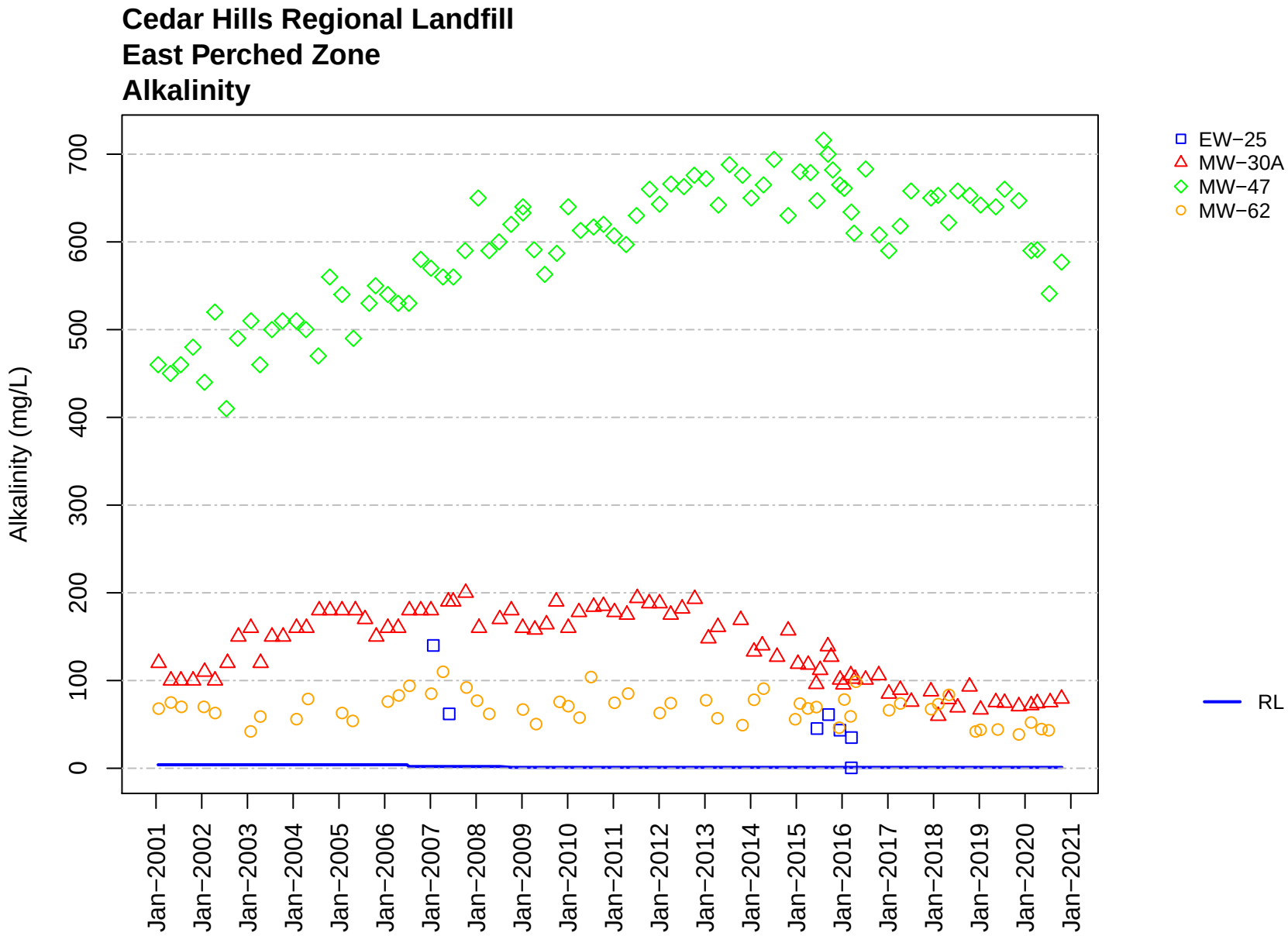

Cedar Hills Regional Landfill
Downgradient Wells
Vinyl chloride
Vinyl chloride (ug/L)
0.0
0.5
1.0
1.5
2.0
National Primary MCL − 2 µg/L
Washington State Groundwater Criteria − 0.02 µg/L
Jan−2016
Jan−2017
Jan−2018
Jan−2019
Jan−2020
MW−74R
MW−75
MW−87
MW−85
MW−86
MW−88
MW−89
RL
Standard

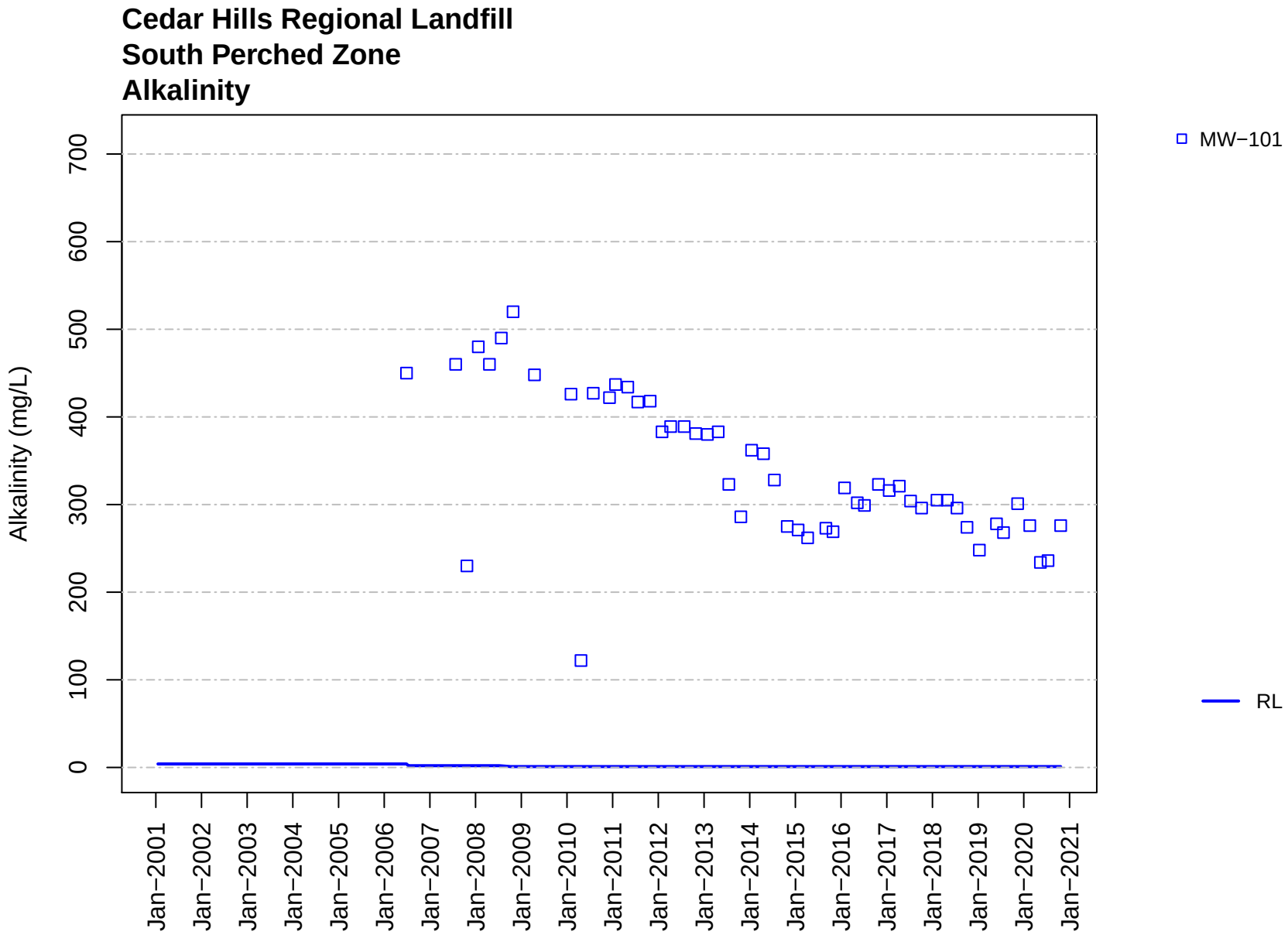

Cedar Hills Regional Landfill
East Perched Zone
Field pH
Washington State Groundwater Criteria − 6.5 − 8.5 std. pH units
National Secondary MCL − 6.5 − 8.5 std. pH units
Field pH (standard pH units)
0
2
4
6
8
Jan−2001
Jan−2002
Jan−2003
Jan−2004
Jan−2005
Jan−2006
Jan−2007
Jan−2008
Jan−2009
Jan−2010
Jan−2011
Jan−2012
Jan−2013
Jan−2014
Jan−2015
Jan−2016
Jan−2017
Jan−2018
Jan−2019
Jan−2020
Jan−2021
EW−25
MW−30A
MW−47
MW−62
RL
Standard

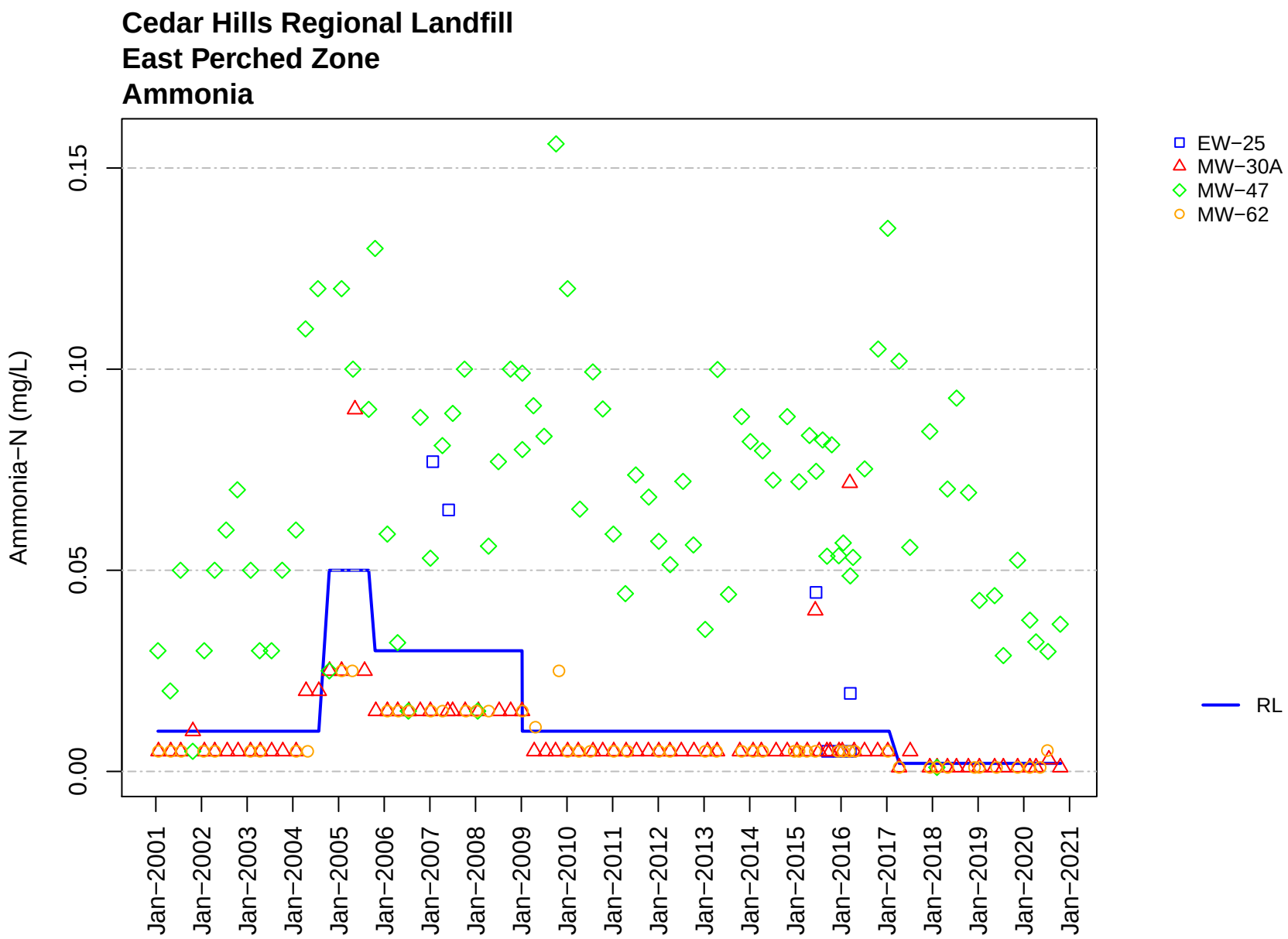

Cedar Hills Regional Landfill
South Perched Zone
Field pH
Washington State Groundwater Criteria − 6.5 − 8.5 std. pH units
National Secondary MCL − 6.5 − 8.5 std. pH units
Field pH (standard pH units)
0
2
4
6
8
Jan−2001
Jan−2002
Jan−2003
Jan−2004
Jan−2005
Jan−2006
Jan−2007
Jan−2008
Jan−2009
Jan−2010
Jan−2011
Jan−2012
Jan−2013
Jan−2014
Jan−2015
Jan−2016
Jan−2017
Jan−2018
Jan−2019
Jan−2020
Jan−2021
MW−101
RL
Standard

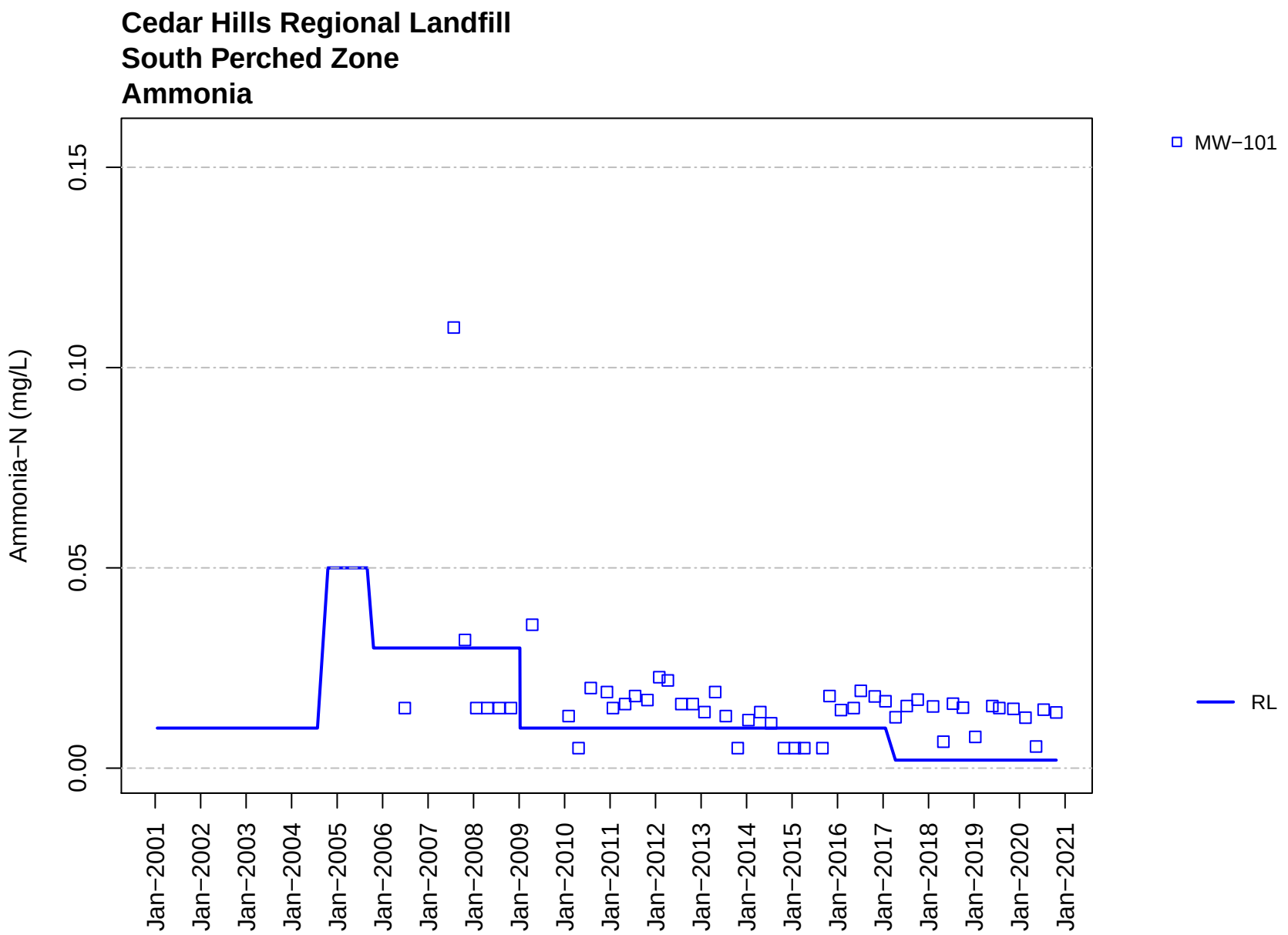

Cedar Hills Regional Landfill
East Perched Zone
Field Specific Conductance
Field Specific Conductance (umhos/cm)
0
200
400
600
800
1000
1200
Washington State Groundwater Criteria − 700 umhos/cm
Jan−2001
Jan−2002
Jan−2003
Jan−2004
Jan−2005
Jan−2006
Jan−2007
Jan−2008
Jan−2009
Jan−2010
Jan−2011
Jan−2012
Jan−2013
Jan−2014
Jan−2015
Jan−2016
Jan−2017
Jan−2018
Jan−2019
Jan−2020
Jan−2021
EW−25
MW−30A
MW−47
MW−62
RL
Standard

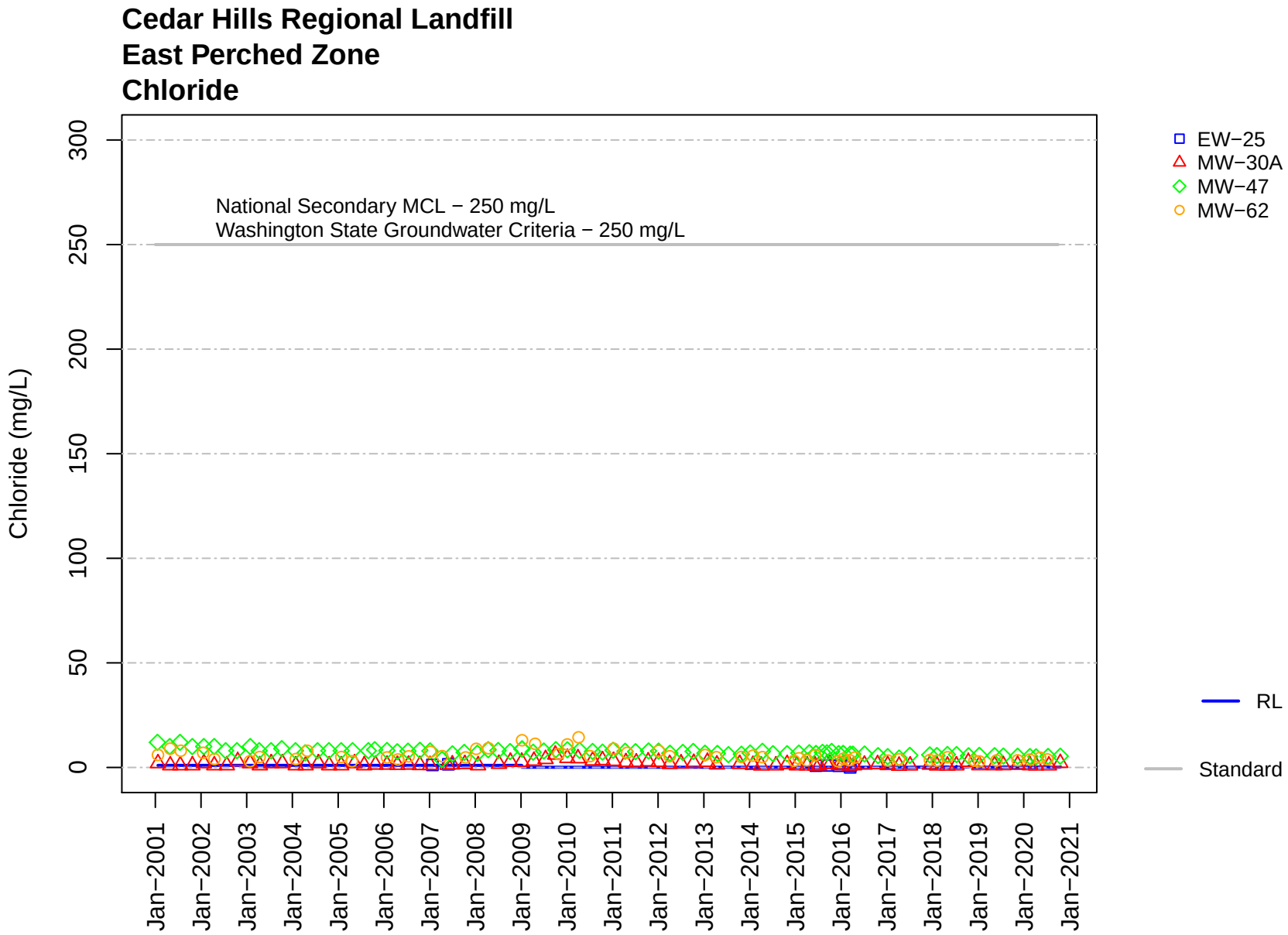

Cedar Hills Regional Landfill
South Perched Zone
Field Specific Conductance
Field Specific Conductance (umhos/cm)
0
200
400
600
800
1000
1200
Washington State Groundwater Criteria − 700 umhos/cm
Jan−2001
Jan−2002
Jan−2003
Jan−2004
Jan−2005
Jan−2006
Jan−2007
Jan−2008
Jan−2009
Jan−2010
Jan−2011
Jan−2012
Jan−2013
Jan−2014
Jan−2015
Jan−2016
Jan−2017
Jan−2018
Jan−2019
Jan−2020
Jan−2021
MW−101
RL
Standard

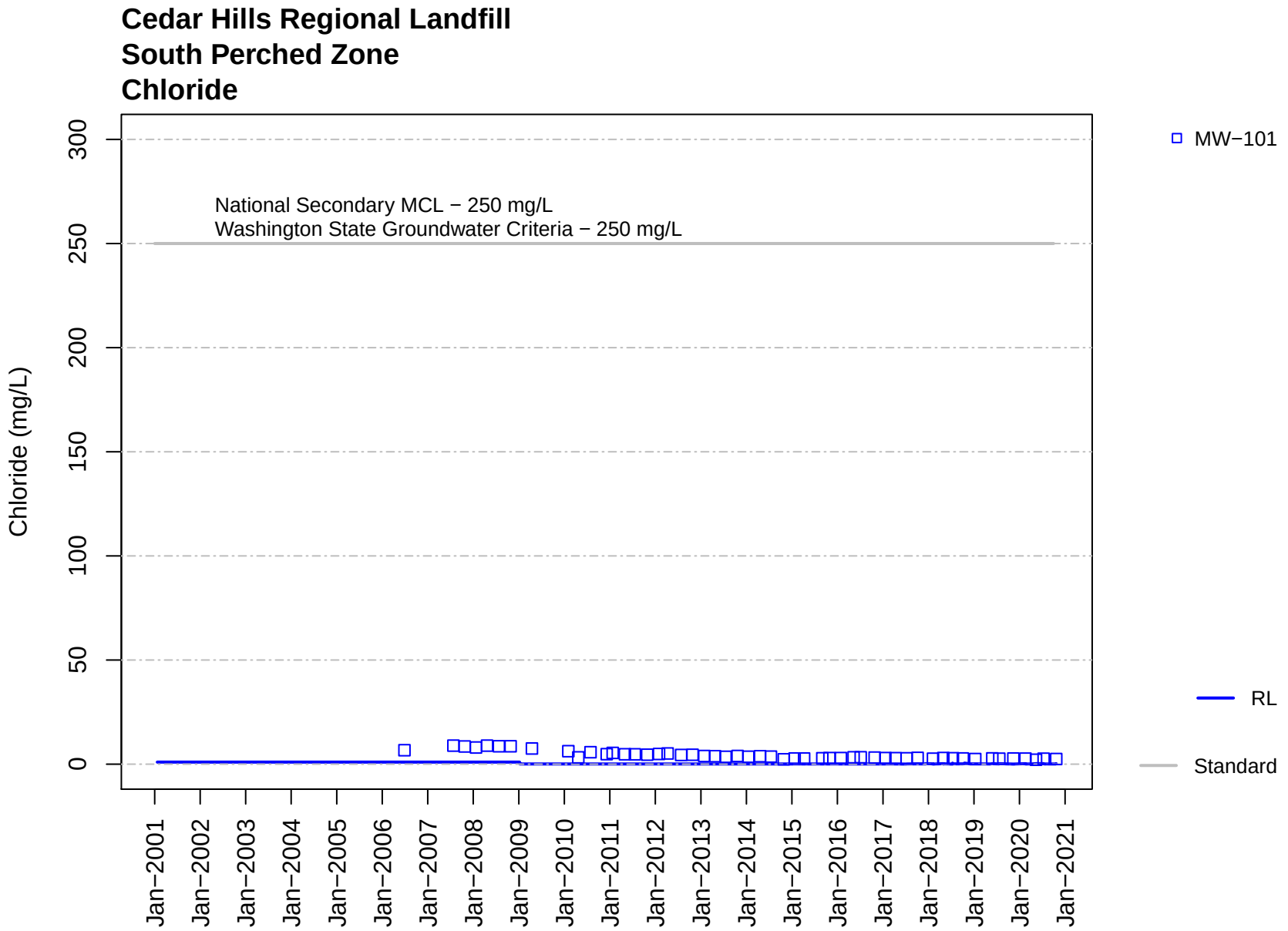

Cedar Hills Regional Landfill
East Perched Zone
Alkalinity
Alkalinity (mg/L)
0
100
200
300
400
500
600
700
Jan−2001
Jan−2002
Jan−2003
Jan−2004
Jan−2005
Jan−2006
Jan−2007
Jan−2008
Jan−2009
Jan−2010
Jan−2011
Jan−2012
Jan−2013
Jan−2014
Jan−2015
Jan−2016
Jan−2017
Jan−2018
Jan−2019
Jan−2020
Jan−2021
EW−25
MW−30A
MW−47
MW−62
RL

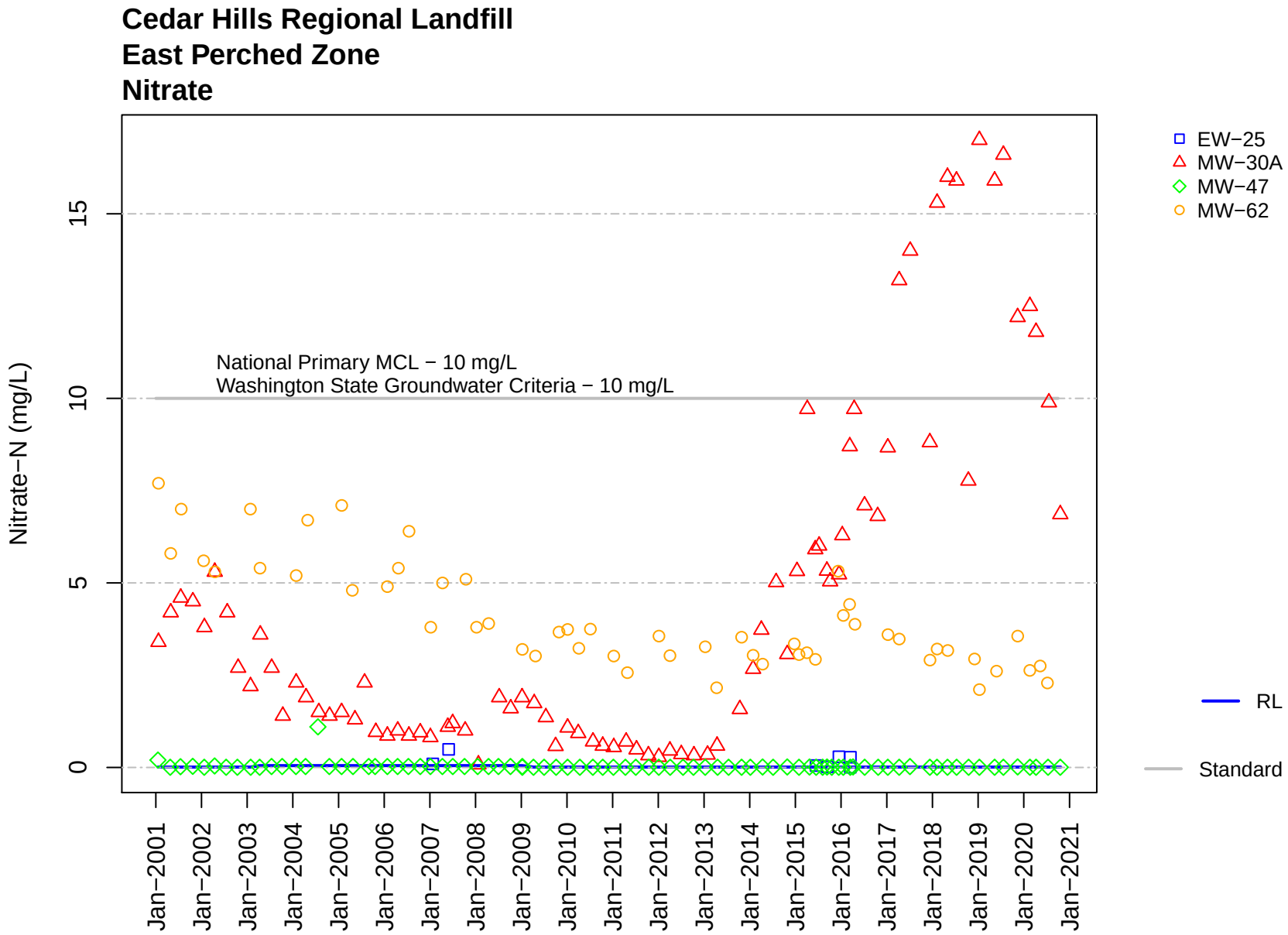

Cedar Hills Regional Landfill
South Perched Zone
Alkalinity
Alkalinity (mg/L)
0
100
200
300
400
500
600
700
Jan−2001
Jan−2002
Jan−2003
Jan−2004
Jan−2005
Jan−2006
Jan−2007
Jan−2008
Jan−2009
Jan−2010
Jan−2011
Jan−2012
Jan−2013
Jan−2014
Jan−2015
Jan−2016
Jan−2017
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Jan−2019
Jan−2020
Jan−2021
MW−101
RL

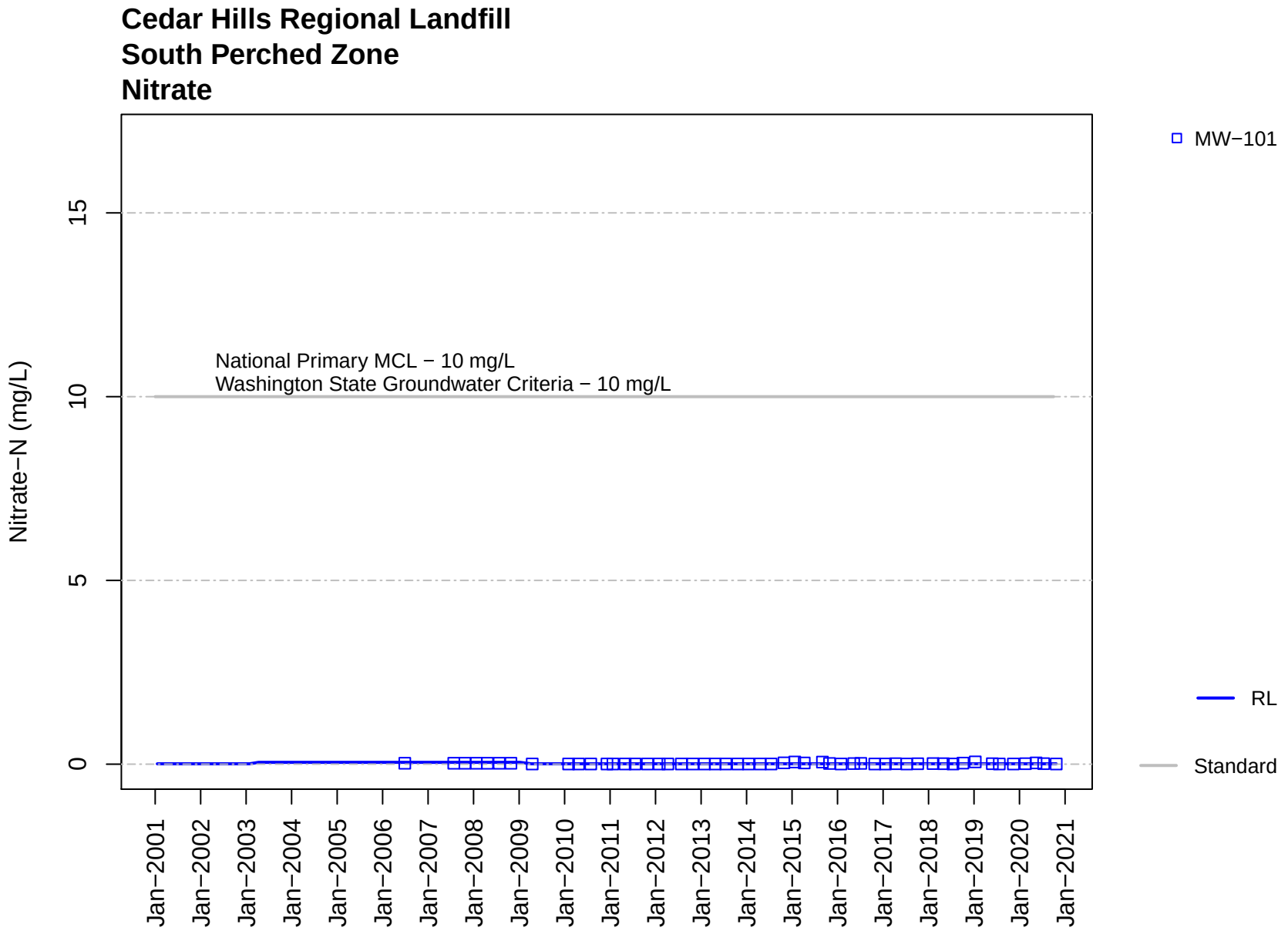

Cedar Hills Regional Landfill
East Perched Zone
Ammonia
Ammonia−N (mg/L)
0.00
0.05
0.10
0.15
Jan−2001
Jan−2002
Jan−2003
Jan−2004
Jan−2005
Jan−2006
Jan−2007
Jan−2008
Jan−2009
Jan−2010
Jan−2011
Jan−2012
Jan−2013
Jan−2014
Jan−2015
Jan−2016
Jan−2017
Jan−2018
Jan−2019
Jan−2020
Jan−2021
EW−25
MW−30A
MW−47
MW−62
RL

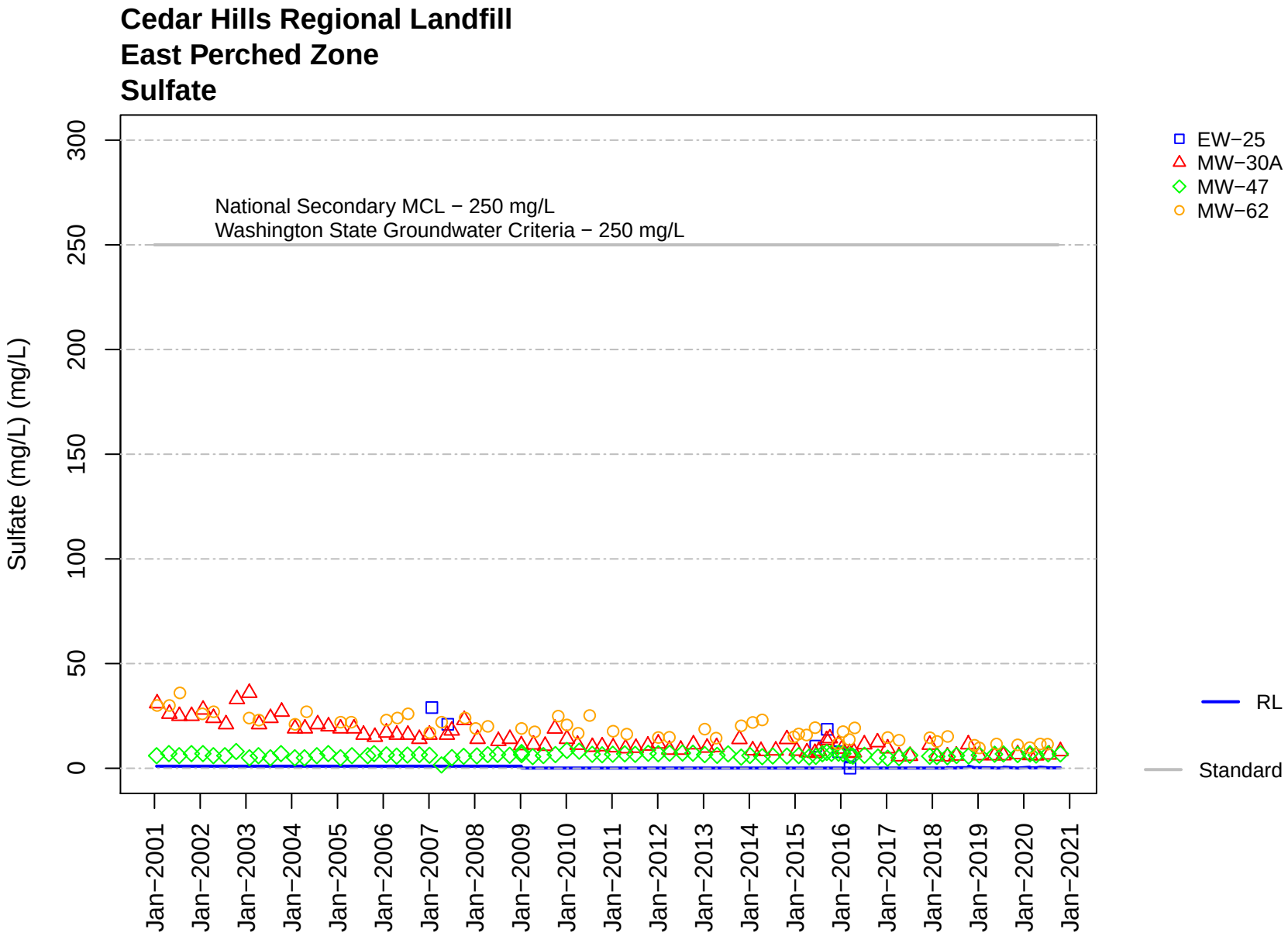

Cedar Hills Regional Landfill
South Perched Zone
Ammonia
Ammonia−N (mg/L)
0.00
0.05
0.10
0.15
Jan−2001
Jan−2002
Jan−2003
Jan−2004
Jan−2005
Jan−2006
Jan−2007
Jan−2008
Jan−2009
Jan−2010
Jan−2011
Jan−2012
Jan−2013
Jan−2014
Jan−2015
Jan−2016
Jan−2017
Jan−2018
Jan−2019
Jan−2020
Jan−2021
MW−101
RL

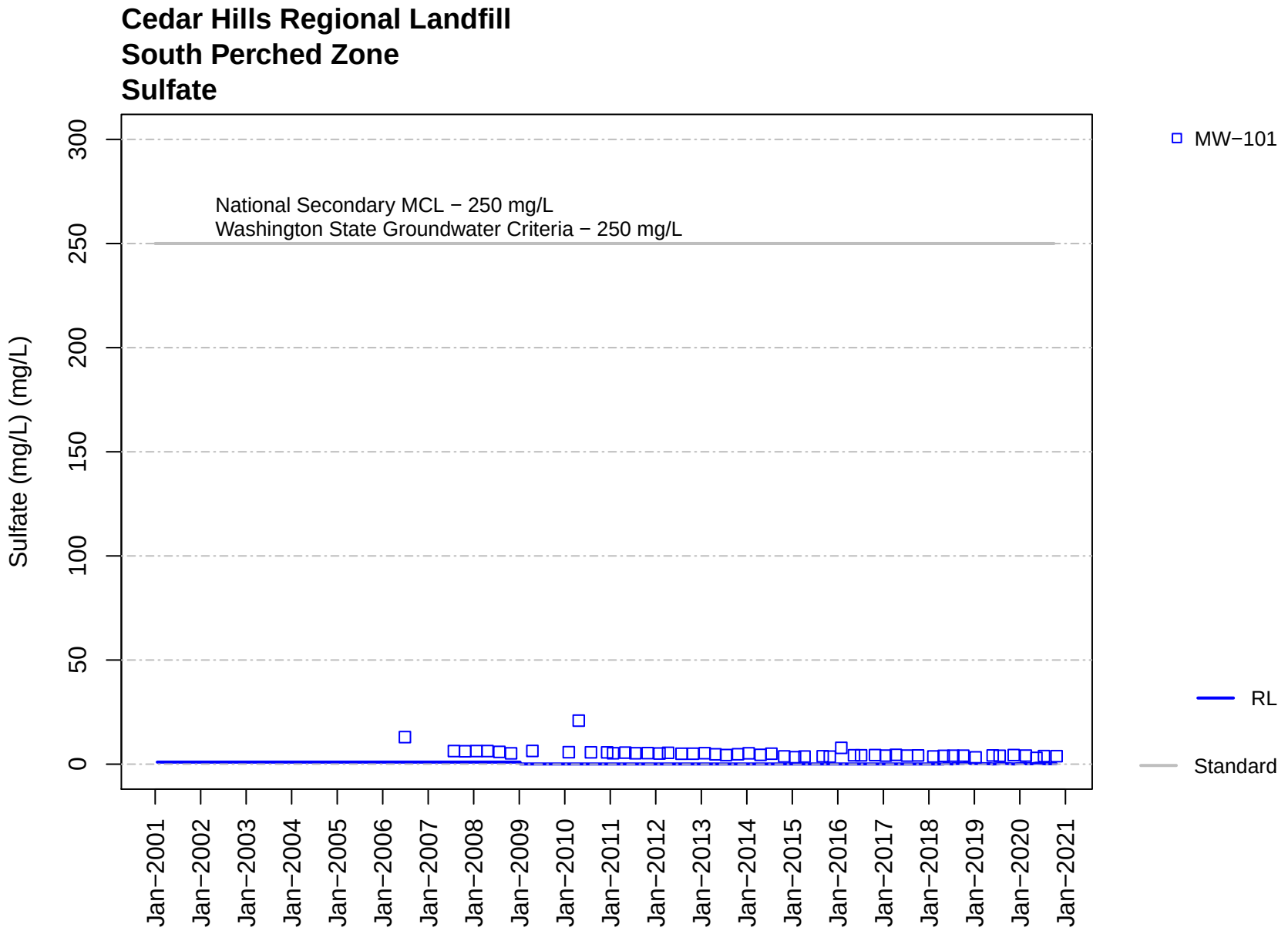

Cedar Hills Regional Landfill
East Perched Zone
Chloride
Chloride (mg/L)
0
50
100
150
200
250
300
National Secondary MCL − 250 mg/L
Washington State Groundwater Criteria − 250 mg/L
Jan−2001
Jan−2002
Jan−2003
Jan−2004
Jan−2005
Jan−2006
Jan−2007
Jan−2008
Jan−2009
Jan−2010
Jan−2011
Jan−2012
Jan−2013
Jan−2014
Jan−2015
Jan−2016
Jan−2017
Jan−2018
Jan−2019
Jan−2020
Jan−2021
EW−25
MW−30A
MW−47
MW−62
RL
Standard

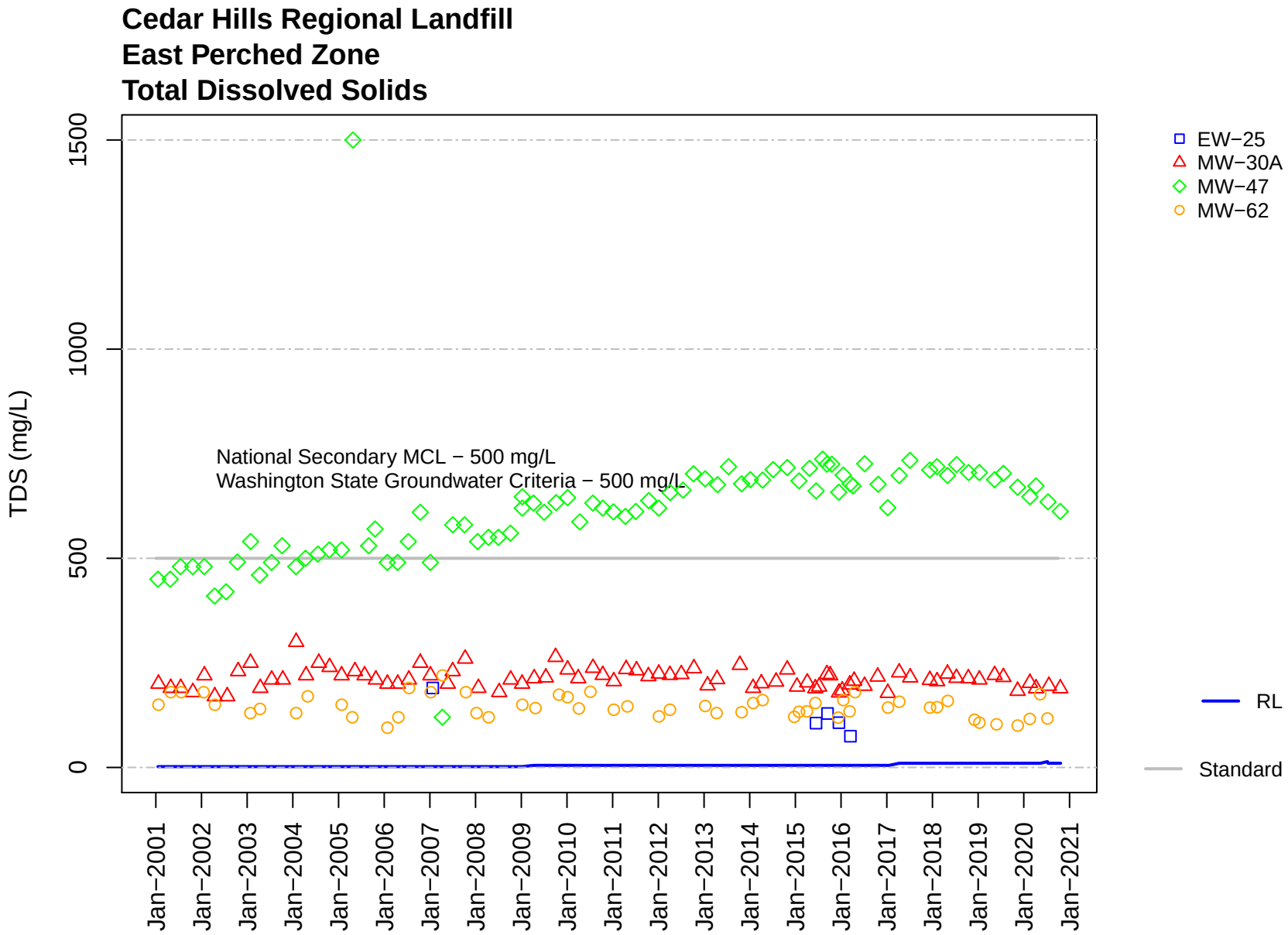

Cedar Hills Regional Landfill
South Perched Zone
Chloride
Chloride (mg/L)
0
50
100
150
200
250
300
National Secondary MCL − 250 mg/L
Washington State Groundwater Criteria − 250 mg/L
Jan−2001
Jan−2002
Jan−2003
Jan−2004
Jan−2005
Jan−2006
Jan−2007
Jan−2008
Jan−2009
Jan−2010
Jan−2011
Jan−2012
Jan−2013
Jan−2014
Jan−2015
Jan−2016
Jan−2017
Jan−2018
Jan−2019
Jan−2020
Jan−2021
MW−101
RL
Standard

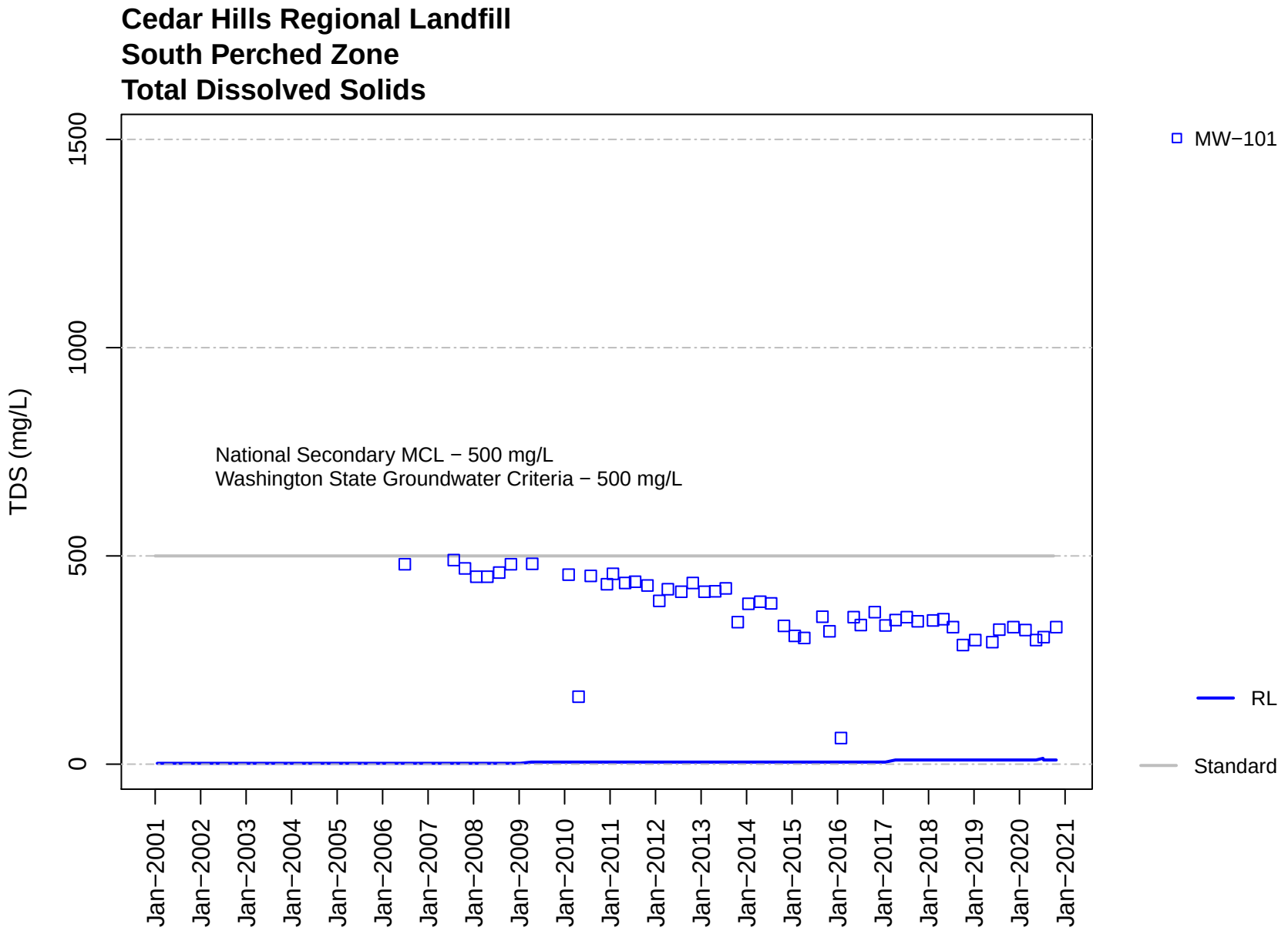

Cedar Hills Regional Landfill
East Perched Zone
Nitrate
Nitrate−N (mg/L)
0
5
10
15
National Primary MCL − 10 mg/L
Washington State Groundwater Criteria − 10 mg/L
Jan−2001
Jan−2002
Jan−2003
Jan−2004
Jan−2005
Jan−2006
Jan−2007
Jan−2008
Jan−2009
Jan−2010
Jan−2011
Jan−2012
Jan−2013
Jan−2014
Jan−2015
Jan−2016
Jan−2017
Jan−2018
Jan−2019
Jan−2020
Jan−2021
EW−25
MW−30A
MW−47
MW−62
RL
Standard

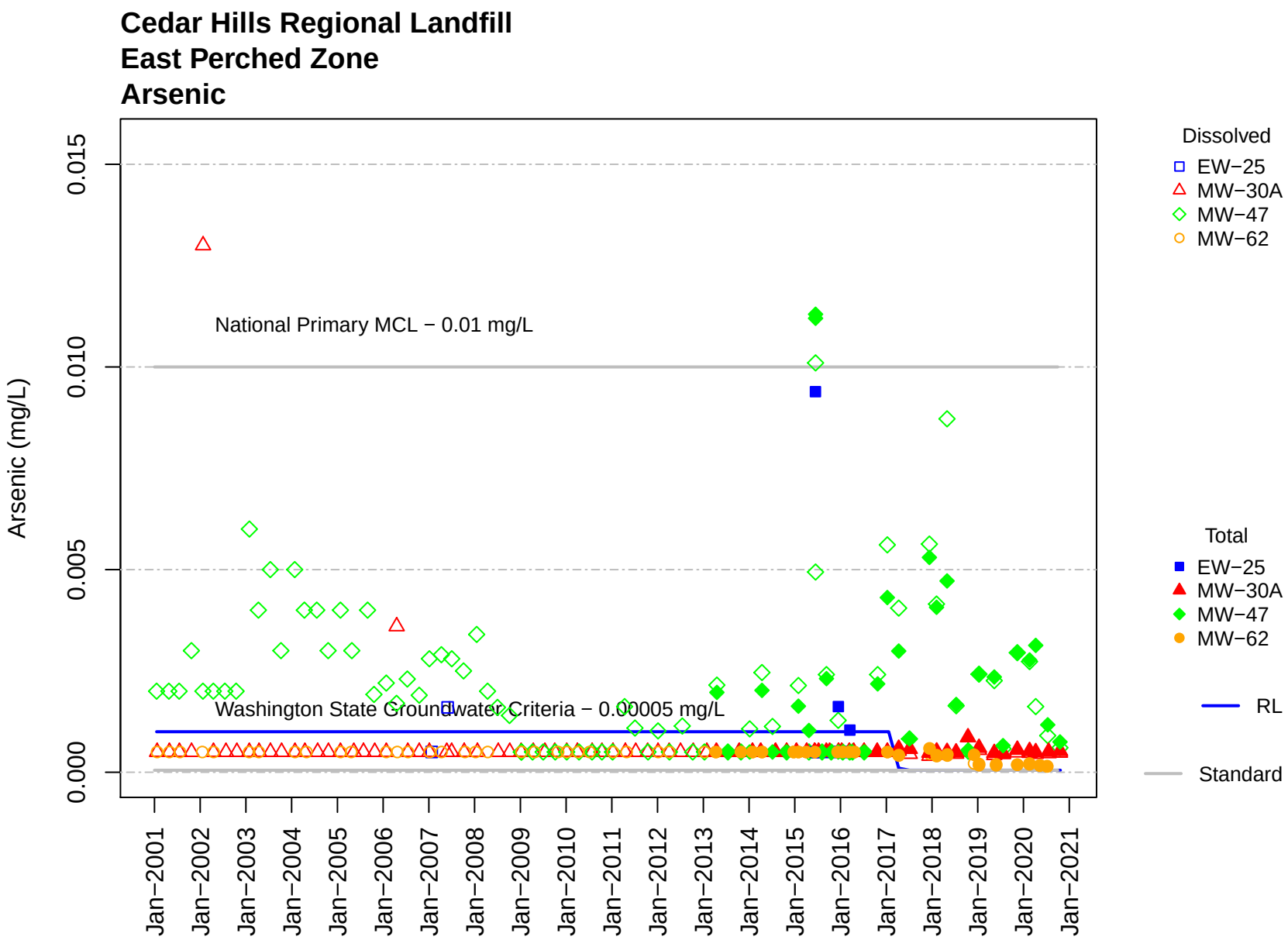

Cedar Hills Regional Landfill
South Perched Zone
Nitrate
Nitrate−N (mg/L)
0
5
10
15
National Primary MCL − 10 mg/L
Washington State Groundwater Criteria − 10 mg/L
Jan−2001
Jan−2002
Jan−2003
Jan−2004
Jan−2005
Jan−2006
Jan−2007
Jan−2008
Jan−2009
Jan−2010
Jan−2011
Jan−2012
Jan−2013
Jan−2014
Jan−2015
Jan−2016
Jan−2017
Jan−2018
Jan−2019
Jan−2020
Jan−2021
MW−101
RL
Standard

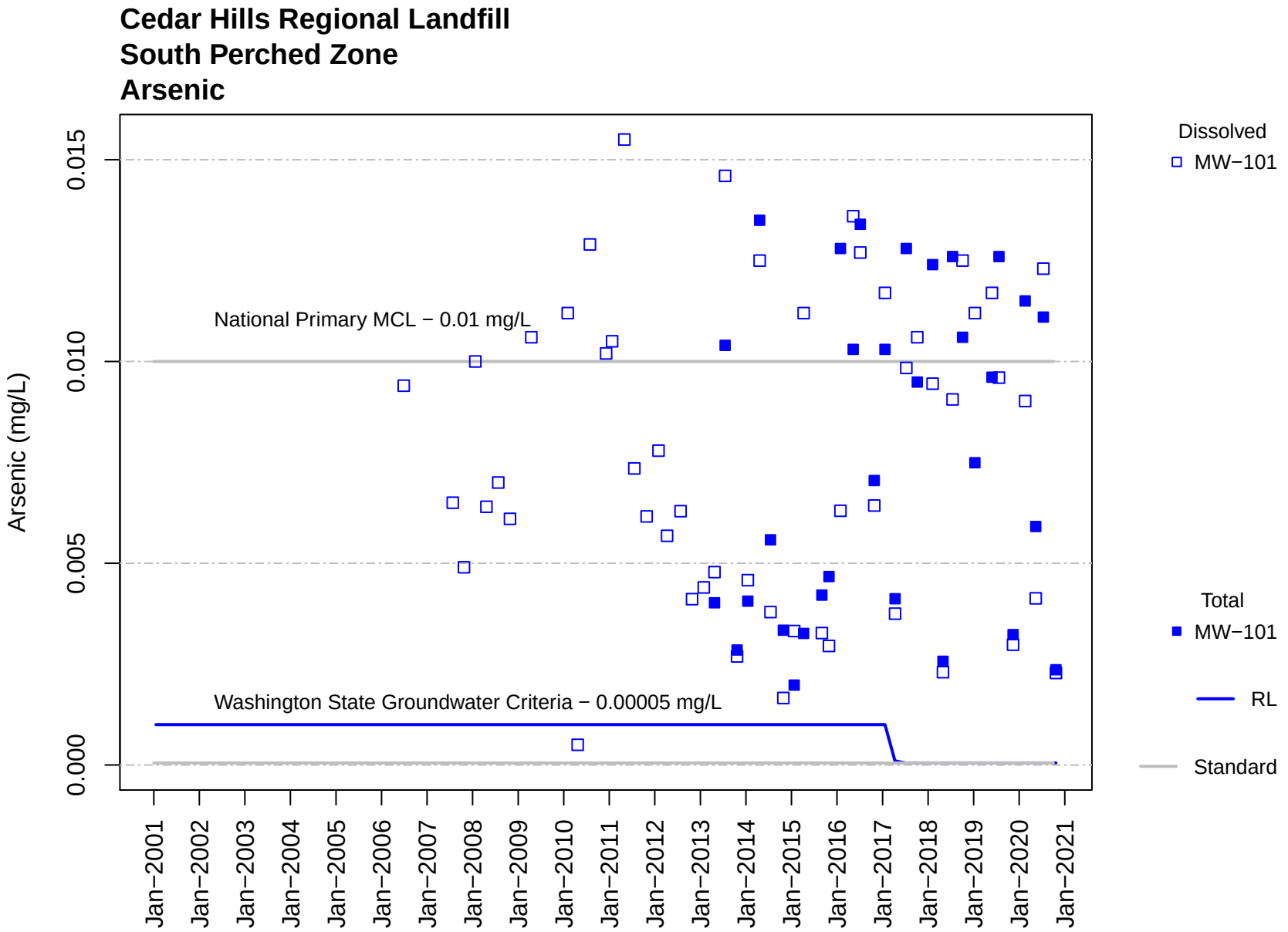

Cedar Hills Regional Landfill
East Perched Zone
Sulfate
Sulfate (mg/L) (mg/L)
0
50
100
150
200
250
300
National Secondary MCL − 250 mg/L
Washington State Groundwater Criteria − 250 mg/L
Jan−2001
Jan−2002
Jan−2003
Jan−2004
Jan−2005
Jan−2006
Jan−2007
Jan−2008
Jan−2009
Jan−2010
Jan−2011
Jan−2012
Jan−2013
Jan−2014
Jan−2015
Jan−2016
Jan−2017
Jan−2018
Jan−2019
Jan−2020
Jan−2021
EW−25
MW−30A
MW−47
MW−62
RL
Standard

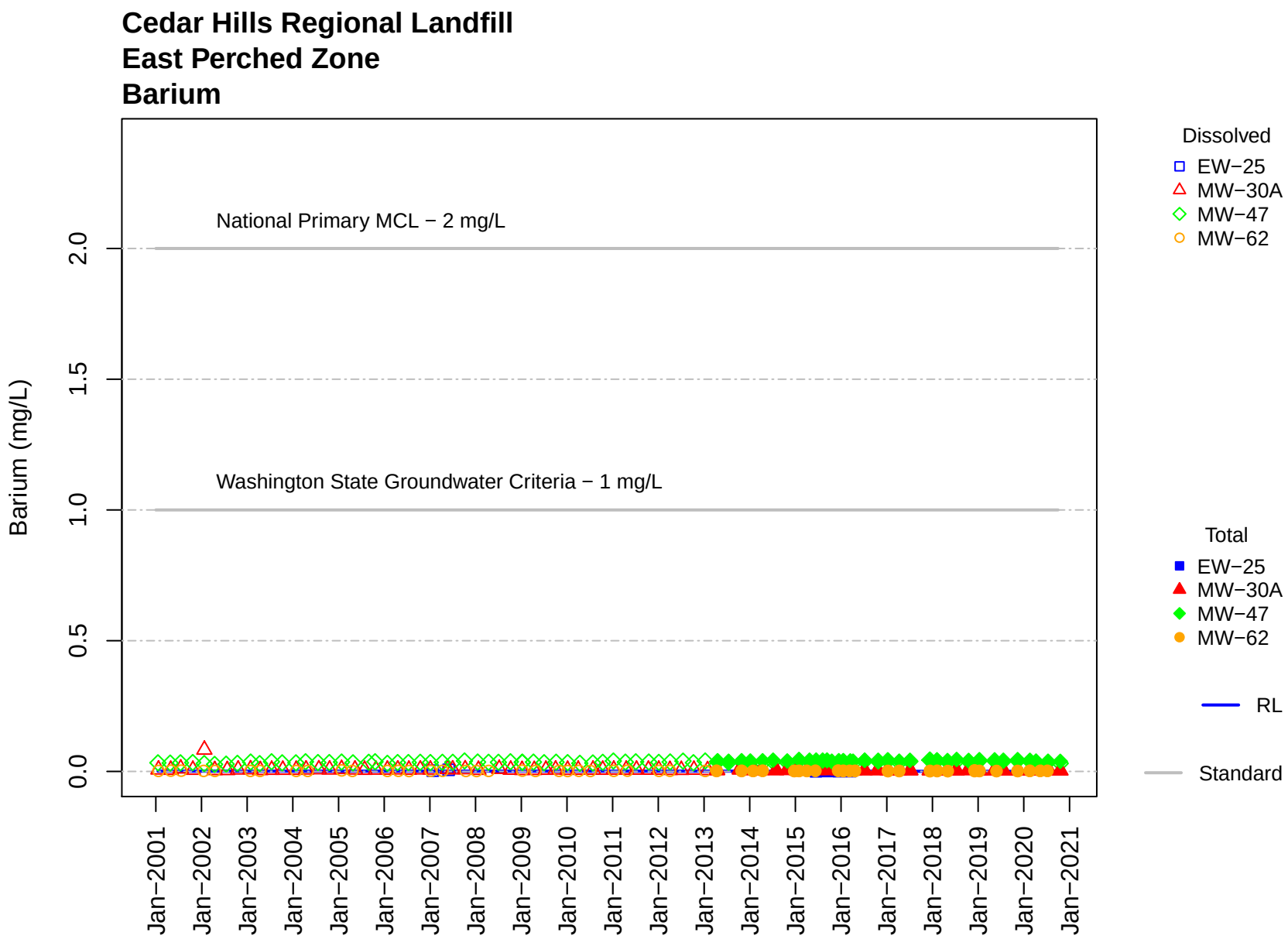

Cedar Hills Regional Landfill
South Perched Zone
Sulfate
Sulfate (mg/L) (mg/L)
0
50
100
150
200
250
300
National Secondary MCL − 250 mg/L
Washington State Groundwater Criteria − 250 mg/L
Jan−2001
Jan−2002
Jan−2003
Jan−2004
Jan−2005
Jan−2006
Jan−2007
Jan−2008
Jan−2009
Jan−2010
Jan−2011
Jan−2012
Jan−2013
Jan−2014
Jan−2015
Jan−2016
Jan−2017
Jan−2018
Jan−2019
Jan−2020
Jan−2021
MW−101
RL
Standard

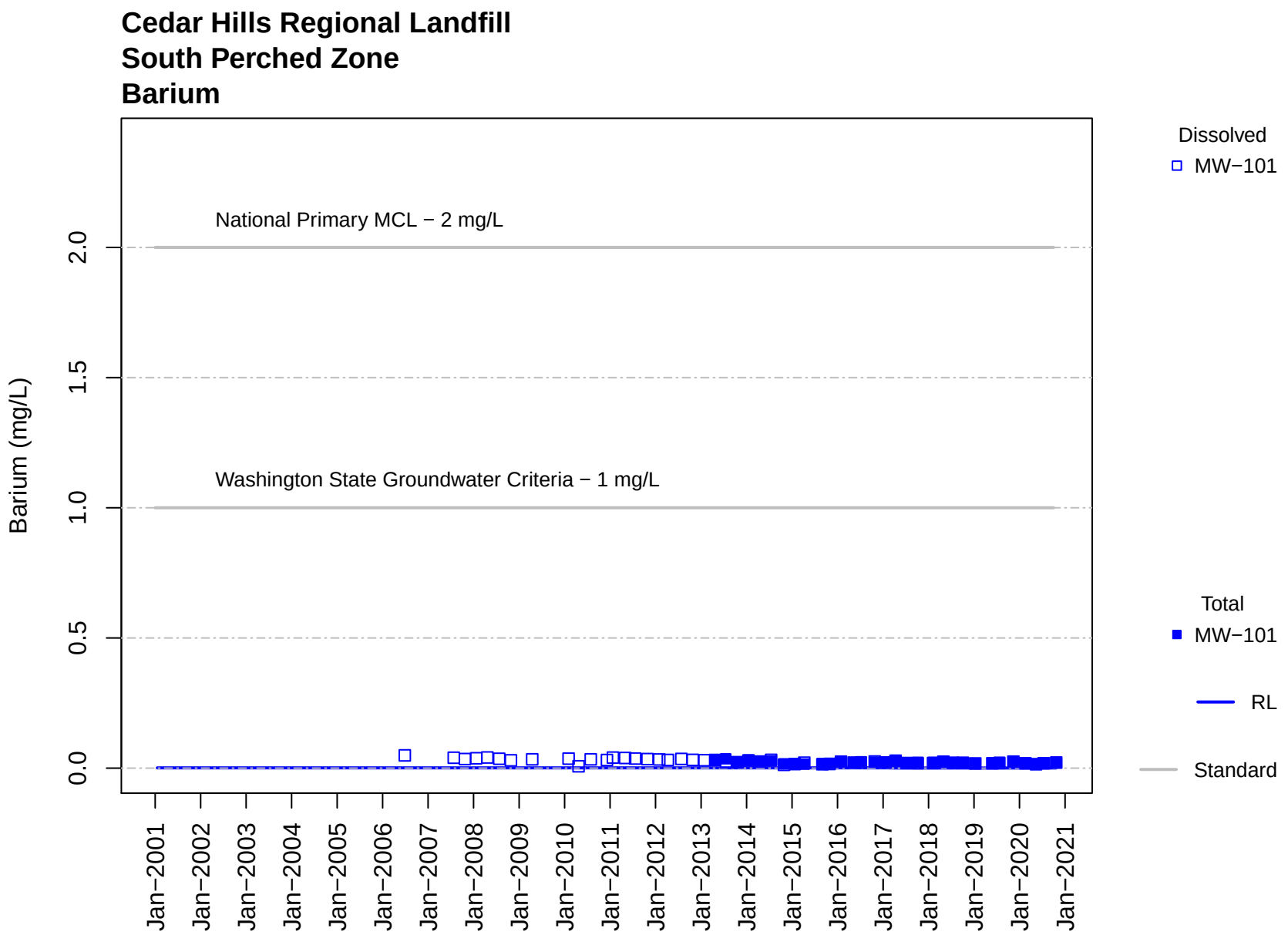

Cedar Hills Regional Landfill
East Perched Zone
Total Dissolved Solids
TDS (mg/L)
0
500
1000
1500
National Secondary MCL − 500 mg/L
Washington State Groundwater Criteria − 500 mg/L
Jan−2001
Jan−2002
Jan−2003
Jan−2004
Jan−2005
Jan−2006
Jan−2007
Jan−2008
Jan−2009
Jan−2010
Jan−2011
Jan−2012
Jan−2013
Jan−2014
Jan−2015
Jan−2016
Jan−2017
Jan−2018
Jan−2019
Jan−2020
Jan−2021
EW−25
MW−30A
MW−47
MW−62
RL
Standard

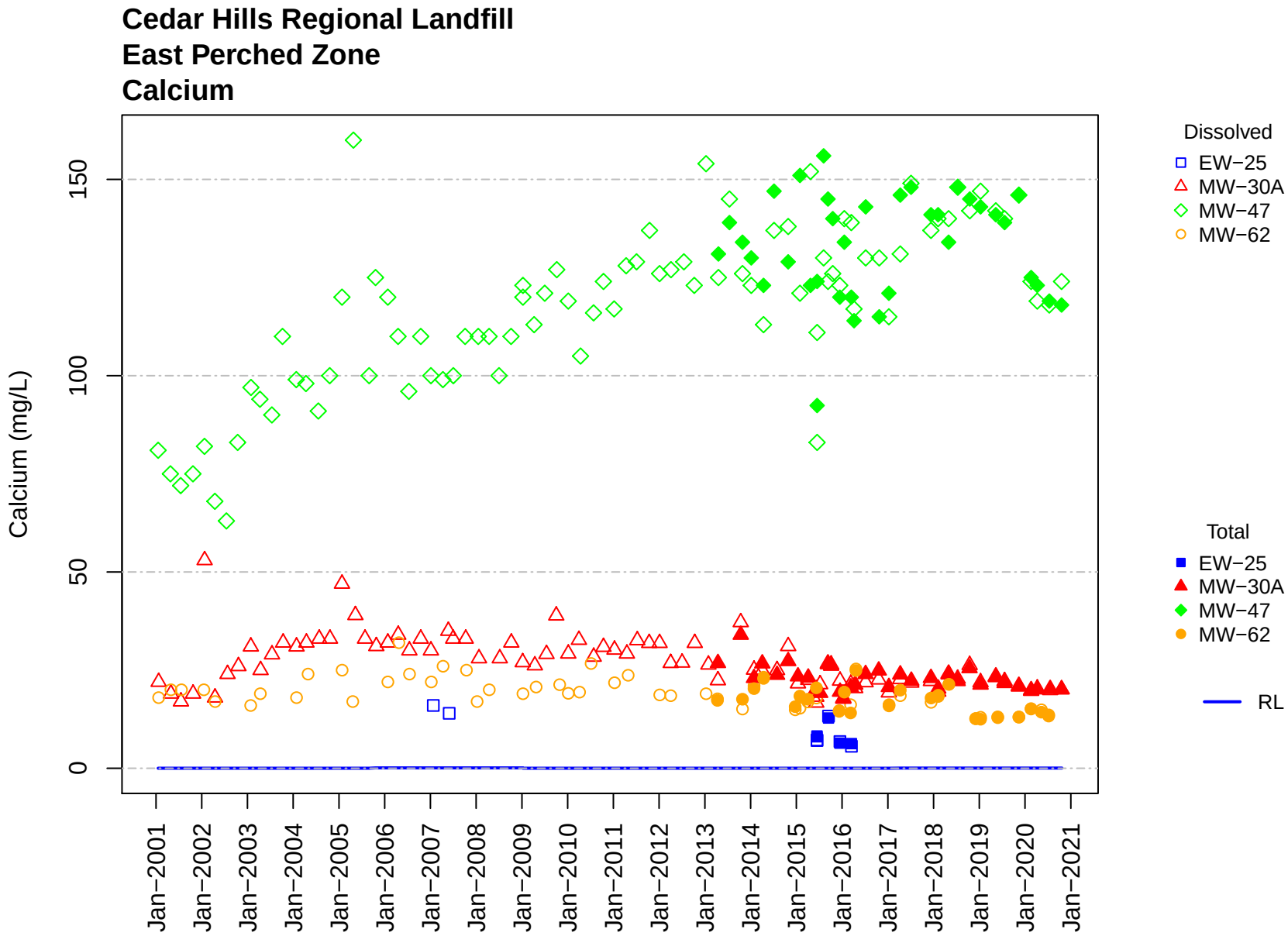

Cedar Hills Regional Landfill
South Perched Zone
Total Dissolved Solids
TDS (mg/L)
1500
1000
500
0
National Secondary MCL − 500 mg/L
Washington State Groundwater Criteria − 500 mg/L
MW−101
RL
Standard
Jan−2001
Jan−2002
Jan−2003
Jan−2004
Jan−2005
Jan−2006
Jan−2007
Jan−2008
Jan−2009
Jan−2010
Jan−2011
Jan−2012
Jan−2013
Jan−2014
Jan−2015
Jan−2016
Jan−2017
Jan−2018
Jan−2019
Jan−2020
Jan−2021

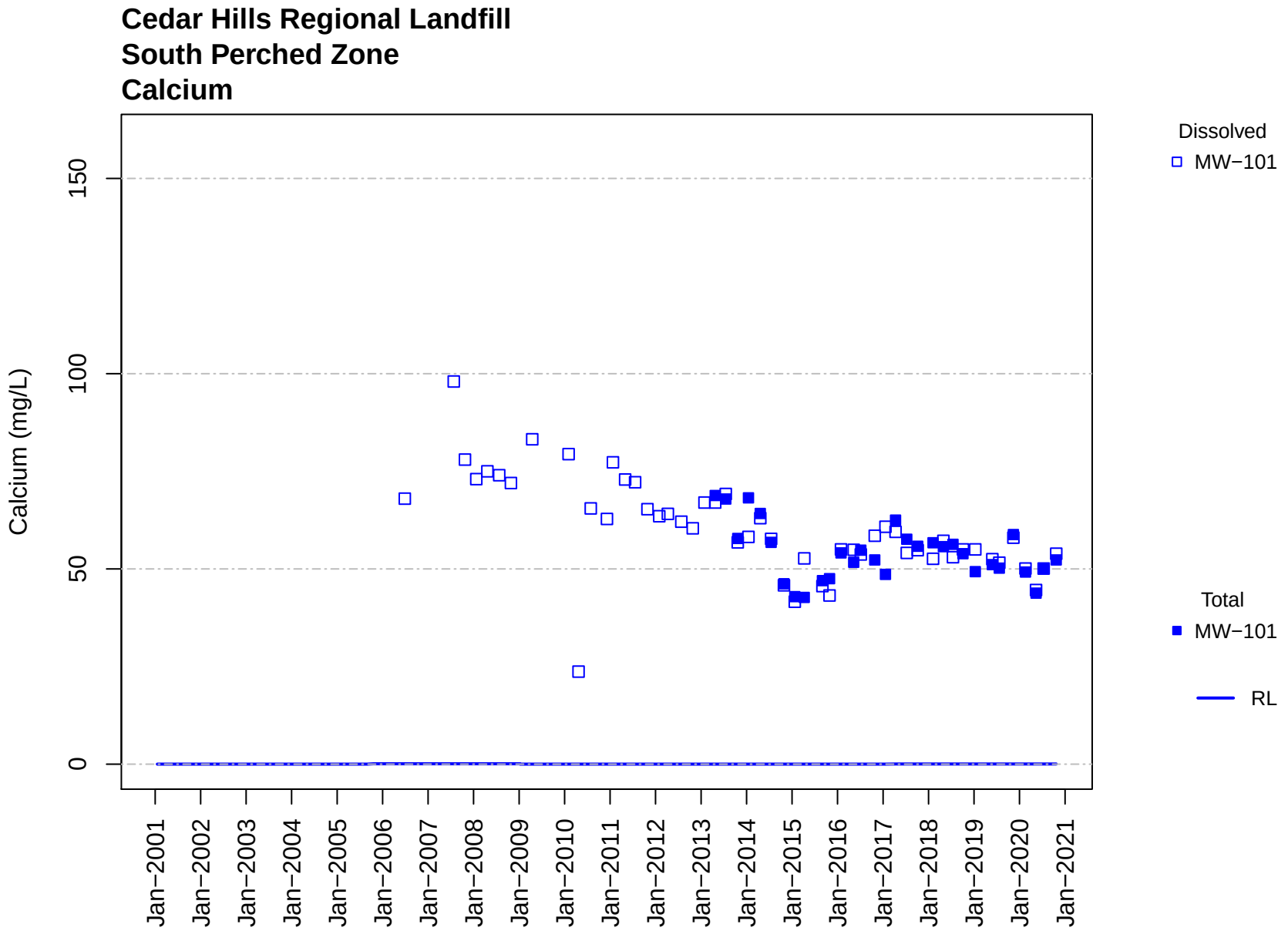

Cedar Hills Regional Landfill
East Perched Zone
Arsenic
Arsenic (mg/L)
0.000
0.005
0.010
0.015
National Primary MCL − 0.01 mg/L
Washington State Groundwater Criteria − 0.00005 mg/L
Jan−2001
Jan−2002
Jan−2003
Jan−2004
Jan−2005
Jan−2006
Jan−2007
Jan−2008
Jan−2009
Jan−2010
Jan−2011
Jan−2012
Jan−2013
Jan−2014
Jan−2015
Jan−2016
Jan−2017
Jan−2018
Jan−2019
Jan−2020
Jan−2021
Dissolved
EW−25
MW−30A
MW−47
MW−62
Total
EW−25
MW−30A
MW−47
MW−62
RL
Standard

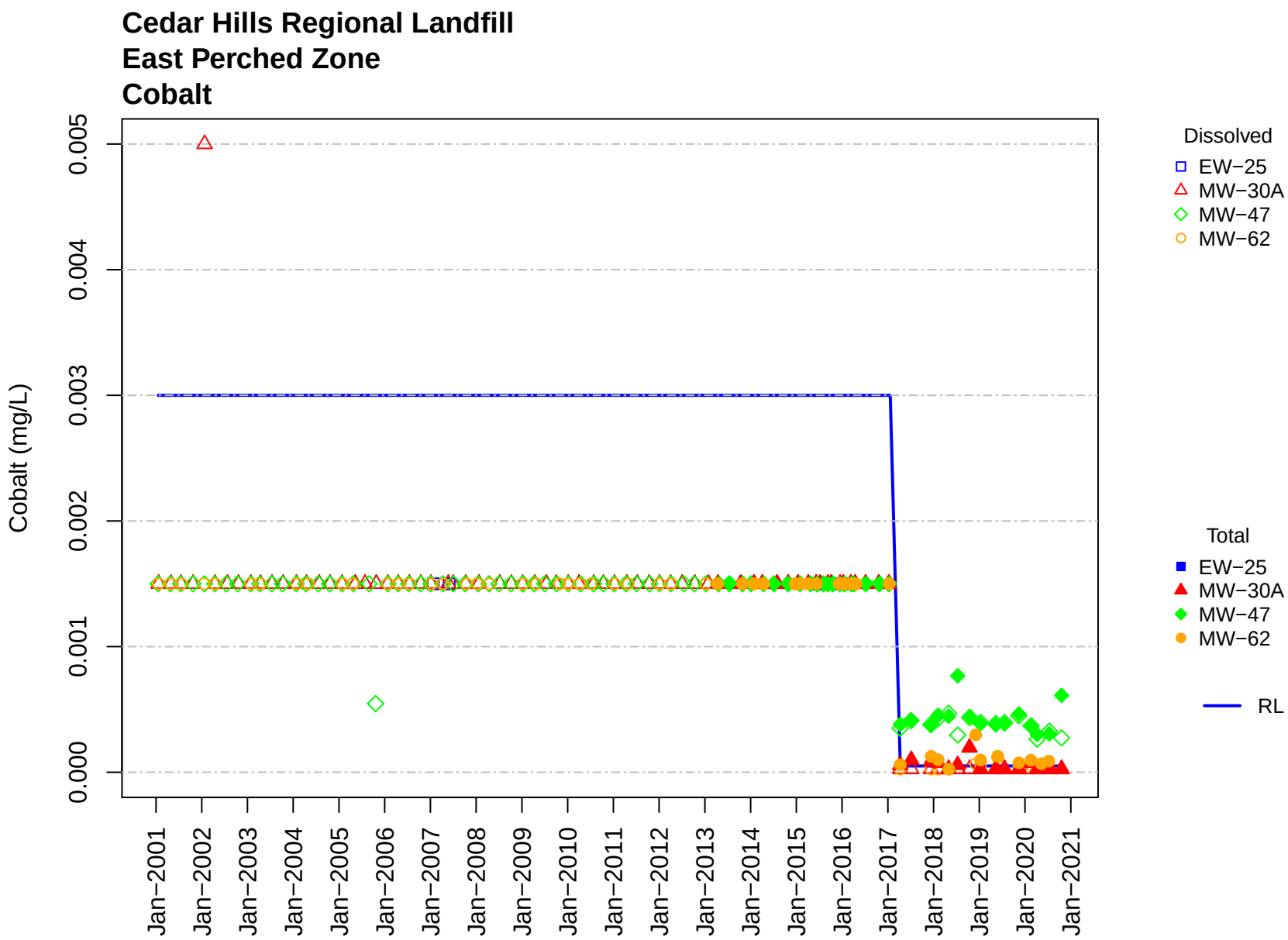

Cedar Hills Regional Landfill
South Perched Zone
Arsenic
Arsenic (mg/L)
0.000
0.005
0.010
0.015
National Primary MCL − 0.01 mg/L
Washington State Groundwater Criteria − 0.00005 mg/L
Jan−2001
Jan−2002
Jan−2003
Jan−2004
Jan−2005
Jan−2006
Jan−2007
Jan−2008
Jan−2009
Jan−2010
Jan−2011
Jan−2012
Jan−2013
Jan−2014
Jan−2015
Jan−2016
Jan−2017
Jan−2018
Jan−2019
Jan−2020
Jan−2021
Dissolved
MW−101
Total
MW−101
RL
Standard

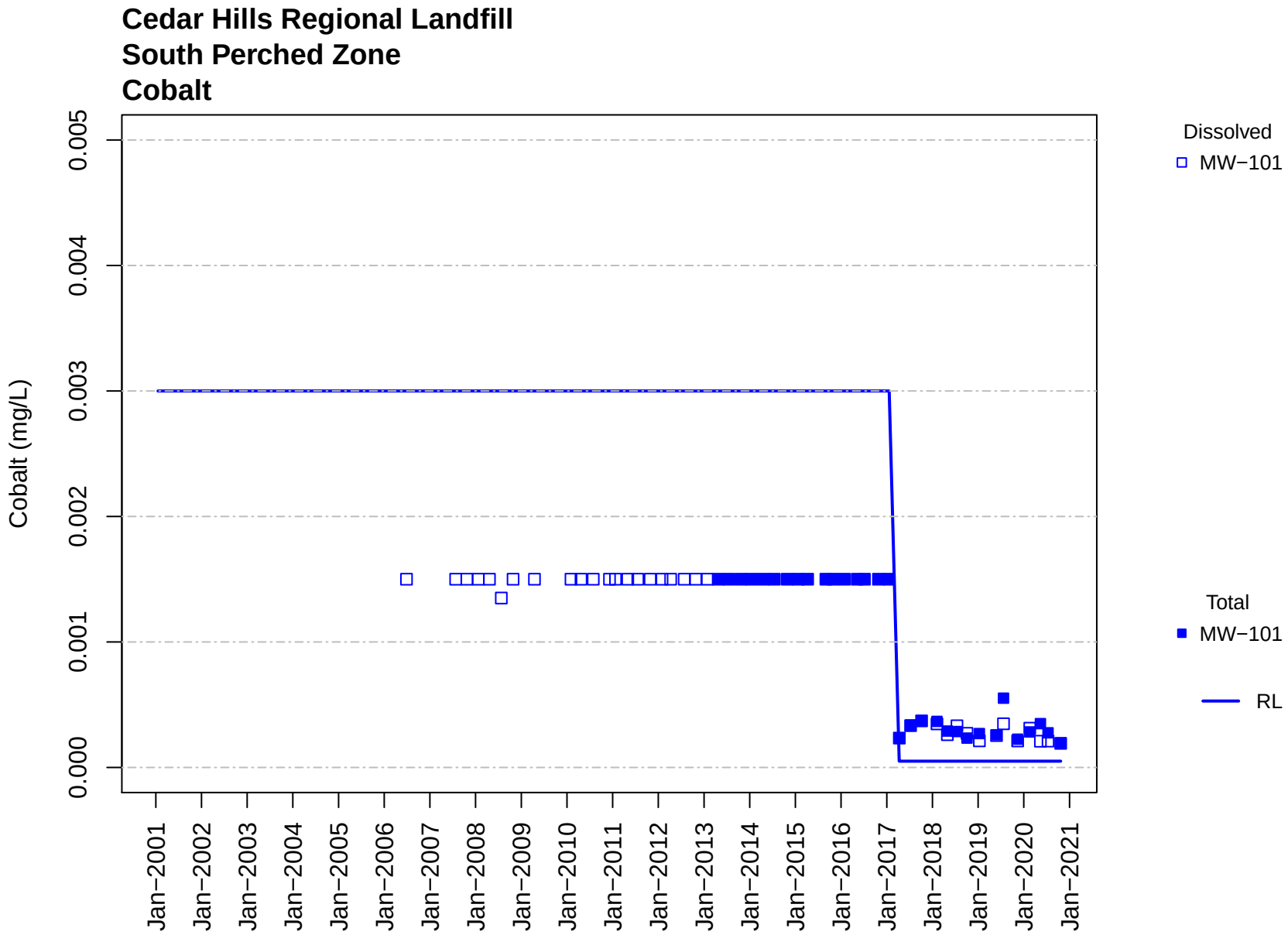

Cedar Hills Regional Landfill
East Perched Zone
Barium
National Primary MCL − 2 mg/L
Washington State Groundwater Criteria − 1 mg/L
Barium (mg/L)
0.0
0.5
1.0
1.5
2.0
Jan−2001
Jan−2002
Jan−2003
Jan−2004
Jan−2005
Jan−2006
Jan−2007
Jan−2008
Jan−2009
Jan−2010
Jan−2011
Jan−2012
Jan−2013
Jan−2014
Jan−2015
Jan−2016
Jan−2017
Jan−2018
Jan−2019
Jan−2020
Jan−2021
Dissolved
EW−25
MW−30A
MW−47
MW−62
Total
EW−25
MW−30A
MW−47
MW−62
RL
Standard

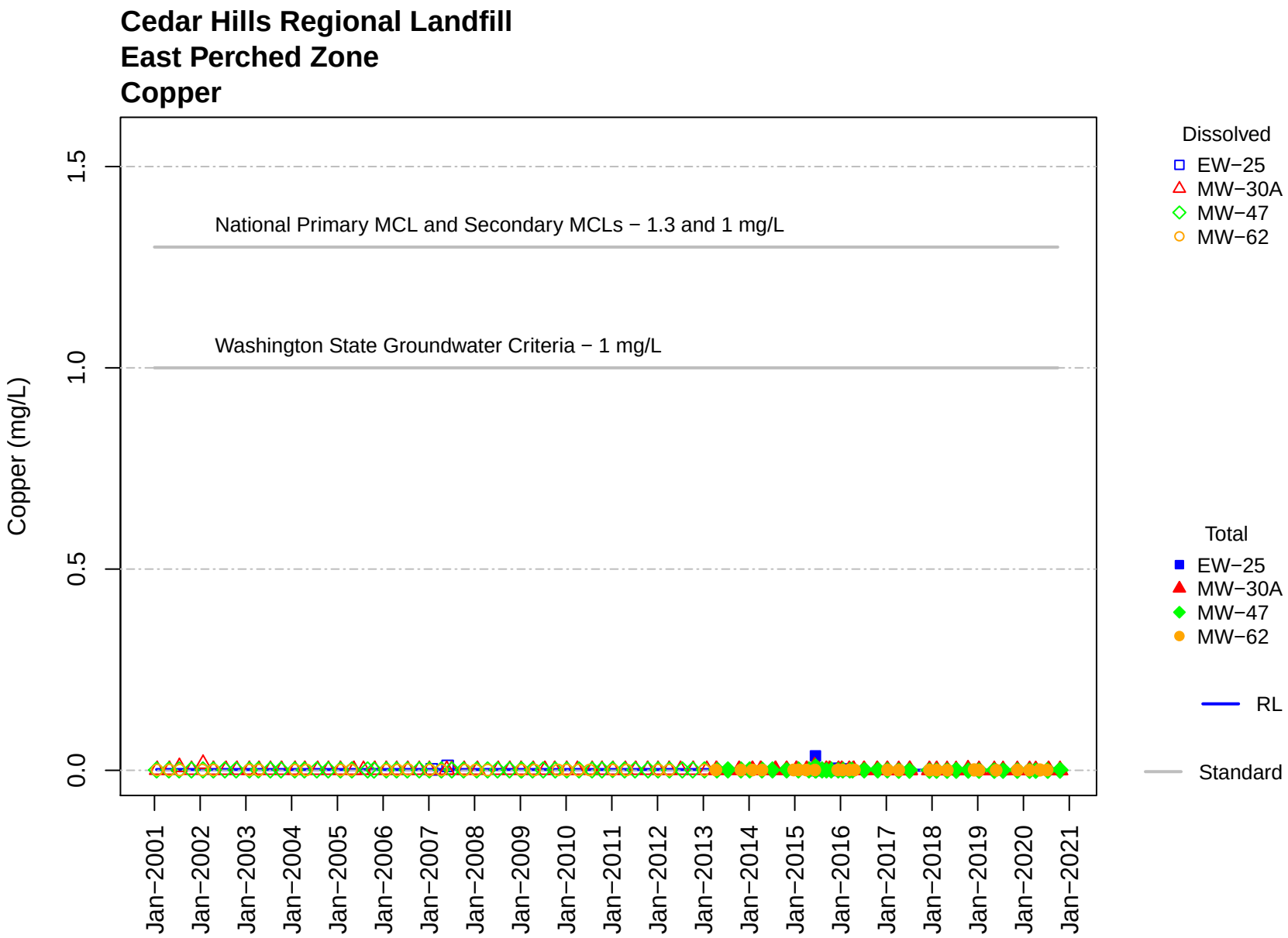

Cedar Hills Regional Landfill
South Perched Zone
Barium
Barium (mg/L)
0.0
0.5
1.0
1.5
2.0
National Primary MCL − 2 mg/L
Washington State Groundwater Criteria − 1 mg/L
Jan−2001
Jan−2002
Jan−2003
Jan−2004
Jan−2005
Jan−2006
Jan−2007
Jan−2008
Jan−2009
Jan−2010
Jan−2011
Jan−2012
Jan−2013
Jan−2014
Jan−2015
Jan−2016
Jan−2017
Jan−2018
Jan−2019
Jan−2020
Jan−2021
Dissolved
MW−101
Total
MW−101
RL
Standard

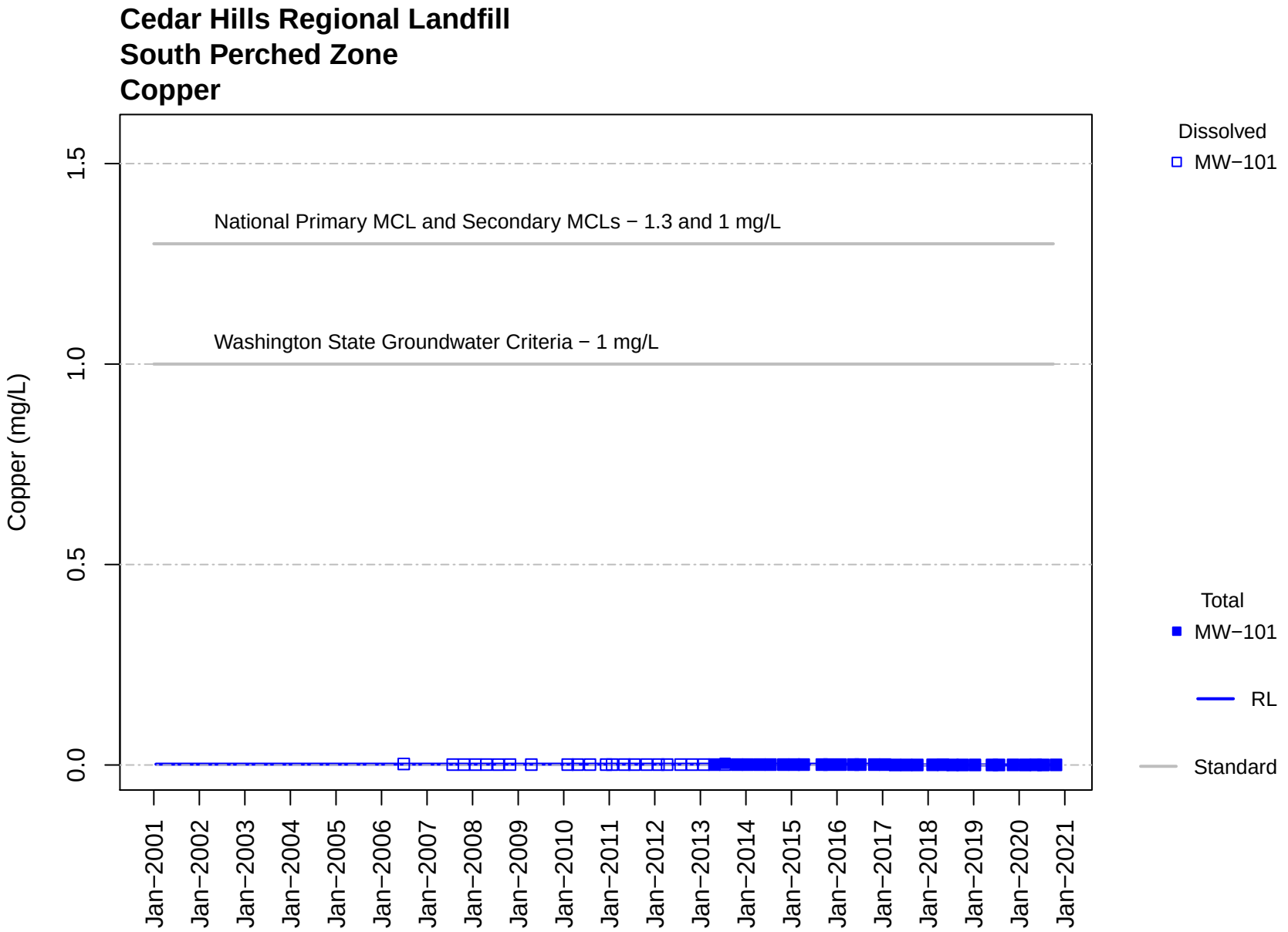

Cedar Hills Regional Landfill
East Perched Zone
Calcium
Calcium (mg/L)
0
50
100
150
Jan−2001
Jan−2002
Jan−2003
Jan−2004
Jan−2005
Jan−2006
Jan−2007
Jan−2008
Jan−2009
Jan−2010
Jan−2011
Jan−2012
Jan−2013
Jan−2014
Jan−2015
Jan−2016
Jan−2017
Jan−2018
Jan−2019
Jan−2020
Jan−2021
Dissolved
EW−25
MW−30A
MW−47
MW−62
Total
EW−25
MW−30A
MW−47
MW−62
RL

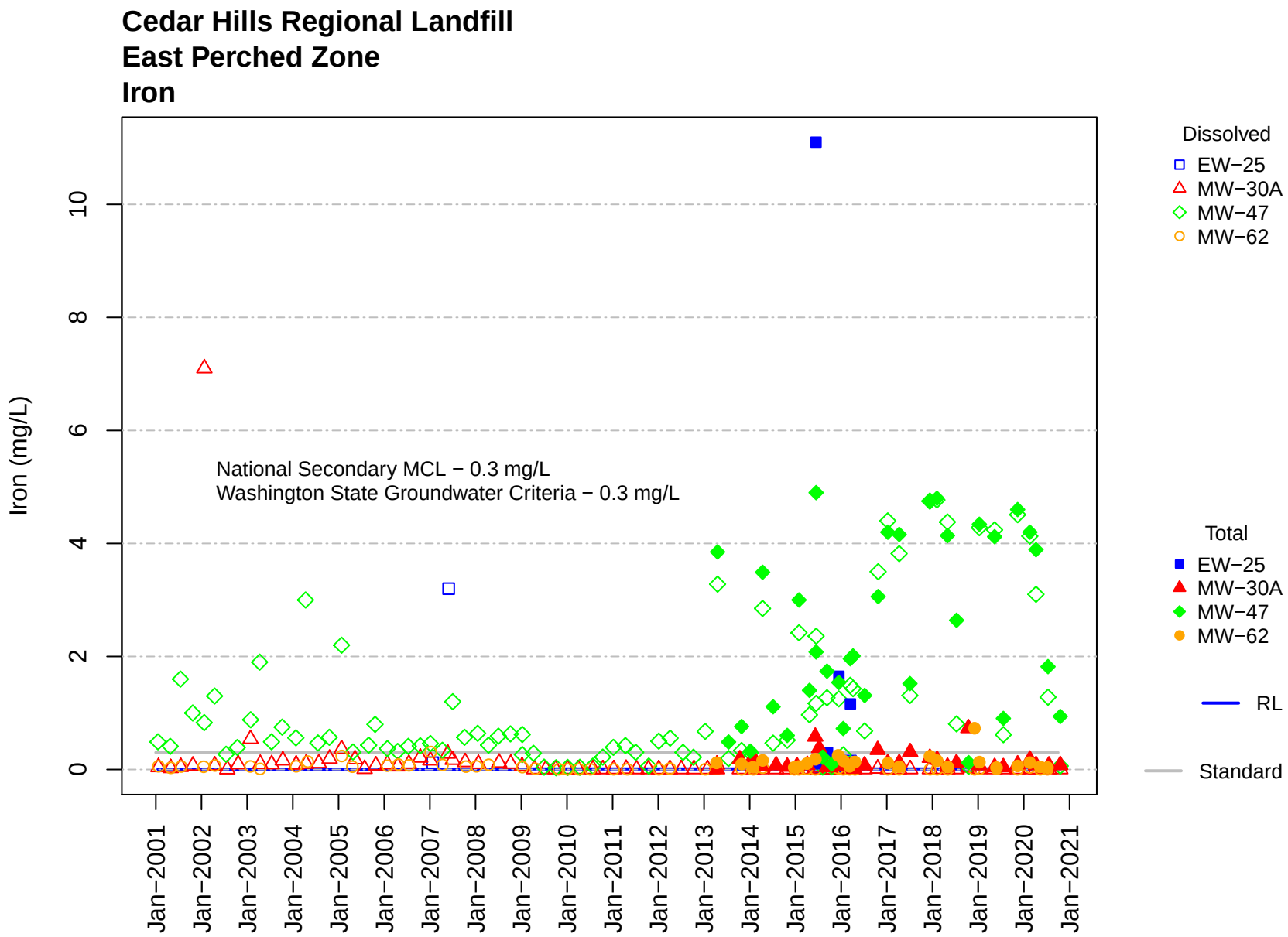

Cedar Hills Regional Landfill
South Perched Zone
Calcium
Calcium (mg/L)
0
50
100
150
Jan−2001
Jan−2002
Jan−2003
Jan−2004
Jan−2005
Jan−2006
Jan−2007
Jan−2008
Jan−2009
Jan−2010
Jan−2011
Jan−2012
Jan−2013
Jan−2014
Jan−2015
Jan−2016
Jan−2017
Jan−2018
Jan−2019
Jan−2020
Jan−2021
Dissolved
MW−101
Total
MW−101
RL

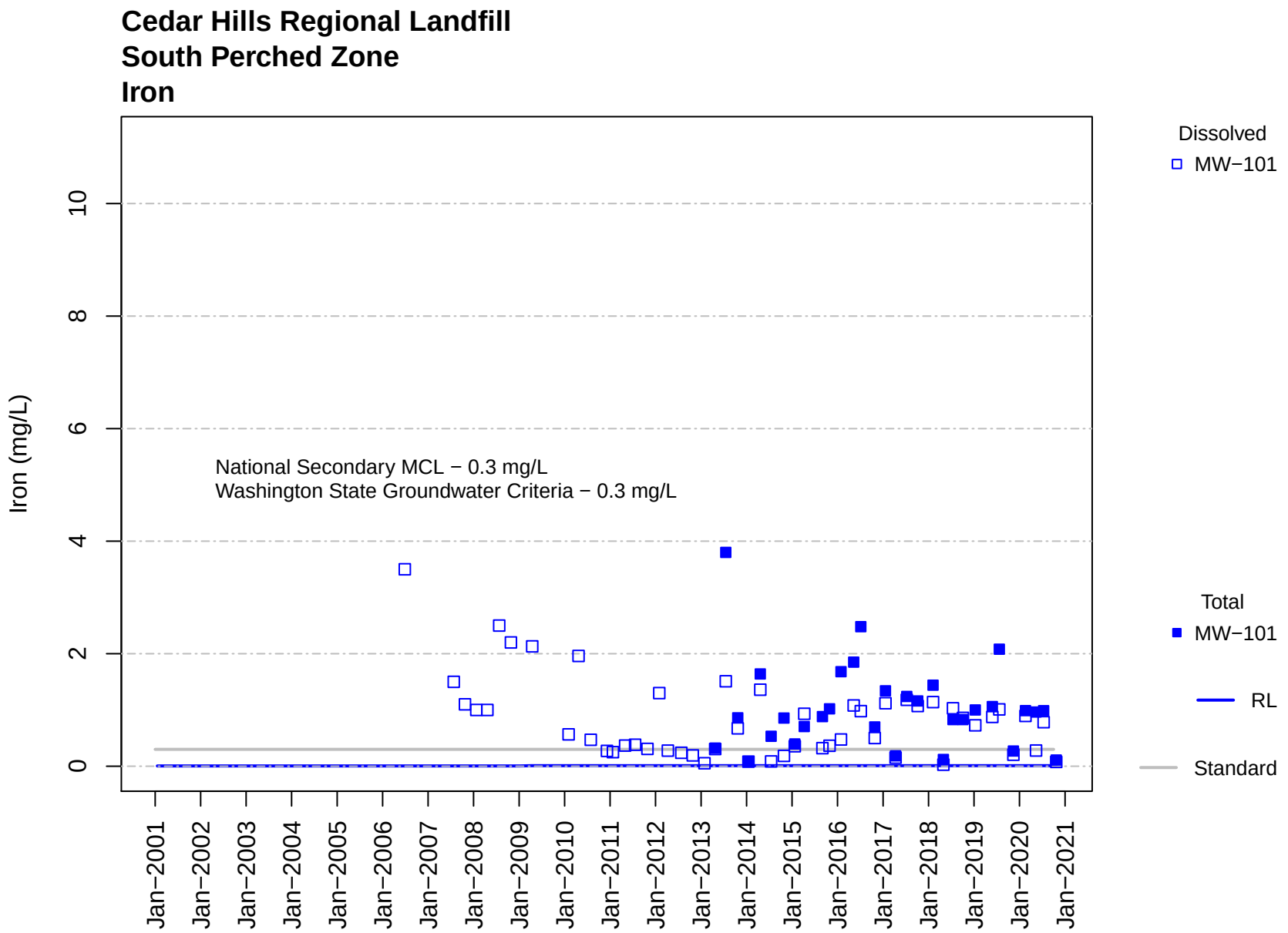

Cedar Hills Regional Landfill
East Perched Zone
Cobalt
Cobalt (mg/L)
0.000
0.001
0.002
0.003
0.004
0.005
Jan−2001
Jan−2002
Jan−2003
Jan−2004
Jan−2005
Jan−2006
Jan−2007
Jan−2008
Jan−2009
Jan−2010
Jan−2011
Jan−2012
Jan−2013
Jan−2014
Jan−2015
Jan−2016
Jan−2017
Jan−2018
Jan−2019
Jan−2020
Jan−2021
Dissolved
EW−25
MW−30A
MW−47
MW−62
Total
EW−25
MW−30A
MW−47
MW−62
RL

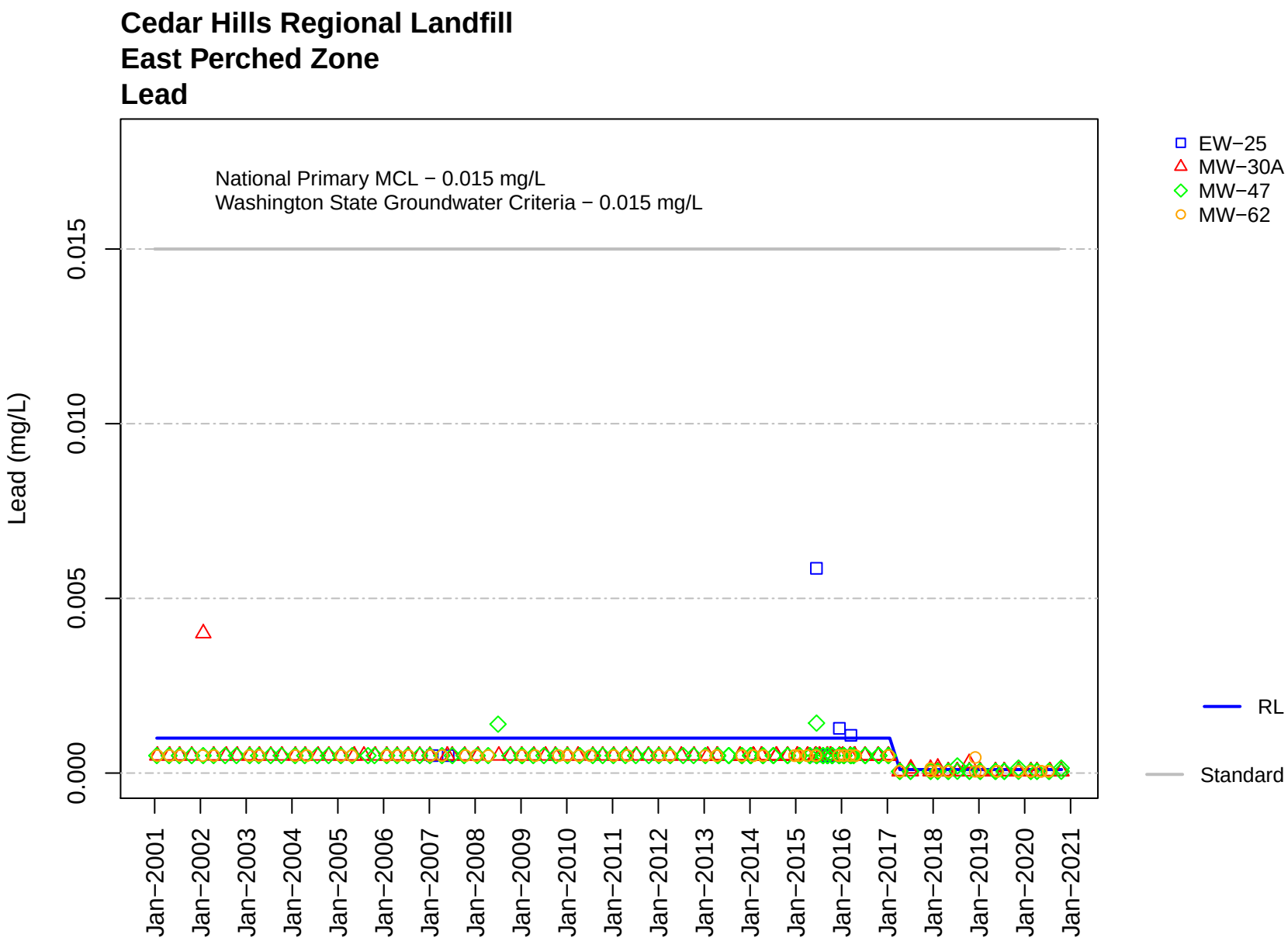

Cedar Hills Regional Landfill
South Perched Zone
Cobalt
Cobalt (mg/L)
0.000
0.001
0.002
0.003
0.004
0.005
Jan−2001
Jan−2002
Jan−2003
Jan−2004
Jan−2005
Jan−2006
Jan−2007
Jan−2008
Jan−2009
Jan−2010
Jan−2011
Jan−2012
Jan−2013
Jan−2014
Jan−2015
Jan−2016
Jan−2017
Jan−2018
Jan−2019
Jan−2020
Jan−2021
Dissolved
MW−101
Total
MW−101
RL

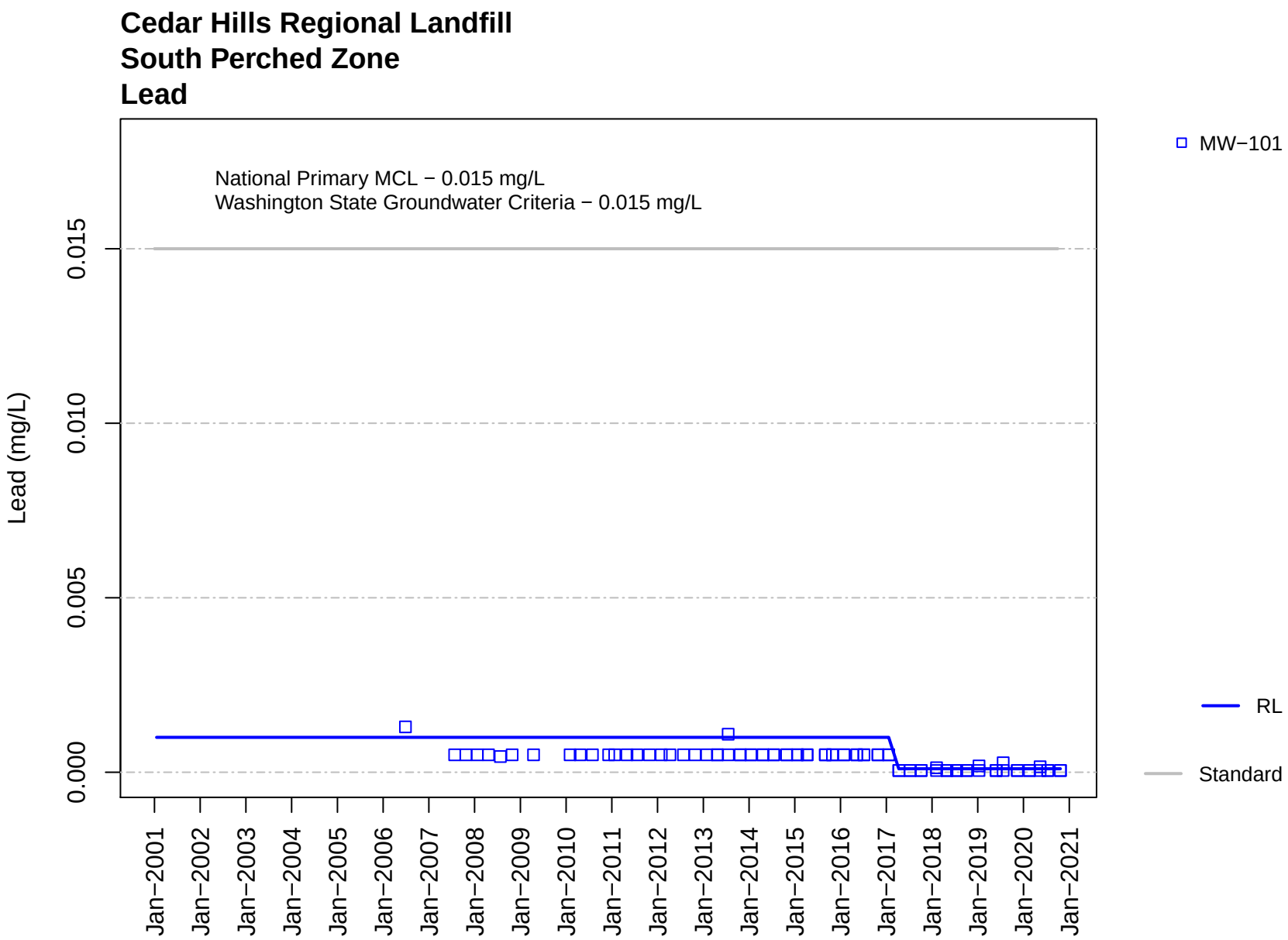

Cedar Hills Regional Landfill
East Perched Zone
Copper
Copper (mg/L)
0.0
0.5
1.0
1.5
National Primary MCL and Secondary MCLs − 1.3 and 1 mg/L
Washington State Groundwater Criteria − 1 mg/L
Jan−2001
Jan−2002
Jan−2003
Jan−2004
Jan−2005
Jan−2006
Jan−2007
Jan−2008
Jan−2009
Jan−2010
Jan−2011
Jan−2012
Jan−2013
Jan−2014
Jan−2015
Jan−2016
Jan−2017
Jan−2018
Jan−2019
Jan−2020
Jan−2021
Dissolved
EW−25
MW−30A
MW−47
MW−62
Total
EW−25
MW−30A
MW−47
MW−62
RL
Standard

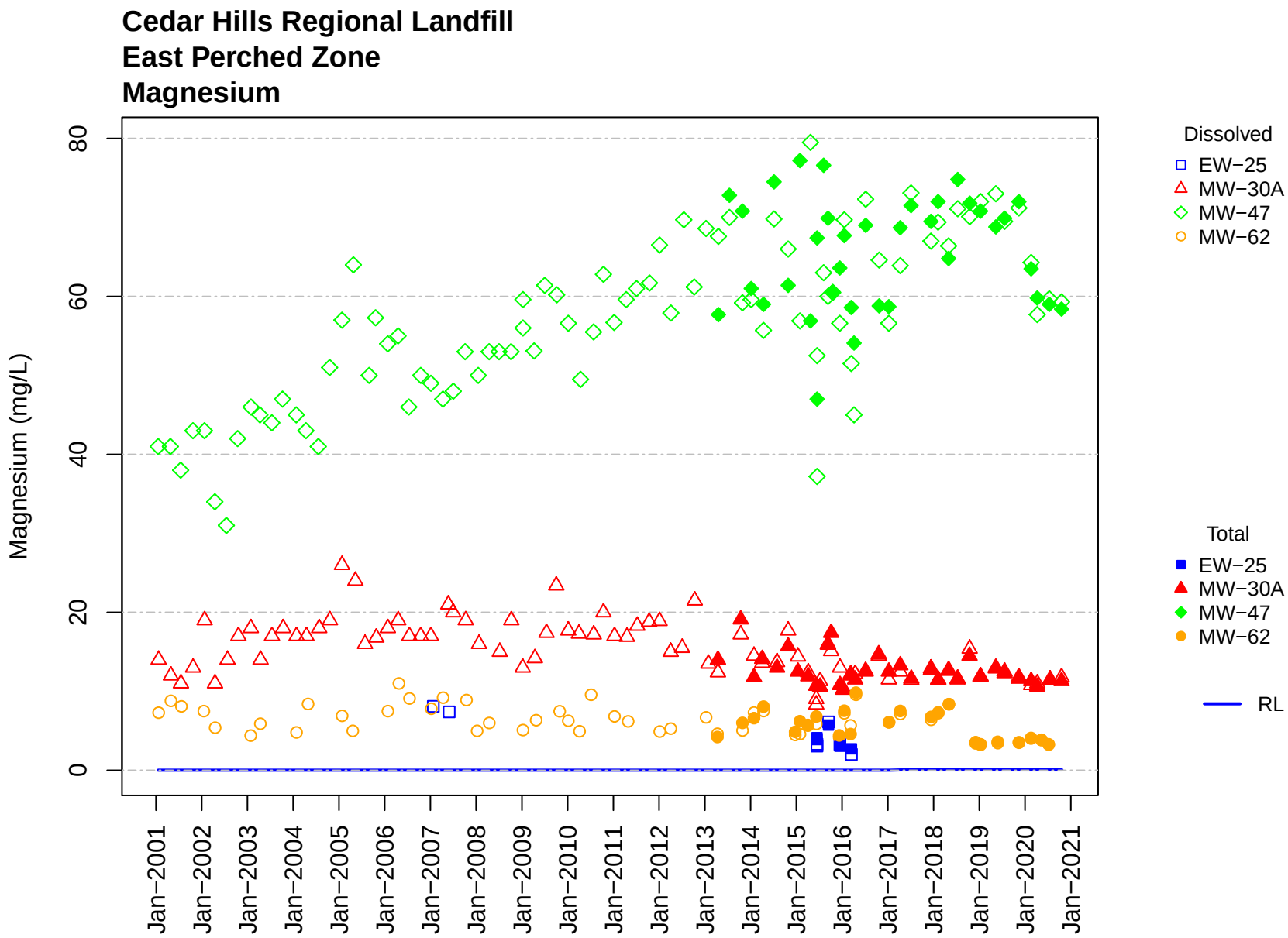

Cedar Hills Regional Landfill
South Perched Zone
Copper
Copper (mg/L)
0.0
0.5
1.0
1.5
National Primary MCL and Secondary MCLs − 1.3 and 1 mg/L
Washington State Groundwater Criteria − 1 mg/L
Jan−2001
Jan−2002
Jan−2003
Jan−2004
Jan−2005
Jan−2006
Jan−2007
Jan−2008
Jan−2009
Jan−2010
Jan−2011
Jan−2012
Jan−2013
Jan−2014
Jan−2015
Jan−2016
Jan−2017
Jan−2018
Jan−2019
Jan−2020
Jan−2021
Dissolved
MW−101
Total
MW−101
RL
Standard

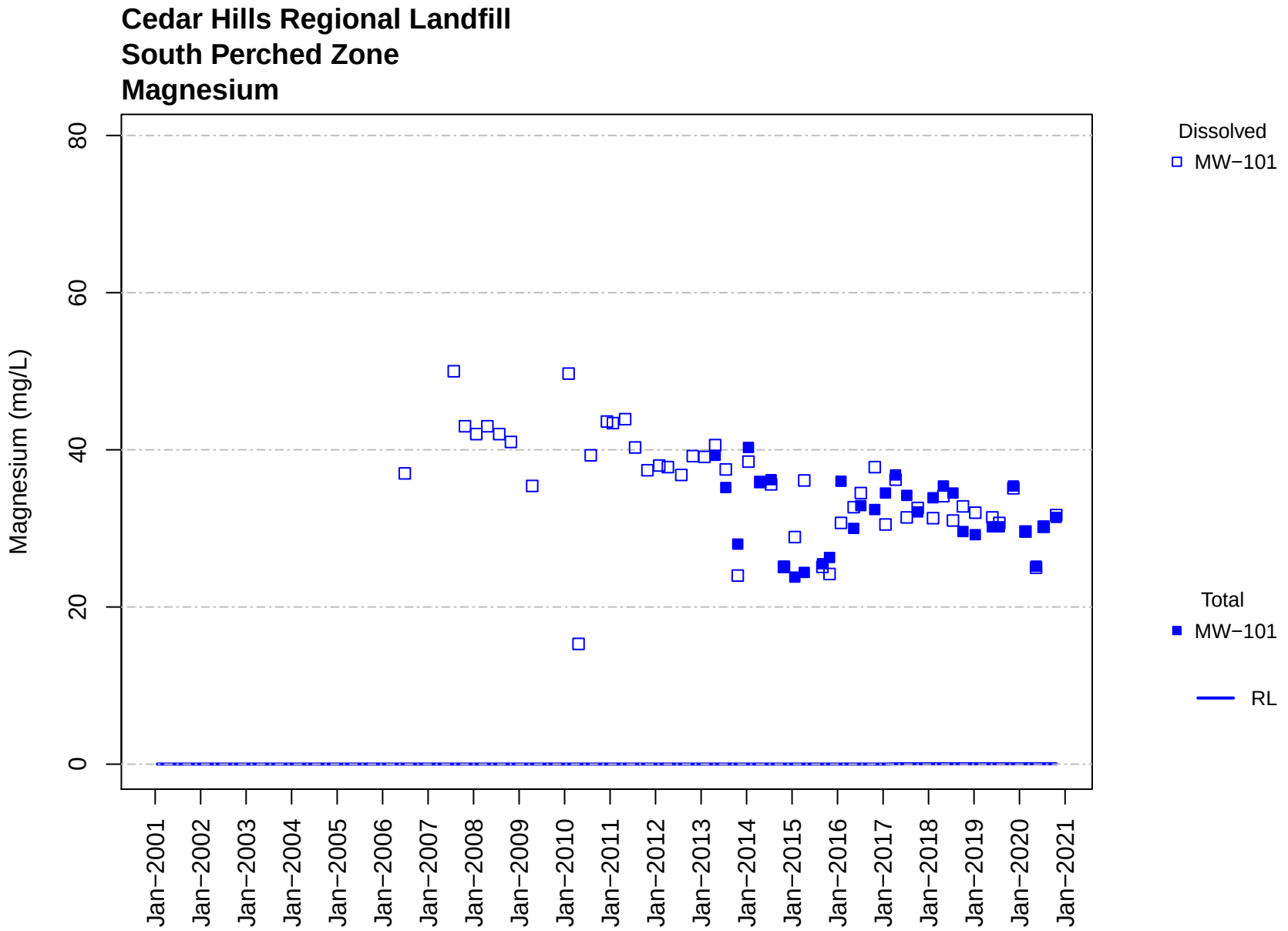

Cedar Hills Regional Landfill
East Perched Zone
Iron
Iron (mg/L)
0
2
4
6
8
10
National Secondary MCL − 0.3 mg/L
Washington State Groundwater Criteria − 0.3 mg/L
Jan−2001
Jan−2002
Jan−2003
Jan−2004
Jan−2005
Jan−2006
Jan−2007
Jan−2008
Jan−2009
Jan−2010
Jan−2011
Jan−2012
Jan−2013
Jan−2014
Jan−2015
Jan−2016
Jan−2017
Jan−2018
Jan−2019
Jan−2020
Jan−2021
Dissolved
EW−25
MW−30A
MW−47
MW−62
Total
EW−25
MW−30A
MW−47
MW−62
RL
Standard

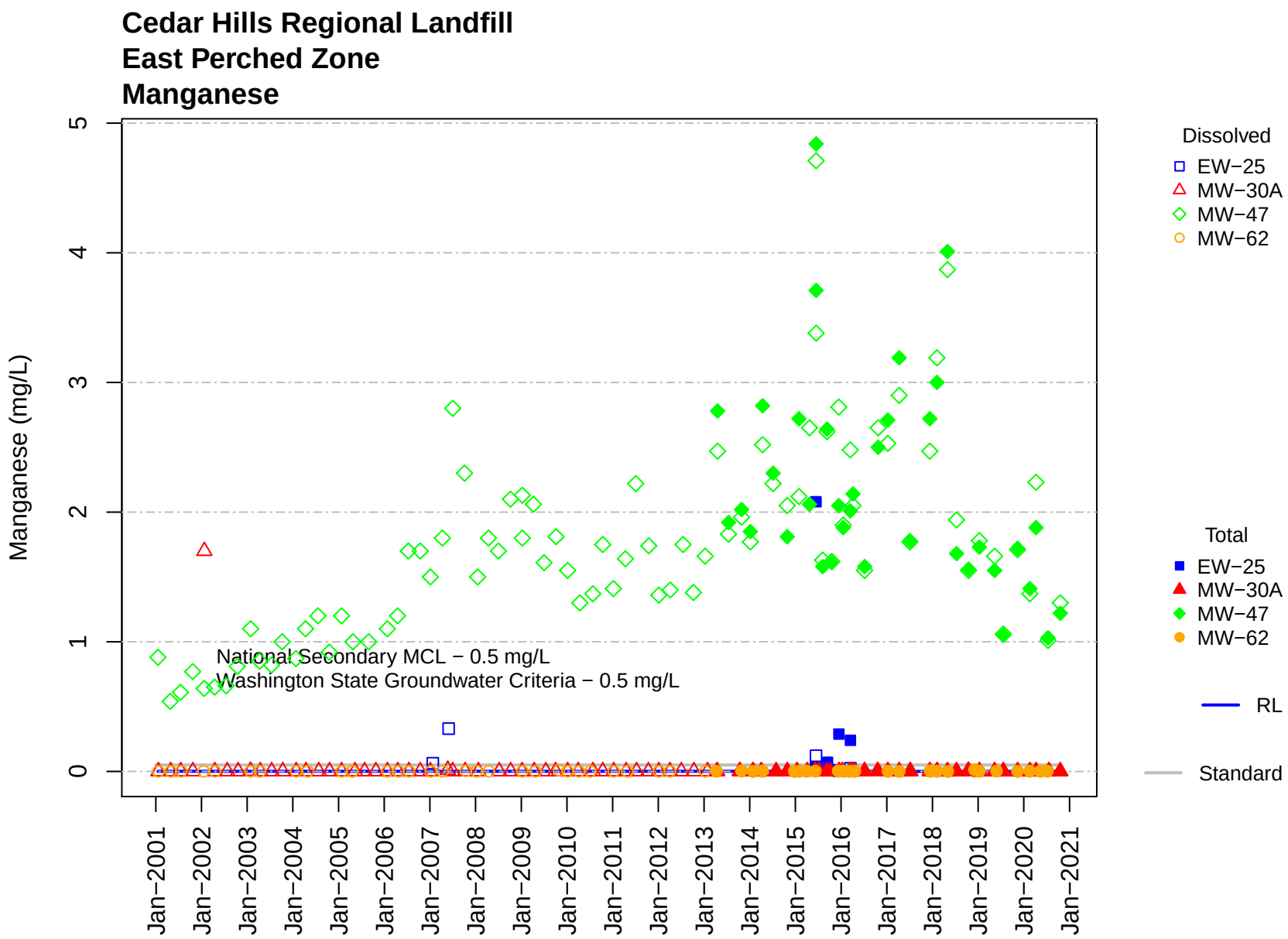

Cedar Hills Regional Landfill
South Perched Zone
Iron
Iron (mg/L)
0
2
4
6
8
10
National Secondary MCL − 0.3 mg/L
Washington State Groundwater Criteria − 0.3 mg/L
Jan−2001
Jan−2002
Jan−2003
Jan−2004
Jan−2005
Jan−2006
Jan−2007
Jan−2008
Jan−2009
Jan−2010
Jan−2011
Jan−2012
Jan−2013
Jan−2014
Jan−2015
Jan−2016
Jan−2017
Jan−2018
Jan−2019
Jan−2020
Jan−2021
Dissolved
MW−101
Total
MW−101
RL
Standard

