Tulare Lake Subbasin Annual Report

Reporting Period 2020

Groundwater Sustainability Agencies
Mid-Kings River GSA
South Fork Kings GSA
Southwest Kings GSA
El Rico GSA
Tri-County Water Authority

April 1, 2021

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Executive Summary

§356.2(a) General information, including an executive summary and a location map depicting the basin covered by the report.

This Annual Report was prepared for the Tulare Lake Subbasin (TLSB) identified by the Department of Water Resources (DWR) as Basin No. 5-022-12 (Bulletin 118) of the Tulare Lake Hydrologic Region and provides data for Water Year 2020 (WY20) from October 1, 2019 to September 30, 2020 and events throughout the 2020 calendar year. This is the second annual report submittal following the adoption of the Groundwater Sustainability Plan (GSP) submitted in January 2020. The TLSB is comprised of five Groundwater Sustainability Agencies (GSAs) as shown in Figure 1-1 and are covered under this report.

The TLSB's GSAs have worked concurrently to collect data for WY20 and begin implementation of the GSP to satisfy the requirements of the annual report as identified in California Code of Regulation §356.2.

Groundwater Sustainability Agencies (GSAs) are required to submit annual reports to the Department of Water Resources (DWR) to comply with the Sustainable Groundwater Management Act (SGMA). Reports are due to DWR by April 1st each year following the adoption of the Groundwater Sustainability Plan (GSP) which was submitted and adopted by the TLSB in January 2020.

Groundwater Elevations

The Subbasin has identified 50 Representative Monitoring Sites (RMS) spread throughout the five GSAs within the three hydrostratigraphic zones: A (perched aquifer), B (unconfined to semi-confined aquifer), and C (confined aquifer) zones. Water levels for Fall 2019 and Spring 2020 are included in Appendix A in the form of a groundwater elevation maps and Appendix B as hydrographs.

Groundwater Pumping

Groundwater pumping occurring in various sectors within the Subbasin are discussed in Chapter 3. Agricultural pumping has been identified as the primary sector for extraction within the Subbasin. Total volumes of groundwater pumping by sector is summarized in Table ES-1.

Table ES-1 – Tulare Lake Subbasin - Groundwater Extraction by Sector

Groundwater Extraction by Sector (Acre-Feet)							
Sector	**2015**	**2016**	**2017**	**2018**	**2019**	**WY20**	**Average**
Agricultural	502,745	405,747	132,418	677,695	444,319	339,474	**417,066**
Urban	23,765	23,152	24,192	26,240	26,571	27,118	**25,203**
Other	8,400	8,400	9,500	9,500	9,500	8,701	**9,000**
Total	**534,910**	**437,299**	**166,110**	**713,615**	**480,390**	**375,293**	**451,240**

Surface Water Supplies

Surface water brought into the Subbasin comes from a variety of sources. The Kings River provides the largest source of surface water to the Subbasin followed by the Tule River, and State Water Project (SWP). SWP water is both state and federal water transferred through the California Aqueduct. In wet years, the Subbasin can also receive surface water deliveries from Deer Creek, White River, Poso Creek, the Kern River, and Central Valley Project (CVP) water. Volumes of surface water supplies for the Subbasin are listed in Table ES-2.

Surface water deliveries presented in Table ES-2 do not account for precipitation.

Table ES-2 – Surface Water Supplies and Water Year Types

Surface Water Delivery (Acre-Feet)							
Source	**WY15**	**WY16**	**WY17**	**WY18**	**WY19**	**WY20**	**Average**
	Dry	**Normal**	**Wet**	**Normal**	**Wet**	**Normal**	
Kings River	54,074	195,642	504,934	316,536	418,544	212,594	**283,721**
Kaweah River	0	356	44,063	0	21,939	0	**11,060**
Tule River	0	0	73,456	2,923	13,615	0	**14,999**
Deer Creek	0	0	22,452	5,006	8,199	0	**5,943**
Poso Creek	0	0	16,334	727	902	0	**2,994**
State Water Project (SWP)	16,698	13,909	28,216	73,793	41,592	45,190	**36,566**
Central Valley Project (CVP)	0	0	0	0	0	0	**0**
Imported Groundwater	71,956	84,439	54,704	59,119	21,730	57,478	**58,238**
Total:	**142,728**	**294,346**	**744,159**	**458,104**	**526,521**	**315,262**	**413,521**

NOTE : Surface Water Delivery includes a seepage correction to represents on-farm surface water delivery. Seepage losses are assumed to occur between the headgates of these sources and the farm turnouts that are then applied to crops. Irrigation delivery efficiency is incorporated into the farm demand calculations described in Section 3.

Total Water Use

Total water use is a combination of groundwater extractions, surface water supplies, and effective precipitation. Groundwater extractions supply all accounted sectors (Agricultural, Urban, and Other), while surface water deliveries are assumed to fully supply the agricultural sector. Effective precipitation across the GSAs were accounted for in these values. Calendar year (CY) and water year (WY) volumes are provided in Table ES-3.

Table ES-3 – Tulare Lake Subbasin - Water Use by Sector

Water Use by Sector (Acre-Feet)							
Sector	**CY 2015**	**CY 2016**	**CY 2017**	**CY 2018**	**CY 2019**	**WY20**	**Average**
Agricultural	705,300	788,500	1,101,800	1,063,500	1,138,400	738,708	**922,701**
Urban	23,765	23,152	24,192	26,420	26,571	27,118	**25,203**
Other	8,400	8,400	9,500	9,500	9,500	8,701	**9,000**
Total	**737,465**	**820,052**	**1,135,492**	**1,099,420**	**1,174,471**	**774,527**	**956,874**

Groundwater Storage

Groundwater pumping during WY20 was 375,293 AF and corresponded to a one year (Spring-to-Spring) storage decline of -25,706 AF. On a cumulative basis, pumping is estimated as 2,227,217 AF of groundwater since 2015 and has resulted in approximately 199,186 AF of cumulative aquifer storage loss.

Progress and Management Actions Status

The Subbasin continues to work towards GSP implementation through GSA coordination and with the surrounding Subbasins. Several project and management actions listed in the GSP are in progress and are on track to completion by 2040. A detailed list of each GSA's status towards implementation is provided in Chapter 6.

