Attachment F

Annual Summary of Groundwater Monitoring Results

This Page is Intentionally Left Blank

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 2019	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	☒	

DocuSigned by:
1EBD9BE0C55A495

4/24/2020

Cedar Hills Regional Landfill

Signature of Report Author | Date | Landfill

If you need this publication in an alternate format, please call the Waste 2 Resources Program at (360) 407-6900. Persons with hearing loss can call 711 for Washington Relay Service. Persons with a speech disability can call 877-833-6341.

This Page is Intentionally Left Blank

DocuSign Envelope ID: 55AEBC91-5F71-4E76-BC42-CD7828373E56

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.

Name:	**Title:**	**Date:**
Laura Belt, P.E.	Supervising Engineer, Facility, Engineering and Science Unit	4/24/2020
Mailing Address: Solid Waste Division Department of Natural Resources & Parks 201 South Jackson Street, Suite 701 Seattle, WA 98104-3855		**Telephone Number:** 206-477-5215
Signature: DocuSigned by: Laura Belt 62EB1763091846C...		



EXPIRES 08/10/2021

This Page is Intentionally Left Blank

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 22

5.0 SUMMARY AND CONCLUSIONS 26
- 5.1 Regional Aquifer 26
- 5.2 Perched Zones 28

6.0 REFERENCES 29

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 2019

CEDAR HILLS REGIONAL LANDFILL
2019 ANNUAL REPORT

ATTACHMENT F PART 1
GROUNDWATER DATA EVALUATION

1.0 INTRODUCTION

This Cedar Hills Regional Landfill (CHRLF) 2019 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 for both water levels and water quality; and, by wells MW-48, MW-50, MW-63, MW-102, MW-103, MW-104,MW-EB6 and piezometers EB-5S and EB-5 for water levels only. 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 thirty eight (38) monitoring and one (1) production well where water level measurements are obtained. Twenty nine (29) of the regional monitoring wells were also sampled and

analyzed for water quality on either a quarterly or semi-annual basis in 2019, 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 will be installed in 2020 to replace them. Monitoring well MW-69 was damaged, so no samples have been collected during the third and the fourth quarters of 2019.

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 2019, 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 2.07 to 2.3 ft/day in the central area, and from 1.49 to 2.11 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 short term data set (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.

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 eight most recent data points 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" in the table, and statistically significant increasing trends by "I". Absence of a trend and non-significant trends are indicated in the table as "--".

3.3.3 Prediction Limits

The Prediction Limit used in this evaluation is an intrawell statistical test that compares an analytical result to a computed upper limit value (UPL). The UPL is derived from past analytical results from the same well, considered to be representative background data. The prediction limit concept is useful for evaluating parameters with high detection frequencies to detect water quality changes in discrete time intervals. A test can be done on a sample or sequence of samples (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 (2015-2019) and the second for the period 2001-2019 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 2019 continued decreasing relative to the high in 2017. Seasonal high water levels generally follow the same pattern as rainfall totals.

4.2 Regional Aquifer Water Quality

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

To note, consistent with the flow paths described above the regional aquifer groundwater quality displays varying spatial and temporal trends. Also contributing to data variability are land use patterns and analytical variability and sensitivity. Together, these conditions make the establishment of a single benchmark “background water quality data set” unworkable. To account for the lack of a true background data set, several analytical techniques are utilized when assessing the regional aquifer, 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 and MW-94, where increases have been relatively sudden, steep and coincidental with recent land use alterations and site activities offsite. Notably higher chloride concentrations also occur in the flow paths aligned along MW-74R, MW-75 and MW-85 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 and the chlorinated volatile organic compounds (CVOCs) trichloroethene (TCE) and vinyl chloride (VC).

4.2.4.1 Total Arsenic Exceedances

Arsenic occurs naturally in native soils and can be mobilized in groundwater by depressed redox and affected by pH conditions and ions available to form complexes or adsorption sites. Total arsenic was detected in all 29 regional wells in 2019. 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-67, MW-68 and MW-86.

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

4.2.4.2 CVOCs Exceedances

For 2019, TCE exceeded criteria in both semi-annual samples from two upgradient wells (MW-76 and MW-82), and vinyl chloride 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 2019 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 2019 include dissolved iron and manganese. Iron and manganese, like arsenic, are naturally occurring and mobilization is controlled by similar processes: redox, pH and sorption. Natural groundwater in the region tends to be slightly acidic, and can be influenced by surface activities and proximity to recharge by rainfall. Rainfall in equilibrium with the atmosphere has a pH of ~5.5. The occurrence and concentrations of iron and manganese can vary greatly over short distances. Maximum iron and manganese concentrations between individual upgradient wells vary over three orders of magnitude inferring changing redox conditions vertically and horizontally in the regional aquifer.

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

4.2.5 Trends

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

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

4.2.5.1 Nitrate

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

Upgradient and Crossgradient Wells:

Along the south property line, monitoring wells MW-24, 59, 65, 76, and 82 exhibited long term decreasing trends while MW-83 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 and 84 exhibited long term decreasing trends, while MW-66 exhibited a long term increasing trend.

For northeast flow path monitoring wells, MW-64, 93 and 95 exhibited long term decreasing trends.

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, 69, 72, 75 85, 87, 89, and 100.

4.2.5.2 Appendix I Metals

Historically, the dissolved fraction has been used to evaluate trends. 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, 83, 84, and 94 exhibited long term decreasing trends for total arsenic, while MW-66 and 81 exhibited an increasing trend. Also, MW-93 exhibited a short term decreasing trend.

Downgradient:

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

Total Barium

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

Upgradient and Cross Gradient:

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

For northwest flow path monitoring wells, MW-21 and 84 exhibited long term increasing trends for total barium, while MW-66 exhibited a long term and a short term decreasing trends. Also, short term trend calculations for MW-21, 84, and 95 showed an increasing trend.

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

Downgradient:

For downgradient wells, MW-67, 74R, 75, 80, 85, and 87 exhibited long term increasing trends for total barium, while MW-68 and 69 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-59 exhibited a long term and MW-82 exhibited a short term decreasing trends for total chromium.

Downgradient:

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

Total Cobalt

Upgradient and Cross Gradient:

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

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

Downgradient:

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

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

Downgradient:

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

Total Lead

Upgradient and Cross Gradient:

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

Downgradient:

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

Total Nickel

Upgradient and Cross Gradient:

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

Upgradient and cross gradient wells 81, 83, 84, 93 and 94 exhibited long term decreasing trends for total nickel. Also, short term trend calculations for MW-83 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-68, 72, 74R, 80, 85, and 87 exhibited long term decreasing trends for total nickel and MW-74R and 100 showed short term decreasing trends.

Total Selenium

Upgradient and Cross Gradient:

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

Downgradient:

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

Total Vanadium

Upgradient and Cross Gradient:

Along the south property line, monitoring well MW-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 and 93 exhibited long term increasing trends for total vanadium.

Downgradient:

For downgradient wells, MW-87 exhibited a long term increasing trend for total vanadium meanwhile short term trend calculations for this well showed a decreasing trend. Also, short term trend calculations for MW-69 exhibited a long term increasing trend for total vanadium, short term trends for monitoring wells MW-87 and 100 showed decreasing trends.

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-83 and 94 exhibited long term decreasing trends for total zinc while MW-59 showed a long term increasing trend. Also, short term trend calculations for MW-82 showed a decreasing trend.

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

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

Downgradient:

For downgradient wells, MW-68, 69, 74R, 75, and 87 exhibited long term decreasing trends for total zinc. Also, short term trend calculations for MW-80, 88 and 89 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-24 and 59 exhibited a long term and a short term for MW-59 increasing trends for *cis*-1,2-Dichloroethene. Alternatively, long term trend calculations for MW-56 and 76 showed a decreasing trend; long MW-76 exhibited a short term decreasing trend as well.

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-76 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-67, MW-68, MW-69 and MW-74R, MW-80, and MW-93 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 2019. 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 2019, 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.

There were several prediction limit exceedances in regional wells which when through the retesting protocol and passed it out in 2019:

- 1st quarter of 2019, total barium exceeded the UPL in MW-72 and total arsenic exceeded the UPL in MW-74R;
- 2nd quarter of 2019, total barium exceeded the UPL in MW-95, a cross gradient well.

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

Total arsenic: MW-65; MW-67

Total barium: MW-64; MW-65; MW-67; MW-84

Total chromium: MW-83

Total copper: MW-83

Total nickel: MW-64

Total vanadium: MW-67

cis- 1,2-dichloroethene: MW-59

Vinyl chloride: MW-24

Groundwater samples collected at MW-67 are in the review process of the laboratory data package (including lab re-analysis and confirmation of the result) and going through all quality assurance and quality control steps. Based on the result of this review, the appropriate actions will be taken.

Groundwater samples collected at MW-84 exceeded UPLs for total barium in all four quarters of 2019. Concentrations of total barium in MW-84 remain over two orders of magnitude below 1.0 mg/L, which is the Washington State Groundwater Quality Standard (WAC 173-200). While an increasing trend for total barium at MW-84 has been noted, testing continues to confirm that only low-level concentrations have been detected and are present at levels that do not pose a risk to human health or the environment per all relevant standards. As it was mentioned in the fourth quarter report of 2019, SWD recommended to PHSKC to continue quarterly monitoring at MW-84 for the specified analytes in the SAP, and to update the prediction limit value in 2020. PHSKC concurred with this direction in a response to SWD on February 21st, 2020.

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

Upgradient prediction limit exceedances (MW-64 and 84) 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 2019 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 2019:

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

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

EPZ wells were analyzed for Appendix III analytes in 2019 per WAC 173-351-440 and the CHRLF SAP. No exceedances of Appendix III analytes occurred for EPZ wells in 2019.

4.3.2.2 SSWA Exceedances

In the SSWA perched zone in 2019, 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 2019.

Secondary standards were exceeded only for pH in a sample collected from MW-101 in the 2nd quarter of 2019.

SSWA wells were analyzed for Appendix III analytes in 2019 per WAC 173-351-440 and the CHRLF SAP. No exceedances of Appendix III analytes occurred for SSWA wells in 2019.

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.

4.3.3 Perched Zone Trends

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

4.3.3.1 EPZ Trends

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

MW-47 exhibited long term increasing trends for VOCs, including dichlorodifluoromethane, 1,1-DCA, *cis*-1,2-DCE, and VC. Alternatively, long term decreasing trends were calculated for total cobalt, nickel, vanadium, nitrate, pH, and chloride. 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 iron, calcium, magnesium, and potassium. Short term decreasing trends were also calculated for specific conductance and TDS.

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

4.3.3.2 SSWA Trends

For the SSWA perched zone, water quality is currently monitored by MW-101. Several other SSWA perched zone wells have been sampled occasionally during on-going investigation efforts but have not produced sufficient data for trend testing.

In 2019, MW-101 continued to exhibit long term declining trends for nickel and vinyl chloride as well as declining trends for total chromium, cobalt, and zinc. MW-101 exhibited a long term increasing trend for *cis*-1,2-DCE.

For water quality indicator parameters, MW-101 exhibited long term decreasing trends for specific conductivity, TDS, alkalinity, chloride, sulfate, and dissolved manganese, calcium, magnesium, and sodium.

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, nitrate exceeded the UPL in MW-30A for the 1st and 3rd quarters of 2019 but passed out of the retesting protocol 4th quarter of 2019.

For the SSWA, 1,2-DCE and *cis*-1,2-DCE exceeded the UPL in MW-101 for the 3rd quarter of 2019, and the subsequent sample passed the retesting protocol. Also, nitrate exceeded the UPL in MW-101 for the 1st quarter of 2019 but passed out of the retesting protocol.

5.0 SUMMARY AND CONCLUSIONS

5.1 Regional Aquifer

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

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

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

Upgradient water quality to CHRLF exhibits wide spatial and temporal variation. Contamination of the regional groundwater by CVOCs on the QCF site is well documented, as is migration across the property line and under CHRLF. The CVOCs TCE, PCE and *cis*-1,2-dichloroethene are detected regularly in several upgradient wells. TCE is present in four upgradient wells, exceeding primary drinking water standards only in two wells (MW-76 and MW-82). Vinyl chloride is regularly detected in one upgradient well MW-65 and sometimes in MW-24 and is likely a degradation byproduct. Overall, primary groundwater criteria were exceeded in some upgradient wells for TCE, vinyl chloride 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 dissolved iron and manganese in 2019. 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. The EPZ study is being addressed through a separate effort, which is expected to be published in the report on the EPZ work later in 2020 year.

6.0 REFERENCES

AMEC Environment & Infrastructure, Inc., 2013, Cedar Hills Regional Landfill West Side Landfill Gas Recovery Well Installation and Influence Testing Report.

Aspect Consulting, 2003, Cedar Hills Regional Landfill Hydrogeologic Investigation Report Area 6 Development Project.

Aspect Consulting, 2007, Cedar Hills Regional Landfill Technical Memorandum Phase I Investigations Groundwater Monitoring Well System Enhancements.

Aspect Consulting, 2010, Cedar Hills Regional Landfill Technical Memorandum Groundwater Sampling and Fate and Transport Analysis South Solid Waste Area Perched Zone Assessment.

Aspect Consulting, 2010, Cedar Hills Regional Landfill East Main Hill Perched Zones Technical Memorandum.

Aspect Consulting, 2011, Cedar Hills Regional Landfill. Regional Aquifer Technical Memorandum

Aspect Consulting, 2013, Environmental Monitoring Sampling and Analysis Plan for Cedar Hills Regional Landfill.

Aspect Consulting, 2013, Cedar Hills Regional Landfill Site Wide Hydrogeologic Report Addendum.

Aspect Consulting, 2016, Draft East Perched Zones Remedial Investigation and Feasibility Study.

Aspect Consulting, 2018, Cedar Hills Regional Landfill – EPZ Extraction Well Decommissioning Technical Memorandum

Aspect Consulting, 2018, Cedar Hills Regional Landfill – EPZ Phase 1 Interim Actions – Infrastructure Upgrades Technical Memorandum

CH2M HILL and UES, 2004a, Cedar Hills Regional Landfill Site-Wide Hydrogeologic Report.

CH2M HILL and UES, 2004b, Cedar Hills Regional Landfill Evaluation of the Perched Saturated Zone Adjacent to the South Solid Waste Area.

CH2M HILL and UES, 2004c, Cedar Hills Regional Landfill Evaluation of Perched Saturated Zones Adjacent to the Unlined Portions of the Main Hill.

CH2M HILL and UES, 2004d, Cedar Hills Regional Landfill, Regional Aquifer Hydraulic Parameter Testing Report.

Deutsch, William J. (1997) Groundwater Geochemistry, Lewis Publishers, New York.

EcoChem Inc., (October, 2009) 2008 Annual Monitoring Data Report Queen City Farms King County, Washington.

Freeze, R.A., and J.A. Cherry 1979. Groundwater. Prentice-Hall, Inc., Englewood Cliffs, New Jersey.

Geomatrix Consultants, Inc. 2008. Cedar Hills Regional Landfill Environmental Management Facility Evaluation and Modifications for Closed Landfill Areas, 2007 Summary Report.

Gibbons, Robert D. (1994) Statistical Methods for Groundwater Monitoring, John Wiley and Sons, New York.

King County Solid Waste Division, 1999, Quality Assurance Project Plan for Environmental Monitoring For King County Solid Waste Facilities (QAPP).

Landau Associates, 2008, Report Evaluation of Remedial Action 10-Year Review Queen City Farms King County, Washington.

Landau Associates, 2010, Expanded Hydrogeology Assessment Queen City Farms King County, Washington.

Sweet-Edwards/EMCON, 1990, Contract Documents for the Construction of the Cedar Hills Regional Landfill SSWA Closure.

URS, 2005, Cedar Hills Regional Landfill Plan of Operation, April 2005 (Revised October 2005).

Washington State Department of Ecology, 1994, Natural Background Soils Metals Concentrations in Washington State, October.

Washington State Department of Ecology, 1995, Guidance on Sampling and Data Analysis Methods.

Washington State Department of Ecology, 2016, Natural Background Groundwater Arsenic Concentrations in Washington State, Publication No. 14-09-044.

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 Groundwater Data**
Table 4-2b	**Statistical Summary of Regional Aquifer Downgradient Groundwater Data**
Table 4-2c	**Statistical Summary of Perched Zones Groundwater Data**
Table 4-3a	**Regional Aquifer Upgradient Groundwater Trend Test Results**
Table 4-3b	**Regional Aquifer Downgradient Groundwater Trend Test Results Perched Zones**
Table 4-3c	**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**

This Page is Intentionally Left Blank

Table 2-1

SUMMARY OF CEDAR HILLS REGIONAL LANDFILL SITE 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-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		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.
MW-87 (Downgradient)	4	261	11/21/00	Water Table	Detection		Quarterly	Quarterly	Key downgradient monitoring well.

Table 2-1 *(continued)*

SUMMARY OF CEDAR HILLS REGIONAL LANDFILL SITE 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-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.
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.
MW-30A	3	35	6/09/89	EPZ	Assessment		Quarterly	Quarterly	Monitor attenuating VOCs.
MW-47	2	44	5/31/85	EPZ	Assessment		Quarterly	Quarterly	Key EPZ compliance well.
MW-62	2	54	1/02/90	EPZ	Assessment		Quarterly	Quarterly	Monitor attenuating VOCs.
MW-63	2	17	12/02/90	EPZ	Assessment	WL only	Quarterly	None	Monitor water levels to evaluate affect of extraction system shut down.
MW-102	2	50	1/27/09	EPZ	Assessment		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	6/2/06	SSWA	Assessment		Quarterly	Quarterly	Key SSWA perched zone compliance well

Notes:
(1) The following wells were decommissioned: MW-70, MW-77, MW-78, MW-96, 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, 2019 to March 31, 2019)

Parameter	Units	Well ID	Sample Date	Sample ID	Sample Value
Upgradient and Crossgradient Wells					
pH (Field)	pH Units	MW-94	1/9/2019	W94-190109-	6.39
Arsenic, Total	mg/L	MW-59	1/8/2019	W59-190108-	0.000567
		MW-66	1/8/2019	W66-190108-	0.00069
		MW-81	1/9/2019	W81-190109-	0.000531
		MW-83	1/9/2019	W83-190109-	0.000421
		MW-84	1/8/2019	W84-190108-	0.000326
		MW-93	1/10/2019	W93-190110-	0.00132
		MW-94	1/9/2019	W94-190109-	0.000143
Iron, Dissolved	mg/L	MW-59	1/8/2019	W59-190108-	4.28
Manganese, Dissolved	mg/L	MW-59	1/8/2019	W59-190108-	0.136
		MW-93	1/10/2019	W93-190110-	0.201
Downgradient Wells					
Arsenic, Total	mg/L	MW-68	1/10/2019	W68-190110-	0.0243
		MW-69	1/10/2019	W69-190110-	0.00232
		MW-72	1/8/2019	W72-190108-	0.000277
		MW-74R	1/10/2019	W74R190110-	0.00145
		MW-75	1/9/2019	W75-190109-	0.000464
		MW-80	1/10/2019	W80-190110-	0.0037
		MW-85	1/9/2019	W85-190109-	0.000727
		MW-87	1/9/2019	W87-190109-	0.000915
Iron, Dissolved	mg/L	MW-68	1/10/2019	W68-190110-	0.621
		MW-69	1/10/2019	W69-190110-	1.11
		MW-72	1/8/2019	W72-190108-	2.85
		MW-75	1/9/2019	W75-190109-	2.39
		MW-80	1/10/2019	W80-190110-	2.1
		MW-87	1/9/2019	W87-190109-	4.83
Manganese, Dissolved	mg/L	MW-68	1/10/2019	W68-190110-	0.307
		MW-69	1/10/2019	W69-190110-	0.265
		MW-72	1/8/2019	W72-190108-	0.381
		MW-75	1/9/2019	W75-190109-	0.207
		MW-80	1/10/2019	W80-190110-	0.335
		MW-87	1/9/2019	W87-190109-	0.548 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 April 1, 2019 - June 30, 2019)

Parameter	Units	Well ID	Sample Date	Sample ID	Sample Value
Upgradient and Crossgradient Wells					
pH (Field)	pH Units	MW-59	4/10/2019	W59-190410-	6.42
		MW-76	4/10/2019	W76-190410-	6.29
Arsenic, Total	mg/L	MW-21	4/8/2019	W21-190408-	0.000988
		MW-24	4/8/2019	W24-190408-	0.000606
		MW-56	4/8/2019	W56-190408-	0.0000772
		MW-59	4/10/2019	W59-190410-	0.000466
		MW-64	4/12/2019	W64-190412-	0.00122
		MW-65	4/12/2019	W65-190412-	0.00129
		MW-66	4/10/2019	W66-190410-	0.000643
		MW-68	4/15/2019	W68-190415-	0.0208
		MW-68	5/14/2019	W68-190514-	0.0177
		MW-73	4/10/2019	W73-190410-	0.000681
		MW-76	4/10/2019	W76-190410-	0.000193
		MW-81	4/16/2019	W81-190416-	0.000554
		MW-82	4/8/2019	W82-190408-	0.000241
		MW-82	5/22/2019	W82-190522-	0.000223
		MW-83	4/12/2019	W83-190412-	0.000306
		MW-84	4/10/2019	W84-190410-	0.00032
		MW-93	4/16/2019	W93-190416-	0.00129
		MW-94	4/10/2019	W94-190410-	0.00012
Iron, Dissolved	mg/L	MW-21	4/8/2019	W21-190408-	2.03
		MW-24	4/8/2019	W24-190408-	3.08
		MW-59	4/10/2019	W59-190410-	3.86
		MW-65	4/12/2019	W65-190412-	3.29
		MW-68	4/15/2019	W68-190415-	0.551
		MW-68	5/14/2019	W68-190514-	0.564
Manganese, Dissolved	mg/L	MW-21	4/8/2019	W21-190408-	0.105
		MW-24	4/8/2019	W24-190408-	0.0995
		MW-56	4/8/2019	W56-190408-	0.169
		MW-59	4/10/2019	W59-190410-	0.113
		MW-64	4/12/2019	W64-190412-	0.0968
		MW-65	4/12/2019	W65-190412-	0.163
		MW-68	4/15/2019	W68-190415-	0.298
		MW-68	5/14/2019	W68-190514-	0.303
		MW-83	4/12/2019	W83-190412-	0.101
		MW-93	4/16/2019	W93-190416-	0.208
Trichloroethene	ug/l	MW-76	4/10/2019	W76-190410-	6.07
		MW-82	5/22/2019	W82-190522-	4.28
Vinyl Chloride	ug/l	MW-65	4/12/2019	W65-190412-	0.0261

Table 4-1a *(continued)*
CEDAR HILLS REGIONAL LANDFILL
REGIONAL AQUIFER GROUNDWATER QUALITY STANDARD EXCEEDANCES
(Data Collected from April 1, 2019 - June 30, 2019)

Parameter	Units	Well ID	Sample Date	Sample ID	Sample Value
Wells Downgradient to Waste Cells and North end Facilities					
Arsenic, Total	mg/L	MW-67	4/12/2019	W67-190412-	0.0045
		MW-69	4/15/2019	W69-190415-	0.00269
		MW-72	4/16/2019	W72-190416-	0.0000966
		MW-74R	4/18/2019	W74R190418-	0.000754
		MW-75	4/18/2019	W75-190418-	0.000451
		MW-85	4/16/2019	W85-190416-	0.000704
		MW-86	4/12/2019	W86-190412-	0.00377
		MW-87	4/18/2019	W87-190418-	0.000907
		MW-88	4/18/2019	W88-190418-	0.000963
		MW-89	4/18/2019	W89-190418-	0.00376
		MW-100	4/12/2019	W100190412-	0.00447
Iron, Dissolved	mg/L	MW-69	4/15/2019	W69-190415-	0.961
		MW-72	4/16/2019	W72-190416-	2.66
		MW-75	4/18/2019	W75-190418-	2.23
		MW-86	4/12/2019	W86-190412-	0.694
		MW-87	4/18/2019	W87-190418-	4.23
		MW-89	4/18/2019	W89-190418-	0.958
		MW-100	4/12/2019	W100190412-	1.39
Manganese, Dissolved	mg/L	MW-67	4/12/2019	W67-190412-	0.212
		MW-69	4/15/2019	W69-190415-	0.264
		MW-72	4/16/2019	W72-190416-	0.37
		MW-75	4/18/2019	W75-190418-	0.2
		MW-87	4/18/2019	W87-190418-	0.528
		MW-89	4/18/2019	W89-190418-	0.259
		MW-100	4/12/2019	W100190412-	0.152

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 July 1, 2019 to September 30, 2019)

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-59	7/8/2019	W59-190708-	0.000472
		MW-66	7/15/2019	W66-190715-	0.000641
		MW-81	7/12/2019	W81-190712-	0.000511
		MW-83	7/12/2019	W83-190712-	0.000327
		MW-84	7/15/2019	W84-190715-	0.000338
		MW-93	7/15/2019	W93-190715-	0.00126
		MW-94	7/12/2019	W94-190712-	0.000152
Iron, Dissolved	mg/L	MW-59	7/8/2019	W59-190708-	4.15
Manganese, Dissolved	mg/L	MW-59	7/8/2019	W59-190708-	0.112
		MW-93	7/15/2019	W93-190715-	0.192
Downgradient Wells					
Arsenic, Total	mg/L	MW-68	7/15/2019	W68-190715-	0.0248
		MW-72	7/8/2019	W72-190708-	0.0000887
		MW-75	7/12/2019	W75-190712-	0.000499
		MW-80	7/15/2019	W80-190715-	0.00386
		MW-85	7/15/2019	W85-190715-	0.000741
		MW-87	7/8/2019	W87-190708-	0.000598
Iron, Dissolved	mg/L	MW-68	7/15/2019	W68-190715-	0.57
		MW-72	7/8/2019	W72-190708-	2.88
		MW-75	7/12/2019	W75-190712-	2.52
		MW-80	7/15/2019	W80-190715-	2.13
		MW-87	7/8/2019	W87-190708-	4.28
Manganese, Dissolved	mg/L	MW-68	7/15/2019	W68-190715-	0.291
		MW-72	7/8/2019	W72-190708-	0.359
		MW-75	7/12/2019	W75-190712-	0.226
		MW-80	7/15/2019	W80-190715-	0.335
		MW-87	7/8/2019	W87-190708-	0.542

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, 2019 to December 31, 2019)

Parameter	Units	Well ID	Sample Date	Sample ID	Sample Value
Upgradient and Crossgradient Wells					
pH (Field)	pH Units	MW-76	10/11/2019	W76-191011-	6.3
Arsenic, Total	mg/L	MW-21	10/8/2019	W21-191008-	0.000932
		MW-24	10/22/2019	W24-191022-	0.000559
		MW-56	10/18/2019	W56-191018-	0.000086
		MW-59	10/18/2019	W59-191018-	0.000409
		MW-64	10/22/2019	W64-191022-	0.00274
		MW-65	10/11/2019	W65-191011-	0.00256
		MW-66	10/11/2019	W66-191011-	0.000712
		MW-68	11/19/2019	W68-191119-	0.0451
		MW-73	10/8/2019	W73-191008-	0.00073
		MW-76	10/11/2019	W76-191011-	0.000189
		MW-81	10/22/2019	W81-191022-	0.000553
		MW-82	10/22/2019	W82-191022-	0.000245
		MW-83	10/18/2019	W83-191018-	0.000431
		MW-84	10/11/2019	W84-191011-	0.000317
		MW-93	10/23/2019	W93-191023-	0.00129
		MW-94	10/18/2019	W94-191018-	0.000152
		MW-95	10/11/2019	W95-191011-	0.00105
Chromium, Total	mg/L	MW-83	10/18/2019	W83-191018-	0.0628
Iron, Dissolved	mg/L	MW-21	10/8/2019	W21-191008-	1.96
		MW-24	10/22/2019	W24-191022-	3.49
		MW-59	10/18/2019	W59-191018-	4.1
		MW-65	10/11/2019	W65-191011-	2.76
		MW-68	11/19/2019	W68-191119-	0.6
Manganese, Dissolved	mg/L	MW-21	10/8/2019	W21-191008-	0.103
		MW-65	10/11/2019	W65-191011-	0.141
		MW-56	10/18/2019	W56-191018-	0.269
		MW-59	10/18/2019	W59-191018-	0.128
		MW-64	10/22/2019	W64-191022-	0.0982
		MW-24	10/22/2019	W24-191022-	0.104
		MW-95	10/11/2019	W95-191011-	0.168
		MW-93	10/23/2019	W93-191023-	0.194 D
		MW-68	11/19/2019	W68-191119-	0.303
Trichloroethene	µg/L	MW-76	10/11/2019	W76-191011-	7.89
		MW-82	10/22/2019	W82-191022-	4.59
Vinyl Chloride	µg/L	MW-24	10/22/2019	W24-191022-	0.0247 D
		MW-65	10/11/2019	W65-191011-	0.0318

Table 4-1a *(continued)*
CEDAR HILLS REGIONAL LANDFILL
REGIONAL AQUIFER GROUNDWATER QUALITY STANDARD EXCEEDANCES
(Data Collected from October 1, 2019 to December 31, 2019)

Parameter	Units	Well ID	Sample Date	Sample ID	Sample Value
Downgradient Wells					
Arsenic, Total	mg/L	MW-100	10/11/2019	W100191011-	0.00329
		MW-67	10/22/2019	W67-191022-	0.00833
		MW-72	10/22/2019	W72-191022-	0.0000879
		MW-74R	10/18/2019	W74R191018-	0.000558
		MW-75	10/18/2019	W75-191018-	0.000523
		MW-80	11/19/2019	W80-191119-	0.00358
		MW-85	10/22/2019	W85-191022-	0.000721
		MW-86	10/23/2019	W86-191023-	0.0095
		MW-87	10/23/2019	W87-191023-	0.00074
		MW-88	10/23/2019	W88-191023-	0.000984
		MW-89	10/23/2019	W89-191023-	0.00254
Iron, Dissolved	mg/L				
		MW-100	10/11/2019	W100191011-	0.707
		MW-72	10/22/2019	W72-191022-	3.03
		MW-75	10/18/2019	W75-191018-	2.62
		MW-80	11/19/2019	W80-191119-	2.16
		MW-86	10/23/2019	W86-191023-	0.981
		MW-87	10/23/2019	W87-191023-	4.57
		MW-89	10/23/2019	W89-191023-	1.06
Manganese, Dissolved	mg/L				
		MW-100	10/11/2019	W100191011-	0.149
		MW-67	10/22/2019	W67-191022-	0.278
		MW-72	10/22/2019	W72-191022-	0.362
		MW-75	10/18/2019	W75-191018-	0.221
		MW-80	11/19/2019	W80-191119-	0.336
		MW-87	10/23/2019	W87-191023-	0.515 D
		MW-89	10/23/2019	W89-191023-	0.277 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 4-1b
CEDAR HILLS REGIONAL LANDFILL
PERCHED ZONES GROUNDWATER QUALITY STANDARD EXCEEDANCES
(Data Collected from January 1, 2019 to March 31, 2019)

Parameter	Units	Well ID	Sample Date	Sample ID	Sample Value
East Perched Zone Wells					
pH (Field)	pH Units	MW-30A	1/11/2019	W30A190111-	6.43
		MW-62	1/11/2019	W62-190111-	6.39
1,1-Dichloroethane	µg/L	MW-30A	1/11/2019	W30A190111-	1.34
Arsenic, Total	mg/L	MW-30A	1/11/2019	W30A190111-	0.000602
		MW-47	1/11/2019	W47-190111-	0.00242
		MW-62	1/11/2019	W62-190111-	0.000206
Iron, Dissolved	mg/L	MW-47	1/11/2019	W47-190111-	4.28
Manganese, Dissolved	mg/L	MW-47	1/11/2019	W47-190111-	1.78 D
Nitrate	mg/L	MW-30A	1/11/2019	W30A190111-	17
Vinyl Chloride	µg/L	MW-47	1/11/2019	W47-190111-	6.12
South Solid Waste Area Perched Wells					
pH (Field)	pH Units	None.			
Arsenic, Total	mg/L	MW-101	1/11/2019	W101190111-	0.00749
Iron, Dissolved	mg/L	MW-101	1/11/2019	W101190111-	0.727
Manganese, Dissolved	mg/L	MW-101	1/11/2019	W101190111-	1.16 D
Vinyl Chloride	µg/L	MW-101	1/11/2019	W101190111-	0.409

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, 2019 - June 30, 2019)

Parameter	Units	Well ID	Sample Date	Sample ID	Sample Value
East Perched Zone Wells					
pH (Field)	pH Units	MW-30A	5/13/2019	W30A190513-	6.41
		MW-62	5/28/2019	W62-190528-	6.49
1,1-Dichloroethane	µg/L	MW-30A	5/13/2019	W30A190513-	1.77
Arsenic, Total	mg/L	MW-30A	5/13/2019	W30A190513-	0.000475
		MW-47	5/13/2019	W47-190513-	0.00235
		MW-62	5/28/2019	W62-190528-	0.000195
Iron, Dissolved	mg/L	MW-47	5/13/2019	W47-190513-	4.24
Manganese, Dissolved	mg/L	MW-47	5/13/2019	W47-190513-	1.66
Nitrate	mg/l	MW-30A	5/13/2019	W30A190513-	15.9
Vinyl Chloride	µg/L	MW-47	5/13/2019	W47-190513-	5.33
South Solid Waste Area Perched Wells					
pH (Field)	pH Units	MW-101	5/28/2019	W101190528-	6.48
Arsenic, Total	mg/L	MW-101	5/28/2019	W101190528-	0.00961
Iron, Dissolved	mg/L	MW-101	5/28/2019	W101190528-	0.876
Manganese, Dissolved	mg/L	MW-101	5/28/2019	W101190528-	1.14
Vinyl Chloride	µg/L	MW-101	5/28/2019	W101190528-	0.478

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, 2019 to September 30, 2019)

Parameter	Units	Well ID	Sample Date	Sample ID	Sample Value
East Perched Zone Wells					
pH (Field)	pH Units	MW-30A	7/22/2019	W30A190722-	6.33
1,1-Dichloroethane	µg/L	MW-30A	7/22/2019	W30A190722-	2.22
Arsenic, Total	mg/L	MW-30A	7/22/2019	W30A190722-	0.000468
		MW-47	7/22/2019	W47-190722-	0.000657
Iron, Dissolved	mg/L	MW-47	7/22/2019	W47-190722-	0.616
Manganese, Dissolved	mg/L	MW-47	7/22/2019	W47-190722-	1.06
Nitrate	mg/L	MW-30A	7/22/2019	W30A190722-	16.6
Vinyl Chloride	µg/L	MW-47	7/22/2019	W47-190722-	4.84 L
South Solid Waste Area Perched Wells					
pH (Field)	pH Units	None.			
Arsenic, Total	mg/L	MW-101	7/23/2019	W101190723-	0.0126
Iron, Dissolved	mg/L	MW-101	7/23/2019	W101190723-	1.01
Manganese, Dissolved	mg/L	MW-101	7/23/2019	W101190723-	1.07
Vinyl Chloride	µg/L	MW-101	7/23/2019	W101190723-	0.507

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, 2019 to December 31, 2019)

Parameter	Units	Well ID	Sample Date	Sample ID	Sample Value
East Perched Zone Wells					
pH (Field)	pH Units	MW-30A	11/13/2019	W30A191113-	6.18
1,1-Dichloroethane	µg/L	MW-30A	11/13/2019	W30A191113-	1.81
Arsenic, Total	mg/L	MW-30A	11/13/2019	W30A191113-	0.000556
		MW-47	11/13/2019	W47-191113-	0.00294
		MW-62	11/13/2019	W62-191113-	0.000188
Iron, Dissolved	mg/L	MW-47	11/13/2019	W47-191113-	4.51
Manganese, Dissolved	mg/L	MW-47	11/13/2019	W47-191113-	1.71
Nitrate	mg/l	MW-30A	11/13/2019	W30A191113-	12.2
Vinyl Chloride	µg/L	MW-47	11/13/2019	W47-191113-	6.18
South Solid Waste Area Perched Wells					
pH (Field)	pH Units	None.			
Arsenic, Total	mg/L	MW-101	11/13/2019	W101191113-	0.00323 D
Manganese, Dissolved	mg/L	MW-101	11/13/2019	W101191113-	0.982
Vinyl Chloride	µg/L	MW-101	11/13/2019	W101191113-	0.433

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	69	4	73	8	68	4	65	5	72	9	63	9	69	4	70	4
No. of Detections	69	4	73	8	68	4	65	5	72	9	63	9	69	4	70	4
Maximum	7.58	7.04	7.62	7.17	6.81	6.57	7.69	6.82	7.61	6.87	7.49	7.01	7.28	6.85	7.59	7.05
Minimum	6.6	6.82	6.5	6.33	6.18	5.91	6.54	6.62	6.6	6.54	6.59	6.29	6.71	6.49	6.66	6.51
Mean	7.0	6.9	7.0	6.7	6.5	6.3	6.9	6.7	7.0	6.7	7.0	6.6	7.0	6.7	7.0	6.8
Standard Deviation	0.2	0.1	0.2	0.3	0.2	0.3	0.2	0.1	0.2	0.1	0.2	0.3	0.1	0.2	0.2	0.2
Median	7.04	6.84	7.02	6.63	6.53	6.295	6.91	6.74	7.01	6.63	6.97	6.56	7.05	6.705	7	6.875
Specific Conductance, (Field) uS/cm																
No. of Analyses	69	4	73	8	68	4	65	5	72	9	64	9	69	4	70	4
No. of Detections	69	4	73	8	68	4	65	5	72	9	64	9	69	4	70	4
Maximum	355.3	231	211.8	217.7	255	238.9	322.2	313	683	651	355.3	330.9	215	184.4	175	151
Minimum	110	145	136.9	184.3	115	227.3	150	305.8	100	487.8	115	276.4	110	177.6	100	144.7
Mean	146.0	200.1	170.5	200.2	161.8	233.2	202.5	309.0	237.1	575.2	187.1	313.9	178.5	181.5	142.7	146.7
Standard Deviation	30.0	37.8	14.0	10.8	32.8	4.8	39.6	2.6	129.2	59.4	64.5	19.6	19.3	2.9	11.9	3.0
Median	145	212.1	170	199.45	155	233.35	195	308.6	170	601	150	326.9	180	181.9	140	145.45
Total Dissolved Solids, mg/L																
No. of Analyses	69	4	73	8	69	4	65	5	70	8	64	8	69	4	70	4
No. of Detections	69	4	73	8	69	4	65	5	70	8	64	8	69	4	70	4
Maximum	121	137	127	140	194	148	210	200	449	426	220	208	200	112	170	98.7
Minimum	56	110	27	114	60	143	97	183	42	304	33	170	83	107	31	86.6
Mean	93.5	129.8	105.5	123.1	111.3	146.0	142.8	191.2	160.8	358.3	129.1	196.8	115.0	109.5	91.7	91.8
Standard Deviation	15.0	13.2	15.5	8.2	28.7	2.2	29.4	6.8	90.1	40.9	44.5	12.2	17.2	2.9	16.5	5.2
Median	93	136	110	124	100	146.5	137	192	119	347.5	110	200.5	112	109.5	92.5	90.85
Alkalinity, total (CaCO3), mg/L																
No. of Analyses	69	4	73	8	69	4	65	5	71	8	64	8	69	4	70	4
No. of Detections	69	4	73	8	69	4	65	5	71	8	64	8	69	4	70	4
Maximum	66	78.3	78	71.3	73.1	67.8	133	128	190	204	150	117	110	69.2	76	52.8
Minimum	44.2	52.5	54	65.3	38	59.6	38	120	49.9	160	44	94.5	3	64.6	48	51.9
Mean	54.1	69.6	65.1	68.2	51.8	64.0	89.0	124.2	88.7	181.8	71.1	105.7	71.0	66.3	53.0	52.3
Standard Deviation	4.1	11.6	4.5	2.1	9.6	4.4	18.9	3.6	39.1	15.0	25.4	7.5	12.4	2.1	3.6	0.4
Median	54	73.75	64	68.05	48.1	64.35	81.7	125	66	182	54.2	104.5	72	65.7	52.9	52.25
Ammonia as N, mg/L																
No. of Analyses	69	4	73	8	69	4	65	5	71	8	64	8	69	4	70	4
No. of Detections	14	1	15	8	4	1	4	0	8	7	9	3	54	4	21	4
Maximum	0.16	ND	0.03	0.0081	0.19	ND	0.13	ND	0.3	0.0072	0.9	0.004	0.44	0.0361	0.07	0.0067
Minimum	ND	ND	ND	0.0042	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.0307	ND	0.0025
Mean	0.013	ID	0.010	0.006	0.012	ID	0.013	ID	0.016	0.003	0.027	0.002	0.043	0.033	0.014	0.005
Standard Deviation	0.020	ID	0.007	0.001	0.023	ID	0.021	ID	0.041	0.002	0.112	0.001	0.056	0.003	0.012	0.002
Median	0.005	ID	0.005	0.00525	0.005	ID	0.005	ID	0.005	0.00285	0.005	0.001	0.0385	0.0335	0.0104	0.0045
Chloride, mg/L																
No. of Analyses	69	4	73	8	69	4	65	5	71	8	64	8	69	4	70	4
No. of Detections	69	4	73	8	69	4	65	5	71	8	64	8	69	4	69	4
Maximum	17.3	18.6	6.15	10.6	18.5	16.4	12.2	11.1	81	74.3	32.3	27.2	7.8	5.94	5.04	4.09
Minimum	2	13.9	2.9	6.27	2	15.3	4	9.68	3	49.6	3	17.9	3	4.68	ND	3.01
Mean	4.3	16.5	3.8	8.1	7.2	16.1	6.7	10.3	16.2	60.0	10.2	22.3	3.8	5.2	3.8	3.6
Standard Deviation	2.7	2.0	0.7	1.4	4.4	0.5	2.0	0.6	18.8	9.3	8.1	2.8	0.7	0.6	0.6	0.5
Median	3.92	16.65	3.93	8.02	5	16.3	6.3	9.88	5.02	57.75	4.25	21.7	3.88	5.05	4	3.69

Table 4-2a *(continued)*
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	69	4	63	9	62	4	69	4	75	8	69	4	72	8	73	9
No. of Detections	69	4	63	9	62	4	69	4	75	8	69	4	72	8	73	9
Maximum	7.76	7.11	7.55	7.4	7.62	7.6	7.93	7.39	7.47	7.36	7.45	7.06	7.64	7.1	7.71	7.44
Minimum	6.39	6.64	6.8	6.65	7.09	6.72	6.63	7.29	6.71	6.18	5.99	5.99	6.5	6.14	6.55	6.45
Mean	7.1	6.9	7.2	6.9	7.4	7.2	7.4	7.3	7.1	6.9	6.9	6.7	7.0	6.8	7.2	7.0
Standard Deviation	0.2	0.2	0.1	0.3	0.1	0.4	0.3	0.0	0.2	0.4	0.3	0.5	0.2	0.3	0.2	0.3
Median	7.11	6.895	7.23	6.91	7.415	7.305	7.39	7.35	7.1	7.04	6.97	6.89	6.975	6.885	7.22	7.05
Specific Conductance, (Field) uS/cm																
No. of Analyses	69	4	63	9	62	4	69	4	75	8	69	4	72	8	73	9
No. of Detections	69	4	63	9	62	4	69	4	75	8	69	4	72	8	73	9
Maximum	340	284.2	365	330.3	225	230.9	138.2	145.4	280	250.6	170	141.1	199.8	211	168.1	164.3
Minimum	1.9	228.8	190	294.1	110	223.8	85	135.9	150	209.5	98	98.3	100	162.3	95	0.9
Mean	190.1	251.5	282.6	313.3	194.6	227.9	115.1	141.7	209.5	220.3	141.3	128.7	141.3	189.4	121.1	142.4
Standard Deviation	46.5	26.2	50.9	14.7	20.2	3.1	10.7	4.1	33.3	12.7	16.5	20.3	14.5	16.5	14.3	53.3
Median	185	246.45	275	318.5	195	228.4	115	142.7	215	218.05	143.7	137.7	140	193.15	120	160.8
Total Dissolved Solids, mg/L																
No. of Analyses	68	4	64	8	61	4	69	4	72	8	69	4	72	8	73	8
No. of Detections	67	4	64	8	61	4	69	4	72	8	69	4	71	8	72	8
Maximum	224	168	650	204	150	141	140	89.3	181	147	1100	97.1	130	130	140	111
Minimum	ND	127	130	199	107	135	47	84.7	47	124	61	72.1	ND	106	ND	100
Mean	122.5	147.3	206.5	201.0	130.3	136.8	74.4	86.7	133.9	133.4	112.8	89.5	91.4	118.1	87.6	106.6
Standard Deviation	34.9	18.0	72.4	2.0	10.6	2.9	13.7	2.1	29.9	7.9	121.4	11.8	17.4	8.3	15.9	3.2
Median	122	147	209	200.5	130	135.5	73	86.45	139	131	100	94.4	93	119	89	107
Alkalinity, total (CaCO3), mg/L																
No. of Analyses	68	4	64	8	61	4	69	4	73	8	69	4	72	8	73	8
No. of Detections	68	4	64	8	61	4	69	4	73	8	69	4	72	8	73	8
Maximum	111	105	123	125	100	90	60	60.7	122	95.7	78	54.5	68.7	80.9	66	57.7
Minimum	49.7	100	64	120	77.3	87.6	38	56.8	70	82.9	32.8	37.6	30	64.7	4	54.4
Mean	80.5	102.0	103.3	121.9	87.3	88.6	49.3	58.6	96.3	88.8	56.8	48.8	58.6	72.7	47.4	55.2
Standard Deviation	13.0	2.2	13.2	1.6	5.4	1.0	4.4	1.7	17.0	4.5	8.6	7.6	5.4	6.1	6.1	1.1
Median	80.25	101.5	99.35	121.5	86.4	88.4	50	58.35	98.9	88	56	51.55	59.3	73.95	48	54.85
Ammonia as N, mg/L																
No. of Analyses	68	4	64	8	61	4	69	4	73	8	69	4	72	8	73	8
No. of Detections	61	4	54	8	38	4	13	4	7	0	5	0	5	1	3	0
Maximum	0.12	0.0266	0.21	0.0596	0.2	0.0257	0.18	0.0271	0.21	ND	0.18	ND	0.13	ND	0.04	ND
Minimum	ND	0.0144	ND	0.0531	ND	0.0226	ND	0.0155	ND	ND	ND	ND	ND	ND	ND	ND
Mean	0.045	0.021	0.049	0.057	0.025	0.024	0.013	0.020	0.016	ID	0.012	ID	0.010	ID	0.008	ID
Standard Deviation	0.025	0.006	0.027	0.003	0.030	0.001	0.023	0.005	0.032	ID	0.023	ID	0.016	ID	0.007	ID
Median	0.03845	0.0206	0.05135	0.05735	0.0219	0.02435	0.005	0.01915	0.005	ID	0.005	ID	0.005	ID	0.005	ID
Chloride, mg/L																
No. of Analyses	68	4	64	8	61	4	69	4	73	8	69	4	72	8	73	8
No. of Detections	68	4	64	8	61	4	68	4	72	8	68	4	71	8	72	8
Maximum	6	2.77	8	3.01	8.03	6.05	7.63	2.62	13	5.12	4.59	2.39	5.74	4.65	5.59	5.25
Minimum	2	2.44	1.6	2.65	3.8	5.08	ND	2.32	ND	4.27	ND	1.19	ND	3.27	ND	4.73
Mean	3.3	2.7	3.0	2.8	4.8	5.6	2.9	2.4	7.9	4.6	2.8	2.0	3.4	3.9	2.9	5.0
Standard Deviation	0.7	0.1	0.7	0.1	0.8	0.4	0.8	0.1	1.9	0.3	0.6	0.6	0.6	0.4	1.1	0.2
Median	3.245	2.705	2.995	2.825	4.86	5.655	2.88	2.415	8	4.455	3	2.21	3.445	4.005	2.7	5.015

Table 4-2a (*continued)*
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	69	4	73	8	69	4	65	5	71	8	64	8	69	4	70	4
No. of Detections	47	4	19	6	69	4	65	5	70	8	63	8	17	0	11	2
Maximum	2.78	1.33	0.98	0.02	6	1.65	1.5	1.12	4.18	3.02	2.72	2.71	1	ND	0.09	ND
Minimum	ND	0.0742	ND	ND	0.303	0.761	0.443	0.658	ND	1.04	ND	0.297	ND	ND	ND	ND
Mean	0.315	0.658	0.038	0.013	1.354	1.226	0.867	0.881	0.870	2.225	1.083	1.355	0.051	ID	0.016	ID
Standard Deviation	0.497	0.515	0.120	0.006	0.739	0.432	0.218	0.165	0.826	0.812	0.453	0.872	0.156	ID	0.015	ID
Median	0.153	0.6135	0.02	0.0135	1.3	1.2455	0.88	0.872	0.626	2.57	1	1.191	0.014	ID	0.0115	ID
Sulfate, mg/L																
No. of Analyses	69	4	73	8	68	4	65	5	71	8	64	8	69	4	70	4
No. of Detections	69	4	73	8	67	4	65	5	71	8	64	8	69	4	69	4
Maximum	24	7.98	23	15.5	33.3	17.9	18.5	16.9	62.9	11.4	20	9.93	39	13.3	20	9.66
Minimum	8.41	6.1	14	14.5	ND	15.7	12	12.8	5.84	8.33	1.85	5.58	12	10.5	ND	9.34
Mean	16.3	7.3	17.8	15.1	18.1	17.1	15.1	15.6	13.9	9.8	10.8	8.3	17.8	11.9	15.2	9.5
Standard Deviation	2.7	0.9	1.8	0.3	4.6	1.0	1.9	1.6	7.1	0.9	4.5	1.5	3.3	1.3	2.5	0.1
Median	16	7.545	17.5	15	18	17.3	15	16.2	13	9.65	11	8.6	17	11.95	16	9.545
Dissolved Iron, mg/L																
No. of Analyses	69	4	73	8	69	4	65	5	71	8	64	8	69	4	70	4
No. of Detections	65	4	73	8	37	0	37	0	35	1	33	1	69	4	70	4
Maximum	4.7	0.0945	5.3	4.28	8.8	ND	0.18	ND	0.13	ND	0.27	ND	4.9	3.49	8.4	3.42
Minimum	ND	0.0519	2.85	3.31	ND	ND	ND	ND	ND	ND	ND	ND	1.7	2.97	3.1	2.76
Mean	0.324	0.076	4.215	3.900	0.159	ID	0.040	ID	0.031	ID	0.030	ID	3.774	3.228	4.059	3.148
Standard Deviation	0.582	0.018	0.426	0.306	1.056	ID	0.044	ID	0.033	ID	0.040	ID	0.608	0.243	0.666	0.286
Median	0.24	0.07895	4.2	3.93	0.017	ID	0.026	ID	0.005	ID	0.00945	ID	3.83	3.225	4	3.205
Dissolved Manganese, mg/L																
No. of Analyses	69	4	73	8	69	4	65	5	71	8	64	8	69	4	69	4
No. of Detections	69	4	73	8	6	1	5	1	35	8	11	6	69	4	69	4
Maximum	0.333	0.344	0.13	0.136	0.067	ND	0.002	ND	0.0694	0.101	0.0345	0.00427	0.27	0.11	0.25	0.212
Minimum	0.0501	0.131	0.0913	0.112	ND	ND	ND	ND	ND	0.000811	ND	ND	0.0914	0.0969	0.15	0.137
Mean	0.172	0.228	0.107	0.120	0.002	ID	0.001	ID	0.004	0.027	0.001	0.001	0.177	0.103	0.202	0.163
Standard Deviation	0.076	0.097	0.009	0.009	0.008	ID	0.000	ID	0.010	0.034	0.005	0.001	0.057	0.006	0.022	0.034
Median	0.18	0.219	0.109	0.117	0.0005	ID	0.0005	ID	0.0005	0.01289	0.0005	0.0001505	0.18	0.10175	0.2	0.152
Dissolved Calcium, mg/L																
No. of Analyses	69	4	73	8	69	4	65	5	71	8	64	8	69	4	70	4
No. of Detections	69	4	73	8	69	4	65	5	71	8	64	8	69	4	70	4
Maximum	18	21.2	17	17.5	23.5	21.4	30.5	30.2	67.9	72	40.4	33.1	19	14.8	13	11.9
Minimum	11	17	12	16	8.8	20.2	11	28.5	11	52.8	11	28.2	11	14.1	9.2	11.3
Mean	14.0	19.6	14.1	16.6	14.9	20.8	19.5	29.3	25.1	61.0	18.8	31.4	14.9	14.4	11.6	11.5
Standard Deviation	1.5	1.8	1.2	0.5	3.8	0.5	4.3	0.7	13.8	7.1	6.8	1.7	2.0	0.3	0.9	0.3
Median	14	20	14	16.5	14	20.8	19	28.9	17.6	59.6	15	31.55	15	14.35	11.85	11.4
Dissolved Magnesium, mg/L																
No. of Analyses	69	4	73	8	69	4	65	5	71	8	64	8	69	4	70	4
No. of Detections	69	4	73	8	69	4	65	5	71	8	64	8	69	4	70	4
Maximum	9.72	11.7	11	10.4	11.1	10	18	18.5	27.9	29.8	15.5	15.1	15	9.5	8.03	7.18
Minimum	4.57	7.9	7.17	9.77	4	9.36	7.4	16.7	4.4	23.2	4.6	12.6	7.1	9.24	5.3	6.83
Mean	6.6	10.5	8.5	10.1	6.6	9.6	11.2	17.6	10.4	26.0	8.2	14.1	9.4	9.4	6.7	7.0
Standard Deviation	1.0	1.7	0.7	0.2	1.8	0.3	2.5	0.6	6.0	2.4	3.1	0.9	1.3	0.1	0.5	0.1
Median	6.6	11.15	8.34	10.15	6	9.545	10	17.6	7.08	25.55	6.38	14.2	9.31	9.335	6.74	7

Table 4-2a *(continued)*
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	68	4	64	8	61	4	69	4	73	8	69	4	72	8	73	8
No. of Detections	26	2	33	3	3	0	9	0	73	8	69	4	72	8	72	8
Maximum	2	ND	1.2	0.015	0.06	ND	1.9	ND	0.765	0.578	2.1	1.1	1.4	0.182	1.8	1.59
Minimum	ND	ND	ND	ND	ND	ND	ND	ND	0.23	0.399	0.246	0.458	0.09	0.139	ND	1.34
Mean	0.049	ID	0.052	0.009	0.015	ID	0.053	ID	0.469	0.480	1.176	0.917	0.408	0.153	1.506	1.465
Standard Deviation	0.241	ID	0.153	0.005	0.012	ID	0.230	ID	0.161	0.066	0.510	0.307	0.226	0.014	0.309	0.098
Median	0.0225	ID	0.019	0.005	0.005	ID	0.005	ID	0.43	0.475	1.1	1.055	0.46	0.147	1.56	1.475
Sulfate, mg/L																
No. of Analyses	68	4	63	8	61	4	69	4	73	8	69	4	72	8	73	8
No. of Detections	68	4	63	8	61	4	69	4	73	8	68	4	72	8	71	8
Maximum	76.2	30.9	101	40.9	28	16.3	8	6.55	16.1	14	24	8.49	18	16.6	11.3	10
Minimum	7	11.8	1.1	35	14	15.6	2	4.8	2.2	12	ND	6.53	10	12.1	ND	8.83
Mean	21.6	21.1	51.8	37.0	17.3	16.0	6.0	5.8	11.4	13.1	11.7	7.6	12.5	14.6	7.8	9.5
Standard Deviation	14.1	10.1	22.6	2.1	2.6	0.3	1.0	0.7	2.9	0.6	3.8	0.9	1.2	1.7	1.6	0.4
Median	15.8	20.8	50	36.8	16.7	16	6	5.91	11	13.2	10	7.785	12.6	15.2	8	9.47
Dissolved Iron, mg/L																
No. of Analyses	68	4	65	8	61	4	69	4	73	8	68	4	72	9	73	8
No. of Detections	68	4	26	0	30	0	69	4	37	0	36	0	36	0	35	0
Maximum	1.3	0.0568	0.25	ND	0.19	ND	3.7	2.22	1.7	ND	0.12	ND	0.48	ND	0.98	ND
Minimum	0.042	0.0264	ND	ND	ND	ND	1.63	1.96	ND	ND	ND	ND	ND	ND	ND	ND
Mean	0.450	0.041	0.041	ID	0.043	ID	2.184	2.045	0.057	ID	0.029	ID	0.029	ID	0.033	ID
Standard Deviation	0.339	0.016	0.050	ID	0.048	ID	0.362	0.121	0.205	ID	0.028	ID	0.060	ID	0.114	ID
Median	0.4585	0.04	0.005	ID	0.005	ID	2.1	2	0.017	ID	0.01505	ID	0.0051	ID	0.005	ID
Dissolved Manganese, mg/L																
No. of Analyses	68	4	65	8	61	4	69	4	73	8	68	4	72	9	73	8
No. of Detections	68	4	64	8	61	4	69	4	6	2	8	1	61	9	6	0
Maximum	0.847	0.0982	0.369	0.22	0.24	0.174	0.093	0.105	0.006	ND	0.008	ND	0.037	0.0128	0.25	ND
Minimum	0.027	0.0689	ND	0.176	0.051	0.165	0.044	0.102	ND	ND	ND	ND	ND	0.000501	ND	ND
Mean	0.115	0.087	0.240	0.202	0.143	0.170	0.073	0.103	0.001	ID	0.001	ID	0.003	0.002	0.004	ID
Standard Deviation	0.138	0.014	0.053	0.015	0.037	0.004	0.010	0.001	0.001	ID	0.001	ID	0.005	0.004	0.029	ID
Median	0.0595	0.0896	0.24	0.203	0.14	0.1695	0.074	0.1025	0.0005	ID	0.0005	ID	0.00215	0.000729	0.0005	ID
Dissolved Calcium, mg/L																
No. of Analyses	68	4	65	8	61	4	69	4	73	8	68	4	72	9	73	8
No. of Detections	68	4	64	8	61	4	69	4	73	8	68	4	72	9	73	8
Maximum	26.9	20.9	39.6	32.3	23	22.2	14	12.2	23	18.4	18	12.9	15	17	14	14.3
Minimum	9.5	18.6	ND	31.1	10	20.5	6.8	11.7	9.7	16.4	10.4	10.7	8.4	12.6	0.026	13.3
Mean	16.8	19.9	28.6	31.6	19.5	21.5	9.3	11.9	17.2	17.2	13.4	12.1	10.8	15.0	10.4	13.8
Standard Deviation	3.4	1.1	6.7	0.4	1.8	0.7	1.1	0.3	3.4	0.8	1.7	0.9	1.0	1.7	1.7	0.3
Median	17	19.95	28.6	31.55	19.4	21.6	9.38	11.9	18.2	16.75	13	12.3	11	15.7	10.7	13.8
Dissolved Magnesium, mg/L																
No. of Analyses	68	4	65	8	61	4	69	4	73	8	68	4	72	9	73	8
No. of Detections	68	4	64	8	61	4	69	4	73	8	68	4	72	9	72	8
Maximum	21.5	17.2	20.4	17.4	12	12	7.6	6.71	18.8	14.5	9	6.56	9.87	12.6	7.3	7.65
Minimum	5.1	14.2	ND	15.9	6.8	11.1	4	6.37	7.1	12.4	2.95	3.56	6.4	9.61	ND	7.26
Mean	10.9	15.5	14.6	16.6	10.1	11.6	5.3	6.5	13.4	13.4	6.4	5.7	8.2	11.3	5.6	7.5
Standard Deviation	3.4	1.5	3.7	0.5	0.9	0.4	0.7	0.2	2.7	0.7	1.2	1.5	0.8	1.1	0.9	0.1
Median	11	15.3	15.4	16.5	10	11.65	5.4	6.555	13.6	13.25	6.42	6.42	8.255	11.4	5.62	7.54

Table 4-2a *(continued)*
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	68	4	72	8	68	4	64	5	70	8	63	8	68	4	69	4
No. of Detections	68	4	72	8	68	4	64	5	70	8	63	8	68	4	69	4
Maximum	1.3	1.31	1.2	1.15	1.52	1.46	1.97	1.97	3.61	3.87	2.53	2.43	1.4	1.01	1.1	0.927
Minimum	0.791	1.03	0.87	1.1	0.89	1.39	1.2	1.86	1.3	2.94	1.1	2.17	0.73	0.927	0.78	0.898
Mean	1.09	1.20	1.02	1.13	1.15	1.43	1.52	1.92	2.02	3.39	1.68	2.30	0.91	0.97	0.90	0.91
Standard Deviation	0.12	0.12	0.07	0.02	0.16	0.03	0.19	0.04	0.55	0.31	0.36	0.09	0.10	0.04	0.06	0.01
Median	1.1	1.235	1.005	1.13	1.105	1.43	1.5	1.92	1.8	3.38	1.6	2.285	0.9	0.9765	0.899	0.916
Dissolved Sodium, mg/L																
No. of Analyses	69	4	73	8	69	4	65	5	71	8	64	8	69	4	70	4
No. of Detections	69	4	73	8	69	4	65	5	71	8	64	8	69	4	70	4
Maximum	6.6	6.27	6.6	6.27	9.36	10.5	8.28	8.59	14.1	16	12.6	8.21	7	5.89	5.9	5.56
Minimum	4	5.12	4.73	5.96	5.72	9.55	4.9	7.34	4.5	11.1	4.3	7.46	4.78	5.54	4.55	5.25
Mean	4.84	5.92	5.50	6.17	7.59	10.03	6.17	8.20	6.58	13.59	6.00	7.97	5.68	5.75	5.12	5.37
Standard Deviation	0.43	0.54	0.38	0.11	0.80	0.49	0.81	0.51	2.00	1.74	1.53	0.26	0.46	0.17	0.28	0.14
Median	4.8	6.14	5.48	6.22	7.4	10.03	6.1	8.4	5.79	13.6	5.35	8.03	5.6	5.775	5.11	5.34
Total Arsenic, mg/L																
No. of Analyses	15	4	19	8	15	4	14	5	19	8	19	8	15	4	15	4
No. of Detections	5	4	4	8	2	4	2	5	3	8	3	8	2	4	4	4
Maximum	0.0025	0.0000878	0.001	0.000567	ND	0.000203	ND	0.00026	0.0005	0.000431	0.0005	0.000156	ND	0.000606	0.00242	0.00256
Minimum	ND	0.0000772	ND	0.000404	ND	0.000186	ND	0.000223	ND	0.000306	ND	0.00012	ND	0.000559	ND	0.000838
Mean	0.00083	0.00008	0.00053	0.00045	ID	0.00019	ID	0.00024	0.00048	0.00038	0.00046	0.00014	ID	0.00058	0.00080	0.00138
Standard Deviation	0.00083	0.00000	0.00012	0.00005	ID	0.00001	ID	0.00001	0.00005	0.00006	0.00011	0.00001	ID	0.00002	0.00060	0.00081
Median	0.0005	0.0000852	0.0005	0.0004275	ID	0.000191	ID	0.000245	0.0005	0.0004085	0.0005	0.000147	ID	0.0005855	0.0005	0.0010665
Total Barium, mg/L																
No. of Analyses	15	4	19	8	15	4	14	5	19	8	19	8	15	4	15	4
No. of Detections	15	4	19	8	15	4	13	5	19	8	19	8	15	4	15	4
Maximum	0.0478	0.0045	0.00548	0.00452	0.00434	0.00413	0.00376	0.00151	0.0104	0.0109	0.00542	0.0027	0.00205	0.00203	0.00797	0.00844
Minimum	0.00323	0.00395	0.00318	0.00372	0.0031	0.00351	ND	0.00119	0.00369	0.00648	0.00168	0.00207	0.00172	0.00185	0.00654	0.0062
Mean	0.0103	0.0043	0.0037	0.0040	0.0037	0.0038	0.0016	0.0013	0.0066	0.0087	0.0026	0.0024	0.0019	0.0019	0.0072	0.0070
Standard Deviation	0.0153	0.0002	0.0006	0.0003	0.0003	0.0003	0.0007	0.0001	0.0018	0.0016	0.0009	0.0003	0.0001	0.0001	0.0004	0.0010
Median	0.0035	0.004295	0.00358	0.00401	0.00364	0.00369	0.00158	0.00131	0.0066	0.00884	0.00246	0.002415	0.00191	0.001915	0.00706	0.00661
Total Copper, mg/L																
No. of Analyses	15	4	19	8	15	4	14	5	19	8	19	8	15	4	15	4
No. of Detections	4	3	3	3	2	4	2	3	6	8	4	8	0	0	0	1
Maximum	0.0154	0.000528	0.00102	0.000581	ND	0.00146	ND	0.00026	0.00549	0.00771	0.0051	0.00125	ND	ND	ND	ND
Minimum	ND	ND	ND	ND	ND	0.00069	ND	ND	ND	0.00215	ND	0.000887	ND	ND	ND	ND
Mean	0.00315	0.00026	0.00096	0.00025	ID	0.00106	ID	0.00019	0.00178	0.00444	0.00130	0.00104	ID	ID	ID	ID
Standard Deviation	0.00516	0.00018	0.00011	0.00022	ID	0.00033	ID	0.00008	0.00135	0.00191	0.00097	0.00012	ID	ID	ID	ID
Median	0.001	0.0002115	0.001	0.0001	ID	0.001039	ID	0.000242	0.001	0.00434	0.001	0.00104	ID	ID	ID	ID
Total Lead, mg/L																
No. of Analyses	15	4	19	8	15	4	14	5	19	8	19	8	15	4	15	4
No. of Detections	3	0	3	2	0	0	0	0	0	0	0	0	0	0	0	0
Maximum	0.0033	ND	0.0005	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Minimum	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Mean	0.00082	ID	0.00045	ID	ID	ID	ID	ID	ID	ID	ID	ID	ID	ID	ID	ID
Standard Deviation	0.00092	ID	0.00011	ID	ID	ID	ID	ID	ID	ID	ID	ID	ID	ID	ID	ID
Median	0.0005	ID	0.0005	ID	ID	ID	ID	ID	ID	ID	ID	ID	ID	ID	ID	ID

Table 4-2a *(continued)*
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	67	4	64	8	60	4	68	4	71	8	67	4	71	9	72	8
No. of Detections	67	4	63	8	60	4	68	4	71	8	67	4	71	9	71	8
Maximum	1.84	1.89	1.9	1.62	1.4	1.27	1.4	1.11	1.48	1.19	1.1	0.844	1.3	1.23	1.1	0.859
Minimum	0.89	1.73	ND	1.46	0.91	1.2	0.8	1.06	0.74	1.1	0.655	0.722	0.82	1.04	ND	0.802
Mean	1.33	1.79	1.40	1.55	1.16	1.24	0.97	1.08	1.13	1.15	0.82	0.80	0.98	1.14	0.72	0.84
Standard Deviation	0.24	0.08	0.25	0.05	0.09	0.03	0.09	0.02	0.15	0.03	0.09	0.06	0.09	0.07	0.10	0.02
Median	1.3	1.765	1.42	1.545	1.16	1.245	0.955	1.075	1.14	1.155	0.805	0.8235	0.972	1.13	0.7275	0.8395
Dissolved Sodium, mg/L																
No. of Analyses	68	4	65	8	61	4	69	4	73	8	68	4	72	9	73	8
No. of Detections	68	4	64	8	61	4	69	4	73	8	68	4	72	9	73	8
Maximum	8.24	8.65	10.2	9.7	7.8	6.46	7.2	5.99	9.12	7.91	7.1	6.02	6.7	7.35	7.5	6.8
Minimum	4.8	7.87	ND	9.27	4.8	6.01	4.4	5.68	4.5	7.18	2.4	3.25	4.6	6.43	1.2	6.31
Mean	6.30	8.15	8.17	9.41	6.00	6.27	5.09	5.84	7.19	7.53	5.57	5.26	5.65	6.86	5.52	6.55
Standard Deviation	0.75	0.35	1.49	0.16	0.56	0.21	0.46	0.17	0.87	0.24	0.90	1.34	0.45	0.35	0.71	0.17
Median	6.355	8.03	8.4	9.335	5.9	6.295	5	5.845	7.28	7.46	5.615	5.875	5.725	6.81	5.55	6.575
Total Arsenic, mg/L																
No. of Analyses	15	4	19	8	15	4	14	4	19	8	15	4	19	9	19	8
No. of Detections	15	4	19	8	6	4	10	4	3	8	2	4	3	9	3	8
Maximum	0.01	0.00775	0.00136	0.00136	0.00109	0.00111	0.00111	0.000988	0.000718	0.000712	ND	0.00073	0.0005	0.00037	0.000625	0.000554
Minimum	0.00118	0.00122	0.00113	0.00126	ND	0.00105	ND	0.000932	ND	0.000632	ND	0.00034	ND	0.000317	ND	0.000511
Mean	0.00280	0.00337	0.00128	0.00131	0.00072	0.00108	0.00088	0.00097	0.00053	0.00066	ID	0.00061	0.00048	0.00033	0.00051	0.00054
Standard Deviation	0.00254	0.00299	0.00006	0.00003	0.00028	0.00003	0.00026	0.00002	0.00007	0.00003	ID	0.00018	0.00006	0.00002	0.00003	0.00002
Median	0.00171	0.00226	0.00129	0.00132	0.0005	0.001085	0.001035	0.0009765	0.0005	0.000653	ID	0.00068	0.0005	0.000326	0.0005	0.000543
Total Barium, mg/L																
No. of Analyses	15	4	19	8	15	4	14	4	19	8	15	4	19	9	19	8
No. of Detections	15	4	19	8	15	4	14	4	19	8	15	4	19	9	19	8
Maximum	0.0147	0.0299	0.00942	0.00836	0.00437	0.00473	0.00453	0.00516	0.00649	0.00518	0.0225	0.003	0.004	0.00503	0.00487	0.00351
Minimum	0.00711	0.0118	0.0078	0.0076	0.00365	0.00407	0.00298	0.00449	0.00477	0.00406	0.00245	0.00271	0.00325	0.00396	0.00256	0.00299
Mean	0.0103	0.0212	0.0085	0.0079	0.0039	0.0043	0.0040	0.0047	0.0055	0.0046	0.0045	0.0029	0.0036	0.0046	0.0028	0.0032
Standard Deviation	0.0025	0.0078	0.0004	0.0002	0.0002	0.0003	0.0005	0.0003	0.0005	0.0004	0.0051	0.0002	0.0002	0.0004	0.0005	0.0002
Median	0.00917	0.02145	0.0084	0.007855	0.00392	0.004295	0.004165	0.004645	0.00527	0.00452	0.00291	0.00286	0.00352	0.00482	0.00269	0.00314
Total Copper, mg/L																
No. of Analyses	15	4	19	8	15	4	14	4	19	8	15	4	19	9	19	8
No. of Detections	2	4	0	2	0	0	0	0	1	0	5	4	0	0	1	3
Maximum	ND	0.00171	ND	ND	ND	ND	ND	ND	ND	ND	0.00363	0.00232	ND	ND	ND	0.000623
Minimum	ND	0.000401	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.000216	ND	ND	ND	ND
Mean	ID	0.00109	ID	ID	ID	ID	ID	ID	ID	ID	0.00150	0.00075	ID	ID	ID	0.00025
Standard Deviation	ID	0.00061	ID	ID	ID	ID	ID	ID	ID	ID	0.00102	0.00105	ID	ID	ID	0.00023
Median	ID	0.0011225	ID	ID	ID	ID	ID	ID	ID	ID	0.001	0.000233	ID	ID	ID	0.0001
Total Lead, mg/L																
No. of Analyses	15	4	19	8	15	4	14	4	19	8	15	4	19	9	19	8
No. of Detections	0	0	0	0	0	0	0	0	0	0	1	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

Table 4-2a *(continued)*
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															
Total Selenium, mg/L																
No. of Analyses	15	4	19	8	15	4	14	5	19	8	19	8	15	4	15	4
No. of Detections	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Maximum	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Minimum	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Mean	ID	ID	ID	ID	ID	ID	ID	ID	ID	ID	ID	ID	ID	ID	ID	ID
Standard Deviation	ID	ID	ID	ID	ID	ID	ID	ID	ID	ID	ID	ID	ID	ID	ID	ID
Median	ID	ID	ID	ID	ID	ID	ID	ID	ID	ID	ID	ID	ID	ID	ID	ID
Total Vanadium, mg/L																
No. of Analyses	15	4	19	8	15	4	14	5	19	8	19	8	15	4	15	4
No. of Detections	3	4	0	1	2	4	2	5	3	8	3	8	0	0	0	0
Maximum	0.0178	0.000249	ND	ND	ND	0.000594	ND	0.00134	0.001	0.00115	0.00108	0.00139	ND	ND	ND	ND
Minimum	ND	0.000203	ND	ND	ND	0.000564	ND	0.0013	ND	0.000751	ND	0.000953	ND	ND	ND	ND
Mean	0.00302	0.00023	ID	ID	ID	0.00058	ID	0.00132	0.00097	0.00092	0.00100	0.00122	ID	ID	ID	ID
Standard Deviation	0.00567	0.00002	ID	ID	ID	0.00001	ID	0.00001	0.00007	0.00013	0.00004	0.00015	ID	ID	ID	ID
Median	0.001	0.000229	ID	ID	ID	0.0005755	ID	0.00132	0.001	0.0009015	0.001	0.00125	ID	ID	ID	ID
Total Zinc, mg/L																
No. of Analyses	15	4	19	8	15	4	14	5	19	8	19	8	15	4	15	4
No. of Detections	5	4	6	8	1	1	2	4	3	8	3	3	1	0	2	3
Maximum	0.0235	0.00315	0.00748	0.00316	ND	ND	ND	0.000776	0.002	0.000979	0.002	0.000973	ND	ND	ND	0.00157
Minimum	ND	0.00101	ND	0.000805	ND	ND	ND	ND	ND	0.000549	ND	ND	ND	ND	ND	ND
Mean	0.0051	0.0018	0.0028	0.0017	ID	ID	ID	0.0006	0.0018	0.0007	0.0018	0.0005	ID	ID	ID	0.0008
Standard Deviation	0.0071	0.0010	0.0015	0.0008	ID	ID	ID	0.0002	0.0004	0.0002	0.0004	0.0003	ID	ID	ID	0.0006
Median	0.002	0.00144	0.002	0.00144	ID	ID	ID	0.000653	0.002	0.0006755	0.002	0.00025	ID	ID	ID	0.000707
cis 1,2-Dichloroethene, ug/L																
No. of Analyses	69	4	73	8	70	4	65	4	71	8	64	8	69	4	70	4
No. of Detections	65	4	37	8	68	4	0	0	0	0	0	0	31	2	0	0
Maximum	1.8	1.53	1.37	1.41	3.1	0.403	ND	ND	ND	ND	ND	ND	0.39	ND	ND	ND
Minimum	ND	1.3	ND	1.15	ND	0.195	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Mean	1.06	1.44	0.41	1.27	1.16	0.29	ID	ID	ID	ID	ID	ID	0.17	ID	ID	ID
Standard Deviation	0.36	0.10	0.38	0.10	0.70	0.10	ID	ID	ID	ID	ID	ID	0.09	ID	ID	ID
Median	1.1	1.465	0.28	1.25	0.958	0.274	ID	ID	ID	ID	ID	ID	0.1	ID	ID	ID
Tetrachloroethene, ug/L																
No. of Analyses	69	4	73	8	70	4	65	4	71	8	64	8	69	4	70	4
No. of Detections	0	0	0	0	69	4	1	0	0	0	0	0	0	0	0	0
Maximum	ND	ND	ND	ND	0.89	0.44	ND	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	0.51	0.39	ID	ID	ID	ID	ID	ID	ID	ID	ID	ID
Standard Deviation	ID	ID	ID	ID	0.12	0.06	ID	ID	ID	ID	ID	ID	ID	ID	ID	ID
Median	ID	ID	ID	ID	0.5	0.405	ID	ID	ID	ID	ID	ID	ID	ID	ID	ID
Trichloroethene, ug/L																
No. of Analyses	69	4	73	8	70	4	65	4	71	8	64	8	69	4	70	4
No. of Detections	0	0	1	0	70	4	64	4	71	8	63	8	0	0	0	0
Maximum	ND	ND	ND	ND	17	9.12	11	5.28	3.8	2.32	5.4	2.79	ND	ND	ND	ND
Minimum	ND	ND	ND	ND	6.69	6.07	ND	4.28	0.504	1.41	ND	1.61	ND	ND	ND	ND
Mean	ID	ID	ID	ID	11.1	7.8	6.7	4.8	2.0	1.8	2.9	2.3	ID	ID	ID	ID
Standard Deviation	ID	ID	ID	ID	2.4	1.3	1.9	0.4	0.5	0.3	1.1	0.4	ID	ID	ID	ID
Median	ID	ID	ID	ID	11	7.97	6.52	4.735	2	1.865	2.815	2.29	ID	ID	ID	ID
Vinyl Chloride, ug/L																
No. of Analyses	69	4	73	8	70	4	65	4	71	8	64	8	69	4	70	4
No. of Detections	0	0	0	1	0	0	0	0	0	0	1	0	1	2	68	4
Maximum	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.18	0.0318
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	0.066	0.029
Standard Deviation	ID	ID	ID	ID	ID	ID	ID	ID	ID	ID	ID	ID	ID	ID	0.031	0.002
Median	ID	ID	ID	ID	ID	ID	ID	ID	ID	ID	ID	ID	ID	ID	0.0648	0.02875

Table 4-2a *(continued)*
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															
Total Selenium, mg/L																
No. of Analyses	15	4	19	8	15	4	14	4	19	8	15	4	19	9	19	8
No. of Detections	1	0	0	0	0	0	0	0	5	8	1	0	2	9	5	8
Maximum	ND	ND	ND	ND	ND	ND	ND	ND	0.00104	0.00102	ND	ND	ND	0.000986	0.00104	0.00102
Minimum	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.0009	ND	ND	ND	0.000522	ND	0.000799
Mean	ID	ID	ID	ID	ID	ID	ID	ID	0.00063	0.00096	ID	ID	ID	0.00078	0.00061	0.00089
Standard Deviation	ID	ID	ID	ID	ID	ID	ID	ID	0.00023	0.00005	ID	ID	ID	0.00015	0.00020	0.00006
Median	ID	ID	ID	ID	ID	ID	ID	ID	0.0005	0.000969	ID	ID	ID	0.000829	0.0005	0.000881
Total Vanadium, mg/L																
No. of Analyses	15	4	19	8	15	4	14	4	19	8	15	4	19	9	19	8
No. of Detections	2	4	6	8	1	4	0	0	3	8	2	4	3	9	4	8
Maximum	ND	0.00146	0.00231	0.00229	ND	0.000372	ND	ND	0.001	0.000815	ND	0.0013	0.001	0.00056	0.00253	0.00178
Minimum	ND	0.000404	ND	0.0019	ND	0.000287	ND	ND	ND	0.000643	ND	0.00089	ND	0.000451	ND	0.00159
Mean	ID	0.00093	0.00137	0.00211	ID	0.00034	ID	ID	0.00095	0.00072	ID	0.00116	0.00092	0.00050	0.00119	0.00169
Standard Deviation	ID	0.00048	0.00057	0.00013	ID	0.00004	ID	ID	0.00013	0.00006	ID	0.00019	0.00020	0.00003	0.00041	0.00006
Median	ID	0.000936	0.001	0.002135	ID	0.0003425	ID	ID	0.001	0.00072	ID	0.00123	0.001	0.000495	0.001	0.00168
Total Zinc, mg/L																
No. of Analyses	15	4	19	8	15	4	14	4	19	8	15	4	19	9	19	8
No. of Detections	3	4	15	8	1	1	1	0	3	8	1	2	1	3	5	7
Maximum	0.0385	0.00423	0.0112	0.00276	ND	ND	ND	ND	0.00228	0.00181	ND	ND	ND	0.000697	0.00895	0.00358
Minimum	ND	0.00108	ND	0.000781	ND	ND	ND	ND	ND	0.00082	ND	ND	ND	ND	ND	ND
Mean	0.0043	0.0029	0.0060	0.0015	ID	ID	ID	ID	0.0020	0.0013	ID	ID	ID	0.0004	0.0023	0.0012
Standard Deviation	0.0095	0.0016	0.0036	0.0007	ID	ID	ID	ID	0.0001	0.0003	ID	ID	ID	0.0002	0.0018	0.0011
Median	0.002	0.003205	0.00681	0.001155	ID	ID	ID	ID	0.002	0.00129	ID	ID	ID	0.00025	0.002	0.000889
cis 1,2-Dichloroethene, ug/L																
No. of Analyses	68	4	64	8	62	4	69	4	74	8	69	4	72	8	73	8
No. of Detections	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Maximum	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Minimum	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Mean	ID	ID	ID	ID	ID	ID	ID	ID	ID	ID	ID	ID	ID	ID	ID	ID
Standard Deviation	ID	ID	ID	ID	ID	ID	ID	ID	ID	ID	ID	ID	ID	ID	ID	ID
Median	ID	ID	ID	ID	ID	ID	ID	ID	ID	ID	ID	ID	ID	ID	ID	ID
Tetrachloroethene, ug/L																
No. of Analyses	68	4	64	8	62	4	69	4	74	8	69	4	72	8	73	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	68	4	64	8	62	4	69	4	74	8	69	4	72	8	73	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	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
Vinyl Chloride, ug/L																
No. of Analyses	69	4	64	8	62	4	69	4	74	8	69	4	72	8	73	8
No. of Detections	1	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

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-69 Long	MW-69 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	62	4	65	10	70	5	72	6	71	9	35	9	186	8	188	8	183	8	71	8	66	4	67	4	67	4
No. of Detections	62	4	65	10	70	5	72	6	71	9	35	9	186	8	188	8	183	8	71	8	66	4	67	4	67	4
Maximum	7.13	6.93	7.45	7.29	7.71	7.02	7.96	7.61	7.64	7.08	7.65	7.3	7.52	7.1	7.74	7.11	7.21	6.97	7.35	7.16	7.69	7.06	7.67	7.1	7.67	7.23
Minimum	6.59	6.78	6.65	6.59	6.49	6.74	6.6	6.65	6.73	6.51	6.89	6.53	6.55	6.69	6.66	6.57	5.43	6.37	6.74	6.61	6.59	6.71	6.64	6.5	7	6.99
Mean	6.9	6.8	7.1	6.9	7.1	6.9	7.4	7.3	7.2	6.8	7.1	6.9	7.0	6.9	7.1	6.8	6.9	6.8	7.1	6.8	6.9	6.8	7.2	6.8	7.3	7.1
Standard Deviation	0.1	0.1	0.2	0.2	0.2	0.1	0.2	0.3	0.2	0.2	0.2	0.3	0.1	0.1	0.2	0.2	0.1	0.2	0.1	0.2	0.2	0.2	0.2	0.3	0.1	0.1
Median	6.9	6.8	7.2	6.9	7.1	7.0	7.4	7.4	7.2	6.8	7.1	6.9	7.0	7.0	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	62	4	65	10	70	5	73	6	71	9	35	9	186	8	188	8	183	8	71	8	66	4	67	4	67	4
No. of Detections	62	4	65	10	70	5	73	6	71	9	35	9	186	8	188	8	183	8	71	8	66	4	67	4	67	4
Maximum	360	325.7	340	288.1	386.7	378.6	323.9	329.6	359.7	374.5	318.9	520	1250	597.8	355.8	384.1	529.5	548	344.5	368.3	220	201.3	135	127.2	220	246.1
Minimum	170	303.6	180	261.8	165	350.2	160	303	220	323.7	210	288.5	260	497.3	170	335.3	2.5	489.1	165	340.9	130	195.1	100	125.8	140	211.4
Mean	276.6	315.9	268.9	281.3	236.8	371.6	245.6	323.9	270.8	354.6	257.9	333.7	369.0	542.5	256.4	367.5	360.5	528.4	223.3	354.2	167.3	198.3	112.0	126.6	173.7	229.0
Standard Deviation	38.3	11.2	36.7	7.5	48.2	12.1	42.3	10.3	36.2	15.5	37.8	70.4	89.9	30.7	31.1	15.7	55.2	19.5	44.3	9.8	17.0	3.2	8.1	0.6	14.9	14.5
Median	270.0	317.1	270.0	283.5	225.0	377.9	235.0	327.2	255.0	361.6	260.0	313.1	360.0	548.0	250.0	370.6	350.0	535.3	210.0	351.9	170.0	198.4	110.0	126.7	170.0	229.2
Total Dissolved Solids, mg/L																										
No. of Analyses	62	4	64	10	69	4	73	6	72	8	35	8	74	8	75	8	73	8	70	8	66	4	66	4	66	4
No. of Detections	62	4	64	10	69	4	73	6	72	8	35	8	74	8	75	8	73	8	70	8	66	4	66	4	66	4
Maximum	250	185	310	173	248	230	210	196	223	249	313	202	358	343	260	238	377	402	217	220	150	126	96	91.1	150	146
Minimum	124	168	110	164	87	220	100	189	88	208	143	191	140	279	90	225	160	361	100	212	58	116	40	86.7	65	135
Mean	174.0	179.5	176.9	167.3	163.8	224.3	158.7	193.5	179.8	217.9	184.7	195.8	245.3	318.6	179.1	233.1	270.1	373.9	151.6	214.8	108.7	120.5	77.5	88.3	114.5	140.8
Standard Deviation	23.6	7.8	30.3	3.1	38.0	4.3	26.2	2.6	27.3	12.9	29.0	3.4	53.4	21.7	30.4	4.0	52.5	12.6	32.7	3.3	12.4	4.4	10.5	2.0	15.2	5.6
Median	170.0	182.5	174.5	166.5	160.0	223.5	166.0	193.5	173.5	214.0	180.0	195.5	245.0	319.5	180.0	233.0	260.0	373.0	141.0	213.0	109.5	120.0	79.5	87.6	120.0	141.0
Alkalinity, total (CaCO3), mg/L																										
No. of Analyses	62	4	65	10	69	4	73	6	72	8	35	8	74	8	75	8	74	8	70	8	66	4	66	4	66	4
No. of Detections	62	4	65	10	69	4	73	6	72	8	35	8	74	8	75	8	74	8	70	8	66	4	66	4	66	4
Maximum	160	142	160	129	148	164	137	137	130	136	110	115	235	233	110	115	157	110	121	138	82	70.9	58	52.7	82	85.6
Minimum	94.6	131	46	123	75	157	80	135	26	126	73.6	112	97	202	74	106	47	99.2	65	126	50	68	46.8	51	67	73
Mean	131.1	136.0	134.9	125.7	99.2	160.8	117.4	136.5	113.0	129.9	92.7	113.1	160.7	218.5	93.7	108.9	90.6	104.2	89.5	131.0	66.7	69.0	51.7	51.9	73.5	78.8
Standard Deviation	11.2	5.0	20.2	2.1	23.0	3.3	15.3	0.8	12.0	2.9	11.6	1.1	44.0	10.1	7.5	3.0	10.2	4.1	13.4	4.2	4.6	1.3	2.2	0.8	3.8	5.3
Median	131.0	135.5	131.0	125.0	90.0	161.0	120.0	137.0	114.0	129.5	90.9	113.0	155.0	217.5	94.6	107.5	90.0	103.0	86.9	131.0	66.9	68.6	52.0	52.0	73.0	78.3
Ammonia as N, mg/L																										
No. of Analyses	62	4	65	10	69	4	73	6	72	8	35	8	74	8	75	8	74	8	70	8	66	4	66	4	66	4
No. of Detections	13	4	43	10	7	4	39	6	42	8	18	8	9	2	20	8	42	8	5	1	5	1	4	0	46	4
Maximum	0.09	0.013	0.17	0.0189	0.13	0.0075	0.25	0.0234	0.12	0.0172	0.015	0.0206	0.53	ND	0.128	0.0103	0.16	0.0207	0.18	ND	0.13	ND	0.11	ND	0.12	0.018
Minimum	ND	0.009	ND	0.0164	ND	0.0063	ND	0.016	ND	0.0141	ND	0.0098	ND	ND	ND	0.008	ND	0.0101	ND	ND	ND	ND	ND	ND	ND	0.0171
Mean	0.015	0.011	0.019	0.018	0.012	0.007	0.017	0.018	0.017	0.016	0.009	0.013	0.022	ID	0.013	0.009	0.017	0.017	0.012	ID	0.011	ID	0.010	ID	0.021	0.018
Standard Deviation	0.020	0.002	0.021	0.001	0.018	0.001	0.028	0.003	0.014	0.001	0.004	0.004	0.067	ID	0.017	0.001	0.019	0.003	0.024	ID	0.018	ID	0.014	ID	0.017	0.000
Median	0.005	0.011	0.016	0.018	0.005	0.007	0.015	0.017	0.015	0.016	0.010	0.013	0.005	ID	0.008	0.009	0.015	0.018	0.005	ID	0.005	ID	0.005	ID	0.019	0.018
Chloride, mg/L																										
No. of Analyses	62	4	65	10	69	4	73	6	72	8	35	8	73	8	75	8	74	8	70	8	66	4	66	4	66	4
No. of Detections	62	4	65	10	69	4	73	6	72	8	35	8	72	8	75	8	74	8	70	8	66	4	64	4	66	4
Maximum	5.9	3.63	4	3.09	6	5.23	5.9	3.87	8.01	6.72	6.72	4.58	35	26	12	11.1	11.3	13.9	10.5	11.2	7.6	4.75	3.6	1.85	9.18	13
Minimum	2.36	3.01	2	2.53	3.49	4.82	2.6	3.64	2.7	5.84	4.61	4.11	ND	18.2	2	9.31	2	10.8	4	9.03	3.1	4.66	ND	1.76	2	8.64
Mean	3.1	3.3	2.9	2.8	4.5	5.0	3.8	3.7	4.2	6.3	5.3	4.5	24.0	23.7	7.4	10.1	4.4	12.5	6.6	10.3	4.8	4.7	2.2	1.8	3.4	11.4
Standard Deviation	0.6	0.3	0.3	0.2	0.4	0.2	0.6	0.1	1.0	0.3	0.5	0.2	6.5	2.6	2.1	0.6	2.5	1.1	1.9	0.8	0.9	0.0	0.5	0.0	1.7	1.9
Median	3.0	3.3	2.9	2.9	4.6	5.0	3.9	3.7	4.0	6.2	5.2	4.5	25.0	24.3	7.9	10.0	4.0	12.7	6.1	10.6	4.6	4.7	2.2	1.8	3.2	12.0
Nitrate as N, mg/L																										
No. of Analyses	62	4	65	10	69	4	73	6	72	8	35	8	75	8	75	8	76	8	70	8	66	4	66	4	66	4
No. of Detections	7	0	8	0	69	4	9	0	17	2	8	1	57	8	10	2	23	2	70	8	59	3	65	4	10	0
Maximum	300	ND	0.7	ND	3.4	0.112	0.3	ND	1	ND	0.028	ND	1.4	0.393	2	ND	320	ND	270	0.114	570	0.0481	1.7	0.771	0.16	ND
Minimum	ND	ND	ND	ND	0.128	0.087	ND	ND	ND	ND	ND	ND	ND	0.271	ND	ND	ND	ND	0.03	0.105	ND	ND	ND	0.653	ND	ND
Mean	4.864	ID	0.026	ID	0.721	0.095	0.020	ID	0.032	ID	0.008	ID	0.369	0.310	0.041	ID	4.230	ID	4.007	0.109	8.835	0.023	0.449	0.705	0.017	ID
Standard Deviation	38.097	ID	0.087	ID	0.448	0.011	0.042	ID	0.118	ID	0.007	ID	0.381	0.039	0.230	ID	36.704	ID	32.253	0.003	70.138	0.018	0.206	0.060	0.023	ID
Median	0.005	ID	0.005	ID	0.650	0.091	0.005	ID	0.008	ID	0.005	ID	0.317	0.304	0.005	ID	0.014	ID	0.130	0.109	0.108	0.019	0.473	0.698	0.005	ID

Table 4-2b *(continued)*
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-69 Long	MW-69 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	61	4	65	10	68	4	74	6	71	8	35	8	73	8	74	8	73	8	69	8	66	4	66	4	66	4
No. of Detections	61	4	65	10	68	4	74	6	71	8	35	8	73	8	74	8	73	8	69	8	66	4	64	4	66	4
Maximum	110	20.5	26	16.6	40.9	32.1	42	24.7	72	42.4	46.1	35.7	34.8	34	56.4	61.9	155	164	42.8	34	30	20.8	8	6.43	21	17.6
Minimum	14	16.9	9.7	14.3	17.1	24.6	0.91	23.1	18	35.3	31.6	32.2	5	26.8	16	53.6	72	135	16	27.7	10	18.2	ND	5.56	14.1	12.8
Mean	25.2	18.8	16.1	15.1	29.7	29.6	20.0	23.9	34.4	38.2	40.9	34.4	25.1	31.0	43.0	56.5	108.9	142.1	28.6	32.2	17.9	19.5	6.4	6.1	16.4	15.8
Standard Deviation	14.4	1.7	2.6	0.7	6.5	3.4	7.7	0.7	13.3	2.6	3.7	1.1	3.8	2.2	6.9	3.1	22.6	9.5	7.0	2.2	2.2	1.2	1.2	0.4	1.3	2.1
Median	20.4	18.9	16.1	15.1	30.0	30.8	17.9	24.0	32.0	37.5	41.6	34.5	25.0	30.9	43.0	55.4	100.0	138.5	29.9	33.1	18.0	19.6	6.6	6.1	16.1	16.4
Dissolved Iron, mg/L																										
No. of Analyses	62	4	65	10	69	4	74	6	72	8	35	8	74	8	75	8	75	8	72	8	66	4	66	4	66	4
No. of Detections	62	4	65	10	69	4	73	6	72	8	35	8	53	1	75	8	74	8	34	0	66	4	34	0	66	4
Maximum	3.6	1.39	3.2	0.68	8.5	0.228	3.2	1.15	2.9	3.03	2.36	2.18	2.81	ND	3.8	2.62	4.7	4.93	0.22	ND	2	0.981	0.16	ND	1.69	1.06
Minimum	0.695	0.65	0.179	0.515	0.02	0.197	ND	0.961	0.617	2.54	0.886	2.02	ND	ND	1.1	1.23	ND	3.67	ND	ND	0.019	0.523	ND	ND	0.423	0.958
Mean	2.04	0.89	1.57	0.59	0.23	0.21	1.11	1.07	2.14	2.74	1.60	2.11	0.93	ID	1.73	2.16	3.03	4.47	0.03	ID	0.40	0.72	0.02	ID	0.76	1.00
Standard Deviation	0.778	0.339	0.803	0.048	1.013	0.016	0.434	0.071	0.339	0.166	0.308	0.059	0.996	ID	0.373	0.432	0.703	0.406	0.042	ID	0.246	0.192	0.029	ID	0.146	0.043
Median	2.080	0.770	1.360	0.592	0.095	0.210	1.055	1.100	2.120	2.695	1.610	2.115	0.355	ID	1.700	2.225	2.900	4.525	0.005	ID	0.346	0.682	0.008	ID	0.729	0.993
Dissolved Manganese, mg/L																										
No. of Analyses	62	4	64	10	69	4	74	6	72	8	35	8	74	8	75	8	75	8	72	8	66	4	66	4	66	4
No. of Detections	62	4	64	10	67	4	72	6	72	8	35	8	54	2	75	8	74	8	3	1	66	4	14	3	66	4
Maximum	0.257	0.186	0.39	0.319	0.27	0.278	0.28	0.278	0.364	0.386	0.337	0.345	0.176	ND	0.179	0.226	0.588	0.587	0.0015	ND	0.25	0.0341	0.01	0.000247	0.4	0.277
Minimum	0.097	0.149	0.17	0.291	ND	0.202	ND	0.26	0.212	0.359	0.184	0.327	ND	ND	0.065	0.139	ND	0.515	ND	ND	0.0015	0.0165	ND	ND	0.181	0.211
Mean	0.172	0.165	0.265	0.304	0.062	0.224	0.189	0.268	0.284	0.370	0.263	0.334	0.064	ID	0.127	0.192	0.342	0.539	0.001	ID	0.018	0.022	0.001	0.000	0.287	0.249
Standard Deviation	0.042	0.017	0.050	0.007	0.054	0.036	0.050	0.008	0.038	0.010	0.035	0.005	0.062	ID	0.023	0.028	0.082	0.023	0.000	ID	0.030	0.008	0.001	0.000	0.054	0.028
Median	0.165	0.162	0.270	0.304	0.050	0.209	0.198	0.265	0.273	0.370	0.268	0.335	0.062	ID	0.124	0.196	0.320	0.538	0.001	ID	0.014	0.019	0.001	0.000	0.290	0.255
Dissolved Calcium, mg/L																										
No. of Analyses	62	4	65	10	69	4	74	6	72	8	35	8	74	8	75	8	75	8	72	8	66	4	66	4	66	4
No. of Detections	62	4	65	10	69	4	73	6	72	8	35	8	74	8	75	8	75	8	72	8	66	4	66	4	66	4
Maximum	38	30.7	43	28.4	34.6	37.8	40	35.1	33	34.8	30.9	31.3	49.2	50.5	31	31.8	45	47.4	35	34.5	21	15.8	21	9.66	18	18.5
Minimum	22	27.9	18	26.6	15	35.8	ND	32.9	20.1	31.6	18.1	30.1	19	41.5	11	30	4.38	46	13	31.5	11	15.1	7.4	9.37	10	14.8
Mean	27.2	29.4	27.4	27.5	23.3	36.5	26.0	34.2	25.7	32.9	26.1	30.7	33.6	47.0	21.1	30.6	32.3	46.8	21.3	32.9	13.8	15.5	8.9	9.5	13.1	16.7
Standard Deviation	3.6	1.2	4.5	0.5	5.7	0.9	5.8	0.7	3.1	1.0	2.9	0.4	8.3	2.7	4.2	0.7	6.5	0.5	4.7	1.0	1.5	0.3	1.7	0.1	1.1	1.5
Median	26.0	29.4	27.3	27.5	22.0	36.3	26.7	34.4	25.0	32.9	26.8	30.8	33.0	47.1	21.6	30.5	31.0	47.0	20.7	33.1	13.7	15.5	8.6	9.5	13.0	16.7
Dissolved Magnesium, mg/L																										
No. of Analyses	62	4	65	10	69	4	74	6	72	8	35	8	74	8	75	8	75	8	72	8	66	4	66	4	66	4
No. of Detections	62	4	65	10	69	4	73	6	72	8	35	8	74	8	75	8	75	8	72	8	66	4	66	4	66	4
Maximum	21	17.2	22	15.9	21.3	21.9	18	16.7	19.5	20.3	16	16.3	37.7	38.5	21.2	22.9	31.1	31.9	21	20.5	12	11.3	11	7.13	10.9	13.3
Minimum	12	16.5	10	14.6	8.9	21.3	ND	15.9	12.5	19.7	9.5	15.4	15	32.3	8.5	20.1	0.919	30.9	9	19.5	7.19	10.5	4.9	6.87	7	10.9
Mean	15.5	16.8	15.0	15.2	13.6	21.6	12.2	16.2	15.3	19.9	13.4	15.9	24.8	36.0	15.8	22.1	21.8	31.4	13.0	20.1	9.3	10.9	6.4	7.0	9.0	12.1
Standard Deviation	1.9	0.3	2.2	0.4	3.6	0.2	2.6	0.3	1.9	0.2	1.5	0.3	6.6	2.0	3.1	0.9	4.8	0.3	2.9	0.4	0.9	0.4	0.8	0.1	0.9	1.0
Median	15.0	16.7	15.1	15.2	12.0	21.6	13.0	16.2	15.1	19.9	13.7	16.0	24.0	35.8	16.0	22.4	21.1	31.4	12.6	20.1	9.3	11.0	6.4	7.0	9.0	12.1
Dissolved Potassium, mg/L																										
No. of Analyses	61	4	64	10	67	4	73	6	71	8	35	8	73	8	74	8	74	8	71	8	65	4	65	4	65	4
No. of Detections	61	4	64	10	67	4	72	6	71	8	35	8	73	8	74	8	73	8	71	8	65	4	65	4	65	4
Maximum	2.18	1.81	2.2	1.84	1.89	1.83	1.9	1.83	1.95	2.09	1.68	1.7	2.5	2.31	2.3	2.03	2.4	2.51	2.3	1.74	1.6	1.32	1.2	0.866	1.72	1.71
Minimum	1.37	1.78	1.2	1.66	0.77	1.77	ND	1.77	1.4	1.91	1.33	1.64	1.4	2.01	0.81	1.85	ND	2.37	1.1	1.61	0.94	1.28	0.66	0.838	1.2	1.52
Mean	1.7	1.8	1.6	1.7	1.4	1.8	1.5	1.8	1.7	2.0	1.5	1.7	1.9	2.2	1.6	1.9	2.0	2.4	1.3	1.7	1.1	1.3	0.8	0.9	1.4	1.6
Standard Deviation	0.20	0.01	0.15	0.05	0.21	0.03	0.24	0.03	0.13	0.05	0.09	0.02	0.21	0.09	0.20	0.06	0.29	0.04	0.19	0.04	0.11	0.02	0.08	0.01	0.10	0.08
Median	1.78	1.79	1.60	1.70	1.40	1.78	1.60	1.79	1.70	1.98	1.57	1.69	1.90	2.16	1.65	1.93	1.97	2.42	1.32	1.67	1.13	1.31	0.84	0.85	1.42	1.62
Dissolved Sodium, mg/L																										
No. of Analyses	62	4	65	10	69	4	74	6	72	8	35	8	74	8	75	8	75	8	72	8	66	4	66	4	66	4
No. of Detections	62	4	65	10	69	4	74	6	72	8	35	8	74	8	75	8	75	8	72	8	66	4	66	4	66	4
Maximum	11	9.74	10	9.34	9.86	9.9	9.01	9.08	8.31	8.78	8	8.06	13.6	13.7	46	9.47	10.8	10.9	14	9.95	7.4	7.26	6.3	5.94	9.8	10
Minimum	7.48	9.34	6	8.69	5.9	9.57	0.0293	8.62	6.08	8.15	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	8.7	9.5	8.0	9.0	7.7	9.8	7.2	8.8	7.1	8.4	7.0	7.9	10.2	13.0	10.2	9.1	8.8	10.7	7.5	9.6	6.3	7.1	5.4	5.8	8.0	9.8
Standard Deviation	0.67	0.18	0.69	0.22	0.89	0.16	1.12	0.18	0.55	0.19	0.58	0.17	1.58	0.51	7.37	0.51	1.07	0.16	1.30	0.24	0.48	0.13	0.38	0.11	0.84	0.16
Median	8.80	9.51	8.10	8.96	7.60	9.88	7.39	8.72	7.04	8.40	7.07	7.96	9.90	13.00	8.10	9.24	8.80	10.80	7.40	9.55	6.26	7.02	5.40	5.81	8.18	9.83

Table 4-2b *(continued)*
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-69 Long	MW-69 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	15	4	19	10	15	4	19	6	17	8	19	8	18	8	18	8	18	8	19	8	15	4	15	4	15	4
No. of Detections	14	4	19	10	3	4	19	6	2	8	19	8	3	8	3	8	18	8	3	8	15	4	8	4	15	4
Maximum	0.0183	0.00493	0.27	0.0451	0.00168	0.00833	0.00386	0.00269	ND	0.000277	0.0392	0.00494	0.00112	0.00145	0.000603	0.000555	0.0256	0.00527	0.00073	0.000741	0.00969	0.0194	0.00104	0.00103	0.0266	0.00638
Minimum	ND	0.00178	0.0137	0.0118	ND	0.0011	0.00187	0.00222	ND	0.0000879	0.00397	0.00358	ND	0.000389	ND	0.000375	0.00161	0.000598	ND	0.000685	0.00104	0.00377	ND	0.000963	0.00201	0.00254
Mean	0.00391	0.00362	0.08824	0.02086	0.00063	0.00399	0.00254	0.00242	ID	0.00014	0.00885	0.00402	0.00054	0.00061	0.00051	0.00048	0.00967	0.00174	0.00053	0.00072	0.00259	0.01147	0.00077	0.00100	0.00774	0.00406
Standard Deviation	0.00426	0.00141	0.06659	0.00968	0.00033	0.00323	0.00058	0.00017	ID	0.00008	0.00874	0.00045	0.00015	0.00036	0.00003	0.00005	0.00699	0.00156	0.00008	0.00002	0.00233	0.00656	0.00027	0.00003	0.00771	0.00164
Median	0.00260	0.00388	0.07930	0.01925	0.00050	0.00326	0.00226	0.00238	ID	0.00011	0.00580	0.00393	0.00050	0.00044	0.00050	0.00048	0.00906	0.00101	0.00050	0.00072	0.00140	0.01135	0.00098	0.00100	0.00368	0.00366
Total Barium, mg/L																										
No. of Analyses	15	4	19	10	15	4	19	6	17	8	19	8	18	8	18	8	18	8	19	8	15	4	15	4	15	4
No. of Detections	15	4	19	10	15	4	19	6	17	8	19	8	18	8	18	8	18	8	19	8	15	4	15	4	15	4
Maximum	0.0121	0.00893	0.0197	0.0115	0.0152	0.0244	0.0139	0.0126	0.0156	0.0163	0.023	0.0147	0.0171	0.0141	0.0131	0.0126	0.0369	0.0265	0.00654	0.00684	0.00598	0.0088	0.00237	0.00224	0.0256	0.0101
Minimum	0.00663	0.00704	0.0117	0.0106	0.00953	0.0142	0.0105	0.0113	0.0102	0.0115	0.0128	0.0135	0.0109	0.0115	0.0102	0.011	0.0212	0.0233	0.00482	0.00622	0.0034	0.00587	0.00209	0.00204	0.00647	0.00787
Mean	0.008	0.008	0.014	0.011	0.011	0.019	0.012	0.012	0.012	0.013	0.015	0.014	0.012	0.013	0.011	0.012	0.028	0.025	0.006	0.007	0.005	0.007	0.002	0.002	0.010	0.009
Standard Deviation	0.0014	0.0009	0.0021	0.0003	0.0017	0.0044	0.0010	0.0005	0.0016	0.0016	0.0026	0.0005	0.0016	0.0010	0.0009	0.0006	0.0051	0.0011	0.0005	0.0002	0.0008	0.0013	0.0001	0.0001	0.0056	0.0010
Median	0.0073	0.0074	0.0130	0.0111	0.0108	0.0182	0.0116	0.0124	0.0116	0.0128	0.0141	0.0145	0.0121	0.0130	0.0109	0.0124	0.0280	0.0257	0.0059	0.0066	0.0042	0.0068	0.0022	0.0022	0.0076	0.0088
Total Copper, mg/L																										
No. of Analyses	15	4	19	10	15	4	19	6	17	8	19	8	18	8	18	8	18	8	19	8	15	4	15	4	15	4
No. of Detections	3	3	10	9	1	4	0	1	4	6	1	1	3	7	0	1	4	1	0	2	0	1	0	0	1	0
Maximum	0.00226	0.000612	0.00737	0.0017	ND	0.00115	ND	ND	0.00331	0.00162	ND	ND	0.001	0.000488	ND	ND	0.00347	ND	ND	ND	ND	ND	ND	ND	ND	ND
Minimum	ND	ND	ND	ND	ND	0.000285	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Mean	0.0011	0.0003	0.0022	0.0006	ID	0.0007	ID	ID	0.0010	0.0004	ID	ID	0.0009	0.0003	ID	ID	0.0011	ID	ID	ID	ID	ID	ID	ID	ID	ID
Standard Deviation	0.00037	0.00022	0.00181	0.00048	ID	0.00038	ID	ID	0.00064	0.00051	ID	ID	0.00028	0.00011	ID	ID	0.00063	ID	ID	ID	ID	ID	ID	ID	ID	ID
Median	0.00100	0.00025	0.00100	0.00048	ID	0.00063	ID	ID	0.00100	0.00022	ID	ID	0.00100	0.00027	ID	ID	0.00100	ID	ID	ID	ID	ID	ID	ID	ID	ID
Total Lead, mg/L																										
No. of Analyses	15	4	19	10	15	4	19	6	17	8	19	8	18	8	18	8	18	8	19	8	15	4	15	4	15	4
No. of Detections	2	1	0	0	0	0	0	0	3	3	0	0	0	0	0	0	3	1	0	0	0	0	0	0	1	0
Maximum	ND	ND	ND	ND	ND	ND	ND	ND	0.00104	0.000579	ND	ND	ND	ND	ND	ND	0.0005	ND	ND	ND	ND	ND	ND	ND	ND	ND
Minimum	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Mean	ID	ID	ID	ID	ID	ID	ID	ID	0.0005	0.0001	ID	ID	ID	ID	ID	ID	0.0004	ID	ID	ID	ID	ID	ID	ID	ID	ID
Standard Deviation	ID	ID	ID	ID	ID	ID	ID	ID	0.00022	0.00018	ID	ID	ID	ID	ID	ID	0.00013	ID	ID	ID	ID	ID	ID	ID	ID	ID
Median	ID	ID	ID	ID	ID	ID	ID	ID	0.00050	0.00005	ID	ID	ID	ID	ID	ID	0.00050	ID	ID	ID	ID	ID	ID	ID	ID	ID
Total Selenium, mg/L																										
No. of Analyses	15	4	19	10	15	4	19	6	17	8	19	8	18	8	18	8	18	8	19	8	15	4	15	4	15	4
No. of Detections	0	0	0	0	0	0	0	0	0	0	0	0	4	8	0	0	1	0	17	8	9	0	2	3	0	0
Maximum	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.00104	0.000754	ND	ND	ND	ND	0.00132	0.00104	0.0017	ND	ND	0.000691	ND	ND
Minimum	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.000509	ND	ND	ND	ND	ND	0.000796	ND	ND	ND	ND	ND	ND
Mean	ID	ID	ID	ID	ID	ID	ID	ID	ID	ID	ID	ID	0.0006	0.0007	ID	ID	ID	ID	0.0010	0.0010	0.0010	ID	ID	0.0005	ID	ID
Standard Deviation	ID	ID	ID	ID	ID	ID	ID	ID	ID	ID	ID	ID	0.000149	8.89204E-05	ID	ID	ID	ID	0.00021	0.00008	0.00049	ID	ID	0.00020	ID	ID
Median	ID	ID	ID	ID	ID	ID	ID	ID	ID	ID	ID	ID	0.0005	0.0006395	ID	ID	ID	ID	0.00107	0.00095	0.00117	ID	ID	0.00060	ID	ID
Total Vanadium, mg/L																										
No. of Analyses	15	4	19	10	15	4	19	6	17	8	19	8	18	8	18	8	18	8	19	8	15	4	15	4	15	4
No. of Detections	1	3	8	10	2	4	0	5	1	5	0	3	3	8	0	1	11	8	3	8	1	4	15	4	2	4
Maximum	ND	0.000161	0.0037	0.000862	ND	0.00357	ND	0.000275	ND	0.000374	ND	0.00016	0.001	0.00112	ND	ND	0.00468	0.00115	0.001	0.00105	ND	0.00336	0.00277	0.00285	ND	0.000211
Minimum	ND	ND	ND	0.00024	ND	0.000594	ND	ND	ND	ND	ND	ND	ND	0.000602	ND	ND	ND	0.0000887	ND	0.000915	ND	0.000428	0.0024	0.00263	ND	0.000094
Mean	ID	0.0001	0.0016	0.0004	ID	0.0018	ID	0.0001	ID	0.0001	ID	0.0001	0.0010	0.0007	ID	ID	0.0021	0.0003	0.0010	0.0010	ID	0.0015	0.0027	0.0027	ID	0.0001
Standard Deviation	ID	0.00005	0.00102	0.00020	ID	0.00131	ID	0.00009	ID	0.00011	ID	0.00005	0.00012	0.00018	ID	ID	0.00120	0.00036	0.00005	0.00005	ID	0.00134	0.00010	0.00011	ID	0.00005
Median	ID	0.00009	0.00100	0.00034	ID	0.00160	ID	0.00011	ID	0.00008	ID	0.00004	0.00100	0.00064	ID	ID	0.00202	0.00016	0.00100	0.00095	ID	0.00112	0.00270	0.00274	ID	0.00015
Total Zinc, mg/L																										
No. of Analyses	15	4	19	10	15	4	19	6	17	8	19	8	18	8	18	8	18	8	19	8	15	4	15	4	15	4
No. of Detections	4	4	3	9	1	4	7	4	12	8	5	3	3	6	3	3	3	6	1	5	2	4	2	1	8	4
Maximum	0.00922	0.00554	0.002	0.00199	ND	0.00189	0.0112	0.00201	0.0201	0.0129	0.0117	0.00129	0.002	0.00108	0.002	0.00142	0.002	0.00171	ND	0.000709	ND	0.00151	ND	ND	0.0303	0.00226
Minimum	ND	0.00119	ND	ND	ND	0.000629	ND	ND	ND	0.00114	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.000608	ND	ND	ND	0.00157
Mean	0.0029	0.0025	0.0019	0.0009	ID	0.0013	0.0032	0.0008	0.0058	0.0036	0.0026	0.0005	0.0018	0.0007	0.0018	0.0005	0.0019	0.0008	ID	0.0005	ID	0.0009	ID	ID	0.0079	0.0019
Standard Deviation	0.0020	0.0020	0.0003	0.0005	ID	0.0006	0.0029	0.0006	0.0054	0.0040	0.0023	0.0004	0.0004	0.0003	0.0004	0.0004	0.0003	0.0005	ID	0.0002	ID	0.0004	ID	ID	0.0080	0.0003
Median	0.0020	0.0017	0.0020	0.0008	ID	0.0013	0.0020	0.0007	0.0049	0.0020	0.0020	0.0003	0.0020	0.0008	0.0020	0.0003	0.0020	0.0007	ID	0.0005	ID	0.0008	ID	ID	0.0052	0.0019

Table 4-2b *(continued)*

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-69 Long	MW-69 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	62	4	64	10	70	4	74	6	72	8	35	8	185	8	188	8	182	8	71	8	66	4	67	4	67	4
No. of Detections	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0
Maximum	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Minimum	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Mean	ID	ID	ID	ID	ID	ID	ID	ID	ID	ID	ID	ID	ID	ID	ID	ID	ID	ID	ID	ID	ID	ID	ID	ID	ID	ID
Standard Deviation	ID	ID	ID	ID	ID	ID	ID	ID	ID	ID	ID	ID	ID	ID	ID	ID	ID	ID	ID	ID	ID	ID	ID	ID	ID	ID
Median	ID	ID	ID	ID	ID	ID	ID	ID	ID	ID	ID	ID	ID	ID	ID	ID	ID	ID	ID	ID	ID	ID	ID	ID	ID	ID
Tetrachloroethene, ug/L																										
No. of Analyses	62	4	64	10	70	4	74	6	72	8	35	8	185	8	188	8	182	8	71	8	66	4	67	4	67	4
No. of Detections	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Maximum	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Minimum	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Mean	ID	ID	ID	ID	ID	ID	ID	ID	ID	ID	ID	ID	ID	ID	ID	ID	ID	ID	ID	ID	ID	ID	ID	ID	ID	ID
Standard Deviation	ID	ID	ID	ID	ID	ID	ID	ID	ID	ID	ID	ID	ID	ID	ID	ID	ID	ID	ID	ID	ID	ID	ID	ID	ID	ID
Median	ID	ID	ID	ID	ID	ID	ID	ID	ID	ID	ID	ID	ID	ID	ID	ID	ID	ID	ID	ID	ID	ID	ID	ID	ID	ID
Trichloroethene, ug/L																										
No. of Analyses	62	4	64	10	70	4	74	6	72	8	35	8	185	8	188	8	182	8	71	8	66	4	67	4	67	4
No. of Detections	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Maximum	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Minimum	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Mean	ID	ID	ID	ID	ID	ID	ID	ID	ID	ID	ID	ID	ID	ID	ID	ID	ID	ID	ID	ID	ID	ID	ID	ID	ID	ID
Standard Deviation	ID	ID	ID	ID	ID	ID	ID	ID	ID	ID	ID	ID	ID	ID	ID	ID	ID	ID	ID	ID	ID	ID	ID	ID	ID	ID
Median	ID	ID	ID	ID	ID	ID	ID	ID	ID	ID	ID	ID	ID	ID	ID	ID	ID	ID	ID	ID	ID	ID	ID	ID	ID	ID
Vinyl Chloride, ug/L																										
No. of Analyses	62	4	64	10	70	4	74	6	72	8	35	8	185	8	188	8	182	8	71	8	66	4	67	4	67	4
No. of Detections	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	0	2	0	0	0	0	0	1	0	1	0
Maximum	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.07	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Minimum	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Mean	ID	ID	ID	ID	ID	ID	ID	ID	ID	ID	ID	ID	ID	ID	0.01	ID	ID	ID	ID	ID	ID	ID	ID	ID	ID	ID
Standard Deviation	ID	ID	ID	ID	ID	ID	ID	ID	ID	ID	ID	ID	ID	ID	0.006	ID	ID	ID	ID	ID	ID	ID	ID	ID	ID	ID
Median	ID	ID	ID	ID	ID	ID	ID	ID	ID	ID	ID	ID	ID	ID	0.010	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	77	10	80	8	47	7	40	8
No. of Detections	77	10	80	8	47	7	40	8
Maximum	6.83	9.52	7.19	6.93	7.33	7.01	8.89	7.33
Minimum	6.03	6.18	6.31	6.69	6.1	6.04	6.46	6.48
Mean	6.4	6.8	6.9	6.8	6.7	6.5	7.0	7.0
Standard Deviation	0.2	1.0	0.2	0.1	0.3	0.3	0.3	0.3
Median	6.43	6.42	6.92	6.865	6.68	6.39	6.955	7.015
Specific Conductance, (Field) uS/cm								
No. of Analyses	77	10	80	8	47	7	40	8
No. of Detections	77	10	80	8	47	7	40	8
Maximum	370	296.1	1195	1180	320	215	827	555.6
Minimum	200	2.1	2.1	730	140	114.4	250	390
Mean	283.0	238.9	777.7	957.4	218.0	163.6	576.3	480.2
Standard Deviation	44.9	86.1	183.6	172.8	38.4	40.3	121.7	61.3
Median	275	267.5	770	900	210	145.6	572.5	485
Total Dissolved Solids, mg/L								
No. of Analyses	75	8	78	8	48	6	40	8
No. of Detections	75	8	78	8	48	6	40	8
Maximum	300	224	1500	724	220	159	490	348
Minimum	170	183	120	670	95	100	62.7	286
Mean	212.7	210.9	599.1	701.5	150.6	121.2	388.5	318.9
Standard Deviation	23.6	12.6	148.2	17.0	24.2	24.4	84.5	23.7
Median	210	213.5	610.5	704	148.5	110.5	414	326
Alkalinity, total (CaCO3), mg/L								
No. of Analyses	75	8	78	8	48	6	40	8
No. of Detections	75	8	78	8	48	6	40	8
Maximum	200	93.1	716	660	110	83.7	520	305
Minimum	75.8	59.7	410	622	42	38.6	122	248
Mean	145.7	73.5	584.7	646.9	71.6	54.3	360.8	284.4
Standard Deviation	34.4	9.8	78.3	12.3	14.8	19.1	83.2	20.7
Median	157	72.6	598.5	650	70	44.05	371	287
Ammonia as N, mg/L								
No. of Analyses	75	8	78	8	48	6	40	8
No. of Detections	8	0	73	7	2	0	29	8
Maximum	0.09	ND	0.156	0.0928	ND	ND	0.11	0.0161
Minimum	ND	ND	ND	ND	ND	ND	ND	0.0066
Mean	0.012	ID	0.069	0.050	ID	ID	0.018	0.013
Standard Deviation	0.016	ID	0.031	0.028	ID	ID	0.016	0.004
Median	0.005	ID	0.0691	0.0481	ID	ID	0.015	0.01505
Chloride, mg/L								
No. of Analyses	75	8	78	8	48	6	40	8
No. of Detections	75	8	78	8	48	6	40	8
Maximum	6.1	2.61	15	6.19	14.4	4.86	8.9	2.97
Minimum	0.8	0.864	3.8	5.37	2.98	2.9	2.34	2.47
Mean	1.7	1.2	7.9	5.7	6.2	3.5	4.7	2.7
Standard Deviation	1.0	0.6	1.9	0.3	2.7	0.7	2.0	0.2
Median	1.3	1.02	7.775	5.675	5.375	3.28	3.93	2.735
Nitrate as N, mg/L								
No. of Analyses	75	8	78	8	48	6	40	8
No. of Detections	75	8	11	1	48	6	9	5
Maximum	14	17	1.1	ND	7.7	3.56	0.0593	0.062
Minimum	0.081	7.77	ND	ND	2.16	2.11	ND	ND
Mean	3.250	14.584	0.029	ID	4.426	2.933	0.014	0.019
Standard Deviation	3.032	3.117	0.125	ID	1.441	0.511	0.014	0.019
Median	2.2	15.9	0.005	ID	3.84	3.055	0.005	0.013
Sulfate, mg/L								
No. of Analyses	75	8	78	8	48	6	40	8
No. of Detections	75	8	78	8	48	6	40	8
Maximum	37	11.4	8.5	6.86	36	15.2	20.9	4.37
Minimum	5.67	5.64	1.6	5.54	11.7	9.73	3.35	3.27
Mean	15.9	6.8	6.3	6.2	20.9	11.9	5.6	4.0
Standard Deviation	7.5	1.9	1.0	0.5	5.3	1.9	2.9	0.3
Median	14	6.15	6.21	6.185	20.5	11.4	5.155	4.045

Table 4-2c *(continued)*
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	76	8	79	8	48	6	40	8
No. of Detections	40	1	79	8	29	2	40	8
Maximum	7.1	ND	4.75	4.77	0.31	ND	3.5	1.14
Minimum	ND	ND	0.031	0.056	ND	ND	0.0529	0.0269
Mean	0.15	ID	0.94	2.96	0.04	ID	0.86	0.73
Standard Deviation	0.81	ID	1.03	2.06	0.06	ID	0.77	0.40
Median	0.013	ID	0.519	4.26	0.016	ID	0.5335	0.8675
Dissolved Manganese, mg/L								
No. of Analyses	76	8	78	8	48	6	40	8
No. of Detections	11	4	78	8	6	5	40	8
Maximum	1.7	0.00044	4.71	3.87	0.0103	0.00288	2	1.31
Minimum	ND	ND	0.54	1.06	ND	ND	0.154	0.982
Mean	0.0231	0.0001	1.6440	2.0950	0.0008	0.0007	1.2627	1.1253
Standard Deviation	0.1949	0.0001	0.7457	0.9395	0.0015	0.0011	0.4448	0.0944
Median	0.0005	0.0000775	1.635	1.745	0.0005	0.000362	1.325	1.135
Dissolved Calcium, mg/L								
No. of Analyses	76	8	79	8	48	6	40	8
No. of Detections	76	8	79	8	48	6	40	8
Maximum	53	26.3	160	148	32	21.4	98	58
Minimum	16.7	19.5	63	140	14.7	12.7	23.7	51.6
Mean	27.7	22.6	113.0	143.1	20.2	15.2	62.7	54.4
Standard Deviation	6.5	2.0	21.1	3.4	3.8	3.7	13.1	2.3
Median	26.95	22.5	116	142	19.35	13.05	62.9	54
Dissolved Magnesium, mg/L								
No. of Analyses	76	8	79	8	48	6	40	8
No. of Detections	76	8	79	8	48	6	40	8
Maximum	26	15.4	79.5	73	11	8.37	50	35.1
Minimum	8.32	11.4	31	66.4	4.18	3.23	15.3	30.7
Mean	15.7	12.5	54.4	70.3	6.8	4.9	36.4	32.3
Standard Deviation	3.4	1.3	10.1	2.0	1.7	2.3	7.1	1.6
Median	15.95	12.2	55	70.6	6.555	3.535	37.45	31.7
Dissolved Potassium, mg/L								
No. of Analyses	75	8	78	8	47	6	40	8
No. of Detections	75	8	78	8	47	6	40	8
Maximum	38	1.53	6	6.16	1.5	1.14	3.7	2.99
Minimum	1.3	1.46	3.13	4.58	0.825	0.729	1.92	2.6
Mean	2.13	1.50	4.74	5.35	1.06	0.87	2.88	2.72
Standard Deviation	4.20	0.03	0.53	0.49	0.15	0.19	0.36	0.13
Median	1.6	1.5	4.735	5.385	1.04	0.749	2.88	2.675
Dissolved Sodium, mg/L								
No. of Analyses	76	8	79	8	48	6	40	8
No. of Detections	76	8	79	8	48	6	40	8
Maximum	110	16.7	21	20.7	20	15.2	25	17.5
Minimum	10.5	11.7	13	18.4	12.3	9.22	9.05	16.3
Mean	15.1	15.0	16.9	19.7	14.5	12.0	16.2	17.0
Standard Deviation	11.2	1.5	1.9	0.8	1.5	2.5	2.4	0.4
Median	13.35	15.4	16.7	19.85	14.2	10.85	16.05	17
Total Arsenic, mg/L								
No. of Analyses	22	8	24	8	15	6	19	8
No. of Detections	3	8	12	8	2	6	19	8
Maximum	0.000579	0.000862	0.0113	0.00472	ND	0.000439	0.0135	0.0126
Minimum	ND	0.000468	ND	0.000547	ND	0.000188	0.00198	0.00257
Mean	0.0005	0.0006	0.0022	0.0024	ID	0.0003	0.0073	0.0089
Standard Deviation	0.0000	0.0001	0.0031	0.0015	ID	0.0001	0.0041	0.0041
Median	0.0005	0.000506	0.000662	0.002385	ID	0.000315	0.00558	0.010105
Total Barium, mg/L								
No. of Analyses	22	8	24	8	15	6	19	8
No. of Detections	22	8	24	8	15	6	19	8
Maximum	0.00774	0.00706	0.0451	0.0458	0.0032	0.0038	0.0359	0.0265
Minimum	0.00398	0.00359	0.0364	0.0361	0.00173	0.00144	0.0148	0.0174
Mean	0.0050	0.0043	0.0401	0.0412	0.0023	0.0022	0.0235	0.0216
Standard Deviation	0.0008	0.0011	0.0023	0.0030	0.0004	0.0009	0.0057	0.0031
Median	0.004755	0.00392	0.03965	0.04145	0.00226	0.00193	0.0231	0.02155

Table 4-2c *(continued)*
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	22	8	24	8	15	6	19	8
No. of Detections	3	3	3	8	2	5	3	8
Maximum	0.0015	0.000196	0.0015	0.000768	ND	0.000298	0.0015	0.000552
Minimum	ND	ND	ND	0.000377	ND	ND	ND	0.000225
Mean	0.00131	0.0001	0.0014	0.0005	ID	0.0001	0.0013	0.0003
Standard Deviation	0.00050	0.0001	0.0004	0.0001	ID	0.0001	0.0004	0.0001
Median	0.0015	0.000025	0.0015	0.000446	ID	9.89E-05	0.0015	0.000278
Total Copper, mg/L								
No. of Analyses	22	8	24	8	15	6	19	8
No. of Detections	4	8	2	4	2	6	2	7
Maximum	0.0103	0.00287	ND	0.00168	ND	0.00198	ND	0.00106
Minimum	ND	0.000219	ND	ND	ND	0.000298	ND	ND
Mean	0.0014	0.0007	ID	0.0004	ID	0.0008	ID	0.0005
Standard Deviation	0.0020	0.0009	ID	0.0005	ID	0.0006	ID	0.0003
Median	0.001	0.000327	ID	0.000223	ID	0.000535	ID	0.000452
Total Vanadium, mg/L								
No. of Analyses	22	8	24	8	15	6	19	8
No. of Detections	14	8	3	8	2	6	4	8
Maximum	0.00307	0.00331	0.00307	0.00269	ND	0.0021	0.00387	0.000994
Minimum	ND	0.00201	ND	0.000135	ND	0.000753	ND	0.000314
Mean	0.0018	0.0023	0.0010	0.0007	ID	0.0013	0.0011	0.0005
Standard Deviation	0.0006	0.0004	0.0005	0.0010	ID	0.0005	0.0007	0.0002
Median	0.002065	0.00214	0.001	0.000242	ID	0.001229	0.001	0.000443
Benzene, ug/L								
No. of Analyses	76	8	79	8	48	6	40	8
No. of Detections	0	0	1	1	0	0	0	0
Maximum	ND	ND	ND	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
Total Vanadium, mg/L								
No. of Analyses	22	8	24	8	15	6	19	8
No. of Detections	14	8	3	8	2	6	4	8
Maximum	0.00307	0.00331	0.00307	0.00269	ND	0.0021	0.00387	0.000994
Minimum	ND	0.00201	ND	0.000135	ND	0.000753	ND	0.000314
Mean	0.0018	0.0023	0.0010	0.0007	ID	0.0013	0.0011	0.0005
Standard Deviation	0.0006	0.0004	0.0005	0.0010	ID	0.0005	0.0007	0.0002
Median	0.002065	0.00214	0.001	0.000242	ID	0.001229	0.001	0.000443
Benzene, ug/L								
No. of Analyses	76	8	79	8	48	6	40	8
No. of Detections	0	0	1	1	0	0	0	0
Maximum	ND	ND	ND	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	76	8	78	8	48	6	40	8
No. of Detections	11	0	72	8	0	0	0	0
Maximum	0.67	ND	32	4.89	ND	ND	ND	ND
Minimum	ND	ND	ND	0.423	ND	ND	ND	ND
Mean	0.1	ID	6.0	3.4	ID	ID	ID	ID
Standard Deviation	0.1	ID	6.6	1.4	ID	ID	ID	ID
Median	0.1	ID	4.35	3.895	ID	ID	ID	ID
1,1-Dichloroethane, ug/L								
No. of Analyses	76	8	79	8	48	6	40	8
No. of Detections	75	8	74	8	47	6	3	8
Maximum	13	2.22	2.1	0.836	13	2.16	0.21	0.192
Minimum	ND	1.34	ND	0.555	ND	0.227	ND	0.123
Mean	4.91	1.73	0.53	0.66	2.86	0.88	0.10	0.15
Standard Deviation	3.29	0.30	0.25	0.10	2.60	0.76	0.02	0.02
Median	3.445	1.67	0.49	0.6285	1.805	0.524	0.1	0.157

Table 4-2c *(continued)*
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	76	8	79	8	48	6	40	8
No. of Detections	13	0	3	7	0	0	3	8
Maximum	0.52	ND	0.441	0.2	ND	ND	0.22	0.233
Minimum	ND	ND	ND	ND	ND	ND	ND	0.112
Mean	0.15	ID	0.11	0.12	ID	ID	0.11	0.16
Standard Deviation	0.12	ID	0.04	0.04	ID	ID	0.03	0.04
Median	0.1	ID	0.1	0.1115	ID	ID	0.1	0.15
cis 1,2-Dichloroethene, ug/L								
No. of Analyses	76	8	79	8	48	6	40	8
No. of Detections	76	8	75	8	48	6	7	8
Maximum	20	3.77	11	4.32	14	6.24	0.23	0.277
Minimum	1.9	1.41	ND	1.21	1.17	0.504	ND	0.165
Mean	8.18	2.28	1.38	2.09	4.73	2.38	0.12	0.22
Standard Deviation	5.42	0.69	1.42	1.07	2.92	2.28	0.04	0.03
Median	6.06	2.125	0.91	1.68	3.915	1.265	0.1	0.214
Tetrachloroethene, ug/L								
No. of Analyses	76	8	79	8	48	6	40	8
No. of Detections	2	4	0	0	0	0	0	0
Maximum	ND	0.5	ND	ND	ND	ND	ND	ND
Minimum	ND	ND	ND	ND	ND	ND	ND	ND
Mean	ID	0.14	ID	ID	ID	ID	ID	ID
Standard Deviation	ID	0.15	ID	ID	ID	ID	ID	ID
Median	ID	0.108	ID	ID	ID	ID	ID	ID
Toluene, ug/L								
No. of Analyses	76	8	79	8	48	6	40	8
No. of Detections	0	0	0	0	1	0	0	0
Maximum	ND	ND	ND	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
Trichloroethene, ug/L								
No. of Analyses	76	8	79	8	48	6	40	8
No. of Detections	76	8	1	0	12	4	0	0
Maximum	2.2	1.08	ND	ND	0.47	0.14	ND	ND
Minimum	0.676	0.558	ND	ND	ND	ND	ND	ND
Mean	1.29	0.80	ID	ID	0.14	0.10	ID	ID
Standard Deviation	0.31	0.17	ID	ID	0.08	0.04	ID	ID
Median	1.295	0.7965	ID	ID	0.1	0.1155	ID	ID
Vinyl Chloride, ug/L								
No. of Analyses	76	8	79	8	48	6	40	8
No. of Detections	11	0	79	8	2	0	39	8
Maximum	0.38	ND	12	6.18	ND	ND	0.9	0.507
Minimum	ND	ND	1.4	2.95	ND	ND	ND	0.223
Mean	0.02	ID	5.28	4.97	ID	ID	0.45	0.40
Standard Deviation	0.05	ID	1.91	1.13	ID	ID	0.22	0.09
Median	0.01	ID	5.2	5.23	ID	ID	0.44	0.4065

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	--	--	D	--	--	--	--	--	--	--	--	--	D	--	D	--	--	--	--	--	I	--	--	--	D	--	I	--	--	D	--	--
Total Barium, mg/L	Trend	--	--	D	--	I	--	D	--	--	--	I	D	I	--	--	--	--	--	I	I	D	D	--	--	I	I	--	--	D	--	--	I
Total Antimony, mg/L	Trend	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Total Berryllium, mg/L	Trend	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Total Cadmium, mg/L	Trend	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Total Chromium, mg/L	Trend	--	--	--	--	D	--	--	--	--	--	--	D	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Total Cobalt, mg/L	Trend	--	--	--	--	--	--	--	--	--	--	--	--	D	--	D	--	--	--	--	--	--	--	--	--	--	--	--	--	D	--	--	--
Total Copper, mg/L	Trend	--	--	--	--	--	--	--	--	--	--	--	--	I	--	--	--	--	--	--	--	--	--	D	--	--	--	--	--	--	--	--	--
Total Lead, mg/L	Trend	--	--	--	--	D	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Total Nickel, mg/L	Trend	--	--	--	--	D	--	--	--	--	D	--	D	D	I	D	--	--	--	--	D	D	--	--	--	D	--	D	--	D	--	--	D
Total Selenium, mg/L	Trend	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	I	--	--	--	--	--	--	--	--	--	--	--
Total Silver, mg/L	Trend	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Total Thallium, mg/L	Trend	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Total Vanadium, mg/L	Trend	--	--	--	--	--	--	--	--	--	--	--	--	D	--	--	--	--	--	--	--	D	--	--	--	D	--	I	--	I	--	--	--
Total Zinc, mg/L	Trend	--	--	--	--	I	--	--	--	--	--	--	D	D	--	D	--	--	--	--	--	--	D	--	--	--	--	--	--	D	--	--	--
Nitrate as N, mg/L	Trend	D	--	--	--	D	--	D	--	D	--	D	--	I	--	--	--	D	--	D	--	I	--	--	--	D	--	--	I	D	--	D	--
Dichlorodifluoromethane, ug/L	Trend	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
cis 1,2-Dichloroethene, ug/L	Trend	I	--	D	--	I	I	--	--	D	D	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Tetrachloroethene, ug/L	Trend	--	--	--	--	--	--	--	--	D	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Trichloroethene, ug/L	Trend	--	--	--	--	--	--	--	--	D	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	--	--	D	I	--	I	--	I	--	I	--	--	--	--	--	I	D	D	--	I	--	I	--	I	--	D	--
Total Dissolved Solids, mg/L	Trend	D	--	I	I	I	--	I	--	I	--	I	--	I	--	I	--	I	--	I	I	I	D	--	--	I	I	I	--	I	--	I	--
Alkalinity, total (CaCO3), mg/L	Trend	D	--	--	I	I	--	I	D	I	I	I	--	I	--	I	--	I	--	I	I	--	D	D	--	I	--	I	--	I	I	--	--
Ammonia as N, mg/L	Trend	--	--	D	--	D	--	D	--	--	--	--	--	D	--	D	--	--	--	D	--	--	--	D	--	D	--	--	--	I	--	I	D
Chloride, mg/L	Trend	I	I	I	--	I	I	--	--	I	--	I	--	I	--	I	--	--	--	D	--	D	--	--	--	I	I	I	--	--	--	I	I
Nitrate as N, mg/L	Trend	D	--	--	--	D	--	D	--	D	--	D	--	I	--	--	--	D	--	D	--	I	--	--	--	D	--	--	I	D	--	D	--
Sulfate, mg/L	Trend	D	D	I	D	I	--	--	D	--	D	I	--	D	--	D	--	--	--	D	--	I	--	D	--	I	I	D	--	I	--	--	--
Dissolved Iron, mg/L	Trend	D	--	D	--	--	--	I	D	D	--	D	--	D	--	D	--	D	--	D	--	D	--	D	--	D	--	D	--	D	--	D	--
Dissolved Manganese, mg/L	Trend	D	--	D	--	--	--	D	--	--	--	--	--	--	--	--	--	--	I	D	I	D	--	--	--	D	--	--	--	--	--	--	--
Dissolved Calcium, mg/L	Trend	D	--	I	I	I	--	--	--	I	--	I	--	I	--	I	--	--	--	I	I	I	--	D	--	I	I	--	I	I	--	--	I
Dissolved Magnesium, mg/L	Trend	D	--	--	--	I	I	I	--	I	--	I	--	I	--	I	--	I	--	I	I	I	--	D	--	I	I	I	--	I	--	--	--
Dissolved Potassium, mg/L	Trend	D	--	D	--	I	--	I	--	I	--	I	--	I	--	I	--	I	--	I	I	--	--	--	--	I	I	I	--	I	--	--	--
Dissolved Sodium, mg/L	Trend	D	I	I	--	I	--	--	--	--	I	I	--	I	--	I	--	I	--	I	I	I	--	D	--	I	I	I	--	I	--	D	--

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-69 Long	MW-69 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	--	D	I	--	--	--	--	--	--	--
Total Barium, mg/L	Trend	--	D	D	--	I	I	--	--	D	--	I	D	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	--	--	--	--	--	--	--	--	--
Total Cobalt, mg/L	Trend	--	D	D	--	--	--	--	--	--	--	--	--	--	--	--	--	D	--	--	--	--	--	--	--	--	--
Total Copper, mg/L	Trend	--	D	--	--	--	--	D	D	--	--	D	--	--	--	--	--	D	--	--	--	--	--	--	--	--	--
Total Lead, mg/L	Trend	--	D	--	--	--	--	--	--	--	--	--	--	--	--	--	--	D	--	--	--	--	--	--	--	--	--
Total Nickel, mg/L	Trend	--	D	D	--	--	--	D	--	--	--	D	D	--	--	D	--	D	--	D	--	--	--	--	--	--	--
Total Selenium, mg/L	Trend	--	--	--	--	--	--	--	--	--	--	I	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Total Silver, mg/L	Trend	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Total Thallium, mg/L	Trend	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Total Vanadium, mg/L	Trend	--	D	--	--	--	--	--	--	--	I	D	--	--	--	--	--	I	D	D	--	--	--	--	--	--	--
Total Zinc, mg/L	Trend	--	--	D	--	--	--	--	--	D	--	D	--	D	--	--	D	D	--	--	--	--	--	--	D	--	D
Nitrate as N, mg/L	Trend	D	--	D	--	D	D	D	--	D	--	I	--	D	--	--	--	D	--	D	--	I	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-69 Long	MW-69 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	--	D	--	I	--	I	--	--	--	I	--	I	I	I	--	--	I	I	--	D	I	--	--	--	I
Total Dissolved Solids, mg/L	Trend	D	--	D	--	I	--	I	I	I	--	I	--	I	--	I	--	I	--	I	--	--	I	I	--	I	I
Alkalinity, total (CaCO3), mg/L	Trend	--	--	D	D	I	I	I	--	I	I	I	D	I	I	I	--	--	I	I	I	D	I	I	--	--	I
Ammonia as N, mg/L	Trend	D	--	--	--	D	--	--	--	--	--	D	--	D	--	--	--	--	--	--	--	--	--	--	--	--	--
Chloride, mg/L	Trend	D	--	D	I	I	--	I	--	--	--	--	--	I	--	--	--	I	I	I	--	--	--	I	--	I	I
Nitrate as N, mg/L	Trend	D	--	D	--	D	D	D	--	D	--	I	--	D	--	--	--	D	--	D	--	I	D	I	I	D	--
Sulfate, mg/L	Trend	D	--	--	--	I	D	I	--	D	--	I	--	I	--	--	--	I	--	I	--	D	--	I	--	I	--
Dissolved Iron, mg/L	Trend	D	--	D	--	--	--	I	I	D	--	D	--	--	I	I	--	I	--	D	--	D	--	D	--	I	I
Dissolved Manganese, mg/L	Trend	I	--	--	--	I	I	I	--	I	I	D	--	I	--	I	I	I	--	--	--	D	--	--	D	D	I
Dissolved Calcium, mg/L	Trend	D	--	D	--	I	--	I	--	I	--	I	D	I	--	I	--	I	--	I	I	D	I	--	--	--	I
Dissolved Magnesium, mg/L	Trend	D	I	D	--	I	--	I	--	I	--	I	D	I	--	I	--	I	--	I	--	--	I	I	--	I	I
Dissolved Potassium, mg/L	Trend	I	--	--	--	I	--	I	--	--	--	I	D	I	--	I	I	I	--	I	--	--	--	--	--	I	I
Dissolved Sodium, mg/L	Trend	--	--	--	--	I	--	I	--	I	--	I	D	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	--	--	--	--	--	D	--	--
Total Barium, mg/L	Trend	--	--	--	--	--	--	--	--
Total Antimony, mg/L	Trend	--	--	--	--	--	--	--	--
Total Berryllium, mg/L	Trend	--	--	--	--	--	--	--	--
Total Cadmium, mg/L	Trend	--	--	--	--	--	--	--	--
Total Chromium, mg/L	Trend	D	--	--	--	--	--	D	--
Total Cobalt, mg/L	Trend	D	--	D	--	--	--	D	--
Total Copper, mg/L	Trend	--	--	--	--	--	--	--	--
Total Lead, mg/L	Trend	--	--	--	--	--	--	--	--
Total Nickel, mg/L	Trend	D	--	D	--	--	--	D	--
Total Selenium, mg/L	Trend	--	--	--	--	--	--	--	--
Total Silver, mg/L	Trend	--	--	--	--	--	--	--	--
Total Thallium, mg/L	Trend	--	--	--	--	--	--	--	--
Total Vanadium, mg/L	Trend	--	--	D	--	--	--	--	--
Total Zinc, mg/L	Trend	D	--	--	--	--	--	D	--
Nitrate as N, mg/L	Trend	I	--	D	--	D	--	--	--
1,1-Dichloroethane, ug/L	Trend	D	--	I	--	D	D	--	--
1,2-Dichloroethane, ug/L	Trend	--	--	--	--	--	--	--	--
Dichlorodifluoromethane, ug/L	Trend	--	--	I	--	--	--	--	--
cis 1,2-Dichloroethene, ug/L	Trend	D	--	I	--	D	D	I	--
1,2-Dichloropropane, ug/L	Trend	--	--	--	--	--	--	--	--
Tetrachloroethene, ug/L	Trend	--	--	--	--	--	--	--	--
Trichloroethene, ug/L	Trend	D	--	--	--	D	--	--	--
Vinyl Chloride, ug/L	Trend	--	--	I	--	--	--	D	I

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	--	--	D	--	--	--	--	--
Specific Conductance, (Field) uS/cm	Trend	D	--	--	--	D	D	D	I
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	D	--	D	--
Nitrate as N, mg/L	Trend	I	--	D	--	D	--	--	--
Sulfate, mg/L	Trend	D	--	--	I	D	--	D	--
Dissolved Iron, mg/L	Trend	D	--	I	--	D	--	--	--
Dissolved Manganese, mg/L	Trend	--	--	I	--	--	--	D	--
Dissolved Calcium, mg/L	Trend	D	--	I	--	D	--	D	--
Dissolved Magnesium, mg/L	Trend	D	--	I	--	D	--	D	--
Dissolved Potassium, mg/L	Trend	D	--	--	--	D	--	--	--
Dissolved Sodium, mg/L	Trend	--	--	I	--	--	--	D	--

D	Decreasing Trend
I	Increasing Trend
--	No Trend

Table 4-4a
CEDAR HILLS REGIONAL LANDFILL REGIONAL AQUIFER QUARTERLY MONITORING WELLS
SUMMARY OF WAC 173-351 APPENDIX I INTRAWELL PREDICTION LIMIT VALUES AND RESULTS
(Data Collected from January 1, 2019 to March 31, 2019)

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	0.000567	0.00452	< 0.0001	< 0.00005	< 0.0002	< 0.00005	0.000581	0.000101	0.000226	< 0.0005	< 0.00004	< 0.0001	0.000115	0.00235	0.014	1.25	< 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	0.00069	0.0044	< 0.0001	< 0.00005	0.0002	< 0.00005	< 0.0002	< 0.0001	0.000211	0.000993	< 0.00004	< 0.0001	0.000815	0.00104	0.417	< 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	0.000531	0.0031	< 0.0001	< 0.00005	< 0.0002	< 0.00005	0.000574	< 0.0001	0.000122	0.000857	< 0.00004	< 0.0001	0.00171	0.000556	1.51	< 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	0.000421	0.0109	< 0.0001	< 0.00005	< 0.0002	0.000351	0.00545	< 0.0001	0.00249	< 0.0005	< 0.00004	< 0.0001	0.000991	0.000652	2.7	< 0.1	< 0.1	1.66	< 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	0.000326	**0.00494**	< 0.0001	< 0.00005	< 0.0002	< 0.00005	< 0.0002	< 0.0001	0.000291	0.000986	< 0.00004	< 0.0001	0.000518	< 0.0005	0.145	< 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	0.00132	0.0076	< 0.0001	< 0.00005	< 0.0002	0.0000832	0.000228	< 0.0001	0.00024	< 0.0005	< 0.00004	< 0.0001	0.00217	0.0024	0.014	< 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	0.000143	0.0022	< 0.0001	< 0.00005	0.000375	0.0001	0.0011	< 0.0001	0.000527	< 0.0005	< 0.00004	< 0.0001	0.00119	< 0.0005	1.48	< 0.1	< 0.1	2.31	< 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	0.024	0.0110	< 0.0001	< 0.00005	0.000302	0.000221	0.00111	< 0.0001	0.000623	< 0.0005	< 0.00004	< 0.0001	0.000624	0.000901	< 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	< 0.0003	0.002	0.0123	< 0.0001	< 0.00005	0.000203	< 0.00005	< 0.0002	< 0.0001	0.000161	< 0.0005	< 0.00004	< 0.0001	0.0002	0.000651	< 0.01	< 0.1	< 0.1	< 0.1	< 0.01
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	0.000	**0.0163**	< 0.0001	< 0.00005	0.00153	< 0.00005	0.0007	0.000173	0.000363	< 0.0005	< 0.00004	< 0.0001	0.0002	0.00517	< 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	**0.0015**	0.0132	< 0.0001	< 0.00005	0.000242	< 0.00005	0.000488	< 0.0001	0.00102	0.000639	< 0.00004	< 0.0001	0.0011	0.000889	0.336	< 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	0.000	0.0125	< 0.0001	< 0.00005	< 0.0002	< 0.00005	0.001	< 0.0001	< 0.0001	< 0.0005	< 0.00004	< 0.0001	< 0.000075	0.000714	< 0.01	< 0.1	< 0.1	< 0.1	< 0.01
MW-80	Limit	0.001	0.039	0.0230	0.001	0.002	0.005	0.003	0.002	0.001	0.01	0.001	0.003	0.001	0.002	0.0117	0.028	0.2	0.2	0.2	0.02
	Result	< 0.0003	0.004	0.0137	< 0.0001	< 0.00005	0.000292	< 0.00005	< 0.0002	< 0.0001	0.000233	< 0.0005	< 0.00004	< 0.0001	0.0002	< 0.0005	< 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	0.001	0.00684	< 0.0001	< 0.00005	< 0.0002	< 0.00005	< 0.0002	< 0.0001	0.00029	0.000943	< 0.00004	< 0.0001	0.0011	0.000533	0.111	< 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	0.001	0.0256	< 0.0001	< 0.00005	< 0.0002	0.000129	< 0.0002	< 0.0001	0.000137	< 0.0005	< 0.00004	< 0.0001	0.0001	< 0.0005	< 0.01	< 0.1	< 0.1	< 0.1	< 0.01

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

Table 4-4a *(continued)*

CEDAR HILLS REGIONAL LANDFILL REGIONAL AQUIFER QUARTERLY MONITORING WELLS

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

(Data Collected from April 1, 2019 - June 30, 2019)

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-21	Limit	0.001	0.00117075	0.00518226	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	0.000988	0.00468	< 0.0001	< 0.00005	< 0.0002	< 0.00005	< 0.0002	< 0.0001	0.000123	< 0.0005	< 0.00004	< 0.0001	< 0.000075	< 0.0005	< 0.01	< 0.1	< 0.1	< 0.1	< 0.01
MW-24	Limit	0.001	0.001	0.00211186	0.001	0.002	0.005	0.003	0.002	0.001	0.01	0.001	0.003	0.001	0.002	0.004	1	0.39	0.2	0.2	0.02
	Result	< 0.0003	0.000606	0.00203	< 0.0001	< 0.00005	< 0.0002	< 0.00005	< 0.0002	< 0.0001	< 0.0001	< 0.0005	< 0.00004	< 0.0001	< 0.000075	< 0.0005	< 0.01	< 0.1	< 0.1	< 0.1	< 0.01
MW-56	Limit	0.001	0.0025	0.0478	0.001	0.002	0.00755	0.00389	0.0154	0.0033	0.01	0.001	0.00694	0.001	0.0178	0.0235	2.78	1.88021329	0.2	0.2	0.02
	Result	< 0.0003	0.0000772	0.0045	< 0.0001	< 0.00005	< 0.0002	0.000106	< 0.0002	< 0.0001	0.000496	< 0.0005	< 0.00004	< 0.0001	0.000203	0.00124	0.624	1.48	< 0.1	< 0.1	< 0.01
MW-59	Limit	0.001	0.001	0.00548	0.001	0.002	0.005	0.003	0.002	0.001	0.01	0.001	0.003	0.001	0.002	0.00748	0.29	1.37	0.2	0.45	0.02
	Result	< 0.0003	0.000466	0.00408	< 0.0001	< 0.00005	0.000236	< 0.00005	0.000452	< 0.0001	0.000214	< 0.0005	< 0.00004	< 0.0001	< 0.000075	0.00216	0.02	**1.38**	< 0.1	< 0.1	< 0.01
MW-64	Limit	0.001	0.01	0.02542971	0.001	0.002	0.005	0.00385	0.00512	0.001	0.0153	0.001	0.003	0.001	0.00606	0.0385	0.121	0.2	0.2	0.2	0.5
	Result	< 0.0003	0.00122	0.0118	< 0.0001	0.000103	0.000269	0.000894	0.000401	< 0.0001	0.00409	< 0.0005	< 0.00004	< 0.0001	0.000404	0.00108	0.01	< 0.1	< 0.1	< 0.1	< 0.01
MW-65	Limit	0.001	0.00242	0.00829587	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	0.13614627
	Result	< 0.0003	0.00129	0.00655	< 0.0001	< 0.00005	< 0.0002	< 0.00005	< 0.0002	< 0.0001	0.000159	< 0.0005	< 0.00004	< 0.0001	< 0.000075	0.000658	< 0.01	< 0.1	< 0.1	< 0.1	0.03
MW-66	Limit	0.001	0.001	0.00649	0.001	0.002	0.005	0.003	0.002	0.001	0.01	0.00104	0.003	0.001	0.002	0.004	0.86122498	0.2	0.2	0.2	0.02
	Result	< 0.0003	0.000643	0.00449	< 0.0001	< 0.00005	0.000215	< 0.00005	< 0.0002	< 0.0001	0.000187	0.000944	< 0.00004	< 0.0001	0.000723	0.00137	0.434	< 0.1	< 0.1	< 0.1	< 0.01
MW-68	Limit	0.001	0.49938791	0.01914598	0.001	0.002	0.005	0.003	0.00728512	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	0.0208	0.0111	< 0.0001	< 0.00005	< 0.0002	0.000217	0.000447	< 0.0001	0.000456	< 0.0005	< 0.00004	< 0.0001	0.000344	0.000661	< 0.01	< 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	0.000681	0.00271	< 0.0001	< 0.00005	0.000281	< 0.00005	0.000216	< 0.0001	0.000294	< 0.0005	< 0.00004	< 0.0001	0.00127	< 0.0005	1.06	< 0.1	< 0.1	< 0.1	< 0.01
MW-76	Limit	0.001	0.001	0.00455127	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	2.49165441	0.66545442	14.9360811	0.02
	Result	< 0.0003	0.000193	0.00354	< 0.0001	< 0.00005	0.00113	0.0000693	0.00146	< 0.0001	0.000467	< 0.0005	< 0.00004	< 0.0001	0.000594	< 0.0005	0.961	0.33	0.309	6.07	< 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	1.73145978	0.2	0.2	0.2	0.02
	Result	< 0.0003	0.000554	0.00351	< 0.0001	< 0.00005	0.000245	< 0.00005	0.000285	< 0.0001	0.000195	0.000799	< 0.00004	< 0.0001	0.00178	0.00167	1.5	< 0.1	< 0.1	< 0.1	< 0.01
MW-82	Limit	0.001	0.001	0.00349785	0.001	0.002	0.005	0.003	0.002	0.001	0.01	0.001	0.003	0.001	0.002	0.004	1.54271435	0.2	0.31	8.8	0.02
	Result	< 0.0003	0.000241	0.00124	< 0.0001	< 0.00005	0.000687	< 0.00005	< 0.0002	< 0.0001	0.000881	< 0.0005	< 0.00004	< 0.0001	0.00132	0.000571	1.12	0.1 U	0.1 U	4.28	0.01 U
MW-83	Limit	0.001	0.001	0.01147502	0.001	0.002	0.005	0.003	0.00601	0.001	0.01	0.001	0.003	0.001	0.002	0.004	4.67816622	0.2	0.2	2.86796042	0.02
	Result	< 0.0003	0.000306	0.0071	< 0.0001	< 0.00005	< 0.0002	0.000148	0.00252	< 0.0001	0.00294	< 0.0005	< 0.00004	< 0.0001	0.000882	0.000802	1.04	< 0.1	< 0.1	1.41	< 0.01
MW-84	Limit	0.001	0.001	0.00437086	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	0.00032	**0.00482**	< 0.0001	< 0.00005	< 0.0002	< 0.00005	< 0.0002	< 0.0001	0.000289	0.000696	< 0.00004	< 0.0001	0.000517	< 0.0005	0.143	< 0.1	< 0.1	< 0.1	< 0.01
MW-93	Limit	0.001	0.00143097	0.00953501	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	0.00129	0.00804	< 0.0001	< 0.00005	< 0.0002	0.0000855	< 0.0002	< 0.0001	0.000191	< 0.0005	< 0.00004	< 0.0001	0.0019	0.00101	< 0.01	< 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	2.72	0.2	0.2	3.8148849	0.02
	Result	< 0.0003	0.00012	0.00207	< 0.0001	< 0.00005	< 0.0002	0.0000885	0.00115	< 0.0001	0.000537	< 0.0005	< 0.00004	< 0.0001	0.00112	< 0.0005	0.473	< 0.1	< 0.1	2.09	< 0.01
MW-95	Limit	0.001	0.00111	0.00453001	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 U	0.00108	**0.00473**	0.0001 U	5E-05 U	0.0002 U	0.000204	0.0002 U	0.0001 U	0.000273	0.0005 U	4E-05 U	0.0001 U	0.000332	0.00051	0.01 U	0.1 U	0.1 U	0.1 U	0.01 U

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

Table 4-4a *(continued)*

CEDAR HILLS REGIONAL LANDFILL REGIONAL AQUIFER QUARTERLY MONITORING WELLS

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

(Data Collected from April 1, 2019 - June 30, 2019)

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	0.00202	0.01795438	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	**0.0045**	**0.0196**	< 0.0001	0.0000554	< 0.0002	0.000679	0.000797	< 0.0001	0.00111	< 0.0005	< 0.00004	< 0.0001	**0.00209**	0.0016	0.087	< 0.1	< 0.1	< 0.1	< 0.01
MW-69	Limit	0.001	0.00386	0.01423792	0.001	0.002	0.005	0.003	0.002	0.001	0.01	0.001	0.003	0.001	0.002	0.0112	0.076	0.2	0.2	0.2	0.02
	Result	< 0.0003	0.00269	0.0124	< 0.0001	< 0.00005	0.000213	0.0000667	0.000261	< 0.0001	0.000229	< 0.0005	< 0.00004	< 0.0001	0.000275	0.00201	< 0.01	< 0.1	< 0.1	< 0.1	< 0.01
MW-72	Limit	0.001	0.001	0.01624635	0.001	0.002	0.005	0.003	0.00331	0.00104	0.01	0.001	0.003	0.001	0.002	0.02574987	0.15	0.2	0.2	0.2	0.02
	Result	< 0.0003	0.0000966	0.013	< 0.0001	< 0.00005	0.000304	< 0.00005	0.00021	< 0.0001	0.000172	< 0.0005	< 0.00004	< 0.0001	0.0000808	0.00164	< 0.01	< 0.1	< 0.1	< 0.1	< 0.01
MW-74R	Limit	0.001	0.00112	0.01659103	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	0.000754	0.0127	< 0.0001	< 0.00005	< 0.0002	< 0.00005	0.000321	< 0.0001	0.000953	0.00064	< 0.00004	< 0.0001	0.000796	0.000675	0.271	< 0.1	< 0.1	< 0.1	< 0.01
MW-75	Limit	0.001	0.001	0.01335613	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	0.000451	0.0125	< 0.0001	< 0.00005	< 0.0002	< 0.00005	< 0.0002	< 0.0001	< 0.0001	< 0.0005	< 0.00004	< 0.0001	< 0.000075	< 0.0005	0.015	< 0.1	< 0.1	< 0.1	< 0.01
MW-80	Limit	0.001	0.0392	0.023	0.001	0.002	0.005	0.003	0.002	0.001	0.01	0.001	0.003	0.001	0.002	0.0117	0.028	0.2	0.2	0.2	0.02
	Result	0.0003 U	0.00366	0.0139	0.0001 U	5E-05 U	0.00025	5E-05 U	0.0002 U	0.0001 U	0.000135	0.0005 U	4E-05 U	0.0001 U	7.5E-05 U	0.0005 U	0.01 U	0.1 U	1 U	0.1 U	0.01 U
MW-85	Limit	0.001	0.001	0.00723398	0.001	0.002	0.005	0.003	0.002	0.001	0.01	0.00132	0.003	0.001	0.002	0.004	1.63	0.2	0.2	0.2	0.02
	Result	< 0.0003	0.000704	0.00677	< 0.0001	< 0.00005	< 0.0002	< 0.00005	0.000277	< 0.0001	0.000227	0.000914	< 0.00004	< 0.0001	0.000991	0.000641	0.105	< 0.1	< 0.1	< 0.1	< 0.01
MW-86	Limit	0.001	0.0194	0.0092398	0.001	0.002	0.005	0.003	0.002	0.001	0.01	0.00198556	0.003	0.001	0.00336	0.004	2.5	0.2	0.2	0.2	0.02
	Result	< 0.0003	0.00377	0.00587	< 0.0001	< 0.00005	< 0.0002	0.0000953	< 0.0002	< 0.0001	0.000129	< 0.0005	< 0.00004	< 0.0001	0.000428	0.000608	0.017	< 0.1	< 0.1	< 0.1	< 0.01
MW-87	Limit	0.001	0.0589252	0.03919632	0.001	0.002	0.005	0.003	0.00347	0.001	0.01	0.001	0.003	0.001	0.00468	0.004	0.0803	0.2	0.2	0.2	0.02
	Result	< 0.0003	0.000907	0.0258	< 0.0001	< 0.00005	< 0.0002	0.000124	< 0.0002	< 0.0001	0.000117	< 0.0005	< 0.00004	< 0.0001	0.000144	0.00135	< 0.01	< 0.1	< 0.1	< 0.1	< 0.01
MW-88	Limit	0.001	0.00104822	0.00244765	0.001	0.002	0.005	0.003	0.002	0.001	0.01	0.001	0.003	0.001	0.00296231	0.004	1.7	0.2	0.2	0.2	0.02
	Result	< 0.0003	0.000963	0.00223	< 0.0001	< 0.00005	0.000648	< 0.00005	< 0.0002	< 0.0001	0.000101	< 0.0005	< 0.00004	< 0.0001	0.00267	< 0.0005	0.656	< 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	0.03918775	0.095	0.2	0.2	0.2	0.04
	Result	< 0.0003	0.00376	0.00939	< 0.0001	< 0.00005	< 0.0002	< 0.00005	< 0.0002	< 0.0001	0.000118	< 0.0005	< 0.00004	< 0.0001	0.000144	0.00171	< 0.01	< 0.1	< 0.1	< 0.1	< 0.01
MW-100	Limit	0.001	0.01713851	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	0.00447	0.00704	< 0.0001	< 0.00005	0.000211	0.000235	0.00026	< 0.0001	0.000561	< 0.0005	< 0.00004	< 0.0001	0.000105	0.00147	< 0.01	< 0.1	< 0.1	< 0.1	< 0.01

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

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, 2019 to September 30, 2019)

Well	Parameter	Total Antimony	Total Arsenic	Total Barium	Total Beryllium	Total Cadmium	Total Chromium	Total Cobalt	Total Copper	Total Lead	Total Nickel	Total Selenium	Total Silver	Total Thallium	Total Vanadium	Total Zinc	Nitrate as N	*cis*-1,2-Dichloroethene	Tetrachloroethene	Trichloroethene	Vinyl Chloride
	Units	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	ug/L	ug/L	ug/L	ug/L
Upgradient and Crossgradient Wells																					
MW-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	0.000472	0.00376	< 0.0001	< 0.00005	0.000378	< 0.00005	< 0.0002	< 0.0001	0.000296	< 0.0005	< 0.00004	< 0.0001	< 0.000075	0.00129	0.017	1.37	< 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	0.000641	0.0045	< 0.0001	< 0.00005	0.000766	< 0.00005	< 0.0002	< 0.0001	0.000487	0.000917	< 0.00004	< 0.0001	0.00077	0.00111	0.437	< 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	0.000511	0.0032	< 0.0001	< 0.00005	< 0.0002	< 0.00005	0.000623	< 0.0001	0.000156	0.000861	< 0.00004	< 0.0001	0.00159	0.00358	1.58	< 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	0.000327	0.0080	< 0.0001	< 0.00005	0.00168	0.000273	0.00302	< 0.0001	0.00373	< 0.0005	< 0.00004	< 0.0001	0.000751	0.000949	2.93	< 0.1	< 0.1	2.1	< 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	0.000338	**0.00496**	< 0.0001	< 0.00005	< 0.0002	< 0.00005	< 0.0002	< 0.0001	0.00033	0.000828	< 0.00004	< 0.0001	0.000518	0.000595	0.139	< 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	0.00126	0.0084	< 0.0001	< 0.00005	< 0.0002	0.0000995	0.000233	< 0.0001	0.000287	< 0.0005	< 0.00004	< 0.0001	0.00211	0.0028	< 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	2.72	0.2	0.2	3.81	0.02
	Result	< 0.0003	0.000152	0.0022	< 0.0001	< 0.00005	0.000417	0.000108	0.000939	< 0.0001	0.000633	< 0.0005	< 0.00004	< 0.0001	0.00139	< 0.0005	0.90	< 0.1	< 0.1	1.61	< 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	0.025	0.0115	< 0.0001	< 0.00005	0.000208	0.000223	0.000512	< 0.0001	0.000537	< 0.0005	< 0.00004	< 0.0001	0.000464	0.00088	< 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	0.000	0.0115	< 0.0001	< 0.00005	0.000258	< 0.00005	< 0.0002	< 0.0001	0.000195	< 0.0005	< 0.00004	< 0.0001	< 0.000075	0.00115	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	0.0004	0.0117	< 0.0001	< 0.00005	0.000443	< 0.00005	0.000276	< 0.0001	0.00104	0.00058	< 0.00004	< 0.0001	0.0006	0.00087	0.307	< 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	0.000	0.0124	< 0.0001	< 0.00005	< 0.0002	< 0.00005	< 0.0002	< 0.0001	< 0.0001	< 0.0005	< 0.00004	< 0.0001	< 0.000075	0.00142	0.01	< 0.1	< 0.1	< 0.1	< 0.01
MW-80	Limit	0.001	0.039	0.0230	0.001	0.002	0.005	0.003	0.002	0.001	0.01	0.001	0.003	0.001	0.002	0.0117	0.028	0.2	0.2	0.2	0.02
	Result	< 0.0003	0.004	0.0146	< 0.0001	< 0.00005	0.000239	< 0.00005	< 0.0002	< 0.0001	0.000246	< 0.0005	< 0.00004	< 0.0001	0.0001	< 0.0005	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	0.001	0.00678	< 0.0001	< 0.00005	0.000537	< 0.00005	< 0.0002	< 0.0001	0.000409	0.000939	< 0.00004	< 0.0001	0.0010	0.000523	0.108	< 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	0.001	0.0239	< 0.0001	< 0.00005	< 0.0002	0.000143	< 0.0002	< 0.0001	0.000225	< 0.0005	< 0.00004	< 0.0001	0.0001	0.00171	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)*

CEDAR HILLS REGIONAL LANDFILL REGIONAL AQUIFER QUARTERLY MONITORING WELLS

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

(Data Collected from October 1, 2019 - December 31, 2019)

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-21	Limit	0.001	0.00117075	0.005182	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	0.000932	0.00516	< 0.0001	< 0.00005	< 0.0002	< 0.00005	< 0.0002	< 0.0001	0.00014	< 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	0.002112	0.001	0.002	0.005	0.003	0.002	0.001	0.01	0.001	0.003	0.001	0.002	0.004	1	0.39	0.2	0.2	0.02
	Result	< 0.0003	0.000559	0.00185	< 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	0.11	< 0.1	< 0.1	**0.02**
MW-56	Limit	0.001	0.0025	0.0478	0.001	0.002	0.00755	0.00389	0.0154	0.0033	0.01	0.001	0.00694	0.001	0.0178	0.0235	2.78	1.88021329	0.2	0.2	0.02
	Result	< 0.0003	0.000086	0.0043	< 0.0001	< 0.00005	< 0.0002	0.000137	0.000528	< 0.0001	0.000684	< 0.0005	< 0.00004	< 0.0001	0.000246	0.00315	0.603	1.45	< 0.1	< 0.1	< 0.01
MW-59	Limit	0.001	0.001	0.00548	0.001	0.002	0.005	0.003	0.002	0.001	0.01	0.001	0.003	0.001	0.002	0.00748	0.29	1.37	0.2	0.45	0.02
	Result	< 0.0003	0.000409	0.0041	< 0.0001	< 0.00005	< 0.0002	< 0.00005	< 0.0002	< 0.0001	0.00011	< 0.0005	< 0.00004	< 0.0001	< 0.000075	0.000805	< 0.01	**1.41**	< 0.1	< 0.1	< 0.01
MW-64	Limit	0.001	0.01	0.02543	0.001	0.002	0.005	0.00385	0.00512	0.001	0.0153	0.001	0.003	0.001	0.00606	0.0385	0.121	0.2	0.2	0.2	0.5
	Result	< 0.0003	0.00274	**0.0299**	< 0.0001	0.00051	< 0.0002	0.00379	0.00148	< 0.0001	**0.0155**	< 0.0005	< 0.00004	< 0.0001	0.00119	0.00423	< 0.01	< 0.1	< 0.1	< 0.1	< 0.01
MW-65	Limit	0.001	0.00242	0.008296	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	0.136146
	Result	< 0.0003	**0.00256**	**0.00844**	< 0.0001	< 0.00005	< 0.0002	0.0000766	< 0.0002	< 0.0001	0.000179	< 0.0005	< 0.00004	< 0.0001	< 0.000075	0.00157	0.014	< 0.1	< 0.1	< 0.1	0.03
MW-66	Limit	0.001	0.001	0.00649	0.001	0.002	0.005	0.003	0.002	0.001	0.01	0.00104	0.003	0.001	0.002	0.004	0.861225	0.2	0.2	0.2	0.02
	Result	< 0.0003	0.000712	0.00406	< 0.0001	< 0.00005	< 0.0002	< 0.00005	< 0.0002	< 0.0001	0.000153	0.000912	< 0.00004	< 0.0001	0.00075	0.00082	0.399	< 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	0.00073	0.00299	< 0.0001	< 0.00005	0.00033	< 0.00005	0.000244	< 0.0001	0.000371	< 0.0005	< 0.00004	< 0.0001	0.0013	0.000774	1.1	< 0.1	< 0.1	< 0.1	< 0.01
MW-76	Limit	0.001	0.001	0.004551	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	2.49165441	0.66545	14.93608	0.02
	Result	< 0.0003	0.000189	0.00384	< 0.0001	< 0.00005	0.000529	< 0.00005	0.000918	< 0.0001	0.000363	< 0.0005	< 0.00004	< 0.0001	0.000567	< 0.0005	0.761	0.20	0.401	7.89	< 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	1.7314598	0.2	0.2	0.2	0.02
	Result	< 0.0003	0.000553	0.00299	< 0.0001	< 0.00005	< 0.0002	< 0.00005	< 0.0002	< 0.0001	0.000138	0.00102	< 0.00004	< 0.0001	0.00167	0.00112	1.59	< 0.1	< 0.1	< 0.1	< 0.01
MW-82	Limit	0.001	0.001	0.003498	0.001	0.002	0.005	0.003	0.002	0.001	0.01	0.001	0.003	0.001	0.002	0.004	1.5427143	0.2	0.31	8.8	0.02
	Result	< 0.0003	0.000245	0.00147	< 0.0001	< 0.00005	0.000668	< 0.00005	0.000255	< 0.0001	0.00172	< 0.0005	< 0.00004	< 0.0001	0.00134	0.000653	0.848	< 0.1	< 0.1	4.59	< 0.01
MW-83	Limit	0.001	0.001	0.011475	0.001	0.002	0.005	0.003	0.00601	0.001	0.01	0.001	0.003	0.001	0.002	0.004	4.6781662	0.2	0.2	2.86796	0.02
	Result	< 0.0003	0.000431	0.00964	< 0.0001	< 0.00005	**0.0628**	0.000335	**0.00771**	< 0.0001	0.00621	< 0.0005	< 0.00004	< 0.0001	0.00115	0.000979	2.88	< 0.1	< 0.1	1.87	< 0.01
MW-84	Limit	0.001	0.001	0.004371	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	0.000317	**0.00503**	< 0.0001	< 0.00005	< 0.0002	< 0.00005	< 0.0002	< 0.0001	0.000309	0.000859	< 0.00004	< 0.0001	0.000451	< 0.0005	0.182	< 0.1	< 0.1	< 0.1	< 0.01
MW-93	Limit	0.001	0.00143097	0.009535	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	0.00129	0.00779	< 0.0001	< 0.00005	< 0.0002	0.000105	< 0.0002	< 0.0001	0.000286	< 0.0005	< 0.00004	< 0.0001	0.00194	0.00128	< 0.01	< 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	2.72	0.2	0.2	3.814885	0.02
	Result	< 0.0003	0.000152	0.00231	< 0.0001	< 0.00005	0.000355	0.0000877	0.00106	< 0.0001	0.000493	< 0.0005	< 0.00004	< 0.0001	0.00134	0.000973	0.806	< 0.1	< 0.1	2.27	< 0.01
MW-95	Limit	0.001	0.00111	0.00453	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	0.00105	0.00432	< 0.0001	< 0.00005	< 0.0002	0.0000672	< 0.0002	< 0.0001	0.000181	< 0.0005	< 0.00004	< 0.0001	0.000287	< 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)*

CEDAR HILLS REGIONAL LANDFILL REGIONAL AQUIFER QUARTERLY MONITORING WELLS

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

(Data Collected from October 1, 2019 - December 31, 2019)

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	0.00202	0.017954	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	**0.00833**	**0.0244**	< 0.0001	0.000078	0.000343	0.00117	0.00115	< 0.0001	0.00146	< 0.0005	< 0.00004	< 0.0001	**0.00357**	0.00189	0.091	< 0.1	< 0.1	< 0.1	< 0.01
MW-68	Limit	0.001	0.49938791	0.019146	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	0.0451	0.0113	< 0.0001	< 0.00005	0.000243	0.000228	0.0017	< 0.0001	0.000648	< 0.0005	< 0.00004	< 0.0001	0.000862	0.000703	< 0.01	< 0.1	< 0.1	< 0.1	< 0.01
MW-69*	Limit	0.001	0.00386	0.014238	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	0.016246	0.001	0.002	0.005	0.003	0.00331	0.00104	0.01	0.001	0.003	0.001	0.002	0.02574987	0.15	0.2	0.2	0.2	0.02
	Result	< 0.0003	0.0000879	0.0116	< 0.0001	< 0.00005	< 0.0002	< 0.00005	< 0.0002	< 0.0001	0.000178	< 0.0005	< 0.00004	< 0.0001	< 0.000075	0.00114	< 0.01	< 0.1	< 0.1	< 0.1	< 0.01
MW-74R	Limit	0.001	0.00112	0.016591	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	0.000558	0.0115	< 0.0001	< 0.00005	< 0.0002	< 0.00005	0.000319	< 0.0001	0.000898	0.000509	< 0.00004	< 0.0001	0.000728	0.000918	0.393	< 0.1	< 0.1	< 0.1	< 0.01
MW-75	Limit	0.001	0.001	0.013356	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	0.000523	0.0126	< 0.0001	< 0.00005	< 0.0002	< 0.00005	< 0.0002	< 0.0001	< 0.0001	< 0.0005	< 0.00004	< 0.0001	0.0000871	< 0.0005	< 0.01	< 0.1	< 0.1	< 0.1	< 0.01
MW-80	Limit	0.001	0.0392	0.023	0.001	0.002	0.005	0.003	0.002	0.001	0.01	0.001	0.003	0.001	0.002	0.0117	0.028	0.2	0.2	0.2	0.02
	Result	< 0.0003	0.00358	0.0146	< 0.0001	< 0.00005	< 0.0002	< 0.00005	< 0.0002	< 0.0001	0.000166	< 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	0.007234	0.001	0.002	0.005	0.003	0.002	0.001	0.01	0.00132	0.003	0.001	0.002	0.004	1.63	0.2	0.2	0.2	0.02
	Result	< 0.0003	0.000721	0.00656	< 0.0001	< 0.00005	< 0.0002	< 0.00005	< 0.0002	< 0.0001	0.000205	0.000998	< 0.00004	< 0.0001	0.000919	0.000709	0.109	< 0.1	< 0.1	< 0.1	< 0.01
MW-86	Limit	0.001	0.0194	0.00924	0.001	0.002	0.005	0.003	0.002	0.001	0.01	0.00198556	0.003	0.001	0.00336	0.004	2.5	0.2	0.2	0.2	0.02
	Result	< 0.0003	0.0095	0.00631	< 0.0001	< 0.00005	< 0.0002	0.0000789	< 0.0002	< 0.0001	0.000166	< 0.0005	< 0.00004	< 0.0001	0.000632	0.000793	< 0.01	< 0.1	< 0.1	< 0.1	< 0.01
MW-87	Limit	0.001	0.0589252	0.039196	0.001	0.002	0.005	0.003	0.00347	0.001	0.01	0.001	0.003	0.001	0.00468	0.004	0.0803	0.2	0.2	0.2	0.02
	Result	< 0.0003	0.00074	0.0233	< 0.0001	< 0.00005	< 0.0002	0.000139	< 0.0002	< 0.0001	0.000211	< 0.0005	< 0.00004	< 0.0001	0.000102	0.000538	< 0.01	< 0.1	< 0.1	< 0.1	< 0.01
MW-88	Limit	0.001	0.00104822	0.002448	0.001	0.002	0.005	0.003	0.002	0.001	0.01	0.001	0.003	0.001	0.00296231	0.004	1.7	0.2	0.2	0.2	0.02
	Result	< 0.0003	0.000984	0.00204	< 0.0001	< 0.00005	0.000619	< 0.00005	< 0.0002	< 0.0001	0.000146	0.000596	< 0.00004	< 0.0001	0.00263	< 0.0005	0.74	< 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	0.03918775	0.095	0.2	0.2	0.2	0.04
	Result	< 0.0003	0.00254	0.00827	< 0.0001	< 0.00005	< 0.0002	< 0.00005	< 0.0002	< 0.0001	0.000416	< 0.0005	< 0.00004	< 0.0001	0.000094	0.00157	< 0.01	< 0.1	< 0.1	< 0.1	< 0.01
MW-100	Limit	0.001	0.01713851	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	0.00329	0.0073	< 0.0001	< 0.00005	< 0.0002	0.000272	0.000249	< 0.0001	0.000553	< 0.0005	< 0.00004	< 0.0001	0.0000812	0.00119	< 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, 2019 - March 31, 2019)

Well	Parameter / Units	Total Antimony mg/L	Total Arsenic mg/L	Total Barium mg/L	Total Beryllium mg/L	Total Cadmium mg/L	Total Chromium mg/L	Total Cobalt mg/L	Total Copper mg/L	Total Lead mg/L	Total Nickel mg/L	Total Selenium mg/L	Total Silver mg/L	Total Thallium mg/L	Total Vanadium mg/L	Total Zinc mg/L	Nitrate as N mg/L	1,1-Dichloroethane ug/L	1,1-Dichloroethene ug/L	1,2-Dichloroethane ug/L	*cis*-1,2-Dichloroethene *ug/L*	*trans*-1,2-Dichloroethene ug/L	Trichloroethene ug/L	Vinyl Chloride ug/L
East Perched Zone Wells																								
MW-30A	Limit	0.001	0.001	0.0077	0.001	0.002	0.005	0.003	0.0103	0.001	0.01	0.001	0.003	0.001	0.00331	0.0188	16	6.50	0.20	0.23	11.86	0.20	1.57	0.03
	Result	< 0.0003	0.0006	0.0036	< 0.0001	< 0.00005	0.0008	< 0.00005	0.000473	< 0.0001	0.000724	< 0.0005	< 0.00004	< 0.0001	0.00247	0.001320	**17**	1.34	< 0.1	< 0.1	1.41	< 0.1	0.56	< 0.01
MW-47	Limit	0.001	0.0113	0.0466	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	1.01	0.20	0.44	6.75	0.41	0.23	8.54
	Result	< 0.0003	0.0024	0.042	< 0.0001	< 0.00005	< 0.0002	0.000386	< 0.0002	< 0.0001	0.0023	< 0.0005	< 0.00004	< 0.0001	0.000236	< 0.0005	< 0.01	0.64	< 0.1	0.11	1.68	< 0.1	< 0.1	6.12
MW-62	Limit	0.001	0.001	0.0037	0.001	0.002	0.005	0.003	0.002	0.001	0.01	0.001	0.003	0.001	0.00212	0.004	7.7	11.97	0.20	0.20	16.05	0.21	0.47	0.09
	Result	< 0.0003	0.000206	0.00206	< 0.0001	< 0.00005	0.000373	0.000098	0.000495	< 0.0001	0.000477	< 0.0005	< 0.00004	< 0.0001	0.000898	0.000893	2.11	0.5	< 0.1	< 0.1	1.22	< 0.1	0.113	< 0.01
South Solid Waste Area Wells																								
MW-101	Limit	0.001	0.014	0.0363	0.001	0.002	0.005	0.003	0.00416	0.00109	0.01	0.001	0.003	0.001	0.0039	0.00729	0.059	0.21	0.20	0.22	0.24	0.20	0.20	0.93
	Result	< 0.0003	0.00749	0.0174	< 0.0001	< 0.00005	0.000556	0.00027	0.000663	0.000181	0.00382	< 0.0005	< 0.00004	< 0.0001	0.000553	0.0017	**0.062**	0.12	< 0.1	0.13	0.17	< 0.1	< 0.1	0.41

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

Table 4-4b *(continued)*

CEDAR HILLS REGIONAL LANDFILL PERCHED ZONES MONITORING WELLS

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

(Data Collected from April 1, 2019 to June 30, 2019)

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	0.008	0.001	0.002	0.005	0.003	0.010	0.001	0.010	0.001	0.003	0.001	0.003	0.02	16.00	6.50	0.20	0.23	11.86	0.20	1.57	0.03
	Result	< 0.0003	0.000475	0.0043	< 0.0001	< 0.00005	0.000765	< 0.00005	0.000346	< 0.0001	0.000837	< 0.0005	< 0.00004	< 0.0001	0.00206	0.00118	15.9	1.77	< 2	< 0.1	1.95	< 0.1	0.786	< 0.01
MW-47	Limit	0.001	0.011	0.047	0.001	0.002	0.005	0.003	0.011	0.001	0.010	0.001	0.003	0.001	0.003	0.17	0.05	1.01	0.20	0.44	6.75	0.41	0.23	8.54
	Result	< 0.0003	0.00235	0.0413	< 0.0001	< 0.00005	< 0.0002	0.000377	0.000345	< 0.0001	0.00242	< 0.0005	< 0.00004	< 0.0001	0.000208	0.000647	< 0.01	0.589	< 2	0.109 JT	1.68	< 0.1	< 0.1	5.33
MW-62	Limit	0.001	0.001	0.004	0.001	0.002	0.005	0.003	0.002	0.001	0.010	0.001	0.003	0.001	0.002	0.00	7.70	11.97	0.20	0.20	16.05	0.21	0.47	0.09
	Result	< 0.0003	0.000195	0.0016	< 0.0001	< 0.00005	0.000735	0.000127	0.000298	< 0.0001	0.00116	< 0.0005	< 0.00004	< 0.0001	0.000753	0.00121	2.61	0.393	< 0.1	< 0.1	0.92	< 0.1	< 0.1	< 0.01
South Solid Waste Area Wells																								
MW-101	Limit	0.001	0.014	0.036	0.001	0.002	0.005	0.003	0.004	0.001	0.010	0.001	0.003	0.001	0.004	0.01	0.06	0.21	0.20	0.22	0.24	0.20	0.20	0.93
	Result	< 0.0003	0.00961	0.0187	< 0.0001	0.0000789	0.000352	0.00026	0.000487	< 0.0001	0.00351	< 0.0005	< 0.00004	< 0.0001	0.00036	0.00171	0.013 T	0.154 JT	< 0.1	0.139 JT	0.21	< 0.1	< 0.1	0.48

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

Table 4-4b *(continued)*

CEDAR HILLS REGIONAL LANDFILL PERCHED ZONES MONITORING WELLS

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

(Data Collected from July 1, 2019 - September 30, 2019)

Well	Parameter / Units	Total Antimony mg/L	Total Arsenic mg/L	Total Barium mg/L	Total Beryllium mg/L	Total Cadmium mg/L	Total Chromium mg/L	Total Cobalt mg/L	Total Copper mg/L	Total Lead mg/L	Total Nickel mg/L	Total Selenium mg/L	Total Silver mg/L	Total Thallium mg/L	Total Vanadium mg/L	Total Zinc mg/L	Nitrate as N mg/L	1,1-Dichloroethane ug/L	1,1-Dichloroethene ug/L	1,2-Dichloroethane ug/L	*cis*-1,2-Dichloroethene *ug/L*	*trans*-1,2-Dichloroethene ug/L	Trichloroethene ug/L	Vinyl Chloride ug/L
East Perched Zone Wells																								
MW-30A	Limit	0.001	0.001	0.0077	0.001	0.002	0.005	0.003	0.0103	0.001	0.01	0.001	0.003	0.001	0.00331	0.0188	16	6.50	0.20	0.23	11.86	0.20	1.57	0.03
	Result	< 0.0003	0.0005	0.0039	< 0.0001	< 0.00005	0.0007	< 0.00005	0.000219	< 0.0001	0.000757	< 0.0005	< 0.00004	< 0.0001	0.00201	0.000889	**16.6**	2.22	< 0.1	< 0.1	2.48	< 0.1	0.81	< 0.01
MW-47	Limit	0.001	0.0113	0.0466	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	1.01	0.20	0.44	6.75	0.41	0.23	8.54
	Result	< 0.0003	0.0007	0.039	< 0.0001	< 0.00005	< 0.0002	0.000385	< 0.0002	< 0.0001	0.00123	< 0.0005	< 0.00004	< 0.0001	0.000247	< 0.0005	< 0.01	0.62	< 0.1	0.11	1.31	< 0.1	< 0.1	4.84
MW-62*	Limit	0.001	0.001	0.0037	0.001	0.002	0.005	0.003	0.002	0.001	0.01	0.001	0.003	0.001	0.00212	0.004	7.7	11.97	0.20	0.20	16.05	0.21	0.47	0.09
	Result	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
South Solid Waste Area Wells																								
MW-101	Limit	0.001	0.014	0.0363	0.001	0.002	0.005	0.003	0.00416	0.00109	0.01	0.001	0.003	0.001	0.0039	0.00729	0.059	0.21	0.20	0.22	0.24	0.20	0.20	0.93
	Result	< 0.0003	0.0126	0.0224	< 0.0001	< 0.00005	0.000509	0.000552	0.000493	0.000272	0.00427	< 0.0005	< 0.00004	< 0.0001	0.000424	0.00249	< 0.01	0.19	< 0.1	**0.23**	**0.28**	< 0.1	< 0.1	0.51

NOTE:

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

* MW-62 - No sample collected; DTW below pump intake.

Table 4-4b *(continued)*

CEDAR HILLS REGIONAL LANDFILL PERCHED ZONES MONITORING WELLS

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

(Data Collected from October 1, 2019 - December 31, 2019)

Well	Parameter / Units	Total Antimony mg/L	Total Arsenic mg/L	Total Barium mg/L	Total Beryllium mg/L	Total Cadmium mg/L	Total Chromium mg/L	Total Cobalt mg/L	Total Copper mg/L	Total Lead mg/L	Total Nickel mg/L	Total Selenium mg/L	Total Silver mg/L	Total Thallium mg/L	Total Vanadium mg/L	Total Zinc mg/L	Nitrate as N mg/L	1,1-Dichloroethane ug/L	1,1-Dichloroethene ug/L	1,2-Dichloroethane ug/L	*cis*-1,2-Dichloroethene *ug/L*	*trans*-1,2-Dichloroethene ug/L	Trichloroethene ug/L	Vinyl Chloride ug/L
East Perched Zone Wells																								
MW-30A	Limit	0.001	0.001	0.0077	0.001	0.002	0.005	0.003	0.0103	0.001	0.01	0.001	0.003	0.001	0.00331	0.0188	16	6.50	0.20	0.23	11.86	0.20	1.57	0.03
	Result	< 0.0003	0.0006	0.0037	< 0.0001	< 0.00005	0.0009	< 0.00005	0.000308	< 0.0001	0.000817	< 0.0005	< 0.00004	< 0.0001	0.00224	0.000854	12.2	1.81	< 0.1	< 0.1	2.43	< 0.1	0.81	< 0.01
MW-47	Limit	0.001	0.0113	0.0466	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	1.01	0.20	0.44	6.75	0.41	0.23	8.54
	Result	< 0.0003	0.0029	0.0416	< 0.0001	< 0.00005	< 0.0002	0.000464	0.000552	0.000143	0.0024	< 0.0005	< 0.00004	< 0.0001	0.000317	0.00126	0.014	0.73	< 0.1	< 0.1	1.98	< 0.1	< 0.1	6.18
MW-62	Limit	0.001	0.001	0.0037	0.001	0.002	0.005	0.003	0.002	0.001	0.01	0.001	0.003	0.001	0.00212	0.004	7.7	11.97	0.20	0.20	16.05	0.21	0.47	0.09
	Result	< 0.0003	0.000188	0.0018	< 0.0001	< 0.00005	0.000423	0.000075	0.000824	< 0.0001	0.000555	< 0.0005	< 0.00004	< 0.0001	0.000844	0.00256	3.56	0.227	< 0.1	< 0.1	0.504	< 0.1	< 0.1	< 0.01
South Solid Waste Area Wells																								
MW-101	Limit	0.001	0.014	0.0363	0.001	0.002	0.005	0.003	0.00416	0.00109	0.01	0.001	0.003	0.001	0.0039	0.00729	0.059	0.21	0.20	0.22	0.24	0.20	0.20	0.93
	Result	< 0.0003	0.00323	0.0249	< 0.0001	< 0.00005	< 0.0002	0.000225	0.000205	< 0.0001	0.00344	< 0.0005	< 0.00004	< 0.0001	0.00076	0.000614	< 0.01	0.16	< 0.1	0.11	0.20	< 0.1	< 0.1	0.43

NOTE:

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**

This Page is Intentionally Left Blank

Lake Sammamish
Lake Boren
Lake Washington
May Creek
Tibbetts Creek
Issaquah Creek
WEST TIGER MOUNTAIN
SQUAK MOUNTAIN
Tiger Mountain Gap
TIGER MOUNTAIN
Coalfield Drift Plain
Lake Kathleen
McDonald Creek
Cedar River
Lake McDonald
Mirrormont Estates
SOUTH TIGER MOUNTAIN
TAYLOR MOUNTAIN
Cedar Hills Regional Landfill Site
Queen City Lake
Four Lakes
Cedar Grove Channel
Webster Lake
Francis Lake
Covington Drift Plain
Walsh Lake
Cedar River
N
0 5000 10,000
Scale in Feet

King County

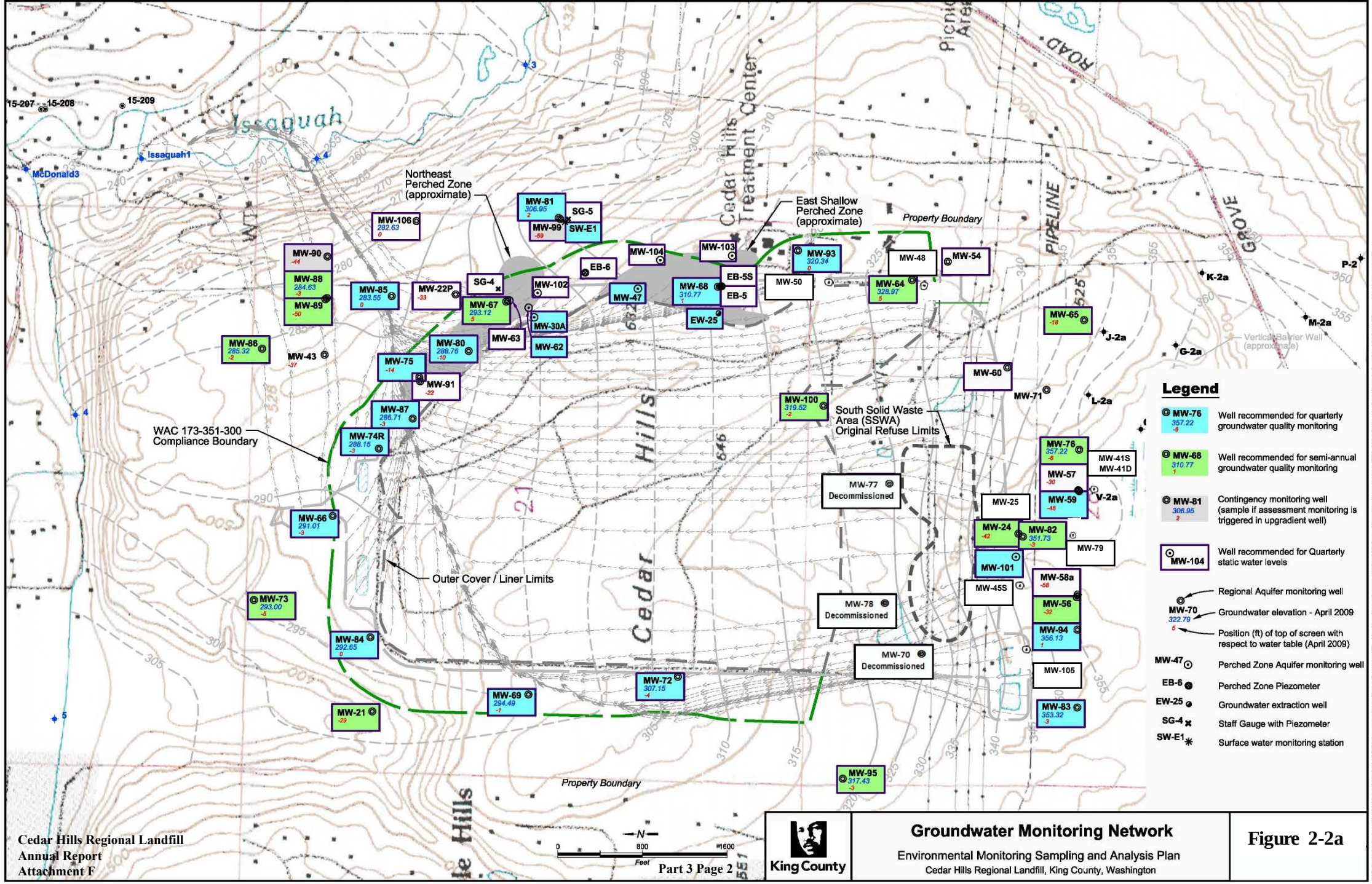
Site Location

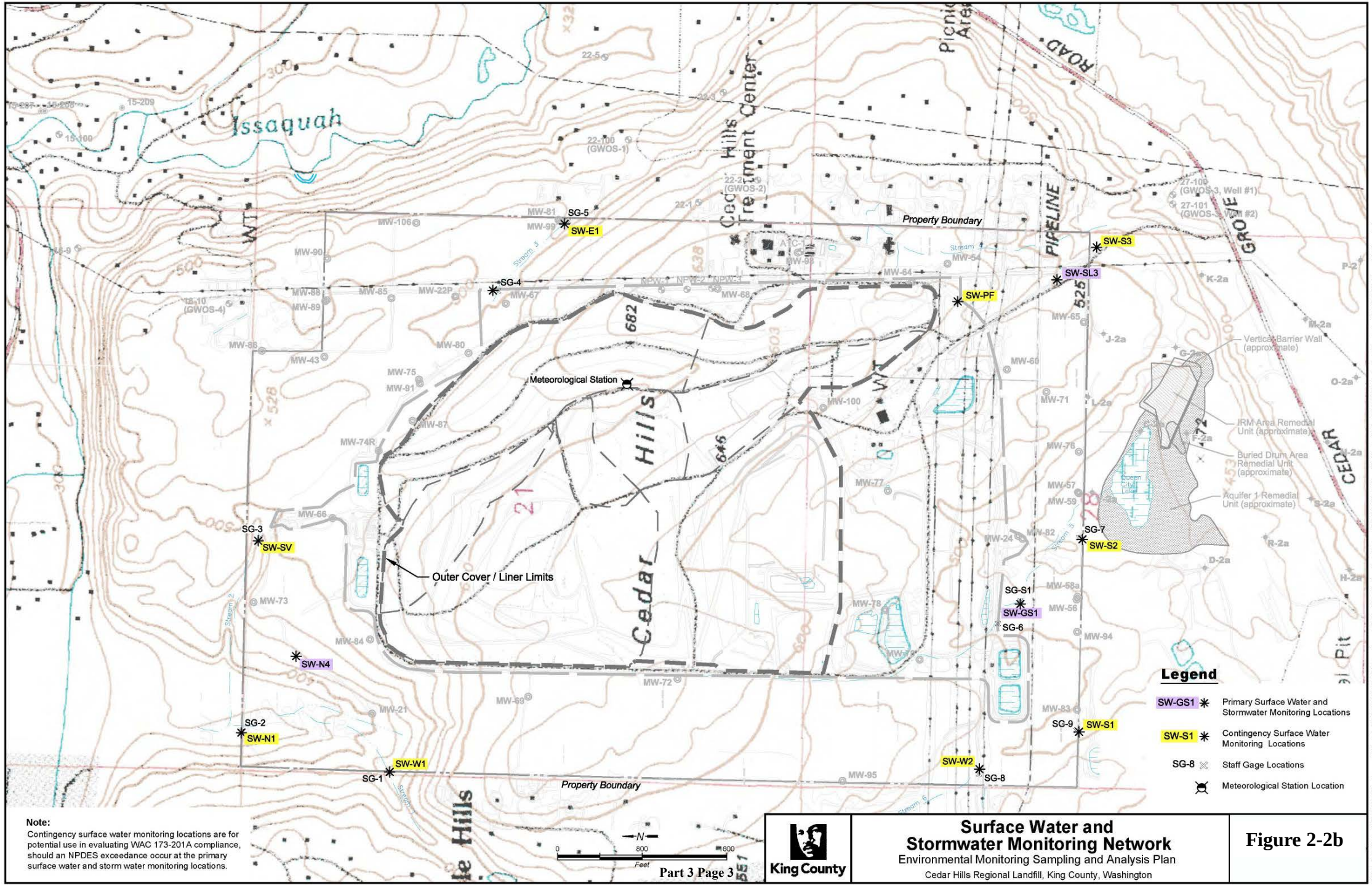
Cedar Hills Regional Landfill, King County, Washington

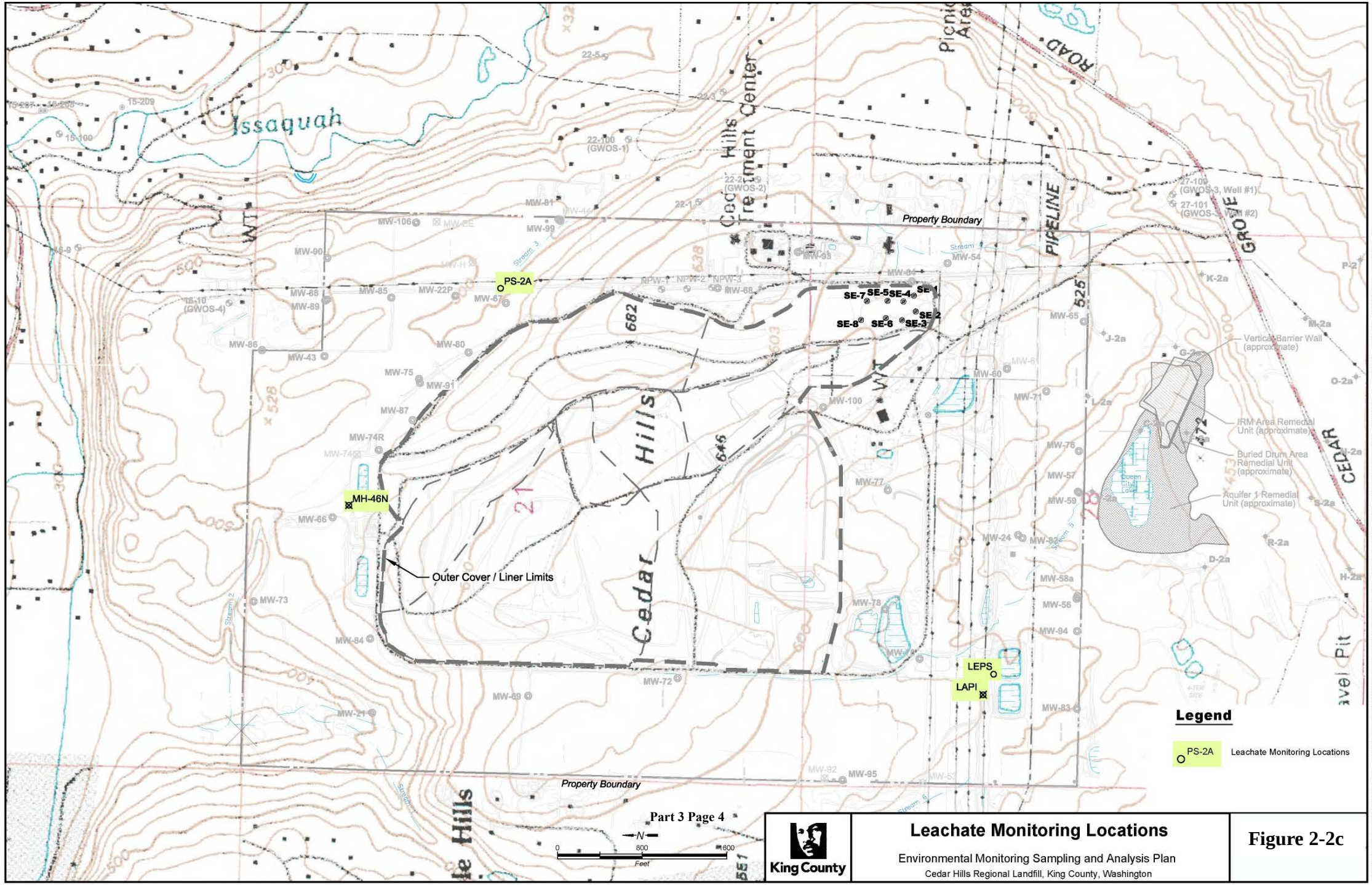
PROJECT NO.

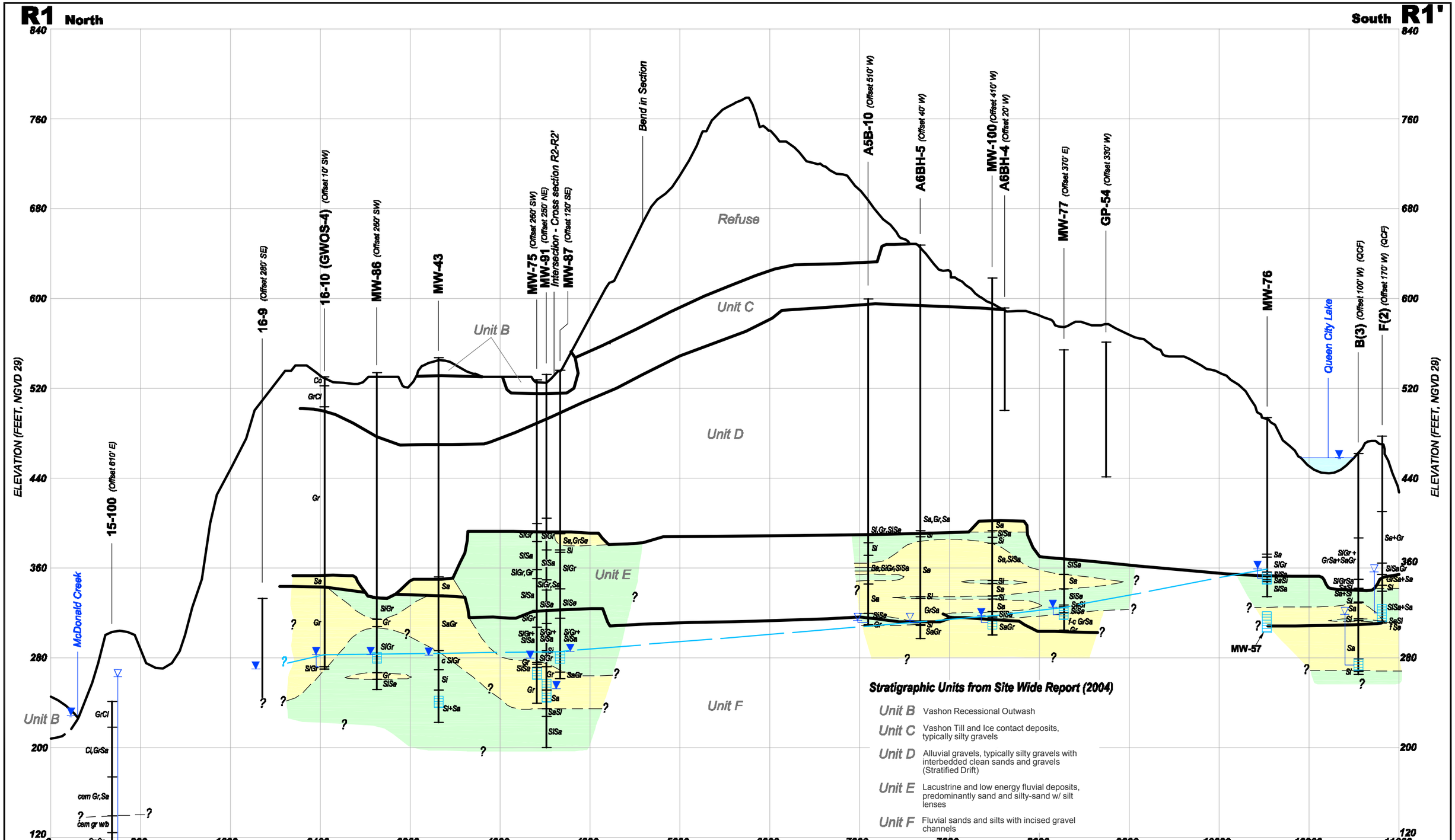
FIGURE NO. 2 - 1

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


Northeast Perched Zone (approximate)
East Shallow Perched Zone (approximate)
Property Boundary
WAC 173-351-300 Compliance Boundary
Outer Cover / Liner Limits
South Solid Waste Area (SSWA) Original Refuse Limits
Cedar Hills
Cedar Hills Treatment Center
Issaquah
Issaquah1
McDonald3
15-207
15-208
15-209
PIPELINE
GROVE
ROAD
Vertical Barrier Wall (approximate)
MW-81 306.95 2
SG-5
MW-99 -59
SW-E1
MW-106 282.63 0
MW-104
MW-103
MW-93 320.34 0
MW-48
MW-54
EB-6
EB-5S
EB-5
MW-68 310.77 1
MW-50
MW-64 328.87 5
MW-90 -44
MW-88 284.63 -3
MW-89 -50
MW-85 283.55 0
MW-22P -33
SG-4
MW-102
MW-47
MW-67 293.12 5
MW-30A
EW-25
MW-65 -18
P-2
K-2a
M-2a
J-2a
G-2a
MW-86 285.32 -2
MW-43 -37
MW-63
MW-62
MW-80 288.76 -10
MW-75 -14
MW-91 -22
MW-60
MW-71
L-2a
MW-100 319.52 -2
MW-87 286.71 -3
MW-74R 288.15 -3
MW-76 357.22 -6
MW-41S
MW-41D
MW-57 -30
MW-59 -48
V-2a
MW-77 Decommissioned
MW-25
MW-66 291.01 -3
MW-24 -42
MW-82 351.73 -3
MW-79
MW-101
MW-58a -58
MW-45S
MW-56 -32
MW-73 293.00 -5
MW-78 Decommissioned
MW-94 356.13 1
MW-84 292.65 0
MW-70 Decommissioned
MW-105
MW-72 307.15 -4
MW-69 294.49 -1
MW-83 353.32 -3
MW-21 -29
MW-95 317.43 -3
Legend
MW-76 357.22 -6 Well recommended for quarterly groundwater quality monitoring
MW-68 310.77 1 Well recommended for semi-annual groundwater quality monitoring
MW-81 306.95 2 Contingency monitoring well (sample if assessment monitoring is triggered in upgradient well)
MW-104 Well recommended for Quarterly static water levels
Regional Aquifer monitoring well
MW-70 322.79 6 Groundwater elevation - April 2009
Position (ft) of top of screen with respect to water table (April 2009)
MW-47 Perched Zone Aquifer monitoring well
EB-6 Perched Zone Piezometer
EW-25 Groundwater extraction well
SG-4 Staff Gauge with Piezometer
SW-E1 Surface water monitoring station
N
0
800
1600
Feet
King County
Groundwater Monitoring Network
Environmental Monitoring Sampling and Analysis Plan
Cedar Hills Regional Landfill, King County, Washington
Figure 2-2a
CAD Path: Q:\Cedar Hills\2013-11 SAP\040122-71-Recovered.dwg Figure 7.1 (11 x 17) || Coordinate System: NAD 1983 State Plane Washington North FIPS 4601 Feet || Date Saved: Dec 31, 2013 11:59am || User: mscrafford


Issaquah
Cedar Hills Regional Landfill
Property Boundary
Outer Cover / Liner Limits
Meteorological Station
Vertical Barrier Wall (approximate)
IRM Area Remedial Unit (approximate)
Buried Drum Area Remedial Unit (approximate)
Aquifer 1 Remedial Unit (approximate)
SG-1
SG-2
SG-3
SG-4
SG-5
SG-6
SG-7
SG-8
SG-9
SG-S1
SW-E1
SW-S3
SW-SL3
SW-PF
SW-S2
SW-S1
SW-GS1
SW-N1
SW-N4
SW-SV
SW-W1
SW-W2
Legend
Primary Surface Water and Stormwater Monitoring Locations
Contingency Surface Water Monitoring Locations
Staff Gage Locations
Meteorological Station Location
Note:
Contingency surface water monitoring locations are for potential use in evaluating WAC 173-201A compliance, should an NPDES exceedance occur at the primary surface water and storm water monitoring locations.
N
0
800
1600
Feet
King County
Surface Water and Stormwater Monitoring Network
Environmental Monitoring Sampling and Analysis Plan
Cedar Hills Regional Landfill, King County, Washington
Figure 2-2b


Issaquah
Cedar Hills Treatment Center
Property Boundary
PIPELINE
ROAD
GROVE
CEDAR
Cedar Hills
PS-2A
MH-46N
LEPS
LAPI
SE-1
SE-2
SE-3
SE-4
SE-5
SE-6
SE-7
SE-8
Outer Cover / Liner Limits
Vertical Barrier Wall (approximate)
IRM Area Remedial Unit (approximate)
Buried Drum Area Remedial Unit (approximate)
Aquifer 1 Remedial Unit (approximate)
Queen City Lake
Legend
PS-2A
Leachate Monitoring Locations
N
0
800
1600
Feet
King County
Leachate Monitoring Locations
Environmental Monitoring Sampling and Analysis Plan
Cedar Hills Regional Landfill, King County, Washington
Figure 2-2c
CAD Path: Q:\Cedar Hills\2012-01 Environmental Analysis Plan\040122-91.dwg Figure 10.1 (11 x 17) || Coordinate System: NAD 1927 State Plane Washington North FIPS 4601 Feet || Date Saved: Jan 27, 2012 12:21pm || User: pbaker



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	w/b	= water bearing

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

0 800 1600
Feet

King County

Regional Cross Section North - South (R1 - R1')

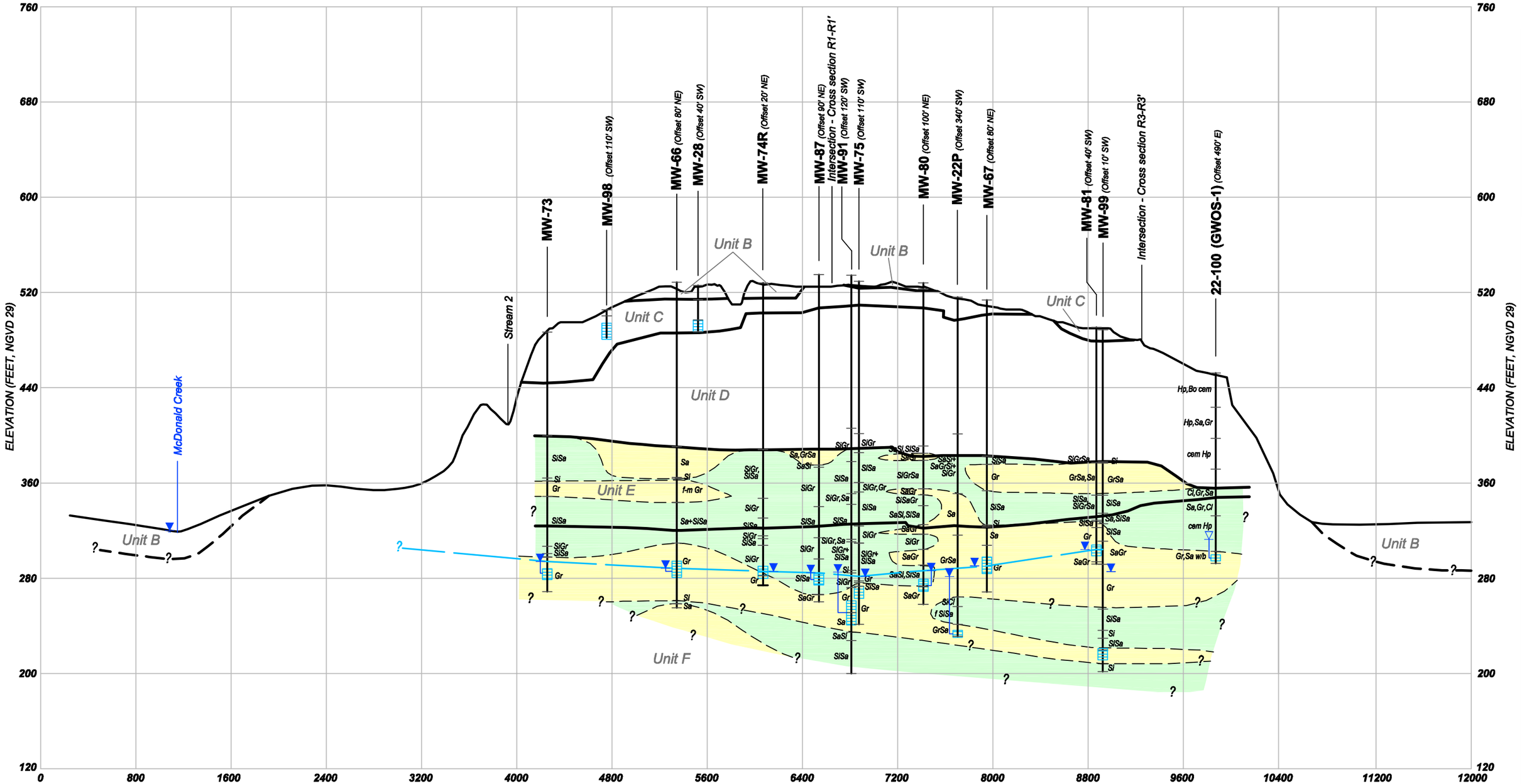
Cedar Hills Regional Landfill, King County, Washington

DATE: May 2009	PROJECT NO. 040122
DESIGNED BY: LJH/EWM	
DRAWN BY: PMB	FIGURE NO. 2 -3
REVISED BY: EWM (March 2010)	

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

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

R2 Northwest — Southeast **R2'**



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

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

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

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

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

0 800 1600
Feet

King County

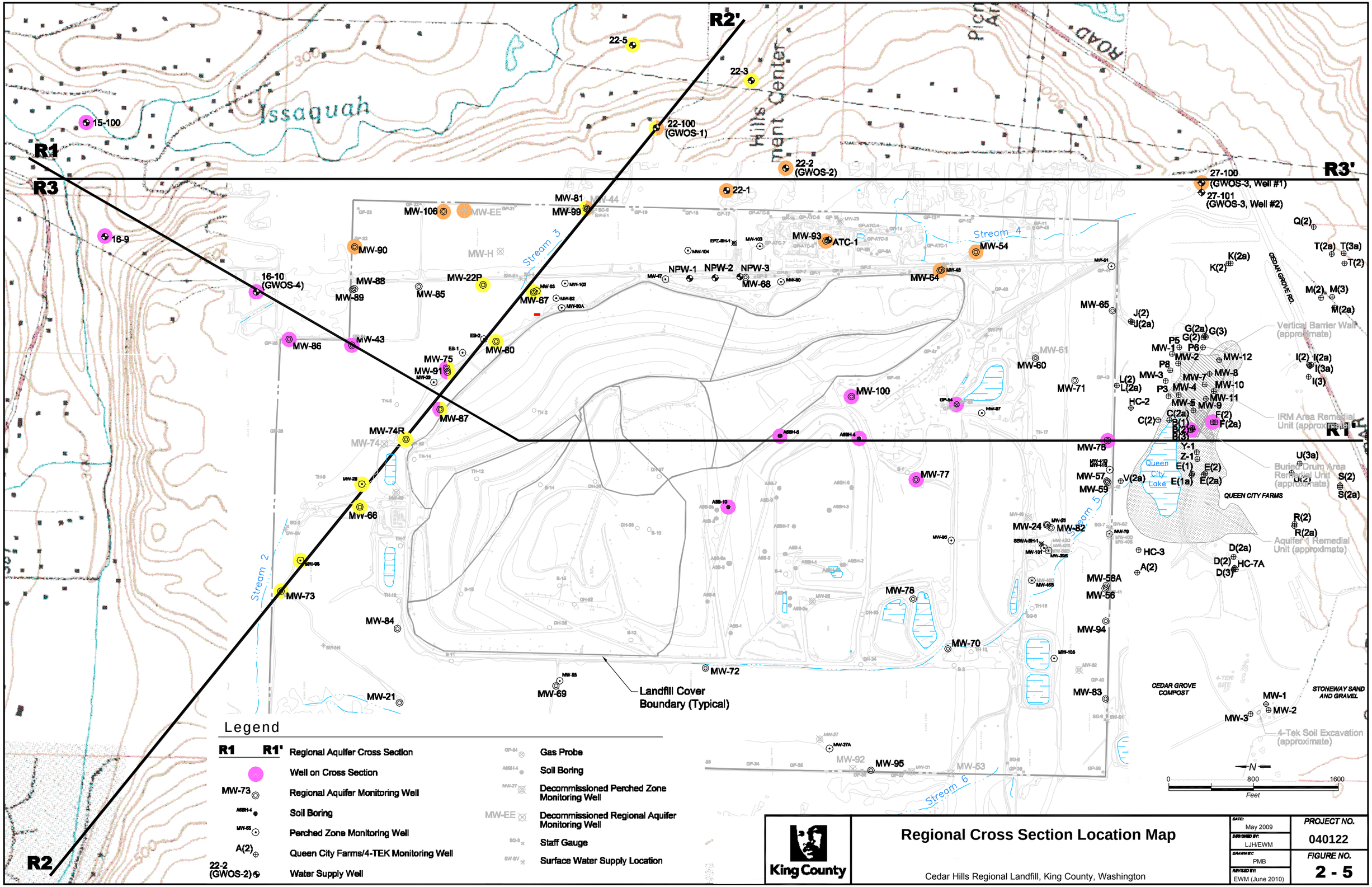
Regional Cross Section Northwest - Southeast
(R2 - R2')

Cedar Hills Regional Landfill, King County, Washington

DATE: May 2009	PROJECT NO. 040122
DESIGNED BY: LJH/EWM	
DRAWN BY: PMB	FIGURE NO. 2 - 4
REVISED BY: EWM (March 2011)	

Q:\Cedar Hills\2009-05 Regional Zone Profiles\040122-R2_33.dwg

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



Legend

R1 R1'	Regional Aquifer Cross Section
	Well on Cross Section
MW-73	Regional Aquifer Monitoring Well
A65H-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
A65H-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

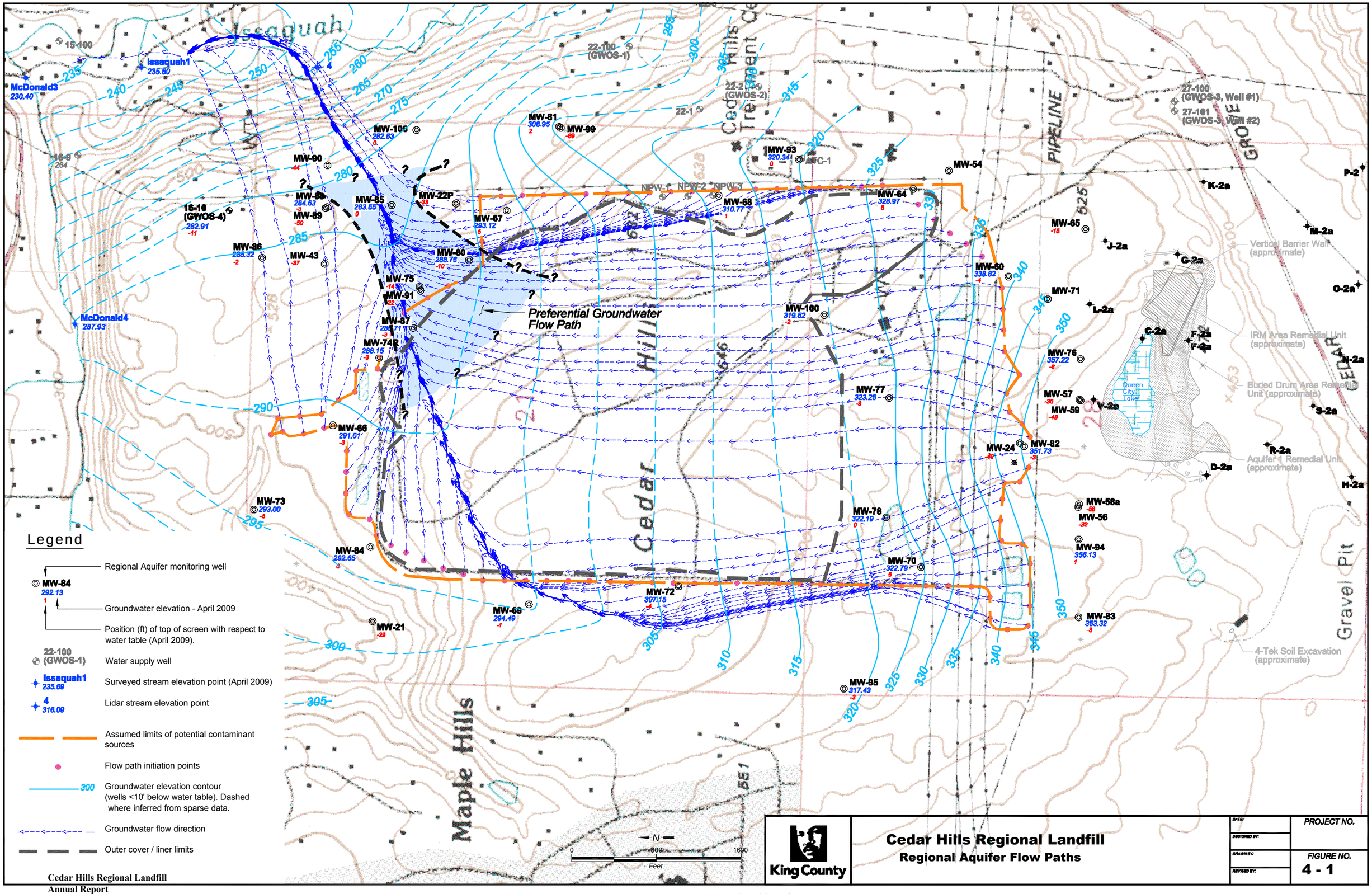
King County

Regional Cross Section Location Map

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

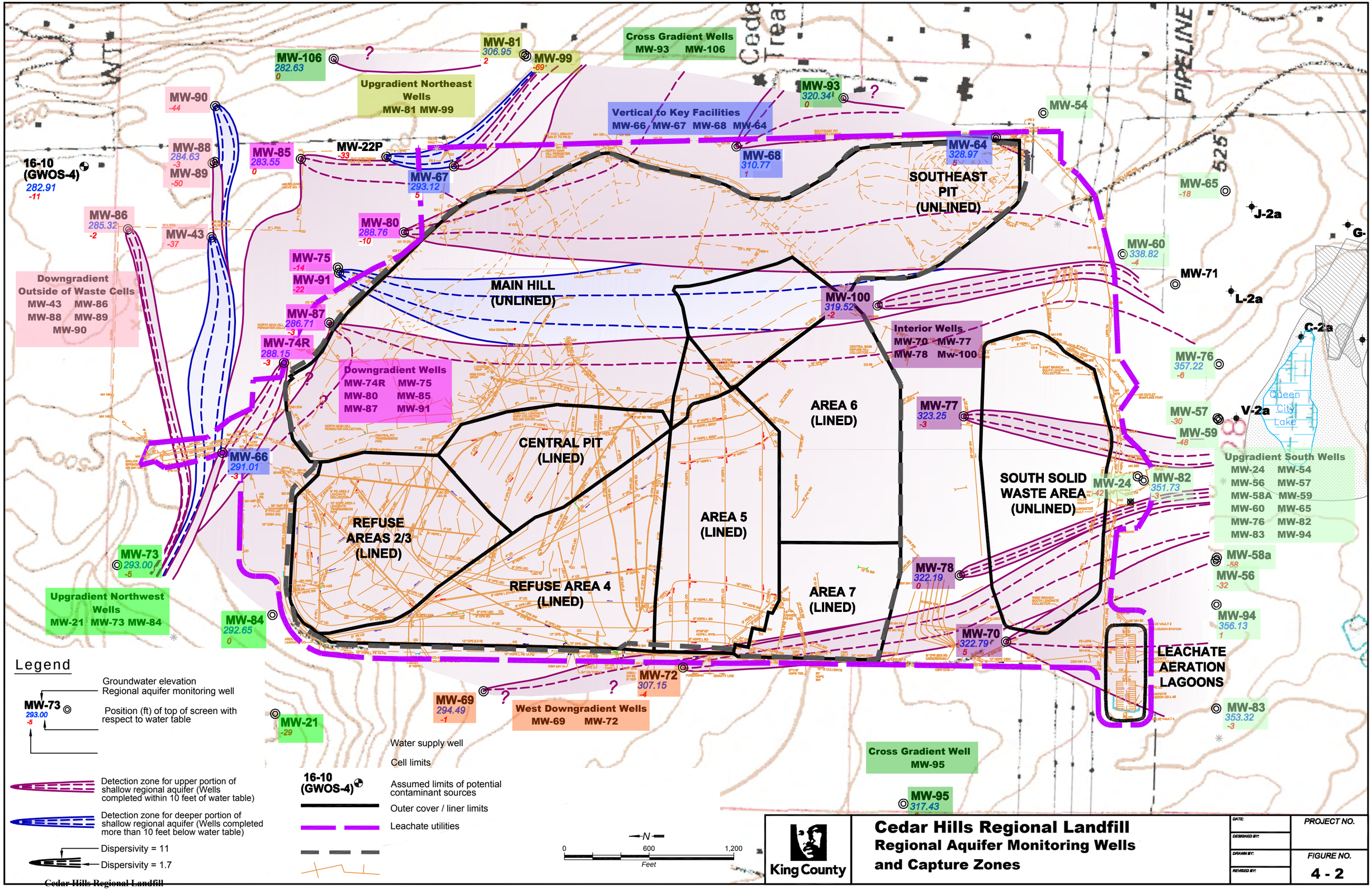
King County

Cedar Hills Regional Landfill
Regional Aquifer Flow Paths

DATE:
DESIGNED BY:
DRAWN BY:
REVISED BY:

PROJECT NO.

FIGURE NO. 4 - 1


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
PIPELINE
525
MW-90
-44
MW-88
284.63
-3
MW-89
-50
MW-85
283.55
0
MW-22P
-33
16-10
(GWOS-4)
282.91
-11
MW-67
293.12
5
MW-68
310.77
1
MW-64
328.97
5
SOUTHEAST
PIT
(UNLINED)
MW-65
-18
J-2a
G-
MW-86
285.32
-2
MW-43
-37
MW-80
288.76
-10
MW-60
338.82
-4
MW-71
L-2a
MW-75
-14
MW-91
-22
Downgradient
Outside of Waste Cells
MW-43 MW-86
MW-88 MW-89
MW-90
MAIN HILL
(UNLINED)
MW-100
319.52
-2
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
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
SOUTH SOLID
WASTE AREA
(UNLINED)
MW-24
-42
MW-82
351.73
-3
REFUSE
AREAS 2/3
(LINED)
AREA 5
(LINED)
MW-73
293.00
-5
MW-58a
-58
MW-56
-32
MW-78
322.19
0
Upgradient Northwest Wells
MW-21 MW-73 MW-84
REFUSE AREA 4
(LINED)
AREA 7
(LINED)
MW-84
292.65
0
MW-94
356.13
1
MW-70
322.79
5
LEACHATE
AERATION
LAGOONS
MW-72
307.15
-4
MW-83
353.32
-3
MW-69
294.49
-1
West Downgradient Wells
MW-69 MW-72
MW-21
-29
Cross Gradient Well
MW-95
MW-95
317.43
Legend
Groundwater elevation
Regional aquifer monitoring well
MW-73
293.00
-5
Position (ft) of top of screen with respect to water table
Detection zone for upper portion of shallow regional aquifer (Wells completed within 10 feet of water table)
Detection zone for deeper portion of shallow regional aquifer (Wells completed more than 10 feet below water table)
Dispersivity = 11
Dispersivity = 1.7
Water supply well
Cell limits
16-10
(GWOS-4)
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

This Page is Intentionally Left Blank

PART 4

Potentiometric Groundwater Surface Maps and Groundwater Velocity Calculations

Regional Aquifer

This Page is Intentionally Left Blank

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

Memorandum

May 1, 2019

TO: Kris McArthur, 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
First Quarter 2019 Results – Regional Aquifer
Cedar Hills Regional Landfill, King County, Washington
Project No. 1033379 – Task 02.14.137.20

The King County Water and Land Resources Division (WLR Division) submits this memorandum report on groundwater conditions during the first quarter of 2019 for the Cedar Hills Regional Landfill (landfill), in accordance with the *Proposal for Potentiometric Groundwater Surface Maps & Groundwater Velocity Calculations* (WLR Division, 2019). King County Solid Waste Division (SWD) personnel measured regional aquifer groundwater elevations at the landfill on January 7, 2019. These measurements were received by the WLR Division on March 3, 2019 and were used to:

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

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

Groundwater Elevation Data

SWD collected regional aquifer groundwater level measurements at 41 monitoring wells during the first quarter of 2019. These wells were completed in the regional aquifer as referred to in *Potentiometric Groundwater Surface Mapping and Groundwater Velocity Calculation – Cedar Hills Landfill* (Aspect, 2010).

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

Figure A-1 shows well locations, groundwater elevations at the 23 selected wells, groundwater potentiometric surface contours, and interpreted groundwater flow direction in the regional aquifer for the January 7, 2019 measurement event.

Direction of Groundwater Flow

Figure A-1 shows interpreted groundwater potentiometric surface contours and groundwater flow directions in the regional aquifer, based on the January 7, 2019 measurements. Groundwater elevations indicate that groundwater in the regional aquifer generally flowed north beneath the southern portion of the landfill with minor components of flow to the north-northwest and north-northeast. In the central portion of the landfill, groundwater generally flowed to the north and north-northwest. At the northern end of the landfill, groundwater generally flowed to the northeast and north-northeast.

Groundwater Parameters

Horizontal groundwater velocity was calculated using the following formula:

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

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

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

Table A-2 presents a summary of the groundwater parameters used to calculate a groundwater velocity from the first quarter 2019 data. The hydraulic gradient was greatest under the southern portion of the landfill and smallest under the northern portion. On January 7, 2019, average horizontal groundwater velocity within the regional aquifer ranged from 0.01 feet per day (ft/d) under the southern portion of the landfill to 2.3 ft/d under the central portion of the landfill.

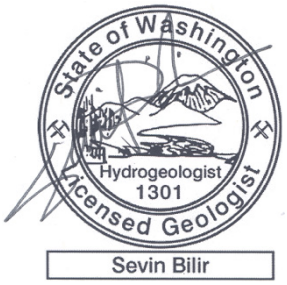
References

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

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

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

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



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

Enclosures:

Table A-1:	Groundwater Elevations – First Quarter 2019
Table A-2:	Groundwater Parameters – First Quarter 2019
Figure A-1:	Groundwater Potentiometric Surface Map – First Quarter 2019 – Regional Aquifer

Table A-1: Groundwater Elevations – First Quarter 2019

Cedar Hills Regional Landfill
King County, Washington

							January 7, 2019	
	Well Identification	Easting (ft)	Northing (ft)	Top of Casing Elevation (ft MSL)	Top of Screen Elevation (ft)	Bottom of Screen Elevation (ft)	Measured Depth to Water (ft)	Groundwater Elevations (ft MSL)
Wells with water levels within 10 feet of the top of screen	MW-60	1701154.47	167873.20	567.15	334.81	325.81	228.35	338.80
	MW-64	1701980.27	168772.19	596.55	334.03	320.23	265.65	330.90
	MW-66	1699750.19	174250.32	531.28	294.39	280.59	238.99	292.29
	MW-67	1701776.69	172610.65	516.43	297.80	284.00	220.27	296.16
	MW-68	1701917.32	170609.35	647.07	311.29	292.29	331.65	315.42
	MW-69	1698061.86	172400.20	653.69	293.57	279.97	355.83	297.86
	MW-72	1698229.92	170987.71	671.87	303.63	294.03	360.79	311.08
	MW-73	1698954.95	174995.59	485.70	288.11	278.81	191.74	293.96
	MW-74R	1700386.85	173813.79	531.26	289.90	280.40	240.30	290.96
	MW-76	1700376.23	167193.13	491.71	351.06	341.56	135.02	356.69
	MW-81	1702568.87	172113.99	493.66	309.19	300.19	183.73	309.93
	MW-82	1699553.72	167725.31	474.85	348.88	339.38	125.13	349.72
	MW-83	1697939.89	167212.27	496.81	350.19	340.69	145.54	351.27
	MW-84	1698602.89	173894.54	530.80	292.46	282.96	236.29	294.51
	MW-85	1701828.95	173694.52	531.76	282.56	273.06	246.32	285.44
	MW-86	1701331.25	174917.90	536.04	283.43	274.63	249.93	286.11
	MW-87	1700670.27	173493.76	537.31	283.68	274.38	248.15	289.16
	MW-88	1701807.87	174303.06	513.68	281.52	272.22	227.49	286.19
	MW-93	1702259.35	169851.24	632.15	319.87	310.07	308.00	324.15
	MW-94	1698674.21	167210.22	495.51	357.22	348.52	142.66	352.85
	MW-95	1697265.32	169426.92	571.54	314.60	305.90	251.02	320.52
	MW-100	1700791.72	169610.46	620.32	319.06	309.06	297.59	322.73
	MW-106	1702536.99	173461.69	475.47	280.04	270.04	190.56	284.91
Wells with water levels greater than 10 feet above the top of screen	MW-21	1697901.86	173876.38	420.66	263.22	255.22	125.21	295.45
	MW-22P	1701844.34	173088.17	517.09	236.02	231.22	232.18	284.91
	MW-24	1699582.39	167767.76	475.99	286.76	281.76	145.20	330.79
	MW-43	1701274.23	174327.14	547.06	245.63	235.63	263.44	283.62
	MW-54	1702154.28	168435.53	580.43	250.25	228.25	278.28	302.15
	MW-56	1698980.77	167214.82	480.33	323.15	313.15	127.63	352.70
	MW-57	1699993.32	167201.99	456.64	326.65	311.65	102.10	354.54
	MW-58A	1699006.59	167207.16	479.27	270.05	260.05	149.08	330.19
	MW-59	1699983.91	167193.44	457.13	285.08	275.08	123.85	333.28
	MW-65	1701602.10	167146.55	545.83	317.71	308.91	209.10	336.73
	MW-75	1701059.70	173432.42	532.40	271.10	261.00	245.52	286.88
	MW-80	1701309.78	172964.99	530.41	279.17	269.67	238.97	291.44
	MW-89	1701799.57	174319.44	512.82	229.20	219.90	232.05	280.77
	MW-90	1702203.13	174300.67	502.22	235.16	226.16	221.61	280.61
	MW-91	1701023.09	173423.94	532.02	260.81	240.71	246.78	285.24
	MW-99	1702556.06	172098.73	493.64	221.77	212.77	200.21	293.43
	WS-NPW-1	1701906.96	171138.99	646.33	282.80	267.90	332.33	314.00
	WS-NPW-3	1701922.88	170663.28	645.81	285.00	273.90	330.56	315.25

Notes:
MSL Mean sea level
Water level measurements made by KCSWD personnel.
Northing & Easting coordinates are Washington State Plane Grid System.
Elevations reported in feet above Mean Sea Level based on the National Geodetic Vertical Datum, 1929.
DRY No water was detected in well or water level measured in well was below screen bottom.

Table A-2: Groundwater Parameters – First Quarter 2019

Cedar Hills Regional Landfill
King County, Washington

Regional Aquifer Zone Beneath the Landfill	Horizontal Hydraulic Conductivity (K)			Horizontal Hydraulic Gradient (DH/DL)	Effective Porosity (n_{eff})	Horizontal Groundwater Velocity (v)	General Groundwater Flow Direction
	Range	(cm/s)	(ft/d)	(ft/ft)		(ft/d)	
Northern	Minimum	2.10E-03	6	0.007	24%	0.172	NNE, NE
	Maximum	4.20E-02	120	0.007	24%	3.44	
	Mean	2.10E-02	60	0.007	24%	1.72	
Central	Minimum	2.10E-03	6	0.009	24%	0.23	N, NNW
	Maximum	4.20E-02	120	0.009	24%	4.5	
	Mean	2.10E-02	60	0.009	24%	2.3	
Southern	Minimum	6.40E-06	0.018	0.015	26%	0.001	N, NNE, NNW
	Maximum	6.40E-04	1.8	0.015	26%	0.102	
	Mean	6.40E-05	0.18	0.015	26%	0.010	

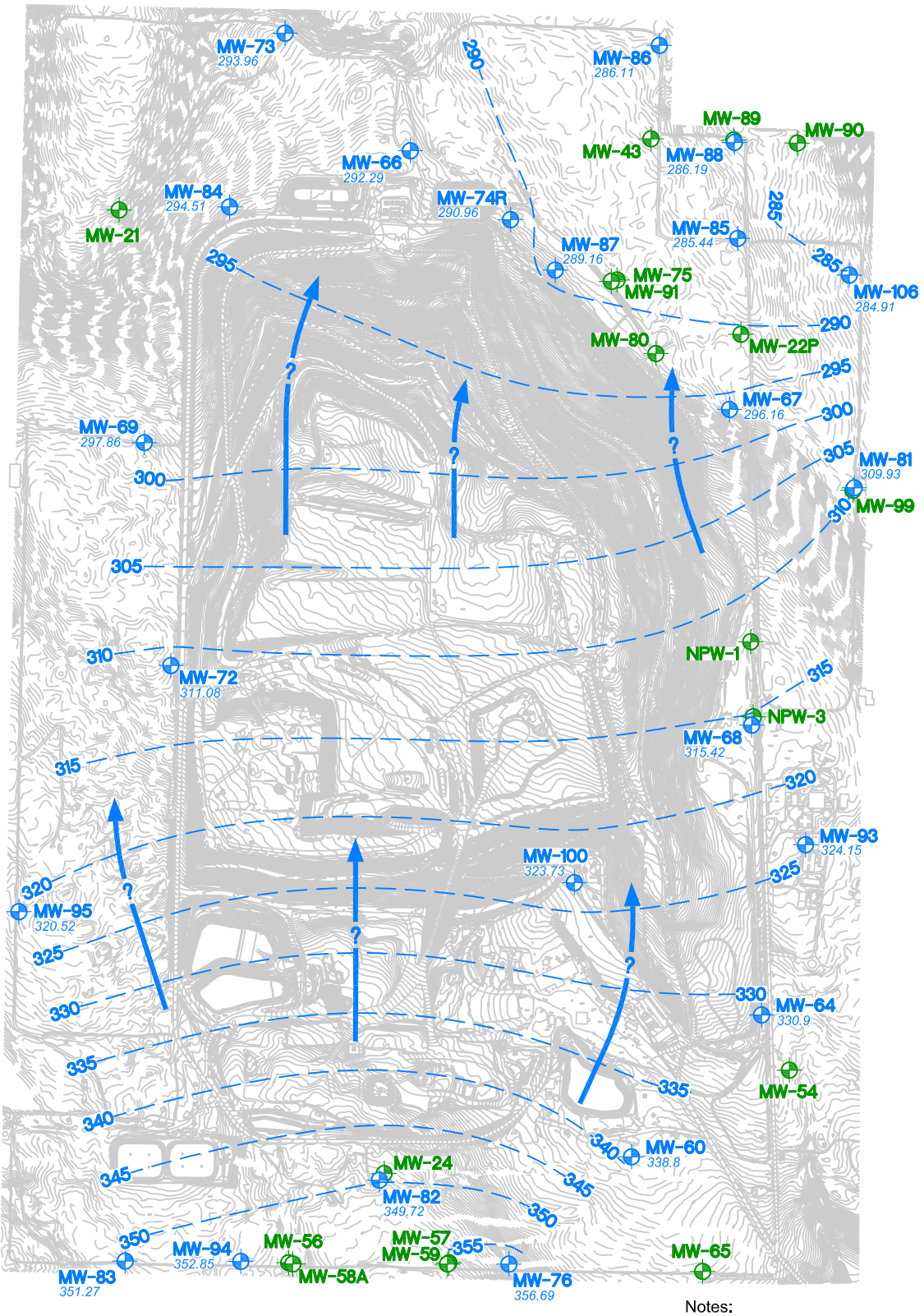
Notes:

Horizontal hydraulic conductivity values and effective porosity values from *Potentiometric Groundwater Surface Mapping and Groundwater Velocity Calculation – Cedar Hills Landfill (Aspect, 2010).*

Hydraulic gradients measured from the potentiometric surface map shown on Figure A-1.

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*

N

Notes:

1. Groundwater measurements made on January 7, 2019.
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 2019 - Regional Aquifer
Cedar Hills Regional Landfill
King County, Washington

DATE: April 2019	PROJECT NO. 1033379
DESIGNED BY: SB	
DRAWN BY: KK	FIGURE NO. A-1
REVISED BY: SB	

CH_1Q2019.dwg

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

Memorandum

June 28, 2019

TO: Kris McArthur, 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 2019 Results – Regional Aquifer
Cedar Hills Regional Landfill, King County, Washington
Project No. 1033379 – Task 02.14.137.20

The King County Water and Land Resources Division (WLR Division) submits this memorandum report on groundwater conditions during the second quarter of 2019 for the Cedar Hills Regional Landfill (landfill), in accordance with the *Proposal for Potentiometric Groundwater Surface Maps & Groundwater Velocity Calculations* (WLR Division, 2019). King County Solid Waste Division (SWD) personnel measured regional aquifer groundwater elevations at the landfill on April 1, 2019. These measurements were received by the WLR Division on June 3, 2019 and were used to:

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

There have been no significant changes in the interpreted regional aquifer groundwater conditions since the report submitted for the first quarter of the 2019 monitoring event.

Groundwater Elevation Data

SWD collected regional aquifer groundwater level measurements at 41 monitoring wells during the second quarter of 2019. These wells were completed in the regional aquifer as referred to in *Potentiometric Groundwater Surface Mapping and Groundwater Velocity Calculation – Cedar Hills Landfill* (Aspect, 2010).

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

Figure A-1 shows well locations, groundwater elevations at the 23 selected wells, groundwater potentiometric surface contours, and interpreted groundwater flow direction in the regional aquifer for the April 1, 2019 measurement event.

Direction of Groundwater Flow

Figure A-1 shows interpreted groundwater potentiometric surface contours and groundwater flow directions in the regional aquifer, based on the April 1, 2019 measurements. Groundwater elevations indicate that groundwater in the regional aquifer generally flowed north beneath the southern portion of the landfill with minor components of flow to the north-northwest and north-northeast. In the central portion of the landfill, groundwater generally flowed to the north and north-northwest. At the northern end of the landfill, groundwater generally flowed to the northeast and north-northeast.

Groundwater Parameters

Horizontal groundwater velocity was calculated using the following formula:

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

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

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

Table A-2 presents a summary of the groundwater parameters used to calculate a groundwater velocity from the second quarter 2019 data. The hydraulic gradient was greatest under the southern portion of the landfill and smallest under the northern portion. On April 1, 2019, average horizontal groundwater velocity within the regional aquifer ranged from 0.01 feet per day (ft/d) under the southern portion of the landfill to 2.2 ft/d under the central portion of the landfill.

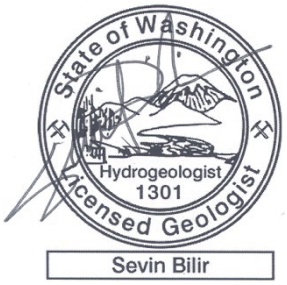
References

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

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

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

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



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

Enclosures:

Table A-1:	Groundwater Elevations – Second Quarter 2019
Table A-2:	Groundwater Parameters – Second Quarter 2019
Figure A-1:	Groundwater Potentiometric Surface Map – Second Quarter 2019 – Regional Aquifer

Table A-1: Groundwater Elevations – Second Quarter 2019

Cedar Hills Regional Landfill
King County, Washington

	Well Identification	Easting (ft)	Northing (ft)	Top of Casing Elevation (ft MSL)	Top of Screen Elevation (ft)	Bottom of Screen Elevation (ft)	April 1, 2019 Measured Depth to Water (ft)	April 1, 2019 Groundwater Elevations (ft MSL)
Wells with water levels within 10 feet of the top of screen	MW-60	1701154.47	167873.20	567.15	334.81	325.81	225.08	342.07
	MW-64	1701980.27	168772.19	596.55	334.03	320.23	265.21	331.34
	MW-66	1699750.19	174250.32	531.28	294.39	280.59	238.15	293.13
	MW-67	1701776.69	172610.65	516.43	297.80	284.00	219.61	296.82
	MW-68	1701917.32	170609.35	647.07	311.29	292.29	331.12	315.95
	MW-69	1698061.86	172400.20	653.69	293.57	279.97	355.40	298.29
	MW-72	1698229.92	170987.71	671.87	303.63	294.03	360.52	311.35
	MW-73	1698954.95	174995.59	485.70	288.11	278.81	191.71	293.99
	MW-74R	1700386.85	173813.79	531.26	289.90	280.40	239.47	291.79
	MW-76	1700376.23	167193.13	491.71	351.06	341.56	133.81	357.90
	MW-81	1702568.87	172113.99	493.66	309.19	300.19	183.30	310.36
	MW-82	1699553.72	167725.31	474.85	348.88	339.38	121.31	353.54
	MW-83	1697939.89	167212.27	496.81	350.19	340.69	143.61	353.20
	MW-84	1698602.89	173894.54	530.80	292.46	282.96	235.55	295.25
	MW-85	1701828.95	173694.52	531.76	282.56	273.06	245.20	286.56
	MW-86	1701331.25	174917.90	536.04	283.43	274.63	249.10	286.94
	MW-87	1700670.27	173493.76	537.31	283.68	274.38	247.51	289.80
	MW-88	1701807.87	174303.06	513.68	281.52	272.22	226.57	287.11
	MW-93	1702259.35	169851.24	632.15	319.87	310.07	307.77	324.38
	MW-94	1698674.21	167210.22	495.51	357.22	348.52	139.65	355.86
	MW-95	1697265.32	169426.92	571.54	314.60	305.90	250.74	320.80
	MW-100	1700791.72	169610.46	620.32	319.06	309.06	297.21	323.11
	MW-106	1702536.99	173461.69	475.47	280.04	270.04	189.45	286.02
Wells with water levels greater than 10 feet above the top of screen	MW-21	1697901.86	173876.38	420.66	263.22	255.22	124.61	296.05
	MW-22P	1701844.34	173088.17	517.09	236.02	231.22	231.59	285.50
	MW-24	1699582.39	167767.76	475.99	286.76	281.76	144.24	331.75
	MW-43	1701274.23	174327.14	547.06	245.63	235.63	264.63	282.43
	MW-54	1702154.28	168435.53	580.43	250.25	228.25	277.78	302.65
	MW-56	1698980.77	167214.82	480.33	323.15	313.15	124.56	355.77
	MW-57	1699993.32	167201.99	456.64	326.65	311.65	99.55	357.09
	MW-58A	1699006.59	167207.16	479.27	270.05	260.05	148.15	331.12
	MW-59	1699983.91	167193.44	457.13	285.08	275.08	122.70	334.43
	MW-65	1701602.10	167146.55	545.83	317.71	308.91	208.29	337.54
	MW-75	1701059.70	173432.42	532.40	271.10	261.00	244.73	287.67
	MW-80	1701309.78	172964.99	530.41	279.17	269.67	238.33	292.08
	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	220.59	281.63
	MW-91	1701023.09	173423.94	532.02	260.81	240.71	245.98	286.04
	MW-99	1702556.06	172098.73	493.64	221.77	212.77	199.73	293.91
	WS-NPW-1	1701906.96	171138.99	646.33	282.80	267.90	331.93	314.40
	WS-NPW-3	1701922.88	170663.28	645.81	285.00	273.90	330.14	315.67

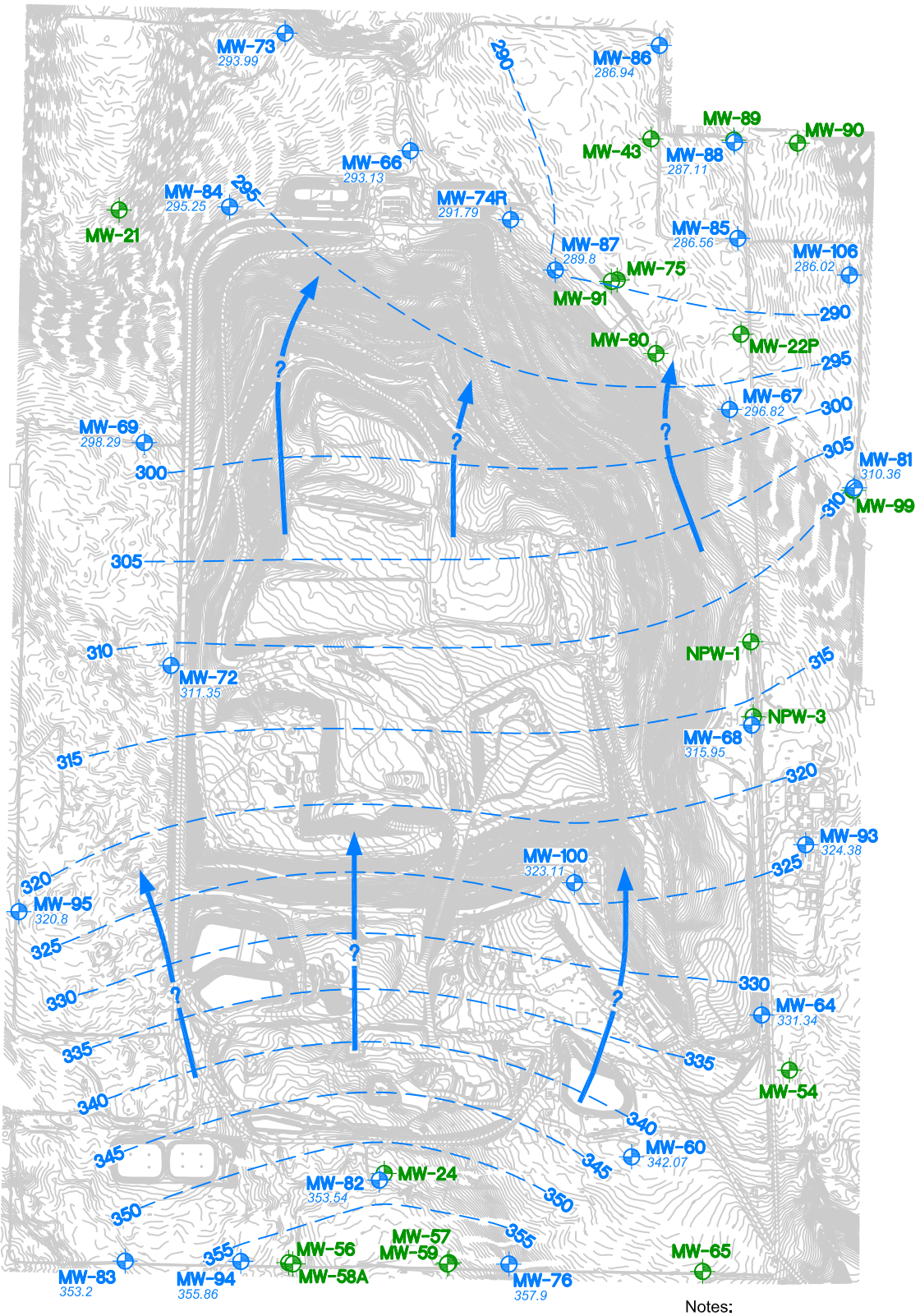
Notes:
MSL Mean sea level
Water level measurements made by KCSWD personnel.
Northing & Easting coordinates are Washington State Plane Grid System.
Elevations reported in feet above Mean Sea Level based on the National Geodetic Vertical Datum, 1929.

Table A-2: Groundwater Parameters – Second Quarter 2019

Cedar Hills Regional Landfill
King County, Washington

Regional Aquifer Zone Beneath the Landfill	Horizontal Hydraulic Conductivity (*K*) Range	(cm/s)	(ft/d)	Horizontal Hydraulic Gradient (DH/DL) (ft/ft)	Effective Porosity (n_{eff})	Horizontal Groundwater Velocity (*v*) (ft/d)	General Groundwater Flow Direction
Northern	Minimum	2.10E-03	6	0.007	24%	0.184	NNE, NE
	Maximum	4.20E-02	120	0.007	24%	3.67	
	Mean	2.10E-02	60	0.007	24%	1.84	
Central	Minimum	2.10E-03	6	0.009	24%	0.22	N, NNW
	Maximum	4.20E-02	120	0.009	24%	4.5	
	Mean	2.10E-02	60	0.009	24%	2.2	
Southern	Minimum	6.40E-06	0.018	0.015	26%	0.001	N, NNE, NNW
	Maximum	6.40E-04	1.8	0.015	26%	0.104	
	Mean	6.40E-05	0.18	0.015	26%	0.010	

Notes:
Horizontal hydraulic conductivity values and effective porosity values from *Potentiometric Groundwater Surface Mapping and Groundwater Velocity Calculation – Cedar Hills Landfill (Aspect, 2010).*
Hydraulic gradients measured from the potentiometric surface map shown on Figure A-1.
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

N

Notes:

1. Groundwater measurements made on April 1, 2019.
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 2019 - Regional Aquifer
Cedar Hills Regional Landfill
King County, Washington

DATE: June 2019	PROJECT NO. 1033379
DESIGNED BY: SB	
DRAWN BY: KK	FIGURE NO. A-1
REVISED BY: SB	

I:\1-SOLID WASTE\Cedar Hills QTR Reports\DWG_2019\CH_2Q2019.dwg, 6/19/2019 3:14:39 PM, kkitamura

CH_2Q2019.dwg

King County
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

Memorandum

November 19, 2019

TO: Kris McArthur, 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 2019 Results – Regional Aquifer
Cedar Hills Regional Landfill, King County, Washington
Project No. 1033379 – Task 02.14.137.20

The King County Water and Land Resources Division (KCWLRD) submits this memorandum report on groundwater conditions during the third quarter of 2019 for the Cedar Hills Regional Landfill (landfill), in accordance with the *Proposal for Potentiometric Groundwater Surface Maps & Groundwater Velocity Calculations* (KCWLRD, 2019). King County Solid Waste Division (KCSWD) personnel measured regional aquifer groundwater levels at the landfill on July 3, 2019. These measurements were received by KCWLRD on September 30, 2019 and were used to:

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

There have been no significant changes in the interpreted regional aquifer groundwater conditions since the report submitted for the second quarter of the 2019 monitoring event.

Groundwater Elevation Data

The KCSWD collected regional aquifer groundwater level measurements at 40 monitoring wells during the third quarter of 2019. These wells were completed in the regional aquifer as referred to in *Potentiometric Groundwater Surface Mapping and Groundwater Velocity Calculation – Cedar Hills Landfill* (Aspect, 2010).

Table A-1 lists the well identifications, locations, well details, measured groundwater levels, and calculated groundwater elevations for the regional aquifer. An attempt to measure water level at MW-69 was unsuccessful due to possibly damaged well pipe. An error in field measurement at MW-67 disqualifies it from use for mapping this quarter.

A total of 22 wells had measured water levels within ten feet of the top of the screened interval and were used for potentiometric surface mapping purposes.

Figure A-1 shows well locations, groundwater elevations at the 22 selected wells, groundwater potentiometric surface contours, and interpreted groundwater flow direction in the regional aquifer for the July 3, 2019 measurement event.

Direction of Groundwater Flow

Figure A-1 shows interpreted groundwater potentiometric surface contours and groundwater flow directions in the regional aquifer, based on the July 3, 2019 measurements. Groundwater elevations indicate that groundwater in the regional aquifer generally flowed north beneath the southern portion of the landfill with minor components of flow to the north-northwest and north-northeast. In the central portion of the landfill, groundwater generally flowed to the north and north-northwest. At the northern end of the landfill, groundwater generally flowed to the northeast and north-northeast.

Groundwater Parameters

Horizontal groundwater velocity was calculated using the following formula:

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

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

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

Table A-2 presents a summary of the groundwater parameters used to calculate a groundwater velocity from the third quarter 2019 data. The hydraulic gradient was greatest under the southern portion of the landfill and smallest under the northern

portion. On July 3, 2019, average horizontal groundwater velocity within the regional aquifer ranged from 0.008 feet per day (ft/d) under the southern portion of the landfill to 2.2 ft/d under the central portion of the landfill.

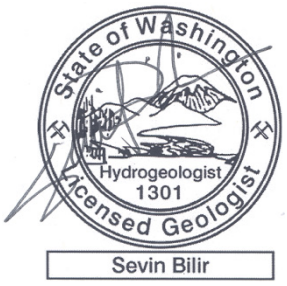
References

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

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

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

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



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

Enclosures:

Table A-1:	Groundwater Elevations – Third Quarter 2019
Table A-2:	Groundwater Parameters – Third Quarter 2019
Figure A-1:	Groundwater Potentiometric Surface Map – Third Quarter 2019 – Regional Aquifer

Table A-1: Groundwater Elevations – Third Quarter 2019

Cedar Hills Regional Landfill
King County, Washington

							July 3, 2019	
	Well Identification	Easting (ft)	Northing (ft)	Top of Casing Elevation (ft MSL)	Top of Screen Elevation (ft)	Bottom of Screen Elevation (ft)	Measured Depth to Water (ft)	Groundwater Elevations (ft MSL)
Wells with water levels within 10 ft of the top of screen	MW-60	1701154.47	167873.20	567.15	334.81	325.81	226.35	340.80
	MW-64	1701980.27	168772.19	596.55	334.03	320.23	265.43	331.12
	MW-66	1699750.19	174250.32	531.28	294.39	280.59	238.51	292.77
	MW-68	1701917.32	170609.35	647.07	311.29	292.29	331.61	315.46
	MW-72	1698229.92	170987.71	671.87	303.63	294.03	360.61	311.26
	MW-73	1698954.95	174995.59	485.70	288.11	278.81	191.17	294.53
	MW-74R	1700386.85	173813.79	531.26	289.90	280.40	239.64	291.62
	MW-76	1700376.23	167193.13	491.71	351.06	341.56	137.20	354.51
	MW-81	1702568.87	172113.99	493.66	309.19	300.19	183.76	309.90
	MW-82	1699553.72	167725.31	474.85	348.88	339.38	122.39	352.46
	MW-83	1697939.89	167212.27	496.81	350.19	340.69	143.85	352.96
	MW-84	1698602.89	173894.54	530.80	292.46	282.96	235.82	294.98
	MW-85	1701828.95	173694.52	531.76	282.56	273.06	245.60	286.16
	MW-86	1701331.25	174917.90	536.04	283.43	274.63	249.48	286.56
	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	226.98	286.70
	MW-93	1702259.35	169851.24	632.15	319.87	310.07	307.92	324.23
	MW-94	1698674.21	167210.22	495.51	357.22	348.52	141.36	354.15
	MW-95	1697265.32	169426.92	571.54	314.60	305.90	250.05	321.49
	MW-100	1700791.72	169610.46	620.32	319.06	309.06	297.22	323.10
	MW-106	1702536.99	173461.69	475.47	280.04	270.04	190.00	285.47
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	124.82	295.84
	MW-22P	1701844.34	173088.17	517.09	236.02	231.22	232.03	285.06
	MW-24	1699582.39	167767.76	475.99	286.76	281.76	143.85	332.14
	MW-43	1701274.23	174327.14	547.06	245.63	235.63	263.26	283.80
	MW-54	1702154.28	168435.53	580.43	250.25	228.25	277.20	303.23
	MW-56	1698980.77	167214.82	480.33	323.15	313.15	126.14	354.19
	MW-57	1699993.32	167201.99	456.64	326.65	311.65	102.31	354.33
	MW-58A	1699006.59	167207.16	479.27	270.05	260.05	148.79	330.48
	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	209.08	336.75
	MW-75	1701059.70	173432.42	532.40	271.10	261.00	245.25	287.15
	MW-80	1701309.78	172964.99	530.41	279.17	269.67	238.47	291.94
	MW-89	1701799.57	174319.44	512.82	229.20	219.90	231.89	280.93
	MW-90	1702203.13	174300.67	502.22	235.16	226.16	221.45	280.77
	MW-91	1701023.09	173423.94	532.02	260.81	240.71	246.60	285.42
	MW-99	1702556.06	172098.73	493.64	221.77	212.77	200.09	293.55
	WS-NPW-1	1701906.96	171138.99	646.33	282.80	267.90	332.67	313.66
	WS-NPW-3	1701922.88	170663.28	645.81	285.00	273.90	330.58	315.23
Other	MW-67	1701776.69	172610.65	516.43	297.80	284.00	119.90 ME	NA
	MW-69	1698061.86	172400.20	653.69	293.57	279.97	NM	NM

Notes:

1. Water level measurements made by KCSWD personnel.
2. Reference datum for northing and easting coordinates is the North American Datum of 1927.

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

NA Not applicable

ME Measurement error in field. Data disqualified.

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

Table A-2: Groundwater Parameters – Third Quarter 2019

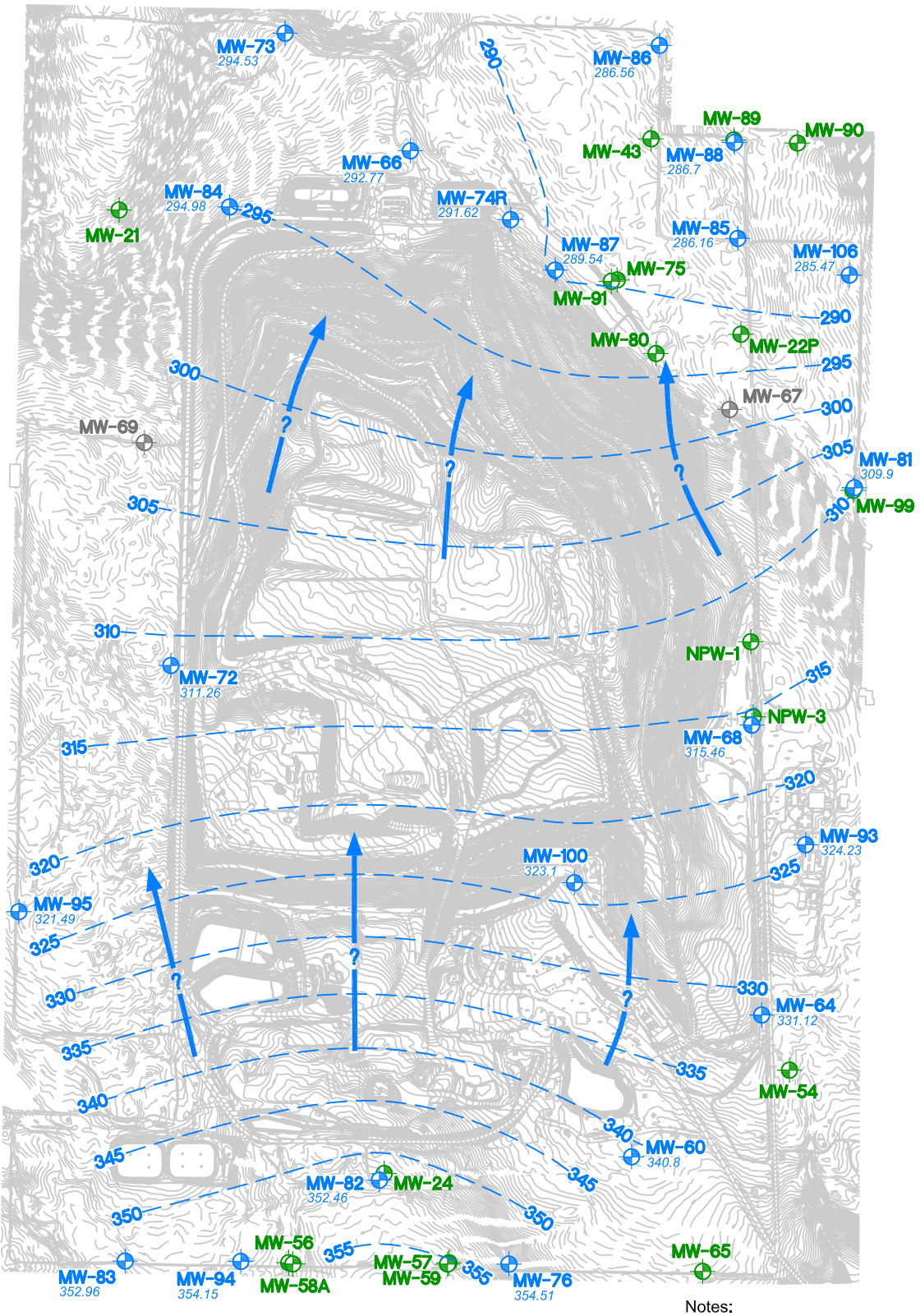
Cedar Hills Regional Landfill
King County, Washington

Regional Aquifer Zone Beneath the Landfill	Horizontal Hydraulic Conductivity[1,3] (K)			Horizontal Hydraulic Gradient[2] (DH/DL)	Effective Porosity[1] (n_{eff})	Horizontal Groundwater Velocity (v)	General Groundwater Flow Direction
	Range	(cm/s)	(ft/d)	(ft/ft)		(ft/d)	
Northern	Minimum	2.10E-03	6	0.006	24%	0.149	NNE, NE
	Maximum	4.20E-02	120	0.006	24%	2.98	
	Mean	2.10E-02	60	0.006	24%	1.49	
Central	Minimum	2.10E-03	6	0.009	24%	0.22	N, NNW
	Maximum	4.20E-02	120	0.009	24%	4.3	
	Mean	2.10E-02	60	0.009	24%	2.2	
Southern	Minimum	6.40E-06	0.018	0.012	26%	0.001	N, NNE, NNW
	Maximum	6.40E-04	1.8	0.012	26%	0.084	
	Mean	6.40E-05	0.18	0.012	26%	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 no used or no measurement this quarter.

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

? — Inferred Horizontal Groundwater Flow Path

0 1000 2000 Feet

N

Notes:

1. Groundwater measurements made on July 3, 2019.
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 2019 - Regional Aquifer
Cedar Hills Regional Landfill
King County, Washington

DATE: October 2019	PROJECT NO. 1033379
DESIGNED BY: SB	
DRAWN BY: KK	FIGURE NO. A-1
REVISED BY: SB	

CH_3Q2019.dwg

King County
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

January 31, 2020

TO: Kris McArthur, Engineer III, 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 2019 Results
Cedar Hills Regional Landfill, King County, Washington
Project No. 1126980 – Task 25.106

King County Water and Land Resources Division (WLRD) submits this memorandum report on groundwater conditions during the fourth quarter of 2019 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, 2019). King County Solid Waste Division (SWD) personnel measured regional aquifer groundwater levels at the Landfill on October 7, 2019. These measurements were received by WLRD on January 7, 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 the 2019 monitoring event.

Groundwater Elevation Data

The SWD measured regional aquifer groundwater level measurements at 40 monitoring wells during the fourth quarter of 2019. These wells were completed in the regional aquifer as referred to in *Potentiometric Groundwater Surface Mapping and Groundwater Velocity Calculation – Cedar Hills Landfill* (Aspect, 2010).

Table A-1 lists the well identifications, locations, well construction details, measured depth to groundwater levels, and calculated groundwater elevations for the 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 potentiometric surface mapping purposes.

Figure A-1 shows monitoring well locations, groundwater elevations at the 22 selected wells and groundwater potentiometric surface contours in the regional aquifer for the October 7, 2019 measurement event.

Direction of Groundwater Flow

Figure A-1 also shows interpreted groundwater flow directions in the regional aquifer, based on the October 7, 2019 measurements. Groundwater elevations indicate that groundwater in the regional aquifer generally flowed north beneath the southern portion of the Landfill with minor components of flow to the north-northwest and north-northeast. In the central portion of the Landfill, groundwater generally flowed to the north and north-northwest. At the northern end of the Landfill, groundwater generally flowed to the northeast and north-northeast.

Groundwater Parameters

Horizontal groundwater velocity was calculated using the following formula:

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

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

Horizontal groundwater velocity was calculated for the southern, central, and northern portions of the regional aquifer below the Landfill, based on spatial differences in aquifer parameters and hydraulic gradients. The hydraulic conductivity and effective porosity values were based on the ranges referred to in the *Potentiometric Groundwater Surface Mapping and Groundwater Velocity Calculation – Cedar Hills Landfill* (Aspect, 2010). Table A-2 presents a summary of the groundwater parameters used to calculate a groundwater velocity from the fourth quarter 2019 data.

The hydraulic gradient was greatest under the southern portion of the Landfill (0.011 ft/ft) and lower under the rest of the Landfill. On October 7, 2019, average horizontal

groundwater velocity within the regional aquifer ranged from 0.008 feet per day (ft/d) under the southern portion of the Landfill to 2.11 ft/d under the northern portion of the Landfill.

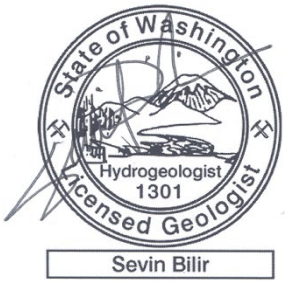
References

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

Thank you for the opportunity to provide hydrogeologic services to 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:	Groundwater Elevations – Fourth Quarter 2019
Table A-2:	Groundwater Parameters – Fourth Quarter 2019
Figure A-1:	Groundwater Potentiometric Surface Map – Fourth Quarter 2019 – Regional Aquifer

Table A-1: Groundwater Elevations – Fourth Quarter 2019

Cedar Hills Regional Landfill

King County, Washington

							October 7, 2019	
	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	228.37	338.78
	MW-64	1701980.27	168772.19	596.55	334.03	320.23	265.73	330.82
	MW-66	1699750.19	174250.32	531.28	294.39	280.59	238.98	292.30
	MW-67	1701776.69	172610.65	516.43	297.80	284.00	220.10	296.33
	MW-68	1701917.32	170609.35	647.07	311.29	292.29	331.67	315.40
	MW-72	1698229.92	170987.71	671.87	303.63	294.03	360.66	311.21
	MW-73	1698954.95	174995.59	485.70	288.11	278.81	191.75	293.95
	MW-74R	1700386.85	173813.79	531.26	289.90	280.40	239.94	291.32
	MW-76	1700376.23	167193.13	491.71	351.06	341.56	141.19	350.52
	MW-81	1702568.87	172113.99	493.66	309.19	300.19	183.64	310.02
	MW-82	1699553.72	167725.31	474.85	348.88	339.38	125.23	349.62
	MW-83	1697939.89	167212.27	496.81	350.19	340.69	145.02	351.79
	MW-84	1698602.89	173894.54	530.80	292.46	282.96	236.04	294.76
	MW-85	1701828.95	173694.52	531.76	282.56	273.06	246.09	285.67
	MW-86	1701331.25	174917.90	536.04	283.43	274.63	250.05	285.99
	MW-87	1700670.27	173493.76	537.31	283.68	274.38	248.12	289.19
	MW-88	1701807.87	174303.06	513.68	281.52	272.22	227.35	286.33
	MW-93	1702259.35	169851.24	632.15	319.87	310.07	308.21	323.94
	MW-94	1698674.21	167210.22	495.51	357.22	348.52	143.56	351.95
	MW-95	1697265.32	169426.92	571.54	314.60	305.90	250.88	320.66
	MW-100	1700791.72	169610.46	620.32	319.06	309.06	297.59	322.73
	MW-106	1702536.99	173461.69	475.47	280.04	270.04	190.51	284.96
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	124.98	295.68
	MW-22P	1701844.34	173088.17	517.09	236.02	231.22	232.47	284.62
	MW-24	1699582.39	167767.76	475.99	286.76	281.76	146.05	329.94
	MW-43	1701274.23	174327.14	547.06	245.63	235.63	263.75	283.31
	MW-54	1702154.28	168435.53	580.43	250.25	228.25	278.58	301.85
	MW-56	1698980.77	167214.82	480.33	323.15	313.15	128.65	351.68
	MW-57	1699993.32	167201.99	456.64	326.65	311.65	105.82	350.82
	MW-58A	1699006.59	167207.16	479.27	270.05	260.05	149.88	329.39
	MW-59	1699983.91	167193.44	457.13	285.08	275.08	125.96	331.17
	MW-65	1701602.10	167146.55	545.83	317.71	308.91	210.30	335.53
	MW-75	1701059.70	173432.42	532.40	271.10	261.00	245.66	286.74
	MW-80	1701309.78	172964.99	530.41	279.17	269.67	238.76	291.65
	MW-89	1701799.57	174319.44	512.82	229.20	219.90	232.42	280.40
	MW-90	1702203.13	174300.67	502.22	235.16	226.16	222.01	280.21
	MW-91	1701023.09	173423.94	532.02	260.81	240.71	246.80	285.22
	MW-99	1702556.06	172098.73	493.64	221.77	212.77	200.45	293.19
	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	331.20	314.61
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.

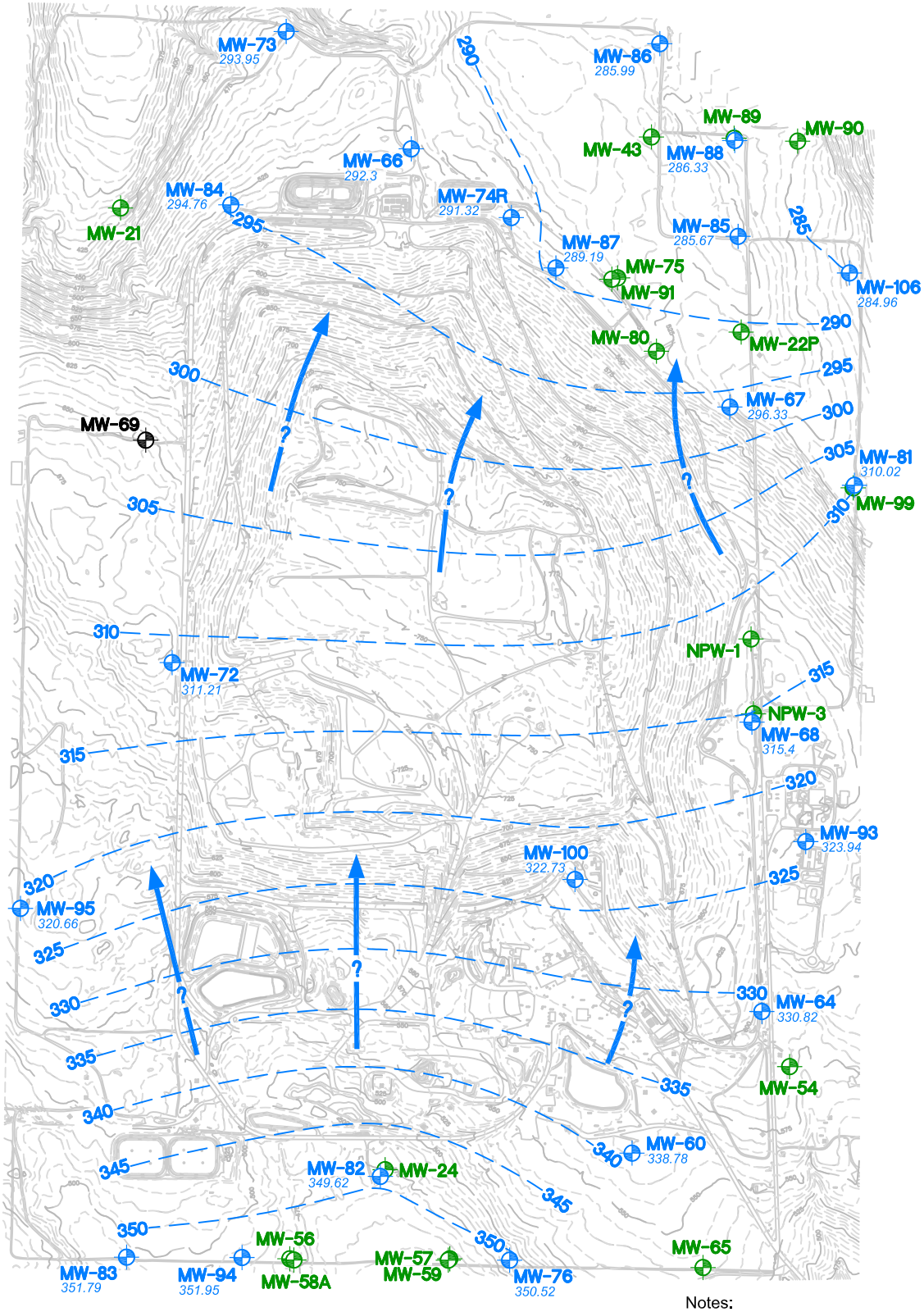
NA Not applicable.

Table A-2: Groundwater Parameters – Fourth Quarter 2019
Cedar Hills Regional Landfill
King County, Washington

Regional Aquifer Zone Beneath the Landfill	Horizontal Hydraulic Conductivity[1,3] (K)			Horizontal Hydraulic Gradient[2] (DH/DL)	Effective Porosity[1] (n_{eff})	Horizontal Groundwater Velocity (v)	General Groundwater Flow Direction
	Range	(cm/s)	(ft/d)	(ft/ft)		(ft/d)	
Northern	Minimum	2.10E-03	6	0.0084	24%	0.21	NNE, NE
	Maximum	4.20E-02	120			4.22	
	Mean	2.10E-02	60			2.11	
Central	Minimum	2.10E-03	6	0.0083	24%	0.21	N, NNW
	Maximum	4.20E-02	120			4.13	
	Mean	2.10E-02	60			2.07	
Southern	Minimum	6.40E-06	0.018	0.011	26%	0.001	N, NNE, NNW
	Maximum	6.40E-04	1.8			0.079	
	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 no used or no measurement this quarter.