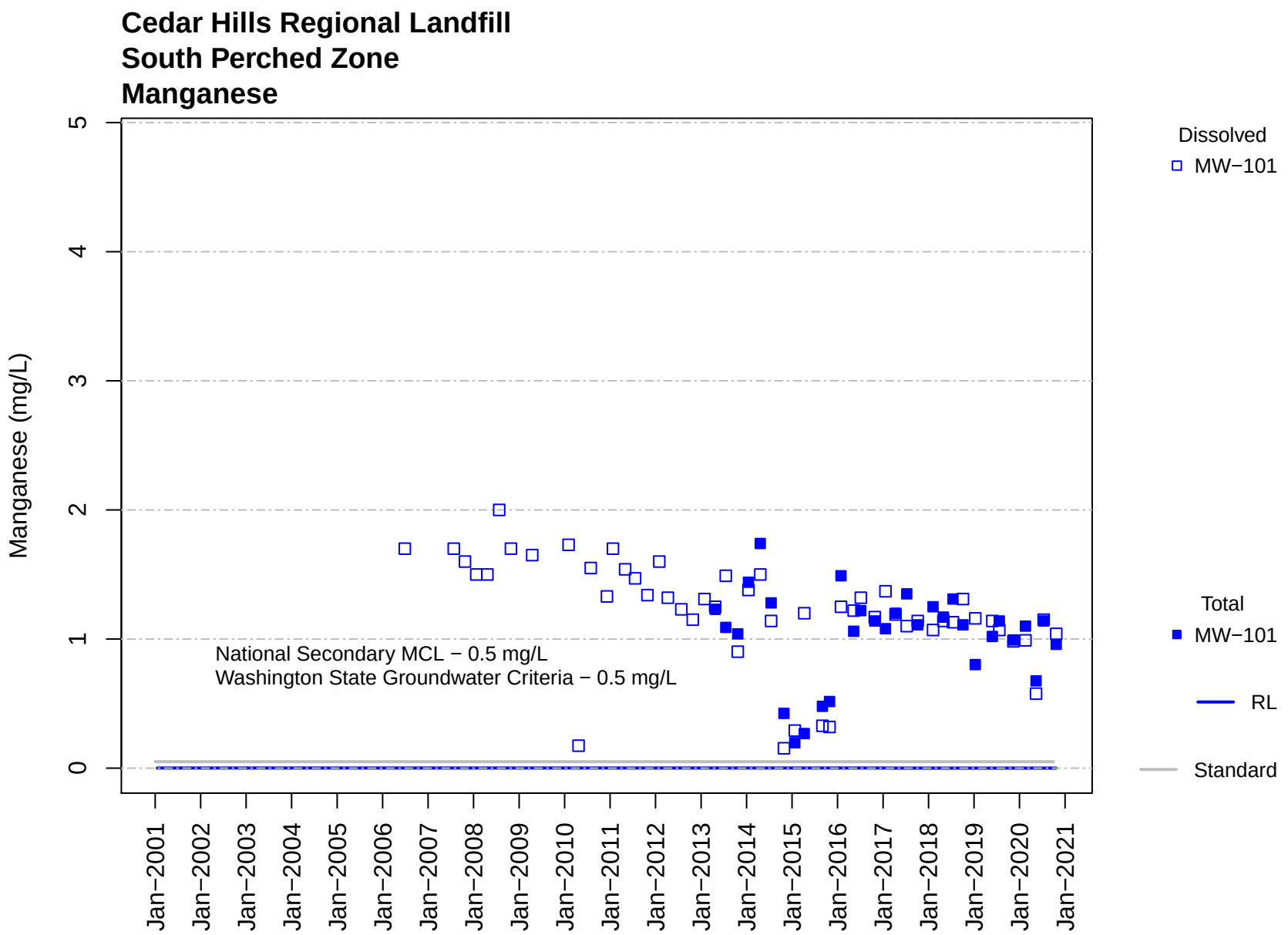

Cedar Hills Regional Landfill
East Perched Zone
Lead
National Primary MCL − 0.015 mg/L
Washington State Groundwater Criteria − 0.015 mg/L
Lead (mg/L)
0.000
0.005
0.010
0.015
Jan−2001
Jan−2002
Jan−2003
Jan−2004
Jan−2005
Jan−2006
Jan−2007
Jan−2008
Jan−2009
Jan−2010
Jan−2011
Jan−2012
Jan−2013
Jan−2014
Jan−2015
Jan−2016
Jan−2017
Jan−2018
Jan−2019
Jan−2020
Jan−2021
EW−25
MW−30A
MW−47
MW−62
RL
Standard

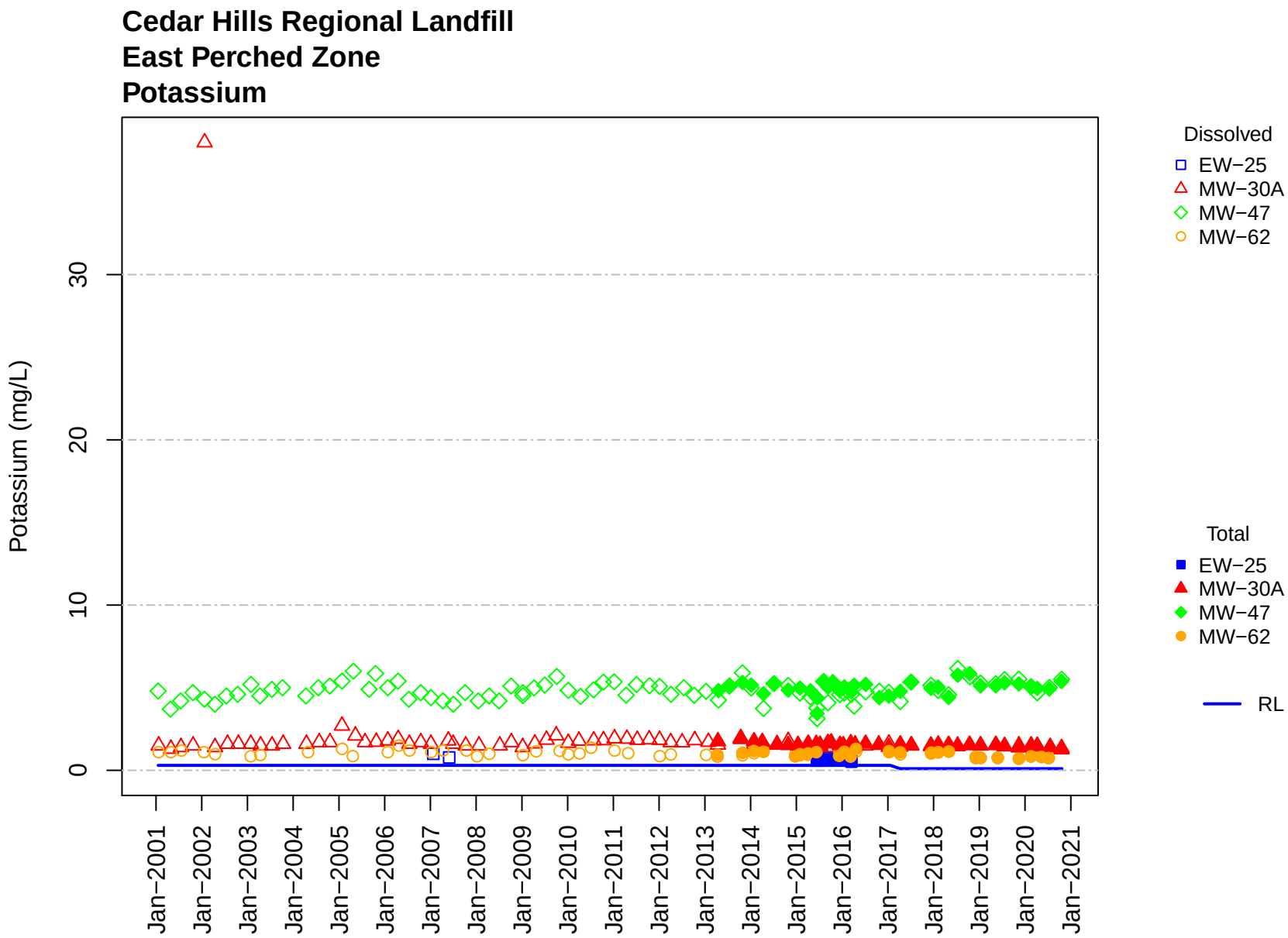

Cedar Hills Regional Landfill
South Perched Zone
Lead
National Primary MCL − 0.015 mg/L
Washington State Groundwater Criteria − 0.015 mg/L
Lead (mg/L)
0.000
0.005
0.010
0.015
Jan−2001
Jan−2002
Jan−2003
Jan−2004
Jan−2005
Jan−2006
Jan−2007
Jan−2008
Jan−2009
Jan−2010
Jan−2011
Jan−2012
Jan−2013
Jan−2014
Jan−2015
Jan−2016
Jan−2017
Jan−2018
Jan−2019
Jan−2020
Jan−2021
MW−101
RL
Standard

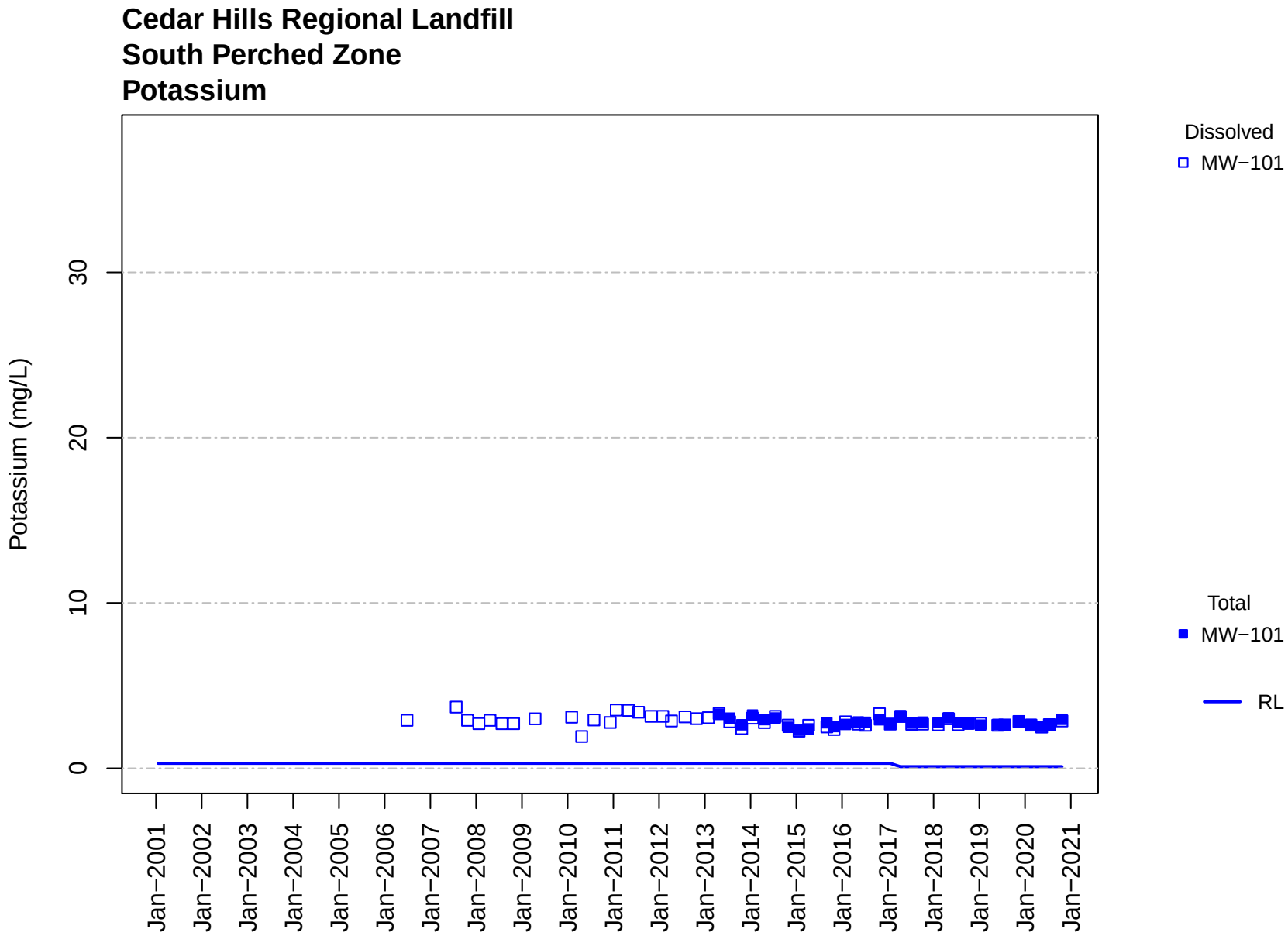

Cedar Hills Regional Landfill
East Perched Zone
Magnesium
Magnesium (mg/L)
0
20
40
60
80
Jan−2001
Jan−2002
Jan−2003
Jan−2004
Jan−2005
Jan−2006
Jan−2007
Jan−2008
Jan−2009
Jan−2010
Jan−2011
Jan−2012
Jan−2013
Jan−2014
Jan−2015
Jan−2016
Jan−2017
Jan−2018
Jan−2019
Jan−2020
Jan−2021
Dissolved
EW−25
MW−30A
MW−47
MW−62
Total
EW−25
MW−30A
MW−47
MW−62
RL


Cedar Hills Regional Landfill
South Perched Zone
Magnesium
Magnesium (mg/L)
0
20
40
60
80
Jan−2001
Jan−2002
Jan−2003
Jan−2004
Jan−2005
Jan−2006
Jan−2007
Jan−2008
Jan−2009
Jan−2010
Jan−2011
Jan−2012
Jan−2013
Jan−2014
Jan−2015
Jan−2016
Jan−2017
Jan−2018
Jan−2019
Jan−2020
Jan−2021
Dissolved
MW−101
Total
MW−101
RL

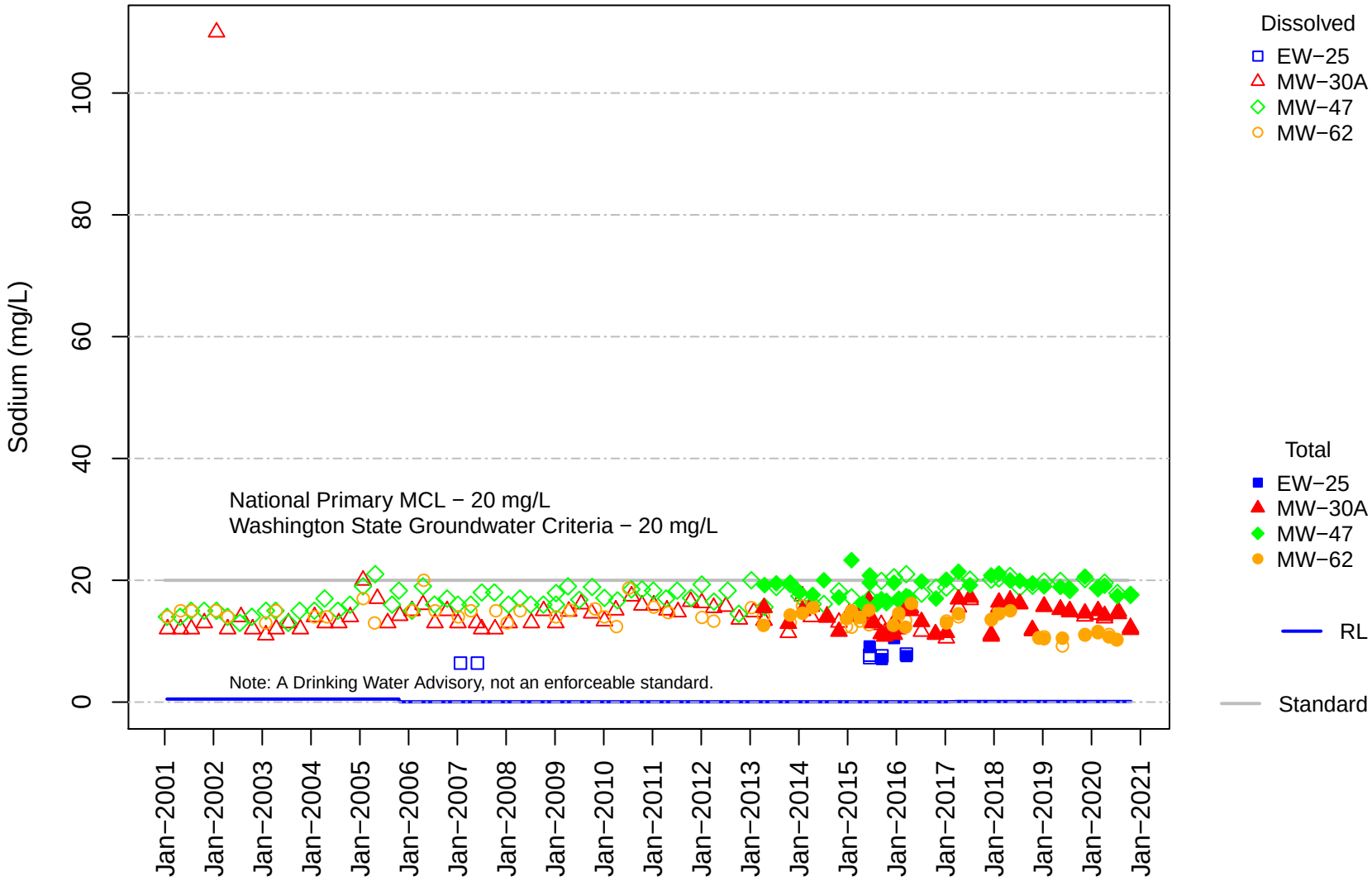

Cedar Hills Regional Landfill
East Perched Zone
Manganese
Manganese (mg/L)
0
1
2
3
4
5
Jan−2001
Jan−2002
Jan−2003
Jan−2004
Jan−2005
Jan−2006
Jan−2007
Jan−2008
Jan−2009
Jan−2010
Jan−2011
Jan−2012
Jan−2013
Jan−2014
Jan−2015
Jan−2016
Jan−2017
Jan−2018
Jan−2019
Jan−2020
Jan−2021
National Secondary MCL − 0.5 mg/L
Washington State Groundwater Criteria − 0.5 mg/L
Dissolved
EW−25
MW−30A
MW−47
MW−62
Total
EW−25
MW−30A
MW−47
MW−62
RL
Standard

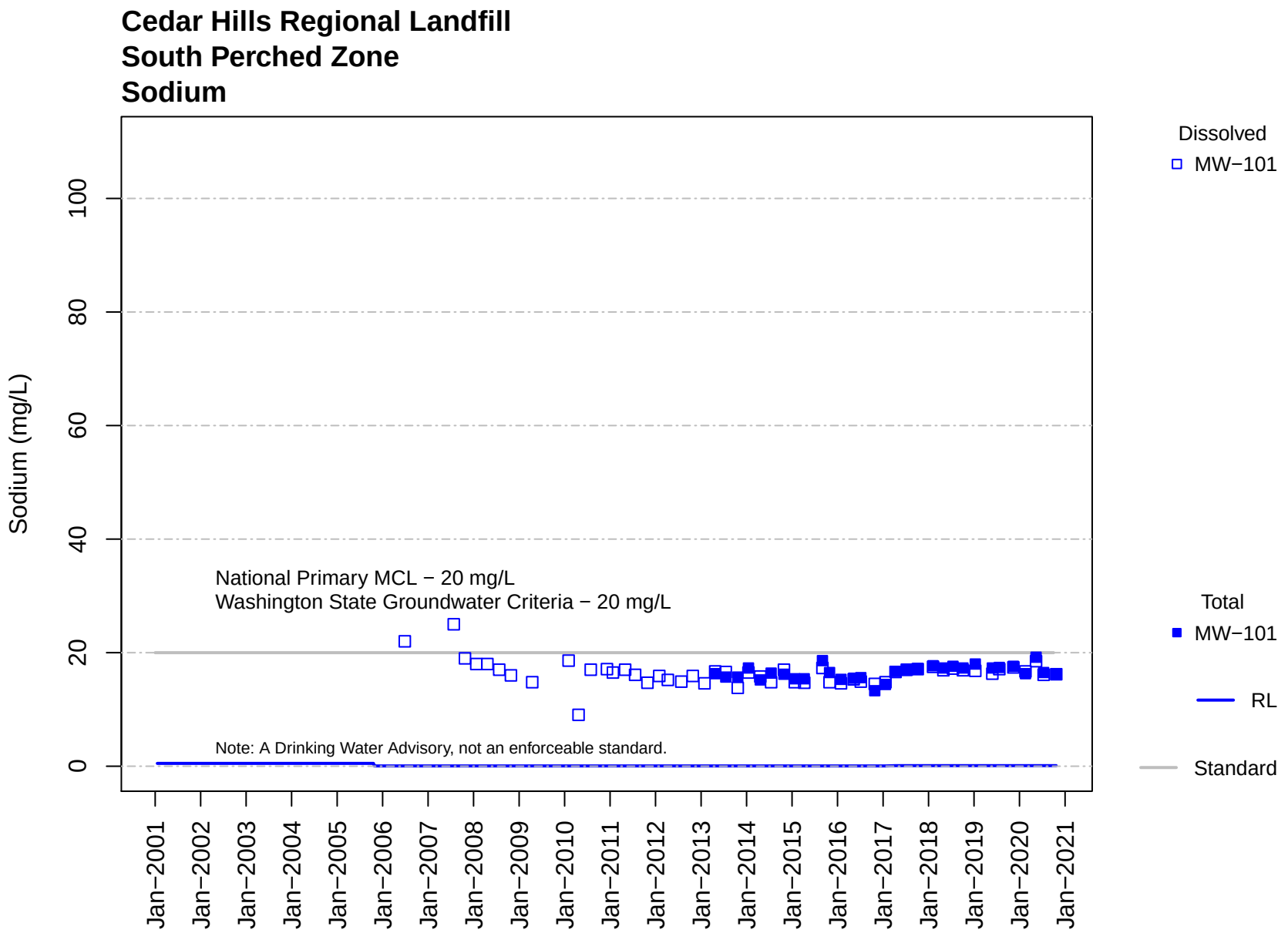

Cedar Hills Regional Landfill
South Perched Zone
Manganese
Manganese (mg/L)
0
1
2
3
4
5
Jan−2001
Jan−2002
Jan−2003
Jan−2004
Jan−2005
Jan−2006
Jan−2007
Jan−2008
Jan−2009
Jan−2010
Jan−2011
Jan−2012
Jan−2013
Jan−2014
Jan−2015
Jan−2016
Jan−2017
Jan−2018
Jan−2019
Jan−2020
Jan−2021
National Secondary MCL − 0.5 mg/L
Washington State Groundwater Criteria − 0.5 mg/L
Dissolved
MW−101
Total
MW−101
RL
Standard

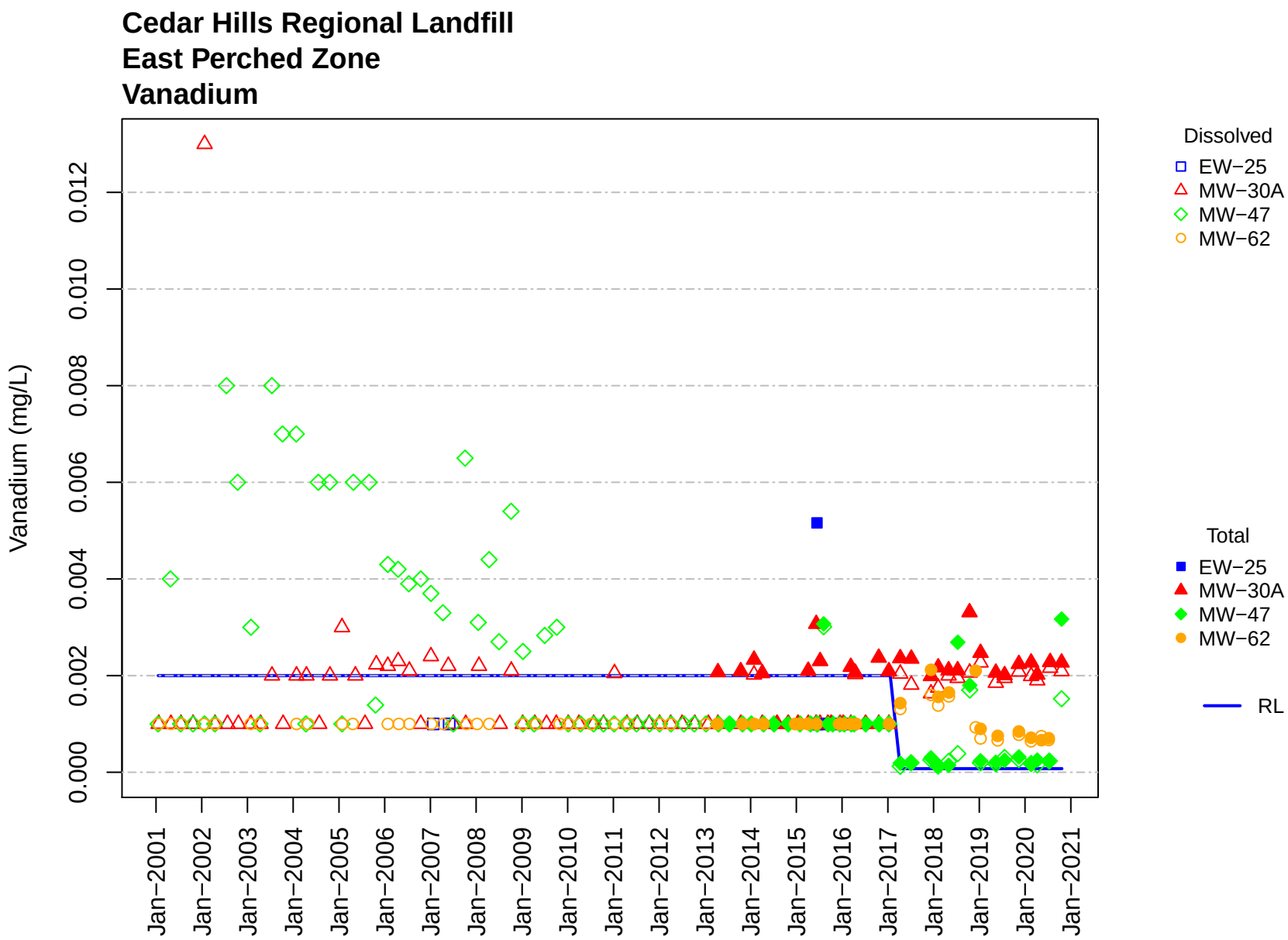

Cedar Hills Regional Landfill
East Perched Zone
Potassium
Potassium (mg/L)
0
10
20
30
Jan−2001
Jan−2002
Jan−2003
Jan−2004
Jan−2005
Jan−2006
Jan−2007
Jan−2008
Jan−2009
Jan−2010
Jan−2011
Jan−2012
Jan−2013
Jan−2014
Jan−2015
Jan−2016
Jan−2017
Jan−2018
Jan−2019
Jan−2020
Jan−2021
Dissolved
EW−25
MW−30A
MW−47
MW−62
Total
EW−25
MW−30A
MW−47
MW−62
RL

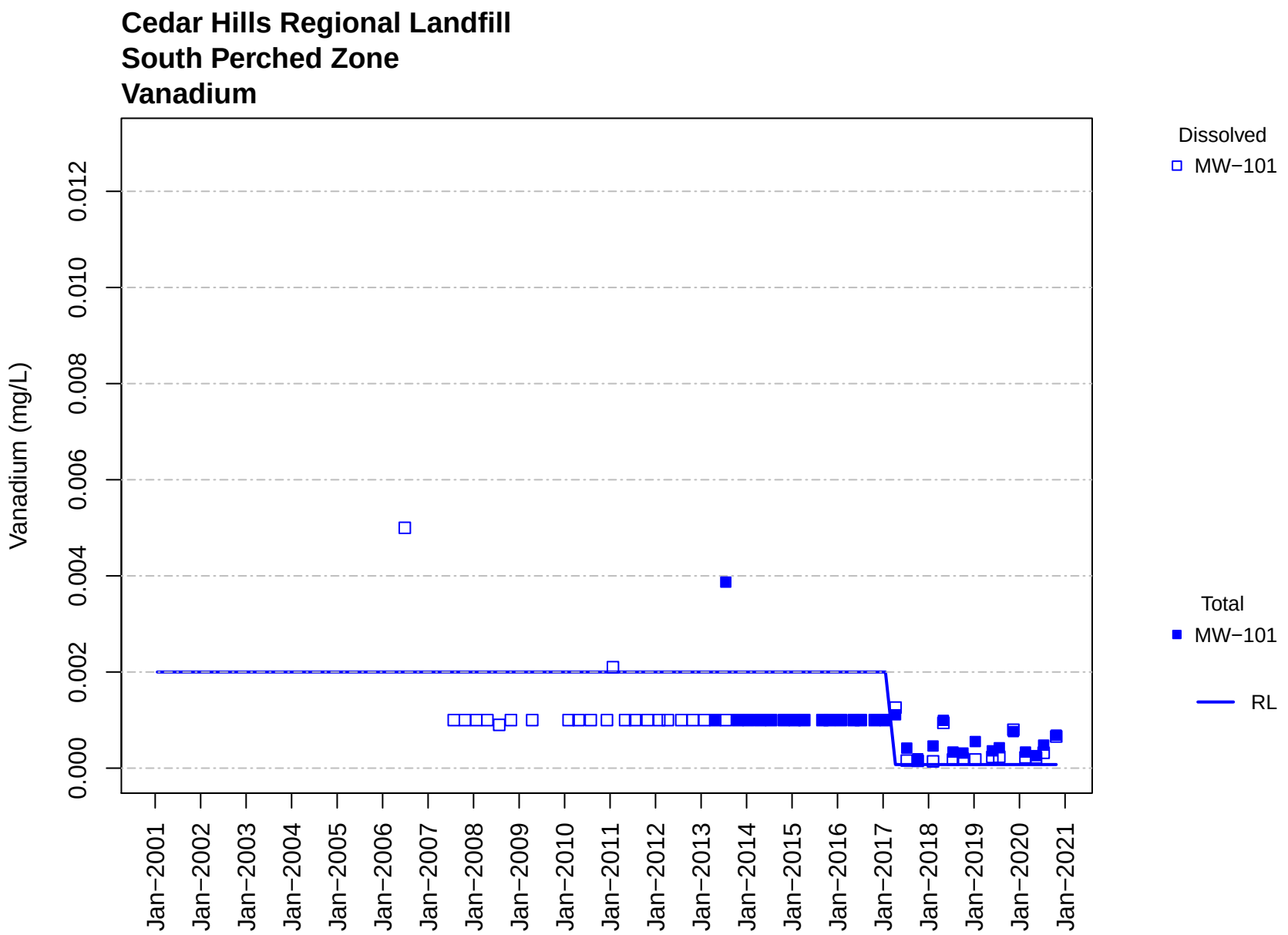

Cedar Hills Regional Landfill
South Perched Zone
Potassium
Potassium (mg/L)
0
10
20
30
Jan−2001
Jan−2002
Jan−2003
Jan−2004
Jan−2005
Jan−2006
Jan−2007
Jan−2008
Jan−2009
Jan−2010
Jan−2011
Jan−2012
Jan−2013
Jan−2014
Jan−2015
Jan−2016
Jan−2017
Jan−2018
Jan−2019
Jan−2020
Jan−2021
Dissolved
MW−101
Total
MW−101
RL

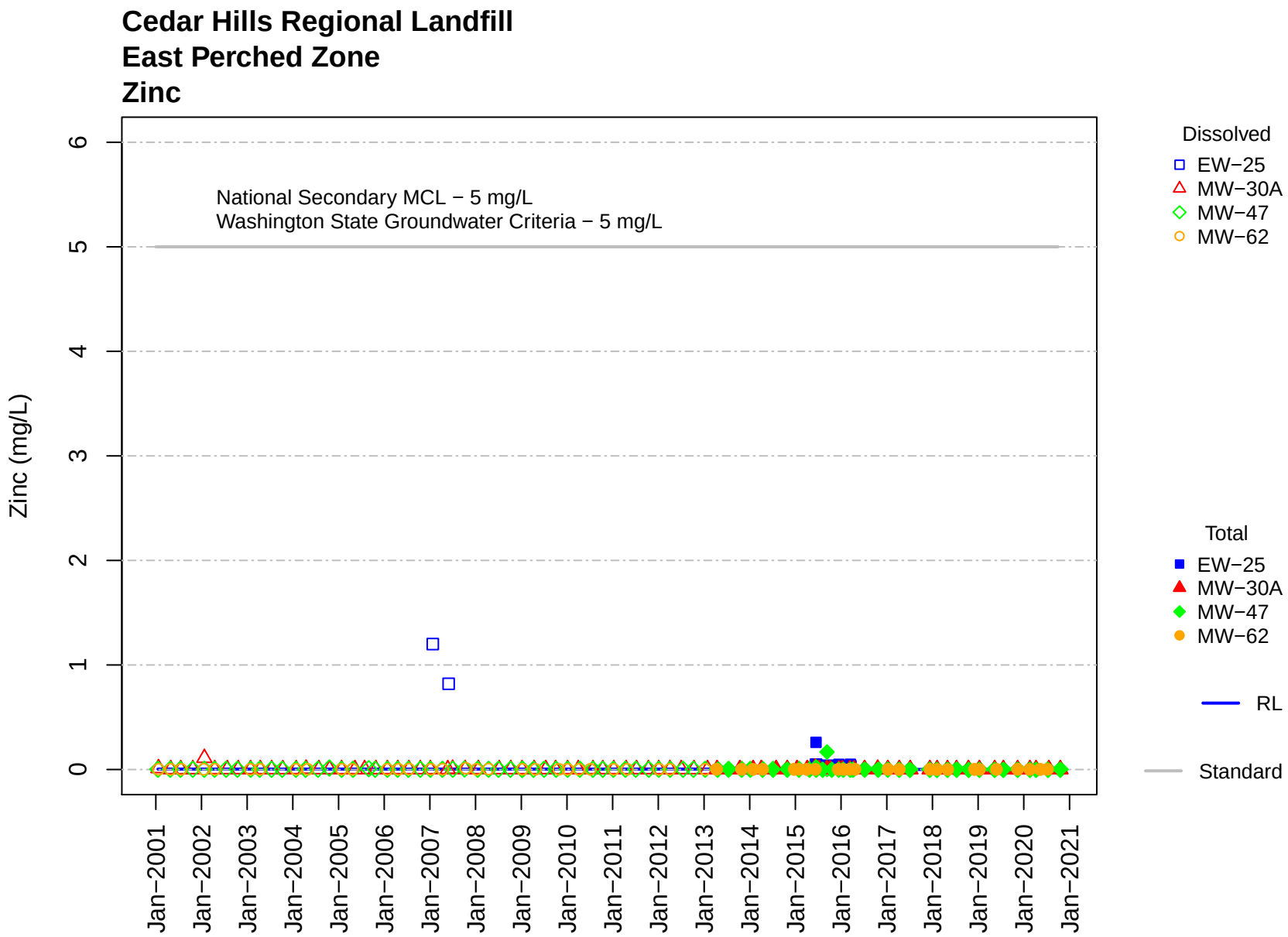
Cedar Hills Regional Landfill
East Perched Zone
Sodium

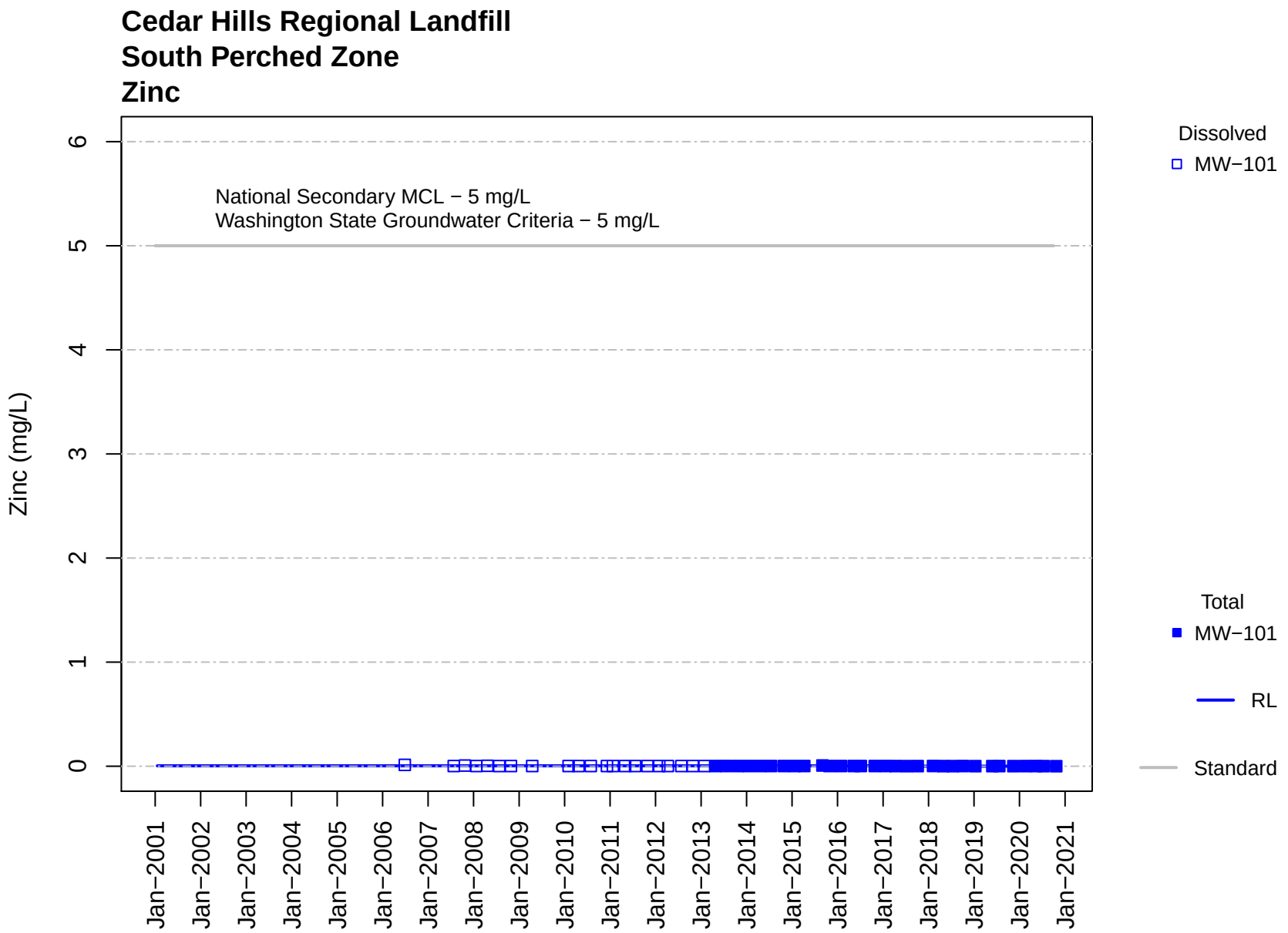


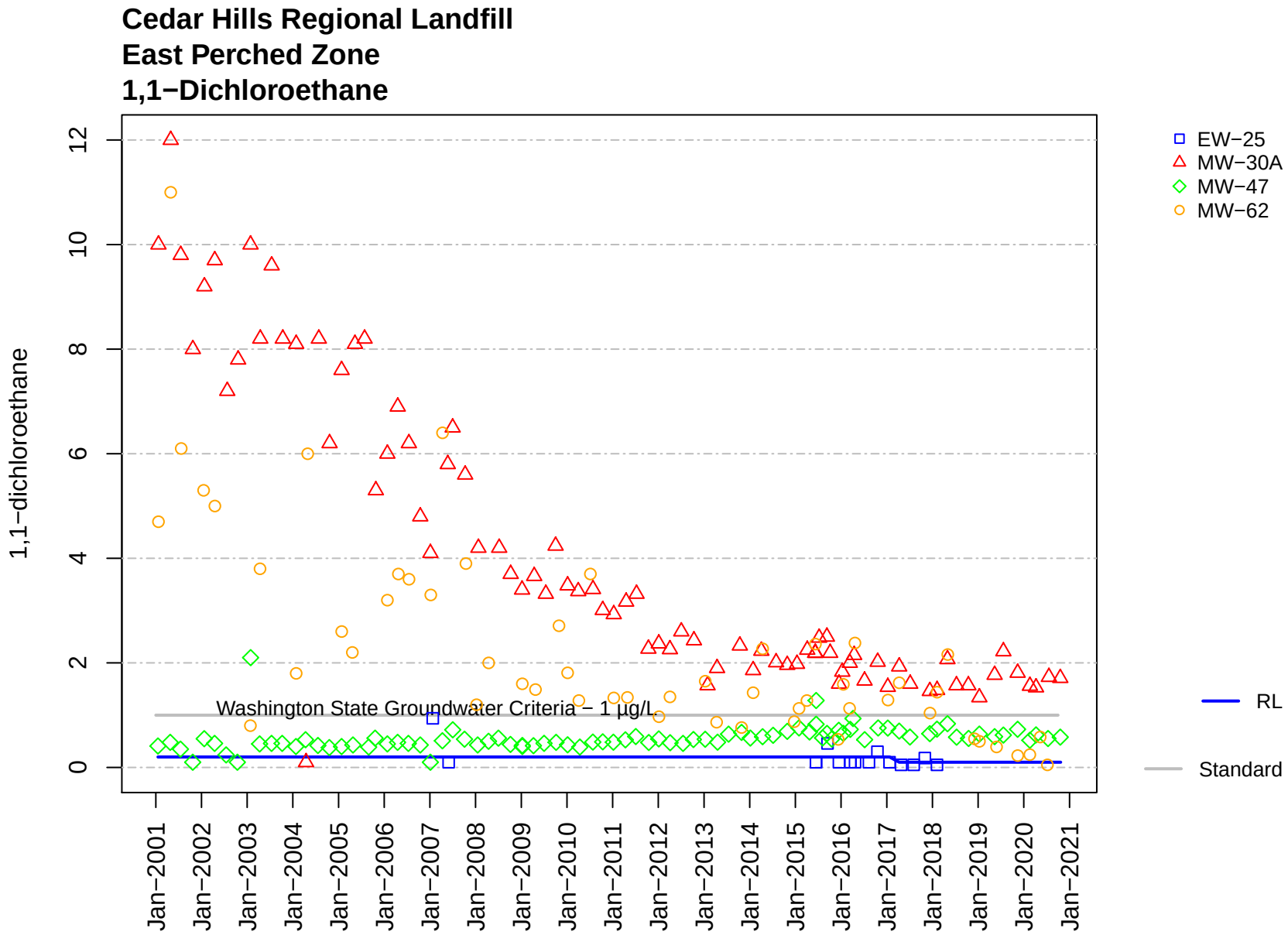

Cedar Hills Regional Landfill
South Perched Zone
Sodium
Sodium (mg/L)
0
20
40
60
80
100
National Primary MCL − 20 mg/L
Washington State Groundwater Criteria − 20 mg/L
Note: A Drinking Water Advisory, not an enforceable standard.
Jan−2001
Jan−2002
Jan−2003
Jan−2004
Jan−2005
Jan−2006
Jan−2007
Jan−2008
Jan−2009
Jan−2010
Jan−2011
Jan−2012
Jan−2013
Jan−2014
Jan−2015
Jan−2016
Jan−2017
Jan−2018
Jan−2019
Jan−2020
Jan−2021
Dissolved
MW−101
Total
MW−101
RL
Standard

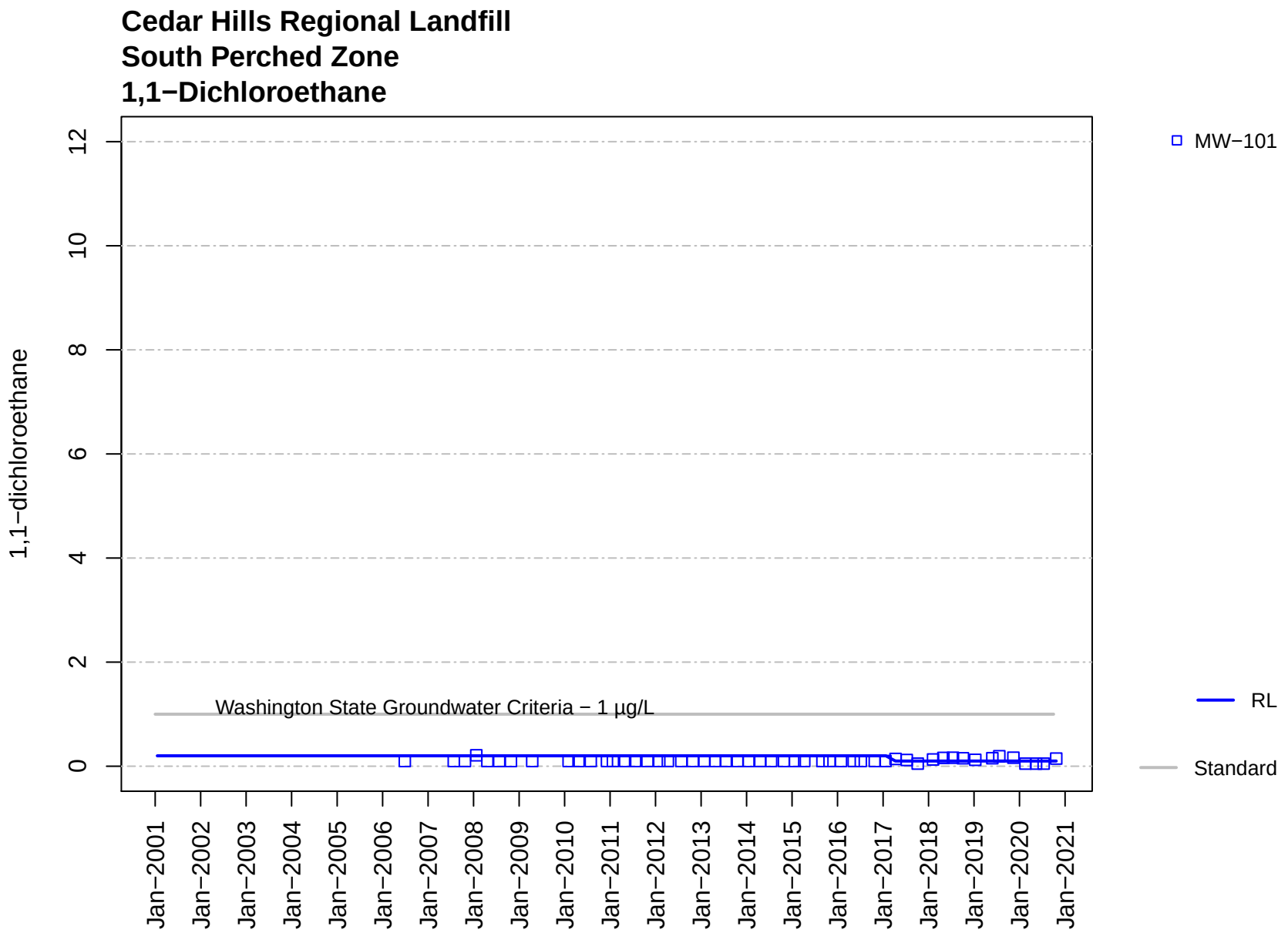

Cedar Hills Regional Landfill
East Perched Zone
Vanadium
Vanadium (mg/L)
0.000
0.002
0.004
0.006
0.008
0.010
0.012
Jan−2001
Jan−2002
Jan−2003
Jan−2004
Jan−2005
Jan−2006
Jan−2007
Jan−2008
Jan−2009
Jan−2010
Jan−2011
Jan−2012
Jan−2013
Jan−2014
Jan−2015
Jan−2016
Jan−2017
Jan−2018
Jan−2019
Jan−2020
Jan−2021
Dissolved
EW−25
MW−30A
MW−47
MW−62
Total
EW−25
MW−30A
MW−47
MW−62
RL

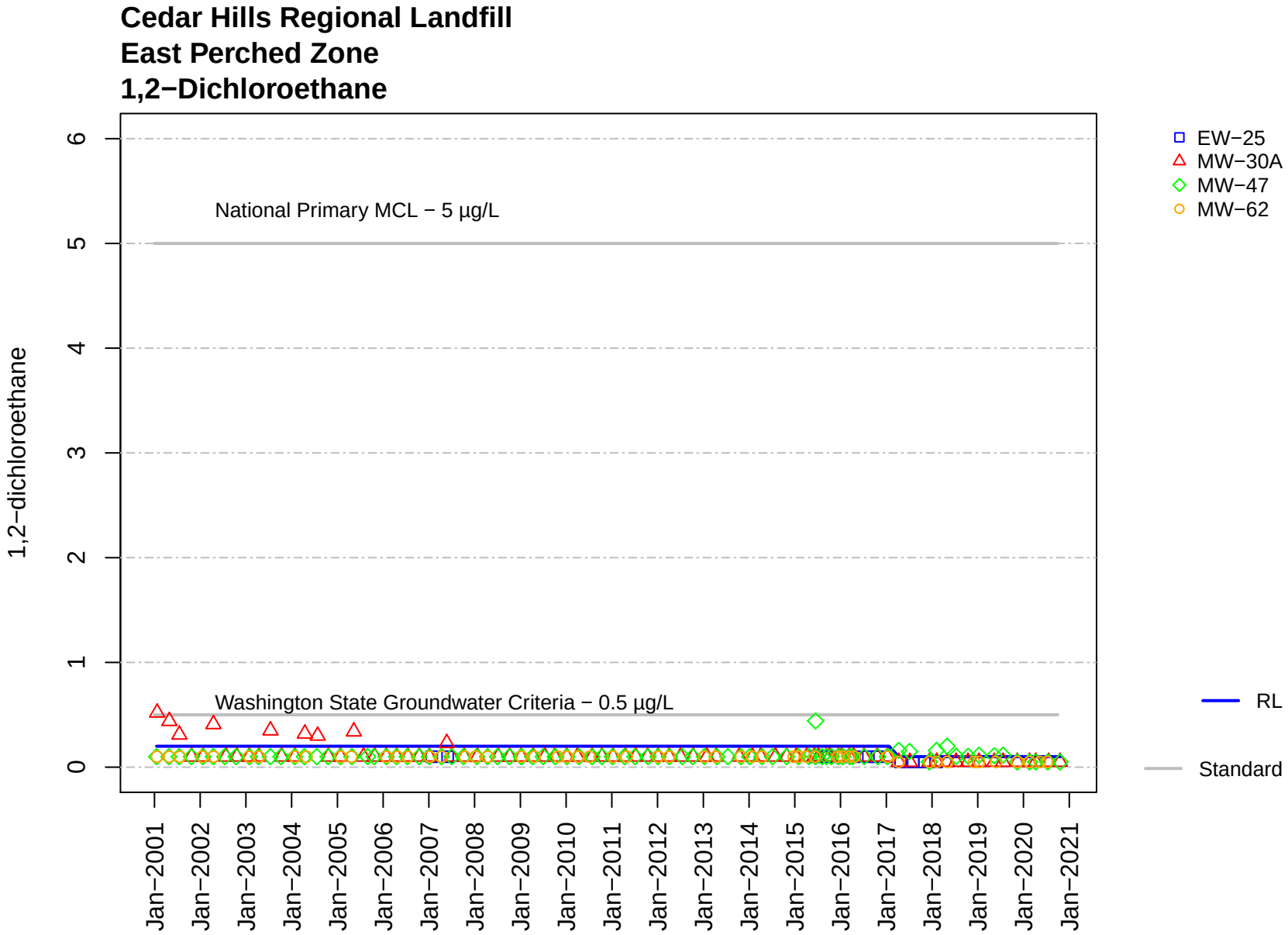

Cedar Hills Regional Landfill
South Perched Zone
Vanadium
Vanadium (mg/L)
0.000
0.002
0.004
0.006
0.008
0.010
0.012
Jan−2001
Jan−2002
Jan−2003
Jan−2004
Jan−2005
Jan−2006
Jan−2007
Jan−2008
Jan−2009
Jan−2010
Jan−2011
Jan−2012
Jan−2013
Jan−2014
Jan−2015
Jan−2016
Jan−2017
Jan−2018
Jan−2019
Jan−2020
Jan−2021
Dissolved
MW−101
Total
MW−101
RL

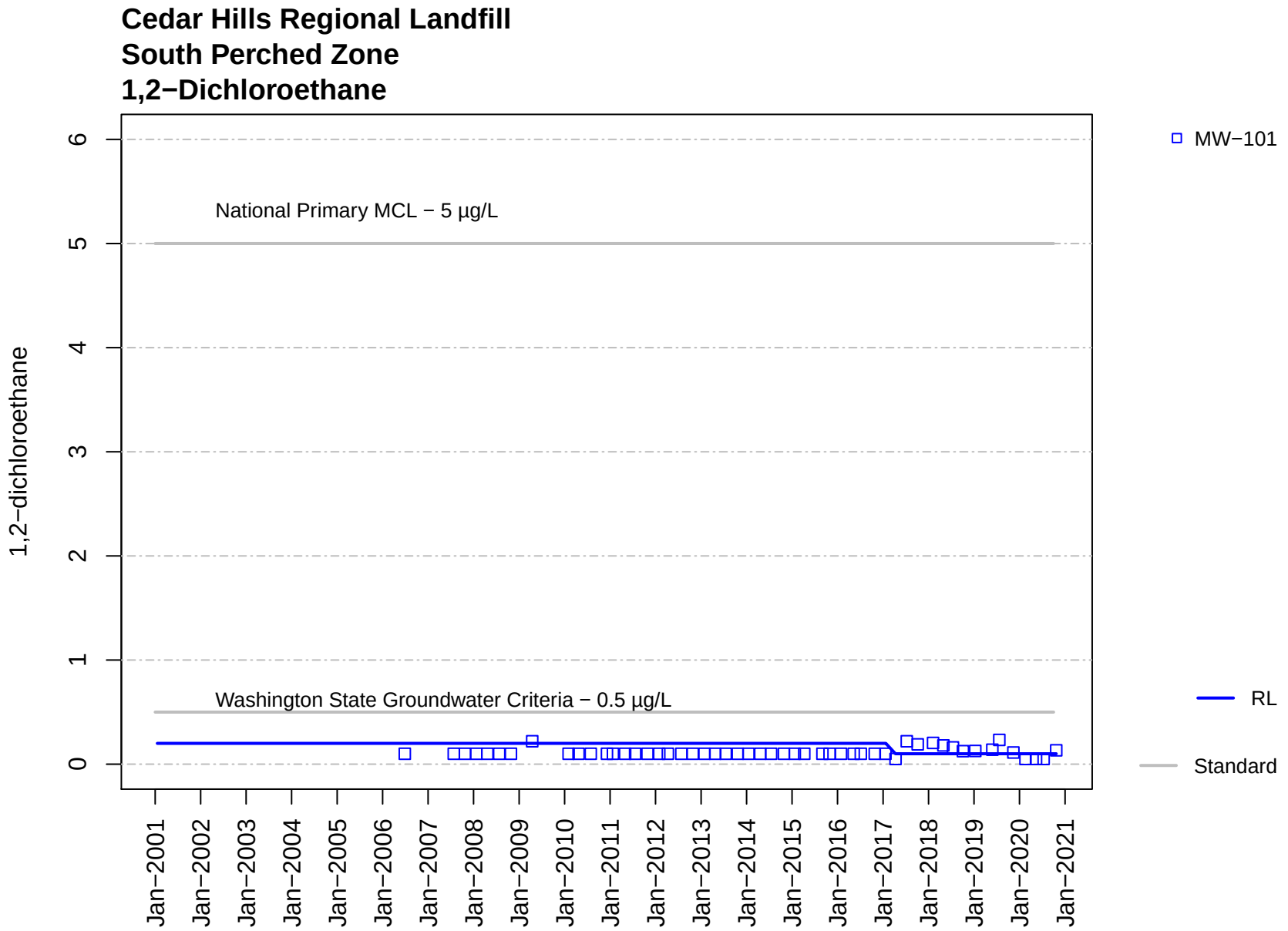

Cedar Hills Regional Landfill
East Perched Zone
Zinc
National Secondary MCL − 5 mg/L
Washington State Groundwater Criteria − 5 mg/L
Zinc (mg/L)
0
1
2
3
4
5
6
Jan−2001
Jan−2002
Jan−2003
Jan−2004
Jan−2005
Jan−2006
Jan−2007
Jan−2008
Jan−2009
Jan−2010
Jan−2011
Jan−2012
Jan−2013
Jan−2014
Jan−2015
Jan−2016
Jan−2017
Jan−2018
Jan−2019
Jan−2020
Jan−2021
Dissolved
EW−25
MW−30A
MW−47
MW−62
Total
EW−25
MW−30A
MW−47
MW−62
RL
Standard

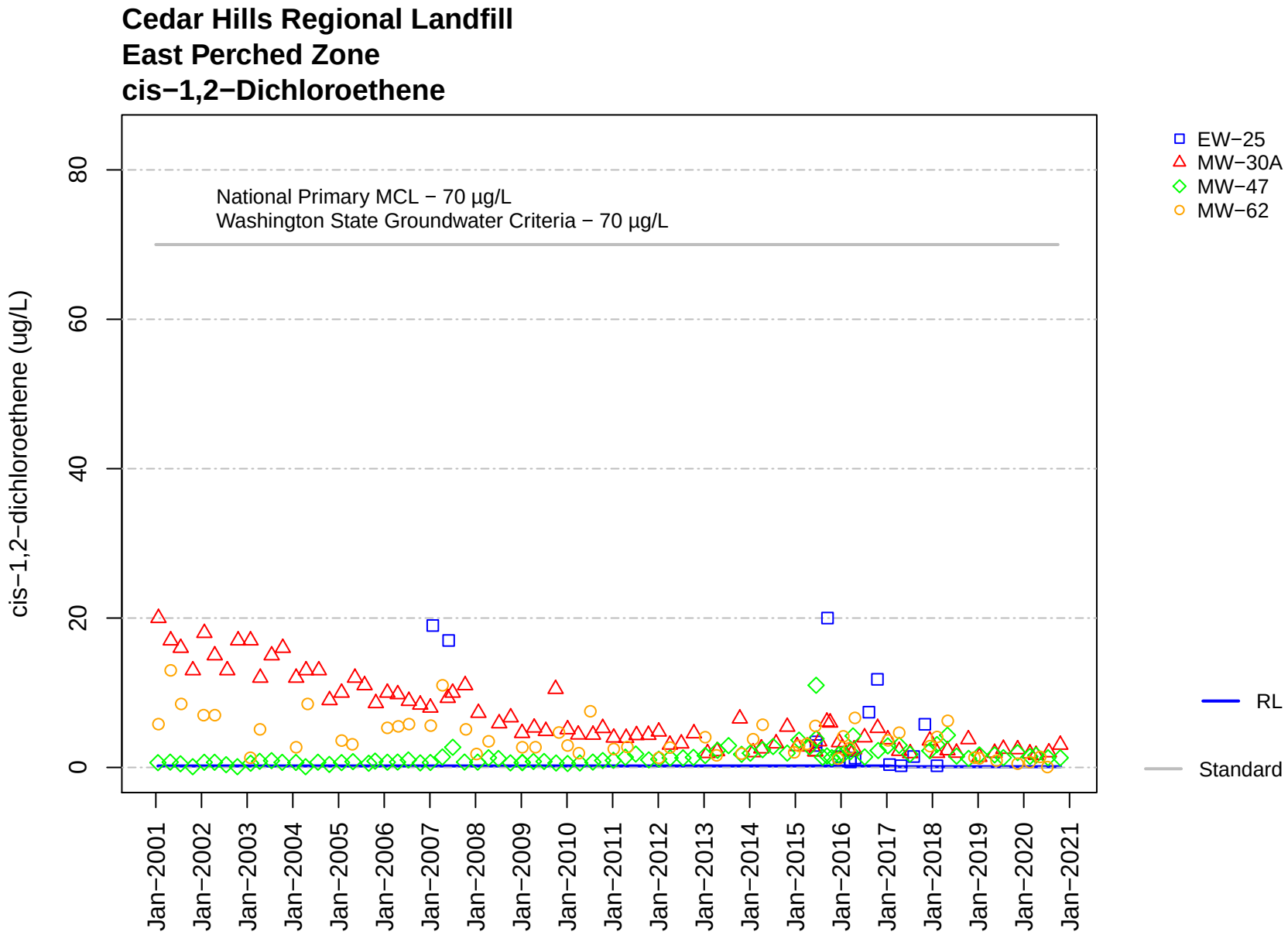

Cedar Hills Regional Landfill
South Perched Zone
Zinc
Zinc (mg/L)
0
1
2
3
4
5
6
National Secondary MCL − 5 mg/L
Washington State Groundwater Criteria − 5 mg/L
Jan−2001
Jan−2002
Jan−2003
Jan−2004
Jan−2005
Jan−2006
Jan−2007
Jan−2008
Jan−2009
Jan−2010
Jan−2011
Jan−2012
Jan−2013
Jan−2014
Jan−2015
Jan−2016
Jan−2017
Jan−2018
Jan−2019
Jan−2020
Jan−2021
Dissolved
MW−101
Total
MW−101
RL
Standard

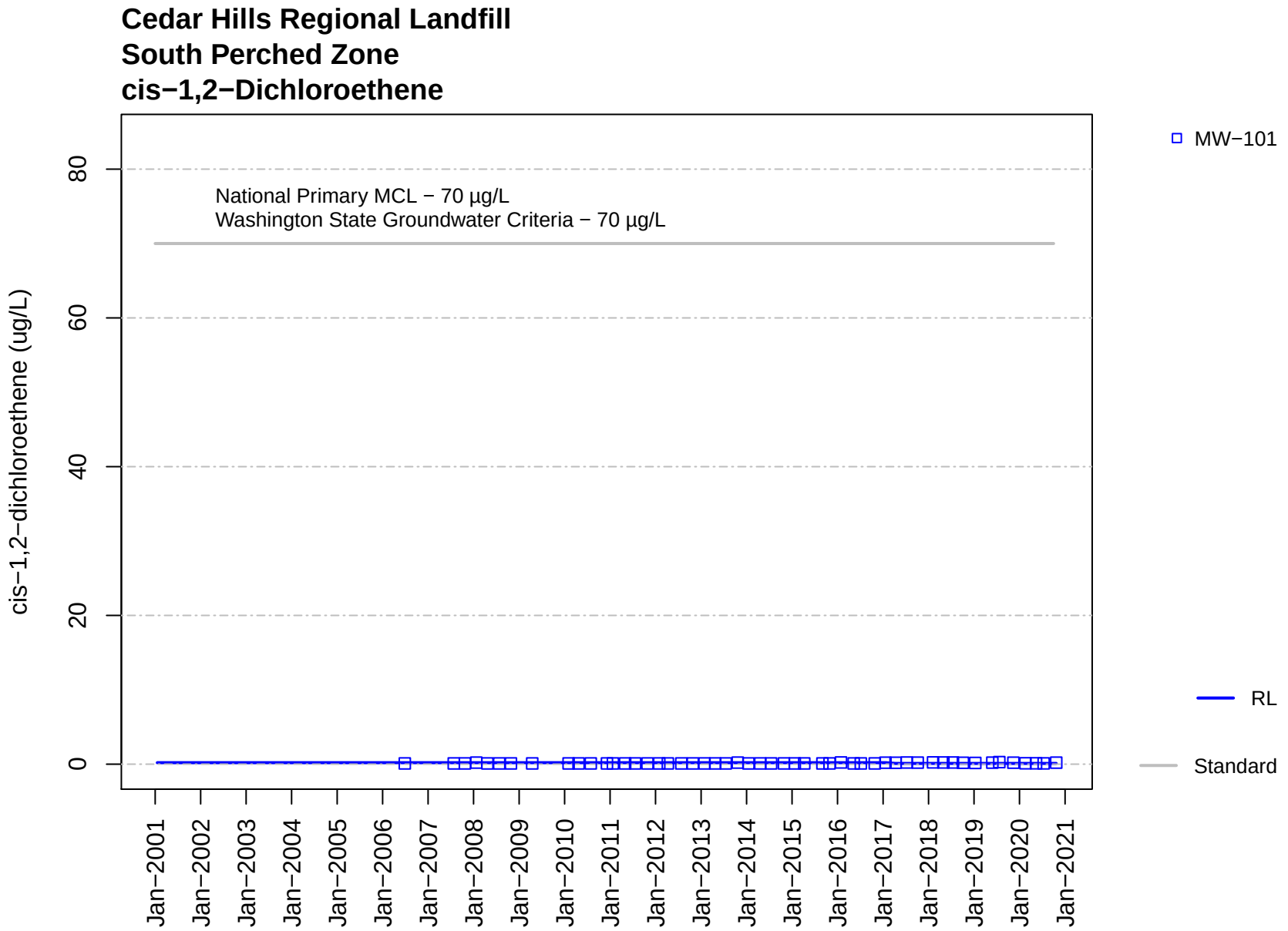

Cedar Hills Regional Landfill
East Perched Zone
1,1−Dichloroethane
1,1−dichloroethane
0
2
4
6
8
10
12
Jan−2001
Jan−2002
Jan−2003
Jan−2004
Jan−2005
Jan−2006
Jan−2007
Jan−2008
Jan−2009
Jan−2010
Jan−2011
Jan−2012
Jan−2013
Jan−2014
Jan−2015
Jan−2016
Jan−2017
Jan−2018
Jan−2019
Jan−2020
Jan−2021
Washington State Groundwater Criteria − 1 µg/L
EW−25
MW−30A
MW−47
MW−62
RL
Standard

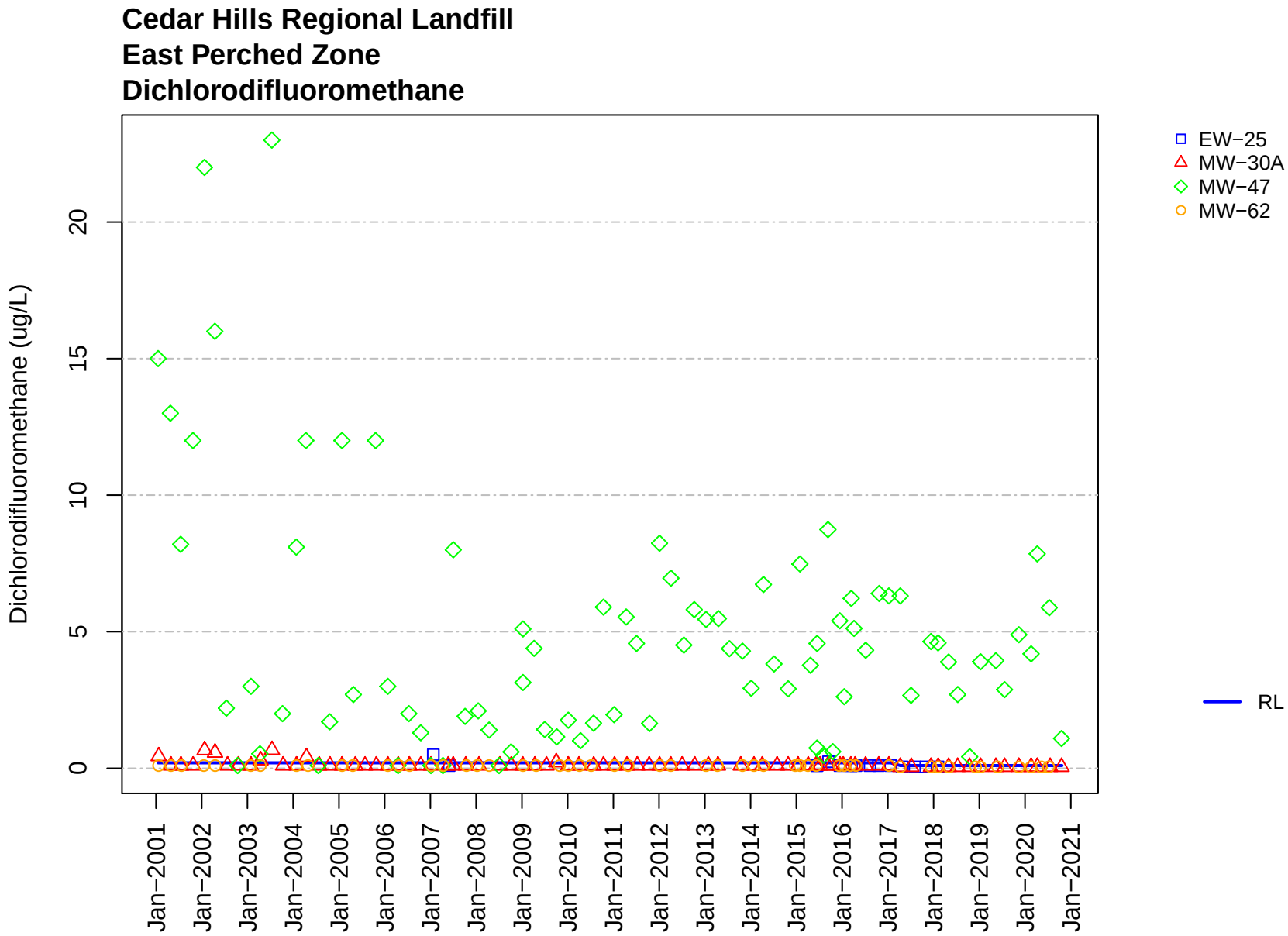

Cedar Hills Regional Landfill
South Perched Zone
1,1−Dichloroethane
1,1−dichloroethane
0
2
4
6
8
10
12
Jan−2001
Jan−2002
Jan−2003
Jan−2004
Jan−2005
Jan−2006
Jan−2007
Jan−2008
Jan−2009
Jan−2010
Jan−2011
Jan−2012
Jan−2013
Jan−2014
Jan−2015
Jan−2016
Jan−2017
Jan−2018
Jan−2019
Jan−2020
Jan−2021
Washington State Groundwater Criteria − 1 µg/L
MW−101
RL
Standard

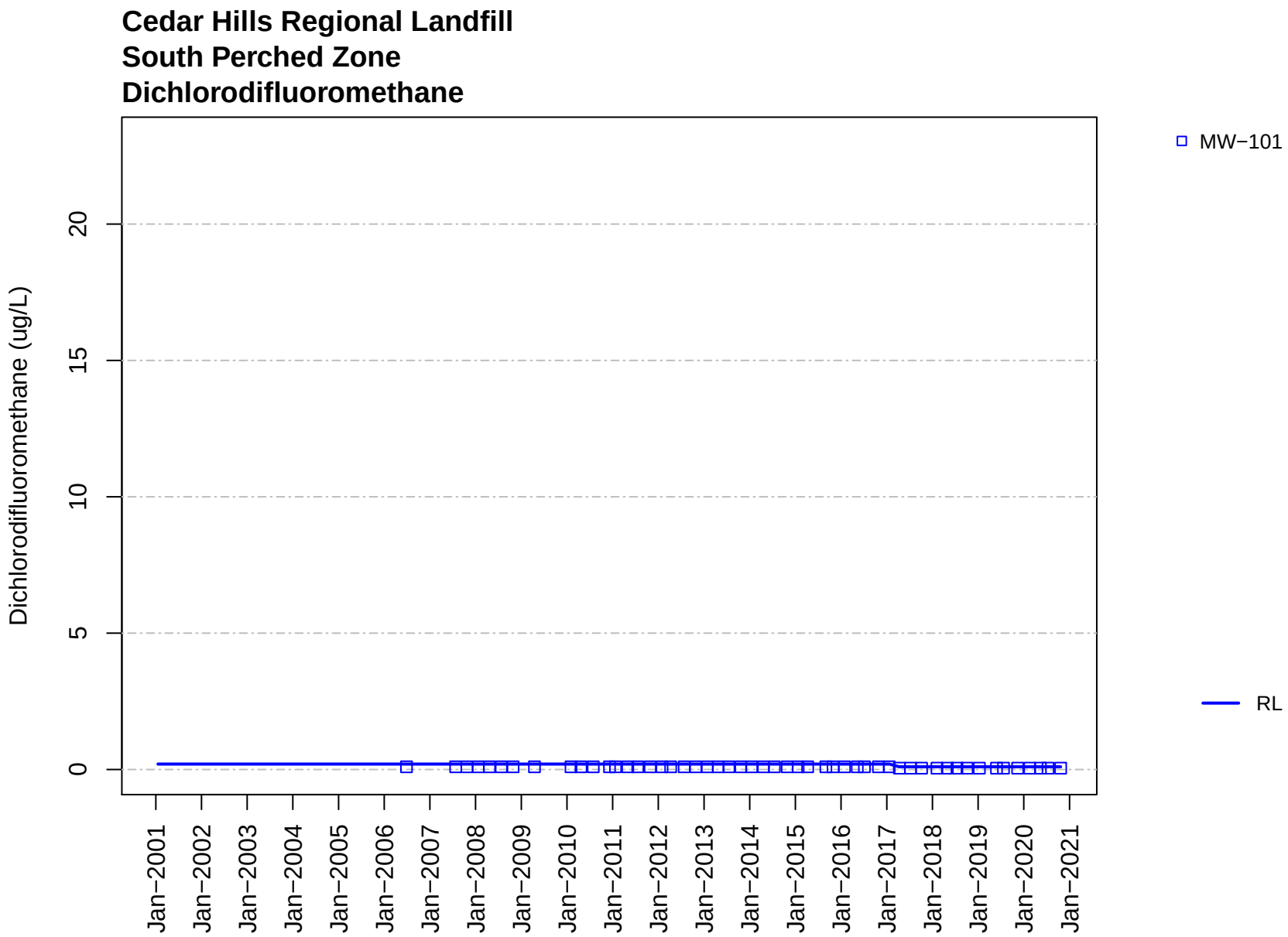

Cedar Hills Regional Landfill
East Perched Zone
1,2−Dichloroethane
1,2−dichloroethane
0
1
2
3
4
5
6
National Primary MCL − 5 µg/L
Washington State Groundwater Criteria − 0.5 µg/L
Jan−2001
Jan−2002
Jan−2003
Jan−2004
Jan−2005
Jan−2006
Jan−2007
Jan−2008
Jan−2009
Jan−2010
Jan−2011
Jan−2012
Jan−2013
Jan−2014
Jan−2015
Jan−2016
Jan−2017
Jan−2018
Jan−2019
Jan−2020
Jan−2021
EW−25
MW−30A
MW−47
MW−62
RL
Standard

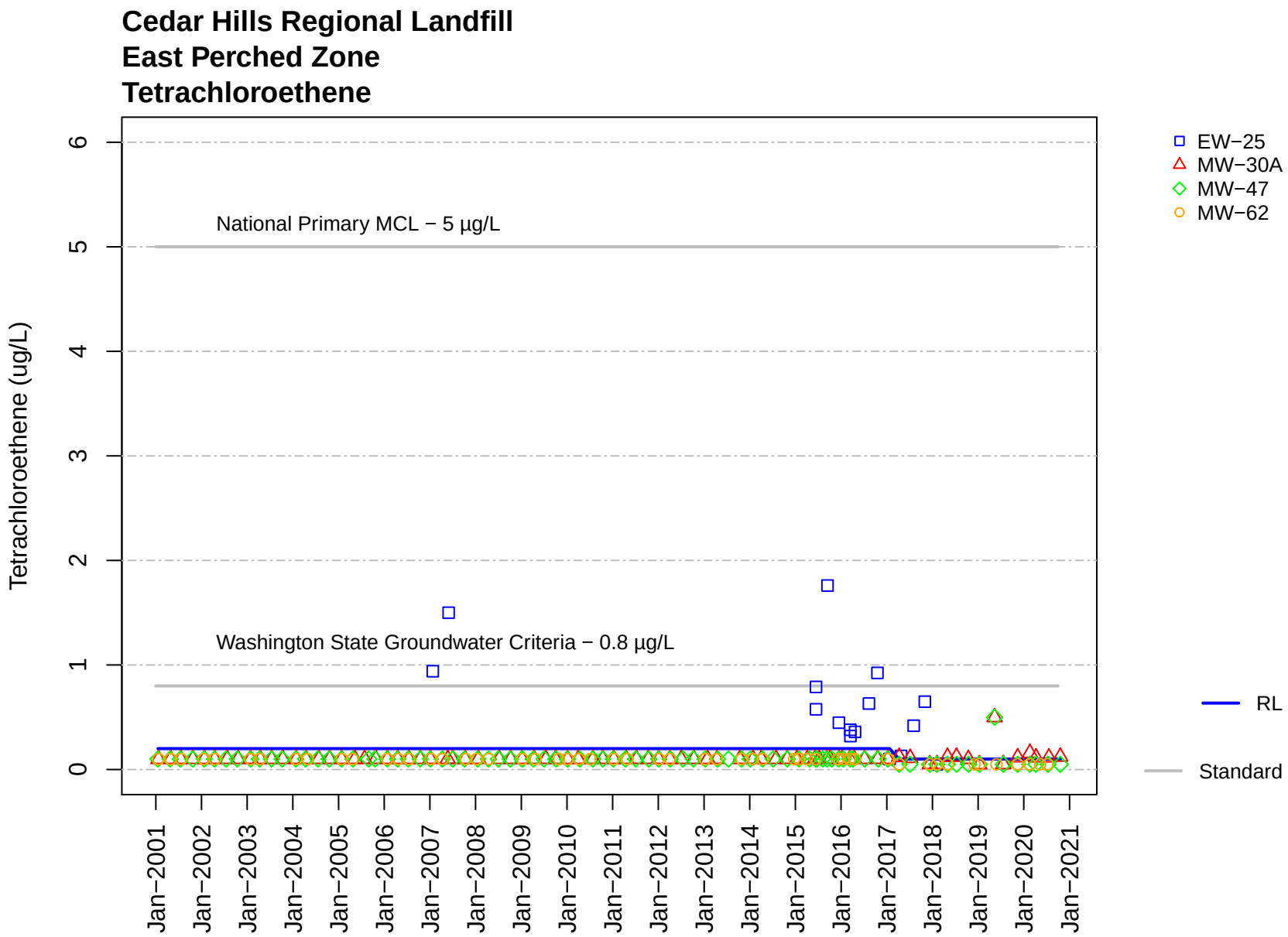

Cedar Hills Regional Landfill
South Perched Zone
1,2−Dichloroethane
1,2−dichloroethane
0
1
2
3
4
5
6
National Primary MCL − 5 µg/L
Washington State Groundwater Criteria − 0.5 µg/L
Jan−2001
Jan−2002
Jan−2003
Jan−2004
Jan−2005
Jan−2006
Jan−2007
Jan−2008
Jan−2009
Jan−2010
Jan−2011
Jan−2012
Jan−2013
Jan−2014
Jan−2015
Jan−2016
Jan−2017
Jan−2018
Jan−2019
Jan−2020
Jan−2021
MW−101
RL
Standard

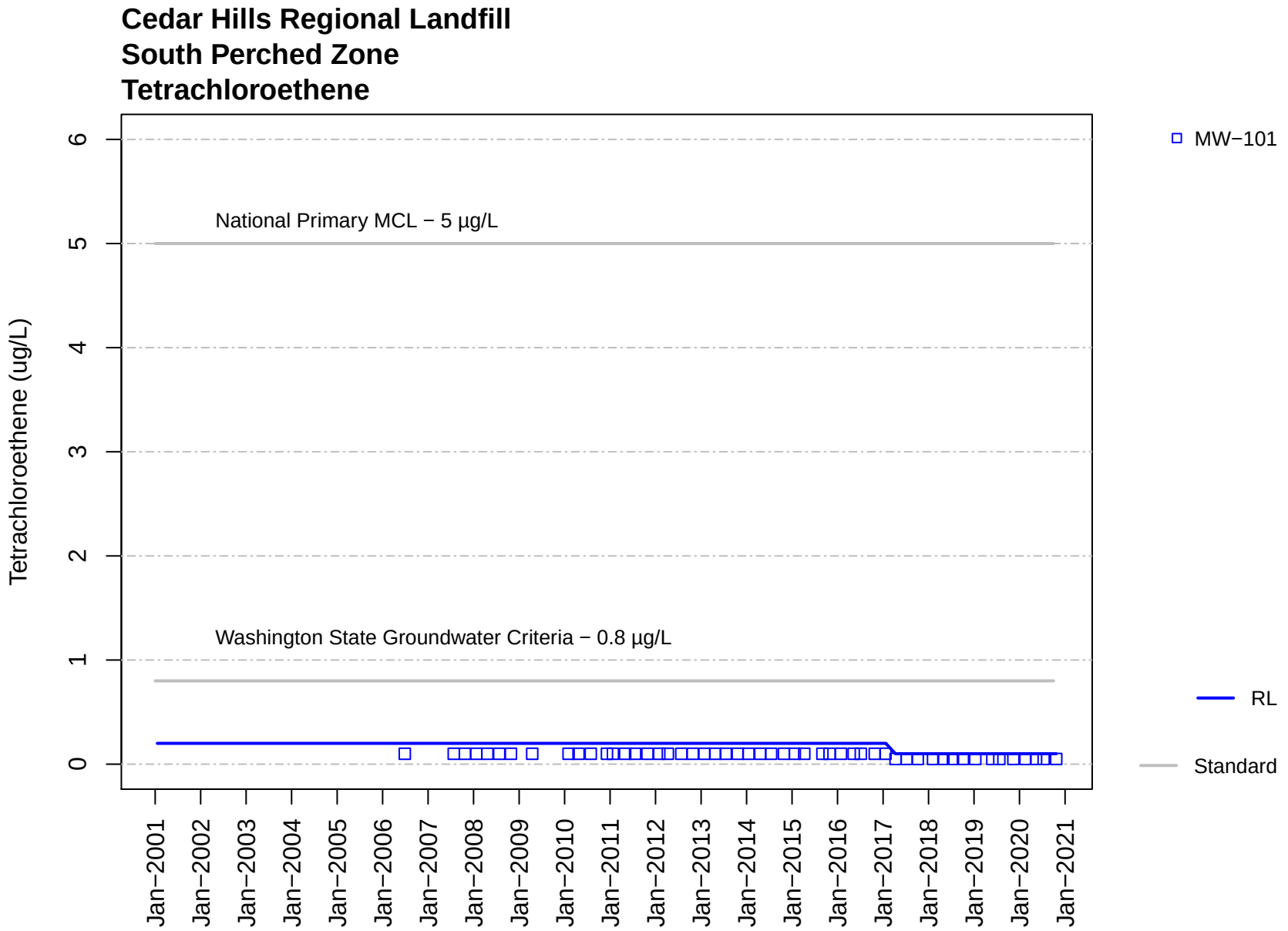

Cedar Hills Regional Landfill
East Perched Zone
cis−1,2−Dichloroethene
National Primary MCL − 70 µg/L
Washington State Groundwater Criteria − 70 µg/L
cis−1,2−dichloroethene (ug/L)
0
20
40
60
80
Jan−2001
Jan−2002
Jan−2003
Jan−2004
Jan−2005
Jan−2006
Jan−2007
Jan−2008
Jan−2009
Jan−2010
Jan−2011
Jan−2012
Jan−2013
Jan−2014
Jan−2015
Jan−2016
Jan−2017
Jan−2018
Jan−2019
Jan−2020
Jan−2021
EW−25
MW−30A
MW−47
MW−62
RL
Standard

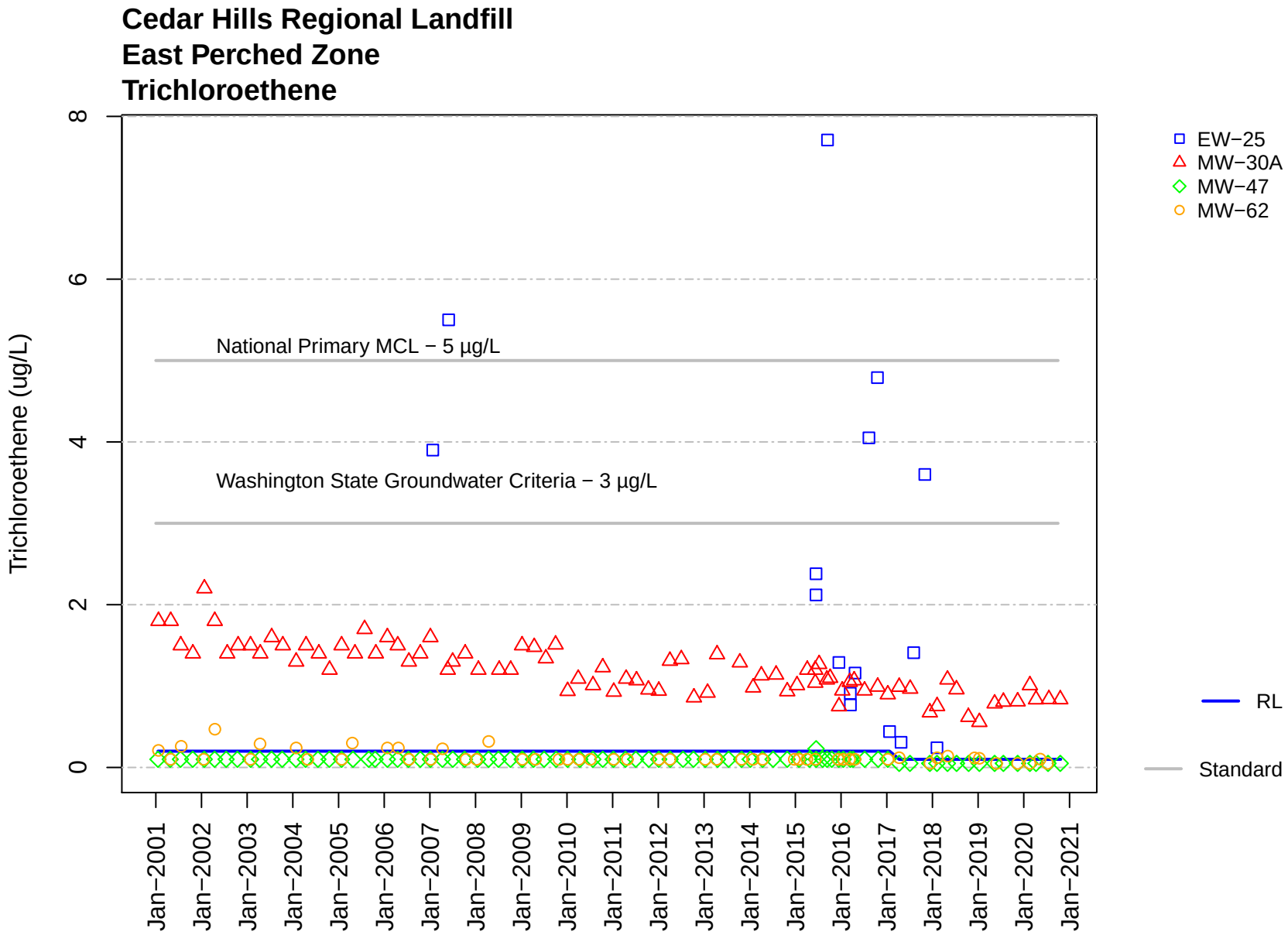

Cedar Hills Regional Landfill
South Perched Zone
cis−1,2−Dichloroethene
cis−1,2−dichloroethene (ug/L)
0
20
40
60
80
National Primary MCL − 70 µg/L
Washington State Groundwater Criteria − 70 µg/L
Jan−2001
Jan−2002
Jan−2003
Jan−2004
Jan−2005
Jan−2006
Jan−2007
Jan−2008
Jan−2009
Jan−2010
Jan−2011
Jan−2012
Jan−2013
Jan−2014
Jan−2015
Jan−2016
Jan−2017
Jan−2018
Jan−2019
Jan−2020
Jan−2021
MW−101
RL
Standard

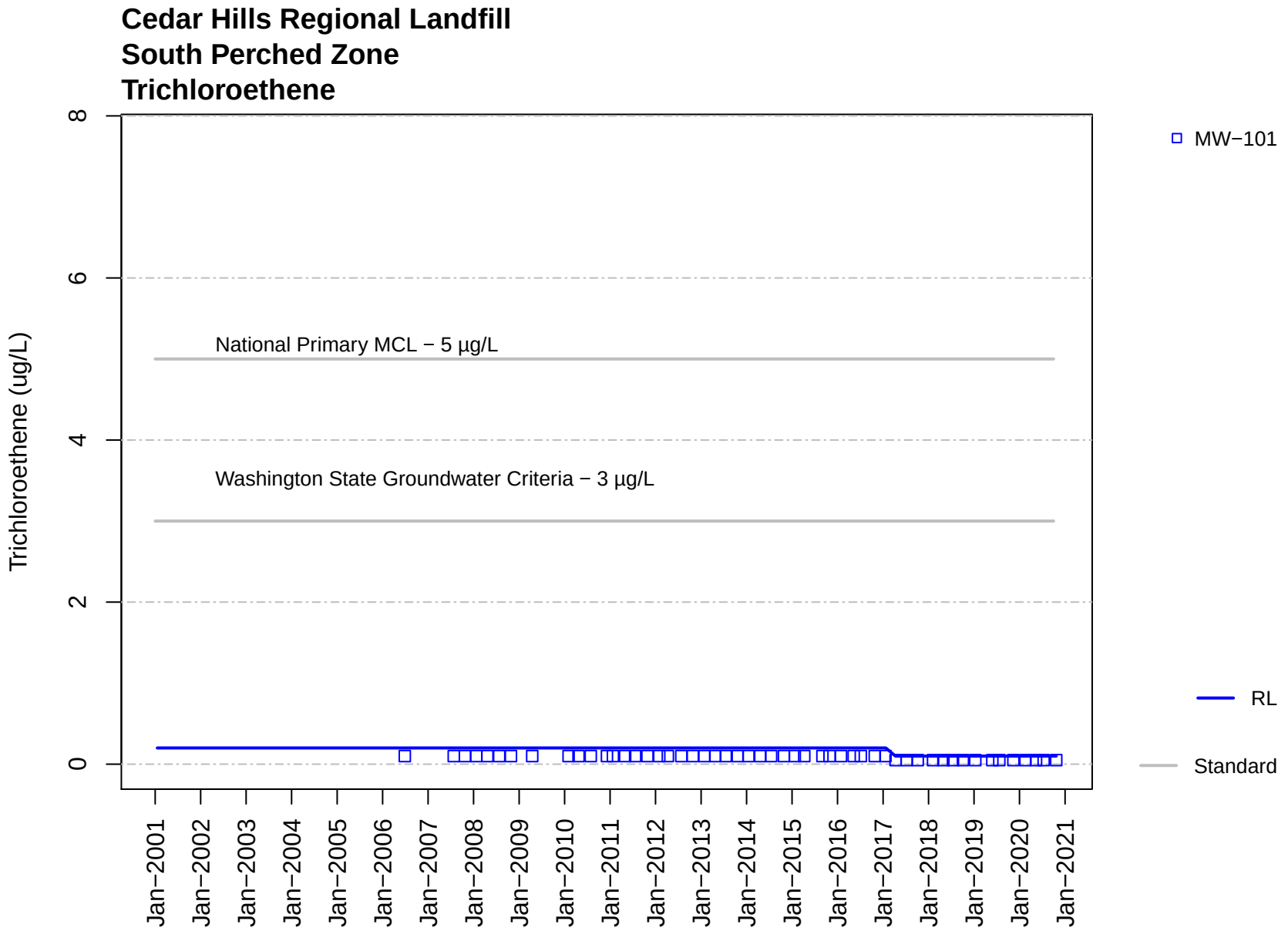

Cedar Hills Regional Landfill
East Perched Zone
Dichlorodifluoromethane
Dichlorodifluoromethane (ug/L)
0
5
10
15
20
Jan−2001
Jan−2002
Jan−2003
Jan−2004
Jan−2005
Jan−2006
Jan−2007
Jan−2008
Jan−2009
Jan−2010
Jan−2011
Jan−2012
Jan−2013
Jan−2014
Jan−2015
Jan−2016
Jan−2017
Jan−2018
Jan−2019
Jan−2020
Jan−2021
EW−25
MW−30A
MW−47
MW−62
RL

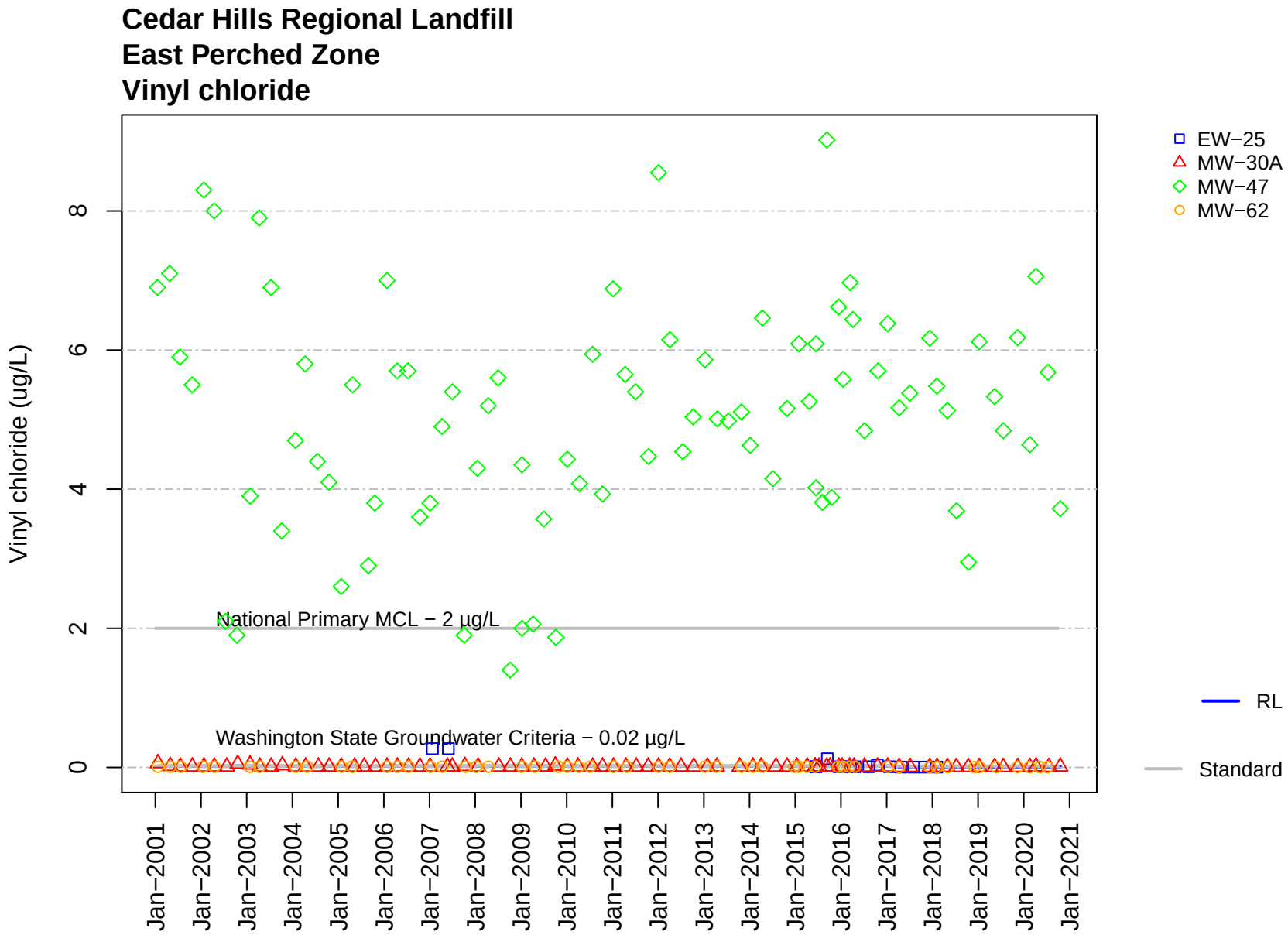

Cedar Hills Regional Landfill
South Perched Zone
Dichlorodifluoromethane
Dichlorodifluoromethane (ug/L)
0
5
10
15
20
Jan−2001
Jan−2002
Jan−2003
Jan−2004
Jan−2005
Jan−2006
Jan−2007
Jan−2008
Jan−2009
Jan−2010
Jan−2011
Jan−2012
Jan−2013
Jan−2014
Jan−2015
Jan−2016
Jan−2017
Jan−2018
Jan−2019
Jan−2020
Jan−2021
MW−101
RL

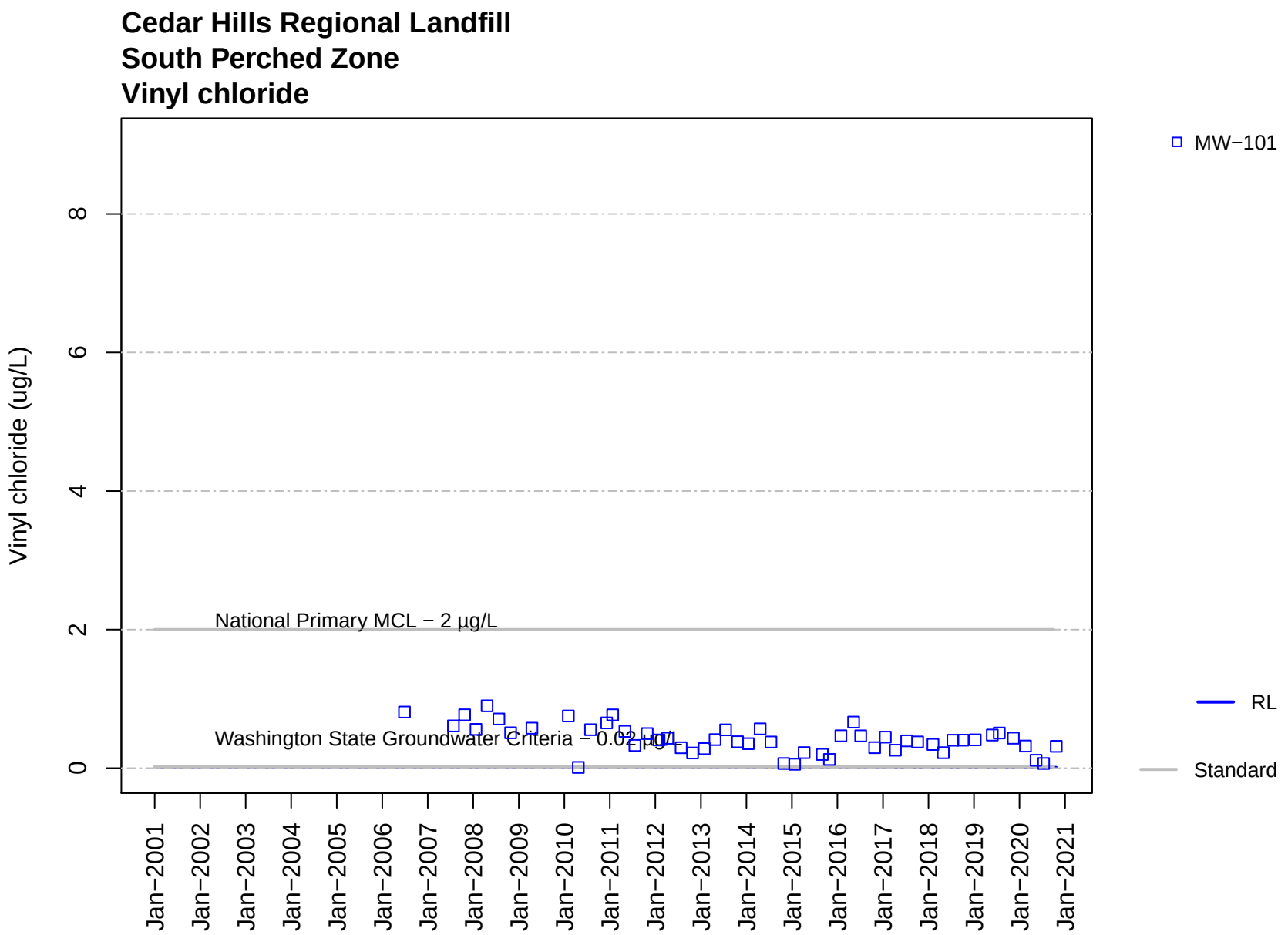

Cedar Hills Regional Landfill
East Perched Zone
Tetrachloroethene
Tetrachloroethene (ug/L)
0
1
2
3
4
5
6
National Primary MCL − 5 µg/L
Washington State Groundwater Criteria − 0.8 µg/L
Jan−2001
Jan−2002
Jan−2003
Jan−2004
Jan−2005
Jan−2006
Jan−2007
Jan−2008
Jan−2009
Jan−2010
Jan−2011
Jan−2012
Jan−2013
Jan−2014
Jan−2015
Jan−2016
Jan−2017
Jan−2018
Jan−2019
Jan−2020
Jan−2021
EW−25
MW−30A
MW−47
MW−62
RL
Standard


Cedar Hills Regional Landfill
South Perched Zone
Tetrachloroethene
Tetrachloroethene (ug/L)
0
1
2
3
4
5
6
National Primary MCL − 5 µg/L
Washington State Groundwater Criteria − 0.8 µg/L
Jan−2001
Jan−2002
Jan−2003
Jan−2004
Jan−2005
Jan−2006
Jan−2007
Jan−2008
Jan−2009
Jan−2010
Jan−2011
Jan−2012
Jan−2013
Jan−2014
Jan−2015
Jan−2016
Jan−2017
Jan−2018
Jan−2019
Jan−2020
Jan−2021
MW−101
RL
Standard

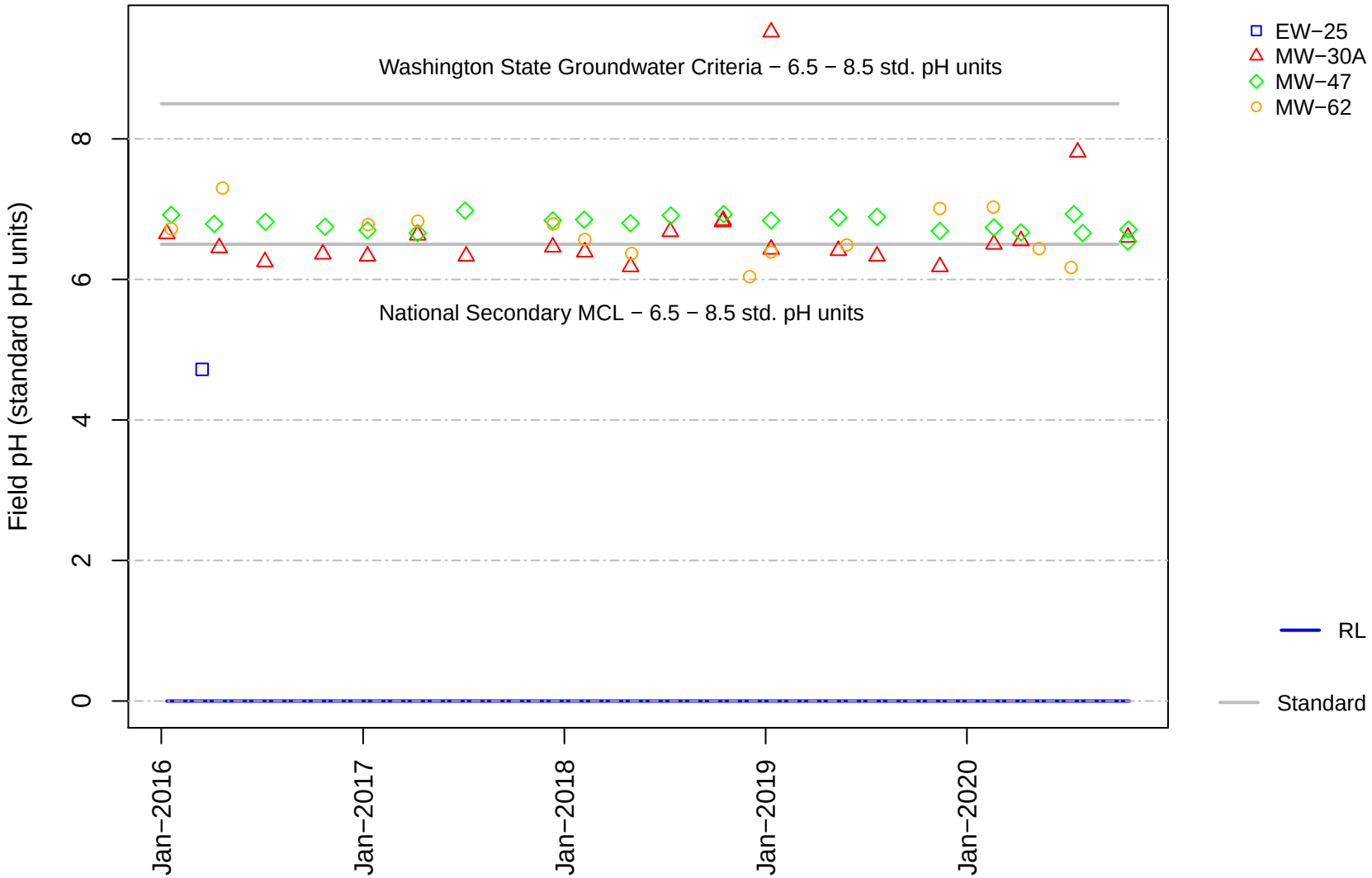

Cedar Hills Regional Landfill
East Perched Zone
Trichloroethene
Trichloroethene (ug/L)
0
2
4
6
8
National Primary MCL − 5 µg/L
Washington State Groundwater Criteria − 3 µg/L
Jan−2001
Jan−2002
Jan−2003
Jan−2004
Jan−2005
Jan−2006
Jan−2007
Jan−2008
Jan−2009
Jan−2010
Jan−2011
Jan−2012
Jan−2013
Jan−2014
Jan−2015
Jan−2016
Jan−2017
Jan−2018
Jan−2019
Jan−2020
Jan−2021
EW−25
MW−30A
MW−47
MW−62
RL
Standard

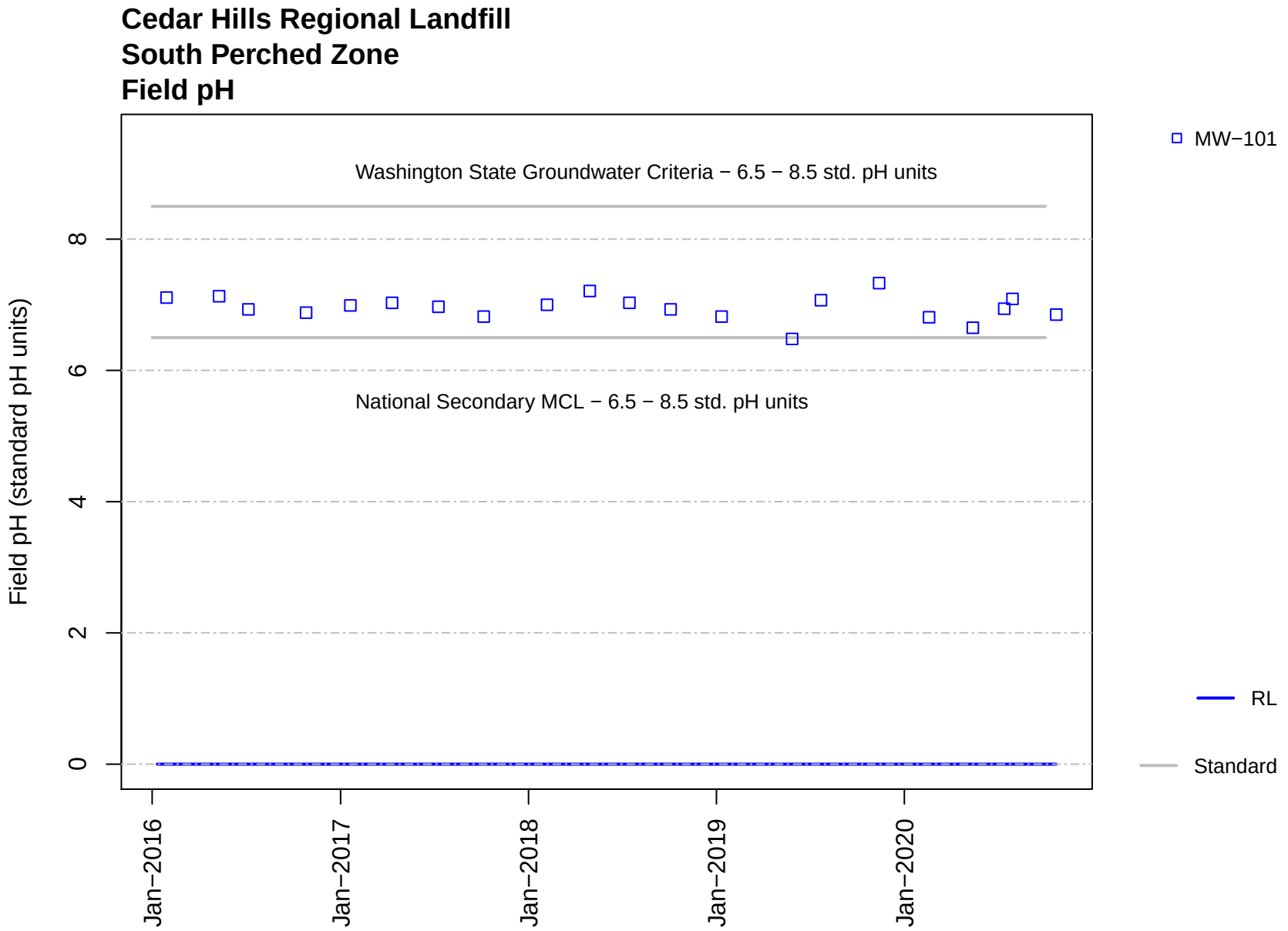

Cedar Hills Regional Landfill
South Perched Zone
Trichloroethene
Trichloroethene (ug/L)
0
2
4
6
8
National Primary MCL − 5 µg/L
Washington State Groundwater Criteria − 3 µg/L
Jan−2001
Jan−2002
Jan−2003
Jan−2004
Jan−2005
Jan−2006
Jan−2007
Jan−2008
Jan−2009
Jan−2010
Jan−2011
Jan−2012
Jan−2013
Jan−2014
Jan−2015
Jan−2016
Jan−2017
Jan−2018
Jan−2019
Jan−2020
Jan−2021
MW−101
RL
Standard

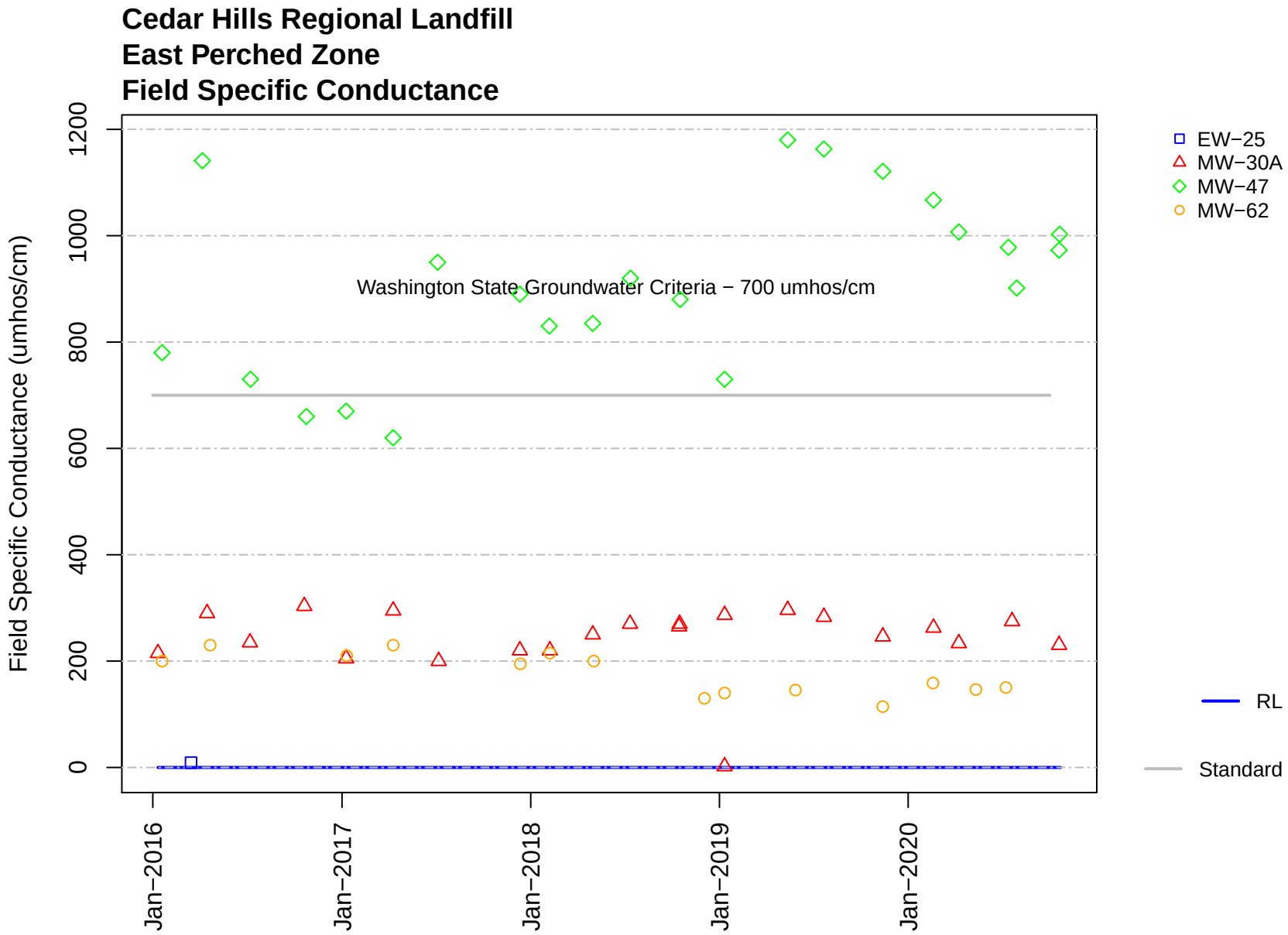

Cedar Hills Regional Landfill
East Perched Zone
Vinyl chloride
Vinyl chloride (ug/L)
0
2
4
6
8
National Primary MCL − 2 µg/L
Washington State Groundwater Criteria − 0.02 µg/L
Jan−2001
Jan−2002
Jan−2003
Jan−2004
Jan−2005
Jan−2006
Jan−2007
Jan−2008
Jan−2009
Jan−2010
Jan−2011
Jan−2012
Jan−2013
Jan−2014
Jan−2015
Jan−2016
Jan−2017
Jan−2018
Jan−2019
Jan−2020
Jan−2021
EW−25
MW−30A
MW−47
MW−62
RL
Standard

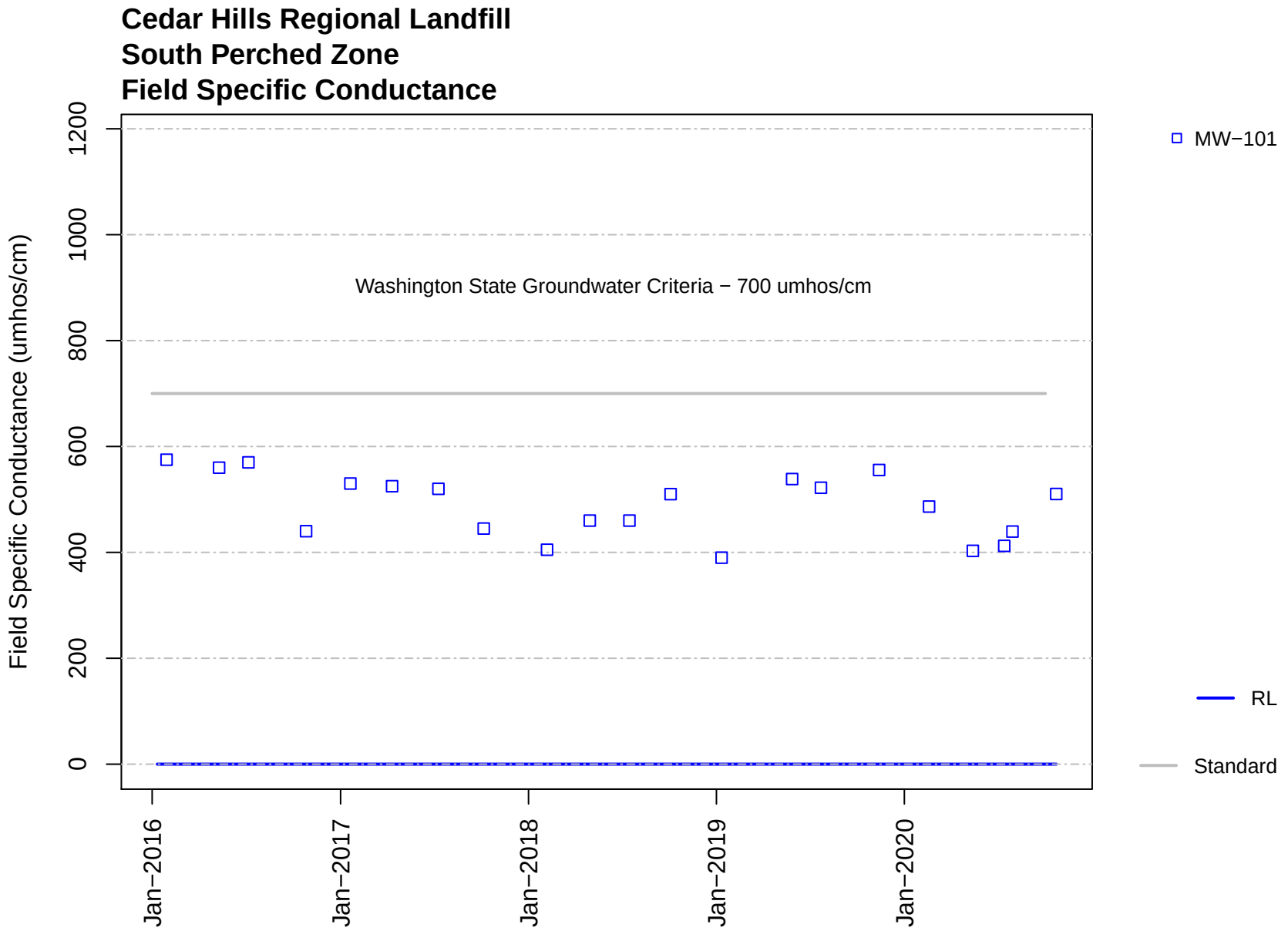

Cedar Hills Regional Landfill
South Perched Zone
Vinyl chloride
Vinyl chloride (ug/L)
0
2
4
6
8
National Primary MCL – 2 µg/L
Washington State Groundwater Criteria – 0.02 µg/L
Jan–2001
Jan–2002
Jan–2003
Jan–2004
Jan–2005
Jan–2006
Jan–2007
Jan–2008
Jan–2009
Jan–2010
Jan–2011
Jan–2012
Jan–2013
Jan–2014
Jan–2015
Jan–2016
Jan–2017
Jan–2018
Jan–2019
Jan–2020
Jan–2021
MW–101
RL
Standard

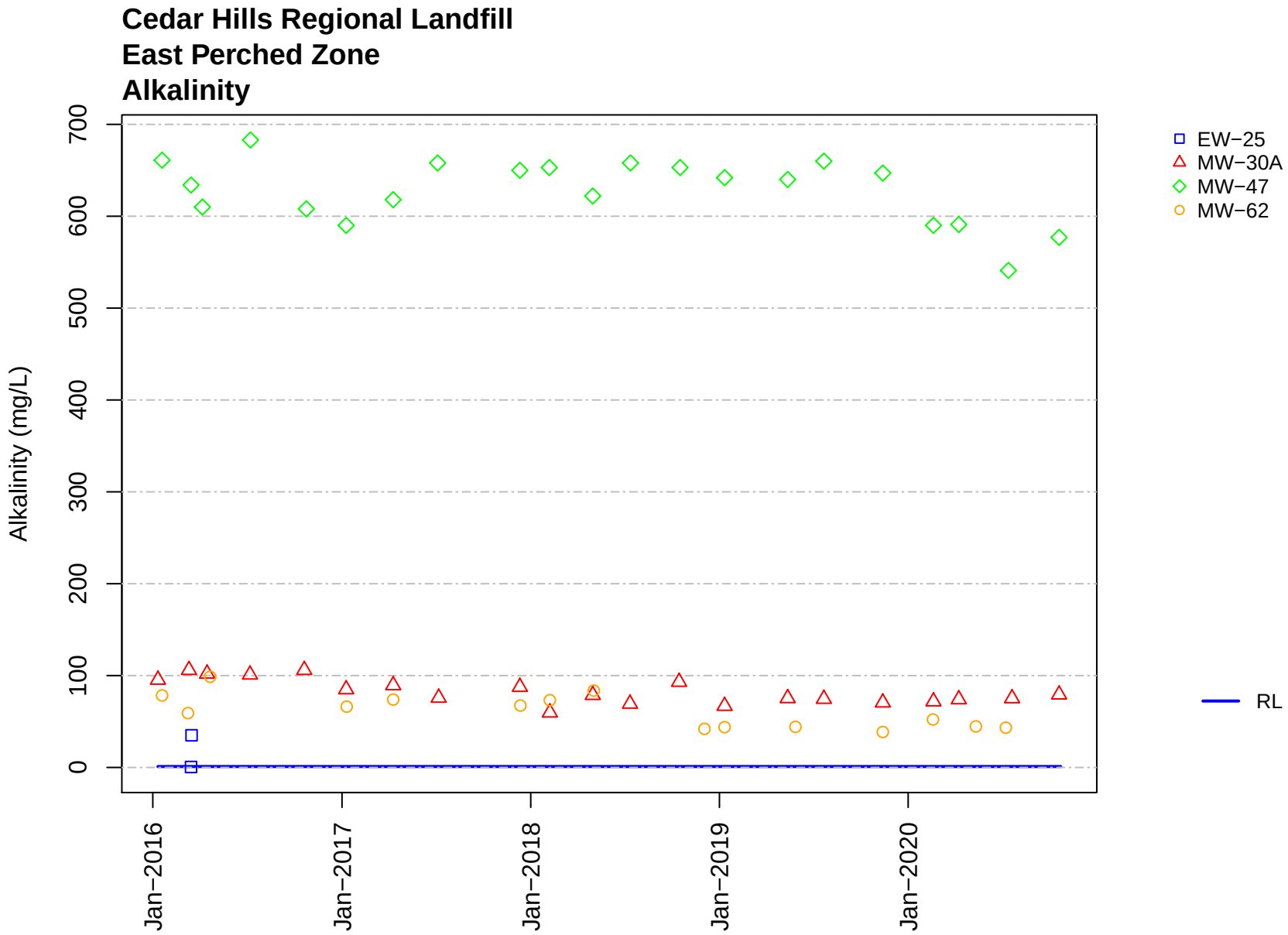
Cedar Hills Regional Landfill
East Perched Zone
Field pH