1. Introduction

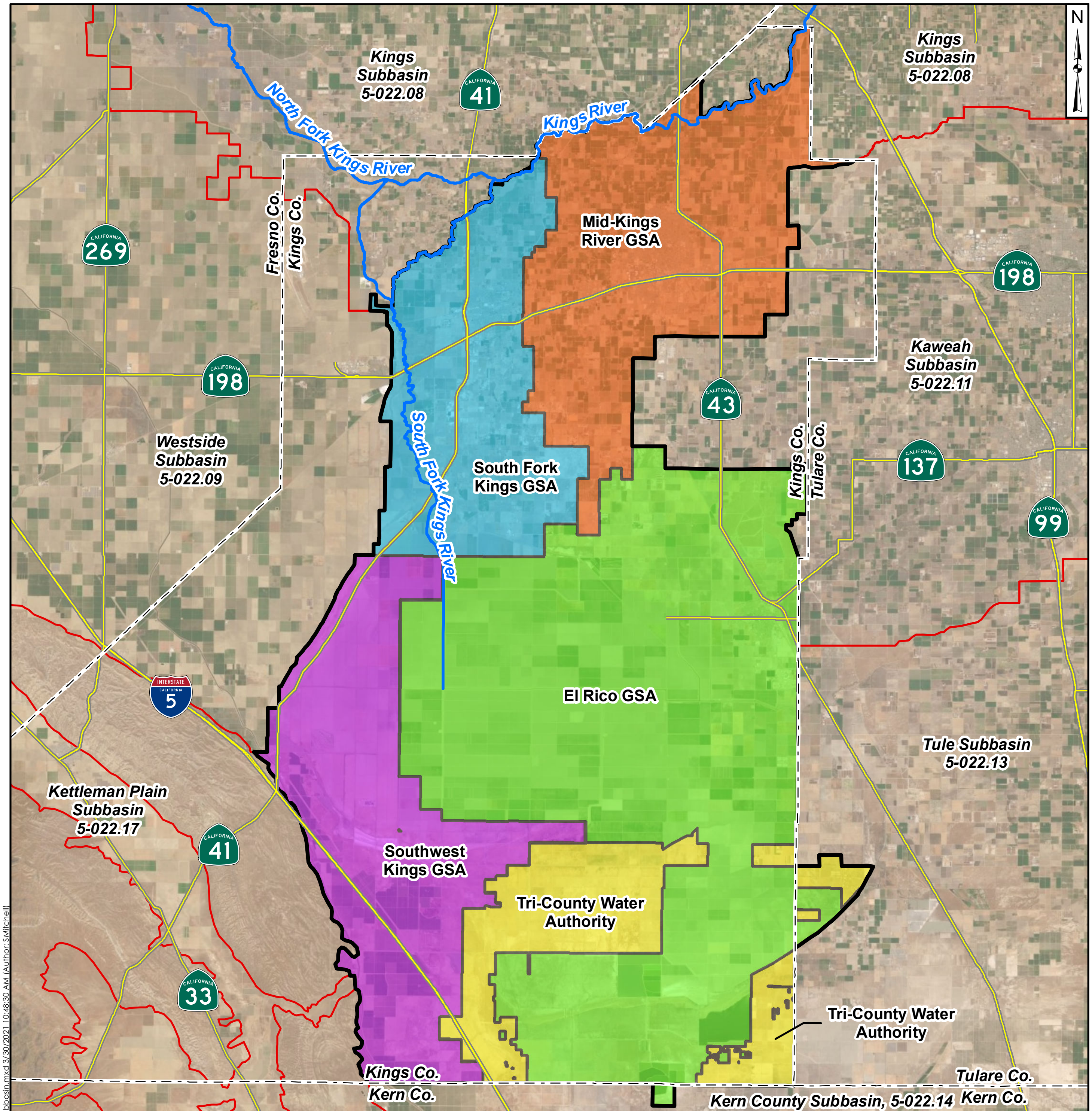
The TLSB has five GSAs with a coordinated approach including submitting one GSP and annual report for the Subbasin while collectively implementing the adopted GSP. The following GSAs are located within the Tulare Lake Subbasin (Figure 1-1):

- Mid-Kings River GSA
- South Fork Kings GSA
- Southwest GSA
- El Rico GSA
- Tri-County Water Authority

The annual report provides information on the Subbasin's groundwater conditions and updates of GSP implementation activities over the prior year. As stated in the TLSB GSP, the Annual Report includes "groundwater levels, extraction volume, surface water use, total water use, groundwater storage change, and progress of GSP implementation" (TLSB GSP, pg ES-40). This is the second annual report submitted by TLSB and discusses information collected for Water Year 2020 (WY20) between October 1, 2019 to September 30, 2020 along with historical data presented in the first annual report. Additional information on the basin plan and conditions is available in the TLSB GSP. The chapters of this WY20 Annual Report present the following:

- **Chapter 2 – Groundwater Elevations**: Discussion of groundwater levels and hydrographs, including alterations made to the monitoring network.
- **Chapter 3 – Groundwater Pumping**: Estimate of groundwater pumping within the Subbasin and how estimates were calculated.
- **Chapter 4 – Surface Water Supplies**: Discussion of surface water deliveries to the Subbasin and water year type.
- **Chapter 5 – Sustainable Management Criteria**: Review and discussion of Sustainability Indicators, groundwater storage change, groundwater quality data, land subsidence, and surface to groundwater interconnections.
- **Chapter 6 – Groundwater Projects and Management Actions Status**: Progress update of project and management actions within WY20.
- **Chapter 7 – Data Gaps**: Discussion of Subbasin's data gaps.

The WY20 Annual Report will provide a continuous discussion of the TLSB groundwater conditions and updates on the GSA's implementation efforts.



Legend

- Tulare Lake Subbasin 5-022.12
- Surrounding Subbasins
- Highways
- Waterway
- County lines

10 5 0 10 Miles

Tulare Lake Subbasin
Groundwater Sustainability Agencies
WY 2020 Annual Report

Geosyntec consultants

Figure **1-1**

Project No.: SFO128

March 2021

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2. Groundwater Elevations

> **§356.2(b) (1) (A)** Groundwater elevation contour maps for each principal aquifer in the basin illustrating, at a minimum, the seasonal high and seasonal low groundwater conditions.
> **§356.2(b) (1) (B)** Hydrographs of groundwater elevations and water year type using historical data to the greatest extent available, including from January 1, 2015, to current reporting year.

2.1 Groundwater Levels

The TLSB GSP originally listed seventy (70) existing Representative Monitoring Site (RMS) wells with each respective Sustainable Management Criteria (SMC) [Interim Milestones, Measurable Objective (MO), Minimum Threshold (MT)]. However, some of the wells were found to be no longer accessible or had been destroyed (see Section 2.3). Forty-nine (49) RMS wells were included in the TLSB monitoring network during WY19. The WY20 Annual Report used fifty (50) RMS wells within the Subbasin to report groundwater elevation. Groundwater contour maps are presented in Appendix A.