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

? — Inferred Horizontal Groundwater Flow Path

Topographic Contour Interval 5 feet

0 1000 2000 Feet

N

Notes:

1. Groundwater measurements made on October 7, 2019.
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 2019 - Regional Aquifer
Cedar Hills Regional Landfill
King County, Washington

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

CH_4Q2019.dwg

PART 5

Time-Concentration Plots
Monitoring Well Hydrographs

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

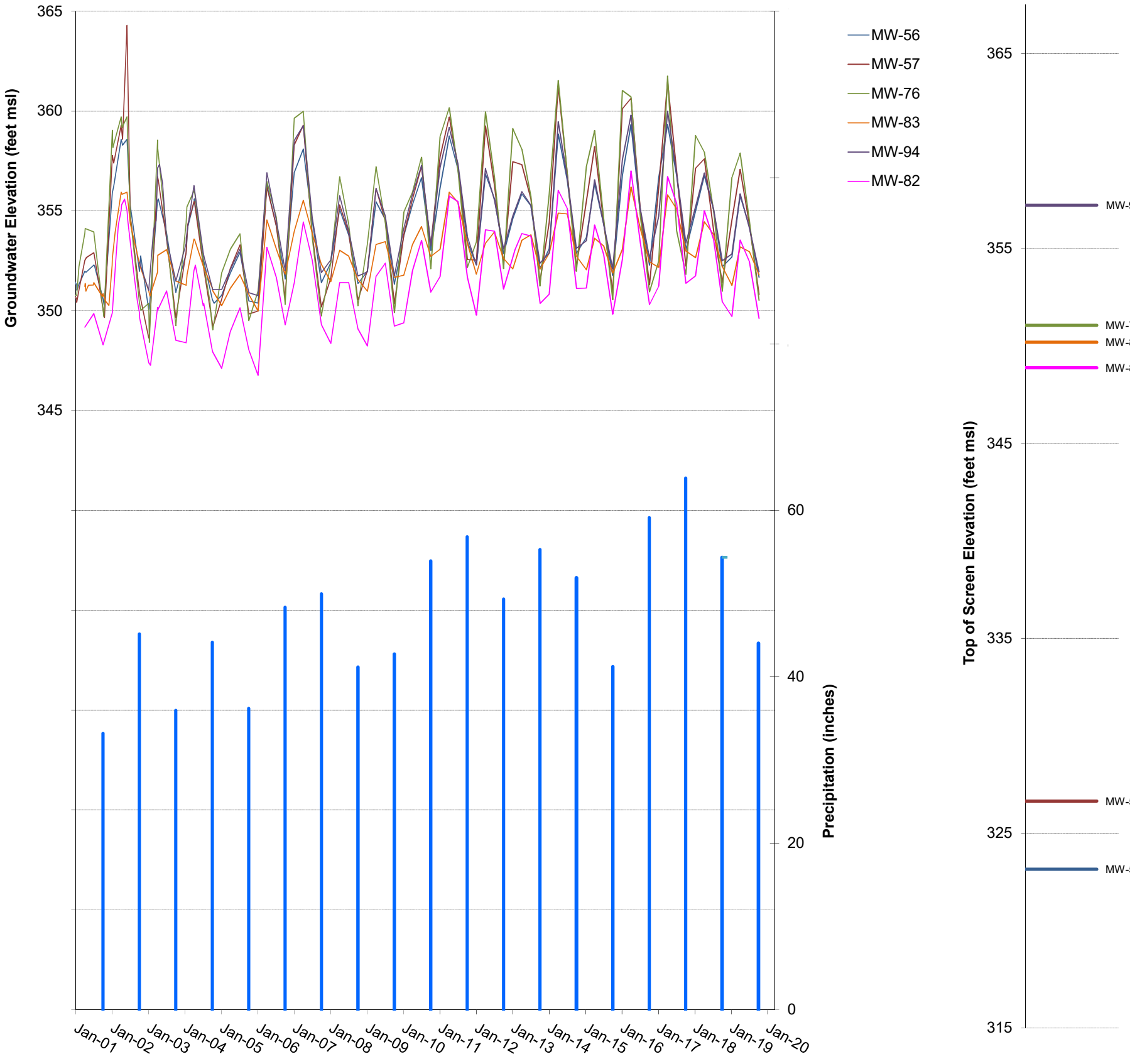
North and West Perched Wells

East Main Hill Perched Zone

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

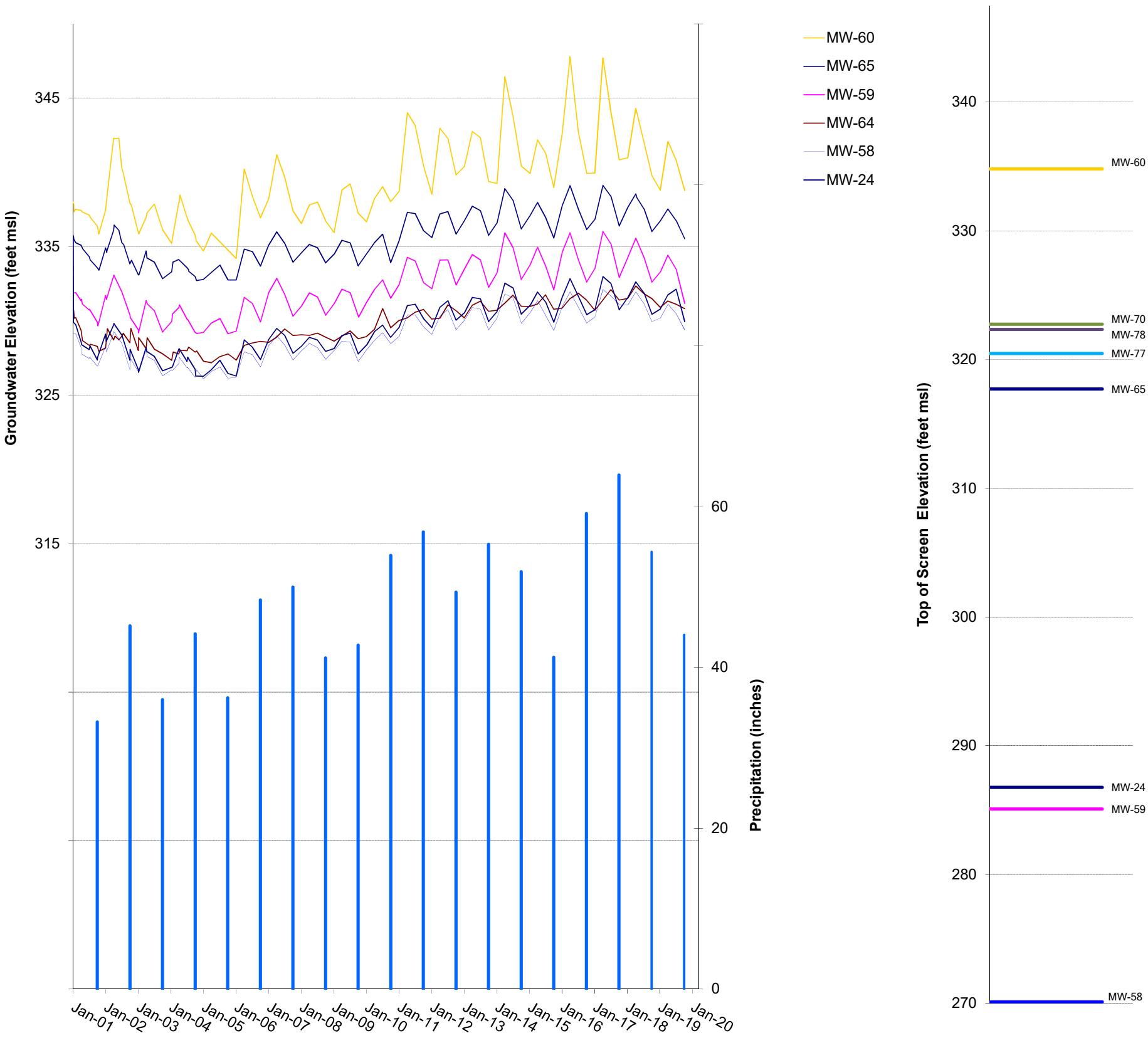
This Page is Intentionally Left Blank

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

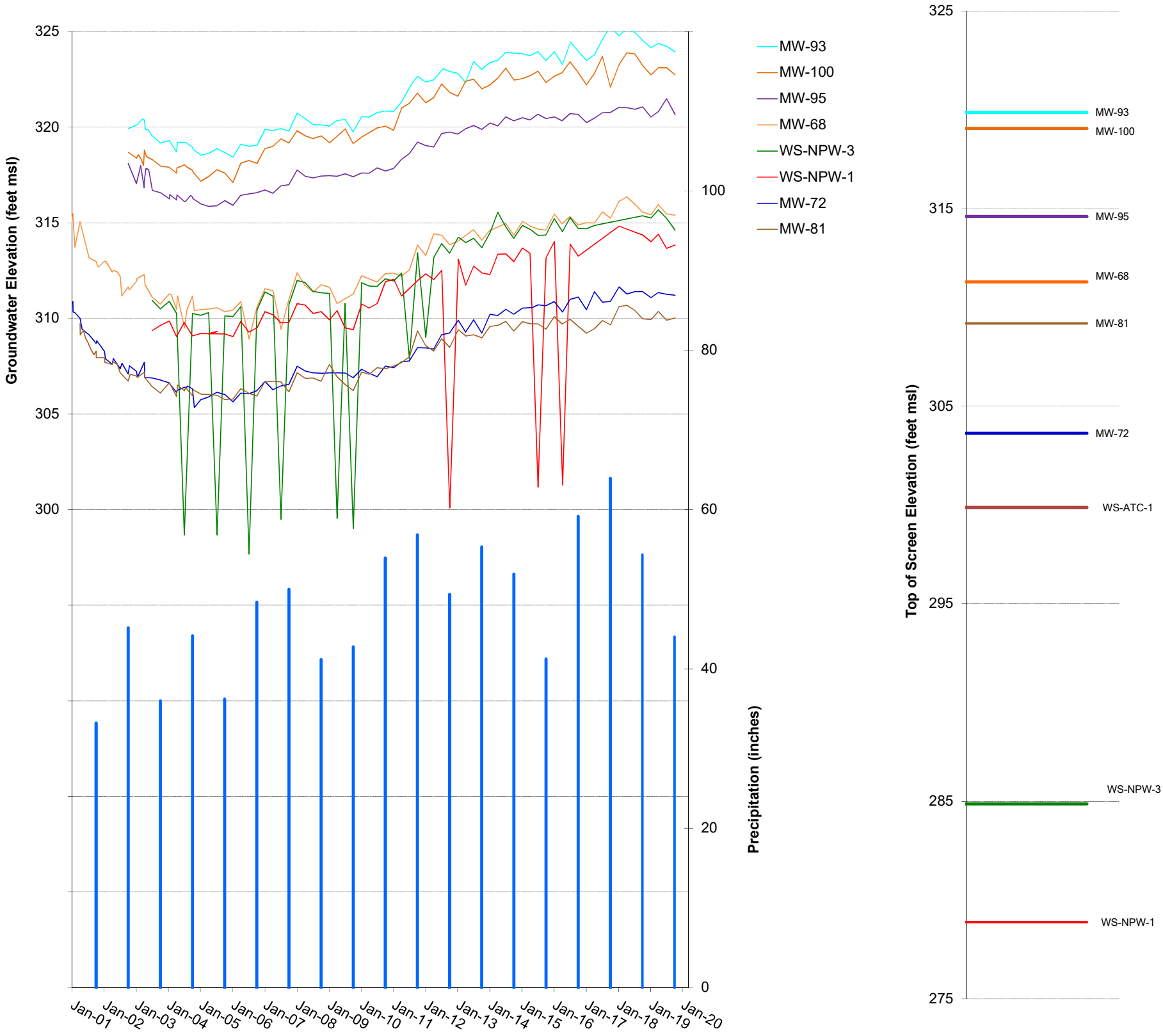


REGIONAL AQUIFER GROUNDWATER ELEVATIONS

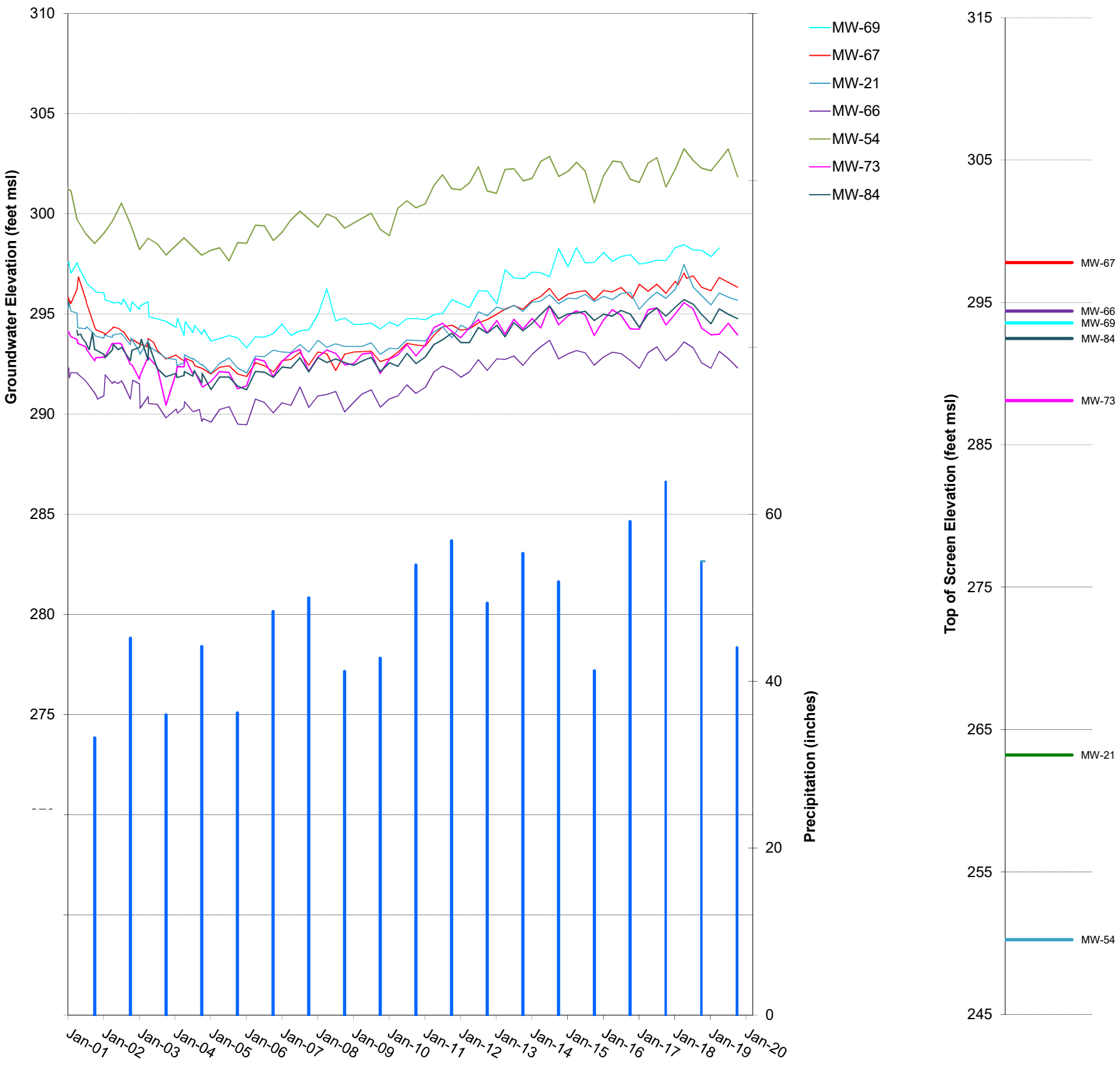
POTENTIOMETRIC SURFACE 320-345 FT. MSL



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

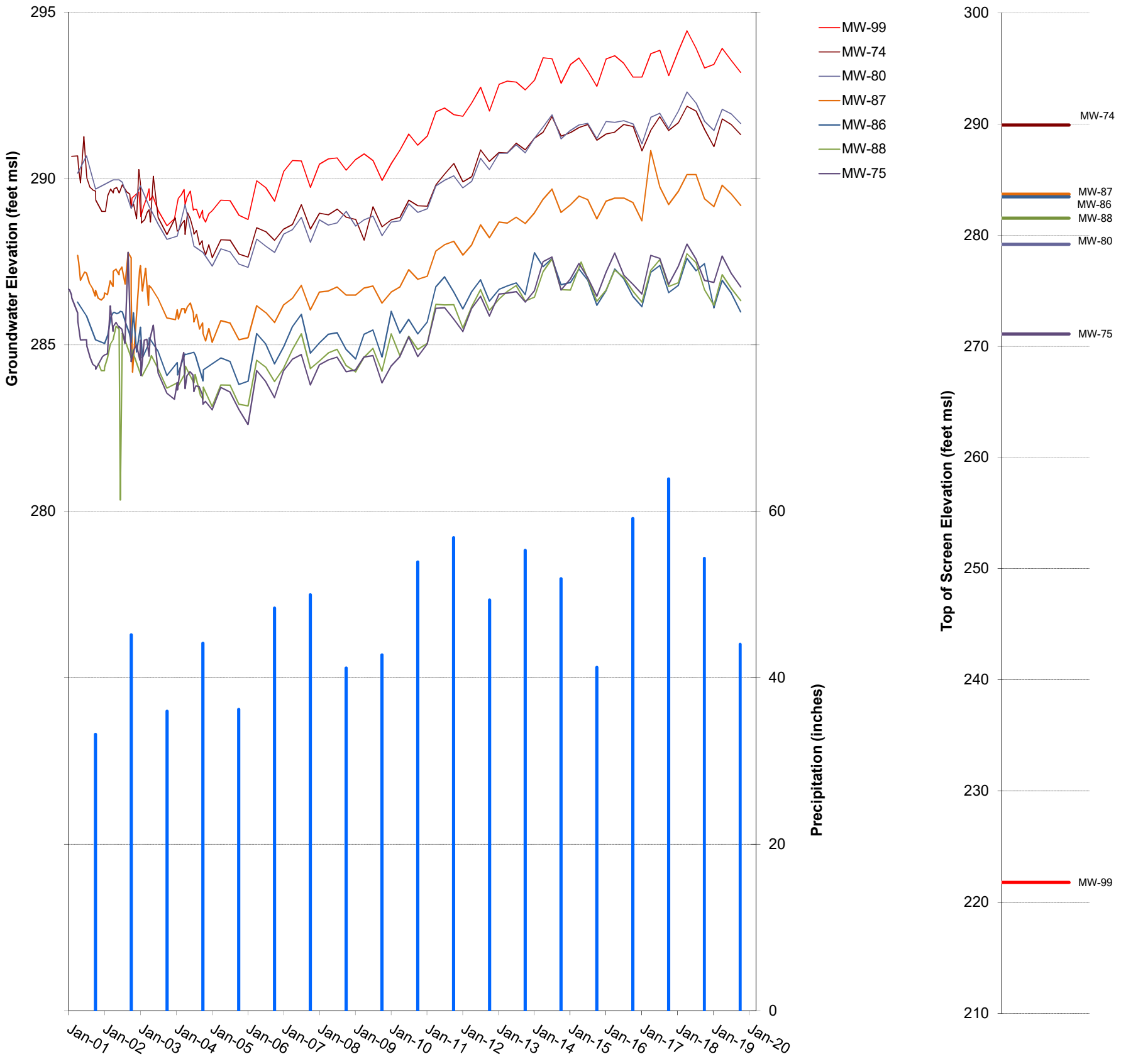


REGIONAL AQUIFER GROUNDWATER ELEVATIONS
POTENTIOMETRIC SURFACE 290-305 FT. MSL

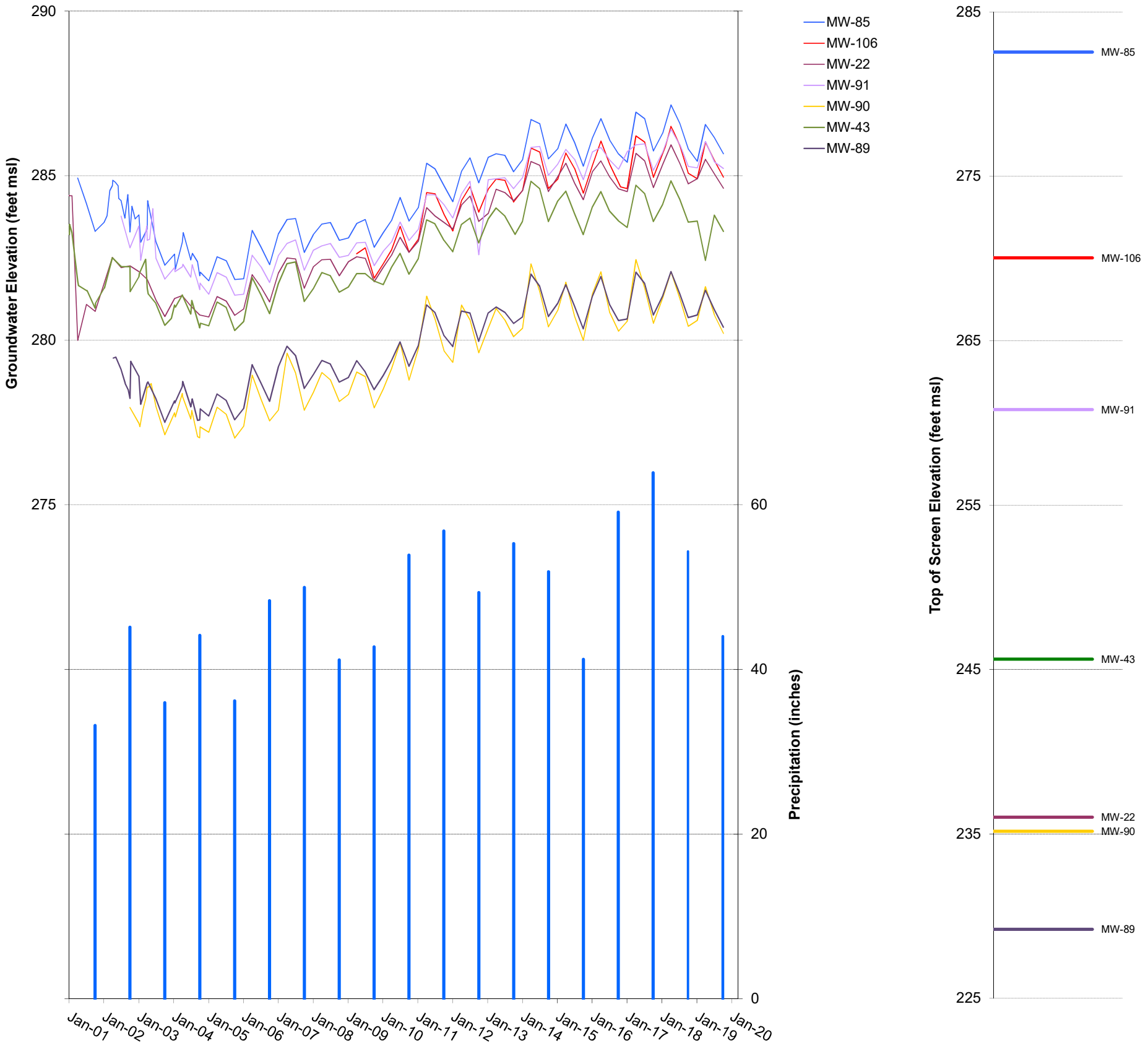


REGIONAL AQUIFER GROUNDWATER ELEVATIONS

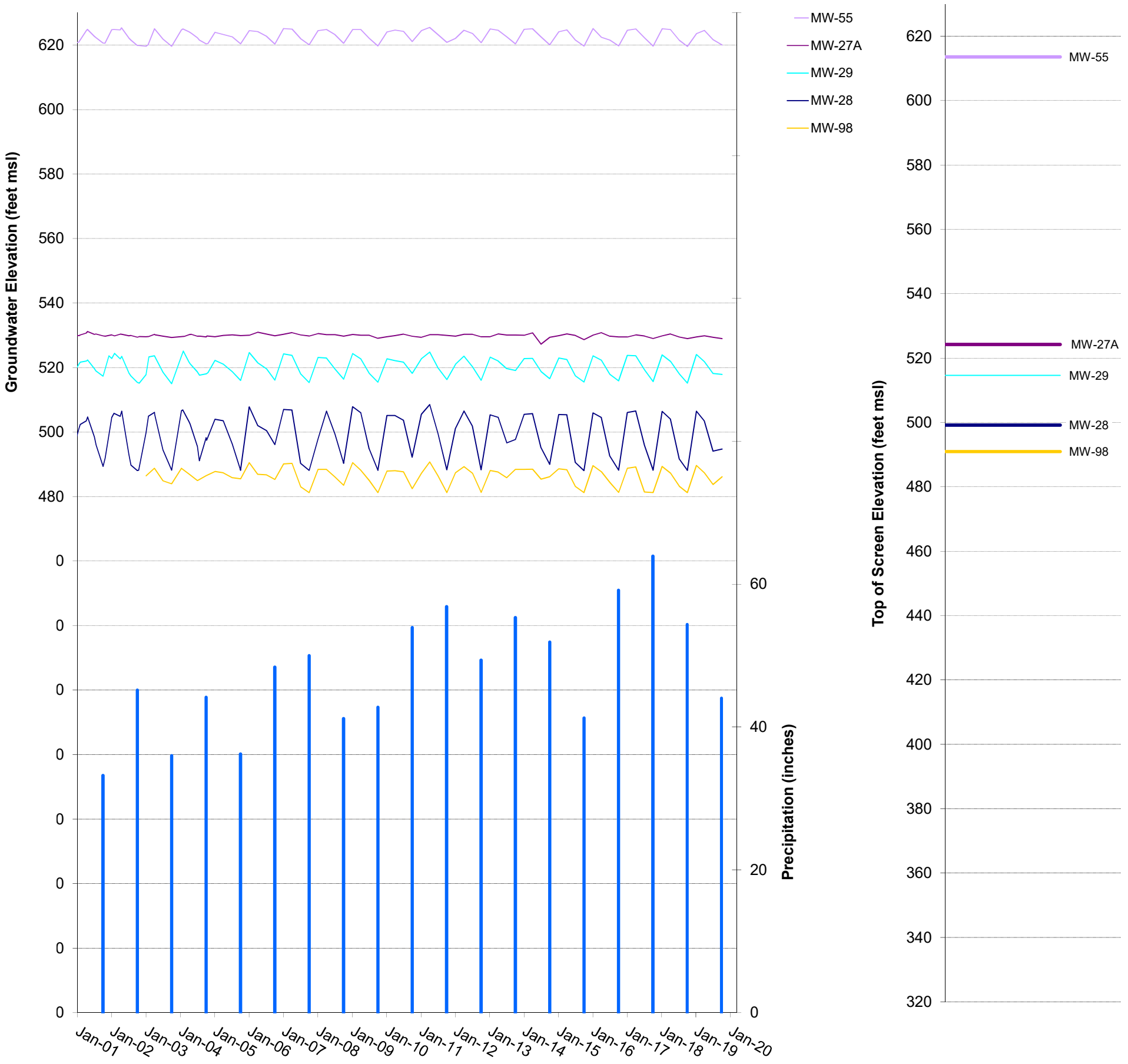
POTENTIOMETRIC SURFACE 285-295 FT. MSL



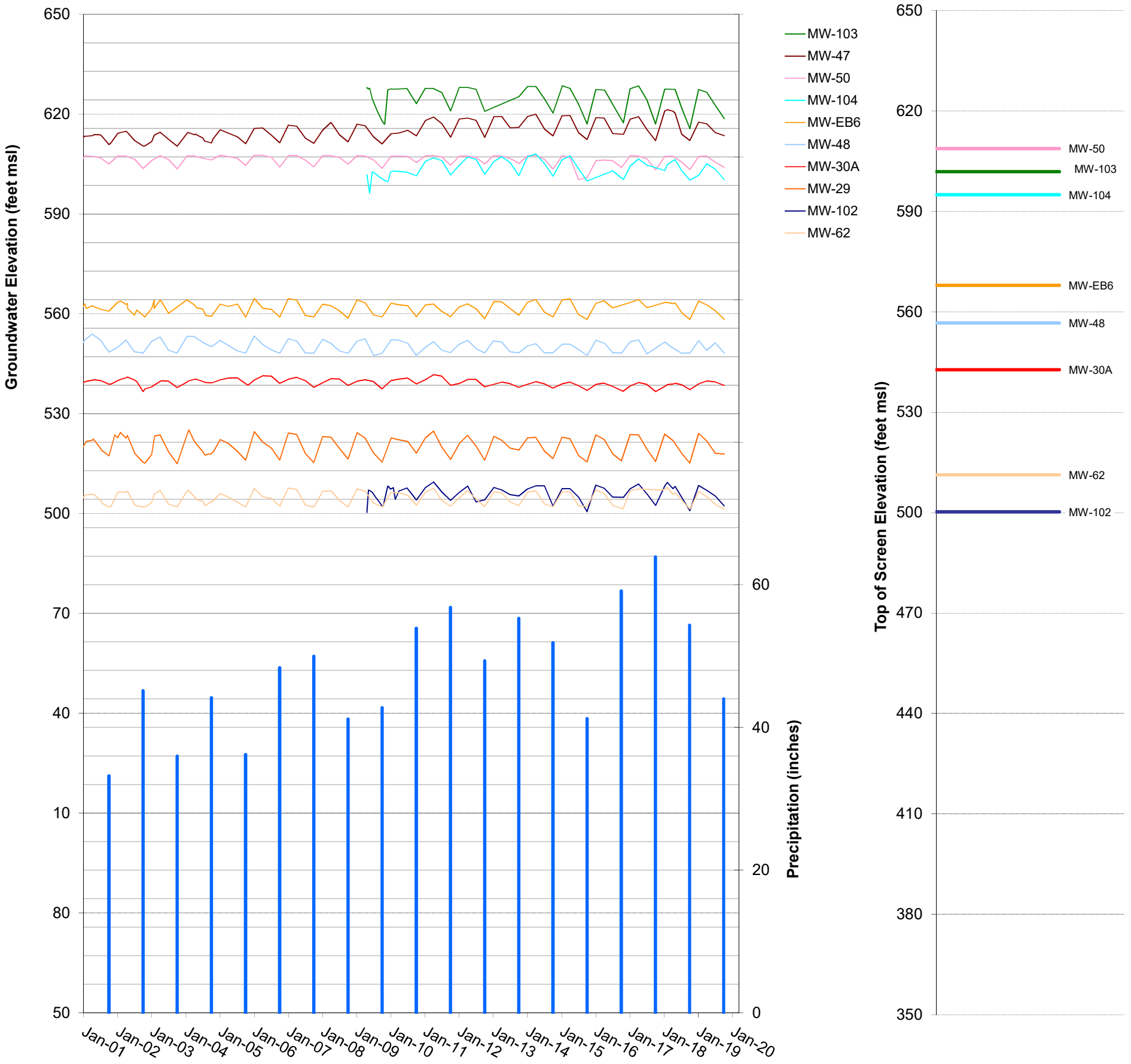
REGIONAL AQUIFER GROUNDWATER ELEVATIONS
POTENTIOMETRIC SURFACE 275-285 FT. MSL



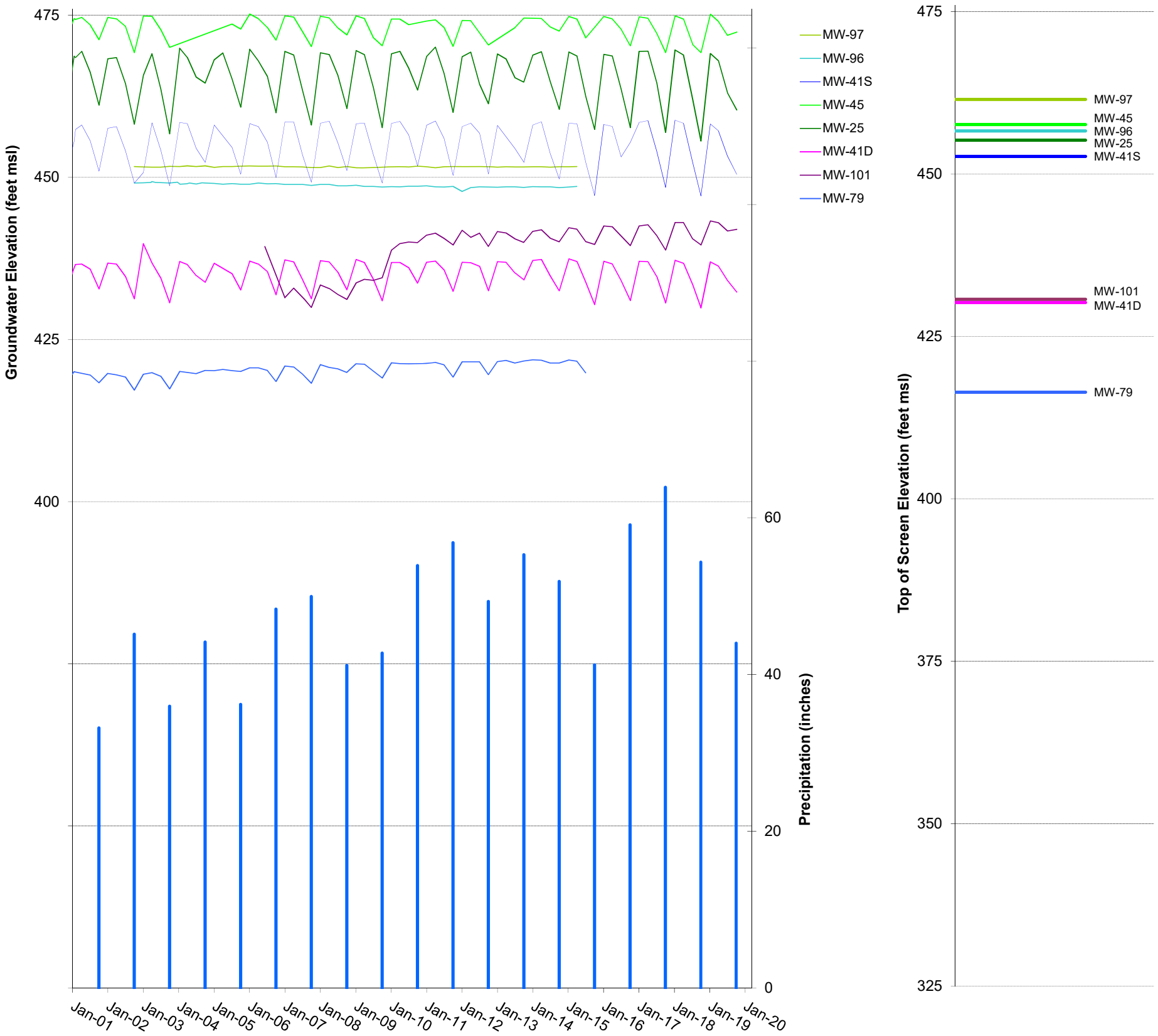
PERCHED ZONES GROUNDWATER ELEVATIONS
NORTH AND WEST WELLS

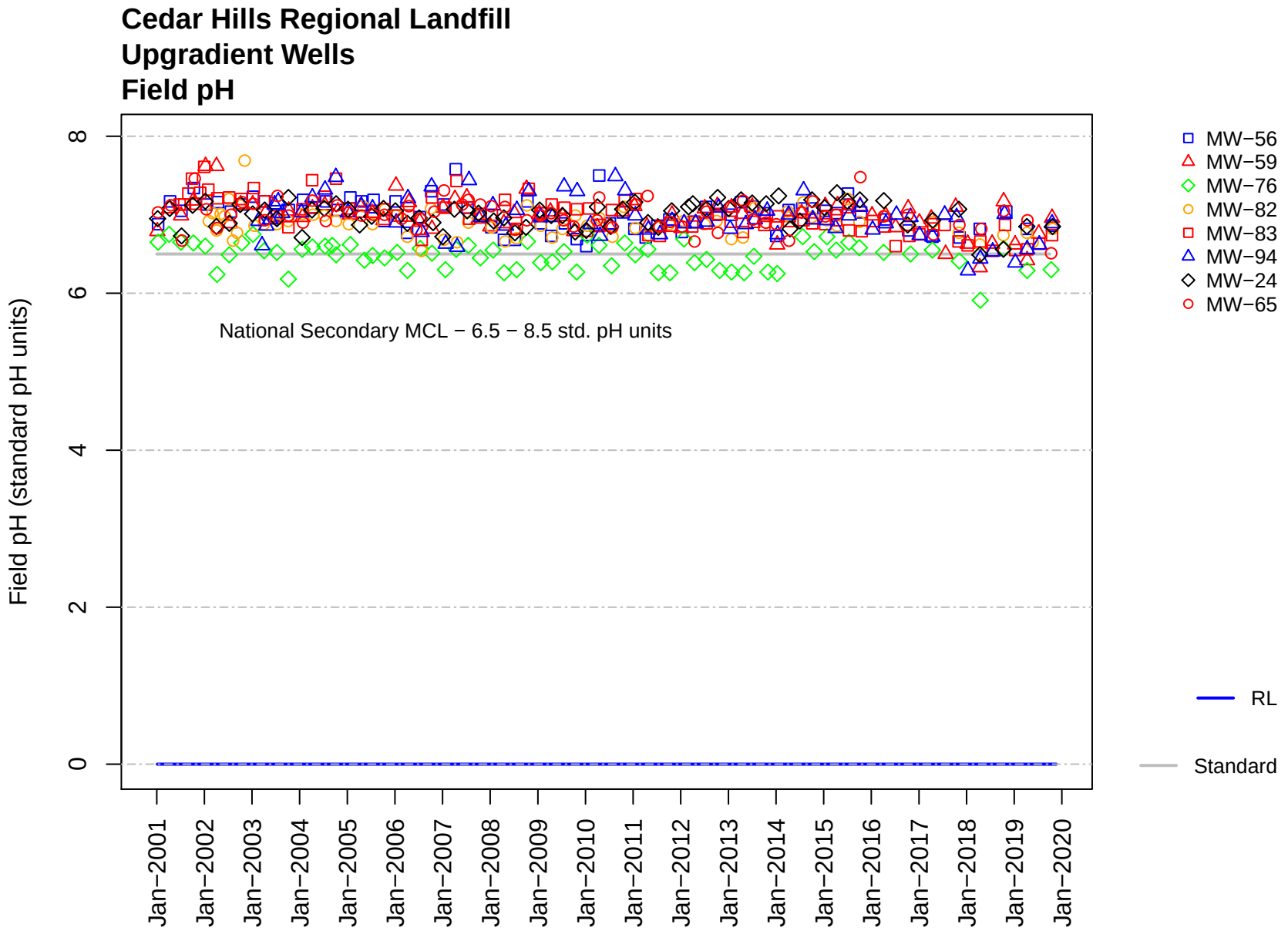


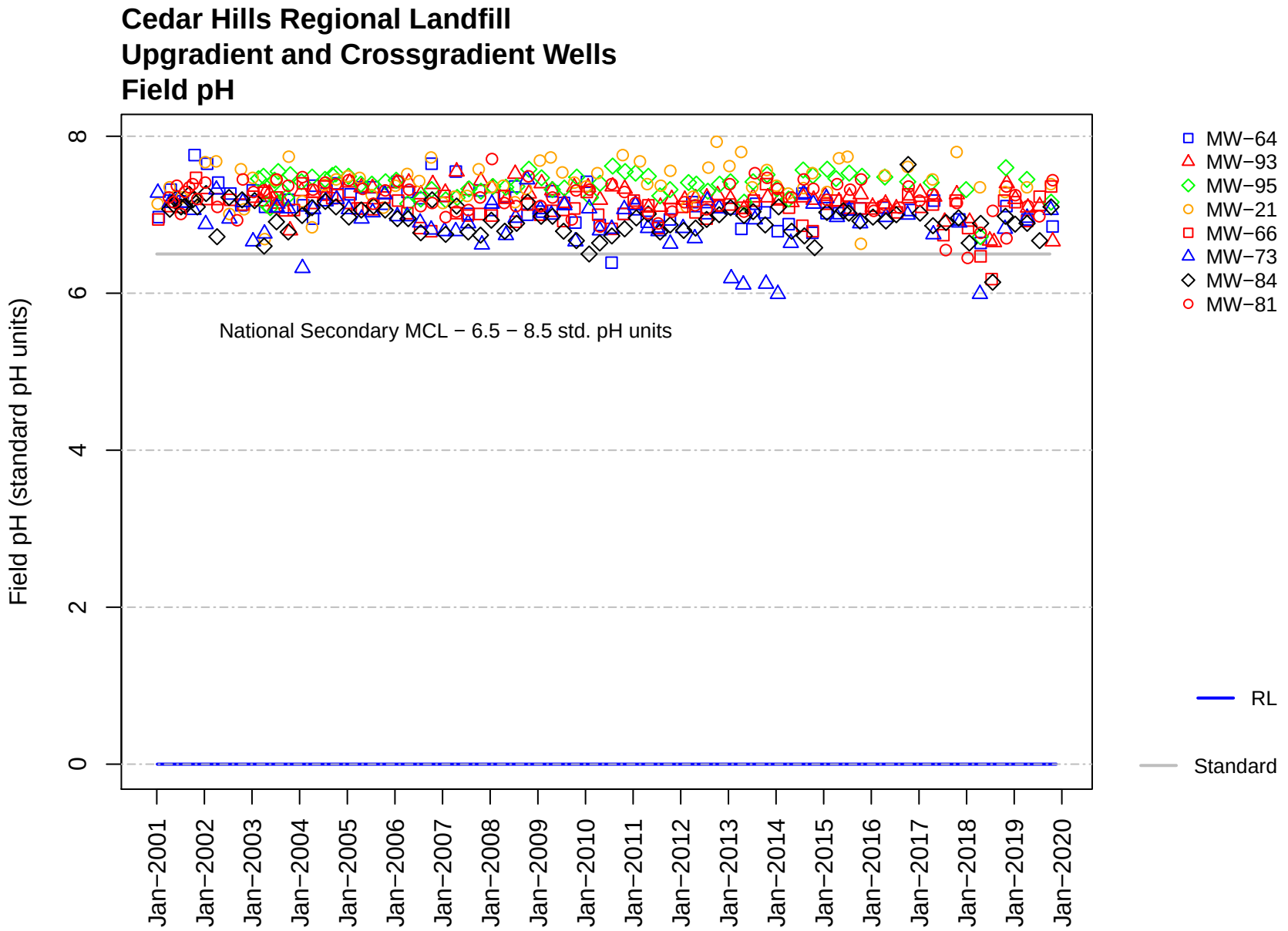
PERCHED ZONES GROUNDWATER ELEVATIONS
EAST MAIN HILL

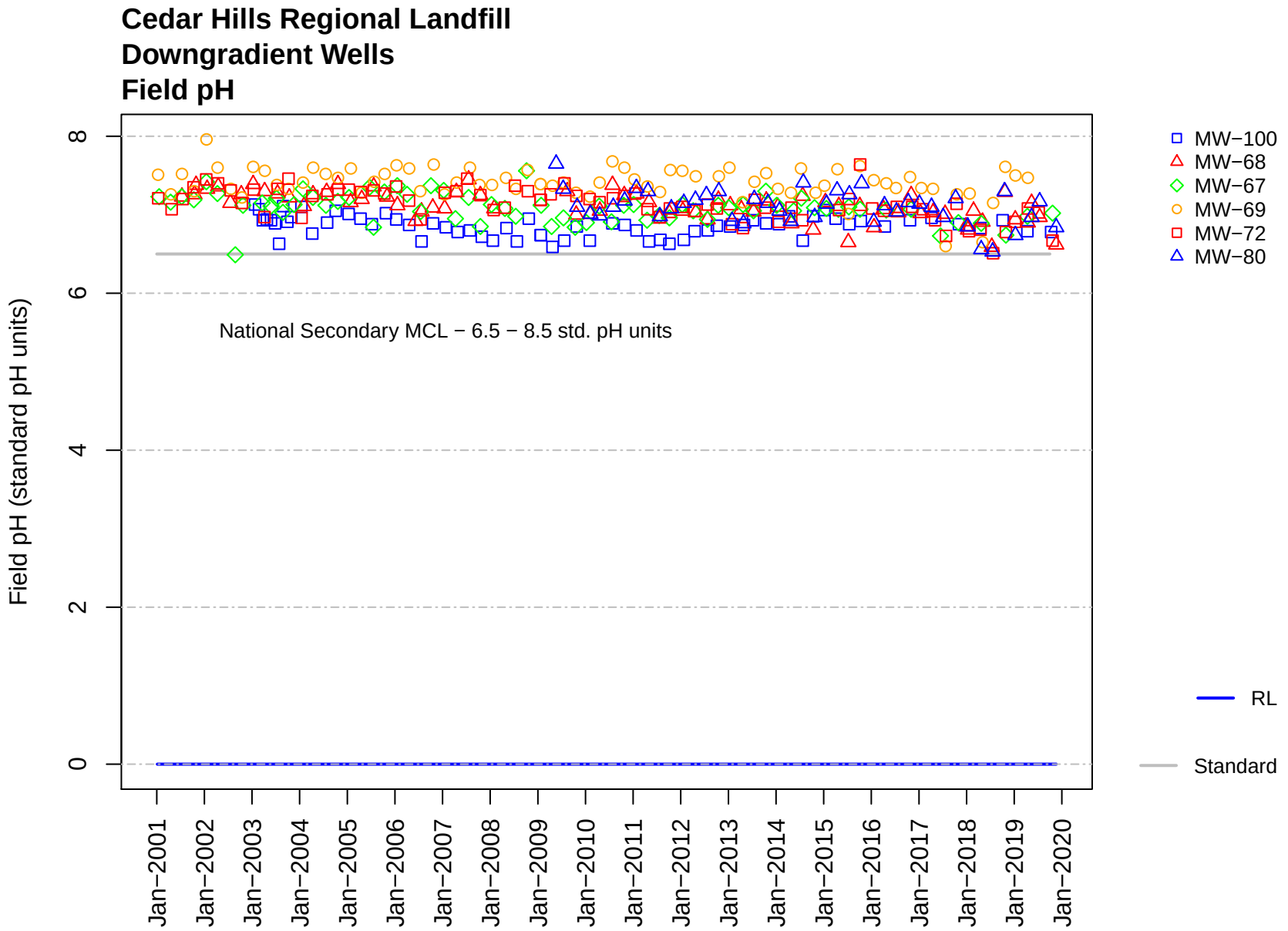


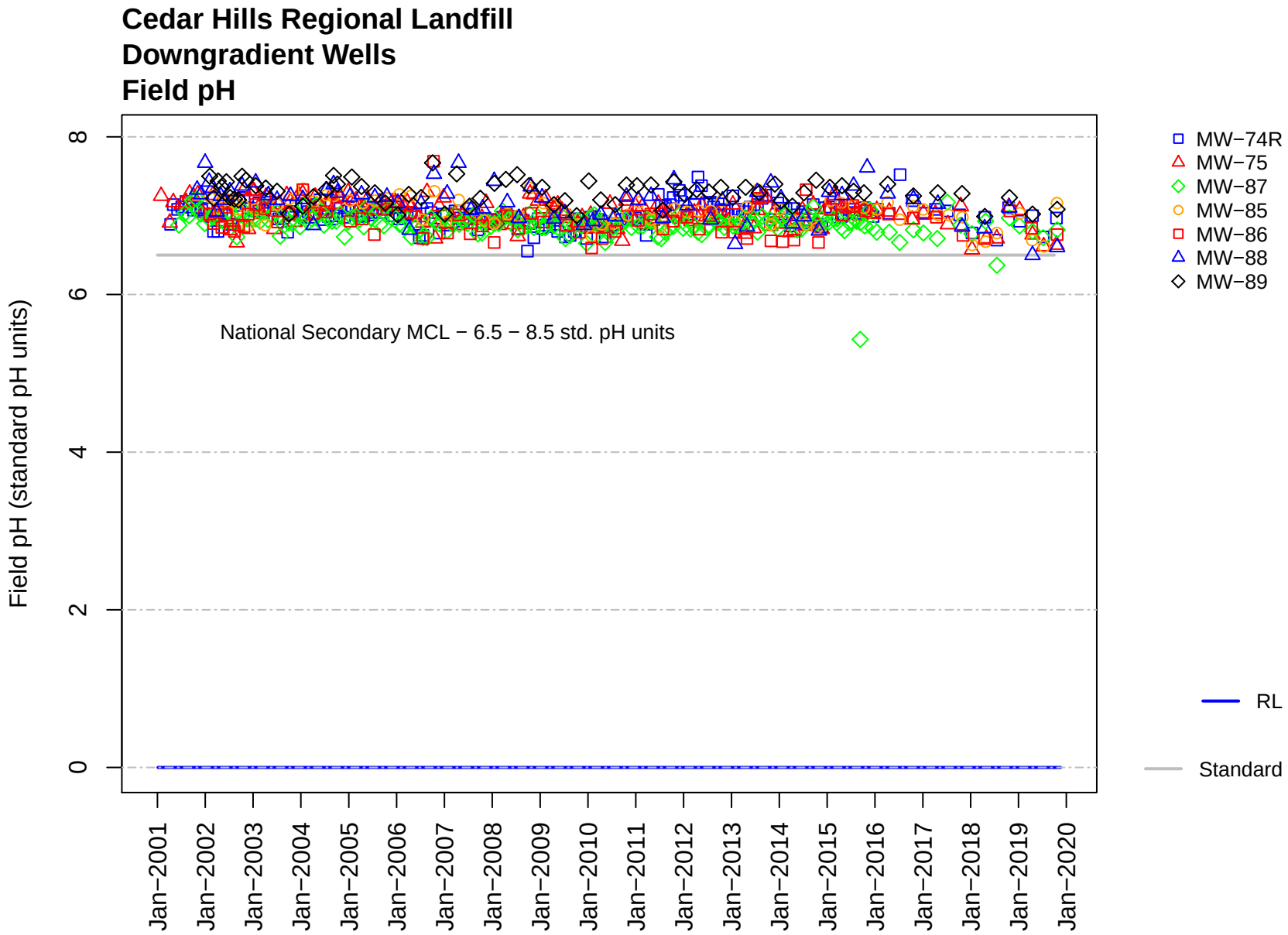
PERCHED ZONES GROUNDWATER ELEVATIONS
SOUTH SOLID WASTE AREA

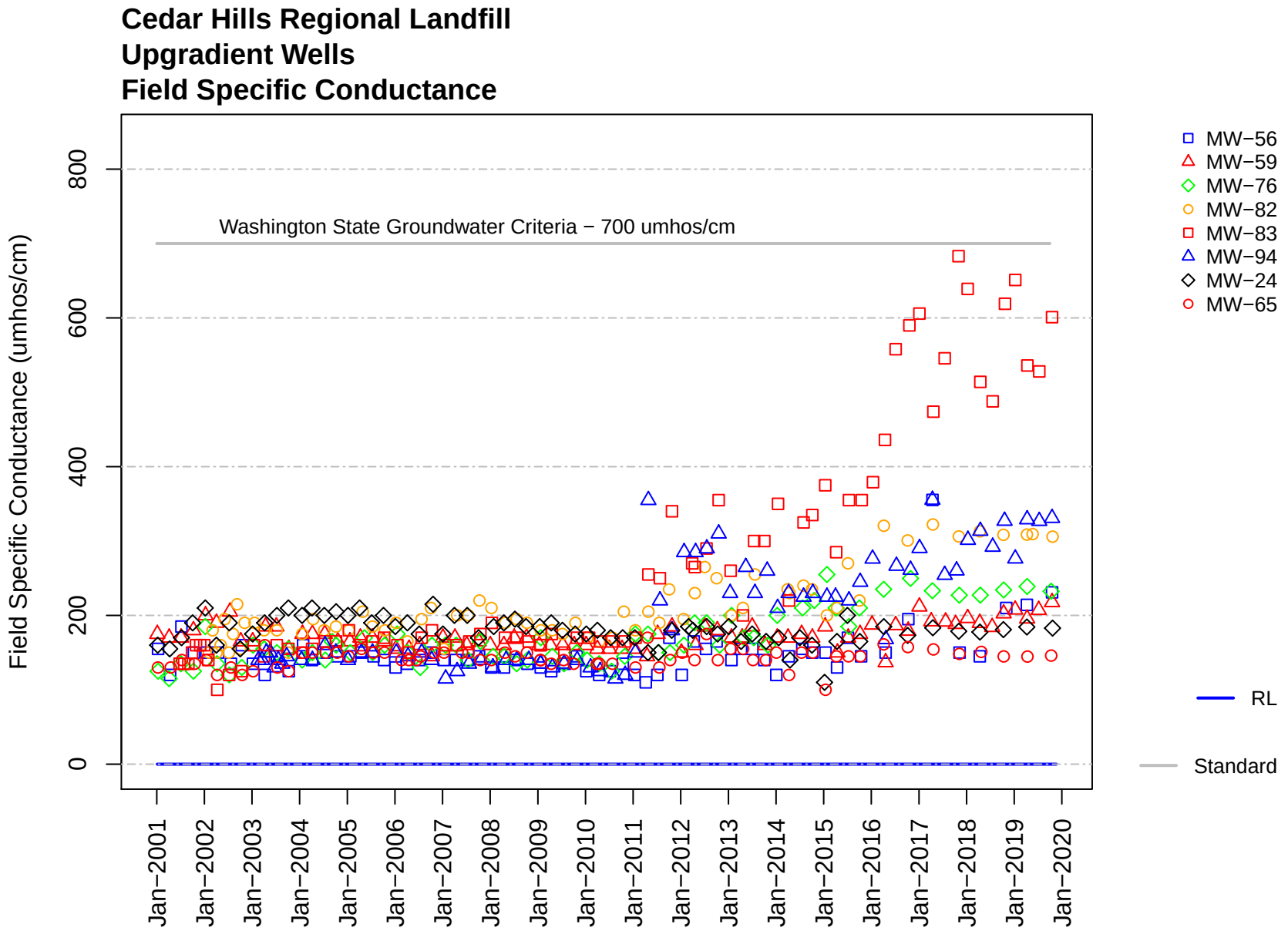


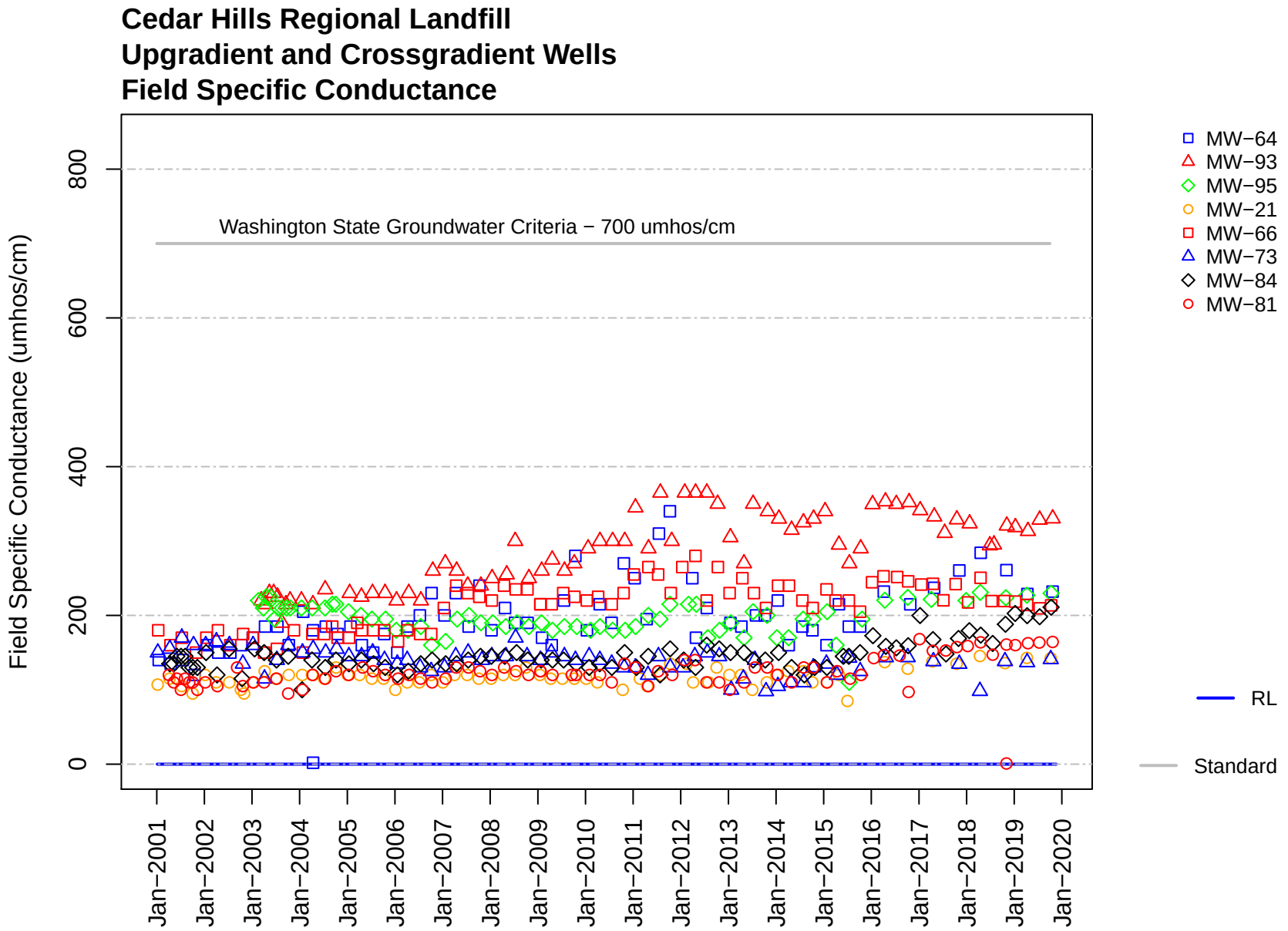

Cedar Hills Regional Landfill
Upgradient Wells
Field pH
Field pH (standard pH units)
0
2
4
6
8
National Secondary MCL − 6.5 − 8.5 std. pH units
Jan−2001
Jan−2002
Jan−2003
Jan−2004
Jan−2005
Jan−2006
Jan−2007
Jan−2008
Jan−2009
Jan−2010
Jan−2011
Jan−2012
Jan−2013
Jan−2014
Jan−2015
Jan−2016
Jan−2017
Jan−2018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

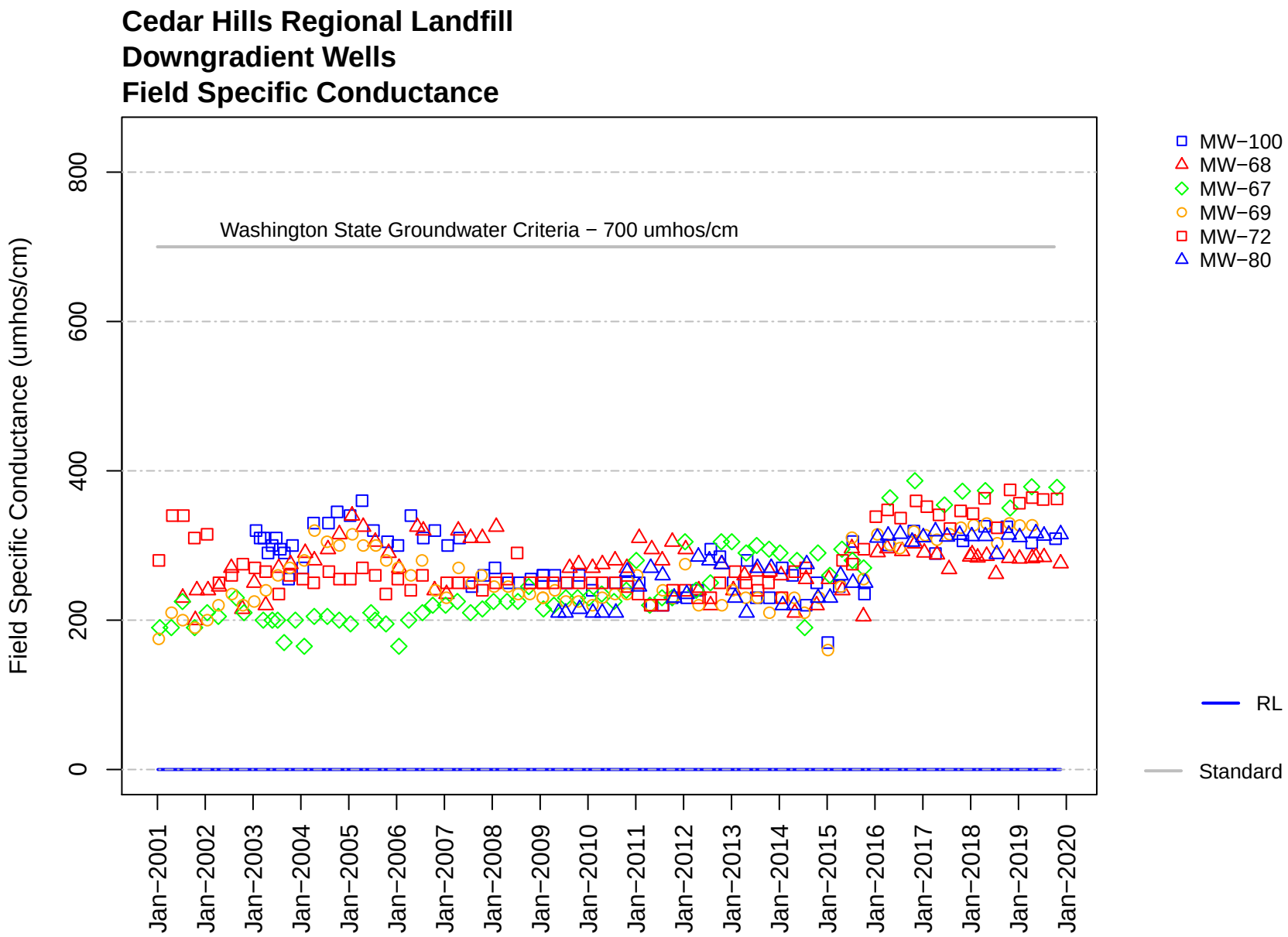

Cedar Hills Regional Landfill
Upgradient and Crossgradient Wells
Field pH
Field pH (standard pH units)
0
2
4
6
8
National Secondary MCL − 6.5 − 8.5 std. pH units
Jan−2001
Jan−2002
Jan−2003
Jan−2004
Jan−2005
Jan−2006
Jan−2007
Jan−2008
Jan−2009
Jan−2010
Jan−2011
Jan−2012
Jan−2013
Jan−2014
Jan−2015
Jan−2016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

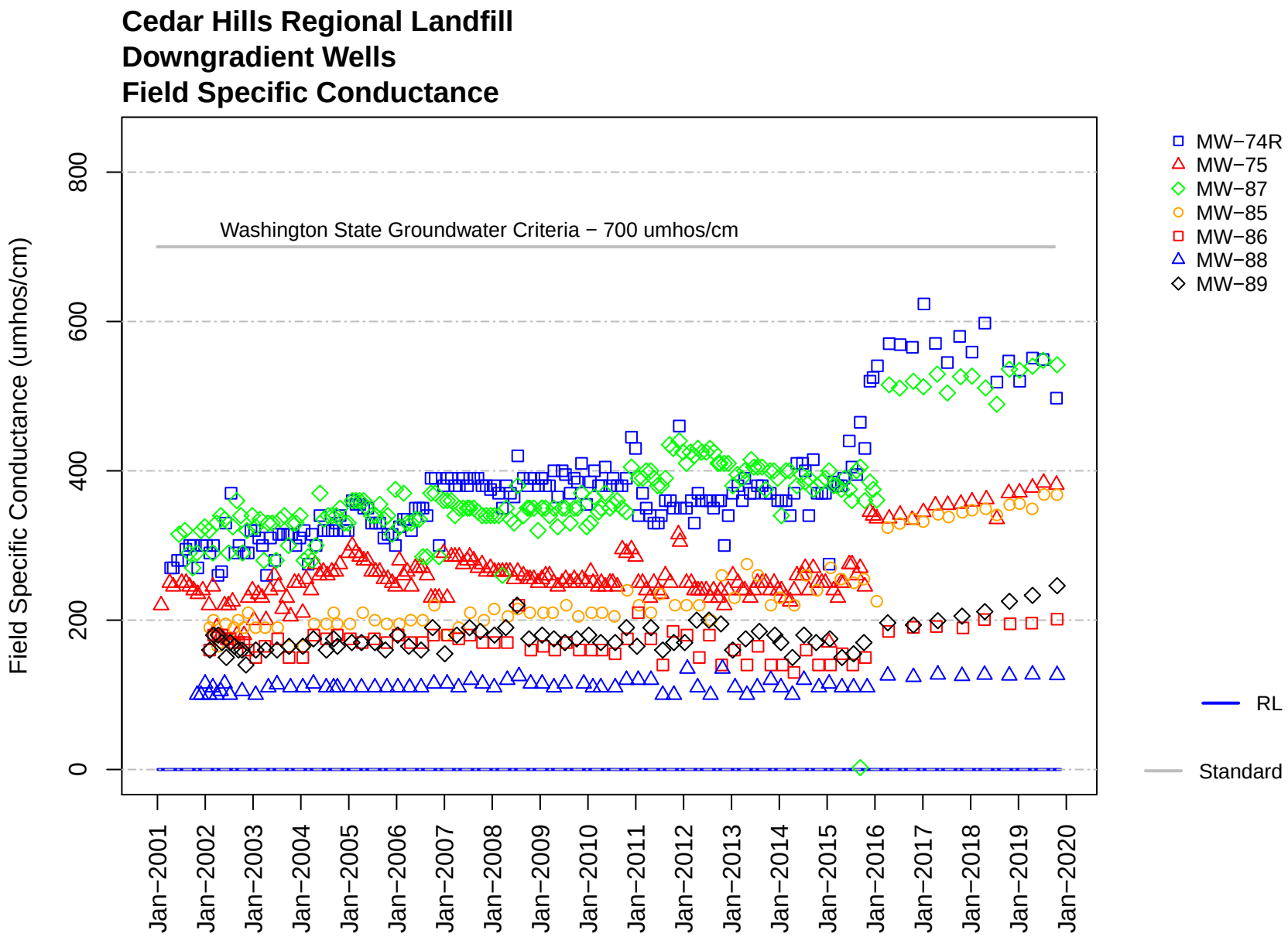

Cedar Hills Regional Landfill
Downgradient Wells
Field pH
Field pH (standard pH units)
0
2
4
6
8
National Secondary MCL − 6.5 − 8.5 std. pH units
Jan−2001
Jan−2002
Jan−2003
Jan−2004
Jan−2005
Jan−2006
Jan−2007
Jan−2008
Jan−2009
Jan−2010
Jan−2011
Jan−2012
Jan−2013
Jan−2014
Jan−2015
Jan−2016
Jan−2017
Jan−2018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

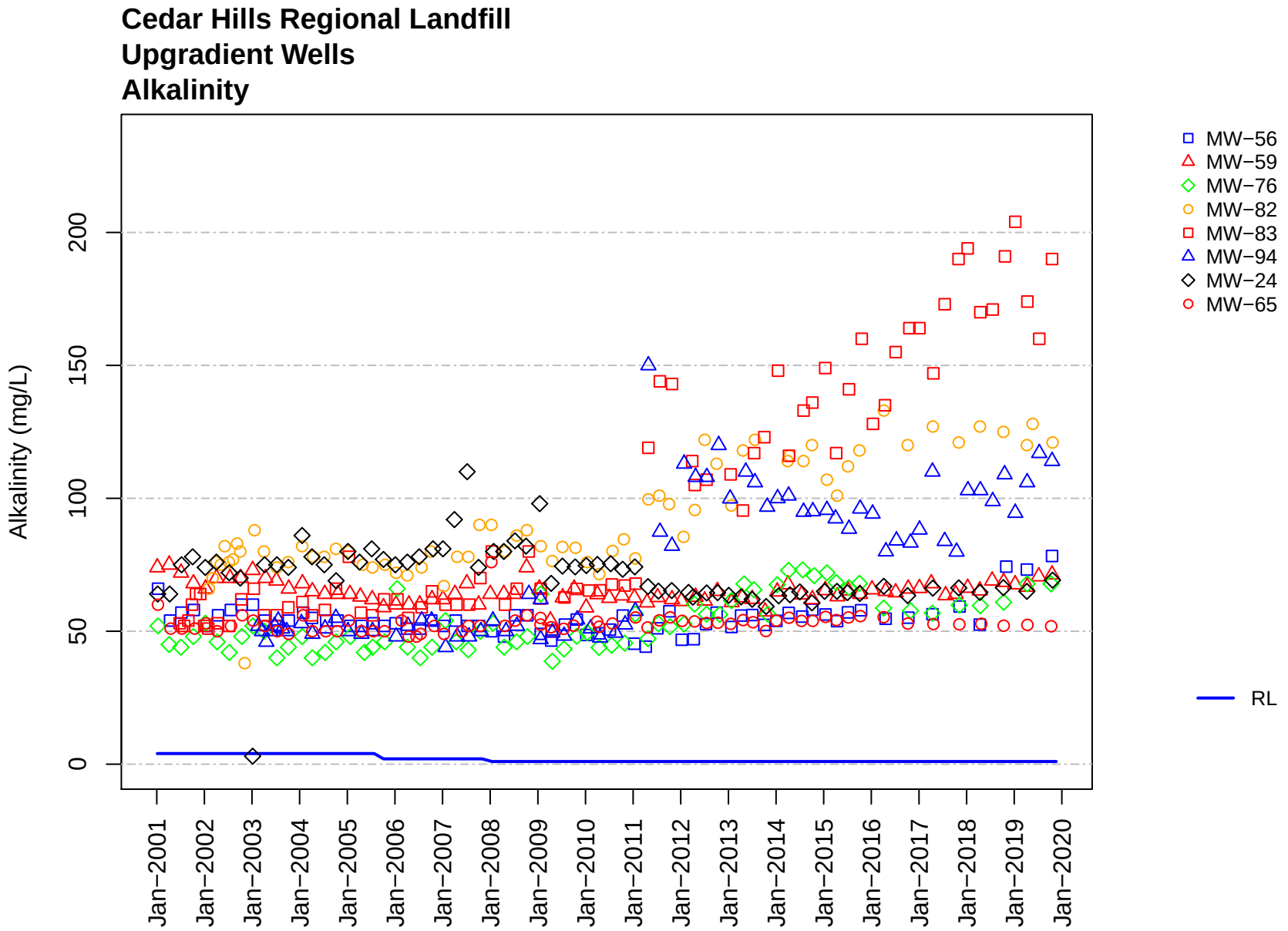

Cedar Hills Regional Landfill
Downgradient Wells
Field pH
Field pH (standard pH units)
0
2
4
6
8
National Secondary MCL − 6.5 − 8.5 std. pH units
Jan−2001
Jan−2002
Jan−2003
Jan−2004
Jan−2005
Jan−2006
Jan−2007
Jan−2008
Jan−2009
Jan−2010
Jan−2011
Jan−2012
Jan−2013
Jan−2014
Jan−2015
Jan−2016
Jan−2017
Jan−2018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

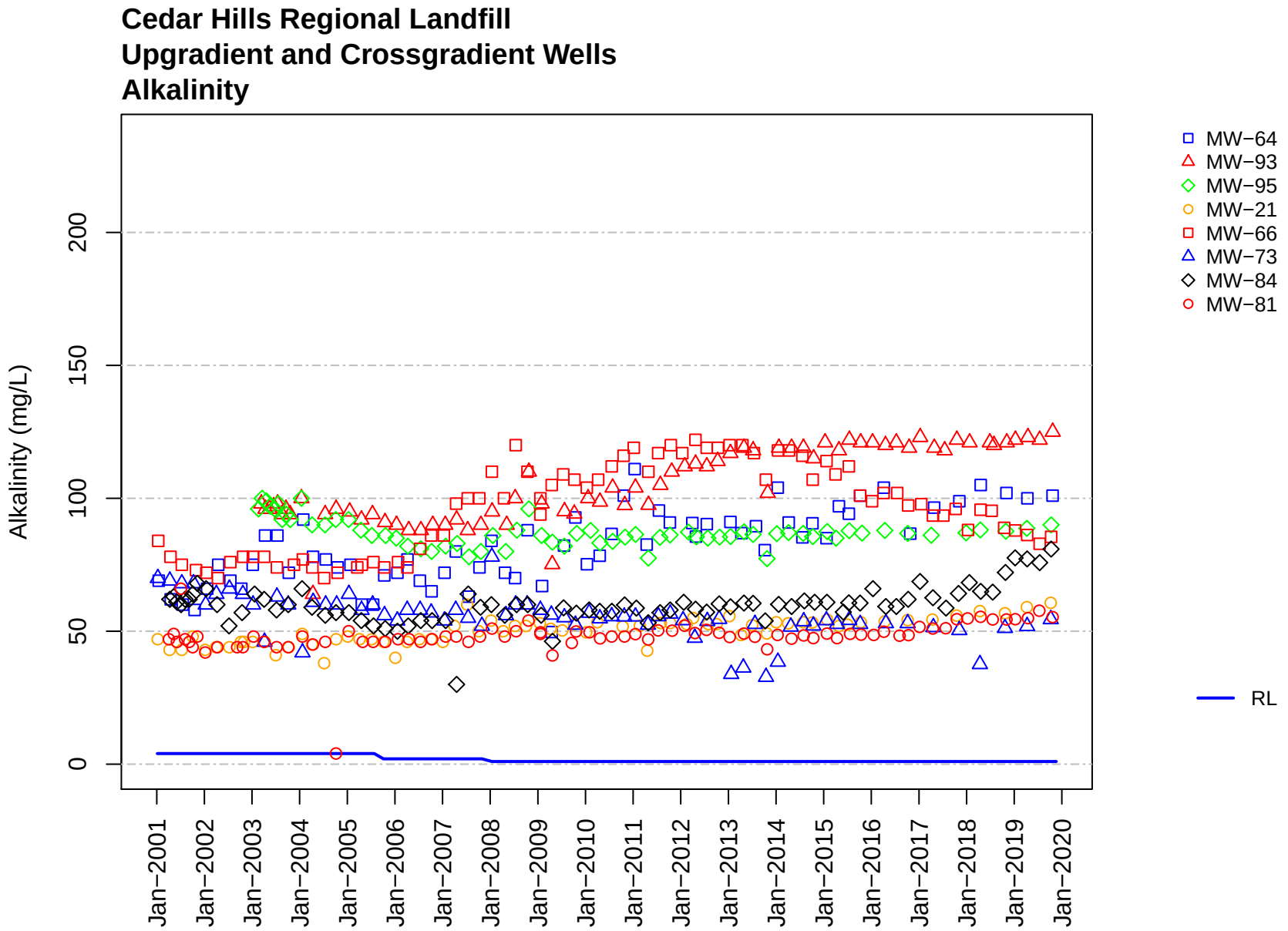

Cedar Hills Regional Landfill
Upgradient Wells
Field Specific Conductance
Field Specific Conductance (umhos/cm)
0
200
400
600
800
Washington State Groundwater Criteria − 700 umhos/cm
Jan−2001
Jan−2002
Jan−2003
Jan−2004
Jan−2005
Jan−2006
Jan−2007
Jan−2008
Jan−2009
Jan−2010
Jan−2011
Jan−2012
Jan−2013
Jan−2014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

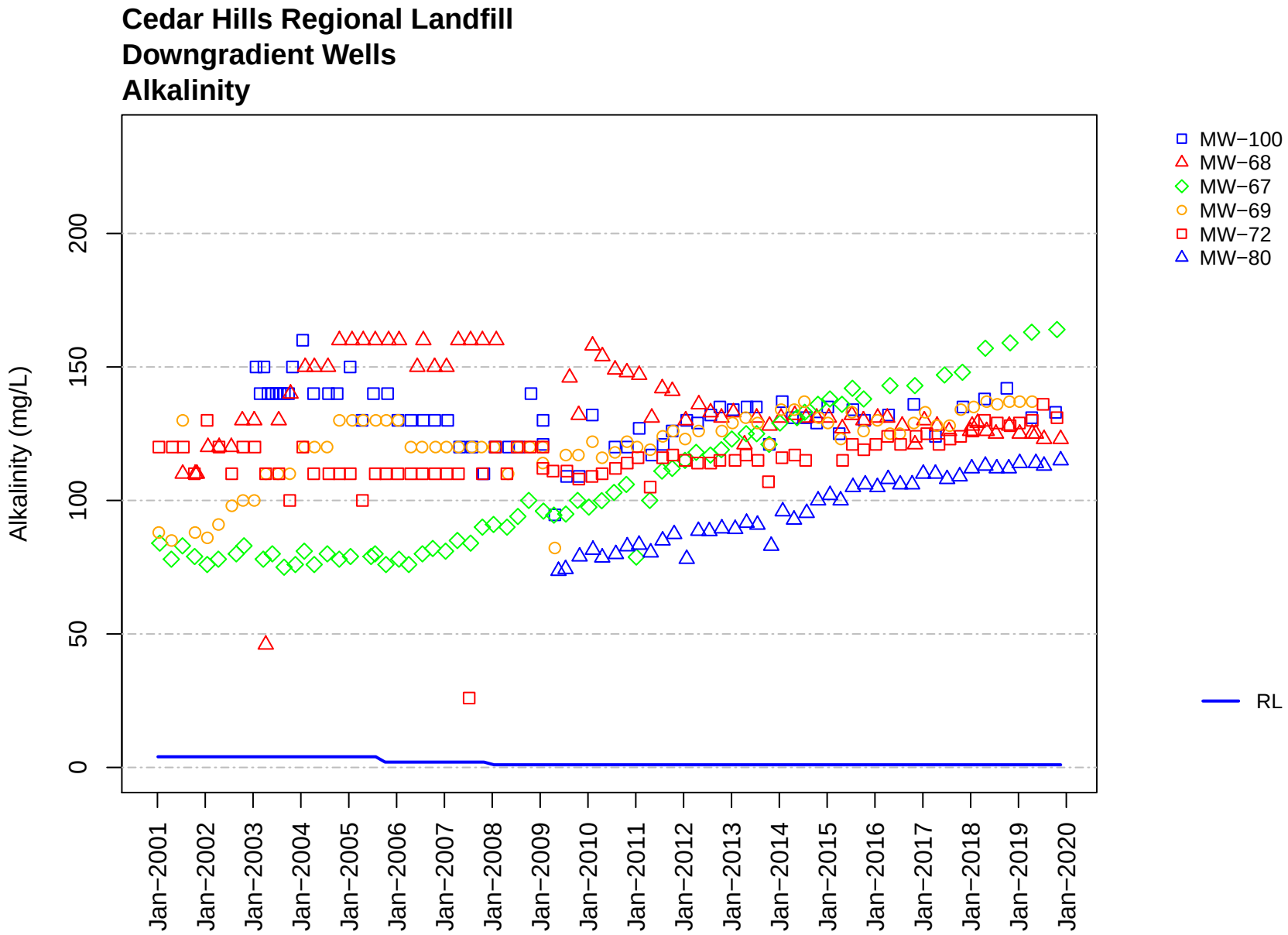

Cedar Hills Regional Landfill
Upgradient and Crossgradient Wells
Field Specific Conductance
Field Specific Conductance (umhos/cm)
0
200
400
600
800
Washington State Groundwater Criteria − 700 umhos/cm
Jan−2001
Jan−2002
Jan−2003
Jan−2004
Jan−2005
Jan−2006
Jan−2007
Jan−2008
Jan−2009
Jan−2010
Jan−2011
Jan−2012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

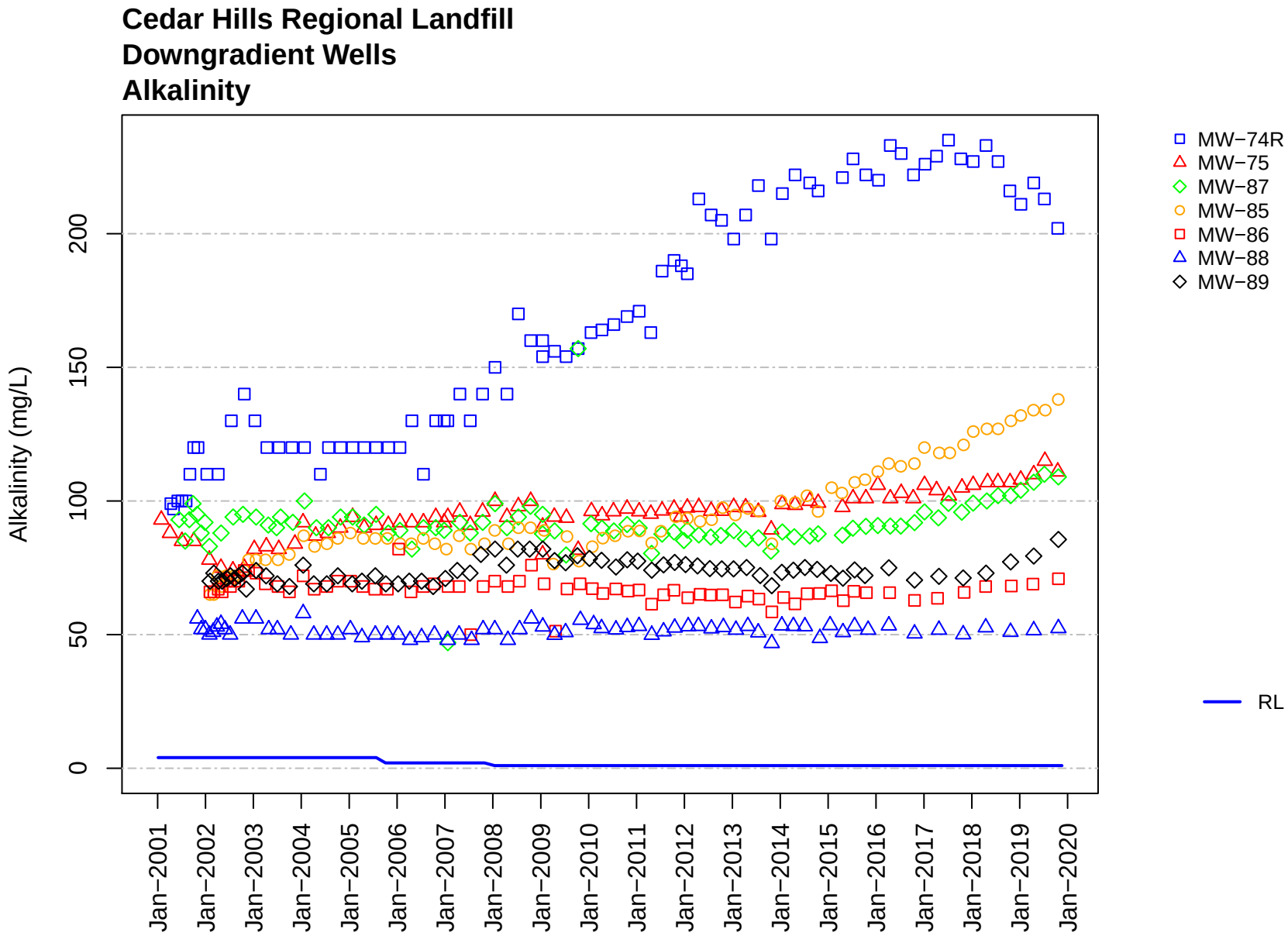

Cedar Hills Regional Landfill
Downgradient Wells
Field Specific Conductance
Field Specific Conductance (umhos/cm)
0
200
400
600
800
Washington State Groundwater Criteria − 700 umhos/cm
Jan−2001
Jan−2002
Jan−2003
Jan−2004
Jan−2005
Jan−2006
Jan−2007
Jan−2008
Jan−2009
Jan−2010
Jan−2011
Jan−2012
Jan−2013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

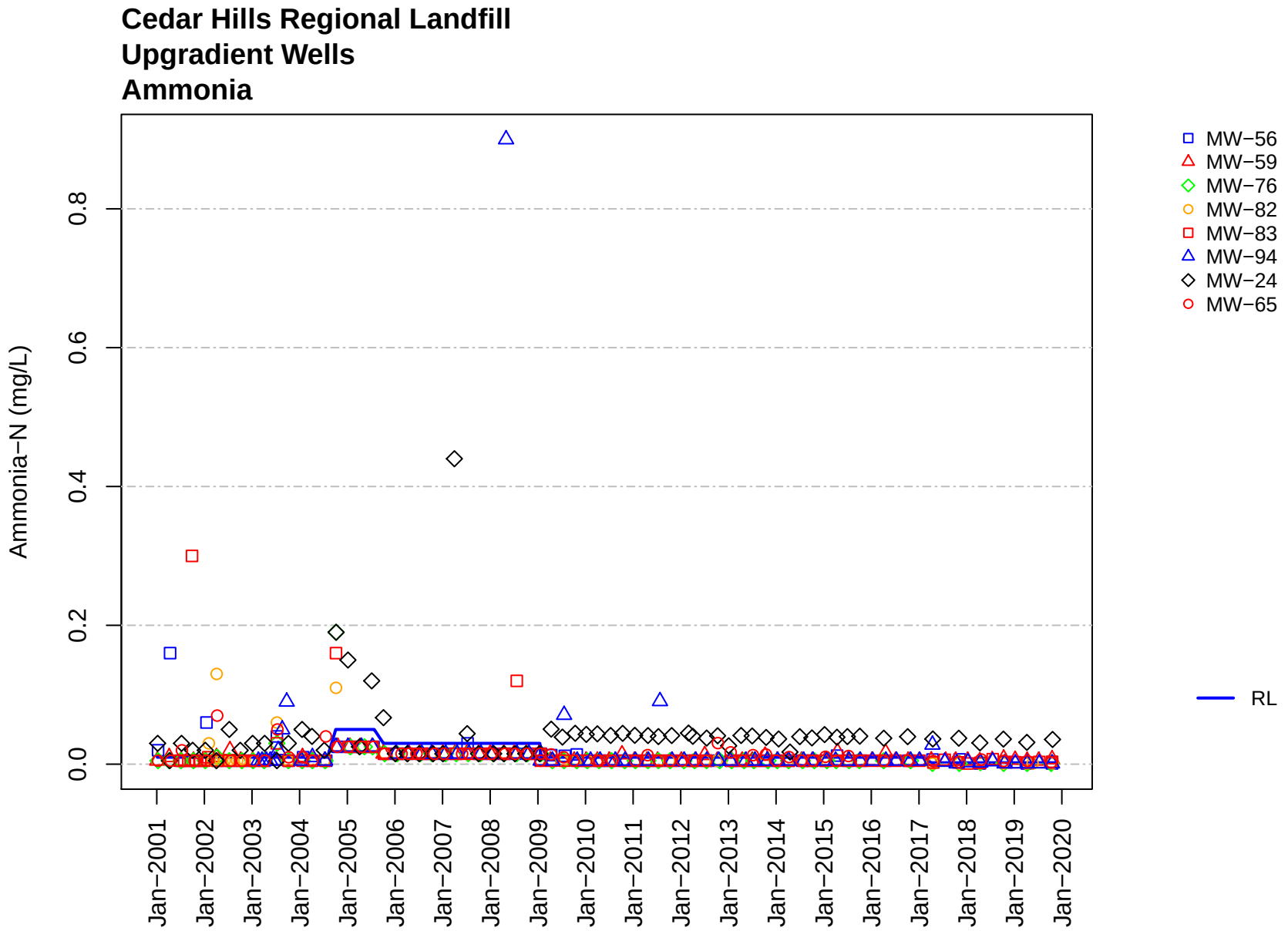

Cedar Hills Regional Landfill
Downgradient Wells
Field Specific Conductance
Field Specific Conductance (umhos/cm)
0
200
400
600
800
Washington State Groundwater Criteria − 700 umhos/cm
Jan−2001
Jan−2002
Jan−2003
Jan−2004
Jan−2005
Jan−2006
Jan−2007
Jan−2008
Jan−2009
Jan−2010
Jan−2011
Jan−2012
Jan−2013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

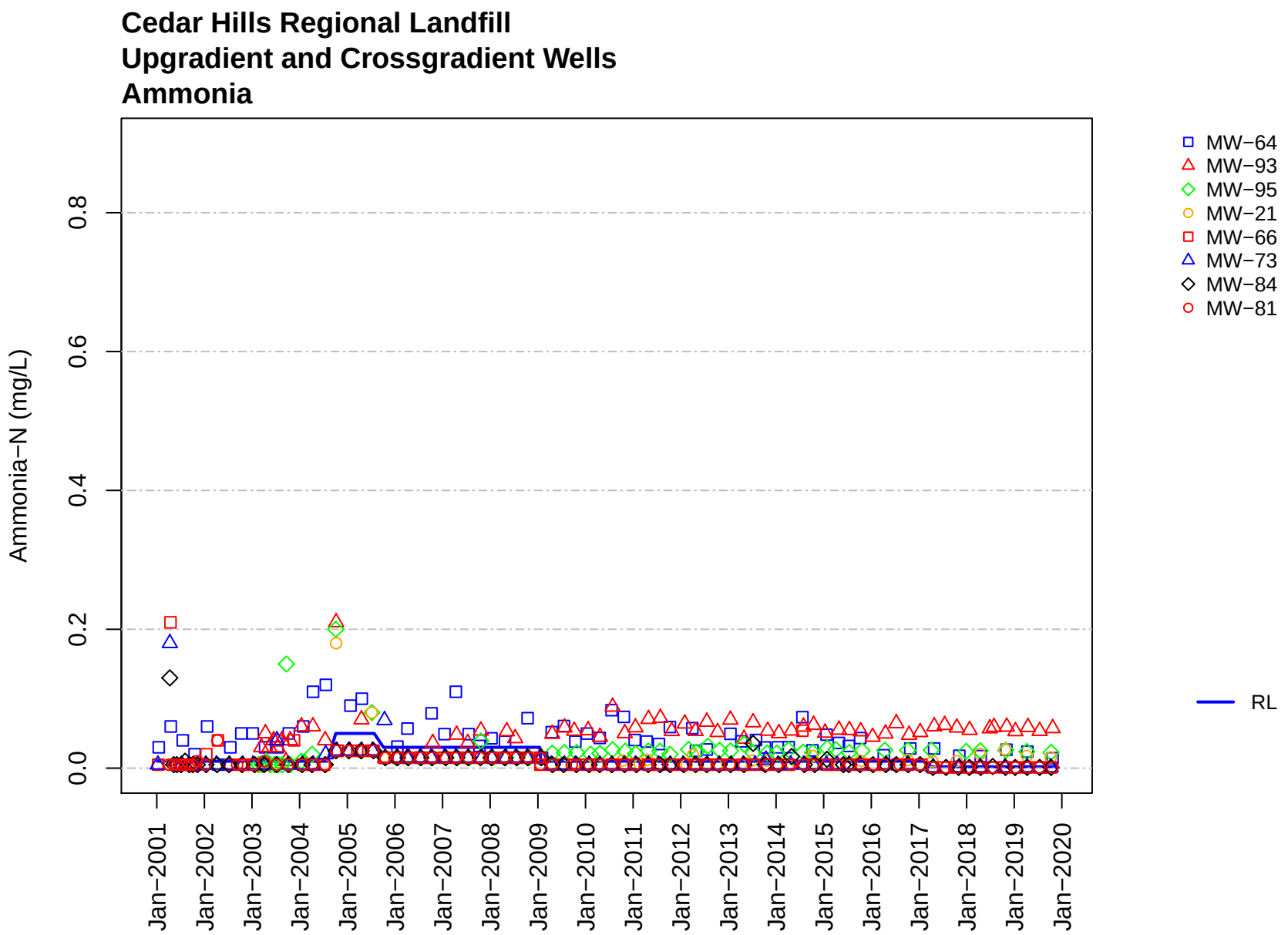

Cedar Hills Regional Landfill
Upgradient Wells
Alkalinity
Alkalinity (mg/L)
0
50
100
150
200
Jan−2001
Jan−2002
Jan−2003
Jan−2004
Jan−2005
Jan−2006
Jan−2007
Jan−2008
Jan−2009
Jan−2010
Jan−2011
Jan−2012
Jan−2013
Jan−2014
Jan−2015
Jan−2016
Jan−2017
Jan−2018
Jan−2019
Jan−2020
MW−56
MW−59
MW−76
MW−82
MW−83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

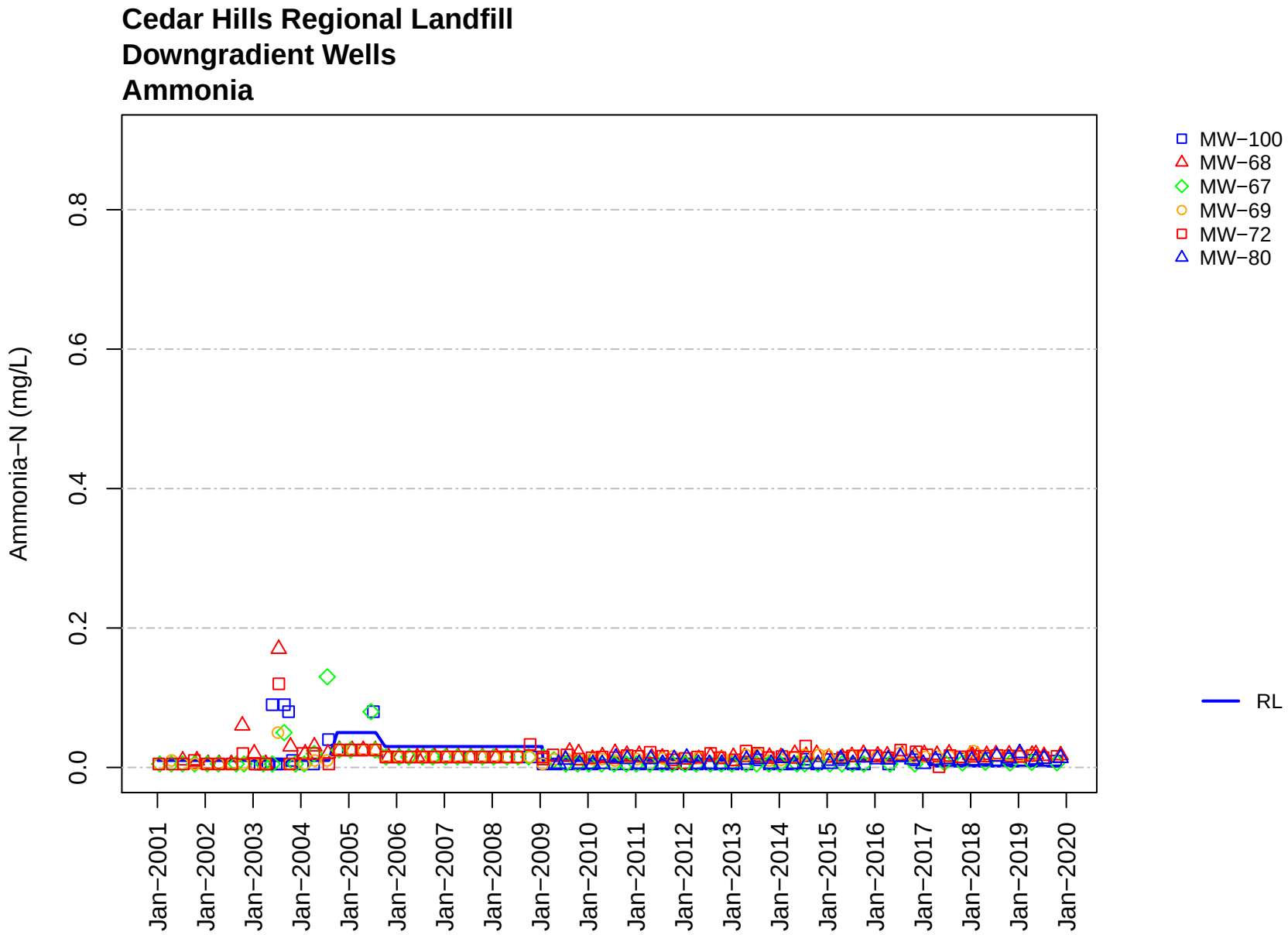

Cedar Hills Regional Landfill
Upgradient and Crossgradient Wells
Alkalinity
Alkalinity (mg/L)
0
50
100
150
200
Jan−2001
Jan−2002
Jan−2003
Jan−2004
Jan−2005
Jan−2006
Jan−2007
Jan−2008
Jan−2009
Jan−2010
Jan−2011
Jan−2012
Jan−2013
Jan−2014
Jan−2015
Jan−2016
Jan−2017
Jan−2018
Jan−2019
Jan−2020
MW−64
MW−93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

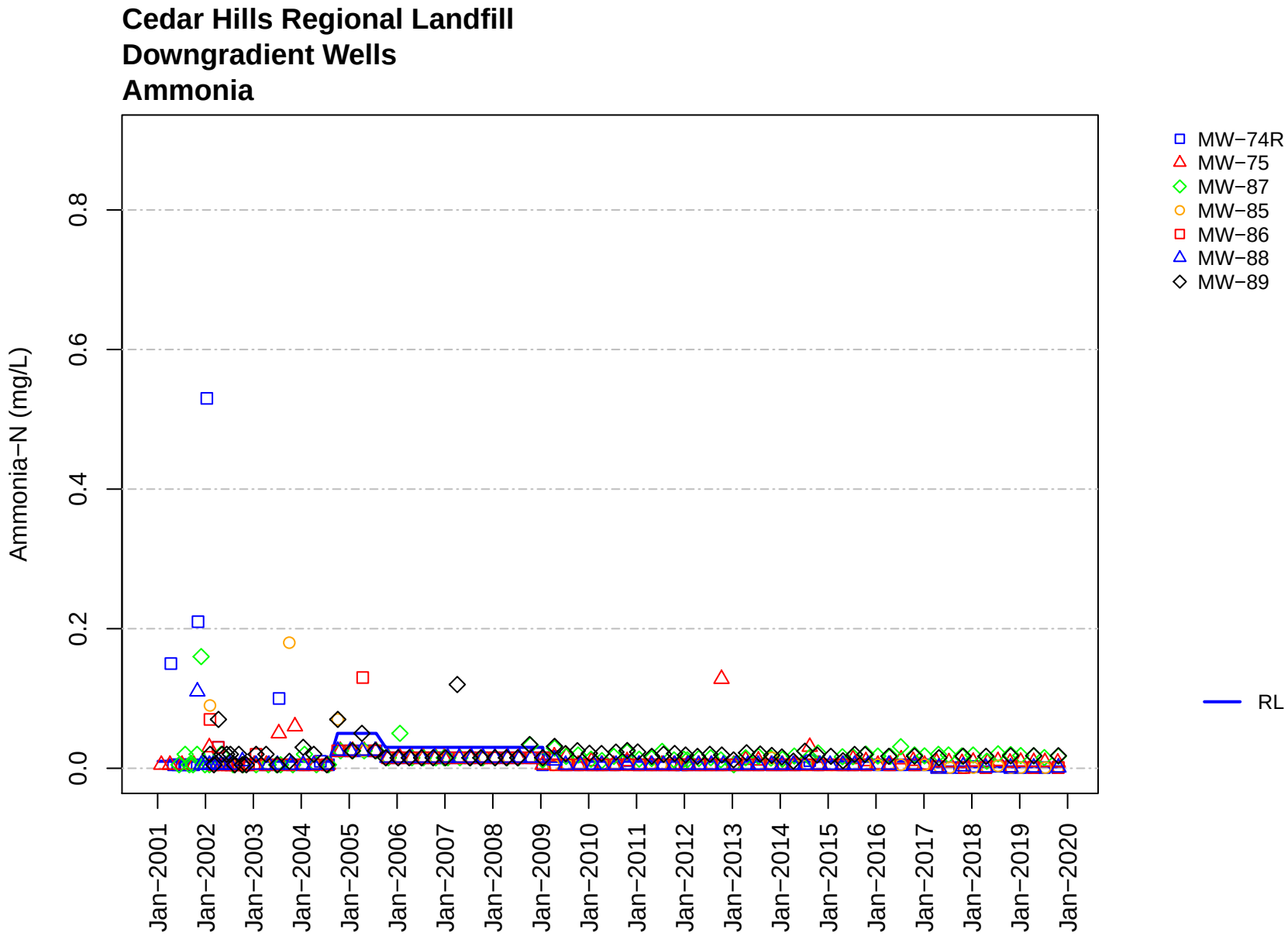

Cedar Hills Regional Landfill
Downgradient Wells
Alkalinity
Alkalinity (mg/L)
0
50
100
150
200
Jan−2001
Jan−2002
Jan−2003
Jan−2004
Jan−2005
Jan−2006
Jan−2007
Jan−2008
Jan−2009
Jan−2010
Jan−2011
Jan−2012
Jan−2013
Jan−2014
Jan−2015
Jan−2016
Jan−2017
Jan−2018
Jan−2019
Jan−2020
MW−100
MW−68
MW−67
MW−69
MW−72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

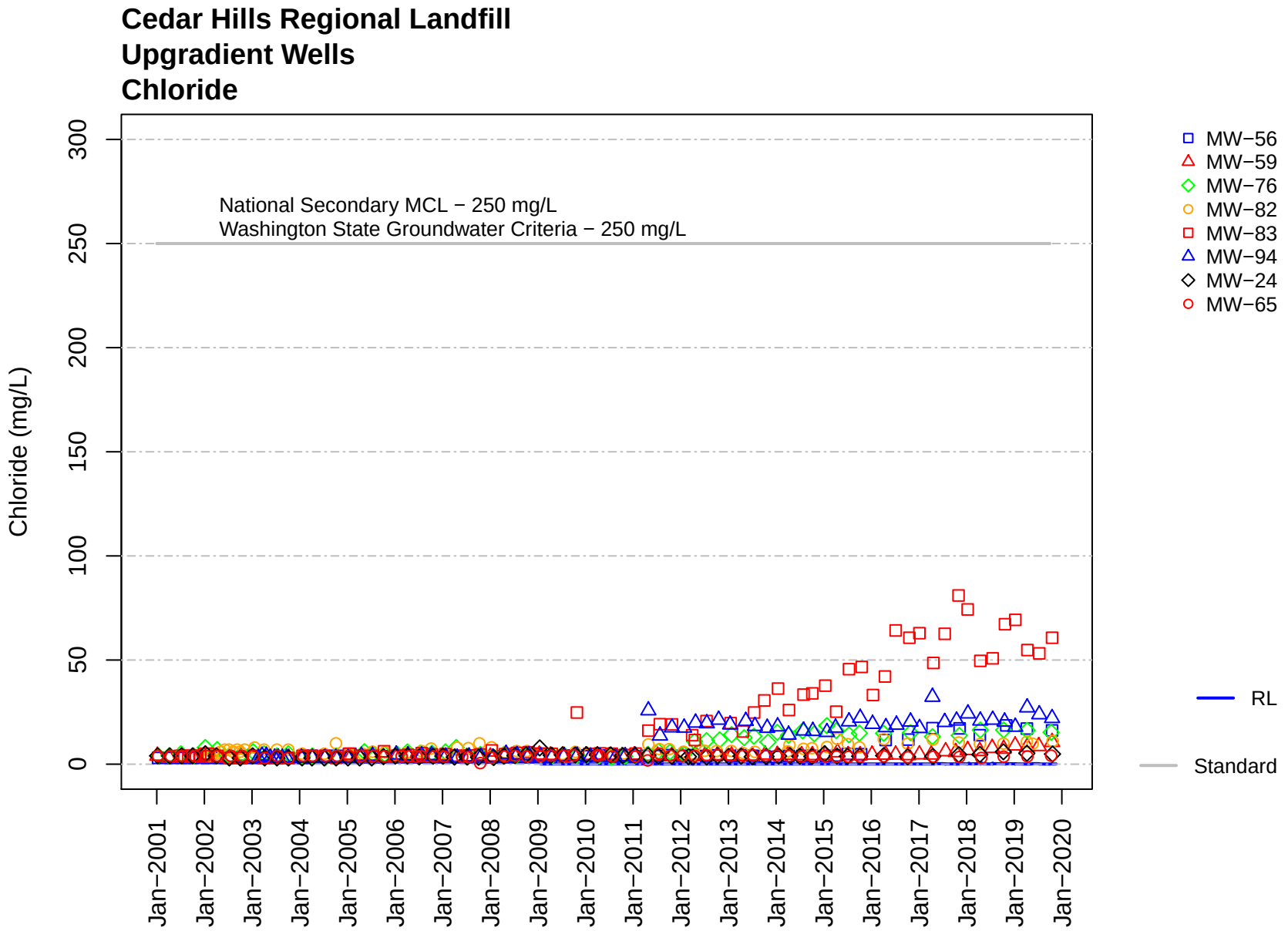

Cedar Hills Regional Landfill
Downgradient Wells
Alkalinity
Alkalinity (mg/L)
0
50
100
150
200
Jan−2001
Jan−2002
Jan−2003
Jan−2004
Jan−2005
Jan−2006
Jan−2007
Jan−2008
Jan−2009
Jan−2010
Jan−2011
Jan−2012
Jan−2013
Jan−2014
Jan−2015
Jan−2016
Jan−2017
Jan−2018
Jan−2019
Jan−2020
MW−74R
MW−75
MW−87
MW−85
MW−86
MW−88
MW−89
RL

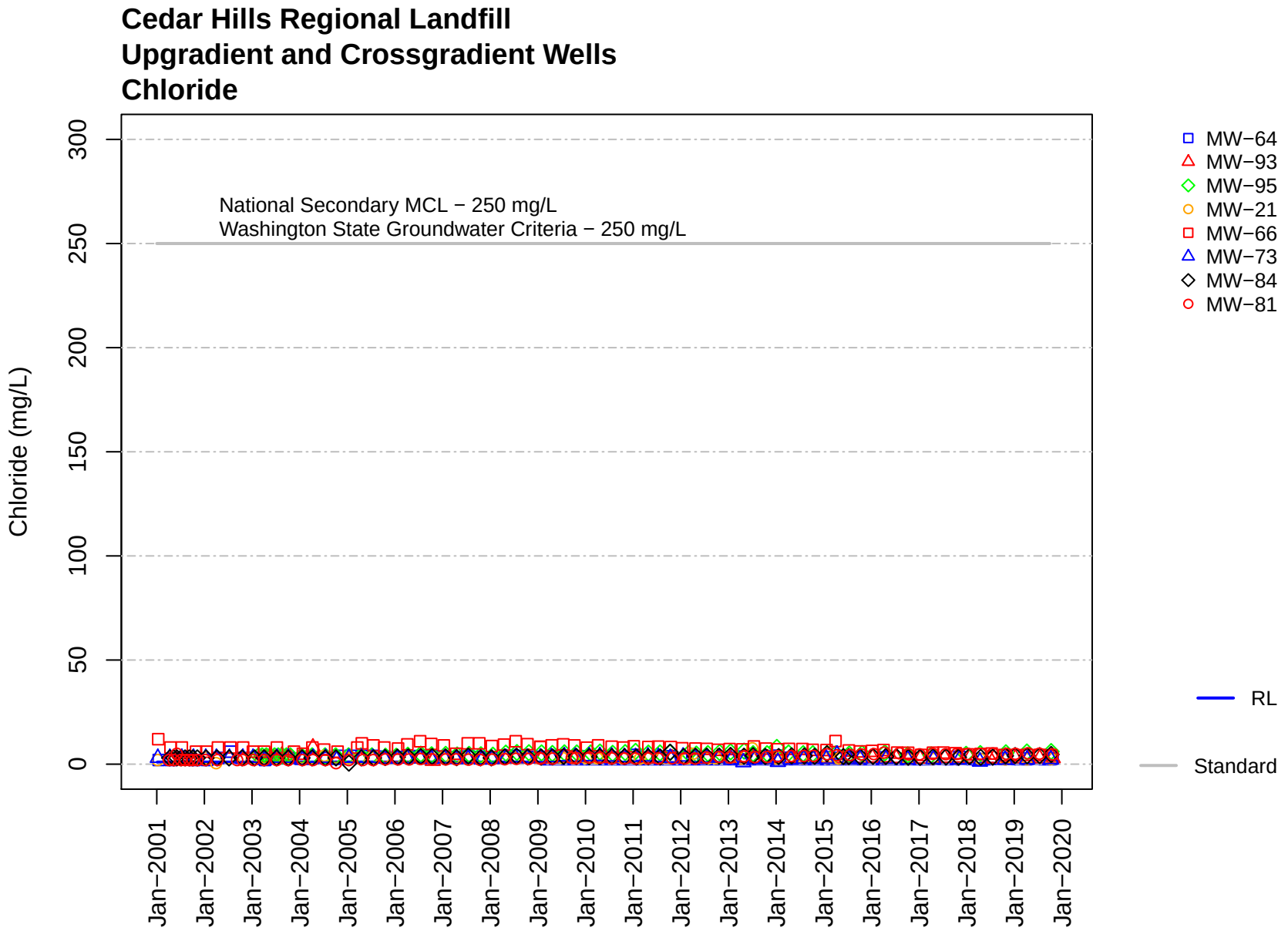

Cedar Hills Regional Landfill
Upgradient Wells
Ammonia
Ammonia−N (mg/L)
0.0
0.2
0.4
0.6
0.8
Jan−2001
Jan−2002
Jan−2003
Jan−2004
Jan−2005
Jan−2006
Jan−2007
Jan−2008
Jan−2009
Jan−2010
Jan−2011
Jan−2012
Jan−2013
Jan−2014
Jan−2015
Jan−2016
Jan−2017
Jan−2018
Jan−2019
Jan−2020
MW−56
MW−59
MW−76
MW−82
MW−83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

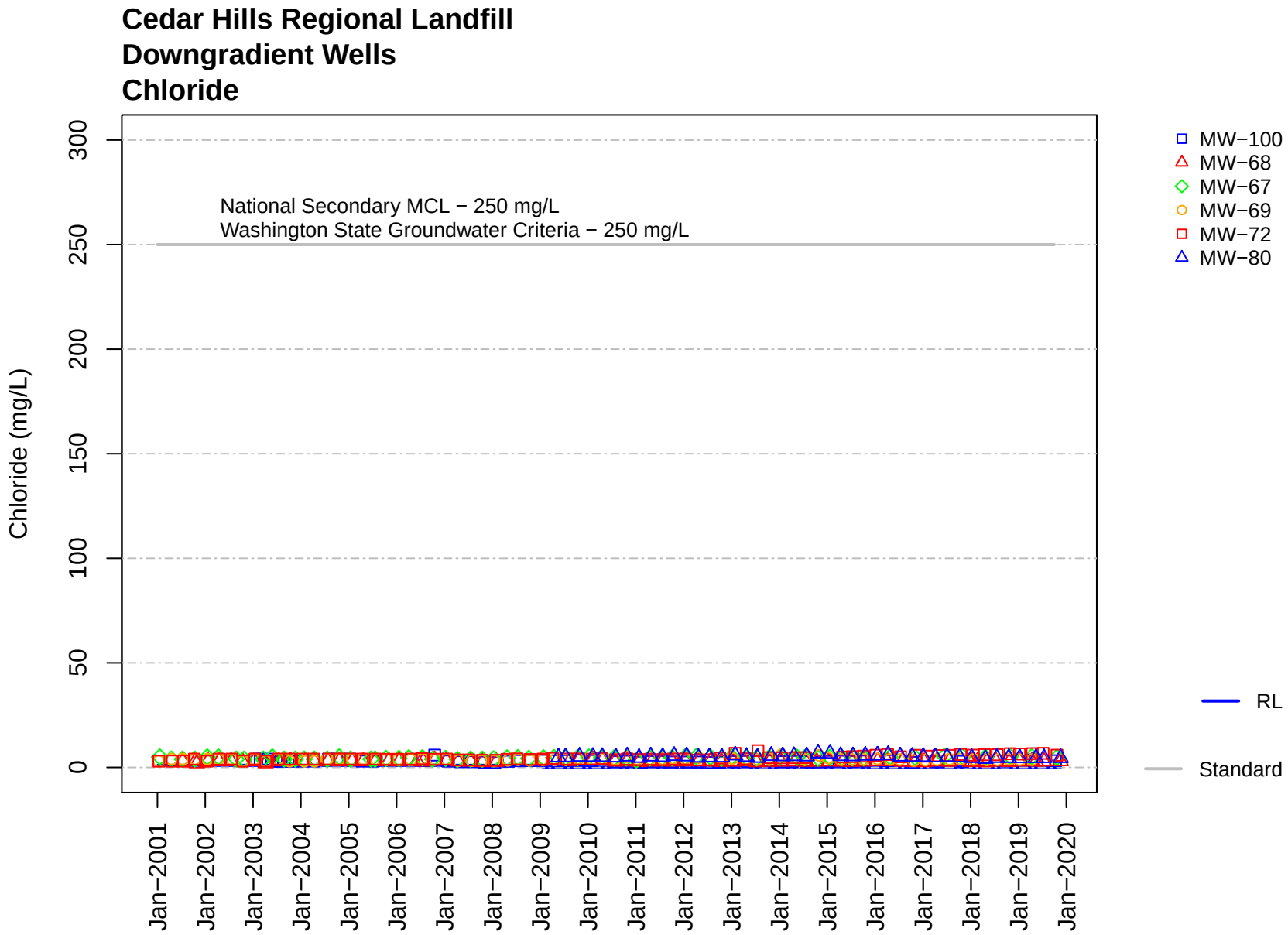

Cedar Hills Regional Landfill
Upgradient and Crossgradient Wells
Ammonia
Ammonia−N (mg/L)
0.0
0.2
0.4
0.6
0.8
Jan−2001
Jan−2002
Jan−2003
Jan−2004
Jan−2005
Jan−2006
Jan−2007
Jan−2008
Jan−2009
Jan−2010
Jan−2011
Jan−2012
Jan−2013
Jan−2014
Jan−2015
Jan−2016
Jan−2017
Jan−2018
Jan−2019
Jan−2020
MW−64
MW−93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

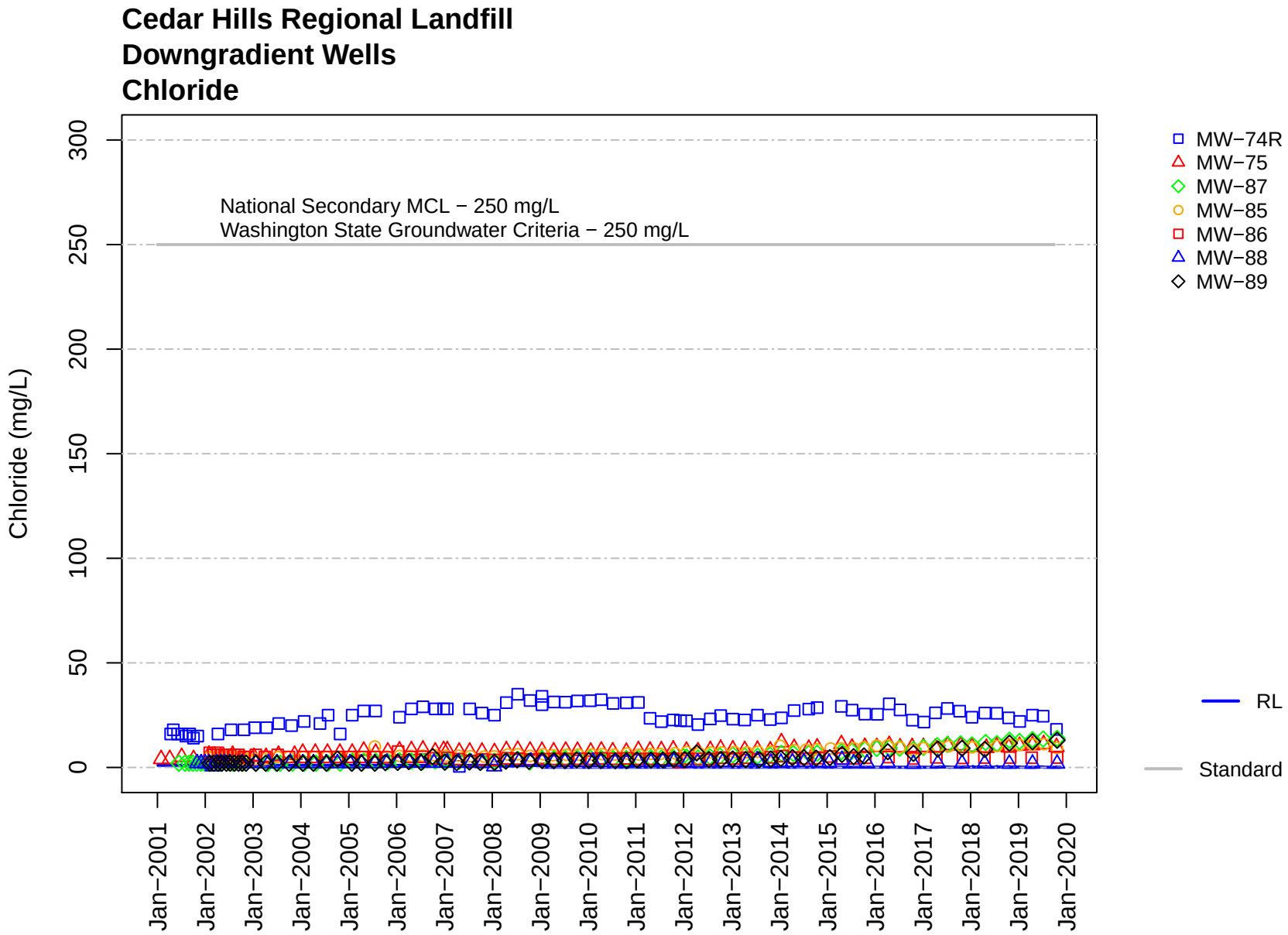

Cedar Hills Regional Landfill
Downgradient Wells
Ammonia
Ammonia−N (mg/L)
0.0
0.2
0.4
0.6
0.8
Jan−2001
Jan−2002
Jan−2003
Jan−2004
Jan−2005
Jan−2006
Jan−2007
Jan−2008
Jan−2009
Jan−2010
Jan−2011
Jan−2012
Jan−2013
Jan−2014
Jan−2015
Jan−2016
Jan−2017
Jan−2018
Jan−2019
Jan−2020
MW−100
MW−68
MW−67
MW−69
MW−72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

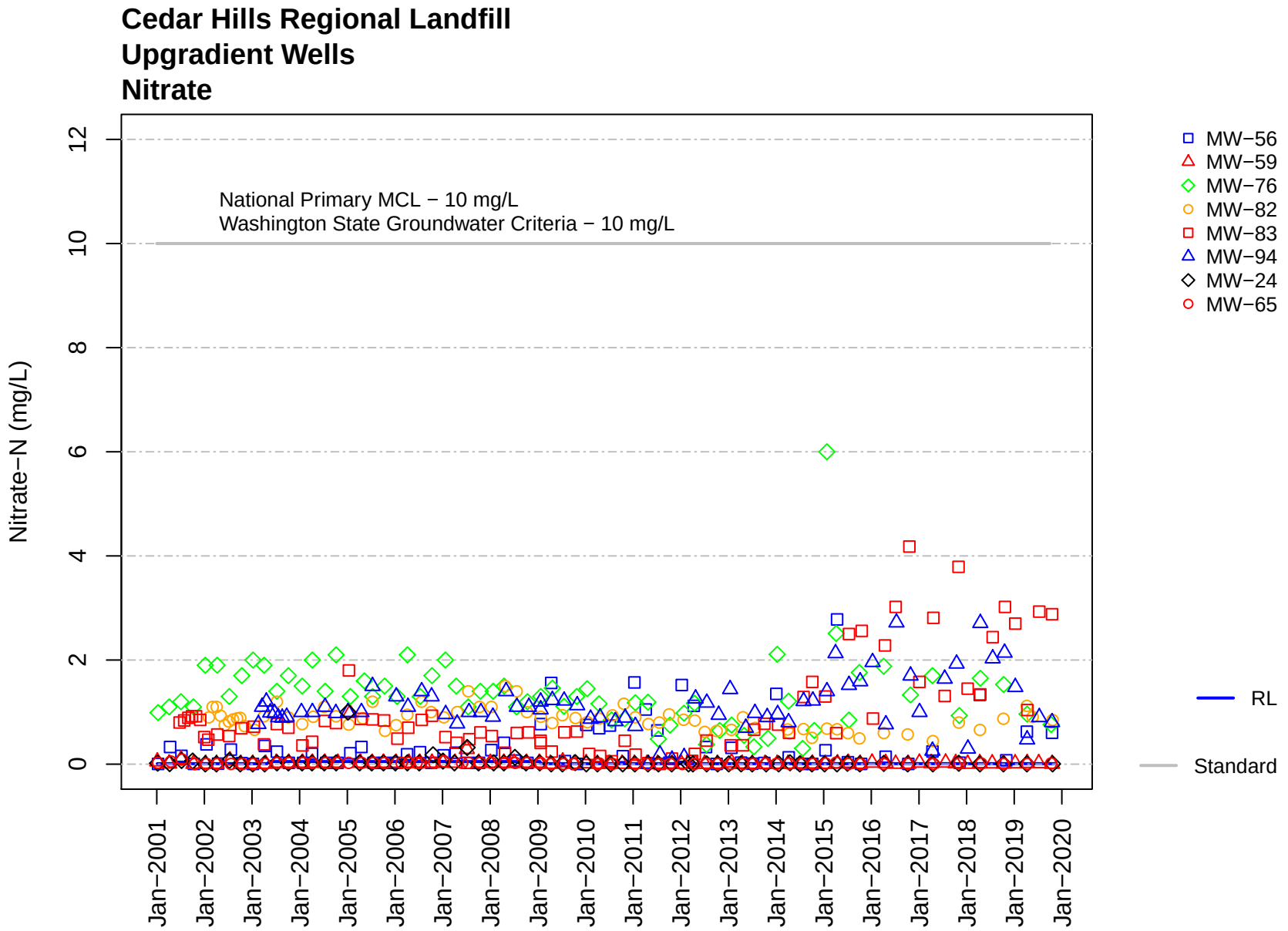

Cedar Hills Regional Landfill
Downgradient Wells
Ammonia
Ammonia−N (mg/L)
0.0
0.2
0.4
0.6
0.8
Jan−2001
Jan−2002
Jan−2003
Jan−2004
Jan−2005
Jan−2006
Jan−2007
Jan−2008
Jan−2009
Jan−2010
Jan−2011
Jan−2012
Jan−2013
Jan−2014
Jan−2015
Jan−2016
Jan−2017
Jan−2018
Jan−2019
Jan−2020
MW−74R
MW−75
MW−87
MW−85
MW−86
MW−88
MW−89
RL

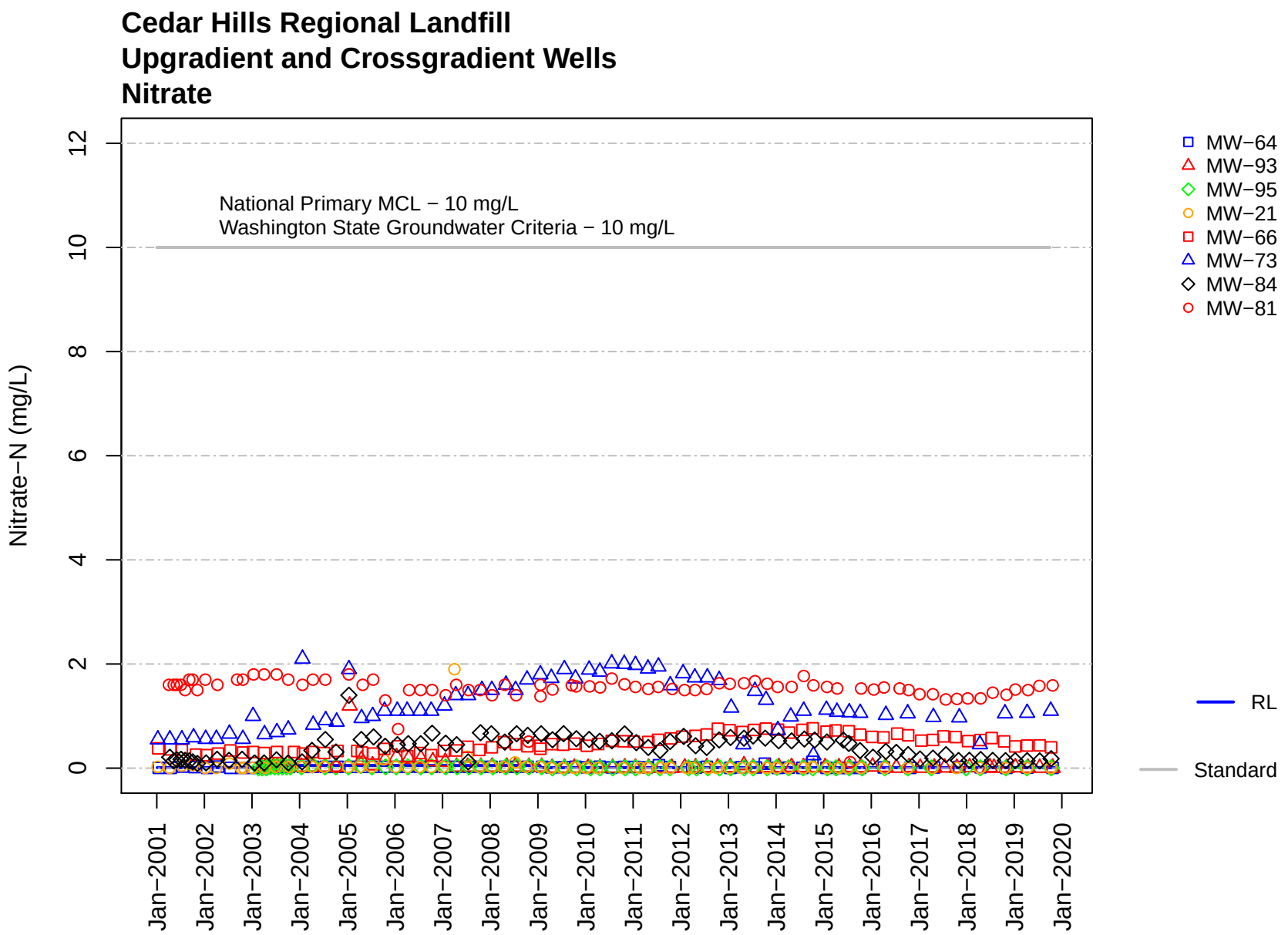

Cedar Hills Regional Landfill
Upgradient Wells
Chloride
Chloride (mg/L)
0
50
100
150
200
250
300
National Secondary MCL − 250 mg/L
Washington State Groundwater Criteria − 250 mg/L
Jan−2001
Jan−2002
Jan−2003
Jan−2004
Jan−2005
Jan−2006
Jan−2007
Jan−2008
Jan−2009
Jan−2010
Jan−2011
Jan−2012
Jan−2013
Jan−2014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

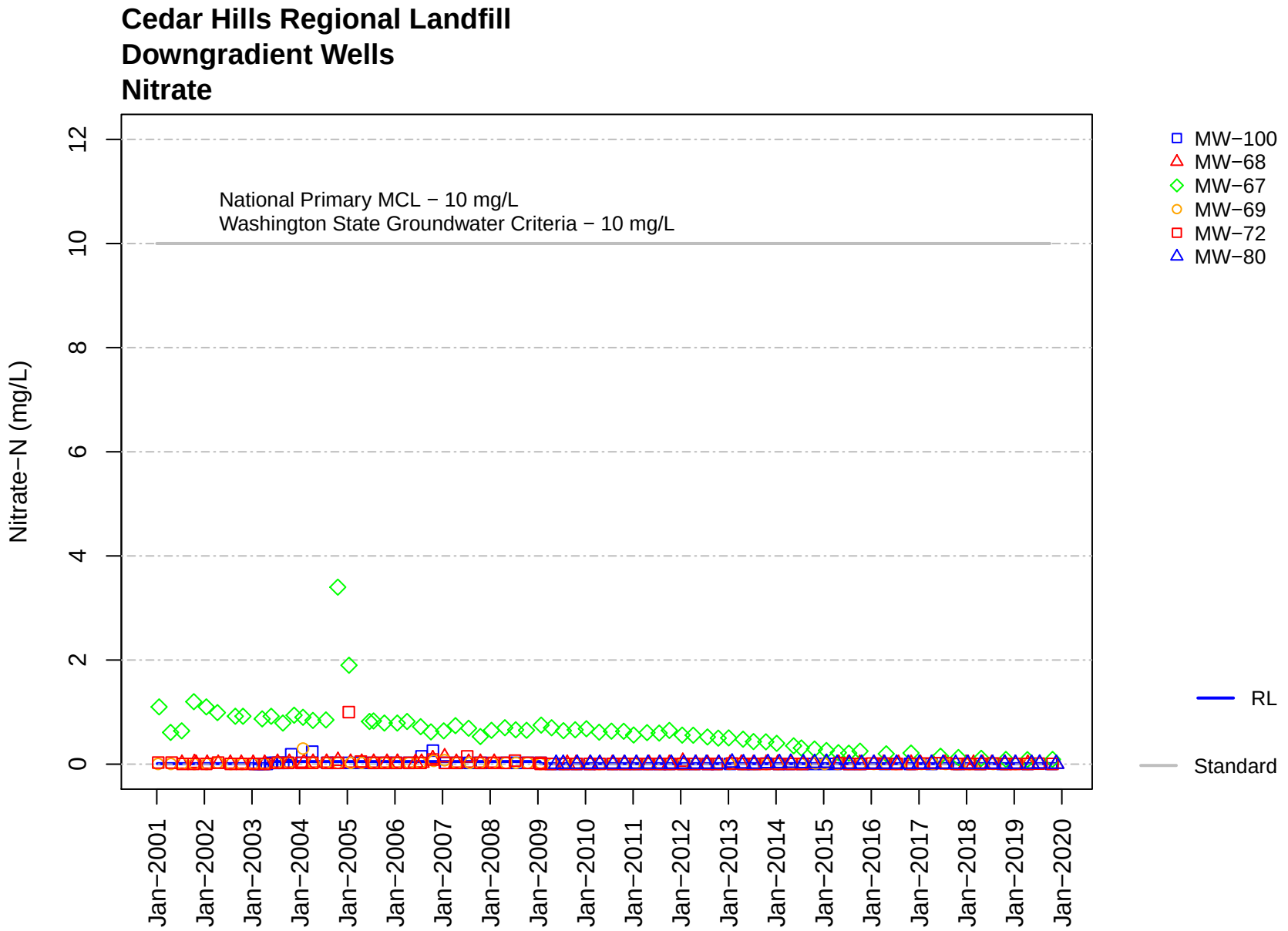

Cedar Hills Regional Landfill
Upgradient and Crossgradient Wells
Chloride
Chloride (mg/L)
0
50
100
150
200
250
300
National Secondary MCL − 250 mg/L
Washington State Groundwater Criteria − 250 mg/L
Jan−2001
Jan−2002
Jan−2003
Jan−2004
Jan−2005
Jan−2006
Jan−2007
Jan−2008
Jan−2009
Jan−2010
Jan−2011
Jan−2012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

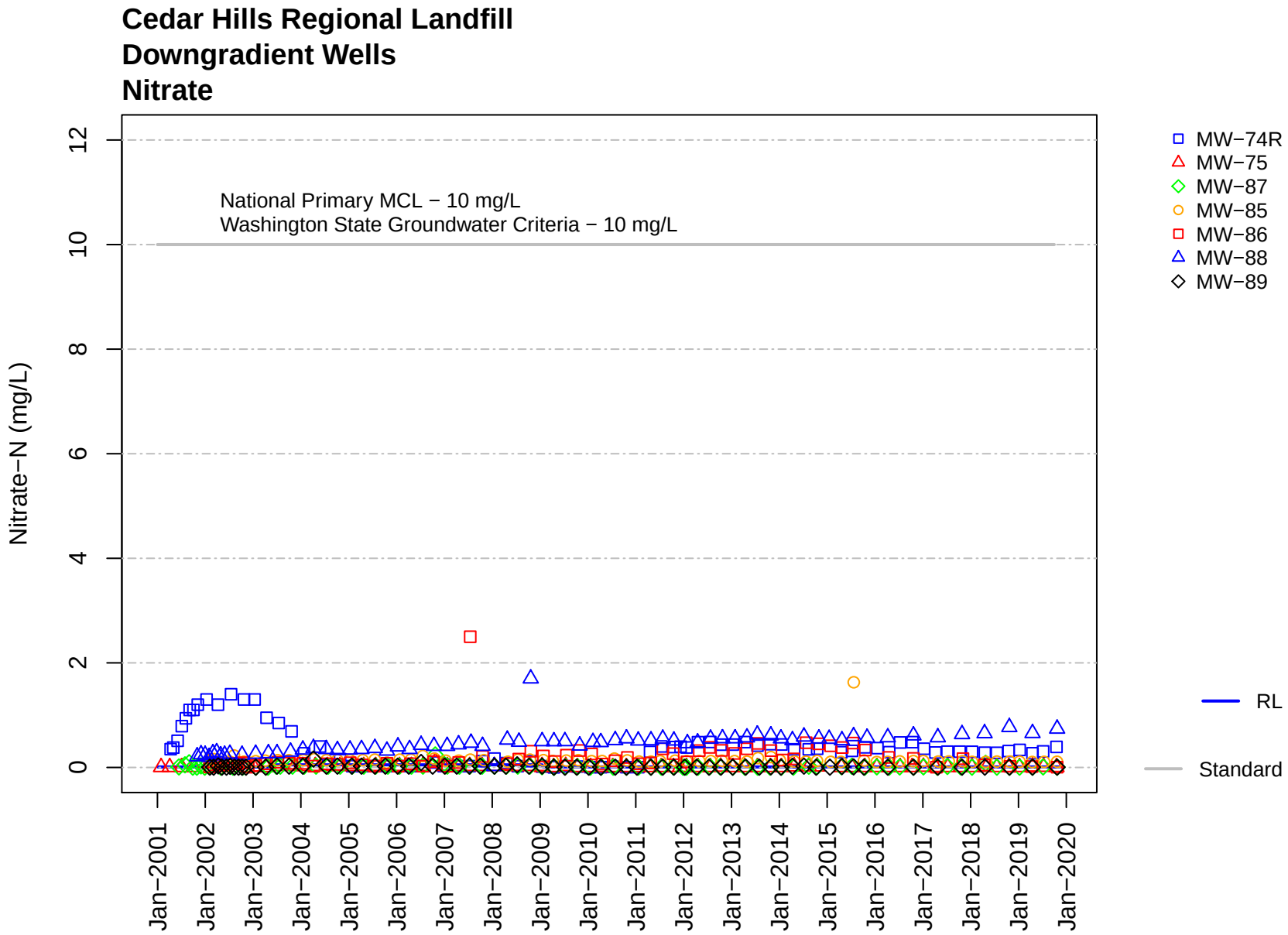

Cedar Hills Regional Landfill
Downgradient Wells
Chloride
Chloride (mg/L)
0
50
100
150
200
250
300
National Secondary MCL − 250 mg/L
Washington State Groundwater Criteria − 250 mg/L
Jan−2001
Jan−2002
Jan−2003
Jan−2004
Jan−2005
Jan−2006
Jan−2007
Jan−2008
Jan−2009
Jan−2010
Jan−2011
Jan−2012
Jan−2013
Jan−2014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

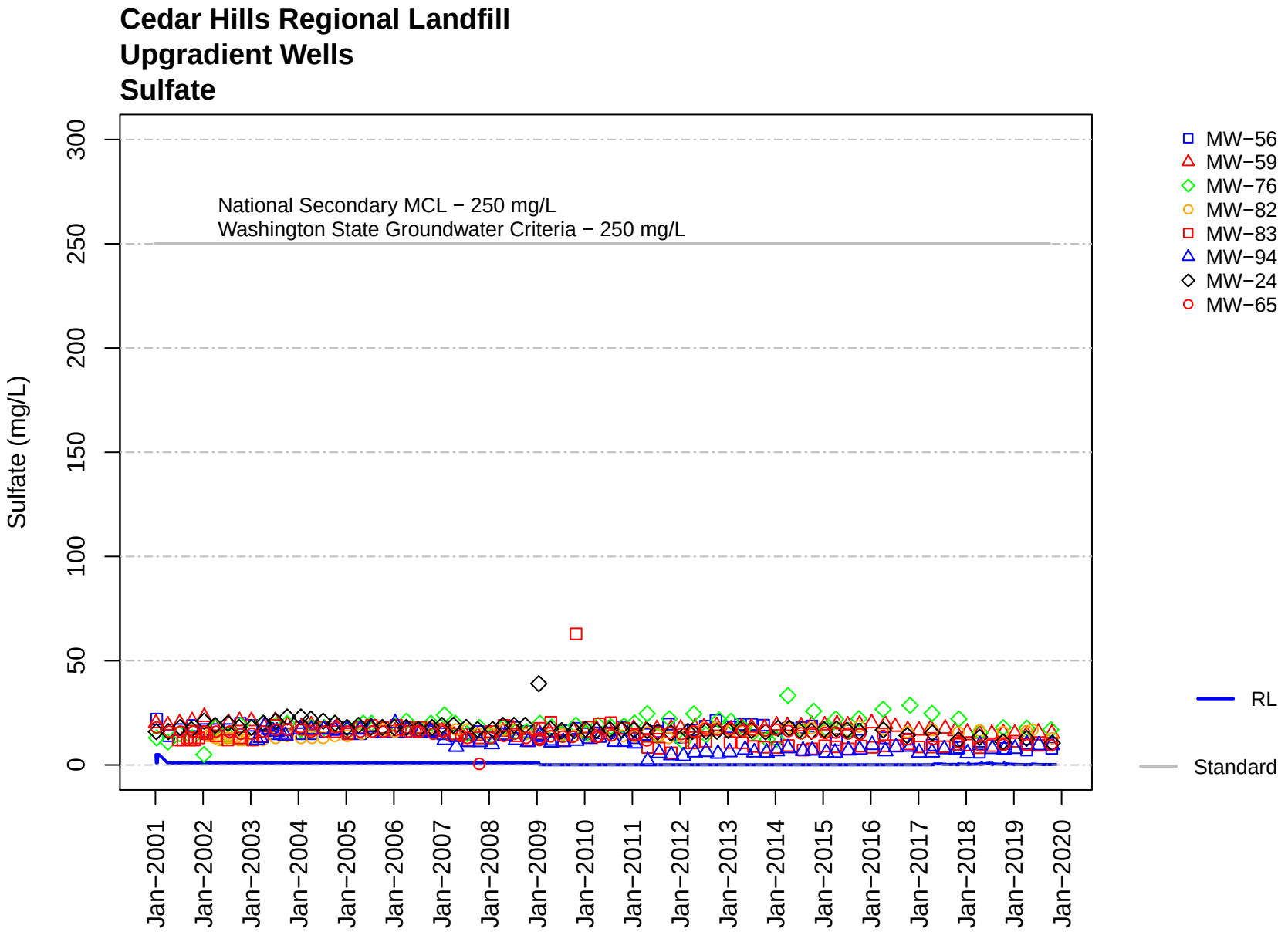

Cedar Hills Regional Landfill
Downgradient Wells
Chloride
Chloride (mg/L)
0
50
100
150
200
250
300
National Secondary MCL − 250 mg/L
Washington State Groundwater Criteria − 250 mg/L
Jan−2001
Jan−2002
Jan−2003
Jan−2004
Jan−2005
Jan−2006
Jan−2007
Jan−2008
Jan−2009
Jan−2010
Jan−2011
Jan−2012
Jan−2013
Jan−2014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

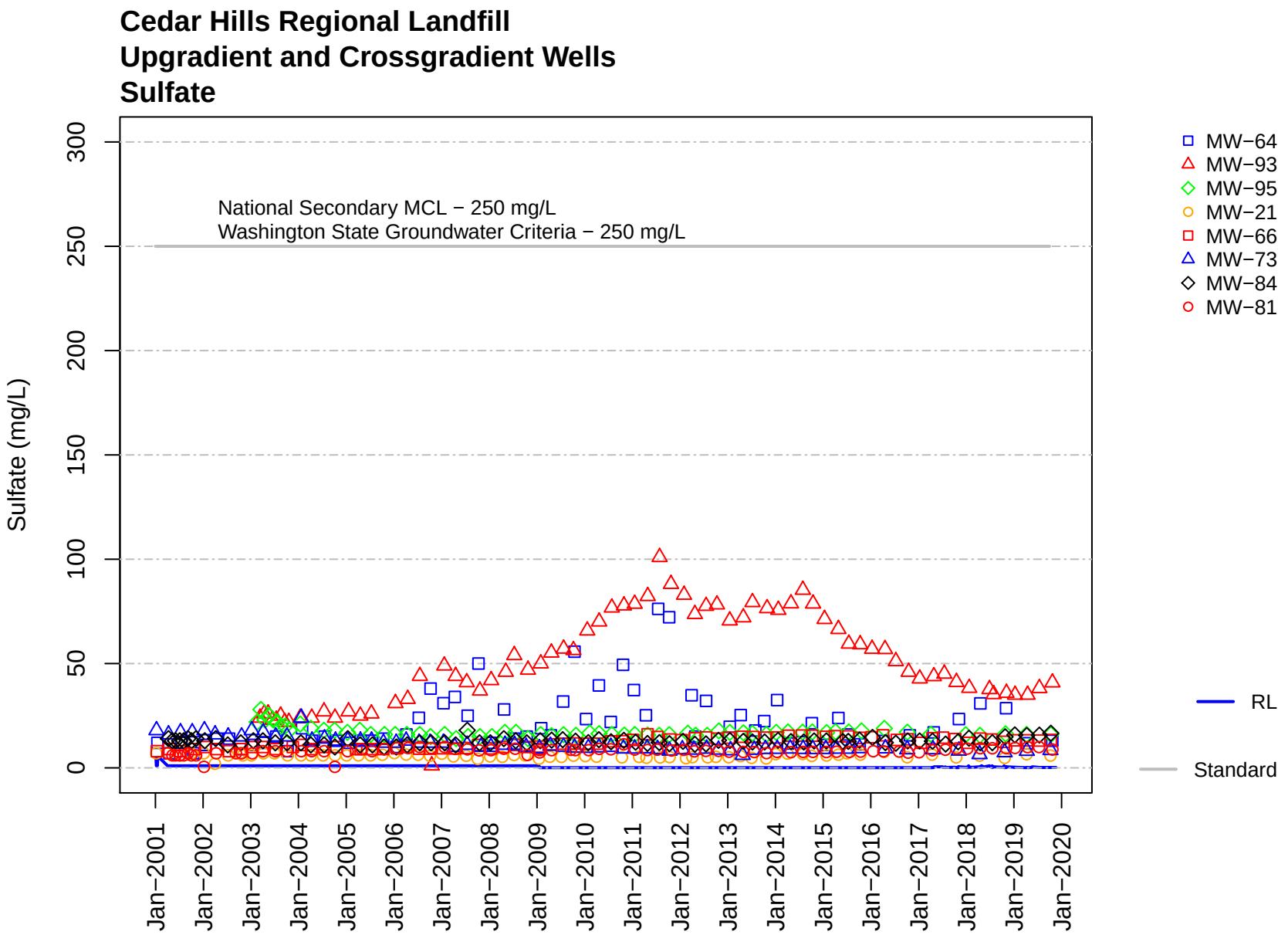

Cedar Hills Regional Landfill
Upgradient Wells
Nitrate
National Primary MCL − 10 mg/L
Washington State Groundwater Criteria − 10 mg/L
Nitrate−N (mg/L)
0
2
4
6
8
10
12
Jan−2001
Jan−2002
Jan−2003
Jan−2004
Jan−2005
Jan−2006
Jan−2007
Jan−2008
Jan−2009
Jan−2010
Jan−2011
Jan−2012
Jan−2013
Jan−2014
Jan−2015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

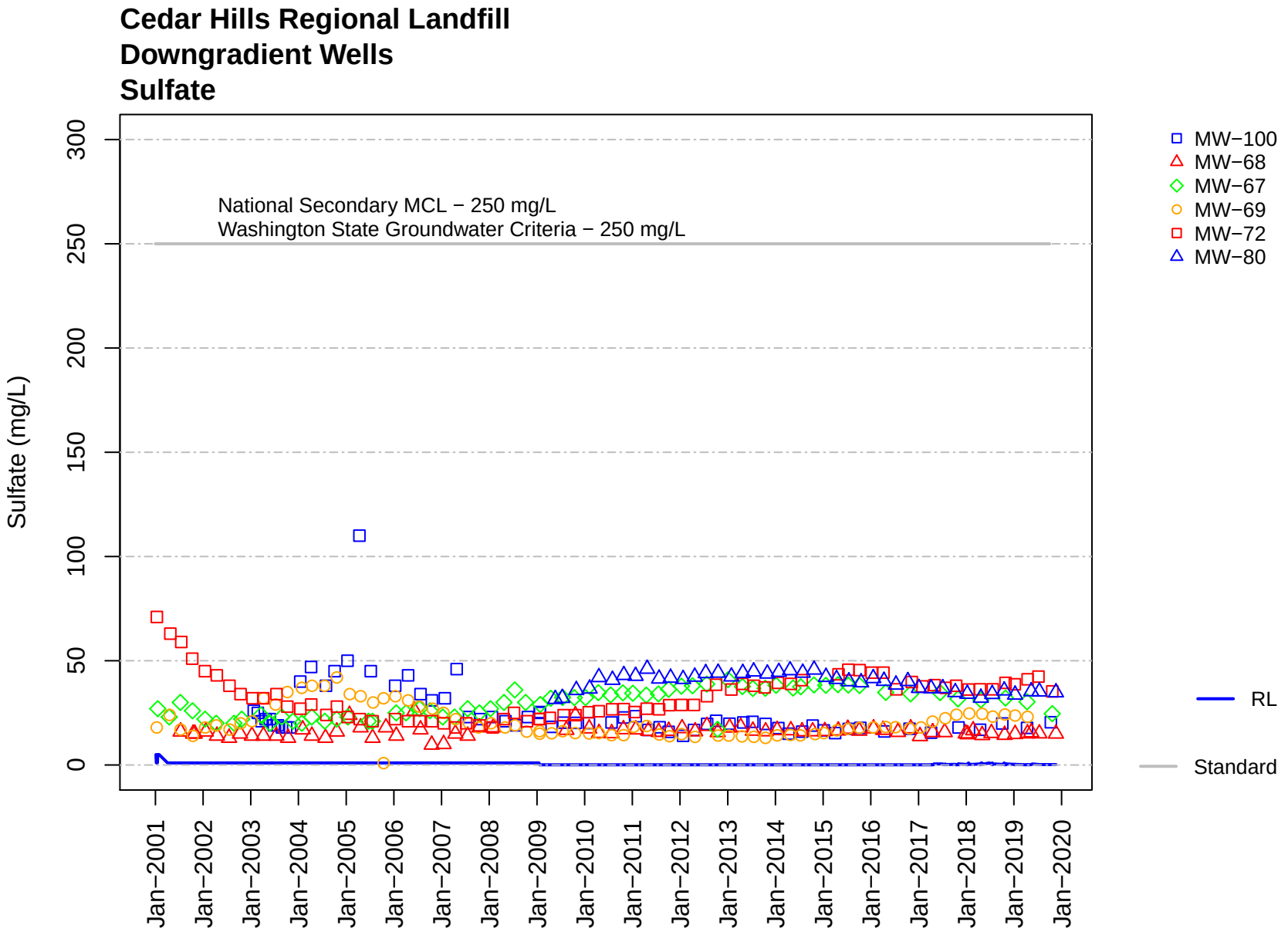

Cedar Hills Regional Landfill
Upgradient and Crossgradient Wells
Nitrate
National Primary MCL − 10 mg/L
Washington State Groundwater Criteria − 10 mg/L
Nitrate−N (mg/L)
0
2
4
6
8
10
12
Jan−2001
Jan−2002
Jan−2003
Jan−2004
Jan−2005
Jan−2006
Jan−2007
Jan−2008
Jan−2009
Jan−2010
Jan−2011
Jan−2012
Jan−2013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

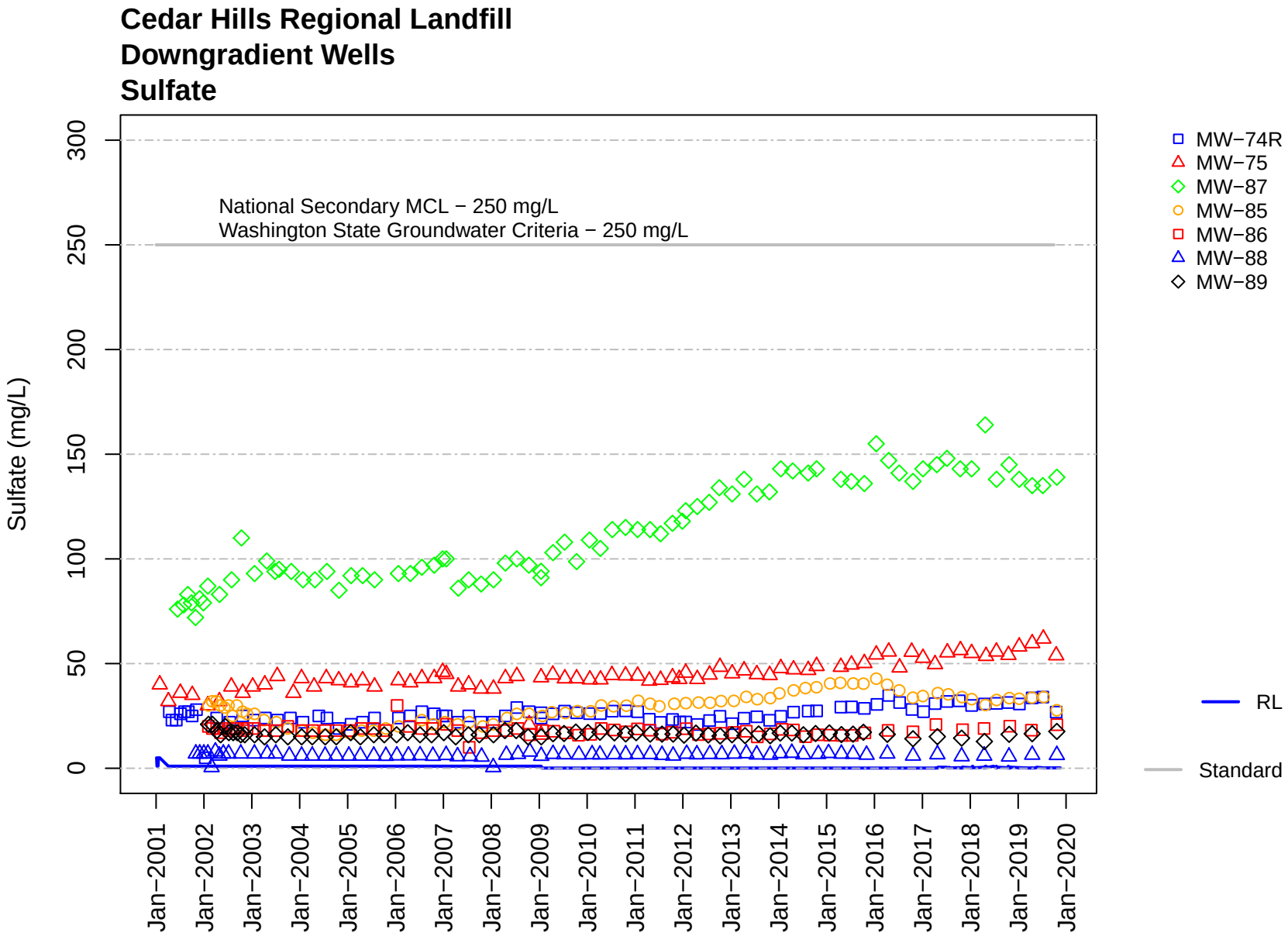

Cedar Hills Regional Landfill
Downgradient Wells
Nitrate
National Primary MCL − 10 mg/L
Washington State Groundwater Criteria − 10 mg/L
Nitrate−N (mg/L)
0
2
4
6
8
10
12
Jan−2001
Jan−2002
Jan−2003
Jan−2004
Jan−2005
Jan−2006
Jan−2007
Jan−2008
Jan−2009
Jan−2010
Jan−2011
Jan−2012
Jan−2013
Jan−2014
Jan−2015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

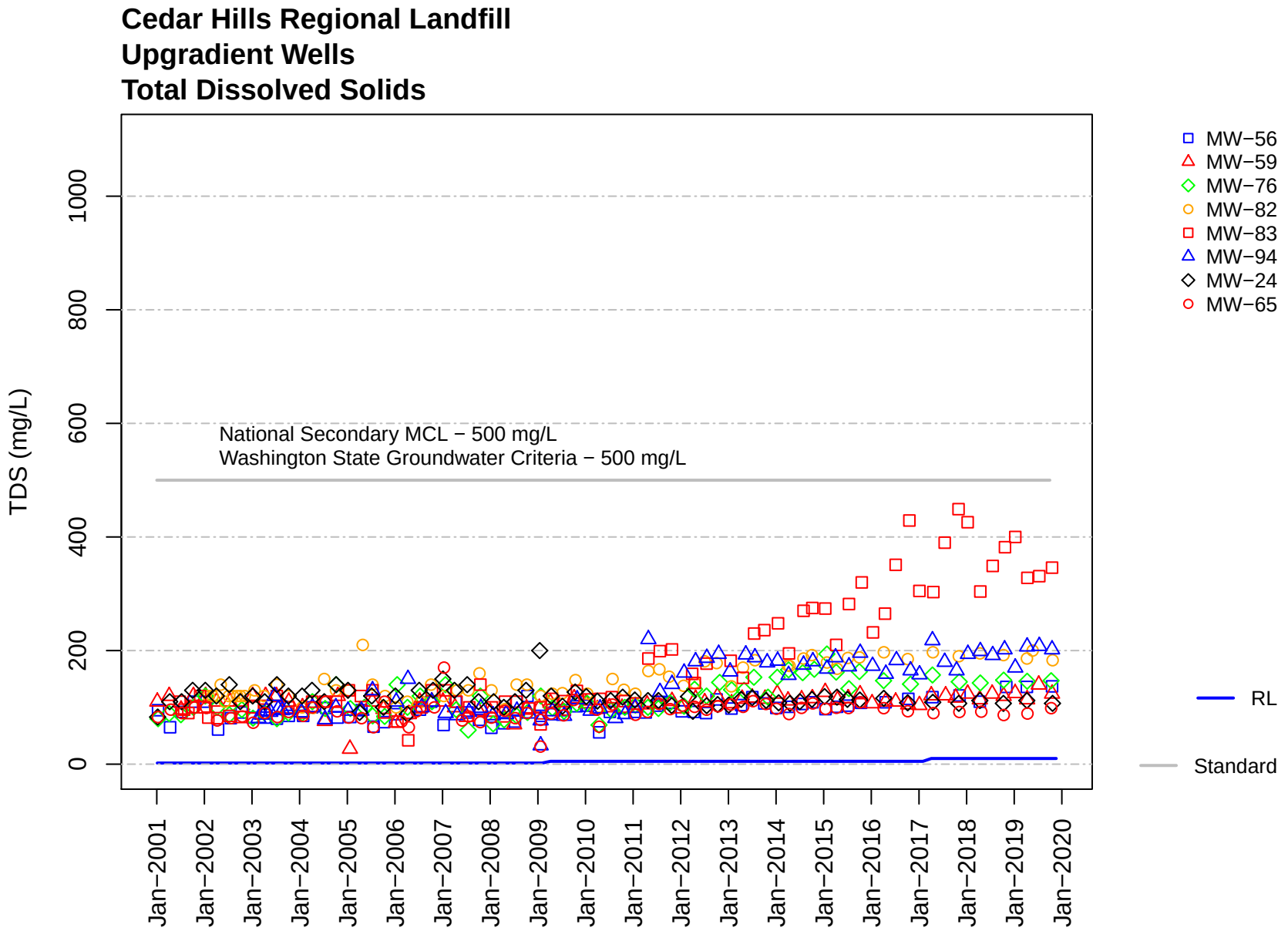

Cedar Hills Regional Landfill
Downgradient Wells
Nitrate
National Primary MCL − 10 mg/L
Washington State Groundwater Criteria − 10 mg/L
Nitrate−N (mg/L)
0
2
4
6
8
10
12
Jan−2001
Jan−2002
Jan−2003
Jan−2004
Jan−2005
Jan−2006
Jan−2007
Jan−2008
Jan−2009
Jan−2010
Jan−2011
Jan−2012
Jan−2013
Jan−2014
Jan−2015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

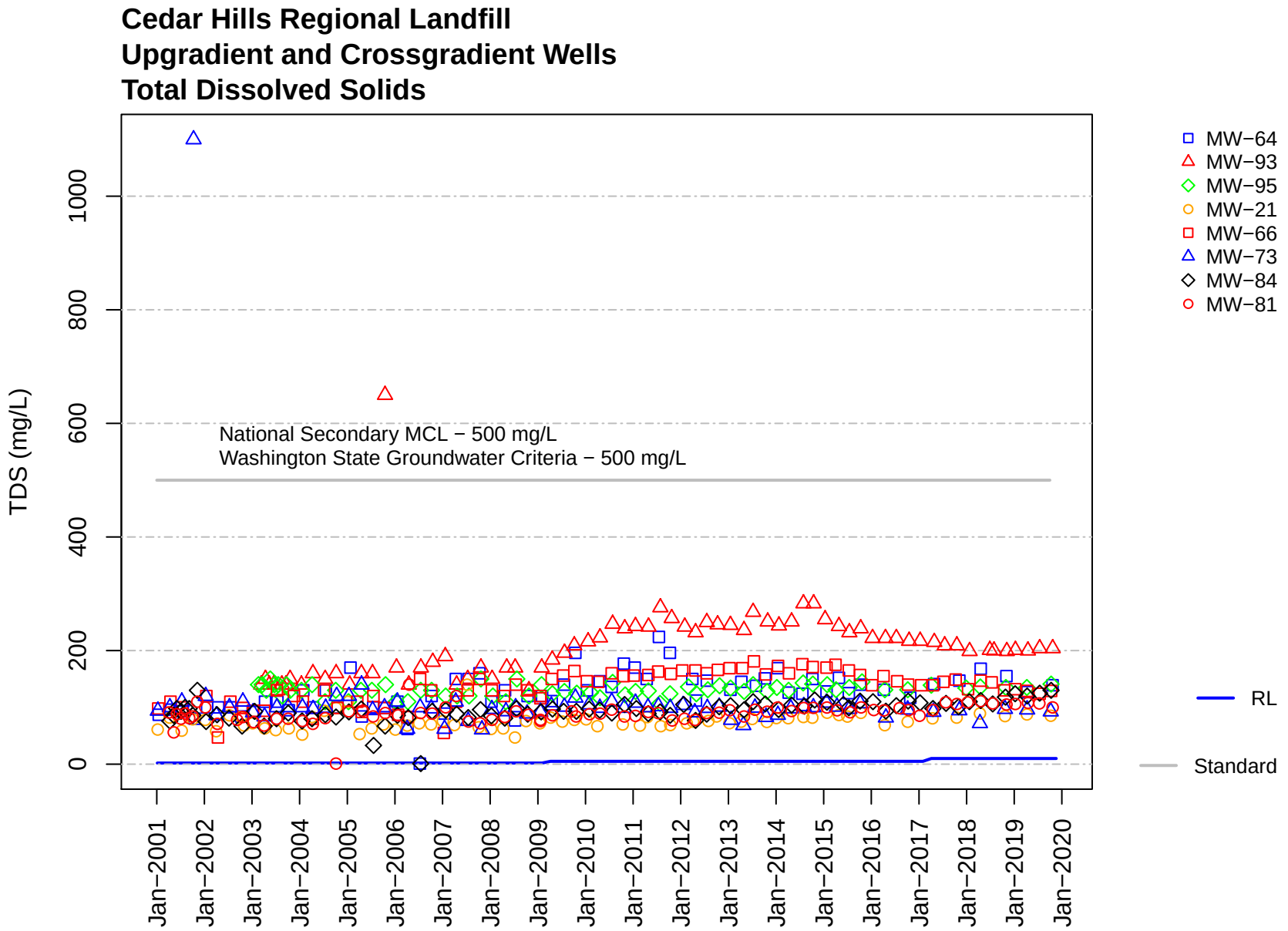

Cedar Hills Regional Landfill
Upgradient Wells
Sulfate
Sulfate (mg/L)
0
50
100
150
200
250
300
National Secondary MCL − 250 mg/L
Washington State Groundwater Criteria − 250 mg/L
Jan−2001
Jan−2002
Jan−2003
Jan−2004
Jan−2005
Jan−2006
Jan−2007
Jan−2008
Jan−2009
Jan−2010
Jan−2011
Jan−2012
Jan−2013
Jan−2014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

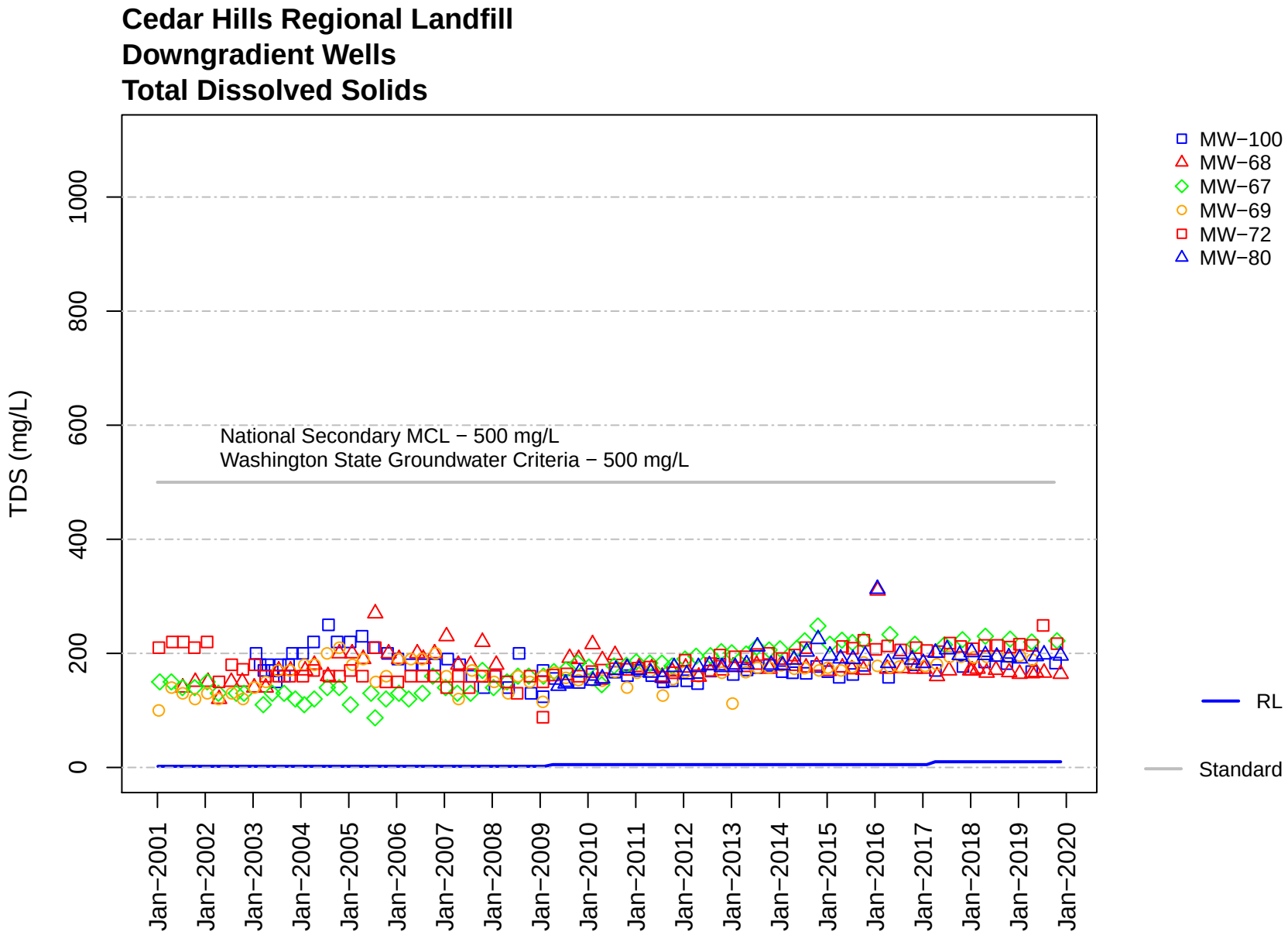

Cedar Hills Regional Landfill
Upgradient and Crossgradient Wells
Sulfate
Sulfate (mg/L)
0
50
100
150
200
250
300
National Secondary MCL − 250 mg/L
Washington State Groundwater Criteria − 250 mg/L
Jan−2001
Jan−2002
Jan−2003
Jan−2004
Jan−2005
Jan−2006
Jan−2007
Jan−2008
Jan−2009
Jan−2010
Jan−2011
Jan−2012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

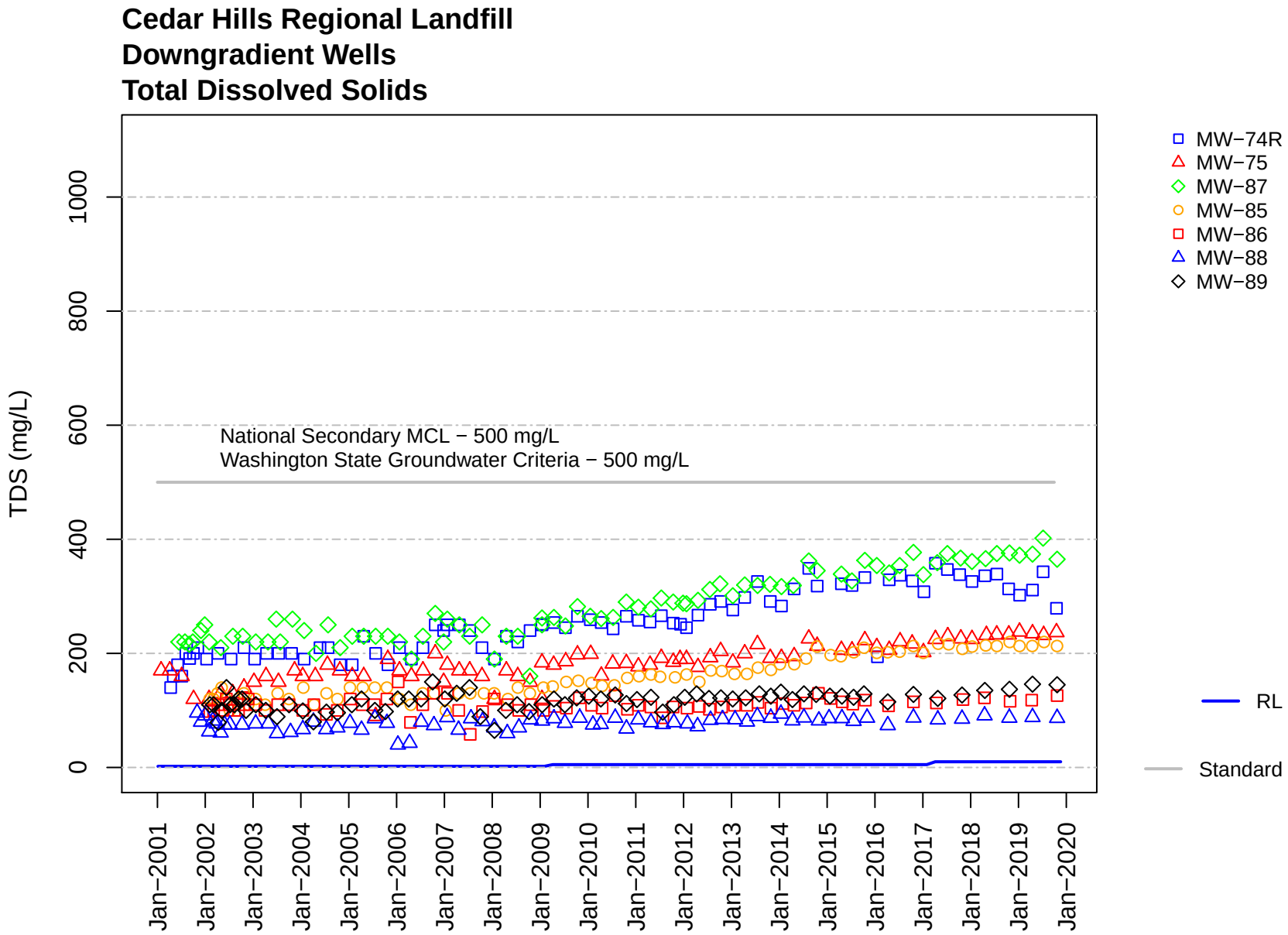

Cedar Hills Regional Landfill
Downgradient Wells
Sulfate
National Secondary MCL − 250 mg/L
Washington State Groundwater Criteria − 250 mg/L
Sulfate (mg/L)
0
50
100
150
200
250
300
Jan−2001
Jan−2002
Jan−2003
Jan−2004
Jan−2005
Jan−2006
Jan−2007
Jan−2008
Jan−2009
Jan−2010
Jan−2011
Jan−2012
Jan−2013
Jan−2014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

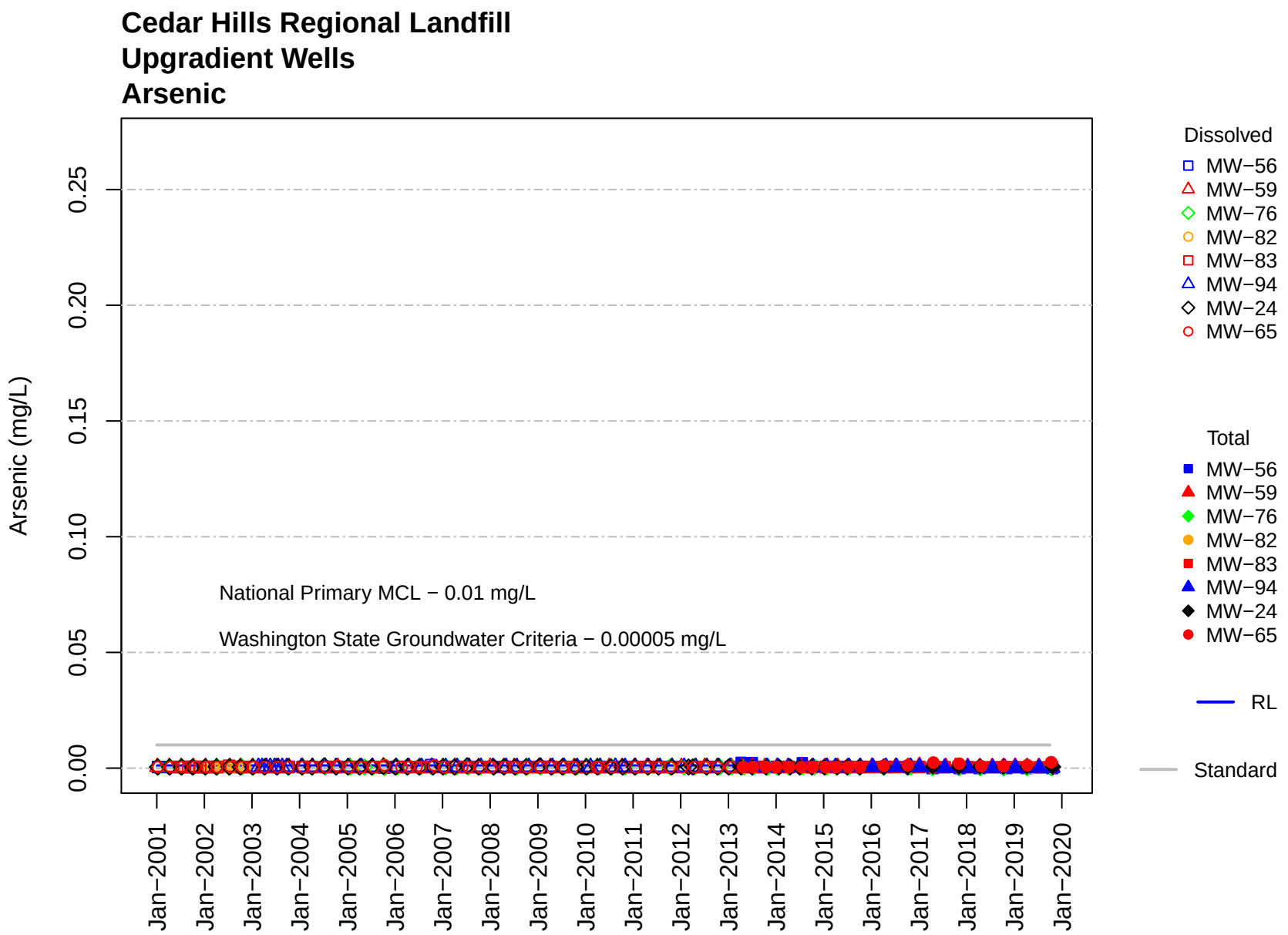

Cedar Hills Regional Landfill
Downgradient Wells
Sulfate
Sulfate (mg/L)
0
50
100
150
200
250
300
National Secondary MCL − 250 mg/L
Washington State Groundwater Criteria − 250 mg/L
Jan−2001
Jan−2002
Jan−2003
Jan−2004
Jan−2005
Jan−2006
Jan−2007
Jan−2008
Jan−2009
Jan−2010
Jan−2011
Jan−2012
Jan−2013
Jan−2014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

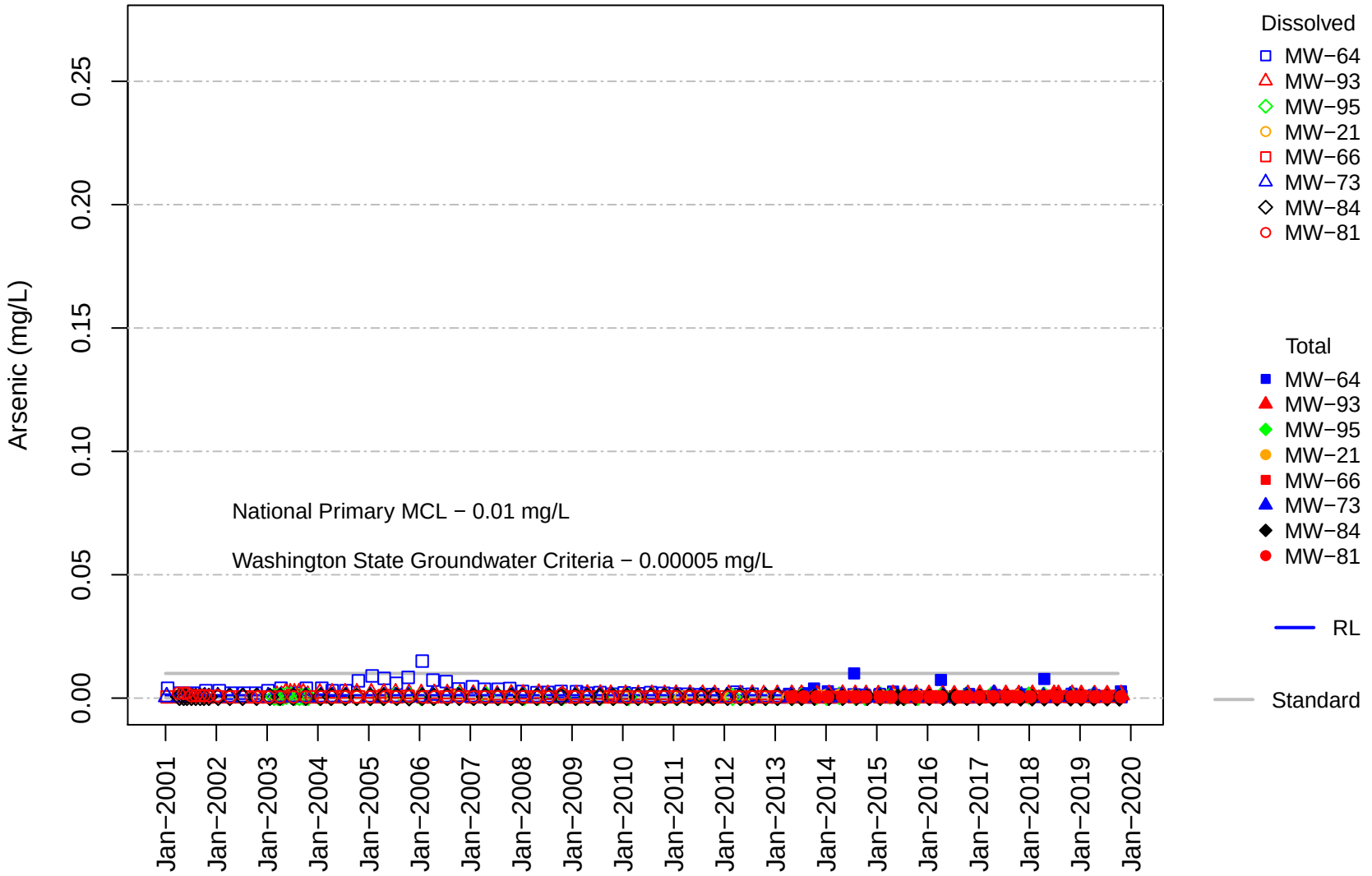

Cedar Hills Regional Landfill
Upgradient Wells
Total Dissolved Solids
TDS (mg/L)
0
200
400
600
800
1000
National Secondary MCL − 500 mg/L
Washington State Groundwater Criteria − 500 mg/L
Jan−2001
Jan−2002
Jan−2003
Jan−2004
Jan−2005
Jan−2006
Jan−2007
Jan−2008
Jan−2009
Jan−2010
Jan−2011
Jan−2012
Jan−2013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

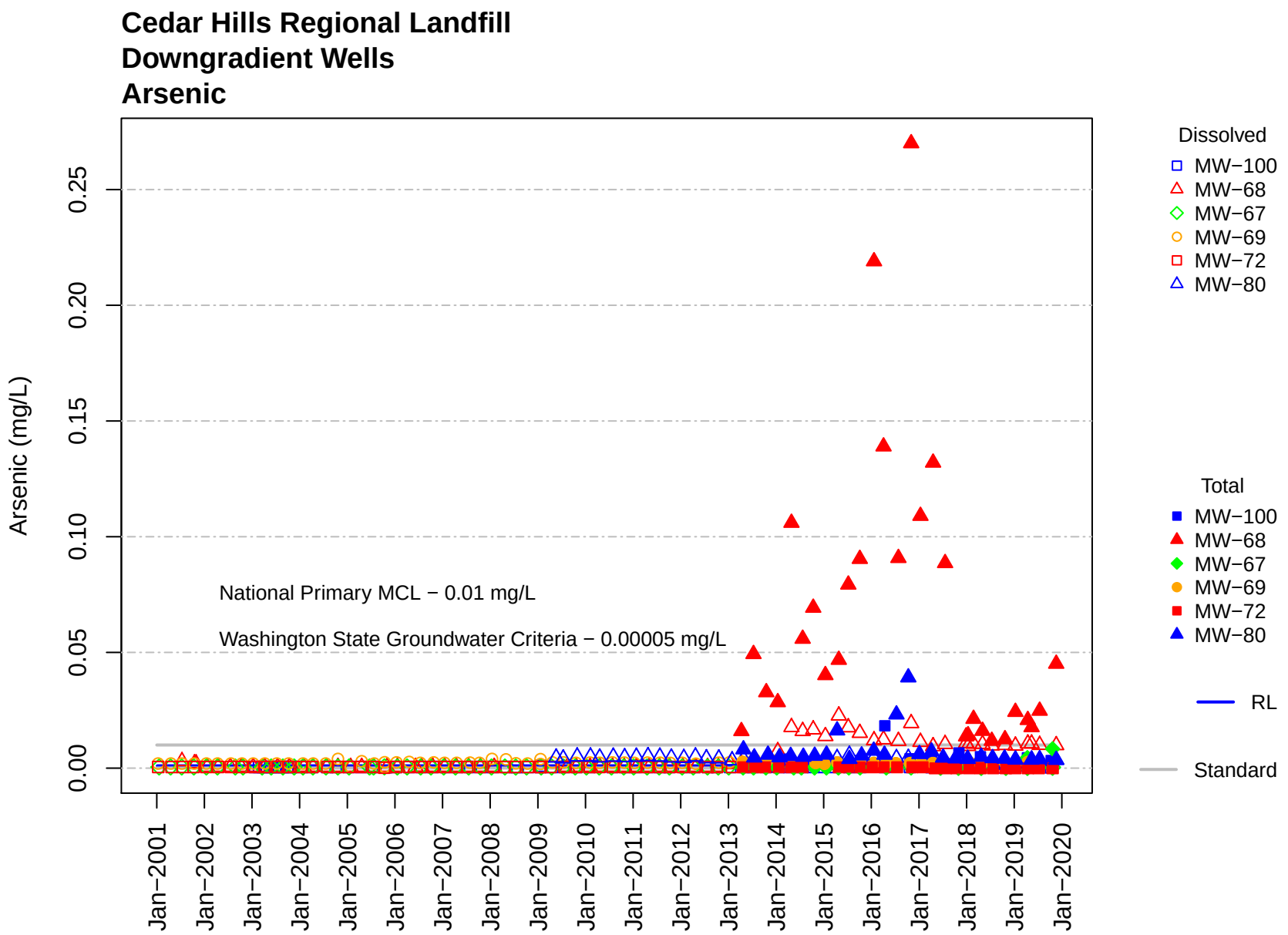

Cedar Hills Regional Landfill
Upgradient and Crossgradient Wells
Total Dissolved Solids
TDS (mg/L)
0
200
400
600
800
1000
National Secondary MCL − 500 mg/L
Washington State Groundwater Criteria − 500 mg/L
Jan−2001
Jan−2002
Jan−2003
Jan−2004
Jan−2005
Jan−2006
Jan−2007
Jan−2008
Jan−2009
Jan−2010
Jan−2011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

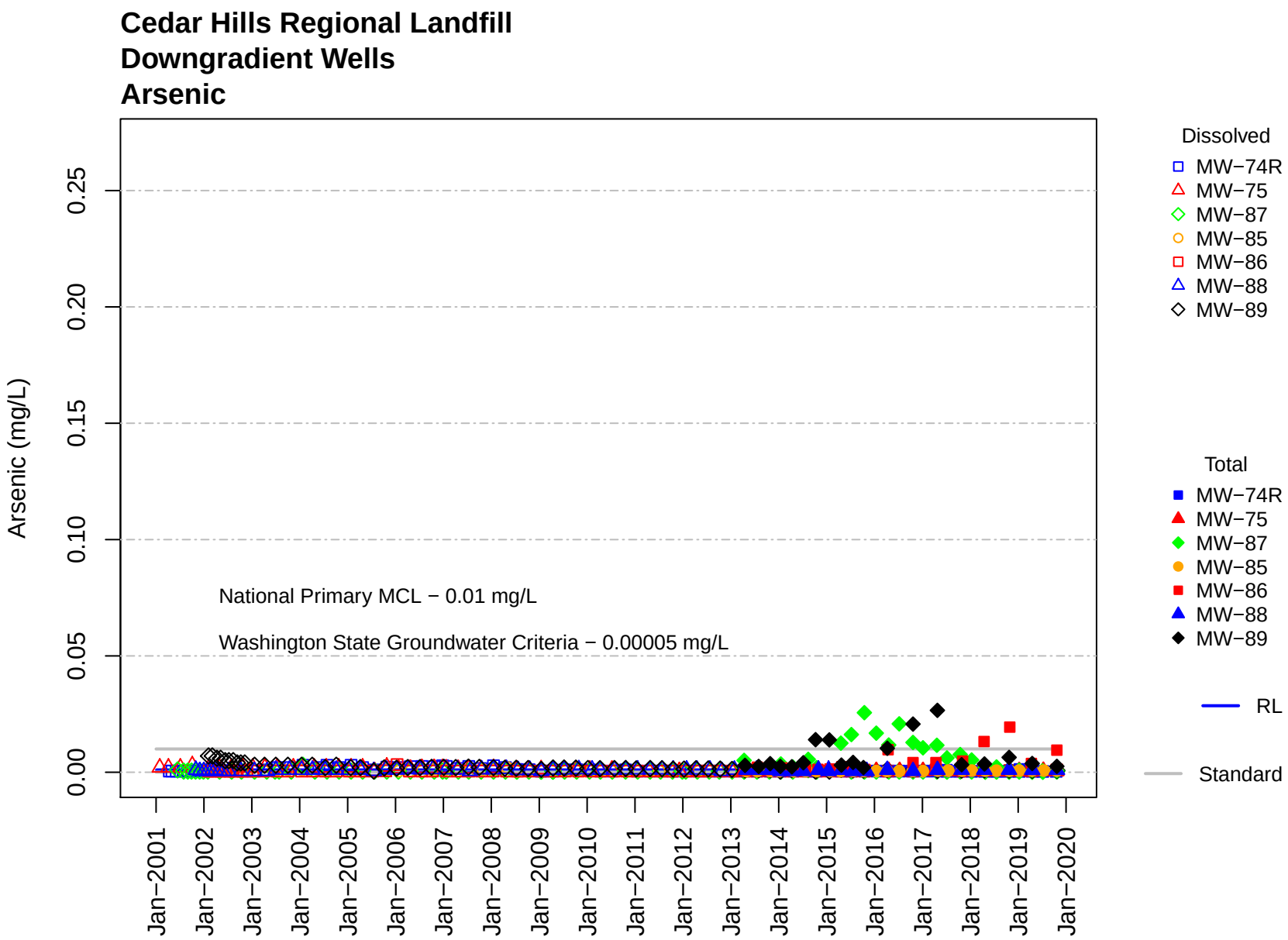

Cedar Hills Regional Landfill
Downgradient Wells
Total Dissolved Solids
TDS (mg/L)
0
200
400
600
800
1000
National Secondary MCL − 500 mg/L
Washington State Groundwater Criteria − 500 mg/L
Jan−2001
Jan−2002
Jan−2003
Jan−2004
Jan−2005
Jan−2006
Jan−2007
Jan−2008
Jan−2009
Jan−2010
Jan−2011
Jan−2012
Jan−2013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

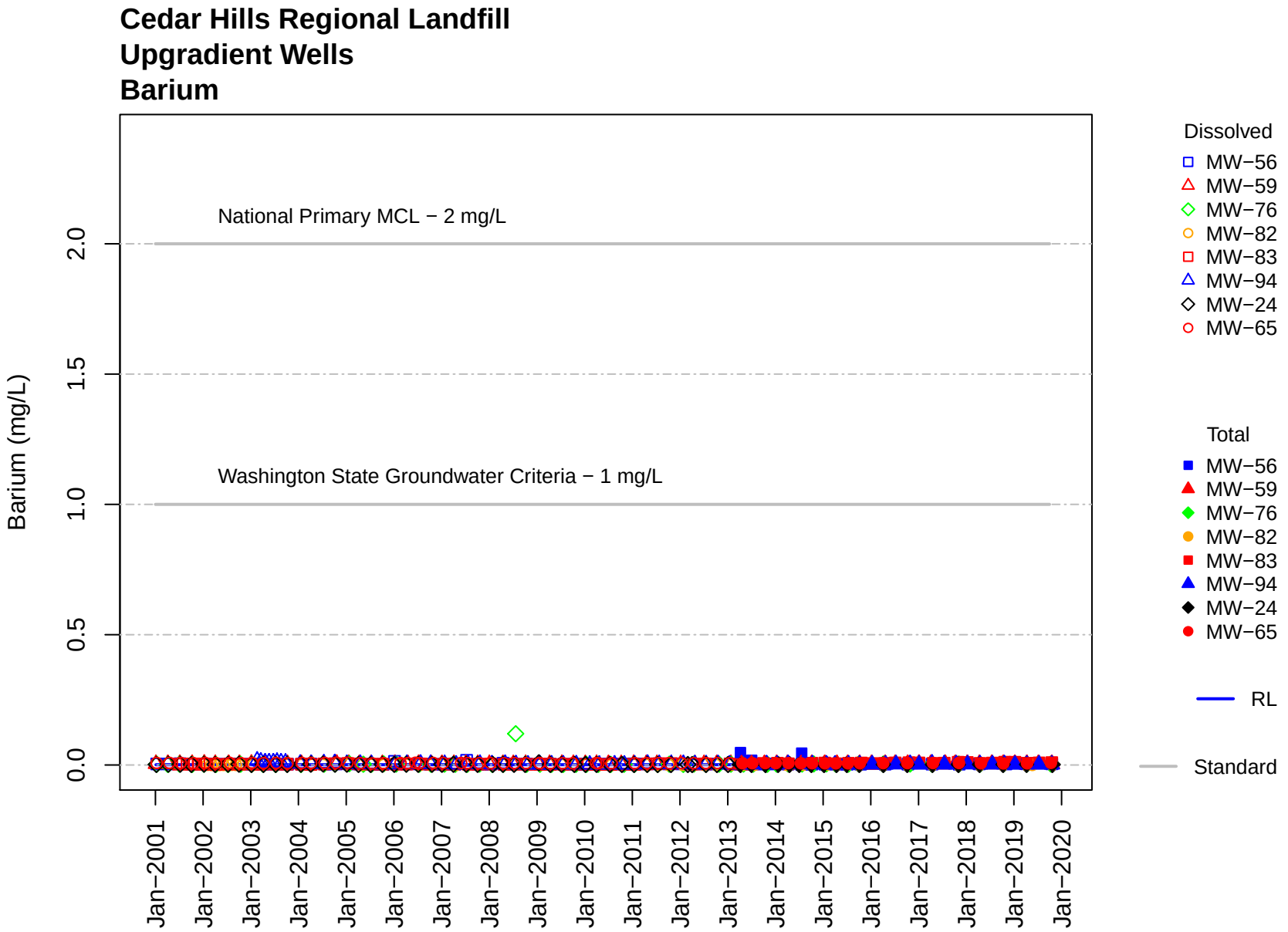

Cedar Hills Regional Landfill
Downgradient Wells
Total Dissolved Solids
TDS (mg/L)
0
200
400
600
800
1000
National Secondary MCL − 500 mg/L
Washington State Groundwater Criteria − 500 mg/L
Jan−2001
Jan−2002
Jan−2003
Jan−2004
Jan−2005
Jan−2006
Jan−2007
Jan−2008
Jan−2009
Jan−2010
Jan−2011
Jan−2012
Jan−2013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

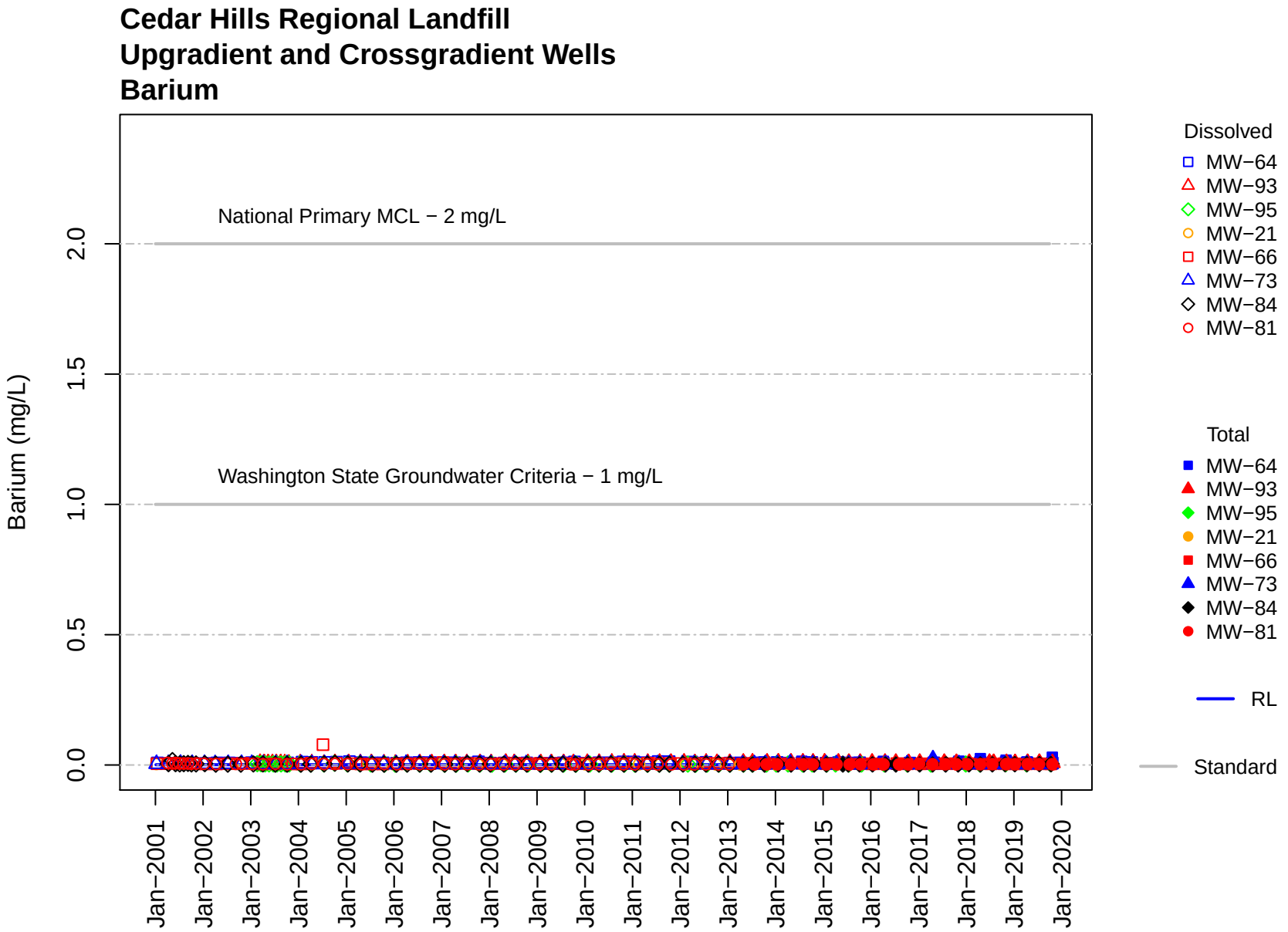

Cedar Hills Regional Landfill
Upgradient Wells
Arsenic
Arsenic (mg/L)
0.00
0.05
0.10
0.15
0.20
0.25
National Primary MCL − 0.01 mg/L
Washington State Groundwater Criteria − 0.00005 mg/L
Jan−2001
Jan−2002
Jan−2003
Jan−2004
Jan−2005
Jan−2006
Jan−2007
Jan−2008
Jan−2009
Jan−2010
Jan−2011
Jan−2012
Jan−2013
Jan−2014
Jan−2015
Jan−2016
Jan−2017
Jan−2018
Jan−2019
Jan−2020
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

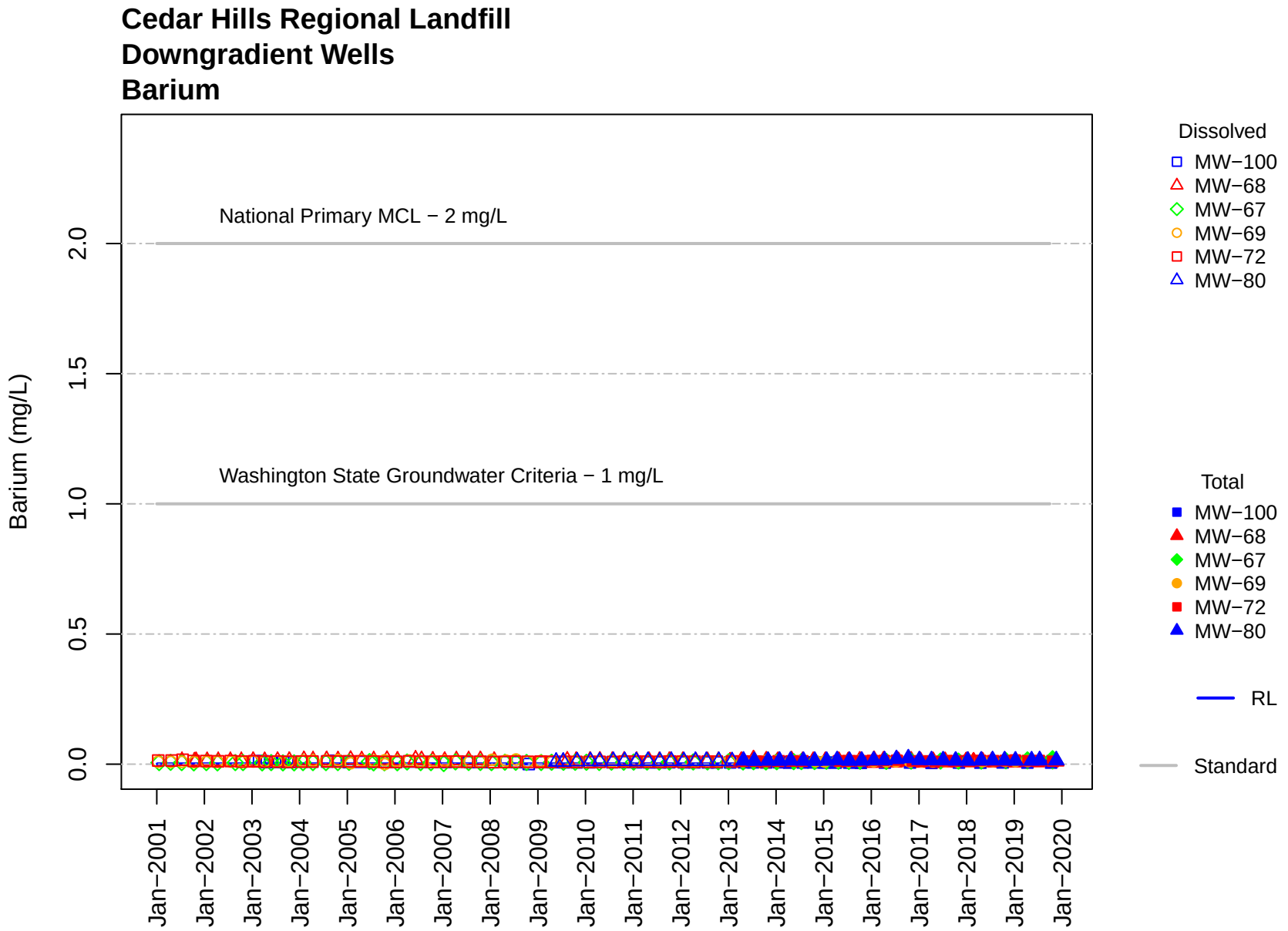

Cedar Hills Regional Landfill
Upgradient and Crossgradient Wells
Arsenic
Arsenic (mg/L)
0.00
0.05
0.10
0.15
0.20
0.25
National Primary MCL − 0.01 mg/L
Washington State Groundwater Criteria − 0.00005 mg/L
Jan−2001
Jan−2002
Jan−2003
Jan−2004
Jan−2005
Jan−2006
Jan−2007
Jan−2008
Jan−2009
Jan−2010
Jan−2011
Jan−2012
Jan−2013
Jan−2014
Jan−2015
Jan−2016
Jan−2017
Jan−2018
Jan−2019
Jan−2020
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

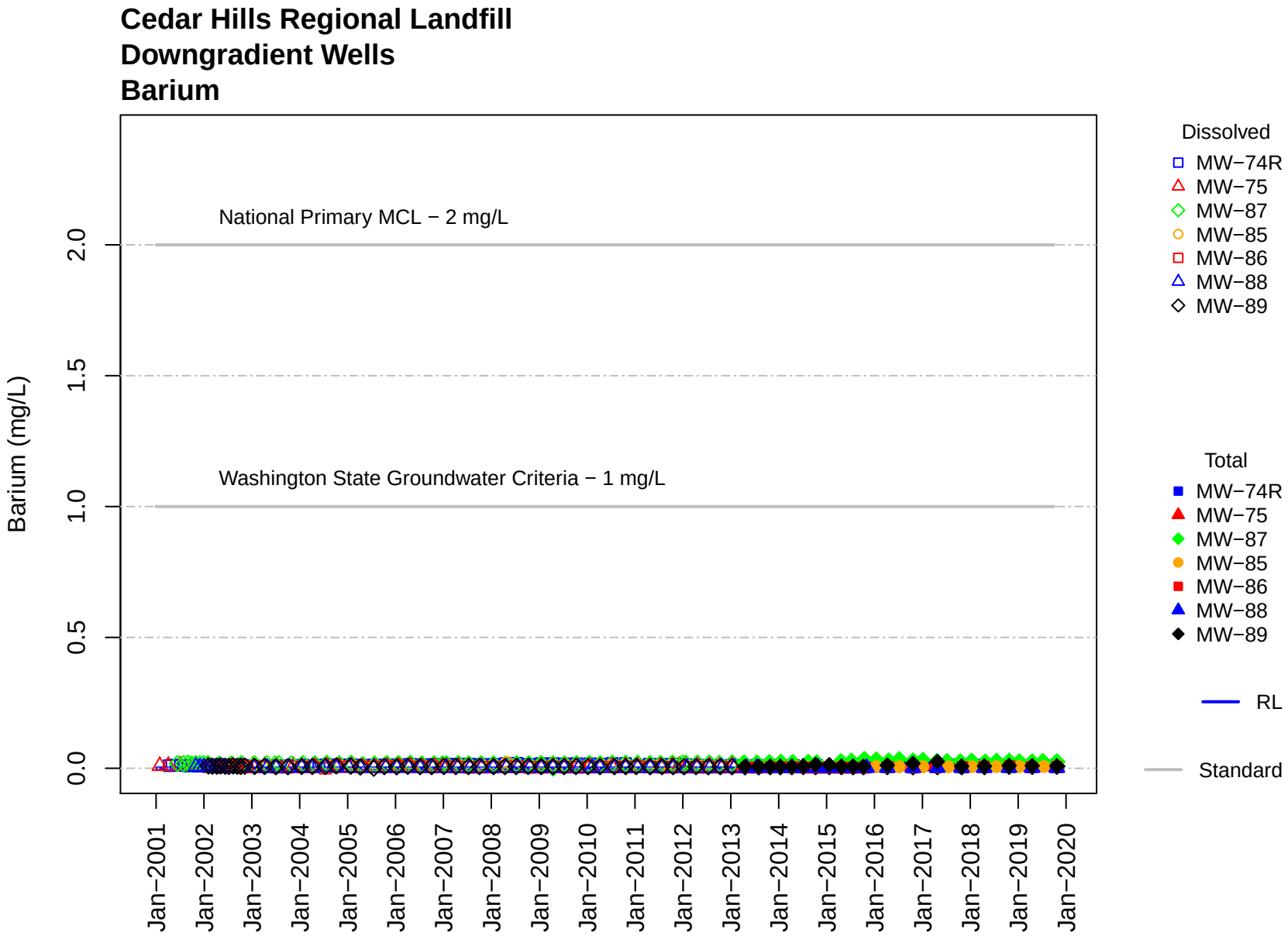

Cedar Hills Regional Landfill
Downgradient Wells
Arsenic
Arsenic (mg/L)
0.00
0.05
0.10
0.15
0.20
0.25
National Primary MCL − 0.01 mg/L
Washington State Groundwater Criteria − 0.00005 mg/L
Jan−2001
Jan−2002
Jan−2003
Jan−2004
Jan−2005
Jan−2006
Jan−2007
Jan−2008
Jan−2009
Jan−2010
Jan−2011
Jan−2012
Jan−2013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

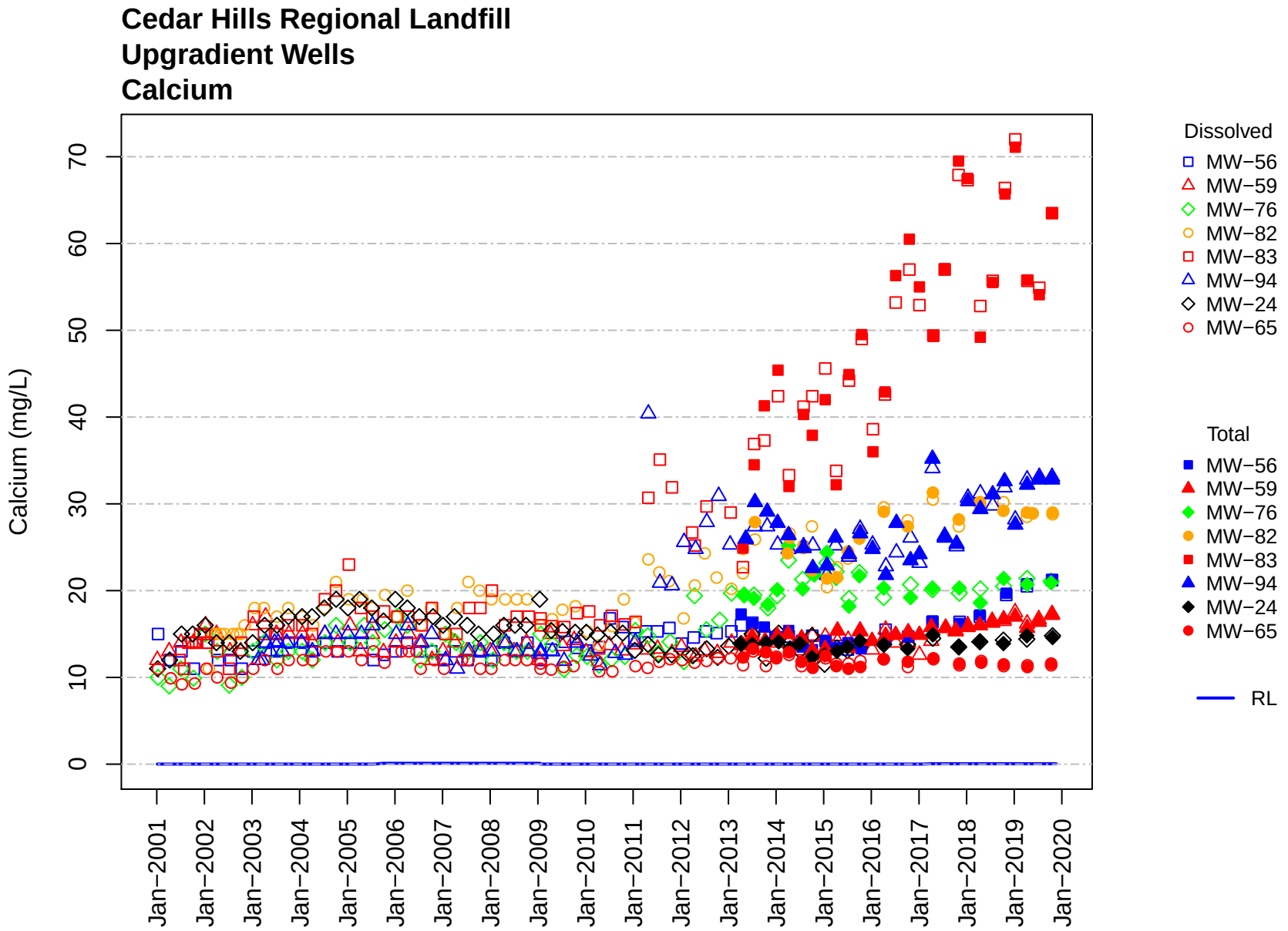

Cedar Hills Regional Landfill
Downgradient Wells
Arsenic
Arsenic (mg/L)
0.00
0.05
0.10
0.15
0.20
0.25
National Primary MCL − 0.01 mg/L
Washington State Groundwater Criteria − 0.00005 mg/L
Jan−2001
Jan−2002
Jan−2003
Jan−2004
Jan−2005
Jan−2006
Jan−2007
Jan−2008
Jan−2009
Jan−2010
Jan−2011
Jan−2012
Jan−2013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

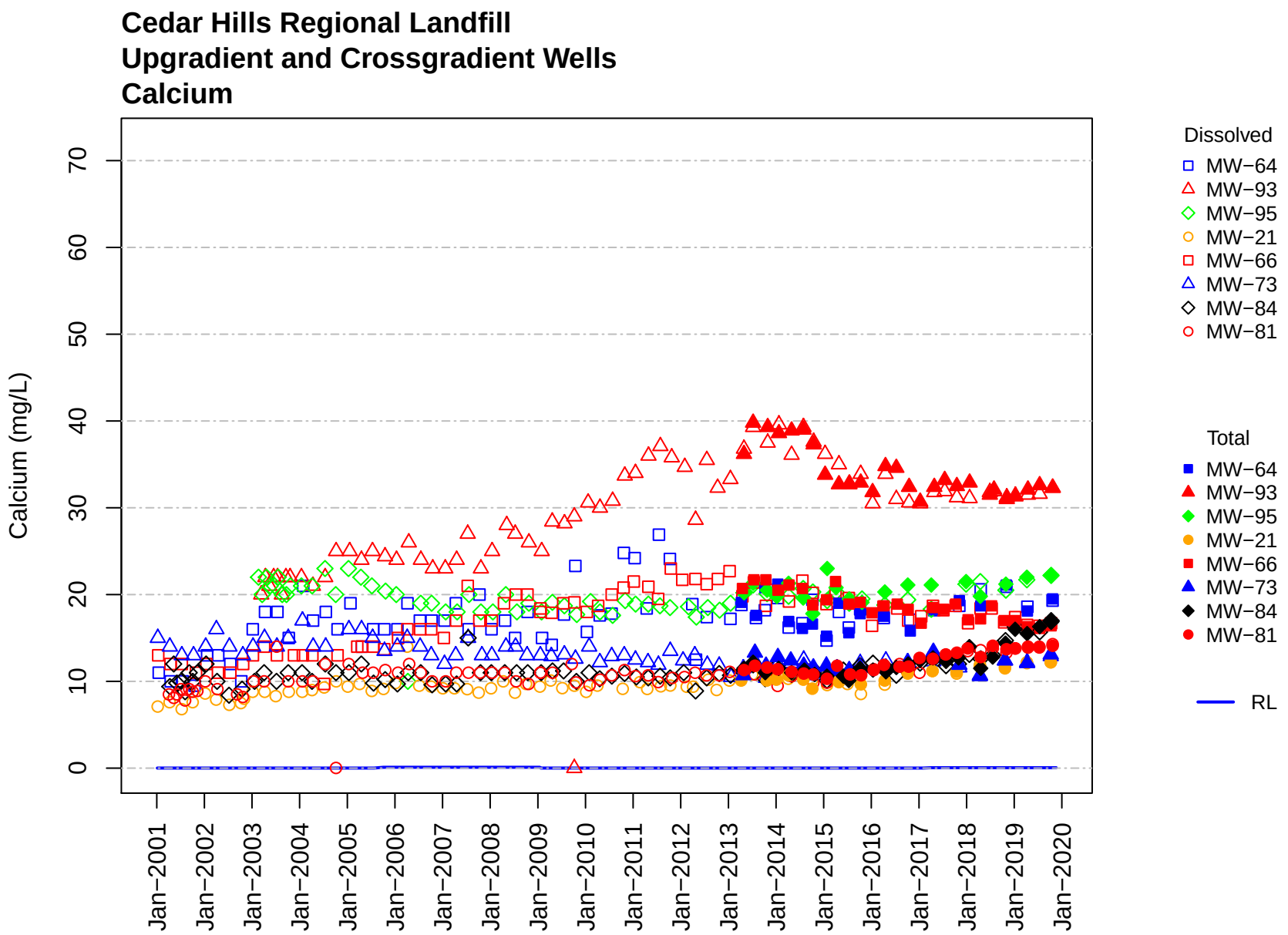

Cedar Hills Regional Landfill
Upgradient Wells
Barium
National Primary MCL − 2 mg/L
Washington State Groundwater Criteria − 1 mg/L
Barium (mg/L)
0.0
0.5
1.0
1.5
2.0
Jan−2001
Jan−2002
Jan−2003
Jan−2004
Jan−2005
Jan−2006
Jan−2007
Jan−2008
Jan−2009
Jan−2010
Jan−2011
Jan−2012
Jan−2013
Jan−2014
Jan−2015
Jan−2016
Jan−2017
Jan−2018
Jan−2019
Jan−2020
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

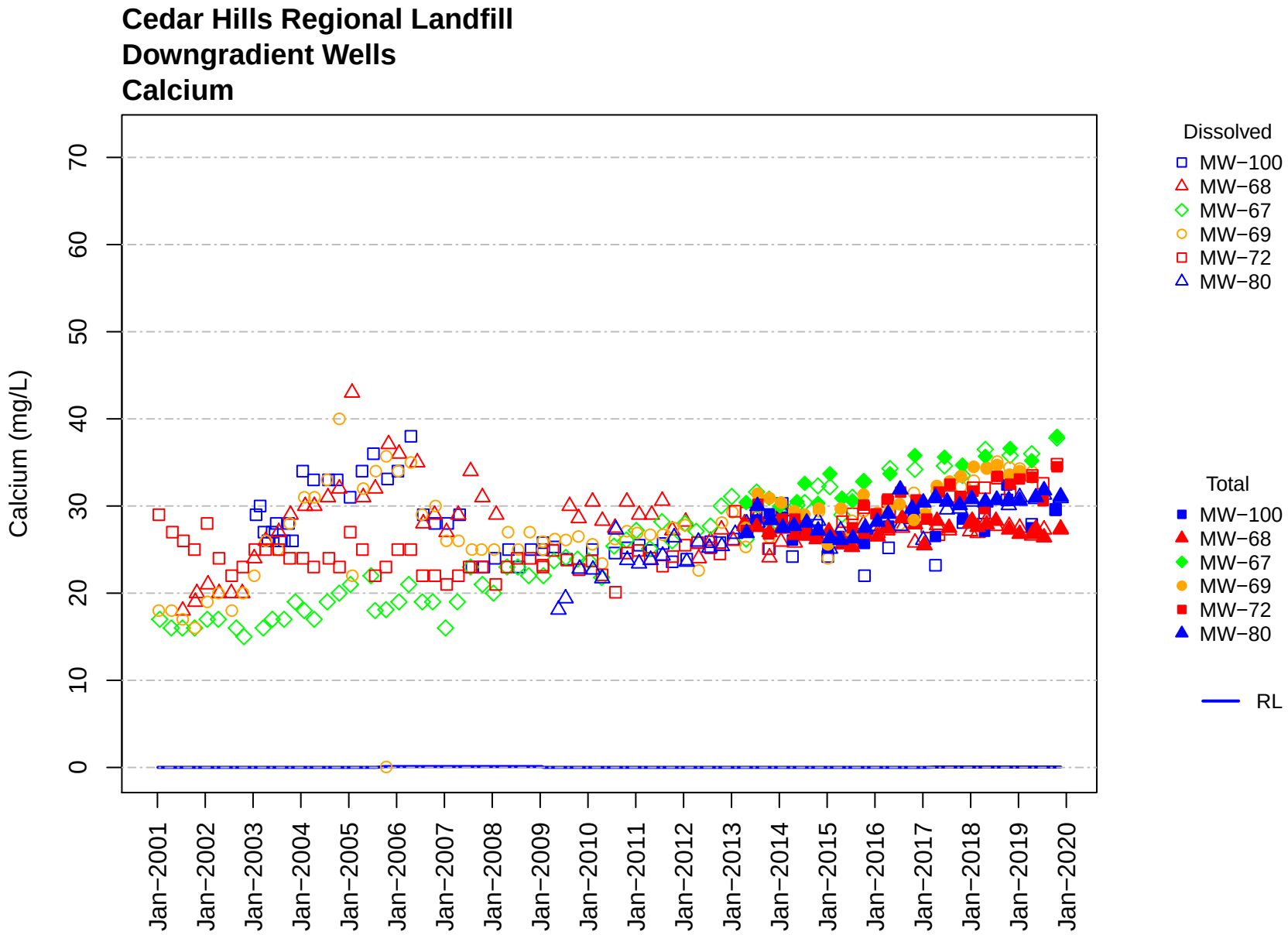

Cedar Hills Regional Landfill
Upgradient and Crossgradient Wells
Barium
Barium (mg/L)
0.0
0.5
1.0
1.5
2.0
National Primary MCL − 2 mg/L
Washington State Groundwater Criteria − 1 mg/L
Jan−2001
Jan−2002
Jan−2003
Jan−2004
Jan−2005
Jan−2006
Jan−2007
Jan−2008
Jan−2009
Jan−2010
Jan−2011
Jan−2012
Jan−2013
Jan−2014
Jan−2015
Jan−2016
Jan−2017
Jan−2018
Jan−2019
Jan−2020
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

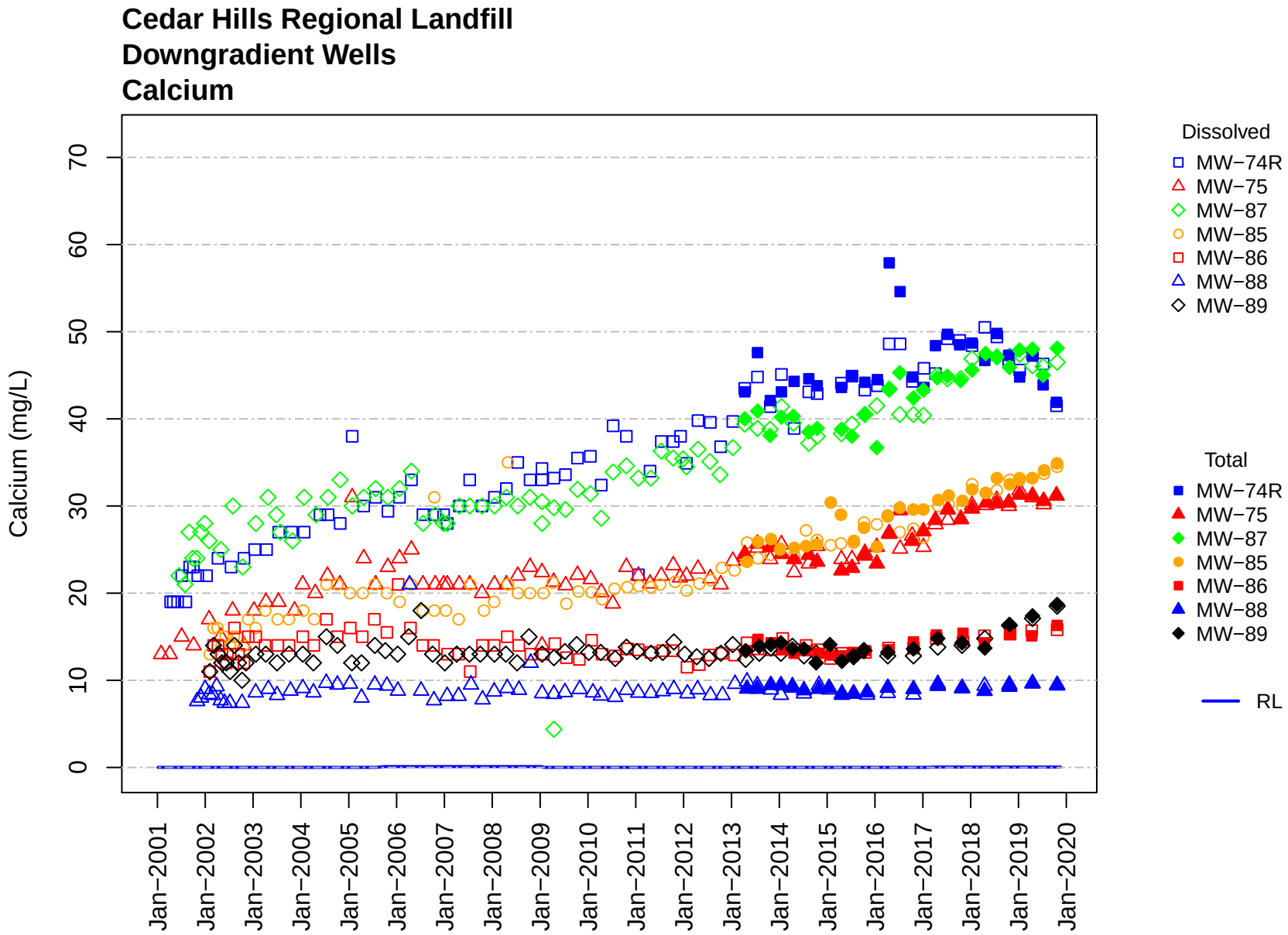

Cedar Hills Regional Landfill
Downgradient Wells
Barium
National Primary MCL − 2 mg/L
Washington State Groundwater Criteria − 1 mg/L
Barium (mg/L)
0.0
0.5
1.0
1.5
2.0
Jan−2001
Jan−2002
Jan−2003
Jan−2004
Jan−2005
Jan−2006
Jan−2007
Jan−2008
Jan−2009
Jan−2010
Jan−2011
Jan−2012
Jan−2013
Jan−2014
Jan−2015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

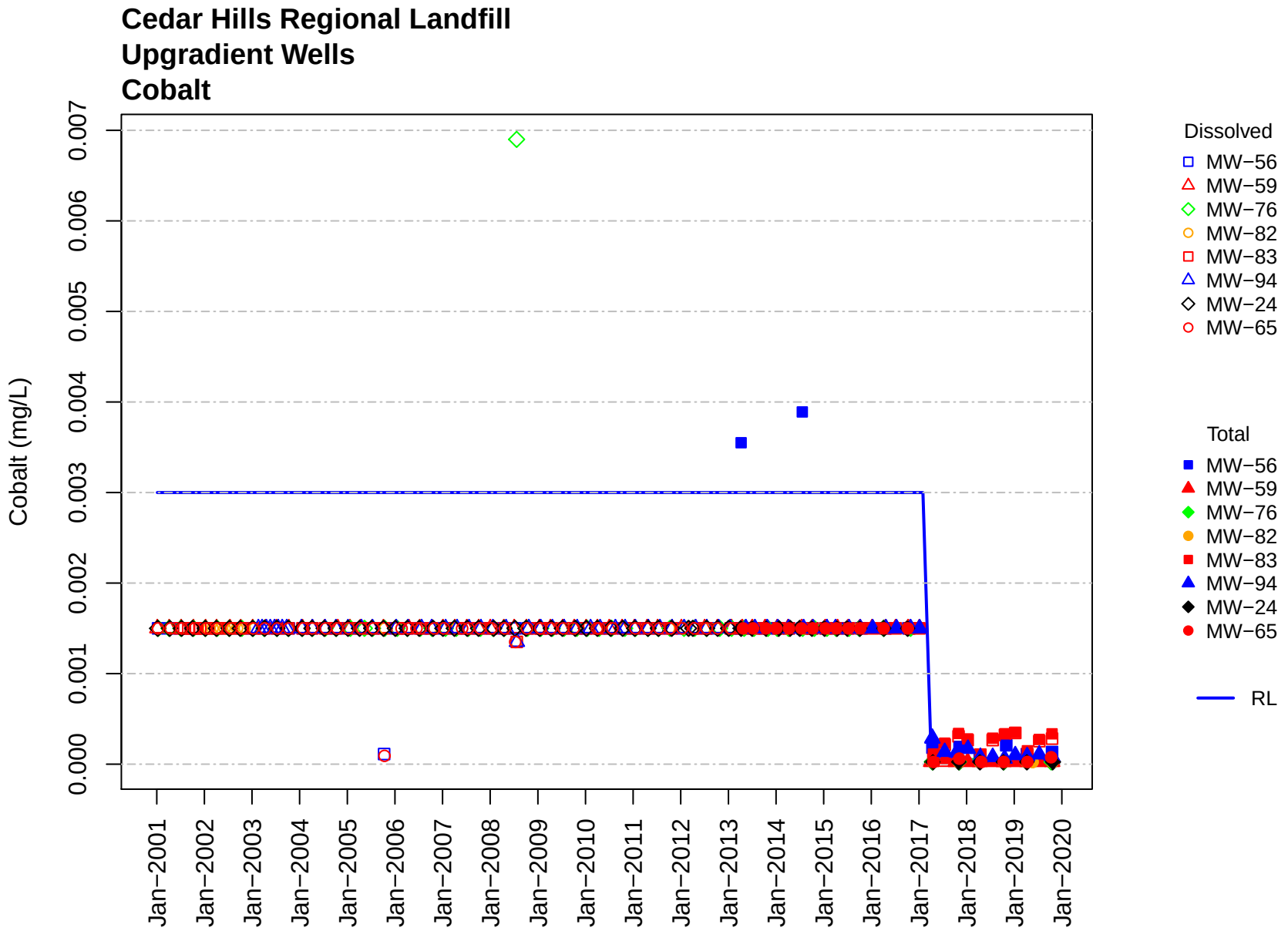

Cedar Hills Regional Landfill
Downgradient Wells
Barium
National Primary MCL − 2 mg/L
Washington State Groundwater Criteria − 1 mg/L
Barium (mg/L)
0.0
0.5
1.0
1.5
2.0
Jan−2001
Jan−2002
Jan−2003
Jan−2004
Jan−2005
Jan−2006
Jan−2007
Jan−2008
Jan−2009
Jan−2010
Jan−2011
Jan−2012
Jan−2013
Jan−2014
Jan−2015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

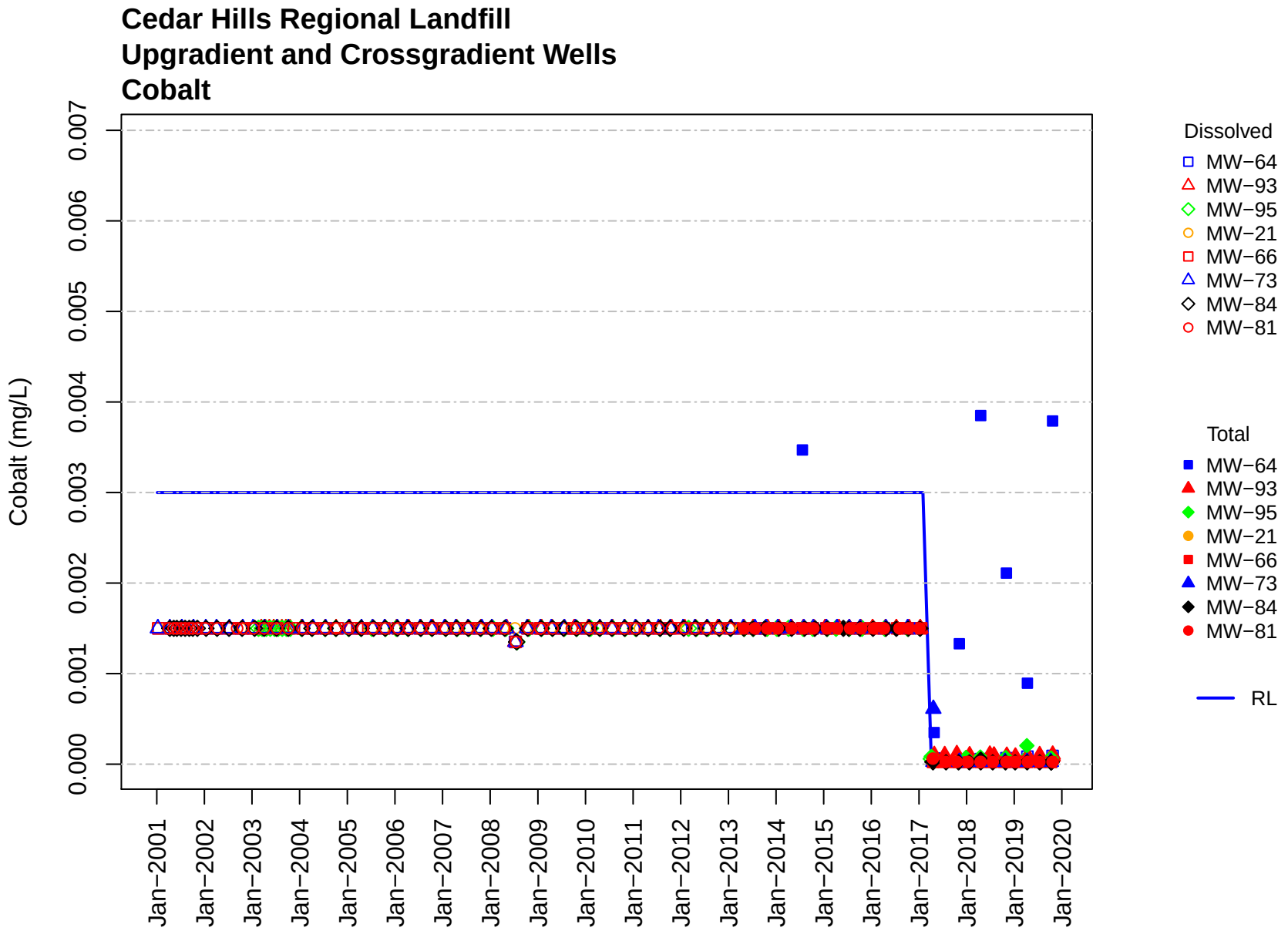

Cedar Hills Regional Landfill
Upgradient Wells
Calcium
Calcium (mg/L)
0
10
20
30
40
50
60
70
Jan−2001
Jan−2002
Jan−2003
Jan−2004
Jan−2005
Jan−2006
Jan−2007
Jan−2008
Jan−2009
Jan−2010
Jan−2011
Jan−2012
Jan−2013
Jan−2014
Jan−2015
Jan−2016
Jan−2017
Jan−2018
Jan−2019
Jan−2020
Dissolved
MW−56
MW−59
MW−76
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

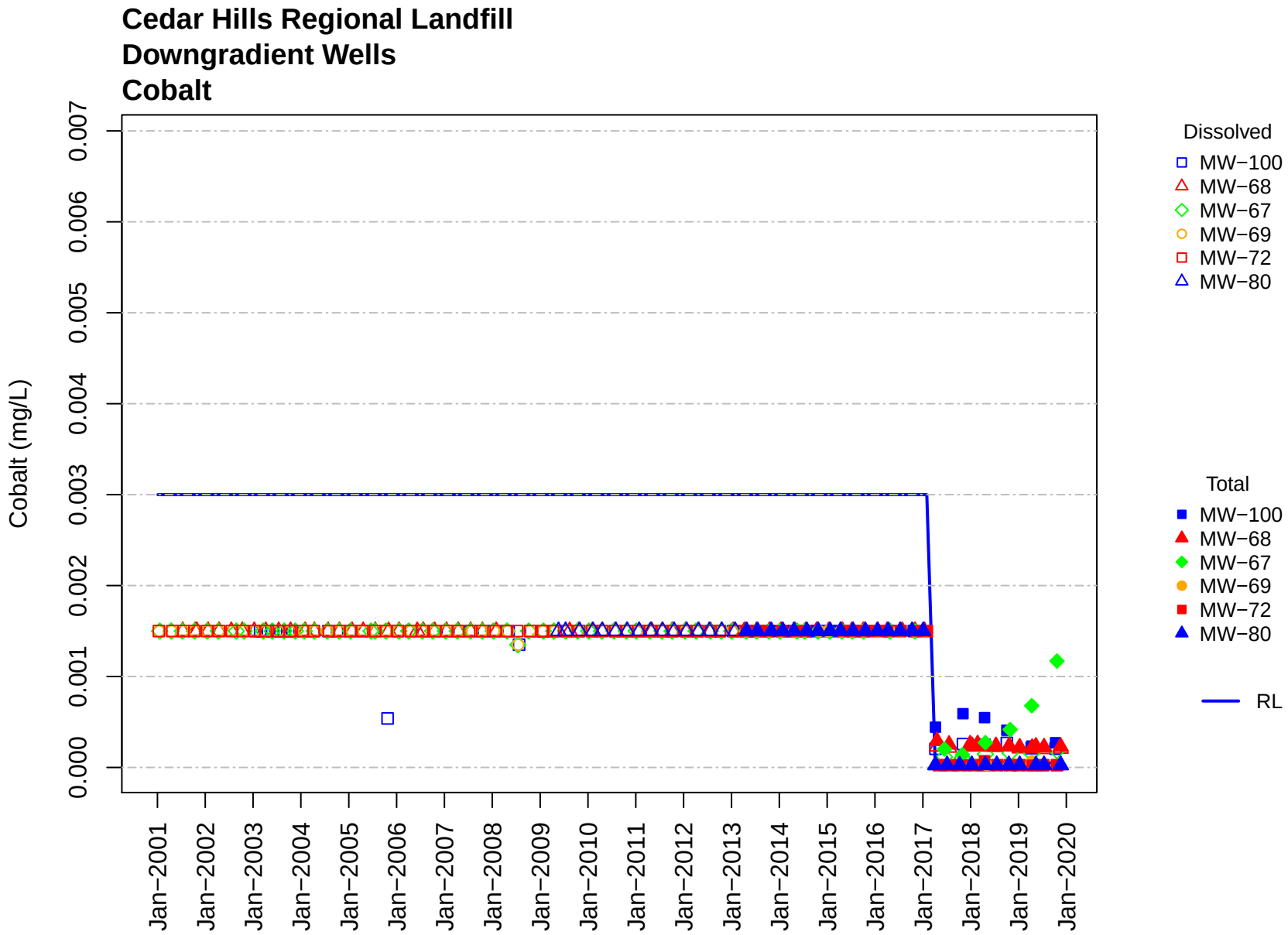

Cedar Hills Regional Landfill
Upgradient and Crossgradient Wells
Calcium
Calcium (mg/L)
0
10
20
30
40
50
60
70
Jan−2001
Jan−2002
Jan−2003
Jan−2004
Jan−2005
Jan−2006
Jan−2007
Jan−2008
Jan−2009
Jan−2010
Jan−2011
Jan−2012
Jan−2013
Jan−2014
Jan−2015
Jan−2016
Jan−2017
Jan−2018
Jan−2019
Jan−2020
Dissolved
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

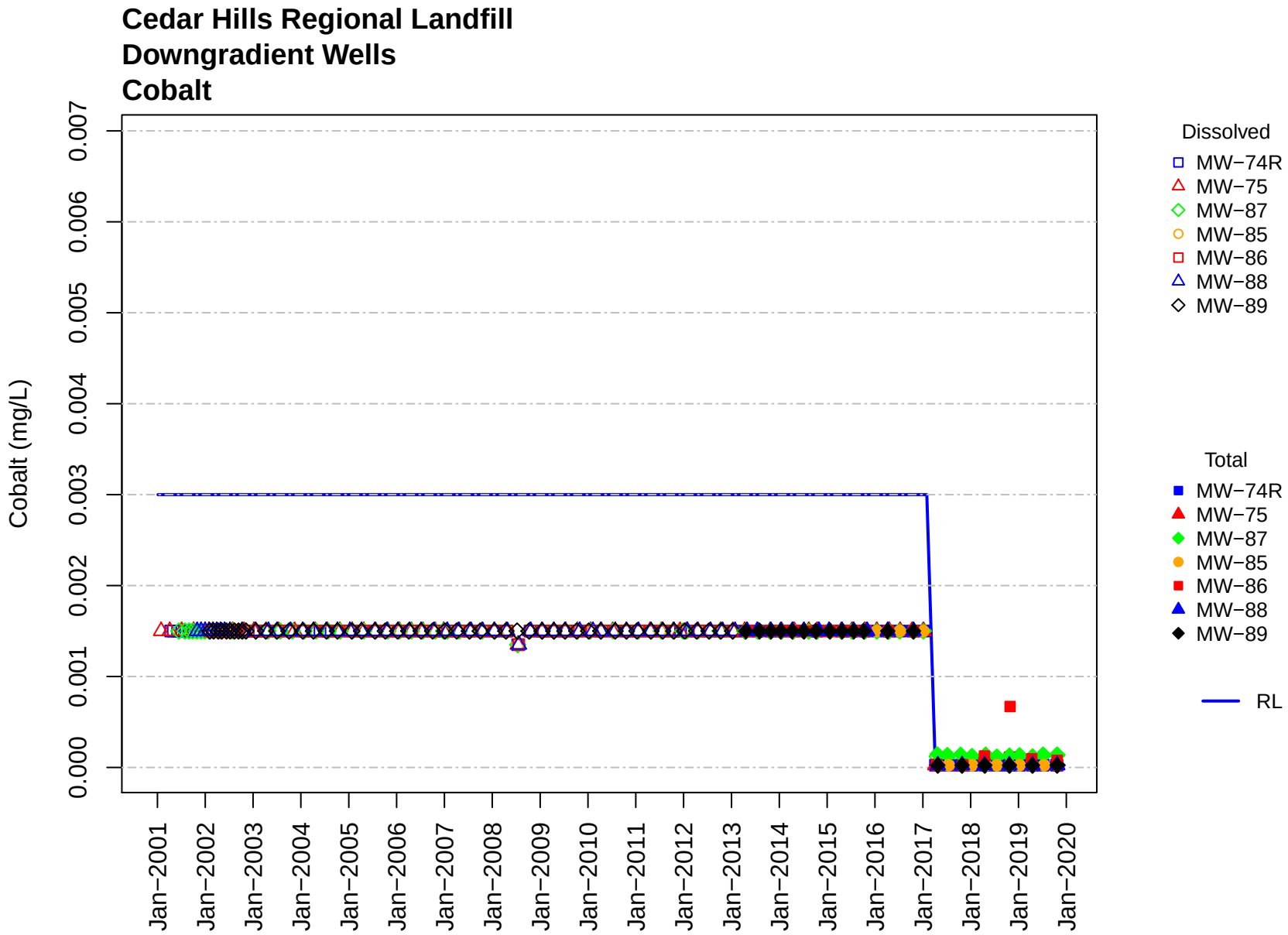

Cedar Hills Regional Landfill
Downgradient Wells
Calcium
Calcium (mg/L)
0
10
20
30
40
50
60
70
Jan−2001
Jan−2002
Jan−2003
Jan−2004
Jan−2005
Jan−2006
Jan−2007
Jan−2008
Jan−2009
Jan−2010
Jan−2011
Jan−2012
Jan−2013
Jan−2014
Jan−2015
Jan−2016
Jan−2017
Jan−2018
Jan−2019
Jan−2020
Dissolved
MW−100
MW−68
MW−67
MW−69
MW−72
MW−80
Total
MW−100
MW−68
MW−67
MW−69
MW−72
MW−80
RL

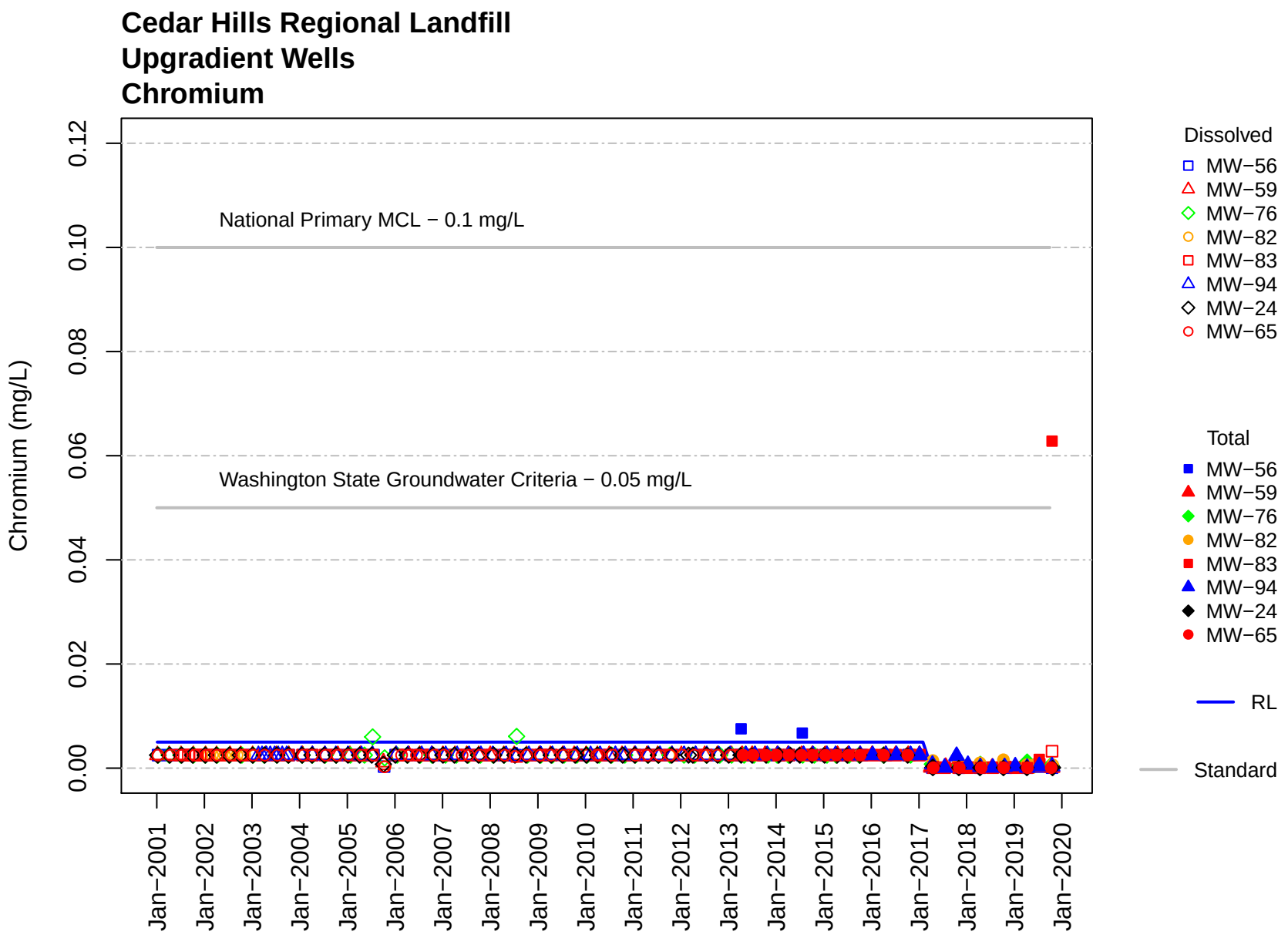

Cedar Hills Regional Landfill
Downgradient Wells
Calcium
Calcium (mg/L)
0
10
20
30
40
50
60
70
Jan−2001
Jan−2002
Jan−2003
Jan−2004
Jan−2005
Jan−2006
Jan−2007
Jan−2008
Jan−2009
Jan−2010
Jan−2011
Jan−2012
Jan−2013
Jan−2014
Jan−2015
Jan−2016
Jan−2017
Jan−2018
Jan−2019
Jan−2020
Dissolved
MW−74R
MW−75
MW−87
MW−85
MW−86
MW−88
MW−89
Total
MW−74R
MW−75
MW−87
MW−85
MW−86
MW−88
MW−89
RL

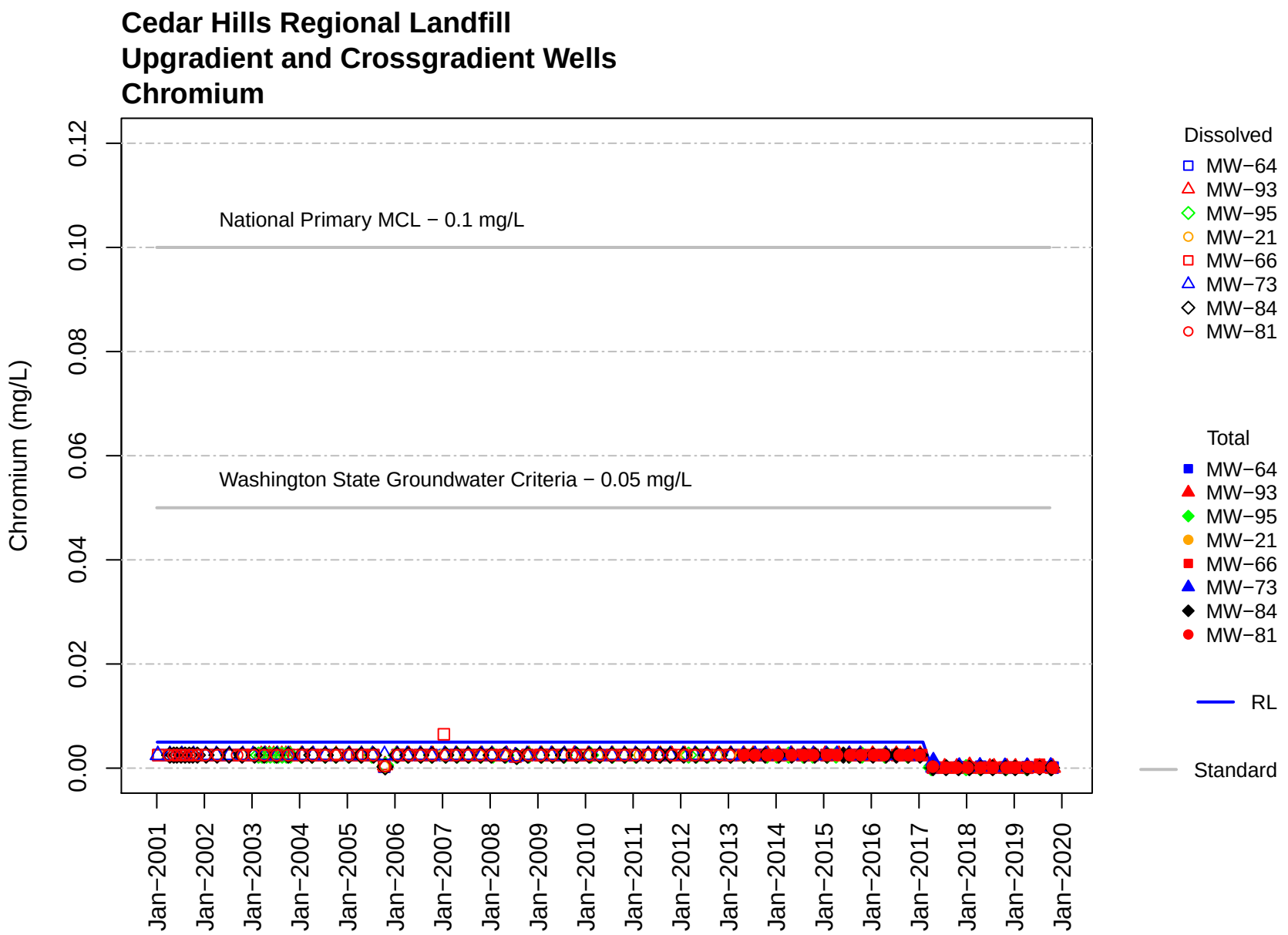

Cedar Hills Regional Landfill
Upgradient Wells
Cobalt
Cobalt (mg/L)
0.000
0.001
0.002
0.003
0.004
0.005
0.006
0.007
Jan−2001
Jan−2002
Jan−2003
Jan−2004
Jan−2005
Jan−2006
Jan−2007
Jan−2008
Jan−2009
Jan−2010
Jan−2011
Jan−2012
Jan−2013
Jan−2014
Jan−2015
Jan−2016
Jan−2017
Jan−2018
Jan−2019
Jan−2020
Dissolved
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

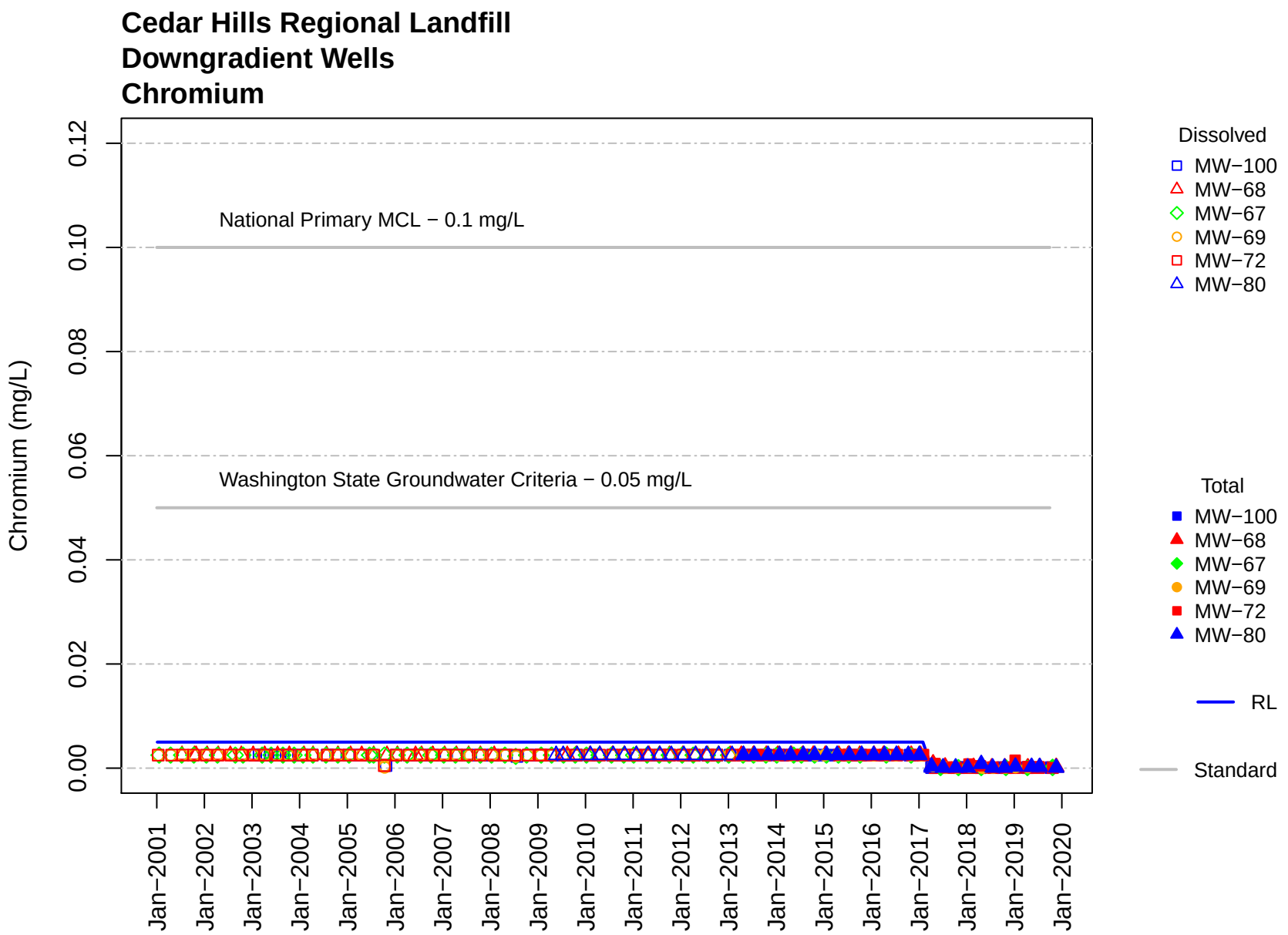

Cedar Hills Regional Landfill
Upgradient and Crossgradient Wells
Cobalt
Cobalt (mg/L)
0.000
0.001
0.002
0.003
0.004
0.005
0.006
0.007
Jan−2001
Jan−2002
Jan−2003
Jan−2004
Jan−2005
Jan−2006
Jan−2007
Jan−2008
Jan−2009
Jan−2010
Jan−2011
Jan−2012
Jan−2013
Jan−2014
Jan−2015
Jan−2016
Jan−2017
Jan−2018
Jan−2019
Jan−2020
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

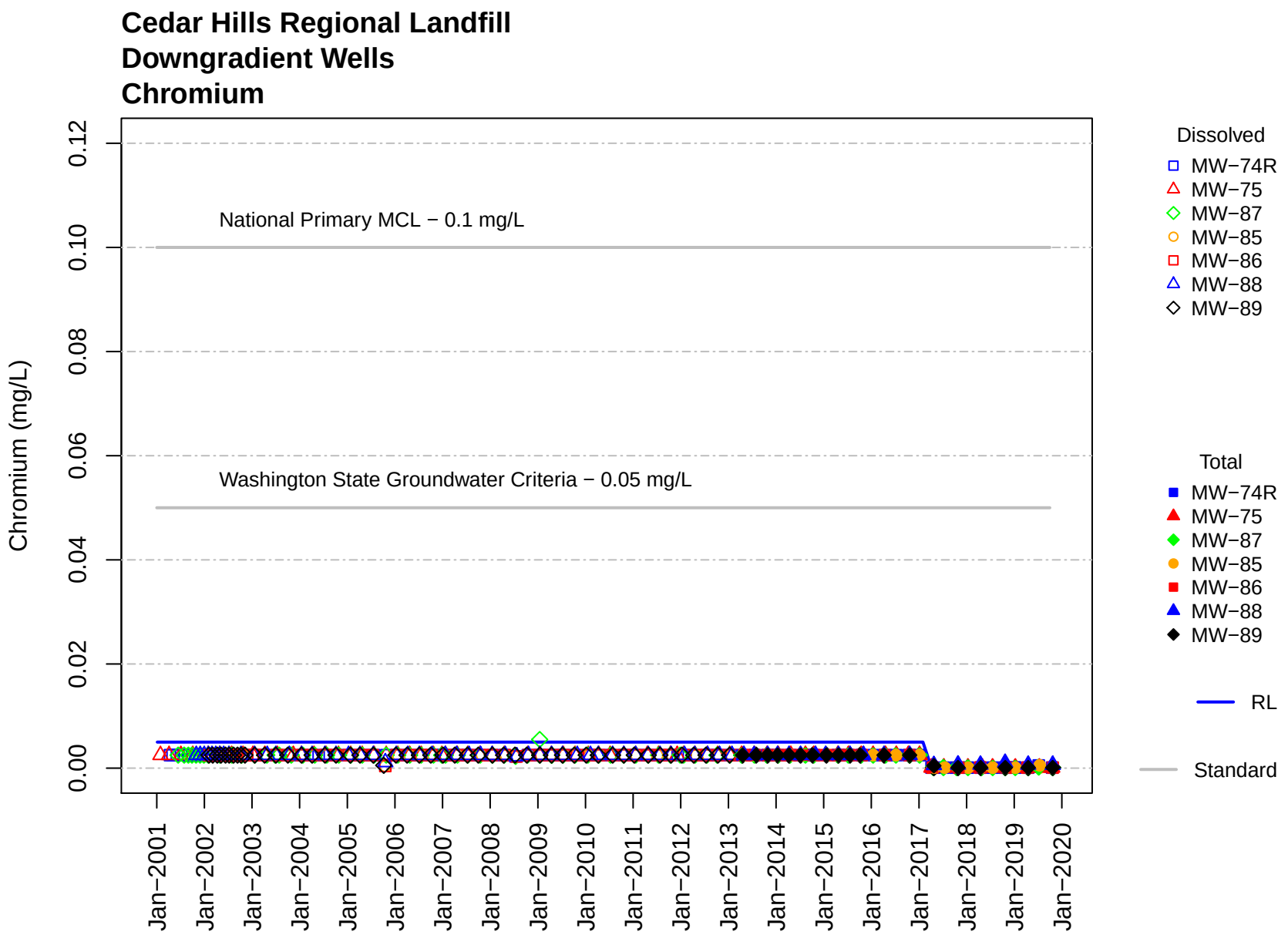

Cedar Hills Regional Landfill
Downgradient Wells
Cobalt
Cobalt (mg/L)
0.000
0.001
0.002
0.003
0.004
0.005
0.006
0.007
Jan−2001
Jan−2002
Jan−2003
Jan−2004
Jan−2005
Jan−2006
Jan−2007
Jan−2008
Jan−2009
Jan−2010
Jan−2011
Jan−2012
Jan−2013
Jan−2014
Jan−2015
Jan−2016
Jan−2017
Jan−2018
Jan−2019
Jan−2020
Dissolved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

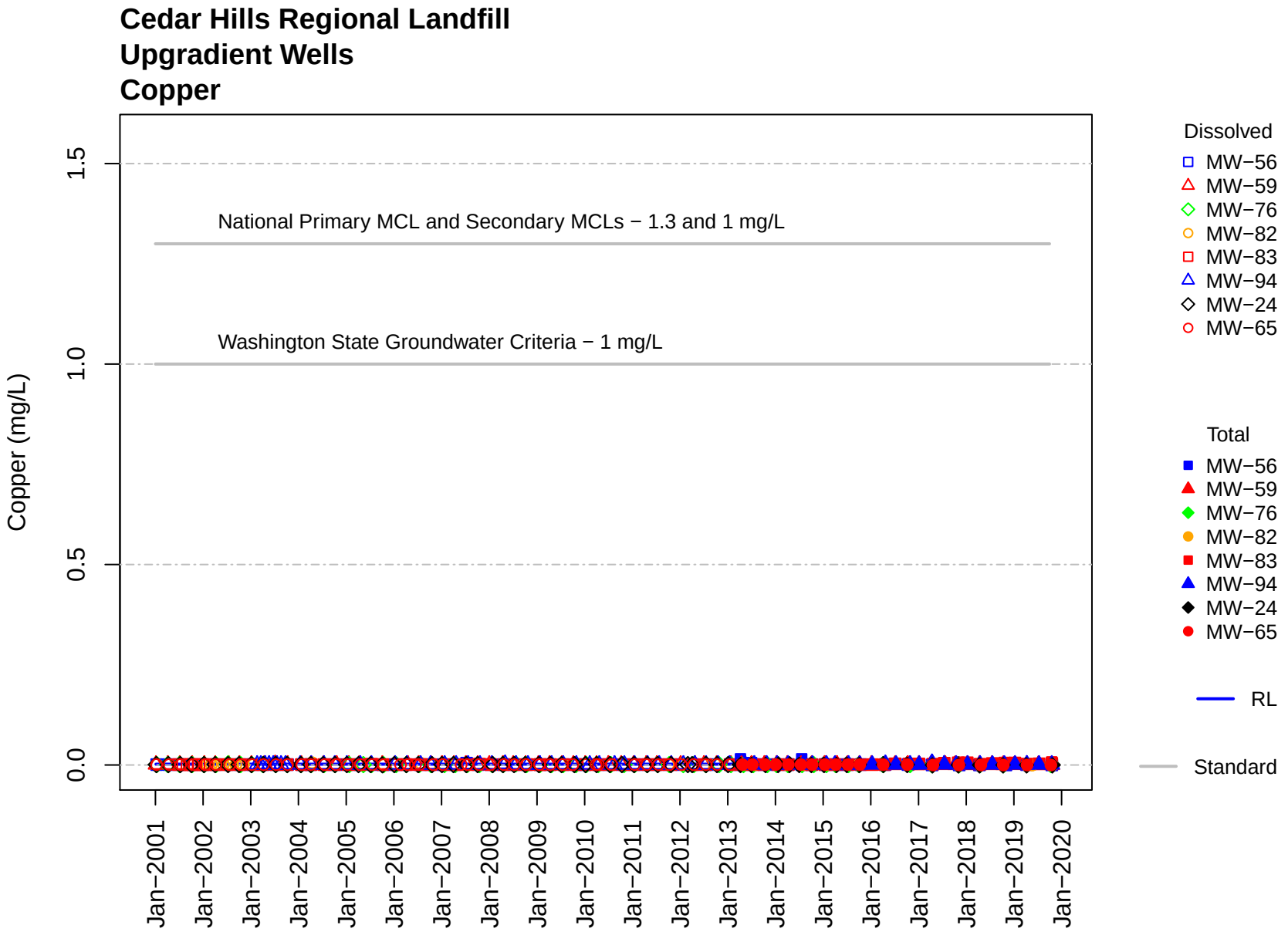

Cedar Hills Regional Landfill
Downgradient Wells
Cobalt
Cobalt (mg/L)
0.000
0.001
0.002
0.003
0.004
0.005
0.006
0.007
Jan−2001
Jan−2002
Jan−2003
Jan−2004
Jan−2005
Jan−2006
Jan−2007
Jan−2008
Jan−2009
Jan−2010
Jan−2011
Jan−2012
Jan−2013
Jan−2014
Jan−2015
Jan−2016
Jan−2017
Jan−2018
Jan−2019
Jan−2020
Dissolved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

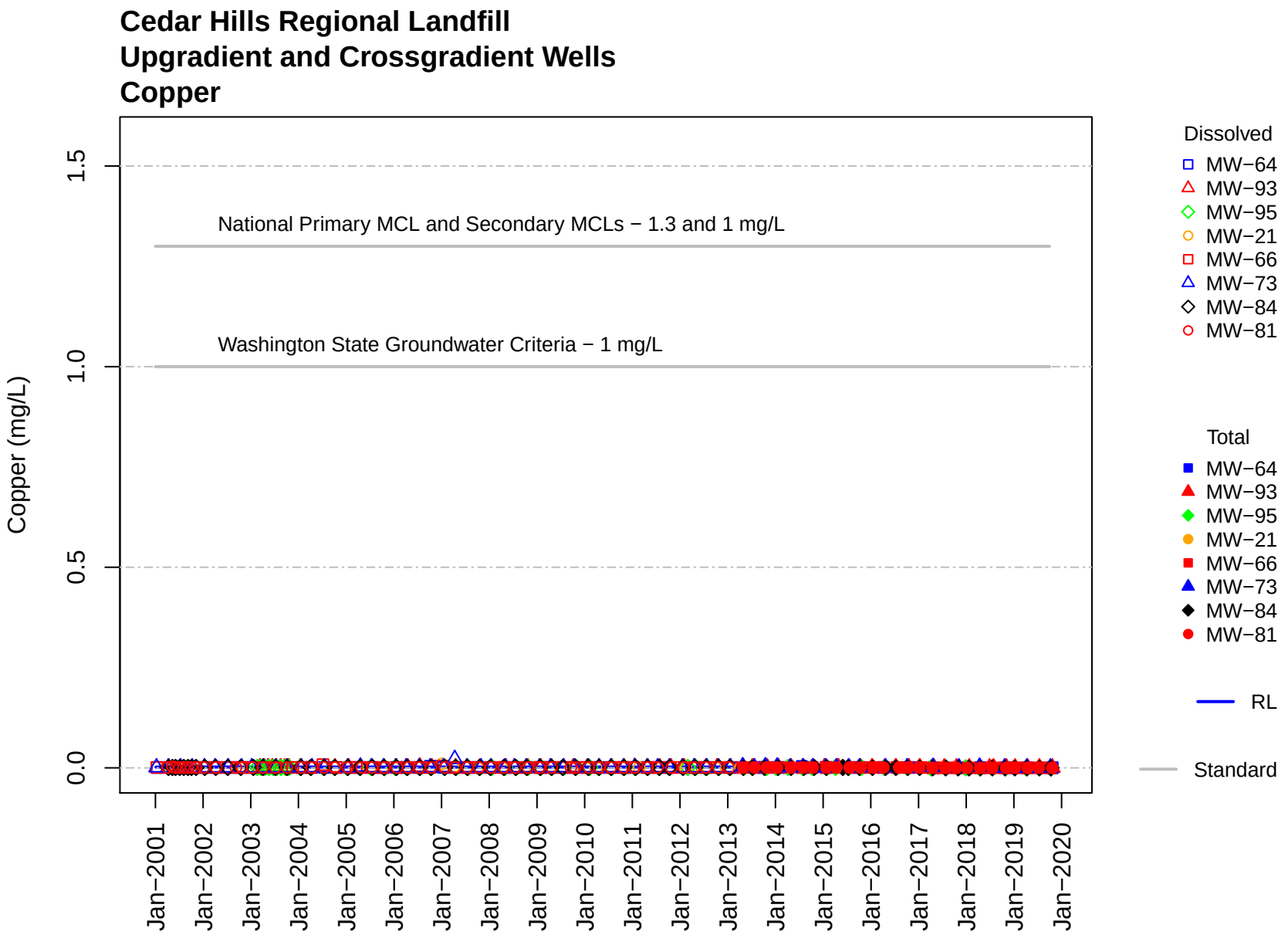

Cedar Hills Regional Landfill
Upgradient Wells
Chromium
Chromium (mg/L)
0.00
0.02
0.04
0.06
0.08
0.10
0.12
National Primary MCL − 0.1 mg/L
Washington State Groundwater Criteria − 0.05 mg/L
Jan−2001
Jan−2002
Jan−2003
Jan−2004
Jan−2005
Jan−2006
Jan−2007
Jan−2008
Jan−2009
Jan−2010
Jan−2011
Jan−2012
Jan−2013
Jan−2014
Jan−2015
Jan−2016
Jan−2017
Jan−2018
Jan−2019
Jan−2020
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

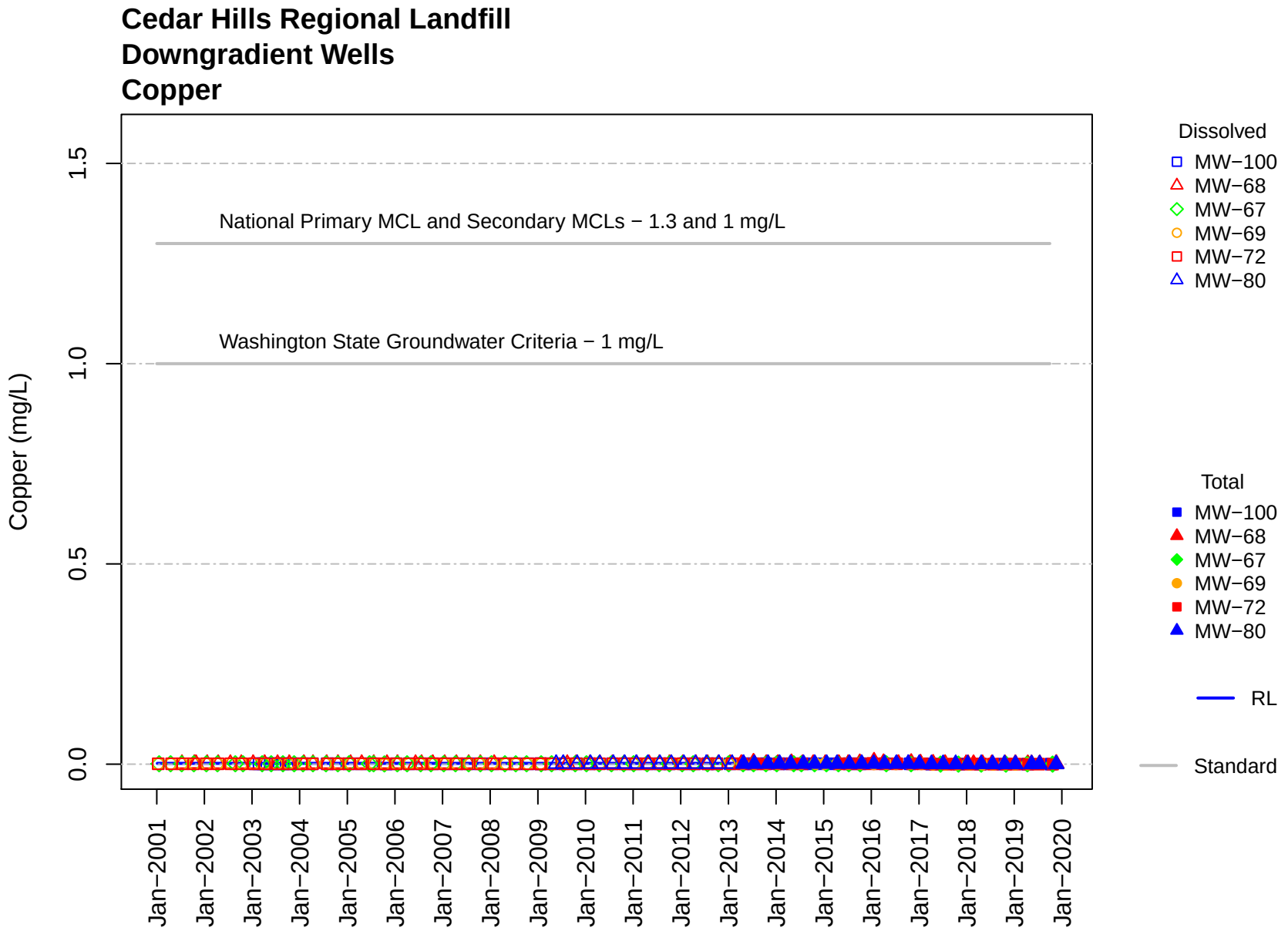

Cedar Hills Regional Landfill
Upgradient and Crossgradient Wells
Chromium
Chromium (mg/L)
0.00
0.02
0.04
0.06
0.08
0.10
0.12
National Primary MCL − 0.1 mg/L
Washington State Groundwater Criteria − 0.05 mg/L
Jan−2001
Jan−2002
Jan−2003
Jan−2004
Jan−2005
Jan−2006
Jan−2007
Jan−2008
Jan−2009
Jan−2010
Jan−2011
Jan−2012
Jan−2013
Jan−2014
Jan−2015
Jan−2016
Jan−2017
Jan−2018
Jan−2019
Jan−2020
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

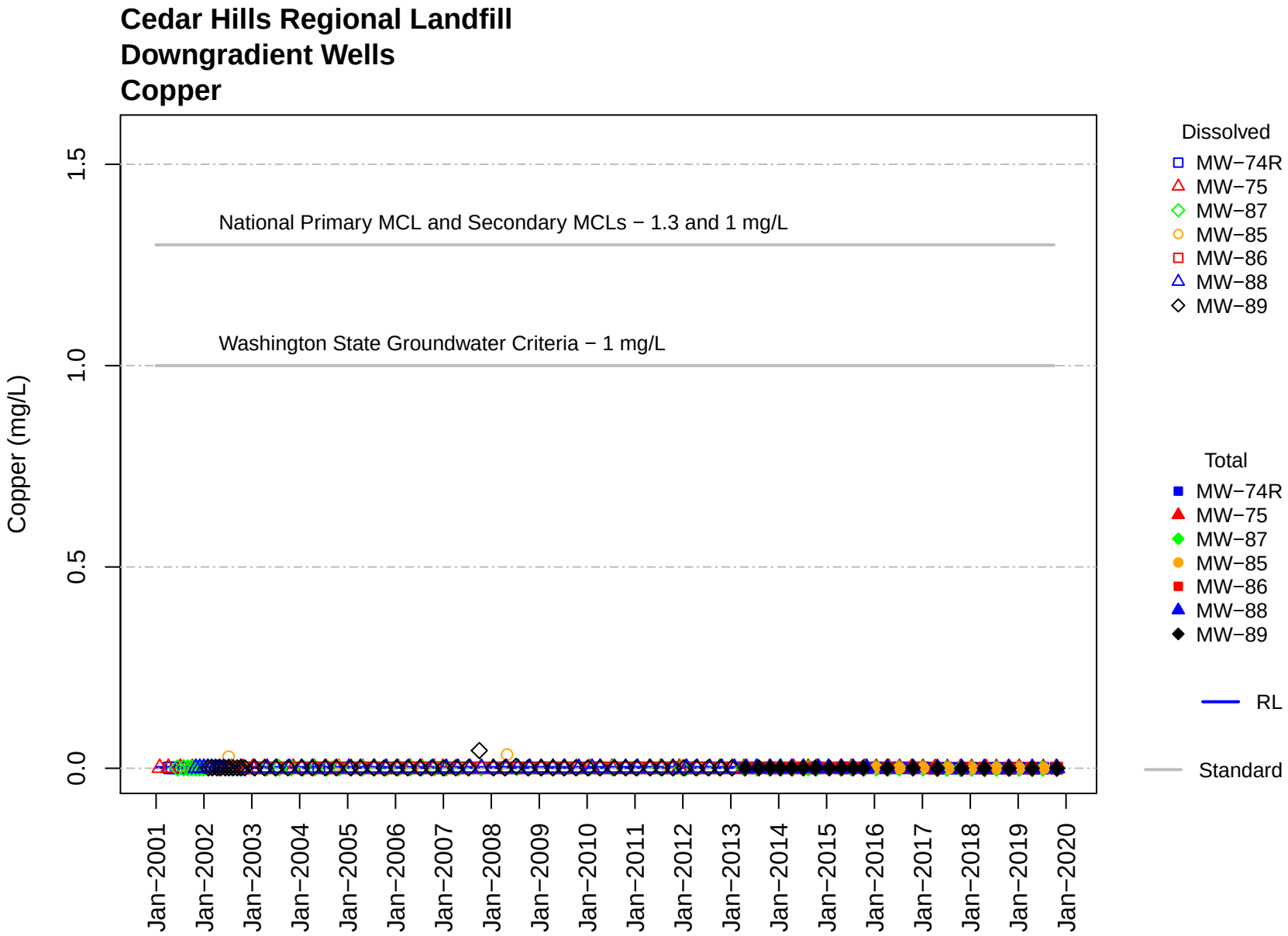

Cedar Hills Regional Landfill
Downgradient Wells
Chromium
Chromium (mg/L)
0.00
0.02
0.04
0.06
0.08
0.10
0.12
National Primary MCL − 0.1 mg/L
Washington State Groundwater Criteria − 0.05 mg/L
Jan−2001
Jan−2002
Jan−2003
Jan−2004
Jan−2005
Jan−2006
Jan−2007
Jan−2008
Jan−2009
Jan−2010
Jan−2011
Jan−2012
Jan−2013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

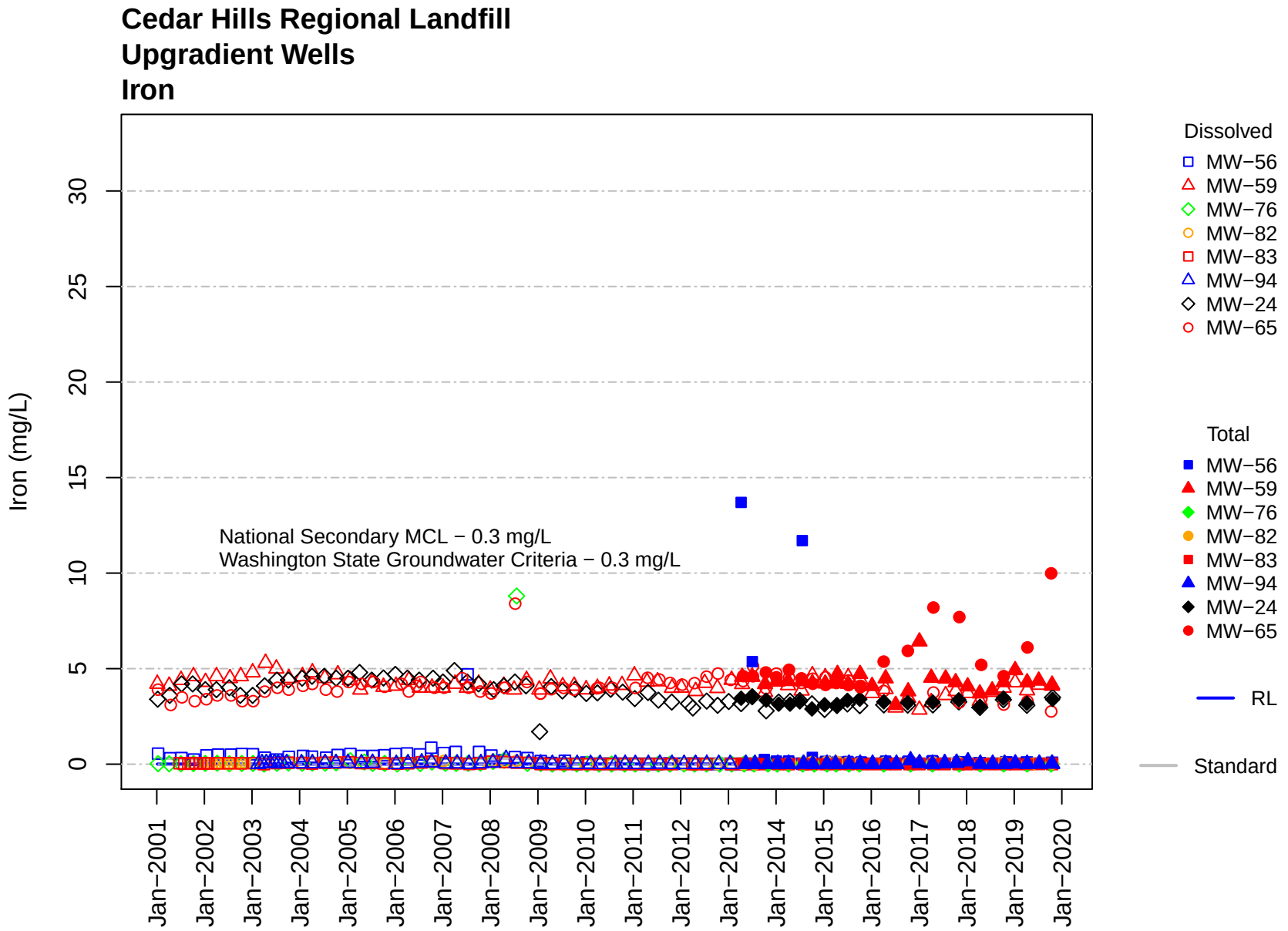

Cedar Hills Regional Landfill
Downgradient Wells
Chromium
Chromium (mg/L)
0.00
0.02
0.04
0.06
0.08
0.10
0.12
National Primary MCL − 0.1 mg/L
Washington State Groundwater Criteria − 0.05 mg/L
Jan−2001
Jan−2002
Jan−2003
Jan−2004
Jan−2005
Jan−2006
Jan−2007
Jan−2008
Jan−2009
Jan−2010
Jan−2011
Jan−2012
Jan−2013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

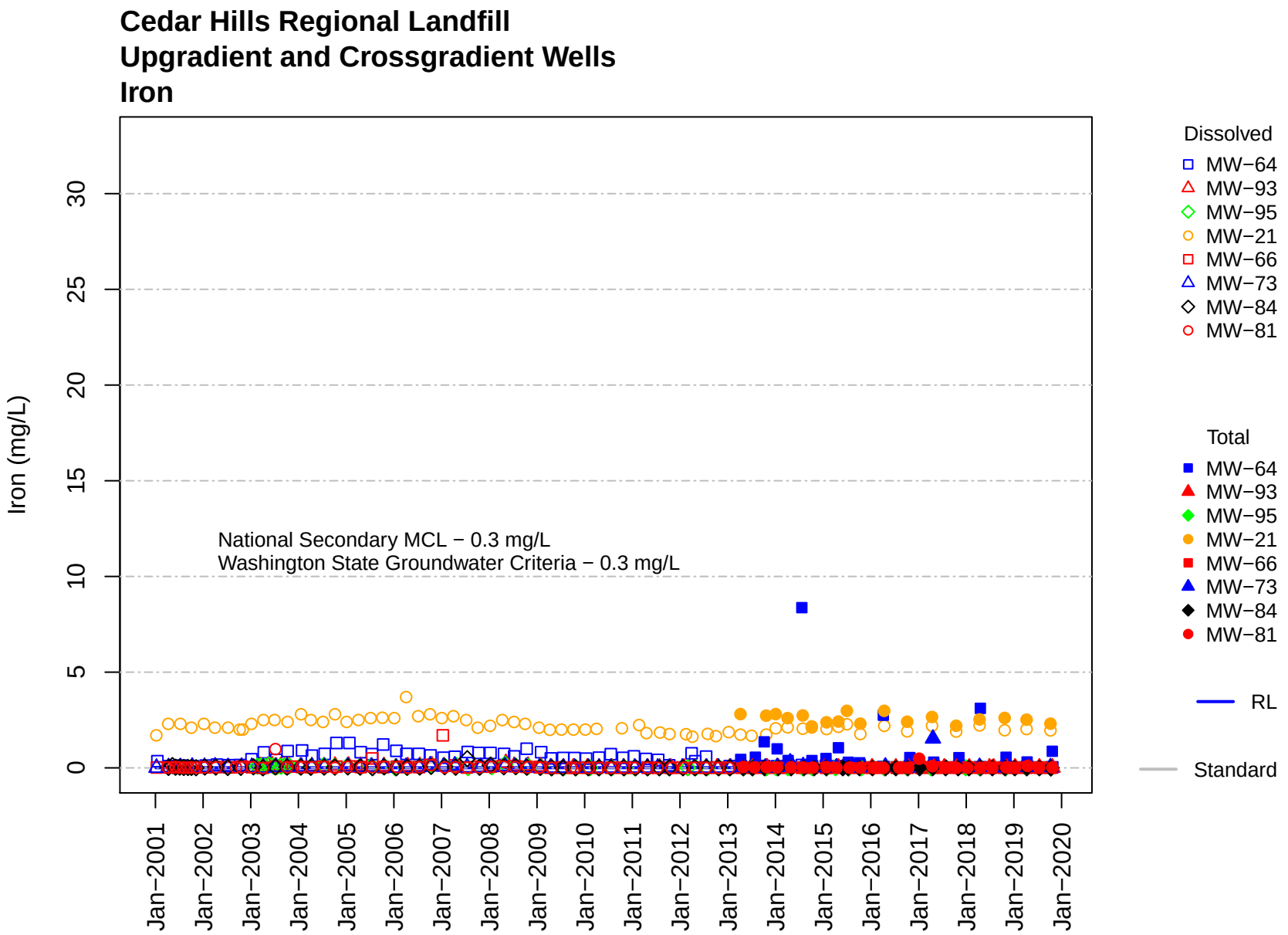

Cedar Hills Regional Landfill
Upgradient Wells
Copper
Copper (mg/L)
0.0
0.5
1.0
1.5
National Primary MCL and Secondary MCLs − 1.3 and 1 mg/L
Washington State Groundwater Criteria − 1 mg/L
Jan−2001
Jan−2002
Jan−2003
Jan−2004
Jan−2005
Jan−2006
Jan−2007
Jan−2008
Jan−2009
Jan−2010
Jan−2011
Jan−2012
Jan−2013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

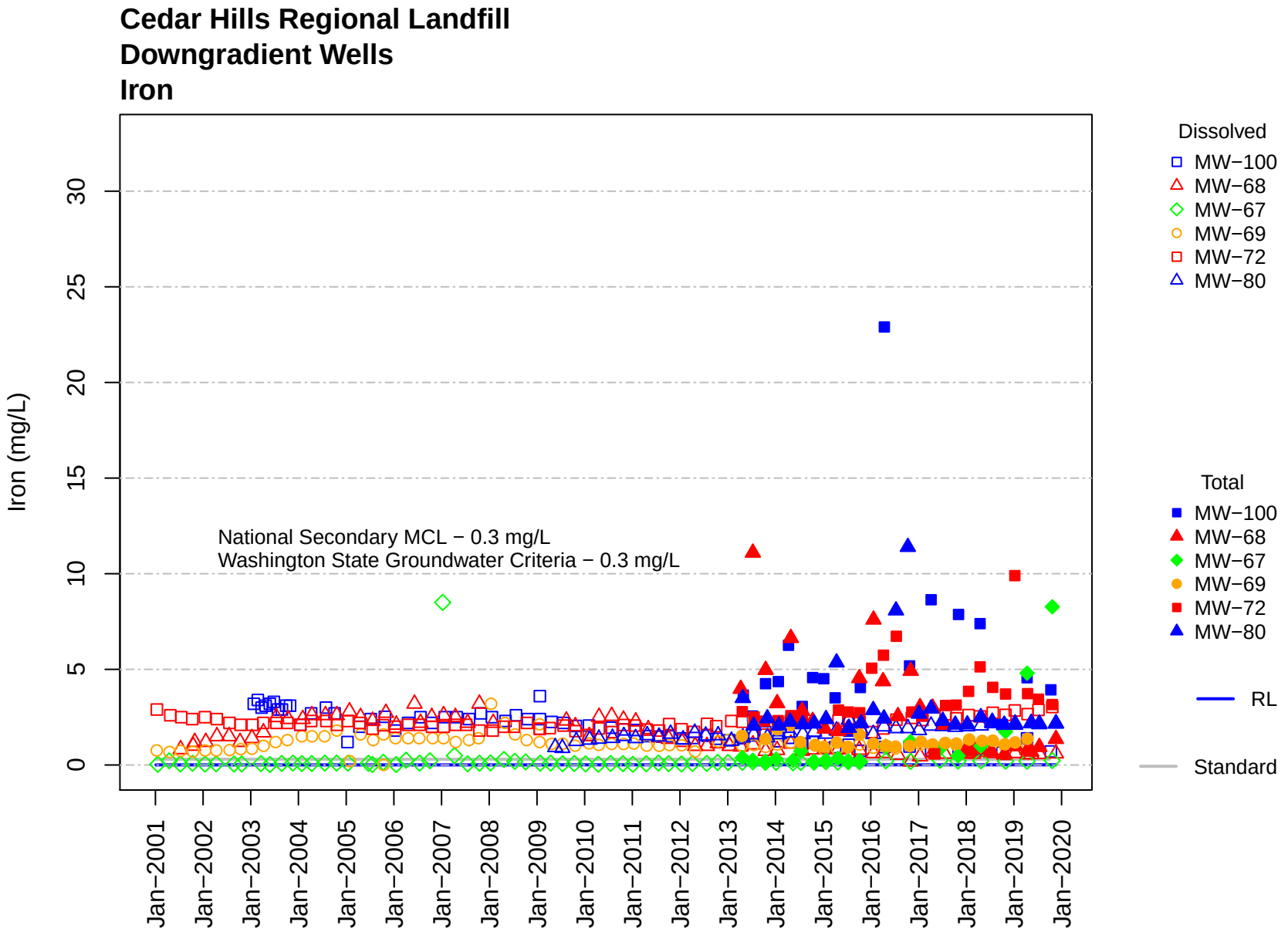

Cedar Hills Regional Landfill
Upgradient and Crossgradient Wells
Copper
Copper (mg/L)
0.0
0.5
1.0
1.5
National Primary MCL and Secondary MCLs − 1.3 and 1 mg/L
Washington State Groundwater Criteria − 1 mg/L
Jan−2001
Jan−2002
Jan−2003
Jan−2004
Jan−2005
Jan−2006
Jan−2007
Jan−2008
Jan−2009
Jan−2010
Jan−2011
Jan−2012
Jan−2013
Jan−2014
Jan−2015
Jan−2016
Jan−2017
Jan−2018
Jan−2019
Jan−2020
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

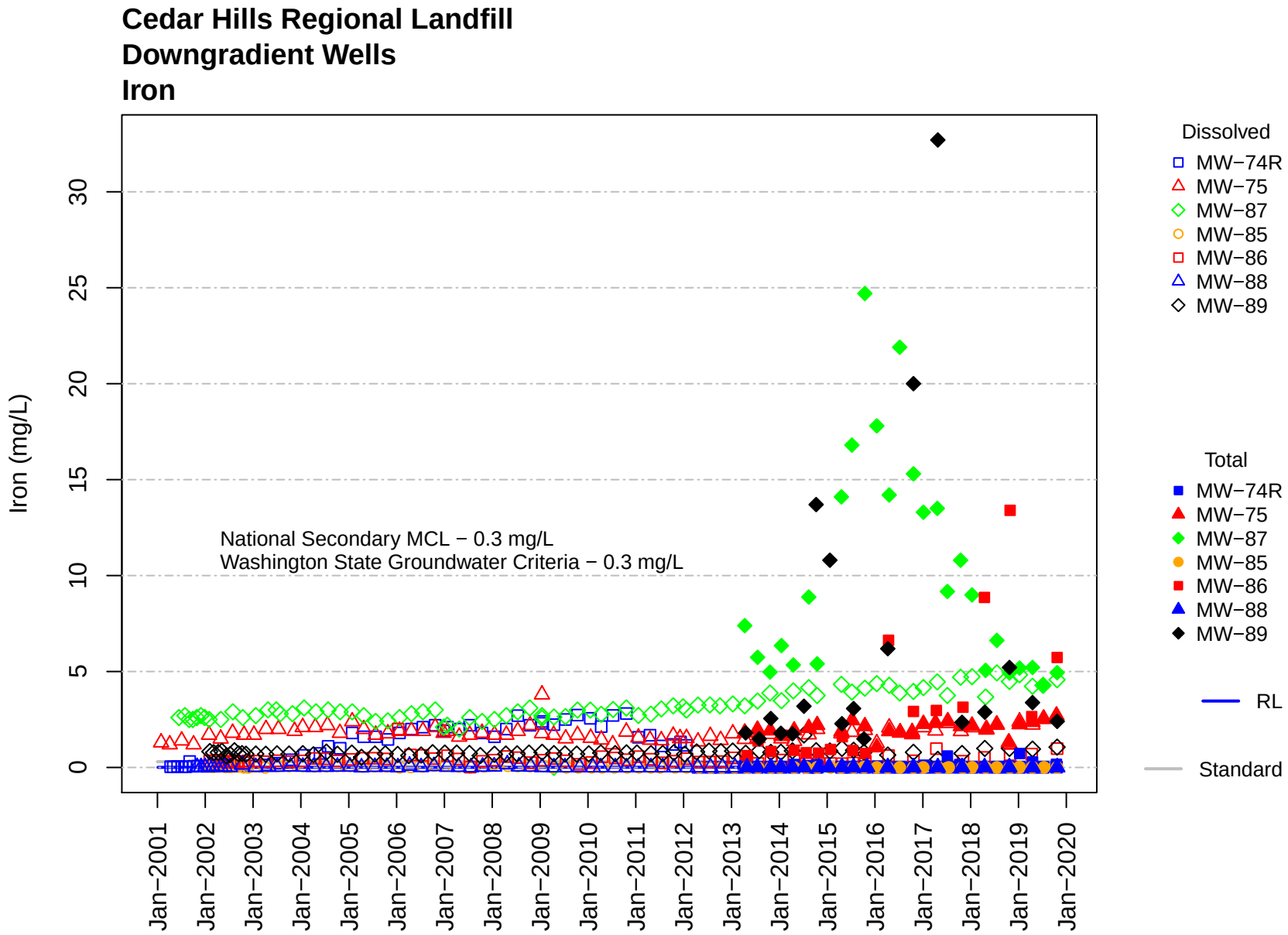

Cedar Hills Regional Landfill
Downgradient Wells
Copper
Copper (mg/L)
0.0
0.5
1.0
1.5
National Primary MCL and Secondary MCLs − 1.3 and 1 mg/L
Washington State Groundwater Criteria − 1 mg/L
Jan−2001
Jan−2002
Jan−2003
Jan−2004
Jan−2005
Jan−2006
Jan−2007
Jan−2008
Jan−2009
Jan−2010
Jan−2011
Jan−2012
Jan−2013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

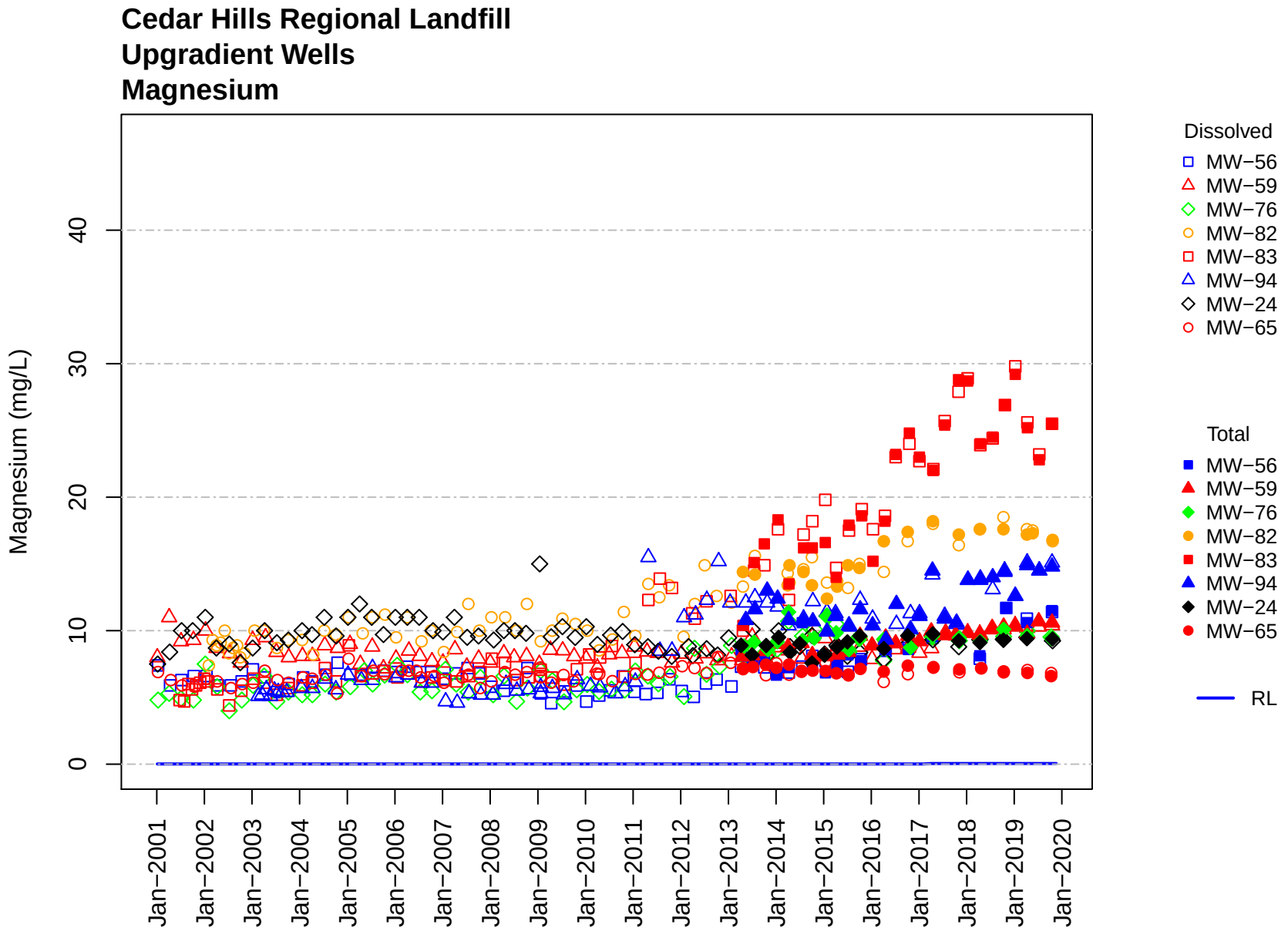

Cedar Hills Regional Landfill
Downgradient Wells
Copper
Copper (mg/L)
0.0
0.5
1.0
1.5
National Primary MCL and Secondary MCLs − 1.3 and 1 mg/L
Washington State Groundwater Criteria − 1 mg/L
Jan−2001
Jan−2002
Jan−2003
Jan−2004
Jan−2005
Jan−2006
Jan−2007
Jan−2008
Jan−2009
Jan−2010
Jan−2011
Jan−2012
Jan−2013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

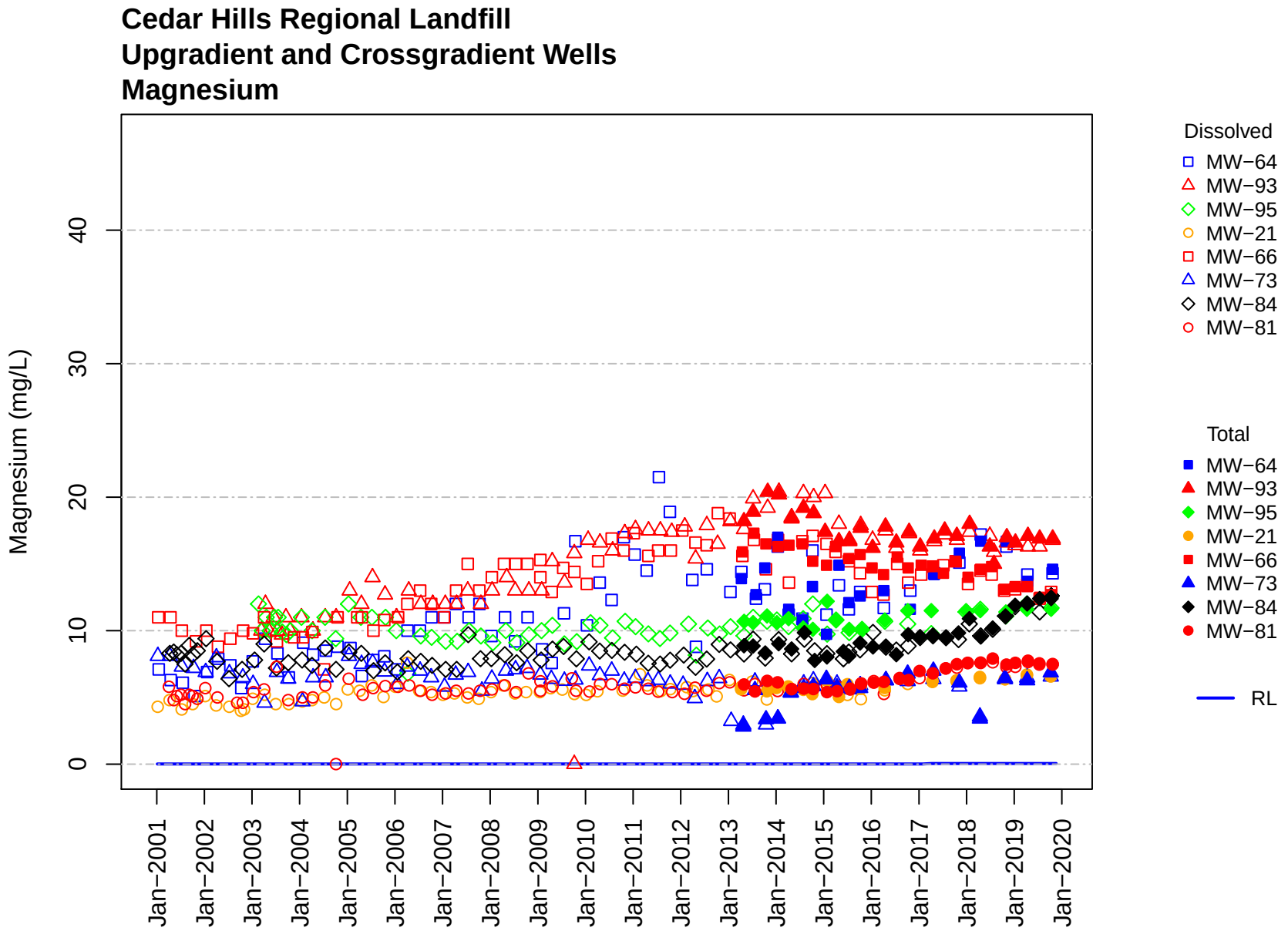

Cedar Hills Regional Landfill
Upgradient Wells
Iron
Iron (mg/L)
0
5
10
15
20
25
30
National Secondary MCL − 0.3 mg/L
Washington State Groundwater Criteria − 0.3 mg/L
Jan−2001
Jan−2002
Jan−2003
Jan−2004
Jan−2005
Jan−2006
Jan−2007
Jan−2008
Jan−2009
Jan−2010
Jan−2011
Jan−2012
Jan−2013
Jan−2014
Jan−2015
Jan−2016
Jan−2017
Jan−2018
Jan−2019
Jan−2020
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

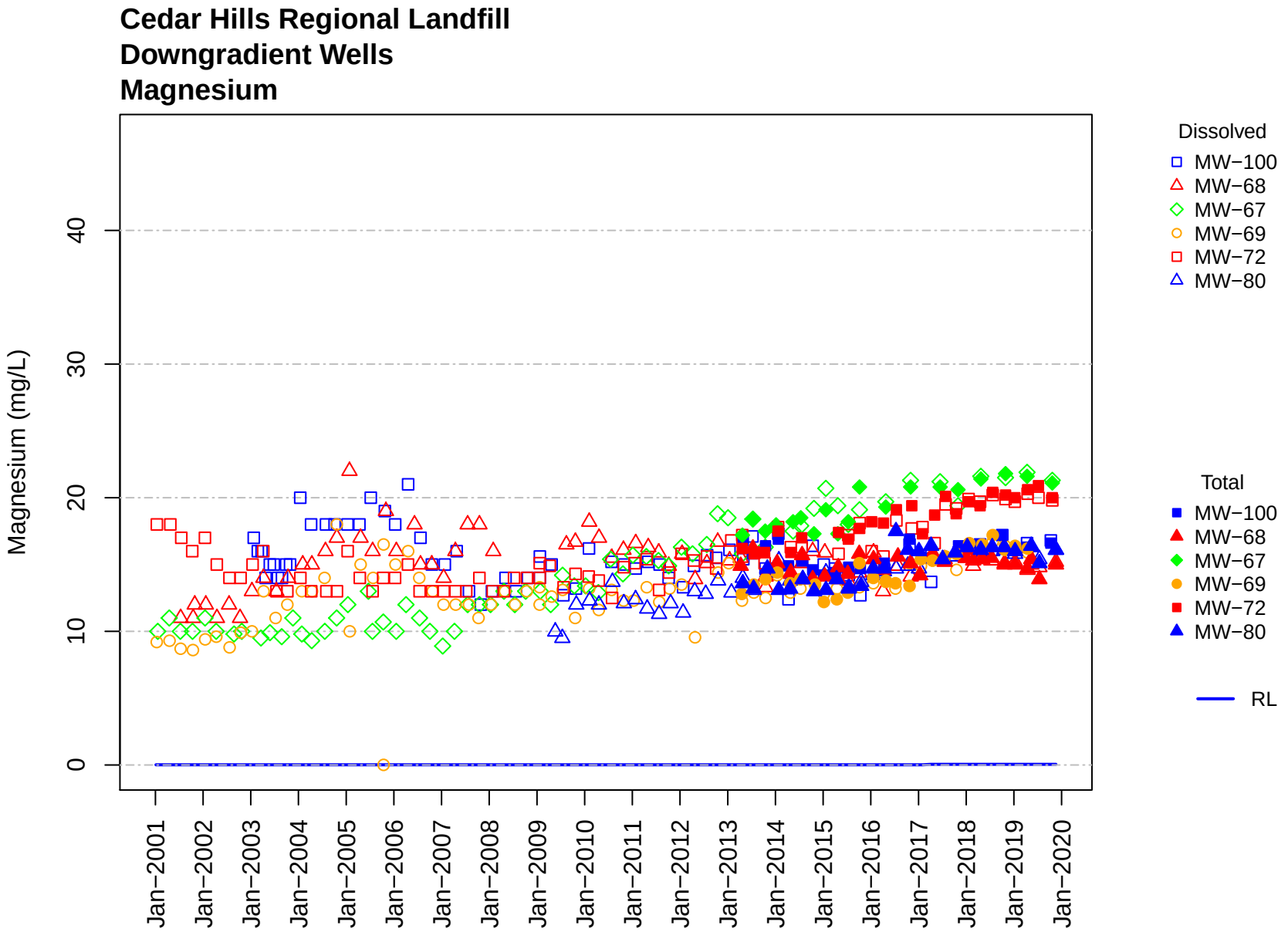

Cedar Hills Regional Landfill
Upgradient and Crossgradient Wells
Iron
Iron (mg/L)
0
5
10
15
20
25
30
National Secondary MCL − 0.3 mg/L
Washington State Groundwater Criteria − 0.3 mg/L
Jan−2001
Jan−2002
Jan−2003
Jan−2004
Jan−2005
Jan−2006
Jan−2007
Jan−2008
Jan−2009
Jan−2010
Jan−2011
Jan−2012
Jan−2013
Jan−2014
Jan−2015
Jan−2016
Jan−2017
Jan−2018
Jan−2019
Jan−2020
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

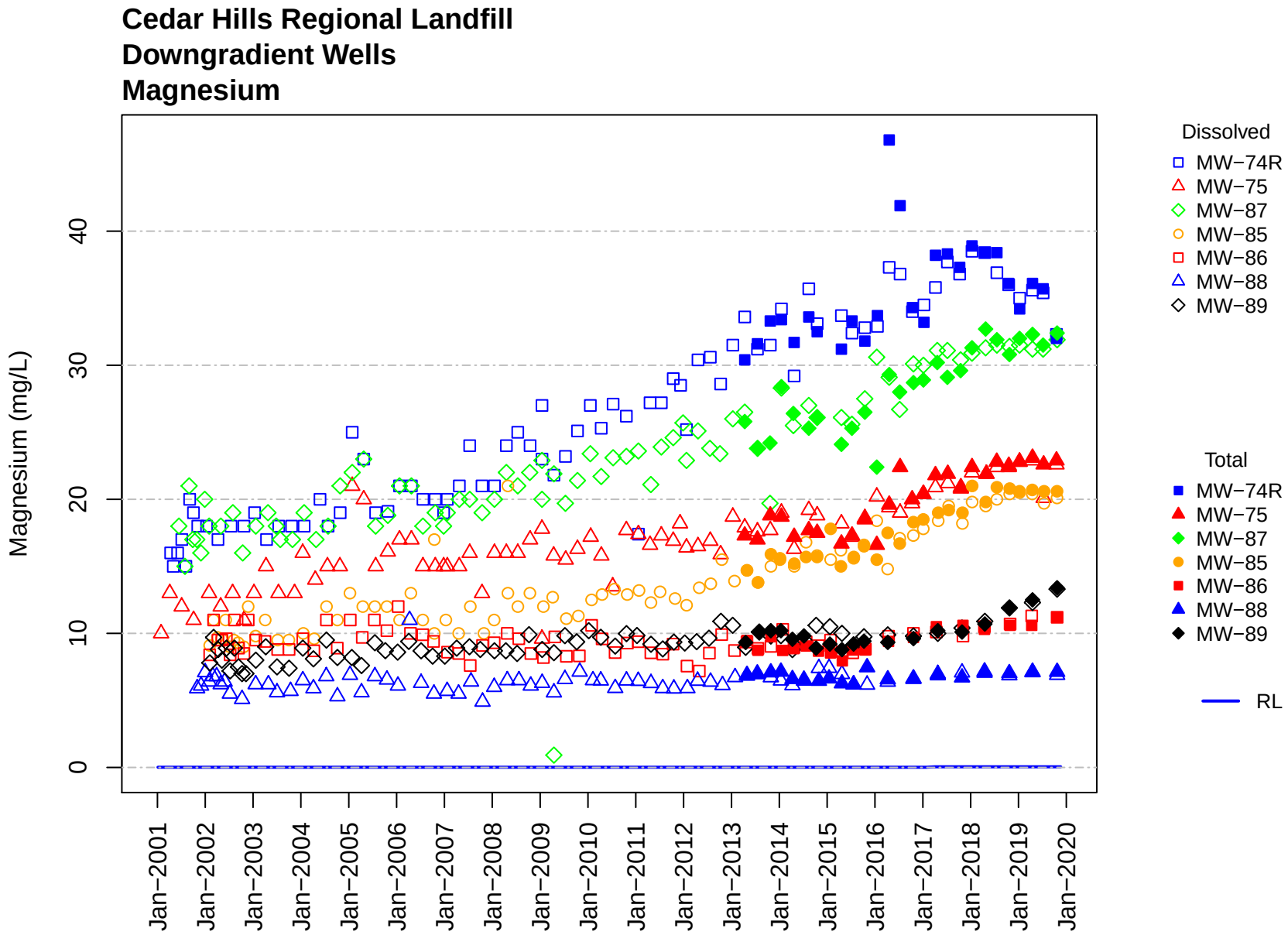

Cedar Hills Regional Landfill
Downgradient Wells
Iron
Iron (mg/L)
0
5
10
15
20
25
30
National Secondary MCL − 0.3 mg/L
Washington State Groundwater Criteria − 0.3 mg/L
Jan−2001
Jan−2002
Jan−2003
Jan−2004
Jan−2005
Jan−2006
Jan−2007
Jan−2008
Jan−2009
Jan−2010
Jan−2011
Jan−2012
Jan−2013
Jan−2014
Jan−2015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

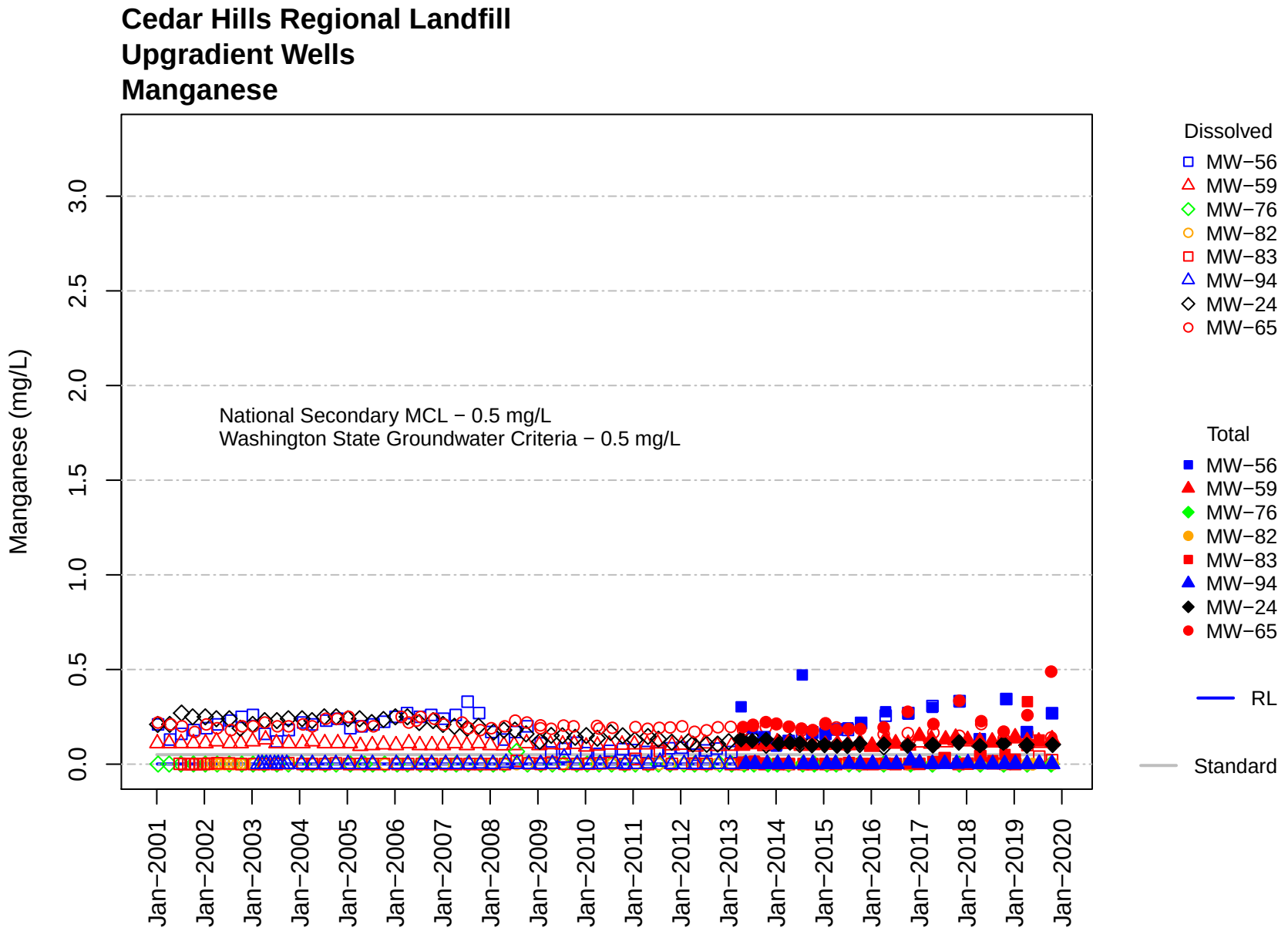

Cedar Hills Regional Landfill
Downgradient Wells
Iron
Iron (mg/L)
0
5
10
15
20
25
30
National Secondary MCL − 0.3 mg/L
Washington State Groundwater Criteria − 0.3 mg/L
Jan−2001
Jan−2002
Jan−2003
Jan−2004
Jan−2005
Jan−2006
Jan−2007
Jan−2008
Jan−2009
Jan−2010
Jan−2011
Jan−2012
Jan−2013
Jan−2014
Jan−2015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

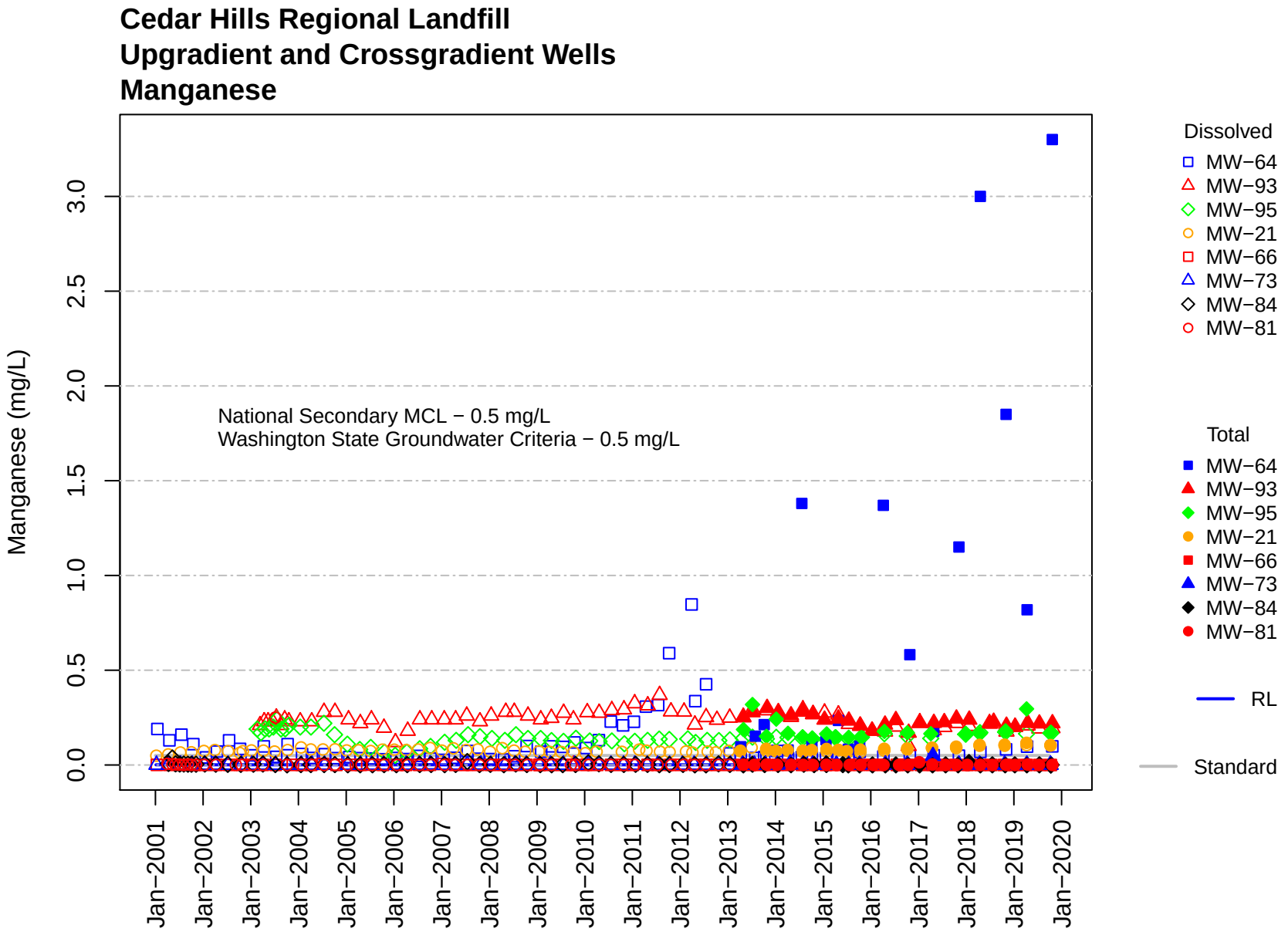

Cedar Hills Regional Landfill
Upgradient Wells
Magnesium
Magnesium (mg/L)
0
10
20
30
40
Jan−2001
Jan−2002
Jan−2003
Jan−2004
Jan−2005
Jan−2006
Jan−2007
Jan−2008
Jan−2009
Jan−2010
Jan−2011
Jan−2012
Jan−2013
Jan−2014
Jan−2015
Jan−2016
Jan−2017
Jan−2018
Jan−2019
Jan−2020
Dissolved
MW−56
MW−59
MW−76
MW−82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

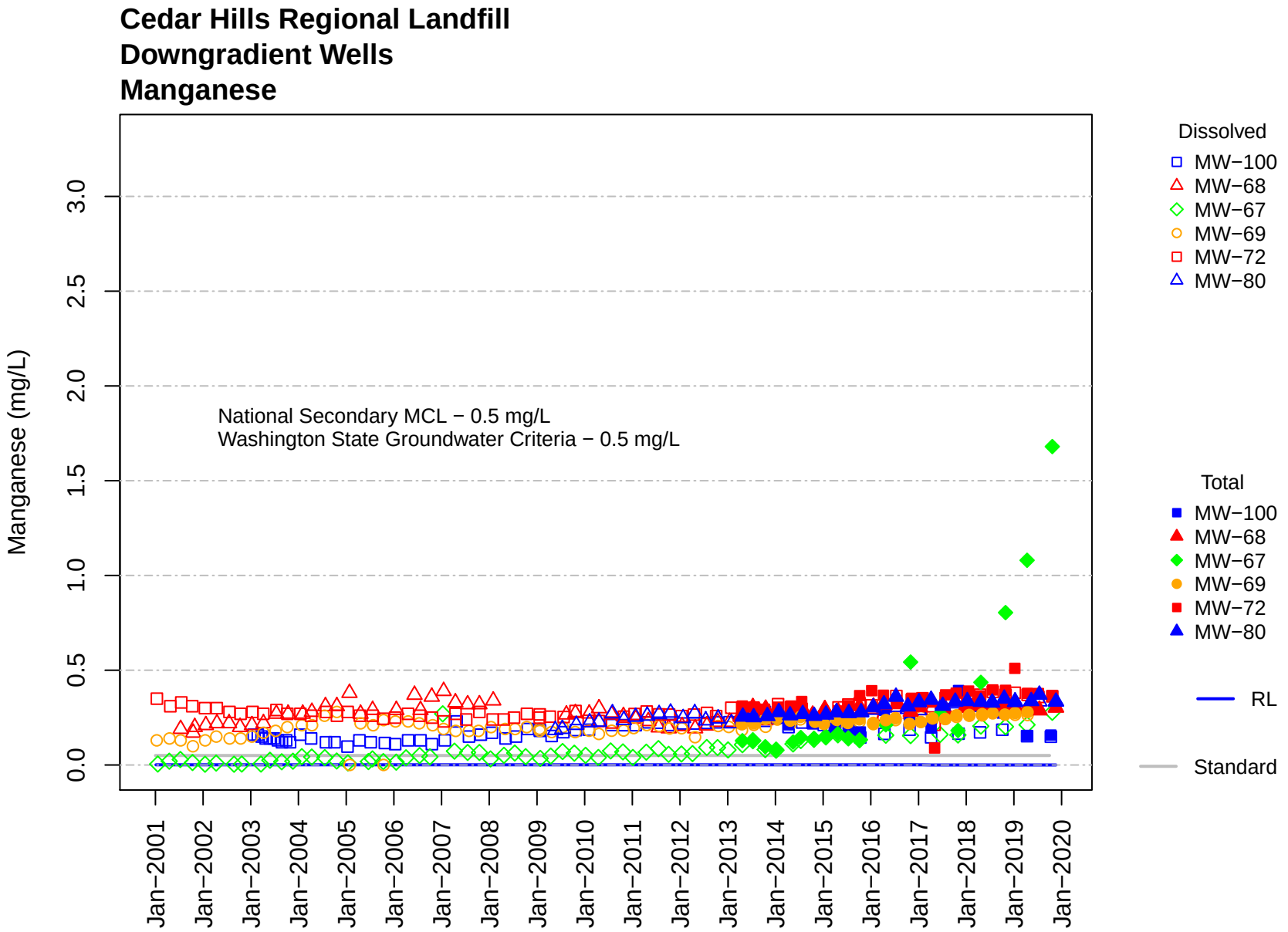

Cedar Hills Regional Landfill
Upgradient and Crossgradient Wells
Magnesium
Magnesium (mg/L)
0
10
20
30
40
Jan−2001
Jan−2002
Jan−2003
Jan−2004
Jan−2005
Jan−2006
Jan−2007
Jan−2008
Jan−2009
Jan−2010
Jan−2011
Jan−2012
Jan−2013
Jan−2014
Jan−2015
Jan−2016
Jan−2017
Jan−2018
Jan−2019
Jan−2020
Dissolved
MW−64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

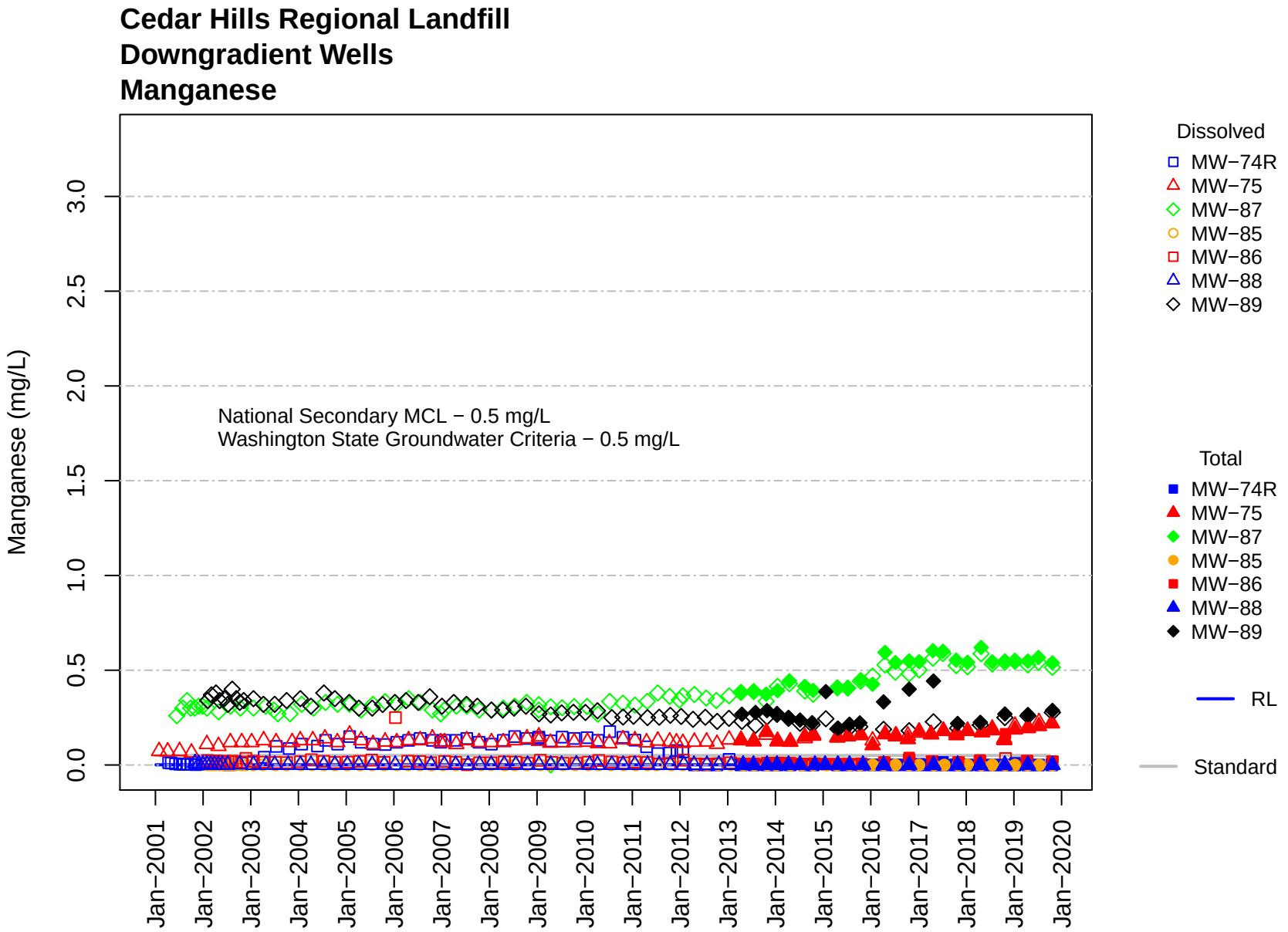

Cedar Hills Regional Landfill
Downgradient Wells
Magnesium
Magnesium (mg/L)
0
10
20
30
40
Jan−2001
Jan−2002
Jan−2003
Jan−2004
Jan−2005
Jan−2006
Jan−2007
Jan−2008
Jan−2009
Jan−2010
Jan−2011
Jan−2012
Jan−2013
Jan−2014
Jan−2015
Jan−2016
Jan−2017
Jan−2018
Jan−2019
Jan−2020
Dissolved
MW−100
MW−68
MW−67
MW−69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