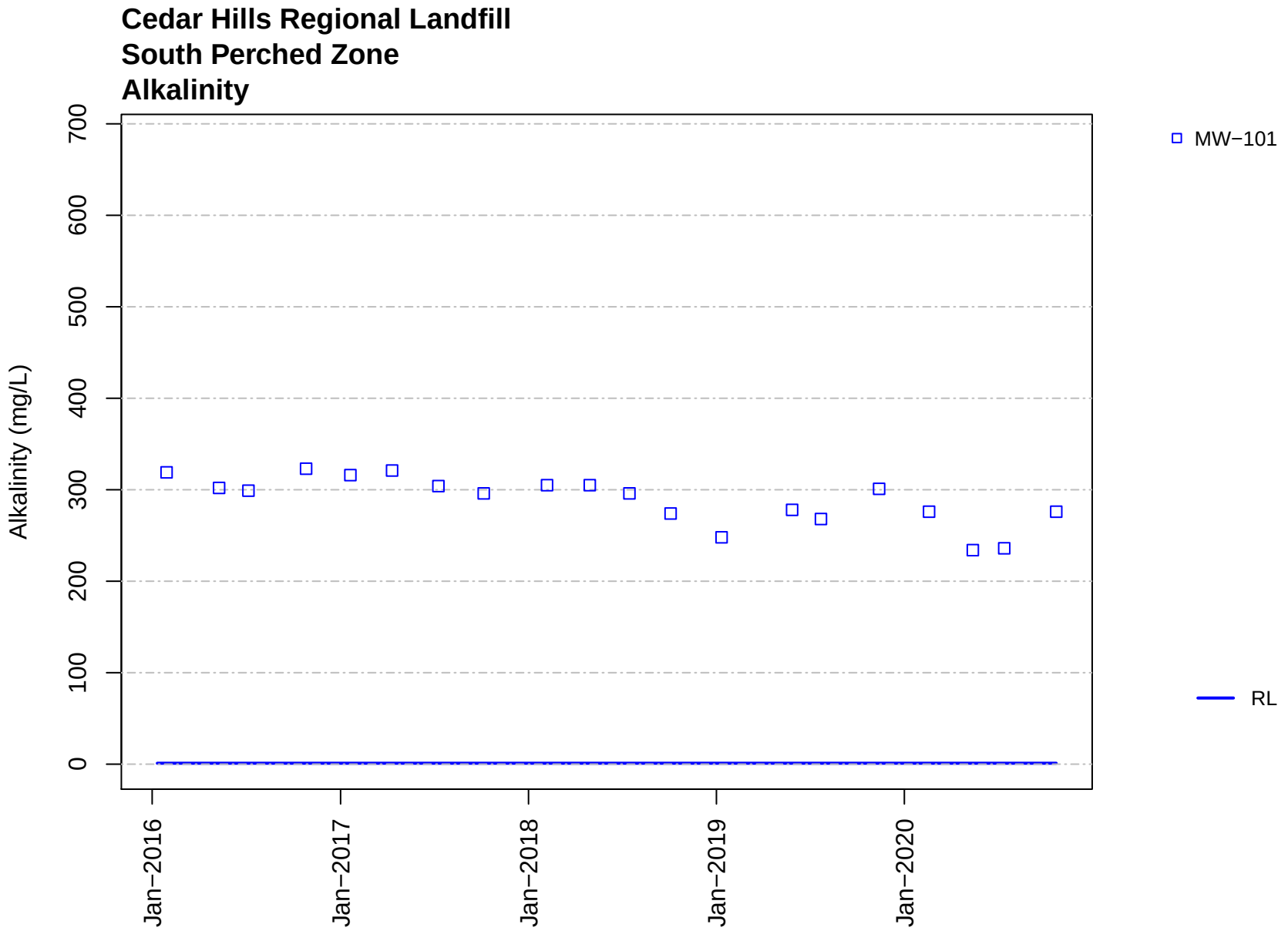


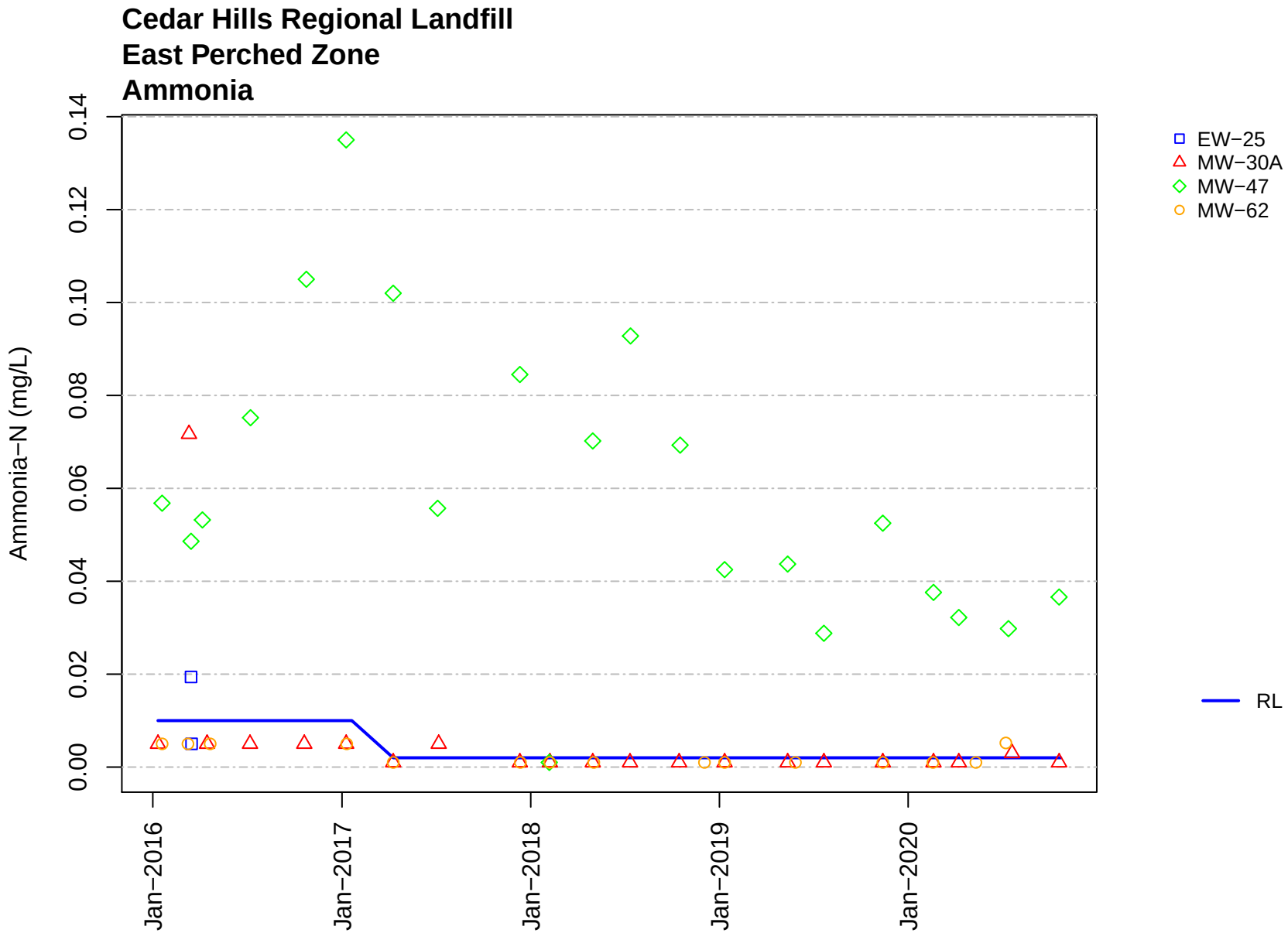

Cedar Hills Regional Landfill
South Perched Zone
Field pH
Washington State Groundwater Criteria − 6.5 − 8.5 std. pH units
National Secondary MCL − 6.5 − 8.5 std. pH units
Field pH (standard pH units)
0
2
4
6
8
Jan−2016
Jan−2017
Jan−2018
Jan−2019
Jan−2020
MW−101
RL
Standard

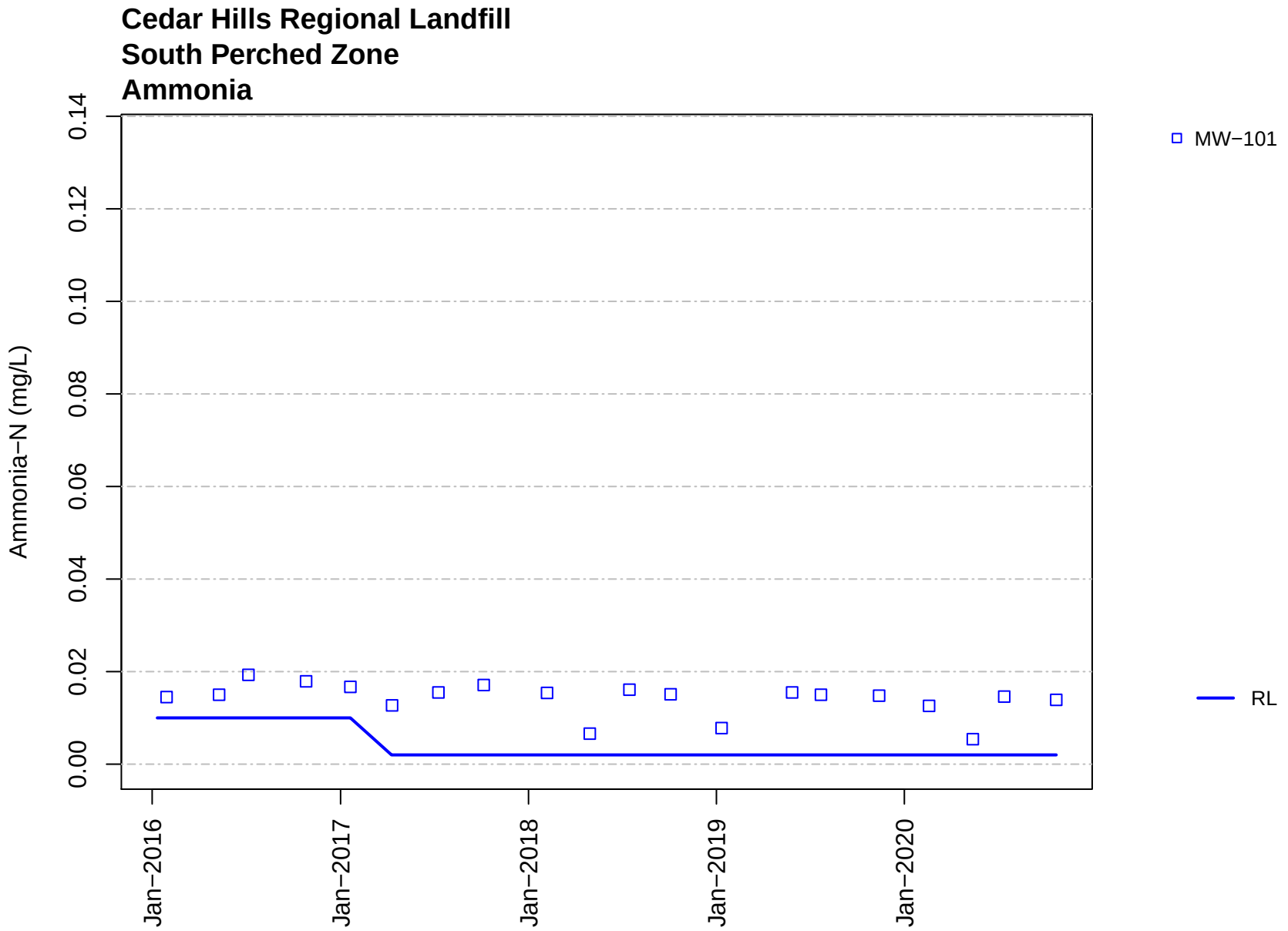

Cedar Hills Regional Landfill
East Perched Zone
Field Specific Conductance
Field Specific Conductance (umhos/cm)
0
200
400
600
800
1000
1200
Jan−2016
Jan−2017
Jan−2018
Jan−2019
Jan−2020
Washington State Groundwater Criteria − 700 umhos/cm
EW−25
MW−30A
MW−47
MW−62
RL
Standard

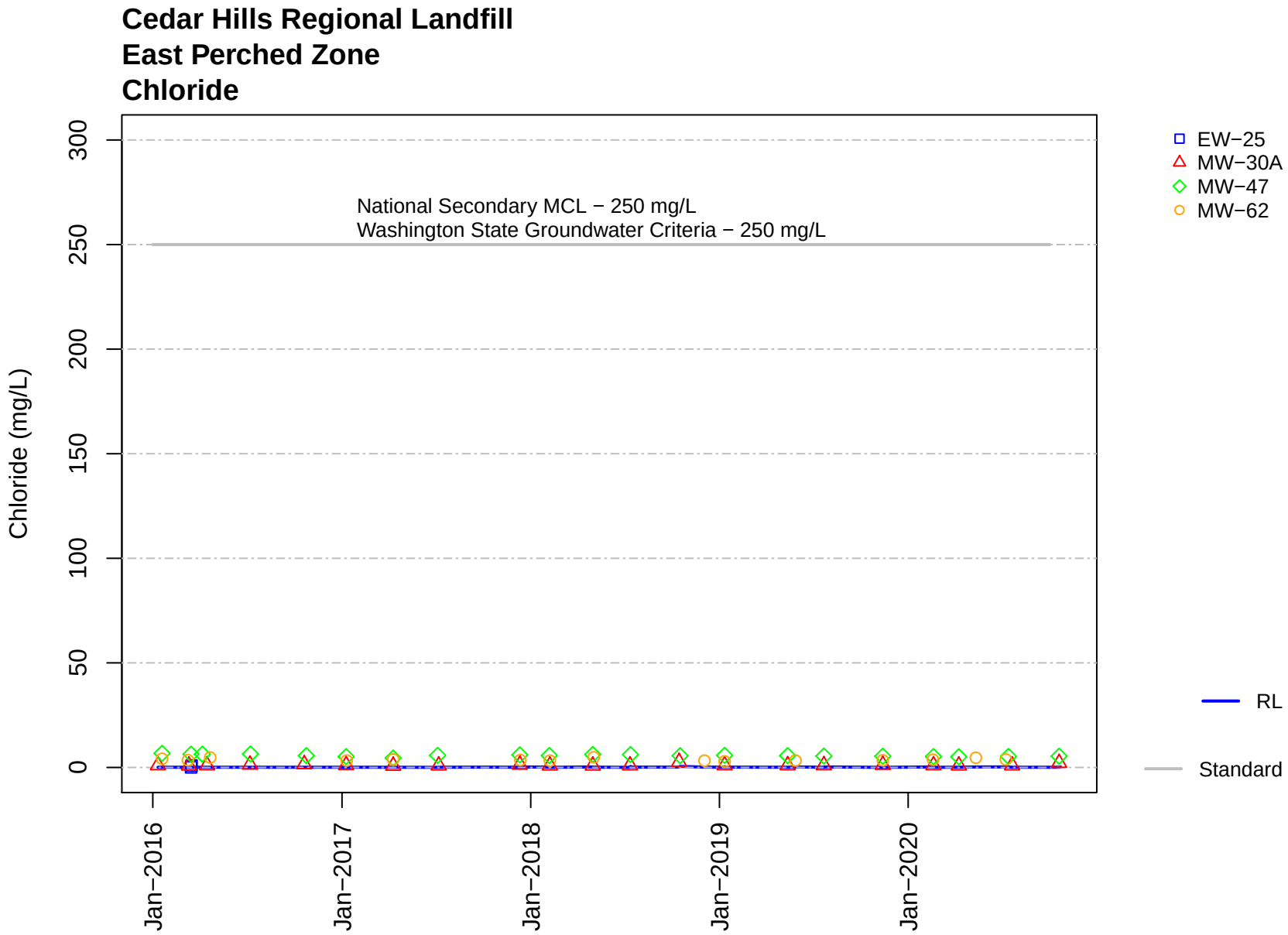

Cedar Hills Regional Landfill
South Perched Zone
Field Specific Conductance
Field Specific Conductance (umhos/cm)
0
200
400
600
800
1000
1200
Washington State Groundwater Criteria − 700 umhos/cm
Jan−2016
Jan−2017
Jan−2018
Jan−2019
Jan−2020
MW−101
RL
Standard

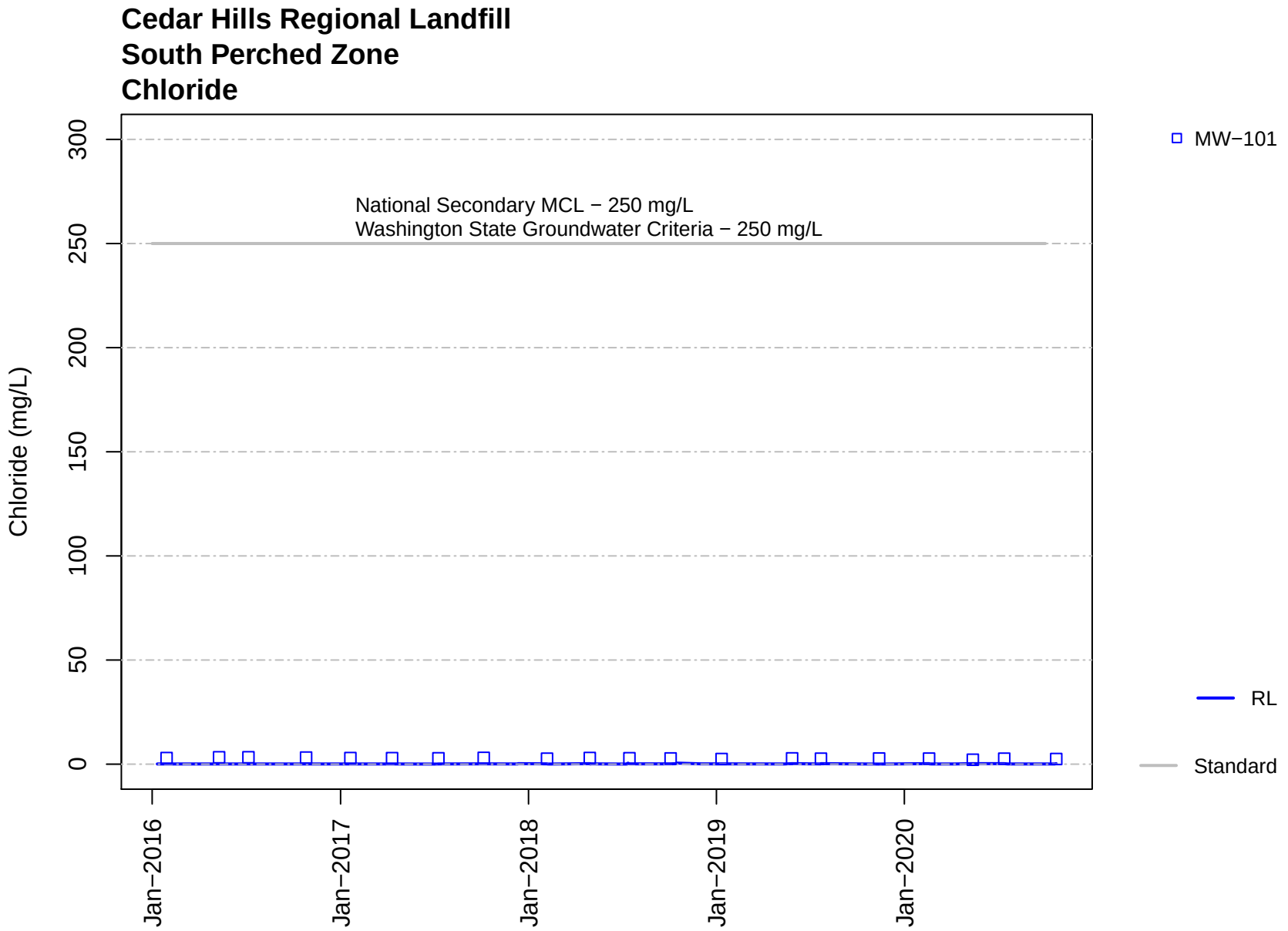

Cedar Hills Regional Landfill
East Perched Zone
Alkalinity
Alkalinity (mg/L)
0
100
200
300
400
500
600
700
Jan−2016
Jan−2017
Jan−2018
Jan−2019
Jan−2020
EW−25
MW−30A
MW−47
MW−62
RL

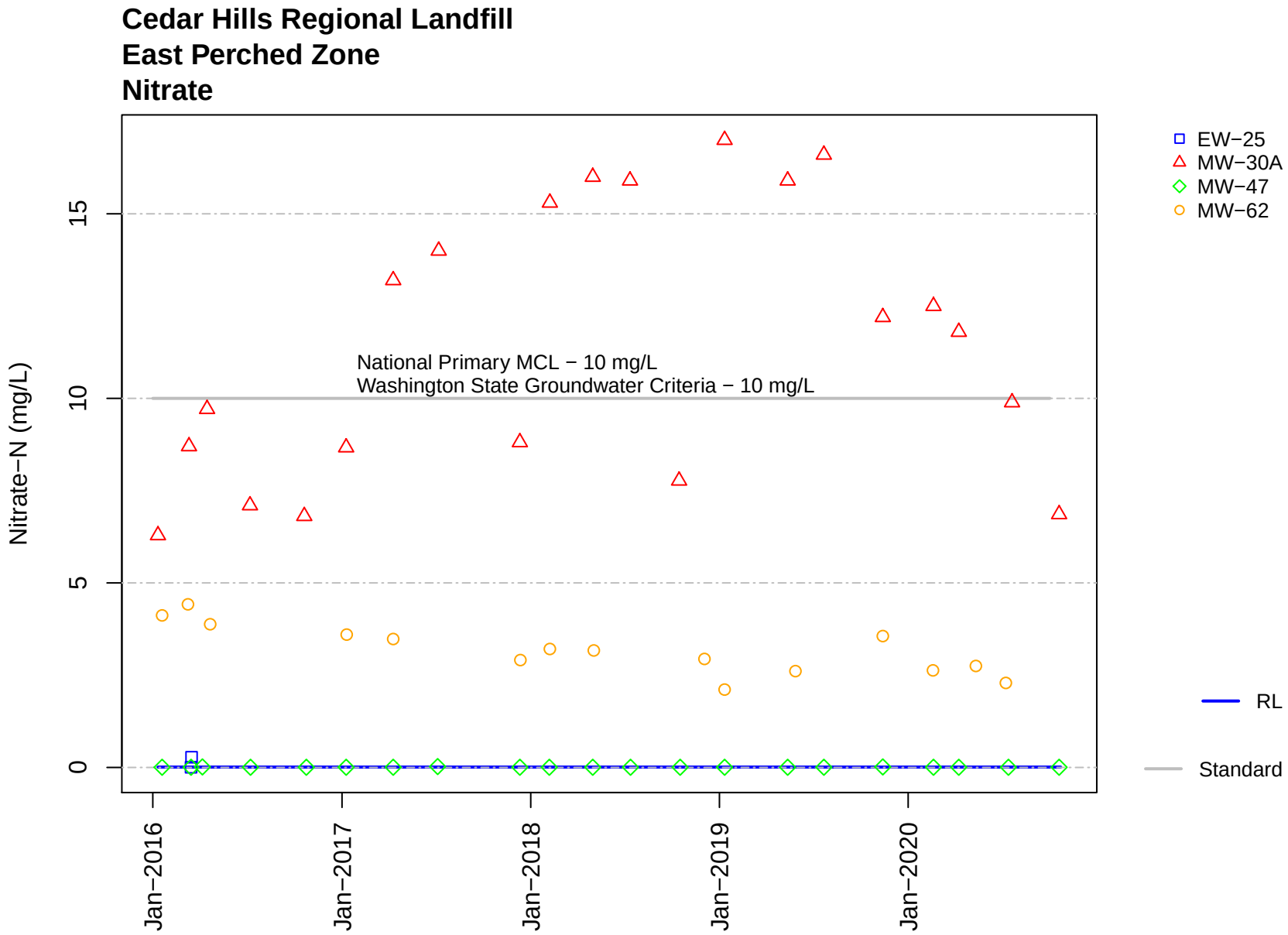

Cedar Hills Regional Landfill
South Perched Zone
Alkalinity
Alkalinity (mg/L)
0
100
200
300
400
500
600
700
Jan−2016
Jan−2017
Jan−2018
Jan−2019
Jan−2020
MW−101
RL

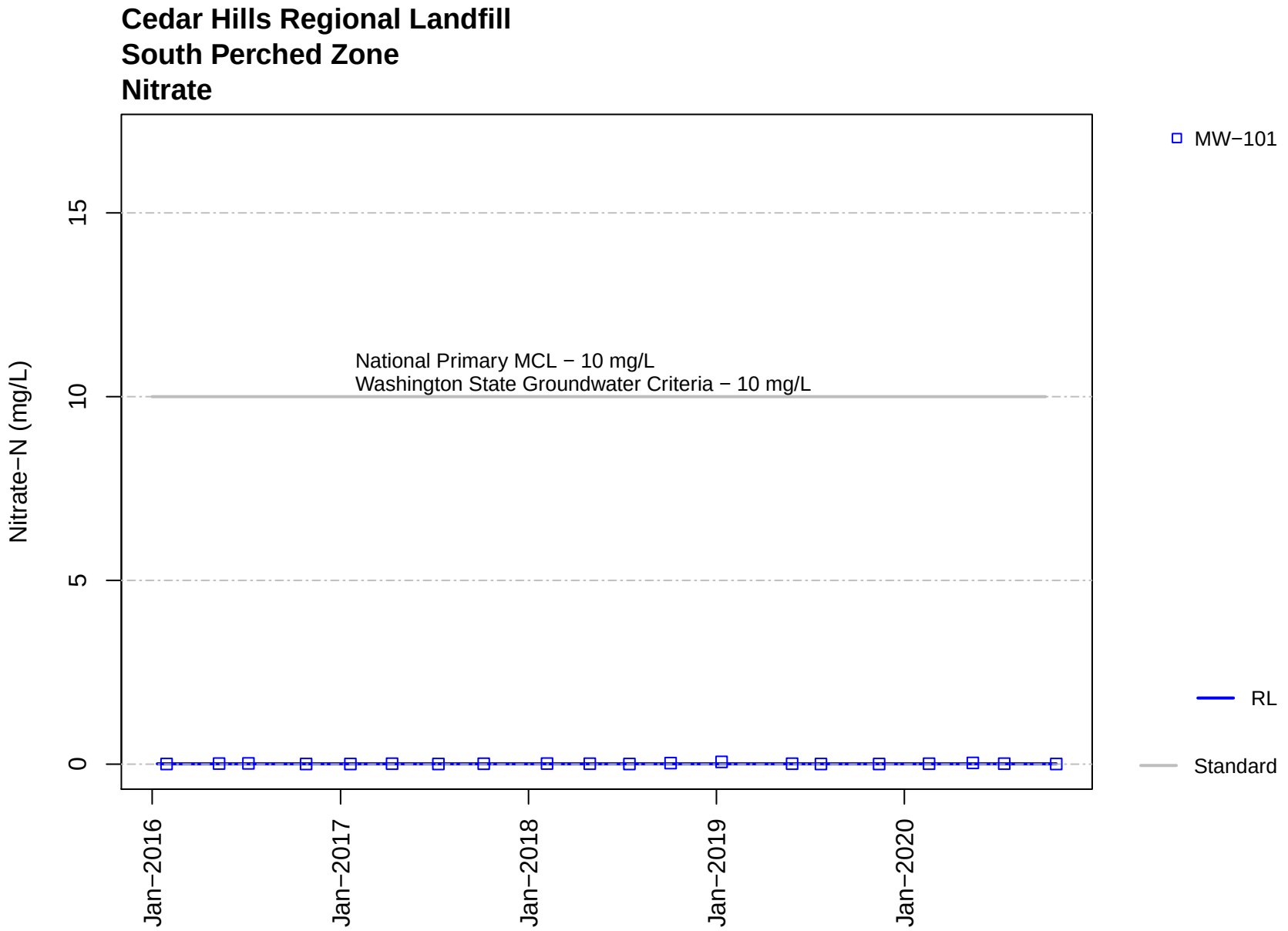

Cedar Hills Regional Landfill
East Perched Zone
Ammonia
Ammonia−N (mg/L)
0.00
0.02
0.04
0.06
0.08
0.10
0.12
0.14
Jan−2016
Jan−2017
Jan−2018
Jan−2019
Jan−2020
EW−25
MW−30A
MW−47
MW−62
RL

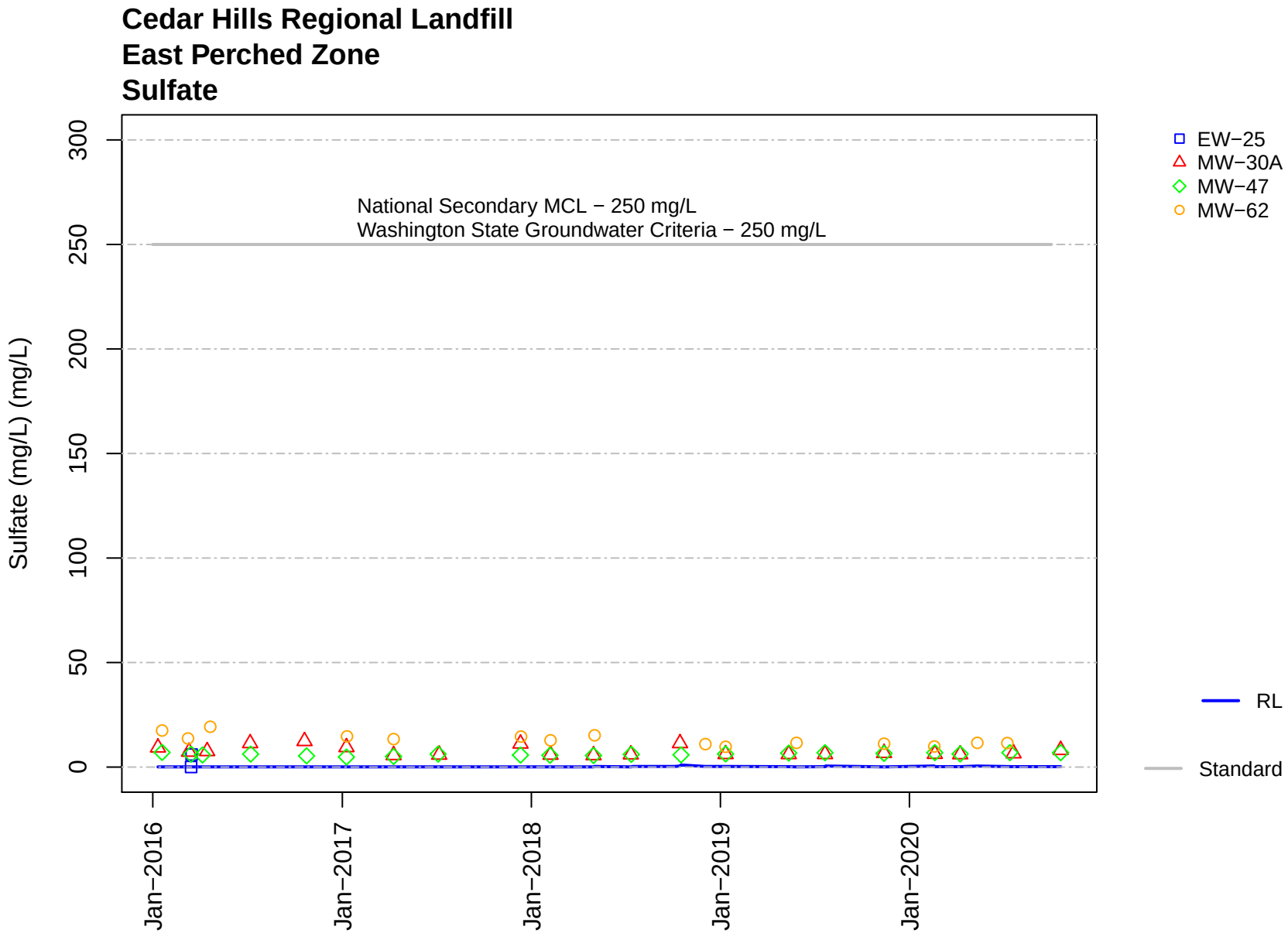

Cedar Hills Regional Landfill
South Perched Zone
Ammonia
Ammonia−N (mg/L)
0.00
0.02
0.04
0.06
0.08
0.10
0.12
0.14
Jan−2016
Jan−2017
Jan−2018
Jan−2019
Jan−2020
MW−101
RL

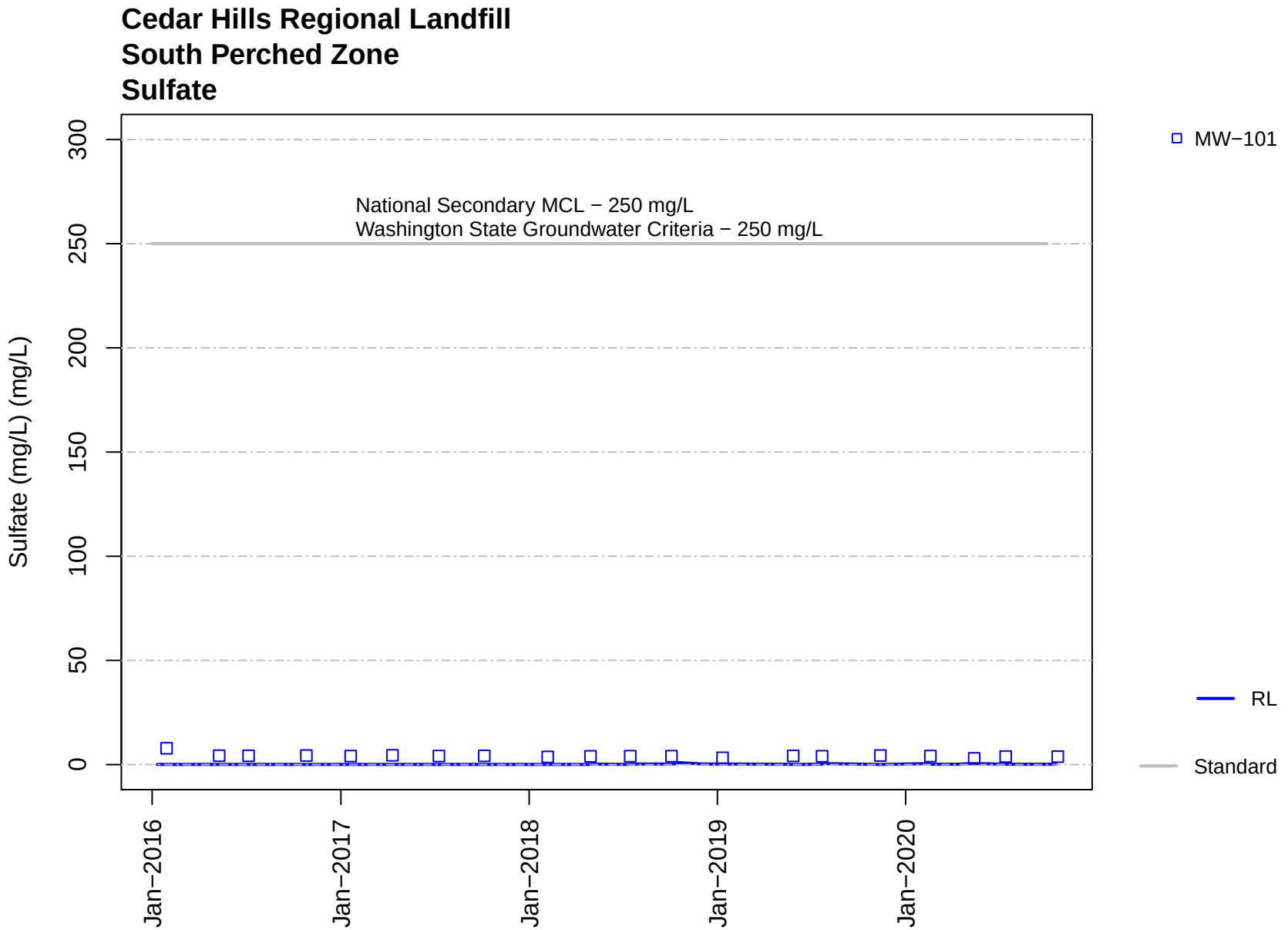

Cedar Hills Regional Landfill
East Perched Zone
Chloride
Chloride (mg/L)
0
50
100
150
200
250
300
National Secondary MCL − 250 mg/L
Washington State Groundwater Criteria − 250 mg/L
Jan−2016
Jan−2017
Jan−2018
Jan−2019
Jan−2020
EW−25
MW−30A
MW−47
MW−62
RL
Standard

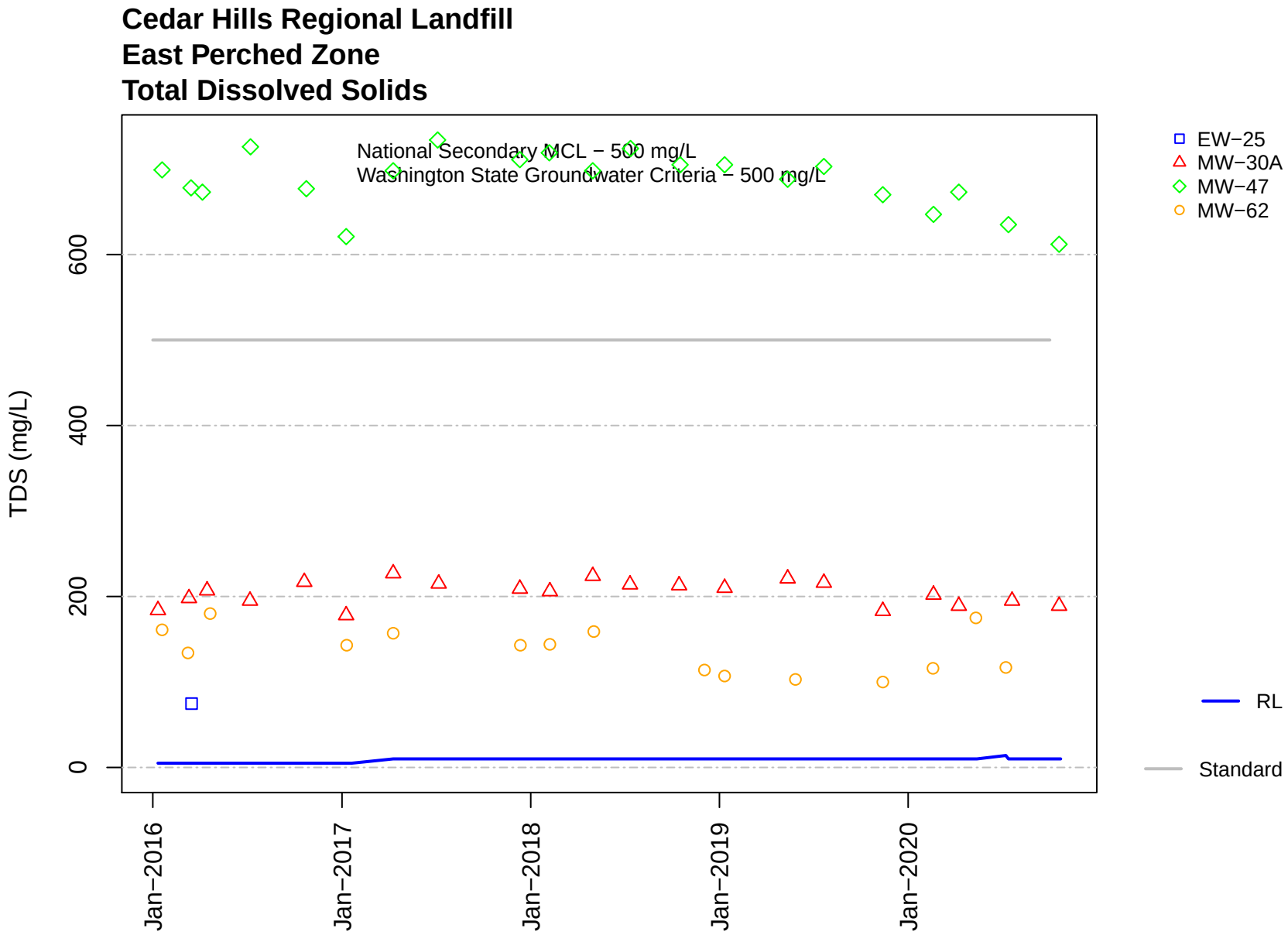

Cedar Hills Regional Landfill
South Perched Zone
Chloride
Chloride (mg/L)
0
50
100
150
200
250
300
National Secondary MCL − 250 mg/L
Washington State Groundwater Criteria − 250 mg/L
Jan−2016
Jan−2017
Jan−2018
Jan−2019
Jan−2020
MW−101
RL
Standard

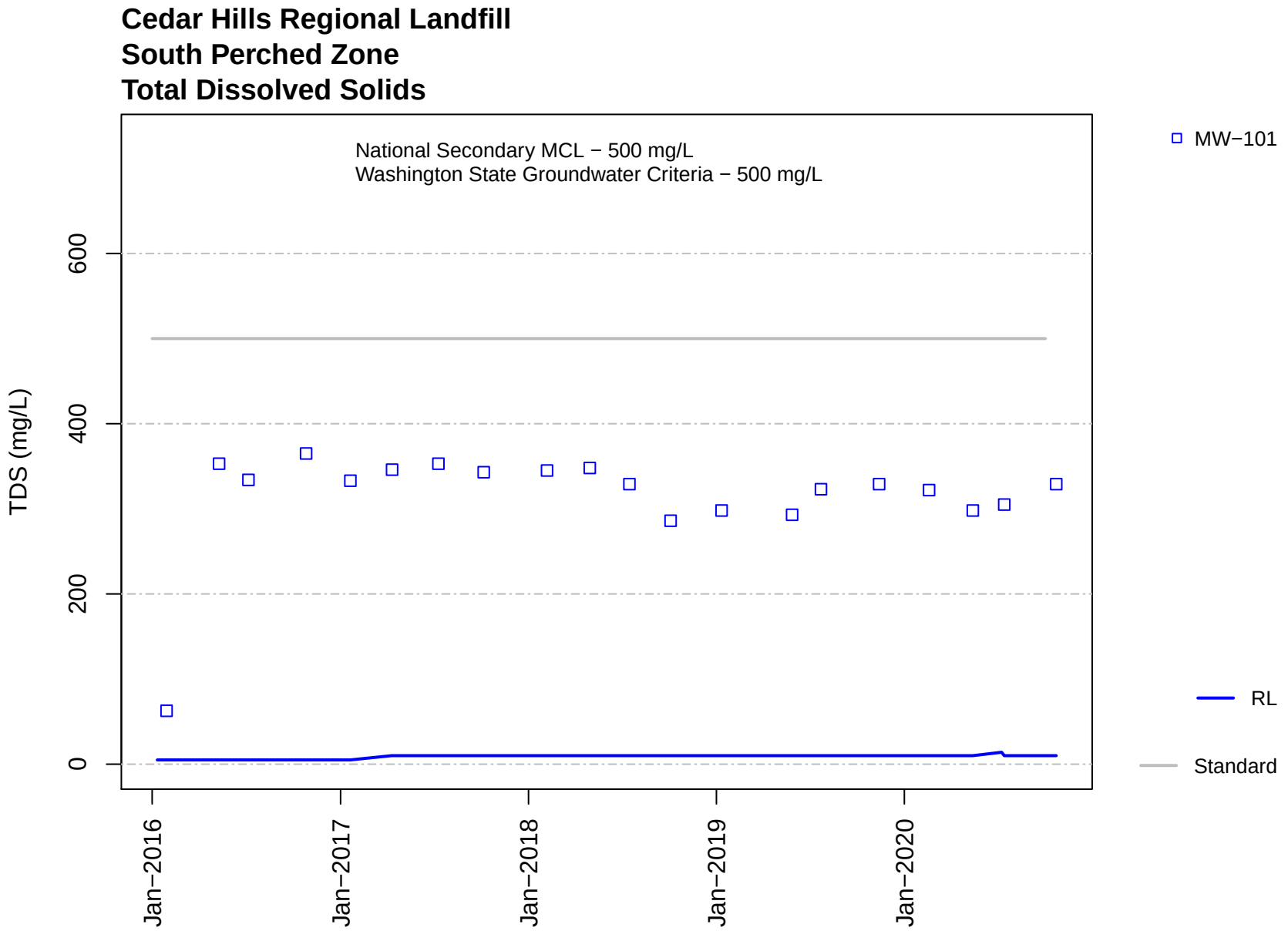

Cedar Hills Regional Landfill
East Perched Zone
Nitrate
Nitrate−N (mg/L)
0
5
10
15
National Primary MCL − 10 mg/L
Washington State Groundwater Criteria − 10 mg/L
Jan−2016
Jan−2017
Jan−2018
Jan−2019
Jan−2020
EW−25
MW−30A
MW−47
MW−62
RL
Standard

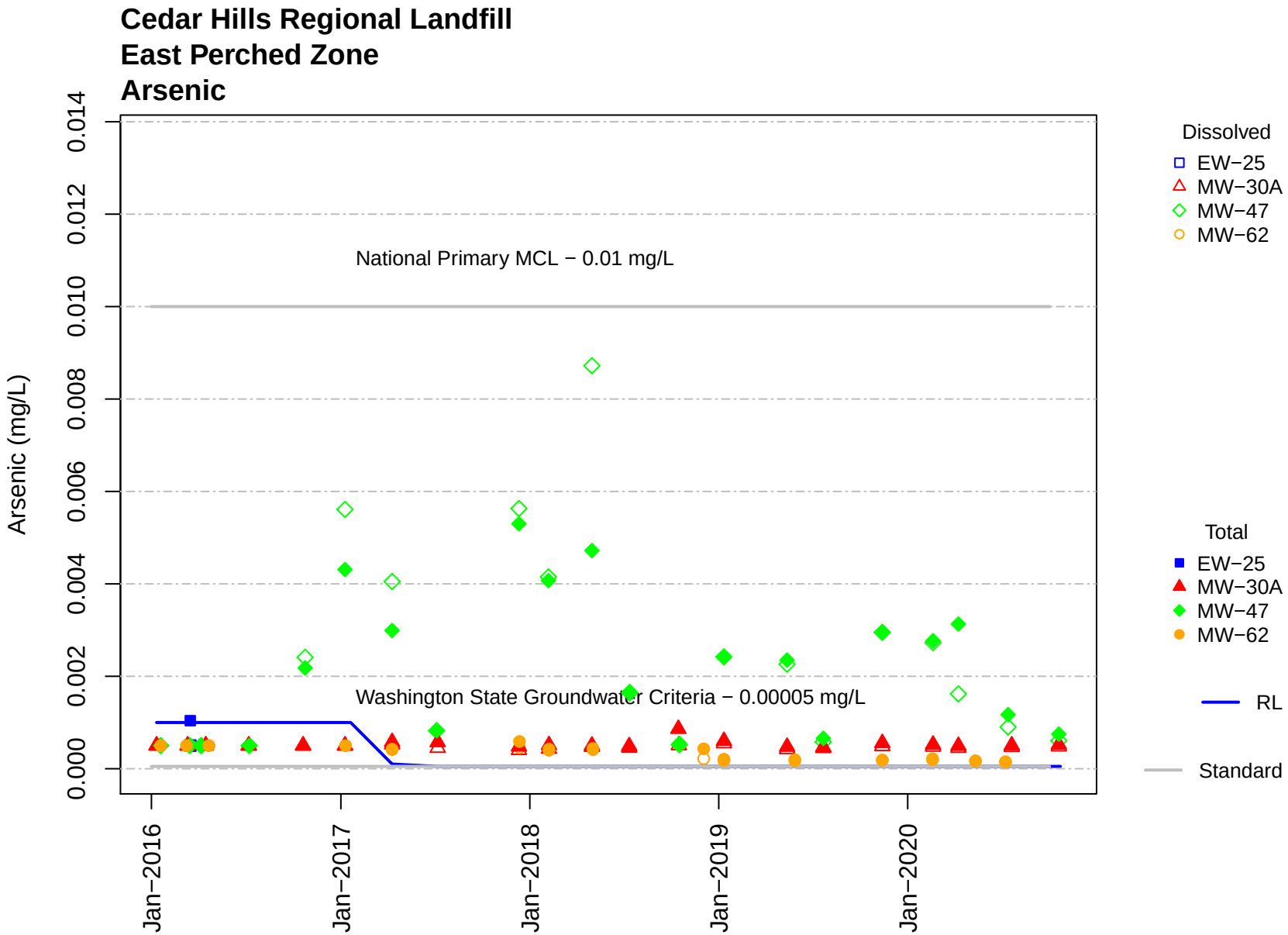

Cedar Hills Regional Landfill
South Perched Zone
Nitrate
Nitrate−N (mg/L)
0
5
10
15
National Primary MCL − 10 mg/L
Washington State Groundwater Criteria − 10 mg/L
Jan−2016
Jan−2017
Jan−2018
Jan−2019
Jan−2020
MW−101
RL
Standard

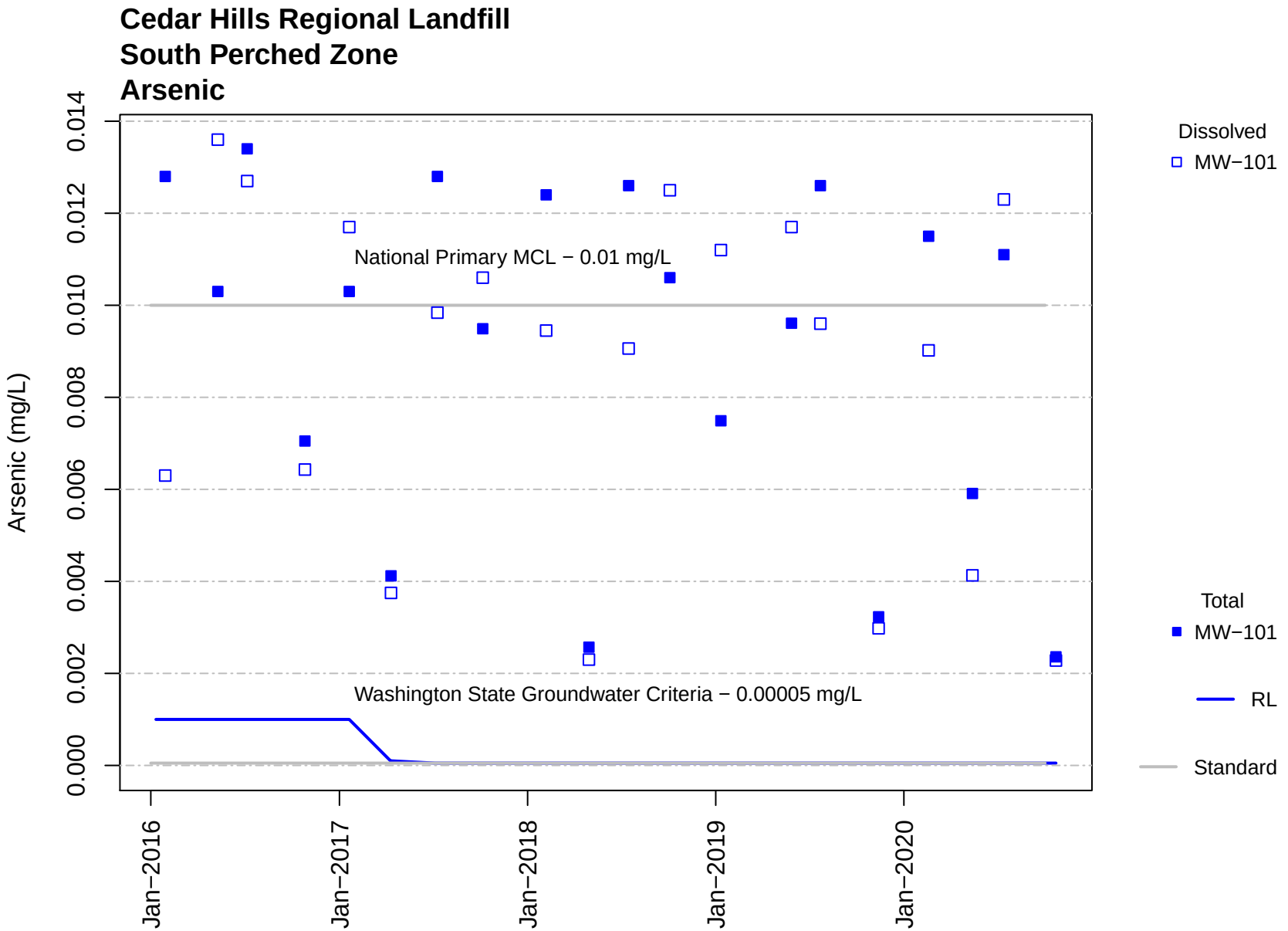

Cedar Hills Regional Landfill
East Perched Zone
Sulfate
Sulfate (mg/L) (mg/L)
0
50
100
150
200
250
300
National Secondary MCL − 250 mg/L
Washington State Groundwater Criteria − 250 mg/L
Jan−2016
Jan−2017
Jan−2018
Jan−2019
Jan−2020
EW−25
MW−30A
MW−47
MW−62
RL
Standard

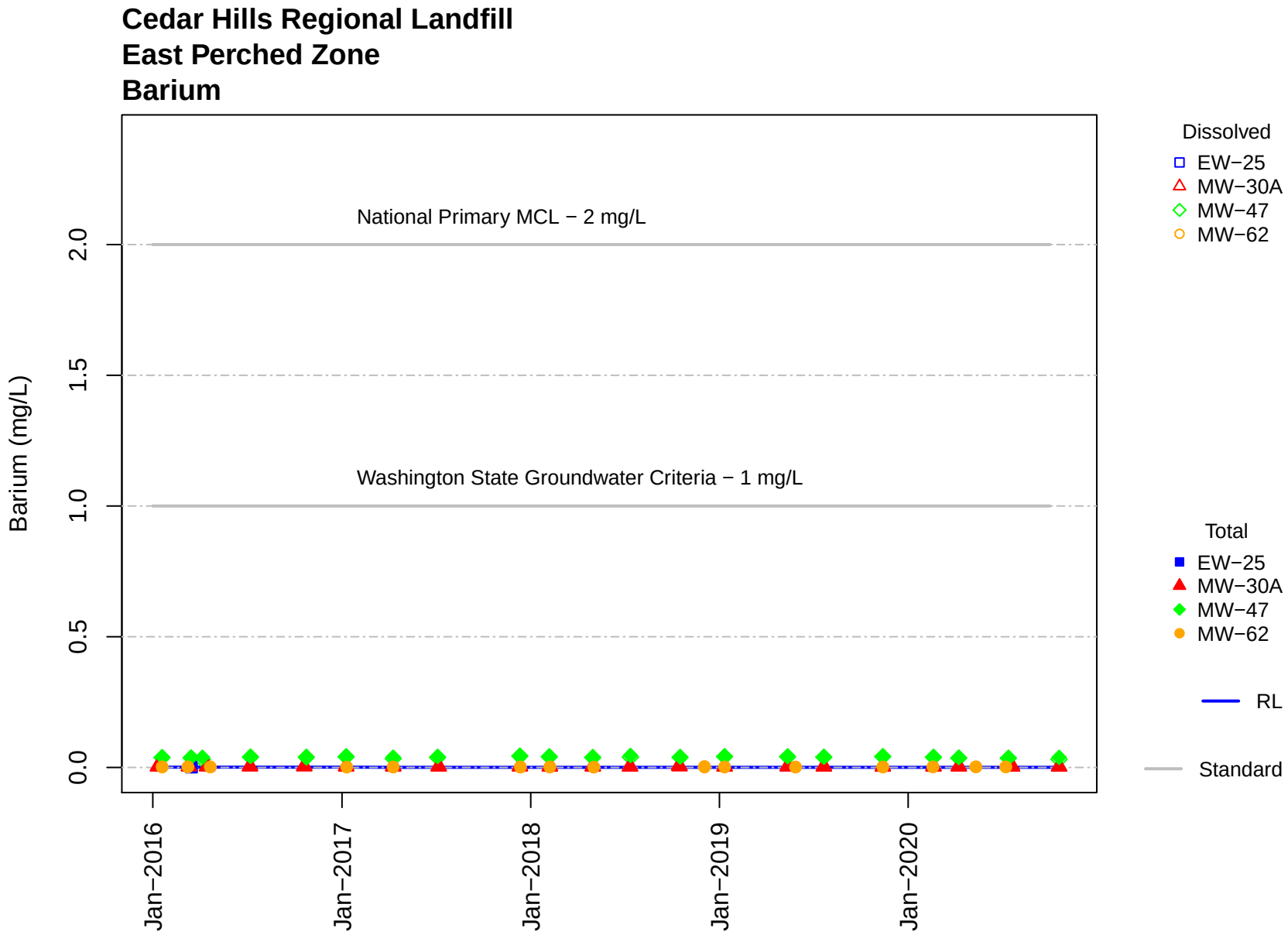

Cedar Hills Regional Landfill
South Perched Zone
Sulfate
Sulfate (mg/L) (mg/L)
300
250
200
150
100
50
0
National Secondary MCL − 250 mg/L
Washington State Groundwater Criteria − 250 mg/L
Jan−2016
Jan−2017
Jan−2018
Jan−2019
Jan−2020
MW−101
RL
Standard

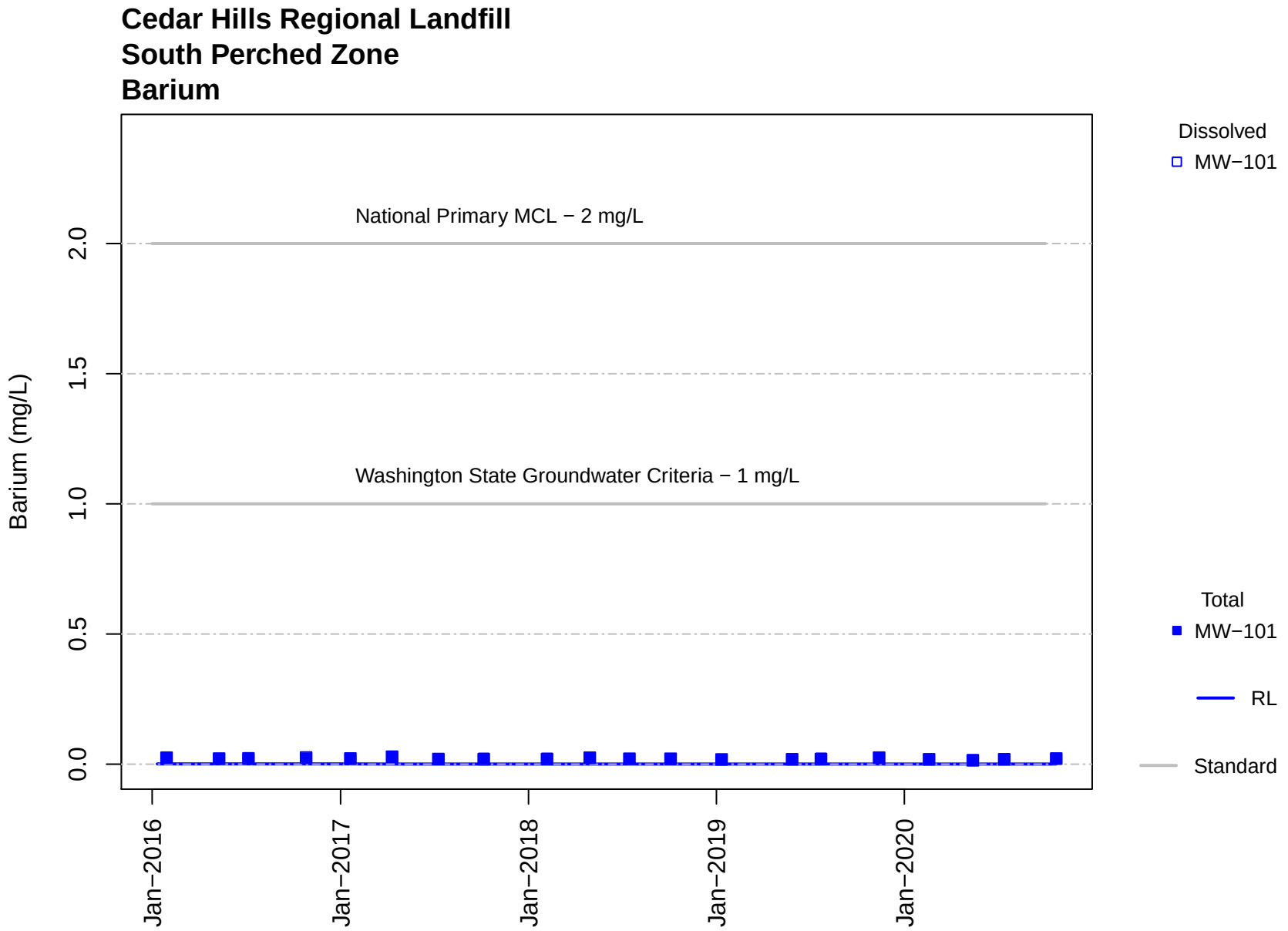

Cedar Hills Regional Landfill
East Perched Zone
Total Dissolved Solids
National Secondary MCL – 500 mg/L
Washington State Groundwater Criteria – 500 mg/L
TDS (mg/L)
0
200
400
600
Jan–2016
Jan–2017
Jan–2018
Jan–2019
Jan–2020
EW–25
MW–30A
MW–47
MW–62
RL
Standard

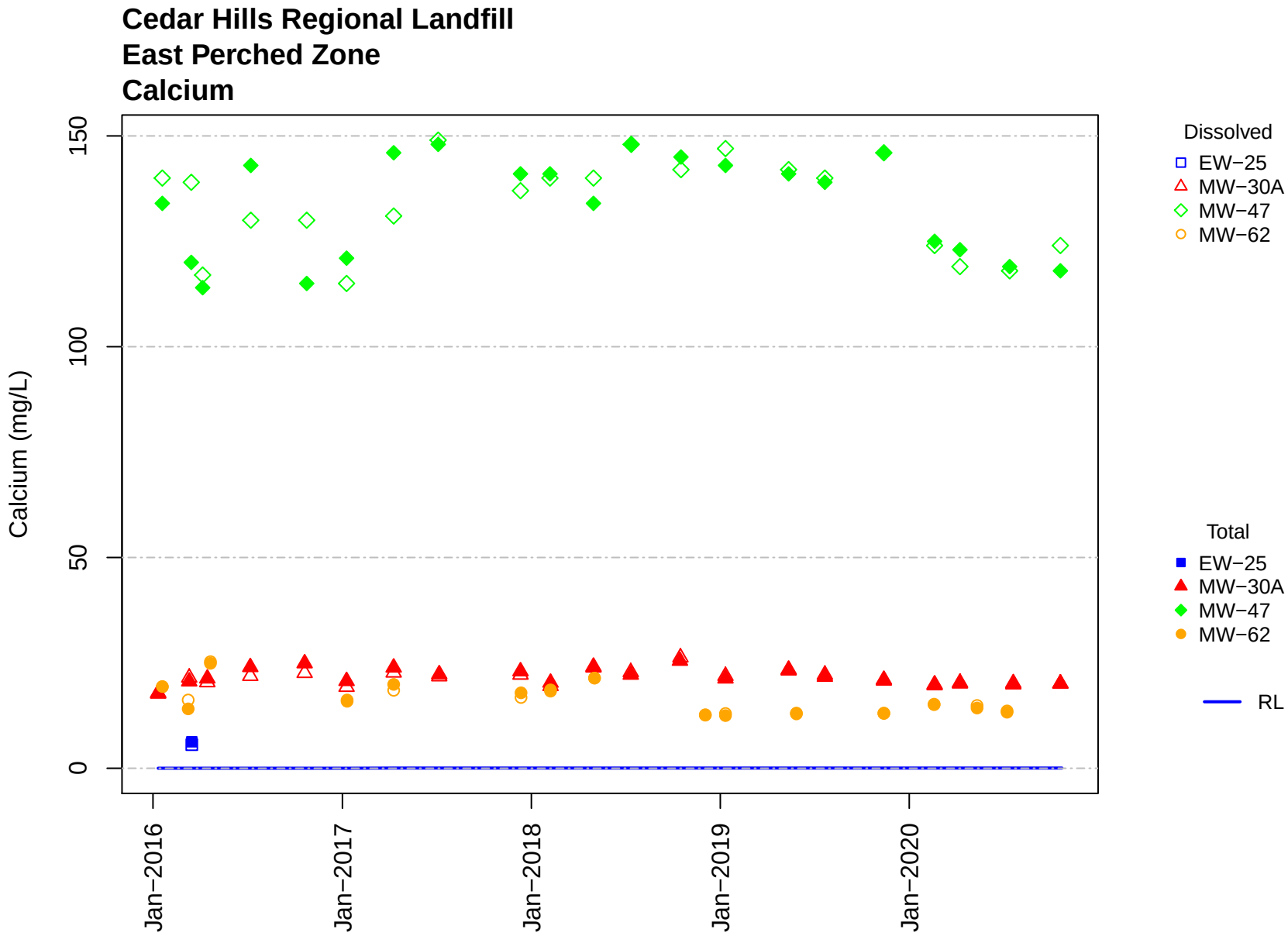

Cedar Hills Regional Landfill
South Perched Zone
Total Dissolved Solids
National Secondary MCL − 500 mg/L
Washington State Groundwater Criteria − 500 mg/L
TDS (mg/L)
0
200
400
600
Jan−2016
Jan−2017
Jan−2018
Jan−2019
Jan−2020
MW−101
RL
Standard

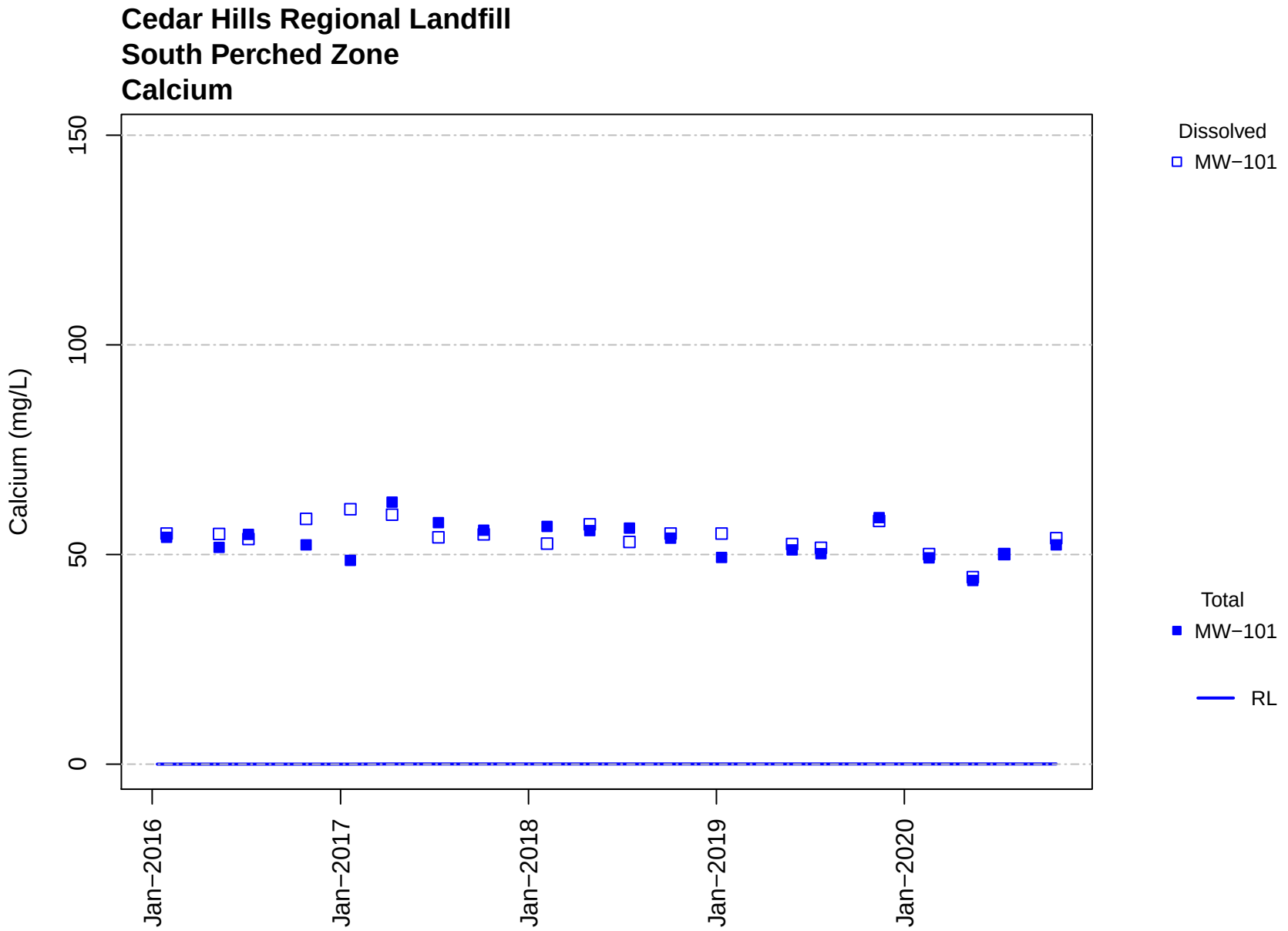

Cedar Hills Regional Landfill
East Perched Zone
Arsenic
Arsenic (mg/L)
0.000
0.002
0.004
0.006
0.008
0.010
0.012
0.014
National Primary MCL − 0.01 mg/L
Washington State Groundwater Criteria − 0.00005 mg/L
Jan−2016
Jan−2017
Jan−2018
Jan−2019
Jan−2020
Dissolved
EW−25
MW−30A
MW−47
MW−62
Total
EW−25
MW−30A
MW−47
MW−62
RL
Standard

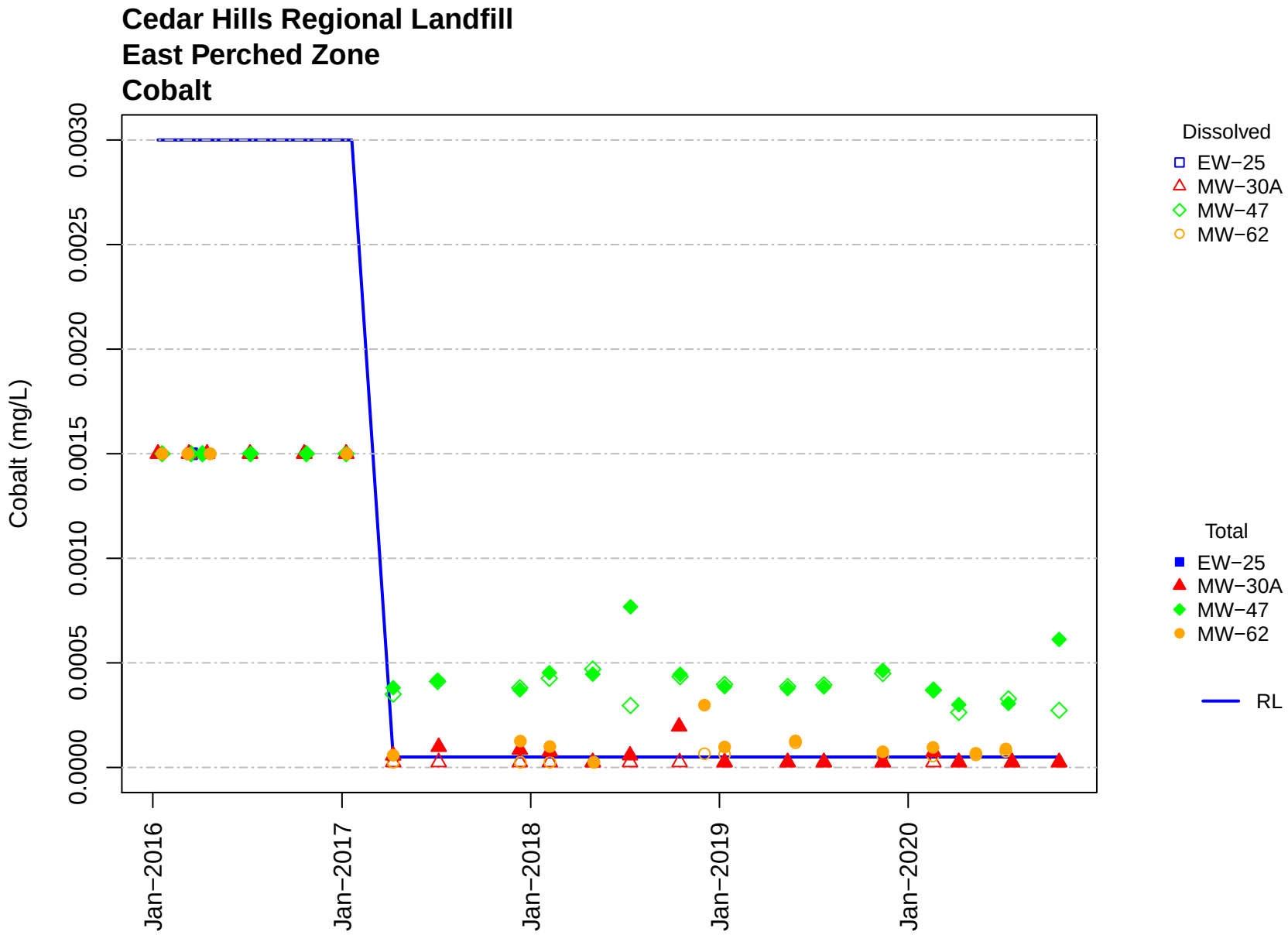

Cedar Hills Regional Landfill
South Perched Zone
Arsenic
Arsenic (mg/L)
0.000
0.002
0.004
0.006
0.008
0.010
0.012
0.014
National Primary MCL − 0.01 mg/L
Washington State Groundwater Criteria − 0.00005 mg/L
Jan−2016
Jan−2017
Jan−2018
Jan−2019
Jan−2020
Dissolved
MW−101
Total
MW−101
RL
Standard

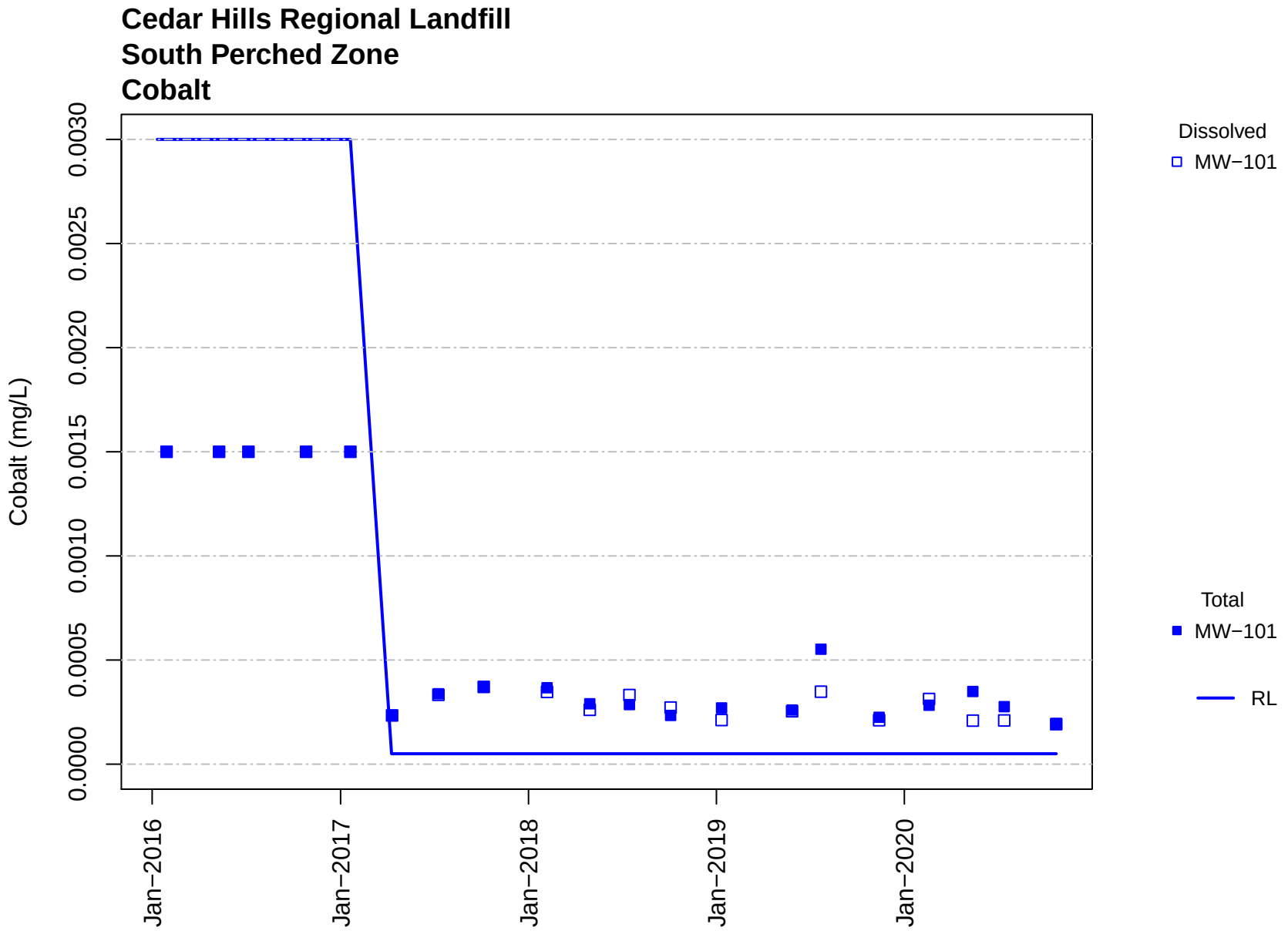

Cedar Hills Regional Landfill
East Perched Zone
Barium
National Primary MCL − 2 mg/L
Washington State Groundwater Criteria − 1 mg/L
Barium (mg/L)
0.0
0.5
1.0
1.5
2.0
Jan−2016
Jan−2017
Jan−2018
Jan−2019
Jan−2020
Dissolved
EW−25
MW−30A
MW−47
MW−62
Total
EW−25
MW−30A
MW−47
MW−62
RL
Standard

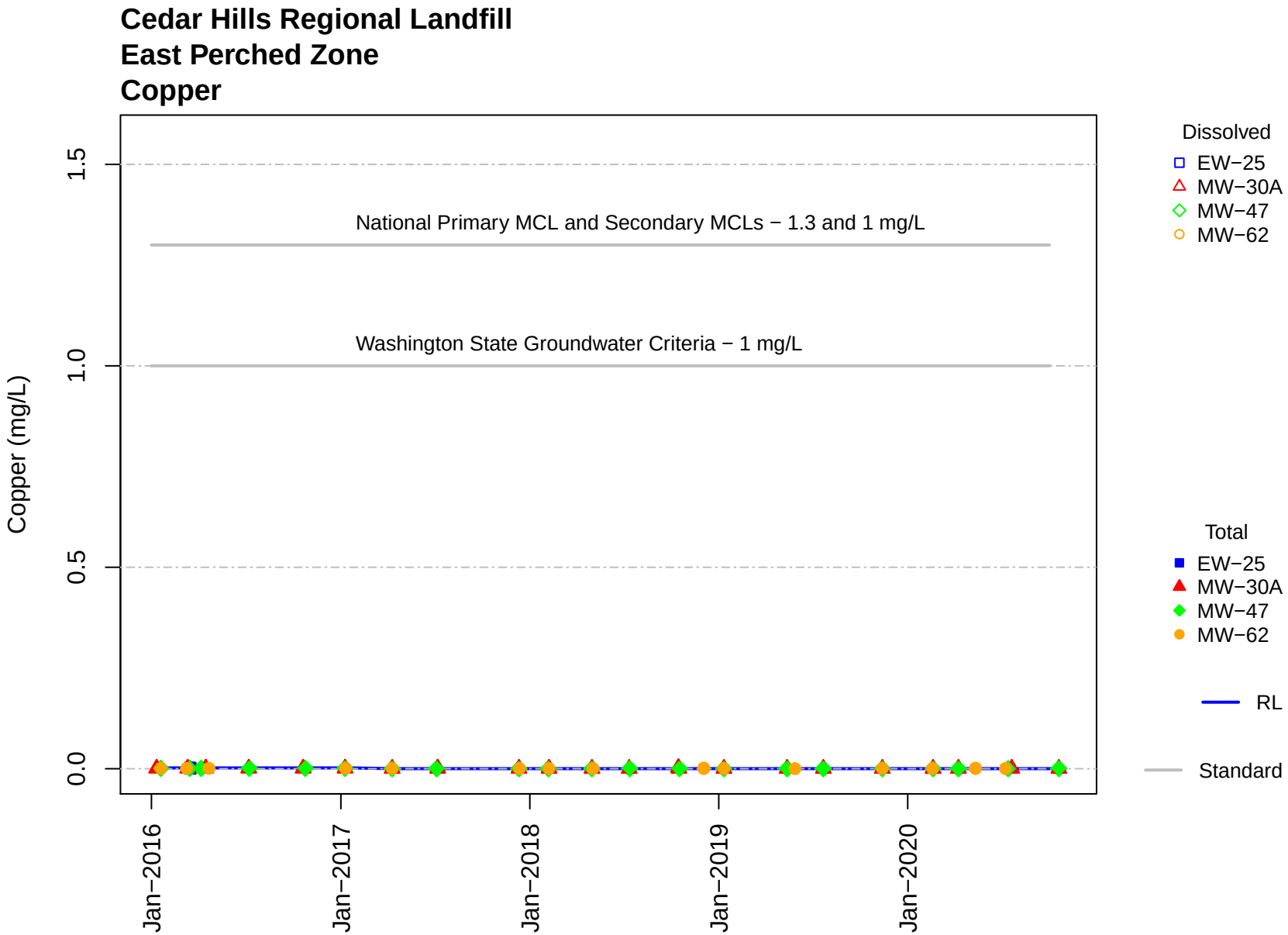

Cedar Hills Regional Landfill
South Perched Zone
Barium
Barium (mg/L)
0.0
0.5
1.0
1.5
2.0
National Primary MCL − 2 mg/L
Washington State Groundwater Criteria − 1 mg/L
Jan−2016
Jan−2017
Jan−2018
Jan−2019
Jan−2020
Dissolved
MW−101
Total
MW−101
RL
Standard

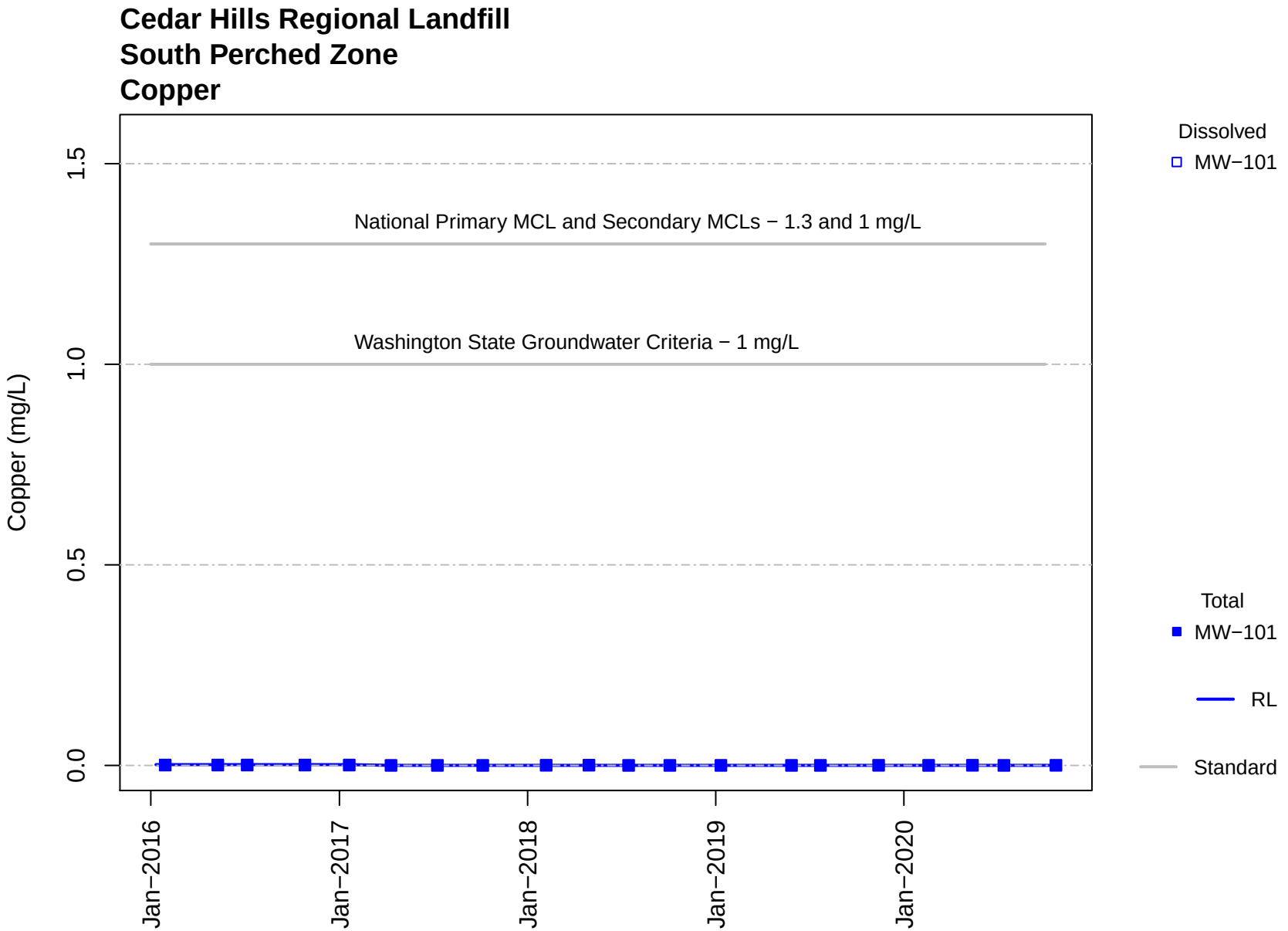

Cedar Hills Regional Landfill
East Perched Zone
Calcium
Calcium (mg/L)
0
50
100
150
Jan−2016
Jan−2017
Jan−2018
Jan−2019
Jan−2020
Dissolved
EW−25
MW−30A
MW−47
MW−62
Total
EW−25
MW−30A
MW−47
MW−62
RL

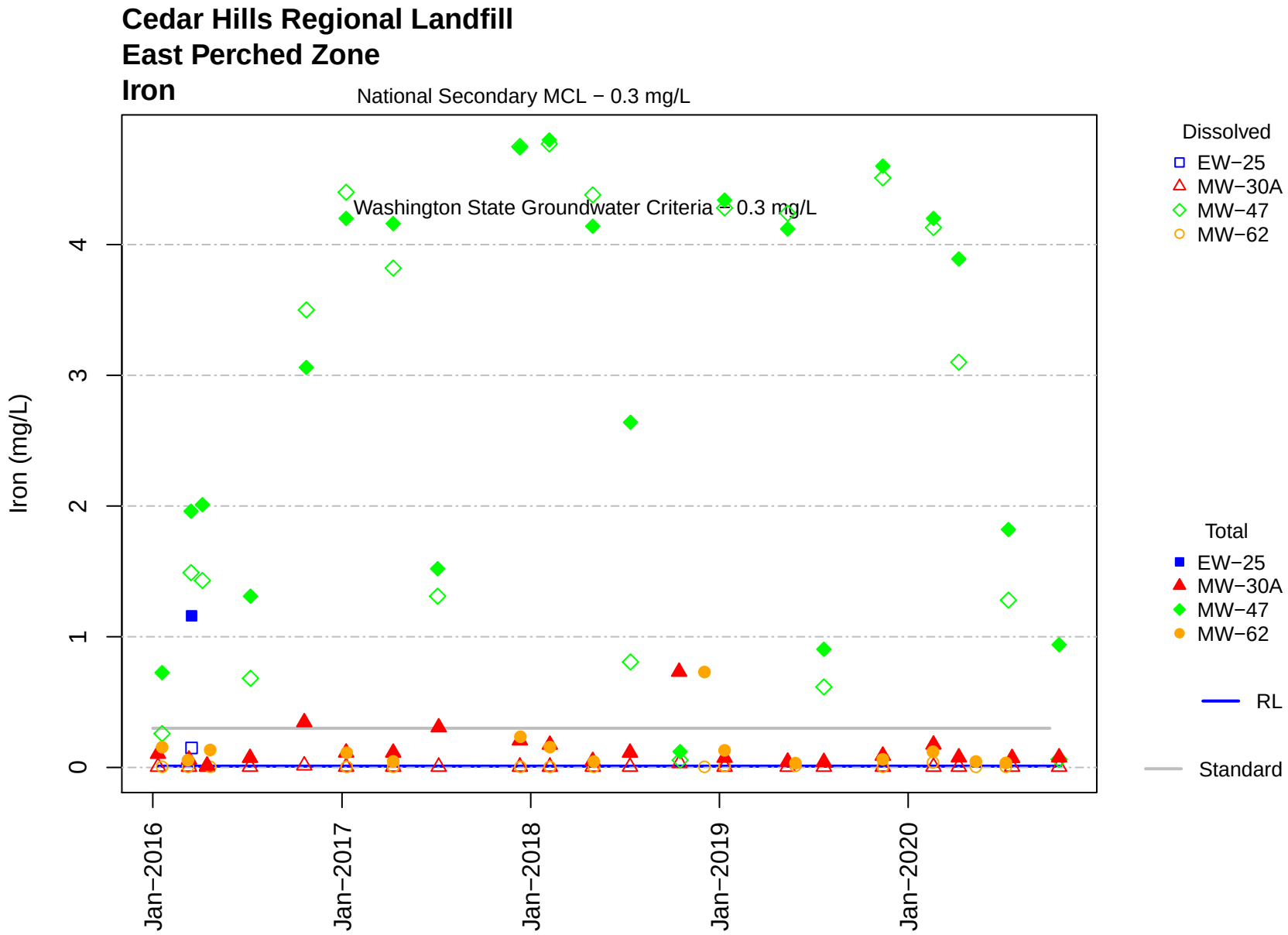

Cedar Hills Regional Landfill
South Perched Zone
Calcium
Calcium (mg/L)
150
100
50
0
Jan−2016
Jan−2017
Jan−2018
Jan−2019
Jan−2020
Dissolved
MW−101
Total
MW−101
RL

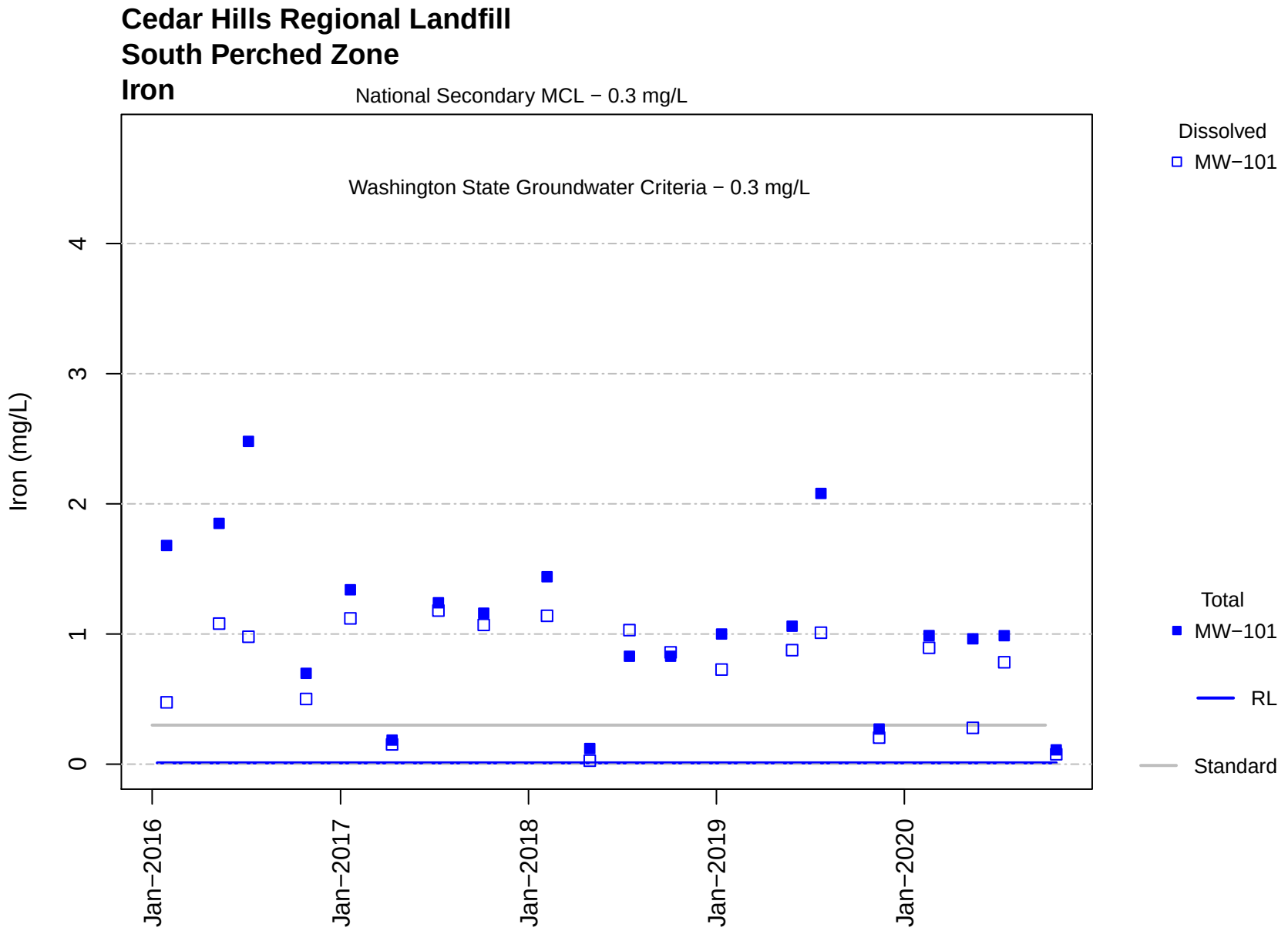

Cedar Hills Regional Landfill
East Perched Zone
Cobalt
Cobalt (mg/L)
0.0000
0.0005
0.0010
0.0015
0.0020
0.0025
0.0030
Jan−2016
Jan−2017
Jan−2018
Jan−2019
Jan−2020
Dissolved
EW−25
MW−30A
MW−47
MW−62
Total
EW−25
MW−30A
MW−47
MW−62
RL


Cedar Hills Regional Landfill
South Perched Zone
Cobalt
Cobalt (mg/L)
0.0000
0.0005
0.0010
0.0015
0.0020
0.0025
0.0030
Jan−2016
Jan−2017
Jan−2018
Jan−2019
Jan−2020
Dissolved
MW−101
Total
MW−101
RL

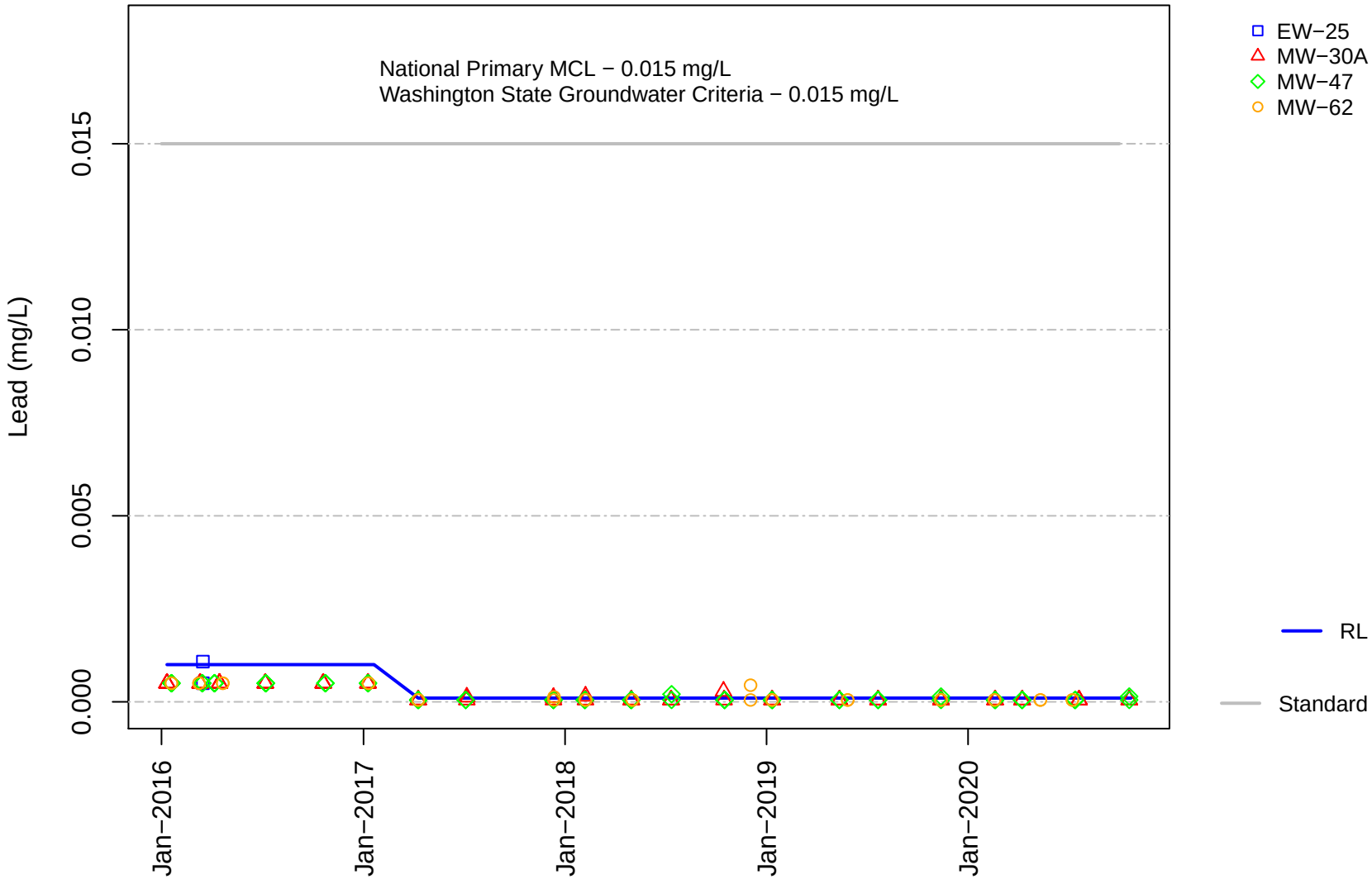

Cedar Hills Regional Landfill
East Perched Zone
Copper
Copper (mg/L)
1.5
1.0
0.5
0.0
National Primary MCL and Secondary MCLs − 1.3 and 1 mg/L
Washington State Groundwater Criteria − 1 mg/L
Jan−2016
Jan−2017
Jan−2018
Jan−2019
Jan−2020
Dissolved
EW−25
MW−30A
MW−47
MW−62
Total
EW−25
MW−30A
MW−47
MW−62
RL
Standard

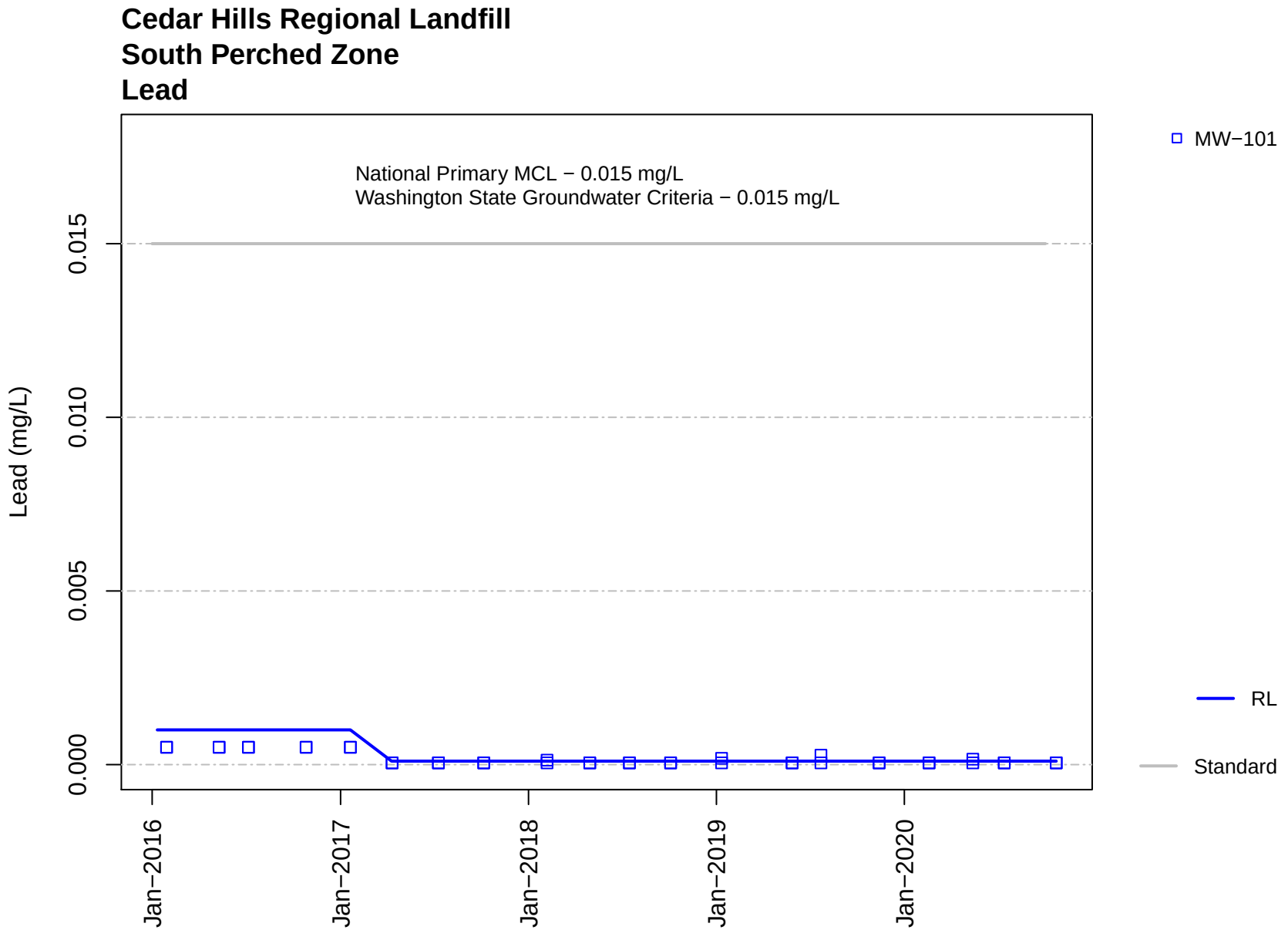

Cedar Hills Regional Landfill
South Perched Zone
Copper
Copper (mg/L)
0.0
0.5
1.0
1.5
National Primary MCL and Secondary MCLs − 1.3 and 1 mg/L
Washington State Groundwater Criteria − 1 mg/L
Jan−2016
Jan−2017
Jan−2018
Jan−2019
Jan−2020
Dissolved
MW−101
Total
MW−101
RL
Standard

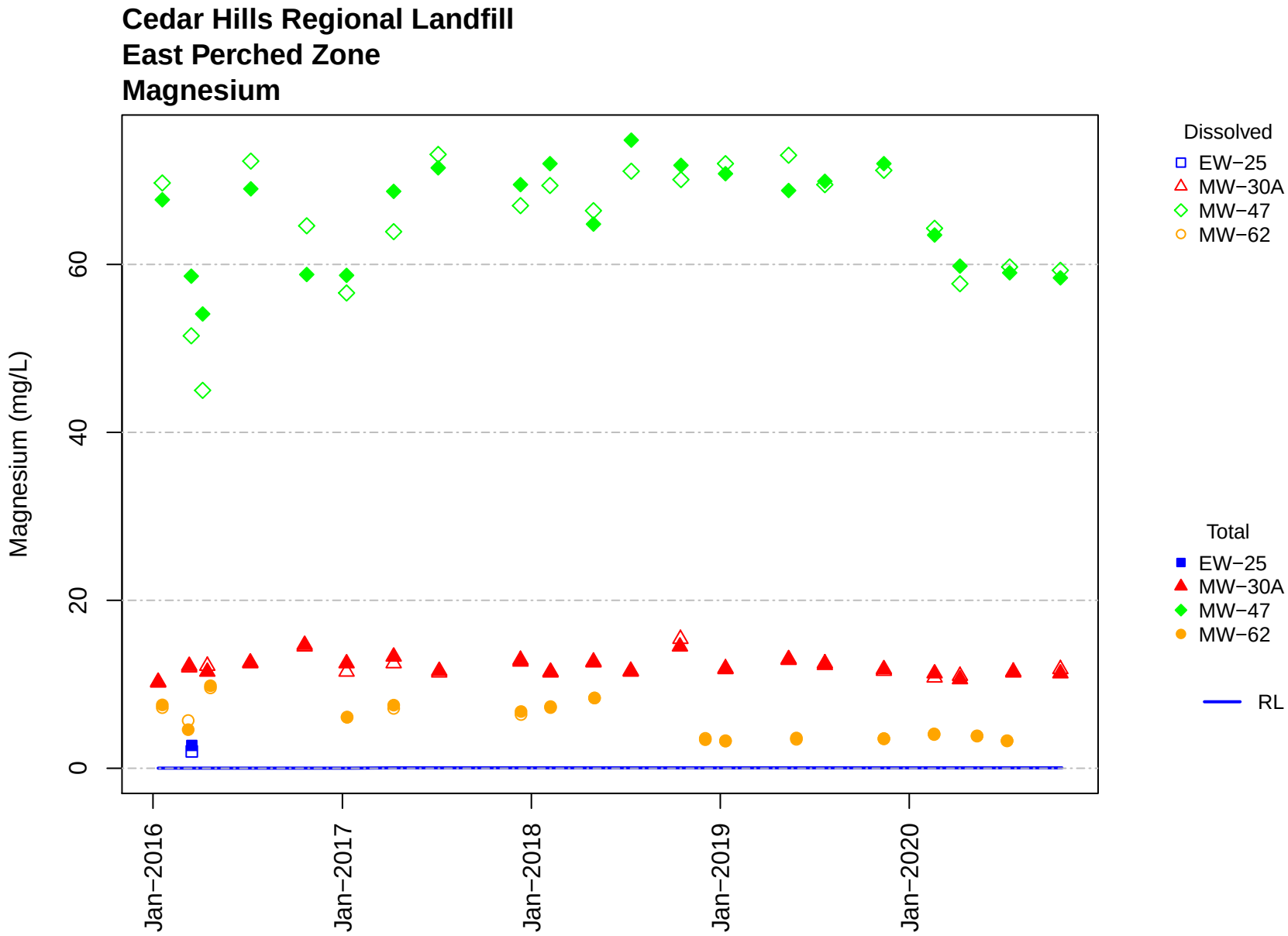

Cedar Hills Regional Landfill
East Perched Zone
Iron
National Secondary MCL − 0.3 mg/L
Washington State Groundwater Criteria − 0.3 mg/L
Iron (mg/L)
0
1
2
3
4
Jan−2016
Jan−2017
Jan−2018
Jan−2019
Jan−2020
Dissolved
EW−25
MW−30A
MW−47
MW−62
Total
EW−25
MW−30A
MW−47
MW−62
RL
Standard

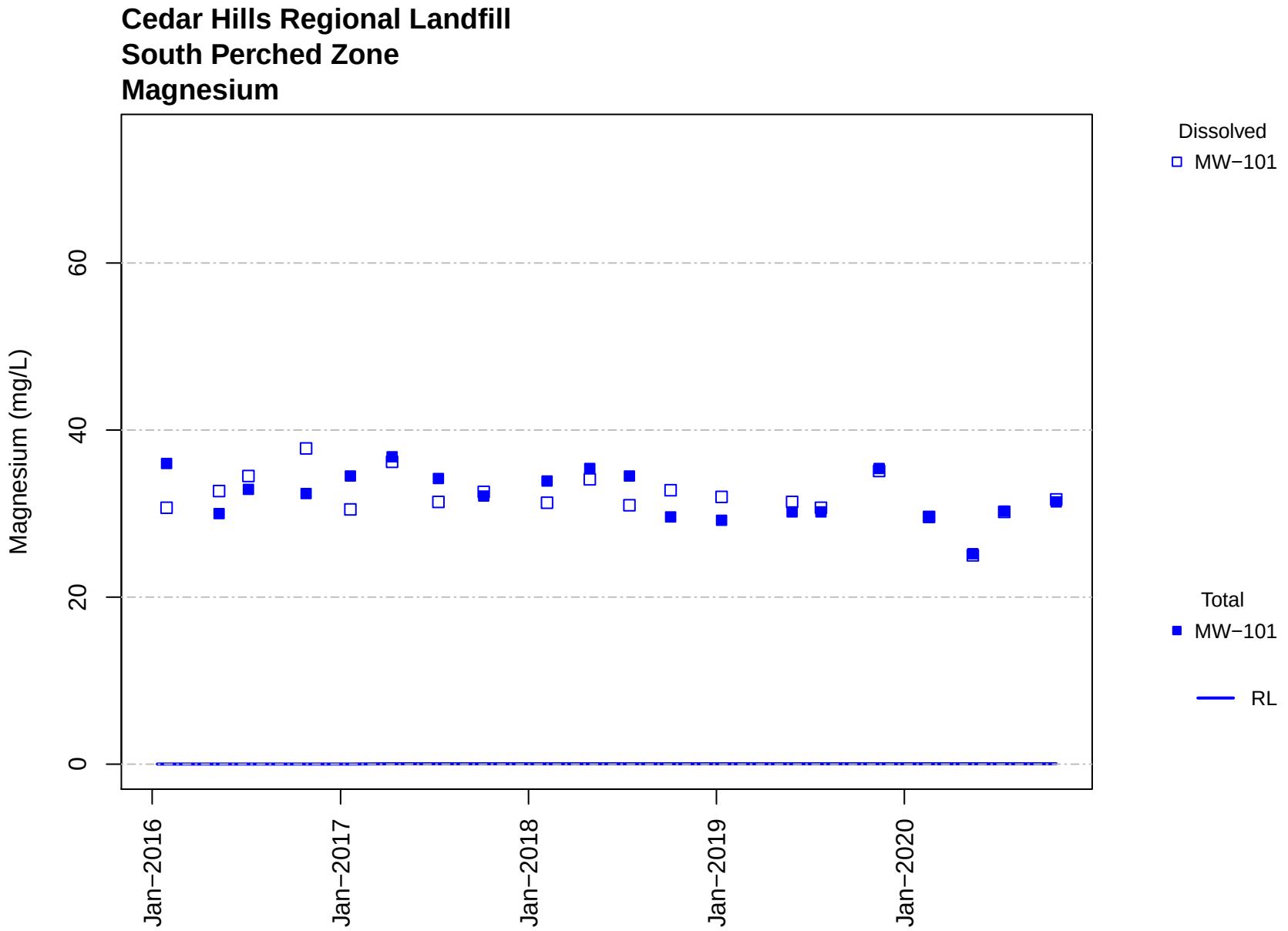

Cedar Hills Regional Landfill
South Perched Zone
Iron
National Secondary MCL − 0.3 mg/L
Washington State Groundwater Criteria − 0.3 mg/L
Iron (mg/L)
0
1
2
3
4
Jan−2016
Jan−2017
Jan−2018
Jan−2019
Jan−2020
Dissolved
MW−101
Total
MW−101
RL
Standard

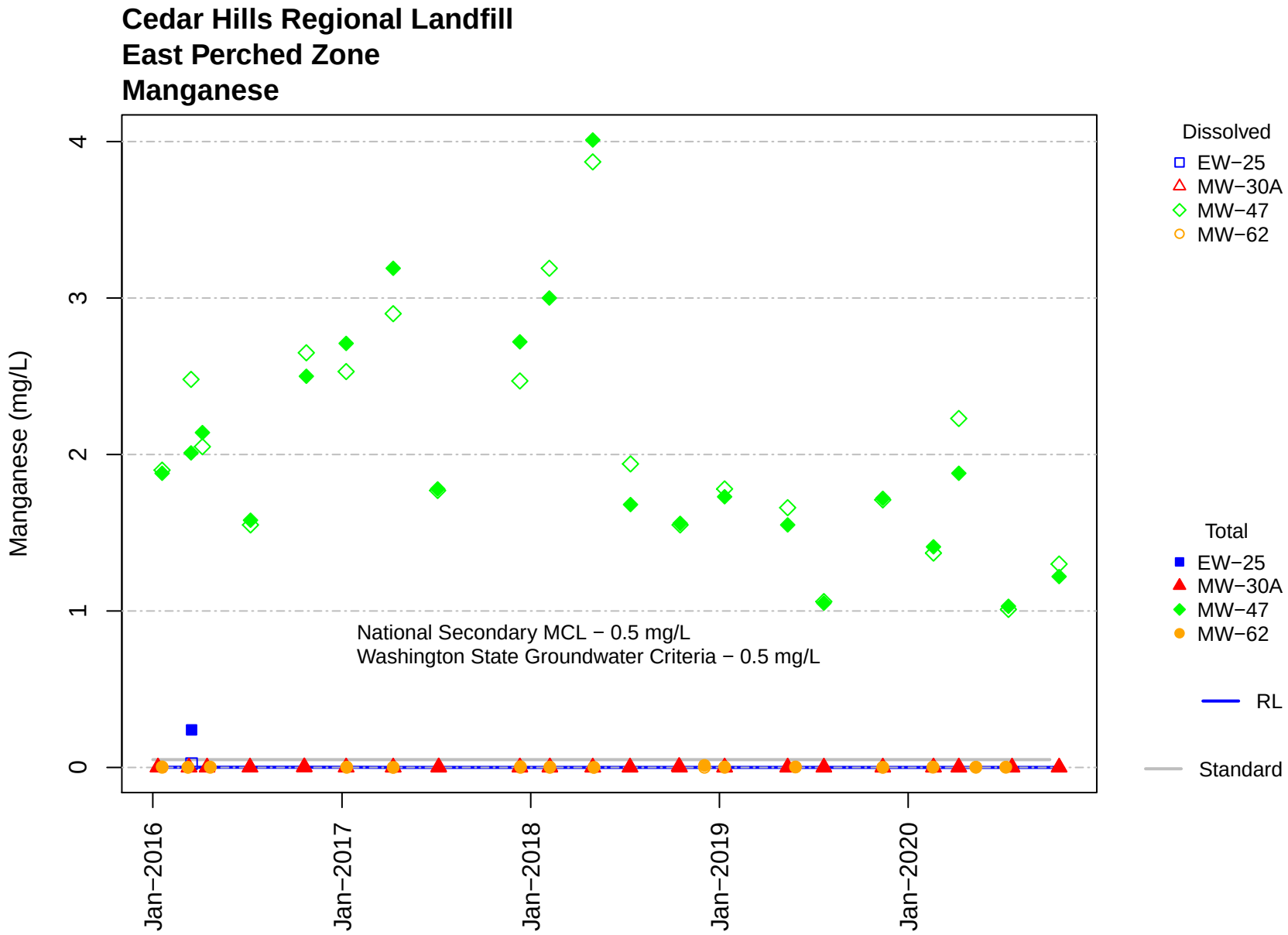
Cedar Hills Regional Landfill
East Perched Zone
Lead

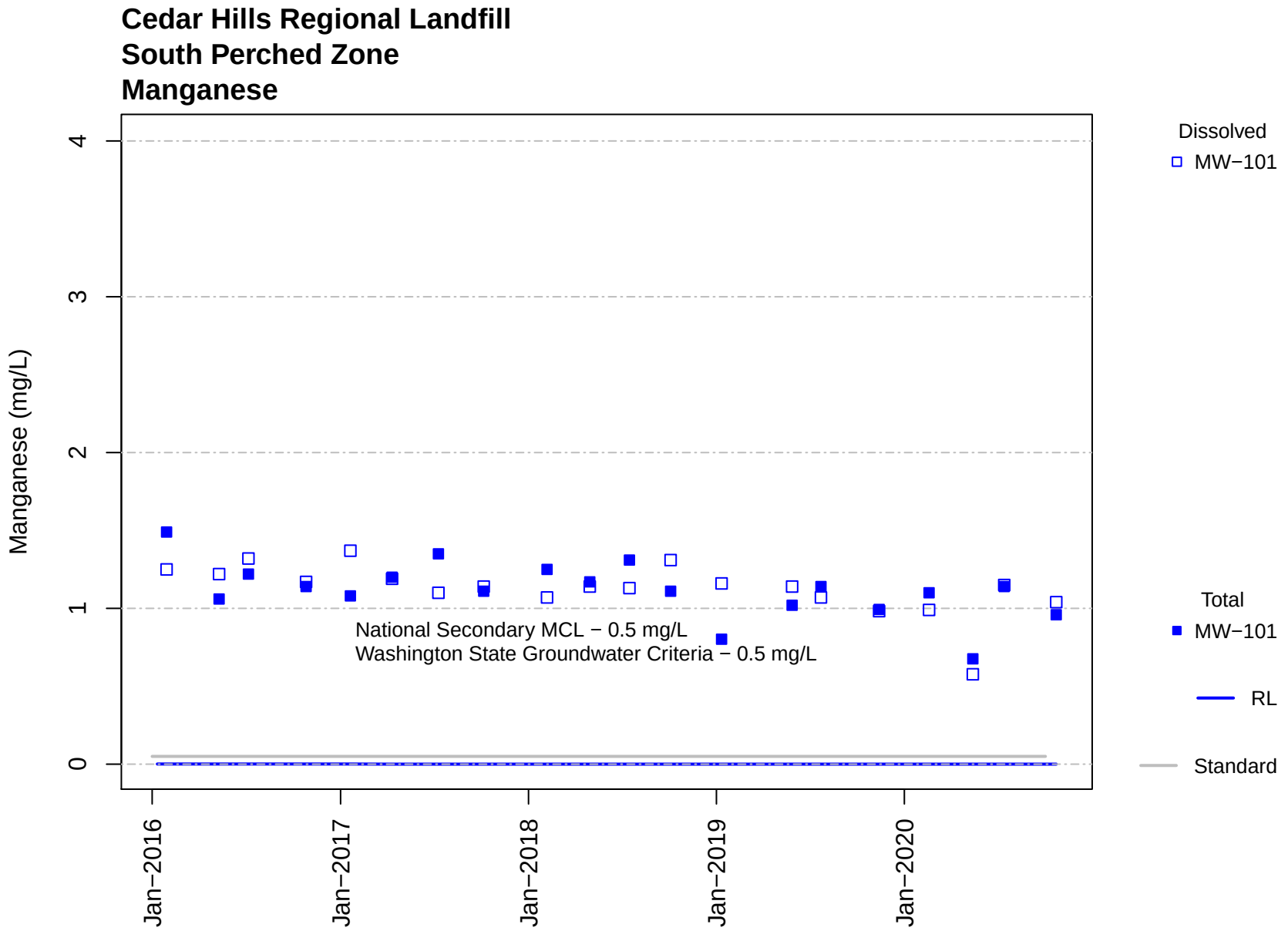


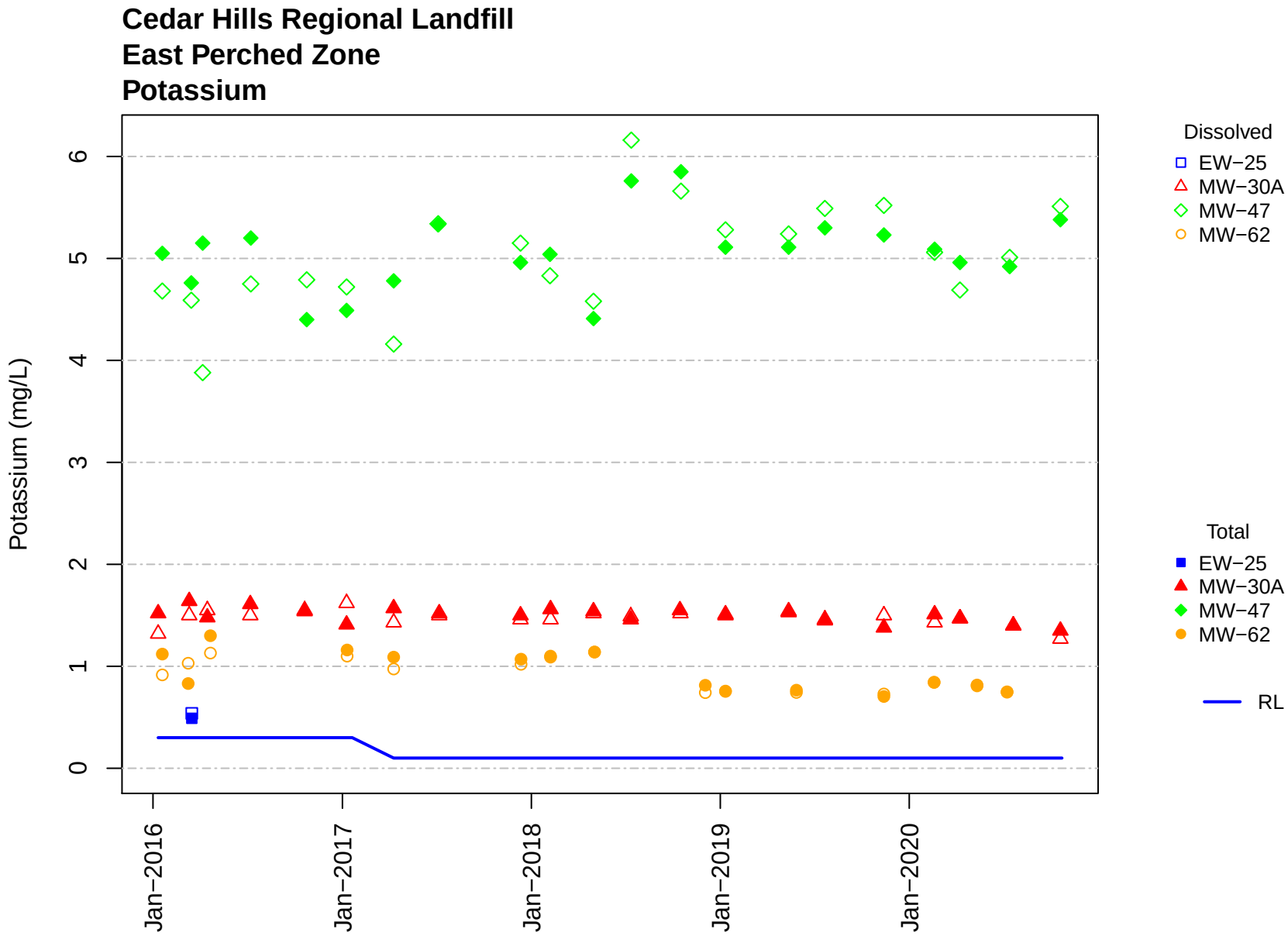

Cedar Hills Regional Landfill
South Perched Zone
Lead
National Primary MCL − 0.015 mg/L
Washington State Groundwater Criteria − 0.015 mg/L
Lead (mg/L)
0.000
0.005
0.010
0.015
Jan−2016
Jan−2017
Jan−2018
Jan−2019
Jan−2020
MW−101
RL
Standard

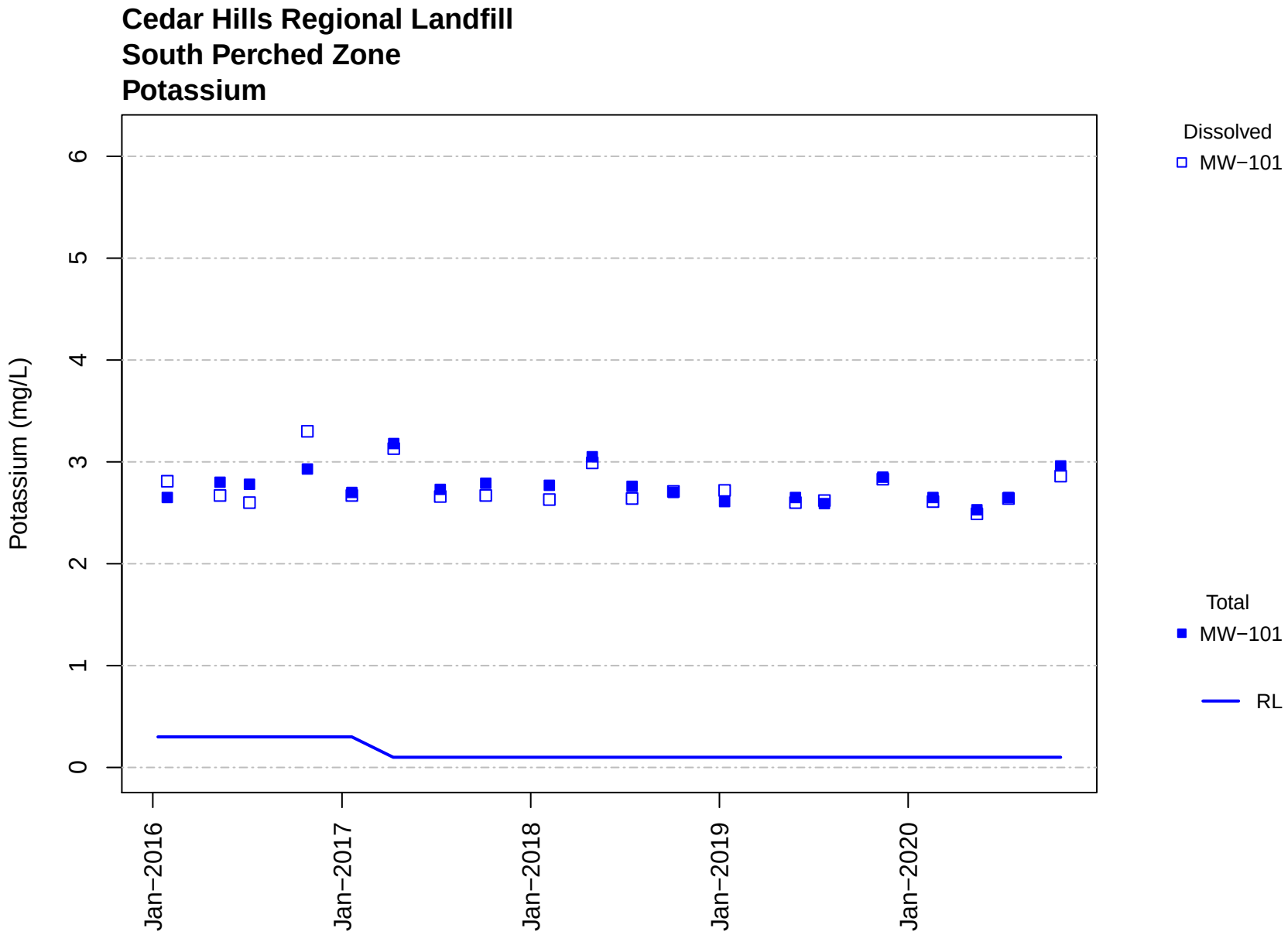

Cedar Hills Regional Landfill
East Perched Zone
Magnesium
Magnesium (mg/L)
0
20
40
60
Jan−2016
Jan−2017
Jan−2018
Jan−2019
Jan−2020
Dissolved
EW−25
MW−30A
MW−47
MW−62
Total
EW−25
MW−30A
MW−47
MW−62
RL