Groundwater elevation maps for fall 2019 and spring 2020 were generated using RMS water level measurements and data collected from other wells monitored by various entities within and surrounding the Subbasin. Approximately 220 wells in total were used to generate contours in the three hydrostratigraphic zones for WY20. The hydrostratigraphic zones are designated as the A-zone (perched aquifer found above the A clay), the B-zone (semi-confined aquifer located above the Corcoran Clay, or E clay) and the C-Zone (confined aquifer found below the Corcoran Clay or E clay).

Contours were generated using computer-based contouring in Arc-GIS and are presented in Figures A-1 through Figure A-6 of Appendix A. The first annual report did not include groundwater elevation contours for the C-zone due to limited data. This annual report includes contours for the C-zone for fall 2019 and spring 2020.

Contours were created using grid-based mapping software which interpolated the location/elevation data and plotted on ArcGIS. Contour intervals were produced every ten (10) feet for the A-zone to better portray fluctuation of groundwater elevation in the perched zone. Contour intervals for the B and C zones were produced every twenty (20) feet as data covered a larger span of area. The contours were evaluated for general agreement with expected historic flow directions reported in the 2019 Annual Report, but at the edges of the contour area, contours may not represent actual conditions due to the contouring algorithm.

2.2 Groundwater Hydrographs

Hydrographs of the RMS wells are included in Appendix B. Hydrographs were created for all three hydrostratigraphic zones and present each well's SMC, site code, and local well name or state well name. Figure B-1 of Appendix B shows the RMS well locations across the Subbasin.

2.3 Groundwater Level Monitoring Network

The GSA's have updated the TLSB's Groundwater Level Monitoring Network after a year of SGMA implementation with a total of fifty (50) RMS wells. Table 2-3 lists wells added and removed from each GSA's groundwater level monitoring network. Justification for these modifications are provided below (Chapter 2.3.1).

2.3.1 GSA Groundwater Level Monitoring Network Changes

Four of the five GSAs have made changes to the groundwater level monitoring network in their GSA since the 2019 GSP submittal. The changes were necessary as some wells were found to be destroyed, collapsed, or inaccessible. New wells were added to the monitoring network to replace missing wells. Table 2-3 summarizes the changes made to the monitoring network, which are also summarized below for each GSA as follows:

- The Mid-Kings River GSA learned this year that three wells from the original groundwater level monitoring network had been destroyed. Replacements for these monitoring sites have yet not been identified
- South Fork Kings GSA removed four wells from the original groundwater level monitoring network and added two wells. Three of the wells were removed from the network as the wells were destroyed. Destroyed wells were reported to DWR to update well records. The fourth well was removed from the network due to access issues. The two wells added to the network are located within a half-mile distance from the destroyed well locations. The completion interval for one of the wells (20S20E26L002M) has also been updated. This well was thought to be screened above the E-Clay, however, after further examination, the well is screened below the E-Clay.
- El Rico GSA removed four wells from the original groundwater network and added four replacement wells to the network. Three of the wells were removed because they are no longer monitored by DWR through the CASGEM program. The fourth well was removed as the well has been destroyed. The four replacement wells added to the Monitoring Network were selected as the wells are within the same hydrostratigraphic zone and within a mile of the original wells.
- The Tri-County Water Authority GSA replaced all three wells originally listed in the groundwater level monitoring network. One well (piezometer) was removed from the network due to being destroyed in a recent fire. The destroyed piezometer was reported to DWR to update well records. The remaining two wells were removed from the network due to accessibility issues. Two wells have been added to the network and are within a mile or less from the original wells and in the same hydrostratigraphic zone.
- The Southwest Kings GSA did not alter their monitoring network.

Table 2-1 – Alterations to the Tulare Lake Subbasin Water Level Network

Alterations to the TLSB Groundwater Level Monitoring Network		
GSA	**Additions to Network**	**Removals to Network**
Mid-Kings River	To be Determined	1. 18S21E01C001M (364008N1196477W001) 2. 18S22E07A001M (363864N1196193W001) 3. KRCDKCWD11 (362892N1196235W001)
South Fork Kings	1. 19S20E06D005M (363133N1198477W002) 2. 19S20E06D004M (363133N1198512W001)	1. 19S20E06C001M 2. 19S20E07F001M 3. 19S20E06L001M 4. 19S20E19A001M
El Rico	1. ER_CID-033 (362003N1195673W001) 2. ER_CID-081 (361338N1195366W001) 3. ER_CID-05 (361381N1195558W001) 4. ER_CID-105 (361670N1195911W001)	1. 20S22E35R001M (361381N1195482W001) 2. ER_CID_021 (361953N1195417W001) 3. 20S22E19J001M (361744N1196196W001) 4. ER_CID_078 (366049N1197543W001)
Tri-County Water Authority	1. ZE 33-4 (357906N1195913W001) 2. FB 35-2 (358036N1195732W001)	1. 23S23E15M001M 2. 24S22E35E001M 3. 24S22E33C001M
Southwest Kings	None	None

3. Groundwater Pumping

§356.2(b) A detailed description and graphical representation of the following conditions of the basin managed by the Plan:

(2) Groundwater extraction for the preceding water year. Data shall be collected using the best available measurement methods and shall be presented in a table that summarizes groundwater extractions by water use sector, and identifies the method of measurement (direct or estimate) and accuracy of measurements, and a map that illustrates the general location and volume of groundwater extractions.

(4) Total water use shall be collected using the best available measurement methods and shall be reported in a table that summarizes total water use by sector, water source type, and identifies the method of measurement (direct or estimate) and accuracy of measurements. Existing water use data from the most recent Urban Water Management Plans or Agricultural Water Management Plans within the basin may be used, as long as the data are reported by water year.

The Subbasin's estimated total groundwater pumping is described in this section and discussed below.

3.1 Total Water Use by Sector

Total water use is presented in Table 3-1 by applicable sectors presented in SGMA Portal: Urban, Agricultural, and Other. Combined Municipal and Industrial (M&I) water use within the Subbasin is represented as Urban water use while rural domestic water use falls under the "Other" category. Water use applied to irrigated lands was included as Agricultural water use.

Water use presented in the 2019 Annual Report, which included historical use from 2015 through 2019, was calculated based on calendar year. The GSAs have moved to a water-year (October – September) reporting structure, therefore WY20 values are based on the October 2019 to September 2020 water year. Table 3-1 and 3-2 report water use by CY for the years 2015-2019, and WY for 2019-2020.

Table 3-1 – Tulare Lake Subbasin - Water Use by Sector

Water Use by Sector (Acre-Feet)							
Sector	**CY 2015**	**CY 2016**	**CY 2017**	**CY 2018**	**CY 2019**	**WY20**	**Average**
Agricultural	705,300	788,500	1,101,800	1,063,500	1,138,400	738,708	**922,701**
Urban	23,765	23,152	24,192	26,420	26,571	27,118	**25,203**
Other	8,400	8,400	9,500	9,500	9,500	8,701	**9,000**
Total	**737,465**	**820,052**	**1,135,492**	**1,099,420**	**1,174,471**	**774,527**	**956,874**

Agricultural water use is calculated based on crop demand (evapotranspiration estimates), surface water deliveries and effective precipitation as described in Section 3.2.