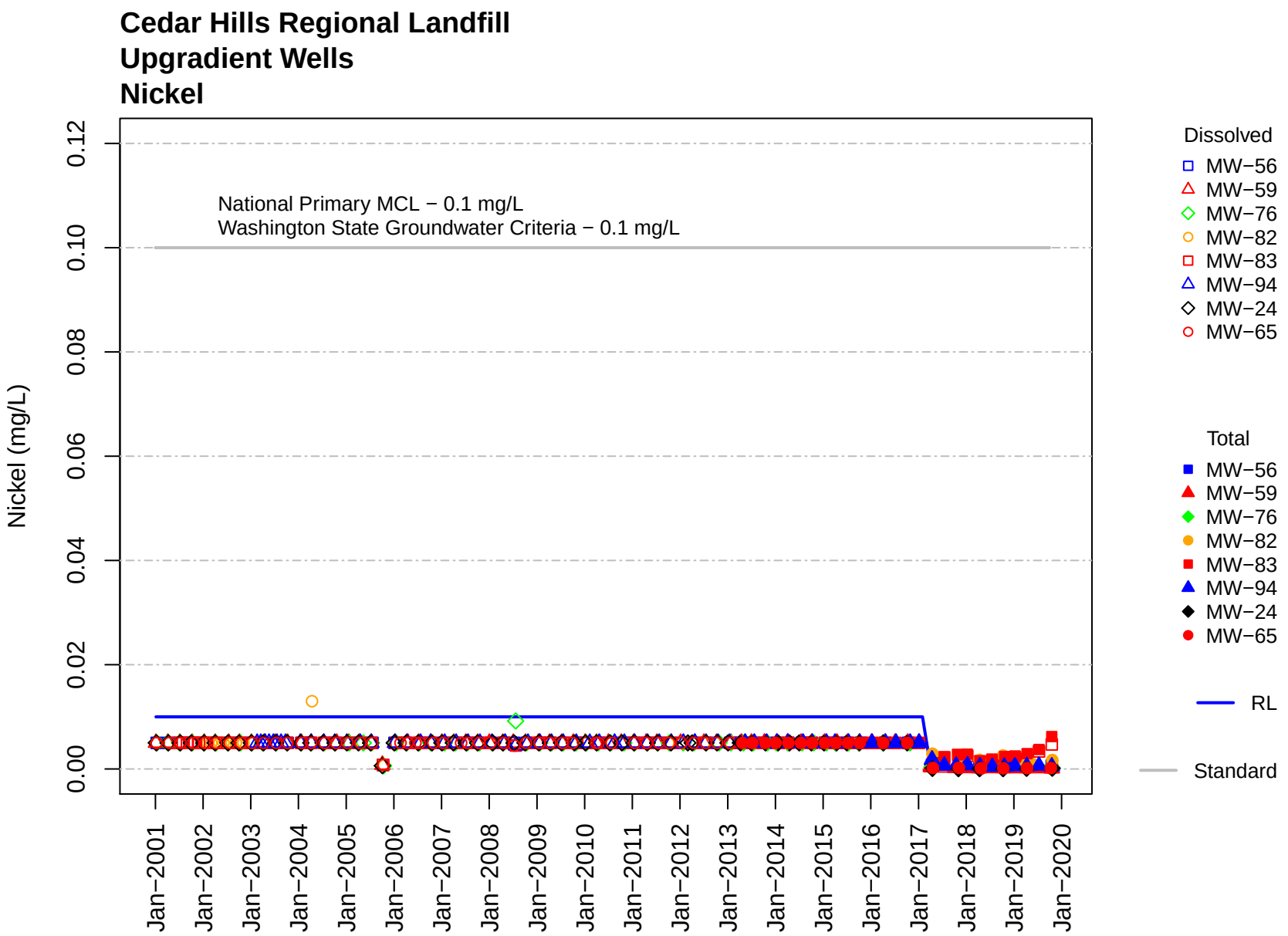

Cedar Hills Regional Landfill
Downgradient Wells
Magnesium
Magnesium (mg/L)
0
10
20
30
40
Jan−2001
Jan−2002
Jan−2003
Jan−2004
Jan−2005
Jan−2006
Jan−2007
Jan−2008
Jan−2009
Jan−2010
Jan−2011
Jan−2012
Jan−2013
Jan−2014
Jan−2015
Jan−2016
Jan−2017
Jan−2018
Jan−2019
Jan−2020
Dissolved
MW−74R
MW−75
MW−87
MW−85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

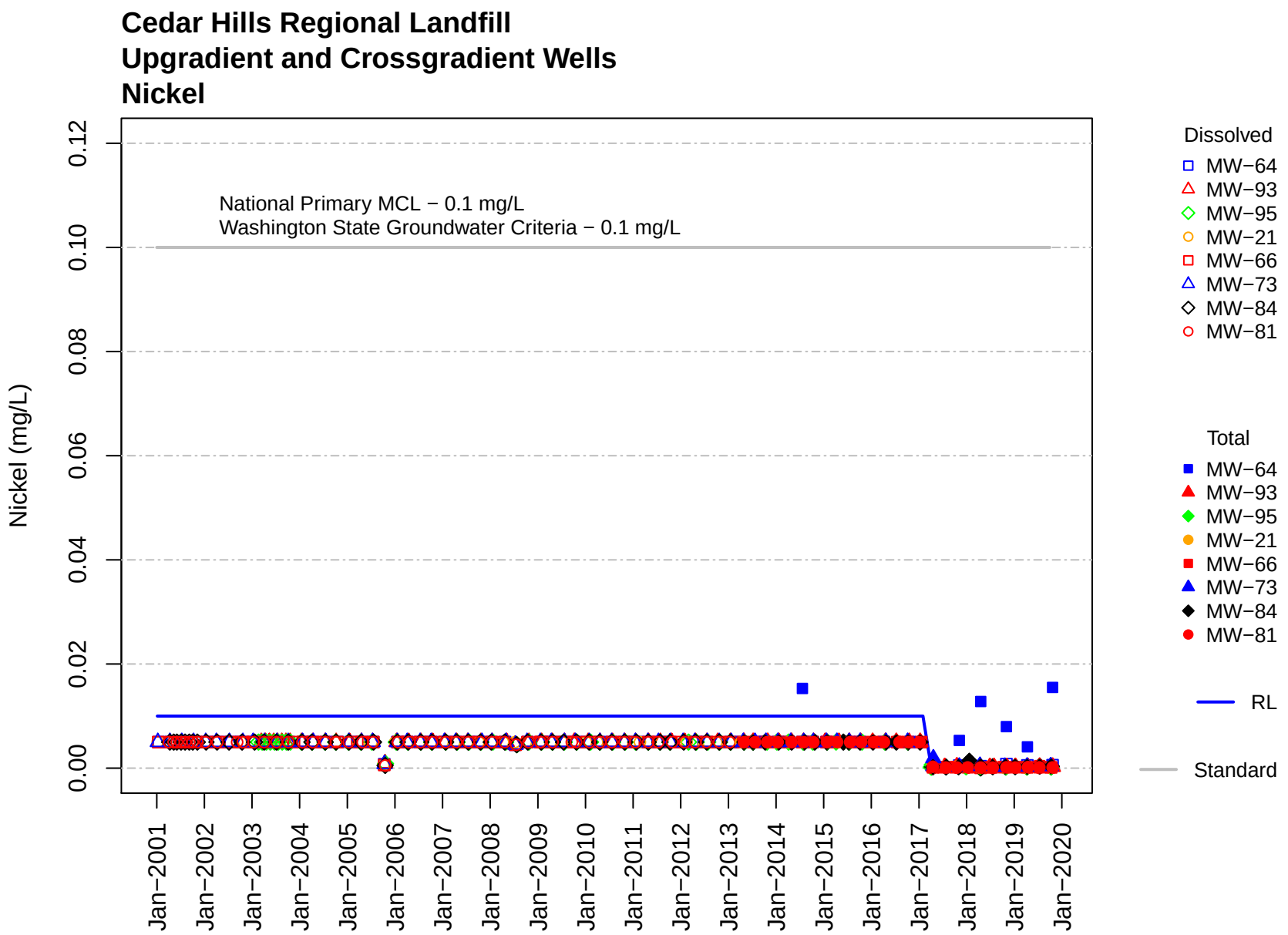

Cedar Hills Regional Landfill
Upgradient Wells
Manganese
Manganese (mg/L)
0.0
0.5
1.0
1.5
2.0
2.5
3.0
National Secondary MCL − 0.5 mg/L
Washington State Groundwater Criteria − 0.5 mg/L
Jan−2001
Jan−2002
Jan−2003
Jan−2004
Jan−2005
Jan−2006
Jan−2007
Jan−2008
Jan−2009
Jan−2010
Jan−2011
Jan−2012
Jan−2013
Jan−2014
Jan−2015
Jan−2016
Jan−2017
Jan−2018
Jan−2019
Jan−2020
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

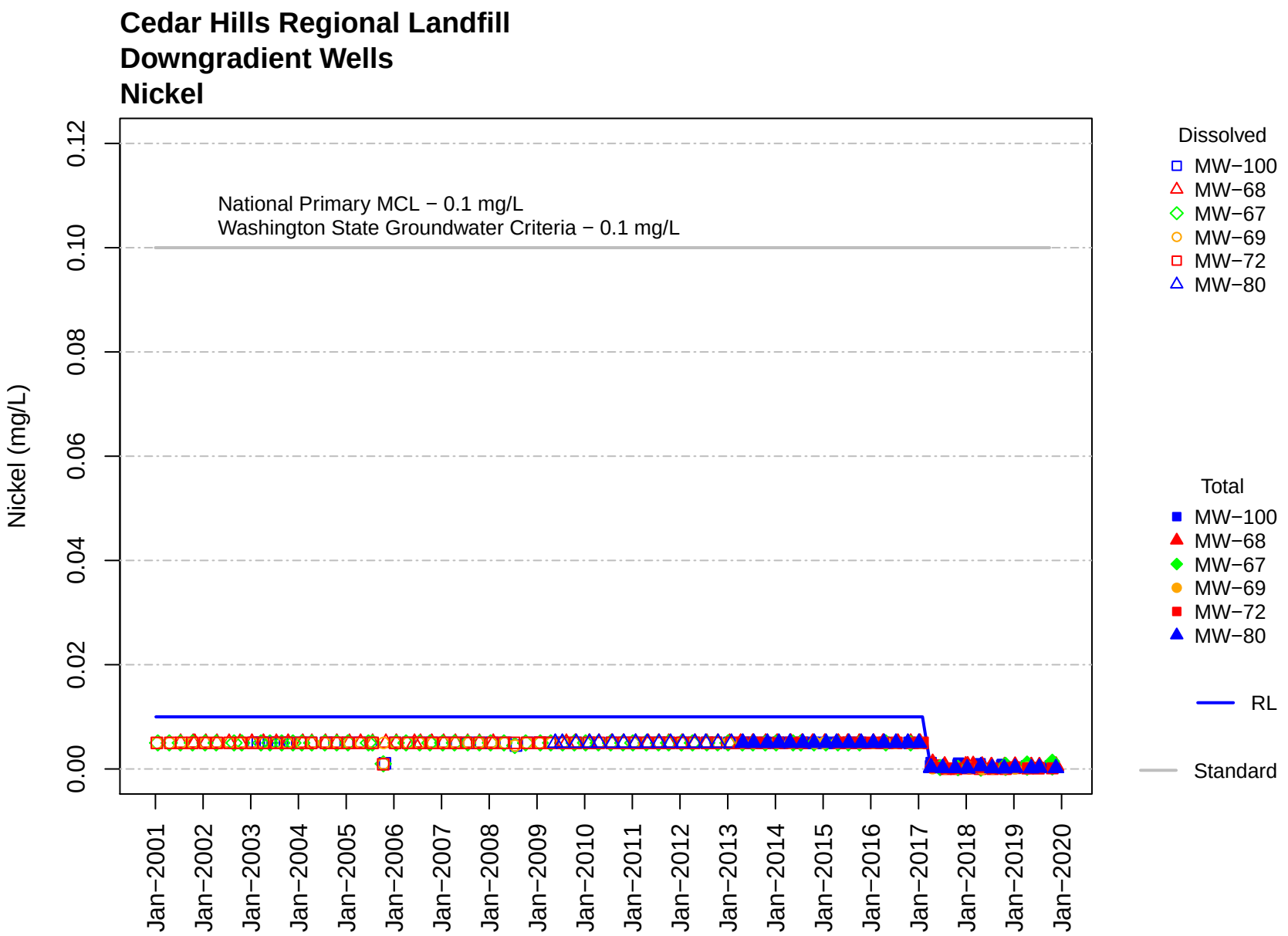

Cedar Hills Regional Landfill
Upgradient and Crossgradient Wells
Manganese
Manganese (mg/L)
0.0
0.5
1.0
1.5
2.0
2.5
3.0
National Secondary MCL − 0.5 mg/L
Washington State Groundwater Criteria − 0.5 mg/L
Jan−2001
Jan−2002
Jan−2003
Jan−2004
Jan−2005
Jan−2006
Jan−2007
Jan−2008
Jan−2009
Jan−2010
Jan−2011
Jan−2012
Jan−2013
Jan−2014
Jan−2015
Jan−2016
Jan−2017
Jan−2018
Jan−2019
Jan−2020
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

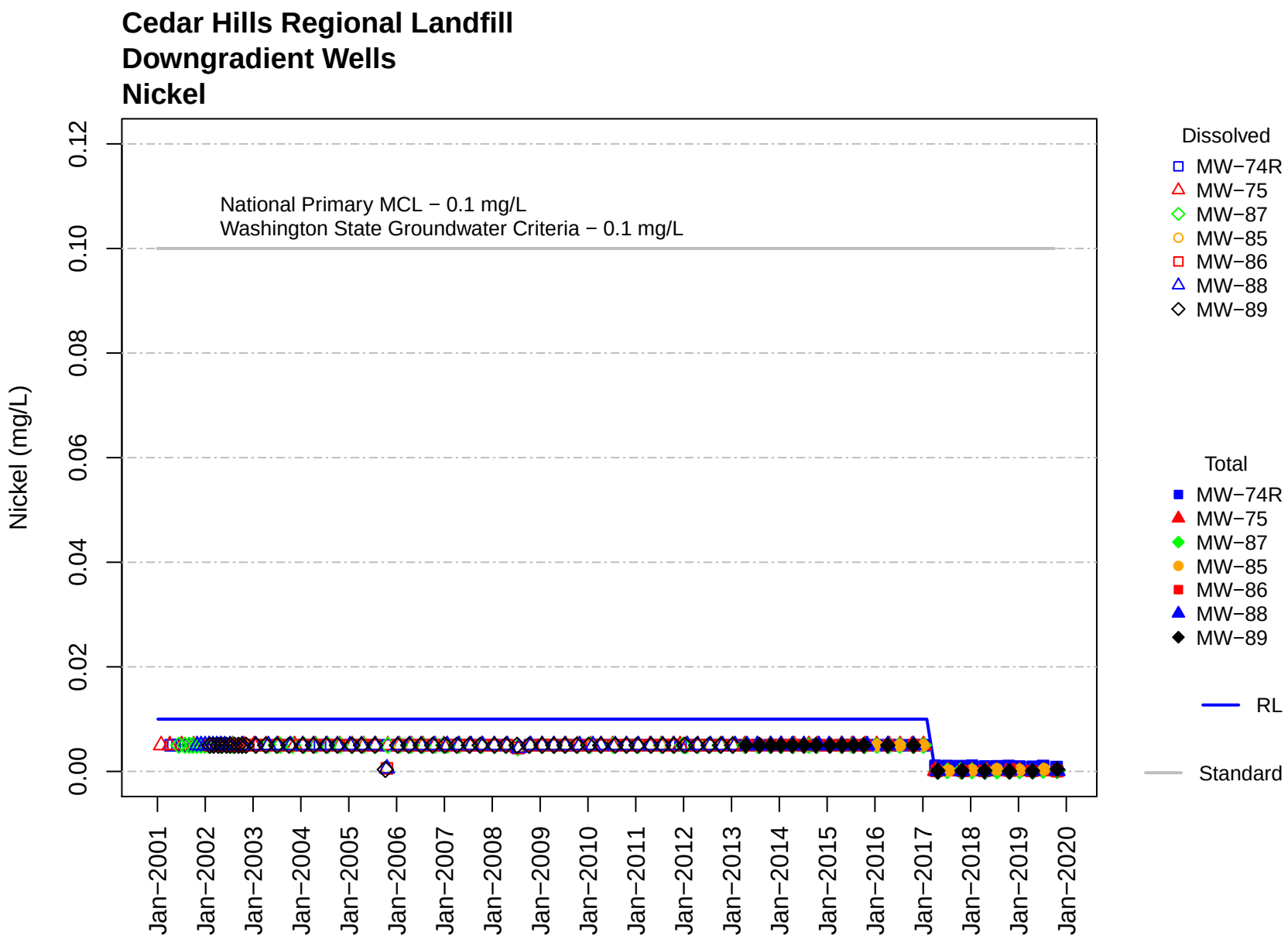

Cedar Hills Regional Landfill
Downgradient Wells
Manganese
Manganese (mg/L)
0.0
0.5
1.0
1.5
2.0
2.5
3.0
National Secondary MCL − 0.5 mg/L
Washington State Groundwater Criteria − 0.5 mg/L
Jan−2001
Jan−2002
Jan−2003
Jan−2004
Jan−2005
Jan−2006
Jan−2007
Jan−2008
Jan−2009
Jan−2010
Jan−2011
Jan−2012
Jan−2013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

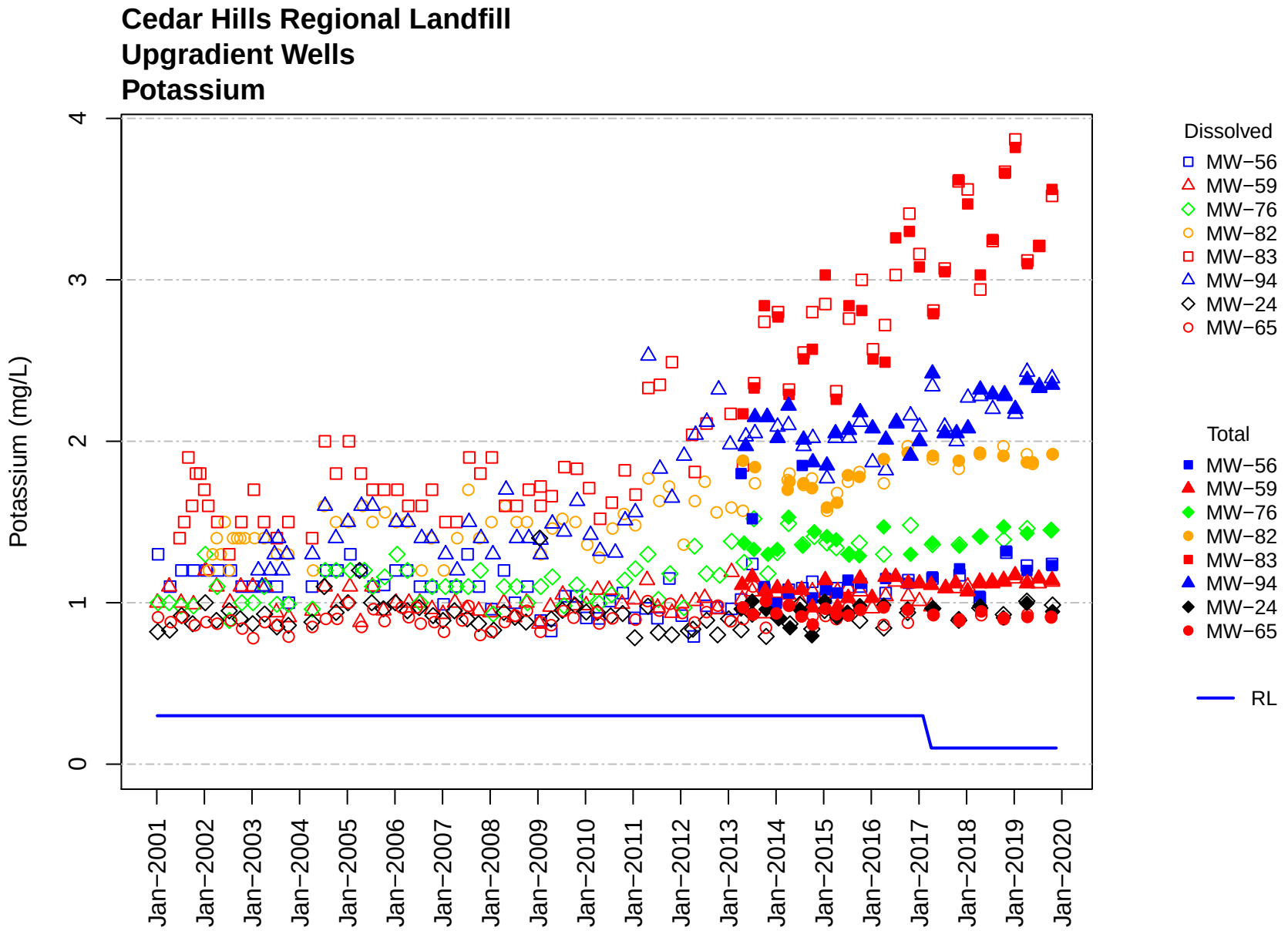

Cedar Hills Regional Landfill
Downgradient Wells
Manganese
Manganese (mg/L)
0.0
0.5
1.0
1.5
2.0
2.5
3.0
National Secondary MCL − 0.5 mg/L
Washington State Groundwater Criteria − 0.5 mg/L
Jan−2001
Jan−2002
Jan−2003
Jan−2004
Jan−2005
Jan−2006
Jan−2007
Jan−2008
Jan−2009
Jan−2010
Jan−2011
Jan−2012
Jan−2013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

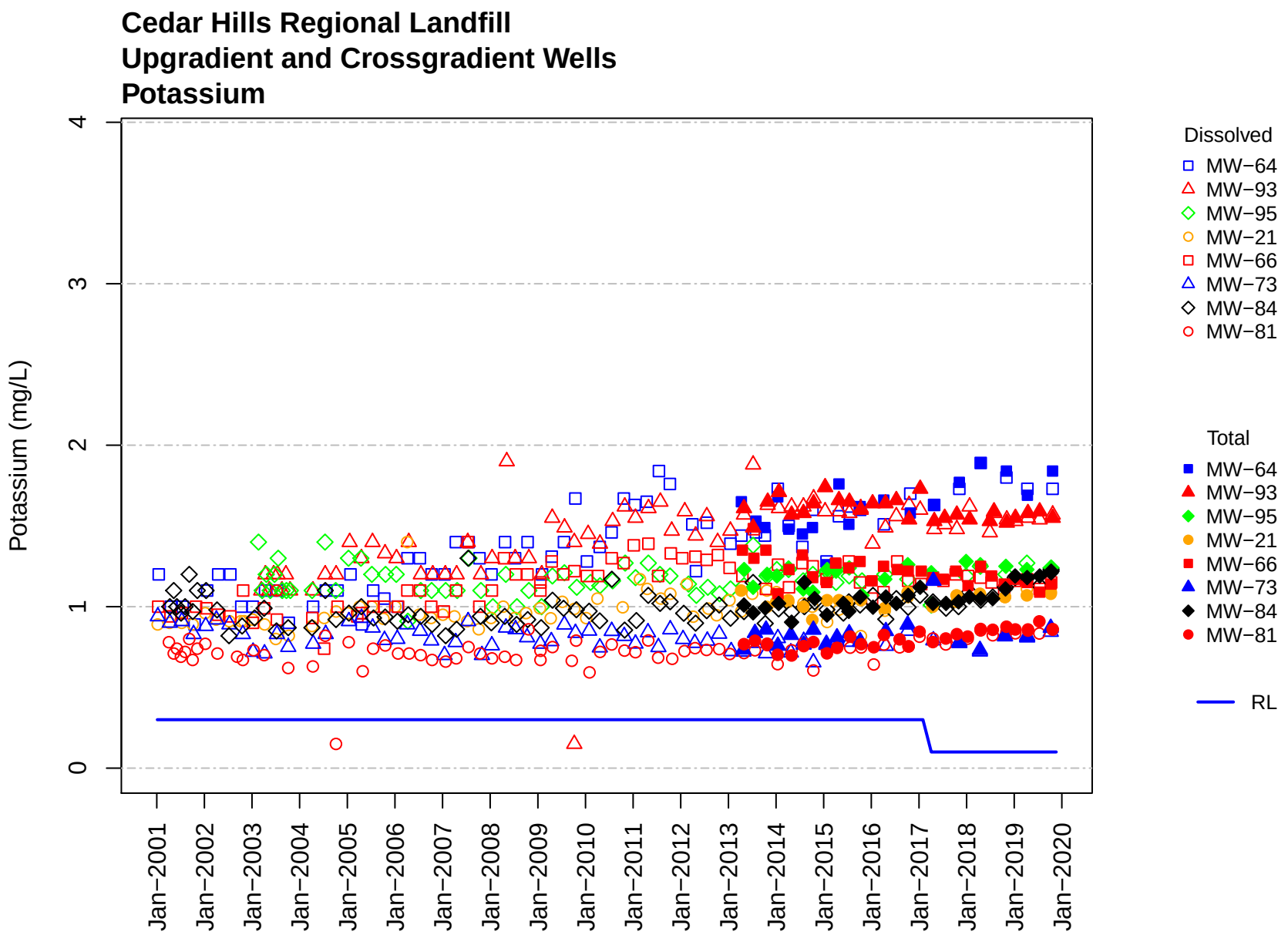

Cedar Hills Regional Landfill
Upgradient Wells
Nickel
National Primary MCL − 0.1 mg/L
Washington State Groundwater Criteria − 0.1 mg/L
Nickel (mg/L)
0.00
0.02
0.04
0.06
0.08
0.10
0.12
Jan−2001
Jan−2002
Jan−2003
Jan−2004
Jan−2005
Jan−2006
Jan−2007
Jan−2008
Jan−2009
Jan−2010
Jan−2011
Jan−2012
Jan−2013
Jan−2014
Jan−2015
Jan−2016
Jan−2017
Jan−2018
Jan−2019
Jan−2020
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

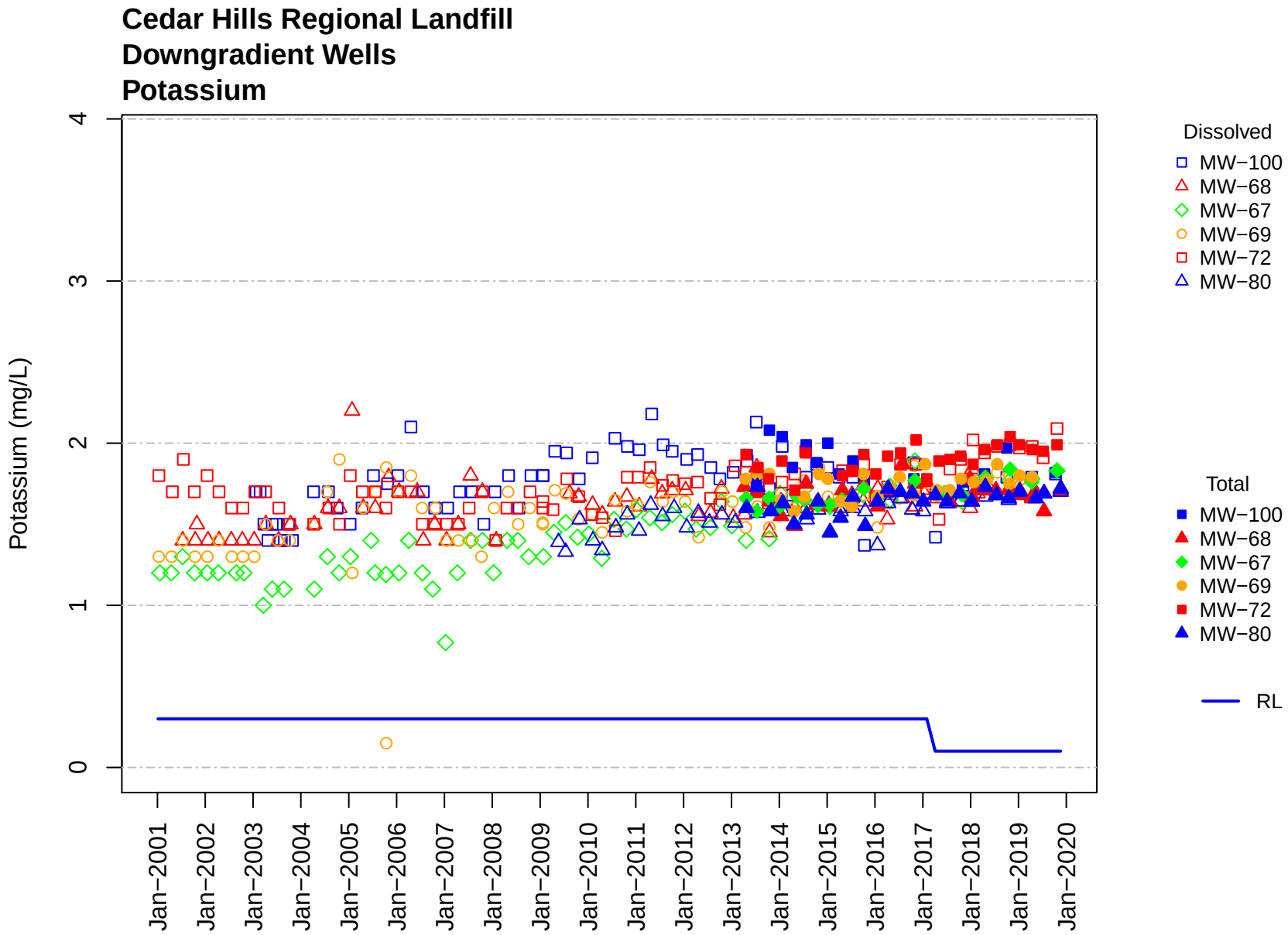

Cedar Hills Regional Landfill
Upgradient and Crossgradient Wells
Nickel
National Primary MCL − 0.1 mg/L
Washington State Groundwater Criteria − 0.1 mg/L
Nickel (mg/L)
0.00
0.02
0.04
0.06
0.08
0.10
0.12
Jan−2001
Jan−2002
Jan−2003
Jan−2004
Jan−2005
Jan−2006
Jan−2007
Jan−2008
Jan−2009
Jan−2010
Jan−2011
Jan−2012
Jan−2013
Jan−2014
Jan−2015
Jan−2016
Jan−2017
Jan−2018
Jan−2019
Jan−2020
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

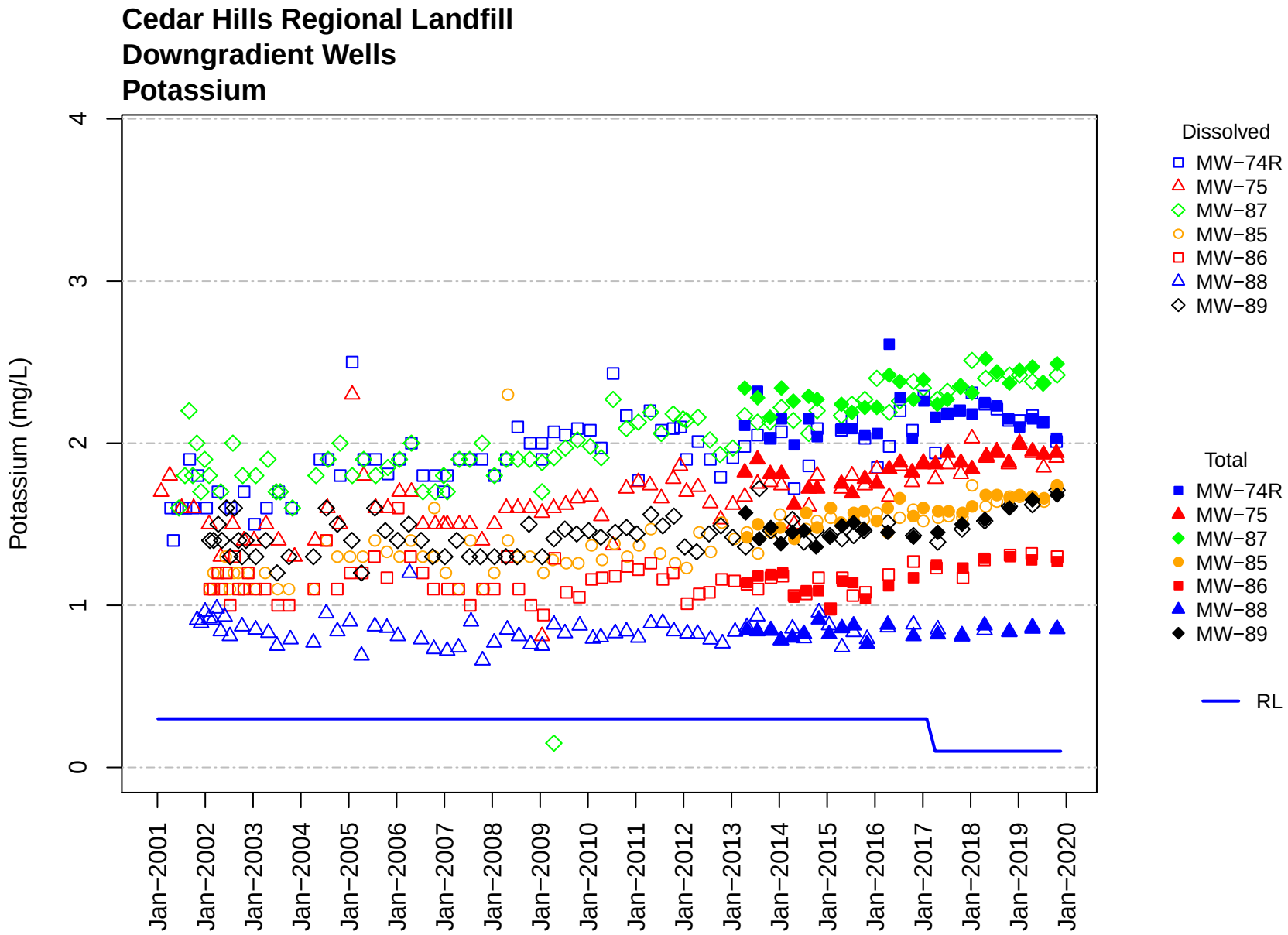

Cedar Hills Regional Landfill
Downgradient Wells
Nickel
National Primary MCL − 0.1 mg/L
Washington State Groundwater Criteria − 0.1 mg/L
Nickel (mg/L)
0.00
0.02
0.04
0.06
0.08
0.10
0.12
Jan−2001
Jan−2002
Jan−2003
Jan−2004
Jan−2005
Jan−2006
Jan−2007
Jan−2008
Jan−2009
Jan−2010
Jan−2011
Jan−2012
Jan−2013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

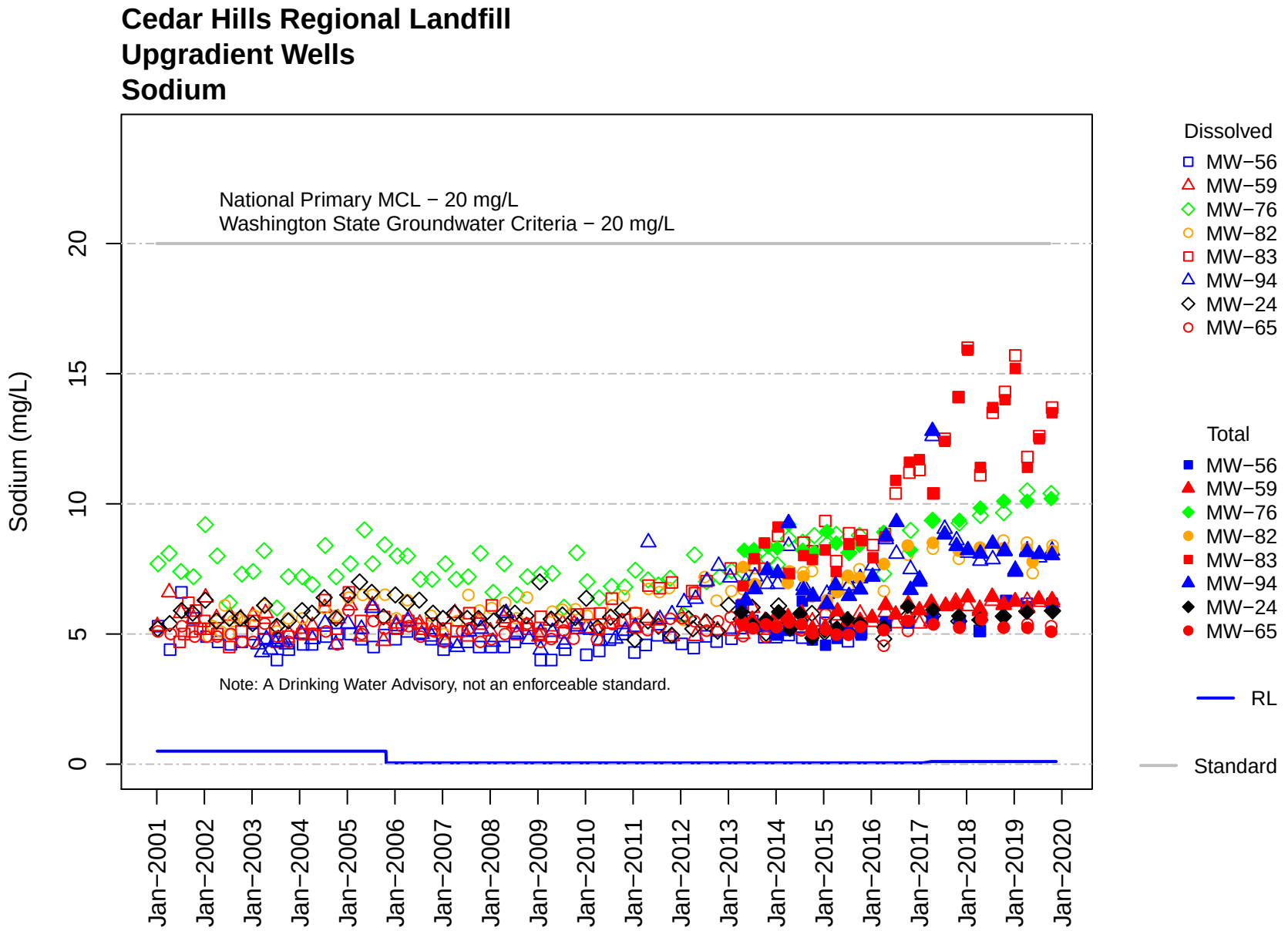

Cedar Hills Regional Landfill
Downgradient Wells
Nickel
National Primary MCL − 0.1 mg/L
Washington State Groundwater Criteria − 0.1 mg/L
Nickel (mg/L)
0.00
0.02
0.04
0.06
0.08
0.10
0.12
Jan−2001
Jan−2002
Jan−2003
Jan−2004
Jan−2005
Jan−2006
Jan−2007
Jan−2008
Jan−2009
Jan−2010
Jan−2011
Jan−2012
Jan−2013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

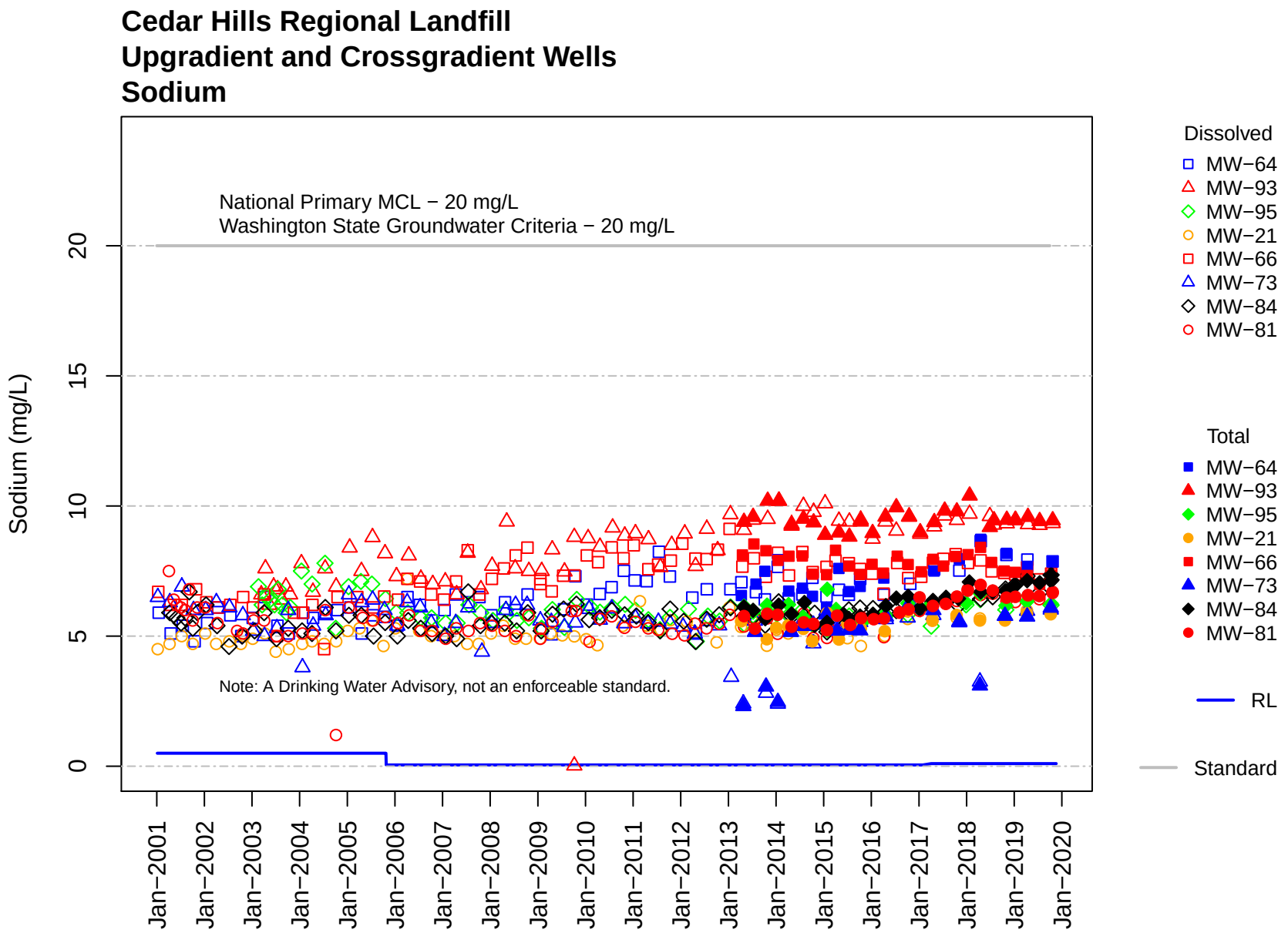

Cedar Hills Regional Landfill
Upgradient Wells
Potassium
Potassium (mg/L)
0
1
2
3
4
Jan−2001
Jan−2002
Jan−2003
Jan−2004
Jan−2005
Jan−2006
Jan−2007
Jan−2008
Jan−2009
Jan−2010
Jan−2011
Jan−2012
Jan−2013
Jan−2014
Jan−2015
Jan−2016
Jan−2017
Jan−2018
Jan−2019
Jan−2020
Dissolved
MW−56
MW−59
MW−76
MW−82
MW−83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

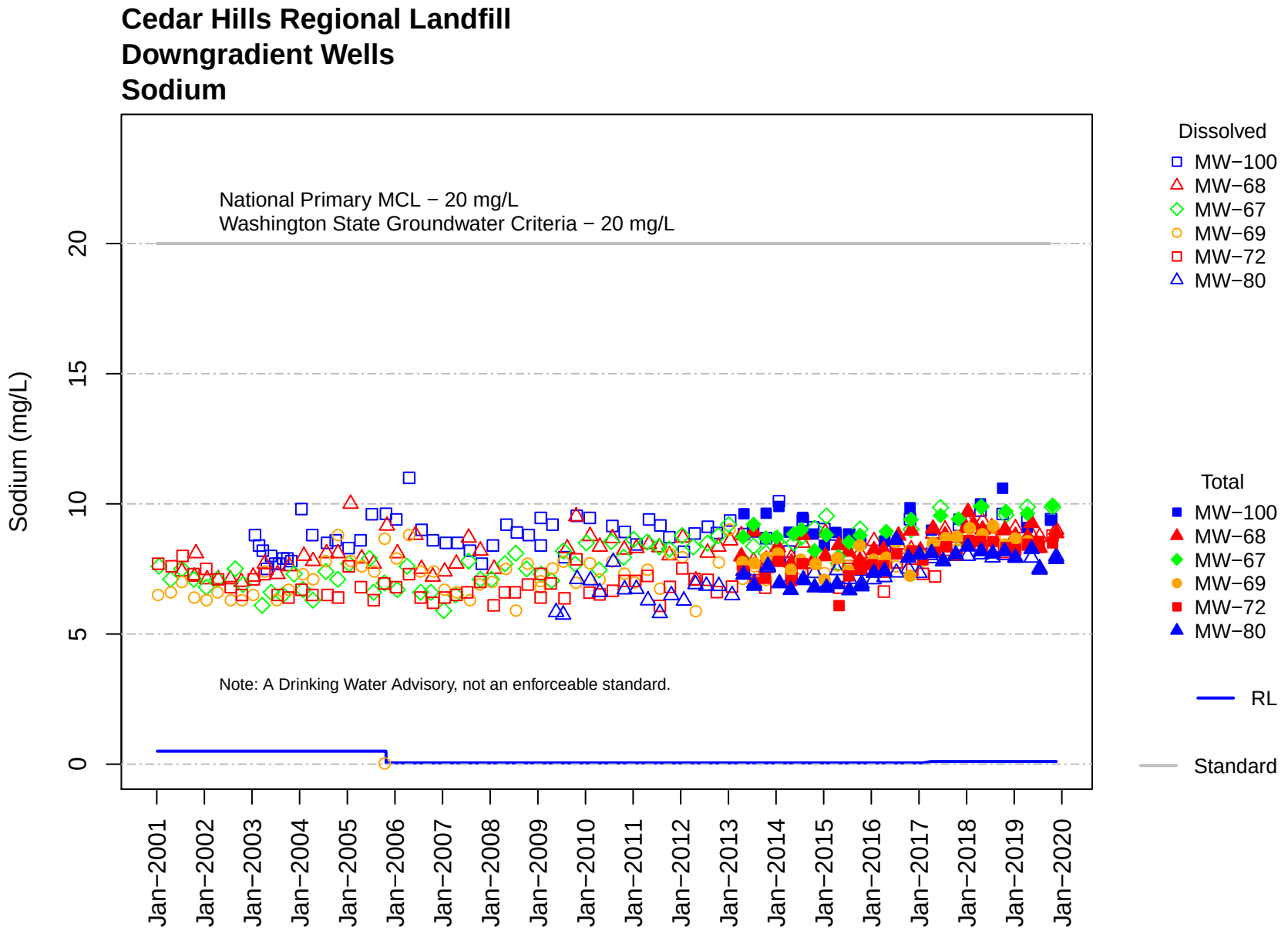

Cedar Hills Regional Landfill
Upgradient and Crossgradient Wells
Potassium
Potassium (mg/L)
0
1
2
3
4
Jan−2001
Jan−2002
Jan−2003
Jan−2004
Jan−2005
Jan−2006
Jan−2007
Jan−2008
Jan−2009
Jan−2010
Jan−2011
Jan−2012
Jan−2013
Jan−2014
Jan−2015
Jan−2016
Jan−2017
Jan−2018
Jan−2019
Jan−2020
Dissolved
MW−64
MW−93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

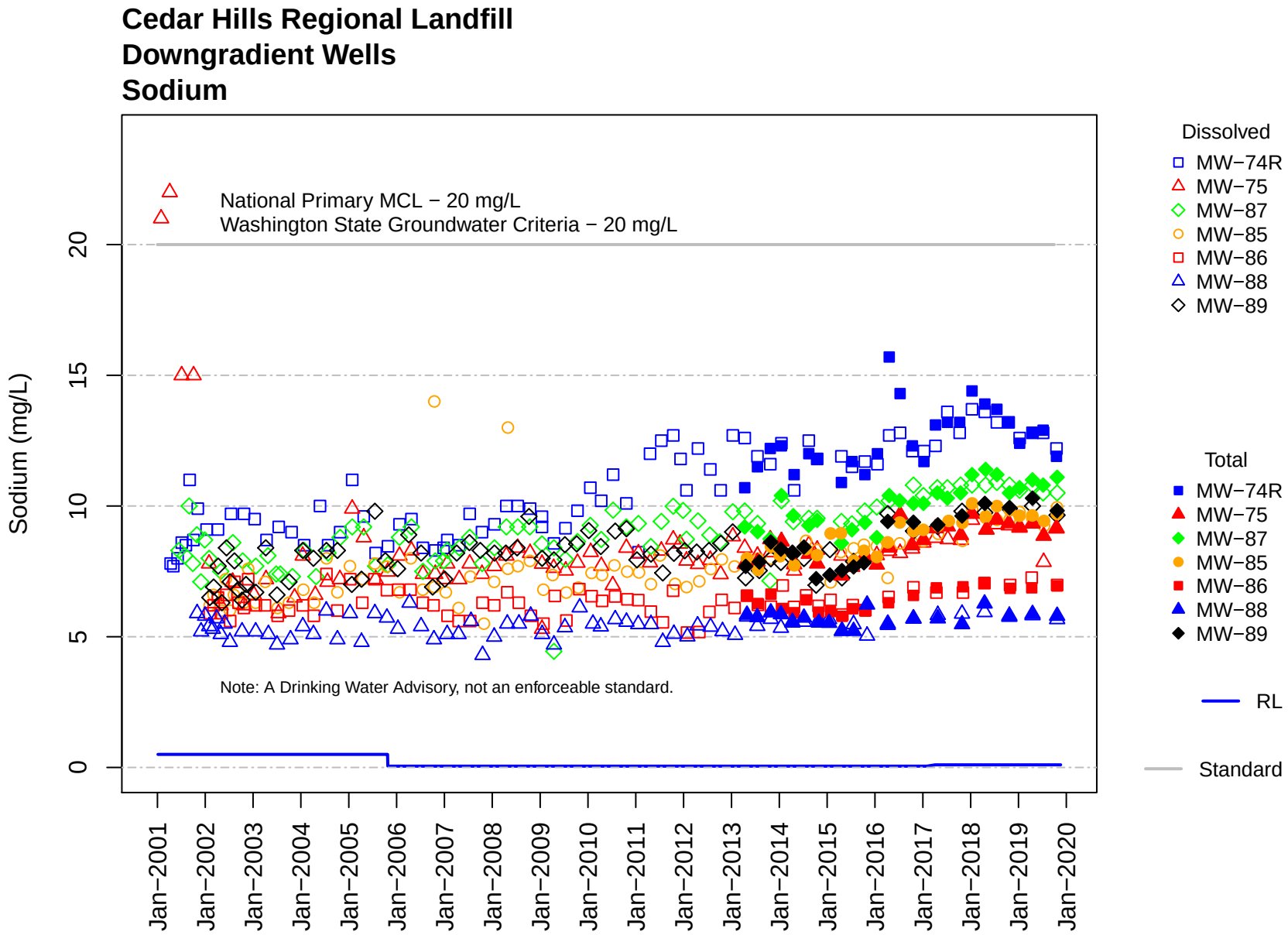

Cedar Hills Regional Landfill
Downgradient Wells
Potassium
Potassium (mg/L)
0
1
2
3
4
Jan−2001
Jan−2002
Jan−2003
Jan−2004
Jan−2005
Jan−2006
Jan−2007
Jan−2008
Jan−2009
Jan−2010
Jan−2011
Jan−2012
Jan−2013
Jan−2014
Jan−2015
Jan−2016
Jan−2017
Jan−2018
Jan−2019
Jan−2020
Dissolved
MW−100
MW−68
MW−67
MW−69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

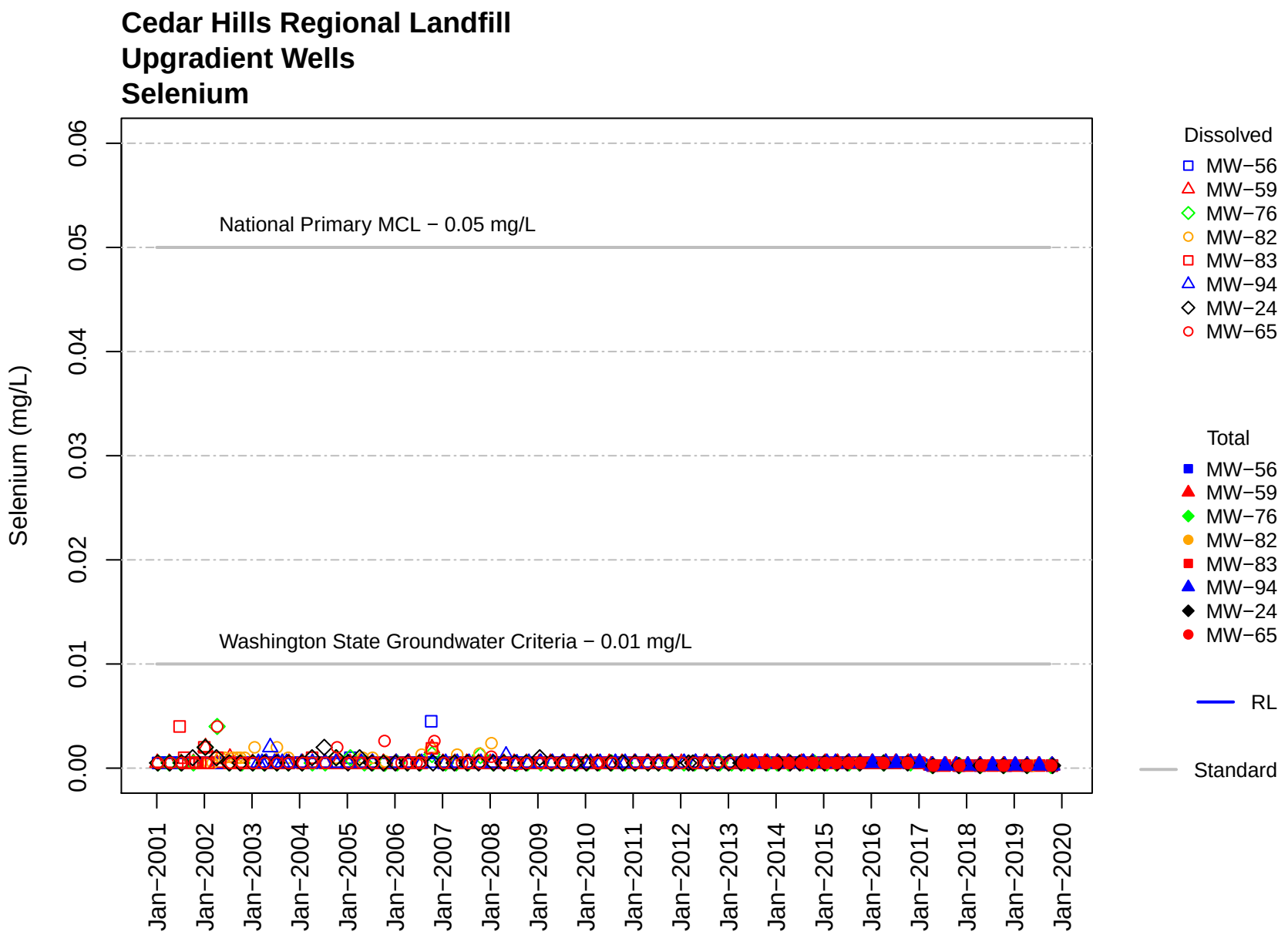

Cedar Hills Regional Landfill
Downgradient Wells
Potassium
Potassium (mg/L)
0
1
2
3
4
Jan−2001
Jan−2002
Jan−2003
Jan−2004
Jan−2005
Jan−2006
Jan−2007
Jan−2008
Jan−2009
Jan−2010
Jan−2011
Jan−2012
Jan−2013
Jan−2014
Jan−2015
Jan−2016
Jan−2017
Jan−2018
Jan−2019
Jan−2020
Dissolved
MW−74R
MW−75
MW−87
MW−85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

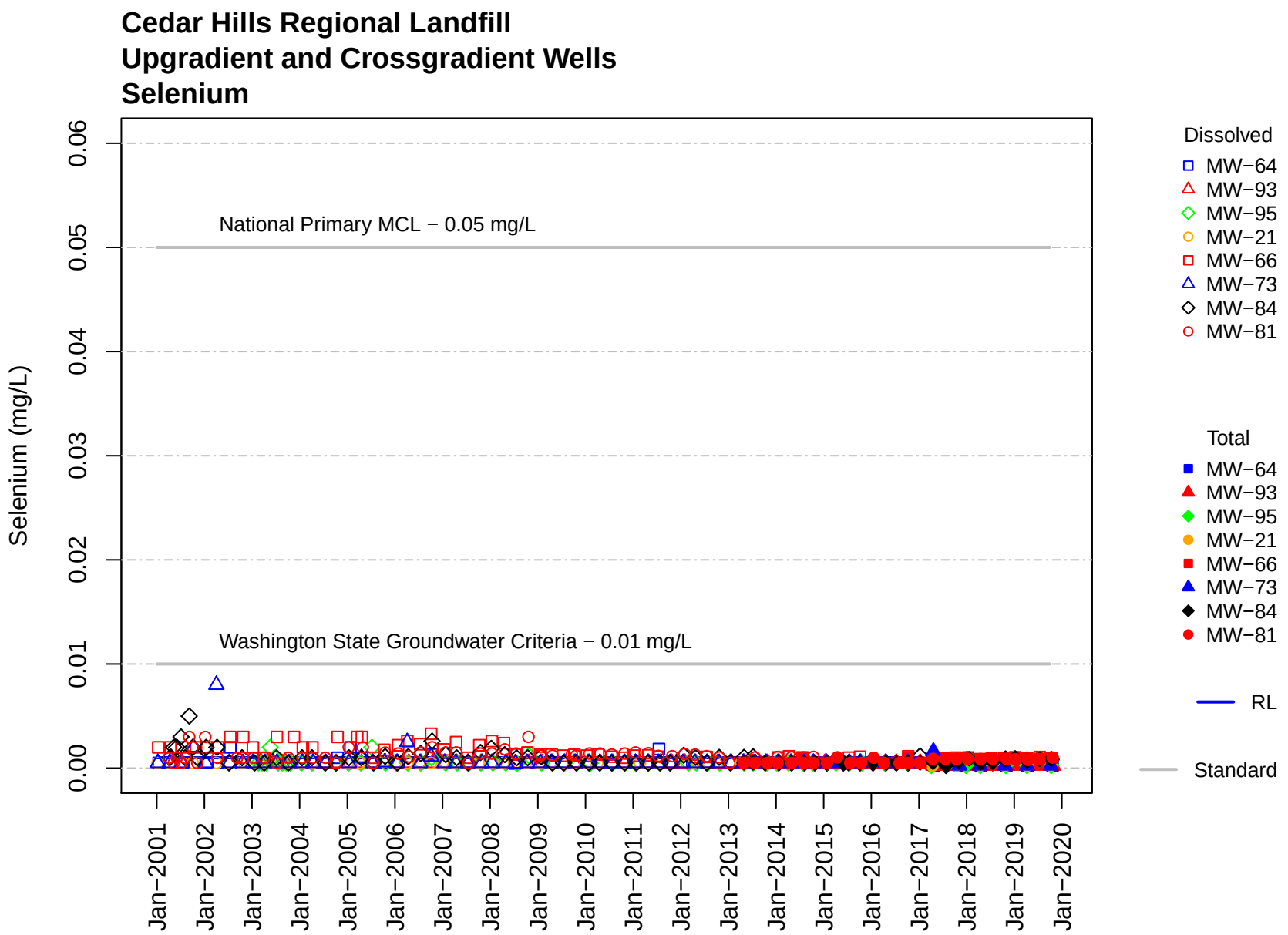

Cedar Hills Regional Landfill
Upgradient Wells
Sodium
National Primary MCL − 20 mg/L
Washington State Groundwater Criteria − 20 mg/L
Note: A Drinking Water Advisory, not an enforceable standard.
Sodium (mg/L)
0
5
10
15
20
Jan−2001
Jan−2002
Jan−2003
Jan−2004
Jan−2005
Jan−2006
Jan−2007
Jan−2008
Jan−2009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

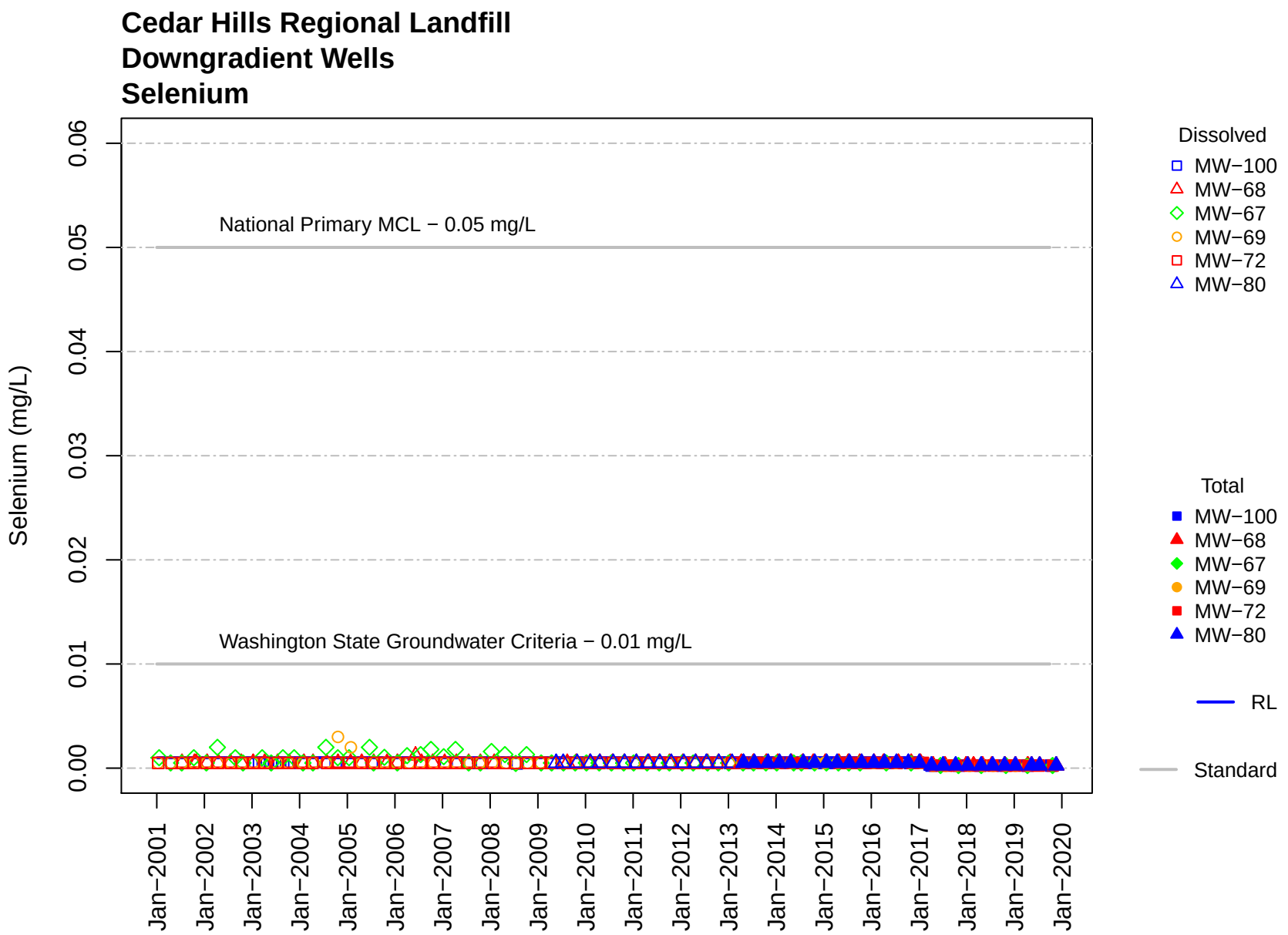

Cedar Hills Regional Landfill
Upgradient and Crossgradient Wells
Sodium
National Primary MCL − 20 mg/L
Washington State Groundwater Criteria − 20 mg/L
Note: A Drinking Water Advisory, not an enforceable standard.
Sodium (mg/L)
0
5
10
15
20
Jan−2001
Jan−2002
Jan−2003
Jan−2004
Jan−2005
Jan−2006
Jan−2007
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
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

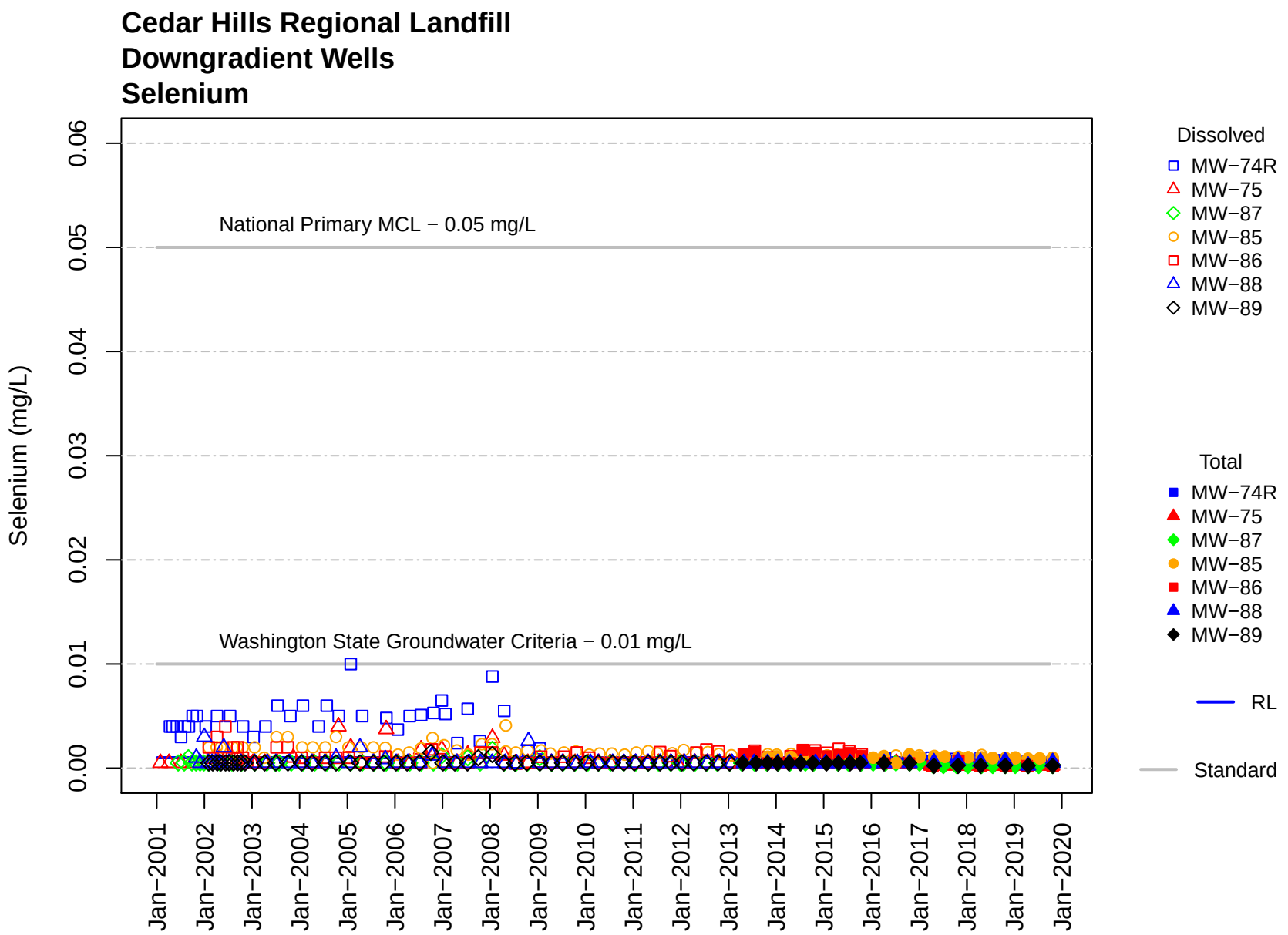

Cedar Hills Regional Landfill
Downgradient Wells
Sodium
National Primary MCL − 20 mg/L
Washington State Groundwater Criteria − 20 mg/L
Note: A Drinking Water Advisory, not an enforceable standard.
Sodium (mg/L)
0
5
10
15
20
Jan−2001
Jan−2002
Jan−2003
Jan−2004
Jan−2005
Jan−2006
Jan−2007
Jan−2008
Jan−2009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

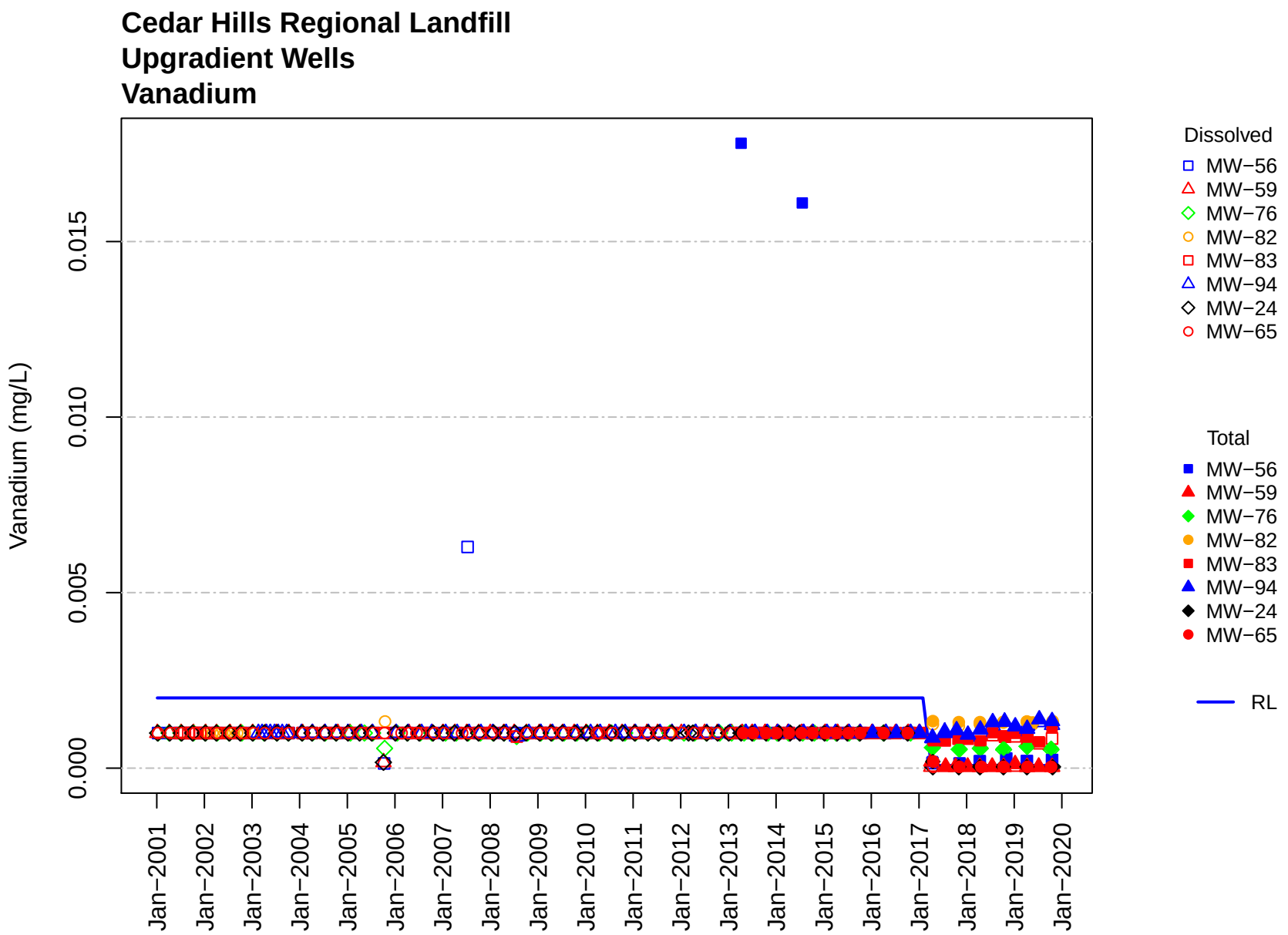

Cedar Hills Regional Landfill
Downgradient Wells
Sodium
National Primary MCL − 20 mg/L
Washington State Groundwater Criteria − 20 mg/L
Note: A Drinking Water Advisory, not an enforceable standard.
Sodium (mg/L)
0
5
10
15
20
Jan−2001
Jan−2002
Jan−2003
Jan−2004
Jan−2005
Jan−2006
Jan−2007
Jan−2008
Jan−2009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

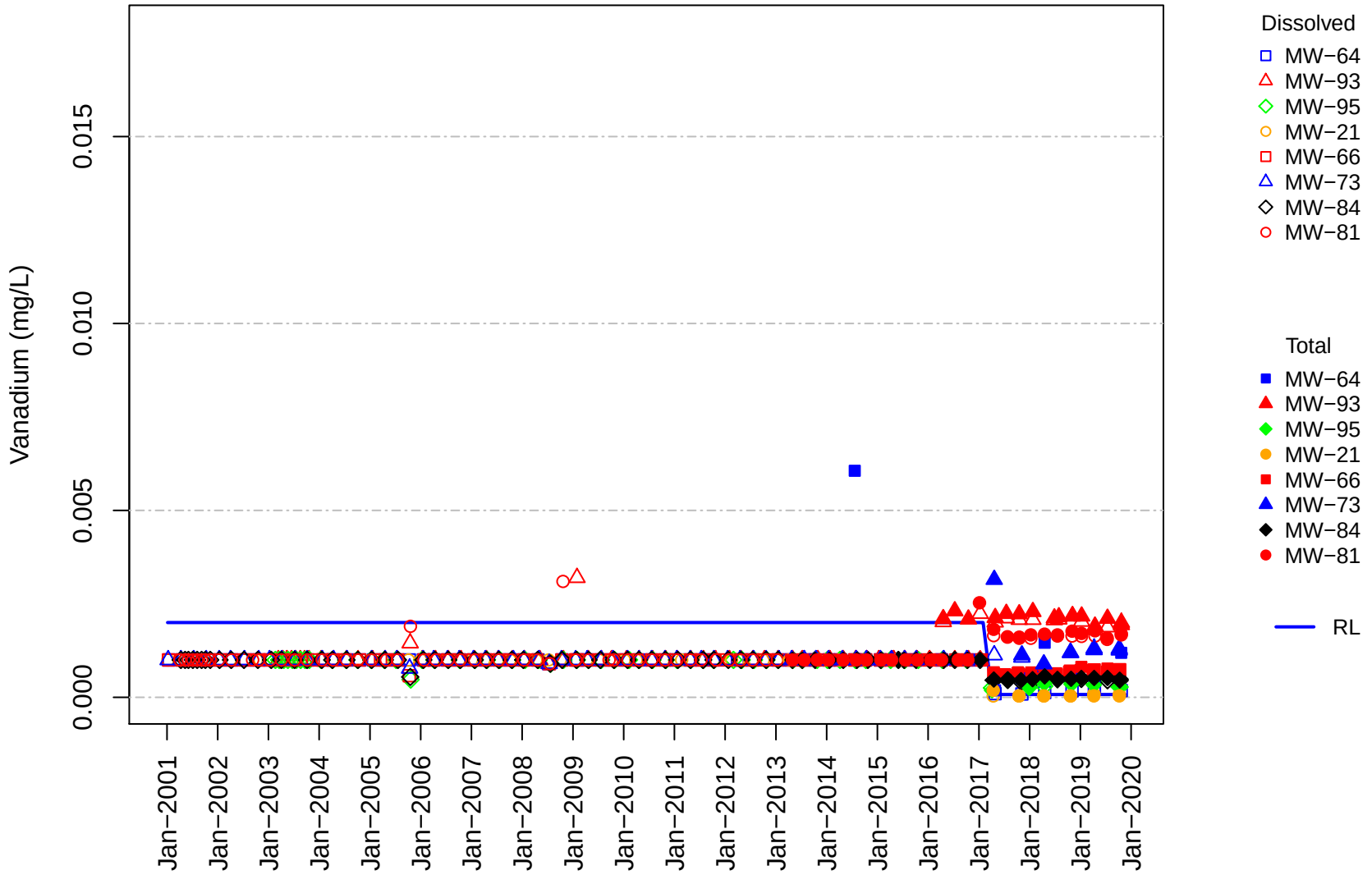

Cedar Hills Regional Landfill
Upgradient Wells
Selenium
Selenium (mg/L)
0.00
0.01
0.02
0.03
0.04
0.05
0.06
National Primary MCL − 0.05 mg/L
Washington State Groundwater Criteria − 0.01 mg/L
Jan−2001
Jan−2002
Jan−2003
Jan−2004
Jan−2005
Jan−2006
Jan−2007
Jan−2008
Jan−2009
Jan−2010
Jan−2011
Jan−2012
Jan−2013
Jan−2014
Jan−2015
Jan−2016
Jan−2017
Jan−2018
Jan−2019
Jan−2020
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

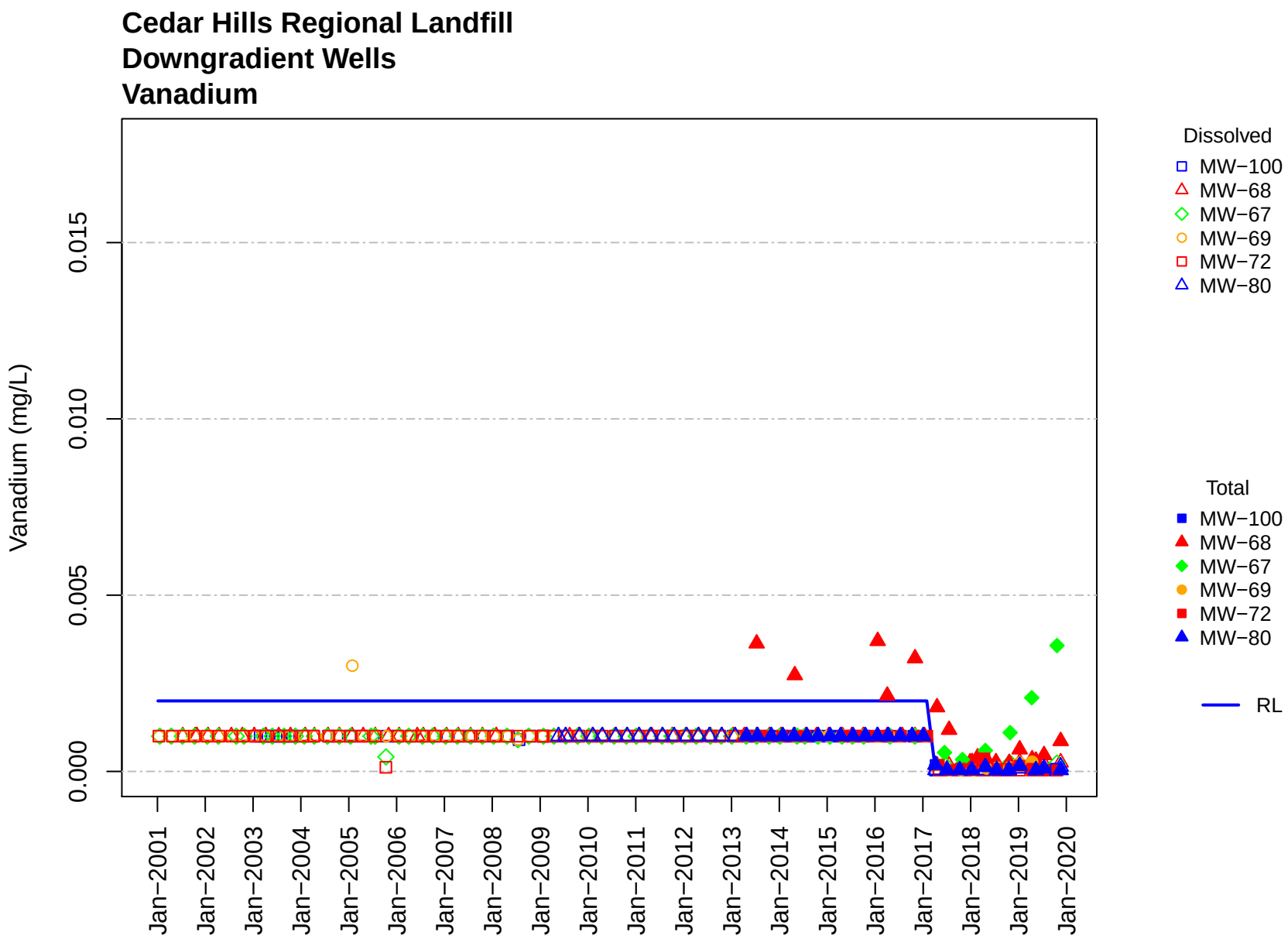

Cedar Hills Regional Landfill
Upgradient and Crossgradient Wells
Selenium
Selenium (mg/L)
0.00
0.01
0.02
0.03
0.04
0.05
0.06
National Primary MCL − 0.05 mg/L
Washington State Groundwater Criteria − 0.01 mg/L
Jan−2001
Jan−2002
Jan−2003
Jan−2004
Jan−2005
Jan−2006
Jan−2007
Jan−2008
Jan−2009
Jan−2010
Jan−2011
Jan−2012
Jan−2013
Jan−2014
Jan−2015
Jan−2016
Jan−2017
Jan−2018
Jan−2019
Jan−2020
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

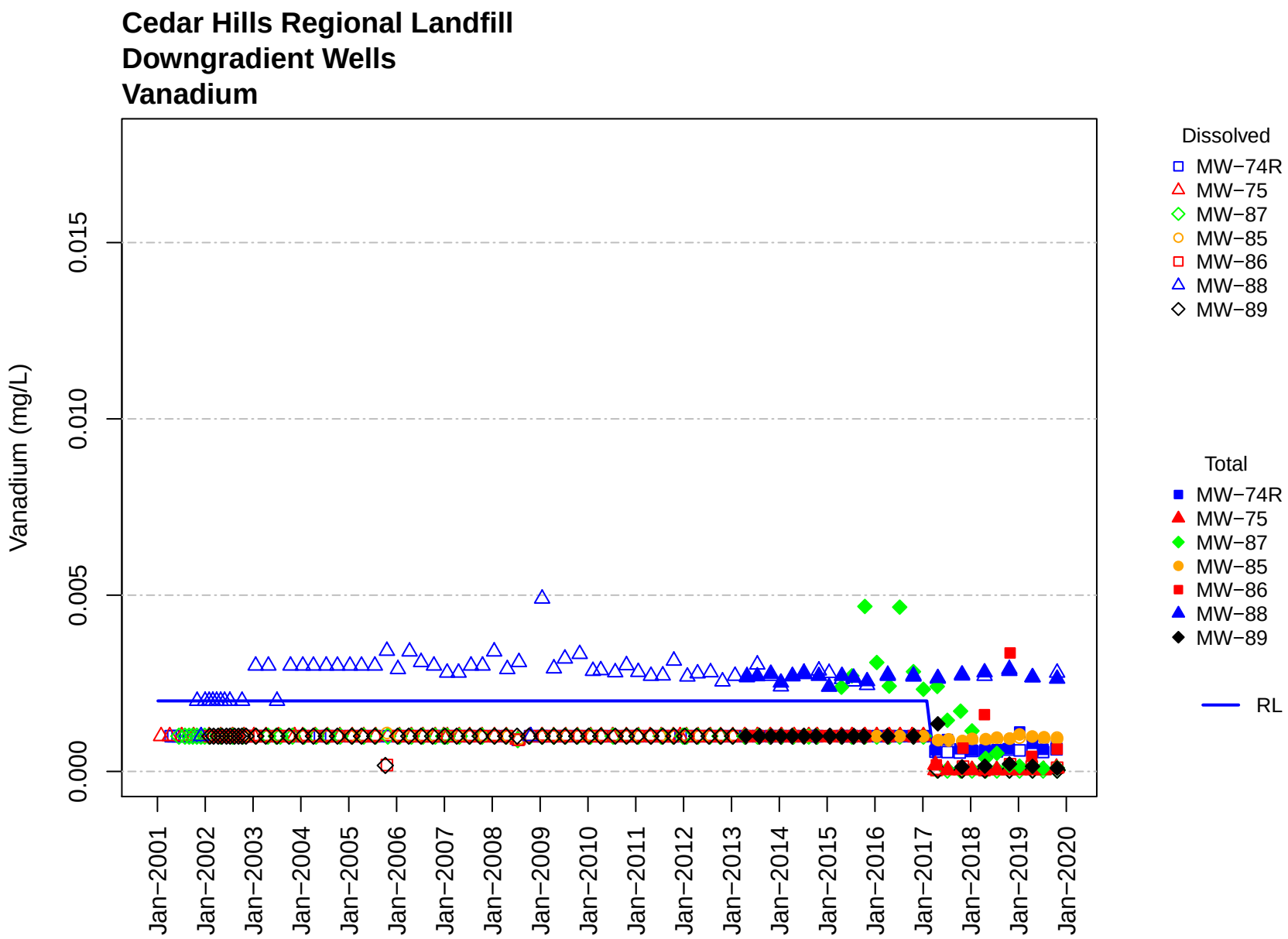

Cedar Hills Regional Landfill
Downgradient Wells
Selenium
Selenium (mg/L)
0.00
0.01
0.02
0.03
0.04
0.05
0.06
National Primary MCL − 0.05 mg/L
Washington State Groundwater Criteria − 0.01 mg/L
Jan−2001
Jan−2002
Jan−2003
Jan−2004
Jan−2005
Jan−2006
Jan−2007
Jan−2008
Jan−2009
Jan−2010
Jan−2011
Jan−2012
Jan−2013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

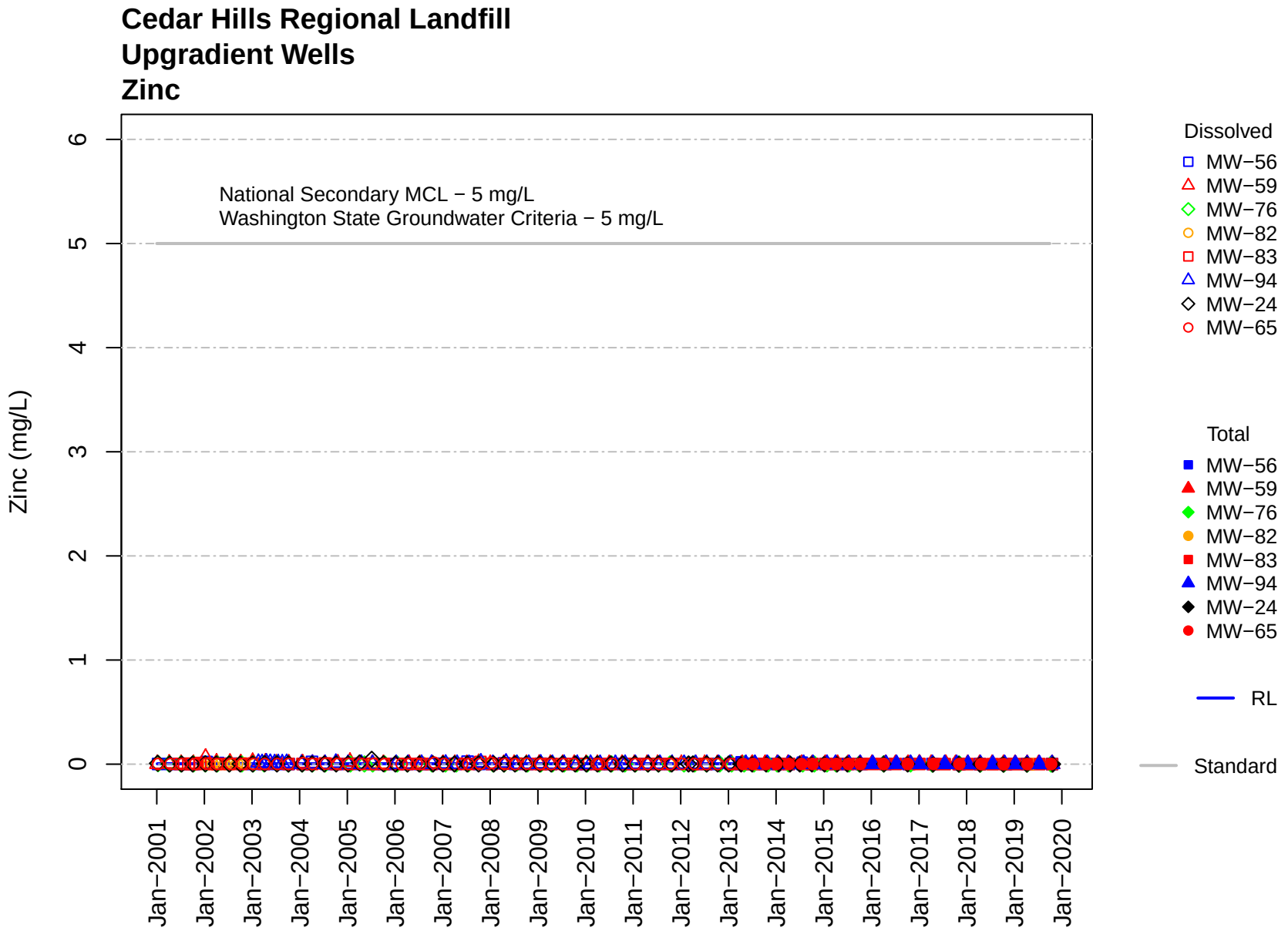

Cedar Hills Regional Landfill
Downgradient Wells
Selenium
Selenium (mg/L)
0.00
0.01
0.02
0.03
0.04
0.05
0.06
National Primary MCL − 0.05 mg/L
Washington State Groundwater Criteria − 0.01 mg/L
Jan−2001
Jan−2002
Jan−2003
Jan−2004
Jan−2005
Jan−2006
Jan−2007
Jan−2008
Jan−2009
Jan−2010
Jan−2011
Jan−2012
Jan−2013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

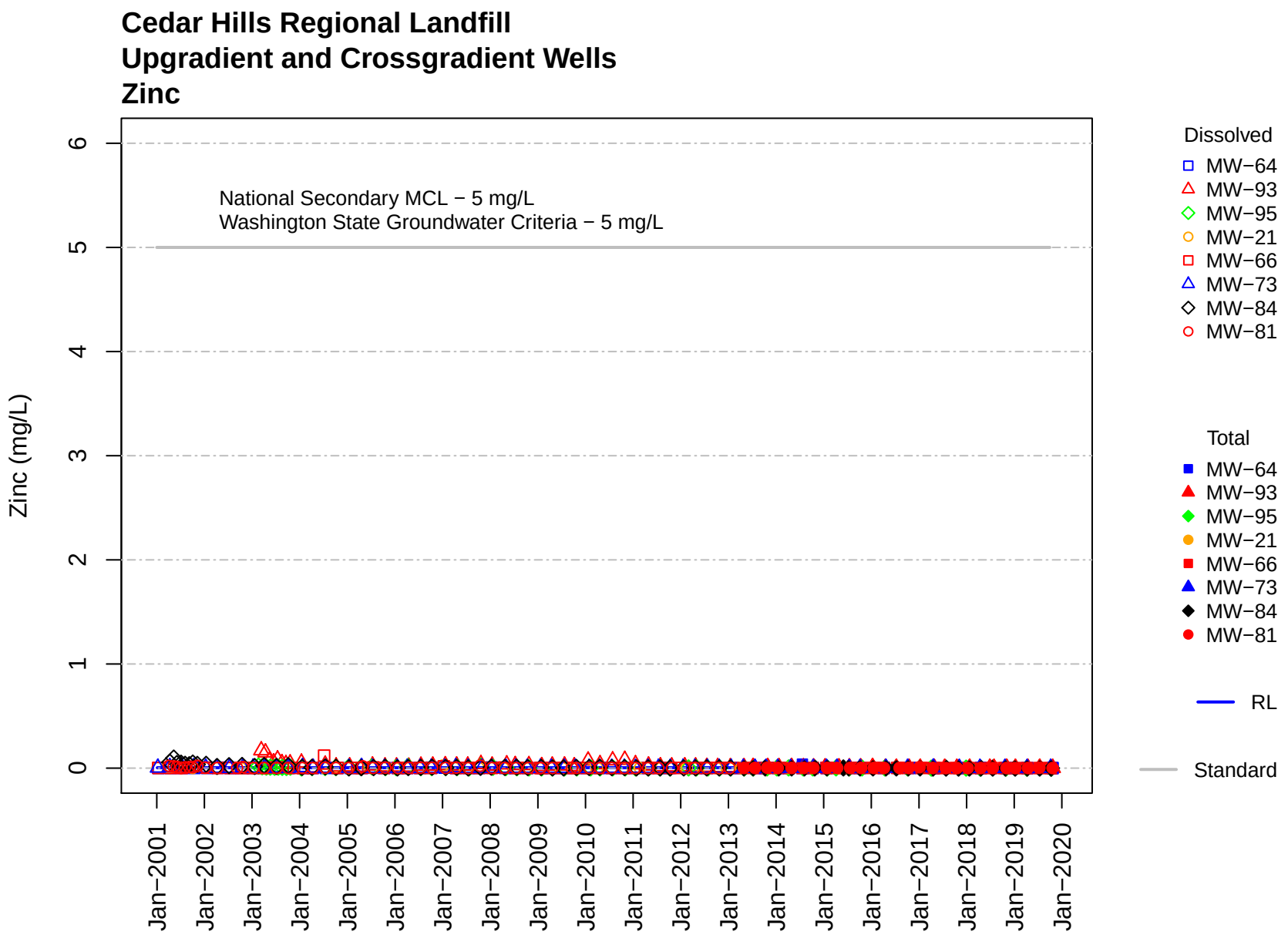

Cedar Hills Regional Landfill
Upgradient Wells
Vanadium
Vanadium (mg/L)
0.000
0.005
0.010
0.015
Jan−2001
Jan−2002
Jan−2003
Jan−2004
Jan−2005
Jan−2006
Jan−2007
Jan−2008
Jan−2009
Jan−2010
Jan−2011
Jan−2012
Jan−2013
Jan−2014
Jan−2015
Jan−2016
Jan−2017
Jan−2018
Jan−2019
Jan−2020
Dissolved
MW−56
MW−59
MW−76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

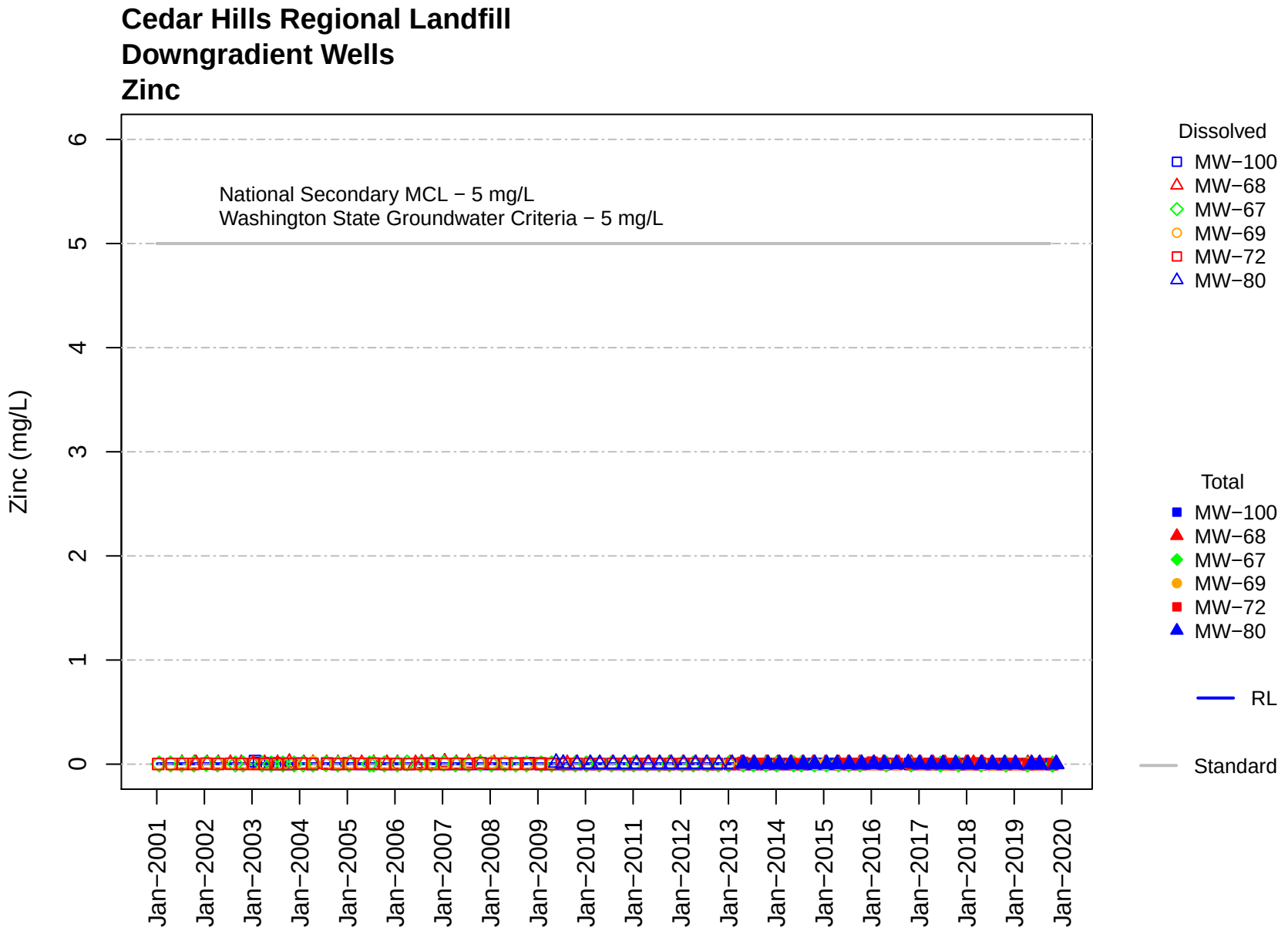

Cedar Hills Regional Landfill
Upgradient and Crossgradient Wells
Vanadium
Vanadium (mg/L)
0.000
0.005
0.010
0.015
Jan−2001
Jan−2002
Jan−2003
Jan−2004
Jan−2005
Jan−2006
Jan−2007
Jan−2008
Jan−2009
Jan−2010
Jan−2011
Jan−2012
Jan−2013
Jan−2014
Jan−2015
Jan−2016
Jan−2017
Jan−2018
Jan−2019
Jan−2020
Dissolved
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

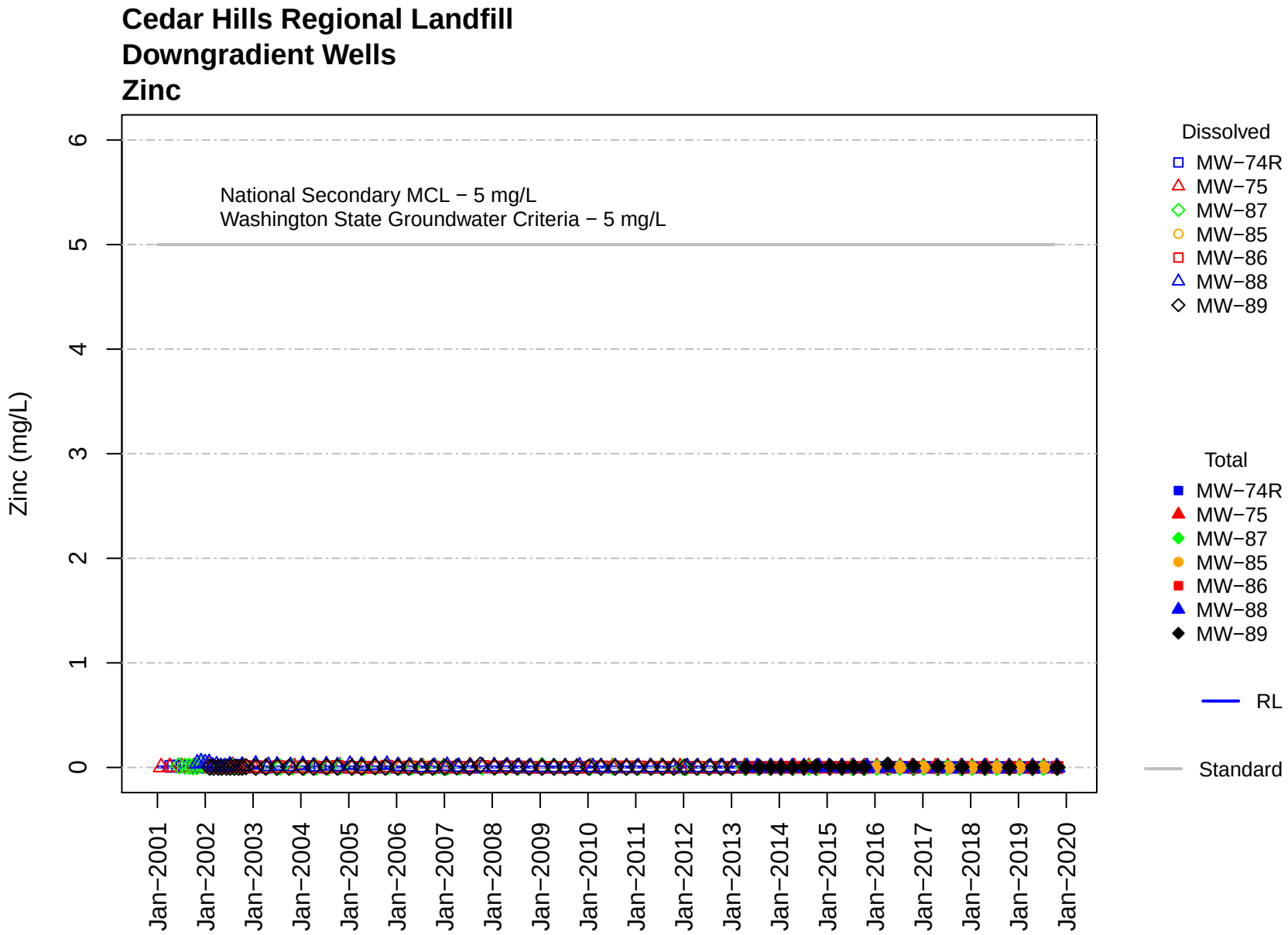

Cedar Hills Regional Landfill
Downgradient Wells
Vanadium
Vanadium (mg/L)
0.000
0.005
0.010
0.015
Jan−2001
Jan−2002
Jan−2003
Jan−2004
Jan−2005
Jan−2006
Jan−2007
Jan−2008
Jan−2009
Jan−2010
Jan−2011
Jan−2012
Jan−2013
Jan−2014
Jan−2015
Jan−2016
Jan−2017
Jan−2018
Jan−2019
Jan−2020
Dissolved
MW−100
MW−68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

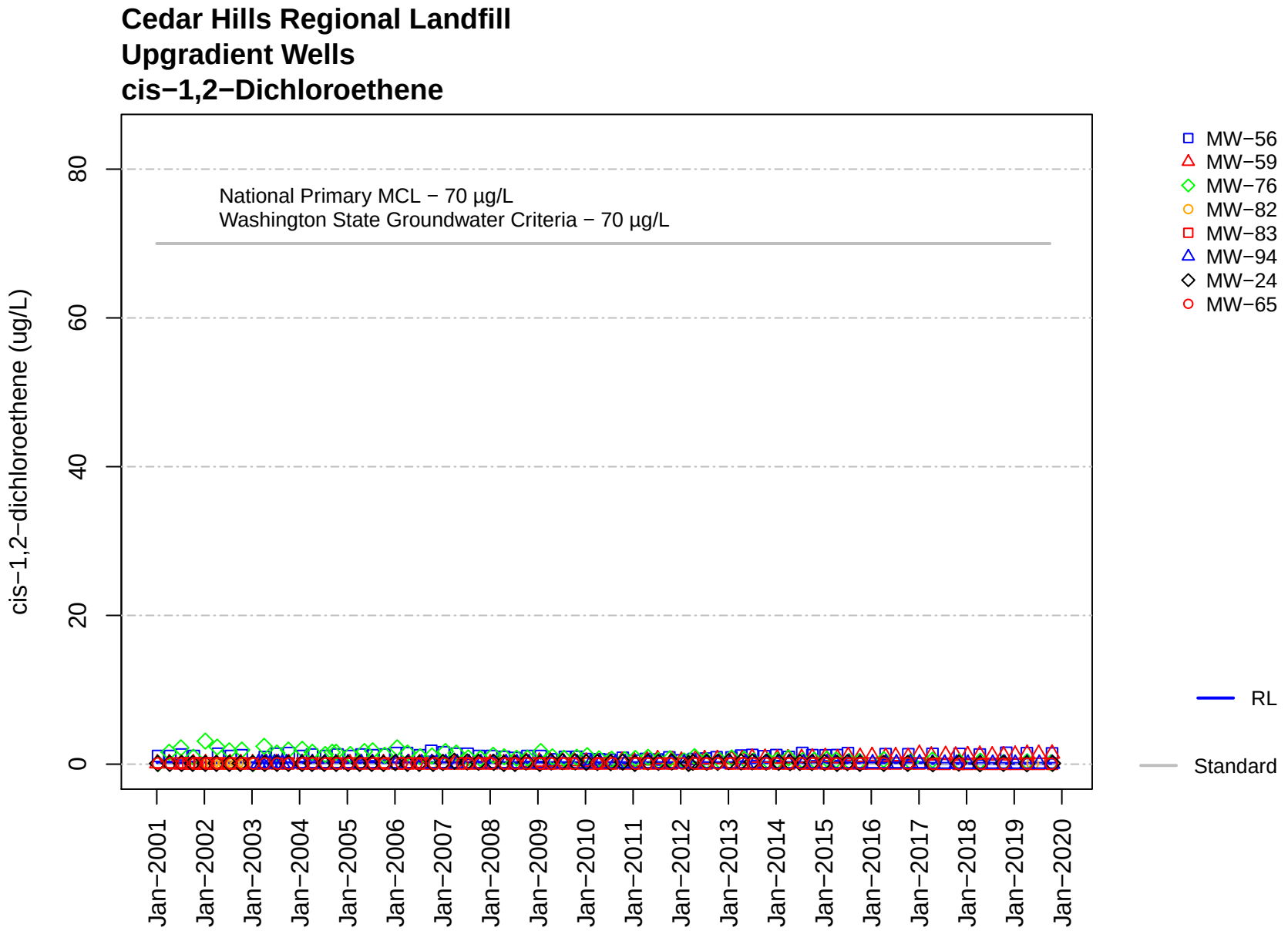

Cedar Hills Regional Landfill
Downgradient Wells
Vanadium
Vanadium (mg/L)
0.000
0.005
0.010
0.015
Jan−2001
Jan−2002
Jan−2003
Jan−2004
Jan−2005
Jan−2006
Jan−2007
Jan−2008
Jan−2009
Jan−2010
Jan−2011
Jan−2012
Jan−2013
Jan−2014
Jan−2015
Jan−2016
Jan−2017
Jan−2018
Jan−2019
Jan−2020
Dissolved
MW−74R
MW−75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

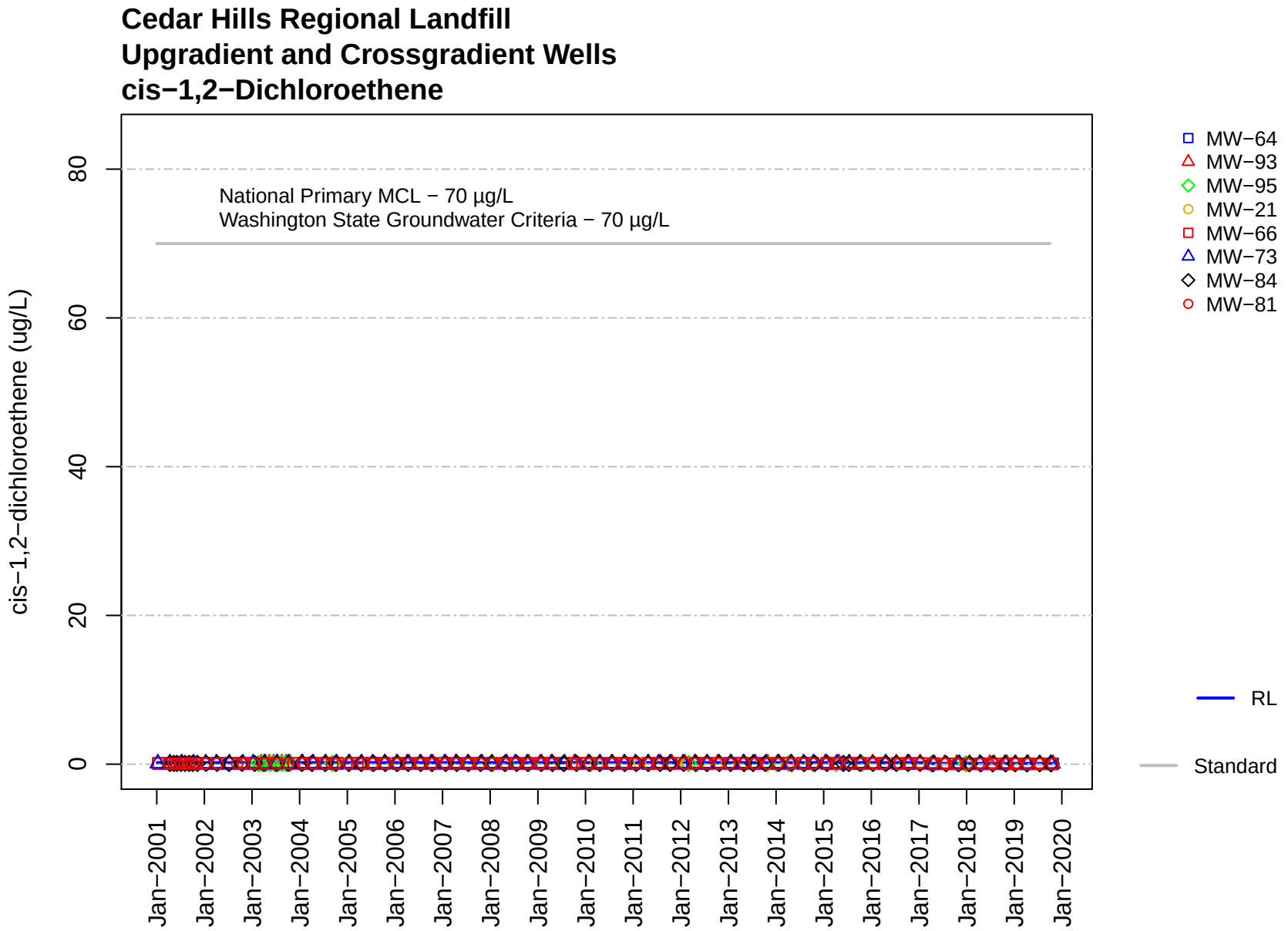

Cedar Hills Regional Landfill
Upgradient Wells
Zinc
National Secondary MCL − 5 mg/L
Washington State Groundwater Criteria − 5 mg/L
Zinc (mg/L)
0
1
2
3
4
5
6
Jan−2001
Jan−2002
Jan−2003
Jan−2004
Jan−2005
Jan−2006
Jan−2007
Jan−2008
Jan−2009
Jan−2010
Jan−2011
Jan−2012
Jan−2013
Jan−2014
Jan−2015
Jan−2016
Jan−2017
Jan−2018
Jan−2019
Jan−2020
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

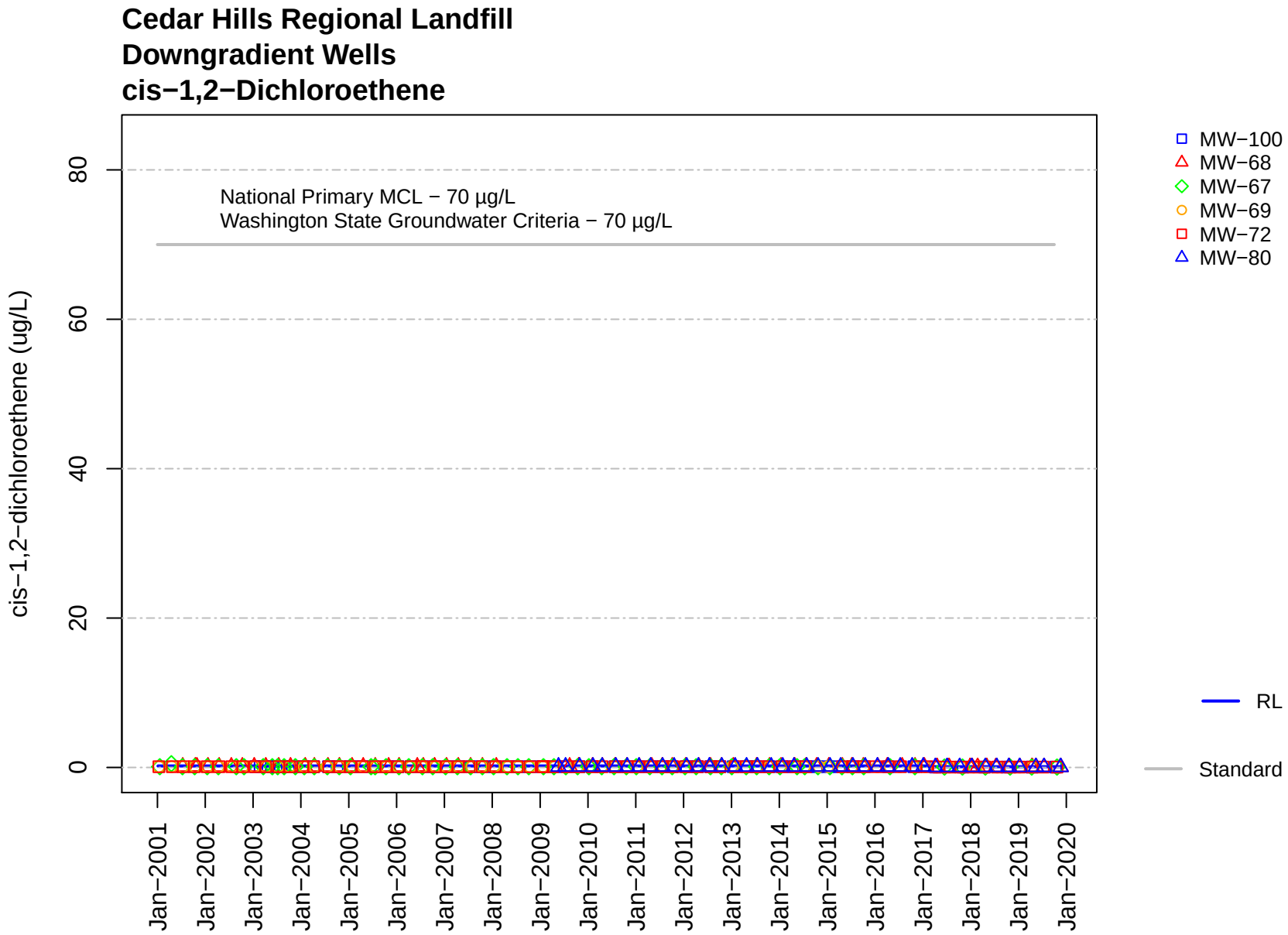

Cedar Hills Regional Landfill
Upgradient and Crossgradient Wells
Zinc
National Secondary MCL − 5 mg/L
Washington State Groundwater Criteria − 5 mg/L
Zinc (mg/L)
0
1
2
3
4
5
6
Jan−2001
Jan−2002
Jan−2003
Jan−2004
Jan−2005
Jan−2006
Jan−2007
Jan−2008
Jan−2009
Jan−2010
Jan−2011
Jan−2012
Jan−2013
Jan−2014
Jan−2015
Jan−2016
Jan−2017
Jan−2018
Jan−2019
Jan−2020
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

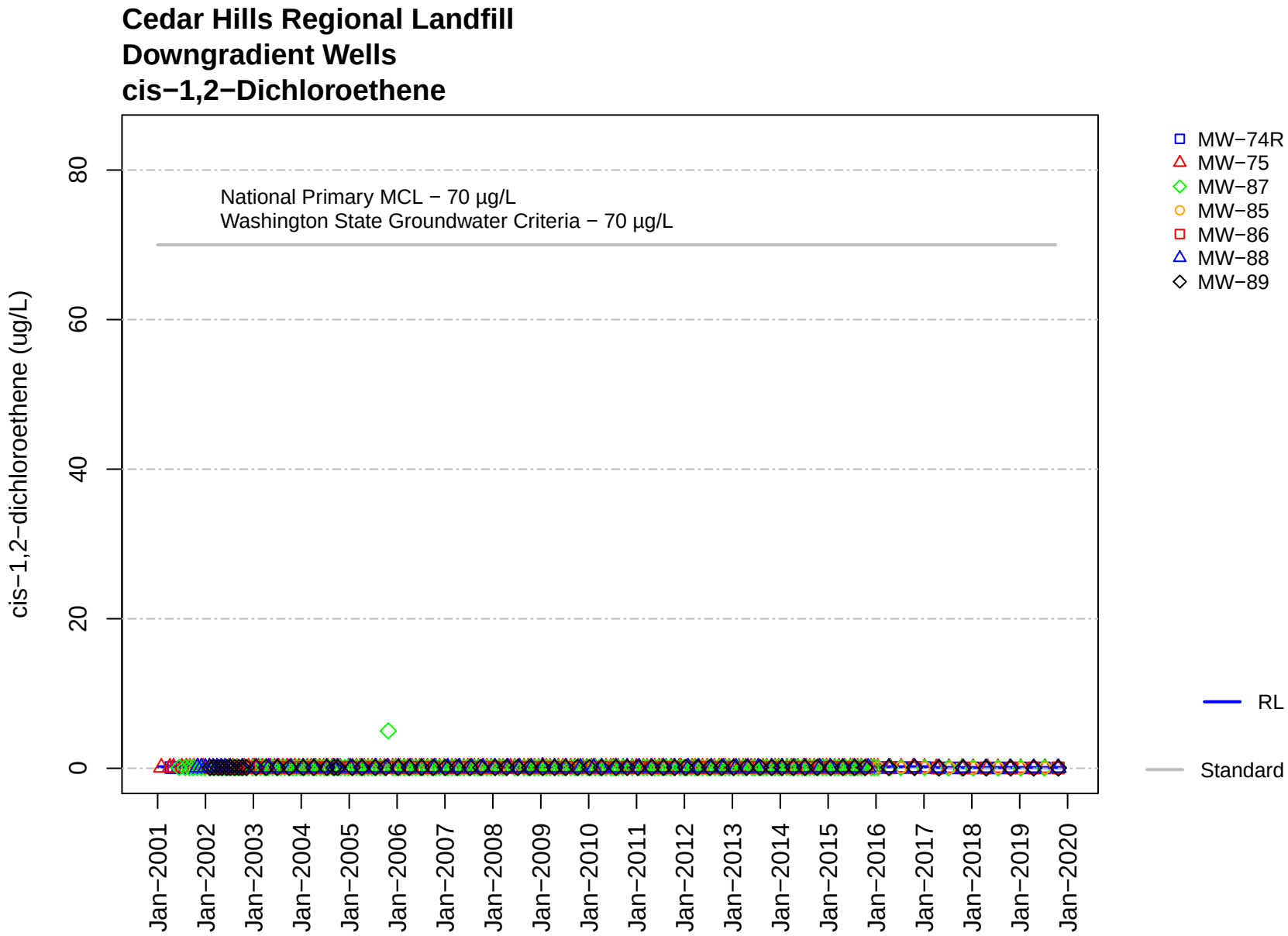

Cedar Hills Regional Landfill
Downgradient Wells
Zinc
Zinc (mg/L)
0
1
2
3
4
5
6
National Secondary MCL − 5 mg/L
Washington State Groundwater Criteria − 5 mg/L
Jan−2001
Jan−2002
Jan−2003
Jan−2004
Jan−2005
Jan−2006
Jan−2007
Jan−2008
Jan−2009
Jan−2010
Jan−2011
Jan−2012
Jan−2013
Jan−2014
Jan−2015
Jan−2016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

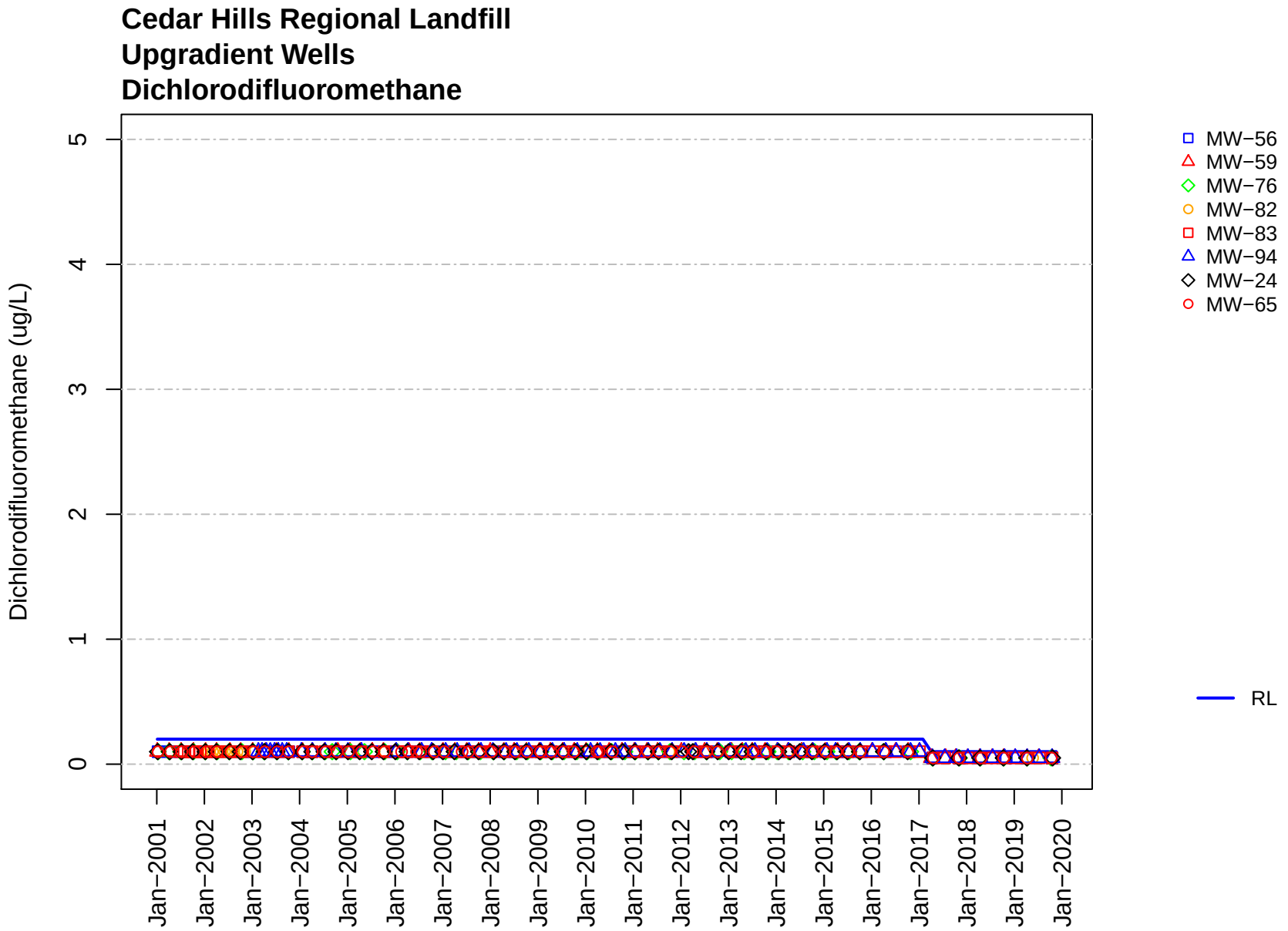

Cedar Hills Regional Landfill
Downgradient Wells
Zinc
National Secondary MCL − 5 mg/L
Washington State Groundwater Criteria − 5 mg/L
Zinc (mg/L)
0
1
2
3
4
5
6
Jan−2001
Jan−2002
Jan−2003
Jan−2004
Jan−2005
Jan−2006
Jan−2007
Jan−2008
Jan−2009
Jan−2010
Jan−2011
Jan−2012
Jan−2013
Jan−2014
Jan−2015
Jan−2016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

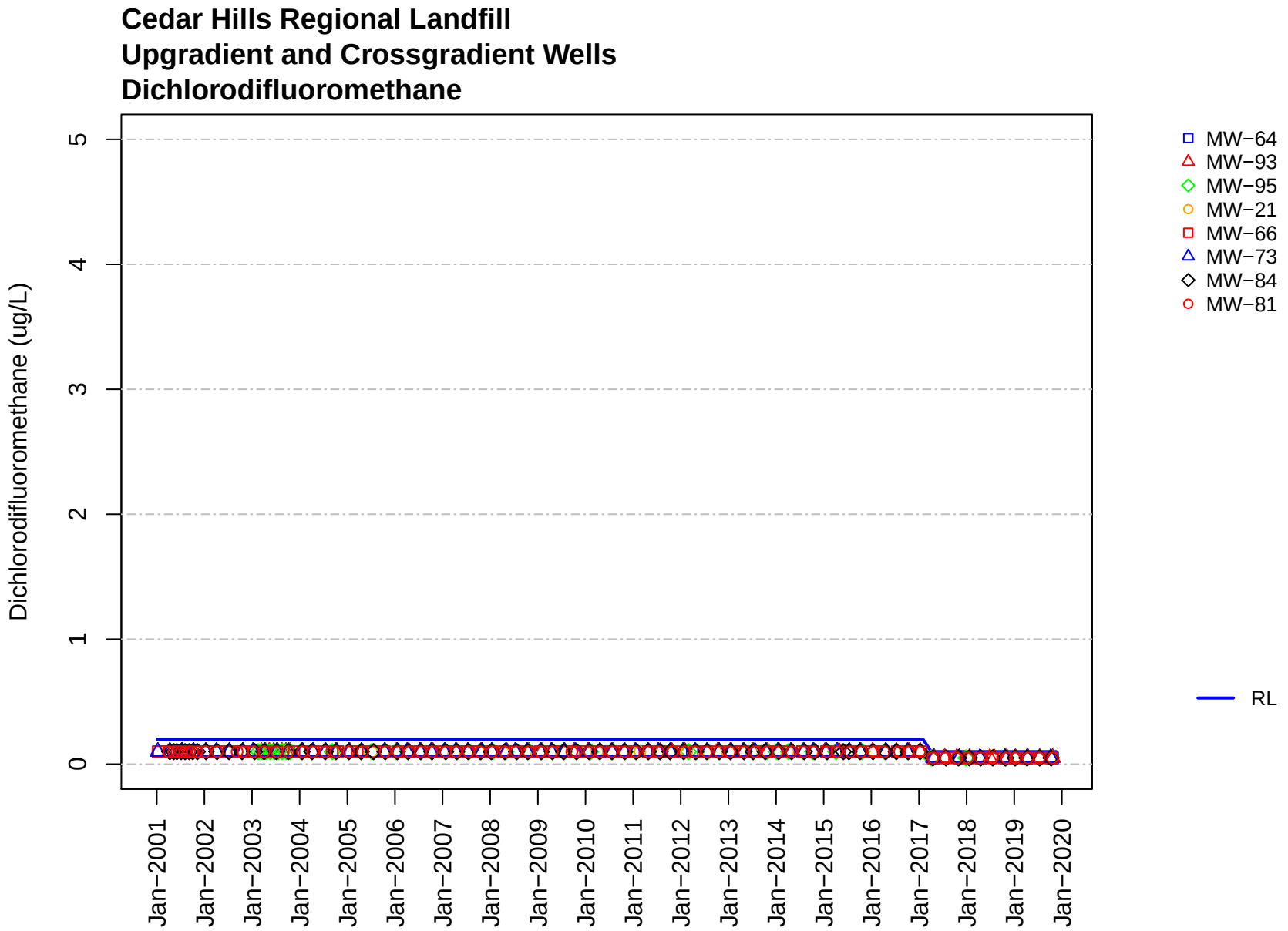

Cedar Hills Regional Landfill
Upgradient Wells
cis−1,2−Dichloroethene
National Primary MCL − 70 µg/L
Washington State Groundwater Criteria − 70 µg/L
cis−1,2−dichloroethene (ug/L)
0
20
40
60
80
Jan−2001
Jan−2002
Jan−2003
Jan−2004
Jan−2005
Jan−2006
Jan−2007
Jan−2008
Jan−2009
Jan−2010
Jan−2011
Jan−2012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

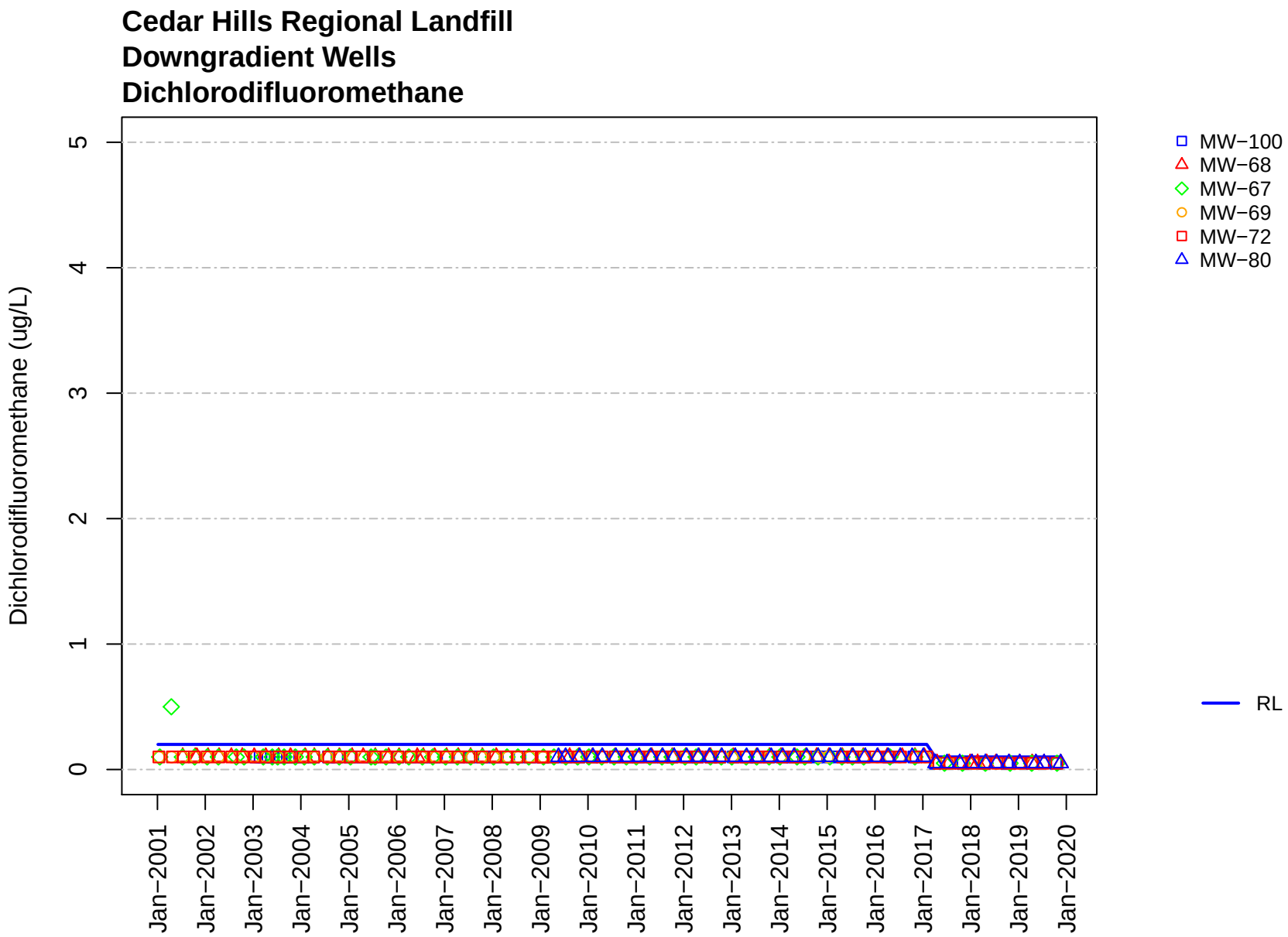

Cedar Hills Regional Landfill
Upgradient and Crossgradient Wells
cis−1,2−Dichloroethene
National Primary MCL − 70 µg/L
Washington State Groundwater Criteria − 70 µg/L
cis−1,2−dichloroethene (ug/L)
0
20
40
60
80
Jan−2001
Jan−2002
Jan−2003
Jan−2004
Jan−2005
Jan−2006
Jan−2007
Jan−2008
Jan−2009
Jan−2010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

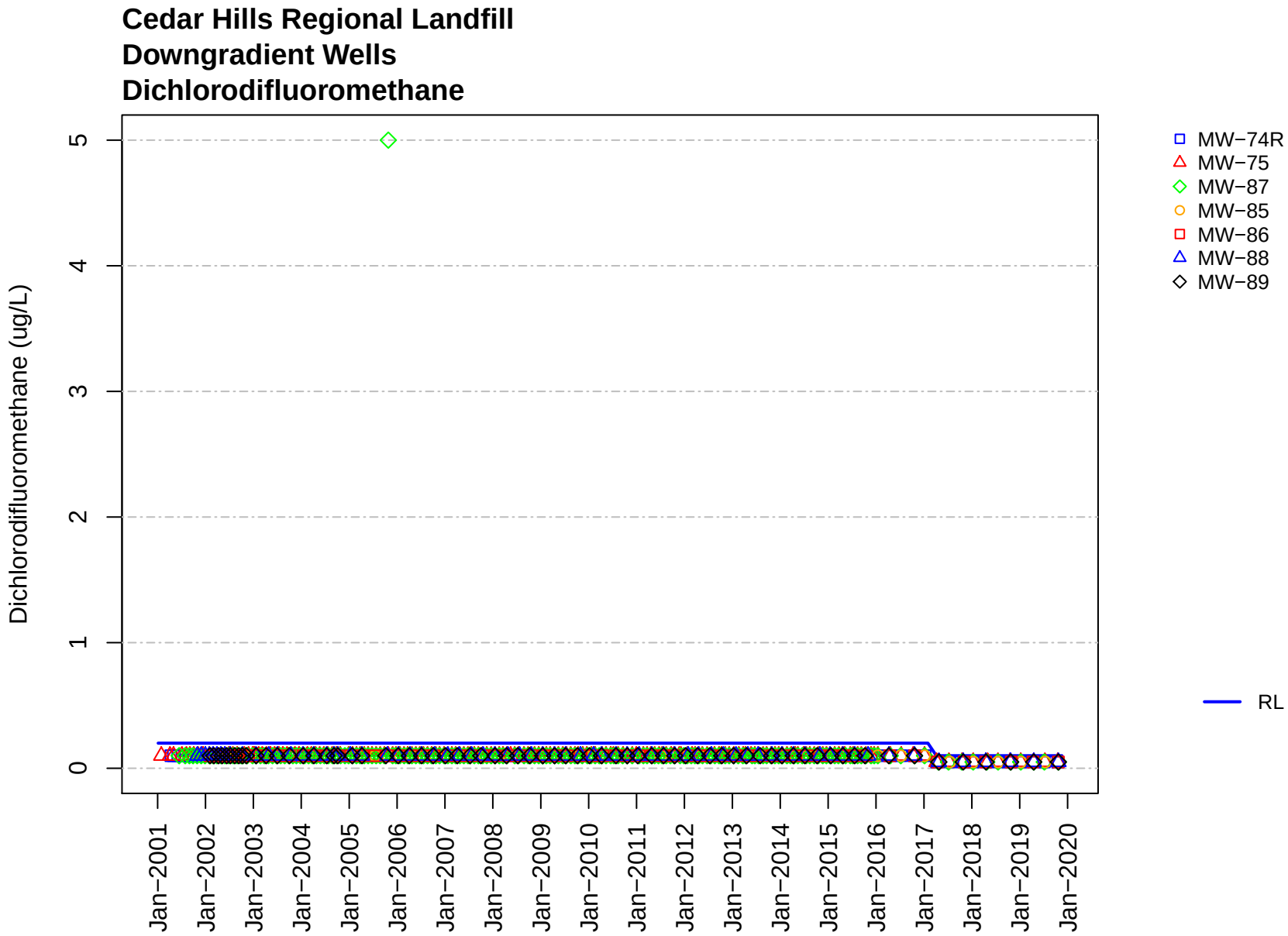

Cedar Hills Regional Landfill
Downgradient Wells
cis−1,2−Dichloroethene
National Primary MCL − 70 µg/L
Washington State Groundwater Criteria − 70 µg/L
cis−1,2−dichloroethene (ug/L)
0
20
40
60
80
Jan−2001
Jan−2002
Jan−2003
Jan−2004
Jan−2005
Jan−2006
Jan−2007
Jan−2008
Jan−2009
Jan−2010
Jan−2011
Jan−2012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

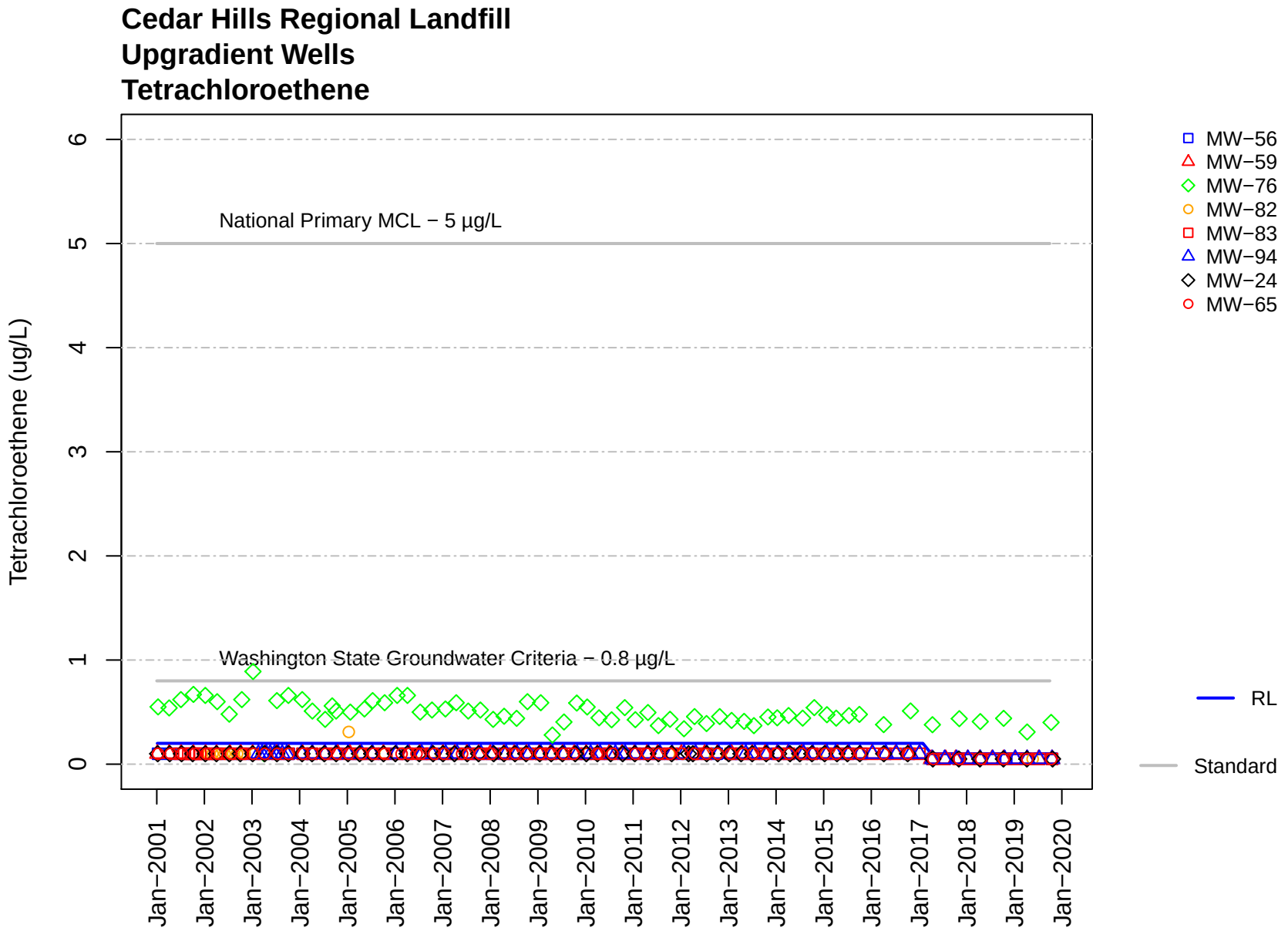

Cedar Hills Regional Landfill
Downgradient Wells
cis−1,2−Dichloroethene
National Primary MCL − 70 µg/L
Washington State Groundwater Criteria − 70 µg/L
cis−1,2−dichloroethene (ug/L)
0
20
40
60
80
Jan−2001
Jan−2002
Jan−2003
Jan−2004
Jan−2005
Jan−2006
Jan−2007
Jan−2008
Jan−2009
Jan−2010
Jan−2011
Jan−2012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

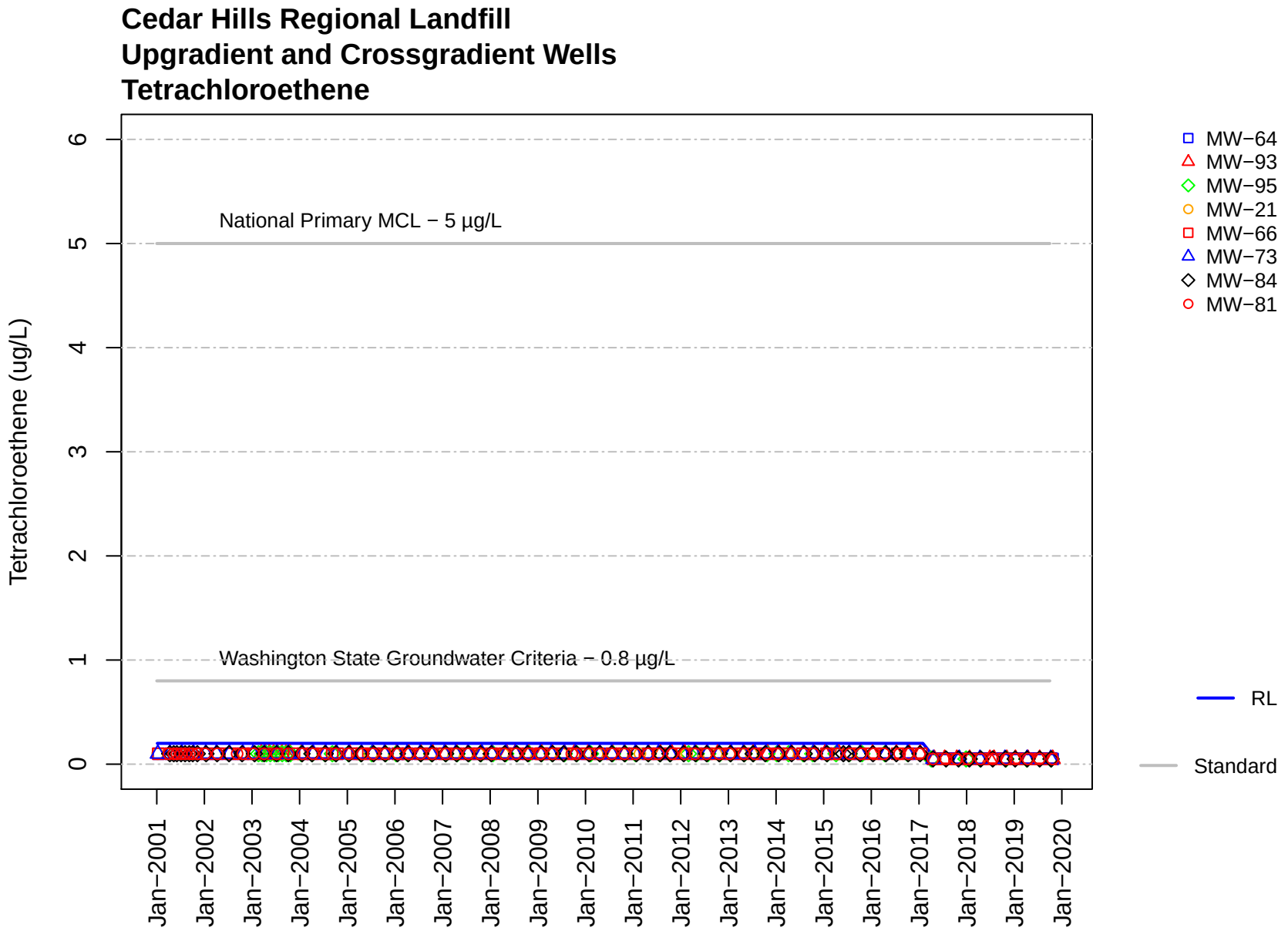

Cedar Hills Regional Landfill
Upgradient Wells
Dichlorodifluoromethane
Dichlorodifluoromethane (ug/L)
0
1
2
3
4
5
Jan−2001
Jan−2002
Jan−2003
Jan−2004
Jan−2005
Jan−2006
Jan−2007
Jan−2008
Jan−2009
Jan−2010
Jan−2011
Jan−2012
Jan−2013
Jan−2014
Jan−2015
Jan−2016
Jan−2017
Jan−2018
Jan−2019
Jan−2020
MW−56
MW−59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

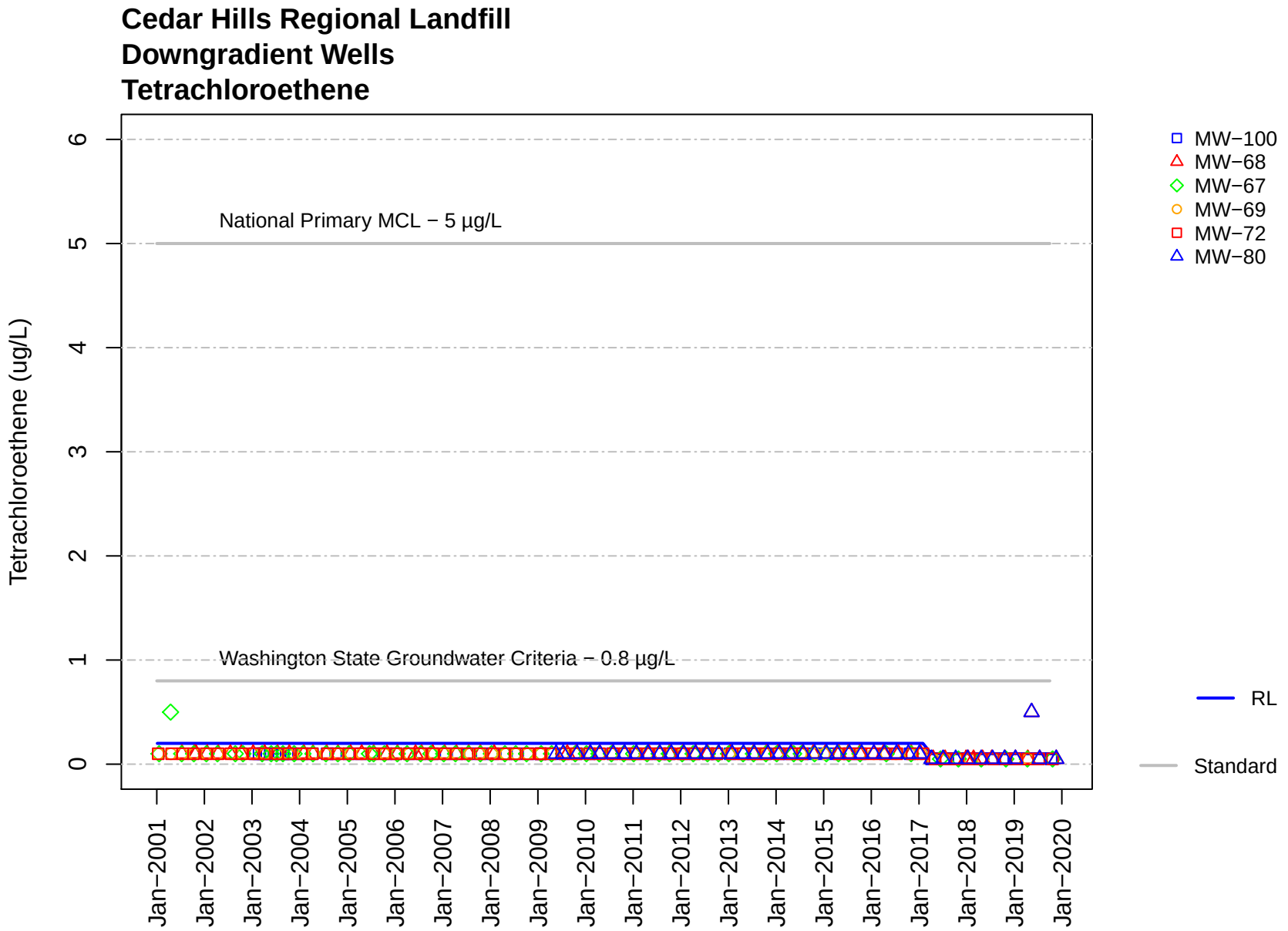

Cedar Hills Regional Landfill
Upgradient and Crossgradient Wells
Dichlorodifluoromethane
Dichlorodifluoromethane (ug/L)
0
1
2
3
4
5
Jan−2001
Jan−2002
Jan−2003
Jan−2004
Jan−2005
Jan−2006
Jan−2007
Jan−2008
Jan−2009
Jan−2010
Jan−2011
Jan−2012
Jan−2013
Jan−2014
Jan−2015
Jan−2016
Jan−2017
Jan−2018
Jan−2019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

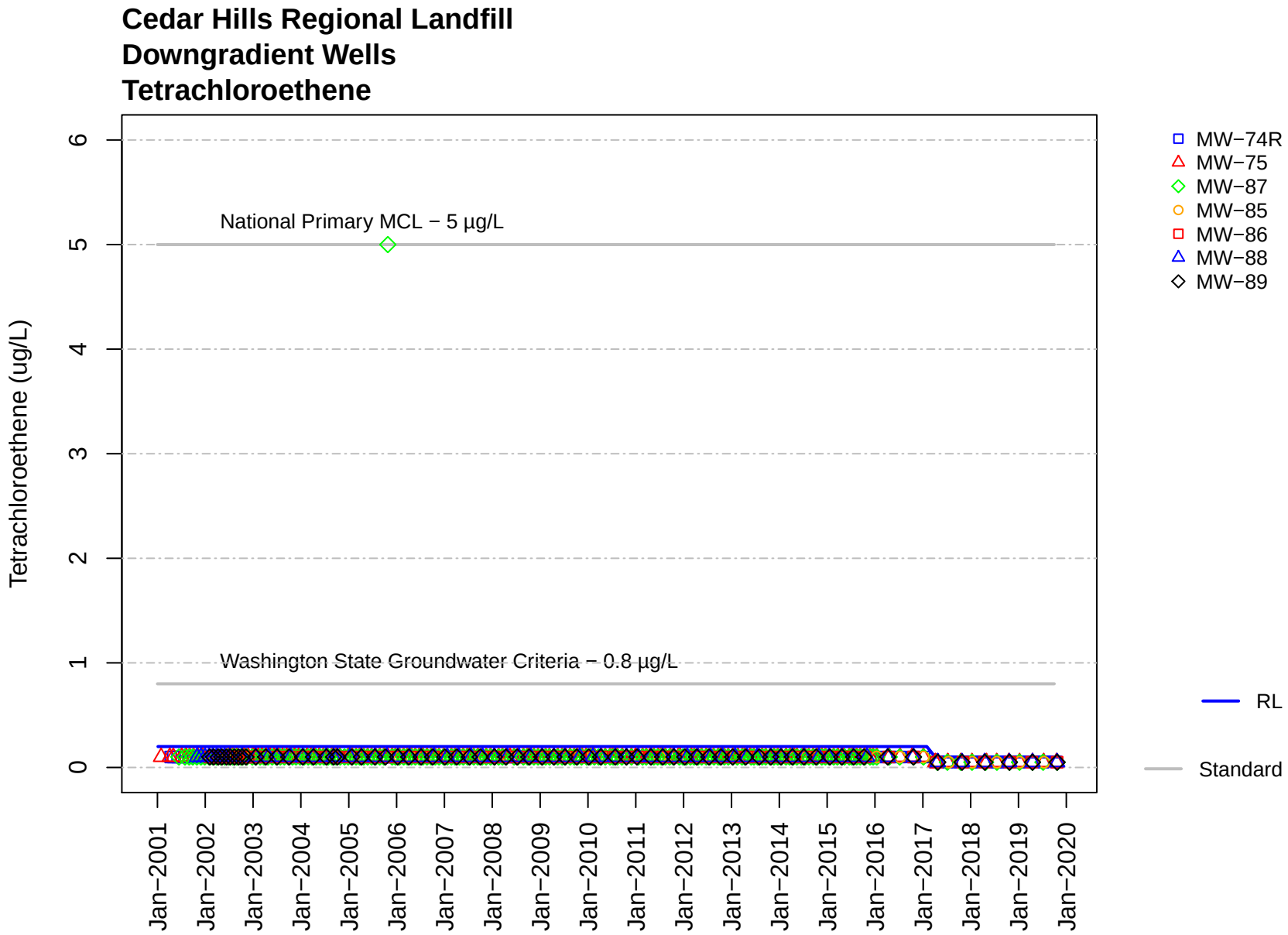

Cedar Hills Regional Landfill
Downgradient Wells
Dichlorodifluoromethane
Dichlorodifluoromethane (ug/L)
0
1
2
3
4
5
Jan−2001
Jan−2002
Jan−2003
Jan−2004
Jan−2005
Jan−2006
Jan−2007
Jan−2008
Jan−2009
Jan−2010
Jan−2011
Jan−2012
Jan−2013
Jan−2014
Jan−2015
Jan−2016
Jan−2017
Jan−2018
Jan−2019
Jan−2020
MW−100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

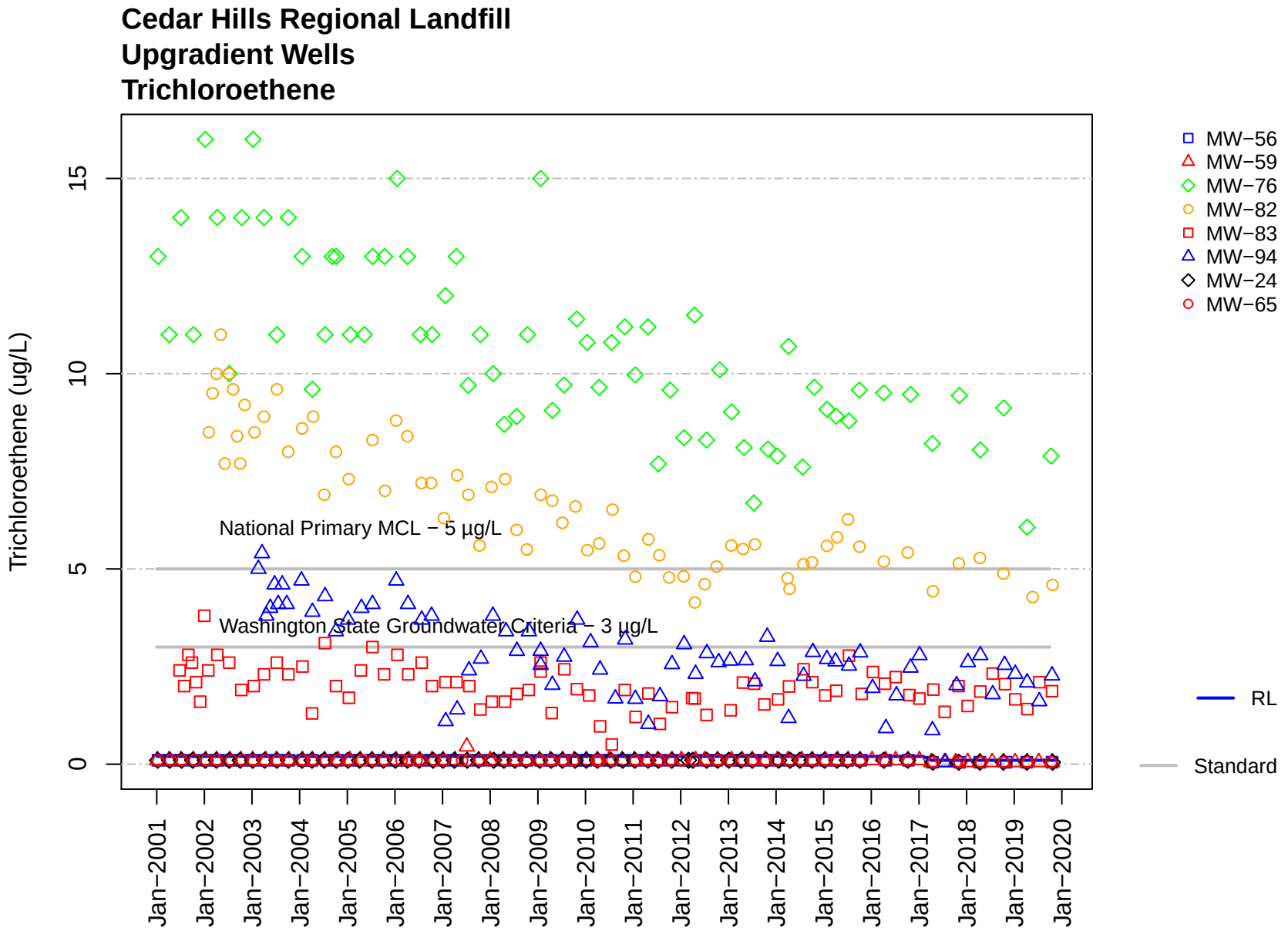

Cedar Hills Regional Landfill
Downgradient Wells
Dichlorodifluoromethane
Dichlorodifluoromethane (ug/L)
0
1
2
3
4
5
Jan−2001
Jan−2002
Jan−2003
Jan−2004
Jan−2005
Jan−2006
Jan−2007
Jan−2008
Jan−2009
Jan−2010
Jan−2011
Jan−2012
Jan−2013
Jan−2014
Jan−2015
Jan−2016
Jan−2017
Jan−2018
Jan−2019
Jan−2020
MW−74R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

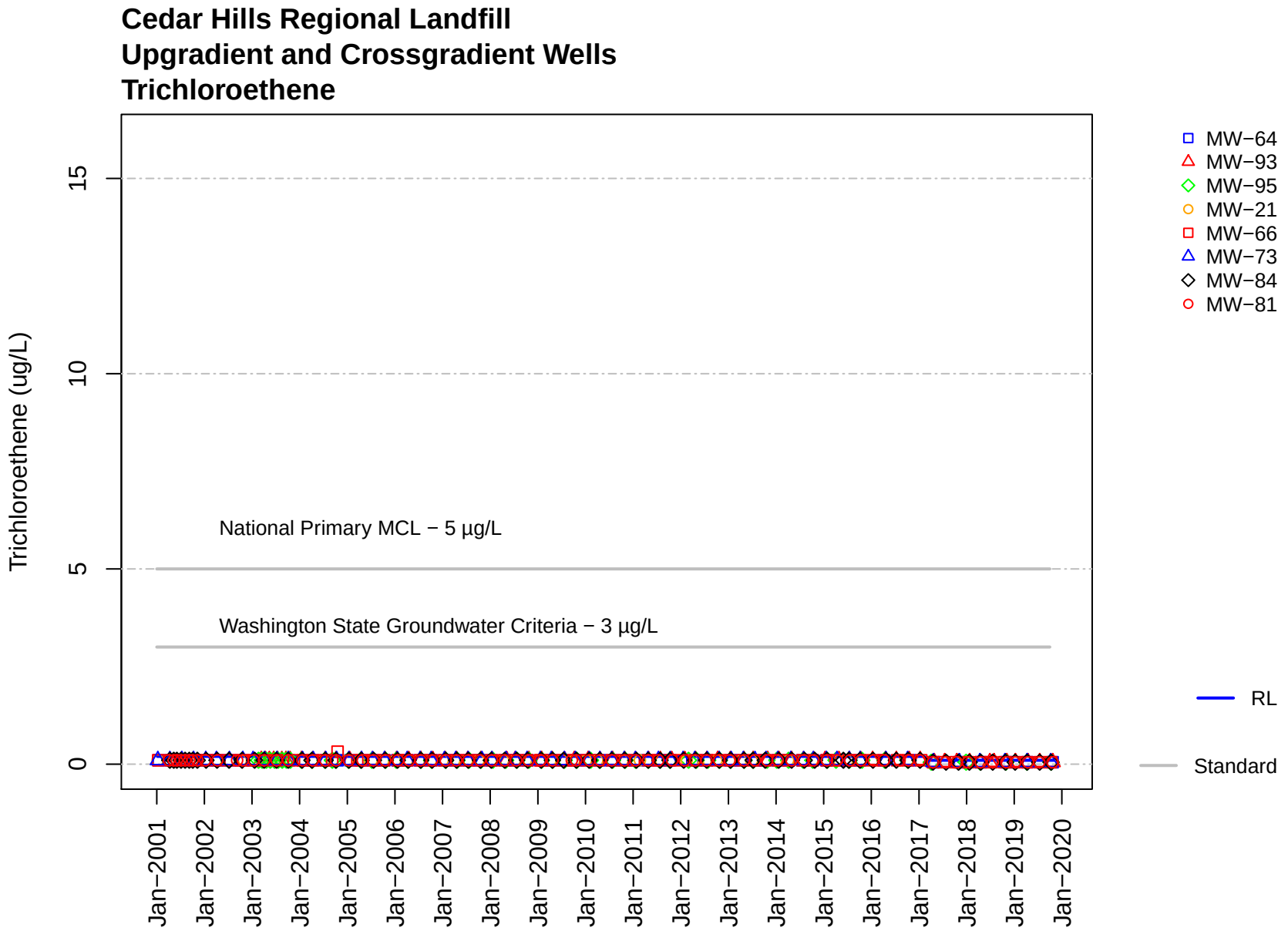

Cedar Hills Regional Landfill
Upgradient Wells
Tetrachloroethene
Tetrachloroethene (ug/L)
0
1
2
3
4
5
6
National Primary MCL − 5 µg/L
Washington State Groundwater Criteria − 0.8 µg/L
Jan−2001
Jan−2002
Jan−2003
Jan−2004
Jan−2005
Jan−2006
Jan−2007
Jan−2008
Jan−2009
Jan−2010
Jan−2011
Jan−2012
Jan−2013
Jan−2014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

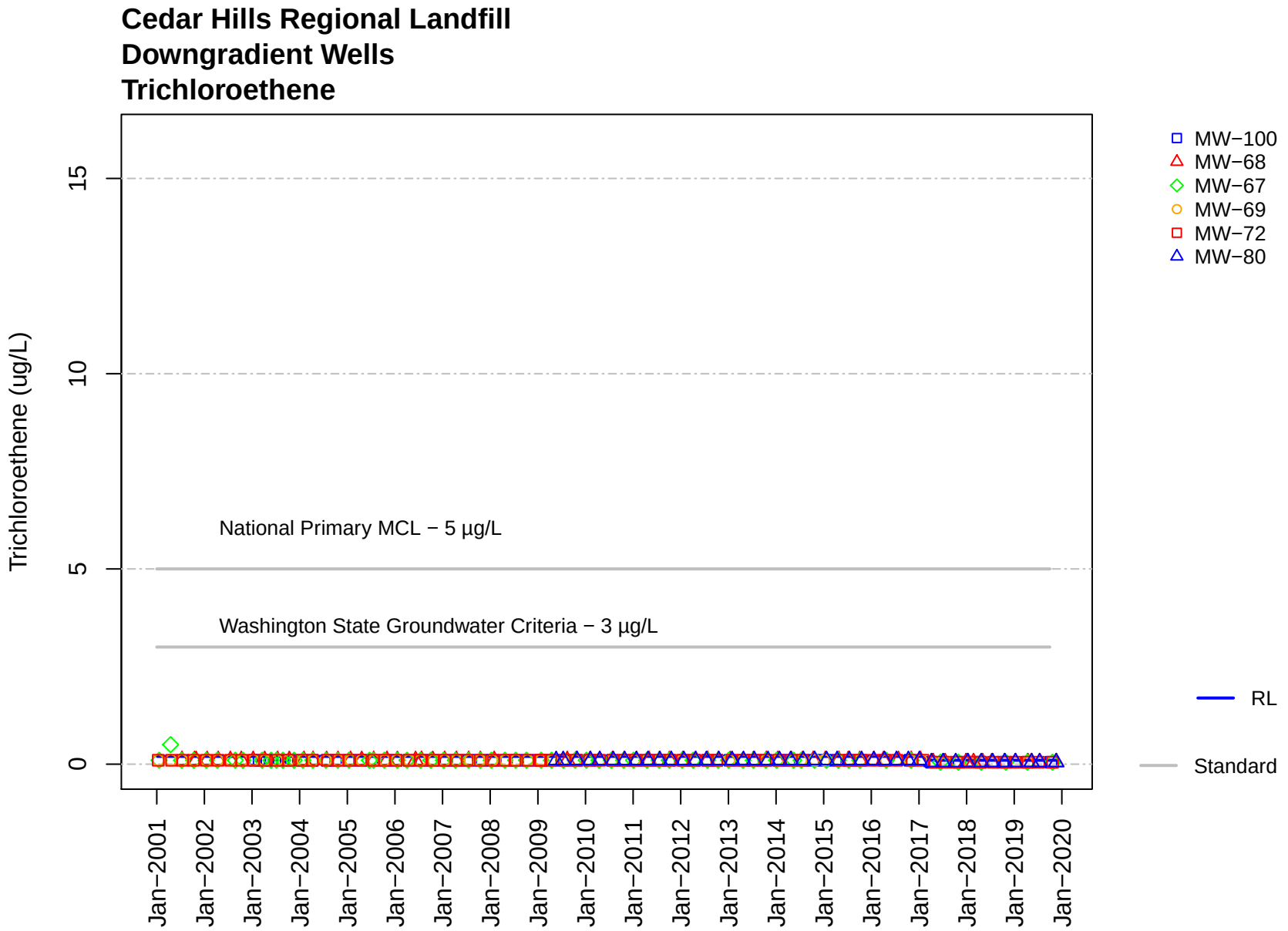

Cedar Hills Regional Landfill
Upgradient and Crossgradient Wells
Tetrachloroethene
Tetrachloroethene (ug/L)
0
1
2
3
4
5
6
National Primary MCL − 5 µg/L
Washington State Groundwater Criteria − 0.8 µg/L
Jan−2001
Jan−2002
Jan−2003
Jan−2004
Jan−2005
Jan−2006
Jan−2007
Jan−2008
Jan−2009
Jan−2010
Jan−2011
Jan−2012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

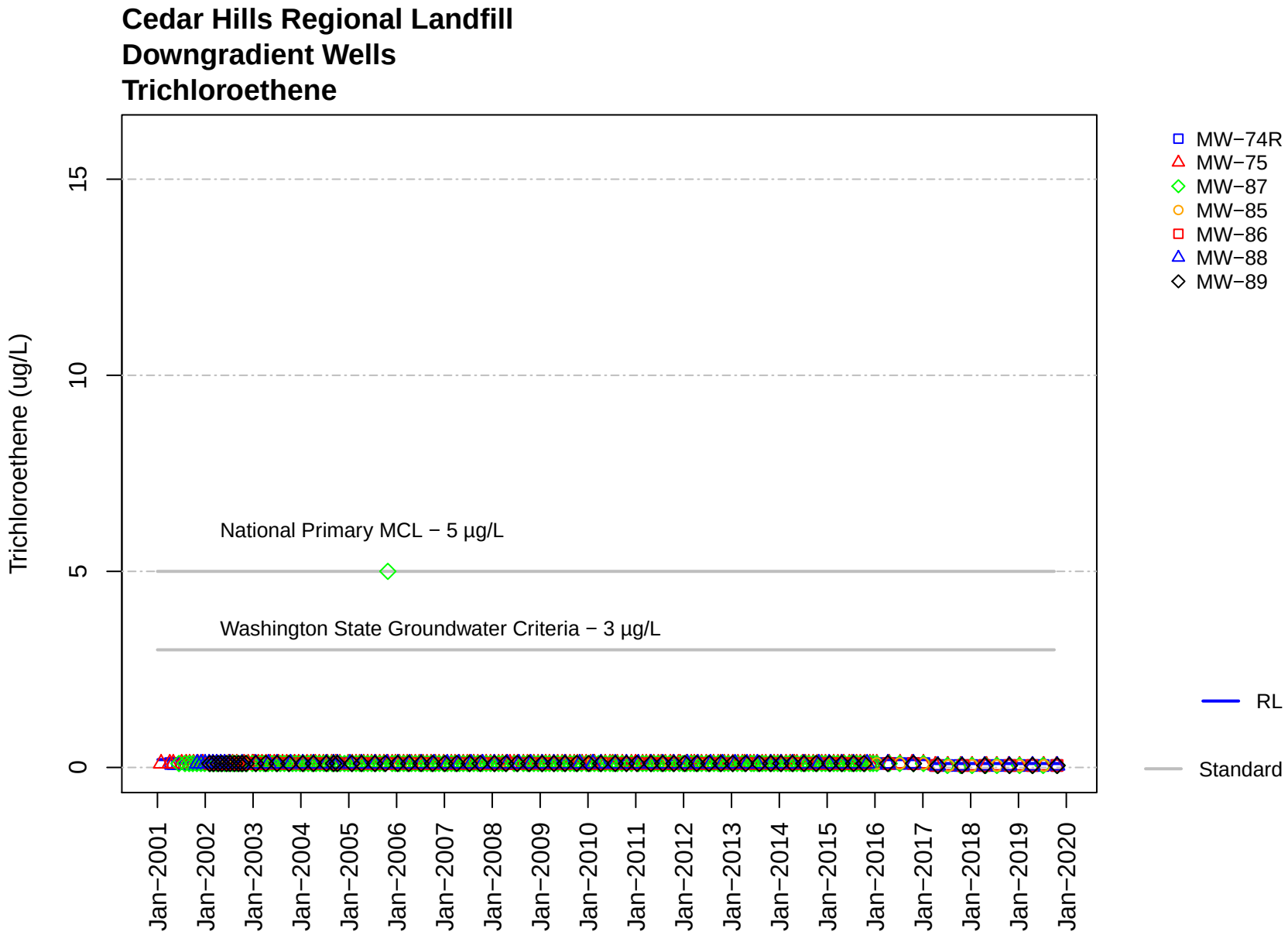

Cedar Hills Regional Landfill
Downgradient Wells
Tetrachloroethene
Tetrachloroethene (ug/L)
0
1
2
3
4
5
6
National Primary MCL − 5 µg/L
Washington State Groundwater Criteria − 0.8 µg/L
Jan−2001
Jan−2002
Jan−2003
Jan−2004
Jan−2005
Jan−2006
Jan−2007
Jan−2008
Jan−2009
Jan−2010
Jan−2011
Jan−2012
Jan−2013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

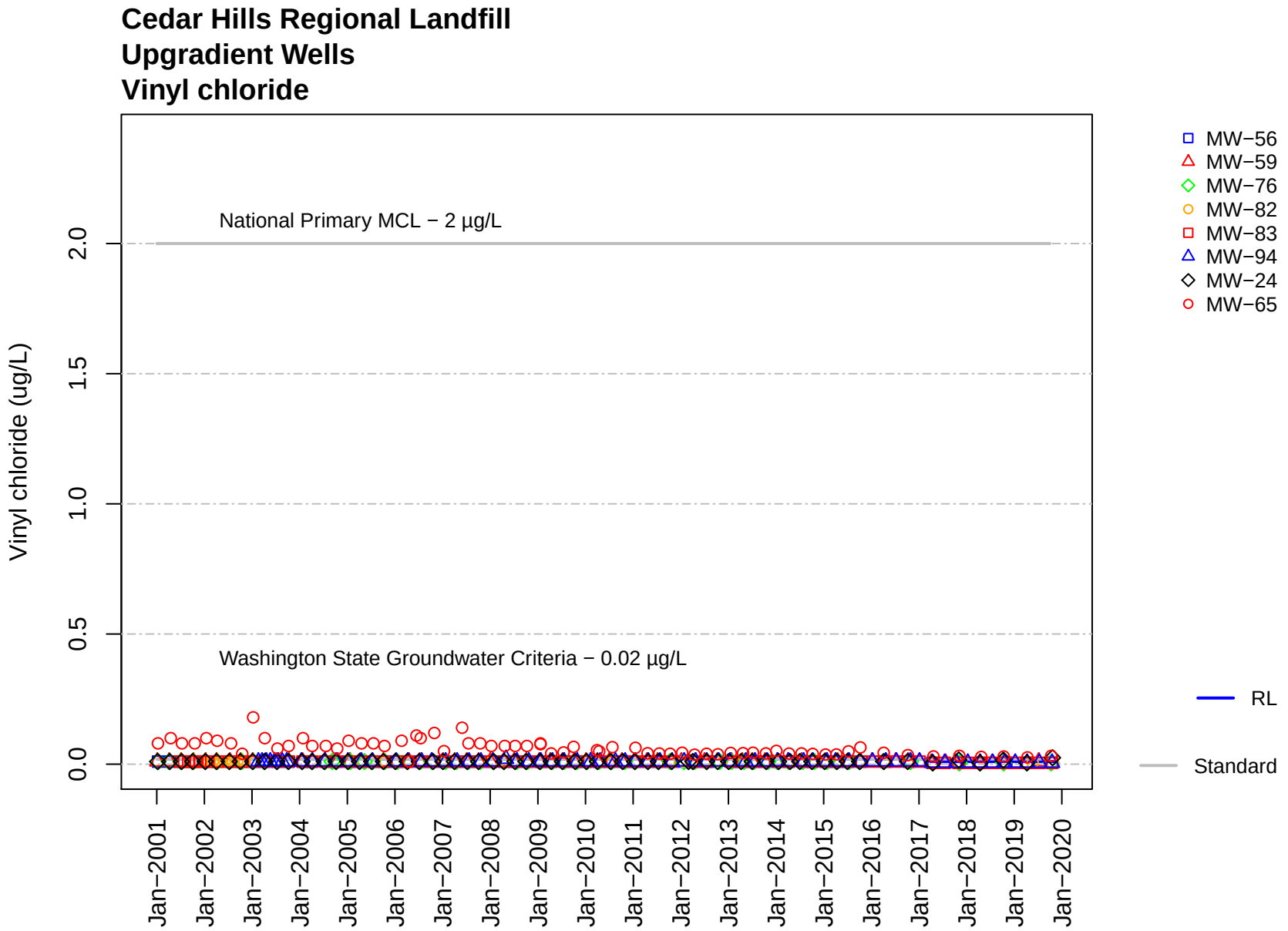

Cedar Hills Regional Landfill
Downgradient Wells
Tetrachloroethene
Tetrachloroethene (ug/L)
0
1
2
3
4
5
6
National Primary MCL − 5 µg/L
Washington State Groundwater Criteria − 0.8 µg/L
Jan−2001
Jan−2002
Jan−2003
Jan−2004
Jan−2005
Jan−2006
Jan−2007
Jan−2008
Jan−2009
Jan−2010
Jan−2011
Jan−2012
Jan−2013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

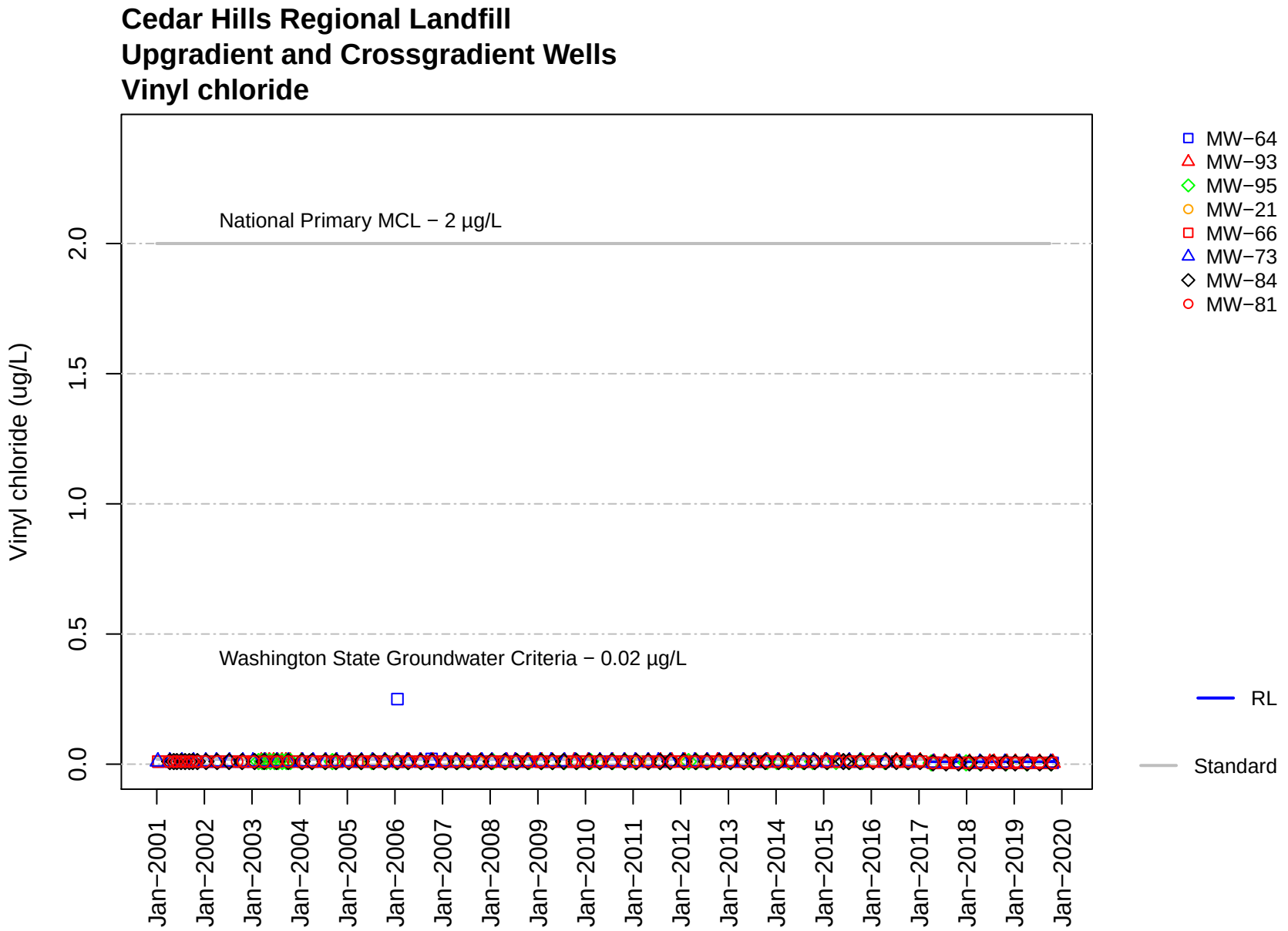

Cedar Hills Regional Landfill
Upgradient Wells
Trichloroethene
Trichloroethene (ug/L)
0
5
10
15
National Primary MCL – 5 µg/L
Washington State Groundwater Criteria – 3 µg/L
Jan–2001
Jan–2002
Jan–2003
Jan–2004
Jan–2005
Jan–2006
Jan–2007
Jan–2008
Jan–2009
Jan–2010
Jan–2011
Jan–2012
Jan–2013
Jan–2014
Jan–2015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

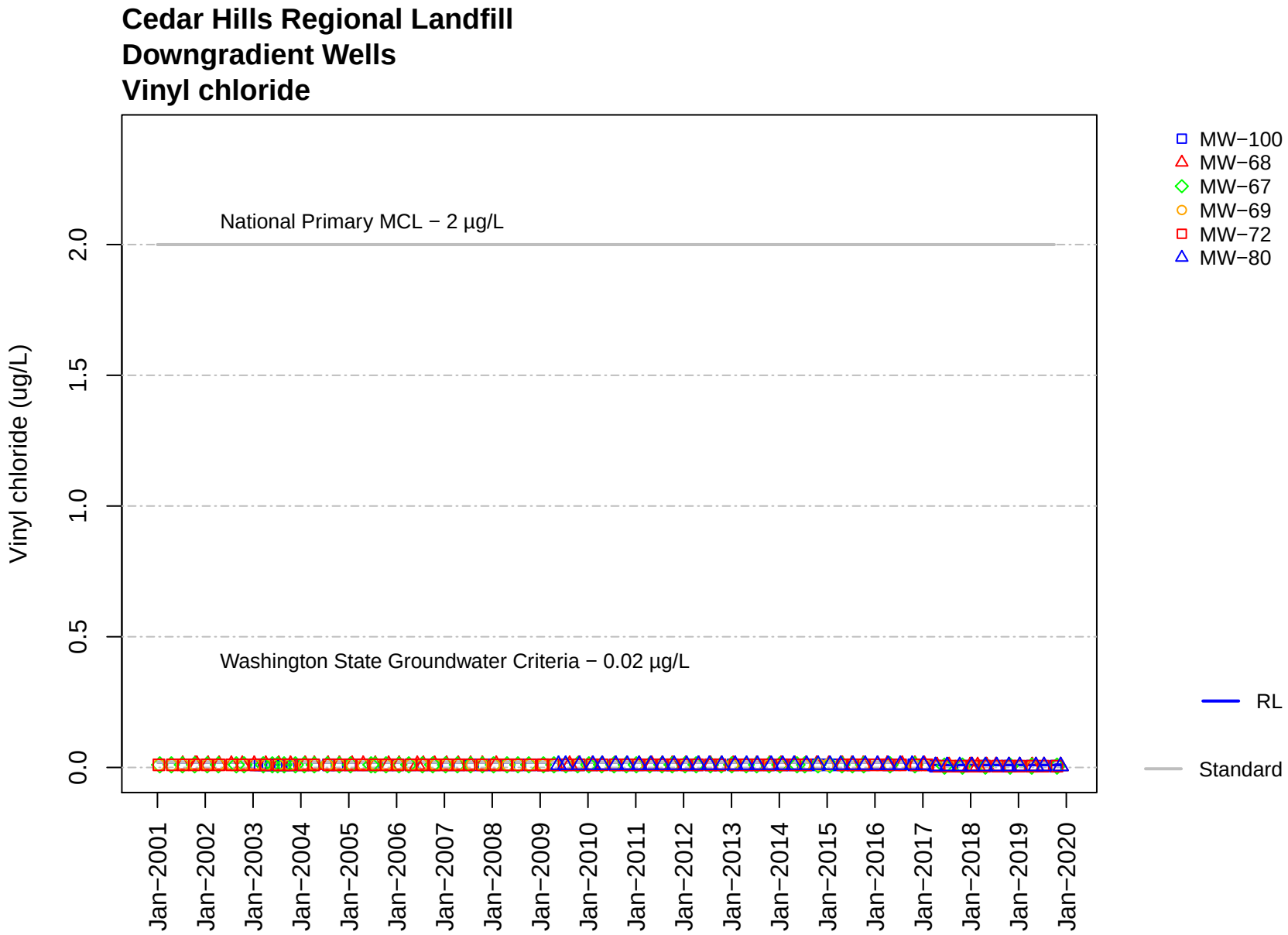

Cedar Hills Regional Landfill
Upgradient and Crossgradient Wells
Trichloroethene
Trichloroethene (ug/L)
0
5
10
15
National Primary MCL − 5 µg/L
Washington State Groundwater Criteria − 3 µg/L
Jan−2001
Jan−2002
Jan−2003
Jan−2004
Jan−2005
Jan−2006
Jan−2007
Jan−2008
Jan−2009
Jan−2010
Jan−2011
Jan−2012
Jan−2013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

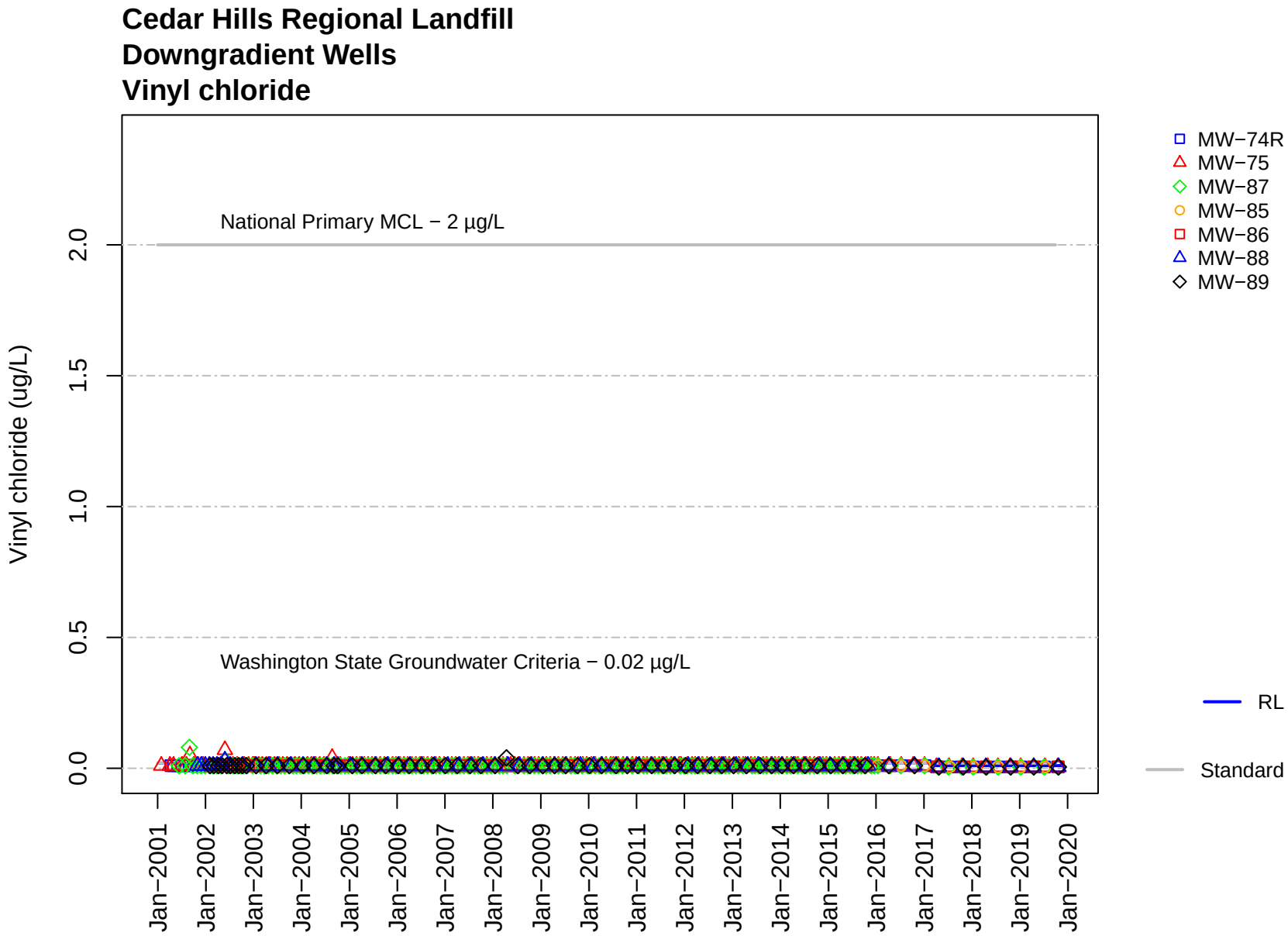

Cedar Hills Regional Landfill
Downgradient Wells
Trichloroethene
Trichloroethene (ug/L)
0
5
10
15
National Primary MCL − 5 µg/L
Washington State Groundwater Criteria − 3 µg/L
Jan−2001
Jan−2002
Jan−2003
Jan−2004
Jan−2005
Jan−2006
Jan−2007
Jan−2008
Jan−2009
Jan−2010
Jan−2011
Jan−2012
Jan−2013
Jan−2014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

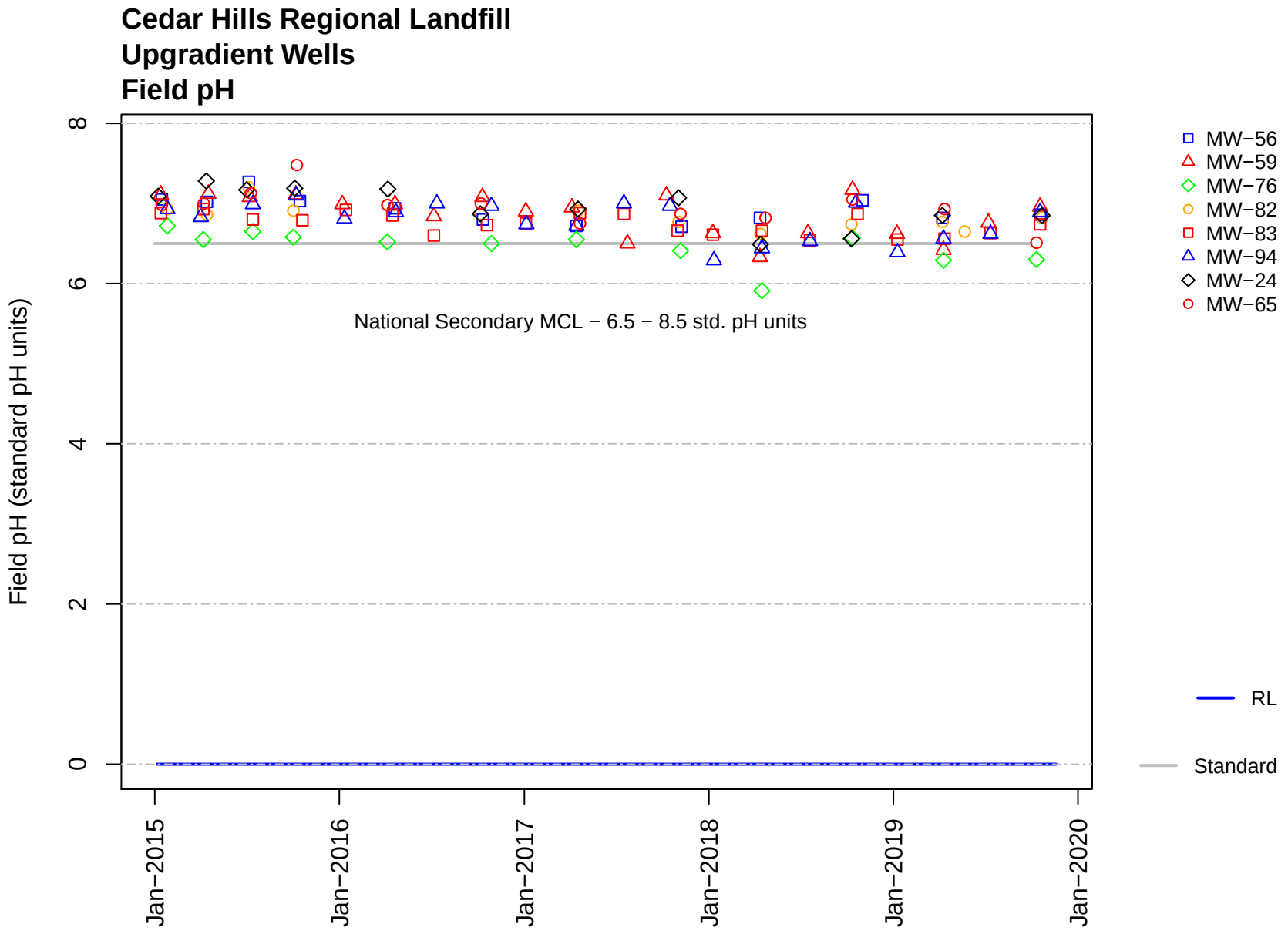

Cedar Hills Regional Landfill
Downgradient Wells
Trichloroethene
Trichloroethene (ug/L)
0
5
10
15
National Primary MCL − 5 µg/L
Washington State Groundwater Criteria − 3 µg/L
Jan−2001
Jan−2002
Jan−2003
Jan−2004
Jan−2005
Jan−2006
Jan−2007
Jan−2008
Jan−2009
Jan−2010
Jan−2011
Jan−2012
Jan−2013
Jan−2014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

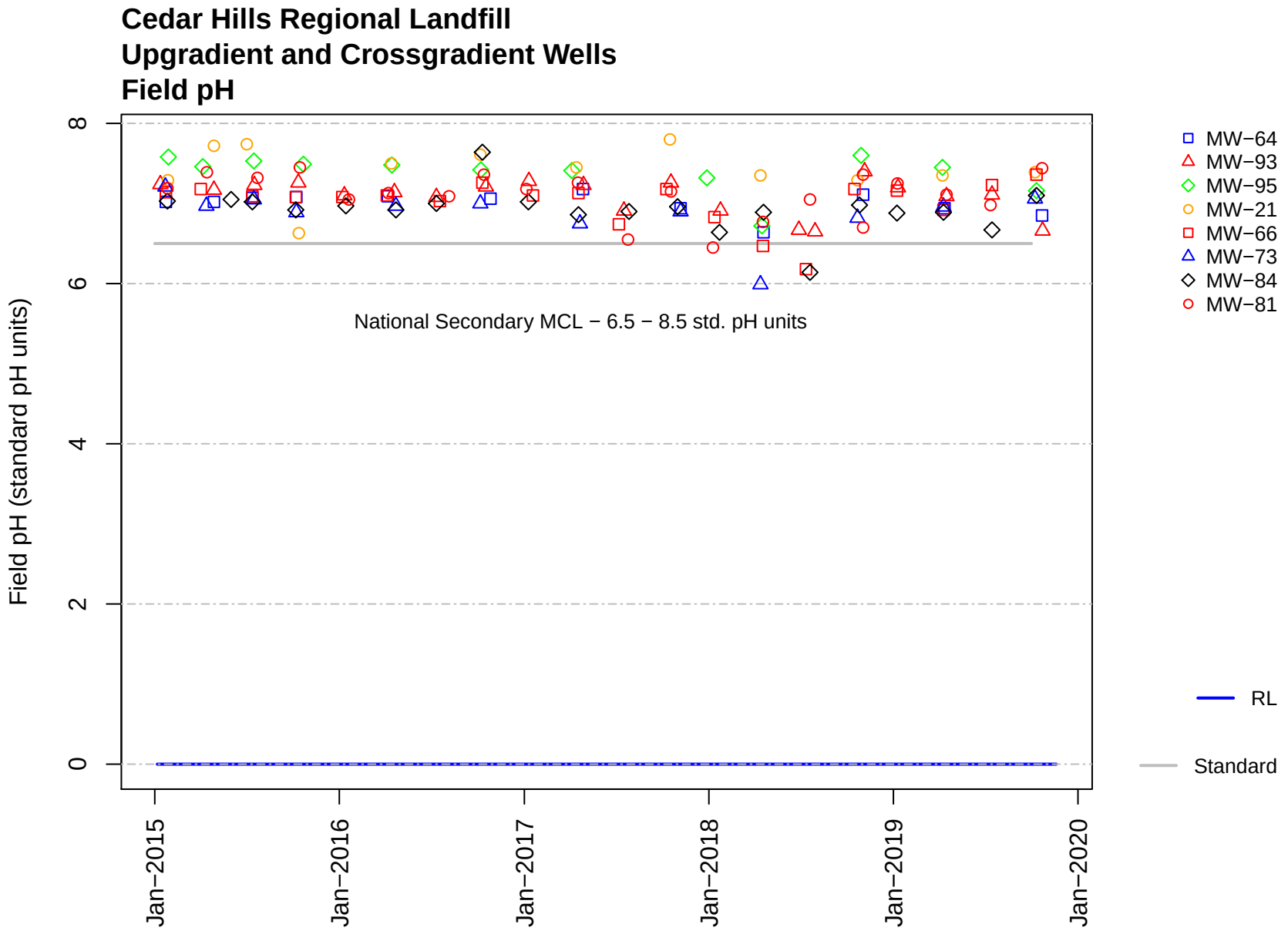

Cedar Hills Regional Landfill
Upgradient Wells
Vinyl chloride
National Primary MCL − 2 µg/L
Washington State Groundwater Criteria − 0.02 µg/L
Vinyl chloride (ug/L)
0.0
0.5
1.0
1.5
2.0
Jan−2001
Jan−2002
Jan−2003
Jan−2004
Jan−2005
Jan−2006
Jan−2007
Jan−2008
Jan−2009
Jan−2010
Jan−2011
Jan−2012
Jan−2013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

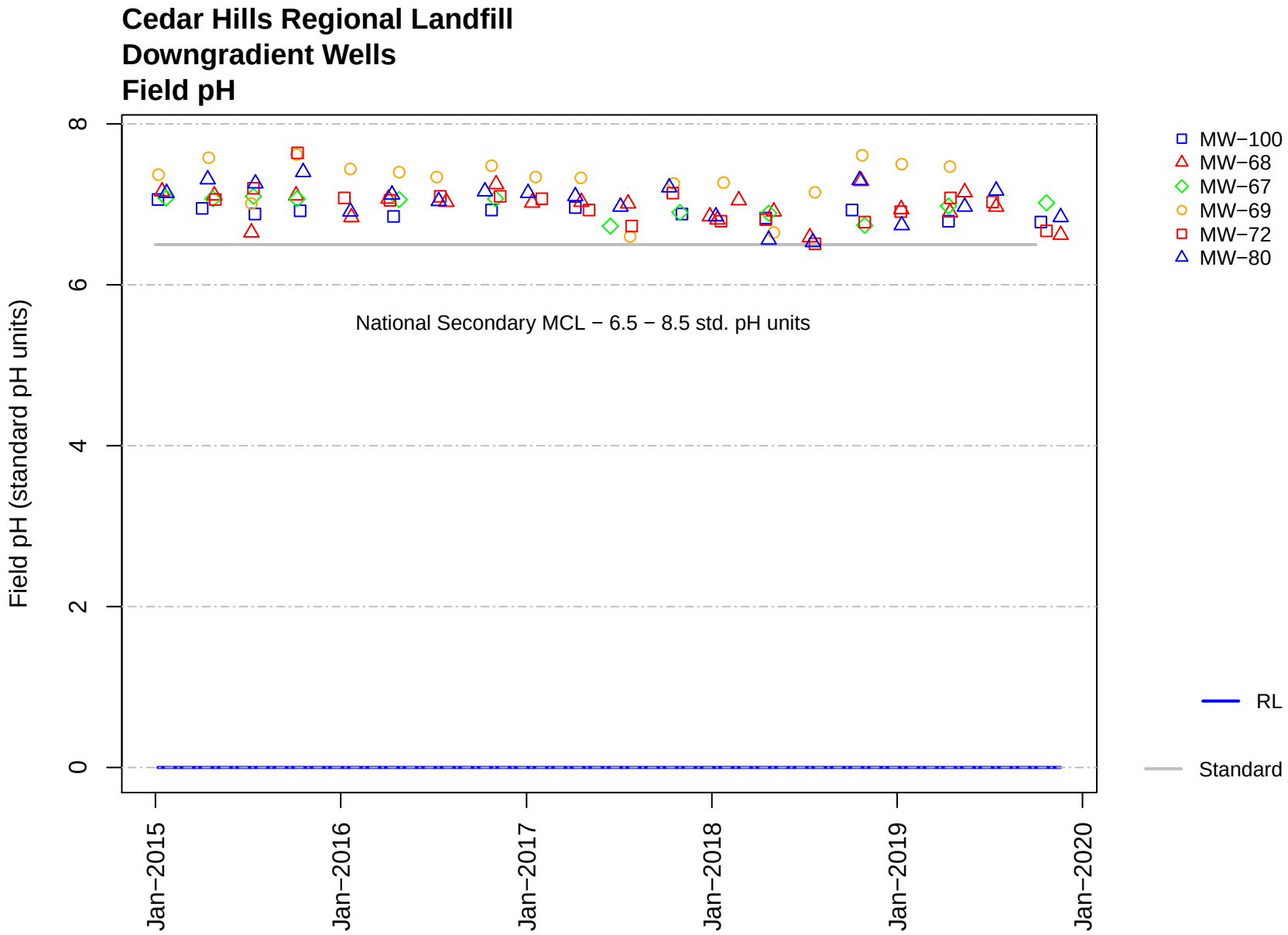

Cedar Hills Regional Landfill
Upgradient and Crossgradient Wells
Vinyl chloride
Vinyl chloride (ug/L)
0.0
0.5
1.0
1.5
2.0
National Primary MCL − 2 µg/L
Washington State Groundwater Criteria − 0.02 µg/L
Jan−2001
Jan−2002
Jan−2003
Jan−2004
Jan−2005
Jan−2006
Jan−2007
Jan−2008
Jan−2009
Jan−2010
Jan−2011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

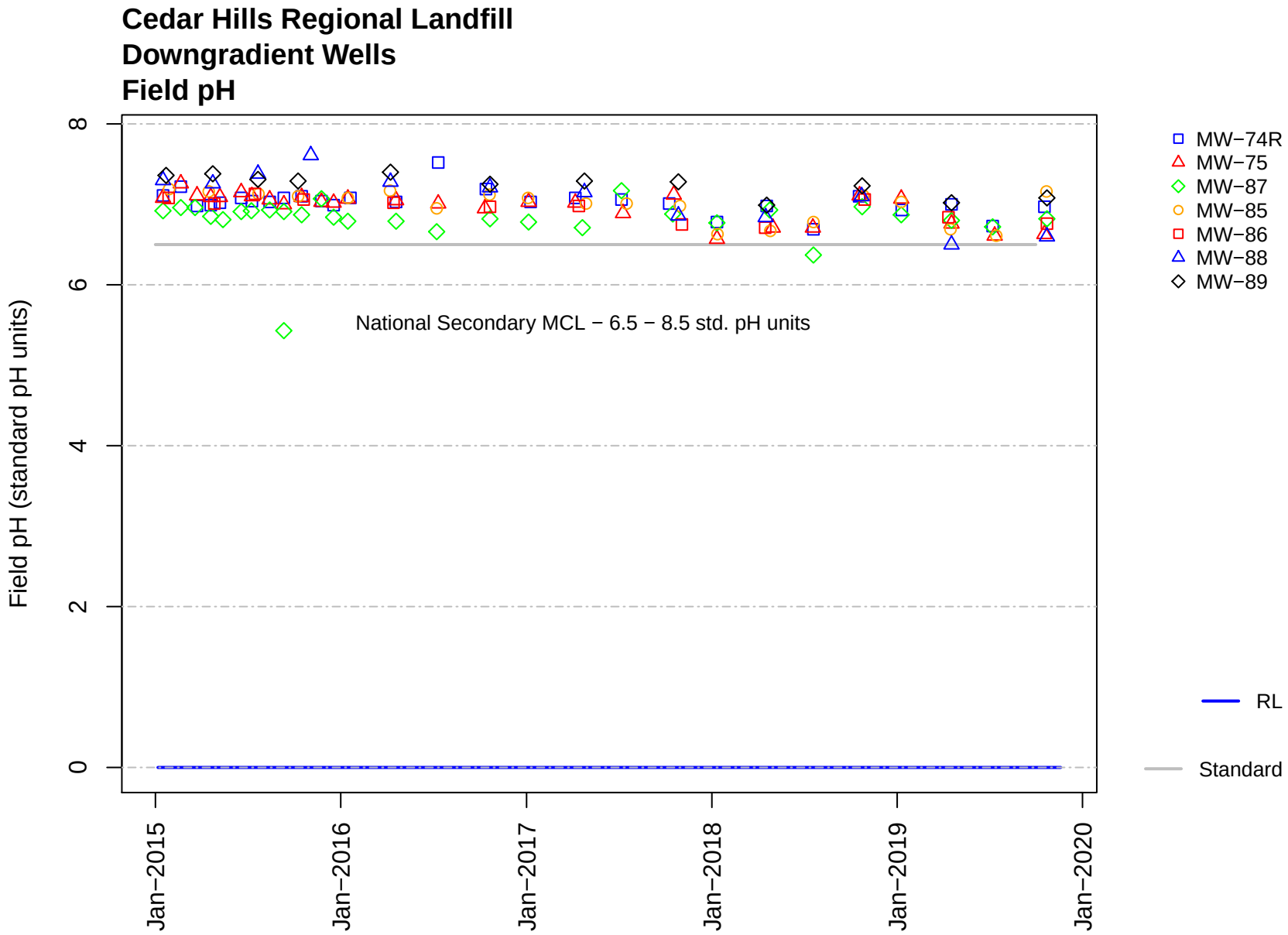

Cedar Hills Regional Landfill
Downgradient Wells
Vinyl chloride
National Primary MCL − 2 µg/L
Washington State Groundwater Criteria − 0.02 µg/L
Vinyl chloride (ug/L)
0.0
0.5
1.0
1.5
2.0
Jan−2001
Jan−2002
Jan−2003
Jan−2004
Jan−2005
Jan−2006
Jan−2007
Jan−2008
Jan−2009
Jan−2010
Jan−2011
Jan−2012
Jan−2013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

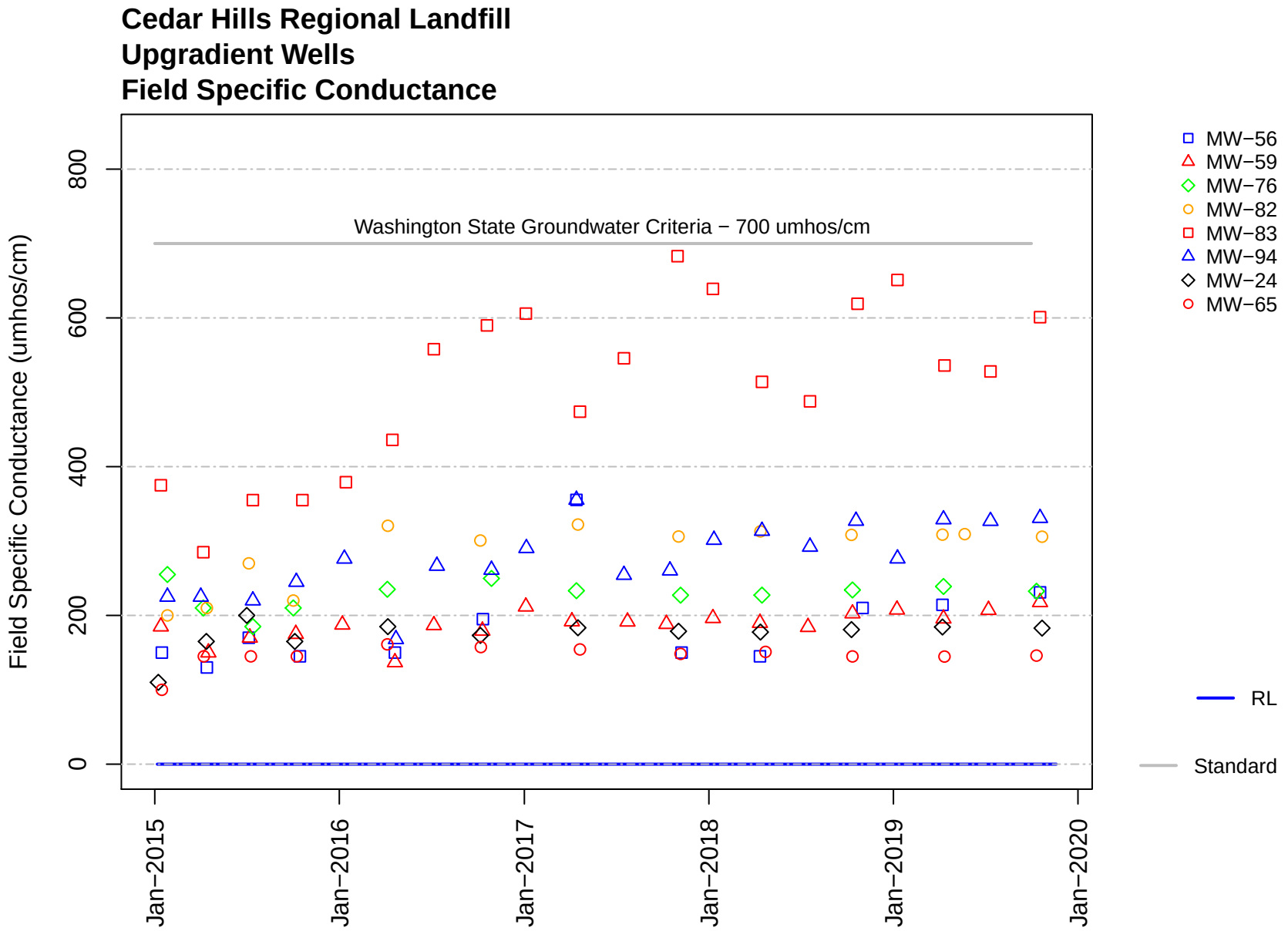

Cedar Hills Regional Landfill
Downgradient Wells
Vinyl chloride
National Primary MCL − 2 µg/L
Washington State Groundwater Criteria − 0.02 µg/L
Vinyl chloride (ug/L)
0.0
0.5
1.0
1.5
2.0
Jan−2001
Jan−2002
Jan−2003
Jan−2004
Jan−2005
Jan−2006
Jan−2007
Jan−2008
Jan−2009
Jan−2010
Jan−2011
Jan−2012
Jan−2013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

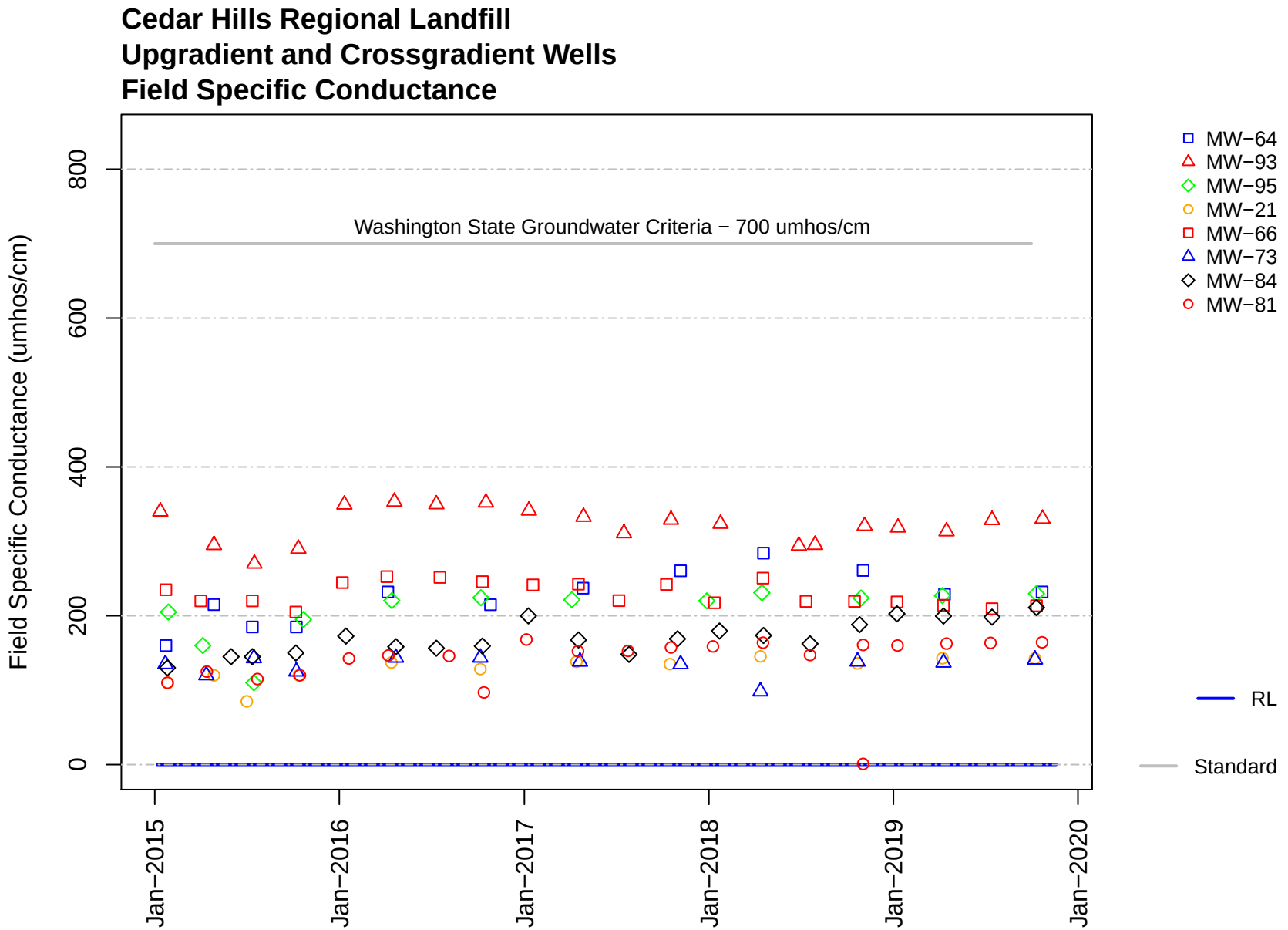

Cedar Hills Regional Landfill
Upgradient Wells
Field pH
Field pH (standard pH units)
0
2
4
6
8
National Secondary MCL − 6.5 − 8.5 std. pH units
Jan−2015
Jan−2016
Jan−2017
Jan−2018
Jan−2019
Jan−2020
MW−56
MW−59
MW−76
MW−82
MW−83
MW−94
MW−24
MW−65
RL
Standard

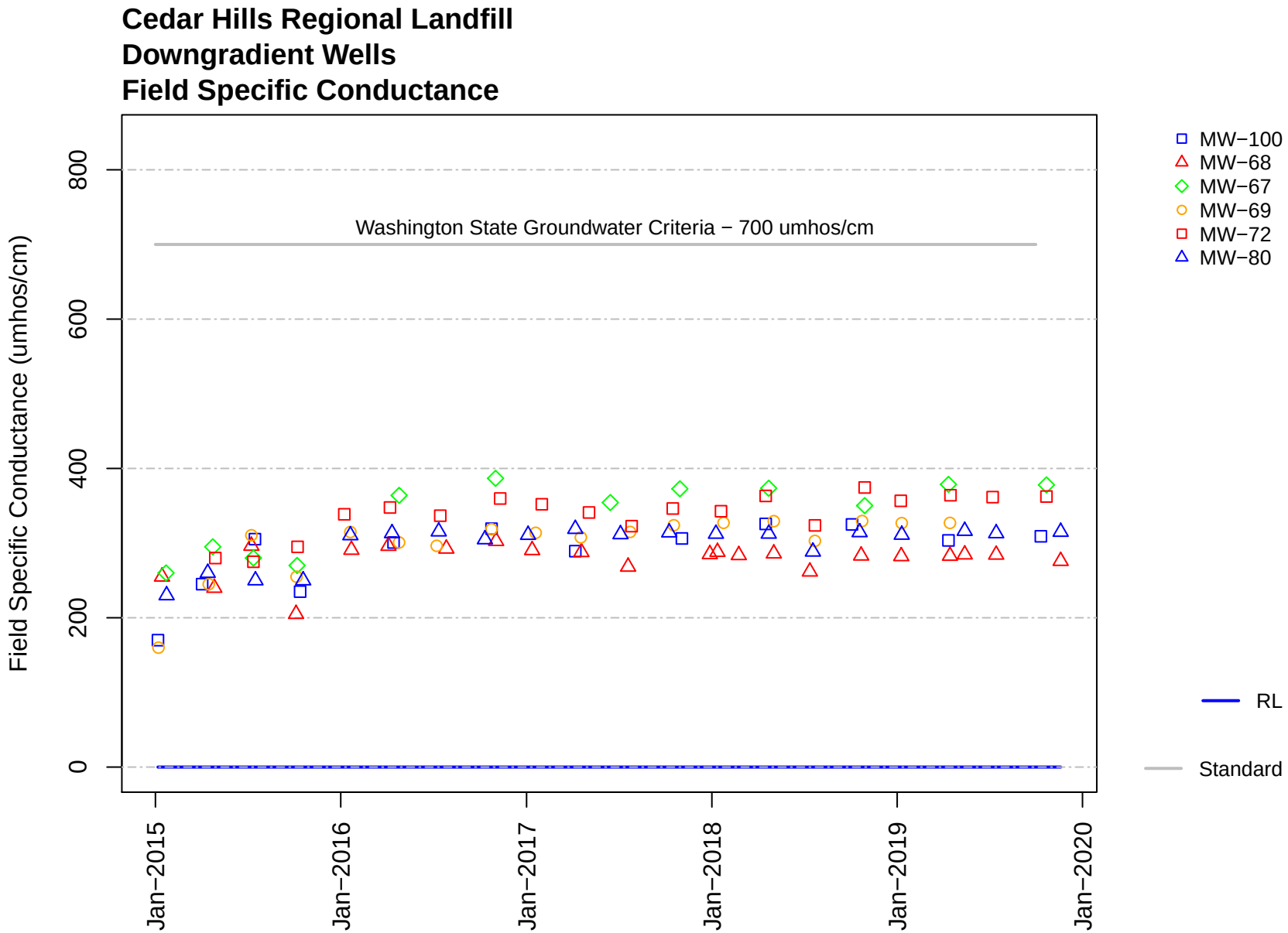

Cedar Hills Regional Landfill
Upgradient and Crossgradient Wells
Field pH
Field pH (standard pH units)
0
2
4
6
8
National Secondary MCL − 6.5 − 8.5 std. pH units
Jan−2015
Jan−2016
Jan−2017
Jan−2018
Jan−2019
Jan−2020
MW−64
MW−93
MW−95
MW−21
MW−66
MW−73
MW−84
MW−81
RL
Standard

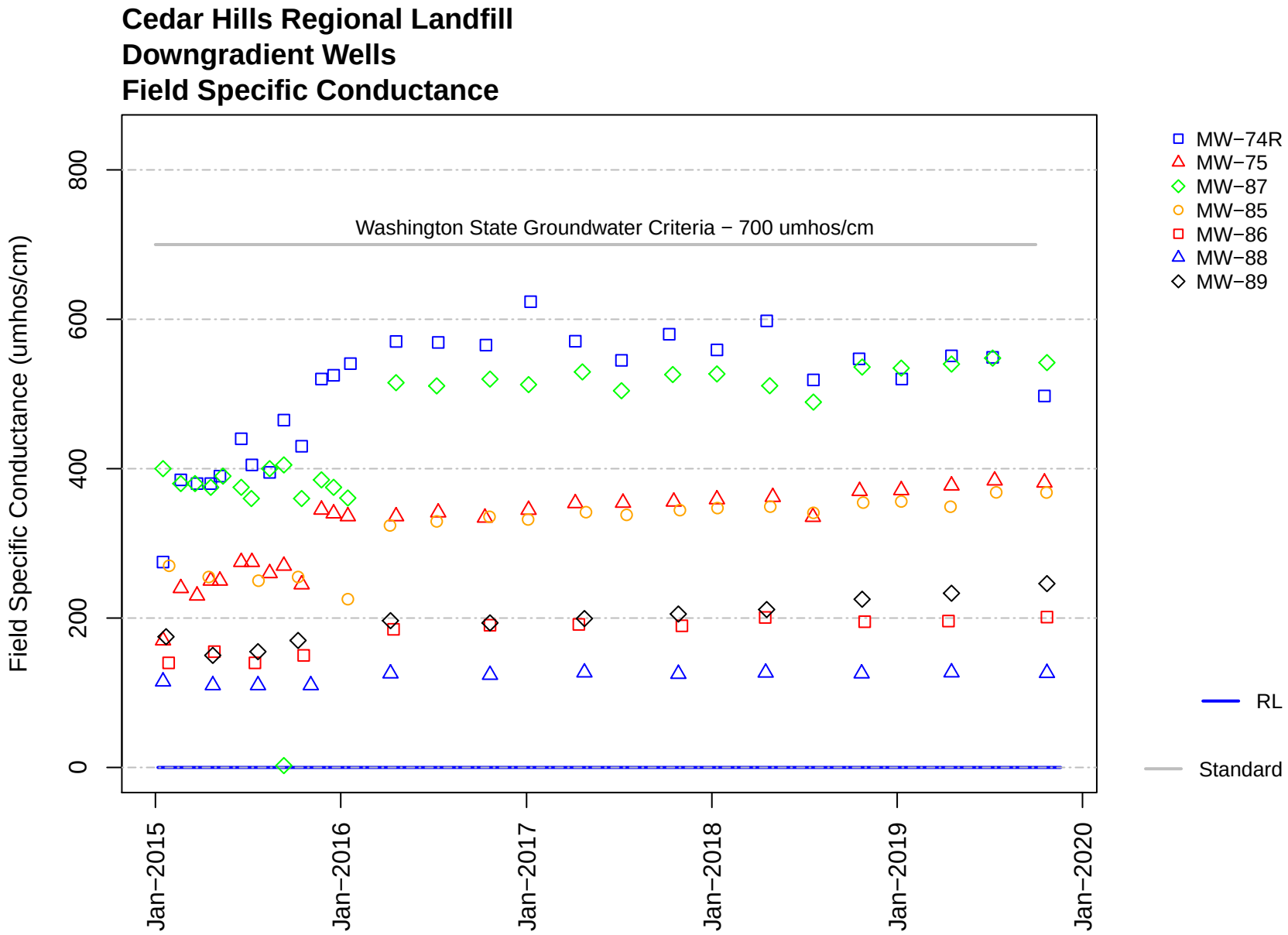

Cedar Hills Regional Landfill
Downgradient Wells
Field pH
Field pH (standard pH units)
0
2
4
6
8
National Secondary MCL − 6.5 − 8.5 std. pH units
Jan−2015
Jan−2016
Jan−2017
Jan−2018
Jan−2019
Jan−2020
MW−100
MW−68
MW−67
MW−69
MW−72
MW−80
RL
Standard

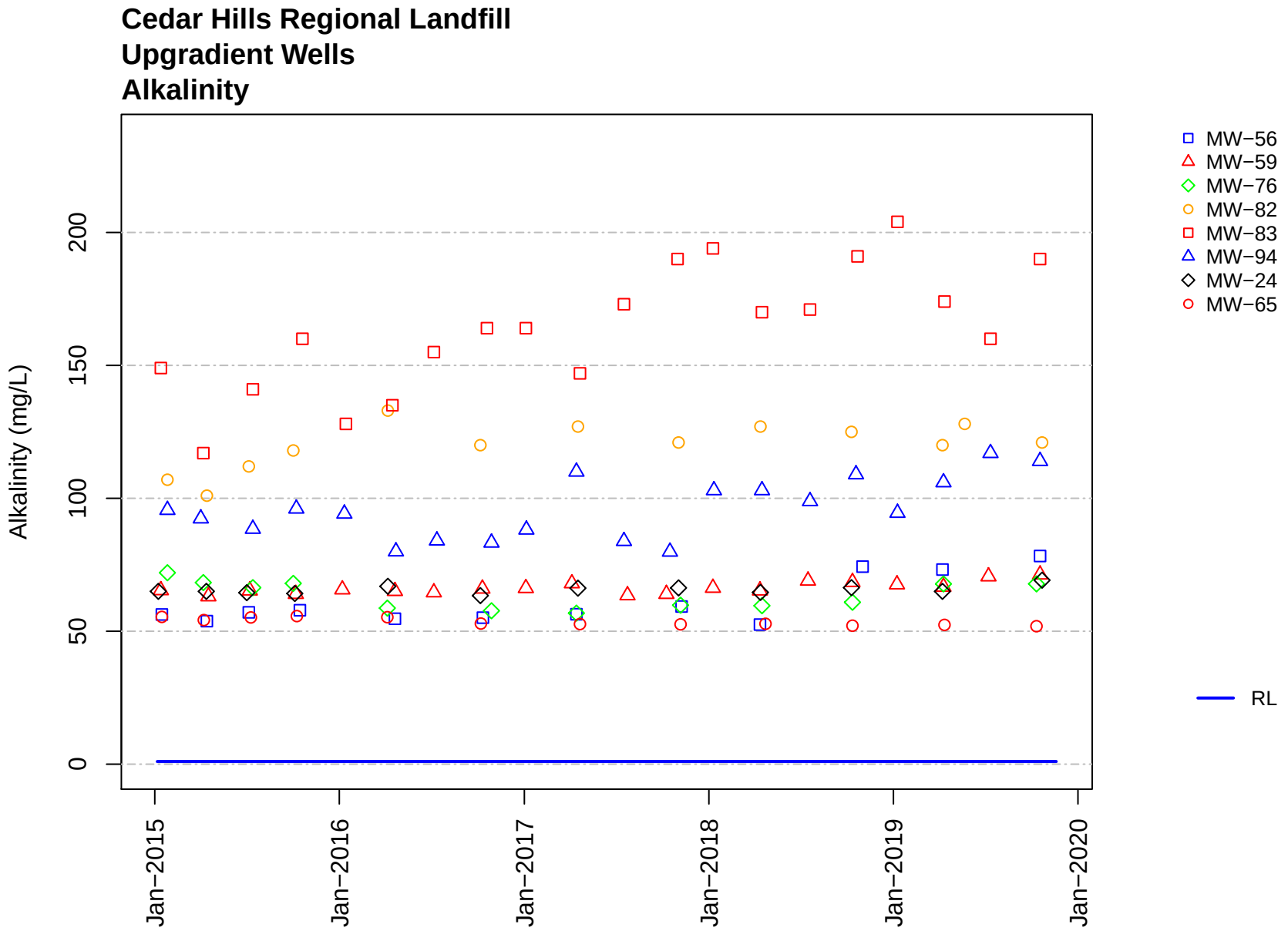

Cedar Hills Regional Landfill
Downgradient Wells
Field pH
Field pH (standard pH units)
0
2
4
6
8
National Secondary MCL − 6.5 − 8.5 std. pH units
Jan−2015
Jan−2016
Jan−2017
Jan−2018
Jan−2019
Jan−2020
MW−74R
MW−75
MW−87
MW−85
MW−86
MW−88
MW−89
RL
Standard

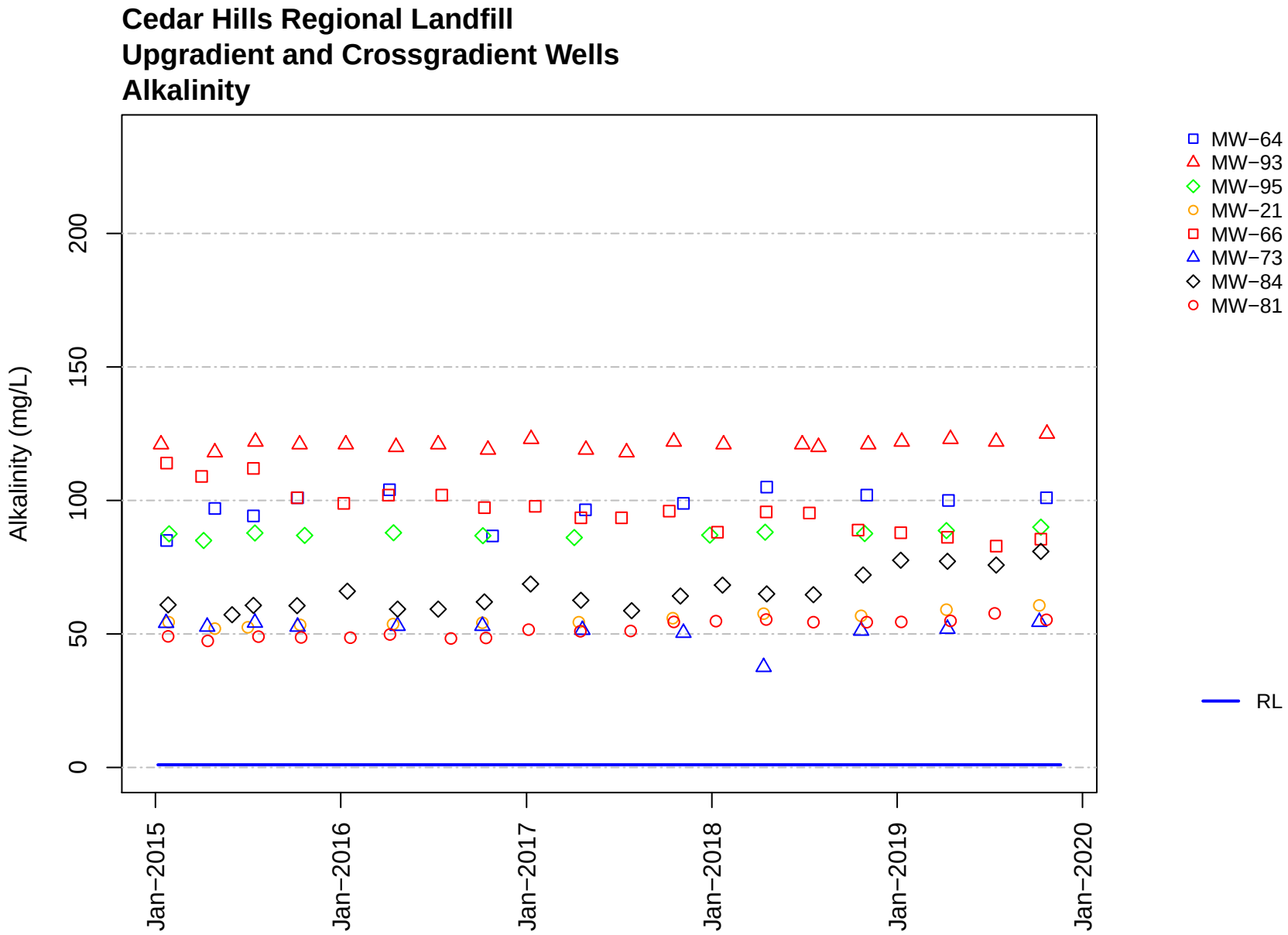

Cedar Hills Regional Landfill
Upgradient Wells
Field Specific Conductance
Field Specific Conductance (umhos/cm)
0
200
400
600
800
Washington State Groundwater Criteria − 700 umhos/cm
Jan−2015
Jan−2016
Jan−2017
Jan−2018
Jan−2019
Jan−2020
MW−56
MW−59
MW−76
MW−82
MW−83
MW−94
MW−24
MW−65
RL
Standard

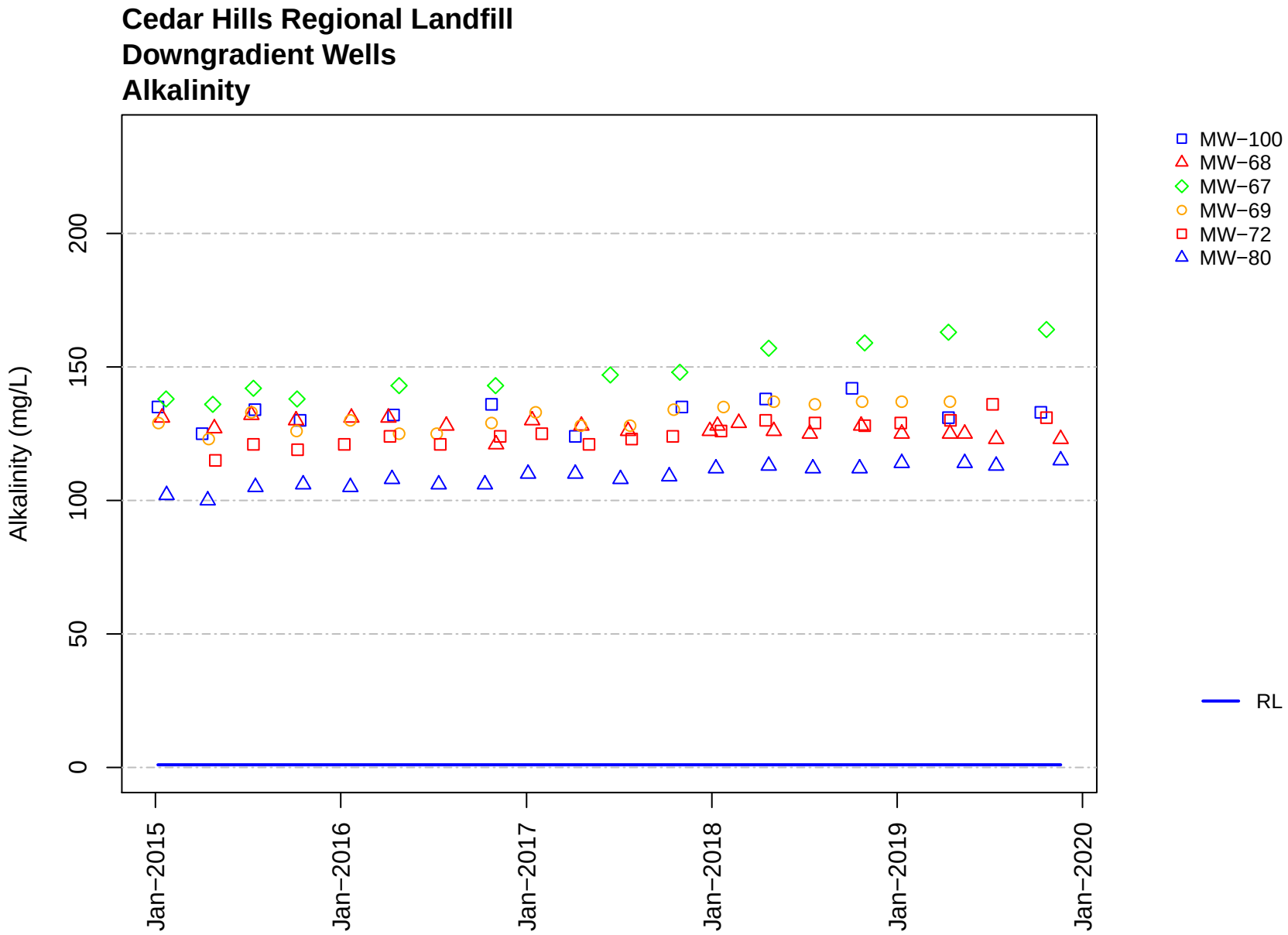

Cedar Hills Regional Landfill
Upgradient and Crossgradient Wells
Field Specific Conductance
Field Specific Conductance (umhos/cm)
0
200
400
600
800
Washington State Groundwater Criteria − 700 umhos/cm
Jan−2015
Jan−2016
Jan−2017
Jan−2018
Jan−2019
Jan−2020
MW−64
MW−93
MW−95
MW−21
MW−66
MW−73
MW−84
MW−81
RL
Standard

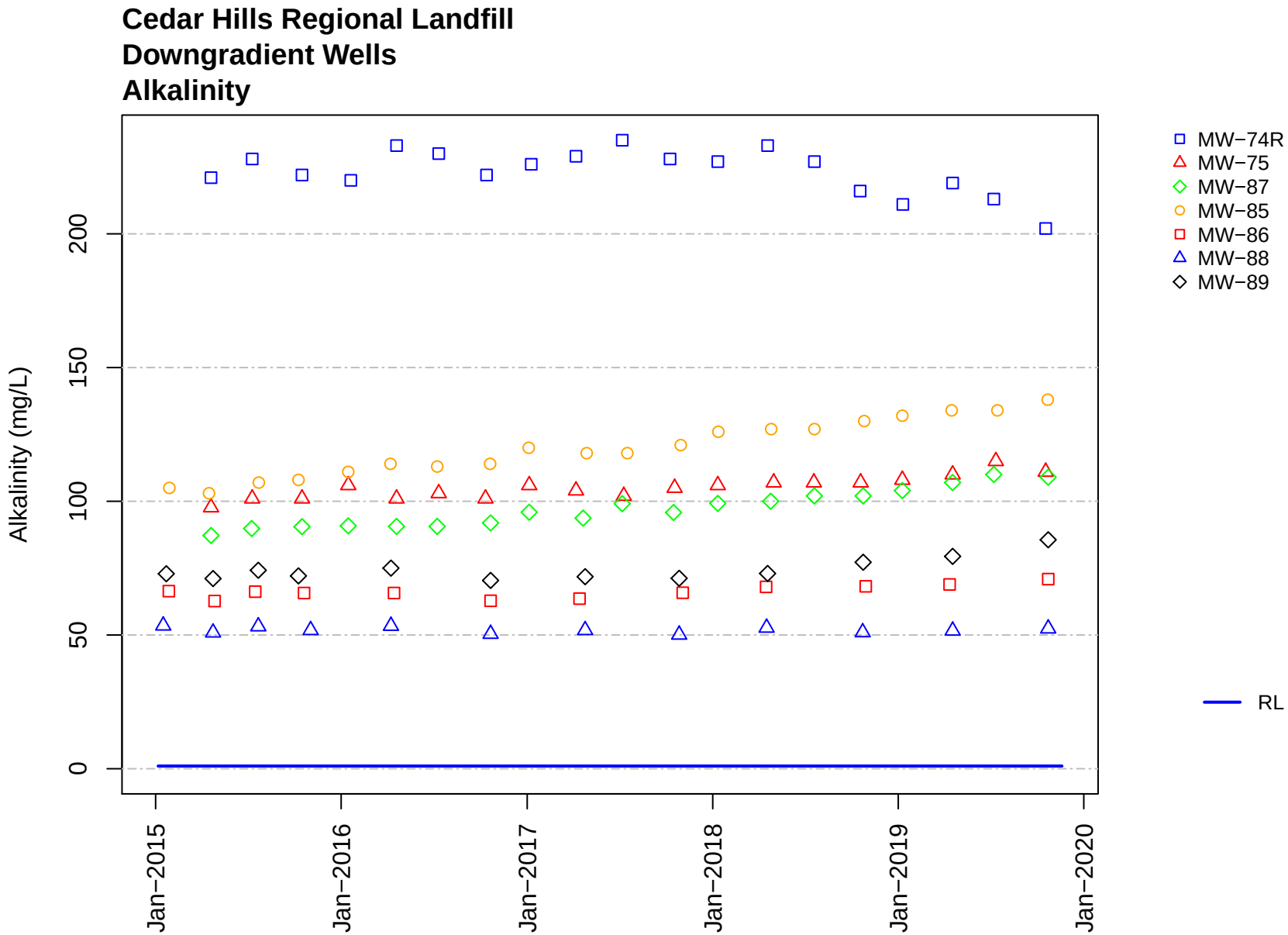

Cedar Hills Regional Landfill
Downgradient Wells
Field Specific Conductance
Field Specific Conductance (umhos/cm)
0
200
400
600
800
Washington State Groundwater Criteria − 700 umhos/cm
Jan−2015
Jan−2016
Jan−2017
Jan−2018
Jan−2019
Jan−2020
MW−100
MW−68
MW−67
MW−69
MW−72
MW−80
RL
Standard

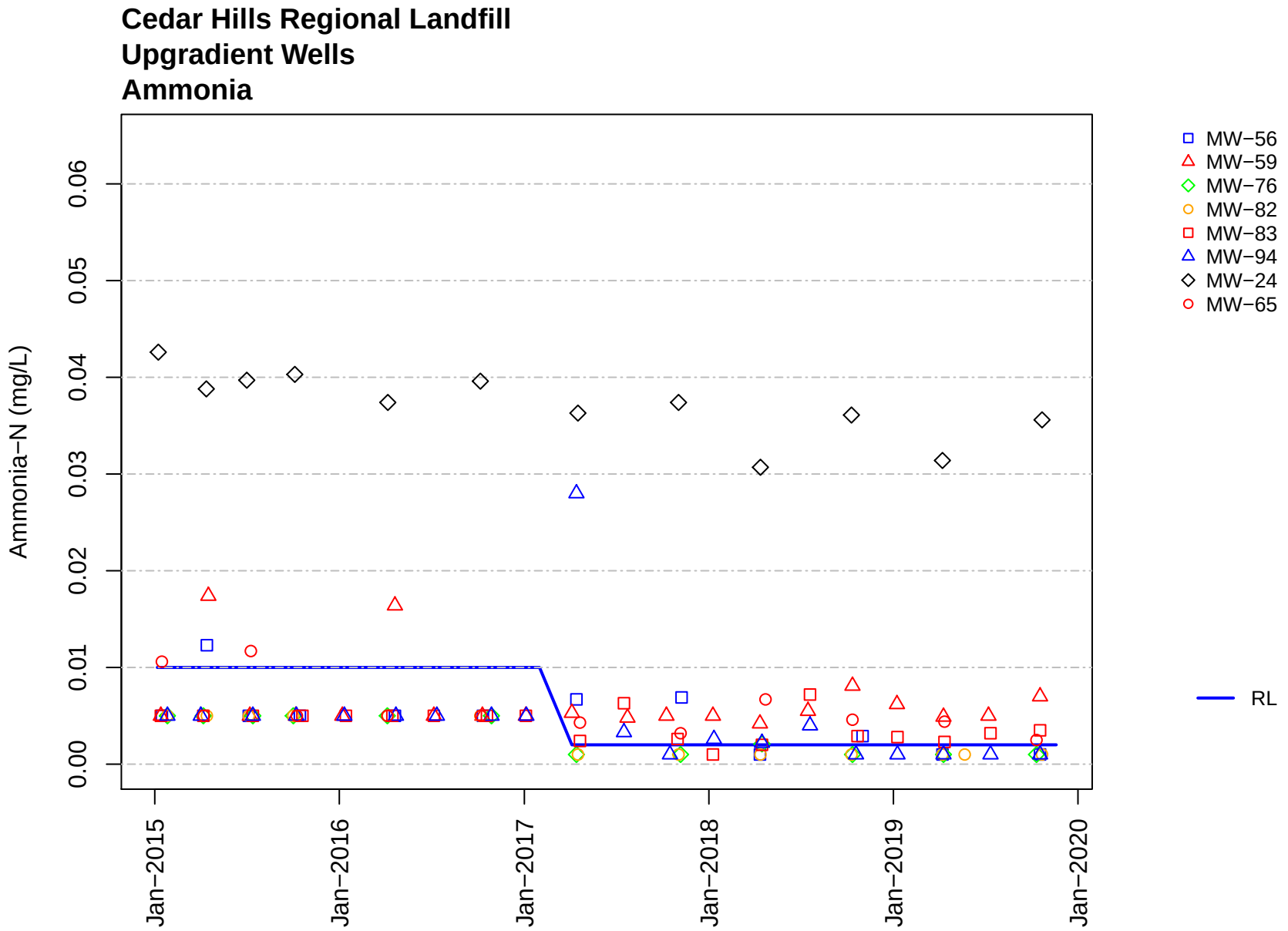

Cedar Hills Regional Landfill
Downgradient Wells
Field Specific Conductance
Field Specific Conductance (umhos/cm)
0
200
400
600
800
Washington State Groundwater Criteria − 700 umhos/cm
Jan−2015
Jan−2016
Jan−2017
Jan−2018
Jan−2019
Jan−2020
MW−74R
MW−75
MW−87
MW−85
MW−86
MW−88
MW−89
RL
Standard

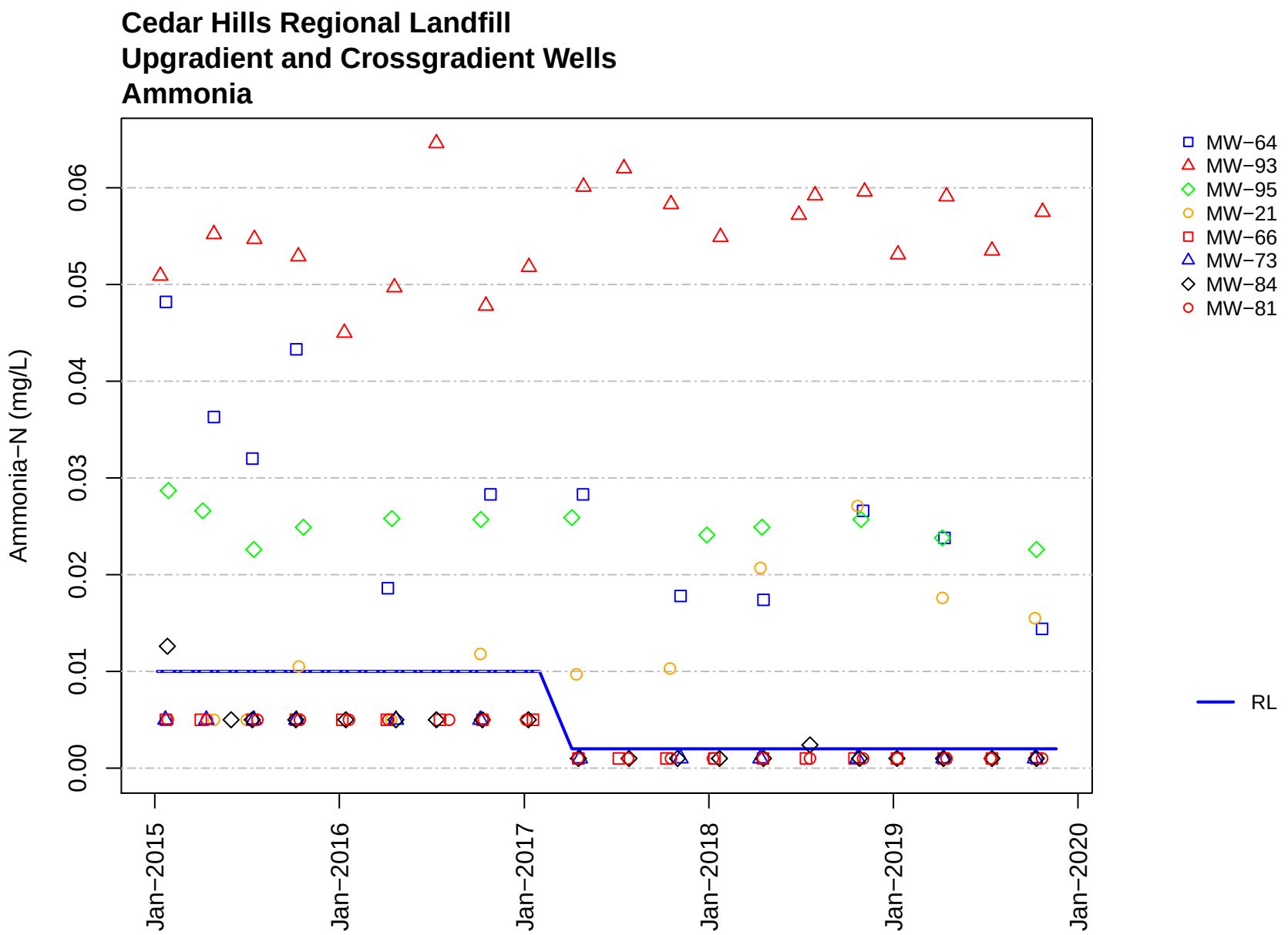

Cedar Hills Regional Landfill
Upgradient Wells
Alkalinity
Alkalinity (mg/L)
0
50
100
150
200
Jan−2015
Jan−2016
Jan−2017
Jan−2018
Jan−2019
Jan−2020
MW−56
MW−59
MW−76
MW−82
MW−83
MW−94
MW−24
MW−65
RL

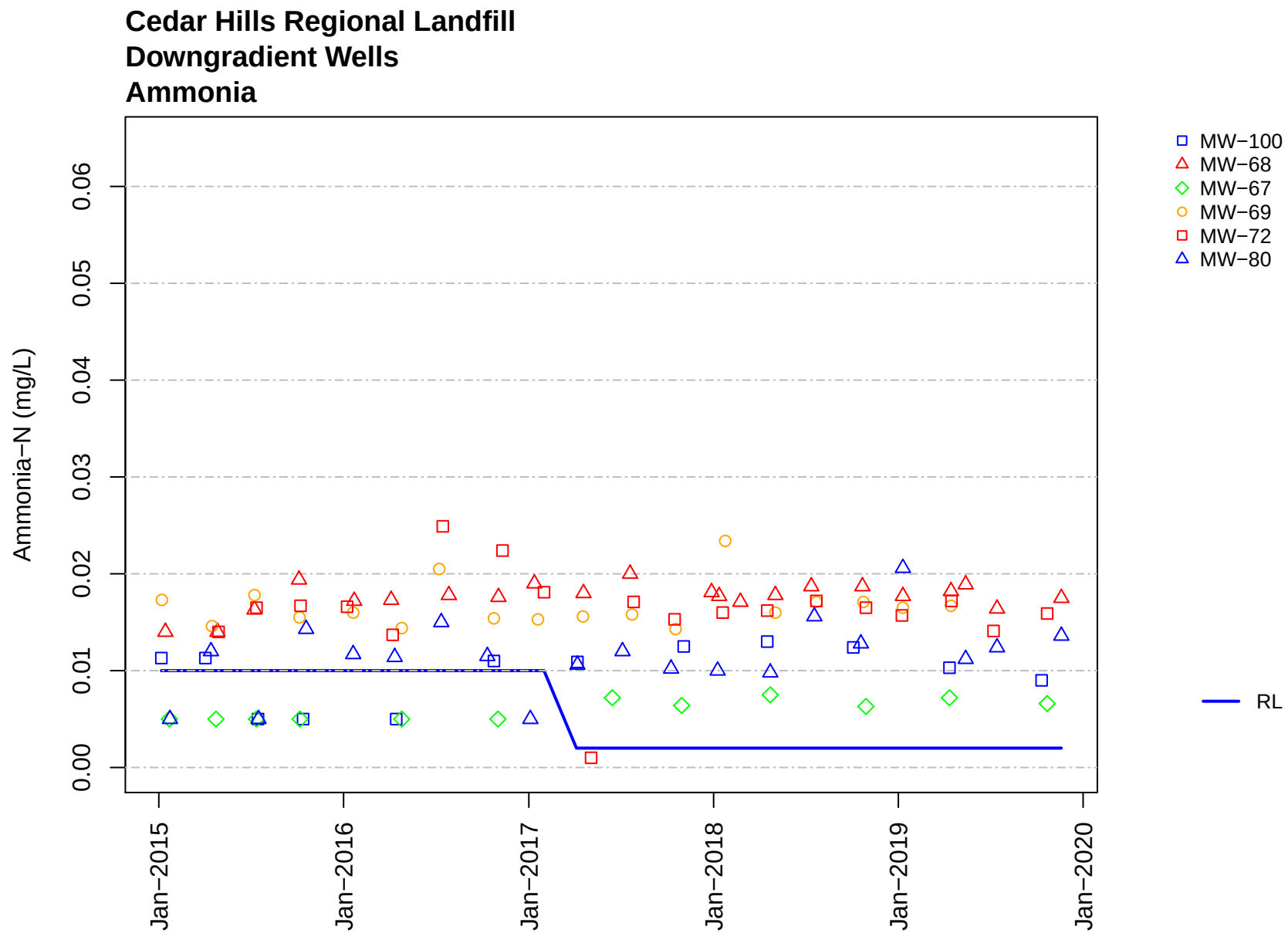

Cedar Hills Regional Landfill
Upgradient and Crossgradient Wells
Alkalinity
Alkalinity (mg/L)
0
50
100
150
200
Jan−2015
Jan−2016
Jan−2017
Jan−2018
Jan−2019
Jan−2020
MW−64
MW−93
MW−95
MW−21
MW−66
MW−73
MW−84
MW−81
RL

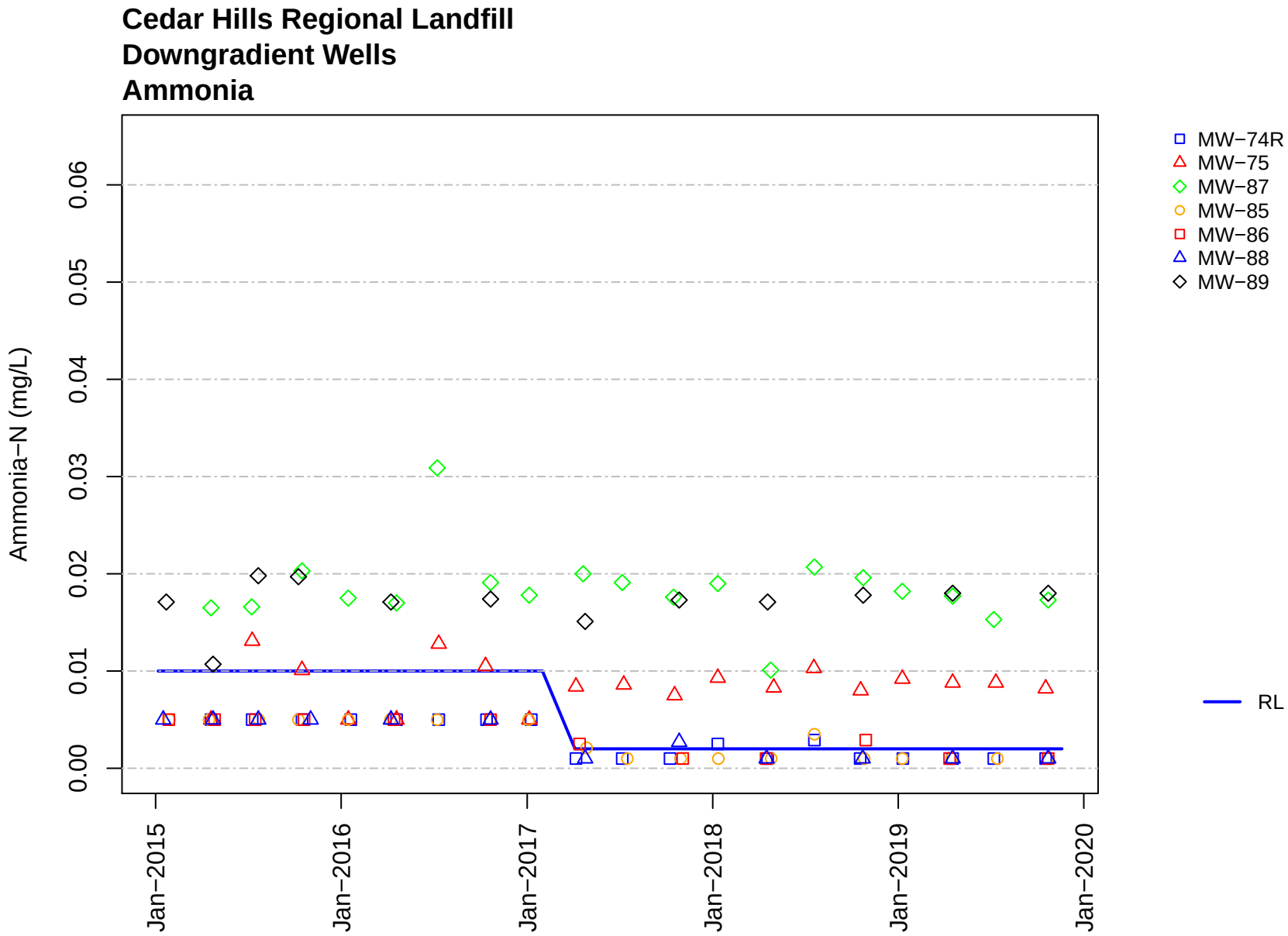

Cedar Hills Regional Landfill
Downgradient Wells
Alkalinity
Alkalinity (mg/L)
0
50
100
150
200
Jan−2015
Jan−2016
Jan−2017
Jan−2018
Jan−2019
Jan−2020
MW−100
MW−68
MW−67
MW−69
MW−72
MW−80
RL

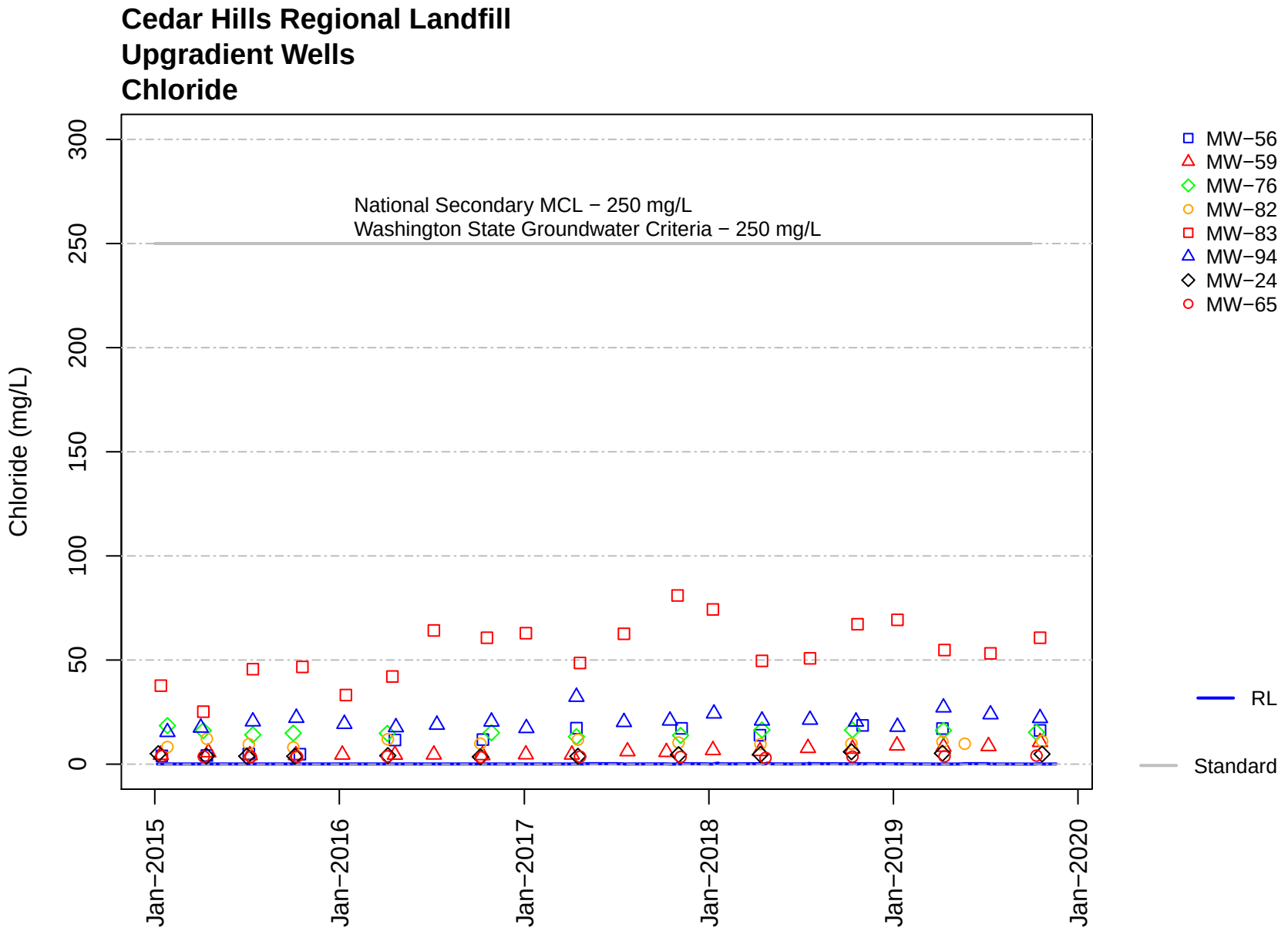

Cedar Hills Regional Landfill
Downgradient Wells
Alkalinity
Alkalinity (mg/L)
0
50
100
150
200
Jan−2015
Jan−2016
Jan−2017
Jan−2018
Jan−2019
Jan−2020
MW−74R
MW−75
MW−87
MW−85
MW−86
MW−88
MW−89
RL

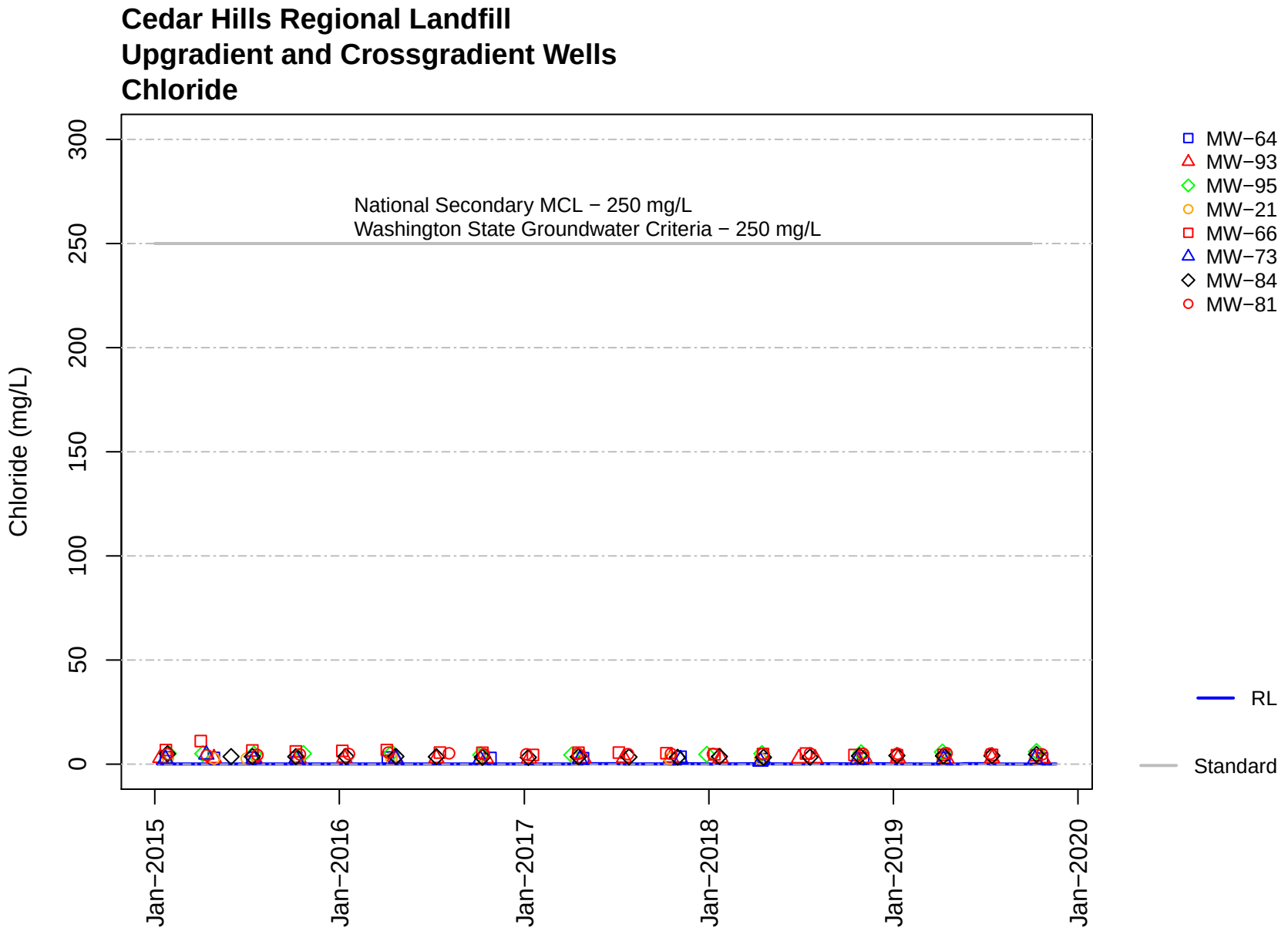

Cedar Hills Regional Landfill
Upgradient Wells
Ammonia
Ammonia−N (mg/L)
0.00
0.01
0.02
0.03
0.04
0.05
0.06
Jan−2015
Jan−2016
Jan−2017
Jan−2018
Jan−2019
Jan−2020
MW−56
MW−59
MW−76
MW−82
MW−83
MW−94
MW−24
MW−65
RL

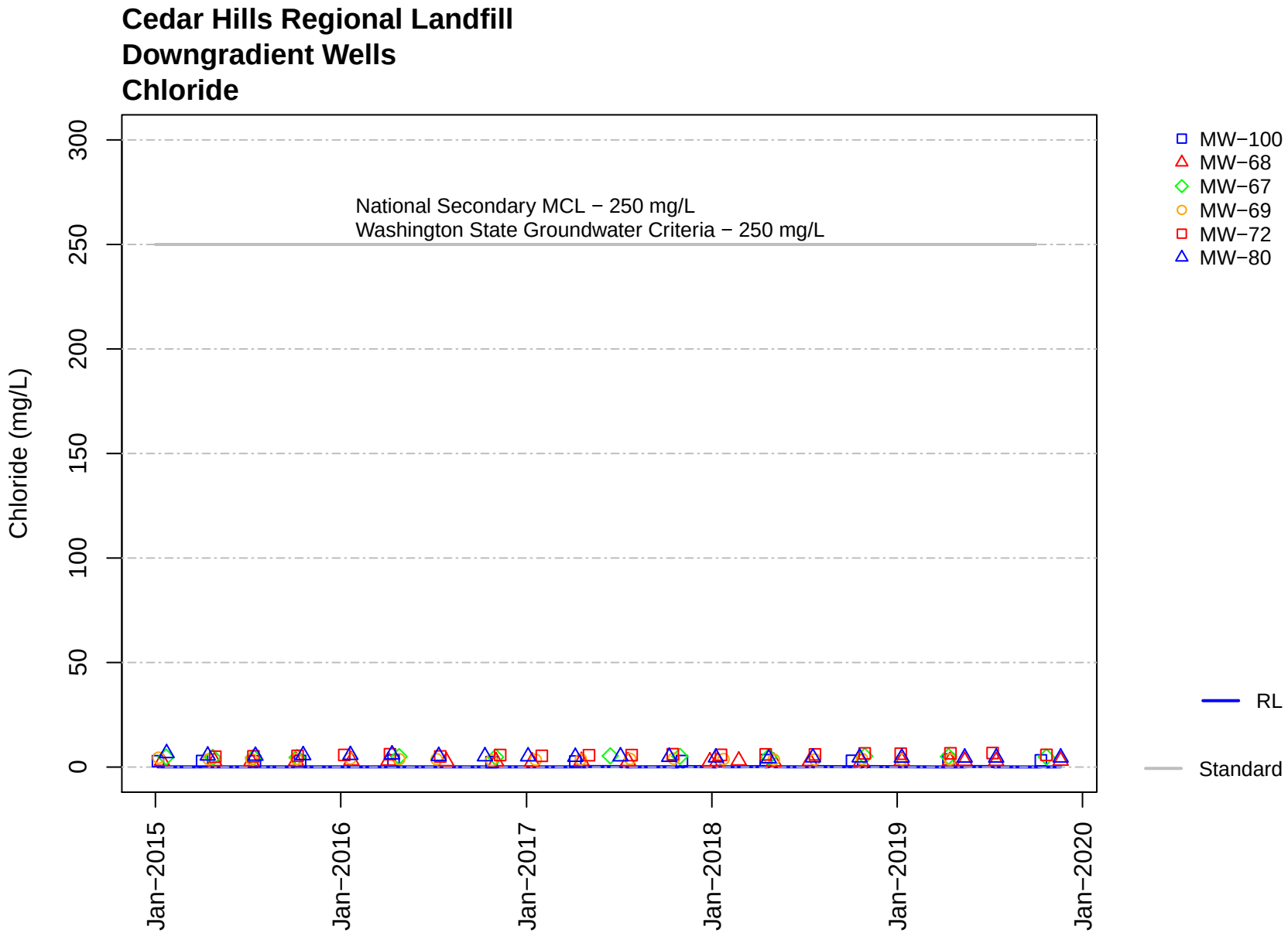

Cedar Hills Regional Landfill
Upgradient and Crossgradient Wells
Ammonia
Ammonia−N (mg/L)
0.00
0.01
0.02
0.03
0.04
0.05
0.06
Jan−2015
Jan−2016
Jan−2017
Jan−2018
Jan−2019
Jan−2020
MW−64
MW−93
MW−95
MW−21
MW−66
MW−73
MW−84
MW−81
RL

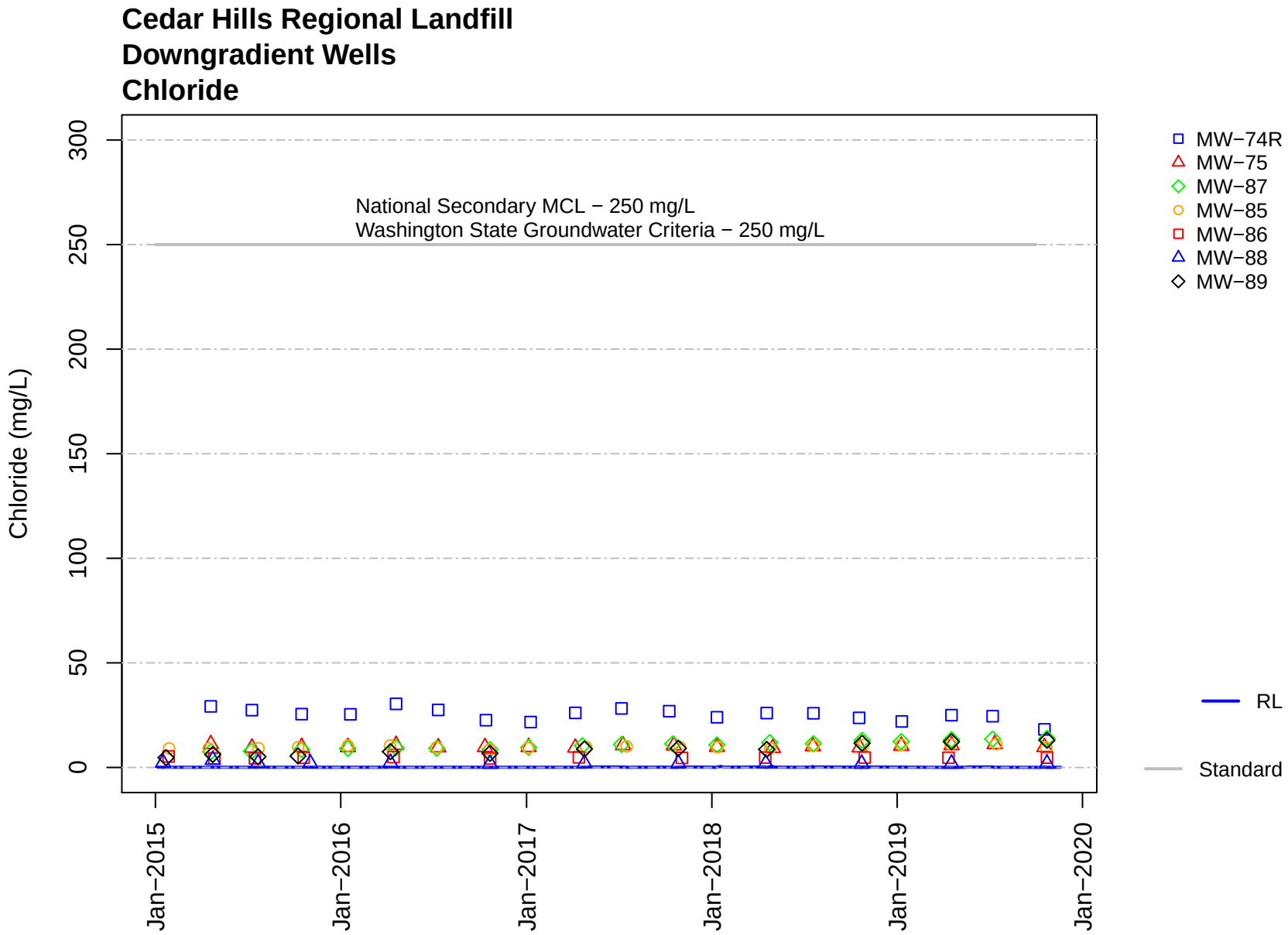

Cedar Hills Regional Landfill
Downgradient Wells
Ammonia
Ammonia−N (mg/L)
0.00
0.01
0.02
0.03
0.04
0.05
0.06
Jan−2015
Jan−2016
Jan−2017
Jan−2018
Jan−2019
Jan−2020
MW−100
MW−68
MW−67
MW−69
MW−72
MW−80
RL

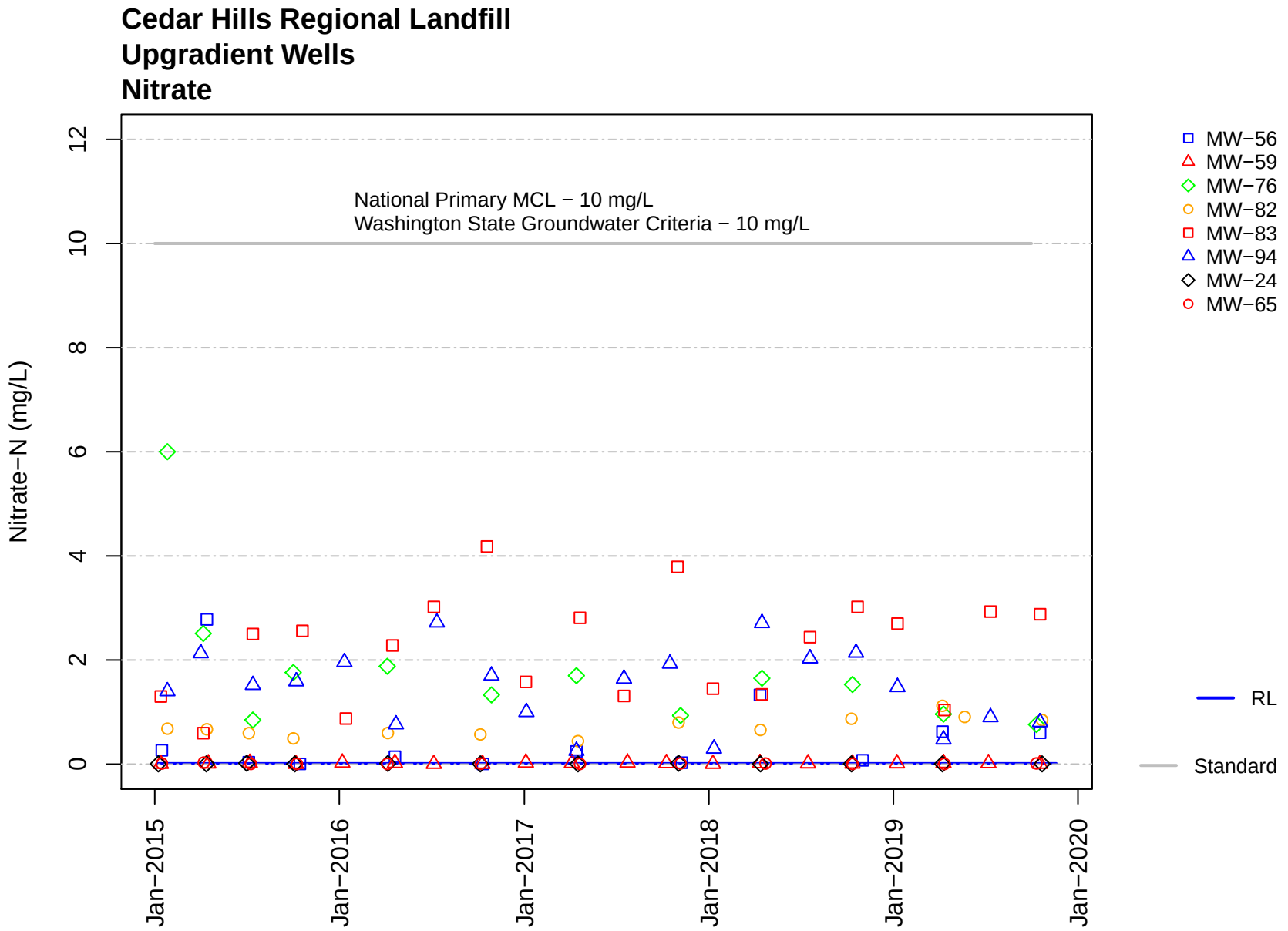

Cedar Hills Regional Landfill
Downgradient Wells
Ammonia
Ammonia−N (mg/L)
0.00
0.01
0.02
0.03
0.04
0.05
0.06
Jan−2015
Jan−2016
Jan−2017
Jan−2018
Jan−2019
Jan−2020
MW−74R
MW−75
MW−87
MW−85
MW−86
MW−88
MW−89
RL

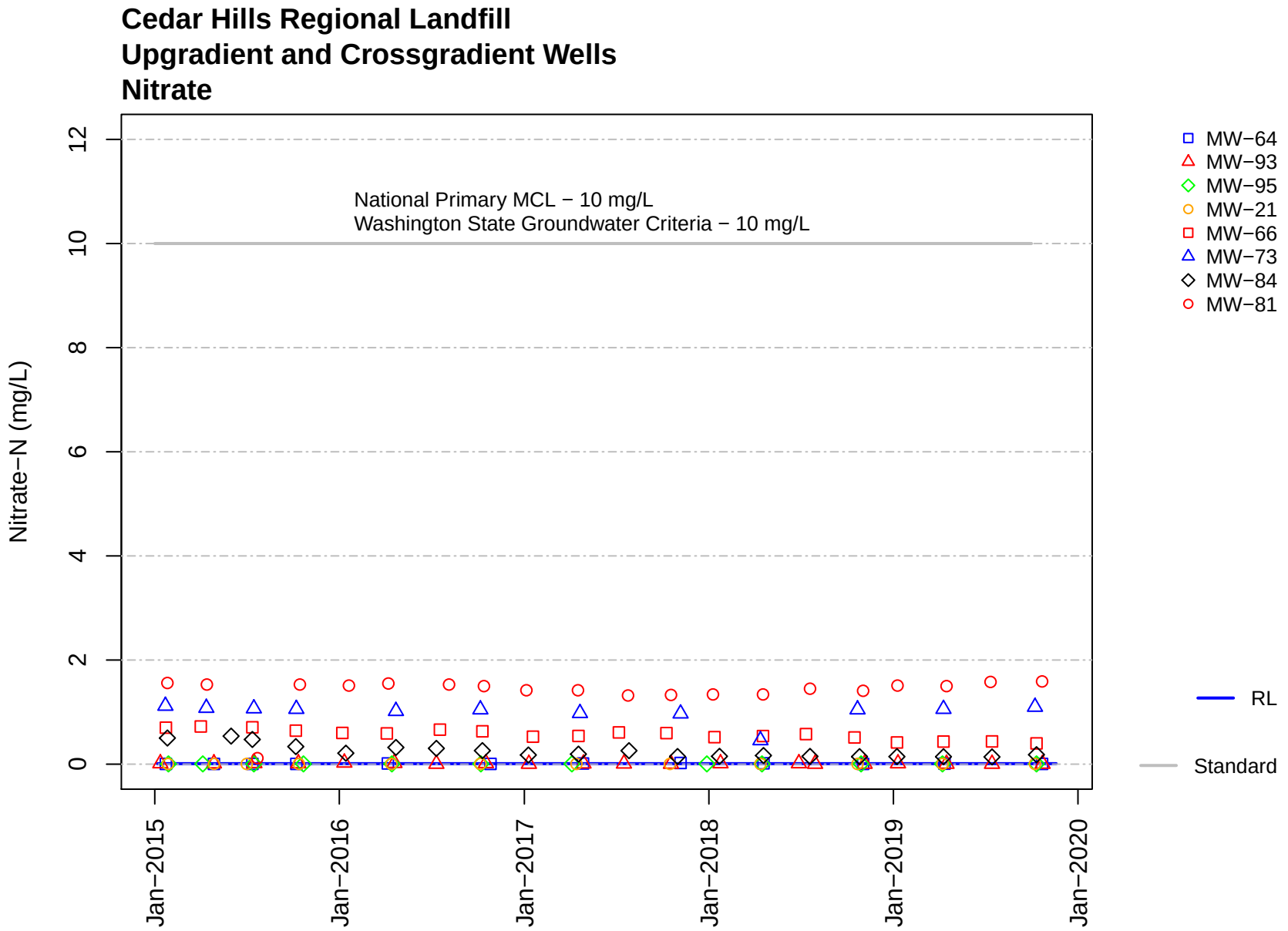

Cedar Hills Regional Landfill
Upgradient Wells
Chloride
Chloride (mg/L)
0
50
100
150
200
250
300
National Secondary MCL − 250 mg/L
Washington State Groundwater Criteria − 250 mg/L
Jan−2015
Jan−2016
Jan−2017
Jan−2018
Jan−2019
Jan−2020
MW−56
MW−59
MW−76
MW−82
MW−83
MW−94
MW−24
MW−65
RL
Standard

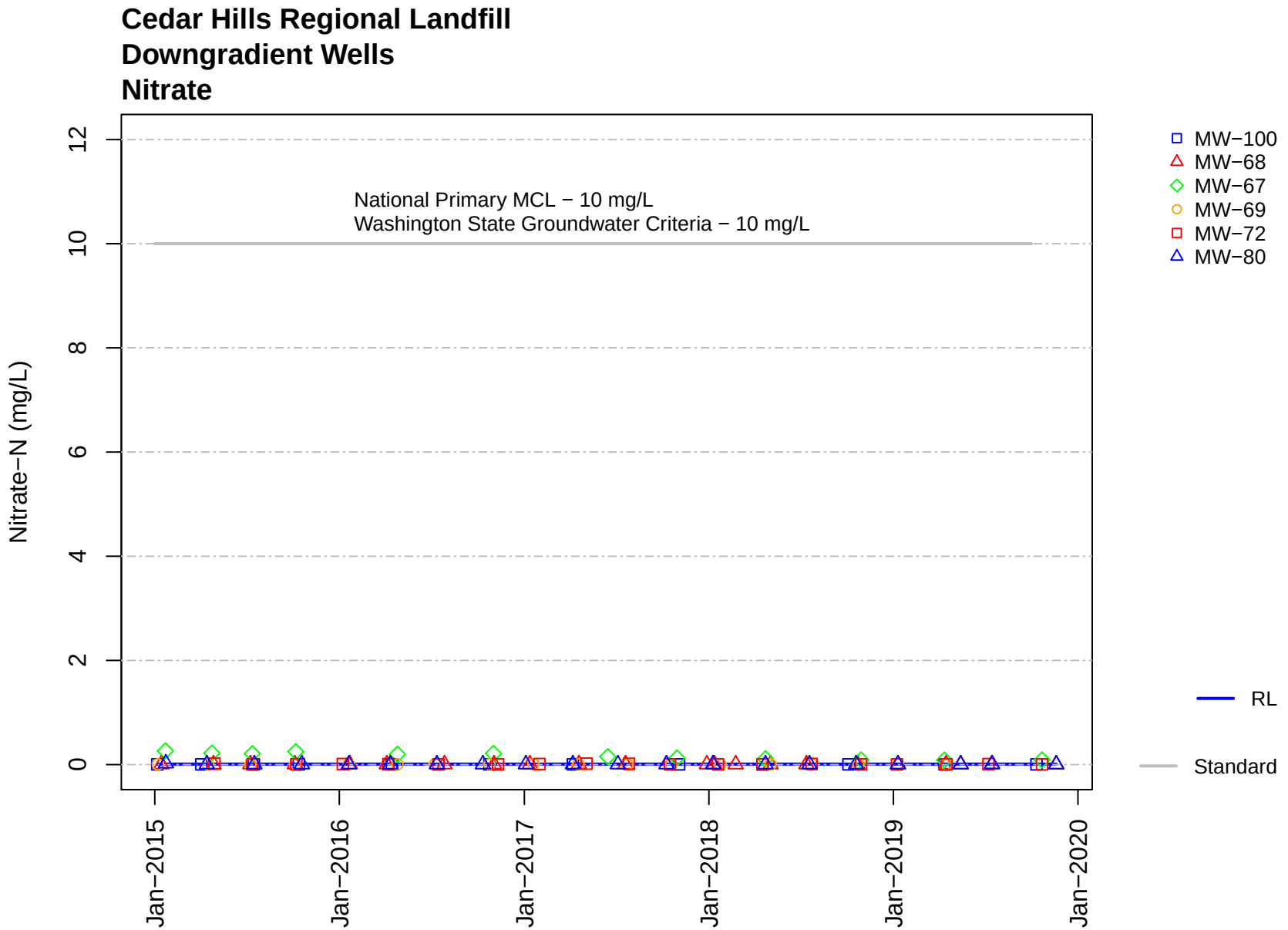

Cedar Hills Regional Landfill
Upgradient and Crossgradient Wells
Chloride
Chloride (mg/L)
0
50
100
150
200
250
300
National Secondary MCL − 250 mg/L
Washington State Groundwater Criteria − 250 mg/L
Jan−2015
Jan−2016
Jan−2017
Jan−2018
Jan−2019
Jan−2020
MW−64
MW−93
MW−95
MW−21
MW−66
MW−73
MW−84
MW−81
RL
Standard

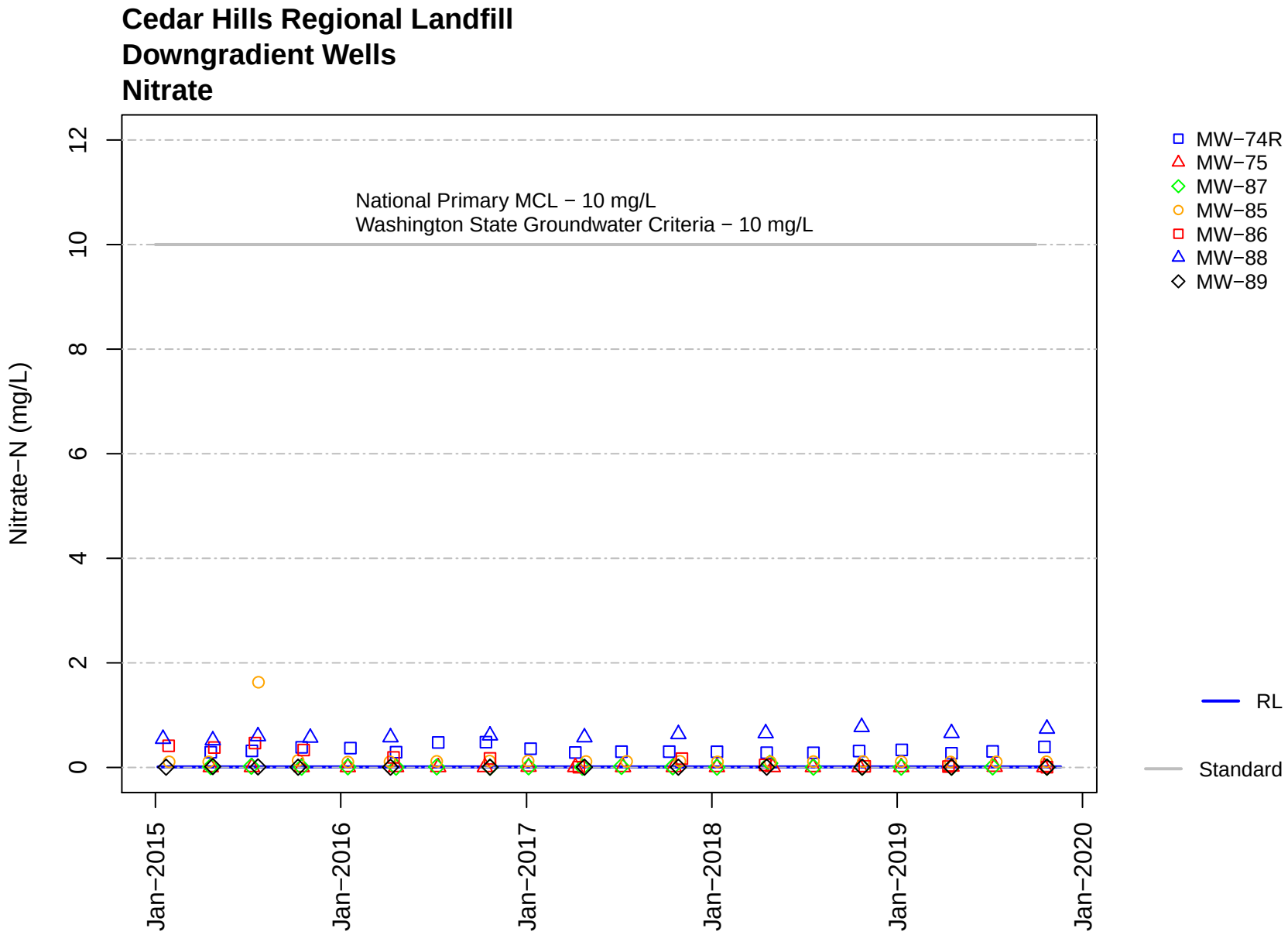

Cedar Hills Regional Landfill
Downgradient Wells
Chloride
Chloride (mg/L)
0
50
100
150
200
250
300
National Secondary MCL − 250 mg/L
Washington State Groundwater Criteria − 250 mg/L
Jan−2015
Jan−2016
Jan−2017
Jan−2018
Jan−2019
Jan−2020
MW−100
MW−68
MW−67
MW−69
MW−72
MW−80
RL
Standard

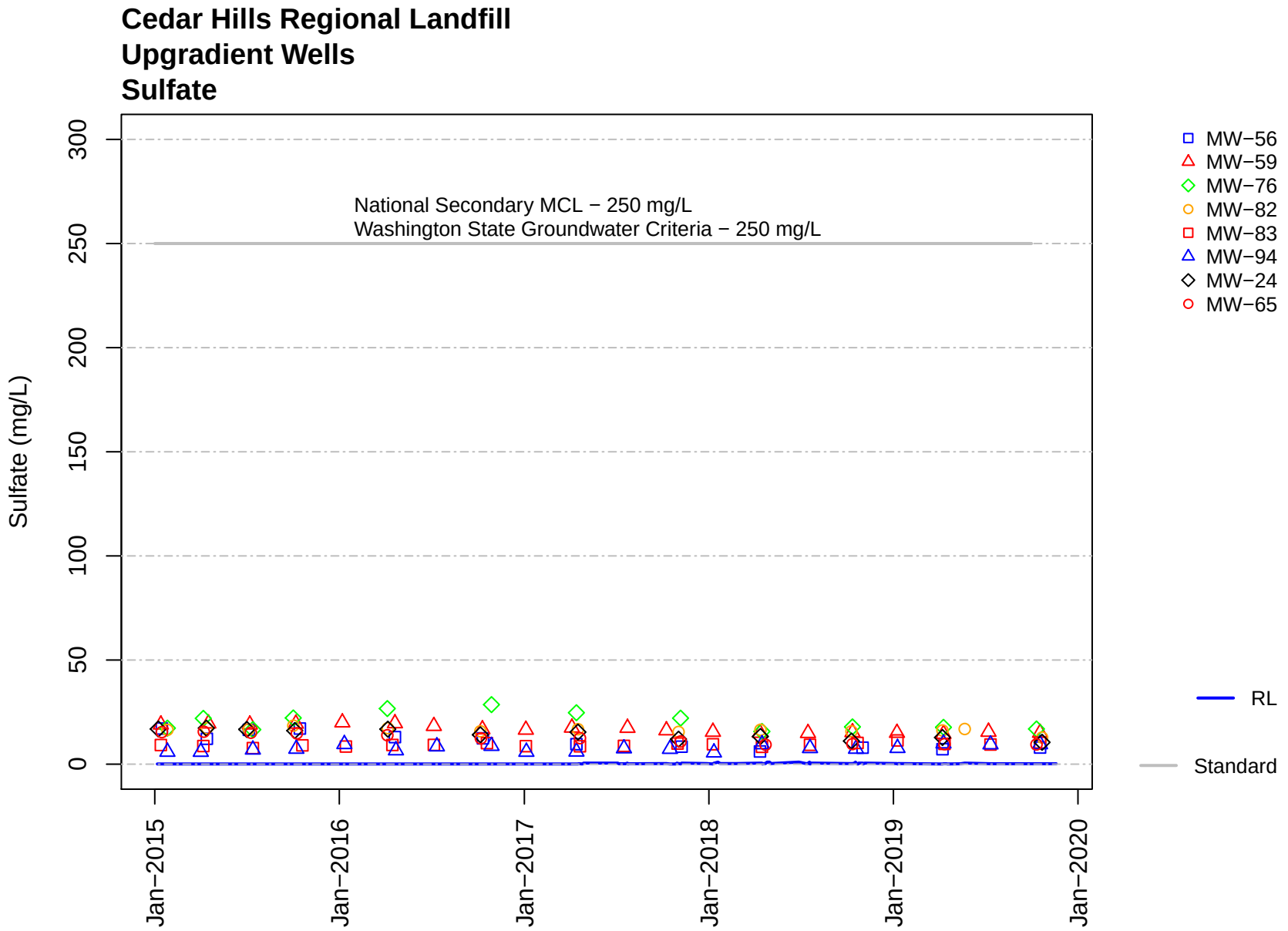

Cedar Hills Regional Landfill
Downgradient Wells
Chloride
Chloride (mg/L)
0
50
100
150
200
250
300
National Secondary MCL − 250 mg/L
Washington State Groundwater Criteria − 250 mg/L
Jan−2015
Jan−2016
Jan−2017
Jan−2018
Jan−2019
Jan−2020
MW−74R
MW−75
MW−87
MW−85
MW−86
MW−88
MW−89
RL
Standard

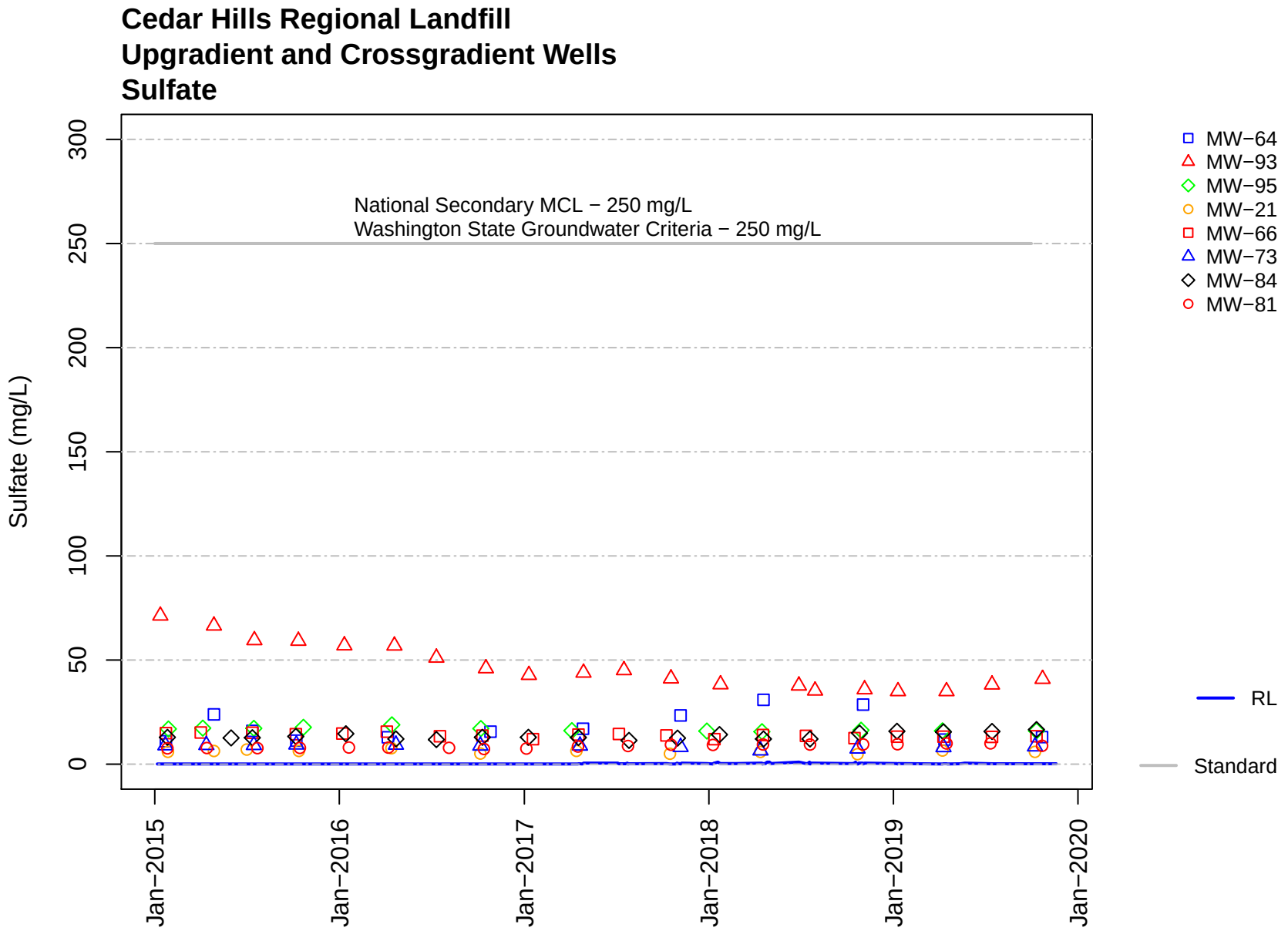

Cedar Hills Regional Landfill
Upgradient Wells
Nitrate
National Primary MCL − 10 mg/L
Washington State Groundwater Criteria − 10 mg/L
Nitrate−N (mg/L)
0
2
4
6
8
10
12
Jan−2015
Jan−2016
Jan−2017
Jan−2018
Jan−2019
Jan−2020
MW−56
MW−59
MW−76
MW−82
MW−83
MW−94
MW−24
MW−65
RL
Standard

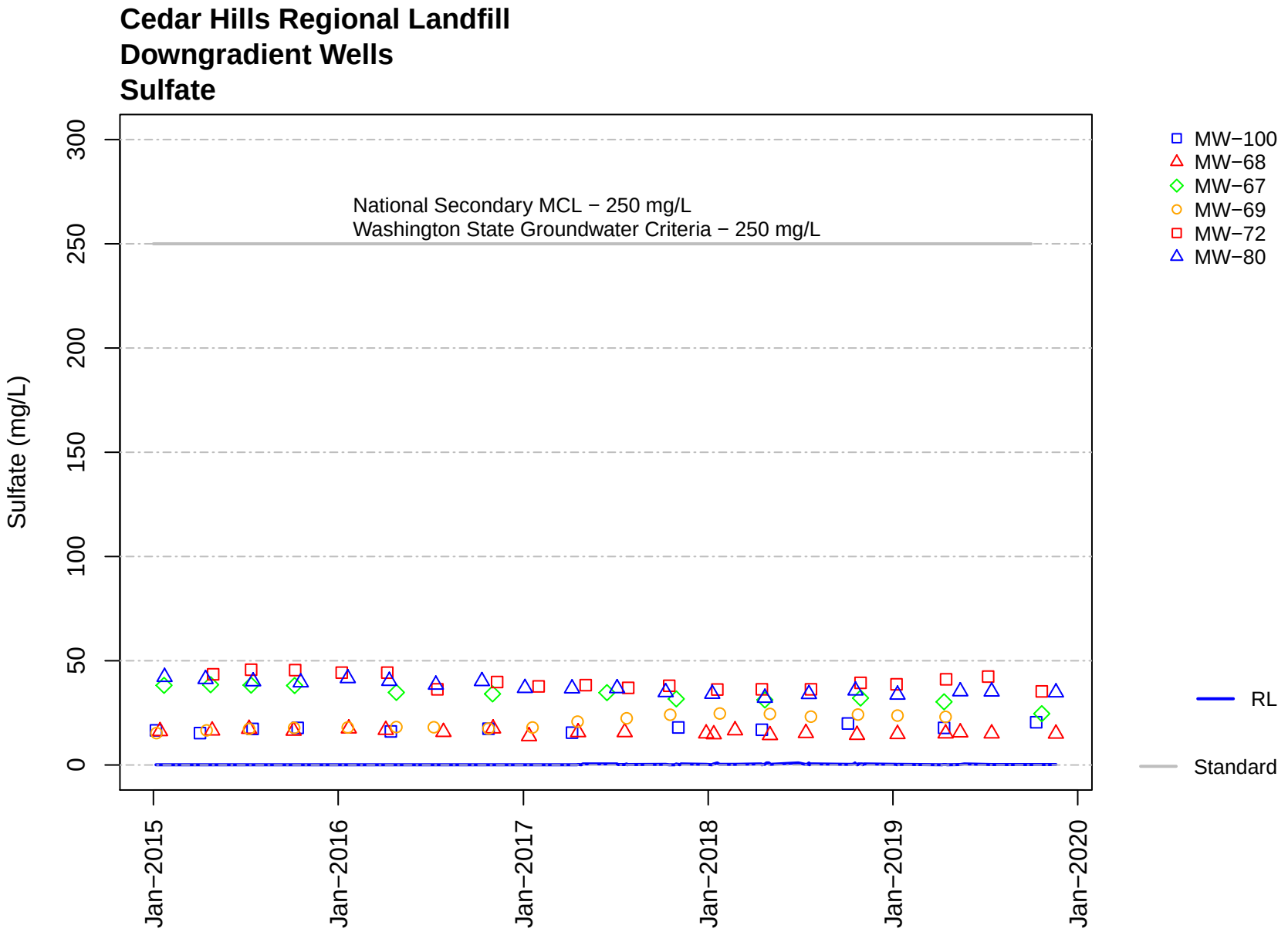

Cedar Hills Regional Landfill
Upgradient and Crossgradient Wells
Nitrate
National Primary MCL − 10 mg/L
Washington State Groundwater Criteria − 10 mg/L
Nitrate−N (mg/L)
0
2
4
6
8
10
12
Jan−2015
Jan−2016
Jan−2017
Jan−2018
Jan−2019
Jan−2020
MW−64
MW−93
MW−95
MW−21
MW−66
MW−73
MW−84
MW−81
RL
Standard

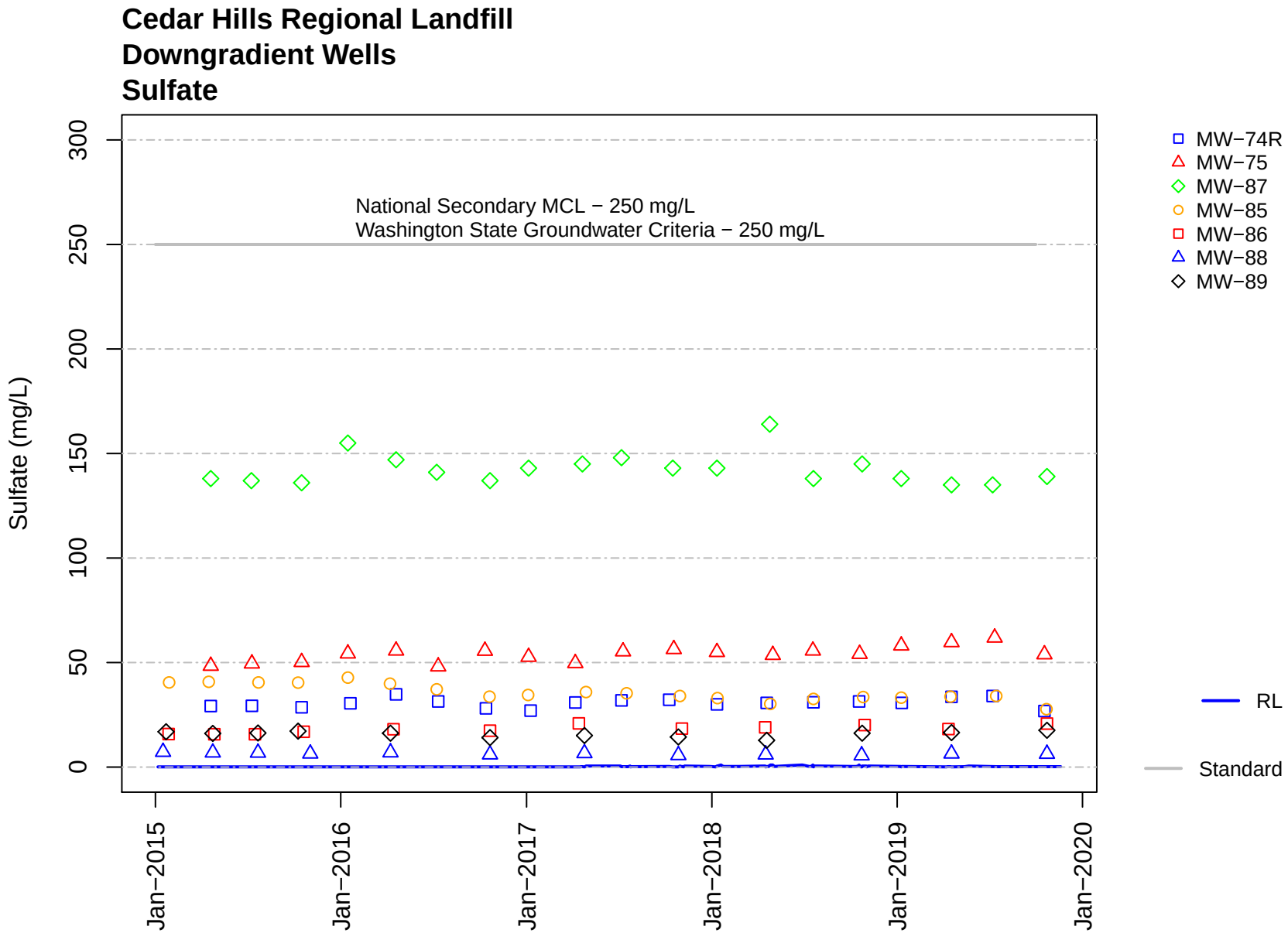

Cedar Hills Regional Landfill
Downgradient Wells
Nitrate
National Primary MCL − 10 mg/L
Washington State Groundwater Criteria − 10 mg/L
Nitrate−N (mg/L)
0
2
4
6
8
10
12
Jan−2015
Jan−2016
Jan−2017
Jan−2018
Jan−2019
Jan−2020
MW−100
MW−68
MW−67
MW−69
MW−72
MW−80
RL
Standard