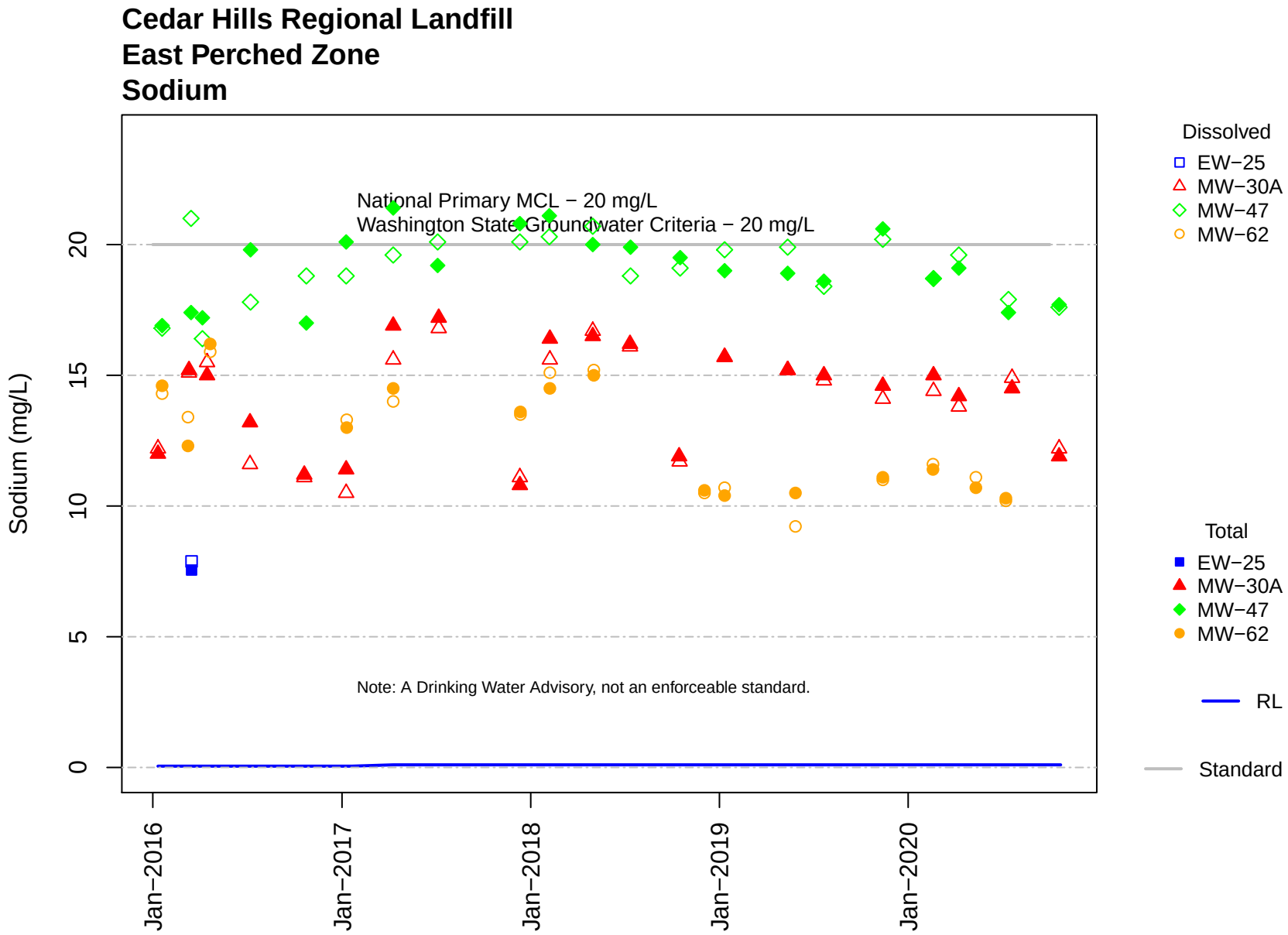

Cedar Hills Regional Landfill
South Perched Zone
Magnesium
Magnesium (mg/L)
0
20
40
60
Jan−2016
Jan−2017
Jan−2018
Jan−2019
Jan−2020
Dissolved
MW−101
Total
MW−101
RL

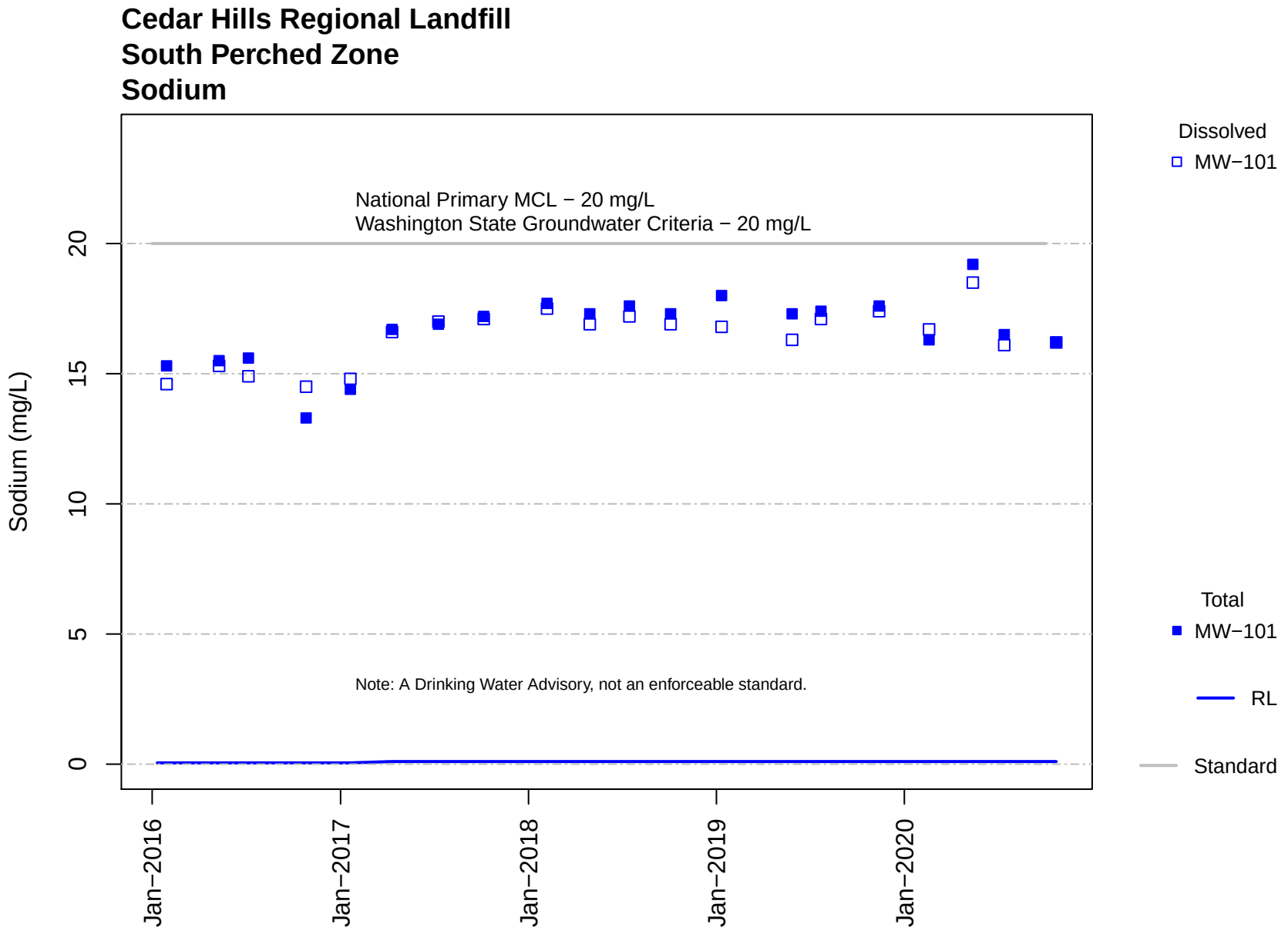

Cedar Hills Regional Landfill
East Perched Zone
Manganese
Manganese (mg/L)
0
1
2
3
4
Jan−2016
Jan−2017
Jan−2018
Jan−2019
Jan−2020
National Secondary MCL − 0.5 mg/L
Washington State Groundwater Criteria − 0.5 mg/L
Dissolved
EW−25
MW−30A
MW−47
MW−62
Total
EW−25
MW−30A
MW−47
MW−62
RL
Standard

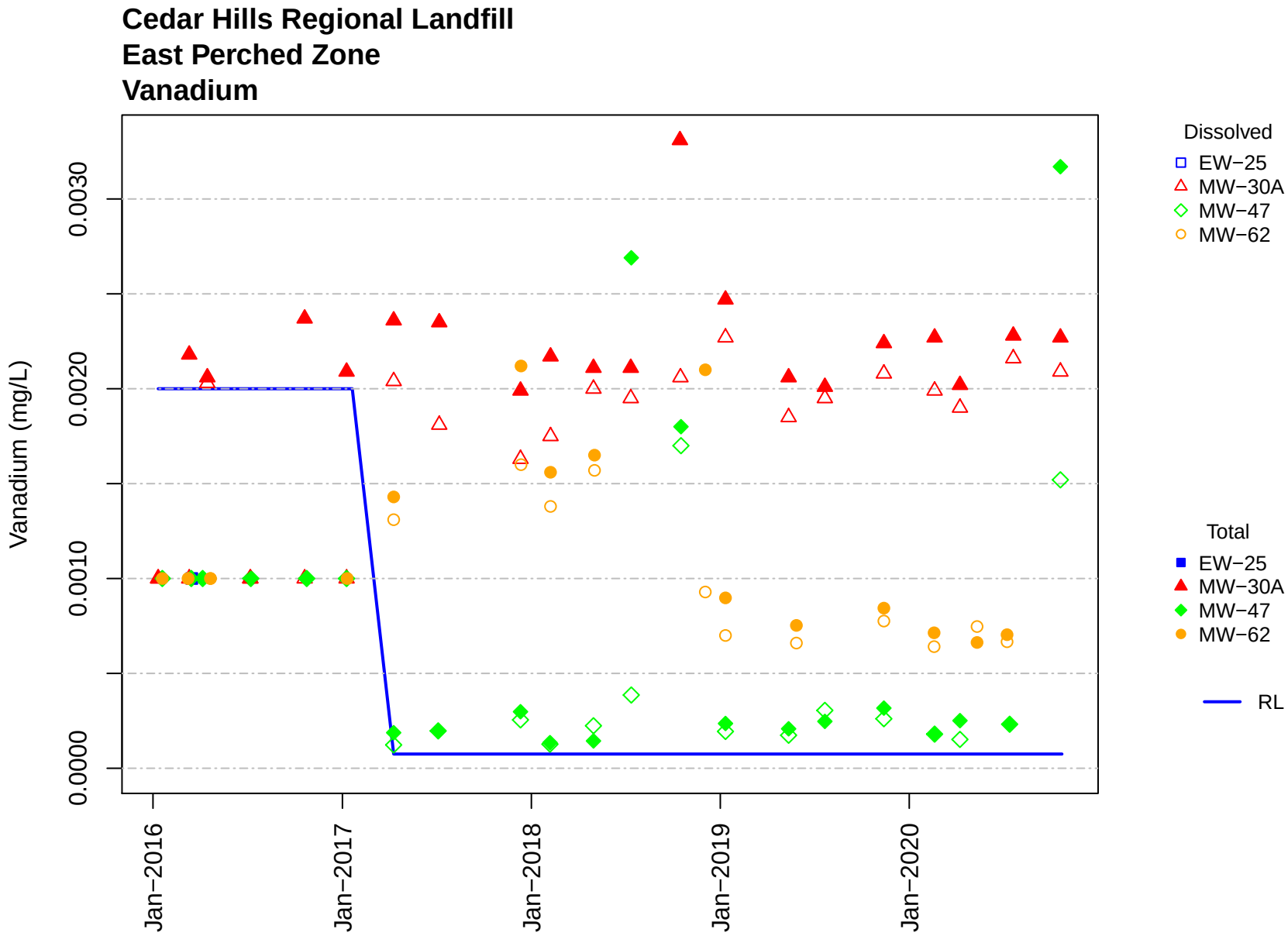

Cedar Hills Regional Landfill
South Perched Zone
Manganese
Manganese (mg/L)
0
1
2
3
4
Jan−2016
Jan−2017
Jan−2018
Jan−2019
Jan−2020
National Secondary MCL − 0.5 mg/L
Washington State Groundwater Criteria − 0.5 mg/L
Dissolved
MW−101
Total
MW−101
RL
Standard

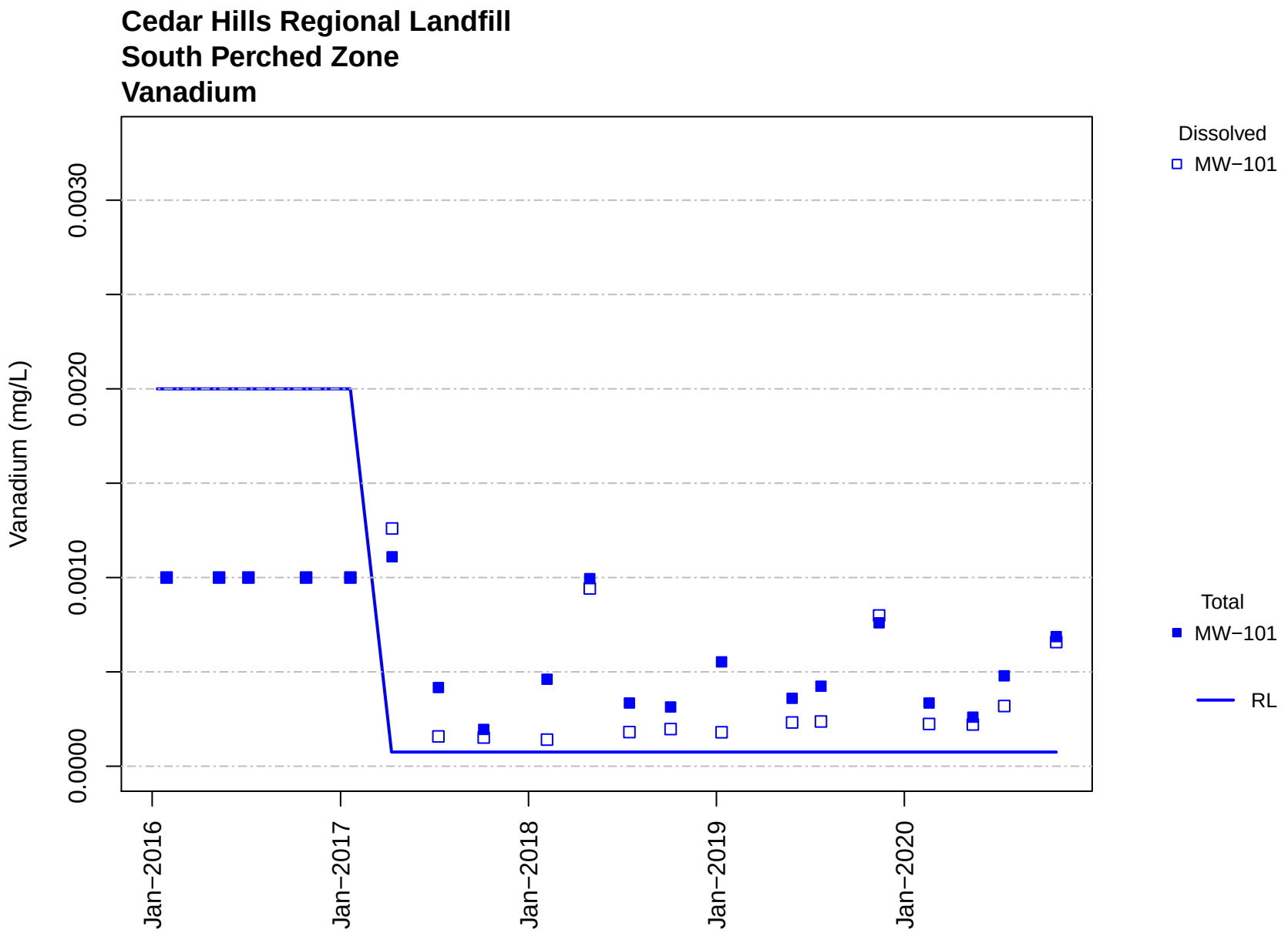

Cedar Hills Regional Landfill
East Perched Zone
Potassium
Potassium (mg/L)
0
1
2
3
4
5
6
Jan−2016
Jan−2017
Jan−2018
Jan−2019
Jan−2020
Dissolved
EW−25
MW−30A
MW−47
MW−62
Total
EW−25
MW−30A
MW−47
MW−62
RL


Cedar Hills Regional Landfill
South Perched Zone
Potassium
Potassium (mg/L)
0
1
2
3
4
5
6
Jan−2016
Jan−2017
Jan−2018
Jan−2019
Jan−2020
Dissolved
MW−101
Total
MW−101
RL

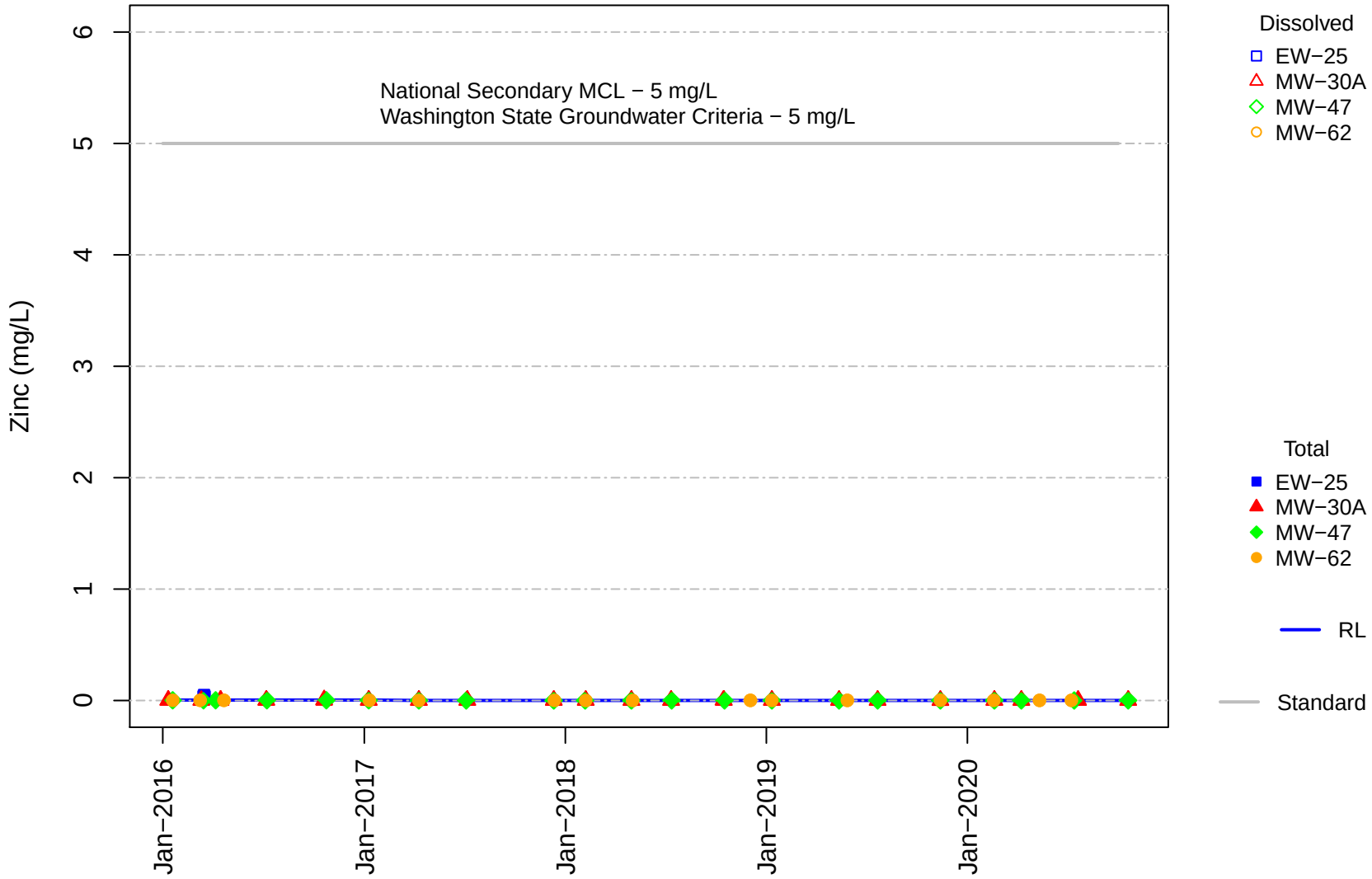

Cedar Hills Regional Landfill
East Perched Zone
Sodium
National Primary MCL − 20 mg/L
Washington State Groundwater Criteria − 20 mg/L
Note: A Drinking Water Advisory, not an enforceable standard.
Sodium (mg/L)
0
5
10
15
20
Jan−2016
Jan−2017
Jan−2018
Jan−2019
Jan−2020
Dissolved
EW−25
MW−30A
MW−47
MW−62
Total
EW−25
MW−30A
MW−47
MW−62
RL
Standard

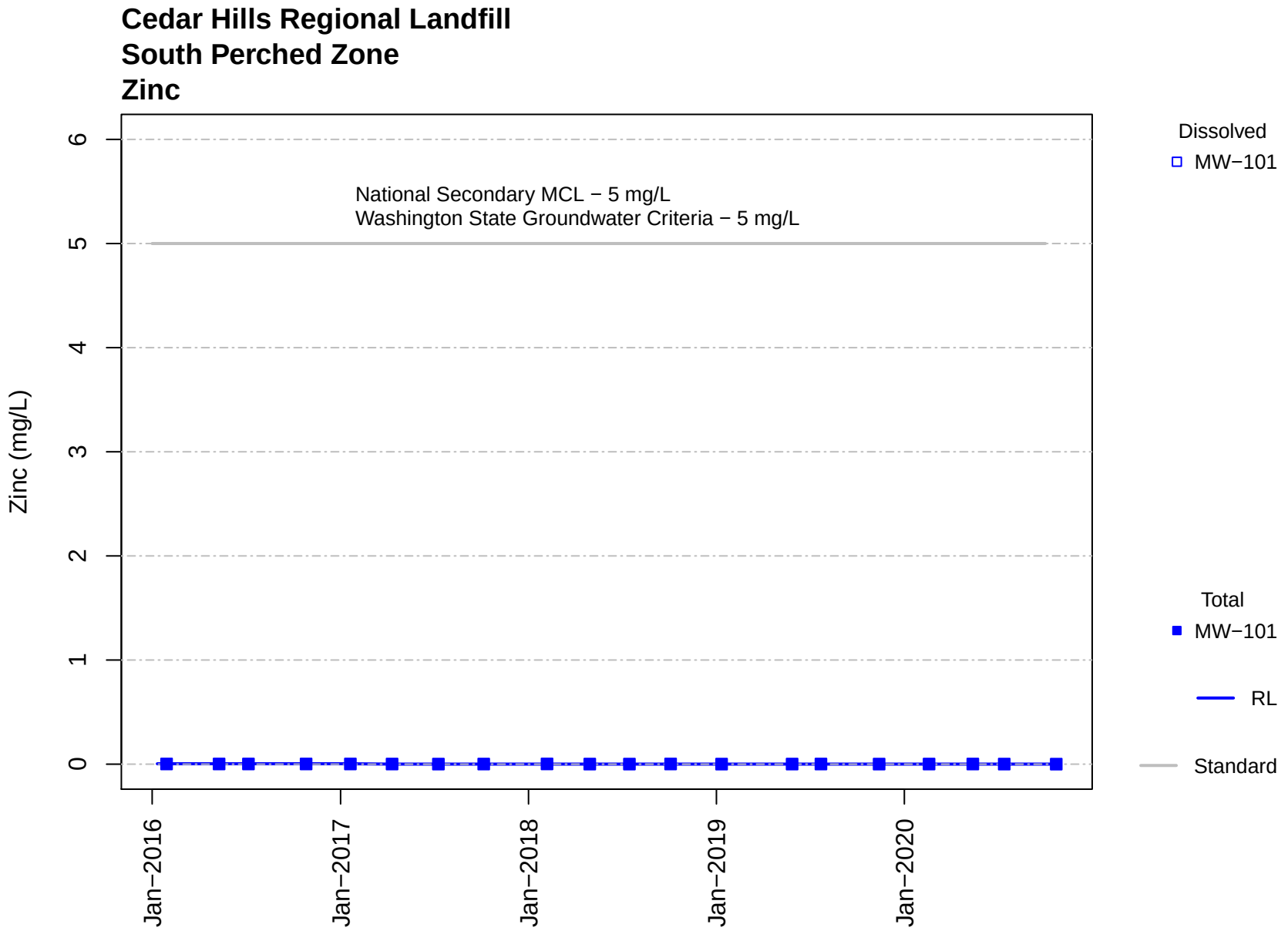

Cedar Hills Regional Landfill
South Perched Zone
Sodium
National Primary MCL − 20 mg/L
Washington State Groundwater Criteria − 20 mg/L
Note: A Drinking Water Advisory, not an enforceable standard.
Sodium (mg/L)
0
5
10
15
20
Jan−2016
Jan−2017
Jan−2018
Jan−2019
Jan−2020
Dissolved
MW−101
Total
MW−101
RL
Standard

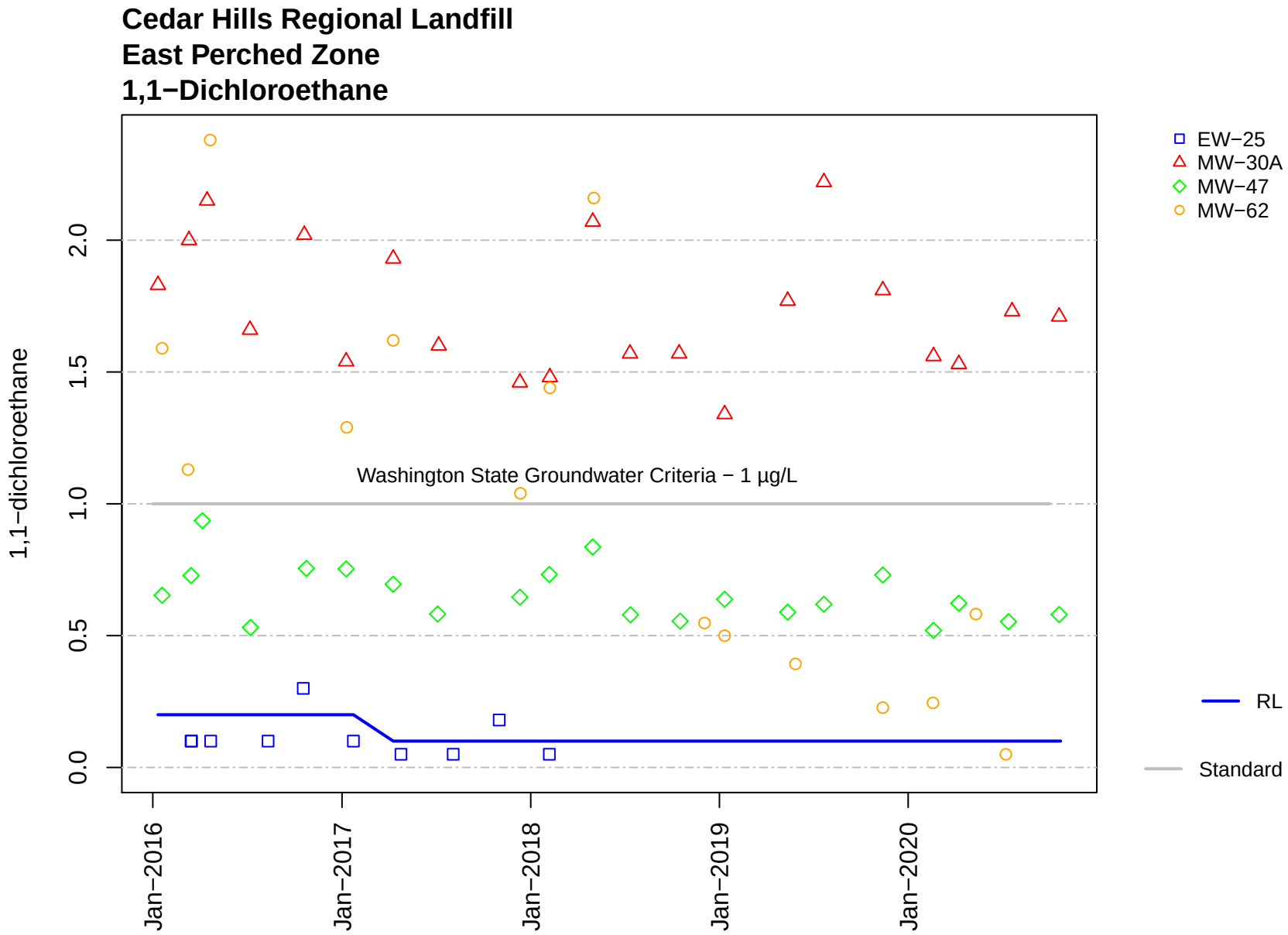

Cedar Hills Regional Landfill
East Perched Zone
Vanadium
Vanadium (mg/L)
0.0000
0.0010
0.0020
0.0030
Jan−2016
Jan−2017
Jan−2018
Jan−2019
Jan−2020
Dissolved
EW−25
MW−30A
MW−47
MW−62
Total
EW−25
MW−30A
MW−47
MW−62
RL

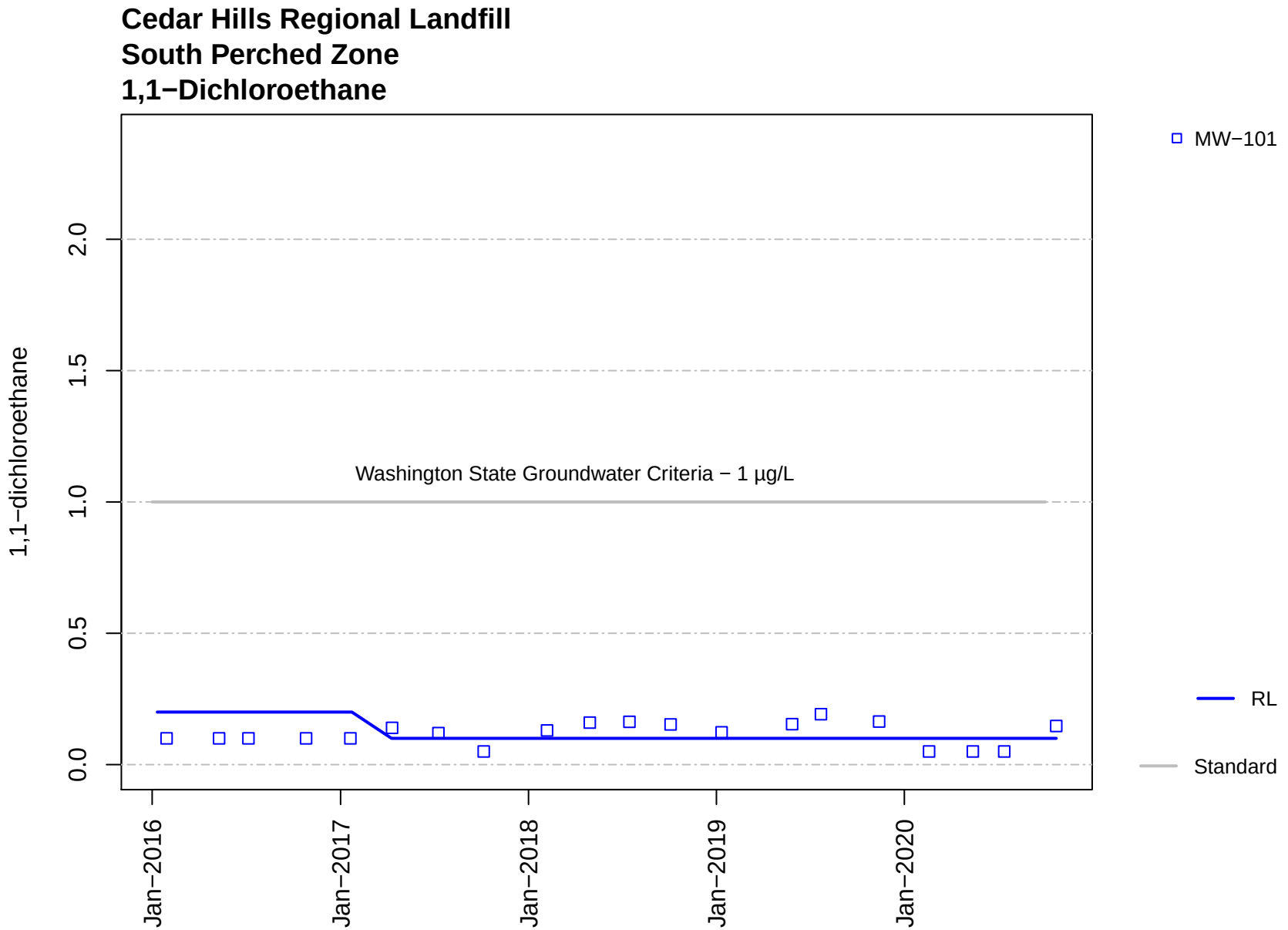

Cedar Hills Regional Landfill
South Perched Zone
Vanadium
Vanadium (mg/L)
0.0000
0.0010
0.0020
0.0030
Jan−2016
Jan−2017
Jan−2018
Jan−2019
Jan−2020
Dissolved
MW−101
Total
MW−101
RL

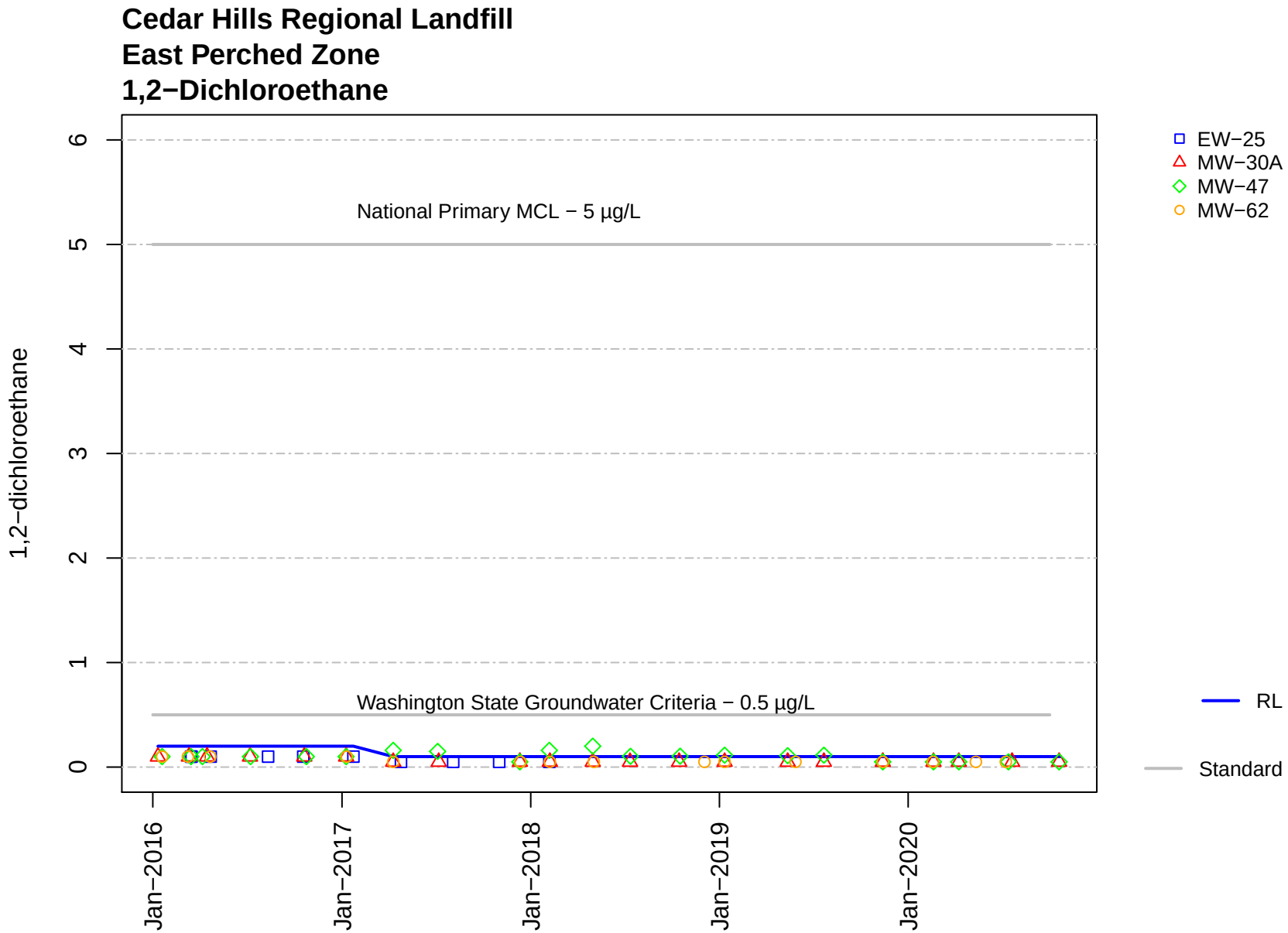
Cedar Hills Regional Landfill
East Perched Zone
Zinc

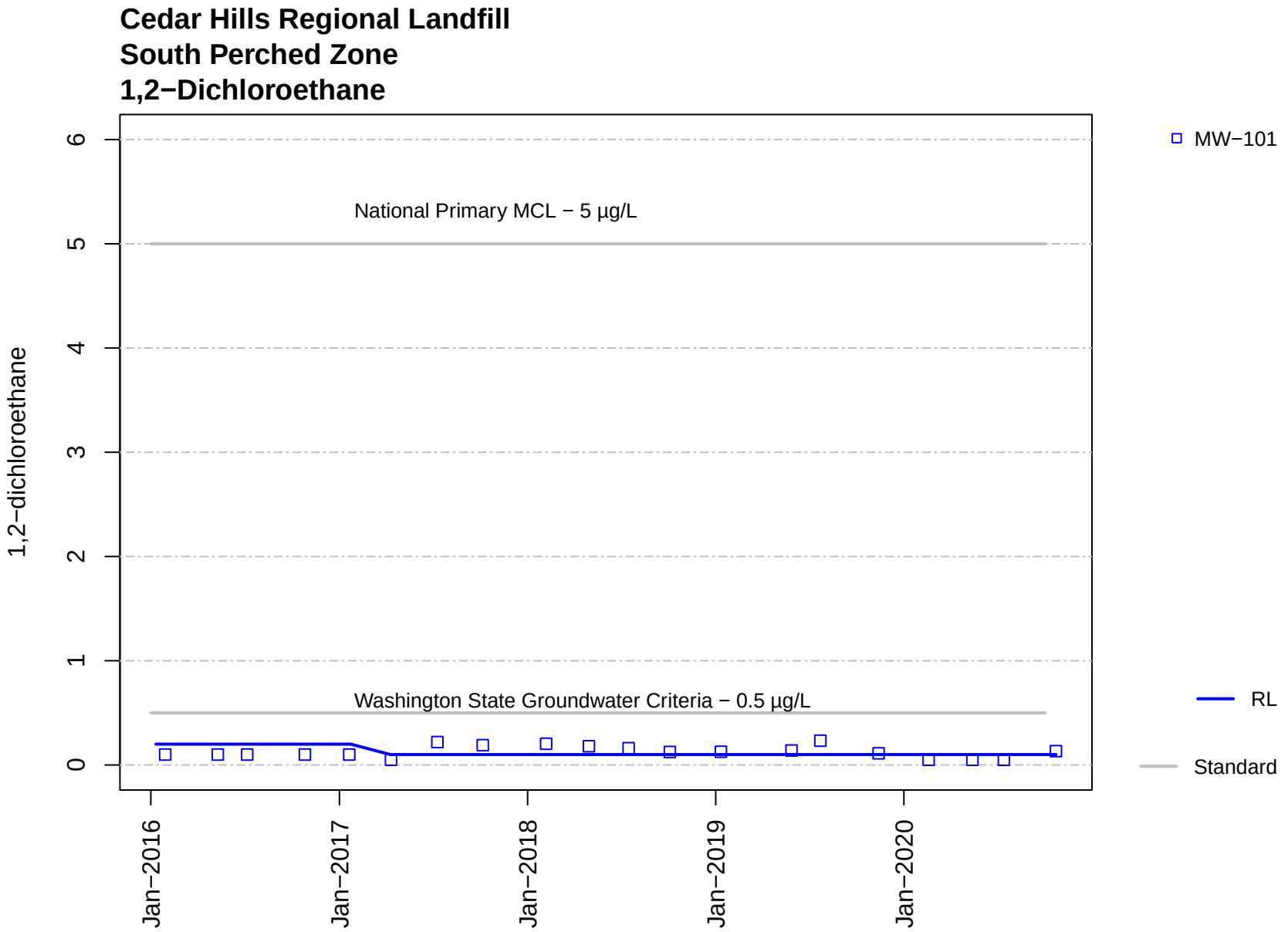


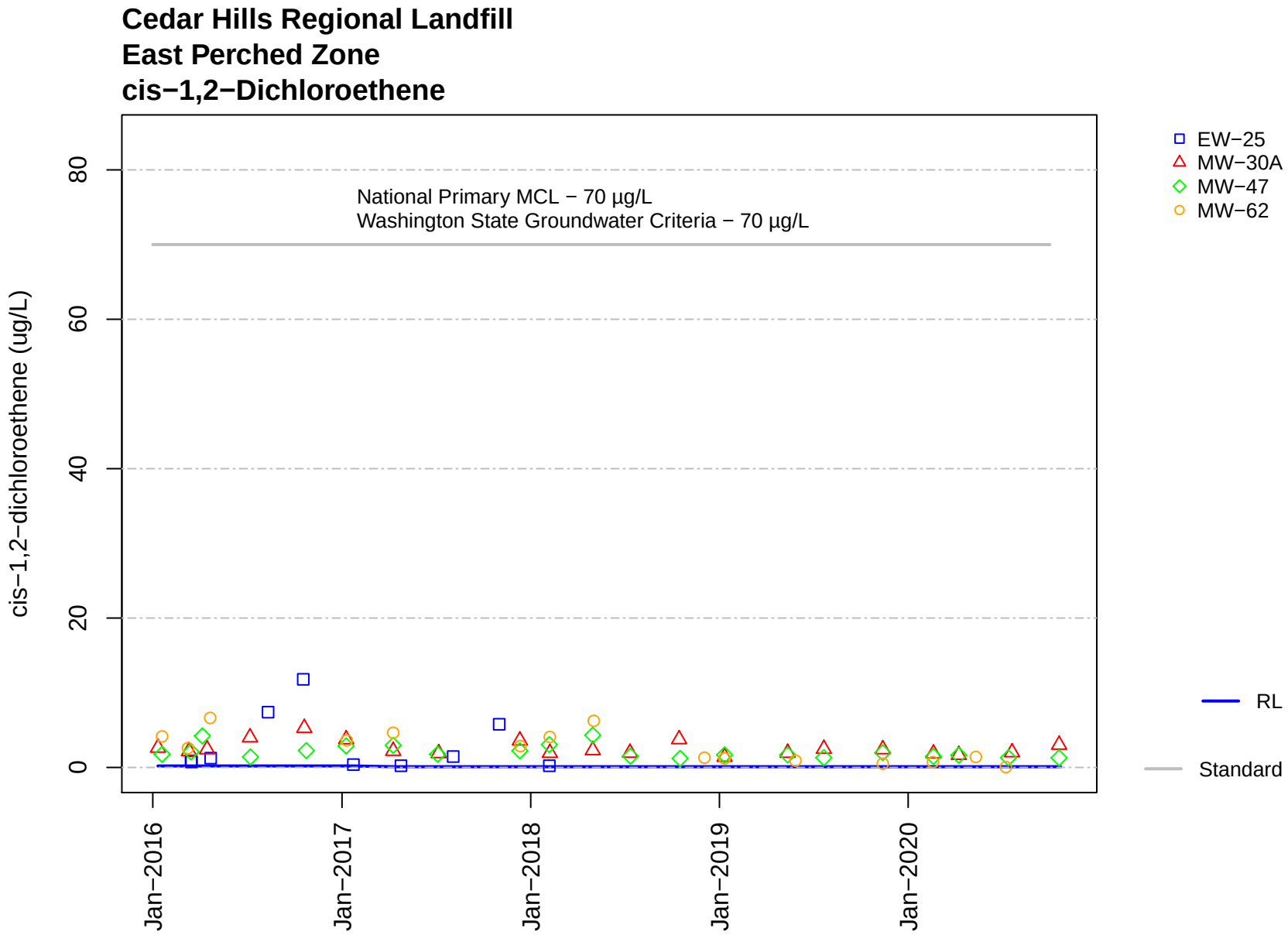

Cedar Hills Regional Landfill
South Perched Zone
Zinc
Zinc (mg/L)
0
1
2
3
4
5
6
National Secondary MCL − 5 mg/L
Washington State Groundwater Criteria − 5 mg/L
Jan−2016
Jan−2017
Jan−2018
Jan−2019
Jan−2020
Dissolved
MW−101
Total
MW−101
RL
Standard

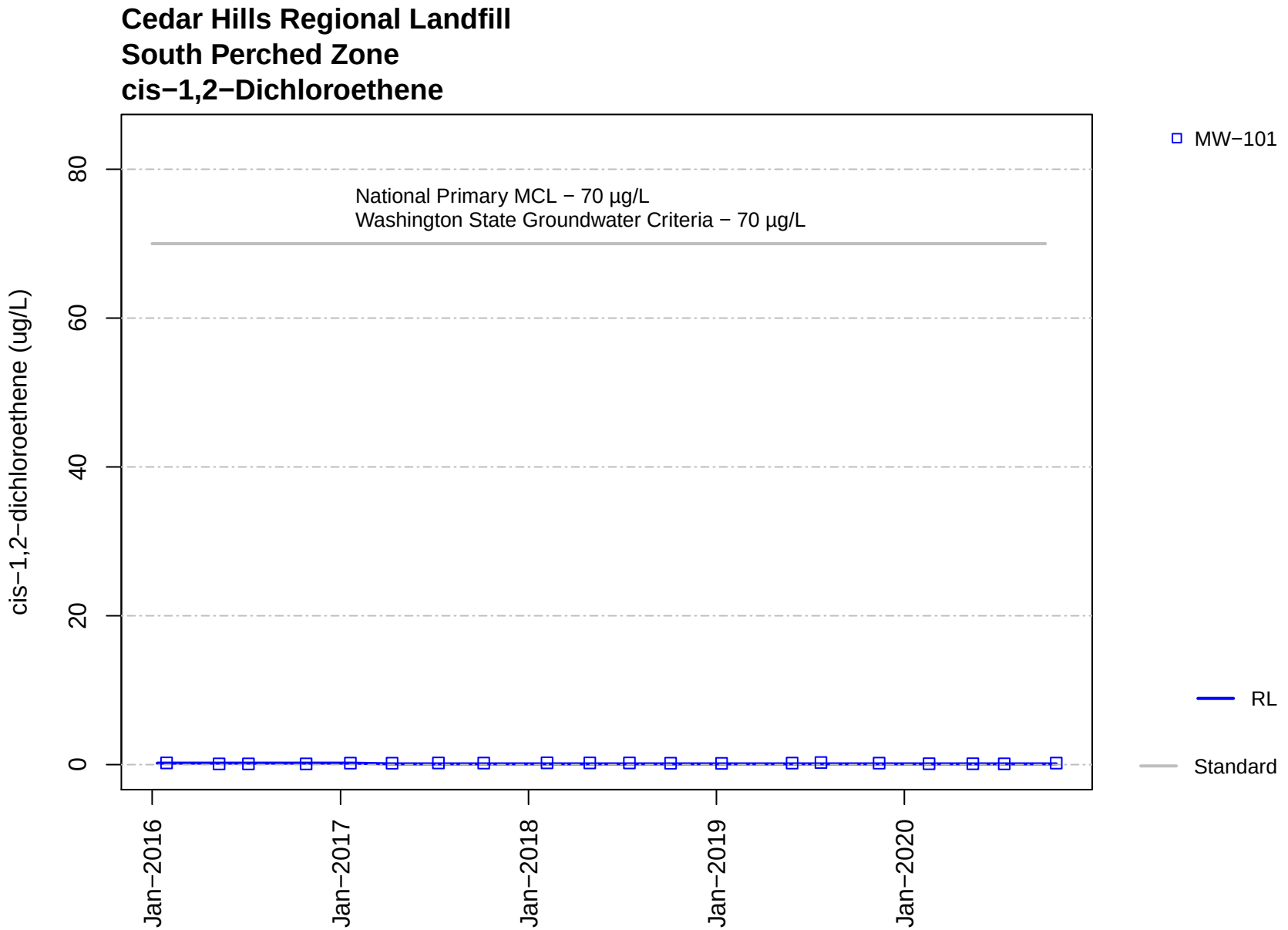

Cedar Hills Regional Landfill
East Perched Zone
1,1−Dichloroethane
1,1−dichloroethane
0.0
0.5
1.0
1.5
2.0
Jan−2016
Jan−2017
Jan−2018
Jan−2019
Jan−2020
Washington State Groundwater Criteria − 1 µg/L
EW−25
MW−30A
MW−47
MW−62
RL
Standard

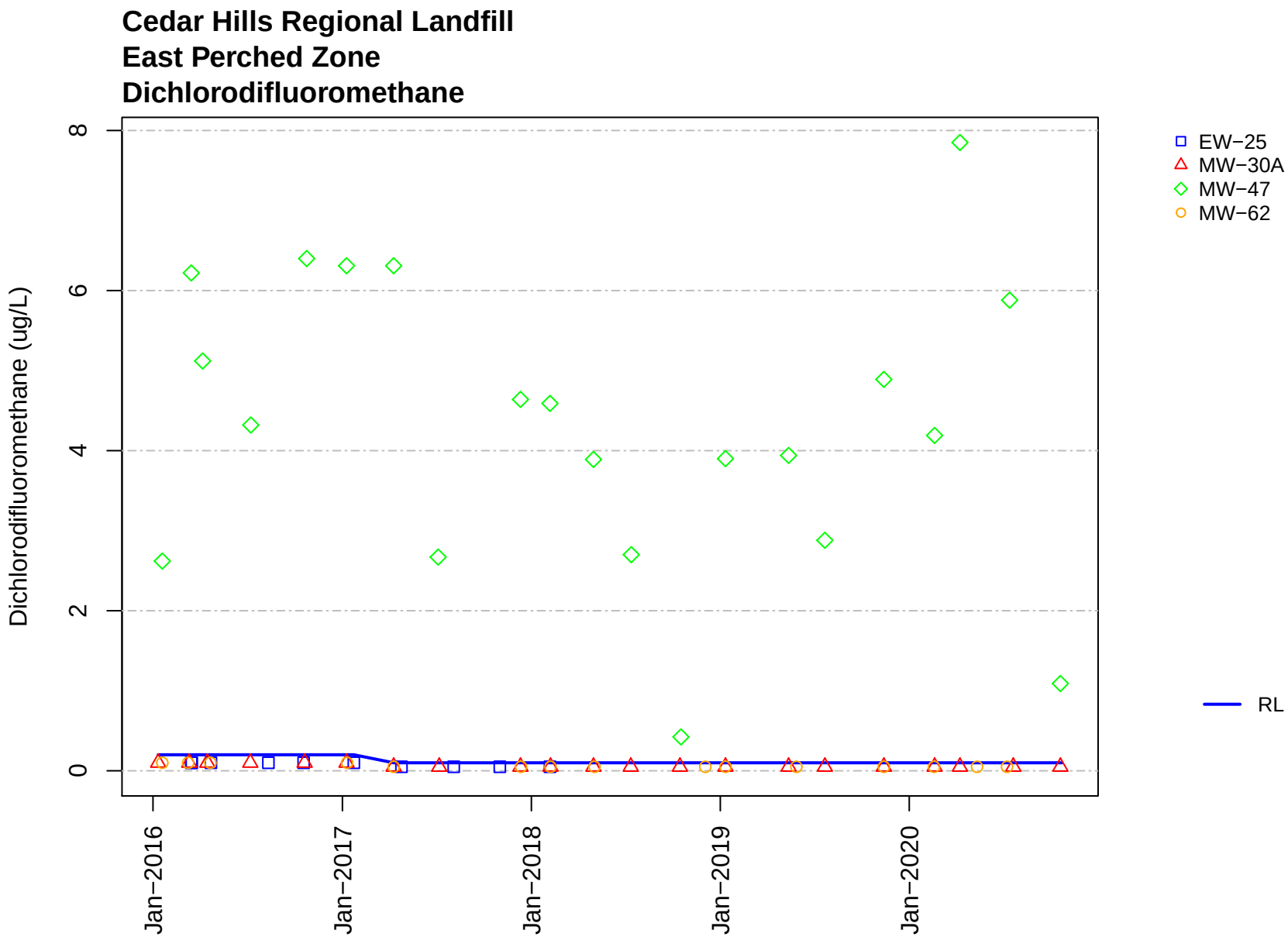

Cedar Hills Regional Landfill
South Perched Zone
1,1−Dichloroethane
1,1−dichloroethane
0.0
0.5
1.0
1.5
2.0
Washington State Groundwater Criteria − 1 µg/L
Jan−2016
Jan−2017
Jan−2018
Jan−2019
Jan−2020
MW−101
RL
Standard

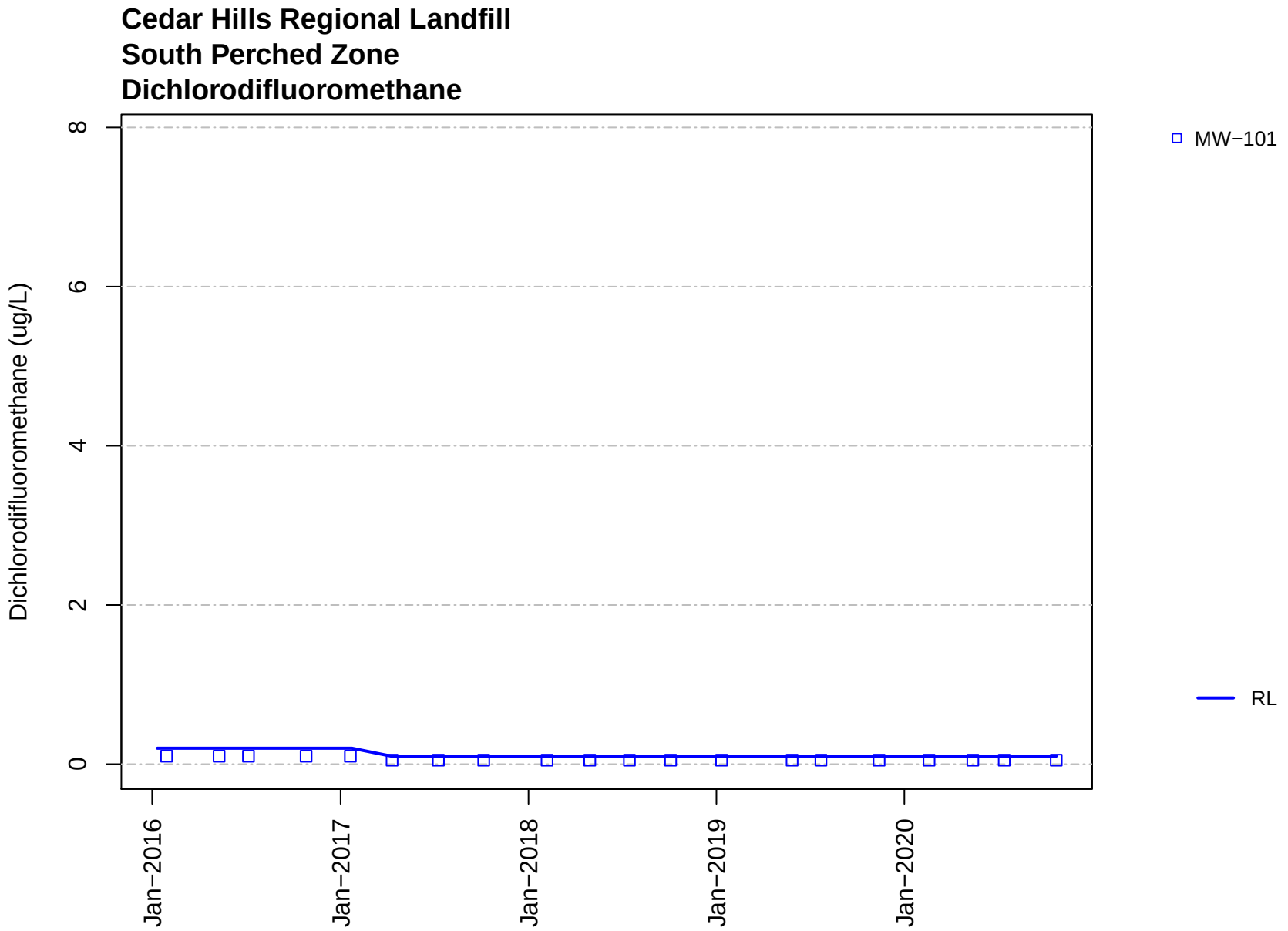

Cedar Hills Regional Landfill
East Perched Zone
1,2−Dichloroethane
1,2−dichloroethane
0
1
2
3
4
5
6
National Primary MCL − 5 µg/L
Washington State Groundwater Criteria − 0.5 µg/L
Jan−2016
Jan−2017
Jan−2018
Jan−2019
Jan−2020
EW−25
MW−30A
MW−47
MW−62
RL
Standard

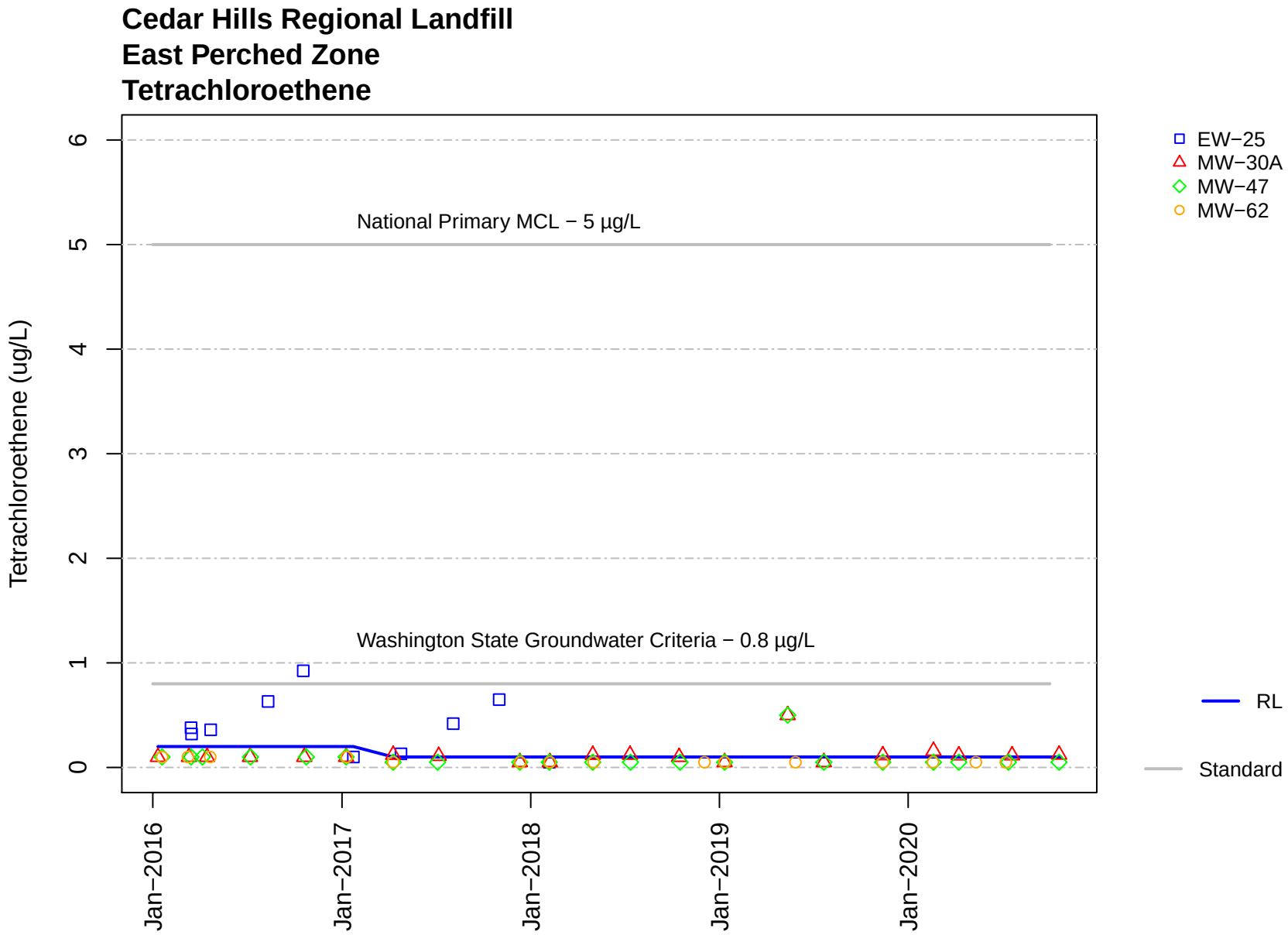

Cedar Hills Regional Landfill
South Perched Zone
1,2−Dichloroethane
1,2−dichloroethane
0
1
2
3
4
5
6
National Primary MCL − 5 µg/L
Washington State Groundwater Criteria − 0.5 µg/L
Jan−2016
Jan−2017
Jan−2018
Jan−2019
Jan−2020
MW−101
RL
Standard

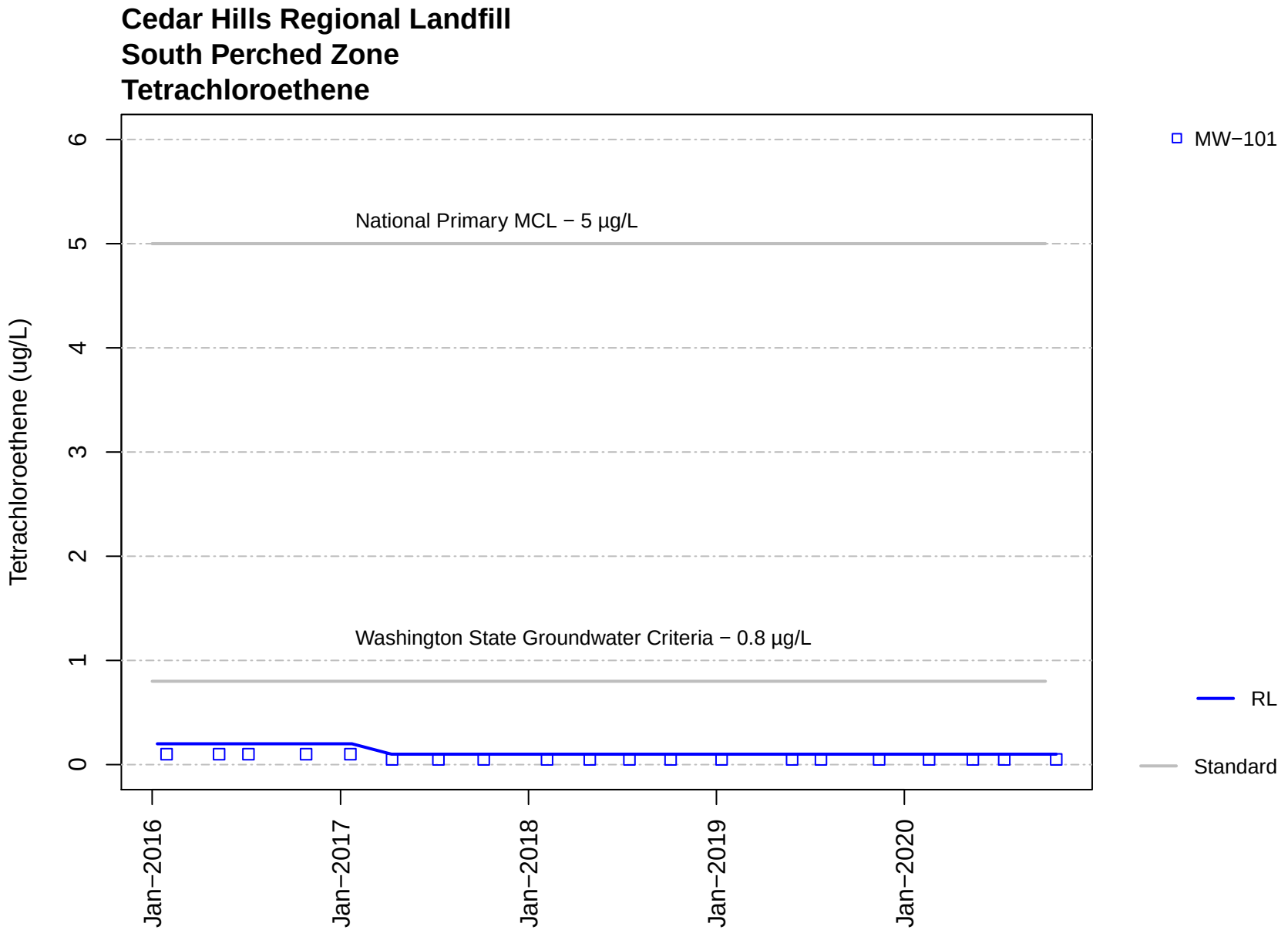

Cedar Hills Regional Landfill
East Perched Zone
cis−1,2−Dichloroethene
cis−1,2−dichloroethene (ug/L)
0
20
40
60
80
National Primary MCL − 70 µg/L
Washington State Groundwater Criteria − 70 µg/L
Jan−2016
Jan−2017
Jan−2018
Jan−2019
Jan−2020
EW−25
MW−30A
MW−47
MW−62
RL
Standard

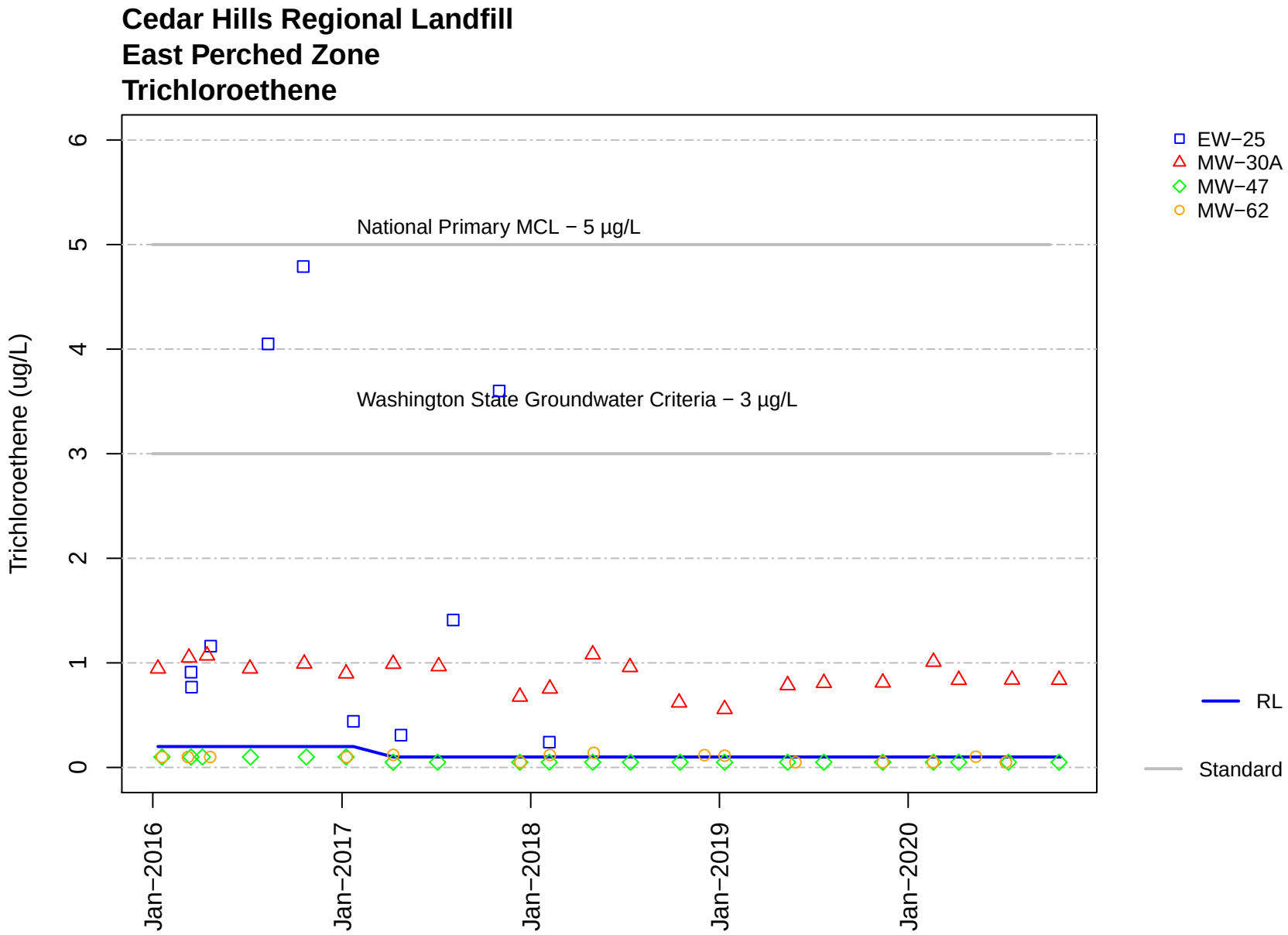

Cedar Hills Regional Landfill
South Perched Zone
cis−1,2−Dichloroethene
cis−1,2−dichloroethene (ug/L)
0
20
40
60
80
National Primary MCL − 70 µg/L
Washington State Groundwater Criteria − 70 µg/L
Jan−2016
Jan−2017
Jan−2018
Jan−2019
Jan−2020
MW−101
RL
Standard

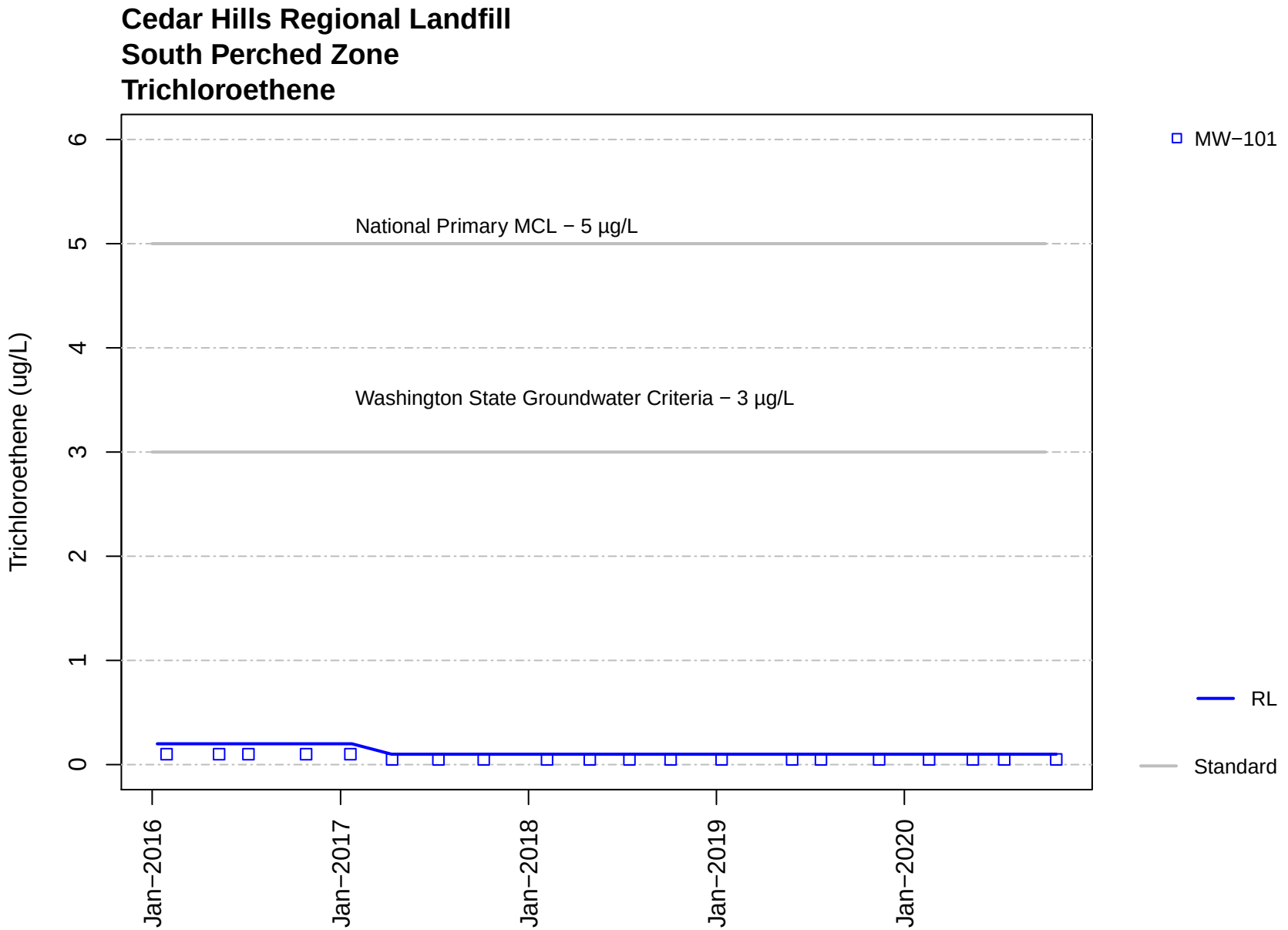

Cedar Hills Regional Landfill
East Perched Zone
Dichlorodifluoromethane
Dichlorodifluoromethane (ug/L)
0
2
4
6
8
Jan−2016
Jan−2017
Jan−2018
Jan−2019
Jan−2020
EW−25
MW−30A
MW−47
MW−62
RL

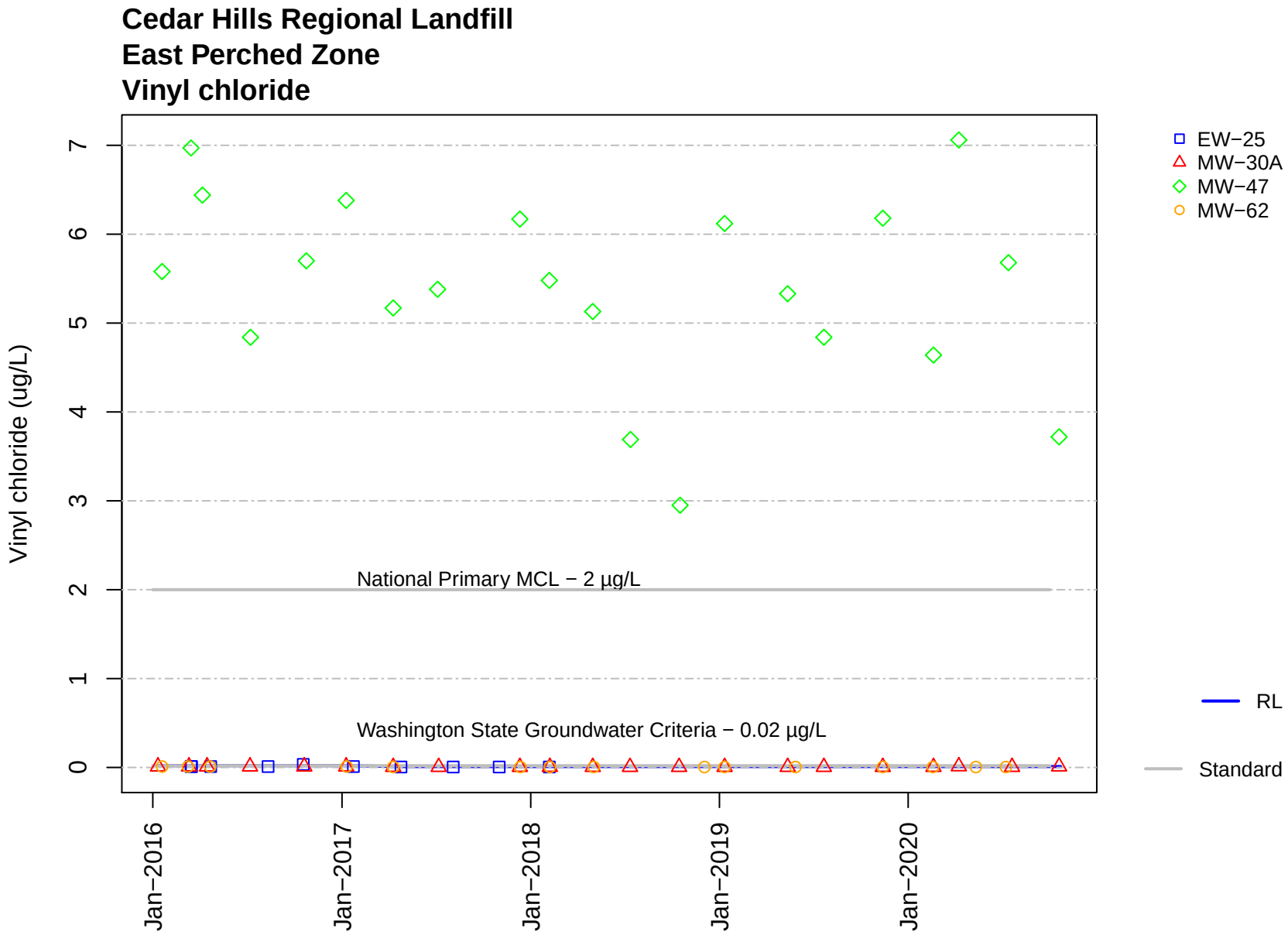

Cedar Hills Regional Landfill
South Perched Zone
Dichlorodifluoromethane
Dichlorodifluoromethane (ug/L)
0
2
4
6
8
Jan−2016
Jan−2017
Jan−2018
Jan−2019
Jan−2020
MW−101
RL

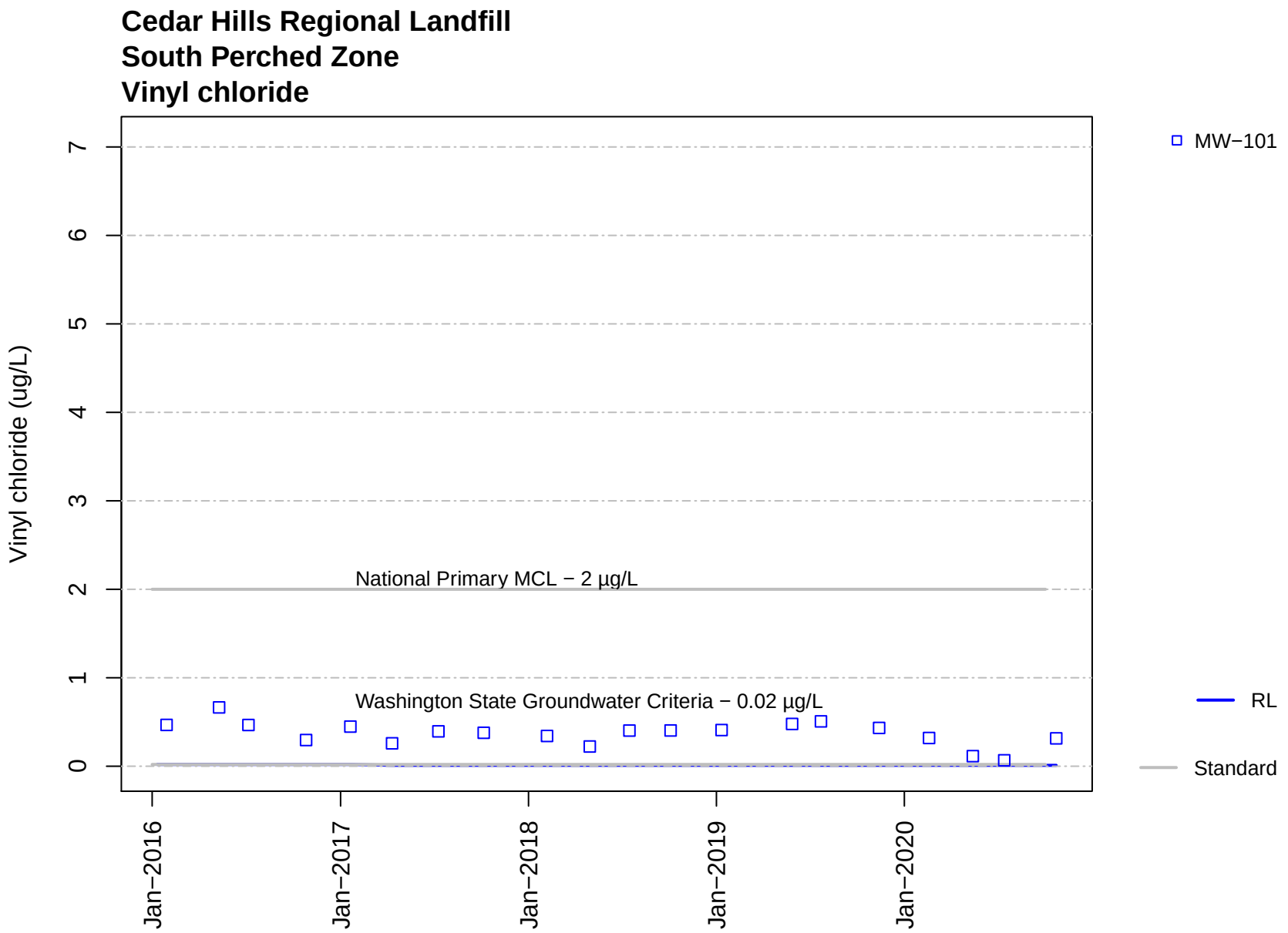

Cedar Hills Regional Landfill
East Perched Zone
Tetrachloroethene
Tetrachloroethene (ug/L)
0
1
2
3
4
5
6
National Primary MCL − 5 µg/L
Washington State Groundwater Criteria − 0.8 µg/L
Jan−2016
Jan−2017
Jan−2018
Jan−2019
Jan−2020
EW−25
MW−30A
MW−47
MW−62
RL
Standard


Cedar Hills Regional Landfill
South Perched Zone
Tetrachloroethene
Tetrachloroethene (ug/L)
0
1
2
3
4
5
6
National Primary MCL − 5 µg/L
Washington State Groundwater Criteria − 0.8 µg/L
Jan−2016
Jan−2017
Jan−2018
Jan−2019
Jan−2020
MW−101
RL
Standard


Cedar Hills Regional Landfill
East Perched Zone
Trichloroethene
Trichloroethene (ug/L)
0
1
2
3
4
5
6
National Primary MCL − 5 µg/L
Washington State Groundwater Criteria − 3 µg/L
Jan−2016
Jan−2017
Jan−2018
Jan−2019
Jan−2020
EW−25
MW−30A
MW−47
MW−62
RL
Standard


Cedar Hills Regional Landfill
South Perched Zone
Trichloroethene
Trichloroethene (ug/L)
0
1
2
3
4
5
6
National Primary MCL − 5 µg/L
Washington State Groundwater Criteria − 3 µg/L
Jan−2016
Jan−2017
Jan−2018
Jan−2019
Jan−2020
MW−101
RL
Standard


Cedar Hills Regional Landfill
East Perched Zone
Vinyl chloride
Vinyl chloride (ug/L)
0
1
2
3
4
5
6
7
National Primary MCL − 2 µg/L
Washington State Groundwater Criteria − 0.02 µg/L
Jan−2016
Jan−2017
Jan−2018
Jan−2019
Jan−2020
EW−25
MW−30A
MW−47
MW−62
RL
Standard


Cedar Hills Regional Landfill
South Perched Zone
Vinyl chloride
Vinyl chloride (ug/L)
0
1
2
3
4
5
6
7
National Primary MCL − 2 µg/L
Washington State Groundwater Criteria − 0.02 µg/L
Jan−2016
Jan−2017
Jan−2018
Jan−2019
Jan−2020
MW−101
RL
Standard

PART 6

Trilinear Diagrams and Ion Balance Calculations

Regional Aquifer

East Main Hill Perched Zone

South Solid Waste Area Perched Wells

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Figure 5. Trilinear Diagram Upgradient and Crossgradient Regional Wells

Cedar Hills Regional Landfill

First Quarter 2020

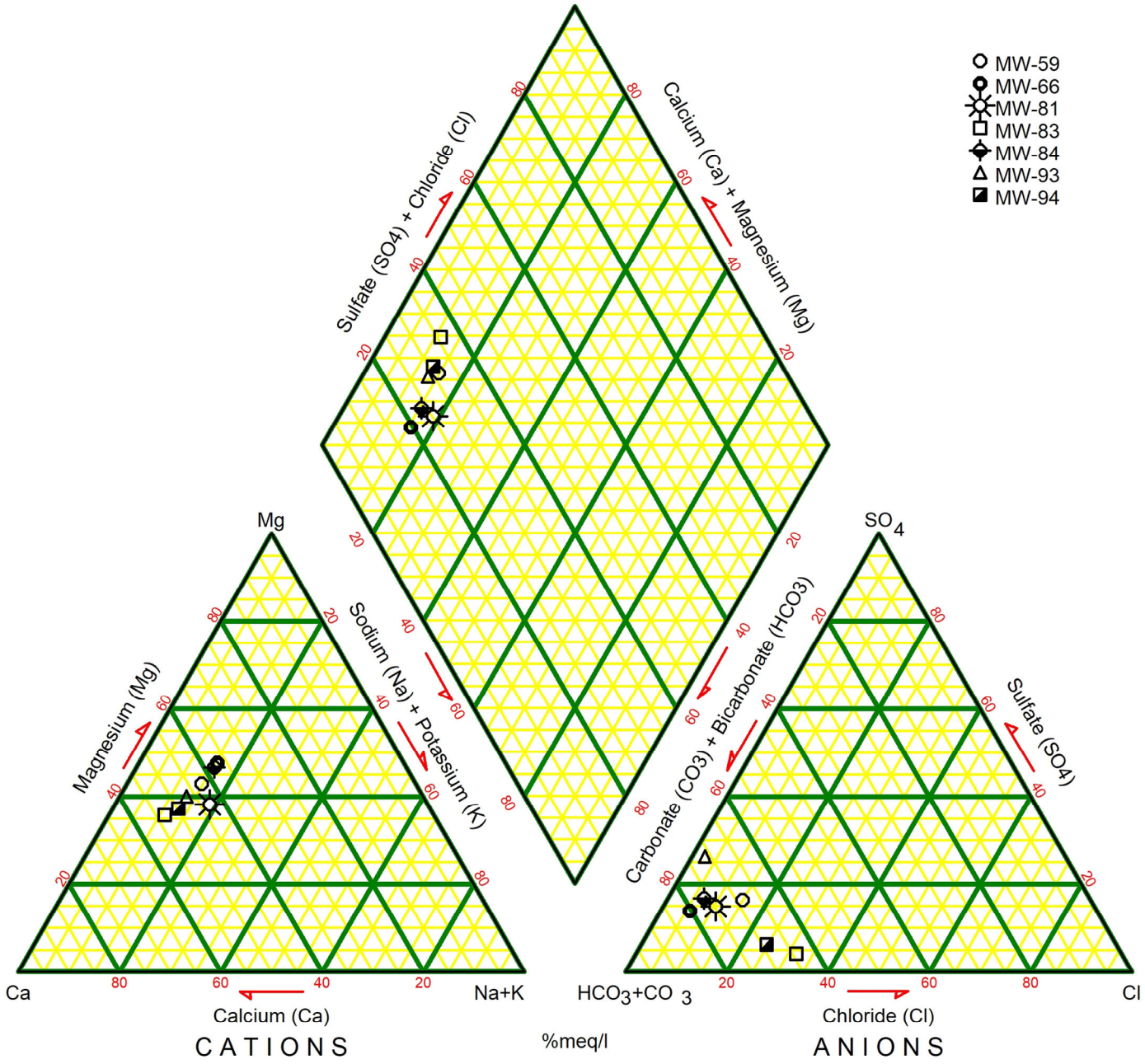


Figure 5. Trilinear Diagram Up & Crossgradient Regional Wells

Cedar Hills Regional Landfill

Second Quarter 2020

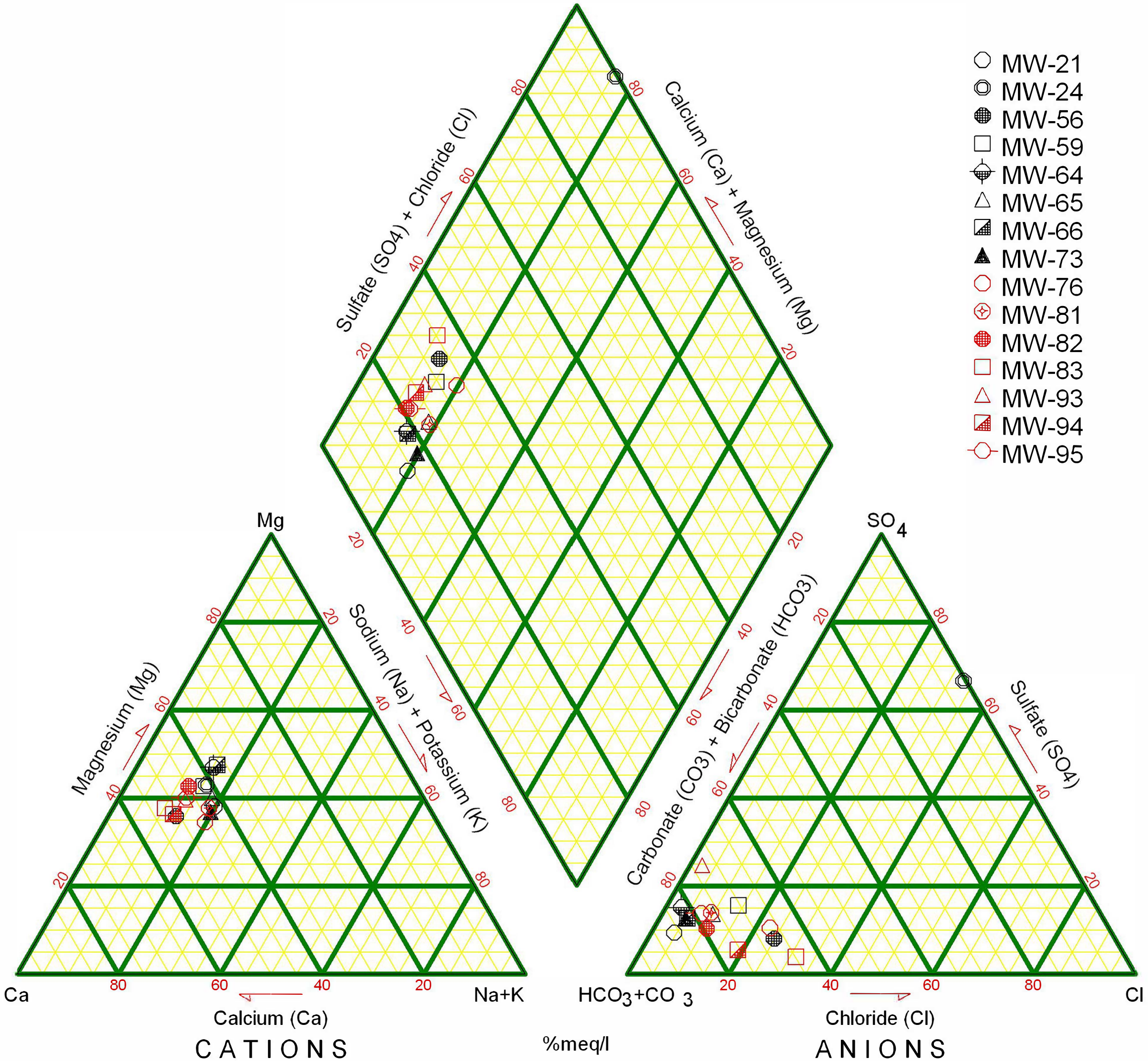


Figure 5. Trilinear Diagram Up & Crossgradient Regional Wells

Cedar Hills Regional Landfill

Third Quarter 2020

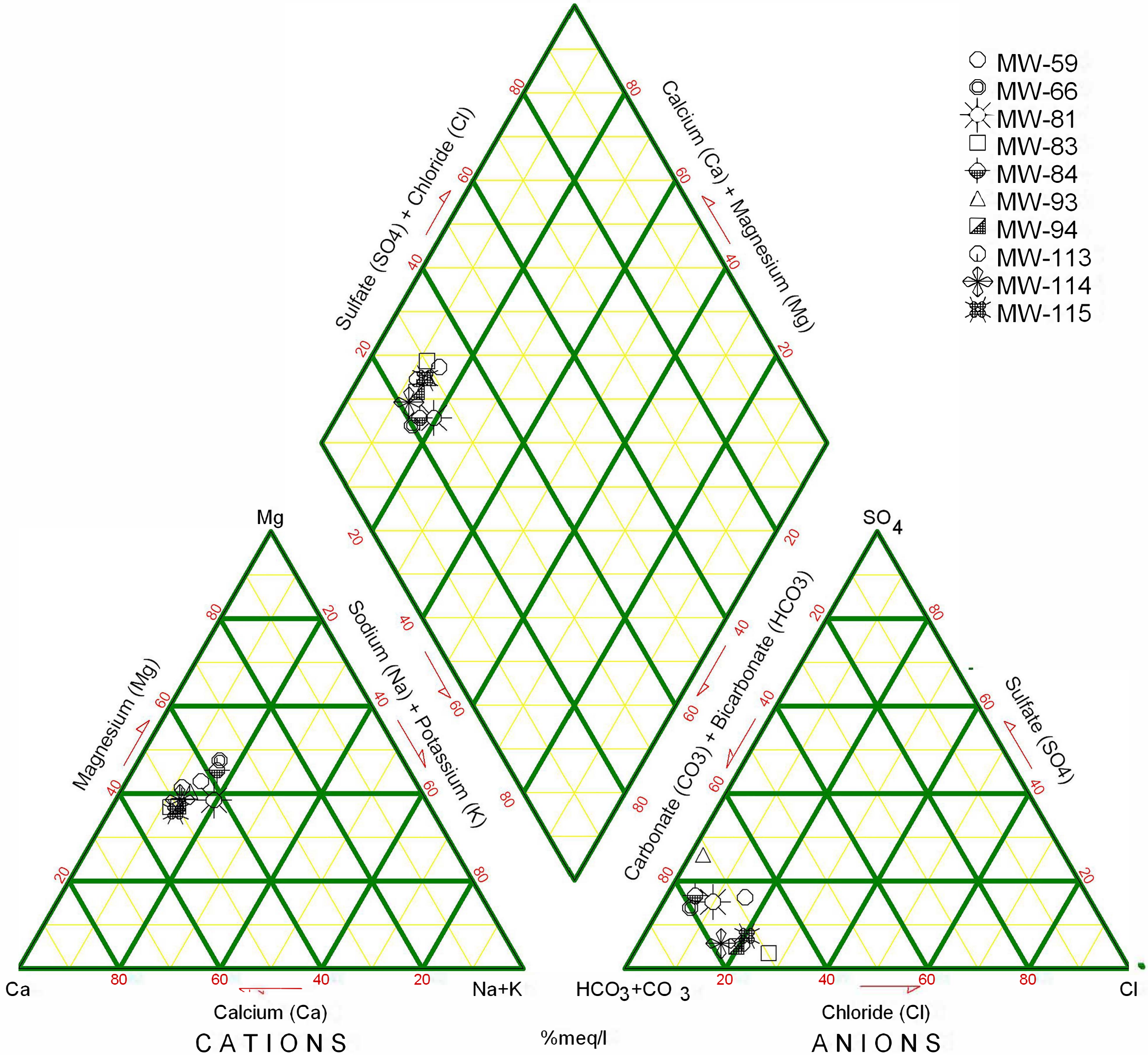


Figure 5. Trilinear Diagram Up & Crossgradient Regional Wells

Cedar Hills Regional Landfill

Fourth Quarter 2020

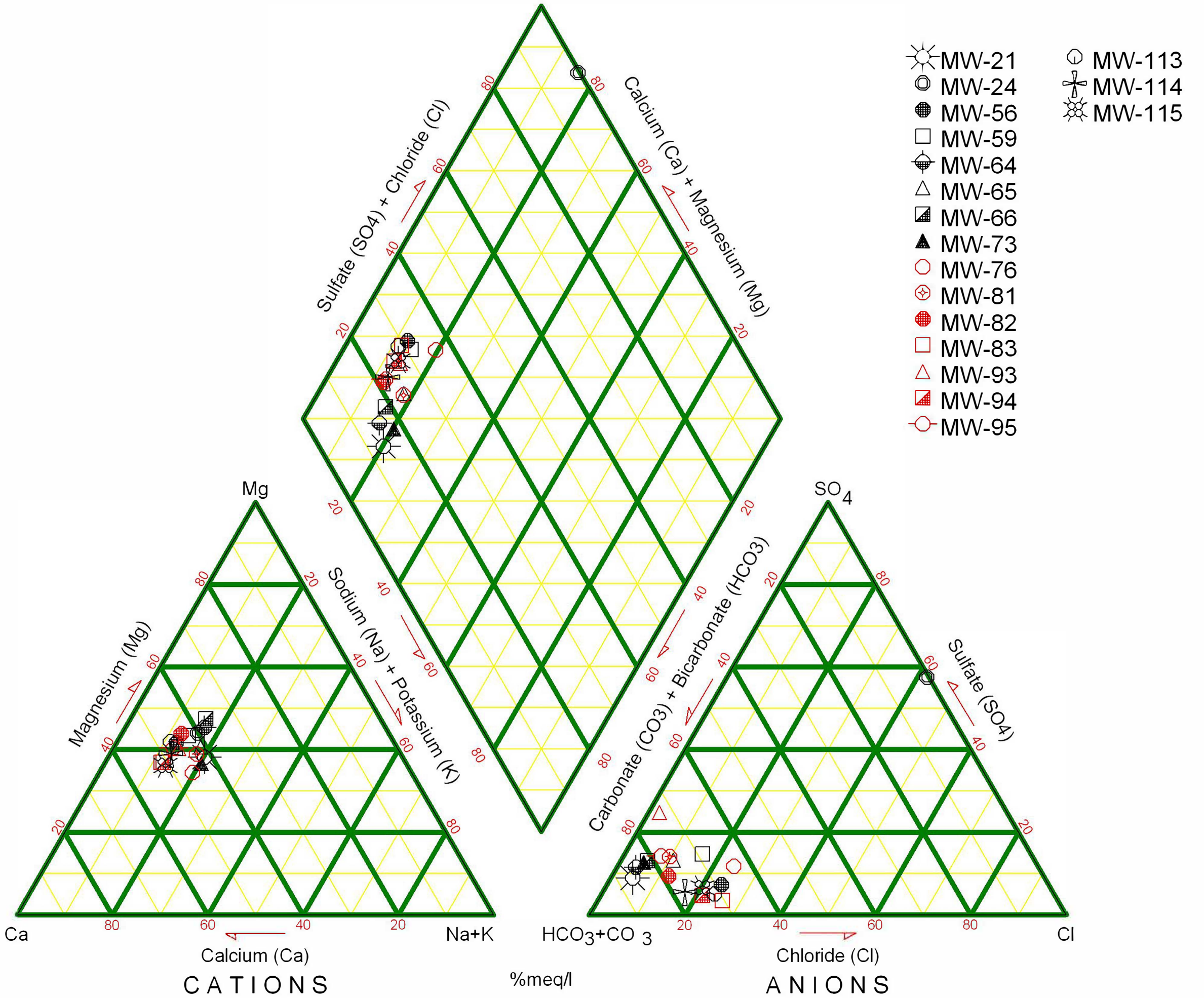


Figure 6. Trilinear Diagram Downgradient Regional Wells

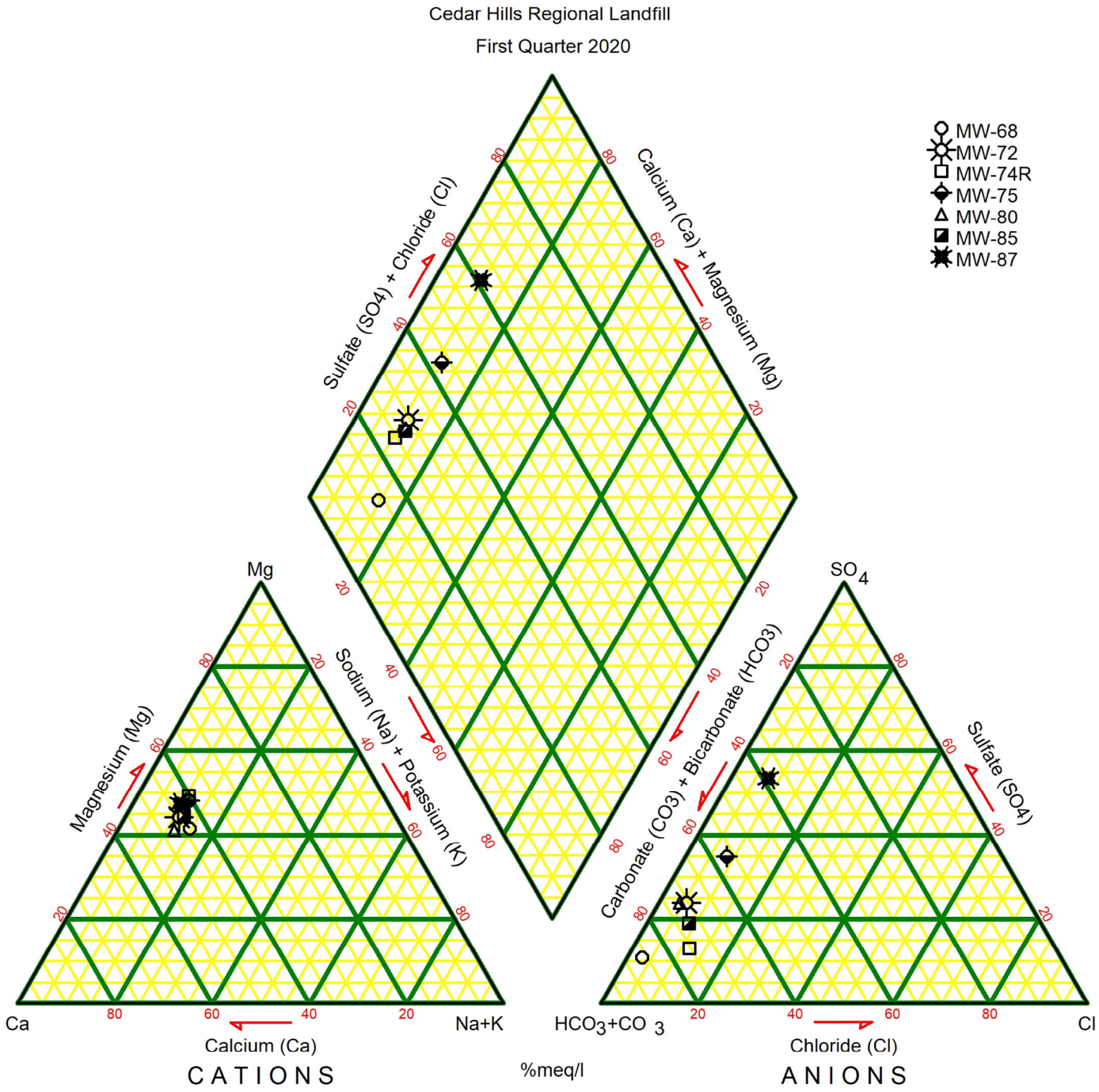


Figure 6. Trilinear Diagram Downgradient Regional Wells

Cedar Hills Regional Landfill

Second Quarter 2020

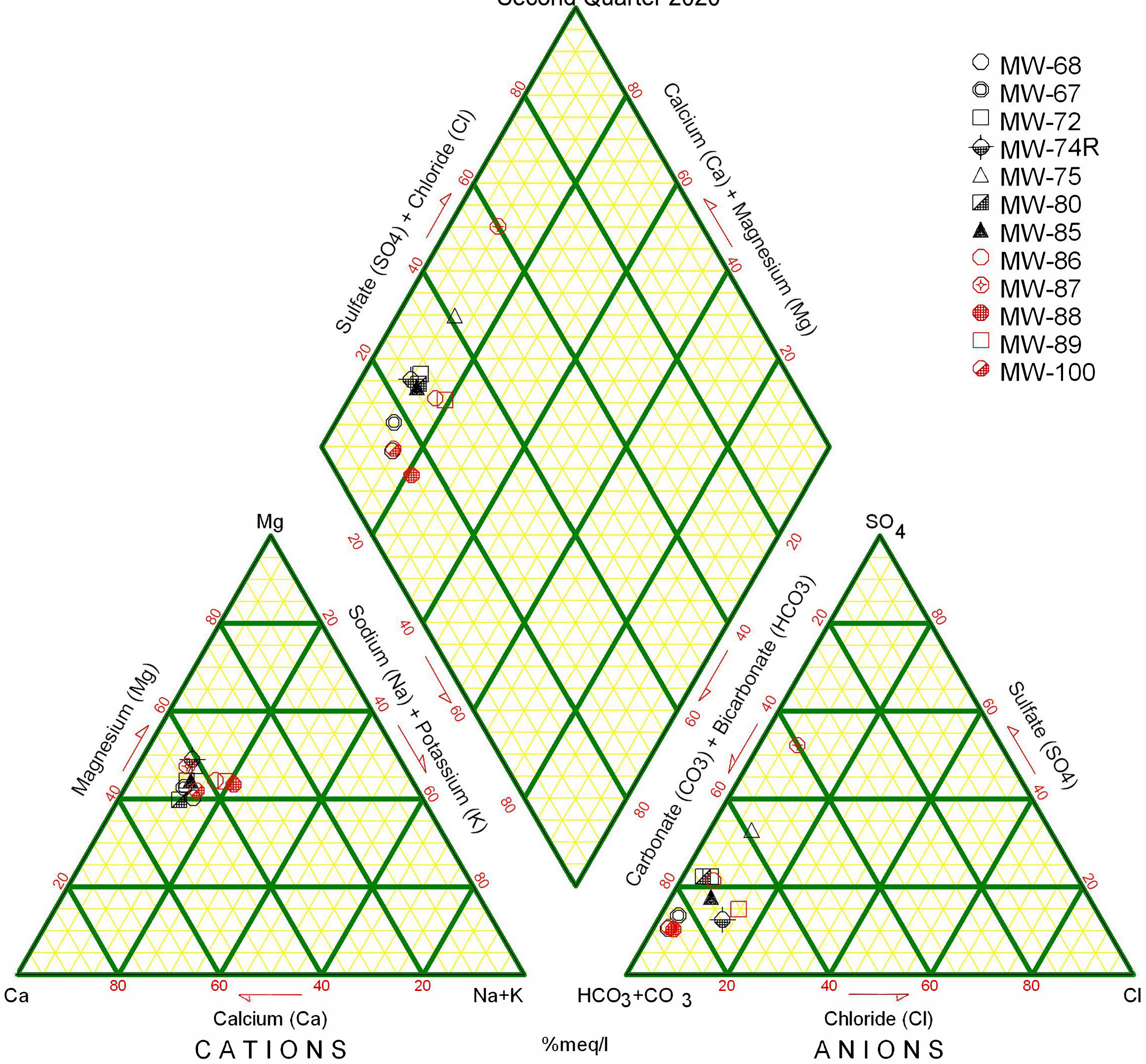


Figure 6. Trilinear Diagram Downgradient Regional Wells

Cedar Hills Regional Landfill

Third Quarter 2020

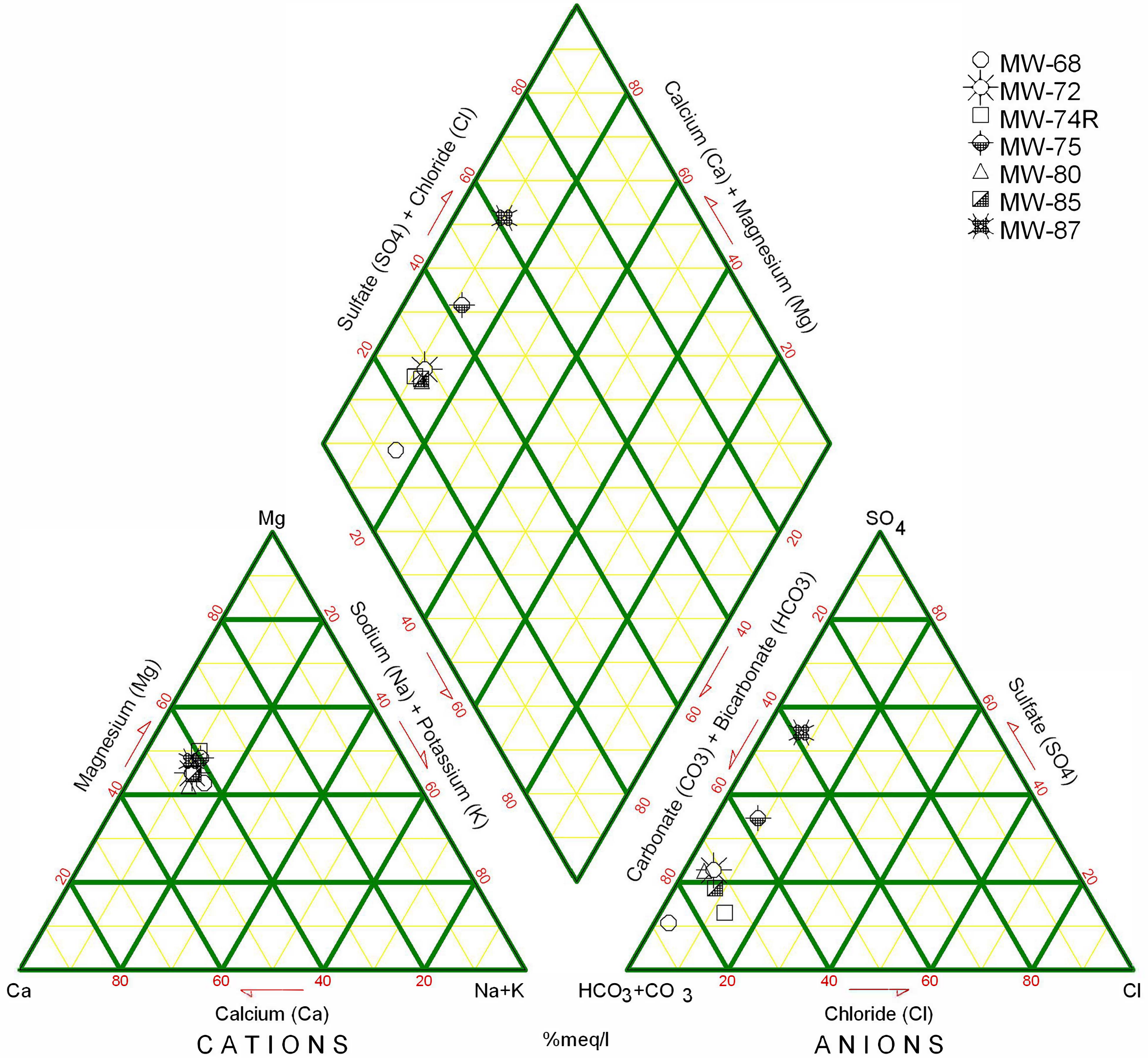


Figure 6. Trilinear Diagram Downgradient Regional Wells

Cedar Hills Regional Landfill

Fourth Quarter 2020

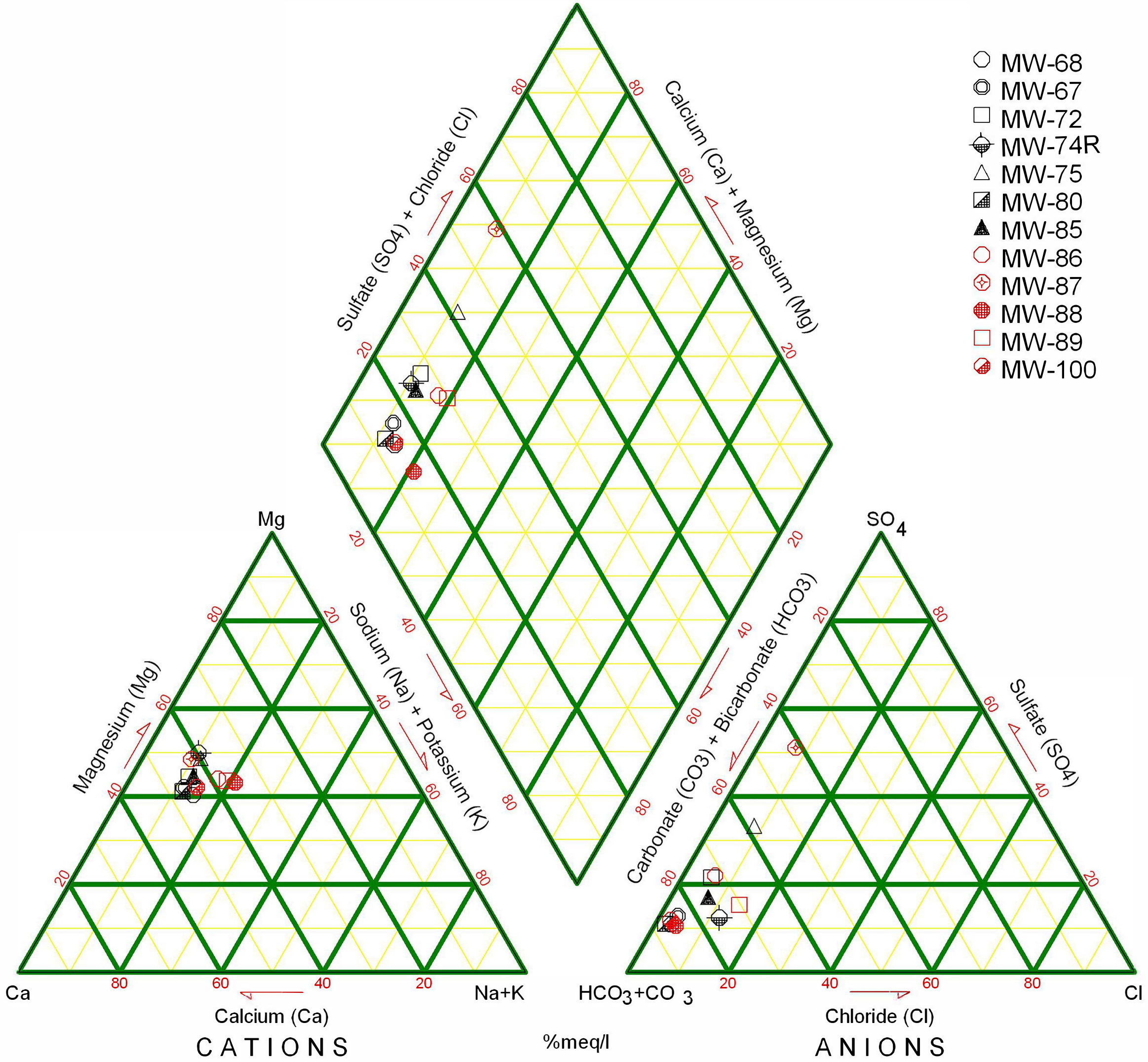


Table 4
Ion Balance Calculations
Cedar Hills Regional Landfill
Quarterly Regional Aquifer Groundwater Monitoring

Data Collected from January 1, 2020 to March 31, 2020

			Quarterly Upgradient and Crossgradient Wells																		
	Site ID		MW-59			MW-66			MW-81			MW-83			MW-84			MW-93			MW-94		
	Date		1/21/20			1/6/20			1/21/20			1/22/20			1/21/20			1/22/20			1/22/20		
Cations	**Molecular Weight**	**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			6.8			7.2			7.5			6.8			7.4			7.0			6.5		
Conductance			214.4			208.5			161.8			665.0			208.2			327.8			313.1		
TDSobs			116.0			124.0			101.0			391.0			128.0			203.0			187.0		
Calcium	40.1	2	18.2	0.91	39.2	16.7	0.83	36.8	14.7	0.73	43.1	73.6	3.67	53.2	17.6	0.88	37.8	32.9	1.64	46.6	31.3	1.56	49.8
Magnesium	24.3	2	11.2	0.92	39.8	13.1	1.077967	47.7	7.9	0.65	38.2	30.0	2.47	35.7	13.1	1.077967	46.4	17.1	1.41	40.0	14.2	1.17	37.3
Potassium	39.1	1	1.2	0.031	1.3	1.2	0.03	1.3	0.90	0.023	1.3	3.9	0.10	1.5	1.3	0.03	1.4	1.6	0.041	1.2	2.4	0.06	1.9
Sodium	23.0	1	6.6	0.29	12.4	7.4	0.32	14.2	6.8	0.29	17.3	15.2	0.66	9.6	7.4	0.32	13.9	9.7	0.42	11.9	7.9	0.34	11.0
Iron	55.8	2	4.58	0.16	7.1	0.010	0.000358	0.016	0.01	0.000358	0.02	0.01	0.000358	0.0052	0.010	0.000358	0.015	0.01	0.000358	0.01	0.016	0.000559	0.018
Manganese	54.9	2	0.13	0.004587	0.20	0.0001	3.64E-06	0.0002	0.0001	3.64E-06	0.0002	0.066	0.002385	0.0345	0.072	0.002614	0.113	0.19	0.006844	0.19	0.0014	5.13E-05	0.0016
Ammonia-N	14.0	1	0.006	0.000414	0.02	0.0020	0.000143	0.006	0.0020	0.000143	0.008	0.009	0.000643	0.0093	0.089	0.00634	0.273	0.06	0.004498	0.13	0.002	0.000143	0.005
Total Cations (meq/L)				**2.32**			**2.3**			**1.7**			**6.9**			**2.3**			**3.5**			**3.1**	
Anions																							
Alkalinity, Total			69.7			82.6			54.6			206.0			82.0			120.0			104.0		
Carbonate	60.0	2	0.024	0.000804	0.0	0.073	0.002446	0.1	0.111	0.003696	0.2	0.070	0.002321	0.0	0.115	0.003845	0.2	0.06	0.002	0.06	0.021	0.00069	0.023
Bicarbonate	61.0	1	84.98	1.39	68.7	100.62	1.65	79.4	66.39	1.09	68.9	251.18	4.12	61.4	99.81	1.64	75.5	146.27	2.40	71.1	126.84	2.08	68.6
Chloride	35.5	1	10.7	0.30	14.9	4.2	0.12	5.7	5.4	0.15	9.6	71.9	2.03	30.3	5.4	0.15	7.0	3.0	0.083	2.5	26.4	0.74	24.6
Nitrate-N	14.0	1	0.010	0.000714	0.04	0.35	0.025	1.2	1.68	0.12	7.6	4.09	0.29	4.4	0.19	0.01	0.6	0.010	0.000714	0.021	0.28	0.02	0.7
Sulfate	96.1	2	15.9	0.33	16.3	13.6	0.28	13.6	10.4	0.22	13.7	12.7	0.26	3.9	17.3	0.36	16.6	42.6	0.89	26.3	9.0	0.19	6.2
Total Anions (meq/L)				**2.03**			**2.1**			**1.6**			**6.7**			**2.2**			**3.4**			**3.0**	
Total Ions (meq/L)				**4.3**			**4.3**			**3.3**			**13.6**			**4.5**			**6.9**			**6.2**	
Cation/Anion Ratio				**1.14**			**1.09**			**1.08**			**1.03**			**1.07**			**1.04**			**1.03**	
Percent Difference				**6.7**			**4.2**			**3.7**			**1.5**			**3.5**			**2.2**			**1.7**	
Trilinear Diagram Data																							
sum (Ca, Mg, Na+K)				2.15			2.26			1.70			6.90			2.31			3.51			3.14	
Calcium					42.30			36.85			43.10			53.20			37.99			46.78			49.81
Magnesium					42.92			47.67			38.25			35.76			46.63			40.09			37.26
Sodium + Potassium					14.78			15.49			18.65			11.03			15.38			13.13			12.93
sum (SO_4, Cl, HCO_3+CO_3)				2.03			2.05			1.46			6.41			2.15			3.37			3.01	
Sulfate					16.33			13.80			14.84			4.12			16.73			26.32			6.23
Chloride					14.89			5.73			10.36			31.63			7.09			2.47			24.72
Bicarbonate + Carbonate					68.77			80.47			74.81			64.25			76.18			71.21			69.05

Table 4
Ion Balance Calculations
Cedar Hills Regional Landfill
Quarterly Regional Aquifer Groundwater Monitoring

Data Collected from January 1, 2020 to March 31, 2020

			Quarterly Downgradient to Waste Cells and North End Facilities																		
	Site ID		MW-68			MW-72			MW-74R			MW-75			MW-80			MW-85			MW-87		
	Date		2/13/20			1/17/20			1/21/20			1/21/20			2/13/20			1/22/20			1/21/20		
Cations	**Molecular Weight**	**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			6.7			6.9			6.9			6.9			6.7			6.8		
Conductance			292.0			357.6			494.2			378.0			316.1			369.1			534.0		
TDSobs			163.0			212.0			280.0			235.0			196.0			217.0			371.0		
Calcium	40.1	2	25.9	1.29	43.3	34.2	1.71	43.4	45.3	2.26	40.1	33.1	1.65	39.6	30.6	1.53	45.8	34.4	1.72	43.5	48.6	2.43	41.5
Magnesium	24.3	2	14.9	1.23	41.1	20.5	1.69	42.9	33.8	2.78	49.3	23.8	1.96	47.0	16.2	1.33	40.0	21.4	1.76	44.6	32.6	2.68	45.9
Potassium	39.1	1	1.7	0.04	1.4	2.1	0.052	1.3	2.2	0.06	1.0	2.1	0.05	1.3	1.7	0.044	1.3	1.7	0.044	1.1	2.5	0.065	1.1
Sodium	23.0	1	8.9	0.39	13.0	8.5	0.37	9.4	12.4	0.54	9.6	9.3	0.40	9.7	7.7	0.33	10.0	9.7	0.424	10.7	11.0	0.48	8.2
Iron	55.8	2	0.57	0.021	0.69	2.78	0.10	2.5	0.010	0.000358	0.006	2.54	0.09	2.18	2.23	0.080	2.4	0.010	0.000358	0.0091	4.92	0.18	3.0
Manganese	54.9	2	0.31	0.011	0.38	0.38	0.014	0.3	0.0001	3.64E-06	0.00006	0.22	0.0079	0.19	0.35	0.013	0.38	0.0001	3.64E-06	0.00009	0.55	0.020	0.3
Ammonia-N	14.0	1	0.02	0.001	0.041	0.02	0.001249	0.032	0.002	0.000143	0.003	0.009	0.000643	0.015	0.01	0.0009	0.027	0.002	0.000143	0.0036	0.018	0.001264	0.022
Total Cations (meq/L)				**3.0**			**3.9**			**5.6**			**4.2**			**3.3**			**3.9**			**5.8**	
Anions																							
Alkalinity, Total			121.0			126.0			196.0			109.0			111.0			137.0			109.0		
Carbonate	60.0	2	0.031	0.001034	0.04	0.036253	0.001208	0.03	0.09	0.003119	0.06	0.05	0.001582	0.04	0.057	0.001892	0.06	0.045255	0.001509	0.04	0.044	0.001476	0.026
Bicarbonate	61.0	1	147.56	2.42	86.0	153.65	2.52	70.4	238.93	3.92	74.8	132.88	2.18	56.7	135.3	2.22	71.8	167.05	2.74	72.2	132.89	2.18	38.9
Chloride	35.5	1	3.0	0.085	3.0	7.1	0.199419	5.6	21.4	0.60	11.5	11.5	0.32	8.4	4.6	0.13	4.2	11.4	0.32	8.5	15.1	0.43	7.6
Nitrate-N	14.0	1	0.010	0.000714	0.025	0.010	0.000714	0.020	0.40	0.028771	0.55	0.010	0.000714	0.019	0.01	0.000714	0.02	0.11	0.007496	0.2	0.010	0.000714	0.013
Sulfate	96.1	2	14.7	0.31	10.9	41.1	0.86	23.9	32.7	0.68	13.0	64.3	1.34	34.8	35.4	0.74	23.9	34.7	0.72	19.1	144.0	3.00	53.5
Total Anions (meq/L)				**2.8**			**3.6**			**5.2**			**3.8**			**3.1**			**3.8**			**5.6**	
Total Ions (meq/L)				**5.8**			**7.5**			**10.9**			**8.0**			**6.4**			**7.7**			**11.5**	
Cation/Anion Ratio				**1.06**			**1.10**			**1.08**			**1.08**			**1.08**			**1.04**			**1.04**	
Percent Difference				**3.0**			**4.7**			**3.7**			**4.0**			**3.8**			**2.0**			**2.1**	
Trilinear Diagram Data																							
sum (Ca, Mg, Na+K)				2.95			3.82			5.64			4.07			3.24			3.95			5.65	
Calcium					43.81			44.72			40.10			40.61			47.17			43.51			42.92
Magnesium					41.56			44.20			49.34			48.16			41.18			44.64			47.47
Sodium + Potassium					14.63			11.07			10.55			11.23			11.64			11.85			9.61
sum (SO_4, Cl, HCO_3+CO_3)				2.81			3.57			5.20			3.84			3.09			3.78			5.60	
Sulfate					10.89			23.94			13.08			34.84			23.88			19.10			53.50
Chloride					3.02			5.58			11.60			8.44			4.21			8.50			7.60
Bicarbonate + Carbonate					86.09			70.48			75.32			56.72			71.91			72.41			38.90

Table 4 Ion Balance Calculations.
Cedar Hills Regional Landfill Quarterly and Semi-annual Regional Aquifer Groundwater Monitoring
(Data Collected from April 1, 2020 to June 30, 2020)