Urban, or M&I water use within the Subbasin is based on measured pumping from municipalities and special districts including the City of Hanford, City of Lemoore, Stratford Public Utilities District (PUD), Kettleman City Community Services District (CSD), Armona CSD, Home Garden CSD, and the City of Corcoran (TLSB GSP, Table 2-4). All M&I water use is extracted groundwater with the exception of Kettleman City CSD.

Domestic water use outside the municipal service areas is listed as "Other" to differentiate from metered urban supply. In the previous 2019 annual report, it was characterized as "Urban Demand", however, that was changed to synchronize the water use sectors with those in SGMA Portal. Rural domestic water use is generally de minimis and not reported. Therefore, an estimate was developed based on population and typical per capita demand. All rural domestic water use was assumed to be extracted groundwater.

3.2 Agricultural Groundwater Use

The total water used associated with agricultural demand is a combination of surface water supply, precipitation, and groundwater extraction. Most agricultural wells in the TLSB are either not metered or the values are not reported, so agricultural pumping for the TLSB is estimated by combining cropping data, evapotranspiration coefficients (ETc), irrigation efficiencies, and effective precipitation estimates. The following equations discussed in the TLSB GSP (TLSB GSP, pg 3-43) were used to estimate agricultural groundwater extraction within the Subbasin.

Step 1: Determine cropping pattern. Data provided by LandIQ utilizing satellite imagery was used to classify crop type across most of the TLSB. The El Rico GSA provided cropping information and therefore LandIQ data was not utilized for that area. The total acreage for each crop type was summed across the entire Subbasin and for each GSA.

The use of LandIQ data was a change from the methodology used to establish cropped acreage in the previous annual report. Previous land use and cropping data was generated from two sources: 2015 to 2016 was from DWR, while 2017 to 2019 was from United States Department of Agriculture (USDA) CropScape (see Appendix C). Due to the change in data source, there was an approximate 22% increase in total crop acreage after 2017 by transitioning from the DWR to CropScape data sets.

For 2020, the TLSB opted to use a mixture of land use data provided directly from the GSAs combined with satellite-based land cover estimated by LandIQ. The transition from CropScape to LandIQ resulted in a decrease of total irrigated area by about 9% compared to the 2019 CropScape data. However, as WY20 was drier than previous years, the decrease may also have been due to voluntary land fallowing.

Step 2: Determine total crop demand. Evapotranspiration coefficients (ETc) for each crop type were applied to each respective crop area within the GSAs. The ETc values utilized were listed in Appendix D Table D2-6 of the GSP based on ITRC published ETc rates. Based on surface water deliveries from the Kings River in WY20, the "normal" values were selected from Table D2-6. Fallow land was not included in the total crop demand calculation as it is not irrigated.

Total crop demand was calculated using the following equation:

$$Total\ Crop\ Demand\ \left(\frac{AF}{Y}\right) = Annual\ Crop\ Acreage\ (Acres) * Annual\ Crop\ ETc\ \left(\frac{ft}{yr}\right)$$

Step 3: Adjust for effective precipitation and irrigation efficiency. After Total Crop Demand is determined, the effective precipitation value for the area is subtracted and divided by irrigation efficiency to calculate the crop irrigation demand, or "farm demand." Effective precipitation is calculated using actual precipitation estimates from PRISM data multiplied by effective precipitation ratios as described in the TLSB GSP (TLSB GSP, Page 3-38; Brouwer & Heibloem, 1985 Chapter 3, Table 6; PRISM Climate Group, Oregon State U).

The irrigation efficiencies used in the TLSB groundwater model assumed an 85% irrigation efficiency for the Subbasin with an 95% irrigation efficiency for the Lake Bottom Area (also referred to as Lakebed) as discussed in the TLSB Groundwater Model Report (TLSB GSP Appendix D, pg 26). A higher irrigation efficiency is used to account for seepage experienced past the root zone. This seepage is considered recharge and lowers farm demand. This is an "on-farm" efficiency estimate that represents on-farm irrigation technology but does not include surface water conveyance system losses. The Farm Demand equation is therefore:

$$Farm\ Demand\left(\frac{AF}{Y}\right) = \frac{Total\ Crop\ Demand\left(\frac{AF}{Y}\right) - Effective\ Precipitation\ (\frac{AF}{Y})}{Irrigation\ Efficiency\ (\%)}$$

Step 4 : Calculate Un-met Demand. The term "un-met demand" is used in the GSP to describe Farm Demand that is met by groundwater pumping. It is determined by subtracting farm-level surface water deliveries from Farm Demand, as shown in the equation below (TLSB GSP, pg 3-44).

$$Un - Met\ Demand\left(\frac{AF}{Y}\right) = Farm\ Demand\left(\frac{AF}{Y}\right) - Surface\ Water\ Deliveries\left(\frac{AF}{Y}\right)$$

Data on surface water deliveries were provided by the GSAs and affiliated water agencies. Details of surface water deliveries are provided in Section 4. Many of the surface water deliveries reported were "headgate deliveries" from the main diversions on the Kings River and did not account for seepage losses between the headgate and farm turn-outs. For the South Fork Kings, Mid-Kings, and El Rico GSAs, a fifteen percent (15%) seepage loss was applied to calculate the total volume of surface water that was delivered to farm turn-outs. For the Southwest Kings GSA, a ten percent (10%) seepage correction was applied due to the more clayey lithology.

Step 5: Apply Special Adjustment for Lake Bottom Water Storage. Farming practices in the southern portion of the portion of the El Rico GSA (commonly referred to as the "Lake Bottom" or "Lakebed") is different than the rest of the subbasin. During wet years, flood water and return flows are diverted for storage in the Lake Bottom area and are then used as for irrigation throughout the year. The Lakebed storage is treated as an additional surface water supply for El Rico GSA (TLSB GSP Appendix D, pg 26). As previously stated, WY20 was not a "wet" year and there was no Lakebed storage resulting in no additional adjustment for calculating groundwater pumping in El Rico GSA.

3.3 Groundwater Pumping by Sector

Groundwater extraction by sector across the TLSB is summarized below on Table 3-2. The values reported for groundwater extraction used in the Agricultural sector vary from the total water use in Table 3-1 by subtracting surface water deliveries. Instead, the agricultural groundwater use was calculated based on the methodology presented above. As previously stated, all M&I and rural domestic water use is from groundwater pumping.