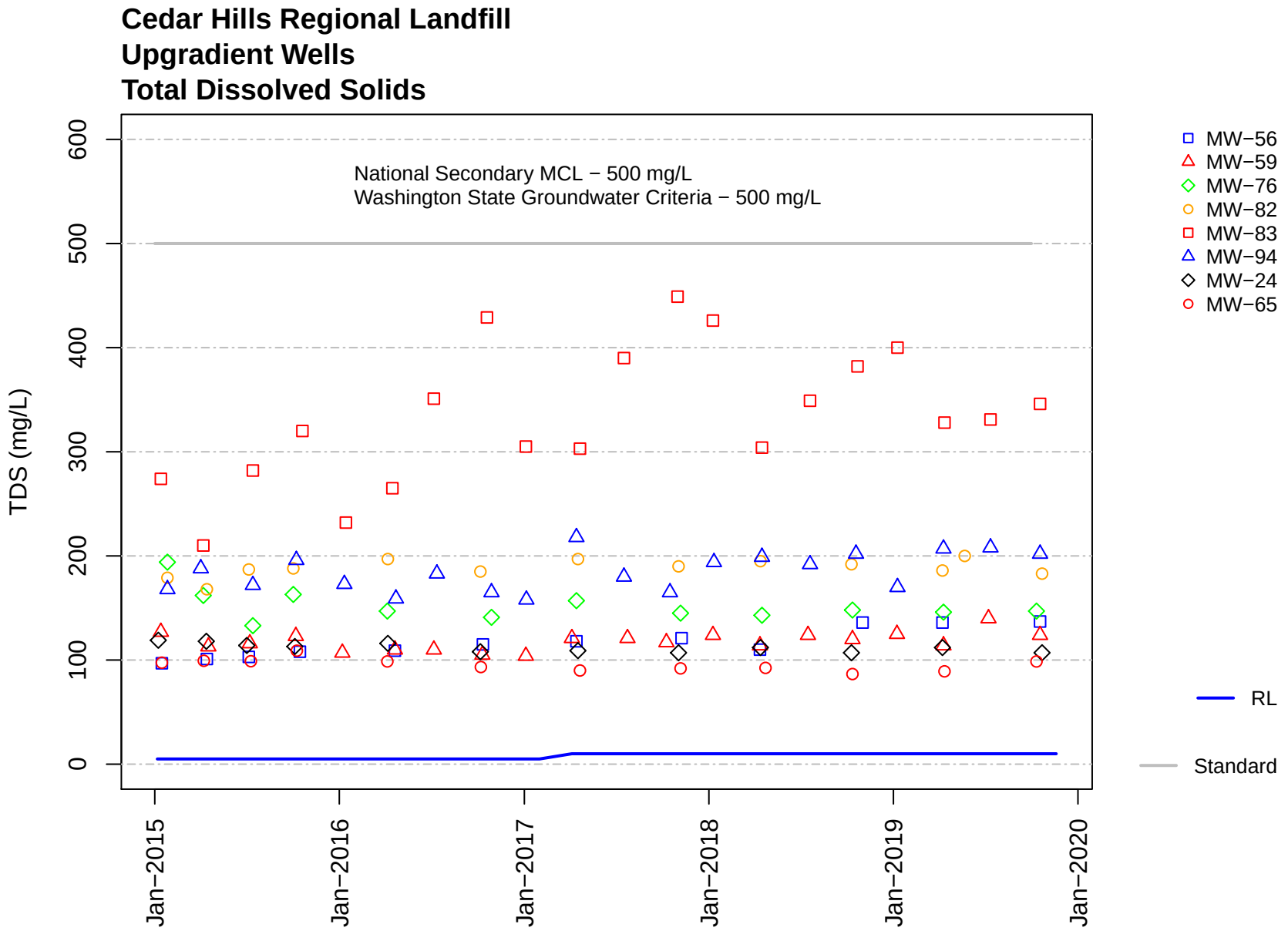

Cedar Hills Regional Landfill
Downgradient Wells
Nitrate
National Primary MCL − 10 mg/L
Washington State Groundwater Criteria − 10 mg/L
Nitrate−N (mg/L)
0
2
4
6
8
10
12
Jan−2015
Jan−2016
Jan−2017
Jan−2018
Jan−2019
Jan−2020
MW−74R
MW−75
MW−87
MW−85
MW−86
MW−88
MW−89
RL
Standard

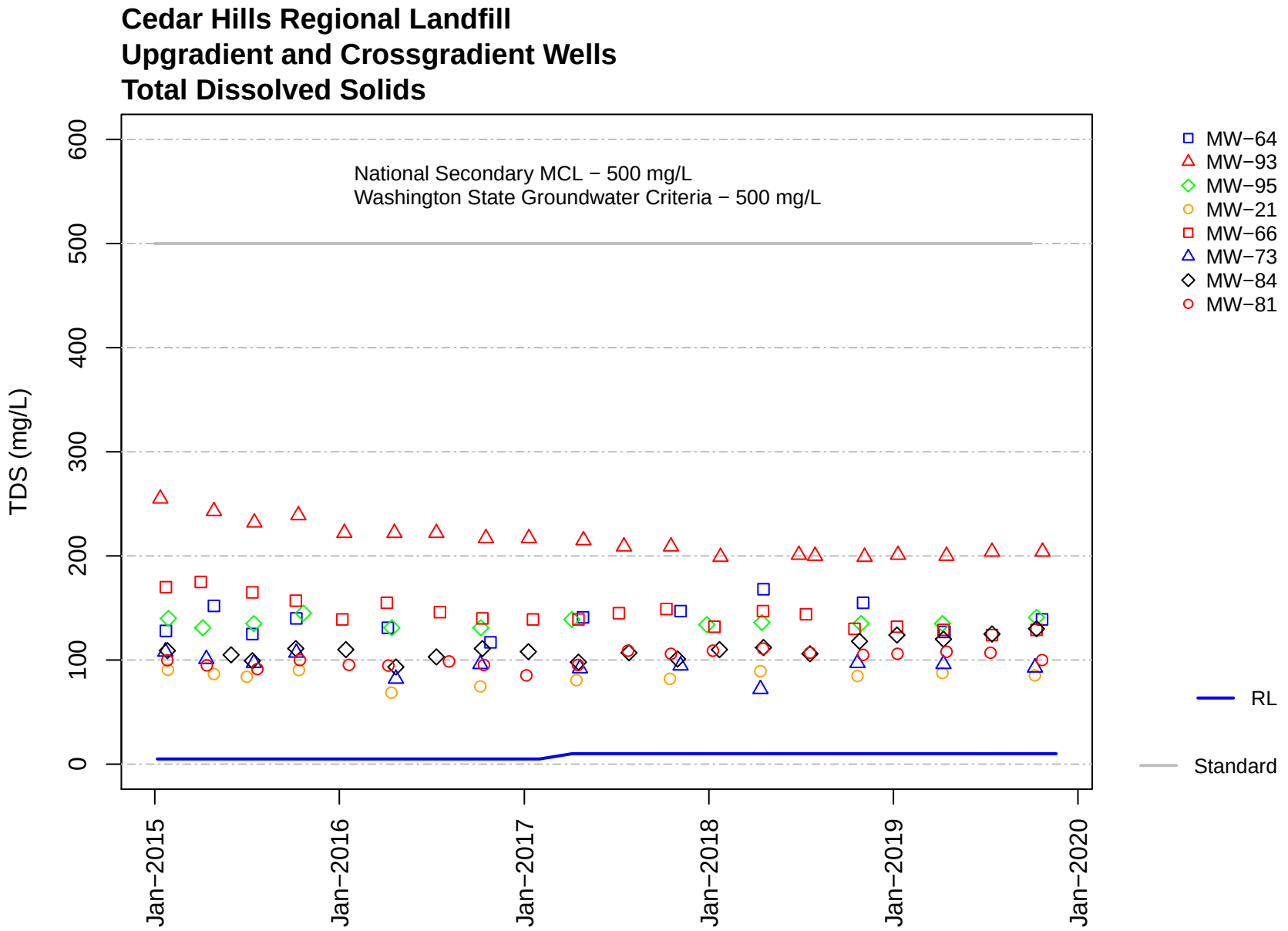

Cedar Hills Regional Landfill
Upgradient Wells
Sulfate
Sulfate (mg/L)
0
50
100
150
200
250
300
National Secondary MCL − 250 mg/L
Washington State Groundwater Criteria − 250 mg/L
Jan−2015
Jan−2016
Jan−2017
Jan−2018
Jan−2019
Jan−2020
MW−56
MW−59
MW−76
MW−82
MW−83
MW−94
MW−24
MW−65
RL
Standard

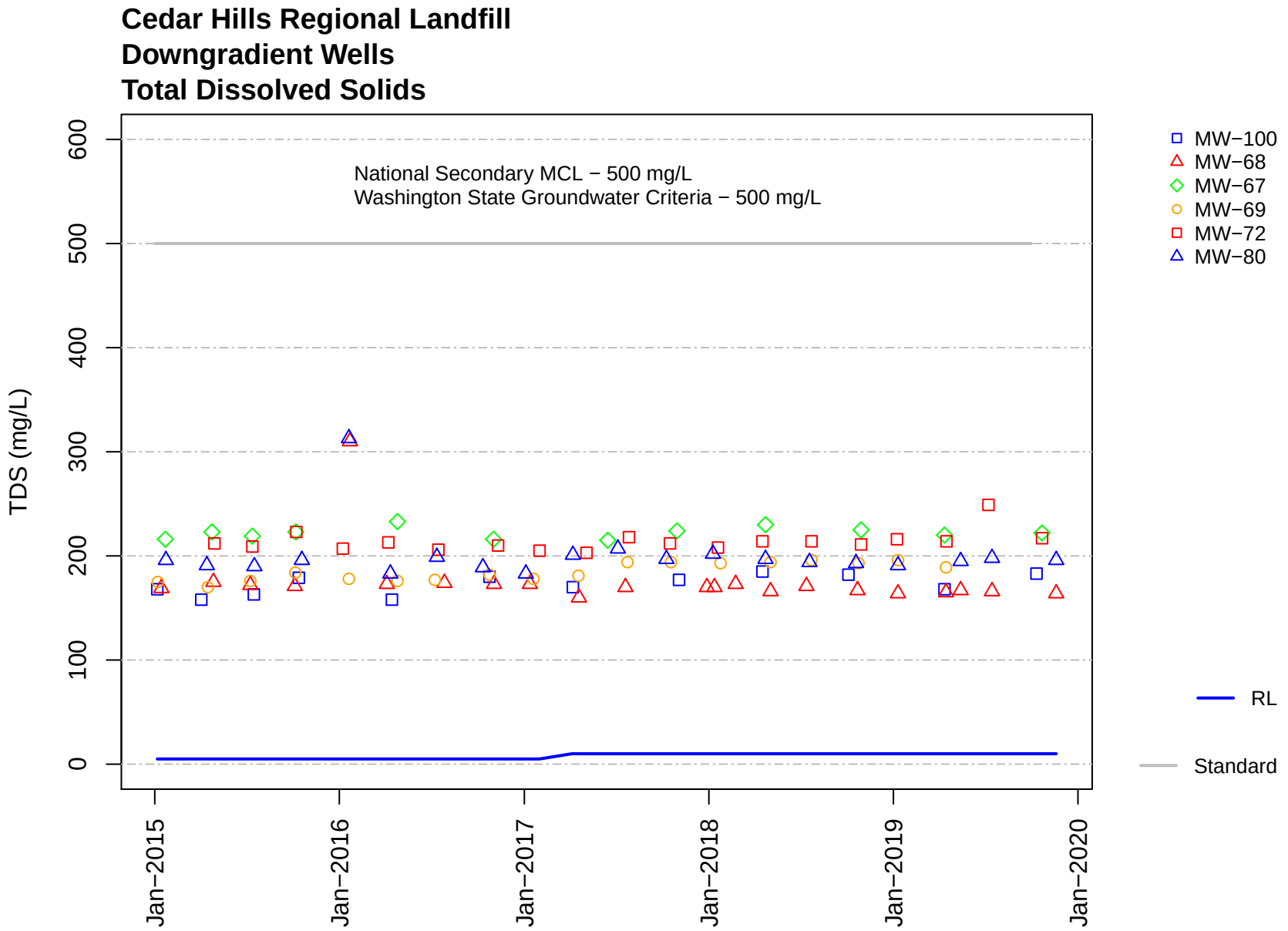

Cedar Hills Regional Landfill
Upgradient and Crossgradient Wells
Sulfate
Sulfate (mg/L)
0
50
100
150
200
250
300
National Secondary MCL − 250 mg/L
Washington State Groundwater Criteria − 250 mg/L
Jan−2015
Jan−2016
Jan−2017
Jan−2018
Jan−2019
Jan−2020
MW−64
MW−93
MW−95
MW−21
MW−66
MW−73
MW−84
MW−81
RL
Standard

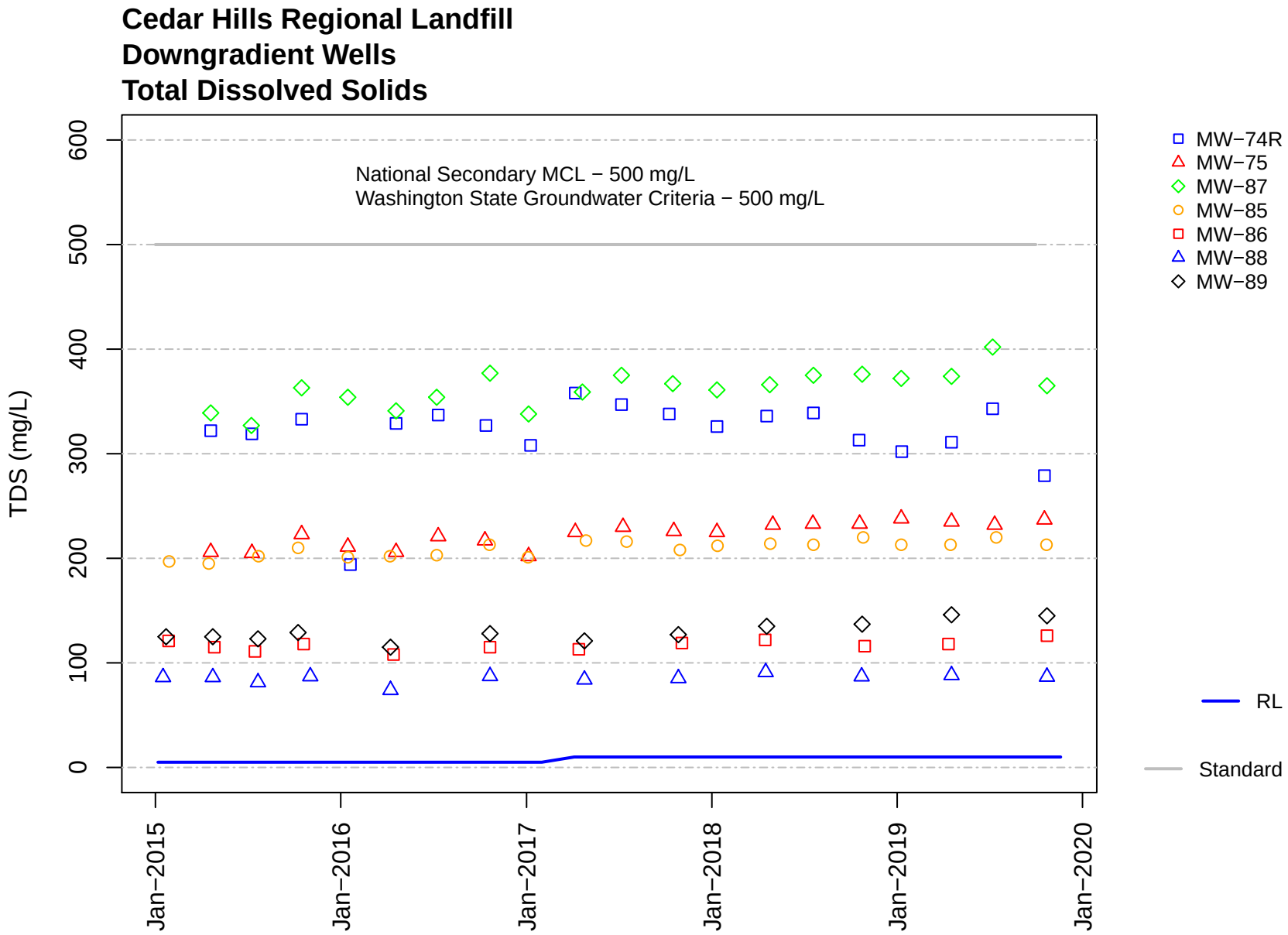

Cedar Hills Regional Landfill
Downgradient Wells
Sulfate
Sulfate (mg/L)
0
50
100
150
200
250
300
National Secondary MCL − 250 mg/L
Washington State Groundwater Criteria − 250 mg/L
Jan−2015
Jan−2016
Jan−2017
Jan−2018
Jan−2019
Jan−2020
MW−100
MW−68
MW−67
MW−69
MW−72
MW−80
RL
Standard

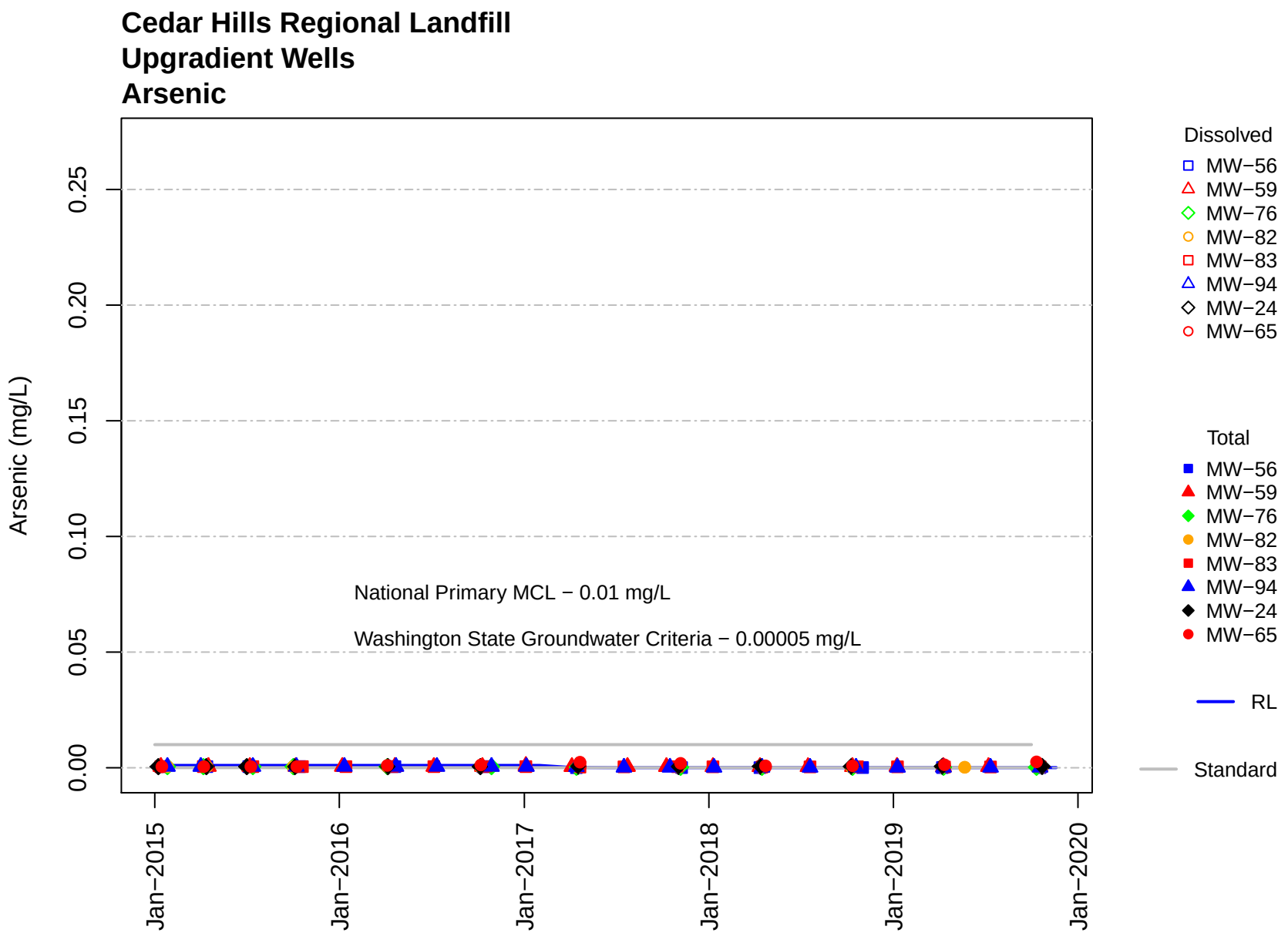

Cedar Hills Regional Landfill
Downgradient Wells
Sulfate
Sulfate (mg/L)
0
50
100
150
200
250
300
National Secondary MCL − 250 mg/L
Washington State Groundwater Criteria − 250 mg/L
Jan−2015
Jan−2016
Jan−2017
Jan−2018
Jan−2019
Jan−2020
MW−74R
MW−75
MW−87
MW−85
MW−86
MW−88
MW−89
RL
Standard

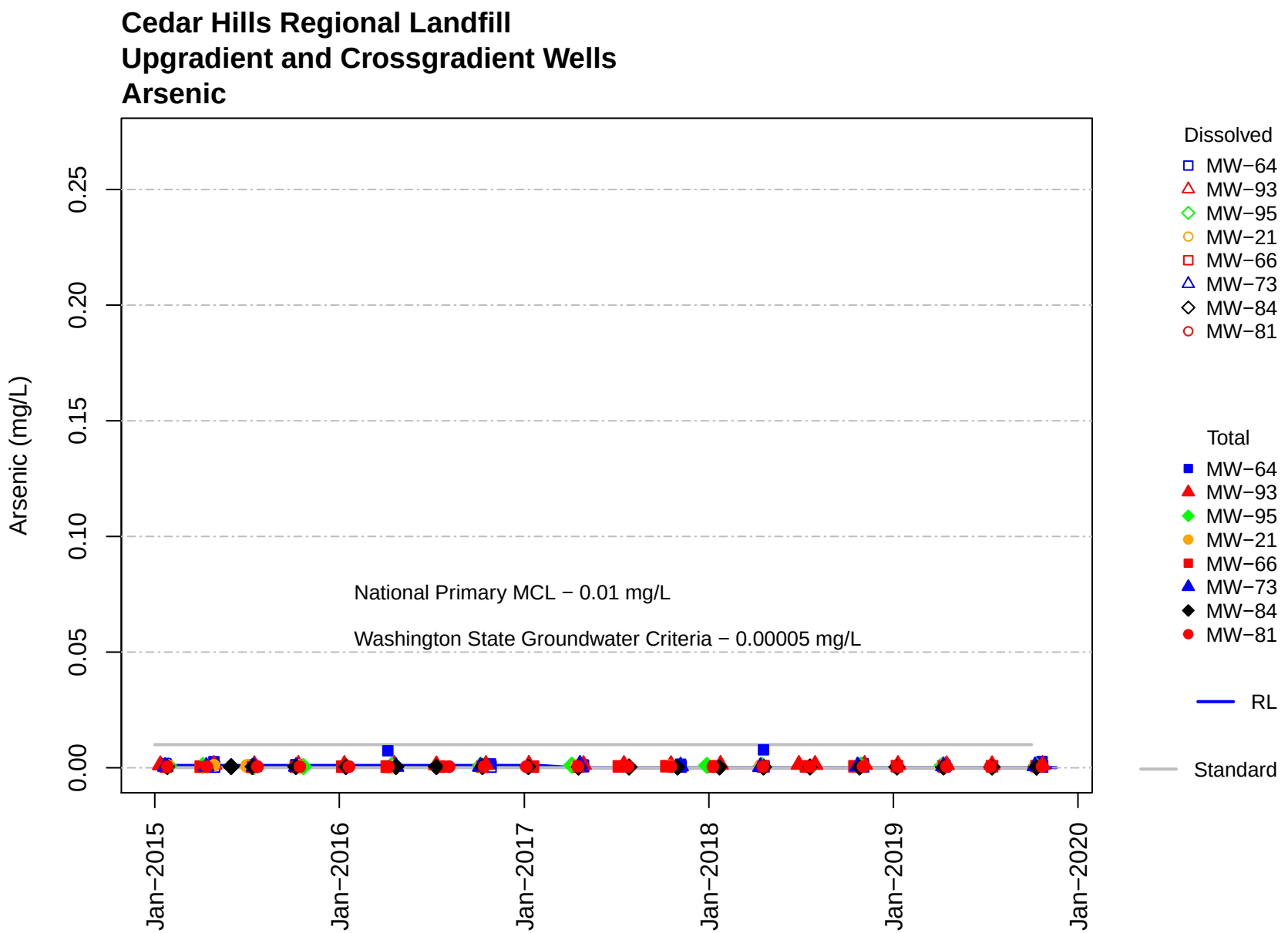

Cedar Hills Regional Landfill
Upgradient Wells
Total Dissolved Solids
National Secondary MCL − 500 mg/L
Washington State Groundwater Criteria − 500 mg/L
TDS (mg/L)
0
100
200
300
400
500
600
Jan−2015
Jan−2016
Jan−2017
Jan−2018
Jan−2019
Jan−2020
MW−56
MW−59
MW−76
MW−82
MW−83
MW−94
MW−24
MW−65
RL
Standard

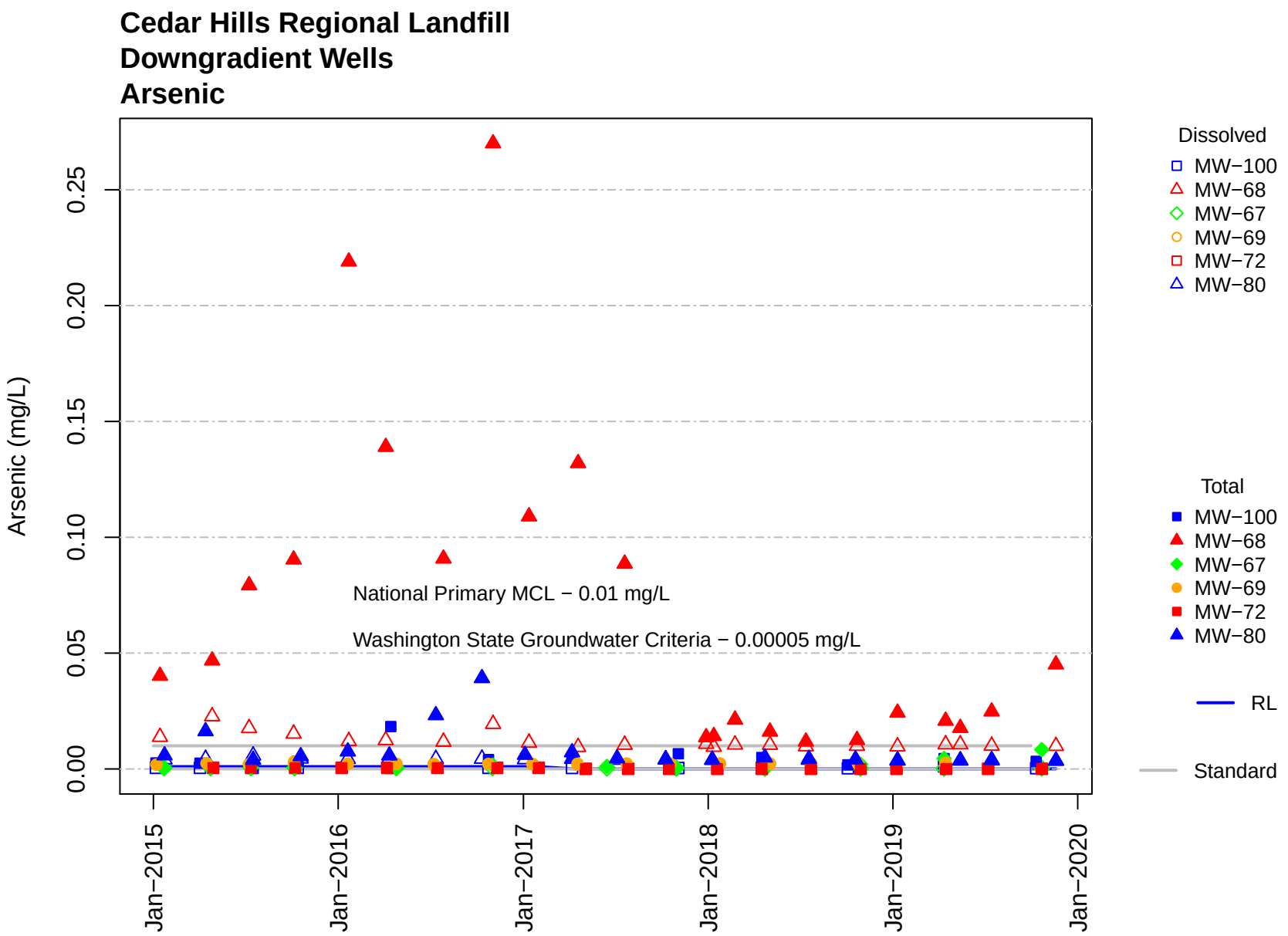

Cedar Hills Regional Landfill
Upgradient and Crossgradient Wells
Total Dissolved Solids
National Secondary MCL − 500 mg/L
Washington State Groundwater Criteria − 500 mg/L
TDS (mg/L)
0
100
200
300
400
500
600
Jan−2015
Jan−2016
Jan−2017
Jan−2018
Jan−2019
Jan−2020
MW−64
MW−93
MW−95
MW−21
MW−66
MW−73
MW−84
MW−81
RL
Standard

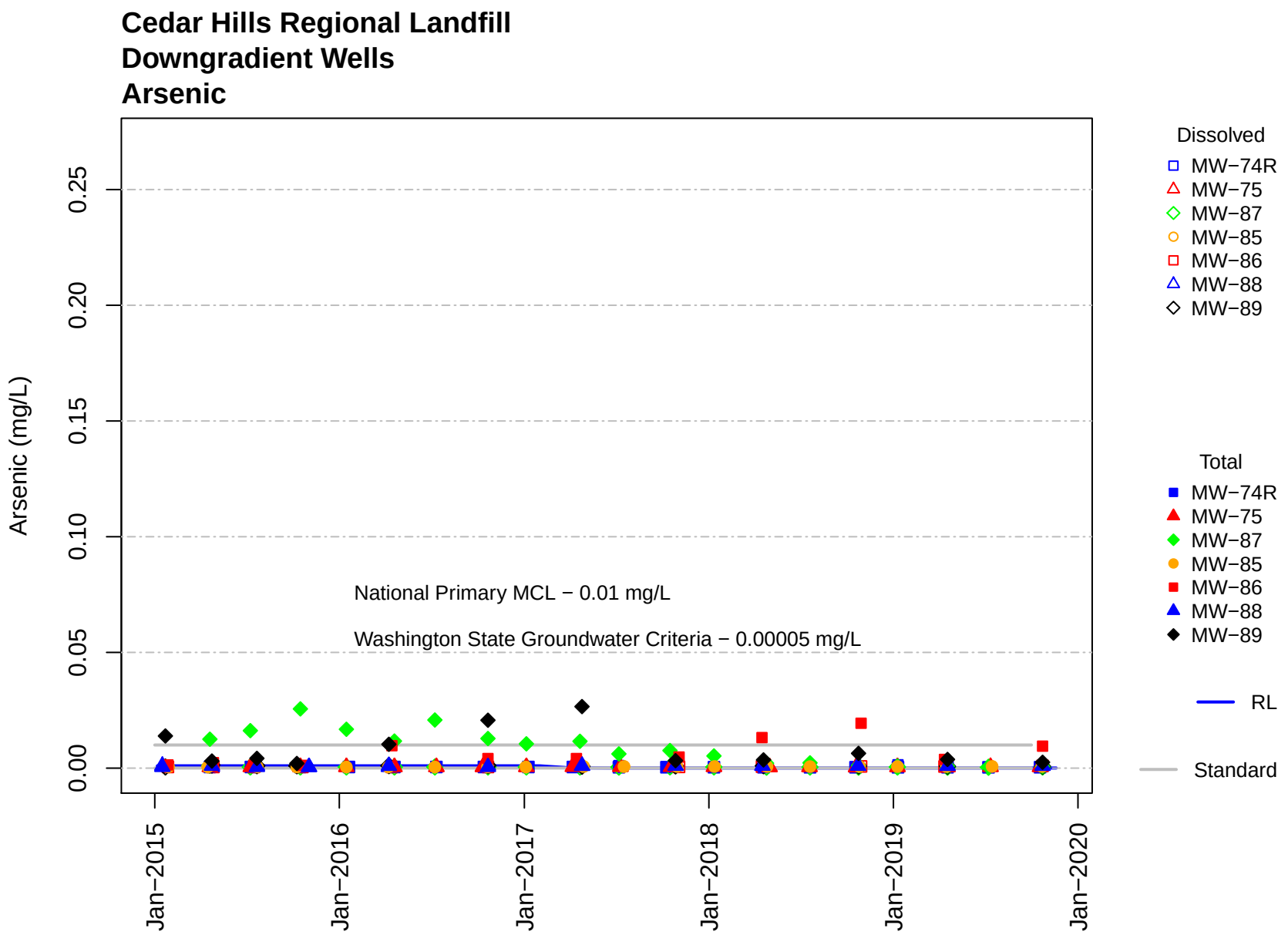

Cedar Hills Regional Landfill
Downgradient Wells
Total Dissolved Solids
National Secondary MCL − 500 mg/L
Washington State Groundwater Criteria − 500 mg/L
TDS (mg/L)
0
100
200
300
400
500
600
Jan−2015
Jan−2016
Jan−2017
Jan−2018
Jan−2019
Jan−2020
MW−100
MW−68
MW−67
MW−69
MW−72
MW−80
RL
Standard

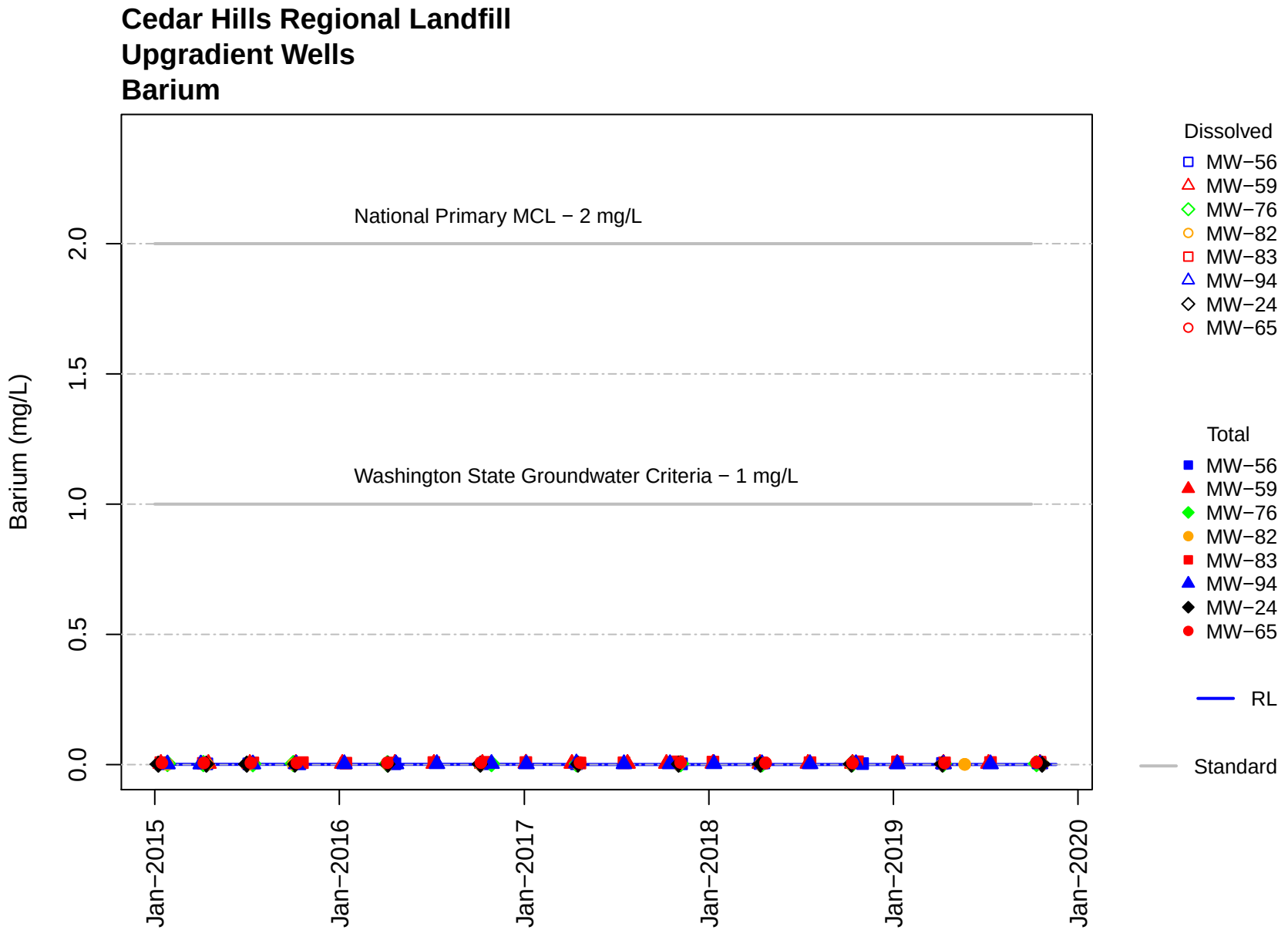

Cedar Hills Regional Landfill
Downgradient Wells
Total Dissolved Solids
National Secondary MCL − 500 mg/L
Washington State Groundwater Criteria − 500 mg/L
TDS (mg/L)
0
100
200
300
400
500
600
Jan−2015
Jan−2016
Jan−2017
Jan−2018
Jan−2019
Jan−2020
MW−74R
MW−75
MW−87
MW−85
MW−86
MW−88
MW−89
RL
Standard

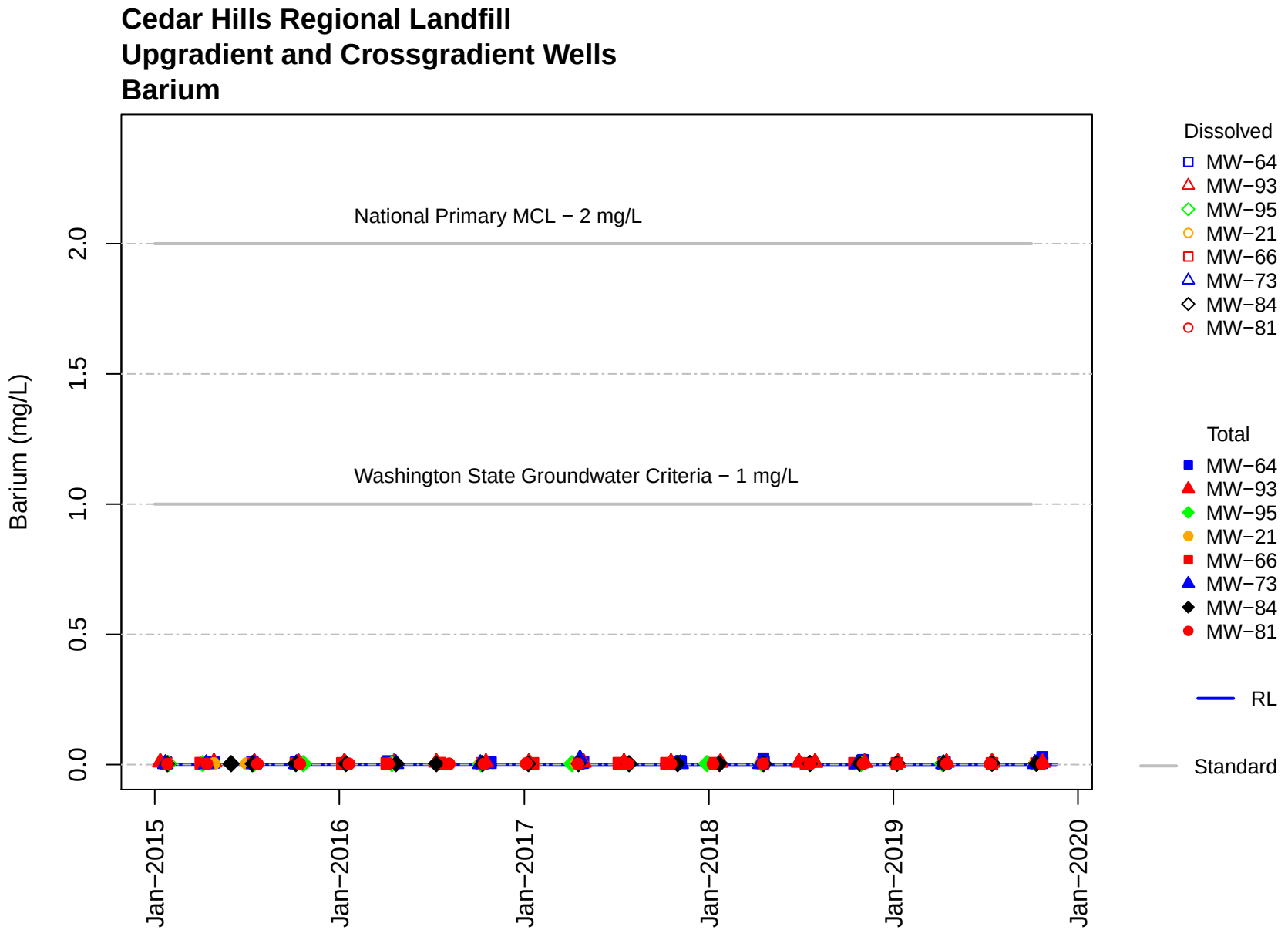

Cedar Hills Regional Landfill
Upgradient Wells
Arsenic
Arsenic (mg/L)
0.00
0.05
0.10
0.15
0.20
0.25
Jan−2015
Jan−2016
Jan−2017
Jan−2018
Jan−2019
Jan−2020
National Primary MCL − 0.01 mg/L
Washington State Groundwater Criteria − 0.00005 mg/L
Dissolved
MW−56
MW−59
MW−76
MW−82
MW−83
MW−94
MW−24
MW−65
Total
MW−56
MW−59
MW−76
MW−82
MW−83
MW−94
MW−24
MW−65
RL
Standard

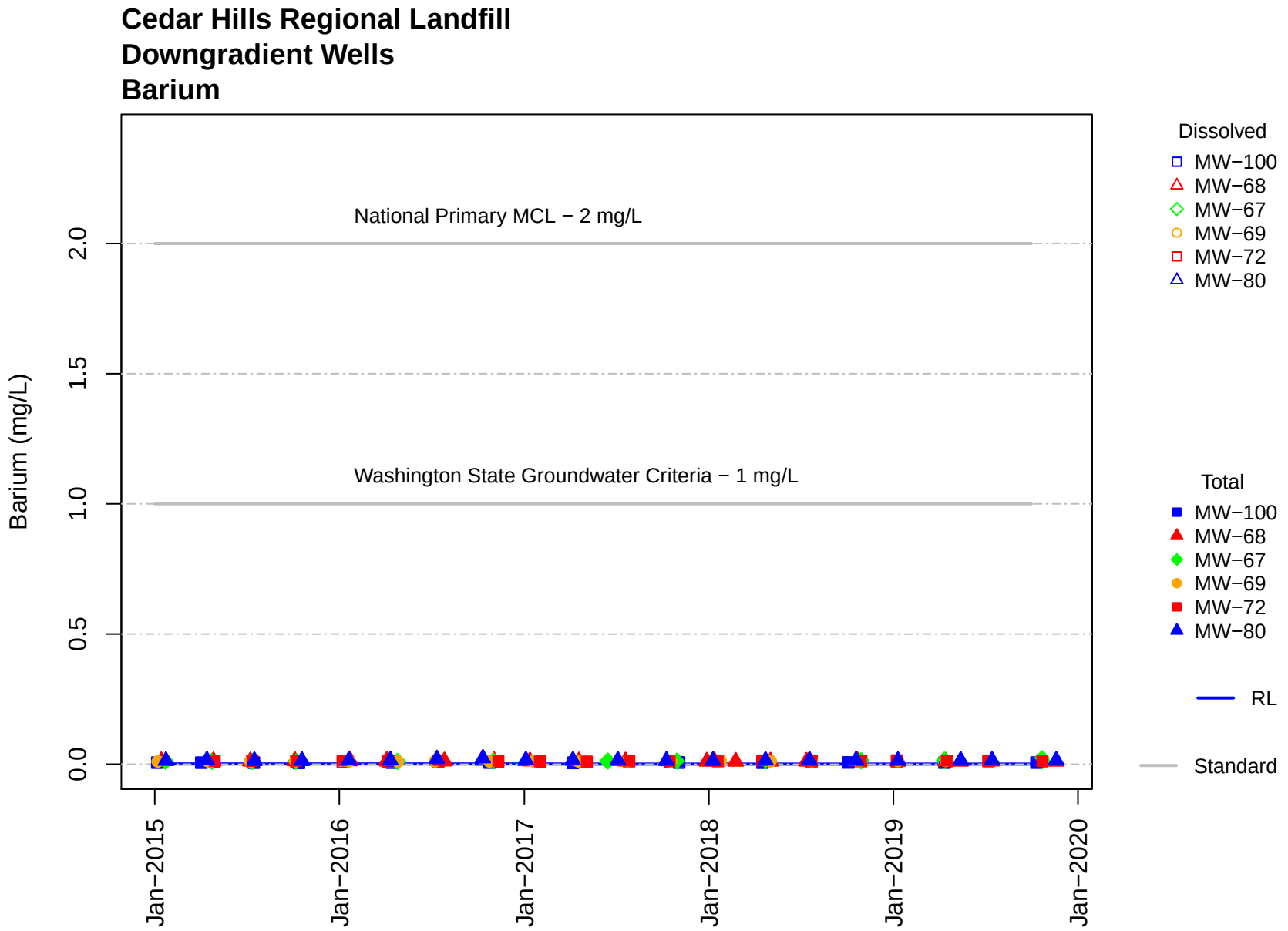

Cedar Hills Regional Landfill
Upgradient and Crossgradient Wells
Arsenic
Arsenic (mg/L)
0.00
0.05
0.10
0.15
0.20
0.25
National Primary MCL − 0.01 mg/L
Washington State Groundwater Criteria − 0.00005 mg/L
Jan−2015
Jan−2016
Jan−2017
Jan−2018
Jan−2019
Jan−2020
Dissolved
MW−64
MW−93
MW−95
MW−21
MW−66
MW−73
MW−84
MW−81
Total
MW−64
MW−93
MW−95
MW−21
MW−66
MW−73
MW−84
MW−81
RL
Standard

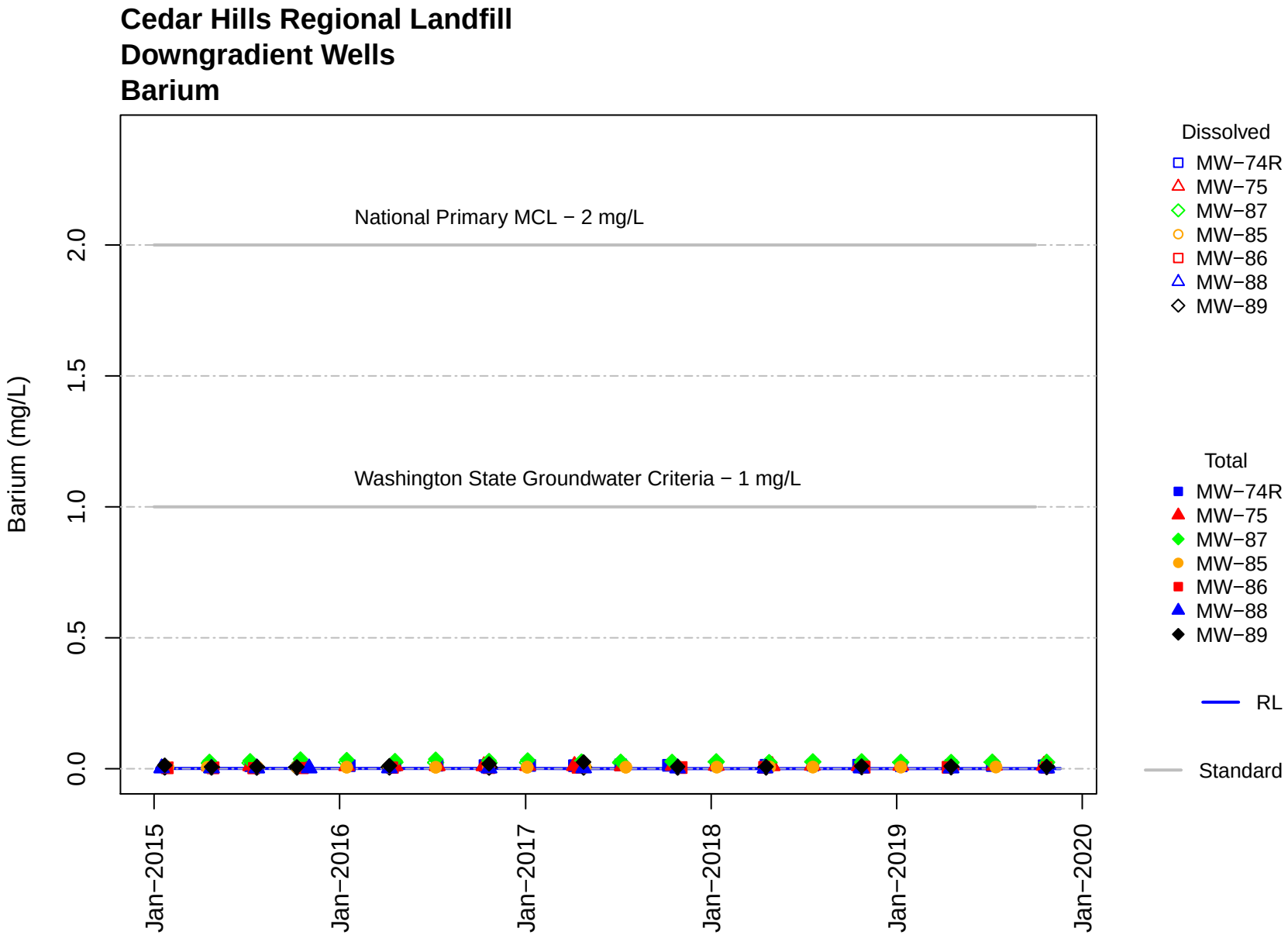

Cedar Hills Regional Landfill
Downgradient Wells
Arsenic
Arsenic (mg/L)
0.00
0.05
0.10
0.15
0.20
0.25
Jan−2015
Jan−2016
Jan−2017
Jan−2018
Jan−2019
Jan−2020
National Primary MCL − 0.01 mg/L
Washington State Groundwater Criteria − 0.00005 mg/L
Dissolved
MW−100
MW−68
MW−67
MW−69
MW−72
MW−80
Total
MW−100
MW−68
MW−67
MW−69
MW−72
MW−80
RL
Standard

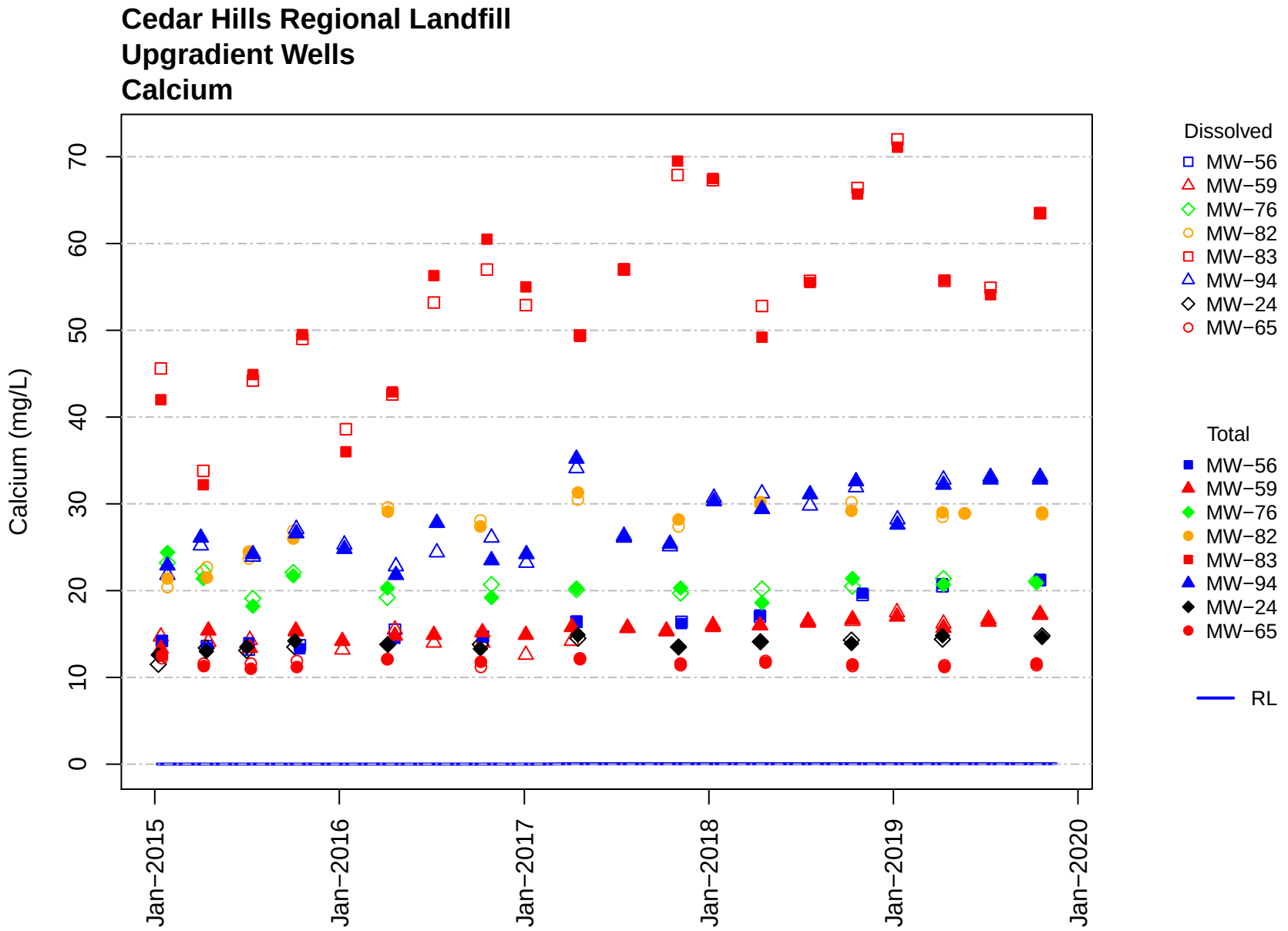

Cedar Hills Regional Landfill
Downgradient Wells
Arsenic
Arsenic (mg/L)
0.00
0.05
0.10
0.15
0.20
0.25
Jan−2015
Jan−2016
Jan−2017
Jan−2018
Jan−2019
Jan−2020
National Primary MCL − 0.01 mg/L
Washington State Groundwater Criteria − 0.00005 mg/L
Dissolved
MW−74R
MW−75
MW−87
MW−85
MW−86
MW−88
MW−89
Total
MW−74R
MW−75
MW−87
MW−85
MW−86
MW−88
MW−89
RL
Standard

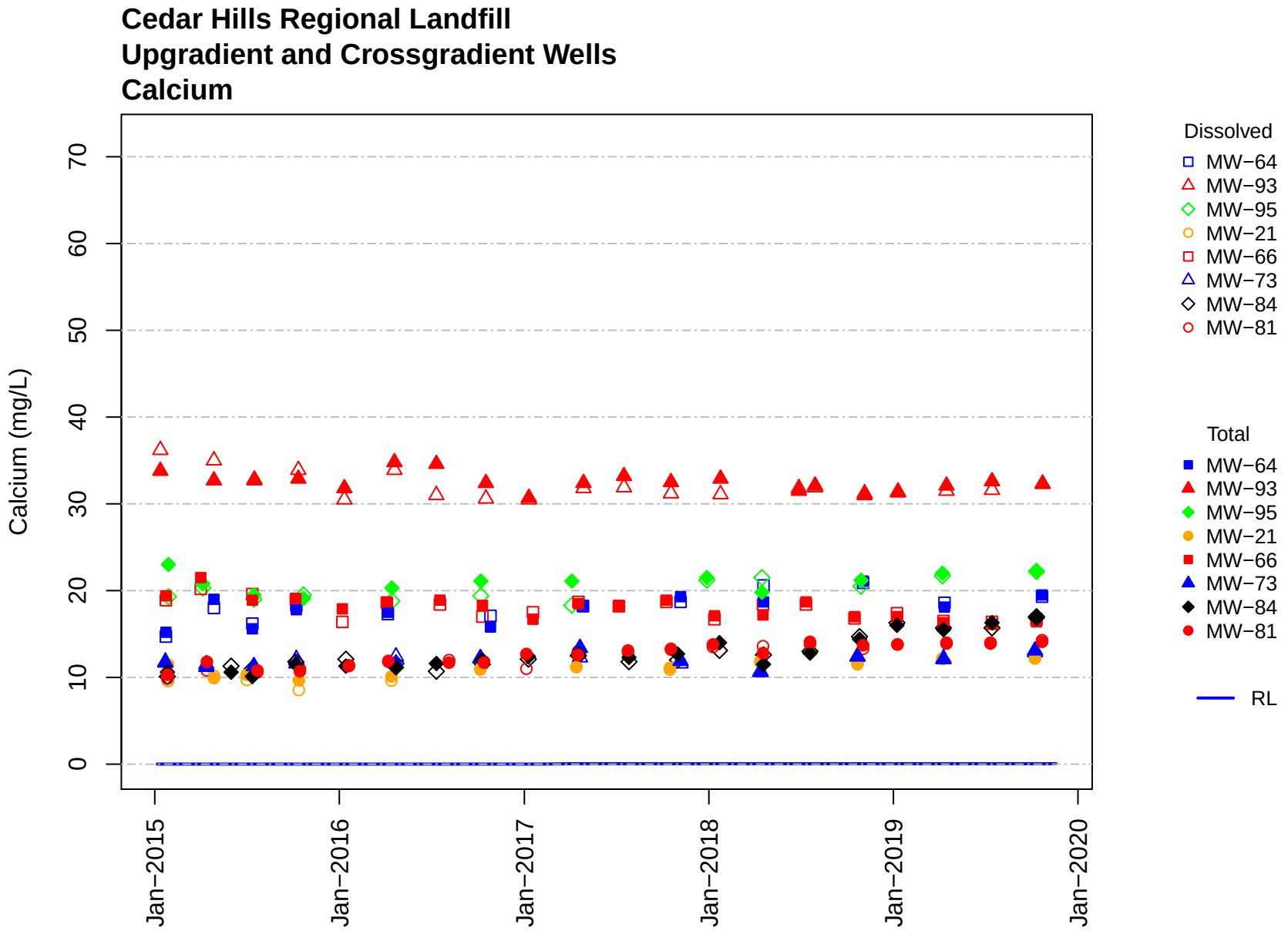

Cedar Hills Regional Landfill
Upgradient Wells
Barium
National Primary MCL − 2 mg/L
Washington State Groundwater Criteria − 1 mg/L
Barium (mg/L)
0.0
0.5
1.0
1.5
2.0
Jan−2015
Jan−2016
Jan−2017
Jan−2018
Jan−2019
Jan−2020
Dissolved
MW−56
MW−59
MW−76
MW−82
MW−83
MW−94
MW−24
MW−65
Total
MW−56
MW−59
MW−76
MW−82
MW−83
MW−94
MW−24
MW−65
RL
Standard

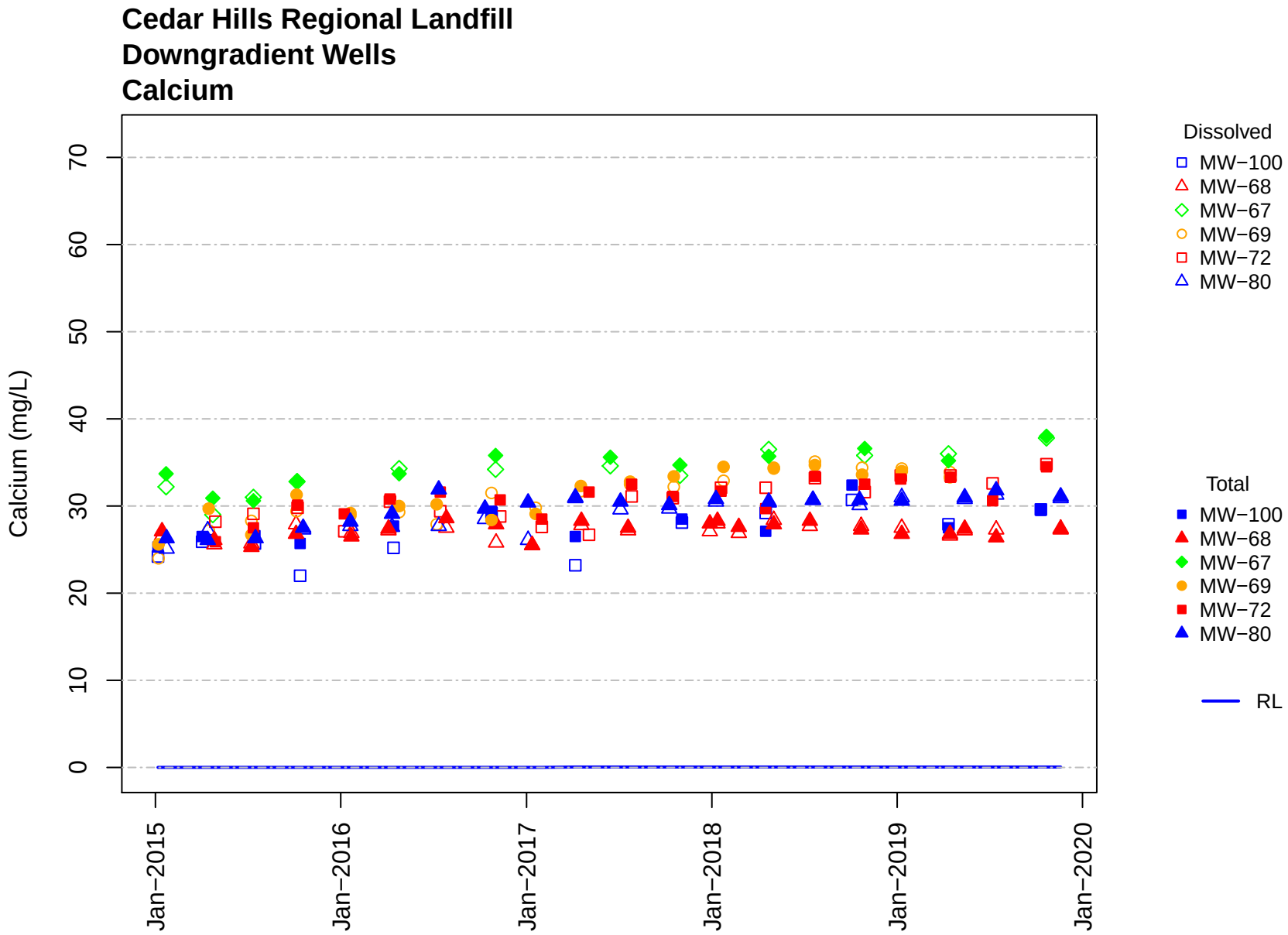

Cedar Hills Regional Landfill
Upgradient and Crossgradient Wells
Barium
National Primary MCL − 2 mg/L
Washington State Groundwater Criteria − 1 mg/L
Barium (mg/L)
0.0
0.5
1.0
1.5
2.0
Jan−2015
Jan−2016
Jan−2017
Jan−2018
Jan−2019
Jan−2020
Dissolved
MW−64
MW−93
MW−95
MW−21
MW−66
MW−73
MW−84
MW−81
Total
MW−64
MW−93
MW−95
MW−21
MW−66
MW−73
MW−84
MW−81
RL
Standard

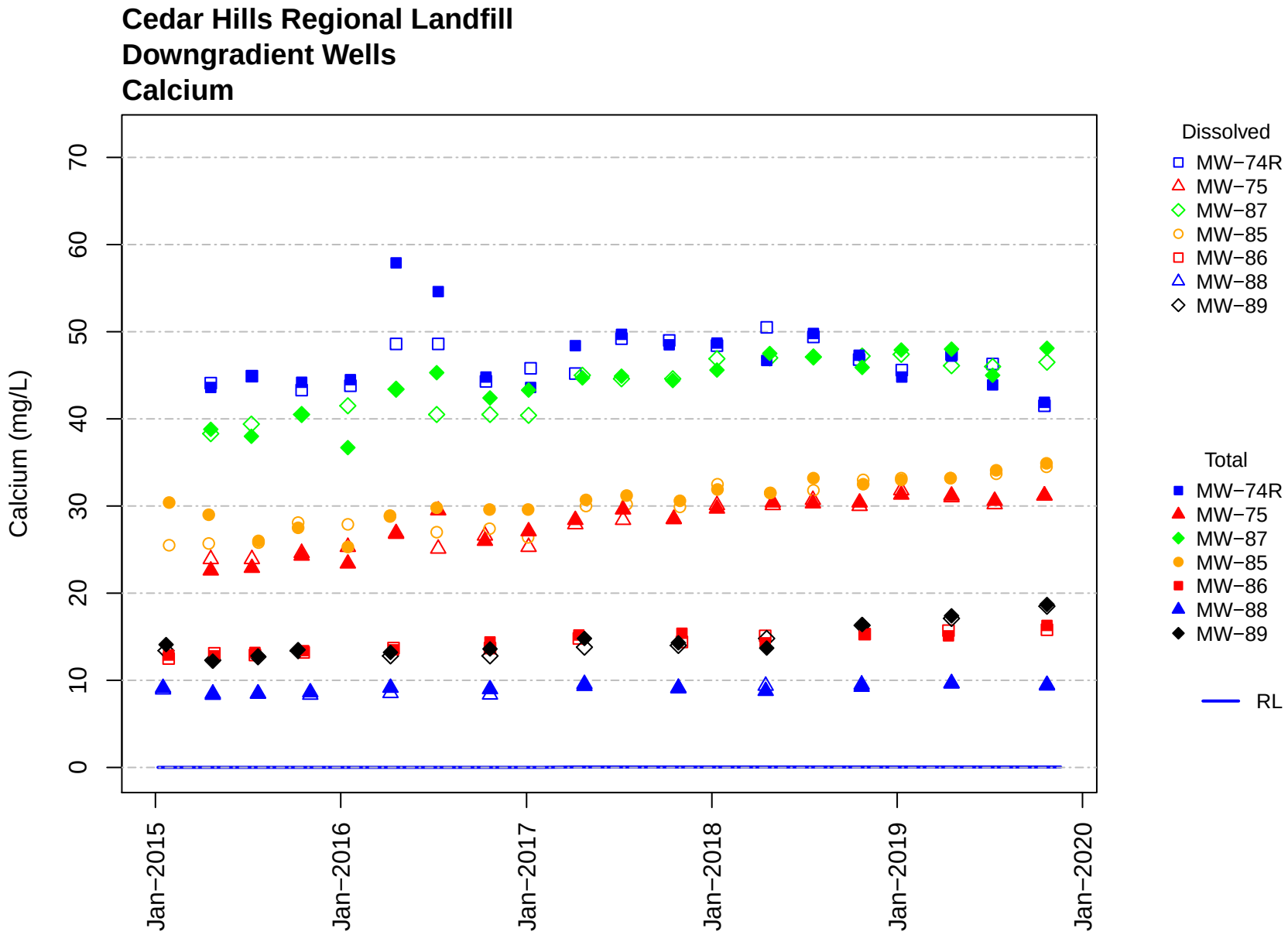

Cedar Hills Regional Landfill
Downgradient Wells
Barium
National Primary MCL − 2 mg/L
Washington State Groundwater Criteria − 1 mg/L
Barium (mg/L)
0.0
0.5
1.0
1.5
2.0
Jan−2015
Jan−2016
Jan−2017
Jan−2018
Jan−2019
Jan−2020
Dissolved
MW−100
MW−68
MW−67
MW−69
MW−72
MW−80
Total
MW−100
MW−68
MW−67
MW−69
MW−72
MW−80
RL
Standard

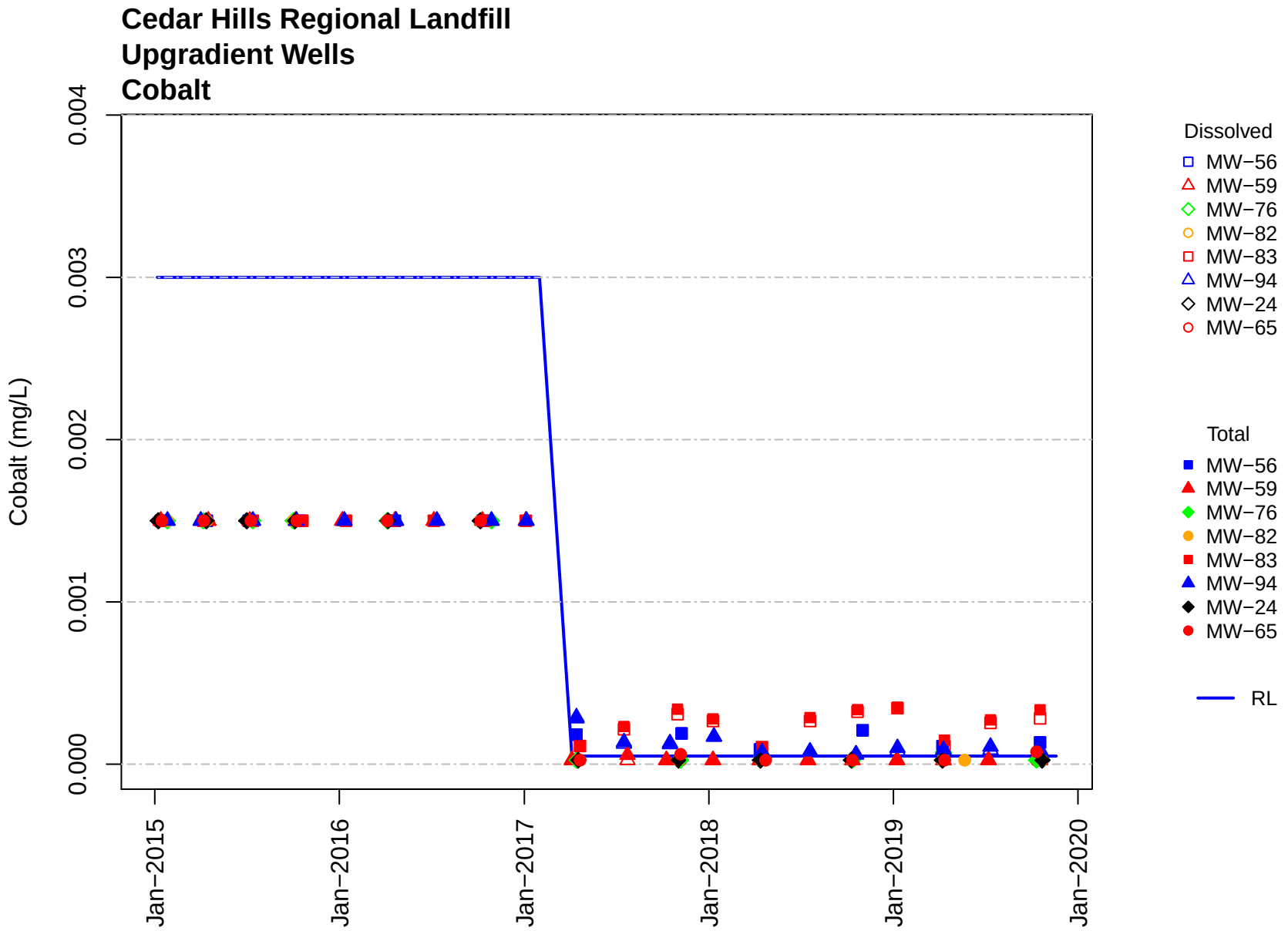

Cedar Hills Regional Landfill
Downgradient Wells
Barium
National Primary MCL − 2 mg/L
Washington State Groundwater Criteria − 1 mg/L
Barium (mg/L)
0.0
0.5
1.0
1.5
2.0
Jan−2015
Jan−2016
Jan−2017
Jan−2018
Jan−2019
Jan−2020
Dissolved
MW−74R
MW−75
MW−87
MW−85
MW−86
MW−88
MW−89
Total
MW−74R
MW−75
MW−87
MW−85
MW−86
MW−88
MW−89
RL
Standard

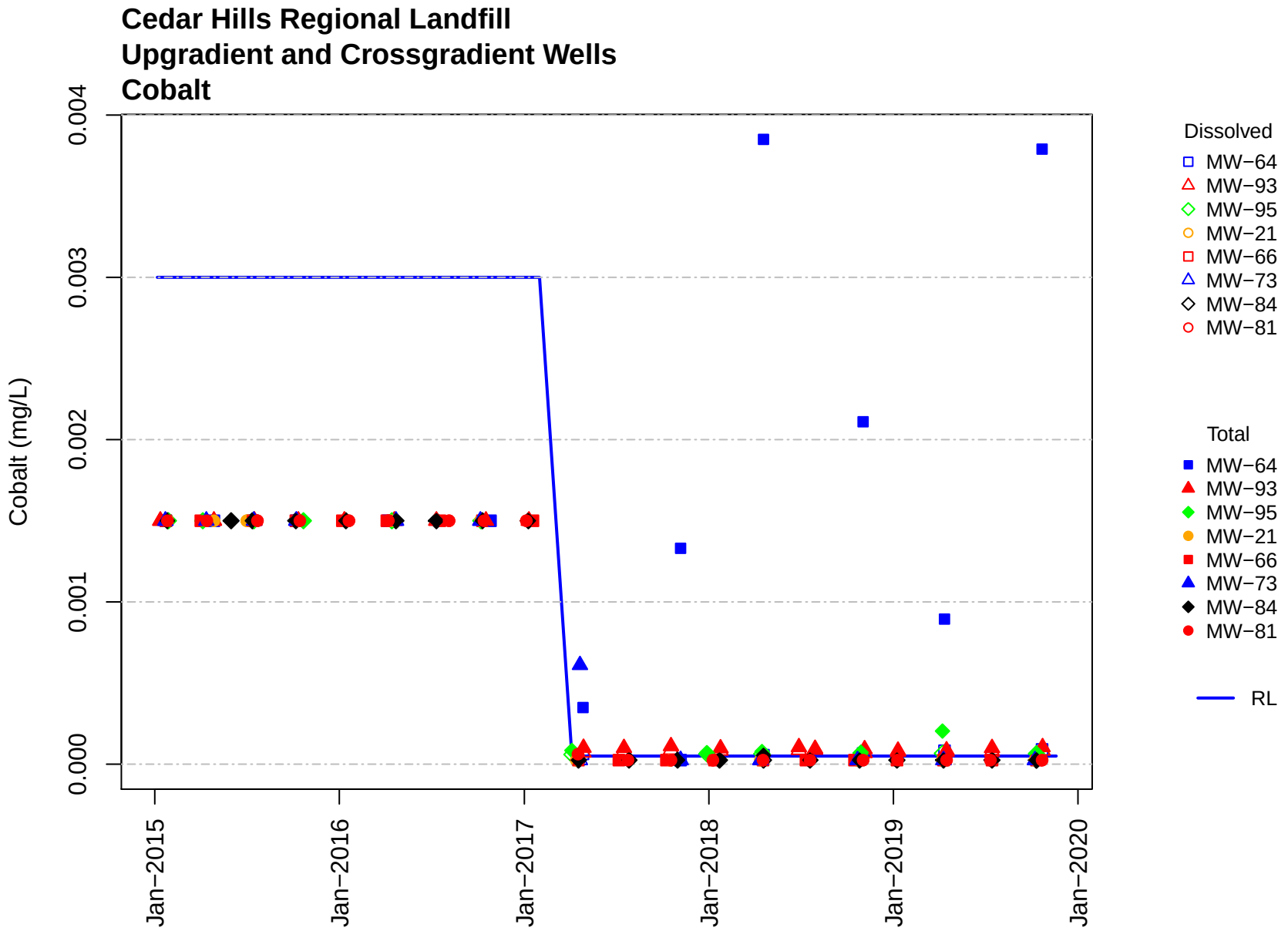

Cedar Hills Regional Landfill
Upgradient Wells
Calcium
Calcium (mg/L)
0
10
20
30
40
50
60
70
Jan−2015
Jan−2016
Jan−2017
Jan−2018
Jan−2019
Jan−2020
Dissolved
MW−56
MW−59
MW−76
MW−82
MW−83
MW−94
MW−24
MW−65
Total
MW−56
MW−59
MW−76
MW−82
MW−83
MW−94
MW−24
MW−65
RL

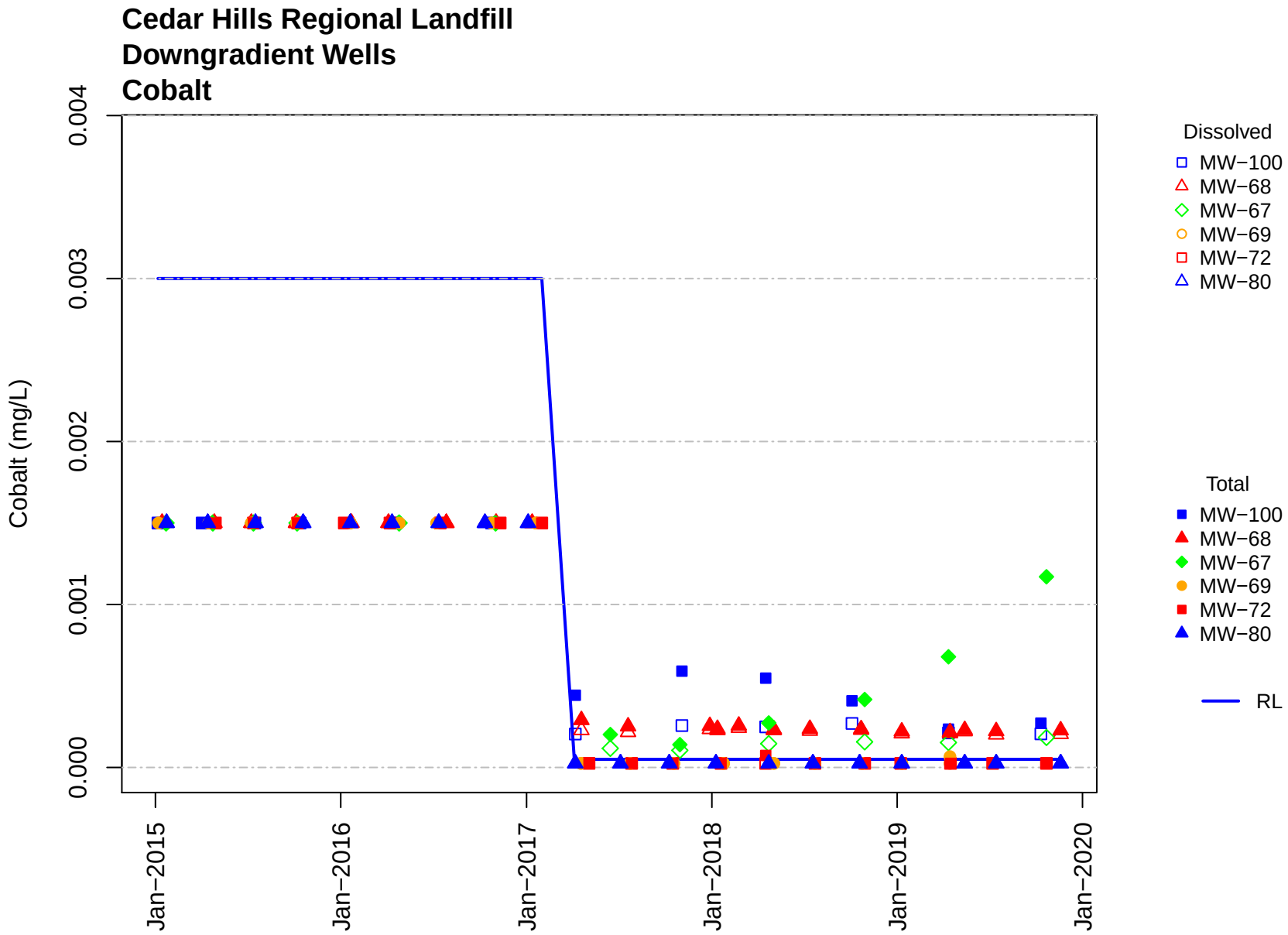

Cedar Hills Regional Landfill
Upgradient and Crossgradient Wells
Calcium
Calcium (mg/L)
0
10
20
30
40
50
60
70
Jan−2015
Jan−2016
Jan−2017
Jan−2018
Jan−2019
Jan−2020
Dissolved
MW−64
MW−93
MW−95
MW−21
MW−66
MW−73
MW−84
MW−81
Total
MW−64
MW−93
MW−95
MW−21
MW−66
MW−73
MW−84
MW−81
RL

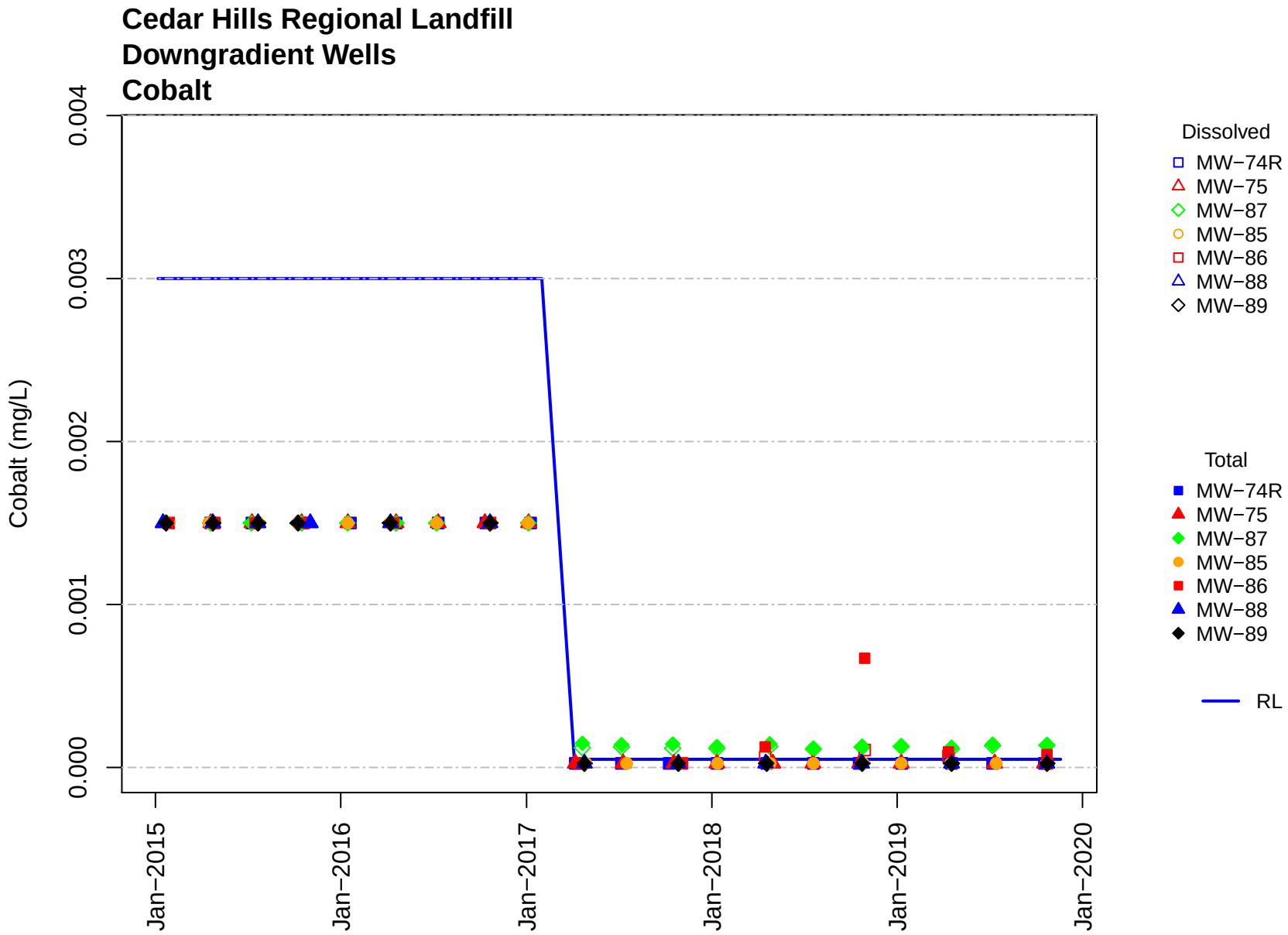

Cedar Hills Regional Landfill
Downgradient Wells
Calcium
Calcium (mg/L)
0
10
20
30
40
50
60
70
Jan−2015
Jan−2016
Jan−2017
Jan−2018
Jan−2019
Jan−2020
Dissolved
MW−100
MW−68
MW−67
MW−69
MW−72
MW−80
Total
MW−100
MW−68
MW−67
MW−69
MW−72
MW−80
RL

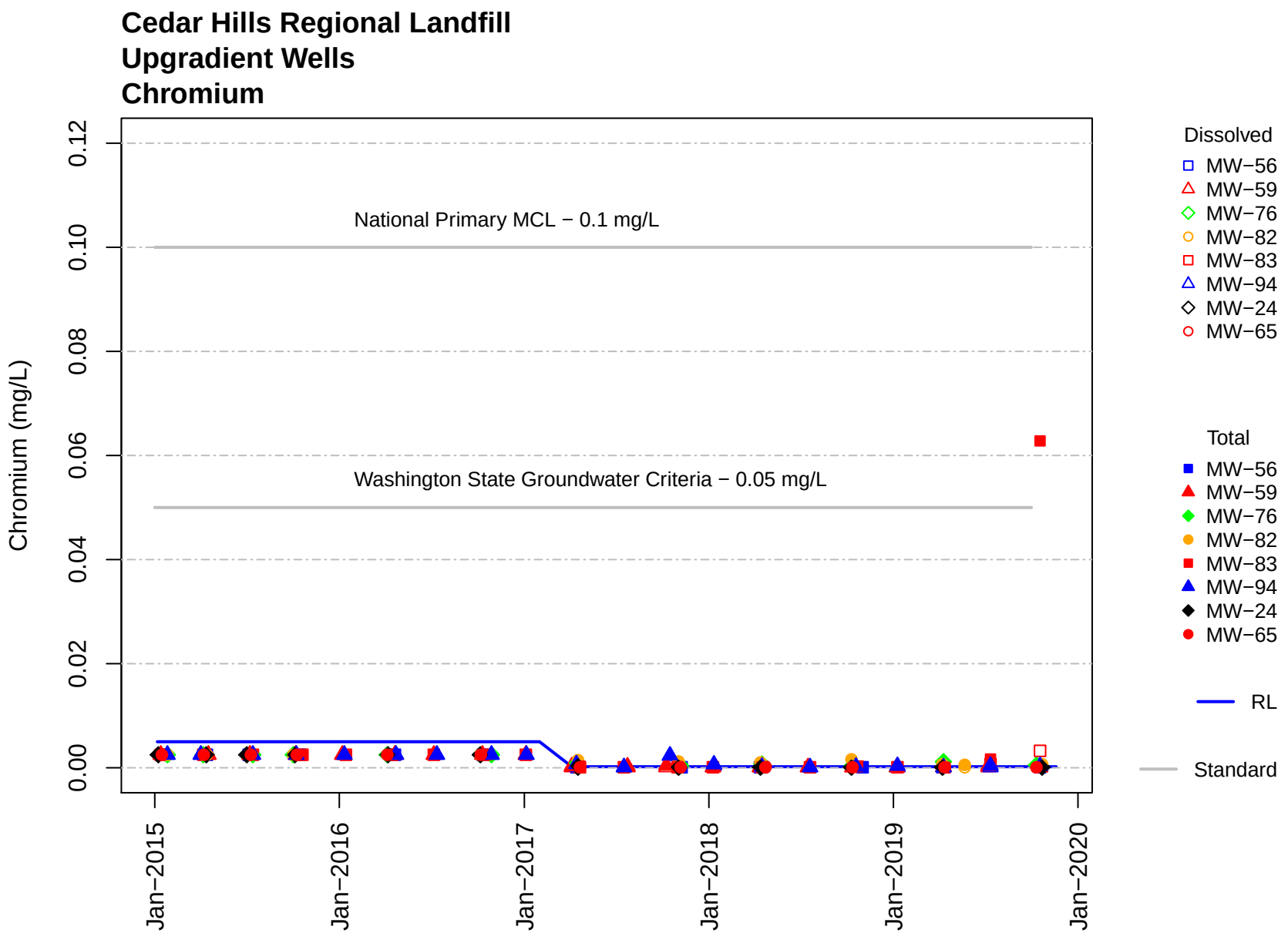

Cedar Hills Regional Landfill
Downgradient Wells
Calcium
Calcium (mg/L)
0
10
20
30
40
50
60
70
Jan−2015
Jan−2016
Jan−2017
Jan−2018
Jan−2019
Jan−2020
Dissolved
MW−74R
MW−75
MW−87
MW−85
MW−86
MW−88
MW−89
Total
MW−74R
MW−75
MW−87
MW−85
MW−86
MW−88
MW−89
RL

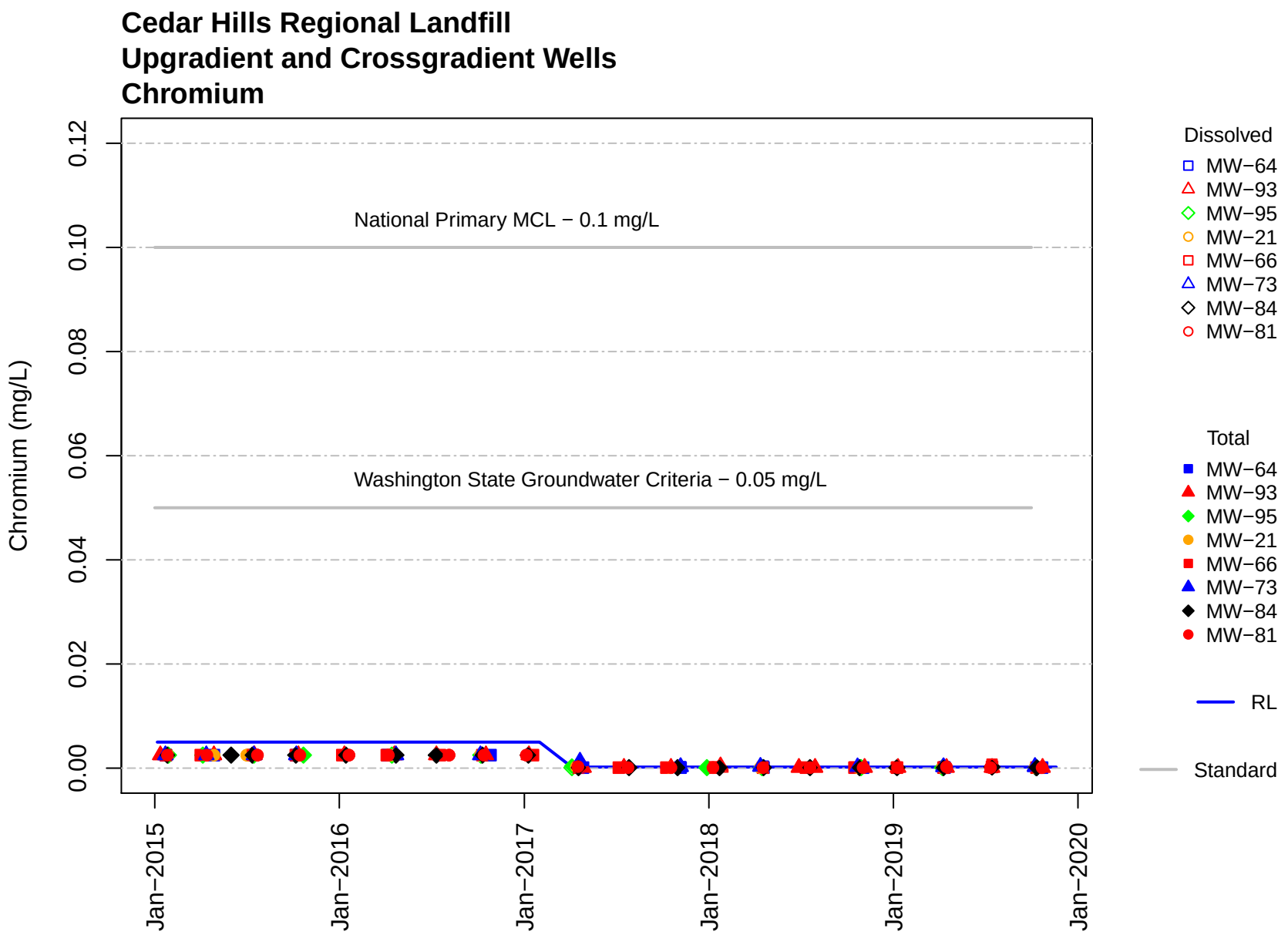

Cedar Hills Regional Landfill
Upgradient Wells
Cobalt
Cobalt (mg/L)
0.000
0.001
0.002
0.003
0.004
Jan−2015
Jan−2016
Jan−2017
Jan−2018
Jan−2019
Jan−2020
Dissolved
MW−56
MW−59
MW−76
MW−82
MW−83
MW−94
MW−24
MW−65
Total
MW−56
MW−59
MW−76
MW−82
MW−83
MW−94
MW−24
MW−65
RL

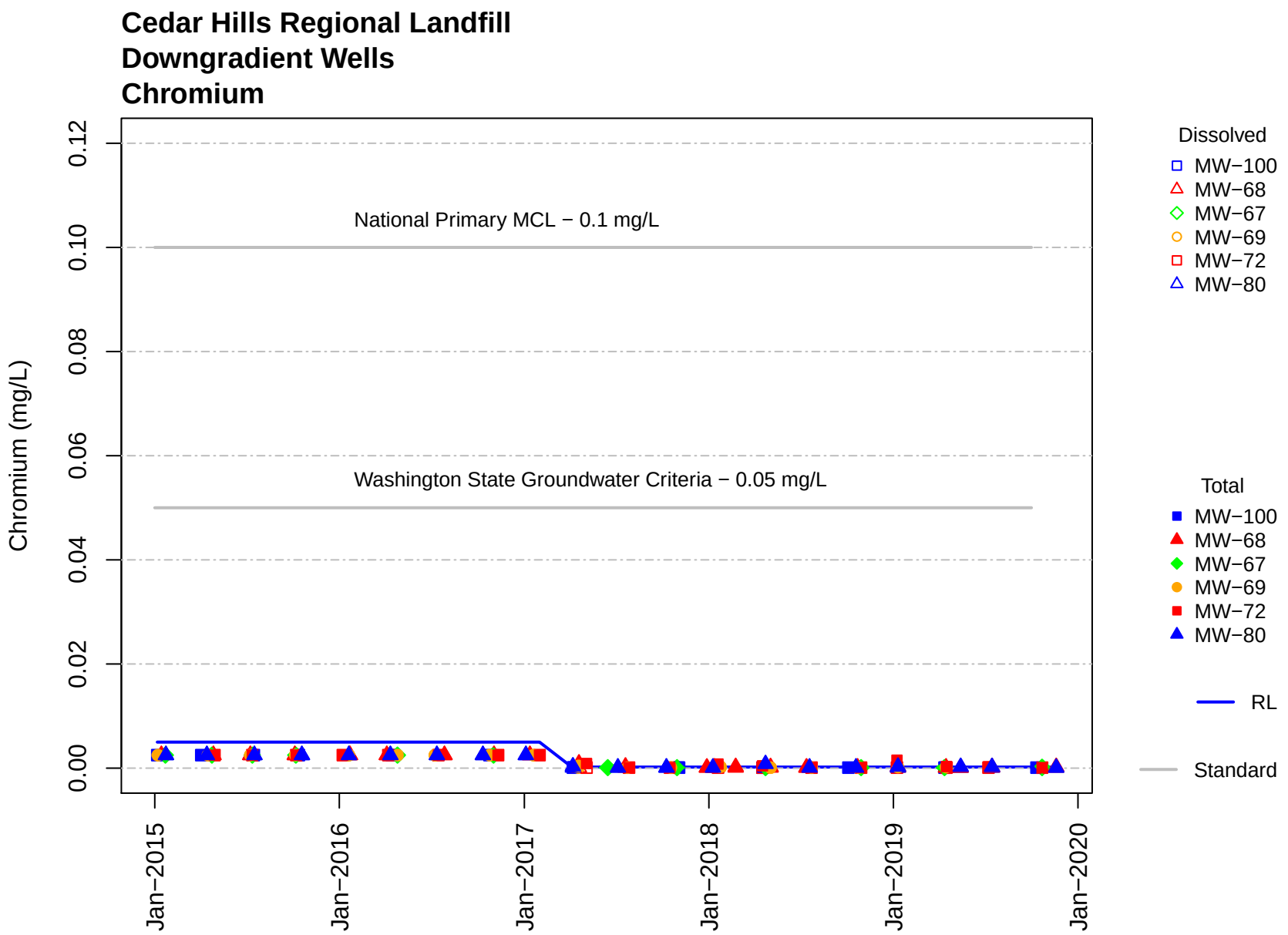

Cedar Hills Regional Landfill
Upgradient and Crossgradient Wells
Cobalt
Cobalt (mg/L)
0.000
0.001
0.002
0.003
0.004
Jan−2015
Jan−2016
Jan−2017
Jan−2018
Jan−2019
Jan−2020
Dissolved
MW−64
MW−93
MW−95
MW−21
MW−66
MW−73
MW−84
MW−81
Total
MW−64
MW−93
MW−95
MW−21
MW−66
MW−73
MW−84
MW−81
RL

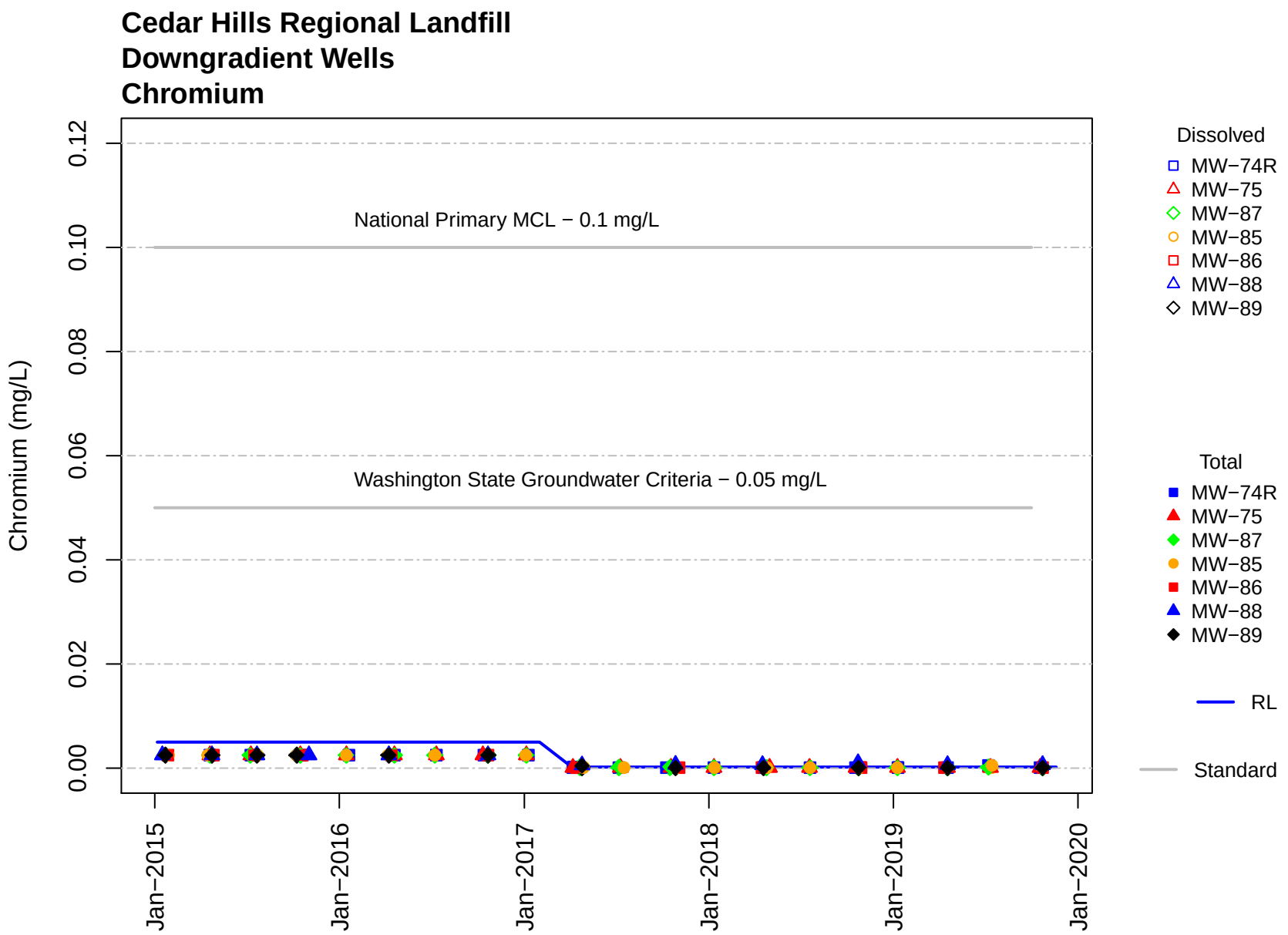

Cedar Hills Regional Landfill
Downgradient Wells
Cobalt
Cobalt (mg/L)
0.000
0.001
0.002
0.003
0.004
Jan−2015
Jan−2016
Jan−2017
Jan−2018
Jan−2019
Jan−2020
Dissolved
MW−100
MW−68
MW−67
MW−69
MW−72
MW−80
Total
MW−100
MW−68
MW−67
MW−69
MW−72
MW−80
RL

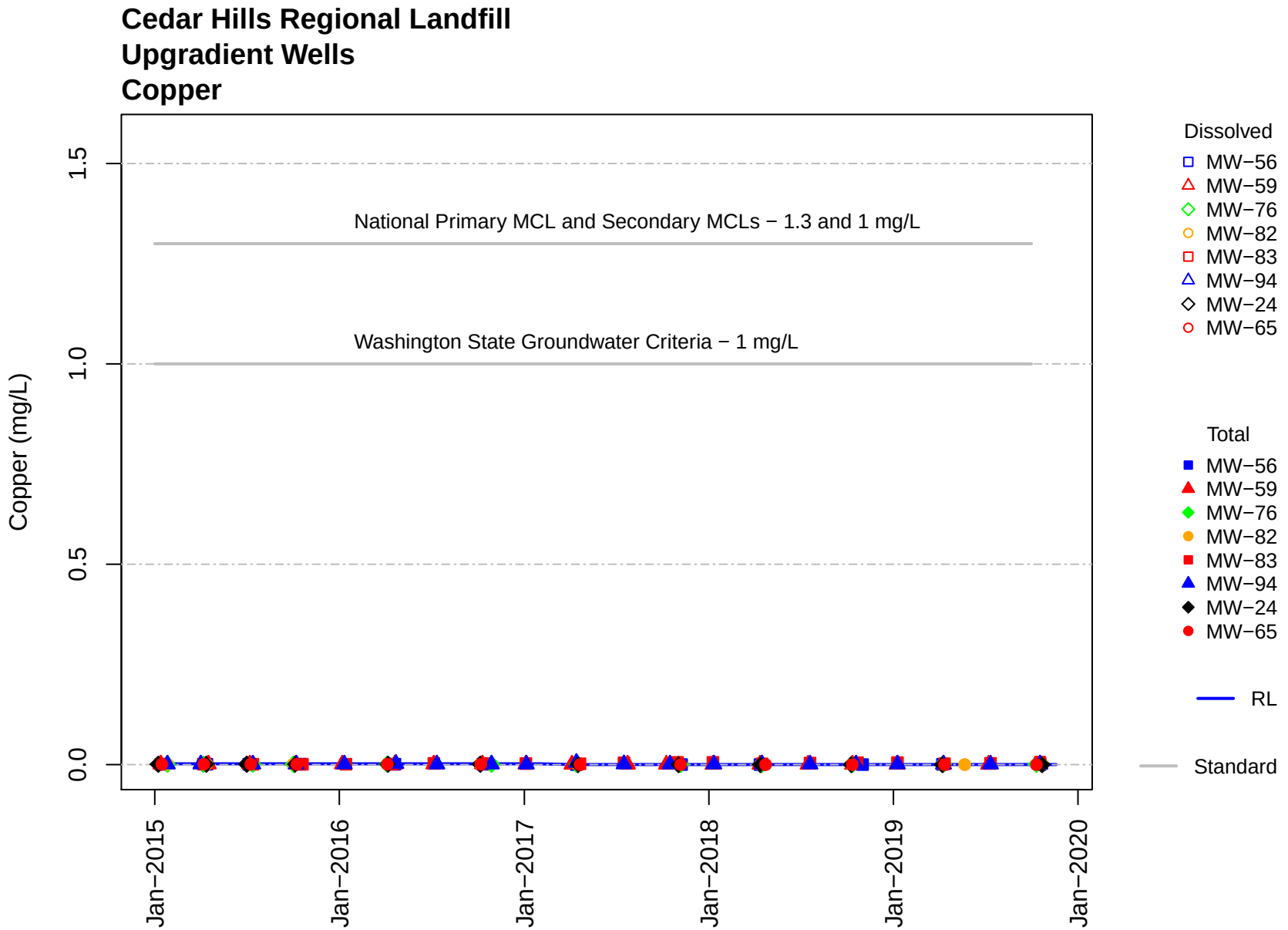

Cedar Hills Regional Landfill
Downgradient Wells
Cobalt
Cobalt (mg/L)
0.000
0.001
0.002
0.003
0.004
Jan−2015
Jan−2016
Jan−2017
Jan−2018
Jan−2019
Jan−2020
Dissolved
MW−74R
MW−75
MW−87
MW−85
MW−86
MW−88
MW−89
Total
MW−74R
MW−75
MW−87
MW−85
MW−86
MW−88
MW−89
RL

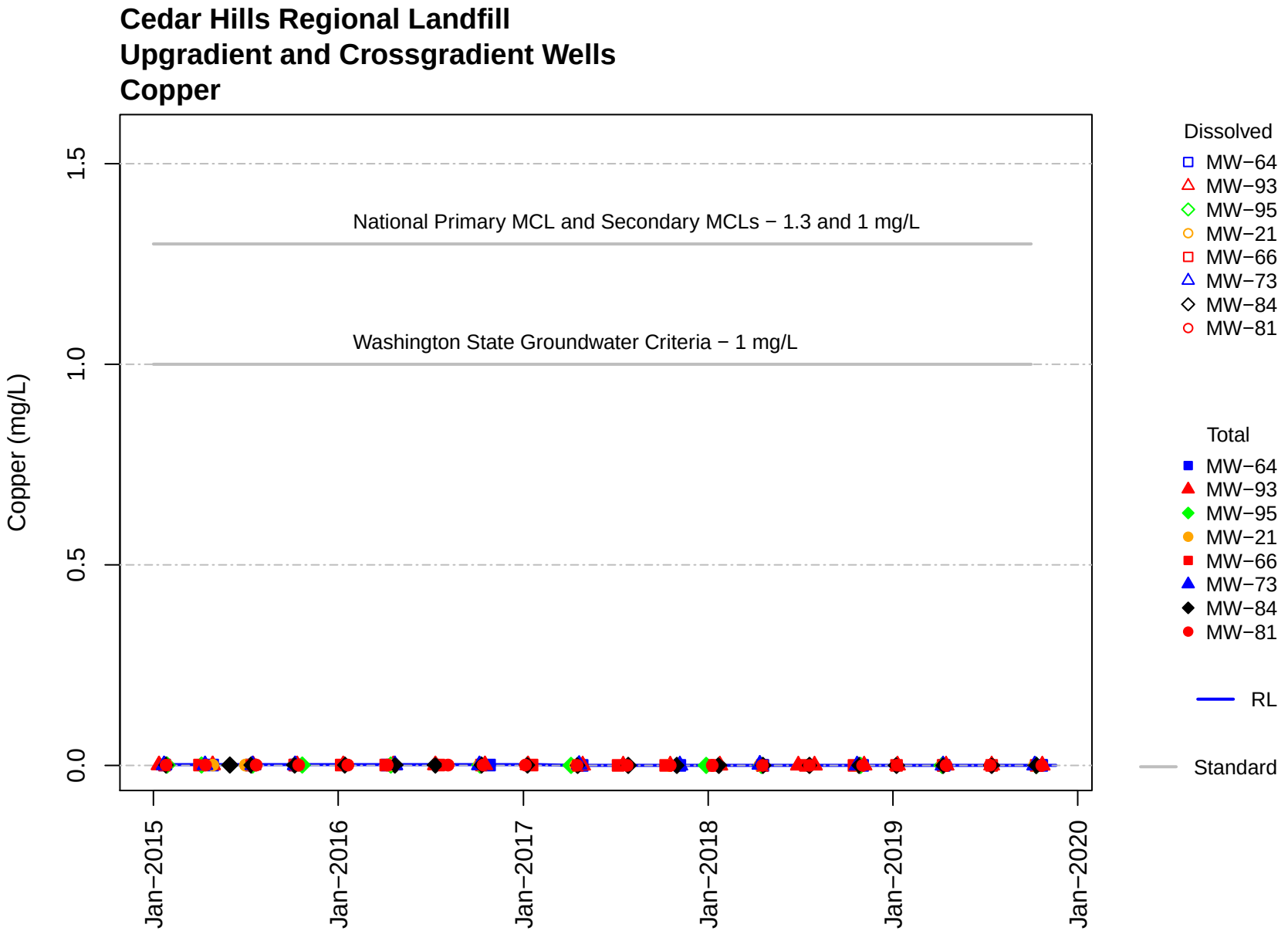

Cedar Hills Regional Landfill
Upgradient Wells
Chromium
Chromium (mg/L)
0.00
0.02
0.04
0.06
0.08
0.10
0.12
National Primary MCL − 0.1 mg/L
Washington State Groundwater Criteria − 0.05 mg/L
Jan−2015
Jan−2016
Jan−2017
Jan−2018
Jan−2019
Jan−2020
Dissolved
MW−56
MW−59
MW−76
MW−82
MW−83
MW−94
MW−24
MW−65
Total
MW−56
MW−59
MW−76
MW−82
MW−83
MW−94
MW−24
MW−65
RL
Standard

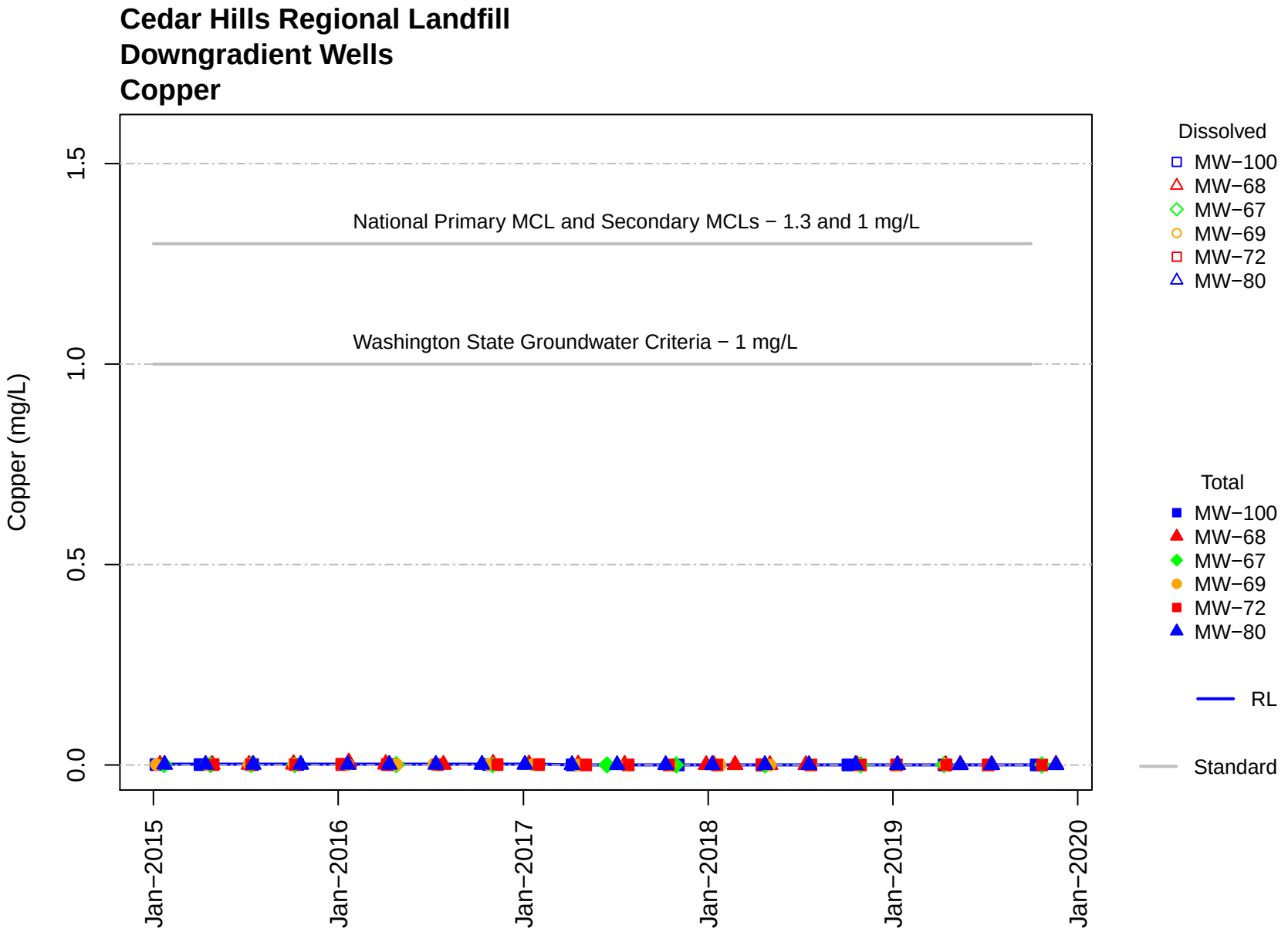

Cedar Hills Regional Landfill
Upgradient and Crossgradient Wells
Chromium
Chromium (mg/L)
0.00
0.02
0.04
0.06
0.08
0.10
0.12
National Primary MCL − 0.1 mg/L
Washington State Groundwater Criteria − 0.05 mg/L
Jan−2015
Jan−2016
Jan−2017
Jan−2018
Jan−2019
Jan−2020
Dissolved
MW−64
MW−93
MW−95
MW−21
MW−66
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

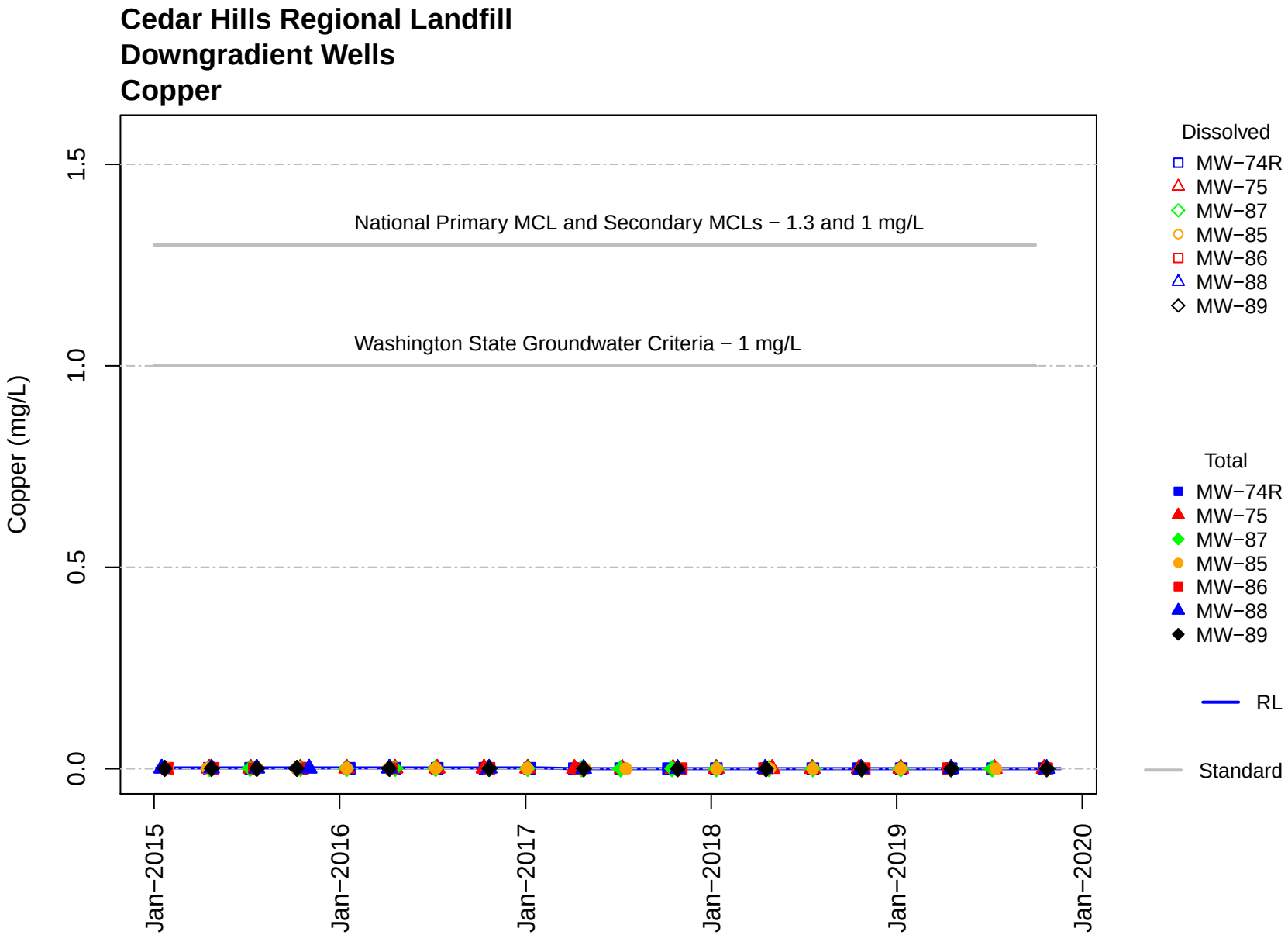

Cedar Hills Regional Landfill
Downgradient Wells
Chromium
Chromium (mg/L)
0.00
0.02
0.04
0.06
0.08
0.10
0.12
National Primary MCL − 0.1 mg/L
Washington State Groundwater Criteria − 0.05 mg/L
Jan−2015
Jan−2016
Jan−2017
Jan−2018
Jan−2019
Jan−2020
Dissolved
MW−100
MW−68
MW−67
MW−69
MW−72
MW−80
Total
MW−100
MW−68
MW−67
MW−69
MW−72
MW−80
RL
Standard

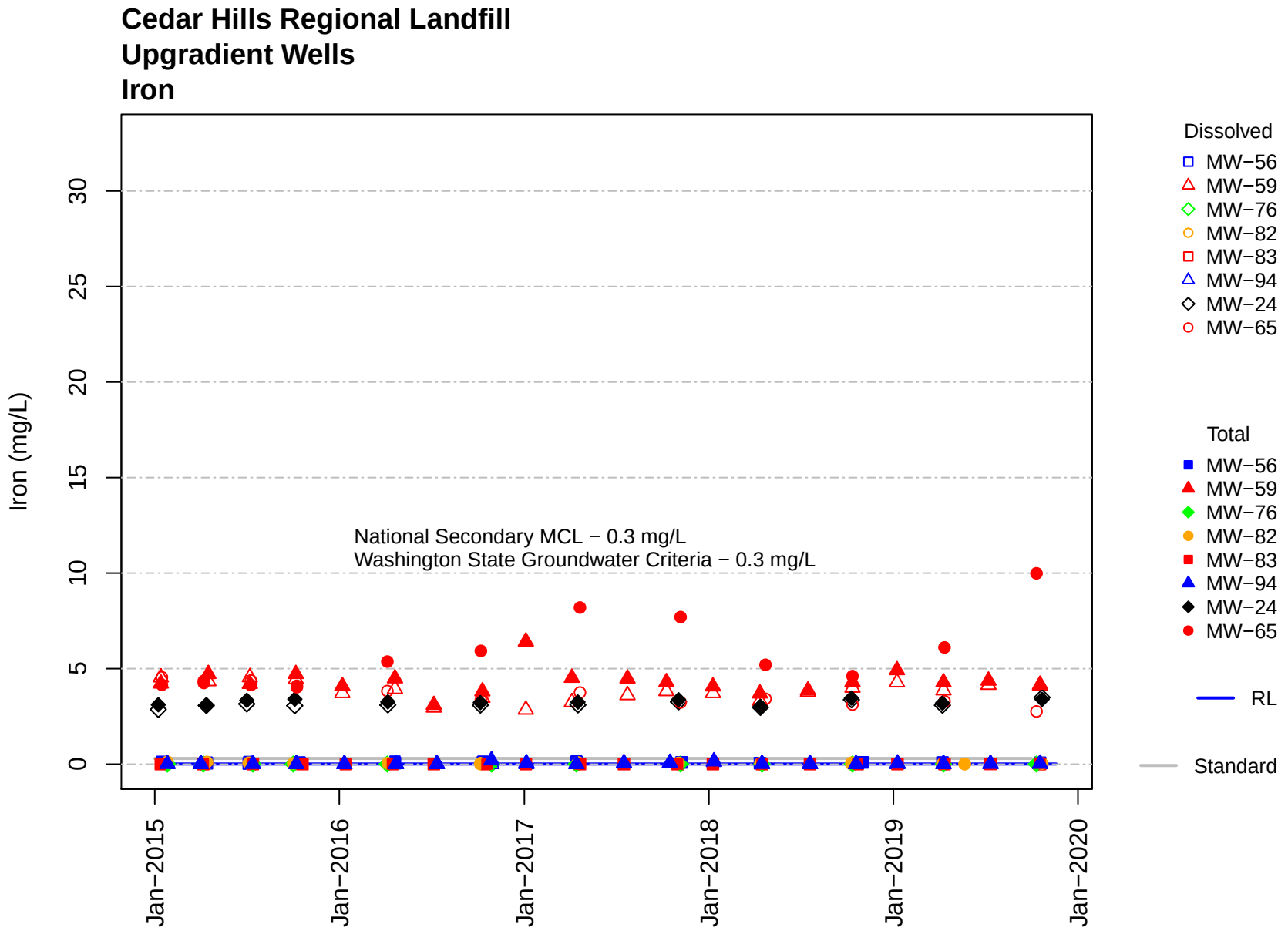

Cedar Hills Regional Landfill
Downgradient Wells
Chromium
Chromium (mg/L)
0.00
0.02
0.04
0.06
0.08
0.10
0.12
National Primary MCL − 0.1 mg/L
Washington State Groundwater Criteria − 0.05 mg/L
Jan−2015
Jan−2016
Jan−2017
Jan−2018
Jan−2019
Jan−2020
Dissolved
MW−74R
MW−75
MW−87
MW−85
MW−86
MW−88
MW−89
Total
MW−74R
MW−75
MW−87
MW−85
MW−86
MW−88
MW−89
RL
Standard

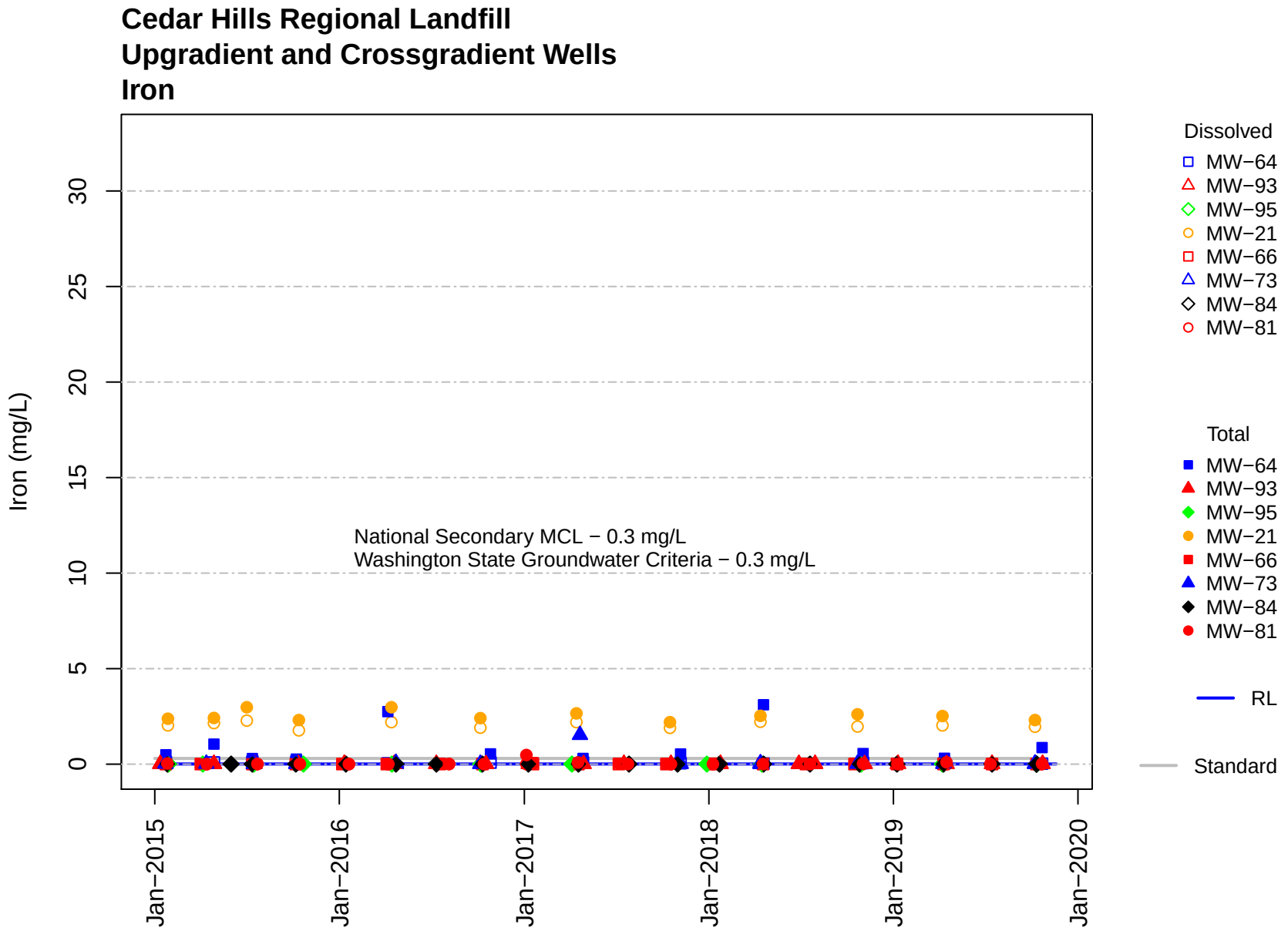

Cedar Hills Regional Landfill
Upgradient Wells
Copper
Copper (mg/L)
0.0
0.5
1.0
1.5
National Primary MCL and Secondary MCLs − 1.3 and 1 mg/L
Washington State Groundwater Criteria − 1 mg/L
Jan−2015
Jan−2016
Jan−2017
Jan−2018
Jan−2019
Jan−2020
Dissolved
MW−56
MW−59
MW−76
MW−82
MW−83
MW−94
MW−24
MW−65
Total
MW−56
MW−59
MW−76
MW−82
MW−83
MW−94
MW−24
MW−65
RL
Standard

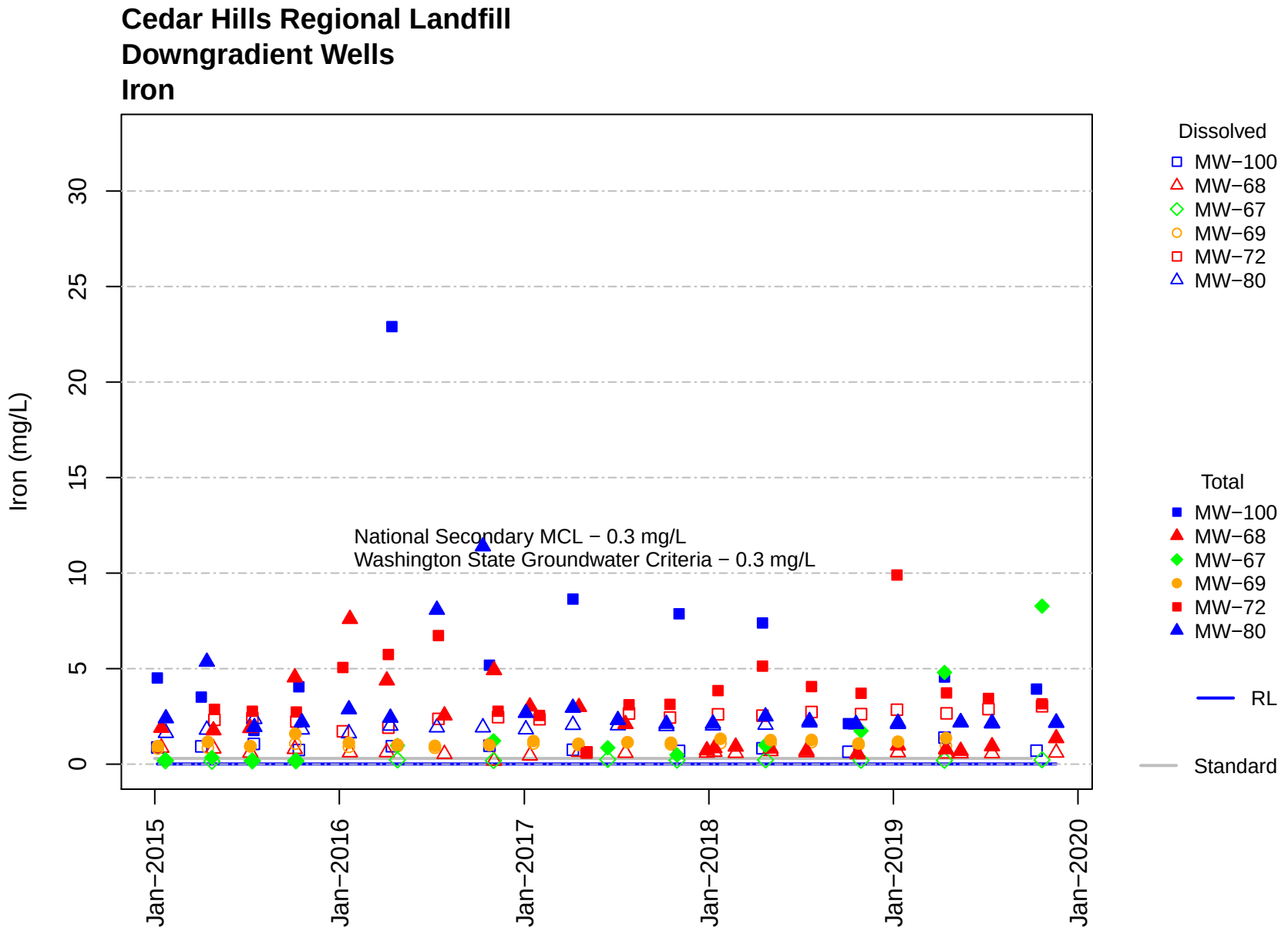

Cedar Hills Regional Landfill
Upgradient and Crossgradient Wells
Copper
Copper (mg/L)
0.0
0.5
1.0
1.5
National Primary MCL and Secondary MCLs − 1.3 and 1 mg/L
Washington State Groundwater Criteria − 1 mg/L
Jan−2015
Jan−2016
Jan−2017
Jan−2018
Jan−2019
Jan−2020
Dissolved
MW−64
MW−93
MW−95
MW−21
MW−66
MW−73
MW−84
MW−81
Total
MW−64
MW−93
MW−95
MW−21
MW−66
MW−73
MW−84
MW−81
RL
Standard

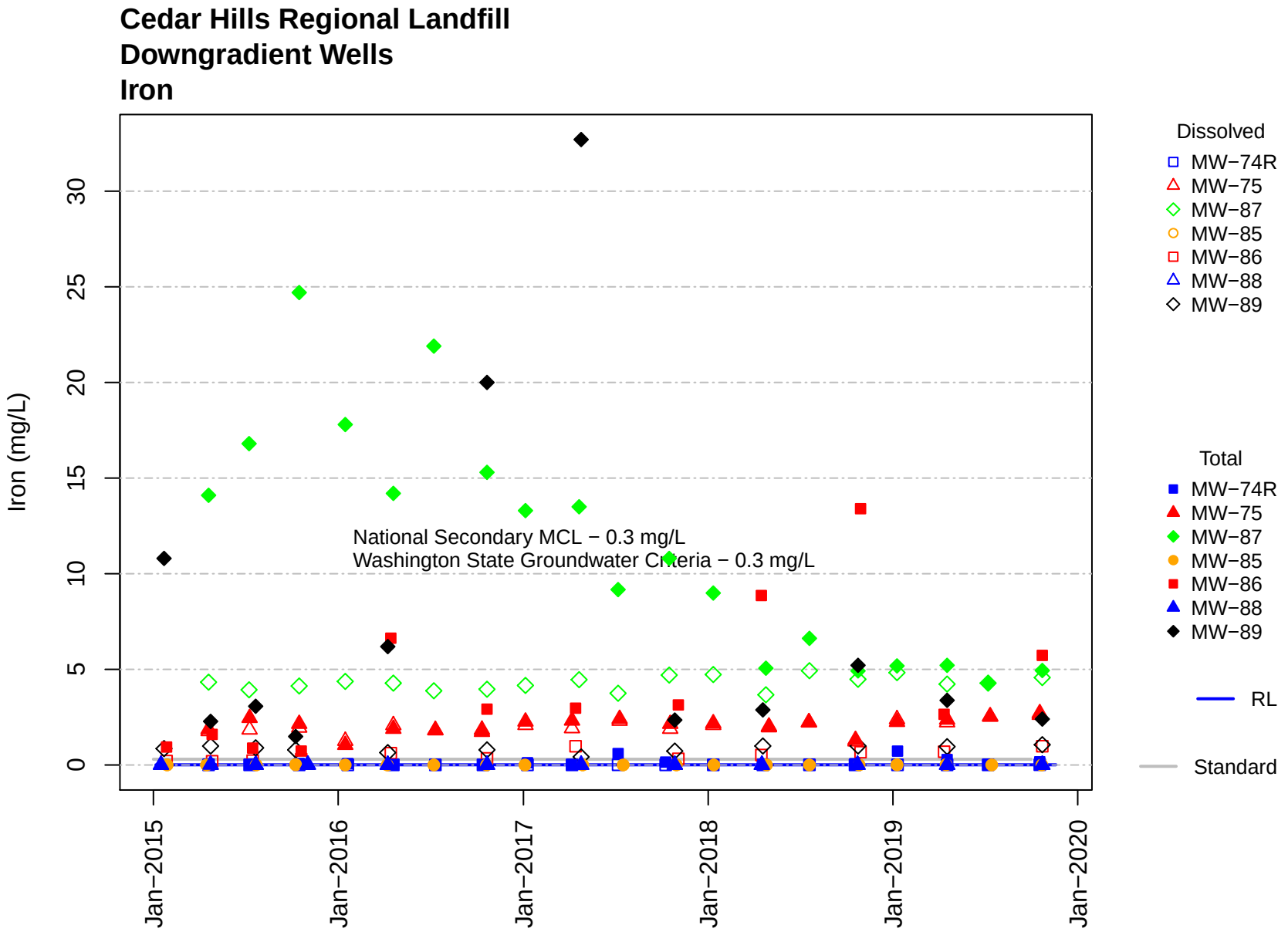

Cedar Hills Regional Landfill
Downgradient Wells
Copper
Copper (mg/L)
0.0
0.5
1.0
1.5
National Primary MCL and Secondary MCLs − 1.3 and 1 mg/L
Washington State Groundwater Criteria − 1 mg/L
Jan−2015
Jan−2016
Jan−2017
Jan−2018
Jan−2019
Jan−2020
Dissolved
MW−100
MW−68
MW−67
MW−69
MW−72
MW−80
Total
MW−100
MW−68
MW−67
MW−69
MW−72
MW−80
RL
Standard

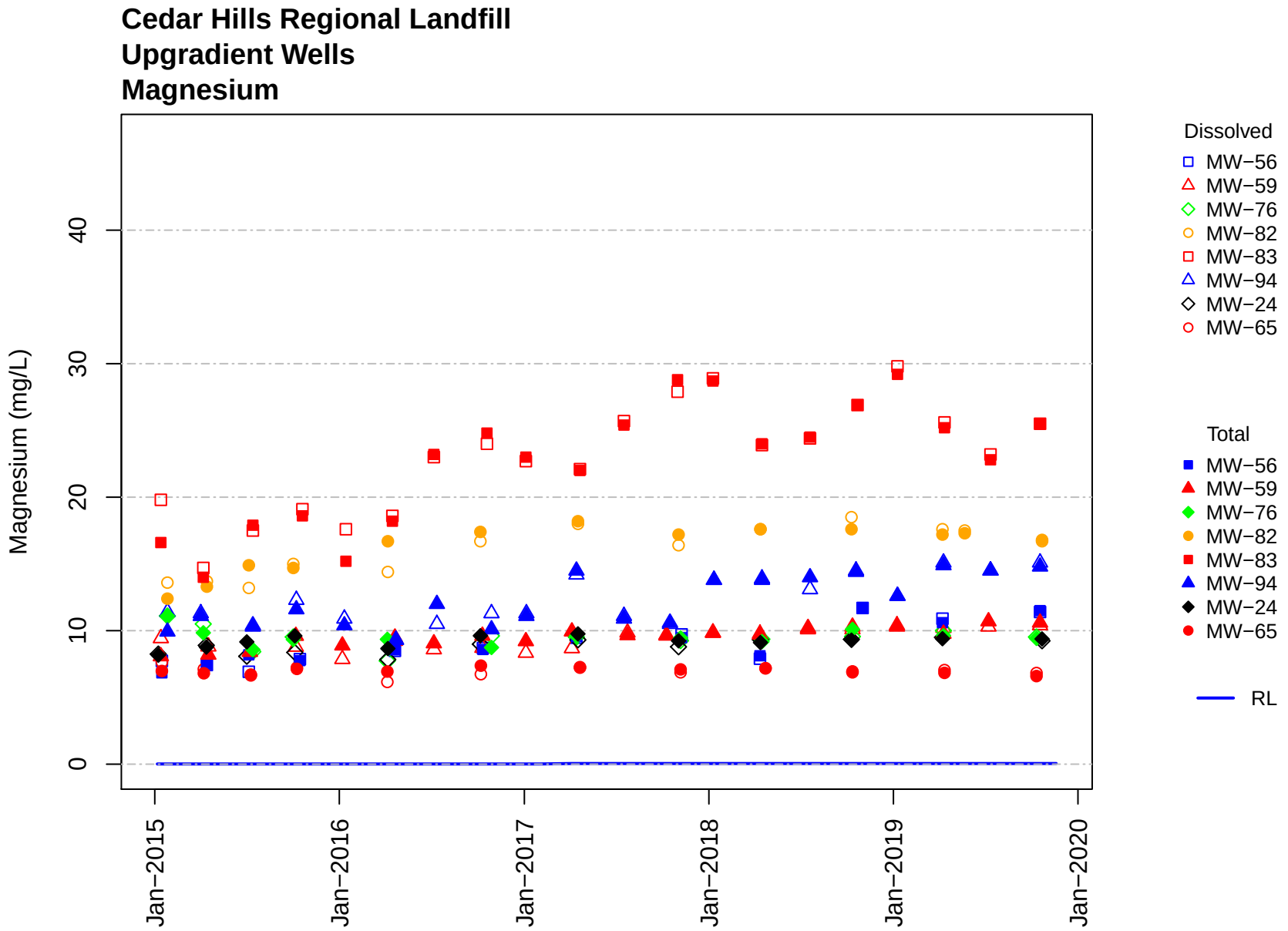

Cedar Hills Regional Landfill
Downgradient Wells
Copper
Copper (mg/L)
0.0
0.5
1.0
1.5
National Primary MCL and Secondary MCLs − 1.3 and 1 mg/L
Washington State Groundwater Criteria − 1 mg/L
Jan−2015
Jan−2016
Jan−2017
Jan−2018
Jan−2019
Jan−2020
Dissolved
MW−74R
MW−75
MW−87
MW−85
MW−86
MW−88
MW−89
Total
MW−74R
MW−75
MW−87
MW−85
MW−86
MW−88
MW−89
RL
Standard

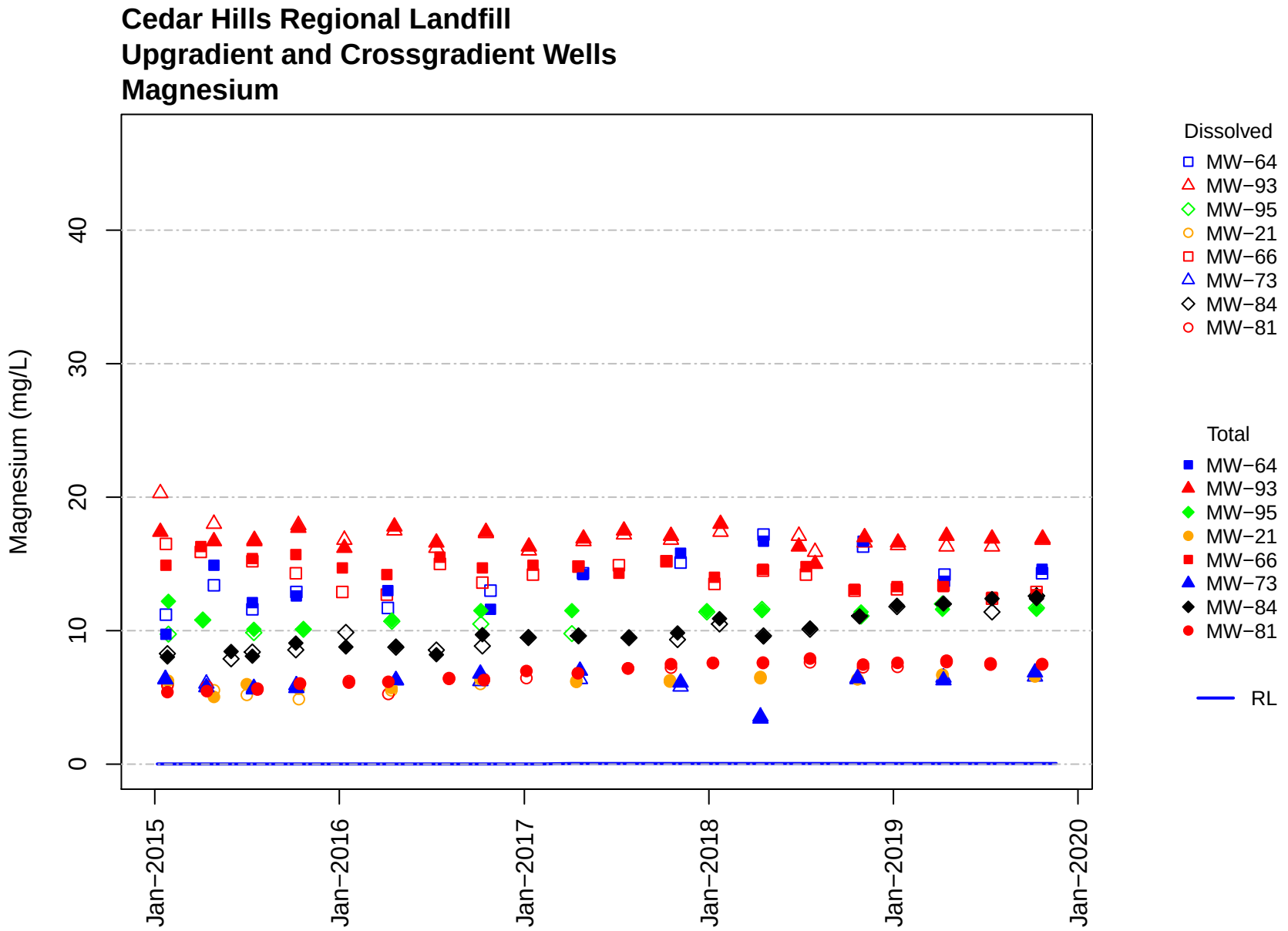

Cedar Hills Regional Landfill
Upgradient Wells
Iron
Iron (mg/L)
0
5
10
15
20
25
30
National Secondary MCL − 0.3 mg/L
Washington State Groundwater Criteria − 0.3 mg/L
Jan−2015
Jan−2016
Jan−2017
Jan−2018
Jan−2019
Jan−2020
Dissolved
MW−56
MW−59
MW−76
MW−82
MW−83
MW−94
MW−24
MW−65
Total
MW−56
MW−59
MW−76
MW−82
MW−83
MW−94
MW−24
MW−65
RL
Standard

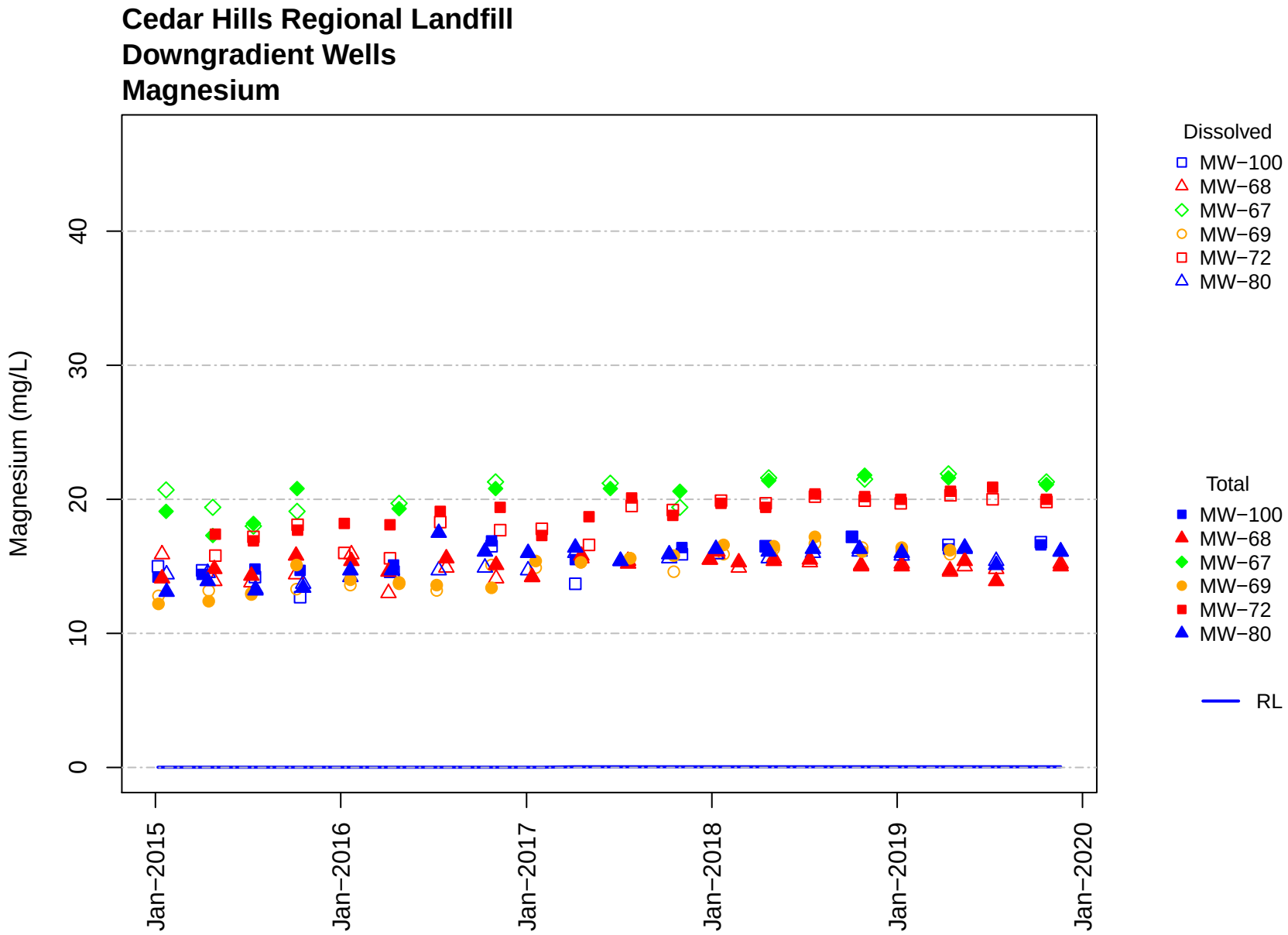

Cedar Hills Regional Landfill
Upgradient and Crossgradient Wells
Iron
Iron (mg/L)
0
5
10
15
20
25
30
National Secondary MCL − 0.3 mg/L
Washington State Groundwater Criteria − 0.3 mg/L
Jan−2015
Jan−2016
Jan−2017
Jan−2018
Jan−2019
Jan−2020
Dissolved
MW−64
MW−93
MW−95
MW−21
MW−66
MW−73
MW−84
MW−81
Total
MW−64
MW−93
MW−95
MW−21
MW−66
MW−73
MW−84
MW−81
RL
Standard

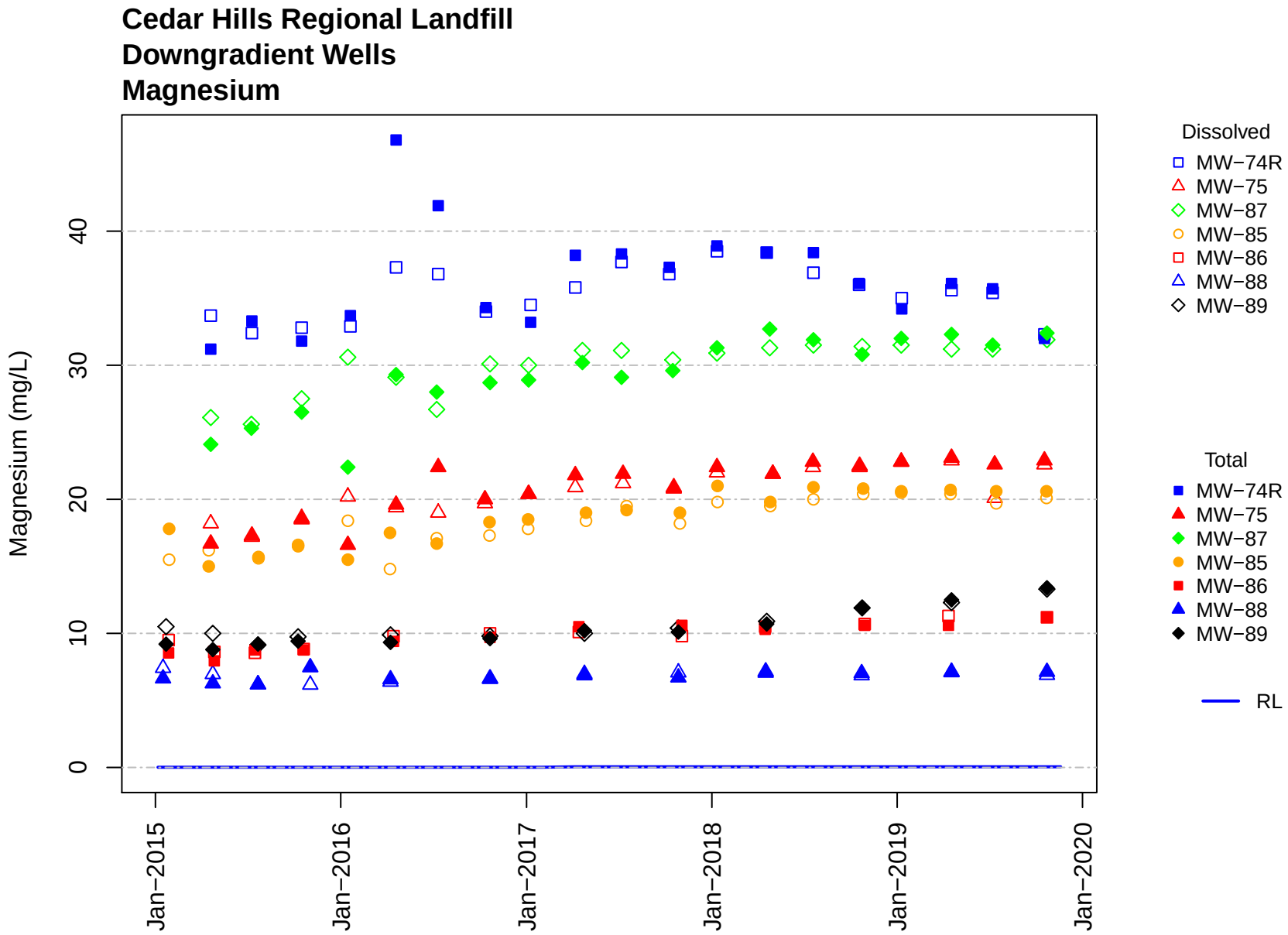

Cedar Hills Regional Landfill
Downgradient Wells
Iron
Iron (mg/L)
0
5
10
15
20
25
30
National Secondary MCL − 0.3 mg/L
Washington State Groundwater Criteria − 0.3 mg/L
Jan−2015
Jan−2016
Jan−2017
Jan−2018
Jan−2019
Jan−2020
Dissolved
MW−100
MW−68
MW−67
MW−69
MW−72
MW−80
Total
MW−100
MW−68
MW−67
MW−69
MW−72
MW−80
RL
Standard

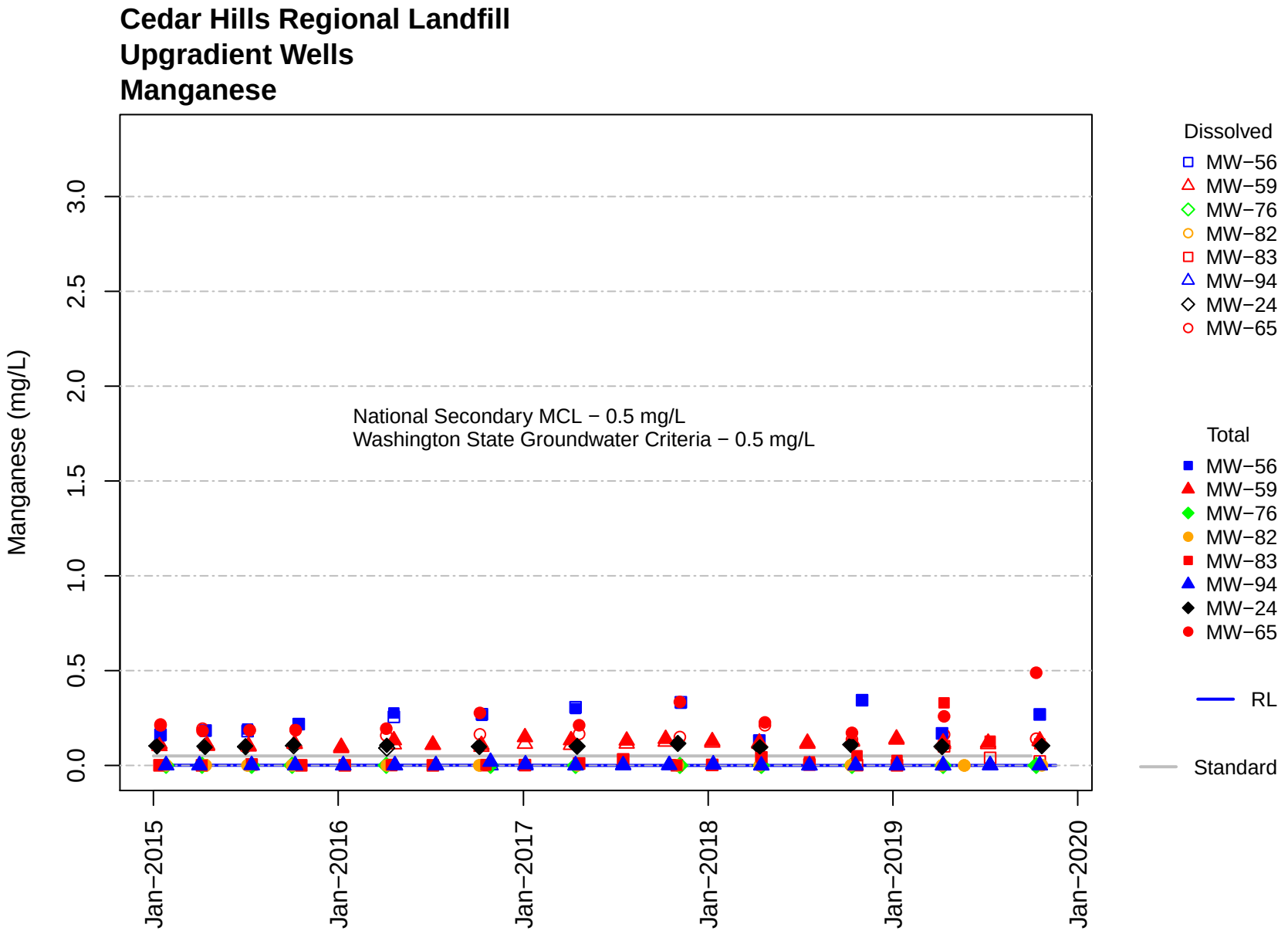

Cedar Hills Regional Landfill
Downgradient Wells
Iron
Iron (mg/L)
0
5
10
15
20
25
30
Jan−2015
Jan−2016
Jan−2017
Jan−2018
Jan−2019
Jan−2020
National Secondary MCL − 0.3 mg/L
Washington State Groundwater Criteria − 0.3 mg/L
Dissolved
MW−74R
MW−75
MW−87
MW−85
MW−86
MW−88
MW−89
Total
MW−74R
MW−75
MW−87
MW−85
MW−86
MW−88
MW−89
RL
Standard

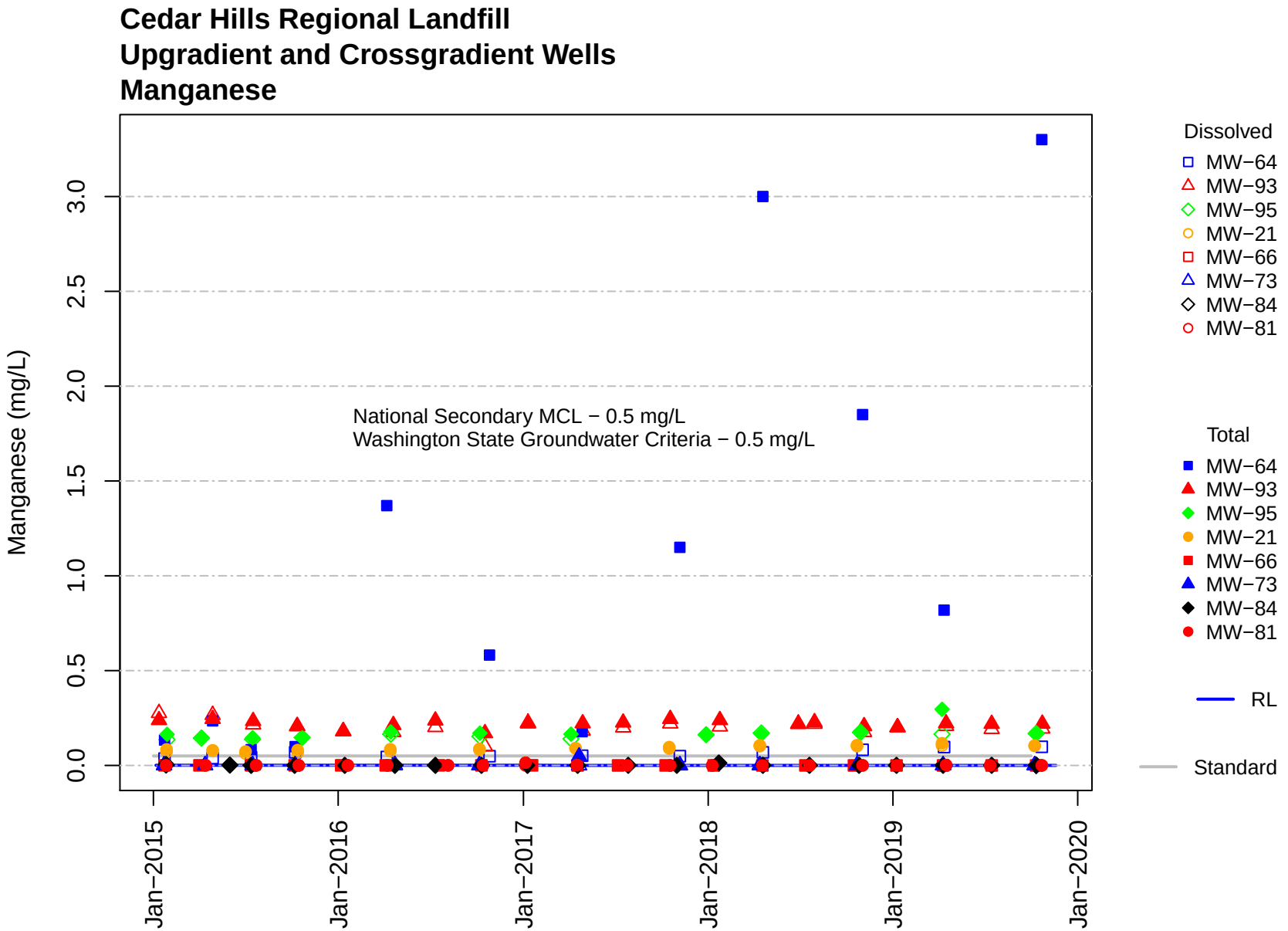

Cedar Hills Regional Landfill
Upgradient Wells
Magnesium
Magnesium (mg/L)
0
10
20
30
40
Jan−2015
Jan−2016
Jan−2017
Jan−2018
Jan−2019
Jan−2020
Dissolved
MW−56
MW−59
MW−76
MW−82
MW−83
MW−94
MW−24
MW−65
Total
MW−56
MW−59
MW−76
MW−82
MW−83
MW−94
MW−24
MW−65
RL

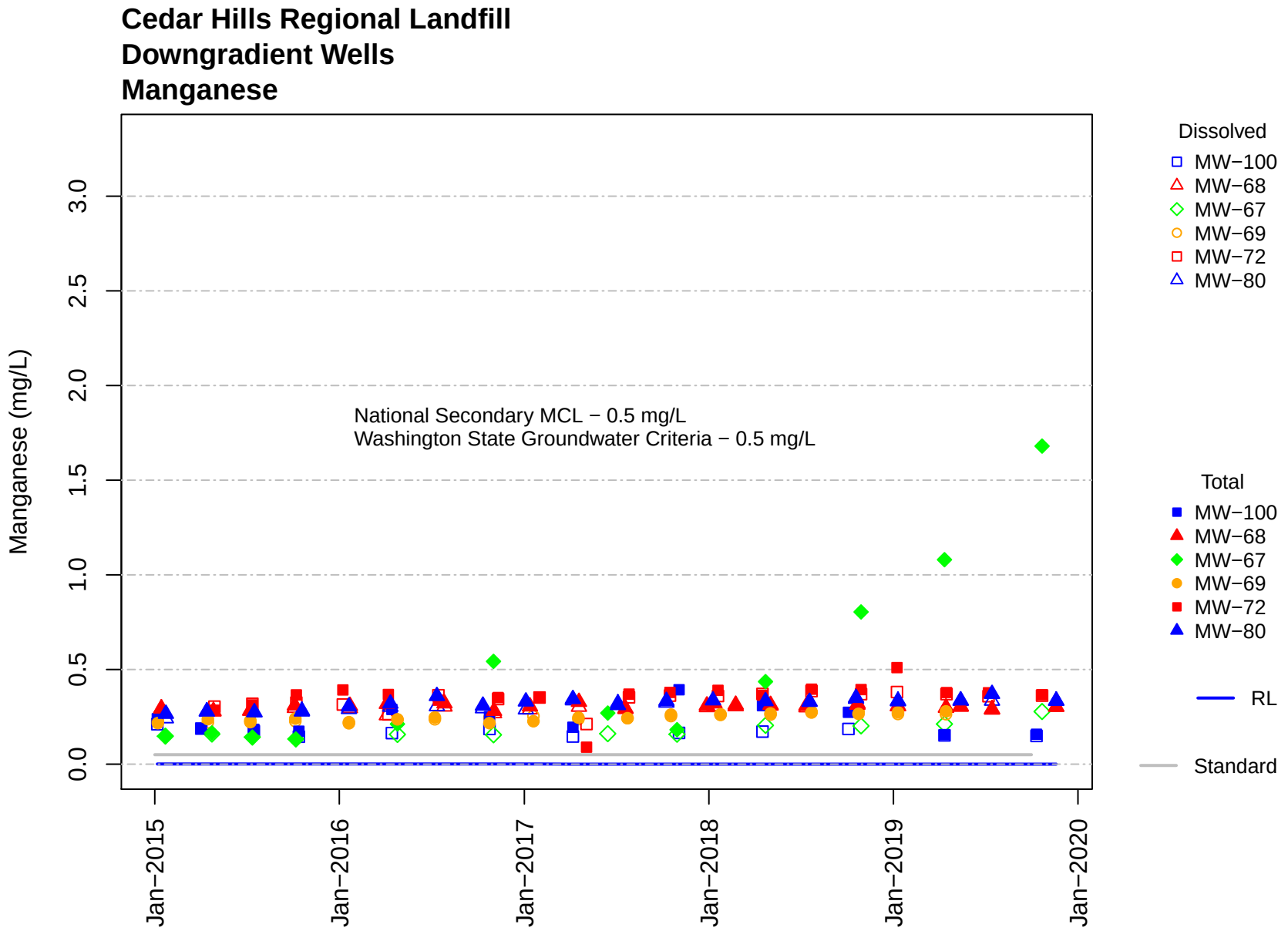

Cedar Hills Regional Landfill
Upgradient and Crossgradient Wells
Magnesium
Magnesium (mg/L)
0
10
20
30
40
Jan−2015
Jan−2016
Jan−2017
Jan−2018
Jan−2019
Jan−2020
Dissolved
MW−64
MW−93
MW−95
MW−21
MW−66
MW−73
MW−84
MW−81
Total
MW−64
MW−93
MW−95
MW−21
MW−66
MW−73
MW−84
MW−81
RL

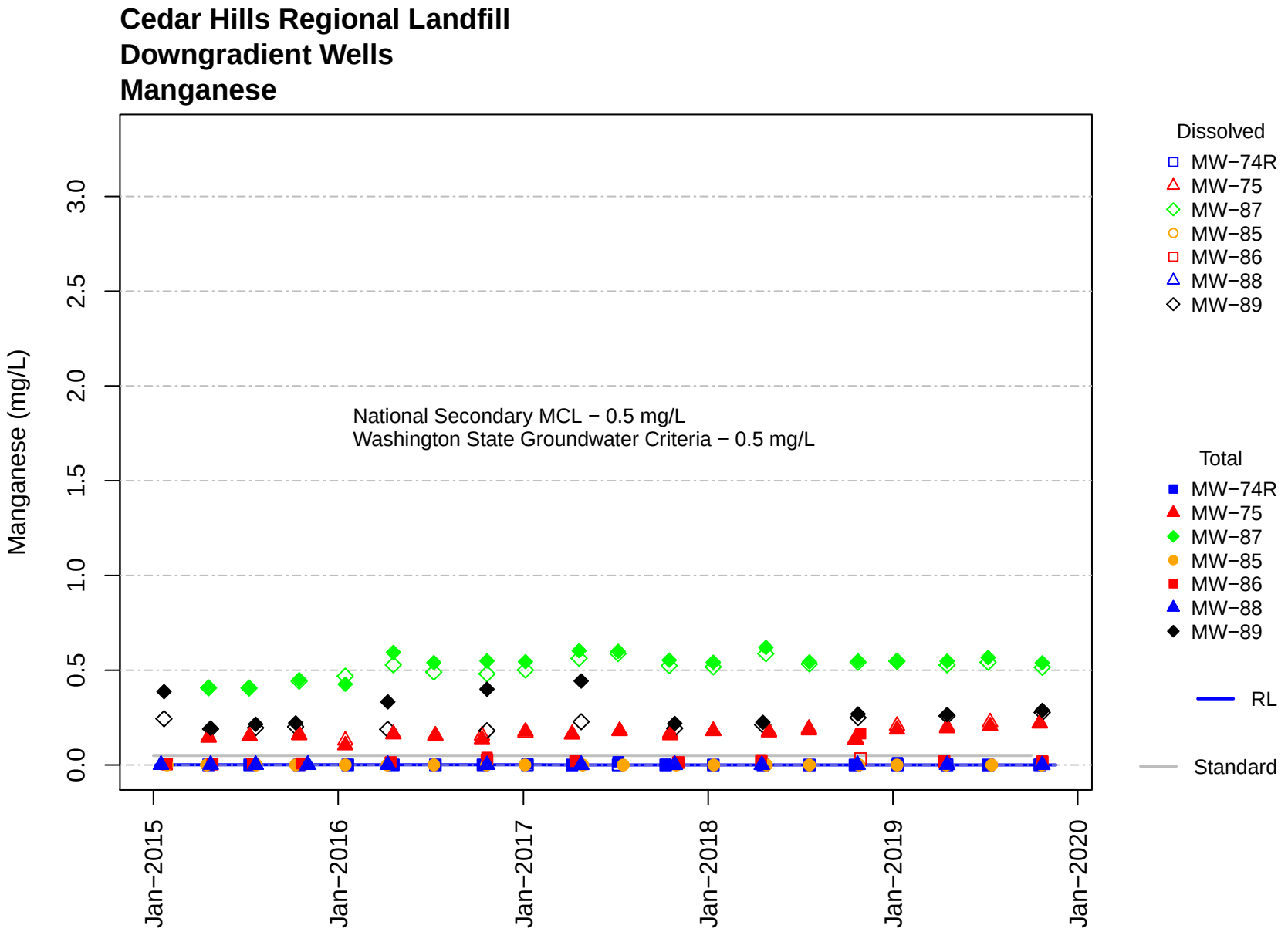

Cedar Hills Regional Landfill
Downgradient Wells
Magnesium
Magnesium (mg/L)
0
10
20
30
40
Jan−2015
Jan−2016
Jan−2017
Jan−2018
Jan−2019
Jan−2020
Dissolved
MW−100
MW−68
MW−67
MW−69
MW−72
MW−80
Total
MW−100
MW−68
MW−67
MW−69
MW−72
MW−80
RL

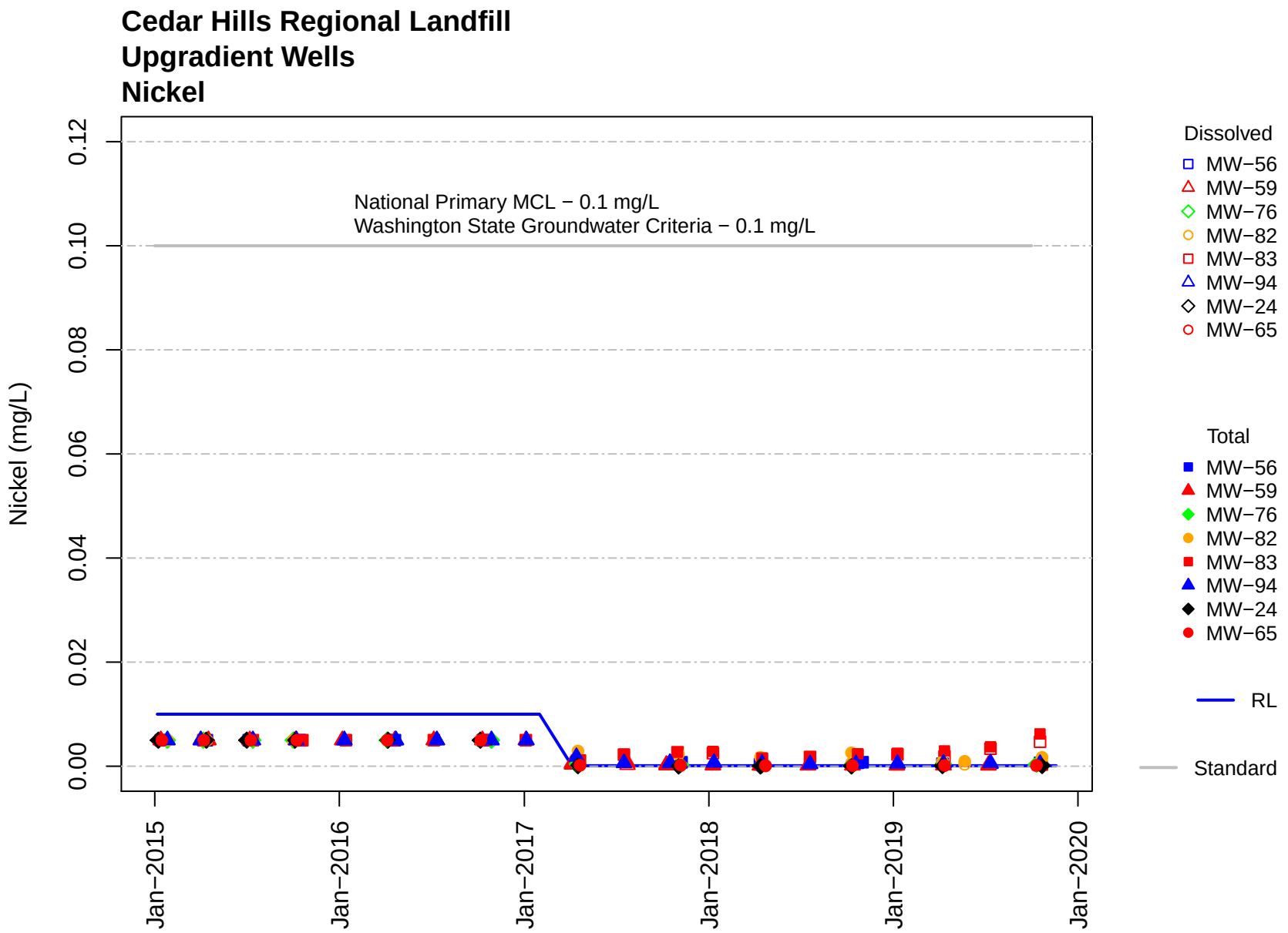

Cedar Hills Regional Landfill
Downgradient Wells
Magnesium
Magnesium (mg/L)
0
10
20
30
40
Jan−2015
Jan−2016
Jan−2017
Jan−2018
Jan−2019
Jan−2020
Dissolved
MW−74R
MW−75
MW−87
MW−85
MW−86
MW−88
MW−89
Total
MW−74R
MW−75
MW−87
MW−85
MW−86
MW−88
MW−89
RL

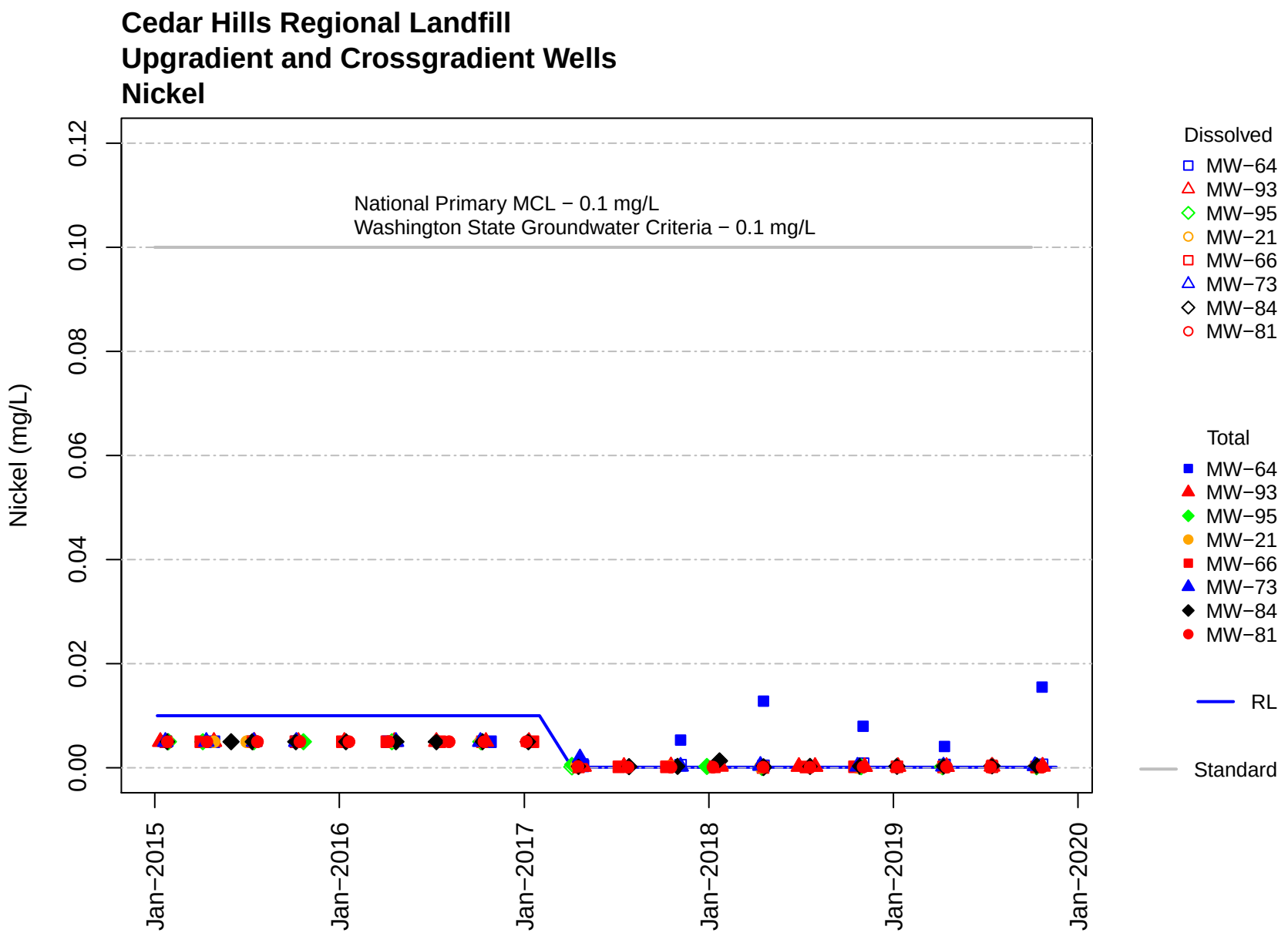

Cedar Hills Regional Landfill
Upgradient Wells
Manganese
Manganese (mg/L)
0.0
0.5
1.0
1.5
2.0
2.5
3.0
National Secondary MCL − 0.5 mg/L
Washington State Groundwater Criteria − 0.5 mg/L
Jan−2015
Jan−2016
Jan−2017
Jan−2018
Jan−2019
Jan−2020
Dissolved
MW−56
MW−59
MW−76
MW−82
MW−83
MW−94
MW−24
MW−65
Total
MW−56
MW−59
MW−76
MW−82
MW−83
MW−94
MW−24
MW−65
RL
Standard

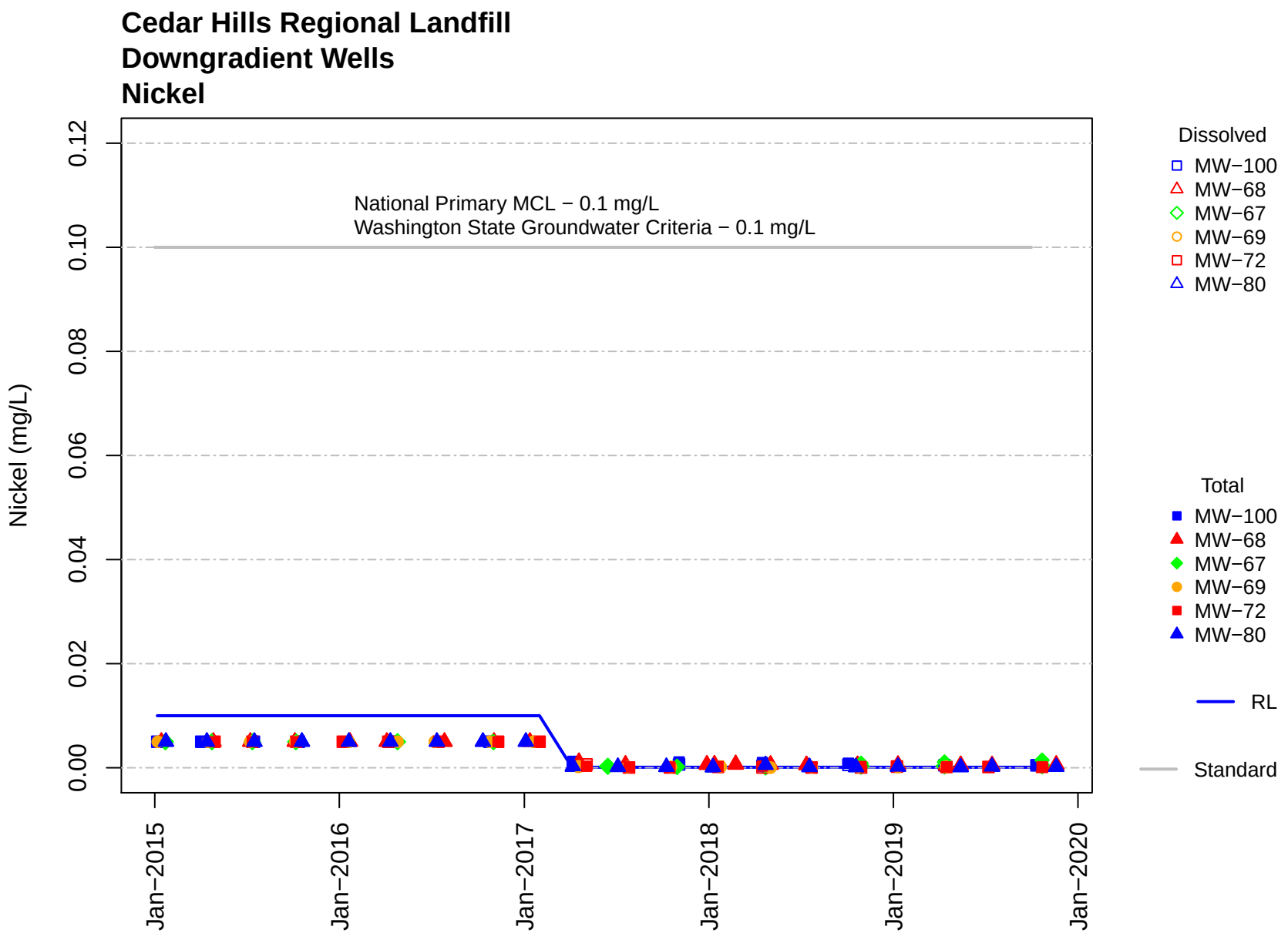

Cedar Hills Regional Landfill
Upgradient and Crossgradient Wells
Manganese
Manganese (mg/L)
0.0
0.5
1.0
1.5
2.0
2.5
3.0
National Secondary MCL − 0.5 mg/L
Washington State Groundwater Criteria − 0.5 mg/L
Jan−2015
Jan−2016
Jan−2017
Jan−2018
Jan−2019
Jan−2020
Dissolved
MW−64
MW−93
MW−95
MW−21
MW−66
MW−73
MW−84
MW−81
Total
MW−64
MW−93
MW−95
MW−21
MW−66
MW−73
MW−84
MW−81
RL
Standard

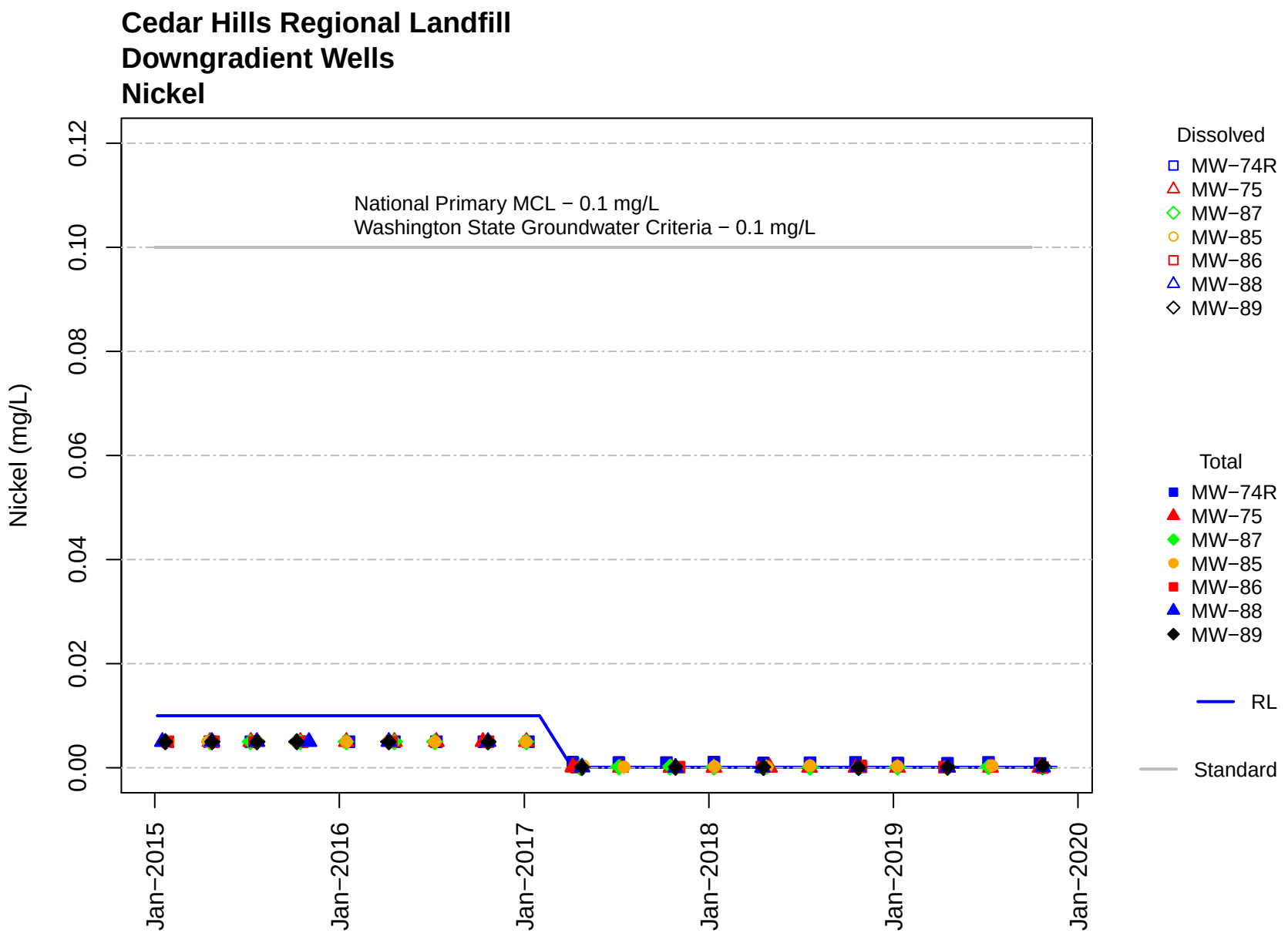

Cedar Hills Regional Landfill
Downgradient Wells
Manganese
Manganese (mg/L)
0.0
0.5
1.0
1.5
2.0
2.5
3.0
National Secondary MCL − 0.5 mg/L
Washington State Groundwater Criteria − 0.5 mg/L
Jan−2015
Jan−2016
Jan−2017
Jan−2018
Jan−2019
Jan−2020
Dissolved
MW−100
MW−68
MW−67
MW−69
MW−72
MW−80
Total
MW−100
MW−68
MW−67
MW−69
MW−72
MW−80
RL
Standard

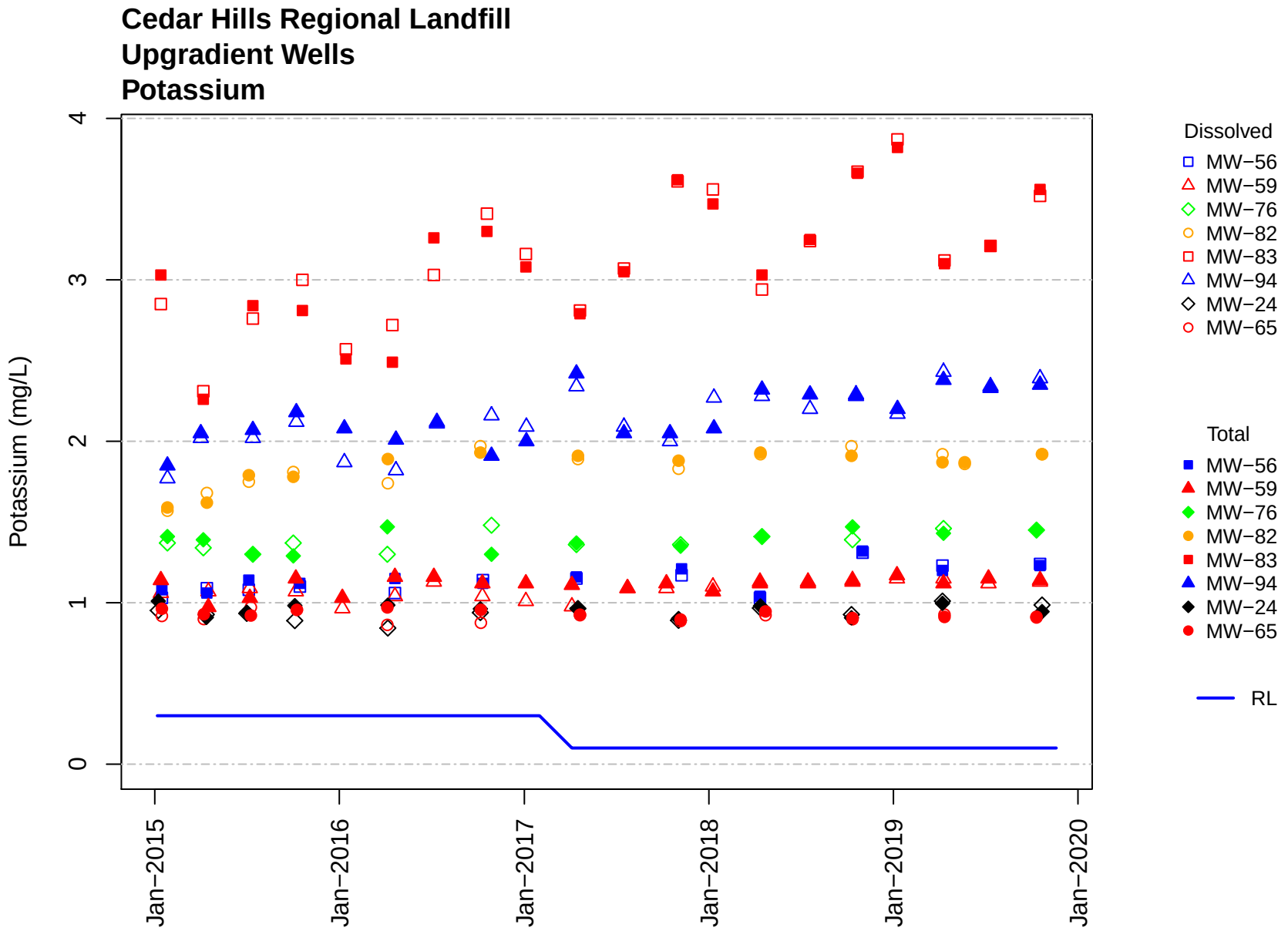

Cedar Hills Regional Landfill
Downgradient Wells
Manganese
Manganese (mg/L)
0.0
0.5
1.0
1.5
2.0
2.5
3.0
National Secondary MCL − 0.5 mg/L
Washington State Groundwater Criteria − 0.5 mg/L
Jan−2015
Jan−2016
Jan−2017
Jan−2018
Jan−2019
Jan−2020
Dissolved
MW−74R
MW−75
MW−87
MW−85
MW−86
MW−88
MW−89
Total
MW−74R
MW−75
MW−87
MW−85
MW−86
MW−88
MW−89
RL
Standard

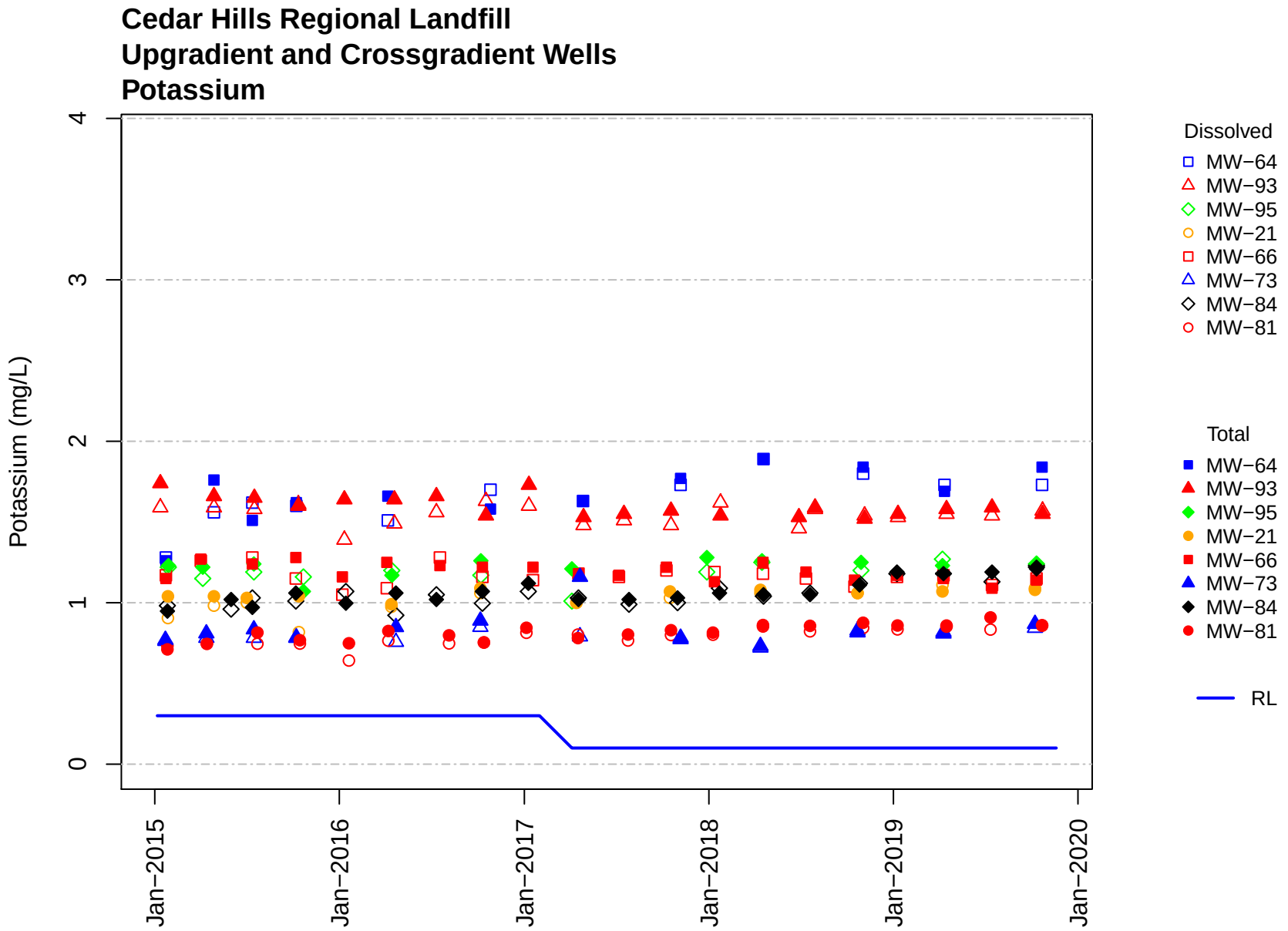

Cedar Hills Regional Landfill
Upgradient Wells
Nickel
National Primary MCL − 0.1 mg/L
Washington State Groundwater Criteria − 0.1 mg/L
Nickel (mg/L)
0.00
0.02
0.04
0.06
0.08
0.10
0.12
Jan−2015
Jan−2016
Jan−2017
Jan−2018
Jan−2019
Jan−2020
Dissolved
MW−56
MW−59
MW−76
MW−82
MW−83
MW−94
MW−24
MW−65
Total
MW−56
MW−59
MW−76
MW−82
MW−83
MW−94
MW−24
MW−65
RL
Standard

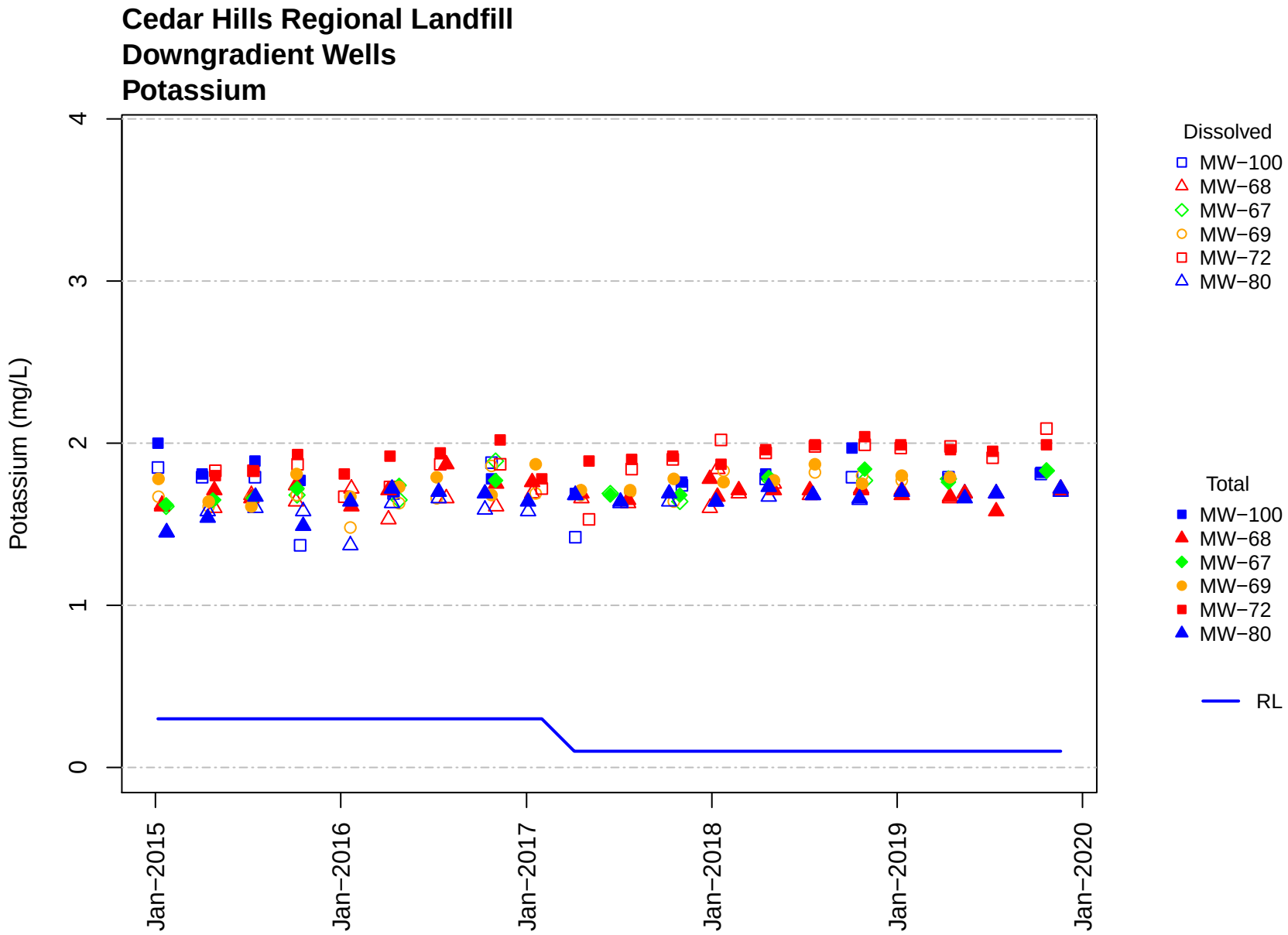

Cedar Hills Regional Landfill
Upgradient and Crossgradient Wells
Nickel
National Primary MCL − 0.1 mg/L
Washington State Groundwater Criteria − 0.1 mg/L
Nickel (mg/L)
0.00
0.02
0.04
0.06
0.08
0.10
0.12
Jan−2015
Jan−2016
Jan−2017
Jan−2018
Jan−2019
Jan−2020
Dissolved
MW−64
MW−93
MW−95
MW−21
MW−66
MW−73
MW−84
MW−81
Total
MW−64
MW−93
MW−95
MW−21
MW−66
MW−73
MW−84
MW−81
RL
Standard

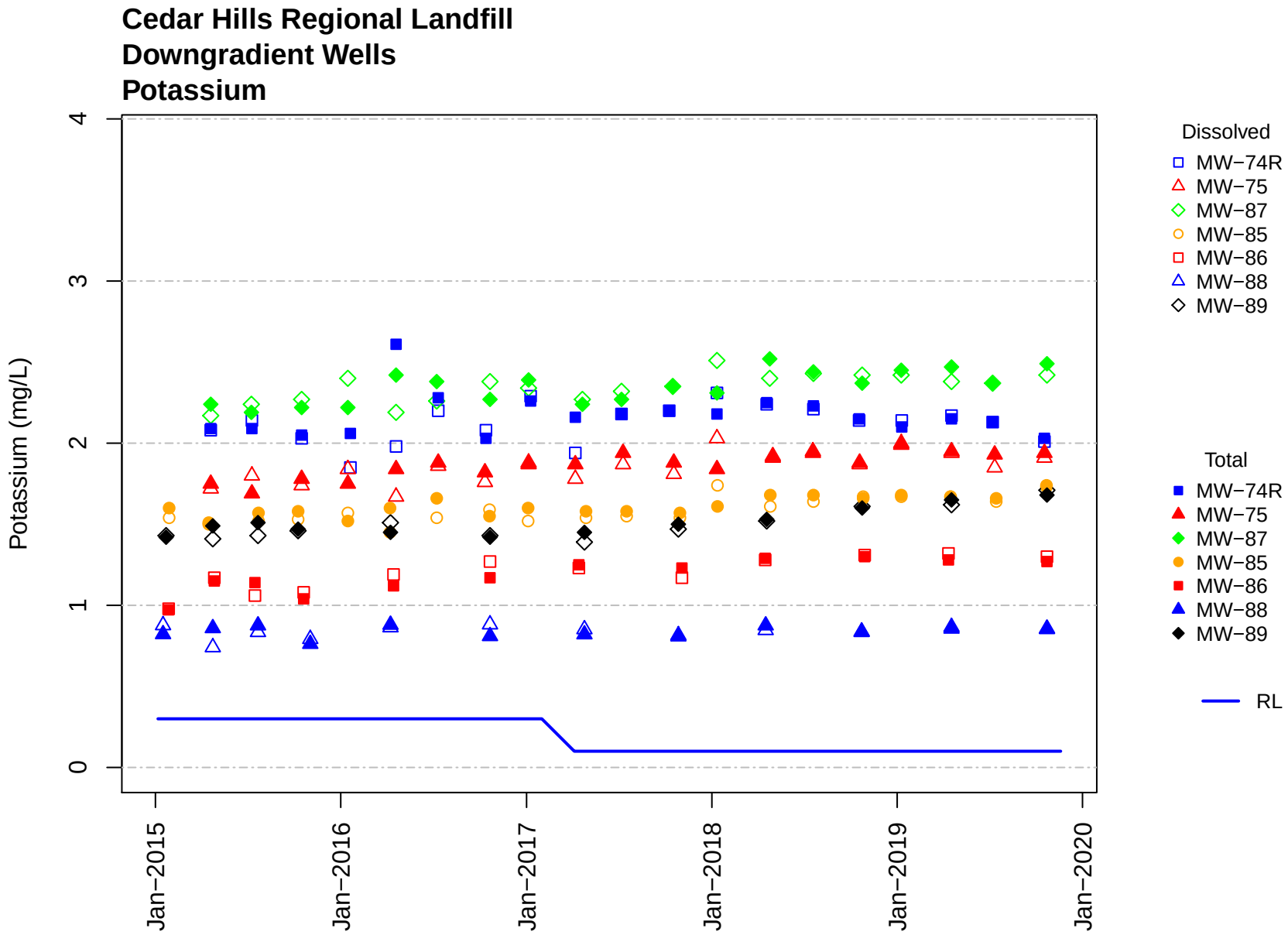

Cedar Hills Regional Landfill
Downgradient Wells
Nickel
National Primary MCL − 0.1 mg/L
Washington State Groundwater Criteria − 0.1 mg/L
Nickel (mg/L)
0.00
0.02
0.04
0.06
0.08
0.10
0.12
Jan−2015
Jan−2016
Jan−2017
Jan−2018
Jan−2019
Jan−2020
Dissolved
MW−100
MW−68
MW−67
MW−69
MW−72
MW−80
Total
MW−100
MW−68
MW−67
MW−69
MW−72
MW−80
RL
Standard

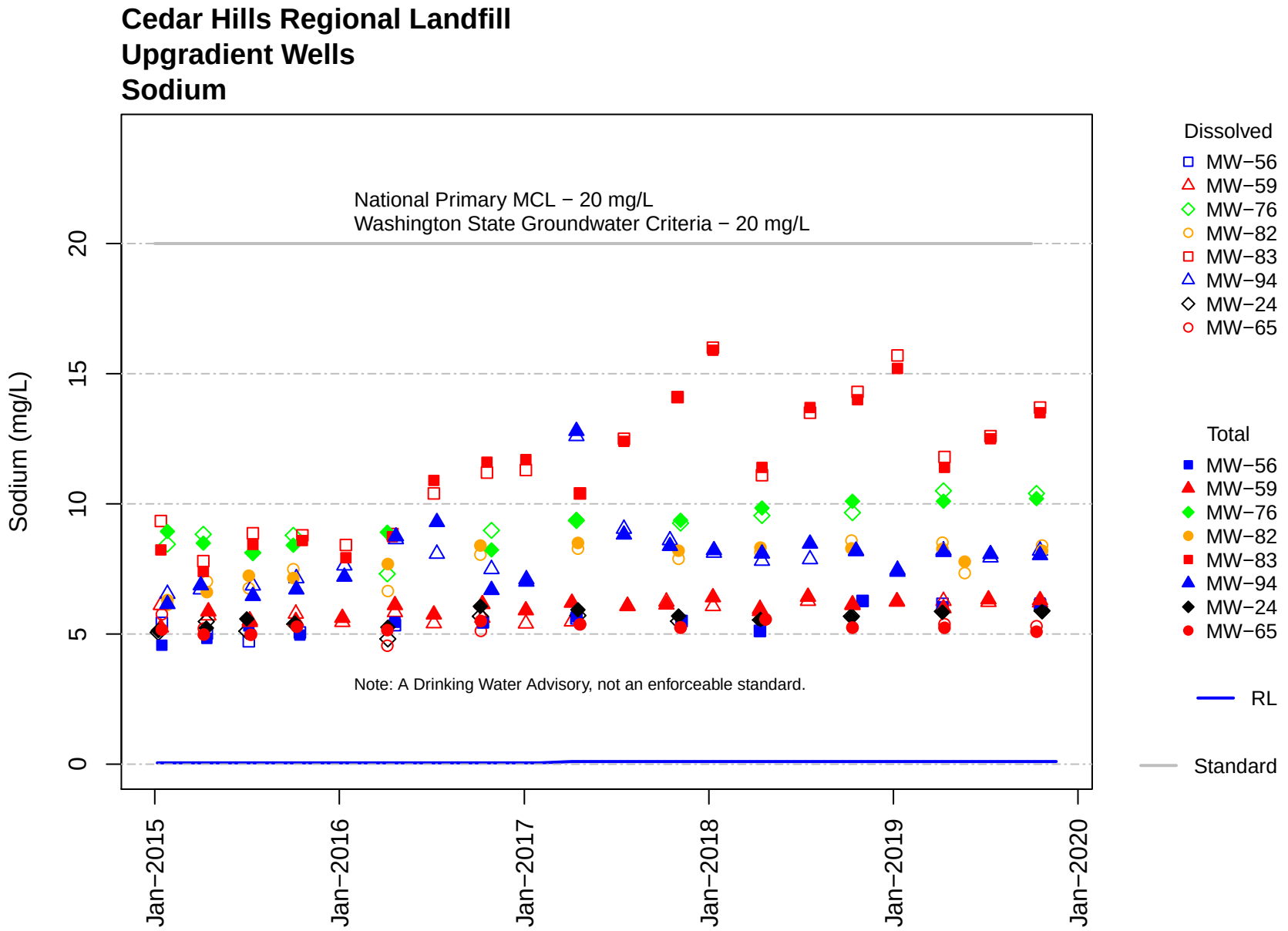

Cedar Hills Regional Landfill
Downgradient Wells
Nickel
National Primary MCL − 0.1 mg/L
Washington State Groundwater Criteria − 0.1 mg/L
Nickel (mg/L)
0.00
0.02
0.04
0.06
0.08
0.10
0.12
Jan−2015
Jan−2016
Jan−2017
Jan−2018
Jan−2019
Jan−2020
Dissolved
MW−74R
MW−75
MW−87
MW−85
MW−86
MW−88
MW−89
Total
MW−74R
MW−75
MW−87
MW−85
MW−86
MW−88
MW−89
RL
Standard

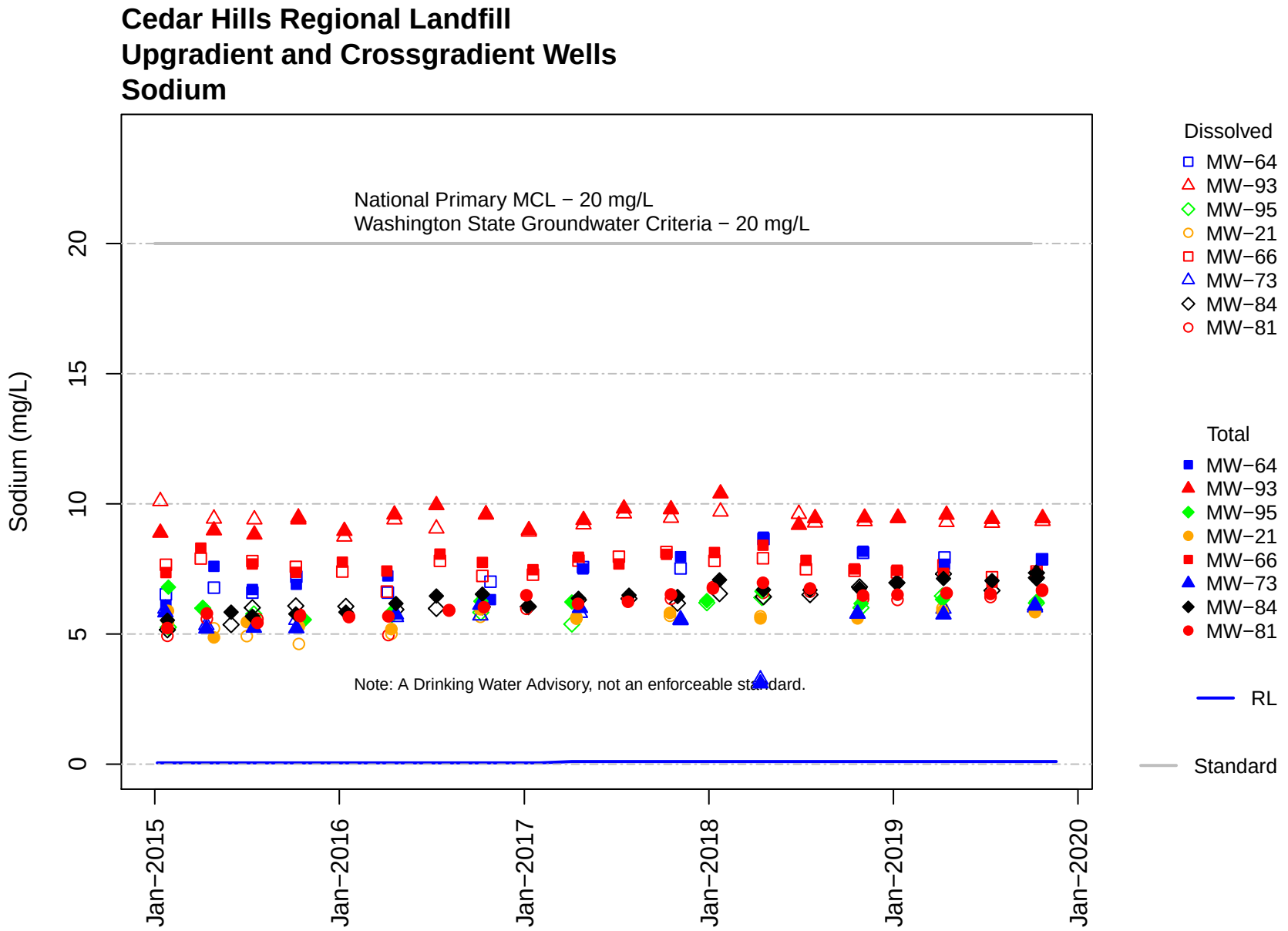

Cedar Hills Regional Landfill
Upgradient Wells
Potassium
Potassium (mg/L)
0
1
2
3
4
Jan−2015
Jan−2016
Jan−2017
Jan−2018
Jan−2019
Jan−2020
Dissolved
MW−56
MW−59
MW−76
MW−82
MW−83
MW−94
MW−24
MW−65
Total
MW−56
MW−59
MW−76
MW−82
MW−83
MW−94
MW−24
MW−65
RL

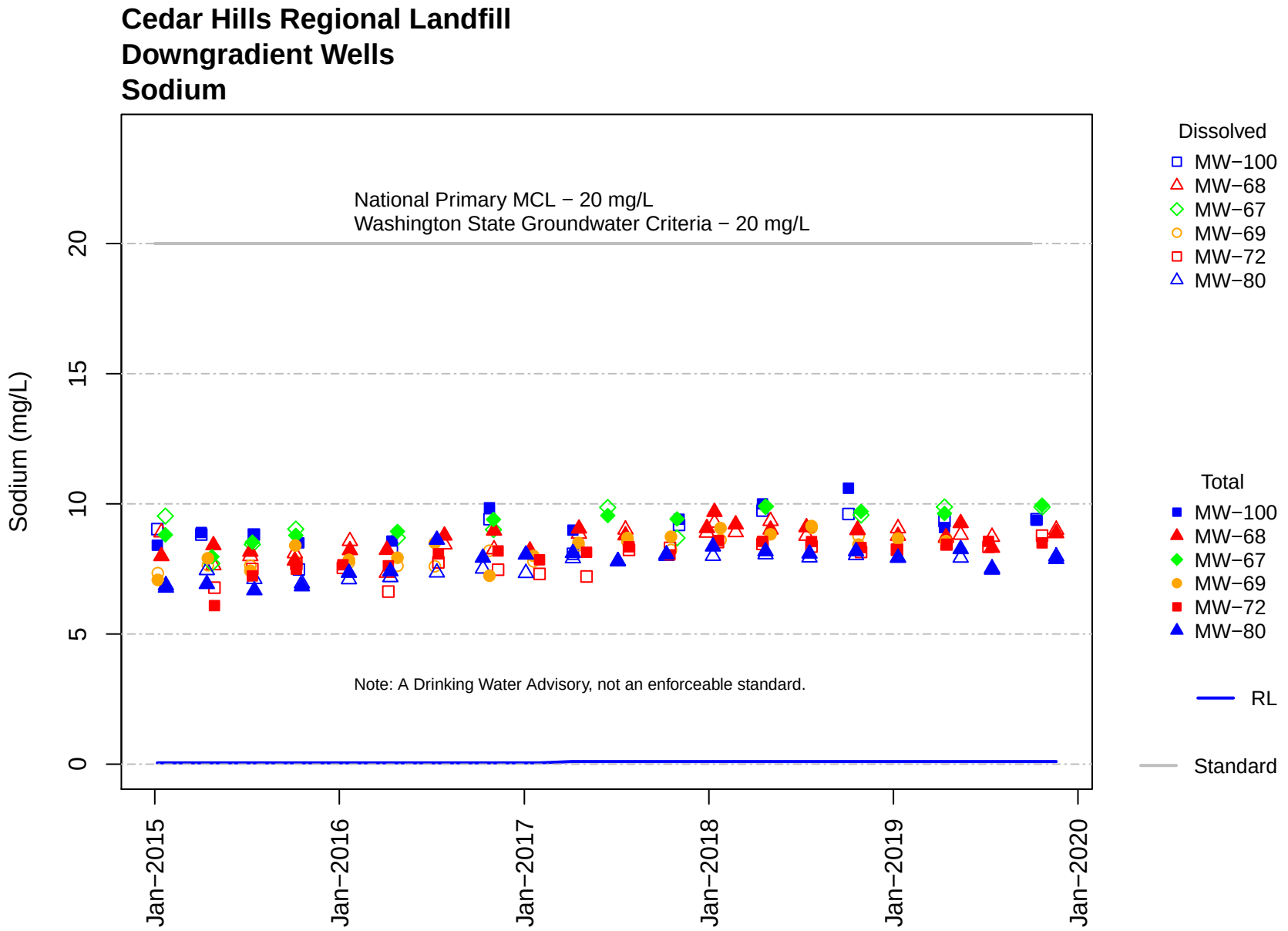

Cedar Hills Regional Landfill
Upgradient and Crossgradient Wells
Potassium
Potassium (mg/L)
0
1
2
3
4
Jan−2015
Jan−2016
Jan−2017
Jan−2018
Jan−2019
Jan−2020
Dissolved
MW−64
MW−93
MW−95
MW−21
MW−66
MW−73
MW−84
MW−81
Total
MW−64
MW−93
MW−95
MW−21
MW−66
MW−73
MW−84
MW−81
RL

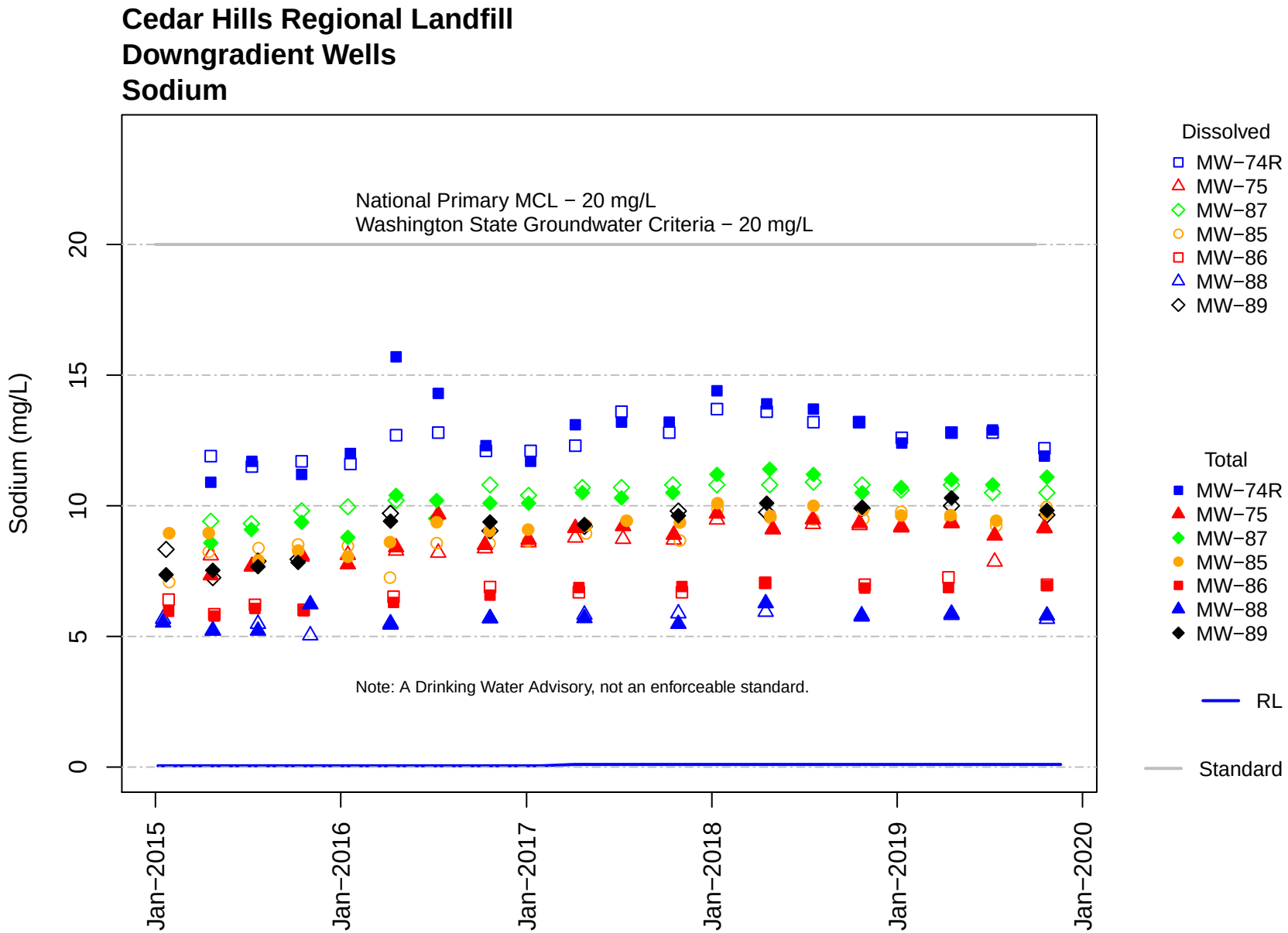

Cedar Hills Regional Landfill
Downgradient Wells
Potassium
Potassium (mg/L)
0
1
2
3
4
Jan−2015
Jan−2016
Jan−2017
Jan−2018
Jan−2019
Jan−2020
Dissolved
MW−100
MW−68
MW−67
MW−69
MW−72
MW−80
Total
MW−100
MW−68
MW−67
MW−69
MW−72
MW−80
RL

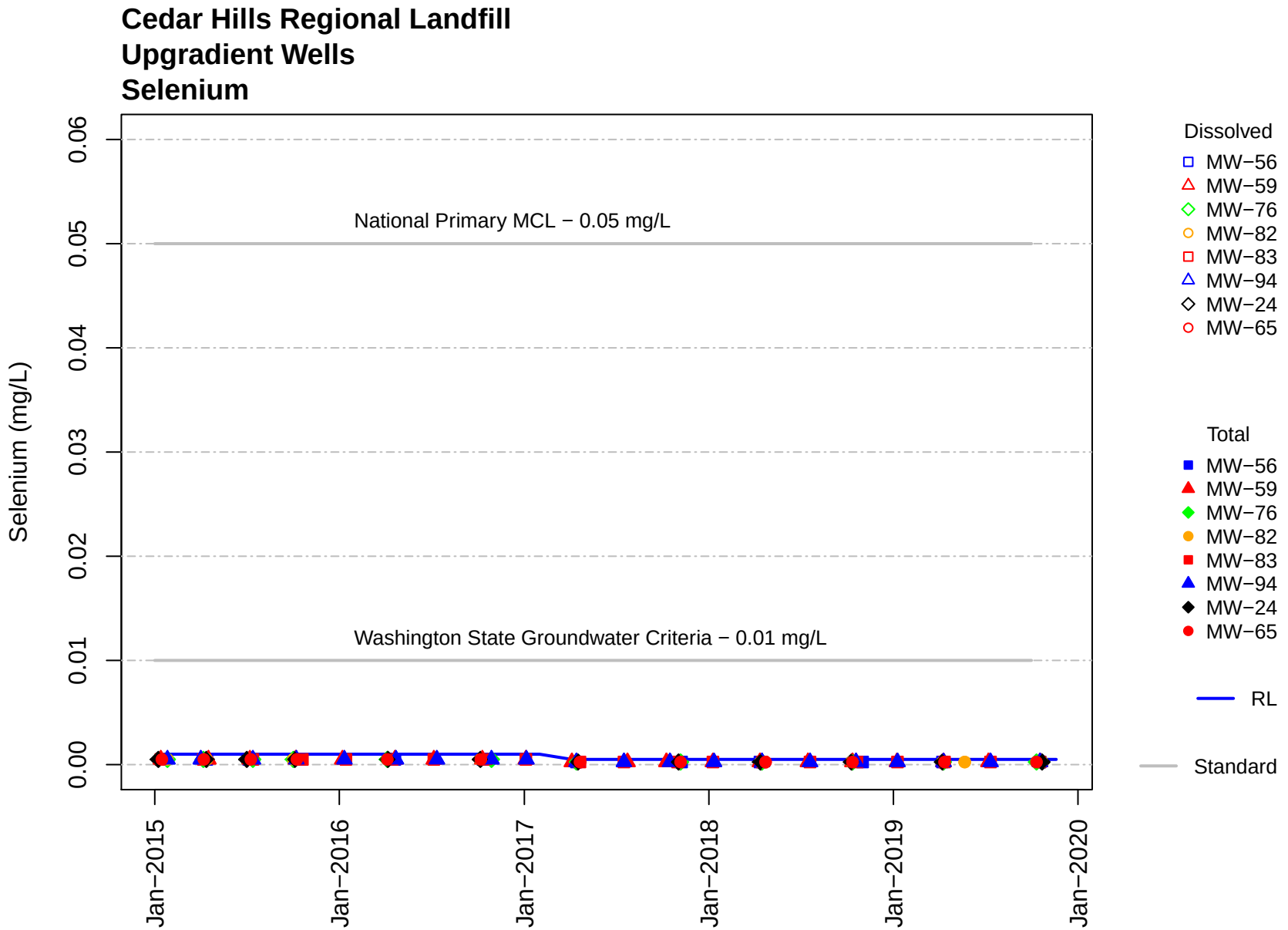

Cedar Hills Regional Landfill
Downgradient Wells
Potassium
Potassium (mg/L)
0
1
2
3
4
Jan−2015
Jan−2016
Jan−2017
Jan−2018
Jan−2019
Jan−2020
Dissolved
MW−74R
MW−75
MW−87
MW−85
MW−86
MW−88
MW−89
Total
MW−74R
MW−75
MW−87
MW−85
MW−86
MW−88
MW−89
RL

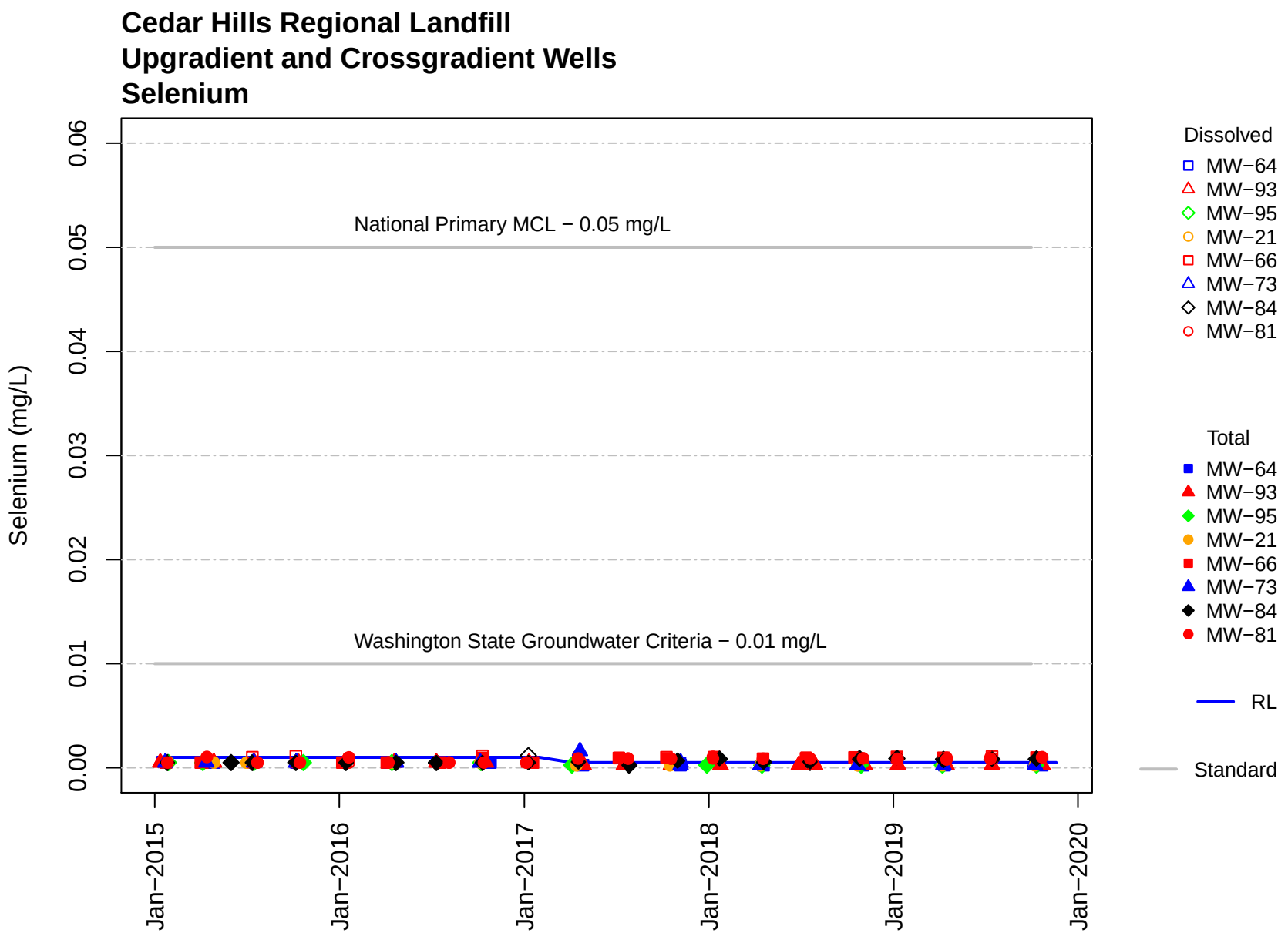

Cedar Hills Regional Landfill
Upgradient Wells
Sodium
National Primary MCL − 20 mg/L
Washington State Groundwater Criteria − 20 mg/L
Note: A Drinking Water Advisory, not an enforceable standard.
Sodium (mg/L)
0
5
10
15
20
Jan−2015
Jan−2016
Jan−2017
Jan−2018
Jan−2019
Jan−2020
Dissolved
MW−56
MW−59
MW−76
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

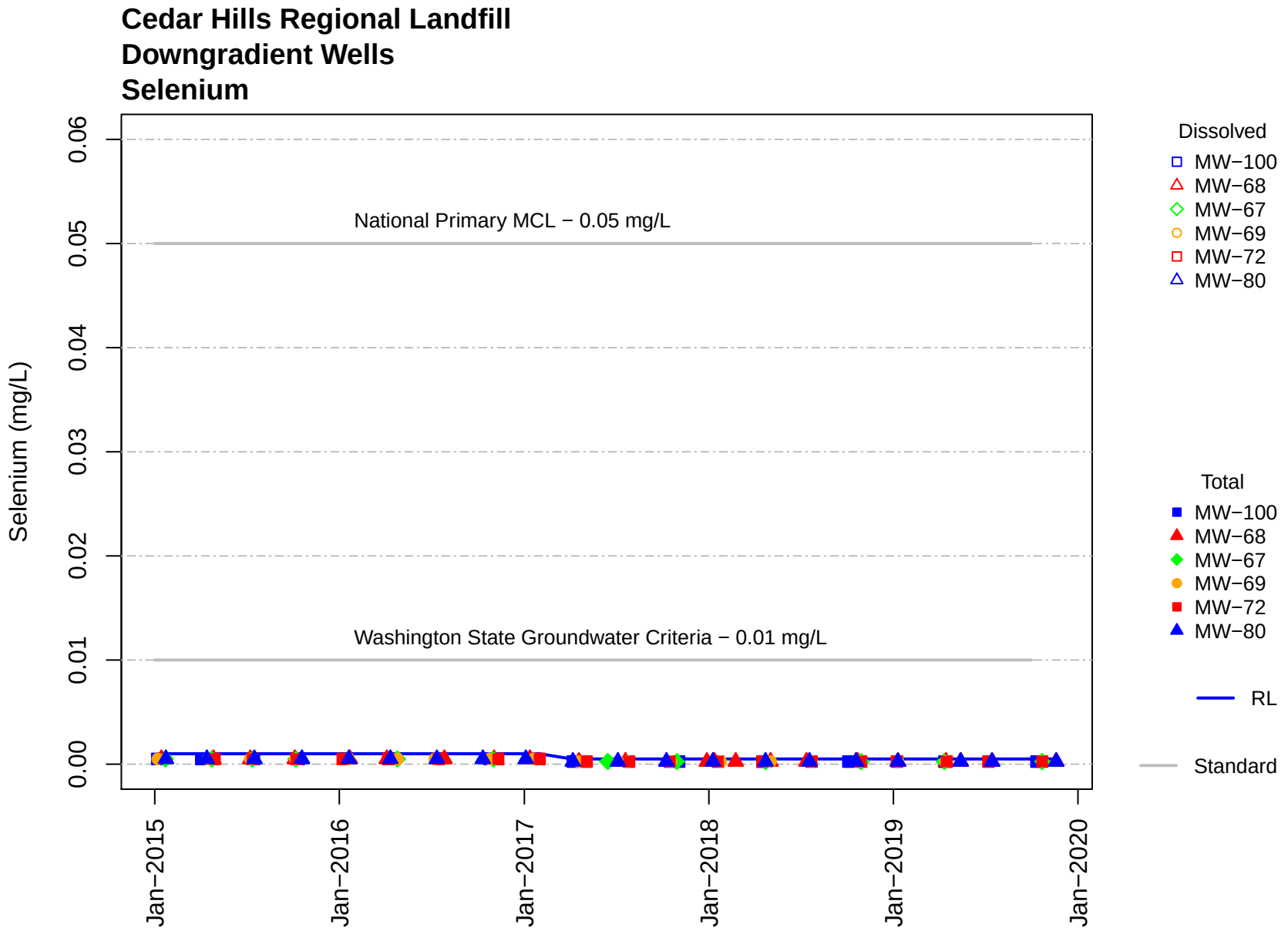

Cedar Hills Regional Landfill
Upgradient and Crossgradient Wells
Sodium
National Primary MCL − 20 mg/L
Washington State Groundwater Criteria − 20 mg/L
Note: A Drinking Water Advisory, not an enforceable standard.
Sodium (mg/L)
0
5
10
15
20
Jan−2015
Jan−2016
Jan−2017
Jan−2018
Jan−2019
Jan−2020
Dissolved
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

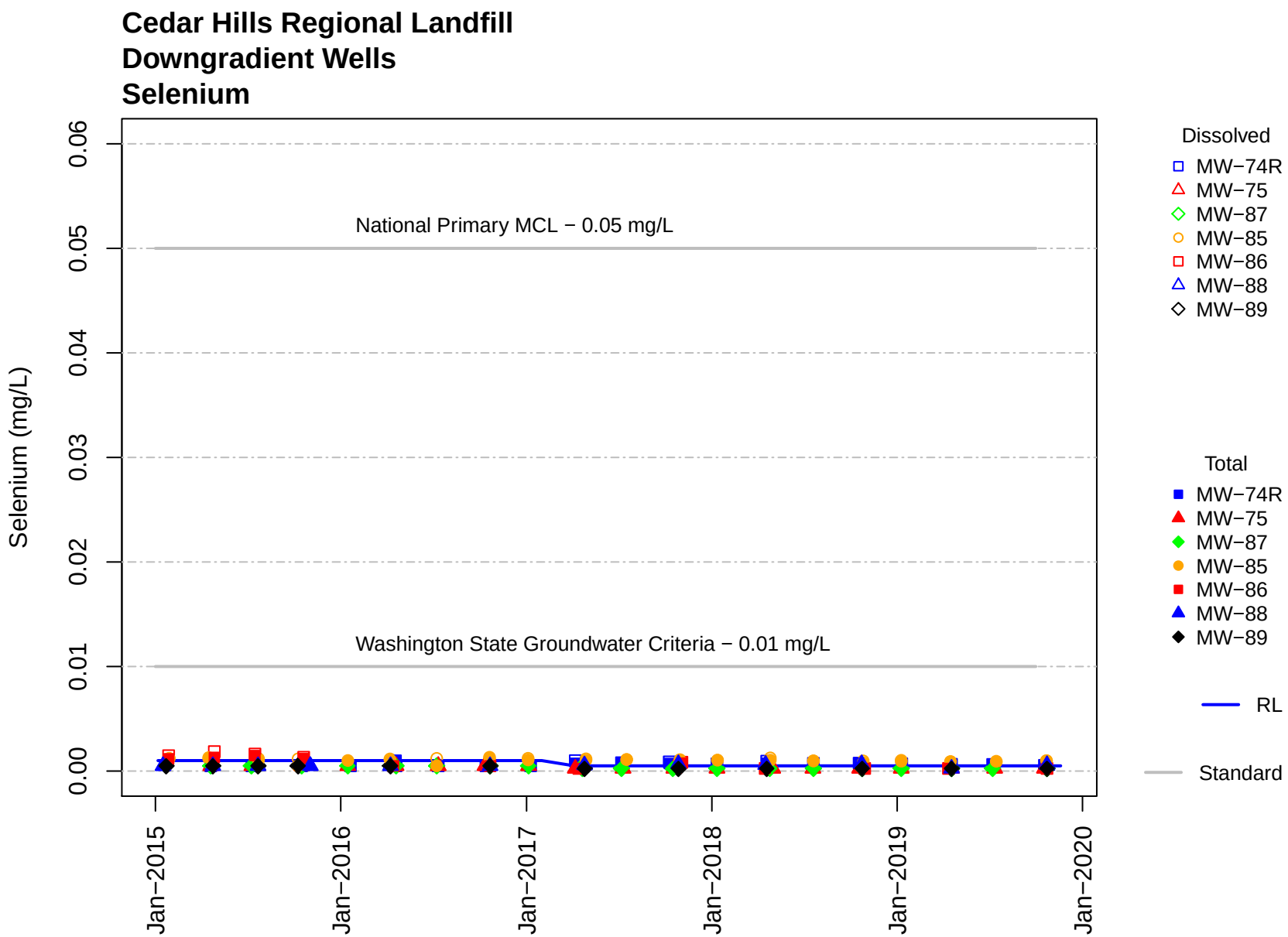

Cedar Hills Regional Landfill
Downgradient Wells
Sodium
National Primary MCL − 20 mg/L
Washington State Groundwater Criteria − 20 mg/L
Note: A Drinking Water Advisory, not an enforceable standard.
Sodium (mg/L)
0
5
10
15
20
Jan−2015
Jan−2016
Jan−2017
Jan−2018
Jan−2019
Jan−2020
Dissolved
MW−100
MW−68
MW−67
MW−69
MW−72
MW−80
Total
MW−100
MW−68
MW−67
MW−69
MW−72
MW−80
RL
Standard

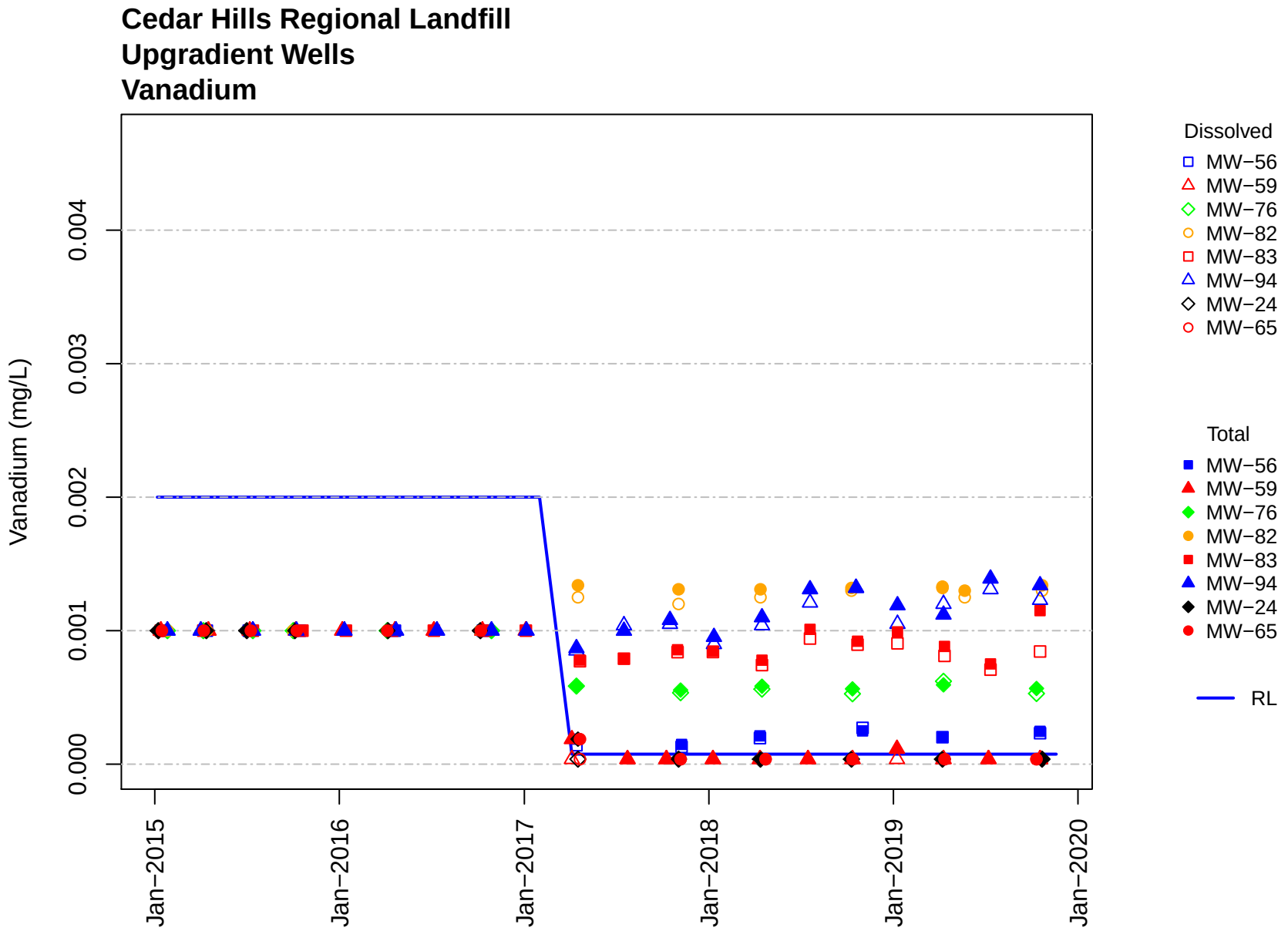

Cedar Hills Regional Landfill
Downgradient Wells
Sodium
National Primary MCL − 20 mg/L
Washington State Groundwater Criteria − 20 mg/L
Note: A Drinking Water Advisory, not an enforceable standard.
Sodium (mg/L)
0
5
10
15
20
Jan−2015
Jan−2016
Jan−2017
Jan−2018
Jan−2019
Jan−2020
Dissolved
MW−74R
MW−75
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

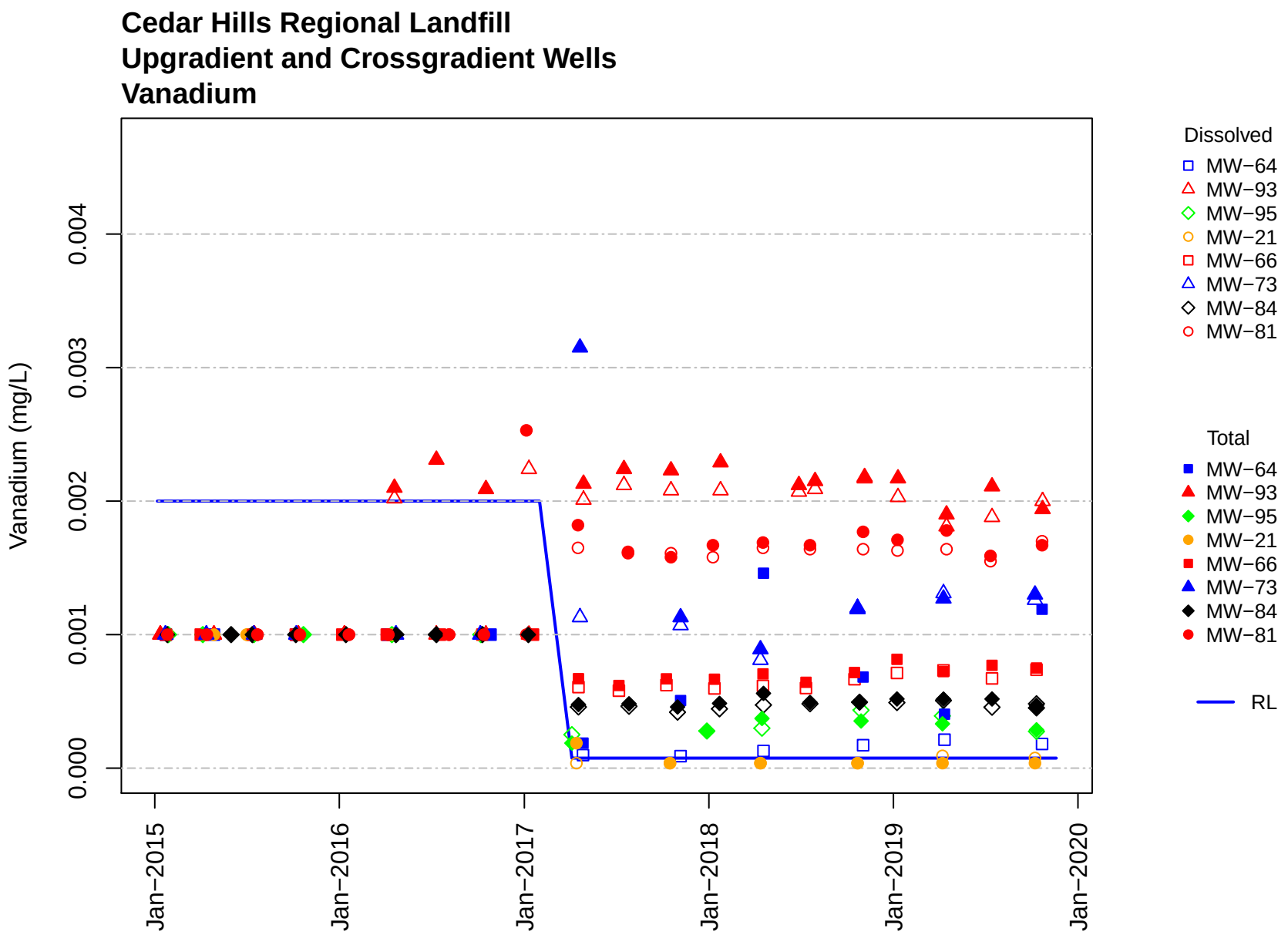

Cedar Hills Regional Landfill
Upgradient Wells
Selenium
Selenium (mg/L)
0.00
0.01
0.02
0.03
0.04
0.05
0.06
National Primary MCL − 0.05 mg/L
Washington State Groundwater Criteria − 0.01 mg/L
Jan−2015
Jan−2016
Jan−2017
Jan−2018
Jan−2019
Jan−2020
Dissolved
MW−56
MW−59
MW−76
MW−82
MW−83
MW−94
MW−24
MW−65
Total
MW−56
MW−59
MW−76
MW−82
MW−83
MW−94
MW−24
MW−65
RL
Standard

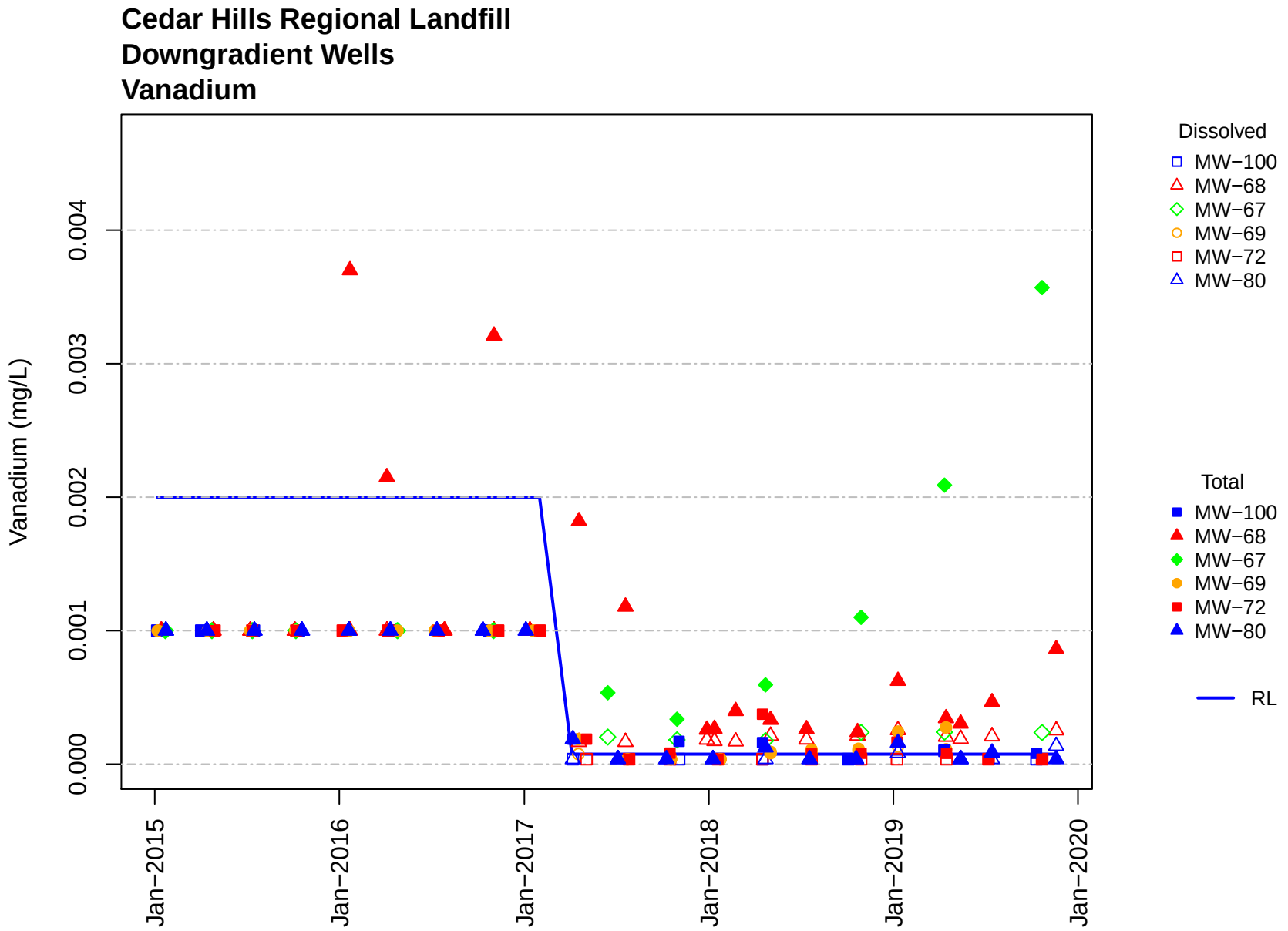

Cedar Hills Regional Landfill
Upgradient and Crossgradient Wells
Selenium
Selenium (mg/L)
0.00
0.01
0.02
0.03
0.04
0.05
0.06
National Primary MCL − 0.05 mg/L
Washington State Groundwater Criteria − 0.01 mg/L
Jan−2015
Jan−2016
Jan−2017
Jan−2018
Jan−2019
Jan−2020
Dissolved
MW−64
MW−93
MW−95
MW−21
MW−66
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

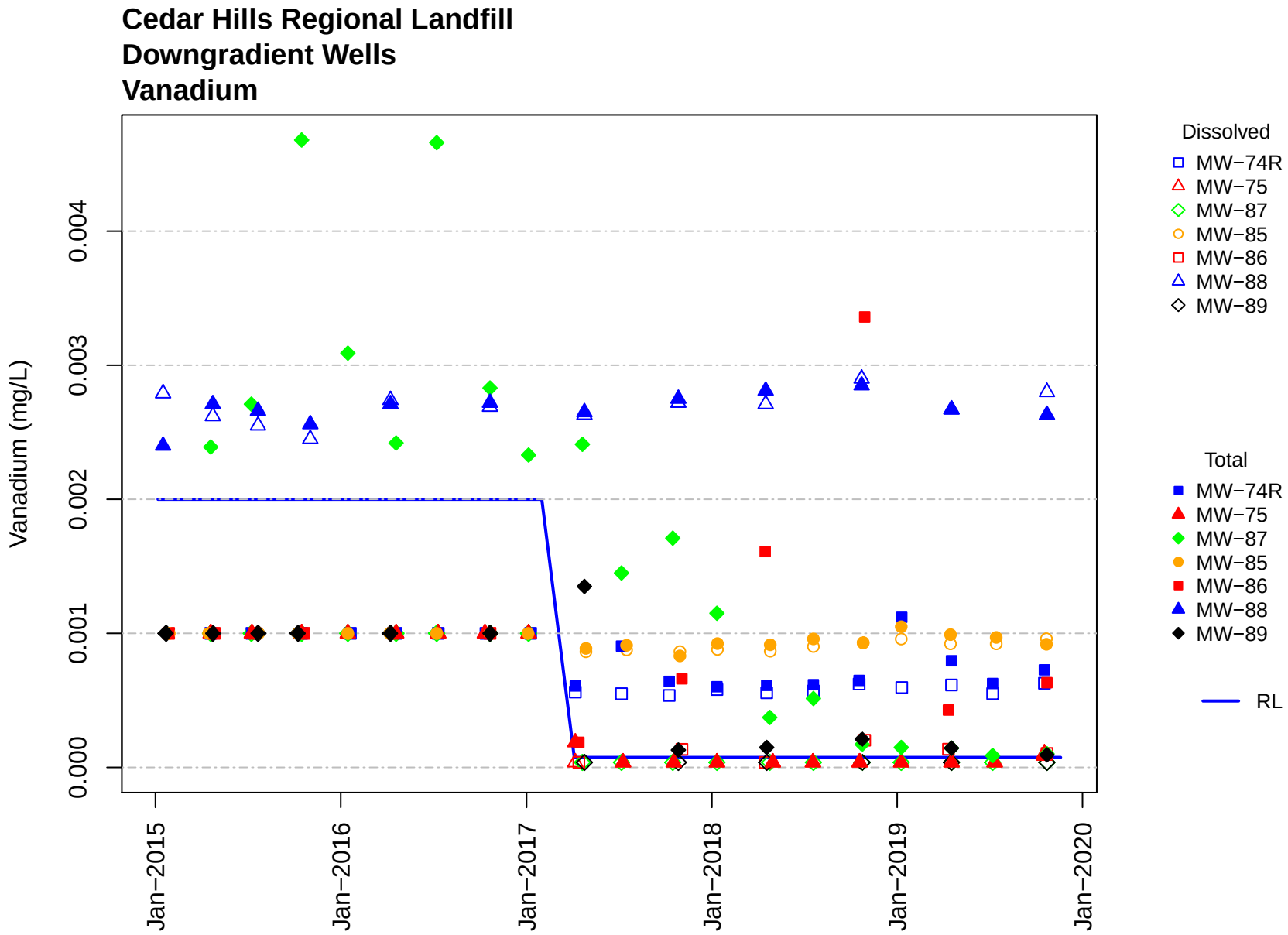

Cedar Hills Regional Landfill
Downgradient Wells
Selenium
Selenium (mg/L)
0.00
0.01
0.02
0.03
0.04
0.05
0.06
National Primary MCL − 0.05 mg/L
Washington State Groundwater Criteria − 0.01 mg/L
Jan−2015
Jan−2016
Jan−2017
Jan−2018
Jan−2019
Jan−2020
Dissolved
MW−100
MW−68
MW−67
MW−69
MW−72
MW−80
Total
MW−100
MW−68
MW−67
MW−69
MW−72
MW−80
RL
Standard

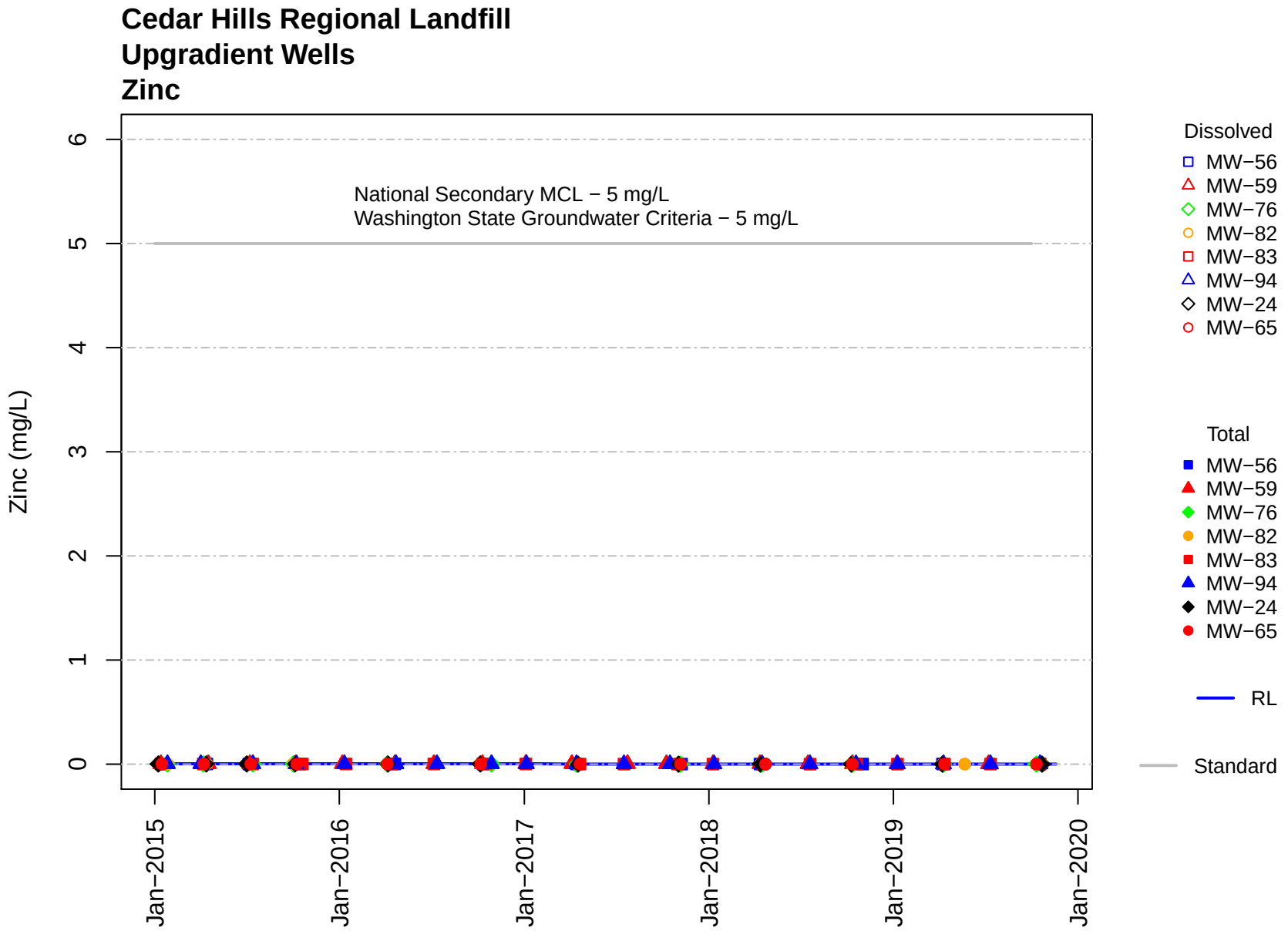

Cedar Hills Regional Landfill
Downgradient Wells
Selenium
Selenium (mg/L)
0.00
0.01
0.02
0.03
0.04
0.05
0.06
National Primary MCL − 0.05 mg/L
Washington State Groundwater Criteria − 0.01 mg/L
Jan−2015
Jan−2016
Jan−2017
Jan−2018
Jan−2019
Jan−2020
Dissolved
MW−74R
MW−75
MW−87
MW−85
MW−86
MW−88
MW−89
Total
MW−74R
MW−75
MW−87
MW−85
MW−86
MW−88
MW−89
RL
Standard

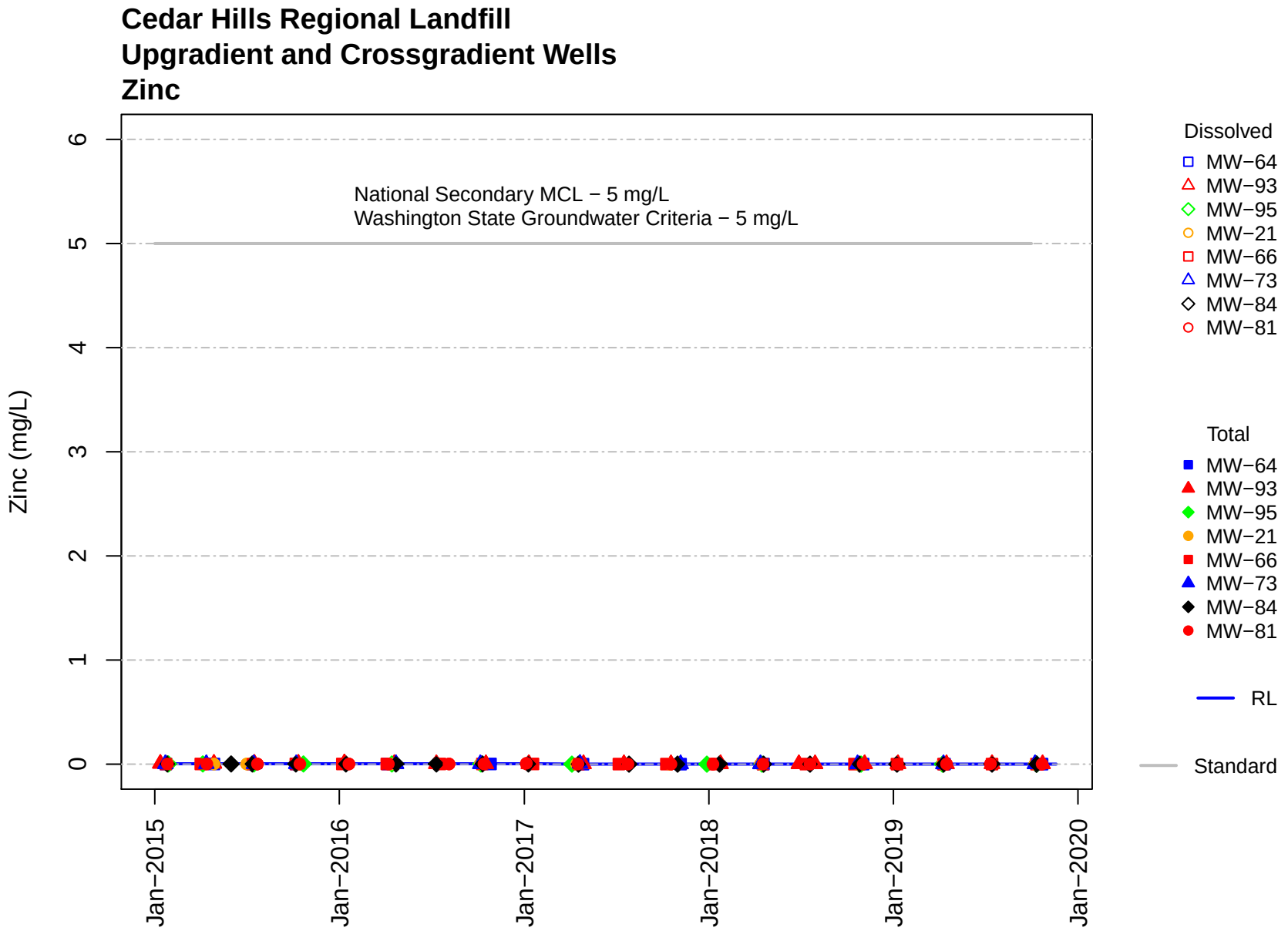

Cedar Hills Regional Landfill
Upgradient Wells
Vanadium
Vanadium (mg/L)
0.000
0.001
0.002
0.003
0.004
Jan−2015
Jan−2016
Jan−2017
Jan−2018
Jan−2019
Jan−2020
Dissolved
MW−56
MW−59
MW−76
MW−82
MW−83
MW−94
MW−24
MW−65
Total
MW−56
MW−59
MW−76
MW−82
MW−83
MW−94
MW−24
MW−65
RL

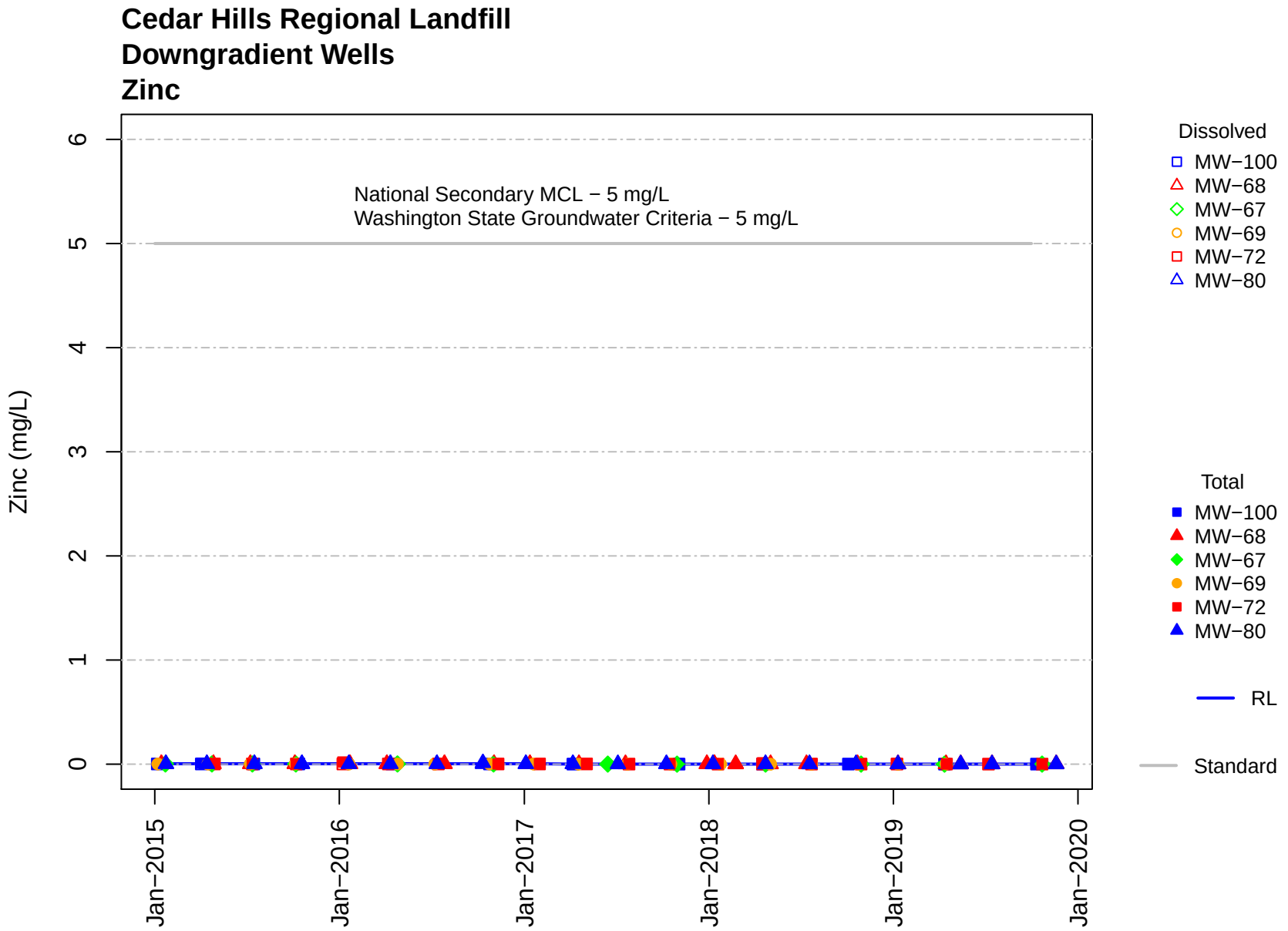

Cedar Hills Regional Landfill
Upgradient and Crossgradient Wells
Vanadium
Vanadium (mg/L)
0.000
0.001
0.002
0.003
0.004
Jan−2015
Jan−2016
Jan−2017
Jan−2018
Jan−2019
Jan−2020
Dissolved
MW−64
MW−93
MW−95
MW−21
MW−66
MW−73
MW−84
MW−81
Total
MW−64
MW−93
MW−95
MW−21
MW−66
MW−73
MW−84
MW−81
RL

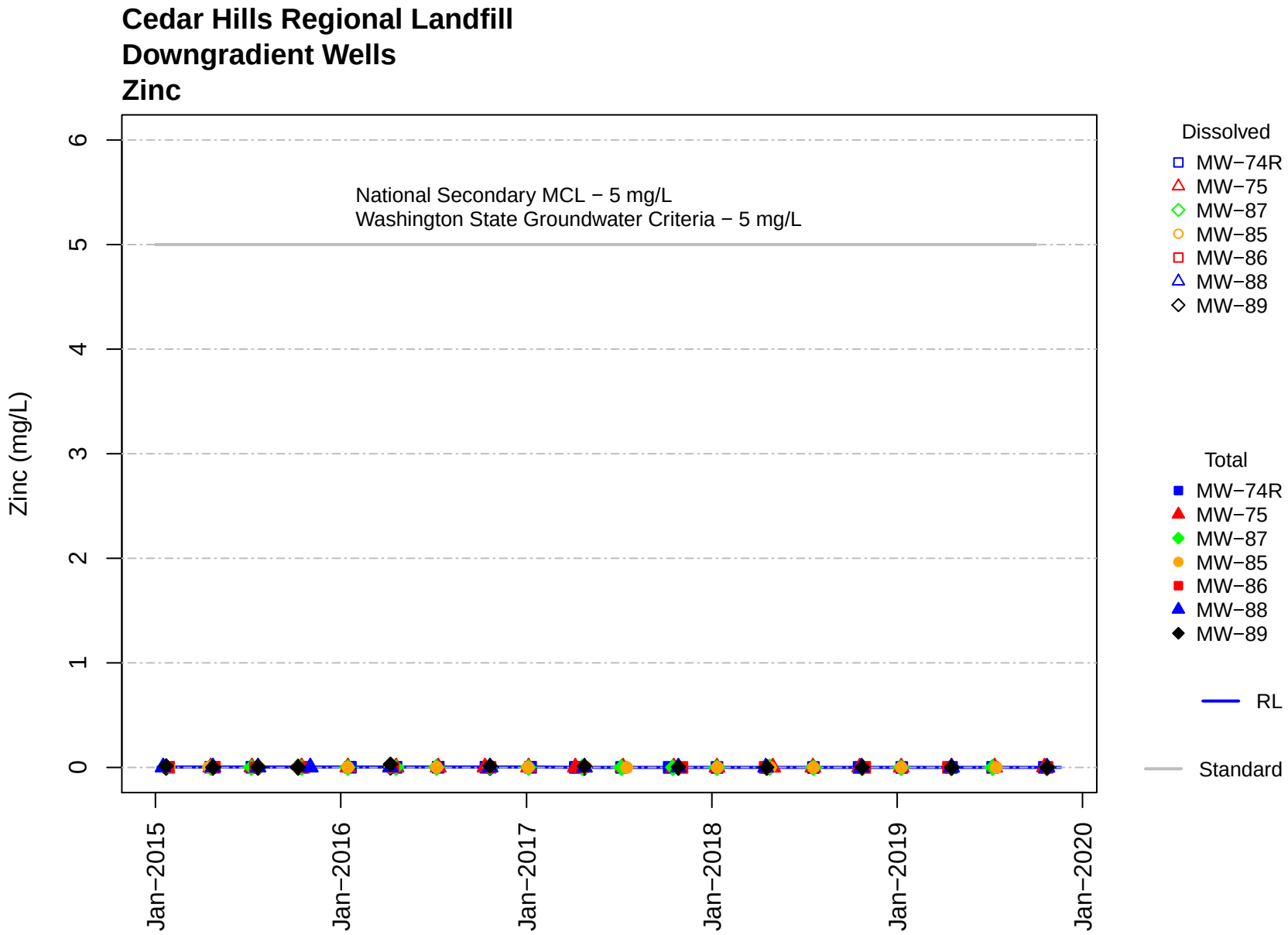

Cedar Hills Regional Landfill
Downgradient Wells
Vanadium
Vanadium (mg/L)
0.000
0.001
0.002
0.003
0.004
Jan−2015
Jan−2016
Jan−2017
Jan−2018
Jan−2019
Jan−2020
Dissolved
MW−100
MW−68
MW−67
MW−69
MW−72
MW−80
Total
MW−100
MW−68
MW−67
MW−69
MW−72
MW−80
RL

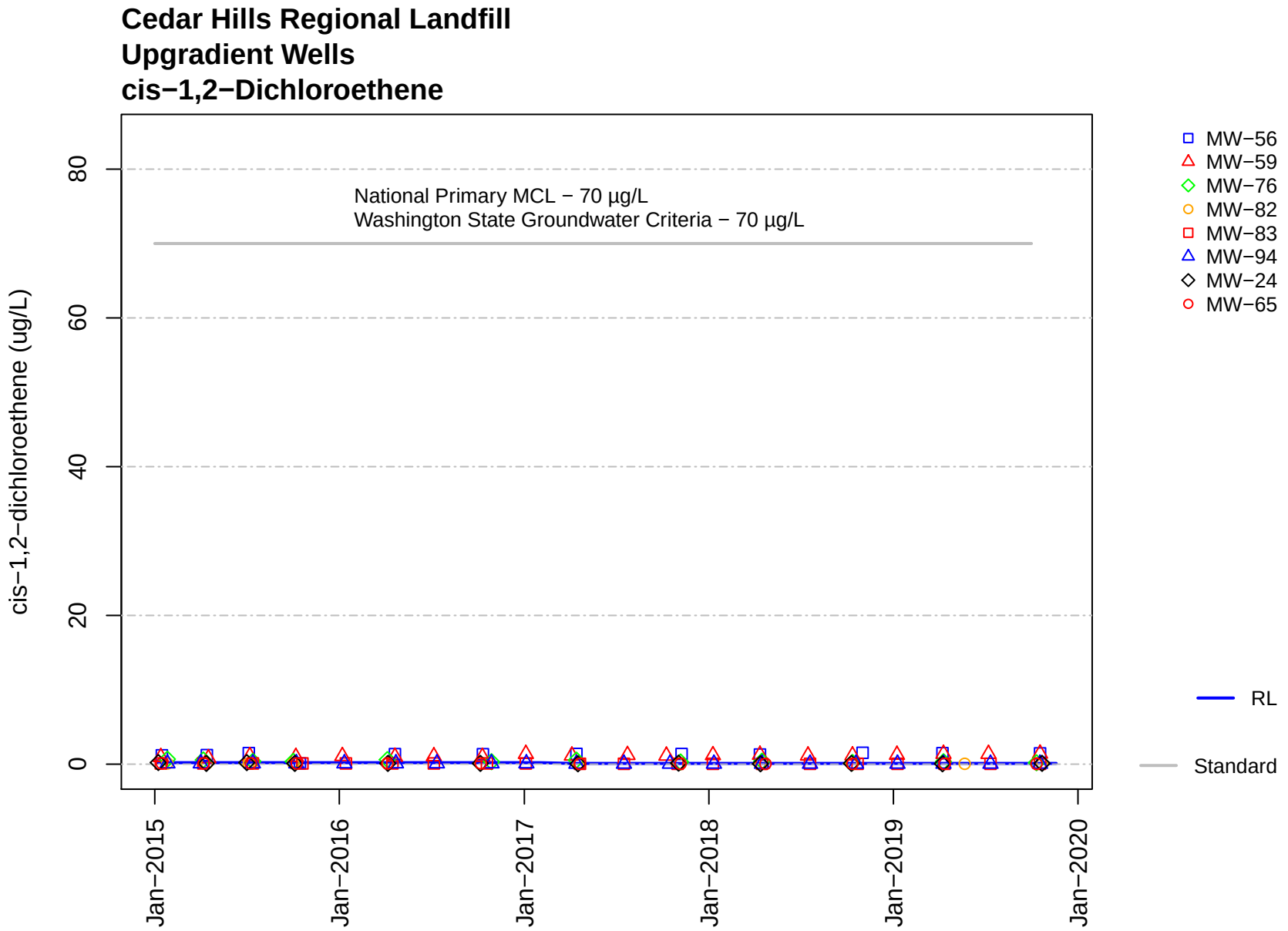

Cedar Hills Regional Landfill
Downgradient Wells
Vanadium
Vanadium (mg/L)
0.000
0.001
0.002
0.003
0.004
Jan−2015
Jan−2016
Jan−2017
Jan−2018
Jan−2019
Jan−2020
Dissolved
MW−74R
MW−75
MW−87
MW−85
MW−86
MW−88
MW−89
Total
MW−74R
MW−75
MW−87
MW−85
MW−86
MW−88
MW−89
RL

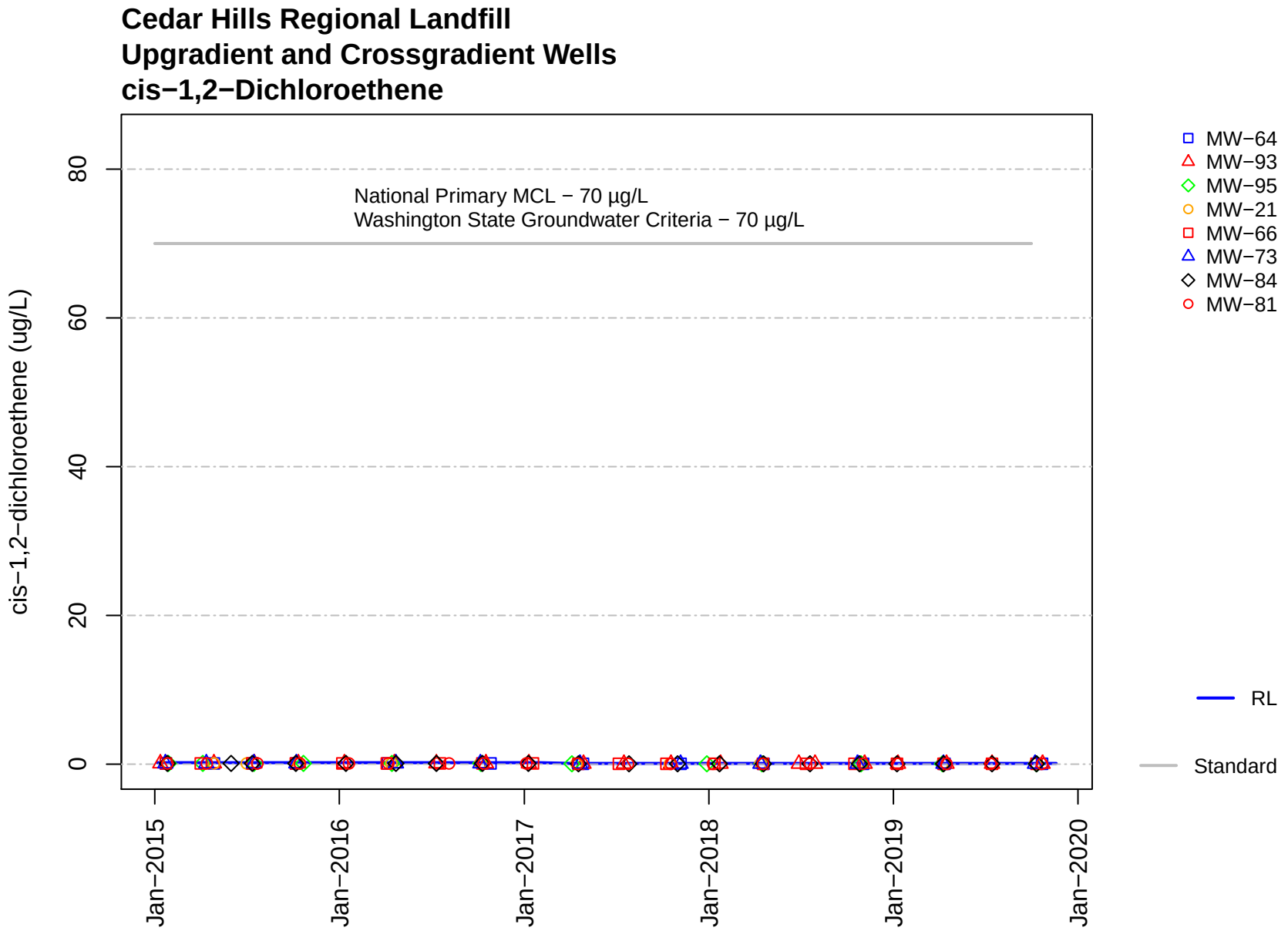

Cedar Hills Regional Landfill
Upgradient Wells
Zinc
National Secondary MCL − 5 mg/L
Washington State Groundwater Criteria − 5 mg/L
Zinc (mg/L)
0
1
2
3
4
5
6
Jan−2015
Jan−2016
Jan−2017
Jan−2018
Jan−2019
Jan−2020
Dissolved
MW−56
MW−59
MW−76
MW−82
MW−83
MW−94
MW−24
MW−65
Total
MW−56
MW−59
MW−76
MW−82
MW−83
MW−94
MW−24
MW−65
RL
Standard

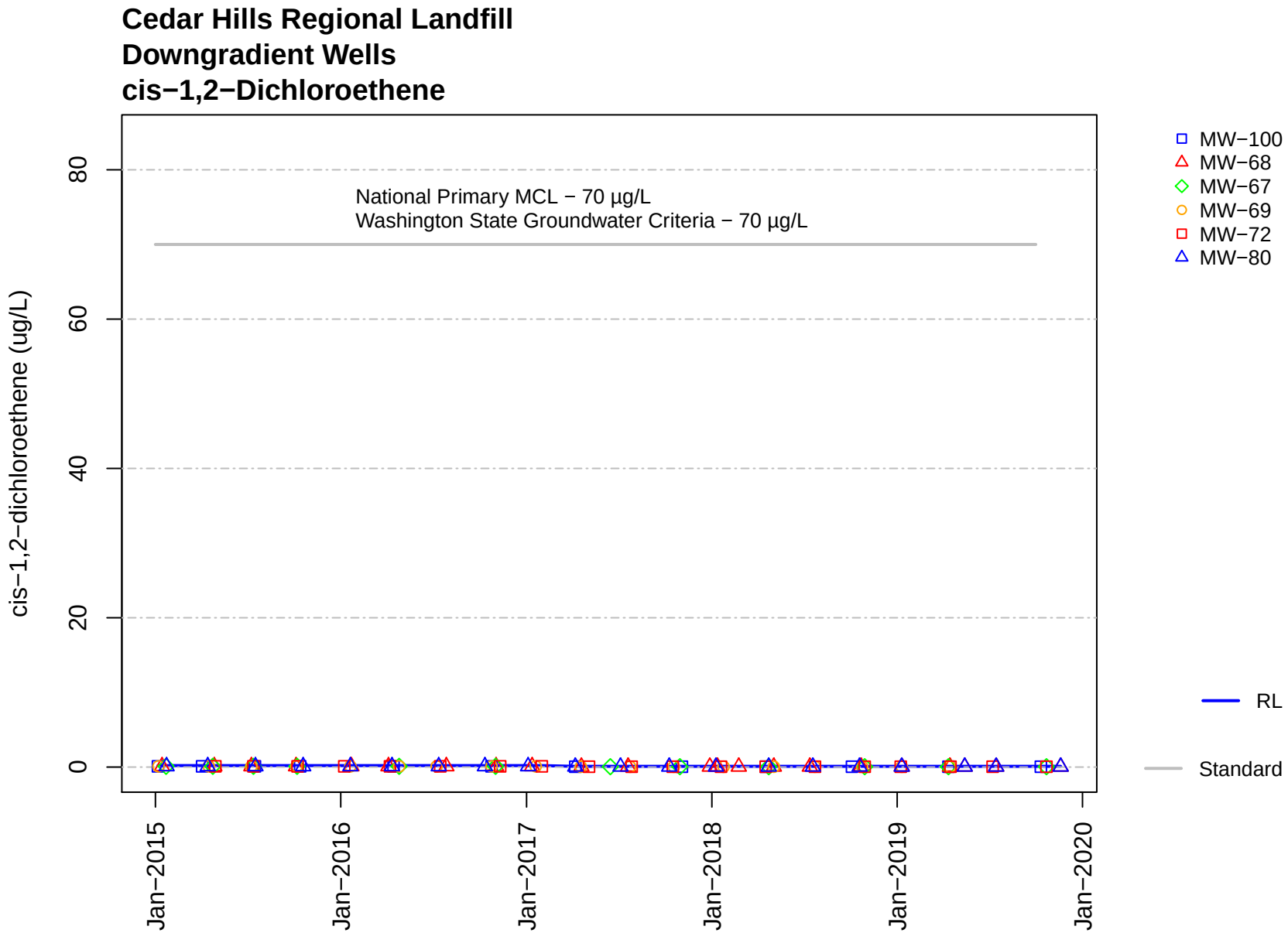

Cedar Hills Regional Landfill
Upgradient and Crossgradient Wells
Zinc
National Secondary MCL − 5 mg/L
Washington State Groundwater Criteria − 5 mg/L
Zinc (mg/L)
0
1
2
3
4
5
6
Jan−2015
Jan−2016
Jan−2017
Jan−2018
Jan−2019
Jan−2020
Dissolved
MW−64
MW−93
MW−95
MW−21
MW−66
MW−73
MW−84
MW−81
Total
MW−64
MW−93
MW−95
MW−21
MW−66
MW−73
MW−84
MW−81
RL
Standard

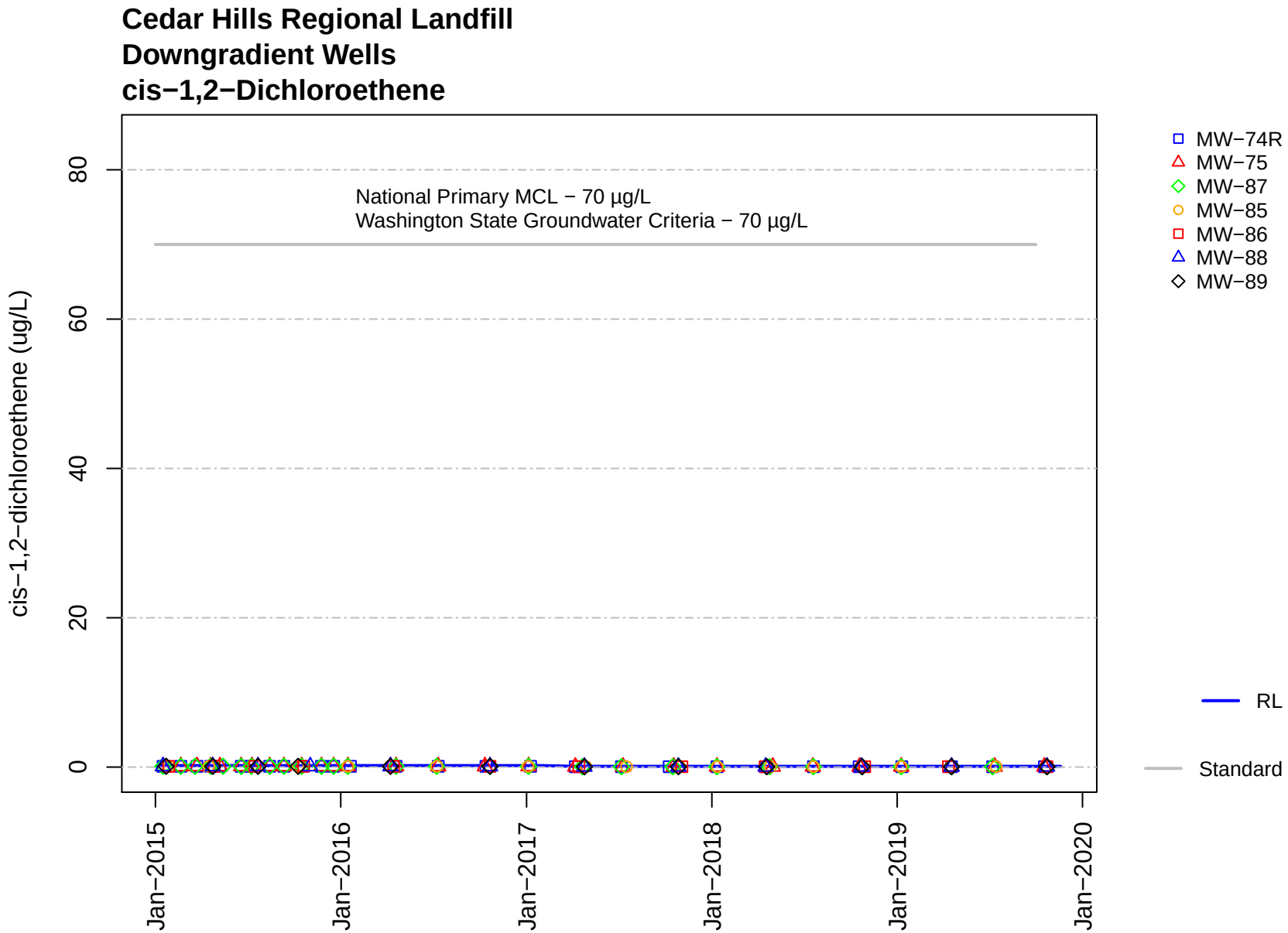

Cedar Hills Regional Landfill
Downgradient Wells
Zinc
National Secondary MCL − 5 mg/L
Washington State Groundwater Criteria − 5 mg/L
Zinc (mg/L)
0
1
2
3
4
5
6
Jan−2015
Jan−2016
Jan−2017
Jan−2018
Jan−2019
Jan−2020
Dissolved
MW−100
MW−68
MW−67
MW−69
MW−72
MW−80
Total
MW−100
MW−68
MW−67
MW−69
MW−72
MW−80
RL
Standard

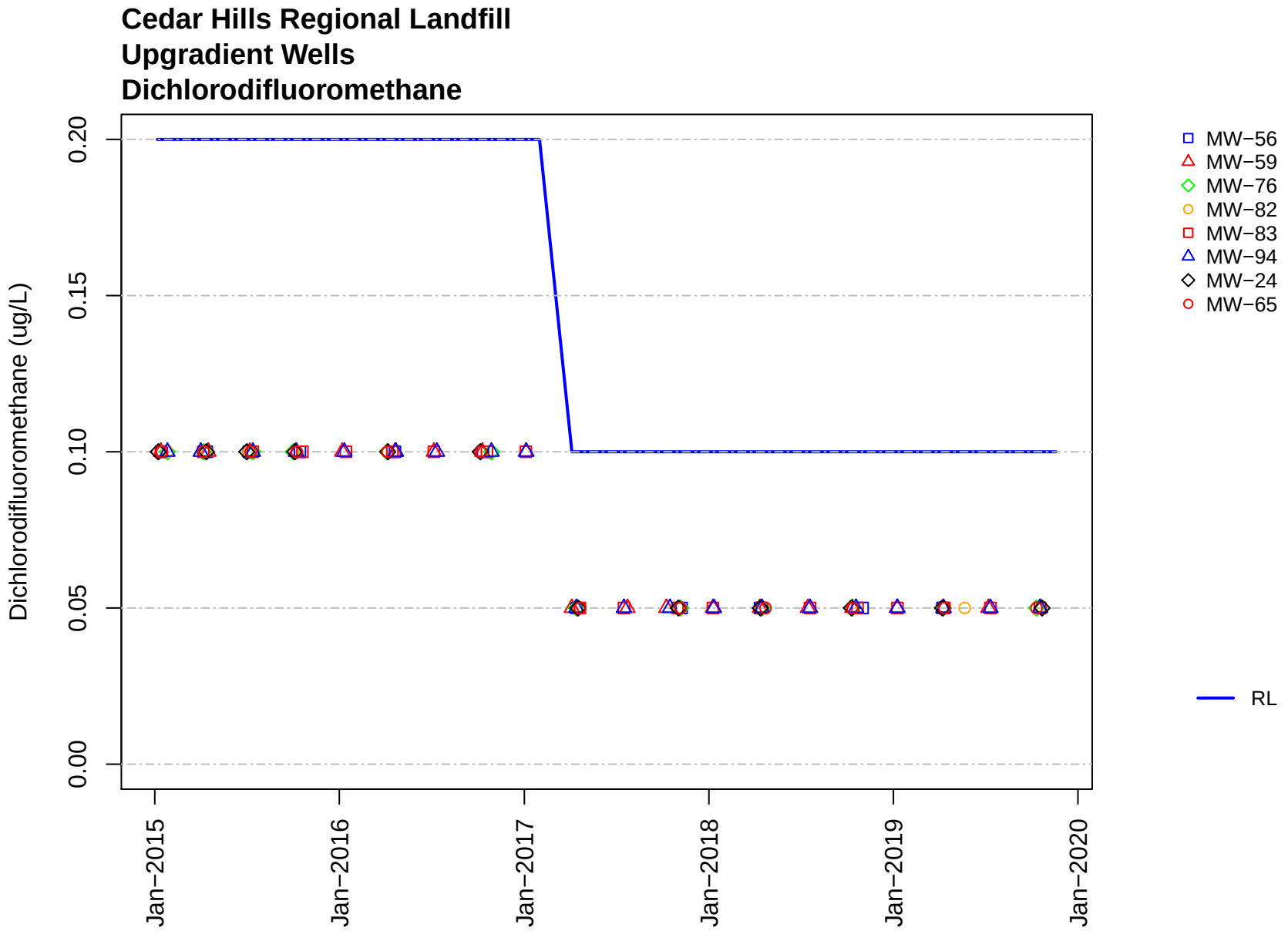

Cedar Hills Regional Landfill
Downgradient Wells
Zinc
National Secondary MCL − 5 mg/L
Washington State Groundwater Criteria − 5 mg/L
Zinc (mg/L)
0
1
2
3
4
5
6
Jan−2015
Jan−2016
Jan−2017
Jan−2018
Jan−2019
Jan−2020
Dissolved
MW−74R
MW−75
MW−87
MW−85
MW−86
MW−88
MW−89
Total
MW−74R
MW−75
MW−87
MW−85
MW−86
MW−88
MW−89
RL
Standard

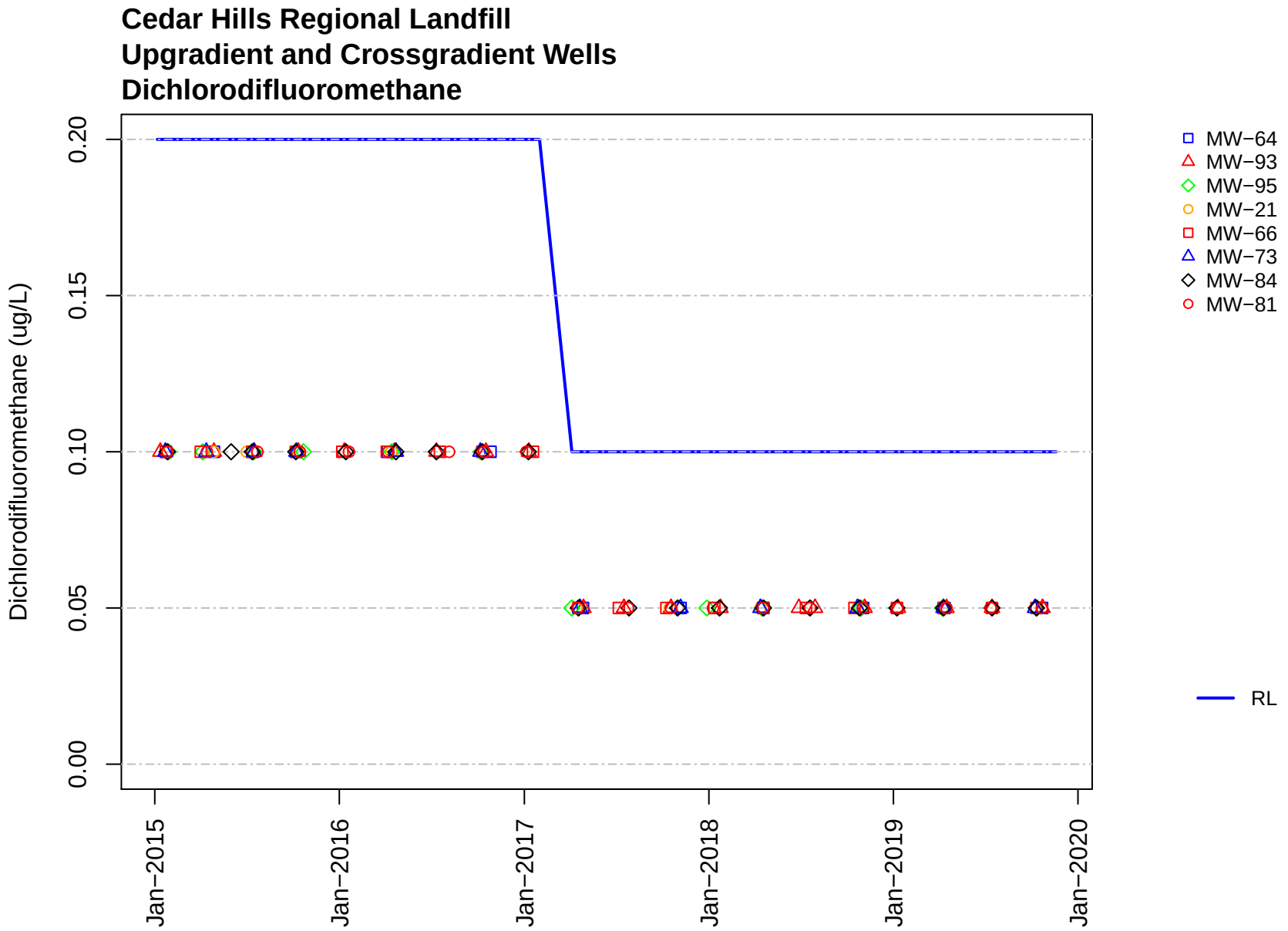

Cedar Hills Regional Landfill
Upgradient Wells
cis−1,2−Dichloroethene
National Primary MCL − 70 µg/L
Washington State Groundwater Criteria − 70 µg/L
cis−1,2−dichloroethene (ug/L)
0
20
40
60
80
Jan−2015
Jan−2016
Jan−2017
Jan−2018
Jan−2019
Jan−2020
MW−56
MW−59
MW−76
MW−82
MW−83
MW−94
MW−24
MW−65
RL
Standard