Site ID			Upgradient and Crossgradient															
			MW-21			MW-24			MW-56			MW-59			MW-64			MW-65	
			5/13/2020			4/30/2020			5/4/2020			5/4/2020			5/12/2020			5/11/2020	
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			8.0			7.0			6.6			7.0			7.1			7.7		
Conductance			146			167			205			193			225			139		
TDSobs			95			113			141			133			166			97		
Calcium	40.1	2	12.5	0.623752	40.0	14.8	0.738523	38.7	22.9	1.142715	50.6	17.3	0.863273	39.0	19.9	0.993014	37.8	11.6	0.578842	38.1
Magnesium	24.3	2	6.9	0.565316	36.2	9.4	0.773503	40.5	9.8	0.80971	35.9	10.7	0.880477	39.8	15.0	1.234314	47.0	6.8	0.55791	36.7
Potassium	39.1	1	1.1	0.028646	1.8	1.0	0.025295	1.3	1.1	0.02839	1.3	1.1	0.028902	1.3	1.7	0.044503	1.7	0.9	0.023684	1.6
Sodium	23.0	1	6.1	0.264465	16.9	5.9	0.256201	13.4	6.3	0.27186	12.0	6.6	0.287084	13.0	8.1	0.352766	13.4	5.3	0.230537	15.2
Iron	55.8	2	1.97	0.07055	4.5	3.05	0.109227	5.7	0.01	0.000383	0.0	4.14	0.148262	6.7	0.02	0.000756	0.0	3.36	0.120329	7.9
Manganese	54.9	2	0.11	0.00415	0.3	0.10	0.00356	0.2	0.09	0.003295	0.1	0.13	0.004587	0.2	0.04	0.00146	0.1	0.19	0.006953	0.5
Ammonia-N	14.0	1	0.06	0.003948	0.3	0.03	0.00227	0.1	0.00	0.000143	0.0	0.01	0.000414	0.0	0.02	0.001528	0.1	0.01	0.000386	0.0
Total Cations (meq/L)				**1.6**			**1.9**			**2.3**			**2.2**			**2.6**			**1.5**	
Anions																				
Alkalinity, Total			60			67			68			68			102			50		
Carbonate	60.0	2	0.39072	0.013024	0.9	0.04119	0.001373	0.1	0.0167	0.000557	0.0	0.04297	0.001432	0.1	0.07199	0.0024	0.1	0.13479	0.004493	0.3
Bicarbonate	61.0	1	72.28	1.184797	85.1	81.66	1.338425	76.2	83.17	1.363238	64.8	83.24	1.364362	70.2	124.29	2.037293	81.6	61.21	1.003356	76.0
Chloride	35.5	1	2.2	0.062618	4.5	4.9	0.137083	7.8	17.9	0.504894	24.0	9.7	0.27332	14.1	2.7	0.076157	3.1	4.7	0.13116	9.9
Nitrate-N	14.0	1	0.01	0.000714	0.1	0.01	0.000714	0.0	1.01	0.072107	3.4	0.01	0.000714	0.0	0.01	0.000928	0.0	0.01	0.000714	0.1
Sulfate	96.1	2	6.3	0.13138	9.4	13.4	0.278999	15.9	7.9	0.164068	7.8	14.6	0.303984	15.6	18.2	0.378939	15.2	8.7	0.180933	13.7
Total Anions (meq/L)				**1.4**			**1.8**			**2.1**			**1.9**			**2.5**			**1.3**	
Total Ions (meq/L)				**3.0**			**3.7**			**4.4**			**4.2**			**5.1**			**2.8**	
Cation/Anion Ratio				**1.12**			**1.09**			**1.07**			**1.14**			**1.05**			**1.15**	
Percent Difference				**5.7**			**4.1**			**3.5**			**6.5**			**2.6**			**7.0**	
Trilinear Diagram Data																				
sum (Ca, Mg, Na+K)				1.48			1.79			2.25			2.06			2.62			1.39	
Calcium					42.08			41.18			50.73			41.91			37.83			41.61
Magnesium					38.14			43.13			35.94			42.75			47.03			40.11
Sodium + Potassium					19.78			15.70			13.33			15.34			15.14			18.28
														100.0						
sum (SO_4, Cl, HCO_3+CO_3)				1.39			1.76			2.03			1.94			2.49			1.32	
Sulfate					9.439			15.889			8.071			15.644			15.189			13.708
Chloride					4.499			7.807			24.838			14.066			3.053			9.937
Bicarbonate + Carbonate					86.062			76.304			67.091			70.290			81.758			76.356
														100.0						

Table 4 Ion Balance Calculations.
Cedar Hills Regional Landfill Quarterly and Semi-annual Regional Aquifer Groundwater Monitoring
(Data Collected from April 1, 2020 to June 30, 2020)

Site ID			Upgradient and Crossgradient															
			MW-66			MW-73			MW-76			MW-81			MW-82			MW-83		
			4/29/2020			4/29/2020			5/12/2020			5/12/2020			4/30/2020			5/12/2020		
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			6.7			6.4			7.2			6.8			6.8		
Conductance			199			125			279			149			286			582		
TDSobs			139			99			182			121			199			371		
Calcium	40.1	2	17.2	0.858283	36.8	12.6	0.62874	43.4	26.4	1.317365	45.7	14.2	0.708583	43.3	30.3	1.511976	44.8	62.5	3.118762	52.0
Magnesium	24.3	2	13.5	1.110883	47.6	6.5	0.53405	36.9	12.1	0.99568	34.5	7.5	0.61798	37.8	17.5	1.440033	42.7	27.5	2.262909	37.7
Potassium	39.1	1	1.2	0.029413	1.3	0.8	0.02084	1.4	1.7	0.042201	1.5	0.9	0.022047	1.3	1.9	0.047828	1.4	3.3	0.083891	1.4
Sodium	23.0	1	7.7	0.335802	14.4	6.1	0.26316	18.2	12.1	0.526321	18.3	6.6	0.286649	17.5	8.5	0.37147	11.0	12.2	0.530671	8.8
Iron	55.8	2	0.01	0.000358	0.0	0.01	0.00036	0.0	0.01	0.000358	0.0	0.01	0.000358	0.0	0.04	0.001253	0.0	0.01	0.000358	0.0
Manganese	54.9	2	0.00	3.64E-06	0.0	0.00	3.6E-06	0.0	0.00	3.64E-06	0.0	0.00	1.11E-05	0.0	0.00	2.74E-05	0.0	0.12	0.004296	0.1
Ammonia-N	14.0	1	0.00	0.000143	0.0	0.00	0.00014	0.0	0.00	0.000143	0.0	0.00	0.000143	0.0	0.00	0.000143	0.0	0.00	0.000157	0.0
Total Cations (meq/L)				**2.3**			**1.4**			**2.9**			**1.6**			**3.4**			**6.0**	
Anions																				
Alkalinity, Total			86			51			88			56			122			181		
Carbonate	60.0	2	0.04522	0.001507	0.1	0.01612	0.00054	0.0	0.01421	0.000474	0.0	0.04965	0.001655	0.1	0.04957	0.001652	0.1	0.06261	0.002087	0.0
Bicarbonate	61.0	1	105.32	1.726232	80.6	62.31	1.02131	77.1	107.09	1.755262	66.3	68.10	1.116177	70.9	148.74	2.43798	77.6	220.69	3.617368	64.2
Chloride	35.5	1	4.1	0.11621	5.4	2.2	0.0629	4.7	21.3	0.600795	22.7	4.9	0.139057	8.8	11.4	0.321552	10.2	61.8	1.743153	31.0
Nitrate-N	14.0	1	0.41	0.028914	1.4	1.13	0.08067	6.1	0.21	0.014921	0.6	1.56	0.111373	7.1	0.82	0.058614	1.9	0.68	0.048619	0.9
Sulfate	96.1	2	12.9	0.268589	12.5	7.6	0.15886	12.0	13.3	0.276917	10.5	9.9	0.205293	13.0	15.4	0.320641	10.2	10.6	0.220701	3.9
Total Anions (meq/L)				**2.1**			**1.3**			**2.6**			**1.6**			**3.1**			**5.6**	
Total Ions (meq/L)				**4.5**			**2.8**			**5.5**			**3.2**			**6.5**			**11.6**	
Cation/Anion Ratio				**1.09**			**1.09**			**1.09**			**1.04**			**1.07**			**1.07**	
Percent Difference				**4.3**			**4.4**			**4.2**			**1.9**			**3.6**			**3.2**	
Trilinear Diagram Data																				
sum (Ca, Mg, Na+K)				2.33			1.45			2.88			1.64			3.37			6.00	
Calcium					36.77			43.46			45.72			43.33			44.85			52.01
Magnesium					47.59			36.91			34.55			37.79			42.71			37.74
Sodium + Potassium					15.65			19.63			19.73			18.88			12.44			10.25
											100.0									100.0
sum (SO_4, Cl, HCO_3+CO_3)				2.11			1.24			2.63			1.46			3.08			5.58	
Sulfate					12.714			12.774			10.515			14.040			10.404			3.953
Chloride					5.501			5.058			22.814			9.510			10.434			31.221
Bicarbonate + Carbonate					81.785			82.168			66.671			76.450			79.162			64.826
											100.0									

Table 4 Ion Balance Calculations.
Cedar Hills Regional Landfill Quarterly and Semi-annual Regional Aquifer Groundwater Monitoring
(Data Collected from April 1, 2020 to June 30, 2020)

			Upgradient and Crossgradient								
Site ID			**MW-93**			**MW-94**			**MW-95**		
			5/13/2020			5/12/2020			5/4/2020		
Cations	MW	n	mg/L	meq/L	%(meq)	mg/L	meq/L	%(meq)	mg/L	meq/L	%(meq)
pH			7.1			6.6			7.1		
Conductance			327			333			209		
TDSobs			216			221			147		
Calcium	40.1	2	32.8	1.636727	46.9	36.1	1.801397	51.0	22.4	1.11776447	46.5
Magnesium	24.3	2	16.8	1.382432	39.6	15.6	1.283686	36.4	11.7	0.96276486	40.0
Potassium	39.1	1	1.6	0.040667	1.2	2.6	0.065732	1.9	1.2	0.03145917	1.3
Sodium	23.0	1	9.7	0.421927	12.1	8.7	0.378864	10.7	6.6	0.28534431	11.9
Iron	55.8	2	0.01	0.000358	0.0	0.01	0.000358	0.0	0.01	0.00035812	0.0
Manganese	54.9	2	0.19	0.006844	0.2	0.00	5.53E-06	0.0	0.17	0.00611599	0.3
Ammonia-N	14.0	1	0.06	0.004119	0.1	0.00	0.000143	0.0	0.03	0.00182766	0.1
Total Cations (meq/L)				**3.5**			**3.5**			**2.4**	
Anions											
Alkalinity, Total			120			120			90		
Carbonate	60.0	2	0.09949	0.003316	0.1	0.03149	0.00105	0.0	0.07436579	0.00247889	0.1
Bicarbonate	61.0	1	146.20	2.396322	72.7	146.34	2.398589	74.4	109.28	1.79125098	78.4
Chloride	35.5	1	2.8	0.077567	2.4	21.4	0.603616	18.7	6.1	0.17290497	7.6
Nitrate-N	14.0	1	0.01	0.000928	0.0	0.61	0.043835	1.4	0.01	0.00071393	0.0
Sulfate	96.1	2	39.2	0.816177	24.8	8.4	0.175728	5.5	15.2	0.31647678	13.9
Total Anions (meq/L)				**3.3**			**3.2**			**2.3**	
Total Ions (meq/L)				**6.8**			**6.8**			**4.7**	
Cation/Anion Ratio				**1.06**			**1.10**			**1.05**	
Percent Difference				**2.9**			**4.6**			**2.6**	
Trilinear Diagram Data											
sum (Ca, Mg, Na+K)				3.48			3.53			2.40	
Calcium					47.01			51.04			46.63
Magnesium					39.71			36.37			40.16
Sodium + Potassium					13.29			12.60			13.21
					100.0						
sum (SO_4, Cl, HCO_3+CO_3)				3.29			3.18			2.28	
Sulfate					24.782			5.528			13.862
Chloride					2.355			18.988			7.573
Bicarbonate + Carbonate					72.862			75.484			78.565

Table 4 Ion Balance Calculations.
Cedar Hills Regional Landfill Quarterly and Semi-annual Regional Aquifer Groundwater Monitoring
(Data Collected from April 1, 2020 to June 30, 2020)

			Downgradient to Waste Cells and North End Facilities															
Site ID			**MW-68**			**MW-67**			**MW-72**			**MW-74**			**MW-75**			**MW-80**		
			4/9/2020			5/11/2020			4/30/2020			5/12/2020			5/12/2020			4/9/2020		
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			6.9			6.9			6.9			6.8			6.9		
Conductance			262			345			323			510			351			299		
TDSobs			185			245			218			343			256			199		
Calcium	40.1	2	26.6	1.327345	44.6	36.9	1.841317	45.2	32.8	1.636727	43.0	49.8	2.48503	40.9	32.8	1.636727	40.1	31.4	1.566866	46.8
Magnesium	24.3	2	14.4	1.184941	39.9	20.9	1.719811	42.3	19.8	1.629294	42.8	36.2	2.978811	49.0	23.0	1.892615	46.4	15.8	1.300144	38.8
Potassium	39.1	1	1.7	0.042201	1.4	1.8	0.046038	1.1	1.9	0.049363	1.3	2.2	0.05678	0.9	2.0	0.052176	1.3	1.7	0.04348	1.3
Sodium	23.0	1	8.9	0.385389	13.0	9.7	0.419752	10.3	8.5	0.369295	9.7	12.7	0.55242	9.1	9.2	0.399308	9.8	8.0	0.349286	10.4
Iron	55.8	2	0.60	0.02138	0.7	0.79	0.028113	0.7	3.08	0.110301	2.9	0.01	0.000358	0.0	2.52	0.090247	2.2	2.18	0.07807	2.3
Manganese	54.9	2	0.30	0.011067	0.4	0.38	0.013834	0.3	0.38	0.013761	0.4	0.00	3.64E-06	0.0	0.22	0.0079	0.2	0.34	0.01245	0.4
Ammonia-N	14.0	1	0.02	0.001128	0.0	0.01	0.000471	0.0	0.02	0.001199	0.0	0.00	0.000143	0.0	0.01	0.000643	0.0	0.01	0.000678	0.0
Total Cations (meq/L)				**3.0**			**4.1**			**3.8**			**6.1**			**4.1**			**3.4**	
Anions																				
Alkalinity, Total			123			162			127			219			111			116		
Carbonate	60.0	2	0.04558	0.00152	0.1	0.08097	0.002699	0.1	0.05924	0.001975	0.1	0.10454	0.003485	0.1	0.04114	0.001371	0.0	0.05798	0.001933	0.1
Bicarbonate	61.0	1	149.97	2.45811	86.4	197.48	3.236813	82.8	154.82	2.537642	72.1	266.97	4.375855	74.4	135.34	2.218294	58.8	141.40	2.317718	73.6
Chloride	35.5	1	3.0	0.084055	3.0	4.9	0.136801	3.5	6.8	0.191803	5.5	26.4	0.744648	12.7	11.0	0.31027	8.2	4.4	0.12298	3.9
Nitrate-N	14.0	1	0.01	0.000714	0.0	0.08	0.005354	0.1	0.01	0.000714	0.0	0.25	0.017705	0.3	0.01	0.000714	0.0	0.01	0.000714	0.0
Sulfate	96.1	2	14.4	0.29982	10.5	25.4	0.528849	13.5	37.8	0.787028	22.4	35.4	0.737058	12.5	59.8	1.245086	33.0	33.9	0.705827	22.4
Total Anions (meq/L)				**2.8**			**3.9**			**3.5**			**5.9**			**3.8**			**3.1**	
Total Ions (meq/L)				**5.8**			**8.0**			**7.3**			**12.0**			**7.9**			**6.5**	
Cation/Anion Ratio				**1.05**			**1.04**			**1.08**			**1.03**			**1.08**			**1.06**	
Percent Difference				**2.2**			**2.0**			**4.0**			**1.6**			**3.9**			**3.1**	
Trilinear Diagram Data																				
sum (Ca, Mg, Na+K)				2.94			4.03			3.68			6.07			3.98			3.26	
Calcium					45.15			45.73			44.42			40.92			41.12			48.07
Magnesium					40.31			42.71			44.22			49.05			47.54			39.88
Sodium + Potassium					14.54			11.57			11.36			10.03			11.34			12.05
sum (SO_4, Cl, HCO_3+CO_3)				2.84			3.91			3.52			5.86			3.78			3.15	
Sulfate					10.544			13.542			22.369			12.576			32.982			22.418
Chloride					2.956			3.503			5.451			12.705			8.219			3.906
Bicarbonate + Carbonate					86.500			82.955			72.180			74.719			58.799			73.676

Table 4 Ion Balance Calculations.
Cedar Hills Regional Landfill Quarterly and Semi-annual Regional Aquifer Groundwater Monitoring
(Data Collected from April 1, 2020 to June 30, 2020)

			Downgradient to Waste Cells and North End Facilities																	
Site ID			**MW-85**			**MW-86**			**MW-87**			**MW-88**			**MW-89**			**MW-100**		
			5/14/2020			5/13/2020			5/12/2020			5/14/2020			5/14/2020			5/13/2020		
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			7.0			6.9			6.7			6.9			7.2			6.9		
Conductance			340			183			493			116			232			284		
TDSobs			233			126			382			92			167			180		
Calcium	40.1	2	34.7	1.731537	43.7	15.7	0.783433	38.2	47.9	2.39022	41.3	9.4	0.470559	35.6	19.0	0.948104	36.0	25.7	1.282435	43.1
Magnesium	24.3	2	21.3	1.752726	44.2	10.9	0.896935	43.7	32.3	2.657889	46.0	7.0	0.573545	43.4	13.8	1.135569	43.2	15.0	1.234314	41.5
Potassium	39.1	1	1.8	0.045015	1.1	1.3	0.032994	1.6	2.5	0.063941	1.1	0.9	0.021766	1.6	1.7	0.044247	1.7	1.7	0.043992	1.5
Sodium	23.0	1	10.0	0.434976	11.0	7.1	0.310573	15.1	11.1	0.482823	8.4	5.9	0.256636	19.4	10.3	0.448025	17.0	8.8	0.381039	12.8
Iron	55.8	2	0.01	0.000358	0.0	0.72	0.025677	1.3	4.62	0.165452	2.9	0.01	0.000358	0.0	1.22	0.043691	1.7	0.76	0.027074	0.9
Manganese	54.9	2	0.00	3.64E-06	0.0	0.02	0.000699	0.0	0.55	0.020132	0.3	0.00	3.64E-06	0.0	0.28	0.010193	0.4	0.13	0.004805	0.2
Ammonia-N	14.0	1	0.00	0.000143	0.0	0.00	0.000143	0.0	0.02	0.001221	0.0	0.00	0.000143	0.0	0.02	0.001364	0.1	0.01	0.000643	0.0
Total Cations (meq/L)				**4.0**			**2.1**			**5.8**			**1.3**			**2.6**			**3.0**	
Anions																				
Alkalinity, Total			141			70			107			51			86			121		
Carbonate	60.0	2	0.07907	0.002636	0.1	0.03332	0.001111	0.1	0.0315	0.00105	0.0	0.0237	0.00079	0.1	0.08414	0.002805	0.1	0.0591	0.00197	0.1
Bicarbonate	61.0	1	171.86	2.81694	74.2	85.09	1.394679	72.0	130.48	2.138627	40.1	61.93	1.015057	81.7	105.24	1.724935	70.2	147.50	2.417665	86.0
Chloride	35.5	1	10.5	0.296167	7.8	4.4	0.124672	6.4	14.3	0.403351	7.6	1.7	0.048797	3.9	12.8	0.361041	14.7	3.0	0.085465	3.0
Nitrate-N	14.0	1	0.10	0.007139	0.2	0.01	0.000928	0.0	0.01	0.000714	0.0	0.76	0.054116	4.4	0.01	0.000714	0.0	0.01	0.000714	0.0
Sulfate	96.1	2	32.3	0.672513	17.7	20.0	0.416417	21.5	134.0	2.789993	52.3	5.9	0.123676	10.0	17.7	0.368529	15.0	14.7	0.306066	10.9
Total Anions (meq/L)				**3.8**			**1.9**			**5.3**			**1.2**			**2.5**			**2.8**	
Total Ions (meq/L)				**7.8**			**4.0**			**11.1**			**2.6**			**5.1**			**5.8**	
Cation/Anion Ratio				**1.04**			**1.06**			**1.08**			**1.06**			**1.07**			**1.06**	
Percent Difference				**2.2**			**2.8**			**4.0**			**3.1**			**3.4**			**2.8**	
Trilinear Diagram Data																				
sum (Ca, Mg, Na+K)				3.96			2.02			5.59			1.32			2.58			2.94	
Calcium					43.68			38.71			42.72			35.58			36.81			43.59
Magnesium					44.21			44.32			47.51			43.37			44.08			41.96
Sodium + Potassium					12.11			16.98			9.77			21.05			19.11			14.45
sum (SO_4, Cl, HCO_3+CO_3)				3.79			1.94			5.33			1.19			2.46			2.81	
Sulfate					17.753			21.499			52.315			10.408			14.997			10.888
Chloride					7.818			6.437			7.563			4.106			14.693			3.040
Bicarbonate + Carbonate					74.429			72.064			40.121			85.486			70.310			86.072

Table 4
Ion Balanace Calculations
Cedar Hills Regional Landfill
Quarterly Regional Aquifer Groundwater Monitoring

Data Collected from July 1, 2020 to September 30, 2020

			Quarterly Upgradient and Crossgradient Wells															
		Site ID	MW-59			MW-66			MW-81			MW-83			MW-84			MW-93	
		Date	7/8/20			7/7/20			7/8/20			7/7/20			7/9/20			7/9/20	
Cations	**Molecular Weight**	**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			6.7			6.9			6.3			6.7			6.8		
Conductance			218.3			209.9			166.0			607.0			196.5			329.7		
TDSobs			164.0			135.0			124.0			379.0			132.0			223.0		
Calcium	40.1	2	17.6	0.88	39.3	15.2	0.76	36.3	13.9	0.69	42.0	64.4	3.21	51.4	15.3	0.76	37.9	31.2	1.56	45.5
Magnesium	24.3	2	10.8	0.89	39.8	12.1	0.99568	47.7	7.7	0.64	38.5	28.1	2.31	37.0	11.1	0.913392	45.4	16.8	1.38	40.4
Potassium	39.1	1	1.2	0.031	1.4	1.1	0.03	1.3	0.88	0.022	1.4	3.6	0.09	1.5	1.2	0.03	1.5	1.6	0.04	1.2
Sodium	23.0	1	6.3	0.27	12.3	7.1	0.31	14.7	6.9	0.30	18.1	14.6	0.64	10.2	7.0	0.31	15.2	9.8	0.43	12.5
Iron	55.8	2	4.34	0.16	7.0	0.010	0.000358	0.017	0.01	0.000358	0.02	0.01	0.000358	0.0057	0.010	0.000358	0.018	0.010	0.000358	0.010
Manganese	54.9	2	0.13	0.004842	0.22	0.0001	3.64E-06	0.0002	0.0001	3.64E-06	0.0002	0.028	0.001023	0.0164	0.002	8.59E-05	0.004	0.1820	0.006626	0.1938
Ammonia-N	14.0	1	0.007	0.0005	0.02	0.0020	0.000143	0.007	0.0020	0.000143	0.009	0.009	0.000628	0.0100	0.002	0.000157	0.008	0.053	0.003812	0.112
Total Cations (meq/L)				**2.23**			**2.1**			**1.7**			**6.3**			**2.0**			**3.4**	
Anions																				
Alkalinity, Total			68.6			81.3			55.5			209.0			75.1			119.0		
Carbonate	60.0	2	0.024	0.000791	0.0	0.024	0.000816	0.0	0.024	0.000805	0.1	0.027	0.000916	0.0	0.022	0.000737	0.0	0.043	0.001437	0.043
Bicarbonate	61.0	1	83.64	1.37	68.0	99.14	1.62	78.8	67.66	1.11	69.9	254.92	4.18	68.7	91.58	1.50	77.3	145.09	2.38	71.4
Chloride	35.5	1	11.2	0.32	15.7	4.3	0.12	5.9	5.2	0.15	9.2	56.8	1.60	26.3	3.9	0.11	5.6	2.9	0.08	2.4
Nitrate-N	14.0	1	0.010	0.000714	0.04	0.44	0.032	1.5	1.46	0.10	6.6	1.24	0.09	1.5	0.12	0.01	0.5	0.0	0.00	0.1
Sulfate	96.1	2	15.8	0.33	16.3	13.6	0.28	13.7	10.9	0.23	14.3	10.2	0.21	3.5	15.5	0.32	16.6	41.7	0.87	26.1
Total Anions (meq/L)				**2.02**			**2.1**			**1.6**			**6.1**			**1.9**			**3.3**	
Total Ions (meq/L)				**4.2**			**4.2**			**3.2**			**12.3**			**4.0**			**6.7**	
Cation/Anion Ratio				**1.11**			**1.01**			**1.04**			**1.03**			**1.04**			**1.03**	
Percent Difference				**5.1**			**0.6**			**2.0**			**1.4**			**1.8**			**1.3**	
Trilinear Diagram Data																				
sum (Ca, Mg, Na+K)			2.07			2.09			1.65			6.25			2.01			3.41		
Calcium				42.40			36.31			41.98			51.40			37.94			45.69	
Magnesium				42.90			47.66			38.55			36.98			45.38			40.57	
Sodium + Potassium				14.70			16.03			19.47			11.62			16.68			13.74	
sum (SO_4, Cl, HCO_3+CO_3)			2.02			2.03			1.48			5.99			1.93			3.33		
Sulfate				16.31			13.94			15.31			3.54			16.69			26.08	
Chloride				15.66			6.01			9.80			26.73			5.62			2.44	
Bicarbonate + Carbonate				68.02			80.04			74.89			69.73			77.69			71.48	

Table 4
Ion Balanace Calculations
Cedar Hills Regional Landfill
Quarterly Regional Aquifer Groundwater Monitoring

Data Collected from July 1, 2020 to September 30, 2020

			Quarterly Upgradient and Crossgradient Wells																
		Site ID	MW-94			MW-113			MW-114			MW-115			MW-68			MW-72		
		Date	7/7/20			7/9/20			7/9/20			7/8/20			7/20/20			7/7/2020		
Cations	**Molecular Weight**	**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			6.2			7.3			6.7			6.3			6.7			6.7		
Conductance			334.5			381.4			288.6			285.8			280.5			357.0		
TDSobs			231.0			236.0			194.0			196.0			160.0			228.0		
Calcium	40.1	2	32.9	1.64	49.7	35.8	1.79	46.3	28.0	1.40	48.6	27.8	1.39	50.9	27.2	1.36	41.7	32.1	1.60	42.1
Magnesium	24.3	2	14.9	1.23	37.1	19.2	1.58	41.0	13.5	1.11	38.7	11.9	0.98	35.9	16.7	1.37	42.2	20.2	1.66	43.7
Potassium	39.1	1	2.4	0.06	1.9	2.1	0.05	1.4	2.3	0.06	2.1	1.9	0.05	1.8	1.8	0.04	1.4	2.0	0.05	1.3
Sodium	23.0	1	8.5	0.37	11.2	9.0	0.39	10.2	7.0	0.30	10.6	7.1	0.31	11.3	10.2	0.44	13.6	8.740	0.380169	9.986
Iron	55.8	2	0.010	0.000358	0.011	0.823	0.0294734	0.764	0.010	0.0003581	0.012	0.010	0.0003581	0.013	0.64	0.023	0.70	2.7200	0.097409	2.5586
Manganese	54.9	2	0.0001	3.64E-06	0.0001	0.4160	0.0151443	0.3926	0.0053	0.000194	0.0068	0.0401	0.0014598	0.0535	0.29	0.011	0.33	0.365	0.013288	0.349
Ammonia-N	14.0	1	0.002	0.000157	0.005	0.014	0.0010138	0.026	0.014	0.0009638	0.034	0.006	0.0004069	0.015	0.02	0.001	0.040		**0.0**	
Total Cations (meq/L)				**3.3**			**3.9**			**2.9**			**2.7**			**3.3**			**3.8**	
Anions																				
Alkalinity, Total			121.0			136.0			101.0			91.1			121.0			127.000		
Carbonate	60.0	2	0.011	0.000359	0.011	0.149	0.0049524	0.134	0.028	0.0009466	0.035	0.012	0.0003904	0.015	0.034	0.001134	0.04	0.04	0.00	0.0
Bicarbonate	61.0	1	147.60	2.42	74.4	165.62	2.71	73.7	123.16	2.02	74.9	111.12	1.82	68.4	147.55	2.42	86.3	154.9	2.54	71.4
Chloride	35.5	1	22.3	0.63	19.4	26.7	0.75	20.4	14.8	0.42	15.5	18.3	0.52	19.4	2.8	0.079	2.8	7.2	0.20	5.7
Nitrate-N	14.0	1	0.52	0.04	1.1	0.0	0.00	0.0	1.5	0.11	4.1	1.9	0.13	5.1	0.010	0.000714	0.025	0.0	0.00	0.0
Sulfate	96.1	2	7.9	0.16	5.1	10.2	0.21	5.8	7.2	0.15	5.6	9.2	0.19	7.2	14.5	0.30	10.8		**0.8**	
Total Anions (meq/L)				**3.2**			**3.7**			**2.7**			**2.7**			**2.8**			**3.6**	
Total Ions (meq/L)				**6.6**			**7.5**			**5.6**			**5.4**			**6.1**			7.362	
Cation/Anion Ratio				**1.02**			**1.05**			**1.07**			**1.02**			**1.16**			**1.071**	
Percent Difference				**0.8**			**2.3**			**3.2**			**1.2**			**7.5**			**3.426**	
Trilinear Diagram Data																				
sum (Ca, Mg, Na+K)			3.30			3.81			2.87			2.72			3.22			3.70		
Calcium				49.75			46.87			48.65			50.91			42.15			43.35	
Magnesium				37.16			41.45			38.68			35.94			42.68			44.98	
Sodium + Potassium				13.09			11.68			12.67			13.15			15.17				
																			100.000	
sum (SO_4, Cl, HCO_3+CO_3)			3.21			3.69			2.59			2.53			2.80			3.55		
Sulfate				5.11			5.76			5.82			7.53			10.78			22.85	
Chloride				19.58			20.44			16.13			20.42			2.82			5.70	
Bicarbonate + Carbonate				75.31			73.80			78.05			72.05			86.40			71.45	

Table 4
Ion Balanace Calculations
Cedar Hills Regional Landfill
Quarterly Regional Aquifer Groundwater Monitoring

Data Collected from July 1, 2020 to September 30, 2020

			Quarterly Downgradient to Waste Cells and North End Facilities													
		Site ID	MW-74R			MW-75			MW-80			MW-85			MW-87	
		Date	7/8/20			7/8/20			7/20/20			7/9/20			7/9/20	
Cations	**Molecular Weight**	**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)**
pH			6.6			6.7			7.8			6.7			6.7		
Conductance			571.0			388.8			274.9			379.8			545.0		
TDSobs			354.0			267.0			219.0			245.0			405.0		
Calcium	40.1	2	47.1	2.35	39.4	31.7	1.58	38.9	32.4	1.62	44.4	34.1	1.70	43.2	45.9	2.29	40.7
Magnesium	24.3	2	36.3	2.99	50.0	23.3	1.92	47.1	18.1	1.49	40.9	21.4	1.76	44.7	31.5	2.59	46.0
Potassium	39.1	1	2.2	0.06	0.9	2.0	0.05	1.3	1.8	0.046	1.2	1.7	0.044	1.1	2.5	0.06	1.1
Sodium	23.0	1	13.2	0.57	9.6	9.5	0.41	10.1	9.1	0.40	10.8	10.0	0.433	11.0	11.1	0.48	8.6
Iron	55.8	2	0.010	0.000358	0.006	2.70	0.10	2.38	2.36	0.085	2.3	0.010	0.000358	0.0091	4.940	0.176912	3.141
Manganese	54.9	2	0.0001	3.64E-06	0.00006	0.23	0.008446	0.21	0.34	0.013	0.34	0.0001	3.64E-06	0.00009	0.5430	0.019768	0.3510
Ammonia-N	14.0	1	0.002	0.000143	0.002	0.010	0.000728	0.018	0.01	0.0009	0.025	0.002	0.000143	0.0036	0.070	0.005019	0.089
Total Cations (meq/L)				**6.0**			**4.1**			**3.6**			**3.9**			**5.6**	
Anions																	
Alkalinity, Total			221.0			110.0			115.0			141.0			107.0		
Carbonate	60.0	2	0.05	0.001763	0.03	0.03	0.001055	0.03	0.444	0.01479	0.47	0.038744	0.001291	0.03	0.034	0.001125	0.020
Bicarbonate	61.0	1	269.51	4.42	73.9	134.14	2.20	56.7	139.4	2.28	72.9	171.94	2.82	73.1	130.47	2.14	38.4
Chloride	35.5	1	27.0	0.76	12.7	11.7	0.33	8.5	4.3	0.12	3.9	11.0	0.31	8.0	14.4	0.41	7.3
Nitrate-N	14.0	1	0.24	0.017063	0.29	0.010	0.000714	0.018	0.01	0.000714	0.02	0.09	0.006711	0.2	0.0	0.00	0.0
Sulfate	96.1	2	37.5	0.78	13.1	64.6	1.35	34.7	34.2	0.71	22.7	34.6	0.72	18.7	145.0	3.02	54.2
Total Anions (meq/L)				**6.0**			**3.9**			**3.1**			**3.9**			**5.6**	
Total Ions (meq/L)				**11.9**			**7.9**			**6.8**			**7.8**			**11.2**	
Cation/Anion Ratio				**1.00**			**1.05**			**1.16**			**1.02**			**1.01**	
Percent Difference				**-0.1**			**2.4**			**7.5**			**1.1**			**0.6**	
Trilinear Diagram Data																	
sum (Ca, Mg, Na+K)			5.97			3.96			3.55			3.94			5.43		
Calcium				39.38			39.93			45.58			43.19			42.18	
Magnesium				50.05			48.40			41.99			44.70			47.74	
Sodium + Potassium				10.56			11.67			12.43			12.11			10.08	
sum (SO_4, Cl, HCO_3+CO_3)			5.96			3.87			3.13			3.85			5.56		
Sulfate				13.10			34.71			22.72			18.71			54.25	
Chloride				12.77			8.52			3.89			8.06			7.30	
Bicarbonate + Carbonate				74.13			56.77			73.39			73.23			38.45	

Table 4
Ion Balance Calculations
Cedar Hills Regional Landfill Semi-annual Aquifer
Groundwater Monitoring
(Data Collected from October 1, 2020 to December 31, 2020)

Site ID			Upgradient and Crossgradient															
			MW-21			MW-24			MW-56			MW-59			MW-64			MW-65		
			10/2/2020			10/8/2020			10/13/2020			10/15/2020			10/7/2020			10/15/2020		
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			6.9			7.0			6.8			6.7			6.7		
Conductance			140			185			255			228			191			145		
TDSobs			97			105			137			127			136			84		
Calcium	40.1	2	12.0	0.598802	39.6	14.0	0.698603	37.3	24.5	1.222555	45.5	18.5	0.923154	39.3	16.2	0.808383	38.0	11.4	0.568862	38.2
Magnesium	24.3	2	6.7	0.551327	36.5	9.3	0.767743	41.0	13.6	1.119111	41.7	11.5	0.946307	40.3	11.7	0.962765	45.3	6.8	0.561201	37.7
Potassium	39.1	1	1.1	0.027878	1.8	0.9	0.023965	1.3	1.3	0.032738	1.2	1.1	0.02839	1.2	1.4	0.035551	1.7	0.8	0.021075	1.4
Sodium	23.0	1	6.1	0.26403	17.5	5.8	0.251416	13.4	7.0	0.302743	11.3	6.5	0.284039	12.1	7.3	0.317098	14.9	5.3	0.230102	15.5
Iron	55.8	2	1.73	0.061955	4.1	3.51	0.125701	6.7	0.01	0.000448	0.0	4.53	0.162229	6.9	0.01	0.000358	0.0	2.87	0.102781	6.9
Manganese	54.9	2	0.11	0.003859	0.3	0.11	0.003968	0.2	0.22	0.008045	0.3	0.14	0.005024	0.2	0.03	0.000987	0.0	0.13	0.004769	0.3
Ammonia-N	14.0	1	0.04	0.003163	0.2	0.04	0.002756	0.1	0.00	0.000143	0.0	0.01	0.000435	0.0	0.03	0.002028	0.1	0.00	0.000243	0.0
Total Cations (meq/L)				**1.5**			**1.9**			**2.7**			**2.3**			**2.1**			**1.5**	
Anions																				
Alkalinity, Total			60			66			84			72			84			50		
Carbonate	60.0	2	0.0865	0.002883	0.2	0.03127	0.001042	0.1	0.04926	0.001642	0.1	0.02859	0.000953	0.0	0.02577	0.000859	0.0	0.01587	0.000529	0.0
Bicarbonate	61.0	1	73.15	1.198936	86.2	79.85	1.30876	78.0	102.26	1.676105	68.6	87.78	1.43883	68.8	101.94	1.670889	84.4	61.33	1.005319	75.7
Chloride	35.5	1	2.3	0.063464	4.6	5.5	0.154853	9.2	20.8	0.586692	24.0	12.1	0.341297	16.3	2.8	0.078132	3.9	5.1	0.144981	10.9
Nitrate-N	14.0	1	0.01	0.000714	0.1	0.01	0.000714	0.0	0.01	0.000714	0.0	0.01	0.000714	0.0	0.01	0.000714	0.0	0.01	0.000714	0.1
Sulfate	96.1	2	6.0	0.124717	9.0	10.2	0.212373	12.7	8.5	0.17781	7.3	14.8	0.308148	14.7	11.0	0.229029	11.6	8.5	0.176769	13.3
Total Anions (meq/L)				**1.4**			**1.7**			**2.4**			**2.1**			**2.0**			**1.3**	
Total Ions (meq/L)				**2.9**			**3.6**			**5.1**			**4.4**			**4.1**			**2.8**	
Cation/Anion Ratio				**1.09**			**1.12**			**1.10**			**1.12**			**1.07**			**1.12**	
Percent Difference				**4.1**			**5.5**			**4.7**			**5.8**			**3.6**			**5.7**	
Trilinear Diagram Data																				
sum (Ca, Mg, Na+K)				1.44			1.74			2.68			2.18			2.12			1.38	
Calcium					41.52			40.11			45.67			42.31			38.06			41.18
Magnesium					38.23			44.08			41.80			43.37			45.33			40.63
Sodium + Potassium					20.24			15.81			12.53			14.32			16.60			18.18
														100.0						
sum (SO_4, Cl, HCO_3+CO_3)				1.39			1.68			2.44			2.09			1.98			1.33	
Sulfate					8.972			12.664			7.281			14.749			11.574			13.315
Chloride					4.566			9.234			24.023			16.336			3.948			10.921
Bicarbonate + Carbonate					86.462			78.103			68.697			68.915			84.478			75.765
														100.0						

Table 4
Ion Balance Calculations
Cedar Hills Regional Landfill Semi-annual Aquifer
Groundwater Monitoring
(Data Collected from October 1, 2020 to December 31, 2020)

Site ID			Upgradient and Crossgradient																		
			MW-66			MW-73			MW-76			MW-81			MW-82			MW-83			MW-84		
			10/6/2020			10/2/2020			10/16/2020			10/14/2020			10/16/2020			10/16/2020			10/13/2020		
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			6.7			6.4			6.4			6.7			6.8			6.6			6.7		
Conductance			204			132			367			167			303			617			204		
TDSobs			135			104			180			105			200			418			120		
Calcium	40.1	2	16.3	0.813373	36.6	11.8	0.58882	43.0	26.0	1.297405	46.0	14.2	0.708583	42.8	28.0	1.397206	43.6	67.1	3.348303	51.2	17.5	0.873253	38.0
Magnesium	24.3	2	12.8	1.053281	47.4	6.1	0.50113	36.6	11.8	0.970994	34.4	7.8	0.644312	38.9	17.1	1.407118	43.9	29.3	2.411027	36.9	12.9	1.06151	46.2
Potassium	39.1	1	1.1	0.027623	1.2	0.8	0.02041	1.5	1.5	0.038365	1.4	0.8	0.020052	1.2	1.7	0.043992	1.4	3.5	0.090029	1.4	1.2	0.03018	1.3
Sodium	23.0	1	7.5	0.325362	14.7	5.9	0.25707	18.8	11.8	0.513272	18.2	6.5	0.28143	17.0	8.2	0.35755	11.2	15.7	0.682912	10.5	7.7	0.332757	14.5
Iron	55.8	2	0.01	0.000358	0.0	0.01	0.00036	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	0.00	3.64E-06	0.0	0.00	5.5E-06	0.0	0.00	3.64E-06	0.0	0.00	4.3E-06	0.0	0.00	3.64E-06	0.0	0.01	0.000379	0.0	0.00	0.000164	0.0
Ammonia-N	14.0	1	0.00	0.000143	0.0	0.00	0.00014	0.0	0.01	0.000528	0.0	0.00	0.000143	0.0	0.01	0.000414	0.0	0.02	0.001613	0.0	0.00	0.000143	0.0
Total Cations (meq/L)				**2.2**			**1.4**			**2.8**			**1.7**			**3.2**			**6.5**			**2.3**	
Anions																							
Alkalinity, Total			83			50			85			56			117			215			78		
Carbonate	60.0	2	0.02275	0.000758	0.0	0.00777	0.00026	0.0	0.01344	0.000448	0.0	0.0173	0.000577	0.0	0.04047	0.001349	0.0	0.04693	0.001564	0.0	0.021026	0.000701	0.0
Bicarbonate	61.0	1	100.97	1.654992	79.9	61.35	1.00559	77.1	103.67	1.699296	63.4	68.41	1.121254	70.7	142.66	2.338298	76.8	262.20	4.297787	69.2	95.48	1.565063	77.5
Chloride	35.5	1	4.1	0.114518	5.5	2.2	0.06149	4.7	23.0	0.648746	24.2	5.1	0.144417	9.1	12.6	0.3554	11.7	56.5	1.593659	25.7	4.1	0.115928	5.7
Nitrate-N	14.0	1	0.49	0.034983	1.7	1.14	0.08139	6.2	0.24	0.016992	0.6	1.56	0.111373	7.0	0.99	0.07075	2.3	1.51	0.107803	1.7	0.15	0.010638	0.5
Sulfate	96.1	2	12.8	0.266507	12.9	7.5	0.15532	11.9	15.1	0.314395	11.7	10.0	0.208	13.1	13.4	0.278999	9.2	10.1	0.21029	3.4	15.7	0.326887	16.2
Total Anions (meq/L)				**2.1**			**1.3**			**2.7**			**1.6**			**3.0**			**6.2**			**2.0**	
Total Ions (meq/L)				**4.3**			**2.7**			**5.5**			**3.2**			**6.3**			**12.7**			**4.3**	
Cation/Anion Ratio				**1.07**			**1.05**			**1.05**			**1.04**			**1.05**			**1.05**			**1.14**	
Percent Difference				**3.5**			**2.4**			**2.6**			**2.1**			**2.6**			**2.5**			**6.5**	
Trilinear Diagram Data																							
sum (Ca, Mg, Na+K)				2.22			1.37			2.82			1.65			3.21			6.53			2.30	
Calcium					36.64			43.06			46.01			42.83			43.58			51.26			38.01
Magnesium					47.45			36.65			34.43			38.95			43.89			36.91			46.20
Sodium + Potassium					15.90			20.29			19.56			18.22			12.53			11.83			15.80
											100.0												100.0
sum (SO_4, Cl, HCO_3+CO_3)				2.04			1.22			2.66			1.47			2.97			6.10			2.01	
Sulfate					13.085			12.704			11.807			14.109			9.381			3.446			16.275
Chloride					5.623			5.029			24.363			9.796			11.950			26.111			5.772
Bicarbonate + Carbonate					81.293			82.267			63.831			76.095			78.669			70.443			77.954
											100.0												

Table 4
Ion Balance Calculations
Cedar Hills Regional Landfill Semi-annual Aquifer
Groundwater Monitoring
(Data Collected from October 1, 2020 to December 31, 2020)

			Upgradient and Crossgradient															
Site ID			**MW-113**			**MW-114**			**MW-115**			**MW-93**			**MW-94**			**MW-95**		
			10/16/2020			10/15/2020			10/20/2020			10/7/2020			10/16/2020			10/12/2020		
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			6.9			6.5			6.9			6.4			7.3		
Conductance			398			269			283			313			338			230		
TDSobs			245			174			182			214			227			135		
Calcium	40.1	2	38.5	1.921158	46.2	25.3	1.262475	48.1	28.7	1.43213573	50.8	32.0	1.59680639	45.8	35.2	1.75648703	50.8	22.0	1.09780439	46.8
Magnesium	24.3	2	20.9	1.719811	41.4	12.5	1.028595	39.2	12.4	1.02036618	36.2	17.0	1.39888912	40.2	15.5	1.27545772	36.9	11.5	0.94630734	40.3
Potassium	39.1	1	2.0	0.052176	1.3	1.9	0.048851	1.9	1.8	0.04706087	1.7	1.5	0.03836484	1.1	2.3	0.05984915	1.7	1.1	0.02864575	1.2
Sodium	23.0	1	9.3	0.405833	9.8	6.6	0.285344	10.9	7.4	0.31970742	11.3	10.1	0.43932584	12.6	8.3	0.3619001	10.5	6.1	0.26533541	11.3
Iron	55.8	2	1.17	0.0419	1.0	0.01	0.000358	0.0	0.01	0.00035812	0.0	0.01	0.00035812	0.0	0.01	0.00035812	0.0	0.01	0.00035812	0.0
Manganese	54.9	2	0.42	0.015108	0.4	0.00	2.61E-05	0.0	0.03	0.0012414	0.0	0.15	0.00560632	0.2	0.00	7.8634E-06	0.0	0.16	0.00586115	0.2
Ammonia-N	14.0	1	0.02	0.001114	0.0	0.01	0.000386	0.0	0.01	0.0003998	0.0	0.05	0.00357678	0.1	0.00	0.00032841	0.0	0.03	0.00192047	0.1
Total Cations (meq/L)				**4.2**			**2.6**			**2.8**			**3.5**			**3.5**			**2.3**	
Anions																				
Alkalinity, Total			139			96			94			118			120			88		
Carbonate	60.0	2	0.16647	0.005549	0.1	0.04699	0.001566	0.1	0.01697702	0.00056591	0.0	0.05379391	0.00179315	0.1	0.01652962	0.00055099	0.0	0.09569603	0.00318991	0.1
Bicarbonate	61.0	1	169.24	2.774033	71.1	117.27	1.922144	74.1	114.04	1.86915219	69.1	143.85	2.35785126	72.8	146.37	2.39908718	73.0	106.68	1.74854642	77.7
Chloride	35.5	1	32.7	0.922348	23.6	15.2	0.428737	16.5	18.5	0.52181762	19.3	2.6	0.07220828	2.2	24.6	0.6938764	21.1	6.3	0.17685386	7.9
Nitrate-N	14.0	1	0.01	0.000714	0.0	1.43	0.102092	3.9	1.99	0.14207182	5.3	0.03	0.00221318	0.1	0.57	0.04097951	1.2	0.01	0.00071393	0.0
Sulfate	96.1	2	9.5	0.198423	5.1	6.8	0.140957	5.4	8.2	0.16968985	6.3	38.6	0.80368446	24.8	7.4	0.15365781	4.7	15.4	0.32064095	14.3
Total Anions (meq/L)				**3.9**			**2.6**			**2.7**			**3.2**			**3.3**			**2.2**	
Total Ions (meq/L)				**8.1**			**5.2**			**5.5**			**6.7**			**6.7**			**4.6**	
Cation/Anion Ratio				**1.07**			**1.01**			**1.04**			**1.08**			**1.05**			**1.04**	
Percent Difference				**3.2**			**0.6**			**2.1**			**3.6**			**2.5**			**2.1**	
Trilinear Diagram Data																				
sum (Ca, Mg, Na+K)				4.10			2.63			2.82			3.47			3.45			2.34	
Calcium					46.87			48.09			50.80			45.97			50.86			46.95
Magnesium					41.96			39.18			36.19			40.27			36.93			40.47
Sodium + Potassium					11.17			12.73			13.01			13.75			12.21			12.57
					100.0									100.0						
sum (SO_4, Cl, HCO_3+CO_3)				3.90			2.49			2.56			3.24			3.25			2.25	
Sulfate					5.087			5.653			6.625			24.839			4.732			14.256
Chloride					23.648			17.195			20.374			2.232			21.369			7.863
Bicarbonate + Carbonate					71.265			77.152			73.001			72.929			73.899			77.882

Table 4
Ion Balance Calculations
Cedar Hills Regional Landfill Semi-annual Aquifer
Groundwater Monitoring
(Data Collected from October 1, 2020 to December 31, 2020)

			Downgradient to Waste Cells and North End Facilities															
Site ID			**MW-68**			**MW-67**			**MW-72**			**MW-74R**			**MW-75**			**MW-80**		
			10/14/2020			10/6/2020			10/12/2020			10/2/2020			10/2/2020			10/14/2020		
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			7.0			6.5			7.0			6.8			6.7			6.8		
Conductance			275			369			349			531			388			319		
TDSobs			159			241			208			331			258			197		
Calcium	40.1	2	26.7	1.332335	44.9	39.0	1.946108	46.1	32.2	1.606786	42.9	45.2	2.255489	39.5	31.4	1.566866	38.7	31.6	1.576846	45.7
Magnesium	24.3	2	14.4	1.184941	39.9	21.5	1.769183	41.9	19.7	1.621066	43.3	34.7	2.85538	50.0	23.4	1.92553	47.6	16.8	1.382432	40.1
Potassium	39.1	1	1.5	0.039388	1.3	1.8	0.046038	1.1	1.8	0.045526	1.2	2.1	0.054734	1.0	2.0	0.05192	1.3	1.6	0.040411	1.2
Sodium	23.0	1	8.7	0.379734	12.8	10.1	0.439326	10.4	8.4	0.36712	9.8	12.6	0.54807	9.6	9.3	0.404963	10.0	8.2	0.355375	10.3
Iron	55.8	2	0.54	0.019195	0.6	0.21	0.007628	0.2	2.55	0.091321	2.4	0.01	0.000358	0.0	2.50	0.08953	2.2	2.21	0.079145	2.3
Manganese	54.9	2	0.28	0.010157	0.3	0.38	0.013907	0.3	0.34	0.012305	0.3	0.00	3.64E-06	0.0	0.21	0.007791	0.2	0.33	0.011977	0.3
Ammonia-N	14.0	1	0.02	0.001271	0.0	0.01	0.000664	0.0	0.01	0.001057	0.0	0.00	0.000143	0.0	0.01	0.0008	0.0	0.01	0.000714	0.0
Total Cations (meq/L)				**3.0**			**4.2**			**3.7**			**5.7**			**4.0**			**3.4**	
Anions																				
Alkalinity, Total			121			167			124			209			110			115		
Carbonate	60.0	2	0.0648	0.00216	0.1	0.03249	0.001083	0.0	0.07115	0.002372	0.1	0.07569	0.002523	0.0	0.03093	0.001031	0.0	0.04673	0.001558	0.1
Bicarbonate	61.0	1	147.49	2.417475	85.8	203.67	3.338413	83.6	151.14	2.477255	72.6	254.83	4.176847	75.3	134.14	2.198637	58.3	140.20	2.298096	86.9
Chloride	35.5	1	3.1	0.08744	3.1	4.9	0.138775	3.5	7.0	0.196598	5.8	23.3	0.657208	11.8	11.1	0.313091	8.3	1.9	0.052182	2.0
Nitrate-N	14.0	1	0.01	0.000714	0.0	0.06	0.003927	0.1	0.01	0.000714	0.0	0.34	0.024274	0.4	0.01	0.000714	0.0	0.01	0.000714	0.0
Sulfate	96.1	2	14.8	0.308148	10.9	24.6	0.512193	12.8	35.4	0.737058	21.6	33.1	0.68917	12.4	60.5	1.259661	33.4	14.0	0.291492	11.0
Total Anions (meq/L)				**2.8**			**4.0**			**3.4**			**5.6**			**3.8**			**2.6**	
Total Ions (meq/L)				**5.8**			**8.2**			**7.2**			**11.3**			**7.8**			**6.1**	
Cation/Anion Ratio				**1.05**			**1.06**			**1.10**			**1.03**			**1.07**			**1.30**	
Percent Difference				**2.6**			**2.8**			**4.6**			**1.5**			**3.5**			**13.2**	
Trilinear Diagram Data																				
sum (Ca, Mg, Na+K)				2.94			4.20			3.64			5.71			3.95			3.36	
Calcium					45.37			46.33			44.14			39.48			39.67			47.00
Magnesium					40.35			42.12			44.53			49.97			48.76			41.20
Sodium + Potassium					14.27			11.55			11.33			10.55			11.57			11.80
sum (SO_4, Cl, HCO_3+CO_3)				2.82			3.99			3.41			5.53			3.77			2.64	
Sulfate					10.946			12.835			21.594			12.472			33.391			11.027
Chloride					3.106			3.478			5.760			11.894			8.299			1.974
Bicarbonate + Carbonate					85.948			83.687			72.646			75.634			58.309			86.998

Table 4
Ion Balance Calculations
Cedar Hills Regional Landfill Semi-annual Aquifer
Groundwater Monitoring
(Data Collected from October 1, 2020 to December 31, 2020)

			Downgradient to Waste Cells and North End Facilities																	
Site ID			**MW-85**			**MW-86**			**MW-87**			**MW-88**			**MW-89**			**MW-100**		
			10/7/2020			10/7/2020			10/13/2020			10/6/2020			10/6/2020			10/8/2020		
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			6.4			6.3			6.7			6.9			7.2			6.6		
Conductance			367			196			542			127			259			302		
TDSobs			235			144			363			97			167			168		
Calcium	40.1	2	35.3	1.761477	43.1	16.2	0.808383	38.2	47.8	2.38523	40.3	9.6	0.480539	35.7	19.6	0.978044	36.3	27.2	1.357285	43.3
Magnesium	24.3	2	22.2	1.826785	44.7	11.2	0.921621	43.5	33.8	2.781321	47.0	7.1	0.581773	43.2	14.0	1.152026	42.7	15.9	1.308373	41.7
Potassium	39.1	1	1.7	0.042713	1.0	1.3	0.032226	1.5	2.3	0.059338	1.0	0.8	0.021075	1.6	1.7	0.042457	1.6	1.8	0.046038	1.5
Sodium	23.0	1	10.4	0.452375	11.1	7.6	0.329277	15.5	11.5	0.500222	8.5	6.0	0.262726	19.5	10.8	0.469774	17.4	9.0	0.391913	12.5
Iron	55.8	2	0.01	0.000358	0.0	0.74	0.026537	1.3	4.69	0.167959	2.8	0.01	0.000358	0.0	1.26	0.045123	1.7	0.76	0.02736	0.9
Manganese	54.9	2	0.00	3.64E-06	0.0	0.02	0.000659	0.0	0.49	0.017656	0.3	0.00	3.64E-06	0.0	0.25	0.009065	0.3	0.14	0.005097	0.2
Ammonia-N	14.0	1	0.00	0.000143	0.0	0.00	0.00015	0.0	0.03	0.00207	0.0	0.00	0.000143	0.0	0.02	0.001306	0.0	0.01	0.000785	0.0
Total Cations (meq/L)				**4.1**			**2.1**			**5.9**			**1.3**			**2.7**			**3.1**	
Anions																				
Alkalinity, Total			142			70			110			51			87			128		
Carbonate	60.0	2	0.02246	0.000749	0.0	0.00839	0.00028	0.0	0.03023	0.001008	0.0	0.02316	0.000772	0.1	0.07587	0.002529	0.1	0.03208	0.001069	0.0
Bicarbonate	61.0	1	173.19	2.838823	75.3	85.26	1.39751	71.6	134.14	2.198661	41.2	61.93	1.015075	81.3	106.47	1.745208	70.1	156.09	2.558545	85.5
Chloride	35.5	1	9.8	0.275294	7.3	4.3	0.121569	6.2	14.3	0.403351	7.6	1.8	0.049643	4.0	12.7	0.358221	14.4	2.7	0.075029	2.5
Nitrate-N	14.0	1	0.10	0.007211	0.2	0.01	0.000785	0.0	0.01	0.000714	0.0	0.80	0.056757	4.5	0.01	0.000714	0.0	0.01	0.000714	0.0
Sulfate	96.1	2	31.1	0.647528	17.2	20.7	0.430991	22.1	131.0	2.72753	51.2	6.1	0.126799	10.2	18.4	0.383103	15.4	17.2	0.358118	12.0
Total Anions (meq/L)				**3.8**			**2.0**			**5.3**			**1.2**			**2.5**			**3.0**	
Total Ions (meq/L)				**7.9**			**4.1**			**11.2**			**2.6**			**5.2**			**6.1**	
Cation/Anion Ratio				**1.08**			**1.09**			**1.11**			**1.08**			**1.08**			**1.05**	
Percent Difference				**4.0**			**4.1**			**5.2**			**3.8**			**4.0**			**2.3**	
Trilinear Diagram Data																				
sum (Ca, Mg, Na+K)				4.08			2.09			5.73			1.35			2.64			3.10	
Calcium					43.14			38.65			41.66			35.70			37.01			43.73
Magnesium					44.74			44.06			48.57			43.22			43.60			42.16
Sodium + Potassium					12.12			17.28			9.77			21.08			19.39			14.11
sum (SO_4, Cl, HCO_3+CO_3)				3.76			1.95			5.33			1.19			2.49			2.99	
Sulfate					17.211			22.098			51.168			10.635			15.391			11.966
Chloride					7.317			6.233			7.567			4.164			14.392			2.507
Bicarbonate + Carbonate					75.472			71.669			41.265			85.201			70.217			85.527

Figure 7. Trilinear Diagram East Perched Zone Wells

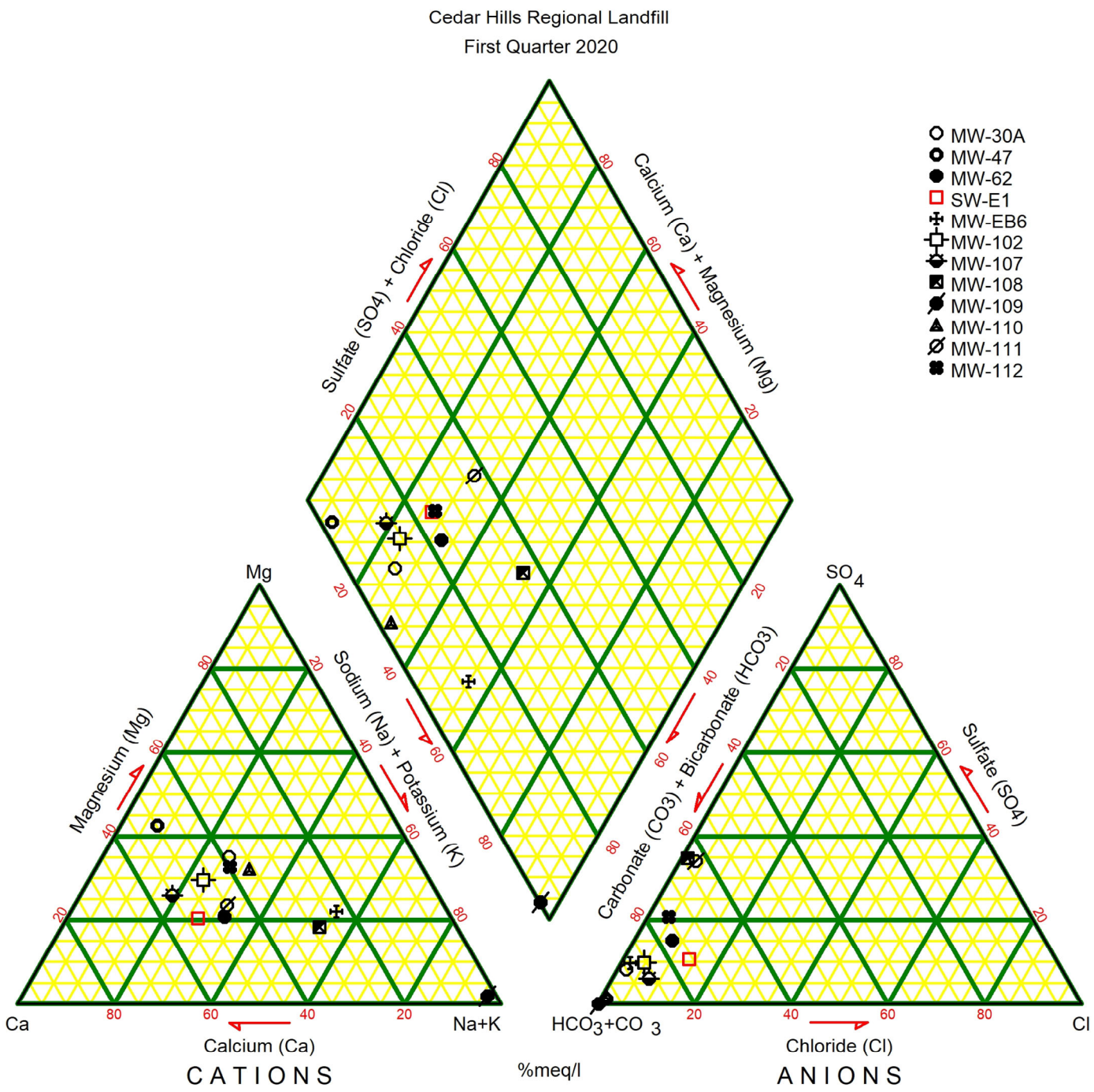


Figure 7. Trilinear Diagram East Area Perched Zone Wells

Cedar Hills Regional Landfill

Second Quarter 2020

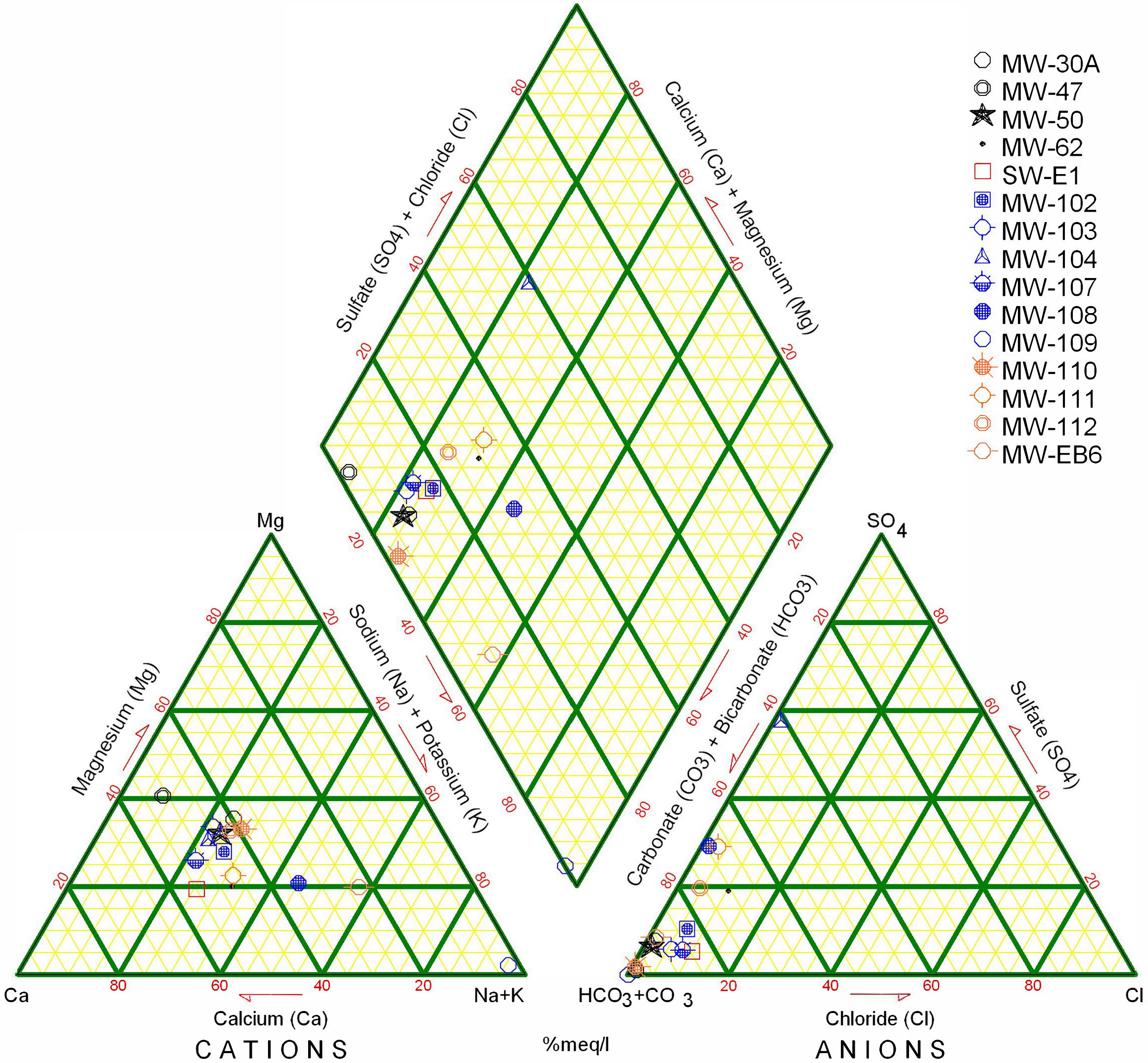


Figure 7. Trilinear Diagram East Area Perched Zone Wells

Cedar Hills Regional Landfill

Third Quarter 2020

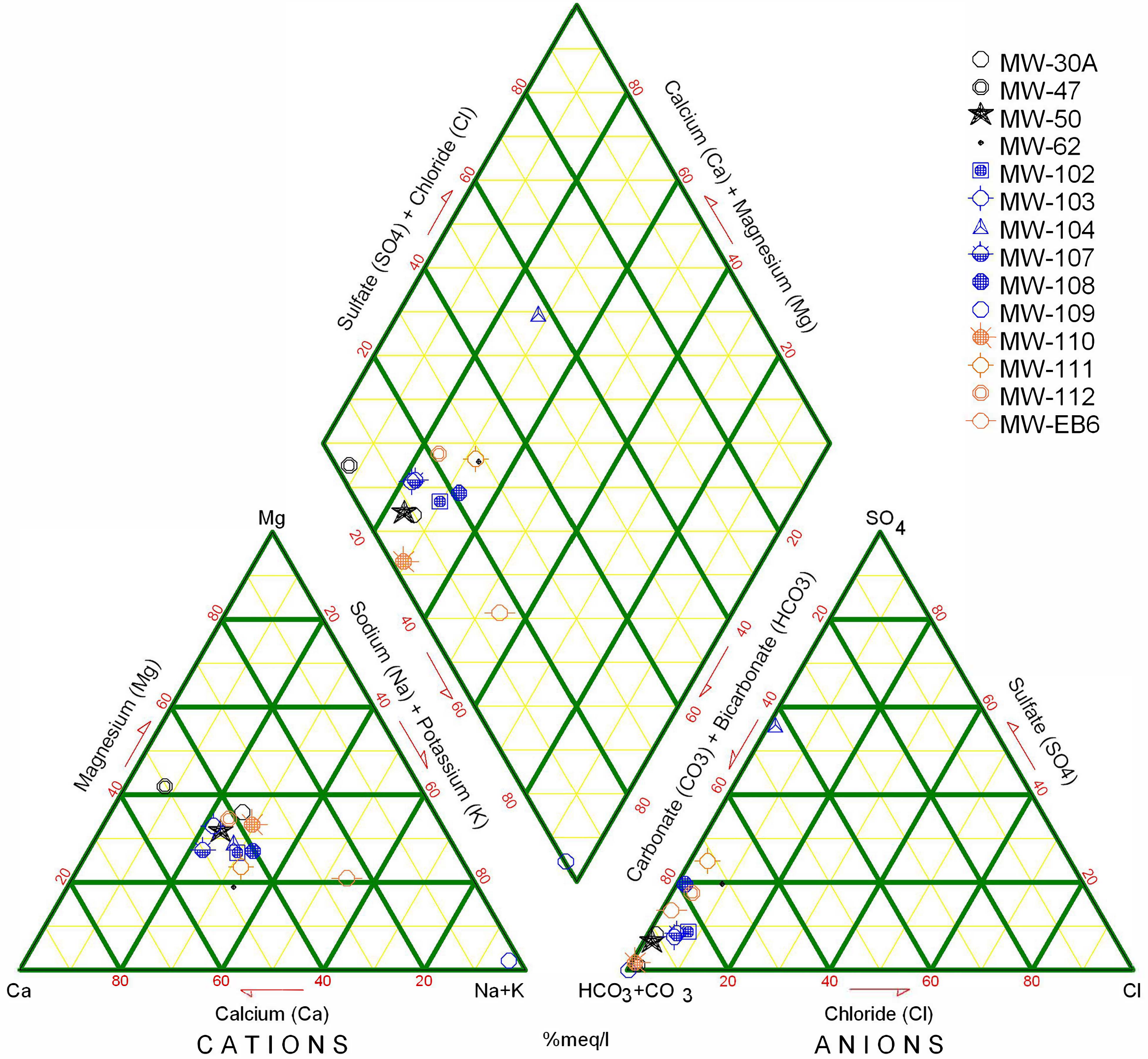


Figure 7. Trilinear Diagram East Area Perched Zone Wells

Cedar Hills Regional Landfill

Fourth Quarter 2020

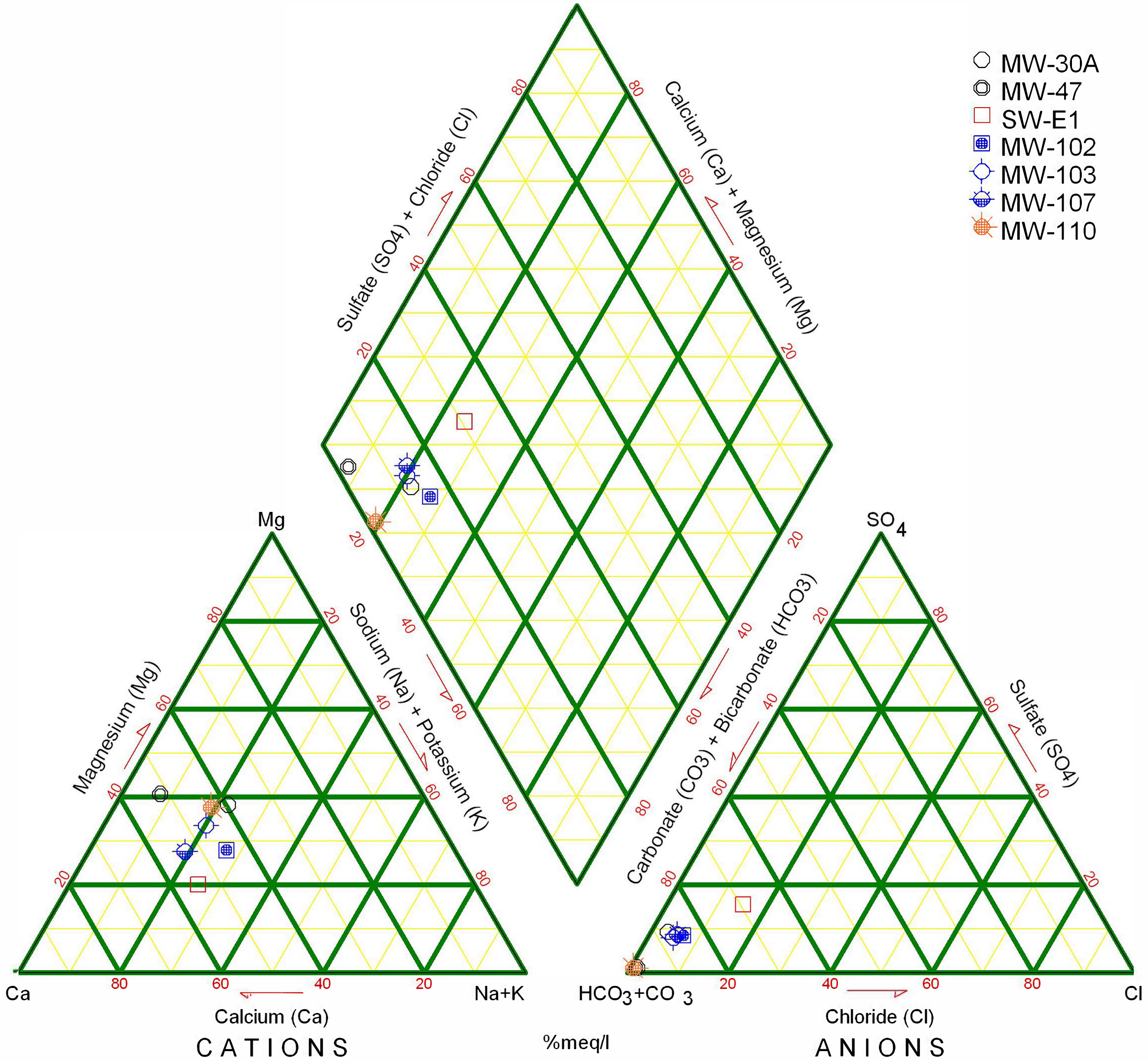


Figure 8. Trilinear Diagram SSW Area Perched Zones Wells

Cedar Hills Regional Landfill

First Quarter 2020

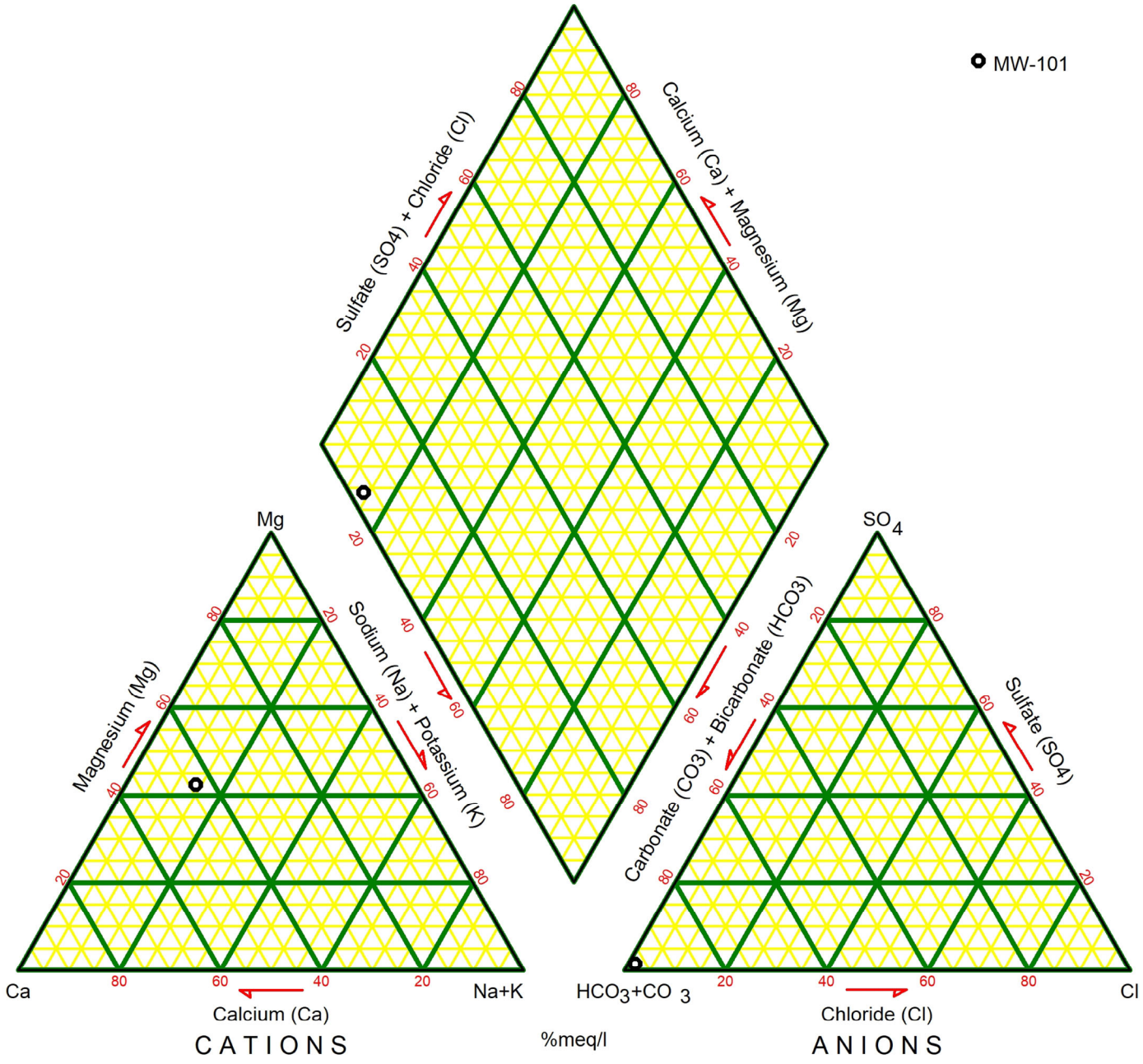


Figure 8. Trilinear Diagram SSW Area Perched Zone Wells

Cedar Hills Regional Landfill

Second Quarter 2020

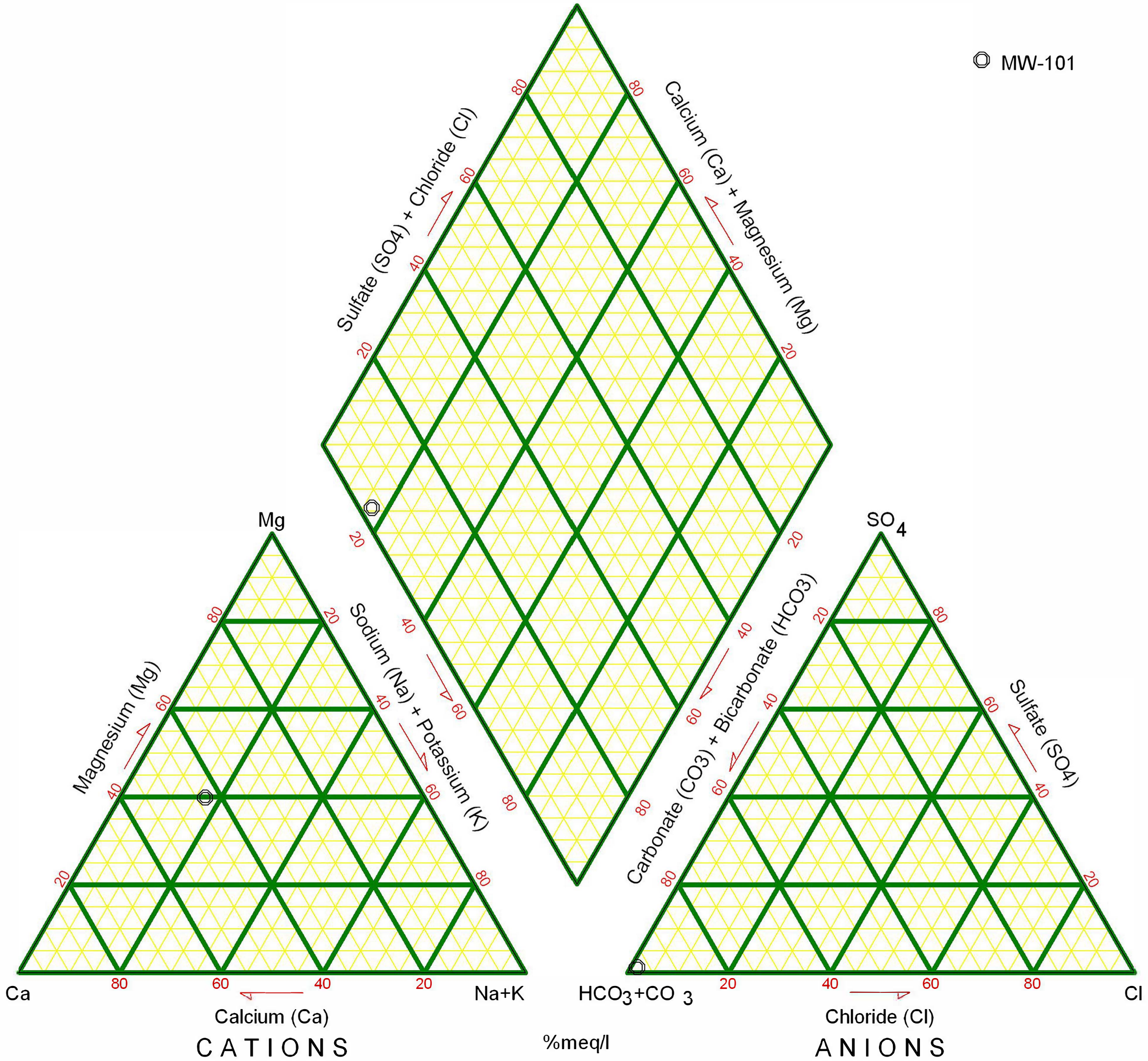


Figure 8. Trilinear Diagram SSW Area Perched Zone Wells

Cedar Hills Regional Landfill

Third Quarter 2020

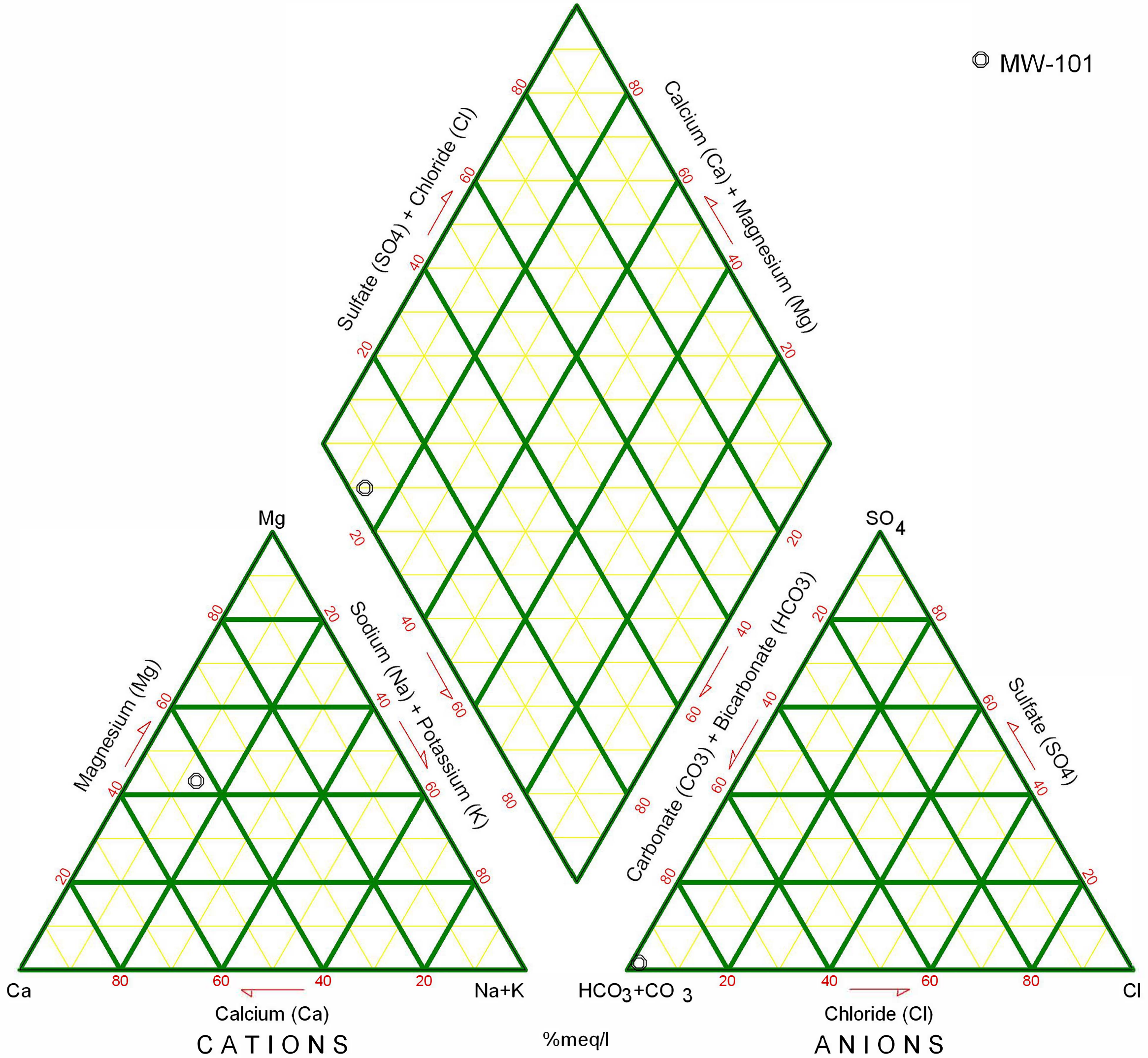


Figure 8. Trilinear Diagram SSW Area Perched Zone Wells

Cedar Hills Regional Landfill

Fourth Quarter 2020

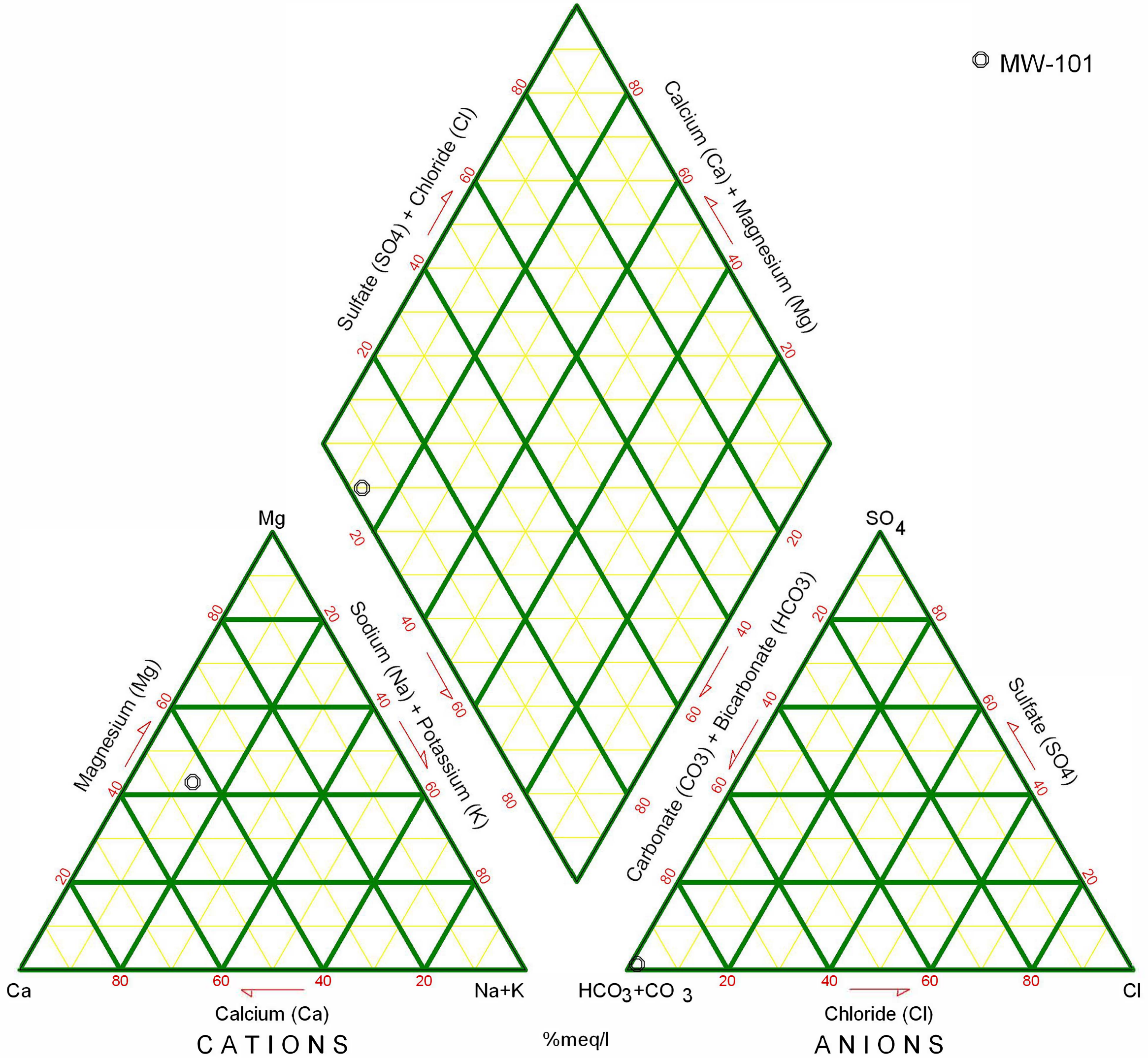


Table 8
Ion Balance Calculations
Cedar Hills Regional Landfill
Perched Zones Groundwater Monitoring Wells

Data Collected from January 1, 2020 to March 31, 2020

			East Perched Zone												SSWA		
	Site ID		MW-30A			MW-47			MW-62			SW-E1			MW-101		
	Date		2/19/20			2/19/20			2/18/20			2/20/20			2/18/20		
Cations	**Molecular Weight**	**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)**
pH			6.5			6.7			7.0			6.6			6.8		
Conductance			263			1067			159			41			487		
TDSobs			202			647			116			59			322		
Calcium	40.1	2	19.7	0.98	38.8	124.0	6.19	49.0	15.2	0.76	46.7	4.3	0.214	52.2	50.1	2.50	43.1
Magnesium	24.3	2	10.8	0.89	35.1	64.3	5.29	41.9	4.1	0.34	20.8	1.0	0.083	20.3	29.6	2.44	42.0
Potassium	39.1	1	1.4	0.037	1.44	5.1	0.13	1.03	0.84	0.022	1.33	0.380	0.00972	2.38	2.6	0.067	1.2
Sodium	23.0	1	14.4	0.63	24.7	18.7	0.81	6.4	11.6	0.50	31.1	2.31	0.100	24.6	16.7	0.726	12.5
Iron	55.8	2	0.010	0.0003581	0.0141	4.1	0.15	1.2	0.038	0.0014	0.085	0.025	0.001	0.2	0.9	0.032	0.6
Manganese	54.9	2	0.00010	3.64E-06	0.00014	1.4	0.05	0.4	0.0012	4.514E-05	0.0028	0.004	0.00015	0.04	1.0	0.036	0.62
Ammonia-N	14.0	1	0.0020	0.0001428	0.0056	0.038	0.003	0.021	0.0020	0.0001428	0.009	0.015	0.00106	0.26	0.013	0.0008996	0.016
Total Cations (meq/L)				**2.54**			**12.62**			**1.62**			**0.41**			**5.80**	
Anions																	
Alkalinity, Total			71.8			590			52.2			13.2			276		
Carbonate	60.0	2	0.014	0.000455	0.018	0.19	0.0064965	0.05	0.034	0.0011201	0.073	0.0032	0.00011	0.03	0.107	0.0036	0.06
Bicarbonate	61.0	1	87.57	1.44	57.7	719.4	11.8	97.5	63.62	1.04	67.6	16.10	0.26385	70.3	336.50	5.515598	97.1
Chloride	35.5	1	1.0	0.029	1.2	5.2	0.1	1.21	3.72	0.105	6.81	1.68	0.04739	12.6	2.7	0.075311	1.3
Nitrate-N	14.0	1	12.5	0.89	35.9	0.010	0.0007139	0.006	2.63	0.19	12.2	0.38	0.02684	7.2	0.0	0.0009281	0.02
Sulfate	96.1	2	6.3	0.13	5.2	6.9	0.144	1.19	9.86	0.21	13.3	1.8	0.03706	9.9	4.1	0.0855737	1.5
Total Anions (meq/L)				**2.49**			**12.09**			**1.54**			**0.38**			**5.68**	
Total Ions (meq/L)				**5.0**			**24.7**			**3.2**			**0.8**			**11.5**	
Cation/Anion Ratio				**1.02**			**1.04**			**1.05**			**1.09**			**1.02**	
Percent Difference				**0.9**			**2.2**			**2.6**			**4.3**			**1**	
Trilinear Diagram Data																	
sum (Ca, Mg, Na+K)				2.53			12.42			1.62			0.41			5.73	
Calcium					38.8			49.8			46.76			52.49			43.64
Magnesium					35.1			42.6			20.80			20.43			42.52
Sodium + Potassium					26.2			7.6			32.44			27.08			13.85
sum (SO_4, Cl, HCO_3+CO_3)				1.60			12.09			1.35			0.35			5.68	
Sulfate					8.2			1.2			15.2			10.6			1.5
Chloride					1.8			1.2			7.7			13.6			1.3
Bicarbonate + Carbonate					90.0			97.6			77.1			75.8			97.2

Table 8
Ion Balance Calculations
Cedar Hills Regional Landfill
Perched Zones Groundwater Monitoring Wells

Data Collected from January 1, 2020 to March 31, 2020

			East Perched Zone																				
	Site ID		MW-EB6			MW-102			MW-107			MW-108			MW-109			MW-110			MW-111			MW-112		
	Date		2/19/2020			2/21/2020			2/18/2020			2/14/2020			2/14/2020			2/14/2020			2/20/2020			2/19/2020		
Cations	**Molecular Weight**	**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			6.8			6.3			5.8			6.7			7.2			6.5			5.8			7.1		
Conductance			114			216			277			447			3548			802			83			307		
TDSobs			98			153			167			288			2660			494			76			204		
Calcium	40.1	2	5.1	0.2525	22.8	21.4	1.06786	46.9	27.5	1.372	51.1	27.5	1.37226	28.4	18.4	0.92	1.9	66.5	3.318	35.4	7.8	0.3902	44.9	26.3	1.312	39.6
Magnesium	24.3	2	2.9	0.2419	21.8	8.2	0.67229	29.5	7.9	0.646	24.1	10.8	0.88871	18.4	10.6	0.87	1.8	36.2	2.979	31.8	2.5	0.2041	23.5	13.1	1.078	32.6
Potassium	39.1	1	0.8	0.0215	1.9	1.3	0.03299	1.4	2.9	0.073	2.7	1.7	0.04271	0.9	2.4	0.06	0.1	3.1	0.080	0.9	0.3	0.0074	0.9	2.9	0.073	2.2
Sodium	23.0	1	13.3	0.5785	52.1	11.6	0.50457	22.1	9.2	0.401	14.9	58.2	2.53156	52.3	1040.0	45.24	95.2	65.6	2.853	30.5	6.1	0.2662	30.7	19.3	0.840	25.4
Iron	55.8	2	0.2	0.0061	0.5	0.010	0.00036	0.016	1.3	0.046	1.7	0.010	0.00036	0.007	10.2	0.37	0.8	0.1	0.005	0.1	0.010	0.0004	0.04	0.01	0.000	0.01
Manganese	54.9	2	0.02	0.0008	0.1	0.002	0.00007	0.003	2.2	0.081	3.0	0.001	0.00005	0.001	1.2	0.04	0.1	3.5	0.127	1.4	0.003	0.0001	0.01	0.18	0.007	0.20
Ammonia-N	14.0	1	0.1	0.0083	0.7	0.002	0.00014	0.006	0.9	0.066	2.5	0.009	0.00066	0.014	0.4	0.03	0.1	0.1	0.005	0.1	0.002	0.0001	0.02	0.02	0.001	0.03
Total Cations (meq/L)				**1.1**			**2.3**			**2.7**			**4.8**			**47.5**			**9.4**			**0.9**			**3.3**	
Anions																										
Alkalinity, Total			45.5			89.4			110			141			2160			429			24.7			115		
Carbonate	60.0	2	0.0181	0.0006	0.1	0.0115	0.0004	0.02	0.0038	0.0001	0.005	0.042	0.001	0.03	2.009	0.067	0.2	0.087	0.0029	0.0	0.0009	0.00003	0.0	0.078	0.003	0.1
Bicarbonate	61.0	1	55.47	0.909	87.7	109.04	1.7873	81.3	134.19	2.1995	86.5	171.94	2.818	63.2	2631.12	43.127	99.6	523.20	8.5758	97.2	30.13	0.4939	59.6	140.14	2.297	74.6
Chloride	35.5	1	0.7	0.019	1.8	3.5	0.0979	4.5	6.8	0.1924	7.6	1.9	0.054	1.2	2.8	0.079	0.2	2.1	0.0587	0.7	0.9	0.0256	3.1	4.7	0.133	4.3
Nitrate-N	14.0	1	0.1	0.007	0.7	1.5	0.1085	4.9	0.01	0.0007	0.03	0.8	0.058	1.3	0.1	0.007	0.02	0.01	0.0007	0.01	0.6	0.0407	4.9	0.1	0.009	0.3
Sulfate	96.1	2	4.8	0.100	9.6	9.8	0.2036	9.3	7.3	0.1512	5.9	73.4	1.528	34.3	0.2	0.005	0.01	8.9	0.1859	2.1	12.9	0.2686	32.4	30.6	0.637	20.7
Total Anions (meq/L)				**1.0**			**2.2**			**2.5**			**4.5**			**43.3**			**8.8**			**0.8**			**3.1**	
Total Ions (meq/L)				**2.1**			**4.5**			**5.2**			**9.3**			**90.8**			**18.2**			**1.7**			**6.4**	
Cation/Anion Ratio				**1.07**			**1.04**			**1.06**			**1.08**			**1.10**			**1.06**			**1.05**			**1.08**	
Percent Difference				**3.4**			**1.8**			**2.7**			**4.0**			**4.7**			**3.0**			**2.3**			**3.6**	
Trilinear Diagram Data																										
sum (Ca, Mg, Na+K)				1.09			2.28			2.49			4.84			47.09			9.23			0.87			3.30	
Calcium					23.07			46.88			55.06			28.38			1.95			35.95			44.96			39.73
Magnesium					22.11			29.52			25.92			18.38			1.85			32.27			23.51			32.63
Sodium + Potassium					54.82			23.60			19.02			53.24			96.20			31.78			31.52			27.64
sum (SO_4, Cl, HCO_3+CO_3)				1.03			2.09			2.54			4.40			43.28			8.82			0.79			3.07	
Sulfate					9.7			9.7			5.9			34.7			0.0			2.1			34.1			20.8
Chloride					1.9			4.7			7.6			1.2			0.2			0.7			3.2			4.3
Bicarbonate + Carbonate					88.4			85.6			86.5			64.0			99.8			97.2			62.7			74.9

Table 8
Ion Balance Calculations.
Cedar Hills Regional Landfill.
Perched Zones Groundwater Monitoring Wells

Data Collected from April 1, 2020 - June 30, 2020

			East Perched Zone																		
Site ID			**MW-30A**			**MW-47**			**MW-50**			**MW-62**			**SW-E1**			**MW-102**			**MW-103**		
Date			4/8/2020			4/8/2020			4/21/2020			5/11/2020			4/21/2020			4/16/2020			5/5/20		
Cations	**Weight**	**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			6.7			7.5			6.4			6.1			7.2			8.1		
Conductance			233.6			1007.0			291.3			146.6			48.0			158.8			222.8		
TDSobs			189.0			673.0			210.0			175.0			56.0			123.0			186.0		
Calcium	40.1	2	20.3	1.01	39.6	119.0	5.94	50.1	29.8	1.49	44.0	14.9	0.74	47.6	5.7	0.29	54.3	16.3	0.81	45.2	25.8	1.29	44.5
Magnesium	24.3	2	11.0	0.91	35.4	57.7	4.75	40.1	13.1	1.08	31.9	3.8	0.32	20.2	1.2	0.10	19.2	6.1	0.50	28.0	11.8	0.971	33.6
Potassium	39.1	1	1.5	0.038	1.47	4.7	0.120	1.01	6.0	0.154	4.55	0.8	0.021	1.34	0.4	0.011	2.08	1.1	0.028	1.55	2.6	0.07	2.3
Sodium	23.0	1	13.8	0.60	23.5	19.6	0.85	7.2	15.1	0.66	19.5	11.1	0.48	30.9	2.8	0.12	23.3	10.4	0.45	25.2	12.9	0.5611	19.4
Iron	55.8	2	0.0	0.0004	0.0140	3.1	0.111	0.9366	0.0	0.00064	0.0189	0.0	0.0004	0.0229	0.1	0.0029	0.5455	0.0	0.0005	0.0303	0.1	0.0031	0.1
Manganese	54.9	2	0.0	4E-06	0.00014	2.2	0.0812	0.68490	0.0	5.9E-05	0.00175	0.0	4E-05	0.00235	0.1	0.0019	0.35473	0.0	3E-05	0.00144	0.1	0.0029	0.10
Ammonia-N	14.0	1	0.0	0.0001	0.0056	0.0	0.0023	0.0194	0.0	0.00026	0.0076	0.0	0.0001	0.0091	0.0	0.001	0.1831	0.0	0.0001	0.0079	0.0	**0.00**	0.016
Total Cations (meq/L)				**2.56**			**11.85**			**3.38**			**1.56**			**0.53**			**1.80**			2.9	
Anions																							
Alkalinity, Total			74.10			591.00			149.00			44.70			19.30			67.20			122.00		
Carbonate	60.0	2	0.016	0.001	0.021	0.166	0.006	0.046	0.289	0.010	0.297	0.007	0.000	0.017	0.002	0.000	0.011	0.058	0.002	0.113	0.912	0.030	1.10
Bicarbonate	61.0	1	90.37	1.481	59.814	720.68	11.813	97.675	181.19	2.970	91.616	54.52	0.894	61.110	23.54	0.386	83.735	81.87	1.342	78.248	146.99	2.409	87.3
Chloride	35.5	1	0.9	0.026	1.034	5.1	0.144	1.187	1.9	0.053	1.627	4.6	0.131	8.931	1.6	0.046	9.976	3.8	0.106	6.201	5.6	0.157	5.7
Nitrate-N	14.0	1	11.8	0.842	34.018	0.0	0.001	0.006	0.1	0.006	0.172	2.8	0.196	13.426	0.1	0.005	0.991	1.3	0.096	5.579	0.0	0.002	0.06
Sulfate	96.1	2	6.1	0.127	5.112	6.3	0.131	1.086	9.8	0.204	6.288	11.6	0.242	16.516	1.2	0.024	5.286	8.1	0.169	9.859	7.7	**0.16**	5.8
Total Anions (meq/L)				**2.48**			**12.09**			**3.24**			**1.46**			**0.46**			**1.71**			**2.759**	
Total Ions (meq/L)				**5.033**			**23.947**			**6.618**			**3.025**			**0.987**			**3.513**			**5.652**	
Cation/Anion Ratio				**1.032**			**0.980**			**1.042**			**1.069**			**1.142**			**1.048**			**1.049**	
Percent Difference				**1.591**			**-1.005**			**2.036**			**3.326**			**6.648**			**2.365**			**2.372**	
Trilinear Diagram Data																							
sum (Ca, Mg, Na+K)				2.56			11.66			3.38			1.56			0.52			1.80			2.89	
Calcium					39.6			50.9			44.1			47.6			54.9			45.3			44.60
Magnesium					35.4			40.7			31.9			20.2			19.4			28.0			33.64
Sodium + Potassium					25.0			8.3			24.0			32.2			25.7			26.7			21.77
sum (SO_4, Cl, HCO_3+CO_3)				1.634			12.093			3.236			1.266			0.456			1.619			2.8	
Sulfate					7.7			1.1			6.3			19.1			5.3			10.4			5.8
Chloride					1.6			1.2			1.6			10.3			10.1			6.6			5.7
Bicarbonate + Carbonate					90.7			97.7			92.1			70.6			84.6			83.0			88.5

Table 8
Ion Balance Calculations.
Cedar Hills Regional Landfill.
Perched Zones Groundwater Monitoring Wells

Data Collected from April 1, 2020 - June 30, 2020

			East Perched Zone																					SSWA		
Site ID			**MW-104**			**MW-107**			**MW-108**			**MW-109**			**MW-110**			**MW-111**			**MW-112**			**MW-EB6**			**MW-101**		
Date			4/16/2020			4/8/2020			4/9/2020			5/5/2020			4/14/2020			4/13/2020			4/9/2020			4/8/2020			5/13/20		
Cations	**Weight**	**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)**	**mg/L**	**meq/L**	%(meq)
pH			7.4			5.8			6.5			7.4			6.3			5.5			7.6			6.3			6.7		
Conductance			350.2			229.2			330.6			464.1			720.0			78.0			260.3			118.3			403		
TDSobs			258.0			153.0			253.0			3500.0			483.0			74.0			195.0			96.7			298		
Calcium	40.1	2	38.3	1.91	46.9	25.3	1.26	47.6	28.1	1.40	34.2	30.1	1.50	2.2	70.4	3.51	38.6	7.8	0.39	46.1	27.9	1.39	41.6	6.6	0.33	22.6	44.6	2.23	42.9
Magnesium	24.3	2	15.4	1.27	31.1	7.7	0.63	23.9	10.4	0.86	20.8	18.2	1.50	2.2	36.0	2.96	32.5	2.3	0.19	22.6	13.3	1.09	32.7	3.5	0.29	19.8	25.0	2.06	39.7
Potassium	39.1	1	3.8	0.098	2.40	2.9	0.075	2.83	1.6	0.042	1.02	3.5	0.090	0.13	3.1	0.080	0.88	0.3	0.007	0.86	2.9	0.074	2.21	1.1	0.027	1.84	2.5	0.064	1.2
Sodium	23.0	1	18.4	0.80	19.6	10.7	0.47	17.5	41.5	1.81	44.0	1490.0	64.81	94.7	54.8	2.38	26.2	5.9	0.26	30.3	18.0	0.78	23.4	18.5	0.80	55.1	18.5	0.805	15.5
Iron	55.8	2	0.0	0.0004	0.0088	1.6	0.0577	2.1738	0.0	0.0004	0.0087	11.7	0.419001916	0.6125	0.7	0.0268233	0.2944	0.0	0.0004	0.0423	0.0	0.0004	0.0107	0.1	0.0024	0.1639	0.3	0.010	0.2
Manganese	54.9	2	0.0	0.0002	0.00524	2.2	0.0812	3.06072	0.0	0.0001	0.00310	1.4	0.052058684	0.07610	3.9	0.140158	1.53810	0.0	0.0002	0.02729	0.1	0.0049	0.14670	0.0	0.0006	0.04190	0.6	0.021	0.41
Ammonia-N	14.0	1	0.0	0.0002	0.0056	1.1	0.0771	2.9070	0.0	0.0001	0.0035	0.5	0.037481259	0.0548	0.1	0.006097	0.0669	0.0	0.0001	0.0169	0.0	0.0013	0.0390	0.1	0.0058	0.3991	0.005	0.0004	0.007
Total Cations (meq/L)				**4.08**			**2.65**			**4.11**			**68.41**			**9.11**			**0.85**			**3.35**			**1.46**			**5.18**	
Anions																													
Alkalinity, Total			77.50			103.00			128.00			3610.00			413.00			24.60			112.00			58.60			234		
Carbonate	60.0	2	0.107	0.004	0.093	0.003	0.000	0.005	0.025	0.001	0.022	5.696	0.190	0.263	0.051	0.002	0.020	0.000	0.000	0.002	0.255	0.009	0.287	0.008	0.000	0.020	0.063	0.0021	0.04
Bicarbonate	61.0	1	94.33	1.546	40.630	125.65	2.060	86.248	156.11	2.559	68.271	4392.62	71.999	99.585	503.76	8.257	97.504	30.01	0.492	64.274	136.12	2.231	75.408	71.48	1.172	89.781	285.35	4.6772	97.4
Chloride	35.5	1	1.6	0.046	1.216	6.8	0.193	8.067	1.8	0.051	1.362	3.5	0.099	0.137	2.0	0.057	0.673	0.9	0.024	3.162	4.6	0.131	4.423	0.6	0.018	1.355	2.1	0.0601	1.3
Nitrate-N	14.0	1	0.0	0.003	0.068	0.0	0.001	0.030	0.8	0.057	1.512	0.1	0.007	0.010	0.0	0.001	0.008	0.5	0.037	4.813	0.1	0.007	0.249	0.1	0.005	0.356	0.0	0.0024	0.05
Sulfate	96.1	2	106.0	2.207	57.994	6.5	0.135	5.650	51.9	1.081	28.832	0.2	0.005	0.006	7.3	0.152	1.795	10.2	0.212	27.749	27.9	0.581	19.633	5.3	0.111	8.488	3.0	0.0627	1.3
Total Anions (meq/L)				**3.81**			**2.39**			**3.75**			**72.30**			**8.47**			**0.77**			**2.96**			**1.30**			**4.80**	
Total Ions (meq/L)				**7.883**			**5.040**			**7.853**			**140.709**			**17.581**			**1.611**			**6.309**			**2.764**			**10.0**	
Cation/Anion Ratio				**1.071**			**1.111**			**1.095**			**0.946**			**1.076**			**1.105**			**1.132**			**1.119**			**1.08**	
Percent Difference				**3.449**			**5.246**			**4.552**			**-2.764**			**3.663**			**4.993**			**6.202**			**5.594**			**4**	
Trilinear Diagram Data																													
sum (Ca, Mg, Na+K)				4.08			2.44			4.10			67.90			8.94			0.85			3.34			1.45			5.15	
Calcium					46.9			51.8			34.2			2.2			39.3			46.2			41.6			22.8			43.21
Magnesium					31.1			26.0			20.8			2.2			33.1			22.6			32.7			19.9			39.94
Sodium + Potassium					22.0			22.2			45.0			95.6			27.6			31.2			25.6			57.3			16.86
sum (SO_4, Cl, HCO_3+CO_3)				3.803			2.387			3.691			72.292			8.468			0.728			2.951			1.300			4.80	
Sulfate					58.0			5.7			29.3			0.0			1.8			29.2			19.7			8.5			1.3
Chloride					1.2			8.1			1.4			0.1			0.7			3.3			4.4			1.4			1.3
Bicarbonate + Carbonate					40.8			86.3			69.3			99.9			97.5			67.5			75.9			90.1			97.4

Table 8
Ion Balance Calculations
Cedar Hills Regional Landfill
Perched Zones Groundwater Monitoring Wells

Data Collected from July 1, 2020 to September 30, 2020

			East Perched Zone											
		Site ID	MW-30A			MW-47			MW-50			MW-62		
		Date	7/20/20			7/13/20			7/13/20			7/8/20		
Cations	**Molecular Weight**	**n**	**mg/L**	**meq/L**	**%(meq)**	**mg/L**	**meq/L**	**%(meq)**	**mg/L**	**meq/L**	**%(meq)**	**mg/L**	**meq/L**	**%(meq)**
pH			7.8			6.9			7.4			6.2		
Conductance			275			978			328			150		
TDSobs			195			635			221			117		
Calcium	40.1	2	19.9	0.99	37.8	118.0	5.89	49.9	31.5	1.57	44.4	13.6	0.68	48.1
Magnesium	24.3	2	11.5	0.95	36.1	59.7	4.91	41.7	13.6	1.12	31.6	3.3	0.27	19.0
Potassium	39.1	1	1.4	0.036	1.36	5.0	0.13	1.09	6.26	0.16	4.52	0.75	0.019	1.36
Sodium	23.0	1	14.9	0.65	24.7	17.9	0.78	6.6	15.8	0.69	19.4	10.2	0.44	31.5
Iron	55.8	2	0.010	0.0003581	0.0136	1.3	0.05	0.4	0.0	0.00	0.0	0.010	0.0004	0.025
Manganese	54.9	2	0.00014	5.133E-06	0.00020	1.0	0.04	0.3	0.0	0.00	0.0	0.0012	4.369E-05	0.0031
Ammonia-N	14.0	1	0.0030	0.0002142	0.0082	0.030	0.002	0.018	0.002	0.000	0.004	0.0052	0.0003712	0.026
Total Cations (meq/L)				**2.62**			**11.79**			**3.54**			**1.41**	
Anions														
Alkalinity, Total			75.2			541			154			43.3		
Carbonate	60.0	2	0.290	0.0096712	0.408	0.28	0.0092234	0.08	0.22	0.0072205	0.22	0.004	0.0001284	0.009
Bicarbonate	61.0	1	91.15	1.49	63.0	659.5	10.8	97.3	187.4	3.1	91.5	52.82	0.87	62.9
Chloride	35.5	1	0.9	0.027	1.1	5.3	0.1	1.34	1.98	0.1	1.66	3.82	0.108	7.83
Nitrate-N	14.0	1	9.9	0.71	29.8	0.010	0.0007139	0.006	0.074	0.0052831	0.157	2.29	0.16	11.9
Sulfate	96.1	2	6.5	0.14	5.7	6.9	0.143	1.29	10.40	0.217	6.45	11.50	0.24	17.4
Total Anions (meq/L)				**2.37**			**11.11**			**3.36**			**1.38**	
Total Ions (meq/L)				**5.0**			**22.9**			**6.9**			**2.8**	
Cation/Anion Ratio				**1.11**			**1.06**			**1.05**			**1.02**	
Percent Difference				**5.0**			**3.0**			**2.6**			**1.2**	
Trilinear Diagram Data														
sum (Ca, Mg, Na+K)				2.62			11.71			3.54			1.41	
Calcium					37.9			50.3			44.4			48.14
Magnesium					36.1			42.0			31.6			19.03
Sodium + Potassium					26.1			7.7			23.9			32.83
sum (SO_4, Cl, HCO_3+CO_3)				1.67			11.11			3.35			1.21	
Sulfate					8.2			1.3			6.5			19.7
Chloride					1.6			1.3			1.7			8.9
Bicarbonate + Carbonate					90.2			97.4			91.9			71.4

Table 8
Ion Balance Calculations
Cedar Hills Regional Landfill
Perched Zones Groundwater Monitoring Wells

Data Collected from July 1, 2020 to September 30, 2020

			East Perched Zone													
	Site ID		MW-EB6			MW-102			MW-103			MW-104			MW-107		
	Date		7/22/2020			7/13/2020			7/21/2020			7/21/2020			7/20/2020		
Cations	**Molecular Weight**	**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)**
pH			6.2			6.5			7.8			7.1			5.5		
Conductance			85			168			275			394			166		
TDSobs			81			133			181			278			118		
Calcium	40.1	2	5.0	0.2470	24.5	13.9	0.69361	43.4	27.4	1.37	45.2	34.1	1.70	43.1	17.5	0.873	47.0
Magnesium	24.3	2	2.5	0.2090	20.7	5.2	0.42790	26.8	12.1	1.00	32.9	14.0	1.15	29.2	5.8	0.479	25.8
Potassium	39.1	1	0.9	0.0226	2.2	1.0	0.02634	1.6	3.0	0.08	2.49	3.7	0.09	2.39	2.4	0.061	3.3
Sodium	23.0	1	11.9	0.5176	51.3	10.3	0.44803	28.1	13.5	0.59	19.4	23.0	1.00	25.3	7.6	0.332	17.9
Iron	55.8	2	0.2	0.0072	0.7	0.020	0.00073	0.046	0.010	0.00	0.0	0.010	0.00	0.0	0.60	0.021	1.15
Manganese	54.9	2	0.02	0.0009	0.1	0.002	0.00006	0.004	0.034	0.00	0.0	0.005	0.00	0.0	1.31	0.048	2.57
Ammonia-N	14.0	1	0.1	0.0045	0.5	0.002	0.00014	0.009	0.002	0.000	0.005	0.004	0.000	0.008	0.63	0.045	2.43
Total Cations (meq/L)				**1.0**			**1.6**			**3.03**			**3.95**			**1.9**	
Anions																	
Alkalinity, Total			38.7			63.9			119			77.4			66.7		
Carbonate	60.0	2	0.0040	0.0001	0.0	0.0116	0.0004	0.02	0.46	0.015304	0.56	0.06	0.002139	0.06	0.001	0.000	0.0
Bicarbonate	61.0	1	47.21	0.774	84.3	77.93	1.2774	78.7	144.2	2.4	86.2	94.3	1.5	42.6	81.37	1.334	85.9
Chloride	35.5	1	0.6	0.018	1.9	4.2	0.1182	7.3	5.4	0.2	5.53	1.6	0.0	1.24	3.1	0.087	5.6
Nitrate-N	14.0	1	0.0	0.001	0.1	1.3	0.0935	5.8	0.0	0.002427	0.089	0.0	0.002927	0.081	0.0	0.001	0.1
Sulfate	96.1	2	6.0	0.125	13.7	6.5	0.1343	8.3	10.0	0.208	7.59	97.6	2.032	56.01	6.3	0.131	8.4
Total Anions (meq/L)				**0.9**			**1.6**			**2.74**			**3.63**			**1.6**	
Total Ions (meq/L)				**1.9**			**3.2**			**5.8**			**7.6**			**3.4**	
Cation/Anion Ratio				**1.10**			**0.98**			**1.10**			**1.09**			**1.20**	
Percent Difference				**4.7**			**-0.8**			**4.9**			**4.2**			**9.0**	
Trilinear Diagram Data																	
sum (Ca, Mg, Na+K)				1.00			1.60			3.03			3.95			1.74	
Calcium					24.79			43.46			45.2			43.1			50.05
Magnesium					20.98			26.81			32.9			29.2			27.45
Sodium + Potassium					54.23			29.72			21.9			27.7			22.51
sum (SO_4, Cl, HCO_3+CO_3)				0.92			1.53			2.74			3.63			1.55	
Sulfate					13.7			8.8			7.6			56.1			8.4
Chloride					1.9			7.7			5.5			1.2			5.6
Bicarbonate + Carbonate					84.4			83.5			86.9			42.7			86.0

Table 8
Ion Balance Calculations
Cedar Hills Regional Landfill
Perched Zones Groundwater Monitoring Wells

Data Collected from July 1, 2020 to September 30, 2020

			East Perched Zone													SSWA		
	Site ID		MW-108			MW-109			MW-110			MW-111			MW-112			MW-101		
	Date		7/21/2020			7/21/2020			7/20/2020			7/20/2020			7/20/2020			7/13/2020		
Cations	**Molecular Weight**	**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			6.1			7.0			6.2			5.4			7.8			6.9		
Conductance			249			2110			771			76			275			412		
TDSobs			201			1820			491			79			197			305		
Calcium	40.1	2	24.9	1.24251	40.2	13.1	0.65	2.1	71.2	3.553	36.5	7.1	0.3548	44.4	26.6	1.327	41.1	50.1	2.500	42.9
Magnesium	24.3	2	10.2	0.83933	27.2	8.0	0.66	2.2	38.4	3.160	32.5	2.3	0.1884	23.6	13.5	1.111	34.4	30.2	2.485	42.7
Potassium	39.1	1	1.6	0.03990	1.3	1.8	0.05	0.2	3.2	0.083	0.9	0.4	0.0091	1.1	2.9	0.074	2.3	2.6	0.068	1.2
Sodium	23.0	1	22.2	0.96565	31.3	662.0	28.80	94.5	62.3	2.710	27.9	5.7	0.2466	30.8	16.1	0.700	21.7	16.1	0.700	12.0
Iron	55.8	2	0.010	0.00036	0.012	7.0	0.25	0.8	1.3	0.045	0.5	0.010	0.0004	0.04	0.03	0.001	0.03	0.78	0.028	0.48
Manganese	54.9	2	0.000	0.00002	0.001	1.0	0.04	0.1	4.5	0.165	1.7	0.004	0.0002	0.02	0.27	0.010	0.31	1.15	0.042	0.72
Ammonia-N	14.0	1	0.002	0.00016	0.005	0.3	0.02	0.1	0.1	0.007	0.1	0.004	0.0002	0.03	0.04	0.003	0.09	0.01	0.001	0.02
Total Cations (meq/L)				**3.1**			**30.5**			**9.7**			**0.8**			**3.2**			**5.8**	
Anions																				
Alkalinity, Total			97.8			1300			397			22.9			114			236		
Carbonate	60.0	2	0.008	0.000	0.01	0.746	0.025	0.1	0.040	0.0013	0.0	0.0003	0.00001	0.0	0.440	0.015	0.5	0.124	0.004	0.1
Bicarbonate	61.0	1	119.30	1.955	77.3	1584.48	25.971	99.6	484.26	7.9375	97.5	27.94	0.4579	68.3	138.19	2.265	77.8	287.67	4.715	96.7
Chloride	35.5	1	1.5	0.041	1.6	2.2	0.061	0.2	2.0	0.0567	0.7	0.8	0.0219	3.3	4.1	0.116	4.0	2.6	0.074	1.5
Nitrate-N	14.0	1	0.6	0.046	1.8	0.1	0.004	0.01	0.01	0.0007	0.01	0.4	0.0315	4.7	0.0	0.001	0.0	0.0	0.001	0.0
Sulfate	96.1	2	23.4	0.487	19.3	0.3	0.007	0.03	6.8	0.1420	1.7	7.7	0.1595	23.8	24.7	0.514	17.7	3.9	0.081	1.7
Total Anions (meq/L)				**2.5**			**26.1**			**8.1**			**0.7**			**2.9**			**4.9**	
Total Ions (meq/L)				**5.6**			**56.5**			**17.9**			**1.5**			**6.1**			**10.7**	
Cation/Anion Ratio				**1.22**			**1.17**			**1.19**			**1.19**			**1.11**			**1.19**	
Percent Difference				**9.9**			**7.8**			**8.9**			**8.8**			**5.1**			**8.9**	
Trilinear Diagram Data																				
sum (Ca, Mg, Na+K)				3.09			30.16			9.51			0.80			3.21			5.75	
Calcium					40.24			2.17			37.38			44.40			41.32			43.46
Magnesium					27.19			2.19			33.24			23.58			34.58			43.20
Sodium + Potassium					32.57			95.64			29.38			32.01			24.09			13.35
sum (SO_4, Cl, HCO_3+CO_3)				2.48			26.06			8.14			0.64			2.91			4.87	
Sulfate					19.6			0.0			1.7			24.9			17.7			1.7
Chloride					1.6			0.2			0.7			3.4			4.0			1.5
Bicarbonate + Carbonate					78.7			99.7			97.6			71.6			78.3			96.8

Table 8
Ion Balance Calculations.
Cedar Hills Regional Landfill.
Perched Zones Groundwater Monitoring Wells

Data Collected from October 1, 2020 - December 31, 2020

			East Perched Zone																			SSWA		
Site ID			MW-30A			MW-47			SW-E1			MW-102			MW-103			MW-107			MW-110			MW-101		
Date			10/19/2020			10/19/2020			11/30/2020			10/19/2020			10/16/2020			10/19/2020			10/20/2020			10/22/20		
Cations	**Weight**	**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			6.5			5.7			6.3			7.6			5.6			6.4			6.9		
Conductance			230.3			972.8			40.8			157.0			254.3			232.8			738.5			510		
TDSobs			189.0			612.0			59.3			133.0			208.0			174.0			447.0			329		
Calcium	40.1	2	20.1	1.00	39.5	124.0	6.19	51.5	5.1	0.25	54.0	15.5	0.77	45.0	25.9	1.29	46.2	24.8	1.24	48.6	72.2	3.60	42.4	53.9	2.69	44.0
Magnesium	24.3	2	11.8	0.97	38.3	59.3	4.88	40.6	1.1	0.09	19.9	5.8	0.48	27.9	11.4	0.94	33.5	7.8	0.64	25.1	38.2	3.14	37.0	31.7	2.61	42.6
Potassium	39.1	1	1.3	0.032	1.28	5.5	0.141	1.17	0.7	0.018	3.77	1.0	0.026	1.50	2.7	0.070	2.49	2.8	0.071	2.79	3.1	0.080	0.94	2.9	0.073	1.2
Sodium	23.0	1	12.2	0.53	20.9	17.6	0.77	6.4	2.3	0.10	21.3	10.1	0.44	25.5	11.4	0.50	17.7	8.5	0.37	14.5	35.0	1.52	17.9	16.2	0.705	11.5
Iron	55.8	2	0.0	0.0004	0.0141	0.1	0.0022	0.0185	0.1	0.0039	0.8292	0.0	0.0004	0.0208	0.0	0.0004	0.0128	2.5	0.0902	3.5430	0.8	0.028399	0.3339	0.1	0.003	0.0
Manganese	54.9	2	0.0	4E-06	0.00016	1.3	0.0473	0.39353	0.0	0.0004	0.09435	0.0	3E-05	0.00181	0.0	7E-05	0.00238	1.9	0.0706	2.77266	3.4	0.1237759	1.45549	1.0	0.038	0.62
Ammonia-N	14.0	1	0.0	0.0001	0.0056	0.0	0.0026	0.0217	0.0	0.0004	0.0804	0.0	0.0003	0.0183	0.0	0.0005	0.0168	0.9	0.0669	2.6262	0.0	0.003227	0.0379	0.014	0.001	0.016
Total Cations (meq/L)				**2.54**			**12.03**			**0.47**			**1.72**			**2.80**			**2.55**			**8.50**			**6.12**	
Anions																										
Alkalinity, Total			79.30			577.00			12.80			62.60			115.00			92.80			419.00			276		
Carbonate	60.0	2	0.019	0.001	0.027	0.120	0.004	0.034	0.000	0.000	0.003	0.008	0.000	0.016	0.274	0.009	0.345	0.002	0.000	0.003	0.065	0.002	0.025	0.117	0.0039	0.07
Bicarbonate	61.0	1	96.71	1.585	68.773	703.70	11.534	97.465	15.62	0.256	64.788	76.36	1.252	80.382	139.74	2.291	86.483	113.21	1.856	85.726	511.05	8.377	98.279	336.48	5.5153	97.3
Chloride	35.5	1	2.1	0.060	2.607	5.4	0.152	1.285	2.0	0.055	13.994	3.5	0.100	6.395	4.8	0.134	5.059	4.2	0.118	5.447	1.8	0.051	0.596	2.5	0.07	1.2
Nitrate-N	14.0	1	6.9	0.490	21.249	0.0	0.001	0.006	0.4	0.026	6.668	1.1	0.079	5.090	0.0	0.002	0.094	0.0	0.001	0.033	0.0	0.001	0.008	0.0	0.0007	0.01
Sulfate	96.1	2	8.1	0.169	7.344	6.9	0.143	1.210	2.8	0.057	14.546	6.1	0.126	8.117	10.2	0.212	8.019	9.1	0.190	8.791	4.5	0.093	1.092	3.9	0.0802	1.4
Total Anions (meq/L)				**2.30**			**11.83**			**0.40**			**1.56**			**2.65**			**2.16**			**8.52**			**5.67**	
Total Ions (meq/L)				**4.843**			**23.860**			**0.866**			**3.277**			**5.445**			**4.712**			**17.027**			**11.8**	
Cation/Anion Ratio				**1.101**			**1.016**			**1.192**			**1.105**			**1.056**			**1.177**			**0.998**			**1.08**	
Percent Difference				**4.807**			**0.803**			**8.743**			**4.970**			**2.724**			**8.119**			**-0.113**			**4**	
Trilinear Diagram Data																										
sum (Ca, Mg, Na+K)				2.54			11.97			0.47			1.72			2.80			2.32			8.35			6.08	
Calcium					39.5			51.7			54.5			45.0			46.2			53.4			43.2			44.27
Magnesium					38.3			40.8			20.1			28.0			33.6			27.6			37.7			42.93
Sodium + Potassium					22.2			7.6			25.4			27.1			20.2			19.0			19.2			12.80
sum (SO_4, Cl, HCO_3+CO_3)				1.815			11.834			0.369			1.478			2.646			2.164			8.523			5.67	
Sulfate					9.3			1.2			15.6			8.6			8.0			8.8			1.1			1.4
Chloride					3.3			1.3			15.0			6.7			5.1			5.4			0.6			1.2
Bicarbonate + Carbonate					87.4			97.5			69.4			84.7			86.9			85.8			98.3			97.4