Table 3-2 also contains a mix of previously calculated groundwater pumping based on a calendar year with the current WY20 groundwater pumping which is based on an October-to-September water year.

Table 3-2 – Tulare Lake Subbasin - Groundwater Extraction by Sector

Groundwater Extraction by Sector (Acre-Feet)							
Sector	**2015**	**2016**	**2017**	**2018**	**2019**	**WY20**	Average
Agricultural	502,745	405,747	132,418	677,695	444,319	339,474	417,066
Urban	23,765	23,152	24,192	26,240	26,571	27,118	25,203
Other	8,400	8,400	9,500	9,500	9,500	8,701	9,000
Total	**534,910**	**437,299**	**166,110**	**713,615**	**480,390**	**375,293**	**451,240**

4. Surface Water Supplies

§356.2(b) A detailed description and graphical representation of the following conditions of the basin managed by the Plan:
(3) Surface water supply used or available for use, for groundwater recharge, or in-lieu use shall be reported based on quantitative data that describes the annual volume and sources for the preceding water year.

Surface water imported into the TLSB comes from a variety of sources as listed in Table 4-1. The Kings River provides the largest source of surface water to the Subbasin followed by the Tule River, and State Water Project (SWP). SWP wateris both state and federal water transferred through the California Aqueduct. In wet years, the Subbasin can also receive surface water deliveries from Deer Creek, White River, Poso Creek, the Kern River, and Central Valley Project (CVP) water.

For the purposes of this report, groundwater extracted outside the TLSB but utilized with the TLSB is treated as a surface water delivery for calculating groundwater pumping within the TLSB.

4.1 Water Year Type for WY20

As defined in the GSP, WY 20 is considered a "dry" year. The water year type is an index created for the TLSB and is based on the Kings River Water Association (KRWA) diversion classification. Water year types for the Subbasin were defined based on a percentage of average long-term Kings River diversions to the TLSB. The base period representing "normal hydrology" for the Kings River was determined within a thirteen year span from 1998 to 2010 and closely resembles the 50-year historical averages presented in the GSP (TLSB GSP, Table 3-5). The Kings River yielded an average of 96% water year during the 50-year period. The water year types are defined as Dry (<75%), Normal (75-125%), and Wet (>125%). This index is used because the TLSB is significantly reliant on surface water deliveries from the Kings River. The index provides an indication of "wetness" which correlates with the amount of groundwater pumped. The wetter a year is, the less groundwater is pumped. Water year types are presented in the surface water supply and groundwater pumping tables.

The KRWA diversion classification differs from the State Water Resources Control Board (SWRCB) water year type classification. The SWRCB measures a water year based on unimpaired runoff, or natural water production from other basins with a five-tier classification. The Subbasin is using the KRWA index to describe the water year because the TLSB is significantly reliant on surface water deliveries from the Kings River.

4.2 Surface Water Supplies

Surface water supplies, or canal deliveries for WY20 were provided by the GSAs and various water agencies, irrigation districts, or private mutual water companies. Surface water supplies within the Subbasin are directly measured with flumes or weirs with an accuracy consistent with reporting requirements.

Seepage volume was not available for all diversions at the time of data collection and is considered a data gap. To account for this data gap, a fifteen percent (15%) seepage loss was applied to diversions that did not report seepage. The 15% seepage adjustment was not applied to canals that are known to be concrete-lined, such as canals part of the California Aqueduct. The Southwest Kings GSA area had a ten percent (10%) seepage adjustment applied due to the regional lithology. Seepage volumes for WY20 were considered as intentional recharge and accounted for in groundwater pumping calculations. Seepage also experienced past the root zone due to irrigation efficiencies are considered recharge. Acquired and estimated seepage as well as recovery volumes are accounted for in surface water deliveries and are presented with historical and current surface water supplies in Table 4-2.

Table 4-1 – Surface Water Supplies and Water Year Types

Surface Water Delivery (Acre-Feet)							
Source	**WY15**	**WY16**	**WY17**	**WY18**	**WY19**	**WY20**	**Average**
	Dry	**Normal**	**Wet**	**Normal**	**Wet**	**Normal**	
Kings River	54,074	195,642	504,934	316,536	418,544	212,594	**283,721**
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Poso Creek	0	0	16,334	727	902	0	**2,994**
State Water Project (SWP)	16,698	13,909	28,216	73,793	41,592	45,190	**36,566**
Central Valley Project (CVP)	0	0	0	0	0	0	**0**
Imported Groundwater	71,956	84,439	54,704	59,119	21,730	57,478	**58,238**
Total:	**142,728**	**294,346**	**744,159**	**458,104**	**526,521**	**315,262**	**413,521**

NOTE : Surface Water Delivery includes a seepage correction to represents on-farm surface water delivery. Seepage losses are assumed to occur between the headgates of these sources and the farm turnouts that are then applied to crops. Irrigation delivery efficiency is incorporated into the farm demand calculations described in Section 3.

Kings River water reported in Table 4-2 during WY20 is the total volume of on-farm deliveries to GSA from the Kings River.

The SWP has several contractors within the Subbasin. Entities that received SWP water deliveries for WY 20 include Empire West Side Irrigation District (South Fork Kings GSA), Tulare Lake Basin Water Storage District (El Rico GSA), and Dudley Ridge Water District (Southwest Kings GSA).

Imported groundwater supplies are delivered from the adjacent Tule and Kaweah Subbasins. Imported water for WY20 was pumped from the multiple sources including the Angiola Water District and Creighton Ranch well fields and was delivered to Southwest Kings and El Rico GSAs (TLSB GSP, pg 3-39).

5. Sustainable Management Criteria

The Sustainable Groundwater Management Act (SGMA) has defined "sustainable groundwater management as the management and use of groundwater in a manner that can be maintained during the planning and implementation horizon without causing undesirable results" (TLSB GSP, 4-1).

5.1 Sustainable Goal

The annual report is an ongoing SGMA compliance activity that provides updates on the TLSB's progress towards reaching the sustainable goal and avoiding undesirable results. The sustainable goal is to "manage groundwater resources to continue to provide an adequate water supply for existing beneficial uses and users while meeting established MOs to maintain a sustainable groundwater yield." (TLSB GSP, 4-2)

Data gathered for the WY20 Annual Report has been imported into the TLSB's Data Management System (DMS) which houses historical and current information for all five GSAs. WY20 data is also provided in various tables, maps, figures, and appendices within this annual report. Measurable Objectives (MO) and Minimum Thresholds (MT) will be discussed more in-depth in the following annual report as MO's and MT's are reevaluated.

TLSB's progress towards meeting the sustainable goal in WY20 presented in the following sections.