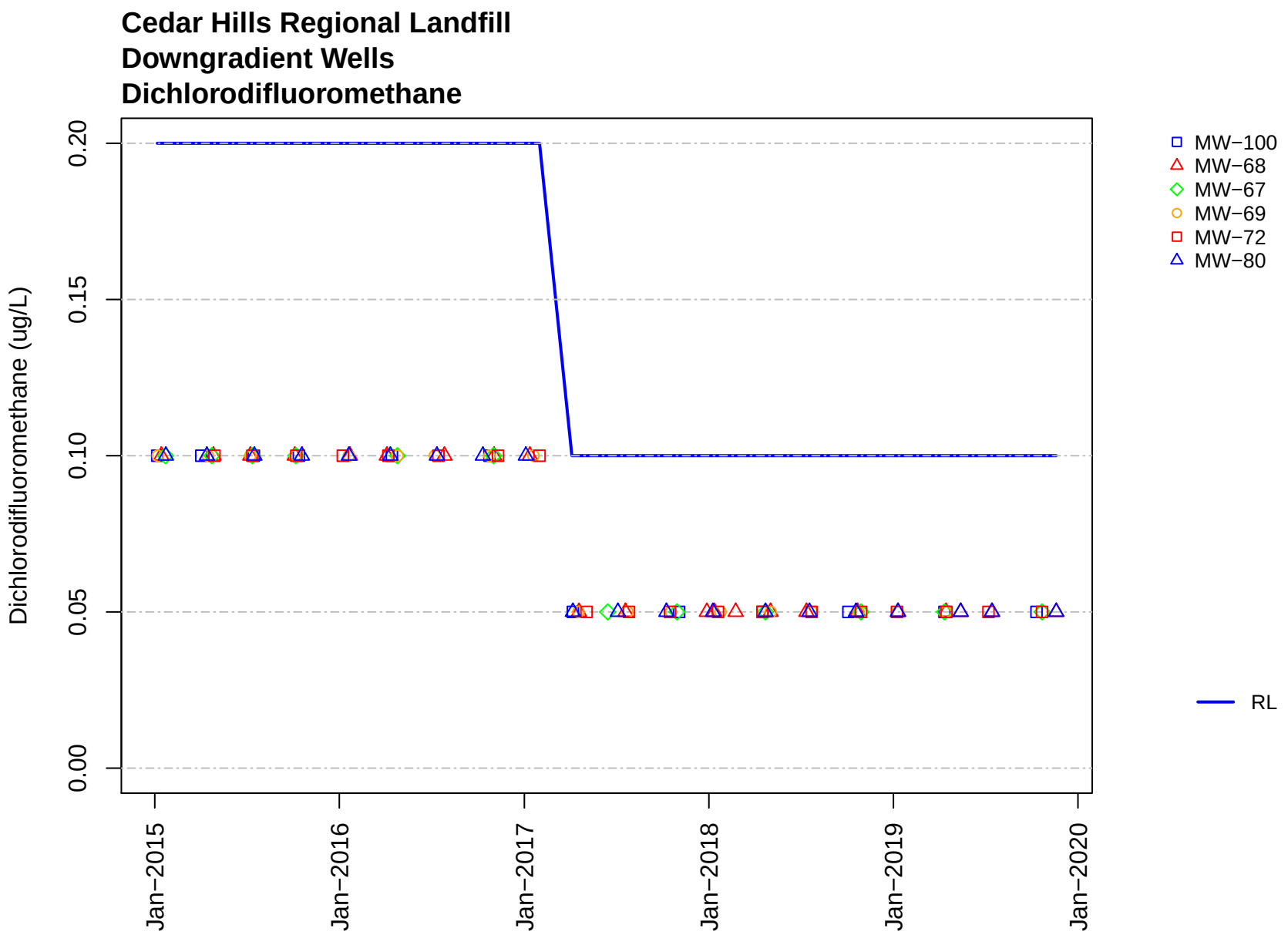

Cedar Hills Regional Landfill
Upgradient and Crossgradient Wells
cis−1,2−Dichloroethene
National Primary MCL − 70 µg/L
Washington State Groundwater Criteria − 70 µg/L
cis−1,2−dichloroethene (ug/L)
0
20
40
60
80
Jan−2015
Jan−2016
Jan−2017
Jan−2018
Jan−2019
Jan−2020
MW−64
MW−93
MW−95
MW−21
MW−66
MW−73
MW−84
MW−81
RL
Standard

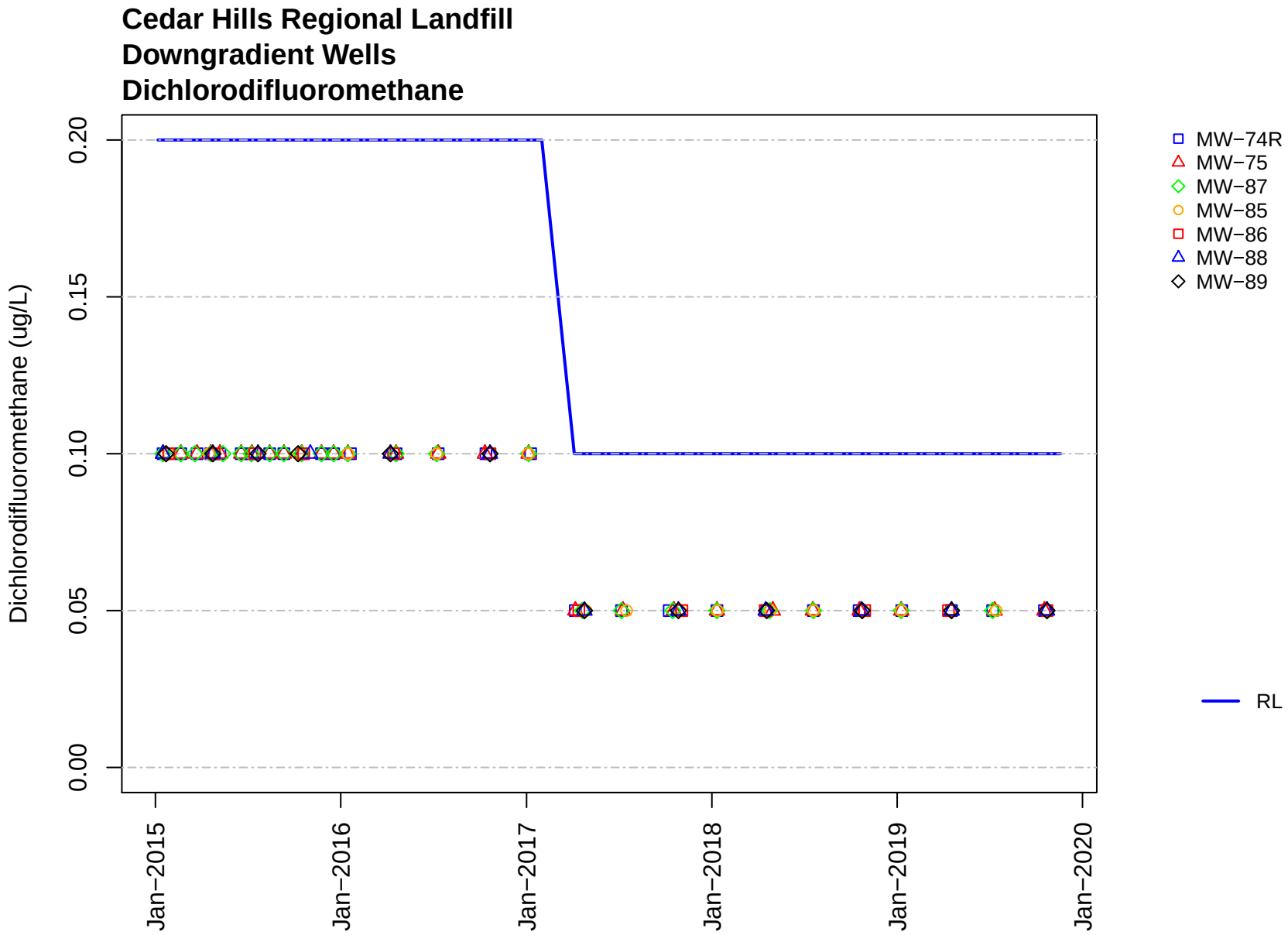

Cedar Hills Regional Landfill
Downgradient Wells
cis−1,2−Dichloroethene
National Primary MCL − 70 µg/L
Washington State Groundwater Criteria − 70 µg/L
cis−1,2−dichloroethene (ug/L)
0
20
40
60
80
Jan−2015
Jan−2016
Jan−2017
Jan−2018
Jan−2019
Jan−2020
MW−100
MW−68
MW−67
MW−69
MW−72
MW−80
RL
Standard

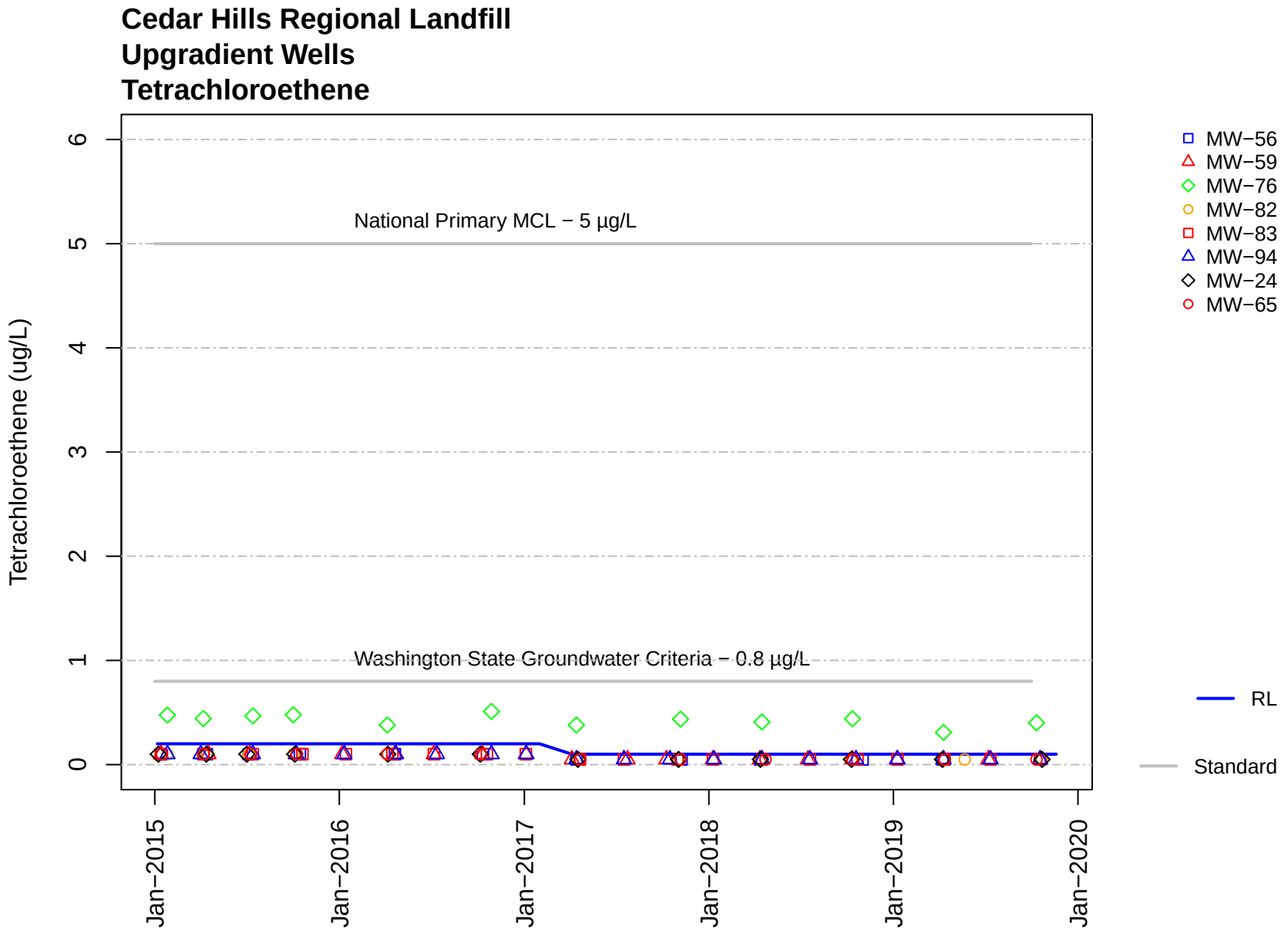

Cedar Hills Regional Landfill
Downgradient Wells
cis−1,2−Dichloroethene
National Primary MCL − 70 µg/L
Washington State Groundwater Criteria − 70 µg/L
cis−1,2−dichloroethene (ug/L)
0
20
40
60
80
Jan−2015
Jan−2016
Jan−2017
Jan−2018
Jan−2019
Jan−2020
MW−74R
MW−75
MW−87
MW−85
MW−86
MW−88
MW−89
RL
Standard

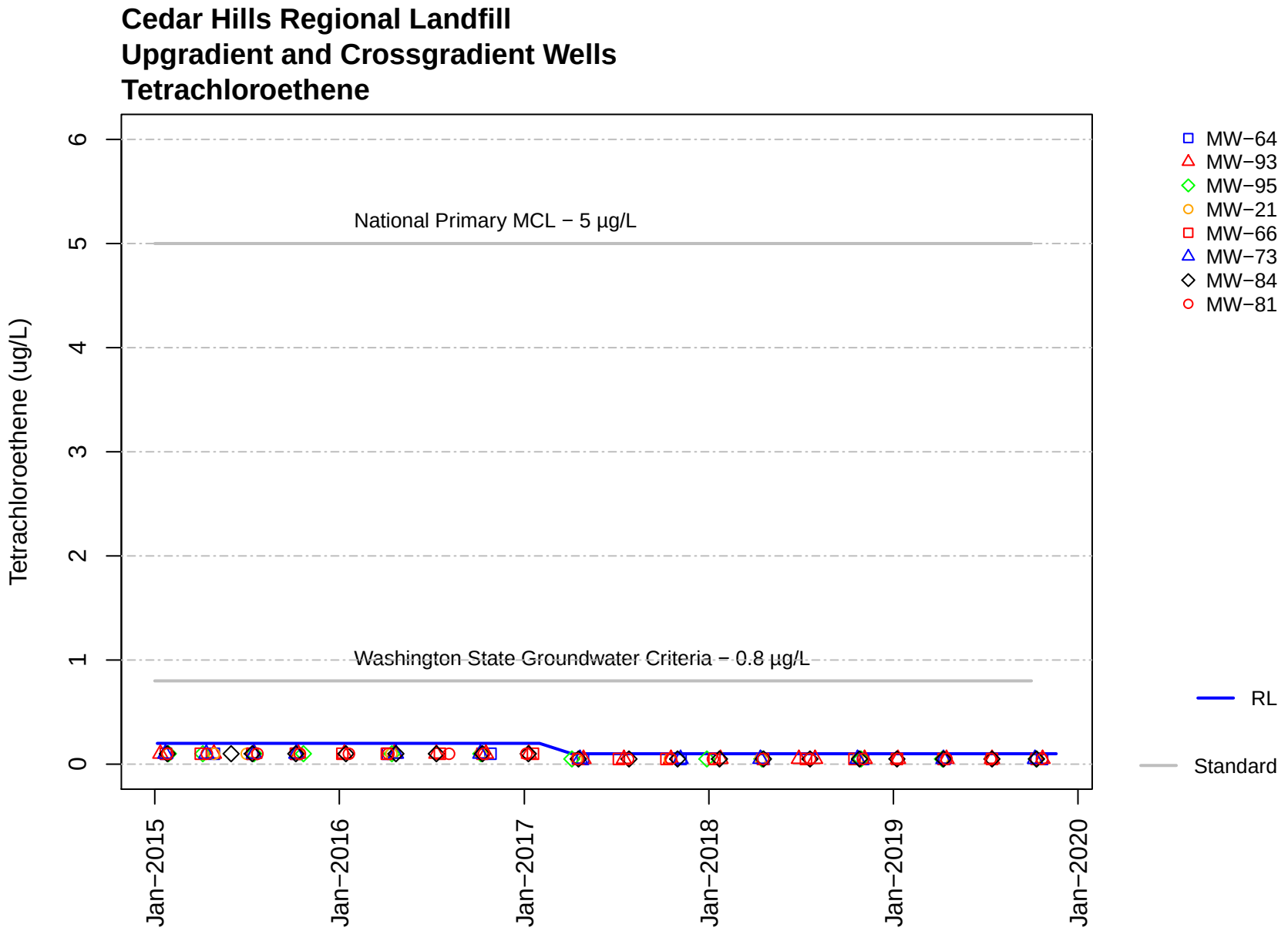

Cedar Hills Regional Landfill
Upgradient Wells
Dichlorodifluoromethane
Dichlorodifluoromethane (ug/L)
0.00
0.05
0.10
0.15
0.20
Jan−2015
Jan−2016
Jan−2017
Jan−2018
Jan−2019
Jan−2020
MW−56
MW−59
MW−76
MW−82
MW−83
MW−94
MW−24
MW−65
RL

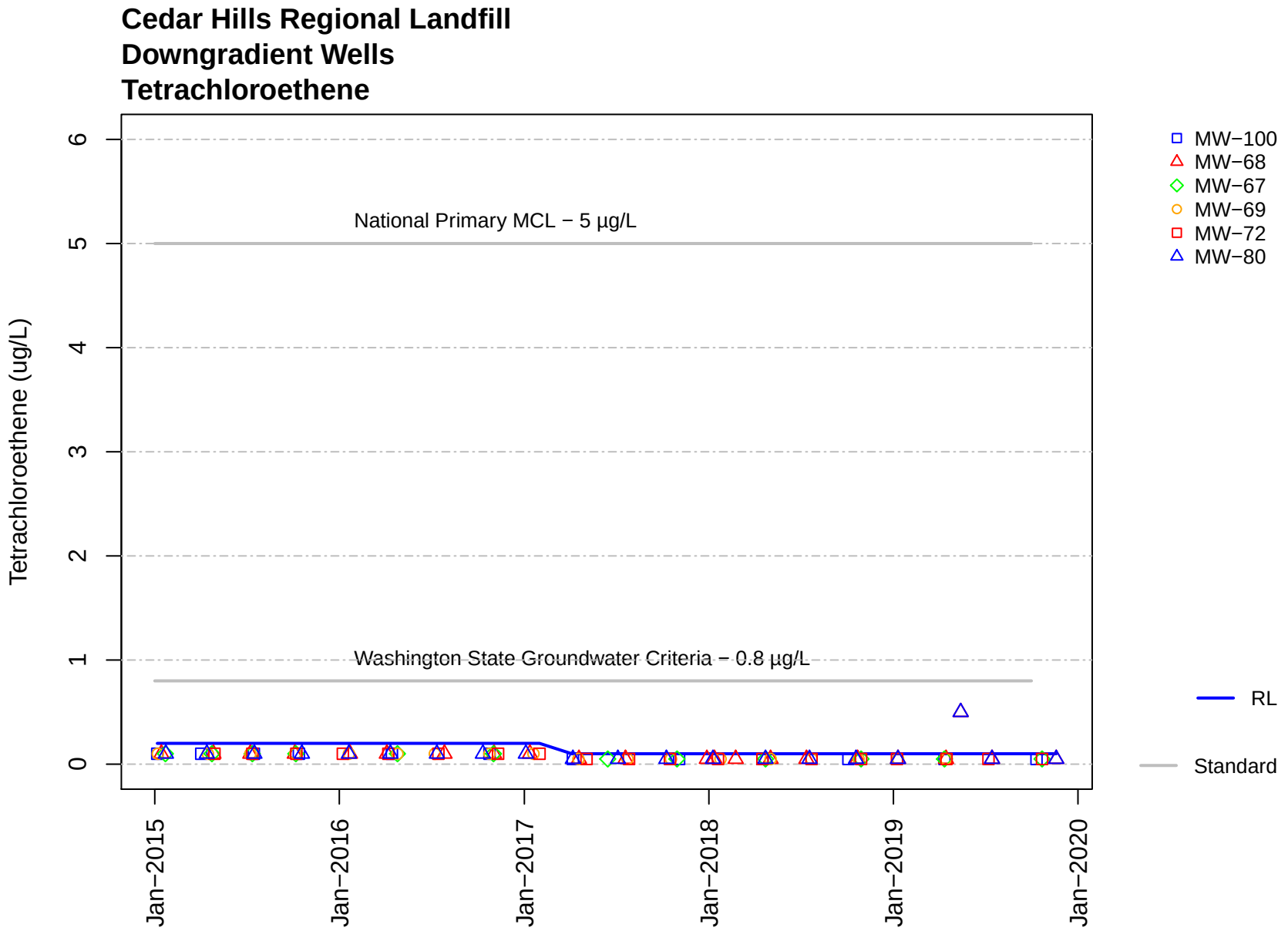

Cedar Hills Regional Landfill
Upgradient and Crossgradient Wells
Dichlorodifluoromethane
Dichlorodifluoromethane (ug/L)
0.00
0.05
0.10
0.15
0.20
Jan−2015
Jan−2016
Jan−2017
Jan−2018
Jan−2019
Jan−2020
MW−64
MW−93
MW−95
MW−21
MW−66
MW−73
MW−84
MW−81
RL

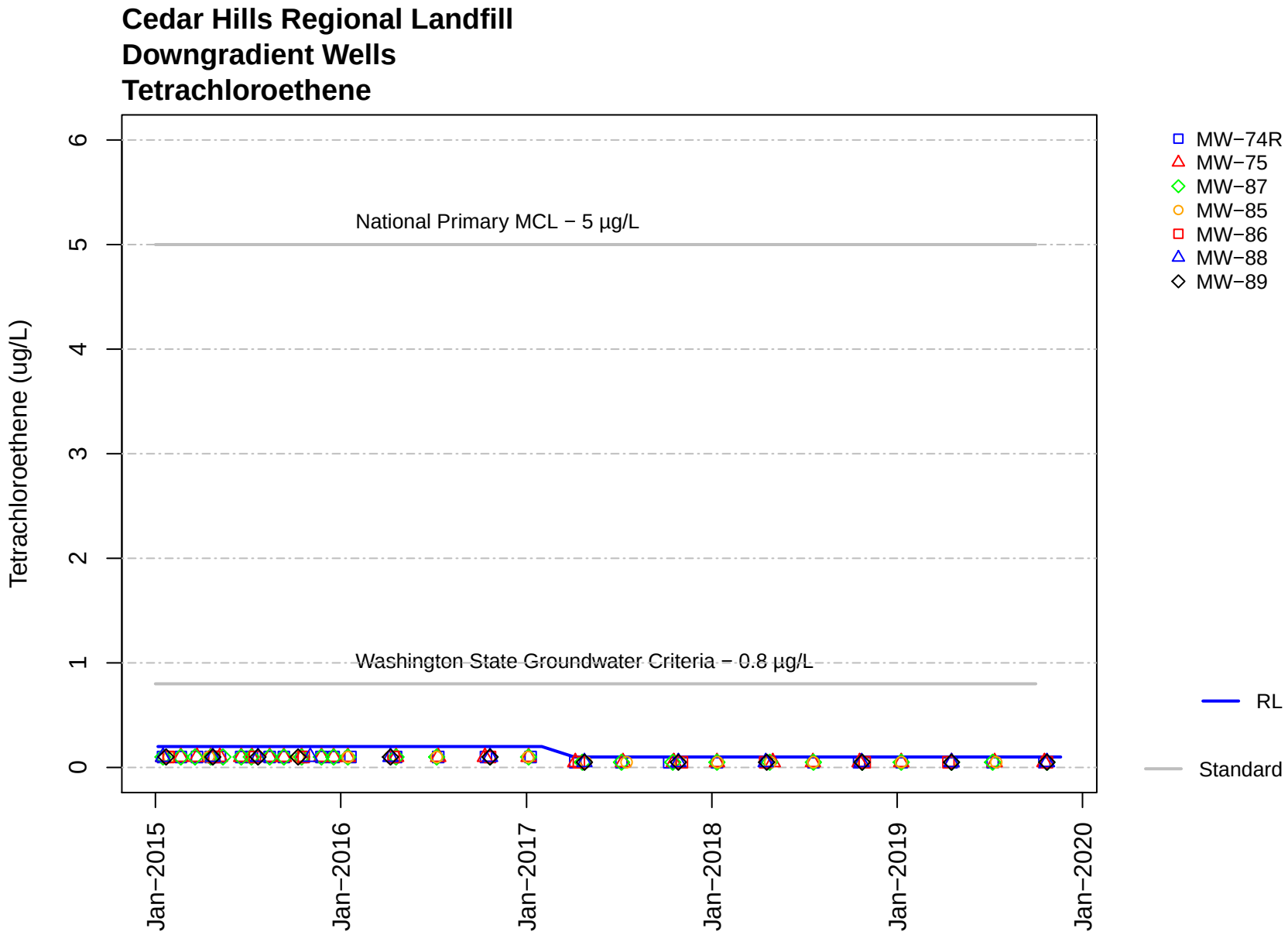

Cedar Hills Regional Landfill
Downgradient Wells
Dichlorodifluoromethane
Dichlorodifluoromethane (ug/L)
0.00
0.05
0.10
0.15
0.20
Jan−2015
Jan−2016
Jan−2017
Jan−2018
Jan−2019
Jan−2020
MW−100
MW−68
MW−67
MW−69
MW−72
MW−80
RL

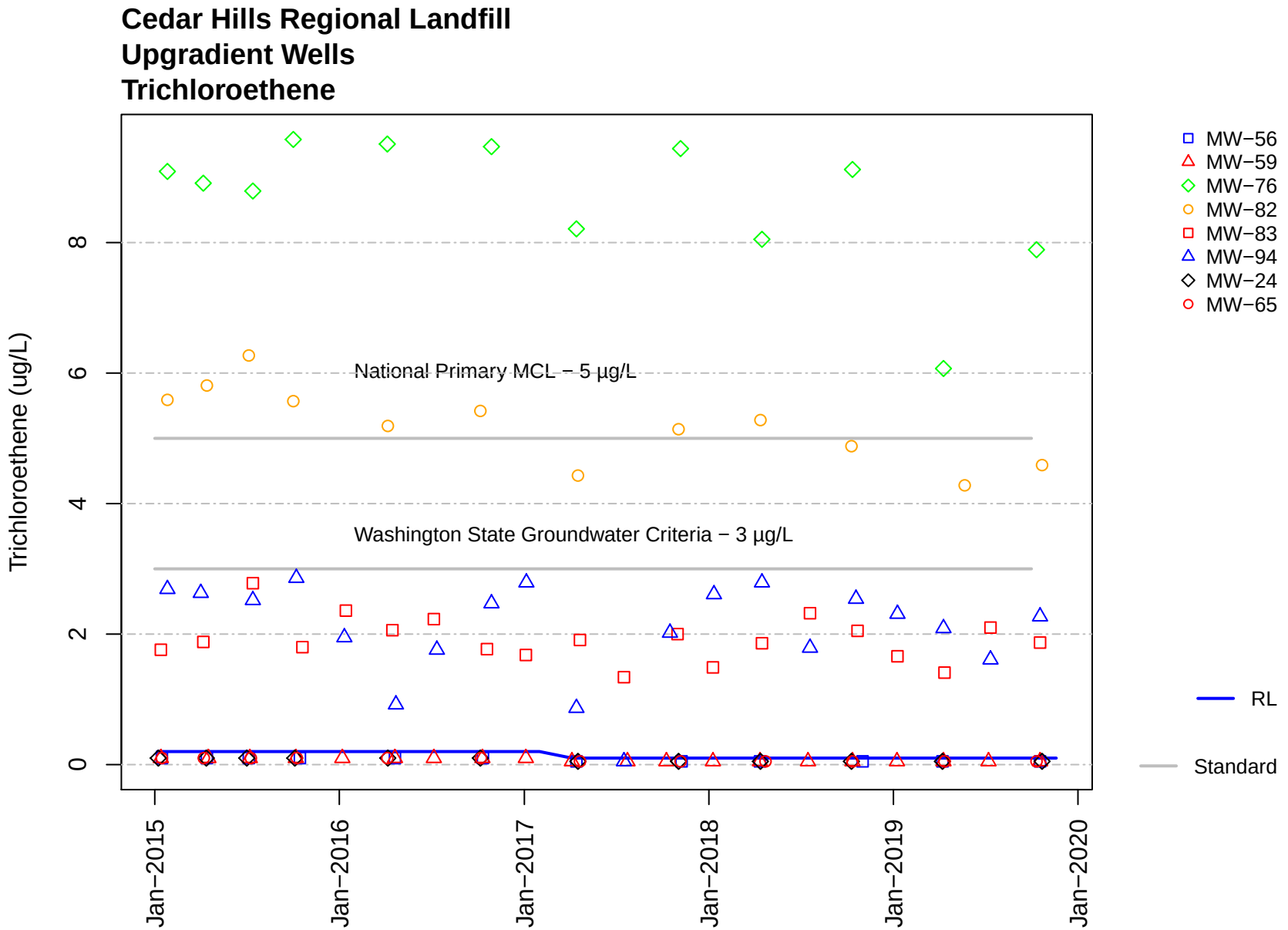

Cedar Hills Regional Landfill
Downgradient Wells
Dichlorodifluoromethane
Dichlorodifluoromethane (ug/L)
0.00
0.05
0.10
0.15
0.20
Jan−2015
Jan−2016
Jan−2017
Jan−2018
Jan−2019
Jan−2020
MW−74R
MW−75
MW−87
MW−85
MW−86
MW−88
MW−89
RL

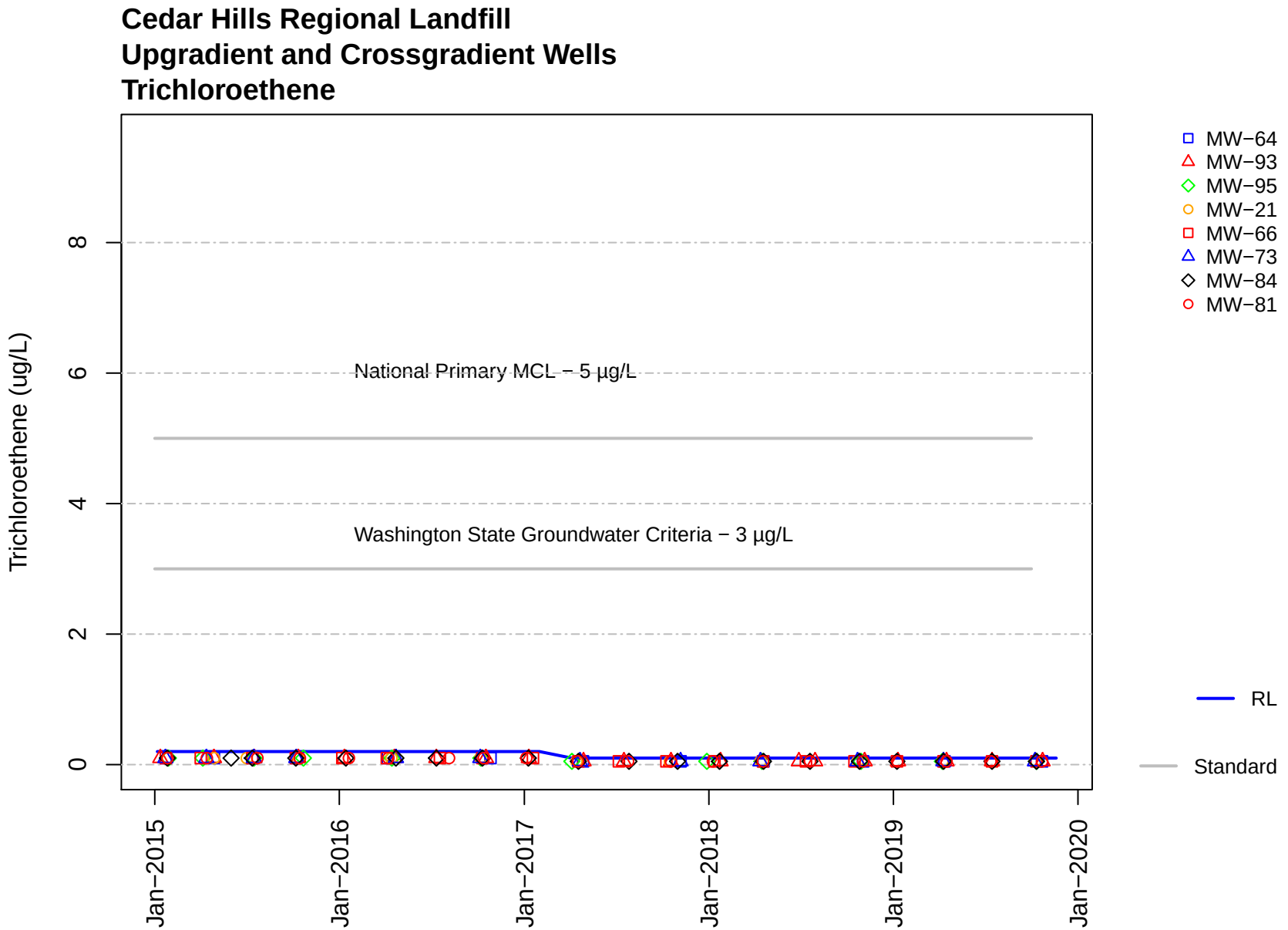

Cedar Hills Regional Landfill
Upgradient Wells
Tetrachloroethene
Tetrachloroethene (ug/L)
0
1
2
3
4
5
6
National Primary MCL − 5 µg/L
Washington State Groundwater Criteria − 0.8 µg/L
Jan−2015
Jan−2016
Jan−2017
Jan−2018
Jan−2019
Jan−2020
MW−56
MW−59
MW−76
MW−82
MW−83
MW−94
MW−24
MW−65
RL
Standard

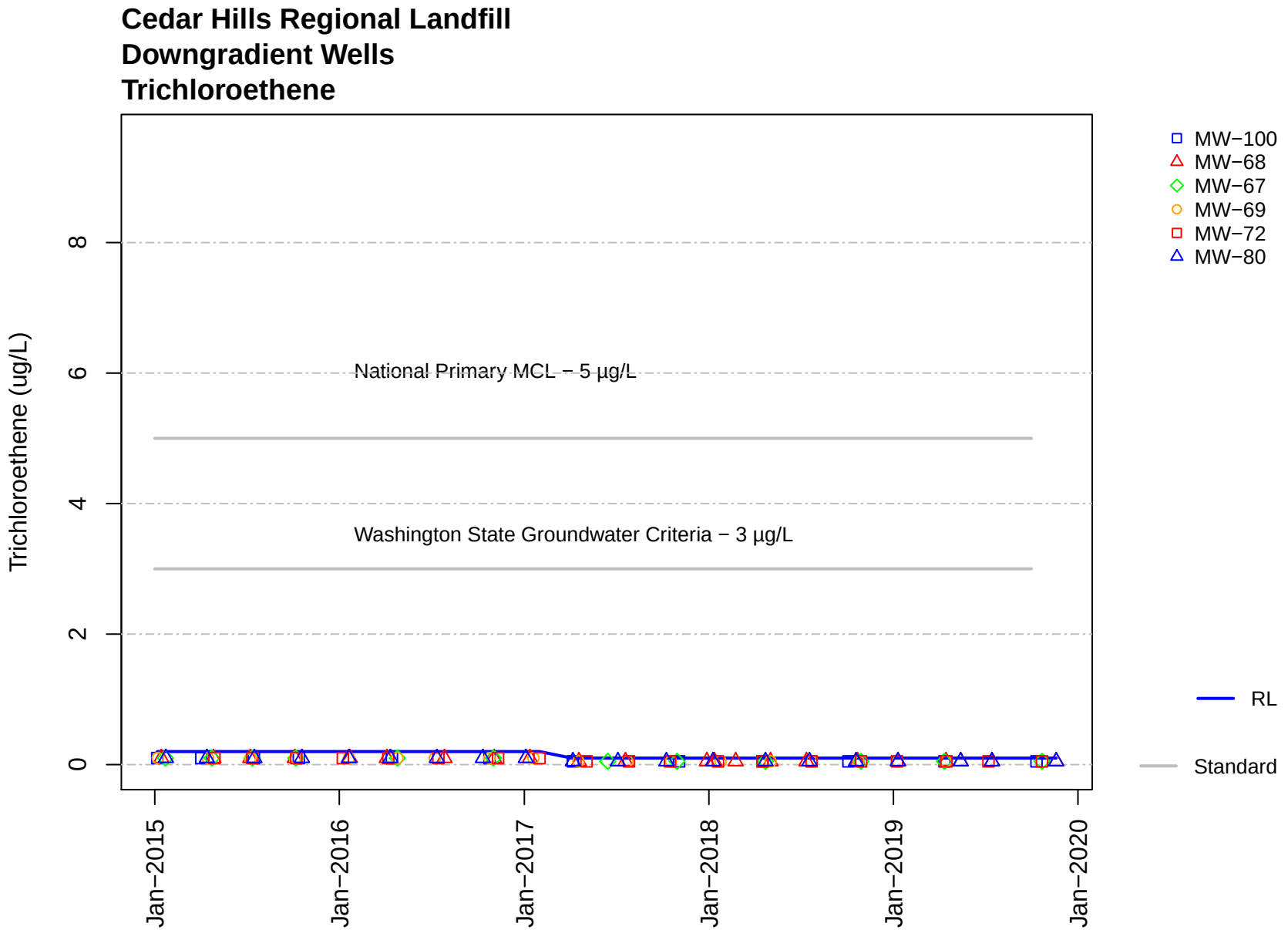

Cedar Hills Regional Landfill
Upgradient and Crossgradient Wells
Tetrachloroethene
Tetrachloroethene (ug/L)
0
1
2
3
4
5
6
National Primary MCL − 5 µg/L
Washington State Groundwater Criteria − 0.8 µg/L
Jan−2015
Jan−2016
Jan−2017
Jan−2018
Jan−2019
Jan−2020
MW−64
MW−93
MW−95
MW−21
MW−66
MW−73
MW−84
MW−81
RL
Standard

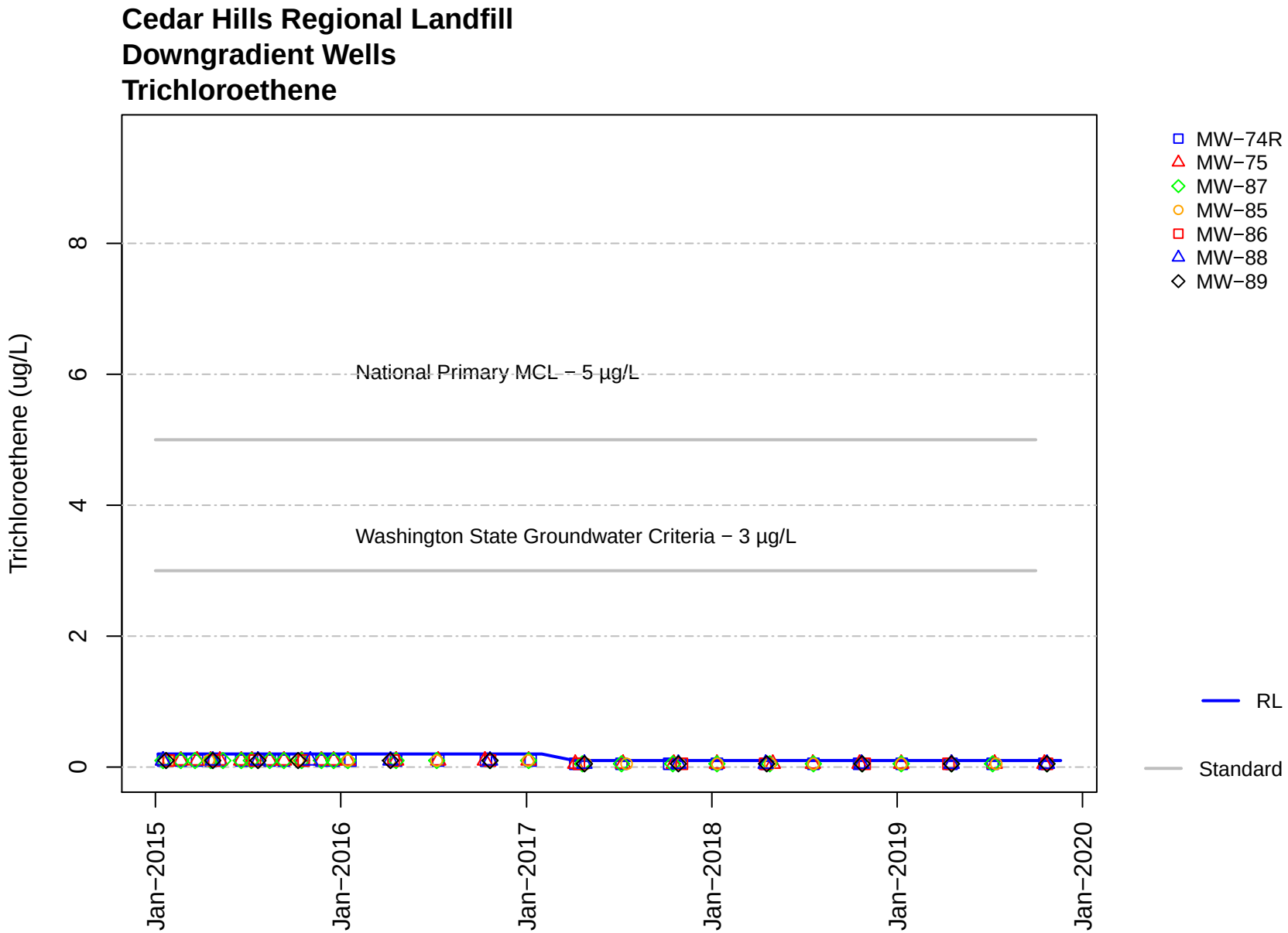

Cedar Hills Regional Landfill
Downgradient Wells
Tetrachloroethene
Tetrachloroethene (ug/L)
0
1
2
3
4
5
6
National Primary MCL − 5 µg/L
Washington State Groundwater Criteria − 0.8 µg/L
Jan−2015
Jan−2016
Jan−2017
Jan−2018
Jan−2019
Jan−2020
MW−100
MW−68
MW−67
MW−69
MW−72
MW−80
RL
Standard

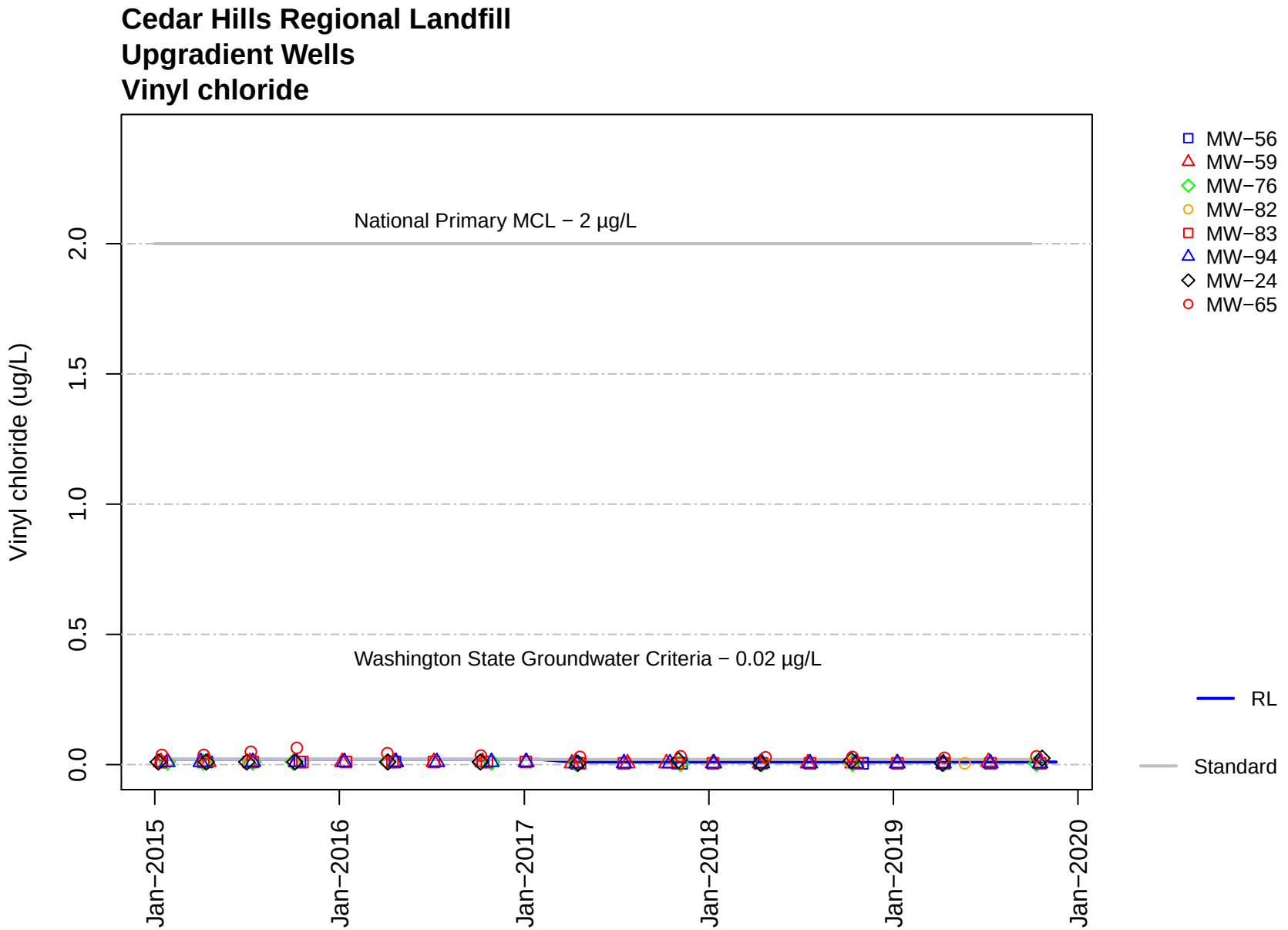

Cedar Hills Regional Landfill
Downgradient Wells
Tetrachloroethene
Tetrachloroethene (ug/L)
0
1
2
3
4
5
6
National Primary MCL − 5 µg/L
Washington State Groundwater Criteria − 0.8 µg/L
Jan−2015
Jan−2016
Jan−2017
Jan−2018
Jan−2019
Jan−2020
MW−74R
MW−75
MW−87
MW−85
MW−86
MW−88
MW−89
RL
Standard

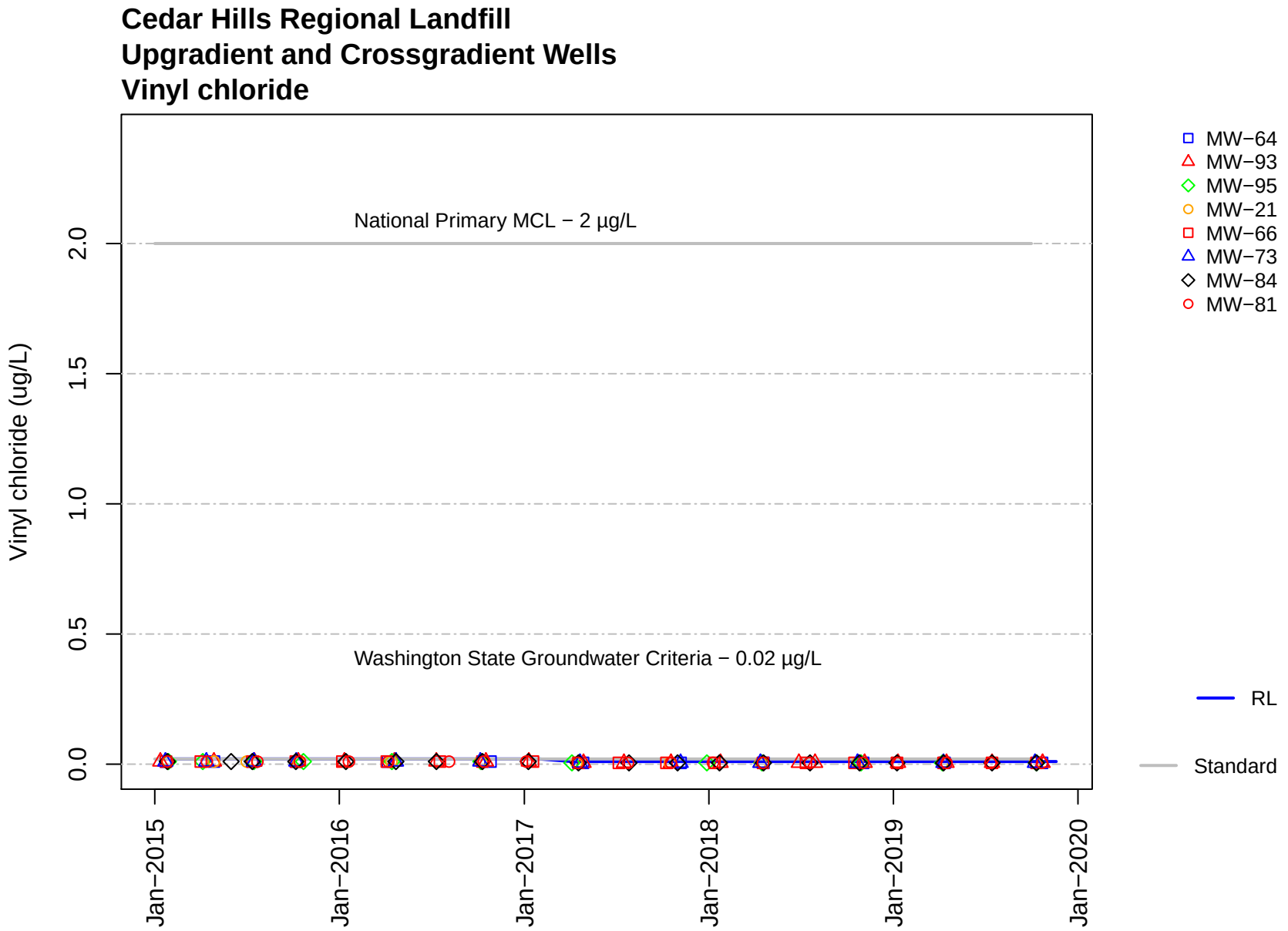

Cedar Hills Regional Landfill
Upgradient Wells
Trichloroethene
Trichloroethene (ug/L)
0
2
4
6
8
National Primary MCL − 5 µg/L
Washington State Groundwater Criteria − 3 µg/L
Jan−2015
Jan−2016
Jan−2017
Jan−2018
Jan−2019
Jan−2020
MW−56
MW−59
MW−76
MW−82
MW−83
MW−94
MW−24
MW−65
RL
Standard

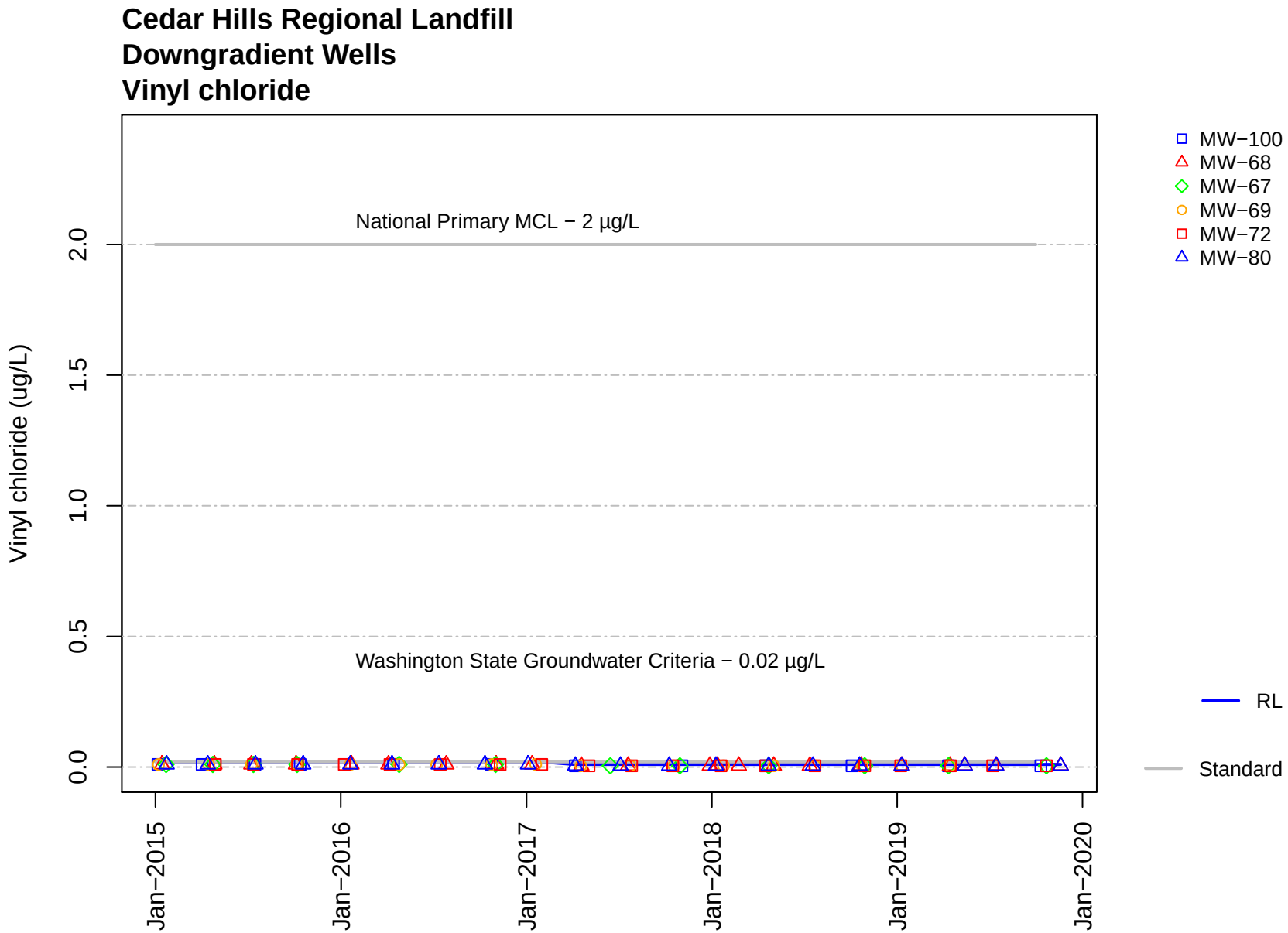

Cedar Hills Regional Landfill
Upgradient and Crossgradient Wells
Trichloroethene
Trichloroethene (ug/L)
0
2
4
6
8
National Primary MCL − 5 µg/L
Washington State Groundwater Criteria − 3 µg/L
Jan−2015
Jan−2016
Jan−2017
Jan−2018
Jan−2019
Jan−2020
MW−64
MW−93
MW−95
MW−21
MW−66
MW−73
MW−84
MW−81
RL
Standard

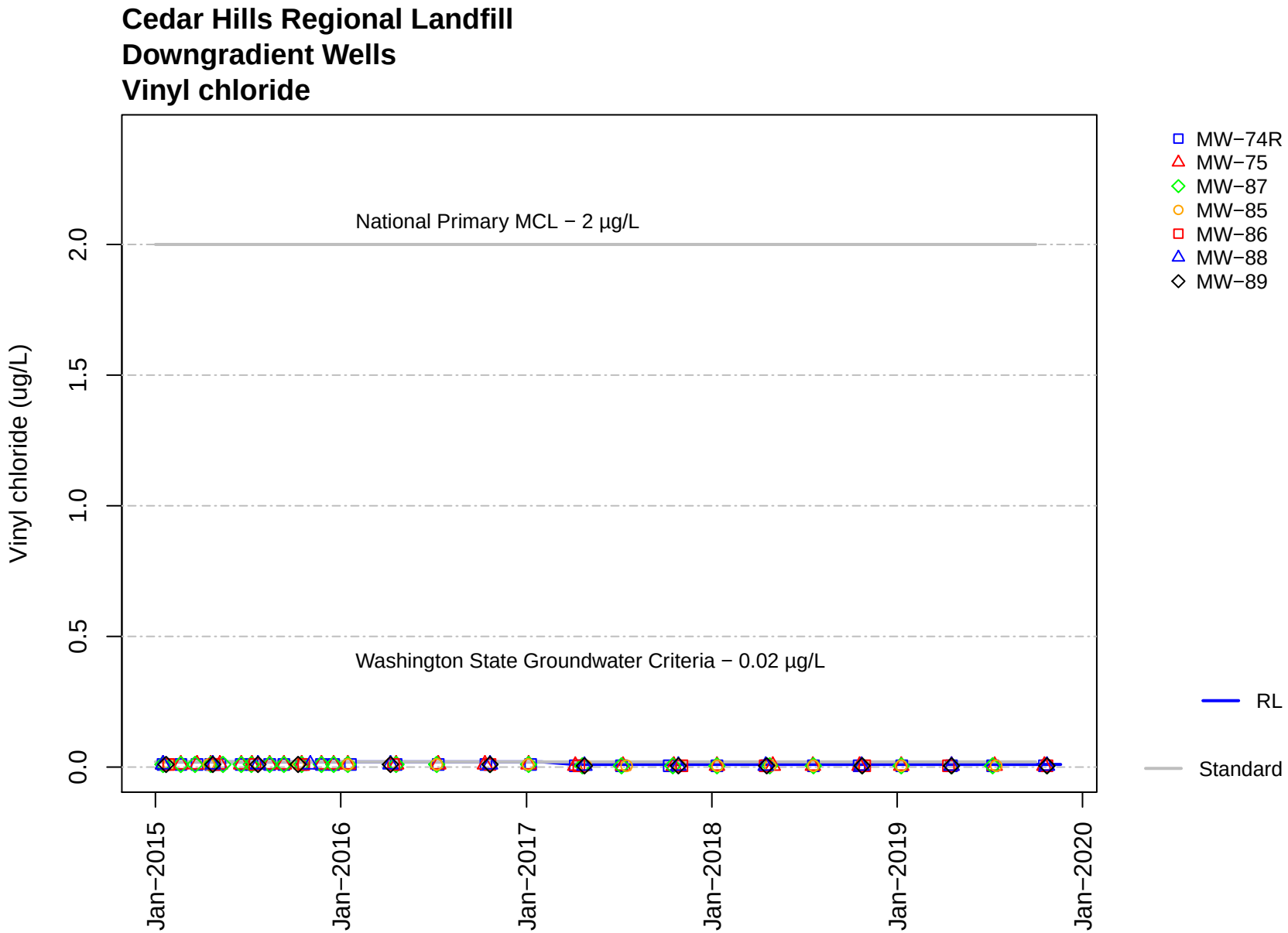

Cedar Hills Regional Landfill
Downgradient Wells
Trichloroethene
Trichloroethene (ug/L)
0
2
4
6
8
National Primary MCL − 5 µg/L
Washington State Groundwater Criteria − 3 µg/L
Jan−2015
Jan−2016
Jan−2017
Jan−2018
Jan−2019
Jan−2020
MW−100
MW−68
MW−67
MW−69
MW−72
MW−80
RL
Standard

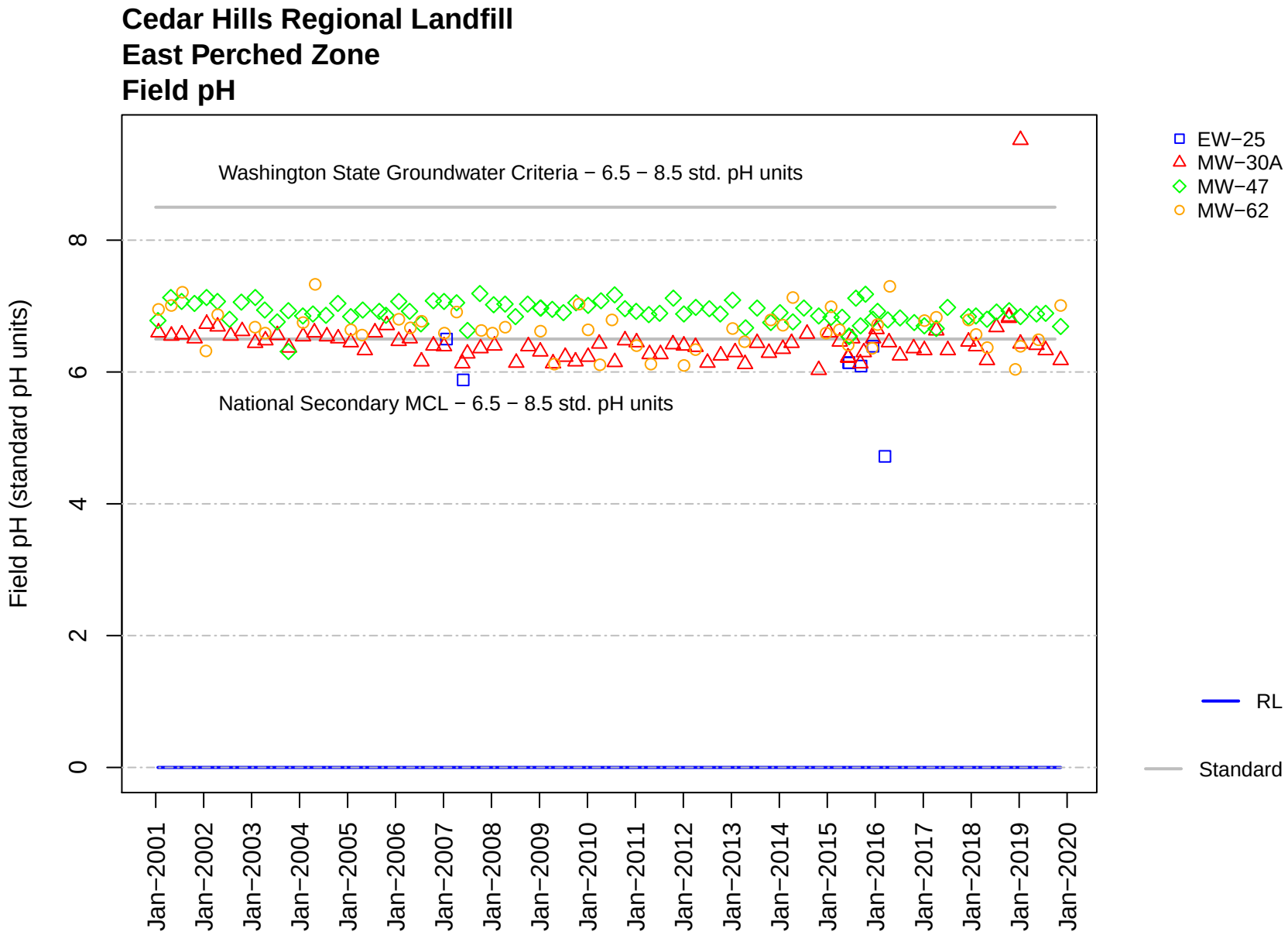

Cedar Hills Regional Landfill
Downgradient Wells
Trichloroethene
Trichloroethene (ug/L)
0
2
4
6
8
National Primary MCL − 5 µg/L
Washington State Groundwater Criteria − 3 µg/L
Jan−2015
Jan−2016
Jan−2017
Jan−2018
Jan−2019
Jan−2020
MW−74R
MW−75
MW−87
MW−85
MW−86
MW−88
MW−89
RL
Standard

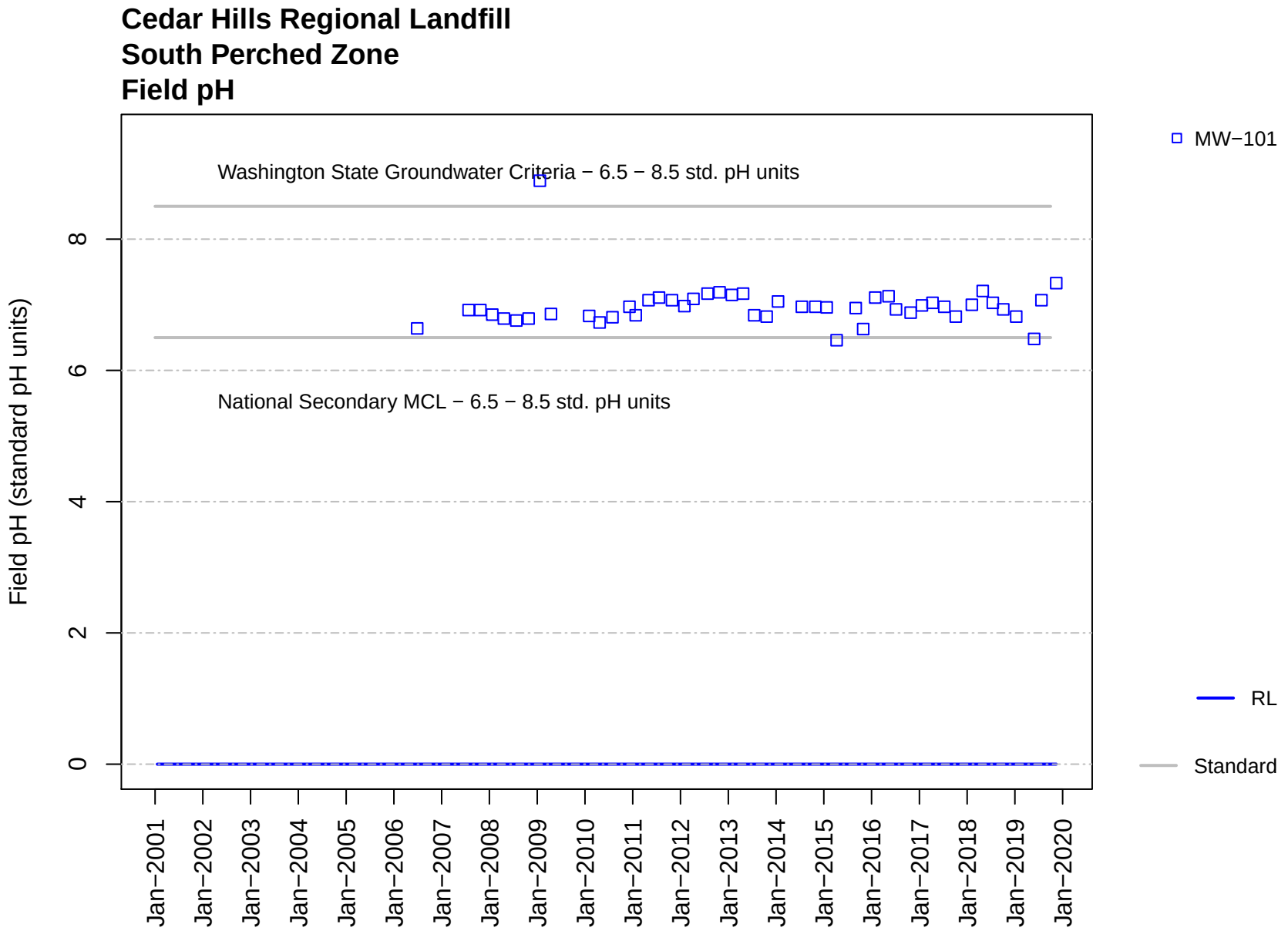

Cedar Hills Regional Landfill
Upgradient Wells
Vinyl chloride
Vinyl chloride (ug/L)
0.0
0.5
1.0
1.5
2.0
National Primary MCL − 2 µg/L
Washington State Groundwater Criteria − 0.02 µg/L
Jan−2015
Jan−2016
Jan−2017
Jan−2018
Jan−2019
Jan−2020
MW−56
MW−59
MW−76
MW−82
MW−83
MW−94
MW−24
MW−65
RL
Standard

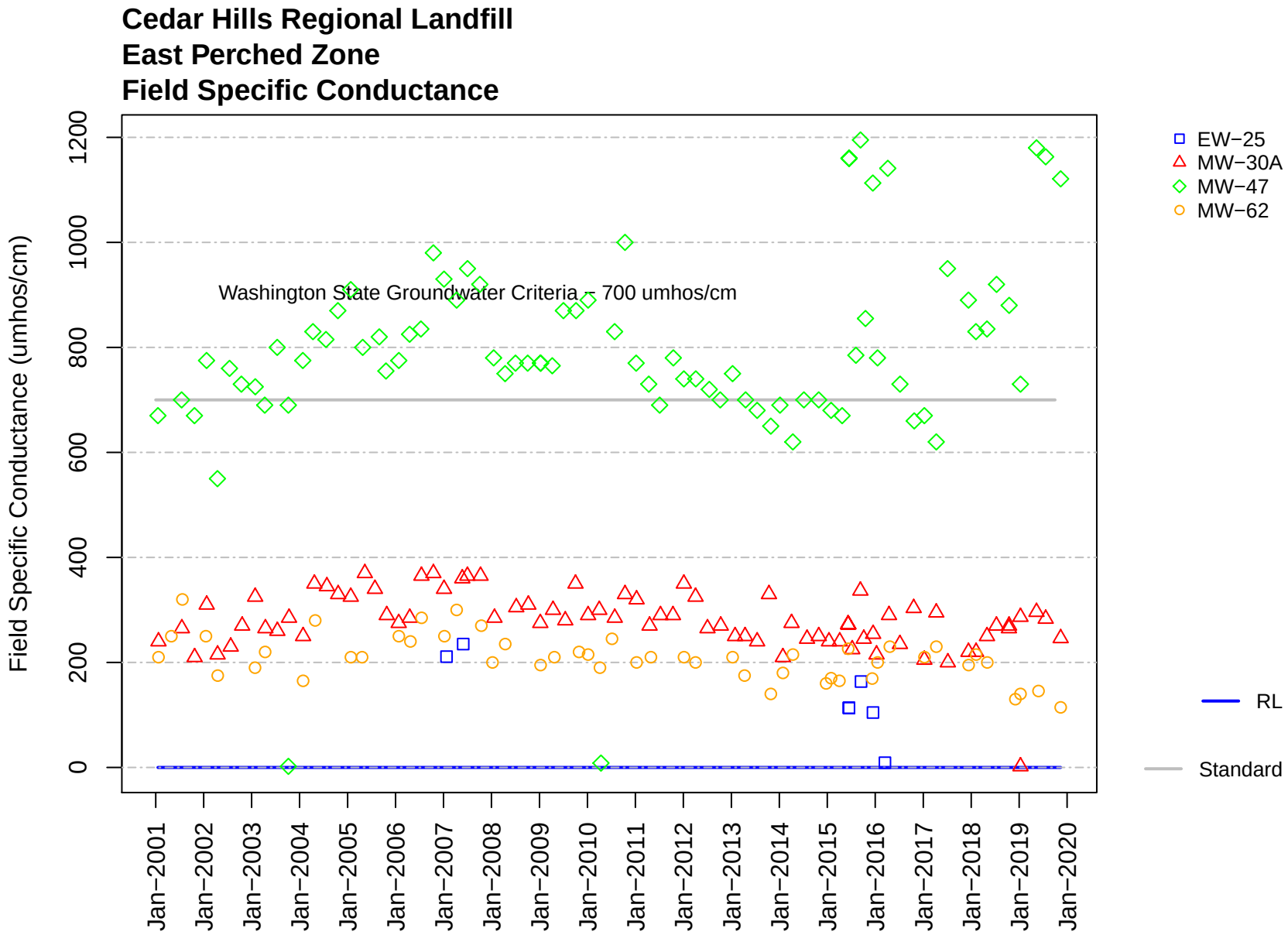

Cedar Hills Regional Landfill
Upgradient and Crossgradient Wells
Vinyl chloride
National Primary MCL − 2 µg/L
Washington State Groundwater Criteria − 0.02 µg/L
Vinyl chloride (ug/L)
0.0
0.5
1.0
1.5
2.0
Jan−2015
Jan−2016
Jan−2017
Jan−2018
Jan−2019
Jan−2020
MW−64
MW−93
MW−95
MW−21
MW−66
MW−73
MW−84
MW−81
RL
Standard

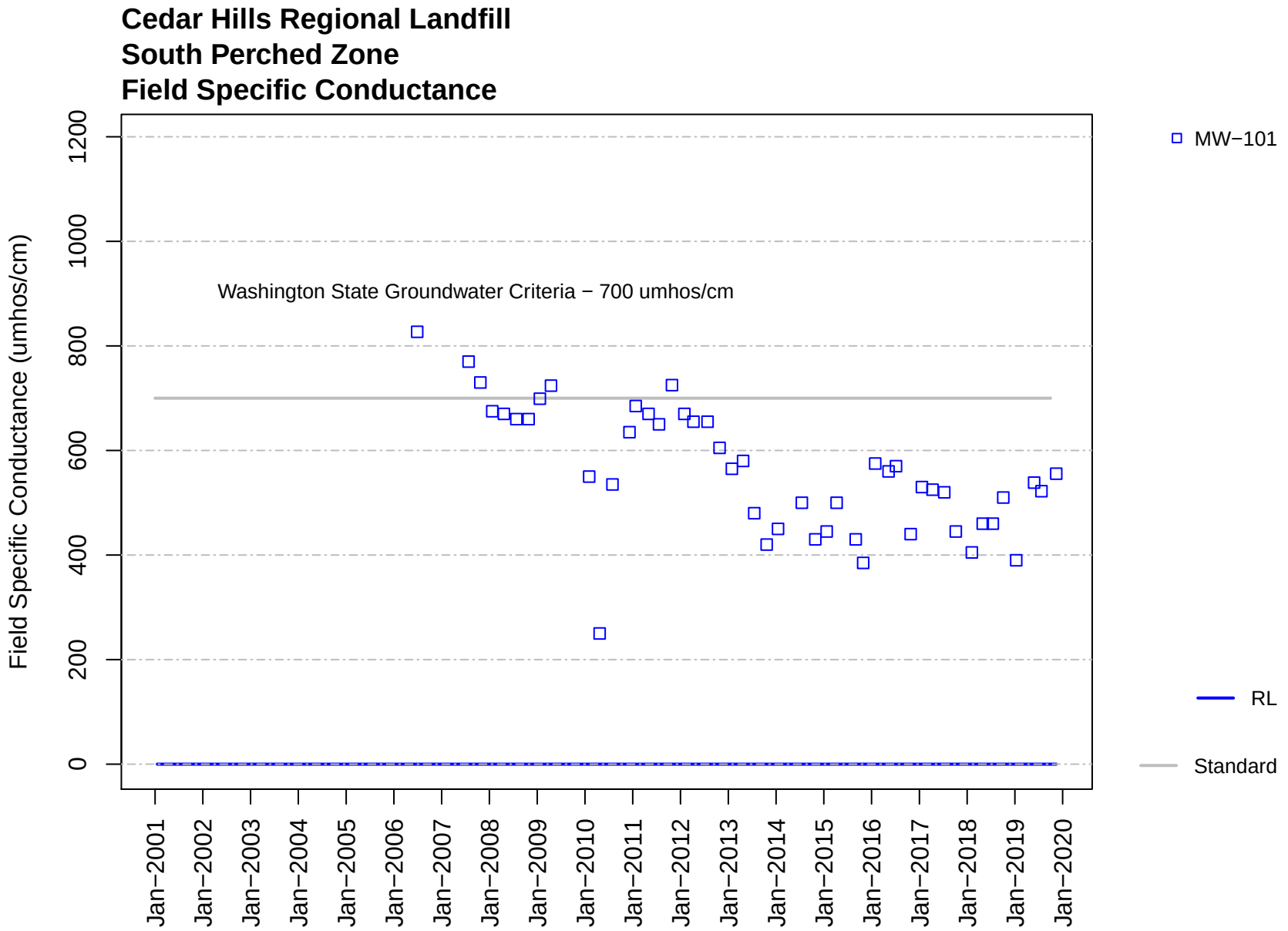

Cedar Hills Regional Landfill
Downgradient Wells
Vinyl chloride
Vinyl chloride (ug/L)
0.0
0.5
1.0
1.5
2.0
National Primary MCL − 2 µg/L
Washington State Groundwater Criteria − 0.02 µg/L
Jan−2015
Jan−2016
Jan−2017
Jan−2018
Jan−2019
Jan−2020
MW−100
MW−68
MW−67
MW−69
MW−72
MW−80
RL
Standard

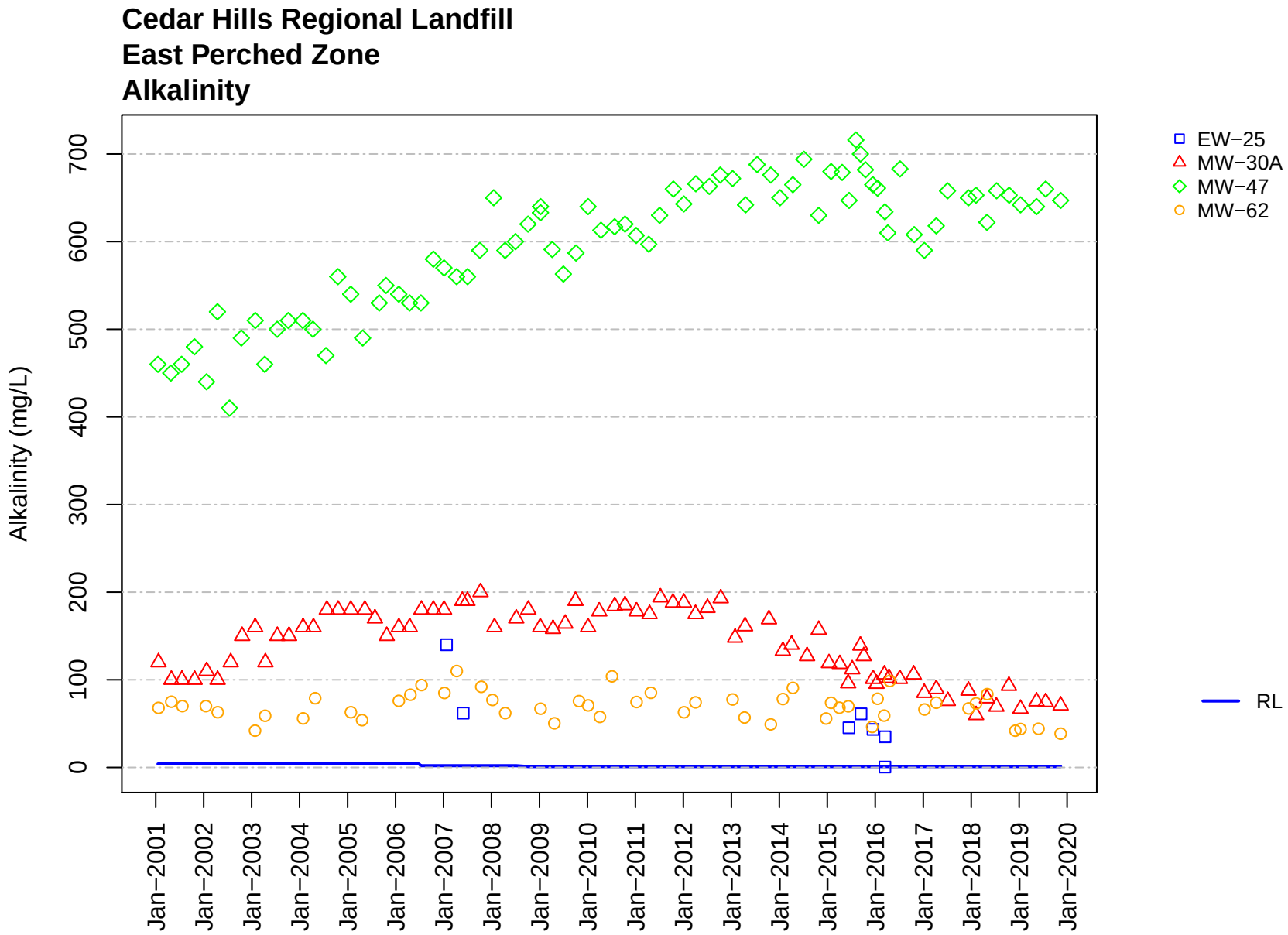

Cedar Hills Regional Landfill
Downgradient Wells
Vinyl chloride
Vinyl chloride (ug/L)
0.0
0.5
1.0
1.5
2.0
National Primary MCL − 2 µg/L
Washington State Groundwater Criteria − 0.02 µg/L
Jan−2015
Jan−2016
Jan−2017
Jan−2018
Jan−2019
Jan−2020
MW−74R
MW−75
MW−87
MW−85
MW−86
MW−88
MW−89
RL
Standard

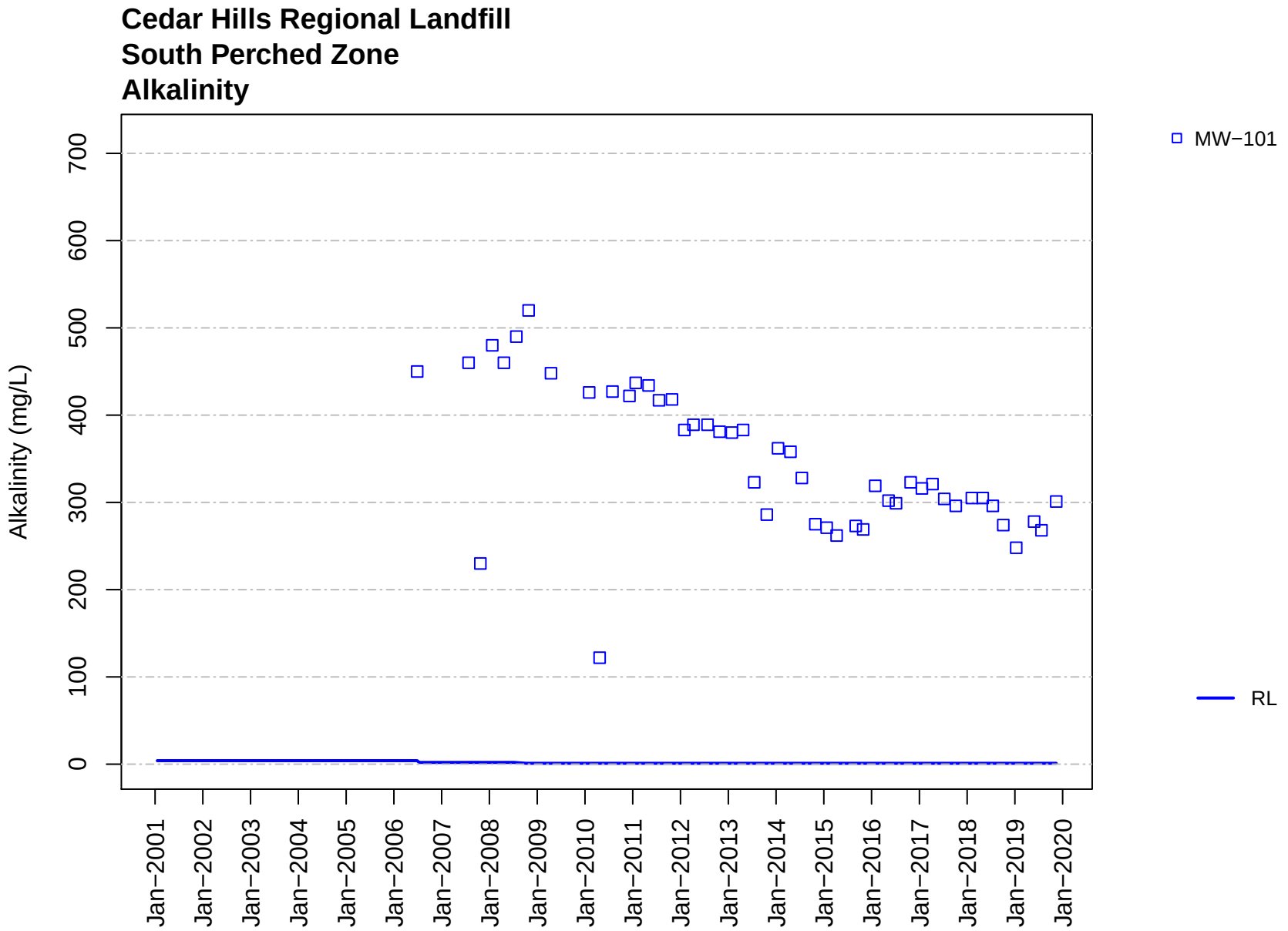

Cedar Hills Regional Landfill
East Perched Zone
Field pH
Washington State Groundwater Criteria − 6.5 − 8.5 std. pH units
National Secondary MCL − 6.5 − 8.5 std. pH units
Field pH (standard pH units)
0
2
4
6
8
Jan−2001
Jan−2002
Jan−2003
Jan−2004
Jan−2005
Jan−2006
Jan−2007
Jan−2008
Jan−2009
Jan−2010
Jan−2011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

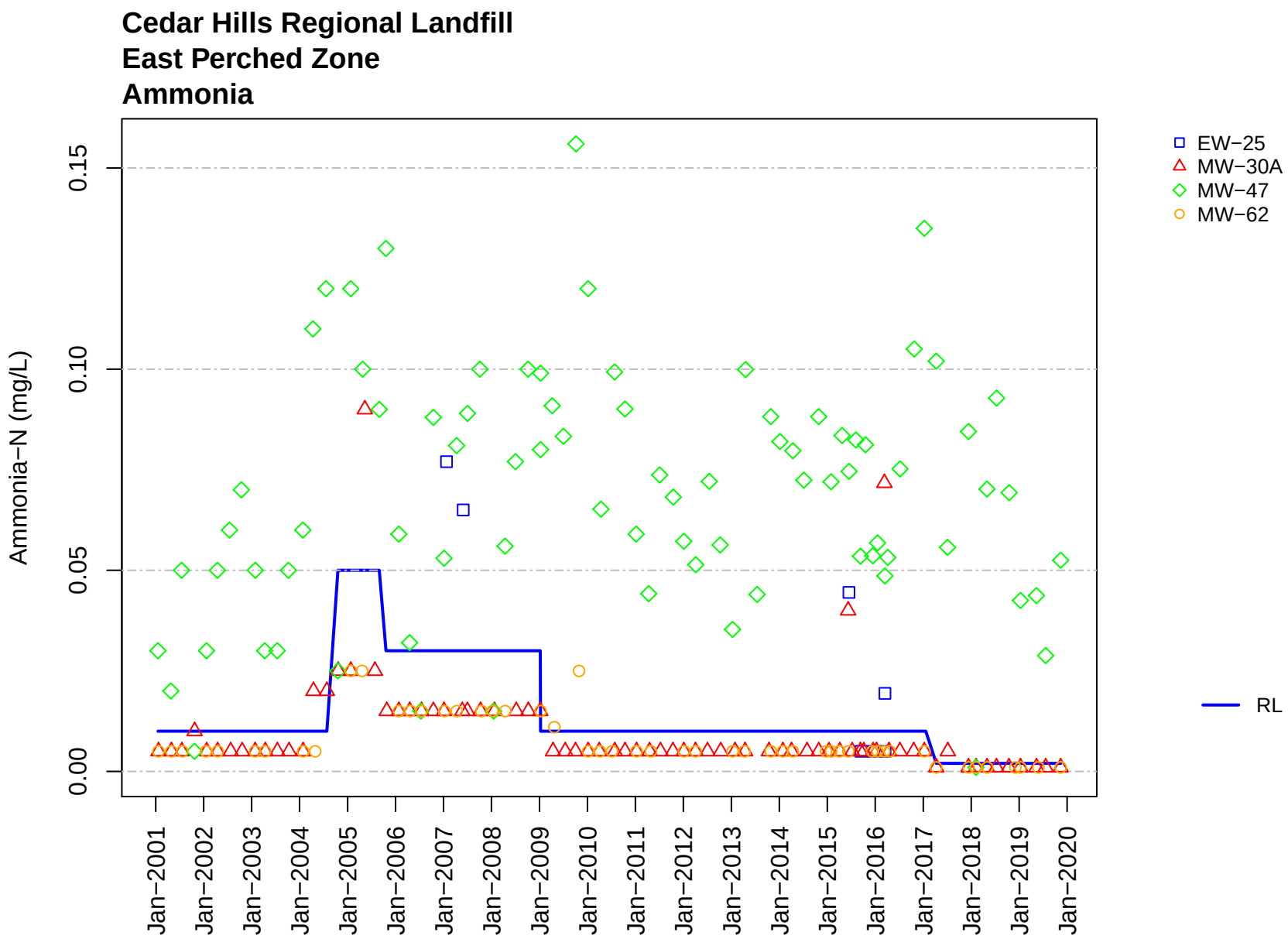

Cedar Hills Regional Landfill
South Perched Zone
Field pH
Washington State Groundwater Criteria − 6.5 − 8.5 std. pH units
National Secondary MCL − 6.5 − 8.5 std. pH units
Field pH (standard pH units)
0
2
4
6
8
Jan−2001
Jan−2002
Jan−2003
Jan−2004
Jan−2005
Jan−2006
Jan−2007
Jan−2008
Jan−2009
Jan−2010
Jan−2011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

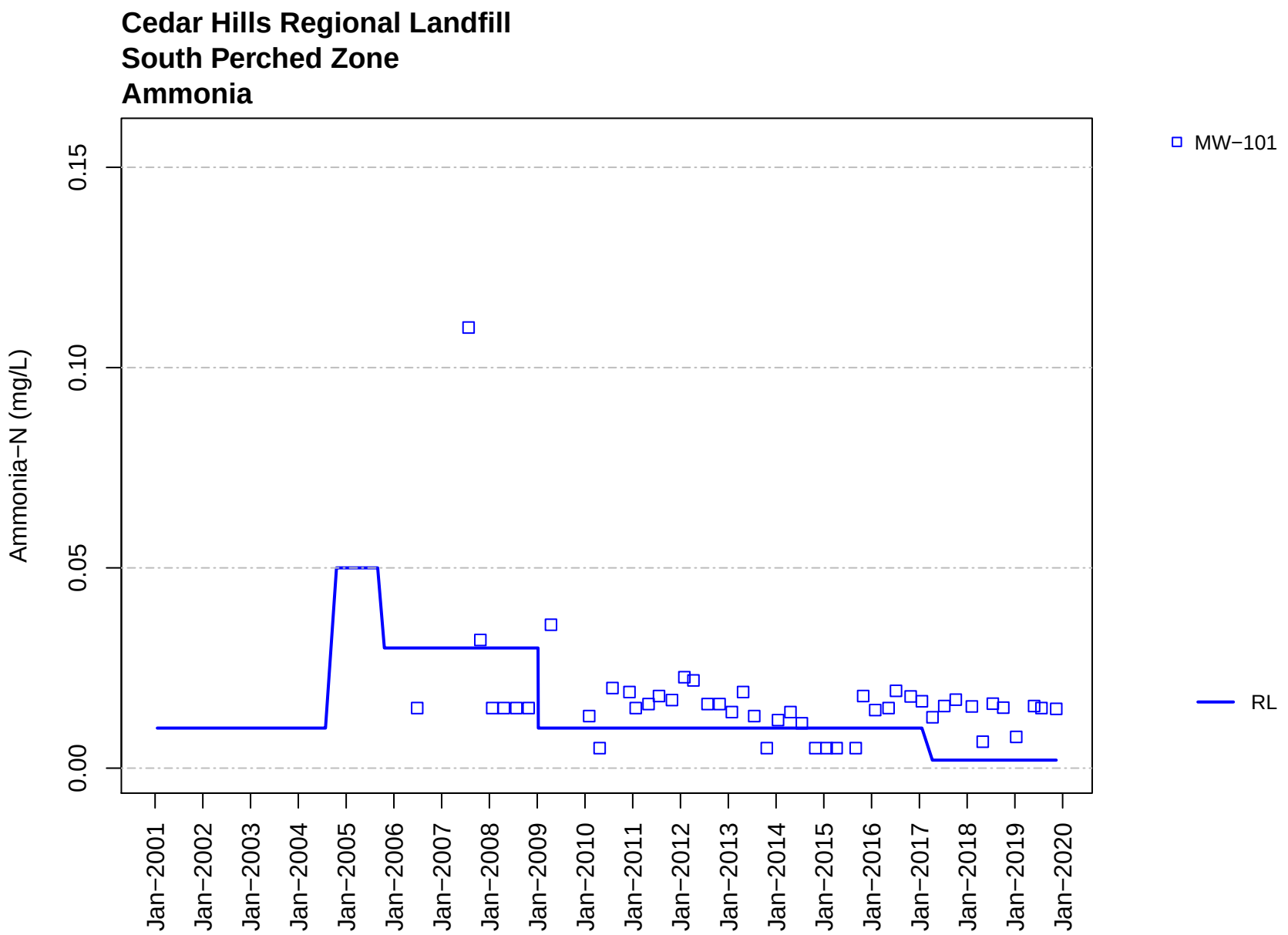

Cedar Hills Regional Landfill
East Perched Zone
Field Specific Conductance
Field Specific Conductance (umhos/cm)
0
200
400
600
800
1000
1200
Washington State Groundwater Criteria – 700 umhos/cm
Jan–2001
Jan–2002
Jan–2003
Jan–2004
Jan–2005
Jan–2006
Jan–2007
Jan–2008
Jan–2009
Jan–2010
Jan–2011
Jan–2012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

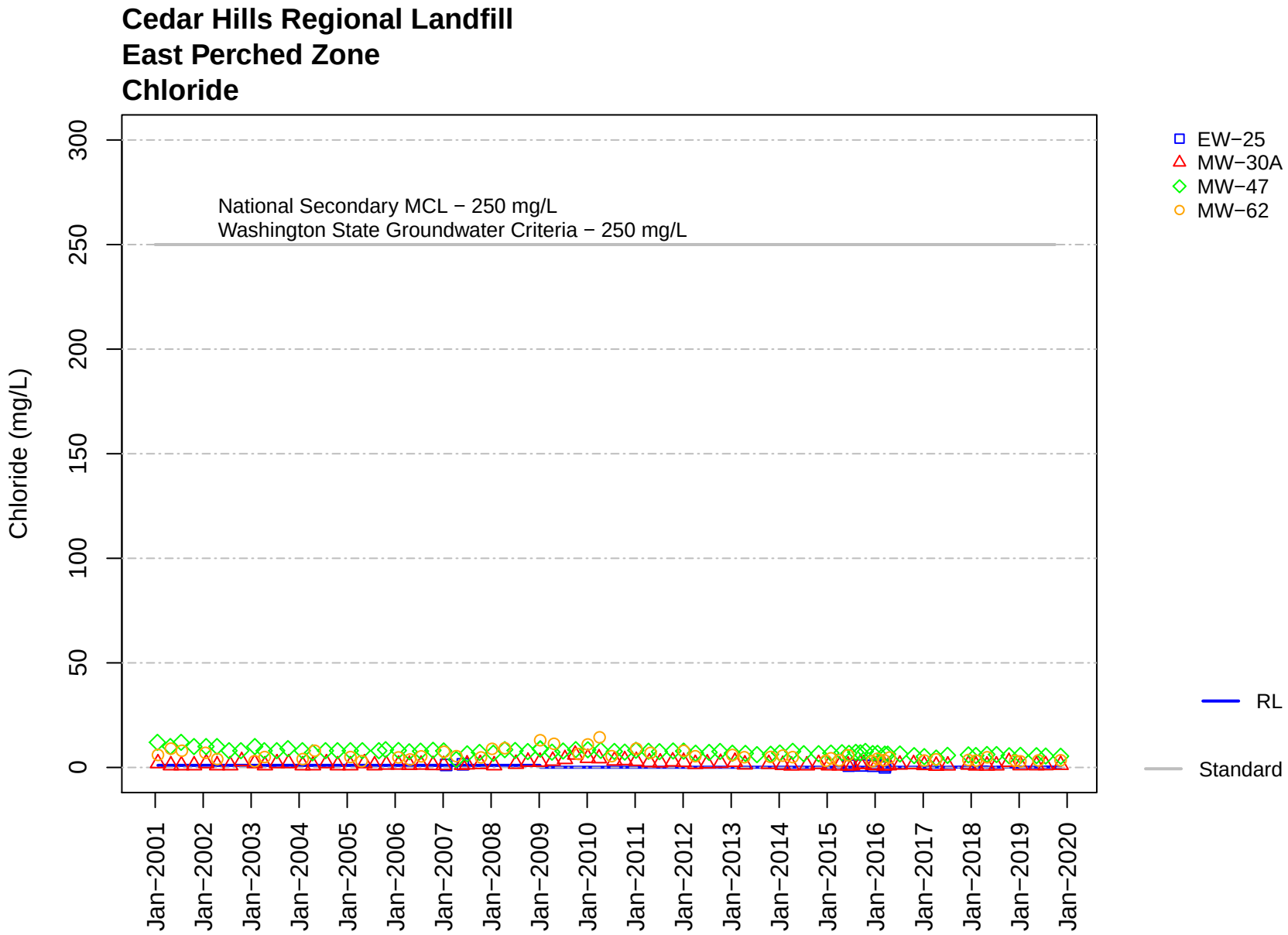

Cedar Hills Regional Landfill
South Perched Zone
Field Specific Conductance
Field Specific Conductance (umhos/cm)
0
200
400
600
800
1000
1200
Washington State Groundwater Criteria − 700 umhos/cm
Jan−2001
Jan−2002
Jan−2003
Jan−2004
Jan−2005
Jan−2006
Jan−2007
Jan−2008
Jan−2009
Jan−2010
Jan−2011
Jan−2012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

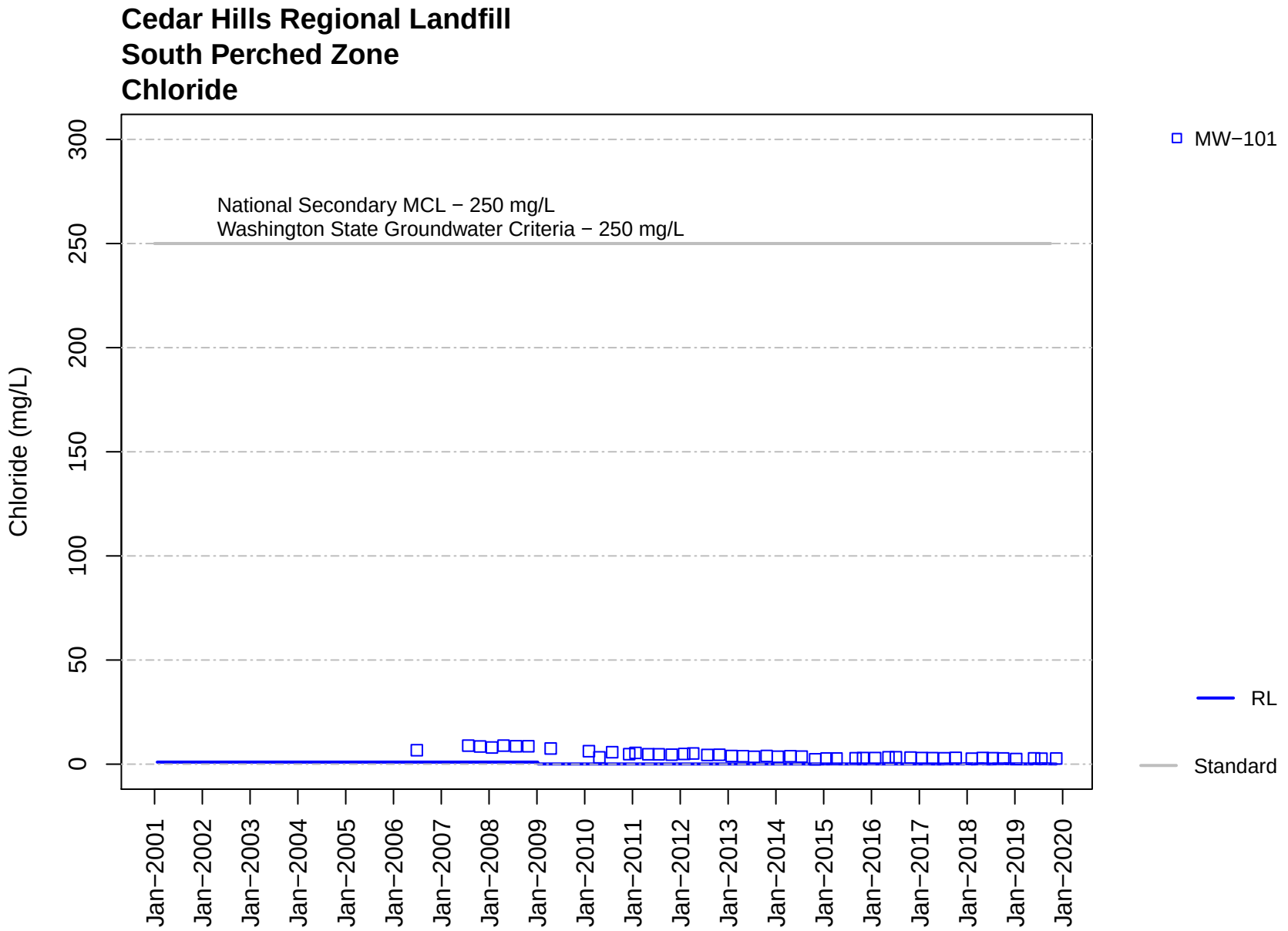

Cedar Hills Regional Landfill
East Perched Zone
Alkalinity
Alkalinity (mg/L)
0
100
200
300
400
500
600
700
Jan−2001
Jan−2002
Jan−2003
Jan−2004
Jan−2005
Jan−2006
Jan−2007
Jan−2008
Jan−2009
Jan−2010
Jan−2011
Jan−2012
Jan−2013
Jan−2014
Jan−2015
Jan−2016
Jan−2017
Jan−2018
Jan−2019
Jan−2020
EW−25
MW−30A
MW−47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

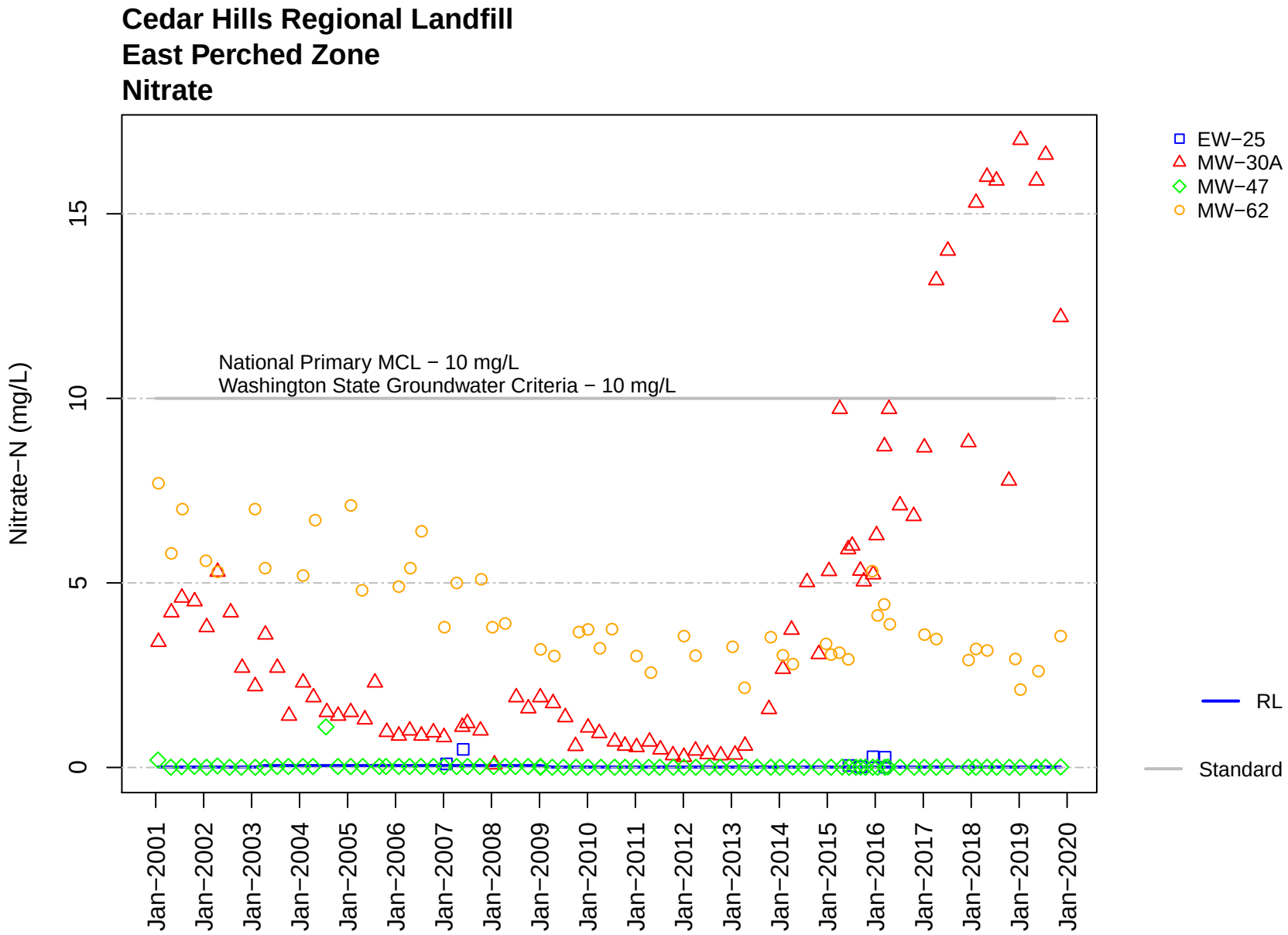

Cedar Hills Regional Landfill
South Perched Zone
Alkalinity
Alkalinity (mg/L)
0
100
200
300
400
500
600
700
Jan−2001
Jan−2002
Jan−2003
Jan−2004
Jan−2005
Jan−2006
Jan−2007
Jan−2008
Jan−2009
Jan−2010
Jan−2011
Jan−2012
Jan−2013
Jan−2014
Jan−2015
Jan−2016
Jan−2017
Jan−2018
Jan−2019
Jan−2020
MW−101
RL

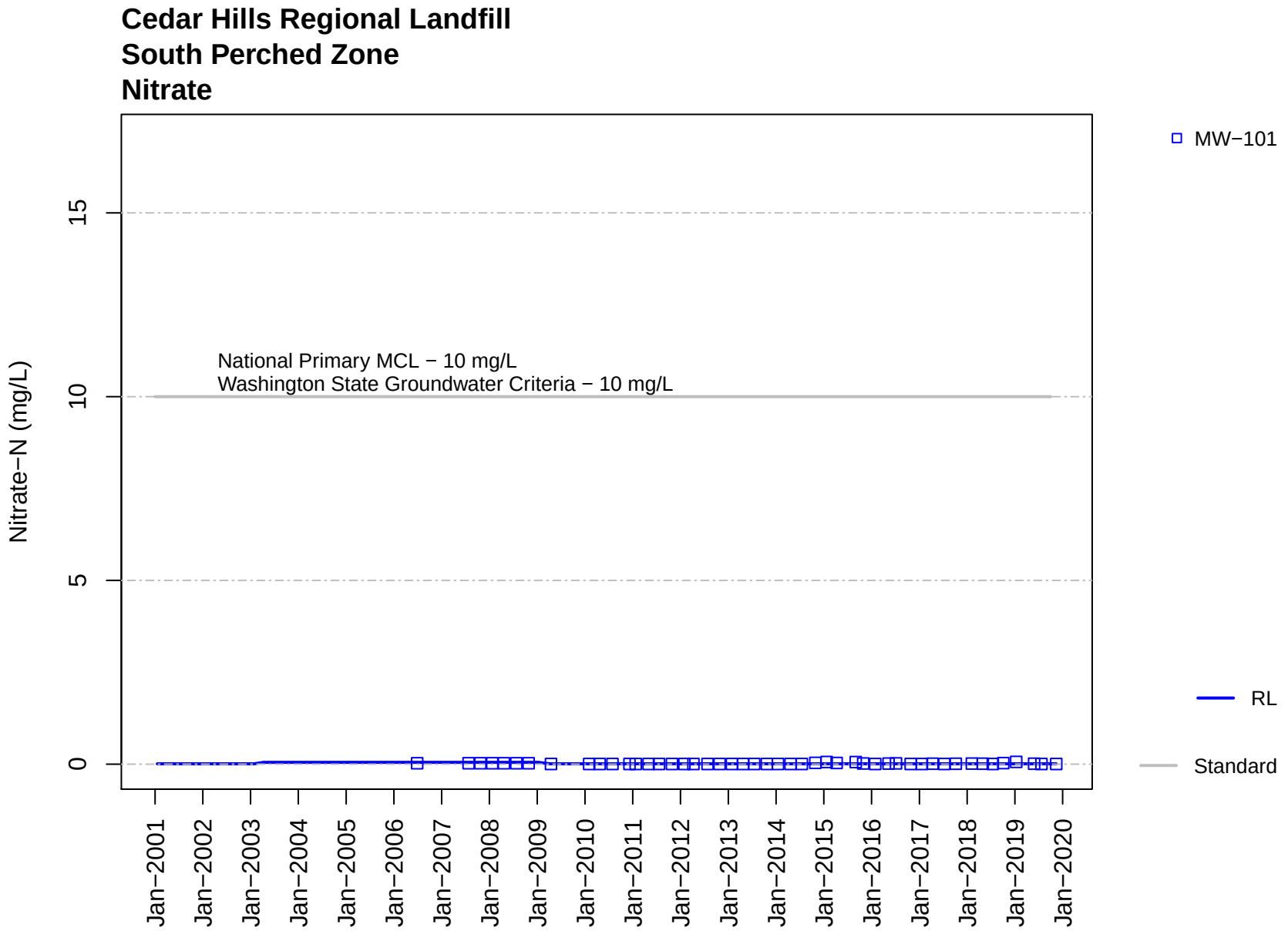

Cedar Hills Regional Landfill
East Perched Zone
Ammonia
Ammonia−N (mg/L)
0.00
0.05
0.10
0.15
Jan−2001
Jan−2002
Jan−2003
Jan−2004
Jan−2005
Jan−2006
Jan−2007
Jan−2008
Jan−2009
Jan−2010
Jan−2011
Jan−2012
Jan−2013
Jan−2014
Jan−2015
Jan−2016
Jan−2017
Jan−2018
Jan−2019
Jan−2020
EW−25
MW−30A
MW−47
MW−62
RL

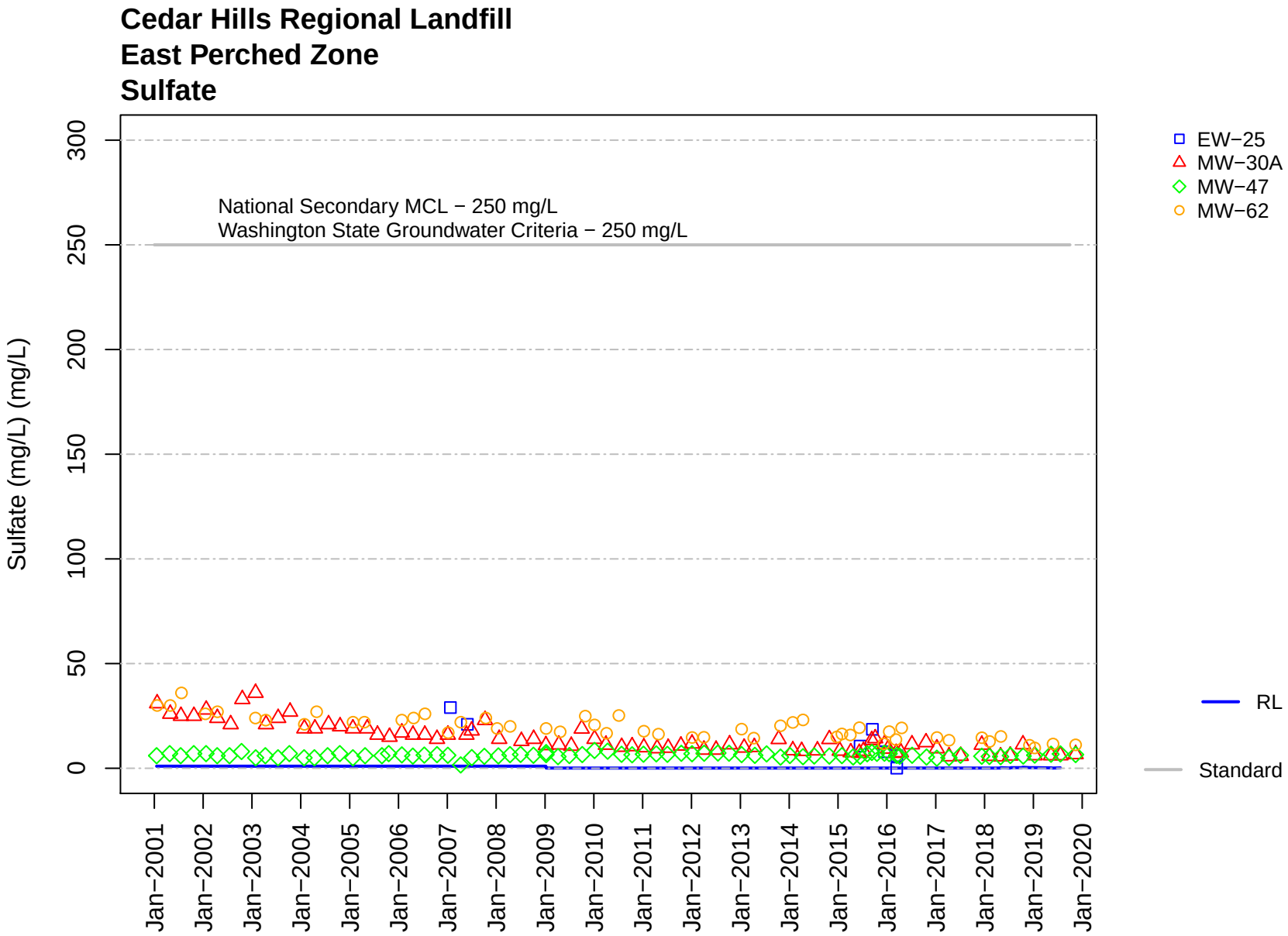

Cedar Hills Regional Landfill
South Perched Zone
Ammonia
Ammonia−N (mg/L)
0.00
0.05
0.10
0.15
Jan−2001
Jan−2002
Jan−2003
Jan−2004
Jan−2005
Jan−2006
Jan−2007
Jan−2008
Jan−2009
Jan−2010
Jan−2011
Jan−2012
Jan−2013
Jan−2014
Jan−2015
Jan−2016
Jan−2017
Jan−2018
Jan−2019
Jan−2020
MW−101
RL

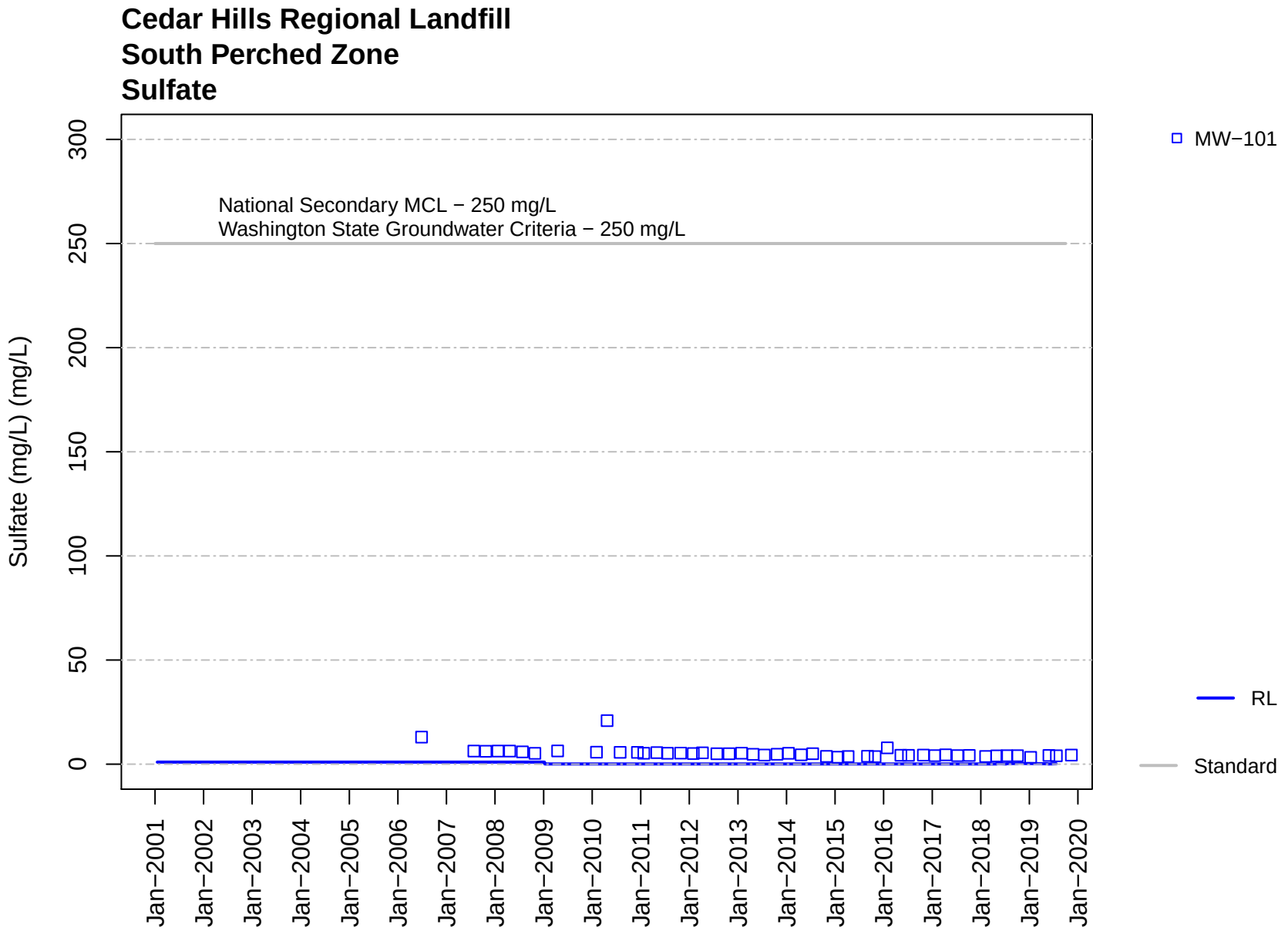

Cedar Hills Regional Landfill
East Perched Zone
Chloride
Chloride (mg/L)
0
50
100
150
200
250
300
National Secondary MCL − 250 mg/L
Washington State Groundwater Criteria − 250 mg/L
Jan−2001
Jan−2002
Jan−2003
Jan−2004
Jan−2005
Jan−2006
Jan−2007
Jan−2008
Jan−2009
Jan−2010
Jan−2011
Jan−2012
Jan−2013
Jan−2014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

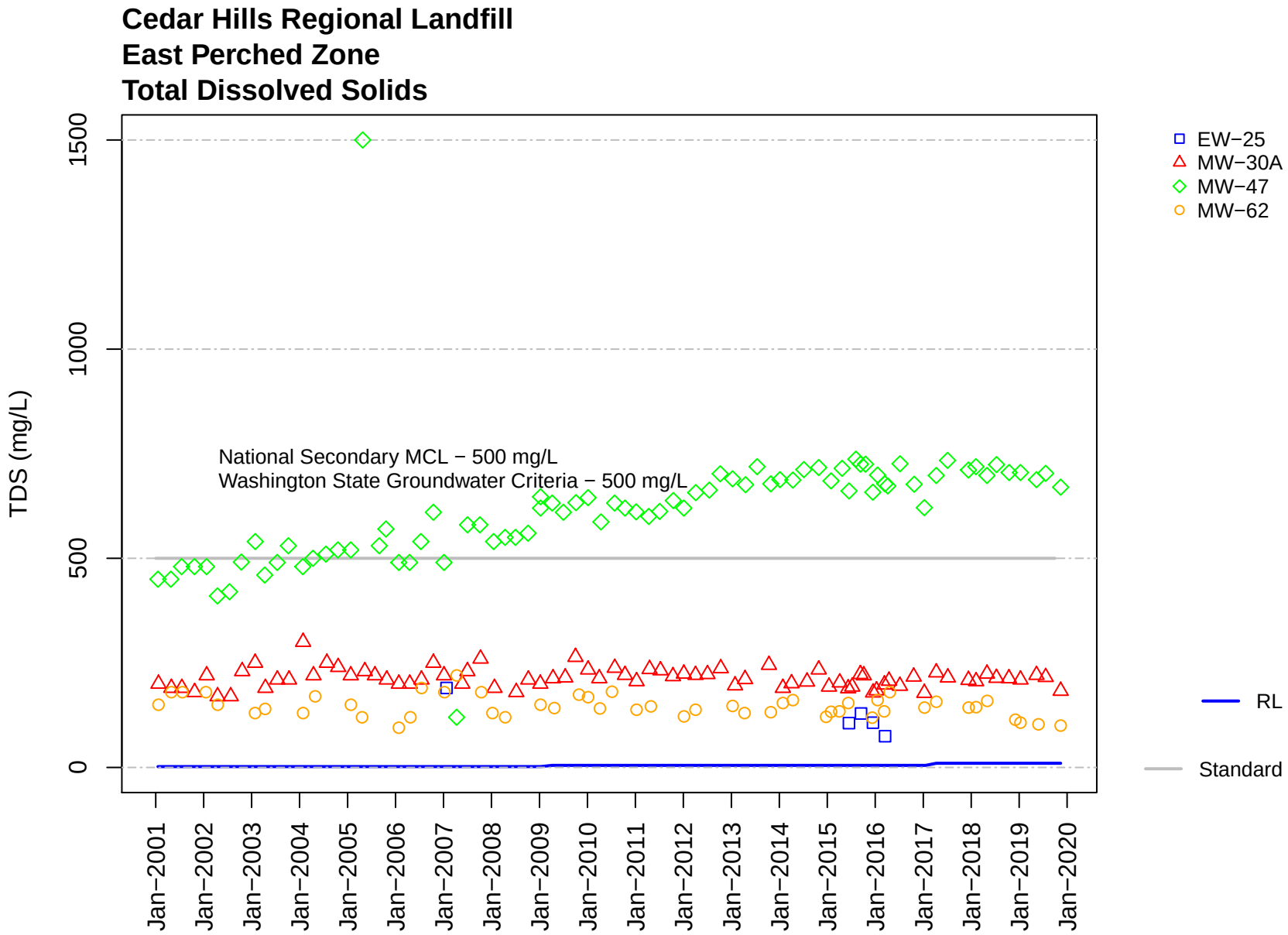

Cedar Hills Regional Landfill
South Perched Zone
Chloride
Chloride (mg/L)
0
50
100
150
200
250
300
National Secondary MCL − 250 mg/L
Washington State Groundwater Criteria − 250 mg/L
Jan−2001
Jan−2002
Jan−2003
Jan−2004
Jan−2005
Jan−2006
Jan−2007
Jan−2008
Jan−2009
Jan−2010
Jan−2011
Jan−2012
Jan−2013
Jan−2014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

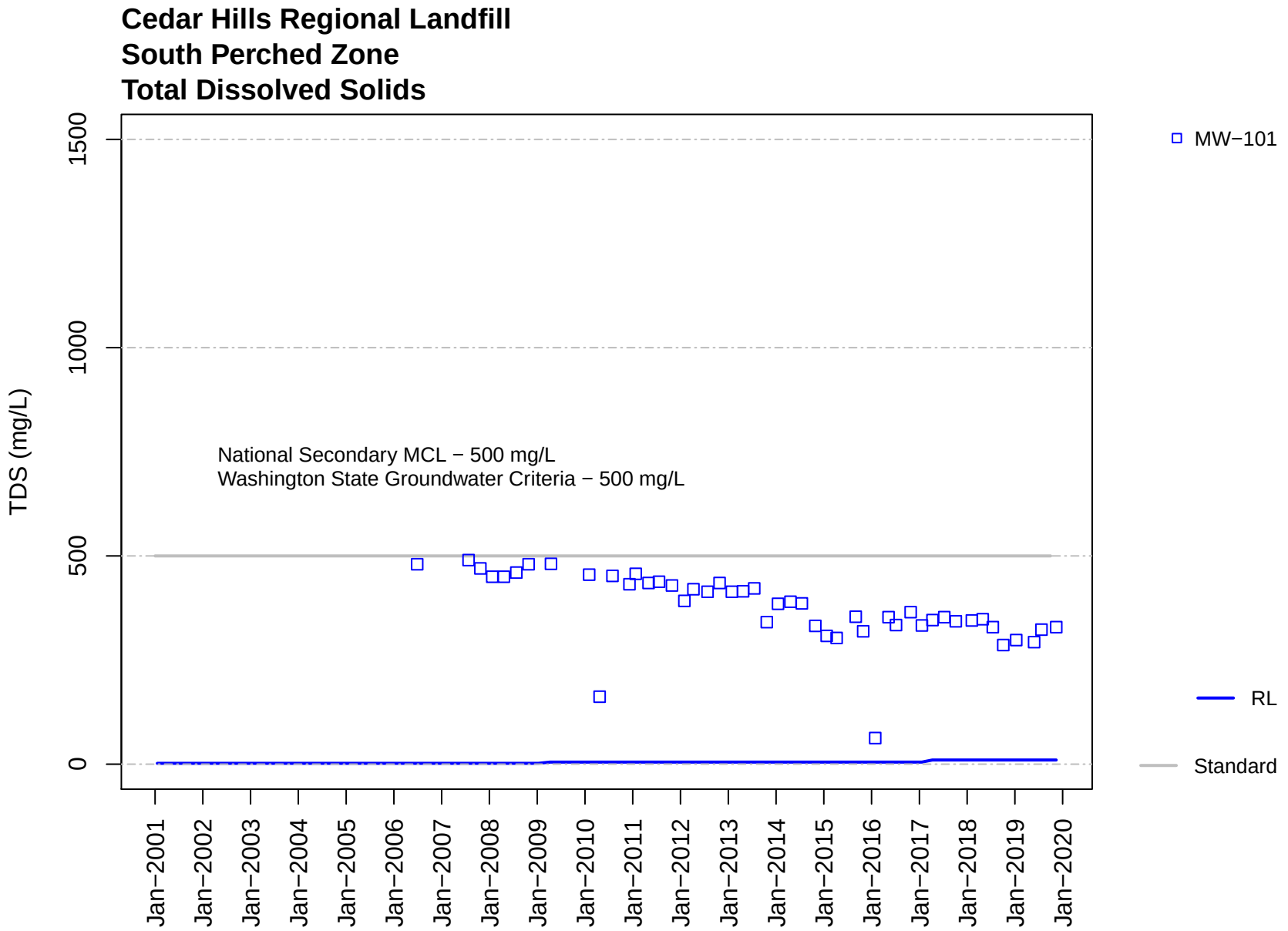

Cedar Hills Regional Landfill
East Perched Zone
Nitrate
Nitrate−N (mg/L)
0
5
10
15
National Primary MCL − 10 mg/L
Washington State Groundwater Criteria − 10 mg/L
Jan−2001
Jan−2002
Jan−2003
Jan−2004
Jan−2005
Jan−2006
Jan−2007
Jan−2008
Jan−2009
Jan−2010
Jan−2011
Jan−2012
Jan−2013
Jan−2014
Jan−2015
Jan−2016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

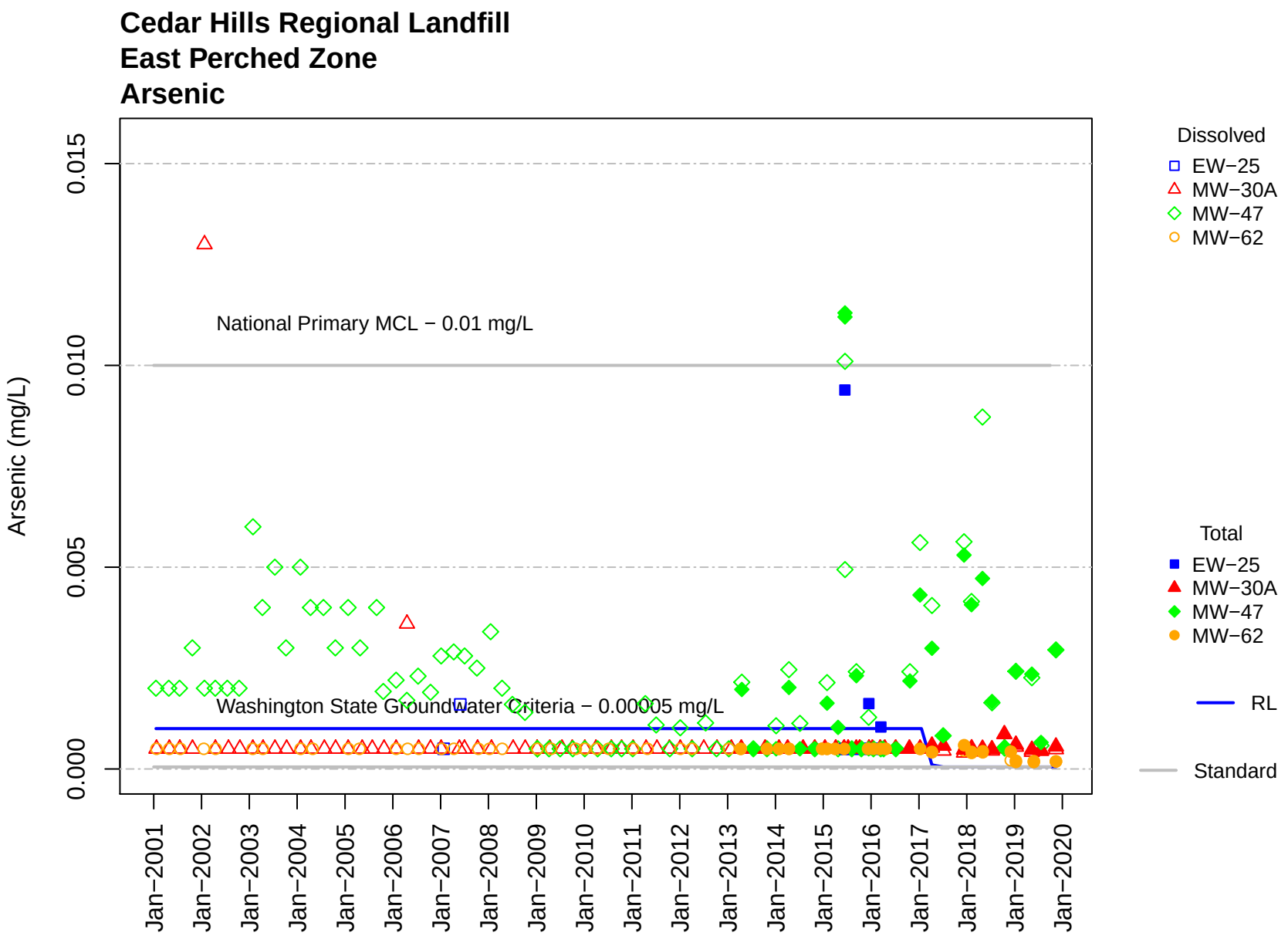

Cedar Hills Regional Landfill
South Perched Zone
Nitrate
Nitrate−N (mg/L)
0
5
10
15
National Primary MCL − 10 mg/L
Washington State Groundwater Criteria − 10 mg/L
Jan−2001
Jan−2002
Jan−2003
Jan−2004
Jan−2005
Jan−2006
Jan−2007
Jan−2008
Jan−2009
Jan−2010
Jan−2011
Jan−2012
Jan−2013
Jan−2014
Jan−2015
Jan−2016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

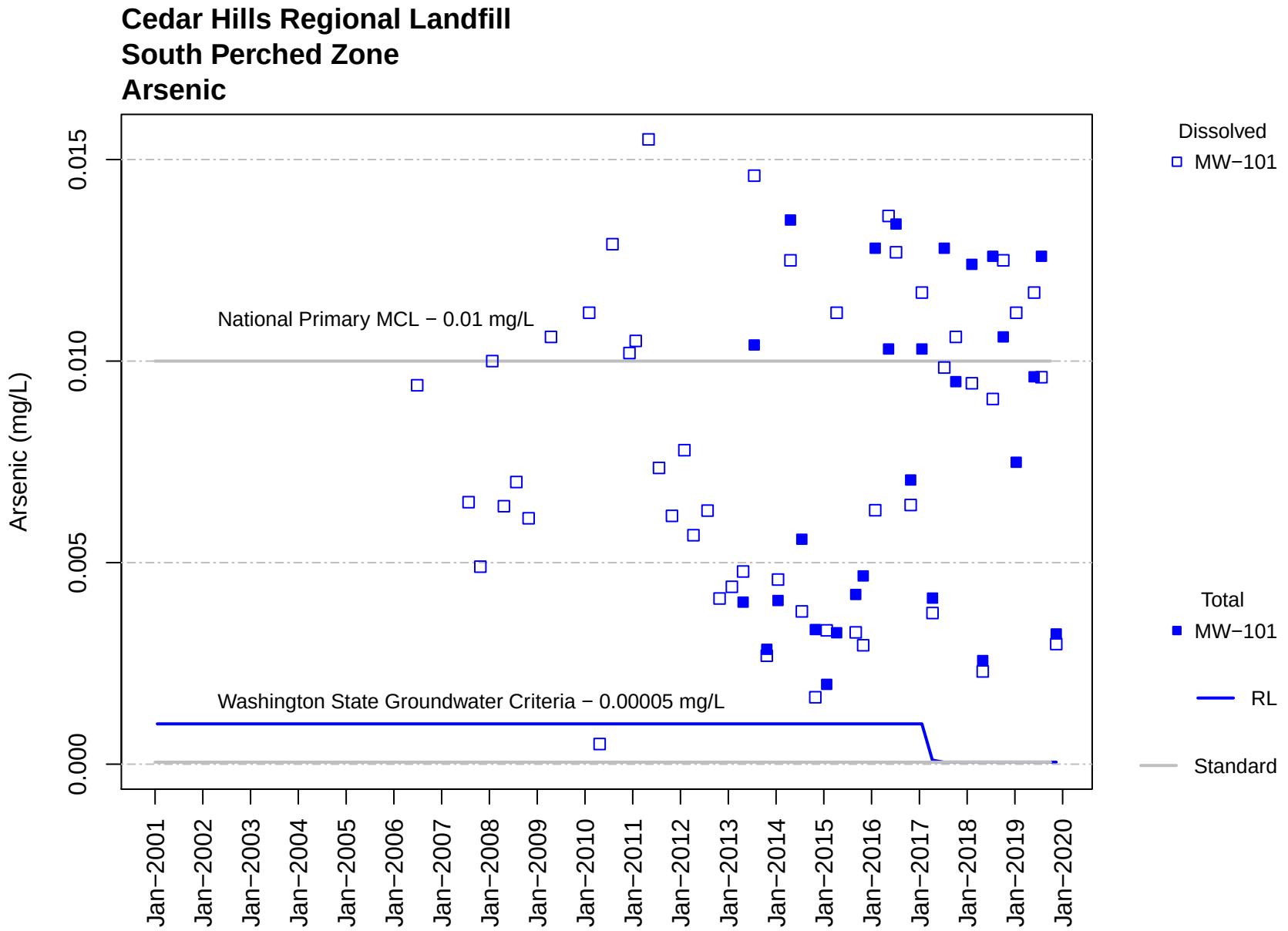

Cedar Hills Regional Landfill
East Perched Zone
Sulfate
Sulfate (mg/L) (mg/L)
0
50
100
150
200
250
300
National Secondary MCL − 250 mg/L
Washington State Groundwater Criteria − 250 mg/L
EW−25
MW−30A
MW−47
MW−62
RL
Standard
Jan−2001
Jan−2002
Jan−2003
Jan−2004
Jan−2005
Jan−2006
Jan−2007
Jan−2008
Jan−2009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

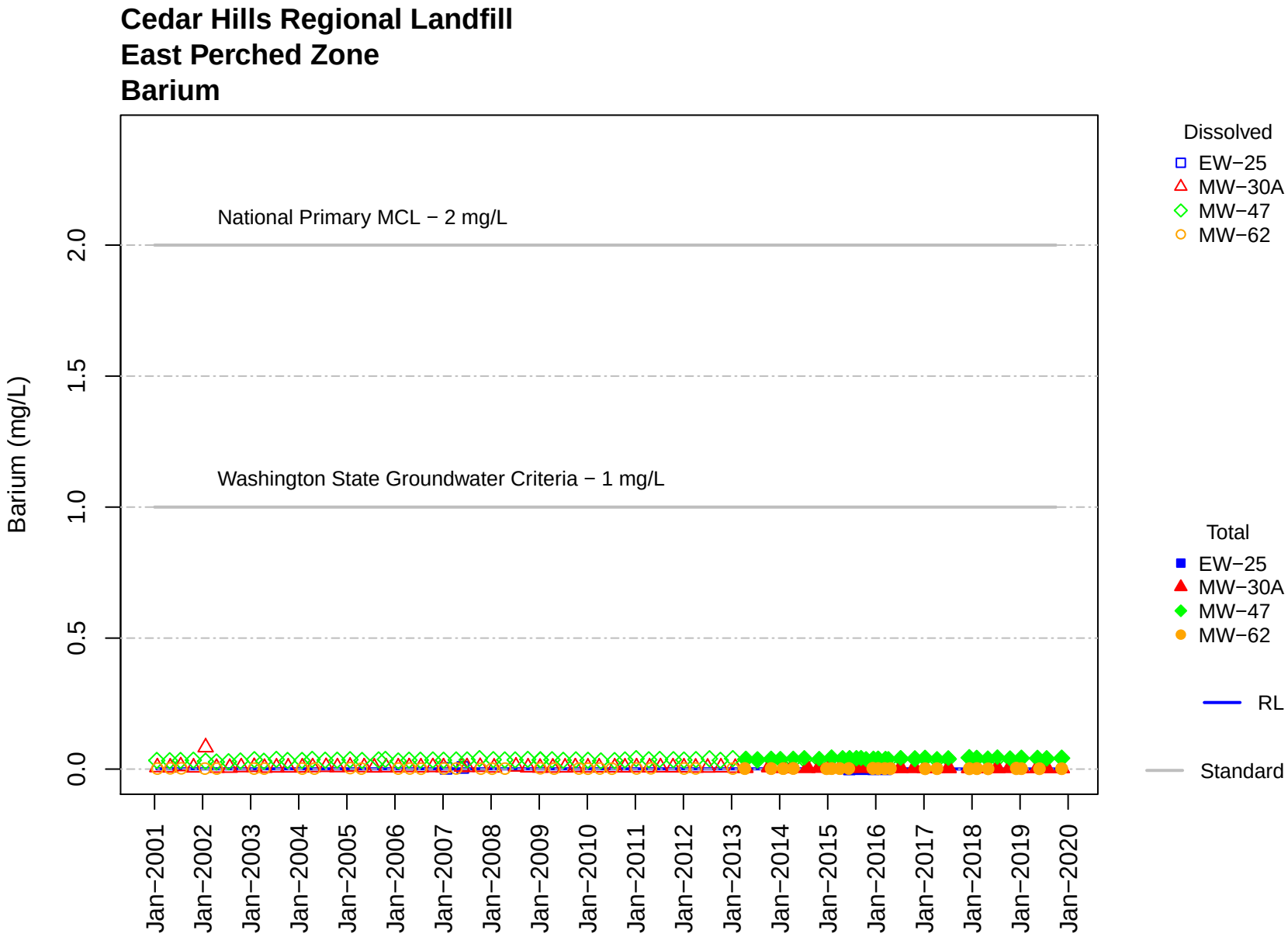

Cedar Hills Regional Landfill
South Perched Zone
Sulfate
Sulfate (mg/L) (mg/L)
0
50
100
150
200
250
300
National Secondary MCL − 250 mg/L
Washington State Groundwater Criteria − 250 mg/L
Jan−2001
Jan−2002
Jan−2003
Jan−2004
Jan−2005
Jan−2006
Jan−2007
Jan−2008
Jan−2009
Jan−2010
Jan−2011
Jan−2012
Jan−2013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

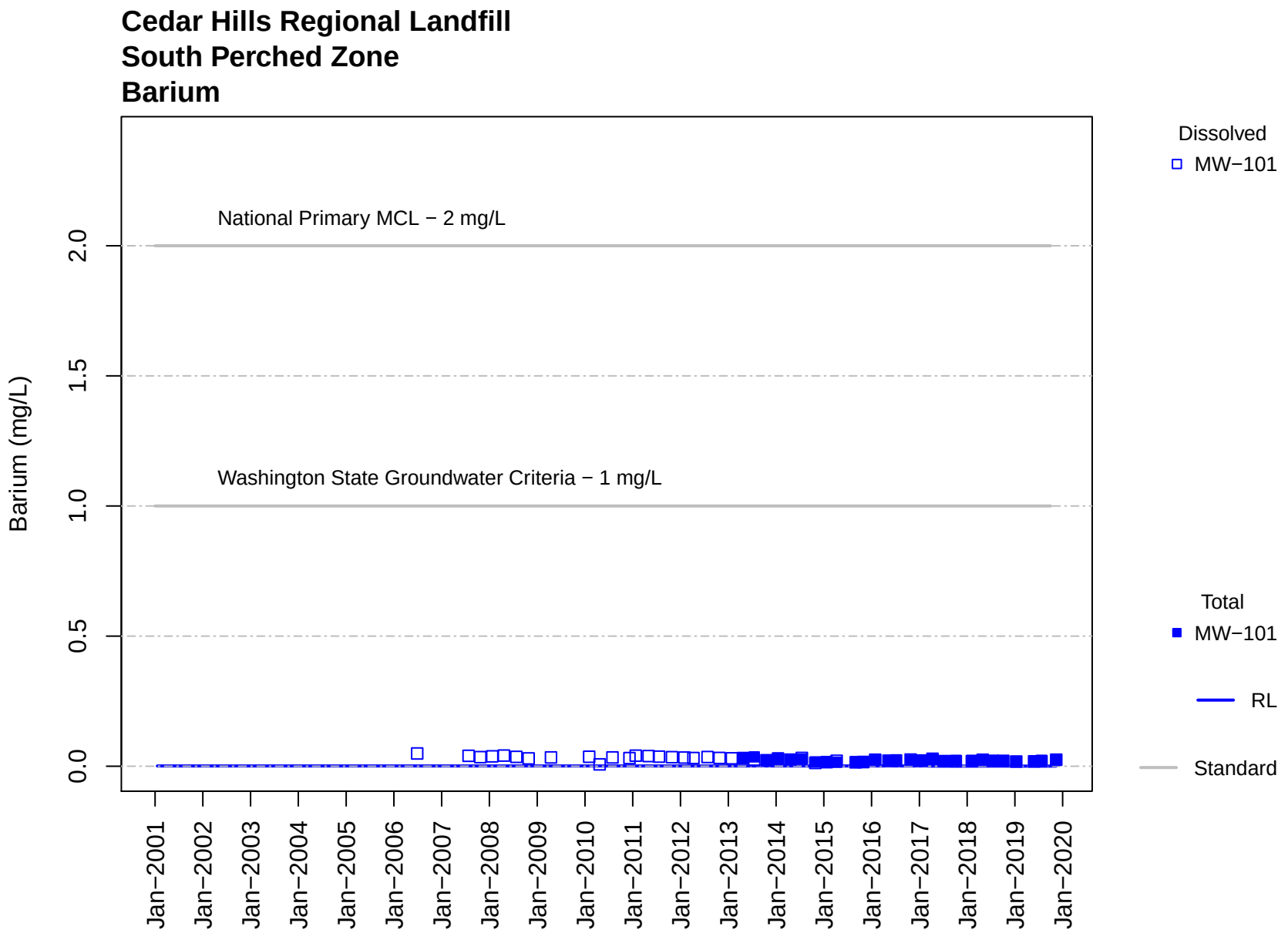

Cedar Hills Regional Landfill
East Perched Zone
Total Dissolved Solids
TDS (mg/L)
0
500
1000
1500
National Secondary MCL − 500 mg/L
Washington State Groundwater Criteria − 500 mg/L
EW−25
MW−30A
MW−47
MW−62
RL
Standard
Jan−2001
Jan−2002
Jan−2003
Jan−2004
Jan−2005
Jan−2006
Jan−2007
Jan−2008
Jan−2009
Jan−2010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

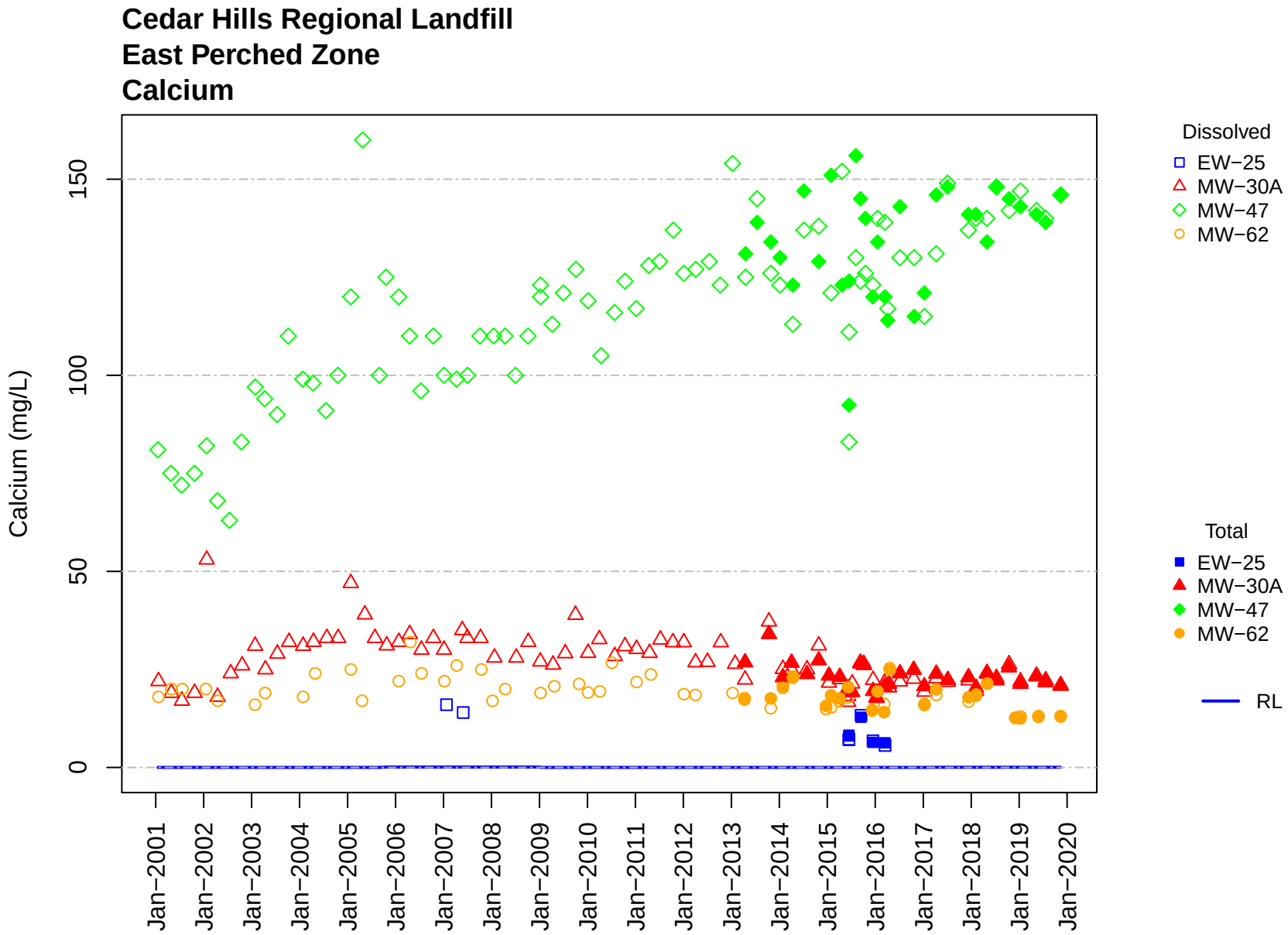

Cedar Hills Regional Landfill
South Perched Zone
Total Dissolved Solids
TDS (mg/L)
1500
1000
500
0
National Secondary MCL − 500 mg/L
Washington State Groundwater Criteria − 500 mg/L
MW−101
RL
Standard
Jan−2001
Jan−2002
Jan−2003
Jan−2004
Jan−2005
Jan−2006
Jan−2007
Jan−2008
Jan−2009
Jan−2010
Jan−2011
Jan−2012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

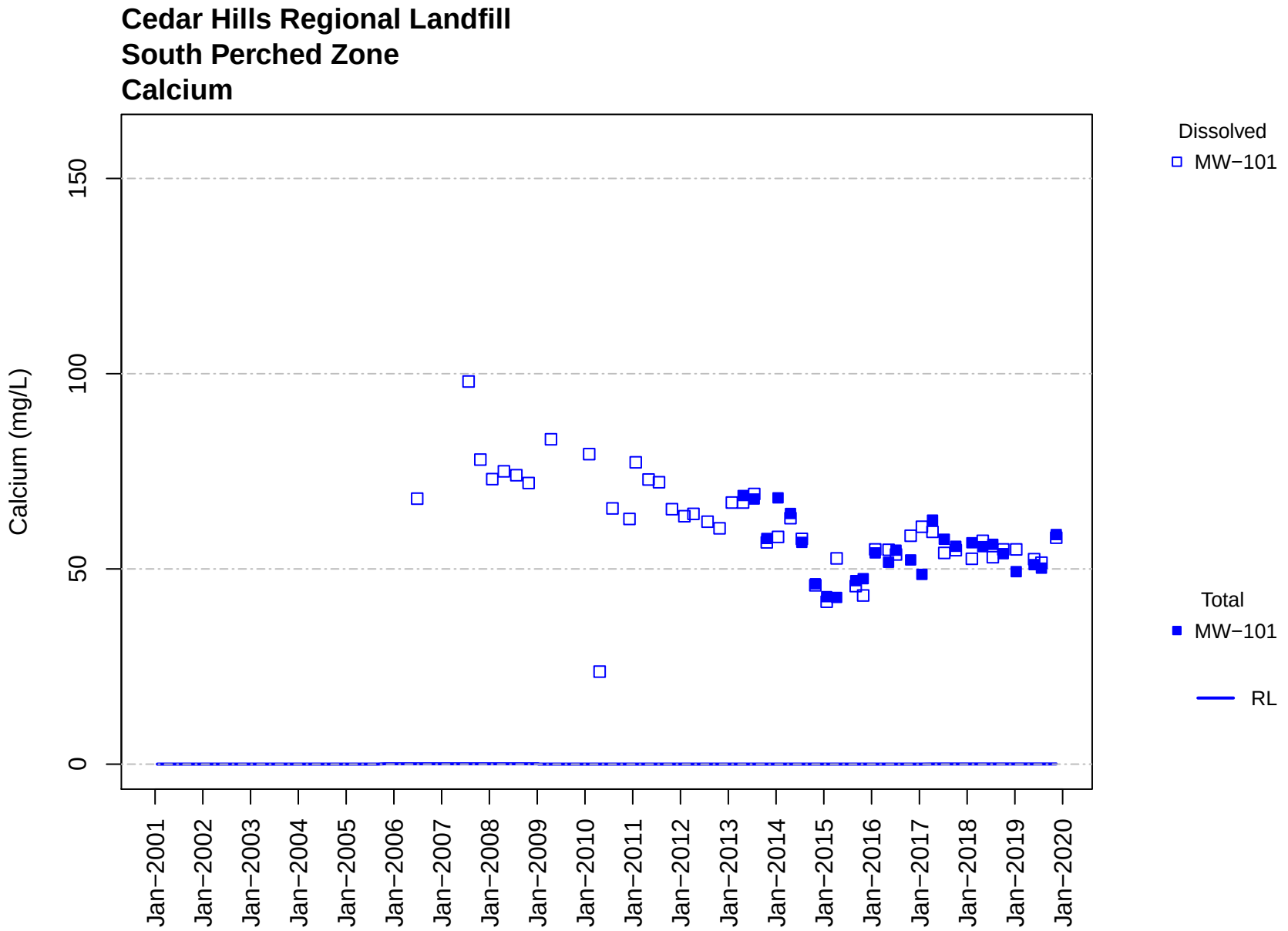

Cedar Hills Regional Landfill
East Perched Zone
Arsenic
Arsenic (mg/L)
0.000
0.005
0.010
0.015
National Primary MCL − 0.01 mg/L
Washington State Groundwater Criteria − 0.00005 mg/L
Jan−2001
Jan−2002
Jan−2003
Jan−2004
Jan−2005
Jan−2006
Jan−2007
Jan−2008
Jan−2009
Jan−2010
Jan−2011
Jan−2012
Jan−2013
Jan−2014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

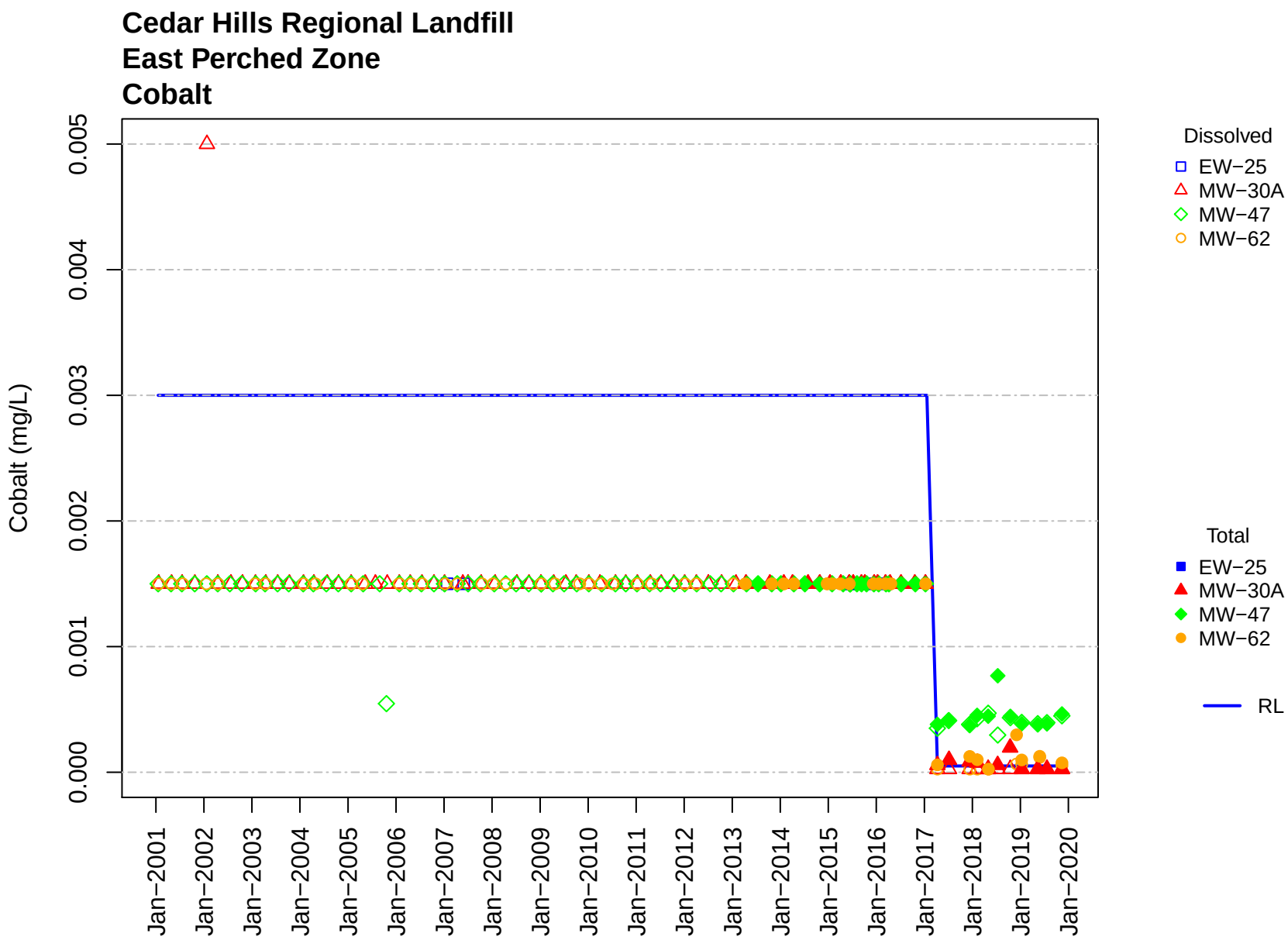

Cedar Hills Regional Landfill
South Perched Zone
Arsenic
Arsenic (mg/L)
0.000
0.005
0.010
0.015
National Primary MCL − 0.01 mg/L
Washington State Groundwater Criteria − 0.00005 mg/L
Jan−2001
Jan−2002
Jan−2003
Jan−2004
Jan−2005
Jan−2006
Jan−2007
Jan−2008
Jan−2009
Jan−2010
Jan−2011
Jan−2012
Jan−2013
Jan−2014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

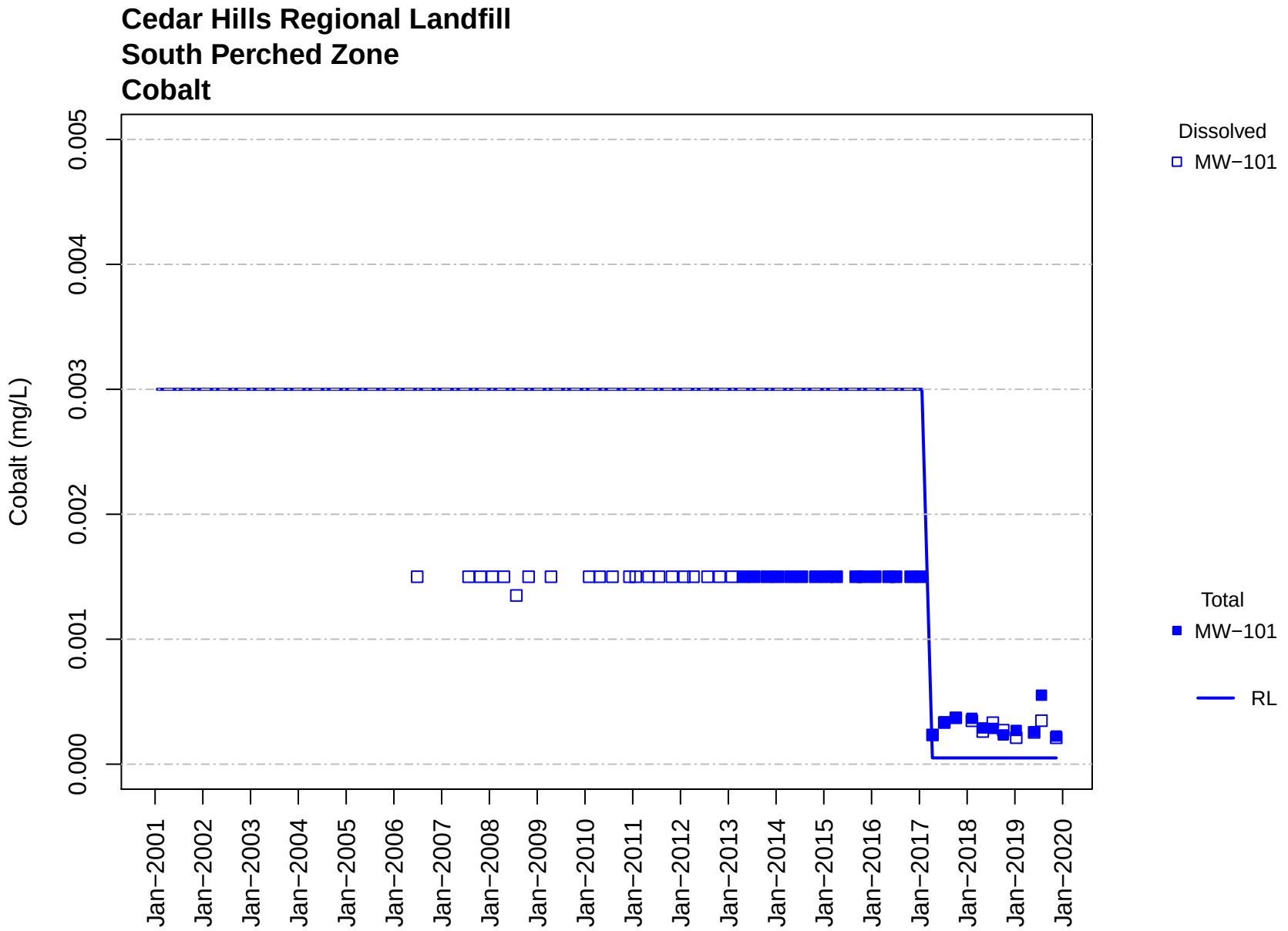

Cedar Hills Regional Landfill
East Perched Zone
Barium
National Primary MCL − 2 mg/L
Washington State Groundwater Criteria − 1 mg/L
Barium (mg/L)
0.0
0.5
1.0
1.5
2.0
Jan−2001
Jan−2002
Jan−2003
Jan−2004
Jan−2005
Jan−2006
Jan−2007
Jan−2008
Jan−2009
Jan−2010
Jan−2011
Jan−2012
Jan−2013
Jan−2014
Jan−2015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

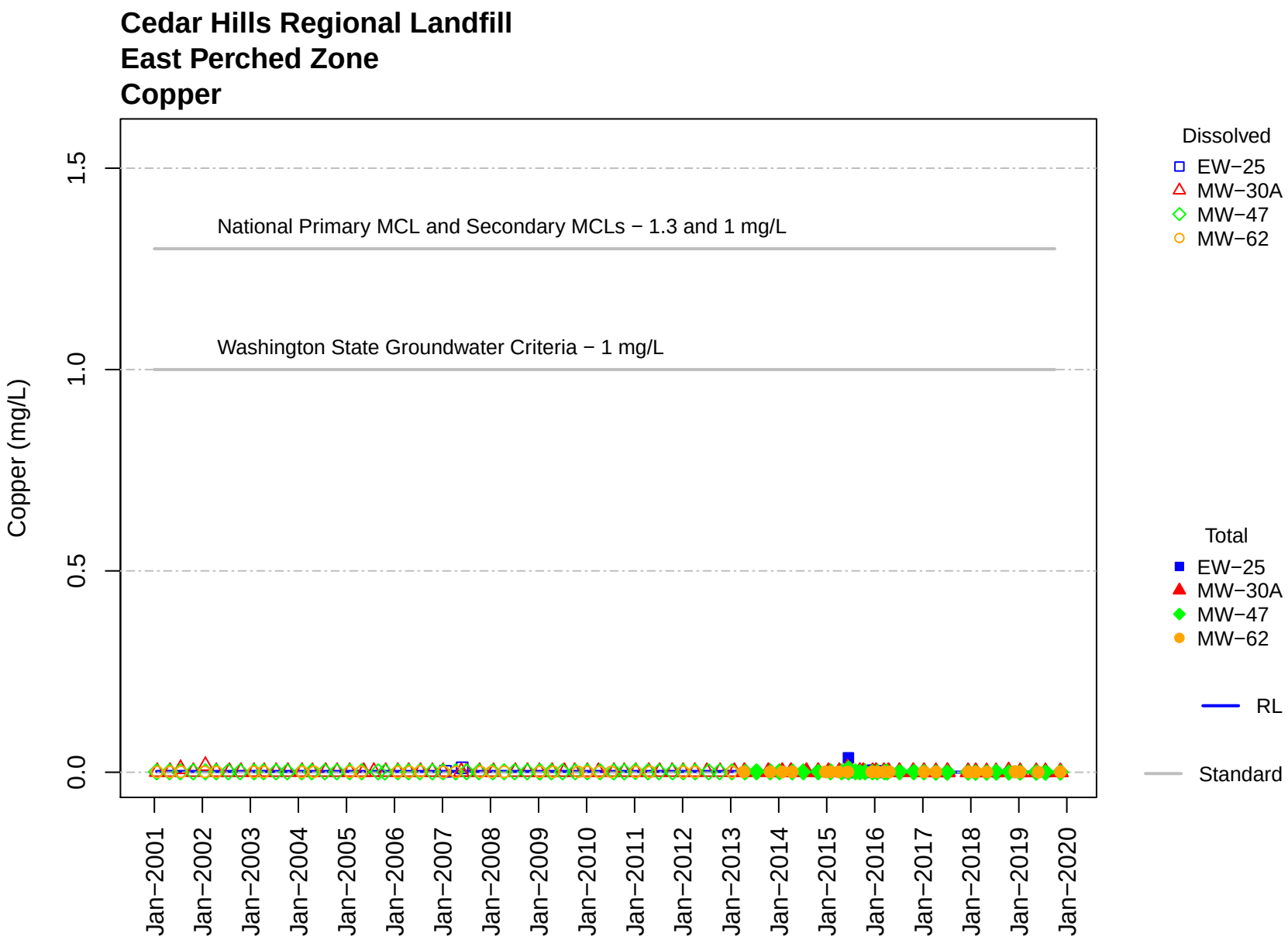

Cedar Hills Regional Landfill
South Perched Zone
Barium
Barium (mg/L)
0.0
0.5
1.0
1.5
2.0
National Primary MCL − 2 mg/L
Washington State Groundwater Criteria − 1 mg/L
Jan−2001
Jan−2002
Jan−2003
Jan−2004
Jan−2005
Jan−2006
Jan−2007
Jan−2008
Jan−2009
Jan−2010
Jan−2011
Jan−2012
Jan−2013
Jan−2014
Jan−2015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

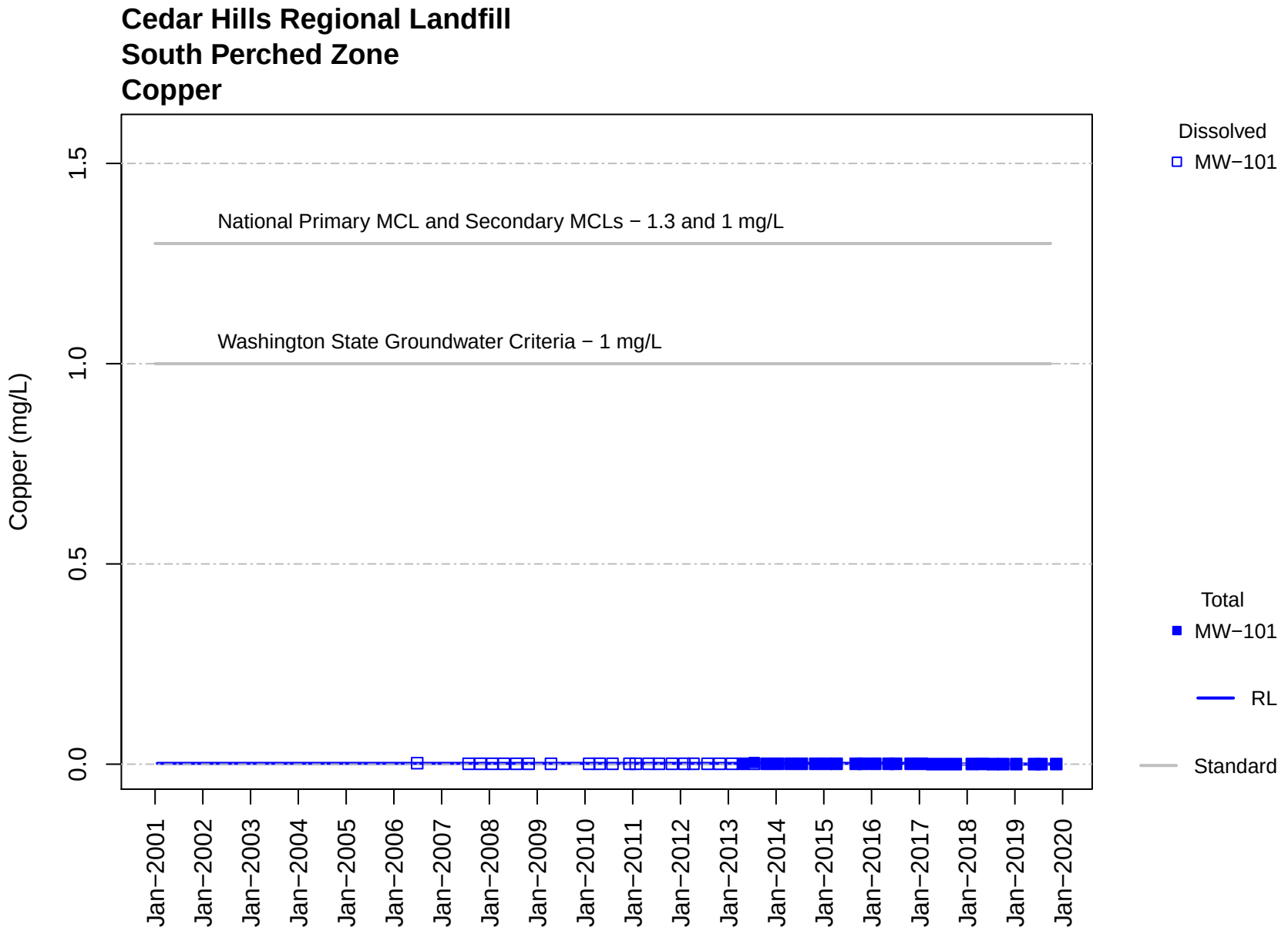

Cedar Hills Regional Landfill
East Perched Zone
Calcium
Calcium (mg/L)
0
50
100
150
Jan−2001
Jan−2002
Jan−2003
Jan−2004
Jan−2005
Jan−2006
Jan−2007
Jan−2008
Jan−2009
Jan−2010
Jan−2011
Jan−2012
Jan−2013
Jan−2014
Jan−2015
Jan−2016
Jan−2017
Jan−2018
Jan−2019
Jan−2020
Dissolved
EW−25
MW−30A
MW−47
MW−62
Total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

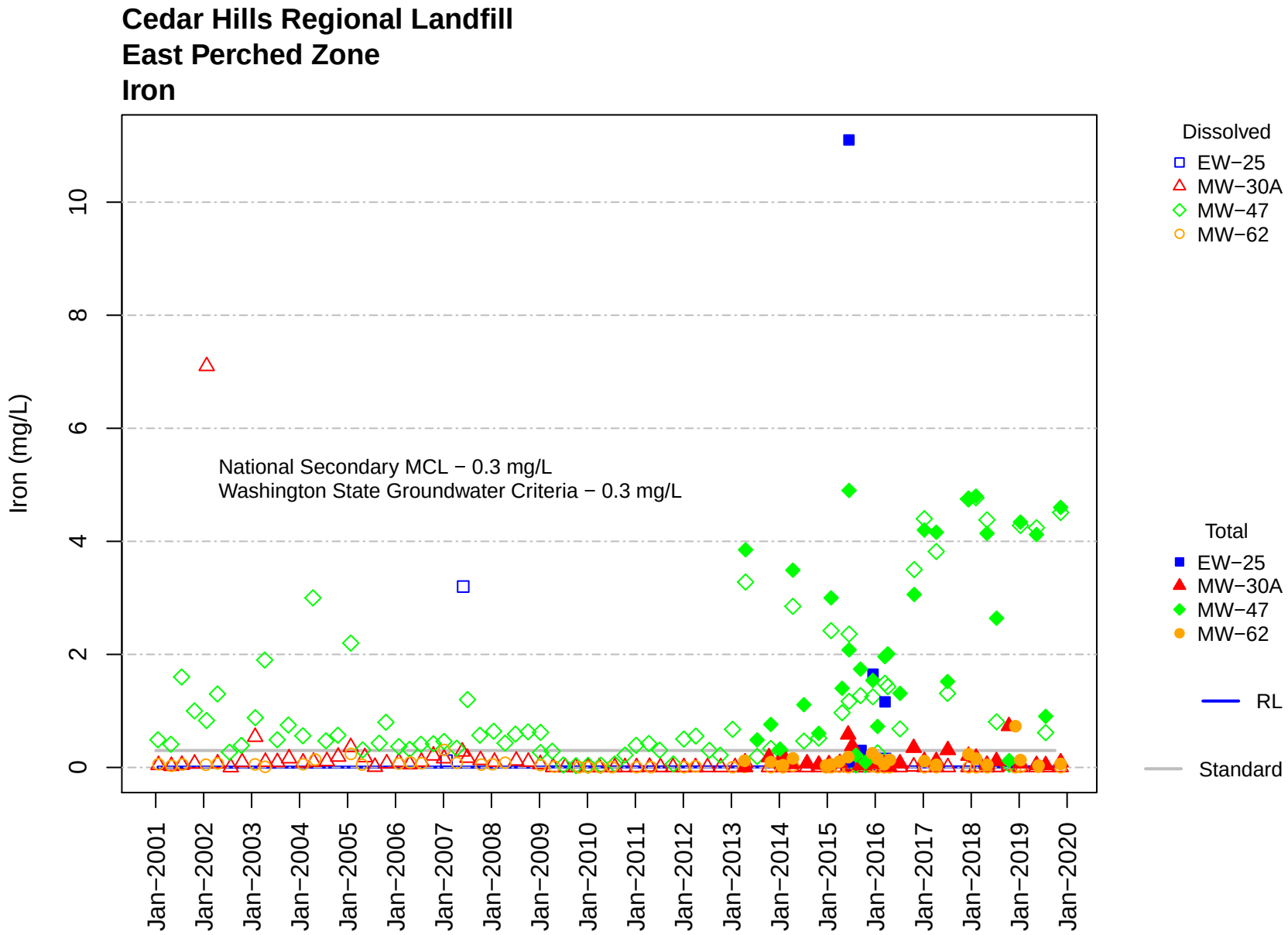

Cedar Hills Regional Landfill
South Perched Zone
Calcium
Calcium (mg/L)
0
50
100
150
Jan−2001
Jan−2002
Jan−2003
Jan−2004
Jan−2005
Jan−2006
Jan−2007
Jan−2008
Jan−2009
Jan−2010
Jan−2011
Jan−2012
Jan−2013
Jan−2014
Jan−2015
Jan−2016
Jan−2017
Jan−2018
Jan−2019
Jan−2020
Dissolved
MW−101
Total
MW−101
RL

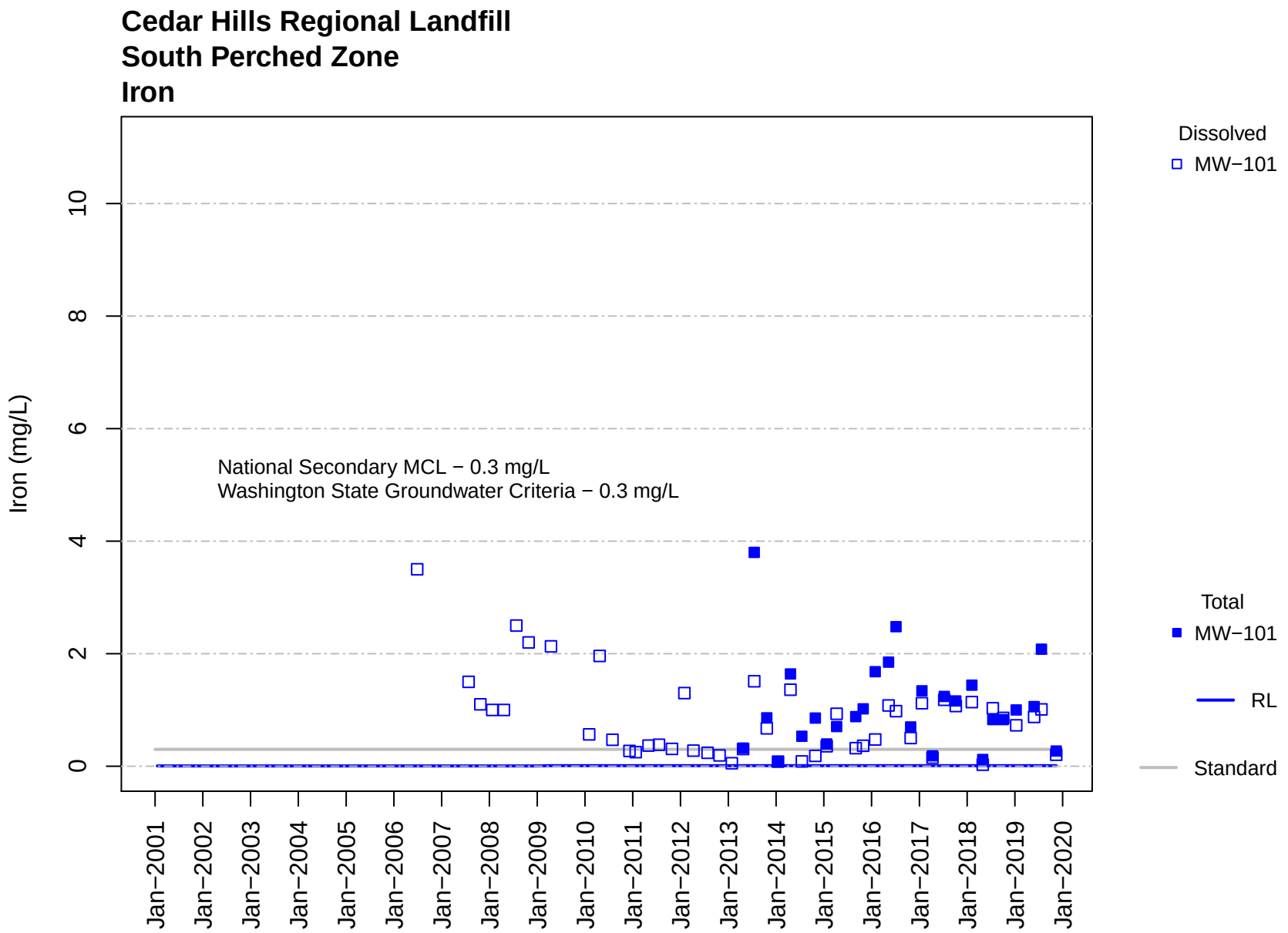

Cedar Hills Regional Landfill
East Perched Zone
Cobalt
Cobalt (mg/L)
0.000
0.001
0.002
0.003
0.004
0.005
Jan−2001
Jan−2002
Jan−2003
Jan−2004
Jan−2005
Jan−2006
Jan−2007
Jan−2008
Jan−2009
Jan−2010
Jan−2011
Jan−2012
Jan−2013
Jan−2014
Jan−2015
Jan−2016
Jan−2017
Jan−2018
Jan−2019
Jan−2020
Dissolved
EW−25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

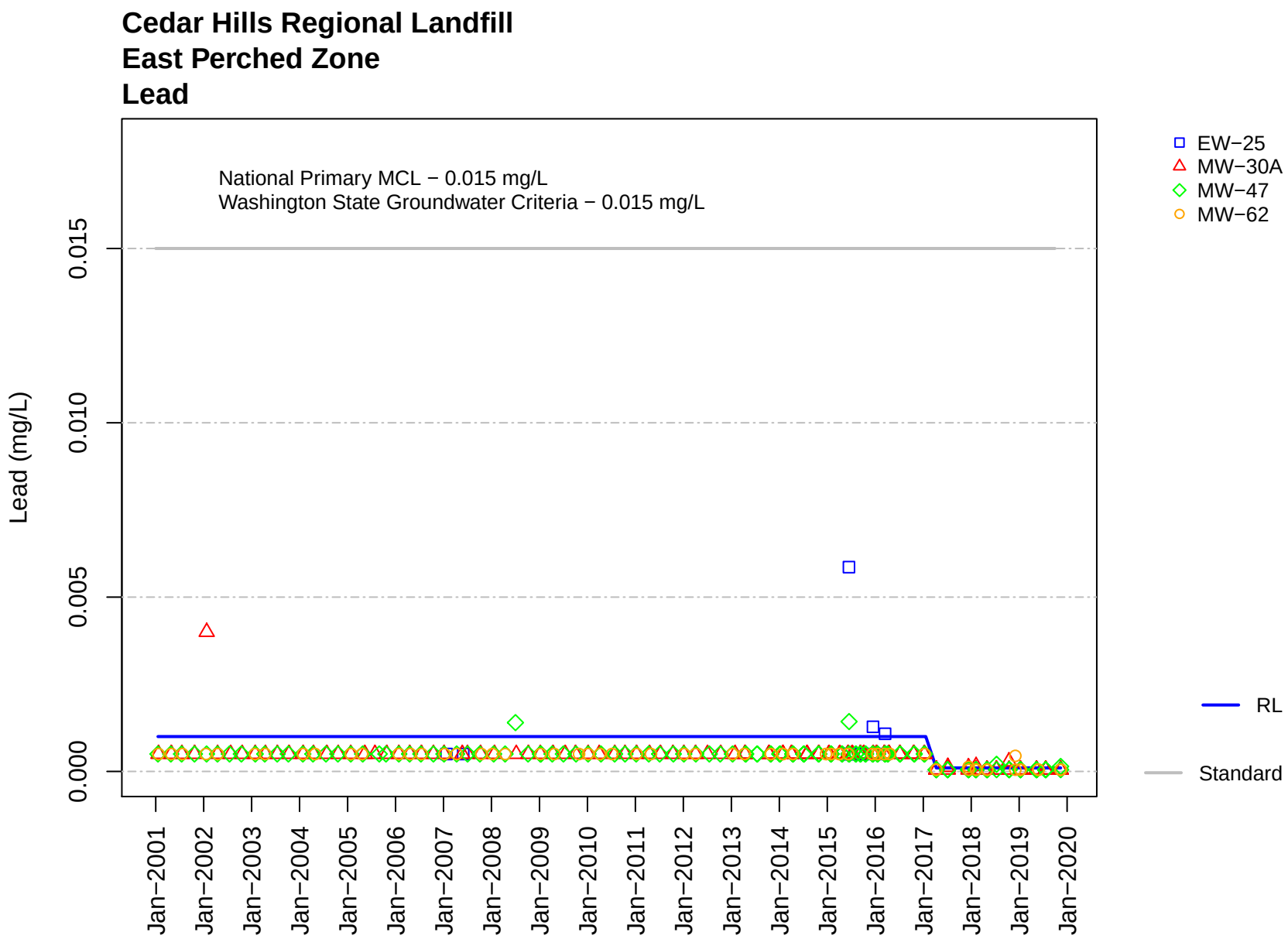

Cedar Hills Regional Landfill
South Perched Zone
Cobalt
Cobalt (mg/L)
0.000
0.001
0.002
0.003
0.004
0.005
Jan−2001
Jan−2002
Jan−2003
Jan−2004
Jan−2005
Jan−2006
Jan−2007
Jan−2008
Jan−2009
Jan−2010
Jan−2011
Jan−2012
Jan−2013
Jan−2014
Jan−2015
Jan−2016
Jan−2017
Jan−2018
Jan−2019
Jan−2020
Dissolved
MW−101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

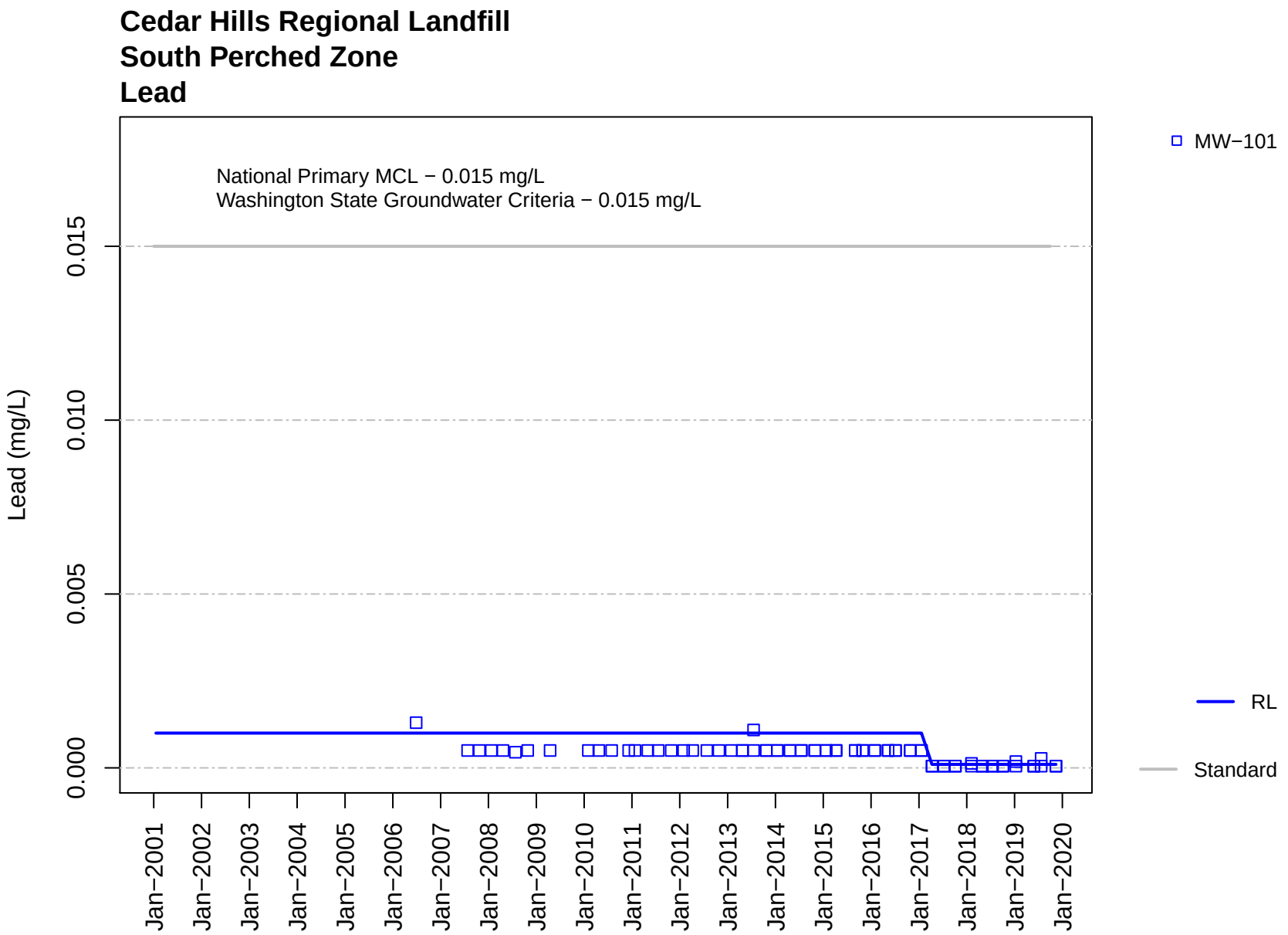

Cedar Hills Regional Landfill
East Perched Zone
Copper
Copper (mg/L)
0.0
0.5
1.0
1.5
National Primary MCL and Secondary MCLs − 1.3 and 1 mg/L
Washington State Groundwater Criteria − 1 mg/L
Jan−2001
Jan−2002
Jan−2003
Jan−2004
Jan−2005
Jan−2006
Jan−2007
Jan−2008
Jan−2009
Jan−2010
Jan−2011
Jan−2012
Jan−2013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

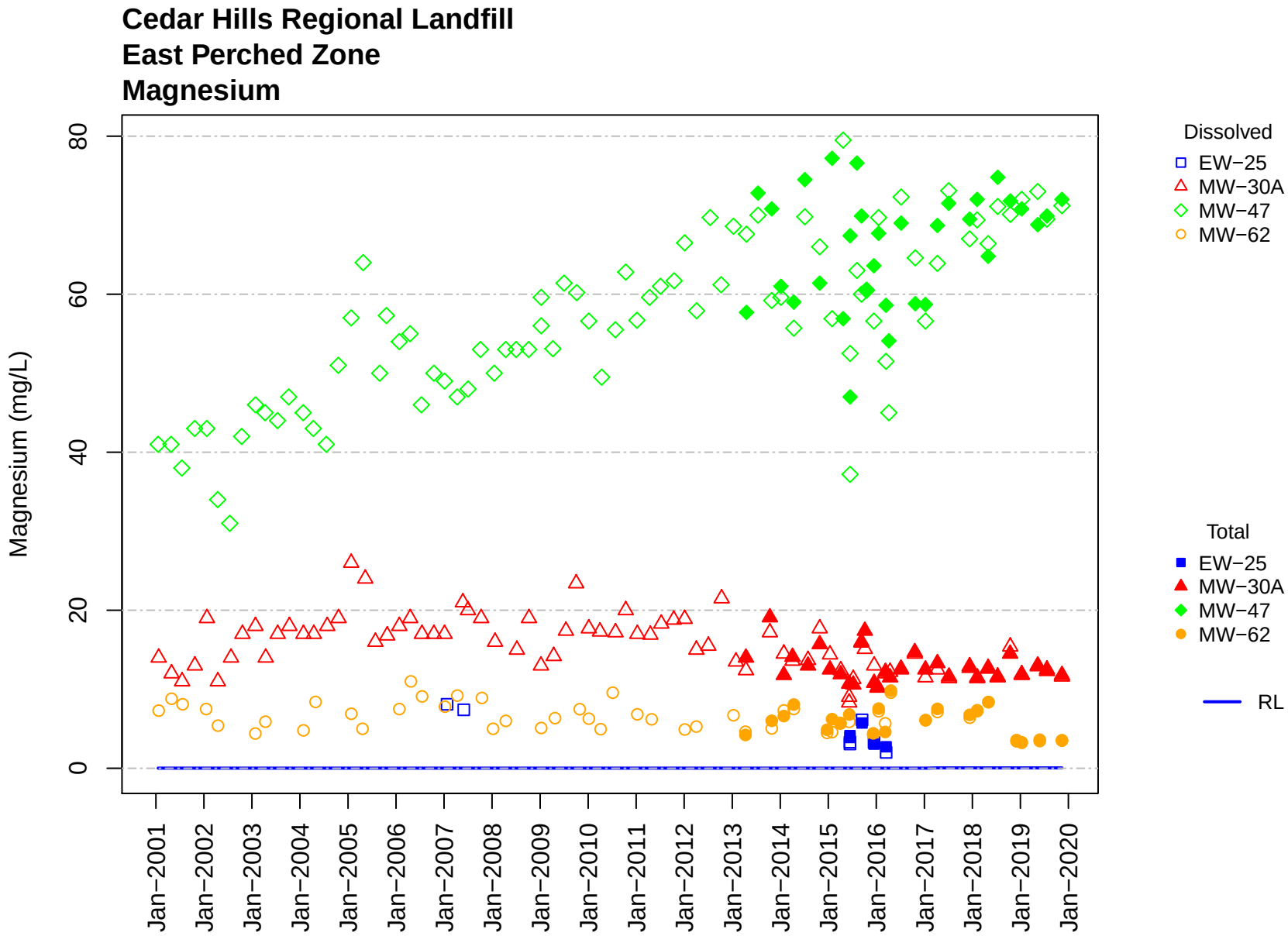

Cedar Hills Regional Landfill
South Perched Zone
Copper
Copper (mg/L)
0.0
0.5
1.0
1.5
National Primary MCL and Secondary MCLs − 1.3 and 1 mg/L
Washington State Groundwater Criteria − 1 mg/L
Jan−2001
Jan−2002
Jan−2003
Jan−2004
Jan−2005
Jan−2006
Jan−2007
Jan−2008
Jan−2009
Jan−2010
Jan−2011
Jan−2012
Jan−2013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

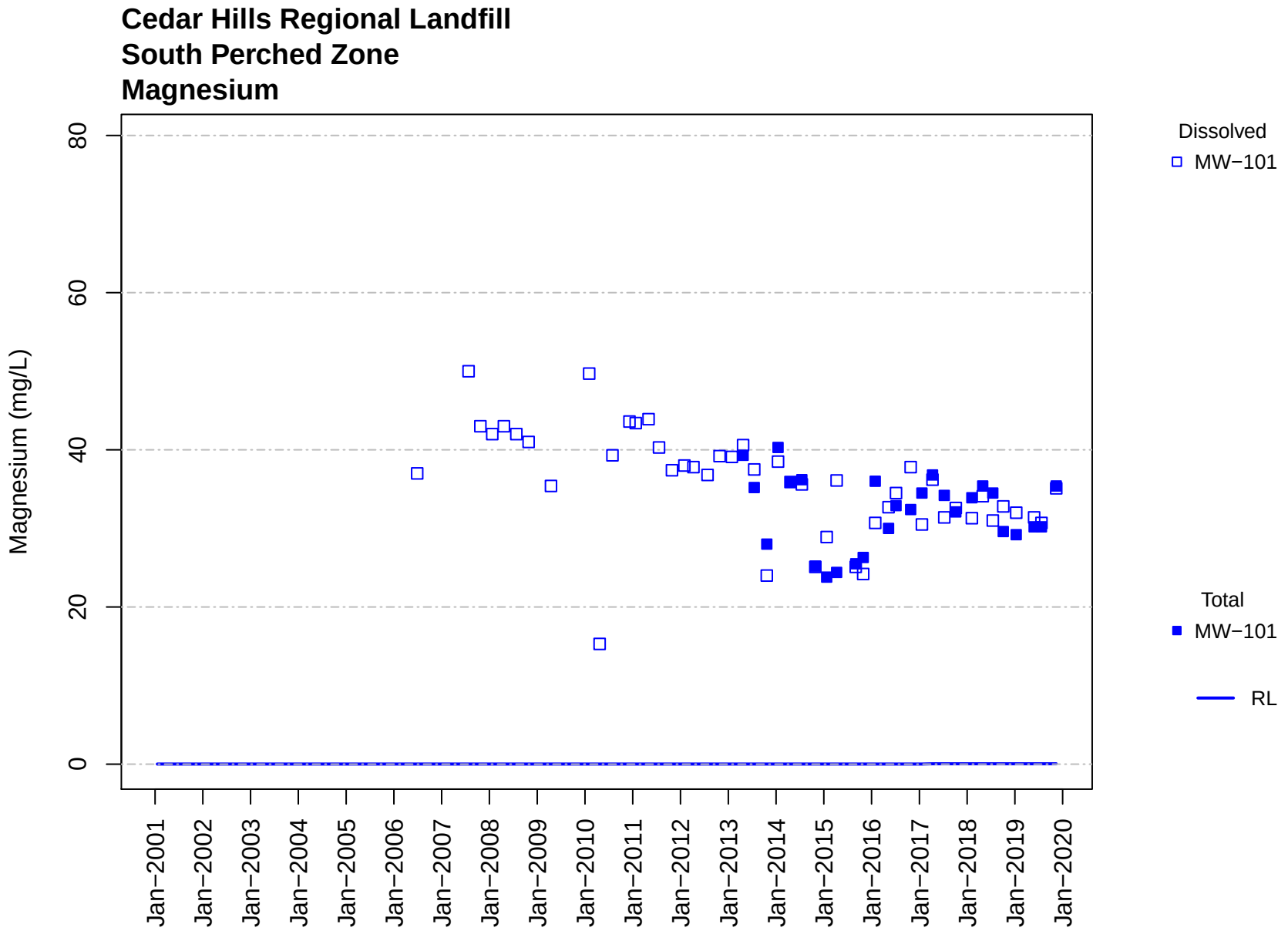

Cedar Hills Regional Landfill
East Perched Zone
Iron
Iron (mg/L)
0
2
4
6
8
10
National Secondary MCL − 0.3 mg/L
Washington State Groundwater Criteria − 0.3 mg/L
Jan−2001
Jan−2002
Jan−2003
Jan−2004
Jan−2005
Jan−2006
Jan−2007
Jan−2008
Jan−2009
Jan−2010
Jan−2011
Jan−2012
Jan−2013
Jan−2014
Jan−2015
Jan−2016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

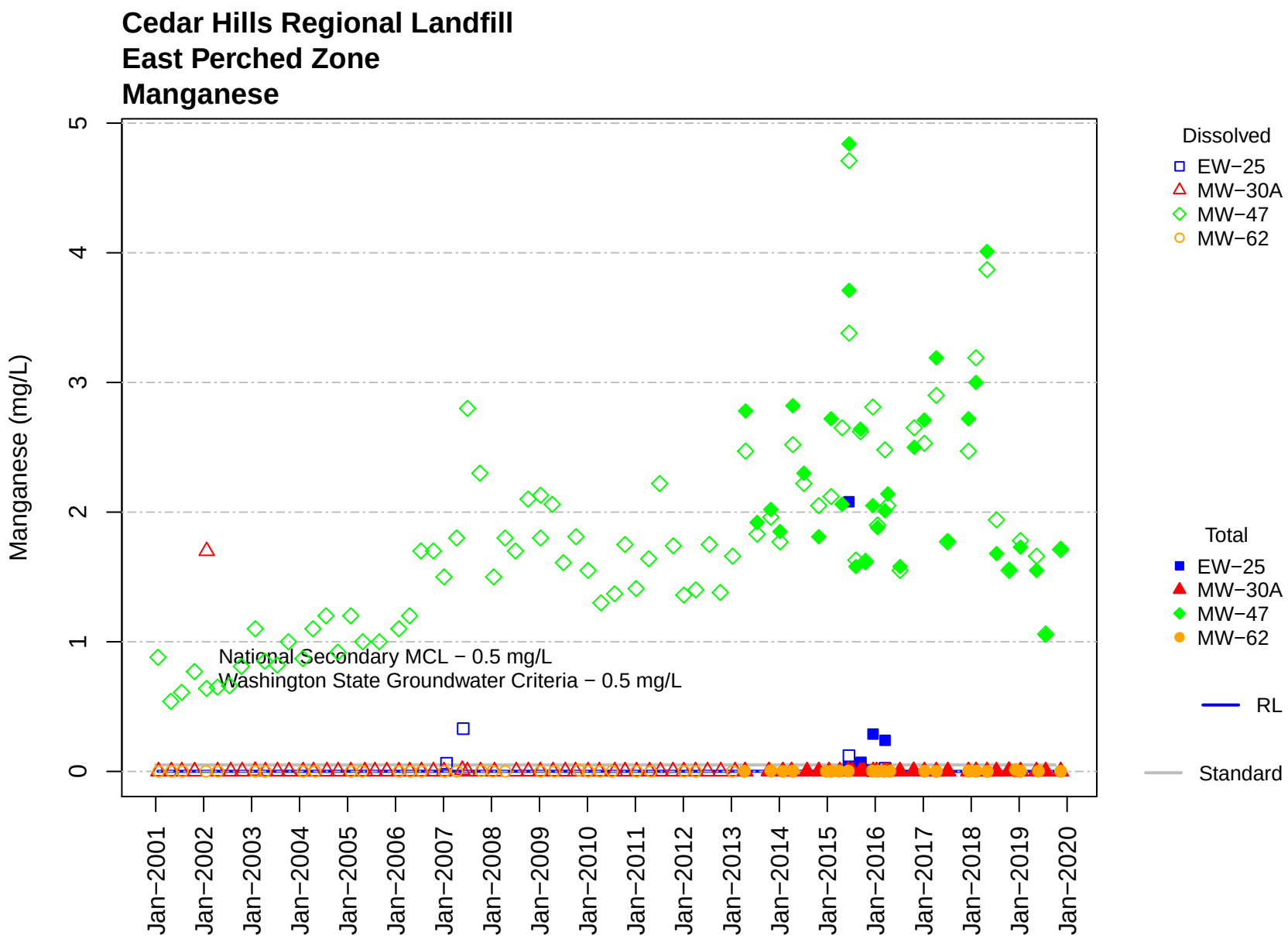

Cedar Hills Regional Landfill
South Perched Zone
Iron
Iron (mg/L)
0
2
4
6
8
10
National Secondary MCL − 0.3 mg/L
Washington State Groundwater Criteria − 0.3 mg/L
Jan−2001
Jan−2002
Jan−2003
Jan−2004
Jan−2005
Jan−2006
Jan−2007
Jan−2008
Jan−2009
Jan−2010
Jan−2011
Jan−2012
Jan−2013
Jan−2014
Jan−2015
Jan−2016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

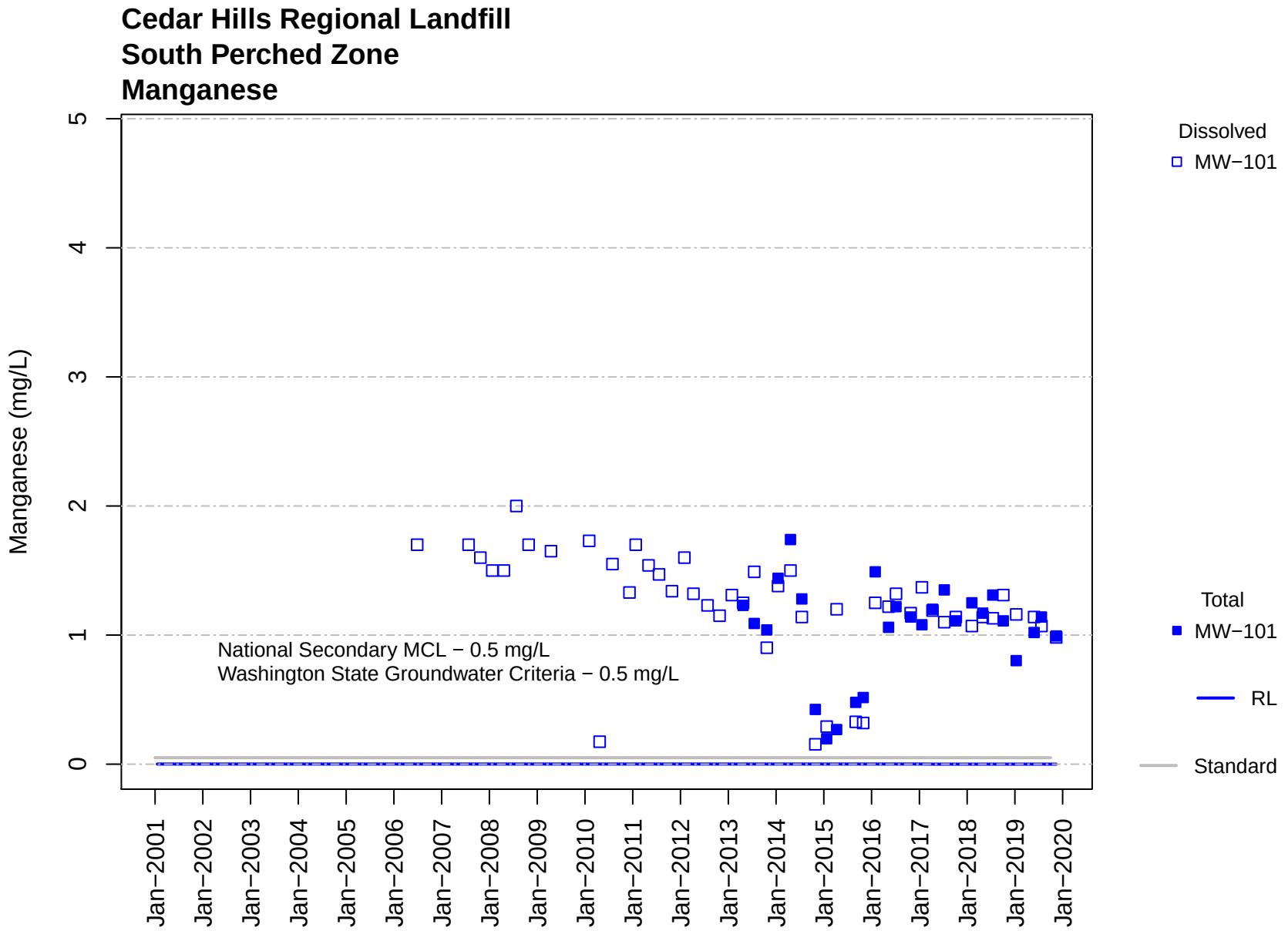

Cedar Hills Regional Landfill
East Perched Zone
Lead
National Primary MCL − 0.015 mg/L
Washington State Groundwater Criteria − 0.015 mg/L
Lead (mg/L)
0.000
0.005
0.010
0.015
Jan−2001
Jan−2002
Jan−2003
Jan−2004
Jan−2005
Jan−2006
Jan−2007
Jan−2008
Jan−2009
Jan−2010
Jan−2011
Jan−2012
Jan−2013
Jan−2014
Jan−2015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

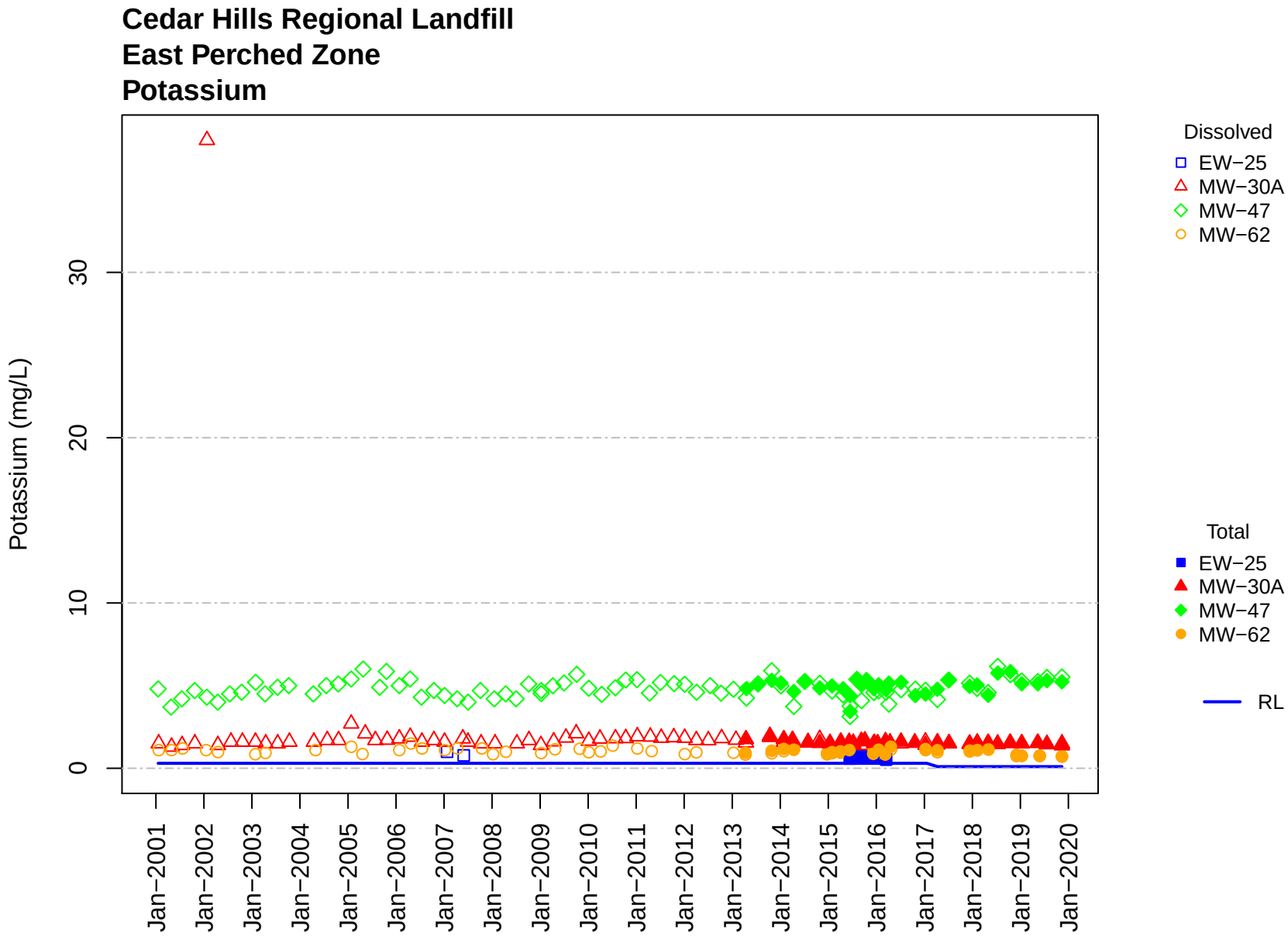

Cedar Hills Regional Landfill
South Perched Zone
Lead
National Primary MCL − 0.015 mg/L
Washington State Groundwater Criteria − 0.015 mg/L
Lead (mg/L)
0.000
0.005
0.010
0.015
Jan−2001
Jan−2002
Jan−2003
Jan−2004
Jan−2005
Jan−2006
Jan−2007
Jan−2008
Jan−2009
Jan−2010
Jan−2011
Jan−2012
Jan−2013
Jan−2014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

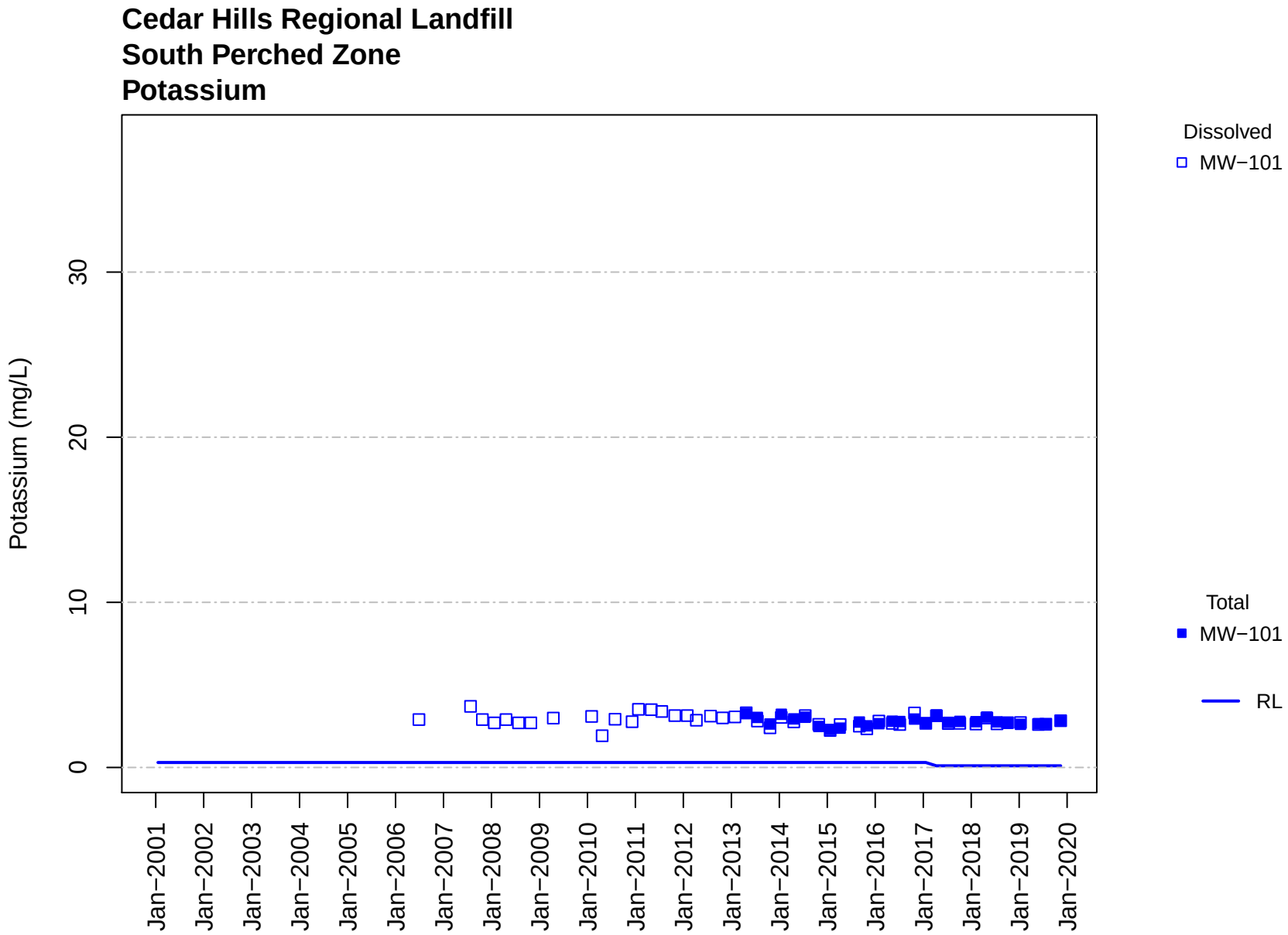

Cedar Hills Regional Landfill
East Perched Zone
Magnesium
Magnesium (mg/L)
0
20
40
60
80
Jan−2001
Jan−2002
Jan−2003
Jan−2004
Jan−2005
Jan−2006
Jan−2007
Jan−2008
Jan−2009
Jan−2010
Jan−2011
Jan−2012
Jan−2013
Jan−2014
Jan−2015
Jan−2016
Jan−2017
Jan−2018
Jan−2019
Jan−2020
Dissolved
EW−25
MW−30A
MW−47
MW−62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

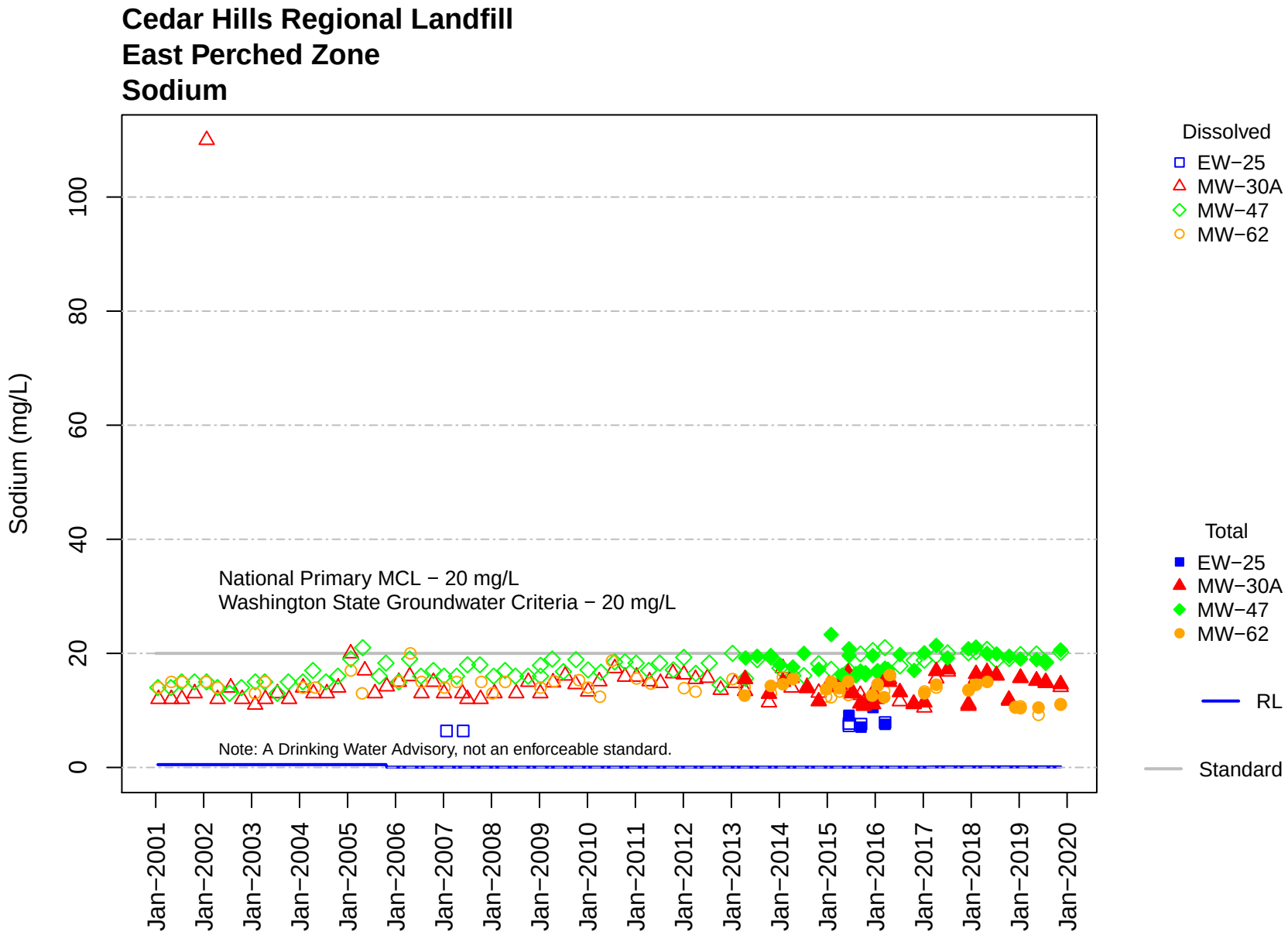

Cedar Hills Regional Landfill
South Perched Zone
Magnesium
Magnesium (mg/L)
0
20
40
60
80
Jan−2001
Jan−2002
Jan−2003
Jan−2004
Jan−2005
Jan−2006
Jan−2007
Jan−2008
Jan−2009
Jan−2010
Jan−2011
Jan−2012
Jan−2013
Jan−2014
Jan−2015
Jan−2016
Jan−2017
Jan−2018
Jan−2019
Jan−2020
Dissolved
MW−101
Total
MW−101
RL

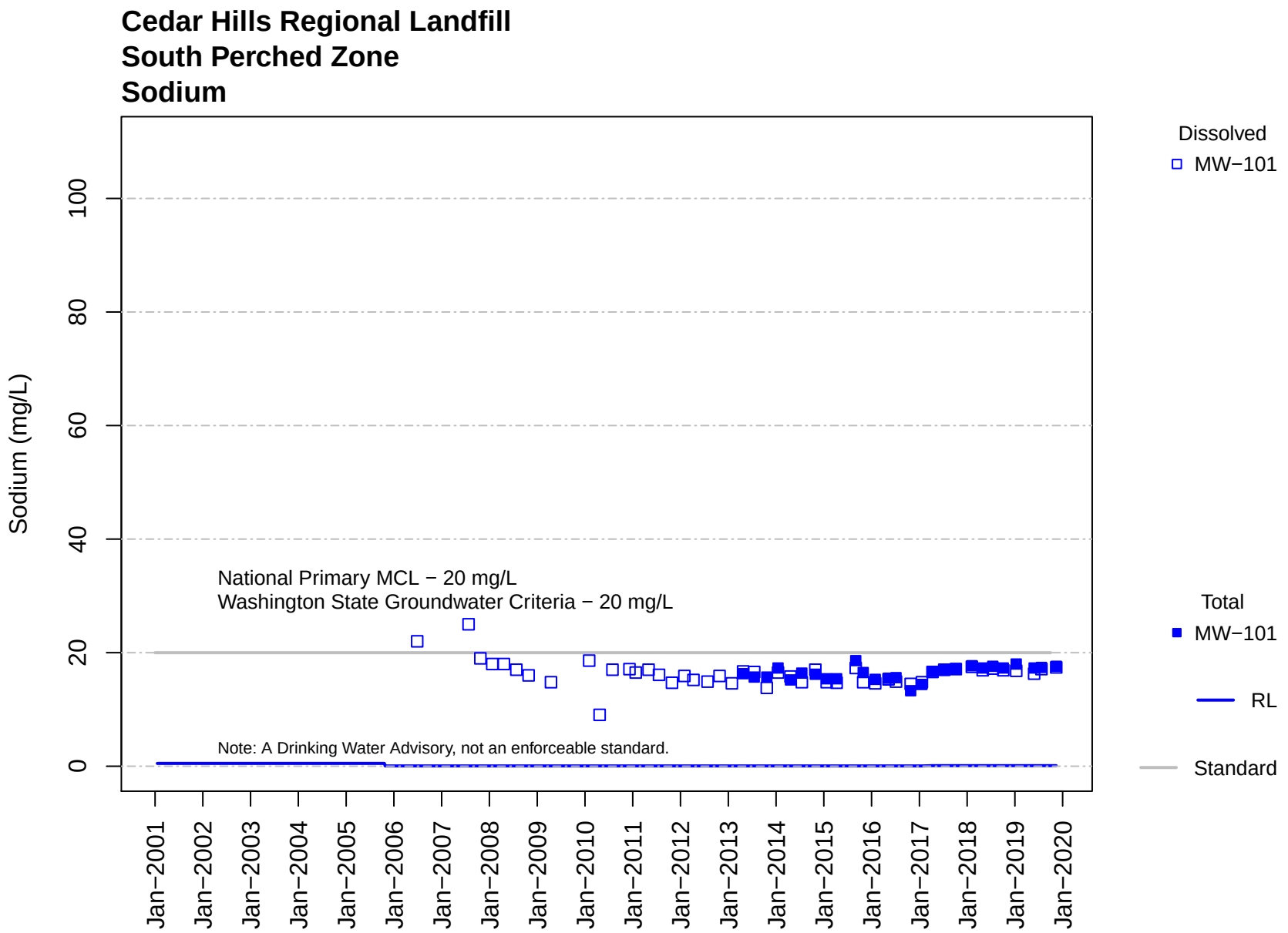

Cedar Hills Regional Landfill
East Perched Zone
Manganese
Manganese (mg/L)
0
1
2
3
4
5
Jan−2001
Jan−2002
Jan−2003
Jan−2004
Jan−2005
Jan−2006
Jan−2007
Jan−2008
Jan−2009
Jan−2010
Jan−2011
Jan−2012
Jan−2013
Jan−2014
Jan−2015
Jan−2016
Jan−2017
Jan−2018
Jan−2019
Jan−2020
National Secondary MCL − 0.5 mg/L
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

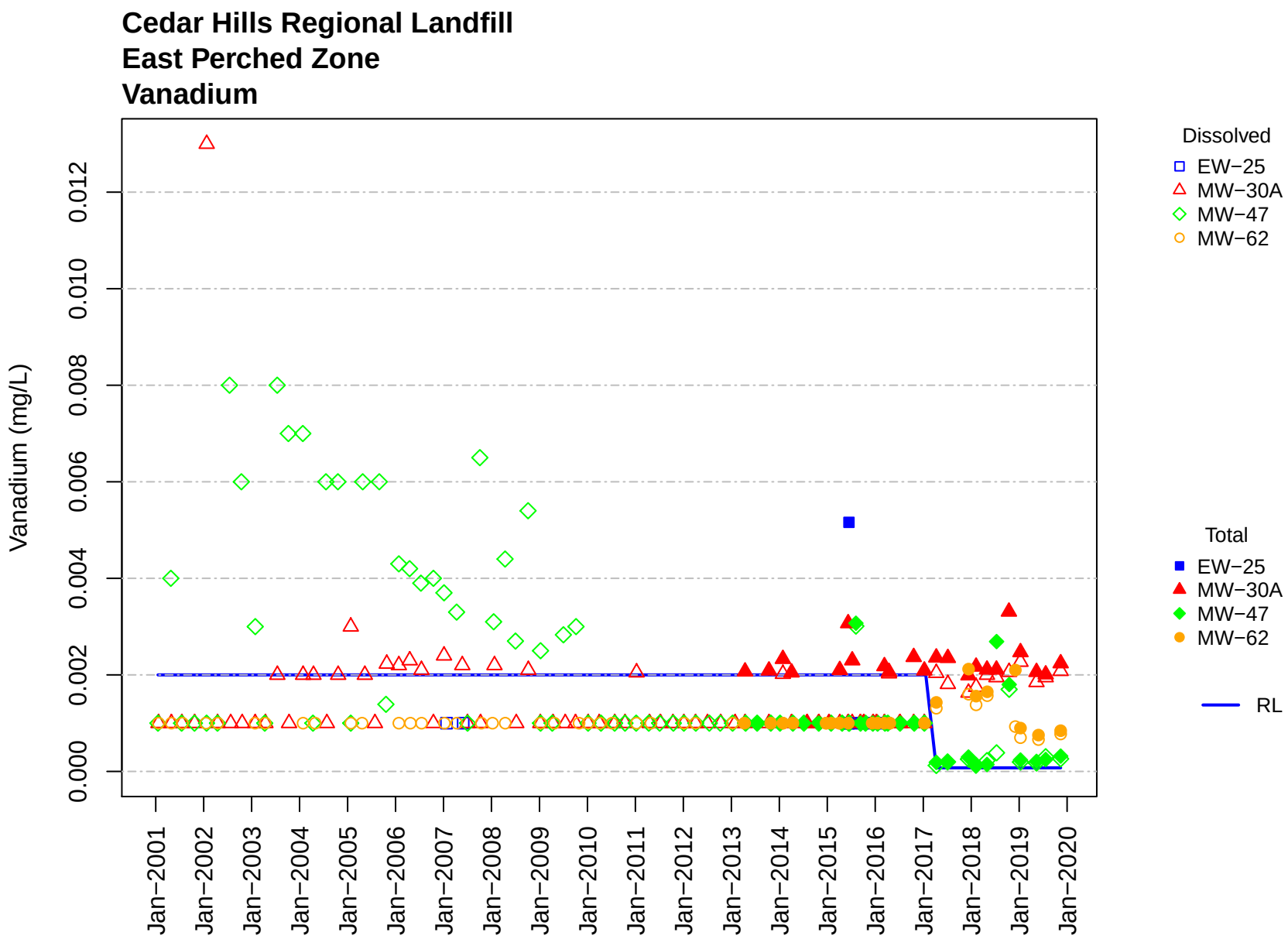

Cedar Hills Regional Landfill
South Perched Zone
Manganese
Manganese (mg/L)
0
1
2
3
4
5
Jan−2001
Jan−2002
Jan−2003
Jan−2004
Jan−2005
Jan−2006
Jan−2007
Jan−2008
Jan−2009
Jan−2010
Jan−2011
Jan−2012
Jan−2013
Jan−2014
Jan−2015
Jan−2016
Jan−2017
Jan−2018
Jan−2019
Jan−2020
National Secondary MCL − 0.5 mg/L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

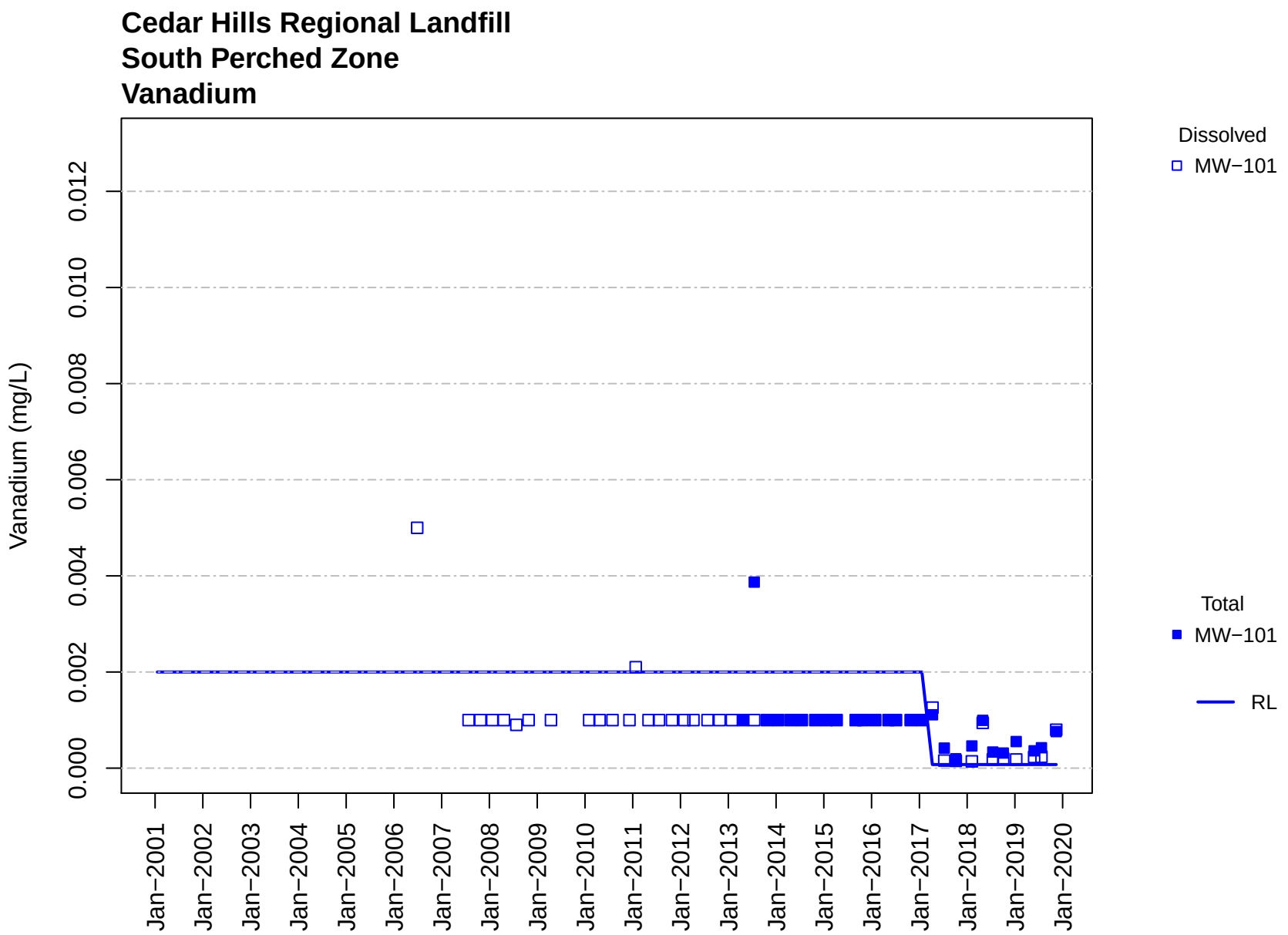

Cedar Hills Regional Landfill
East Perched Zone
Potassium
Potassium (mg/L)
0
10
20
30
Jan−2001
Jan−2002
Jan−2003
Jan−2004
Jan−2005
Jan−2006
Jan−2007
Jan−2008
Jan−2009
Jan−2010
Jan−2011
Jan−2012
Jan−2013
Jan−2014
Jan−2015
Jan−2016
Jan−2017
Jan−2018
Jan−2019
Jan−2020
Dissolved
EW−25
MW−30A
MW−47
MW−62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

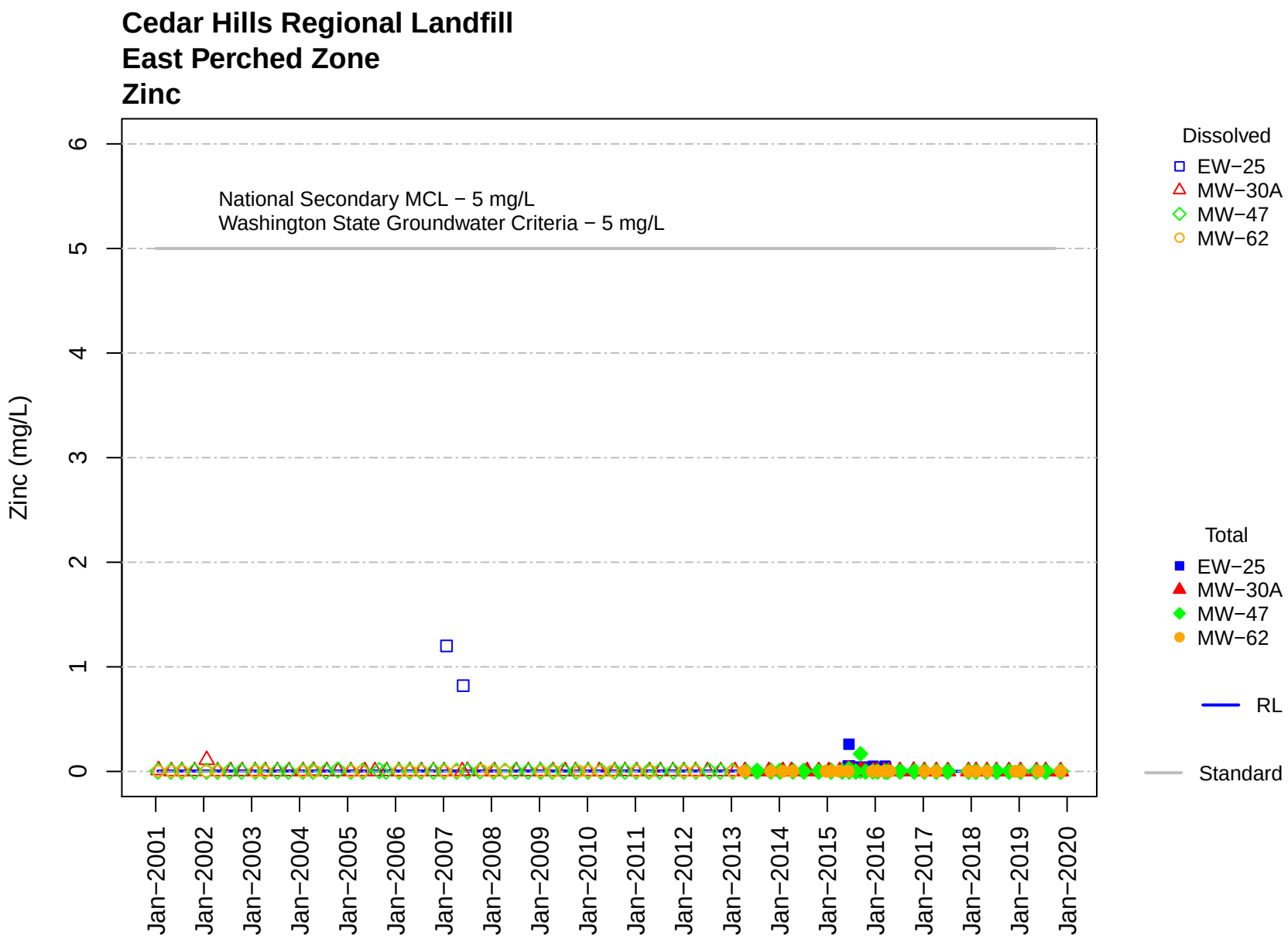

Cedar Hills Regional Landfill
South Perched Zone
Potassium
Potassium (mg/L)
0
10
20
30
Jan−2001
Jan−2002
Jan−2003
Jan−2004
Jan−2005
Jan−2006
Jan−2007
Jan−2008
Jan−2009
Jan−2010
Jan−2011
Jan−2012
Jan−2013
Jan−2014
Jan−2015
Jan−2016
Jan−2017
Jan−2018
Jan−2019
Jan−2020
Dissolved
MW−101
Total
MW−101
RL

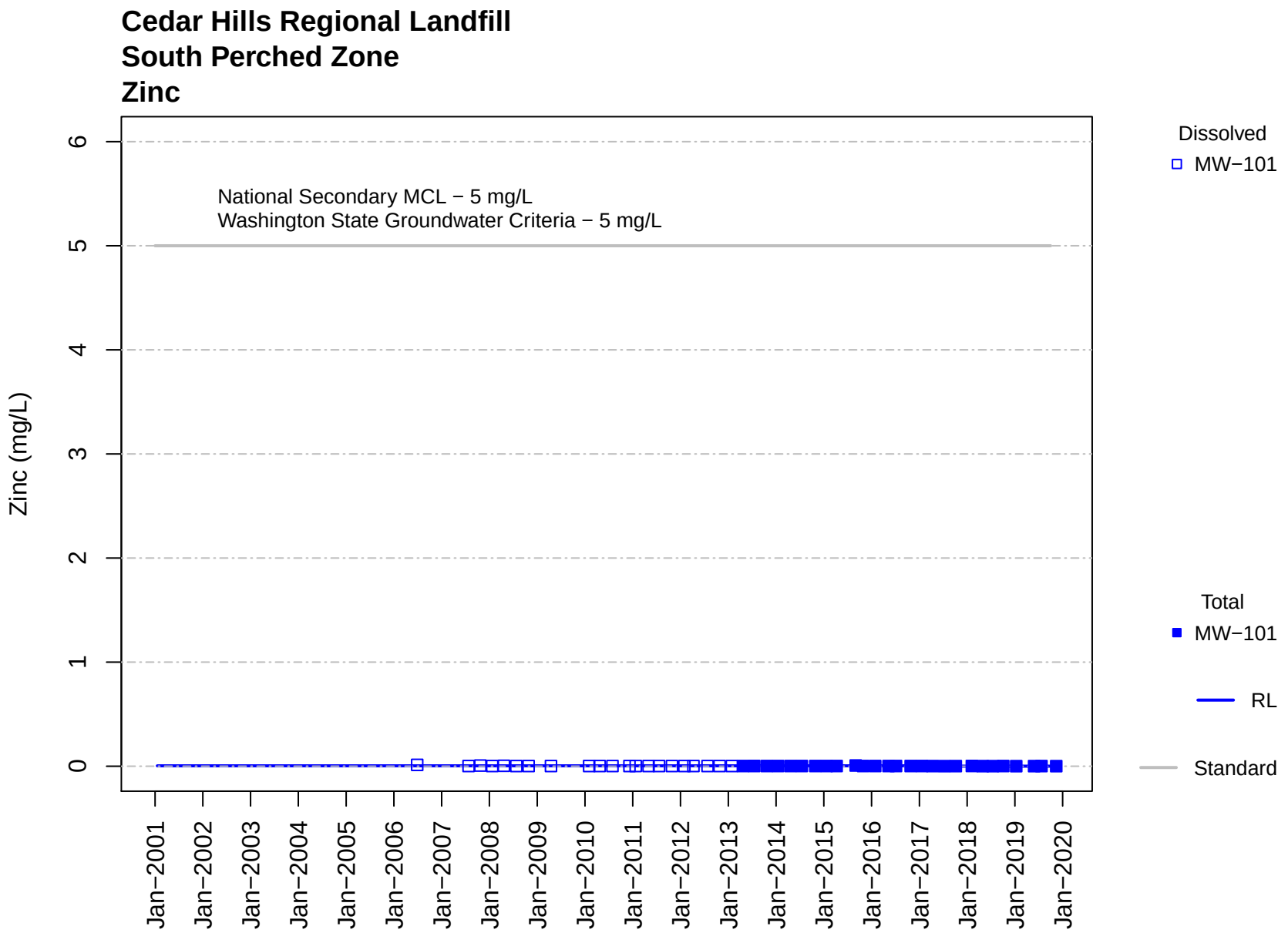

Cedar Hills Regional Landfill
East Perched Zone
Sodium
Sodium (mg/L)
0
20
40
60
80
100
Jan−2001
Jan−2002
Jan−2003
Jan−2004
Jan−2005
Jan−2006
Jan−2007
Jan−2008
Jan−2009
Jan−2010
Jan−2011
Jan−2012
Jan−2013
Jan−2014
Jan−2015
Jan−2016
Jan−2017
Jan−2018
Jan−2019
Jan−2020
National Primary MCL − 20 mg/L
Washington State Groundwater Criteria − 20 mg/L
Note: A Drinking Water Advisory, not an enforceable standard.
Dissolved
EW−25
MW−30A
MW−47
MW−62
Total
EW−25
MW−30A
MW−47
MW−62
RL
Standard

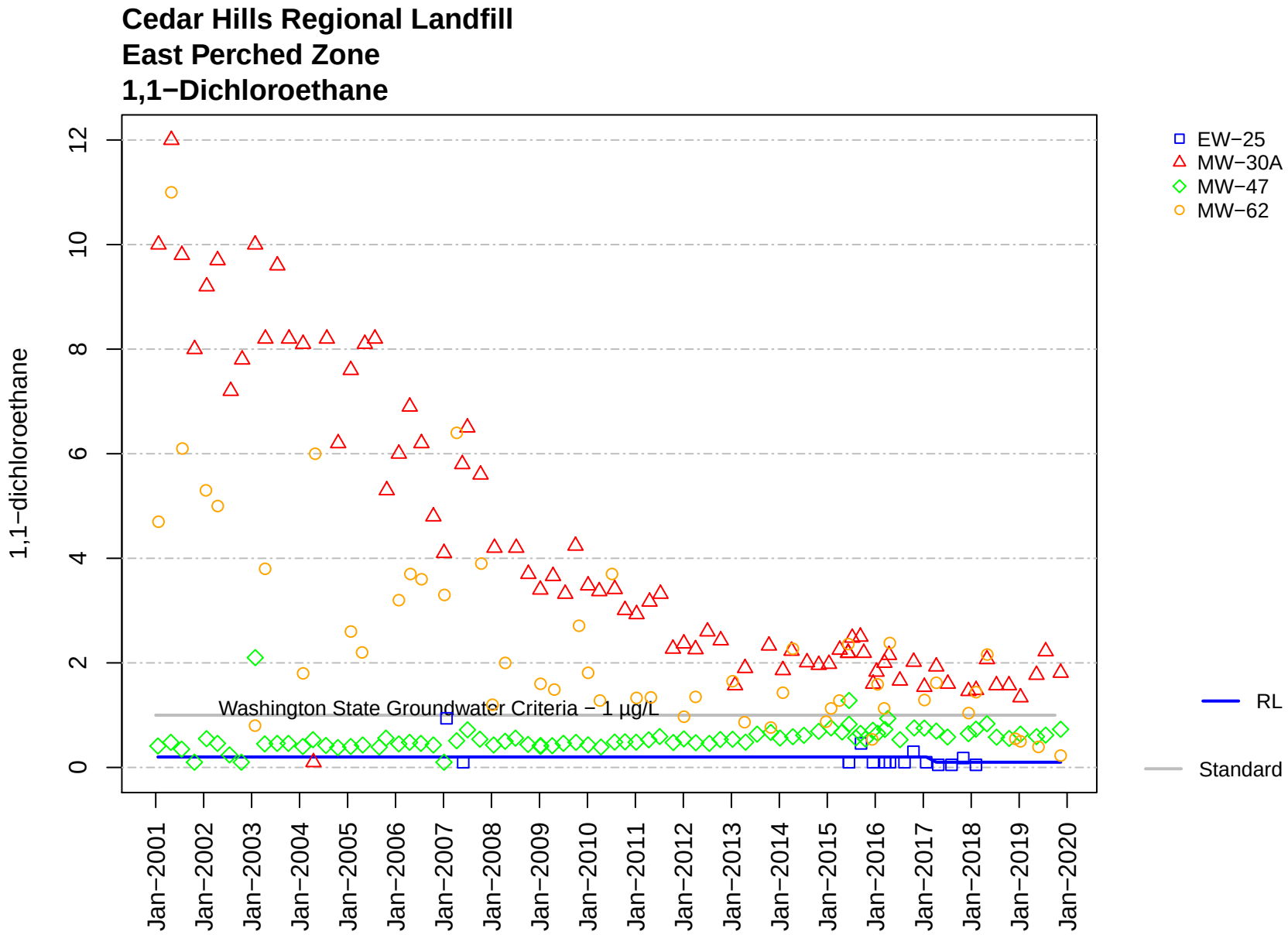

Cedar Hills Regional Landfill
South Perched Zone
Sodium
Sodium (mg/L)
0
20
40
60
80
100
National Primary MCL − 20 mg/L
Washington State Groundwater Criteria − 20 mg/L
Note: A Drinking Water Advisory, not an enforceable standard.
Jan−2001
Jan−2002
Jan−2003
Jan−2004
Jan−2005
Jan−2006
Jan−2007
Jan−2008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

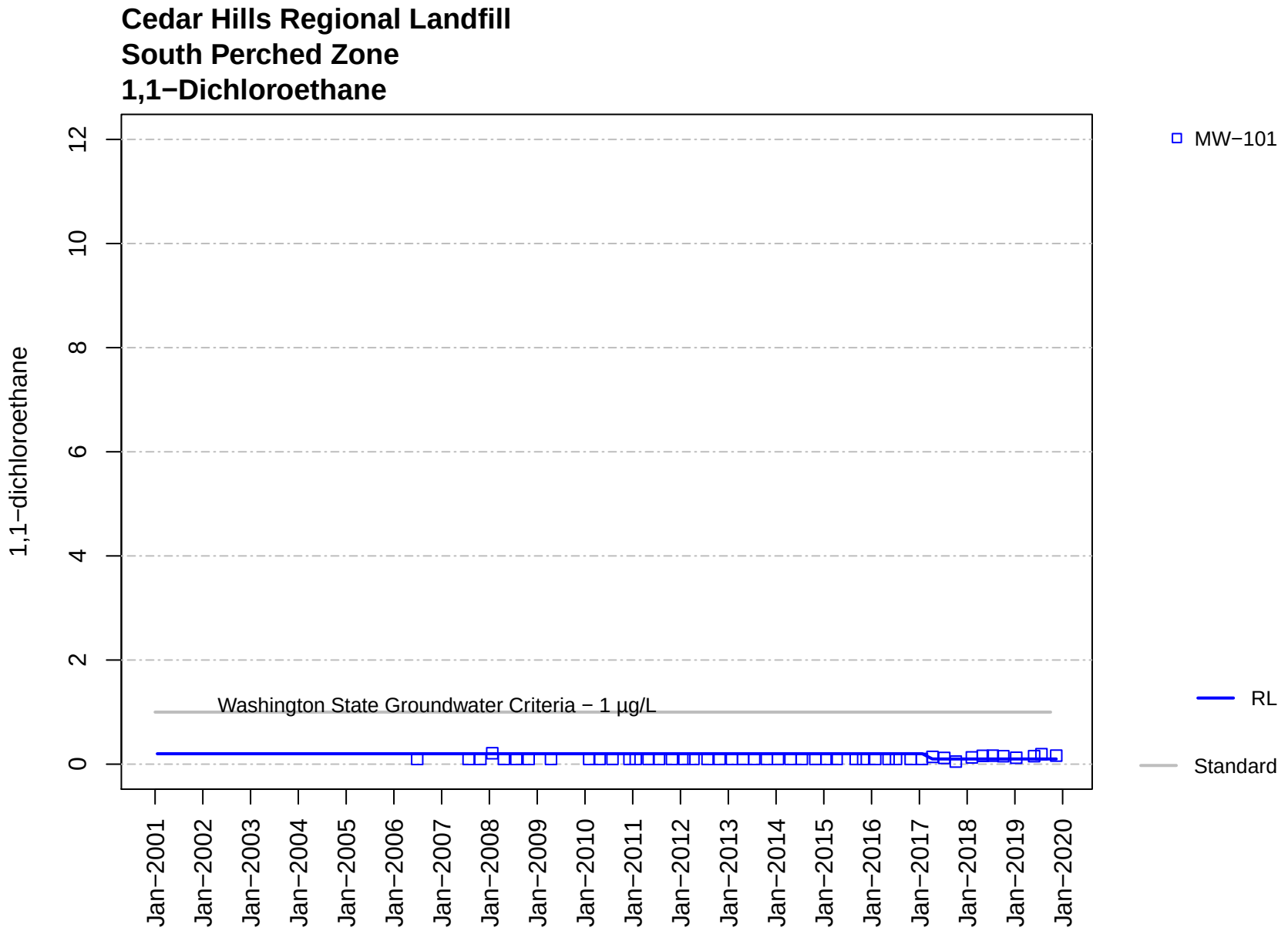

Cedar Hills Regional Landfill
East Perched Zone
Vanadium
Vanadium (mg/L)
0.000
0.002
0.004
0.006
0.008
0.010
0.012
Jan−2001
Jan−2002
Jan−2003
Jan−2004
Jan−2005
Jan−2006
Jan−2007
Jan−2008
Jan−2009
Jan−2010
Jan−2011
Jan−2012
Jan−2013
Jan−2014
Jan−2015
Jan−2016
Jan−2017
Jan−2018
Jan−2019
Jan−2020
Dissolved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

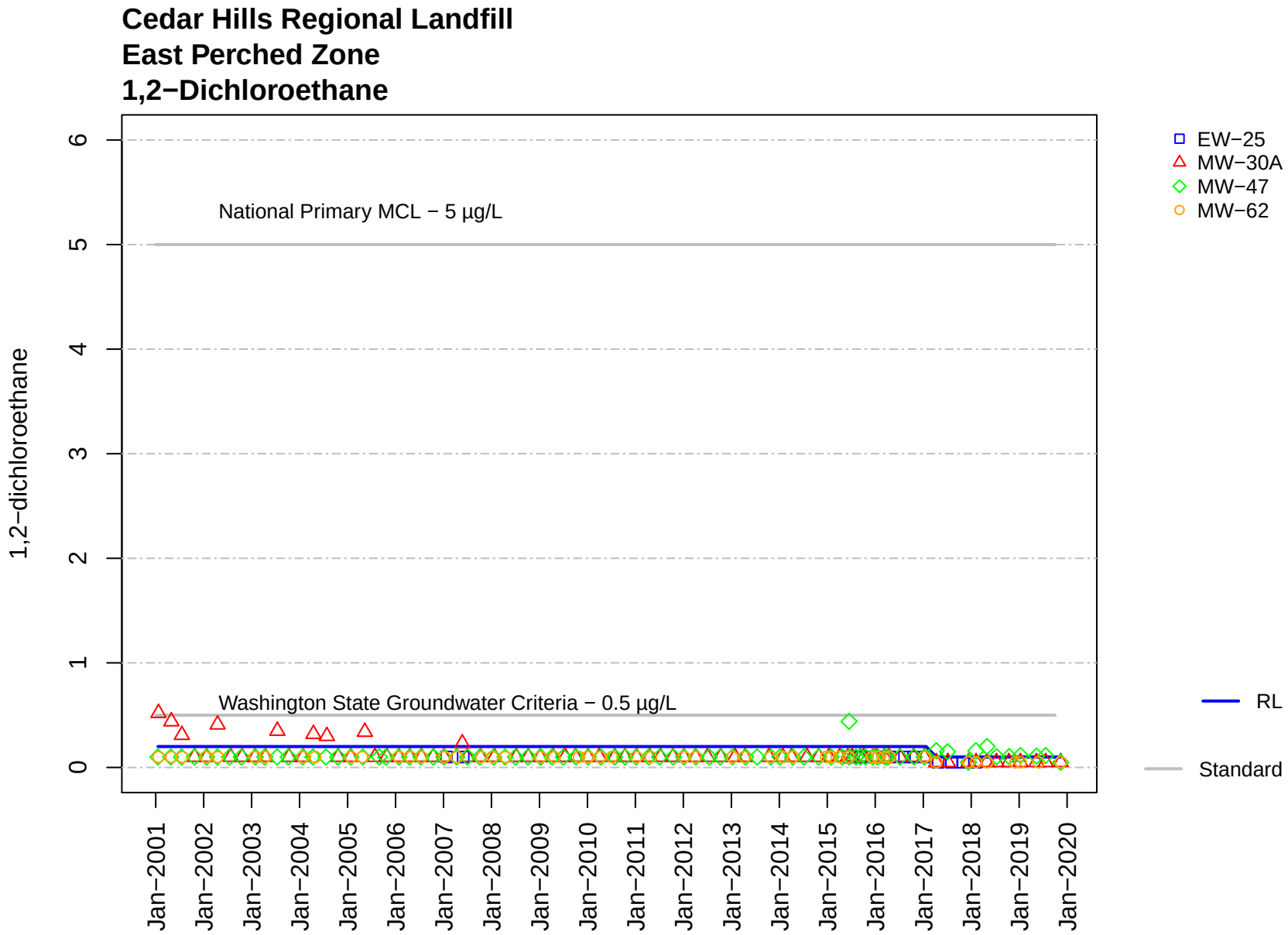

Cedar Hills Regional Landfill
South Perched Zone
Vanadium
Vanadium (mg/L)
0.000
0.002
0.004
0.006
0.008
0.010
0.012
Jan−2001
Jan−2002
Jan−2003
Jan−2004
Jan−2005
Jan−2006
Jan−2007
Jan−2008
Jan−2009
Jan−2010
Jan−2011
Jan−2012
Jan−2013
Jan−2014
Jan−2015
Jan−2016
Jan−2017
Jan−2018
Jan−2019
Jan−2020
Dissolved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

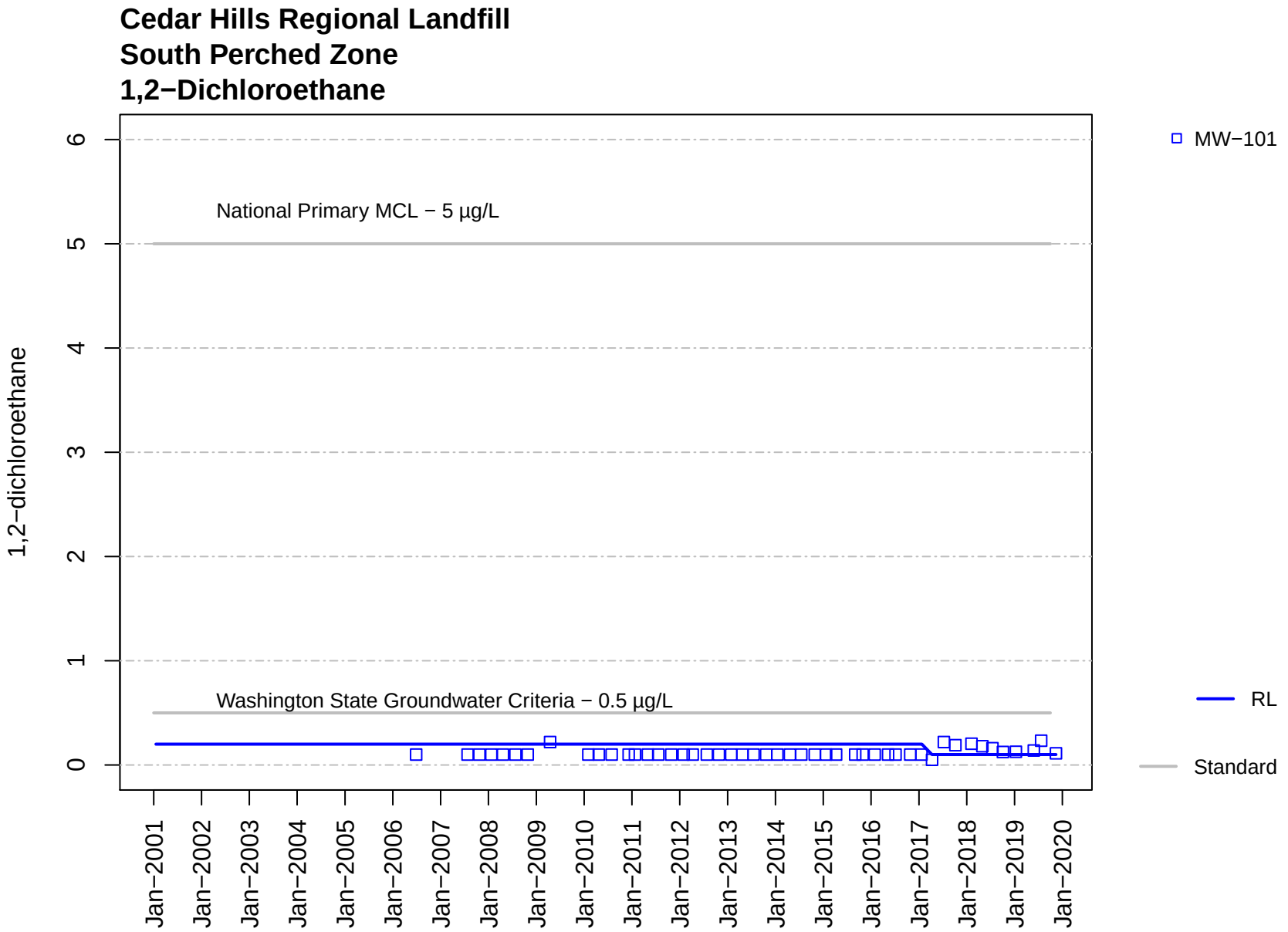

Cedar Hills Regional Landfill
East Perched Zone
Zinc
National Secondary MCL − 5 mg/L
Washington State Groundwater Criteria − 5 mg/L
Zinc (mg/L)
0
1
2
3
4
5
6
Jan−2001
Jan−2002
Jan−2003
Jan−2004
Jan−2005
Jan−2006
Jan−2007
Jan−2008
Jan−2009
Jan−2010
Jan−2011
Jan−2012
Jan−2013
Jan−2014
Jan−2015
Jan−2016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

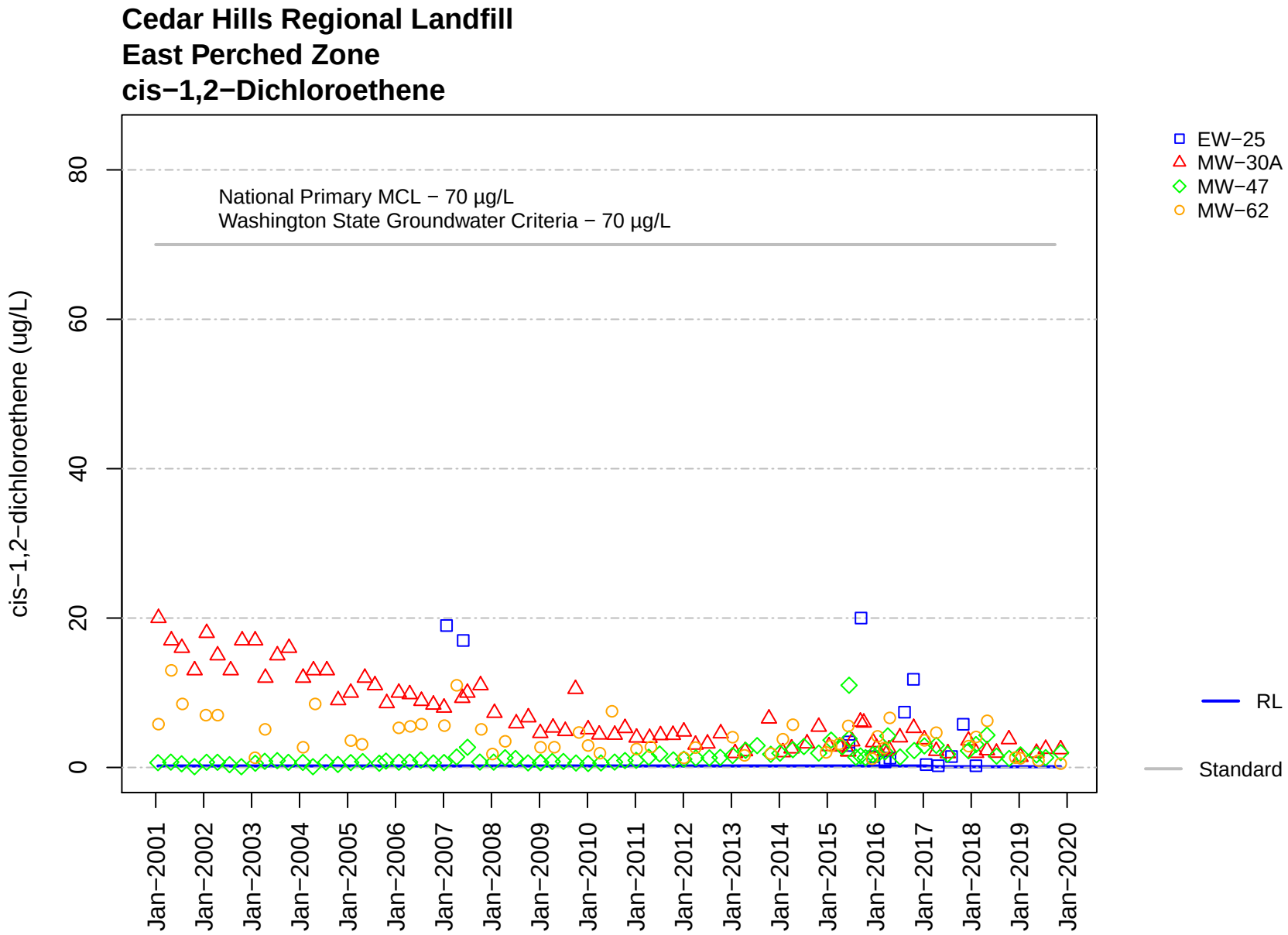

Cedar Hills Regional Landfill
South Perched Zone
Zinc
Zinc (mg/L)
0
1
2
3
4
5
6
National Secondary MCL − 5 mg/L
Washington State Groundwater Criteria − 5 mg/L
Jan−2001
Jan−2002
Jan−2003
Jan−2004
Jan−2005
Jan−2006
Jan−2007
Jan−2008
Jan−2009
Jan−2010
Jan−2011
Jan−2012
Jan−2013
Jan−2014
Jan−2015
Jan−2016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

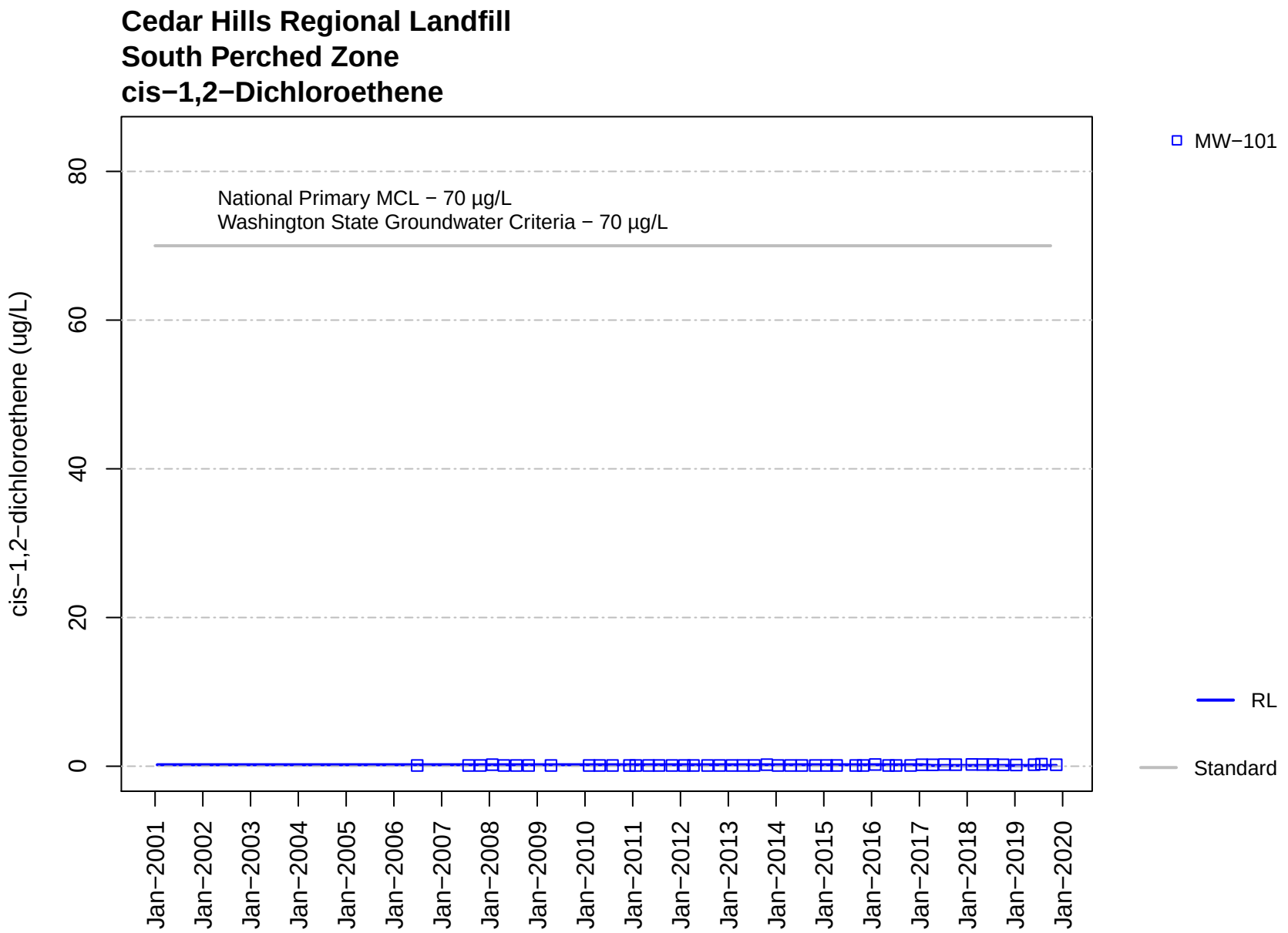

Cedar Hills Regional Landfill
East Perched Zone
1,1−Dichloroethane
1,1−dichloroethane
0
2
4
6
8
10
12
Jan−2001
Jan−2002
Jan−2003
Jan−2004
Jan−2005
Jan−2006
Jan−2007
Jan−2008
Jan−2009
Jan−2010
Jan−2011
Jan−2012
Jan−2013
Jan−2014
Jan−2015
Jan−2016
Jan−2017
Jan−2018
Jan−2019
Jan−2020
Washington State Groundwater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

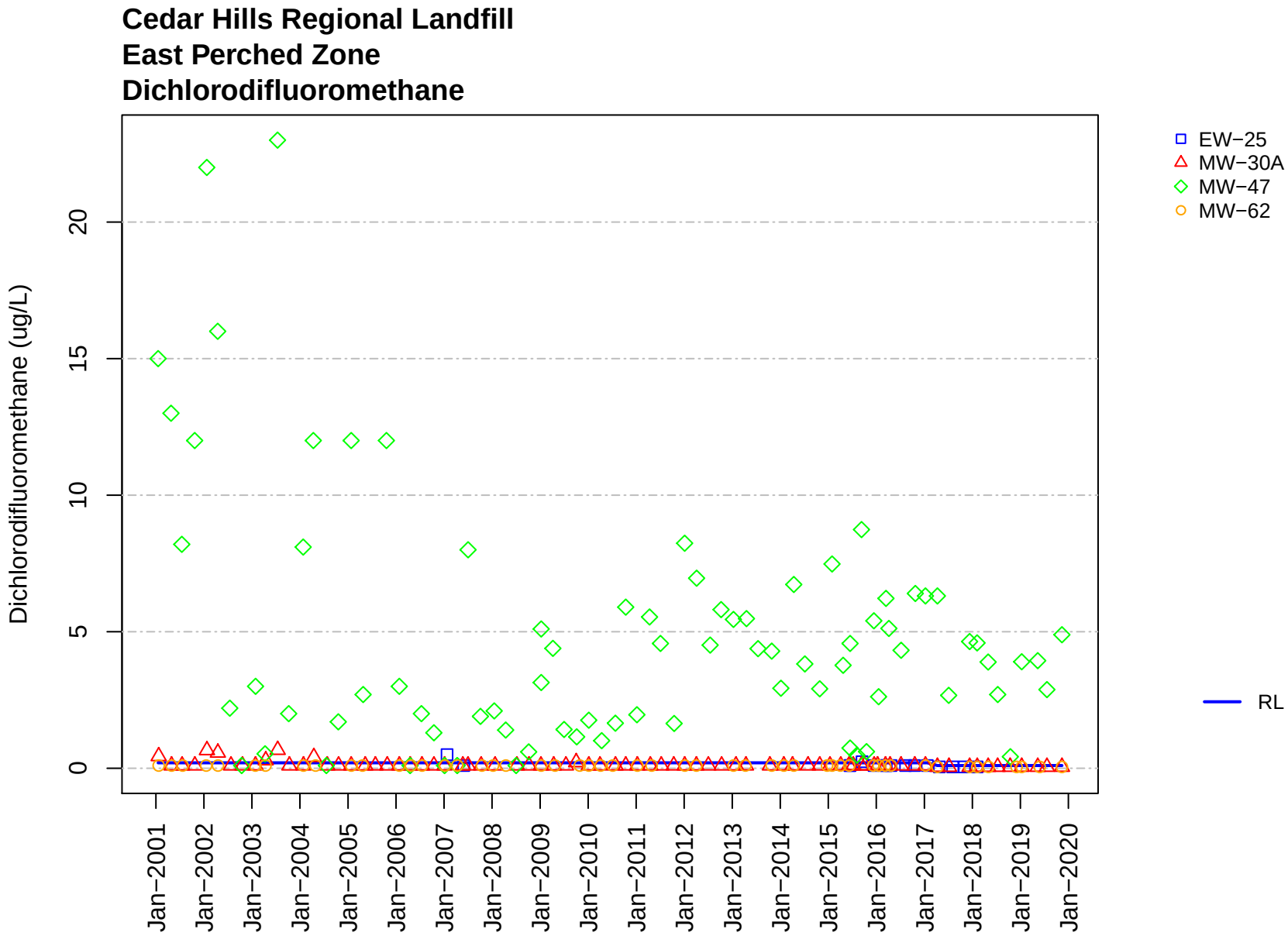

Cedar Hills Regional Landfill
South Perched Zone
1,1−Dichloroethane
1,1−dichloroethane
0
2
4
6
8
10
12
Jan−2001
Jan−2002
Jan−2003
Jan−2004
Jan−2005
Jan−2006
Jan−2007
Jan−2008
Jan−2009
Jan−2010
Jan−2011
Jan−2012
Jan−2013
Jan−2014
Jan−2015
Jan−2016
Jan−2017
Jan−2018
Jan−2019
Jan−2020
Washington State Groundwater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

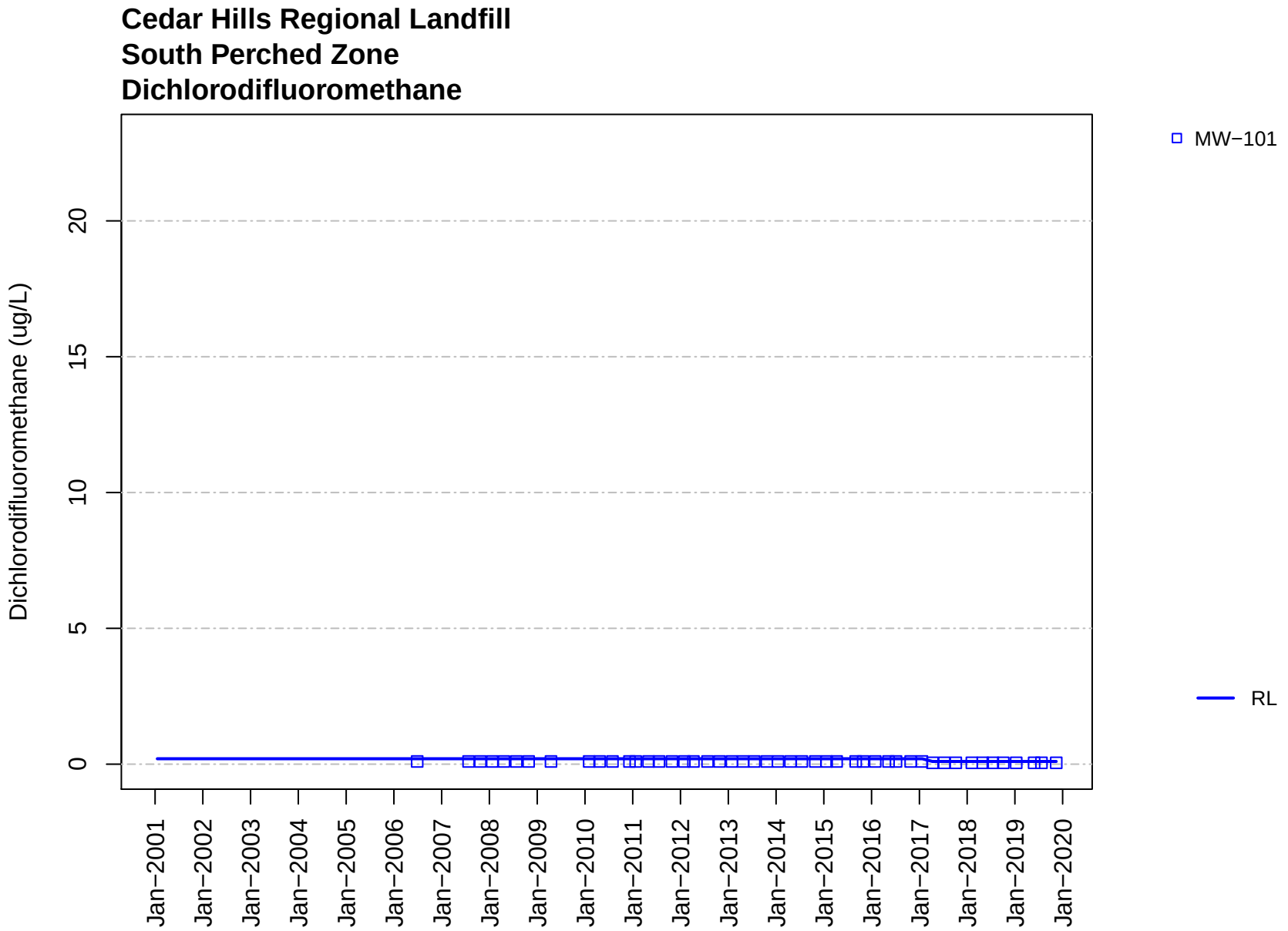

Cedar Hills Regional Landfill
East Perched Zone
1,2−Dichloroethane
1,2−dichloroethane
0
1
2
3
4
5
6
National Primary MCL − 5 µg/L
Washington State Groundwater Criteria − 0.5 µg/L
Jan−2001
Jan−2002
Jan−2003
Jan−2004
Jan−2005
Jan−2006
Jan−2007
Jan−2008
Jan−2009
Jan−2010
Jan−2011
Jan−2012
Jan−2013
Jan−2014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

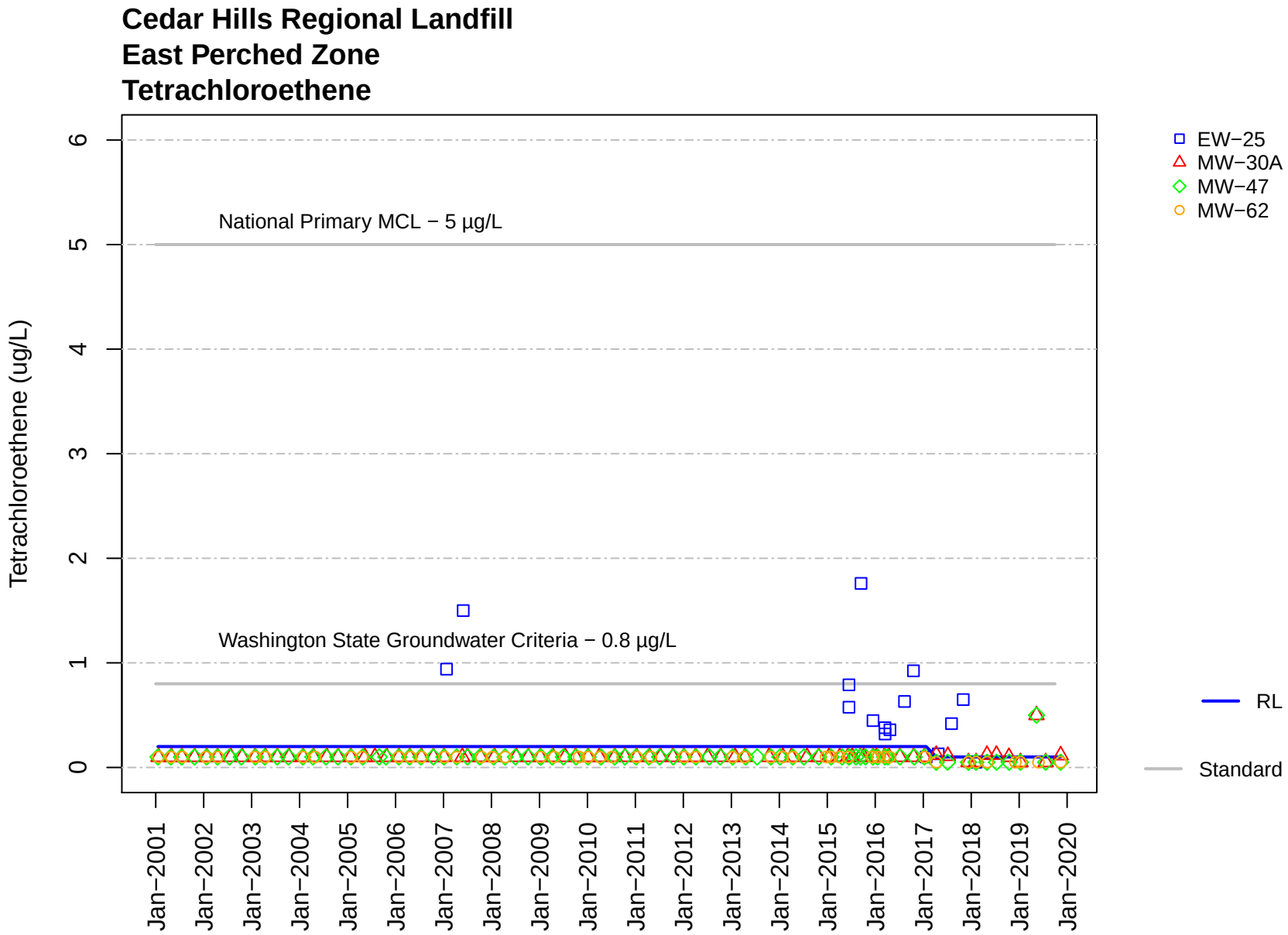

Cedar Hills Regional Landfill
South Perched Zone
1,2−Dichloroethane
1,2−dichloroethane
0
1
2
3
4
5
6
National Primary MCL − 5 µg/L
Washington State Groundwater Criteria − 0.5 µg/L
Jan−2001
Jan−2002
Jan−2003
Jan−2004
Jan−2005
Jan−2006
Jan−2007
Jan−2008
Jan−2009
Jan−2010
Jan−2011
Jan−2012
Jan−2013
Jan−2014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

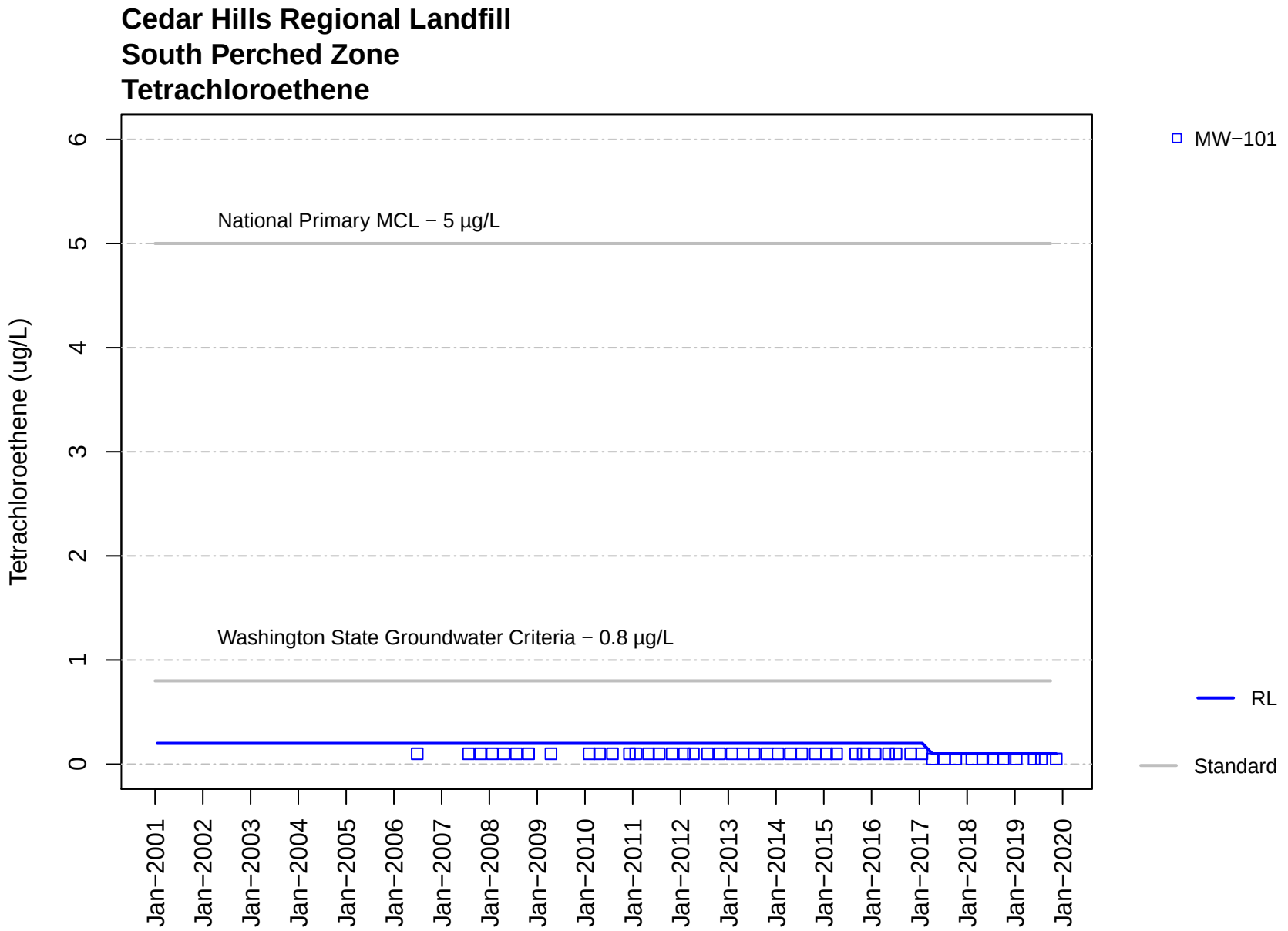

Cedar Hills Regional Landfill
East Perched Zone
cis−1,2−Dichloroethene
National Primary MCL − 70 µg/L
Washington State Groundwater Criteria − 70 µg/L
cis−1,2−dichloroethene (ug/L)
0
20
40
60
80
Jan−2001
Jan−2002
Jan−2003
Jan−2004
Jan−2005
Jan−2006
Jan−2007
Jan−2008
Jan−2009
Jan−2010
Jan−2011
Jan−2012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

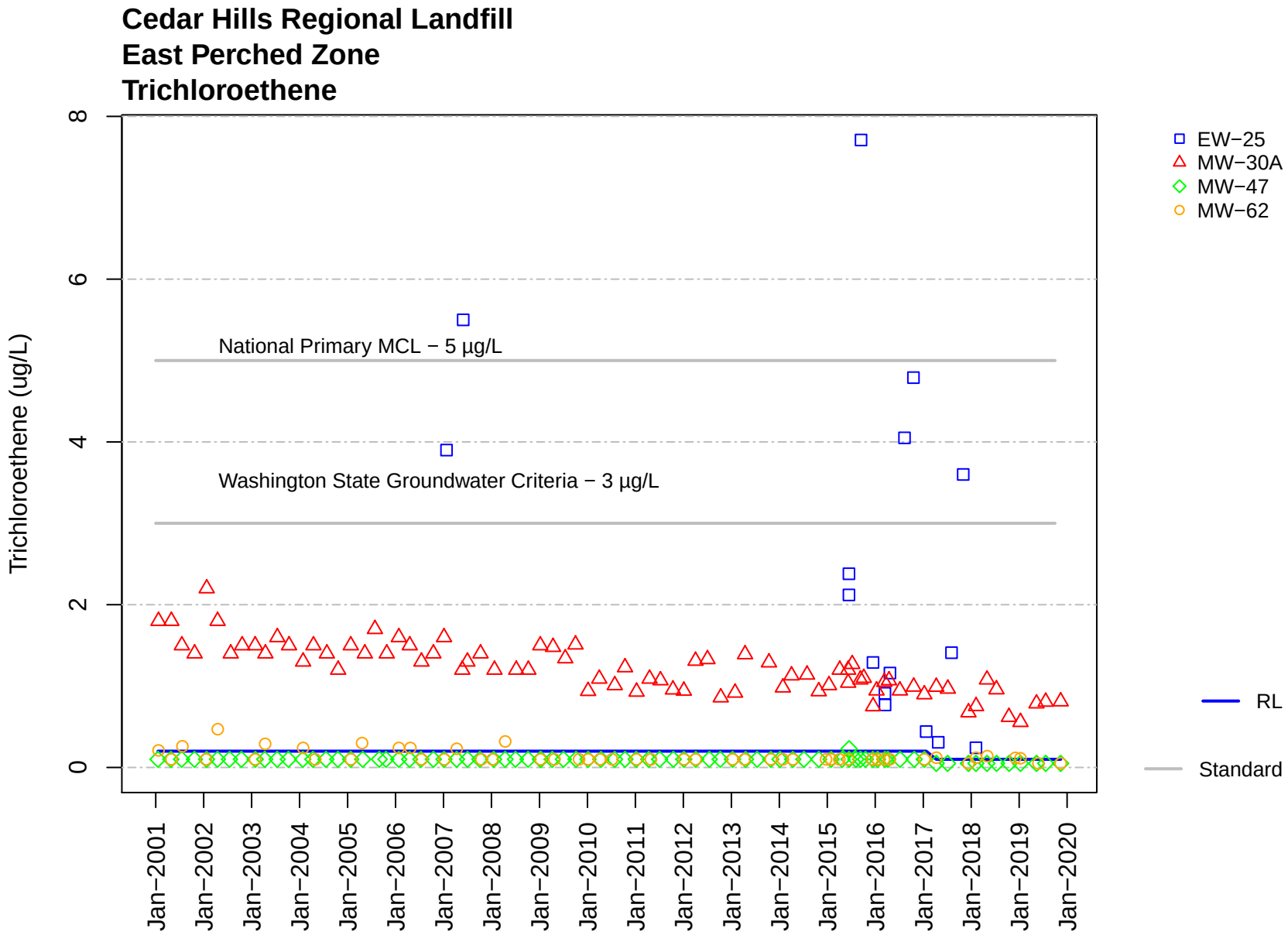

Cedar Hills Regional Landfill
South Perched Zone
cis−1,2−Dichloroethene
cis−1,2−dichloroethene (ug/L)
0
20
40
60
80
National Primary MCL − 70 µg/L
Washington State Groundwater Criteria − 70 µg/L
Jan−2001
Jan−2002
Jan−2003
Jan−2004
Jan−2005
Jan−2006
Jan−2007
Jan−2008
Jan−2009
Jan−2010
Jan−2011
Jan−2012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

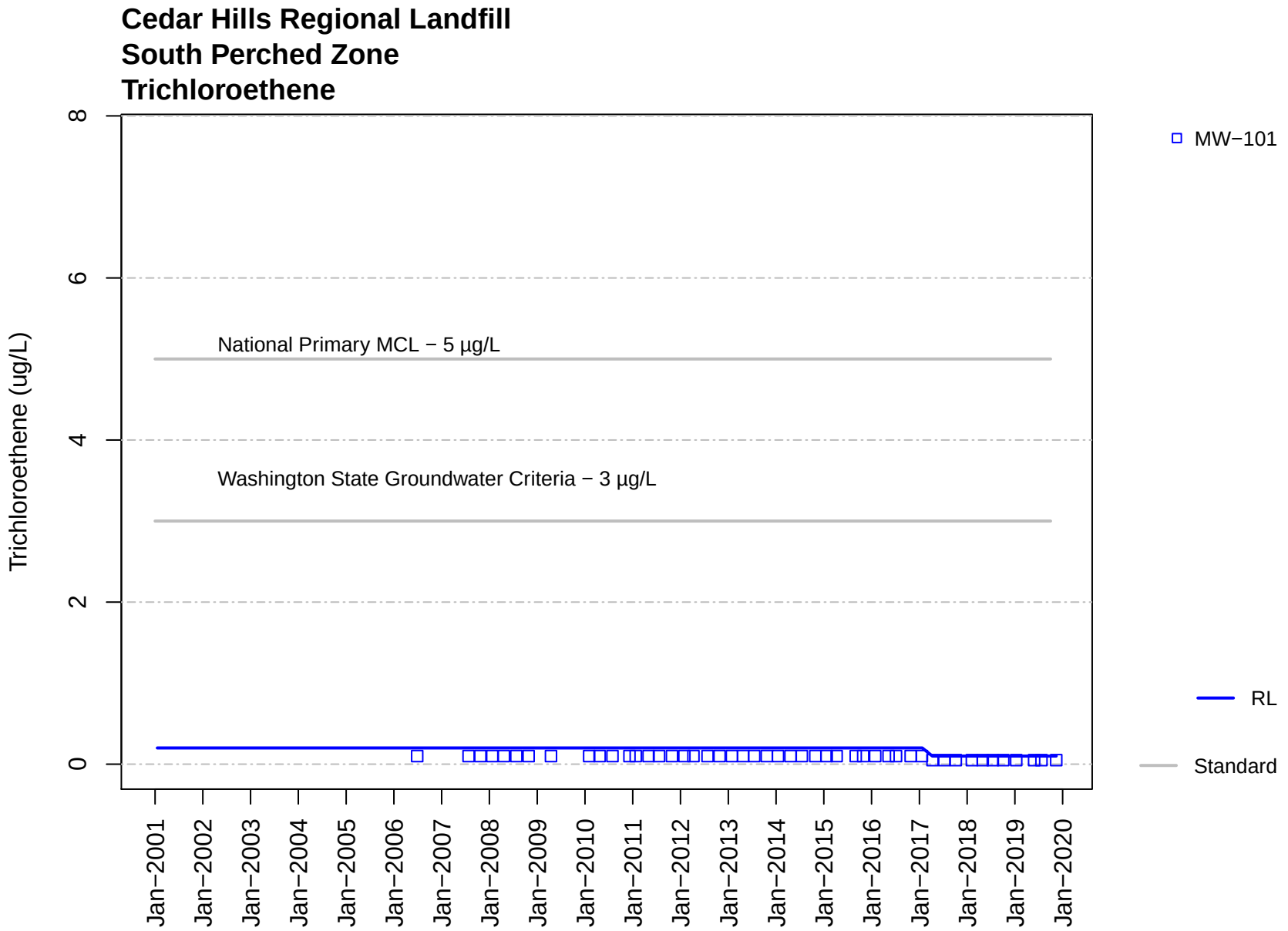

Cedar Hills Regional Landfill
East Perched Zone
Dichlorodifluoromethane
Dichlorodifluoromethane (ug/L)
0
5
10
15
20
Jan−2001
Jan−2002
Jan−2003
Jan−2004
Jan−2005
Jan−2006
Jan−2007
Jan−2008
Jan−2009
Jan−2010
Jan−2011
Jan−2012
Jan−2013
Jan−2014
Jan−2015
Jan−2016
Jan−2017
Jan−2018
Jan−2019
Jan−2020
EW−25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

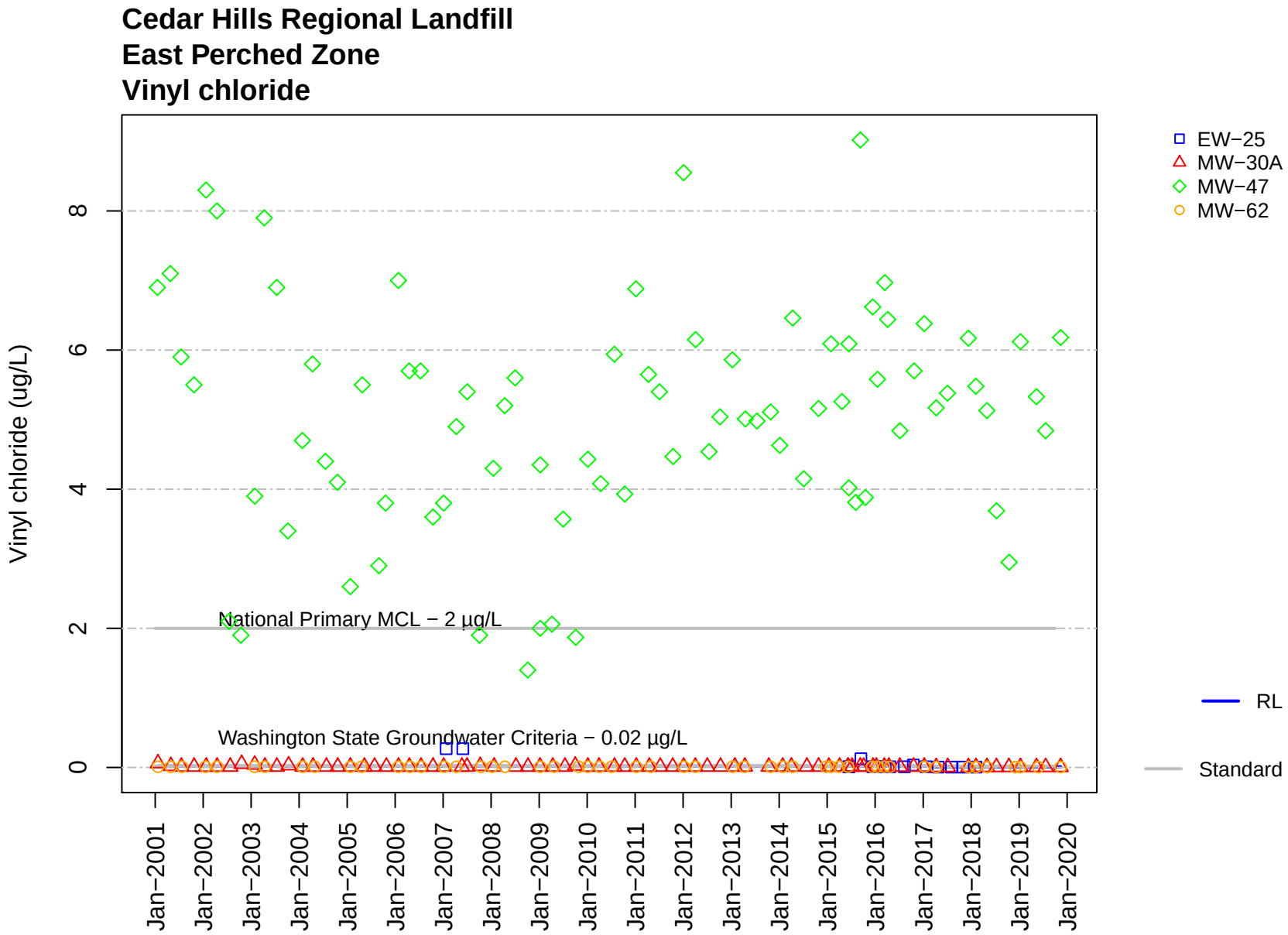

Cedar Hills Regional Landfill
South Perched Zone
Dichlorodifluoromethane
Dichlorodifluoromethane (ug/L)
0
5
10
15
20
Jan−2001
Jan−2002
Jan−2003
Jan−2004
Jan−2005
Jan−2006
Jan−2007
Jan−2008
Jan−2009
Jan−2010
Jan−2011
Jan−2012
Jan−2013
Jan−2014
Jan−2015
Jan−2016
Jan−2017
Jan−2018
Jan−2019
Jan−2020
MW−101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

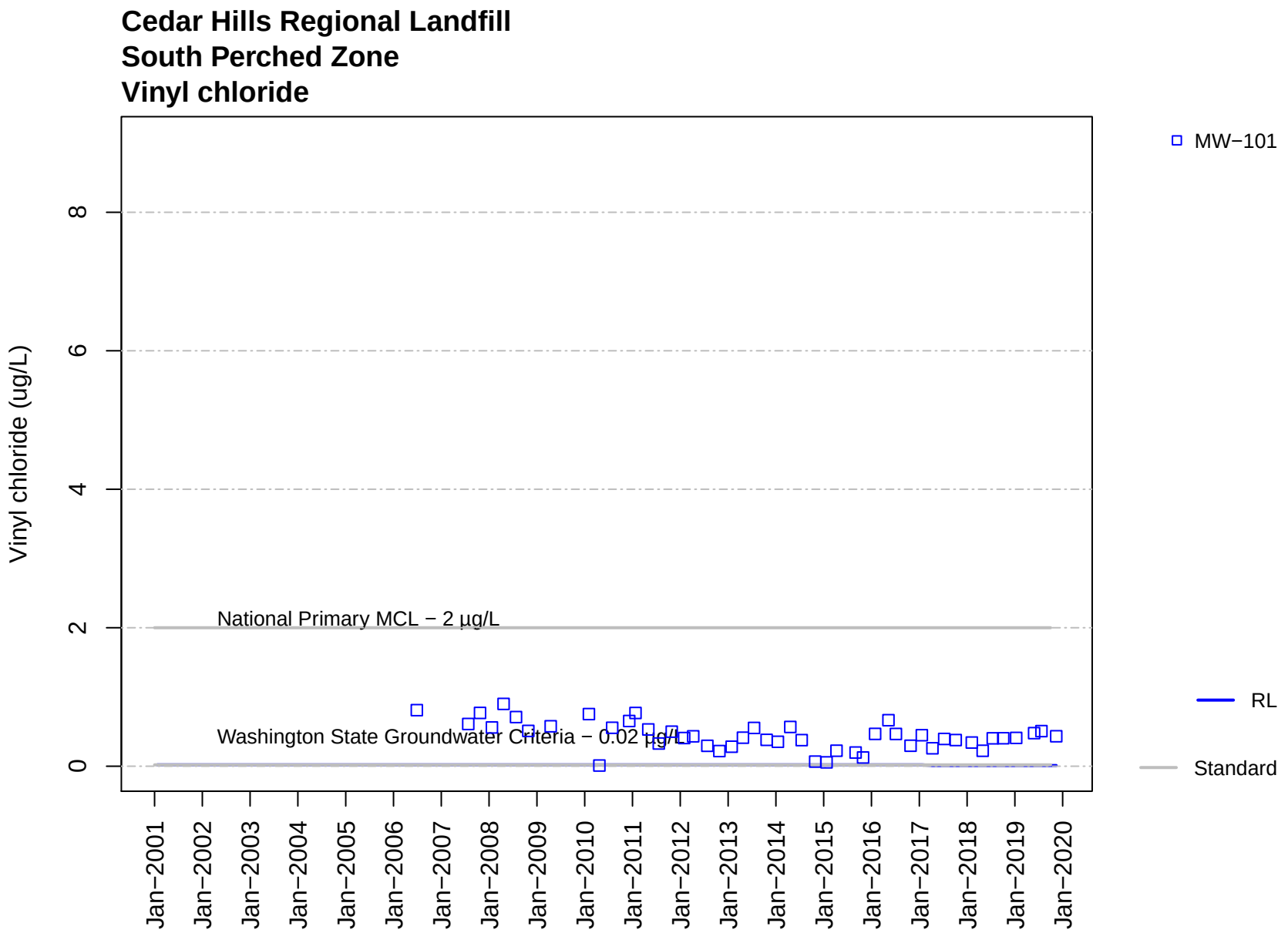

Cedar Hills Regional Landfill
East Perched Zone
Tetrachloroethene
Tetrachloroethene (ug/L)
0
1
2
3
4
5
6
National Primary MCL − 5 µg/L
Washington State Groundwater Criteria − 0.8 µg/L
Jan−2001
Jan−2002
Jan−2003
Jan−2004
Jan−2005
Jan−2006
Jan−2007
Jan−2008
Jan−2009
Jan−2010
Jan−2011
Jan−2012
Jan−2013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

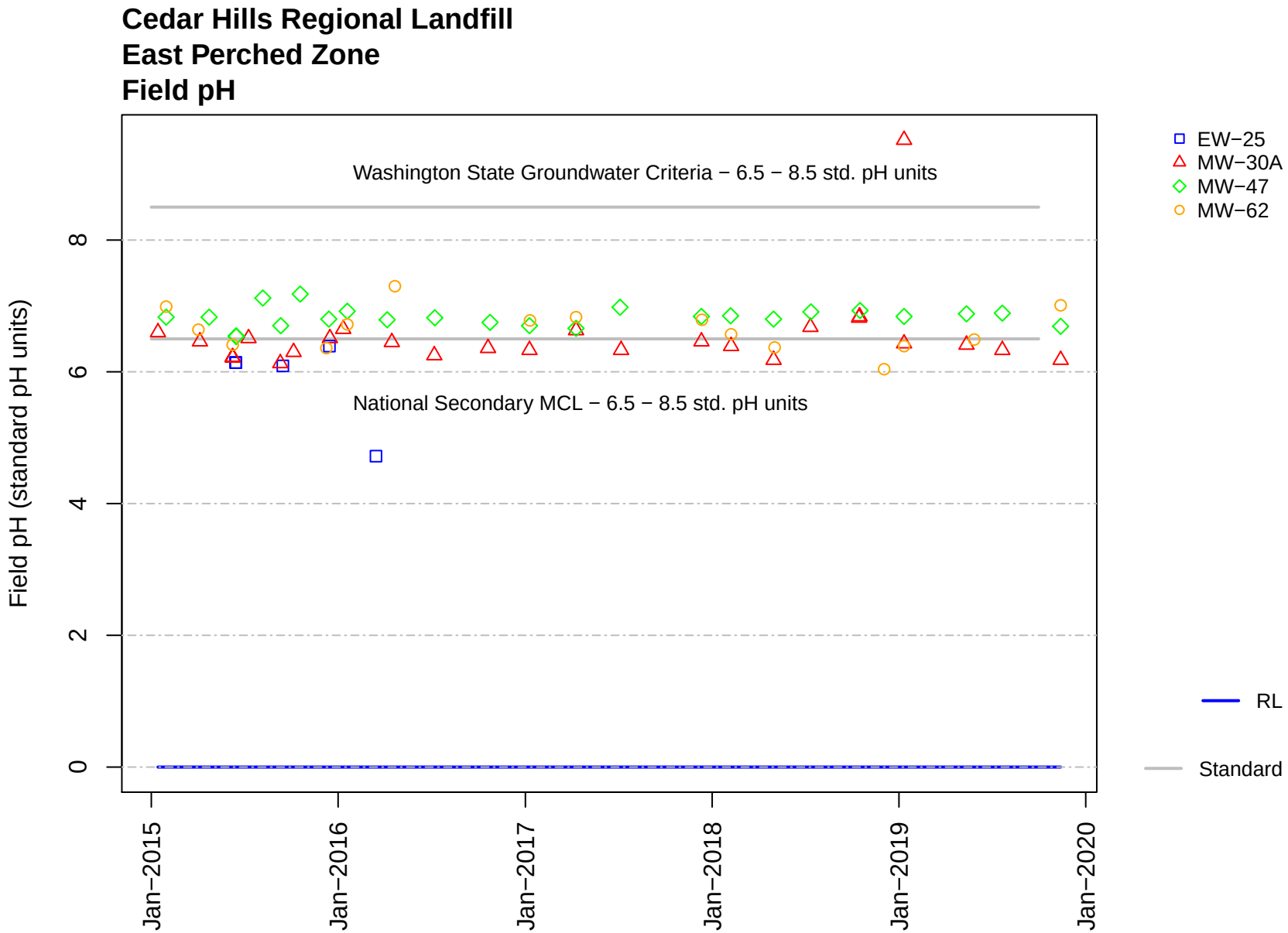

Cedar Hills Regional Landfill
South Perched Zone
Tetrachloroethene
Tetrachloroethene (ug/L)
0
1
2
3
4
5
6
National Primary MCL − 5 µg/L
Washington State Groundwater Criteria − 0.8 µg/L
Jan−2001
Jan−2002
Jan−2003
Jan−2004
Jan−2005
Jan−2006
Jan−2007
Jan−2008
Jan−2009
Jan−2010
Jan−2011
Jan−2012
Jan−2013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