PART 7

Field and Analytical Data for 2020

- **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

Environmental Monitoring Data

Data Collected from January 01, 2020 to March 31, 2020
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-100	1/2/2020	620.32	298.14	322.18	
MW-101	1/2/2020	474.72	30.79	443.93	Needs bushes cut way back
MW-102	1/2/2020	552.48	44.35	508.13	
MW-103	1/2/2020	639.08	11.53	627.55	
MW-104	1/2/2020	629.68	27.19	602.49	
MW-105	1/2/2020	521.23	19.18	502.05	
MW-106	1/2/2020	475.47	190.74	284.73	Slugs!!
MW-107	1/2/2020	589.029	27.35	561.679	
MW-108	1/2/2020	612.258	14.23	598.028	Plug out, replaced plug
MW-109	1/2/2020	638.728	7.98	630.748	
MW-110	1/2/2020	641.742	4.29	637.453	
MW-111	1/2/2020	643.797	8.09	635.71	
MW-112	1/2/2020	638.929	13.24	625.689	
MW-21	1/2/2020	420.66	125.44	295.22	
MW-22	1/2/2020	517.09	232.45	284.64	
MW-24	1/2/2020	475.99	146.17	329.82	
MW-25	1/2/2020	474.41	5.45	468.96	
MW-27A	1/2/2020	584.23	60.18	524.05	
MW-28	1/2/2020	527.75	22.2	505.55	
MW-29	1/2/2020	532.92	9.55	523.37	Top of PVC above TSC
MW-30A	1/2/2020	568.43	28.78	539.65	Annulus full of water
MW-41D	1/2/2020	462.32	25.52	436.8	On top of convex PVC cap
MW-41S	1/2/2020	462.44	4.29	458.15	On top of convex PVC cap
MW-43	1/2/2020	547.06	263.74	283.32	
MW-45	1/2/2020	488.4	13.6	474.8	Water in annulus
MW-47	1/2/2020	634.6	16.94	617.66	
MW-48	1/2/2020	594.49	42.8	551.69	
MW-50	1/2/2020	637.02	30.14	606.88	PVC cap is rounded
MW-54	1/2/2020	580.43	279.15	301.28	Needs weed wacking
MW-55	1/2/2020	652.29	28.73	623.56	Water in annulus
MW-56	1/2/2020	480.33	129.19	351.14	
MW-57	1/2/2020	456.64	104.98	351.66	
MW-58A	1/2/2020	479.27	149.85	329.42	No pump. Tubing on grnd!
MW-59	1/2/2020	457.13	124.65	332.48	
MW-60	1/2/2020	567.15	229.55	337.60	Needs bushes cut back
MW-62	1/2/2020	556.21	49.69	506.52	Some water in annulus
MW-63	1/2/2020	515.88	10.58	505.30	
MW-64	1/2/2020	596.55	266.39	330.16	
MW-65	1/2/2020	545.83	210.1	335.73	Needs gravel
MW-66	1/2/2020	531.28	239.19	292.09	
MW-67	1/2/2020	516.43	220.56	295.87	
MW-68	1/2/2020	647.07	332.31	314.76	

Environmental Monitoring Data

Data Collected from January 01, 2020 to March 31, 2020
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	1/2/2020	653.69			Damaged.
MW-72	1/2/2020	671.87	360.87	311	Lid hinge needs repaired
MW-73	1/2/2020	485.7	191.77	293.93	
MW-74R	1/2/2020	531.26	240.41	290.85	
MW-75	1/2/2020	532.4	245.83	286.57	
MW-76	1/2/2020	491.71	137.89	353.82	
MW-79	1/2/2020	459.17			Needs to be fixed
MW-80	1/2/2020	530.41	239.09	291.32	Yellow jackets
MW-81	1/2/2020	493.66	184.02	309.64	
MW-82	1/2/2020	474.85	126.54	348.31	
MW-83	1/2/2020	496.81	146.18	350.63	0.74' @ SS1
MW-84	1/2/2020	530.8	236.46	294.34	
MW-85	1/2/2020	531.76	246.36	285.4	
MW-86	1/2/2020	536.04	250.15	285.89	
MW-87	1/2/2020	537.31	248.45	288.86	Yellow jackets
MW-88	1/2/2020	513.68	227.78	285.9	
MW-89	1/2/2020	512.82	232.31	280.51	
MW-90	1/2/2020	502.22	221.90	280.32	So much slug poop
MW-91	1/2/2020	532.02	247.09	284.93	
MW-93	1/2/2020	632.15	308.57	323.58	
MW-94	1/2/2020	495.51	144.48	351.03	
MW-95	1/2/2020	571.54	251.41	320.13	
MW-98	1/2/2020	503.73	14.73	489	
MW-99	1/2/2020	493.64	200.58	293.06	
MW-EB5	1/2/2020	645.36	37.47	607.89	
MW-EB5S	1/2/2020	645.77	7.33	638.44	
MW-EB6	1/2/2020	589.61	25.99	563.62	
WS-NPW-1	1/2/2020	646.33	332.5	313.83	
WS-NPW-3	1/2/2020	645.81	334.25	311.56	

Environmental Monitoring Data

Data Collected from January 01, 2020 to March 31, 2020
Cedar Hills Landfill --- Groundwater Field Parameters
Contact Person: Sendy Jimenez (206) 477-5224

Site	Sample ID	Date	pH (Field) (std. Units)	Conductance (Field) (umhos/cm)	Temperature (Field) (^{o}C)	Purge Volume (Field) (gal)	Dissolved Oxygen (Field) (mg/L)	ORP (Field) mV	Turbidity (Field) NTU
MW-101	W101200218-	2/18/2020	6.81	486.5	8.81	2.5			4.78
MW-102	W102200221-	2/21/2020	6.33	215.5	9.45	0.33	11.25	392.4	21.9
MW-107	W107200218-	2/18/2020	5.76	276.9	11.55	1.5	0.83	103.9	1.05
MW-108	W108200214-	2/14/2020	6.69	447	9.6	0.5	7.75	180.9	6.25
MW-109	W109200214-	2/14/2020	7.19	3548	9.89	1	1.05	-140.3	18.4
MW-110	W110200214-	2/14/2020	6.53	802	10.47	0.75	1.91	79.4	19.7
MW-111	W111200220-	2/20/2020	5.8	83.4	10.14	0.75	7.48	409.5	0.64
MW-112	W112200219-	2/19/2020	7.05	307.2	10.56	1.25	0.57	119.6	0.58
MW-30A	W30A200219-	2/19/2020	6.5	262.7	11.18	3.3			2.67
MW-47	W47-200219-	2/19/2020	6.74	1067	11.18	27.35			1.21
MW-59	W59-200121-	1/21/2020	6.76	214.4	9.64	5	0.5	-36.9	3.31
MW-62	W62-200218-	2/18/2020	7.03	158.7	9.1	3.25			3.98
MW-66	W66-200106-	1/6/2020	7.17	208.5	9.77	3.5	5.55	223.9	2.55
MW-68	W68-200213-	2/13/2020	6.63	292	9.93	4	0.47	186.1	2.48
MW-72	W72-200117-	1/17/2020	6.68	357.6	9.88	6	0.78	-0.3	12.4
MW-74R	W74R200121-	1/21/2020	6.9	494.2	10.05	1.5	10.15	335.2	1
MW-75	W75-200121-	1/21/2020	6.86	378	9.58	4.75	0.53	-17.9	1.83
MW-80	W80-200213-	2/13/2020	6.93	316.1	9.37	5	0.94	-74.5	0.54
MW-81	W81-200121-	1/21/2020	7.53	161.8	9.45	2.5	5.93	240.2	0.91
MW-83	W83-200122-	1/22/2020	6.75	665	10.26	3.5	0.98	241	0.43
MW-84	W84-200121-	1/21/2020	7.37	208.2	8.43	2.25	10.96	278.1	3.96
MW-85	W85-200122-	1/22/2020	6.74	369.1	9.37	3.5	2.79	287.4	0.57
MW-87	W87-200121-	1/21/2020	6.83	534	10.31	4	0.41	-22.7	3.64
MW-93	W93-200122-	1/22/2020	6.95	327.8	10.65	5	1.2	249.7	0.39
MW-94	W94-200122-	1/22/2020	6.52	313.1	9.45	3.25	1.43	283.4	0.76
MW-EB6	WB6-200219-	2/19/2020	6.82	113.7	9.83	2			7.86

Environmental Monitoring Data

Data Collected from January 01, 2020 to March 31, 2020
Cedar Hills Landfill --Groundwater Conventionals Analytical Data
Contact Person: Sendy Jimenez (206) 477-5224

Site	Sample ID	Date	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-101	W101200218-	2/18/2020	276	0.0126	2.67	0.013 T	521	4.11	322	3.83	336	2.4
MW-102	W102200221-	2/21/2020	89.4	0.002 U	3.47	1.52	223	9.78	153	0.59 T	156	22.9
MW-107	W107200218-	2/18/2020	110	0.925	6.82	0.01 U	263	7.26	167	3.01	176	1.1
MW-108	W108200214-	2/14/2020	141	0.0092 T	1.93	0.811	405	73.4	288	1.68	301 H	10
MW-109	W109200214-	2/14/2020	2160	0.417	2.8	0.1 U	3600	0.24 T	2660	62.7 S	2680	4.2
MW-110	W110200214-	2/14/2020	429	0.0743	2.08	0.01 U	807	8.93	494	2.47	513	12.6
MW-111	W111200220-	2/20/2020	24.7	0.002 U	0.908	0.57	91.7	12.9	76	0.78 T	86	0.8 T
MW-112	W112200219-	2/19/2020	115	0.0159	4.73	0.125	303	30.6	204	0.6 T	205	0.5 U
MW-30A	W30A200219-	2/19/2020	71.8	0.002 U	1.02	12.5	263	6.27	202	0.5 U	206	0.5 U
MW-47	W47-200219-	2/19/2020	590	0.0376	5.2	0.01 U	1080	6.91	647	3.51	675	9.4
MW-59	W59-200121-	1/21/2020	69.7	0.0058 T	10.7	0.01 U	209	15.9	116	0.5 U	134	1.7
MW-62	W62-200218-	2/18/2020	52.2	0.002 U	3.72	2.63	160	9.86	116	0.65 T	126	0.7 T
MW-66	W66-200106-	1/6/2020	82.6	0.002 U	4.17	0.352	211	13.6	124	0.8 T	133	1 U
MW-68	W68-200213-	2/13/2020	121	0.017	3.01	0.01 U	274	14.7	163	0.5 U	169	0.6 T
MW-72	W72-200117-	1/17/2020	126	0.0175	7.07	0.01 U	355	41.1	212	0.5 U	227	7.8
MW-74R	W74R200121-	1/21/2020	196	0.002 U	21.4	0.403	500	32.7	280	0.5 U	301	0.5 U
MW-75	W75-200121-	1/21/2020	109	0.009 T	11.5	0.01 U	379	64.3	235	0.5 U	247	1.6 T
MW-80	W80-200213-	2/13/2020	111	0.0126	4.61	0.01 U	312	35.4	196	0.5 U	201	1.2 T
MW-81	W81-200121-	1/21/2020	54.6	0.002 U	5.36	1.68	164	10.4	101	0.5 U	112	0.5 U
MW-83	W83-200122-	1/22/2020	206	0.009 T	71.9	4.09	680	12.7	391	6.48	495	0.5 U
MW-84	W84-200121-	1/21/2020	82	0.0888	5.41	0.191	220	17.3	128	0.5 U	135	0.5 U
MW-85	W85-200122-	1/22/2020	137	0.002 U	11.4	0.105	374	34.7	217	0.5 U	230	0.5 U
MW-87	W87-200121-	1/21/2020	109	0.0177	15.1	0.01 U	538	144	371	0.5 U	387	1.8
MW-93	W93-200122-	1/22/2020	120	0.063	2.95	0.01 U	332	42.6	203	0.5 U	207	0.5 U
MW-94	W94-200122-	1/22/2020	104	0.002 U	26.4	0.28	318	9.01	187	2.62	215	0.5 U
MW-EB6	WB6-200219-	2/19/2020	45.5	0.116	0.679	0.103	107	4.8	98	1.37	128	32

Environmental Monitoring Data

Data Collected from January 01, 2020 to March 31, 2020
Cedar Hills Landfill -- Groundwater Metals Analytical Data
Contact Person: Sendy Jimenez (206) 477-5224

Site	Sample ID	Date	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)
MW-101	W101200218-	2/18/2020		0.0003 U	0.0115	0.0186	0.0001 U	5E-05 U	49.2	0.000492	2.83E-04	0.000846
MW-102	W102200221-	2/21/2020		0.0003 U	0.000269	0.00531	0.0001 U	5E-05 U	21.3	0.000685	0.000149	0.000951
MW-107	W107200218-	2/18/2020		0.0003 U	0.0019	0.011	0.0001 U	5E-05 U	26.5	0.000259	0.0019	0.00089
MW-108	W108200214-	2/14/2020		0.000446	0.00194	0.0141	0.0001 U	5E-05 U	27.6	0.000614	0.0000878	0.000458
MW-109	W109200214-	2/14/2020		4.73E-04	0.0383	0.0775	0.000486	0.0000559	17.9	7.44E-02	0.00111	0.032
MW-110	W110200214-	2/14/2020		0.0003 U	0.0113	0.0313	0.0001 U	5E-05 U	68.2	0.000205	0.00354	0.000245
MW-111	W111200220-	2/20/2020		0.0003 U	0.000552	0.00462	0.0001 U	5E-05 U	7.79	0.00159	5E-05 U	0.000225
MW-112	W112200219-	2/19/2020		0.0003 U	0.00307	0.00955	0.0001 U	5E-05 U	25.4	0.000213	5E-05 U	0.0002 U
MW-30A	W30A200219-	2/19/2020		0.0003 U	0.000522	0.00422	0.0001 U	5E-05 U	19.9	8.31E-04	0.0000737	0.00044
MW-47	W47-200219-	2/19/2020		0.0003 U	0.00277	0.0394	0.0001 U	5E-05 U	125	0.000237	0.000368	0.0002 U
MW-59	W59-200121-	1/21/2020		0.0003 U	0.00045	0.00387	0.0001 U	5E-05 U	17	0.000301	5E-05 U	0.0002 U
MW-62	W62-200218-	2/18/2020		0.0003 U	0.000216	0.0024	0.0001 U	5E-05 U	15.1	0.000338	0.0000961	0.000472
MW-66	W66-200106-	1/6/2020		0.0003 U	0.000725	0.00406	0.0001 U	5E-05 U	16.5	0.000335	5E-05 U	0.0002 U
MW-68	W68-200213-	2/13/2020		0.0003 U	0.0209	0.0111	0.0001 U	5E-05 U	26.3	0.0002 U	0.000202	0.000293
MW-72	W72-200117-	1/17/2020		0.0003 U	0.000127	0.0129	0.0001 U	5E-05 U	32.1	0.000257	5E-05 U	0.000209
MW-74R	W74R200121-	1/21/2020		0.0003 U	0.000391	0.0116	0.0001 U	5E-05 U	41.5	0.0002 U	5E-05 U	0.0002 U
MW-75	W75-200121-	1/21/2020		0.0003 U	0.0005	0.0117	0.0001 U	5E-05 U	31.2	0.0002 U	5E-05 U	0.0002 U
MW-80	W80-200213-	2/13/2020		0.0003 U	0.00371	0.0138	0.0001 U	5E-05 U	29.4	0.0002 U	5E-05 U	0.0002 U
MW-81	W81-200121-	1/21/2020		0.0003 U	0.000507	0.003	0.0001 U	5E-05 U	13.8	0.0002 U	5E-05 U	0.0002 U
MW-83	W83-200122-	1/22/2020		0.0003 U	0.000392	0.0108	0.0001 U	5E-05 U	72.4	9.86E-04	0.000332	0.00438
MW-84	W84-200121-	1/21/2020		0.0003 U	0.00032	0.00488	0.0001 U	5E-05 U	16.3	0.000318	0.000147	0.000675
MW-85	W85-200122-	1/22/2020		0.0003 U	0.000702	0.00643	0.0001 U	5E-05 U	34.3	0.0002 U	5E-05 U	0.0002 U
MW-87	W87-200121-	1/21/2020		0.0003 U	0.000719	0.0235	0.0001 U	5E-05 U	46.5	0.0002 U	0.000133	0.0002 U
MW-93	W93-200122-	1/22/2020		0.0003 U	0.00133	0.00739	0.0001 U	5E-05 U	32.1	0.0002 U	0.000097	0.0002 U
MW-94	W94-200122-	1/22/2020		0.0003 U	0.000113	0.00197	0.0001 U	5E-05 U	31.4	0.0002 U	0.0000896	0.00113
MW-EB6	WB6-200219-	2/19/2020		0.0003 U	0.00304	0.00814	0.0001 U	0.000107	5.47	0.00131	0.00054	0.0126

Environmental Monitoring Data

Data Collected from January 01, 2020 to March 31, 2020
Cedar Hills Landfill -- Groundwater Metals Analytical Data
Contact Person: Sendy Jimenez (206) 477-5224

Site	Sample ID	Date	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)
MW-101	W101200218-	2/18/2020	0.988	0.0001 U	29.6	1.1	5E-05 U	0.00353	2.65	0.0005 U	4E-05 U	16.3
MW-102	W102200221-	2/21/2020	0.281	0.000138	8.14	0.00595	5E-05 U	0.000822	1.3	0.0005 U	4E-05 U	11.5
MW-107	W107200218-	2/18/2020	1.28	0.0001 U	8.64	2.21	5E-05 U	0.00419	2.8	0.0005 U	4E-05 U	9.91
MW-108	W108200214-	2/14/2020	0.171	0.000395	10.8	0.00366	5E-05 U	0.00054	1.7	0.0005 U	4E-05 U	59
MW-109	W109200214-	2/14/2020	10.7	0.00254	10.3	1.21	5E-05 U	0.00771	2.23	0.00109	4E-05 U	1000 D
MW-110	W110200214-	2/14/2020	2.02	0.0001 U	36.1	3.56	5E-05 U	0.00574	3.1	0.0005 U	4E-05 U	63
MW-111	W111200220-	2/20/2020	0.0222	0.0001 U	2.41	0.00359	5E-05 U	0.00171	0.288	0.0005 U	4E-05 U	5.99
MW-112	W112200219-	2/19/2020	0.01 U	0.0001 U	12.6	0.176	5E-05 U	0.000287	2.8	0.0005 U	4E-05 U	18.9
MW-30A	W30A200219-	2/19/2020	0.175	0.0001 U	11.3	0.00216	5E-05 U	0.000812	1.51	0.0005 U	4E-05 U	15
MW-47	W47-200219-	2/19/2020	4.2	0.0001 U	63.5	1.41	5E-05 U	0.00238	5.09	0.0005 U	4E-05 U	18.7
MW-59	W59-200121-	1/21/2020	4.47	0.0001 U	11.4	0.119	5E-05 DU	0.000253	1.11	0.0005 U	4E-05 U	6.77
MW-62	W62-200218-	2/18/2020	0.121	0.0001 U	4.02	0.00306	5E-05 U	0.000475	0.844	0.0005 U	4E-05 U	11.4
MW-66	W66-200106-	1/6/2020	0.0165	0.0001 U	12.7	0.000429	5E-05 U	0.000304	1.16	0.00102	4E-05 U	7.29
MW-68	W68-200213-	2/13/2020	0.748	0.0001 U	15.4	0.308	5E-05 U	0.000466	1.72	0.0005 U	4E-05 U	9.08
MW-72	W72-200117-	1/17/2020	5.15	0.0001 U	20.7	0.367	5E-05 DU	0.000149	1.84	0.0005 U	4E-05 U	8.68
MW-74R	W74R200121-	1/21/2020	0.0314	0.0001 U	34.9	0.000342	5E-05 DU	0.000853	1.93	0.000549	4E-05 U	13
MW-75	W75-200121-	1/21/2020	2.62	0.0001 U	24.5	0.206	5E-05 DU	0.0001 U	1.85	0.0005 U	4E-05 U	9.71
MW-80	W80-200213-	2/13/2020	2.18	0.0001 U	16.6	0.336	5E-05 U	0.000121	1.68	0.0005 U	4E-05 U	7.92
MW-81	W81-200121-	1/21/2020	0.01 U	0.0001 U	7.89	0.000113	5E-05 DU	0.000113	0.814	0.000786	4E-05 U	6.83
MW-83	W83-200122-	1/22/2020	0.01 U	0.0001 U	31.1	0.0807	5E-05 DU	0.00226	3.66	0.0005 U	4E-05 U	16.2
MW-84	W84-200121-	1/21/2020	0.0629	0.0001 U	13.2	0.121	5E-05 DU	0.00831	1.13	0.000673	4E-05 U	7.77
MW-85	W85-200122-	1/22/2020	0.01 U	0.0001 U	22.7	0.0001 U	5E-05 DU	0.000182	1.62	0.000836	4E-05 U	10.6
MW-87	W87-200121-	1/21/2020	5.06	0.0001 U	34.1	0.539	5E-05 DU	0.000156	2.31	0.0005 U	4E-05 U	11.4
MW-93	W93-200122-	1/22/2020	0.01 U	0.0001 U	17.7	0.197	5E-05 DU	0.000243	1.48	0.0005 U	4E-05 U	9.87
MW-94	W94-200122-	1/22/2020	0.01 U	0.0001 U	15.1	0.00106	5E-05 DU	0.000542	2.24	0.0005 U	4E-05 U	8.46
MW-EB6	WB6-200219-	2/19/2020	0.849	0.00154	3.41	0.0312	5E-05 U	0.00265	0.906	0.0005 U	4E-05 U	12.3

Environmental Monitoring Data

Data Collected from January 01, 2020 to March 31, 2020
Cedar Hills Landfill -- Groundwater Metals Analytical Data
Contact Person: Sendy Jimenez (206) 477-5224

Site	Sample ID	Date	Thallium, total (mg/L)	Tin total (mg/L)	Vanadium, total (mg/L)	Zinc, total (mg/L)
MW-101	W101200218-	2/18/2020	0.0001 U		0.000335	0.00116
MW-102	W102200221-	2/21/2020	0.0001 U		0.00144	0.00175
MW-107	W107200218-	2/18/2020	0.0001 U		0.000259	0.00213
MW-108	W108200214-	2/14/2020	0.0001 U		0.0037	0.00258
MW-109	W109200214-	2/14/2020	0.0001 U		0.259 D	0.00417
MW-110	W110200214-	2/14/2020	0.0001 U		0.000694	0.00219
MW-111	W111200220-	2/20/2020	0.0001 U		9.32E-04	0.0012
MW-112	W112200219-	2/19/2020	0.0001 U		0.000864	0.0005 U
MW-30A	W30A200219-	2/19/2020	0.0001 U		0.00227	0.00104
MW-47	W47-200219-	2/19/2020	0.0001 U		0.000178	0.00183
MW-59	W59-200121-	1/21/2020	0.0001 U		7.5E-05 U	0.00097
MW-62	W62-200218-	2/18/2020	0.0001 U		0.000714	0.00128
MW-66	W66-200106-	1/6/2020	0.0001 U		0.000711 D	0.000964
MW-68	W68-200213-	2/13/2020	0.0001 U		0.000344	0.000665
MW-72	W72-200117-	1/17/2020	0.0001 U		7.5E-05 U	0.00156
MW-74R	W74R200121-	1/21/2020	0.0001 U		0.00059	0.000503
MW-75	W75-200121-	1/21/2020	0.0001 U		7.5E-05 U	0.00066
MW-80	W80-200213-	2/13/2020	0.0001 U		7.5E-05 U	0.000505
MW-81	W81-200121-	1/21/2020	0.0001 U		0.00163	0.000966
MW-83	W83-200122-	1/22/2020	0.0001 U		0.000863	0.00147
MW-84	W84-200121-	1/21/2020	0.0001 U		0.000463	0.00391
MW-85	W85-200122-	1/22/2020	0.0001 U		0.000918	0.0005 U
MW-87	W87-200121-	1/21/2020	0.0001 U		0.0000836	0.0005 U
MW-93	W93-200122-	1/22/2020	0.0001 U		0.00208	0.00105
MW-94	W94-200122-	1/22/2020	0.0001 U		0.000962	0.000508
MW-EB6	WB6-200219-	2/19/2020	0.0001 U		0.0045	0.00321

Environmental Monitoring Data

Data Collected from January 01, 2020 to March 31, 2020
Cedar Hills Landfill --- Groundwater VOAs Analytical Data
Contact Person: Sendy Jimenez (206) 477-5224

Site	Sample ID	Date	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-Chloropropane 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	1,2-Dichloropropane ug/l 78-87-5	1,4-Dichlorobenzene ug/l 106-46-7	2-Butanone ug/l 78-93-3
MW-101	W101200218-	2/18/2020	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	0.1 U	1 U
MW-102	W102200221-	2/21/2020	0.25 U	0.1 U	0.1 U	0.1 U	0.259	0.1 U	0.1 U	2.5 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.25 U
MW-107	W107200218-	2/18/2020	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	0.263	0.1 U	0.1 U	1.69	0.25 U
MW-108	W108200214-	2/14/2020	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	0.1 U	0.25 U
MW-109	W109200214-	2/14/2020	2.5 U	1 U	1 U	1 U	1 U	1 U	1 U	25 U	1 U	1 U	1 U	1 U	1 U	2.5 U
MW-110	W110200214-	2/14/2020	0.25 U	0.1 U	0.1 U	0.1 U	0.29	0.1 GU	0.1 U	2.5 U	0.1 U	0.914	0.234	0.236	0.199 JT	0.25 U
MW-111	W111200220-	2/20/2020	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	0.1 U	0.25 U
MW-112	W112200219-	2/19/2020	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	0.1 U	0.25 U
MW-30A	W30A200219-	2/19/2020	0.25 U	0.1 U	0.1 U	0.1 U	1.56	0.1 U	0.1 U	2.5 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.25 GU
MW-47	W47-200219-	2/19/2020	0.25 U	0.1 U	0.1 U	0.1 U	0.52	0.1 U	0.1 U	2.5 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.25 U
MW-59	W59-200121-	1/21/2020	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	0.1 U	1 U
MW-62	W62-200218-	2/18/2020	0.25 U	0.1 U	0.1 U	0.1 U	0.245	0.1 U	0.1 U	2.5 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	1 U
MW-66	W66-200106-	1/6/2020	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	0.1 U	1 U
MW-68	W68-200213-	2/13/2020	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	0.1 U	0.25 U
MW-72	W72-200117-	1/17/2020	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	0.1 U	1 U
MW-74R	W74R200121-	1/21/2020	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	0.1 U	1 U
MW-75	W75-200121-	1/21/2020	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	0.1 U	1 U
MW-80	W80-200213-	2/13/2020	0.25 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 GU	0.1 U	2.5 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.25 GU
MW-81	W81-200121-	1/21/2020	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	0.1 U	1 U
MW-83	W83-200122-	1/22/2020	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	0.1 U	1 U
MW-84	W84-200121-	1/21/2020	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	0.1 U	1 U
MW-85	W85-200122-	1/22/2020	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	0.1 U	1 U
MW-87	W87-200121-	1/21/2020	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	0.1 U	1 U
MW-93	W93-200122-	1/22/2020	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	0.1 U	1 U
MW-94	W94-200122-	1/22/2020	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	0.1 U	1 U
MW-EB6	WB6-200219-	2/19/2020	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	0.1 U	0.25 U
VOA TRIP BLANK	VTRP200106Y	1/6/2020	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	0.1 U	1 U
VOA TRIP BLANK	VTRP200117Z	1/17/2020	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	0.1 U	1 U
VOA TRIP BLANK	VTRP200121Y	1/17/2020	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	0.1 U	1 U
VOA TRIP BLANK	VTRP200121Z	1/21/2020	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	0.1 U	1 U
VOA TRIP BLANK	VTRP200122Y	1/21/2020	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	0.1 U	1 U
VOA TRIP BLANK	VTRP200122Z	1/17/2020	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	0.1 U	1 U
VOA TRIP BLANK	VTRP200213X	2/11/2020	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	0.1 U	0.25 U
VOA TRIP BLANK	VTRP200213Y	2/11/2020	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	0.1 U	0.25 U
VOA TRIP BLANK	VTRP200214X	2/13/2020	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	0.1 U	0.25 U
VOA TRIP BLANK	VTRP200218X	2/11/2020	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	0.1 U	1 U
VOA TRIP BLANK	VTRP200218Y	2/13/2020	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	0.1 U	0.25 U

Environmental Monitoring Data

Data Collected from January 01, 2020 to March 31, 2020
Cedar Hills Landfill --- Groundwater VOAs Analytical Data
Contact Person: Sendy Jimenez (206) 477-5224

Site	Sample ID	Date	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	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
MW-101	W101200218-	2/18/2020	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	0.25 U	0.1 U	0.5 U
MW-102	W102200221-	2/21/2020	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	0.25 U	0.1 U	0.5 U
MW-107	W107200218-	2/18/2020	0.5 U	2.5 U	2.5 U	0.035 U	0.12 JT	0.1 U	0.25 U	0.5 U	0.1 U	0.1 U	0.25 U	1.22	0.5 U
MW-108	W108200214-	2/14/2020	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	0.25 U	0.1 U	0.5 U
MW-109	W109200214-	2/14/2020	5 U	25 U	25 U	0.35 U	1.57 JT	1 U	2.5 U	5 U	1 U	1 U	2.5 U	1.41 JT	5 U
MW-110	W110200214-	2/14/2020	0.5 U	2.5 U	2.5 U	0.035 GU	0.235	0.1 U	0.25 U	0.5 U	0.1 U	0.1 U	0.25 U	0.972	0.5 U
MW-111	W111200220-	2/20/2020	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	0.25 U	0.1 U	0.5 U
MW-112	W112200219-	2/19/2020	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	0.25 U	0.1 U	0.5 U
MW-30A	W30A200219-	2/19/2020	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	0.25 U	0.1 U	0.5 U
MW-47	W47-200219-	2/19/2020	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	0.25 U	0.1 U	0.5 U
MW-59	W59-200121-	1/21/2020	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	0.25 U	0.1 U	0.5 U
MW-62	W62-200218-	2/18/2020	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	0.25 U	0.1 U	0.5 U
MW-66	W66-200106-	1/6/2020	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	0.25 U	0.1 U	0.5 U
MW-68	W68-200213-	2/13/2020	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	0.25 U	0.1 U	0.5 U
MW-72	W72-200117-	1/17/2020	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	0.25 U	0.1 U	0.5 U
MW-74R	W74R200121-	1/21/2020	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	0.25 U	0.1 U	0.5 U
MW-75	W75-200121-	1/21/2020	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	0.25 U	0.1 U	0.5 U
MW-80	W80-200213-	2/13/2020	0.5 U	2.5 U	2.5 U	0.035 GU	0.1 U	0.1 U	0.25 U	0.5 U	0.1 U	0.1 U	0.25 U	0.1 U	0.5 U
MW-81	W81-200121-	1/21/2020	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	0.25 U	0.1 U	0.5 U
MW-83	W83-200122-	1/22/2020	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	0.25 U	0.1 U	0.5 U
MW-84	W84-200121-	1/21/2020	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	0.25 U	0.1 U	0.5 U
MW-85	W85-200122-	1/22/2020	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	0.25 U	0.1 U	0.5 U
MW-87	W87-200121-	1/21/2020	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	0.25 U	0.1 U	0.5 U
MW-93	W93-200122-	1/22/2020	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	0.25 U	0.1 U	0.5 U
MW-94	W94-200122-	1/22/2020	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	0.25 U	0.1 U	0.5 U
MW-EB6	WB6-200219-	2/19/2020	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	0.25 U	0.1 U	0.5 U
VOA TRIP BLANK	VTRP200106Y	1/6/2020	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	0.25 U	0.1 U	0.5 U
VOA TRIP BLANK	VTRP200117Z	1/17/2020	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	0.25 U	0.1 U	0.5 U
VOA TRIP BLANK	VTRP200121Y	1/17/2020	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	0.25 U	0.1 U	0.5 U
VOA TRIP BLANK	VTRP200121Z	1/21/2020	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	0.25 U	0.1 U	0.5 U
VOA TRIP BLANK	VTRP200122Y	1/21/2020	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	0.25 U	0.1 U	0.5 U
VOA TRIP BLANK	VTRP200122Z	1/17/2020	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	0.25 U	0.1 U	0.5 U
VOA TRIP BLANK	VTRP200213X	2/11/2020	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	0.25 U	0.1 U	0.5 U
VOA TRIP BLANK	VTRP200213Y	2/11/2020	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	0.25 U	0.1 U	0.5 U
VOA TRIP BLANK	VTRP200214X	2/13/2020	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	0.25 U	0.1 U	0.5 U
VOA TRIP BLANK	VTRP200218X	2/11/2020	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	0.25 U	0.1 U	0.5 U
VOA TRIP BLANK	VTRP200218Y	2/13/2020	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	0.25 U	0.1 U	0.5 U

Environmental Monitoring Data

Data Collected from January 01, 2020 to March 31, 2020
Cedar Hills Landfill --- Groundwater VOAs Analytical Data
Contact Person: Sendy Jimenez (206) 477-5224

Site	Sample ID	Date	Chloroethane	Chloroform	Chloromethane	cis-1,2-Dichloroethene	cis-1,3-Dichloropropene	Dibromomethane	Dichlorodifluoromethane	Ethylbenzene	M & P Xylene	Methyl Iodide	Methylene Chloride	O-Xylene	Styrene
			ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l
			75-00-3	67-66-3	74-87-3	156-59-2	10061-01-5	74-95-3	75-71-8	100-41-4	MPX	74-88-4	75-09-2	95-47-6	100-42-5
MW-101	W101200218-	2/18/2020	0.1 U	0.1 U	0.25 U	0.12 T	0.25 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
MW-102	W102200221-	2/21/2020	0.1 U	0.1 U	0.25 U	0.651	0.25 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
MW-107	W107200218-	2/18/2020	0.1 U	0.1 U	0.25 U	0.115 JT	0.25 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
MW-108	W108200214-	2/14/2020	0.1 U	0.127 JT	0.25 U	0.1 U	0.25 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
MW-109	W109200214-	2/14/2020	1 U	1 U	2.5 U	1 U	2.5 U	1 U	1 U	1 U	1 U	1 U	25 U	1 U	1 U
MW-110	W110200214-	2/14/2020	0.107 JT	0.1 U	0.25 U	2.83	0.25 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
MW-111	W111200220-	2/20/2020	0.1 U	0.1 U	0.25 U	0.146 JT	0.25 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
MW-112	W112200219-	2/19/2020	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	0.1 U	2.5 U	0.1 U	0.1 U
MW-30A	W30A200219-	2/19/2020	0.1 U	0.1 U	0.25 U	1.86	0.25 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
MW-47	W47-200219-	2/19/2020	0.154 JT	0.1 U	0.25 U	1.47	0.25 U	0.1 U	4.19	0.1 U	0.1 U	0.1 U	2.5 U	0.1 U	0.1 U
MW-59	W59-200121-	1/21/2020	0.1 U	0.1 U	0.25 U	1.37	0.25 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
MW-62	W62-200218-	2/18/2020	0.1 U	0.1 U	0.25 U	0.715	0.25 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
MW-66	W66-200106-	1/6/2020	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	0.1 U	2.5 U	0.1 U	0.1 U
MW-68	W68-200213-	2/13/2020	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	0.1 U	2.5 U	0.1 U	0.1 U
MW-72	W72-200117-	1/17/2020	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	0.1 U	2.5 U	0.1 U	0.1 U
MW-74R	W74R200121-	1/21/2020	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	0.1 U	2.5 U	0.1 U	0.1 U
MW-75	W75-200121-	1/21/2020	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	0.1 U	2.5 U	0.1 U	0.1 U
MW-80	W80-200213-	2/13/2020	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	0.1 U	2.5 U	0.1 U	0.1 U
MW-81	W81-200121-	1/21/2020	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	0.1 U	2.5 U	0.1 U	0.1 U
MW-83	W83-200122-	1/22/2020	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	0.1 U	2.5 U	0.1 U	0.1 U
MW-84	W84-200121-	1/21/2020	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	0.1 U	2.5 U	0.1 U	0.1 U
MW-85	W85-200122-	1/22/2020	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	0.1 U	2.5 U	0.1 U	0.1 U
MW-87	W87-200121-	1/21/2020	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	0.1 U	2.5 U	0.1 U	0.1 U
MW-93	W93-200122-	1/22/2020	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	0.1 U	2.5 U	0.1 U	0.1 U
MW-94	W94-200122-	1/22/2020	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	0.1 U	2.5 U	0.1 U	0.1 U
MW-EB6	WB6-200219-	2/19/2020	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	0.1 U	2.5 U	0.1 U	0.1 U
VOA TRIP BLANK	VTRP200106Y	1/6/2020	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	0.1 U	2.5 U	0.1 U	0.1 U
VOA TRIP BLANK	VTRP200117Z	1/17/2020	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	0.1 U	2.5 U	0.1 U	0.1 U
VOA TRIP BLANK	VTRP200121Y	1/17/2020	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	0.1 U	2.5 U	0.1 U	0.1 U
VOA TRIP BLANK	VTRP200121Z	1/21/2020	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	0.1 U	2.5 U	0.1 U	0.1 U
VOA TRIP BLANK	VTRP200122Y	1/21/2020	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	0.1 U	2.5 U	0.1 U	0.1 U
VOA TRIP BLANK	VTRP200122Z	1/17/2020	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	0.1 U	2.5 U	0.1 U	0.1 U
VOA TRIP BLANK	VTRP200213X	2/11/2020	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	0.1 U	2.5 U	0.1 U	0.1 U
VOA TRIP BLANK	VTRP200213Y	2/11/2020	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	0.1 U	2.5 U	0.1 U	0.1 U
VOA TRIP BLANK	VTRP200214X	2/13/2020	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	0.1 U	2.5 U	0.1 U	0.1 U
VOA TRIP BLANK	VTRP200218X	2/11/2020	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	0.1 U	2.5 U	0.1 U	0.1 U
VOA TRIP BLANK	VTRP200218Y	2/13/2020	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	0.1 U	2.5 U	0.1 U	0.1 U

Environmental Monitoring Data

Data Collected from January 01, 2020 to March 31, 2020
Cedar Hills Landfill --- Groundwater VOAs Analytical Data
Contact Person: Sendy Jimenez (206) 477-5224

Site	Sample ID	Date	Tetrahachloro ethene 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	Trichloro ethene ug/l 79-01-6	Trichlorofluor omethane ug/l 75-69-4	Vinyl Acetate ug/l 108-05-4	Vinyl Chloride ug/l 75-01-4
MW-101	W101200218-	2/18/2020	0.1 U	0.1 U	0.1 U	0.5 U	5 U	0.1 U	0.1 U	0.1 U	0.319 DG
MW-102	W102200221-	2/21/2020	0.1 U	0.1 U	0.1 U	0.5 U	0.5 U	0.1 U	0.1 U	0.1 U	0.01 DU
MW-107	W107200218-	2/18/2020	0.1 U	0.1 U	0.1 U	0.5 U	0.5 U	0.1 U	0.1 U	0.1 U	0.328 D
MW-108	W108200214-	2/14/2020	0.1 U	0.1 U	0.1 U	0.5 U	0.5 U	0.1 U	0.1 U	0.1 U	0.01 DU
MW-109	W109200214-	2/14/2020	1 U	1610 D	1 U	5 U	5 U	1 U	1 U	1 U	0.265 D
MW-110	W110200214-	2/14/2020	0.1 U	0.1 U	0.182 JT	0.5 U	0.5 U	0.1 U	0.1 U	0.1 U	0.0924 D
MW-111	W111200220-	2/20/2020	0.1 U	0.1 U	0.1 U	0.5 U	0.5 U	0.107 JT	0.1 U	0.1 U	0.01 DU
MW-112	W112200219-	2/19/2020	0.1 U	0.1 U	0.1 U	0.5 U	0.5 U	0.1 U	0.1 U	0.1 U	0.01 DU
MW-30A	W30A200219-	2/19/2020	0.158 JT	0.1 U	0.1 U	0.5 U	0.5 U	1.01	0.1 U	0.1 U	0.01 DU
MW-47	W47-200219-	2/19/2020	0.1 U	0.1 U	0.1 U	0.5 U	0.5 U	0.1 U	0.1 U	0.1 U	4.64 DG
MW-59	W59-200121-	1/21/2020	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	W62-200218-	2/18/2020	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 DU
MW-66	W66-200106-	1/6/2020	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	W68-200213-	2/13/2020	0.1 U	0.1 U	0.1 U	0.5 U	0.5 U	0.1 U	0.1 U	0.1 U	0.01 DU
MW-72	W72-200117-	1/17/2020	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-74R	W74R200121-	1/21/2020	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	W75-200121-	1/21/2020	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	W80-200213-	2/13/2020	0.1 U	0.1 U	0.1 U	0.5 U	0.5 U	0.1 U	0.1 U	0.1 U	0.01 DU
MW-81	W81-200121-	1/21/2020	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	W83-200122-	1/22/2020	0.1 U	0.1 U	0.1 U	0.5 U	5 U	1.71	0.1 U	0.1 U	0.01 U
MW-84	W84-200121-	1/21/2020	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	W85-200122-	1/22/2020	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	W87-200121-	1/21/2020	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	W93-200122-	1/22/2020	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-94	W94-200122-	1/22/2020	0.1 U	0.1 U	0.1 U	0.5 U	5 U	2.25	0.1 U	0.1 U	0.01 U
MW-EB6	WB6-200219-	2/19/2020	0.1 U	0.1 U	0.1 U	0.5 U	0.5 U	0.1 U	0.1 U	0.1 U	0.01 DU
VOA TRIP BLANK	VTRP200106Y	1/6/2020	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	VTRP200117Z	1/17/2020	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	VTRP200121Y	1/17/2020	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	VTRP200121Z	1/21/2020	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	VTRP200122Y	1/21/2020	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	VTRP200122Z	1/17/2020	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	VTRP200213X	2/11/2020	0.1 U	0.1 U	0.1 U	0.5 U	0.5 U	0.1 U	0.1 U	0.1 U	0.01 DU
VOA TRIP BLANK	VTRP200213Y	2/11/2020	0.1 U	0.1 U	0.1 U	0.5 U	0.5 U	0.1 U	0.1 U	0.1 U	0.01 DU
VOA TRIP BLANK	VTRP200214X	2/13/2020	0.1 U	0.1 U	0.1 U	0.5 U	0.5 U	0.1 U	0.1 U	0.1 U	0.01 DU
VOA TRIP BLANK	VTRP200218X	2/11/2020	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 DU
VOA TRIP BLANK	VTRP200218Y	2/13/2020	0.1 U	0.1 U	0.1 U	0.5 U	0.5 U	0.1 U	0.1 U	0.1 U	0.01 DU

Environmental Monitoring Data

Data Collected from April 1 to June 30, 2020
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-100	4/2/2020	620.32	297.73	322.59	
MW-101	4/2/2020	474.72	30.62	444.1	
MW-102	4/2/2020	552.48	44.95	507.53	
MW-103	4/2/2020	639.08	11.65	627.43	
MW-104	4/2/2020	629.68	23.75	605.93	
MW-105	4/2/2020	521.23	19.06	502.17	
MW-106	4/2/2020	475.47	189.67	285.8	
MW-107	4/2/2020	589.029	27.75	561.279	
MW-108	4/2/2020	612.258	14.51	597.748	
MW-109	4/2/2020	638.728	8.5	630.228	
MW-110	4/2/2020	641.742	4.21	637.532	
MW-111	4/2/2020	643.797	7.74	636.057	
MW-112	4/2/2020	638.929	12.45	626.479	
MW-21	4/2/2020	420.66	125.25	295.41	
MW-22	4/2/2020	517.09	231.88	285.21	
MW-24	4/2/2020	475.99	144.4	331.59	
MW-25	4/2/2020	474.41	5.36	469.05	
MW-27A	4/2/2020	584.23	54.11	530.12	
MW-28	4/2/2020	527.75	24.48	503.27	
MW-29	4/2/2020	532.92	11.14	521.78	
MW-30A	4/2/2020	568.43	27.96	540.47	
MW-41D	4/2/2020	462.32	25.45	436.87	
MW-41S	4/2/2020	462.44	3.71	458.73	
MW-43	4/2/2020	547.06	262.88	284.18	
MW-45	4/2/2020	488.4	13.83	474.57	
MW-47	4/2/2020	634.6	16.48	618.12	
MW-48	4/2/2020	594.49	44.28	550.21	
MW-50	4/2/2020	637.02	30.3	606.72	
MW-54	4/2/2020	580.43	277.92	302.51	
MW-55	4/2/2020	652.29	27.78	624.51	
MW-56	4/2/2020	480.33	124.21	356.12	
MW-57	4/2/2020	456.64	99.5	357.14	
MW-58A	4/2/2020	479.27	148.4	330.87	
MW-59	4/2/2020	457.13	121.74	335.39	
MW-60	4/2/2020	567.15	223.44	343.71	
MW-62	4/2/2020	556.21	50.96	505.25	
MW-63	4/2/2020	515.88	13.48	502.4	
MW-64	4/2/2020	596.55	265.61	330.94	
MW-65	4/2/2020	545.83	208.3	337.53	
MW-66	4/2/2020	531.28	238.51	292.77	
MW-67	4/2/2020	516.43	220.41	296.02	
MW-68	4/2/2020	647.07	332.59	314.48	
MW-69	4/2/2020	653.69			Damaged.
MW-72	4/2/2020	671.87	361.25	310.62	
MW-73	4/2/2020	485.7	190.73	294.97	
MW-74R	4/2/2020	531.26	239.8	291.46	

Environmental Monitoring Data

Data Collected from April 1 to June 30, 2020
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-75	4/2/2020	532.4	244.96	287.44	
MW-76	4/2/2020	491.71	134.05	357.66	
MW-79	4/2/2020	459.17			
MW-80	4/2/2020	530.41	238.8	291.61	
MW-81	4/2/2020	493.66	184.22	309.44	
MW-82	4/2/2020	474.85	120.78	354.07	
MW-83	4/2/2020	496.81	143.24	353.57	

Environmental Monitoring Data

Data Collected from April 1 to June 30, 2020
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-84	4/2/2020	530.8	236.13	294.67	
MW-85	4/2/2020	531.76	245.33	286.43	
MW-86	4/2/2020	536.04	249.08	286.96	
MW-87	4/2/2020	537.31	248.03	289.28	
MW-88	4/2/2020	513.68	226.76	286.92	
MW-89	4/2/2020	512.82	231.3	281.52	
MW-90	4/2/2020	502.22	220.47	281.75	
MW-91	4/2/2020	532.02	246.39	285.63	
MW-93	4/2/2020	632.15	308.63	323.52	
MW-94	4/2/2020	495.51	149.23	346.28	
MW-95	4/2/2020	571.54	251.21	320.33	
MW-98	4/2/2020	503.73	16.49	487.24	
MW-99	4/2/2020	493.64	200.22	293.42	
MW-EB5	4/2/2020	645.36	37.55	607.81	
MW-EB5S	4/2/2020	645.77	7.46	638.31	
MW-EB6	4/2/2020	589.61	26.77	562.84	
WS-NPW-1	4/2/2020	646.33	333.43	312.9	
WS-NPW-3	4/2/2020	645.81	332.70	313.11	

Environmental Monitoring Data

Data Collected from April 1, 2020 to June 30, 2020
Cedar Hills Landfill --- Groundwater Field Parameters
Contact Person: Sendy Jimenez (206) 477-5224

Site	Sample ID	Date	pH (Field) (std. Units)	Conductance (Field) (umhos/cm)	Temperature (Field) (°C)	Purge Volume (Field) (gal)	Dissolved Oxygen (Field) (mg/L)	ORP (Field) mV
MW-100	W100200513-	5/13/2020	6.91	284.4	11.1	5	1.02	75.7
MW-101	W101200513-	5/13/2020	6.65	402.9	10.85		1.88	57.9
MW-102	W102200416-	4/16/2020	7.16	158.8	10.19	1.75	2.44	109.4
MW-103	W103200505-	5/5/2020	8.1	222.8	10.5	1.5	2.19	145.9
MW-104	W104200416-	4/16/2020	7.36	350.2	11.13	1.25	3.36	68.5
MW-107	W107200408-	4/8/2020	5.75	229.2	11.33	1.25	0.74	99.6
MW-108	W108200409-	4/9/2020	6.51	330.6	10.26	2	5.03	195.7
MW-109	W109200505-	5/5/2020	7.42	464.1	11.5	1	0.56	-154.1
MW-110	W110200414-	4/14/2020	6.31	720	11.14	1.25	0.73	72.3
MW-111	W111200413-	4/13/2020	5.45	78	8.82	0.75	6.86	245.2
MW-112	W112200409-	4/9/2020	7.58	260.3	11.47	1.1	0.64	11.4
MW-21	W21-200513-	5/13/2020	8.04	145.5	9.73	2.4	0.91	-178
MW-24	W24-200430-	4/30/2020	7.01	167.4	9.4	3.5	0.65	-61.5
MW-30A	W30A200408-	4/8/2020	6.55	233.6	11.75	1.75	9.77	197.7
MW-47	W47-200408-	4/8/2020	6.67	1007	10.46	1	0.9	5.9
MW-50	W50-200421-	4/21/2020	7.51	291.3	10.95	1	5.86	130.1
MW-56	W56-200504-	5/4/2020	6.61	204.7	9.26	24		
MW-59	W59-200504-	5/4/2020	7.02	192.8	9.98	2.5	1.03	-54
MW-62	W62-200511-	5/11/2020	6.44	146.6	11.47	4		
MW-64	W64-200512-	5/12/2020	7.07	225.4	11.69	4	1.69	107.4
MW-65	W65-200511-	5/11/2020	7.65	139.4	9.68	5.5	0.97	7.5
MW-66	W66-200429-	4/29/2020	6.94	198.9	10.22	2.75	5.05	175.8
MW-67	W67-200511-	5/11/2020	6.92	345.2	9.64	4.5	1.95	44.3
MW-68	W68-200409-	4/9/2020	6.79	261.6	10.3	5	0.61	31.9
MW-72	W72-200430-	4/30/2020	6.89	322.6	10.37	4.5	1.75	-11
MW-73	W73-200429-	4/29/2020	6.72	125.3	9.36	3.5	9.71	192.5
MW-74R	W74R200512-	5/12/2020	6.9	510	10.59		5.07	143.2
MW-75	W75-200512-	5/12/2020	6.79	350.6		4	0.79	-43.2
MW-76	W76-200512-	5/12/2020	6.43	279.4	10	2.6	4.53	318.2
MW-80	W80-200409-	4/9/2020	6.92	298.9	10	5.25	0.7	-36.9
MW-81	W81-200512-	5/12/2020	7.17	149.3	9.78	2.75	5.82	153.6
MW-82	W82-200430-	4/30/2020	6.83	286	9.57	3	8.66	140.7
MW-83	W83-200512-	5/12/2020	6.76	581.7	10.85	3.5	1.1	218.2
MW-85	W85-200514-	5/14/2020	6.97	340.3	9.55	3	3.28	147.4
MW-86	W86-200513-	5/13/2020	6.9	183.4	9.24		1.25	6.9
MW-87	W87-200512-	5/12/2020	6.69	493.3	10.4	3	0.69	-19.8
MW-88	W88-200514-	5/14/2020	6.89	115.5	9.34	3	5.91	200.9
MW-89	W89-200514-	5/14/2020	7.21	232.4	9.52	3	2.37	-48
MW-93	W93-200513-	5/13/2020	7.14	327.3	11.15	4.8	1.08	220.8
MW-94	W94-200512-	5/12/2020	6.64	333.2	10.01	2.25	5.22	276.9
MW-95	W95-200504-	5/4/2020	7.14	209.3	9.15	3.75	0.97	145.1
MW-EB6	WB6-200408-	4/8/2020	6.34	118.3	9.49	3		

Environmental Monitoring Data

Data Collected from April 1, 2020 to June 30, 2020
Cedar Hills Landfill --- Groundwater Field Parameters
Contact Person: Sendy Jimenez (206) 477-5224

Site	Sample ID	Date	Turbidity (Field) NTU
MW-100	W100200513-	5/13/2020	236
MW-101	W101200513-	5/13/2020	8.34
MW-102	W102200416-	4/16/2020	8.62
MW-103	W103200505-	5/5/2020	8.1
MW-104	W104200416-	4/16/2020	5.66
MW-107	W107200408-	4/8/2020	1.62
MW-108	W108200409-	4/9/2020	9.06
MW-109	W109200505-	5/5/2020	29.5
MW-110	W110200414-	4/14/2020	9.91
MW-111	W111200413-	4/13/2020	6.31
MW-112	W112200409-	4/9/2020	0.51
MW-21	W21-200513-	5/13/2020	3.5
MW-24	W24-200430-	4/30/2020	0.93
MW-30A	W30A200408-	4/8/2020	1.05
MW-47	W47-200408-	4/8/2020	1.43
MW-50	W50-200421-	4/21/2020	
MW-56	W56-200504-	5/4/2020	0.32
MW-59	W59-200504-	5/4/2020	0.38
MW-62	W62-200511-	5/11/2020	
MW-64	W64-200512-	5/12/2020	7.93
MW-65	W65-200511-	5/11/2020	12
MW-66	W66-200429-	4/29/2020	0.79
MW-67	W67-200511-	5/11/2020	41.8
MW-68	W68-200409-	4/9/2020	6.31
MW-72	W72-200430-	4/30/2020	20.2
MW-73	W73-200429-	4/29/2020	1.64
MW-74R	W74R200512-	5/12/2020	0.43
MW-75	W75-200512-	5/12/2020	1.62
MW-76	W76-200512-	5/12/2020	0.51
MW-80	W80-200409-	4/9/2020	0.58
MW-81	W81-200512-	5/12/2020	0.35
MW-82	W82-200430-	4/30/2020	2.78
MW-83	W83-200512-	5/12/2020	1.43
MW-85	W85-200514-	5/14/2020	0.69
MW-86	W86-200513-	5/13/2020	37.3
MW-87	W87-200512-	5/12/2020	2.36
MW-88	W88-200514-	5/14/2020	1.3
MW-89	W89-200514-	5/14/2020	5.55
MW-93	W93-200513-	5/13/2020	0.35
MW-94	W94-200512-	5/12/2020	0.41
MW-95	W95-200504-	5/4/2020	0.14
MW-EB6	WB6-200408-	4/8/2020	3.37

Environmental Monitoring Data

Data Collected from April 1, 2020 to June 30, 2020
Cedar Hills Landfill --Groundwater Conventionals Analytical Data
Contact Person: Sendy Jimenez (206) 477-5224

Site	Sample ID	Date	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	W100200513-	5/13/2020	121	0.009 T	3.03	0.01 U	284	14.7	180	0.5 U	212	50
MW-101	W101200513-	5/13/2020	234	0.0054 T	2.13	0.034 T	460	3.01	298	4.18	295	3.7
MW-102	W102200416-	4/16/2020	67.2	0.002 U	3.77	1.34	182	8.12	123	1.04	137	11.2
MW-103	W103200505-	5/5/2020	122	0.0065 T	5.57	0.023 T	279	7.72	186	0.5 U	205	33.3
MW-104	W104200416-	4/16/2020	77.5	0.0032 T	1.64	0.036 T	404	106	258	0.63 T	267	2.52
MW-107	W107200408-	4/8/2020	103	1.08	6.83	0.01 T	258	6.48	153	3.07	164	4
MW-108	W108200409-	4/9/2020	128	0.002 U	1.81	0.794	389	51.9	253	0.85 T	282	
MW-109	W109200505-	5/5/2020	3610	0.525	3.5 T	0.1 U	5610	0.22 T	3500	112 S	4390	4.84 G
MW-110	W110200414-	4/14/2020	413	0.0854	2.02	0.01 U	812	7.3	483	2.42	510	9.19
MW-111	W111200413-	4/13/2020	24.6	0.002 U	0.858	0.516	92.1	10.2	74	1.06	80.7	2.22
MW-112	W112200409-	4/9/2020	112	0.0183	4.64	0.103	303	27.9	195	0.66 T	199	0.5 U
MW-21	W21-200513-	5/13/2020	59.9	0.0553	2.22	0.01 U	145	6.31	94.7	0.5 U	88	0.6 T
MW-24	W24-200430-	4/30/2020	67	0.0318	4.86	0.01 U	185	13.4	113	0.5 U	126	0.5 U
MW-30A	W30A200408-	4/8/2020	74.1	0.002 U	0.908	11.8	267	6.08	189	0.69 T	191	0.5 U
MW-47	W47-200408-	4/8/2020	591	0.0322	5.09	0.01 U	1120	6.31	673	3.56	701	5.85
MW-50	4/21/2020	W50-200421-	149	0.0036 T	1.87	0.078	326	9.79	210	1.07	218	6.6
MW-56	W56-200504-	5/4/2020	68.2	0.002 U	17.9	1.01	231	7.88	141	0.97 T	155	0.5 GU
MW-59	W59-200504-	5/4/2020	68.3	0.0058 T	9.69	0.01 U	208	14.6	133	0.5 U	151	4.53
MW-62	W62-200511-	5/11/2020	44.7	0.002 U	4.63	2.75	163	11.6	175	0.66 T	138	0.9 T
MW-64	W64-200512-	5/12/2020	102	0.0214	2.7	0.013 T	251	18.2	166	0.5 U	176	6.6
MW-65	W65-200511-	5/11/2020	50.4	0.0054 T	4.65	0.01 T	141	8.69	97	0.5 U	112	3.1
MW-66	W66-200429-	4/29/2020	86.4	0.002 U	4.12	0.405	223	12.9	139	0.5 U	151	0.91 U
MW-67	W67-200511-	5/11/2020	162	0.0066 T	4.85	0.075	383	25.4	245	0.5 U	262	9.4
MW-68	W68-200409-	4/9/2020	123	0.0158	2.98	0.01 U	289	14.4	185	0.52 T	179	2.42
MW-72	W72-200430-	4/30/2020	127	0.0168	6.8	0.01 U	359	37.8	218	0.5 U	244	10.6
MW-73	W73-200429-	4/29/2020	51.1	0.002 U	2.23	1.13	140	7.63	99.3	0.5 U	107	4.5
MW-74R	W74R200512-	5/12/2020	219	0.002 U	26.4	0.248	579	35.4	343	0.53 T	361	0.5 U
MW-75	W75-200512-	5/12/2020	111	0.009 T	11	0.01 U	391	59.8	256	0.5 U	269	1.6
MW-76	W76-200512-	5/12/2020	87.8	0.002 U	21.3	0.209	289	13.3	182	3.31	186	0.5 U
MW-80	W80-200409-	4/9/2020	116	0.0095 T	4.36	0.01 U	324	33.9	199	0.52 T	208	0.5 U
MW-81	W81-200512-	5/12/2020	55.9	0.002 U	4.93	1.56	170	9.86	121	0.5 U	119	0.5 U
MW-82	W82-200430-	4/30/2020	122	0.002 U	11.4	0.821	324	15.4	199	0.54 T	219	5.8
MW-83	W83-200512-	5/12/2020	181	0.0022 T	61.8	0.681	601	10.6	371	4.69	392	0.5 U
MW-85	W85-200514-	5/14/2020	141	0.002 U	10.5	0.1	386	32.3	233	0.5 U	235	1 U
MW-86	W86-200513-	5/13/2020	69.8	0.002 U	4.42	0.013 T	206	20	126 H	0.5 U	134 H	8.6
MW-87	W87-200512-	5/12/2020	107	0.0171	14.3	0.01 U	544	134	382	0.5 U	408	2.7
MW-88	W88-200514-	5/14/2020	50.8	0.002 U	1.73	0.758	131	5.94	92	0.5 U	84.7	0.5 U
MW-89	W89-200514-	5/14/2020	86.4	0.0191	12.8	0.01 U	260	17.7	167	0.5 U	167	3.7
MW-93	W93-200513-	5/13/2020	120	0.0577	2.75	0.013 T	336	39.2	216	0.5 U	215	0.5 U
MW-94	W94-200512-	5/12/2020	120	0.002 U	21.4	0.614	344	8.44	221	2.94	222	0.5 U
MW-95	W95-200504-	5/4/2020	89.7	0.0256	6.13	0.01 U	242	15.2	147	0.5 U	156	1 GU
MW-EB6	WB6-200408-	4/8/2020	58.6	0.0816	0.627	0.065	137	5.32	96.7	1.36	104	8.13

See Data Qualifier List for Qualifier Information.

Environmental Monitoring Data

Data Collected from April 1 to June 30, 2020
Cedar Hills Landfill -- Groundwater Metals Analytical Data
Contact Person: Sendy Jimenez (206) 477-5224

Site	Sample ID	Date	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)	Calcium, dissolved (mg/L)	Calcium, total (mg/L)	Chromium, dissolved (mg/L)	Chromium total (mg/L)	Cobalt, dissolved (mg/L)	Cobalt, total (mg/L)
MW-100	W100200513-	5/13/2020	0.0003 U	0.0003 U	0.000442	0.0165	0.00558	0.0108	0.0001 U	0.000123	5E-05 U	5E-05 U	25.7	25.9	0.0002 U	0.000673	0.000186	5.71E-04
MW-101	W101200513-	5/13/2020	0.0003 U	0.0003 U	0.00413	0.00591	0.0149	0.0161	0.0001 U	0.0001 U	5E-05 U	5E-05 U	44.6	43.8	0.0002 U	0.000219	0.000209	0.000349
MW-102	W102200416-	4/16/2020	0.0003 U	0.0003 U	0.000241	0.000323	0.00499	0.00706	0.0001 U	0.0001 U	5E-05 U	5E-05 U	16.3	16.2	0.000222	0.000938	5E-05 U	0.00023
MW-103	W103200505-	5/5/2020	0.0003 U	0.0003 U	0.00443	0.00523	0.0104	0.0208	0.0001 U	0.0001 U	5E-05 U	5E-05 U	25.8	25.3	0.000237	0.00273	0.0000733	0.00064
MW-104	W104200416-	4/16/2020	0.000501	5.27E-04	0.00174	0.00169	0.0195	0.0201	0.0001 U	0.0001 U	5E-05 U	5E-05 U	38.3	37.9	0.000716	1.28E-03	5E-05 U	0.00011
MW-107	W107200408-	4/8/2020	0.0003 U	0.0003 U	0.00226	0.00232	0.0127	0.013	0.0001 U	0.0001 U	5E-05 U	5E-05 U	25.3	25.2	0.000276	3.12E-04	0.00237	0.00238
MW-108	W108200409-	4/9/2020	0.0003 U	0.000321	0.0018	0.00193	0.0128	0.0147	0.0001 U	0.0001 U	5E-05 U	5E-05 U	28.1	28.1	0.000591	0.00113	5E-05 U	0.000187
MW-109	W109200505-	5/5/2020	0.000674 D	0.000867 D	3.77E-02	0.0433	0.112	0.145	0.000746	0.000987	5E-05 U	0.0000501	30.1	29.8	0.12	0.122	0.00104	0.00173
MW-110	W110200414-	4/14/2020	0.0003 U	0.0003 U	0.00495	0.00918	0.0323	0.0347	0.0001 U	0.0001 U	0.0000618	0.0000914	70.4	71	0.0002 U	0.000268	4.18E-03	0.00422
MW-111	W111200413-	4/13/2020	0.0003 U	0.0003 U	0.000532	0.00064	0.00456	0.00541	0.0001 U	0.0001 U	5E-05 U	5E-05 U	7.82	7.79	0.00161	1.90E-03	5E-05 U	0.0000525
MW-112	W112200409-	4/9/2020	0.0003 U	0.0003 U	0.00301	0.00301	0.00978	0.00963	0.0001 U	0.0001 U	5E-05 U	5E-05 U	27.9	27.3	0.0003	0.000283	5E-05 U	5E-05 U
MW-21	W21-200513-	5/13/2020	0.0003 U	0.0003 U	0.000937	0.000893	0.00531	0.005	0.0001 U	0.0001 U	5E-05 U	5E-05 U	12.5	12.3	0.0002 U	0.0002 U	5E-05 U	5E-05 U
MW-24	W24-200430-	4/30/2020	0.0003 U	0.0003 U	0.000597	0.000613	0.00208	0.0021	0.0001 U	0.0001 U	5E-05 U	5E-05 U	14.8	14.5	0.0002 U	0.0002 U	5E-05 U	5E-05 U
MW-30A	W30A200408-	4/8/2020	0.0003 U	0.0003 U	0.000452	0.000495	0.00396	0.00424	0.0001 U	0.0001 U	5E-05 U	5E-05 U	20.3	20.1	0.000599	0.000636	5E-05 U	5E-05 U
MW-47	W47-200408-	4/8/2020	0.0003 U	0.0003 U	0.00162	0.00313	0.0361	0.038	0.0001 U	0.0001 U	5E-05 U	5E-05 U	119	123	0.0002 U	0.0002 U	0.000263	0.0003
MW-50	W50-200421-	4/21/2020	0.000367	0.00037	0.00466	0.00473	0.0102	0.011	0.0001 U	0.0001 U	5E-05 U	5E-05 U	29.8	29.9	0.000309	0.000451	5E-05 U	0.000165
MW-56	W56-200504-	5/4/2020	0.0003 U	0.0003 U	0.0000756	0.0000807	0.00556	0.00552	0.0001 U	0.0001 U	5E-05 U	5E-05 U	22.9	22.3	0.0002 U	0.0002 U	0.0000901	0.0000796
MW-59	W59-200504-	5/4/2020	0.0003 U	0.0003 U	0.000407	0.000423	0.00409	0.00408	0.0001 U	0.0001 U	5E-05 U	5E-05 U	17.3	16.9	0.0002 U	0.000207	5E-05 U	5E-05 U
MW-62	W62-200511-	5/11/2020	0.0003 U	0.0003 U	0.000171	0.000165	0.00243	0.00227	0.0001 U	0.0001 U	5E-05 U	5E-05 U	14.9	14.3	0.000274	0.000396	0.0000601	0.0000678
MW-64	W64-200512-	5/12/2020	0.0003 U	0.0003 U	0.000581	0.00127	0.00725	0.0188	0.0001 U	0.0001 U	5E-05 U	0.00025	19.9	19.6	0.0002 U	0.0002 U	5E-05 U	0.00224
MW-65	W65-200511-	5/11/2020	0.0003 U	0.0003 U	0.000393	0.000784	0.00575	0.00614	0.0001 U	0.0001 U	5E-05 U	5E-05 U	11.6	11.6	0.0002 U	0.0002 U	5E-05 U	5E-05 U
MW-66	W66-200429-	4/29/2020	0.0003 U	0.0003 U	0.000646	0.000698	0.00397	0.00404	0.0001 U	0.0001 U	5E-05 U	5E-05 U	17.2	16.7	0.000345	0.000534	5E-05 U	5E-05 U
MW-67	W67-200511-	5/11/2020	0.0003 U	0.0003 U	0.00083	0.00386	0.0151	0.0196	0.0001 U	0.0001 U	5E-05 U	5E-05 U	36.9	37.1	0.0002 U	0.000227	0.000298	0.000655
MW-68	W68-200409-	4/9/2020	0.0003 U	0.0003 U	0.00921	0.0324	0.0109	0.0116	0.0001 U	0.0001 U	5E-05 U	5E-05 U	26.6	27.5	0.0002 U	0.0002 U	1.89E-04	0.000194
MW-72	W72-200430-	4/30/2020	0.0003 U	0.0003 U	0.0000831	0.000153	0.0119	0.0136	0.0001 U	0.0001 U	5E-05 U	5E-05 U	32.8	32.4	0.0002 U	0.0002 U	5E-05 U	5E-05 U
MW-73	W73-200429-	4/29/2020	0.0003 U	0.0003 U	0.000659	0.000711	0.00238	0.0031	0.0001 U	0.0001 U	5E-05 U	5E-05 U	12.6	12.2	0.000267	0.000332	5E-05 U	5E-05 U
MW-74R	W74R200512-	5/12/2020	0.0003 U	0.0003 U	0.000382	0.000383	0.0135	0.0131	0.0001 U	0.0001 U	5E-05 U	5E-05 U	49.8	49.2	0.0002 U	0.000245	5E-05 U	5E-05 U
MW-75	W75-200512-	5/12/2020	0.0003 U	0.0003 U	0.000447	0.000456	0.0128	0.0126	0.0001 U	0.0001 U	5E-05 U	5E-05 U	32.8	32.1	0.0002 U	0.0002 U	5E-05 U	5E-05 U
MW-76	W76-200512-	5/12/2020	0.0003 U	0.0003 U	0.00023	0.000215	0.00463	0.00446	0.0001 U	0.0001 U	5E-05 U	5E-05 U	26.4	25.9	0.000529	0.000506	7.52E-05	0.0000757
MW-80	W80-200409-	4/9/2020	0.0003 U	0.0003 U	0.00359	0.0037	0.0149	0.0151	0.0001 U	0.0001 U	5E-05 U	5E-05 U	31.4	31.2	0.0002 U	0.0002 U	5E-05 U	5E-05 U
MW-81	W81-200512-	5/12/2020	0.0003 U	0.0003 U	0.000544	0.000528	0.00319	0.00318	0.0001 U	0.0001 U	5E-05 U	5E-05 U	14.2	14.1	0.0002 U	0.0002 U	5E-05 U	5E-05 U
MW-82	W82-200430-	4/30/2020	0.0003 U	0.0003 U	0.000225	0.00028	0.00143	0.00201	0.0001 U	0.0001 U	5E-05 U	5E-05 U	30.3	29.1	0.000832	0.00353	5E-05 U	0.0000719
MW-83	W83-200512-	5/12/2020	0.0003 U	0.0003 U	0.000333	0.00031	0.00729	0.00705	0.0001 U	0.0001 U	5E-05 U	5E-05 U	62.5	59.1	0.0002 U	0.000241	0.000119	0.000108
MW-85	W85-200514-	5/14/2020	0.0003 U	0.0003 U	0.000716	0.000695	0.00696	0.00682	0.0001 U	0.0001 U	5E-05 U	5E-05 U	34.7	34.3	0.0002 U	0.0002 U	5E-05 U	5E-05 U
MW-86	W86-200513-	5/13/2020	0.0003 U	0.0003 U	0.000758	0.00685	0.00563	0.00616	0.0001 U	0.0001 U	5E-05 U	5E-05 U	15.7	16	0.0002 U	0.0002 U	0.0000747	0.0000971
MW-87	W87-200512-	5/12/2020	0.0003 U	0.0003 U	0.000552	0.000718	0.0264	0.0258	0.0001 U	0.0001 U	5E-05 U	5E-05 U	47.9	48.1	0.0002 U	0.0002 U	0.000154	0.000159
MW-88	W88-200514-	5/14/2020	0.0003 U	0.0003 U	0.00104	0.00101	0.00213	0.00212	0.0001 U	0.0001 U	5E-05 U	5E-05 U	9.43	9.33	0.00069	0.000662	5E-05 U	5E-05 U
MW-89	W89-200514-	5/14/2020	0.0003 U	0.0003 U	0.000939	0.0024	0.0081	0.00901	0.0001 U	0.0001 U	5E-05 U	5E-05 U	19	18.9	0.0002 U	0.0002 U	5E-05 U	5E-05 U
MW-93	W93-200513-	5/13/2020	0.0003 U	0.0003 U	0.00141	0.00134	0.00779	0.0079	0.0001 U	0.0001 U	5E-05 U	5E-05 U	32.8	32.4	0.0002 U	0.0002 U	0.0000728	0.000111
MW-94	W94-200512-	5/12/2020	0.0003 U	0.0003 U	0.000138	0.000135	0.00221	0.00211	0.0001 U	0.0001 U	5E-05 U	5E-05 U	36.1	34	0.000228	0.0002 U	0.000104	0.000106
MW-95	W95-200504-	5/4/2020	0.0003 U	0.0003 U	0.000993	0.00102	0.00423	0.00407	0.0001 U	0.0001 U	5E-05 U	5E-05 U	22.4	21.8	0.0002 U	0.0002 U	0.0000693	0.0000703
MW-EB6	WB6-200408-	4/8/2020	0.0003 U	0.0003 U	0.00442	0.00409	0.00678	0.008	0.0001 U	0.0001 U	0.0000537	0.0000774	6.62	6.87	0.0002 U	3.39E-04	3.09E-04	0.000334

See Data Qualifier List for Qualifier Information.

Environmental Monitoring Data

Data Collected from April 1 to June 30, 2020
Cedar Hills Landfill -- Groundwater Metals Analytical Data
Contact Person: Sendy Jimenez (206) 477-5224

Site	Sample ID	Date	Copper, dissolved (mg/L)	Copper, total (mg/L)	Iron, dissolved (mg/L)	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)	Nickel, total (mg/L)	Potassium, dissolved (mg/L)	Potassium, total (mg/L)
MW-100	W100200513-	5/13/2020	0.0002 U	0.00131	0.756	20.4	0.0001 U	0.000512	15	15	0.132	0.226	5E-05 DU	5E-05 U	0.000421	0.001	1.72	1.73
MW-101	W101200513-	5/13/2020	0.000371	0.000611	0.279	0.963	0.0001 U	0.000157	25	25.2	0.577	0.676	5E-05 U	5E-05 U	0.00313	0.00351	2.49	2.53
MW-102	W102200416-	4/16/2020	0.000353	0.00086	0.0152	0.333	0.0001 U	0.000222	6.12	6.19	0.000712	0.00663	5E-05 DU	5E-05 DU	0.000466	0.000749	1.09	1.15
MW-103	W103200505-	5/5/2020	0.000433	0.00365	0.0854	1.2	0.0001 U	0.000877	11.8	11.8	0.0796	0.315	5E-05 U	5E-05 U	0.00035 D	0.00201	2.63	2.89
MW-104	W104200416-	4/16/2020	0.000478	0.000925	0.01 U	0.219	0.0001 U	0.000118	15.4	15.5	0.00587	0.0179	5E-05 DU	5E-05 DU	0.000266	0.000571	3.83	3.84
MW-107	W107200408-	4/8/2020	0.000875	0.000963	1.61	1.62	0.0001 U	0.0001 U	7.7	7.64	2.23	2.19	5E-05 U	5E-05 U	0.0045	0.0045	2.93	2.89
MW-108	W108200409-	4/9/2020	0.000506	0.00205	0.01 U	0.442	0.0001 U	0.000155	10.4	10.4	0.0035	0.0102	5E-05 U	5E-05 U	0.000538	0.001	1.63	1.67
MW-109	W109200505-	5/5/2020	0.0108	0.0339	11.7	14.9	0.000818	0.00258	18.2	17.7	1.43 D	1.52 D	5E-05 U	5E-05 U	0.0106 D	0.0135 D	3.53	3.64
MW-110	W110200414-	4/14/2020	0.000426	0.000539	0.749	1.57	0.0001 U	0.000131	36	36.1	3.85	3.91	5E-05 U	5E-05 U	0.00539	0.00559	3.14	3.16
MW-111	W111200413-	4/13/2020	0.000368	0.000427	0.01 U	0.186	0.0001 U	0.0001 U	2.32	2.36	0.00634	0.00616	5E-05 U	5E-05 U	0.0017	0.00192	0.285	0.295
MW-112	W112200409-	4/9/2020	0.0002 U	0.0002 U	0.01 U	0.0112	0.0001 U	0.0001 U	13.3	13.1	0.135	0.136	5E-05 U	5E-05 U	0.000234	0.000207	2.89	2.85
MW-21	W21-200513-	5/13/2020	0.0002 U	0.0002 U	1.97	2.17	0.0001 U	0.0001 U	6.87	6.76	0.114	0.114	5E-05 DU	5E-05 U	0.000104	0.000132	1.12	1.11
MW-24	W24-200430-	4/30/2020	0.0002 U	0.0002 U	3.05	3.12	0.0001 U	0.0001 U	9.4	9.34	0.0978	0.0989	5E-05 U	5E-05 U	0.0001 DU	0.000111	0.989	0.993
MW-30A	W30A200408-	4/8/2020	0.000216	0.00042	0.01 U	0.0773	0.0001 U	0.0001 U	11	10.6	0.0001 U	0.00138	5E-05 U	5E-05 U	0.000643	0.000717	1.47	1.47
MW-47	W47-200408-	4/8/2020	0.0002 U	0.0002 U	3.1	3.89	0.0001 U	0.0001 U	57.7	59.8	2.23	1.88	5E-05 U	5E-05 U	0.00155	0.00169	4.69	4.96
MW-50	W50-200421-	4/21/2020	0.000868	0.00111	0.0178	0.113	0.0001 U	0.0001 U	13.1	13.2	0.00162	0.0105	5E-05 DU	5E-05 DU	0.000316	0.000673	6.01	6.01
MW-56	W56-200504-	5/4/2020	0.000233	0.0002 U	0.0107	0.0262	0.0001 U	0.0001 U	9.84	9.62	0.0905	0.0916	5E-05 U	5E-05 U	0.000749 D	0.000733	1.11	1.09
MW-59	W59-200504-	5/4/2020	0.0002 U	0.0002 U	4.14	4.26	0.0001 U	0.0001 U	10.7	10.4	0.126	0.129	5E-05 U	5E-05 U	0.0001 DU	0.000201	1.13	1.13
MW-62	W62-200511-	5/11/2020	0.000267	0.00173	0.01 U	0.0457	0.0001 U	0.0001 U	3.83	3.87	0.00101	0.00216	5E-05 DU	5E-05 U	0.000581	0.000604	0.817	0.808
MW-64	W64-200512-	5/12/2020	0.0002 U	0.000959	0.0211	0.343	0.0001 U	0.0001 U	15	15.1	0.0401	2.06	5E-05 U	5E-05 U	0.000301	0.00654	1.74	1.73
MW-65	W65-200511-	5/11/2020	0.0002 U	0.0002 U	3.36	4.68	0.0001 U	0.0001 U	6.78	6.93	0.191	0.201	5E-05 DU	5E-05 U	0.000133	0.000124	0.926	0.938
MW-66	W66-200429-	4/29/2020	0.0002 U	0.0002 U	0.01 U	0.01 U	0.0001 U	0.0001 U	13.5	13.1	0.0001 U	0.000212	5E-05 U	5E-05 U	0.000157 D	0.000533	1.15	1.14
MW-67	W67-200511-	5/11/2020	0.0002 U	0.000495	0.785	4.19	0.0001 U	0.000184	20.9	21.2	0.38	0.801	5E-05 DU	5E-05 U	0.000448	0.000708	1.8	1.84
MW-68	W68-200409-	4/9/2020	0.000688	0.00119	0.597	1.26	0.0001 U	0.0001 U	14.4	14.5	0.304	0.305	5E-05 U	5E-05 U	0.000438	0.000419	1.65	1.72
MW-72	W72-200430-	4/30/2020	0.0002 U	0.000218	3.08	5.54	0.0001 U	0.0001 U	19.8	19.7	0.378	0.397	5E-05 U	5E-05 U	0.0001 DU	0.0001 U	1.93	1.96
MW-73	W73-200429-	4/29/2020	0.0002 U	0.000578	0.01 U	0.0922	0.0001 U	0.0001 U	6.49	6.19	0.0001 U	0.00178	5E-05 U	5E-05 U	0.000211 D	0.000283	0.815	0.816
MW-74R	W74R200512-	5/12/2020	0.000286	0.000328	0.01 U	0.01 U	0.0001 U	0.0001 U	36.2	37	0.0001 U	0.000148	5E-05 U	5E-05 U	0.000934	0.000994	2.22	2.23
MW-75	W75-200512-	5/12/2020	0.0002 U	0.0002 U	2.52	2.55	0.0001 U	0.0001 U	23	23.4	0.217	0.217	5E-05 U	5E-05 U	0.0001 U	0.0001 U	2.04	2.01
MW-76	W76-200512-	5/12/2020	0.00172	0.00168	0.01 U	0.01 U	0.0001 U	0.0001 U	12.1	11.9	0.0001 U	0.000113	5E-05 DU	5E-05 U	0.000602	0.000621	1.65	1.63
MW-80	W80-200409-	4/9/2020	0.0002 U	0.0002 U	2.18	2.22	0.0001 U	0.0001 U	15.8	15.9	0.342	0.354	5E-05 U	5E-05 U	0.0001 U	0.0001 U	1.7	1.69
MW-81	W81-200512-	5/12/2020	0.0002 U	0.0002 U	0.01 U	0.01 U	0.0001 U	0.0001 U	7.51	7.71	0.000304	0.000298	5E-05 U	5E-05 U	0.000133	0.000168	0.862	0.872
MW-82	W82-200430-	4/30/2020	0.000288	0.000419	0.035	0.315	0.0001 U	0.000112	17.5	17.2	0.000754	0.00302	5E-05 U	5E-05 U	0.00227 D	0.0054	1.87	1.87
MW-83	W83-200512-	5/12/2020	0.0022	0.00209	0.01 U	0.01 U	0.0001 U	0.0001 U	27.5	27.7	0.118	0.129	5E-05 U	5E-05 U	0.00217	0.0021	3.28	3.23
MW-85	W85-200514-	5/14/2020	0.0002 U	0.0002 U	0.01 U	0.01 U	0.0001 U	0.0001 U	21.3	21.3	0.0001 U	0.0001 U	5E-05 DU	5E-05 U	0.000251	0.000232	1.76	1.73
MW-86	W86-200513-	5/13/2020	0.000229	0.0002 U	0.717	4.21	0.0001 U	0.0001 U	10.9	11	0.0192	0.022	5E-05 DU	5E-05 U	0.000466	0.000131	1.29	1.32
MW-87	W87-200512-	5/12/2020	0.0002 U	0.0002 U	4.62	5.02	0.0001 U	0.0001 U	32.3	31.8	0.553	0.557	5E-05 DU	5E-05 U	0.00017	0.000177	2.5	2.48
MW-88	W88-200514-	5/14/2020	0.0002 U	0.0002 U	0.01 U	0.01 U	0.0001 U	0.0001 U	6.97	6.91	0.0001 U	0.000155	5E-05 DU	5E-05 U	0.0001 U	0.000237	0.851	0.848
MW-89	W89-200514-	5/14/2020	0.0002 U	0.000484	1.22	2.37	0.0001 U	0.0001 U	13.8	13.8	0.28	0.279	5E-05 DU	5E-05 U	0.0001 U	0.000128	1.73	1.74
MW-93	W93-200513-	5/13/2020	0.0002 U	0.0002 U	0.01 U	0.01 U	0.0001 U	0.0001 U	16.8	17	0.188	0.211	5E-05 DU	5E-05 U	0.000214	0.000257	1.59	1.59
MW-94	W94-200512-	5/12/2020	0.00125	0.00122	0.01 U	0.01 U	0.0001 U	0.0001 U	15.6	15.4	0.000152	0.000242	5E-05 U	5E-05 U	0.000661	0.000681	2.57	2.5
MW-95	W95-200504-	5/4/2020	0.0002 U	0.0002 U	0.01 U	0.01 U	0.0001 U	0.0001 U	11.7	11.7	0.168	0.17	5E-05 U	5E-05 U	0.000211 D	0.0002	1.23	1.25
MW-EB6	WB6-200408-	4/8/2020	0.0023	0.00397	0.0668	0.174	0.0001 U	0.0003	3.51	3.59	0.0168	0.0169	5E-05 U	5E-05 U	0.00182	0.00192	1.05	1.08

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Environmental Monitoring Data

Data Collected from April 1 to June 30, 2020
Cedar Hills Landfill -- Groundwater Metals Analytical Data
Contact Person: Sendy Jimenez (206) 477-5224

Site	Sample ID	Date	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)	Vanadium, dissolved (mg/L)	Vanadium, total (mg/L)	Zinc, dissolved (mg/L)	Zinc, total (mg/L)
MW-100	W100200513-	5/13/2020	0.0005 U	0.0005 U	4E-05 U	4E-05 U	8.76	8.72	0.0001 U	0.0001 U	0.000122	0.000535	0.000878	0.00826
MW-101	W101200513-	5/13/2020	0.0005 U	0.0005 U	4E-05 U	4E-05 U	18.5	19.2	0.0001 U	0.0001 U	0.000221	0.00026	0.00142	0.00229
MW-102	W102200416-	4/16/2020	0.0005 U	0.0005 U	4E-05 U	4E-05 U	10.4	10.7	0.0001 U	0.0001 U	0.00102	0.00161	0.000735	0.00164
MW-103	W103200505-	5/5/2020	0.0005 U	0.0005 U	4E-05 U	4E-05 U	12.9	13.4	0.0001 U	0.0001 U	0.000756	0.00296	0.0018	0.00504
MW-104	W104200416-	4/16/2020	0.00051	0.0005 U	4E-05 U	0.000095	18.4	18.8	0.0001 U	0.0001 U	0.0025	0.00275	0.000698	0.00143
MW-107	W107200408-	4/8/2020	0.0005 U	0.0005 U	4E-05 U	4E-05 U	10.7	10.7	0.0001 U	0.0001 U	0.00026	0.000299	0.00235	0.00238
MW-108	W108200409-	4/9/2020	0.0005 U	0.0005 U	4E-05 U	4E-05 U	41.5	42.9	0.0001 U	0.0001 U	3.37E-03	0.00402	0.00249	0.00416
MW-109	W109200505-	5/5/2020	0.00227	0.00308	4E-05 U	0.0000421	1490 D	1510 D	0.0001 U	0.0001 U	0.413 D	0.434 D	0.0032	0.0056
MW-110	W110200414-	4/14/2020	0.0005 U	0.0005 U	4E-05 U	4E-05 U	54.8	54.4	0.0001 U	0.0001 U	0.000275	0.000625	0.00178	0.00233
MW-111	W111200413-	4/13/2020	0.0005 U	0.0005 U	4E-05 U	4E-05 U	5.9	5.87	0.0001 U	0.0001 U	0.000808	0.00118	0.00121	0.00129
MW-112	W112200409-	4/9/2020	0.0005 U	0.0005 U	4E-05 U	4E-05 U	18	18	0.0001 U	0.0001 U	0.000859	0.000805	0.0005 U	0.000713
MW-21	W21-200513-	5/13/2020	0.0005 U	0.0005 U	4E-05 U	4E-05 U	6.08	6.02	0.0001 U	0.0001 U	7.5E-05 U	7.5E-05 U	0.0005 U	0.0005 U
MW-24	W24-200430-	4/30/2020	0.0005 U	0.0005 U	4E-05 U	4E-05 U	5.89	5.81	0.0001 U	0.0001 U	7.5E-05 U	7.5E-05 U	0.000652	0.000768
MW-30A	W30A200408-	4/8/2020	0.0005 U	0.0005 U	4E-05 U	4E-05 U	13.8	14.2	0.0001 U	0.0001 U	0.0019	0.00202	0.00115	0.0017
MW-47	W47-200408-	4/8/2020	0.0005 U	0.0005 U	4E-05 U	4E-05 U	19.6	19.1	0.0001 U	0.0001 U	0.000152	0.000251	0.000651	0.000809
MW-50	W50-200421-	4/21/2020	0.0005 U	0.0005 U	4E-05 U	4E-05 U	15.1	15.1	0.0001 U	0.0001 U	0.00311	0.00325	0.0005 U	0.000776
MW-56	W56-200504-	5/4/2020	0.0005 U	0.0005 U	4E-05 U	4E-05 U	6.25	5.98	0.0001 U	0.0001 U	0.00019	0.000286	0.00184	0.00128
MW-59	W59-200504-	5/4/2020	0.0005 U	0.0005 U	4E-05 U	4E-05 U	6.6	6.27	0.0001 U	0.0001 U	7.5E-05 U	7.5E-05 U	0.00115	0.000956
MW-62	W62-200511-	5/11/2020	0.0005 U	0.0005 U	4E-05 U	4E-05 U	11.1	10.7	0.0001 U	0.0001 U	0.000747	0.000663	0.0011	0.00169
MW-64	W64-200512-	5/12/2020	0.0005 U	0.0005 U	4E-05 U	4E-05 U	8.11	8.25	0.0001 U	0.0001 U	0.000251	0.000798	0.00106	0.00377
MW-65	W65-200511-	5/11/2020	0.0005 U	0.0005 U	4E-05 U	4E-05 U	5.3	5.31	0.0001 U	0.0001 U	7.5E-05 U	7.5E-05 U	0.0005 U	0.000606
MW-66	W66-200429-	4/29/2020	0.000903	0.000967	4E-05 U	4E-05 U	7.72	7.34	0.0001 U	0.0001 U	0.000699	0.000726	0.000516	0.000723
MW-67	W67-200511-	5/11/2020	0.0005 U	0.0005 U	4E-05 U	4E-05 U	9.65	9.72	0.0001 U	0.0001 U	0.000352	0.0014	0.000989	0.00151
MW-68	W68-200409-	4/9/2020	0.0005 U	0.0005 U	4E-05 U	4E-05 U	8.86	8.85	0.0001 U	0.0001 U	0.000188	0.000614	0.000922	0.000724
MW-72	W72-200430-	4/30/2020	0.0005 U	0.0005 U	4E-05 U	4E-05 U	8.49	8.27	0.0001 U	0.0001 U	7.5E-05 U	0.000092	0.00137	0.00156
MW-73	W73-200429-	4/29/2020	0.0005 U	0.0005 U	4E-05 U	4E-05 U	6.05	5.72	0.0001 U	0.0001 U	0.00121	0.0013	0.000644	0.000864
MW-74R	W74R200512-	5/12/2020	0.000752	0.000706	4E-05 U	4E-05 U	12.7	13	0.0001 U	0.0001 U	0.000605	0.00061	0.000806	0.00108
MW-75	W75-200512-	5/12/2020	0.0005 U	0.0005 U	4E-05 U	4E-05 U	9.18	9.34	0.0001 U	0.0001 U	0.000103	7.5E-05 U	0.000568	0.00106
MW-76	W76-200512-	5/12/2020	0.0005 U	0.0005 U	4E-05 U	4E-05 U	12.1	11.7	0.0001 U	0.0001 U	0.000683	0.000599	0.000861	0.000675
MW-80	W80-200409-	4/9/2020	0.0005 U	0.0005 U	4E-05 U	4E-05 U	8.03	8.01	0.0001 U	0.0001 U	7.5E-05 U	7.5E-05 U	0.000752	0.0005 U
MW-81	W81-200512-	5/12/2020	0.000883	0.000871	4E-05 U	4E-05 U	6.59	6.72	0.0001 U	0.0001 U	0.00169	0.00167	0.000812	0.00141
MW-82	W82-200430-	4/30/2020	0.0005 U	0.0005 U	4E-05 U	4E-05 U	8.54	8.28	0.0001 U	0.0001 U	0.00131	0.00144	0.00172	0.00122
MW-83	W83-200512-	5/12/2020	0.0005 U	0.0005 U	4E-05 U	4E-05 U	12.2	12.1	0.0001 U	0.0001 U	0.000808	0.000771	0.00081	0.000867
MW-85	W85-200514-	5/14/2020	0.00091	0.000905	4E-05 U	4E-05 U	10	9.91	0.0001 U	0.0001 U	0.00104	0.000899	0.00207	0.00107
MW-86	W86-200513-	5/13/2020	0.0005 U	0.0005 U	4E-05 U	4E-05 U	7.14	7.12	0.0001 U	0.0001 U	0.000184	0.00042	0.00191	0.000781
MW-87	W87-200512-	5/12/2020	0.0005 U	0.0005 U	4E-05 U	4E-05 U	11.1	10.8	0.0001 U	0.0001 U	0.0000933	0.000111	0.0013	0.00151
MW-88	W88-200514-	5/14/2020	0.000537	0.000584	4E-05 U	4E-05 U	5.9	5.81	0.0001 U	0.0001 U	0.00306	0.00278	0.0005 U	0.00102
MW-89	W89-200514-	5/14/2020	0.0005 U	0.0005 U	4E-05 U	4E-05 U	10.3	10.3	0.0001 U	0.0001 U	0.000166	0.000109	0.000654	0.00209
MW-93	W93-200513-	5/13/2020	0.0005 U	0.0005 U	4E-05 U	4E-05 U	9.7	9.61	0.0001 U	0.0001 U	0.00221	0.00212	0.00175	0.00116
MW-94	W94-200512-	5/12/2020	0.0005 U	0.0005 U	4E-05 U	4E-05 U	8.71	8.36	0.0001 U	0.0001 U	0.00128	0.00118	0.000666	0.0005 U
MW-95	W95-200504-	5/4/2020	0.0005 U	0.0005 U	4E-05 U	4E-05 U	6.56	6.29	0.0001 U	0.0001 U	0.000303	0.000374	0.00122	0.00129
MW-EB6	WB6-200408-	4/8/2020	0.0005 U	0.0005 U	4E-05 U	4E-05 U	18.5	18.3	0.0001 U	0.0001 U	0.00402	0.00472	0.00173	0.00237

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Data Collected from April 1 to June 30, 2020
Cedar Hills Landfill --- Groundwater VOAs Analytical Data
Contact Person: Sendy Jimenez (206) 477-5224

Site	Sample ID	Date	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-Chloropropane 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-100	W100200513-	5/13/2020	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	W101200513-	5/13/2020	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-102	W102200416-	4/16/2020	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-103	W103200505-	5/5/2020	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-104	W104200416-	4/16/2020	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-107	W107200408-	4/8/2020	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	0.148 JT	0.1 U
MW-108	W108200409-	4/9/2020	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-109	W109200505-	5/5/2020	2.5 U	1 U	1 U	1 U	1 U	1 U	1 U	25 U	1 U	1 U	1 U
MW-110	W110200414-	4/14/2020	0.25 U	0.1 U	0.1 U	0.1 U	0.321	0.1 U	0.1 U	2.5 U	0.1 U	1.13	0.308
MW-111	W111200413-	4/13/2020	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-112	W112200409-	4/9/2020	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-21	W21-200513-	5/13/2020	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	W24-200430-	4/30/2020	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	W30A200408-	4/8/2020	0.25 U	0.1 U	0.1 U	0.1 U	1.53	0.1 U	0.1 U	2.5 U	0.1 U	0.1 U	0.1 U
MW-47	W47-200408-	4/8/2020	0.25 U	0.1 U	0.1 U	0.1 U	0.623	0.1 U	0.1 U	2.5 U	0.1 U	0.1 U	0.1 U
MW-50	W50-200421-	4/21/2020	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-56	W56-200504-	5/4/2020	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	W59-200504-	5/4/2020	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	W62-200511-	5/11/2020	0.25 U	0.1 U	0.1 U	0.1 U	0.582	0.1 U	0.1 U	2.5 U	0.1 U	0.1 U	0.1 U
MW-64	W64-200512-	5/12/2020	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	W65-200511-	5/11/2020	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	W66-200429-	4/29/2020	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	W67-200511-	5/11/2020	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	W68-200409-	4/9/2020	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	W72-200430-	4/30/2020	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	W73-200429-	4/29/2020	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-74R	W74R200512-	5/12/2020	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	W75-200512-	5/12/2020	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	W76-200512-	5/12/2020	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	W80-200409-	4/9/2020	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	W81-200512-	5/12/2020	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	W82-200430-	4/30/2020	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	W83-200512-	5/12/2020	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	W85-200514-	5/14/2020	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	W86-200513-	5/13/2020	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	W87-200512-	5/12/2020	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	W88-200514-	5/14/2020	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	W89-200514-	5/14/2020	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	W93-200513-	5/13/2020	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	W94-200512-	5/12/2020	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	W95-200504-	5/4/2020	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-EB6	WB6-200408-	4/8/2020	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	VTRP200408X	4/7/2020	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	VTRP200409X	4/8/2020	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	VTRP200409Z	4/8/2020	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	VTRP200413X	4/9/2020	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	VTRP200414X	4/9/2020	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	VTRP200416X	4/13/2020	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	VTRP200421X	4/14/2020	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	VTRP200429X	4/28/2020	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	VTRP200430X	4/23/2020	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	VTRP200504X	4/29/2020	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	VTRP200505Y	4/29/2020	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	VTRP200511Y	5/5/2020	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	VTRP200512X	5/11/2020	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	VTRP200512Y	5/11/2020	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	VTRP200513X	5/12/2020	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	VTRP200513Y	5/12/2020	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	VTRP200514Y	5/13/2020	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

See Data Qualifier List for Qualifier Information

Environmental Monitoring Data

Data Collected from April 1 to June 30, 2020
Cedar Hills Landfill --- Groundwater VOAs Analytical Data
Contact Person: Sendy Jimenez (206) 477-5224

Site	Sample ID	Date	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
MW-100	W100200513-	5/13/2020	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
MW-101	W101200513-	5/13/2020	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
MW-102	W102200416-	4/16/2020	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
MW-103	W103200505-	5/5/2020	0.1 U	0.1 U	0.25 U	0.5 U	2.5 U	3.71 BJT	0.035 U	0.1 U	0.1 U	0.25 U	0.5 U
MW-104	W104200416-	4/16/2020	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
MW-107	W107200408-	4/8/2020	0.1 U	0.831	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
MW-108	W108200409-	4/9/2020	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
MW-109	W109200505-	5/5/2020	1 U	1 U	2.5 U	5 U	25 U	25 U	0.35 U	1.25 JT	1 U	2.5 U	5 U
MW-110	W110200414-	4/14/2020	0.249	0.219	0.25 U	0.5 U	2.5 U	2.5 U	0.035 U	0.479	0.1 U	0.25 U	0.5 U
MW-111	W111200413-	4/13/2020	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
MW-112	W112200409-	4/9/2020	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
MW-21	W21-200513-	5/13/2020	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
MW-24	W24-200430-	4/30/2020	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
MW-30A	W30A200408-	4/8/2020	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
MW-47	W47-200408-	4/8/2020	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
MW-50	W50-200421-	4/21/2020	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
MW-56	W56-200504-	5/4/2020	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
MW-59	W59-200504-	5/4/2020	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
MW-62	W62-200511-	5/11/2020	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
MW-64	W64-200512-	5/12/2020	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
MW-65	W65-200511-	5/11/2020	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
MW-66	W66-200429-	4/29/2020	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
MW-67	W67-200511-	5/11/2020	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
MW-68	W68-200409-	4/9/2020	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
MW-72	W72-200430-	4/30/2020	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
MW-73	W73-200429-	4/29/2020	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
MW-74R	W74R200512-	5/12/2020	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
MW-75	W75-200512-	5/12/2020	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
MW-76	W76-200512-	5/12/2020	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
MW-80	W80-200409-	4/9/2020	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
MW-81	W81-200512-	5/12/2020	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
MW-82	W82-200430-	4/30/2020	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
MW-83	W83-200512-	5/12/2020	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
MW-85	W85-200514-	5/14/2020	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
MW-86	W86-200513-	5/13/2020	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
MW-87	W87-200512-	5/12/2020	0.1 U	0.1 U	1 U	0.5 U	2.5 U	2.9 JT	0.035 U	0.1 U	0.1 U	0.25 U	0.5 U
MW-88	W88-200514-	5/14/2020	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
MW-89	W89-200514-	5/14/2020	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
MW-93	W93-200513-	5/13/2020	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
MW-94	W94-200512-	5/12/2020	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
MW-95	W95-200504-	5/4/2020	0.1 U	0.1 U	1 U	0.5 U	2.5 U	3.55 BJT	0.035 U	0.1 U	0.1 U	0.25 U	0.5 U
MW-EB6	WB6-200408-	4/8/2020	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
VOA TRIP BLANK	VTRP200408X	4/7/2020	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
VOA TRIP BLANK	VTRP200409X	4/8/2020	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
VOA TRIP BLANK	VTRP200409Z	4/8/2020	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
VOA TRIP BLANK	VTRP200413X	4/9/2020	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
VOA TRIP BLANK	VTRP200414X	4/9/2020	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
VOA TRIP BLANK	VTRP200416X	4/13/2020	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
VOA TRIP BLANK	VTRP200421X	4/14/2020	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
VOA TRIP BLANK	VTRP200429X	4/28/2020	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
VOA TRIP BLANK	VTRP200430X	4/23/2020	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
VOA TRIP BLANK	VTRP200504X	4/29/2020	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
VOA TRIP BLANK	VTRP200505Y	4/29/2020	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
VOA TRIP BLANK	VTRP200511Y	5/5/2020	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
VOA TRIP BLANK	VTRP200512X	5/11/2020	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
VOA TRIP BLANK	VTRP200512Y	5/11/2020	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
VOA TRIP BLANK	VTRP200513X	5/12/2020	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
VOA TRIP BLANK	VTRP200513Y	5/12/2020	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
VOA TRIP BLANK	VTRP200514Y	5/13/2020	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

See Data Qualifier List for Qualifier Information

Environmental Monitoring Data

Data Collected from April 1 to June 30, 2020
Cedar Hills Landfill --- Groundwater VOAs Analytical Data
Contact Person: Sendy Jimenez (206) 477-5224

Site	Sample ID	Date	Bromomethane ug/l 74-83-9	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
MW-100	W100200513-	5/13/2020	0.1 U	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
MW-101	W101200513-	5/13/2020	0.1 U	0.1 U	0.25 U	0.1 U	0.5 U	0.1 U	0.1 U	0.25 U	0.115 JT	0.25 U	0.1 U
MW-102	W102200416-	4/16/2020	0.1 U	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
MW-103	W103200505-	5/5/2020	0.1 U	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
MW-104	W104200416-	4/16/2020	0.1 U	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
MW-107	W107200408-	4/8/2020	0.1 U	0.1 U	0.25 U	0.615	0.5 U	0.1 U	0.1 U	0.25 U	0.111 JT	0.25 U	0.1 U
MW-108	W108200409-	4/9/2020	0.1 U	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
MW-109	W109200505-	5/5/2020	1 U	1 U	2.5 U	1 U	5 U	1 U	1 U	2.5 U	1 U	2.5 U	1 U
MW-110	W110200414-	4/14/2020	0.1 U	0.1 U	0.25 U	1.21	0.5 U	0.28	0.1 U	0.25 U	4.59	0.25 U	0.1 U
MW-111	W111200413-	4/13/2020	0.1 U	0.1 U	0.25 U	0.1 U	0.5 U	0.1 U	0.1 U	0.25 U	0.167 JT	0.25 U	0.1 U
MW-112	W112200409-	4/9/2020	0.1 U	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
MW-21	W21-200513-	5/13/2020	0.1 U	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
MW-24	W24-200430-	4/30/2020	0.1 U	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
MW-30A	W30A200408-	4/8/2020	0.1 U	0.1 U	0.25 U	0.1 U	0.5 U	0.1 U	0.1 U	0.25 U	1.67	0.25 U	0.1 U
MW-47	W47-200408-	4/8/2020	0.1 U	0.1 U	0.25 U	0.1 U	0.5 U	0.289	0.1 U	0.25 U	1.63	0.25 U	0.1 U
MW-50	W50-200421-	4/21/2020	0.1 U	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
MW-56	W56-200504-	5/4/2020	0.1 U	0.1 U	0.25 U	0.1 U	0.5 U	0.1 U	0.1 U	0.25 U	1.13	0.25 U	0.1 U
MW-59	W59-200504-	5/4/2020	0.1 U	0.1 U	0.25 U	0.1 U	0.5 U	0.1 U	0.1 U	0.25 U	1.41	0.25 U	0.1 U
MW-62	W62-200511-	5/11/2020	0.1 U	0.1 U	0.25 U	0.1 U	0.5 U	0.1 U	0.1 U	0.25 U	1.41	0.25 U	0.1 U
MW-64	W64-200512-	5/12/2020	0.1 U	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
MW-65	W65-200511-	5/11/2020	0.1 U	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
MW-66	W66-200429-	4/29/2020	0.1 U	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
MW-67	W67-200511-	5/11/2020	0.1 U	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
MW-68	W68-200409-	4/9/2020	0.1 U	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
MW-72	W72-200430-	4/30/2020	0.1 U	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
MW-73	W73-200429-	4/29/2020	0.1 U	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
MW-74R	W74R200512-	5/12/2020	0.1 U	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
MW-75	W75-200512-	5/12/2020	0.1 U	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
MW-76	W76-200512-	5/12/2020	0.1 U	0.1 U	0.25 U	0.1 U	0.5 U	0.1 U	0.1 U	0.25 U	0.327	0.25 U	0.1 U
MW-80	W80-200409-	4/9/2020	0.1 U	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
MW-81	W81-200512-	5/12/2020	0.1 U	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
MW-82	W82-200430-	4/30/2020	0.1 U	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
MW-83	W83-200512-	5/12/2020	0.1 U	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
MW-85	W85-200514-	5/14/2020	0.1 U	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
MW-86	W86-200513-	5/13/2020	0.1 U	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
MW-87	W87-200512-	5/12/2020	0.1 U	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
MW-88	W88-200514-	5/14/2020	0.1 U	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
MW-89	W89-200514-	5/14/2020	0.1 U	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
MW-93	W93-200513-	5/13/2020	0.1 U	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
MW-94	W94-200512-	5/12/2020	0.1 U	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
MW-95	W95-200504-	5/4/2020	0.1 U	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
MW-EB6	WB6-200408-	4/8/2020	0.1 U	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
VOA TRIP BLANK	VTRP200408X	4/7/2020	0.1 U	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
VOA TRIP BLANK	VTRP200409X	4/8/2020	0.1 U	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
VOA TRIP BLANK	VTRP200409Z	4/8/2020	0.1 U	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
VOA TRIP BLANK	VTRP200413X	4/9/2020	0.1 U	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
VOA TRIP BLANK	VTRP200414X	4/9/2020	0.1 U	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
VOA TRIP BLANK	VTRP200416X	4/13/2020	0.1 U	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
VOA TRIP BLANK	VTRP200421X	4/14/2020	0.1 U	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
VOA TRIP BLANK	VTRP200429X	4/28/2020	0.1 U	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
VOA TRIP BLANK	VTRP200430X	4/23/2020	0.1 U	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
VOA TRIP BLANK	VTRP200504X	4/29/2020	0.1 U	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
VOA TRIP BLANK	VTRP200505Y	4/29/2020	0.1 U	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
VOA TRIP BLANK	VTRP200511Y	5/5/2020	0.1 U	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
VOA TRIP BLANK	VTRP200512X	5/11/2020	0.1 U	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
VOA TRIP BLANK	VTRP200512Y	5/11/2020	0.1 U	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
VOA TRIP BLANK	VTRP200513X	5/12/2020	0.1 U	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
VOA TRIP BLANK	VTRP200513Y	5/12/2020	0.1 U	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
VOA TRIP BLANK	VTRP200514Y	5/13/2020	0.1 U	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

See Data Qualifier List for Qualifier Information

Environmental Monitoring Data

Data Collected from April 1 to June 30, 2020
Cedar Hills Landfill --- Groundwater VOAs Analytical Data
Contact Person: Sendy Jimenez (206) 477-5224

Site	Sample ID	Date	Dichlorodifluoromethane ug/l 75-71-8	Ethylbenzene ug/l 100-41-4	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
MW-100	W100200513-	5/13/2020	0.1 U	0.1 U	0.1 U	0.2 U	2.5 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U
MW-101	W101200513-	5/13/2020	0.1 U	0.1 U	0.1 U	0.2 U	2.5 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U
MW-102	W102200416-	4/16/2020	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	0.1 U
MW-103	W103200505-	5/5/2020	0.1 U	0.1 U	0.1 U	0.2 U	2.5 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U
MW-104	W104200416-	4/16/2020	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	0.1 U
MW-107	W107200408-	4/8/2020	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	0.1 U
MW-108	W108200409-	4/9/2020	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	0.1 U
MW-109	W109200505-	5/5/2020	1 U	1 U	1 U	2 U	25 U	1 U	1 U	1 U	292	1 U
MW-110	W110200414-	4/14/2020	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	0.317
MW-111	W111200413-	4/13/2020	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	0.1 U
MW-112	W112200409-	4/9/2020	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	0.1 U
MW-21	W21-200513-	5/13/2020	0.1 U	0.1 U	0.1 U	0.2 U	2.5 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U
MW-24	W24-200430-	4/30/2020	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	0.1 U
MW-30A	W30A200408-	4/8/2020	0.1 U	0.1 U	0.1 U	0.1 U	2.5 U	0.1 U	0.1 U	0.115 JT	0.1 U	0.1 U
MW-47	W47-200408-	4/8/2020	7.85	0.1 U	0.1 U	0.1 U	2.5 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U
MW-50	W50-200421-	4/21/2020	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	0.1 U
MW-56	W56-200504-	5/4/2020	0.1 U	0.1 U	0.1 U	0.2 U	2.5 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U
MW-59	W59-200504-	5/4/2020	0.1 U	0.1 U	0.1 U	0.2 U	2.5 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U
MW-62	W62-200511-	5/11/2020	0.1 U	0.1 U	0.1 U	0.2 U	2.5 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U
MW-64	W64-200512-	5/12/2020	0.1 U	0.1 U	0.1 U	0.2 U	2.5 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U
MW-65	W65-200511-	5/11/2020	0.1 U	0.1 U	0.1 U	0.2 U	2.5 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U
MW-66	W66-200429-	4/29/2020	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	0.1 U
MW-67	W67-200511-	5/11/2020	0.1 U	0.1 U	0.1 U	0.2 U	2.5 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U
MW-68	W68-200409-	4/9/2020	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	0.1 U
MW-72	W72-200430-	4/30/2020	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	0.1 U
MW-73	W73-200429-	4/29/2020	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	0.1 U
MW-74R	W74R200512-	5/12/2020	0.1 U	0.1 U	0.1 U	0.2 U	2.5 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U
MW-75	W75-200512-	5/12/2020	0.1 U	0.1 U	0.1 U	0.2 U	2.5 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U
MW-76	W76-200512-	5/12/2020	0.1 U	0.1 U	0.1 U	0.2 U	2.5 U	0.1 U	0.1 U	0.377	0.1 U	0.1 U
MW-80	W80-200409-	4/9/2020	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	0.1 U
MW-81	W81-200512-	5/12/2020	0.1 U	0.1 U	0.1 U	0.2 U	2.5 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U
MW-82	W82-200430-	4/30/2020	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	0.1 U
MW-83	W83-200512-	5/12/2020	0.1 U	0.1 U	0.1 U	0.2 U	2.5 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U
MW-85	W85-200514-	5/14/2020	0.1 U	0.1 U	0.1 U	0.2 U	2.5 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U
MW-86	W86-200513-	5/13/2020	0.1 U	0.1 U	0.1 U	0.2 U	2.5 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U
MW-87	W87-200512-	5/12/2020	0.1 U	0.1 U	0.1 U	0.2 U	2.5 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U
MW-88	W88-200514-	5/14/2020	0.1 U	0.1 U	0.1 U	0.2 U	2.5 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U
MW-89	W89-200514-	5/14/2020	0.1 U	0.1 U	0.1 U	0.2 U	2.5 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U
MW-93	W93-200513-	5/13/2020	0.1 U	0.1 U	0.1 U	0.2 U	2.5 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U
MW-94	W94-200512-	5/12/2020	0.1 U	0.1 U	0.1 U	0.2 U	2.5 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U
MW-95	W95-200504-	5/4/2020	0.1 U	0.1 U	0.1 U	0.2 U	2.5 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U
MW-EB6	WB6-200408-	4/8/2020	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	0.1 U
VOA TRIP BLANK	VTRP200408X	4/7/2020	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	0.1 U
VOA TRIP BLANK	VTRP200409X	4/8/2020	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	0.1 U
VOA TRIP BLANK	VTRP200409Z	4/8/2020	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	0.1 U
VOA TRIP BLANK	VTRP200413X	4/9/2020	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	0.1 U
VOA TRIP BLANK	VTRP200414X	4/9/2020	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	0.1 U
VOA TRIP BLANK	VTRP200416X	4/13/2020	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	0.1 U
VOA TRIP BLANK	VTRP200421X	4/14/2020	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	0.1 U
VOA TRIP BLANK	VTRP200429X	4/28/2020	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	0.1 U
VOA TRIP BLANK	VTRP200430X	4/23/2020	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	0.1 U
VOA TRIP BLANK	VTRP200504X	4/29/2020	0.1 U	0.1 U	0.1 U	0.2 U	2.5 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U
VOA TRIP BLANK	VTRP200505Y	4/29/2020	0.1 U	0.1 U	0.1 U	0.2 U	2.5 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U
VOA TRIP BLANK	VTRP200511Y	5/5/2020	0.1 U	0.1 U	0.1 U	0.2 U	2.5 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U
VOA TRIP BLANK	VTRP200512X	5/11/2020	0.1 U	0.1 U	0.1 U	0.2 U	2.5 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U
VOA TRIP BLANK	VTRP200512Y	5/11/2020	0.1 U	0.1 U	0.1 U	0.2 U	2.5 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U
VOA TRIP BLANK	VTRP200513X	5/12/2020	0.1 U	0.1 U	0.1 U	0.2 U	2.5 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U
VOA TRIP BLANK	VTRP200513Y	5/12/2020	0.1 U	0.1 U	0.1 U	0.2 U	2.5 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U
VOA TRIP BLANK	VTRP200514Y	5/13/2020	0.1 U	0.1 U	0.1 U	0.2 U	2.5 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U

See Data Qualifier List for Qualifier Information

Environmental Monitoring Data

Data Collected from April 1 to June 30, 2020
Cedar Hills Landfill --- Groundwater VOAs Analytical Data
Contact Person: Sendy Jimenez (206) 477-5224

Site	Sample ID	Date	Trans-1,3-Dichloropropene ug/l 10061-02-6	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-100	W100200513-	5/13/2020	0.5 U	5 U	0.1 U	0.1 U	0.1 U	0.01 U
MW-101	W101200513-	5/13/2020	0.5 U	5 U	0.1 U	0.1 U	0.1 U	0.114
MW-102	W102200416-	4/16/2020	0.5 U	0.5 U	0.1 U	0.1 U	0.1 U	0.01 DU
MW-103	W103200505-	5/5/2020	0.5 U	0.5 U	0.1 U	0.1 U	0.1 U	0.01 U
MW-104	W104200416-	4/16/2020	0.5 U	0.5 U	0.1 U	0.1 U	0.1 U	0.01 DU
MW-107	W107200408-	4/8/2020	0.5 U	0.5 U	0.1 U	0.1 U	0.1 U	0.26
MW-108	W108200409-	4/9/2020	0.5 U	0.5 U	0.1 U	0.1 U	0.1 U	0.01 U
MW-109	W109200505-	5/5/2020	5 U	5 U	1 U	1 U	1 U	0.199 JT
MW-110	W110200414-	4/14/2020	0.5 U	0.5 U	0.133 JT	0.1 U	0.1 U	0.307 D
MW-111	W111200413-	4/13/2020	0.5 U	0.5 U	0.1 U	0.1 U	0.1 U	0.0113 DJT
MW-112	W112200409-	4/9/2020	0.5 U	0.5 U	0.1 U	0.1 U	0.1 U	0.01 U
MW-21	W21-200513-	5/13/2020	0.5 U	5 U	0.1 U	0.1 U	0.1 U	0.01 U
MW-24	W24-200430-	4/30/2020	0.5 U	5 U	0.1 U	0.1 U	0.1 U	0.01 U
MW-30A	W30A200408-	4/8/2020	0.5 U	0.5 U	0.836	0.1 U	0.1 U	0.0123 JT
MW-47	W47-200408-	4/8/2020	0.5 U	0.5 U	0.1 U	0.1 U	0.1 U	7.06
MW-50	W50-200421-	4/21/2020	0.5 U	0.5 U	0.1 U	0.1 U	0.1 U	0.01 DU
MW-56	W56-200504-	5/4/2020	0.5 U	5 U	0.1 U	0.1 U	0.1 U	0.01 U
MW-59	W59-200504-	5/4/2020	0.5 U	5 U	0.1 U	0.1 U	0.1 U	0.01 U
MW-62	W62-200511-	5/11/2020	0.5 U	5 U	0.103 JT	0.1 U	0.1 U	0.01 U
MW-64	W64-200512-	5/12/2020	0.5 U	5 U	0.1 U	0.1 U	0.1 U	0.01 U
MW-65	W65-200511-	5/11/2020	0.5 U	5 U	0.1 U	0.1 U	0.1 U	0.0468
MW-66	W66-200429-	4/29/2020	0.5 U	5 U	0.1 U	0.1 U	0.1 U	0.01 U
MW-67	W67-200511-	5/11/2020	0.5 U	5 U	0.1 U	0.1 U	0.1 U	0.01 U
MW-68	W68-200409-	4/9/2020	0.5 U	0.5 U	0.1 U	0.1 U	0.1 U	0.01 U
MW-72	W72-200430-	4/30/2020	0.5 U	5 U	0.1 U	0.1 U	0.1 U	0.01 U
MW-73	W73-200429-	4/29/2020	0.5 U	5 U	0.1 U	0.1 U	0.1 U	0.01 U
MW-74R	W74R200512-	5/12/2020	0.5 U	5 U	0.1 U	0.1 U	0.1 U	0.01 U
MW-75	W75-200512-	5/12/2020	0.5 U	5 U	0.1 U	0.1 U	0.1 U	0.01 U
MW-76	W76-200512-	5/12/2020	0.5 U	5 U	7.42	0.1 U	0.1 U	0.01 U
MW-80	W80-200409-	4/9/2020	0.5 U	0.5 U	0.1 U	0.1 U	0.1 U	0.01 U
MW-81	W81-200512-	5/12/2020	0.5 U	5 U	0.1 U	0.1 U	0.1 U	0.01 U
MW-82	W82-200430-	4/30/2020	0.5 U	5 U	4.82	0.1 U	0.1 U	0.01 U
MW-83	W83-200512-	5/12/2020	0.5 U	5 U	1.64	0.1 U	0.1 U	0.01 U
MW-85	W85-200514-	5/14/2020	0.5 U	5 U	0.1 U	0.1 U	0.1 U	0.01 U
MW-86	W86-200513-	5/13/2020	0.5 U	5 U	0.1 U	0.1 U	0.1 U	0.01 U
MW-87	W87-200512-	5/12/2020	0.5 U	5 U	0.1 U	0.1 U	0.1 U	0.01 U
MW-88	W88-200514-	5/14/2020	0.5 U	5 U	0.1 U	0.1 U	0.1 U	0.01 U
MW-89	W89-200514-	5/14/2020	0.5 U	5 U	0.1 U	0.1 U	0.1 U	0.01 U
MW-93	W93-200513-	5/13/2020	0.5 U	5 U	0.1 U	0.1 U	0.1 U	0.01 U
MW-94	W94-200512-	5/12/2020	0.5 U	5 U	2.42	0.1 U	0.1 U	0.01 U
MW-95	W95-200504-	5/4/2020	0.5 U	5 U	0.1 U	0.1 U	0.1 U	0.01 U
MW-EB6	WB6-200408-	4/8/2020	0.5 U	0.5 U	0.1 U	0.1 U	0.1 U	0.01 U
VOA TRIP BLANK	VTRP200408X	4/7/2020	0.5 U	0.5 U	0.1 U	0.1 U	0.1 U	0.01 U
VOA TRIP BLANK	VTRP200409X	4/8/2020	0.5 U	0.5 U	0.1 U	0.1 U	0.1 U	0.01 U
VOA TRIP BLANK	VTRP200409Z	4/8/2020	0.5 U	0.5 U	0.1 U	0.1 U	0.1 U	0.01 U
VOA TRIP BLANK	VTRP200413X	4/9/2020	0.5 U	0.5 U	0.1 U	0.1 U	0.1 U	0.01 DU
VOA TRIP BLANK	VTRP200414X	4/9/2020	0.5 U	0.5 U	0.1 U	0.1 U	0.1 U	0.01 DU
VOA TRIP BLANK	VTRP200416X	4/13/2020	0.5 U	0.5 U	0.1 U	0.1 U	0.1 U	0.01 DU
VOA TRIP BLANK	VTRP200421X	4/14/2020	0.5 U	0.5 U	0.1 U	0.1 U	0.1 U	0.01 DU
VOA TRIP BLANK	VTRP200429X	4/28/2020	0.5 U	5 U	0.1 U	0.1 U	0.1 U	0.01 U
VOA TRIP BLANK	VTRP200430X	4/23/2020	0.5 U	5 U	0.1 U	0.1 U	0.1 U	0.01 U
VOA TRIP BLANK	VTRP200504X	4/29/2020	0.5 U	5 U	0.1 U	0.1 U	0.1 U	0.01 U
VOA TRIP BLANK	VTRP200505Y	4/29/2020	0.5 U	0.5 U	0.1 U	0.1 U	0.1 U	0.01 U
VOA TRIP BLANK	VTRP200511Y	5/5/2020	0.5 U	5 U	0.1 U	0.1 U	0.1 U	0.01 U
VOA TRIP BLANK	VTRP200512X	5/11/2020	0.5 U	5 U	0.1 U	0.1 U	0.1 U	0.01 U
VOA TRIP BLANK	VTRP200512Y	5/11/2020	0.5 U	5 U	0.1 U	0.1 U	0.1 U	0.01 U
VOA TRIP BLANK	VTRP200513X	5/12/2020	0.5 U	5 U	0.1 U	0.1 U	0.1 U	0.01 U
VOA TRIP BLANK	VTRP200513Y	5/12/2020	0.5 U	5 U	0.1 U	0.1 U	0.1 U	0.01 U
VOA TRIP BLANK	VTRP200514Y	5/13/2020	0.5 U	5 U	0.1 U	0.1 U	0.1 U	0.01 U

See Data Qualifier List for Qualifier Information

Environmental Monitoring Data

Data Collected from July 01, 2020 to September 30, 2020
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-100	7/6/2020	620.32	297.63	322.69	
MW-101	7/6/2020	474.72	31.71	443.01	
MW-102	7/6/2020	552.48	45.61	506.87	
MW-103	7/6/2020	639.08	13.5	625.58	
MW-104	7/6/2020	629.68	24.42	605.26	
MW-105	7/6/2020	521.23	19.6	501.63	
MW-106	7/6/2020	475.47	189.91	285.56	
MW-107	7/6/2020	589.029	29.31	559.719	
MW-108	7/6/2020	612.258	16.25	596.008	
MW-109	7/6/2020	638.728	10.25	628.478	
MW-110	7/6/2020	641.742	7.34	634.403	
MW-111	7/6/2020	643.797	9.59	634.206	
MW-112	7/6/2020	638.929	11.98	626.949	
MW-113	7/6/2020	531.09	187.69	343.4	
MW-114	7/6/2020	490.45	138.42	352.03	
MW-115	7/6/2020	484.87	130.33	354.54	
MW-21	7/6/2020	420.66	124.85	295.81	
MW-22	7/6/2020	517.09	231.96	285.13	
MW-24	7/6/2020	475.99	145	330.99	
MW-25	7/6/2020	474.41	8.25	466.16	
MW-27A	7/6/2020	584.23	54.55	529.68	
MW-28	7/6/2020	527.75	28.18	499.57	
MW-29	7/6/2020	532.92	13.21	519.71	
MW-30A	7/6/2020	568.43	28.02	540.41	WATER IN ANNULUS
MW-41D	7/6/2020	462.32	26.92	435.4	
MW-41S	7/6/2020	462.44	7.09	455.35	
MW-43	7/6/2020	547.06	263.04	284.02	
MW-45	7/6/2020	488.4	15.25	473.15	
MW-47	7/6/2020	634.6	18.33	616.27	
MW-48	7/6/2020	594.49	46.22	548.27	
MW-50	7/6/2020	637.02	30.25	606.77	
MW-54	7/6/2020	580.43	278.03	302.4	
MW-55	7/6/2020	652.29	29.59	622.7	
MW-56	7/6/2020	480.33	126.41	353.92	
MW-57	7/6/2020	456.64	102.21	354.43	
MW-58A	7/6/2020	479.27	148.84	330.43	
MW-59	7/6/2020	457.13	123.65	333.48	
MW-60	7/6/2020	567.15	226.14	341.01	
MW-62	7/6/2020	556.21	52.19	504.02	PATH TO WELL NOT MOWED
MW-63	7/6/2020	515.88	16.78	499.10	AREA AROUND WELL NOT MOWED.
MW-64	7/6/2020	596.55	265.4	331.15	
MW-65	7/6/2020	545.83	208.91	336.92	
MW-66	7/6/2020	531.28	238.29	292.99	
MW-67	7/6/2020	516.43	220.19	296.24	
MW-68	7/6/2020	647.07	332.28	314.79	