5.2 Groundwater Elevations

Groundwater levels SMCs in the RMS wells were established to reflect groundwater conditions moving towards the measurable objectives. The available groundwater levels for the RMS wells from Fall 2019 and Spring 2020 are summarized on Table B-1 and are used to compare with previous water level data. Hydrographs presenting water level trends over time and Table B-1 are provided in Appendix B.

5.3 Groundwater Storage

§356.2(b) (5) (A) Change in groundwater in storage maps for each principal aquifer in the basin.
§356.2(b) (5) (B) A graph depicting water year type, groundwater use, the annual change in groundwater in storage, and the cumulative change in groundwater for the basin based on historical data to the greatest extent available, including from January 1, 2015, to the current reporting year.

Figure 5-1 displays available annual change in storage estimates, cumulative change in storage, the water year type, and water year estimated total groundwater pumping for the Subbasin. Figure 5-1 includes the data presented in the first annual report along with available data used for WY20. The values for years 2015 through 2019 were presented in the previous Annual Report (Provost and Pritchard, 2020) and have not been modified. The methodology for calculating storage change for 2019-2020 are described below.

5.3.1 Groundwater Storage

Groundwater storage change within the A and B-zones for WY20 was determined by comparing Spring 2020 groundwater elevation data and maps (Appendix A, Figure A-2 and Figure A-4; Appendix B, Table B-1) to the Spring 2019 groundwater elevation maps that were included in the first annual report (TLSB

WY19 Annual Report, Appendix D). The change in groundwater elevation was then multiplied by specific yield values.

Storage was calculated using the Spring 2019 groundwater elevation grid (as presented in the first annual report) and Spring 2020 groundwater elevation grid. The contouring method for the Spring 2020 data was based on kriging methodology applied in Surfer, a contouring and 3-D surface mapping software. Grids for Spring 2019 and 2020 were created by interpolating a surface between the contours from each time period using the kriging method. The difference in groundwater level from 2019 to 2020 was then calculated in ArcGIS using a cut fill functionality under the ESRI Spatial Analysist tool. The change in groundwater levels is used to calculate the total volume for each aquifer zone (A-zone and B-zone). The difference in groundwater levels from Spring 2020 to Spring 2019 was then multiplied by specific yield. Specific yield determination for the A and B zone included a review of the specific yield range listed in the TLSB GSP (1% to 30% for the unconfined, $1x10^{-5}$/ft and $4.5x10^{-2}$ for the semi-confined) and general aquifer material specific yields (0-5% for clay; 3-12% for sandy clay; 3-19% for silt; 10-28% for fine sand, etc.) listed in hydrogeology publications and other USGS articles to estimate a specific yield (TLSB GSP, pg 3-29; Fetter, 2018; Johnson, 1967).

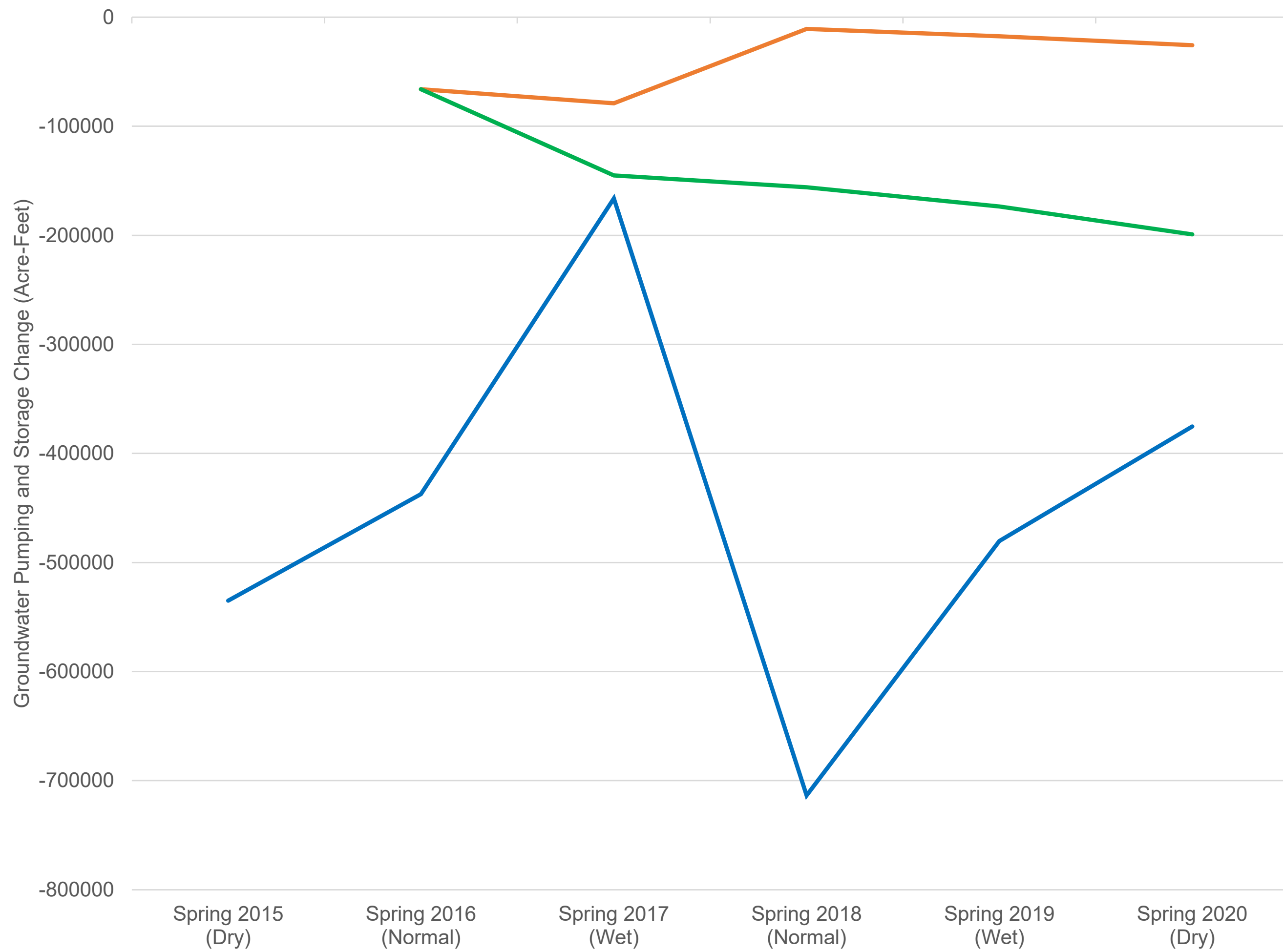
The specific yield calculated for the A zone used seven-percent (7%) which falls within the specific yield range listed in the GSP and was used to find groundwater storage change in the A zone for the first annual report. Specific yield for the B zone used the median specific yield of 2% presented in the GSP. In some areas of the Subbasin, particularly the Mid-Kings River GSA, the B Zone is unconfined and likely has a specific yield closer to the average specific yield of 8.5% reported in the GSP (TLSB GSP, pg 3-30). Applying a 2% specific yield for the Subbasin is reasonable as it is representative across the entire Subbasin.