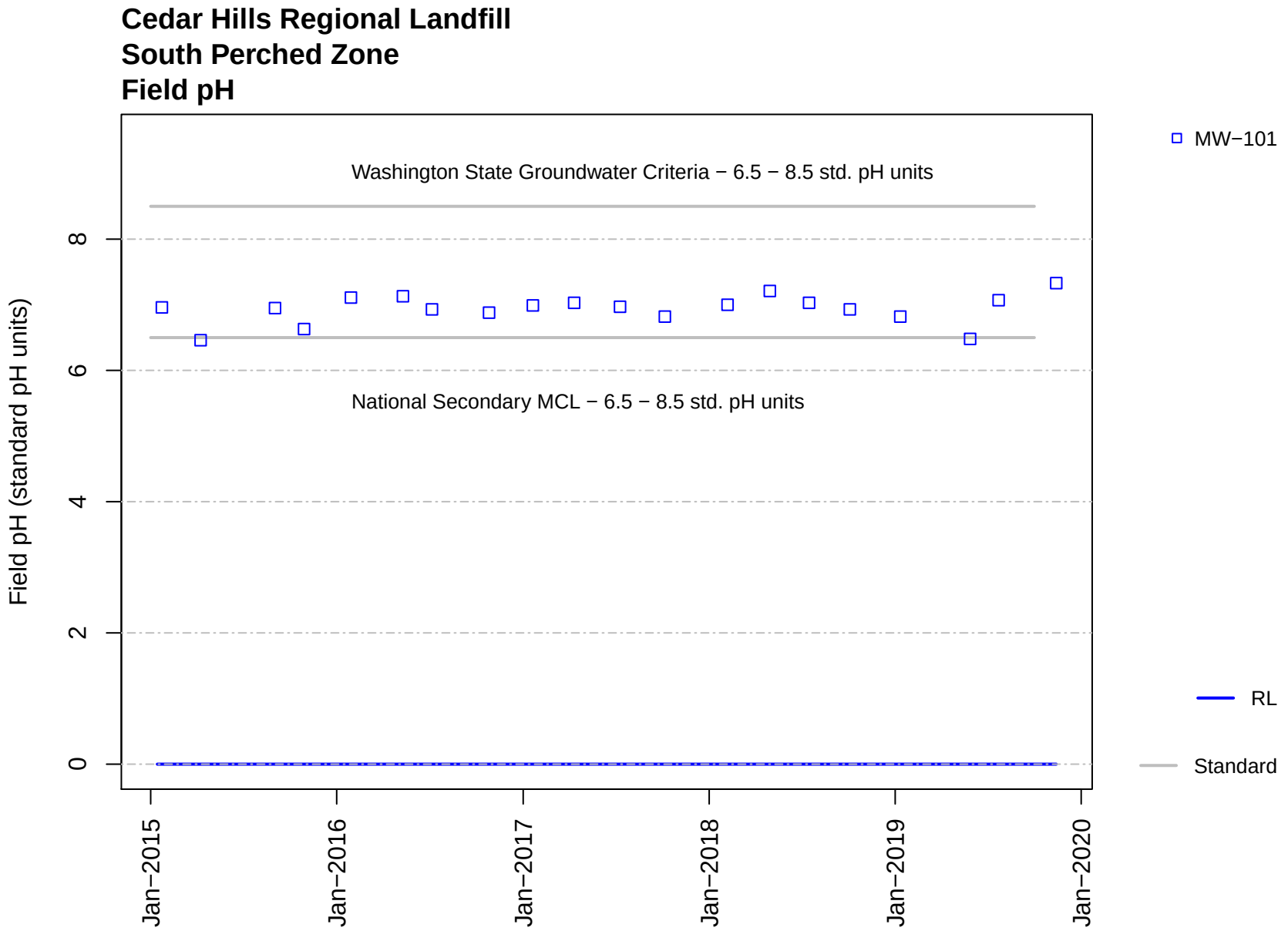

Cedar Hills Regional Landfill
East Perched Zone
Trichloroethene
Trichloroethene (ug/L)
0
2
4
6
8
National Primary MCL − 5 µg/L
Washington State Groundwater Criteria − 3 µg/L
Jan−2001
Jan−2002
Jan−2003
Jan−2004
Jan−2005
Jan−2006
Jan−2007
Jan−2008
Jan−2009
Jan−2010
Jan−2011
Jan−2012
Jan−2013
Jan−2014
Jan−2015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

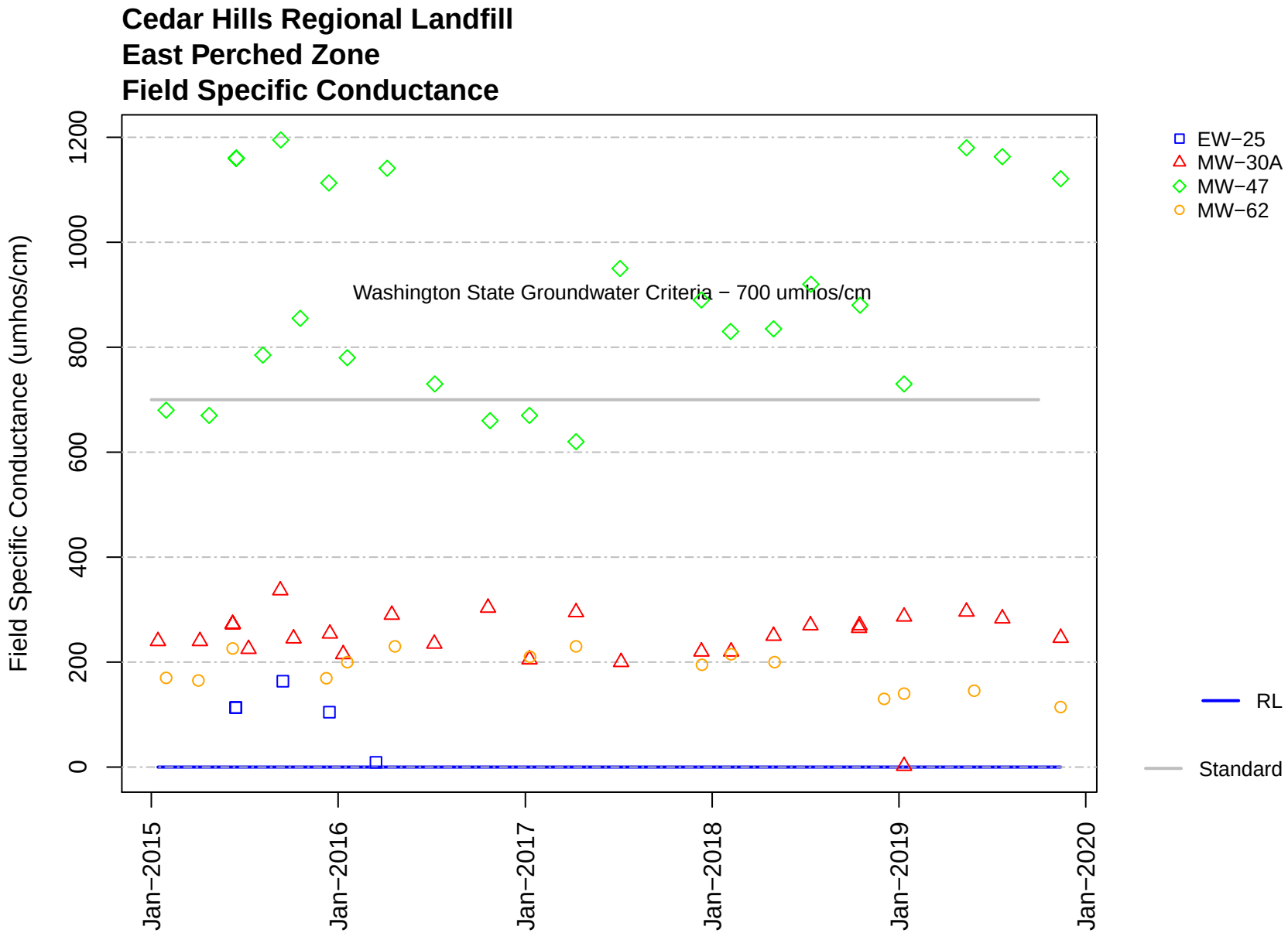

Cedar Hills Regional Landfill
South Perched Zone
Trichloroethene
Trichloroethene (ug/L)
0
2
4
6
8
National Primary MCL − 5 µg/L
Washington State Groundwater Criteria − 3 µg/L
Jan−2001
Jan−2002
Jan−2003
Jan−2004
Jan−2005
Jan−2006
Jan−2007
Jan−2008
Jan−2009
Jan−2010
Jan−2011
Jan−2012
Jan−2013
Jan−2014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

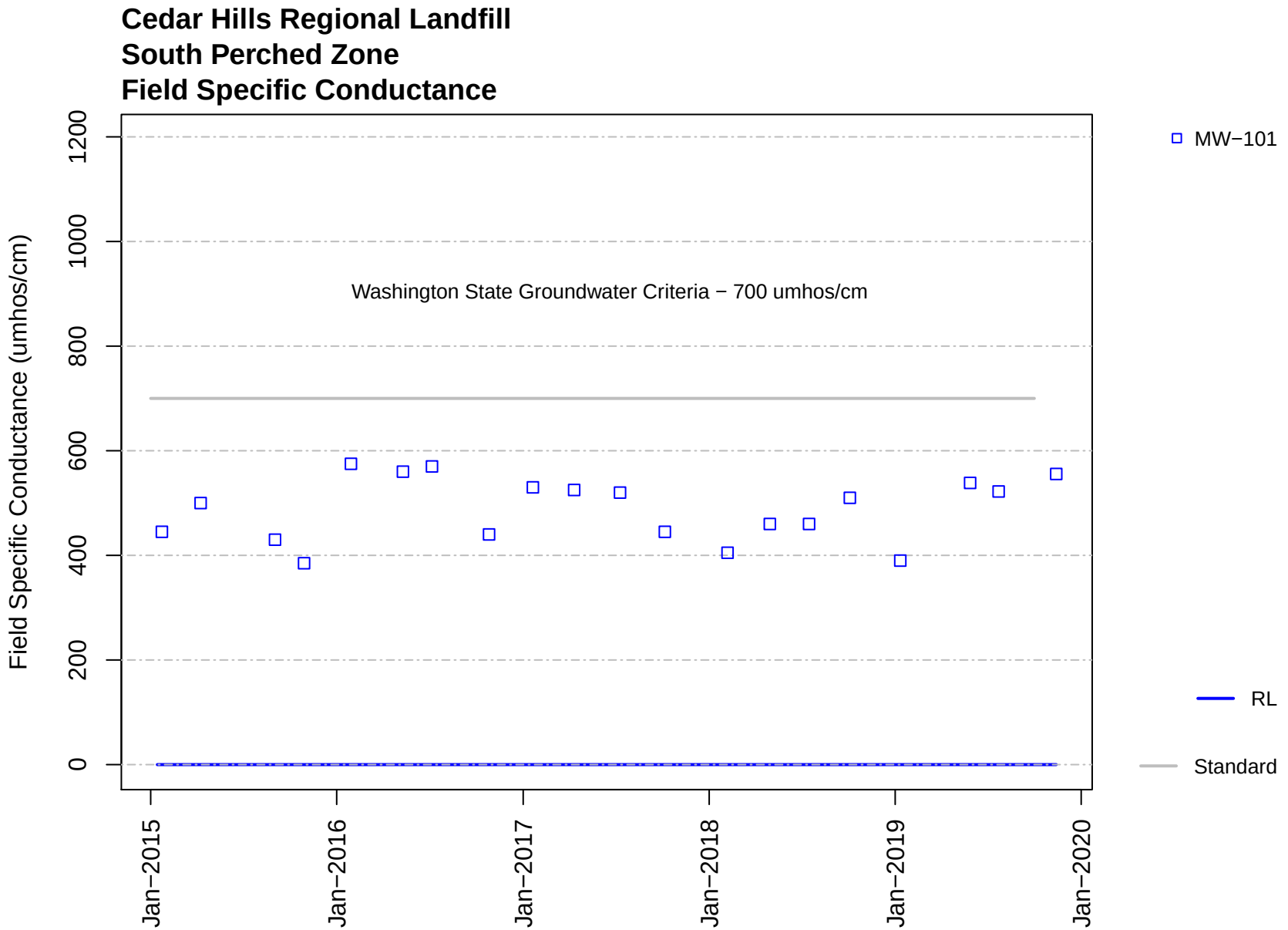

Cedar Hills Regional Landfill
East Perched Zone
Vinyl chloride
Vinyl chloride (ug/L)
0
2
4
6
8
National Primary MCL – 2 µg/L
Washington State Groundwater Criteria – 0.02 µg/L
Jan–2001
Jan–2002
Jan–2003
Jan–2004
Jan–2005
Jan–2006
Jan–2007
Jan–2008
Jan–2009
Jan–2010
Jan–2011
Jan–2012
Jan–2013
Jan–2014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

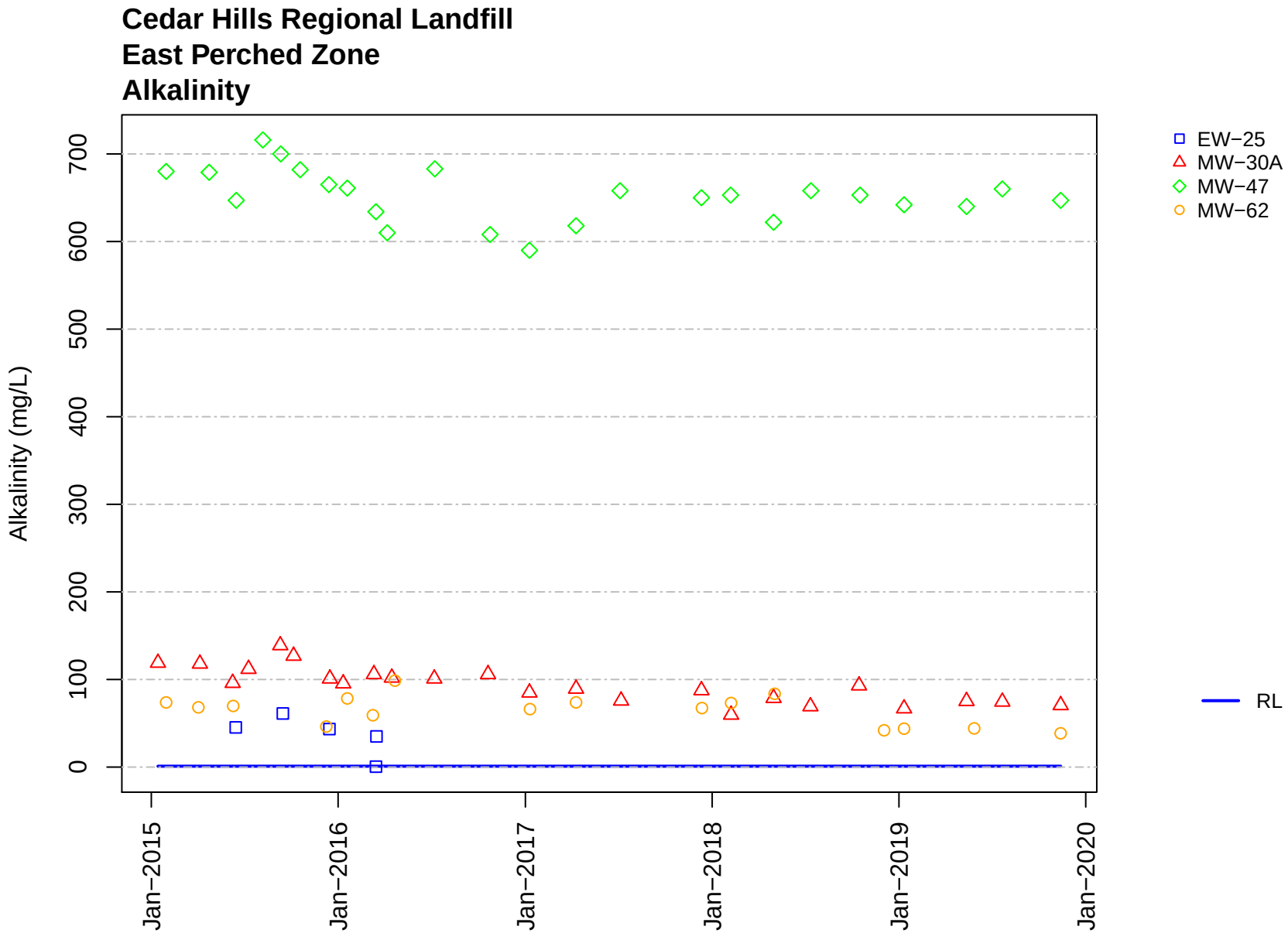

Cedar Hills Regional Landfill
South Perched Zone
Vinyl chloride
Vinyl chloride (ug/L)
0
2
4
6
8
National Primary MCL – 2 µg/L
Washington State Groundwater Criteria – 0.02 µg/L
Jan–2001
Jan–2002
Jan–2003
Jan–2004
Jan–2005
Jan–2006
Jan–2007
Jan–2008
Jan–2009
Jan–2010
Jan–2011
Jan–2012
Jan–2013
Jan–2014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

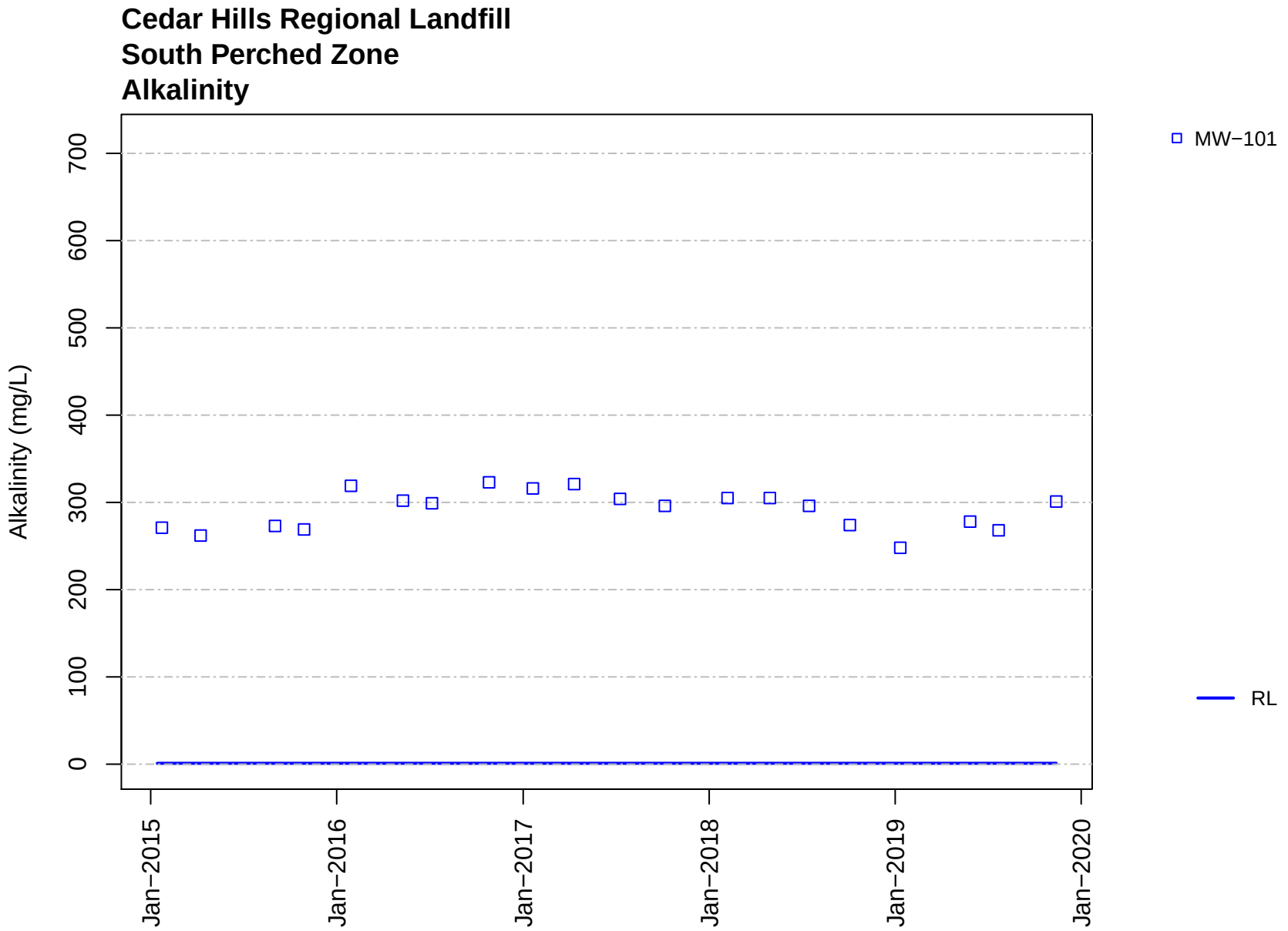

Cedar Hills Regional Landfill
East Perched Zone
Field pH
Washington State Groundwater Criteria − 6.5 − 8.5 std. pH units
National Secondary MCL − 6.5 − 8.5 std. pH units
Field pH (standard pH units)
0
2
4
6
8
Jan−2015
Jan−2016
Jan−2017
Jan−2018
Jan−2019
Jan−2020
EW−25
MW−30A
MW−47
MW−62
RL
Standard

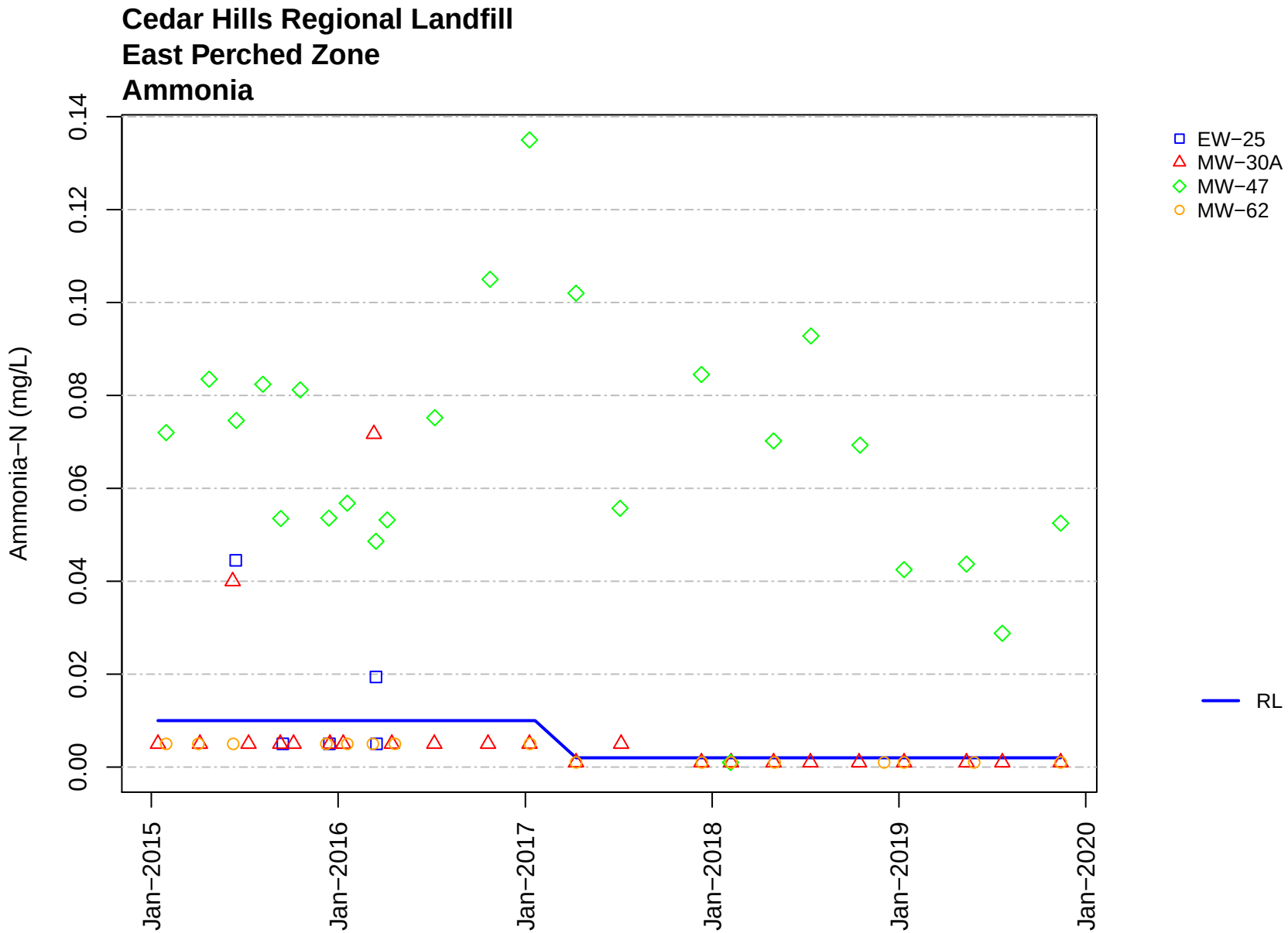

Cedar Hills Regional Landfill
South Perched Zone
Field pH
Washington State Groundwater Criteria − 6.5 − 8.5 std. pH units
National Secondary MCL − 6.5 − 8.5 std. pH units
Field pH (standard pH units)
0
2
4
6
8
Jan−2015
Jan−2016
Jan−2017
Jan−2018
Jan−2019
Jan−2020
MW−101
RL
Standard

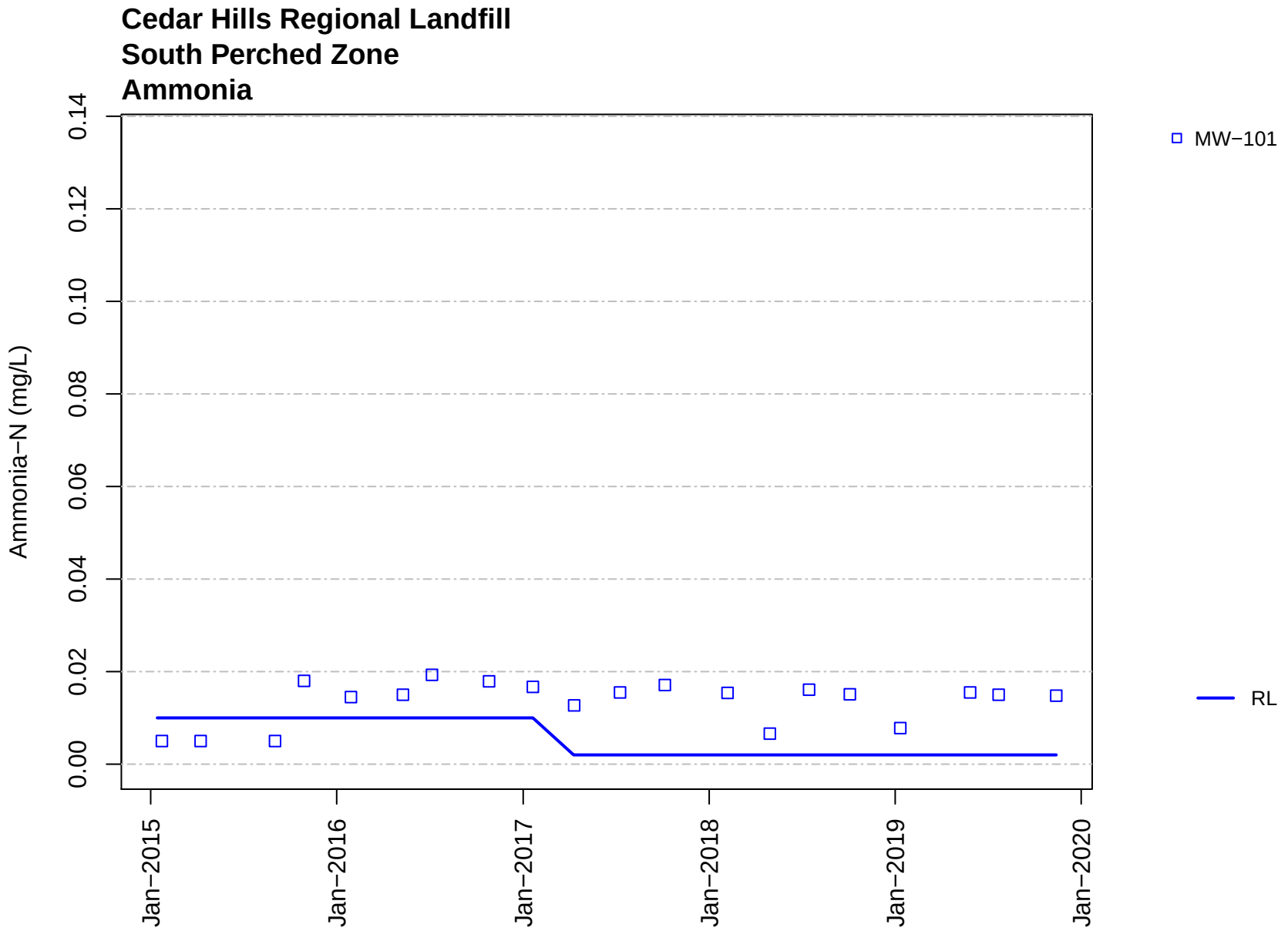

Cedar Hills Regional Landfill
East Perched Zone
Field Specific Conductance
Field Specific Conductance (umhos/cm)
0
200
400
600
800
1000
1200
Jan−2015
Jan−2016
Jan−2017
Jan−2018
Jan−2019
Jan−2020
Washington State Groundwater Criteria − 700 umhos/cm
EW−25
MW−30A
MW−47
MW−62
RL
Standard

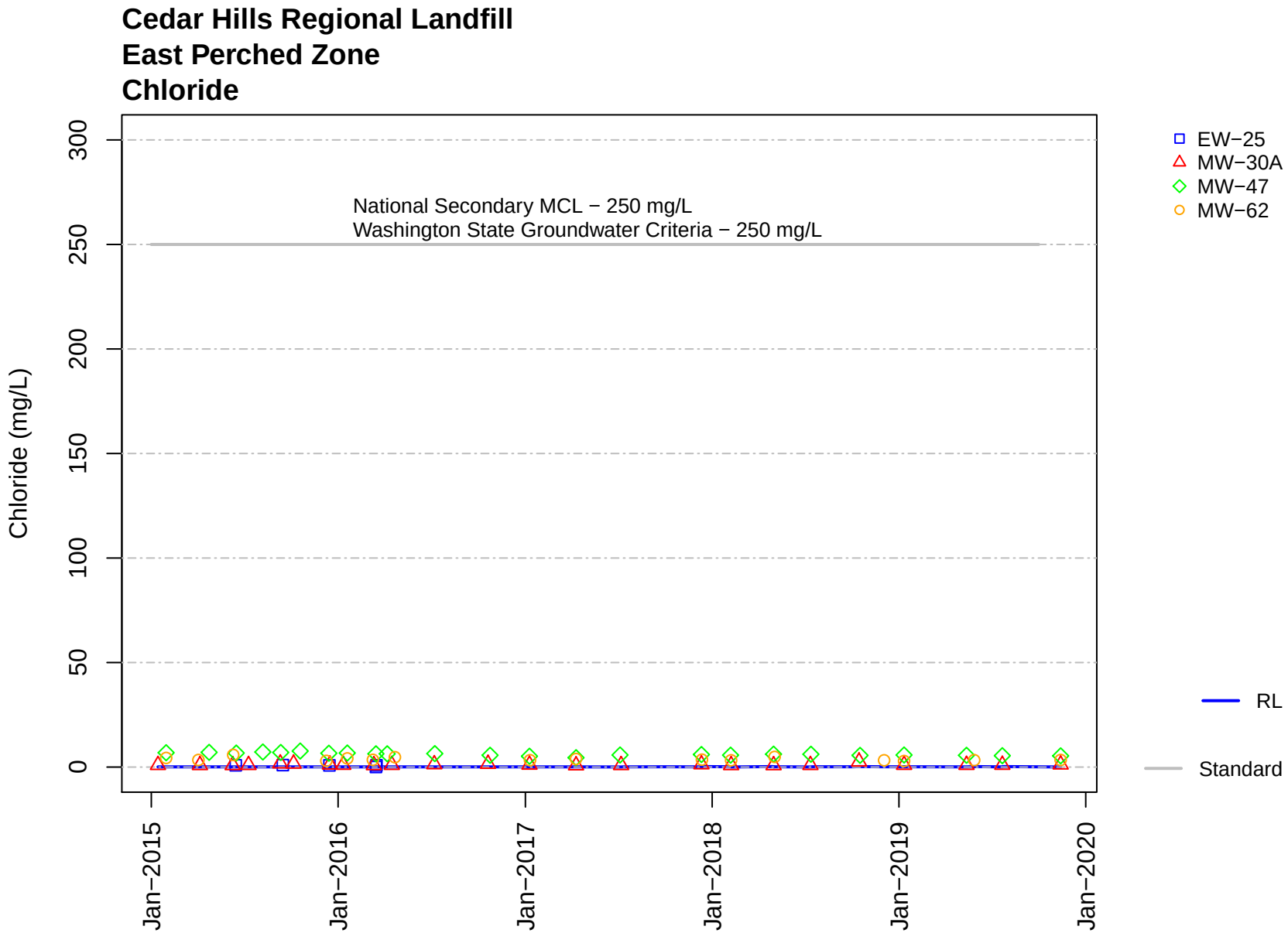

Cedar Hills Regional Landfill
South Perched Zone
Field Specific Conductance
Field Specific Conductance (umhos/cm)
0
200
400
600
800
1000
1200
Washington State Groundwater Criteria − 700 umhos/cm
Jan−2015
Jan−2016
Jan−2017
Jan−2018
Jan−2019
Jan−2020
MW−101
RL
Standard

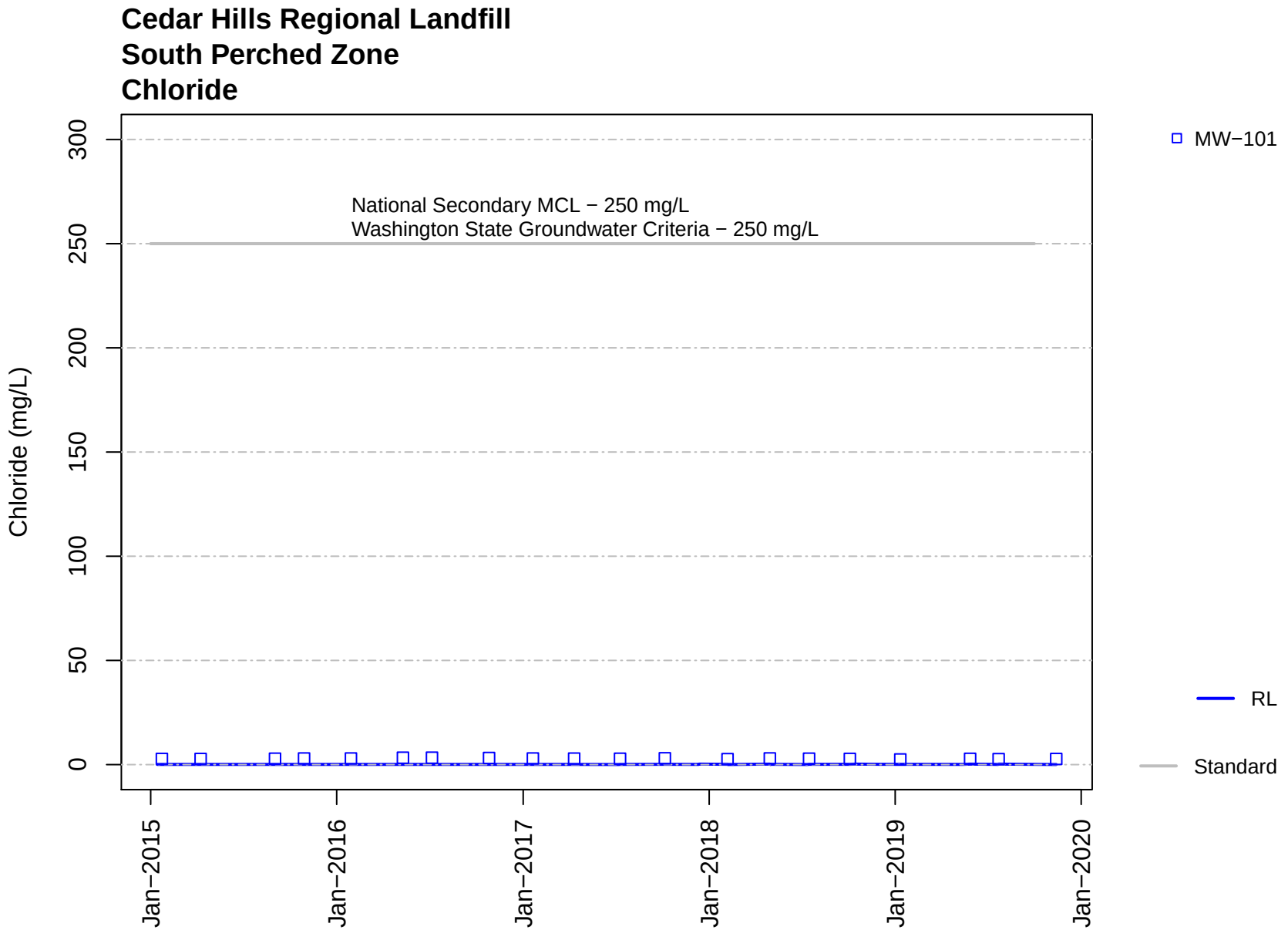

Cedar Hills Regional Landfill
East Perched Zone
Alkalinity
Alkalinity (mg/L)
0
100
200
300
400
500
600
700
Jan−2015
Jan−2016
Jan−2017
Jan−2018
Jan−2019
Jan−2020
EW−25
MW−30A
MW−47
MW−62
RL

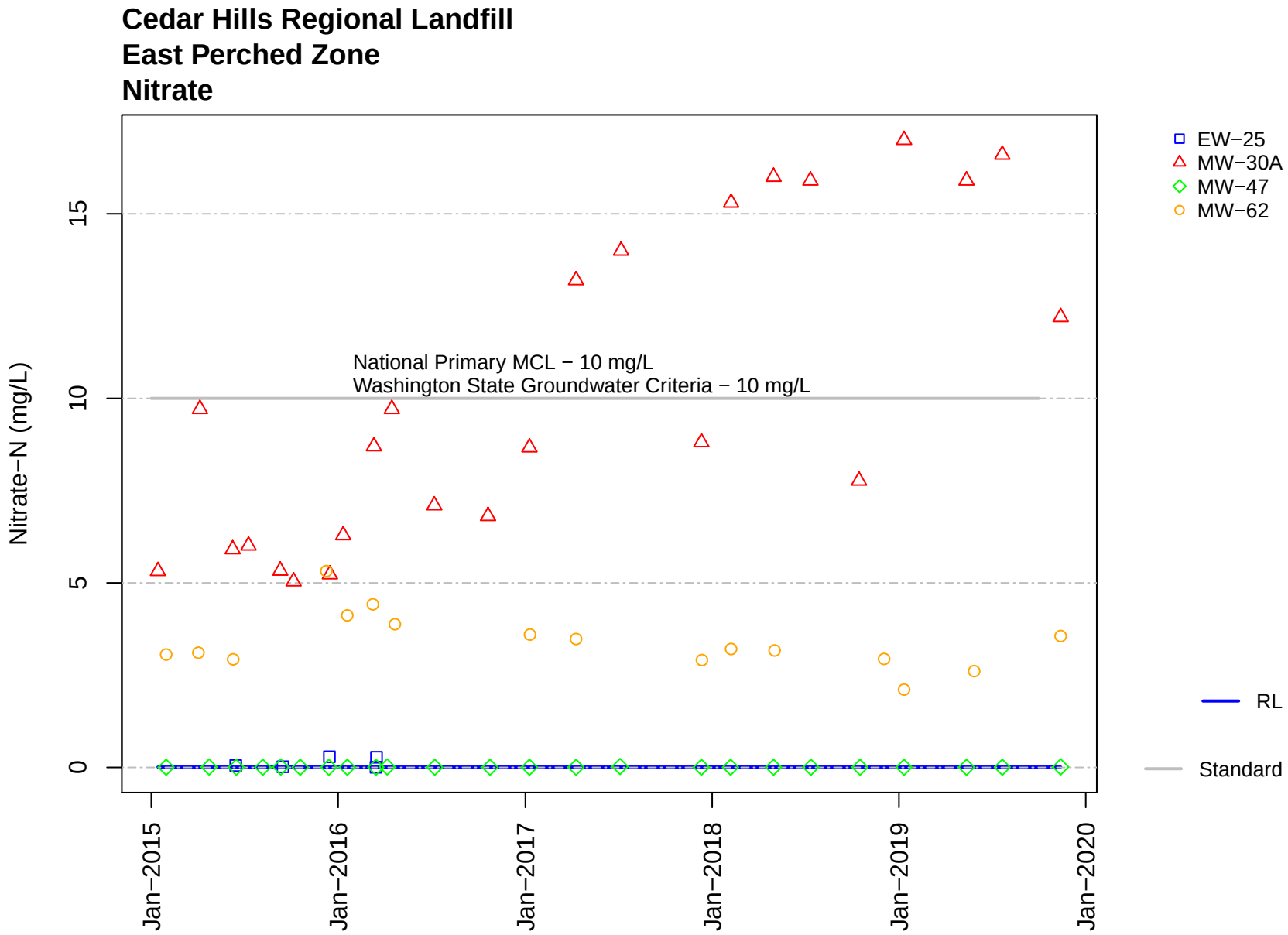

Cedar Hills Regional Landfill
South Perched Zone
Alkalinity
Alkalinity (mg/L)
0
100
200
300
400
500
600
700
Jan−2015
Jan−2016
Jan−2017
Jan−2018
Jan−2019
Jan−2020
MW−101
RL

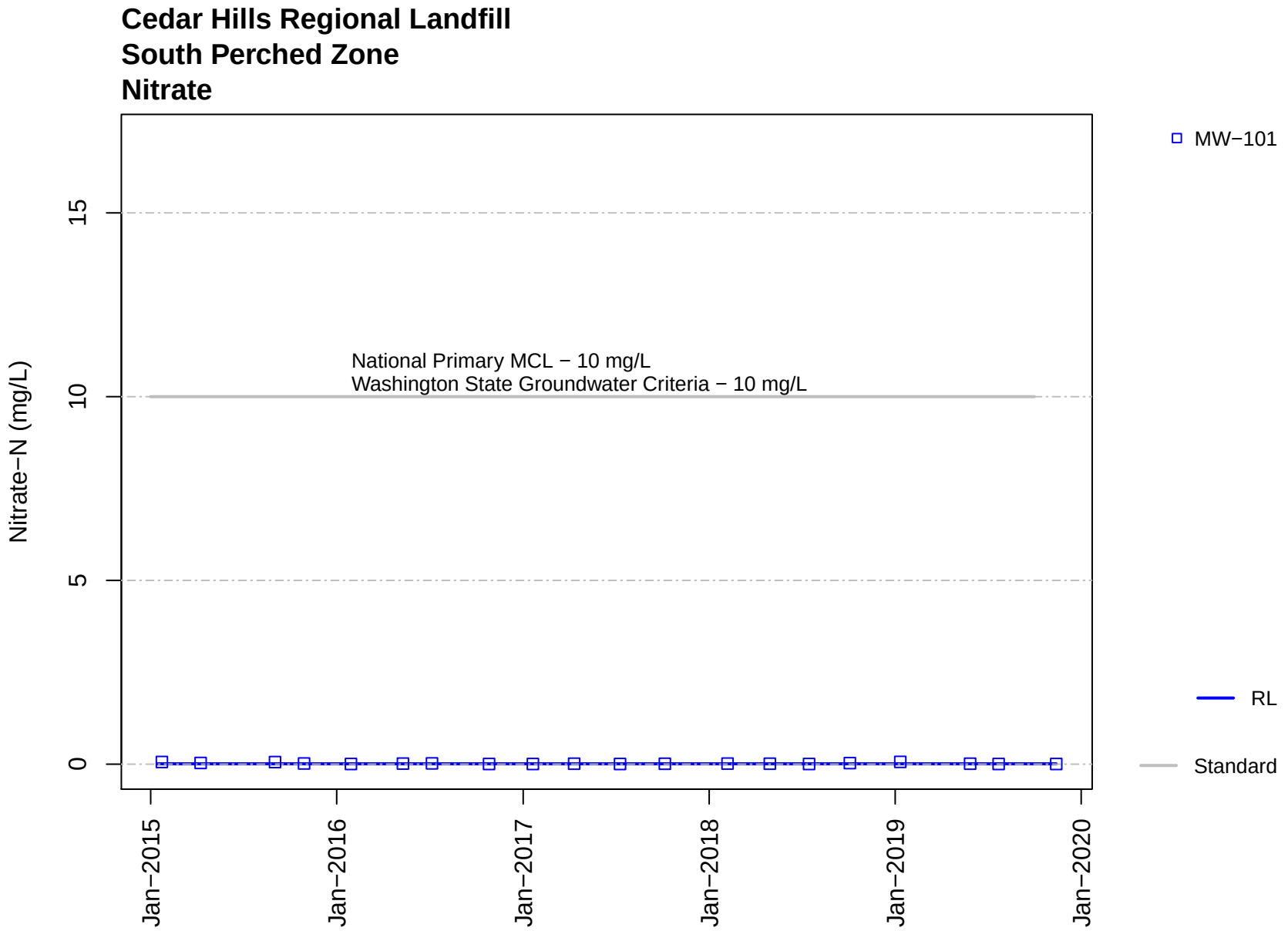

Cedar Hills Regional Landfill
East Perched Zone
Ammonia
Ammonia−N (mg/L)
0.00
0.02
0.04
0.06
0.08
0.10
0.12
0.14
Jan−2015
Jan−2016
Jan−2017
Jan−2018
Jan−2019
Jan−2020
EW−25
MW−30A
MW−47
MW−62
RL

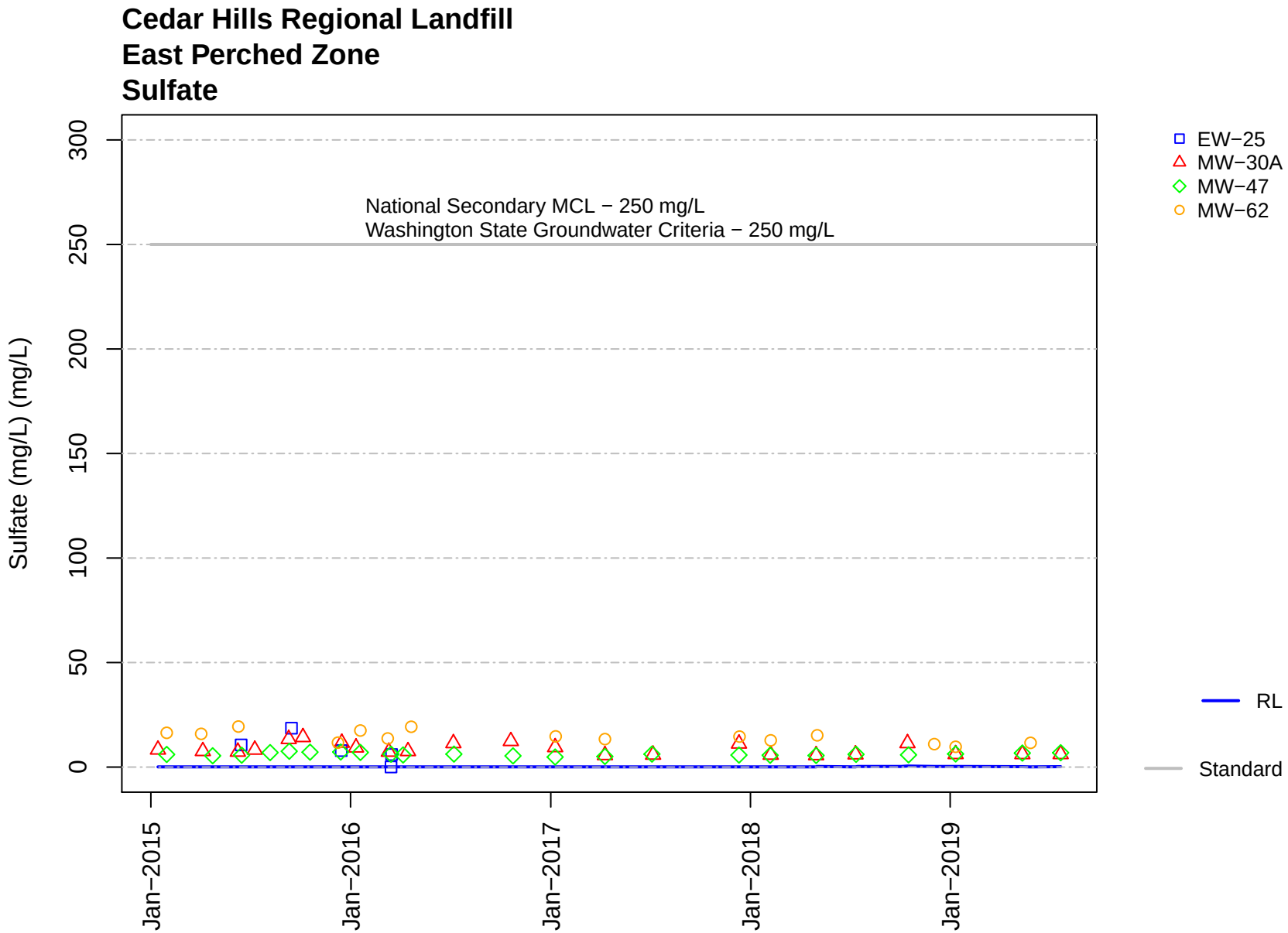

Cedar Hills Regional Landfill
South Perched Zone
Ammonia
Ammonia−N (mg/L)
0.00
0.02
0.04
0.06
0.08
0.10
0.12
0.14
Jan−2015
Jan−2016
Jan−2017
Jan−2018
Jan−2019
Jan−2020
MW−101
RL

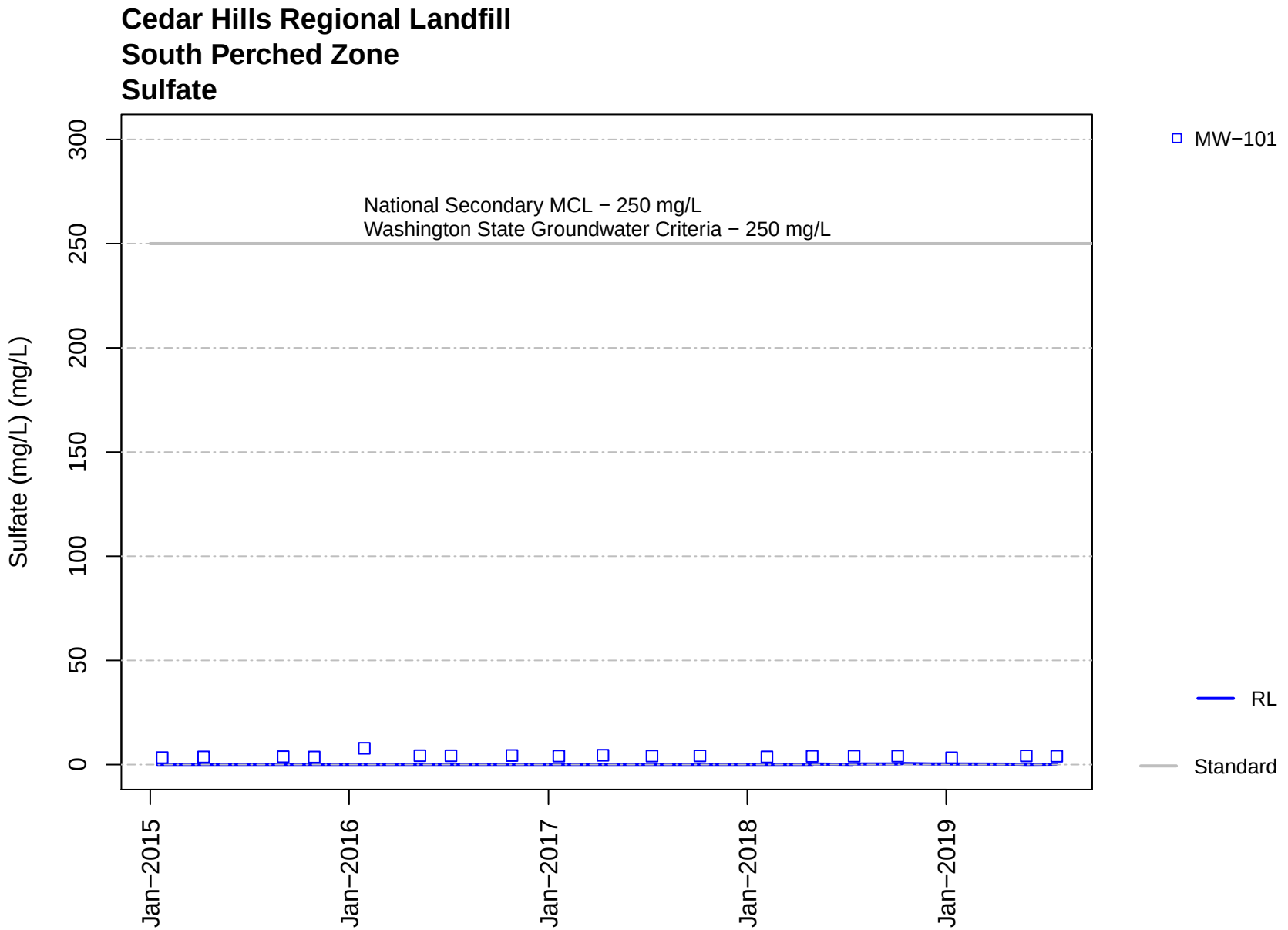

Cedar Hills Regional Landfill
East Perched Zone
Chloride
Chloride (mg/L)
0
50
100
150
200
250
300
National Secondary MCL − 250 mg/L
Washington State Groundwater Criteria − 250 mg/L
Jan−2015
Jan−2016
Jan−2017
Jan−2018
Jan−2019
Jan−2020
EW−25
MW−30A
MW−47
MW−62
RL
Standard

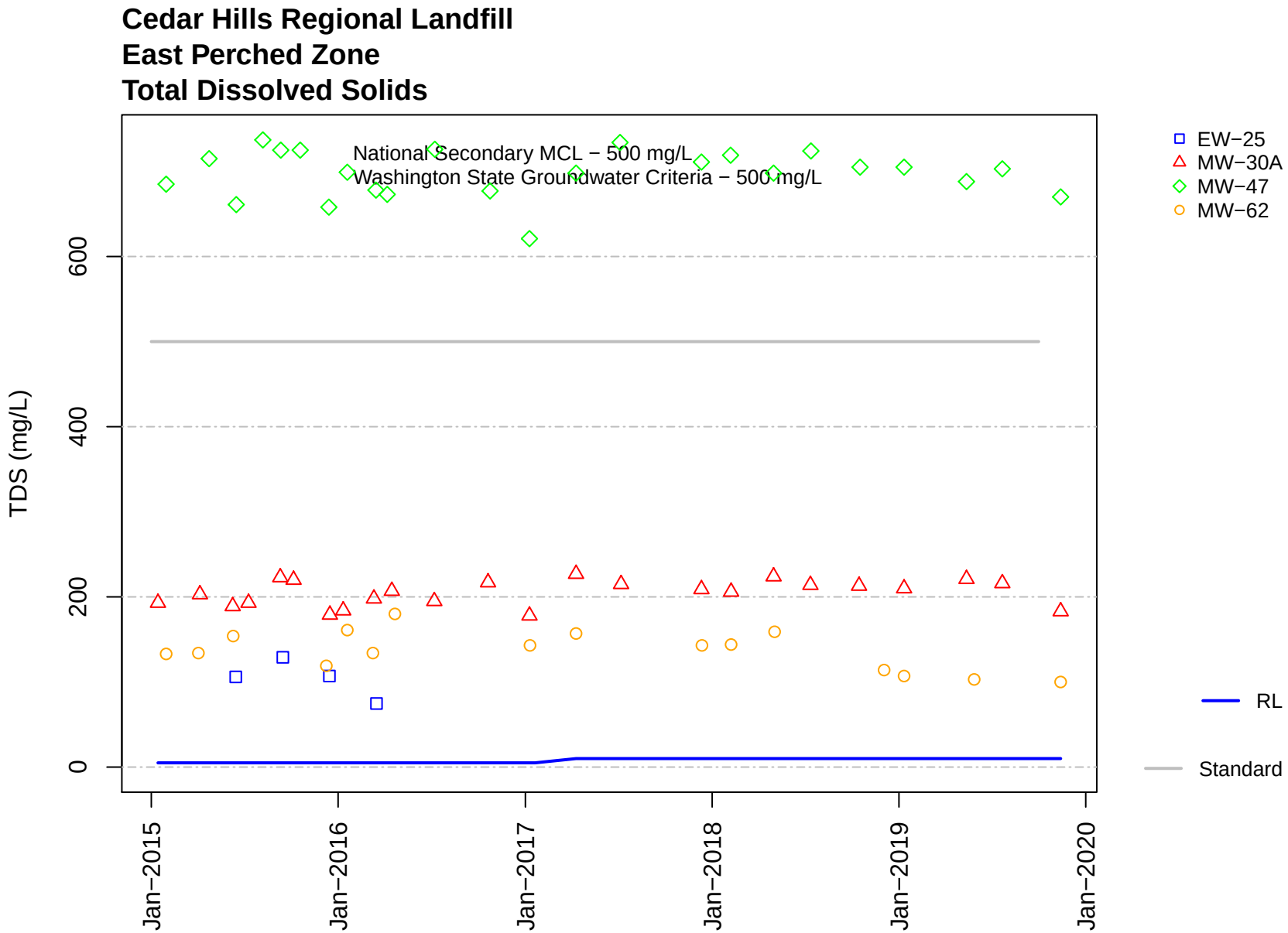

Cedar Hills Regional Landfill
South Perched Zone
Chloride
Chloride (mg/L)
0
50
100
150
200
250
300
National Secondary MCL − 250 mg/L
Washington State Groundwater Criteria − 250 mg/L
Jan−2015
Jan−2016
Jan−2017
Jan−2018
Jan−2019
Jan−2020
MW−101
RL
Standard

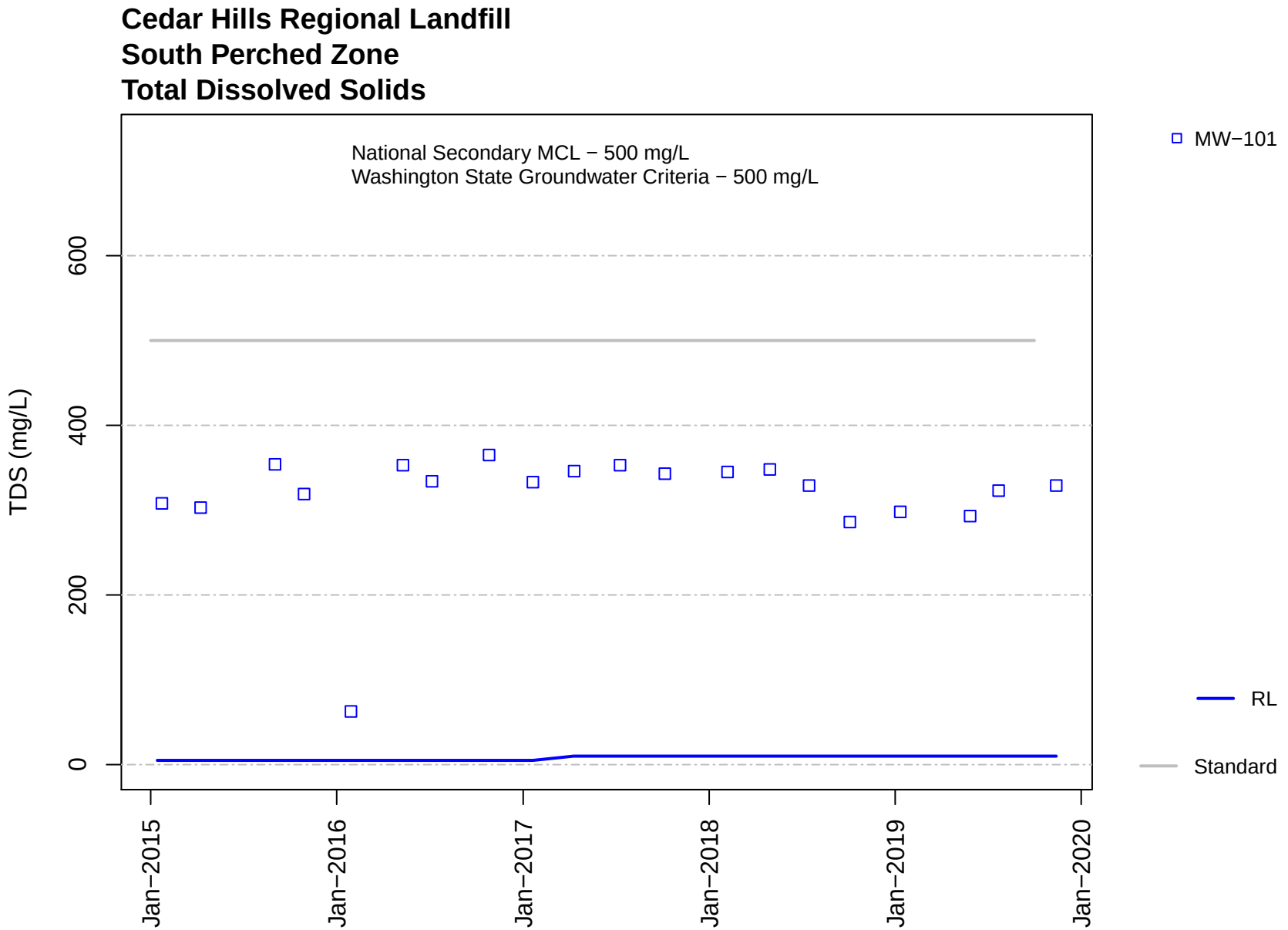

Cedar Hills Regional Landfill
East Perched Zone
Nitrate
Nitrate−N (mg/L)
0
5
10
15
National Primary MCL − 10 mg/L
Washington State Groundwater Criteria − 10 mg/L
Jan−2015
Jan−2016
Jan−2017
Jan−2018
Jan−2019
Jan−2020
EW−25
MW−30A
MW−47
MW−62
RL
Standard

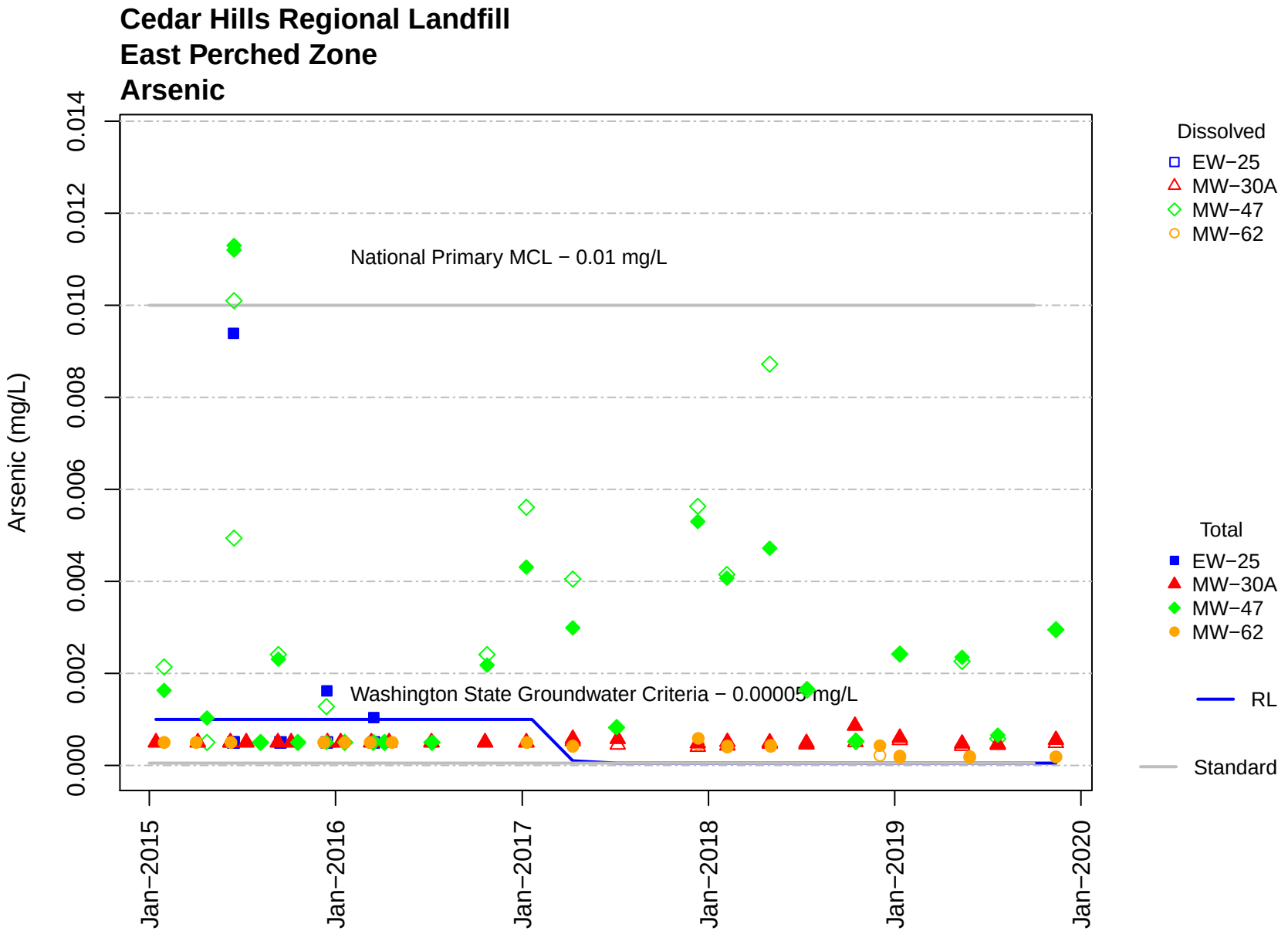

Cedar Hills Regional Landfill
South Perched Zone
Nitrate
Nitrate−N (mg/L)
0
5
10
15
National Primary MCL − 10 mg/L
Washington State Groundwater Criteria − 10 mg/L
Jan−2015
Jan−2016
Jan−2017
Jan−2018
Jan−2019
Jan−2020
MW−101
RL
Standard

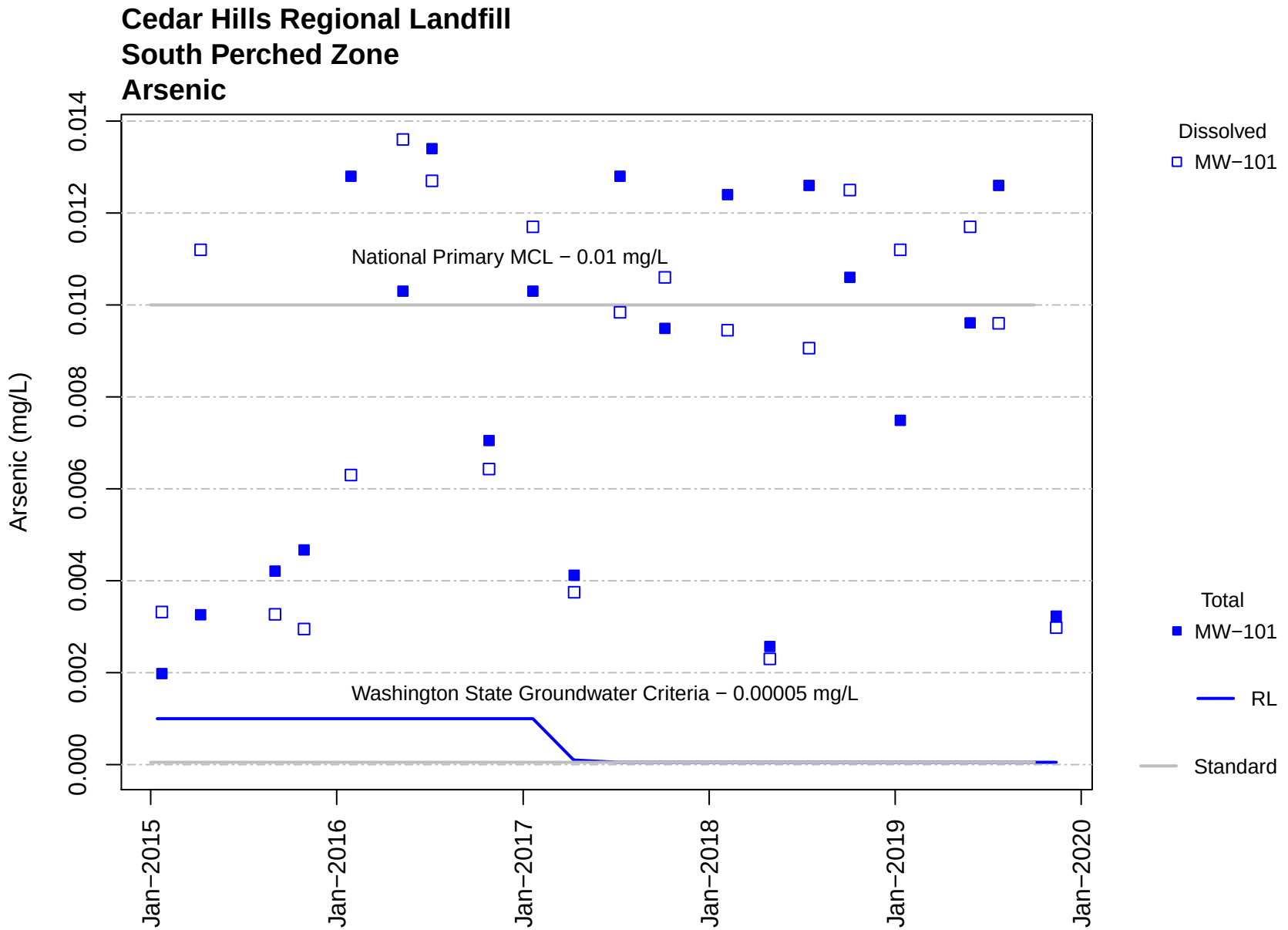

Cedar Hills Regional Landfill
East Perched Zone
Sulfate
Sulfate (mg/L) (mg/L)
0
50
100
150
200
250
300
National Secondary MCL − 250 mg/L
Washington State Groundwater Criteria − 250 mg/L
Jan−2015
Jan−2016
Jan−2017
Jan−2018
Jan−2019
EW−25
MW−30A
MW−47
MW−62
RL
Standard

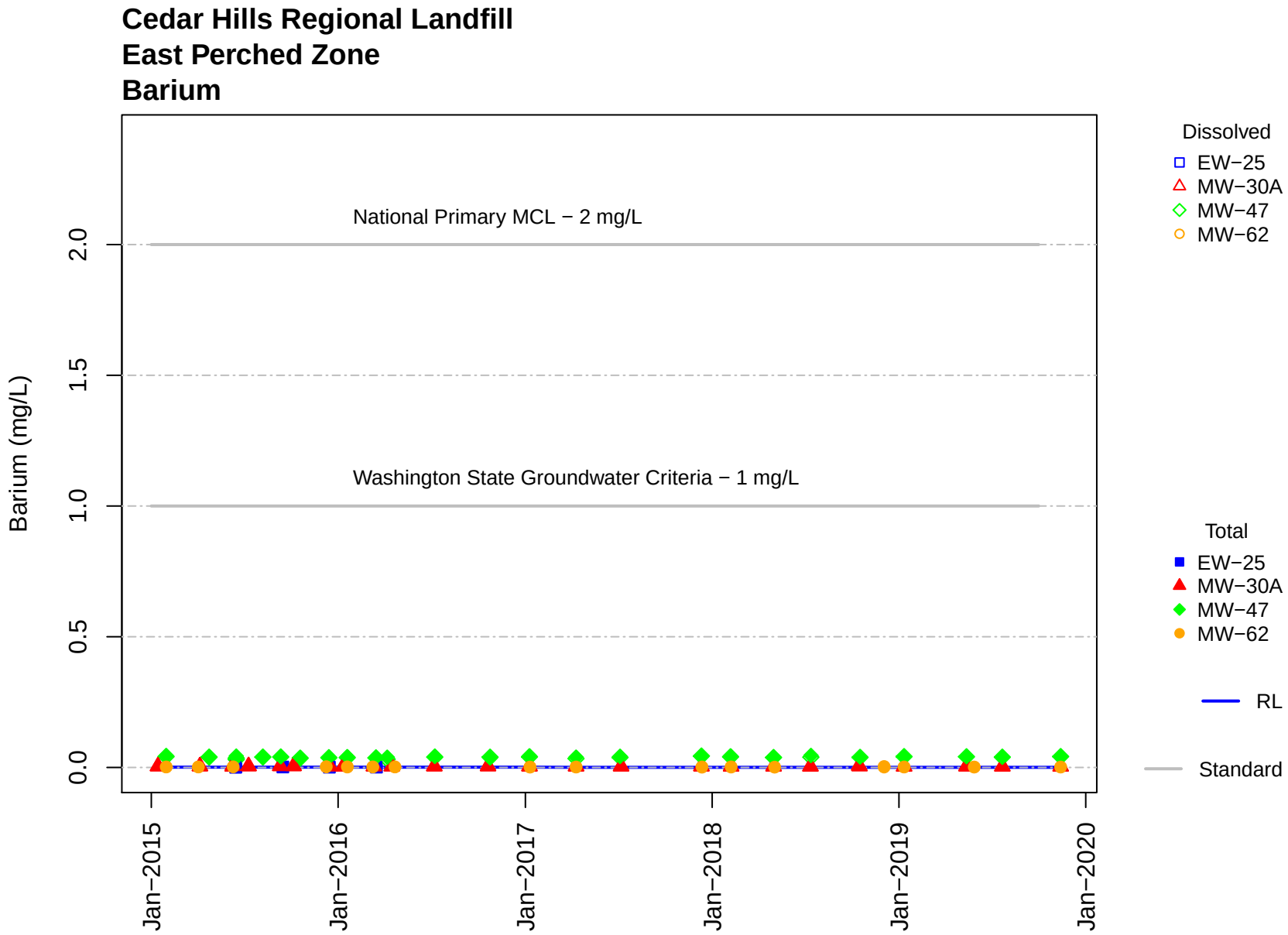

Cedar Hills Regional Landfill
South Perched Zone
Sulfate
Sulfate (mg/L) (mg/L)
300
250
200
150
100
50
0
National Secondary MCL − 250 mg/L
Washington State Groundwater Criteria − 250 mg/L
Jan−2015
Jan−2016
Jan−2017
Jan−2018
Jan−2019
MW−101
RL
Standard

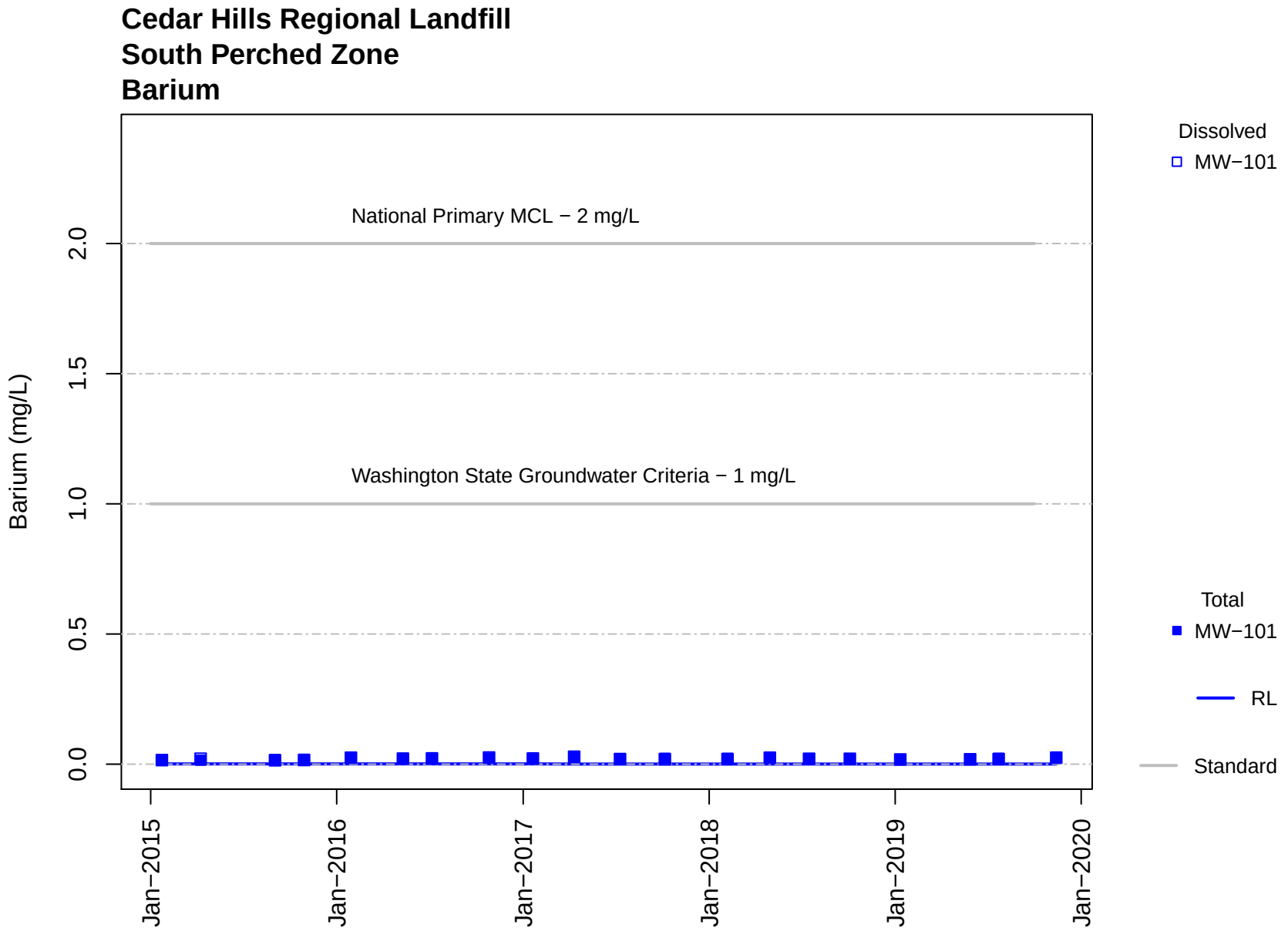

Cedar Hills Regional Landfill
East Perched Zone
Total Dissolved Solids
National Secondary MCL − 500 mg/L
Washington State Groundwater Criteria − 500 mg/L
TDS (mg/L)
0
200
400
600
Jan−2015
Jan−2016
Jan−2017
Jan−2018
Jan−2019
Jan−2020
EW−25
MW−30A
MW−47
MW−62
RL
Standard

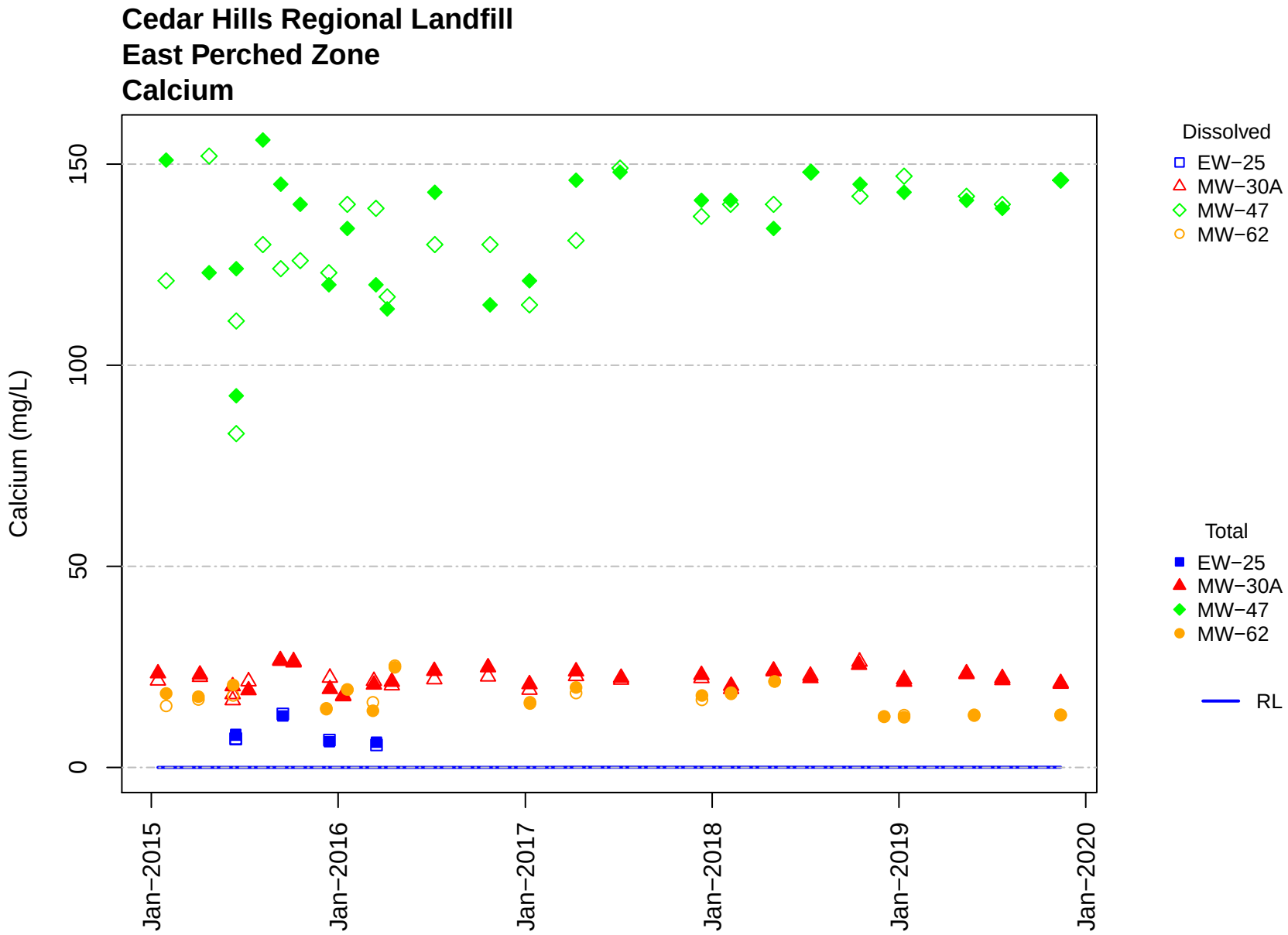

Cedar Hills Regional Landfill
South Perched Zone
Total Dissolved Solids
National Secondary MCL − 500 mg/L
Washington State Groundwater Criteria − 500 mg/L
TDS (mg/L)
0
200
400
600
Jan−2015
Jan−2016
Jan−2017
Jan−2018
Jan−2019
Jan−2020
MW−101
RL
Standard

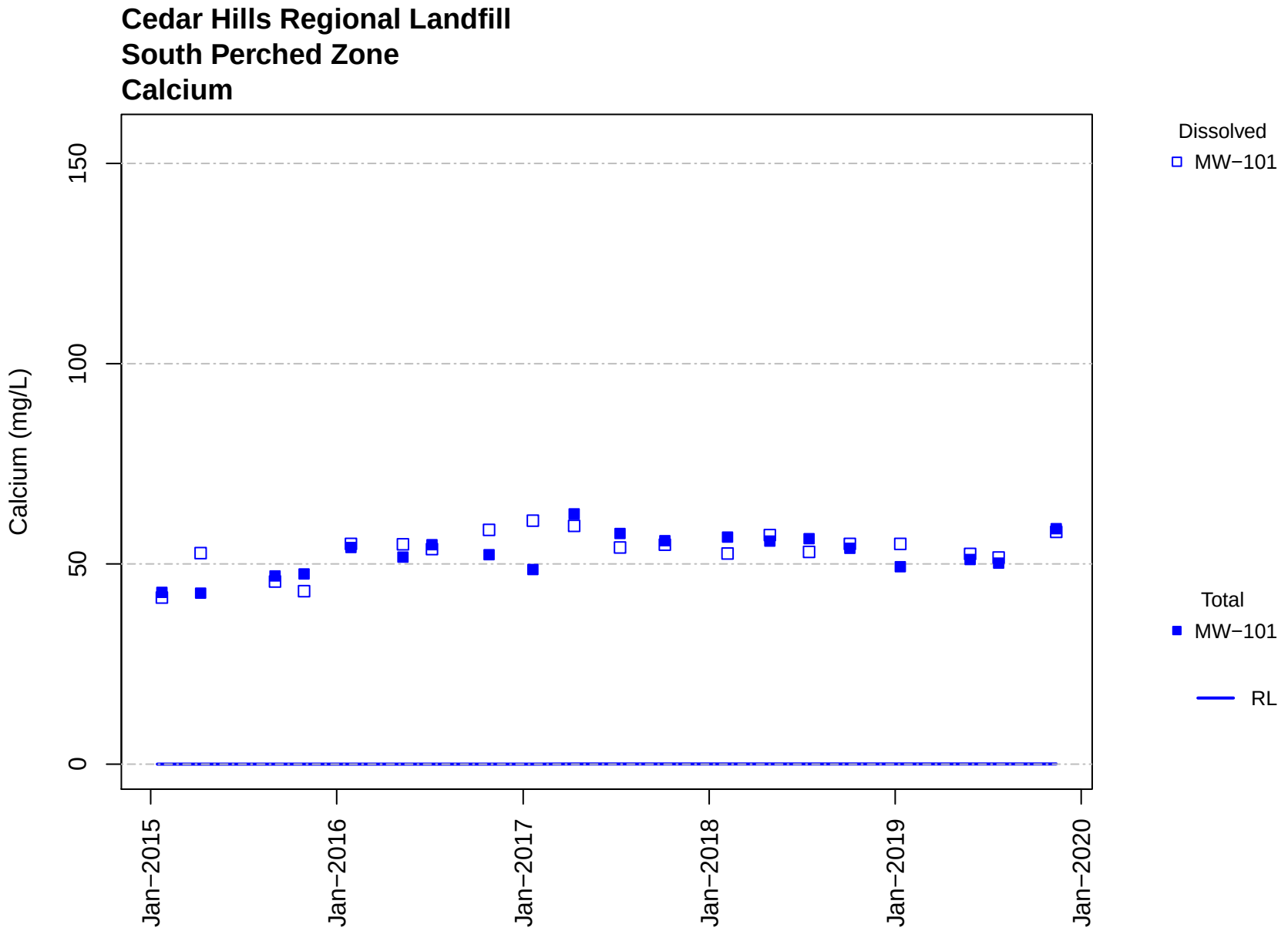

Cedar Hills Regional Landfill
East Perched Zone
Arsenic
Arsenic (mg/L)
0.000
0.002
0.004
0.006
0.008
0.010
0.012
0.014
National Primary MCL − 0.01 mg/L
Washington State Groundwater Criteria − 0.00005 mg/L
Jan−2015
Jan−2016
Jan−2017
Jan−2018
Jan−2019
Jan−2020
Dissolved
EW−25
MW−30A
MW−47
MW−62
Total
EW−25
MW−30A
MW−47
MW−62
RL
Standard

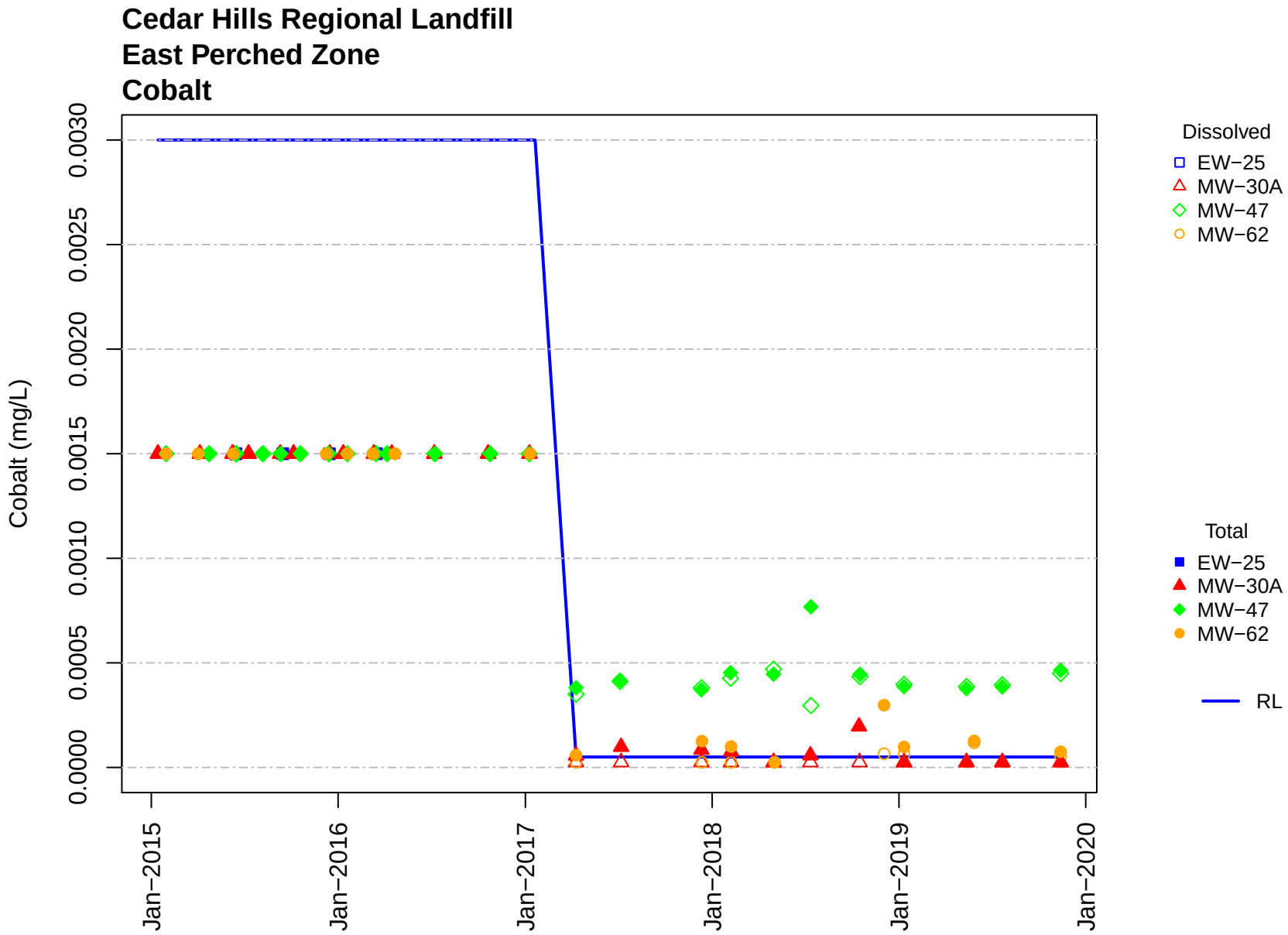

Cedar Hills Regional Landfill
South Perched Zone
Arsenic
Arsenic (mg/L)
0.000
0.002
0.004
0.006
0.008
0.010
0.012
0.014
National Primary MCL − 0.01 mg/L
Washington State Groundwater Criteria − 0.00005 mg/L
Jan−2015
Jan−2016
Jan−2017
Jan−2018
Jan−2019
Jan−2020
Dissolved
MW−101
Total
MW−101
RL
Standard

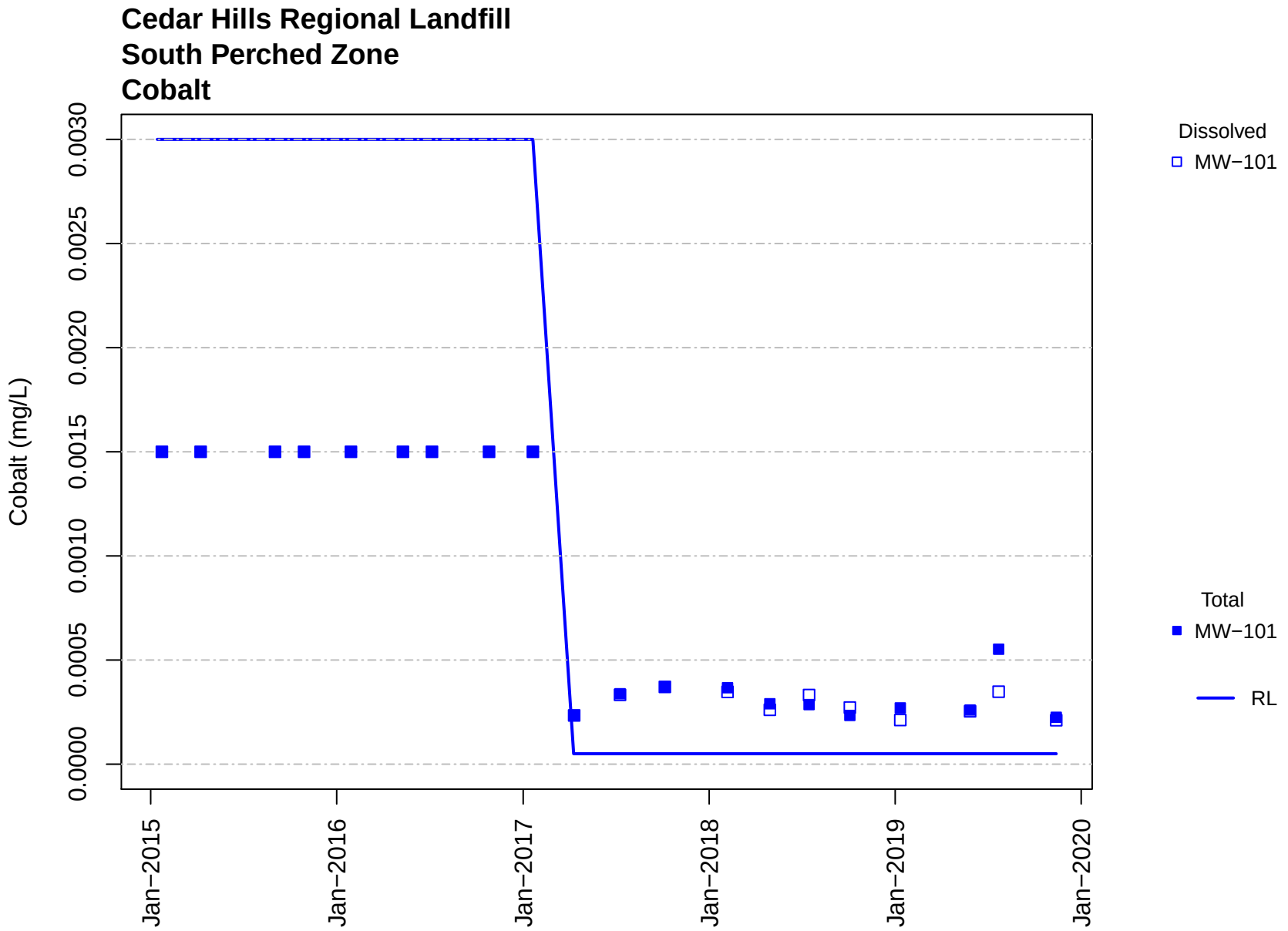

Cedar Hills Regional Landfill
East Perched Zone
Barium
National Primary MCL − 2 mg/L
Washington State Groundwater Criteria − 1 mg/L
Barium (mg/L)
0.0
0.5
1.0
1.5
2.0
Jan−2015
Jan−2016
Jan−2017
Jan−2018
Jan−2019
Jan−2020
Dissolved
EW−25
MW−30A
MW−47
MW−62
Total
EW−25
MW−30A
MW−47
MW−62
RL
Standard

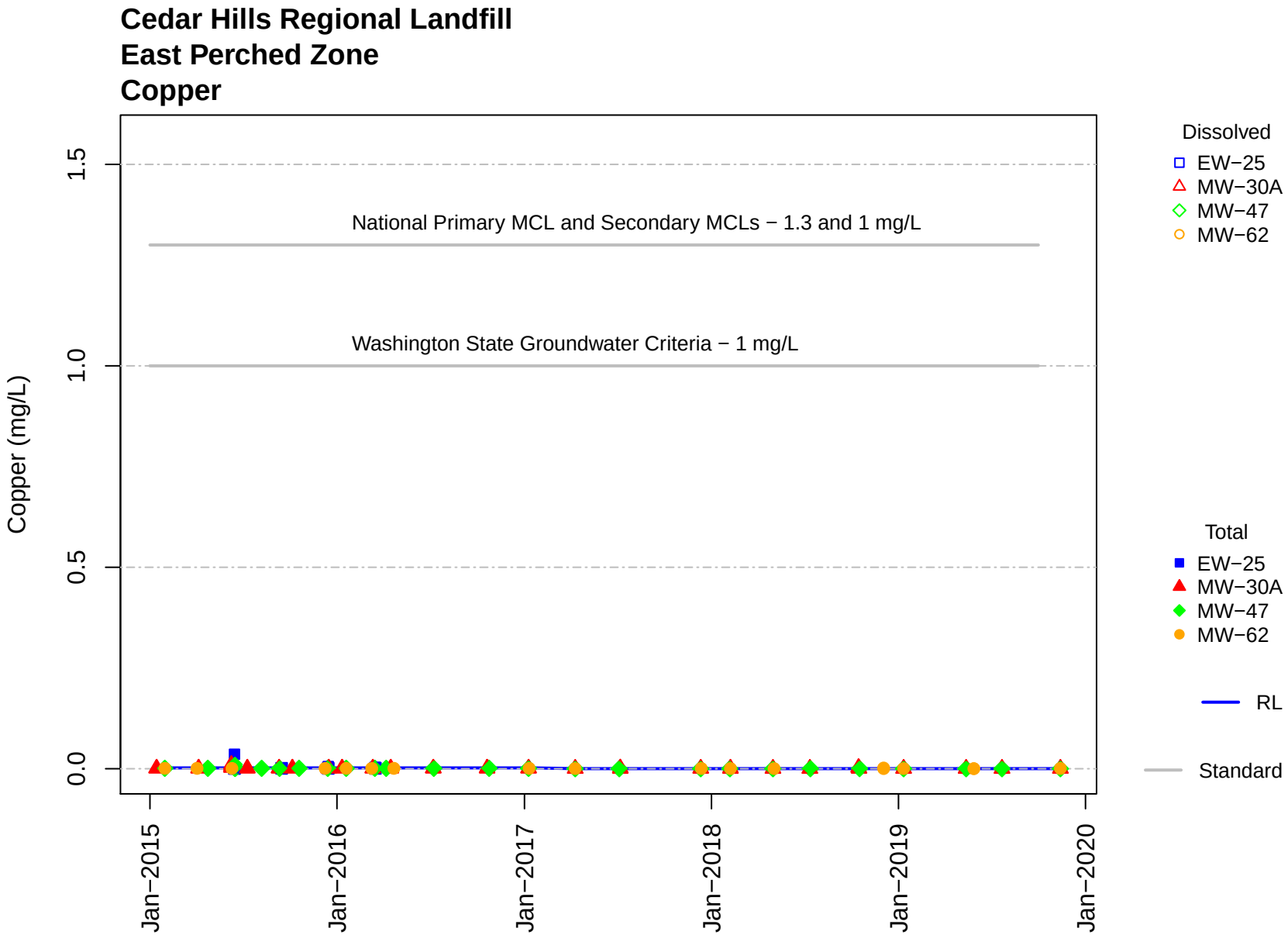

Cedar Hills Regional Landfill
South Perched Zone
Barium
Barium (mg/L)
0.0
0.5
1.0
1.5
2.0
National Primary MCL − 2 mg/L
Washington State Groundwater Criteria − 1 mg/L
Jan−2015
Jan−2016
Jan−2017
Jan−2018
Jan−2019
Jan−2020
Dissolved
MW−101
Total
MW−101
RL
Standard

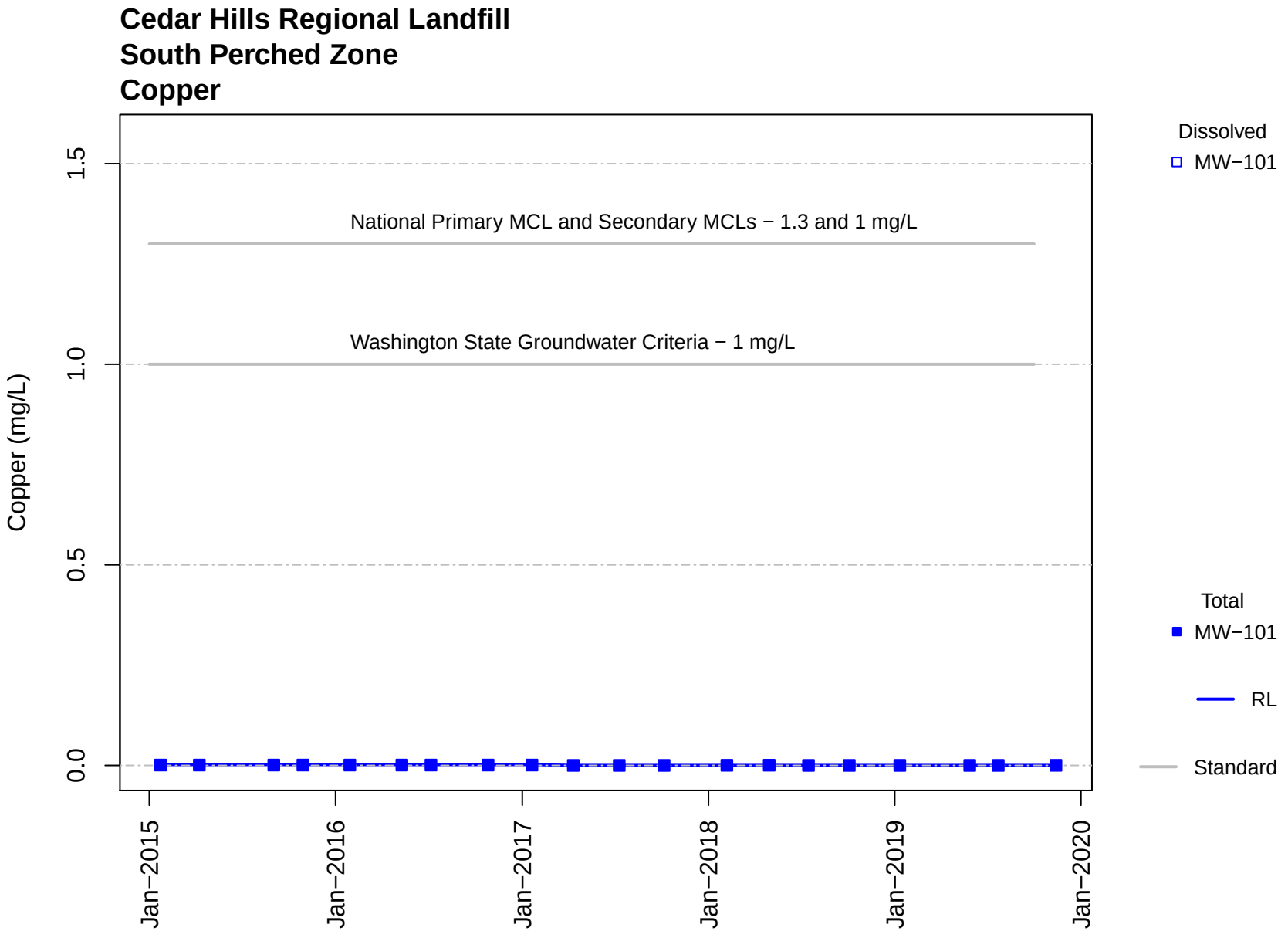

Cedar Hills Regional Landfill
East Perched Zone
Calcium
Calcium (mg/L)
0
50
100
150
Jan−2015
Jan−2016
Jan−2017
Jan−2018
Jan−2019
Jan−2020
Dissolved
EW−25
MW−30A
MW−47
MW−62
Total
EW−25
MW−30A
MW−47
MW−62
RL

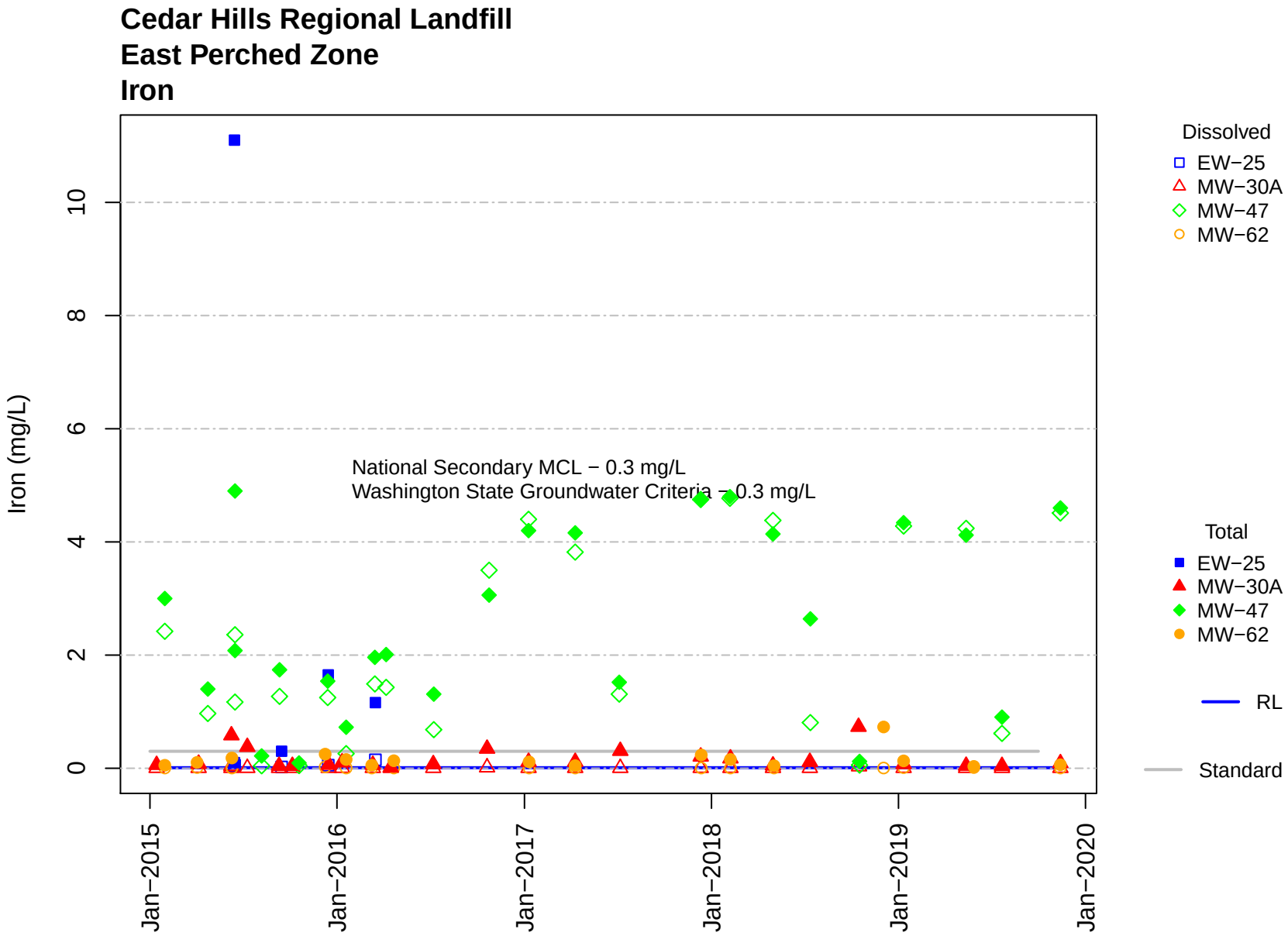

Cedar Hills Regional Landfill
South Perched Zone
Calcium
Calcium (mg/L)
0
50
100
150
Jan−2015
Jan−2016
Jan−2017
Jan−2018
Jan−2019
Jan−2020
Dissolved
MW−101
Total
MW−101
RL

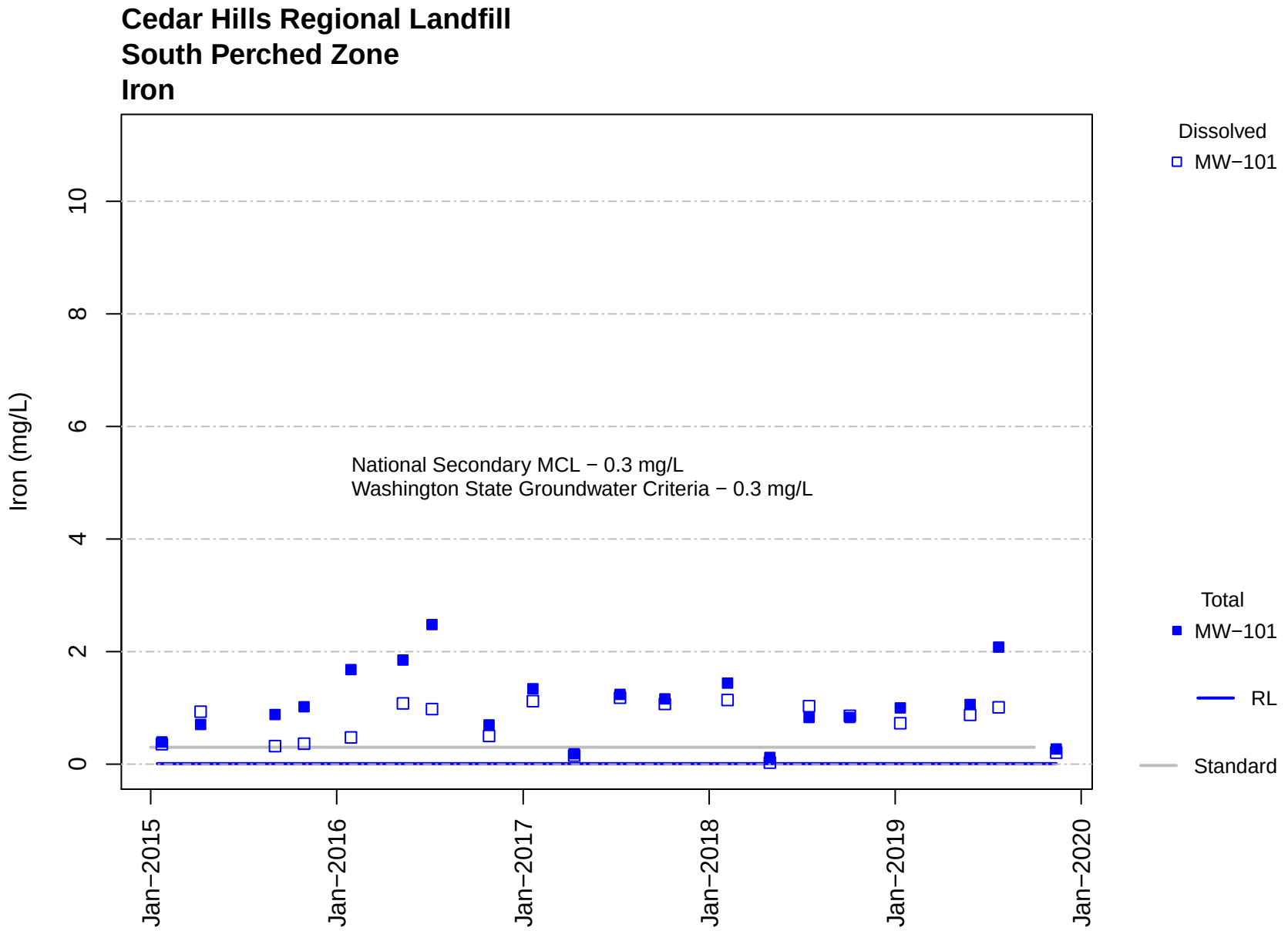

Cedar Hills Regional Landfill
East Perched Zone
Cobalt
Cobalt (mg/L)
0.0000
0.0005
0.0010
0.0015
0.0020
0.0025
0.0030
Jan−2015
Jan−2016
Jan−2017
Jan−2018
Jan−2019
Jan−2020
Dissolved
EW−25
MW−30A
MW−47
MW−62
Total
EW−25
MW−30A
MW−47
MW−62
RL

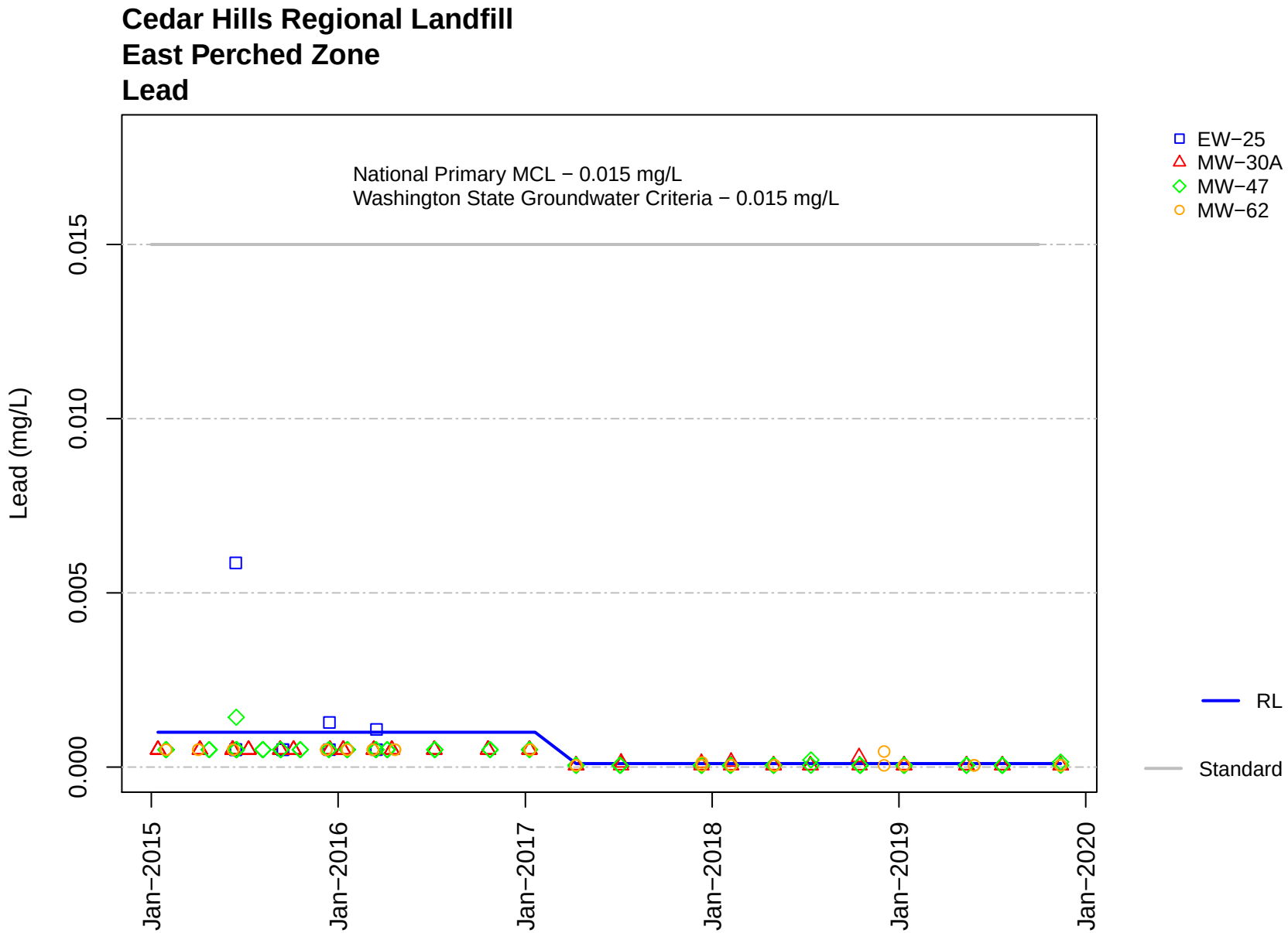

Cedar Hills Regional Landfill
South Perched Zone
Cobalt
Cobalt (mg/L)
0.0000
0.0005
0.0010
0.0015
0.0020
0.0025
0.0030
Jan−2015
Jan−2016
Jan−2017
Jan−2018
Jan−2019
Jan−2020
Dissolved
MW−101
Total
MW−101
RL

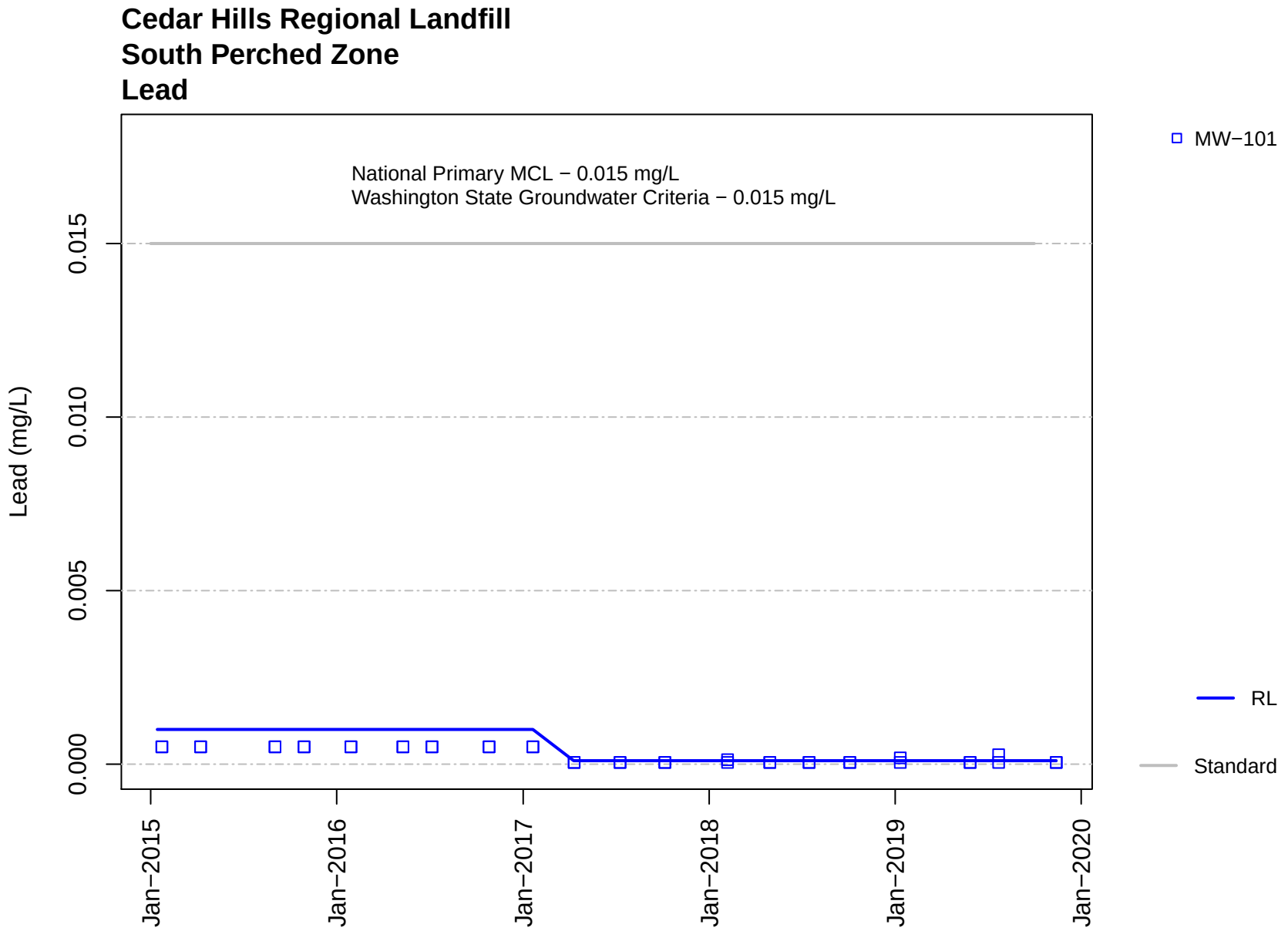

Cedar Hills Regional Landfill
East Perched Zone
Copper
Copper (mg/L)
1.5
1.0
0.5
0.0
National Primary MCL and Secondary MCLs − 1.3 and 1 mg/L
Washington State Groundwater Criteria − 1 mg/L
Jan−2015
Jan−2016
Jan−2017
Jan−2018
Jan−2019
Jan−2020
Dissolved
EW−25
MW−30A
MW−47
MW−62
Total
EW−25
MW−30A
MW−47
MW−62
RL
Standard

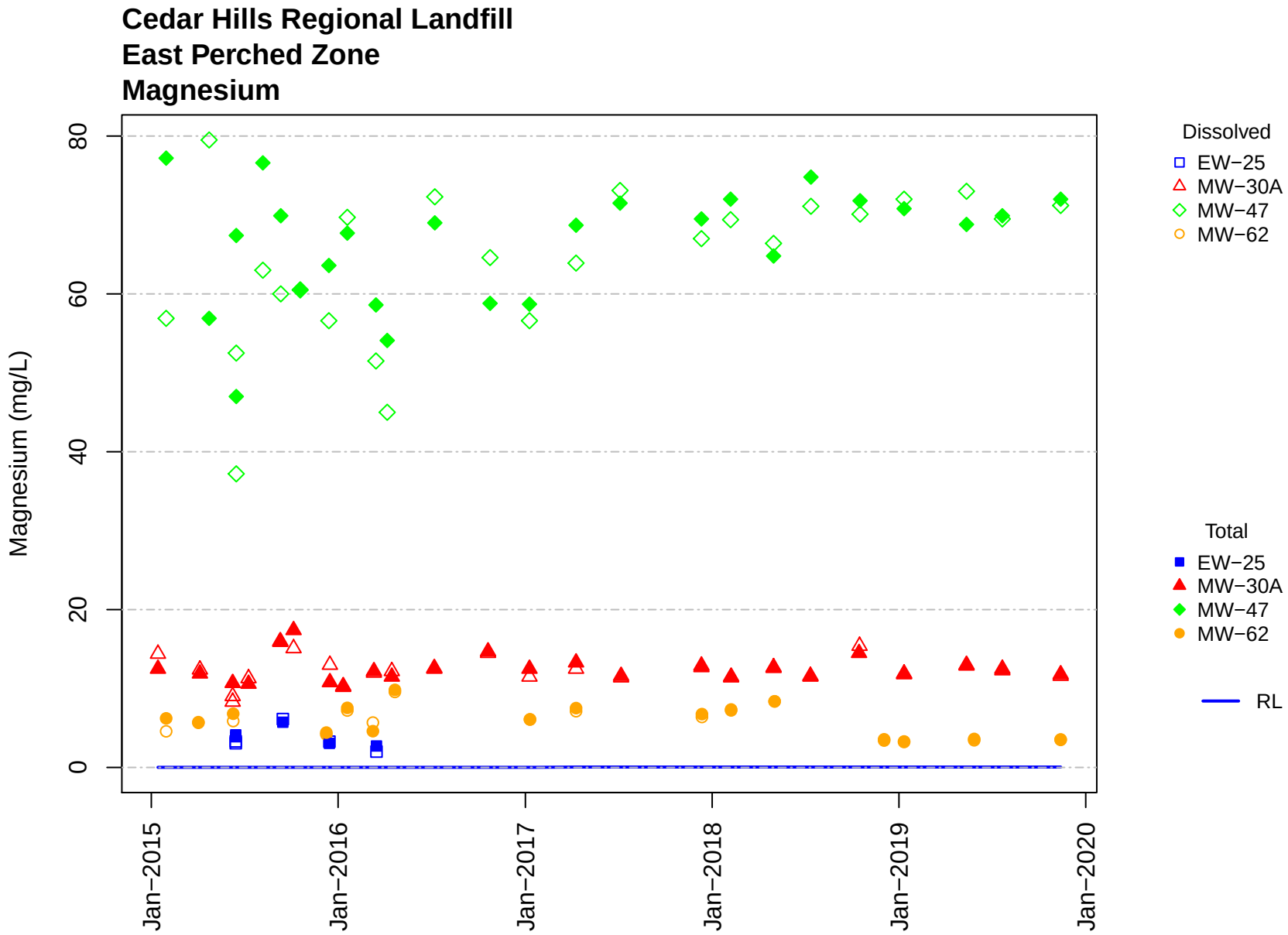

Cedar Hills Regional Landfill
South Perched Zone
Copper
Copper (mg/L)
0.0
0.5
1.0
1.5
National Primary MCL and Secondary MCLs − 1.3 and 1 mg/L
Washington State Groundwater Criteria − 1 mg/L
Jan−2015
Jan−2016
Jan−2017
Jan−2018
Jan−2019
Jan−2020
Dissolved
MW−101
Total
MW−101
RL
Standard

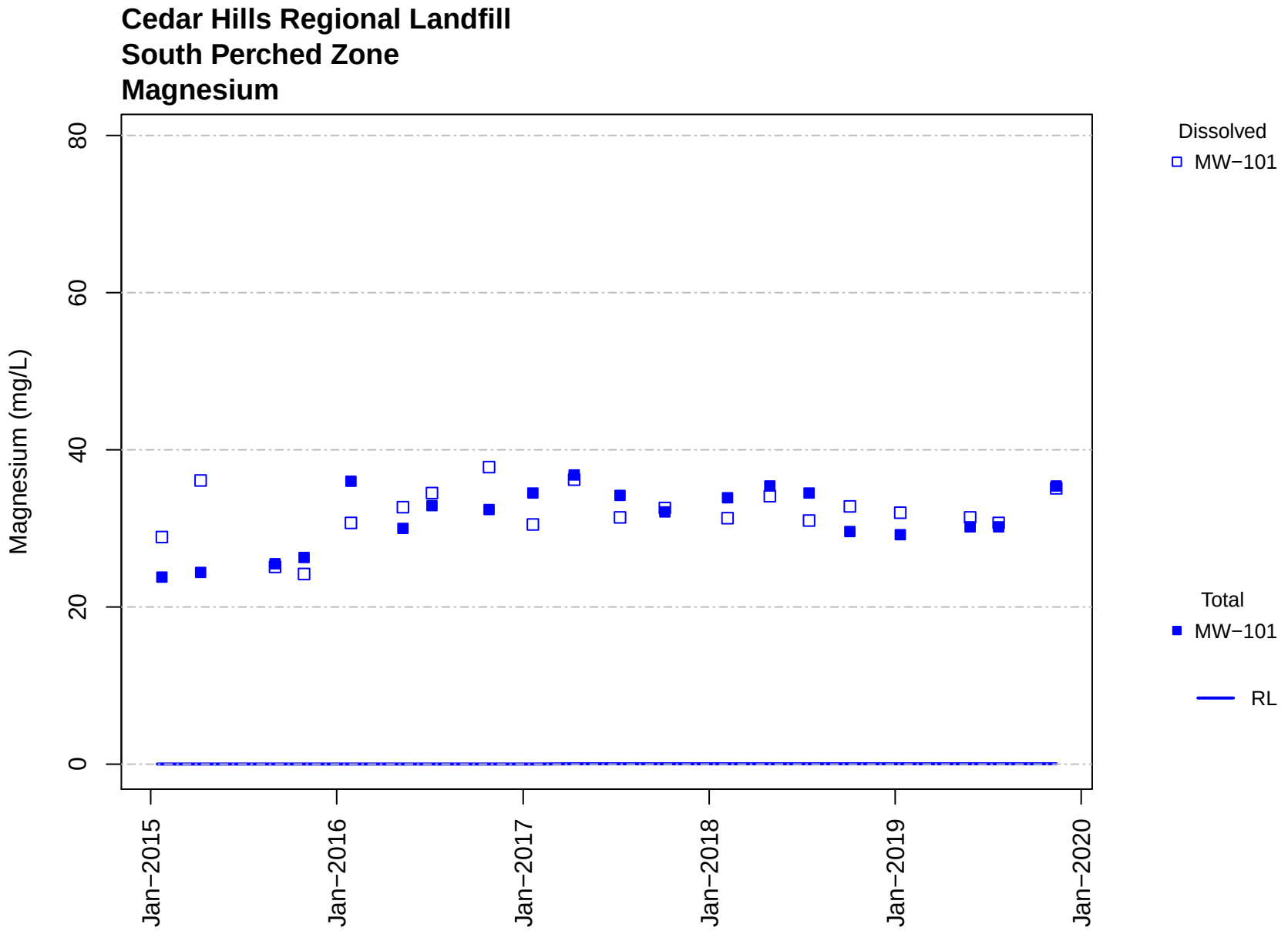

Cedar Hills Regional Landfill
East Perched Zone
Iron
Iron (mg/L)
0
2
4
6
8
10
National Secondary MCL − 0.3 mg/L
Washington State Groundwater Criteria − 0.3 mg/L
Jan−2015
Jan−2016
Jan−2017
Jan−2018
Jan−2019
Jan−2020
Dissolved
EW−25
MW−30A
MW−47
MW−62
Total
EW−25
MW−30A
MW−47
MW−62
RL
Standard

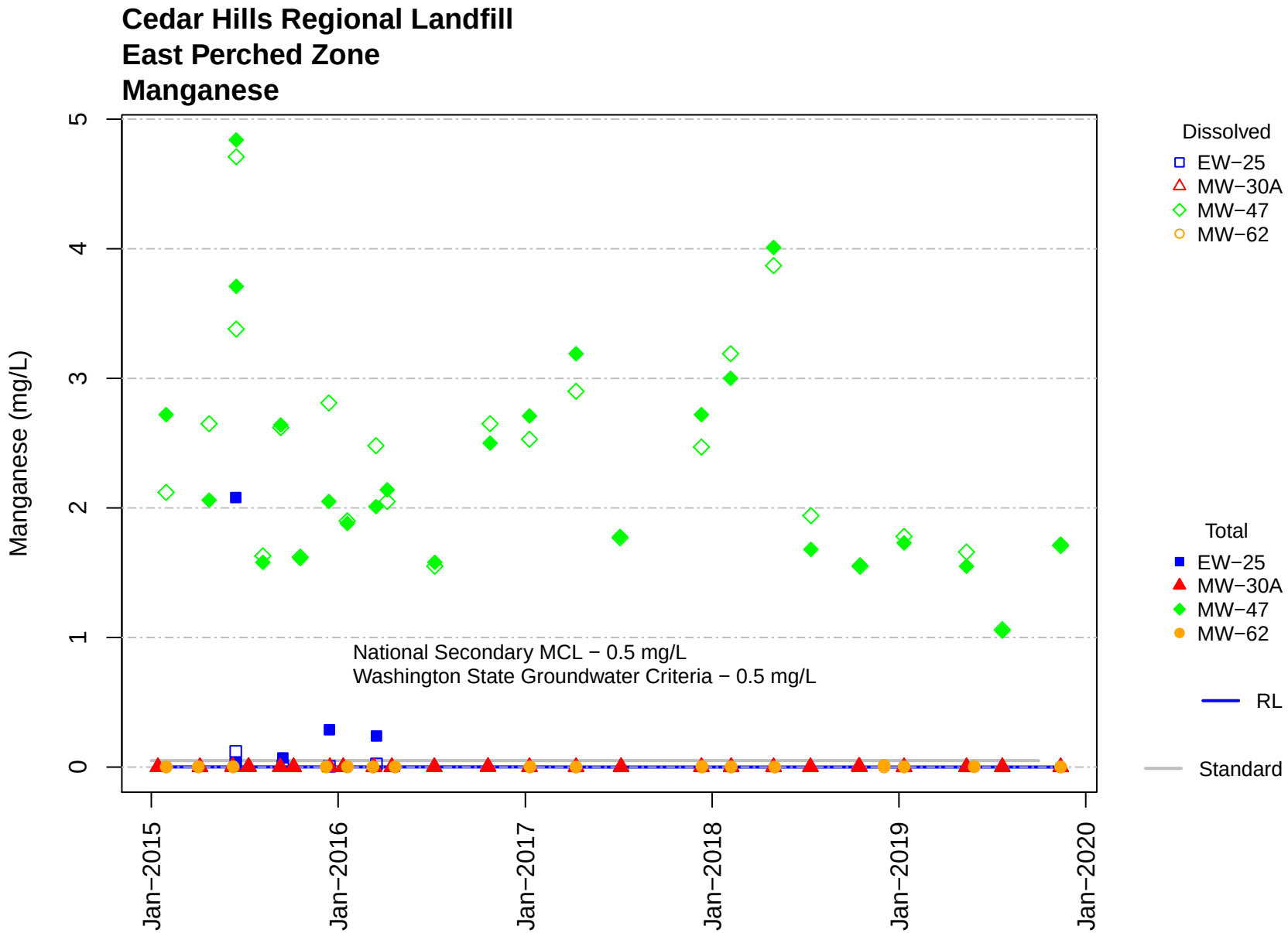

Cedar Hills Regional Landfill
South Perched Zone
Iron
Iron (mg/L)
0
2
4
6
8
10
National Secondary MCL − 0.3 mg/L
Washington State Groundwater Criteria − 0.3 mg/L
Jan−2015
Jan−2016
Jan−2017
Jan−2018
Jan−2019
Jan−2020
Dissolved
MW−101
Total
MW−101
RL
Standard

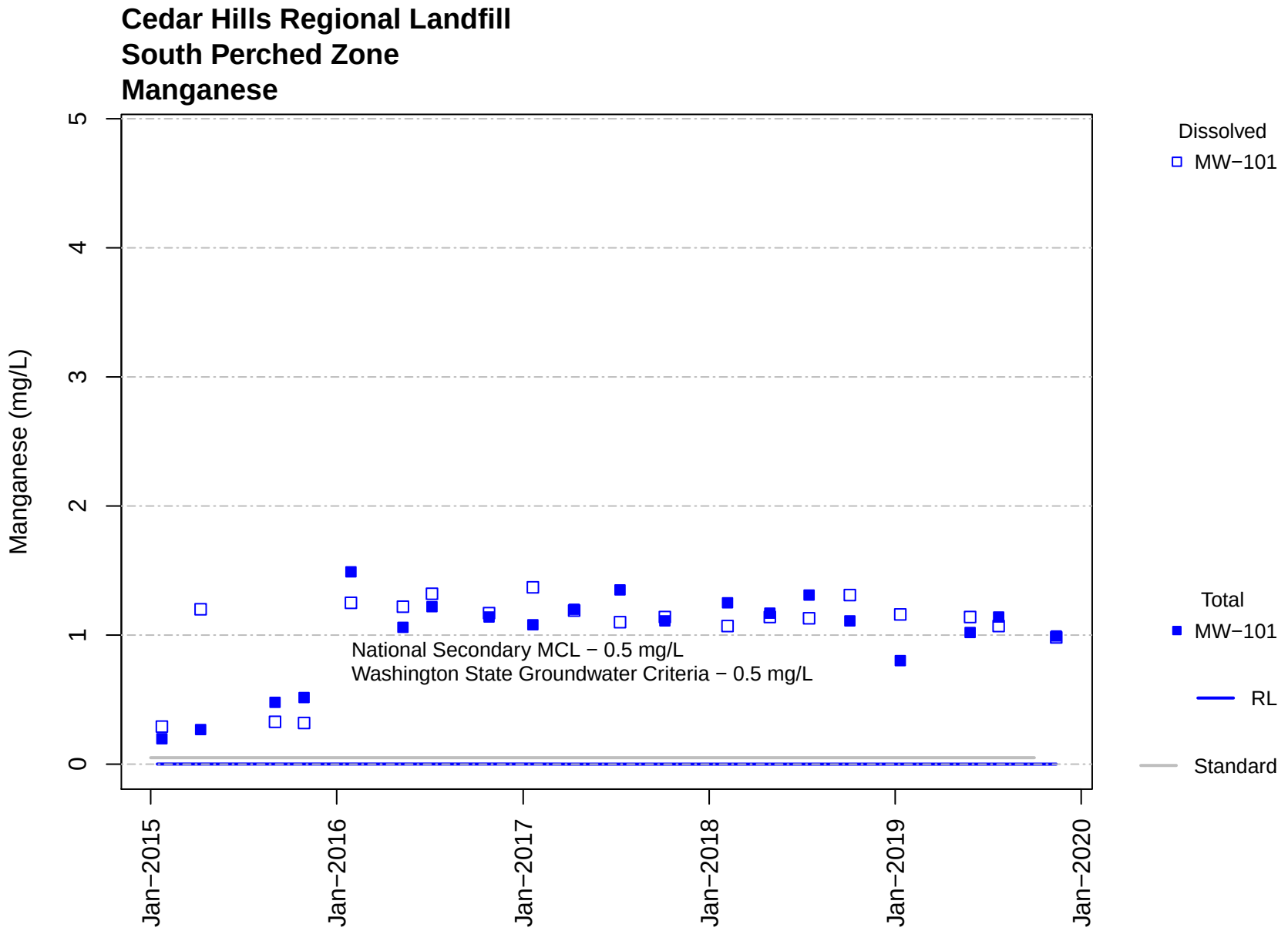

Cedar Hills Regional Landfill
East Perched Zone
Lead
National Primary MCL − 0.015 mg/L
Washington State Groundwater Criteria − 0.015 mg/L
Lead (mg/L)
0.000
0.005
0.010
0.015
Jan−2015
Jan−2016
Jan−2017
Jan−2018
Jan−2019
Jan−2020
EW−25
MW−30A
MW−47
MW−62
RL
Standard

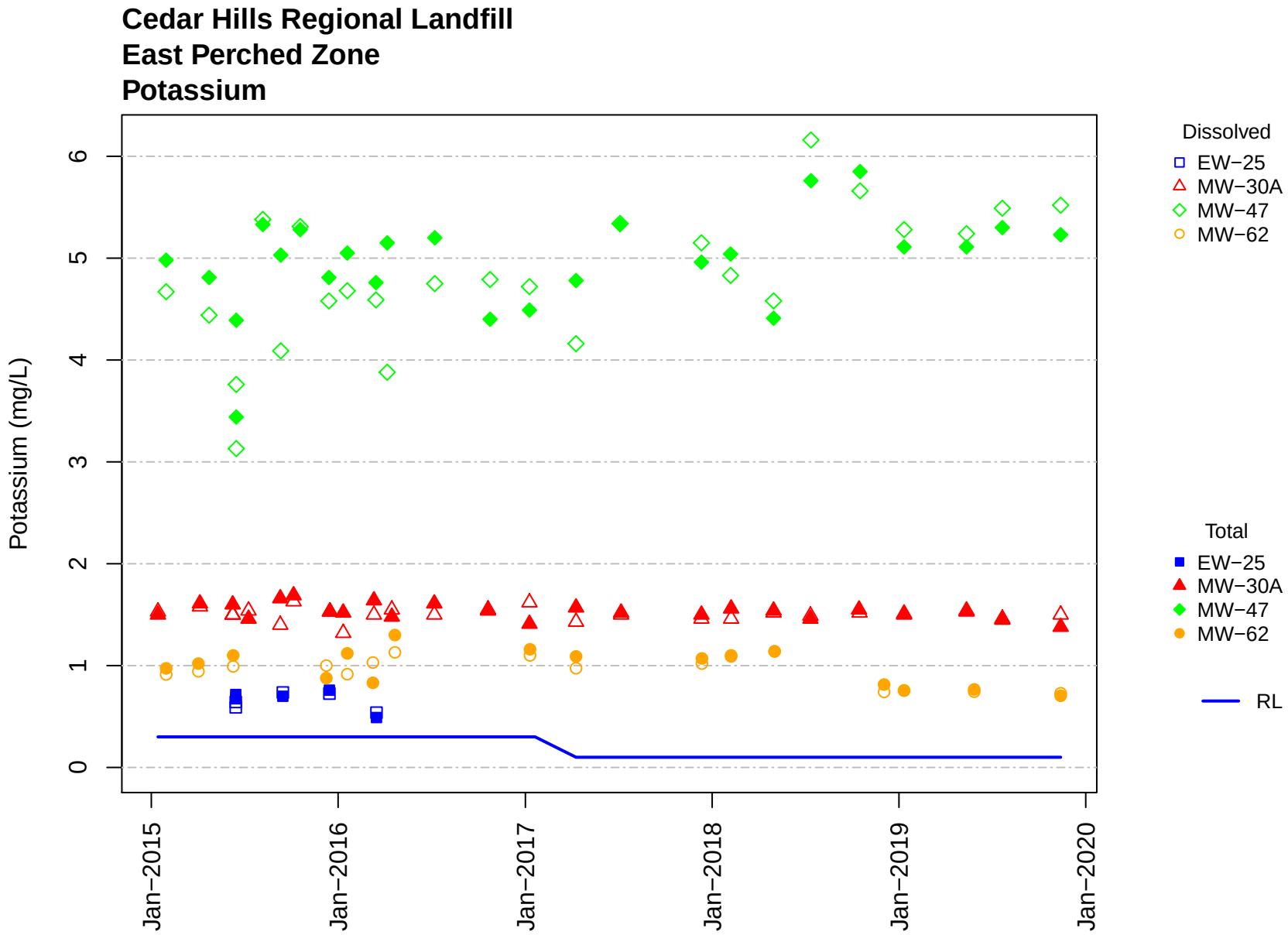

Cedar Hills Regional Landfill
South Perched Zone
Lead
National Primary MCL − 0.015 mg/L
Washington State Groundwater Criteria − 0.015 mg/L
Lead (mg/L)
0.000
0.005
0.010
0.015
Jan−2015
Jan−2016
Jan−2017
Jan−2018
Jan−2019
Jan−2020
MW−101
RL
Standard

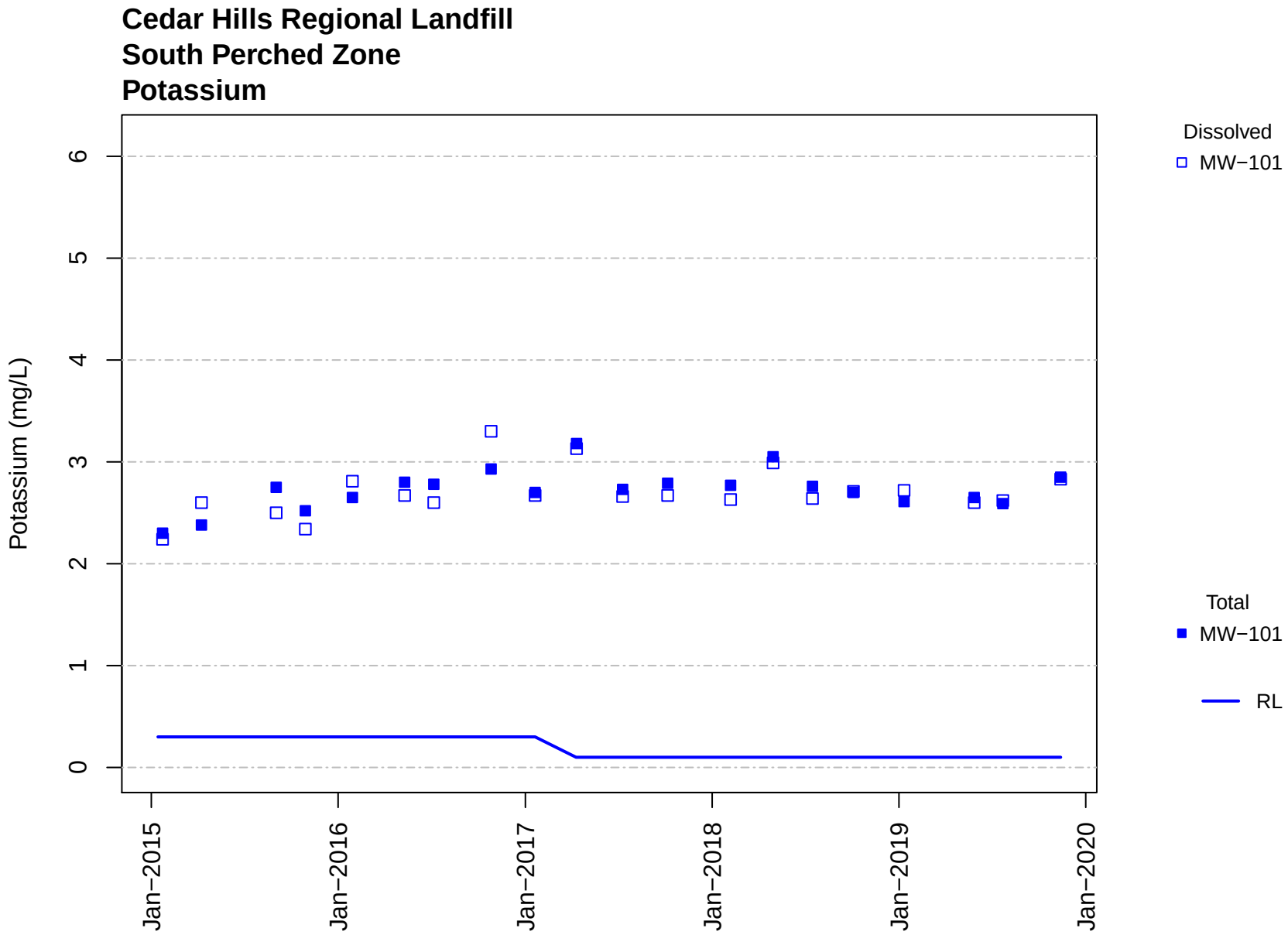

Cedar Hills Regional Landfill
East Perched Zone
Magnesium
Magnesium (mg/L)
0
20
40
60
80
Jan−2015
Jan−2016
Jan−2017
Jan−2018
Jan−2019
Jan−2020
Dissolved
EW−25
MW−30A
MW−47
MW−62
Total
EW−25
MW−30A
MW−47
MW−62
RL

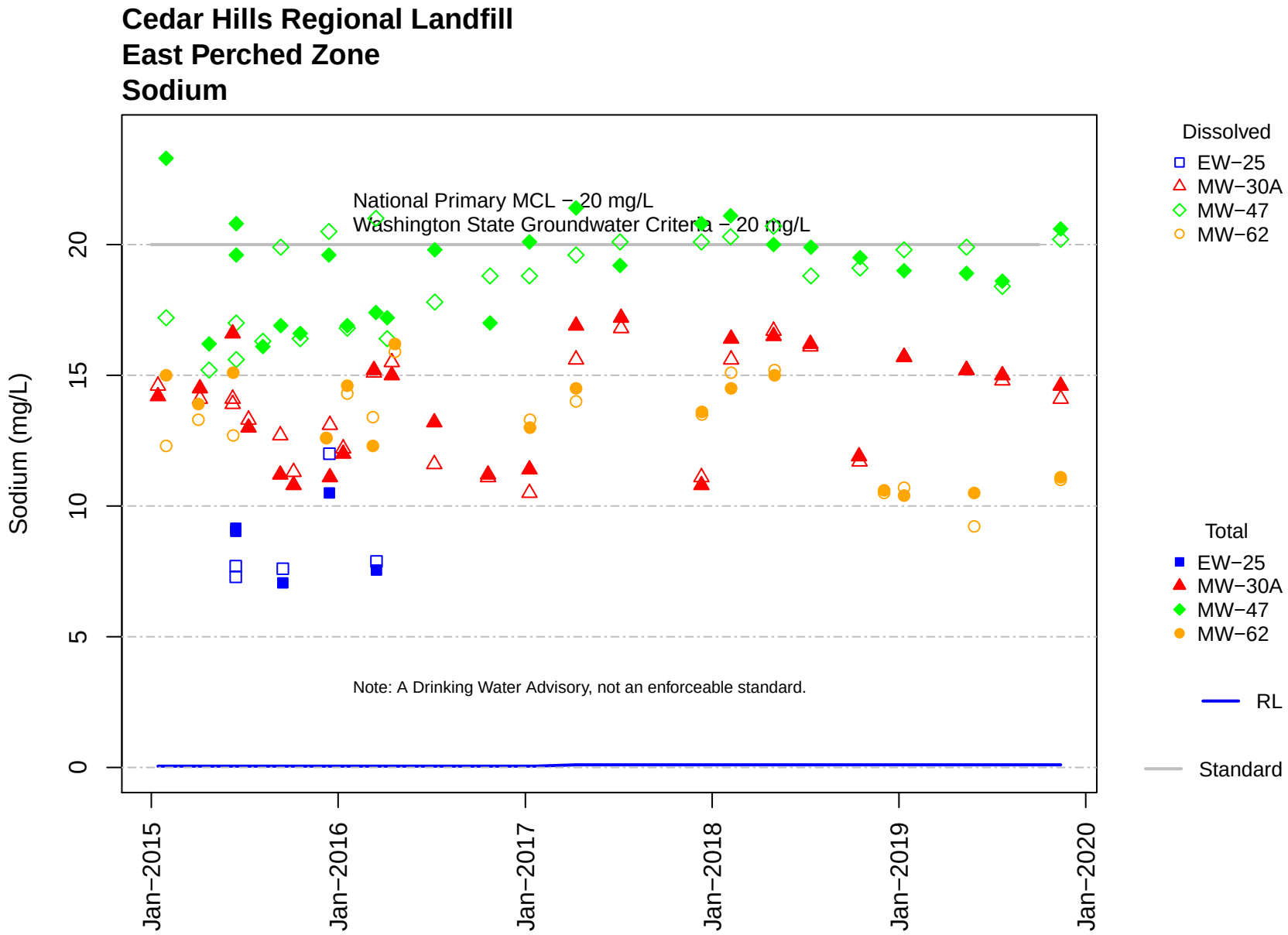

Cedar Hills Regional Landfill
South Perched Zone
Magnesium
Magnesium (mg/L)
0
20
40
60
80
Jan−2015
Jan−2016
Jan−2017
Jan−2018
Jan−2019
Jan−2020
Dissolved
MW−101
Total
MW−101
RL

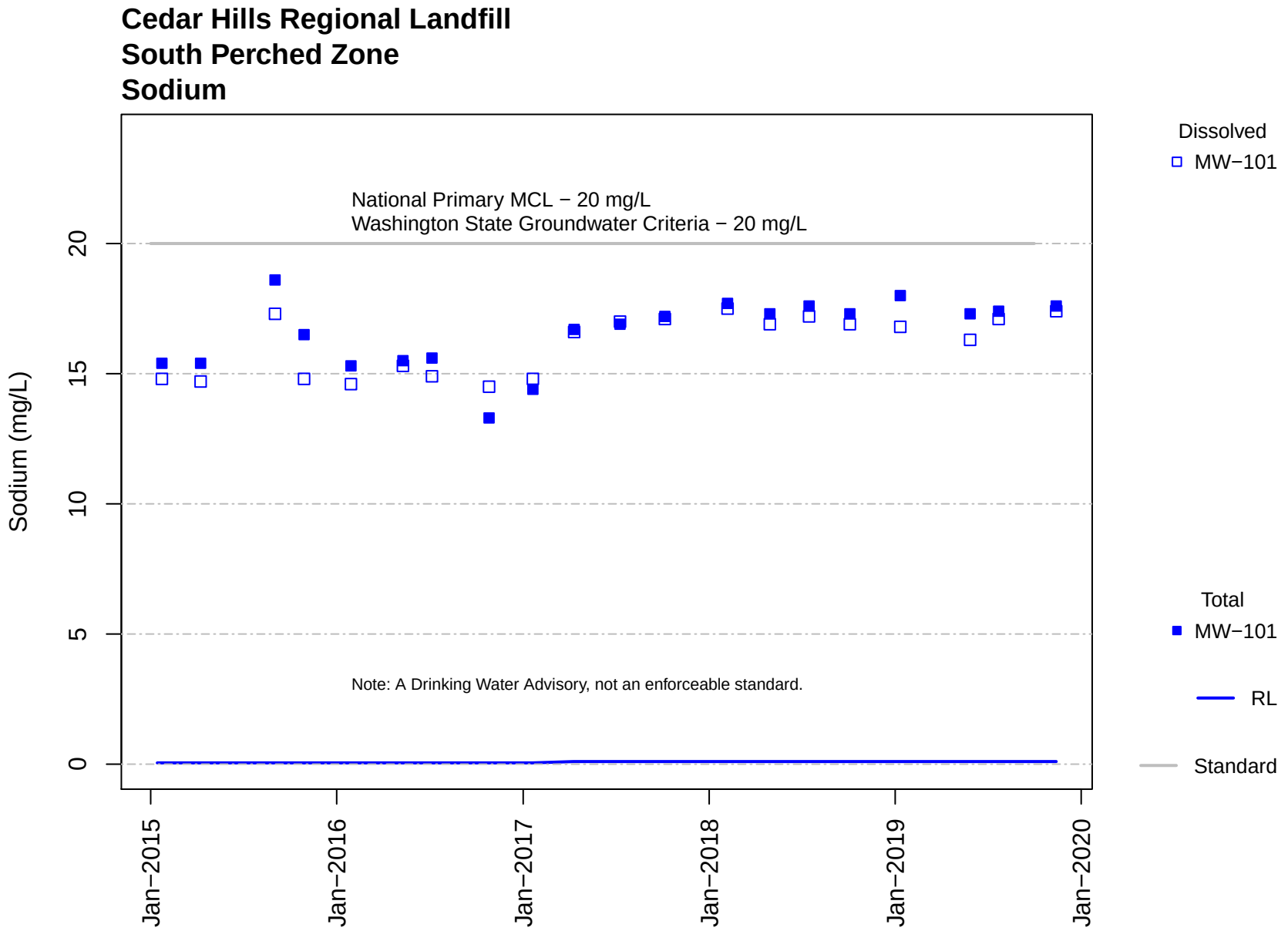

Cedar Hills Regional Landfill
East Perched Zone
Manganese
Manganese (mg/L)
0
1
2
3
4
5
Jan−2015
Jan−2016
Jan−2017
Jan−2018
Jan−2019
Jan−2020
National Secondary MCL − 0.5 mg/L
Washington State Groundwater Criteria − 0.5 mg/L
Dissolved
EW−25
MW−30A
MW−47
MW−62
Total
EW−25
MW−30A
MW−47
MW−62
RL
Standard

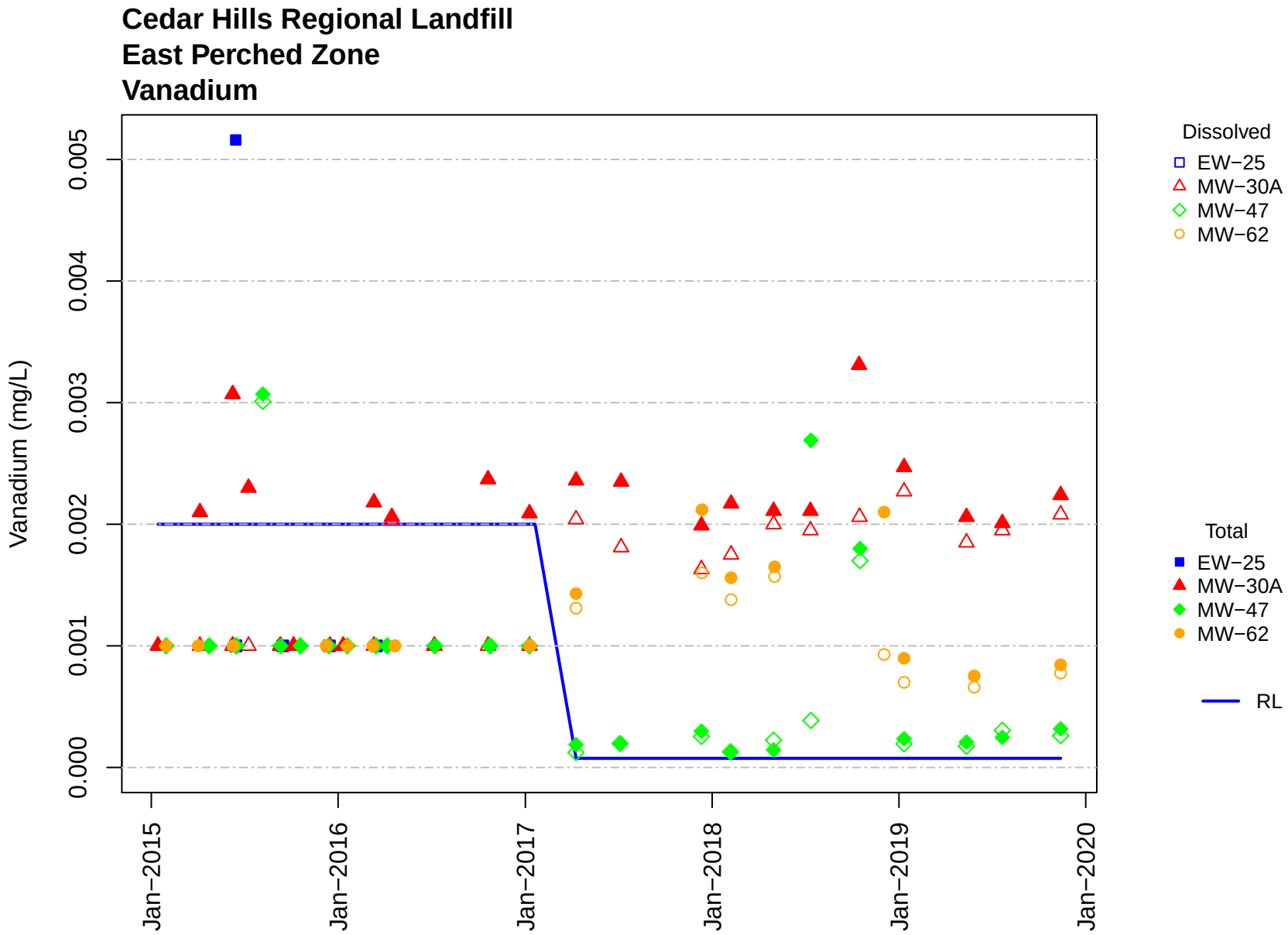

Cedar Hills Regional Landfill
South Perched Zone
Manganese
Manganese (mg/L)
0
1
2
3
4
5
Jan−2015
Jan−2016
Jan−2017
Jan−2018
Jan−2019
Jan−2020
National Secondary MCL − 0.5 mg/L
Washington State Groundwater Criteria − 0.5 mg/L
Dissolved
MW−101
Total
MW−101
RL
Standard

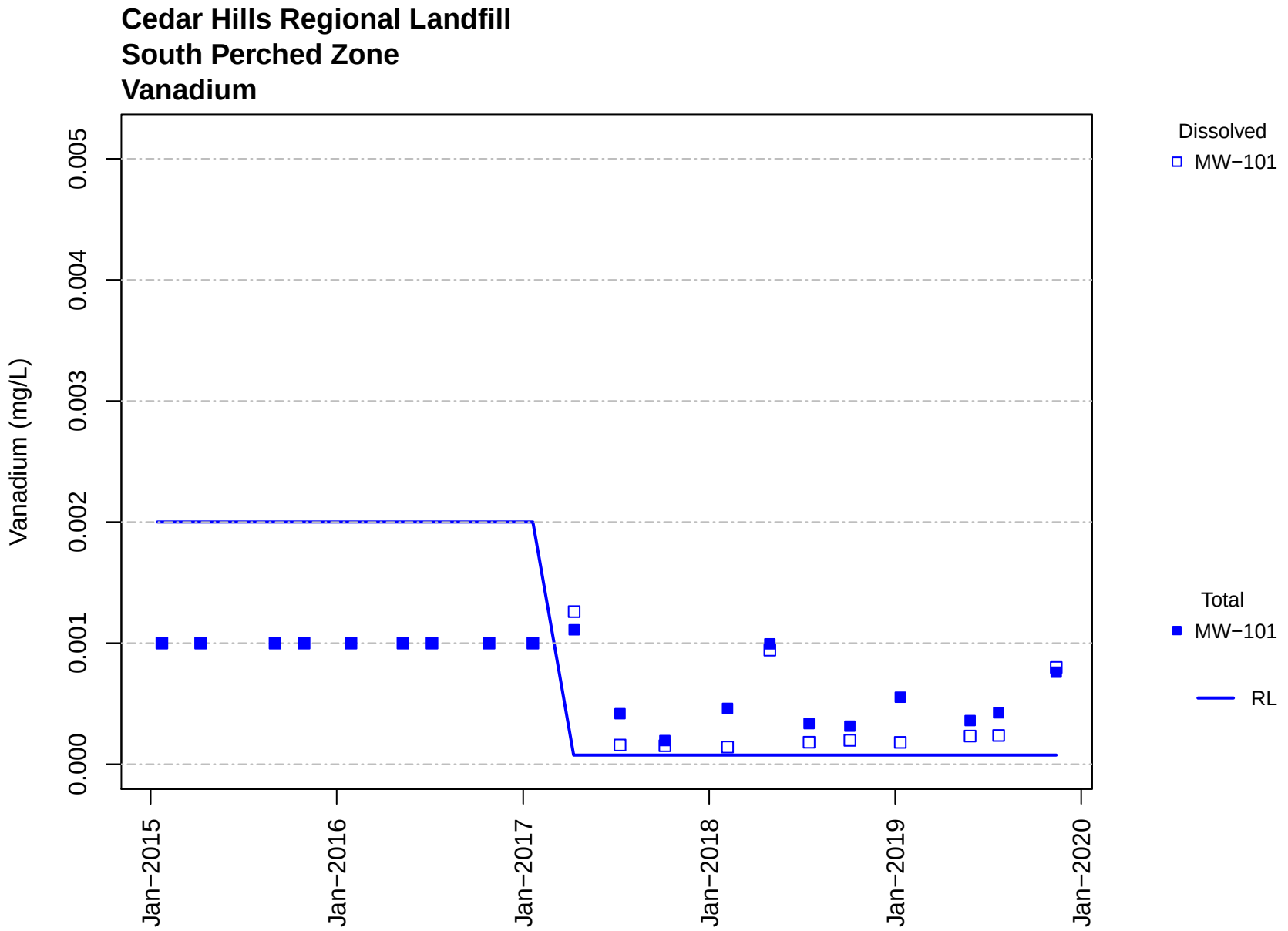

Cedar Hills Regional Landfill
East Perched Zone
Potassium
Potassium (mg/L)
0
1
2
3
4
5
6
Jan−2015
Jan−2016
Jan−2017
Jan−2018
Jan−2019
Jan−2020
Dissolved
EW−25
MW−30A
MW−47
MW−62
Total
EW−25
MW−30A
MW−47
MW−62
RL

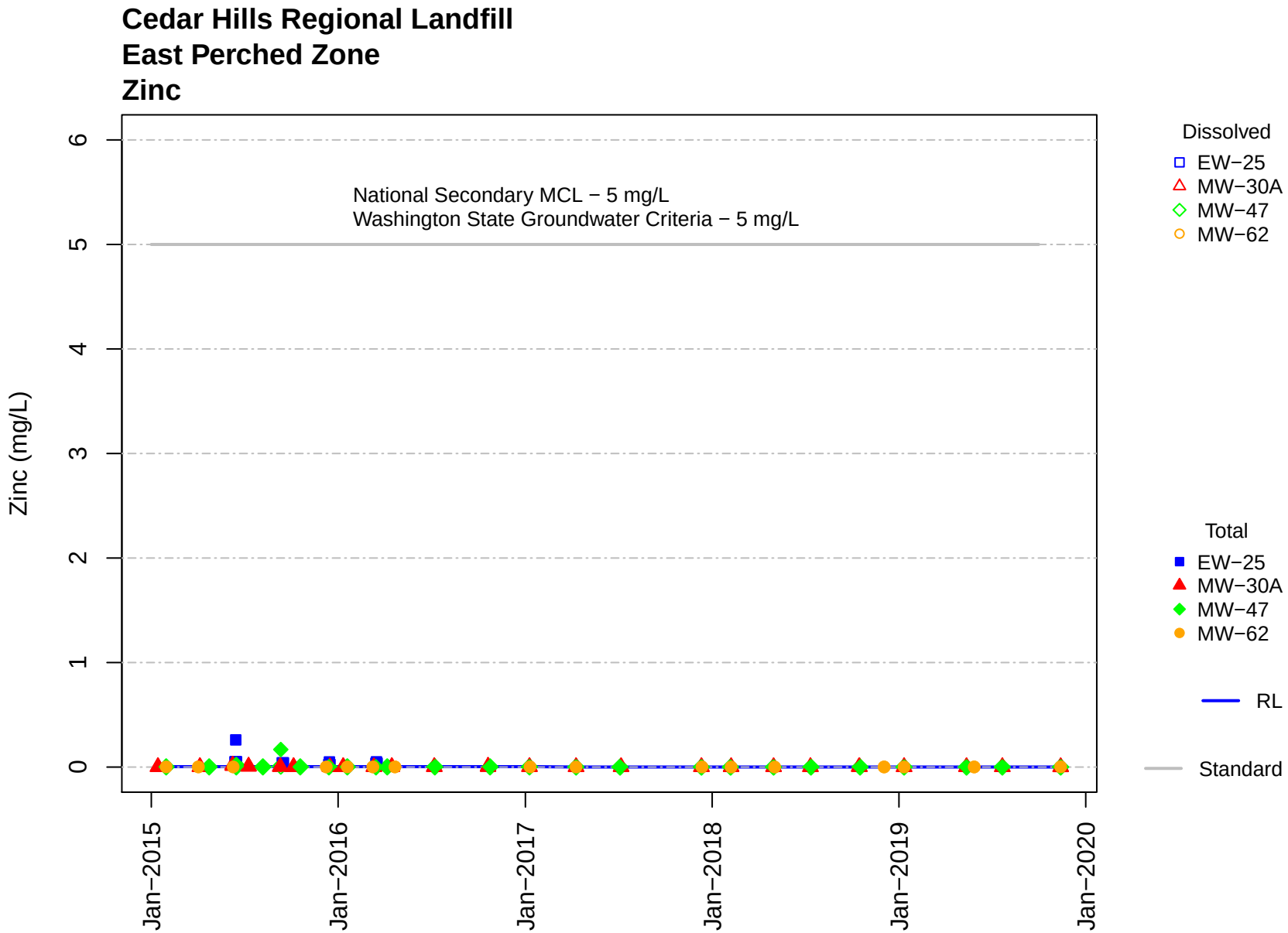

Cedar Hills Regional Landfill
South Perched Zone
Potassium
Potassium (mg/L)
0
1
2
3
4
5
6
Jan−2015
Jan−2016
Jan−2017
Jan−2018
Jan−2019
Jan−2020
Dissolved
MW−101
Total
MW−101
RL

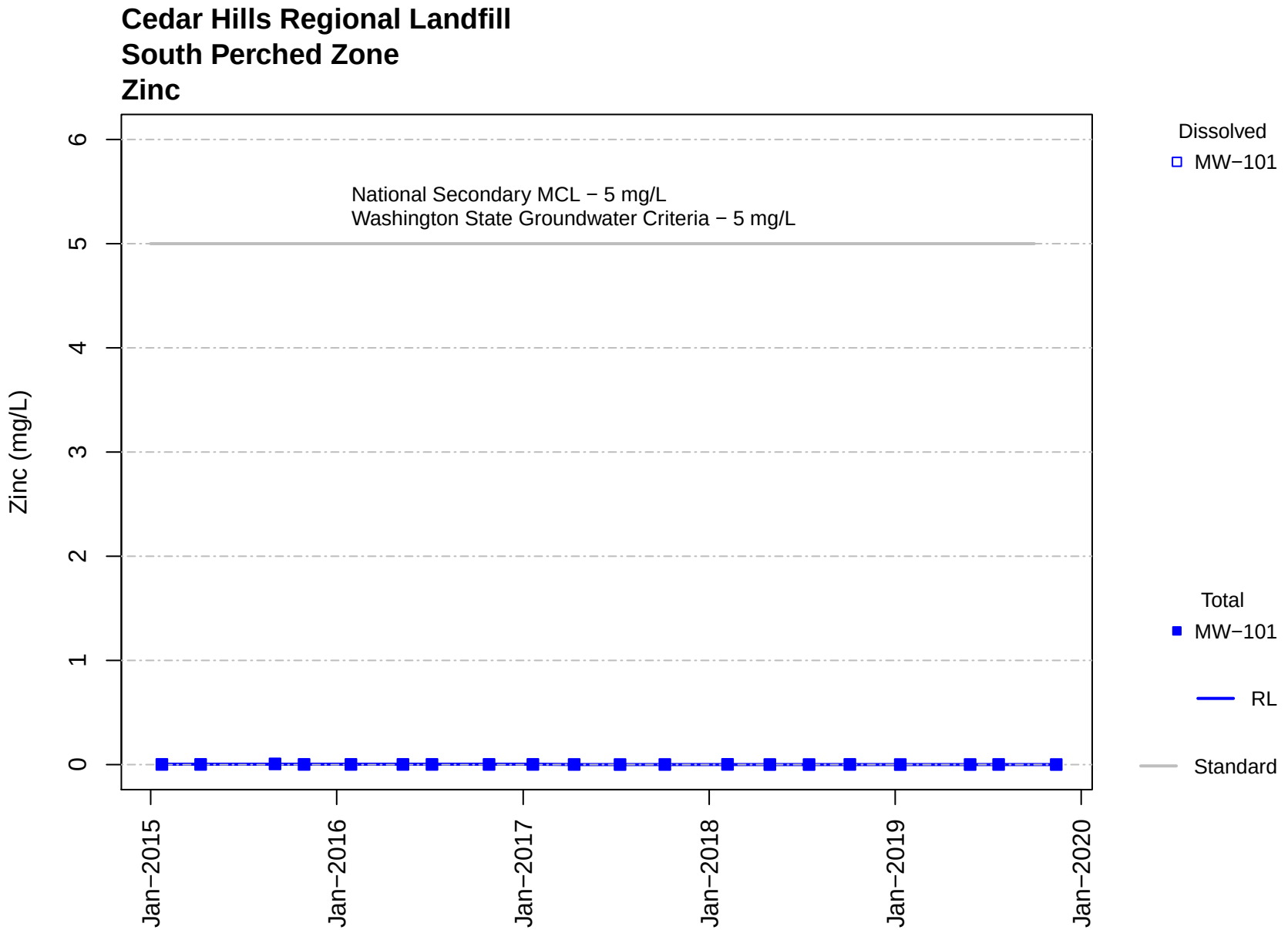

Cedar Hills Regional Landfill
East Perched Zone
Sodium
National Primary MCL – 20 mg/L
Washington State Groundwater Criteria – 20 mg/L
Note: A Drinking Water Advisory, not an enforceable standard.
Sodium (mg/L)
0
5
10
15
20
Jan−2015
Jan−2016
Jan−2017
Jan−2018
Jan−2019
Jan−2020
Dissolved
EW−25
MW−30A
MW−47
MW−62
Total
EW−25
MW−30A
MW−47
MW−62
RL
Standard

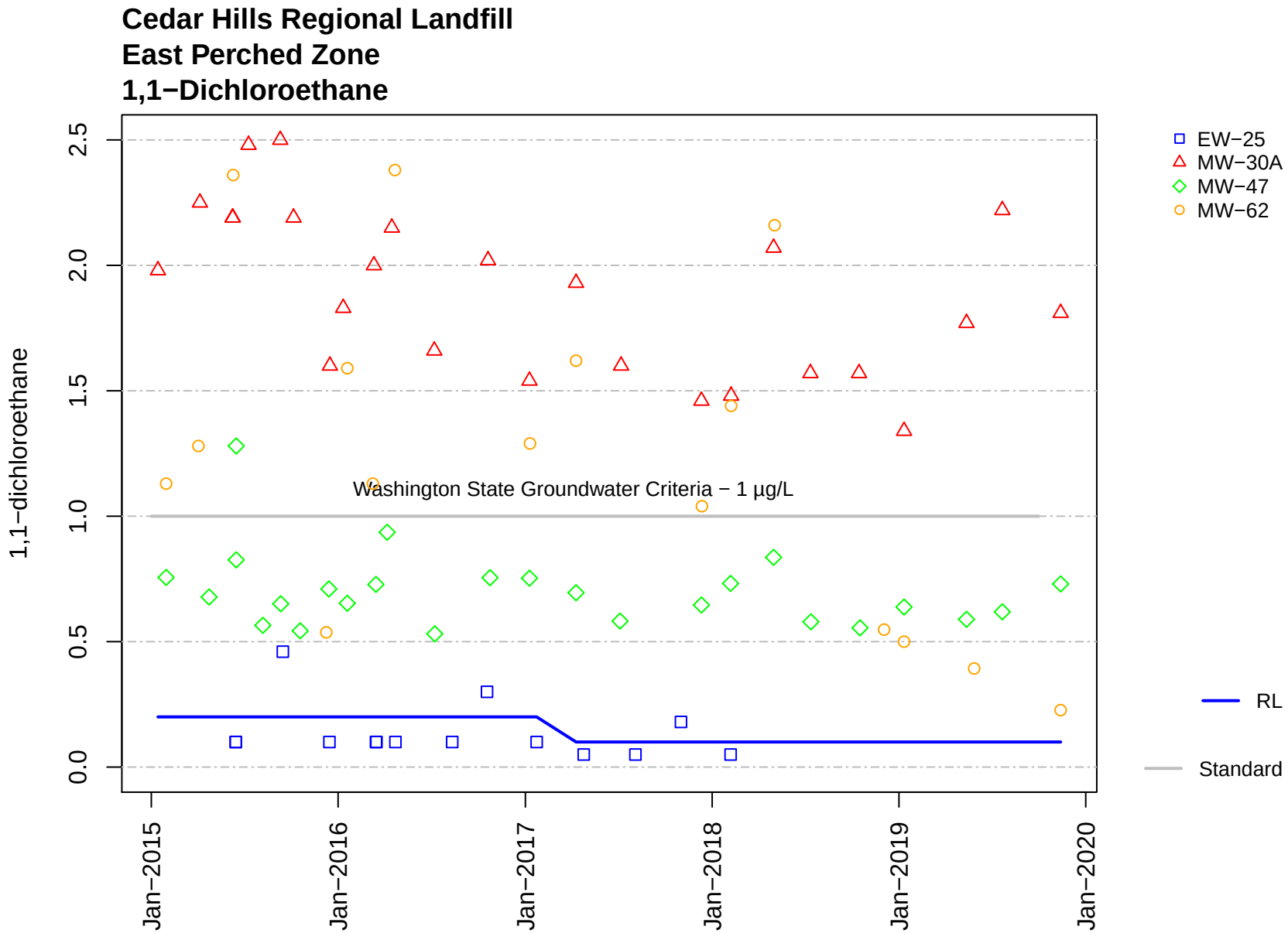

Cedar Hills Regional Landfill
South Perched Zone
Sodium
National Primary MCL − 20 mg/L
Washington State Groundwater Criteria − 20 mg/L
Note: A Drinking Water Advisory, not an enforceable standard.
Sodium (mg/L)
0
5
10
15
20
Jan−2015
Jan−2016
Jan−2017
Jan−2018
Jan−2019
Jan−2020
Dissolved
MW−101
Total
MW−101
RL
Standard

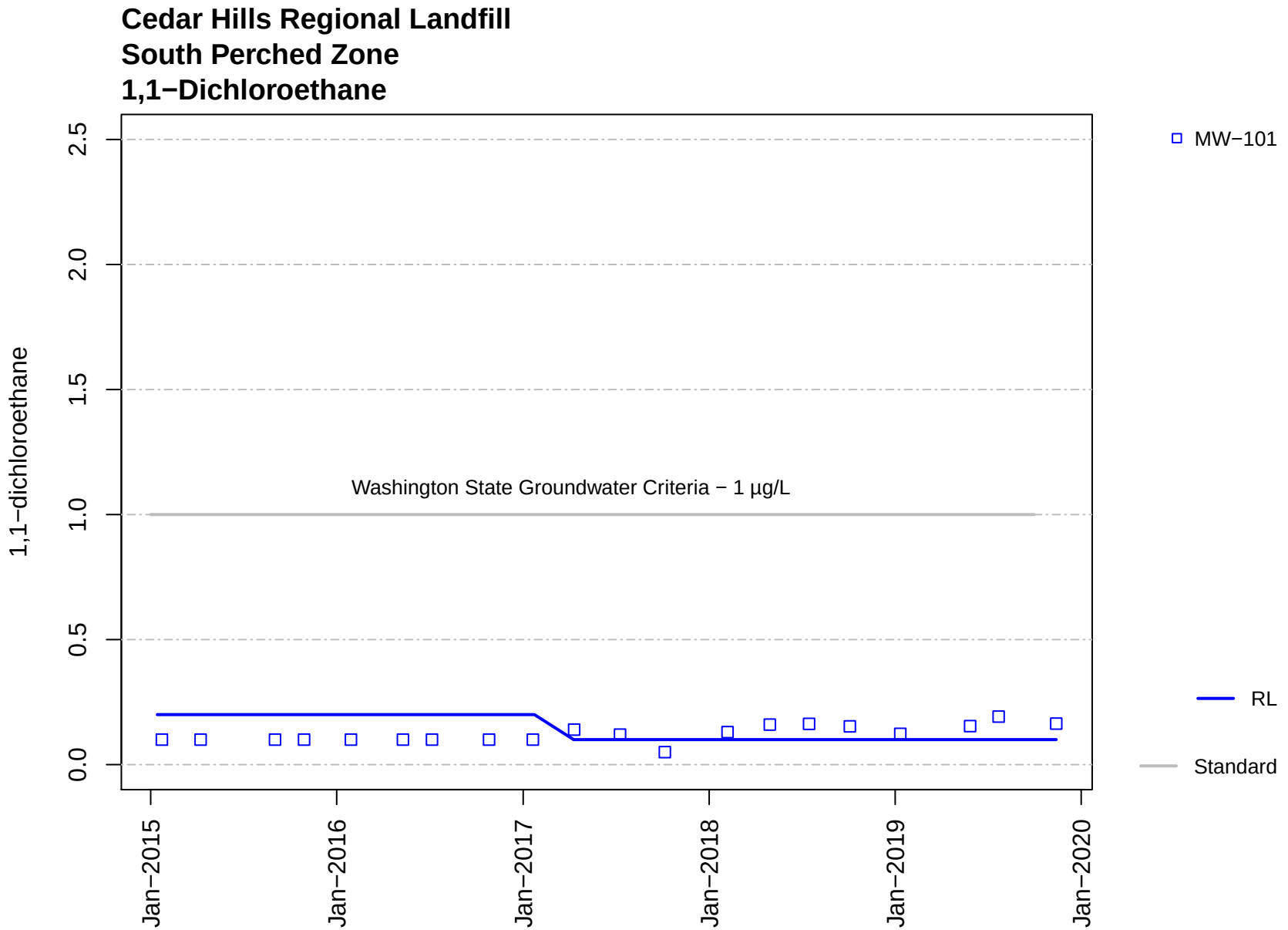

Cedar Hills Regional Landfill
East Perched Zone
Vanadium
Vanadium (mg/L)
0.000
0.001
0.002
0.003
0.004
0.005
Jan−2015
Jan−2016
Jan−2017
Jan−2018
Jan−2019
Jan−2020
Dissolved
EW−25
MW−30A
MW−47
MW−62
Total
EW−25
MW−30A
MW−47
MW−62
RL

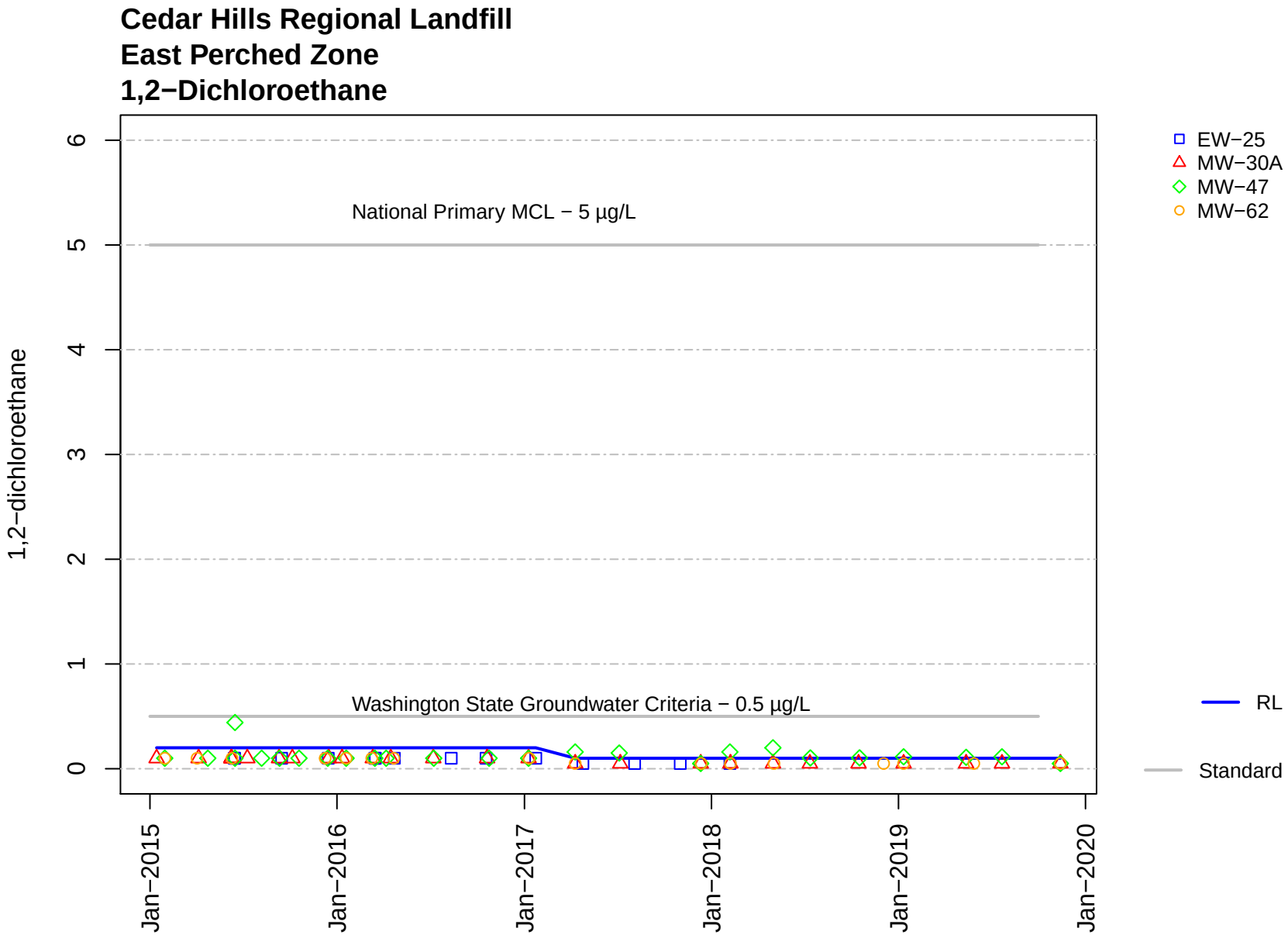

Cedar Hills Regional Landfill
South Perched Zone
Vanadium
Vanadium (mg/L)
0.000
0.001
0.002
0.003
0.004
0.005
Jan−2015
Jan−2016
Jan−2017
Jan−2018
Jan−2019
Jan−2020
Dissolved
MW−101
Total
MW−101
RL

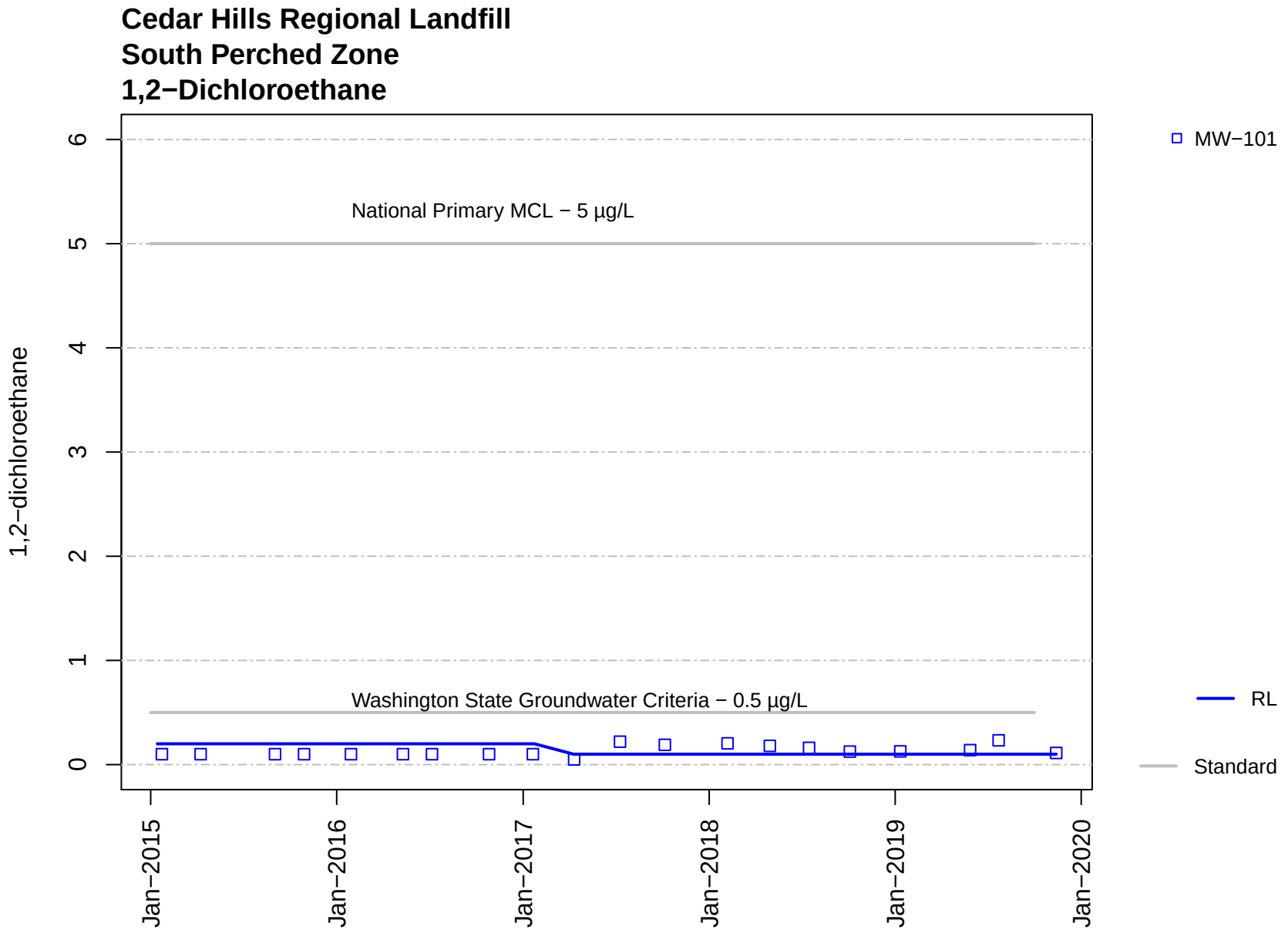

Cedar Hills Regional Landfill
East Perched Zone
Zinc
Zinc (mg/L)
0
1
2
3
4
5
6
National Secondary MCL − 5 mg/L
Washington State Groundwater Criteria − 5 mg/L
Jan−2015
Jan−2016
Jan−2017
Jan−2018
Jan−2019
Jan−2020
Dissolved
EW−25
MW−30A
MW−47
MW−62
Total
EW−25
MW−30A
MW−47
MW−62
RL
Standard

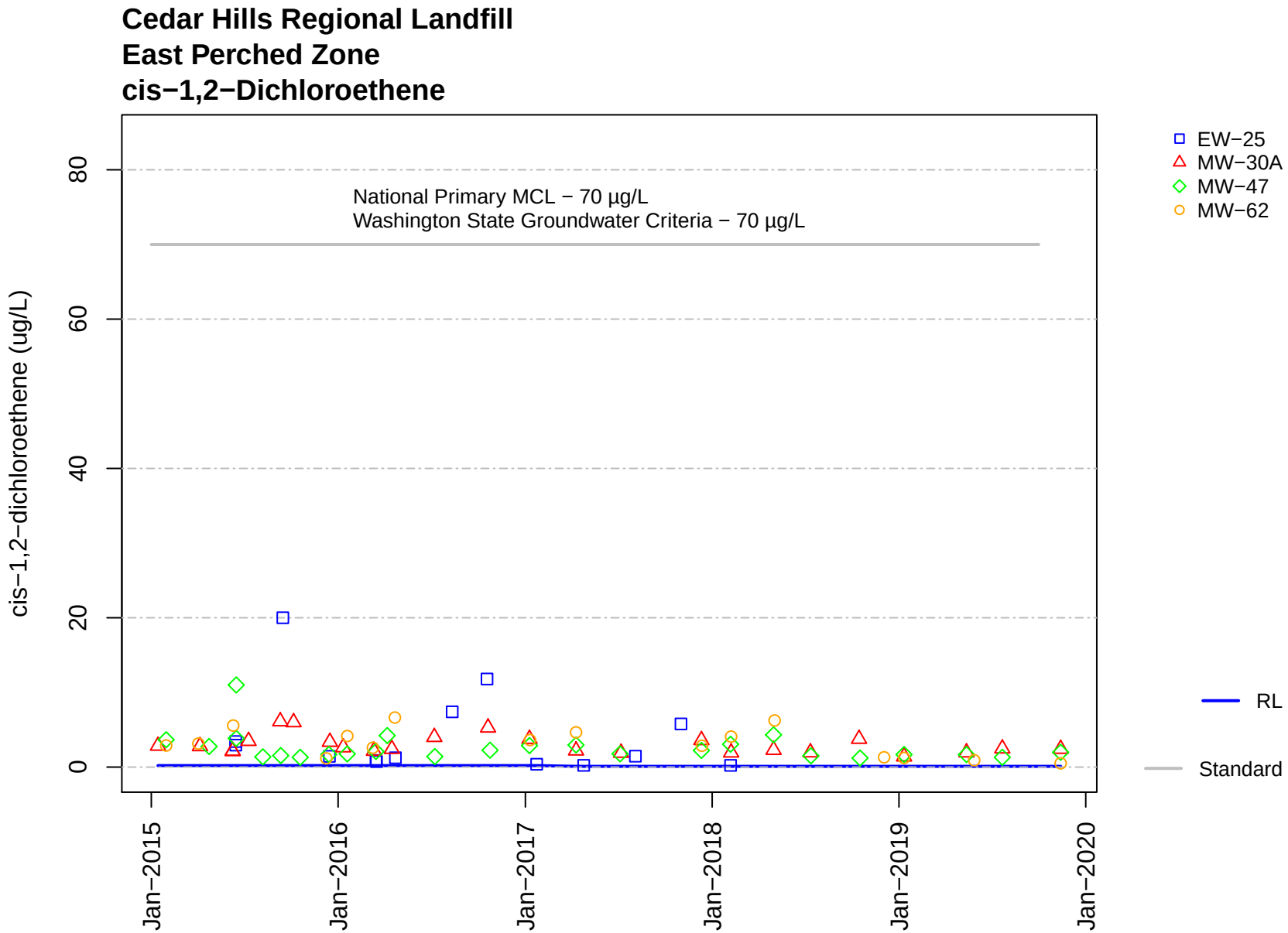

Cedar Hills Regional Landfill
South Perched Zone
Zinc
Zinc (mg/L)
0
1
2
3
4
5
6
National Secondary MCL − 5 mg/L
Washington State Groundwater Criteria − 5 mg/L
Jan−2015
Jan−2016
Jan−2017
Jan−2018
Jan−2019
Jan−2020
Dissolved
MW−101
Total
MW−101
RL
Standard

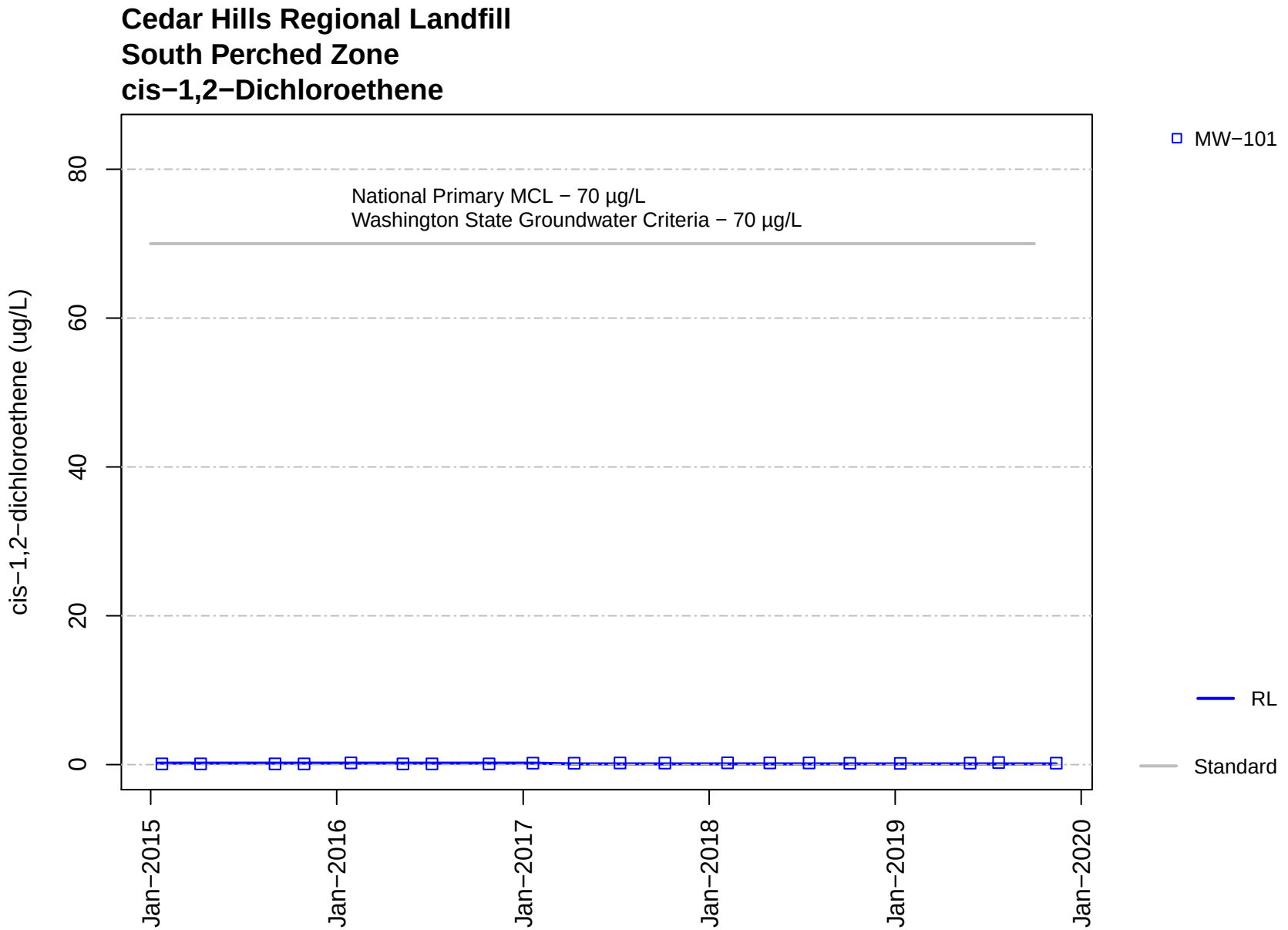

Cedar Hills Regional Landfill
East Perched Zone
1,1−Dichloroethane
1,1−dichloroethane
0.0
0.5
1.0
1.5
2.0
2.5
Jan−2015
Jan−2016
Jan−2017
Jan−2018
Jan−2019
Jan−2020
Washington State Groundwater Criteria − 1 µg/L
EW−25
MW−30A
MW−47
MW−62
RL
Standard

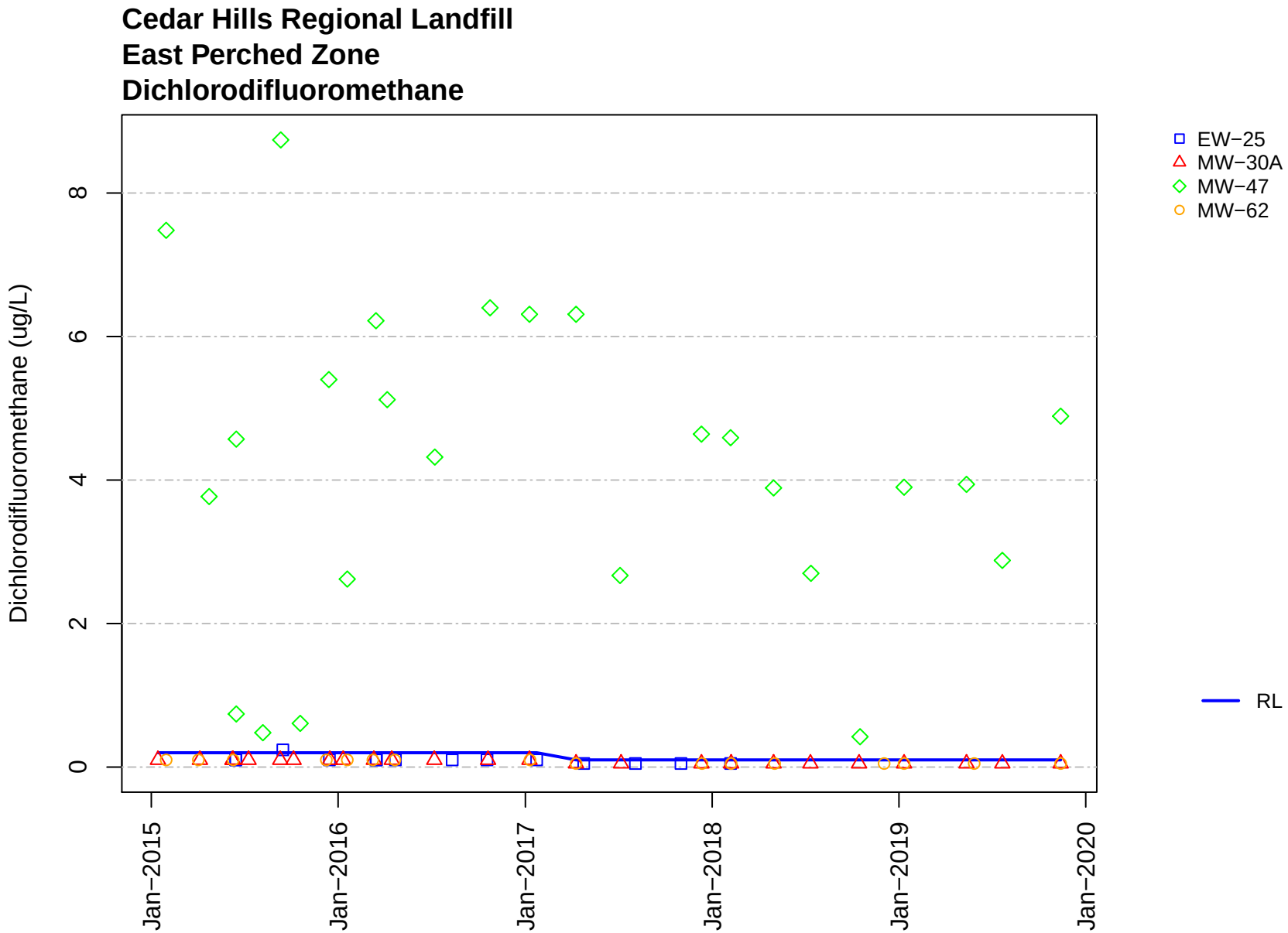

Cedar Hills Regional Landfill
South Perched Zone
1,1−Dichloroethane
1,1−dichloroethane
0.0
0.5
1.0
1.5
2.0
2.5
Washington State Groundwater Criteria − 1 µg/L
Jan−2015
Jan−2016
Jan−2017
Jan−2018
Jan−2019
Jan−2020
MW−101
RL
Standard

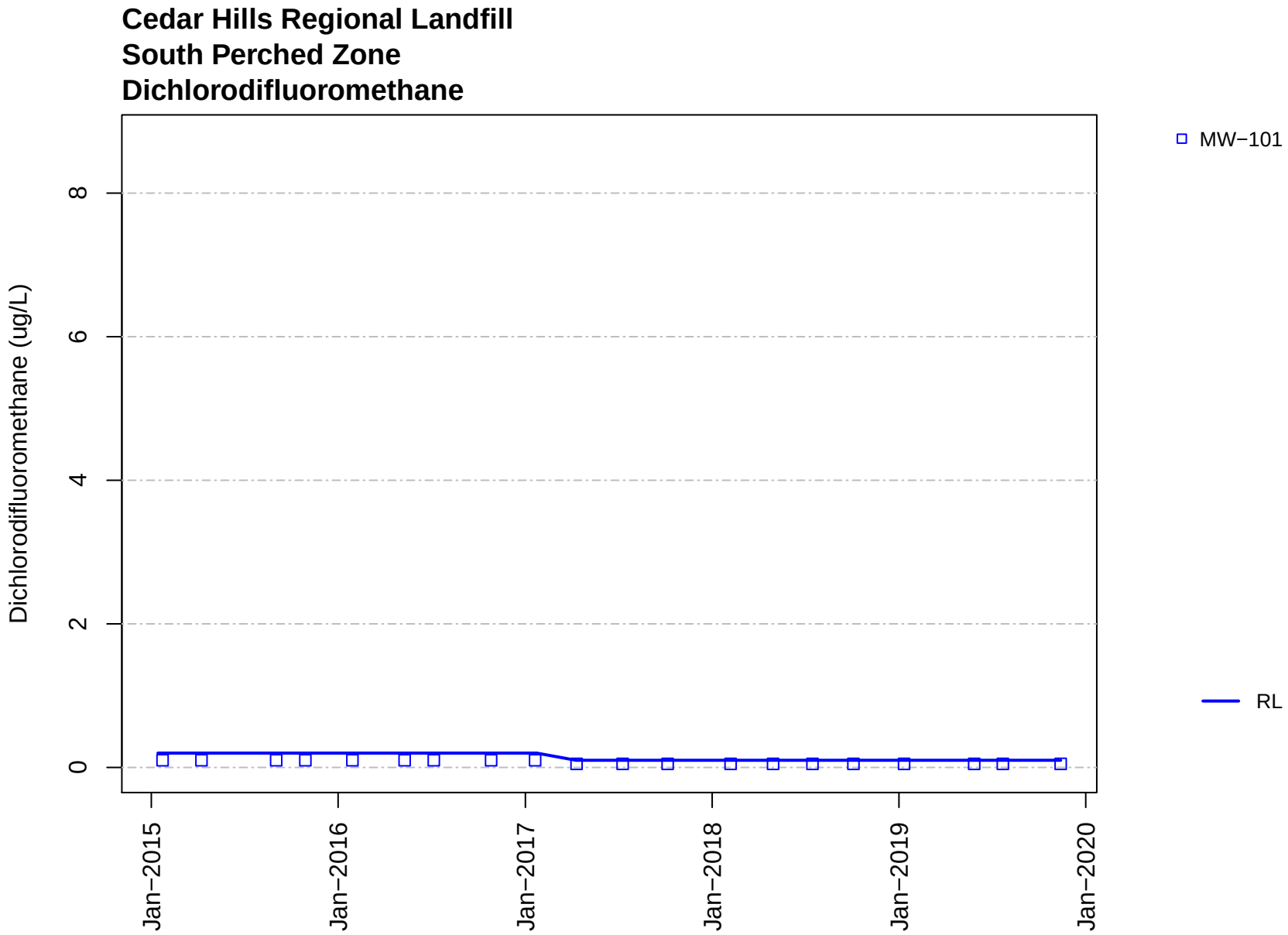

Cedar Hills Regional Landfill
East Perched Zone
1,2−Dichloroethane
1,2−dichloroethane
0
1
2
3
4
5
6
National Primary MCL − 5 µg/L
Washington State Groundwater Criteria − 0.5 µg/L
Jan−2015
Jan−2016
Jan−2017
Jan−2018
Jan−2019
Jan−2020
EW−25
MW−30A
MW−47
MW−62
RL
Standard

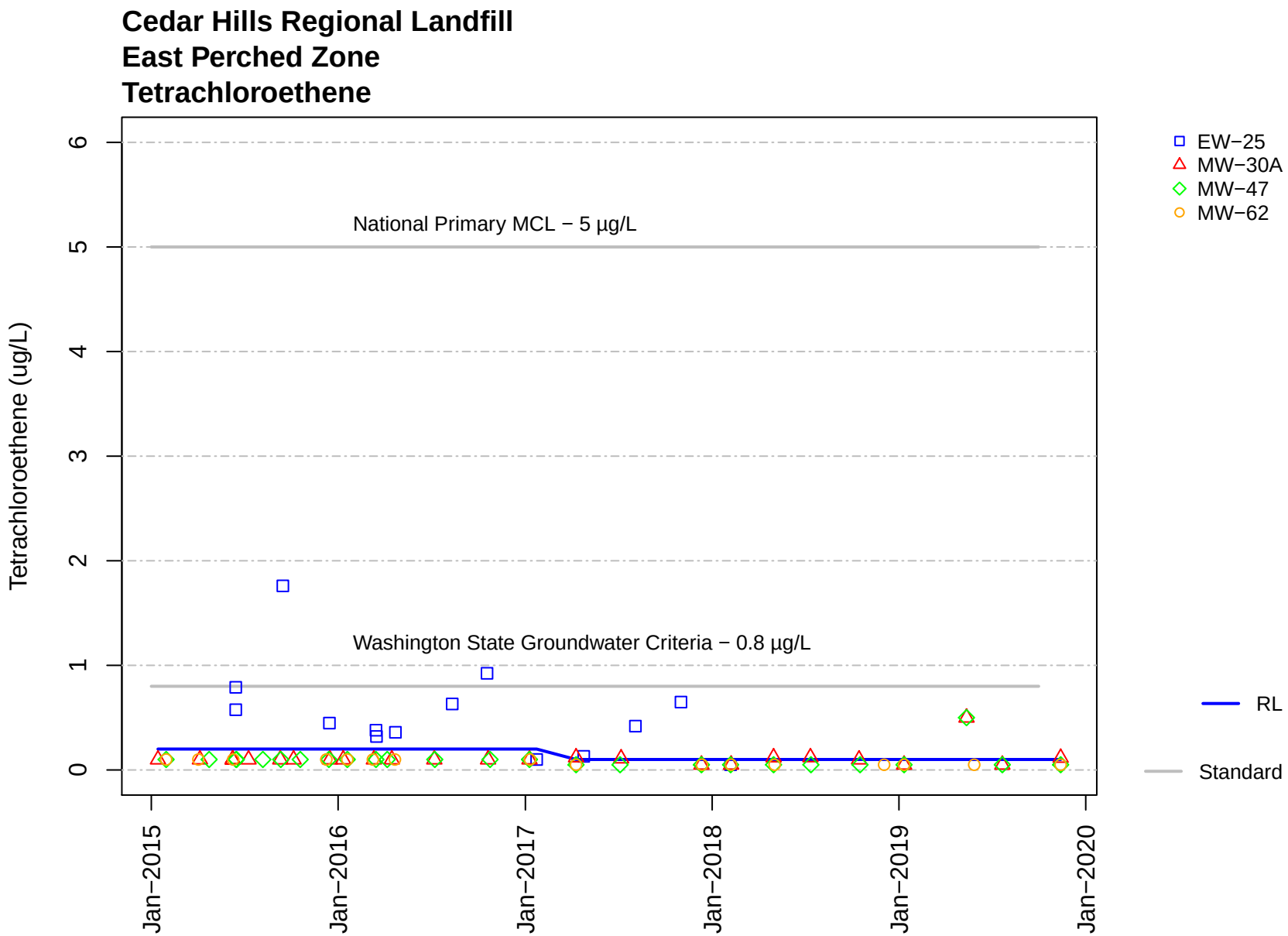

Cedar Hills Regional Landfill
South Perched Zone
1,2−Dichloroethane
1,2−dichloroethane
0
1
2
3
4
5
6
National Primary MCL − 5 µg/L
Washington State Groundwater Criteria − 0.5 µg/L
Jan−2015
Jan−2016
Jan−2017
Jan−2018
Jan−2019
Jan−2020
MW−101
RL
Standard

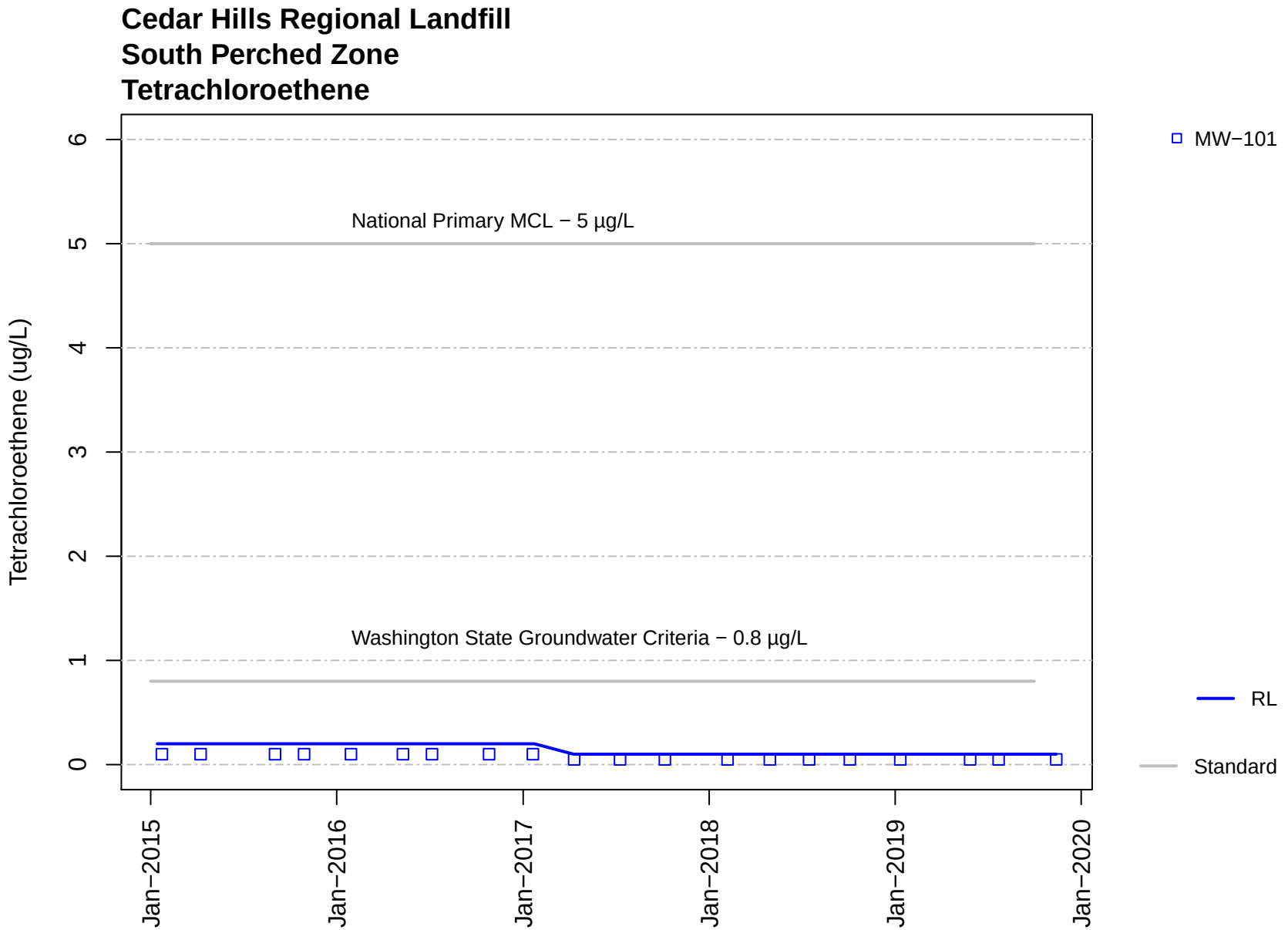

Cedar Hills Regional Landfill
East Perched Zone
cis−1,2−Dichloroethene
cis−1,2−dichloroethene (ug/L)
0
20
40
60
80
National Primary MCL − 70 µg/L
Washington State Groundwater Criteria − 70 µg/L
Jan−2015
Jan−2016
Jan−2017
Jan−2018
Jan−2019
Jan−2020
EW−25
MW−30A
MW−47
MW−62
RL
Standard

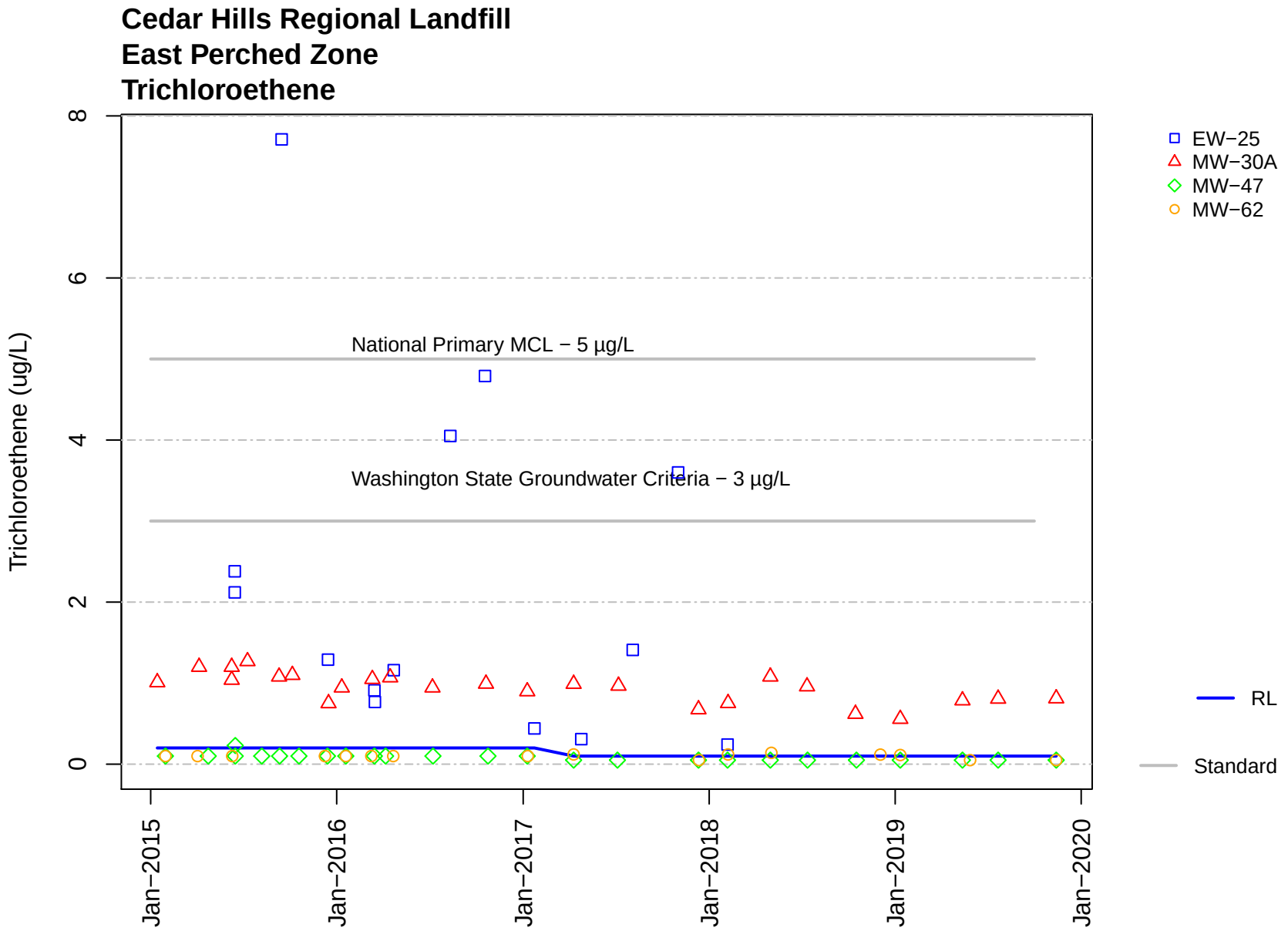

Cedar Hills Regional Landfill
South Perched Zone
cis−1,2−Dichloroethene
cis−1,2−dichloroethene (ug/L)
0
20
40
60
80
National Primary MCL − 70 µg/L
Washington State Groundwater Criteria − 70 µg/L
Jan−2015
Jan−2016
Jan−2017
Jan−2018
Jan−2019
Jan−2020
MW−101
RL
Standard

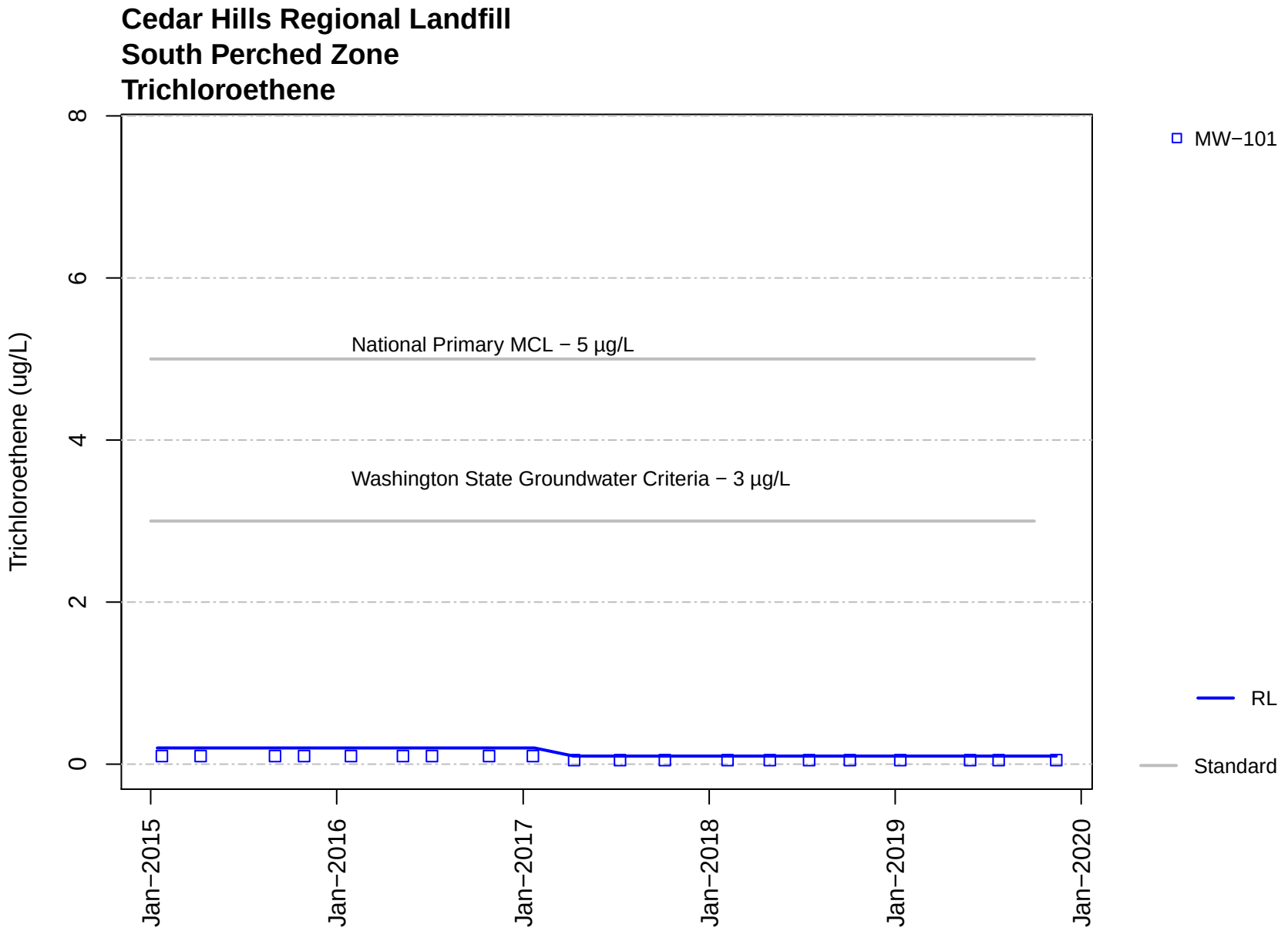

Cedar Hills Regional Landfill
East Perched Zone
Dichlorodifluoromethane
Dichlorodifluoromethane (ug/L)
0
2
4
6
8
Jan−2015
Jan−2016
Jan−2017
Jan−2018
Jan−2019
Jan−2020
EW−25
MW−30A
MW−47
MW−62
RL

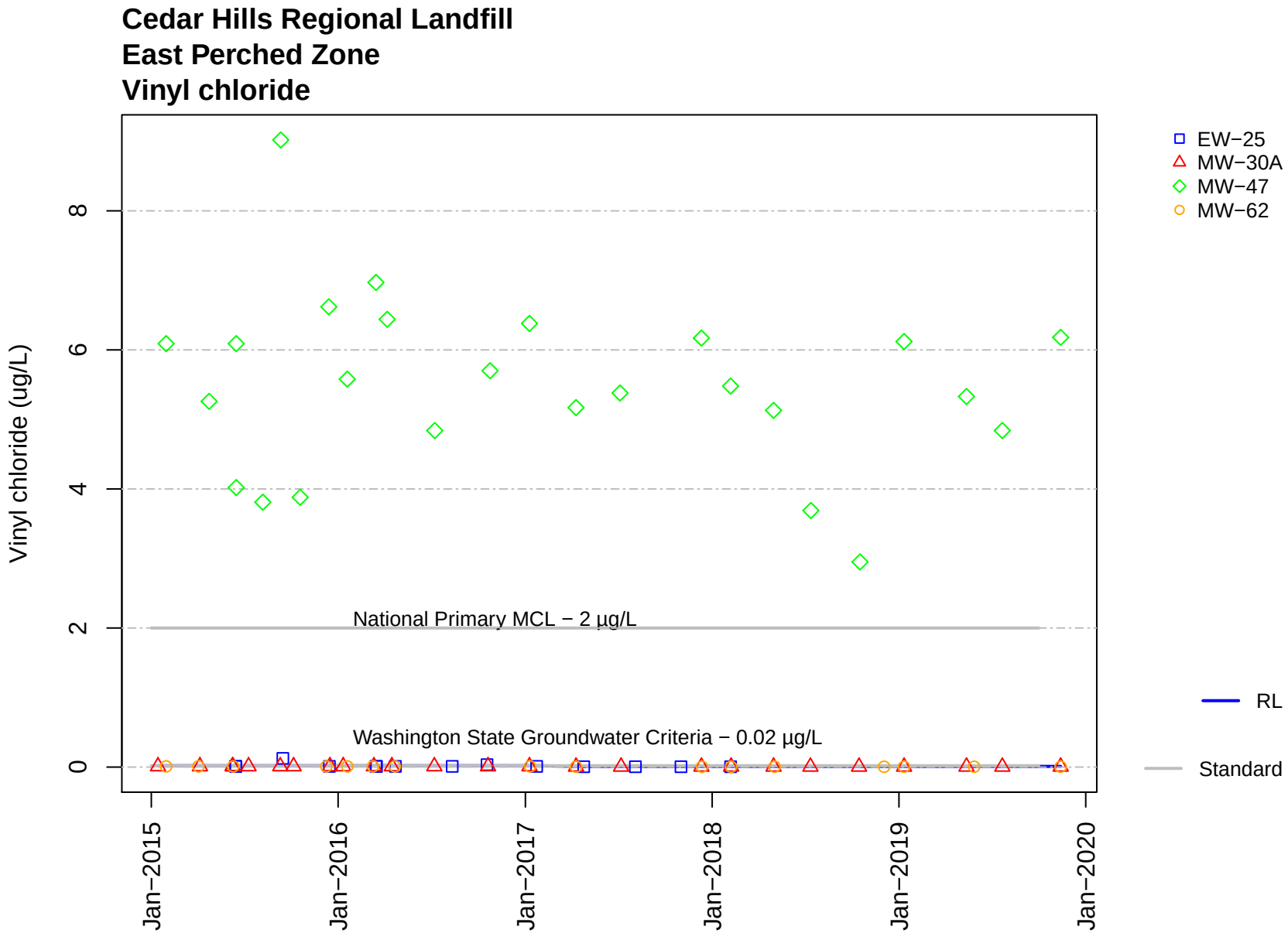

Cedar Hills Regional Landfill
South Perched Zone
Dichlorodifluoromethane
Dichlorodifluoromethane (ug/L)
0
2
4
6
8
Jan−2015
Jan−2016
Jan−2017
Jan−2018
Jan−2019
Jan−2020
MW−101
RL

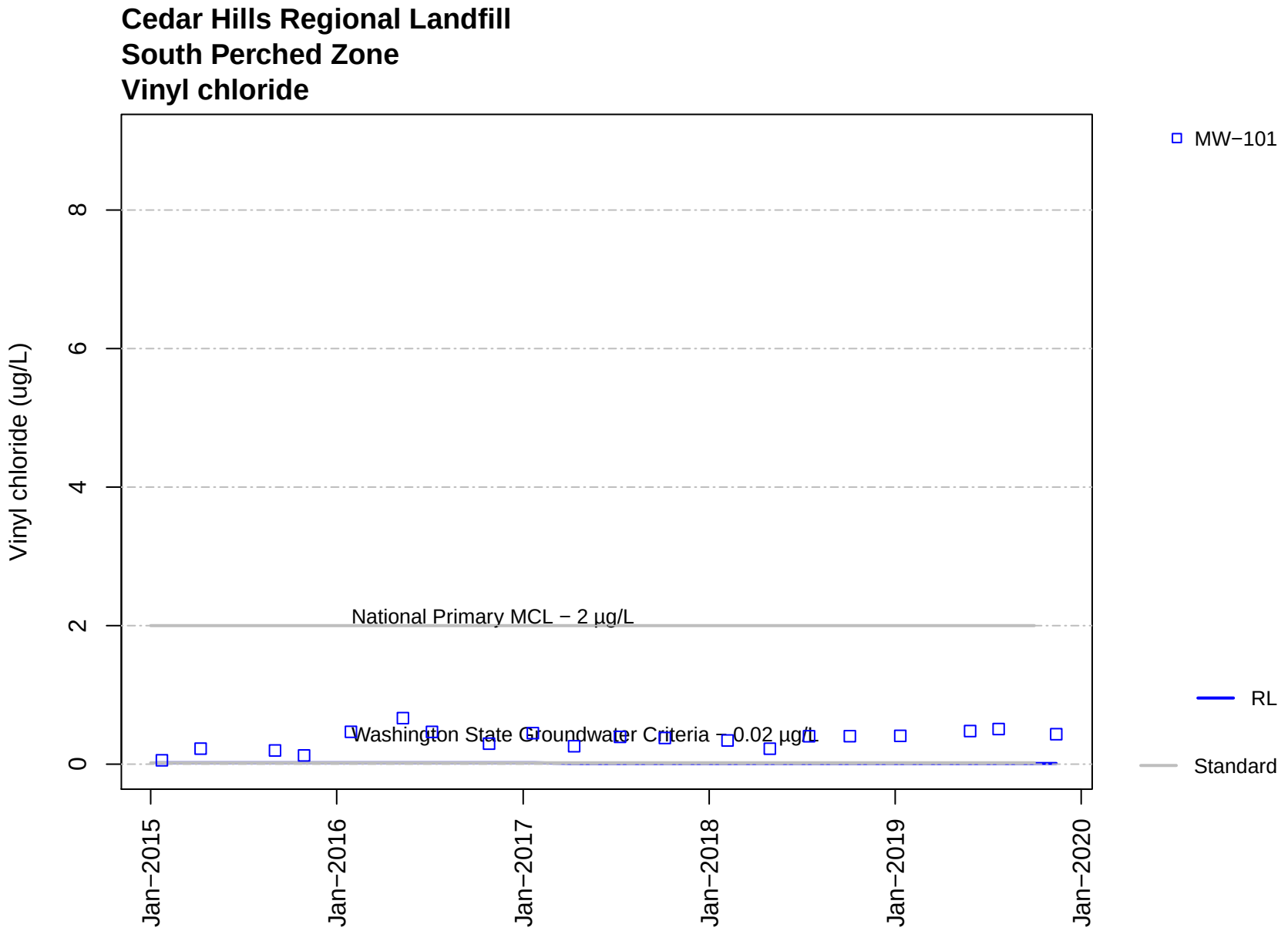

Cedar Hills Regional Landfill
East Perched Zone
Tetrachloroethene
Tetrachloroethene (ug/L)
0
1
2
3
4
5
6
National Primary MCL − 5 µg/L
Washington State Groundwater Criteria − 0.8 µg/L
Jan−2015
Jan−2016
Jan−2017
Jan−2018
Jan−2019
Jan−2020
EW−25
MW−30A
MW−47
MW−62
RL
Standard


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−2015
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
2
4
6
8
National Primary MCL − 5 µg/L
Washington State Groundwater Criteria − 3 µg/L
Jan−2015
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
2
4
6
8
National Primary MCL − 5 µg/L
Washington State Groundwater Criteria − 3 µg/L
Jan−2015
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
2
4
6
8
Jan−2015
Jan−2016
Jan−2017
Jan−2018
Jan−2019
Jan−2020
National Primary MCL − 2 µg/L
Washington State Groundwater Criteria − 0.02 µg/L
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−2015
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

This Page is Intentionally Left Blank

Figure 5.Trilinear Diagram Upgradient and Crossgradient Regional Wells

Cedar Hills Regional Landfill

First Quarter 2019

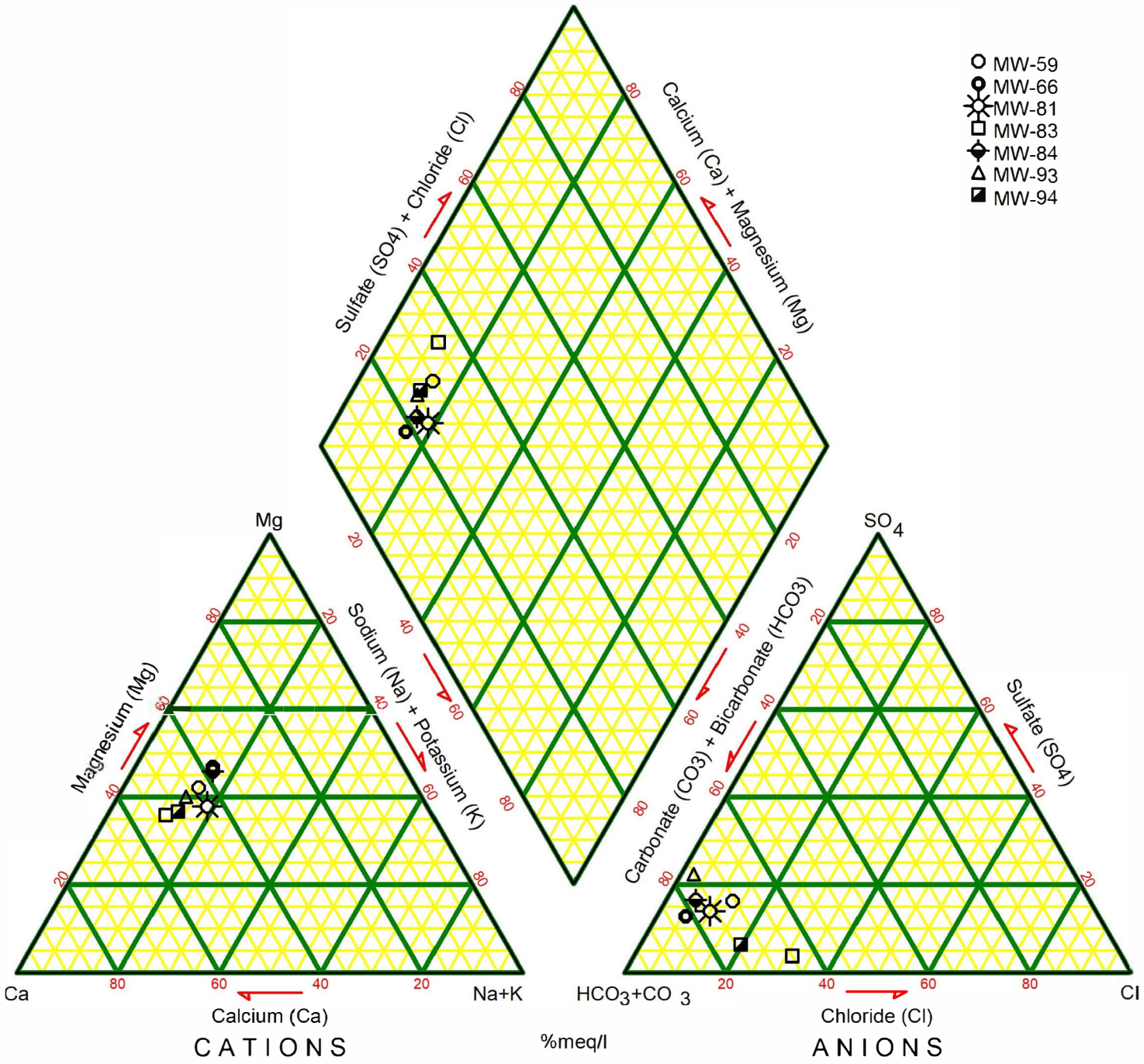


Figure 5. Trilinear Diagram Up & Crossgradient Regional Wells

Cedar Hills Regional Landfill

Second Quarter 2019

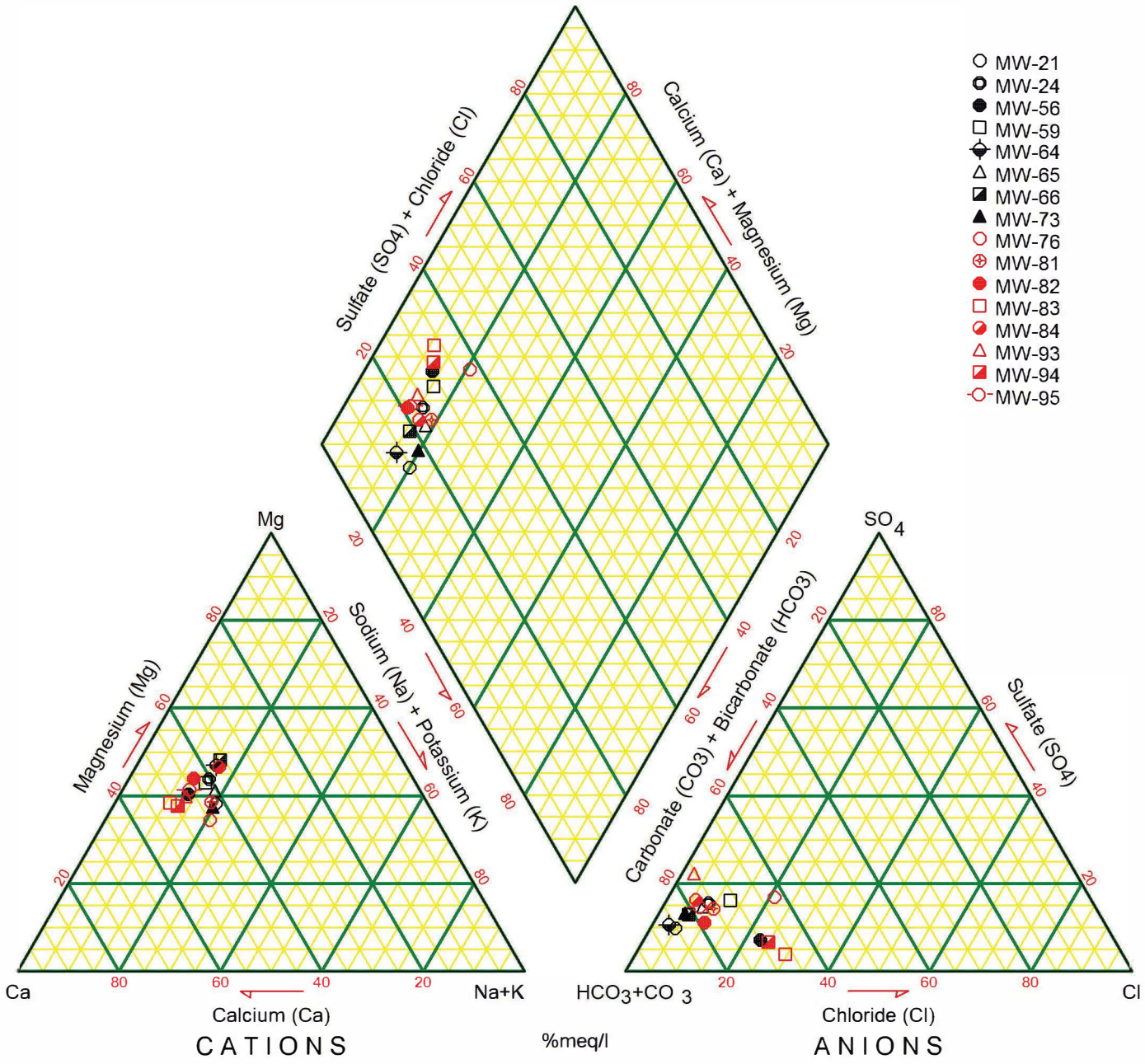


Figure 5. Trilinear Diagram Upgradient and Crossgradient Regional Wells

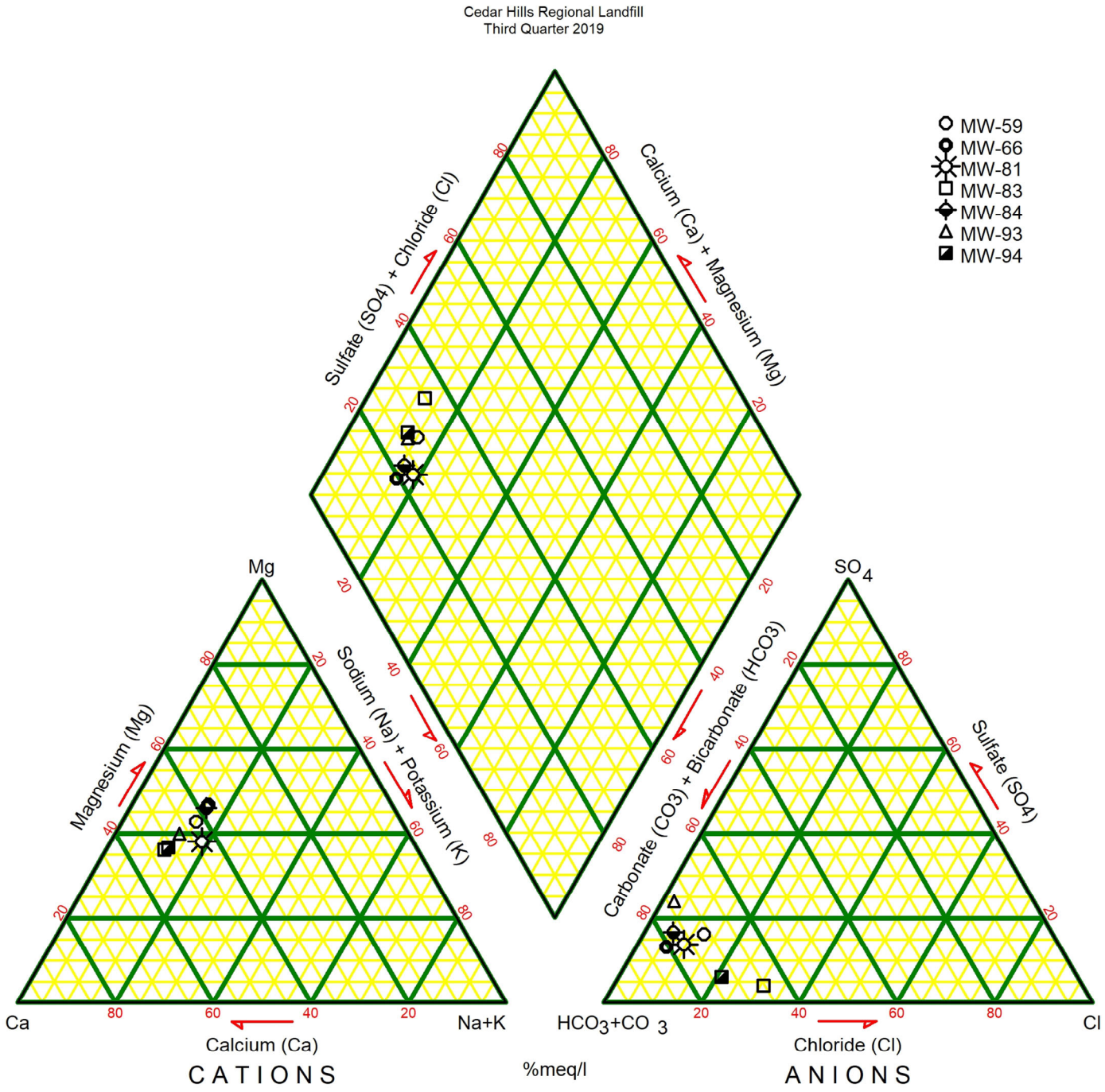


Figure 5. Trilinear Diagram Upgradient and Crossgradient Regional Wells

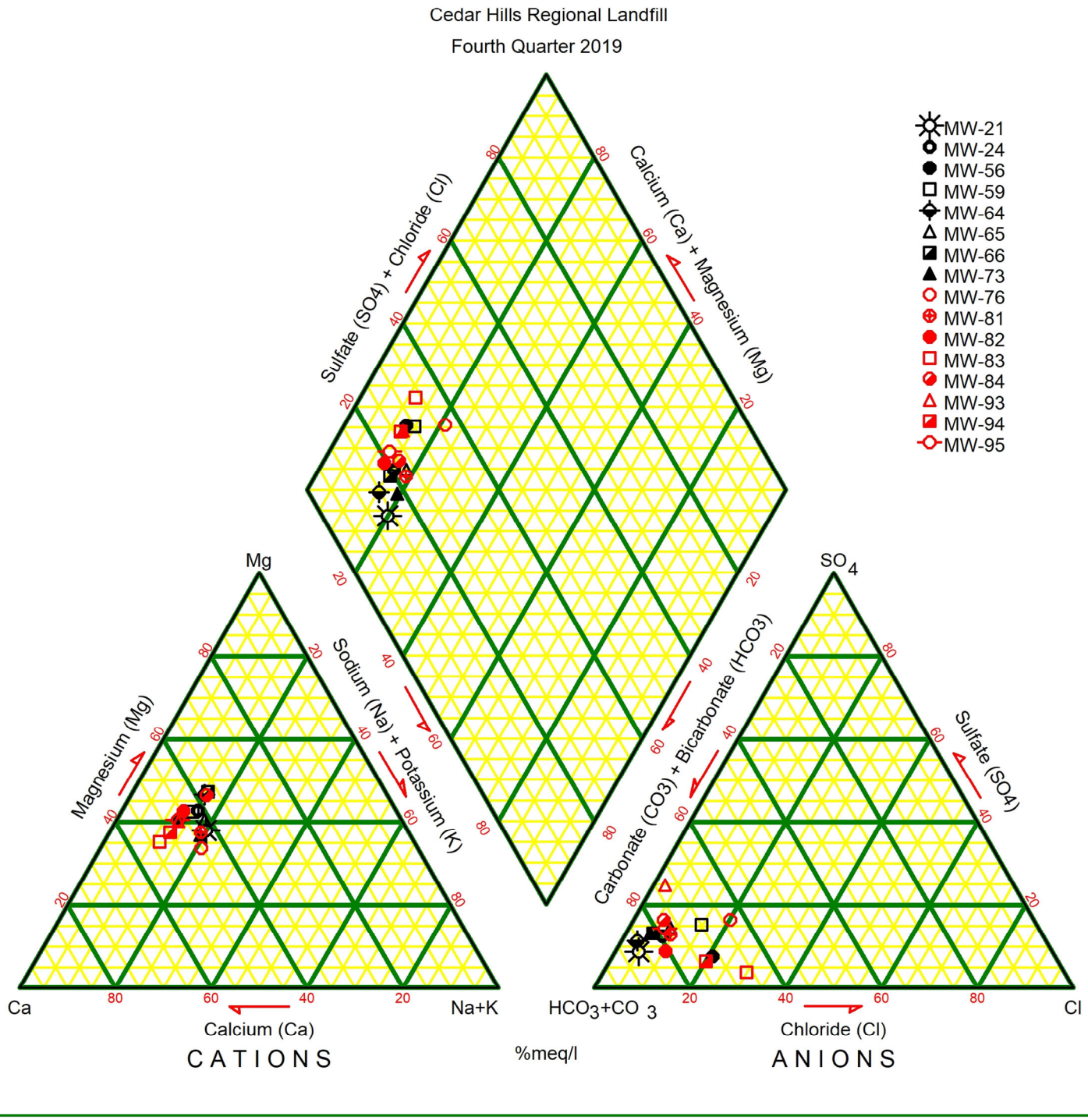


Figure 6. Trilinear Diagram Downgradient Regional Wells

Cedar Hills Regional Landfill

First Quarter 2019

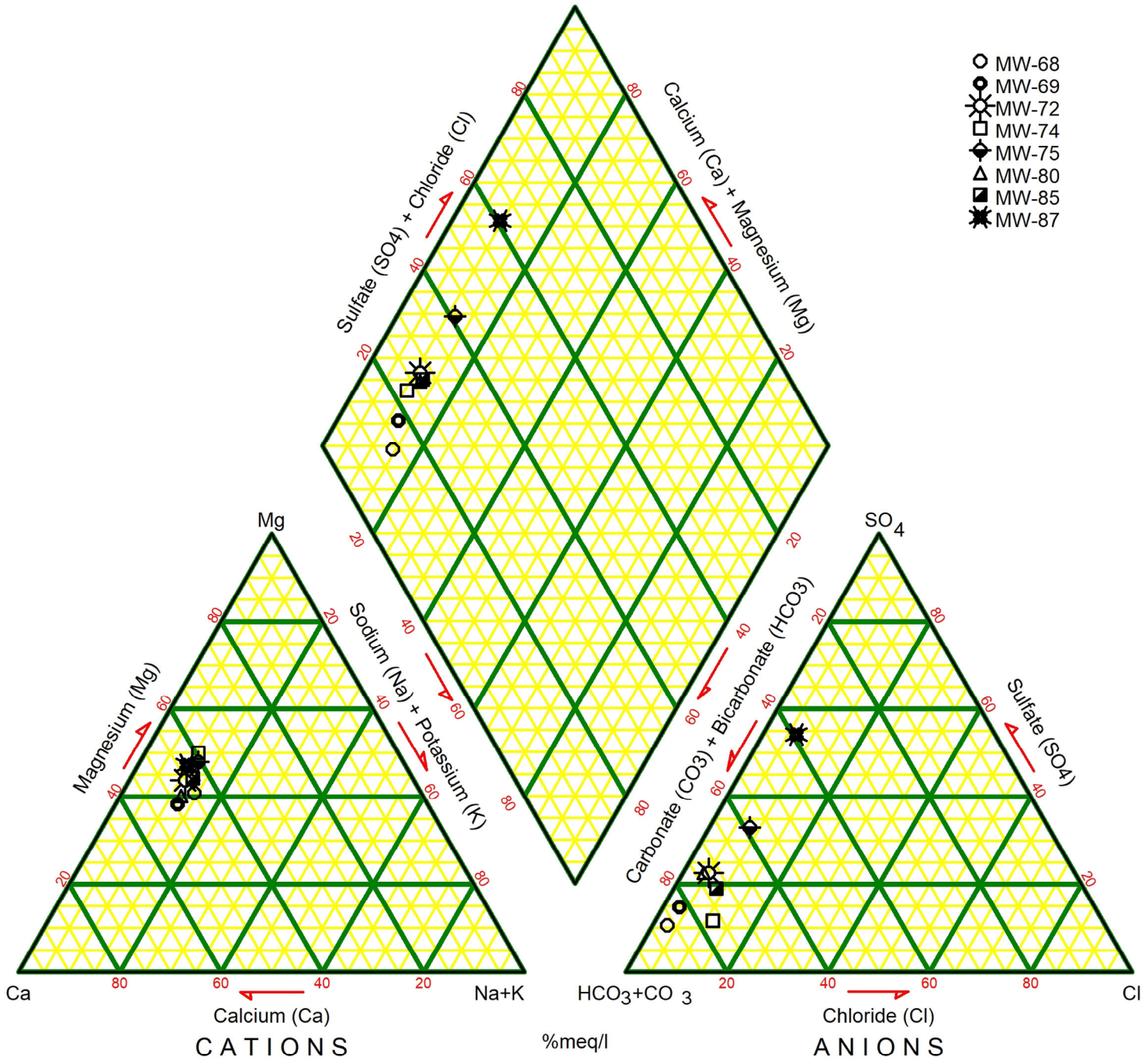


Figure 6. Trilinear Diagram Downgradient Regional Wells

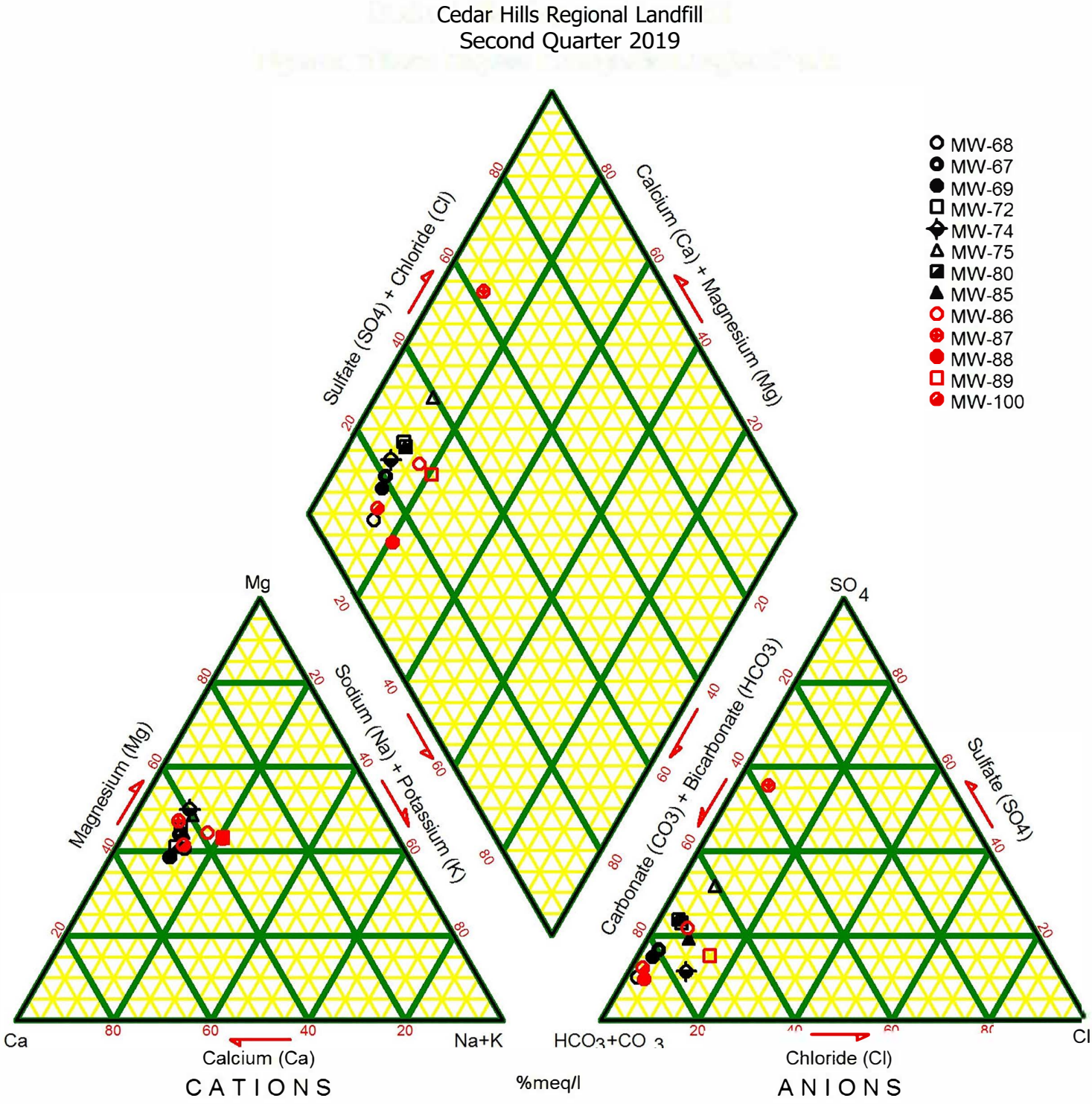


Figure 6. Trilinear Diagram Downgradient Regional Wells

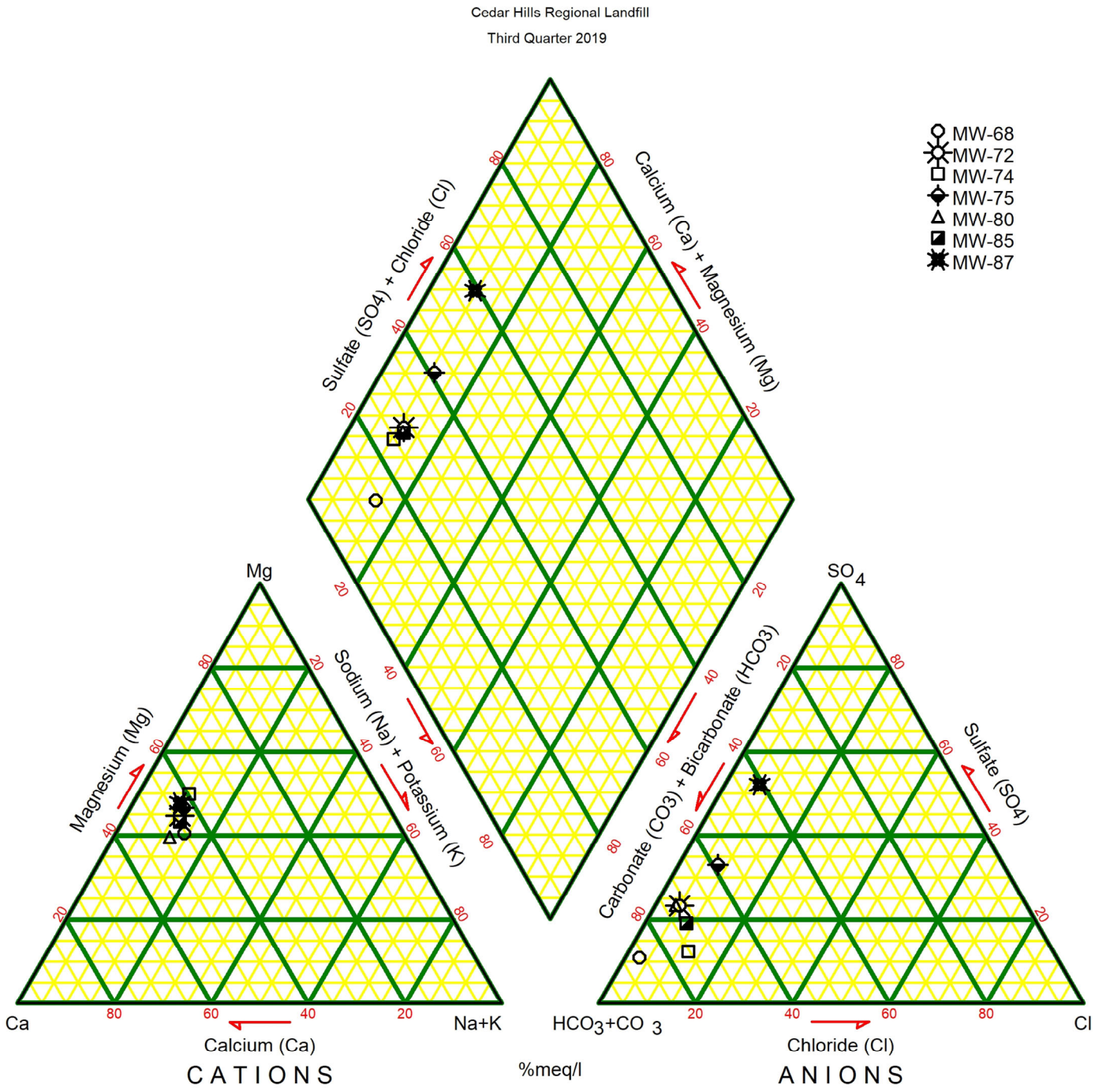


Figure 6. Trilinear Diagram Downgradient Regional Wells

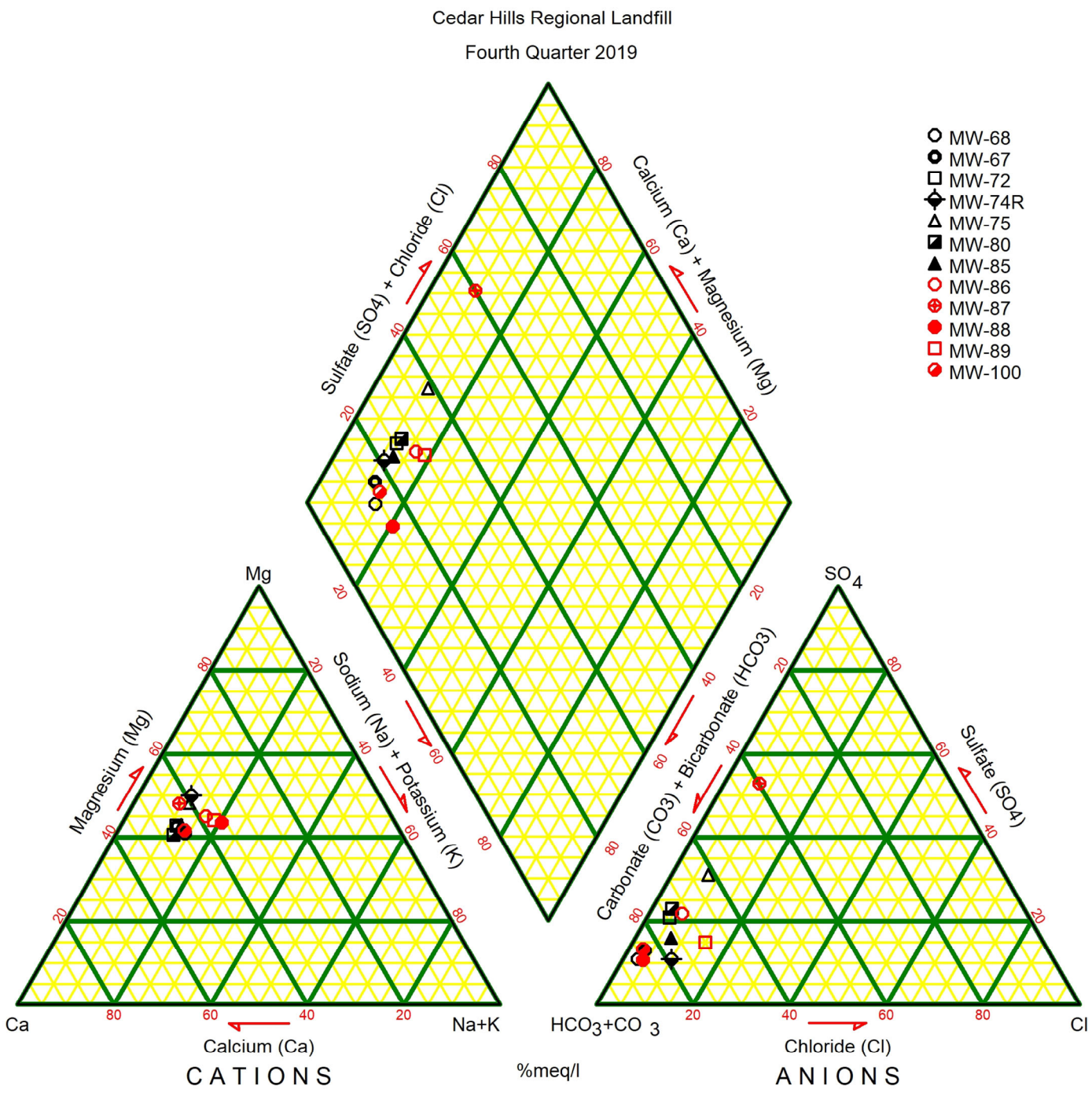


Table 4
Ion Balance Calculations
Cedar Hills Regional Landfill
Quarterly Regional Aquifer Groundwater Monitoring

Data Collected from January 1, 2019 to March 31, 2019

			Quarterly Upgradient and Crossgradient Wells																		
	Site ID		MW-59			MW-66			MW-81			MW-83			MW-84			MW-93			MW-94		
	Date		1/8/19			1/8/19			1/9/19			1/9/19			1/8/19			1/10/19			1/9/19		
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			7.2			7.3			6.6			6.9			7.2			6.4		
Conductance			207.7			218.6			160.0			651.0			202.6			318.5			276.4		
TDSobs			125.0			132.0			106.0			400.0			124.0			201.0			170.0		
Calcium	40.1	2	17.5	0.87	39.9	17.4	0.87	37.8	13.8	0.69	43.5	72.0	3.59	52.6	16.3	0.81	38.4	31.4	1.57	46.4	28.2	1.41	49.8
Magnesium	24.3	2	10.4	0.86	39.1	13.1	1.077967	46.9	7.3	0.60	37.9	29.8	2.45	35.9	11.8	0.970994	45.8	16.4	1.35	40.0	12.6	1.04	36.7
Potassium	39.1	1	1.2	0.029	1.3	1.2	0.03	1.3	0.84	0.021	1.3	3.9	0.10	1.4	1.2	0.03	1.4	1.5	0.039	1.2	2.2	0.06	2.0
Sodium	23.0	1	6.2	0.27	12.4	7.4	0.32	14.0	6.3	0.27	17.3	15.7	0.68	10.0	7.0	0.30	14.3	9.5	0.41	12.2	7.5	0.32	11.5
Iron	55.8	2	4.28	0.15	7.0	0.005	0.000179	0.008	0.01	0.000179	0.01	0.01	0.000179	0.0026	0.005	0.000179	0.008	0.01	0.000179	0.01	0.005	0.000179	0.006
Manganese	54.9	2	0.14	0.004951	0.23	0.0001	1.82E-06	0.0001	0.0001	1.82E-06	0.0001	0.001	2.95E-05	0.0004	0.001	2.58E-05	0.001	0.20	0.007317	0.22	0.0003	1.05E-05	0.0004
Ammonia-N	14.0	1	0.006	0.000443	0.02	0.0010	7.14E-05	0.003	0.0010	7.14E-05	0.005	0.003	0.0002	0.0029	0.001	7.14E-05	0.003	0.05	0.003791	0.11	0.001	7.14E-05	0.003
Total Cations (meq/L)				**2.19**			**2.3**			**1.6**			**6.8**			**2.1**			**3.4**			**2.8**	
Anions																							
Alkalinity, Total			67.6			87.9			54.5			204.0			77.6			122.0			94.5		
Carbonate	60.0	2	0.017	0.000565	0.0	0.076	0.002543	0.1	0.058	0.001939	0.1	0.044	0.001451	0.0	0.035	0.001179	0.1	0.12	0.004	0.12	0.014	0.000465	0.017
Bicarbonate	61.0	1	82.44	1.35	70.5	107.08	1.76	80.4	66.37	1.09	70.7	248.79	4.08	63.1	94.60	1.55	77.2	148.60	2.44	75.0	115.26	1.89	71.0
Chloride	35.5	1	8.9	0.25	13.1	4.3	0.12	5.6	5.0	0.14	9.2	69.3	1.95	30.2	4.1	0.12	5.8	2.8	0.080	2.4	17.9	0.50	19.0
Nitrate-N	14.0	1	0.014	0.001	0.05	0.42	0.030	1.4	1.51	0.11	7.0	2.70	0.19	3.0	0.15	0.01	0.5	0.014	0.001	0.031	1.48	0.11	4.0
Sulfate	96.1	2	15.0	0.31	16.3	13.2	0.27	12.6	9.6	0.20	13.0	11.4	0.24	3.7	15.8	0.33	16.4	35.0	0.73	22.4	7.7	0.16	6.1
Total Anions (meq/L)				**1.92**			**2.2**			**1.5**			**6.5**			**2.0**			**3.2**			**2.7**	
Total Ions (meq/L)				**4.1**			**4.5**			**3.1**			**13.3**			**4.1**			**6.6**			**5.5**	
Cation/Anion Ratio				**1.14**			**1.05**			**1.03**			**1.06**			**1.06**			**1.04**			**1.06**	
Percent Difference				**6.6**			**2.5**			**1.5**			**2.7**			**2.7**			**1.9**			**3.0**	
Trilinear Diagram Data																							
sum (Ca, Mg, Na+K)				2.03			2.30			1.58			6.83			2.12			3.37			2.82	
Calcium					43.02			37.81			43.46			52.63			38.41			46.54			49.83
Magnesium					42.16			46.94			37.86			35.92			45.85			40.09			36.71
Sodium + Potassium					14.82			15.25			18.67			11.45			15.74			13.37			13.46
sum (SO_4, Cl, HCO_3+CO_3)				1.92			2.15			1.43			6.27			2.00			3.25			2.56	
Sulfate					16.30			12.76			13.94			3.78			16.47			22.44			6.31
Chloride					13.13			5.66			9.88			31.17			5.83			2.45			19.76
Bicarbonate + Carbonate					70.56			81.59			76.18			65.05			77.70			75.11			73.94

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

Data Collected from January 1, 2019 to March 31, 2019

			Quarterly Downgradient to Waste Cells and North End Facilities																			
	Site ID		MW-68			MW-69			MW-72			MW-74			MW-75			MW-80			MW-85			MW-87		
	Date		1/10/19			1/10/19			1/8/19			1/10/19			1/9/19			1/10/19			1/9/19			1/9/19		
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			6.9			7.5			6.9			6.9			7.1			6.7			7.0			6.9		
Conductance			282.4			326.8			356.6			520.0			371.1			311.1			356.1			534.6		
TDSobs			164.0			196.0			216.0			302.0			238.0			191.0			213.0			372.0		
Calcium	40.1	2	27.5	1.37	44.3	34.3	1.71	48.8	33.5	1.67	43.8	45.6	2.28	39.5	31.8	1.59	39.6	31.0	1.55	46.5	33.2	1.66	43.5	47.4	2.37	41.7
Magnesium	24.3	2	15.2	1.25	40.4	16.1	1.32	37.8	19.7	1.62	42.5	35.0	2.88	50.0	22.8	1.88	46.8	15.8	1.30	39.1	20.5	1.69	44.3	31.5	2.59	45.7
Potassium	39.1	1	1.7	0.04	1.4	1.8	0.045	1.3	2.0	0.050	1.3	2.1	0.05	1.0	2.0	0.05	1.3	1.7	0.043	1.3	1.7	0.043	1.1	2.4	0.062	1.1
Sodium	23.0	1	9.1	0.39	12.7	8.7	0.377	10.7	8.2	0.36	9.4	12.6	0.55	9.5	9.2	0.40	10.0	7.9	0.34	10.4	9.8	0.425	11.1	10.6	0.46	8.1
Iron	55.8	2	0.62	0.022	0.72	1.11	0.040	1.1	2.85	0.10	2.7	0.005	0.000179	0.003	2.39	0.09	2.14	2.10	0.075	2.3	0.005	0.000179	0.0047	4.83	0.17	3.0
Manganese	54.9	2	0.31	0.011	0.36	0.27	0.010	0.3	0.38	0.014	0.4	0.0001	1.82E-06	0.00003	0.21	0.007536	0.19	0.34	0.012	0.37	0.0001	1.82E-06	0.00005	0.55	0.020	0.4
Ammonia-N	14.0	1	0.02	0.001	0.041	0.02	0.001178	0.034	0.02	0.001121	0.029	0.001	7.14E-05	0.001	0.009	0.000657	0.016	0.02	0.001471	0.044	0.001	7.14E-05	0.0019	0.018	0.001299	0.023
Total Cations (meq/L)				**3.1**			**3.5**			**3.8**			**5.8**			**4.0**			**3.3**			**3.8**			**5.7**	
Anions																										
Alkalinity, Total			125.0			137.0			129.0			211.0			108.0			114.0			132.0			104.0		
Carbonate	60.0	2	0.065	0.002181	0.08	0.26	0.008658	0.26	0.06301	0.0021	0.06	0.11	0.003597	0.07	0.08	0.002541	0.07	0.038	0.001255	0.04	0.08497	0.002833	0.08	0.046	0.001544	0.029
Bicarbonate	61.0	1	152.37	2.50	86.4	166.61	2.73	81.8	157.25	2.58	72.3	257.20	4.22	76.6	131.61	2.16	58.9	139.0	2.28	73.3	160.87	2.64	72.4	126.79	2.08	39.2
Chloride	35.5	1	2.9	0.082	2.8	3.7	0.11	3.2	6.4	0.179957	5.0	22.0	0.62	11.3	10.3	0.29	7.9	4.5	0.13	4.1	10.8	0.30	8.4	12.4	0.35	6.6
Nitrate-N	14.0	1	0.005	0.000357	0.012	0.005	0.000357	0.011	0.005	0.000357	0.010	0.34	0.023988	0.44	0.005	0.000357	0.010	0.01	0.000357	0.01	0.11	0.007925	0.2	0.005	0.000357	0.007
Sulfate	96.1	2	14.8	0.31	10.7	23.7	0.49	14.8	38.7	0.81	22.6	30.7	0.64	11.6	58.1	1.21	33.0	33.7	0.70	22.6	33.2	0.69	19.0	138.0	2.87	54.2
Total Anions (meq/L)				**2.9**			**3.3**			**3.6**			**5.5**			**3.7**			**3.1**			**3.6**			**5.3**	
Total Ions (meq/L)				**6.0**			**6.8**			**7.4**			**11.3**			**7.7**			**6.4**			**7.5**			**11.0**	
Cation/Anion Ratio				**1.07**			**1.05**			**1.07**			**1.05**			**1.10**			**1.07**			**1.05**			**1.07**	
Percent Difference				**3.4**			**2.5**			**3.4**			**2.3**			**4.5**			**3.4**			**2.3**			**3.4**	
Trilinear Diagram Data																										
sum (Ca, Mg, Na+K)				3.06			3.46			3.70			5.76			3.91			3.24			3.81			5.48	
Calcium					44.83			49.48			45.16			39.52			40.53			47.81			43.47			43.16
Magnesium					40.86			38.30			43.79			50.02			47.93			40.18			44.26			47.30
Sodium + Potassium					14.30			12.21			11.04			10.47			11.54			12.00			12.27			9.54
sum (SO_4, Cl, HCO_3+CO_3)				2.89			3.34			3.57			5.48			3.66			3.11			3.64			5.30	
Sulfate					10.67			14.78			22.60			11.67			33.05			22.58			19.01			54.18
Chloride					2.82			3.15			5.05			11.33			7.94			4.07			8.38			6.60
Bicarbonate + Carbonate					86.51			82.07			72.35			77.01			59.01			73.35			72.61			39.22

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

Data Collected from April, 2019 to June 30, 2019

			Upgradient and Crossgradient															
Site ID			**MW-21**			**MW-24**			**MW-56**			**MW-59**			**MW-64**			**MW-65**		
			4/8/2019			4/8/2019			4/8/2019			4/10/2019			4/12/2019			4/12/2019		
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			6.8			6.4			6.9			6.9		
Conductance			143			184			214			196			229			145		
TDSobs			88			112			136			114			127			89		
Calcium	40.1	2	12.1	0.603792	39.7	14.4	0.718563	37.9	20.5	1.022954	45.9	16.2	0.808383	38.6	18.6	0.928144	37.2	11.4	0.568862	37.2
Magnesium	24.3	2	6.7	0.55215	36.3	9.5	0.781732	41.2	10.9	0.896935	40.2	10.2	0.839333	40.1	14.2	1.168484	46.9	7.1	0.580128	37.9
Potassium	39.1	1	1.1	0.02839	1.9	1.0	0.025832	1.4	1.2	0.031459	1.4	1.2	0.029413	1.4	1.7	0.044247	1.8	0.9	0.023709	1.5
Sodium	23.0	1	6.0	0.260551	17.1	5.9	0.255331	13.5	6.2	0.267945	12.0	6.3	0.27273	13.0	7.9	0.345371	13.9	5.4	0.234017	15.3
Iron	55.8	2	2.03	0.072699	4.8	3.08	0.110301	5.8	0.09	0.003051	0.1	3.86	0.138235	6.6	0.05	0.001869	0.1	3.29	0.117822	7.7
Manganese	54.9	2	0.11	0.003822	0.3	0.10	0.003622	0.2	0.17	0.006152	0.3	0.11	0.004114	0.2	0.10	0.003524	0.1	0.16	0.005934	0.4
Ammonia-N	14.0	1	0.02	0.001257	0.1	0.03	0.002242	0.1	0.00	0.000143	0.0	0.00	0.00035	0.0	0.02	0.001699	0.1	0.00	0.000314	0.0
Total Cations (meq/L)				**1.5**			**1.9**			**2.2**			**2.1**			**2.5**			**1.5**	
Anions																				
Alkalinity, Total			59			65			73			67			100			52		
Carbonate	60.0	2	0.079395	0.002647	0.2	0.027656	0.000922	0.1	0.029067	0.000969	0.0	0.010549	0.000352	0.0	0.052336	0.001745	0.1	0.0268	0.000893	0.1
Bicarbonate	61.0	1	71.94	1.179176	85.0	79.24	1.298882	75.8	89.24	1.46281	68.4	81.35	1.333447	71.3	121.89	1.997954	86.1	63.87	1.046949	77.3
Chloride	35.5	1	2.4	0.067695	4.9	5.2	0.147519	8.6	17.1	0.482329	22.5	8.3	0.234113	12.5	2.7	0.075593	3.3	3.8	0.105774	7.8
Nitrate-N	14.0	1	0.01	0.000714	0.1	0.01	0.000714	0.0	0.62	0.044549	2.1	0.02	0.001428	0.1	0.01	0.000714	0.0	0.01	0.000714	0.1
Sulfate	96.1	2	6.6	0.136377	9.8	12.8	0.266507	15.5	7.2	0.149494	7.0	14.5	0.301902	16.1	11.8	0.245686	10.6	9.6	0.200296	14.8
Total Anions (meq/L)				**1.4**			**1.7**			**2.1**			**1.9**			**2.3**			**1.4**	
Total Ions (meq/L)				**2.9**			**3.6**			**4.4**			**4.0**			**4.8**			**2.9**	
Cation/Anion Ratio				**1.10**			**1.11**			**1.04**			**1.12**			**1.07**			**1.13**	
Percent Difference				**4.7**			**5.1**			**2.0**			**5.6**			**3.6**			**6.1**	
Trilinear Diagram Data																				
sum (Ca, Mg, Na+K)				1.44			1.78			2.22			1.95			2.49			1.41	
Calcium					41.79			40.34			46.09			41.46			37.33			40.44
Magnesium					38.21			43.88			40.42			43.05			47.00			41.24
Sodium + Potassium					20.00			15.78			13.49			15.50			15.67			18.32
														100.0						
sum (SO_4, Cl, HCO_3+CO_3)				1.39			1.71			2.10			1.87			2.32			1.35	
Sulfate					9.840			15.550			7.134			16.146			10.585			14.794
Chloride					4.885			8.608			23.016			12.521			3.257			7.812
Bicarbonate + Carbonate					85.275			75.842			69.850			71.333			86.158			77.394
														100.0						

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

Data Collected from April, 2019 to June 30, 2019

			Upgradient and Crossgradient															
Site ID			**MW-66**			**MW-73**			**MW-76**			**MW-81**			**MW-82**			**MW-83**		
			4/10/2019			4/10/2019			4/10/2019			4/16/2019			4/8/2019			4/12/2019		
Cations	MW	n	mg/L	meq/L	%(meq)	mg/L	meq/L	%(meq)	mg/L	meq/L	%(meq)	mg/L	meq/L	%(meq)	mg/L	meq/L	%(meq)	mg/L	meq/L	%(meq)
pH			6.9			7.0			6.3			7.1			6.8			6.6		
Conductance			214			137			239			163			309			536		
TDSobs			129			96			146			108			186			328		
Calcium	40.1	2	16.5	0.823353	36.0	12.2	0.608782	42.8	21.4	1.067864	44.8	13.9	0.693613	42.5	28.5	1.422156	43.2	55.7	2.779441	50.7
Magnesium	24.3	2	13.4	1.102654	48.2	6.5	0.533224	37.5	10.0	0.822876	34.5	7.7	0.6295	38.6	17.6	1.448262	44.0	25.6	2.106562	38.4
Potassium	39.1	1	1.2	0.029925	1.3	0.8	0.020947	1.5	1.5	0.037342	1.6	0.9	0.02197	1.3	1.9	0.049107	1.5	3.1	0.079799	1.5
Sodium	23.0	1	7.6	0.332322	14.5	6.0	0.259681	18.2	10.5	0.456725	19.1	6.6	0.285779	17.5	8.5	0.370165	11.3	11.8	0.513272	9.4
Iron	55.8	2	0.01	0.000358	0.0	0.01	0.000358	0.0	0.01	0.000358	0.0	0.01	0.000358	0.0	0.01	0.000358	0.0	0.01	0.000358	0.0
Manganese	54.9	2	0.00	3.64E-06	0.0	0.00	3.64E-06	0.0	0.00	3.64E-06	0.0	0.00	3.64E-06	0.0	0.00	3.64E-06	0.0	0.10	0.003677	0.1
Ammonia-N	14.0	1	0.00	0.000143	0.0	0.00	0.000143	0.0	0.00	0.000143	0.0	0.00	0.000143	0.0	0.00	0.000143	0.0	0.00	0.000164	0.0
Total Cations (meq/L)				**2.3**			**1.4**			**2.4**	**100.0**		**1.6**			**3.3**			**5.5**	
Anions																				
Alkalinity, Total			86			52			68			55			120			174		
Carbonate	60.0	2	0.043085	0.001436	0.1	0.028441	0.000948	0.1	0.007949	0.000265	0.0	0.042481	0.001416	0.1	0.042472	0.001416	0.0	0.037982	0.001266	0.0
Bicarbonate	61.0	1	105.08	1.722304	79.9	63.26	1.036896	77.0	82.70	1.355531	60.2	66.89	1.096419	70.3	146.31	2.398223	76.8	212.20	3.478209	65.6
Chloride	35.5	1	4.5	0.125518	5.8	2.3	0.064593	4.8	16.2	0.456943	20.3	5.3	0.148083	9.5	10.8	0.304629	9.8	54.8	1.545708	29.2
Nitrate-N	14.0	1	0.43	0.030985	1.4	1.06	0.075676	5.6	0.96	0.068609	3.0	1.50	0.107089	6.9	1.12	0.07996	2.6	1.04	0.074249	1.4
Sulfate	96.1	2	13.2	0.274835	12.8	8.1	0.169065	12.5	17.7	0.368529	16.4	10.0	0.207376	13.3	16.2	0.337298	10.8	9.7	0.202795	3.8
Total Anions (meq/L)				**2.2**			**1.3**			**2.2**	**100.0**		**1.6**			**3.1**			**5.3**	
Total Ions (meq/L)				**4.4**			**2.8**			**4.6**			**3.2**			**6.4**			**10.8**	
Cation/Anion Ratio				**1.06**			**1.06**			**1.06**			**1.05**			**1.05**			**1.03**	
Percent Difference				**3.0**			**2.7**			**2.9**			**2.2**			**2.6**			**1.7**	
Trilinear Diagram Data																				
sum (Ca, Mg, Na+K)				2.29			1.42			2.38			1.63			3.29			5.48	
Calcium					35.98			42.79			44.78			42.53			43.23			50.73
Magnesium					48.19			37.48			34.50			38.60			44.02			38.45
Sodium + Potassium					15.83			19.73			20.72			18.87			12.75			10.82
											100.0									100.0
sum (SO_4, Cl, HCO_3+CO_3)				2.12			1.27			2.18			1.45			3.04			5.23	
Sulfate					12.939			13.297			16.895			14.269			11.090			3.879
Chloride					5.909			5.080			20.949			10.190			10.016			29.566
Bicarbonate + Carbonate					81.152			81.623			62.156			75.541			78.895			66.555
											100.0									

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

Data Collected from April, 2019 to June 30, 2019

			Upgradient and Crossgradient											
Site ID			**MW-84**			**MW-93**			**MW-94**			**MW-95**		
			4/10/2019			4/16/2019			4/10/2019			4/8/2019		
Cations	MW	n	mg/L	meq/L	%(meq)	mg/L	meq/L	%(meq)	mg/L	meq/L	%(meq)	mg/L	meq/L	%(meq)
pH			6.9			7.1			6.6			7.5		
Conductance			200			313			329			227		
TDSobs			120			200			207			135		
Calcium	40.1	2	15.7	0.783433	37.0	31.5	1.571856	46.7	32.8	1.636727	49.6	21.7	1.08283433	45.3
Magnesium	24.3	2	12.0	0.987451	46.6	16.3	1.341288	39.8	15.1	1.242543	37.7	12.0	0.98745114	41.3
Potassium	39.1	1	1.2	0.03018	1.4	1.6	0.039644	1.2	2.4	0.062151	1.9	1.3	0.03248223	1.4
Sodium	23.0	1	7.3	0.317968	15.0	9.3	0.404528	12.0	8.2	0.357115	10.8	6.5	0.28099455	11.7
Iron	55.8	2	0.01	0.000358	0.0	0.01	0.000358	0.0	0.01	0.000358	0.0	0.01	0.00035812	0.0
Manganese	54.9	2	0.00	2.88E-05	0.0	0.21	0.007572	0.2	0.00	4.51E-06	0.0	0.17	0.00600677	0.3
Ammonia-N	14.0	1	0.00	0.000143	0.0	0.06	0.004219	0.1	0.00	0.000143	0.0	0.02	0.00169915	0.1
Total Cations (meq/L)				**2.1**			**3.4**			**3.3**			**2.4**	
Anions														
Alkalinity, Total			77			123			106			89		
Carbonate	60.0	2	0.036013	0.0012	0.1	0.090897	0.00303	0.1	0.023138	0.000771	0.0	0.14992694	0.00499763	0.2
Bicarbonate	61.0	1	94.11	1.542567	77.5	149.88	2.4566	75.3	129.27	2.118909	67.8	107.91	1.76873568	77.8
Chloride	35.5	1	4.0	0.113107	5.7	2.7	0.074747	2.3	27.2	0.767213	24.5	5.8	0.16472513	7.2
Nitrate-N	14.0	1	0.14	0.010209	0.5	0.01	0.000714	0.0	0.47	0.033769	1.1	0.01	0.00071393	0.0
Sulfate	96.1	2	15.5	0.322723	16.2	35.0	0.728729	22.3	9.9	0.206751	6.6	16.0	0.33313345	14.7
Total Anions (meq/L)				**2.0**			**3.3**			**3.1**			**2.3**	
Total Ions (meq/L)				**4.1**			**6.6**			**6.4**			**4.7**	
Cation/Anion Ratio				**1.07**			**1.03**			**1.05**			**1.05**	
Percent Difference				**3.2**			**1.6**			**2.7**			**2.6**	
Trilinear Diagram Data														
sum (Ca, Mg, Na+K)				2.12			3.36			3.30			2.38	
Calcium					36.97			46.82			49.62			45.43
Magnesium					46.60			39.95			37.67			41.42
Sodium + Potassium					16.43			13.23			12.71			13.15
					100.0			100.0						
sum (SO_4, Cl, HCO_3+CO_3)				1.98			3.26			3.09			2.27	
Sulfate					16.302			22.332			6.683			14.665
Chloride					5.714			2.291			24.800			7.252
Bicarbonate + Carbonate					77.984			75.377			68.517			78.083

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

Data Collected from April, 2019 to June 30, 2019

			Downgradient to Waste Cells and North End Facilities																	
Site ID			**MW-68**			**MW-67**			**MW-69**			**MW-72**			**MW-74**			**MW-75**		
			4/15/2019			4/12/2019			4/15/2019			4/16/2019			4/18/2019			4/18/2019		
Cations	MW	n	mg/L	meq/L	%(meq)	mg/L	meq/L	%(meq)	mg/L	meq/L	%(meq)	mg/L	meq/L	%(meq)	mg/L	meq/L	%(meq)	mg/L	meq/L	%(meq)
pH			6.9			7.0			7.5			7.1			7.0			6.8		
Conductance			283			379			327			364			551			377		
TDSobs			165			220			189			214			311			235		
Calcium	40.1	2	26.6	1.327345	44.5	36.0	1.796407	43.9	33.9	1.691617	48.8	33.5	1.671657	43.2	47.4	2.365269	40.0	31.0	1.546906	38.9
Magnesium	24.3	2	14.6	1.201399	40.3	21.9	1.802098	44.1	15.9	1.308373	37.7	20.3	1.670438	43.2	35.6	2.929438	49.6	22.9	1.884386	47.4
Potassium	39.1	1	1.7	0.042457	1.4	1.8	0.045526	1.1	1.8	0.045526	1.3	2.0	0.050642	1.3	2.2	0.055501	0.9	1.9	0.049619	1.2
Sodium	23.0	1	8.7	0.377994	12.7	9.9	0.429756	10.5	8.7	0.377124	10.9	8.4	0.36712	9.5	12.8	0.556769	9.4	9.4	0.407138	10.2
Iron	55.8	2	0.55	0.019732	0.7	0.20	0.007055	0.2	0.96	0.034415	1.0	2.66	0.09526	2.5	0.01	0.000358	0.0	2.23	0.079861	2.0
Manganese	54.9	2	0.30	0.010849	0.4	0.21	0.007718	0.2	0.26	0.009611	0.3	0.37	0.01347	0.3	0.00	5.28E-06	0.0	0.20	0.007281	0.2
Ammonia-N	14.0	1	0.02	0.001299	0.0	0.01	0.000514	0.0	0.02	0.001192	0.0	0.02	0.001228	0.0	0.00	0.000143	0.0	0.01	0.000628	0.0
Total Cations (meq/L)				**3.0**			**4.1**			**3.5**			**3.9**			**5.9**			**4.0**	
Anions																				
Alkalinity, Total			125			163			137			130			219			110		
Carbonate	60.0	2	0.059669	0.001989	0.1	0.093531	0.003118	0.1	0.242448	0.008082	0.2	0.093886	0.00313	0.1	0.13158	0.004386	0.1	0.038047	0.001268	0.0
Bicarbonate	61.0	1	152.38	2.497634	86.2	198.67	3.256391	80.6	166.65	2.731506	82.1	158.41	2.596479	71.3	266.91	4.374954	75.4	134.12	2.1984	58.7
Chloride	35.5	1	2.9	0.081234	2.8	5.1	0.142442	3.5	3.7	0.104646	3.1	6.6	0.185598	5.1	25.0	0.705159	12.2	10.6	0.298987	8.0
Nitrate-N	14.0	1	0.01	0.000714	0.0	0.09	0.006211	0.2	0.01	0.000714	0.0	0.01	0.000714	0.0	0.27	0.019347	0.3	0.02	0.001071	0.0
Sulfate	96.1	2	15.1	0.314395	10.9	30.3	0.630871	15.6	23.1	0.480961	14.5	41.1	0.855737	23.5	33.6	0.69958	12.1	59.7	1.243004	33.2
Total Anions (meq/L)				**2.9**			**4.0**			**3.3**			**3.6**			**5.8**			**3.7**	
Total Ions (meq/L)				**5.9**			**8.1**			**6.8**			**7.5**			**11.7**			**7.7**	
Cation/Anion Ratio				**1.03**			**1.01**			**1.04**			**1.06**			**1.02**			**1.06**	
Percent Difference				**1.4**			**0.6**			**2.1**			**3.0**			**0.9**			**3.0**	
Trilinear Diagram Data																				
sum (Ca, Mg, Na+K)				2.95			4.07			3.42			3.76			5.91			3.89	
Calcium					45.01			44.10			49.42			44.46			40.04			39.79
Magnesium					40.74			44.24			38.23			44.43			49.59			48.47
Sodium + Potassium					14.26			11.67			12.35			11.11			10.37			11.75
sum (SO_4, Cl, HCO_3+CO_3)				2.90			4.03			3.33			3.64			5.78			3.74	
Sulfate					10.859			15.643			14.464			23.503			12.095			33.221
Chloride					2.806			3.532			3.147			5.098			12.191			7.991
Bicarbonate + Carbonate					86.335			80.825			82.389			71.399			75.714			58.789

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

Data Collected from April, 2019 to June 30, 2019

			Downgradient to Waste Cells and North End Facilities																			
Site ID			**MW-80**			**MW-85**			**MW-86**			**MW-87**			**MW-88**			**MW-89**			**MW-100**		
			5/14/2019			4/16/2019			4/12/2019			4/18/2019			4/18/2019			4/18/2019			4/12/2019		
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			7.0			6.7			6.8			6.8			6.5			7.0			6.8		
Conductance			316			349			196			540			127			233			304		
TDSobs			195			213			118			374			88			146			168		
Calcium	40.1	2	30.8	1.536926	45.8	33.2	1.656687	43.7	15.7	0.783433	37.5	46.1	2.300399	41.3	9.7	0.482036	35.9	17.1	0.853293	35.7	27.9	1.392216	42.6
Magnesium	24.3	2	16.3	1.341288	40.0	20.4	1.678667	44.3	11.3	0.92985	44.5	31.2	2.567373	46.1	7.1	0.586711	43.6	12.3	1.012137	42.4	16.6	1.365974	41.8
Potassium	39.1	1	1.7	0.043224	1.3	1.7	0.042713	1.1	1.3	0.033761	1.6	2.4	0.060872	1.1	0.9	0.022149	1.6	1.6	0.041434	1.7	1.8	0.045782	1.4
Sodium	23.0	1	7.9	0.344936	10.3	9.5	0.414967	10.9	7.3	0.315793	15.1	10.8	0.469774	8.4	5.8	0.253156	18.8	10.0	0.434976	18.2	9.3	0.406268	12.4
Iron	55.8	2	2.18	0.07807	2.3	0.01	0.000358	0.0	0.69	0.024854	1.2	4.23	0.151485	2.7	0.01	0.000358	0.0	0.96	0.034308	1.4	1.39	0.049779	1.5
Manganese	54.9	2	0.33	0.012159	0.4	0.00	3.64E-06	0.0	0.02	0.000706	0.0	0.53	0.019222	0.3	0.00	6.37E-06	0.0	0.26	0.009429	0.4	0.15	0.005534	0.2
Ammonia-N	14.0	1	0.01	0.0008	0.0	0.00	0.000143	0.0	0.00	0.000143	0.0	0.02	0.001264	0.0	0.00	0.000143	0.0	0.02	0.001285	0.1	0.01	0.000735	0.0
Total Cations (meq/L)				**3.4**	**100.0**		**3.8**			**2.1**			**5.6**			**1.3**			**2.4**			**3.3**	
Anions																							
Alkalinity, Total			114			134			69			107			52			79			131		
Carbonate	60.0	2	0.063926	0.002131	0.1	0.039452	0.001315	0.0	0.028648	0.000955	0.1	0.040578	0.001353	0.0	0.009811	0.000327	0.0	0.049951	0.001665	0.1	0.048549	0.001618	0.1
Bicarbonate	61.0	1	138.95	2.277526	72.5	163.40	2.678281	72.3	84.00	1.376837	72.9	130.46	2.138325	40.1	62.93	1.031517	81.6	96.77	1.586096	69.6	159.72	2.617987	84.6
Chloride	35.5	1	4.5	0.127211	4.0	11.1	0.313091	8.5	4.7	0.131442	7.0	13.3	0.375145	7.0	1.8	0.051054	4.0	12.3	0.346938	15.2	3.6	0.102389	3.3
Nitrate-N	14.0	1	0.01	0.000714	0.0	0.11	0.007496	0.2	0.02	0.001214	0.1	0.01	0.000714	0.0	0.66	0.046834	3.7	0.01	0.000714	0.0	0.01	0.000714	0.0
Sulfate	96.1	2	35.3	0.734976	23.4	33.7	0.701662	19.0	18.2	0.378939	20.1	135.0	2.810814	52.8	6.4	0.133878	10.6	16.5	0.343544	15.1	17.8	0.370611	12.0
Total Anions (meq/L)				**3.1**	**100.0**		**3.7**			**1.9**			**5.3**			**1.3**			**2.3**			**3.1**	
Total Ions (meq/L)				**6.5**			**7.5**			**4.0**			**10.9**			**2.6**			**4.7**			**6.4**	
Cation/Anion Ratio				**1.07**			**1.02**			**1.11**			**1.05**			**1.06**			**1.05**			**1.06**	
Percent Difference				**3.3**			**1.2**			**5.0**			**2.2**			**3.1**			**2.3**			**2.7**	
Trilinear Diagram Data																							
sum (Ca, Mg, Na+K)				3.27			3.79			2.06			5.40			1.34			2.34			3.21	
Calcium					47.05			43.68			37.98			42.61			35.86			36.44			43.37
Magnesium					41.06			44.26			45.08			47.56			43.65			43.22			42.55
Sodium + Potassium					11.88			12.07			16.95			9.83			20.48			20.34			14.08
					100.0																		
sum (SO_4, Cl, HCO_3+CO_3)				3.14			3.69			1.89			5.33			1.22			2.28			3.09	
Sulfate					23.393			18.993			20.069			52.779			11.003			15.079			11.984
Chloride					4.049			8.475			6.961			7.044			4.196			15.228			3.311
Bicarbonate + Carbonate					72.558			72.532			72.970			40.177			84.802			69.692			84.705
					100.0																		

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

Data Collected from July 1, 2019 to September 30, 2019

			Quarterly Upgradient and Crossgradient Wells																			
		Site ID	MW-59			MW-66			MW-81			MW-83			MW-84			MW-93			MW-94		
		Date	7/8/19			7/15/19			7/12/19			7/12/19			7/15/19			7/15/19			7/12/19		
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			7.0			6.6			6.7			7.1			6.6		
Conductance			207.2			209.5			163.5			528.0			198.2			328.6			326.9		
TDSobs			140.0			124.0			107.0			331.0			125.0			204.0			208.0		
Calcium	40.1	2	16.7	0.83	39.1	16.4	0.82	37.5	14.0	0.70	43.3	54.9	2.74	51.9	15.7	0.78	38.4	31.6	1.58	46.8	33.1	1.65	50.8
Magnesium	24.3	2	10.3	0.85	39.7	12.4	1.020366	46.8	7.5	0.61	38.0	23.2	1.91	36.2	11.4	0.938079	46.0	16.3	1.34	39.8	14.5	1.19	36.7
Potassium	39.1	1	1.1	0.029	1.3	1.1	0.03	1.3	0.83	0.021	1.3	3.2	0.08	1.6	1.1	0.03	1.4	1.5	0.039	1.2	2.3	0.06	1.8
Sodium	23.0	1	6.2	0.27	12.7	7.2	0.31	14.3	6.4	0.28	17.3	12.6	0.55	10.4	6.7	0.29	14.2	9.3	0.40	12.0	7.9	0.35	10.6
Iron	55.8	2	4.15	0.15	7.0	0.010	0.000358	0.016	0.01	0.000358	0.02	0.01	0.000426	0.0081	0.010	0.000358	0.018	0.01	0.000358	0.01	0.010	0.000358	0.011
Manganese	54.9	2	0.11	0.004077	0.19	0.0001	3.64E-06	0.0002	0.0001	3.64E-06	0.0002	0.040	0.001453	0.0275	0.001	2.76E-05	0.001	0.19	0.00699	0.21	0.0010	3.71E-05	0.0011
Ammonia-N	14.0	1	0.005	0.000357	0.02	0.0020	0.000143	0.007	0.0020	0.000143	0.009	0.003	0.000228	0.0043	0.002	0.000143	0.007	0.05	0.00382	0.11	0.002	0.000143	0.004
Total Cations (meq/L)				**2.13**			**2.2**			**1.6**			**5.3**			**2.0**			**3.4**			**3.3**	
Anions																							
Alkalinity, Total			70.6			82.9			57.7			160.0			75.8			122.0			117.0		
Carbonate	60.0	2	0.024	0.000814	0.0	0.085	0.002818	0.1	0.033	0.001104	0.1	0.041	0.001368	0.0	0.021	0.00071	0.0	0.09	0.003	0.09	0.029	0.000977	0.030
Bicarbonate	61.0	1	86.08	1.41	71.3	100.97	1.65	79.3	70.33	1.15	71.3	195.12	3.20	62.6	92.43	1.52	77.0	148.65	2.44	73.5	142.68	2.34	71.4
Chloride	35.5	1	8.6	0.24	12.3	4.5	0.13	6.0	5.1	0.14	8.8	53.2	1.50	29.4	4.1	0.12	5.8	2.8	0.080	2.4	23.9	0.67	20.6
Nitrate-N	14.0	1	0.017	0.001214	0.06	0.44	0.031	1.5	1.58	0.11	7.0	2.93	0.21	4.1	0.14	0.01	0.5	0.010	0.000714	0.022	0.90	0.06	2.0
Sulfate	96.1	2	15.5	0.32	16.3	13.1	0.27	13.1	10.0	0.21	12.9	9.4	0.20	3.8	15.7	0.33	16.6	38.2	0.80	24.0	9.5	0.20	6.0
Total Anions (meq/L)				**1.98**			**2.1**			**1.6**			**5.1**			**2.0**			**3.3**			**3.3**	
Total Ions (meq/L)				**4.1**			**4.3**			**3.2**			**10.4**			**4.0**			**6.7**			**6.5**	
Cation/Anion Ratio				**1.08**			**1.04**			**1.00**			**1.03**			**1.04**			**1.02**			**0.99**	
Percent Difference				**3.8**			**2.2**			**-0.1**			**1.7**			**1.8**			**0.8**			**-0.4**	
Trilinear Diagram Data																							
sum (Ca, Mg, Na+K)				1.98			2.18			1.61			5.28			2.04			3.36			3.25	
Calcium					42.08			37.55			43.31			51.90			38.39			46.92			50.82
Magnesium					42.79			46.82			38.06			36.17			45.97			39.91			36.71
Sodium + Potassium					15.13			15.63			18.63			11.94			15.63			13.17			12.47
sum (SO_4, Cl, HCO_3+CO_3)				1.98			2.06			1.50			4.90			1.96			3.31			3.21	
Sulfate					16.32			13.26			13.84			4.01			16.70			23.99			6.13
Chloride					12.31			6.12			9.48			30.65			5.88			2.41			21.00
Bicarbonate + Carbonate					71.38			80.62			76.68			65.35			77.42			73.60			72.87

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

Data Collected from July 1, 2019 to September 30, 2019

			Quarterly Downgradient to Waste Cells and North End Facilities																		
	Site ID		MW-68			MW-72			MW-74			MW-75			MW-80			MW-85			MW-87		
	Date		7/15/19			7/8/19			7/8/19			7/12/19			7/15/19			7/15/19			7/8/19		
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			7.0			7.0			6.7			6.6			7.2			6.6			6.7		
Conductance			284.4			361.6			549.0			384.1			313.1			368.3			548.0		
TDSobs			166.0			249.0			343.0			232.0			198.0			220.0			402.0		
Calcium	40.1	2	27.3	1.36	44.9	32.6	1.63	42.8	46.3	2.31	39.6	30.2	1.51	41.3	31.3	1.56	47.5	33.7	1.68	44.9	46.0	2.30	41.3
Magnesium	24.3	2	14.8	1.22	40.1	20.0	1.65	43.3	35.4	2.91	49.9	20.1	1.65	45.3	15.4	1.27	38.5	19.7	1.62	43.3	31.2	2.57	46.2
Potassium	39.1	1	1.7	0.04	1.4	1.9	0.049	1.3	2.1	0.05	0.9	1.9	0.05	1.3	1.7	0.043	1.3	1.6	0.042	1.1	2.4	0.061	1.1
Sodium	23.0	1	8.7	0.38	12.5	8.4	0.36	9.6	12.8	0.56	9.5	7.9	0.34	9.4	7.5	0.33	9.9	9.2	0.402	10.7	10.5	0.46	8.2
Iron	55.8	2	0.57	0.020	0.67	2.88	0.10	2.7	0.010	0.000358	0.006	2.52	0.09	2.47	2.13	0.076	2.3	0.010	0.000358	0.0096	4.28	0.15	2.8
Manganese	54.9	2	0.29	0.011	0.35	0.36	0.013	0.3	0.0001	3.64E-06	0.00006	0.23	0.008227	0.23	0.34	0.012	0.37	0.0001	4.15E-06	0.00011	0.54	0.020	0.4
Ammonia-N	14.0	1	0.02	0.001	0.039	0.01	0.001007	0.026	0.002	0.000143	0.002	0.009	0.000628	0.017	0.01	0.000885	0.027	0.002	0.000143	0.0038	0.015	0.001092	0.020
Total Cations (meq/L)				**3.0**			**3.8**			**5.8**			**3.6**			**3.3**			**3.7**			**5.6**	
Anions																							
Alkalinity, Total			123.0			136.0			213.0			115.0			113.0			134.0			110.0		
Carbonate	60.0	2	0.069	0.002299	0.08	0.08755	0.002918	0.08	0.07	0.002292	0.04	0.03	0.000939	0.02	0.100	0.003346	0.11	0.03282	0.001094	0.03	0.035	0.001157	0.021
Bicarbonate	61.0	1	149.92	2.46	86.0	165.74	2.72	71.6	259.72	4.26	74.9	140.24	2.30	58.9	137.7	2.26	72.3	163.41	2.68	72.2	134.13	2.20	40.8
Chloride	35.5	1	2.9	0.081	2.8	6.7	0.189547	5.0	24.5	0.69	12.2	11.1	0.31	8.0	4.5	0.13	4.1	11.2	0.32	8.5	13.6	0.38	7.1
Nitrate-N	14.0	1	0.010	0.000714	0.025	0.010	0.000714	0.019	0.31	0.021918	0.39	0.010	0.000714	0.018	0.01	0.000714	0.02	0.11	0.00771	0.2	0.010	0.000714	0.013
Sulfate	96.1	2	15.1	0.31	11.0	42.4	0.88	23.3	34.0	0.71	12.5	61.9	1.29	33.0	35.2	0.73	23.5	34.0	0.71	19.1	135.0	2.81	52.1
Total Anions (meq/L)				**2.9**			**3.8**			**5.7**			**3.9**			**3.1**			**3.7**			**5.4**	
Total Ions (meq/L)				**5.9**			**7.6**			**11.5**			**7.6**			**6.4**			**7.5**			**10.9**	
Cation/Anion Ratio				**1.06**			**1.00**			**1.03**			**0.94**			**1.05**			**1.01**			**1.03**	
Percent Difference				**3.0**			**0.1**			**1.3**			**-3.4**			**2.6**			**0.5**			**1.5**	
Trilinear Diagram Data																							
sum (Ca, Mg, Na+K)				3.00			3.68			5.83			3.55			3.20			3.75			5.38	
Calcium					45.36			44.15			39.60			42.45			48.82			44.88			42.66
Magnesium					40.55			44.67			49.93			46.59			39.61			43.27			47.72
Sodium + Potassium					14.08			11.18			10.48			10.96			11.57			11.85			9.62
sum (SO_4, Cl, HCO_3+CO_3)				2.86			3.79			5.66			3.90			3.12			3.70			5.39	
Sulfate					11.01			23.28			12.51			33.03			23.49			19.12			52.11
Chloride					2.85			5.00			12.21			8.02			4.09			8.53			7.11
Bicarbonate + Carbonate					86.14			71.72			75.28			58.94			72.42			72.35			40.78