Environmental Monitoring Data

Data Collected from July 01, 2020 to September 30, 2020
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	7/6/2020	653.69	355.88	297.81	
MW-72	7/6/2020	671.87	361	310.87	
MW-73	7/6/2020	485.7	190.78	294.92	AREA AROUND WELL NOT MOWED.
MW-74R	7/6/2020	531.26	239.6	291.66	PATH TO WELL NOT MOWED
MW-75	7/6/2020	532.4	245.16	287.24	
MW-76	7/6/2020	491.71	136.7	355.01	
MW-79	7/6/2020	459.17		459.17	
MW-80	7/6/2020	530.41	238.59	291.82	
MW-81	7/6/2020	493.66	183.84	309.82	
MW-82	7/6/2020	474.85	122.64	352.21	
MW-83	7/6/2020	496.81	143.87	352.94	
MW-84	7/6/2020	530.8	253.73	277.07	
MW-85	7/6/2020	531.76	245.53	286.23	
MW-86	7/6/2020	536.04	249.2	286.84	
MW-87	7/6/2020	537.31	247.77	289.54	WASPS
MW-88	7/6/2020	513.68	226.76	286.92	
MW-89	7/6/2020	512.82	231.64	281.18	
MW-90	7/6/2020	502.22	221.24	280.98	AREA AROUND WELL NOT MOWED.
MW-91	7/6/2020	532.02	246.42	285.6	
MW-93	7/6/2020	632.15	308.25	323.9	
MW-94	7/6/2020	495.51	141.56	353.95	
MW-95	7/6/2020	571.54	251.44	320.1	
MW-98	7/6/2020	503.73	17.36	486.37	
MW-99	7/6/2020	493.64	200.07	293.57	
MW-EB5	7/6/2020	645.36	39.25	606.11	
MW-EB5S	7/6/2020	645.77	10.02	635.75	
MW-EB6	7/6/2020	589.61	27.11	562.5	
WS-NPW-1	7/6/2020	646.33	334.22	312.11	
WS-NPW-3	7/6/2020	645.81	332.43	313.38	

Environmental Monitoring Data

Data Collected from July 01, 2020 to September 30, 2020
Cedar Hills Landfill --- Groundwater Field Parameters
Contact Person: Sendy Jimenez (206) 477-5224

Site	Sample ID	Date	pH (Field) (std. Units)	Conductance (Field) (umhos/cm)	Temperature (Field) (°C)	Purge Volume (Field) (gal)	Dissolved Oxygen (Field) (mg/L)	ORP (Field) mV	Turbidity (Field) NTU
MW-101	7/13/2020	W101200713-	6.94	412.3	11.6	2.8			5.4
MW-101	7/29/2020	W101200729-	7.09	439.3	14.9	3.75			5.5
MW-102	7/13/2020	W102200713-	6.48	168.2	10.69	1.25	3.57	215.6	9.28
MW-102	7/29/2020	W102200729-	6.02	180.5	10.9	1.5	10.09	300.1	26.7
MW-103	7/21/2020	W103200721-	7.81	274.9	12.8	0.75	1.79	162.3	8.06
MW-104	7/21/2020	W104200721-	7.14	393.8	11.78	0.5	2.57	11.5	4.92
MW-107	7/20/2020	W107200720-	5.48	166.2	12.65	1	1.02	204.4	1.87
MW-108	7/21/2020	W108200721-	6.14	248.5	13.42	0.75	4.96	268.7	2.58
MW-109	7/21/2020	W109200721-	6.98	2110	14.5	1.5	0.97	-70.7	16.3
MW-110	7/20/2020	W110200720-	6.22	771	14.59	1	0.6	39.6	11.8
MW-111	7/20/2020	W111200720-	5.4	76.3	15.25	1	5.86	305.2	7.29
MW-112	7/20/2020	W112200720-	7.81	274.9	12.8	0.75	1.79	162.3	8.06
MW-113	7/9/2020	W113200709-	7.26	381.4	10.41	4.5	0.79	-67.3	0.89
MW-114	7/9/2020	W114200709-	6.67	288.6	9.85	2.5	4.38	357	1.92
MW-115	7/8/2020	W115200708-	6.33	285.8	9.54	4	3.78	231.6	1.84
MW-30A	7/20/2020	W30A200720-	7.81	274.9	12.8	0.75	1.79	162.3	8.06
MW-47	7/13/2020	W47-200713-	6.93	978.1	11.5	20			0.25
MW-47	7/29/2020	W47-200729-	6.66	901.6	12	20			1.53
MW-50	7/13/2020	W50-200713-	7.37	327.8	12.11	1.25	4.96	202.5	2.76
MW-50	7/29/2020	W50-200729-	7.22	326.8	12.35	1.25	7.6	275.1	12.3
MW-59	7/8/2020	W59-200708-	6.76	218.3	9.79	4	0.79	54.1	1.33
MW-62	7/8/2020	W62-200708-	6.17	150.3	13.81	1			4.38
MW-66	7/7/2020	W66-200707-	6.7	209.9	10.08	3.1	5.38	312.6	0.57
MW-68	7/20/2020	W68-200720-	6.67	280.5	10.57	4.3	0.63	-11.5	5.52
MW-72	7/7/2020	W72-200707-	6.67	357	10.29	6.5	0.76	-38.9	18.7
MW-74R	7/8/2020	W74R200708-	6.6	571	10.28	3	4.51	341	0.54
MW-75	7/8/2020	W75-200708-	6.68	388.8	9.81	5.1	0.49	-45.7	0.68

Environmental Monitoring Data

Data Collected from July 01, 2020 to September 30, 2020
Cedar Hills Landfill --- Groundwater Field Parameters
Contact Person: Sendy Jimenez (206) 477-5224

Site	Sample ID	Date	pH (Field) (std. Units)	Conductance (Field) (umhos/cm)	Temperature (Field) (^{o}C)	Purge Volume (Field) (gal)	Dissolved Oxygen (Field) (mg/L)	ORP (Field) mV	Turbidity (Field) NTU
MW-80	7/20/2020	W80-200720-	7.81	274.9	12.8	0.75	1.79	162.3	8.06
MW-81	7/8/2020	W81-200708-	6.86	166	10.09	3.4	5.56	136.4	0.36
MW-83	7/7/2020	W83-200707-	6.34	607	10.61	4	1.38	220.6	1.05
MW-84	7/9/2020	W84-200709-	6.69	196.5	10.42	3.25	0.77	215.9	1.67
MW-85	7/9/2020	W85-200709-	6.66	379.8	9.6	3.5	2.82	336.2	0.31
MW-87	7/9/2020	W87-200709-	6.72	545	12.46	6	0.66	-37.6	2.23
MW-93	7/9/2020	W93-200709-	6.78	329.7	11.2	4	1.53	242.8	7.84
MW-94	7/7/2020	W94-200707-	6.17	334.5	9.79	3.5	4.62	242.1	3.59
MW-EB6	7/22/2020	WEB6200722-	6.23	85.16	11.3	1.6			6.2

Environmental Monitoring Data

Data Collected from July 01, 2020 to September 30, 2020
Cedar Hills Landfill --Groundwater Conventionals Analytical Data
Contact Person: Sendy Jimenez (206) 477-5224

Site	Sample ID	Date	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-101	W101200713-	7/13/2020	236	0.0146	2.63	0.014 T	467	3.88	305	3.98	325	5.9
MW-102	W102200713-	7/13/2020	63.9	0.002 U	4.19	1.31	174	6.45	133	0.83 T	139 B	6.2
MW-103	W103200721-	7/21/2020	119	0.002 U	5.38	0.034 T	280	10	181	0.66 T	195	27.6
MW-104	W104200721-	7/21/2020	77.4	0.0043 T	1.6	0.041	384	97.6	278	0.6 T	301	1.4
MW-107	W107200720-	7/20/2020	66.7	0.634	3.08	0.015 T	172	6.28	118	4.01	130	4.6
MW-108	W108200721-	7/21/2020	97.8	0.0022 T	1.45	0.638	263	23.4	201	0.5 T	211	0.5 U
MW-109	W109200721-	7/21/2020	1300	0.258	2.17	0.05 U	2240	0.32 T	1820	59.5	1810	0.8 T
MW-110	W110200720-	7/20/2020	397	0.0913	2.01	0.01 U	774	6.82	491	2.8	518	16
MW-111	W111200720-	7/20/2020	22.9	0.0035 T	0.776	0.441	80.2	7.66	78.7	0.64 T	92.7	16.7
MW-112	W112200720-	7/20/2020	114	0.0421	4.13	0.01 U	289	24.7	197	0.62 T	201	0.5 GU
MW-113	W113200709-	7/9/2020	136	0.0142	26.7	0.01 U	390	10.2	236	1.67	227	0.6 T
MW-114	W114200709-	7/9/2020	101	0.0135	14.8	1.53	287	7.23	194	0.62 T	180	7.2
MW-115	W115200708-	7/8/2020	91.1	0.0057 T	18.3	1.89	290	9.15	196 H	1 S	172	0.5 U
MW-30A	W30A200720-	7/20/2020	75.2	0.003 T	0.943	9.89	252	6.53	195	0.65 T	203	0.5 U
MW-47	W47-200713-	7/13/2020	541	0.0298	5.26	0.01 U	1030	6.89	635	3.63	664	2.9
MW-50	W50-200713-	7/13/2020	154	0.002 U	1.98	0.074	330	10.4	221	1.1	202	3.1
MW-59	W59-200708-	7/8/2020	68.6	0.007 T	11.2	0.01 T	210	15.8	164 H	0.5 SU	129	0.92 T
MW-62	W62-200708-	7/8/2020	43.3	0.0052 T	3.82	2.29	152	11.5	117 H	0.85 T	96.7	0.5 U
MW-66	W66-200707-	7/7/2020	81.3	0.002 U	4.33	0.443	213	13.6	135 H	0.5 U	119	1 U
MW-68	W68-200720-	7/20/2020	121	0.0182	2.8	0.01 U	285	14.5	160	0.5 U	185	2.2
MW-72	W72-200707-	7/7/2020	127	0.0188	7.18	0.01 U	356	39	228 H	0.5 U	230	9.4
MW-74R	W74R200708-	7/8/2020	221	0.002 U	27	0.239	580	37.5	354 H	0.5 SU	343	0.5 U
MW-75	W75-200708-	7/8/2020	110	0.0102	11.7	0.01 U	391	64.6	267 H	0.5 SU	251	0.5 T
MW-80	W80-200720-	7/20/2020	115	0.0126	4.32	0.01 U	321	34.2	219	0.5 U	229	2.4
MW-81	W81-200708-	7/8/2020	55.5	0.002 U	5.15	1.46	169	10.9	124 H	0.5 SU	100	0.5 U
MW-83	W83-200707-	7/7/2020	209	0.0088 T	56.8	1.24	620	10.2	379 H	6.18	393	0.5 U
MW-84	W84-200709-	7/9/2020	75.1	0.0022 T	3.85	0.123	203	15.5	132	0.5 U	114	0.5 U
MW-85	W85-200709-	7/9/2020	141	0.002 U	11	0.094	387	34.6	245	0.5 U	230	0.5 U
MW-87	W87-200709-	7/9/2020	107	0.0703	14.4	0.01 U	545	145	405	0.51 T	389	5
MW-93	W93-200709-	7/9/2020	119	0.0534	2.88	0.025 T	335	41.7	223	0.82 T	217	6.6
MW-94	W94-200707-	7/7/2020	121	0.0022 T	22.3	0.515	342	7.89	231 H	2.66	221	0.5 U
MW-EB6	WEB6200722-	7/22/2020	38.7	0.0636	0.624	0.01 U	97.6	6.02	80.7	0.86 T	97.3	15

Environmental Monitoring Data

Data Collected from July 01, 2020 to September 30, 2020
Cedar Hills Landfill -- Groundwater Metals Analytical 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)	Calcium, dissolved (mg/L)	Calcium, total (mg/L)
MW-101	7/13/2020	W101200713-	0.0003 U	0.0003 U	0.0123	0.0111	0.0187	0.0197	0.0001 U	0.0001 U	5E-05 U	5E-05 U	50.1	50
MW-102	7/13/2020	W102200713-	0.0003 U	0.0003 U	0.000213	0.000313	0.00449	0.00712	0.0001 U	0.0001 U	5E-05 U	5E-05 U	13.9	14
MW-103	7/21/2020	W103200721-	0.0003 U	0.0003 U	0.00548	0.00555	0.0111	0.0149	0.0001 U	0.0001 U	5E-05 U	5E-05 U	27.4	27.2
MW-104	7/21/2020	W104200721-	0.000403	0.00039	0.000805	0.000997	0.0173	0.0178	0.0001 U	0.0001 U	5E-05 U	5E-05 U	34.1	33.6
MW-107	7/20/2020	W107200720-	0.0003 U	0.0003 U	0.00099	0.00103	0.00721	0.00752	0.0001 U	0.0001 U	5E-05 U	5E-05 U	17.5	17.8
MW-108	7/21/2020	W108200721-	0.0003 U	0.0003 U	0.00167	0.00171	0.0105	0.0107	0.0001 U		5E-05 U	5E-05 U	24.9	25.9
MW-109	7/21/2020	W109200721-	0.0003 U	0.0003 U	0.0269	0.028	0.0325	0.0427	0.000282	0.000365	5E-05 U	5E-05 U	13.1	14.3
MW-110	7/20/2020	W110200720-	0.0003 U	0.0003 U	0.00943	0.00948	0.0311	0.0333	0.0001 U	0.0001 U	5E-05 U	5.41E-05	71.2	70.7
MW-111	7/20/2020	W111200720-	0.0003 U	0.0003 U	0.000939	0.00121	0.00425	0.00611	0.0001 U	0.0001 U	5E-05 U	5E-05 U	7.11	7.14
MW-112	7/20/2020	W112200720-	0.0003 U	0.0003 U	0.00363	0.00366	0.00854	0.00849	0.0001 U	0.0001 U	5E-05 U	5E-05 U	26.6	26.9
MW-113	7/9/2020	W113200709-	0.0003 U	0.0003 U	0.000674	0.000705	0.00201	0.00229	0.0001 DU	0.0001 DU	5E-05 U	5E-05 U	35.8	36.5
MW-114	7/9/2020	W114200709-	0.0003 U	0.0003 U	0.000288	0.000354	0.00123	0.00216	0.0001 DU	0.0001 DU	5E-05 U	5E-05 U	28	26.4
MW-115	7/8/2020	W115200708-	0.0003 U	0.0003 U	0.000311	0.000328	0.000684	0.000756	0.0001 DU	0.0001 DU	5E-05 U	5E-05 U	27.8	28.2
MW-30A	7/20/2020	W30A200720-	0.0003 U	0.0003 U	0.000468	0.000505	0.00333	0.00363	0.0001 U	0.0001 U	5E-05 U	5E-05 U	19.9	20.2
MW-47	7/13/2020	W47-200713-	0.0003 U	0.0003 U	0.000903	0.00117	0.0356	0.0348	0.0001 U	0.0001 U	5E-05 U	5E-05 U	118	119
MW-50	7/13/2020	W50-200713-	0.000374	0.00039	0.00452	0.00469	0.0109	0.0122	0.0001 U	0.0001 U	5E-05 U	5E-05 U	31.5	31.3
MW-59	7/8/2020	W59-200708-	0.0003 U	0.0003 U	0.000415	0.000417	0.00426	0.0042	0.0001 DU	0.0001 DU	5E-05 U	5E-05 U	17.6	17.4
MW-62	7/8/2020	W62-200708-	0.0003 U	0.0003 U	0.000144	0.000151	0.0024	0.00228	0.0001 DU	0.0001 DU	5E-05 U	5E-05 U	13.6	13.3
MW-66	7/7/2020	W66-200707-	0.0003 U	0.0003 U	0.000641	0.000655	0.00428	0.00452	0.0001 DU	0.0001 DU	5E-05 U	5E-05 U	15.2	15.8
MW-68	7/20/2020	W68-200720-	0.0003 U	0.0003 U	0.01	0.033	0.0104	0.0109	0.0001 U	0.0001 U	5E-05 U	5E-05 U	27.2	27.1
MW-72	7/7/2020	W72-200707-	0.0003 U	0.0003 U	7.47E-05	0.00013	0.0121	0.0134	0.0001 DU	0.0001 DU	5E-05 U	5E-05 U	32.1	32
MW-74R	7/8/2020	W74R200708-	0.0003 U	0.0003 U	0.000379	0.000392	0.0131	0.0133	0.0001 DU	0.0001 DU	5E-05 U	5E-05 U	47.1	49
MW-75	7/8/2020	W75-200708-	0.0003 U	0.0003 U	0.000449	0.00046	0.013	0.0133	0.0001 DU	0.0001 DU	5E-05 U	5E-05 U	31.7	31.6
MW-80	7/20/2020	W80-200720-	0.0003 U	0.0003 U	0.00378	0.00381	0.0142	0.0141	0.0001 U	0.0001 U	5E-05 U	5E-05 U	32.4	32.4
MW-81	7/8/2020	W81-200708-	0.0003 U	0.0003 U	0.000516	0.000514	0.0032	0.00347	0.0001 DU	0.0001 DU	5E-05 U	5E-05 U	13.9	14
MW-83	7/7/2020	W83-200707-	0.0003 U	0.0003 U	0.000376	0.000364	0.00925	0.00935	0.0001 DU	0.0001 DU	5E-05 U	5E-05 U	64.4	64.6
MW-84	7/9/2020	W84-200709-	0.0003 U	0.0003 U	0.000321	0.000307	0.00479	0.00471	0.0001 DU	0.0001 DU	5E-05 U	5E-05 U	15.3	15.1
MW-85	7/9/2020	W85-200709-	0.0003 U	0.0003 U	0.000691	0.000689	0.00728	0.00699	0.0001 DU	0.0001 DU	5E-05 U	5E-05 U	34.1	34.9
MW-87	7/9/2020	W87-200709-	0.0003 U	0.0003 U	0.000505	0.000686	0.0264	0.0267	0.0001 DU	0.0001 DU	6.97E-05	8.96E-05	45.9	46.3
MW-93	7/9/2020	W93-200709-	0.0003 U	0.0003 U	0.00137	0.00144	0.00809	0.0108	0.0001 DU	0.0001 DU	6.07E-05	9.82E-05	31.2	32
MW-94	7/7/2020	W94-200707-	0.0003 U	0.0003 U	0.000129	0.000127	0.00218	0.0022	0.0001 DU	0.0001 DU	5E-05 U	5E-05 U	32.9	33.6
MW-EB6	7/22/2020	WEB6200722-	0.0003 U	0.0003 U	0.00384	0.00413	0.0045	0.00621	0.0001 U	0.0001 U	5E-05 U	7.02E-05	4.95	5.41

Environmental Monitoring Data

Data Collected from July 01, 2020 to September 30, 2020
Cedar Hills Landfill -- Groundwater Metals Analytical Data
Contact Person: Sendy Jimenez (206) 477-5224

Site	Date	Sample ID	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)	Lead, dissolved (mg/L)	Lead, total (mg/L)	, dissolved (mg/L)	, total (mg/L)	Manganese, dissolved (mg/L)
MW-101	7/13/2020	W101200713-	0.0002 U	0.00111	0.00021	0.000276	0.0002 U	0.000359	0.783	0.987	0.0001 U	0.0001 U	30.2	30.3	1.15
MW-102	7/13/2020	W102200713-	0.000216	0.00117	5E-05 U	0.000305	0.000372	0.00121	0.0203	0.452	0.0001 U	0.000249	5.2	5.28	0.00159
MW-103	7/21/2020	W103200721-	0.0002 U	0.000886	5E-05 U	0.000231	0.000453	0.00119	0.01 U	0.274	0.0001 U	0.000318	12.1	12.2	0.000814
MW-104	7/21/2020	W104200721-	0.000867	0.00118	5E-05 U	7.14E-05	0.00037	0.000771	0.01 U	0.129	0.0001 U	0.0001 U	14	13.5	0.00486
MW-107	7/20/2020	W107200720-	0.000225	0.000317	0.00152	0.00149	0.00121	0.00136	0.595	0.682	0.0001 U	0.0001 U	5.82	5.81	1.31 D
MW-108	7/21/2020	W108200721-	0.000442	0.000621	5E-05 U	6.19E-05	0.000239	0.000452	0.01 U	0.122	0.0001 U	0.0001 U	10.2	10.1	0.000485
MW-109	7/21/2020	W109200721-	0.0464	0.0522	0.000423	0.000757	0.00723	0.0215	7.03	8.67	0.000471	0.00143	8.03	8.55	1.04 D
MW-110	7/20/2020	W110200720-	0.0002 U	0.000559	0.00471	0.00476	0.0002 U	0.00102	1.25	1.5	0.0001 U	0.000165	38.4	38	4.52 D
MW-111	7/20/2020	W111200720-	0.00204	0.00241	5E-05 U	0.000132	0.000344	0.000969	0.01 U	0.334	0.0001 U	0.0001 U	2.29	2.36	0.00423 D
MW-112	7/20/2020	W112200720-	0.0002 U	0.0002 U	8.47E-05	8.76E-05	0.0002 U	0.0002 U	0.0251	0.0266	0.0001 U	0.0001 U	13.5	13.6	0.272 D
MW-113	7/9/2020	W113200709-	0.0002 U	0.0002 U	0.000191	0.000206	0.0002 U	0.0002 U	0.823	0.848	0.0001 U	0.0001 U	19.2	20.1	0.416
MW-114	7/9/2020	W114200709-	0.0002 U	0.000429	0.000643	0.00109	0.000216	0.000567	0.01 U	0.269	0.0001 U	0.0001 U	13.5	13.5	0.00533
MW-115	7/8/2020	W115200708-	0.0002 U	0.0002 U	0.000258	0.000265	0.000237	0.000272	0.01 U	0.0279	0.0001 U	0.0001 U	11.9	12.4	0.0401
MW-30A	7/20/2020	W30A200720-	0.000583	0.000621	5E-05 U	5E-05 U	0.000722	0.00041	0.01 U	0.072	0.0001 U	0.0001 U	11.5	11.4	0.000141 D
MW-47	7/13/2020	W47-200713-	0.0002 U	0.0002 U	0.000328	0.000306	0.0002 U	0.0002 U	1.28	1.82	0.0001 U	0.0001 U	59.7	59	1.01
MW-50	7/13/2020	W50-200713-	0.000338	0.000666	5E-05 U	0.000263	0.0012	0.00128	0.01 U	0.164	0.0001 U	0.000102	13.6	13.7	0.00115
MW-59	7/8/2020	W59-200708-	0.0002 U	0.0002 U	5E-05 U	5E-05 U	0.0002 U	0.0002 U	4.34	4.35	0.0001 U	0.0001 U	10.8	10.7	0.133
MW-62	7/8/2020	W62-200708-	0.000226	0.000341	7.60E-05	8.84E-05	0.000316	0.0006	0.01 U	0.0352	0.0001 U	0.0001 U	3.26	3.29	0.0012
MW-66	7/7/2020	W66-200707-	0.0002 U	0.000201	5E-05 U	5E-05 U	0.0002 U	0.0002 U	0.01 U	0.0159	0.0001 U	0.0001 U	12.1	12.5	0.0001 U
MW-68	7/20/2020	W68-200720-	0.0002 U	0.0002 U	0.000213	0.000227	0.0002 U	0.000942	0.639	1.25	0.0001 U	0.0001 U	16.7	15.6	0.291 D
MW-72	7/7/2020	W72-200707-	0.0002 U	0.000283	5E-05 U	5E-05 U	0.0002 U	0.0002 U	2.72	4.59	0.0001 U	0.0001 U	20.2	19.7	0.365
MW-74R	7/8/2020	W74R200708-	0.0002 U	0.000254	5E-05 U	5E-05 U	0.000201	0.000247	0.01 U	0.0216	0.0001 U	0.0001 U	36.3	37.7	0.0001 U
MW-75	7/8/2020	W75-200708-	0.0002 U	0.0002 U	5E-05 U	5E-05 U	0.0002 U	0.0002 U	2.7	2.74	0.0001 U	0.0001 U	23.3	22.8	0.232
MW-80	7/20/2020	W80-200720-	0.0002 U	0.0002 U	5E-05 U	5E-05 U	0.0002 U	0.0002 U	2.36	2.35	0.0001 U	0.0001 U	18.1	17.6	0.344 D
MW-81	7/8/2020	W81-200708-	0.0002 U	0.0002 U	5E-05 U	5E-05 U	0.0002 U	0.0002 U	0.01 U	0.01 U	0.0001 U	0.0001 U	7.74	7.78	0.0001 U
MW-83	7/7/2020	W83-200707-	0.000272	0.000326	0.000251	0.000237	0.00331	0.00317	0.01 U	0.01 U	0.0001 U	0.0001 U	28.1	26.7	0.0281
MW-84	7/9/2020	W84-200709-	0.0002 U	0.0002 U	5E-05 U	5E-05 U	0.0002 U	0.0002 U	0.01 U	0.01 U	0.0001 U	0.0001 U	11.1	11.5	0.00236
MW-85	7/9/2020	W85-200709-	0.0002 U	0.0002 U	5E-05 U	5E-05 U	0.0002 U	0.0002 U	0.01 U	0.01 U	0.0001 U	0.0001 U	21.4	21.8	0.0001 U
MW-87	7/9/2020	W87-200709-	0.0002 U	0.0002 U	0.000133	0.000129	0.00028	0.000715	4.94	5.17	0.0001 U	0.0001 U	31.5	30.7	0.543
MW-93	7/9/2020	W93-200709-	0.0002 U	0.000352	7.05E-05	0.000141	0.000324	0.001	0.01 U	0.143	0.0001 U	0.000357	16.8	16.9	0.182
MW-94	7/7/2020	W94-200707-	0.0002 U	0.000525	9.96E-05	0.000105	0.00117	0.00114	0.01 U	0.01 U	0.0001 U	0.0001 U	14.9	15.1	0.0001 U
MW-EB6	7/22/2020	WEB6200722-	0.0002 U	0.000931	0.000513	0.000653	0.00341	0.00785	0.202	0.708	0.000141	0.000539	2.54	2.9	0.0234

Environmental Monitoring Data

Data Collected from July 01, 2020 to September 30, 2020
Cedar Hills Landfill -- Groundwater Metals Analytical Data
Contact Person: Sendy Jimenez (206) 477-5224

Site	Date	Sample ID	Manganese, total (mg/L)	Mercury, dissolved (mg/L)	Mercury, total (mg/L)	Nickel, dissolved (mg/L)	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)
MW-101	7/13/2020	W101200713-	1.14	5E-05 U	5E-05 U	0.00307	0.00372	2.64	2.65	0.0005 U	0.0005 U	4E-05 U	4E-05 U	16.1	16.5
MW-102	7/13/2020	W102200713-	0.0101	5E-05 U	5E-05 U	0.00046	0.000848	1.03	1.07	0.0005 U	0.0005 U	4E-05 U	4E-05 U	10.3	10
MW-103	7/21/2020	W103200721-	0.16	5E-05 U	5E-05 U	0.000116	0.000722	2.95	2.97	0.0005 U	0.0005 U	4E-05 U	4E-05 U	13.5	13.5
MW-104	7/21/2020	W104200721-	0.0355	5E-05 U	5E-05 U	0.00033	0.00081	3.69	3.61	0.0005 U	0.0005 U	4E-05 U	4E-05 U	23	23.7
MW-107	7/20/2020	W107200720-	1.3 D	5E-05 DU	5E-05 DU	0.00345	0.00343	2.38	2.39	0.0005 U	0.0005 U	4E-05 U	4E-05 U	7.63	7.31
MW-108	7/21/2020	W108200721-	0.00213	5E-05 U	5E-05 U	0.000394	0.000533	1.56	1.59	0.0005 U	0.0005 U	4E-05 U	4E-05 U	22.2	21.8
MW-109	7/21/2020	W109200721-	1.17 D	5E-05 U	5E-05 U	0.00385	0.0054	1.8	1.83	0.000556	0.000667	4E-05 U	4E-05 U	662 D	644 D
MW-110	7/20/2020	W110200720-	4.27 D	5E-05 DU	5E-05 DU	0.00572	0.00614	3.24	3.23	0.0005 U	0.0005 U	4E-05 U	4E-05 U	62.3	60.5
MW-111	7/20/2020	W111200720-	0.00711 D	5E-05 DU	5E-05 DU	0.00163	0.00199	0.357	0.402	0.0005 U	0.0005 U	4E-05 U	4E-05 U	5.67	5.72
MW-112	7/20/2020	W112200720-	0.263 D	5E-05 DU	5E-05 DU	0.00028	0.000297	2.88	2.93	0.0005 U	0.0005 U	4E-05 U	4E-05 U	16.1	15.8
MW-113	7/9/2020	W113200709-	0.434	5E-05 U	5E-05 U	0.000564	0.000627	2.07	2.16	0.0005 U	0.0005 U	4E-05 DU	4E-05 DU	9.02	9.59
MW-114	7/9/2020	W114200709-	0.0153	5E-05 U	5E-05 U	0.000394	0.000575	2.32	2.22	0.0005 U	0.0005 U	4E-05 DU	4E-05 DU	7	7.02
MW-115	7/8/2020	W115200708-	0.0412	5E-05 U	5E-05 U	0.000835	0.00084	1.92	1.95	0.0005 U	0.0005 U	4E-05 DU	4E-05 DU	7.11	7.51
MW-30A	7/20/2020	W30A200720-	0.000939 D	5E-05 DU	5E-05 DU	0.000668	0.000743	1.4	1.4	0.0005 U	0.0005 U	4E-05 U	4E-05 U	14.9	14.5
MW-47	7/13/2020	W47-200713-	1.03	5E-05 U	5E-05 U	0.00109	0.0013	5.01	4.92	0.0005 U	0.0005 U	4E-05 U	4E-05 U	17.9	17.4
MW-50	7/13/2020	W50-200713-	0.0139	5E-05 U	5E-05 U	0.000347	0.000769	6.26	6.2	0.0005 U	0.0005 U	4E-05 U	4E-05 U	15.8	16.4
MW-59	7/8/2020	W59-200708-	0.132	5E-05 U	5E-05 U	0.000245	0.000156	1.21	1.16	0.0005 U	0.0005 U	4E-05 DU	4E-05 DU	6.29	6.47
MW-62	7/8/2020	W62-200708-	0.00225	5E-05 U	5E-05 U	0.00065	0.000726	0.75	0.746	0.0005 U	0.0005 U	4E-05 DU	4E-05 DU	10.2	10.3
MW-66	7/7/2020	W66-200707-	0.000419	5E-05 U	5E-05 U	0.000165	0.000178	1.1	1.14	0.00088	0.00091	4E-05 DU	4E-05 DU	7.05	7.49
MW-68	7/20/2020	W68-200720-	0.3 D	5E-05 DU	5E-05 DU	0.000428	0.00046	1.75	1.71	0.0005 U	0.0005 U	4E-05 U	4E-05 U	10.2	9.82
MW-72	7/7/2020	W72-200707-	0.378	5E-05 U	5E-05 U	0.000103	0.00014	1.99	1.98	0.0005 U	0.0005 U	4E-05 DU	4E-05 DU	8.74	8.52
MW-74R	7/8/2020	W74R200708-	0.000263	5E-05 U	5E-05 U	0.000895	0.00099	2.2	2.28	0.000659	0.00061	4E-05 DU	4E-05 DU	13.2	13.5
MW-75	7/8/2020	W75-200708-	0.233	5E-05 U	5E-05 U	0.0001 U	0.0001 U	1.99	1.97	0.0005 U	0.0005 U	4E-05 DU	4E-05 DU	9.46	9.38
MW-80	7/20/2020	W80-200720-	0.338 D	5E-05 DU	5E-05 DU	0.000121	0.00015	1.78	1.75	0.0005 U	0.0005 U	4E-05 U	4E-05 U	9.09	8.92
MW-81	7/8/2020	W81-200708-	0.000148	5E-05 U	5E-05 U	0.000175	0.000163	0.875	0.88	0.000799	0.000822	4E-05 DU	4E-05 DU	6.88	6.87
MW-83	7/7/2020	W83-200707-	0.0236	5E-05 U	5E-05 U	0.00165	0.00165	3.58	3.55	0.0005 U	0.0005 U	4E-05 DU	4E-05 DU	14.6	14.1
MW-84	7/9/2020	W84-200709-	0.00242	5E-05 U	5E-05 U	0.000551	0.000496	1.17	1.15	0.000655	0.000636	4E-05 DU	4E-05 DU	7.03	7.2
MW-85	7/9/2020	W85-200709-	0.0001 U	5E-05 U	5E-05 U	0.000213	0.000212	1.72	1.76	0.000834	0.00082	4E-05 DU	4E-05 DU	9.96	10.4
MW-87	7/9/2020	W87-200709-	0.542	5E-05 U	5E-05 U	0.00028	0.000302	2.52	2.39	0.0005 U	0.0005 U	4E-05 DU	4E-05 DU	11.1	10.6
MW-93	7/9/2020	W93-200709-	0.196	5E-05 U	5E-05 U	0.000237	0.000479	1.59	1.59	0.0005 U	0.0005 U	4E-05 DU	4E-05 DU	9.83	9.85
MW-94	7/7/2020	W94-200707-	0.000179	5E-05 U	5E-05 U	0.000574	0.000716	2.42	2.49	0.0005 U	0.0005 U	4E-05 DU	4E-05 DU	8.51	8.51
MW-EB6	7/22/2020	WEB6200722-	0.0303	5E-05 U	5E-05 U	0.00185	0.0023	0.885	1	0.0005 U	0.0005 U	4E-05 U	4E-05 U	11.9	13.1

Environmental Monitoring Data

Data Collected from July 01, 2020 to September 30, 2020
Cedar Hills Landfill -- Groundwater Metals Analytical Data
Contact Person: Sendy Jimenez (206) 477-5224

Site	Date	Sample ID	Thallium, dissolved (mg/L)	Thallium, total (mg/L)	Vanadium, dissolved (mg/L)	Vanadium, total (mg/L)	Zinc, dissolved (mg/L)	Zinc, total (mg/L)
MW-101	7/13/2020	W101200713-	0.0001 U	0.0001 U	0.000319	0.000479	0.000855	0.00124
MW-102	7/13/2020	W102200713-	0.0001 U	0.0001 U	0.00103	0.00175	0.000889	0.0015
MW-103	7/21/2020	W103200721-	0.0001 U	0.0001 U	0.00169	0.00211	0.00127	0.00297
MW-104	7/21/2020	W104200721-	0.0001 U	0.0001 U	0.00174	0.0023	0.00173	0.00289
MW-107	7/20/2020	W107200720-	0.0001 U	0.0001 U	0.000319	0.000429	0.00217	0.0025
MW-108	7/21/2020	W108200721-	0.0001 U	0.0001 U	0.00342	0.00372	0.00107	0.00158
MW-109	7/21/2020	W109200721-	0.0001 U	0.0001 U	0.136 D	0.151 D	0.000981	0.0027
MW-110	7/20/2020	W110200720-	0.0001 U	0.0001 U	0.000433	0.000958	0.00228	0.00347
MW-111	7/20/2020	W111200720-	0.0001 U	0.0001 U	0.00136	0.0021	0.00098	0.00224
MW-112	7/20/2020	W112200720-	0.0001 U	0.0001 U	0.000598	0.000619	0.0005 U	0.0005 U
MW-113	7/9/2020	W113200709-	0.0001 U	0.0001 U	0.000147	0.000152	0.0005 U	0.0005 U
MW-114	7/9/2020	W114200709-	0.0001 U	0.0001 U	0.000855	0.00137	0.000536	0.00094
MW-115	7/8/2020	W115200708-	0.0001 U	0.0001 U	0.00054	0.000596	0.0005 U	0.000561
MW-30A	7/20/2020	W30A200720-	0.0001 U	0.0001 U	0.00216	0.00228	0.00122	0.000904
MW-47	7/13/2020	W47-200713-	0.0001 U	0.0001 U	0.000232	0.000231	0.0005 U	0.0005 U
MW-50	7/13/2020	W50-200713-	0.0001 U	0.0001 U	0.00327	0.00367	0.000667	0.000945
MW-59	7/8/2020	W59-200708-	0.0001 U	0.0001 U	0.000113	0.000116	0.000807	0.000935
MW-62	7/8/2020	W62-200708-	0.0001 U	0.0001 U	0.000667	0.000704	0.00125	0.00164
MW-66	7/7/2020	W66-200707-	0.0001 U	0.0001 U	0.000729	0.000759	0.0005 U	0.000743
MW-68	7/20/2020	W68-200720-	0.0001 U	0.0001 U	0.000256	0.000669	0.00123	0.000505
MW-72	7/7/2020	W72-200707-	0.0001 U	0.0001 U	0.000166	9.70E-05	0.0005 U	0.000822
MW-74R	7/8/2020	W74R200708-	0.0001 U	0.0001 U	0.000696	0.000721	0.0005 U	0.000726
MW-75	7/8/2020	W75-200708-	0.0001 U	0.0001 U	0.000174	0.000181	0.0005 U	0.0005 U
MW-80	7/20/2020	W80-200720-	0.0001 U	0.0001 U	8.94E-05	8.23E-05	0.00124	0.00179
MW-81	7/8/2020	W81-200708-	0.0001 U	0.0001 U	0.00181	0.00185	0.000592	0.0005 U
MW-83	7/7/2020	W83-200707-	0.0001 U	0.0001 U	0.000949	0.000939	0.000626	0.0005 U
MW-84	7/9/2020	W84-200709-	0.0001 U	0.0001 U	0.000627	0.000596	0.00161	0.000526
MW-85	7/9/2020	W85-200709-	0.0001 U	0.0001 U	0.00105	0.00104	0.0005 U	0.0005 U
MW-87	7/9/2020	W87-200709-	0.0001 U	0.0001 U	0.000151	0.000161	0.00469	0.00492
MW-93	7/9/2020	W93-200709-	0.0001 U	0.0001 U	0.0026	0.00265	0.00357	0.00691
MW-94	7/7/2020	W94-200707-	0.0001 U	0.0001 U	0.00136	0.0013	0.0005 U	0.0005 U
MW-EB6	7/22/2020	WEB6200722-	0.0001 U	0.0001 U	0.00169	0.00246	0.0034	0.00437

Environmental Monitoring Data

Data Collected from July 01, 2020 to September 30, 2020
Cedar Hills Landfill --- Groundwater VOAs Analytical Data
Contact Person: Sendy Jimenez (206) 477-5224

Site	Sample ID	Date	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-Chloropropane 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	1,2-Dichloropropane ug/l 78-87-5
MW-101	W101200713-	7/13/2020	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-102	W102200713-	7/13/2020	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-103	W103200721-	7/21/2020	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-104	W104200721-	7/21/2020	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-107	W107200720-	7/20/2020	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-108	W108200721-	7/21/2020	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-109	W109200721-	7/21/2020	2.5 U	1 U	1 U	1 U	1 U	1 U	1 U	25 U	1 U	1 U	1 U	1 U
MW-110	W110200720-	7/20/2020	0.25 U	0.1 U	0.1 U	0.1 U	0.241	0.1 U	0.1 U	2.5 U	0.1 U	1.35	0.235	0.193 JT
MW-111	W111200720-	7/20/2020	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-112	W112200720-	7/20/2020	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-113	W113200709-	7/9/2020	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-114	W114200709-	7/9/2020	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-115	W115200708-	7/8/2020	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	W30A200720-	7/20/2020	0.25 U	0.1 U	0.1 U	0.1 U	1.73	0.1 U	0.1 U	2.5 U	0.1 U	0.1 U	0.1 U	0.1 U
MW-47	W47-200713-	7/13/2020	0.25 U	0.1 U	0.1 U	0.1 U	0.553	0.1 U	0.1 U	2.5 U	0.1 U	0.1 U	0.1 U	0.1 U
MW-50	W50-200713-	7/13/2020	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-59	W59-200708-	7/8/2020	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	W62-200708-	7/8/2020	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-66	W66-200707-	7/7/2020	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	W68-200720-	7/20/2020	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	W72-200707-	7/7/2020	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-74R	W74R200708-	7/8/2020	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	W75-200708-	7/8/2020	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	W80-200720-	7/20/2020	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	W81-200708-	7/8/2020	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	W83-200707-	7/7/2020	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

Environmental Monitoring Data

Data Collected from July 01, 2020 to September 30, 2020
Cedar Hills Landfill --- Groundwater VOAs Analytical Data
Contact Person: Sendy Jimenez (206) 477-5224

Site	Sample ID	Date	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-Chloropropane 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	1,2-Dichloropropane ug/l 78-87-5
MW-84	W84-200709-	7/9/2020	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	W85-200709-	7/9/2020	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	W87-200709-	7/9/2020	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	W93-200709-	7/9/2020	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-94	W94-200707-	7/7/2020	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-EB6	WEB6200722-	7/22/2020	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	VTRP200707Y	7/6/2020	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	VTRP200707Z	7/6/2020	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	VTRP200708Y	7/7/2020	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	VTRP200708Z	7/7/2020	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	VTRP200709Y	7/7/2020	0.25 U	0.1 U	0.1 U	0.1 U	0.402	0.1 U	0.1 U	2.5 U	0.1 U	0.1 U	0.1 U	0.1 U
VOA TRIP BLANK	VTRP200709X	7/8/2020	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	VTRP200709Z	7/8/2020	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	VTRP200713Y	7/8/2020	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	VTRP200713X	7/9/2020	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	VTRP200713Z	7/9/2020	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	VTRP200715X	7/14/2020	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	VTRP200715Y	7/14/2020	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	VTRP200715Z	7/14/2020	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	VTRP200720X	7/16/2020	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	VTRP200720Y	7/16/2020	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	VTRP200720Z	7/16/2020	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	VTRP200721Y	7/20/2020	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	VTRP200721Z	7/20/2020	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	VTRP200722X	7/21/2020	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	VTRP200812Y	8/11/2020	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	VTRP200812Z	8/11/2020	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	VTRP200909Y	9/8/2020	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	VTRP200909Z	9/8/2020	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

Environmental Monitoring Data

Data Collected from July 01, 2020 to September 30, 2020
Cedar Hills Landfill --- Groundwater VOAs Analytical Data
Contact Person: Sendy Jimenez (206) 477-5224

Site	Sample ID	Date	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	Carbon Disulfide ug/l 75-15-0	Carbon Tetrachloride ug/l 56-23-5
MW-101	W101200713-	7/13/2020	0.1 U	0.25 U	0.5 U	2.5 U	2.5 U	0.035 DU	0.1 U	0.1 U	0.25 U	0.5 U	0.1 U	0.1 U	0.25 U
MW-102	W102200713-	7/13/2020	0.1 U	0.25 U	0.5 U	2.5 U	4.21 JT	0.035 DU	0.1 U	0.1 U	0.25 U	0.5 U	0.1 U	0.1 U	0.25 U
MW-103	W103200721-	7/21/2020	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	0.1 U	0.25 U
MW-104	W104200721-	7/21/2020	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	0.1 U	0.25 U
MW-107	W107200720-	7/20/2020	0.359	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	0.1 U	0.25 U
MW-108	W108200721-	7/21/2020	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	0.1 U	0.25 U
MW-109	W109200721-	7/21/2020	1 U	2.5 U	5 U	25 U	25 U	0.35 U	1 U	1 U	2.5 U	5 U	1 U	1 U	2.5 U
MW-110	W110200720-	7/20/2020	0.277	0.25 U	0.5 U	2.5 U	3.73 JT	0.035 U	0.508	0.1 U	0.25 U	0.5 U	0.1 U	0.136 JT	0.25 U
MW-111	W111200720-	7/20/2020	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	0.1 U	0.25 U
MW-112	W112200720-	7/20/2020	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	0.1 U	0.25 U
MW-113	W113200709-	7/9/2020	0.1 U	1 U	0.5 U	2.5 U	3.58 JT	0.035 DU	0.1 U	0.1 U	0.25 U	0.5 U	0.1 U	0.256	0.25 U
MW-114	W114200709-	7/9/2020	0.1 U	1 U	0.5 U	2.5 U	2.5 U	0.035 DU	0.1 U	0.1 U	0.25 U	0.5 U	0.1 U	0.1 U	0.25 U
MW-115	W115200708-	7/8/2020	0.1 U	1 U	0.5 U	2.5 U	2.5 U	0.035 DU	0.1 U	0.1 U	0.25 U	0.5 U	0.1 U	0.1 U	0.25 U
MW-30A	W30A200720-	7/20/2020	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	0.1 U	0.25 U
MW-47	W47-200713-	7/13/2020	0.1 U	0.25 U	0.5 U	2.5 U	3.08 JT	0.035 DU	0.1 U	0.1 U	0.25 U	0.5 U	0.1 U	0.1 U	0.25 U
MW-50	W50-200713-	7/13/2020	0.1 U	0.25 U	0.5 U	2.5 U	2.98 JT	0.035 DU	0.1 U	0.1 U	0.25 U	0.5 U	0.1 U	0.1 U	0.25 U
MW-59	W59-200708-	7/8/2020	0.1 U	1 U	0.5 U	2.5 U	2.82 JT	0.035 DU	0.1 U	0.1 U	0.25 U	0.5 U	0.1 U	0.1 U	0.25 U
MW-62	W62-200708-	7/8/2020	0.1 U	1 U	0.5 U	2.5 U	2.5 U	0.0681 BDJT	0.1 U	0.1 U	0.25 U	0.5 U	0.1 U	0.1 U	0.25 U
MW-66	W66-200707-	7/7/2020	0.1 U	1 U	0.5 U	2.5 U	2.5 U	0.035 DU	0.1 U	0.1 U	0.25 U	0.5 U	0.1 U	0.1 U	0.25 U
MW-68	W68-200720-	7/20/2020	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	0.1 U	0.25 U
MW-72	W72-200707-	7/7/2020	0.1 U	1 U	0.5 U	2.5 U	2.5 U	0.035 DU	0.1 U	0.1 U	0.25 U	0.5 U	0.1 U	0.1 U	0.25 U
MW-74R	W74R200708-	7/8/2020	0.1 U	1 U	0.5 U	2.5 U	2.5 U	0.035 DU	0.1 U	0.1 U	0.25 U	0.5 U	0.1 U	0.1 U	0.25 U
MW-75	W75-200708-	7/8/2020	0.1 U	1 U	0.5 U	2.5 U	2.5 U	0.035 DU	0.1 U	0.1 U	0.25 U	0.5 U	0.1 U	0.1 U	0.25 U
MW-80	W80-200720-	7/20/2020	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	0.1 U	0.25 U
MW-81	W81-200708-	7/8/2020	0.1 U	1 U	0.5 U	2.5 U	2.5 U	0.035 DU	0.1 U	0.1 U	0.25 U	0.5 U	0.1 U	0.1 U	0.25 U
MW-83	W83-200707-	7/7/2020	0.1 U	1 U	0.5 U	2.5 U	2.57 JT	0.035 DU	0.1 U	0.1 U	0.25 U	0.5 U	0.1 U	0.1 U	0.25 U

Environmental Monitoring Data

Data Collected from July 01, 2020 to September 30, 2020
Cedar Hills Landfill --- Groundwater VOAs Analytical Data
Contact Person: Sendy Jimenez (206) 477-5224

Site	Sample ID	Date	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	Carbon Disulfide ug/l 75-15-0	Carbon Tetrachloride ug/l 56-23-5
MW-84	W84-200709-	7/9/2020	0.1 U	1 U	0.5 U	2.5 U	2.5 U	0.035 DU	0.1 U	0.1 U	0.25 U	0.5 U	0.1 U	0.1 U	0.25 U
MW-85	W85-200709-	7/9/2020	0.1 U	1 U	0.5 U	2.5 U	2.5 U	0.035 DU	0.1 U	0.1 U	0.25 U	0.5 U	0.1 U	0.1 U	0.25 U
MW-87	W87-200709-	7/9/2020	0.1 U	1 U	0.5 U	2.5 U	2.5 U	0.035 DU	0.1 U	0.1 U	0.25 U	0.5 U	0.1 U	0.1 U	0.25 U
MW-93	W93-200709-	7/9/2020	0.1 U	1 U	0.5 U	2.5 U	3.11 JT	0.035 DU	0.1 U	0.1 U	0.25 U	0.5 U	0.1 U	0.1 U	0.25 U
MW-94	W94-200707-	7/7/2020	0.1 U	1 U	0.5 U	2.5 U	3.64 JT	0.035 DU	0.1 U	0.1 U	0.25 U	0.5 U	0.1 U	0.1 U	0.25 U
MW-EB6	WEB6200722-	7/22/2020	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	0.1 U	0.25 U
VOA TRIP BLANK	VTRP200707Y	7/6/2020	0.1 U	1 U	0.5 U	2.5 U	2.5 U	0.035 DU	0.1 U	0.1 U	0.25 U	0.5 U	0.1 U	0.1 U	0.25 U
VOA TRIP BLANK	VTRP200707Z	7/6/2020	0.1 U	1 U	0.5 U	2.5 U	2.5 U	0.035 DU	0.1 U	0.1 U	0.25 U	0.5 U	0.1 U	0.1 U	0.25 U
VOA TRIP BLANK	VTRP200708Y	7/7/2020	0.1 U	1 U	0.5 U	2.5 U	2.5 U	0.035 DU	0.1 U	0.1 U	0.25 U	0.5 U	0.1 U	0.1 U	0.25 U
VOA TRIP BLANK	VTRP200708Z	7/7/2020	0.1 U	1 U	0.5 U	2.5 U	3.36 JT	0.035 DU	0.1 U	0.1 U	0.25 U	0.5 U	0.1 U	0.1 U	0.25 U
VOA TRIP BLANK	VTRP200709Y	7/7/2020	0.1 U	1 U	0.5 U	2.5 U	2.5 U	0.035 DU	0.1 U	0.1 U	0.25 U	0.5 U	0.1 U	0.1 U	0.25 U
VOA TRIP BLANK	VTRP200709X	7/8/2020	0.1 U	1 U	0.5 U	2.5 U	2.5 U	0.035 DU	0.1 U	0.1 U	0.25 U	0.5 U	0.1 U	0.1 U	0.25 U
VOA TRIP BLANK	VTRP200709Z	7/8/2020	0.1 U	1 U	0.5 U	2.5 U	2.5 U	0.035 DU	0.1 U	0.1 U	0.25 U	0.5 U	0.1 U	0.1 U	0.25 U
VOA TRIP BLANK	VTRP200713Y	7/8/2020	0.1 U	1 U	0.5 U	2.5 U	2.5 U	0.035 DU	0.1 U	0.1 U	0.25 U	0.5 U	0.1 U	0.1 U	0.25 U
VOA TRIP BLANK	VTRP200713X	7/9/2020	0.1 U	0.25 U	0.5 U	2.5 U	2.5 U	0.035 DU	0.1 U	0.1 U	0.25 U	0.5 U	0.1 U	0.1 U	0.25 U
VOA TRIP BLANK	VTRP200713Z	7/9/2020	0.1 U	0.25 U	0.5 U	2.5 U	2.5 U	0.035 DU	0.1 U	0.1 U	0.25 U	0.5 U	0.1 U	0.1 U	0.25 U
VOA TRIP BLANK	VTRP200715X	7/14/2020	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	0.1 U	0.25 U
VOA TRIP BLANK	VTRP200715Y	7/14/2020	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	0.1 U	0.25 U
VOA TRIP BLANK	VTRP200715Z	7/14/2020	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	0.1 U	0.25 U
VOA TRIP BLANK	VTRP200720X	7/16/2020	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	0.1 U	0.25 U
VOA TRIP BLANK	VTRP200720Y	7/16/2020	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	0.1 U	0.25 U
VOA TRIP BLANK	VTRP200720Z	7/16/2020	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	0.1 U	0.25 U
VOA TRIP BLANK	VTRP200721Y	7/20/2020	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	0.1 U	0.25 U
VOA TRIP BLANK	VTRP200721Z	7/20/2020	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	0.1 U	0.25 U
VOA TRIP BLANK	VTRP200722X	7/21/2020	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	0.1 U	0.25 U
VOA TRIP BLANK	VTRP200812Y	8/11/2020	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	0.1 U	0.25 U
VOA TRIP BLANK	VTRP200812Z	8/11/2020	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	0.1 U	0.25 U
VOA TRIP BLANK	VTRP200909Y	9/8/2020	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	0.1 U	0.25 U
VOA TRIP BLANK	VTRP200909Z	9/8/2020	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	0.1 U	0.25 U

Environmental Monitoring Data

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Cedar Hills Landfill --- Groundwater VOAs Analytical Data
Contact Person: Sendy Jimenez (206) 477-5224

Site	Sample ID	Date	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	M & P Xylene ug/l MPX	Methyl Iodide ug/l 74-88-4
MW-101	W101200713-	7/13/2020	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	0.1 U	0.1 U
MW-102	W102200713-	7/13/2020	0.1 U	0.5 U	0.1 U	0.1 U	0.25 U	0.109 JT	0.25 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U
MW-103	W103200721-	7/21/2020	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	0.1 U
MW-104	W104200721-	7/21/2020	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	0.1 U
MW-107	W107200720-	7/20/2020	0.197 JT	0.5 U	0.1 U	0.1 U	0.25 U	0.1 U	0.25 U	0.1 U	0.151 JT	0.1 U	0.1 U	0.1 U
MW-108	W108200721-	7/21/2020	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	0.1 U
MW-109	W109200721-	7/21/2020	1 U	5 U	1 U	1 U	2.5 U	1 U	2.5 U	1 U	1 U	1 U	1 U	1 U
MW-110	W110200720-	7/20/2020	1.44	0.5 U	0.206	0.1 U	0.25 U	4.13	0.25 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U
MW-111	W111200720-	7/20/2020	0.1 U	0.5 U	0.1 U	0.1 U	0.25 U	0.126 JT	0.25 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U
MW-112	W112200720-	7/20/2020	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	0.1 U
MW-113	W113200709-	7/9/2020	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	0.2 U
MW-114	W114200709-	7/9/2020	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	0.2 U
MW-115	W115200708-	7/8/2020	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	0.23	0.2 U
MW-30A	W30A200720-	7/20/2020	0.1 U	0.5 U	0.1 U	0.1 U	0.25 U	2.02	0.25 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U
MW-47	W47-200713-	7/13/2020	0.1 U	0.5 U	0.235	0.1 U	0.265 JT	1.3	0.25 U	0.1 U	5.88	0.1 U	0.1 U	0.1 U
MW-50	W50-200713-	7/13/2020	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	0.1 U
MW-59	W59-200708-	7/8/2020	0.1 U	0.5 U	0.1 U	0.1 U	0.25 U	1.22	0.25 U	0.1 U	0.1 U	0.1 U	0.1 U	0.2 U
MW-62	W62-200708-	7/8/2020	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	0.2 U
MW-66	W66-200707-	7/7/2020	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	0.2 U
MW-68	W68-200720-	7/20/2020	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	0.1 U
MW-72	W72-200707-	7/7/2020	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	0.2 U
MW-74R	W74R200708-	7/8/2020	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	0.2 U
MW-75	W75-200708-	7/8/2020	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	0.2 U
MW-80	W80-200720-	7/20/2020	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	0.1 U
MW-81	W81-200708-	7/8/2020	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	0.2 U
MW-83	W83-200707-	7/7/2020	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	0.2 U

Environmental Monitoring Data

Data Collected from July 01, 2020 to September 30, 2020
Cedar Hills Landfill --- Groundwater VOAs Analytical Data
Contact Person: Sendy Jimenez (206) 477-5224

Site	Sample ID	Date	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	M & P Xylene ug/l MPX	Methyl Iodide ug/l 74-88-4
MW-84	W84-200709-	7/9/2020	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	0.2 U
MW-85	W85-200709-	7/9/2020	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	0.2 U
MW-87	W87-200709-	7/9/2020	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	0.2 U
MW-93	W93-200709-	7/9/2020	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	0.2 U
MW-94	W94-200707-	7/7/2020	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	0.2 U
MW-EB6	WEB6200722-	7/22/2020	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	0.1 U
VOA TRIP BLANK	VTRP200707Y	7/6/2020	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	0.2 U
VOA TRIP BLANK	VTRP200707Z	7/6/2020	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	0.2 U
VOA TRIP BLANK	VTRP200708Y	7/7/2020	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	0.2 U
VOA TRIP BLANK	VTRP200708Z	7/7/2020	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	0.2 U
VOA TRIP BLANK	VTRP200709Y	7/7/2020	0.1 U	0.5 U	0.1 U	0.1 U	0.25 U	0.742	0.25 U	0.1 U	0.1 U	0.1 U	0.1 U	0.2 U
VOA TRIP BLANK	VTRP200709X	7/8/2020	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	0.2 U
VOA TRIP BLANK	VTRP200709Z	7/8/2020	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	0.2 U
VOA TRIP BLANK	VTRP200713Y	7/8/2020	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	0.2 U
VOA TRIP BLANK	VTRP200713X	7/9/2020	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	0.1 U
VOA TRIP BLANK	VTRP200713Z	7/9/2020	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	0.1 U
VOA TRIP BLANK	VTRP200715X	7/14/2020	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	0.2 U
VOA TRIP BLANK	VTRP200715Y	7/14/2020	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	0.2 U
VOA TRIP BLANK	VTRP200715Z	7/14/2020	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	0.2 U
VOA TRIP BLANK	VTRP200720X	7/16/2020	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	0.1 U
VOA TRIP BLANK	VTRP200720Y	7/16/2020	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	0.1 U
VOA TRIP BLANK	VTRP200720Z	7/16/2020	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	0.1 U
VOA TRIP BLANK	VTRP200721Y	7/20/2020	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	0.1 U
VOA TRIP BLANK	VTRP200721Z	7/20/2020	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	0.1 U
VOA TRIP BLANK	VTRP200722X	7/21/2020	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	0.1 U
VOA TRIP BLANK	VTRP200812Y	8/11/2020	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	0.2 U
VOA TRIP BLANK	VTRP200812Z	8/11/2020	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	0.2 U
VOA TRIP BLANK	VTRP200909Y	9/8/2020	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	0.2 U
VOA TRIP BLANK	VTRP200909Z	9/8/2020	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	0.2 U

Environmental Monitoring Data

Data Collected from July 01, 2020 to September 30, 2020
Cedar Hills Landfill --- Groundwater VOAs Analytical Data
Contact Person: Sendy Jimenez (206) 477-5224

Site	Sample ID	Date	Methylene Chloride ug/l 75-09-2	O-Xylene ug/l 95-47-6	Styrene ug/l 100-42-5	Tetrhachloroethene 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	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	W101200713-	7/13/2020	2.5 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.5 U	0.5 U	0.1 U	0.1 U	0.1 U	0.067
MW-102	W102200713-	7/13/2020	2.5 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.5 U	0.5 U	0.1 U	0.1 U	0.1 U	0.01 U
MW-103	W103200721-	7/21/2020	2.5 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.5 U	0.5 U	0.1 U	0.1 U	0.1 U	0.01 U
MW-104	W104200721-	7/21/2020	2.5 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.5 U	0.5 U	0.1 U	0.1 U	0.1 U	0.01 U
MW-107	W107200720-	7/20/2020	2.5 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.5 U	0.5 U	0.1 U	0.1 U	0.1 U	0.0441
MW-108	W108200721-	7/21/2020	2.5 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.5 U	0.5 U	0.1 U	0.1 U	0.1 U	0.01 U
MW-109	W109200721-	7/21/2020	25 U	1 U	1 U	1 U	8.14	1 U	5 U	5 U	1 U	1 U	1 U	0.244
MW-110	W110200720-	7/20/2020	2.5 U	0.1 U	0.1 U	0.1 U	0.1 U	0.303	0.5 U	0.5 U	0.115 JT	0.1 U	0.1 U	0.21
MW-111	W111200720-	7/20/2020	2.5 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.5 U	0.5 U	0.107 JT	0.1 U	0.1 U	0.01 U
MW-112	W112200720-	7/20/2020	2.5 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.5 U	0.5 U	0.1 U	0.1 U	0.1 U	0.01 U
MW-113	W113200709-	7/9/2020	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-114	W114200709-	7/9/2020	2.5 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.5 U	5 U	9.97	0.1 U	0.1 U	0.01 U
MW-115	W115200708-	7/8/2020	2.5 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.5 U	5 U	4.93	0.1 U	0.1 U	0.01 U
MW-30A	W30A200720-	7/20/2020	2.5 U	0.1 U	0.1 U	0.115 JT	0.1 U	0.1 U	0.5 U	0.5 U	0.839	0.1 U	0.1 U	0.01 U
MW-47	W47-200713-	7/13/2020	2.5 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.5 U	0.5 U	0.1 U	0.1 U	0.1 U	5.68
MW-50	W50-200713-	7/13/2020	2.5 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.5 U	0.5 U	0.1 U	0.1 U	0.1 U	0.01 U
MW-59	W59-200708-	7/8/2020	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	W62-200708-	7/8/2020	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-66	W66-200707-	7/7/2020	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	W68-200720-	7/20/2020	2.5 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.5 U	0.5 U	0.1 U	0.1 U	0.1 U	0.01 U
MW-72	W72-200707-	7/7/2020	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-74R	W74R200708-	7/8/2020	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	W75-200708-	7/8/2020	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	W80-200720-	7/20/2020	2.5 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.5 U	0.5 U	0.1 U	0.1 U	0.1 U	0.01 U
MW-81	W81-200708-	7/8/2020	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	W83-200707-	7/7/2020	2.5 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.5 U	5 U	2.2	0.1 U	0.1 U	0.01 U

Environmental Monitoring Data

Data Collected from July 01, 2020 to September 30, 2020
Cedar Hills Landfill --- Groundwater VOAs Analytical Data
Contact Person: Sendy Jimenez (206) 477-5224

Site	Sample ID	Date	Methylene Chloride ug/l 75-09-2	O-Xylene ug/l 95-47-6	Styrene ug/l 100-42-5	Tetrhachloroethene 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	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-84	W84-200709-	7/9/2020	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	W85-200709-	7/9/2020	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	W87-200709-	7/9/2020	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	W93-200709-	7/9/2020	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-94	W94-200707-	7/7/2020	2.5 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.5 U	5 U	1.89	0.1 U	0.1 U	0.01 U
MW-EB6	WEB6200722-	7/22/2020	2.5 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.5 U	0.5 U	0.1 U	0.1 U	0.1 U	0.01 U
VOA TRIP BLANK	VTRP200707Y	7/6/2020	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	VTRP200707Z	7/6/2020	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	VTRP200708Y	7/7/2020	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	VTRP200708Z	7/7/2020	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	VTRP200709Y	7/7/2020	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	VTRP200709X	7/8/2020	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	VTRP200709Z	7/8/2020	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	VTRP200713Y	7/8/2020	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	VTRP200713X	7/9/2020	2.5 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.5 U	0.5 U	0.1 U	0.1 U	0.1 U	0.01 U
VOA TRIP BLANK	VTRP200713Z	7/9/2020	2.5 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.5 U	0.5 U	0.1 U	0.1 U	0.1 U	0.01 U
VOA TRIP BLANK	VTRP200715X	7/14/2020	2.5 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.5 U	0.5 U	0.1 U	0.1 U	0.1 U	0.01 DU
VOA TRIP BLANK	VTRP200715Y	7/14/2020	2.5 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.5 U	0.5 U	0.1 U	0.1 U	0.1 U	0.01 DU
VOA TRIP BLANK	VTRP200715Z	7/14/2020	2.5 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.5 U	0.5 U	0.1 U	0.1 U	0.1 U	0.01 DU
VOA TRIP BLANK	VTRP200720X	7/16/2020	2.5 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.5 U	0.5 U	0.1 U	0.1 U	0.1 U	0.01 U
VOA TRIP BLANK	VTRP200720Y	7/16/2020	2.5 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.5 U	0.5 U	0.1 U	0.1 U	0.1 U	0.01 U
VOA TRIP BLANK	VTRP200720Z	7/16/2020	2.5 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.5 U	0.5 U	0.1 U	0.1 U	0.1 U	0.01 U
VOA TRIP BLANK	VTRP200721Y	7/20/2020	2.5 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.5 U	0.5 U	0.1 U	0.1 U	0.1 U	0.01 U
VOA TRIP BLANK	VTRP200721Z	7/20/2020	2.5 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.5 U	0.5 U	0.1 U	0.1 U	0.1 U	0.01 U
VOA TRIP BLANK	VTRP200722X	7/21/2020	2.5 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.5 U	0.5 U	0.1 U	0.1 U	0.1 U	0.01 U
VOA TRIP BLANK	VTRP200812Y	8/11/2020	2.5 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.5 U	0.5 U	0.1 U	0.1 U	0.1 U	0.01 U
VOA TRIP BLANK	VTRP200812Z	8/11/2020	2.5 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.5 U	0.5 U	0.1 U	0.1 U	0.1 U	0.01 U
VOA TRIP BLANK	VTRP200909Y	9/8/2020	2.5 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.5 U	0.5 U	0.1 U	0.1 U	0.1 U	0.01 U
VOA TRIP BLANK	VTRP200909Z	9/8/2020	2.5 U	0.1 U	0.1 U	0.1 U	0.1 U	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, 2020 to December 31, 2020
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-100	10/1/2020	620.32	297.92	322.40	
MW-101	10/1/2020	474.72	33.34	441.38	
MW-102	10/1/2020	552.48	48.35	504.13	
MW-103	10/1/2020	639.08	20.41	618.67	
MW-104	10/1/2020	629.68	28.2	601.48	
MW-105	10/1/2020	521.23	22.09	499.14	
MW-106	10/1/2020	475.47	190.66	284.81	
MW-107	10/1/2020	589.029	28.6	560.429	
MW-108	10/1/2020	612.258			DRY @ 20.21
MW-109	10/1/2020	638.728	14.98	623.748	
MW-110	10/1/2020	641.742	10.2	631.542	
MW-111	10/1/2020	643.797			DRY
MW-112	10/1/2020	638.929	16.4	622.529	
MW-113	10/1/2020	531.09	188.28	342.81	
MW-114	10/1/2020	490.45	140.02	350.43	
MW-115	10/1/2020	484.87	132.44	352.43	
MW-21	10/1/2020	420.66	125.21	295.45	
MW-22	10/1/2020	517.09	232.69	284.4	
MW-24	10/1/2020	475.99	145.99	330	
MW-25	10/1/2020	474.41	15.59	458.82	
MW-27A	10/1/2020	584.23	55.18	529.05	
MW-28	10/1/2020	527.75	39.52	488.23	
MW-29	10/1/2020	532.92	16.75	516.17	
MW-30A	10/1/2020	568.43	29.79	538.64	H20 IN ANNULUS
MW-41D	10/1/2020	462.32	30.32	432.00	
MW-41S	10/1/2020	462.44	12.28	450.16	
MW-43	10/1/2020	547.06	263.86	283.2	
MW-45	10/1/2020	488.4	17.25	471.15	
MW-47	10/1/2020	634.6	21.59	613.01	
MW-48	10/1/2020	594.49	46.28	548.21	
MW-50	10/1/2020	637.02	33.26	603.76	
MW-54	10/1/2020	580.43	278.81	301.62	
MW-55	10/1/2020	652.29	32.26	620.03	
MW-56	10/1/2020	480.33	128.47	351.86	
MW-57	10/1/2020	456.64	105.35	351.29	
MW-58A	10/1/2020	479.27	150.01	329.26	
MW-59	10/1/2020	457.13	125.02	332.11	H20 IN ANNULUS
MW-60	10/1/2020	567.15	228.2	338.95	
MW-62	10/1/2020	556.21	54.41	501.8	
MW-63	10/1/2020	515.88	18.61	497.27	
MW-64	10/1/2020	596.55	265.86	330.69	
MW-65	10/1/2020	545.83	210.27	335.56	
MW-66	10/1/2020	531.28	238.89	292.39	
MW-67	10/1/2020	516.43	220.72	295.71	
MW-68	10/1/2020	647.07	332.28	314.79	
MW-69	10/1/2020	653.69			NEEDS TO BE FIXED
MW-72	10/1/2020	671.87	361.12	310.75	
MW-73	10/1/2020	485.7	191.75	293.95	

Environmental Monitoring Data

Data Collected from October 1, 2020 to December 31, 2020
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-74R	10/1/2020	531.26	240.06	291.20	
MW-75	10/1/2020	532.4	245.73	286.67	
MW-76	10/1/2020	491.71	140.7	351.01	
MW-79	10/1/2020	459.17			NEEDS TO BE FIXED
MW-80	10/1/2020	530.41	239.2	291.21	
MW-81	10/1/2020	493.66	184.13	309.53	
MW-82	10/1/2020	474.85	124.88	349.97	
MW-83	10/1/2020	496.81	144.98	351.83	
MW-84	10/1/2020	530.8	236.17	294.63	
MW-85	10/1/2020	531.76	246.37	285.39	
MW-86	10/1/2020	536.04	249.82	286.22	
MW-87	10/1/2020	537.31	248.44	288.87	
MW-88	10/1/2020	513.68	227.34	286.34	
MW-89	10/1/2020	512.82	232.46	280.36	
MW-90	10/1/2020	502.22	221.96	280.26	
MW-91	10/1/2020	532.02	247.02	285	
MW-93	10/1/2020	632.15	308.63	323.52	
MW-94	10/1/2020	495.51	143.42	352.09	
MW-95	10/1/2020	571.54	251.27	320.27	
MW-98	10/1/2020	503.73	22.51	481.22	
MW-99	10/1/2020	493.64	200.62	293.02	
MW-EB5	10/1/2020	645.36	43.1	602.26	
MW-EB5S	10/1/2020	645.77	18.62	627.15	
MW-EB6	10/1/2020	589.61	31.08	558.53	Pulled pump for DTW
WS-NPW-1	10/1/2020	646.33	333.05	313.28	
WS-NPW-3	10/1/2020	645.81	331.29	314.52	

Environmental Monitoring Data

Data Collected from October 1, 2020 to December 31, 2020
Cedar Hills Landfill --- Groundwater Elevation Data
Contact Person: Sendy Jimenez (206) 477-5224

Site	Sample ID	Date	pH (Field) (std. Units)	Conductance (Field) (umhos/cm)	Temperature (Field) (^{o}C)	Purge Volume (Field) (gal)	Dissolved Oxygen (Field) (mg/L)	ORP (Field) mV
MW-100	W100201008-	10/8/2020	6.62	302.4	10.99	5.5	1.05	21.7
MW-101	W101201022-	10/22/2020	6.85	510.3	10.5	3		
MW-102	W102201019-	10/19/2020	6.3	157	10.54	1	10.47	363.5
MW-103	W103201016-	10/16/2020	7.6	254.3	11.1	5.5		
MW-107	W107201019-	10/19/2020	5.55	232.8	12.01	1	0.84	203.9
MW-110	W110201020-	10/20/2020	6.41	738.5	15.12	8.1		
MW-113	W113201016-	10/16/2020	7.3	397.5	10.5	3.25	0.91	-71.5
MW-114	W114201015-	10/15/2020	6.91	269	9.7	2	5.92	370.7
MW-115	W115201020-	10/20/2020	6.48	282.5	9.45	3	4.98	283.1
MW-21	W21-201002-	10/2/2020	7.38	139.6	10.54	1.75	1.21	-152.2
MW-24	W24-201008-	10/8/2020	6.9	185	9.58	2.75	0.95	-56
MW-30A	W30A201019-	10/19/2020	6.6	230.3	12	4.5		
MW-47	W47-201019-	10/19/2020	6.54	972.8	11.3	22.2		
MW-47	W47-201020-	10/20/2020	6.71	1002.7	11.4	11.01		
MW-56	W56-201013-	10/13/2020	6.99	254.8	10	128.56		
MW-59	W59-201015-	10/15/2020	6.82	228.2	9.6	3	0.87	-26.9
MW-64	W64-201007-	10/7/2020	6.71	191.4	12.602	2.5	1.44	132.4
MW-65	W65-201015-	10/15/2020	6.72	145.1	9.22	3	1.37	-9.9
MW-66	W66-201006-	10/6/2020	6.66	203.6	10.25	3.25	5.23	179.2
MW-67	W67-201006-	10/6/2020	6.51	368.9	9.96	3	1.52	30.3
MW-68	W68-201014-	10/14/2020	6.95	275.2	10.591	4	0.92	162.4
MW-72	W72-201012-	10/12/2020	6.98	349.1	10.52	4.5	1.29	161.1
MW-73	W73-201002-	10/2/2020	6.41	131.9	9.79	2.7	9.48	188
MW-74R	W74R201002-	10/2/2020	6.78	531	10.02	4.5	5.2	160.7
MW-75	W75-201002-	10/2/2020	6.67	387.7	9.69	4	0.88	-33.2
MW-76	W76-201016-	10/16/2020	6.42	367	9.9	3.2	3.08	244.4
MW-80	W80-201014-	10/14/2020	6.83	319	10.33	3	1.33	106.3
MW-81	W81-201014-	10/14/2020	6.71	167.1	9.69	2.5	5.77	253.1
MW-82	W82-201016-	10/16/2020	6.76	303.3	9.61	3.75	6.45	261.8
MW-83	W83-201016-	10/16/2020	6.56	616.8	10.962	3	1	440.9
MW-84	W84-201013-	10/13/2020	6.65	204.2	10.799	2.5	1.32	305.8
MW-85	W85-201007-	10/7/2020	6.42	367	9.9	3.2	3.08	244.4
MW-86	W86-201007-	10/7/2020	6.3	196	9.402	5	1	16.2
MW-87	W87-201013-	10/13/2020	6.66	541.9	11.88	2	0.87	18.4
MW-88	W88-201006-	10/6/2020	6.88	127.3	9.62	2.5	5.51	397.5
MW-89	W89-201006-	10/6/2020	7.16	259.3	10.349	3	2.17	101.7
MW-93	W93-201007-	10/7/2020	6.88	313.2	11.45	4.5	0.91	198.6
MW-94	W94-201016-	10/16/2020	6.36	337.8	10.114	2	4.15	400.8
MW-95	W95-201012-	10/12/2020	7.26	229.7	9.91	3.25	1.28	374.5

Environmental Monitoring Data

Data Collected from October 1, 2020 to December 31, 2020
Cedar Hills Landfill --- Groundwater Elevation Data
Contact Person: Sendy Jimenez (206) 477-5224

Site	Sample ID	Date	Turbidity (Field) NTU
MW-100	W100201008-	10/8/2020	13.6
MW-101	W101201022-	10/22/2020	3.93
MW-102	W102201019-	10/19/2020	25.5
MW-103	W103201016-	10/16/2020	
MW-107	W107201019-	10/19/2020	3.28
MW-110	W110201020-	10/20/2020	2.74
MW-113	W113201016-	10/16/2020	0.54
MW-114	W114201015-	10/15/2020	1.23
MW-115	W115201020-	10/20/2020	2.03
MW-21	W21-201002-	10/2/2020	1.46
MW-24	W24-201008-	10/8/2020	2.22
MW-30A	W30A201019-	10/19/2020	
MW-47	W47-201019-	10/19/2020	6.07
MW-47	W47-201020-	10/20/2020	
MW-56	W56-201013-	10/13/2020	362
MW-59	W59-201015-	10/15/2020	1.51
MW-64	W64-201007-	10/7/2020	12.6
MW-65	W65-201015-	10/15/2020	63.7
MW-66	W66-201006-	10/6/2020	0.4
MW-67	W67-201006-	10/6/2020	106
MW-68	W68-201014-	10/14/2020	4.32
MW-72	W72-201012-	10/12/2020	16.4
MW-73	W73-201002-	10/2/2020	2.03
MW-74R	W74R201002-	10/2/2020	2.6
MW-75	W75-201002-	10/2/2020	0.37
MW-76	W76-201016-	10/16/2020	0.28
MW-80	W80-201014-	10/14/2020	0.85
MW-81	W81-201014-	10/14/2020	2.34
MW-82	W82-201016-	10/16/2020	3.35
MW-83	W83-201016-	10/16/2020	0.93
MW-84	W84-201013-	10/13/2020	0.99
MW-85	W85-201007-	10/7/2020	0.28
MW-86	W86-201007-	10/7/2020	44.2
MW-87	W87-201013-	10/13/2020	8.48
MW-88	W88-201006-	10/6/2020	0.65
MW-89	W89-201006-	10/6/2020	20.5
MW-93	W93-201007-	10/7/2020	1.73
MW-94	W94-201016-	10/16/2020	0.59
MW-95	W95-201012-	10/12/2020	0.61

Environmental Monitoring Data

Data Collected from October 1, 2020 to December 31, 2020
Cedar Hills Landfill --- Groundwater Elevation Data
Contact Person: Sendy Jimenez (206) 477-5224

Site	Sample ID	Date	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	W100201008-	10/8/2020	128	0.011	2.66	0.01 U	303	17.2	168	0.5 U	174	3.3
MW-101	W101201022-	10/22/2020	276	0.0139	2.48	0.01 U	529	3.85	329	4.31	348	1 U
MW-102	W102201019-	10/19/2020	62.6	0.0044 T	3.53	1.11	164	6.07	133	0.84 T	145	15
MW-103	W103201016-	10/16/2020	115	0.0066 T	4.75	0.035 T	269	10.2	208	1.02	219	70
MW-107	W107201019-	10/19/2020	92.8	0.937	4.18	0.01 U	234	9.14	174	3.87	175	6.36
MW-110	W110201020-	10/20/2020	419	0.0452	1.8	0.01 U	743	4.47	447	2.02	471	14.7
MW-113	W113201016-	10/16/2020	139	0.0156	32.7	0.01 U	403	9.53	245	1.74	255	1.3
MW-114	W114201015-	10/15/2020	96.2	0.0054 T	15.2	1.43	273	6.77	174	0.65 T	194	0.6 T
MW-115	W115201020-	10/20/2020	93.5	0.0056 T	18.5	1.99	288	8.15	182	0.98 T	213	0.5 U
MW-21	W21-201002-	10/2/2020	60.1	0.0443	2.25	0.01 U	146	5.99	97.3	0.5 U	94	0.5 U
MW-24	W24-201008-	10/8/2020	65.5	0.0386	5.49	0.01 T	179	10.2	105	0.5 U	111	3.2
MW-30A	W30A201019-	10/19/2020	79.3	0.002 U	2.13	6.86	249	8.13	189	0.84 T	215	0.52 U
MW-47	W47-201019-	10/19/2020	577	0.0366	5.39	0.01 U	1010	6.88	612	3.67	676	12.5
MW-56	W56-201013-	10/13/2020	83.9	0.002 U	20.8	0.01 U	268	8.54	137 J	1.77	573 J	183 J
MW-59	W59-201015-	10/15/2020	72	0.0061 T	12.1	0.01 U	222	14.8	127	0.5 U	133	3
MW-64	W64-201007-	10/7/2020	83.6	0.0284	2.77	0.01 U	202	11	136	0.51 T	127	10.6
MW-65	W65-201015-	10/15/2020	50.3	0.0034 T	5.14	0.01 U	141	8.49	84	0.5 U	99	11.8
MW-66	W66-201006-	10/6/2020	82.8	0.002 U	4.06	0.49	217	12.8	135	0.5 U	134	0.51 U
MW-67	W67-201006-	10/6/2020	167	0.0093 T	4.92	0.055	384	24.6	241	0.5 U	304	58.8
MW-68	W68-201014-	10/14/2020	121	0.0178	3.1	0.01 U	282	14.8	159	0.5 U	163	2
MW-72	W72-201012-	10/12/2020	124	0.0148	6.97	0.01 U	350	35.4	208	0.5 U	229	12.2
MW-73	W73-201002-	10/2/2020	50.3	0.002 U	2.18	1.14	140	7.46	104	0.5 U	99.3	4.3
MW-74R	W74R201002-	10/2/2020	209	0.002 U	23.3	0.34	549	33.1	331	0.55 T	325	0.5 T
MW-75	W75-201002-	10/2/2020	110	0.0112	11.1	0.01 U	390	60.5	258	0.5 U	259	1.6
MW-76	W76-201016-	10/16/2020	85	0.0074 T	23	0.238	288	15.1	180	2	187	0.5 U
MW-80	W80-201014-	10/14/2020	115	0.01	1.85	0.01 U	318	14	197	0.5 U	198	0.8 T
MW-81	W81-201014-	10/14/2020	56.1	0.002 U	5.12	1.56	169	9.99	105	0.5 U	99.3	0.5 T
MW-82	W82-201016-	10/16/2020	117	0.0058 T	12.6	0.991	313	13.4	200	0.71 T	206	2.2
MW-83	W83-201016-	10/16/2020	215	0.0226	56.5	1.51	630	10.1	418	5.58	433	0.5 U
MW-84	W84-201013-	10/13/2020	78.3	0.002 U	4.11	0.149	214	15.7	120	0.5 U	121	1 U
MW-85	W85-201007-	10/7/2020	142	0.002 U	9.76	0.101	387	31.1	235	0.5 U	237	0.52 U
MW-86	W86-201007-	10/7/2020	69.9	0.0021 T	4.31	0.011 T	206	20.7	144	0.6 T	144	15
MW-87	W87-201013-	10/13/2020	110	0.029	14.3	0.01 U	546	131	363	0.5 U	386	6.2

Environmental Monitoring Data

Data Collected from October 1, 2020 to December 31, 2020
Cedar Hills Landfill --- Groundwater Elevation Data
Contact Person: Sendy Jimenez (206) 477-5224

Site	Sample ID	Date	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-88	W88-201006-	10/6/2020	50.8	0.002 U	1.76	0.795	132	6.09	96.7	0.5 U	81.3	0.51 U
MW-89	W89-201006-	10/6/2020	87.4	0.0183	12.7	0.01 U	263	18.4	167	0.5 U	172	6.8
MW-93	W93-201007-	10/7/2020	118	0.0501	2.56	0.031 T	333	38.6	214	0.5 U	209	0.63 T
MW-94	W94-201016-	10/16/2020	120	0.0046 T	24.6	0.574	345	7.38	227	2.32	234	1 U
MW-95	W95-201012-	10/12/2020	87.6	0.0269	6.27	0.01 U	235	15.4	135	0.5 U	140	0.53 U

See Data Qualifier List for Qualifier Information.

Environmental Monitoring Data

Data Collected from October 1, 2020 to December 31, 2020
Cedar Hills Landfill --- Groundwater Elevation Data
Contact Person: Sendy Jimenez (206) 477-5224

Site	Sample ID	Date	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)	Calcium, dissolved (mg/L)
MW-100	W100201008-	10/8/2020	0.0003 U	0.0003 U	0.000434	0.00134	0.00595	0.00634	0.0001 U	0.0001 U	5E-05 U	5E-05 U	27.2
MW-101	W101201022-	10/22/2020	0.0003 U	0.0003 U	0.00228	0.00236	0.0215	0.0227	0.0001 U	0.0001 U	5E-05 U	5E-05 U	53.9
MW-102	W102201019-	10/19/2020	0.0003 U	0.0003 U	0.000186	0.000451	0.00512	0.0126	0.0001 U	0.0001 U	5E-05 U	5E-05 U	15.5
MW-103	W103201016-	10/16/2020	0.000878		0.00982	0.00893	0.0112	0.0366	0.0001 U	0.000127	5E-05 U	0.0000582	25.9
MW-107	W107201019-	10/19/2020	0.0003 U	0.0003 U	0.003	0.00313	0.0125	0.013	0.0001 U	0.0001 U	5E-05 U	5E-05 U	24.8
MW-110	W110201020-	10/20/2020	0.0003 U	0.0003 U	0.0038	0.00419	0.0303	0.0339	0.0001 U	0.0001 U	5E-05 U	5E-05 U	72.2
MW-113	W113201016-	10/16/2020	0.0003 U	0.0003 U	0.000566	0.000571	0.00188	0.00205	0.0001 U	0.0001 U	5E-05 U	5E-05 U	38.5
MW-114	W114201015-	10/15/2020	0.0003 U	0.0003 U	0.000275	0.000289	0.00118	0.00137	0.0001 U	0.0001 U	5E-05 U	5E-05 U	25.3
MW-115	W115201020-	10/20/2020	0.0003 U	0.0003 U	2.96E-04	0.000301	0.000672	0.000802	0.0001 U	0.0001 U	5E-05 U	5E-05 U	28.7
MW-21	W21-201002-	10/2/2020	0.0003 U	0.0003 U	0.000849	0.00088	0.00498	0.00501	0.0001 U	0.0001 U	5E-05 U	5E-05 U	12
MW-24	W24-201008-	10/8/2020	0.0003 U	0.0003 U	0.000499	0.000493	0.00209	0.00206	0.0001 U	0.0001 U	5E-05 U	5E-05 U	14
MW-30A	W30A201019-	10/19/2020	0.0003 U	0.0003 U	0.000481	0.000523	0.00342	0.00384	0.0001 U	0.0001 U	5E-05 U	5E-05 U	20.1
MW-47	W47-201019-	10/19/2020	0.0003 U	0.0003 U	0.000606	0.000748	0.0308	0.0386	0.0001 U	0.0001 U	5E-05 U	5E-05 U	124
MW-56	W56-201013-	10/13/2020	0.0003 U	0.0003 U	0.0000688	0.00253	0.00322	0.0448	0.0001 U	0.000217	5E-05 U	0.00011	24.5
MW-59	W59-201015-	10/15/2020	0.0003 U	0.0003 U	0.000427	0.000436	0.00405	0.00449	0.0001 U	0.0001 U	5E-05 U	5E-05 U	18.5
MW-64	W64-201007-	10/7/2020	0.0003 U	0.0003 U	0.000622	0.00209	0.00578	0.0222	0.0001 U	0.0001 U	5E-05 U	0.00032	16.2
MW-65	W65-201015-	10/15/2020	0.0003 U	0.0003 U	0.000317	0.00111	0.00535	0.00658	0.0001 U	0.0001 U	5E-05 U	5E-05 U	11.4
MW-66	W66-201006-	10/6/2020	0.0003 U	0.0003 U	0.000658	0.000665	0.00382	0.0041	0.0001 U	0.0001 U	5E-05 U	5E-05 U	16.3
MW-67	W67-201006-	10/6/2020	0.0003 U	0.0003 U	0.00027	0.0101	0.0142	0.0298	0.0001 U	0.0001 U	5E-05 U	0.0000842	39
MW-68	W68-201014-	10/14/2020	0.0003 U	0.0003 U	0.0114	0.0345	0.0101	0.0116	0.0001 U	0.0001 U	5E-05 U	5E-05 U	26.7
MW-72	W72-201012-	10/12/2020	0.0003 U	0.0003 U	0.0000652	0.000117	0.0111	0.0133	0.0001 U	0.0001 U	5E-05 U	5E-05 U	32.2
MW-73	W73-201002-	10/2/2020	0.0003 U	0.0003 U	0.000704	0.000735	0.00241	0.00314	0.0001 U	0.0001 U	5E-05 U	5E-05 U	11.8
MW-74R	W74R201002-	10/2/2020	0.0003 U	0.0003 U	0.000385	0.000743	0.0123	0.0124	0.0001 U	0.0001 U	5E-05 U	5E-05 U	45.2
MW-75	W75-201002-	10/2/2020	0.0003 U	0.0003 U	0.000416	0.000419	0.0131	0.0131	0.0001 U	0.0001 U	5E-05 U	5E-05 U	31.4
MW-76	W76-201016-	10/16/2020	0.0003 U	0.0003 U	0.000214	0.000215	0.00415	0.00469	0.0001 U	0.0001 U	5E-05 U	0.0000748	26
MW-80	W80-201014-	10/14/2020	0.0003 U	0.0003 U	0.00363	0.00365	0.0137	0.0153	0.0001 U	0.0001 U	5E-05 U	5E-05 U	31.6
MW-81	W81-201014-	10/14/2020	0.0003 U	0.0003 U	0.000541	0.000529	0.00301	0.00343	0.0001 U	0.0001 U	5E-05 U	5E-05 U	14.2
MW-82	W82-201016-	10/16/2020	0.0003 U	0.0003 U	0.000232	0.000264	0.0011	0.00163	0.0001 U	0.0001 U	5E-05 U	5E-05 U	28
MW-83	W83-201016-	10/16/2020	0.0003 U	0.0003 U	0.000358	0.000396	0.00935	0.0106	0.0001 U	0.0001 U	5E-05 U	5E-05 U	67.1
MW-84	W84-201013-	10/13/2020	0.0003 U	0.0003 U	0.000326	0.000332	0.00477	0.00493	0.0001 U	0.0001 U	5E-05 U	5E-05 U	17.5
MW-85	W85-201007-	10/7/2020	0.0003 U	0.0003 U	0.000705	0.0007	0.00707	0.00724	0.0001 U	0.0001 U	5E-05 U	5E-05 U	35.3
MW-86	W86-201007-	10/7/2020	0.0003 U	0.0003 U	0.000735	0.012	0.00558	0.00729	0.0001 U	0.0001 U	5E-05 U	5E-05 U	16.2
MW-87	W87-201013-	10/13/2020	0.0003 U	0.0003 U	0.000522	0.00143	0.0242	0.0293	0.0001 U	0.0001 U	5E-05 U	0.000134	47.8

Environmental Monitoring Data

Data Collected from October 1, 2020 to December 31, 2020
Cedar Hills Landfill --- Groundwater Elevation Data
Contact Person: Sendy Jimenez (206) 477-5224

Site	Sample ID	Date	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)	Calcium, dissolved (mg/L)
MW-88	W88-201006-	10/6/2020	0.0003 U	0.0003 U	0.00101	0.000995	0.00218	0.00221	0.0001 U	0.0001 U	5E-05 U	5E-05 U	9.63
MW-89	W89-201006-	10/6/2020	0.0003 U	0.0003 U	0.00095	0.00268	0.00831	0.00958	0.0001 U	0.0001 U	5E-05 U	5E-05 U	19.6
MW-93	W93-201007-	10/7/2020	0.0003 U	0.0003 U	0.00142	0.00144	0.00758	0.00835	0.0001 U	0.0001 U	5E-05 U	5E-05 U	32
MW-94	W94-201016-	10/16/2020	0.0003 U	0.0003 U	0.000128	0.000131	0.00221	0.00272	0.0001 U	0.0001 U	5E-05 U	5E-05 U	35.2
MW-95	W95-201012-	10/12/2020	0.0003 U	0.0003 U	0.00102	0.00106	0.00396	0.00444	0.0001 U	0.0001 U	5E-05 U	5E-05 U	22

See Data Qualifier List for Qualifier Information.

Site	Sample ID	Date	Calcium, total (mg/L)	Chromium, dissolved (mg/L)	Chromium total (mg/L)	Cobalt, dissolved (mg/L)	Cobalt, total (mg/L)
MW-100	W100201008-	10/8/2020	27.9	0.0002 U	0.0002 U	0.000215 D	2.36E-04
MW-101	W101201022-	10/22/2020	52.3	0.0002 U	0.000206	0.000192	0.000195
MW-102	W102201019-	10/19/2020	15.2	0.000442	0.00279	5E-05 U	0.00065
MW-103	W103201016-	10/16/2020	25.8	0.0002 U	0.00708	5E-05 U	0.00223
MW-107	W107201019-	10/19/2020	24.1	0.000319	4.48E-04	0.00277	0.00283
MW-110	W110201020-	10/20/2020	72.7	0.0002 U	5.83E-04	0.004	0.00436
MW-113	W113201016-	10/16/2020	37.7	0.0002 U	2.40E-04	0.0000689	0.0000732
MW-114	W114201015-	10/15/2020	25.7	0.0002 U	0.000224	0.000394	0.00046
MW-115	W115201020-	10/20/2020	28.9	0.0002 U	0.0002 U	0.000156	0.000166
MW-21	W21-201002-	10/2/2020	12.1	0.0002 U	0.0002 U	5E-05 U	5E-05 U
MW-24	W24-201008-	10/8/2020	14.3	0.0002 U	0.0002 U	5E-05 DU	5E-05 DU
MW-30A	W30A201019-	10/19/2020	20.1	0.000714	8.73E-04	5E-05 U	5E-05 U
MW-47	W47-201019-	10/19/2020	118	0.0002 U	0.00159	0.000273	0.000612
MW-56	W56-201013-	10/13/2020	26	0.0002 U	0.00745	0.000161	0.00611
MW-59	W59-201015-	10/15/2020	18.3	0.0002 U	0.000315	5E-05 U	5E-05 U
MW-64	W64-201007-	10/7/2020	16.9	0.0002 U	0.0002 U	5E-05 U	0.00266
MW-65	W65-201015-	10/15/2020	11.4	0.0002 U	0.0002 U	5E-05 U	5E-05 U
MW-66	W66-201006-	10/6/2020	16.7	0.0002 U	0.0002 U	5E-05 U	5E-05 U
MW-67	W67-201006-	10/6/2020	39	0.0002 U	0.0002 U	0.00027	0.00135
MW-68	W68-201014-	10/14/2020	27.6	0.0002 U	0.0002 U	0.000202	0.00021
MW-72	W72-201012-	10/12/2020	32.9	0.0002 U	0.000229	5E-05 U	5E-05 U
MW-73	W73-201002-	10/2/2020	12.1	0.0002	0.000303	5E-05 U	5E-05 U
MW-74R	W74R201002-	10/2/2020	46.7	0.0002 U	0.0002 U	5E-05 U	5E-05 U
MW-75	W75-201002-	10/2/2020	31.9	0.0002 U	0.0002 U	5E-05 U	5E-05 U
MW-76	W76-201016-	10/16/2020	25.7	0.000202	0.000233	5.74E-05	6.08E-05
MW-80	W80-201014-	10/14/2020	32	0.0002 U	0.0002 U	5E-05 U	5E-05 U
MW-81	W81-201014-	10/14/2020	14.6	0.000215	0.000214	5E-05 U	5E-05 U
MW-82	W82-201016-	10/16/2020	28.8	0.000226	1.88E-03	5E-05 U	5E-05 U
MW-83	W83-201016-	10/16/2020	67.2	0.000894	3.79E-03	2.49E-04	0.000303
MW-84	W84-201013-	10/13/2020	16.2	0.0002 U	0.0002 U	5E-05 U	5E-05 U
MW-85	W85-201007-	10/7/2020	36.3	0.0002 U	0.0002 U	5E-05 U	5E-05 U
MW-86	W86-201007-	10/7/2020	16.6	0.0002 U	0.0002 U	0.0000671	0.000187
MW-87	W87-201013-	10/13/2020	47.1	0.0002 U	0.000467	0.000164	0.000176

Environmental Monitoring Data

Data Collected from October 1, 2020 to December 31, 2020
Cedar Hills Landfill --- Groundwater Elevation Data
Contact Person: Sendy Jimenez (206) 477-5224

Site	Sample ID	Date	Calcium, total (mg/L)	Chromium, dissolved (mg/L)	Chromium total (mg/L)	Cobalt, dissolved (mg/L)	Cobalt, total (mg/L)
MW-88	W88-201006-	10/6/2020	9.6	0.0006	0.000653	5E-05 U	5E-05 U
MW-89	W89-201006-	10/6/2020	19.8	0.0002 U	0.0002 U	5E-05 U	5E-05 U
MW-93	W93-201007-	10/7/2020	32.8	0.0002 U	0.00025	0.0000617	0.000103
MW-94	W94-201016-	10/16/2020	35.1	0.000451	0.000338	0.0000898	0.0000938
MW-95	W95-201012-	10/12/2020	22.8	0.0002 U	0.0002 U	6.80E-05	0.0000675

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Environmental Monitoring Data

Data Collected from October 1, 2020 to December 31, 2020
Cedar Hills Landfill --- Groundwater Elevation Data
Contact Person: Sendy Jimenez (206) 477-5224

Site	Sample ID	Date	Copper, dissolved (mg/L)	Copper, total (mg/L)	Iron, dissolved (mg/L)	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)
MW-100	W100201008-	10/8/2020	0.0002 U	0.0002 U	0.764	1.7	0.0001 U	0.0001 U	15.9	16.1	0.14	0.144	5E-05 U
MW-101	W101201022-	10/22/2020	0.000304	0.000286	0.0765	0.11	0.0001 U	0.0001 U	31.7	31.4	1.04 D	0.959	5E-05 U
MW-102	W102201019-	10/19/2020	0.000261	0.003	0.01 U	1.14	0.0001 U	0.000665	5.84	5.76	0.000853	0.0233	5E-05 U
MW-103	W103201016-	10/16/2020	0.000462	0.0103	0.01 U	2.67	0.0001 U	0.00297	11.4	11.9	0.00183	0.429	5E-05 U
MW-107	W107201019-	10/19/2020	0.000897	0.00125	2.52	2.61	0.0001 U	0.0001 U	7.78	7.37	1.94	1.89	5E-05 U
MW-110	W110201020-	10/20/2020	0.0002 U	0.000747	0.793	1.1	0.0001 U	0.000114	38.2	37.4	3.4	3.43	5E-05 U
MW-113	W113201016-	10/16/2020	0.0002 U	0.0002 U	1.17	1.2	0.0001 U	0.0001 U	20.9	20.5	0.415	0.442	5E-05 U
MW-114	W114201015-	10/15/2020	0.0002 U	0.0002 U	0.01 U	0.0288	0.0001 U	0.0001 U	12.5	12.7	0.000718	0.00238	5E-05 U
MW-115	W115201020-	10/20/2020	0.000246	0.000338	0.01 U	0.032	0.0001 U	0.0001 U	12.4	12.4	0.0341	0.0359	5E-05 U
MW-21	W21-201002-	10/2/2020	0.0002 U	0.0002 U	1.73	1.95	0.0001 U	0.0001 U	6.7	6.54	0.106	0.11	5E-05 U
MW-24	W24-201008-	10/8/2020	0.0002 U	0.000606	3.51	3.59	0.0001 U	0.0001 U	9.33	9.48	0.109	0.113	5E-05 U
MW-30A	W30A201019-	10/19/2020	0.0002 U	0.000374	0.01 U	0.0773	0.0001 U	0.0001 U	11.8	11.3	0.000114	0.000909	5E-05 U
MW-47	W47-201019-	10/19/2020	0.000369	0.00166	0.0621	0.939	0.0001 U	0.000143	59.3	58.4	1.3	1.22	5E-05 U
MW-56	W56-201013-	10/13/2020	0.000201	0.0177	0.0125	13.7	0.0001 U	0.00321	13.6	14.7	0.221	0.662	5E-05 U
MW-59	W59-201015-	10/15/2020	0.0002 U	0.0002 U	4.53	4.65	0.0001 U	0.0001 U	11.5	11.1	0.138	0.149	5E-05 U
MW-64	W64-201007-	10/7/2020	0.0002 U	0.000972	0.01 DU	0.467	0.0001 U	0.0001 U	11.7	11.6	0.0271	2.29	5E-05 U
MW-65	W65-201015-	10/15/2020	0.0002 U	0.000219	2.87	5.5	0.0001 U	0.0001 U	6.82	6.67	0.131	0.215	5E-05 U
MW-66	W66-201006-	10/6/2020	0.0002 U	0.0002 U	0.01 DU	0.0109	0.0001 U	0.0001 U	12.8	12.8	0.0001 U	0.000269	5E-05 U
MW-67	W67-201006-	10/6/2020	0.0002 U	0.00099	0.213 D	10.7	0.0001 U	0.0001 U	21.5	21.1	0.382	1.64	5E-05 U
MW-68	W68-201014-	10/14/2020	0.000309	0.000721	0.536	1.05	0.0001 U	0.0001 U	14.4	14.8	0.279	0.298	5E-05 U
MW-72	W72-201012-	10/12/2020	0.0002 U	0.0002 U	2.55	4.39	0.0001 U	0.0001 U	19.7	19.6	0.338	0.365	5E-05 U
MW-73	W73-201002-	10/2/2020	0.0002 U	0.000286	0.01 U	0.0765	0.0001 U	0.0001 U	6.09	6.19	0.000152	0.00205	5E-05 U
MW-74R	W74R201002-	10/2/2020	0.000227	0.000284	0.01 U	0.28	0.0001 U	0.0001 U	34.7	34	0.0001 U	0.00216	5E-05 U
MW-75	W75-201002-	10/2/2020	0.0002 U	0.0002 U	2.5	2.44	0.0001 U	0.0001 U	23.4	22.8	0.214	0.211	5E-05 U
MW-76	W76-201016-	10/16/2020	0.00127	0.00137	0.01 U	0.01 U	0.0001 U	0.0001 U	11.8	11.5	0.0001 U	0.000159	5E-05 U
MW-80	W80-201014-	10/14/2020	0.0002 U	0.0002 U	2.21	2.18	0.0001 U	0.0001 U	16.8	16.1	0.329	0.341	5E-05 U
MW-81	W81-201014-	10/14/2020	0.0002 U	0.000228	0.01 U	0.0229	0.0001 U	0.0001 U	7.83	7.74	0.000118	0.00084	5E-05 U
MW-82	W82-201016-	10/16/2020	0.0002 U	0.000283	0.01 U	0.0641	0.0001 U	0.0001 U	17.1	16.8	0.0001 U	0.00113	5E-05 U
MW-83	W83-201016-	10/16/2020	0.00346	0.00396	0.01 U	0.0412	0.0001 U	0.0001 U	29.3	27.3	0.0104	0.0483	5E-05 U
MW-84	W84-201013-	10/13/2020	0.0002 U	0.0002 U	0.01 U	0.01 U	0.0001 U	0.0001 U	12.9	11.9	0.00451	0.00476	5E-05 U
MW-85	W85-201007-	10/7/2020	0.0002 U	0.0002 U	0.01 DU	0.01 U	0.0001 U	0.0001 U	22.2	21.8	0.0001 U	0.000293	5E-05 U
MW-86	W86-201007-	10/7/2020	0.0002 U	0.0002 U	0.741 D	7.25	0.0001 U	0.0001 U	11.2	11.2	0.0181	0.0445	5E-05 U
MW-87	W87-201013-	10/13/2020	0.0002 U	0.00213	4.69	5.62	0.0001 U	0.000521	33.8	31.7	0.485	0.519	5E-05 U

Environmental Monitoring Data

Data Collected from October 1, 2020 to December 31, 2020
Cedar Hills Landfill --- Groundwater Elevation Data
Contact Person: Sendy Jimenez (206) 477-5224

Site	Sample ID	Date	Copper, dissolved (mg/L)	Copper, total (mg/L)	Iron, dissolved (mg/L)	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)
MW-88	W88-201006-	10/6/2020	0.0002 U	0.0002 U	0.01 DU	0.01 U	0.0001 U	0.0001 U	7.07	6.9	0.0001 U	0.000139	5E-05 U
MW-89	W89-201006-	10/6/2020	0.0002 U	0.000248	1.26 D	2.7	0.0001 U	0.0001 U	14	14.2	0.249	0.277	5E-05 U
MW-93	W93-201007-	10/7/2020	0.000217	0.000632	0.01 DU	0.0458	0.0001 U	0.000147	17	16.6	0.154	0.18	5E-05 U
MW-94	W94-201016-	10/16/2020	0.00101	0.00101	0.01 U	0.01 U	0.0001 U	0.0001 U	15.5	15.4	0.000216	0.000264	5E-05 U
MW-95	W95-201012-	10/12/2020	0.0002 U	0.0002 U	0.01 U	0.01 U	0.0001 U	0.0001 U	11.5	11.8	0.161	0.178	5E-05 U

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Environmental Monitoring Data

Data Collected from October 1, 2020 to December 31, 2020
Cedar Hills Landfill --- Groundwater Elevation Data
Contact Person: Sendy Jimenez (206) 477-5224

Site	Sample ID	Date	Mercury, total (mg/L)	Nickel, dissolved (mg/L)	Nickel, total (mg/L)	Potassium, dissolved (mg/L)	Potassium, total (mg/L)
MW-100	W100201008-	10/8/2020	5E-05 U	0.000465	0.000458	1.8	1.83
MW-101	W101201022-	10/22/2020	5E-05 U	0.00295 D	0.00332	2.86	2.96
MW-102	W102201019-	10/19/2020	5E-05 U	0.000496	0.00145	1.01	1.22
MW-103	W103201016-	10/16/2020	5E-05 U	0.000365	0.005	2.72	3.11
MW-107	W107201019-	10/19/2020	5E-05 U	0.00488	0.00524	2.78	2.96
MW-110	W110201020-	10/20/2020	5E-05 U	0.0061	0.00708	3.13	3.43
MW-113	W113201016-	10/16/2020	5E-05 U	0.000321	0.000441	2.04	2.15
MW-114	W114201015-	10/15/2020	5E-05 U	0.000354	0.000437	1.91	2.17
MW-115	W115201020-	10/20/2020	5E-05 U	0.000657	0.000702	1.84	2.01
MW-21	W21-201002-	10/2/2020	5E-05 U	0.0001 U	0.000111	1.09	1.09
MW-24	W24-201008-	10/8/2020	5E-05 U	0.0001 U	0.0001 U	0.937	0.958
MW-30A	W30A201019-	10/19/2020	5E-05 U	0.000642	0.000767	1.27	1.35
MW-47	W47-201019-	10/19/2020	5E-05 U	0.00104	0.00235	5.51	5.38
MW-56	W56-201013-	10/13/2020	5E-05 U	0.000884	0.00839	1.28	2.01
MW-59	W59-201015-	10/15/2020	5E-05 U	0.000144	0.000147	1.11	1.17
MW-64	W64-201007-	10/7/2020	5E-05 U	0.000221	0.00767	1.39	1.52
MW-65	W65-201015-	10/15/2020	5E-05 U	0.0001 U	0.000117	0.824	0.897
MW-66	W66-201006-	10/6/2020	5E-05 U	0.000125	0.000125	1.08	1.15
MW-67	W67-201006-	10/6/2020	5E-05 U	0.000341	0.00123	1.8	1.89
MW-68	W68-201014-	10/14/2020	5E-05 U	0.000391	0.000463	1.54	1.75
MW-72	W72-201012-	10/12/2020	5E-05 U	0.000104	0.00013	1.78	2.01
MW-73	W73-201002-	10/2/2020	5E-05 U	0.000236	0.000313	0.798	0.819
MW-74R	W74R201002-	10/2/2020	5E-05 U	0.000859	0.000889	2.14	2.14
MW-75	W75-201002-	10/2/2020	5E-05 U	0.0001 U	0.0001 U	2.03	1.98
MW-76	W76-201016-	10/16/2020	5E-05 U	0.000459	0.00055	1.5	1.64
MW-80	W80-201014-	10/14/2020	5E-05 U	0.0001 U	0.0001 U	1.58	1.75
MW-81	W81-201014-	10/14/2020	5E-05 U	0.000185	0.000182	0.784	0.868
MW-82	W82-201016-	10/16/2020	5E-05 U	0.00114	0.0034	1.72	1.91
MW-83	W83-201016-	10/16/2020	5E-05 U	0.00191	0.00233	3.52	3.7
MW-84	W84-201013-	10/13/2020	5E-05 U	0.000693	0.000752	1.18	1.17
MW-85	W85-201007-	10/7/2020	5E-05 U	0.000179	0.000194	1.67	1.77
MW-86	W86-201007-	10/7/2020	5E-05 U	0.0001 U	0.000196	1.26	1.35
MW-87	W87-201013-	10/13/2020	5E-05 U	0.000341	0.000651	2.32	2.43

Environmental Monitoring Data

Data Collected from October 1, 2020 to December 31, 2020
Cedar Hills Landfill --- Groundwater Elevation Data
Contact Person: Sendy Jimenez (206) 477-5224

Site	Sample ID	Date	Mercury, total (mg/L)	Nickel, dissolved (mg/L)	Nickel, total (mg/L)	Potassium, dissolved (mg/L)	Potassium, total (mg/L)
MW-88	W88-201006-	10/6/2020	5E-05 U	0.000102	0.0001 U	0.824	0.852
MW-89	W89-201006-	10/6/2020	5E-05 U	0.0001 U	0.000144	1.66	1.8
MW-93	W93-201007-	10/7/2020	5E-05 U	0.00021	0.000359	1.5	1.59
MW-94	W94-201016-	10/16/2020	5E-05 U	0.000631	0.00059	2.34	2.49
MW-95	W95-201012-	10/12/2020	5E-05 U	0.000156	0.000157	1.12	1.27

See Data Qualifier List for Qualifier Information.

Environmental Monitoring Data

Data Collected from October 1, 2020 to December 31, 2020
Cedar Hills Landfill --- Groundwater Elevation Data
Contact Person: Sendy Jimenez (206) 477-5224

Site	Sample ID	Date	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)	Vanadium, dissolved (mg/L)	Vanadium, total (mg/L)	Zinc, dissolved (mg/L)
MW-100	W100201008-	10/8/2020	0.0005 U	0.0005 U	4E-05 U	4E-05 U	9.01	9.23	0.0001 U	0.0001 U	7.5E-05 DU	7.5E-05 U	0.000557
MW-101	W101201022-	10/22/2020	0.0005 U	0.0005 U	4E-05 U	4E-05 U	16.2 J	16.2	0.0001 U	0.0001 U	0.000658 D	0.000687	0.0005 U
MW-102	W102201019-	10/19/2020	0.0005 U	0.0005 U	4E-05 U	4E-05 U	10.1	9.72	0.0001 U	0.0001 U	0.000873	0.00279	0.000851
MW-103	W103201016-	10/16/2020	0.0005 U	0.0005 U	4E-05 U	4E-05 U	11.4	11.4	0.0001 U	0.0001 U	0.0101	0.0113	0.0005 U
MW-107	W107201019-	10/19/2020	0.0005 U	0.0005 U	4E-05 U	4E-05 U	8.52	8.32	0.0001 U	0.0001 U	0.000496	0.00059	0.00341
MW-110	W110201020-	10/20/2020	0.0005 U	0.0005 U	4E-05 U	4E-05 U	35	35.1	0.0001 U	0.0001 U	0.00027	0.000744	0.00179
MW-113	W113201016-	10/16/2020	0.0005 U	0.0005 U	4E-05 U	4E-05 U	9.33	9.33	0.0001 U	0.0001 U	7.5E-05 U	0.000108	0.0005 U
MW-114	W114201015-	10/15/2020	0.0005 U	0.0005 U	4E-05 U	4E-05 U	6.56	6.87	0.0001 U	0.0001 U	8.49E-04	0.000884	0.0005 U
MW-115	W115201020-	10/20/2020	0.0005 U	0.0005 U	4E-05 U	4E-05 U	7.35	7.44	0.0001 U	0.0001 U	0.000507	6.35E-04	0.000521
MW-21	W21-201002-	10/2/2020	0.0005 U	0.0005 U	4E-05 U	4E-05 U	6.07	5.95	0.0001 U	0.0001 U	0.000141	0.0000808	0.0005 U
MW-24	W24-201008-	10/8/2020	0.0005 U	0.0005 U	4E-05 U	4E-05 U	5.78	5.85	0.0001 U	0.0001 U	7.5E-05 DU	7.5E-05 DU	0.0005 U
MW-30A	W30A201019-	10/19/2020	0.0005 U	0.0005 U	4E-05 U	4E-05 U	12.2	11.9	0.0001 U	0.0001 U	0.00209	0.00227	0.00115
MW-47	W47-201019-	10/19/2020	0.0005 U	0.0005 U	4E-05 U	4E-05 U	17.6	17.7	0.0001 U	0.0001 U	0.00152	0.00317	0.000803
MW-56	W56-201013-	10/13/2020	0.0005 U	0.0005 U	4E-05 U	0.000839	6.96	7.02	0.0001 U	0.0001 U	0.000161	0.0181	0.000592
MW-59	W59-201015-	10/15/2020	0.0005 U	0.0005 U	4E-05 U	4E-05 U	6.53	6.51	0.0001 U	0.0001 U	7.5E-05 U	7.5E-05 U	0.00109
MW-64	W64-201007-	10/7/2020	0.0005 U	0.0005 U	4E-05 U	4E-05 U	7.29	6.96	0.0001 U	0.0001 U	0.000124	0.000924	0.0005 DU
MW-65	W65-201015-	10/15/2020	0.0005 U	0.0005 U	4E-05 U	4E-05 U	5.29	5.27	0.0001 U	0.0001 U	7.5E-05 U	7.5E-05 U	0.000579
MW-66	W66-201006-	10/6/2020	0.000905	0.000904	4E-05 U	4E-05 U	7.48	7.44	0.0001 U	0.0001 U	0.000654	0.000668	0.0005 DU
MW-67	W67-201006-	10/6/2020	0.0005 U	0.0005 U	4E-05 U	4E-05 U	10.1	9.69	0.0001 U	0.0001 U	0.000113	0.00366	0.0005 DU
MW-68	W68-201014-	10/14/2020	0.0005 U	0.0005 U	4E-05 U	4E-05 U	8.73	8.91	0.0001 U	0.0001 U	0.000219	0.000593	0.000679
MW-72	W72-201012-	10/12/2020	0.0005 U	0.0005 U	4E-05 U	4E-05 U	8.44	8.4	0.0001 U	0.0001 U	7.5E-05 U	7.5E-05 U	0.000736
MW-73	W73-201002-	10/2/2020	0.0005 U	0.0005 U	4E-05 U	4E-05 U	5.91	5.8	0.0001 U	0.0001 U	0.00129	0.00142	0.0005 U
MW-74R	W74R201002-	10/2/2020	0.00058	0.000617	4E-05 U	4E-05 U	12.6	12.3 J	0.0001 U	0.0001 U	0.000638	0.000765	0.000691
MW-75	W75-201002-	10/2/2020	0.0005 U	0.0005 U	4E-05 U	4E-05 U	9.31	9.08	0.0001 U	0.0001 U	0.000117	0.000104	0.0005 U
MW-76	W76-201016-	10/16/2020	0.0005 U	0.0005 U	4E-05 U	4E-05 U	11.8	12	0.0001 U	0.0001 U	0.000578	0.000618	0.000755
MW-80	W80-201014-	10/14/2020	0.0005 U	0.0005 U	4E-05 U	4E-05 U	8.17	7.93	0.0001 U	0.0001 U	7.5E-05 U	7.5E-05 U	0.000551
MW-81	W81-201014-	10/14/2020	0.000888	0.000794	4E-05 U	4E-05 U	6.47	6.71	0.0001 U	0.0001 U	0.00155	0.00166	0.000924
MW-82	W82-201016-	10/16/2020	0.0005 U	0.0005 U	4E-05 U	4E-05 U	8.22	8.3	0.0001 U	0.0001 U	0.00134	0.00142	0.0005 U
MW-83	W83-201016-	10/16/2020	0.0005 U	0.0005 U	4E-05 U	4E-05 U	15.7	15	0.0001 U	0.0001 U	0.000971	0.000981	0.00061
MW-84	W84-201013-	10/13/2020	0.000718	0.000712	4E-05 U	4E-05 U	7.65	7.08	0.0001 U	0.0001 U	0.000481	0.000512	0.0005 U
MW-85	W85-201007-	10/7/2020	0.000868	0.000902	4E-05 U	4E-05 U	10.4	10.1	0.0001 U	0.0001 U	0.000905	0.000898	0.0005 DU
MW-86	W86-201007-	10/7/2020	0.0005 U	0.0005 U	4E-05 U	4E-05 U	7.57	7.13	0.0001 U	0.0001 U	7.5E-05 U	0.000645	0.000679 D
MW-87	W87-201013-	10/13/2020	0.0005 U	0.0005 U	4E-05 U	4E-05 U	11.5	10.9	0.0001 U	0.0001 U	7.5E-05 U	0.000308	0.00178

Environmental Monitoring Data

Data Collected from October 1, 2020 to December 31, 2020
Cedar Hills Landfill --- Groundwater Elevation Data
Contact Person: Sendy Jimenez (206) 477-5224

Site	Sample ID	Date	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)	Vanadium, dissolved (mg/L)	Vanadium, total (mg/L)	Zinc, dissolved (mg/L)
MW-88	W88-201006-	10/6/2020	0.000547	0.000519	4E-05 U	4E-05 U	6.04	5.77	0.0001 U	0.0001 U	0.00271	0.00281	0.000679 D
MW-89	W89-201006-	10/6/2020	0.0005 U	0.0005 U	4E-05 U	4E-05 U	10.8	10.4	0.0001 U	0.0001 U	7.5E-05 U	0.0000975	0.000644 D
MW-93	W93-201007-	10/7/2020	0.0005 U	0.0005 U	4E-05 U	4E-05 U	10.1	9.51	0.0001 U	0.0001 U	0.00212	0.00217	0.00313 D
MW-94	W94-201016-	10/16/2020	0.0005 U	0.0005 U	4E-05 U	4E-05 U	8.32	8.45	0.0001 U	0.0001 U	0.00124	0.00132	0.000638
MW-95	W95-201012-	10/12/2020	0.0005 U	0.0005 U	4E-05 U	4E-05 U	6.1	6.23	0.0001 U	0.0001 U	0.000287	0.000263	0.000541

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Environmental Monitoring Data

Data Collected from October 1, 2020 to December 31, 2020
Cedar Hills Landfill --- Groundwater Elevation Data
Contact Person: Sendy Jimenez (206) 477-5224

Site	Sample ID	Date	Zinc, total (mg/L)
MW-100	W100201008-	10/8/2020	0.000611
MW-101	W101201022-	10/22/2020	0.0005 U
MW-102	W102201019-	10/19/2020	0.00335
MW-103	W103201016-	10/16/2020	0.0104
MW-107	W107201019-	10/19/2020	0.00328
MW-110	W110201020-	10/20/2020	0.00205
MW-113	W113201016-	10/16/2020	0.000621
MW-114	W114201015-	10/15/2020	0.0005 U
MW-115	W115201020-	10/20/2020	0.000832
MW-21	W21-201002-	10/2/2020	0.0005 U
MW-24	W24-201008-	10/8/2020	0.0005 U
MW-30A	W30A201019-	10/19/2020	0.00082
MW-47	W47-201019-	10/19/2020	0.00224
MW-56	W56-201013-	10/13/2020	0.0209
MW-59	W59-201015-	10/15/2020	0.000899
MW-64	W64-201007-	10/7/2020	0.00262
MW-65	W65-201015-	10/15/2020	0.000882
MW-66	W66-201006-	10/6/2020	0.00053
MW-67	W67-201006-	10/6/2020	0.00149
MW-68	W68-201014-	10/14/2020	0.0005 U
MW-72	W72-201012-	10/12/2020	0.00113
MW-73	W73-201002-	10/2/2020	0.0005 U
MW-74R	W74R201002-	10/2/2020	0.000791
MW-75	W75-201002-	10/2/2020	0.000691
MW-76	W76-201016-	10/16/2020	0.000597
MW-80	W80-201014-	10/14/2020	0.0005 U
MW-81	W81-201014-	10/14/2020	0.00119
MW-82	W82-201016-	10/16/2020	0.000631
MW-83	W83-201016-	10/16/2020	0.0005 U
MW-84	W84-201013-	10/13/2020	0.00257
MW-85	W85-201007-	10/7/2020	0.0005 U
MW-86	W86-201007-	10/7/2020	0.000979
MW-87	W87-201013-	10/13/2020	0.00892

Environmental Monitoring Data

Data Collected from October 1, 2020 to December 31, 2020
Cedar Hills Landfill --- Groundwater Elevation Data
Contact Person: Sendy Jimenez (206) 477-5224

Site	Sample ID	Date	Zinc, total (mg/L)
MW-88	W88-201006-	10/6/2020	0.0005 U
MW-89	W89-201006-	10/6/2020	0.000906
MW-93	W93-201007-	10/7/2020	0.00768
MW-94	W94-201016-	10/16/2020	0.000556
MW-95	W95-201012-	10/12/2020	0.0005 U

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Environmental Monitoring Data

Data Collected from October 1, 2020 to December 31, 2020
Cedar Hills Landfill --- Groundwater Elevation Data
Contact Person: Sendy Jimenez (206) 477-5224

Site	Sample ID	Date	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
MW-100	W100201008-	10/8/2020	0.25 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U
MW-101	W101201022-	10/22/2020	0.25 U	0.1 U	0.1 U	0.1 U	0.147 JT	0.1 U	0.1 U
MW-102	W102201019-	10/19/2020	0.25 U	0.1 U	0.1 U	0.1 U	0.136 JT	0.1 U	0.1 U
MW-103	W103201016-	10/16/2020	0.25 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U
MW-107	W107201019-	10/19/2020	0.25 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U
MW-110	W110201020-	10/20/2020	0.25 U	0.1 U	0.1 U	0.1 U	0.426	0.1 U	0.1 U
MW-113	W113201016-	10/16/2020	0.25 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U
MW-114	W114201015-	10/15/2020	0.25 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U
MW-115	W115201020-	10/20/2020	0.25 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U
MW-21	W21-201002-	10/2/2020	0.25 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U
MW-24	W24-201008-	10/8/2020	0.25 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U
MW-30A	W30A201019-	10/19/2020	0.25 U	0.1 U	0.1 U	0.1 U	1.71	0.1 U	0.1 U
MW-47	W47-201019-	10/19/2020	0.25 U	0.1 U	0.1 U	0.1 U	0.58	0.1 U	0.1 U
MW-56	W56-201013-	10/13/2020	0.25 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U
MW-59	W59-201015-	10/15/2020	0.25 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U
MW-64	W64-201007-	10/7/2020	0.25 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U
MW-65	W65-201015-	10/15/2020	0.25 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U
MW-66	W66-201006-	10/6/2020	0.25 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U
MW-67	W67-201006-	10/6/2020	0.25 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U
MW-68	W68-201014-	10/14/2020	0.25 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U
MW-72	W72-201012-	10/12/2020	0.25 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U
MW-73	W73-201002-	10/2/2020	0.25 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U
MW-74R	W74R201002-	10/2/2020	0.25 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U
MW-75	W75-201002-	10/2/2020	0.25 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U
MW-76	W76-201016-	10/16/2020	0.25 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U
MW-80	W80-201014-	10/14/2020	0.25 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U
MW-81	W81-201014-	10/14/2020	0.25 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U
MW-82	W82-201016-	10/16/2020	0.25 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U
MW-83	W83-201016-	10/16/2020	0.25 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U
MW-84	W84-201013-	10/13/2020	0.25 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U
MW-85	W85-201007-	10/7/2020	0.25 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U
MW-86	W86-201007-	10/7/2020	0.25 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U
MW-87	W87-201013-	10/13/2020	0.25 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U
MW-88	W88-201006-	10/6/2020	0.25 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U
MW-89	W89-201006-	10/6/2020	0.25 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U
MW-93	W93-201007-	10/7/2020	0.25 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U
MW-94	W94-201016-	10/16/2020	0.25 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U
MW-95	W95-201012-	10/12/2020	0.25 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U
VOA TRIP BLANK	VTRP201002Y	10/1/2020	0.25 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U
VOA TRIP BLANK	VTRP201006X	10/5/2020	0.25 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U
VOA TRIP BLANK	VTRP201006Z	10/5/2020	0.25 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U
VOA TRIP BLANK	VTRP201007Z	10/6/2020	0.25 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U
VOA TRIP BLANK	VTRP201008Y	10/6/2020	0.25 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U
VOA TRIP BLANK	VTRP201012X	10/7/2020	0.25 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U
VOA TRIP BLANK	VTRP201014X	10/13/2020	0.25 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U
VOA TRIP BLANK	VTRP201014Y	10/12/2020	0.25 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U
VOA TRIP BLANK	VTRP201015X	10/14/2020	0.25 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U

Site	Sample ID	Date	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
VOA TRIP BLANK	VTRP201015Y	10/14/2020	0.25 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U
VOA TRIP BLANK	VTRP201016X	10/15/2020	0.25 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U
VOA TRIP BLANK	VTRP201016Y	10/15/2020	0.25 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U
VOA TRIP BLANK	VTRP201016Z	10/13/2020	0.25 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U
VOA TRIP BLANK	VTRP201019Y	10/14/2020	0.25 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U
VOA TRIP BLANK	VTRP201020X	10/19/2020	0.25 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U
VOA TRIP BLANK	VTRP201020Y	10/15/2020	0.25 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U

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Site	Sample ID	Date	1,2-Dibromo-3-Chloropropane 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-100	W100201008-	10/8/2020	2.5 U	0.1 U	0.1 U	0.1 U
MW-101	W101201022-	10/22/2020	2.5 U	0.1 U	0.1 U	0.133 JT
MW-102	W102201019-	10/19/2020	2.5 U	0.1 U	0.1 U	0.1 U
MW-103	W103201016-	10/16/2020	2.5 U	0.1 U	0.1 U	0.1 U
MW-107	W107201019-	10/19/2020	2.5 U	0.1 U	0.1 U	0.1 U
MW-110	W110201020-	10/20/2020	2.5 U	0.1 U	1.13	0.437
MW-113	W113201016-	10/16/2020	2.5 U	0.1 U	0.1 U	0.1 U
MW-114	W114201015-	10/15/2020	2.5 U	0.1 U	0.1 U	0.1 U
MW-115	W115201020-	10/20/2020	2.5 U	0.1 U	0.1 U	0.1 U
MW-21	W21-201002-	10/2/2020	2.5 U	0.1 U	0.1 U	0.1 U
MW-24	W24-201008-	10/8/2020	2.5 U	0.1 U	0.1 U	0.1 U
MW-30A	W30A201019-	10/19/2020	2.5 U	0.1 U	0.1 U	0.1 U
MW-47	W47-201019-	10/19/2020	2.5 U	0.1 U	0.1 U	0.1 U
MW-56	W56-201013-	10/13/2020	2.5 U	0.1 U	0.1 U	0.1 U
MW-59	W59-201015-	10/15/2020	2.5 U	0.1 U	0.1 U	0.1 U
MW-64	W64-201007-	10/7/2020	2.5 U	0.1 U	0.1 U	0.1 U
MW-65	W65-201015-	10/15/2020	2.5 U	0.1 U	0.1 U	0.1 U
MW-66	W66-201006-	10/6/2020	2.5 U	0.1 U	0.1 U	0.1 U
MW-67	W67-201006-	10/6/2020	2.5 U	0.1 U	0.1 U	0.1 U
MW-68	W68-201014-	10/14/2020	2.5 U	0.1 U	0.1 U	0.1 U
MW-72	W72-201012-	10/12/2020	2.5 U	0.1 U	0.1 U	0.1 U
MW-73	W73-201002-	10/2/2020	2.5 U	0.1 U	0.1 U	0.1 U
MW-74R	W74R201002-	10/2/2020	2.5 U	0.1 U	0.1 U	0.1 U
MW-75	W75-201002-	10/2/2020	2.5 U	0.1 U	0.1 U	0.1 U
MW-76	W76-201016-	10/16/2020	2.5 U	0.1 U	0.1 U	0.1 U
MW-80	W80-201014-	10/14/2020	2.5 U	0.1 U	0.1 U	0.1 U
MW-81	W81-201014-	10/14/2020	2.5 U	0.1 U	0.1 U	0.1 U
MW-82	W82-201016-	10/16/2020	2.5 U	0.1 U	0.1 U	0.1 U
MW-83	W83-201016-	10/16/2020	2.5 U	0.1 U	0.1 U	0.1 U
MW-84	W84-201013-	10/13/2020	2.5 U	0.1 U	0.1 U	0.1 U
MW-85	W85-201007-	10/7/2020	2.5 U	0.1 U	0.1 U	0.1 U
MW-86	W86-201007-	10/7/2020	2.5 U	0.1 U	0.1 U	0.1 U
MW-87	W87-201013-	10/13/2020	2.5 U	0.1 U	0.1 U	0.1 U
MW-88	W88-201006-	10/6/2020	2.5 U	0.1 U	0.1 U	0.1 U
MW-89	W89-201006-	10/6/2020	2.5 U	0.1 U	0.1 U	0.1 U
MW-93	W93-201007-	10/7/2020	2.5 U	0.1 U	0.1 U	0.1 U
MW-94	W94-201016-	10/16/2020	2.5 U	0.1 U	0.1 U	0.1 U
MW-95	W95-201012-	10/12/2020	2.5 U	0.1 U	0.1 U	0.1 U
VOA TRIP BLANK	VTRP201002Y	10/1/2020	2.5 U	0.1 U	0.1 U	0.1 U
VOA TRIP BLANK	VTRP201006X	10/5/2020	2.5 U	0.1 U	0.1 U	0.1 U
VOA TRIP BLANK	VTRP201006Z	10/5/2020	2.5 U	0.1 U	0.1 U	0.1 U
VOA TRIP BLANK	VTRP201007Z	10/6/2020	2.5 U	0.1 U	0.1 U	0.1 U
VOA TRIP BLANK	VTRP201008Y	10/6/2020	2.5 U	0.1 U	0.1 U	0.1 U
VOA TRIP BLANK	VTRP201012X	10/7/2020	2.5 U	0.1 U	0.1 U	0.1 U
VOA TRIP BLANK	VTRP201014X	10/13/2020	2.5 U	0.1 U	0.1 U	0.1 U
VOA TRIP BLANK	VTRP201014Y	10/12/2020	2.5 U	0.1 U	0.1 U	0.1 U
VOA TRIP BLANK	VTRP201015X	10/14/2020	2.5 U	0.1 U	0.1 U	0.1 U

Site	Sample ID	Date	1,2-Dibromo-3-Chloropropane 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	VTRP201015Y	10/14/2020	2.5 U	0.1 U	0.1 U	0.1 U
VOA TRIP BLANK	VTRP201016X	10/15/2020	2.5 U	0.1 U	0.1 U	0.1 U
VOA TRIP BLANK	VTRP201016Y	10/15/2020	2.5 U	0.1 U	0.1 U	0.1 U
VOA TRIP BLANK	VTRP201016Z	10/13/2020	2.5 U	0.1 U	0.1 U	0.1 U
VOA TRIP BLANK	VTRP201019Y	10/14/2020	2.5 U	0.1 U	0.1 U	0.1 U
VOA TRIP BLANK	VTRP201020X	10/19/2020	2.5 U	0.1 U	0.1 U	0.1 U
VOA TRIP BLANK	VTRP201020Y	10/15/2020	2.5 U	0.1 U	0.1 U	0.1 U

See Data Qualifier List for Qualifier Information.