A visual representation of where groundwater storage change was calculated is provided in Appendix D, Figure D-1. The following general equation was used to calculate estimated groundwater storage change within the A and B-zones:

$$\begin{aligned} &Change\ in\ Groundwater\ Storage\ (A\ \&\ B\ Zones) \\ &\quad = (Current\ Year\ Seasonal\ High\ Groundwater\ Levels \\ &\quad - Previous\ Year\ Seasonal\ High\ Groundwater\ Levels) * Specific\ Yield \end{aligned}$$

Both the A and B-zone have limited available data to analyze groundwater storage. Because the storage change calculation relies on the previous seasonal high groundwater levels, storage change is confined to a specific analysis area, as shown throughout figures in Appendix A and Appendix D. This is considered a data gap as three GSAs (El Rico, Southwest Kings, Tri-County Water Authority) do not have available data. The lack of data is due to the absence of wells in this area. Little to no water is extracted across the area which relies mostly on imported surface water.

Groundwater storage change for the C-zone was calculated in the 2019 annual report using land subsidence data from DWR's Interferometric Synthetic Aperture Radar (InSAR). At this time, DWR has not released land subsidence data for the current seasonal high (Spring 2020) to the previous year seasonal high (Spring 2019), therefore groundwater storage for the C zone and total Subbasin was not calculated for WY20. Storage change for the C zone and total storage change will be documented in the next annual report once InSAR data is available for WY20.



Legend	Spring 2015	Spring 2016	Spring 2017	Spring 2018	Spring 2019	Spring 2020
Water Year	*DRY*	*NORMAL*	*WET*	*NORMAL*	*WET*	*DRY*
Annual GW Storage Change	0	-66,092	-79,017	-10,791	-17,580	-25,706
Cumulative Change in GW Storage	0	-66,092	-145,109	-173,480	-173,480	-199,186
Total GW Pumping	-534,910	-437,299	-166,100	-713,615	-480,390	-375,293

Notes:
1) Kings River Water Year Types - Less than 75% = Dry, from 75% to 125% = Normal, greater than 125% = Wet.
2) Annual storage change is determined from Spring to Spring. Storage change is listed under the ending year evaluated.
3) 2020 values were based on average water-level changes in wells with measurements for both 2019 and 2020. Storage coefficients and areas used to calculate storage volumes are described in Section 5.3. Storage volumes do not provide C zone storage losses for 2020 based on InSAR data. This information will be presented in the following annual report when data becomes available.

Estimated Annual and Cumulative Groundwater Storage Change
Tulare Lake Subbasin
WY20 Annual Report

Geosyntec consultants

Project No.: SFO128 | March 2021

Figure 5-1

P:\GIS\SFO128 - TLSB Annual Report\Project\202102_Annual_Report_Figures\Fig5-1_EstimatedStorageChange.mxd 3/31/2021 6:42:50 PM (Author: SMitchell)

Total annual storage change for Spring 2019-Spring 2020 in the A and B zones is estimated to be -25,706 AF. Table 5-3 below summarizes total storage changes for all zones since 2015. Calculations prepared for years 2015-2019 were presented in the 2019 TLS Annual report (Provost and Pritchard, 2020).

Table 5-1 – Storage Change within the A,B,C Zones – Historical and Current

Changes in Storage	Spring 2015	Spring 2016	Spring 2017	Spring 2018	Spring 2019	Spring 2020
Annual GW Storage Change (AF)		(66,092)	(79,017)	(10,791)	(17,580)	(25,706)
Cumulative Change in GW Storage (AF)		(66,092)	(145,109)	(155,900)	(173,480)	(199,186)
Total GW Pumping (AF)	(534,910)	(437,299)	(166,100)	(713,615)	(480,390)	(375,293)
Cumulative GW Pumping (AF)		(534,910)	(972,209)	(1,138,309)	(1,851,924)	(2,227,217)

NOTES:

[1]2015 – 2019 values reported in the Tulare Lake Subbasin Annual Report, Reporting Period 2015-2019 (Provost & Pritchard, 2020).

[2]2020 values were based on average water-level changes in wells with measurements for both 2019 and 2020. Storage coefficients and areas used to calculate storage volumes are described in Section 5.3. 2020 storage volumes do not provide C zone storage losses, which include inelastic storage loss based on InSAR data. This information will be presented in the following annual report when data becomes available.

[3]Annual storage change is determined from Spring to Spring. Storage change is listed under the ending year evaluated.

As shown on Table 5-3, pumping during Calendar Year 2019 was approximately 480,390 AF and corresponded to a Spring-to-Spring storage decline of -17,580 AF. Pumping during WY20 was lower at 375,293 AF and corresponded to a Spring-to-Spring storage decline of -25,706 AF. The year to year differences are likely due to the changes in calculation methodology. Additionally, storage change values did not account for influences of inflow and outflow outside of the Subbasin and will be evaluated during the GSP update. On a cumulative basis, pumping of an estimated 2,227,217 AF of groundwater since 2015 has resulted in approximately 199,186 AF of cumulative aquifer storage loss.

5.4 Groundwater Quality

Water quality data was utilized from the EPA's Safe Drinking Water Information System (SDWIS) and California State Water Board's GAMA Groundwater Information System. Wells within the water quality monitoring network are displayed on Figure E-1 of Appendix E. Data presented in Appendix E for each constituent being monitored and is consistent with the 2019 Annual Report. Groundwater quality time series graphs for the Subbasin's water quality monitoring network are available in Appendix E.

Water quality graphs found in Appendix E only present chemicals of concern that were discussed in the GSP [Total Dissolved Solids (TDS), Arsenic, Nitrate, Volatile Organic Chemicals (VOCs), Boron, Chloride, and Salinity (EC)]. Water quality trends are described across the Subbasin in Section 5.4.1. Alterations to the water quality network are described in Section 5.4.2.