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

Data Collected from October l, 2019 to December 31, 2019

			Upgradient and Crossgradient															
Site ID			**MW-21**			**MW-24**			**MW-56**			**MW-59**			**MW-64**			**MW-65**		
			10/8/2019			10/22/2019			10/18/2019			10/18/2019			10/22/2019			10/11/2019		
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			6.9			7.0			6.9			6.5		
Conductance			143			183			231			218			232			146		
TDSobs			85			107			137			124			139			99		
Calcium	40.1	2	12.2	0.608782	40.0	14.8	0.738523	38.6	21.2	1.057884	45.9	17.2	0.858283	39.6	19.3	0.963074	38.0	11.4	0.568862	38.2
Magnesium	24.3	2	6.7	0.548858	36.1	9.2	0.760337	39.8	11.4	0.938079	40.7	10.4	0.855791	39.5	14.3	1.176713	46.5	6.8	0.562024	37.7
Potassium	39.1	1	1.1	0.027878	1.8	1.0	0.025218	1.3	1.2	0.031715	1.4	1.1	0.028902	1.3	1.7	0.044247	1.7	0.9	0.023249	1.6
Sodium	23.0	1	6.0	0.260551	17.1	5.9	0.256201	13.4	6.1	0.266205	11.5	6.2	0.27012	12.5	7.9	0.342326	13.5	5.3	0.230537	15.5
Iron	55.8	2	1.96	0.070192	4.6	3.49	0.124984	6.5	0.07	0.002604	0.1	4.10	0.14683	6.8	0.03	0.000945	0.0	2.76	0.098841	6.6
Manganese	54.9	2	0.10	0.00375	0.2	0.10	0.003786	0.2	0.27	0.009793	0.4	0.13	0.00466	0.2	0.10	0.003575	0.1	0.14	0.005133	0.3
Ammonia-N	14.0	1	0.02	0.001107	0.1	0.04	0.002542	0.1	0.00	0.000143	0.0	0.01	0.0005	0.0	0.01	0.001028	0.0	0.00	0.000178	0.0
Total Cations (meq/L)				**1.5**			**1.9**			**2.3**			**2.2**			**2.5**			**1.5**	
Anions																				
Alkalinity, Total			61			69			78			71			101			52		
Carbonate	60.0	2	0.089393	0.00298	0.2	0.029443	0.000981	0.1	0.03409	0.001136	0.1	0.039073	0.001302	0.1	0.042973	0.001432	0.1	0.010097	0.000337	0.0
Bicarbonate	61.0	1	73.87	1.210838	86.1	84.36	1.38281	79.4	95.46	1.564628	70.1	86.91	1.424483	69.9	123.13	2.018263	85.2	63.30	1.037507	76.8
Chloride	35.5	1	2.4	0.068541	4.9	4.9	0.137365	7.9	16.2	0.456943	20.5	10.6	0.298987	14.7	2.7	0.077003	3.3	4.1	0.115364	8.5
Nitrate-N	14.0	1	0.01	0.000714	0.1	0.01	0.000714	0.0	0.60	0.04305	1.9	0.01	0.000714	0.0	0.01	0.000714	0.0	0.01	0.001	0.1
Sulfate	96.1	2	5.9	0.123259	8.8	10.5	0.218619	12.6	8.0	0.16615	7.4	15.0	0.312313	15.3	13.0	0.270671	11.4	9.5	0.197173	14.6
Total Anions (meq/L)				**1.4**			**1.7**			**2.2**			**2.0**			**2.4**			**1.4**	
Total Ions (meq/L)				**2.9**			**3.7**			**4.5**			**4.2**			**4.9**			**2.8**	
Cation/Anion Ratio				**1.08**			**1.10**			**1.03**			**1.06**			**1.07**			**1.10**	
Percent Difference				**3.9**			**4.7**			**1.6**			**3.0**			**3.3**			**4.8**	
Trilinear Diagram Data																				
sum (Ca, Mg, Na+K)				1.45			1.78			2.29			2.01			2.53			1.38	
Calcium					42.10			41.48			46.12			42.63			38.12			41.08
Magnesium					37.96			42.71			40.89			42.51			46.58			40.59
Sodium + Potassium					19.95			15.81			12.99			14.85			15.30			18.33
														100.0						
sum (SO_4, Cl, HCO_3+CO_3)				1.41			1.74			2.19			2.04			2.37			1.35	
Sulfate					8.769			12.566			7.591			15.331			11.433			14.601
Chloride					4.876			7.896			20.876			14.677			3.253			8.543
Bicarbonate + Carbonate					86.355			79.539			71.533			69.991			85.314			76.856
														100.0						

Table 4 *(continued)*
Ion Balance Calculations
Cedar Hills Regional Landfill Quarterly and Semi-annual Regional Aquifer Groundwater Monitoring

Data Collected from October l, 2019 to December 31, 2019

			Upgradient and Crossgradient															
Site ID			**MW-66**			**MW-73**			**MW-76**			**MW-81**			**MW-82**			**MW-83**		
			10/11/2019			10/8/2019			10/11/2019			10/22/2019			10/22/2019			10/18/2019		
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			7.1			6.3			7.4			6.8			6.7		
Conductance			214			141			233			164			306			601		
TDSobs			129			93			147			100			183			346		
Calcium	40.1	2	16.7	0.833333	37.1	12.9	0.643713	43.9	21.1	1.052894	45.2	14.3	0.713573	43.4	28.8	1.437126	44.5	63.5	3.168663	53.2
Magnesium	24.3	2	12.9	1.06151	47.2	6.6	0.539807	36.8	9.5	0.784201	33.7	7.5	0.617157	37.5	16.7	1.374203	42.6	25.5	2.098334	35.2
Potassium	39.1	1	1.2	0.029413	1.3	0.8	0.021587	1.5	1.5	0.037086	1.6	0.9	0.021945	1.3	1.9	0.049107	1.5	3.5	0.090029	1.5
Sodium	23.0	1	7.4	0.321882	14.3	6.0	0.261856	17.8	10.4	0.452375	19.4	6.7	0.291434	17.7	8.4	0.36538	11.3	13.7	0.595917	10.0
Iron	55.8	2	0.01	0.000358	0.0	0.01	0.000358	0.0	0.01	0.000358	0.0	0.01	0.000358	0.0	0.01	0.000358	0.0	0.01	0.000358	0.0
Manganese	54.9	2	0.00	3.64E-06	0.0	0.00	3.64E-06	0.0	0.00	5.64E-06	0.0	0.00	3.64E-06	0.0	0.00	1.28E-05	0.0	0.02	0.000768	0.0
Ammonia-N	14.0	1	0.00	0.000143	0.0	0.00	0.000143	0.0	0.00	0.000143	0.0	0.00	0.000143	0.0	0.00	0.000143	0.0	0.00	0.00025	0.0
Total Cations (meq/L)				**2.2**			**1.5**			**2.3**	**100.0**		**1.6**			**3.2**			**6.0**	
Anions																				
Alkalinity, Total			86			55			68			55			121			190		
Carbonate	60.0	2	0.117531	0.003918	0.2	0.037591	0.001253	0.1	0.008134	0.000271	0.0	0.09135	0.003045	0.2	0.048048	0.001602	0.1	0.062762	0.002092	0.0
Bicarbonate	61.0	1	104.07	1.705825	79.8	66.41	1.088583	77.1	82.70	1.355524	61.8	67.28	1.102789	71.8	147.52	2.418034	79.0	231.67	3.797335	64.0
Chloride	35.5	1	4.3	0.120441	5.6	2.4	0.067413	4.8	15.3	0.431557	19.7	4.7	0.133416	8.7	11.1	0.313091	10.2	60.7	1.712126	28.9
Nitrate-N	14.0	1	0.40	0.028486	1.3	1.10	0.078532	5.6	0.76	0.05433	2.5	1.59	0.113515	7.4	0.85	0.060541	2.0	2.88	0.205611	3.5
Sulfate	96.1	2	13.4	0.278999	13.1	8.5	0.176769	12.5	16.9	0.351872	16.0	8.8	0.183848	12.0	12.8	0.266507	8.7	10.4	0.216537	3.6
Total Anions (meq/L)				**2.1**			**1.4**			**2.2**	**100.0**		**1.5**			**3.1**			**5.9**	
Total Ions (meq/L)				**4.4**			**2.9**			**4.5**			**3.2**			**6.3**			**11.9**	
Cation/Anion Ratio				**1.05**			**1.04**			**1.06**			**1.07**			**1.05**			**1.00**	
Percent Difference				**2.5**			**1.9**			**3.0**			**3.4**			**2.6**			**0.2**	
Trilinear Diagram Data																				
sum (Ca, Mg, Na+K)				2.25			1.47			2.33			1.64			3.23			5.95	
Calcium					37.10			43.88			45.26			43.40			44.55			53.23
Magnesium					47.26			36.80			33.71			37.54			42.60			35.25
Sodium + Potassium					15.64			19.32			21.04			19.06			12.85			11.52
											100.0									100.0
sum (SO_4, Cl, HCO_3+CO_3)				2.11			1.33			2.14			1.42			3.00			5.73	
Sulfate					13.228			13.251			16.449			12.919			8.886			3.780
Chloride					5.710			5.053			20.174			9.375			10.439			29.890
Bicarbonate + Carbonate					81.062			81.696			63.378			77.706			80.675			66.330
											100.0									

Table 4 *(continued)*
Ion Balance Calculations
Cedar Hills Regional Landfill Quarterly and Semi-annual Regional Aquifer Groundwater Monitoring

Data Collected from October l, 2019 to December 31, 2019

			Upgradient and Crossgradient											
Site ID			**MW-84**			**MW-93**			**MW-94**			**MW-95**		
			10/11/2019			10/23/2019			10/18/2019			10/11/2019		
Cations	MW	n	mg/L	meq/L	%(meq)	mg/L	meq/L	%(meq)	mg/L	meq/L	%(meq)	mg/L	meq/L	%(meq)
pH			7.1			6.7			6.9			7.2		
Conductance			211			330			331			230		
TDSobs			130			204			202			141		
Calcium	40.1	2	16.9	0.843313	37.8	32.3	1.611776	46.7	33.1	1.651697	49.9	22.2	1.10778443	46.6
Magnesium	24.3	2	12.6	1.036824	46.5	16.8	1.382432	40.0	15.1	1.242543	37.5	11.7	0.96276486	40.5
Potassium	39.1	1	1.2	0.031203	1.4	1.6	0.040155	1.2	2.4	0.061128	1.8	1.2	0.03171493	1.3
Sodium	23.0	1	7.4	0.319707	14.3	9.3	0.406268	11.8	8.2	0.35668	10.8	6.2	0.26925019	11.3
Iron	55.8	2	0.01	0.000358	0.0	0.01	0.000358	0.0	0.01	0.000358	0.0	0.01	0.00035812	0.0
Manganese	54.9	2	0.00	1.97E-05	0.0	0.19	0.007063	0.2	0.00	6.44E-06	0.0	0.17	0.00611599	0.3
Ammonia-N	14.0	1	0.00	0.000143	0.0	0.06	0.004105	0.1	0.00	0.000143	0.0	0.02	0.00161348	0.1
Total Cations (meq/L)				**2.2**			**3.5**			**3.3**			**2.4**	
Anions														
Alkalinity, Total			81			125			114			90		
Carbonate	60.0	2	0.061176	0.002039	0.1	0.034347	0.001145	0.0	0.05318	0.001773	0.1	0.07812589	0.00260423	0.1
Bicarbonate	61.0	1	98.57	1.615717	76.7	152.43	2.498478	72.8	138.97	2.277884	72.1	109.64	1.79712476	78.0
Chloride	35.5	1	4.7	0.13116	6.2	2.9	0.08067	2.4	22.1	0.623361	19.7	6.1	0.17064846	7.4
Nitrate-N	14.0	1	0.18	0.012994	0.6	0.01	0.000714	0.0	0.81	0.057543	1.8	0.01	0.00071393	0.0
Sulfate	96.1	2	16.6	0.345626	16.4	40.9	0.851572	24.8	9.5	0.198423	6.3	16.0	0.33313345	14.5
Total Anions (meq/L)				**2.1**			**3.4**			**3.2**			**2.3**	
Total Ions (meq/L)				**4.3**			**6.9**			**6.5**			**4.7**	
Cation/Anion Ratio				**1.06**			**1.01**			**1.05**			**1.03**	
Percent Difference				**2.9**			**0.3**			**2.4**			**1.6**	
Trilinear Diagram Data														
sum (Ca, Mg, Na+K)				2.23			3.44			3.31			2.37	
Calcium					37.80			46.85			49.87			46.71
Magnesium					46.47			40.18			37.52			40.60
Sodium + Potassium					15.73			12.98			12.61			12.69
					100.0			100.0						
sum (SO_4, Cl, HCO_3+CO_3)				2.09			3.43			3.10			2.30	
Sulfate					16.501			24.814			6.398			14.462
Chloride					6.262			2.351			20.099			7.408
Bicarbonate + Carbonate					77.237			72.836			73.503			78.130

Table 4 *(continued)*
Ion Balance Calculations
Cedar Hills Regional Landfill Quarterly and Semi-annual Regional Aquifer Groundwater Monitoring

Data Collected from October l, 2019 to December 31, 2019

			Downgradient to Waste Cells and North End Facilities													
Site ID			**MW-68**			**MW-67**			**MW-72**			**MW-74R**			**MW-75**		
			11/19/2019			10/22/2019			10/22/2019			10/18/2019			10/18/2019		
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)
pH			6.6			7.0			6.7			7.0			6.6		
Conductance			276			378			362			497			381		
TDSobs			164			222			217			279			237		
Calcium	40.1	2	27.4	1.367265	44.3	37.8	1.886228	45.6	34.8	1.736527	44.3	41.5	2.070858	39.0	31.2	1.556886	39.3
Magnesium	24.3	2	15.2	1.250771	40.5	21.3	1.752726	42.4	19.8	1.629294	41.5	32.3	2.657889	50.0	22.6	1.8597	46.9
Potassium	39.1	1	1.7	0.043736	1.4	1.8	0.046805	1.1	2.1	0.053455	1.4	2.0	0.051409	1.0	1.9	0.048851	1.2
Sodium	23.0	1	9.0	0.391478	12.7	9.9	0.429321	10.4	8.8	0.381909	9.7	12.2	0.530671	10.0	9.1	0.397568	10.0
Iron	55.8	2	0.60	0.021487	0.7	0.23	0.008165	0.2	3.03	0.108511	2.8	0.01	0.00048	0.0	2.62	0.093828	2.4
Manganese	54.9	2	0.30	0.011031	0.4	0.28	0.01012	0.2	0.36	0.013178	0.3	0.00	1.55E-05	0.0	0.22	0.008045	0.2
Ammonia-N	14.0	1	0.02	0.001249	0.0	0.01	0.000471	0.0	0.02	0.001135	0.0	0.00	0.000143	0.0	0.01	0.000585	0.0
Total Cations (meq/L)				**3.1**			**4.1**			**3.9**			**5.3**			**4.0**	
Anions																	
Alkalinity, Total			123			164			131			202			111		
Carbonate	60.0	2	0.030825	0.001028	0.0	0.103174	0.003439	0.1	0.036834	0.001228	0.0	0.113273	0.003776	0.1	0.028465	0.000949	0.0
Bicarbonate	61.0	1	150.00	2.458602	86.0	199.87	3.276067	83.3	159.75	2.618377	74.4	246.21	4.035616	78.5	135.36	2.218717	61.3
Chloride	35.5	1	3.0	0.085465	3.0	4.8	0.135955	3.5	5.8	0.164725	4.7	18.2	0.513356	10.0	9.7	0.274166	7.6
Nitrate-N	14.0	1	0.01	0.000714	0.0	0.09	0.006497	0.2	0.01	0.000714	0.0	0.39	0.028057	0.5	0.01	0.000714	0.0
Sulfate	96.1	2	15.0	0.312313	10.9	24.6	0.512193	13.0	35.3	0.734976	20.9	26.8	0.557999	10.9	53.9	1.122243	31.0
Total Anions (meq/L)				**2.9**			**3.9**			**3.5**			**5.1**			**3.6**	
Total Ions (meq/L)				**5.9**			**8.1**			**7.4**			**10.5**			**7.6**	
Cation/Anion Ratio				**1.08**			**1.05**			**1.11**			**1.03**			**1.10**	
Percent Difference				**3.9**			**2.5**			**5.4**			**1.7**			**4.6**	
Trilinear Diagram Data																	
sum (Ca, Mg, Na+K)				3.05			4.12			3.80			5.31			3.86	
Calcium					44.78			45.84			45.68			38.99			40.30
Magnesium					40.97			42.59			42.86			50.05			48.14
Sodium + Potassium					14.25			11.57			11.45			10.96			11.56
sum (SO_4, Cl, HCO_3+CO_3)				2.86			3.93			3.52			5.11			3.62	
Sulfate					10.930			13.041			20.884			10.918			31.035
Chloride					2.991			3.461			4.681			10.045			7.582
Bicarbonate + Carbonate					86.079			83.498			74.435			79.037			61.383

Table 4 *(continued)*
Ion Balance Calculations
Cedar Hills Regional Landfill Quarterly and Semi-annual Regional Aquifer
Groundwater Monitoring

Data Collected from October l, 2019 to December 31, 2019

			Downgradient to Waste Cells and North End Facilities																			
Site ID			**MW-80**			**MW-85**			**MW-86**			**MW-87**			**MW-88**			**MW-89**			**MW-100**		
			11/19/2019			10/22/2019			10/23/2019			10/23/2019			10/23/2019			10/23/2019			10/11/2019		
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			6.8			7.2			6.8			6.8			6.6			7.1			6.8		
Conductance			315			368			201			542			126			246			309		
TDSobs			196			213			126			365			87			145			183		
Calcium	40.1	2	30.9	1.541916	46.1	34.5	1.721557	44.7	15.8	0.788423	37.9	46.5	2.320359	41.1	9.4	0.469062	35.9	18.5	0.923154	36.5	29.6	1.477046	44.1
Magnesium	24.3	2	16.1	1.32483	39.6	20.1	1.653981	42.9	11.2	0.921621	44.2	31.9	2.624974	46.5	6.9	0.567784	43.5	13.3	1.094425	43.3	16.8	1.382432	41.3
Potassium	39.1	1	1.7	0.04348	1.3	1.7	0.044247	1.1	1.3	0.03325	1.6	2.4	0.061895	1.1	0.9	0.021817	1.7	1.7	0.043736	1.7	1.8	0.046294	1.4
Sodium	23.0	1	8.0	0.347111	10.4	10.0	0.432801	11.2	7.0	0.303613	14.6	10.5	0.456725	8.1	5.7	0.246631	18.9	9.7	0.419752	16.6	9.4	0.409312	12.2
Iron	55.8	2	2.16	0.077354	2.3	0.01	0.000358	0.0	0.98	0.035132	1.7	4.57	0.163661	2.9	0.01	0.000358	0.0	1.06	0.037961	1.5	0.71	0.025319	0.8
Manganese	54.9	2	0.34	0.012232	0.4	0.00	3.64E-06	0.0	0.02	0.000601	0.0	0.52	0.018748	0.3	0.00	3.64E-06	0.0	0.28	0.010084	0.4	0.15	0.005424	0.2
Ammonia-N	14.0	1	0.01	0.000971	0.0	0.00	0.000143	0.0	0.00	0.000143	0.0	0.02	0.001235	0.0	0.00	0.000143	0.0	0.02	0.001285	0.1	0.01	0.000643	0.0
Total Cations (meq/L)				**3.3**	**100.0**		**3.9**			**2.1**			**5.6**			**1.3**			**2.5**			**3.3**	
Anions																							
Alkalinity, Total			115			138			71			109			52			86			133		
Carbonate	60.0	2	0.047817	0.001594	0.1	0.119793	0.003993	0.1	0.024523	0.000817	0.0	0.043283	0.001443	0.0	0.012541	0.000418	0.0	0.06182	0.002061	0.1	0.048169	0.001606	0.1
Bicarbonate	61.0	1	140.20	2.29806	72.9	168.12	2.755591	76.4	86.45	1.416969	71.4	132.89	2.178229	39.8	63.90	1.047424	81.6	104.31	1.709681	69.9	162.16	2.657993	83.6
Chloride	35.5	1	4.5	0.128057	4.1	9.4	0.264012	7.3	4.7	0.133416	6.7	13.9	0.392068	7.2	1.8	0.051618	4.0	13.0	0.366683	15.0	3.2	0.090824	2.9
Nitrate-N	14.0	1	0.01	0.000714	0.0	0.11	0.007782	0.2	0.01	0.000714	0.0	0.01	0.000714	0.0	0.74	0.052831	4.1	0.01	0.000714	0.0	0.01	0.000714	0.0
Sulfate	96.1	2	34.8	0.724565	23.0	27.7	0.576737	16.0	20.8	0.433073	21.8	139.0	2.894097	52.9	6.3	0.13138	10.2	17.6	0.366447	15.0	20.5	0.426827	13.4
Total Anions (meq/L)				**3.2**	**100.0**		**3.6**			**2.0**			**5.5**			**1.3**			**2.4**			**3.2**	
Total Ions (meq/L)				**6.5**			**7.5**			**4.1**			**11.1**			**2.6**			**5.0**			**6.5**	
Cation/Anion Ratio				**1.06**			**1.07**			**1.05**			**1.03**			**1.02**			**1.03**			**1.05**	
Percent Difference				**3.0**			**3.3**			**2.4**			**1.6**			**0.9**			**1.7**			**2.6**	
Trilinear Diagram Data																							
sum (Ca, Mg, Na+K)				3.26			3.85			2.05			5.46			1.31			2.48			3.32	
Calcium					47.34			44.69			38.52			42.47			35.94			37.21			44.56
Magnesium					40.67			42.93			45.03			48.04			43.50			44.11			41.70
Sodium + Potassium					11.99			12.38			16.46			9.49			20.57			18.68			13.74
					100.0																		
sum (SO_4, Cl, HCO_3+CO_3)				3.15			3.60			1.98			5.47			1.23			2.44			3.18	
Sulfate					22.985			16.019			21.825			52.949			10.674			14.988			13.434
Chloride					4.062			7.333			6.724			7.173			4.194			14.998			2.859
Bicarbonate + Carbonate					72.952			76.648			71.451			39.878			85.132			70.014			83.708
					100.0																		

Figure 7. Trilinear Diagram East Perched Zone Wells

Cedar Hills Regional Landfill

First Quarter 2019

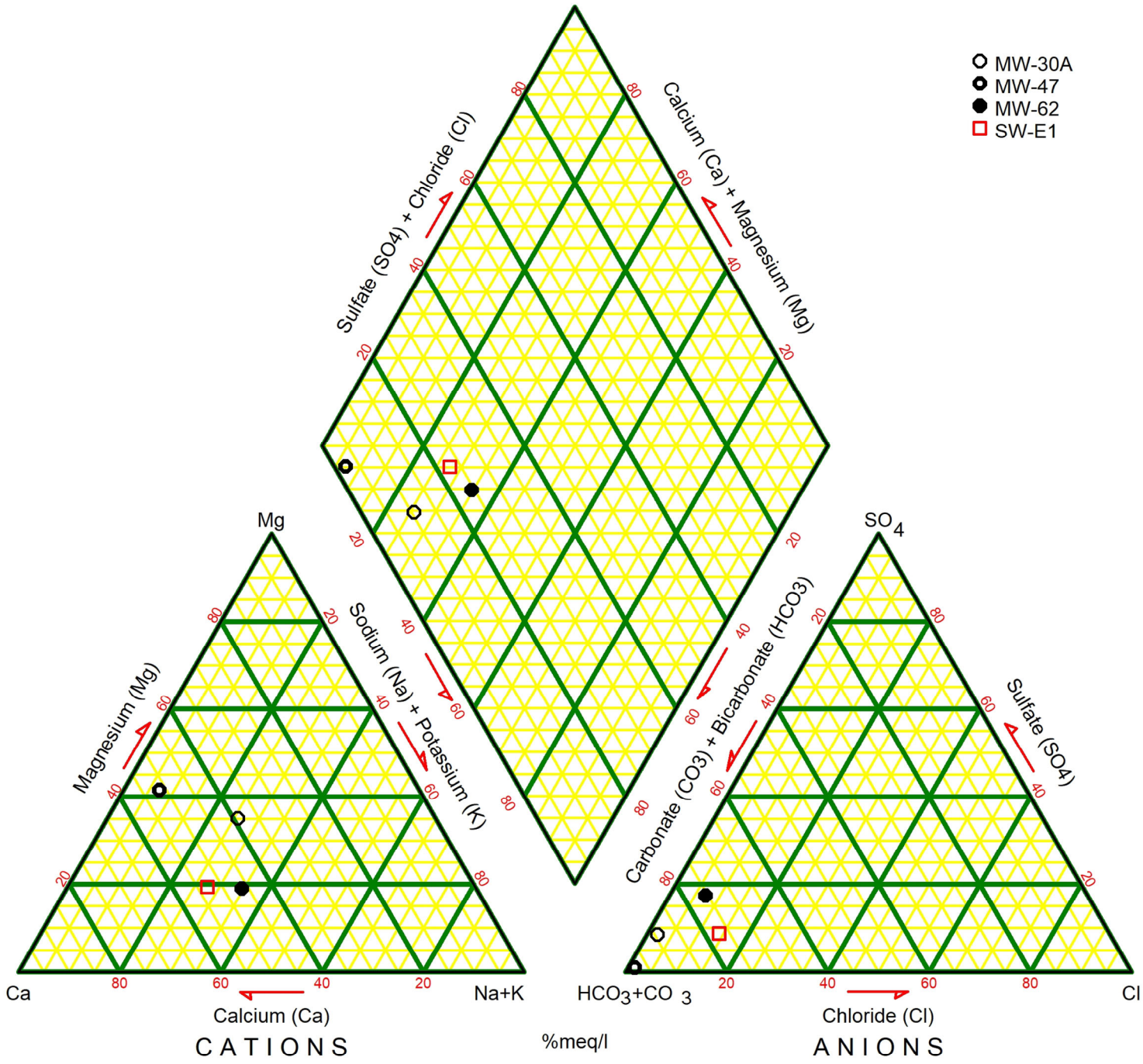


Figure 7. Trilinear Diagram East Area Perched Wells

Cedar Hills Regional Landfill

Second Quarter 2019

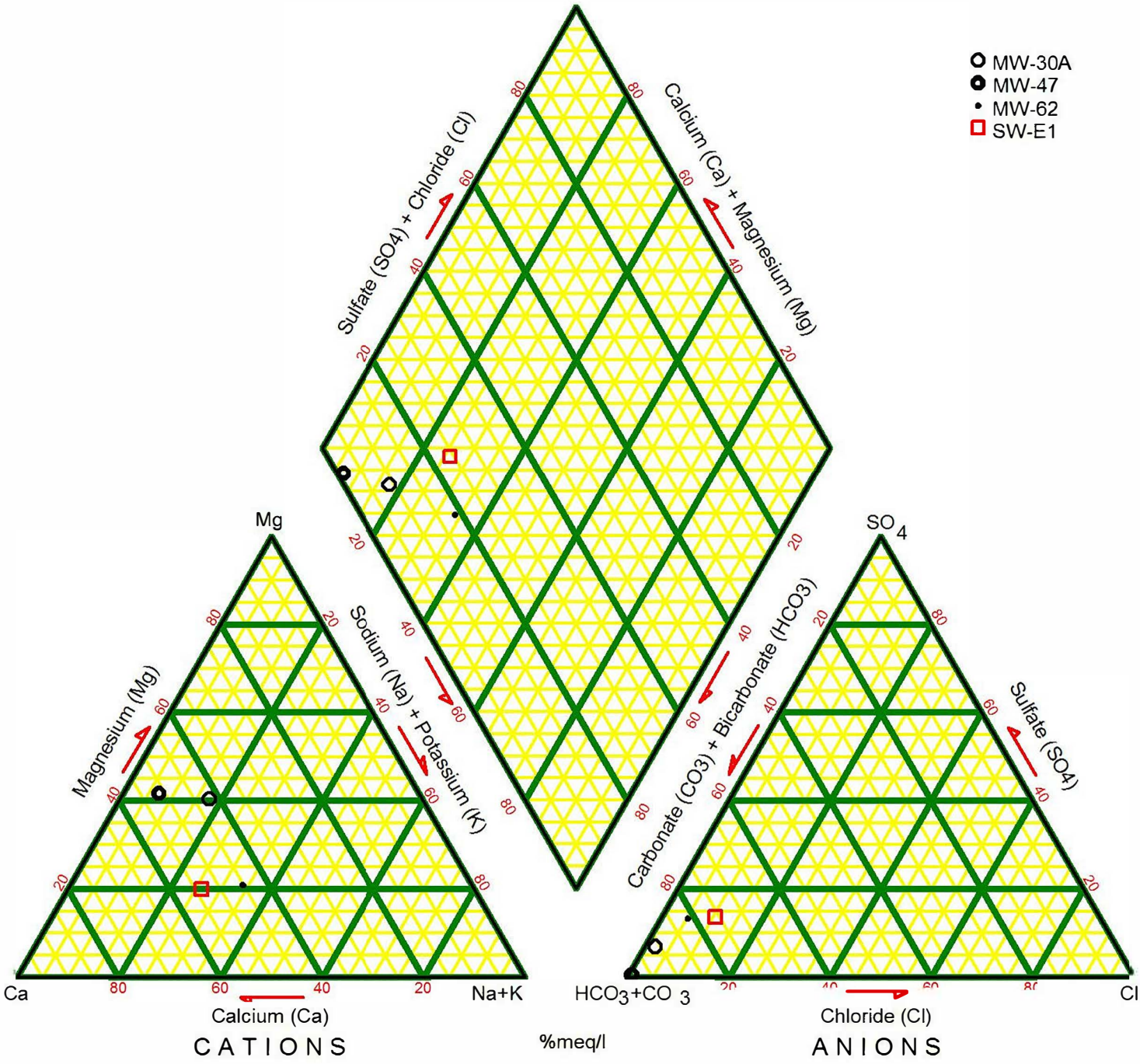


Figure 7. Trilinear Diagram East Perched Zone Wells

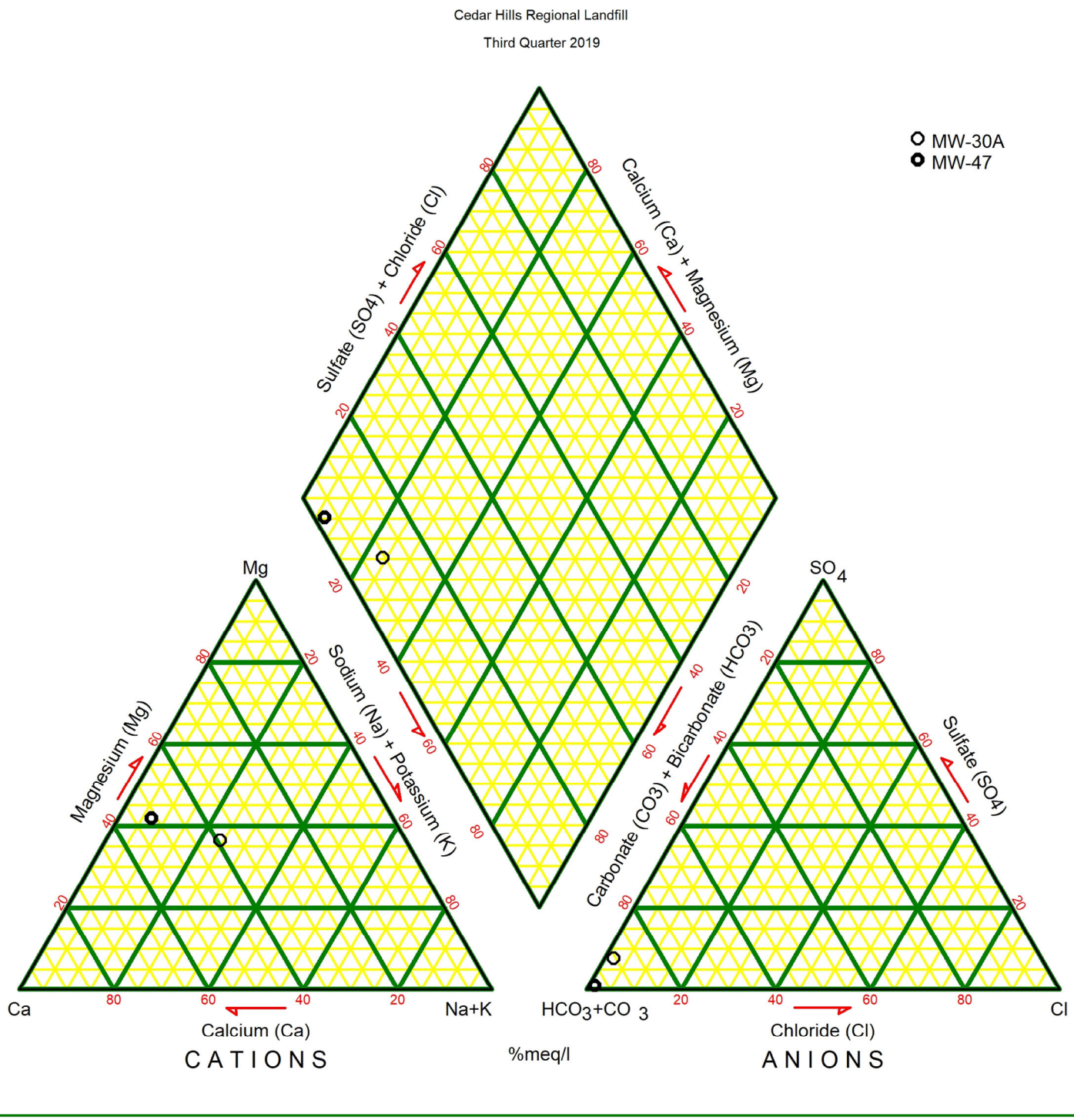


Figure 7. Trilinear Diagram East Perched Zone Wells

Cedar Hills Regional Landfill

Fourth Quarter 2019

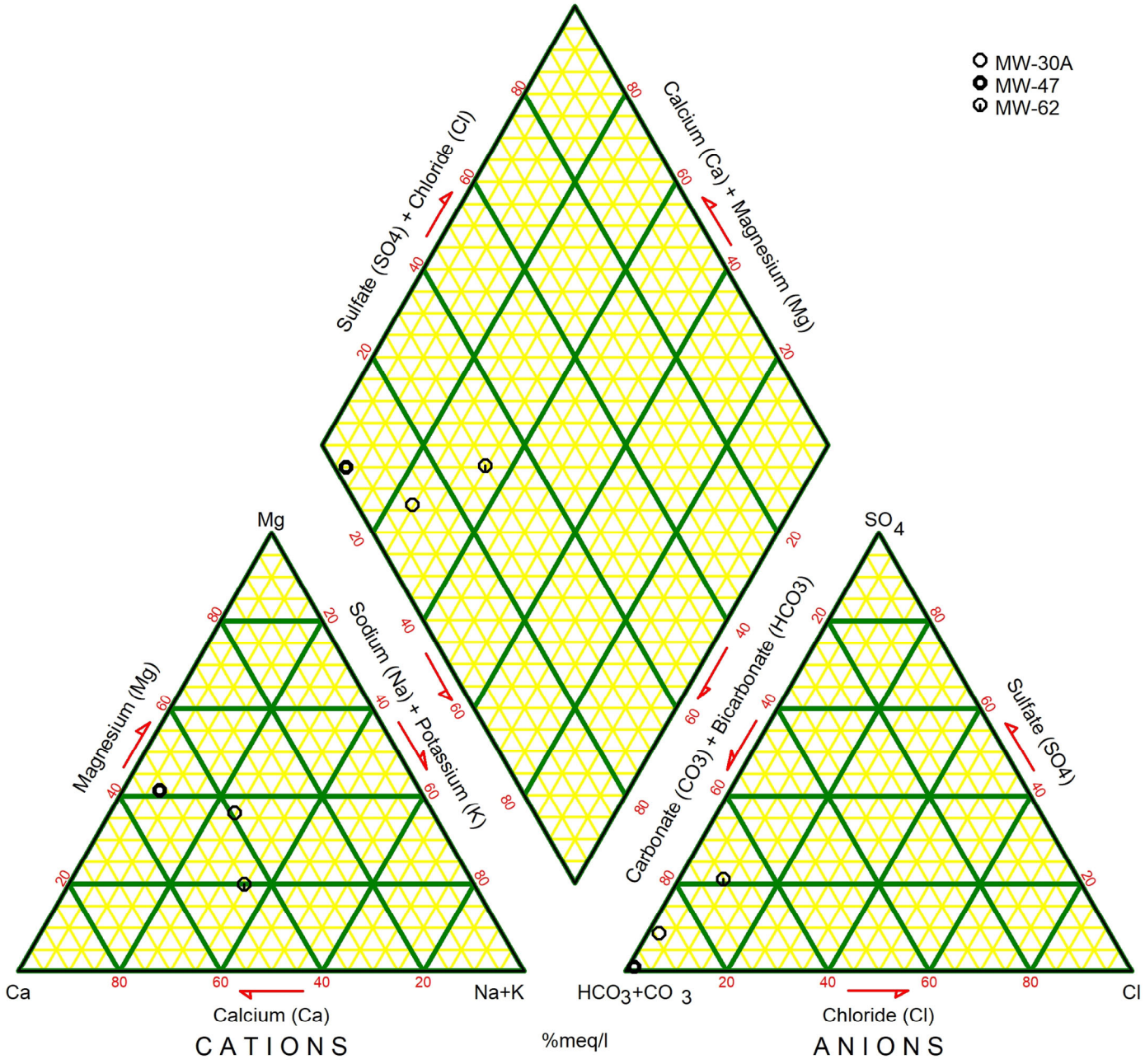


Figure 8. Trilinear Diagram SSW Area Perched Zones Wells

Cedar Hills Regional Landfill

First Quarter 2019

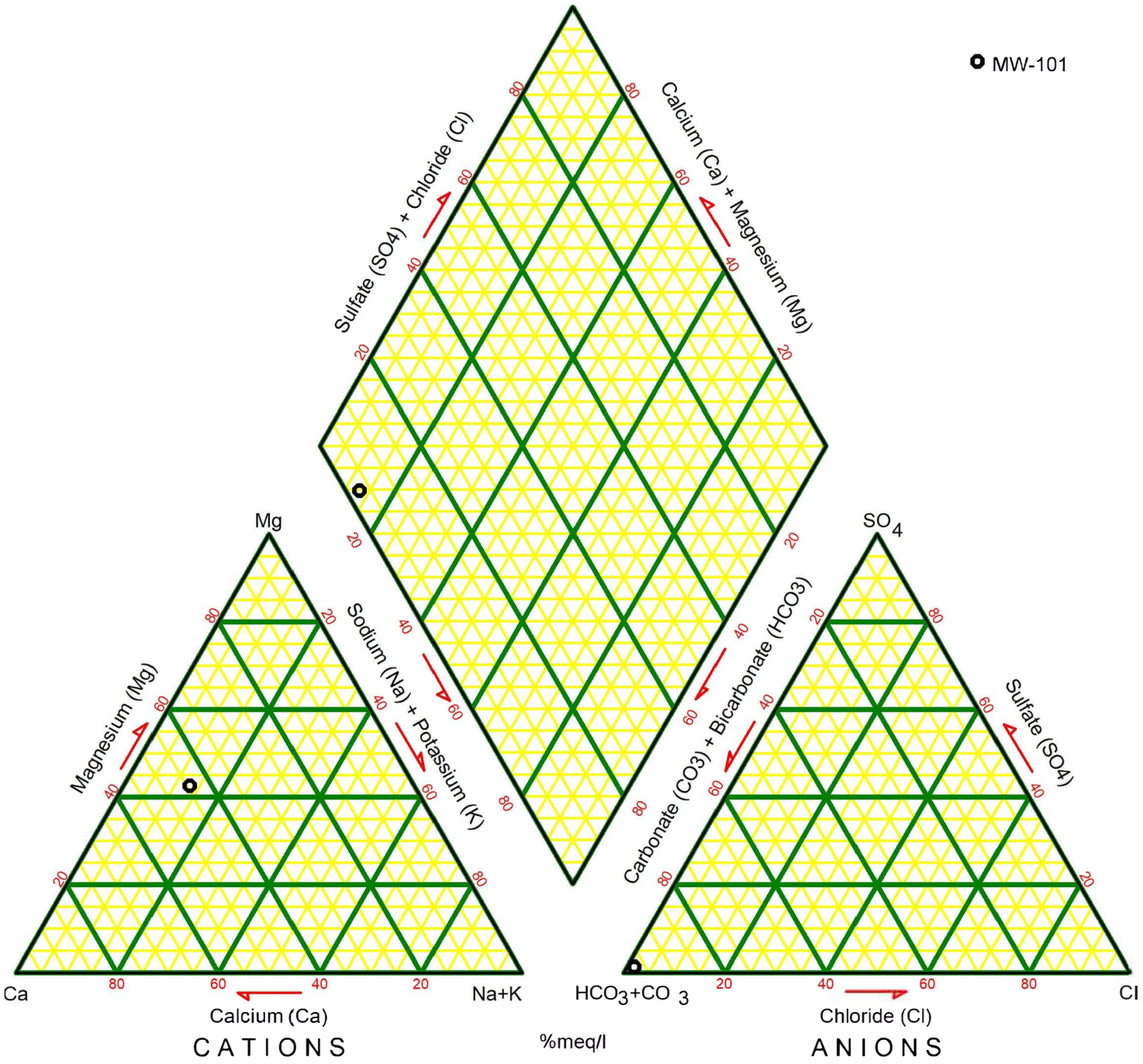


Figure 8. Trilinear Diagram SSW Perched Area Wells

Cedar Hills Regional Landfill

Second Quarter 2019

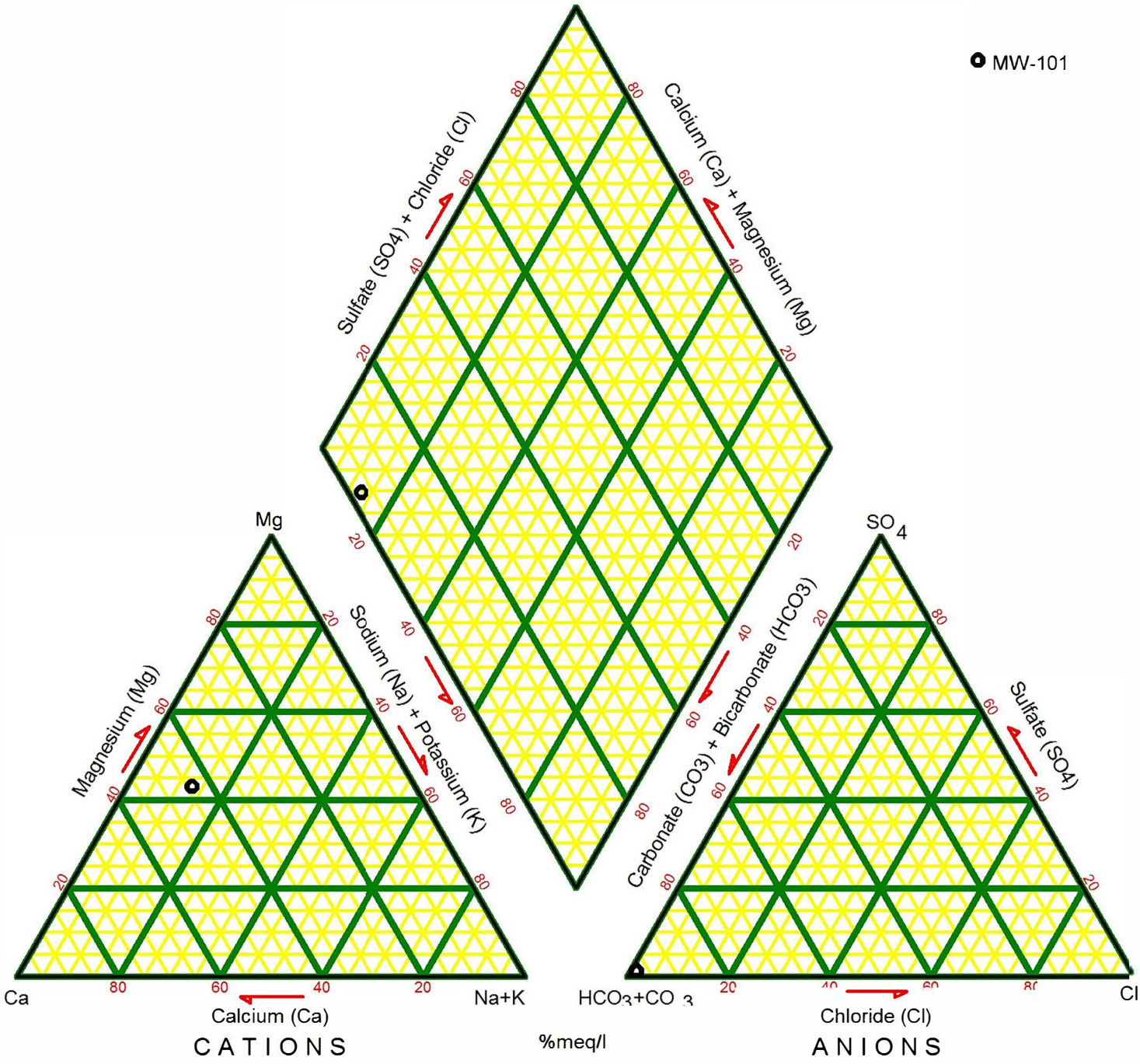


Figure 8. Trilinear Diagram SSW Area Perched Zones Wells

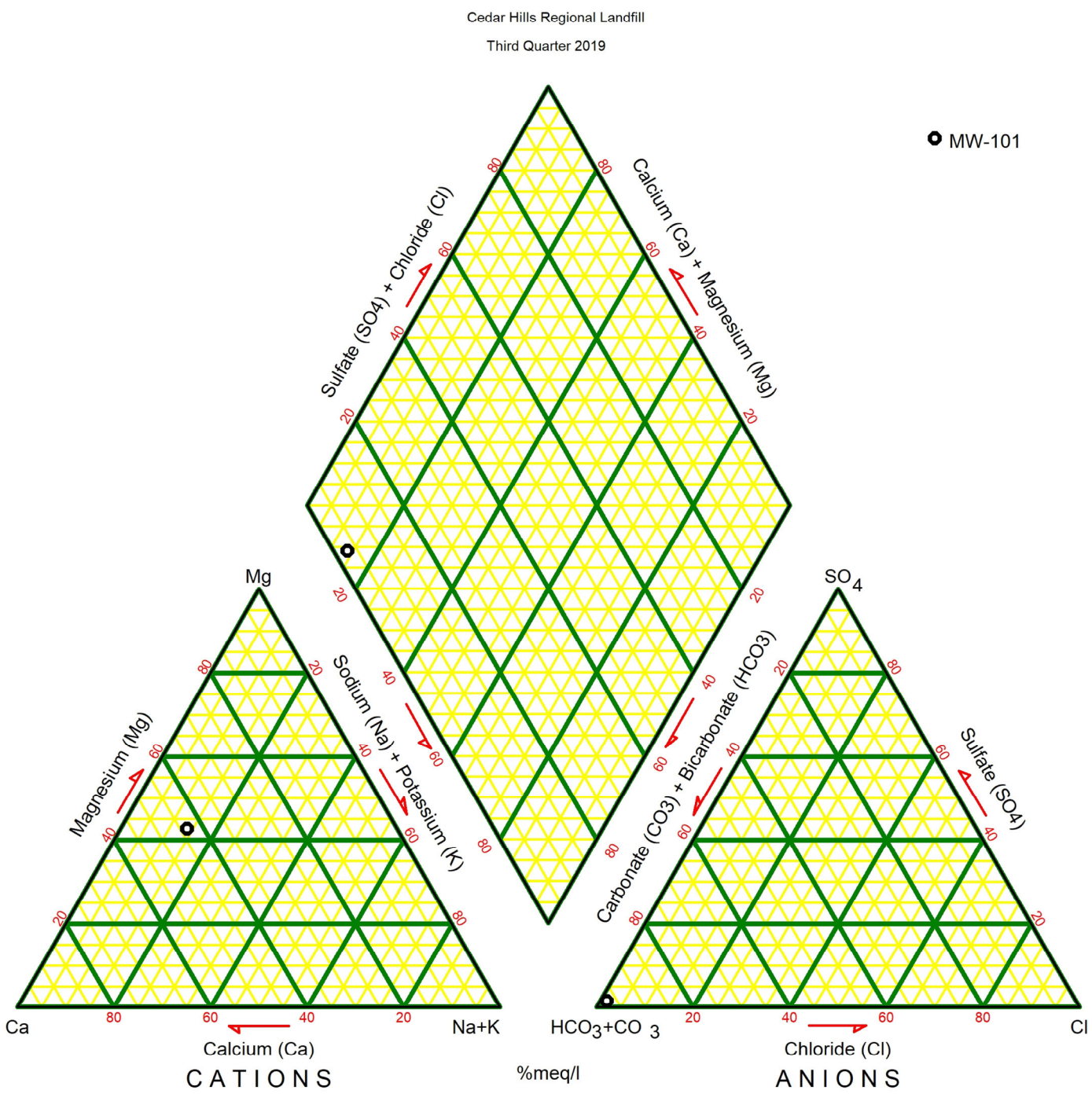


Figure 8. Trilinear Diagram SSW Area Perched Zones Wells

Cedar Hills Regional Landfill

Fourth Quarter 2019

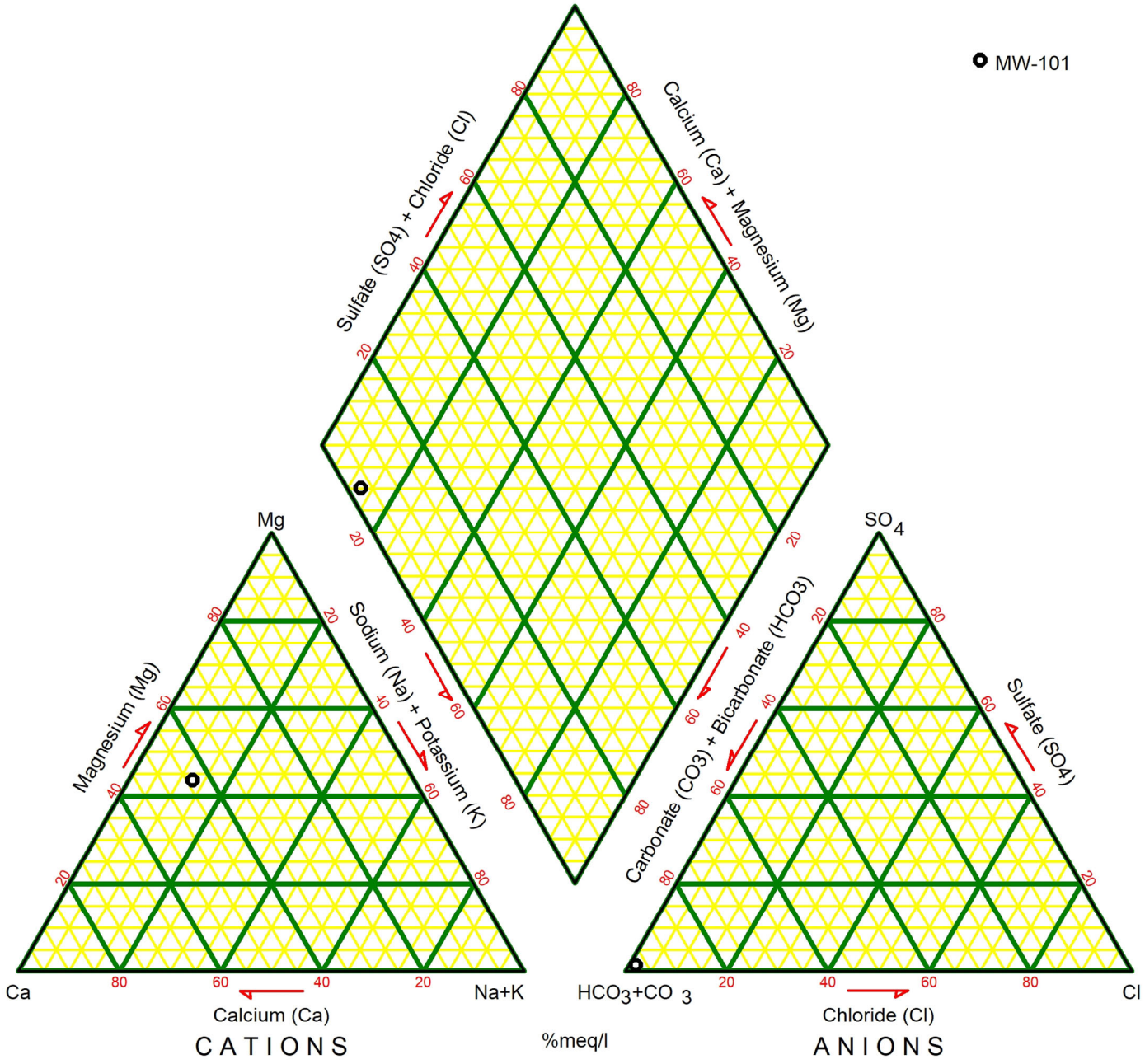


Table 8
Ion Balance Calculations
Cedar Hills Regional Landfill
Perched Zones Groundwater Monitoring Wells

Data Collected from January 1, 2019 to March 31, 2019

			East Perched Zone												SSWA		
		Site ID	MW-30A			MW-47			MW-62			SW-E1			MW-101		
		Date	1/11/19			1/11/19			1/11/19			1/30/19			1/11/19		
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			6.4			6.8			6.4			6.7			6.8		
Conductance			287			730			140			42			390		
TDSobs			210			705			107			45			298		
Calcium	40.1	2	21.9	1.09	39.1	147.0	7.34	50.7	13.0	0.65	46.3	4.3	0.213	52.8	55.0	2.74	43.9
Magnesium	24.3	2	11.9	0.98	35.1	72.0	5.92	40.9	3.2	0.27	19.0	0.9	0.078	19.3	32.0	2.63	42.2
Potassium	39.1	1	1.5	0.038	1.37	5.3	0.14	0.93	0.75	0.019	1.38	0.371	0.00949	2.35	2.7	0.070	1.1
Sodium	23.0	1	15.7	0.68	24.4	19.8	0.86	5.9	10.7	0.47	33.3	2.34	0.102	25.2	16.8	0.731	11.7
Iron	55.8	2	0.005	0.000179	0.0064	4.3	0.15	1.1	0.011	0.0004	0.029	0.025	0.001	0.2	0.7	0.026	0.4
Manganese	54.9	2	0.00005	1.82E-06	0.00007	1.8	0.06	0.4	0.0004	1.34E-05	0.0010	0.007	0.00024	0.06	1.2	0.042	0.68
Ammonia-N	14.0	1	0.0010	7.14E-05	0.0026	0.043	0.003	0.021	0.0010	7.14E-05	0.005	0.002	0.00016	0.04	0.008	0.000557	0.009
Total Cations (meq/L)				**2.79**			**14.48**			**1.40**			**0.40**			**6.25**	
Anions																	
Alkalinity, Total			66.9			642			43.9			13.4			248		
Carbonate	60.0	2	0.011	0.000361	0.013	0.27	0.008898	0.07	0.006	0.000216	0.016	0.0038	0.00013	0.03	0.098	0.0033	0.06
Bicarbonate	61.0	1	81.60	1.34	49.4	782.7	12.8	97.7	53.54	0.88	66.8	16.34	0.26783	74.5	302.36	4.95597	97.1
Chloride	35.5	1	1.0	0.029	1.1	5.8	0.2	1.24	2.90	0.082	6.23	1.73	0.0488	13.6	2.5	0.06967	1.4
Nitrate-N	14.0	1	17.0	1.21	44.8	0.005	0.000357	0.003	2.11	0.15	11.5	0.17	0.01221	3.4	0.1	0.004426	0.09
Sulfate	96.1	2	6.2	0.13	4.7	6.3	0.131	1.00	9.73	0.20	15.4	1.5	0.0304	8.5	3.3	0.068084	1.3
Total Anions (meq/L)				**2.71**			**13.13**			**1.31**			**0.36**			**5.10**	
Total Ions (meq/L)				**5.5**			**27.6**			**2.7**			**0.8**			**11.3**	
Cation/Anion Ratio				**1.03**			**1.10**			**1.07**			**1.12**			**1.22**	
Percent Difference				**1.5**			**4.9**			**3.2**			**5.8**			**10**	
Trilinear Diagram Data																	
sum (Ca, Mg, Na+K)				2.79			14.26			1.40			0.40			6.18	
Calcium					39.1			51.5			46.36			52.99			44.42
Magnesium					35.1			41.6			19.00			19.34			42.62
Sodium + Potassium					25.8			7.0			34.64			27.67			12.95
sum (SO_4, Cl, HCO_3+CO_3)				1.50			13.13			1.16			0.35			5.10	
Sulfate					8.6			1.0			17.4			8.8			1.3
Chloride					1.9			1.2			7.0			14.1			1.4
Bicarbonate + Carbonate					89.5			97.8			75.5			77.2			97.3

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

Data Collected from April 1, 2019 to June 30, 2019

		East Perched Zone									SSWA		
Site ID		**MW-30A**			**MW-47**			**MW-62**			**MW-101**		
Date		10/15/18			10/17/18			12/3/18			10/4/18		
Cations	Molecular Weight	mg/L	meq/L	%(meq)	mg/L	meq/L	%(meq)	mg/L	meq/L	%(meq)	mg/L	meq/L	%(meq)
pH		6.8			6.9			6.0			6.9		
Conductance		265			880			130			510		
TDSobs		213			705			114			286		
Calcium	40.1	26.3	1.31238	41.9	142.0	7.08583	51.0	12.7	0.63373	45.1	55.0	2.74451	43.4
Magnesium	24.3	15.4	1.26723	40.5	70.1	5.76836	41.5	3.6	0.29377	20.9	32.8	2.69903	42.7
Potassium	39.1	1.5	0.03888	1.2	5.7	0.14476	1.0	0.7	0.01898	1.4	2.7	0.06931	1.1
Sodium	23.0	11.7	0.50892	16.3	19.1	0.8308	6.0	10.5	0.45672	32.5	16.9	0.73511	11.6
Iron	55.8	0.0	0.00118	0.0	0.1	0.00201	0.0	0.0	0.00036	0.0	0.9	0.03076	0.5
Manganese	54.9	0.0	1.6E-05	0.0	1.6	0.05643	0.4	0.0	1.8E-05	0.0	1.3	0.04769	0.8
Ammonia-N	14.0	0.0	0.00014	0.0	0.1	0.00495	0.0	0.0	0.00014	0.0	0.0	0.00108	0.0
Total Cations (meq/L)			**3.1**			**13.9**			**1.4**			**6.3**	
Anions													
Alkalinity, Total		93.1			653			42			274		
Carbonate	60.0	0.03697	0.00123	0.0	0.33398	0.01113	0.1	0.00277	9.2E-05	0.0	0.14014	0.00467	0.1
Bicarbonate	61.0	113.51	1.86049	68.2	795.98	13.0469	97.8	51.23	0.83978	61.3	334.00	5.4745	97.0
Chloride	35.5	2.6	0.07362	2.7	5.6	0.15796	1.2	3.2	0.09139	6.7	2.8	0.07757	1.4
Nitrate-N	14.0	7.8	0.55472	20.3	0.0	0.00071	0.0	2.9	0.2099	15.3	0.0	0.00207	0.0
Sulfate	96.1	11.4	0.23736	8.7	5.8	0.12139	0.9	11.0	0.22903	16.7	4.1	0.08474	1.5
Total Anions (meq/L)			**2.7**			**13.3**			**1.4**			**5.6**	
Total Ions (meq/L)			**5.9**			**27.2**			**2.8**			**12.0**	
Cation/Anion Ratio			**1.15**			**1.04**			**1.02**			**1.12**	
Percent Difference			**6.9**			**2.0**			**1.2**			**6**	
TRILINEAR DIAGRAM DATA													
sum (Ca, Mg, Na+K)			3.13			13.83			1.40			6.25	
Calcium				42.0			51.2			45.16			43.93
Magnesium				40.5			41.7			20.94			43.20
Sodium + Potassium				17.5			7.1			33.90			12.87
										100.0			
sum (SO_4, Cl, HCO_3+CO_3)			2.17			13.34			1.16			5.64	
Sulfate				10.9			0.9			19.7			1.5
Chloride				3.4			1.2			7.9			1.4
Bicarbonate + Carbonate				85.7			97.9			72.4			97.1
				100.0			100.0			100.0			100.0

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

Data Collected from July 1, 2019 to September 30, 2019

			East Perched Zone						SSWA		
		Site ID	MW-30A			MW-47			MW-101		
		Date	7/22/19			7/22/19			7/23/19		
Cations	**Molecular Weight**	**n**	**mg/L**	**meq/L**	**%(meq)**	**mg/L**	**meq/L**	**%(meq)**	**mg/L**	**meq/L**	**%(meq)**
pH			6.3			6.9			7.1		
Conductance			283			1163			522		
TDSobs			216			703			323		
Calcium	40.1	2	22.2	1.11	39.3	140.0	6.99	51.0	51.6	2.57	43.0
Magnesium	24.3	2	12.5	1.03	36.5	69.5	5.72	41.7	30.7	2.53	42.2
Potassium	39.1	1	1.5	0.037	1.33	5.5	0.14	1.02	2.6	0.067	1.1
Sodium	23.0	1	14.8	0.64	22.8	18.4	0.80	5.8	17.1	0.744	12.4
Iron	55.8	2	0.010	0.0003581	0.0127	0.6	0.02	0.2	1.0	0.036	0.6
Manganese	54.9	2	0.00011	3.822E-06	0.00014	1.1	0.04	0.3	1.1	0.039	0.65
Ammonia-N	14.0	1	0.0020	0.0001428	0.0051	0.029	0.002	0.015	0.015	0.0010709	0.018
Total Cations (meq/L)				**2.82**			**13.71**			**5.99**	
Anions											
Alkalinity, Total			74.6			660			268		
Carbonate	60.0	2	0.010	0.0003197	0.011	0.31	0.0102629	0.08	0.189	0.0063	0.11
Bicarbonate	61.0	1	90.99	1.49	52.6	804.6	13.2	97.7	326.58	5.3528877	97.0
Chloride	35.5	1	1.1	0.030	1.0	5.5	0.2	1.14	2.6	0.0741827	1.3
Nitrate-N	14.0	1	16.6	1.19	41.8	0.010	0.0007139	0.005	0.0	0.0007139	0.01
Sulfate	96.1	2	6.2	0.13	4.5	6.9	0.143	1.06	4.0	0.083908	1.5
Total Anions (meq/L)				**2.83**			**13.50**			**5.52**	
Total Ions (meq/L)				**5.7**			**27.2**			**11.5**	
Cation/Anion Ratio				**0.99**			**1.02**			**1.09**	
Percent Difference				**-0.3**			**0.8**			**4**	
Trilinear Diagram Data											
sum (Ca, Mg, Na+K)				2.82			13.65			5.91	
Calcium					39.3			51.2			43.55
Magnesium					36.5			41.9			42.73
Sodium + Potassium					24.2			6.9			13.72
sum (SO_4, Cl, HCO_3+CO_3)				1.65			13.49			5.52	
Sulfate					7.8			1.1			1.5
Chloride					1.8			1.1			1.3
Bicarbonate + Carbonate					90.4			97.8			97.1

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

Data Collected from October 1, 2019 - December 31, 2019

			East Perched Zone									SSWA		
	Site ID		MW-30A			MW-47			MW-62			MW-101		
	Date		11/13/19			11/13/19			11/13/19			11/13/19		
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			6.2			6.7			7.0			7.3		
Conductance			246			1121			114			556		
TDSobs			183			670			100			329		
Calcium	40.1	2	20.8	1.04	39.2	146.0	7.29	50.6	13.1	0.65	45.4	58.0	2.89	43.5
Magnesium	24.3	2	11.6	0.95	36.1	71.2	5.86	40.7	3.5	0.29	20.0	35.1	2.89	43.4
Potassium	39.1	1	1.5	0.038	1.45	5.5	0.14	0.98	0.73	0.019	1.30	2.8	0.072	1.1
Sodium	23.0	1	14.1	0.61	23.2	20.2	0.88	6.1	11.0	0.48	33.2	17.4	0.757	11.4
Iron	55.8	2	0.010	0.0004	0.0135	4.5	0.16	1.1	0.010	0.0004	0.025	0.2	0.007	0.1
Manganese	54.9	2	0.00010	4E-06	0.00014	1.7	0.06	0.4	0.0004	1E-05	0.0009	1.0	0.036	0.54
Ammonia-N	14.0	1	0.0020	0.0001	0.0054	0.053	0.004	0.026	0.0020	0.0001	0.010	0.015	0.0011	0.016
Total Cations (meq/L)				**2.64**			**14.39**			**1.44**			**6.66**	
Anions														
Alkalinity, Total			70.6			647			38.6			301		
Carbonate	60.0	2	0.006	0.0002	0.009	0.19	0.0063	0.05	0.024	0.0008	0.058	0.386	0.0129	0.21
Bicarbonat	61.0	1	86.12	1.41	57.5	789.0	12.9	97.8	47.04	0.77	56.9	366.43	6.0062	97.1
Chloride	35.5	1	1.2	0.034	1.4	5.4	0.2	1.15	3.40	0.096	7.08	2.7	0.0767	1.2
Nitrate-N	14.0	1	12.2	0.87	35.5	0.014	0.001	0.008	3.56	0.25	18.8	0.0	0.0007	0.01
Sulfate	96.1	2	6.7	0.14	5.7	6.5	0.136	1.03	11.20	0.23	17.2	4.4	0.091	1.5
Total Anions (meq/L)				**2.46**			**13.23**			**1.36**			**6.19**	
Total Ions (meq/L)				**5.1**			**27.6**			**2.8**			**12.8**	
Cation/Anion Ratio				**1.08**			**1.09**			**1.06**			**1.08**	
Percent Difference				**3.7**			**4.2**			**3.0**			**4**	
Trilinear Diagram Data														
sum (Ca, Mg, Na+K)				2.64			14.16			1.44			6.61	
Calcium					39.3			51.4			45.43			43.77
Magnesium					36.1			41.4			20.02			43.68
Sodium + Potassium					24.6			7.2			34.55			12.54
sum (SO_4, Cl, HCO_3+CO_3)				1.59			13.23			1.10			6.19	
Sulfate					8.8			1.0			21.2			1.5
Chloride					2.2			1.1			8.7			1.2
Bicarbonate + Carbonate					89.0			97.8			70.1			97.3

PART 7

Field and Analytical Data for 2019

- **Groundwater**
- **Surface Water and Stormwater**
- **Leachate**

This Page is Intentionally Left Blank

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 1, 2019 to March 31, 2019
Cedar Hills Landfill --- Groundwater Elevation Data
Contact Person: Sendy Jimenez (206) 477-5224

Site	Date	Reference Elevation (msl)	Depth to Water (feet)	Ground-Water Elevation (msl)	Comment
EW-25	1/7/2019	643.61			
MW-100	1/7/2019	620.32	297.59	322.73	
MW-101	1/7/2019	474.72	31.45	443.27	
MW-102	1/7/2019	552.48	44.04	508.44	
MW-103	1/7/2019	639.08	11.68	627.4	
MW-104	1/7/2019	629.68	28.06	601.62	
MW-105	1/7/2019	521.23	19.19	502.04	
MW-106	1/7/2019	475.47	190.56	284.91	
MW-21	1/7/2019	420.66	125.21	295.45	
MW-22	1/7/2019	517.09	232.18	284.91	
MW-24	1/7/2019	475.99	145.2	330.79	
MW-25	1/7/2019	474.41	5.34	469.07	Water in annulus.
MW-27A	1/7/2019	584.23	54.78	529.45	Water in annulus.
MW-28	1/7/2019	527.75	21.31	506.44	
MW-29	1/7/2019	532.92	8.87	524.05	
MW-30A	1/7/2019	568.43	29.45	538.98	Water in annulus.
MW-41D	1/7/2019	462.32	25.36	436.96	Runoff creating channel in the road.
MW-41S	1/7/2019	462.44	4.21	458.23	
MW-43	1/7/2019	547.06	263.44	283.62	
MW-45	1/7/2019	488.4	13.26	475.14	Needs plug.
MW-47	1/7/2019	634.6	16.99	617.61	
MW-48	1/7/2019	594.49	42.51	551.98	
MW-50	1/7/2019	637.02	29.73	607.29	
MW-54	1/7/2019	580.43	278.28	302.15	
MW-55	1/7/2019	652.29	28.77	623.52	
MW-56	1/7/2019	480.33	127.63	352.7	
MW-57	1/7/2019	456.64	102.1	354.54	Water in annulus
MW-58A	1/7/2019	479.27	149.08	330.19	Needs plug
MW-59	1/7/2019	457.13	123.85	333.28	Water in annulus. Earwigs present.
MW-60	1/7/2019	567.15	228.35	338.80	
MW-62	1/7/2019	556.21	49.59	506.62	
MW-63	1/7/2019	515.88	9.11	506.77	
MW-64	1/7/2019	596.55	265.65	330.9	
MW-65	1/7/2019	545.83	209.1	336.73	
MW-66	1/7/2019	531.28	238.99	292.29	

Environmental Monitoring Data

Data Collected from January 1, 2019 to March 31, 2019
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-67	1/7/2019	516.43	220.27	296.16	
MW-68	1/7/2019	647.07	331.65	315.42	
MW-69	1/7/2019	653.69	355.83	297.86	
MW-72	1/7/2019	671.87	360.79	311.08	
MW-73	1/7/2019	485.7	191.74	293.96	
MW-74	1/7/2019	531.26	240.3	290.96	
MW-75	1/7/2019	532.4	245.52	286.88	
MW-76	1/7/2019	491.71	135.02	356.69	Road rutting
MW-79	1/7/2019	459.17			Needs to be fixed
MW-80	1/7/2019	530.41	238.97	291.44	
MW-81	1/7/2019	493.66	183.73	309.93	
MW-82	1/7/2019	474.85	125.13	349.72	
MW-83	1/7/2019	496.81	145.54	351.27	
MW-84	1/7/2019	530.8	236.29	294.51	
MW-85	1/7/2019	531.76	246.32	285.44	Insects in annulus.
MW-86	1/7/2019	536.04	249.93	286.11	
MW-87	1/7/2019	537.31	248.15	289.16	
MW-88	1/7/2019	513.68	227.49	286.19	
MW-89	1/7/2019	512.82	232.05	280.77	
MW-90	1/7/2019	502.22	221.61	280.61	
MW-91	1/7/2019	532.02	246.78	285.24	
MW-93	1/7/2019	632.15	308	324.15	
MW-94	1/7/2019	495.51	142.66	352.85	
MW-95	1/7/2019	571.54	251.02	320.52	
MW-98	1/7/2019	503.73	14.09	489.64	Insects in annulus.
MW-99	1/7/2019	493.64	200.21	293.43	
MW-EB5	1/7/2019	645.36	36.53	608.83	
MW-EB5S	1/7/2019	645.77	7.45	638.32	
MW-EB6	1/7/2019	589.61	25.73	563.88	
WS-NPW-1	1/7/2019	646.33	332.33	314	
WS-NPW-3	1/7/2019	645.81	330.56	315.25	

Environmental Monitoring Data

Data Collected from Janurary 1, 2019 to March 31, 2019
Cedar Hills Landfill --- Groundwater Field Parameters
Contact Person: Sendy Jimenez (206) 477-5224

Site	Date	Sample ID	pH (Field) (std. Units)	Conductance (Field) (umhos/cm)	Temperature (^{o}C)	Purge Volume (gal)	Dissolved Oxygen (mg/L)	ORP mV	Turbidity NTU
MW-101	1/11/2019	W101190111-	6.82	390	10.2	2.5			2.27
MW-30A	1/11/2019	W30A190111-	6.43	286.7	11.1	0.75	9.85	294.2	1.41
MW-47	1/11/2019	W47-190111-	6.84	730	11.5	22			0.45
MW-59	1/8/2019	W59-190108-	6.62	207.7	9.48	5	0.7	-35.3	5.73
MW-62	1/11/2019	W62-190111-	6.39	140	9.7	3			2.65
MW-66	1/8/2019	W66-190108-	7.16	218.6	9.71	2.8	5.29	239.9	0.45
MW-68	1/9/2019	W68-190110-	6.94	282.4	10.07	4	0.76	11.5	3.39
MW-69	1/10/2019	W69-190110-	7.5	326.8	9.39	5.25	0.8	-78.5	1.18
MW-72	1/8/2019	W72-190108-	6.91	356.6	9.97	5	1.4	20.4	54.9
MW-74	1/10/2019	W74R190110-	6.93	520	9.84	3.2	4.79	213.5	7.54
MW-75	1/9/2019	W75-190109-	7.07	371.1	9.52	4	0.78	-23.7	0.56
MW-80	1/10/2019	W80-190110-	6.74	311.1	9.62	5	0.74	-47.4	0.45
MW-80	1/10/2019	W80-190110D	6.93	520	9.84	3.2	4.79	213.5	7.54
MW-81	1/9/2019	W81-190109-	7.25	160	9.69	3.25	5.62	277.1	0.25
MW-83	1/9/2019	W83-190109-	6.55	651	10.45	4.2	0.68	258.1	0.31
MW-84	1/8/2019	W84-190108-	6.88	202.6	9.43	3.5	1.61	290.7	0.5
MW-85	1/9/2019	W85-190109-	7.03	356.1	9.3	3.5	3.04	258.7	0.36
MW-87	1/9/2019	W87-190109-	6.87	534.6	10.42	3.25	0.75	-14.2	3.05
MW-93	1/10/2019	W93-190110-	7.2	318.5	10.83	5	0.99	253.7	0.45
MW-94	1/9/2019	W94-190109-	6.39	276.4	9.42	2.2	3.44	247.1	0.81
FIELD BLANK	1/11/2019	W30A190111F	9.52	2.1	13.6				

Environmental Monitoring Data

Data Collected from Janurary 1, 2019 to March 31, 2019
Cedar Hills Landfill --Groundwater Conventionals Analytical Data
Contact Person: Sendy Jimenez (206) 477-5224

Site	Date	Sample ID	Alkalinity, Total ($CaCO_3$) (mg/L)	Ammonia, (NH_3) (mg/L)	Chloride (mg/L)	Nitrate-Nitrogen, (NO_3 as N) (mg/L)	Specific Conductance (umhos/cm)	Sulfate (SO4) (mg/L)	Total Dissolved Solids (mg/L)	Total Organic Carbon (mg/L)	Total Solids (mg/L)	Suspended Solids (mg/L)
MW-30A	1/11/2019	W30A190111-	66.9	0.002 U	1.03	17	267	6.16	210	0.63 T	222	0.5 T
MW-47	1/11/2019	W47-190111-	642	0.0425	5.78	0.01 U	1110	6.28	705	3.94	723	8.6
MW-59	1/8/2019	W59-190108-	67.6	0.0062 T	8.92	0.014 T	186	15	125	0.89 T	134	3.5
MW-62	1/11/2019	W62-190111-	43.9	0.002 U	2.9	2.11	134	9.73	107 H	0.82 T	105	0.5 U
MW-66	1/8/2019	W66-190108-	87.9	0.002 U	4.32	0.417	210	13.2	132	0.5 U	133	0.7 T
MW-68	1/10/2019	W68-190110-	125	0.0177	2.89	0.01 U	273	14.8	164	0.5 U	171	2.6
MW-69	1/10/2019	W69-190110-	137	0.0165	3.73	0.01 U	306	23.7	196	0.5 U	201	1.5
MW-72	1/8/2019	W72-190108-	129	0.0157	6.38	0.01 U	331	38.7	216	0.5 U	245	19.4
MW-74	1/10/2019	W74R190110-	211	0.002 U	22	0.336	512	30.7	302	0.6 T	310	1.12
MW-75	1/9/2019	W75-190109-	108	0.0092 T	10.3	0.01 U	347	58.1	238	0.5 U	247	2.8
MW-80	1/10/2019	W80-190110-	114	0.0206	4.49	0.01 U	304	33.7	191	0.5 U	199	3.1
MW-80	1/10/2019	W80-190110D	114	0.0228	4.47	0.01 U	299	33.5	193	0.5 U	199	2.9
MW-81	1/9/2019	W81-190109-	54.5	0.002 U	5.01	1.51	154	9.58	106	0.5 U	107	1 U
MW-83	1/9/2019	W83-190109-	204	0.0028 T	69.3	2.7	604	11.4	400	9.33	429	0.5 U
MW-84	1/8/2019	W84-190108-	77.6	0.002 U	4.13	0.145	192	15.8	124	0.5 U	129	0.5 U
MW-85	1/9/2019	W85-190109-	132	0.002 U	10.8	0.111	342	33.2	213	0.5 U	218	0.5 U
MW-87	1/9/2019	W87-190109-	104	0.0182	12.4	0.01 U	494	138	372	0.5 U	391	3.5
MW-93	1/10/2019	W93-190110-	122	0.0531	2.82	0.014 T	307	35	201	0.5 U	205	0.5 U
MW-94	1/9/2019	W94-190109-	94.5	0.002 U	17.9	1.48	267	7.74	170	2.36	179	0.5 U
MW-101	1/11/2019	W101190111-	248	0.0078 T	2.47	0.062	442	3.27	298	4.19	311	1.8
FIELD BLANK	1/11/2019	W30A190111F	1 U	0.002 U	0.05 U	0.01 U	1.4 T	0.1 U	10 U	0.5 U	10 U	0.5 U

Environmental Monitoring Data

Data Collected from Janurary 1, 2019 to March 31, 2019
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)
MW-30A	1/11/2019	W30A190111-	0.0003 U	0.0003 U	0.00055	0.000602	0.00363	0.00359	0.0001 U	0.0001 U	5E-05 U	5E-05 U
MW-47	1/11/2019	W47-190111-	0.0003 U	0.0003 U	0.00242	0.00242	0.0415	0.042	0.0001 U	0.0001 U	5E-05 U	5E-05 U
MW-59	1/8/2019	W59-190108-	0.0003 U	0.0003 U	0.000408	0.000567	0.00399	0.00452	0.0001 U	0.0001 U	5E-05 U	5E-05 U
MW-62	1/11/2019	W62-190111-	0.0003 U	0.0003 U	0.000175	0.000206	0.00156	0.00206	0.0001 U	0.0001 U	5E-05 U	5E-05 U
MW-66	1/8/2019	W66-190108-	0.0003 U	0.0003 U	0.000675	0.00069	0.00424	0.00443	0.0001 U	0.0001 U	5E-05 U	5E-05 U
MW-68	1/10/2019	W68-190110-	0.0003 U	0.0003 U	0.00969	0.0243	0.0103	0.011	0.0001 U	0.0001 U	5E-05 U	5E-05 U
MW-69	1/10/2019	W69-190110-	0.0003 U	0.0003 U	0.00218	0.00232	0.0116	0.0123	0.0001 U	0.0001 U	5E-05 U	5E-05 U
MW-72	1/8/2019	W72-190108-	0.0003 U	0.0003 U	7.22E-05	0.000277	0.0114	0.0163	0.0001 U	0.0001 U	5E-05 U	5E-05 U
MW-74	1/10/2019	W74R190110-	0.0003 U	0.0003 U	0.000369	0.00145	0.0113	0.0132	0.0001 U	0.0001 U	5E-05 U	5E-05 U
MW-75	1/9/2019	W75-190109-	0.0003 U	0.0003 U	0.000488	0.000464	0.0118	0.0125	0.0001 U	0.0001 U	5E-05 U	5E-05 U
MW-80	1/10/2019	W80-190110-	0.0003 U	0.0003 U	0.00359	0.0037	0.0137	0.0137	0.0001 U	0.0001 U	5E-05 U	5E-05 U
MW-80	1/10/2019	W80-190110D	0.0003 U	0.0003 U	0.00359	0.00367	0.0136	0.0137	0.0001 U	0.0001 U	5E-05 U	5E-05 U
MW-81	1/9/2019	W81-190109-	0.0003 U	0.0003 U	0.000496	0.000531	0.00296	0.00308	0.0001 U	0.0001 U	5E-05 U	5E-05 U
MW-83	1/9/2019	W83-190109-	0.0003 U	0.0003 U	0.000408	0.000421	0.0105	0.0109	0.0001 U	0.0001 U	5E-05 U	5E-05 U
MW-84	1/8/2019	W84-190108-	0.0003 U	0.0003 U	0.000321	0.000326	0.00456	0.00494	0.0001 U	0.0001 U	5E-05 U	5E-05 U
MW-85	1/9/2019	W85-190109-	0.0003 U	0.0003 U	0.000699	0.000727	0.00634	0.00684	0.0001 U	0.0001 U	5E-05 U	5E-05 U
MW-87	1/9/2019	W87-190109-	0.0003 U	0.0003 U	0.000478	0.000915	0.0245	0.0256	0.0001 U	0.0001 U	5E-05 U	5E-05 U
MW-93	1/10/2019	W93-190110-	0.0003 U	0.0003 U	0.00131	0.00132	0.00711	0.0076	0.0001 U	0.0001 U	5E-05 U	5E-05 U
MW-94	1/9/2019	W94-190109-	0.0003 U	0.0003 U	0.000122	0.000143	0.00216	0.00216	0.0001 U	0.0001 U	5E-05 U	5E-05 U
MW-101	1/11/2019	W101190111-	0.0003 U	0.0003 U	0.0112	0.00749	0.018	0.0174	0.0001 U	0.0001 U	5E-05 U	5E-05 U
FIELD BLANK	1/11/2019	W30A190111F	0.0003 U	0.0003 U	5E-05 U	5E-05 U	0.0005 U	0.0005 U	0.0001 U	0.0001 U	5E-05 U	5E-05 U

Environmental Monitoring Data

Data Collected from Janurary 1, 2019 to March 31, 2019
Cedar Hills Landfill -- Groundwater Metals Analytical Data
Contact Person: Sendy Jimenez (206) 477-5224

Site	Date	Sample ID	Calcium, dissolved (mg/L)	Calcium, total (mg/L)	Chromium, dissolved (mg/L)	Chromium total (mg/L)	Cobalt, dissolved (mg/L)	Cobalt, total (mg/L)	Copper, dissolved (mg/L)	Copper, total (mg/L)	Iron, dissolved (mg/L)	Iron, total (mg/L)
MW-30A	1/11/2019	W30A190111-	21.9	21.3	0.00066	0.000759	5E-05 U	5E-05 U	0.0002 U	0.000473	0.01 U	0.0742
MW-47	1/11/2019	W47-190111-	147	143	0.0002 U	0.0002 U	0.000397	0.000386	0.0002 U	0.0002 U	4.28	4.34
MW-59	1/8/2019	W59-190108-	17.5	17	0.0002 U	0.0002 U	5E-05 U	5E-05 U	0.0002 U	0.000581	4.28	4.92
MW-62	1/11/2019	W62-190111-	13	12.5	0.000206	0.000373	6.22E-05	9.8E-05	0.000232	0.000495	0.0114	0.131
MW-66	1/8/2019	W66-190108-	17.4	17	0.0002 U	0.0002	5E-05 U	5E-05 U	0.0002 U	0.0002 U	0.01 U	0.0304
MW-68	1/10/2019	W68-190110-	27.5	26.8	0.0002 U	0.000302	0.000209	0.000221	0.0002 U	0.00111	0.621	0.98
MW-69	1/10/2019	W69-190110-	34.3	34	0.0002 U	0.000203	5E-05 U	5E-05 U	0.0002 U	0.0002 U	1.11	1.18
MW-72	1/8/2019	W72-190108-	33.5	33.1	0.0002 U	0.00153	5E-05 U	5E-05 U	0.0002 U	0.000664	2.85	9.9
MW-74	1/10/2019	W74R190110-	45.6	44.8	0.0002 U	0.000242	5E-05 U	5E-05 U	0.000216	0.000488	0.01 U	0.725
MW-75	1/9/2019	W75-190109-	31.8	31.3	0.0002 U	0.0002 U	5E-05 U	5E-05 U	0.0002 U	0.001	2.39	2.25
MW-80	1/10/2019	W80-190110-	31	30.6	0.0002 U	0.000292	5E-05 U	5E-05 U	0.0002 U	0.0002 U	2.1	2.17
MW-80	1/10/2019	W80-190110D	31	30.3	0.000468 J	0.000408	5E-05 U	5E-05 U	0.0002 U	0.0002 U	2.12	2.15
MW-81	1/9/2019	W81-190109-	13.8	13.8	0.0002 U	0.0002 U	5E-05 U	5E-05 U	0.0002 U	0.000574	0.01 U	0.01 U
MW-83	1/9/2019	W83-190109-	72	71.1	0.0002 U	0.0002 U	0.000345	0.000351	0.00505	0.00545	0.01 U	0.01 U
MW-84	1/8/2019	W84-190108-	16.3	16	0.0002 U	0.0002 U	5E-05 U	5E-05 U	0.0002 U	0.0002 U	0.01 U	0.01 U
MW-85	1/9/2019	W85-190109-	33.2	33	0.0002 U	0.0002 U	5E-05 U	5E-05 U	0.0002 U	0.0002 U	0.01 U	0.0205
MW-87	1/9/2019	W87-190109-	47.4	47.9	0.0002 U	0.0002 U	0.000129	0.000129	0.0002 U	0.0002 U	4.83	5.18
MW-93	1/10/2019	W93-190110-	31.4	31.3	0.0002 U	0.0002 U	7.69E-05	8.32E-05	0.0002 U	0.000228	0.01 U	0.0127
MW-94	1/9/2019	W94-190109-	28.2	27.6	0.0002 U	0.000375	8.28E-05	0.0001	0.000974	0.0011	0.01 U	0.0378
MW-101	1/11/2019	W101190111-	55	49.3	0.0002 U	0.000556	0.000212	0.00027	0.0002 U	0.000663	0.727	1
FIELD BLANK	1/11/2019	W30A190111F	0.05 U	0.05 U	0.0002 U	0.0002 U	5E-05 U	5E-05 U	0.0002 U	0.000625	0.01 U	0.01 U

Environmental Monitoring Data

Data Collected from Janurary 1, 2019 to March 31, 2019
Cedar Hills Landfill -- Groundwater Metals Analytical Data
Contact Person: Sendy Jimenez (206) 477-5224

Site	Date	Sample ID	Lead, dissolved (mg/L)	Lead, total (mg/L)	Magnesium, dissolved (mg/L)	Magnesium, total (mg/L)	Manganese, dissolved (mg/L)	Manganese, total (mg/L)	Mercury, dissolved (mg/L)	Mercury, total (mg/L)
MW-30A	1/11/2019	W30A190111-	0.0001 U	0.0001 U	11.9	11.8	0.0001 U	0.00129	5E-05 U	5E-05 U
MW-47	1/11/2019	W47-190111-	0.0001 U	0.0001 U	72	70.8	1.78 D	1.73	5E-05 U	5E-05 U
MW-59	1/8/2019	W59-190108-	0.0001 U	0.000101	10.4	10.3	0.136	0.142	5E-05 U	5E-05 U
MW-62	1/11/2019	W62-190111-	0.0001 U	0.0001 U	3.23	3.29	0.000369	0.00324	5E-05 U	5E-05 U
MW-66	1/8/2019	W66-190108-	0.0001 U	0.0001 U	13.1	13.3	0.0001 U	0.000655	5E-05 U	5E-05 U
MW-68	1/10/2019	W68-190110-	0.0001 U	0.0001 U	15.2	15	0.307	0.306	5E-05 U	5E-05 U
MW-69	1/10/2019	W69-190110-	0.0001 U	0.0001 U	16.1	16.4	0.265	0.274	5E-05 U	5E-05 U
MW-72	1/8/2019	W72-190108-	0.0001 U	0.000173	19.7	20	0.381	0.51	5E-05 U	5E-05 U
MW-74	1/10/2019	W74R190110-	0.0001 U	0.0001 U	35	34.2	0.0001 U	0.0119	5E-05 U	5E-05 U
MW-75	1/9/2019	W75-190109-	0.0001 U	0.0001 U	22.8	22.8	0.207	0.187	5E-05 U	5E-05 U
MW-80	1/10/2019	W80-190110-	0.0001 U	0.0001 U	15.8	16	0.335	0.332	5E-05 U	5E-05 U
MW-80	1/10/2019	W80-190110D	0.0001 U	0.0001 U	15.9	15.7	0.338	0.331	5E-05 U	5E-05 U
MW-81	1/9/2019	W81-190109-	0.0001 U	0.0001 U	7.29	7.59	0.0001 U	0.0001 U	5E-05 U	5E-05 U
MW-83	1/9/2019	W83-190109-	0.0001 U	0.0001 U	29.8	29.2	0.000811	0.0264	5E-05 U	5E-05 U
MW-84	1/8/2019	W84-190108-	0.0001 U	0.0001 U	11.8	11.9	0.000709	0.00061	5E-05 U	5E-05 U
MW-85	1/9/2019	W85-190109-	0.0001 U	0.0001 U	20.5	20.6	0.0001 U	0.000485	5E-05 U	5E-05 U
MW-87	1/9/2019	W87-190109-	0.0001 U	0.0001 U	31.5	32	0.548 D	0.543	5E-05 U	5E-05 U
MW-93	1/10/2019	W93-190110-	0.0001 U	0.0001 U	16.4	16.6	0.201	0.201	5E-05 U	5E-05 U
MW-94	1/9/2019	W94-190109-	0.0001 U	0.0001 U	12.6	12.6	0.000289	0.00132	5E-05 U	5E-05 U
MW-101	1/11/2019	W101190111-	0.0001 U	0.000181	32	29.2	1.16 D	0.802	5E-05 U	5E-05 U
FIELD BLANK	1/11/2019	W30A190111F	0.0001 U	0.0001 U	0.05 U	0.05 U	0.0001 U	0.0001 U	5E-05 U	5E-05 U

Environmental Monitoring Data

Data Collected from Janurary 1, 2019 to March 31, 2019
Cedar Hills Landfill -- Groundwater Metals Analytical Data
Contact Person: Sendy Jimenez (206) 477-5224

Site	Date	Sample ID	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)
MW-30A	1/11/2019	W30A190111-	0.000633	0.000724	1.5	1.51	0.0005 U	0.0005 U	4E-05 U	4E-05 U
MW-47	1/11/2019	W47-190111-	0.00228	0.0023	5.28	5.11	0.0005 U	0.0005 U	4E-05 U	4E-05 U
MW-59	1/8/2019	W59-190108-	0.000124	0.000226	1.15	1.17	0.0005 U	0.0005 U	4E-05 U	4E-05 U
MW-62	1/11/2019	W62-190111-	0.000314	0.000477	0.754	0.757	0.0005 U	0.0005 U	4E-05 U	4E-05 U
MW-66	1/8/2019	W66-190108-	0.000186	0.000211	1.16	1.17	0.00104	0.000993	4E-05 U	4E-05 U
MW-68	1/10/2019	W68-190110-	0.000511	0.000623	1.71	1.68	0.0005 U	0.0005 U	4E-05 U	4E-05 U
MW-69	1/10/2019	W69-190110-	0.000136	0.000161	1.77	1.8	0.0005 U	0.0005 U	4E-05 U	4E-05 U
MW-72	1/8/2019	W72-190108-	0.000223	0.000363	1.97	1.99	0.0005 U	0.0005 U	4E-05 U	4E-05 U
MW-74	1/10/2019	W74R190110-	0.000863	0.00102	2.14	2.1	0.000698	0.000639	4E-05 U	4E-05 U
MW-75	1/9/2019	W75-190109-	0.0001 U	0.0001 U	2	1.99	0.0005 U	0.0005 U	4E-05 U	4E-05 U
MW-80	1/10/2019	W80-190110-	0.000176	0.000233	1.7	1.7	0.0005 U	0.0005 U	4E-05 U	4E-05 U
MW-80	1/10/2019	W80-190110D	0.000401 J	0.000261	1.71	1.67	0.0005 U	0.0005 U	4E-05 U	4E-05 U
MW-81	1/9/2019	W81-190109-	0.000105	0.000122	0.835	0.859	0.000878	0.000857	4E-05 U	4E-05 U
MW-83	1/9/2019	W83-190109-	0.00227	0.00249	3.87	3.82	0.0005 U	0.0005 U	4E-05 U	4E-05 U
MW-84	1/8/2019	W84-190108-	0.000275	0.000291	1.18	1.19	0.000887	0.000986	4E-05 U	4E-05 U
MW-85	1/9/2019	W85-190109-	0.000171	0.00029	1.67	1.68	0.00103	0.000943	4E-05 U	4E-05 U
MW-87	1/9/2019	W87-190109-	0.000139	0.000137	2.42	2.45	0.0005 U	0.0005 U	4E-05 U	4E-05 U
MW-93	1/10/2019	W93-190110-	0.000192	0.00024	1.53	1.55	0.0005 U	0.0005 U	4E-05 U	4E-05 U
MW-94	1/9/2019	W94-190109-	0.000505	0.000527	2.17	2.2	0.0005 U	0.0005 U	4E-05 U	4E-05 U
MW-101	1/11/2019	W101190111-	0.00314	0.00382	2.72	2.61	0.0005 U	0.0005 U	4E-05 U	4E-05 U
FIELD BLANK	1/11/2019	W30A190111F	0.0001 U	0.0001 U	0.1 U	0.1 U	0.0005 U	0.0005 U	4E-05 U	4E-05 U

Environmental Monitoring Data

Data Collected from Janurary 1, 2019 to March 31, 2019
Cedar Hills Landfill -- Groundwater Metals Analytical Data
Contact Person: Sendy Jimenez (206) 477-5224

Site	Date	Sample ID	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-30A	1/11/2019	W30A190111-	15.7	15.7	0.0001 U	0.0001 U	0.00227	0.00247	0.000868	0.00132
MW-47	1/11/2019	W47-190111-	19.8	19	0.0001 U	0.0001 U	0.000194	0.000236	0.000719	0.0005 U
MW-59	1/8/2019	W59-190108-	6.24	6.26	0.0001 U	0.0001 U	7.5E-05 U	0.000115	0.00114	0.00235
MW-62	1/11/2019	W62-190111-	10.7	10.4	0.0001 U	0.0001 U	0.0007	0.000898	0.0005 U	0.000893
MW-66	1/8/2019	W66-190108-	7.37	7.45	0.0001 U	0.0001 U	0.000713	0.000815	0.0005 U	0.00104
MW-68	1/10/2019	W68-190110-	9.06	8.77	0.0001 U	0.0001 U	0.000255	0.000624	0.0005 U	0.000901
MW-69	1/10/2019	W69-190110-	8.67	8.67	0.0001 U	0.0001 U	0.000133	0.000244	0.0005 U	0.000651
MW-72	1/8/2019	W72-190108-	8.24	8.24	0.0001 U	0.0001 U	7.5E-05 U	0.000165	0.00117	0.00517
MW-74	1/10/2019	W74R190110-	12.6	12.4	0.0001 U	0.0001 U	0.000596	0.00112	0.0005 U	0.000889
MW-75	1/9/2019	W75-190109-	9.21	9.17	0.0001 U	0.0001 U	7.5E-05 U	7.5E-05 U	0.0005 U	0.000714
MW-80	1/10/2019	W80-190110-	7.93	7.93	0.0001 U	0.0001 U	8.26E-05	0.00016	0.0005 U	0.0005 U
MW-80	1/10/2019	W80-190110D	8.1	7.94	0.0001 U	0.0001 U	8.32E-05	0.000132	0.0005 U	0.0005 U
MW-81	1/9/2019	W81-190109-	6.31	6.51	0.0001 U	0.0001 U	0.00163	0.00171	0.000514	0.000556
MW-83	1/9/2019	W83-190109-	15.7	15.2	0.0001 U	0.0001 U	0.000905	0.000991	0.000524	0.000652
MW-84	1/8/2019	W84-190108-	6.97	6.94	0.0001 U	0.0001 U	0.000491	0.000518	0.0005 U	0.0005 U
MW-85	1/9/2019	W85-190109-	9.77	9.63	0.0001 U	0.0001 U	0.000958	0.00105	0.0005 U	0.000533
MW-87	1/9/2019	W87-190109-	10.6	10.7	0.0001 U	0.0001 U	7.5E-05 U	0.000149	0.0005 U	0.0005 U
MW-93	1/10/2019	W93-190110-	9.45	9.47	0.0001 U	0.0001 U	0.00203	0.00217	0.00129	0.00236
MW-94	1/9/2019	W94-190109-	7.46	7.39	0.0001 U	0.0001 U	0.00105	0.00119	0.0005 U	0.0005 U
MW-101	1/11/2019	W101190111-	16.8	18	0.0001 U	0.0001 U	0.00018	0.000553	0.000535	0.0017
FIELD BLANK	1/11/2019	W30A190111F	0.1 U	0.1 U	0.0001 U	0.0001 U	7.5E-05 U	7.5E-05 U	0.0005 JU	0.0005 U

Environmental Monitoring Data

Data Collected from January 1, 2019 to March 31, 2019
Cedar Hills Landfill --- Groundwater VOAs Analytical Data
Contact Person: Sendy Jimenez (206) 477-5224

Site	Date	Sample ID	1,1,1,2-Tetrachloroethane ug/l 630-20-6	1,1,1-Trichloroethane ug/l 71-55-6	1,1,2,2-Tetrachloroethane ug/l 79-34-5	1,1,2-Trichloroethane ug/l 79-00-5	1,1-Dichloroethane ug/l 75-34-3	1,1-Dichloroethene ug/l 75-35-4	1,2,3-Trichloropropane ug/l 96-18-4	1,2-Dibromo-3-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-30A	1/11/2019	W30A190111-	0.25 U	0.1 U	0.1 U	0.1 U	1.34	0.1 U	0.1 U	2.5 U	0.1 U	0.1 U	0.1 U
MW-47	1/11/2019	W47-190111-	0.25 U	0.1 U	0.1 U	0.1 U	0.638	0.1 U	0.1 U	2.5 U	0.1 U	0.1 U	0.114 JT
MW-59	1/8/2019	W59-190108-	0.25 U	0.1 U	0.1 U	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	1/11/2019	W62-190111-	0.25 U	0.1 U	0.1 U	0.1 U	0.5	0.1 U	0.1 U	2.5 U	0.1 U	0.1 U	0.1 U
MW-66	1/8/2019	W66-190108-	0.25 U	0.1 U	0.1 U	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	1/10/2019	W68-190110-	0.25 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	2.5 U	0.1 U	0.1 U	0.1 U
MW-69	1/10/2019	W69-190110-	0.25 U	0.1 U	0.1 U	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	1/8/2019	W72-190108-	0.25 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	2.5 U	0.1 U	0.1 U	0.1 U
MW-74	1/10/2019	W74R190110-	0.25 U	0.1 U	0.1 U	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	1/9/2019	W75-190109-	0.25 U	0.1 U	0.1 U	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	1/10/2019	W80-190110-	0.25 U	0.1 U	0.1 U	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	1/10/2019	W80-190110D	0.25 U	0.1 U	0.1 U	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	1/9/2019	W81-190109-	0.25 U	0.1 U	0.1 U	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	1/9/2019	W83-190109-	0.25 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	2.5 U	0.1 U	0.1 U	0.1 U
MW-84	1/8/2019	W84-190108-	0.25 U	0.1 U	0.1 U	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	1/9/2019	W85-190109-	0.25 U	0.1 U	0.1 U	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	1/9/2019	W87-190109-	0.25 U	0.1 U	0.1 U	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	1/10/2019	W93-190110-	0.25 U	0.1 U	0.1 U	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	1/9/2019	W94-190109-	0.25 U	0.1 U	0.1 U	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	1/11/2019	W101190111-	0.25 U	0.1 U	0.1 U	0.1 U	0.123 JT	0.1 U	0.1 U	2.5 U	0.1 U	0.1 U	0.127 JT
FIELD BLANK	1/11/2019	W30A190111F	0.25 U	0.1 U	0.1 U	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	1/7/2019	VTRP190108X	0.25 U	0.1 U	0.1 U	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	1/7/2019	VTRP190108Y	0.25 U	0.1 U	0.1 U	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	1/8/2019	VTRP190109X	0.25 U	0.1 U	0.1 U	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	1/8/2019	VTRP190109Y	0.25 U	0.1 U	0.1 U	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	1/9/2019	VTRP190110X	0.25 U	0.1 U	0.1 U	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	1/9/2019	VTRP190110Y	0.25 U	0.1 U	0.1 U	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	1/10/2019	VTRP190111X	0.25 U	0.1 U	0.1 U	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	1/10/2019	VTRP190111Y	0.25 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	2.5 U	0.1 U	0.1 U	0.1 U

Data Collected from January 1, 2019 to March 31, 2019
Cedar Hills Landfill --- Groundwater VOAs Analytical Data
Contact Person: Sendy Jimenez (206) 477-5224

Site	Date	Sample ID	1,2-Dichloropropane ug/l 78-87-5	1,4-Dichlorobenzene ug/l 106-46-7	2-Butanone ug/l 78-93-3	2-Hexanone ug/l 591-78-6	4-Methyl-2-Pentanone ug/l 108-10-1	Acetone ug/l 67-64-1	Acrylonitrile ug/l 107-13-1	Benzene ug/l 71-43-2	Bromochloromethane ug/l 74-97-5	Bromochloromethane ug/l 75-27-4	Bromoform ug/l 75-25-2
MW-30A	1/11/2019	W30A190111-	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-47	1/11/2019	W47-190111-	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	1/8/2019	W59-190108-	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	1/11/2019	W62-190111-	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	1/8/2019	W66-190108-	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	1/10/2019	W68-190110-	0.1 U	0.1 U	1 U	0.5 U	2.5 U	10.8	0.035 U	0.1 U	0.1 U	0.25 U	0.5 U
MW-69	1/10/2019	W69-190110-	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-72	1/8/2019	W72-190108-	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-74	1/10/2019	W74R190110-	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	1/9/2019	W75-190109-	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	1/10/2019	W80-190110-	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	1/10/2019	W80-190110D	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-81	1/9/2019	W81-190109-	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	1/9/2019	W83-190109-	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-84	1/8/2019	W84-190108-	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	1/9/2019	W85-190109-	0.1 U	0.1 U	1 U	0.5 U	2.5 U	4.16 JT	0.035 U	0.1 U	0.1 U	0.25 U	0.5 U
MW-87	1/9/2019	W87-190109-	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	1/10/2019	W93-190110-	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	1/9/2019	W94-190109-	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	1/11/2019	W101190111-	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
FIELD BLANK	1/11/2019	W30A190111F	0.1 U	0.1 U	1.43 JT	0.5 U	2.5 U	5.8	0.035 U	0.1 U	0.1 U	0.25 U	0.5 U
VOA TRIP BLANK	1/7/2019	VTRP190108X	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	1/7/2019	VTRP190108Y	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	1/8/2019	VTRP190109X	0.1 U	0.1 U	1 U	0.5 U	2.5 U	5.29	0.035 U	0.1 U	0.1 U	0.25 U	0.5 U
VOA TRIP BLANK	1/8/2019	VTRP190109Y	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	1/9/2019	VTRP190110X	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	1/9/2019	VTRP190110Y	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	1/10/2019	VTRP190111X	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	1/10/2019	VTRP190111Y	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

Data Collected from January 1, 2019 to March 31, 2019
Cedar Hills Landfill --- Groundwater VOAs Analytical Data
Contact Person: Sendy Jimenez (206) 477-5224

Site	Date	Sample ID	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-30A	1/11/2019	W30A190111-	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-47	1/11/2019	W47-190111-	0.1 U	0.1 U	0.25 U	0.1 U	0.5 U	0.254	0.1 U	0.254 JT	1.68	0.25 U	0.1 U
MW-59	1/8/2019	W59-190108-	0.1 U	0.101 JT	0.25 U	0.1 U	0.5 U	0.1 U	0.1 U	0.25 U	1.25	0.25 U	0.1 U
MW-62	1/11/2019	W62-190111-	0.1 U	0.1 U	0.25 U	0.1 U	0.5 U	0.1 U	0.1 U	0.25 U	1.22	0.25 U	0.1 U
MW-66	1/8/2019	W66-190108-	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	1/10/2019	W68-190110-	0.1 U	0.1 U	0.25 U	0.1 U	0.5 U	0.1 U	0.1 U	0.285 JT	0.1 U	0.25 U	0.1 U
MW-69	1/10/2019	W69-190110-	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	1/8/2019	W72-190108-	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-74	1/10/2019	W74R190110-	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	1/9/2019	W75-190109-	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-80	1/10/2019	W80-190110-	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-80	1/10/2019	W80-190110D	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	1/9/2019	W81-190109-	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	1/9/2019	W83-190109-	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-84	1/8/2019	W84-190108-	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	1/9/2019	W85-190109-	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	1/9/2019	W87-190109-	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	1/10/2019	W93-190110-	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	1/9/2019	W94-190109-	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	1/11/2019	W101190111-	0.1 U	0.1 U	0.25 U	0.1 U	0.5 U	0.162 JT	0.1 U	0.25 U	0.165 JT	0.25 U	0.1 U
FIELD BLANK	1/11/2019	W30A190111F	0.1 U	0.1 U	0.25 U	0.1 U	0.5 U	0.1 U	0.676	0.42 JT	0.1 U	0.25 U	0.1 U
VOA TRIP BLANK	1/7/2019	VTRP190108X	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	1/7/2019	VTRP190108Y	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	1/8/2019	VTRP190109X	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	1/8/2019	VTRP190109Y	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	1/9/2019	VTRP190110X	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	1/9/2019	VTRP190110Y	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	1/10/2019	VTRP190111X	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	1/10/2019	VTRP190111Y	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

Data Collected from January 1, 2019 to March 31, 2019
Cedar Hills Landfill --- Groundwater VOAs Analytical Data
Contact Person: Sendy Jimenez (206) 477-5224

Site	Date	Sample ID	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-30A	1/11/2019	W30A190111-	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-47	1/11/2019	W47-190111-	3.9	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-59	1/8/2019	W59-190108-	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-62	1/11/2019	W62-190111-	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-66	1/8/2019	W66-190108-	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-68	1/10/2019	W68-190110-	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-69	1/10/2019	W69-190110-	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	1/8/2019	W72-190108-	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-74	1/10/2019	W74R190110-	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-75	1/9/2019	W75-190109-	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-80	1/10/2019	W80-190110-	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-80	1/10/2019	W80-190110D	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	1/9/2019	W81-190109-	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	1/9/2019	W83-190109-	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-84	1/8/2019	W84-190108-	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-85	1/9/2019	W85-190109-	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-87	1/9/2019	W87-190109-	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-93	1/10/2019	W93-190110-	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-94	1/9/2019	W94-190109-	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-101	1/11/2019	W101190111-	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
FIELD BLANK	1/11/2019	W30A190111F	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	1/7/2019	VTRP190108X	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	1/7/2019	VTRP190108Y	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	1/8/2019	VTRP190109X	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	1/8/2019	VTRP190109Y	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	1/9/2019	VTRP190110X	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	1/9/2019	VTRP190110Y	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	1/10/2019	VTRP190111X	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	1/10/2019	VTRP190111Y	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

Data Collected from January 1, 2019 to March 31, 2019
Cedar Hills Landfill --- Groundwater VOAs Analytical Data
Contact Person: Sendy Jimenez (206) 477-5224

Site	Date	Sample ID	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-30A	1/11/2019	W30A190111-	0.5 U	5 U	0.558	0.1 U	0.1 U	0.01 U
MW-47	1/11/2019	W47-190111-	0.5 U	5 U	0.1 U	0.1 U	0.1 U	6.12
MW-59	1/8/2019	W59-190108-	0.5 U	5 U	0.1 U	0.1 U	0.1 U	0.01 U
MW-62	1/11/2019	W62-190111-	0.5 U	5 U	0.113 JT	0.1 U	0.1 U	0.01 U
MW-66	1/8/2019	W66-190108-	0.5 U	5 U	0.1 U	0.1 U	0.1 U	0.01 U
MW-68	1/10/2019	W68-190110-	0.5 U	5 U	0.1 U	0.1 U	0.1 U	0.01 U
MW-69	1/10/2019	W69-190110-	0.5 U	5 U	0.1 U	0.1 U	0.1 U	0.01 U
MW-72	1/8/2019	W72-190108-	0.5 U	5 U	0.1 U	0.1 U	0.1 U	0.01 U
MW-74	1/10/2019	W74R190110-	0.5 U	5 U	0.1 U	0.1 U	0.1 U	0.01 U
MW-75	1/9/2019	W75-190109-	0.5 U	5 U	0.1 U	0.1 U	0.1 U	0.01 U
MW-80	1/10/2019	W80-190110-	0.5 U	5 U	0.1 U	0.1 U	0.1 U	0.01 U
MW-80	1/10/2019	W80-190110D	0.5 U	5 U	0.1 U	0.1 U	0.1 U	0.01 U
MW-81	1/9/2019	W81-190109-	0.5 U	5 U	0.1 U	0.1 U	0.1 U	0.01 U
MW-83	1/9/2019	W83-190109-	0.5 U	5 U	1.66	0.1 U	0.1 U	0.01 U
MW-84	1/8/2019	W84-190108-	0.5 U	5 U	0.1 U	0.1 U	0.1 U	0.01 U
MW-85	1/9/2019	W85-190109-	0.5 U	5 U	0.1 U	0.1 U	0.1 U	0.01 U
MW-87	1/9/2019	W87-190109-	0.5 U	5 U	0.1 U	0.1 U	0.1 U	0.01 U
MW-93	1/10/2019	W93-190110-	0.5 U	5 U	0.1 U	0.1 U	0.1 U	0.01 U
MW-94	1/9/2019	W94-190109-	0.5 U	5 U	2.31	0.1 U	0.1 U	0.01 U
MW-101	1/11/2019	W101190111-	0.5 U	5 U	0.1 U	0.1 U	0.1 U	0.409
FIELD BLANK	1/11/2019	W30A190111F	0.5 U	5 U	0.1 U	0.1 U	0.1 U	0.01 U
VOA TRIP BLANK	1/7/2019	VTRP190108X	0.5 U	5 U	0.1 U	0.1 U	0.1 U	0.01 U
VOA TRIP BLANK	1/7/2019	VTRP190108Y	0.5 U	5 U	0.1 U	0.1 U	0.1 U	0.01 U
VOA TRIP BLANK	1/8/2019	VTRP190109X	0.5 U	5 U	0.1 U	0.1 U	0.1 U	0.01 U
VOA TRIP BLANK	1/8/2019	VTRP190109Y	0.5 U	5 U	0.1 U	0.1 U	0.1 U	0.01 U
VOA TRIP BLANK	1/9/2019	VTRP190110X	0.5 U	5 U	0.1 U	0.1 U	0.1 U	0.01 U
VOA TRIP BLANK	1/9/2019	VTRP190110Y	0.5 U	5 U	0.1 U	0.1 U	0.1 U	0.01 U
VOA TRIP BLANK	1/10/2019	VTRP190111X	0.5 U	5 U	0.1 U	0.1 U	0.1 U	0.01 U
VOA TRIP BLANK	1/10/2019	VTRP190111Y	0.5 U	5 U	0.1 U	0.1 U	0.1 U	0.01 U

Environmental Monitoring Data

Data Collected from April 1, 2019 to June 30, 2019
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	4/1/2019	620.32	297.21	323.11	Decommissioned
MW-101	4/1/2019	474.72	31.71	443.01	
MW-102	4/1/2019	552.48	45.47	507.01	
MW-103	4/1/2019	639.08	12.45	626.63	New to this list
MW-104	4/1/2019	629.68	24.6	605.08	
MW-105	4/1/2019	521.23	19.47	501.76	
MW-106	4/1/2019	475.47	189.45	286.02	
MW-107	4/1/2019	589.029	29.7	559.329	Needs weep hole
MW-108	4/1/2019	612.258	14.96	597.298	Added lock; WH
MW-109	4/1/2019	638.728	8.64	630.088	Needs weep hole
MW-110	4/1/2019	641.742	5.54	636.203	Needs WH
MW-111	4/1/2019	643.797	8.98	634.817	Needs WH
MW-112	4/1/2019	638.929	12.68	626.249	Needs WH
MW-21	4/1/2019	420.66	124.61	296.05	
MW-22	4/1/2019	517.09	231.59	285.5	
MW-24	4/1/2019	475.99	144.24	331.75	
MW-25	4/1/2019	474.41	6.44	467.97	
MW-27A	4/1/2019	584.23	54.42	529.81	
MW-28	4/1/2019	527.75	24.31	503.44	
MW-29	4/1/2019	532.92	11.1	521.82	
MW-30A	4/1/2019	568.43	28.58	539.85	Water in annulus.
MW-41D	4/1/2019	462.32	26	436.32	
MW-41S	4/1/2019	462.44	5.27	457.17	
MW-43	4/1/2019	547.06	264.63	282.43	
MW-45	4/1/2019	488.4	14.38	474.02	
MW-47	4/1/2019	634.6	17.51	617.09	
MW-48	4/1/2019	594.49	45.44	549.05	Relabeled
MW-50	4/1/2019	637.02	29.6	607.42	Relabeled
MW-54	4/1/2019	580.43	277.78	302.65	
MW-55	4/1/2019	652.29	27.78	624.51	
MW-56	4/1/2019	480.33	124.56	355.77	
MW-57	4/1/2019	456.64	99.55	357.09	
MW-58A	4/1/2019	479.27	148.15	331.12	
MW-59	4/1/2019	457.13	122.7	334.43	
MW-60	4/1/2019	567.15	225.08	342.07	
MW-62	4/1/2019	556.21	51.09	505.12	
MW-63	4/1/2019	515.88	14.03	501.85	

Environmental Monitoring Data

Data Collected from April 1, 2019 to June 30, 2019
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-64	4/1/2019	596.55	265.21	331.34	Relabeled
MW-65	4/1/2019	545.83	208.29	337.54	
MW-66	4/1/2019	531.28	238.15	293.13	
MW-67	4/1/2019	516.43	219.61	296.82	
MW-68	4/1/2019	647.07	331.12	315.95	
MW-69	4/1/2019	653.69	355.4	298.29	
MW-72	4/1/2019	671.87	360.52	311.35	
MW-73	4/1/2019	485.7	191.71	293.99	
MW-74	4/1/2019	531.26	239.47	291.79	
MW-75	4/1/2019	532.4	244.73	287.67	
MW-76	4/1/2019	491.71	133.81	357.9	
MW-79	4/1/2019	459.17			Needs to be fixed
MW-80	4/1/2019	530.41	238.33	292.08	
MW-81	4/1/2019	493.66	183.3	310.36	
MW-82	4/1/2019	474.85	121.31	353.54	
MW-83	4/1/2019	496.81	143.61	353.2	
MW-84	4/1/2019	530.8	235.55	295.25	
MW-85	4/1/2019	531.76	245.2	286.56	Tree debris blocking access.
MW-86	4/1/2019	536.04	249.1	286.94	
MW-87	4/1/2019	537.31	247.51	289.8	
MW-88	4/1/2019	513.68	226.57	287.11	
MW-89	4/1/2019	512.82	231.3	281.52	
MW-90	4/1/2019	502.22	220.59	281.63	
MW-91	4/1/2019	532.02	245.98	286.04	From lower plug
MW-93	4/1/2019	632.15	307.77	324.38	
MW-94	4/1/2019	495.51	139.65	355.86	
MW-95	4/1/2019	571.54	250.74	320.80	
MW-98	4/1/2019	503.73	16.36	487.37	
MW-99	4/1/2019	493.64	199.73	293.91	

Environmental Monitoring Data

Data Collected from April 1, 2019 to June 30, 2019
Cedar Hills Landfill --- Groundwater Field Data
Contact Person: Sendy Jimenez (206) 477-5224

Site	Date	Sample ID	pH (Field) (std. Units)	Conductance (Field) (umhos/cm)	Temperature (^{o}C)	Purge Volume (gal)	Dissolved Oxygen (mg/L)	ORP mV	Turbidity NTU
MW-100	4/12/2019	W100190412-	6.79	303.6	10.6	6	0.52	-8.5	37.9
MW-101	5/28/2019	W101190528-	6.48	538.5	11.6	2.2			6.69
MW-102	5/15/2019	W102190515-	6.7	174.6	10.18	1	7.4	195.2	17.2
MW-103	5/17/2019	W103190517-	5.72	67.8	11.35	0.9	8.43	233.5	7.44
MW-104	5/17/2019	W104190517-	7.99	283.1	10.18	1.5	3.29	216.4	37.7
MW-107	5/13/2019	W107190513-	5.75	418	11.83	1.2	0.84	114.3	38
MW-108	5/16/2019	W108190516-	6.9	437.6	10.42	1.5	8.51	197.5	3.73
MW-109	5/20/2019	W109190520-	7.28	4988	10.6	1	1.3	-168.3	30.2
MW-110	5/16/2019	W110190516-	6.63	779	11.68	3	1.8	26.7	1.35
MW-111	5/20/2019	W111190520-	5.72	67.8	11.35	0.9	8.43	233.5	7.44
MW-112	5/13/2019	W112190513-	6.75	283.6	10.55	1.5	0.55	96.4	0.66
MW-21	4/8/2019	W21-190408-	7.35	142.9	9.11	1.8	0.88	-155.1	4.42
MW-24	4/8/2019	W24-190408-	6.85	184.4	9.51	4.5	0.34	-65.6	0.56
MW-30A	5/13/2019	W30A190513-	6.41	296.1	11.48	0.75	9.63	227.4	0.75
MW-47	5/13/2019	W47-190513-	6.88	1180	11.02	23.1			0.25
MW-50	5/20/2019	W50-190520-	7.66	319.5	11.55	0.75	1.84	212.8	3.89
MW-56	4/8/2019	W56-190408-	6.82	214.2	9.8	26.8			0.54
MW-59	4/10/2019	W59-190410-	6.42	195.7	9.49	3	1.17	-8.3	4.36
MW-62	5/28/2019	W62-190528-	6.49	145.6	12	0.75			0.96
MW-64	4/12/2019	W64-190412-	6.94	228.8	11.39	6	0.89	72.8	3.34
MW-65	4/12/2019	W65-190412-	6.93	144.7	9.1	3.6	0.99	-15.1	27
MW-66	4/10/2019	W66-190410-	6.92	214.1	9.51	3.4	4.93	141.8	0.62
MW-67	4/12/2019	W67-190412-	6.98	378.6	9.37	5.5	1.83	36.3	35.5
MW-68	4/15/2019	W68-190415-	6.9	282.9	10.11	3.25	0.7	-8.5	3.27
MW-68	5/14/2019	W68-190514-	7.15	284.7	10.18	5.25	0.37	-24.6	1.09
MW-69	4/15/2019	W69-190415-	7.47	327.1	9.69	5.5	0.58	-91.9	2.53
MW-72	4/16/2019	W72-190416-	7.08	364.1	10.09	6.5	0.62	-57.6	12.18
MW-73	4/10/2019	W73-190410-	6.96	137	9.07	1.9	9.51	193.38	1
MW-74R	4/18/2019	W74R190418-	7	551	10.28		4.32	94.8	2.94
MW-74R	4/18/2019	W74R190418D	7	551	10.28		4.32	94.8	2.94
MW-75	4/18/2019	W75-190418-	6.76	377.4	9.64	4	0.52	-47.7	0.26
MW-76	4/10/2019	W76-190410-	6.29	238.9	9.53	3	5.59	230.1	0.28
MW-80	5/14/2019	W80-190514-	6.97	316.3	9.8	5.8	0.46	-68.5	0.47
MW-81	4/16/2019	W81-190416-	7.11	162.6	9.68	3	5.48	239.8	1.59
MW-82	4/8/2019	W82-190408-	6.77	308.6	9.76	3	7.74	108.9	0.74

Environmental Monitoring Data

Data Collected from April 1, 2019 to June 30, 2019
Cedar Hills Landfill --- Groundwater Field Data
Contact Person: Sendy Jimenez (206) 477-5224

Site	Date	Sample ID	pH (Field) (std. Units)	Conductance (Field) (umhos/cm)	Temperature (^{o}C)	Purge Volume (gal)	Dissolved Oxygen (mg/L)	ORP mV	Turbidity NTU
MW-82	5/22/2019	W82-190522-	6.65	309.3	9.83	2.75	8.38	139	0.61
MW-83	4/12/2019	W83-190412-	6.56	536	10.31	4.5	0.66	139.3	0.41
MW-84	4/10/2019	W84-190410-	6.89	199.6	9.56	3.5	1.32	193.8	0.26
MW-85	4/16/2019	W85-190416-	6.69	349.1	9.55	3	3.13	259.3	0.33
MW-86	4/12/2019	W86-190412-	6.84	196	8.98	4.5	0.97	78.9	26.6
MW-87	4/18/2019	W87-190418-	6.8	540	10.8	3.75	0.46	-41.2	2.11
MW-88	4/18/2019	W88-190418-	6.5	127.2	9.17	3.3	4.89	168.8	0.2

Environmental Monitoring Data

Data Collected from April 1, 2019 to June 30, 2019
Cedar Hills Landfill --- Groundwater Conventional Data
Contact Person: Sendy Jimenez (206) 477-5224

Site	Date	Sample ID	Alkalinity, Total ($CaCO_3$) (mg/L)	Ammonia, (NH_3) (mg/L)	Chloride (mg/L)	Nitrate-Nitrogen, (NO_3 as N) (mg/L)	Specific Conductance (umhos/cm)	Sulfate (SO4) (mg/L)	Total Dissolved Solids (mg/L)	Total Organic Carbon (mg/L)	Total Solids (mg/L)	Suspended Solids (mg/L)
MW-100	W100190412-	4/12/2019	131	0.0103	3.63	0.01 U	303	17.8	168	0.5 U	183	8.6
MW-101	W101190528-	5/28/2019	278	0.0155	2.78	0.013 T	504	4.18	293	4.22	313	7.7
MW-102	W102190515-	5/15/2019	66.1	0.002 U	3.48	1.26	172	8.61	128	0.8 T	137	8.2
MW-103	W103190517-	5/17/2019	127	0.002 U	6.23	0.027 T	279	9.13	186	1.36	210	13.7
MW-104	W104190517-	5/17/2019	75.3	0.002 U	1.72	0.024 T	432	118	309	0.73 T	336	23.5
MW-107	W107190513-	5/13/2019	170	1.38	19.8	0.01 T	417	11.8	250	5.94	262	21.7
MW-108	W108190516-	5/16/2019	170	0.002 U	1.2	0.896	430	45.7	294	1.16	298	2.5
MW-109	W109190520-	5/20/2019	3710	0.311	4.5 T	0.05 U	5730	23.3	4460	150 S	4480	1.4 T
MW-110	W110190516-	5/16/2019	415	0.0286	2.03	0.01 U	763	12.6	467	3.63	476	1.5
MW-111	W111190520-	5/20/2019	20	0.002 U	0.743	0.487	69.5	6.51	69.9	1.44	80.9	7.2
MW-112	W112190513-	5/13/2019	111	0.0293	4.17	0.038 T	289	27.5	199	0.78 T	198 H	0.5 U
MW-21	W21-190408-	4/8/2019	59.1	0.0176	2.4	0.01 U	140	6.55	87.6	0.5 U	92.3	1.7
MW-24	W24-190408-	4/8/2019	65	0.0314	5.23	0.01 U	178	12.8	112	0.59 T	118	1.5
MW-30A	W30A190513-	5/13/2019	75.3	0.002 U	1.01	15.9	293	6.14	221	0.72 T	216	1 T
MW-47	W47-190513-	5/13/2019	640	0.0437	5.64	0.01 U	1140	6.7	688	3.53	714	5.33
MW-50	W50-190520-	5/20/2019	157	0.002 U	1.93	0.096	313	8.39	193	1.44	200	0.81 T
MW-56	W56-190408-	4/8/2019	73.2	0.002 U	17.1	0.624	223	7.18	136	1.07	141	0.53 U
MW-59	W59-190410-	4/10/2019	66.7	0.0049 T	8.3	0.02 T	194	14.5	114	0.57 T	127	2
MW-62	W62-190528-	5/28/2019	44.2	0.002 U	3.32	2.61	148	11.6	103	0.72 T	105	0.52 U
MW-64	W64-190412-	4/12/2019	100	0.0238	2.68	0.01 T	229	11.8	127	0.56 T	130	1.9
MW-65	W65-190412-	4/12/2019	52.4	0.0044 T	3.75	0.01 U	140	9.62	89.2	0.64 T	104	9.2
MW-66	W66-190410-	4/10/2019	86.2	0.002 U	4.45	0.434	217	13.2	129	0.5 U	133	0.8 T
MW-67	W67-190412-	4/12/2019	163	0.0072 T	5.05	0.087	384	30.3	220	0.64 T	255	13
MW-68	W68-190415-	4/15/2019	125	0.0182	2.88	0.01 U	278	15.1	165	0.5 U	165	1.09
MW-68	W68-190514-	5/14/2019	125	0.0189	2.9	0.01 U	280	15.6	167	0.5 U	168	0.8 T
MW-69	W69-190415-	4/15/2019	137	0.0167	3.71	0.01 U	319	23.1	189	0.55 T	198	3.92
MW-72	W72-190416-	4/16/2019	130	0.0172	6.58	0.01 U	352	41.1	214	0.6 T	226	5.73
MW-73	W73-190410-	4/10/2019	51.9	0.002 U	2.29	1.06	140	8.12	96.1	0.5 U	101	2.2
MW-74R	W74R190418-	4/18/2019	219	0.002 U	25	0.271	543	33.6	311	0.5 U	324	0.5 U
MW-74R	W74R190418D	4/18/2019	219	0.002 U	24.9	0.272	543	33.6	304	0.64 T	319	0.6 T
MW-75	W75-190418-	4/18/2019	110	0.0088 T	10.6	0.015 T	370	59.7	235	0.5 U	244	0.5 U
MW-76	W76-190410-	4/10/2019	67.8	0.002 U	16.2	0.961	241	17.7	146	2.55	157	0.5 U
MW-80	W80-190514-	5/14/2019	114	0.0112	4.51	0.01 U	306	35.3	195	0.5 U	200	1 U
MW-81	W81-190416-	4/16/2019	54.9	0.002 U	5.25	1.5	161	9.96	108	0.5 U	116	3.1
MW-82	W82-190408-	4/8/2019	120	0.002 U	10.8	1.12	313	16.2	186	0.86 T	193	1.2

Environmental Monitoring Data

Data Collected from April 1, 2019 to June 30, 2019
Cedar Hills Landfill --- Groundwater Conventional Data
Contact Person: Sendy Jimenez (206) 477-5224

Site	Date	Sample ID	Alkalinity, Total ($CaCO_3$) (mg/L)	Ammonia, (NH_3) (mg/L)	Chloride (mg/L)	Nitrate-Nitrogen, (NO_3 as N) (mg/L)	Specific Conductance (umhos/cm)	Sulfate (SO4) (mg/L)	Total Dissolved Solids (mg/L)	Total Organic Carbon (mg/L)	Total Solids (mg/L)	Suspended Solids (mg/L)
MW-82	W82-190522-	5/22/2019	128	0.002 U	9.82	0.907	314	16.9	200	0.82 T	203	1 U
MW-83	W83-190412-	4/12/2019	174	0.0023 T	54.8	1.04	546	9.74	328	4.12	360	0.5 U
MW-84	W84-190410-	4/10/2019	77.2	0.002 U	4.01	0.143	203	15.5	120	0.53 T	123	0.5 U
MW-85	W85-190416-	4/16/2019	134	0.002 U	11.1	0.105	359	33.7	213	0.5 U	221	0.5 U
MW-86	W86-190412-	4/12/2019	68.9	0.002 U	4.66	0.017 T	198	18.2	118	0.5 U	128	6.1
MW-87	W87-190418-	4/18/2019	107	0.0177	13.3	0.01 U	527	135	374	0.5 U	384	0.9 T
MW-88	W88-190418-	4/18/2019	51.6	0.002 U	1.81	0.656	128	6.43	88.2	0.5 U	89.1	0.5 U

Environmental Monitoring Data

Data Collected from April 1, 2019 to June 30, 2019
Cedar Hills Landfill --- Groundwater Metals Data
Contact Person: Sendy Jimenez (206) 477-5224

Site	Date	Sample ID	Antimony, dissolved (mg/L)	Antimony, total (mg/L)	Arsenic, dissolved (mg/L)	Arsenic, total (mg/L)	Barium, dissolved (mg/L)	Barium, total (mg/L)	Beryllium, dissolved (mg/L)	Beryllium, total (mg/L)	Cadmium, dissolved (mg/L)	Cadmium, total (mg/L)
MW-100	W100190412-	4/12/2019	0.0003 U	0.0003 U	0.00112	0.00447	0.00619	0.00704	0.0001 U	0.0001 U	5E-05 U	5E-05 U
MW-101	W101190528-	5/28/2019	0.0003 U	0.0003 U	0.0117	0.00961	0.0186	0.0187	0.0001 U	0.0001 U	5E-05 U	0.0000789
MW-102	W102190515-	5/15/2019	0.0003 U	0.0003 U	0.00019	0.000382	0.00568	0.011	0.0001 U	0.0001 U	5E-05 U	5E-05 U
MW-103	W103190517-	5/17/2019	0.0003 U	0.0003 U	0.00399	0.00469	0.00914	0.0264	0.0001 U	0.0001 U	5E-05 U	5E-05 U
MW-104	W104190517-	5/17/2019	0.00046	4.99E-04	0.00115	0.00147	0.0211	0.0228	0.0001 U	0.0001 U	5E-05 U	5E-05 U
MW-107	W107190513-	5/13/2019	0.0003 U	0.0003 U	0.00149	0.00161	0.0185	0.0208	0.0001 U	0.0001 U	5E-05 U	5E-05 U
MW-108	W108190516-	5/16/2019	0.0003 U	0.0003 U	1.87E-03	0.00216	0.0176	0.0202	0.0001 U	0.0001 U	5E-05 U	5E-05 U
MW-109	W109190520-	5/20/2019	0.0015 DU	0.0015 DU	0.0634 D	0.0637 D	0.131 D	0.15 D	0.000839 D	0.000941 D	0.00025 DU	0.00025 DU
MW-110	W110190516-	5/16/2019	0.0003 U	0.0003 U	0.0016	0.00164	0.0324	0.0327	0.0001 U	0.0001 U	0.0000827	0.0000877
MW-111	W111190520-	5/20/2019	0.0003 U	0.0003 U	0.000723	0.00104	0.00334	0.00671	0.0001 U	0.0001 U	5E-05 U	5E-05 U
MW-112	W112190513-	5/13/2019	0.0003 U	0.0003 U	0.00296	0.00299	0.00958	0.00947	0.0001 U	0.0001 U	5E-05 U	5E-05 U
MW-21	W21-190408-	4/8/2019	0.0003 U	0.0003 U	0.000947	0.000988	0.00497	0.00468	0.0001 U	0.0001 U	5E-05 U	5E-05 U
MW-24	W24-190408-	4/8/2019	0.0003 U	0.0003 U	0.000606	0.000606	0.00208	0.00203	0.0001 U	0.0001 U	5E-05 U	5E-05 U
MW-30A	W30A190513-	5/13/2019	0.0003 U	0.0003 U	0.000424	0.000475	0.00407	0.00426	0.0001 U	0.0001 U	5E-05 U	5E-05 U
MW-47	W47-190513-	5/13/2019	0.0003 U	0.0003 U	0.00226	0.00235	0.041	0.0413	0.0001 U	0.0001 U	5E-05 U	5E-05 U
MW-50	W50-190520-	5/20/2019	0.000407	0.000432	0.00495	0.00496	0.0105	0.0108	0.0001 U	0.0001 U	5E-05 U	5E-05 U
MW-56	W56-190408-	4/8/2019	0.0003 U	0.0003 U	0.0000852	0.0000772	0.00456	0.0045	0.0001 U	0.0001 U	5E-05 U	5E-05 U
MW-59	W59-190410-	4/10/2019	0.0003 U	0.0003 U	0.000392	0.000466	0.00388	0.00408	0.0001 U	0.0001 U	5E-05 U	5E-05 U
MW-62	W62-190528-	5/28/2019	0.0003 HU	0.0003 U	0.000172 H	0.000195	0.00151 H	0.00164	0.0001 HU	0.0001 U	5E-05 HU	5E-05 U
MW-64	W64-190412-	4/12/2019	0.0003 U	0.0003 U	0.000646	0.00122	0.00755	0.0118	0.0001 U	0.0001 U	5E-05 U	0.000103
MW-65	W65-190412-	4/12/2019	0.0003 U	0.0003 U	0.000382	0.00129	0.00595	0.00655	0.0001 U	0.0001 U	5E-05 U	5E-05 U
MW-66	W66-190410-	4/10/2019	0.0003 U	0.0003 U	0.000654	0.000643	0.00442	0.00449	0.0001 U	0.0001 U	5E-05 U	5E-05 U
MW-67	W67-190412-	4/12/2019	0.0003 U	0.0003 U	0.0003	0.0045	0.0127	0.0196	0.0001 U	0.0001 U	5E-05 U	0.0000554
MW-68	W68-190415-	4/15/2019	0.0003 U	0.0003 U	0.0106	0.0208	0.0104	0.0111	0.0001 U	0.0001 U	5E-05 U	5E-05 U
MW-68	W68-190514-	5/14/2019	0.0003 U	0.0003 U	0.0106	0.0177	0.0108	0.0108	0.0001 U	0.0001 U	5E-05 U	5E-05 U
MW-69	W69-190415-	4/15/2019	0.0003 U	0.0003 U	0.00204	0.00269	0.0119	0.0124	0.0001 U	0.0001 U	5E-05 U	5E-05 U
MW-72	W72-190416-	4/16/2019	0.0003 U	0.0003 U	0.0000675	0.0000966	0.0119	0.013	0.0001 U	0.0001 U	5E-05 U	5E-05 U
MW-73	W73-190410-	4/10/2019	0.0003 U	0.0003 U	0.000691	0.000681	0.00239	0.00271	0.0001 U	0.0001 U	5E-05 U	5E-05 U
MW-74R	W74R190418-	4/18/2019	0.0003 U	0.0003 U	0.000383	0.000754	0.0125	0.0127	0.0001 U	0.0001 U	5E-05 U	5E-05 U
MW-74R	W74R190418D	4/18/2019	0.0003 U	0.0003 U	0.00038	0.000752	0.0123	0.0129	0.0001 U	0.0001 U	5E-05 U	5E-05 U
MW-75	W75-190418-	4/18/2019	0.0003 U	0.0003 U	0.000461	0.000451	0.012	0.0125	0.0001 U	0.0001 U	5E-05 U	5E-05 U
MW-76	W76-190410-	4/10/2019	0.0003 U	0.0003 U	0.000213	0.000193	0.00364	0.00354	0.0001 U	0.0001 U	5E-05 U	5E-05 U
MW-80	W80-190514-	5/14/2019	0.0003 U	0.0003 U	0.00361	0.00366	0.0142	0.0139	0.0001 U	0.0001 U	5E-05 U	5E-05 U
MW-81	W81-190416-	4/16/2019	0.0003 U	0.0003 U	0.000497	0.000554	0.00315	0.00351	0.0001 U	0.0001 U	5E-05 U	5E-05 U
MW-82	W82-190408-	4/8/2019	0.0003 U	0.0003 U	0.000235	0.000241	0.00118	0.00124	0.0001 U	0.0001 U	5E-05 U	5E-05 U

Environmental Monitoring Data

Data Collected from April 1, 2019 to June 30, 2019
Cedar Hills Landfill --- Groundwater Metals Data
Contact Person: Sendy Jimenez (206) 477-5224

Site	Date	Sample ID	Antimony, dissolved (mg/L)	Antimony, total (mg/L)	Arsenic, dissolved (mg/L)	Arsenic, total (mg/L)	Barium, dissolved (mg/L)	Barium, total (mg/L)	Beryllium, dissolved (mg/L)	Beryllium, total (mg/L)	Cadmium, dissolved (mg/L)	Cadmium, total (mg/L)
MW-82	W82-190522-	5/22/2019	0.0003 U	0.0003 U	0.000222	0.000223	0.0011	0.00119	0.0001 U	0.0001 U	5E-05 U	5E-05 U
MW-83	W83-190412-	4/12/2019	0.0003 U	0.0003 U	0.000309	0.000306	0.00679	0.0071	0.0001 U	0.0001 U	0.000121	5E-05 U
MW-84	W84-190410-	4/10/2019	0.0003 U	0.0003 U	0.000333	0.00032	0.0047	0.00482	0.0001 U	0.0001 U	5E-05 U	5E-05 U
MW-85	W85-190416-	4/16/2019	0.0003 U	0.0003 U	0.000694	0.000704	0.00658	0.00677	0.0001 U	0.0001 U	5E-05 U	5E-05 U
MW-86	W86-190412-	4/12/2019	0.0003 U	0.0003 U	0.000699	0.00377	0.00556	0.00587	0.0001 U	0.0001 U	5E-05 U	5E-05 U
MW-87	W87-190418-	4/18/2019	0.0003 U	0.0003 U	0.000398	0.000907	0.0238	0.0258	0.0001 U	0.0001 U	5E-05 U	5E-05 U
MW-88	W88-190418-	4/18/2019	0.0003 U	0.0003 U	0.000966	0.000963	0.00229	0.00223	0.0001 U	0.0001 U	5E-05 U	5E-05 U

Environmental Monitoring Data

Data Collected from April 1, 2019 to June 30, 2019
Cedar Hills Landfill --- Groundwater Metals Data
Contact Person: Sendy Jimenez (206) 477-5224

Site	Date	Sample ID	Calcium, dissolved (mg/L)	Calcium, total (mg/L)	Chromium, dissolved (mg/L)	Chromium total (mg/L)	Cobalt, dissolved (mg/L)	Cobalt, total (mg/L)	Copper, dissolved (mg/L)	Copper, total (mg/L)	Iron, dissolved (mg/L)	Iron, total (mg/L)
MW-100	W100190412-	4/12/2019	27.9	27.5	0.0002 U	0.000211	0.000212	2.35E-04	0.0002 U	0.00026	1.39	4.56
MW-101	W101190528-	5/28/2019	52.5	51.1	0.0002 U	0.000352	0.000254	0.00026	0.0002 U	0.000487	0.876	1.06
MW-102	W102190515-	5/15/2019	15.8	16.4	0.0002 U	0.00196	5E-05 U	0.000469	0.000447	0.00187	0.01 U	0.849
MW-103	W103190517-	5/17/2019	25.9	25.6	0.0002 U	0.0017	5E-05 U	0.000616	0.000312	0.00216	0.01 U	0.899
MW-104	W104190517-	5/17/2019	41.4	42.3	0.000836	1.73E-03	5E-05 U	0.000154	0.000548	0.00103	0.0182	0.268
MW-107	W107190513-	5/13/2019	43	43.2	0.000462	0.000958	0.00352	0.0036	0.00222	0.00324	1.31	1.62
MW-108	W108190516-	5/16/2019	35.5	38	0.000454	0.000896	5E-05 U	0.000101	0.000855	0.000886	0.01 U	0.16
MW-109	W109190520-	5/20/2019	23.4 D	24.5 D	0.13 D	0.133 D	0.0018 D	0.00267 D	0.00783 D	0.0283 D	11.8 D	14.6 D
MW-110	W110190516-	5/16/2019	75	74.3	0.000283	6.12E-04	0.00335	0.00339	0.000426	0.000913	0.145	0.213
MW-111	W111190520-	5/20/2019	6	6.37	0.00131	0.0021	5E-05 U	0.000197	0.000213	0.001	0.01 U	0.59
MW-112	W112190513-	5/13/2019	27.2	25.9	0.000546	0.000281 J	0.0000577	0.0000542	0.000219	0.000246	0.0115	0.01 U
MW-21	W21-190408-	4/8/2019	12.1	12.2	0.0002 U	0.0002 U	5E-05 U	5E-05 U	0.0002 U	0.0002 U	2.03	2.52
MW-24	W24-190408-	4/8/2019	14.4	14.8	0.0002 U	0.0002 U	5E-05 U	5E-05 U	0.0002 U	0.0002 U	3.08	3.19
MW-30A	W30A190513-	5/13/2019	23.2	23.4	0.000715	0.000765	5E-05 U	5E-05 U	0.0002 U	0.000346	0.01 U	0.0441
MW-47	W47-190513-	5/13/2019	142	141	0.0002 U	0.0002 U	0.000387	0.000377	0.0002 U	0.000345	4.24	4.12
MW-50	W50-190520-	5/20/2019	30.1	29.7	0.000607	0.000542	5E-05 U	1.18E-04	0.000983	0.00129	0.01 U	0.11
MW-56	W56-190408-	4/8/2019	20.5	20.8	0.0002 U	0.0002 U	1.11E-04	1.06E-04	0.000812	0.0002 U	0.0852	0.097
MW-59	W59-190410-	4/10/2019	16.2	15.7	0.0002 U	0.000236	5E-05 U	5E-05 U	0.0002 U	0.000452	3.86	4.28
MW-62	W62-190528-	5/28/2019	12.9 H	13.1	0.000262 BH	7.35E-04	0.000118 H	0.000127	0.000269 H	0.000298	0.0132 H	0.0332
MW-64	W64-190412-	4/12/2019	18.6	18.1	0.0002 U	0.000269	0.0000828	0.000894	0.0002 U	0.000401	0.0522	0.308
MW-65	W65-190412-	4/12/2019	11.4	11.2	0.0002 U	0.0002 U	5E-05 U	5E-05 U	0.0002 U	0.0002 U	3.29	6.11
MW-66	W66-190410-	4/10/2019	16.5	16.3	0.0002 U	0.000215	5E-05 U	5E-05 U	0.0002 U	0.0002 U	0.01 U	0.0471
MW-67	W67-190412-	4/12/2019	36	35.2	0.0002 U	0.0002 U	0.000153	0.000679	0.000769	0.000797	0.197	4.8
MW-68	W68-190415-	4/15/2019	26.6	26.8	0.0002 U	0.0002 U	2.10E-04	0.000217	0.0002 U	0.000447	0.551	0.778
MW-68	W68-190514-	5/14/2019	27.2	27.4	0.0002 U	0.0002 U	0.000222	0.00023	0.0002 U	0.000241	0.564	0.694
MW-69	W69-190415-	4/15/2019	33.9	33.3	0.0002 U	2.13E-04	5E-05 U	0.0000667	0.0002 U	0.000261	0.961	1.37
MW-72	W72-190416-	4/16/2019	33.5	33.3	0.0002 U	0.000304	5E-05 U	5E-05 U	0.0002 U	0.00021	2.66	3.73
MW-73	W73-190410-	4/10/2019	12.2	12.1	0.000202	0.000281	5E-05 U	5E-05 U	0.0002 U	0.000216	0.01 U	0.0401
MW-74R	W74R190418-	4/18/2019	47.4	47.2	0.0002 U	0.0002 U	5E-05 U	5E-05 U	0.0002 U	0.000321	0.01 U	0.285
MW-74R	W74R190418D	4/18/2019	48.3	47.6	0.0002 U	0.0002 U	5E-05 U	5E-05 U	0.0002 U	0.000347	0.01 U	0.28
MW-75	W75-190418-	4/18/2019	31	31.2	0.0002 U	0.0002 U	5E-05 U	5E-05 U	0.0002 U	0.0002 U	2.23	2.37
MW-76	W76-190410-	4/10/2019	21.4	20.7	0.00117	1.13E-03	7.27E-05	0.0000693	0.00149	0.00146	0.01 U	0.01 U
MW-80	W80-190514-	5/14/2019	30.8	31	0.0002 U	0.00025	5E-05 U	5E-05 U	0.0002 U	0.0002 U	2.18	2.2
MW-81	W81-190416-	4/16/2019	13.9	14	0.0002 U	0.000245	5E-05 U	5E-05 U	0.0002 U	0.000285	0.01 U	0.1
MW-82	W82-190408-	4/8/2019	28.5	29	0.0002 U	0.000687	5E-05 U	5E-05 U	0.0002 U	0.0002 U	0.01 U	0.0262

Environmental Monitoring Data

Data Collected from April 1, 2019 to June 30, 2019
Cedar Hills Landfill --- Groundwater Metals Data
Contact Person: Sendy Jimenez (206) 477-5224

Site	Date	Sample ID	Calcium, dissolved (mg/L)	Calcium, total (mg/L)	Chromium, dissolved (mg/L)	Chromium total (mg/L)	Cobalt, dissolved (mg/L)	Cobalt, total (mg/L)	Copper, dissolved (mg/L)	Copper, total (mg/L)	Iron, dissolved (mg/L)	Iron, total (mg/L)
MW-82	W82-190522-	5/22/2019	28.9	28.9	0.0002 U	0.000569	5E-05 U	5E-05 U	0.0002 U	0.0002 JU	0.01 U	0.0145
MW-83	W83-190412-	4/12/2019	55.7	55.8	0.0002 U	0.0002 U	0.000109	0.000148	0.00218	0.00252	0.01 U	0.01 U
MW-84	W84-190410-	4/10/2019	15.7	15.5	0.0002 U	0.0002 U	5E-05 U	5E-05 U	0.0002 U	0.0002 U	0.01 U	0.01 U
MW-85	W85-190416-	4/16/2019	33.2	33.2	0.0002 U	0.0002 U	5E-05 U	5E-05 U	0.0002 U	0.000277	0.01 U	0.0294
MW-86	W86-190412-	4/12/2019	15.7	15.1	0.0002 U	0.0002 U	0.0000692	0.0000953	0.0002 U	0.0002 U	0.694	2.65
MW-87	W87-190418-	4/18/2019	46.1	48	0.0002 U	0.0002 U	0.000114	0.000124	0.0002 U	0.0002 U	4.23	5.21
MW-88	W88-190418-	4/18/2019	9.66	9.63	0.000595	0.000648	5E-05 U	5E-05 U	0.0002 U	0.0002 U	0.01 U	0.01 U

Environmental Monitoring Data

Data Collected from April 1, 2019 to June 30, 2019
Cedar Hills Landfill --- Groundwater Metals Data
Contact Person: Sendy Jimenez (206) 477-5224

Site	Date	Sample ID	Lead, dissolved (mg/L)	Lead, total (mg/L)	Magnesium, dissolved (mg/L)	Magnesium, total (mg/L)	Manganese, dissolved (mg/L)	Manganese, total (mg/L)	Mercury, dissolved (mg/L)	Mercury, total (mg/L)	Nickel, dissolved (mg/L)	Nickel, total (mg/L)
MW-100	W100190412-	4/12/2019	0.0001 U	0.0001 U	16.6	16.3	0.152	0.156	5E-05 U	5E-05 U	0.00047	0.000561
MW-101	W101190528-	5/28/2019	0.0001 U	0.0001 U	31.4	30.2	1.14	1.02	5E-05 U	5E-05 U	0.00331	0.00351
MW-102	W102190515-	5/15/2019	0.0001 U	0.000445	6.16	6.51	0.000745	0.0146	5E-05 U	5E-05 U	0.000578	0.00135
MW-103	W103190517-	5/17/2019	0.0001 U	0.000759	12.3	11.9	0.00139	0.773	5E-05 U	5E-05 U	0.000201	0.00206
MW-104	W104190517-	5/17/2019	0.0001 U	0.000141	17.4	17.7	0.00378	0.0175	5E-05 U	5E-05 U	0.000311	0.000935
MW-107	W107190513-	5/13/2019	0.0001 U	0.000172	13.7	13.5	4.7	4.52	5E-05 U	5E-05 U	0.00745	0.00818
MW-108	W108190516-	5/16/2019	0.0001 U	0.0001 U	11.6	12.3	0.00633	0.0074	5E-05 U	5E-05 U	0.000497	0.000799
MW-109	W109190520-	5/20/2019	0.0005 DU	0.00164 D	17.7 D	18.1 D	0.884 D	0.96 D	5E-05 U	5E-05 U	0.0141 D	0.0183 D
MW-110	W110190516-	5/16/2019	0.0001 U	0.000137	38.8	38.1	3.22	3.18	5E-05 U	5E-05 U	0.00667	0.00667
MW-111	W111190520-	5/20/2019	0.0001 U	0.000211	1.87	2.04	0.00398	0.00953	5E-05 U	5E-05 U	0.00167	0.00262
MW-112	W112190513-	5/13/2019	0.0001 U	0.0001 U	13.3	12.3	0.218	0.204	5E-05 U	5E-05 U	0.000566	0.000461
MW-21	W21-190408-	4/8/2019	0.0001 U	0.0001 U	6.71	6.64	0.105	0.117	5E-05 U	5E-05 U	0.0001 U	0.000123
MW-24	W24-190408-	4/8/2019	0.0001 U	0.0001 U	9.5	9.4	0.0995	0.103	5E-05 U	5E-05 U	0.000126	0.0001 U
MW-30A	W30A190513-	5/13/2019	0.0001 U	0.0001 U	12.9	13	0.000135	0.000721	5E-05 U	5E-05 U	0.000763	0.000837
MW-47	W47-190513-	5/13/2019	0.0001 U	0.0001 U	73	68.8	1.66	1.55	5E-05 U	5E-05 U	0.00239	0.00242
MW-50	W50-190520-	5/20/2019	0.0001 U	0.0001 U	13.6	13.5	0.000951	0.0128	5E-05 U	5E-05 U	0.000568	0.000715
MW-56	W56-190408-	4/8/2019	0.0001 U	0.0001 U	10.9	10.6	0.169	0.169	5E-05 U	5E-05 U	0.000484	0.000496
MW-59	W59-190410-	4/10/2019	0.0001 U	0.0001 U	10.2	9.77	0.113	0.121	5E-05 U	5E-05 U	0.000143	0.000214
MW-62	W62-190528-	5/28/2019	0.0001 HU	0.0001 U	3.45 H	3.61	0.00288 H	0.00304	5E-05 U	5E-05 U	0.000952 H	0.00116
MW-64	W64-190412-	4/12/2019	0.0001 U	0.0001 U	14.2	13.7	0.0968	0.819	5E-05 U	5E-05 U	0.000524	0.00409
MW-65	W65-190412-	4/12/2019	0.0001 U	0.0001 U	7.05	6.84	0.163	0.259	5E-05 U	5E-05 U	0.000126	0.000159
MW-66	W66-190410-	4/10/2019	0.0001 U	0.0001 U	13.4	13.3	0.0001 U	0.00136	5E-05 U	5E-05 U	0.000151	0.000187
MW-67	W67-190412-	4/12/2019	0.0001 U	0.0001 U	21.9	21.6	0.212	1.08	5E-05 U	5E-05 U	0.000341	0.00111
MW-68	W68-190415-	4/15/2019	0.0001 U	0.0001 U	14.6	14.7	0.298	0.298	5E-05 U	5E-05 U	0.000424	0.000456
MW-68	W68-190514-	5/14/2019	0.0001 U	0.0001 U	15	15.4	0.303	0.306	5E-05 U	5E-05 U	0.000511	0.000555
MW-69	W69-190415-	4/15/2019	0.0001 U	0.0001 U	15.9	16.2	0.264	0.279	5E-05 U	5E-05 U	0.000115	0.000229
MW-72	W72-190416-	4/16/2019	0.0001 U	0.0001 U	20.3	20.6	0.37	0.378	5E-05 U	5E-05 U	0.000154	0.000172
MW-73	W73-190410-	4/10/2019	0.0001 U	0.0001 U	6.48	6.28	0.0001 U	0.00119	5E-05 U	5E-05 U	0.000248	0.000294
MW-74R	W74R190418-	4/18/2019	0.0001 U	0.0001 U	35.6	36.1	0.000145	0.00625	5E-05 U	5E-05 U	0.000848	0.000953
MW-74R	W74R190418D	4/18/2019	0.0001 U	0.0001 U	37.3	35.9	0.000153	0.00675	5E-05 U	5E-05 U	0.000826	0.00096
MW-75	W75-190418-	4/18/2019	0.0001 U	0.0001 U	22.9	23.1	0.2	0.194	5E-05 U	5E-05 U	0.0001 U	0.0001 U
MW-76	W76-190410-	4/10/2019	0.0001 U	0.0001 U	10	9.63	0.0001 U	0.0001 U	5E-05 U	5E-05 U	0.00048	0.000467
MW-80	W80-190514-	5/14/2019	0.0001 U	0.0001 U	16.3	16.4	0.334	0.337	5E-05 U	5E-05 U	0.00011	0.000135
MW-81	W81-190416-	4/16/2019	0.0001 U	0.0001 U	7.65	7.75	0.0001 U	0.00248	5E-05 U	5E-05 U	0.000102	0.000195
MW-82	W82-190408-	4/8/2019	0.0001 U	0.0001 U	17.6	17.2	0.0001 U	0.000306	5E-05 U	5E-05 U	0.000256	0.000881

Environmental Monitoring Data

Data Collected from April 1, 2019 to June 30, 2019
Cedar Hills Landfill --- Groundwater Metals Data
Contact Person: Sendy Jimenez (206) 477-5224

Site	Date	Sample ID	Lead, dissolved (mg/L)	Lead, total (mg/L)	Magnesium, dissolved (mg/L)	Magnesium, total (mg/L)	Manganese, dissolved (mg/L)	Manganese, total (mg/L)	Mercury, dissolved (mg/L)	Mercury, total (mg/L)	Nickel, dissolved (mg/L)	Nickel, total (mg/L)
MW-82	W82-190522-	5/22/2019	0.0001 U	0.0001 U	17.5	17.3	0.0001 U	0.000213 J	5E-05 U	5E-05 U	0.000368	0.000953
MW-83	W83-190412-	4/12/2019	0.0001 U	0.0001 U	25.6	25.2	0.101	0.33	5E-05 U	5E-05 U	0.00189	0.00294
MW-84	W84-190410-	4/10/2019	0.0001 U	0.0001 U	12	12	0.00079	0.000883	5E-05 U	5E-05 U	0.000313	0.000289
MW-85	W85-190416-	4/16/2019	0.0001 U	0.0001 U	20.4	20.7	0.0001 U	0.000507	5E-05 U	5E-05 U	0.000184	0.000227
MW-86	W86-190412-	4/12/2019	0.0001 U	0.0001 U	11.3	10.6	0.0194	0.0235	5E-05 U	5E-05 U	0.000114	0.000129
MW-87	W87-190418-	4/18/2019	0.0001 U	0.0001 U	31.2	32.3	0.528	0.548	5E-05 U	5E-05 U	0.000113	0.000117
MW-88	W88-190418-	4/18/2019	0.0001 U	0.0001 U	7.13	7.1	0.000175 J	0.000909	5E-05 U	5E-05 U	0.0001 U	0.000101

Environmental Monitoring Data

Data Collected from April 1, 2019 to June 30, 2019
Cedar Hills Landfill --- Groundwater Metals Data
Contact Person: Sendy Jimenez (206) 477-5224

Site	Date	Sample ID	Potassium, dissolved (mg/L)	Potassium, total (mg/L)	Selenium, dissolved (mg/L)	Selenium, total (mg/L)	Silver, dissolved (mg/L)	Silver, total (mg/L)	Sodium, dissolved (mg/L)	Sodium, total (mg/L)	Thallium, dissolved (mg/L)	Thallium, total (mg/L)
MW-100	W100190412-	4/12/2019	1.79	1.78	0.0005 U	0.0005 U	4E-05 U	4E-05 U	9.34	9.09	0.0001 U	0.0001 U
MW-101	W101190528-	5/28/2019	2.6	2.65	0.0005 U	0.0005 U	4E-05 U	4E-05 U	16.3	17.3	0.0001 U	0.0001 U
MW-102	W102190515-	5/15/2019	1.07	1.28	0.0005 U	0.0005 U	4E-05 U	4E-05 U	10.3	10.9	0.0001 U	0.0001 U
MW-103	W103190517-	5/17/2019	2.79	2.8	0.0005 U	0.0005 U	4E-05 U	4E-05 U	16.8	16.3	0.0001 U	0.0001 U
MW-104	W104190517-	5/17/2019	4.02	4.1	0.0005 U	0.000525	4E-05 U	4E-05 U	22	20.3	0.0001 U	0.0001 U
MW-107	W107190513-	5/13/2019	3.6	3.69	0.0005 U	0.0005 U	4E-05 U	4E-05 U	18.2	18.1	0.0001 U	0.0001 U
MW-108	W108190516-	5/16/2019	1.74	1.91	0.0005 U	0.0005 U	4E-05 U	4E-05 U	41.1	47.2	0.0001 U	0.0001 U
MW-109	W109190520-	5/20/2019	3.51 D	3.59 D	0.00271 D	0.00322 D	0.0002 DU	0.0002 DU	1550 D	1470 D	0.0005 DU	0.0005 DU
MW-110	W110190516-	5/16/2019	3.34	3.3	0.0005 U	0.0005 U	4E-05 U	4E-05 U	46.5	46.3	0.0001 U	0.0001 U
MW-111	W111190520-	5/20/2019	0.3	0.355	0.0005 U	0.0005 U	4E-05 U	4E-05 U	4.54	4.77	0.0001 U	0.0001 U
MW-112	W112190513-	5/13/2019	2.79	2.72	0.0005 U	0.0005 U	4E-05 U	4E-05 U	17.1	16.2	0.0001 U	0.0001 U
MW-21	W21-190408-	4/8/2019	1.11	1.07	0.0005 U	0.0005 U	4E-05 U	4E-05 U	5.99	5.88	0.0001 U	0.0001 U
MW-24	W24-190408-	4/8/2019	1.01	0.996	0.0005 U	0.0005 U	4E-05 U	4E-05 U	5.87	5.84	0.0001 U	0.0001 U
MW-30A	W30A190513-	5/13/2019	1.53	1.54	0.0005 U	0.0005 U	4E-05 U	4E-05 U	15.2	15.2	0.0001 U	0.0001 U
MW-47	W47-190513-	5/13/2019	5.24	5.11	0.0005 U	0.0005 U	4E-05 U	4E-05 U	19.9	18.9	0.0001 U	0.0001 U
MW-50	W50-190520-	5/20/2019	6.15	5.97	0.0005 U	0.0005 U	4E-05 U	4E-05 U	16.6	16.3	0.0001 U	0.0001 U
MW-56	W56-190408-	4/8/2019	1.23	1.2	0.0005 U	0.0005 U	4E-05 U	4E-05 U	6.16	6.05	0.0001 U	0.0001 U
MW-59	W59-190410-	4/10/2019	1.15	1.12	0.0005 U	0.0005 U	4E-05 U	4E-05 U	6.27	5.99	0.0001 U	0.0001 U
MW-62	W62-190528-	5/28/2019	0.744 H	0.766	0.0005 HU	0.0005 U	4E-05 HU	4E-05 U	9.22 H	10.5	0.0001 HU	0.0001 U
MW-64	W64-190412-	4/12/2019	1.73	1.69	0.0005 U	0.0005 U	4E-05 U	4E-05 U	7.94	7.68	0.0001 U	0.0001 U
MW-65	W65-190412-	4/12/2019	0.927	0.912	0.0005 U	0.0005 U	4E-05 U	4E-05 U	5.38	5.24	0.0001 U	0.0001 U
MW-66	W66-190410-	4/10/2019	1.17	1.15	0.000955	0.000944	4E-05 U	4E-05 U	7.64	7.33	0.0001 U	0.0001 U
MW-67	W67-190412-	4/12/2019	1.78	1.76	0.0005 U	0.0005 U	4E-05 U	4E-05 U	9.88	9.63	0.0001 U	0.0001 U
MW-68	W68-190415-	4/15/2019	1.66	1.67	0.0005 U	0.0005 U	4E-05 U	4E-05 U	8.69	8.72	0.0001 U	0.0001 U
MW-68	W68-190514-	5/14/2019	1.69	1.69	0.0005 U	0.0005 U	4E-05 U	4E-05 U	8.81	9.26	0.0001 U	0.0001 U
MW-69	W69-190415-	4/15/2019	1.78	1.79	0.0005 U	0.0005 U	4E-05 U	4E-05 U	8.67	8.57	0.0001 U	0.0001 U
MW-72	W72-190416-	4/16/2019	1.98	1.96	0.0005 U	0.0005 U	4E-05 U	4E-05 U	8.44	8.45	0.0001 U	0.0001 U
MW-73	W73-190410-	4/10/2019	0.819	0.809	0.0005 U	0.0005 U	4E-05 U	4E-05 U	5.97	5.75	0.0001 U	0.0001 U
MW-74R	W74R190418-	4/18/2019	2.17	2.15	0.000644	0.00064	4E-05 U	4E-05 U	12.8	12.8	0.0001 U	0.0001 U
MW-74R	W74R190418D	4/18/2019	2.23	2.16	0.000615	0.00064	4E-05 U	4E-05 U	13.2	12.7	0.0001 U	0.0001 U
MW-75	W75-190418-	4/18/2019	1.94	1.95	0.0005 U	0.0005 U	4E-05 U	4E-05 U	9.36	9.33	0.0001 U	0.0001 U
MW-76	W76-190410-	4/10/2019	1.46	1.43	0.0005 U	0.0005 U	4E-05 U	4E-05 U	10.5	10.1	0.0001 U	0.0001 U
MW-80	W80-190514-	5/14/2019	1.69	1.66	0.0005 U	0.0005 U	4E-05 U	4E-05 U	7.93	8.26	0.0001 U	0.0001 U
MW-81	W81-190416-	4/16/2019	0.859	0.852	0.00096	0.000799	4E-05 U	4E-05 U	6.57	6.57	0.0001 U	0.0001 U
MW-82	W82-190408-	4/8/2019	1.92	1.87	0.0005 U	0.0005 U	4E-05 U	4E-05 U	8.51	8.27	0.0001 U	0.0001 U

Environmental Monitoring Data

Data Collected from April 1, 2019 to June 30, 2019
Cedar Hills Landfill --- Groundwater Metals Data
Contact Person: Sendy Jimenez (206) 477-5224

Site	Date	Sample ID	Potassium, dissolved (mg/L)	Potassium, total (mg/L)	Selenium, dissolved (mg/L)	Selenium, total (mg/L)	Silver, dissolved (mg/L)	Silver, total (mg/L)	Sodium, dissolved (mg/L)	Sodium, total (mg/L)	Thallium, dissolved (mg/L)	Thallium, total (mg/L)
MW-82	W82-190522-	5/22/2019	1.86	1.87	0.0005 U	0.0005 U	4E-05 U	4E-05 U	7.34	7.78	0.0001 U	0.0001 U
MW-83	W83-190412-	4/12/2019	3.12	3.1	0.0005 U	0.0005 U	4E-05 U	4E-05 U	11.8	11.4	0.0001 U	0.0001 U
MW-84	W84-190410-	4/10/2019	1.18	1.18	0.000811	0.000696	4E-05 U	4E-05 U	7.31	7.13	0.0001 U	0.0001 U
MW-85	W85-190416-	4/16/2019	1.67	1.67	0.000865	0.000914	4E-05 U	4E-05 U	9.54	9.64	0.0001 U	0.0001 U
MW-86	W86-190412-	4/12/2019	1.32	1.28	0.0005 U	0.0005 U	4E-05 U	4E-05 U	7.26	6.87	0.0001 U	0.0001 U
MW-87	W87-190418-	4/18/2019	2.38	2.47	0.0005 U	0.0005 U	4E-05 U	4E-05 U	10.8	11	0.0001 U	0.0001 U
MW-88	W88-190418-	4/18/2019	0.866	0.856	0.0005 U	0.0005 U	4E-05 U	4E-05 U	5.82	5.87	0.0001 U	0.0001 U

Environmental Monitoring Data

Data Collected from April 1, 2019 to June 30, 2019
Cedar Hills Landfill --- Groundwater Metals Data
Contact Person: Sendy Jimenez (206) 477-5224

Site	Date	Sample ID	Vanadium, dissolved (mg/L)	Vanadium, total (mg/L)	Zinc, dissolved (mg/L)	Zinc, total (mg/L)
MW-100	W100190412-	4/12/2019	0.0001	0.000105	0.000585	0.00147
MW-101	W101190528-	5/28/2019	0.000232	0.00036	0.00106	0.00171
MW-102	W102190515-	5/15/2019	0.00088	0.00241	0.00128	0.00311
MW-103	W103190517-	5/17/2019	0.00029	0.00146	0.000723	0.007
MW-104	W104190517-	5/17/2019	0.00185	0.0025	0.00105	0.00185
MW-107	W107190513-	5/13/2019	4.43E-04	0.00106	0.00313	0.0037
MW-108	W108190516-	5/16/2019	0.00368	4.32E-03	0.00149	0.00174
MW-109	W109190520-	5/20/2019	0.414 D	0.425 D	0.00301	0.00569
MW-110	W110190516-	5/16/2019	0.00135	0.00141	0.0023	0.00289
MW-111	W111190520-	5/20/2019	0.00101	0.00219	0.000929	0.00194
MW-112	W112190513-	5/13/2019	0.00109	0.00103	0.0005 U	0.0005 U
MW-21	W21-190408-	4/8/2019	0.0000924	7.5E-05 U	0.0005 U	0.0005 U
MW-24	W24-190408-	4/8/2019	7.5E-05 U	7.5E-05 U	0.0005 U	0.0005 U
MW-30A	W30A190513-	5/13/2019	0.00185	0.00206	0.00109	0.00118
MW-47	W47-190513-	5/13/2019	0.000174	0.000208	0.0005 U	0.000647
MW-50	W50-190520-	5/20/2019	0.00327	0.00338	0.000742	0.00111
MW-56	W56-190408-	4/8/2019	0.000202	0.000203	0.00196	0.00124 J
MW-59	W59-190410-	4/10/2019	7.5E-05 U	7.5E-05 U	0.00106	0.00216
MW-62	W62-190528-	5/28/2019	0.00066 H	0.000753	0.00147 BH	0.00121
MW-64	W64-190412-	4/12/2019	0.000213	0.000404	0.000519 J	0.00108
MW-65	W65-190412-	4/12/2019	7.5E-05 U	7.5E-05 U	0.000542	0.000658 J
MW-66	W66-190410-	4/10/2019	0.000732	0.000723	0.0005 U	0.00137
MW-67	W67-190412-	4/12/2019	0.00024	0.00209	0.0005 U	0.0016
MW-68	W68-190415-	4/15/2019	0.000205	0.000344	0.0005 U	0.000661
MW-68	W68-190514-	5/14/2019	0.000189	0.000304	0.0005 U	0.0005 U
MW-69	W69-190415-	4/15/2019	0.000111	0.000275	0.0005 U	0.00201
MW-72	W72-190416-	4/16/2019	7.5E-05 U	0.0000808	0.000761	0.00164
MW-73	W73-190410-	4/10/2019	0.00131	0.00127	0.0005 U	0.0005 U
MW-74R	W74R190418-	4/18/2019	0.000615	0.000796	0.000586	0.000675
MW-74R	W74R190418D	4/18/2019	0.000572	0.000796	0.000579	0.000653
MW-75	W75-190418-	4/18/2019	7.5E-05 U	7.5E-05 U	0.000509	0.0005 U
MW-76	W76-190410-	4/10/2019	0.000621	0.000594	0.000784	0.0005 U
MW-80	W80-190514-	5/14/2019	7.5E-05 U	7.5E-05 U	0.0005 U	0.0005 U
MW-81	W81-190416-	4/16/2019	0.00164	0.00178	0.0005 U	0.00167
MW-82	W82-190408-	4/8/2019	0.00133	0.00132	0.0005 U	0.000571

Environmental Monitoring Data

Data Collected from April 1, 2019 to June 30, 2019
Cedar Hills Landfill --- Groundwater Metals Data
Contact Person: Sendy Jimenez (206) 477-5224

Site	Date	Sample ID	Vanadium, dissolved (mg/L)	Vanadium, total (mg/L)	Zinc, dissolved (mg/L)	Zinc, total (mg/L)
MW-82	W82-190522-	5/22/2019	0.00125	0.0013	0.000841	0.0005 JU
MW-83	W83-190412-	4/12/2019	0.000811	0.000882	0.000604	0.000802
MW-84	W84-190410-	4/10/2019	0.000507	0.000517	0.0005 U	0.0005 U
MW-85	W85-190416-	4/16/2019	0.000922	0.000991	0.0005 U	0.000641
MW-86	W86-190412-	4/12/2019	0.000136	0.000428	0.0005 U	0.000608
MW-87	W87-190418-	4/18/2019	7.5E-05 U	0.000144	0.00054	0.00135
MW-88	W88-190418-	4/18/2019	0.00267	0.00267	0.0005 JU	0.0005 U

Environmental Monitoring Data

Data Collected from April 1, 2019 to June 30, 2019
Cedar Hills Landfill --- Groundwater VOAs Data
Contact Person: Sendy Jimenez (206) 477-5224

Site	Date	Sample ID	1,1,1,2-Tetrachloroethane ug/l 630-20-6	1,1,1-Trichloroethane ug/l 71-55-6	1,1,2,2-Tetrachloroethane ug/l 79-34-5	1,1,2-Trichloroethane ug/l 79-00-5	1,1-Dichloroethane ug/l 75-34-3	1,1-Dichloroethene ug/l 75-35-4	1,2,3-Trichloropropane ug/l 96-18-4	1,2-Dibromo-3-Chloropropa ug/l 96-12-8	1,2-Dibromoethane ug/l 106-93-4	1,2-Dichlorobenzene ug/l 95-50-1	1,2-Dichloroethane ug/l 107-06-2
MW-100	W100190412-	4/12/2019	0.25 U	0.1 U	0.1 U	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	W101190528-	5/28/2019	0.25 U	0.1 U	0.1 U	0.1 U	0.154 JT	0.1 U	0.1 U	2.5 U	0.1 U	0.1 U	0.139 JT
MW-102	W102190515-	5/15/2019	0.25 U	0.1 U	0.1 U	1 U	0.146 JT	2 U	0.1 U	2.5 U	0.1 U	1 U	0.1 U
MW-103	W103190517-	5/17/2019	0.25 U	0.1 U	0.1 U	1 U	0.1 U	2 U	0.1 U	2.5 U	0.1 U	1 U	0.1 U
MW-104	W104190517-	5/17/2019	0.25 U	0.1 U	0.1 U	1 U	0.1 U	2 U	0.1 U	2.5 U	0.1 U	1 U	0.1 U
MW-107	W107190513-	5/13/2019	0.25 U	0.1 U	0.1 U	1 U	0.1 U	2 U	0.1 U	2.5 U	0.1 U	1 U	0.1 U
MW-108	W108190516-	5/16/2019	0.25 U	0.1 U	0.1 U	1 U	0.1 U	2 U	0.1 U	2.5 U	0.1 U	1 U	0.1 U
MW-109	W109190520-	5/20/2019	2.5 U	1 U	1 U	10 U	1 U	20 U	1 U	25 U	1 U	10 U	1 U
MW-110	W110190516-	5/16/2019	0.25 U	0.1 U	0.1 U	1 U	0.351	2 U	0.1 U	2.5 U	0.1 U	1 U	0.303
MW-111	W111190520-	5/20/2019	0.25 U	0.1 U	0.1 U	1 U	0.1 U	2 U	0.1 U	2.5 U	0.1 U	1 U	0.1 U
MW-112	W112190513-	5/13/2019	0.25 U	0.1 U	0.1 U	1 U	0.1 U	2 U	0.1 U	2.5 U	0.1 U	1 U	0.1 U
MW-21	W21-190408-	4/8/2019	0.25 U	0.1 U	0.1 U	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	W24-190408-	4/8/2019	0.25 U	0.1 U	0.1 U	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	W30A190513-	5/13/2019	0.25 U	0.1 U	0.1 U	1 U	1.77	2 U	0.1 U	2.5 U	0.1 U	1 U	0.1 U
MW-47	W47-190513-	5/13/2019	0.25 U	0.1 U	0.1 U	1 U	0.589	2 U	0.1 U	2.5 U	0.1 U	1 U	0.109 JT
MW-50	W50-190520-	5/20/2019	0.25 U	0.1 U	0.1 U	1 U	0.1 U	2 U	0.1 U	2.5 U	0.1 U	1 U	0.1 U
MW-56	W56-190408-	4/8/2019	0.25 U	0.1 U	0.1 U	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	W59-190410-	4/10/2019	0.25 U	0.1 U	0.1 U	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	W62-190528-	5/28/2019	0.25 U	0.1 U	0.1 U	0.1 U	0.393	0.1 U	0.1 U	2.5 U	0.1 U	0.1 U	0.1 U
MW-64	W64-190412-	4/12/2019	0.25 U	0.1 U	0.1 U	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	W65-190412-	4/12/2019	0.25 U	0.1 U	0.1 U	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	W66-190410-	4/10/2019	0.25 U	0.1 U	0.1 U	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	W67-190412-	4/12/2019	0.25 U	0.1 U	0.1 U	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	W68-190415-	4/15/2019	0.25 U	0.1 U	0.1 U	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	W68-190514-	5/14/2019	0.25 U	0.1 U	0.1 U	1 U	0.1 U	2 U	0.1 U	2.5 U	0.1 U	1 U	0.1 U
MW-69	W69-190415-	4/15/2019	0.25 U	0.1 U	0.1 U	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	W72-190416-	4/16/2019	0.25 U	0.1 U	0.1 U	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	W73-190410-	4/10/2019	0.25 U	0.1 U	0.1 U	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	W74R190418-	4/18/2019	0.25 U	0.1 U	0.1 U	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	W74R190418D	4/18/2019	0.25 U	0.1 U	0.1 U	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	W75-190418-	4/18/2019	0.25 U	0.1 U	0.1 U	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	W76-190410-	4/10/2019	0.25 U	0.1 U	0.1 U	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	W80-190514-	5/14/2019	0.25 U	0.1 U	0.1 U	1 U	0.1 U	2 U	0.1 U	2.5 U	0.1 U	1 U	0.1 U
MW-81	W81-190416-	4/16/2019	0.25 U	0.1 U	0.1 U	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	W82-190522-	5/22/2019	0.25 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	2.5 U	0.1 U	0.1 U	0.1 U

Environmental Monitoring Data

Data Collected from April 1, 2019 to June 30, 2019
Cedar Hills Landfill --- Groundwater VOAs Data
Contact Person: Sendy Jimenez (206) 477-5224

Site	Date	Sample ID	1,1,1,2-Tetrachloroethane ug/l 630-20-6	1,1,1-Trichloroethane ug/l 71-55-6	1,1,2,2-Tetrachloroethane ug/l 79-34-5	1,1,2-Trichloroethane ug/l 79-00-5	1,1-Dichloroethane ug/l 75-34-3	1,1-Dichloroethene ug/l 75-35-4	1,2,3-Trichloropropane ug/l 96-18-4	1,2-Dibromo-3-Chloropropa ug/l 96-12-8	1,2-Dibromoethane ug/l 106-93-4	1,2-Dichlorobenzene ug/l 95-50-1	1,2-Dichloroethane ug/l 107-06-2
MW-83	W83-190412-	4/12/2019	0.25 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	2.5 U	0.1 U	0.1 U	0.1 U
MW-84	W84-190410-	4/10/2019	0.25 U	0.1 U	0.1 U	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	W85-190416-	4/16/2019	0.25 U	0.1 U	0.1 U	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	W86-190412-	4/12/2019	0.25 U	0.1 U	0.1 U	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	W87-190418-	4/18/2019	0.25 U	0.1 U	0.1 U	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	W88-190418-	4/18/2019	0.25 U	0.1 U	0.1 U	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	W89-190418-	4/18/2019	0.25 U	0.1 U	0.1 U	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	W93-190416-	4/16/2019	0.25 U	0.1 U	0.1 U	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	W94-190410-	4/10/2019	0.25 U	0.1 U	0.1 U	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	W95-190408-	4/8/2019	0.25 U	0.1 U	0.1 U	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	WB6-190514-	5/14/2019	0.25 U	0.1 U	0.1 U	1 U	0.1 U	2 U	0.1 U	2.5 U	0.1 U	1 U	0.1 U
VOA TRIP BLANK	VTRP190408X	4/5/2019	0.25 U	0.1 U	0.1 U	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	VTRP190408Y	4/5/2019	0.25 U	0.1 U	0.1 U	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	VTRP190410X	4/8/2019	0.25 U	0.1 U	0.1 U	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	VTRP190410Y	4/8/2019	0.25 U	0.1 U	0.1 U	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	VTRP190412X	4/11/2019	0.25 U	0.1 U	0.1 U	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	VTRP190412Y	4/8/2019	0.25 U	0.1 U	0.1 U	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	VTRP190415Y	4/11/2019	0.25 U	0.1 U	0.1 U	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	VTRP190416X	4/16/2019	0.25 U	0.1 U	0.1 U	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	VTRP190416Y	4/16/2019	0.25 U	0.1 U	0.1 U	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	VTRP190418X	4/16/2019	0.25 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	2.5 U	0.1 U	0.1 U	0.1 U

Environmental Monitoring Data

Data Collected from April 1, 2019 to June 30, 2019
Cedar Hills Landfill --- Groundwater VOAs Data
Contact Person: Sendy Jimenez (206) 477-5224

Site	Date	Sample ID	1,2-Dichloropropane ug/l 78-87-5	1,4-Dichlorobenzene ug/l 106-46-7	2-Butanone ug/l 78-93-3	2-Hexanone ug/l 591-78-6	4-Methyl-2-Pentanone ug/l 108-10-1	Acetone ug/l 67-64-1	Acrylonitrile ug/l 107-13-1	Benzene ug/l 71-43-2	Bromochloromethane ug/l 74-97-5	Bromodichloromethane ug/l 75-27-4	Bromoform ug/l 75-25-2	Bromomethane ug/l 74-83-9
MW-100	W100190412-	4/12/2019	0.1 U	0.1 U	1 U	0.5 U	2.5 U	2.5 U	0.035 U	0.1 U	0.1 U	0.25 U	0.5 U	0.1 U
MW-101	W101190528-	5/28/2019	0.1 U	0.1 U	1 U	0.5 U	2.5 U	2.5 U	0.035 U	0.1 U	0.1 U	0.25 U	0.5 U	0.1 U
MW-102	W102190515-	5/15/2019	0.1 U	0.1 U	0.25 U	0.5 U	2.5 U	2.5 U	0.035 U	0.1 U	1 U	0.25 U	0.5 U	0.1 U
MW-103	W103190517-	5/17/2019	0.1 U	0.1 U	0.25 U	0.5 U	2.5 U	2.5 U	0.035 U	0.1 U	1 U	0.25 U	0.5 U	0.1 U
MW-104	W104190517-	5/17/2019	0.1 U	0.1 U	0.25 U	0.5 U	2.5 U	2.5 U	0.035 U	0.1 U	1 U	0.25 U	0.5 U	0.1 U
MW-107	W107190513-	5/13/2019	0.1 U	3.73	0.25 U	0.5 U	2.5 U	2.5 U	0.035 U	0.361	1 U	0.25 U	0.5 U	0.1 U
MW-108	W108190516-	5/16/2019	0.1 U	0.1 U	0.25 U	0.5 U	2.5 U	2.5 U	0.035 U	0.1 U	1 U	0.25 U	0.5 U	0.1 U
MW-109	W109190520-	5/20/2019	1 U	1 U	2.5 U	5 U	25 U	25 U	0.35 U	1.08 JT	10 U	2.5 U	5 U	1 U
MW-110	W110190516-	5/16/2019	0.227	0.145 JT	0.25 U	0.5 U	2.5 U	2.5 U	0.035 U	0.209	1 U	0.25 U	0.5 U	0.1 U
MW-111	W111190520-	5/20/2019	0.1 U	0.1 U	0.25 U	0.5 U	2.5 U	2.5 U	0.035 U	0.1 U	1 U	0.25 U	0.5 U	0.1 U
MW-112	W112190513-	5/13/2019	0.1 U	0.1 U	0.25 U	0.5 U	2.5 U	2.5 U	0.035 U	0.1 U	1 U	0.25 U	0.5 U	0.1 U
MW-21	W21-190408-	4/8/2019	0.1 U	0.1 U	1 U	0.5 U	2.5 U	2.5 U	0.035 U	0.1 U	0.1 U	0.25 U	0.5 U	0.1 U
MW-24	W24-190408-	4/8/2019	0.1 U	0.1 U	1 U	0.5 U	2.5 U	2.5 U	0.035 U	0.1 U	0.1 U	0.25 U	0.5 U	0.1 U
MW-30A	W30A190513-	5/13/2019	0.1 U	0.1 U	0.25 U	0.5 U	2.5 U	2.5 U	0.035 U	0.1 U	1 U	0.25 U	0.5 U	0.1 U
MW-47	W47-190513-	5/13/2019	0.1 U	0.1 U	0.25 U	0.5 U	2.5 U	2.5 U	0.035 U	0.1 U	1 U	0.25 U	0.5 U	0.1 U
MW-50	W50-190520-	5/20/2019	0.1 U	0.1 U	0.25 U	0.5 U	2.5 U	2.5 U	0.035 U	0.1 U	1 U	0.25 U	0.5 U	0.1 U
MW-56	W56-190408-	4/8/2019	0.1 U	0.1 U	1 U	0.5 U	2.5 U	2.5 U	0.035 U	0.1 U	0.1 U	0.25 U	0.5 U	0.1 U
MW-59	W59-190410-	4/10/2019	0.1 U	0.1 U	1 U	0.5 U	2.5 U	2.5 U	0.035 U	0.1 U	0.1 U	0.25 U	0.5 U	0.1 U
MW-62	W62-190528-	5/28/2019	0.1 U	0.1 U	1 U	0.5 U	2.5 U	2.5 U	0.035 U	0.1 U	0.1 U	0.25 U	0.5 U	0.1 U
MW-64	W64-190412-	4/12/2019	0.1 U	0.1 U	1 U	0.5 U	2.5 U	2.5 U	0.035 U	0.1 U	0.1 U	0.25 U	0.5 U	0.1 U
MW-65	W65-190412-	4/12/2019	0.1 U	0.1 U	1 U	0.5 U	2.5 U	2.5 U	0.035 U	0.1 U	0.1 U	0.25 U	0.5 U	0.1 U
MW-66	W66-190410-	4/10/2019	0.1 U	0.1 U	1 U	0.5 U	2.5 U	2.5 U	0.035 U	0.1 U	0.1 U	0.25 U	0.5 U	0.1 U
MW-67	W67-190412-	4/12/2019	0.1 U	0.1 U	1 U	0.5 U	2.5 U	2.5 U	0.035 U	0.1 U	0.1 U	0.25 U	0.5 U	0.1 U
MW-68	W68-190415-	4/15/2019	0.1 U	0.1 U	1 U	0.5 U	2.5 U	2.5 U	0.035 U	0.1 U	0.1 U	0.25 U	0.5 U	0.1 U
MW-68	W68-190514-	5/14/2019	0.1 U	0.1 U	0.25 U	0.5 U	2.5 U	2.5 U	0.035 U	0.1 U	1 U	0.25 U	0.5 U	0.1 U
MW-69	W69-190415-	4/15/2019	0.1 U	0.1 U	1 U	0.5 U	2.5 U	2.5 U	0.035 U	0.1 U	0.1 U	0.25 U	0.5 U	0.1 U
MW-72	W72-190416-	4/16/2019	0.1 U	0.1 U	1 U	0.5 U	2.5 U	2.5 U	0.035 U	0.1 U	0.1 U	0.25 U	0.5 U	0.1 U
MW-73	W73-190410-	4/10/2019	0.1 U	0.1 U	1 U	0.5 U	2.5 U	2.5 U	0.035 U	0.1 U	0.1 U	0.25 U	0.5 U	0.1 U
MW-74R	W74R190418-	4/18/2019	0.1 U	0.1 U	1 U	0.5 U	2.5 U	2.5 U	0.035 U	0.1 U	0.1 U	0.25 U	0.5 U	0.1 U
MW-74R	W74R190418D	4/18/2019	0.1 U	0.1 U	1 U	0.5 U	2.5 U	2.5 U	0.035 U	0.1 U	0.1 U	0.25 U	0.5 U	0.1 U
MW-75	W75-190418-	4/18/2019	0.1 U	0.1 U	1 U	0.5 U	2.5 U	2.5 U	0.035 U	0.1 U	0.1 U	0.25 U	0.5 U	0.1 U
MW-76	W76-190410-	4/10/2019	0.1 U	0.1 U	1 U	0.5 U	2.5 U	2.5 U	0.035 U	0.1 U	0.1 U	0.25 U	0.5 U	0.1 U
MW-80	W80-190514-	5/14/2019	0.1 U	0.1 U	0.25 U	0.5 U	2.5 U	2.65 JT	0.035 U	0.1 U	1 U	0.25 U	0.5 U	0.1 U
MW-81	W81-190416-	4/16/2019	0.1 U	0.1 U	1 U	0.5 U	2.5 U	2.5 U	0.035 U	0.1 U	0.1 U	0.25 U	0.5 U	0.1 U
MW-82	W82-190522-	5/22/2019	0.1 U	0.1 U	1 U	0.5 U	2.5 U	2.5 U	0.035 U	0.1 U	0.1 U	0.25 U	0.5 U	0.1 U

Environmental Monitoring Data

Data Collected from April 1, 2019 to June 30, 2019
Cedar Hills Landfill --- Groundwater VOAs Data
Contact Person: Sendy Jimenez (206) 477-5224

Site	Date	Sample ID	1,2-Dichloropropane ug/l 78-87-5	1,4-Dichlorobenzene ug/l 106-46-7	2-Butanone ug/l 78-93-3	2-Hexanone ug/l 591-78-6	4-Methyl-2-Pentanone ug/l 108-10-1	Acetone ug/l 67-64-1	Acrylonitrile ug/l 107-13-1	Benzene ug/l 71-43-2	Bromochloromethane ug/l 74-97-5	Bromodichloromethane ug/l 75-27-4	Bromoform ug/l 75-25-2	Bromomethane ug/l 74-83-9
MW-83	W83-190412-	4/12/2019	0.1 U	0.1 U	1 U	0.5 U	2.5 U	2.5 U	0.035 U	0.1 U	0.1 U	0.25 U	0.5 U	0.1 U
MW-84	W84-190410-	4/10/2019	0.1 U	0.1 U	1 U	0.5 U	2.5 U	2.5 U	0.035 U	0.1 U	0.1 U	0.25 U	0.5 U	0.1 U
MW-85	W85-190416-	4/16/2019	0.1 U	0.1 U	1 U	0.5 U	2.5 U	2.5 U	0.035 U	0.1 U	0.1 U	0.25 U	0.5 U	0.1 U
MW-86	W86-190412-	4/12/2019	0.1 U	0.1 U	1 U	0.5 U	2.5 U	2.5 U	0.035 U	0.1 U	0.1 U	0.25 U	0.5 U	0.1 U
MW-87	W87-190418-	4/18/2019	0.1 U	0.1 U	1 U	0.5 U	2.5 U	2.5 U	0.035 U	0.1 U	0.1 U	0.25 U	0.5 U	0.1 U
MW-88	W88-190418-	4/18/2019	0.1 U	0.1 U	1 U	0.5 U	2.5 U	2.5 U	0.035 U	0.1 U	0.1 U	0.25 U	0.5 U	0.1 U
MW-89	W89-190418-	4/18/2019	0.1 U	0.1 U	1 U	0.5 U	2.5 U	2.5 U	0.035 U	0.1 U	0.1 U	0.25 U	0.5 U	0.1 U
MW-93	W93-190416-	4/16/2019	0.1 U	0.1 U	1 U	0.5 U	2.5 U	2.5 U	0.035 U	0.1 U	0.1 U	0.25 U	0.5 U	0.1 U
MW-94	W94-190410-	4/10/2019	0.1 U	0.1 U	1 U	0.5 U	2.5 U	2.5 U	0.035 U	0.1 U	0.1 U	0.25 U	0.5 U	0.1 U
MW-95	W95-190408-	4/8/2019	0.1 U	0.1 U	1 U	0.5 U	2.5 U	2.5 U	0.035 U	0.1 U	0.1 U	0.25 U	0.5 U	0.1 U
MW-EB6	WB6-190514-	5/14/2019	0.1 U	0.1 U	0.25 U	0.5 U	2.5 U	2.5 U	0.035 U	0.1 U	1 U	0.25 U	0.5 U	0.1 U
VOA TRIP BLANK	VTRP190408X	4/5/2019	0.1 U	0.1 U	1 U	0.5 U	2.5 U	2.5 U	0.035 U	0.1 U	0.1 U	0.25 U	0.5 U	0.1 U
VOA TRIP BLANK	VTRP190408Y	4/5/2019	0.1 U	0.1 U	1 U	0.5 U	2.5 U	2.5 U	0.035 U	0.1 U	0.1 U	0.25 U	0.5 U	0.1 U
VOA TRIP BLANK	VTRP190410X	4/8/2019	0.1 U	0.1 U	1 U	0.5 U	2.5 U	2.5 U	0.035 U	0.1 U	0.1 U	0.25 U	0.5 U	0.1 U
VOA TRIP BLANK	VTRP190410Y	4/8/2019	0.1 U	0.1 U	1 U	0.5 U	2.5 U	2.5 U	0.035 U	0.1 U	0.1 U	0.25 U	0.5 U	0.1 U
VOA TRIP BLANK	VTRP190412X	4/11/2019	0.1 U	0.1 U	1 U	0.5 U	2.5 U	2.5 U	0.035 U	0.1 U	0.1 U	0.25 U	0.5 U	0.1 U
VOA TRIP BLANK	VTRP190412Y	4/8/2019	0.1 U	0.1 U	1 U	0.5 U	2.5 U	2.5 U	0.035 U	0.1 U	0.1 U	0.25 U	0.5 U	0.1 U
VOA TRIP BLANK	VTRP190415Y	4/11/2019	0.1 U	0.1 U	1 U	0.5 U	2.5 U	2.5 U	0.035 U	0.1 U	0.1 U	0.25 U	0.5 U	0.1 U
VOA TRIP BLANK	VTRP190416X	4/16/2019	0.1 U	0.1 U	1 U	0.5 U	2.5 U	2.5 U	0.035 U	0.1 U	0.1 U	0.25 U	0.5 U	0.1 U
VOA TRIP BLANK	VTRP190416Y	4/16/2019	0.1 U	0.1 U	1 U	0.5 U	2.5 U	2.5 U	0.035 U	0.1 U	0.1 U	0.25 U	0.5 U	0.1 U
VOA TRIP BLANK	VTRP190418X	4/16/2019	0.1 U	0.1 U	1 U	0.5 U	2.5 U	2.5 U	0.035 U	0.1 U	0.1 U	0.25 U	0.5 U	0.1 U

Environmental Monitoring Data

Data Collected from April 1, 2019 to June 30, 2019
Cedar Hills Landfill --- Groundwater VOAs Data
Contact Person: Sendy Jimenez (206) 477-5224

Site	Date	Sample ID	Carbon Disulfide ug/l 75-15-0	Carbon Tetrachloride ug/l 56-23-5	Chlorbenzene ug/l 108-90-7	Chlorodibromomethane ug/l 124-48-1	Chloroethane ug/l 75-00-3	Chloroform ug/l 67-66-3	Chloromethane ug/l 74-87-3	cis-1,2-Dichloroethene ug/l 156-59-2	cis-1,3-Dichloropropene ug/l 10061-01-5	Dibromomethane ug/l 74-95-3	Dichlorodifluoromethane ug/l 75-71-8	Ethylbenzene ug/l 100-41-4
MW-100	W100190412-	4/12/2019	0.1 U	0.25 U	0.1 U	0.5 U	0.1 U	0.1 U	0.25 U	0.1 U	0.25 U	0.1 U	0.1 U	0.1 U
MW-101	W101190528-	5/28/2019	0.1 U	0.25 U	0.1 U	0.5 U	0.307	0.1 U	0.25 U	0.205	0.25 U	0.1 U	0.1 U	0.1 U
MW-102	W102190515-	5/15/2019	0.1 U	0.25 U	0.1 U	0.5 U	0.1 U	0.1 U	4 U	0.111 JT	0.25 U	0.1 U	0.1 U	0.1 U
MW-103	W103190517-	5/17/2019	0.1 U	0.25 U	0.1 U	0.5 U	0.1 U	0.1 U	4 U	0.1 U	0.25 U	0.1 U	0.1 U	0.1 U
MW-104	W104190517-	5/17/2019	0.1 U	0.25 U	0.1 U	0.5 U	0.1 U	0.1 U	4 U	0.1 U	0.25 U	0.1 U	0.1 U	0.1 U
MW-107	W107190513-	5/13/2019	0.1 U	0.25 U	1.93	0.5 U	0.1 U	0.1 U	4 U	0.347	0.25 U	0.1 U	0.1 U	0.1 U
MW-108	W108190516-	5/16/2019	0.1 U	0.25 U	0.1 U	0.5 U	0.1 U	0.1 U	4 U	0.1 U	0.25 U	0.1 U	0.1 U	0.1 U
MW-109	W109190520-	5/20/2019	1 U	2.5 U	1 U	5 U	1 U	1 U	40 U	1 U	2.5 U	1 U	1 U	1 U
MW-110	W110190516-	5/16/2019	0.1 U	0.25 U	0.486	0.5 U	0.1 U	0.1 U	4 U	3.75	0.25 U	0.1 U	0.1 U	0.1 U
MW-111	W111190520-	5/20/2019	0.1 U	0.25 U	0.1 U	0.5 U	0.1 U	0.1 U	4 U	0.154 JT	0.25 U	0.1 U	0.1 U	0.1 U
MW-112	W112190513-	5/13/2019	0.1 U	0.25 U	0.1 U	0.5 U	0.1 U	0.1 U	4 U	0.1 U	0.25 U	0.1 U	0.1 U	0.1 U
MW-21	W21-190408-	4/8/2019	0.1 U	0.25 U	0.1 U	0.5 U	0.1 U	0.1 U	0.25 U	0.1 U	0.25 U	0.1 U	0.1 U	0.1 U
MW-24	W24-190408-	4/8/2019	0.1 U	0.25 U	0.1 U	0.5 U	0.1 U	0.1 U	0.25 U	0.1 U	0.25 U	0.1 U	0.1 U	0.1 U
MW-30A	W30A190513-	5/13/2019	0.1 U	0.25 U	0.1 U	0.5 U	0.1 U	0.1 U	4 U	1.95	0.25 U	0.1 U	0.1 U	0.1 U
MW-47	W47-190513-	5/13/2019	0.1 U	0.25 U	0.1 U	0.5 U	0.1 U	0.1 U	4 U	1.68	0.25 U	0.1 U	3.94	0.1 U
MW-50	W50-190520-	5/20/2019	0.1 U	0.25 U	0.1 U	0.5 U	0.1 U	0.1 U	4 U	0.1 U	0.25 U	0.1 U	0.1 U	0.1 U
MW-56	W56-190408-	4/8/2019	0.1 U	0.25 U	0.1 U	0.5 U	0.1 U	0.1 U	0.25 U	1.48	0.25 U	0.1 U	0.1 U	0.1 U
MW-59	W59-190410-	4/10/2019	0.1 U	0.25 U	0.1 U	0.5 U	0.1 U	0.1 U	0.26 JT	1.38	0.25 U	0.1 U	0.1 U	0.1 U
MW-62	W62-190528-	5/28/2019	0.1 U	0.25 U	0.1 U	0.5 U	0.1 U	0.1 U	0.25 U	0.919	0.25 U	0.1 U	0.1 U	0.1 U
MW-64	W64-190412-	4/12/2019	0.1 U	0.25 U	0.1 U	0.5 U	0.1 U	0.1 U	0.25 U	0.1 U	0.25 U	0.1 U	0.1 U	0.1 U
MW-65	W65-190412-	4/12/2019	0.1 U	0.25 U	0.1 U	0.5 U	0.1 U	0.1 U	0.25 U	0.1 U	0.25 U	0.1 U	0.1 U	0.1 U
MW-66	W66-190410-	4/10/2019	0.1 U	0.25 U	0.1 U	0.5 U	0.1 U	0.1 U	0.25 U	0.1 U	0.25 U	0.1 U	0.1 U	0.1 U
MW-67	W67-190412-	4/12/2019	0.1 U	0.25 U	0.1 U	0.5 U	0.1 U	0.1 U	0.25 U	0.1 U	0.25 U	0.1 U	0.1 U	0.1 U
MW-68	W68-190415-	4/15/2019	0.1 U	0.25 U	0.1 U	0.5 U	0.1 U	0.1 U	0.25 U	0.1 U	0.25 U	0.1 U	0.1 U	0.1 U
MW-68	W68-190514-	5/14/2019	0.1 U	0.25 U	0.1 U	0.5 U	0.1 U	0.1 U	4 U	0.1 U	0.25 U	0.1 U	0.1 U	0.1 U
MW-69	W69-190415-	4/15/2019	0.1 U	0.25 U	0.1 U	0.5 U	0.1 U	0.1 U	0.25 U	0.1 U	0.25 U	0.1 U	0.1 U	0.1 U
MW-72	W72-190416-	4/16/2019	0.1 U	0.25 U	0.1 U	0.5 U	0.1 U	0.1 U	0.25 U	0.1 U	0.25 U	0.1 U	0.1 U	0.1 U
MW-73	W73-190410-	4/10/2019	0.1 U	0.25 U	0.1 U	0.5 U	0.1 U	0.1 U	0.25 U	0.1 U	0.25 U	0.1 U	0.1 U	0.1 U
MW-74R	W74R190418-	4/18/2019	0.1 U	0.25 U	0.1 U	0.5 U	0.1 U	0.1 U	0.25 U	0.1 U	0.25 U	0.1 U	0.1 U	0.1 U
MW-74R	W74R190418D	4/18/2019	0.1 U	0.25 U	0.1 U	0.5 U	0.1 U	0.1 U	0.25 U	0.1 U	0.25 U	0.1 U	0.1 U	0.1 U
MW-75	W75-190418-	4/18/2019	0.1 U	0.25 U	0.1 U	0.5 U	0.1 U	0.1 U	0.25 U	0.1 U	0.25 U	0.1 U	0.1 U	0.1 U
MW-76	W76-190410-	4/10/2019	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	0.1 U	0.1 U
MW-80	W80-190514-	5/14/2019	0.1 U	0.25 U	0.1 U	0.5 U	0.1 U	0.1 U	4 U	0.1 U	0.25 U	0.1 U	0.1 U	0.1 U
MW-81	W81-190416-	4/16/2019	0.1 U	0.25 U	0.1 U	0.5 U	0.1 U	0.1 U	0.25 U	0.1 U	0.25 U	0.1 U	0.1 U	0.1 U
MW-82	W82-190522-	5/22/2019	0.1 U	0.25 U	0.1 U	0.5 U	0.1 U	0.1 U	0.25 U	0.1 U	0.25 U	0.1 U	0.1 U	0.1 U

Environmental Monitoring Data

Data Collected from April 1, 2019 to June 30, 2019
Cedar Hills Landfill --- Groundwater VOAs Data
Contact Person: Sendy Jimenez (206) 477-5224

Site	Date	Sample ID	Carbon Disulfide ug/l 75-15-0	Carbon Tetrachloride ug/l 56-23-5	Chlorbenzene ug/l 108-90-7	Chlorodibromomethane ug/l 124-48-1	Chloroethane ug/l 75-00-3	Chloroform ug/l 67-66-3	Chloromethane ug/l 74-87-3	cis-1,2-Dichloroethene ug/l 156-59-2	cis-1,3-Dichloropropene ug/l 10061-01-5	Dibromomethane ug/l 74-95-3	Dichlorodifluoromethane ug/l 75-71-8	Ethylbenzene ug/l 100-41-4
MW-83	W83-190412-	4/12/2019	0.1 U	0.25 U	0.1 U	0.5 U	0.1 U	0.1 U	0.25 U	0.1 U	0.25 U	0.1 U	0.1 U	0.1 U
MW-84	W84-190410-	4/10/2019	0.1 U	0.25 U	0.1 U	0.5 U	0.1 U	0.1 U	0.25 U	0.1 U	0.25 U	0.1 U	0.1 U	0.1 U
MW-85	W85-190416-	4/16/2019	0.1 U	0.25 U	0.1 U	0.5 U	0.1 U	0.1 U	0.25 U	0.1 U	0.25 U	0.1 U	0.1 U	0.1 U
MW-86	W86-190412-	4/12/2019	0.107 JT	0.25 U	0.1 U	0.5 U	0.1 U	0.1 U	0.25 U	0.1 U	0.25 U	0.1 U	0.1 U	0.1 U
MW-87	W87-190418-	4/18/2019	0.1 U	0.25 U	0.1 U	0.5 U	0.1 U	0.1 U	0.25 U	0.1 U	0.25 U	0.1 U	0.1 U	0.1 U
MW-88	W88-190418-	4/18/2019	0.1 U	0.25 U	0.1 U	0.5 U	0.1 U	0.1 U	0.25 U	0.1 U	0.25 U	0.1 U	0.1 U	0.1 U
MW-89	W89-190418-	4/18/2019	0.1 U	0.25 U	0.1 U	0.5 U	0.1 U	0.1 U	0.25 U	0.1 U	0.25 U	0.1 U	0.1 U	0.1 U
MW-93	W93-190416-	4/16/2019	0.1 U	0.25 U	0.1 U	0.5 U	0.1 U	0.1 U	0.25 U	0.1 U	0.25 U	0.1 U	0.1 U	0.1 U
MW-94	W94-190410-	4/10/2019	0.1 U	0.25 U	0.1 U	0.5 U	0.1 U	0.1 U	0.25 U	0.1 U	0.25 U	0.1 U	0.1 U	0.1 U
MW-95	W95-190408-	4/8/2019	0.1 U	0.25 U	0.1 U	0.5 U	0.1 U	0.1 U	0.25 U	0.1 U	0.25 U	0.1 U	0.1 U	0.1 U
MW-EB6	WB6-190514-	5/14/2019	0.1 U	0.25 U	0.1 U	0.5 U	0.1 U	0.1 U	4 U	0.1 U	0.25 U	0.1 U	0.1 U	0.1 U
VOA TRIP BLANK	VTRP190408X	4/5/2019	0.1 U	0.25 U	0.1 U	0.5 U	0.1 U	0.1 U	0.25 U	0.1 U	0.25 U	0.1 U	0.1 U	0.1 U
VOA TRIP BLANK	VTRP190408Y	4/5/2019	0.1 U	0.25 U	0.1 U	0.5 U	0.1 U	0.1 U	0.25 U	0.1 U	0.25 U	0.1 U	0.1 U	0.1 U
VOA TRIP BLANK	VTRP190410X	4/8/2019	0.1 U	0.25 U	0.1 U	0.5 U	0.1 U	0.1 U	0.25 U	0.1 U	0.25 U	0.1 U	0.1 U	0.1 U
VOA TRIP BLANK	VTRP190410Y	4/8/2019	0.1 U	0.25 U	0.1 U	0.5 U	0.1 U	0.1 U	0.25 U	0.1 U	0.25 U	0.1 U	0.1 U	0.1 U
VOA TRIP BLANK	VTRP190412X	4/11/2019	0.1 U	0.25 U	0.1 U	0.5 U	0.1 U	0.1 U	0.25 U	0.1 U	0.25 U	0.1 U	0.1 U	0.1 U
VOA TRIP BLANK	VTRP190412Y	4/8/2019	0.1 U	0.25 U	0.1 U	0.5 U	0.1 U	0.1 U	0.25 U	0.1 U	0.25 U	0.1 U	0.1 U	0.1 U
VOA TRIP BLANK	VTRP190415Y	4/11/2019	0.1 U	0.25 U	0.1 U	0.5 U	0.1 U	0.1 U	0.25 U	0.1 U	0.25 U	0.1 U	0.1 U	0.1 U
VOA TRIP BLANK	VTRP190416X	4/16/2019	0.1 U	0.25 U	0.1 U	0.5 U	0.1 U	0.1 U	0.25 U	0.1 U	0.25 U	0.1 U	0.1 U	0.1 U
VOA TRIP BLANK	VTRP190416Y	4/16/2019	0.1 U	0.25 U	0.1 U	0.5 U	0.1 U	0.1 U	0.25 U	0.1 U	0.25 U	0.1 U	0.1 U	0.1 U
VOA TRIP BLANK	VTRP190418X	4/16/2019	0.1 U	0.25 U	0.1 U	0.5 U	0.1 U	0.1 U	0.25 U	0.1 U	0.25 U	0.1 U	0.1 U	0.1 U

Environmental Monitoring Data

Data Collected from April 1, 2019 to June 30, 2019
Cedar Hills Landfill --- Groundwater VOAs Data
Contact Person: Sendy Jimenez (206) 477-5224

Site	Date	Sample ID	M & P Xylene ug/l MPX	Methyl Iodide ug/l 74-88-4	Methylene Chloride ug/l 75-09-2	O-Xylene ug/l 95-47-6	Styrene ug/l 100-42-5	Tetrachloroethene ug/l 127-18-4	Toluene ug/l 108-88-3	Trans-1,2-Dichloroethene ug/l 156-60-5	Trans-1,3-Dichloropropene ug/l 10061-02-6
MW-100	W100190412-	4/12/2019	0.1 U	0.1 U	2.5 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.5 U
MW-101	W101190528-	5/28/2019	0.1 U	0.1 U	2.5 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.5 U
MW-102	W102190515-	5/15/2019	0.1 U	5 U	2.5 U	0.1 U	0.1 U	1 U	0.1 U	0.1 U	0.5 U
MW-103	W103190517-	5/17/2019	0.1 U	5 U	2.5 U	0.1 U	0.1 U	1 U	0.1 U	0.1 U	0.5 U
MW-104	W104190517-	5/17/2019	0.1 U	5 U	2.5 U	0.1 U	0.1 U	1 U	0.1 U	0.1 U	0.5 U
MW-107	W107190513-	5/13/2019	0.1 U	5 U	2.5 U	0.1 U	0.1 U	1 U	0.1 U	0.119 JT	0.5 U
MW-108	W108190516-	5/16/2019	0.1 U	5 U	2.5 U	0.1 U	0.1 U	1 U	0.122 JT	0.1 U	0.5 U
MW-109	W109190520-	5/20/2019	1 U	50 U	25 U	1 U	1 U	10 U	40.2	1 U	5 U
MW-110	W110190516-	5/16/2019	0.1 U	5 U	2.5 U	0.1 U	0.1 U	1 U	0.138 JT	0.112 JT	0.5 U
MW-111	W111190520-	5/20/2019	0.1 U	5 U	2.5 U	0.1 U	0.1 U	1 U	0.1 U	0.1 U	0.5 U
MW-112	W112190513-	5/13/2019	0.1 U	5 U	2.5 U	0.1 U	0.1 U	1 U	0.1 U	0.1 U	0.5 U
MW-21	W21-190408-	4/8/2019	0.1 U	0.1 U	2.5 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.5 U
MW-24	W24-190408-	4/8/2019	0.1 U	0.1 U	2.5 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.5 U
MW-30A	W30A190513-	5/13/2019	0.1 U	5 U	2.5 U	0.1 U	0.1 U	1 U	0.1 U	0.1 U	0.5 U
MW-47	W47-190513-	5/13/2019	0.1 U	5 U	2.5 U	0.1 U	0.1 U	1 U	0.1 U	0.1 U	0.5 U
MW-50	W50-190520-	5/20/2019	0.1 U	5 U	2.5 U	0.1 U	0.1 U	1 U	0.1 U	0.1 U	0.5 U
MW-56	W56-190408-	4/8/2019	0.1 U	0.1 U	2.5 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.5 U
MW-59	W59-190410-	4/10/2019	0.1 U	0.1 U	2.5 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.5 U
MW-62	W62-190528-	5/28/2019	0.1 U	0.1 U	2.5 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.5 U
MW-64	W64-190412-	4/12/2019	0.1 U	0.1 U	2.5 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.5 U
MW-65	W65-190412-	4/12/2019	0.1 U	0.1 U	2.5 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.5 U
MW-66	W66-190410-	4/10/2019	0.1 U	0.1 U	2.5 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.5 U
MW-67	W67-190412-	4/12/2019	0.1 U	0.1 U	2.5 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.5 U
MW-68	W68-190415-	4/15/2019	0.1 U	0.1 U	2.5 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.5 U
MW-68	W68-190514-	5/14/2019	0.1 U	5 U	2.5 U	0.1 U	0.1 U	1 U	0.1 U	0.1 U	0.5 U
MW-69	W69-190415-	4/15/2019	0.1 U	0.1 U	2.5 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.5 U
MW-72	W72-190416-	4/16/2019	0.1 U	0.1 U	2.5 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.5 U
MW-73	W73-190410-	4/10/2019	0.1 U	0.1 U	2.5 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.5 U
MW-74R	W74R190418-	4/18/2019	0.1 U	0.1 U	2.5 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.5 U
MW-74R	W74R190418D	4/18/2019	0.1 U	0.1 U	2.5 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.5 U
MW-75	W75-190418-	4/18/2019	0.1 U	0.1 U	2.5 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.5 U
MW-76	W76-190410-	4/10/2019	0.1 U	0.1 U	2.5 U	0.1 U	0.1 U	0.309	0.1 U	0.1 U	0.5 U
MW-80	W80-190514-	5/14/2019	0.1 U	5 U	2.5 U	0.1 U	0.1 U	1 U	0.1 U	0.1 U	0.5 U
MW-81	W81-190416-	4/16/2019	0.1 U	0.1 U	2.5 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.5 U
MW-82	W82-190522-	5/22/2019	0.1 U	0.1 U	2.5 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.5 U

Environmental Monitoring Data

Data Collected from April 1, 2019 to June 30, 2019
Cedar Hills Landfill --- Groundwater VOAs Data
Contact Person: Sendy Jimenez (206) 477-5224

Site	Date	Sample ID	M & P Xylene ug/l MPX	Methyl Iodide ug/l 74-88-4	Methylene Chloride ug/l 75-09-2	O-Xylene ug/l 95-47-6	Styrene ug/l 100-42-5	Tetrachloroethene ug/l 127-18-4	Toluene ug/l 108-88-3	Trans-1,2-Dichloroethene ug/l 156-60-5	Trans-1,3-Dichloropropene ug/l 10061-02-6
MW-83	W83-190412-	4/12/2019	0.1 U	0.1 U	2.5 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.5 U
MW-84	W84-190410-	4/10/2019	0.1 U	0.1 U	2.5 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.5 U
MW-85	W85-190416-	4/16/2019	0.1 U	0.1 U	2.5 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.5 U
MW-86	W86-190412-	4/12/2019	0.1 U	0.1 U	2.5 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.5 U
MW-87	W87-190418-	4/18/2019	0.1 U	0.1 U	2.5 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.5 U
MW-88	W88-190418-	4/18/2019	0.1 U	0.1 U	2.5 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.5 U
MW-89	W89-190418-	4/18/2019	0.1 U	0.1 U	2.5 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.5 U
MW-93	W93-190416-	4/16/2019	0.1 U	0.1 U	2.5 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.5 U
MW-94	W94-190410-	4/10/2019	0.1 U	0.1 U	2.5 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.5 U
MW-95	W95-190408-	4/8/2019	0.1 U	0.1 U	2.5 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.5 U
MW-EB6	WB6-190514-	5/14/2019	0.1 U	5 U	2.5 U	0.1 U	0.1 U	1 U	0.1 U	0.1 U	0.5 U
VOA TRIP BLANK	VTRP190408X	4/5/2019	0.1 U	0.1 U	2.5 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.5 U
VOA TRIP BLANK	VTRP190408Y	4/5/2019	0.1 U	0.1 U	2.5 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.5 U
VOA TRIP BLANK	VTRP190410X	4/8/2019	0.1 U	0.1 U	2.5 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.5 U
VOA TRIP BLANK	VTRP190410Y	4/8/2019	0.1 U	0.1 U	2.5 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.5 U
VOA TRIP BLANK	VTRP190412X	4/11/2019	0.1 U	0.1 U	2.5 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.5 U
VOA TRIP BLANK	VTRP190412Y	4/8/2019	0.1 U	0.1 U	2.5 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.5 U
VOA TRIP BLANK	VTRP190415Y	4/11/2019	0.1 U	0.1 U	2.5 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.5 U
VOA TRIP BLANK	VTRP190416X	4/16/2019	0.1 U	0.1 U	2.5 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.5 U
VOA TRIP BLANK	VTRP190416Y	4/16/2019	0.1 U	0.1 U	2.5 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.5 U
VOA TRIP BLANK	VTRP190418X	4/16/2019	0.1 U	0.1 U	2.5 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.5 U

Environmental Monitoring Data

Data Collected from April 1, 2019 to June 30, 2019
Cedar Hills Landfill --- Groundwater VOAs Data
Contact Person: Sendy Jimenez (206) 477-5224

Site	Date	Sample ID	Trans-1,4-Dichloro-2-Butene ug/l 110-57-6	Trichloroethene ug/l 79-01-6	Trichlorofluoromethane ug/l 75-69-4	Vinyl Acetate ug/l 108-05-4	Vinyl Chloride ug/l 75-01-4
MW-100	W100190412-	4/12/2019	5 U	0.1 U	0.1 U	0.1 U	0.01 U
MW-101	W101190528-	5/28/2019	5 U	0.1 U	0.1 U	0.1 U	0.478
MW-102	W102190515-	5/15/2019	0.5 U	0.1 U	0.1 U	0.1 U	0.01 DU
MW-103	W103190517-	5/17/2019	0.5 U	0.1 U	0.1 U	0.1 U	0.01 DU
MW-104	W104190517-	5/17/2019	0.5 U	0.1 U	0.1 U	0.1 U	0.01 U
MW-107	W107190513-	5/13/2019	0.5 U	0.1 U	0.1 U	0.1 U	0.694
MW-108	W108190516-	5/16/2019	0.5 U	0.1 U	0.1 U	0.1 U	0.01 U
MW-109	W109190520-	5/20/2019	5 U	1 U	1 U	1 U	0.142 DJT
MW-110	W110190516-	5/16/2019	0.5 U	0.1 U	0.1 U	0.1 U	0.0877
MW-111	W111190520-	5/20/2019	0.5 U	0.1 U	0.1 U	0.1 U	0.01 DU
MW-112	W112190513-	5/13/2019	0.5 U	0.1 U	0.1 U	0.1 U	0.01 U
MW-21	W21-190408-	4/8/2019	5 U	0.1 U	0.1 U	0.1 U	0.01 U
MW-24	W24-190408-	4/8/2019	5 U	0.1 U	0.1 U	0.1 U	0.01 U
MW-30A	W30A190513-	5/13/2019	0.5 U	0.786	0.1 U	0.1 U	0.01 U
MW-47	W47-190513-	5/13/2019	0.5 U	0.1 U	0.1 U	0.1 U	5.33
MW-50	W50-190520-	5/20/2019	0.5 U	0.1 U	0.1 U	0.1 U	0.01 U
MW-56	W56-190408-	4/8/2019	5 U	0.1 U	0.1 U	0.1 U	0.01 U
MW-59	W59-190410-	4/10/2019	5 U	0.1 U	0.1 U	0.1 U	0.01 U
MW-62	W62-190528-	5/28/2019	5 U	0.1 U	0.1 U	0.1 U	0.01 U
MW-64	W64-190412-	4/12/2019	5 U	0.1 U	0.1 U	0.1 U	0.01 U
MW-65	W65-190412-	4/12/2019	5 U	0.1 U	0.1 U	0.1 U	0.0261
MW-66	W66-190410-	4/10/2019	5 U	0.1 U	0.1 U	0.1 U	0.01 U
MW-67	W67-190412-	4/12/2019	5 U	0.1 U	0.1 U	0.1 U	0.01 U
MW-68	W68-190415-	4/15/2019	5 U	0.1 U	0.1 U	0.1 U	0.01 U
MW-68	W68-190514-	5/14/2019	0.5 U	0.1 U	0.1 U	0.1 U	0.01 U
MW-69	W69-190415-	4/15/2019	5 U	0.1 U	0.1 U	0.1 U	0.01 U
MW-72	W72-190416-	4/16/2019	5 U	0.1 U	0.1 U	0.1 U	0.01 U
MW-73	W73-190410-	4/10/2019	5 U	0.1 U	0.1 U	0.1 U	0.01 U
MW-74R	W74R190418-	4/18/2019	5 U	0.1 U	0.1 U	0.1 U	0.01 U
MW-74R	W74R190418D	4/18/2019	5 U	0.1 U	0.1 U	0.1 U	0.01 U
MW-75	W75-190418-	4/18/2019	5 U	0.1 U	0.1 U	0.1 U	0.01 U
MW-76	W76-190410-	4/10/2019	5 U	6.07	0.1 U	0.1 U	0.01 U
MW-80	W80-190514-	5/14/2019	0.5 U	0.1 U	0.1 U	0.1 U	0.01 U
MW-81	W81-190416-	4/16/2019	5 U	0.1 U	0.1 U	0.1 U	0.01 U
MW-82	W82-190522-	5/22/2019	5 U	4.28	0.1 U	0.1 U	0.01 U

Environmental Monitoring Data

Data Collected from April 1, 2019 to June 30, 2019
Cedar Hills Landfill --- Groundwater VOAs Data
Contact Person: Sendy Jimenez (206) 477-5224

Site	Date	Sample ID	Trans-1,4-Dichloro-2-Butene ug/l 110-57-6	Trichloroethene ug/l 79-01-6	Trichlorofluoromethane ug/l 75-69-4	Vinyl Acetate ug/l 108-05-4	Vinyl Chloride ug/l 75-01-4
MW-83	W83-190412-	4/12/2019	5 U	1.41	0.1 U	0.1 U	0.01 U
MW-84	W84-190410-	4/10/2019	5 U	0.1 U	0.1 U	0.1 U	0.01 U
MW-85	W85-190416-	4/16/2019	5 U	0.1 U	0.1 U	0.1 U	0.01 U
MW-86	W86-190412-	4/12/2019	5 U	0.1 U	0.1 U	0.1 U	0.01 U
MW-87	W87-190418-	4/18/2019	5 U	0.1 U	0.1 U	0.1 U	0.01 U
MW-88	W88-190418-	4/18/2019	5 U	0.1 U	0.1 U	0.1 U	0.01 U
MW-89	W89-190418-	4/18/2019	5 U	0.1 U	0.1 U	0.1 U	0.01 U
MW-93	W93-190416-	4/16/2019	5 U	0.1 U	0.1 U	0.1 U	0.01 U
MW-94	W94-190410-	4/10/2019	5 U	2.09	0.1 U	0.1 U	0.01 U
MW-95	W95-190408-	4/8/2019	5 U	0.1 U	0.1 U	0.1 U	0.01 U
MW-EB6	WB6-190514-	5/14/2019	0.5 U	0.1 U	0.1 U	0.1 U	0.01 U
VOA TRIP BLANK	VTRP190408X	4/5/2019	5 U	0.1 U	0.1 U	0.1 U	0.01 U
VOA TRIP BLANK	VTRP190408Y	4/5/2019	5 U	0.1 U	0.1 U	0.1 U	0.01 U
VOA TRIP BLANK	VTRP190410X	4/8/2019	5 U	0.1 U	0.1 U	0.1 U	0.01 U
VOA TRIP BLANK	VTRP190410Y	4/8/2019	5 U	0.1 U	0.1 U	0.1 U	0.01 U
VOA TRIP BLANK	VTRP190412X	4/11/2019	5 U	0.1 U	0.1 U	0.1 U	0.01 U
VOA TRIP BLANK	VTRP190412Y	4/8/2019	5 U	0.1 U	0.1 U	0.1 U	0.01 U
VOA TRIP BLANK	VTRP190415Y	4/11/2019	5 U	0.1 U	0.1 U	0.1 U	0.01 U
VOA TRIP BLANK	VTRP190416X	4/16/2019	5 U	0.1 U	0.1 U	0.1 U	0.01 U
VOA TRIP BLANK	VTRP190416Y	4/16/2019	5 U	0.1 U	0.1 U	0.1 U	0.01 U
VOA TRIP BLANK	VTRP190418X	4/16/2019	5 U	0.1 U	0.1 U	0.1 U	0.01 U

Environmental Monitoring Data

Data Collected from July 1, 2019 to September 30, 2019
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	7/3/2019	620.32	297.22	323.10	
MW-101	7/3/2019	474.72	33	441.72	
MW-102	7/3/2019	552.48	47.22	505.26	
MW-103	7/3/2019	639.08	16.45	622.63	
MW-104	7/3/2019	629.68	26.22	603.46	
MW-105	7/3/2019	521.23	21.25	499.98	
MW-106	7/3/2019	475.47	190	285.47	
MW-107	7/3/2019	589.029	30.67	558.359	
MW-108	7/3/2019	612.258	18.21	594.048	
MW-109	7/3/2019	638.728	12.2	626.528	
MW-110	7/3/2019	641.742	10.01	631.732	
MW-111	7/3/2019	643.797	12.71	631.086	
MW-112	7/3/2019	638.929	14.84	624.089	
MW-21	7/3/2019	420.66	124.82	295.84	
MW-22	7/3/2019	517.09	232.03	285.06	
MW-24	7/3/2019	475.99	143.85	332.14	
MW-25	7/3/2019	474.41	11.37	463.04	
MW-27A	7/3/2019	584.23	54.87	529.36	
MW-28	7/3/2019	527.75	33.66	494.09	
MW-29	7/3/2019	532.92	14.81	518.11	
MW-30A	7/3/2019	568.43	28.89	539.54	
MW-41D	7/3/2019	462.32	28.21	434.11	
MW-41S	7/3/2019	462.44	9.15	453.29	
MW-43	7/3/2019	547.06	263.26	283.8	
MW-45	7/3/2019	488.4	16.51	471.89	
MW-47	7/3/2019	634.6	20.12	614.48	
MW-48	7/3/2019	594.49	43.21	551.28	
MW-50	7/3/2019	637.02	31.49	605.53	
MW-54	7/3/2019	580.43	277.2	303.23	
MW-55	7/3/2019	652.29	30.62	621.67	
MW-56	7/3/2019	480.33	126.14	354.19	
MW-57	7/3/2019	456.64	102.31	354.33	
MW-58A	7/3/2019	479.27	148.79	330.48	
MW-59	7/3/2019	457.13	123.65	333.48	
MW-60	7/3/2019	567.15	226.35	340.8	

Environmental Monitoring Data

Data Collected from July 1, 2019 to September 30, 2019
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-62	7/3/2019	556.21	53.5	502.71	
MW-63	7/3/2019	515.88	118.61	397.27	
MW-64	7/3/2019	596.55	265.43	331.12	
MW-65	7/3/2019	545.83	209.08	336.75	
MW-66	7/3/2019	531.28	238.51	292.77	
MW-67	7/3/2019	516.43	119.9	396.53	
MW-68	7/3/2019	647.07	331.61	315.46	
MW-69	7/3/2019	653.69		653.69	Damaged.
MW-72	7/3/2019	671.87	360.61	311.26	
MW-73	7/3/2019	485.7	191.17	294.53	
MW-74R	7/3/2019	531.26	239.64	291.62	
MW-75	7/3/2019	532.4	245.25	287.15	
MW-76	7/3/2019	491.71	137.2	354.51	
MW-79	7/3/2019	459.17			Dry.
MW-80	7/3/2019	530.41	238.47	291.94	
MW-81	7/3/2019	493.66	183.76	309.9	
MW-82	7/3/2019	474.85	122.39	352.46	
MW-83	7/3/2019	496.81	143.85	352.96	
MW-84	7/3/2019	530.8	235.82	294.98	
MW-85	7/3/2019	531.76	245.6	286.16	
MW-86	7/3/2019	536.04	249.48	286.56	
MW-87	7/3/2019	537.31	247.77	289.54	
MW-88	7/3/2019	513.68	226.98	286.7	
MW-89	7/3/2019	512.82	231.89	280.93	
MW-90	7/3/2019	502.22	221.45	280.77	
MW-91	7/3/2019	532.02	246.6	285.42	
MW-93	7/3/2019	632.15	307.92	324.23	
MW-94	7/3/2019	495.51	141.36	354.15	
MW-95	7/3/2019	571.54	250.05	321.49	
MW-98	7/3/2019	503.73	19.97	483.76	
MW-99	7/3/2019	493.64	200.09	293.55	
MW-EB5	7/3/2019	645.36	39.81	605.55	
MW-EB5S	7/3/2019	645.77	12.54	633.23	
MW-EB6	7/3/2019	589.61	28.65	560.96	
WS-NPW-1	7/3/2019	646.33	332.67	313.66	
WS-NPW-3	7/3/2019	645.81	330.58	315.23	

Environmental Monitoring Data

Data Collected from July 1, 2019 to September 30, 2019
Cedar Hills Landfill --- Groundwater Field Parameters
Contact Person: Sendy Jimenez (206) 477-5224

Site	Date	Sample ID	pH (Field) (std. Units)	Conductance (Field) (umhos/cm)	Temperature (Field) (^{o}C)	Purge Volume (Field) (gal)	Dissolved Oxygen (Field) (mg/L)	ORP (Field) mV	Turbidity (Field) NTU
MW-101	7/23/2019	W101190723-	7.07	522.1	12.8	3.4			1.15
MW-102	7/24/2019	W102190724-	6.68	159.4	11.35	0.75	8.84	129.3	61.2
MW-103	7/25/2019	W103190725-	7.81	282.4	11.42	1.75	1.46	198.7	9.82
MW-107	7/18/2019	W107190718-	5.57	202.6	11.79	1.75	0.48	247.2	1.7
MW-108	7/22/2019	W108190722-	6.62	362.9	13.43	1	6.09	223.4	17.6
MW-109	7/24/2019	W109190724-	7.13	1990	12.8	1	1.09	-85.5	41.2
MW-110	7/19/2019	W110190719-	6.22	760	13.74	1.5	2.43	-3.7	0.98
MW-111	7/22/2019	W111190722-	6.33	93.1	15.54	0.75	7.54	194	56.3
MW-112	7/18/2019	W112190718-	7.55	302.6	12.61	0.5	1.73	32.8	0.47
MW-30A	7/22/2019	W30A190722-	6.33	283.1	12	1.5	9.4	375.8	0.93
MW-47	7/22/2019	W47-190722-	6.89	1163	11.7	20			0.6
MW-59	7/8/2019	W59-190708-	6.76	207.2	9.74	6	0.59	-48.3	2.36
MW-66	7/15/2019	W66-190715-	7.23	209.5	10.21	3.25	5.25	197.3	2.28
MW-68	7/15/2019	W68-190715-	6.97	284.4	10.58	4.5	0.48	-11.6	2.87
MW-72	7/8/2019	W72-190708-	7.03	361.6	10.09	6.7	0.87	-50.1	4.59
MW-75	7/12/2019	W75-190712-	6.61	384.1	9.93	5	0.42	-36.1	0.93
MW-80	7/15/2019	W80-190715-	7.17	313.1	10	5	0.77	-61.8	1.65
MW-81	7/12/2019	W81-190712-	6.98	163.5	10.17	3.5	5.35	79.2	1.09
MW-83	7/12/2019	W83-190712-	6.63	528	10.82	3.5	1.32	90	0.7
MW-84	7/15/2019	W84-190715-	6.67	198.2	10.07	3.75	1.44	222.2	0.25
MW-85	7/15/2019	W85-190715-	6.61	368.3		3.5	2.81	185.3	0.63
MW-87	7/8/2019	W87-190708-	6.72	548	13.42	2	1.33	-17.1	4.26
MW-93	7/15/2019	W93-190715-	7.11	328.6	11.51	5	0.83	88.3	1.09
MW-94	7/12/2019	W94-190712-	6.62	326.9	9.97	2.75	5.46	176.3	0.56
MW-EB6	7/23/2019	WB6-190723-	6.2	112	11.02	1.5			35.6

Data Collected from July 1, 2019 to September 30, 2019
Cedar Hills Landfill --Groundwater Conventionals Analytical Data
Contact Person: Sendy Jimenez (206) 477-5224

Site	Date	Sample ID	Alkalinity, Total ($CaCO_3$) (mg/L)	Ammonia, (NH_3) (mg/L)	Chloride (mg/L)	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	W101190723-	7/23/2019	268	0.015	2.63	0.01 U	500	4.03	323	4.04	337	7.2
MW-102	W102190724-	7/24/2019	61.3	0.002 U	3.56	1.23	161	7.05	118	1.06	124	0.9 T
MW-103	W103190725-	7/25/2019	123	0.003 T	6.01	0.052	274	9.85	183	0.62 T	207	46
MW-107	W107190718-	7/18/2019	68.1	1.07	6.28	1.65	219	10.3	128	2.65	136	1.8
MW-108	W108190722-	7/22/2019	163	0.002 U	1.06	0.61	368	26.7				
MW-109	W109190724-	7/24/2019	1300	0.267	2.34	0.01 U	2120	1.37	1740	63.9 S	1820	2
MW-110	W110190719-	7/19/2019	394	0.0391	1.93	0.01 U	742	6.94	450	2.28	464	2.5
MW-111	W111190722-	7/22/2019	34.8	0.002 U	0.654	0.445	92.3	6.9	101	1.22	137	
MW-112	W112190718-	7/18/2019	118	0.0183	4.13	0.01 U	305	27.3	196	0.62 T	202	0.5 U
MW-30A	W30A190722-	7/22/2019	74.6	0.002 U	1.05	16.6	278	6.16	216	0.51 T	229	0.5 U
MW-47	W47-190722-	7/22/2019	660	0.0288	5.45	0.01 U	1120	6.86	703	3.47	719	1.8 T
MW-59	W59-190708-	7/8/2019	70.6	0.005 T	8.63	0.017 T	195	15.5	140	0.5 U	145	2.7
MW-66	W66-190715-	7/15/2019	82.9	0.002 U	4.46	0.437	209	13.1	124	0.5 U	129	1 U
MW-68	W68-190715-	7/15/2019	123	0.0164	2.88	0.01 U	277	15.1	166	0.5 U	167	1.9
MW-72	W72-190708-	7/8/2019	136	0.0141	6.72	0.01 T	352	42.4	249	0.5 U	267	5.5
MW-75	W75-190712-	7/12/2019	115	0.0088 T	11.1	0.01 T	368	61.9	232	0.5 U	255	3.3
MW-80	W80-190715-	7/15/2019	113	0.0124	4.52	0.01 T	306	35.2	198	0.5 U	195	2.5
MW-81	W81-190712-	7/12/2019	57.7	0.002 U	5.06	1.58	160	10	107	0.5 U	110	0.5 U
MW-83	W83-190712-	7/12/2019	160	0.0032 T	53.2	2.93	524	9.42	331	4.42	395	0.5 T
MW-84	W84-190715-	7/15/2019	75.8	0.002 U	4.08	0.139	198	15.7	125	0.5 U	122	0.5 U
MW-85	W85-190715-	7/15/2019	134	0.002 U	11.2	0.108	361	34	220	0.5 U	222	0.5 U
MW-87	W87-190708-	7/8/2019	110	0.0153	13.6	0.01 T	519	135	402	0.5 U	407	2.8
MW-93	W93-190715-	7/15/2019	122	0.0535	2.83	0.01 U	321	38.2	204	0.5 U	208	0.5 U
MW-94	W94-190712-	7/12/2019	117	0.002 U	23.9	0.902	322	9.46	208	2.42	217	0.5 U
MW-EB6	WB6-190723-	7/23/2019	51.9	0.403	0.707	0.064	115	4.74				

Data Collected from July 1, 2019 to September 30, 2019
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)
MW-101	7/23/2019	W101190723-	0.0003 U	0.0003 U	0.0096	0.0126	0.0196	0.0224	0.0001 U	0.0001 U	5E-05 U	5E-05 U
MW-102	7/24/2019	W102190724-	0.0003 U	0.0003 U	0.000208	0.00119	0.00676	0.0301	0.0001 U	0.000114	5E-05 U	5E-05 U
MW-103	7/25/2019	W103190725-	0.0003 U	0.00039	0.00399	0.00436	0.0113	0.019	0.0001 U	0.0001 U	5E-05 U	0.0000515
MW-107	7/18/2019	W107190718-	0.0003 U	0.0003 U	0.000215	0.000236	0.0091	0.00926	0.0001 U	0.0001 U	5E-05 U	5E-05 U
MW-109	7/24/2019	W109190724-	0.0003 U	3.91E-04	0.0326	0.0362	0.0524	0.0779	0.000348	0.000526	5E-05 U	5E-05 U
MW-110	7/19/2019	W110190719-	0.0003 U	0.0003 U	4.79E-03	0.00484	0.0353	0.0343	0.0001 U	0.0001 U	5E-05 U	0.000115
MW-111	7/22/2019	W111190722-		0.0003 U		0.00236		0.0126		0.0001 U		5E-05 U
MW-112	7/18/2019	W112190718-	0.0003 U	0.0003 U	0.00296	0.00225	0.0105	0.00809	0.0001 U	0.0001 U	5E-05 U	5E-05 U
MW-30A	7/22/2019	W30A190722-	0.0003 U	0.0003 U	0.000446	0.000468	0.00382	0.00389	0.0001 U	0.0001 U	5E-05 U	5E-05 U
MW-47	7/22/2019	W47-190722-	0.0003 U	0.0003 U	0.000579	0.000657	0.0395	0.039	0.0001 U	0.0001 U	5E-05 U	5E-05 U
MW-59	7/8/2019	W59-190708-	0.0003 U	0.0003 U	0.000425	0.000472	0.00391	0.00376	0.0001 U	0.0001 U	5E-05 U	5E-05 U
MW-66	7/15/2019	W66-190715-	0.0003 U	0.0003 U	0.000669	0.000641	0.00456	0.00452	0.0001 U	0.0001 U	5E-05 U	5E-05 U
MW-68	7/15/2019	W68-190715-	0.0003 U	0.0003 U	0.01	0.0248	0.0113	0.0115	0.0001 U	0.0001 U	5E-05 U	5E-05 U
MW-72	7/8/2019	W72-190708-	0.0003 U	0.0003 U	0.0000672	0.0000887	0.012	0.0115	0.0001 U	0.0001 U	5E-05 U	5E-05 U
MW-75	7/12/2019	W75-190712-	0.0003 U	0.0003 U	0.000556	0.000499	0.0126	0.0124	0.0001 U	0.0001 U	5E-05 U	5E-05 U
MW-80	7/15/2019	W80-190715-	0.0003 U	0.0003 U	0.00366	0.00386	0.0148	0.0146	0.0001 U	0.0001 U	5E-05 U	5E-05 U
MW-81	7/12/2019	W81-190712-	0.0003 U	0.0003 U	0.000538	0.000511	0.00314	0.00316	0.0001 U	0.0001 U	5E-05 U	5E-05 U
MW-83	7/12/2019	W83-190712-	0.0003 U	0.0003 U	0.000337	0.000327	0.00812	0.00804	0.0001 U	0.0001 U	5E-05 U	5E-05 U
MW-84	7/15/2019	W84-190715-	0.0003 U	0.0003 U	0.000329	0.000338	0.00489	0.00496	0.0001 U	0.0001 U	5E-05 U	5E-05 U
MW-85	7/15/2019	W85-190715-	0.0003 U	0.0003 U	0.000733	0.000741	0.00702	0.00678	0.0001 U	0.0001 U	5E-05 U	5E-05 U
MW-87	7/8/2019	W87-190708-	0.0003 U	0.0003 U	0.000382	0.000598	0.0252	0.0239	0.0001 U	0.0001 U	5E-05 U	5E-05 U
MW-93	7/15/2019	W93-190715-	0.0003 U	0.0003 U	0.00124	0.00126	0.00784	0.00836	0.0001 U	0.0001 U	5E-05 U	5E-05 U
MW-94	7/12/2019	W94-190712-	0.0003 U	0.0003 U	0.000155	0.000152	0.00219	0.00217	0.0001 U	0.0001 U	5E-05 U	5E-05 U
MW-EB6	7/23/2019	WB6-190723-		0.0003 U		0.00235		0.00588		0.0001 U		0.000115

Data Collected from July 1, 2019 to September 30, 2019
Cedar Hills Landfill -- Groundwater Metals Analytical Data
Contact Person: Sendy Jimenez (206) 477-5224

Site	Date	Sample ID	Calcium, dissolved (mg/L)	Calcium, total (mg/L)	Chromium, dissolved (mg/L)	Chromium total (mg/L)	Cobalt, dissolved (mg/L)	Cobalt, total (mg/L)	Copper, dissolved (mg/L)	Copper, total (mg/L)	Iron, dissolved (mg/L)	Iron, total (mg/L)
MW-101	7/23/2019	W101190723-	51.6	50.2	0.0002 U	0.000509	0.000348	5.52E-04	0.0002 U	0.000493	1.01	2.08
MW-102	7/24/2019	W102190724-	13.6	14.9	0.000478	0.00932	0.000106	0.0023	0.000565	0.00831	0.14	4.29
MW-103	7/25/2019	W103190725-	25.5	25.4	0.0002 U	0.000796	5E-05 U	0.000249	0.0002 U	0.00145	0.01 U	0.333
MW-107	7/18/2019	W107190718-	17.3	17.1	0.000232	0.000295	0.00149	0.0015	0.0034	0.00359	0.01 U	0.0473
MW-109	7/24/2019	W109190724-	20.8	21.1	0.0647	7.64E-02	0.000583	0.0013	0.00597	0.025	8.24	11.3
MW-110	7/19/2019	W110190719-	75.3	74	0.0002 U	0.0002 U	0.0045	0.00464	0.000212	0.000386	0.527	0.526
MW-111	7/22/2019	W111190722-		9.18		0.00384		0.000467		0.00377		1.83
MW-112	7/18/2019	W112190718-	27.5	20.3	0.0002 U	0.0002 U	0.00016	0.000138	0.000218	0.000282	0.01 U	0.0306
MW-30A	7/22/2019	W30A190722-	22.2	21.7	0.000591	0.000711	5E-05 U	5E-05 U	0.0002 U	0.000219	0.01 U	0.0417
MW-47	7/22/2019	W47-190722-	140	139	0.0002 U	0.0002 U	0.000395	0.000385	0.0002 U	0.0002 U	0.616	0.904
MW-59	7/8/2019	W59-190708-	16.7	16.4	0.0002 U	0.000378 J	5E-05 U	5E-05 U	0.0002 U	0.0002 U	4.15	4.37
MW-66	7/15/2019	W66-190715-	16.4	16.1	0.000227	0.000766	5E-05 U	5E-05 U	0.0002 U	0.0002 U	0.01 U	0.0288
MW-68	7/15/2019	W68-190715-	27.3	26.4	0.0002 U	0.000208 J	0.000202	0.000223	0.0002 U	0.000512	0.57	0.939
MW-72	7/8/2019	W72-190708-	32.6	30.6	0.0002 U	0.000258	5E-05 U	5E-05 U	0.0002 U	0.0002 U	2.88	3.44
MW-75	7/12/2019	W75-190712-	30.2	30.6	0.0002 U	0.0002 U	5E-05 U	5E-05 U	0.0002 U	0.0002 U	2.52	2.55
MW-80	7/15/2019	W80-190715-	31.3	31.8	0.0002 U	0.000239	5E-05 U	5E-05 U	0.0002 U	0.0002 U	2.13	2.16
MW-81	7/12/2019	W81-190712-	14	13.9	0.0002 U	0.0002 U	5E-05 U	5E-05 U	0.0002 U	0.000623	0.01 U	0.01 U
MW-83	7/12/2019	W83-190712-	54.9	54.1	0.000699	0.00168	0.000254	0.000273	0.00304	0.00302	0.0119	0.0222
MW-84	7/15/2019	W84-190715-	15.7	16.3	0.000224	0.0002 U	5E-05 U	5E-05 U	0.0002 U	0.0002 U	0.01 U	0.01 U
MW-85	7/15/2019	W85-190715-	33.7	34.1	0.0002 U	0.000537	5E-05 U	5E-05 U	0.0002 U	0.0002 U	0.01 U	0.01 U
MW-87	7/8/2019	W87-190708-	46	45	0.000207	0.0002 U	0.000134	0.000143	0.0002 U	0.0002 U	4.28	4.27
MW-93	7/15/2019	W93-190715-	31.6	32.6	0.0002 U	0.0002 U	7.81E-05	0.0000995	0.00026	0.000233	0.01 U	0.0102
MW-94	7/12/2019	W94-190712-	33.1	32.8	0.0002 U	0.000417	0.0000887	0.000108	0.000941	0.000939	0.01 U	0.0204
MW-EB6	7/23/2019	WB6-190723-		4.41		0.00129		0.00112		0.00573		1.95

Data Collected from July 1, 2019 to September 30, 2019
Cedar Hills Landfill -- Groundwater Metals Analytical Data
Contact Person: Sendy Jimenez (206) 477-5224

Site	Date	Sample ID	Lead, dissolved (mg/L)	Lead, total (mg/L)	Magnesium, dissolved (mg/L)	Magnesium, total (mg/L)	Manganese, dissolved (mg/L)	Manganese, total (mg/L)	Mercury, dissolved (mg/L)	Mercury, total (mg/L)
MW-101	7/23/2019	W101190723-	0.0001 U	0.000272	30.7	30.2	1.07	1.14	5E-05 U	5E-05 U
MW-102	7/24/2019	W102190724-	0.0001 U	0.00236	5.28	6.33	0.00563	0.0812	5E-05 U	5E-05 U
MW-103	7/25/2019	W103190725-	0.0001 U	0.000411	12	11.8	0.0741	0.241	5E-05 U	5E-05 U
MW-107	7/18/2019	W107190718-	0.0001 U	0.0001 U	4.99	5.01	1.75	1.72	5E-05 U	5E-05 U
MW-109	7/24/2019	W109190724-	0.000543	0.0025	10.5	10.9	1.51 D	1.61 D	5E-05 U	5E-05 U
MW-110	7/19/2019	W110190719-	0.0001 U	0.0001 U	35.6	34.1	4.52	4.46	5E-05 U	5E-05 U
MW-111	7/22/2019	W111190722-		0.000609		2.89		0.0248		5E-05 U
MW-112	7/18/2019	W112190718-	0.0001 U	0.0001 U	11.8	8.61	0.389	0.292	5E-05 U	5E-05 U
MW-30A	7/22/2019	W30A190722-	0.0001 U	0.0001 U	12.5	12.3	0.000105	0.000608	5E-05 U	5E-05 U
MW-47	7/22/2019	W47-190722-	0.0001 U	0.0001 U	69.5	69.9	1.06	1.05	5E-05 U	5E-05 U
MW-59	7/8/2019	W59-190708-	0.0001 U	0.0001 U	10.3	10.7	0.112	0.12	5E-05 U	5E-05 U
MW-66	7/15/2019	W66-190715-	0.0001 U	0.0001 U	12.4	12.5	0.0001 U	0.00064	5E-05 U	5E-05 U
MW-68	7/15/2019	W68-190715-	0.0001 U	0.0001 U	14.8	13.9 J	0.291	0.288	5E-05 U	5E-05 U
MW-72	7/8/2019	W72-190708-	0.0001 U	0.0001 U	20	20.9	0.359	0.377	5E-05 U	5E-05 U
MW-75	7/12/2019	W75-190712-	0.0001 U	0.0001 U	20.1	22.6	0.226	0.205	5E-05 U	5E-05 U
MW-80	7/15/2019	W80-190715-	0.0001 U	0.0001 U	15.4	15.1	0.335	0.371	5E-05 U	5E-05 U
MW-81	7/12/2019	W81-190712-	0.0001 U	0.0001 U	7.46	7.55	0.0001 U	0.00023	5E-05 U	5E-05 U
MW-83	7/12/2019	W83-190712-	0.0001 U	0.0001 U	23.2	22.8	0.0399	0.128	5E-05 U	5E-05 U
MW-84	7/15/2019	W84-190715-	0.0001 U	0.0001 U	11.4	12.4	0.000758	0.000791	5E-05 U	5E-05 U
MW-85	7/15/2019	W85-190715-	0.0001 U	0.0001 U	19.7	20.6	0.000114	0.0001 U	5E-05 U	5E-05 U
MW-87	7/8/2019	W87-190708-	0.0001 U	0.0001 U	31.2	31.5	0.542	0.567	5E-05 U	5E-05 U
MW-93	7/15/2019	W93-190715-	0.0001 U	0.0001 U	16.3	16.9	0.192	0.219	5E-05 U	5E-05 U
MW-94	7/12/2019	W94-190712-	0.0001 U	0.0001 U	14.5	14.5	0.00102	0.00163	5E-05 U	5E-05 U
MW-EB6	7/23/2019	WB6-190723-		0.000907		2.43		0.0516		5E-05 U

Environmental Monitoring Data

Data Collected from July 1, 2019 to September 30, 2019
Cedar Hills Landfill -- Groundwater Metals Analytical Data
Contact Person: Sendy Jimenez (206) 477-5224

Site	Date	Sample ID	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)
MW-101	7/23/2019	W101190723-	0.0038	0.00427	2.62	2.59	0.0005 U	0.0005 U	4E-05 U	4E-05 U
MW-102	7/24/2019	W102190724-	0.000775	0.00419	1.05	1.53	0.0005 U	0.0005 U	4E-05 U	0.0000432
MW-103	7/25/2019	W103190725-	0.000187	0.000944	2.67	2.74	0.0005 U	0.0005 U	4E-05 U	4E-05 U
MW-107	7/18/2019	W107190718-	0.00392	0.00391	2.81	2.78	0.0005 U	0.0005 U	4E-05 U	4E-05 U
MW-109	7/24/2019	W109190724-	0.00464	0.00931	1.68	1.76	0.000957	0.00147	4E-05 U	4E-05 U
MW-110	7/19/2019	W110190719-	0.00598	0.00591	3.31	3.3	0.0005 U	0.0005 U	4E-05 U	4E-05 U
MW-111	7/22/2019	W111190722-		0.00353		0.614		0.0005 U		4E-05 U
MW-112	7/18/2019	W112190718-	0.000557	0.000471	2.68	2.01	0.0005 U	0.0005 U	4E-05 U	4E-05 U
MW-30A	7/22/2019	W30A190722-	0.00068	0.000757	1.46	1.45	0.0005 U	0.0005 U	4E-05 U	4E-05 U
MW-47	7/22/2019	W47-190722-	0.00121	0.00123	5.49	5.3	0.0005 U	0.0005 U	4E-05 U	4E-05 U
MW-59	7/8/2019	W59-190708-	0.000131	0.000296 DJ	1.12	1.15	0.0005 U	0.0005 U	4E-05 U	4E-05 U
MW-66	7/15/2019	W66-190715-	0.000186	0.000487	1.11	1.09	0.00107	0.000917	4E-05 U	4E-05 U
MW-68	7/15/2019	W68-190715-	0.000443	0.000537	1.69	1.58	0.0005 U	0.0005 U	4E-05 U	4E-05 U
MW-72	7/8/2019	W72-190708-	0.000145	0.000195 D	1.91	1.95	0.0005 U	0.0005 U	4E-05 U	4E-05 U
MW-75	7/12/2019	W75-190712-	0.0001 U	0.0001 U	1.85	1.93	0.0005 U	0.0005 U	4E-05 U	4E-05 U
MW-80	7/15/2019	W80-190715-	0.00018	0.000246	1.69	1.69	0.0005 U	0.0005 U	4E-05 U	4E-05 U
MW-81	7/12/2019	W81-190712-	0.0001 U	0.000156	0.834	0.909	0.000992	0.000861	4E-05 U	4E-05 U
MW-83	7/12/2019	W83-190712-	0.00336	0.00373	3.21	3.21	0.0005 U	0.0005 U	4E-05 U	4E-05 U
MW-84	7/15/2019	W84-190715-	0.000374	0.00033	1.13	1.19	0.000808	0.000828	4E-05 U	4E-05 U
MW-85	7/15/2019	W85-190715-	0.000216	0.000409	1.64	1.66	0.000859	0.000939	4E-05 U	4E-05 U
MW-87	7/8/2019	W87-190708-	0.000225	0.000225 D	2.37	2.37	0.0005 U	0.0005 U	4E-05 U	4E-05 U
MW-93	7/15/2019	W93-190715-	0.000219	0.000287	1.54	1.59	0.0005 U	0.0005 U	4E-05 U	4E-05 U
MW-94	7/12/2019	W94-190712-	0.000433	0.000633	2.34	2.33	0.0005 U	0.0005 U	4E-05 U	4E-05 U
MW-EB6	7/23/2019	WB6-190723-		0.00293		0.954		0.0005 U		4E-05 U

Data Collected from July 1, 2019 to September 30, 2019
Cedar Hills Landfill -- Groundwater Metals Analytical Data
Contact Person: Sendy Jimenez (206) 477-5224

Site	Date	Sample ID	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-101	7/23/2019	W101190723-	17.1	17.4	0.0001 U	0.0001 U	0.000237 D	0.000424 D	0.00131	0.00249
MW-102	7/24/2019	W102190724-	9.71	10.3	0.0001 U	0.0001 U	0.00108 D	0.00817 D	0.00145	0.00961
MW-103	7/25/2019	W103190725-	13.6	14.2	0.0001 U	0.0001 U	0.000814 D	0.00166 D	0.000598	0.00432
MW-107	7/18/2019	W107190718-	10.2	10.4	0.0001 U	0.0001 U	0.000466	0.000528	0.0013	0.00124
MW-109	7/24/2019	W109190724-	576 D	611 D	0.0001 U	0.0001 U	0.217 D	0.257 D	0.00158	0.0054
MW-110	7/19/2019	W110190719-	33.9	30.8	0.0001 U	0.0001 U	0.000568	7.06E-04	0.00142	0.00149
MW-111	7/22/2019	W111190722-		5.75		0.0001 U		0.0055 D		0.00872
MW-112	7/18/2019	W112190718-	14.4	10.8	0.0001 U	0.0001 U	0.000759	0.000567	0.0005 U	0.000583
MW-30A	7/22/2019	W30A190722-	14.8	15	0.0001 U	0.0001 U	0.00195 D	0.00201 D	0.00105	0.000889
MW-47	7/22/2019	W47-190722-	18.4	18.6	0.0001 U	0.0001 U	0.000305 D	0.000247 D	0.00053	0.0005 U
MW-59	7/8/2019	W59-190708-	6.23	6.33	0.0001 U	0.0001 U	7.5E-05 U	7.5E-05 U	0.000902	0.00129 J
MW-66	7/15/2019	W66-190715-	7.18	6.99	0.0001 U	0.0001 U	0.000672	0.00077 D	0.000655	0.00111
MW-68	7/15/2019	W68-190715-	8.73	8.31	0.0001 U	0.0001 U	0.000208	0.000464 D	0.0005 JU	0.00088
MW-72	7/8/2019	W72-190708-	8.35	8.56	0.0001 U	0.0001 U	7.5E-05 U	7.5E-05 U	0.000687	0.00115
MW-75	7/12/2019	W75-190712-	7.86	8.86	0.0001 U	0.0001 U	7.5E-05 U	7.5E-05 U	0.0005 U	0.00142 J
MW-80	7/15/2019	W80-190715-	7.52	7.47	0.0001 U	0.0001 U	7.5E-05 U	8.67E-05 D	0.000586	0.0005 U
MW-81	7/12/2019	W81-190712-	6.42	6.54	0.0001 U	0.0001 U	0.00155	0.00159	0.00062	0.00358
MW-83	7/12/2019	W83-190712-	12.6	12.5	0.0001 U	0.0001 U	0.000708	0.000751	0.000785	0.000949
MW-84	7/15/2019	W84-190715-	6.67	7.05	0.0001 U	0.0001 U	0.000456	0.000518 D	0.00056	0.000595
MW-85	7/15/2019	W85-190715-	9.24	9.43	0.0001 U	0.0001 U	0.000922	0.00097 D	0.000532	0.000523
MW-87	7/8/2019	W87-190708-	10.5	10.8	0.0001 U	0.0001 U	7.5E-05 U	0.0000887	0.000623	0.00171
MW-93	7/15/2019	W93-190715-	9.27	9.42	0.0001 U	0.0001 U	0.00188	0.00211 D	0.00155	0.00276
MW-94	7/12/2019	W94-190712-	7.94	8.07	0.0001 U	0.0001 U	0.00131	0.00139	0.0005 U	0.0005 U
MW-EB6	7/23/2019	WB6-190723-		15.9		0.0001 U		0.00279 D		0.00523

Environmental Monitoring Data

Data Collected from July 1, 2019 to September 30, 2019
Cedar Hills Landfill --- Groundwater VOAs Analytical Data
Contact Person: Sendy Jimenez (206) 477-5224

Site	Date	Sample ID	1,1,1,2-Tetrachloroethane ug/l 630-20-6	1,1,1-Trichloroethane ug/l 71-55-6	1,1,2,2-Tetrachloroethane ug/l 79-34-5	1,1,2-Trichloroethane ug/l 79-00-5	1,1-Dichloroethane ug/l 75-34-3	1,1-Dichloroethene ug/l 75-35-4	1,2,3-Trichloropropane ug/l 96-18-4	1,2-Dibromo-3-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	7/23/2019	W101190723-	0.25 U	0.1 U	0.1 U	0.1 U	0.192 JT	0.1 U	0.1 U	2.5 U	0.1 U	0.1 U	0.233	0.1 U	0.1 U	1 U
MW-102	7/24/2019	W102190724-	0.25 U	0.1 U	0.1 U	0.1 U	0.168 JLT	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-103	7/25/2019	W103190725-	0.25 U	0.1 U	0.1 U	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-107	7/18/2019	W107190718-	0.25 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	2.5 U	0.1 U	0.103 JT	0.1 U	0.1 U	0.634	0.25 U
MW-108	7/22/2019	W108190722-	0.25 U	0.1 U	0.1 U	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	7/24/2019	W109190724-	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	1.07 JT	2.5 U
MW-110	7/19/2019	W110190719-	0.25 U	0.1 U	0.1 U	0.1 U	0.261	0.1 U	0.1 U	2.5 U	0.1 U	1.07	0.305	0.198 JT	0.222	0.25 U
MW-111	7/22/2019	W111190722-	0.25 U	0.1 U	0.1 U	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	7/18/2019	W112190718-	0.25 U	0.1 U	0.1 U	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	7/22/2019	W30A190722-	0.25 U	0.1 U	0.1 U	0.1 U	2.22	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-47	7/22/2019	W47-190722-	0.25 U	0.1 U	0.1 U	0.1 U	0.619 L	0.1 U	0.1 U	2.5 U	0.1 U	0.1 U	0.114 JLT	0.1 U	0.1 U	0.25 U
MW-59	7/8/2019	W59-190708-	0.25 U	0.1 U	0.1 U	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-66	7/15/2019	W66-190715-	0.25 U	0.1 U	0.1 U	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	7/15/2019	W68-190715-	0.25 U	0.1 U	0.1 U	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-72	7/8/2019	W72-190708-	0.25 U	0.1 U	0.1 U	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	7/12/2019	W75-190712-	0.25 U	0.1 U	0.1 U	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	7/15/2019	W80-190715-	0.25 U	0.1 U	0.1 U	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-81	7/12/2019	W81-190712-	0.25 U	0.1 U	0.1 U	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	7/12/2019	W83-190712-	0.25 U	0.1 U	0.1 U	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	7/15/2019	W84-190715-	0.25 U	0.1 U	0.1 U	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	7/15/2019	W85-190715-	0.25 U	0.1 U	0.1 U	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	7/8/2019	W87-190708-	0.25 U	0.1 U	0.1 U	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	7/15/2019	W93-190715-	0.25 U	0.1 U	0.1 U	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	7/12/2019	W94-190712-	0.25 U	0.1 U	0.1 U	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	7/23/2019	WB6-190723-	0.25 U	0.1 U	0.1 U	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	7/2/2019	VTRP190708Y	0.25 U	0.1 U	0.1 U	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	7/2/2019	VTRP190708Z	0.25 U	0.1 U	0.1 U	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	7/11/2019	VTRP190712Y	0.25 U	0.1 U	0.1 U	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	7/11/2019	VTRP190712Z	0.25 U	0.1 U	0.1 U	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	7/12/2019	VTRP190715Y	0.25 U	0.1 U	0.1 U	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	7/12/2019	VTRP190715Z	0.25 U	0.1 U	0.1 U	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	7/17/2019	VTRP190718Z	0.25 U	0.1 U	0.1 U	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	7/17/2019	VTRP190719Y	0.25 U	0.1 U	0.1 U	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	7/18/2019	VTRP190722X	0.25 U	0.1 U	0.1 U	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	7/19/2019	VTRP190722Y	0.25 U	0.1 U	0.1 U	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	7/22/2019	VTRP190723X	0.25 U	0.1 U	0.1 U	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	7/18/2019	VTRP190723Y	0.25 U	0.1 U	0.1 U	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	7/23/2019	VTRP190724X	0.25 U	0.1 U	0.1 U	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	7/23/2019	VTRP190724Y	0.25 U	0.1 U	0.1 U	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	7/23/2019	VTRP190725Y	0.25 U	0.1 U	0.1 U	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 July 1, 2019 to September 30, 2019
Cedar Hills Landfill --- Groundwater VOAs Analytical Data
Contact Person: Sendy Jimenez (206) 477-5224

Site	Date	Sample ID	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	7/23/2019	W101190723-	0.5 U	2.5 U	3.4 JT	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	7/24/2019	W102190724-	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-103	7/25/2019	W103190725-	0.5 U	2.5 U	2.55 BJT	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	7/18/2019	W107190718-	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	0.191 JT	0.5 U
MW-108	7/22/2019	W108190722-	0.5 U	2.5 U	27.3	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	7/24/2019	W109190724-	5 U	25 U	25 U	0.35 U	1.46 JT	1 U	2.5 U	5 U	1 U	1 U	2.5 U	1.47 JT	5 U
MW-110	7/19/2019	W110190719-	0.5 U	2.5 U	533 D	0.035 U	0.495	0.1 U	0.25 U	0.5 U	0.1 U	0.112 JT	0.25 U	1.03	0.5 U
MW-111	7/22/2019	W111190722-	0.5 U	2.5 U	6.67	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	7/18/2019	W112190718-	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	7/22/2019	W30A190722-	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	7/22/2019	W47-190722-	0.5 U	2.5 U	5.29 L	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	7/8/2019	W59-190708-	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	0.116 JT	0.25 U	0.1 U	0.5 U
MW-66	7/15/2019	W66-190715-	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	7/15/2019	W68-190715-	0.5 U	2.5 U	4.35 BJT	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	7/8/2019	W72-190708-	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	7/12/2019	W75-190712-	0.5 U	2.5 U	3.3 BJT	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	7/15/2019	W80-190715-	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-81	7/12/2019	W81-190712-	0.5 U	2.5 U	3.93 BT	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	7/12/2019	W83-190712-	0.5 U	2.5 U	2.95 BJT	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	7/15/2019	W84-190715-	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	7/15/2019	W85-190715-	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	7/8/2019	W87-190708-	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	0.198 JT	0.25 U	0.1 U	0.5 U
MW-93	7/15/2019	W93-190715-	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	7/12/2019	W94-190712-	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	7/23/2019	WB6-190723-	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	7/2/2019	VTRP190708Y	0.5 U	2.5 U	2.74 BJT	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	7/2/2019	VTRP190708Z	0.5 U	2.5 U	3.43 BJT	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	7/11/2019	VTRP190712Y	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	7/11/2019	VTRP190712Z	0.5 U	2.5 U	3.89 BJT	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	7/12/2019	VTRP190715Y	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	7/12/2019	VTRP190715Z	0.5 U	2.5 U	4.59 BJT	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	7/17/2019	VTRP190718Z	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	7/17/2019	VTRP190719Y	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	7/18/2019	VTRP190722X	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	7/19/2019	VTRP190722Y	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	7/22/2019	VTRP190723X	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	7/18/2019	VTRP190723Y	0.5 U	2.5 U	3.05 JT	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	7/23/2019	VTRP190724X	0.5 U	2.5 U	4.86 BJT	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	7/23/2019	VTRP190724Y	0.5 U	2.5 U	6.63 B	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	7/23/2019	VTRP190725Y	0.5 U	2.5 U	5.07 B	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 July 1, 2019 to September 30, 2019
Cedar Hills Landfill --- Groundwater VOAs Analytical Data
Contact Person: Sendy Jimenez (206) 477-5224

Site	Date	Sample ID	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	Methylene Chloride ug/l 75-09-2	O-Xylene ug/l 95-47-6	Styrene ug/l 100-42-5
MW-101	7/23/2019	W101190723-	0.129 JT	0.1 U	0.25 U	0.277	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	7/24/2019	W102190724-	0.1 U	0.1 U	0.25 U	0.15 JLT	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-103	7/25/2019	W103190725-	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-107	7/18/2019	W107190718-	0.1 U	0.153 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-108	7/22/2019	W108190722-	0.1 U	0.16 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	7/24/2019	W109190724-	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	7/19/2019	W110190719-	0.159 JT	0.174 JT	0.25 U	3.61	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	7/22/2019	W111190722-	0.1 U	0.1 U	0.25 U	0.184 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	0.114 JT
MW-112	7/18/2019	W112190718-	0.1 U	0.112 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-30A	7/22/2019	W30A190722-	0.1 U	0.157 JT	0.25 U	2.48	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	7/22/2019	W47-190722-	0.224 L	0.1 U	0.25 U	1.31 L	0.25 U	0.1 U	2.88 L	0.1 U	0.1 U	0.1 U	2.5 U	0.1 U	0.1 U
MW-59	7/8/2019	W59-190708-	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-66	7/15/2019	W66-190715-	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	7/15/2019	W68-190715-	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	7/8/2019	W72-190708-	0.1 U	0.143 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-75	7/12/2019	W75-190712-	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	7/15/2019	W80-190715-	0.1 U	0.115 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-81	7/12/2019	W81-190712-	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	7/12/2019	W83-190712-	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	7/15/2019	W84-190715-	0.1 U	0.187 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-85	7/15/2019	W85-190715-	0.1 U	0.146 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-87	7/8/2019	W87-190708-	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	7/15/2019	W93-190715-	0.1 U	0.11 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-94	7/12/2019	W94-190712-	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	7/23/2019	WB6-190723-	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	7/2/2019	VTRP190708Y	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	7/2/2019	VTRP190708Z	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	7/11/2019	VTRP190712Y	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	7/11/2019	VTRP190712Z	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	7/12/2019	VTRP190715Y	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	7/12/2019	VTRP190715Z	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	7/17/2019	VTRP190718Z	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	7/17/2019	VTRP190719Y	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	7/18/2019	VTRP190722X	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	7/19/2019	VTRP190722Y	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	7/22/2019	VTRP190723X	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	7/18/2019	VTRP190723Y	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	7/23/2019	VTRP190724X	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	7/23/2019	VTRP190724Y	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	7/23/2019	VTRP190725Y	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 July 1, 2019 to September 30, 2019
Cedar Hills Landfill --- Groundwater VOAs Analytical Data
Contact Person: Sendy Jimenez (206) 477-5224

Site	Date	Sample ID	Tetrahachloro ethene	Toluene	Trans-1,2-Dichloroethene	Trans-1,3-Dichloropropene	Trans-1,4-Dichloro-2-Butene	Trichloro ethene	Trichlorofluor omethane	Vinyl Acetate	Vinyl Chloride
			ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l
			127-18-4	108-88-3	156-60-5	10061-02-6	110-57-6	79-01-6	75-69-4	108-05-4	75-01-4
MW-101	7/23/2019	W101190723-	0.1 U	0.1 U	0.1 U	0.5 U	5 U	0.1 U	0.1 U	0.1 U	0.507
MW-102	7/24/2019	W102190724-	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	7/25/2019	W103190725-	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	7/18/2019	W107190718-	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-108	7/22/2019	W108190722-	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	7/24/2019	W109190724-	1 U	1 U	1 U	5 U	5 U	1 U	1 U	1 U	0.349
MW-110	7/19/2019	W110190719-	0.1 U	0.1 U	0.242	0.5 U	0.5 U	0.1 U	0.1 U	0.1 U	0.222
MW-111	7/22/2019	W111190722-	0.1 U	0.26	0.1 U	0.5 U	0.5 U	0.1 U	0.1 U	0.1 U	0.01 U
MW-112	7/18/2019	W112190718-	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-30A	7/22/2019	W30A190722-	0.1 U	0.1 U	0.1 U	0.5 U	0.5 U	0.807	0.1 U	0.1 U	0.01 U
MW-47	7/22/2019	W47-190722-	0.1 U	0.1 U	0.1 U	0.5 U	0.5 U	0.1 U	0.1 U	0.1 U	4.84 L
MW-59	7/8/2019	W59-190708-	0.1 U	0.1 U	0.1 U	0.5 U	5 U	0.1 U	0.1 U	0.1 U	0.0103 DJT
MW-66	7/15/2019	W66-190715-	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	7/15/2019	W68-190715-	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-72	7/8/2019	W72-190708-	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-75	7/12/2019	W75-190712-	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-80	7/15/2019	W80-190715-	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-81	7/12/2019	W81-190712-	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-83	7/12/2019	W83-190712-	0.1 U	0.1 U	0.1 U	0.5 U	5 U	2.1	0.1 U	0.1 U	0.01 DU
MW-84	7/15/2019	W84-190715-	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-85	7/15/2019	W85-190715-	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	7/8/2019	W87-190708-	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-93	7/15/2019	W93-190715-	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	7/12/2019	W94-190712-	0.1 U	0.1 U	0.1 U	0.5 U	5 U	1.61	0.1 U	0.1 U	0.01 DU
MW-EB6	7/23/2019	WB6-190723-	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	7/2/2019	VTRP190708Y	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	7/2/2019	VTRP190708Z	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	7/11/2019	VTRP190712Y	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	7/11/2019	VTRP190712Z	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	7/12/2019	VTRP190715Y	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	7/12/2019	VTRP190715Z	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	7/17/2019	VTRP190718Z	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	7/17/2019	VTRP190719Y	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	7/18/2019	VTRP190722X	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	7/19/2019	VTRP190722Y	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	7/22/2019	VTRP190723X	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	7/18/2019	VTRP190723Y	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	7/23/2019	VTRP190724X	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	7/23/2019	VTRP190724Y	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	7/23/2019	VTRP190725Y	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, 2019 to December 31, 2019
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	10/7/2019	620.32	297.59	322.73	
MW-101	10/7/2019	474.72	32.75	441.97	
MW-102	10/7/2019	552.48	50.18	502.3	
MW-103	10/7/2019	639.08	20.43	618.65	
MW-104	10/7/2019	629.68	29.35	600.33	
MW-105	10/7/2019	521.23	22.97	498.26	
MW-106	10/7/2019	475.47	190.51	284.96	
MW-107	10/7/2019	589.029	28.68	560.349	
MW-108	10/7/2019	612.258	18.42	593.838	18.41 verified w/ meter #99.
MW-109	10/7/2019	638.728			Dry at 15.20'.
MW-110	10/7/2019	641.742	7.8	633.943	Earwigs and spiders.
MW-111	10/7/2019	643.797	13.39	630.41	Earwigs.
MW-112	10/7/2019	638.929	16.53	622.399	Earwigs.
MW-21	10/7/2019	420.66	124.98	295.68	
MW-22	10/7/2019	517.09	232.47	284.62	
MW-24	10/7/2019	475.99	146.05	329.94	
MW-25	10/7/2019	474.41	14.04	460.37	
MW-27A	10/7/2019	584.23	55.31	528.92	
MW-28	10/7/2019	527.75	33.05	494.7	
MW-29	10/7/2019	532.92	15.06	517.86	
MW-30A	10/7/2019	568.43	29.9	538.53	Water+insects in annulus.
MW-41D	10/7/2019	462.32	30.03	432.29	
MW-41S	10/7/2019	462.44	12	450.44	
MW-43	10/7/2019	547.06	263.75	283.31	
MW-45	10/7/2019	488.4	16.03	472.37	
MW-47	10/7/2019	634.6	21.03	613.57	
MW-48	10/7/2019	594.49	46.27	548.22	# 5 lock.
MW-50	10/7/2019	637.02	33.03	603.99	# 5 lock.
MW-54	10/7/2019	580.43	278.58	301.85	
MW-55	10/7/2019	652.29	32.27	620.02	
MW-56	10/7/2019	480.33	128.65	351.68	
MW-57	10/7/2019	456.64	105.82	350.82	
MW-58A	10/7/2019	479.27	149.88	329.39	
MW-59	10/7/2019	457.13	125.96	331.17	
MW-60	10/7/2019	567.15	228.37	338.78	
MW-62	10/7/2019	556.21	54.89	501.32	DTW below top of pump.
MW-63	10/7/2019	515.88	18.6	497.28	
MW-64	10/7/2019	596.55	265.73	330.82	
MW-65	10/7/2019	545.83	210.3	335.53	
MW-66	10/7/2019	531.28	238.98	292.3	
MW-67	10/7/2019	516.43	220.1	296.33	
MW-68	10/7/2019	647.07	331.67	315.40	
MW-69	10/7/2019	653.69			Damaged. Unable to get DTW.
MW-72	10/7/2019	671.87	360.66	311.21	
MW-73	10/7/2019	485.7	191.75	293.95	

Environmental Monitoring Data

Data Collected from October 1, 2019 to December 31, 2019
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	10/7/2019	531.26	239.94	291.32	
MW-75	10/7/2019	532.4	245.66	286.74	
MW-76	10/7/2019	491.71	141.19	350.52	
MW-79	10/7/2019	459.17			
MW-80	10/7/2019	530.41	238.76	291.65	Wasps in annulus.
MW-81	10/7/2019	493.66	183.64	310.02	Needs gravel around well.
MW-82	10/7/2019	474.85	125.23	349.62	
MW-83	10/7/2019	496.81	145.02	351.79	
MW-84	10/7/2019	530.8	236.04	294.76	
MW-85	10/7/2019	531.76	246.09	285.67	
MW-86	10/7/2019	536.04	250.05	285.99	
MW-87	10/7/2019	537.31	248.12	289.19	Wasps in annulus.
MW-88	10/7/2019	513.68	227.35	286.33	
MW-89	10/7/2019	512.82	232.42	280.4	
MW-90	10/7/2019	502.22	222.01	280.21	
MW-91	10/7/2019	532.02	246.8	285.22	
MW-93	10/7/2019	632.15	308.21	323.94	
MW-94	10/7/2019	495.51	143.56	351.95	
MW-95	10/7/2019	571.54	250.88	320.66	
MW-98	10/7/2019	503.73	17.62	486.11	
MW-99	10/7/2019	493.64	200.45	293.19	Needs gravel around well.
MW-EB5	10/7/2019	645.36	41.75	603.61	
MW-EB5S	10/7/2019	645.77	16.8	628.97	
MW-EB6	10/7/2019	589.61	31.28	558.33	DTW below top of pump.
WS-NPW-1	10/7/2019	646.33	332.5	313.83	
WS-NPW-3	10/7/2019	645.81	331.2	314.61	

Environmental Monitoring Data

Data Collected from October 1, 2019 to December 31, 2019
Cedar Hills Landfill --- Groundwater Field Parameters
Contact Person: Sendy Jimenez (206) 477-5224

Site	Date	Sample ID	pH (Field) (std. Units)	Conductance (Field) (umhos/cm)	Temperature (Field) (^{o}C)	Purge Volume (Field) (gal)	Dissolved Oxygen (Field) (mg/L)	ORP (Field) mV	Turbidity (Field) NTU
MW-100	10/11/2019	W100191011-	6.78	309.1	11.33	5.2	0.79	0.9	37.6
MW-101	11/13/2019	W101191113-	7.33	555.6	10.9	2.5			4.08
MW-102	11/18/2019	W102191118-	6.57	141.3	10.27	0.4	11.11	191.7	10.4
MW-103	11/15/2019	W103191115-	7.39	273.4	11.04	0.9	1.52	207.4	8.34
MW-107	11/18/2019	W107191118-	5.63	219.4	12.37	1	0.74	148.4	0.8
MW-108	11/15/2019	W108191115-	6.55	394.6	12.76	0.75	9.45	189.7	1.07
MW-109	11/18/2019	W109191118-	7	2693.1	13.07	2	1.14	-118.6	38.7
MW-110	11/15/2019	W110191115-	6.39	797	13.69	0.4	2.45	204.3	3.66
MW-111	11/19/2019	W111191119-	5.75	89.2	13.2	0.75	7.98	185.4	0.85
MW-21	10/8/2019	W21-191008-	7.39	142.5	9.62	2	1.18	-172.2	2
MW-24	10/22/2019	W24-191022-	6.85	182.9	9.75	3.5	0.42	-82.7	0.5
MW-30A	11/13/2019	W30A191113-	6.18	246.1	11.5	4			2.13
MW-47	11/13/2019	W47-191113-	6.69	1121	11.2	20			0.51
MW-56	10/18/2019	W56-191018-	6.86	231	9.12	17.79			0.66
MW-59	10/18/2019	W59-191018-	6.96	217.7	9.87	2.5	1.1	-59.2	0.77
MW-62	11/13/2019	W62-191113-	7.01	114.4	10.2	1.2			1.6
MW-64	10/22/2019	W64-191022-	6.85	232	12.14	3.5	1.43	137.4	18.9
MW-65	10/11/2019	W65-191011-	6.51	146	9.65	2	1.18	-39.8	130
MW-66	10/11/2019	W66-191011-	7.36	213.5	10.2	2.5	6.01	217.3	0.51
MW-67	10/22/2019	W67-191022-	7.02	377.9	9.68	2.25	2.14	47	89.1
MW-68	11/19/2019	W68-191119-	6.62	276	10.19	4	0.92	0.4	7.11
MW-72	10/22/2019	W72-191022-	6.67	362.4	10.31	7.75	0.7	-49.7	4.12
MW-73	10/8/2019	W73-191008-	7.06	141.1	9.27	3	9.72	154.2	1.39
MW-74R	10/18/2019	W74R191018-	6.97	497.3	10.16	3.5	5.31	71.6	1.78
MW-75	10/18/2019	W75-191018-	6.63	381.3	9.71	5.25	0.42	-47.8	1.12
MW-76	10/11/2019	W76-191011-	6.3	232.5	9.66	2.5	6.3	248.1	0.52
MW-80	11/19/2019	W80-191119-	6.84	315	9.78	5.75	0.6	-62.5	0.46
MW-81	10/22/2019	W81-191022-	7.44	164.3	9.91	2.25	5.86	221.2	0.75
MW-82	10/22/2019	W82-191022-	6.82	305.8	10.17	2	7.18	75.1	0.59
MW-83	10/18/2019	W83-191018-	6.74	601	10.54	3.5	0.83	98.3	1.33
MW-84	10/11/2019	W84-191011-	7.1	211	9.74	3	2	210.7	0.18
MW-85	10/22/2019	W85-191022-	7.16	368.1	9.5	2.75	3.25	199.7	0.75
MW-86	10/23/2019	W86-191023-	6.76	201.3	9.08	4	1.33	8.9	46.9
MW-87	10/23/2019	W87-191023-	6.82	542	10.47	3.5	0.71	-35.7	2.84
MW-88	10/23/2019	W88-191023-	6.6	126.4	9.42	3	5.22	252.8	0.4
MW-89	10/23/2019	W89-191023-	7.08	246.1	10.05	2.5	3.17	-46.2	11.3
MW-93	10/23/2019	W93-191023-	6.66	330.3	11	4	1.23	232.1	0.35
MW-94	10/18/2019	W94-191018-	6.89	330.9	9.79	2.75	4.08	121.9	0.58
MW-95	10/11/2019	W95-191011-	7.16	229.7	9.24	4	1.29	197.4	0.64
MW-EB6	11/19/2019	WB6-191119-	7.78	101.3	9.9	1.5			2.64

Environmental Monitoring Data

Data Collected from October 1, 2019 to December 31, 2019
Cedar Hills Landfill --Groundwater Conventionals Analytical Data
Contact Person: Sendy Jimenez (206) 477-5224

Site	Date	Sample ID	Alkalinity, Total ($CaCO_3$) (mg/L)	Ammonia, (NH_3) (mg/L)	Chloride (mg/L)	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	W100191011-	10/11/2019	133	0.009 T	3.22	0.01 U	299	20.5	183	0.5 U	195	7.6
MW-101	W101191113-	11/13/2019	301	0.0148	2.72	0.01 U	540	4.37	329	5.86	332	24.7
MW-102	W102191118-	11/18/2019	58.5	0.002 U	2.97	1.12	147	7.47	119	0.76 T	128	5.9
MW-103	W103191115-	11/15/2019	123	0.002 U	5.7	0.01 U	264	8.83	167	0.51 T	174	8.9
MW-107	W107191118-	11/18/2019	82.6	0.569	9.04	0.234	226	13	148	5.16	147	0.5 U
MW-108	W108191115-	11/15/2019	146	0.002 U	1.79	0.032 T	443	78.4	291	0.98 T	292	1 U
MW-109	W109191118-	11/18/2019	1860	0.263	2.49	0.2 U	3000	0.58 T	2250	194 S	2340	4.2
MW-110	W110191115-	11/15/2019	442	0.0545	2.03	0.01 U	792	9.6	485	4.45	499	5.2
MW-111	W111191119-	11/19/2019	23.7	0.002 U	0.907	0.643	92.1	12	84.7	1.29	88	0.5 U
MW-21	W21-191008-	10/8/2019	60.7	0.0155	2.43	0.01 U	141	5.92	85.3	0.5 U	91.3	1 U
MW-24	W24-191022-	10/22/2019	69.2	0.0356	4.87	0.01 U	180	10.5	107	0.5 U	108	2
MW-30A	W30A191113-	11/13/2019	70.6	0.002 U	1.21	12.2	251	6.7	183	0.86 T	186	0.9 T
MW-47	W47-191113-	11/13/2019	647	0.0525	5.37	0.014 T	1090	6.53	670	4.58	683	7.4
MW-56	W56-191018-	10/18/2019	78.3	0.002 U	16.2	0.603	237	7.98	137	0.8 T	147	0.5 U
MW-59	W59-191018-	10/18/2019	71.3	0.007 T	10.6	0.01 U	208	15	124	0.5 U	132	3.6
MW-62	W62-191113-	11/13/2019	38.6	0.002 U	3.4	3.56	142	11.2	100	1.2	104	0.5 U
MW-64	W64-191022-	10/22/2019	101	0.0144	2.73	0.01 U	235	13	139	0.5 U	141	17.4
MW-65	W65-191011-	10/11/2019	51.9	0.0025 T	4.09	0.014 T	135	9.47	98.7	0.5 U	116	50.3
MW-66	W66-191011-	10/11/2019	85.5	0.002 U	4.27	0.399	208	13.4	129	0.5 U	135	0.8 T
MW-67	W67-191022-	10/22/2019	164	0.0066 T	4.82	0.091	375	24.6	222	0.5 U	246	32
MW-68	W68-191119-	11/19/2019	123	0.0175	3.03	0.01 U	276	15	164	0.5 U	173	2.9
MW-72	W72-191022-	10/22/2019	131	0.0159	5.84	0.01 U	356	35.3	217	0.5 U	225	5.2
MW-73	W73-191008-	10/8/2019	54.5	0.002 U	2.39	1.1	145	8.49	92.7	0.5 U	103	2.4
MW-74R	W74R191018-	10/18/2019	202	0.002 U	18.2	0.393	497	26.8	279	0.5 U	292	0.5 U
MW-75	W75-191018-	10/18/2019	111	0.0082 T	9.72	0.01 U	375	53.9	237	0.5 U	249	2.3
MW-76	W76-191011-	10/11/2019	67.8	0.002 U	15.3	0.761	228	16.9	147	1.62	149	0.5 U
MW-80	W80-191119-	11/19/2019	115	0.0136	4.54	0.01 U	310	34.8	196	0.5 U	198	1.6 T
MW-81	W81-191022-	10/22/2019	55.3	0.002 U	4.73	1.59	163	8.83	100	0.5 U	105	0.5 U
MW-82	W82-191022-	10/22/2019	121	0.002 U	11.1	0.848	311	12.8	183	0.51 T	185	0.6 T
MW-83	W83-191018-	10/18/2019	190	0.0035 T	60.7	2.88	594	10.4	346	6.57	397	0.5 T
MW-84	W84-191011-	10/11/2019	80.9	0.002 U	4.65	0.182	207	16.6	130	0.5 U	137	1 U
MW-85	W85-191022-	10/22/2019	138	0.002 U	9.36	0.109	366	27.7	213	0.5 U	217	0.5 U
MW-86	W86-191023-	10/23/2019	70.9	0.002 U	4.73	0.01 U	199	20.8	126	0.5 U	139	14.9
MW-87	W87-191023-	10/23/2019	109	0.0173	13.9	0.01 U	531	139	365	0.5 U	371	1.8
MW-88	W88-191023-	10/23/2019	52.4	0.002 U	1.83	0.74	129	6.31	86.7	0.5 U	79.3	0.5 U
MW-89	W89-191023-	10/23/2019	85.6	0.018	13	0.01 U	246	17.6	145	0.5 U	152	6.7
MW-93	W93-191023-	10/23/2019	125	0.0575	2.86	0.01 U	330	40.9	204	0.5 U	207	0.5 U
MW-94	W94-191018-	10/18/2019	114	0.002 U	22.1	0.806	332	9.53	202	2.55	215	1 U
MW-95	W95-191011-	10/11/2019	90	0.0226	6.05	0.01 U	225	16	141	0.5 U	141	0.5 U
MW-EB6	WB6-191119-	11/19/2019	22.6	0.0245	0.709	3.48	100	8.41	89.3	2.17	98.7	10

See Data Qualifier List for Qualifier Information.

Environmental Monitoring Data

Data Collected from October 1, 2019 to December 31, 2019
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	W100191011-	10/11/2019	0.0003 U	0.0003 U	0.000326	0.00329	0.00614	0.0073	0.0001 U	0.0001 U	5E-05 U	5E-05 U	29.6	29.5	0.0002 U	0.0002 U	0.000206	2.72E-04
MW-101	W101191113-	11/13/2019	0.0003 U	0.0003 U	0.00298 D	0.00323 D	0.025	0.0249	0.0001 U	0.0001 U	5E-05 U	5E-05 U	58	58.8	0.0002 U	0.0002 U	0.000211	0.000225
MW-102	W102191118-	11/18/2019	0.0003 U	0.0003 U	0.000184	0.000447	0.00548	0.0124	0.0001 U	0.0001 U	5E-05 U	5E-05 U	13.6	13.6	0.000331	0.00262	5E-05 U	0.000683
MW-103	W103191115-	11/15/2019	0.0003 U	0.0003 U	0.00515 D	0.00534 D	0.0114	0.0143	0.0001 U	0.0001 U	5E-05 U	5E-05 U	27.3	28.3	0.0002 U	0.00029	5E-05 U	0.0000868
MW-107	W107191118-	11/18/2019	0.0003 U	0.0003 U	0.000261	0.000266	0.0101	0.01	0.0001 U	0.0001 U	5E-05 U	5E-05 U	22.7	22.5	0.000288	3.15E-04	0.000866	0.000877
MW-108	W108191115-	11/15/2019	0.0003 U	0.0003 U	0.00221 D	0.00216 D	0.0204	0.0206	0.0001 U	0.0001 U	5E-05 U	5E-05 U	42.3	42.6	0.000503	0.000522	5E-05 U	5E-05 U
MW-109	W109191118-	11/18/2019	0.000693	0.000672	4.65E-02	0.0444	0.13	0.133	0.000698	0.000727	5E-05 U	0.0000674	32.8	32.1	0.182	0.148	0.00101	0.00157
MW-110	W110191115-	11/15/2019	0.0003 U	0.0003 U	0.00261 D	0.0108 D	0.0317	0.0329	0.0001 U	0.0001 U	5E-05 U	0.0000548	77	75.1	0.0002 U	0.000278	3.65E-03	0.00364
MW-111	W111191119-	11/19/2019	0.0003 U	0.0003 U	0.000825	0.000848	0.00482	0.00515	0.0001 U	0.0001 U	5E-05 U	5E-05 U	8.35	8.37	0.0018	1.74E-03	5E-05 U	5E-05 U
MW-21	W21-191008-	10/8/2019	0.0003 U	0.0003 U	0.000892	0.000932	0.00511	0.00516	0.0001 U	0.0001 U	5E-05 U	5E-05 U	12.2	12.2	0.0002 U	0.0002 U	5E-05 U	5E-05 U
MW-24	W24-191022-	10/22/2019	0.0003 U	0.0003 U	0.000568	0.000559	0.00177	0.00185	0.0001 U	0.0001 U	5E-05 U	5E-05 U	14.8	14.6	0.0002 U	0.0002 U	5E-05 U	5E-05 U
MW-30A	W30A191113-	11/13/2019	0.0003 U	0.0003 U	0.000488 D	0.000556 D	0.00352	0.00373	0.0001 U	0.0001 U	5E-05 U	5E-05 U	20.8	21	0.000579	0.000866	5E-05 U	5E-05 U
MW-47	W47-191113-	11/13/2019	0.0003 U	0.0003 U	0.00295 D	0.00294 D	0.0417	0.0416	0.0001 U	0.0001 U	5E-05 U	5E-05 U	146	146	0.0002 U	0.0002 U	0.000449	0.000464
MW-56	W56-191018-	10/18/2019	0.0003 U	0.0003 U	0.0000779	0.000086	0.00436	0.0043	0.0001 U	0.0001 U	5E-05 U	5E-05 U	21.2	21.3	0.0002 U	0.0002 U	0.000134	0.000137
MW-59	W59-191018-	10/18/2019	0.0003 U	0.0003 U	0.000411	0.000409	0.00401	0.0041	0.0001 U	0.0001 U	5E-05 U	5E-05 U	17.2	17.3	0.0002 U	0.0002 U	5E-05 U	5E-05 U
MW-62	W62-191113-	11/13/2019	0.0003 U	0.0003 U	0.000186 D	0.000188 D	0.00158	0.0018	0.0001 U	0.0001 U	5E-05 U	5E-05 U	13.1	13	0.000203	0.000423	0.0000529	0.000075
MW-64	W64-191022-	10/22/2019	0.0003 U	0.0003 U	0.000576	0.00274	0.00733	0.0299	0.0001 U	0.0001 U	5E-05 U	0.00051	19.3	19.5	0.0002 U	0.0002 U	9.08E-05	3.79E-03
MW-65	W65-191011-	10/11/2019	0.0003 U	0.0003 U	0.000272	0.00256	0.00593	0.00844	0.0001 U	0.0001 U	5E-05 U	5E-05 U	11.4	11.6	0.0002 U	0.0002 U	5E-05 U	7.66E-05
MW-66	W66-191011-	10/11/2019	0.0003 U	0.0003 U	0.000723	0.000712	0.0041	0.00406	0.0001 U	0.0001 U	5E-05 U	5E-05 U	16.7	16.4	0.0002 U	0.0002 U	5E-05 U	5E-05 U
MW-67	W67-191022-	10/22/2019	0.0003 U	0.0003 U	0.000357	0.00833	0.0125	0.0244	0.0001 U	0.0001 U	5E-05 U	0.000078	37.8	38	0.0002 U	3.43E-04	1.84E-04	0.00117
MW-68	W68-191119-	11/19/2019	0.0003 U	0.0003 U	0.00989	0.0451	0.0106	0.0113	0.0001 U	0.0001 U	5E-05 U	5E-05 U	27.4	27.3	0.0002 U	0.000243	0.000205	0.000228
MW-72	W72-191022-	10/22/2019	0.0003 U	0.0003 U	0.0000725	0.0000879	0.0117	0.0116	0.0001 U	0.0001 U	5E-05 U	5E-05 U	34.8	34.5	0.0002 U	0.0002 U	5E-05 U	5E-05 U
MW-73	W73-191008-	10/8/2019	0.0003 U	0.0003 U	0.000711	0.00073	0.00257	0.00299	0.0001 U	0.0001 U	5E-05 U	5E-05 U	12.9	13.1	0.000209	0.00033	5E-05 U	5E-05 U
MW-74R	W74R191018-	10/18/2019	0.0003 U	0.0003 U	0.000395	0.000558	0.0113	0.0115	0.0001 U	0.0001 U	5E-05 U	5E-05 U	41.5	41.9	0.0002 U	0.0002 U	5E-05 U	5E-05 U
MW-75	W75-191018-	10/18/2019	0.0003 U	0.0003 U	0.000487	0.000523	0.0125	0.0126	0.0001 U	0.0001 U	5E-05 U	5E-05 U	31.2	31.2	0.0002 U	0.0002 U	5E-05 U	5E-05 U
MW-76	W76-191011-	10/11/2019	0.0003 U	0.0003 U	0.000192	0.000189	0.00381	0.00384	0.0001 U	0.0001 U	5E-05 U	5E-05 U	21.1	20.9	0.000516	0.000529	5E-05 U	5E-05 U
MW-80	W80-191119-	11/19/2019	0.0003 U	0.0003 U	0.00354	0.00358	0.0142	0.0146	0.0001 U	0.0001 U	5E-05 U	5E-05 U	30.9	31.1	0.0002 U	0.0002 U	5E-05 U	5E-05 U
MW-81	W81-191022-	10/22/2019	0.0003 U	0.0003 U	0.000543	0.000553	0.00298	0.00299	0.0001 U	0.0001 U	5E-05 U	5E-05 U	14.3	14.1	0.0002 U	0.0002 U	5E-05 U	5E-05 U
MW-82	W82-191022-	10/22/2019	0.0003 U	0.0003 U	0.000218	0.000245	0.00116	0.00147	0.0001 U	0.0001 U	5E-05 U	5E-05 U	28.8	29	0.0005	6.68E-04	5E-05 U	5E-05 U
MW-83	W83-191018-	10/18/2019	0.0003 U	0.0003 U	0.000382	0.000431	0.00916	0.00964	0.0001 U	0.0001 U	5E-05 U	5E-05 U	63.5	63.5	0.00325	0.0628	0.000282	0.000335
MW-84	W84-191011-	10/11/2019	0.0003 U	0.0003 U	0.000326	0.000317	0.00506	0.00503	0.0001 U	0.0001 U	5E-05 U	5E-05 U	16.9	16.9	0.0002 U	0.0002 U	5E-05 U	5E-05 U
MW-84	W84-191011-2	10/11/2019	0.0003 U	0.0003 U	0.000341	0.000336	0.00505	0.0049	0.0001 U	0.0001 U	5E-05 U	5E-05 U	17	16.8	0.0002 U	0.0002 U	5E-05 U	5E-05 U
MW-85	W85-191022-	10/22/2019	0.0003 U	0.0003 U	0.000719	0.000721	0.00654	0.00656	0.0001 U	0.0001 U	5E-05 U	5E-05 U	34.5	34.9	0.0002 U	0.0002 U	5E-05 U	5E-05 U
MW-86	W86-191023-	10/23/2019	0.0003 U	0.0003 U	0.000985	0.0095	0.00538	0.00631	0.0001 U	0.0001 U	5E-05 U	5E-05 U	15.8	16.3	0.0002 U	0.0002 U	5E-05 U	0.0000789
MW-87	W87-191023-	10/23/2019	0.0003 U	0.0003 U	0.000478	0.00074	0.0246	0.0233	0.0001 U	0.0001 U	5E-05 U	5E-05 U	46.5	48.1	0.0002 U	0.0002 U	1.36E-04	0.000139
MW-88	W88-191023-	10/23/2019	0.0003 U	0.0003 U	0.00101	0.000984	0.0021	0.00204	0.0001 U	0.0001 U	5E-05 U	5E-05 U	9.4	9.48	0.000638	6.19E-04	5E-05 U	5E-05 U
MW-89	W89-191023-	10/23/2019	0.0003 U	0.0003 U	0.000811	0.00254	0.00773	0.00827	0.0001 U	0.0001 U	5E-05 U	5E-05 U	18.5	18.7	0.0002 U	0.0002 U	5E-05 U	5E-05 U
MW-93	W93-191023-	10/23/2019	0.0003 U	0.0003 U	0.00132	0.00129	0.00765	0.00779	0.0001 U	0.0001 U	5E-05 U	5E-05 U	32.3	32.3	0.0002 U	0.0002 U	0.0000834	0.000105
MW-94	W94-191018-	10/18/2019	0.0003 U	0.0003 U	0.000139	0.000152	0.0023	0.00231	0.0001 U	0.0001 U	5E-05 U	5E-05 U	33.1	32.8	0.000284	0.000355	0.000082	0.0000877
MW-95	W95-191011-	10/11/2019	0.0003 U	0.0003 U	0.00105	0.00105	0.00437	0.00432	0.0001 U	0.0001 U	5E-05 U	5E-05 U	22.2	22.3	0.0002 U	0.0002 U	0.0000652	0.0000672
MW-EB6	WB6-191119-	11/19/2019	0.0003 U	0.0003 U	0.000997	0.0015	0.00445	0.00583	0.0001 U	0.0001 U	5E-05 U	0.0000507	4.5	4.37	0.000338	0.00151	0.000151	0.000246

See Data Qualifier List for Qualifier Information.

Environmental Monitoring Data

Data Collected from October 1, 2019 to December 31, 2019
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	W100191011-	10/11/2019	0.0002 U	0.000249	0.707	3.93	0.0001 U	0.0001 U	16.8	16.6	0.149	0.158	5E-05 U	5E-05 U	0.000462	0.000553	1.81	1.82
MW-101	W101191113-	11/13/2019	0.000322	0.000205	0.204	0.27	0.0001 U	0.0001 U	35.1	35.4	0.982	0.993	5E-05 DU	5E-05 DU	0.00348	0.00344	2.83	2.85
MW-102	W102191118-	11/18/2019	0.000372	0.00248	0.01 U	1.18	0.0001 U	0.000644	5.34	5.33	0.000988	0.0245	5E-05 U	5E-05 U	0.000451	0.00143	1.02	1.18
MW-103	W103191115-	11/15/2019	0.000208	0.00058	0.01 U	0.11	0.0001 U	0.000148	12.6	13	0.00496	0.17	5E-05 DU	5E-05 DU	0.000157	0.000417	2.67	2.7
MW-107	W107191118-	11/18/2019	0.00295	0.00292	0.01 U	0.0153	0.0001 U	0.0001 U	7.28	7.17	1.21	1.2	5E-05 U	5E-05 U	0.0042	0.00426	3.08	3.09
MW-108	W108191115-	11/15/2019	0.00119	0.00117	0.01 U	0.0139	0.0001 U	0.0001 U	15.4	15.5	0.000748	0.00102	5E-05 DU	5E-05 DU	0.00043	0.000428	2.09	2.09
MW-109	W109191118-	11/18/2019	0.0136	0.0291	13.7	14.9	0.00104	0.00291	17.2	16.1	2.05	2.15	5E-05 U	5E-05 U	0.0145	0.0152	2.47	2.32
MW-110	W110191115-	11/15/2019	0.0002 U	0.000447	0.172	1.56	0.0001 U	0.000137	38.1	37.7	4.2 D	4.04 D	5E-05 DU	5E-05 DU	0.00546	0.00546	3.6	3.3
MW-111	W111191119-	11/19/2019	0.000396	0.000384	0.01 U	0.016	0.0001 U	0.0001 U	2.5	2.49	0.00473	0.0049	5E-05 U	5E-05 U	0.00166	0.00168	0.364	0.372
MW-21	W21-191008-	10/8/2019	0.0002 U	0.0002 U	1.96	2.31	0.0001 U	0.0001 U	6.67	6.57	0.103	0.105	5E-05 U	5E-05 U	0.0001 U	0.00014	1.09	1.08
MW-24	W24-191022-	10/22/2019	0.0002 U	0.0002 U	3.49	3.39	0.0001 U	0.0001 U	9.24	9.38	0.104	0.104	5E-05 U	5E-05 U	0.00014	0.0001 U	0.986	0.945
MW-30A	W30A191113-	11/13/2019	0.000236	0.000308	0.01 U	0.09	0.0001 U	0.0001 U	11.6	11.8	0.0001 U	0.00103	5E-05 DU	5E-05 DU	0.000697	0.000817	1.5	1.38
MW-47	W47-191113-	11/13/2019	0.0002 U	0.000552	4.51	4.6	0.0001 U	0.000143	71.2	72	1.71	1.72	5E-05 DU	5E-05 DU	0.00241	0.0024	5.52	5.23
MW-56	W56-191018-	10/18/2019	0.0002 U	0.000528	0.0727	0.0798	0.0001 U	0.0001 U	11.4	11.5	0.269	0.27	5E-05 U	5E-05 U	0.000658	0.000684	1.24	1.23
MW-59	W59-191018-	10/18/2019	0.0002 U	0.0002 U	4.1	4.16	0.0001 U	0.0001 U	10.4	10.6	0.128	0.132	5E-05 U	5E-05 U	0.000112	0.00011	1.13	1.14
MW-62	W62-191113-	11/13/2019	0.000215	0.000824	0.01 U	0.0623	0.0001 U	0.0001 U	3.5	3.55	0.000354	0.0015	5E-05 DU	5E-05 DU	0.000478	0.000555	0.729	0.704
MW-64	W64-191022-	10/22/2019	0.0002 U	0.00148	0.0264	0.867	0.0001 U	0.0001 U	14.3	14.6	0.0982	3.3	5E-05 U	5E-05 U	0.000567	0.0155	1.73	1.84
MW-65	W65-191011-	10/11/2019	0.0002 U	0.0002 U	2.76	9.99	0.0001 U	0.0001 U	6.83	6.6	0.141	0.489	5E-05 U	5E-05 U	0.000113	0.000179	0.909	0.913
MW-66	W66-191011-	10/11/2019	0.0002 U	0.0002 U	0.01 U	0.0299	0.0001 U	0.0001 U	12.9	12.7	0.0001 U	0.000637	5E-05 U	5E-05 U	0.000148	0.000153	1.15	1.14
MW-67	W67-191022-	10/22/2019	0.0002 U	0.00115	0.228	8.27	0.0001 U	0.0001 U	21.3	21.1	0.278	1.68	5E-05 U	5E-05 U	0.000382	0.00146	1.83	1.83
MW-68	W68-191119-	11/19/2019	0.0002 U	0.0017	0.6	1.36	0.0001 U	0.0001 U	15.2	15	0.303	0.303	5E-05 U	5E-05 U	0.000528	0.000648	1.71	1.72
MW-72	W72-191022-	10/22/2019	0.0002 U	0.0002 U	3.03	3.16	0.0001 U	0.0001 U	19.8	20	0.362	0.367	5E-05 U	5E-05 U	0.000176	0.000178	2.09	1.99
MW-73	W73-191008-	10/8/2019	0.000221	0.000244	0.01 U	0.0354	0.0001 U	0.0001 U	6.56	6.87	0.0001 U	0.00114	5E-05 U	5E-05 U	0.000346	0.000371	0.844	0.869
MW-74R	W74R191018-	10/18/2019	0.000281	0.000319	0.0134	0.166	0.0001 U	0.0001 U	32.3	32	0.000427	0.00361	5E-05 U	5E-05 U	0.000829	0.000898	2.01	2.03
MW-75	W75-191018-	10/18/2019	0.0002 U	0.0002 U	2.62	2.71	0.0001 U	0.0001 U	22.6	22.9	0.221	0.219	5E-05 U	5E-05 U	0.0001 U	0.0001 U	1.91	1.94
MW-76	W76-191011-	10/11/2019	0.000958	0.000918	0.01 U	0.01 U	0.0001 U	0.0001 U	9.53	9.42	0.000155	0.0001 U	5E-05 U	5E-05 U	0.000368	0.000363	1.45	1.45
MW-80	W80-191119-	11/19/2019	0.000631	0.0002 U	2.16	2.18	0.0001 U	0.0001 U	16.1	16.1	0.336	0.334	5E-05 U	5E-05 U	0.0002	0.000166	1.7	1.72
MW-81	W81-191022-	10/22/2019	0.0002 U	0.0002 U	0.01 U	0.0206	0.0001 U	0.0001 U	7.5	7.47	0.0001 U	0.000612	5E-05 U	5E-05 U	0.000124	0.000138	0.858	0.861
MW-82	W82-191022-	10/22/2019	0.00021	0.000255	0.01 U	0.0326	0.0001 U	0.0001 U	16.7	16.8	0.000352	0.00219	5E-05 U	5E-05 U	0.000761	0.00172	1.92	1.92
MW-83	W83-191018-	10/18/2019	0.00394	0.00771	0.01 U	0.0564	0.0001 U	0.0001 U	25.5	25.5	0.0211	0.114	5E-05 U	5E-05 U	0.0047	0.00621	3.52	3.56
MW-84	W84-191011-	10/11/2019	0.000259	0.0002 U	0.01 U	0.01 U	0.0001 U	0.0001 U	12.6	12.5	0.00054	0.000566	5E-05 U	5E-05 U	0.000335	0.000309	1.22	1.22
MW-84	W84-191011-2	10/11/2019	0.0002 U	0.0002 U	0.01 U	0.01 U	0.0001 U	0.0001 U	12.6	12.4	0.000501	0.000615			0.000337	0.000345	1.23	1.21
MW-85	W85-191022-	10/22/2019	0.0002 U	0.0002 U	0.01 U	0.01 U	0.0001 U	0.0001 U	20.1	20.6	0.0001 U	0.000125	5E-05 U	5E-05 U	0.000204	0.000205	1.73	1.74
MW-86	W86-191023-	10/23/2019	0.0002 U	0.0002 U	0.981	5.73	0.0001 U	0.0001 U	11.2	11.2	0.0165 D	0.0207	5E-05 U	5E-05 U	0.0001 U	0.000166	1.3	1.27
MW-87	W87-191023-	10/23/2019	0.0002 U	0.0002 U	4.57	4.94	0.0001 U	0.0001 U	31.9	32.4	0.515 D	0.539	5E-05 U	5E-05 U	0.000186	0.000211	2.42	2.49
MW-88	W88-191023-	10/23/2019	0.0002 U	0.0002 U	0.01 U	0.01 U	0.0001 U	0.0001 U	6.9	7.13	0.0001 DU	0.000413	5E-05 U	5E-05 U	0.0001 U	0.000146	0.853	0.856
MW-89	W89-191023-	10/23/2019	0.0002 U	0.0002 U	1.06	2.4	0.0001 U	0.0001 U	13.3	13.4	0.277 D	0.288	5E-05 U	5E-05 U	0.000285	0.000416	1.71	1.68
MW-93	W93-191023-	10/23/2019	0.0002 U	0.0002 U	0.01 U	0.01 U	0.0001 U	0.0001 U	16.8	16.9	0.194 D	0.22	5E-05 U	5E-05 U	0.000224	0.000286	1.57	1.55
MW-94	W94-191018-	10/18/2019	0.00102	0.00106	0.01 U	0.0274	0.0001 U	0.0001 U	15.1	14.8	0.000177	0.000823	5E-05 U	5E-05 U	0.000498	0.000493	2.39	2.35
MW-95	W95-191011-	10/11/2019	0.0002 U	0.0002 U	0.01 U	0.01 U	0.0001 U	0.0001 U	11.7	11.6	0.168	0.173	5E-05 U	5E-05 U	0.000194	0.000181	1.24	1.24
MW-EB6	WB6-191119-	11/19/2019	0.00283	0.0037	0.0211	0.814	0.0001 U	0.000221	2.45	2.41	0.00731	0.0106	5E-05 U	5E-05 U	0.00207	0.00268	0.808	0.806

See Data Qualifier List for Qualifier Information.