Site	Sample ID	Date	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
MW-100	W100201008-	10/8/2020	0.1 U	0.1 U	1 U	0.5 U	2.5 U	2.5 U
MW-101	W101201022-	10/22/2020	0.1 U	0.1 U	0.25 U	0.5 U	2.5 U	2.5 U
MW-102	W102201019-	10/19/2020	0.1 U	0.1 U	0.25 U	0.5 U	2.5 U	2.5 U
MW-103	W103201016-	10/16/2020	0.1 U	0.1 U	0.25 U	0.5 U	2.5 U	2.5 U
MW-107	W107201019-	10/19/2020	0.1 U	0.462	0.25 U	0.5 U	2.5 U	2.5 U
MW-110	W110201020-	10/20/2020	0.334	0.217	0.25 U	0.5 U	2.5 U	2.5 U
MW-113	W113201016-	10/16/2020	0.1 U	0.1 U	1 U	0.5 U	2.5 U	2.5 U
MW-114	W114201015-	10/15/2020	0.1 U	0.1 U	1 U	0.5 U	2.5 U	2.5 U
MW-115	W115201020-	10/20/2020	0.1 U	0.1 U	1 U	0.5 U	2.5 U	2.5 U
MW-21	W21-201002-	10/2/2020	0.1 U	0.1 U	1 U	0.5 U	2.5 U	4.85 JT
MW-24	W24-201008-	10/8/2020	0.1 U	0.1 U	1 U	0.5 U	2.5 U	2.5 U
MW-30A	W30A201019-	10/19/2020	0.1 U	0.1 U	0.25 U	0.5 U	2.5 U	2.5 U
MW-47	W47-201019-	10/19/2020	0.1 U	0.1 U	0.25 U	0.5 U	2.5 U	2.5 U
MW-56	W56-201013-	10/13/2020	0.1 U	0.1 U	1 U	0.5 U	2.5 U	2.5 U
MW-59	W59-201015-	10/15/2020	0.1 U	0.1 U	1 U	0.5 U	2.5 U	2.5 U
MW-64	W64-201007-	10/7/2020	0.1 U	0.1 U	1 U	0.5 U	2.5 U	2.82 JT
MW-65	W65-201015-	10/15/2020	0.1 U	0.1 U	1 U	0.5 U	2.5 U	2.5 U
MW-66	W66-201006-	10/6/2020	0.1 U	0.1 U	1 U	0.5 U	2.5 U	2.5 U
MW-67	W67-201006-	10/6/2020	0.1 U	0.1 U	1 U	0.5 U	2.5 U	2.5 U
MW-68	W68-201014-	10/14/2020	0.1 U	0.1 U	0.25 U	0.5 U	2.5 U	2.5 U
MW-72	W72-201012-	10/12/2020	0.1 U	0.1 U	1 U	0.5 U	2.5 U	2.5 U
MW-73	W73-201002-	10/2/2020	0.1 U	0.1 U	1 U	0.5 U	2.5 U	2.5 U
MW-74R	W74R201002-	10/2/2020	0.1 U	0.1 U	1 U	0.5 U	2.5 U	2.5 U
MW-75	W75-201002-	10/2/2020	0.1 U	0.1 U	1 U	0.5 U	2.5 U	2.5 U
MW-76	W76-201016-	10/16/2020	0.1 U	0.1 U	1 U	0.5 U	2.5 U	2.5 U
MW-80	W80-201014-	10/14/2020	0.1 U	0.1 U	0.25 U	0.5 U	2.5 U	2.5 U
MW-81	W81-201014-	10/14/2020	0.1 U	0.1 U	1 U	0.5 U	2.5 U	2.5 U
MW-82	W82-201016-	10/16/2020	0.1 U	0.1 U	1 U	0.5 U	2.5 U	2.5 U
MW-83	W83-201016-	10/16/2020	0.1 U	0.1 U	1 U	0.5 U	2.5 U	2.5 U
MW-84	W84-201013-	10/13/2020	0.1 U	0.1 U	1 U	0.5 U	2.5 U	2.5 U
MW-85	W85-201007-	10/7/2020	0.1 U	0.1 U	1 U	0.5 U	2.5 U	2.5 U
MW-86	W86-201007-	10/7/2020	0.1 U	0.1 U	1 U	0.5 U	2.5 U	2.5 U
MW-87	W87-201013-	10/13/2020	0.1 U	0.1 U	1 U	0.5 U	2.5 U	2.5 U
MW-88	W88-201006-	10/6/2020	0.1 U	0.1 U	1 U	0.5 U	2.5 U	2.5 U
MW-89	W89-201006-	10/6/2020	0.1 U	0.1 U	1 U	0.5 U	2.5 U	2.5 U
MW-93	W93-201007-	10/7/2020	0.1 U	0.1 U	1 U	0.5 U	2.5 U	2.5 U
MW-94	W94-201016-	10/16/2020	0.1 U	0.1 U	1 U	0.5 U	2.5 U	2.5 U
MW-95	W95-201012-	10/12/2020	0.1 U	0.1 U	1 U	0.5 U	2.5 U	2.5 U
VOA TRIP BLANK	VTRP201002Y	10/1/2020	0.1 U	0.1 U	1 U	0.5 U	2.5 U	2.5 U
VOA TRIP BLANK	VTRP201006X	10/5/2020	0.1 U	0.1 U	1 U	0.5 U	2.5 U	2.5 U
VOA TRIP BLANK	VTRP201006Z	10/5/2020	0.1 U	0.1 U	1 U	0.5 U	2.5 U	2.5 U
VOA TRIP BLANK	VTRP201007Z	10/6/2020	0.1 U	0.1 U	1 U	0.5 U	2.5 U	2.5 U
VOA TRIP BLANK	VTRP201008Y	10/6/2020	0.1 U	0.1 U	1 U	0.5 U	2.5 U	2.5 U
VOA TRIP BLANK	VTRP201012X	10/7/2020	0.1 U	0.1 U	1 U	0.5 U	2.5 U	2.5 U
VOA TRIP BLANK	VTRP201014X	10/13/2020	0.1 U	0.1 U	0.25 U	0.5 U	2.5 U	3.5 JT
VOA TRIP BLANK	VTRP201014Y	10/12/2020	0.1 U	0.1 U	1 U	0.5 U	2.5 U	2.5 U
VOA TRIP BLANK	VTRP201015X	10/14/2020	0.1 U	0.1 U	1 U	0.5 U	2.5 U	2.5 U

Site	Sample ID	Date	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
VOA TRIP BLANK	VTRP201015Y	10/14/2020	0.1 U	0.1 U	1 U	0.5 U	2.5 U	2.5 U
VOA TRIP BLANK	VTRP201016X	10/15/2020	0.1 U	0.1 U	1 U	0.5 U	2.5 U	2.5 U
VOA TRIP BLANK	VTRP201016Y	10/15/2020	0.1 U	0.1 U	1 U	0.5 U	2.5 U	2.5 U
VOA TRIP BLANK	VTRP201016Z	10/13/2020	0.1 U	0.1 U	0.25 U	0.5 U	2.5 U	2.5 U
VOA TRIP BLANK	VTRP201019Y	10/14/2020	0.1 U	0.1 U	0.25 U	0.5 U	2.5 U	2.5 U
VOA TRIP BLANK	VTRP201020X	10/19/2020	0.1 U	0.1 U	0.25 U	0.5 U	2.5 U	2.5 U
VOA TRIP BLANK	VTRP201020Y	10/15/2020	0.1 U	0.1 U	1 U	0.5 U	2.5 U	2.5 U

See Data Qualifier List for Qualifier Information.

Environmental Monitoring Data

Data Collected from October 1, 2020 to December 31, 2020
Cedar Hills Landfill --- Groundwater Elevation Data
Contact Person: Sendy Jimenez (206) 477-5224

Site	Sample ID	Date	Acrylonitrile ug/l 107-13-1	Benzene ug/l 71-43-2	Bromochloro methane ug/l 74-97-5	Bromochloro methane ug/l 75-27-4	Bromoform ug/l 75-25-2
MW-100	W100201008-	10/8/2020	0.035 U	0.1 U	0.1 U	0.25 U	0.5 U
MW-101	W101201022-	10/22/2020	0.035 U	0.1 U	0.1 U	0.25 U	0.5 U
MW-102	W102201019-	10/19/2020	0.035 U	0.1 U	0.1 U	0.25 U	0.5 U
MW-103	W103201016-	10/16/2020	0.035 U	0.1 U	0.1 U	0.25 U	0.5 U
MW-107	W107201019-	10/19/2020	0.035 U	0.636	0.1 U	0.25 U	0.5 U
MW-110	W110201020-	10/20/2020	0.035 U	0.521	0.1 U	0.25 U	0.5 U
MW-113	W113201016-	10/16/2020	0.035 U	0.1 U	0.1 U	0.25 U	0.5 U
MW-114	W114201015-	10/15/2020	0.035 U	0.1 U	0.1 U	0.25 U	0.5 U
MW-115	W115201020-	10/20/2020	0.035 U	0.1 U	0.1 U	0.25 U	0.5 U
MW-21	W21-201002-	10/2/2020	0.035 U	0.1 U	0.1 U	0.25 U	0.5 U
MW-24	W24-201008-	10/8/2020	0.035 U	0.1 U	0.1 U	0.25 U	0.5 U
MW-30A	W30A201019-	10/19/2020	0.035 U	0.1 U	0.1 U	0.25 U	0.5 U
MW-47	W47-201019-	10/19/2020	0.035 U	0.1 U	0.1 U	0.25 U	0.5 U
MW-56	W56-201013-	10/13/2020	0.035 U	0.1 U	0.1 U	0.25 U	0.5 U
MW-59	W59-201015-	10/15/2020	0.035 U	0.1 U	0.1 U	0.25 U	0.5 U
MW-64	W64-201007-	10/7/2020	0.035 U	0.1 U	0.1 U	0.25 U	0.5 U
MW-65	W65-201015-	10/15/2020	0.035 U	0.1 U	0.1 U	0.25 U	0.5 U
MW-66	W66-201006-	10/6/2020	0.035 U	0.1 U	0.1 U	0.25 U	0.5 U
MW-67	W67-201006-	10/6/2020	0.035 U	0.1 U	0.1 U	0.25 U	0.5 U
MW-68	W68-201014-	10/14/2020	0.035 U	0.1 U	0.1 U	0.25 U	0.5 U
MW-72	W72-201012-	10/12/2020	0.035 U	0.1 U	0.1 U	0.25 U	0.5 U
MW-73	W73-201002-	10/2/2020	0.035 U	0.1 U	0.1 U	0.25 U	0.5 U
MW-74R	W74R201002-	10/2/2020	0.035 U	0.1 U	0.1 U	0.25 U	0.5 U
MW-75	W75-201002-	10/2/2020	0.035 U	0.1 U	0.1 U	0.25 U	0.5 U
MW-76	W76-201016-	10/16/2020	0.035 U	0.1 U	0.1 U	0.25 U	0.5 U
MW-80	W80-201014-	10/14/2020	0.035 U	0.1 U	0.1 U	0.25 U	0.5 U
MW-81	W81-201014-	10/14/2020	0.035 U	0.1 U	0.1 U	0.25 U	0.5 U
MW-82	W82-201016-	10/16/2020	0.035 U	0.1 U	0.1 U	0.25 U	0.5 U
MW-83	W83-201016-	10/16/2020	0.035 U	0.1 U	0.1 U	0.25 U	0.5 U
MW-84	W84-201013-	10/13/2020	0.035 U	0.1 U	0.1 U	0.25 U	0.5 U
MW-85	W85-201007-	10/7/2020	0.035 U	0.1 U	0.1 U	0.25 U	0.5 U
MW-86	W86-201007-	10/7/2020	0.035 U	0.1 U	0.1 U	0.25 U	0.5 U
MW-87	W87-201013-	10/13/2020	0.035 U	0.1 U	0.1 U	0.25 U	0.5 U
MW-88	W88-201006-	10/6/2020	0.035 U	0.1 U	0.1 U	0.25 U	0.5 U
MW-89	W89-201006-	10/6/2020	0.035 U	0.1 U	0.1 U	0.25 U	0.5 U
MW-93	W93-201007-	10/7/2020	0.035 U	0.1 U	0.1 U	0.25 U	0.5 U
MW-94	W94-201016-	10/16/2020	0.035 U	0.1 U	0.1 U	0.25 U	0.5 U
MW-95	W95-201012-	10/12/2020	0.035 U	0.1 U	0.1 U	0.25 U	0.5 U
VOA TRIP BLANK	VTRP201002Y	10/1/2020	0.035 U	0.1 U	0.1 U	0.25 U	0.5 U
VOA TRIP BLANK	VTRP201006X	10/5/2020	0.035 U	0.1 U	0.1 U	0.25 U	0.5 U
VOA TRIP BLANK	VTRP201006Z	10/5/2020	0.035 U	0.1 U	0.1 U	0.25 U	0.5 U
VOA TRIP BLANK	VTRP201007Z	10/6/2020	0.035 U	0.1 U	0.1 U	0.25 U	0.5 U
VOA TRIP BLANK	VTRP201008Y	10/6/2020	0.035 U	0.1 U	0.1 U	0.25 U	0.5 U
VOA TRIP BLANK	VTRP201012X	10/7/2020	0.035 U	0.1 U	0.1 U	0.25 U	0.5 U
VOA TRIP BLANK	VTRP201014X	10/13/2020	0.035 U	0.1 U	0.1 U	0.25 U	0.5 U
VOA TRIP BLANK	VTRP201014Y	10/12/2020	0.035 U	0.1 U	0.1 U	0.25 U	0.5 U
VOA TRIP BLANK	VTRP201015X	10/14/2020	0.035 U	0.1 U	0.1 U	0.25 U	0.5 U

Data Collected from October 1, 2020 to December 31, 2020
Cedar Hills Landfill --- Groundwater Elevation Data
Contact Person: Sendy Jimenez (206) 477-5224

Site	Sample ID	Date	Acrylonitrile ug/l 107-13-1	Benzene ug/l 71-43-2	Bromochloro methane ug/l 74-97-5	Bromochloro methane ug/l 75-27-4	Bromoform ug/l 75-25-2
VOA TRIP BLANK	VTRP201015Y	10/14/2020	0.035 U	0.1 U	0.1 U	0.25 U	0.5 U
VOA TRIP BLANK	VTRP201016X	10/15/2020	0.035 U	0.1 U	0.1 U	0.25 U	0.5 U
VOA TRIP BLANK	VTRP201016Y	10/15/2020	0.035 U	0.1 U	0.1 U	0.25 U	0.5 U
VOA TRIP BLANK	VTRP201016Z	10/13/2020	0.035 U	0.1 U	0.1 U	0.25 U	0.5 U
VOA TRIP BLANK	VTRP201019Y	10/14/2020	0.035 U	0.1 U	0.1 U	0.25 U	0.5 U
VOA TRIP BLANK	VTRP201020X	10/19/2020	0.035 U	0.1 U	0.1 U	0.25 U	0.5 U
VOA TRIP BLANK	VTRP201020Y	10/15/2020	0.035 U	0.1 U	0.1 U	0.25 U	0.5 U

See Data Qualifier List for Qualifier Information.

Environmental Monitoring Data

Data Collected from October 1, 2020 to December 31, 2020
Cedar Hills Landfill --- Groundwater Elevation Data
Contact Person: Sendy Jimenez (206) 477-5224

Site	Sample ID	Date	Bromomethane ug/l 74-83-9	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
MW-100	W100201008-	10/8/2020	0.1 U	0.1 U	0.25 U	0.1 U	0.5 U	0.1 U
MW-101	W101201022-	10/22/2020	0.1 U	0.1 U	0.25 U	0.1 U	0.5 U	0.172 JT
MW-102	W102201019-	10/19/2020	0.1 U	0.1 U	0.25 U	0.1 U	0.5 U	0.1 U
MW-103	W103201016-	10/16/2020	0.1 U	0.461	0.25 U	0.1 U	0.5 U	0.1 U
MW-107	W107201019-	10/19/2020	0.1 U	0.1 U	0.25 U	0.507	0.5 U	0.1 U
MW-110	W110201020-	10/20/2020	0.1 U	0.1 U	0.25 U	1.38	0.5 U	0.31
MW-113	W113201016-	10/16/2020	0.1 U	0.1 U	0.25 U	0.1 U	0.5 U	0.1 U
MW-114	W114201015-	10/15/2020	0.1 U	0.1 U	0.25 U	0.1 U	0.5 U	0.1 U
MW-115	W115201020-	10/20/2020	0.1 U	0.1 U	0.25 U	0.1 U	0.5 U	0.1 U
MW-21	W21-201002-	10/2/2020	0.1 U	0.1 U	0.25 U	0.1 U	0.5 U	0.1 U
MW-24	W24-201008-	10/8/2020	0.1 U	0.1 U	0.25 U	0.1 U	0.5 U	0.1 U
MW-30A	W30A201019-	10/19/2020	0.1 U	0.1 U	0.25 U	0.1 U	0.5 U	0.1 U
MW-47	W47-201019-	10/19/2020	0.1 U	0.1 U	0.25 U	0.1 U	0.5 U	0.226
MW-56	W56-201013-	10/13/2020	0.1 U	0.1 U	0.25 U	0.1 U	0.5 U	0.1 U
MW-59	W59-201015-	10/15/2020	0.1 U	0.1 U	0.25 U	0.1 U	0.5 U	0.1 U
MW-64	W64-201007-	10/7/2020	0.1 U	0.1 U	0.25 U	0.1 U	0.5 U	0.1 U
MW-65	W65-201015-	10/15/2020	0.1 U	0.1 U	0.25 U	0.1 U	0.5 U	0.1 U
MW-66	W66-201006-	10/6/2020	0.1 U	0.1 U	0.25 U	0.1 U	0.5 U	0.1 U
MW-67	W67-201006-	10/6/2020	0.1 U	0.1 U	0.25 U	0.1 U	0.5 U	0.1 U
MW-68	W68-201014-	10/14/2020	0.1 U	0.1 U	0.25 U	0.1 U	0.5 U	0.1 U
MW-72	W72-201012-	10/12/2020	0.1 U	0.1 U	0.25 U	0.1 U	0.5 U	0.1 U
MW-73	W73-201002-	10/2/2020	0.1 U	0.1 U	0.25 U	0.1 U	0.5 U	0.1 U
MW-74R	W74R201002-	10/2/2020	0.1 U	0.1 U	0.25 U	0.1 U	0.5 U	0.1 U
MW-75	W75-201002-	10/2/2020	0.1 U	0.1 U	0.25 U	0.1 U	0.5 U	0.1 U
MW-76	W76-201016-	10/16/2020	0.1 U	0.1 U	0.25 U	0.1 U	0.5 U	0.1 U
MW-80	W80-201014-	10/14/2020	0.1 U	0.1 U	0.25 U	0.1 U	0.5 U	0.1 U
MW-81	W81-201014-	10/14/2020	0.1 U	0.1 U	0.25 U	0.1 U	0.5 U	0.1 U
MW-82	W82-201016-	10/16/2020	0.1 U	0.1 U	0.25 U	0.1 U	0.5 U	0.1 U
MW-83	W83-201016-	10/16/2020	0.1 U	0.1 U	0.25 U	0.1 U	0.5 U	0.1 U
MW-84	W84-201013-	10/13/2020	0.1 U	0.1 U	0.25 U	0.1 U	0.5 U	0.1 U
MW-85	W85-201007-	10/7/2020	0.1 U	0.1 U	0.25 U	0.1 U	0.5 U	0.1 U
MW-86	W86-201007-	10/7/2020	0.1 U	0.112 JT	0.25 U	0.1 U	0.5 U	0.1 U
MW-87	W87-201013-	10/13/2020	0.1 U	0.1 U	0.25 U	0.1 U	0.5 U	0.1 U
MW-88	W88-201006-	10/6/2020	0.1 U	0.1 U	0.25 U	0.1 U	0.5 U	0.1 U
MW-89	W89-201006-	10/6/2020	0.1 U	0.1 U	0.25 U	0.1 U	0.5 U	0.1 U
MW-93	W93-201007-	10/7/2020	0.1 U	0.1 U	0.25 U	0.1 U	0.5 U	0.1 U
MW-94	W94-201016-	10/16/2020	0.1 U	0.1 U	0.25 U	0.1 U	0.5 U	0.1 U
MW-95	W95-201012-	10/12/2020	0.1 U	0.1 U	0.25 U	0.1 U	0.5 U	0.1 U
VOA TRIP BLANK	VTRP201002Y	10/1/2020	0.1 U	0.1 U	0.25 U	0.1 U	0.5 U	0.1 U
VOA TRIP BLANK	VTRP201006X	10/5/2020	0.1 U	0.1 U	0.25 U	0.1 U	0.5 U	0.1 U
VOA TRIP BLANK	VTRP201006Z	10/5/2020	0.1 U	0.1 U	0.25 U	0.1 U	0.5 U	0.1 U
VOA TRIP BLANK	VTRP201007Z	10/6/2020	0.1 U	0.1 U	0.25 U	0.1 U	0.5 U	0.1 U
VOA TRIP BLANK	VTRP201008Y	10/6/2020	0.1 U	0.1 U	0.25 U	0.1 U	0.5 U	0.1 U
VOA TRIP BLANK	VTRP201012X	10/7/2020	0.1 U	0.1 U	0.25 U	0.1 U	0.5 U	0.1 U
VOA TRIP BLANK	VTRP201014X	10/13/2020	0.1 U	0.1 U	0.25 U	0.1 U	0.5 U	0.1 U
VOA TRIP BLANK	VTRP201014Y	10/12/2020	0.1 U	0.1 U	0.25 U	0.1 U	0.5 U	0.1 U
VOA TRIP BLANK	VTRP201015X	10/14/2020	0.1 U	0.1 U	0.25 U	0.1 U	0.5 U	0.1 U

Environmental Monitoring Data

Data Collected from October 1, 2020 to December 31, 2020
Cedar Hills Landfill --- Groundwater Elevation Data
Contact Person: Sendy Jimenez (206) 477-5224

Site	Sample ID	Date	Bromomethane ug/l 74-83-9	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
VOA TRIP BLANK	VTRP201015Y	10/14/2020	0.1 U	0.1 U	0.25 U	0.1 U	0.5 U	0.1 U
VOA TRIP BLANK	VTRP201016X	10/15/2020	0.1 U	0.1 U	0.25 U	0.1 U	0.5 U	0.1 U
VOA TRIP BLANK	VTRP201016Y	10/15/2020	0.1 U	0.1 U	0.25 U	0.1 U	0.5 U	0.1 U
VOA TRIP BLANK	VTRP201016Z	10/13/2020	0.1 U	0.1 U	0.25 U	0.1 U	0.5 U	0.1 U
VOA TRIP BLANK	VTRP201019Y	10/14/2020	0.1 U	0.1 U	0.25 U	0.1 U	0.5 U	0.1 U
VOA TRIP BLANK	VTRP201020X	10/19/2020	0.1 U	0.1 U	0.25 U	0.1 U	0.5 U	0.1 U
VOA TRIP BLANK	VTRP201020Y	10/15/2020	0.1 U	0.1 U	0.25 U	0.1 U	0.5 U	0.1 U

See Data Qualifier List for Qualifier Information.

Data Collected from October 1, 2020 to December 31, 2020
Cedar Hills Landfill --- Groundwater Elevation Data
Contact Person: Sendy Jimenez (206) 477-5224

Site	Sample ID	Date	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
MW-100	W100201008-	10/8/2020	0.1 U	0.25 U	0.1 U	0.25 U	0.1 U
MW-101	W101201022-	10/22/2020	0.1 U	0.25 U	0.204	0.25 U	0.1 U
MW-102	W102201019-	10/19/2020	0.1 U	0.25 U	0.1 U	0.25 U	0.1 U
MW-103	W103201016-	10/16/2020	0.1 U	0.25 U	0.1 U	0.25 U	0.1 U
MW-107	W107201019-	10/19/2020	0.1 U	0.25 U	0.118 JT	0.25 U	0.1 U
MW-110	W110201020-	10/20/2020	0.1 U	0.25 U	7.44	0.25 U	0.1 U
MW-113	W113201016-	10/16/2020	0.1 U	0.25 U	0.1 U	0.25 U	0.1 U
MW-114	W114201015-	10/15/2020	0.1 U	0.25 U	0.1 U	0.25 U	0.1 U
MW-115	W115201020-	10/20/2020	0.1 U	0.25 U	0.1 U	0.25 U	0.1 U
MW-21	W21-201002-	10/2/2020	0.1 U	0.25 U	0.1 U	0.25 U	0.1 U
MW-24	W24-201008-	10/8/2020	0.1 U	0.25 U	0.1 U	0.25 U	0.1 U
MW-30A	W30A201019-	10/19/2020	0.1 U	0.25 U	3.03	0.25 U	0.1 U
MW-47	W47-201019-	10/19/2020	0.1 U	0.25 U	1.29	0.25 U	0.1 U
MW-56	W56-201013-	10/13/2020	0.1 U	0.25 U	1.43	0.25 U	0.1 U
MW-59	W59-201015-	10/15/2020	0.1 U	0.25 U	1.16	0.25 U	0.1 U
MW-64	W64-201007-	10/7/2020	0.1 U	0.25 U	0.1 U	0.25 U	0.1 U
MW-65	W65-201015-	10/15/2020	0.1 U	0.25 U	0.1 U	0.25 U	0.1 U
MW-66	W66-201006-	10/6/2020	0.1 U	0.25 U	0.1 U	0.25 U	0.1 U
MW-67	W67-201006-	10/6/2020	0.1 U	0.25 U	0.1 U	0.25 U	0.1 U
MW-68	W68-201014-	10/14/2020	0.1 U	0.25 U	0.1 U	0.25 U	0.1 U
MW-72	W72-201012-	10/12/2020	0.1 U	0.25 U	0.1 U	0.25 U	0.1 U
MW-73	W73-201002-	10/2/2020	0.1 U	0.25 U	0.1 U	0.25 U	0.1 U
MW-74R	W74R201002-	10/2/2020	0.1 U	0.25 U	0.1 U	0.25 U	0.1 U
MW-75	W75-201002-	10/2/2020	0.1 U	0.25 U	0.1 U	0.25 U	0.1 U
MW-76	W76-201016-	10/16/2020	0.1 U	0.25 U	0.148 JT	0.25 U	0.1 U
MW-80	W80-201014-	10/14/2020	0.1 U	0.25 U	0.1 U	0.25 U	0.1 U
MW-81	W81-201014-	10/14/2020	0.1 U	0.25 U	0.1 U	0.25 U	0.1 U
MW-82	W82-201016-	10/16/2020	0.1 U	0.25 U	0.1 U	0.25 U	0.1 U
MW-83	W83-201016-	10/16/2020	0.1 U	0.25 U	0.1 U	0.25 U	0.1 U
MW-84	W84-201013-	10/13/2020	0.1 U	0.25 U	0.1 U	0.25 U	0.1 U
MW-85	W85-201007-	10/7/2020	0.1 U	0.25 U	0.1 U	0.25 U	0.1 U
MW-86	W86-201007-	10/7/2020	0.1 U	0.25 U	0.1 U	0.25 U	0.1 U
MW-87	W87-201013-	10/13/2020	0.1 U	0.25 U	0.1 U	0.25 U	0.1 U
MW-88	W88-201006-	10/6/2020	0.1 U	0.25 U	0.1 U	0.25 U	0.1 U
MW-89	W89-201006-	10/6/2020	0.1 U	0.25 U	0.1 U	0.25 U	0.1 U
MW-93	W93-201007-	10/7/2020	0.1 U	0.25 U	0.1 U	0.25 U	0.1 U
MW-94	W94-201016-	10/16/2020	0.1 U	0.25 U	0.1 U	0.25 U	0.1 U
MW-95	W95-201012-	10/12/2020	0.1 U	0.25 U	0.1 U	0.25 U	0.1 U
VOA TRIP BLANK	VTRP201002Y	10/1/2020	0.1 U	0.25 U	0.1 U	0.25 U	0.1 U
VOA TRIP BLANK	VTRP201006X	10/5/2020	0.1 U	0.25 U	0.1 U	0.25 U	0.1 U
VOA TRIP BLANK	VTRP201006Z	10/5/2020	0.1 U	0.25 U	0.1 U	0.25 U	0.1 U
VOA TRIP BLANK	VTRP201007Z	10/6/2020	0.1 U	0.25 U	0.1 U	0.25 U	0.1 U
VOA TRIP BLANK	VTRP201008Y	10/6/2020	0.1 U	0.25 U	0.1 U	0.25 U	0.1 U
VOA TRIP BLANK	VTRP201012X	10/7/2020	0.1 U	0.25 U	0.1 U	0.25 U	0.1 U
VOA TRIP BLANK	VTRP201014X	10/13/2020	0.1 U	0.25 U	0.1 U	0.25 U	0.1 U
VOA TRIP BLANK	VTRP201014Y	10/12/2020	0.1 U	0.25 U	0.1 U	0.25 U	0.1 U
VOA TRIP BLANK	VTRP201015X	10/14/2020	0.1 U	0.25 U	0.1 U	0.25 U	0.1 U

Site	Sample ID	Date	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
VOA TRIP BLANK	VTRP201015Y	10/14/2020	0.1 U	0.25 U	0.1 U	0.25 U	0.1 U
VOA TRIP BLANK	VTRP201016X	10/15/2020	0.1 U	0.25 U	0.1 U	0.25 U	0.1 U
VOA TRIP BLANK	VTRP201016Y	10/15/2020	0.1 U	0.25 U	0.1 U	0.25 U	0.1 U
VOA TRIP BLANK	VTRP201016Z	10/13/2020	0.1 U	0.25 U	0.1 U	0.25 U	0.1 U
VOA TRIP BLANK	VTRP201019Y	10/14/2020	0.1 U	0.25 U	0.1 U	0.25 U	0.1 U
VOA TRIP BLANK	VTRP201020X	10/19/2020	0.1 U	0.25 U	0.1 U	0.25 U	0.1 U
VOA TRIP BLANK	VTRP201020Y	10/15/2020	0.1 U	0.25 U	0.1 U	0.25 U	0.1 U

See Data Qualifier List for Qualifier Information.

Environmental Monitoring Data

Data Collected from October 1, 2020 to December 31, 2020
Cedar Hills Landfill --- Groundwater Elevation Data
Contact Person: Sendy Jimenez (206) 477-5224

Site	Sample ID	Date	Dichlorodifluoromethane ug/l 75-71-8	Ethylbenzene ug/l 100-41-4	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
MW-100	W100201008-	10/8/2020	0.1 U	0.1 U	0.1 U	0.2 U	2.5 U	0.1 U
MW-101	W101201022-	10/22/2020	0.1 U	0.1 U	0.1 U	0.2 U	2.5 U	0.1 U
MW-102	W102201019-	10/19/2020	0.1 U	0.1 U	0.1 U	0.2 U	2.5 U	0.1 U
MW-103	W103201016-	10/16/2020	0.1 U	0.1 U	0.1 U	0.2 U	2.5 U	0.1 U
MW-107	W107201019-	10/19/2020	0.1 U	0.1 U	0.1 U	0.2 U	2.5 U	0.1 U
MW-110	W110201020-	10/20/2020	0.1 U	0.1 U	0.1 U	0.2 U	2.5 U	0.1 U
MW-113	W113201016-	10/16/2020	0.1 U	0.1 U	0.1 U	0.2 U	2.5 U	0.1 U
MW-114	W114201015-	10/15/2020	0.1 U	0.1 U	0.1 U	0.2 U	2.5 U	0.1 U
MW-115	W115201020-	10/20/2020	0.1 U	0.1 U	0.1 U	0.2 U	2.5 U	0.1 U
MW-21	W21-201002-	10/2/2020	0.1 U	0.1 U	0.1 U	0.2 U	2.5 U	0.1 U
MW-24	W24-201008-	10/8/2020	0.1 U	0.1 U	0.1 U	0.2 U	2.5 U	0.1 U
MW-30A	W30A201019-	10/19/2020	0.1 U	0.1 U	0.1 U	0.2 U	2.5 U	0.1 U
MW-47	W47-201019-	10/19/2020	1.09 L	0.1 U	0.1 U	0.2 U	2.5 U	0.1 U
MW-56	W56-201013-	10/13/2020	0.1 U	0.1 U	0.1 U	0.2 U	2.5 U	0.1 U
MW-59	W59-201015-	10/15/2020	0.1 U	0.1 U	0.1 U	0.2 U	2.5 U	0.1 U
MW-64	W64-201007-	10/7/2020	0.1 U	0.1 U	0.1 U	0.2 U	2.5 U	0.1 U
MW-65	W65-201015-	10/15/2020	0.1 U	0.1 U	0.1 U	0.2 U	2.5 U	0.1 U
MW-66	W66-201006-	10/6/2020	0.1 U	0.1 U	0.1 U	0.2 U	2.5 U	0.1 U
MW-67	W67-201006-	10/6/2020	0.1 U	0.1 U	0.1 U	0.2 U	2.5 U	0.1 U
MW-68	W68-201014-	10/14/2020	0.1 U	0.1 U	0.1 U	0.2 U	2.5 U	0.1 U
MW-72	W72-201012-	10/12/2020	0.1 U	0.1 U	0.1 U	0.2 U	2.5 U	0.1 U
MW-73	W73-201002-	10/2/2020	0.1 U	0.1 U	0.1 U	0.2 U	2.5 U	0.1 U
MW-74R	W74R201002-	10/2/2020	0.1 U	0.1 U	0.1 U	0.2 U	2.5 U	0.1 U
MW-75	W75-201002-	10/2/2020	0.1 U	0.1 U	0.1 U	0.2 U	2.5 U	0.1 U
MW-76	W76-201016-	10/16/2020	0.1 U	0.1 U	0.1 U	0.2 U	2.5 U	0.1 U
MW-80	W80-201014-	10/14/2020	0.1 U	0.1 U	0.1 U	0.2 U	2.5 U	0.1 U
MW-81	W81-201014-	10/14/2020	0.1 U	0.1 U	0.1 U	0.2 U	2.5 U	0.1 U
MW-82	W82-201016-	10/16/2020	0.1 U	0.1 U	0.1 U	0.2 U	2.5 U	0.1 U
MW-83	W83-201016-	10/16/2020	0.1 U	0.1 U	0.1 U	0.2 U	2.5 U	0.1 U
MW-84	W84-201013-	10/13/2020	0.1 U	0.1 U	0.1 U	0.2 U	2.5 U	0.1 U
MW-85	W85-201007-	10/7/2020	0.1 U	0.1 U	0.1 U	0.2 U	2.5 U	0.1 U
MW-86	W86-201007-	10/7/2020	0.1 U	0.1 U	0.1 U	0.2 U	2.5 U	0.1 U
MW-87	W87-201013-	10/13/2020	0.1 U	0.1 U	0.1 U	0.2 U	2.5 U	0.1 U
MW-88	W88-201006-	10/6/2020	0.1 U	0.1 U	0.1 U	0.2 U	2.5 U	0.1 U
MW-89	W89-201006-	10/6/2020	0.1 U	0.1 U	0.1 U	0.2 U	2.5 U	0.1 U
MW-93	W93-201007-	10/7/2020	0.1 U	0.1 U	0.1 U	0.2 U	2.5 U	0.1 U
MW-94	W94-201016-	10/16/2020	0.1 U	0.1 U	0.1 U	0.2 U	2.5 U	0.1 U
MW-95	W95-201012-	10/12/2020	0.1 U	0.1 U	0.1 U	0.2 U	2.5 U	0.1 U
VOA TRIP BLANK	VTRP201002Y	10/1/2020	0.1 U	0.1 U	0.1 U	0.2 U	2.5 U	0.1 U
VOA TRIP BLANK	VTRP201006X	10/5/2020	0.1 U	0.1 U	0.1 U	0.2 U	2.5 U	0.1 U
VOA TRIP BLANK	VTRP201006Z	10/5/2020	0.1 U	0.1 U	0.1 U	0.2 U	2.5 U	0.1 U
VOA TRIP BLANK	VTRP201007Z	10/6/2020	0.1 U	0.1 U	0.1 U	0.2 U	2.5 U	0.1 U
VOA TRIP BLANK	VTRP201008Y	10/6/2020	0.1 U	0.1 U	0.1 U	0.2 U	2.5 U	0.1 U
VOA TRIP BLANK	VTRP201012X	10/7/2020	0.1 U	0.1 U	0.1 U	0.2 U	2.5 U	0.1 U
VOA TRIP BLANK	VTRP201014X	10/13/2020	0.1 U	0.1 U	0.1 U	0.2 U	2.5 U	0.1 U
VOA TRIP BLANK	VTRP201014Y	10/12/2020	0.1 U	0.1 U	0.1 U	0.2 U	2.5 U	0.1 U
VOA TRIP BLANK	VTRP201015X	10/14/2020	0.1 U	0.1 U	0.1 U	0.2 U	2.5 U	0.1 U

Environmental Monitoring Data

Data Collected from October 1, 2020 to December 31, 2020
Cedar Hills Landfill --- Groundwater Elevation Data
Contact Person: Sendy Jimenez (206) 477-5224

Site	Sample ID	Date	Dichlorodifluoromethane ug/l 75-71-8	Ethylbenzene ug/l 100-41-4	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
VOA TRIP BLANK	VTRP201015Y	10/14/2020	0.1 U	0.1 U	0.1 U	0.2 U	2.5 U	0.1 U
VOA TRIP BLANK	VTRP201016X	10/15/2020	0.1 U	0.1 U	0.1 U	0.2 U	2.5 U	0.1 U
VOA TRIP BLANK	VTRP201016Y	10/15/2020	0.1 U	0.1 U	0.1 U	0.2 U	2.5 U	0.1 U
VOA TRIP BLANK	VTRP201016Z	10/13/2020	0.1 U	0.1 U	0.1 U	0.2 U	2.5 U	0.1 U
VOA TRIP BLANK	VTRP201019Y	10/14/2020	0.1 U	0.1 U	0.1 U	0.2 U	2.5 U	0.1 U
VOA TRIP BLANK	VTRP201020X	10/19/2020	0.1 U	0.1 U	0.1 U	0.2 U	2.5 U	0.1 U
VOA TRIP BLANK	VTRP201020Y	10/15/2020	0.1 U	0.1 U	0.1 U	0.2 U	2.5 U	0.1 U

See Data Qualifier List for Qualifier Information.

Site	Sample ID	Date	Styrene ug/l 100-42-5	Tetrhachloroethene ug/l 127-18-4	Toluene ug/l 108-88-3	Trans-1,2-Dichloroethene ug/l 156-60-5
MW-100	W100201008-	10/8/2020	0.1 U	0.1 U	0.1 U	0.1 U
MW-101	W101201022-	10/22/2020	0.1 U	0.1 U	0.1 U	0.1 U
MW-102	W102201019-	10/19/2020	0.1 U	0.1 U	0.1 U	0.1 U
MW-103	W103201016-	10/16/2020	0.1 U	0.1 U	0.1 U	0.1 U
MW-107	W107201019-	10/19/2020	0.1 U	0.1 U	0.1 U	0.115 JT
MW-110	W110201020-	10/20/2020	0.1 U	0.1 U	0.1 U	0.414
MW-113	W113201016-	10/16/2020	0.1 U	0.1 U	0.1 U	0.1 U
MW-114	W114201015-	10/15/2020	0.1 U	0.1 U	0.1 U	0.1 U
MW-115	W115201020-	10/20/2020	0.1 U	0.1 U	0.1 U	0.1 U
MW-21	W21-201002-	10/2/2020	0.1 U	0.1 U	0.1 U	0.1 U
MW-24	W24-201008-	10/8/2020	0.1 U	0.1 U	0.1 U	0.1 U
MW-30A	W30A201019-	10/19/2020	0.1 U	0.122 JT	0.1 U	0.1 U
MW-47	W47-201019-	10/19/2020	0.1 U	0.1 U	0.1 U	0.1 U
MW-56	W56-201013-	10/13/2020	0.1 U	0.1 U	0.1 U	0.1 U
MW-59	W59-201015-	10/15/2020	0.1 U	0.1 U	0.1 U	0.1 U
MW-64	W64-201007-	10/7/2020	0.1 U	0.1 U	0.1 U	0.1 U
MW-65	W65-201015-	10/15/2020	0.1 U	0.1 U	0.1 U	0.1 U
MW-66	W66-201006-	10/6/2020	0.1 U	0.1 U	0.1 U	0.1 U
MW-67	W67-201006-	10/6/2020	0.1 U	0.1 U	0.1 U	0.1 U
MW-68	W68-201014-	10/14/2020	0.1 U	0.1 U	0.1 U	0.1 U
MW-72	W72-201012-	10/12/2020	0.1 U	0.1 U	0.1 U	0.1 U
MW-73	W73-201002-	10/2/2020	0.1 U	0.1 U	0.1 U	0.1 U
MW-74R	W74R201002-	10/2/2020	0.1 U	0.1 U	0.1 U	0.1 U
MW-75	W75-201002-	10/2/2020	0.1 U	0.1 U	0.1 U	0.1 U
MW-76	W76-201016-	10/16/2020	0.1 U	0.385	0.1 U	0.1 U
MW-80	W80-201014-	10/14/2020	0.1 U	0.1 U	0.1 U	0.1 U
MW-81	W81-201014-	10/14/2020	0.1 U	0.1 U	0.1 U	0.1 U
MW-82	W82-201016-	10/16/2020	0.1 U	0.1 U	0.1 U	0.1 U
MW-83	W83-201016-	10/16/2020	0.1 U	0.1 U	0.1 U	0.1 U
MW-84	W84-201013-	10/13/2020	0.1 U	0.1 U	0.1 U	0.1 U
MW-85	W85-201007-	10/7/2020	0.1 U	0.1 U	0.1 U	0.1 U
MW-86	W86-201007-	10/7/2020	0.1 U	0.1 U	0.1 U	0.1 U
MW-87	W87-201013-	10/13/2020	0.1 U	0.1 U	0.1 U	0.1 U
MW-88	W88-201006-	10/6/2020	0.1 U	0.1 U	0.1 U	0.1 U
MW-89	W89-201006-	10/6/2020	0.1 U	0.1 U	0.1 U	0.1 U
MW-93	W93-201007-	10/7/2020	0.1 U	0.1 U	0.1 U	0.1 U
MW-94	W94-201016-	10/16/2020	0.1 U	0.1 U	0.1 U	0.1 U
MW-95	W95-201012-	10/12/2020	0.1 U	0.1 U	0.1 U	0.1 U
VOA TRIP BLANK	VTRP201002Y	10/1/2020	0.1 U	0.1 U	0.1 U	0.1 U
VOA TRIP BLANK	VTRP201006X	10/5/2020	0.1 U	0.1 U	0.1 U	0.1 U
VOA TRIP BLANK	VTRP201006Z	10/5/2020	0.1 U	0.1 U	0.1 U	0.1 U
VOA TRIP BLANK	VTRP201007Z	10/6/2020	0.1 U	0.1 U	0.1 U	0.1 U
VOA TRIP BLANK	VTRP201008Y	10/6/2020	0.1 U	0.1 U	0.1 U	0.1 U
VOA TRIP BLANK	VTRP201012X	10/7/2020	0.1 U	0.1 U	0.1 U	0.1 U
VOA TRIP BLANK	VTRP201014X	10/13/2020	0.1 U	0.1 U	0.1 U	0.1 U
VOA TRIP BLANK	VTRP201014Y	10/12/2020	0.1 U	0.1 U	0.1 U	0.1 U
VOA TRIP BLANK	VTRP201015X	10/14/2020	0.1 U	0.1 U	0.1 U	0.1 U

Site	Sample ID	Date	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
VOA TRIP BLANK	VTRP201015Y	10/14/2020	0.1 U	0.1 U	0.1 U	0.1 U
VOA TRIP BLANK	VTRP201016X	10/15/2020	0.1 U	0.1 U	0.1 U	0.1 U
VOA TRIP BLANK	VTRP201016Y	10/15/2020	0.1 U	0.1 U	0.1 U	0.1 U
VOA TRIP BLANK	VTRP201016Z	10/13/2020	0.1 U	0.1 U	0.1 U	0.1 U
VOA TRIP BLANK	VTRP201019Y	10/14/2020	0.1 U	0.1 U	0.1 U	0.1 U
VOA TRIP BLANK	VTRP201020X	10/19/2020	0.1 U	0.1 U	0.1 U	0.1 U
VOA TRIP BLANK	VTRP201020Y	10/15/2020	0.1 U	0.1 U	0.1 U	0.1 U

See Data Qualifier List for Qualifier Information.

Site	Sample ID	Date	Trans-1,3-Dichloropropene ug/l 10061-02-6	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
MW-100	W100201008-	10/8/2020	0.5 U	5 U	0.1 U	0.1 U	0.1 U
MW-101	W101201022-	10/22/2020	0.5 U	0.5 U	0.1 U	0.1 U	0.1 U
MW-102	W102201019-	10/19/2020	0.5 U	0.5 U	0.1 U	0.1 U	0.1 U
MW-103	W103201016-	10/16/2020	0.5 U	0.5 U	0.1 U	0.1 U	0.1 U
MW-107	W107201019-	10/19/2020	0.5 U	0.5 U	0.1 U	0.1 U	0.1 U
MW-110	W110201020-	10/20/2020	0.5 U	0.5 U	0.158 JT	0.1 U	0.1 U
MW-113	W113201016-	10/16/2020	0.5 U	5 U	0.1 U	0.1 U	0.1 U
MW-114	W114201015-	10/15/2020	0.5 U	5 U	9.38	0.1 U	0.1 U
MW-115	W115201020-	10/20/2020	0.5 U	5 U	4.79	0.1 U	0.1 U
MW-21	W21-201002-	10/2/2020	0.5 U	5 U	0.1 U	0.1 U	0.1 U
MW-24	W24-201008-	10/8/2020	0.5 U	5 U	0.1 U	0.1 U	0.1 U
MW-30A	W30A201019-	10/19/2020	0.5 U	0.5 U	0.837	0.1 U	0.1 U
MW-47	W47-201019-	10/19/2020	0.5 U	0.5 U	0.1 U	0.1 U	0.1 U
MW-56	W56-201013-	10/13/2020	0.5 U	5 U	0.1 U	0.1 U	0.1 U
MW-59	W59-201015-	10/15/2020	0.5 U	5 U	0.1 U	0.1 U	0.1 U
MW-64	W64-201007-	10/7/2020	0.5 U	5 U	0.1 U	0.1 U	0.1 U
MW-65	W65-201015-	10/15/2020	0.5 U	5 U	0.1 U	0.1 U	0.1 U
MW-66	W66-201006-	10/6/2020	0.5 U	5 U	0.1 U	0.1 U	0.1 U
MW-67	W67-201006-	10/6/2020	0.5 U	5 U	0.1 U	0.1 U	0.1 U
MW-68	W68-201014-	10/14/2020	0.5 U	0.5 U	0.1 U	0.1 U	0.1 U
MW-72	W72-201012-	10/12/2020	0.5 U	5 U	0.1 U	0.1 U	0.1 U
MW-73	W73-201002-	10/2/2020	0.5 U	5 U	0.1 U	0.1 U	0.1 U
MW-74R	W74R201002-	10/2/2020	0.5 U	5 U	0.1 U	0.1 U	0.1 U
MW-75	W75-201002-	10/2/2020	0.5 U	5 U	0.1 U	0.1 U	0.1 U
MW-76	W76-201016-	10/16/2020	0.5 U	5 U	7.63	0.1 U	0.1 U
MW-80	W80-201014-	10/14/2020	0.5 U	0.5 U	0.1 U	0.1 U	0.1 U
MW-81	W81-201014-	10/14/2020	0.5 U	5 U	0.1 U	0.1 U	0.1 U
MW-82	W82-201016-	10/16/2020	0.5 U	5 U	4.22	0.1 U	0.1 U
MW-83	W83-201016-	10/16/2020	0.5 U	5 U	1.98	0.1 U	0.1 U
MW-84	W84-201013-	10/13/2020	0.5 U	5 U	0.1 U	0.1 U	0.1 U
MW-85	W85-201007-	10/7/2020	0.5 U	5 U	0.1 U	0.1 U	0.1 U
MW-86	W86-201007-	10/7/2020	0.5 U	5 U	0.1 U	0.1 U	0.1 U
MW-87	W87-201013-	10/13/2020	0.5 U	5 U	0.1 U	0.1 U	0.1 U
MW-88	W88-201006-	10/6/2020	0.5 U	5 U	0.1 U	0.1 U	0.1 U
MW-89	W89-201006-	10/6/2020	0.5 U	5 U	0.1 U	0.1 U	0.1 U
MW-93	W93-201007-	10/7/2020	0.5 U	5 U	0.1 U	0.1 U	0.1 U
MW-94	W94-201016-	10/16/2020	0.5 U	5 U	2.31	0.1 U	0.1 U
MW-95	W95-201012-	10/12/2020	0.5 U	5 U	0.1 U	0.1 U	0.1 U
VOA TRIP BLANK	VTRP201002Y	10/1/2020	0.5 U	5 U	0.1 U	0.1 U	0.1 U
VOA TRIP BLANK	VTRP201006X	10/5/2020	0.5 U	5 U	0.1 U	0.1 U	0.1 U
VOA TRIP BLANK	VTRP201006Z	10/5/2020	0.5 U	5 U	0.1 U	0.1 U	0.1 U
VOA TRIP BLANK	VTRP201007Z	10/6/2020	0.5 U	5 U	0.1 U	0.1 U	0.1 U
VOA TRIP BLANK	VTRP201008Y	10/6/2020	0.5 U	5 U	0.1 U	0.1 U	0.1 U
VOA TRIP BLANK	VTRP201012X	10/7/2020	0.5 U	5 U	0.1 U	0.1 U	0.1 U
VOA TRIP BLANK	VTRP201014X	10/13/2020	0.5 U	0.5 U	0.1 U	0.1 U	0.1 U
VOA TRIP BLANK	VTRP201014Y	10/12/2020	0.5 U	5 U	0.1 U	0.1 U	0.1 U
VOA TRIP BLANK	VTRP201015X	10/14/2020	0.5 U	5 U	0.1 U	0.1 U	0.1 U

Site	Sample ID	Date	Trans-1,3-Dichloropropene ug/l 10061-02-6	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
VOA TRIP BLANK	VTRP201015Y	10/14/2020	0.5 U	5 U	0.1 U	0.1 U	0.1 U
VOA TRIP BLANK	VTRP201016X	10/15/2020	0.5 U	5 U	0.1 U	0.1 U	0.1 U
VOA TRIP BLANK	VTRP201016Y	10/15/2020	0.5 U	5 U	0.1 U	0.1 U	0.1 U
VOA TRIP BLANK	VTRP201016Z	10/13/2020	0.5 U	0.5 U	0.1 U	0.1 U	0.1 U
VOA TRIP BLANK	VTRP201019Y	10/14/2020	0.5 U	0.5 U	0.1 U	0.1 U	0.1 U
VOA TRIP BLANK	VTRP201020X	10/19/2020	0.5 U	0.5 U	0.1 U	0.1 U	0.1 U
VOA TRIP BLANK	VTRP201020Y	10/15/2020	0.5 U	5 U	0.1 U	0.1 U	0.1 U

See Data Qualifier List for Qualifier Information.

Environmental Monitoring Data

Data Collected from October 1, 2020 to December 31, 2020
Cedar Hills Landfill --- Groundwater Elevation Data
Contact Person: Sendy Jimenez (206) 477-5224

Site	Sample ID	Date	Vinyl Chloride ug/l 75-01-4
MW-100	W100201008-	10/8/2020	0.01 U
MW-101	W101201022-	10/22/2020	0.315 DL
MW-102	W102201019-	10/19/2020	0.0106 DJLT
MW-103	W103201016-	10/16/2020	0.01 DU
MW-107	W107201019-	10/19/2020	1.56 DL
MW-110	W110201020-	10/20/2020	0.382 DL
MW-113	W113201016-	10/16/2020	0.01 U
MW-114	W114201015-	10/15/2020	0.01 DU
MW-115	W115201020-	10/20/2020	0.01 U
MW-21	W21-201002-	10/2/2020	0.01 U
MW-24	W24-201008-	10/8/2020	0.0276
MW-30A	W30A201019-	10/19/2020	0.011 DJLT
MW-47	W47-201019-	10/19/2020	3.72 DL
MW-56	W56-201013-	10/13/2020	0.01 DU
MW-59	W59-201015-	10/15/2020	0.01 DU
MW-64	W64-201007-	10/7/2020	0.01 U
MW-65	W65-201015-	10/15/2020	0.0288 DL
MW-66	W66-201006-	10/6/2020	0.01 U
MW-67	W67-201006-	10/6/2020	0.01 U
MW-68	W68-201014-	10/14/2020	0.01 DU
MW-72	W72-201012-	10/12/2020	0.01 DU
MW-73	W73-201002-	10/2/2020	0.01 U
MW-74R	W74R201002-	10/2/2020	0.01 U
MW-75	W75-201002-	10/2/2020	0.01 U
MW-76	W76-201016-	10/16/2020	0.01 U
MW-80	W80-201014-	10/14/2020	0.0101 DJLT
MW-81	W81-201014-	10/14/2020	0.01 DU
MW-82	W82-201016-	10/16/2020	0.01 U
MW-83	W83-201016-	10/16/2020	0.01 U
MW-84	W84-201013-	10/13/2020	0.01 U
MW-85	W85-201007-	10/7/2020	0.01 U
MW-86	W86-201007-	10/7/2020	0.01 U
MW-87	W87-201013-	10/13/2020	0.01 DU
MW-88	W88-201006-	10/6/2020	0.01 U
MW-89	W89-201006-	10/6/2020	0.01 U
MW-93	W93-201007-	10/7/2020	0.01 U
MW-94	W94-201016-	10/16/2020	0.0109 JLT
MW-95	W95-201012-	10/12/2020	0.01 DU
VOA TRIP BLANK	VTRP201002Y	10/1/2020	0.01 U
VOA TRIP BLANK	VTRP201006X	10/5/2020	0.01 U
VOA TRIP BLANK	VTRP201006Z	10/5/2020	0.01 U
VOA TRIP BLANK	VTRP201007Z	10/6/2020	0.01 U
VOA TRIP BLANK	VTRP201008Y	10/6/2020	0.01 U
VOA TRIP BLANK	VTRP201012X	10/7/2020	0.01 U
VOA TRIP BLANK	VTRP201014X	10/13/2020	0.01 DU
VOA TRIP BLANK	VTRP201014Y	10/12/2020	0.01 DU
VOA TRIP BLANK	VTRP201015X	10/14/2020	0.01 DU

Environmental Monitoring Data

Data Collected from October 1, 2020 to December 31, 2020
Cedar Hills Landfill --- Groundwater Elevation Data
Contact Person: Sendy Jimenez (206) 477-5224

Site	Sample ID	Date	Vinyl Chloride ug/l 75-01-4
VOA TRIP BLANK	VTRP201015Y	10/14/2020	0.01 DU
VOA TRIP BLANK	VTRP201016X	10/15/2020	0.01 U
VOA TRIP BLANK	VTRP201016Y	10/15/2020	0.01 U
VOA TRIP BLANK	VTRP201016Z	10/13/2020	0.01 DU
VOA TRIP BLANK	VTRP201019Y	10/14/2020	0.01 DU
VOA TRIP BLANK	VTRP201020X	10/19/2020	0.01 DU
VOA TRIP BLANK	VTRP201020Y	10/15/2020	0.01 DU

See Data Qualifier List for Qualifier Information.

Surface Water Analytical Data

Environmental Monitoring Data

Data Collected from October 01, 2020 to December 31, 2020
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)	Comments
SW-G1	SW-W1	10/1/2020	415.38	418.84		0.47	415.85	
SW-G1	SW-W1	11/25/2020	415.38	418.84		0.76	416.14	
SW-G1	SW-W1	12/14/2020	415.38	418.84		0.67	416.05	
SW-G2	SW-N1	10/1/2020	355.68	358.21	3.51		354.70	
SW-G2	SW-N1	11/25/2020	355.68	358.21		0.59	356.27	
SW-G2	SW-N1	12/14/2020	355.68	358.21		0.67	356.35	
SW-G3	SW -V	10/1/2020	466.46	469.88				DRY @ 5.51
SW-G3	SW -V	11/25/2020	466.46	469.88				DRY @ 5.50
SW-G3	SW -V	12/14/2020	466.46	469.88	5.51		464.37	
SW-G4	Upstream of SW-E1	10/1/2020	502.41	505.85				DRY @ 6.37
SW-G4	Upstream of SW-E1	11/25/2020	502.41	505.85	3.75		502.10	
SW-G4	Upstream of SW-E1	12/14/2020	502.41	505.85		0.33	502.74	
SW-G5	SW-E1	10/1/2020	486.92	490.34				DRY @ 5.37
SW-G5	SW-E1	11/25/2020	486.92	490.34		0.5	487.42	
SW-G5	SW-E1	12/14/2020	486.92	490.34		0.6	487.52	
SW-G6	Upstream of SW-GS1	10/1/2020	490.72	494.12	5.54		488.58	
SW-G6	Upstream of SW-GS1	11/25/2020	490.72	494.12	2.81		491.31	
SW-G6	Upstream of SW-GS1	12/14/2020	490.72	494.12	2.67		491.45	
SW-G7	SW-S2	10/1/2020	453.03	456.41				DRY
SW-G7	SW-S2	11/25/2020	453.03	456.41		0.95	453.98	
SW-G7	SW-S2	12/14/2020	453.03	456.41		0.95	453.98	
SW-G8	Upstream of SW-S1	10/1/2020	510.61	515.56				DRY
SW-G8	Upstream of SW-S1	11/25/2020	510.61	515.56		0.24	510.85	
SW-G8	Upstream of SW-S1	12/14/2020	510.61	515.56		0.25	510.86	
SW-G9	SW-S1	10/1/2020	490.93	494.35				DRY
SW-G9	SW-S1	11/25/2020	490.93	494.35		0.56	491.49	
SW-G9	SW-S1	12/14/2020	490.93	494.35		0.58	491.51	

Environmental Monitoring Data

Data Collected from October 01, 2020 to December 31, 2020
Cedar Hills Landfill ---Surface Water Field Parameters
Contact Person: Sendy Jimenez (206) 477-5224

Site	Sample ID	Date	pH (Field) (std. Units)	Spec. Conductance (Field) (umho/cm)	Temperature (Field) (^{o}C)	Turbidity (Field) (NTU)	Dissolved Oxygen, (Field) (mg/L)
SW-E1	SE1-201130-	11/30/2020	5.65	40.8	6.67	4.24	7.78
SW-GS1	SGS1201119P	11/19/2020	6.83		7.85	8.19	
SW-N4	SN4-201012P	10/12/2020	7.1		13.9	103	
SW-SL3	SSL3201119P	11/19/2020	7.16		7.78	6.72	

Environmental Monitoring Data

Data Collected from October 01, 2020 to December 31, 2020
Cedar Hills Landfill ---Surface Water ISGP Analytes
Contact Person: Sendy Jimenez (206) 477-5224

Site	Sample ID	Date	Ammonia, (NH3) (mg/L)	Biological Oxygen Demand (mg/L)	Total Suspended Solids (mg/L)	Zinc, total (mg/L)
SW-GS1	SGS1201119P	11/19/2020	0.0341	2 U	0.7 T	0.00205
SW-N4	SN4-201012P	10/12/2020	0.0965	3.05	32	0.0164
SW-SL3	SSL3201119P	11/19/2020	0.0302	2.45	4.5	0.00796

See Data Qualifier List for Qualifier Information.

Data Collected from October 01, 2020 to December 31, 2020
Cedar Hills Landfill ---Surface Water VOAs Analytes
Contact Person: Sendy Jimenez (206) 477-5224

Site	Date	Sample ID	3-,4-Methylphenol mixture 15831-10-4 (ug/L)	Alpha-Terpineol 98-55-5 (ug/L)	Benzoic Acid 65-85-0 (ug/L)	Phenol 108-95-2 (ug/L)
SW-GS1	SGS1201119P	11/19/2020	0.5 U	0.5 U	10 U	0.5 U
SW-N4	SN4-201012P	10/12/2020	0.505 U	0.505 U	10.1 U	0.505 U
SW-SL3	SSL3201119P	11/19/2020	0.5 U	0.5 U	10 U	0.5 U

See Data Qualifier List for Qualifier Information.

Environmental Monitoring Data

Data Collected from October 01, 2020 to December 31, 2020
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-CHLOROPROPANE	1,2-DIBROMOETHANE	1,2-DICHLOROBENZENE	1,2-DICHLOROETHANE	1,2-DICHLOROPROPANE	1,4-DICHLOROBENZENE	2-BUTANONE
			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	107-06-2	78-87-5	106-46-7	78-93-3
			ug/l	ug/l	ug/l	ug/l	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	N	N	N	N
SW-E1	SE1-201130-	11/30/2020	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	0.1 U	0.25 U

Environmental Monitoring Data

Data Collected from October 01, 2020 to December 31, 2020
Cedar Hills Landfill ---SW-E1 Analytical Data
Contact Person: Sendy Jimenez (206) 477-5224

Site	Date	Sample ID	2-HEXANONE	4-METHYL-2-PENTANONE	ACETONE	ACRYLONITRILE	ALKALINITY, TOTAL (AS CACO3)	AMMONIA AS N	ANTIMONY	ANTIMONY	ARSENIC	ARSENIC	BARIUM	BARIUM	BENZENE
			591-78-6	108-10-1	67-64-1	107-13-1	ALK	7664-41-7	7440-36-0	7440-36-0	7440-38-2	7440-38-2	7440-39-3	7440-39-3	71-43-2
			ug/l	ug/l	ug/l	ug/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	ug/l
			N	N	N	N	N	N	D	T	D	T	D	T	N
SW-E1	SE1-201130-	11/30/2020	0.5 U	2.5 U	2.5 U	0.035 U	12.8	0.0053 T	0.0003 U	0.0003 U	0.00028	0.000299	0.00418	0.00463	0.1 U

Environmental Monitoring Data

Data Collected from October 01, 2020 to December 31, 2020
Cedar Hills Landfill ---SW-E1 Analytical Data
Contact Person: Sendy Jimenez (206) 477-5224

Site	Date	Sample ID	BERYLLIUM	BERYLLIUM	BROMOCHLOROMETHANE	BROMODICHLOROMETHANE	BROMOFORM	BROMOMETHANE	CADMIUM	CADMIUM	CALCIUM	CALCIUM	CARBON DISULFIDE	CARBON TETRACHLORIDE	CHLORIDE
			7440-41-7	7440-41-7	74-97-5	75-27-4	75-25-2	74-83-9	7440-43-9	7440-43-9	7440-70-2	7440-70-2	75-15-0	56-23-5	16887-00-6
			mg/l	mg/l	ug/l	ug/l	ug/l	ug/l	mg/l	mg/l	mg/l	mg/l	ug/l	ug/l	mg/l
			D	T	N	N	N	N	D	T	D	T	N	N	N
SW-E1	SE1-201130-	11/30/2020	0.0001 U	0.0001 U	0.1 U	0.25 U	0.5 U	0.1 U	5E-05 U	5E-05 U	5.09	5.09	0.1 U	0.25 U	1.96

Environmental Monitoring Data

Data Collected from October 01, 2020 to December 31, 2020
Cedar Hills Landfill ---SW-E1 Analytical Data
Contact Person: Sendy Jimenez (206) 477-5224

Site	Date	Sample ID	CHLOROBENZENE 108-90-7 ug/l N	CHLORODIBROMOMETHANE 124-48-1 ug/l N	CHLOROETHANE 75-00-3 ug/l N	CHLOROFORM 67-66-3 ug/l N	CHLOROMETHANE 74-87-3 ug/l N	CHROMIUM 7440-47-3 mg/l D	CHROMIUM 7440-47-3 mg/l T	CIS-1,2-DICHLOROETHENE 156-59-2 ug/l N	CIS-1,3-DICHLOROPROPENE 10061-01-5 ug/l N	COBALT 7440-48-4 mg/l D	COBALT 7440-48-4 mg/l T	COPPER 7440-50-8 mg/l D	COPPER 7440-50-8 mg/l T	DIBROMOMETHANE 74-95-3 ug/l N
SW-E1	SE1-201130-	11/30/2020	0.1 U	0.5 U	0.1 U	0.1 U	0.25 U	0.000229	0.000286	0.1 U	0.25 U	5.74E-05	7.56E-05	0.000935	0.000994	0.1 U

Environmental Monitoring Data

Data Collected from October 01, 2020 to December 31, 2020
Cedar Hills Landfill ---SW-E1 Analytical Data
Contact Person: Sendy Jimenez (206) 477-5224

			DICHLORODIFLUOROMETHANE	ETHYLBENZENE	IRON	IRON	LEAD	LEAD	M & P XYLENE	MAGNESIUM	MAGNESIUM	MANGANESE	MANGANESE	MERCURY	MERCURY	METHYL IODIDE
			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	7439-97-6	7439-97-6	74-88-4
			ug/l	ug/l	mg/l	mg/l	mg/l	mg/l	ug/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	ug/l
Site	Date	Sample ID	N	N	D	T	D	T	N	D	T	D	T	D	T	N
SW-E1	SE1-201130-	11/30/2020	0.1 U	0.1 U	0.109	0.143	0.000119	0.00019	0.1 U	1.14	1.14	0.0122	0.0143			0.1 U

Environmental Monitoring Data

Data Collected from October 01, 2020 to December 31, 2020
Cedar Hills Landfill ---SW-E1 Analytical Data
Contact Person: Sendy Jimenez (206) 477-5224

Site	Date	Sample ID	METHYLENE CHLORIDE	NICKEL	NICKEL	NITRATE	O-XYLENE	POTASSIUM	POTASSIUM	SELENIUM	SELENIUM	SILVER	SILVER	SODIUM	SODIUM	SPECIFIC CONDUCTANCE
			75-09-2	7440-02-0	7440-02-0	14797-55-8	95-47-6	7440-09-7	7440-09-7	7782-49-2	7782-49-2	7440-22-4	7440-22-4	7440-23-5	7440-23-5	COND
			ug/l	mg/l	mg/l	mg/l	ug/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	umhos/cm
			N	D	T	N	N	D	T	D	T	D	T	D	T	N
SW-E1	SE1-201130-	11/30/2020	2.5 U	0.000268	0.000352	0.369	0.1 U	0.694	0.73	0.0005 U	0.0005 U	4E-05 U	4E-05 U	2.31	2.31	48.5

Environmental Monitoring Data

Data Collected from October 01, 2020 to December 31, 2020
Cedar Hills Landfill ---SW-E1 Analytical Data
Contact Person: Sendy Jimenez (206) 477-5224

Site	Date	Sample ID	STYRENE	SULFATE	TETRACHLOROETHENE	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	TRICHLOROETHENE
			100-42-5	14808-79-8	127-18-4	7440-28-0	7440-28-0	108-88-3	TDS	TOC	TS	TSS	156-60-5	10061-02-6	110-57-6	79-01-6
			ug/l	mg/l	ug/l	mg/l	mg/l	ug/l	mg/l	mg/l	mg/l	mg/l	ug/l	ug/l	ug/l	ug/l
			N	N	N	D	T	N	N	N	N	N	N	N	N	N
SW-E1	SE1-201130-	11/30/2020	0.1 U	2.76	0.1 U	0.0001 U	0.0001 U	0.1 U	59.3	5.44	55.3	0.9 T	0.1 U	0.5 U	0.5 U	0.1 U

Environmental Monitoring Data

Data Collected from October 01, 2020 to December 31, 2020
Cedar Hills Landfill ---SW-E1 Analytical Data
Contact Person: Sendy Jimenez (206) 477-5224

Site	Date	Sample ID	TRICHLOROFLUOROMETHANE 75-69-4 ug/l N	VANADIUM 7440-62-2 mg/l D	VANADIUM 7440-62-2 mg/l T	VINYL ACETATE 108-05-4 ug/l N	VINYL CHLORIDE 75-01-4 ug/l N	ZINC 7440-66-6 mg/l D	ZINC 7440-66-6 mg/l T
SW-E1	SE1-201130-	11/30/2020	0.1 U	0.000703	0.000976	0.1 U	0.01 U	0.00178	0.00235

Environmental Monitoring Data

Data Collected from October 01, 2020 to December 31, 2020
Cedar Hills Landfill --- Area 5 Top Deck Surface Water Monitoring Data
Contact Person: Sendy Jimenez (206) 296-4411

	Sample ID	Date	pH	Conductance	Temperature	Turbidity	Alkalinity, (Total)	Chemical Oxygen Demand	Chloride	Iron, (Dissolved)	Iron, (Total)	Sulfate	Total Organic Carbon
			(Field)	(Field)	(Field)	(Field)	(CaCO3)					(SO4)	
			(std. Units)	(umho/cm)	(°C)	(NTU)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)
SW-TD1	STD1201012-	10/12/2020	7.27	379.7	12.79	14.7	115	34.7	2.17	0.983	1.01	70.6	9.02
SW-TD2	STD2201217-	12/17/2020	6.21	49.4	7.278	8.96	16.4	20 T	1.56	0.0731	0.411	1.01	5.77
SW-TD7	STD7201012E	10/12/2020	6.99	170.2	14.8	31.2	42.8	142	1.73	0.509	2.58	26.6	33.4

Leachate Field and Analytical Data

Environmental Monitoring Data

Data Collected from October 01, 2020 to December 31, 2020
Cedar Hills Landfill ---Leachate Field Parameters
Contact Person: Sendy Jimenez (206) 477-5224

Site	Sample ID	Date	pH (Field) (std. Units)	Specific Conductance (Field) (umho/cm)	Temperature (Field) (^{o}C)
LS-A567	L567201008I	10/8/2020	8.36	24836	30.2
LS-A567	L567201105I	11/5/2020	8.33	20551	28
LS-A567	L567201203I	12/3/2020	8.42	19494	30.3
LS-A567	L567201203I2	12/3/2020	8.42	19494	30.3
LS-A81	LA81201008I	10/8/2020	5.08	28109	15.2
LS-A81	LA81201105I	11/5/2020	5.55	3195	16.4
LS-A81	LA81201203I	12/3/2020	6.38	14146	9.5
LS-LEPS	LEPS201007P	10/7/2020	8.62	11515	15.7
LS-LEPS	LEPS201012P	10/12/2020	8.12	10230	19.3
LS-LEPS	LEPS201013E	10/13/2020	8.41	10182	15.8
LS-LEPS	LEPS201013M	10/13/2020	8.55	11158	15.1
LS-LEPS	LEPS201013P	10/13/2020	8.55	11158	15.1
LS-LEPS	LEPS201014E	10/14/2020	8.41	10052	15
LS-LEPS	LEPS201015E	10/15/2020	8.41	10352	15.9
LS-LEPS	LEPS201016P	10/16/2020	8.45	10253	16.2
LS-LEPS	LEPS201020P	10/20/2020	8.17	9460	13.7
LS-LEPS	LEPS201027P	10/27/2020	8.37	6730	11.2
LS-LEPS	LEPS201103M	11/3/2020	6.83	6500	14
LS-LEPS	LEPS201110P	11/10/2020	8.46	6460	8.6
LS-LEPS	LEPS201118P	11/18/2020	8.39	4440	9.9
LS-LEPS	LEPS201201M	12/1/2020	8.24	3817	10.1
LS-LEPS	LEPS201201P	12/1/2020	8.24	3817	10.1
LS-LEPS	LEPS201203I2	12/3/2020	8.16	3915	10.1
LS-LEPS	LEPS201208P	12/9/2020	8.37	4273	10.4
LS-LEPS	LEPS201217P	12/17/2020	7.66	4210	10
LS-LEPS	LEPS201222P	12/22/2020	7.67	3640	9.9
LS-MH46N	L46N201007M	10/7/2020	7.3	12573	22.1
LS-MH46N	L46N201104M	11/4/2020	7.27	11204	22.6
LS-MH46N	L46N201202M	12/2/2020	7.17	10110	21.5
LS-PS1A	LP1A201008I	10/8/2020	7.59	7639	17.3
LS-PS1A	LP1A201105I	11/5/2020	7.17	1089	14.4
LS-PS1A	LP1A201203I	12/3/2020	7.56	1957	15.6
LS-PS1A	LP1A201203I2	12/3/2020	7.56	1957	15.6
LS-PS2A	LP2A201007M	10/7/2020	5.79	245.7	14.6
LS-PS2A	LP2A201104M	11/4/2020	5.93	118.6	14.3
LS-PS2A	LP2A201203M	12/3/2020	7.82	99.6	11.5
LS-PS4	LP4-201008I	10/8/2020	7.08	1591	16.6
LS-PS4	LP4-201105I	11/5/2020	7.99	543	16.6
LS-PS4	LP4-201203I	12/3/2020	7.46	807	13.3
LS-PS4	LP4-201203I2	12/3/2020	7.46	807	13.3
LS-V1A	LV1A201007M	10/7/2020	8.03	8994	18.4
LS-V1A	LV1A201104M	11/4/2020	7.44	8020	18.7
LS-V1A	LV1A201202M	12/1/2020	8.22	1614	10.8
LS-V1A	LV1A201203I2	12/3/2020	8.48	5395	15.5

Environmental Monitoring Data

Data Collected from October 01, 2020 to December 31, 2020
Cedar Hills Landfill ---Leachate Conventionals Analytical Data
Contact Person: Sendy Jimenez (206) 477-5224

Site	Sample ID	Date	Alkalinity, Carbonate (mg/l)	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-A567	L567201008I	10/8/2020	661	10300	1980	2910	8090 S	2460				5 U	0.5 U
LS-A567	L567201105I	11/5/2020	394	8900	1520	2290	6870 S	2600				2 U	0.2 U
LS-A567	L567201203I	12/3/2020	233	8600	1930	2640	6160 S	2350				5 U	0.2 U
LS-A81	LA81201008I	10/8/2020	1 U	12000	1670	41300	65400 S	2350				400 U	0.05 U
LS-A81	LA81201105I	11/5/2020	1 U	1080	110	3430	5470	229				40 U	0.05 U
LS-A81	LA81201203I	12/3/2020	1 U	6160	1070	16200	22900 S	1120				100 U	0.05 U
LS-LEPS	LEPS201012E	10/12/2020			546	2180							
LS-LEPS	LEPS201016E	10/16/2020			511	1880							
LS-LEPS	LEPS201007P	10/7/2020											
LS-LEPS	LEPS201013E	10/13/2020			550	2080							
LS-LEPS	LEPS201013M	10/13/2020		4140	440	1070	3710	1220	4700	36000	0.02 SU	1 U	0.5 U
LS-LEPS	LEPS201014E	10/14/2020			404	2000							
LS-LEPS	LEPS201015E	10/15/2020			273	2070							
LS-LEPS	LEPS201103M	11/3/2020		2410	384	678	2310	653	13000 H	76000 H	0.008 SU	5 U	0.1 U
LS-LEPS	LEPS201201M	12/1/2020		1510	236	471	1470	324	7800	49000	0.008 SU	0.4 U	0.084 T
LS-LEPS	LEPS201217P	12/17/2020											
LS-LEPS	LEPS201222P	12/22/2020											
LS-MH46N	L46N201007M	10/7/2020		3550	645	123	1990	1850	1 U	1 C	0.02 SU	15 U	0.23 T
LS-MH46N	L46N201104M	11/4/2020		3430	750	97.8	1980	2050	1 U	400	0.014 ST	5 U	0.27 T
LS-MH46N	L46N201202M	12/2/2020		3320	662	94.9	1910	1750	1 U	2	0.012 ST	10 U	0.05 U
LS-PS1A	LP1A201008I	10/8/2020	1 U	2390	501	124	1050	887				0.4 U	0.566
LS-PS1A	LP1A201105I	11/5/2020	1 U	328	55.8	35.7	185	121				0.1 U	1.21
LS-PS1A	LP1A201203I	12/3/2020	1 U	631	125	57.6	299	212				0.2 U	0.64

See Data Qualifier List for Qualifier Information.

Environmental Monitoring Data

Data Collected from October 01, 2020 to December 31, 2020
Cedar Hills Landfill ---Leachate Conventionals Analytical Data
Contact Person: Sendy Jimenez (206) 477-5224

Site	Sample ID	Date	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-A567	L567201008I	10/8/2020	24500	52.9	1.17 S		2140 S	2220 S	16.8	6660	12.8
LS-A567	L567201105I	11/5/2020	22000	48.5	1.77		2050 S	1990 S	31.2	5760	18.4
LS-A567	L567201203I	12/3/2020	20500	25.2	1.48		2010 S	2120 S	13.2	4100 J	11.2
LS-A81	LA81201008I	10/8/2020	26500	1210	1.01 S		2400 S	20000 S	224 J	19900	148 J
LS-A81	LA81201105I	11/5/2020	3490	158	0.441		187	1480	73	2530	21
LS-A81	LA81201203I	12/3/2020	14700	288	2.22		1270 S	6660 S	118 HJ	8440	64 HJ
LS-LEPS	LEPS201012E	10/12/2020							82.5		
LS-LEPS	LEPS201016E	10/16/2020							84		
LS-LEPS	LEPS201007P	10/7/2020									
LS-LEPS	LEPS201013E	10/13/2020							74		
LS-LEPS	LEPS201013M	10/13/2020	10900	6.11	3.86	6.9 ST	853	908 S	168	2400	132
LS-LEPS	LEPS201014E	10/14/2020							50		
LS-LEPS	LEPS201015E	10/15/2020							66		
LS-LEPS	LEPS201103M	11/3/2020	6330	24.8	0.229	2 SU	508	593	345	2000	316
LS-LEPS	LEPS201201M	12/1/2020	4080	38.9	0.13 T	3.1 T	330	289	88	1440	76
LS-LEPS	LEPS201217P	12/17/2020									
LS-LEPS	LEPS201222P	12/22/2020									
LS-MH46N	L46N201007M	10/7/2020	12400	2.4 T	0.687 S	3.4 T	726	533	2.2	5340	1.76
LS-MH46N	L46N201104M	11/4/2020	12200	4.23	0.599	2.7 T	726	615 S	1.3	1540	0.8 T
LS-MH46N	L46N201202M	12/2/2020	11400	1 U	0.817	3.9 T	722	659 S	0.5 U	1350	0.5 U
LS-PS1A	LP1A201008I	10/8/2020	7530	24	0.273		511	297	5.47	845	4.8
LS-PS1A	LP1A201105I	11/5/2020	1140	15.4	0.01 U		63.7	49.2	14.4	765	10.4
LS-PS1A	LP1A201203I	12/3/2020	2060	17.9	0.258		135	90.8	11.7	479	8.67

See Data Qualifier List for Qualifier Information.

Environmental Monitoring Data

Data Collected from October 01, 2020 to December 31, 2020
Cedar Hills Landfill ---Leachate Metal 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)
LS-A567	L567201008I	10/8/2020	0.541	0.0188	0.354	0.435	0.001 U	0.000501 U	48.7	0.252
LS-A567	L567201105I	11/5/2020	0.503	0.0194	0.296	0.4	0.00101 U	0.000503 U	51.4	0.214
LS-A567	L567201203I	12/3/2020	0.477	0.0177	0.298	0.373	0.00099 U	0.000495 U	52.1	0.191
LS-A81	LA81201008I	10/8/2020	1.06	0.0404	0.0849	0.607	0.00102 U	0.00051 U	2870	0.26
LS-A81	LA81201105I	11/5/2020	1.28	0.0049	0.0107	0.13	0.000989 U	0.000495 U	314	0.0332
LS-A81	LA81201203I	12/3/2020	3.05	0.0183	0.04	0.389	0.000993 U	0.000497 U	1340	0.152
LS-LEPS	LEPS201012E	10/12/2020			0.191					0.14
LS-LEPS	LEPS201016E	10/16/2020			0.18					0.137
LS-LEPS	LEPS201103P	11/3/2020	0.627	0.0117	0.105 D	0.0774	0.001 U	0.000502 U	85.2	0.0813
LS-LEPS	LEPS201230P	12/29/2020	1.49	0.00581	0.0441	0.0749	0.00101 U	0.000504 U	84	0.0375
LS-LEPS	LEPS201007P	10/7/2020	0.939	0.024	0.225	0.0484	0.00105 U	0.000524 U	58.5	0.165
LS-LEPS	LEPS201013E	10/13/2020			0.168					0.124
LS-LEPS	LEPS201013M	10/13/2020	0.827	0.0214	0.211	0.0584	0.00101 U	0.000505 U	67	0.153
LS-LEPS	LEPS201013P	10/13/2020	0.799	0.0218	0.204	0.0558	0.00103 U	0.000515 U	66.4	0.151
LS-LEPS	LEPS201014E	10/14/2020			0.173					0.135
LS-LEPS	LEPS201015E	10/15/2020			0.177					0.137
LS-LEPS	LEPS201020P	10/20/2020	1.02	0.017	0.171	0.0941	0.000999 U	0.000499 U	105	0.121
LS-LEPS	LEPS201027P	10/27/2020	0.87	0.0118	0.106	0.0846	0.00101 U	0.000503 U	94.1	0.0831
LS-LEPS	LEPS201110P	11/10/2020	1.2	0.011	0.0954	0.082	0.00102 U	0.000509 U	92.7	0.0776
LS-LEPS	LEPS201118P	11/18/2020	0.956	0.00858	0.0712	0.0812	0.001 U	0.000502 U	93.8	0.0579
LS-LEPS	LEPS201124P	11/24/2020	0.793	0.00727	0.0565	0.0753	0.000983 U	0.000492 U	87.9	0.0442
LS-LEPS	LEPS201201P	12/1/2020	0.618	0.00698	0.0562	0.0713	0.00101 U	0.000503 U	90.6	0.0451
LS-LEPS	LEPS201208P	12/9/2020	0.744	0.00746	0.0618	0.0791	0.000978 U	0.000489 U	95.6	0.0462
LS-LEPS	LEPS201217P	12/17/2020	2.37	0.00833	0.0624	0.089	0.001 U	0.000502 U	94.3	0.0473
LS-LEPS	LEPS201222P	12/22/2020	1.75	0.00668	0.0488	0.0852	0.000989 U	0.000494 U	89.6	0.0396
LS-MH46N	L46N201007M	10/7/2020	0.0508 U	0.00305 U	0.107	0.521	0.00102 U	0.000508 U	90.1	0.119
LS-MH46N	L46N201104M	11/4/2020	0.0512 U	0.00307 U	0.104	0.532	0.00102 U	0.000512 U	89.4	0.108
LS-MH46N	L46N201202M	12/2/2020	0.0501 U	0.00301 U	0.0993	0.463	0.001 U	0.000501 U	87.6	0.107
LS-PS1A	LP1A201008I	10/8/2020	0.112	0.023	0.15	0.212	0.00101 U	0.000504 U	51.6	0.038
LS-PS1A	LP1A201105I	11/5/2020	0.153	0.00322	0.0187	0.0368	0.000998 U	0.000499 U	17.1	0.00662
LS-PS1A	LP1A201203I	12/3/2020	0.108	0.00491	0.0311	0.0669	0.000992 U	0.000496 U	28.2	0.0106
LS-PS2A	LP2A201007M	10/7/2020	0.0413	0.000772	0.00111	0.0187	0.0001 U	0.000218	21.5	0.00118
LS-PS2A	LP2A201104M	11/4/2020	0.207	0.00298 U	0.00766	0.00925	0.000994 U	0.000497 U	11.8	0.00388
LS-PS2A	LP2A201203M	12/3/2020	0.0862	0.00296 U	0.00159	0.00579	0.000985 U	0.000493 U	11	0.00216
LS-PS4	LP4-201008I	10/8/2020	1.98	0.0171	0.154	0.0521	0.000994 U	0.000497 U	36.8	0.0145
LS-PS4	LP4-201105I	11/5/2020	2.39	0.00338	0.0232	0.0352	0.000972 U	0.000486 U	24.3	0.0065
LS-PS4	LP4-201203I	12/3/2020	0.233	0.00295 U	0.0157	0.0298	0.000982 U	0.000491 U	35.2	0.00401
LS-V1A	LV1A201007M	10/7/2020	2.98	0.0338	0.318	0.28	0.00101 U	0.000507 U	262	0.235
LS-V1A	LV1A201104M	11/4/2020	4.42	0.0142	0.113	0.163	0.00101 U	0.000505 U	186	0.0857
LS-V1A	LV1A201202M	12/1/2020	4.26	0.0122	0.089	0.132	0.001 U	0.0005 U	120	0.0716

alifier List for Qualifier Information.

Environmental Monitoring Data

Data Collected from October 01, 2020 to December 31, 2020
Cedar Hills Landfill ---Leachate Metal Analytical Data
Contact Person: Sendy Jimenez (206) 477-5224

Site	Date	Sample ID	Cobalt, total (mg/L)	Copper, total (mg/L)	Iron, total (mg/L)	Lead, total (mg/L)	Magnesium, total (mg/L)	Manganese, total (mg/L)	Mercury, total (mg/L)	Nickel, total (mg/L)
LS-A567	L567201008I	10/8/2020	0.0749	0.0264	2.99	0.00104	99.1	0.25	0.0001 U	0.286
LS-A567	L567201105I	11/5/2020	0.0583	0.0553	3.11	0.00248	90.2	0.276	0.0001 U	0.242
LS-A567	L567201203I	12/3/2020	0.0576	0.0919	3.32	0.00263	86.4	0.273	0.0001 U	0.215
LS-A81	LA81201008I	10/8/2020	0.25	0.0208	335	0.00598	418	45.2	0.000132	0.807
LS-A81	LA81201105I	11/5/2020	0.0311	0.00846	40.7	0.00162	42	6.21	0.0001 U	0.0746
LS-A81	LA81201203I	12/3/2020	0.0678	0.018	96.5	0.00496	210	17.4	0.0001 U	0.278
LS-LEPS	LEPS201012E	10/12/2020								
LS-LEPS	LEPS201016E	10/16/2020								
LS-LEPS	LEPS201103P	11/3/2020	0.0202	0.00906	6.98	0.00184	42	0.617	0.0001 U	0.082
LS-LEPS	LEPS201230P	12/29/2020	0.0111	0.00992	8.53	0.0019	25.3	1.11	0.0001 U	0.041
LS-LEPS	LEPS201007P	10/7/2020	0.0389	0.00846	9.73	0.00244	72.8	0.333	0.0001 U	0.164
LS-LEPS	LEPS201013E	10/13/2020								
LS-LEPS	LEPS201013M	10/13/2020	0.0393	0.00854	9.69	0.00226	65.2	0.48	0.0001 U	0.155
LS-LEPS	LEPS201013P	10/13/2020	0.0371	0.00865	9.23	0.00206	65.1	0.466	0.0001 U	0.146
LS-LEPS	LEPS201014E	10/14/2020								
LS-LEPS	LEPS201015E	10/15/2020								
LS-LEPS	LEPS201020P	10/20/2020	0.0305	0.00822	10.2	0.00192	57.9	1.23	0.0001 U	0.113
LS-LEPS	LEPS201027P	10/27/2020	0.0211	0.01	7.78	0.00189	42.9	0.949	0.0001 U	0.0865
LS-LEPS	LEPS201110P	11/10/2020	0.0196	0.0116	8.32	0.00176	39.6	0.922	0.0001 U	0.0802
LS-LEPS	LEPS201118P	11/18/2020	0.0152	0.00823	8.25	0.00153	33.4	1.08	0.0001 U	0.0588
LS-LEPS	LEPS201124P	11/24/2020	0.0129	0.00822	7.19	0.00139	28.7	1.08	0.0001 U	0.0495
LS-LEPS	LEPS201201P	12/1/2020	0.0122	0.00747	6.99	0.00115	28	1.08	0.0001 U	0.0481
LS-LEPS	LEPS201208P	12/9/2020	0.0125	0.00699	7.54	0.000998	30.6	1.09	0.0001 U	0.0491
LS-LEPS	LEPS201217P	12/17/2020	0.014	0.012	11.5	0.00247	33.7	0.946	0.0001 U	0.0524
LS-LEPS	LEPS201222P	12/22/2020	0.0129	0.013	10.2	0.00285	27.1	1.13	0.0001 U	0.0466
LS-MH46N	L46N201007M	10/7/2020	0.0399	0.00203 U	2.41	0.00102 U	54.1	0.489	0.0001 U	0.158
LS-MH46N	L46N201104M	11/4/2020	0.0369	0.00205 U	2.32	0.00102 U	54.1	0.442	0.0001 U	0.151
LS-MH46N	L46N201202M	12/2/2020	0.0347	0.002 U	2.42	0.001 U	50.5	0.444	0.0001 U	0.139
LS-PS1A	LP1A201008I	10/8/2020	0.019	0.00896	1.2	0.00101 U	33.8	0.455	0.0001 U	0.0711
LS-PS1A	LP1A201105I	11/5/2020	0.00327	0.0139	3.56	0.000998 U	8.55	0.228	0.000187	0.0139
LS-PS1A	LP1A201203I	12/3/2020	0.00522	0.00815	2.36	0.000992 U	11.8	0.234	0.0001 U	0.0192
LS-PS2A	LP2A201007M	10/7/2020	0.00277	0.0127	0.399	0.0001 U	7.5	0.712	0.0001 U	0.0219
LS-PS2A	LP2A201104M	11/4/2020	0.00226	0.0298	10.9	0.000994 U	4.83	0.309	0.0001 U	0.0108
LS-PS2A	LP2A201203M	12/3/2020	0.00087	0.0215	1.45	0.000985 U	3.96	0.245	0.0001 U	0.0106
LS-PS4	LP4-201008I	10/8/2020	0.00428	0.00864	4.96	0.000994 U	18.4	0.691	0.0001 U	0.0153
LS-PS4	LP4-201105I	11/5/2020	0.00216	0.0145	3.66	0.00255	8.89	0.274	0.0001 U	0.00797
LS-PS4	LP4-201203I	12/3/2020	0.00178	0.00509	1.92	0.000982 U	12.6	0.542	0.0001 U	0.00725
LS-V1A	LV1A201007M	10/7/2020	0.0559	0.0127	30.3	0.00405	100	3.5	0.0001 U	0.207
LS-V1A	LV1A201104M	11/4/2020	0.0268	0.0196	22.9	0.00474	52	3.1	0.0001 U	0.0989
LS-V1A	LV1A201202M	12/1/2020	0.019	0.0167	12.7	0.00266	42.4	1.54	0.0001 U	0.071

alifier List for Qualifier Information.

Environmental Monitoring Data

Data Collected from October 01, 2020 to December 31, 2020
Cedar Hills Landfill ---Leachate Metal Analytical Data
Contact Person: Sendy Jimenez (206) 477-5224

Site	Date	Sample ID	Potassium, total (mg/L)	Selenium, total (mg/L)	Silver, total (mg/L)	Sodium, total (mg/L)	Thallium, total (mg/L)	Tin, total (mg/L)	Vanadium, total (mg/L)	Zinc, total (mg/L)
LS-A567	L567201008I	10/8/2020	847	0.00501 U	0.000401 U	2760 D	0.001 U	0.0448	0.173	0.0725
LS-A567	L567201105I	11/5/2020	738	0.00503 U	0.000403 U	2440	0.00101 DU	0.0376	0.149	0.107
LS-A567	L567201203I	12/3/2020	701	0.00495 U	0.000396 U	2210	0.00099 U	0.0362	0.132	0.122
LS-A81	LA81201008I	10/8/2020	988	0.0162	0.000408 U	2380	0.00102 U	0.0321	0.0672	6.02
LS-A81	LA81201105I	11/5/2020	85.9	0.00495 U	0.000396 U	211	0.000989 DU	0.00495 U	0.0122	0.31
LS-A81	LA81201203I	12/3/2020	495	0.00954	0.000397 U	1120	0.000993 U	0.0127	0.0382	1.08
LS-LEPS	LEPS201012E	10/12/2020								
LS-LEPS	LEPS201016E	10/16/2020								
LS-LEPS	LEPS201103P	11/3/2020	211	0.00502 U	0.000402 U	605	0.001 U	0.00772	0.0273 D	0.118
LS-LEPS	LEPS201230P	12/29/2020	94.9	0.00504 U	0.000403 U	267	0.00101 U	0.00504 U	0.0133	0.0997
LS-LEPS	LEPS201007P	10/7/2020	440	0.00524 U	0.000419 U	1280	0.00105 U	0.018	0.0516	0.248
LS-LEPS	LEPS201013E	10/13/2020								
LS-LEPS	LEPS201013M	10/13/2020	401	0.00505 U	0.000404 U	1150	0.00101 U	0.0128 J	0.0479	0.245
LS-LEPS	LEPS201013P	10/13/2020	398	0.00515 U	0.000412 U	1130	0.00103 U	0.0131	0.0468	0.23
LS-LEPS	LEPS201014E	10/14/2020								
LS-LEPS	LEPS201015E	10/15/2020								
LS-LEPS	LEPS201020P	10/20/2020	330	0.00499 U	0.000399 U	955	0.000999 U	0.0118	0.0425	0.211
LS-LEPS	LEPS201027P	10/27/2020	214	0.00503 U	0.000402 U	622	0.00101 U	0.00738	0.03 D	0.131
LS-LEPS	LEPS201110P	11/10/2020	192	0.00509 U	0.000407 U	576	0.00102 U	0.00841	0.0255	0.155
LS-LEPS	LEPS201118P	11/18/2020	153	0.00502 U	0.000402 U	439	0.001 U	0.00675	0.0196	0.0917
LS-LEPS	LEPS201124P	11/24/2020	119	0.00492 U	0.000393 U	337	0.000983 U	0.00492 U	0.0152	0.0735
LS-LEPS	LEPS201201P	12/1/2020	118	0.00503 U	0.000402 U	324	0.00101 U	0.00503 U	0.0142	0.0724
LS-LEPS	LEPS201208P	12/9/2020	129	0.00489 U	0.000391 U	361	0.000978 U	0.00648	0.0158	0.0825
LS-LEPS	LEPS201217P	12/17/2020	130	0.00502 U	0.000401 U	371	0.001 U	0.00626	0.018	0.142 D
LS-LEPS	LEPS201222P	12/22/2020	103	0.00494 U	0.000396 U	288	0.000989 U	0.00494 U	0.0145	0.124
LS-MH46N	L46N201007M	10/7/2020	384	0.00508 U	0.000406 U	1370	0.00102 U	0.00508 U	0.157	0.00508 U
LS-MH46N	L46N201104M	11/4/2020	384	0.00512 U	0.000409 U	1390	0.00102 DU	0.00512 U	0.151	0.0052
LS-MH46N	L46N201202M	12/2/2020	370	0.00501 U	0.000401 U	1310	0.001 U	0.00501 U	0.147	0.00503
LS-PS1A	LP1A201008I	10/8/2020	182	0.00504 U	0.000403 U	681	0.00101 U	0.00504 U	0.0441	0.0483
LS-PS1A	LP1A201105I	11/5/2020	27	0.00499 U	0.000399 U	101	0.000998 DU	0.00499 U	0.00829	0.0362
LS-PS1A	LP1A201203I	12/3/2020	51	0.00496 U	0.000397 U	182	0.000992 U	0.00496 U	0.0131	0.0311
LS-PS2A	LP2A201007M	10/7/2020	3.96	0.0005 U	4E-05 U	7.39	0.0001 U	0.0005 U	0.00145	0.17
LS-PS2A	LP2A201104M	11/4/2020	2.06	0.00497 U	0.000398 U	3.43	0.000994 DU	0.00497 U	0.0186	0.0483
LS-PS2A	LP2A201203M	12/3/2020	1.5	0.00493 U	0.000394 U	2.61	0.000985 U	0.00493 U	0.00319	0.0253
LS-PS4	LP4-201008I	10/8/2020	33.3	0.00497 U	0.000398 U	113	0.000994 U	0.00497 U	0.00835	0.0487
LS-PS4	LP4-201105I	11/5/2020	13.5	0.00486 U	0.000389 U	37.7	0.000972 DU	0.00486 U	0.00596	0.0612
LS-PS4	LP4-201203I	12/3/2020	16.8	0.00491 U	0.000393 U	52.5	0.000982 U	0.00491 U	0.00259	0.0132
LS-V1A	LV1A201007M	10/7/2020	588	0.00507 U	0.000405 U	1610	0.00101 U	0.0259	0.0671	0.541
LS-V1A	LV1A201104M	11/4/2020	228	0.00505 U	0.000404 U	659	0.00102 DU	0.0107	0.0316	0.282
LS-V1A	LV1A201202M	12/1/2020	185	0.005 U	0.0004 U	531	0.001 U	0.00877	0.0283	0.143

alifier List for Qualifier Information.

Environmental Monitoring Data

Data Collected from October 01, 2020 to December 31, 2020
Cedar Hills Landfill ---Leachate VOAs Analytical 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)
LS-LEPS	LEPS201013M	10/13/2020	2.5 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
LS-LEPS	LEPS201103M	11/3/2020	2.5 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
LS-LEPS	LEPS201201M	12/1/2020	2.5 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
LS-MH46N	L46N201007M	10/7/2020	2.5 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
LS-MH46N	L46N201104M	11/4/2020	2.5 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
LS-MH46N	L46N201202M	12/2/2020	2.5 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
LS-PS2A	LP2A201007M	10/7/2020	2.5 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
LS-PS2A	LP2A201104M	11/4/2020	2.5 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
LS-PS2A	LP2A201203M	12/3/2020	2.5 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
LS-V1A	LV1A201007M	10/7/2020	2.5 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
LS-V1A	LV1A201104M	11/4/2020	2.5 U	1 U	1 U	1 U	1.32 JT	1 U	1 U	1 U
LS-V1A	LV1A201202M	12/1/2020	2.5 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
VOA TRIP BLANK	VTRP201007Y	10/6/2020	0.25 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U
VOA TRIP BLANK	VTRP201013Y2	10/13/2020	0.25 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U
VOA TRIP BLANK	VTRP201103Z	11/3/2020	0.25 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U
VOA TRIP BLANK	VTRP201104Y	11/3/2020	0.25 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U
VOA TRIP BLANK	VTRP201201Z	12/1/2020	0.25 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U
VOA TRIP BLANK	VTRP201202X	12/1/2020	0.25 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U
VOA TRIP BLANK	VTRP201203X	12/3/2020	0.25 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U

See Data Qualifier List for Qualifier Information.

Environmental Monitoring Data

Data Collected from October 01, 2020 to December 31, 2020
Cedar Hills Landfill ---Leachate VOAs Analytical Data
Contact Person: Sendy Jimenez (206) 477-5224

Site	Date	Sample ID	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)	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-LEPS	LEPS201013M	10/13/2020	25 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	2450 D
LS-LEPS	LEPS201103M	11/3/2020	25 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	2400 D
LS-LEPS	LEPS201201M	12/1/2020	25 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1680 D
LS-MH46N	L46N201007M	10/7/2020	25 U	1 U	2.14	1 U	1 U	1 U	1 U	8.06	1 U	2.5 U
LS-MH46N	L46N201104M	11/4/2020	25 U	1 U	2.13	1 U	1 U	1 U	1 U	8.91	1 U	2.76 JT
LS-MH46N	L46N201202M	12/2/2020	25 U	1 U	2.58	1 U	1 U	1 U	1 U	10.6	1 U	2.5 U
LS-PS2A	LP2A201007M	10/7/2020	25 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	2.5 U
LS-PS2A	LP2A201104M	11/4/2020	25 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	2.5 U
LS-PS2A	LP2A201203M	12/3/2020	25 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	2.5 U
LS-V1A	LV1A201007M	10/7/2020	25 U	1 U	1 U	5.07	1 U	1 U	1 U	1.57 JT	1 U	12600 D
LS-V1A	LV1A201104M	11/4/2020	25 U	1 U	1 U	14.8	1 U	1 U	1 U	1.17 JT	1 U	8000 D
LS-V1A	LV1A201202M	12/1/2020	25 U	1 U	1 U	2.91	1 U	1 U	1 U	1 U	1 U	3550 D
VOA TRIP BLANK	VTRP201007Y	10/6/2020	2.5 U	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	VTRP201013Y2	10/13/2020	2.5 U	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	VTRP201103Z	11/3/2020	2.5 U	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	VTRP201104Y	11/3/2020	2.5 U	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	VTRP201201Z	12/1/2020	2.5 U	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	VTRP201202X	12/1/2020	2.5 U	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	VTRP201203X	12/3/2020	2.5 U	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

See Data Qualifier List for Qualifier Information.

Environmental Monitoring Data

Data Collected from October 01, 2020 to December 31, 2020
Cedar Hills Landfill ---Leachate VOAs Analytical Data
Contact Person: Sendy Jimenez (206) 477-5224

Site	Date	Sample ID	2-Hexanone 591-78-6 (ug/L)	2-Methyl-1-propanol 78-83-1 (ug/L)	3-Chloro-propene 107-05-1 (ug/L)	4-Methyl-2-Pentanone 108-10-1 (ug/L)	Acetone 67-64-1 (ug/L)	Acetonitrile 75-05-8 (ug/L)	Acrolein 107-02-8 (ug/L)	Acrylonitrile 107-13-1 (ug/L)	Benzene 71-43-2 (ug/L)
LS-LEPS	LEPS201013M	10/13/2020	5.72 JT	50 DU	1 U	25 U	3420 D	50 U	25 U	0.35 U	1 U
LS-LEPS	LEPS201103M	11/3/2020	5 U	55.9 JT	1 U	25 U	2910 D	50 U	25 U	0.35 U	1 U
LS-LEPS	LEPS201201M	12/1/2020	6.63 JT	50 U	1 U	25 U	1420 D	50 U	25 U	0.35 U	1 U
LS-MH46N	L46N201007M	10/7/2020	5 U	50 DU	1 U	25 U	25 U	50 U	25 U	0.35 U	3.19
LS-MH46N	L46N201104M	11/4/2020	5 U	50 U	1 U	25 U	25 U	50 U	25 U	0.35 U	3.52
LS-MH46N	L46N201202M	12/2/2020	5 U	50 U	1 U	25 U	25 U	50 U	25 U	0.35 U	4.54
LS-PS2A	LP2A201007M	10/7/2020	5 U	50 DU	1 U	25 U	25 U	50 U	25 U	0.35 U	1 U
LS-PS2A	LP2A201104M	11/4/2020	5 U	50 U	1 U	25 U	25 U	50 U	25 U	0.35 U	1 U
LS-PS2A	LP2A201203M	12/3/2020	5 U	50 U	1 U	25 U	25 U	50 U	25 U	0.35 U	1 U
LS-V1A	LV1A201007M	10/7/2020	18.8	171 D	1 U	92.5	12500 D	50 U	25 U	0.35 U	1 U
LS-V1A	LV1A201104M	11/4/2020	5 U	418	1 U	52	6750 D	50 U	25 U	0.35 U	2.26
LS-V1A	LV1A201202M	12/1/2020	7.57 JT	162	1 U	29.8 JT	3330 D	50 U	25 U	0.35 U	1 U
VOA TRIP BLANK	VTRP201007Y	10/6/2020	0.5 U	5 DU	0.1 U	2.5 U	2.5 U	5 U	2.5 U	0.035 U	0.1 U
VOA TRIP BLANK	VTRP201013Y2	10/13/2020	0.5 U	5 DU	0.1 U	2.5 U	2.5 U	5 U	2.5 U	0.035 U	0.1 U
VOA TRIP BLANK	VTRP201103Z	11/3/2020	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	VTRP201104Y	11/3/2020	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	VTRP201201Z	12/1/2020	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	VTRP201202X	12/1/2020	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	VTRP201203X	12/3/2020	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

See Data Qualifier List for Qualifier Information.

Environmental Monitoring Data

Data Collected from October 01, 2020 to December 31, 2020
Cedar Hills Landfill ---Leachate VOAs Analytical Data
Contact Person: Sendy Jimenez (206) 477-5224

Site	Date	Sample ID	Bromochloro-methane 74-97-5 (ug/L)	Bromodichloro-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)	Carbon Tetrachloride 56-23-5 (ug/L)	Chloro-benzene 108-90-7 (ug/L)	Chloro-dibromo-methane 124-48-1 (ug/L)	Chloroethane 75-00-3 (ug/L)
LS-LEPS	LEPS201013M	10/13/2020	1 U	2.5 U	5 U	1 U	1.56 JT	2.5 U	1 U	5 U	1 U
LS-LEPS	LEPS201103M	11/3/2020	1 U	2.5 U	5 U	1 U	1 U	2.5 U	1 U	5 U	1 U
LS-LEPS	LEPS201201M	12/1/2020	1 U	2.5 U	5 U	1 U	1 U	2.5 U	1 U	5 U	1 U
LS-MH46N	L46N201007M	10/7/2020	1 U	2.5 U	5 U	1 U	1 U	2.5 U	1.93 JT	5 U	1 U
LS-MH46N	L46N201104M	11/4/2020	1 U	2.5 U	5 U	1 U	1 U	2.5 U	2.05	5 U	1 U
LS-MH46N	L46N201202M	12/2/2020	1 U	2.5 U	5 U	1 U	1 U	2.5 U	2.48	5 U	1 U
LS-PS2A	LP2A201007M	10/7/2020	1 U	2.5 U	5 U	1 U	1 U	2.5 U	1 U	5 U	1 U
LS-PS2A	LP2A201104M	11/4/2020	1 U	2.5 U	5 U	1 U	1 U	2.5 U	1 U	5 U	1 U
LS-PS2A	LP2A201203M	12/3/2020	1 U	2.5 U	5 U	1 U	1 U	2.5 U	1 U	5 U	1 U
LS-V1A	LV1A201007M	10/7/2020	1 U	2.5 U	5 U	1 U	1.13 JT	2.5 U	1 U	5 U	1 U
LS-V1A	LV1A201104M	11/4/2020	1 U	2.5 U	5 U	1 U	1.27 JT	2.5 U	1 U	5 U	1 U
LS-V1A	LV1A201202M	12/1/2020	1 U	2.5 U	5 U	1 U	1 U	2.5 U	1 U	5 U	1 U
VOA TRIP BLANK	VTRP201007Y	10/6/2020	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	VTRP201013Y2	10/13/2020	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	VTRP201103Z	11/3/2020	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	VTRP201104Y	11/3/2020	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	VTRP201201Z	12/1/2020	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	VTRP201202X	12/1/2020	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	VTRP201203X	12/3/2020	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

See Data Qualifier List for Qualifier Information.

Environmental Monitoring Data

Data Collected from October 01, 2020 to December 31, 2020
Cedar Hills Landfill ---Leachate VOAs Analytical Data
Contact Person: Sendy Jimenez (206) 477-5224

Site	Date	Sample ID	Chloroform 67-66-3 (ug/L)	Chloro-methane 74-87-3 (ug/L)	Chloroprene 126-99-8 (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)	Ethylbenzene 100-41-4 (ug/L)	m & p Xylenes mpx (ug/L)
LS-LEPS	LEPS201013M	10/13/2020	1 U	2.5 U	1 U	1 U	2.5 U	1 U	1 U	1 U	1 U
LS-LEPS	LEPS201103M	11/3/2020	1 U	2.5 U	1 U	1 U	2.5 U	1 U	1 U	1 U	1 U
LS-LEPS	LEPS201201M	12/1/2020	1 U	2.5 U	1 U	1 U	2.5 U	1 U	1 U	1 U	1 U
LS-MH46N	L46N201007M	10/7/2020	1 U	2.5 U	1 U	1 U	2.5 U	1 U	1 U	34.3	31.5
LS-MH46N	L46N201104M	11/4/2020	1 U	2.5 U	1 U	1.3 JT	2.5 U	1 U	1 U	38.1	39.1
LS-MH46N	L46N201202M	12/2/2020	1 U	2.5 U	1 U	1.2 JT	2.5 U	1 U	1 U	45.1	50.4
LS-PS2A	LP2A201007M	10/7/2020	1 U	2.5 U	1 U	1 U	2.5 U	1 U	1 U	1 U	1 U
LS-PS2A	LP2A201104M	11/4/2020	1 U	2.5 U	1 U	1 U	2.5 U	1 U	1 U	1 U	1 U
LS-PS2A	LP2A201203M	12/3/2020	1 U	2.5 U	1 U	1 U	2.5 U	1 U	1 U	1 U	1 U
LS-V1A	LV1A201007M	10/7/2020	1 U	2.5 U	1 U	1 U	2.5 U	1 U	1 U	2.54	5.53
LS-V1A	LV1A201104M	11/4/2020	1 U	2.5 U	1 U	2.23	2.5 U	1 U	1 U	5.18	12.7
LS-V1A	LV1A201202M	12/1/2020	1 U	2.5 U	1 U	1 U	2.5 U	1 U	1 U	1.36 JT	3.19
VOA TRIP BLANK	VTRP201007Y	10/6/2020	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	VTRP201013Y2	10/13/2020	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	VTRP201103Z	11/3/2020	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	VTRP201104Y	11/3/2020	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	VTRP201201Z	12/1/2020	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	VTRP201202X	12/1/2020	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	VTRP201203X	12/3/2020	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

See Data Qualifier List for Qualifier Information.

Environmental Monitoring Data

Data Collected from October 01, 2020 to December 31, 2020
Cedar Hills Landfill ---Leachate VOAs Analytical Data
Contact Person: Sendy Jimenez (206) 477-5224

Site	Date	Sample ID	Methyl Iodide 74-88-4 (ug/L)	Methyl Methacrylate 80-62-6 (ug/L)	Methylacrylo-nitrile 126-98-7 (ug/L)	Methylene Chloride 75-09-2 (ug/L)	o-Xylene 95-47-6 (ug/L)	Proprionitrile 107-12-0 (ug/L)	Styrene 100-42-5 (ug/L)	Tetrachloro-ethene 127-18-4 (ug/L)
LS-LEPS	LEPS201013M	10/13/2020	2 U	2.5 U	1 U	25 U	1 U	5 U	1 U	1 U
LS-LEPS	LEPS201103M	11/3/2020	1 U	2.5 U	1 U	25 U	1 U	5 U	1 U	1 U
LS-LEPS	LEPS201201M	12/1/2020	1 U	2.5 U	1 U	25 U	1 U	5 U	1 U	1 U
LS-MH46N	L46N201007M	10/7/2020	2 U	2.5 U	1 U	25 U	2.74	5 U	1.58 JT	1 U
LS-MH46N	L46N201104M	11/4/2020	1 U	2.5 U	1 U	25 U	2.92	5 U	1.24 JT	1 U
LS-MH46N	L46N201202M	12/2/2020	1 U	2.5 U	1 U	25 U	4.14	5 U	1.44 JT	1 U
LS-PS2A	LP2A201007M	10/7/2020	2 U	2.5 U	1 U	25 U	1 U	5 U	1 U	1 U
LS-PS2A	LP2A201104M	11/4/2020	1 U	2.5 U	1 U	25 U	1 U	5 U	1 U	1 U
LS-PS2A	LP2A201203M	12/3/2020	1 U	2.5 U	1 U	25 U	1 U	5 U	1 U	1 U
LS-V1A	LV1A201007M	10/7/2020	2 U	4.15 JT	1 U	25 U	3.16	5 U	1.39 JT	1 U
LS-V1A	LV1A201104M	11/4/2020	1 U	4.49 JT	1 U	49.9 JT	5.82	5 U	2.95	1 U
LS-V1A	LV1A201202M	12/1/2020	1 U	2.5 U	1 U	25 U	1.55 JT	5 U	1 U	1 U
VOA TRIP BLANK	VTRP201007Y	10/6/2020	0.2 U	0.25 U	0.1 U	2.5 U	0.1 U	0.5 U	0.1 U	0.1 U
VOA TRIP BLANK	VTRP201013Y2	10/13/2020	0.2 U	0.25 U	0.1 U	2.5 U	0.1 U	0.5 U	0.1 U	0.1 U
VOA TRIP BLANK	VTRP201103Z	11/3/2020	0.1 U	0.25 U	0.1 U	2.5 U	0.1 U	0.5 U	0.1 U	0.1 U
VOA TRIP BLANK	VTRP201104Y	11/3/2020	0.1 U	0.25 U	0.1 U	2.5 U	0.1 U	0.5 U	0.1 U	0.1 U
VOA TRIP BLANK	VTRP201201Z	12/1/2020	0.1 U	0.25 U	0.1 U	2.5 U	0.1 U	0.5 U	0.1 U	0.1 U
VOA TRIP BLANK	VTRP201202X	12/1/2020	0.1 U	0.25 U	0.1 U	2.5 U	0.1 U	0.5 U	0.1 U	0.1 U
VOA TRIP BLANK	VTRP201203X	12/3/2020	0.1 U	0.25 U	0.1 U	2.5 U	0.1 U	0.5 U	0.1 U	0.1 U

See Data Qualifier List for Qualifier Information.

Environmental Monitoring Data

Data Collected from October 01, 2020 to December 31, 2020
Cedar Hills Landfill ---Leachate VOAs Analytical Data
Contact Person: Sendy Jimenez (206) 477-5224

Site	Date	Sample ID	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)
LS-LEPS	LEPS201013M	10/13/2020	1 U	1 U	5 U	5 U	1 U	1 U	1 U	0.1 U
LS-LEPS	LEPS201103M	11/3/2020	1 U	1 U	5 U	5 U	1 U	1 U	1 U	0.1 U
LS-LEPS	LEPS201201M	12/1/2020	1 U	1 U	5 U	5 U	1 U	1 U	1 U	0.1 U
LS-MH46N	L46N201007M	10/7/2020	2.89	1 U	5 U	5 U	1 U	1 U	1 U	2.84 L
LS-MH46N	L46N201104M	11/4/2020	3.56	1 U	5 U	5 U	1 U	1 U	1 U	3.78
LS-MH46N	L46N201202M	12/2/2020	4.74	1 U	5 U	5 U	1 U	1 U	1 U	4.52
LS-PS2A	LP2A201007M	10/7/2020	1 U	1 U	5 U	5 U	1 U	1 U	1 U	0.1 U
LS-PS2A	LP2A201104M	11/4/2020	1 U	1 U	5 U	5 U	1 U	1 U	1 U	0.1 U
LS-PS2A	LP2A201203M	12/3/2020	1 U	1 U	5 U	5 U	1 U	1 U	1 U	0.1 U
LS-V1A	LV1A201007M	10/7/2020	12.7	1 U	5 U	5 U	1 U	1 U	1 U	0.1 U
LS-V1A	LV1A201104M	11/4/2020	48.4	1 U	5 U	5 U	1 U	1 U	1 U	0.278
LS-V1A	LV1A201202M	12/1/2020	11.4	1 U	5 U	5 U	1 U	1 U	1 U	0.1 U
VOA TRIP BLANK	VTRP201007Y	10/6/2020	0.1 U	0.1 U	0.5 U	0.5 U	0.1 U	0.1 U	0.1 U	0.01 U
VOA TRIP BLANK	VTRP201013Y2	10/13/2020	0.1 U	0.1 U	0.5 U	0.5 U	0.1 U	0.1 U	0.1 U	0.01 U
VOA TRIP BLANK	VTRP201103Z	11/3/2020	0.1 U	0.1 U	0.5 U	0.5 U	0.1 U	0.1 U	0.1 U	0.01 U
VOA TRIP BLANK	VTRP201104Y	11/3/2020	0.1 U	0.1 U	0.5 U	0.5 U	0.1 U	0.1 U	0.1 U	0.01 U
VOA TRIP BLANK	VTRP201201Z	12/1/2020	0.1 U	0.1 U	0.5 U	0.5 U	0.1 U	0.1 U	0.1 U	0.01 U
VOA TRIP BLANK	VTRP201202X	12/1/2020	0.1 U	0.1 U	0.5 U	0.5 U	0.1 U	0.1 U	0.1 U	0.01 U
VOA TRIP BLANK	VTRP201203X	12/3/2020	0.1 U	0.1 U	0.5 U	0.5 U	0.1 U	0.1 U	0.1 U	0.01 U

See Data Qualifier List for Qualifier Information.

Environmental Monitoring Data

Data Collected from October 01, 2020 to December 31, 2020
Cedar Hills Landfill ---Leachate PCB Analytical Data
Contact Person: Sendy Jimenez (206) 477-5224

		Chemical_Name	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	AROCLOR 1221	AROCLOR 1232	AROCLOR 1242
		CAS_RN	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	11104-28-2	11141-16-5	53469-21-9
Site	Date	Sample ID	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l
LS-LEPS	LEPS201013M	10/13/2020	0.5 U	0.5 U	1.46 J	0.1 U	0.1 GU	0.1 GU	0.1 GU	0.1 U	0.1 GU	0.025 U	0.025 U	0.025 U	0.04 U
LS-LEPS	LEPS201103M	11/3/2020	0.5 U	0.5 U	1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.025 U	0.025 U	0.025 U	0.0474
LS-LEPS	LEPS201201M	12/1/2020	0.5 U	0.5 U	1 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
LS-MH46N	L46N201007M	10/7/2020	0.5 U	1.03	2.08	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	0.144
LS-MH46N	L46N201104M	11/4/2020	1 U	1.5 U	1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.025 U	0.1 U	0.025 U	0.177
LS-MH46N	L46N201202M	12/2/2020	0.5 U	1 U	1 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	0.194
LS-PS2A	LP2A201007M	10/7/2020	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	0.025 U	0.025 U	0.025 U
LS-PS2A	LP2A201104M	11/4/2020	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	0.025 U	0.025 U	0.025 U
LS-PS2A	LP2A201203M	12/3/2020	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	0.025 U	0.025 U	0.025 U
LS-V1A	LV1A201007M	10/7/2020	0.5 U	1.5 U	2.91 J	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.025 U	0.15 U	0.025 U	0.119
LS-V1A	LV1A201104M	11/4/2020	0.5 U	0.5 U	1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.025 U	0.1 U	0.025 U	0.0968
LS-V1A	LV1A201202M	12/1/2020	0.5 U	0.5 U	1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.025 U	0.1 U	0.025 U	0.0785

See Data Qualifier List for Qualifier Information.

Environmental Monitoring Data

Data Collected from October 01, 2020 to December 31, 2020
Cedar Hills Landfill ---Leachate PCB Analytical Data
Contact Person: Sendy Jimenez (206) 477-5224

		Chemical_Name	AROCLOR 1248	AROCLOR 1254	AROCLOR 1260	BETA BHC	DELTA BHC	DIELDRIN	DINOSEB	ENDOSULFAN I	ENDOSULFAN II	ENDOSULFAN SULFATE	ENDRIN
		CAS_RN	12672-29-6	11097-69-1	11096-82-5	319-85-7	319-86-8	60-57-1	88-85-7	959-98-8	33213-65-9	1031-07-8	72-20-8
Site	Date	Sample ID	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l
LS-LEPS	LEPS201013M	10/13/2020	0.025 U	0.025 U	0.025 U	0.1 GU	0.1 GU	0.1 U	0.5 GU	0.1 U	0.1 U	0.1 U	0.1 U
LS-LEPS	LEPS201103M	11/3/2020	0.025 U	0.05 U	0.025 U	0.1 U	0.1 U	0.1 U	0.5 U	0.1 U	0.1 U	0.1 U	0.1 U
LS-LEPS	LEPS201201M	12/1/2020	0.07 U	0.025 U	0.025 U	0.025 U	0.025 U	0.025 U	0.5 U	0.025 U	0.025 U	0.025 U	0.025 U
LS-MH46N	L46N201007M	10/7/2020	0.025 U	0.025 U	0.025 U	0.025 GU	0.025 GU	0.025 U	0.5 U	0.025 U	0.025 U	0.025 U	0.025 U
LS-MH46N	L46N201104M	11/4/2020	0.025 U	0.025 U	0.025 U	0.1 U	0.1 U	0.1 U	0.5 U	0.1 U	0.1 U	0.1 U	0.1 U
LS-MH46N	L46N201202M	12/2/2020	0.025 U	0.025 U	0.025 U	0.05 U	0.025 U	0.025 U	0.5 U	0.025 U	0.025 U	0.025 U	0.025 U
LS-PS2A	LP2A201007M	10/7/2020	0.025 U	0.025 U	0.025 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
LS-PS2A	LP2A201104M	11/4/2020	0.025 U	0.025 U	0.025 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
LS-PS2A	LP2A201203M	12/3/2020	0.025 U	0.025 U	0.025 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
LS-V1A	LV1A201007M	10/7/2020	0.025 U	0.0417	0.025 U	0.1 GU	0.1 GU	0.1 U	1 U	0.1 U	0.1 U	0.1 U	0.1 U
LS-V1A	LV1A201104M	11/4/2020	0.025 U	0.0445	0.025 U	0.1 U	0.1 U	0.1 U	0.5 U	0.1 U	0.1 U	0.1 U	0.1 U
LS-V1A	LV1A201202M	12/1/2020	0.025 U	0.0375	0.025 U	0.1 U	0.1 U	0.1 U	0.5 U	0.1 U	0.1 U	0.1 U	0.1 U

See Data Qualifier List for Qualifier Information.

Environmental Monitoring Data

Data Collected from October 01, 2020 to December 31, 2020
Cedar Hills Landfill ---Leachate PCB Analytical Data
Contact Person: Sendy Jimenez (206) 477-5224

		Chemical_Name	ENDRIN ALDEHYDE	HEPTACHLOR	HEPTACHLOR EPOXIDE	ISODRIN	LINDANE (GAMMA BHC)	METHOXYCHLOR	Total Aroclors	TOXAPHENE	trans-Chlordane
		CAS_RN	7421-93-4	76-44-8	1024-57-3	465-73-6	58-89-9	72-43-5	T_AROCLOR	8001-35-2	5103-74-2
Site	Date	Sample ID	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l
LS-LEPS	LEPS201013M	10/13/2020	0.1 GU	0.1 GU	0.1 U	0.1 GU	0.1 U	0.5 U	0.04 U	10 U	0.1 GU
LS-LEPS	LEPS201103M	11/3/2020	0.1 GU	0.1 U	0.1 U	0.1 U	0.1 U	0.5 U	0.0474	10 U	0.1 GU
LS-LEPS	LEPS201201M	12/1/2020	0.025 GU	0.025 U	0.025 U	0.025 U	0.025 U	0.125 U	0.07 U	2.5 U	0.025 U
LS-MH46N	L46N201007M	10/7/2020	0.025 GU	0.025 U	0.025 U	0.025 U	0.025 U	0.125 U	0.144	2.5 U	0.025 GU
LS-MH46N	L46N201104M	11/4/2020	0.1 GU	0.1 U	0.1 U	0.1 U	0.1 U	0.5 U	0.177	10 U	0.1 GU
LS-MH46N	L46N201202M	12/2/2020	0.025 GU	0.025 U	0.025 U	0.025 U	0.025 U	0.125 U	0.194	2.5 U	0.025 U
LS-PS2A	LP2A201007M	10/7/2020	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.05 U	0.025 U	1 U	0.01 U
LS-PS2A	LP2A201104M	11/4/2020	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.05 U	0.025 U	1 U	0.01 U
LS-PS2A	LP2A201203M	12/3/2020	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.05 U	0.025 U	1 U	0.01 U
LS-V1A	LV1A201007M	10/7/2020	0.1 GU	0.1 U	0.1 U	0.1 U	0.1 U	0.5 U	0.1607	10 U	0.1 GU
LS-V1A	LV1A201104M	11/4/2020	0.1 GU	0.1 U	0.1 U	0.1 U	0.1 U	0.5 U	0.1413	10 U	0.139 GJ
LS-V1A	LV1A201202M	12/1/2020	0.1 GU	0.1 U	0.1 U	0.1 U	0.1 U	0.5 U	0.116	10 U	0.1 U

See Data Qualifier List for Qualifier Information.