Data Collected from October 1, 2019 to December 31, 2019
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	W100191011-	10/11/2019	0.0005 U	0.0005 U	4E-05 U	4E-05 U	9.41	9.37	0.0001 U	0.0001 U	7.5E-05 DU	8.12E-05 D	0.00067	0.00119
MW-101	W101191113-	11/13/2019	0.0005 U	0.0005 U	4E-05 U	4E-05 U	17.4	17.6	0.0001 U	0.0001 U	0.000799	0.00076	0.000753	0.000614
MW-102	W102191118-	11/18/2019	0.0005 U	0.0005 U	4E-05 U	4E-05 U	8.97	8.87	0.0001 U	0.0001 U	0.000877 D	0.00266 D	0.00116	0.00331
MW-103	W103191115-	11/15/2019	0.0005 U	0.0005 U	4E-05 U	4E-05 U	12	12.5	0.0001 U	0.0001 U	0.00264	0.00287	0.0012	0.00234
MW-107	W107191118-	11/18/2019	0.0005 U	0.0005 U	4E-05 U	4E-05 U	9.86	9.84	0.0001 U	0.0001 U	0.000428 D	0.000374 D	0.00111	0.00115
MW-108	W108191115-	11/15/2019	0.0005 U	0.0005 U	4E-05 U	4E-05 U	34.6	34.7	0.0001 U	0.0001 U	4.46E-03	0.0045	0.000987	0.001
MW-109	W109191118-	11/18/2019	0.00171	0.00186	0.0000573	0.0000664	1020 D	874 D	0.0001 U	0.0001 U	0.606 D	0.524 D	0.00244	0.00673
MW-110	W110191115-	11/15/2019	0.0005 U	0.0005 U	4E-05 U	4E-05 U	66.1	65.3	0.0001 U	0.0001 U	0.000329	0.000715	0.00383	0.00289
MW-111	W111191119-	11/19/2019	0.0005 U	0.0005 U	4E-05 U	4E-05 U	6.33	6.33	0.0001 U	0.0001 U	0.00116 D	0.00124 D	0.00167	0.00163
MW-21	W21-191008-	10/8/2019	0.0005 U	0.0005 U	4E-05 U	4E-05 U	5.99	5.84	0.0001 U	0.0001 U	7.63E-05 D	7.5E-05 DU	0.0005 U	0.0005 U
MW-24	W24-191022-	10/22/2019	0.0005 U	0.0005 U	4E-05 U	4E-05 U	5.89	5.86	0.0001 U	0.0001 U	7.5E-05 U	7.5E-05 U	0.0005 U	0.0005 U
MW-30A	W30A191113-	11/13/2019	0.0005 U	0.0005 U	4E-05 U	4E-05 U	14.1	14.6	0.0001 U	0.0001 U	0.00208	0.00224	0.0005 U	0.000854
MW-47	W47-191113-	11/13/2019	0.0005 U	0.0005 U	4E-05 U	4E-05 U	20.2	20.6	0.0001 U	0.0001 U	0.000261	0.000317	0.000766	0.00126
MW-56	W56-191018-	10/18/2019	0.0005 U	0.0005 U	4E-05 U	4E-05 U	6.12	6.19	0.0001 U	0.0001 U	0.000232	0.000246	0.00131	0.00315
MW-59	W59-191018-	10/18/2019	0.0005 U	0.0005 U	4E-05 U	4E-05 U	6.21	6.3	0.0001 U	0.0001 U	7.5E-05 U	7.5E-05 U	0.000952	0.000805
MW-62	W62-191113-	11/13/2019	0.0005 U	0.0005 U	4E-05 U	4E-05 U	11	11.1	0.0001 U	0.0001 U	0.000776	0.000844	0.000898	0.00256
MW-64	W64-191022-	10/22/2019	0.0005 U	0.0005 U	4E-05 U	4E-05 U	7.87	7.85	0.0001 U	0.0001 U	0.000181	0.00119	0.0005 U	0.00423
MW-65	W65-191011-	10/11/2019	0.0005 U	0.0005 U	4E-05 U	4E-05 U	5.3	5.09	0.0001 U	0.0001 U	7.5E-05 DU	7.5E-05 DU	0.0005 U	0.00157
MW-66	W66-191011-	10/11/2019	0.00098	0.000912	4E-05 U	4E-05 U	7.4	7.34	0.0001 U	0.0001 U	0.000737 D	0.00075 D	0.0005 U	0.00082
MW-67	W67-191022-	10/22/2019	0.0005 U	0.0005 U	4E-05 U	4E-05 U	9.87	9.95	0.0001 U	0.0001 U	0.000237	0.00357	0.000587	0.00189
MW-68	W68-191119-	11/19/2019	0.0005 U	0.0005 U	4E-05 U	4E-05 U	9	8.87	0.0001 U	0.0001 U	0.000253 D	0.000862 D	0.000505	0.000703
MW-72	W72-191022-	10/22/2019	0.0005 U	0.0005 U	4E-05 U	4E-05 U	8.78	8.5	0.0001 U	0.0001 U	7.5E-05 U	7.5E-05 U	0.000528	0.00114
MW-73	W73-191008-	10/8/2019	0.000513	0.0005 U	4E-05 U	4E-05 U	6.02	6.09	0.0001 U	0.0001 U	0.00126 D	0.0013 D	0.00121	0.000774
MW-74R	W74R191018-	10/18/2019	0.000546	0.000509	4E-05 U	4E-05 U	12.2	11.9	0.0001 U	0.0001 U	0.000628	0.000728	0.001	0.000918
MW-75	W75-191018-	10/18/2019	0.0005 U	0.0005 U	4E-05 U	4E-05 U	9.14	9.16	0.0001 U	0.0001 U	0.000104	0.0000871	0.00064	0.0005 U
MW-76	W76-191011-	10/11/2019	0.0005 U	0.0005 U	4E-05 U	4E-05 U	10.4	10.2	0.0001 U	0.0001 U	0.000529 D	0.000567 D	0.000899	0.0005 U
MW-80	W80-191119-	11/19/2019	0.0005 U	0.0005 U	4E-05 U	4E-05 U	7.98	7.88	0.0001 U	0.0001 U	0.000136 D	7.5E-05 DU	0.00107	0.0005 U
MW-81	W81-191022-	10/22/2019	0.000852	0.00102	4E-05 U	4E-05 U	6.7	6.66	0.0001 U	0.0001 U	0.0017	0.00167	0.000665	0.00112
MW-82	W82-191022-	10/22/2019	0.0005 U	0.0005 U	4E-05 U	4E-05 U	8.4	8.2	0.0001 U	0.0001 U	0.0013	0.00134	0.00117	0.000653
MW-83	W83-191018-	10/18/2019	0.0005 U	0.0005 U	4E-05 U	4E-05 U	13.7	13.5	0.0001 U	0.0001 U	0.000844	0.00115	0.001	0.000979
MW-84	W84-191011-	10/11/2019	0.000841	0.000859	4E-05 U	4E-05 U	7.35	7.34	0.0001 U	0.0001 U	0.000482 D	0.000451 D	0.000805	0.0005 U
MW-84	W84-191011-2	10/11/2019	0.000824	0.000857	4E-05 U	4E-05 U	7.16	7.12	0.0001 U	0.0001 U	0.000451 D	0.00047 D	0.0005 U	0.0005 U
MW-85	W85-191022-	10/22/2019	0.000984	0.000998	4E-05 U	4E-05 U	9.95	9.7	0.0001 U	0.0001 U	0.00096	0.000919	0.000692	0.000709
MW-86	W86-191023-	10/23/2019	0.0005 U	0.0005 U	4E-05 U	4E-05 U	6.98	6.94	0.0001 U	0.0001 U	0.000104	0.000632	0.000762	0.000793
MW-87	W87-191023-	10/23/2019	0.0005 U	0.0005 U	4E-05 U	4E-05 U	10.5	11.1	0.0001 U	0.0001 U	7.5E-05 U	0.000102	0.00136	0.000538
MW-88	W88-191023-	10/23/2019	0.000508	0.000596	4E-05 U	4E-05 U	5.67	5.8	0.0001 U	0.0001 U	0.0028	0.00263	0.0005 U	0.0005 U
MW-89	W89-191023-	10/23/2019	0.0005 U	0.0005 U	4E-05 U	4E-05 U	9.65	9.82	0.0001 U	0.0001 U	7.5E-05 U	0.000094	0.000805	0.00157
MW-93	W93-191023-	10/23/2019	0.0005 U	0.0005 U	4E-05 U	4E-05 U	9.34	9.45	0.0001 U	0.0001 U	0.002	0.00194	0.0008	0.00128
MW-94	W94-191018-	10/18/2019	0.0005 U	0.0005 U	4E-05 U	4E-05 U	8.2	8.03	0.0001 U	0.0001 U	0.00123	0.00134	0.000629	0.000973
MW-95	W95-191011-	10/11/2019	0.0005 U	0.0005 U	4E-05 U	4E-05 U	6.19	6.25	0.0001 U	0.0001 U	0.000275 D	0.000287 D	0.000669	0.0005 U
MW-EB6	WB6-191119-	11/19/2019	0.0005 U	0.0005 U	4E-05 U	4E-05 U	12.5	12.1	0.0001 U	0.0001 U	0.00972 D	0.0117 D	0.00282	0.00309

See Data Qualifier List for Qualifier Information.

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	W100191011-	10/11/2019	0.25 U	0.1 U	0.1 U	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	W101191113-	11/13/2019	0.25 U	0.1 U	0.1 U	0.1 U	0.164 JT	0.1 U	0.1 U	2.5 U	0.1 U	0.1 U	0.112 JT
MW-102	W102191118-	11/18/2019	0.25 U	0.1 U	0.1 U	0.1 U	0.132 JT	0.1 U	0.1 U	2.5 U	0.1 U	0.1 U	0.1 U
MW-103	W103191115-	11/15/2019	0.25 U	0.1 U	0.1 U	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	W107191118-	11/18/2019	0.25 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	2.5 U	0.1 U	0.137 JT	0.1 U
MW-108	W108191115-	11/15/2019	0.25 U	0.1 U	0.1 U	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	W109191118-	11/18/2019	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	W110191115-	11/15/2019	0.25 U	0.1 U	0.1 U	0.1 U	0.289	0.1 U	0.1 U	2.5 U	0.1 U	0.969	0.287
MW-111	W111191119-	11/19/2019	0.25 U	0.1 U	0.1 U	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	W21-191008-	10/8/2019	0.25 U	0.1 U	0.1 U	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	W24-191022-	10/22/2019	0.25 U	0.1 U	0.1 U	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	W30A191113-	11/13/2019	0.25 U	0.1 U	0.1 U	0.1 U	1.81	0.1 U	0.1 U	2.5 U	0.1 U	0.1 U	0.1 U
MW-47	W47-191113-	11/13/2019	0.25 U	0.1 U	0.1 U	0.1 U	0.73	0.1 U	0.1 U	2.5 U	0.1 U	0.1 U	0.1 U
MW-56	W56-191018-	10/18/2019	0.25 U	0.1 U	0.1 U	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	W59-191018-	10/18/2019	0.25 U	0.1 U	0.1 U	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	W62-191113-	11/13/2019	0.25 U	0.1 U	0.1 U	0.1 U	0.227	0.1 U	0.1 U	2.5 U	0.1 U	0.1 U	0.1 U
MW-64	W64-191022-	10/22/2019	0.25 U	0.1 U	0.1 U	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	W65-191011-	10/11/2019	0.25 U	0.1 U	0.1 U	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	W66-191011-	10/11/2019	0.25 U	0.1 U	0.1 U	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	W67-191022-	10/22/2019	0.25 U	0.1 U	0.1 U	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	W68-191119-	11/19/2019	0.25 U	0.1 U	0.1 U	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	W72-191022-	10/22/2019	0.25 U	0.1 U	0.1 U	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	W73-191008-	10/8/2019	0.25 U	0.1 U	0.1 U	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	W74R191018-	10/18/2019	0.25 U	0.1 U	0.1 U	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	W75-191018-	10/18/2019	0.25 U	0.1 U	0.1 U	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	W76-191011-	10/11/2019	0.25 U	0.1 U	0.1 U	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	W80-191119-	11/19/2019	0.25 U	0.1 U	0.1 U	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	W81-191022-	10/22/2019	0.25 U	0.1 U	0.1 U	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	W82-191022-	10/22/2019	0.25 U	0.1 U	0.1 U	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	W83-191018-	10/18/2019	0.25 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	2.5 U	0.1 U	0.1 U	0.1 U
MW-84	W84-191011-	10/11/2019	0.25 U	0.1 U	0.1 U	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	W85-191022-	10/22/2019	0.25 U	0.1 U	0.1 U	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	W86-191023-	10/23/2019	0.25 U	0.1 U	0.1 U	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	W87-191023-	10/23/2019	0.25 U	0.1 U	0.1 U	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	W88-191023-	10/23/2019	0.25 U	0.1 U	0.1 U	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	W89-191023-	10/23/2019	0.25 U	0.1 U	0.1 U	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	W93-191023-	10/23/2019	0.25 U	0.1 U	0.1 U	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	W94-191018-	10/18/2019	0.25 U	0.1 U	0.1 U	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	W95-191011-	10/11/2019	0.25 U	0.1 U	0.1 U	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	WB6-191119-	11/19/2019	0.25 U	0.1 U	0.1 U	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	VTRP191008Z	10/7/2019	0.25 U	0.1 U	0.1 U	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	VTRP191011Y	10/10/2019	0.25 U	0.1 U	0.1 U	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	VTRP191011Z	10/10/2019	0.25 U	0.1 U	0.1 U	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	VTRP191018Y	10/16/2019	0.25 U	0.1 U	0.1 U	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	VTRP191018Z	10/11/2019	0.25 U	0.1 U	0.1 U	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	VTRP191022Y	10/16/2019	0.25 U	0.1 U	0.1 U	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	VTRP191022Z	10/18/2019	0.25 U	0.1 U	0.1 U	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	VTRP191023X	10/22/2019	0.25 U	0.1 U	0.1 U	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	VTRP191023Y	10/18/2019	0.25 U	0.1 U	0.1 U	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	VTRP191023Z	10/18/2019	0.25 U	0.1 U	0.1 U	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	VTRP191113X	11/12/2019	0.25 U	0.1 U	0.1 U	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	VTRP191113Y	11/12/2019	0.25 U	0.1 U	0.1 U	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	VTRP191113Z	11/12/2019	0.25 U	0.1 U	0.1 U	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	VTRP191115X	11/12/2019	0.25 U	0.1 U	0.1 U	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	VTRP191118X	11/15/2019	0.25 U	0.1 U	0.1 U	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	VTRP191118Z	11/12/2019	0.25 U	0.1 U	0.1 U	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	VTRP191119X	11/18/2019	0.25 U	0.1 U	0.1 U	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	VTRP191119Y	11/18/2019	0.25 U	0.1 U	0.1 U	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.

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	W100191011-	10/11/2019	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	W101191113-	11/13/2019	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-102	W102191118-	11/18/2019	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	W103191115-	11/15/2019	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	W107191118-	11/18/2019	0.1 U	0.919	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	W108191115-	11/15/2019	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	W109191118-	11/18/2019	1 U	1.42 JT	2.5 U	5 U	25 U	25 U	0.35 U	2.3	1 U	2.5 U	5 U
MW-110	W110191115-	11/15/2019	0.229	0.193 JT	0.25 U	0.5 U	2.5 U	2.5 U	0.035 U	0.24	0.1 U	0.25 U	0.5 U
MW-111	W111191119-	11/19/2019	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	W21-191008-	10/8/2019	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	W24-191022-	10/22/2019	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	W30A191113-	11/13/2019	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	W47-191113-	11/13/2019	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	W56-191018-	10/18/2019	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	W59-191018-	10/18/2019	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	W62-191113-	11/13/2019	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-64	W64-191022-	10/22/2019	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	W65-191011-	10/11/2019	0.1 U	0.1 U	1 U	0.5 U	2.5 U	3.01 JT	0.035 U	0.1 U	0.1 U	0.25 U	0.5 U
MW-66	W66-191011-	10/11/2019	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	W67-191022-	10/22/2019	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	W68-191119-	11/19/2019	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	W72-191022-	10/22/2019	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	W73-191008-	10/8/2019	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	W74R191018-	10/18/2019	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	W75-191018-	10/18/2019	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	W76-191011-	10/11/2019	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	W80-191119-	11/19/2019	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	W81-191022-	10/22/2019	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	W82-191022-	10/22/2019	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	W83-191018-	10/18/2019	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-84	W84-191011-	10/11/2019	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	W85-191022-	10/22/2019	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	W86-191023-	10/23/2019	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	W87-191023-	10/23/2019	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-88	W88-191023-	10/23/2019	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	W89-191023-	10/23/2019	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	W93-191023-	10/23/2019	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	W94-191018-	10/18/2019	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	W95-191011-	10/11/2019	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-EB6	WB6-191119-	11/19/2019	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	VTRP191008Z	10/7/2019	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	VTRP191011Y	10/10/2019	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	VTRP191011Z	10/10/2019	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	VTRP191018Y	10/16/2019	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	VTRP191018Z	10/11/2019	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	VTRP191022Y	10/16/2019	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	VTRP191022Z	10/18/2019	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	VTRP191023X	10/22/2019	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	VTRP191023Y	10/18/2019	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	VTRP191023Z	10/18/2019	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	VTRP191113X	11/12/2019	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	VTRP191113Y	11/12/2019	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	VTRP191113Z	11/12/2019	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	VTRP191115X	11/12/2019	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	VTRP191118X	11/15/2019	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	VTRP191118Z	11/12/2019	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	VTRP191119X	11/18/2019	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	VTRP191119Y	11/18/2019	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

See Data Qualifier List for Qualifier Information.

Environmental Monitoring Data

Data Collected from October 1, 2019 to December 31, 2019
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	W100191011-	10/11/2019	0.1 U	0.1 U	0.25 U	0.1 U	0.5 U	0.1 U	0.125 JT	0.25 U	0.1 U	0.25 U	0.1 U
MW-101	W101191113-	11/13/2019	0.1 U	0.1 U	0.25 U	0.1 U	0.5 U	0.1 U	0.1 U	0.25 U	0.2 JT	0.25 U	0.1 U
MW-102	W102191118-	11/18/2019	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	W103191115-	11/15/2019	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	W107191118-	11/18/2019	0.1 U	0.1 U	0.25 U	0.472	0.5 U	0.1 U	0.1 U	0.25 U	0.1 U	0.25 U	0.1 U
MW-108	W108191115-	11/15/2019	0.1 U	0.1 U	0.25 U	0.1 U	0.5 U	0.1 U	0.125 JT	0.25 U	0.1 U	0.25 U	0.1 U
MW-109	W109191118-	11/18/2019	1 U	1 U	2.5 U	1.87 JT	5 U	1 U	1 U	2.5 U	1 U	2.5 U	1 U
MW-110	W110191115-	11/15/2019	0.1 U	0.1 U	0.25 U	1.01	0.5 U	0.119 JT	0.1 U	0.25 U	4.04	0.25 U	0.1 U
MW-111	W111191119-	11/19/2019	0.1 U	0.1 U	0.25 U	0.1 U	0.5 U	0.1 U	0.1 U	0.25 U	0.209	0.25 U	0.1 U
MW-21	W21-191008-	10/8/2019	0.1 U	0.1 U	0.25 U	0.1 U	0.5 U	0.1 U	0.213	0.25 U	0.1 U	0.25 U	0.1 U
MW-24	W24-191022-	10/22/2019	0.1 U	0.1 U	0.25 U	0.1 U	0.5 U	0.1 U	0.216	0.25 U	0.107 JT	0.25 U	0.1 U
MW-30A	W30A191113-	11/13/2019	0.1 U	0.1 U	0.25 U	0.1 U	0.5 U	0.1 U	0.1 U	0.25 U	2.43	0.25 U	0.1 U
MW-47	W47-191113-	11/13/2019	0.1 U	0.1 U	0.25 U	0.1 U	0.5 U	0.187 JT	0.1 U	0.25 U	1.98	0.25 U	0.1 U
MW-56	W56-191018-	10/18/2019	0.1 U	0.1 U	0.25 U	0.1 U	0.5 U	0.1 U	0.272	0.25 U	1.45	0.25 U	0.1 U
MW-59	W59-191018-	10/18/2019	0.1 U	0.1 U	0.25 U	0.1 U	0.5 U	0.1 U	0.242	0.25 U	1.41	0.25 U	0.1 U
MW-62	W62-191113-	11/13/2019	0.1 U	0.1 U	0.25 U	0.1 U	0.5 U	0.1 U	0.1 U	0.25 U	0.504	0.25 U	0.1 U
MW-64	W64-191022-	10/22/2019	0.1 U	0.1 U	0.25 U	0.1 U	0.5 U	0.1 U	0.193 JT	0.25 U	0.1 U	0.25 U	0.1 U
MW-65	W65-191011-	10/11/2019	0.1 U	0.1 U	0.25 U	0.1 U	0.5 U	0.1 U	0.215	0.25 U	0.1 U	0.25 U	0.1 U
MW-66	W66-191011-	10/11/2019	0.1 U	0.1 U	0.25 U	0.1 U	0.5 U	0.1 U	0.157 JT	0.25 U	0.1 U	0.25 U	0.1 U
MW-67	W67-191022-	10/22/2019	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	W68-191119-	11/19/2019	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	W72-191022-	10/22/2019	0.1 U	0.1 U	0.25 U	0.1 U	0.5 U	0.1 U	0.144 JT	0.25 U	0.1 U	0.25 U	0.1 U
MW-73	W73-191008-	10/8/2019	0.1 U	0.1 U	0.25 U	0.1 U	0.5 U	0.1 U	0.154 JT	0.25 U	0.1 U	0.25 U	0.1 U
MW-74R	W74R191018-	10/18/2019	0.1 U	0.1 U	0.25 U	0.1 U	0.5 U	0.1 U	0.24	0.25 U	0.1 U	0.25 U	0.1 U
MW-75	W75-191018-	10/18/2019	0.1 U	0.1 U	0.25 U	0.1 U	0.5 U	0.1 U	0.168 JT	0.25 U	0.1 U	0.25 U	0.1 U
MW-76	W76-191011-	10/11/2019	0.1 U	0.1 U	0.25 U	0.1 U	0.5 U	0.1 U	0.198 JT	0.25 U	0.195 JT	0.25 U	0.1 U
MW-80	W80-191119-	11/19/2019	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	W81-191022-	10/22/2019	0.1 U	0.1 U	0.25 U	0.1 U	0.5 U	0.1 U	0.164 JT	0.25 U	0.1 U	0.25 U	0.1 U
MW-82	W82-191022-	10/22/2019	0.1 U	0.1 U	0.25 U	0.1 U	0.5 U	0.1 U	0.17 JT	0.25 U	0.1 U	0.25 U	0.1 U
MW-83	W83-191018-	10/18/2019	0.1 U	0.1 U	0.25 U	0.1 U	0.5 U	0.1 U	0.163 JT	0.25 U	0.1 U	0.25 U	0.1 U
MW-84	W84-191011-	10/11/2019	0.1 U	0.1 U	0.25 U	0.1 U	0.5 U	0.1 U	0.208	0.25 U	0.1 U	0.25 U	0.1 U
MW-85	W85-191022-	10/22/2019	0.1 U	0.1 U	0.25 U	0.1 U	0.5 U	0.1 U	0.137 JT	0.25 U	0.1 U	0.25 U	0.1 U
MW-86	W86-191023-	10/23/2019	0.1 U	0.1 U	0.25 U	0.1 U	0.5 U	0.1 U	0.231	0.25 U	0.1 U	0.25 U	0.1 U
MW-87	W87-191023-	10/23/2019	0.1 U	0.101 JT	0.25 U	0.1 U	0.5 U	0.1 U	0.255	0.25 U	0.1 U	0.25 U	0.1 U
MW-88	W88-191023-	10/23/2019	0.1 U	0.1 U	0.25 U	0.1 U	0.5 U	0.1 U	0.198 JT	0.25 U	0.1 U	0.25 U	0.1 U
MW-89	W89-191023-	10/23/2019	0.1 U	0.1 U	0.25 U	0.1 U	0.5 U	0.1 U	0.224	0.25 U	0.1 U	0.25 U	0.1 U
MW-93	W93-191023-	10/23/2019	0.1 U	0.1 U	0.25 U	0.1 U	0.5 U	0.1 U	0.138 JT	0.25 U	0.1 U	0.25 U	0.1 U
MW-94	W94-191018-	10/18/2019	0.1 U	0.1 U	0.25 U	0.1 U	0.5 U	0.1 U	0.232	0.25 U	0.1 U	0.25 U	0.1 U
MW-95	W95-191011-	10/11/2019	0.1 U	0.1 U	0.25 U	0.1 U	0.5 U	0.1 U	0.198 JT	0.25 U	0.1 U	0.25 U	0.1 U
MW-EB6	WB6-191119-	11/19/2019	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	VTRP191008Z	10/7/2019	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	VTRP191011Y	10/10/2019	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	VTRP191011Z	10/10/2019	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	VTRP191018Y	10/16/2019	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	VTRP191018Z	10/11/2019	0.1 U	0.1 U	0.25 U	0.1 U	0.5 U	0.1 U	0.128 JT	0.25 U	0.1 U	0.25 U	0.1 U
VOA TRIP BLANK	VTRP191022Y	10/16/2019	0.1 U	0.1 U	0.25 U	0.1 U	0.5 U	0.1 U	0.127 JT	0.25 U	0.1 U	0.25 U	0.1 U
VOA TRIP BLANK	VTRP191022Z	10/18/2019	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	VTRP191023X	10/22/2019	0.1 U	0.1 U	0.25 U	0.1 U	0.5 U	0.1 U	0.109 JT	0.25 U	0.1 U	0.25 U	0.1 U
VOA TRIP BLANK	VTRP191023Y	10/18/2019	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	VTRP191023Z	10/18/2019	0.1 U	0.1 U	0.25 U	0.1 U	0.5 U	0.1 U	0.127 JT	0.25 U	0.1 U	0.25 U	0.1 U
VOA TRIP BLANK	VTRP191113X	11/12/2019	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	VTRP191113Y	11/12/2019	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	VTRP191113Z	11/12/2019	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	VTRP191115X	11/12/2019	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	VTRP191118X	11/15/2019	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	VTRP191118Z	11/12/2019	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	VTRP191119X	11/18/2019	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	VTRP191119Y	11/18/2019	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.

Data Collected from October 1, 2019 to December 31, 2019
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	Tetrachloroethene ug/l 127-18-4	Toluene ug/l 108-88-3	Trans-1,2-Dichloroethene ug/l 156-60-5
MW-100	W100191011-	10/11/2019	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-101	W101191113-	11/13/2019	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-102	W102191118-	11/18/2019	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	W103191115-	11/15/2019	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	W107191118-	11/18/2019	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	W108191115-	11/15/2019	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	W109191118-	11/18/2019	1 U	1 U	1 U	1 U	25 U	1 U	1 U	1 U	221	1 U
MW-110	W110191115-	11/15/2019	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	0.178 JT
MW-111	W111191119-	11/19/2019	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	W21-191008-	10/8/2019	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-24	W24-191022-	10/22/2019	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	W30A191113-	11/13/2019	0.1 U	0.1 U	0.1 U	0.1 U	2.5 U	0.1 U	0.1 U	0.116 JT	0.1 U	0.1 U
MW-47	W47-191113-	11/13/2019	4.89	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	W56-191018-	10/18/2019	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-59	W59-191018-	10/18/2019	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-62	W62-191113-	11/13/2019	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-64	W64-191022-	10/22/2019	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-65	W65-191011-	10/11/2019	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-66	W66-191011-	10/11/2019	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	W67-191022-	10/22/2019	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-68	W68-191119-	11/19/2019	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	W72-191022-	10/22/2019	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	W73-191008-	10/8/2019	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	W74R191018-	10/18/2019	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-75	W75-191018-	10/18/2019	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-76	W76-191011-	10/11/2019	0.1 U	0.1 U	0.1 U	0.1 U	2.5 U	0.1 U	0.1 U	0.401	0.1 U	0.1 U
MW-80	W80-191119-	11/19/2019	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	W81-191022-	10/22/2019	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-82	W82-191022-	10/22/2019	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	W83-191018-	10/18/2019	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-84	W84-191011-	10/11/2019	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-85	W85-191022-	10/22/2019	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-86	W86-191023-	10/23/2019	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-87	W87-191023-	10/23/2019	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-88	W88-191023-	10/23/2019	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-89	W89-191023-	10/23/2019	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-93	W93-191023-	10/23/2019	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-94	W94-191018-	10/18/2019	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-95	W95-191011-	10/11/2019	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-EB6	WB6-191119-	11/19/2019	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	VTRP191008Z	10/7/2019	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	VTRP191011Y	10/10/2019	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	VTRP191011Z	10/10/2019	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	VTRP191018Y	10/16/2019	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	VTRP191018Z	10/11/2019	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	VTRP191022Y	10/16/2019	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	VTRP191022Z	10/18/2019	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	VTRP191023X	10/22/2019	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	VTRP191023Y	10/18/2019	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	VTRP191023Z	10/18/2019	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	VTRP191113X	11/12/2019	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	VTRP191113Y	11/12/2019	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	VTRP191113Z	11/12/2019	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	VTRP191115X	11/12/2019	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	VTRP191118X	11/15/2019	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	VTRP191118Z	11/12/2019	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	VTRP191119X	11/18/2019	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	VTRP191119Y	11/18/2019	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

See Data Qualifier List for Qualifier Information.

Data Collected from October 1, 2019 to December 31, 2019
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	W100191011-	10/11/2019	0.5 U	5 U	0.1 U	0.1 U	0.1 U	0.01 U
MW-101	W101191113-	11/13/2019	0.5 U	0.5 U	0.1 U	0.1 U	0.1 U	0.433
MW-102	W102191118-	11/18/2019	0.5 U	0.5 U	0.1 U	0.1 U	0.1 U	0.01 U
MW-103	W103191115-	11/15/2019	0.5 U	0.5 U	0.1 U	0.1 U	0.1 U	0.01 U
MW-107	W107191118-	11/18/2019	0.5 U	0.5 U	0.1 U	0.1 U	0.1 U	0.0156 JT
MW-108	W108191115-	11/15/2019	0.5 U	0.5 U	0.1 U	0.1 U	0.1 U	0.01 U
MW-109	W109191118-	11/18/2019	5 U	5 U	1 U	1 U	1 U	0.347
MW-110	W110191115-	11/15/2019	0.5 U	0.5 U	0.1 U	0.1 U	0.1 U	0.0881
MW-111	W111191119-	11/19/2019	0.5 U	0.5 U	0.104 JT	0.1 U	0.1 U	0.01 U
MW-21	W21-191008-	10/8/2019	0.5 U	5 U	0.1 U	0.1 U	0.1 U	0.01 U
MW-24	W24-191022-	10/22/2019	0.5 U	5 U	0.1 U	0.1 U	0.1 U	0.0247 D
MW-30A	W30A191113-	11/13/2019	0.5 U	0.5 U	0.811	0.1 U	0.1 U	0.01 U
MW-47	W47-191113-	11/13/2019	0.5 U	0.5 U	0.1 U	0.1 U	0.1 U	6.18
MW-56	W56-191018-	10/18/2019	0.5 U	5 U	0.1 U	0.1 U	0.1 U	0.01 U
MW-59	W59-191018-	10/18/2019	0.5 U	5 U	0.1 U	0.1 U	0.1 U	0.01 U
MW-62	W62-191113-	11/13/2019	0.5 U	0.5 U	0.1 U	0.1 U	0.1 U	0.01 U
MW-64	W64-191022-	10/22/2019	0.5 U	5 U	0.1 U	0.1 U	0.1 U	0.01 DU
MW-65	W65-191011-	10/11/2019	0.5 U	5 U	0.1 U	0.1 U	0.1 U	0.0318
MW-66	W66-191011-	10/11/2019	0.5 U	5 U	0.1 U	0.1 U	0.1 U	0.01 U
MW-67	W67-191022-	10/22/2019	0.5 U	5 U	0.1 U	0.1 U	0.1 U	0.01 DU
MW-68	W68-191119-	11/19/2019	0.5 U	0.5 U	0.1 U	0.1 U	0.1 U	0.01 U
MW-72	W72-191022-	10/22/2019	0.5 U	5 U	0.1 U	0.1 U	0.1 U	0.01 DU
MW-73	W73-191008-	10/8/2019	0.5 U	5 U	0.1 U	0.1 U	0.1 U	0.01 U
MW-74R	W74R191018-	10/18/2019	0.5 U	5 U	0.1 U	0.1 U	0.1 U	0.01 U
MW-75	W75-191018-	10/18/2019	0.5 U	5 U	0.1 U	0.1 U	0.1 U	0.01 U
MW-76	W76-191011-	10/11/2019	0.5 U	5 U	7.89	0.1 U	0.1 U	0.01 U
MW-80	W80-191119-	11/19/2019	0.5 U	0.5 U	0.1 U	0.1 U	0.1 U	0.01 U
MW-81	W81-191022-	10/22/2019	0.5 U	5 U	0.1 U	0.1 U	0.1 U	0.01 U
MW-82	W82-191022-	10/22/2019	0.5 U	5 U	4.59	0.1 U	0.1 U	0.01 DU
MW-83	W83-191018-	10/18/2019	0.5 U	5 U	1.87	0.1 U	0.1 U	0.01 U
MW-84	W84-191011-	10/11/2019	0.5 U	5 U	0.1 U	0.1 U	0.1 U	0.01 U
MW-85	W85-191022-	10/22/2019	0.5 U	5 U	0.1 U	0.1 U	0.1 U	0.01 U
MW-86	W86-191023-	10/23/2019	0.5 U	5 U	0.1 U	0.1 U	0.1 U	0.01 DU
MW-87	W87-191023-	10/23/2019	0.5 U	5 U	0.1 U	0.1 U	0.1 U	0.01 DU
MW-88	W88-191023-	10/23/2019	0.5 U	5 U	0.1 U	0.1 U	0.1 U	0.01 DU
MW-89	W89-191023-	10/23/2019	0.5 U	5 U	0.1 U	0.1 U	0.1 U	0.01 DU
MW-93	W93-191023-	10/23/2019	0.5 U	5 U	0.1 U	0.1 U	0.1 U	0.01 DU
MW-94	W94-191018-	10/18/2019	0.5 U	5 U	2.27	0.1 U	0.1 U	0.01 U
MW-95	W95-191011-	10/11/2019	0.5 U	5 U	0.1 U	0.1 U	0.1 U	0.01 U
MW-EB6	WB6-191119-	11/19/2019	0.5 U	0.5 U	0.1 U	0.1 U	0.1 U	0.01 U
VOA TRIP BLANK	VTRP191008Z	10/7/2019	0.5 U	5 U	0.1 U	0.1 U	0.1 U	0.01 U
VOA TRIP BLANK	VTRP191011Y	10/10/2019	0.5 U	5 U	0.1 U	0.1 U	0.1 U	0.01 U
VOA TRIP BLANK	VTRP191011Z	10/10/2019	0.5 U	5 U	0.1 U	0.1 U	0.1 U	0.01 U
VOA TRIP BLANK	VTRP191018Y	10/16/2019	0.5 U	5 U	0.1 U	0.1 U	0.1 U	0.01 U
VOA TRIP BLANK	VTRP191018Z	10/11/2019	0.5 U	5 U	0.1 U	0.1 U	0.1 U	0.01 U
VOA TRIP BLANK	VTRP191022Y	10/16/2019	0.5 U	5 U	0.1 U	0.1 U	0.1 U	0.01 U
VOA TRIP BLANK	VTRP191022Z	10/18/2019	0.5 U	5 U	0.1 U	0.1 U	0.1 U	0.01 U
VOA TRIP BLANK	VTRP191023X	10/22/2019	0.5 U	5 U	0.1 U	0.1 U	0.1 U	0.01 DU
VOA TRIP BLANK	VTRP191023Y	10/18/2019	0.5 U	5 U	0.1 U	0.1 U	0.1 U	0.01 U
VOA TRIP BLANK	VTRP191023Z	10/18/2019	0.5 U	5 U	0.1 U	0.1 U	0.1 U	0.01 U
VOA TRIP BLANK	VTRP191113X	11/12/2019	0.5 U	0.5 U	0.1 U	0.1 U	0.1 U	0.01 U
VOA TRIP BLANK	VTRP191113Y	11/12/2019	0.5 U	0.5 U	0.1 U	0.1 U	0.1 U	0.01 U
VOA TRIP BLANK	VTRP191113Z	11/12/2019	0.5 U	5 U	0.1 U	0.1 U	0.1 U	0.01 U
VOA TRIP BLANK	VTRP191115X	11/12/2019	0.5 U	0.5 U	0.1 U	0.1 U	0.1 U	0.01 U
VOA TRIP BLANK	VTRP191118X	11/15/2019	0.5 U	0.5 U	0.1 U	0.1 U	0.1 U	0.01 U
VOA TRIP BLANK	VTRP191118Z	11/12/2019	0.5 U	0.5 U	0.1 U	0.1 U	0.1 U	0.01 U
VOA TRIP BLANK	VTRP191119X	11/18/2019	0.5 U	0.5 U	0.1 U	0.1 U	0.1 U	0.01 U
VOA TRIP BLANK	VTRP191119Y	11/18/2019	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.

Surface Water Analytical Data

Environmental Monitoring Data

Data Collected from January 1, 2019 to March 31, 2019
Cedar Hills Landfill ---Surface Water Elevation-Staff Gage Measurements
Contact Person: Sendy Jimenez (206) 477-5224

Staff Gage	Location	Date	Reference Elevation Staff Gage 0' (msl)	Reference Elevation Top of Peizo (msl)	Depth to Water (Peizometer) (feet)	Staff Gage Reading (feet)	Surface Water Elevation (msl)
SW-G1	SW-W1	1/7/2019	415.38	418.84		0.68	416.06
SW-G1	SW-W1	2/6/2019	415.38	418.84		0.64	416.02
SW-G1	SW-W1	3/14/2019	415.38	418.84		0.68	416.06
SW-G2	SW-N1	1/7/2019	355.68	358.21		0.72	356.40
SW-G2	SW-N1	2/6/2019	355.68	358.21		0.48	356.16
SW-G2	SW-N1	3/14/2019	355.68	358.21		0.7	356.38
SW-G3	SW -V	1/7/2019	466.46	469.88		0.2	466.66
SW-G3	SW -V	2/6/2019	466.46	469.88	5.1		464.78
SW-G3	SW -V	3/14/2019	466.46	469.88		0.1	466.56
SW-G4	Upstream of SW-E1	1/7/2019	502.41	505.85		0.45	502.86
SW-G4	Upstream of SW-E1	2/6/2019	502.41	505.85		0.33	502.74
SW-G4	Upstream of SW-E1	3/14/2019	502.41	505.85		0.42	502.83
SW-G5	SW-E1	1/7/2019	486.92	490.34		0.66	487.58
SW-G5	SW-E1	2/6/2019	486.92	490.34		0.58	487.50
SW-G5	SW-E1	3/14/2019	486.92	490.34		0.67	487.59
SW-G6	Upstream of SW-GS1	1/7/2019	490.72	494.12		0.9	491.62
SW-G6	Upstream of SW-GS1	2/6/2019	490.72	494.12	2.99		491.13
SW-G6	Upstream of SW-GS1	3/14/2019	490.72	494.12	2.79		491.33
SW-G7	SW-S2	1/7/2019	453.03	456.41		1.1	454.13
SW-G7	SW-S2	2/6/2019	453.03	456.41		0.74	453.77
SW-G7	SW-S2	3/14/2019	453.03	456.41		0.76	453.79
SW-G8	Upstream of SW-S1	1/7/2019	510.61	515.56		0.61	511.22
SW-G8	Upstream of SW-S1	2/6/2019	510.61	515.56		0.46	511.07
SW-G8	Upstream of SW-S1	3/14/2019	510.61	515.56		0.7	511.31
SW-G9	SW-S1	1/7/2019	490.93	494.35		0.78	491.71
SW-G9	SW-S1	2/6/2019	490.93	494.35		0.68	491.61
SW-G9	SW-S1	3/14/2019	490.93	494.35		0.82	491.75

Environmental Monitoring Data

Data Collected from January 1, 2019 to March 31, 2019
Cedar Hills Landfill ---Surface Water Field Parameters
Contact Person: Sendy Jimenez (206) 477-5224

Site	Date	Sample ID	pH (Field) (std. Units)	Conductance (Field) (umho/cm)	Temperature (^{o}C)	Turbidity (NTU)	Oxygen, Dissolved (mg/L)
SW-E1	1/30/2019	SE1-190130Q	6.67	41.8	3.82	8.85	6.7
SW-GS1	1/2/2019	SGS1190102P	7.43	111.6	5.23	--	11.64
SW-N4	1/2/2019	SN4-190102P	7.45	81.7	13.41	--	12.11
SW-SL3	1/2/2019	SSL3190102P	7.24	128.3	5.28	--	10.78

Data Collected from January 1, 2019 to March 31, 2019
Cedar Hills Landfill ---Surface Water ISGP Analytes
Contact Person: Sendy Jimenez (206) 477-5224

Site	Date	Sample ID	Ammonia, (NH3) (mg/L)	Biological Oxygen Demand (mg/L)	Total Suspended Solids (mg/L)	Zinc, total (mg/L)
SW-GS1	1/2/2019	SGS1190102P	0.0067 T	2 U	0.8 T	0.00326
SW-N4	1/2/2019	SN4-190102P	0.0652	2 U	1	0.0337
SW-SL3	1/2/2019	SSL3190102P	0.0131	2 U	4.8	0.0105

Data Collected from January 1, 2019 to March 31, 2019
Cedar Hills Landfill ---Surface Water VOAs Analytes
Contact Person: Sendy Jimenez (206) 477-5224

Site	Date	Sample ID	4-Methyl-phenol 106-44-5 (ug/L)	Alpha Terpineol 98-55-5 (ug/L)	Benzoic Acid 65-85-0 (ug/L)	Phenol 108-95-2 (ug/L)
SW-GS1	1/2/2019	SGS1190102P	0.481 U	0.481 U	9.62 U	0.481 U
SW-N4	1/2/2019	SN4-190102P	0.485 U	0.485 U	9.71 U	0.485 U
SW-SL3	1/2/2019	SSL3190102P	0.485 U	0.485 U	9.71 U	0.485 U

Environmental Monitoring Data

Data Collected from January 1, 2019 to March 31, 2019
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	1/30/2019	SE1-190130Q	0.25 U	0.1 U	0.1 U	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

Data Collected from January 1, 2019 to March 31, 2019
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	1/30/2019	SE1-190130Q	0.5 U	2.5 U	2.5 U	0.035 U	13.4	0.0022 T	0.0003 U	0.0003 U	0.000133	0.000625	0.00277	0.0144	0.1 U

Environmental Monitoring Data

Data Collected from January 1, 2019 to March 31, 2019
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	1/30/2019	SE1-190130Q	0.0001 U	0.0001 U	0.1 U	0.25 U	0.5 U	0.1 U	5E-05 U	5E-05 U	4.27	4.88	0.1 U	0.25 U	1.73

Environmental Monitoring Data

Data Collected from January 1, 2019 to March 31, 2019
Cedar Hills Landfill ---SW-E1 Analytical Data
Contact Person: Sendy Jimenez (206) 477-5224

Site	Date	Sample ID	CHLOROBENZENE	CHLORODIBROMOMETHANE	CHLOROETHANE	CHLOROFORM	CHLOROMETHANE	CHROMIUM	CHROMIUM	CIS-1,2-DICHLOROETHENE	CIS-1,3-DICHLOROPROPENE	COBALT	COBALT	COPPER	COPPER	DIBROMOMETHANE
			108-90-7	124-48-1	75-00-3	67-66-3	74-87-3	7440-47-3	7440-47-3	156-59-2	10061-01-5	7440-48-4	7440-48-4	7440-50-8	7440-50-8	74-95-3
			ug/l	ug/l	ug/l	ug/l	ug/l	mg/l	mg/l	ug/l	ug/l	mg/l	mg/l	mg/l	mg/l	ug/l
			N	N	N	N	N	D	T	N	N	D	T	D	T	N
SW-E1	1/30/2019	SE1-190130Q	0.1 U	0.5 U	0.1 U	0.1 U	0.25 U	0.0002 U	0.00162	0.1 U	0.25 U	5E-05 U	0.000569	0.00046	0.00233	0.1 U

Environmental Monitoring Data

Data Collected from January 1, 2019 to March 31, 2019
Cedar Hills Landfill ---SW-E1 Analytical Data
Contact Person: Sendy Jimenez (206) 477-5224

Site	Date	Sample ID	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
			N	N	D	T	D	T	N	D	T	D	T	D	T	N
SW-E1	1/30/2019	SE1-190130Q	0.1 U	0.1 U	0.0247	1.04	0.0001 U	0.00163	0.1 U	0.945	1.16	0.00661	0.114	5E-05 U	5E-05 U	0.1 U

Environmental Monitoring Data

Data Collected from January 1, 2019 to March 31, 2019
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	1/30/2019	SE1-190130Q	2.5 U	0.00014	0.00151	0.171	0.1 U	0.371	0.442	0.0005 U	0.000649	4E-05 U	4E-05 U	2.34	2.34	40.9

Environmental Monitoring Data

Data Collected from January 1, 2019 to March 31, 2019
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	1/30/2019	SE1-190130Q	0.1 U	1.46	0.1 U	0.0001 U	0.0001 U	0.1 U	44.8 J	2.84	57.6 J	32.8 J	0.1 U	0.5 U	5 U	0.1 U

Data Collected from January 1, 2019 to March 31, 2019
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	1/30/2019	SE1-190130Q	0.1 U	0.00036	0.00277	0.1 U	0.01 U	0.000835	0.00744

Environmental Monitoring Data

Data Collected from April 1, 2019 to June 30, 2019
Cedar Hills Landfill --- Stormwater Elevation Data
Contact Person: Sendy Jimenez (206) 477-5224

Staff Gage	Location	Date	Reference Elevation Staff Gage 0' (msl)	Staff Gage Reading (feet)	Reference Elevation Top of Peizo (msl)	Depth to Water (Peizometer) (feet)	Surface Water Elevation (msl)
SW-G1	SW-W1	4/1/2019	415.38	0.63	418.84		416.01
SW-G1	SW-W1	5/22/2019	415.38	0.60	418.84		415.98
SW-G1	SW-W1	6/14/2019	415.38	0.57	418.84		415.95
SW-G1	SW-W1	6/21/2019	415.38	0.56	418.84		415.94
SW-G2	SW-N1	4/1/2019	355.68	0.35	358.21		356.03
SW-G2	SW-N1	5/22/2019	355.68	0.30	358.21		355.98
SW-G2	SW-N1	6/14/2019	355.68		358.21	3.20	352.48
SW-G2	SW-N1	6/21/2019	355.68	0.26	358.21		355.94
SW-G3	SW -V	4/1/2019	466.46		469.88		466.46

Environmental Monitoring Data

Data Collected from April 1, 2019 to June 30, 2019
Cedar Hills Landfill --- Stormwater Elevation Data
Contact Person: Sendy Jimenez (206) 477-5224

Site	Date	Sample ID	pH (Field) (std. Units)	Conductance (Field) (umho/cm)	Temperature (^{o}C)	Turbidity (NTU)	Oxygen, Dissolved (mg/L)
SW-GS1	4/2/2019	SGS1190402P	6.85	171.6	11.62	--	9.38
SW-N4	4/2/2019	SN4-190402P	6.96	109.3	10.66	--	10.69
SW-SL3	4/2/2019	SSL3190402P	6.29	128.8	8.59	--	7.27

Environmental Monitoring Data

Data Collected from April 1, 2019 to June 30, 2019
Cedar Hills Landfill --- Stormwater Conventional Data
Contact Person: Sendy Jimenez (206) 477-5224

Site	Date	Sample ID	Ammonia, (NH3) (mg/L)	Biological Oxygen Demand (mg/L)	Total Suspended Solids (mg/L)	Copper, total (mg/L)	Zinc, total (mg/L)
SW-GS1	4/2/2019	SGS1190402P	0.021	2 U	4.8	--	0.00158
SW-N4	4/2/2019	SN4-190402P	0.0057 T	2 U	7	--	0.0219
SW-SL3	4/2/2019	SSL3190402P	0.0166	2 U	1	--	0.00499

Environmental Monitoring Data

Data Collected from April 1, 2019 to June 30, 2019
Cedar Hills Landfill --- Stormwater VOAs Data
Contact Person: Sendy Jimenez (206) 477-5224

Site	Date	Sample ID	3-4-Methyl-phenol 106-44-5 (ug/L)	Alpha Terpineol 98-55-5 (ug/L)	Benzoic Acid 65-85-0 (ug/L)	Phenol 108-95-2 (ug/L)
SW-GS1	4/2/2019	SGS1190402P	0.485 U	0.485 U	9.71 U	0.485 U
SW-N4	4/2/2019	SN4-190402P	0.481 U	0.481 U	9.62 U	0.481 U
SW-SL3	4/2/2019	SSL3190402P	0.481 U	0.481 U	9.62 U	0.481 U

Data Collected from July 1, 2019 to September 30, 2019
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	7/3/2019	415.38	418.84		0.56	415.94	
SW-G1	SW-W1	8/2/2019	415.38	418.84	2.9		415.94	
SW-G1	SW-W1	9/27/2019	415.38	418.84		0.58	415.96	
SW-G2	SW-N1	7/3/2019	355.68	358.21	3.18		355.03	
SW-G2	SW-N1	8/2/2019	355.68	358.21	4.05		354.16	
SW-G2	SW-N1	9/27/2019	355.68	358.21		0.38	356.06	
SW-G3	SW -V	7/3/2019	466.46	469.88				Dry at 5.39ft
SW-G3	SW -V	8/2/2019	466.46	469.88	5.43		464.45	
SW-G3	SW -V	9/27/2019	466.46	469.88				Dry at 5.25ft
SW-G4	Upstream of SW-E1	7/3/2019	502.41	505.85	6.20		499.65	
SW-G4	Upstream of SW-E1	8/2/2019	502.41	505.85	6.24		499.61	
SW-G4	Upstream of SW-E1	9/27/2019	502.41	505.85				Dry at 5.78ft
SW-G5	SW-E1	7/3/2019	486.92	490.34	4.67		485.67	
SW-G5	SW-E1	8/2/2019	486.92	490.34	5.30		485.04	
SW-G5	SW-E1	9/27/2019	486.92	490.34				Dry at 5.14ft
SW-G6	Upstream of SW-GS1	7/3/2019	490.72	494.12	4.31		489.81	
SW-G6	Upstream of SW-GS1	8/2/2019	490.72	494.12	5.83		488.29	
SW-G6	Upstream of SW-GS1	9/27/2019	490.72	494.12	4.25		489.87	
SW-G7	SW-S2	7/3/2019	453.03	456.41	5.09		451.32	
SW-G7	SW-S2	8/2/2019	453.03	456.41	4.39		452.02	
SW-G7	SW-S2	9/27/2019	453.03	456.41		0.65	453.68	
SW-G8	Upstream of SW-S1	7/3/2019	510.61	515.56				Dry at 4.66ft
SW-G8	Upstream of SW-S1	8/2/2019	510.61	515.56	4.73		510.83	
SW-G8	Upstream of SW-S1	9/27/2019	510.61	515.56				Dry at 4.57ft
SW-G9	SW-S1	7/3/2019	490.93	494.35	3.38		490.97	
SW-G9	SW-S1	8/2/2019	490.93	494.35	5.02		489.33	
SW-G9	SW-S1	9/27/2019	490.93	494.35	4.60		489.75	

Environmental Monitoring Data

Data Collected from July 1, 2019 to September 30, 2019
Cedar Hills Landfill ---Surface Water Field Parameters
Contact Person: Sendy Jimenez (206) 477-5224

Site	Date	Sample ID	pH (Field) (std. Units)	Spec. Conductance (Field) (umho/cm)	Temperature (Field) (^{o}C)	Turbidity (Field) (NTU)	Dissolved Oxygen, (Field) (mg/L)
SW-GS1	7/10/2019	SGS1190710P	6.53	178.9	16.77	--	6.81
SW-N4	9/17/2019	SN4-190917P	7.03	188.4	16.82	--	9.5
SW-SL3	9/17/2019	SSL3190917P	6.92	187.2	14.71	--	7.75

Data Collected from July 1, 2019 to September 30, 2019
Cedar Hills Landfill ---Surface Water ISGP Analytes
Contact Person: Sendy Jimenez (206) 477-5224

Site	Date	Sample ID	Ammonia, (NH3) (mg/L)	Biological Oxygen Demand (mg/L)	Total Suspended Solids (mg/L)	Zinc, total (mg/L)
SW-GS1	7/10/2019	SGS1190710P	0.0277	2 U	1.2	0.000595
SW-N4	9/17/2019	SN4-190917P	0.0065 T	3.41	4	0.0198
SW-SL3	9/17/2019	SSL3190917P	0.0041 T	2 U	4.4	0.024

Data Collected from July 1, 2019 to September 30, 2019
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	7/10/2019	SGS1190710P	0.51 U	0.51 U	10.2 U	0.51 U
SW-N4	9/17/2019	SN4-190917P	0.515 U	0.515 U	10.3 U	0.515 U
SW-SL3	9/17/2019	SSL3190917P	0.515 U	0.515 U	10.3 U	0.515 U

Environmental Monitoring Data

Data Collected from July 1, 2019 to September 30, 2019
Cedar Hills Landfill --- Area 5 Top Deck Surface Water Monitoring Data
Contact Person: Sendy Jimenez (206) 296-4411

Site	Date	Sample ID	pH (Field) (std. Units)	Conductance (Field) (umho/cm)	Temperature (Field) (^{o}C)	Turbidity (Field) (NTU)	Alkalinity, (Total) (CaCO3) (mg/L)	Chemical Oxygen Demand (mg/L)	Chloride (mg/L)	Iron, (Dissolved) (mg/L)	Iron, (Total) (mg/L)	Sulfate (SO4) (mg/L)	Total Organic Carbon (mg/L)
SW-TD1	9/24/2019	STD1190924-	6.56	512.8	15	1.63	161	175	6.42	1.05	2.61	68.5	48.2

Data Collected from October 1, 2019 to December 31, 2019
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	10/7/2019	415.38	418.84		0.55	415.93	
SW-G1	SW-W1	11/27/2019	415.38	418.84		0.62	416.00	
SW-G1	SW-W1	12/26/2019	415.38	418.84		0.51	415.89	
SW-G2	SW-N1	10/7/2019	355.68	358.21		0.35	356.03	
SW-G2	SW-N1	11/27/2019	355.68	358.21		0.48	356.16	
							0.00	
SW-G2	SW-N1	12/26/2019	355.68	358.21		0.62	356.30	
SW-G3	SW -V	10/7/2019	466.46	469.88				DRY @ 5.27
SW-G3	SW -V	11/27/2019	466.46	469.88				DRY @ 5.26
SW-G3	SW -V	12/26/2019	466.46	469.88		0.2	466.66	
SW-G4	Upstream of SW-E1	10/7/2019	502.41	505.85				DRY @ 6.15
SW-G4	Upstream of SW-E1	11/27/2019	502.41	505.85		0.2	502.61	
SW-G4	Upstream of SW-E1	12/26/2019	502.41	505.85		0.42	502.83	
SW-G5	SW-E1	11/27/2019	486.92	490.34				DRY @ 5.20
SW-G5	SW-E1	12/26/2019	486.92	490.34		0.45	487.37	
SW-G5	SW-E1	10/7/2019	486.92	490.34		0.67	487.59	
SW-G6	Upstream of SW-GS1	10/7/2019	490.72	494.12	4.65		489.47	
SW-G6	Upstream of SW-GS1	11/27/2019	490.72	494.12	3.28		490.84	
SW-G6	Upstream of SW-GS1	12/26/2019	490.72	494.12	2.59		491.53	
SW-G7	SW-S2	10/7/2019	453.03	456.41		0.54	453.57	
SW-G7	SW-S2	11/27/2019	453.03	456.41		0.65	453.68	
SW-G7	SW-S2	12/26/2019	453.03	456.41		1.15	454.18	
SW-G8	Upstream of SW-S1	10/7/2019	510.61	515.56	4.70		510.86	
SW-G8	Upstream of SW-S1	11/27/2019	510.61	515.56		0.21	510.82	
SW-G8	Upstream of SW-S1	12/26/2019	510.61	515.56		0.48	511.09	
SW-G9	SW-S1	10/7/2019	490.93	494.35	4.86		489.49	
SW-G9	SW-S1	11/27/2019	490.93	494.35		0.46	491.39	
SW-G9	SW-S1	12/26/2019	490.93	494.35		0.82	491.75	

Environmental Monitoring Data

Data Collected from October 1, 2019 to December 31, 2019
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-EMER	CSWUD191119E	11/19/2019	8.34	148.8	11.2	8.1	9.84
SW-GS1	SGS1191004P	10/4/2019	6.7	160.9	12.97		7.11
SW-N4	SN4-191004P	10/4/2019	6.46	151.7	13.34		10.33
SW-SL3	SSL3191004P	10/4/2019	6.37	209.5	11.24		6.37
SW-TD1	STD1191125-	11/25/2019	7.54	230.1	7	366	13.04

Data Collected from October 1, 2019 to December 31, 2019
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-EMER	CSWUD191119E	11/19/2019				0.136
SW-GS1	SGS1191004P	10/4/2019	0.0073 T	2 U	3.2	0.00155
SW-N4	SN4-191004P	10/4/2019	0.01 T	2 U	2.92	0.0165
SW-SL3	SSL3191004P	10/4/2019	0.006 T	2 U	35.4	0.0218
SW-SL3	SSL3191021R	10/21/2019			10.6	

See Data Qualifier List for Qualifier Information.

Data Collected from October 1, 2019 to December 31, 2019
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	10/4/2019	SGS1191004P	0.476 U	0.476 U	9.52 U	0.476 U
SW-N4	10/4/2019	SN4-191004P	0.49 U	0.49 U	9.8 U	0.49 U
SW-SL3	10/4/2019	SSL3191004P	0.481 U	0.481 U	9.62 U	0.481 U

See Data Qualifier List for Qualifier Information.

Environmental Monitoring Data

Data Collected from October 1, 2019 to December 31, 2019
Cedar Hills Landfill --- Area 5 Top Deck Surface Water Monitoring Data
Contact Person: Sendy Jimenez (206) 296-4411

Site	Date	Sample ID	pH (Field) (std. Units)	Conductance (Field) (umho/cm)	Temperature (Field) (^{o}C)	Turbidity (Field) (NTU)	Alkalinity, (Total) (CaCO3) (mg/L)	Chemical Oxygen Demand (mg/L)	Chloride (mg/L)	Iron, (Dissolved) (mg/L)	Iron, (Total) (mg/L)	Sulfate (SO4) (mg/L)	Total Organic Carbon (mg/L)
SW-TD1	11/25/2019	STD1191125-	7.54	230.1	7	366	76.8	52	2.79	0.422	14.3	32.1	21.4

Leachate Field and Analytical Data

Leachate Monitoring Activities 1st Quarter 2019

Station ID	Date	Activity	Sample ID	Comment
LS-LIF	1/17/2019	Monthly Characterization Sample	LIF-190117M	
LS-LIF	2/20/2019	Special Investigation	LIF-190220I	
LS-LIF	3/6/2019	Special Investigation	LIF-190306I	
LS-CSW	1/17/2019	Special Investigation	LCSW190117I	
LS-CSW	1/17/2019	QA/QC Sample	LCSW190117D	
LS-CSW	2/19/2019	Special Investigation	LCSW190219I	
LS-CSW	3/6/2019	Special Investigation	LCSW190306I	
LS-LEPS	1/17/2019	Monthly Characterization Sample	LEPS190117M	
LS-LEPS	2/20/2019	Monthly Characterization Sample	LEPS190220M	
LS-LEPS	3/6/2019	Monthly Characterization Sample	LEPS190306M	
LS-LEPS	1/8/2019	Permit Sample	LEPS190108P	
LS-LEPS	1/17/2019	Permit Sample	LEPS190117P	
LS-LEPS	1/22/2019	Permit Sample	LEPS190122P	
LS-LEPS	1/29/2019	Permit Sample	LEPS190129P	
LS-LEPS	2/7/2019	Permit Sample	LEPS190207P	
LS-LEPS	2/13/2019	Permit Sample	LEPS190213P	
LS-LEPS	2/20/2019	Permit Sample	LEPS190219P	
LS-LEPS	2/26/2019	Permit Sample	LEPS190226P	
LS-LEPS	3/5/2019	Permit Sample	LEPS190305P	
LS-LEPS	3/12/2019	Permit Sample	LEPS190312P	
LS-LEPS	3/19/2019	Permit Sample	LEPS190319P	
LS-LEPS	3/26/2019	Permit Sample	LEPS190326P	
LS-MH46N	1/17/2019	Monthly Characterization Sample	L46N190117M	
LS-MH46N	1/17/2019	QA/QC Sample	L46N190117D	
LS-MH46N	2/20/2019	Monthly Characterization Sample	L46N190220M	
LS-MH46N	3/6/2019	Monthly Characterization Sample	L46N190306M	
LS-MH5	1/17/2019	Special Investigation	LMH5190117I	
LS-MH5	2/19/2019	Special Investigation	LMH5190219I	
LS-MH5	3/6/2019	Special Investigation	LMH5190306I	
LS-PS1A	1/17/2019	Special Investigation	LP1A190117I	
LS-PS1A	2/19/2019	Special Investigation	LP1A190219I	
LS-PS1A	3/6/2019	Special Investigation	LP1A190306I	
LS-PS1A	3/6/2019	QA/QC Sample	LP1A190306D	
LS-PS2A	1/17/2019	Monthly Characterization Sample	LP2A190117M	
LS-PS2A	2/20/2019	Monthly Characterization Sample	LP2A190220M	
LS-PS2A	3/6/2019	Monthly Characterization Sample	LP2A190306M	
LS-PS4	1/17/2019	Special Investigation	LP4-190117I	
LS-PS4	2/19/2019	Special Investigation	LP4-190219I	
LS-PS4	3/6/2019	Special Investigation	LPS4190306I	
LS-V1A	2/20/2019	Monthly Characterization Sample	LV1A190220M	
LS-V1A	3/7/2019	Monthly Characterization Sample	LV1A190307M	

Environmental Monitoring Data

Data Collected from January 1, 2019 to March 31, 2019
Cedar Hills Landfill ---Leachate Field Parameters
Contact Person: Sendy Jimenez (206) 477-5224

Site	Date	Sample ID	pH (Field) (std. Units)	Conductance (Field) (umho/cm)	Temperature (^{o}C)
LS-LIF	1/17/2019	LIF-190117M	8.35	1950	9.5
LS-LIF	2/20/2019	LIF-190220I	8.21	18991	22.1
LS-LIF	3/6/2019	LIF-190306I	8.29	21543	24.2
LS-CSW	1/17/2019	LCSW190117D	7.65	1827	7
LS-CSW	1/17/2019	LCSW190117I	7.65	1827	7
LS-CSW	2/20/2019	LCSW190219I	7.52	1265	3.9
LS-CSW	3/6/2019	LCSW190306I	7.71	3353	4.9
LS-LEPS	1/8/2019	LEPS190108P	7.53	1600	8
LS-LEPS	1/17/2019	LEPS190117M	7.97	1800	9.7
LS-LEPS	1/17/2019	LEPS190117P	7.97	1800	9.7
LS-LEPS	1/22/2019	LEPS190122P	8.35	3500	10.5
LS-LEPS	1/29/2019	LEPS190129P	8.19	4000	11.3
LS-LEPS	2/7/2019	LEPS190207P	9.21	7200	7.7
LS-LEPS	2/13/2019	LEPS190213P	8.27	6710	8.9
LS-LEPS	2/19/2019	LEPS190219M	8.61	6840	5.8
LS-LEPS	2/19/2019	LEPS190219P	8.61	6840	5.8
LS-LEPS	2/26/2019	LEPS190226P	8.58	5050	5.1
LS-LEPS	3/5/2019	LEPS190305P	8.73	5200	6.8
LS-LEPS	3/6/2019	LEPS190306M	8.59	6210	5.7
LS-LEPS	3/19/2019	LEPS190319P	8.52	6610	14.1
LS-LEPS	3/26/2019	LEPS190326P	8.67	6850	11.6
LS-MH46N	1/17/2019	L46N190117D	7.2	5600	22.2
LS-MH46N	1/17/2019	L46N190117M	7.2	5600	22.2
LS-MH46N	2/20/2019	L46N190220M	7.3	9940	22.2
LS-MH46N	3/6/2019	L46N190306M	7.18	9580	24.2
LS-MH5	1/17/2019	LMH5190117I	8.31	21174	25.7
LS-MH5	2/20/2019	LMH5190219I	8.41	20080	24.1
LS-MH5	3/6/2019	LMH5190306I	8.38	22125	23.8
LS-PS1A	1/17/2019	LP1A190117I	7.13	3256	14.8
LS-PS1A	2/20/2019	LP1A190219I	7.39	1438	10.7
LS-PS1A	3/6/2019	LP1A190306D	7.3	2631	12
LS-PS1A	3/6/2019	LP1A190306I	7.3	2631	12
LS-PS2A	1/17/2019	LP2A190117M	6.9	270	9.3
LS-PS2A	2/19/2019	LP2A190220M	7.64	113.7	7.3
LS-PS2A	3/6/2019	LP2A190306M	6.88	383.2	6.6
LS-PS4	1/17/2019	LP4-190117I	7.55	1087	13.3
LS-PS4	2/20/2019	LP4-190219I	7.26	799	9.8
LS-PS4	3/6/2019	LPS4190306I	7.66	1703	11.1
FIELD BLANK	2/20/2019	LIF-190220F	8.35	0.88	16

Data Collected from January 1, 2019 to March 31, 2019
Cedar Hills Landfill ---Leachate Conventionals Analytical Data
Contact Person: Sendy Jimenez (206) 477-5224

Site	Date	Sample ID	Alkalinity, Total (CaCO3) (mg/L)	Ammonia, (NH3 as N) (mg/L)	Biological Oxygen Demand (mg/L)	Chemical Oxygen Demand (mg/L)	Chloride (mg/L)	Coliforms, Fecal (CFU/100mL)	Coliforms, Total (CFU/100mL)	Cyanide (mg/L)	Fluoride (mg/L)	Nitrate+Nitrite (NO3+NO2 as N) (mg/L)
LS-LIF	1/17/2019	LIF-190117M	7800	1510	2090	5410 S	1960	5500	57000	0.019 ST	3 U	0.24 T
LS-LIF	2/20/2019	LIF-190220I	7040	1170	971	4840 S	1850				1 U	
LS-LIF	3/6/2019	LIF-190306I	4650	1170	384	3240 S	1470				0.4 U	0.33 T
LS-CSW	1/17/2019	LCSW190117D	671	69.9	819	1310	124				1 U	0.02 U
LS-CSW	1/17/2019	LCSW190117I	670	72	821	1310	124				1 U	0.02 U
LS-CSW	2/19/2019	LCSW190219I	387	43.4	733	1100	75.5				0.4 U	0.1 U
LS-CSW	3/6/2019	LCSW190306I	1100	149	1730	2650	242				0.4 U	0.12 T
LS-LEPS	1/17/2019	LEPS190117M	2010	338	305	1260	538	9700	250000	0.008 SU	0.33 T	38.3
LS-LEPS	2/19/2019	LEPS190219M	1930	344	171	1220 S	585	21000 H	64000 H	0.0081 ST	0.4 U	96.6
LS-LEPS	3/6/2019	LEPS190306M	2180	462	116	988	564	3900	26000	0.012 ST	0.4 U	30
LS-MH46N	1/17/2019	L46N190117D	3300	646	55.6	1860	1840	1 U	60	0.015 ST	3 U	0.1 U
LS-MH46N	1/17/2019	L46N190117M	3290	666	63	1890	1840	1 U	76	0.015 ST	3 U	0.1 U
LS-MH46N	2/20/2019	L46N190220M	3030	566	51.2	1670	1640	1 U	90 CU	0.0084 ST	2 U	0.1 U
LS-MH46N	3/6/2019	L46N190306M	2860	482	65.3	1520	1440	1 U	30	0.019 ST	1 T	8.48
LS-MH5	1/17/2019	LMH5190117I	8990	1630	1140	4960 S	2500				3 U	0.2 U
LS-MH5	2/19/2019	LMH5190219I	8750	1720	1030	4610 S	2470				1 U	0.2 U
LS-MH5	3/6/2019	LMH5190306I	9050	1570	1160	4690 S	2330				10 U	0.36 T
LS-PS1A	1/17/2019	LP1A190117I	1050	184	113	555	354				0.4 U	0.3 T
LS-PS1A	2/19/2019	LP1A190219I	122	81.4	40.7	235	152				0.1 U	0.976
LS-PS1A	3/6/2019	LP1A190306D	808	163	65.6	416	306				0.4 U	0.439
LS-PS1A	3/6/2019	LP1A190306I	808	165	68.2	420	306				0.2 U	0.447
LS-PS2A	1/17/2019	LP2A190117M	134	8.87	2 U	26	6.54	1 U	13	0.008 U	0.055 T	0.443
LS-PS2A	2/20/2019	LP2A190220M	39.1	1.3 T	4.38	23.5	2.38	1 U	50	0.008 SU	0.044 T	0.39 T
LS-PS2A	3/6/2019	LP2A190306M	101	14.4	3.36	45	28.3	1 U	5	0.008 U	0.077 T	0.953
LS-PS4	1/17/2019	LP4-190117I	403	59.9	25.3	143	89.5				0.2 U	0.96
LS-PS4	2/19/2019	LP4-190219I	283	35.4	118	178	64.1				0.1 T	0.769
LS-PS4	3/6/2019	LPS4190306I	515	90.2	154	366	131				0.2 U	0.471
FIELD BLANK	2/20/2019	LIF-190220F	1 U	0.002 U	2 U	5 U	0.05 U				0.02 U	

Environmental Monitoring Data

Data Collected from January 1, 2019 to March 31, 2019
Cedar Hills Landfill ---Leachate Conventionals Analytical Data
Contact Person: Sendy Jimenez (206) 477-5224

Site	Date	Sample ID	Phosphorus, Sol. Reactive (mg/L)	Specific Conductance (umho/cm)	Sulfate (SO4) (mg/L)	Sulfide Total (mg/L)	Total Fats, Oils and Grease (mg/L)	Total Kjeldahl Nitrogen (mg/L)	Total Organic Carbon (mg/L)	Total Suspended Solids (mg/L)	Total Volatile Solids (mg/L)	Volatile Suspended Solids (mg/L)
LS-LIF	1/17/2019	LIF-190117M	7.59	18700	22.6	0.406	7.9	1780 S	1910 S	31.5	3560	22.5
LS-LIF	2/20/2019	LIF-190220I		16800	19.8	1.16		1690 SU	1570 S	11.6	3420	8.44
LS-LIF	3/6/2019	LIF-190306I		12100	19	0.12		1170 S	1140 S	14	2080	13.5
LS-CSW	1/17/2019	LCSW190117D		1870	23.7	0.685		92.9	428	86	817 H	65
LS-CSW	1/17/2019	LCSW190117I		1870	23.9	0.654		92.2	422	91	812	64
LS-CSW	2/19/2019	LCSW190219I		1210	54.1	0.358		56.9	404	31.1	555	19.4
LS-CSW	3/6/2019	LCSW190306I		3200	50.5	0.703		176	902	58.7	1520	36
LS-LEPS	1/17/2019	LEPS190117M	0.652	5250	28.8	2.3 T	3.5 T	423	382	186	1080	162
LS-LEPS	2/19/2019	LEPS190219M	0.429	5500	31.2	2.2 T	2.5 T	396 S	326 S	176	1040	154
LS-LEPS	3/6/2019	LEPS190306M	0.0669	5830	30.9	1.8 T	3.1 T	454	211	292	1040	260
LS-MH46N	1/17/2019	L46N190117D	4.49	11500	5 U	1.09	4.2 T	711	606 S	1 T	1480	1 T
LS-MH46N	1/17/2019	L46N190117M	4.51	11500	5 U	1.01	3.5 T	754	644 S	0.51 U	1290	0.51 U
LS-MH46N	2/20/2019	L46N190220M	2.81	10300	1.3 T	1.54	3.7 T	626	793 S	0.5 U	1190	0.5 U
LS-MH46N	3/6/2019	L46N190306M	3.03	9830	26.4	1.28	2.4 T	581	465	4	1490	3.43
LS-MH5	1/17/2019	LMH5190117I		21600	13.4	1.5 T		1850 S	1510 S	45.5	3720	24
LS-MH5	2/19/2019	LMH5190219I		21000	18	2.68		1770 S	1450 S	202	3080	96
LS-MH5	3/6/2019	LMH5190306I		21600	18.3	1.42		1820 S	1500 S	11.3	3410	9.67
LS-PS1A	1/17/2019	LP1A190117I		3390	19.9	0.127		213	69	40	417	36
LS-PS1A	2/19/2019	LP1A190219I		385	11.5	0.0818		89.4	68	67.4	68.2	11.4
LS-PS1A	3/6/2019	LP1A190306D		2560	11.4	0.0976		170	129	42.6	300	14.6
LS-PS1A	3/6/2019	LP1A190306I		2570	10.9	0.0901		179	127	8	298	8
LS-PS2A	1/17/2019	LP2A190117M	0.0168	315	9.43	0.017 T	1.5 U	11	11.1	4.8	58.1	3.2
LS-PS2A	2/20/2019	LP2A190220M	0.014 T	110	9.62	0.023 T	1.7 T	2	8.78	6	34.1	3.4
LS-PS2A	3/6/2019	LP2A190306M	0.052	349	8.89	0.025 T	1.4 U	15.1	16.2	1.8	59.6	1.3
LS-PS4	1/17/2019	LP4-190117I		1150	17.3	0.084 T		67.3	54.7	20.2	196	10.6
LS-PS4	2/19/2019	LP4-190219I		796	12.1	0.0519		42.6	50.4	33.7	143	26.3
LS-PS4	3/6/2019	LPS4190306I		1480	13.5	0.148		93	111	32.5	346	29.8
FIELD BLANK	2/20/2019	LIF-190220F		1.2 T	0.1 U	0.01 U		0.1 U	0.5 U	0.5 U	10 U	0.5 U

Environmental Monitoring Data

Data Collected from January 1, 2019 to March 31, 2019
Cedar Hills Landfill ---Leachate Metals Analytical Data
Contact Person: Sendy Jimenez (206) 477-5224

Site	Date	Sample ID	Aluminum, total (mg/L)	Antimony, total (mg/L)	Arsenic, total (mg/L)	Barium, total (mg/L)	Beryllium, total (mg/L)	Cadmium, total (mg/L)	Calcium, total (mg/L)	Chromium, total (mg/L)
LS-LIF	1/17/2019	LIF-190117M	0.959	0.0199	0.299	0.284	0.001 U	0.0005 U	61.6	0.244
LS-LIF	2/20/2019	LIF-190220I	0.589	0.0144	0.242	0.261	0.001 U	0.0005 U	48.8	0.213
LS-LIF	3/6/2019	LIF-190306I	0.434	0.0162	0.227	0.242	0.001 U	0.0005 U	56	0.196
LS-CSW	1/17/2019	LCSW190117D	1.33	0.003 U	0.00616	0.0728	0.001 U	0.0005 U	124	0.0157
LS-CSW	1/17/2019	LCSW190117I	1.31	0.003 U	0.00602	0.0723	0.001 U	0.0005 U	125	0.0163
LS-CSW	2/19/2019	LCSW190219I	0.868	0.003 U	0.00425	0.0305	0.001 U	0.0005 U	97.1	0.0165
LS-CSW	3/6/2019	LCSW190306I	0.748	0.00379	0.00817	0.13	0.001 U	0.0005 U	195	0.0258
LS-LEPS	1/8/2019	LEPS190108P	1.14	0.00724	0.0742	0.0904	0.001 U	0.0005 U	49.3	0.0632
LS-LEPS	1/17/2019	LEPS190117P	0.761 J	0.00808	0.0869	0.0999	0.001 U	0.0005 U	59.9	0.0702
LS-LEPS	1/22/2019	LEPS190122P	0.586 J	0.00962	0.106	0.11	0.001 U	0.0005 U	46	0.0803
LS-LEPS	1/29/2019	LEPS190129P	0.874	0.00948	0.108	0.106	0.001 U	0.0005 U	42.3	0.0849
LS-LEPS	2/7/2019	LEPS190207P	0.757 J	0.00926	0.11	0.109	0.001 U	0.0005 U	45.5	0.0881
LS-LEPS	2/13/2019	LEPS190213P	1.29	0.00975	0.119	0.122	0.001 U	0.0005 U	43.4	0.0862
LS-LEPS	2/19/2019	LEPS190219P	0.921	0.00814	0.0927	0.101	0.001 U	0.0005 U	51.2	0.0754
LS-LEPS	2/26/2019	LEPS190226P	1.08	0.00859	0.0999	0.105	0.001 U	0.0005 U	44.1	0.08
LS-LEPS	3/5/2019	LEPS190305P	0.524	0.00841	0.0915	0.0939	0.001 U	0.0005 U	46.9	0.0719
LS-LEPS	3/6/2019	LEPS190306M	0.862	0.00855	0.0924	0.105	0.001 U	0.0005 U	49.9	0.0738
LS-LEPS	3/12/2019	LEPS190312P	1.05	0.00913	0.104	0.115	0.001 U	0.0005 U	59.4	0.081
LS-LEPS	3/19/2019	LEPS190319P	0.97	0.0109	0.109	0.102	0.001 U	0.0005 U	51.9	0.0838
LS-LEPS	3/26/2019	LEPS190326P	0.54	0.0107	0.11	0.102	0.001 U	0.0005 U	51.6	0.0815
LS-MH46N	1/17/2019	L46N190117D	0.05 U	0.003 U	0.0945	0.468	0.001 U	0.0005 U	79.9	0.11
LS-MH46N	1/17/2019	L46N190117M	0.05 U	0.003 U	0.0949	0.465	0.001 U	0.0005 U	80.1	0.11
LS-MH46N	2/20/2019	L46N190220M	0.05 U	0.003 U	0.0912	0.408	0.001 U	0.0005 U	73.3	0.109
LS-MH46N	3/6/2019	L46N190306M	0.102	0.003 U	0.0875	0.384	0.001 U	0.0005 U	78.3	0.0985
LS-MH5	1/17/2019	LMH5190117I	0.611	0.0159	0.315	0.424	0.001 U	0.0005 U	64.6	0.217
LS-MH5	2/19/2019	LMH5190219I	0.485	0.0142	0.285	0.397	0.001 U	0.0005 U	55.1	0.219
LS-MH5	3/6/2019	LMH5190306I	0.443	0.0125	0.301	0.418	0.001 U	0.0005 U	57.4	0.217
LS-PS1A	1/17/2019	LP1A190117I	0.124	0.00633	0.0516	0.103	0.001 U	0.0005 U	40.6	0.018
LS-PS1A	2/19/2019	LP1A190219I	0.536	0.00423	0.015	0.034	0.001 U	0.0005 U	18.8	0.00593
LS-PS1A	3/6/2019	LP1A190306D	0.159	0.00823	0.0413	0.0948	0.001 U	0.0005 U	31.6	0.0156
LS-PS1A	3/6/2019	LP1A190306I	0.164	0.0084	0.0409	0.0984	0.001 U	0.0005 U	32.5	0.0157
LS-PS2A	1/17/2019	LP2A190117M	0.0788	0.003 U	0.00151	0.0142	0.001 U	0.0005 U	28.6	0.002 U
LS-PS2A	2/20/2019	LP2A190220M	0.141	0.003 U	0.00219	0.00587	0.001 U	0.0005 U	11.8	0.00237
LS-PS2A	3/6/2019	LP2A190306M	0.0823	0.003 U	0.00144	0.0109	0.001 U	0.0005 U	10.8	0.00249
LS-PS4	1/17/2019	LP4-190117I	1.23	0.003 U	0.023	0.054	0.001 U	0.0005 U	35.3	0.011
LS-PS4	2/19/2019	LP4-190219I	0.535	0.003 U	0.0288	0.0377	0.001 U	0.0005 U	28	0.00611
LS-PS4	3/6/2019	LPS4190306I	0.153	0.0124	0.106	0.0484	0.001 U	0.0005 U	34.7	0.0118
FIELD BLANK	2/20/2019	LIF-190220F	0.05 U	0.003 U	0.0005 U	0.005 U	0.001 U	0.0005 U	0.5 U	0.002 U

Environmental Monitoring Data

Data Collected from January 1, 2019 to March 31, 2019
Cedar Hills Landfill ---Leachate Metals 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-LIF	1/17/2019	LIF-190117M	0.0507	0.00762	4.98	0.00276	89.6	0.515	0.0001 U	0.205
LS-LIF	2/20/2019	LIF-190220I	0.049	0.0059	7.22	0.00285	81.5	0.367	0.0001 U	0.203
LS-LIF	3/6/2019	LIF-190306I	0.0431	0.00737	5.52	0.00229	75.5	0.426	0.0001 U	0.185
LS-CSW	1/17/2019	LCSW190117D	0.00682	0.0142	4.95	0.00291	30.8	1.3	0.0001 U	0.029
LS-CSW	1/17/2019	LCSW190117I	0.00675	0.0145	4.86	0.00298	30.7	1.29	0.0001 U	0.0289
LS-CSW	2/19/2019	LCSW190219I	0.00867	0.00708	6.43	0.001 U	18.8	0.836	0.0001 U	0.0246
LS-CSW	3/6/2019	LCSW190306I	0.0096	0.0101	9.23	0.00171	48.8	1.71	0.0001 U	0.0498
LS-LEPS	1/8/2019	LEPS190108P	0.0135	0.0105	3.46	0.00204	27.5	0.533	0.0001 U	0.0544
LS-LEPS	1/17/2019	LEPS190117P	0.0154	0.00922	3.44	0.0019	32.3	0.642	0.0001 U	0.0623
LS-LEPS	1/22/2019	LEPS190122P	0.0176	0.00833	2.84	0.00184	34.8	0.52	0.0001 U	0.0717
LS-LEPS	1/29/2019	LEPS190129P	0.0175	0.00735 J	3.69	0.00185	35.1	0.461	0.0001 U	0.0723
LS-LEPS	2/7/2019	LEPS190207P	0.0193	0.00776	3.7	0.00195	36.4	0.529	0.0001 U	0.0789
LS-LEPS	2/13/2019	LEPS190213P	0.0205	0.0104	4.38	0.00256	37.1	0.569	0.0001 U	0.0821
LS-LEPS	2/19/2019	LEPS190219P	0.0173	0.01	4.14	0.00212	35.2	0.588	0.0001 U	0.0713
LS-LEPS	2/26/2019	LEPS190226P	0.0177	0.0114	4.25	0.00236	34.5	0.64	0.0001 U	0.0735
LS-LEPS	3/5/2019	LEPS190305P	0.0165	0.00929	3.68	0.00172	33.8	0.527	0.0001 U	0.0703
LS-LEPS	3/6/2019	LEPS190306M	0.0165	0.0111	4.36	0.00219	34.4	0.586	0.0001 U	0.0701
LS-LEPS	3/12/2019	LEPS190312P	0.0189	0.0112	5.26	0.00244	38.7	0.705	0.0001 U	0.0799
LS-LEPS	3/19/2019	LEPS190319P	0.0185	0.00997	5.14	0.00203	38.4	0.603	0.0001 U	0.0806
LS-LEPS	3/26/2019	LEPS190326P	0.0192	0.00854	4.42	0.00168	39.5	0.582	0.0001 U	0.0799
LS-MH46N	1/17/2019	L46N190117D	0.0349	0.002 U	2.41	0.001 U	50.8	0.412	0.0001 U	0.141
LS-MH46N	1/17/2019	L46N190117M	0.0351	0.002 U	2.45	0.001 U	49.2	0.412	0.0001 U	0.142
LS-MH46N	2/20/2019	L46N190220M	0.0329	0.002 U	2.3	0.001 U	46.7	0.398	0.0001 U	0.137
LS-MH46N	3/6/2019	L46N190306M	0.0298	0.00287	2.37	0.001 U	42.4	0.382	0.0001 U	0.123
LS-MH5	1/17/2019	LMH5190117I	0.0639	0.00469	4.52	0.00246	97.4	0.344	0.0001 U	0.254
LS-MH5	2/19/2019	LMH5190219I	0.0621	0.0047	4.03	0.0023	100	0.283	0.0001 U	0.261
LS-MH5	3/6/2019	LMH5190306I	0.0644	0.00618	4.22	0.00251	101	0.282	0.0001 U	0.276
LS-PS1A	1/17/2019	LP1A190117I	0.00868	0.00802	1.62	0.001 U	17.2	0.37	0.0001 U	0.0324
LS-PS1A	2/19/2019	LP1A190219I	0.00258	0.00828	0.755	0.001 U	7.41	0.182	0.0001 U	0.0106
LS-PS1A	3/6/2019	LP1A190306D	0.00756	0.00721	1.6	0.001 U	15	0.323	0.0001 U	0.027
LS-PS1A	3/6/2019	LP1A190306I	0.00756	0.00728	1.6	0.001 U	15.5	0.324	0.0001 U	0.0267
LS-PS2A	1/17/2019	LP2A190117M	0.000569	0.0158	0.862	0.001 U	7.19	0.196	0.0001 U	0.00649
LS-PS2A	2/20/2019	LP2A190220M	0.000625	0.0237	1.83	0.001 U	4.17	0.103	0.0001 U	0.00703
LS-PS2A	3/6/2019	LP2A190306M	0.00109	0.0236	0.739	0.001 U	4.79	0.165	0.0001 U	0.00834
LS-PS4	1/17/2019	LP4-190117I	0.00367	0.00845	2.87	0.00125	13.8	0.615	0.0001 U	0.0137
LS-PS4	2/19/2019	LP4-190219I	0.00198	0.00708	2.94	0.001 U	10.5	0.495	0.0001 U	0.00763
LS-PS4	3/6/2019	LPS4190306I	0.00383	0.0053	2.46	0.001 U	14.8	0.841	0.0001 U	0.0144
FIELD BLANK	2/20/2019	LIF-190220F	0.0005 U	0.002 U	0.1 U	0.001 U	0.5 U	0.001 U	0.0001 U	0.001 U

Environmental Monitoring Data

Data Collected from January 1, 2019 to March 31, 2019
Cedar Hills Landfill ---Leachate Metals 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-LIF	1/17/2019	LIF-190117M	679	0.005 U	0.0004 U	1960	0.001 U	0.0339	0.0852	0.166
LS-LIF	2/20/2019	LIF-190220I	609	0.005 U	0.0004 U	1800	0.001 U	0.0353	0.0856	0.355
LS-LIF	3/6/2019	LIF-190306I	541	0.005 U	0.0004 U	1570	0.001 U	0.029	0.0711 D	0.247
LS-CSW	1/17/2019	LCSW190117D	70.7	0.005 U	0.0004 U	121	0.001 U	0.005 U	0.00706	0.377
LS-CSW	1/17/2019	LCSW190117I	69.4	0.005 U	0.0004 U	120	0.001 U	0.005 U	0.00686	0.376
LS-CSW	2/19/2019	LCSW190219I	44	0.005 U	0.0004 U	75.8	0.001 U	0.005 U	0.00422	0.59
LS-CSW	3/6/2019	LCSW190306I	116	0.005 U	0.0004 U	229	0.001 U	0.005 U	0.006 D	0.865
LS-LEPS	1/8/2019	LEPS190108P	154	0.005 U	0.0004 DU	427	0.001 U	0.00792	0.0216	0.16
LS-LEPS	1/17/2019	LEPS190117P	195	0.005 U	0.0004 U	523	0.001 U	0.00909	0.0236	0.147
LS-LEPS	1/22/2019	LEPS190122P	212	0.005 U	0.0004 U	602	0.001 U	0.00968	0.0276	0.113
LS-LEPS	1/29/2019	LEPS190129P	236	0.005 U	0.0004 U	639	0.001 U	0.0104	0.0277	0.138
LS-LEPS	2/7/2019	LEPS190207P	242	0.005 U	0.0004 U	674	0.001 U	0.0105	0.0295	0.143
LS-LEPS	2/13/2019	LEPS190213P	253	0.005 U	0.0004 U	705	0.001 U	0.00967	0.0312	0.161
LS-LEPS	2/19/2019	LEPS190219P	208	0.005 U	0.0004 U	592	0.001 U	0.00843	0.0256	0.209
LS-LEPS	2/26/2019	LEPS190226P	210	0.005 U	0.0004 U	601	0.001 U	0.00824	0.027	0.166
LS-LEPS	3/5/2019	LEPS190305P	205	0.005 U	0.0004 U	560	0.001 U	0.00788	0.0239 D	0.172
LS-LEPS	3/6/2019	LEPS190306M	206	0.005 U	0.0004 U	565	0.001 U	0.00825	0.0248 D	0.208
LS-LEPS	3/12/2019	LEPS190312P	226	0.005 U	0.0004 U	641	0.001 U	0.00713	0.0273	0.283
LS-LEPS	3/19/2019	LEPS190319P	222	0.005 U	0.0004 U	612	0.001 U	0.00919	0.0266	0.239
LS-LEPS	3/26/2019	LEPS190326P	232	0.005 U	0.0004 U	650	0.001 U	0.00878	0.0272	0.207
LS-MH46N	1/17/2019	L46N190117D	385	0.005 U	0.0004 U	1360	0.001 U	0.005 U	0.161	0.005 U
LS-MH46N	1/17/2019	L46N190117M	382	0.005 U	0.0004 U	1340	0.001 U	0.005 U	0.163	0.005 U
LS-MH46N	2/20/2019	L46N190220M	357	0.005 U	0.0004 U	1270	0.001 U	0.005 U	0.149	0.005 U
LS-MH46N	3/6/2019	L46N190306M	323	0.005 U	0.0004 U	1110	0.001 U	0.005 U	0.133 D	0.0192
LS-MH5	1/17/2019	LMH5190117I	760	0.005 U	0.0004 U	2470	0.001 U	0.0447	0.14	0.0944
LS-MH5	2/19/2019	LMH5190219I	729	0.005 U	0.0004 U	2360	0.001 U	0.0436	0.145	0.106
LS-MH5	3/6/2019	LMH5190306I	744	0.005 U	0.0004 U	2950 D	0.001 U	0.0419	0.145 D	0.12
LS-PS1A	1/17/2019	LP1A190117I	86.5	0.005 U	0.0004 U	303	0.001 U	0.005 U	0.023	0.0127
LS-PS1A	2/19/2019	LP1A190219I	24.3	0.005 U	0.0004 U	84.2	0.001 U	0.005 U	0.00796	0.00765
LS-PS1A	3/6/2019	LP1A190306D	74.6	0.005 U	0.0004 U	266	0.001 U	0.005 U	0.0179 D	0.00909
LS-PS1A	3/6/2019	LP1A190306I	76.8	0.005 U	0.0004 U	275	0.001 U	0.005 U	0.0178 D	0.00975
LS-PS2A	1/17/2019	LP2A190117M	7.29	0.005 U	0.0004 U	7.88	0.001 U	0.005 U	0.00192	0.0148
LS-PS2A	2/20/2019	LP2A190220M	1.76	0.005 U	0.0004 U	3.15	0.001 U	0.005 U	0.00346	0.0138
LS-PS2A	3/6/2019	LP2A190306M	9.13	0.005 U	0.0004 U	25.2	0.001 U	0.005 U	0.002 D	0.0132
LS-PS4	1/17/2019	LP4-190117I	34.2	0.005 U	0.0004 U	104	0.001 U	0.005 U	0.007	0.0339
LS-PS4	2/19/2019	LP4-190219I	20.4	0.005 U	0.0004 U	62.4	0.001 U	0.005 U	0.00311	0.0316
LS-PS4	3/6/2019	LPS4190306I	40.3	0.005 U	0.0004 U	122	0.001 U	0.005 U	0.00479 D	0.0249
FIELD BLANK	2/20/2019	LIF-190220F	1 U	0.005 U	0.0004 U	1 U	0.001 U	0.005 U	0.00075 U	0.005 U

Data Collected from January 1, 2019 to March 31, 2019
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	1/17/2019	LEPS190117M	2.5 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
LS-LEPS	2/19/2019	LEPS190219M	2.5 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
LS-LEPS	3/6/2019	LEPS190306M	2.5 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
LS-LIF	1/17/2019	LIF-190117M	2.5 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
LS-MH46N	1/17/2019	L46N190117D	2.5 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
LS-MH46N	1/17/2019	L46N190117M	2.5 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
LS-MH46N	2/20/2019	L46N190220M	2.5 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
LS-MH46N	3/6/2019	L46N190306M	2.5 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
LS-PS2A	1/17/2019	LP2A190117M	2.5 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
LS-PS2A	2/20/2019	LP2A190220M	2.5 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
LS-PS2A	3/6/2019	LP2A190306M	2.5 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
LS-V1A	2/20/2019	LV1A190220M	2.5 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
LS-V1A	3/7/2019	LV1A190307M	2.5 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
VOA TRIP BLANK	1/16/2019	VTRP190117Y	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	1/11/2019	VTRP190117Y2	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	1/14/2019	VTRP190118X2	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	2/19/2019	VTRP190219X2	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	2/19/2019	VTRP190220Y	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	3/5/2019	VTRP190306Y	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	3/6/2019	VTRP190307Y	0.25 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U

Data Collected from January 1, 2019 to March 31, 2019
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)
LS-LEPS	1/17/2019	LEPS190117M	25 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
LS-LEPS	2/19/2019	LEPS190219M	25 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
LS-LEPS	3/6/2019	LEPS190306M	25 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
LS-LIF	1/17/2019	LIF-190117M	25 U	1 U	1 U	1.86 JT	1 U	1 U	1 U	1.39 JT
LS-MH46N	1/17/2019	L46N190117D	25 U	1 U	2.04	1 U	1 U	1 U	1 U	8.48
LS-MH46N	1/17/2019	L46N190117M	25 U	1 U	2.05	1 U	1 U	1 U	1 U	8.75
LS-MH46N	2/20/2019	L46N190220M	25 U	1 U	2.6	1 U	1 U	1 U	1 U	10.8
LS-MH46N	3/6/2019	L46N190306M	25 U	1 U	3.14	1 U	1 U	1 U	1 U	13.4
LS-PS2A	1/17/2019	LP2A190117M	25 U	1 U	1 U	1 U	1 U	1 U	1 U	2.48
LS-PS2A	2/20/2019	LP2A190220M	25 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
LS-PS2A	3/6/2019	LP2A190306M	25 U	1 U	1 U	1 U	1 U	1 U	1 U	1.01 JT
LS-V1A	2/20/2019	LV1A190220M	25 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
LS-V1A	3/7/2019	LV1A190307M	25 U	1 U	1 U	1.4 JT	1 U	1 U	1 U	1.6 JT
VOA TRIP BLANK	1/16/2019	VTRP190117Y	2.5 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	1/11/2019	VTRP190117Y2	2.5 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	1/14/2019	VTRP190118X2	2.5 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	2/19/2019	VTRP190219X2	2.5 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	2/19/2019	VTRP190220Y	2.5 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	3/5/2019	VTRP190306Y	2.5 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	3/6/2019	VTRP190307Y	2.5 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U

Data Collected from January 1, 2019 to March 31, 2019
Cedar Hills Landfill ---Leachate VOAs Analytical Data
Contact Person: Sendy Jimenez (206) 477-5224

Site	Date	Sample ID	2,2-Dichloro-propane 594-20-7 (ug/L)	2-Butanone 78-93-3 (ug/L)	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)
LS-LEPS	1/17/2019	LEPS190117M	1 U	590	5 U	50 U	1 U	25 U	802	50 U
LS-LEPS	2/19/2019	LEPS190219M	1 U	382	5 U	50 U	1 U	25 U	406	50 U
LS-LEPS	3/6/2019	LEPS190306M	1 U	2.5 U	5 U	50 U	1 U	25 U	25 U	50 U
LS-LIF	1/17/2019	LIF-190117M	1 U	3150 D	8.39 JT	68.7 JT	1 U	37.7 JT	3660 D	79.4 JT
LS-MH46N	1/17/2019	L46N190117D	1 U	2.5 U	5 U	50 U	1 U	25 U	25 U	50 U
LS-MH46N	1/17/2019	L46N190117M	1 U	3.19 JT	5 U	50 U	1 U	25 U	25 U	50 U
LS-MH46N	2/20/2019	L46N190220M	1 U	2.5 U	5 U	50 U	1 U	25 U	25 U	50 U
LS-MH46N	3/6/2019	L46N190306M	1 U	2.5 U	5 U	50 U	1 U	25 U	25 U	50 U
LS-PS2A	1/17/2019	LP2A190117M	1 U	37.5	5 U	50 U	1 U	25 U	25 U	50 U
LS-PS2A	2/20/2019	LP2A190220M	1 U	16.9	5 U	50 U	1 U	25 U	25 U	50 U
LS-PS2A	3/6/2019	LP2A190306M	1 U	2.5 U	5 U	50 U	1 U	25 U	25 U	50 U
LS-V1A	2/20/2019	LV1A190220M	1 U	1060	5 U	50 U	1 U	25 U	1360	50 U
LS-V1A	3/7/2019	LV1A190307M	1 U	2480 D	6.58 JT	59.2 JLT	1 U	29.8 JT	2870 D	56.9 JT
VOA TRIP BLANK	1/16/2019	VTRP190117Y	0.1 U	0.25 U	0.5 U	5 U	0.1 U	2.5 U	2.5 U	5 U
VOA TRIP BLANK	1/11/2019	VTRP190117Y2	0.1 U	0.25 U	0.5 U	5 U	0.1 U	2.5 U	2.5 U	5 U
VOA TRIP BLANK	1/14/2019	VTRP190118X2	0.1 U	0.25 U	0.5 U	5 U	0.1 U	2.5 U	2.5 U	5 U
VOA TRIP BLANK	2/19/2019	VTRP190219X2	0.1 U	0.25 U	0.5 U	5 U	0.1 U	2.5 U	2.5 U	5 U
VOA TRIP BLANK	2/19/2019	VTRP190220Y	0.1 U	0.25 U	0.5 U	5 U	0.1 U	2.5 U	2.5 U	5 U
VOA TRIP BLANK	3/5/2019	VTRP190306Y	0.1 U	0.25 U	0.5 U	5 U	0.1 U	2.5 U	2.5 U	5 U
VOA TRIP BLANK	3/6/2019	VTRP190307Y	0.1 U	0.25 U	0.5 U	5 U	0.1 U	2.5 U	2.5 U	5 U

Data Collected from January 1, 2019 to March 31, 2019
Cedar Hills Landfill ---Leachate VOAs Analytical Data
Contact Person: Sendy Jimenez (206) 477-5224

Site	Date	Sample ID	Acrolein 107-02-8 (ug/L)	Acrylonitrile 107-13-1 (ug/L)	Benzene 71-43-2 (ug/L)	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)
LS-LEPS	1/17/2019	LEPS190117M	25 U	0.35 U	1 U	1 U	2.5 U	5 U	1 U	1 U
LS-LEPS	2/19/2019	LEPS190219M	25 U	0.35 U	1 U	1 U	2.5 U	5 U	1 U	1 U
LS-LEPS	3/6/2019	LEPS190306M	25 U	0.35 U	1 U	1 U	2.5 U	5 U	1 U	1 U
LS-LIF	1/17/2019	LIF-190117M	25 U	0.35 U	1 U	1 U	2.5 U	5 U	1 U	1 U
LS-MH46N	1/17/2019	L46N190117D	25 U	0.35 U	3.52	1 U	2.5 U	5 U	1 U	1 U
LS-MH46N	1/17/2019	L46N190117M	25 U	0.35 U	3.51	1 U	2.5 U	5 U	1 U	1 U
LS-MH46N	2/20/2019	L46N190220M	25 U	0.35 U	4.55	1 U	2.5 U	5 U	1 U	1 U
LS-MH46N	3/6/2019	L46N190306M	25 U	0.35 U	4.42	1 U	2.5 U	5 U	1 U	1 U
LS-PS2A	1/17/2019	LP2A190117M	25 U	0.35 U	1 U	1 U	2.5 U	5 U	1 U	1 U
LS-PS2A	2/20/2019	LP2A190220M	25 U	0.35 U	1 U	1 U	2.5 U	5 U	1 U	1 U
LS-PS2A	3/6/2019	LP2A190306M	25 U	0.35 U	1 U	1 U	2.5 U	5 U	1 U	1 U
LS-V1A	2/20/2019	LV1A190220M	25 U	0.35 U	1 U	1 U	2.5 U	5 U	1 U	1 U
LS-V1A	3/7/2019	LV1A190307M	25 U	0.35 U	1 U	1 U	2.5 U	5 U	1 U	1 U
VOA TRIP BLANK	1/16/2019	VTRP190117Y	2.5 U	0.035 U	0.1 U	0.1 U	0.25 U	0.5 U	0.1 U	0.1 U
VOA TRIP BLANK	1/11/2019	VTRP190117Y2	2.5 U	0.035 U	0.1 U	0.1 U	0.25 U	0.5 U	0.1 U	0.1 U
VOA TRIP BLANK	1/14/2019	VTRP190118X2	2.5 U	0.035 U	0.1 U	0.1 U	0.25 U	0.5 U	0.1 U	0.1 U
VOA TRIP BLANK	2/19/2019	VTRP190219X2	2.5 U	0.035 U	0.1 U	0.1 U	0.25 U	0.5 U	0.1 U	0.1 U
VOA TRIP BLANK	2/19/2019	VTRP190220Y	2.5 U	0.035 U	0.1 U	0.1 U	0.25 U	0.5 U	0.1 U	0.1 U
VOA TRIP BLANK	3/5/2019	VTRP190306Y	2.5 U	0.035 U	0.1 U	0.1 U	0.25 U	0.5 U	0.1 U	0.1 U
VOA TRIP BLANK	3/6/2019	VTRP190307Y	2.5 U	0.035 U	0.1 U	0.1 U	0.25 U	0.5 U	0.1 U	0.1 U

Data Collected from January 1, 2019 to March 31, 2019
Cedar Hills Landfill ---Leachate VOAs Analytical Data
Contact Person: Sendy Jimenez (206) 477-5224

Site	Date	Sample ID	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)	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)
LS-LEPS	1/17/2019	LEPS190117M	2.5 U	1 U	5 U	1 U	1 U	2.5 U	1 U	1 U
LS-LEPS	2/19/2019	LEPS190219M	2.5 U	1 U	5 U	1 U	1 U	2.5 U	1 U	1 U
LS-LEPS	3/6/2019	LEPS190306M	2.5 U	1 U	5 U	1 U	1 U	2.5 U	1 U	1 U
LS-LIF	1/17/2019	LIF-190117M	2.5 U	1 U	5 U	1 U	1 U	2.5 U	1 U	1.12 JT
LS-MH46N	1/17/2019	L46N190117D	2.5 U	1.97 JT	5 U	1 U	1 U	2.5 U	1 U	2.77
LS-MH46N	1/17/2019	L46N190117M	2.5 U	2	5 U	1 U	1 U	2.5 U	1 U	2.83
LS-MH46N	2/20/2019	L46N190220M	2.5 U	2.58	5 U	1 U	1 U	2.5 U	1 U	2.79
LS-MH46N	3/6/2019	L46N190306M	2.5 U	2.87	5 U	1 U	1 U	2.5 U	1 U	2.56
LS-PS2A	1/17/2019	LP2A190117M	2.5 U	1 U	5 U	1 U	1 U	2.5 U	1 U	1 U
LS-PS2A	2/20/2019	LP2A190220M	2.5 U	1 U	5 U	1 U	1 U	2.5 U	1 U	1 U
LS-PS2A	3/6/2019	LP2A190306M	2.5 U	1 U	5 U	1 U	1 U	2.5 U	1 U	1 U
LS-V1A	2/20/2019	LV1A190220M	2.5 U	1 U	5 U	1 U	1 U	2.5 U	1 U	1 U
LS-V1A	3/7/2019	LV1A190307M	2.5 U	1 U	5 U	1 U	1 U	2.5 U	1 U	1.13 JT
VOA TRIP BLANK	1/16/2019	VTRP190117Y	0.25 U	0.1 U	0.5 U	0.1 U	0.1 U	0.25 U	0.1 U	0.1 U
VOA TRIP BLANK	1/11/2019	VTRP190117Y2	0.25 U	0.1 U	0.5 U	0.1 U	0.1 U	0.25 U	0.1 U	0.1 U
VOA TRIP BLANK	1/14/2019	VTRP190118X2	0.25 U	0.1 U	0.5 U	0.1 U	0.1 U	0.25 U	0.1 U	0.1 U
VOA TRIP BLANK	2/19/2019	VTRP190219X2	0.25 U	0.1 U	0.5 U	0.1 U	0.1 U	0.25 U	0.1 U	0.1 U
VOA TRIP BLANK	2/19/2019	VTRP190220Y	0.25 U	0.1 U	0.5 U	0.1 U	0.1 U	0.25 U	0.1 U	0.1 U
VOA TRIP BLANK	3/5/2019	VTRP190306Y	0.25 U	0.1 U	0.5 U	0.1 U	0.1 U	0.25 U	0.1 U	0.1 U
VOA TRIP BLANK	3/6/2019	VTRP190307Y	0.25 U	0.1 U	0.5 U	0.1 U	0.1 U	0.25 U	0.1 U	0.1 U

Data Collected from January 1, 2019 to March 31, 2019
Cedar Hills Landfill ---Leachate VOAs Analytical Data
Contact Person: Sendy Jimenez (206) 477-5224

Site	Date	Sample ID	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)	Methyl Iodide 74-88-4 (ug/L)	Methyl Methacrylate 80-62-6 (ug/L)
LS-LEPS	1/17/2019	LEPS190117M	2.5 U	1 U	1 U	1 U	1.12 JT	1 U	2.5 U
LS-LEPS	2/19/2019	LEPS190219M	2.5 U	1 U	1 U	1 U	1 U	1 U	2.5 U
LS-LEPS	3/6/2019	LEPS190306M	2.5 U	1 U	1 U	1 U	1 U	1 U	2.5 U
LS-LIF	1/17/2019	LIF-190117M	2.5 U	1 U	1 U	2.29	5.16	1 U	2.5 U
LS-MH46N	1/17/2019	L46N190117D	2.5 U	1 U	1 U	37.2	54.5	1 U	2.5 U
LS-MH46N	1/17/2019	L46N190117M	2.5 U	1 U	1 U	38.2	56.2	1 U	2.5 U
LS-MH46N	2/20/2019	L46N190220M	2.5 U	1 U	1 U	45.9	67.5	1 U	2.5 U
LS-MH46N	3/6/2019	L46N190306M	2.5 U	1 U	1 U	54.4	79.9	1 U	2.5 U
LS-PS2A	1/17/2019	LP2A190117M	2.5 U	1 U	1 U	1.23 JT	5.06	1 U	2.5 U
LS-PS2A	2/20/2019	LP2A190220M	2.5 U	1 U	1 U	1 U	1 U	1 U	2.5 U
LS-PS2A	3/6/2019	LP2A190306M	2.5 U	1 U	1 U	1.2 JT	1.26 JT	1 U	2.5 U
LS-V1A	2/20/2019	LV1A190220M	2.5 U	1 U	1 U	1.64 JT	3.68	1 U	2.5 U
LS-V1A	3/7/2019	LV1A190307M	2.5 U	1 U	1 U	2.62	5.95	1 U	2.5 U
VOA TRIP BLANK	1/16/2019	VTRP190117Y	0.25 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.25 U
VOA TRIP BLANK	1/11/2019	VTRP190117Y2	0.25 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.25 U
VOA TRIP BLANK	1/14/2019	VTRP190118X2	0.25 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.25 U
VOA TRIP BLANK	2/19/2019	VTRP190219X2	0.25 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.25 U
VOA TRIP BLANK	2/19/2019	VTRP190220Y	0.25 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.25 U
VOA TRIP BLANK	3/5/2019	VTRP190306Y	0.25 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.25 U
VOA TRIP BLANK	3/6/2019	VTRP190307Y	0.25 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.25 U

Data Collected from January 1, 2019 to March 31, 2019
Cedar Hills Landfill ---Leachate VOAs Analytical Data
Contact Person: Sendy Jimenez (206) 477-5224

Site	Date	Sample ID	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)	Toluene 108-88-3 (ug/L)	trans-1,2-Dichloro-ethene 156-60-5 (ug/L)
LS-LEPS	1/17/2019	LEPS190117M	1 U	25 U	1 U	5 U	1 U	1 U	2.31	1 U
LS-LEPS	2/19/2019	LEPS190219M	1 U	25 U	1 U	5 U	1 U	1 U	2.29	1 U
LS-LEPS	3/6/2019	LEPS190306M	1 U	25 U	1 U	5 U	1 U	1 U	1 U	1 U
LS-LIF	1/17/2019	LIF-190117M	1 U	25 U	2.99	5 U	1 U	1 U	8.89	1 U
LS-MH46N	1/17/2019	L46N190117D	1 U	25 U	6.86	5 U	1.09 JT	1 U	5.47	1 U
LS-MH46N	1/17/2019	L46N190117M	1 U	25 U	6.92	5 U	1.09 JT	1 U	5.54	1 U
LS-MH46N	2/20/2019	L46N190220M	1 U	25 U	4.83	5 U	1.4 JT	1 U	5.34	1 U
LS-MH46N	3/6/2019	L46N190306M	1 U	25 U	4.73	5 U	1.6 T	1 U	5.44	1 U
LS-PS2A	1/17/2019	LP2A190117M	1 U	25 U	2.96	5 U	1 U	1 U	2.35	1 U
LS-PS2A	2/20/2019	LP2A190220M	1 U	25 U	1 U	5 U	1 U	1 U	1 U	1 U
LS-PS2A	3/6/2019	LP2A190306M	1 U	25 U	1 U	5 U	1 U	1 U	1 U	1 U
LS-V1A	2/20/2019	LV1A190220M	1 U	25 U	1.86 JT	5 U	1 U	1 U	5.56	1 U
LS-V1A	3/7/2019	LV1A190307M	1 U	25 U	3.24	5 U	1 U	1 U	10.5	1 U
VOA TRIP BLANK	1/16/2019	VTRP190117Y	0.1 U	2.5 U	0.1 U	0.5 U	0.1 U	0.1 U	0.1 U	0.1 U
VOA TRIP BLANK	1/11/2019	VTRP190117Y2	0.1 U	2.5 U	0.1 U	0.5 U	0.1 U	0.1 U	0.1 U	0.1 U
VOA TRIP BLANK	1/14/2019	VTRP190118X2	0.1 U	2.5 U	0.1 U	0.5 U	0.1 U	0.1 U	0.1 U	0.1 U
VOA TRIP BLANK	2/19/2019	VTRP190219X2	0.1 U	2.5 U	0.1 U	0.5 U	0.1 U	0.1 U	0.1 U	0.1 U
VOA TRIP BLANK	2/19/2019	VTRP190220Y	0.1 U	2.5 U	0.1 U	0.5 U	0.1 U	0.1 U	0.1 U	0.1 U
VOA TRIP BLANK	3/5/2019	VTRP190306Y	0.1 U	2.5 U	0.1 U	0.5 U	0.1 U	0.1 U	0.1 U	0.1 U
VOA TRIP BLANK	3/6/2019	VTRP190307Y	0.1 U	2.5 U	0.1 U	0.5 U	0.1 U	0.1 U	0.1 U	0.1 U

Data Collected from January 1, 2019 to March 31, 2019
Cedar Hills Landfill ---Leachate VOAs Analytical Data
Contact Person: Sendy Jimenez (206) 477-5224

Site	Date	Sample ID	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	1/17/2019	LEPS190117M	5 U	5 U	1 U	1 U	1 U	0.1 U
LS-LEPS	2/19/2019	LEPS190219M	5 U	5 U	1 U	1 U	1 U	0.1 U
LS-LEPS	3/6/2019	LEPS190306M	5 U	5 U	1 U	1 U	1 U	0.1 DU
LS-LIF	1/17/2019	LIF-190117M	5 U	5 U	1 U	1 U	1 U	0.134 DJT
LS-MH46N	1/17/2019	L46N190117D	5 U	5 U	1 U	1 U	1 U	6.45
LS-MH46N	1/17/2019	L46N190117M	5 U	5 U	1 U	1 U	1 U	6.45
LS-MH46N	2/20/2019	L46N190220M	5 U	5 U	1 U	1 U	1 U	7.09
LS-MH46N	3/6/2019	L46N190306M	5 U	5 U	1 U	1 U	1 U	7.74 D
LS-PS2A	1/17/2019	LP2A190117M	5 U	5 U	1 U	1 U	1 U	0.1 U
LS-PS2A	2/20/2019	LP2A190220M	5 U	5 U	1 U	1 U	1 U	0.1 U
LS-PS2A	3/6/2019	LP2A190306M	5 U	5 U	1 U	1 U	1 U	0.1 DU
LS-V1A	2/20/2019	LV1A190220M	5 U	5 U	1 U	1 U	1 U	0.1 U
LS-V1A	3/7/2019	LV1A190307M	5 U	5 U	1 U	1 U	1 U	0.131 DJT
VOA TRIP BLANK	1/16/2019	VTRP190117Y	0.5 U	0.5 U	0.1 U	0.1 U	0.1 U	0.01 U
VOA TRIP BLANK	1/11/2019	VTRP190117Y2	0.5 U	0.5 U	0.1 U	0.1 U	0.1 U	0.01 U
VOA TRIP BLANK	1/14/2019	VTRP190118X2	0.5 U	0.5 U	0.1 U	0.1 U	0.1 U	0.01 U
VOA TRIP BLANK	2/19/2019	VTRP190219X2	0.5 U	0.5 U	0.1 U	0.1 U	0.1 U	0.01 U
VOA TRIP BLANK	2/19/2019	VTRP190220Y	0.5 U	0.5 U	0.1 U	0.1 U	0.1 U	0.01 U
VOA TRIP BLANK	3/5/2019	VTRP190306Y	0.5 U	0.5 U	0.1 U	0.1 U	0.1 U	0.01 DU
VOA TRIP BLANK	3/6/2019	VTRP190307Y	0.5 U	0.5 U	0.1 U	0.1 U	0.1 U	0.01 DU

Environmental Monitoring Data

Data Collected from January 1, 2019 to March 31, 2019
Cedar Hills Landfill ---Leachate PCB Analytical Data
Contact Person: Sendy Jimenez (206) 477-5224

Site	Date	Sample ID	2,4,5-T	2,4,5-TP SILVEX	2,4-D	4,4'DDD	4,4'DDE	4,4'DDT	ALDRIN	ALPHA BHC	ALPHA CHLORDANE	AROCLOR 1016	AROCLOR 1221
										BHC	Chlordane	1016	1221
			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
			ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l
LS-LIF	1/17/2019	LIF-190117M	0.5 U	2.5 U	2 U	0.025 U	0.025 U	0.025 U	0.025 U	0.025 U	0.025 U	0.025 U	0.3 U
LS-LEPS	1/17/2019	LEPS190117M	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
LS-LEPS	2/19/2019	LEPS190219M	0.5 U	0.832	1 U	0.025 U	0.025 U	0.025 U	0.025 U	0.025 GU	0.025 U	0.025 U	0.025 U
LS-LEPS	3/6/2019	LEPS190306M	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 GU	0.025 U	0.025 U
LS-MH46N	1/17/2019	L46N190117D	0.5 U	1.18	3.5 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.025 U	0.0756 J
LS-MH46N	1/17/2019	L46N190117M	0.5 U	1.36	3.5 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.025 U	0.0716 J
LS-MH46N	2/20/2019	L46N190220M	0.5 U	1.02	1.25	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.025 U	0.1 U
LS-MH46N	3/6/2019	L46N190306M	0.5 U	1.02	1.66	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.0273 J	0.025 U	0.1 U
LS-PS2A	1/17/2019	LP2A190117M	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
LS-PS2A	2/20/2019	LP2A190220M	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
LS-PS2A	3/6/2019	LP2A190306M	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

Data Collected from January 1, 2019 to March 31, 2019
Cedar Hills Landfill ---Leachate PCB Analytical Data
Contact Person: Sendy Jimenez (206) 477-5224

Site	Date	Sample ID	AROCLOR 1232 1232 11141-16-5 ug/l	AROCLOR 1242 1242 53469-21-9 ug/l	AROCLOR 1248 1248 12672-29-6 ug/l	AROCLOR 1254 1254 11097-69-1 ug/l	AROCLOR 1260 1260 11096-82-5 ug/l	BETA BHC BHC 319-85-7 ug/l	DELTA BHC BHC 319-86-8 ug/l	DIELDRIN 60-57-1 ug/l	DINOSEB 88-85-7 ug/l	ENDOSULFAN I sulfan I 959-98-8 ug/l	ENDOSULFAN II sulfan II 33213-65-9 ug/l
LS-LIF	1/17/2019	LIF-190117M	0.025 U	0.176	0.025 U	0.0891 J	0.025 U	0.0756 GJ	0.0298 GJ	0.025 U	0.5 U	0.025 U	0.025 U
LS-LEPS	1/17/2019	LEPS190117M	0.025 U	0.0375	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
LS-LEPS	2/19/2019	LEPS190219M	0.025 U	0.0368	0.025 U	0.025 U	0.025 U	0.0317 G	0.025 GU	0.025 U	0.5 U	0.025 U	0.025 U
LS-LEPS	3/6/2019	LEPS190306M	0.025 U	0.0301	0.025 U	0.025 U	0.025 U	0.025 U	0.025 GU	0.025 U	0.5 U	0.025 U	0.025 U
LS-MH46N	1/17/2019	L46N190117D	0.025 U	0.189	0.025 U	0.025 U	0.025 U	0.0316 J	0.02 U	0.0243 J	0.5 U	0.01 U	0.01 U
LS-MH46N	1/17/2019	L46N190117M	0.025 U	0.177	0.025 U	0.025 U	0.025 U	0.0313 J	0.02 U	0.0209 J	0.5 U	0.01 U	0.01 U
LS-MH46N	2/20/2019	L46N190220M	0.025 U	0.213	0.025 U	0.025 U	0.025 U	0.0149 J	0.01 U	0.01 U	0.5 U	0.02 U	0.01 U
LS-MH46N	3/6/2019	L46N190306M	0.025 U	0.208	0.025 U	0.025 U	0.025 U	0.0355 J	0.01 U	0.01 U	0.5 U	0.01 U	0.01 U
LS-PS2A	1/17/2019	LP2A190117M	0.025 U	0.025 U	0.025 U	0.025 U	0.025 U	0.01 U	0.01 U	0.01 U	0.5 U	0.01 U	0.01 U
LS-PS2A	2/20/2019	LP2A190220M	0.025 U	0.025 U	0.025 U	0.025 U	0.025 U	0.01 U	0.01 U	0.01 U	0.5 U	0.01 U	0.01 U
LS-PS2A	3/6/2019	LP2A190306M	0.025 U	0.025 U	0.025 U	0.025 U	0.025 U	0.01 U	0.01 U	0.01 U	0.5 U	0.01 U	0.01 U

Environmental Monitoring Data

Data Collected from January 1, 2019 to March 31, 2019
Cedar Hills Landfill ---Leachate PCB Analytical Data
Contact Person: Sendy Jimenez (206) 477-5224

Site	Date	Sample ID	ENDOSULFAN SULFATE Sulfate 1031-07-8 ug/l	ENDRIN 72-20-8 ug/l	ENDRIN ALDEHYDE Aldehyde 7421-93-4 ug/l	HEPTACHLOR 76-44-8 ug/l	HEPTACHLOR EPOXIDE Epoxide 1024-57-3 ug/l	ISODRIN 465-73-6 ug/l	LINDANE (GAMMA BHC) 58-89-9 ug/l	METHOXYCHLOR chlor 72-43-5 ug/l	Total Aroclors T_AROCLOR ug/l	TOXAPHENE 8001-35-2 ug/l	trans-Chlordane 5103-74-2 ug/l
LS-LIF	1/17/2019	LIF-190117M	0.025 U	0.025 U	0.025 GU	0.025 U	0.025 U	0.025 U	0.025 U	0.125 U	0.2651	2.5 U	0.025 GU
LS-LEPS	1/17/2019	LEPS190117M	0.025 U	0.025 U	0.025 GU	0.025 U	0.025 U	0.025 U	0.025 U	0.125 U	0.0375	2.5 U	0.025 GU
LS-LEPS	2/19/2019	LEPS190219M	0.025 U	0.025 U	0.025 GU	0.025 U	0.025 U	0.025 U	0.025 GU	0.125 U	0.0368	2.5 U	0.025 GU
LS-LEPS	3/6/2019	LEPS190306M	0.025 U	0.025 U	0.025 GU	0.025 U	0.025 U	0.025 U	0.025 U	0.125 U	0.0301	2.5 U	0.025 GU
LS-MH46N	1/17/2019	L46N190117D	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.0404	0.05 U	0.2646	1 U	0.01 U
LS-MH46N	1/17/2019	L46N190117M	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.0341	0.05 U	0.2486	1 U	0.01 U
LS-MH46N	2/20/2019	L46N190220M	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.0242 J	0.05 U	0.213	1 U	0.01 U
LS-MH46N	3/6/2019	L46N190306M	0.01 U	0.01 U	0.0105	0.01 U	0.01 U	0.01 U	0.0277 J	0.05 U	0.208	1 U	0.01 U
LS-PS2A	1/17/2019	LP2A190117M	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.05 U	0.025 U	1 U	0.01 U
LS-PS2A	2/20/2019	LP2A190220M	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.05 U	0.025 U	1 U	0.01 U
LS-PS2A	3/6/2019	LP2A190306M	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.05 U	0.025 U	1 U	0.01 U

Leachate Monitoring Activities 2nd Quarter 2019

Station ID	Date	Activity	Sample ID	Comment
LS-CSW	4/2/19	Special Investigation	LCSW190402I	
LS-CSW	4/4/19	Special Investigation - Arsenic Speciation	LCSW190404I	
LS-CSW	5/6/19	Special Investigation	LCSW190506I	
LS-CSW	5/6/19	Special Investigation - Arsenic Speciation	LCSW190506I-2	
LS-LEPS	4/2/19	Monthly Characterization Sample	LEPS190402M	
LS-LEPS	4/4/19	Special Investigation - Arsenic Speciation	LEPS190404I	
LS-LEPS	5/8/19	Monthly Characterization Sample	LEPS190508M	
LS-LEPS	6/5/19	Monthly Characterization Sample	LEPS190604M	
LS-LEPS	6/6/19	Special Investigation - Arsenic Speciation	LEPS190606I	
LS-LEPS	4/3/19	Permit Sample	LEPS190402P	
LS-LEPS	4/9/19	Permit Sample	LEPS190409P	
LS-LEPS	4/17/19	Permit Sample	LEPS190417P	
LS-LEPS	4/23/19	Permit Sample	LEPS190423P	
LS-LEPS	5/2/19	Permit Sample	LEPS190502P	
LS-LEPS	5/8/19	Permit Sample	LEPS190508P	
LS-LEPS	5/14/19	Permit Sample	LEPS190514P	
LS-LEPS	5/21/19	Permit Sample	LEPS190521P	
LS-LEPS	5/30/19	Permit Sample	LEPS190530P	
LS-LEPS	6/4/19	Permit Sample	LEPS190604P	
LS-LEPS	6/4/19	QA/QC Sample	LEPS190604D	Field Duplicate
LS-LEPS	6/11/19	Permit Sample	LEPS190611P	
LS-LEPS	6/18/19	Permit Sample	LEPS190618P	
LS-LEPS	6/26/19	Permit Sample	LEPS190626P	
LS-LIF	4/3/19	Special Investigation	LIF-190403I	
LS-LIF	5/6/19	Special Investigation	LIF-190506I	
LS-LIF	5/6/19	Special Investigation - Arsenic Speciation	LIF-190506I-2	
LS-LIF	6/3/19	Special Investigation	LIF-190603I	
LS-LIF	6/6/19	Special Investigation - Arsenic Speciation	LIF-190606I	
LS-MH46N	4/3/19	Monthly Characterization Sample	L46N190403M	
LS-MH46N	5/9/19	Monthly Characterization Sample	L46N190509M	
LS-MH46N	6/5/19	Monthly Characterization Sample	L46N190605M	
LS-MH5	4/2/19	Special Investigation	LMH5190402I	
LS-MH5	4/4/19	Special Investigation - Arsenic Speciation	LMH5190404I	
LS-PS1A	4/2/19	Special Investigation	LP1A190402I	
LS-PS1A	4/4/19	Special Investigation - Arsenic Speciation	LP1A190404I	
LS-PS1A	5/6/19	Special Investigation	LP1A190506I	
LS-PS1A	5/6/19	Special Investigation - Arsenic Speciation	LP1A190506I-2	
LS-PS1A	6/3/19	Special Investigation	LP1A190603I	
LS-PS1A	6/6/19	Special Investigation - Arsenic Speciation	LP1A190606I	

Environmental Monitoring Data

Data Collected from April 1, 2019 to June 30, 2019
Cedar Hills Landfill --- Leachate Field Data
Contact Person: Sendy Jimenez (206) 477-5224

Site	Date	Sample ID	pH (Field) (std. Units)	Conductance (Field) (umho/cm)	Temperature (o C)
LS-A567	6/3/2019	L567190603I	8.25	24581	29.3
LS-A567	5/3/2019	LP567190503I	8.54	22285	18.8
LS-A567	5/3/2019	LP567190503I-2	8.54	22285	18.8
LS-A567	6/6/2019	LP567190606I	8.23	24904	31.2
LS-CSW	5/6/2019	CSW190506I	7.92	4221	14.6
LS-CSW	5/6/2019	CSW190506I-2	7.92	4221	14.6
LS-CSW	4/4/2019	LCSW190404I	8.25	13054	13.9
LS-CSW	5/6/2019	LCSW190506I	7.92	4221	14.6
LS-CSW	5/6/2019	LCSW190506I-2	7.92	4221	14.6
LS-LEPS	4/2/2019	LEPS190402M	8.75	7352	11.8
LS-LEPS	4/2/2019	LEPS190402P	8.75	7352	11.8
LS-LEPS	4/4/2019	LEPS190404I	8.85	7367	11.1
LS-LEPS	4/9/2019	LEPS190409P	8.75	8610	11.8
LS-LEPS	4/17/2019	LEPS190417P	8.63	6120	12.4
LS-LEPS	4/23/2019	LEPS190423P	8.67	5390	11.7
LS-LEPS	5/2/2019	LEPS190502P	8.57	5630	11.9
LS-LEPS	5/8/2019	LEPS190508M	8.61	6540	6.1
LS-LEPS	5/8/2019	LEPS190508P	8.61	6540	6.1
LS-LEPS	5/14/2019	LEPS190514P	8.44	7260	16.2
LS-LEPS	5/21/2019	LEPS190521P	8.5	8430	16.7
LS-LEPS	5/30/2019	LEPS190530P	8.52	9170	15.8
LS-LEPS	6/4/2019	LEPS190604D	8.57	9819	18.8
LS-LEPS	6/4/2019	LEPS190604M	8.57	9819	18.8
LS-LEPS	6/4/2019	LEPS190604P	8.57	9819	18.8
LS-LEPS	6/6/2019	LEPS190606I	8.58	9991	18.3
LS-LEPS	6/11/2019	LEPS190611P	8.54	10150	20.5
LS-LEPS	6/18/2019	LEPS190618P	8.49	13210	19.1
LS-LEPS	6/26/2019	LEPS190626P	8.67	11320	19.1
LS-LIF	4/3/2019	LIF-190403I	8.16	24268	26.8
LS-LIF	5/6/2019	LIF-190506I	8.29	24894.0	28.5
LS-LIF	5/6/2019	LIF-190506I-2	8.29	24894.0	28.5
LS-LIF	6/3/2019	LIF-190603I	8.16	20422.0	25.2
LS-LIF	6/6/2019	LIF-190606I	8.05	27743.0	34.7
LS-MH46N	4/3/2019	L46N190403M	7.2	9610.0	20
LS-MH46N	5/9/2019	L46N190509M	7.13	10250.0	27.4
LS-MH46N	6/5/2019	L46N190605M	7.17	10700.0	25.6

Environmental Monitoring Data

Data Collected from April 1, 2019 to June 30, 2019
Cedar Hills Landfill --- Leachate Conventional Data
Contact Person: Sendy Jimenez (206) 477-5224

Site	Date	Sample ID	Alkalinity, Total (CaCO3) (mg/L)	Ammonia, (NH3 as N) (mg/L)	Biological Oxygen Demand (mg/L)	Chemical Oxygen Demand (mg/L)	Chloride (mg/L)	Coliforms, Fecal (CFU/100mL)	Coliforms, Total (CFU/100mL)	Cyanide (mg/L)	Fluoride (mg/L)	Nitrate+Nitrite (NO3+NO2 as N) (mg/L)
LS-LEPS	4/2/2019	LEPS190402M	2820	396	87.7	1160	704	330 H	6800 H	0.0086 ST	1 U	1.64
LS-LEPS	5/8/2019	LEPS190508M	2440	321	60.3	937	594	310 H	8400 H	0.008 SU	0.34 T	0.055 T
LS-LEPS	6/4/2019	LEPS190604M	3920	481	100	1140	966	80 H	2800 H	0.008 SU	0.43 T	0.15 T
LS-MH46N	4/3/2019	L46N190403M	2750	355	46.3	1510	1400	570	4200	0.011 ST	2 U	0.028 HT
LS-MH46N	5/9/2019	L46N190509M	2880	446	102	1540	1630	5200	29000	0.008 SU	1.5 T	0.07 T
LS-MH46N	6/5/2019	L46N190605M	2980	424	92.9	1690	1640	1 U	900	0.02 SU	1.24	0.14 T
LS-PS2A	4/3/2019	LP2A190403M	945	127	26.3	733	412	1 U	23000	0.008 SU	1 U	31.4
LS-PS2A	6/5/2019	LP2A190605M	42.1	7.79	5.14	28.4	16.5	1 U	30	0.008 U	0.058 T	3.06
LS-PS2A	5/9/2019	LPS2190509M	88.2	10.9	4.27	35.8	13.9	1 U	63	0.008 U	0.2 U	1.06
LS-V1A	4/2/2019	LV1A190402M	6140	924	2160	5180 S	1490	110000 H	770000 H	0.302 S	5 U	0.23 T
LS-V1A	5/8/2019	LV1A190508M	6020	845	1760	4340 S	1500	92000	550000	0.013 ST	5 U	0.257
LS-V1A	6/5/2019	LV1A190605M	6080	746	1980	4720 S	1470	52000 C	2300000	0.016 SU	1 U	0.287

Environmental Monitoring Data

Data Collected from April 1, 2019 to June 30, 2019
Cedar Hills Landfill --- Leachate Conventional Data
Contact Person: Sendy Jimenez (206) 477-5224

Site	Date	Sample ID	Phosphorus, Sol. Reactive (mg/L)	Specific Conductance (umho/cm)	Sulfate (SO4) (mg/L)	Sulfide Total (mg/L)	Total Fats, Oils and Grease (mg/L)	Total Kjeldahl Nitrogen (mg/L)	Total Organic Carbon (mg/L)	Total Suspended Solids (mg/L)	Total Volatile Solids (mg/L)	Volatile Suspended Solids (mg/L)
LS-LEPS	4/2/2019	LEPS190402M	0.733	7090	37.7	0.66 T	2.4 BT	561	278 S	232	1090	188 B
LS-LEPS	5/8/2019	LEPS190508M	0.358	6140	47.4	0.0828	1.5 U	496	250	92.5	1080	95
LS-LEPS	6/4/2019	LEPS190604M	2.56	9330	33.8	0.204	1.6 U	760	274 S	208	1290	200
LS-MH46N	4/3/2019	L46N190403M	3	9340	2 U	1.12	2.5 BT	527	496 S	2.9	1120	1.2 B
LS-MH46N	5/9/2019	L46N190509M	2.72	9900	1.2 T	1.1	2.5 JT	597	549 S	1.3	1450	1.4
LS-MH46N	6/5/2019	L46N190605M	3.12	10300	6.72	0.494	2.8 T	620	495	0.5 U	1100	0.5 U
LS-PS2A	4/3/2019	LP2A190403M	0.165	3820	14.7	0.25 U	1.8 BT	184	238 S	14	564	7.43 B
LS-PS2A	6/5/2019	LP2A190605M	0.0157	288	50	0.014 T	1.8 T	8.62	10.2	0.9 T	51.3	0.8 BT
LS-PS2A	5/9/2019	LPS2190509M	0.00492	373	57.7	0.027 T	1.4 U	15.3	12.8	3.8	59.9	2.2
LS-V1A	4/2/2019	LV1A190402M	3.66	15100	35.7	0.711	7.9 B	1350 S	1750 S	28.9	3160	23.6 B
LS-V1A	5/8/2019	LV1A190508M	6.08	14500	26	0.675	4.4 JT	1240 S	1400 S	37.5	3870	27.5
LS-V1A	6/5/2019	LV1A190605M	7.4	14700	33.1	0.653	6.7	1320 S	1520 S	34	3020	29

Environmental Monitoring Data

Data Collected from April 1, 2019 to June 30, 2019
Cedar Hills Landfill --- Leachate Metals Data
Contact Person: Sendy Jimenez (206) 477-5224

Site	Date	Sample ID	Aluminum, total (mg/L)	Antimony, total (mg/L)	Arsenic, total (mg/L)	Barium, total (mg/L)	Beryllium, total (mg/L)	Cadmium, total (mg/L)	Calcium, total (mg/L)	Chromium, total (mg/L)	Cobalt, total (mg/L)	Copper, total (mg/L)
LS-A567	6/3/2019	L567190603I	0.474	0.0129	0.321	0.456	0.001 U	0.0005 U	48.8	0.251	0.0688	0.00203
LS-A567	5/3/2019	LP567190503I	0.83	0.0146	0.324	0.465	0.001 U	0.0005 U	58	0.221	0.0659	0.00628
LS-CSW	5/6/2019	LCSW190506I	1.2	0.00353	0.0124	0.123	0.001 U	0.0005 U	183	0.0349	0.0112	0.00868
LS-CSW	4/2/2019	LMH5190402I	0.467	0.0139	0.301	0.401	0.001 U	0.0005 U	48.3	0.198	0.0645	0.00528
LS-LEPS	4/2/2019	LEPS190402P	0.585	0.0123	0.125	0.0994	0.001 U	0.0005 U	52.2	0.0869	0.0218	0.00903
LS-LEPS	4/9/2019	LEPS190409P	0.788	0.0146	0.145	0.113	0.001 U	0.0005 U	56.2	0.109	0.0248	0.00922
LS-LEPS	4/17/2019	LEPS190417P	0.97	0.0112	0.107	0.0906	0.001 U	0.0005 U	49.4	0.0749	0.0182	0.00877
LS-LEPS	4/23/2019	LEPS190423P	0.89	0.00986	0.0913	0.08	0.001 U	0.0005 U	45.7	0.0623	0.0158	0.021
LS-LEPS	5/2/2019	LEPS190502P	0.655	0.0101	0.0902 D	0.0854	0.001 U	0.0005 U	61.4	0.0616	0.0165	0.0189
LS-LEPS	5/8/2019	LEPS190508M	0.277	0.0115	0.106	0.0811	0.001 U	0.0005 U	58.1	0.074	0.0178	0.0113
LS-LEPS	5/8/2019	LEPS190508P	0.262	0.0115	0.108	0.082	0.001 U	0.0005 U	59	0.075	0.0178	0.0119
LS-LEPS	5/14/2019	LEPS190514P	0.242	0.0131	0.127	0.0853	0.001 U	0.0005 U	56.6	0.084	0.0196	0.00869
LS-LEPS	5/21/2019	LEPS190521P	0.429	0.0144	0.156	0.101	0.001 U	0.0005 U	55.1	0.0948	0.0235	0.00847
LS-LEPS	5/30/2019	LEPS190530P	0.373	0.0156	0.17	0.0962	0.001 U	0.0005 U	51.5	0.105	0.0241	0.00666
LS-LEPS	6/4/2019	LEPS190604M	0.372	0.0161	0.192	0.115	0.001 U	0.0005 U	57.1	0.116	0.026	0.00628
LS-LEPS	6/4/2019	LEPS190604P	0.409	0.0161	0.183	0.11	0.001 U	0.0005 U	53.2	0.118	0.0252	0.00639
LS-LEPS	6/11/2019	LEPS190611P	0.566	0.0189	0.211	0.118	0.001 U	0.0005 U	58.9	0.134	0.0295	0.0075
LS-LEPS	6/18/2019	LEPS190618P	0.368	0.0179	0.225	0.124	0.001 U	0.0005 U	57.5	0.127	0.0297	0.0052
LS-LEPS	6/26/2019	LEPS190626P	0.422	0.0203	0.243	0.135	0.001 U	0.0005 U	56.9	0.144	0.0328	0.00563
LS-LIF	4/3/2019	LIF-190403I	0.908	0.0217	0.35	0.293	0.001 U	0.0005 U	122	0.296	0.0695	0.00725
LS-LIF	5/6/2019	LIF-190506I	0.827	0.0226	0.35	0.311	0.001 U	0.0005 U	79.6	0.331	0.067	0.00561
LS-LIF	6/3/2019	LIF-190603I	0.698	0.0221	0.295	0.28	0.001 U	0.0005 U	75	0.291	0.0567	0.00548
LS-MH46N	4/3/2019	L46N190403M	0.246	0.003 U	0.0789	0.327	0.001 U	0.0005 U	72.9	0.0886	0.0294	0.0203
LS-MH46N	5/9/2019	L46N190509M	0.05 U	0.003 U	0.0871	0.383	0.001 U	0.0005 U	74.9	0.0987	0.0295	0.002 U
LS-MH46N	6/5/2019	L46N190605M	0.05 U	0.003 U	0.0919	0.425	0.001 U	0.0005 U	78.9	0.101	0.0315	0.002 U
LS-MH5	4/2/2019	LCSW190402I	2.5	0.00833	0.0326	0.225	0.001 U	0.0005 U	202	0.0984	0.0296	0.019
LS-PS1A	4/2/2019	LP1A190402I	0.0912	0.00833	0.0511	0.0974	0.001 U	0.0005 U	35.6	0.0179	0.00809	0.00838
LS-PS1A	5/6/2019	LP1A190506I	0.0785	0.0089	0.0581	0.103	0.001 U	0.0005 U	35.6	0.019	0.00819	0.00518
LS-PS1A	6/3/2019	LP1A190603I	0.0547	0.0184	0.123	0.191	0.001 U	0.0005 U	55.1	0.0365	0.0167	0.00349
LS-PS2A	4/3/2019	LP2A190403M	0.116	0.00925	0.0263	0.0297	0.001 U	0.0005 U	24.4	0.0244	0.0175	0.0568
LS-PS2A	6/5/2019	LP2A190605M	0.05 U	0.00323	0.00364	0.00847	0.001 U	0.0005 U	14.7	0.002 U	0.000621	0.0123
LS-PS2A	5/9/2019	LPS2190509M	0.0509	0.00404	0.00473	0.0378	0.001 U	0.0005 U	24.5	0.002 U	0.000644	0.0108

Environmental Monitoring Data

Data Collected from April 1, 2019 to June 30, 2019
Cedar Hills Landfill --- Leachate Metals Data
Contact Person: Sendy Jimenez (206) 477-5224

Site	Date	Sample ID	Iron, total (mg/L)	Lead, total (mg/L)	Magnesium, total (mg/L)	Manganese, total (mg/L)	Mercury, total (mg/L)	Nickel, total (mg/L)	Potassium, total (mg/L)	Selenium, total (mg/L)	Silver, total (mg/L)	Sodium, total (mg/L)
LS-A567	6/3/2019	L567190603I	3.4	0.0012	88.1	0.252	0.0001 U	0.274	780	0.005 U	0.0004 U	2670 D
LS-A567	5/3/2019	LP567190503I	4.31	0.00257	87.1	0.321	0.0001 U	0.266	751	0.005 U	0.0004 U	2580 D
LS-CSW	5/6/2019	LCSW190506I	6.75	0.00136	54.8	1.34	0.0001 U	0.0644	156	0.005 U	0.0004 U	356
LS-CSW	4/2/2019	LMH5190402I	3.49	0.00196	83.6	0.277	0.0001 U	0.255	735	0.005 U	0.0004 U	2460
LS-LEPS	4/2/2019	LEPS190402P	5.25	0.0018	42.9	0.512	0.0001 U	0.089	265	0.005 U	0.0004 U	717
LS-LEPS	4/9/2019	LEPS190409P	7.01	0.00211	48.3	0.526	0.0001 U	0.106	299	0.005 U	0.0004 DU	843
LS-LEPS	4/17/2019	LEPS190417P	5.91	0.00201	34.9	0.536	0.0001 U	0.0761	216	0.005 U	0.0004 U	603
LS-LEPS	4/23/2019	LEPS190423P	4.99	0.00224	28.9	0.493	0.0001 U	0.0619	176	0.005 U	0.0004 U	487
LS-LEPS	5/2/2019	LEPS190502P	5.26	0.00187	31.9	0.577	0.0001 U	0.0714	185	0.005 U	0.0004 U	512
LS-LEPS	5/8/2019	LEPS190508M	4.87	0.00158	38.3	0.421	0.0001 U	0.0771	216	0.005 U	0.0004 U	591
LS-LEPS	5/8/2019	LEPS190508P	4.98	0.00165	38.6	0.428	0.0001 U	0.0791	216	0.005 U	0.0004 U	594
LS-LEPS	5/14/2019	LEPS190514P	5.07	0.00152	42	0.379	0.0001 U	0.0872	245	0.005 U	0.0004 U	672
LS-LEPS	5/21/2019	LEPS190521P	5.22	0.00161	47.2	0.383	0.0001 U	0.0992	283	0.005 U	0.0004 U	792
LS-LEPS	5/30/2019	LEPS190530P	5.03	0.0015	49.4	0.298	0.0001 U	0.107	310	0.005 U	0.0004 U	766
LS-LEPS	6/4/2019	LEPS190604M	5.3	0.00164	53.6	0.354	0.0001 U	0.115	346	0.005 U	0.0004 U	961
LS-LEPS	6/4/2019	LEPS190604P	5.03	0.00159	49.6	0.335	0.0001 U	0.11	321	0.005 U	0.0004 U	891
LS-LEPS	6/11/2019	LEPS190611P	5.71	0.00207	57.2	0.374	0.0001 U	0.128	369	0.005 U	0.0004 U	1040
LS-LEPS	6/18/2019	LEPS190618P	5.13	0.00152	58.3	0.325	0.0001 U	0.135	399	0.005 U	0.0004 U	1110
LS-LEPS	6/26/2019	LEPS190626P	5.29	0.00163	63.1	0.356	0.0001 U	0.144	429	0.005 U	0.0004 U	1190
LS-LIF	4/3/2019	LIF-190403I	18.4	0.00391	120	1.02	0.0001 U	0.279	905	0.00517	0.0004 U	2520
LS-LIF	5/6/2019	LIF-190506I	13.7	0.00383	121	0.604	0.0001 U	0.281	890 D	0.005 U	0.0004 U	2570 D
LS-LIF	6/3/2019	LIF-190603I	8.81	0.00309	98.6	0.551	0.0001 U	0.238	756	0.005 U	0.0004 U	2050
LS-MH46N	4/3/2019	L46N190403M	6.02	0.001 U	43.6	0.655	0.0001 U	0.115	310	0.005 U	0.0004 U	1070
LS-MH46N	5/9/2019	L46N190509M	2.34	0.001 U	47.2	0.434	0.0001 U	0.122	328	0.005 U	0.0004 U	1110
LS-MH46N	6/5/2019	L46N190605M	2.41	0.001 U	48.6	0.463	0.0001 U	0.135	344	0.005 U	0.0004 U	1180
LS-MH5	4/2/2019	LCSW190402I	12.5	0.00447	142	1.2	0.0001 U	0.176	403	0.005 U	0.0004 U	1010
LS-PS1A	4/2/2019	LP1A190402I	1.23	0.001 U	18.1	0.328	0.0001 U	0.0314	88.7	0.005 U	0.0004 U	310
LS-PS1A	5/6/2019	LP1A190506I	0.961	0.001 U	18.3	0.318	0.0001 U	0.0313	86.4	0.005 U	0.0004 U	306
LS-PS1A	6/3/2019	LP1A190603I	0.847	0.001 U	30.8	0.464	0.0001 U	0.0627	163	0.005 U	0.0004 U	590
LS-PS2A	4/3/2019	LP2A190403M	6.23	0.001 U	10.5	0.356	0.0001 U	0.0571	136	0.005 U	0.0004 U	466
LS-PS2A	6/5/2019	LP2A190605M	1.1	0.001 U	5.86	0.0535	0.0001 U	0.00624	5.8	0.005 U	0.0004 U	17.3
LS-PS2A	5/9/2019	LPS2190509M	3.38	0.001 U	7.19	0.136	0.0001 U	0.00637	7.96	0.005 U	0.0004 U	15.1

Environmental Monitoring Data

Data Collected from April 1, 2019 to June 30, 2019
Cedar Hills Landfill --- Leachate Metals Data
Contact Person: Sendy Jimenez (206) 477-5224

Site	Date	Sample ID	Thallium, total (mg/L)	Tin, total (mg/L)	Vanadium, total (mg/L)	Zinc, total (mg/L)
LS-A567	6/3/2019	L567190603I	0.001 U	0.0464	0.179	0.0369
LS-A567	5/3/2019	LP567190503I	0.001 U	0.0413	0.169	0.0768
LS-CSW	5/6/2019	LCSW190506I	0.001 U	0.005 U	0.0133	0.249
LS-CSW	4/2/2019	LMH5190402I	0.001 U	0.0368	0.154	0.0853
LS-LEPS	4/2/2019	LEPS190402P	0.001 U	0.00832	0.0289	0.217
LS-LEPS	4/9/2019	LEPS190409P	0.001 U	0.0112	0.0353	0.249
LS-LEPS	4/17/2019	LEPS190417P	0.001 U	0.00777	0.0267	0.195
LS-LEPS	4/23/2019	LEPS190423P	0.001 U	0.005 U	0.0231	0.192
LS-LEPS	5/2/2019	LEPS190502P	0.001 U	0.00674	0.0228	0.206 D
LS-LEPS	5/8/2019	LEPS190508M	0.001 U	0.00922	0.0253	0.168
LS-LEPS	5/8/2019	LEPS190508P	0.001 U	0.0109	0.0251	0.172
LS-LEPS	5/14/2019	LEPS190514P	0.001 U	0.00991	0.0278	0.159
LS-LEPS	5/21/2019	LEPS190521P	0.001 U	0.0117	0.0337	0.187
LS-LEPS	5/30/2019	LEPS190530P	0.001 U	0.0148	0.0357	0.144
LS-LEPS	6/4/2019	LEPS190604M	0.001 U	0.012	0.0401	0.174
LS-LEPS	6/4/2019	LEPS190604P	0.001 U	0.0122	0.0375	0.161
LS-LEPS	6/11/2019	LEPS190611P	0.001 U	0.0164	0.0428	0.173
LS-LEPS	6/18/2019	LEPS190618P	0.001 U	0.0137	0.0436	0.135
LS-LEPS	6/26/2019	LEPS190626P	0.001 DU	0.0162	0.05	0.151
LS-LIF	4/3/2019	LIF-190403I	0.001 U	0.0398	0.0933	0.895
LS-LIF	5/6/2019	LIF-190506I	0.001 U	0.0359	0.0937	0.55
LS-LIF	6/3/2019	LIF-190603I	0.001 U	0.0325	0.0794	0.374
LS-MH46N	4/3/2019	L46N190403M	0.001 U	0.005 U	0.127	0.0192
LS-MH46N	5/9/2019	L46N190509M	0.001 U	0.005 U	0.137	0.00561
LS-MH46N	6/5/2019	L46N190605M	0.001 U	0.005 U	0.144	0.005 U
LS-MH5	4/2/2019	LCSW190402I	0.001 U	0.00686	0.0361	0.676
LS-PS1A	4/2/2019	LP1A190402I	0.001 U	0.005 U	0.0217	0.0105
LS-PS1A	5/6/2019	LP1A190506I	0.001 U	0.005 U	0.0218	0.0101
LS-PS1A	6/3/2019	LP1A190603I	0.001 U	0.005 U	0.0438	0.00972
LS-PS2A	4/3/2019	LP2A190403M	0.001 U	0.043	0.00674	0.107
LS-PS2A	6/5/2019	LP2A190605M	0.001 U	0.005 U	0.00164	0.0191
LS-PS2A	5/9/2019	LPS2190509M	0.001 U	0.005 U	0.00155	0.0265

Environmental Monitoring Data

Data Collected from April 1, 2019 to June 30, 2019
Cedar Hills Landfill --- Leachate VOAs Data
Contact Person: Sendy Jimenez (206) 477-5224

Site	Date	Sample ID	1,1,1,2-Tetrachloro-ethane 630-20-6 (ug/L)	1,1,1-Trichloro-ethane 71-55-6 (ug/L)	1,1,2,2-Tetrachloro-ethane 79-34-5 (ug/L)	1,1,2-Trichloro-ethane 79-00-5 (ug/L)	1,1-Dichloro-ethane 75-34-3 (ug/L)	1,1-Dichloro-ethene 75-35-4 (ug/L)	1,1-Dichloro-propene 563-58-6 (ug/L)	1,2,3-Trichloro-propane 96-18-4 (ug/L)	1,2-Dibromo-3-Chloropropane 96-12-8 (ug/L)
LS-LEPS	4/2/2019	LEPS190402M	2.5 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	25 U
LS-LEPS	5/8/2019	LEPS190508M	2.5 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	25 U
LS-LEPS	6/4/2019	LEPS190604M	2.5 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	25 U
LS-MH46N	4/3/2019	L46N190403M	2.5 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	25 U
LS-MH46N	5/9/2019	L46N190509M	2.5 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	25 U
LS-MH46N	6/5/2019	L46N190605M	2.5 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	25 U
LS-PS2A	4/3/2019	LP2A190403D	2.5 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	25 U
LS-PS2A	4/3/2019	LP2A190403M	2.5 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	25 U
LS-PS2A	6/5/2019	LP2A190605M	2.5 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	25 U
LS-PS2A	5/9/2019	LPS2190509M	2.5 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	25 U
LS-V1A	4/2/2019	LV1A190402M	2.5 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	25 U
LS-V1A	5/8/2019	LV1A190508M	2.5 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	25 U
LS-V1A	6/5/2019	LV1A190605M	2.5 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	25 U
FIELD BLANK	6/5/2019	L46N190605F	2.5 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	25 U
VOA TRIP BLANK	4/3/2019	VTRP190403X	0.25 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	2.5 U
VOA TRIP BLANK	4/2/2019	VTRP190403Y	0.25 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	2.5 U
VOA TRIP BLANK	5/8/2019	VTRP190508X2	0.25 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	2.5 U
VOA TRIP BLANK	5/8/2019	VTRP190509Z	0.25 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	2.5 U
VOA TRIP BLANK	6/3/2019	VTRP190604X2	0.25 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	2.5 U

Environmental Monitoring Data

Data Collected from April 1, 2019 to June 30, 2019
Cedar Hills Landfill --- Leachate VOAs Data
Contact Person: Sendy Jimenez (206) 477-5224

Site	Date	Sample ID	1,2-Dibromo-ethane	1,2-Dichloro-benzene	1,2-Dichloro-ethane	1,2-Dichloro-propane	1,3 Dichloro-benzene	1,3-Dichloro-propane	1,4-Dichloro-benzene	2,2-Dichloro-propane	2-Butanone
			106-93-4 (ug/L)	95-50-1 (ug/L)	107-06-2 (ug/L)	78-87-5 (ug/L)	541-73-1 (ug/L)	142-28-9 (ug/L)	106-46-7 (ug/L)	594-20-7 (ug/L)	78-93-3 (ug/L)
LS-LEPS	4/2/2019	LEPS190402M	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	2.5 U
LS-LEPS	5/8/2019	LEPS190508M	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	2.5 U
LS-LEPS	6/4/2019	LEPS190604M	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	2.5 U
LS-MH46N	4/3/2019	L46N190403M	1 U	2.75	1 U	1 U	1 U	1 U	11.7	1 U	2.5 U
LS-MH46N	5/9/2019	L46N190509M	1 U	2.71	1 U	1 U	1 U	1 U	11.2	1 U	2.5 U
LS-MH46N	6/5/2019	L46N190605M	1 U	2.47	1 U	1 U	1 U	1 U	10.1	1 U	3.82 JT
LS-PS2A	4/3/2019	LP2A190403D	1 U	1 U	1 U	1 U	1 U	1 U	1.77 JT	1 U	70.3
LS-PS2A	4/3/2019	LP2A190403M	1 U	1 U	1 U	1 U	1 U	1 U	1.82 JT	1 U	54.9
LS-PS2A	6/5/2019	LP2A190605M	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	2.5 U
LS-PS2A	5/9/2019	LPS2190509M	1 U	1 U	1 U	1 U	1 U	1 U	1.34 JT	1 U	90.6
LS-V1A	4/2/2019	LV1A190402M	1 U	1 U	2	1 U	1 U	1 U	1.49 JT	1 U	4320 D
LS-V1A	5/8/2019	LV1A190508M	1 U	1 U	2.48	1 U	1 U	1 U	1.15 JT	1 U	4000 D
LS-V1A	6/5/2019	LV1A190605M	1 U	1 U	3.08	1 U	1 U	1 U	1.27 JT	1 U	5710 D
FIELD BLANK	6/5/2019	L46N190605F	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	23.5
VOA TRIP BLANK	4/3/2019	VTRP190403X	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	4/2/2019	VTRP190403Y	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.25 U
VOA TRIP BLANK	5/8/2019	VTRP190508X2	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.25 U
VOA TRIP BLANK	5/8/2019	VTRP190509Z	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.25 U
VOA TRIP BLANK	6/3/2019	VTRP190604X2	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.25 U

Environmental Monitoring Data

Data Collected from April 1, 2019 to June 30, 2019
Cedar Hills Landfill --- Leachate VOAs Data
Contact Person: Sendy Jimenez (206) 477-5224

Site	Date	Sample ID	2-Hexanone	2-Methyl-1-propanol	3-Chloro-propene	4-Methyl-2-Pentanone	Acetone	Acetonitrile	Acrolein	Acrylonitrile	Benzene
			591-78-6 (ug/L)	78-83-1 (ug/L)	107-05-1 (ug/L)	108-10-1 (ug/L)	67-64-1 (ug/L)	75-05-8 (ug/L)	107-02-8 (ug/L)	107-13-1 (ug/L)	71-43-2 (ug/L)
LS-LEPS	4/2/2019	LEPS190402M	5 U	50 U	1 U	25 U	25 U	50 U	25 U	0.35 U	1 U
LS-LEPS	5/8/2019	LEPS190508M	5 U	50 U	1 U	25 U	25 U	50 U	25 U	0.35 U	1 U
LS-LEPS	6/4/2019	LEPS190604M	5 U	50 U	1 U	25 U	103	50 U	25 U	0.35 U	1 U
LS-MH46N	4/3/2019	L46N190403M	5 U	50 U	1 U	25 U	25 U	50 U	25 U	0.35 U	4.2
LS-MH46N	5/9/2019	L46N190509M	5 U	50 U	1 U	25 U	25 U	54.2 JT	25 U	0.35 U	4.07
LS-MH46N	6/5/2019	L46N190605M	5 U	50 U	1 U	25 U	43.6 JT	58.3 JT	25 U	0.35 U	3.93
LS-PS2A	4/3/2019	LP2A190403D	5 U	50 U	1 U	25 U	54.5	50 U	25 U	0.35 U	1 U
LS-PS2A	4/3/2019	LP2A190403M	5 U	50 U	1 U	25 U	25 U	50 U	25 U	0.35 U	1 U
LS-PS2A	6/5/2019	LP2A190605M	5 U	50 U	1 U	25 U	25 U	50 U	25 U	0.35 U	1 U
LS-PS2A	5/9/2019	LPS2190509M	5 U	50 U	1 U	25 U	126	50 U	25 U	0.35 U	1 U
LS-V1A	4/2/2019	LV1A190402M	8.41 JT	54.7 JT	1 U	38.3 JT	4990 D	50 U	25 U	0.35 U	1 U
LS-V1A	5/8/2019	LV1A190508M	8.18 JT	74.1 JT	1 U	38.1 JT	5000 D	86.2 JT	25 U	0.35 U	1 U
LS-V1A	6/5/2019	LV1A190605M	9.79 JLT	133	1 U	51.6	6720 D	116	25 U	0.35 U	1 U
FIELD BLANK	6/5/2019	L46N190605F	5 U	50 U	1 U	25 U	25 U	50 U	25 U	0.35 U	1 U
VOA TRIP BLANK	4/3/2019	VTRP190403X	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	4/2/2019	VTRP190403Y	0.5 U	5 U	0.1 U	2.5 U	2.5 U	5 U	2.5 U	0.035 U	0.1 U
VOA TRIP BLANK	5/8/2019	VTRP190508X2	0.5 U	5 U	0.1 U	2.5 U	3.25 JT	5 U	2.5 U	0.035 U	0.1 U
VOA TRIP BLANK	5/8/2019	VTRP190509Z	0.5 U	5 U	0.1 U	2.5 U	3.61 JT	5 U	2.5 U	0.035 U	0.1 U
VOA TRIP BLANK	6/3/2019	VTRP190604X2	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

Environmental Monitoring Data

Data Collected from April 1, 2019 to June 30, 2019
Cedar Hills Landfill --- Leachate VOAs Data
Contact Person: Sendy Jimenez (206) 477-5224

Site	Date	Sample ID	Bromochloro-methane	Bromodichloro-methane	Bromoform	Bromo-methane	Carbon Disulfide	Carbon Tetrachloride	Chloro-benzene	Chloro-dibromo-methane	Chloroethane
			74-97-5 (ug/L)	75-27-4 (ug/L)	75-25-2 (ug/L)	74-83-9 (ug/L)	75-15-0 (ug/L)	56-23-5 (ug/L)	108-90-7 (ug/L)	124-48-1 (ug/L)	75-00-3 (ug/L)
LS-LEPS	4/2/2019	LEPS190402M	1 U	2.5 U	5 U	1 U	1 U	2.5 U	1 U	5 U	1 U
LS-LEPS	5/8/2019	LEPS190508M	1 U	2.5 U	5 U	1 U	1 U	2.5 U	1 U	5 U	1 U
LS-LEPS	6/4/2019	LEPS190604M	1 U	2.5 U	5 U	1 U	1 U	2.5 U	1 U	5 U	1 U
LS-MH46N	4/3/2019	L46N190403M	1 U	2.5 U	5 U	1 U	1 U	2.5 U	2.61	5 U	1 U
LS-MH46N	5/9/2019	L46N190509M	1 U	2.5 U	5 U	1 U	1 U	2.5 U	2.52	5 U	1 U
LS-MH46N	6/5/2019	L46N190605M	1 U	2.5 U	5 U	1 U	1 U	2.5 U	2.27	5 U	1 U
LS-PS2A	4/3/2019	LP2A190403D	1 U	2.5 U	5 U	1 U	1 U	2.5 U	1 U	5 U	1 U
LS-PS2A	4/3/2019	LP2A190403M	1 U	2.5 U	5 U	1 U	1 U	2.5 U	1 U	5 U	1 U
LS-PS2A	6/5/2019	LP2A190605M	1 U	2.5 U	5 U	1 U	1 U	2.5 U	1 U	5 U	1 U
LS-PS2A	5/9/2019	LPS2190509M	1 U	2.5 U	5 U	1 U	1 U	2.5 U	1 U	5 U	1 U
LS-V1A	4/2/2019	LV1A190402M	1 U	2.5 U	5 U	1 U	1.02 JT	2.5 U	1 U	5 U	1 U
LS-V1A	5/8/2019	LV1A190508M	1 U	2.5 U	5 U	1 U	1 U	2.5 U	1 U	5 U	1 U
LS-V1A	6/5/2019	LV1A190605M	1 U	2.5 U	5 U	1 U	1 U	2.5 U	1 U	5 U	1 U
FIELD BLANK	6/5/2019	L46N190605F	1 U	2.5 U	5 U	1 U	1 U	2.5 U	1 U	5 U	1 U
VOA TRIP BLANK	4/3/2019	VTRP190403X	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	4/2/2019	VTRP190403Y	0.1 U	0.25 U	0.5 U	0.1 U	0.1 U	0.25 U	0.1 U	0.5 U	0.1 U
VOA TRIP BLANK	5/8/2019	VTRP190508X2	0.1 U	0.25 U	0.5 U	0.1 U	0.1 U	0.25 U	0.1 U	0.5 U	0.1 U
VOA TRIP BLANK	5/8/2019	VTRP190509Z	0.1 U	0.25 U	0.5 U	0.1 U	0.1 U	0.25 U	0.1 U	0.5 U	0.1 U
VOA TRIP BLANK	6/3/2019	VTRP190604X2	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

Environmental Monitoring Data

Data Collected from April 1, 2019 to June 30, 2019
Cedar Hills Landfill --- Leachate VOAs Data
Contact Person: Sendy Jimenez (206) 477-5224

Site	Date	Sample ID	Chloroform	Chloro-methane	Chloroprene	cis-1,2-Dichloro-ethene	cis-1,3-Dichloro-propene	Dibromo-methane	Dichloro-difluoro-methane	Ethylbenzene	m & p Xylenes
			67-66-3 (ug/L)	74-87-3 (ug/L)	126-99-8 (ug/L)	156-59-2 (ug/L)	10061-01-5 (ug/L)	74-95-3 (ug/L)	75-71-8 (ug/L)	100-41-4 (ug/L)	mpx (ug/L)
LS-LEPS	4/2/2019	LEPS190402M	1 U	2.5 U	1 U	1 U	2.5 U	1 U	1 U	1 U	1 U
LS-LEPS	5/8/2019	LEPS190508M	1 U	2.5 U	1 U	1 U	2.5 U	1 U	1 U	1 U	1 U
LS-LEPS	6/4/2019	LEPS190604M	1 U	2.5 U	1 U	1 U	2.5 U	1 U	1 U	1 U	1 U
LS-MH46N	4/3/2019	L46N190403M	1 U	2.5 U	1 U	1.47 JT	2.5 U	1 U	1 U	48.7	48.5
LS-MH46N	5/9/2019	L46N190509M	1 U	2.5 U	1 U	1.68 JT	2.5 U	1 U	1 U	45.9	61
LS-MH46N	6/5/2019	L46N190605M	1 U	2.5 U	1 U	1.75 JT	2.5 U	1 U	1 U	42	55.2
LS-PS2A	4/3/2019	LP2A190403D	1 U	2.5 U	1 U	1 U	2.5 U	1 U	1 U	1 U	2.04
LS-PS2A	4/3/2019	LP2A190403M	1 U	2.5 U	1 U	1 U	2.5 U	1 U	1 U	1 U	2.19
LS-PS2A	6/5/2019	LP2A190605M	1 U	2.5 U	1 U	1 U	2.5 U	1 U	1 U	1 U	1 U
LS-PS2A	5/9/2019	LPS2190509M	1 U	2.5 U	1 U	1 U	2.5 U	1 U	1 U	1 U	2.61
LS-V1A	4/2/2019	LV1A190402M	1 U	2.5 U	1 U	1.38 JT	2.5 U	1 U	1 U	2.47	5.98
LS-V1A	5/8/2019	LV1A190508M	1 U	2.5 U	1 U	1.11 JT	2.5 U	1 U	1 U	1.45 JT	3.65
LS-V1A	6/5/2019	LV1A190605M	2.24	2.5 U	1 U	1.67 JT	2.5 U	1 U	1 U	1.76 JT	4.84
FIELD BLANK	6/5/2019	L46N190605F	1 U	2.5 U	1 U	1 U	2.5 U	1 U	1 U	1 U	1 U
VOA TRIP BLANK	4/3/2019	VTRP190403X	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	4/2/2019	VTRP190403Y	0.1 U	0.25 U	0.1 U	0.1 U	0.25 U	0.1 U	0.1 U	0.1 U	0.1 U
VOA TRIP BLANK	5/8/2019	VTRP190508X2	0.1 U	0.25 U	0.1 U	0.1 U	0.25 U	0.1 U	0.1 U	0.1 U	0.1 U
VOA TRIP BLANK	5/8/2019	VTRP190509Z	0.1 U	0.25 U	0.1 U	0.1 U	0.25 U	0.1 U	0.1 U	0.1 U	0.1 U
VOA TRIP BLANK	6/3/2019	VTRP190604X2	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

Environmental Monitoring Data

Data Collected from April 1, 2019 to June 30, 2019
Cedar Hills Landfill --- Leachate VOAs Data
Contact Person: Sendy Jimenez (206) 477-5224

Site	Date	Sample ID	Methyl Iodide	Methyl Methacrylate	Methylacrylo-nitrile	Methylene Chloride	o-Xylene	Proprionitrile	Styrene	Tetrachloro-ethene	Toluene
			74-88-4 (ug/L)	80-62-6 (ug/L)	126-98-7 (ug/L)	75-09-2 (ug/L)	95-47-6 (ug/L)	107-12-0 (ug/L)	100-42-5 (ug/L)	127-18-4 (ug/L)	108-88-3 (ug/L)
LS-LEPS	4/2/2019	LEPS190402M	1 U	2.5 U	1 U	25 U	1 U	5 U	1 U	1 U	1 U
LS-LEPS	5/8/2019	LEPS190508M	1 U	2.5 U	1 U	25 U	1 U	5 U	1 U	1 U	1 U
LS-LEPS	6/4/2019	LEPS190604M	1 U	2.5 U	1 U	25 U	1 U	5 U	1 U	1 U	2.37
LS-MH46N	4/3/2019	L46N190403M	1 U	2.5 U	1 U	25 U	3.42	5 U	1 U	1 U	4.19
LS-MH46N	5/9/2019	L46N190509M	1 U	2.5 U	1 U	25 U	3.62	5 U	1.34 JT	1 U	4.36
LS-MH46N	6/5/2019	L46N190605M	1 U	2.5 U	1 U	25 U	3.04	5 U	1.25 JT	1 U	3.73
LS-PS2A	4/3/2019	LP2A190403D	1 U	2.5 U	1 U	25 U	1.98 JT	5 U	1 U	1 U	1 U
LS-PS2A	4/3/2019	LP2A190403M	1 U	2.5 U	1 U	25 U	2.02	5 U	1 U	1 U	1 U
LS-PS2A	6/5/2019	LP2A190605M	1 U	2.5 U	1 U	25 U	1 U	5 U	1 U	1 U	1 U
LS-PS2A	5/9/2019	LPS2190509M	1 U	2.5 U	1 U	25 U	1.5 JT	5 U	1 U	1 U	1.18 JT
LS-V1A	4/2/2019	LV1A190402M	1 U	2.5 U	1 U	25 U	3.43	5 U	1 U	1 U	10.9
LS-V1A	5/8/2019	LV1A190508M	1 U	2.5 U	1 U	25 U	2.24	5 U	1 U	1 U	6.67
LS-V1A	6/5/2019	LV1A190605M	1 U	2.5 U	1 U	25 U	2.92	5 U	1 U	1 U	9.2
FIELD BLANK	6/5/2019	L46N190605F	1 U	2.5 U	1 U	25 U	1 U	5 U	1 U	1 U	1 U
VOA TRIP BLANK	4/3/2019	VTRP190403X	0.1 U	0.25 U	0.1 U	2.5 U	0.1 U	0.5 U	0.1 U	0.1 U	0.1 U
VOA TRIP BLANK	4/2/2019	VTRP190403Y	0.1 U	0.25 U	0.1 U	2.5 U	0.1 U	0.5 U	0.1 U	0.1 U	0.1 U
VOA TRIP BLANK	5/8/2019	VTRP190508X2	0.1 U	0.25 U	0.1 U	2.5 U	0.1 U	0.5 U	0.1 U	0.1 U	0.1 U
VOA TRIP BLANK	5/8/2019	VTRP190509Z	0.1 U	0.25 U	0.1 U	2.5 U	0.1 U	0.5 U	0.1 U	0.1 U	0.1 U
VOA TRIP BLANK	6/3/2019	VTRP190604X2	0.1 U	0.25 U	0.1 U	2.5 U	0.1 U	0.5 U	0.1 U	0.1 U	0.1 U

Environmental Monitoring Data

Data Collected from April 1, 2019 to June 30, 2019
Cedar Hills Landfill --- Leachate VOAs Data
Contact Person: Sendy Jimenez (206) 477-5224

Site	Date	Sample ID	trans-1,2-Dichloro-ethene	trans-1,3-Dichloro-propene	trans-1,4-Dichloro-2-butene	Trichloro-ethene	Trichloro-fluoro-methane	Vinyl Acetate	Vinyl Chloride
			156-60-5 (ug/L)	10061-02-6 (ug/L)	110-57-6 (ug/L)	79-01-6 (ug/L)	75-69-4 (ug/L)	108-05-4 (ug/L)	75-01-4 (ug/L)
LS-LEPS	4/2/2019	LEPS190402M	1 U	5 U	5 U	1 U	1 U	1 U	0.1 U
LS-LEPS	5/8/2019	LEPS190508M	1 U	5 U	5 U	1 U	1 U	1 U	0.1 U
LS-LEPS	6/4/2019	LEPS190604M	1 U	5 U	5 U	1 U	1 U	1 U	0.1 U
LS-MH46N	4/3/2019	L46N190403M	1 U	5 U	5 U	1 U	1 U	1 U	3.86
LS-MH46N	5/9/2019	L46N190509M	1 U	5 U	5 U	1 U	1 U	1 U	4.72
LS-MH46N	6/5/2019	L46N190605M	1 U	5 U	5 U	1 U	1 U	1 U	4.43
LS-PS2A	4/3/2019	LP2A190403D	1 U	5 U	5 U	1 U	1 U	1 U	0.1 U
LS-PS2A	4/3/2019	LP2A190403M	1 U	5 U	5 U	1 U	1 U	1 U	0.1 U
LS-PS2A	6/5/2019	LP2A190605M	1 U	5 U	5 U	1 U	1 U	1 U	0.1 U
LS-PS2A	5/9/2019	LPS2190509M	1 U	5 U	5 U	1 U	1 U	1 U	0.1 U
LS-V1A	4/2/2019	LV1A190402M	1 U	5 U	5 U	1 U	1 U	1 U	0.1 U
LS-V1A	5/8/2019	LV1A190508M	1 U	5 U	5 U	1 U	1 U	1 U	0.1 U
LS-V1A	6/5/2019	LV1A190605M	1 U	5 U	5 U	1 U	1 U	1 U	0.1 U
FIELD BLANK	6/5/2019	L46N190605F	1 U	5 U	5 U	1 U	1 U	1 U	0.1 U
VOA TRIP BLANK	4/3/2019	VTRP190403X	0.1 U	0.5 U	0.5 U	0.1 U	0.1 U	0.1 U	0.01 U
VOA TRIP BLANK	4/2/2019	VTRP190403Y	0.1 U	0.5 U	0.5 U	0.1 U	0.1 U	0.1 U	0.01 U
VOA TRIP BLANK	5/8/2019	VTRP190508X2	0.1 U	0.5 U	0.5 U	0.1 U	0.1 U	0.1 U	0.01 U
VOA TRIP BLANK	5/8/2019	VTRP190509Z	0.1 U	0.5 U	0.5 U	0.1 U	0.1 U	0.1 U	0.01 U
VOA TRIP BLANK	6/3/2019	VTRP190604X2	0.1 U	0.5 U	0.5 U	0.1 U	0.1 U	0.1 U	0.01 U

Environmental Monitoring Data

Data Collected from October 1, 2018 to December 31, 2018
Cedar Hills Landfill --- Leachate Pestacides, Herbacides, PCBs Data
Contact Person: Sendy Jimenez (206) 477-5224

Site	Date	Sample ID	2,4,5-T	2,4,5-TP Silvex	2,4-D	4,4' DDD	4,4' DDE	4,4' DDT	Aldrin	Alpha BHC	Alpha Chlordane	Aroclor 1016
										BHC	Chlordane	1016
			93-76-5	93-72-1	94-75-7	72-54-8	72-55-9	50-29-3	309-00-2	319-84-6	5103-71-9	12674-11-2
			ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l
LS-LEPS	4/2/2019	LEPS190402M	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
LS-LEPS	5/8/2019	LEPS190508M	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
LS-LEPS	6/4/2019	LEPS190604M	0.5 U	0.5 U	1 U	0.025 U	0.025 GU	0.025 GU	0.025 GU	0.025 U	0.025 GU	0.025 U
LS-MH46N	4/3/2019	L46N190403M	0.5 U	0.884	1.53	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.027 J	0.025 U
LS-MH46N	5/9/2019	L46N190509M	0.5 U	0.704	2 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.025 U
LS-MH46N	6/5/2019	L46N190605M	0.5 U	0.718	1.5 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.025 U
LS-PS2A	4/3/2019	LP2A190403D	0.5 U	1.49	1 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.025 U
LS-PS2A	4/3/2019	LP2A190403M	0.5 U	1.25	1 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.025 U
LS-PS2A	6/5/2019	LP2A190605M	0.5 U	0.5 U	1 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.025 U
LS-PS2A	5/9/2019	LPS2190509M	0.5 U	0.5 U	1 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.025 U
LS-V1A	4/2/2019	LV1A190402M	0.5 U	1.5 U	1 U	0.025 U	0.025 U	0.025 U	0.125 U	0.025 U	0.025 U	0.025 U
LS-V1A	5/8/2019	LV1A190508M	0.5 U	0.549 J	1.5 U	0.025 U	0.025 U	0.025 U	0.025 U	0.025 U	0.025 U	0.025 U
LS-V1A	6/5/2019	LV1A190605M	0.5 U	0.614 J	1 U	0.075 U	0.025 GU	0.025 GU	0.025 GU	0.025 U	0.025 GU	0.025 U

Environmental Monitoring Data

Data Collected from October 1, 2018 to December 31, 2018
Cedar Hills Landfill --- Leachate Pestacides, Herbacides, PCBs Data
Contact Person: Sendy Jimenez (206) 477-5224

Site	Date	Sample ID	Aroclor 1221	Aroclor 1232	Aroclor 1242	Aroclor 1248	Aroclor 1254	Aroclor 1260	Beta Bhc	Delta Bhc	Dieldrin	Dinoseb
			1221	1232	1242	1248	1254	1260	BHC	BHC		
			11104-28-2	11141-16-5	53469-21-9	12672-29-6	11097-69-1	11096-82-5	319-85-7	319-86-8	60-57-1	88-85-7
			ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l
LS-LEPS	4/2/2019	LEPS190402M	0.025 U	0.025 U	0.0392	0.025 U	0.0379	0.025 U	0.025 U	0.025 GU	0.025 U	0.5 U
LS-LEPS	5/8/2019	LEPS190508M	0.025 U	0.025 U	0.025 U	0.025 U	0.025 U	0.025 U	0.05 U	0.025 U	0.025 U	0.5 U
LS-LEPS	6/4/2019	LEPS190604M	0.025 U	0.025 U	0.0399	0.025 U	0.025 U	0.025 U	0.05 U	0.025 GU	0.025 U	0.5 U
LS-MH46N	4/3/2019	L46N190403M	0.0589 J	0.025 U	0.161	0.025 U	0.025 U	0.025 U	0.0394 J	0.01 U	0.02 U	0.5 U
LS-MH46N	5/9/2019	L46N190509M	0.075 U	0.025 U	0.242	0.025 U	0.025 U	0.025 U	0.0151 J	0.0292 J	0.02 U	0.5 U
LS-MH46N	6/5/2019	L46N190605M	0.075 U	0.025 U	0.201	0.025 U	0.025 U	0.025 U	0.0219 J	0.02 U	0.01 U	0.5 U
LS-PS2A	4/3/2019	LP2A190403D	0.025 U	0.025 U	0.121	0.025 U	0.108	0.0789	0.01 U	0.01 U	0.01 U	0.5 U
LS-PS2A	4/3/2019	LP2A190403M	0.025 U	0.025 U	0.115	0.025 U	0.0981	0.067	0.02 U	0.01 U	0.01 U	0.5 U
LS-PS2A	6/5/2019	LP2A190605M	0.025 U	0.025 U	0.025 U	0.025 U	0.025 U	0.025 U	0.01 U	0.01 U	0.01 U	0.5 U
LS-PS2A	5/9/2019	LPS2190509M	0.025 U	0.025 U	0.025 U	0.025 U	0.025 U	0.025 U	0.01 U	0.01 U	0.01 U	0.5 U
LS-V1A	4/2/2019	LV1A190402M	0.035 U	0.025 U	0.108	0.025 U	0.061	0.025 U	0.025 U	0.1 GU	0.025 U	0.5 U
LS-V1A	5/8/2019	LV1A190508M	0.025 U	0.025 U	0.115	0.025 U	0.0899	0.025 U	0.063 J	0.0381 J	0.025 U	0.5 U
LS-V1A	6/5/2019	LV1A190605M	0.025 U	0.025 U	0.112	0.025 U	0.0466	0.025 U	0.075 U	0.1 GU	0.025 U	0.5 U

Environmental Monitoring Data

Data Collected from October 1, 2018 to December 31, 2018
Cedar Hills Landfill --- Leachate Pestacides, Herbacides, PCBs Data
Contact Person: Sendy Jimenez (206) 477-5224

Site	Date	Sample ID	Endosulfan I	Endosulfan II	Endosulfan Sulfate	Endrin	Endrin Aldehyde	Heptachlor	Heptachlor Epoxide	Isodrin	Lindane(Gamma BHC)	Methoxychlor
			sulfan I	sulfan II	Sulfate		Aldehyde		Epoxide			chlor
			959-98-8	33213-65-9	1031-07-8	72-20-8	7421-93-4	76-44-8	1024-57-3	465-73-6	58-89-9	72-43-5
			ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l
LS-LEPS	4/2/2019	LEPS190402M	0.025 U	0.025 U	0.025 U	0.025 U	0.025 GU	0.025 U	0.025 U	0.025 U	0.025 U	0.125 U
LS-LEPS	5/8/2019	LEPS190508M	0.025 U	0.025 U	0.025 U	0.025 U	0.025 GU	0.025 U	0.025 U	0.025 U	0.025 U	0.125 U
LS-LEPS	6/4/2019	LEPS190604M	0.025 U	0.025 U	0.025 U	0.025 U	0.025 GU	0.025 U	0.025 U	0.025 U	0.025 U	0.125 U
LS-MH46N	4/3/2019	L46N190403M	0.01 U	0.01 U	0.01 U	0.01 U	0.0191	0.01 U	0.01 U	0.01 U	0.0172 J	0.05 U
LS-MH46N	5/9/2019	L46N190509M	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.0242 J	0.05 U
LS-MH46N	6/5/2019	L46N190605M	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.0179 J	0.05 U
LS-PS2A	4/3/2019	LP2A190403D	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.02 U	0.01 U	0.01 U	0.01 U	0.05 U
LS-PS2A	4/3/2019	LP2A190403M	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.05 U
LS-PS2A	6/5/2019	LP2A190605M	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.05 U
LS-PS2A	5/9/2019	LPS2190509M	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.05 U
LS-V1A	4/2/2019	LV1A190402M	0.025 U	0.1 U	0.025 U	0.05 U	0.025 GU	0.025 U	0.1 U	0.025 U	0.025 U	0.125 U
LS-V1A	5/8/2019	LV1A190508M	0.025 U	0.0316	0.025 U	0.025 U	0.025 GU	0.05 U	0.025 U	0.025 U	0.075 U	0.125 U
LS-V1A	6/5/2019	LV1A190605M	0.025 U	0.0442	0.025 U	0.025 U	0.025 GU	0.15 U	0.025 U	0.025 U	0.1 U	0.125 U

Environmental Monitoring Data

Data Collected from October 1, 2018 to December 31, 2018
Cedar Hills Landfill --- Leachate Pestacides, Herbacides, PCBs Data
Contact Person: Sendy Jimenez (206) 477-5224

Site	Date	Sample ID	Total Aroclors	Toxaphene	Trans-Chlordane
			T_AROCLOR	8001-35-2	5103-74-2
			ug/l	ug/l	ug/l
LS-LEPS	4/2/2019	LEPS190402M	0.0771	2.5 U	0.025 GU
LS-LEPS	5/8/2019	LEPS190508M	0.025 U	2.5 U	0.025 U
LS-LEPS	6/4/2019	LEPS190604M	0.0399	2.5 U	0.025 GU
LS-MH46N	4/3/2019	L46N190403M	0.2199	1 U	0.01 U
LS-MH46N	5/9/2019	L46N190509M	0.242	1 U	0.01 U
LS-MH46N	6/5/2019	L46N190605M	0.201	1 U	0.01 U
LS-PS2A	4/3/2019	LP2A190403D	0.3079	1 U	0.01 U
LS-PS2A	4/3/2019	LP2A190403M	0.2801	1 U	0.01 U
LS-PS2A	6/5/2019	LP2A190605M	0.025 U	1 U	0.01 U
LS-PS2A	5/9/2019	LPS2190509M	0.025 U	1 U	0.01 U
LS-V1A	4/2/2019	LV1A190402M	0.169	2.5 U	0.1 GU
LS-V1A	5/8/2019	LV1A190508M	0.2049	2.5 U	0.025 U
LS-V1A	6/5/2019	LV1A190605M	0.1586	2.5 U	0.05 GU

Leachate Monitoring Activities 3rd Quarter 2019

Station ID	Date	Activity	Sample ID	Comment
LS-A567	7/11/2019	Special Investigation	L567190711I	
LS-A567	7/9/2019	Special Investigation	L567190709I	
LS-A567	8/6/2019	Special Investigation	L567190806I	
LS-A567	8/6/2019	QA/QC Sample	L567190806D	
LS-A567	8/8/2019	Special Investigation	L567190808I	
LS-CSW	9/10/2019	Special Investigation	LCSW190910I	
LS-CSW	9/12/2019	Special Investigation	LCSW190912I	
LS-LEPS	7/10/2019	Monthly Characterization Sample	LEPS190710M	
LS-LEPS	7/11/2019	Special Investigation	LEPS190711I	
LS-LEPS	8/7/2019	Monthly Characterization Sample	LEPS190806M	
LS-LEPS	8/8/2019	Special Investigation	LEPS190808I	
LS-LEPS	9/10/2019	Monthly Characterization Sample	LEPS190910M	
LS-LEPS	9/12/2019	Special Investigation	LEPS190912I	
LS-LEPS	7/2/2019	Permit Sample	LEPS190702P	
LS-LEPS	7/10/2019	Permit Sample	LEPS190710P	
LS-LEPS	7/17/2019	Permit Sample	LEPS190717P	
LS-LEPS	7/23/2019	Permit Sample	LEPS190723P	
LS-LEPS	7/30/2019	Permit Sample	LEPS190730P	
LS-LEPS	8/6/2019	Permit Sample	LEPS190806P	
LS-LEPS	8/13/2019	Permit Sample	LEPS190813P	
LS-LEPS	8/21/2019	Permit Sample	LEPS190821P	
LS-LEPS	8/27/2019	Permit Sample	LEPS190827P	
LS-LEPS	9/4/2019	Permit Sample	LEPS190904P	
LS-LEPS	9/10/2019	Permit Sample	LEPS190910P	
LS-LEPS	9/17/2019	Permit Sample	LEPS190917P	
LS-LEPS	9/24/2019	Permit Sample	LEPS190924P	
LS-LIF	7/11/2019	Special Investigation	LIF-190711I	
LS-LIF	7/9/2019	Special Investigation	LIF-190709I	
LS-LIF	8/6/2019	Special Investigation	LIF-190806I	
LS-LIF	8/8/2019	Special Investigation	LIF-190808I	
LS-LIF	9/10/2019	Special Investigation	LIF-190910I	
LS-LIF	9/12/2019	Special Investigation	LIF-190912I	
LS-MH46N	7/10/2019	Monthly Characterization Sample	L46N190710M	
LS-MH46N	8/7/2019	Monthly Characterization Sample	L46N190807M	
LS-MH46N	8/7/2019	QA/QC Sample	L46N190807D	
LS-MH46N	9/11/2019	Monthly Characterization Sample	L46N190911M	

Leachate Monitoring Activities 3rd Quarter 2019

Station ID	Date	Activity	Sample ID	Comment
LS-MH5	9/10/2019	Special Investigation	L5671909101	
LS-MH5	9/12/2019	Special Investigation	L5671909121	
LS-PS1A	7/11/2019	Special Investigation	LP1A190711I	
LS-PS1A	7/9/2019	Special Investigation	LP1A190709I	
LS-PS1A	8/6/2019	Special Investigation	LP1A190806I	
LS-PS1A	8/8/2019	Special Investigation	LP1A190808I	
LS-PS1A	9/10/2019	Special Investigation	LP1A190910I	
LS-PS1A	9/12/2019	Special Investigation	LP1A190912I	
LS-PS2A	7/10/2019	Monthly Characterization Sample	LP2A190710M	
LS-PS2A	8/7/2019	Monthly Characterization Sample	LP2A190807M	
LS-PS2A	9/11/2019	Monthly Characterization Sample	LP2A190911M	
LS-PS4	7/11/2019	Special Investigation	LP4-190711I	
LS-PS4	7/9/2019	Special Investigation	LP4-190709I	
LS-PS4	8/6/2019	Special Investigation	LP4-190806I	
LS-PS4	8/8/2019	Special Investigation	LP4-190808I	
LS-PS4	9/10/2019	Special Investigation	LP4-190910I	
LS-PS4	9/12/2019	Special Investigation	LP4-190912I	
LS-V1A	7/10/2019	Monthly Characterization Sample	LV1A190709M	
LS-V1A	7/11/2019	Special Investigation	LV1A190711I	
LS-V1A	8/7/2019	Monthly Characterization Sample	LV1A190807M	
LS-V1A	8/8/2019	Special Investigation	LV1A190808I	
LS-V1A	9/11/2019	Monthly Characterization Sample	LV1A190911M	
LS-V1A	9/12/2019	Special Investigation	LV1A190912I	

Environmental Monitoring Data

Data Collected from July 1, 2019 to September 30, 2019
Cedar Hills Landfill ---Leachate Field Parameters
Contact Person: Sendy Jimenez (206) 477-5224

Site	Date	Sample ID	pH (Field) (std. Units)	Specific Conductance (Field) (umho/cm)	Temperature (Field) (^{o}C)
LS-A567	7/9/2019	L567190709I	7.82	26352	34.1
LS-A567	7/11/2019	L567190711I	7.93	26740	34.6
LS-A567	8/6/2019	L567190806I	7.94	27321	35.2
LS-A567	8/8/2019	L567190808I	7.74	27335	34
LS-A567	9/10/2019	L567190910I	7.94	25098	31.7
LS-A567	9/12/2019	L567190912I	7.91	25393	35.6
LS-BEW	8/29/2019	LBEW190826E	7.1	58.7	21.8
LS-CSW	9/10/2019	LCSW190910I	7.86	7827	15.6
LS-CSW	9/12/2019	LCSW190912I	8.09	2818	16.9
LS-LEPS	7/2/2019	LEPS190702P	8.6	11430	18
LS-LEPS	7/10/2019	LEPS190710M	8.18	11910	18.6
LS-LEPS	7/10/2019	LEPS190710P	8.18	11910	18.6
LS-LEPS	7/11/2019	LEPS190711I	8.35	12010	19
LS-LEPS	7/17/2019	LEPS190717P	8.07	11350	19.4
LS-LEPS	7/23/2019	LEPS190723P	7.02	1140	19.1
LS-LEPS	7/30/2019	LEPS190730P	8.09	11500	19.3
LS-LEPS	8/6/2019	LEPS190806M	7.77	10161	19.8
LS-LEPS	8/6/2019	LEPS190806P	7.77	10161	19.8
LS-LEPS	8/8/2019	LEPS190808I	7.42	11705	20.2
LS-LEPS	8/13/2019	LEPS190813P	7.9	11250	20
LS-LEPS	8/21/2019	LEPS190821P	7.88	12520	19.7
LS-LEPS	8/27/2019	LEPS190827P	7.36	12700	19.2
LS-LEPS	9/4/2019	LEPS190904P	8.02	13180	23.1
LS-LEPS	9/10/2019	LEPS190910M	8.76	12840	19.8
LS-LEPS	9/11/2019	LEPS190910P	8.76	12840	19.8
LS-LEPS	9/12/2019	LEPS190912I	8.64	12640	20.5
LS-LEPS	9/17/2019	LEPS190917P	8.76	13670	18.1
LS-LEPS	9/24/2019	LEPS190924P	8.54	11.85	17.8
LS-LIF	7/9/2019	LIF-190709I	8.22	12178	21.8
LS-LIF	7/11/2019	LIF-190711I	8.12	14996	26.5
LS-LIF	8/6/2019	LIF-190806I	8.06	27637	31.9
LS-LIF	8/8/2019	LIF-190808I	7.86	16407	21.4
LS-LIF	9/10/2019	LIF-190910I	7.36	6128	22.6
LS-LIF	9/12/2019	LIF-190912I	7.97	27734	34.9
LS-MH46N	7/10/2019	L46N190710M	7.16	12950	24.8
LS-MH46N	8/7/2019	L46N190807M	7.3	11312	24.6
LS-MH46N	9/11/2019	L46N190911M	7.34	12380	22
LS-PS1A	7/9/2019	LP1A190709I	7.9	8564	19.5
LS-PS1A	7/11/2019	LP1A190711I	8.04	8192	18.8
LS-PS1A	8/6/2019	LP1A190806I	8	6639	20.8

Environmental Monitoring Data

Data Collected from July 1, 2019 to September 30, 2019
Cedar Hills Landfill ---Leachate Field Parameters
Contact Person: Sendy Jimenez (206) 477-5224

Site	Date	Sample ID	pH (Field) (std. Units)	Specific Conductance (Field) (umho/cm)	Temperature (Field) (^{o}C)
LS-PS1A	8/8/2019	LP1A190808I	7.82	13198	20.6
LS-PS1A	9/10/2019	LP1A190910I	8.04	11906	20.8
LS-PS1A	9/12/2019	LP1A190912I	8.01	11282	20.6
LS-PS2A	7/10/2019	LP2A190710M	7.18	1339	14.1
LS-PS2A	8/7/2019	LP2A190807M	7.09	771	14.5
LS-PS2A	9/11/2019	LP2A190911M	7.89	530.7	14.6
LS-PS4	7/9/2019	LP4-190709I	8	2795	17.3
LS-PS4	7/11/2019	LP4-190711I	7.98	2228	17.2
LS-PS4	8/6/2019	LP4-190806I	7.89	2699	18.7
LS-PS4	8/8/2019	LP4-190808I	7.9	2569	18.3
LS-PS4	9/10/2019	LP4-190910I	7.92	2205	17.5
LS-PS4	9/12/2019	LP4-190912I	8.27	4217	16.7
LS-V1A	7/9/2019	LV1A190709M	8.19	12930	22
LS-V1A	7/11/2019	LV1A190711I	8.25	12080	23.9
LS-V1A	8/7/2019	LV1A190807M	8.31	14552	25.3
LS-V1A	8/8/2019	LV1A190808I	8.02	23793	25.3
LS-V1A	9/11/2019	LV1A190911M	8.15	15327	23.8
LS-V1A	9/12/2019	LV1A190912I	8.11	21925	30.1
FIELD BLANK	7/10/2019	LV1A190710F	9.01	1.71	19.2
FIELD BLANK	9/10/2019	LP4-190910F	8.15	1.17	15.3

Environmental Monitoring Data

Data Collected from July 1, 2019 to September 30, 2019
Cedar Hills Landfill ---Leachate Conventionals Analytical Data
Contact Person: Sendy Jimenez (206) 477-5224

Site	Date	Sample ID	Alkalinity, Total (CaCO3) (mg/L)	Ammonia, (NH3 as N) (mg/L)	Biological Oxygen Demand (mg/L)	Chemical Oxygen Demand (mg/L)	Chloride (mg/L)	Coliforms, Fecal (CFU/100mL)	Coliforms, Total (CFU/100mL)	Cyanide (mg/L)	Fluoride (mg/L)	Nitrate+Nitrite (NO3+NO2 as N) (mg/L)	Phosphorus, Sol. Reactive (mg/L)
LS-A567	7/9/2019	L567190709I	10600	1440	1860	6870 S	3030				5 U	0.513	
LS-A567	8/6/2019	L567190806D	11000	1680	3440	8340 S	2860				20 U	0.537	
LS-A567	8/6/2019	L567190806I	11000	1730	3390	7620 S	2850				20 U	0.481	
LS-A567	9/10/2019	L567190910I	11200	1540	3700	9070 S	3040				50 U	0.608	
LS-CSW	9/10/2019	LCSW190910I	3690	377	787	2760	1220				5 U	0.08 T	
LS-LEPS	8/6/2019	LEPS190806M	1570	266	164	1940	1460	90 HU	11000 H	0.0788 S	2 U	507	4.61
LS-LEPS	9/10/2019	LEPS190910M	4530	550	140	2140 S	1950	130 H	72000 H	0.039 ST	2 U	153	5.3
LS-LIF	7/9/2019	LIF-190709I	11000	638	3160	5940 S	2690				5 U	0.18 T	
LS-LIF	8/6/2019	LIF-190806I	11700	2050	4000	9280 S	1410				20 U	0.636	
LS-LIF	9/10/2019	LIF-190910I	2580	324	1090	2320	568				2 U	0.536	
LS-MH46N	8/7/2019	L46N190807D	3600	448	119	2070	1920	1 U	4	0.016 ST	1.5 T	0.0763	2.32
LS-MH46N	8/7/2019	L46N190807M	3550	551	116	2000	1990	1 U	4 C	0.018 ST	2 U	0.1 T	3.73
LS-MH46N	9/11/2019	L46N190911M	3610	639	103	2140 S	2150	1 U	63	0.017 ST	2 U	0.053 T	2.57
LS-PS1A	7/9/2019	LP1A190709I	2750	430	155	1210	1040				0.501	0.59	
LS-PS1A	8/6/2019	LP1A190806I	4540	924	535	2460 S	907				10 U	0.288	
LS-PS1A	9/10/2019	LP1A190910I	4240	563	263	1950	1700				1 U	0.364	
LS-PS2A	8/7/2019	LP2A190807M	46.2	36.3	6.3 EL	57.9	48.6	1 U	730	0.008 U	0.0817	6.93	0.0273
LS-PS2A	9/11/2019	LP2A190911M	54.7	18.6	38.28 EG	52.4	36.1	1 U	590	0.002 U	0.052 T	9.19	0.0346
LS-PS4	7/9/2019	LP4-190709I	1010	141	238	885	217				0.27 T	0.39	
LS-PS4	8/6/2019	LP4-190806I	804	152	184	683	159				5 U	0.739	
LS-PS4	9/10/2019	LP4-190910I	1170	240	548	1000	275				0.4 U	0.644	
LS-V1A	8/7/2019	LV1A190807M	7640	1460	2740	6910 S	2000	190000	5500000	0.017 ST	1 U	0.388	11
LS-V1A	9/11/2019	LV1A190911M	5010	889	1760	4480	1200	780000	8500000	0.016 ST	10 U	0.233	3.97
FIELD BLANK	9/10/2019	LP4-190910F	1 U	0.002 U	2 U	5 U	0.05 U				0.02 U	0.01 U	

Environmental Monitoring Data

Data Collected from July 1, 2019 to September 30, 2019
Cedar Hills Landfill ---Leachate Conventionals Analytical Data
Contact Person: Sendy Jimenez (206) 477-5224

Site	Date	Sample ID	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	7/9/2019	L567190709I	24800	28.9	0.32 T		2250 S	2080 S	12.3	4260	11.8
LS-A567	8/6/2019	L567190806D	25200	59.4	0.95 T		2500 S	2740 S	22	6730	21
LS-A567	8/6/2019	L567190806I	25300	58.6	2.23		2250 S	2810 S	20	6840	20
LS-A567	9/10/2019	L567190910I	26200	33.4	0.441		2380 S	2950 S	11.5	6380	10.5
LS-CSW	9/10/2019	LCSW190910I	10400	2.07	0.395		495	925 S	10	2750	7.75
LS-LEPS	8/6/2019	LEPS190806M	10900	40.9	5 U	1.9 T	404	562 S	325	172	313
LS-LEPS	9/10/2019	LEPS190910M	13200	29.1	5 U	1.5 U	780 S	858 S	104	3060	98
LS-LIF	7/9/2019	LIF-190709I	24600	26.5	0.669		1790 S	1510 S	24	4920	18
LS-LIF	8/6/2019	LIF-190806I	25800	28.8	1.1		2700 S	3450 S	24	7180	22
LS-LIF	9/10/2019	LIF-190910I	6830	106	0.259		590	888 S	4.89	2130	3.56
LS-MH46N	8/7/2019	L46N190807D	12100	1.4 T	0.513	4 T	752	680 S	0.53 U	2010	0.84 T
LS-MH46N	8/7/2019	L46N190807M	12100	1.5 T	0.465	4.4 T	768	701 S	0.53 U	1950	0.84 T
LS-MH46N	9/11/2019	L46N190911M	12700	0.5 U	1.54	3.9 T	745 S	795 S	0.5 U	1590	0.5 U
LS-PS1A	7/9/2019	LP1A190709I	8060	43.2	0.323		579	359	7.8	847	6.8
LS-PS1A	8/6/2019	LP1A190806I	12400	45.5	1.9		1190 S	1070 S	64	2180 B	58
LS-PS1A	9/10/2019	LP1A190910I	12300	35.6	0.858		933	663 S	9.6	1860	8
LS-PS2A	8/7/2019	LP2A190807M	743	174	0.012 T	1.6 T	38.8	23.7	1.2	3260	1.1
LS-PS2A	9/11/2019	LP2A190911M	513	77.8	0.014 T	1.5 U	19.4	23.8	18.3	164	6.86
LS-PS4	7/9/2019	LP4-190709I	2710	30.4	1.22		215	177	156	586	118
LS-PS4	8/6/2019	LP4-190806I	2100	44.8	0.211		169	166	256	580 B	205
LS-PS4	9/10/2019	LP4-190910I	3350	55.4	0.19 T		245	337	73.6	870	41.8
LS-V1A	8/7/2019	LV1A190807M	17800	33.5	0.599	8.1	1900 S	2110 S	58	5540	44
LS-V1A	9/11/2019	LV1A190911M	12600	92.1	0.19 T	3.3 T	1090	1750 S	28	3220	14.5
FIELD BLANK	9/10/2019	LP4-190910F	1.4 T	0.1 U	0.01 U		0.12 T	0.5 U	0.5 U	10 HU	0.5 U

Data Collected from July 1, 2019 to September 30, 2019
Cedar Hills Landfill ---Leachate Metals Analytical Data
Contact Person: Sendy Jimenez (206) 477-5224

Site	Date	Sample ID	Aluminum, total (mg/L)	Antimony, total (mg/L)	Arsenic, total (mg/L)	Barium, total (mg/L)	Beryllium, total (mg/L)	Cadmium, total (mg/L)	Calcium, total (mg/L)	Chromium, total (mg/L)
LS-A567	7/9/2019	L567190709I	0.605	0.0164	0.38	0.465	0.001 U	0.0005 U	50.7	0.284
LS-A567	8/6/2019	L567190806D	0.681	0.0153	0.332	0.443	0.001 U	0.0005 U	53	0.291
LS-A567	8/6/2019	L567190806I	0.699	0.0155	0.332	0.445	0.001 U	0.0005 U	54.2	0.287
LS-A567	9/10/2019	L567190910I	0.725	0.0148	0.318	0.455	0.001 U	0.0005 U	55.9	0.297
LS-CSW	9/10/2019	LCSW190910I	0.637	0.0065	0.0429	0.167	0.001 U	0.0005 U	105	0.127
LS-LEPS	7/2/2019	LEPS190702P	0.56	0.0203	0.268	0.146	0.001 U	0.0005 U	60	0.154
LS-LEPS	7/10/2019	LEPS190710P	0.708	0.0222	0.282	0.171	0.001 U	0.0005 U	64	0.17
LS-LEPS	7/17/2019	LEPS190717P	0.688	0.0234	0.285	0.169	0.001 U	0.0005 U	58	0.177
LS-LEPS	7/30/2019	LEPS190730P	0.812	0.0233	0.293	0.183	0.001 U	0.0005 U	60.1	0.181
LS-LEPS	8/6/2019	LEPS190806P	0.485	0.0252	0.306	0.169	0.001 U	0.0005 U	55.3	0.193
LS-LEPS	8/13/2019	LEPS190813P	0.648	0.0247	0.339	0.207	0.001 U	0.0005 U	58	0.197
LS-LEPS	8/21/2019	LEPS190821P	0.588	0.0256	0.332	0.192	0.001 U	0.0005 U	56.6	0.22
LS-LEPS	8/27/2019	LEPS190827P	0.568	0.0239	0.34	0.181	0.001 U	0.0005 U	56.9	0.217
LS-LEPS	9/4/2019	LEPS190904P	0.525	0.0244	0.344	0.191	0.001 U	0.0005 U	55.9	0.207
LS-LEPS	9/10/2019	LEPS190910M	0.554	0.0242	0.342	0.199	0.001 U	0.0005 U	54.6	0.196
LS-LEPS	9/11/2019	LEPS190910P	0.56	0.024	0.343	0.183	0.001 U	0.0005 U	54.8	0.215
LS-LEPS	9/17/2019	LEPS190917P	0.666	0.0524	0.505	0.188	0.001 U	0.0005 U	54.8	0.223
LS-LEPS	9/24/2019	LEPS190924P	1.03	0.059	0.509	0.18	0.001 U	0.0005 U	55.5	0.184
LS-LIF	7/9/2019	LIF-190709I	0.878	0.055	0.587	0.178	0.001 U	0.0005 U	57.5	0.148
LS-LIF	8/6/2019	LIF-190806I	1.1	0.0264	0.43	0.355	0.001 U	0.0005 U	63.7	0.421
LS-LIF	9/10/2019	LIF-190910I	0.273	0.00541	0.0649	0.0898	0.001 U	0.0005 U	86.2	0.0722
LS-MH46N	8/7/2019	L46N190807D	0.05 U	0.003 U	0.102	0.507	0.001 U	0.0005 U	91.3	0.126
LS-MH46N	8/7/2019	L46N190807M	0.05 U	0.003 U	0.103	0.526	0.001 U	0.0005 U	91.5	0.125
LS-MH46N	9/11/2019	L46N190911M	0.05 U	0.003 U	0.0993	0.556	0.001 U	0.0005 U	87.4	0.126
LS-PS1A	7/9/2019	LP1A190709I	0.0749	0.0264	0.164	0.253	0.001 U	0.0005 U	62.3	0.0464
LS-PS1A	8/6/2019	LP1A190806I	0.139	0.0615	0.317	0.328	0.001 U	0.0005 U	66.6	0.0665
LS-PS1A	9/10/2019	LP1A190910I	0.125	0.0549	0.268	0.304	0.001 U	0.0005 U	60.4	0.0622
LS-PS2A	8/7/2019	LP2A190807M	0.05 U	0.00783	0.0147	0.0186	0.001 U	0.0005 U	16.5	0.002 U
LS-PS2A	9/11/2019	LP2A190911M	0.05 U	0.00373	0.00426	0.0124	0.001 U	0.0005 U	18.5	0.002 U
LS-PS4	7/9/2019	LP4-190709I	2.74	0.0221	0.182	0.0843	0.001 U	0.0005 U	40.4	0.0296
LS-PS4	8/6/2019	LP4-190806I	1.62	0.0306	0.358	0.0783	0.001 U	0.0005 U	44.3	0.0188
LS-PS4	9/10/2019	LP4-190910I	1.36	0.0942	0.539	0.0963	0.001 U	0.0005 U	46.9	0.0278
LS-V1A	8/7/2019	LV1A190807M	1.08	0.029	0.402	0.288	0.001 U	0.0005 U	62.4	0.281
LS-V1A	9/11/2019	LV1A190911M	1.01	0.0508	0.487	0.171	0.001 U	0.0005 U	62.8	0.165
FIELD BLANK	9/10/2019	LP4-190910F	0.05 U	0.003 U	0.0005 U	0.005 U	0.001 U	0.0005 U	0.5 U	0.002 U
FIELD BLANK	9/24/2019	LEPS190924F	0.05 U	0.003 U	0.0005 U	0.005 U	0.001 U	0.0005 U	0.5 U	0.002 U

Data Collected from July 1, 2019 to September 30, 2019
Cedar Hills Landfill ---Leachate Metals 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	7/9/2019	L567190709I	0.0791	0.00396	4.76	0.00227	97.3	0.248	0.0001 U	0.308
LS-A567	8/6/2019	L567190806D	0.0748	0.00775	5.15	0.00289	114	0.274	0.0001 U	0.298
LS-A567	8/6/2019	L567190806I	0.0743	0.00769	5.7	0.00288	114	0.281	0.0001 U	0.3
LS-A567	9/10/2019	L567190910I	0.0782	0.00509	4.15	0.00266	117	0.291	0.0001 U	0.305
LS-CSW	9/10/2019	LCSW190910I	0.0263	0.00963	6.16	0.00144	124	0.308	0.0001 U	0.177
LS-LEPS	7/2/2019	LEPS190702P	0.0357	0.0075	5.17	0.00203	66.4	0.427	0.0001 U	0.158
LS-LEPS	7/10/2019	LEPS190710P	0.0368	0.00898	5.92	0.00258	69.1	0.49	0.0001 U	0.158
LS-LEPS	7/17/2019	LEPS190717P	0.0375 D	0.00817	5.81	0.00249	68.4	0.418	0.0001 U	0.161
LS-LEPS	7/30/2019	LEPS190730P	0.0397	0.0117	5.93	0.00297	70	0.46	0.0001 U	0.171
LS-LEPS	8/6/2019	LEPS190806P	0.0406	0.00378	5.73	0.00264	72	0.336	0.0001 U	0.168
LS-LEPS	8/13/2019	LEPS190813P	0.0437	0.00705	5.75	0.00312 D	77.2	0.432	0.0001 U	0.188
LS-LEPS	8/21/2019	LEPS190821P	0.0461	0.00596	5.79	0.00302	76.3	0.435	0.0002 U	0.201
LS-LEPS	8/27/2019	LEPS190827P	0.0462	0.00589	5.64	0.00291	76.1	0.442	0.0002 U	0.2
LS-LEPS	9/4/2019	LEPS190904P	0.0444	0.00374	5.02	0.00289	82.2	0.436	0.0001 U	0.201
LS-LEPS	9/10/2019	LEPS190910M	0.0422	0.00484	4.97	0.00282	80.1	0.457	0.0001 U	0.194
LS-LEPS	9/11/2019	LEPS190910P	0.0465	0.00463	5.31	0.00265	78	0.459	0.0001 U	0.204
LS-LEPS	9/17/2019	LEPS190917P	0.0458	0.00674	5.97	0.00285	78.6	0.559	0.0001 U	0.193
LS-LEPS	9/24/2019	LEPS190924P	0.0401	0.00967	6.18	0.00256	68.2	0.868	0.0001 U	0.168
LS-LIF	7/9/2019	LIF-190709I	0.0319	0.00678	7.75	0.00187	52.5	1.09	0.000257	0.129 D
LS-LIF	8/6/2019	LIF-190806I	0.0751	0.0068	7.89	0.00406	124	0.426	0.0001 U	0.302
LS-LIF	9/10/2019	LIF-190910I	0.0248	0.00244	12.5	0.001 U	28.2	3.29	0.0001 U	0.0524
LS-MH46N	8/7/2019	L46N190807D	0.0386	0.002 U	2.65	0.001 U	56.3	0.489	0.0001 U	0.158
LS-MH46N	8/7/2019	L46N190807M	0.0384	0.002 U	2.62	0.001 U	56.5	0.49	0.0001 U	0.156
LS-MH46N	9/11/2019	L46N190911M	0.0379	0.002 U	2.31	0.001 U	55.3	0.447	0.0001 U	0.157
LS-PS1A	7/9/2019	LP1A190709I	0.0236	0.00386	1	0.001 U	38.6	0.564	0.0001 U	0.0873 D
LS-PS1A	8/6/2019	LP1A190806I	0.0315	0.00631	8.89	0.00119	66.9	0.455	0.00103	0.1
LS-PS1A	9/10/2019	LP1A190910I	0.0278	0.00426	2.76	0.001 U	56.7	0.424	0.000179	0.0948
LS-PS2A	8/7/2019	LP2A190807M	0.00118	0.0125	0.434	0.001 U	7.56	0.0932	0.0001 U	0.0096
LS-PS2A	9/11/2019	LP2A190911M	0.00114	0.0126	0.348	0.001 U	8.39	0.0794	0.0001 U	0.0081
LS-PS4	7/9/2019	LP4-190709I	0.0159	0.0148	10.1	0.00111	21.3	1.94	0.000335	0.0448 D
LS-PS4	8/6/2019	LP4-190806I	0.00573	0.0255	3.69	0.00486	22.4	0.904	0.0001 U	0.0211
LS-PS4	9/10/2019	LP4-190910I	0.00836	0.0104	4.08	0.00136	24	1.03	0.0001 U	0.0285
LS-V1A	8/7/2019	LV1A190807M	0.0588	0.0104	7.78	0.00371	96.8	0.595	0.0001 U	0.234
LS-V1A	9/11/2019	LV1A190911M	0.0343	0.00758	6.97	0.00192	57.3	1.28	0.0001 U	0.125
FIELD BLANK	9/10/2019	LP4-190910F	0.0005 U	0.002 U	0.1 U	0.001 U	0.5 U	0.001 U	0.0001 U	0.001 U
FIELD BLANK	9/24/2019	LEPS190924F	0.0005 U	0.002 U	0.1 U	0.001 U	0.5 U	0.001 U	0.0001 U	0.001 U

Data Collected from July 1, 2019 to September 30, 2019
Cedar Hills Landfill ---Leachate Metals 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	7/9/2019	L567190709I	902	0.005 U	0.0004 U	2870 D	0.001 DU	0.0609	0.2	0.0779
LS-A567	8/6/2019	L567190806D	907	0.005 U	0.0004 U	2840	0.001 U	0.0492	0.179	0.102
LS-A567	8/6/2019	L567190806I	913	0.005 U	0.0004 U	2890	0.001 U	0.0482	0.179	0.104
LS-A567	9/10/2019	L567190910I	888 D	0.005 U	0.0004 U	2810 D	0.001 U	0.0563	0.18	0.0988
LS-CSW	9/10/2019	LCSW190910I	475	0.005 U	0.0004 U	1240	0.001 U	0.0092	0.0526	0.0677
LS-LEPS	7/2/2019	LEPS190702P	456	0.005 U	0.0004 U	1290	0.001 U	0.0227	0.055	0.192
LS-LEPS	7/10/2019	LEPS190710P	490	0.005 U	0.0004 U	1340	0.001 U	0.016 D	0.0601 D	0.236
LS-LEPS	7/17/2019	LEPS190717P	496	0.005 U	0.0004 U	1360	0.001 U	0.0193	0.0596 D	0.225
LS-LEPS	7/30/2019	LEPS190730P	514	0.005 U	0.0004 U	1430	0.001 U	0.0195	0.0625 D	0.223
LS-LEPS	8/6/2019	LEPS190806P	538	0.005 U	0.0004 U	1500	0.001 U	0.0179	0.0639 D	0.164
LS-LEPS	8/13/2019	LEPS190813P	569	0.005 U	0.0004 U	1580	0.001 U	0.0215	0.0713	0.217
LS-LEPS	8/21/2019	LEPS190821P	567	0.005 U	0.0004 DU	1590	0.001 U	0.0199	0.0724	0.178
LS-LEPS	8/27/2019	LEPS190827P	579	0.005 U	0.0004 U	1640	0.001 DU	0.0163	0.0716 D	0.168
LS-LEPS	9/4/2019	LEPS190904P	637	0.005 U	0.0004 U	1760	0.001 U	0.0189	0.0746	0.134
LS-LEPS	9/10/2019	LEPS190910M	611	0.005 U	0.0004 U	1700	0.001 U	0.0171	0.0734	0.154
LS-LEPS	9/11/2019	LEPS190910P	608	0.005 U	0.0004 U	1680	0.001 U	0.0196	0.0746	0.137
LS-LEPS	9/17/2019	LEPS190917P	583	0.005 U	0.0004 U	1640	0.001 U	0.024	0.0726	0.133
LS-LEPS	9/24/2019	LEPS190924P	491	0.005 U	0.0004 U	1380	0.001 U	0.0143 G	0.0599	0.166
LS-LIF	7/9/2019	LIF-190709I	366	0.005 U	0.0004 U	952	0.001 DU	0.0221	0.0407	0.174
LS-LIF	8/6/2019	LIF-190806I	1040	0.005 U	0.0004 U	2770	0.001 U	0.0454	0.0965	0.324
LS-LIF	9/10/2019	LIF-190910I	152	0.005 U	0.0004 U	395	0.001 U	0.00724	0.0115	0.073
LS-MH46N	8/7/2019	L46N190807D	400	0.005 U	0.0004 U	1400	0.001 U	0.005 U	0.183 D	0.005 U
LS-MH46N	8/7/2019	L46N190807M	397	0.005 U	0.0004 U	1390	0.001 U	0.005 U	0.181 D	0.005 U
LS-MH46N	9/11/2019	L46N190911M	392	0.005 U	0.0004 U	1370	0.001 U	0.005 U	0.174	0.005 U
LS-PS1A	7/9/2019	LP1A190709I	218	0.005 U	0.0004 U	798	0.001 DU	0.005 U	0.0606	0.0145
LS-PS1A	8/6/2019	LP1A190806I	373	0.005 U	0.0004 U	1330	0.001 U	0.00504	0.0809	0.0503
LS-PS1A	9/10/2019	LP1A190910I	326	0.005 U	0.0004 U	1170	0.001 U	0.005 U	0.0718	0.0309
LS-PS2A	8/7/2019	LP2A190807M	15.9	0.005 U	0.0004 U	46.5	0.001 U	0.005 U	0.00107 D	0.0489
LS-PS2A	9/11/2019	LP2A190911M	12.6	0.005 U	0.0004 U	32.2	0.001 U	0.005 U	0.0014	0.0257
LS-PS4	7/9/2019	LP4-190709I	59.6	0.005 U	0.0004 U	192	0.001 DU	0.00776	0.0133	0.0896
LS-PS4	8/6/2019	LP4-190806I	47.2	0.005 U	0.0004 U	150	0.001 U	0.005 U	0.011	0.072
LS-PS4	9/10/2019	LP4-190910I	79.4	0.005 U	0.0004 U	254	0.001 U	0.00908	0.0127	0.0554
LS-V1A	8/7/2019	LV1A190807M	743	0.005 U	0.0004 U	2080	0.001 U	0.0317	0.0872 D	0.276
LS-V1A	9/11/2019	LV1A190911M	397	0.005 U	0.0004 U	1080	0.001 U	0.0202	0.0426	0.131
FIELD BLANK	9/10/2019	LP4-190910F	1 U	0.005 U	0.0004 U	1 U	0.001 U	0.005 U	0.00075 U	0.005 U
FIELD BLANK	9/24/2019	LEPS190924F	1 U	0.005 U	0.0004 U	1 U	0.001 U	0.005 U	0.00075 U	0.005 U

Data Collected from July 1, 2019 to September 30, 2019
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	9/10/2019	LEPS190910M	2.5 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
LS-LEPS	8/6/2019	LEPS190806M	2.5 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
LS-MH46N	9/11/2019	L46N190911M	2.5 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
LS-MH46N	8/7/2019	L46N190807D	2.5 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
LS-MH46N	8/7/2019	L46N190807M	2.5 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
LS-PS2A	9/11/2019	LP2A190911M	2.5 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
LS-PS2A	8/7/2019	LP2A190807M	2.5 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
LS-V1A	8/7/2019	LV1A190807M	2.5 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
LS-V1A	9/11/2019	LV1A190911M	2.5 SU	1.32 JST	1 SU	1 SU	1 SU	1 SU	1 SU	1 SU
VOA TRIP BLANK	9/10/2019	VTRP190911X2	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	8/6/2019	VTRP190806Z2	0.25 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U

Environmental Monitoring Data

Data Collected from July 1, 2019 to September 30, 2019
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	9/10/2019	LEPS190910M	25 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	2.5 U
LS-LEPS	8/6/2019	LEPS190806M	25 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	28
LS-MH46N	9/11/2019	L46N190911M	25 U	1 U	2.55	1 U	1 U	1 U	1 U	10.6	1 U	2.5 U
LS-MH46N	8/7/2019	L46N190807D	25 U	1 U	2.56	1 U	1 U	1 U	1 U	10.4	1 U	3.66 JT
LS-MH46N	8/7/2019	L46N190807M	25 U	1 U	2.3	1 U	1 U	1 U	1 U	9.47	1 U	2.5 U
LS-PS2A	9/11/2019	LP2A190911M	25 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	2.5 U
LS-PS2A	8/7/2019	LP2A190807M	25 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	2.5 U
LS-V1A	8/7/2019	LV1A190807M	25 U	1 U	1 U	2.19	1 U	1 U	1 U	1.48 JT	1 U	6580 D
LS-V1A	9/11/2019	LV1A190911M	25 SU	1 SU	1 SU	6.63 S	1 SU	1 SU	1 SU	1.62 JST	1 SU	5910 DS
VOA TRIP BLANK	9/10/2019	VTRP190911X2	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	8/6/2019	VTRP190806Z2	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

Data Collected from July 1, 2019 to September 30, 2019
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	9/10/2019	LEPS190910M	5 U	100 U	1 U	25 U	25 U	50 U	25 U	0.35 U	1 U
LS-LEPS	8/6/2019	LEPS190806M	5 U	50 U	1 U	25 U	32.8 JT	50 U	25 U	0.35 U	1 U
LS-MH46N	9/11/2019	L46N190911M	5 U	100 U	1 U	25 U	25 U	61.5 JT	25 U	0.35 U	4.17
LS-MH46N	8/7/2019	L46N190807D	5 U	50 U	1 U	25 U	25 U	50 U	25 U	0.35 U	3.75
LS-MH46N	8/7/2019	L46N190807M	5 U	50 U	1 U	25 U	25 U	50 U	25 U	0.35 U	3.62
LS-PS2A	9/11/2019	LP2A190911M	5 U	100 U	1 U	25 U	25 U	50 U	25 U	0.35 U	1 U
LS-PS2A	8/7/2019	LP2A190807M	5 U	50 U	1 U	25 U	25 U	50 U	25 U	0.35 U	1 U
LS-V1A	8/7/2019	LV1A190807M	15.4	139	1 U	65.2	9200 D	82.4 JT	25 U	0.35 U	1 U
LS-V1A	9/11/2019	LV1A190911M	10.1 S	100 SU	1 SU	53.2 S	5890 DS	110 S	25 SU	0.35 SU	1.46 JST
VOA TRIP BLANK	9/10/2019	VTRP190911X2	0.5 U	10 U	0.1 U	2.5 U	2.5 U	5 U	2.5 U	0.035 U	0.1 U
VOA TRIP BLANK	8/6/2019	VTRP190806Z2	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

Data Collected from July 1, 2019 to September 30, 2019
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	9/10/2019	LEPS190910M	1 U	2.5 U	5 U	1 U	1 U	2.5 U	1 U	5 U	1 U
LS-LEPS	8/6/2019	LEPS190806M	1 U	2.5 U	5 U	1 U	1 U	2.5 U	1 U	5 U	1 U
LS-MH46N	9/11/2019	L46N190911M	1 U	2.5 U	5 U	1 U	1 U	2.5 U	2.47	5 U	1 U
LS-MH46N	8/7/2019	L46N190807D	1 U	2.5 U	5 U	1 U	1 U	2.5 U	2.38	5 U	1 U
LS-MH46N	8/7/2019	L46N190807M	1 U	2.5 U	5 U	1 U	1 U	2.5 U	2.15	5 U	1 U
LS-PS2A	9/11/2019	LP2A190911M	1 U	2.5 U	5 U	1 U	1 U	2.5 U	1 U	5 U	1 U
LS-PS2A	8/7/2019	LP2A190807M	1 U	2.5 U	5 U	1 U	1 U	2.5 U	1 U	5 U	1 U
LS-V1A	8/7/2019	LV1A190807M	1 U	2.5 U	5 U	1 U	1.78 JT	2.5 U	1 U	5 U	1 U
LS-V1A	9/11/2019	LV1A190911M	1 SU	2.5 SU	5 SU	1 SU	2.11 S	2.5 SU	1 SU	5 SU	1 SU
VOA TRIP BLANK	9/10/2019	VTRP190911X2	0.1 U	0.25 U	0.5 U	0.1 U	0.1 U	0.25 U	0.1 U	0.5 U	0.1 U
VOA TRIP BLANK	8/6/2019	VTRP190806Z2	0.1 U	0.25 U	0.5 U	0.1 U	0.1 U	0.25 U	0.1 U	0.5 U	0.1 U

Data Collected from July 1, 2019 to September 30, 2019
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	9/10/2019	LEPS190910M	1 U	2.5 U	1 U	1 U	2.5 U	1 U	1 U	1 U	1 U
LS-LEPS	8/6/2019	LEPS190806M	1 U	2.5 U	1 U	1 U	2.5 U	1 U	1 U	1 U	1 U
LS-MH46N	9/11/2019	L46N190911M	1 U	2.5 U	1 U	1 U	2.5 U	1 U	1 U	47.1	41.1
LS-MH46N	8/7/2019	L46N190807D	1 U	2.5 U	1 U	1.14 JT	2.5 U	1 U	1 U	45	51.2
LS-MH46N	8/7/2019	L46N190807M	1 U	2.5 U	1 U	1.07 JT	2.5 U	1 U	1 U	41.3	47.1
LS-PS2A	9/11/2019	LP2A190911M	1 U	2.5 U	1 U	1 U	2.5 U	1 U	1 U	1 U	1 U
LS-PS2A	8/7/2019	LP2A190807M	1 U	2.5 U	1 U	1 U	2.5 U	1 U	1 U	1 U	1 U
LS-V1A	8/7/2019	LV1A190807M	1.58 JT	2.5 U	1 U	1.85 JT	2.5 U	1 U	1 U	2.47	5.83
LS-V1A	9/11/2019	LV1A190911M	1.27 JST	2.5 SU	1 SU	2.28 S	2.5 SU	1 SU	1 SU	4.05 S	10.9 S
VOA TRIP BLANK	9/10/2019	VTRP190911X2	0.114 JT	0.25 U	0.1 U	0.1 U	0.25 U	0.1 U	0.1 U	0.1 U	0.1 U
VOA TRIP BLANK	8/6/2019	VTRP190806Z2	0.1 U	0.25 U	0.1 U	0.1 U	0.25 U	0.1 U	0.1 U	0.1 U	0.1 U

Data Collected from July 1, 2019 to September 30, 2019
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	9/10/2019	LEPS190910M	1 U	2.5 U	1 U	25 U	1 U	19.4	1 U	1 U
LS-LEPS	8/6/2019	LEPS190806M	1 U	2.5 U	1 U	25 U	1 U	5 U	1 U	1 U
LS-MH46N	9/11/2019	L46N190911M	1 U	2.5 U	1 U	25 U	4.54	5 U	1.2 JT	1 U
LS-MH46N	8/7/2019	L46N190807D	1 U	2.5 U	1 U	25 U	3.72	5 U	1.52 JT	1 U
LS-MH46N	8/7/2019	L46N190807M	1 U	2.5 U	1 U	25 U	3.46	5 U	1.4 JT	1 U
LS-PS2A	9/11/2019	LP2A190911M	1 U	2.5 U	1 U	25 U	1 U	5 U	1 U	1 U
LS-PS2A	8/7/2019	LP2A190807M	1 U	2.5 U	1 U	25 U	1 U	5 U	1 U	1 U
LS-V1A	8/7/2019	LV1A190807M	1 U	2.5 U	1 U	25 U	3.44	9.48 JT	1.3 JT	1 U
LS-V1A	9/11/2019	LV1A190911M	1 SU	2.5 SU	1 SU	57.5 S	5.62 S	5 SU	2.18 S	1 SU
VOA TRIP BLANK	9/10/2019	VTRP190911X2	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	8/6/2019	VTRP190806Z2	0.1 U	0.25 U	0.1 U	2.5 U	0.1 U	0.5 U	0.1 U	0.1 U

Data Collected from July 1, 2019 to September 30, 2019
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	9/10/2019	LEPS190910M	1 U	1 U	5 U	5 U	1 U	1 U	1 U	0.1 DU
LS-LEPS	8/6/2019	LEPS190806M	1 U	1 U	5 U	5 U	1 U	1 U	1 U	0.1 U
LS-MH46N	9/11/2019	L46N190911M	5.25	1 U	5 U	5 U	1 U	1 U	1 U	2.8 D
LS-MH46N	8/7/2019	L46N190807D	4.23	1 U	5 U	5 U	1 U	1 U	1 U	3.85
LS-MH46N	8/7/2019	L46N190807M	3.96	1 U	5 U	5 U	1 U	1 U	1 U	3.83
LS-PS2A	9/11/2019	LP2A190911M	1 U	1 U	5 U	5 U	1 U	1 U	1 U	0.1 DU
LS-PS2A	8/7/2019	LP2A190807M	1 U	1 U	5 U	5 U	1 U	1 U	1 U	0.1 U
LS-V1A	8/7/2019	LV1A190807M	10.8	1 U	5 U	5 U	1 U	1 U	1 U	0.1 U
LS-V1A	9/11/2019	LV1A190911M	25.5 S	1 SU	5 SU	5 SU	1 SU	1 SU	1 SU	0.118 DJST
VOA TRIP BLANK	9/10/2019	VTRP190911X2	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	8/6/2019	VTRP190806Z2	0.1 U	0.1 U	0.5 U	0.5 U	0.1 U	0.1 U	0.1 U	0.01 U

Data Collected from July 1, 2019 to September 30, 2019
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
		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
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	8/6/2019	LEPS190806M	0.5 U	1 U	1 U	0.025 U	0.025 GU	0.025 GU	0.025 GU	0.025 U	0.025 GU	0.025 U	0.025 U
LS-LEPS	9/10/2019	LEPS190910M	0.5 U	1.5 U	2.5 U	0.025 U	0.025 U	0.025 U	0.025 U	0.025 U	0.025 GU	0.025 U	0.025 U
LS-MH46N	8/7/2019	L46N190807M	0.5 U	0.763	1 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.025 U	0.1 U
LS-MH46N	8/7/2019	L46N190807D	0.5 U	0.682	1 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.025 U	0.1 U
LS-MH46N	9/11/2019	L46N190911M	0.5 U	0.832	2 U	0.05 DU	0.05 DU	0.05 DU	0.05 DU	0.01 U	0.01 U	0.025 U	0.1 U
LS-PS2A	8/7/2019	LP2A190807M	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
LS-PS2A	9/11/2019	LP2A190911M	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
LS-V1A	8/7/2019	LV1A190807M	0.5 U	0.727 J	1 U	0.125 U	0.125 GU	0.125 GU	0.125 GU	0.125 U	0.125 GU	0.025 U	0.1 U
LS-V1A	9/11/2019	LV1A190911M	0.5 U	0.681 J	1.5 U	0.125 DU	0.025 U	0.125 DU	0.125 DU	0.125 DU	0.025 GU	0.025 U	0.125 U

Data Collected from July 1, 2019 to September 30, 2019
Cedar Hills Landfill ---Leachate PCB Analytical Data
Contact Person: Sendy Jimenez (206) 477-5224

		Chemical_Name	AROCLOR 1232	AROCLOR 1242	AROCLOR 1248	AROCLOR 1254	AROCLOR 1260	BETA BHC	DELTA BHC	DIELDRIN	DINOSEB	ENDOSULFAN I	ENDOSULFAN II
		CAS_RN	11141-16-5	53469-21-9	12672-29-6	11097-69-1	11096-82-5	319-85-7	319-86-8	60-57-1	88-85-7	959-98-8	33213-65-9
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
LS-LEPS	8/6/2019	LEPS190806M	0.025 U	0.0321 J	0.025 U	0.0424	0.025 U	0.025 U	0.025 U	0.025 U	0.5 U	0.025 U	0.025 U
LS-LEPS	9/10/2019	LEPS190910M	0.025 U	0.0604	0.025 U	0.0394	0.025 U	0.025 U	0.125 DGU	0.025 U	0.5 U	0.375 DU	0.025 U
LS-MH46N	8/7/2019	L46N190807M	0.025 U	0.238	0.025 U	0.025 U	0.025 U	0.02 U	0.01 U	0.01 U	0.5 U	0.05 DU	0.01 U
LS-MH46N	8/7/2019	L46N190807D	0.025 U	0.237	0.025 U	0.025 U	0.025 U	0.03 U	0.01 U	0.01 U	0.5 U	0.05 DU	0.01 U
LS-MH46N	9/11/2019	L46N190911M	0.025 U	0.18	0.025 U	0.025 U	0.025 U	0.01 U	0.01 U	0.05 DU	0.5 U	0.15 DU	0.01 U
LS-PS2A	8/7/2019	LP2A190807M	0.025 U	0.025 U	0.025 U	0.025 U	0.025 U	0.01 U	0.01 U	0.01 U	0.5 U	0.01 U	0.01 U
LS-PS2A	9/11/2019	LP2A190911M	0.025 U	0.025 U	0.025 U	0.025 U	0.025 U	0.01 U	0.01 U	0.01 U	0.5 U	0.01 U	0.01 U
LS-V1A	8/7/2019	LV1A190807M	0.025 U	0.149	0.025 U	0.0633	0.025 U	0.125 U	0.125 U	0.125 U	0.5 U	0.125 U	0.125 U
LS-V1A	9/11/2019	LV1A190911M	0.025 U	0.129	0.025 U	0.0589	0.025 U	0.125 DU	0.125 DGU	0.125 DU	0.5 U	0.025 U	0.025 U

Environmental Monitoring Data

Data Collected from July 1, 2019 to September 30, 2019
Cedar Hills Landfill ---Leachate PCB Analytical Data
Contact Person: Sendy Jimenez (206) 477-5224

		Chemical_Name	ENDOSULFAN SULFATE	ENDRIN	ENDRIN ALDEHYDE	HEPTACHLOR	HEPTACHLOR EPOXIDE	ISODRIN	LINDANE (GAMMA BHC)	METHOXYCHLOR	Total Aroclors	TOXAPHENE	trans-Chlordane
		CAS_RN	1031-07-8	72-20-8	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	ug/l	ug/l
LS-LEPS	8/6/2019	LEPS190806M	0.025 U	0.025 U	0.025 GU	0.025 GU	0.025 U	0.025 GU	0.025 U	0.125 U	0.0745	2.5 U	0.025 GU
LS-LEPS	9/10/2019	LEPS190910M	0.125 DU	0.025 U	0.025 GU	0.025 U	0.025 U	0.025 U	0.125 DU	0.125 U	0.0998	2.5 U	0.025 GU
LS-MH46N	8/7/2019	L46N190807M	0.01 U	0.01 U	0.01 U	0.02 U	0.01 U	0.01 U	0.05 DU	0.05 U	0.238	1 U	0.01 U
LS-MH46N	8/7/2019	L46N190807D	0.01 U	0.01 U	0.01 U	0.02 U	0.01 U	0.01 U	0.05 DU	0.05 U	0.237	1 U	0.01 U
LS-MH46N	9/11/2019	L46N190911M	0.01 U	0.05 DU	0.05 DU	0.01 U	0.01 U	0.01 U	0.35 DU	0.05 U	0.18	1 U	0.05 DU
LS-PS2A	8/7/2019	LP2A190807M	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.05 U	0.025 U	1 U	0.01 U
LS-PS2A	9/11/2019	LP2A190911M	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.05 U	0.025 U	1 U	0.01 U
LS-V1A	8/7/2019	LV1A190807M	0.125 U	0.125 U	0.125 GU	0.125 GU	0.125 U	0.125 GU	0.125 U	0.625 U	0.2123	12.5 U	0.125 GU
LS-V1A	9/11/2019	LV1A190911M	0.025 U	0.025 U	0.125 DGU	0.125 DU	0.125 DU	0.025 U	0.25 DU	0.125 U	0.1879	2.5 U	0.125 DGU

Leachate Monitoring Activities 4th Quarter 2019

Station ID	Date	Activity	Sample ID	Comment
LS-A567	10/10/2019	Special Investigation	L567191010I	
LS-A567	10/10/2019	Special Investigation	L567191010I2	
LS-A567	11/21/2019	Special Investigation	L567191121I	
LS-A567	11/21/2019	Special Investigation	L567191121I2	
LS-A567	12/19/2019	Special Investigation	L567191219I	
LS-A567	12/19/2019	Special Investigation	L567191219I2	
LS-A567	12/23/2019	Special Investigation	L567191223I	
LS-A81	10/10/2019	Special Investigation	LA81191010I	
LS-A81	10/10/2019	Special Investigation	LA81191010I2	
LS-A81	11/21/2019	Special Investigation	LA81191121I	
LS-A81	11/21/2019	QA/QC Sample	LA81191121F	
LS-A81	11/21/2019	Special Investigation	LA8A191121I2	
LS-A81	12/17/2019	Special Investigation	LA81191217I	
LS-A81	12/17/2019	QA/QC Sample	LA81191217F	
LS-A81	12/19/2019	Special Investigation	LA81191219I	
LS-A81	12/19/2019	Special Investigation	LA81191219I2	
LS-A81	12/23/2019	Special Investigation	LA81191223I	
LS-CSW	10/10/2019	Special Investigation	LCSW191010I	
LS-CSW	10/10/2019	Special Investigation	LCSW191010I2	
LS-CSW	11/21/2019	Special Investigation	LCSW191121I	
LS-CSW	11/21/2019	Special Investigation	LCSW191121I2	
LS-CSW	12/19/2019	Special Investigation	LCSW191219I	
LS-CSW	12/19/2019	Special Investigation	LCSW191219I2	
LS-CSW	12/23/2019	Special Investigation	LCSW191223I	
LS-LEPS	10/8/2019	Monthly Characterization Sample	LEPS191008M	
LS-LEPS	10/10/2019	Special Investigation	LEPS191010I2	
LS-LEPS	11/19/2019	Monthly Characterization Sample	LEPS191119M	
LS-LEPS	11/21/2019	Special Investigation	LEPS191121I	
LS-LEPS	12/18/2019	Monthly Characterization Sample	LEPS191218M	
LS-LEPS	12/19/2019	Special Investigation	LEPS191219I2	
LS-LEPS	12/19/2019	Special Investigation	LEPS191219D2	
LS-LEPS	12/23/2019	Special Investigation	LEPS191223I	
LS-LEPS	10/1/2019	Permit Sample	LEPS191001P	
LS-LEPS	10/8/2019	Permit Sample	LEPS191008P	
LS-LEPS	10/15/2019	Permit Sample	LEPS191015P	
LS-LEPS	10/23/2019	Permit Sample	LEPS191023P	
LS-LEPS	10/30/2019	Permit Sample	LEPS191030P	
LS-LEPS	11/4/2019	Permit Sample	LEPS191104P	
LS-LEPS	11/13/2019	Permit Sample	LEPS191113P	
LS-LEPS	11/19/2019	Permit Sample	LEPS191119P	
LS-LEPS	11/26/2019	Permit Sample	LEPS191126P	
LS-LEPS	12/3/2019	Permit Sample	LEPS191203P	
LS-LEPS	12/10/2019	Permit Sample	LEPS191210P	
LS-LEPS	12/16/2019	Permit Sample	LEPS191216P	
LS-LEPS	12/26/2019	Permit Sample	LEPS191226P	
LS-LEPS	12/26/2019	QA/QC Sample	LEPS191226F	

Leachate Monitoring Activities 4th Quarter 2019

Station ID	Date	Activity	Sample ID	Comment
LS-LIF	10/10/2019	Special Investigation	LIF-191010I	
LS-LIF	10/10/2019	Special Investigation	LIF-191010I2	
LS-LIF	11/21/2019	Special Investigation	LIF-191121I	
LS-LIF	11/21/2019	Special Investigation	LIF-191121I2	
LS-LIF	12/19/2019	Special Investigation	LIF-191219I	
LS-LIF	12/19/2019	Special Investigation	LIF-191219I2	
LS-LIF	12/23/2019	Special Investigation	LIF-191223I	
LS-MH46N	10/9/2019	Monthly Characterization Sample	L46N191009M	
LS-MH46N	11/20/2019	Monthly Characterization Sample	L46N191120M	
LS-MH46N	11/20/2019	QA/QC Sample	L46N191120D	
LS-MH46N	12/17/2019	Monthly Characterization Sample	L46N191217M	
LS-PS1A	10/10/2019	Special Investigation	LP1A191010I	
LS-PS1A	10/10/2019	Special Investigation	LP1A191010I2	
LS-PS1A	11/21/2019	Special Investigation	LP1A191121I	
LS-PS1A	11/21/2019	Special Investigation	LP1A191121I2	
LS-PS1A	12/19/2019	Special Investigation	LP1A191219I2	
LS-PS1A	12/19/2019	Special Investigation	LP1A191219I	
LS-PS1A	12/23/2019	Special Investigation	LP1A191223I	
LS-PS2A	10/9/2019	Monthly Characterization Sample	LP2A191009M	
LS-PS2A	11/20/2019	Monthly Characterization Sample	LP2A191120M	
LS-PS2A	12/17/2019	Monthly Characterization Sample	LP2A191217M	
LS-PS4	10/10/2019	Special Investigation	LP4-191010I	
LS-PS4	10/10/2019	Special Investigation	LPS4191010I2	
LS-PS4	11/21/2019	Special Investigation	LP4-191121I	
LS-PS4	11/21/2019	Special Investigation	LP4-191121I2	
LS-PS4	12/19/2019	Special Investigation	LP4-191219I	
LS-PS4	12/19/2019	Special Investigation	LP4-191219I2	
LS-PS4	12/23/2019	Special Investigation	LP4-191223I	
LS-V1A	10/9/2019	Monthly Characterization Sample	LV1A191009M	
LS-V1A	10/10/2019	Special Investigation	LV1A191010I2	
LS-V1A	11/19/2019	Monthly Characterization Sample	LV1A191119M	
LS-V1A	11/21/2019	Special Investigation	LV1A191121I	
LS-V1A	12/17/2019	Monthly Characterization Sample	LV1A191217M	
LS-V1A	12/19/2019	Special Investigation	LV1A191219I2	
LS-V1A	12/23/2019	Special Investigation	LV1A191223I	

Data Collected from October 1, 2019 to December 31, 2019
Cedar Hills Landfill ---Leachate Field Parameters
Contact Person: Sendy Jimenez (206) 477-5224

Site	Date	Sample ID	pH (Field) (std. Units)	Specific Conductance (Field) (umho/cm)	Temperature (Field) (^{o}C)
LS-A567	10/10/2019	L567191010I	8.08	24841	32.5
LS-A567	10/10/2019	L567191010I2	8.08	24841	32.5
LS-A567	11/21/2019	L567191121I	7.6	25625	29.4
LS-A567	11/21/2019	L567191121I2	7.6	25625	29.4
LS-A567	12/19/2019	L567191219I	7.67	19205	31.9
LS-A567	12/19/2019	L567191219I2	7.67	19205	31.9
LS-A567	12/23/2019	L567191223I	7.88	26489	33.2
LS-A81	10/10/2019	LA81191010I	5.77	594	18.7
LS-A81	10/10/2019	LA81191010I2	5.77	594	18.7
LS-A81	11/21/2019	LA81191121I	5.63	1086	9.5
LS-A81	11/21/2019	LA81191121I2	5.63	1086	9.5
LS-A81	12/17/2019	LA81191217I	5.13	1091	10.9
LS-A81	12/19/2019	LA81191219I	5.54	537	12.8
LS-A81	12/19/2019	LA81191219I2	5.54	537	12.8
LS-A81	12/23/2019	LA81191223I	5.26	2332	12.7
LS-CSW	10/10/2019	LCSW191010I	8.26	265.2	12.9
LS-CSW	10/10/2019	LCSW191010I2	8.26	265.2	12.9
LS-CSW	11/21/2019	LCSW191121I	7.67	679	6.7
LS-CSW	11/21/2019	LCSW191121I2	7.67	679	6.7
LS-CSW	12/19/2019	LCSW191219I	7.65	460.4	5.9
LS-CSW	12/19/2019	LCSW191219I2	7.65	460.4	5.9
LS-CSW	12/23/2019	LCSW191223I	7.48	1069	8.8
LS-LEPS	10/1/2019	LEPS191001P	8.7	9930	13.2
LS-LEPS	10/8/2019	LEPS191008M	8.54	9980	12.8
LS-LEPS	10/8/2019	LEPS191008P	8.54	9980	12.8
LS-LEPS	10/10/2019	LEPS191010I2	8.39	9109	14.8
LS-LEPS	10/15/2019	LEPS191015P	8.34	10130	12.5
LS-LEPS	10/23/2019	LEPS191023P	8.06	6620	11.4
LS-LEPS	10/30/2019	LEPS191030P	8.17	5300	11.5
LS-LEPS	11/4/2019	LEPS191104P	7.94	4400	13.9
LS-LEPS	11/13/2019	LEPS191113P	8.5	9020	14.8
LS-LEPS	11/19/2019	LEPS191119M	7.89	7190	12.2
LS-LEPS	11/19/2019	LEPS191119P	7.89	7190	12.2
LS-LEPS	11/21/2019	LEPS191121I	7.97	5793	13.1
LS-LEPS	11/26/2019	LEPS191126P	8.08	5078	10.7
LS-LEPS	12/3/2019	LEPS191203P	7.57	7423	11.4
LS-LEPS	12/10/2019	LEPS191210P	8.1	6350	11.7
LS-LEPS	12/16/2019	LEPS191216P	8.01	5404	8.9
LS-LEPS	12/18/2019	LEPS191218M	7.6	6400	9.9
LS-LEPS	12/19/2019	LEPS191219D2	8.06	5658	10.3

Data Collected from October 1, 2019 to December 31, 2019
Cedar Hills Landfill ---Leachate Field Parameters
Contact Person: Sendy Jimenez (206) 477-5224

Site	Date	Sample ID	pH (Field) (std. Units)	Specific Conductance (Field) (umho/cm)	Temperature (Field) (^{o}C)
LS-LEPS	12/19/2019	LEPS191219I2	8.06	5658	10.3
LS-LEPS	12/23/2019	LEPS191223I	7.3	5047	11.5
LS-LEPS	12/26/2019	LEPS191226P	8.08	4642	7.3
LS-LEPS	12/26/2019	LEPS191226F	8.47	1.8	5.1
LS-LIF	10/10/2019	LIF-191010I	8.11	7484	20.4
LS-LIF	10/10/2019	LIF-191010I2	8.11	7484	20.4
LS-LIF	11/21/2019	LIF-191121I	7.71	3035	16.4
LS-LIF	11/21/2019	LIF-191121I2	7.71	3035	16.4
LS-LIF	12/19/2019	LIF-191219I	7.64	6889	15.5
LS-LIF	12/19/2019	LIF-191219I2	7.64	6889	15.5
LS-LIF	12/23/2019	LIF-191223I	8.01	11769	17.8
LS-MH46N	10/9/2019	L46N191009M	6.13	1316	17.7
LS-MH46N	11/20/2019	L46N191120D	6.02	12010	12.4
LS-MH46N	11/20/2019	L46N191120M	6.02	12010	12.4
LS-MH46N	12/17/2019	L46N191217M	7.32	11410	20.6
LS-PS1A	10/10/2019	LP1A191010I	7.37	1383	14.2
LS-PS1A	10/10/2019	LP1A191010I2	7.37	1383	14.2
LS-PS1A	11/21/2019	LP1A191121I	8.01	1564	13.1
LS-PS1A	11/21/2019	LP1A191121I2	8.01	1564	13.1
LS-PS1A	12/19/2019	LP1A191219I	7.94	232.5	9.6
LS-PS1A	12/19/2019	LP1A191219I2	7.94	232.5	9.6
LS-PS1A	12/23/2019	LP1A191223I	6.31	161.6	10.2
LS-PS2A	10/9/2019	LP2A191009M	10.3	9893	11.9
LS-PS2A	11/20/2019	LP2A191120M	7.21	119.8	10.3
LS-PS2A	12/17/2019	LP2A191217M	6.91	118.4	9.8
LS-PS4	10/10/2019	LP4-191010I	7.73	1404	13.9
LS-PS4	10/10/2019	LP4-191010I2	7.73	1404	13.9
LS-PS4	11/21/2019	LP4-191121I	7.84	1684	12.9
LS-PS4	11/21/2019	LP4-191121I2	7.84	1684	12.9
LS-PS4	12/19/2019	LP4-191219I	7.49	1317	11.4
LS-PS4	12/19/2019	LP4-191219I2	7.49	1317	11.4
LS-PS4	12/23/2019	LP4-191223I	7.22	825	12.9
LS-V1A	10/9/2019	LV1A191009M	7.48	5892	17
LS-V1A	10/10/2019	LV1A191010I2	7.48	5892	19.6
LS-V1A	11/19/2019	LV1A191119M	6.98	1793	10.7
LS-V1A	11/21/2019	LV1A191121I	8	2335	9.2
LS-V1A	12/17/2019	LV1A191217M	8.3	8589	14.8
LS-V1A	12/19/2019	LV1A191219I2	8.28	7694	14.2
LS-V1A	12/23/2019	LV1A191223I	8.05	5811	12.7
FIELD BLANK	10/18/2019	W74R191018F	9.02	18.06	9.8
FIELD BLANK	11/15/2019	W110191115F	6.31	0.99	12.7
FIELD BLANK	11/21/2019	LA81191121IF	9.36	3.96	6.6
FIELD BLANK	12/17/2019	LA81191217F	8.55	0.98	8.5

Environmental Monitoring Data

Data Collected from October 1, 2019 to December 31, 2019
Cedar Hills Landfill ---Leachate Conventionals Analytical Data
Contact Person: Sendy Jimenez (206) 477-5224

Site	Date	Sample ID	Alkalinity, Total (CaCO3) (mg/L)	Ammonia, (NH3 as N) (mg/L)	Biological Oxygen Demand (mg/L)	Chemical Oxygen Demand (mg/L)	Chloride (mg/L)	Coliforms, Fecal (CFU/100mL)	Coliforms, Total (CFU/100mL)	Cyanide (mg/L)	Fluoride (mg/L)	Nitrate+Nitrite (NO3+NO2 as N) (mg/L)	Phosphorus, Sol. Reactive (mg/L)
LS-A567	10/10/2019	L567191010I	10600	1150	4090	8730 S	2680				20 U	0.508	
LS-A567	11/21/2019	L567191121I	9960	1270	2490	7380 S	2700				20 U	0.26 T	
LS-A567	12/19/2019	L567191219I	9750	1370	3010	7080 S	2690				10 U	0.5 U	
LS-A81	10/10/2019	LA81191010I	215	6.1	240	391	18.8				5 U	0.011 T	
LS-A81	11/21/2019	LA81191121I	404	13.2	620	975	46.8				5 U	0.01 U	
LS-A81	12/17/2019	LA81191217I											
LS-A81	12/19/2019	LA81191219I	239	8.96	483	708	27.3				2 U	0.014 T	
LS-CSW	10/10/2019	LCSW191010I	112	1.65	18.7	30.8	19.7				0.025 T	0.437	
LS-CSW	11/21/2019	LCSW191121I	225	8.35	65.6	238	50.1				0.1 U	0.01 U	
LS-CSW	12/19/2019	LCSW191219I	185	7.04	47.1	169	29.3				0.067 T	0.05 U	
LS-LEPS	10/1/2019	LEPS191001P											
LS-LEPS	10/8/2019	LEPS191008M	3750	416	299	2180	1130	160 H	41000 H	0.008 SU	1 U	0.1 T	2.03
LS-LEPS	11/19/2019	LEPS191119M	2690	421	628 EG	2290	672	7700 H	380000 H	0.008 SU	10 U	0.1 U	3.33
LS-LEPS	12/18/2019	LEPS191218M	2150	370	900	1960	526	8800	320000	0.008 SU	1 U	0.2 U	1.58
LS-LIF	10/10/2019	LIF-191010I	7800	411	2510	5580 S	1230				1 U	0.224	
LS-LIF	11/21/2019	LIF-191121I	1100	184	334	896	361				1 U	0.18 T	
LS-LIF	12/19/2019	LIF-191219I	2280	286	1180	2440	485				1 U	0.39 T	
LS-MH46N	10/9/2019	L46N191009M	3740	499	92.4	2160 S	2210	1 U	900 CU	0.02 ST	2 U	0.053 T	3.06
LS-MH46N	11/20/2019	L46N191120D	3590	509	87.2	1990	2050	1 U	77	0.013 ST	2 U	0.1 U	3.78
LS-MH46N	11/20/2019	L46N191120M	3580	427	92.1	1990	2100	1 U	59	0.014 ST	2 U	0.05 U	3.68
LS-MH46N	12/17/2019	L46N191217M	3340	505	80.6	1820	1880	1 U	380	0.013 ST	5 U	0.11 T	3.12
LS-PS1A	10/10/2019	LP1A191010I	435	76.1	33.4	202	150				0.2 U	2.15	
LS-PS1A	11/21/2019	LP1A191121I	459	73.9	45.8	235	162				0.2 U	1.24	
LS-PS1A	12/19/2019	LP1A191219I	69.8	5.33	6.47	35	21.8				0.04 T	2	
LS-PS2A	10/9/2019	LP2A191009M	22.6	0.2 T	36.3	31.3	2.57	1 U	4300	0.002 U	0.05 T	1.93	0.0269
LS-PS2A	11/20/2019	LP2A191120M	37.2	1.05	17	23	1.36	1 U	520	0.002 U	0.048 T	1.04	0.017
LS-PS2A	12/17/2019	LP2A191217M	33	0.916	2 U	22.5	3.52	1 U	1400	0.0024 T	0.0451	0.628	0.0156
LS-PS4	10/10/2019	LP4-191010I	523	79.7	210	334	109				1 U	0.618	
LS-PS4	11/21/2019	LP4-191121I	570	109	291	521	124				1 U	0.46	
LS-PS4	12/19/2019	LP4-191219I	552	58	298	455	104				0.1 U	0.305	
LS-V1A	10/9/2019	LV1A191009M	6620	1460	2350	5500 S	1720	94000	2100000	0.015 ST	1 U	0.306	8.2
LS-V1A	11/19/2019	LV1A191119M	1610	104	724	1490	377	56000 H	630000 H	0.0049 ST	20 U	0.18 T	0.616
LS-V1A	12/17/2019	LV1A191217M	3250	449	1440	3090	785	32000	690000	0.013 ST	1 U	0.75 T	1.93

Environmental Monitoring Data

Data Collected from October 1, 2019 to December 31, 2019
Cedar Hills Landfill ---Leachate Conventionals Analytical Data
Contact Person: Sendy Jimenez (206) 477-5224

Site	Date	Sample ID	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	10/10/2019	L567191010I	25800	46.3	2.13		2370 S	3000 S	14	6120	11
LS-A567	11/21/2019	L567191121I	23700	25.1	2.03		2090 S	2410 S	18	4630	15.7
LS-A567	12/19/2019	L567191219I	22100	22.9	2.48		2200 S	2360 S	27.7	4820	22.3
LS-A81	10/10/2019	LA81191010I	644	20.3	3.3		7.57	121	18.3	217	3.4
LS-A81	11/21/2019	LA81191121I	1050	13.6	1.77		19.7	258	7.9	488	3.2
LS-A81	12/17/2019	LA81191217I									
LS-A81	12/19/2019	LA81191219I	692	27.3	3.14		15	167	11.7	337	3
LS-CSW	10/10/2019	LCSW191010I	368	25.1	0.025 T		2.02	11.4	38	97.3	8
LS-CSW	11/21/2019	LCSW191121I	650	30	0.146		19.3	35.9	42	192	32
LS-CSW	12/19/2019	LCSW191219I	485	24.6	0.0618		18.3	33.8	62	153	56
LS-LEPS	10/1/2019	LEPS191001P									
LS-LEPS	10/8/2019	LEPS191008M	9820	8.5	3.23	1.5 U	732	574 S	73	2000	69
LS-LEPS	11/19/2019	LEPS191119M	7040	6.21	3.28	2 T	559	722 S	9.5	1430 H	6.5
LS-LEPS	12/18/2019	LEPS191218M	5550	5.95	3.71	3.4 T	488	629	20.3	1420	14
LS-LIF	10/10/2019	LIF-191010I	18600	29.3	1.24		1410 S	1330 S	19	4250	14.5
LS-LIF	11/21/2019	LIF-191121I	3250	21.3	0.166		305	310	9.8	541	8.8
LS-LIF	12/19/2019	LIF-191219I	5730	54.7	0.215		541	795	40	1740	26
LS-MH46N	10/9/2019	L46N191009M	13000	1 U	1.13	3 T	754 S	731 S	0.5 U	2140	0.5 U
LS-MH46N	11/20/2019	L46N191120D	12100	0.5 U	1.6	2.9 T	714	875 S	0.5 U	1370	0.5 U
LS-MH46N	11/20/2019	L46N191120M	12100	0.5 U	1.58	4.2 T	691	733 S	0.5 U	1420	0.5 U
LS-MH46N	12/17/2019	L46N191217M	10700	0.55 T	0.874	2.3 T	708	654 S	0.51 JU	1390	0.51 JU
LS-PS1A	10/10/2019	LP1A191010I	1510	19.1	0.028 T		89.2	57.3	7	215	5
LS-PS1A	11/21/2019	LP1A191121I	1510	17.9	0.08		86.7	75.5	12.9	182	11
LS-PS1A	12/19/2019	LP1A191219I	258	10.9	0.012 T		9.79	14.4	1.5	62.4	1.3
LS-PS2A	10/9/2019	LP2A191009M	118	12	0.013 T	1.5 U	1.17	11.6	26.8	88	10.6
LS-PS2A	11/20/2019	LP2A191120M	122	12.6	0.01 U	1.5 U	1.35	13	1.9	40	1
LS-PS2A	12/17/2019	LP2A191217M	113	12.7	0.01 U	1.5 U	1.72	10.9	2	44.7	1.2
LS-PS4	10/10/2019	LP4-191010I	1610	56.1	0.0408		91.7	90	18	336	14.4
LS-PS4	11/21/2019	LP4-191121I	1680	43.1	0.052 T		112	162	25.6	349	15.4
LS-PS4	12/19/2019	LP4-191219I	1560	43.4	0.057 T		101	132	51	365	30
LS-V1A	10/9/2019	LV1A191009M	16300	50.9	0.81 T	5.7	1530 S	1760 S	29	559	20
LS-V1A	11/19/2019	LV1A191119M	4490	48.8	0.072 T	2.5 T	349	558	55.2	974 H	18.4
LS-V1A	12/17/2019	LV1A191217M	8110	36.4	0.22	2.5 JT	782	974 S	43.3	1880	29

See Data Qualifier List for Qualifier Information.

Data Collected from October 1, 2019 to December 31, 2019
Cedar Hills Landfill ---Leachate Metals Analytical Data
Contact Person: Sendy Jimenez (206) 477-5224

Site	Date	Sample ID	Aluminum, total (mg/L)	Antimony, total (mg/L)	Arsenic, total (mg/L)	Barium, total (mg/L)	Beryllium, total (mg/L)	Cadmium, total (mg/L)	Calcium, total (mg/L)	Chromium, total (mg/L)
LS-A567	10/10/2019	L567191010I	0.614	0.00932	0.321	0.418	0.001 U	0.0005 U	51.4	0.272
LS-A567	11/21/2019	L567191121I	0.696	0.0199	0.31	0.44	0.000993 U	0.000496 U	58.5	0.254
LS-A567	12/19/2019	L567191219I	0.591	0.014	0.289	0.436	0.00106 U	0.000528 U	64.7	0.231
LS-A81	10/10/2019	LA81191010I	0.981	0.003 U	0.00395	0.06	0.001 U	0.0005 U	76.9	0.00668
LS-A81	11/21/2019	LA81191121I	0.311	0.00299 U	0.00282	0.0994	0.000996 U	0.000498 U	134	0.0121
LS-A81	12/17/2019	LA81191217I	5.65	0.00316 U	0.00439	0.163	0.00105 U	0.000527 U	166	0.0253
LS-CSW	10/10/2019	LCSW191010I	0.673	0.003 U	0.00354	0.0263	0.001 U	0.0005 U	33.4	0.00465
LS-CSW	11/21/2019	LCSW191121I	0.624	0.00302 U	0.0059	0.0416	0.00101 U	0.000503 U	38.9	0.00554
LS-CSW	12/19/2019	LCSW191219I	0.744	0.00311 U	0.00418	0.0326	0.00104 U	0.000518 U	38.8	0.00477
LS-LEPS	10/1/2019	LEPS191001P	0.463	0.0434	0.368	0.158	0.001 U	0.0005 U	54.2	0.147
LS-LEPS	10/8/2019	LEPS191008P	0.41	0.0424	0.331	0.151	0.001 U	0.0005 U	51.2	0.147
LS-LEPS	10/15/2019	LEPS191015P	0.479 D	0.0381	0.268	0.144	0.001 U	0.0005 U	51.4	0.135
LS-LEPS	10/23/2019	LEPS191023P	0.596	0.0256	0.156	0.117	0.001 U	0.0005 U	46.1	0.0919
LS-LEPS	10/30/2019	LEPS191030P	1.14	0.0179	0.109	0.102	0.001 U	0.0005 U	46.3	0.0648
LS-LEPS	11/4/2019	LEPS191104P	0.993	0.013	0.0888	0.0886	0.001 U	0.000501 U	40.6	0.0572
LS-LEPS	11/13/2019	LEPS191113P	0.654	0.0336	0.212	0.132	0.00102 U	0.000511 U	50.7	0.112
LS-LEPS	11/19/2019	LEPS191119M	1.11	0.0283	0.17	0.128	0.00102 U	0.000509 U	53.8	0.0905
LS-LEPS	11/19/2019	LEPS191119P	0.835	0.029	0.157	0.132	0.00101 U	0.000506 U	55.9	0.0947
LS-LEPS	11/26/2019	LEPS191126P	0.866	0.0195	0.116	0.104	0.00102 U	0.000511 U	46.5	0.0706
LS-LEPS	12/3/2019	LEPS191203P	0.709	0.0222	0.148	0.11	0.00102 U	0.000509 U	50.6	0.0837
LS-LEPS	12/10/2019	LEPS191210P	0.607	0.0241	0.154	0.13	0.00102 U	0.00051 U	53.6	0.0897
LS-LEPS	12/16/2019	LEPS191216P	0.831	0.0186	0.117	0.106	0.00104 U	0.00052 U	51	0.0725
LS-LEPS	12/18/2019	LEPS191218M	0.628	0.0186	0.117	0.11	0.00106 U	0.000531 U	55.2	0.0715
LS-LEPS	12/26/2019	LEPS191226P	1.38	0.0105	0.0635	0.154	0.001 U	0.000502 U	104	0.0499
LS-LEPS	12/26/2019	LEPS191226F	0.0493 U	0.00296 U	0.000493 U	0.00493 U	0.000986 U	0.000493 U	0.493 U	0.00197 U
LS-LIF	10/10/2019	LIF-191010I	0.306	0.0144	0.127	0.134	0.001 U	0.0005 U	40.7	0.104
LS-LIF	11/21/2019	LIF-191121I	0.151	0.00574	0.0484	0.0637	0.00102 U	0.000511 U	26.2	0.0342
LS-LIF	12/19/2019	LIF-191219I	0.849	0.0288	0.172	0.211	0.00106 U	0.000531 U	192	0.112
LS-MH46N	10/9/2019	L46N191009M	0.05 U	0.003 U	0.109	0.585	0.001 U	0.0005 U	95.2	0.138
LS-MH46N	11/20/2019	L46N191120D	0.051 U	0.00306 U	0.1	0.521	0.00102 U	0.00051 U	86.1	0.121
LS-MH46N	11/20/2019	L46N191120M	0.0513 U	0.00308 U	0.101	0.511	0.00103 U	0.000513 U	86.5	0.121
LS-MH46N	12/17/2019	L46N191217M	0.0509 U	0.00306 U	0.0975	0.476	0.00102 U	0.000509 U	76.6	0.118
LS-PS1A	10/10/2019	LP1A191010I	0.088	0.00523	0.028	0.0516	0.001 U	0.0005 U	21.7	0.00916
LS-PS1A	11/21/2019	LP1A191121I	0.116	0.00353	0.0209	0.0427	0.00103 U	0.000516 U	22.3	0.00746
LS-PS1A	12/19/2019	LP1A191219I	0.0524 U	0.00314 U	0.00261	0.0108	0.00105 U	0.000524 U	14.2	0.0021 U
LS-PS2A	10/9/2019	LP2A191009M	0.195	0.003 U	0.00723	0.00939	0.001 U	0.0005 U	11.2	0.00292
LS-PS2A	11/20/2019	LP2A191120M	0.124	0.00298 U	0.00138	0.00522	0.000994 U	0.000497 U	12.2	0.00214
LS-PS2A	12/17/2019	LP2A191217M	0.095	0.00307 U	0.00163	0.00512 U	0.00102 U	0.000512 U	11.3	0.00226
LS-PS4	10/10/2019	LP4-191010I	0.21	0.134	0.529	0.0489	0.001 U	0.0005 U	36.4	0.0121
LS-PS4	11/21/2019	LP4-191121I	0.62	0.0144	0.0677	0.0372	0.00102 U	0.000509 U	33.4	0.0109
LS-PS4	12/19/2019	LP4-191219I	0.763	0.00629	0.0294	0.0441	0.00101 U	0.000505 U	37.8	0.00849
LS-V1A	10/9/2019	LV1A191009M	0.707	0.057	0.385	0.219	0.001 U	0.0005 U	64.7	0.24
LS-V1A	11/19/2019	LV1A191119M	12.8	0.0074	0.0266	0.127	0.00106 U	0.000735	39.8	0.0339
LS-V1A	12/17/2019	LV1A191217M	0.746	0.0324	0.198	0.138	0.00105 U	0.000524 U	53.4	0.113
FIELD BLANK	12/17/2019	LA81191217F	0.0504 U	0.00303 U	0.000504 U	0.00504 U	0.00101 U	0.000504 U	0.504 U	0.00202 U

Data Collected from October 1, 2019 to December 31, 2019
Cedar Hills Landfill ---Leachate Metals 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	10/10/2019	L567191010I	0.0723	0.00452	4.98	0.00234	110	0.282	0.0001 U	0.291
LS-A567	11/21/2019	L567191121I	0.0719	0.00499	5.32	0.00255	102	0.354	0.0001 U	0.284
LS-A567	12/19/2019	L567191219I	0.0604	0.00308	4.99	0.00203	113	0.363	0.0001 U	0.263
LS-A81	10/10/2019	LA81191010I	0.0125	0.00364	19.4	0.001 U	10.4	2	0.0001 U	0.0136
LS-A81	11/21/2019	LA81191121I	0.0178	0.00199 U	20.5	0.000996 U	17.6	3.47	0.0001 U	0.0227
LS-A81	12/17/2019	LA81191217I	0.0183	0.0129	24.7	0.00264	24.2	3.86	0.0001 U	0.0304
LS-CSW	10/10/2019	LCSW191010I	0.00148	0.0077	1.38	0.001 U	9.46	0.111	0.0001 U	0.00858
LS-CSW	11/21/2019	LCSW191121I	0.00228	0.0089	1.87	0.00119	13.8	0.513	0.0001 U	0.0125
LS-CSW	12/19/2019	LCSW191219I	0.0016	0.00692	1.73	0.00104 U	13.5	0.319	0.0001 U	0.00845
LS-LEPS	10/1/2019	LEPS191001P	0.0315	0.00505	5.31	0.0016	61.3	0.766 D	0.0001 U	0.136
LS-LEPS	10/8/2019	LEPS191008P	0.0304	0.00563	4.74	0.00129	55.2	0.723	0.0001 U	0.128
LS-LEPS	10/15/2019	LEPS191015P	0.0286	0.0063	4.9 D	0.00134	51.3	0.75	0.0001 U	0.12
LS-LEPS	10/23/2019	LEPS191023P	0.0189	0.00686	4.31	0.00116	37.2	0.737	0.0001 U	0.0788
LS-LEPS	10/30/2019	LEPS191030P	0.0158	0.00863	5.46	0.00119	27.9	0.86	0.0001 U	0.0588
LS-LEPS	11/4/2019	LEPS191104P	0.0132	0.00949	4.03	0.00103 D	24.8	0.675	0.0001 U	0.0512
LS-LEPS	11/13/2019	LEPS191113P	0.0239	0.00769	4.22	0.00149	42.8	0.763	0.0001 U	0.0963
LS-LEPS	11/19/2019	LEPS191119M	0.0207	0.00985	5.44	0.00154	36.5	0.916	0.0001 U	0.08
LS-LEPS	11/19/2019	LEPS191119P	0.0198	0.00841	4.31	0.00118	35.7	0.925	0.0001 U	0.0783
LS-LEPS	11/26/2019	LEPS191126P	0.016 D	0.0085	4.15	0.00102 U	29.6	0.761	0.0001 U	0.059
LS-LEPS	12/3/2019	LEPS191203P	0.0186 D	0.00731	3.96	0.00122 D	32.5	0.74	0.0001 U	0.0734
LS-LEPS	12/10/2019	LEPS191210P	0.0192	0.00736	4.39	0.00122	36.4	0.861	0.0001 U	0.0751
LS-LEPS	12/16/2019	LEPS191216P	0.0158	0.00802	4.08	0.0012	30.1	0.782	0.0001 U	0.06
LS-LEPS	12/18/2019	LEPS191218M	0.0157	0.00695	4.1	0.00111	32.6	0.749	0.0001 U	0.0588
LS-LEPS	12/26/2019	LEPS191226P	0.0176	0.00984	11.5 D	0.00178	26.4 D	2.33 D	0.0001 U	0.0503 D
LS-LEPS	12/26/2019	LEPS191226F	0.000493 U	0.00197 U	0.0986 DU	0.000986 U	0.493 DU	0.000986 DU	0.0001 U	0.000986 DU
LS-LIF	10/10/2019	LIF-191010I	0.0211	0.00745	3.09	0.001 U	33.7	0.386	0.0001 U	0.0825
LS-LIF	11/21/2019	LIF-191121I	0.0088	0.00735	1.18	0.00102 U	17.3	0.206	0.0001 U	0.037
LS-LIF	12/19/2019	LIF-191219I	0.024	0.00458	14.6	0.00149	50.9	3.48	0.0001 U	0.082
LS-MH46N	10/9/2019	L46N191009M	0.0426	0.002 U	2.66	0.001 U	60.4	0.5	0.0001 U	0.178
LS-MH46N	11/20/2019	L46N191120D	0.0397	0.00204 U	2.46	0.00102 U	55	0.463	0.0001 U	0.168
LS-MH46N	11/20/2019	L46N191120M	0.0391	0.00205 U	2.48	0.00103 U	54.9	0.456	0.0001 U	0.166
LS-MH46N	12/17/2019	L46N191217M	0.036	0.00204 U	2.42	0.00102 U	49.8	0.425	0.0001 U	0.146
LS-PS1A	10/10/2019	LP1A191010I	0.0043	0.0137	1.23	0.001 U	9.48	0.153	0.0001 U	0.0178
LS-PS1A	11/21/2019	LP1A191121I	0.00362	0.0105	0.857	0.00103 U	9.73	0.142	0.0001 U	0.0146
LS-PS1A	12/19/2019	LP1A191219I	0.000614	0.013	0.358	0.00105 U	4.79	0.0412	0.0001 U	0.00447
LS-PS2A	10/9/2019	LP2A191009M	0.00152	0.0265	6.44	0.001 U	4.02	0.19	0.0001 U	0.00691
LS-PS2A	11/20/2019	LP2A191120M	0.000497 U	0.0252	0.7	0.000994 U	4.17	0.0407	0.0001 U	0.00868
LS-PS2A	12/17/2019	LP2A191217M	0.000512 U	0.0237	0.805	0.00102 U	4.29	0.0483	0.0001 U	0.00642
LS-PS4	10/10/2019	LP4-191010I	0.00398	0.0065	2	0.001 U	14.1	0.604	0.0001 U	0.0156
LS-PS4	11/21/2019	LP4-191121I	0.00377	0.0077	2.27	0.00102 U	14	0.501	0.0001 U	0.0142
LS-PS4	12/19/2019	LP4-191219I	0.00291	0.00759	2.97	0.00167	15.1	0.441	0.0001 U	0.0121
LS-V1A	10/9/2019	LV1A191009M	0.0484	0.00976	11.9	0.00298	76	0.712	0.0001 U	0.199
LS-V1A	11/19/2019	LV1A191119M	0.0101	0.0477	13.2	0.00673	23	0.413	0.0001 U	0.0338
LS-V1A	12/17/2019	LV1A191217M	0.0226	0.00706	4.61	0.00151	40	0.767	0.0001 U	0.0856
FIELD BLANK	12/17/2019	LA81191217F	0.000504 U	0.00202 U	0.101 U	0.00101 U	0.504 U	0.00101 U	0.0001 U	0.00101 U

Data Collected from October 1, 2019 to December 31, 2019
Cedar Hills Landfill ---Leachate Metals 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	10/10/2019	L567191010I	946 D	0.005 U	0.0004 U	2830 D	0.001 U	0.0416	0.175 D	0.0758
LS-A567	11/21/2019	L567191121I	852	0.00496 U	0.000397 U	2670 D	0.000993 U	0.0512	0.159	0.0992
LS-A567	12/19/2019	L567191219I	899	0.00528 U	0.000422 DU	2710 D	0.00106 U	0.038	0.157	0.0845
LS-A81	10/10/2019	LA81191010I	6.77	0.005 U	0.0004 U	20.9	0.001 U	0.005 U	0.0103 D	0.00997
LS-A81	11/21/2019	LA81191121I	13.5	0.00498 U	0.000398 U	45.7	0.000996 U	0.00498 U	0.0122	0.00655
LS-A81	12/17/2019	LA81191217I	21.6	0.00527 U	0.000422 U	63.8	0.00105 U	0.00527 U	0.0251	0.0333
LS-CSW	10/10/2019	LCSW191010I	20.3	0.005 U	0.0004 U	47.9	0.001 U	0.005 U	0.00449 D	0.0441
LS-CSW	11/21/2019	LCSW191121I	28	0.00503 U	0.000402 U	52.4	0.00101 U	0.00503 U	0.00773	0.0333
LS-CSW	12/19/2019	LCSW191219I	19	0.00518 U	0.000415 DU	33.6	0.00104 U	0.00518 U	0.0058	0.0284
LS-LEPS	10/1/2019	LEPS191001P	422	0.005 U	0.0004 U	1170	0.001 U	0.0123	0.0504	0.0709
LS-LEPS	10/8/2019	LEPS191008P	388	0.005 U	0.0004 U	1060	0.001 U	0.0148	0.0478 D	0.0621
LS-LEPS	10/15/2019	LEPS191015P	354	0.005 U	0.0004 U	994	0.001 U	0.014	0.0447	0.0669
LS-LEPS	10/23/2019	LEPS191023P	228	0.005 U	0.0004 U	639	0.001 U	0.0115	0.0308	0.0514
LS-LEPS	10/30/2019	LEPS191030P	163	0.005 U	0.0004 DU	460	0.001 U	0.00811	0.0238	0.0611
LS-LEPS	11/4/2019	LEPS191104P	143	0.00501 U	0.000401 U	397	0.001 U	0.00674	0.0203	0.0511
LS-LEPS	11/13/2019	LEPS191113P	298	0.00511 U	0.000409 U	828	0.00102 U	0.0112	0.0372	0.0769
LS-LEPS	11/19/2019	LEPS191119M	236	0.00509 U	0.000407 U	652	0.00102 U	0.0105	0.0319	0.0722
LS-LEPS	11/19/2019	LEPS191119P	226	0.00506 U	0.000405 U	664	0.00101 U	0.0106	0.0306	0.0584
LS-LEPS	11/26/2019	LEPS191126P	176	0.00511 U	0.000409 U	482	0.00102 DU	0.00839	0.0244	0.0546
LS-LEPS	12/3/2019	LEPS191203P	223	0.00509 U	0.000407 U	623	0.00102 DU	0.0101	0.028	0.0589
LS-LEPS	12/10/2019	LEPS191210P	227	0.0051 U	0.000408 U	636	0.00102 U	0.0101	0.03	0.0554
LS-LEPS	12/16/2019	LEPS191216P	177	0.0052 U	0.000416 U	498	0.00104 U	0.00931	0.0253	0.058
LS-LEPS	12/18/2019	LEPS191218M	192	0.00531 U	0.000425 DU	546	0.00106 U	0.00817	0.0245	0.0497
LS-LEPS	12/26/2019	LEPS191226P	110	0.00502 U	0.000402 U	313	0.001 U	0.00502 U	0.0194	0.365
LS-LEPS	12/26/2019	LEPS191226F	0.986 U	0.00493 U	0.000394 U	0.986 U	0.000986 U	0.00493 U	0.00074 U	0.00493 U
LS-LIF	10/10/2019	LIF-191010I	258	0.005 U	0.0004 U	699	0.001 U	0.0119	0.0301 D	0.101
LS-LIF	11/21/2019	LIF-191121I	101	0.00511 U	0.000408 U	300	0.00102 U	0.00511 U	0.0157	0.0285
LS-LIF	12/19/2019	LIF-191219I	256	0.00531 U	0.000425 DU	660	0.00106 U	0.0108	0.0283	0.0921
LS-MH46N	10/9/2019	L46N191009M	437	0.005 U	0.0004 U	1510	0.001 U	0.005 U	0.19 D	0.005 U
LS-MH46N	11/20/2019	L46N191120D	408	0.0051 U	0.000408 U	1430	0.00102 U	0.0051 U	0.174	0.0051 U
LS-MH46N	11/20/2019	L46N191120M	411	0.00513 U	0.00041 U	1430	0.00103 U	0.00513 U	0.176	0.00513 U
LS-MH46N	12/17/2019	L46N191217M	372	0.00509 U	0.000407 U	1280	0.00102 U	0.00509 U	0.154	0.00509 U
LS-PS1A	10/10/2019	LP1A191010I	35.9	0.005 U	0.0004 U	130	0.001 U	0.005 U	0.0112 D	0.0209
LS-PS1A	11/21/2019	LP1A191121I	35.2	0.00516 U	0.000413 U	123	0.00103 U	0.00516 U	0.00927	0.016
LS-PS1A	12/19/2019	LP1A191219I	5.36	0.00524 U	0.000419 DU	20.8	0.00105 U	0.00524 U	0.00175	0.00942
LS-PS2A	10/9/2019	LP2A191009M	1.85	0.005 U	0.0004 U	2.87	0.001 U	0.005 U	0.0101 D	0.0483
LS-PS2A	11/20/2019	LP2A191120M	1.62	0.00497 U	0.000397 U	2.88	0.000994 U	0.00497 U	0.00232	0.012
LS-PS2A	12/17/2019	LP2A191217M	1.85	0.00512 U	0.00041 U	3.75	0.00102 U	0.00512 U	0.00275	0.016
LS-PS4	10/10/2019	LP4-191010I	40.5	0.005 U	0.0004 U	122	0.001 U	0.005 U	0.00511 D	0.0217
LS-PS4	11/21/2019	LP4-191121I	43.7	0.00509 U	0.000407 U	128	0.00102 U	0.00509 U	0.00444	0.0348
LS-PS4	12/19/2019	LP4-191219I	33.4	0.00505 U	0.000404 DU	98.3	0.00101 U	0.00505 U	0.00434	0.0392
LS-V1A	10/9/2019	LV1A191009M	603	0.005 U	0.0004 U	1630	0.001 U	0.0297	0.0627 D	0.59
LS-V1A	11/19/2019	LV1A191119M	48.6	0.0053 U	0.000424 U	134	0.00106 U	0.0053 U	0.0245	0.211
LS-V1A	12/17/2019	LV1A191217M	269	0.00524 U	0.000419 U	753	0.00105 U	0.015	0.0329	0.0638
FIELD BLANK	12/17/2019	LA81191217F	1.01 U	0.00504 U	0.000403 U	1.01 U	0.00101 U	0.00504 U	0.000757 U	0.00504 U

See Data Qualifier List for Qualifier Information.

Data Collected from October 1, 2019 to December 31, 2019
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	10/8/2019	LEPS191008M	2.5 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
LS-LEPS	11/19/2019	LEPS191119M	2.5 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
LS-LEPS	12/18/2019	LEPS191218M	2.5 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
LS-MH46N	10/9/2019	L46N191009M	2.5 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
LS-MH46N	11/20/2019	L46N191120D	2.5 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
LS-MH46N	11/20/2019	L46N191120M	2.5 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
LS-MH46N	12/17/2019	L46N191217M	2.5 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
LS-PS2A	10/9/2019	LP2A191009M	2.5 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
LS-PS2A	11/20/2019	LP2A191120M	2.5 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
LS-PS2A	12/17/2019	LP2A191217M	2.5 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
LS-V1A	10/9/2019	LV1A191009M	2.5 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
LS-V1A	11/19/2019	LV1A191119M	2.5 U	1 U	1 U	1 U	1.69 JT	1 U	1 U	1 U
LS-V1A	12/17/2019	LV1A191217M	2.5 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
VOA TRIP BLANK	10/4/2019	VTRP191008Z2	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	10/4/2019	VTRP191009Y	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	11/18/2019	VTRP191119Z2	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	11/18/2019	VTRP191120Y	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	11/18/2019	VTRP191120Z	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	12/16/2019	VTRP191217X	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	12/16/2019	VTRP191217Y	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	12/17/2019	VTRP191218Z	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 1, 2019 to December 31, 2019
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	10/8/2019	LEPS191008M	25 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	560
LS-LEPS	11/19/2019	LEPS191119M	25 U	1 U	1 U	3.2	1 U	1 U	1 U	1 U	1 U	1300
LS-LEPS	12/18/2019	LEPS191218M	25 U	1 U	1 U	3.93	1 U	1 U	1 U	1 U	1 U	1130
LS-MH46N	10/9/2019	L46N191009M	25 U	1 U	2.57	1 U	1 U	1 U	1 U	10.4	1 U	2.5 U
LS-MH46N	11/20/2019	L46N191120D	25 U	1 U	2.03	1 U	1 U	1 U	1 U	8.23	1 U	2.5 U
LS-MH46N	11/20/2019	L46N191120M	25 U	1 U	1.87 JT	1 U	1 U	1 U	1 U	7.48	1 U	2.5 U
LS-MH46N	12/17/2019	L46N191217M	25 U	1 U	2.45	1 U	1 U	1 U	1 U	9.91	1 U	2.5 U
LS-PS2A	10/9/2019	LP2A191009M	25 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	2.5 U
LS-PS2A	11/20/2019	LP2A191120M	25 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	2.5 U
LS-PS2A	12/17/2019	LP2A191217M	25 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	5.19
LS-V1A	10/9/2019	LV1A191009M	25 U	1 U	1 U	3.09	1 U	1 U	1 U	1.52 JT	1 U	5900 D
LS-V1A	11/19/2019	LV1A191119M	25 U	1 U	1 U	9.03	1 U	1 U	1 U	1 U	1 U	2100 D
LS-V1A	12/17/2019	LV1A191217M	25 U	1 U	1 U	4.54	1 U	1 U	1 U	1.14 JT	1 U	3290 D
VOA TRIP BLANK	10/4/2019	VTRP191008Z2	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	10/4/2019	VTRP191009Y	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	11/18/2019	VTRP191119Z2	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	11/18/2019	VTRP191120Y	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	11/18/2019	VTRP191120Z	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	12/16/2019	VTRP191217X	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	12/16/2019	VTRP191217Y	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	12/17/2019	VTRP191218Z	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.

Data Collected from October 1, 2019 to December 31, 2019
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	10/8/2019	LEPS191008M	5 U	100 U	1 U	25 U	990	50 U	25 U	0.35 U	1 U
LS-LEPS	11/19/2019	LEPS191119M	5 U	50 U	1 U	25 U	1240	50 U	25 U	0.35 U	1 U
LS-LEPS	12/18/2019	LEPS191218M	5 U	50 U	1 U	25 U	977	50 U	25 U	0.35 U	1 U
LS-MH46N	10/9/2019	L46N191009M	5 U	100 U	1 U	25 U	25 U	50 U	25 U	0.35 U	4.43
LS-MH46N	11/20/2019	L46N191120D	5 U	50 U	1 U	25 U	25 U	50 U	25 U	0.35 U	3.75
LS-MH46N	11/20/2019	L46N191120M	5 U	50 U	1 U	25 U	25 U	50 U	25 U	0.35 U	3.75
LS-MH46N	12/17/2019	L46N191217M	5 U	50 U	1 U	25 U	25 U	50 U	25 U	0.35 U	4.25
LS-PS2A	10/9/2019	LP2A191009M	5 U	100 U	1 U	25 U	25 U	50 U	25 U	0.35 U	1 U
LS-PS2A	11/20/2019	LP2A191120M	5 U	50 U	1 U	25 U	25 U	50 U	25 U	0.35 U	1 U
LS-PS2A	12/17/2019	LP2A191217M	5 U	50 U	1 U	25 U	25 U	50 U	25 U	0.35 U	1 U
LS-V1A	10/9/2019	LV1A191009M	12.2	215	1 U	46.6 JT	7690 D	91.6 JT	25 U	0.35 U	1.13 JT
LS-V1A	11/19/2019	LV1A191119M	5.03 JT	86.3 JT	1 U	25 U	1710 D	50 U	25 U	0.35 U	1.65 JT
LS-V1A	12/17/2019	LV1A191217M	7.72 JT	87.7 JT	1 U	30.7 JT	3760 D	50 U	25 U	0.35 U	1 U
VOA TRIP BLANK	10/4/2019	VTRP191008Z2	0.5 U	10 U	0.1 U	2.5 U	2.5 U	5 U	2.5 U	0.035 U	0.1 U
VOA TRIP BLANK	10/4/2019	VTRP191009Y	0.5 U	10 U	0.1 U	2.5 U	2.5 U	5 U	2.5 U	0.035 U	0.1 U
VOA TRIP BLANK	11/18/2019	VTRP191119Z2	0.5 U	5 U	0.1 U	2.5 U	2.5 U	5 U	2.5 U	0.035 U	0.1 U
VOA TRIP BLANK	11/18/2019	VTRP191120Y	0.5 U	5 U	0.1 U	2.5 U	2.5 U	5 U	2.5 U	0.035 U	0.1 U
VOA TRIP BLANK	11/18/2019	VTRP191120Z	0.5 U	5 U	0.1 U	2.5 U	2.5 U	5 U	2.5 U	0.035 U	0.1 U
VOA TRIP BLANK	12/16/2019	VTRP191217X	0.5 U	5 U	0.1 U	2.5 U	2.5 U	5 U	2.5 U	0.035 U	0.1 U
VOA TRIP BLANK	12/16/2019	VTRP191217Y	0.5 U	5 U	0.1 U	2.5 U	2.5 U	5 U	2.5 U	0.035 U	0.1 U
VOA TRIP BLANK	12/17/2019	VTRP191218Z	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.

Data Collected from October 1, 2019 to December 31, 2019
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	10/8/2019	LEPS191008M	1 U	2.5 U	5 U	1 U	1 U	2.5 U	1 U	5 U	1 U
LS-LEPS	11/19/2019	LEPS191119M	1 U	2.5 U	5 U	1 U	1.33 JT	2.5 U	1 U	5 U	1 U
LS-LEPS	12/18/2019	LEPS191218M	1 U	2.5 U	5 U	1 U	1.66 JT	2.5 U	1 U	5 U	1 U
LS-MH46N	10/9/2019	L46N191009M	1 U	2.5 U	5 U	1 U	1 U	2.5 U	2.48	5 U	1 U
LS-MH46N	11/20/2019	L46N191120D	1 U	2.5 U	5 U	1 U	1 U	2.5 U	2.03	5 U	1 U
LS-MH46N	11/20/2019	L46N191120M	1 U	2.5 U	5 U	1 U	1 U	2.5 U	2.01	5 U	1 U
LS-MH46N	12/17/2019	L46N191217M	1 U	2.5 U	5 U	1 U	1 U	2.5 U	2.39	5 U	1 U
LS-PS2A	10/9/2019	LP2A191009M	1 U	2.5 U	5 U	1 U	1 U	2.5 U	1 U	5 U	1 U
LS-PS2A	11/20/2019	LP2A191120M	1 U	2.5 U	5 U	1 U	1 U	2.5 U	1 U	5 U	1 U
LS-PS2A	12/17/2019	LP2A191217M	1 U	2.5 U	5 U	1 U	1 U	2.5 U	1 U	5 U	1 U
LS-V1A	10/9/2019	LV1A191009M	1 U	2.5 U	5 U	1 U	1.21 JT	2.5 U	1 U	5 U	1 U
LS-V1A	11/19/2019	LV1A191119M	1 U	2.5 U	5 U	1 U	2.26	2.5 U	1 U	5 U	1 U
LS-V1A	12/17/2019	LV1A191217M	1 U	2.5 U	5 U	1 U	1 U	2.5 U	1 U	5 U	1 U
VOA TRIP BLANK	10/4/2019	VTRP191008Z2	0.1 U	0.25 U	0.5 U	0.1 U	0.1 U	0.25 U	0.1 U	0.5 U	0.1 U
VOA TRIP BLANK	10/4/2019	VTRP191009Y	0.1 U	0.25 U	0.5 U	0.1 U	0.1 U	0.25 U	0.1 U	0.5 U	0.1 U
VOA TRIP BLANK	11/18/2019	VTRP191119Z2	0.1 U	0.25 U	0.5 U	0.1 U	0.1 U	0.25 U	0.1 U	0.5 U	0.1 U
VOA TRIP BLANK	11/18/2019	VTRP191120Y	0.1 U	0.25 U	0.5 U	0.1 U	0.1 U	0.25 U	0.1 U	0.5 U	0.1 U
VOA TRIP BLANK	11/18/2019	VTRP191120Z	0.1 U	0.25 U	0.5 U	0.1 U	0.1 U	0.25 U	0.1 U	0.5 U	0.1 U
VOA TRIP BLANK	12/16/2019	VTRP191217X	0.1 U	0.25 U	0.5 U	0.1 U	0.1 U	0.25 U	0.1 U	0.5 U	0.1 U
VOA TRIP BLANK	12/16/2019	VTRP191217Y	0.1 U	0.25 U	0.5 U	0.1 U	0.1 U	0.25 U	0.1 U	0.5 U	0.1 U
VOA TRIP BLANK	12/17/2019	VTRP191218Z	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.

Data Collected from October 1, 2019 to December 31, 2019
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	10/8/2019	LEPS191008M	1 U	2.5 U	1 U	1 U	2.5 U	1 U	1 U	1 U	1 U
LS-LEPS	11/19/2019	LEPS191119M	1 U	2.5 U	1 U	1 U	2.5 U	1 U	1 U	2.75	3.94
LS-LEPS	12/18/2019	LEPS191218M	1 U	2.5 U	1 U	1 U	2.5 U	1 U	1 U	2.9	5.8
LS-MH46N	10/9/2019	L46N191009M	1 U	2.5 U	1 U	1.3 JT	2.5 U	1 U	1 U	46.7	51
LS-MH46N	11/20/2019	L46N191120D	1 U	2.5 U	1 U	1.57 JT	2.5 U	1 U	1 U	39.3	46.7
LS-MH46N	11/20/2019	L46N191120M	1 U	2.5 U	1 U	1.59 JT	2.5 U	1 U	1 U	35.5	42.3
LS-MH46N	12/17/2019	L46N191217M	1 U	2.5 U	1 U	2.06	2.5 U	1 U	1 U	45.7	56.4
LS-PS2A	10/9/2019	LP2A191009M	1 U	2.5 U	1 U	1 U	2.5 U	1 U	1 U	1 U	1 U
LS-PS2A	11/20/2019	LP2A191120M	1 U	2.5 U	1 U	1 U	2.5 U	1 U	1 U	1 U	1 U
LS-PS2A	12/17/2019	LP2A191217M	1 U	2.5 U	1 U	1 U	2.5 U	1 U	1 U	1 U	1 U
LS-V1A	10/9/2019	LV1A191009M	1 U	2.5 U	1 U	2.58	2.5 U	1 U	1 U	3.15	7.54
LS-V1A	11/19/2019	LV1A191119M	1 U	2.5 U	1 U	1 U	2.5 U	1 U	1 U	3.94	10.3
LS-V1A	12/17/2019	LV1A191217M	1 U	2.5 U	1 U	1 U	2.5 U	1 U	1 U	2.26	5.6
VOA TRIP BLANK	10/4/2019	VTRP191008Z2	0.1 U	0.25 U	0.1 U	0.1 U	0.25 U	0.1 U	0.1 U	0.1 U	0.1 U
VOA TRIP BLANK	10/4/2019	VTRP191009Y	0.1 U	0.25 U	0.1 U	0.1 U	0.25 U	0.1 U	0.1 U	0.1 U	0.1 U
VOA TRIP BLANK	11/18/2019	VTRP191119Z2	0.1 U	0.25 U	0.1 U	0.1 U	0.25 U	0.1 U	0.1 U	0.1 U	0.1 U
VOA TRIP BLANK	11/18/2019	VTRP191120Y	0.1 U	0.25 U	0.1 U	0.1 U	0.25 U	0.1 U	0.1 U	0.1 U	0.1 U
VOA TRIP BLANK	11/18/2019	VTRP191120Z	0.1 U	0.25 U	0.1 U	0.1 U	0.25 U	0.1 U	0.1 U	0.1 U	0.1 U
VOA TRIP BLANK	12/16/2019	VTRP191217X	0.1 U	0.25 U	0.1 U	0.1 U	0.25 U	0.1 U	0.1 U	0.1 U	0.1 U
VOA TRIP BLANK	12/16/2019	VTRP191217Y	0.1 U	0.25 U	0.1 U	0.1 U	0.25 U	0.1 U	0.1 U	0.1 U	0.1 U
VOA TRIP BLANK	12/17/2019	VTRP191218Z	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.

Data Collected from October 1, 2019 to December 31, 2019
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	10/8/2019	LEPS191008M	1 U	2.5 U	1 U	25 U	1 U	5 U	1 U	1 U
LS-LEPS	11/19/2019	LEPS191119M	1 U	2.5 U	1 U	25 U	1.87 JT	5 U	1 U	1 U
LS-LEPS	12/18/2019	LEPS191218M	1 U	2.5 U	1 U	25 U	2.57	5 U	1 U	1 U
LS-MH46N	10/9/2019	L46N191009M	1 U	2.5 U	1 U	25 U	5.53	5 U	1.48 JT	1 U
LS-MH46N	11/20/2019	L46N191120D	1 U	2.5 U	1 U	25 U	5.29	5 U	1.32 JT	1 U
LS-MH46N	11/20/2019	L46N191120M	1 U	2.5 U	1 U	25 U	4.96	5 U	1.27 JT	1 U
LS-MH46N	12/17/2019	L46N191217M	1 U	2.5 U	1 U	25 U	5.57	5 U	1.49 JT	1 U
LS-PS2A	10/9/2019	LP2A191009M	1 U	2.5 U	1 U	25 U	1 U	5 U	1 U	1 U
LS-PS2A	11/20/2019	LP2A191120M	1 U	2.5 U	1 U	25 U	1 U	5 U	1 U	1 U
LS-PS2A	12/17/2019	LP2A191217M	1 U	2.5 U	1 U	25 U	1 U	5 U	1 U	1 U
LS-V1A	10/9/2019	LV1A191009M	1 U	2.5 U	1 U	25 U	4.17	7.28 JT	1.47 JT	1 U
LS-V1A	11/19/2019	LV1A191119M	1 U	4.49 JT	1 U	45.5 JT	4.57	5 U	2.04	1.34 JT
LS-V1A	12/17/2019	LV1A191217M	1 U	2.5 U	1 U	25 U	2.92	5 U	1.4 JT	1 U
VOA TRIP BLANK	10/4/2019	VTRP191008Z2	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	10/4/2019	VTRP191009Y	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	11/18/2019	VTRP191119Z2	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	11/18/2019	VTRP191120Y	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	11/18/2019	VTRP191120Z	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	12/16/2019	VTRP191217X	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	12/16/2019	VTRP191217Y	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	12/17/2019	VTRP191218Z	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.

Data Collected from October 1, 2019 to December 31, 2019
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	10/8/2019	LEPS191008M	1 U	1 U	5 U	5 U	1 U	1 U	1 U	0.1 U
LS-LEPS	11/19/2019	LEPS191119M	12.8	1 U	5 U	5 U	1 U	1 U	1 U	0.1 DU
LS-LEPS	12/18/2019	LEPS191218M	17.5	1 U	5 U	5 U	1 U	1 U	1 U	0.1 U
LS-MH46N	10/9/2019	L46N191009M	5.65	1 U	5 U	5 U	1 U	1 U	1 U	4.16
LS-MH46N	11/20/2019	L46N191120D	5.08	1 U	5 U	5 U	1 U	1 U	1 U	4.19 D
LS-MH46N	11/20/2019	L46N191120M	4.99	1 U	5 U	5 U	1 U	1 U	1 U	4.2 D
LS-MH46N	12/17/2019	L46N191217M	5.26	1 U	5 U	5 U	1 U	1 U	1 U	5.19
LS-PS2A	10/9/2019	LP2A191009M	1 U	1 U	5 U	5 U	1 U	1 U	1 U	0.1 U
LS-PS2A	11/20/2019	LP2A191120M	1 U	1 U	5 U	5 U	1 U	1 U	1 U	0.1 DU
LS-PS2A	12/17/2019	LP2A191217M	1 U	1 U	5 U	5 U	1 U	1 U	1 U	0.1 U
LS-V1A	10/9/2019	LV1A191009M	15.4	1 U	5 U	5 U	1 U	1 U	1 U	0.1 U
LS-V1A	11/19/2019	LV1A191119M	35.4	1 U	5 U	5 U	1 U	1 U	1 U	0.1 DU
LS-V1A	12/17/2019	LV1A191217M	14.5	1 U	5 U	5 U	1 U	1 U	1 U	0.1 U
VOA TRIP BLANK	10/4/2019	VTRP191008Z2	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	10/4/2019	VTRP191009Y	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	11/18/2019	VTRP191119Z2	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	11/18/2019	VTRP191120Y	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	11/18/2019	VTRP191120Z	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	12/16/2019	VTRP191217X	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	12/16/2019	VTRP191217Y	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	12/17/2019	VTRP191218Z	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.

Data Collected from October 1, 2019 to December 31, 2019
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	10/8/2019	LEPS191008M	0.5 U	0.5 U	1 U	0.1 U	0.1 U	0.1 GU	0.1 GU	0.1 U	0.1 GU	0.025 U	0.025 U	0.025 U	0.0609
LS-LEPS	11/19/2019	LEPS191119M	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	0.0895
LS-LEPS	12/18/2019	LEPS191218M	0.5 U	0.5 U	1 U	0.125 U	0.125 U	0.125 U	0.125 U	0.125 U	0.125 U	0.025 U	0.025 U	0.025 U	0.0628
LS-MH46N	10/9/2019	L46N191009M	0.5 U	0.955	1 U	0.1 U	0.1 U	0.1 GU	0.1 GU	0.1 U	0.1 GU	0.025 U	0.0611 J	0.025 U	0.215
LS-MH46N	11/20/2019	L46N191120D	0.5 U	1.5 U	4 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	0.174
LS-MH46N	11/20/2019	L46N191120M	0.5 U	1.5 U	4 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	0.182
LS-MH46N	12/17/2019	L46N191217M	0.5 U	0.682	2 U	0.125 U	0.125 U	0.125 U	0.125 U	0.125 U	0.125 U	0.025 U	0.075 U	0.025 U	0.17
LS-PS2A	10/9/2019	LP2A191009M	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	11/20/2019	LP2A191120M	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	12/17/2019	LP2A191217M	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	10/9/2019	LV1A191009M	0.5 U	0.655	1 U	0.1 U	0.1 U	0.1 GU	0.1 GU	0.1 U	0.1 GU	0.025 U	0.025 U	0.025 U	0.171
LS-V1A	11/19/2019	LV1A191119M	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	0.0781
LS-V1A	12/17/2019	LV1A191217M	0.5 U	0.5 U	1 U	0.125 U	0.125 U	0.125 U	0.125 U	0.125 U	0.125 U	0.025 U	0.025 U	0.025 U	0.0828

Data Collected from October 1, 2019 to December 31, 2019
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	10/8/2019	LEPS191008M	0.025 U	0.0357	0.025 U	0.1 GU	0.1 GU	0.1 U	0.5 U	0.1 U	0.1 U	0.1 U	0.1 U
LS-LEPS	11/19/2019	LEPS191119M	0.025 U	0.0548	0.025 U	0.1 GU	0.1 GU	0.1 U	0.5 U	0.1 U	0.1 U	0.1 U	0.1 U
LS-LEPS	12/18/2019	LEPS191218M	0.025 U	0.0344	0.025 U	0.125 GU	0.125 GU	0.125 U	0.5 U	0.125 U	0.125 U	0.125 U	0.125 U
LS-MH46N	10/9/2019	L46N191009M	0.025 U	0.025 U	0.025 U	0.1 GU	0.1 GU	0.1 U	0.5 U	0.1 U	0.1 U	0.1 U	0.1 U
LS-MH46N	11/20/2019	L46N191120D	0.025 U	0.025 U	0.025 U	0.1 GU	0.1 GU	0.1 U	0.5 U	0.1 U	0.1 U	0.1 U	0.1 U
LS-MH46N	11/20/2019	L46N191120M	0.025 U	0.025 U	0.025 U	0.1 GU	0.1 GU	0.1 U	0.5 U	0.1 U	0.1 U	0.1 U	0.1 U
LS-MH46N	12/17/2019	L46N191217M	0.025 U	0.025 U	0.025 U	0.125 GU	0.125 GU	0.125 U	0.5 U	0.125 U	0.125 U	0.125 U	0.125 U
LS-PS2A	10/9/2019	LP2A191009M	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	11/20/2019	LP2A191120M	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	12/17/2019	LP2A191217M	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	10/9/2019	LV1A191009M	0.025 U	0.0881	0.025 U	0.1 GU	0.1 GU	0.1 U	0.5 U	0.1 U	0.1 U	0.1 U	0.1 U
LS-V1A	11/19/2019	LV1A191119M	0.025 U	0.0394	0.025 U	0.1 GU	0.1 GU	0.1 U	0.5 U	0.1 U	0.1 U	0.1 U	0.1 U
LS-V1A	12/17/2019	LV1A191217M	0.025 U	0.0412	0.025 U	0.125 GU	0.125 GU	0.125 U	0.5 U	0.125 U	0.125 U	0.125 U	0.125 U

Data Collected from October 1, 2019 to December 31, 2019
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	10/8/2019	LEPS191008M	0.1 GU	0.1 U	0.1 U	0.1 GU	0.2 U	0.5 U	0.0966	10 U	0.1 GU
LS-LEPS	11/19/2019	LEPS191119M	0.1 GU	0.1 U	0.1 U	0.1 GU	0.1 U	0.5 U	0.1443	10 U	0.1 GU
LS-LEPS	12/18/2019	LEPS191218M	0.125 GU	0.125 U	0.125 U	0.125 U	0.25 U	0.625 U	0.0972	12.5 U	0.125 GU
LS-MH46N	10/9/2019	L46N191009M	0.1 GU	0.1 U	0.1 U	0.1 GU	0.343	0.5 U	0.2761	10 U	0.1 GU
LS-MH46N	11/20/2019	L46N191120D	0.1 GU	0.1 U	0.1 U	0.1 GU	0.19	0.5 U	0.174	10 U	0.1 GU
LS-MH46N	11/20/2019	L46N191120M	0.1 GU	0.1 U	0.1 U	0.1 GU	0.202	0.5 U	0.182	10 U	0.1 GU
LS-MH46N	12/17/2019	L46N191217M	0.125 GU	0.125 U	0.125 U	0.125 U	0.375 U	0.625 U	0.17	12.5 U	0.125 GU
LS-PS2A	10/9/2019	LP2A191009M	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	11/20/2019	LP2A191120M	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	12/17/2019	LP2A191217M	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	10/9/2019	LV1A191009M	0.1 GU	0.1 U	0.1 U	0.1 GU	0.3 U	0.5 U	0.2591	10 U	0.1 GU
LS-V1A	11/19/2019	LV1A191119M	0.1 GU	0.1 U	0.1 U	0.1 GU	0.1 U	0.5 U	0.1175	10 U	0.1 GU
LS-V1A	12/17/2019	LV1A191217M	0.125 GU	0.125 U	0.125 U	0.125 U	0.25 U	0.625 U	0.124	12.5 U	0.125 GU

See Data Qualifier List for Qualifier Information.