5.4.1 Groundwater Quality Trends

In general, results for most constituents of concern were below the maximum contaminant level (MCL). Historically and within WY20, the following constituents were detected at or above the MCL:

Arsenic was the most commonly detected constituent with detections surpassing the MCL in four of the five GSAs. As discussed in the GSP, arsenic (and uranium) has been known to leach out of geologic formations and dissolve into groundwater at various depths of pumping (TLSB GSP, pg 4-9). El Rico GSA reported arsenic levels as high as 38 µg/L in 2017 with a range of 12-36 µg/L during WY20. In Mid-Kings River GSA, arsenic was detected as high as 78 µg/L in 2005 with an MCL of 50 µg/L. Arsenic was not detected in Mid-Kings River GSA during WY20. This is understood to be the case because most municipal wells that tapped arsenic heavy zones have modified to swedge/block the zones with high arsenic. In South Fork Kings GSA, arsenic was reported as high as 28 µg/L in November 2019 and March 2020. Arsenic concentrations for South Fork Kings GSA had a range of Non-Detect (ND) to 28 µg/L in WY20. In Southwest Kings GSA, arsenic concentrations were detected as high as 23.2 µg/L in 2008 and 15 µg/L during WY20.

1,2,3- Trichloropropane (1,2,3- TCP) is a manmade chlorinated hydrocarbon generally found at industrial or hazardous waste sites. In Mid-Kings River, South Fork Kings, Southwest Kings, and El Rico GSA, several wells detected 1,2,3- TCP at concentrations of 0.5 µg/L and below. 1,2,3- TCP has not been detected in WY20 in Mid-Kings River and South Fork Kings. Southwest Kings and El Rico GSA did not sample for 1,2,3- TCP in WY20.

Other historical elevated concentrations detected include: Total Dissolved Solids (TDS) and Uranium in South Fork Kings. TDS has been known to have higher concentrations in some areas of the western Subbasin (TLSB GSP, pg 4-9) The Stratford area detected concentrations as high as 4,500 mg/L (MCL: 1000 mg/L) in Spring 2019 . Historically, the highest concentration of Uranium detected in the monitoring network was 19.7 pCI/L within South Fork Kings GSA in 1994. Uranium did not surpass the MCL of 20 pCI/L. In 2007, Southwest Kings GSA detected Dibromochloropropane (DBCP) at a concentration of 0.5 µg/L in both water quality monitoring wells that exceeded the MCL of 0.2 µg/L. DBCP is an unclassified nematocide for soil fumigation.

5.4.2 Groundwater Quality Monitoring Network

The TLSB Groundwater Quality Monitoring Network relies on already existing monitoring programs. The GSP lists forty-four (44) wells within the groundwater quality monitoring network. These wells were chosen because the wells were under the oversight of existing regulatory agencies or groundwater quality coalitions. Table 5-1 lists wells removed from the groundwater quality monitoring network. Alterations made to the monitoring network were primarily due to the well removed from regulatory oversight, destroyed, or well rehabilitation. As stated in the GSP, the TLSB may conduct supplemental groundwater quality sampling as needed. Updates on the GSA’s groundwater quality monitoring network status is discussed below.

Three wells within Mid-Kings River GSA's groundwater quality monitoring network have not been sampled since 2018/2019. Two of the three wells were monitored by Armona Community Service District (CSD) and one well associated with the City of Hanford's existing water quality program.

The Southwest Kings GSA originally monitored two wells for groundwater quality and has discontinued monitoring as Kettleman City is now entirely dependent on treated surface water received from the California Aqueduct and no longer relies on groundwater. Groundwater supply is now considered an emergency supply. Additionally, one well (Maud St. well) in the monitoring network has failed and has removed the pumping unit. Kettleman City CSD has no scheduled plans to repair the well as the regulating agency no longer requires groundwater quality testing.

The South Fork Kings GSA has made several adjustments to their groundwater quality monitoring network. Three wells listed in the GSP were monitored by Stratford Public Utility Department (PUD) and have been removed from the monitoring network because the wells have been destroyed or are experiencing mechanical issues. Stratford PUD has newly installed a well and will continue water quality sampling once the well is operational. South Fork Kings GSA plans to add Stratford PUD's new well to the groundwater quality monitoring network. Three additional wells monitored by the City of Lemoore were removed from the GSA's monitoring network. One of the three wells is temporarily removed from the GSA's network due to the well's (1610005-006) offline status. There are plans to rehabilitate the well and begin water quality sampling thereafter. The other two City of Lemoore wells removed from the network was due to the well collapsing (1610005-007) and the well no longer monitored (1610005-003) by the regulatory agency. Two wells monitored by KRCD under the ILRP program have been removed from the GSA's monitoring network because the wells are no longer monitored under ILRP.

The Tri-County Water Authority did not list groundwater quality wells to monitor in the GSP and have not made alterations to the network. Additionally, El Rico GSA has not made any alterations to their groundwater quality monitoring network.

Table 5-2 – Alterations to the Tulare Lake Subbasin Water Quality Monitoring Network

Alterations to the TLSB Groundwater Quality Monitoring Network		
GSA	**Removals to Network or Lack of New data**	**Justification**
Mid-Kings River	• 1610001-008 • 1610001-009 • 1610003-038	The listed wells were last sampled in 2018-2019.
South Fork Kings	• 1610006-001 • 1610006-002 • 1610006-005 • 1610005-003 • 1610005-006 • 1610005-007 • 18S10E12E002M • 19S20E32D002M	No future plans to sample due to well status (destroyed, mechanical issues, offline for upcoming rehabilitation, regulatory agency no longer monitoring, etc).
El Rico	N/A	No alterations to the Water Quality Network.
Tri-County Water Authority	N/A	This GSA does not have a Water Quality Network.
Southwest Kings	• 1610009-002 • 1610009-004	Wells within the Water Quality Network will no longer be sampled as the area is now using treated surface water from the California Aqueduct. Wells are no longer scheduled to sample.

5.5 Land Subsidence

Land subsidence for WY20 is based on measurements taken from the Subsidence Monitoring Network, the Kings River Conservation District (KRCD)'s Subsidence Network. As previously noted InSAR data was not available at the time of the report. Monitoring locations, or benchmarks for KRCD's subsidence network and the TLSB are displayed on Figure F-1 of Appendix F and are color coded to represent the amount of elevation change experienced in the area during WY20. Benchmarks throughout the Subbasin provide available updated surface elevation data which are crucial for analyzing subsidence trends within the Subbasin and along the California Aqueduct (Aqueduct). Benchmarks (Figure F-1 of Appendix F) depicts measurements of -0.018 ft (-0.22 inches) to +0.026 ft (+0.31 inches) of annual change along the Aqueduct.

Observations for WY20 are generally similar with WY19 data, with the highest amount of subsidence recorded at the CRCN RMS monitoring point. Subsidence RMS monitoring points, LEMA and CRCN remain consistent with the first annual report, with an average annual change of -0.526 and -0.662 feet, respectively.

5.5.1 Subsidence Monitoring Network

Subsidence monitoring for the TLSB relies on already existing monitoring programs. The GSP lists twenty-seven (27) subsidence monuments within the subsidence monitoring network. Since the submittal of the GSP, an additional thirteen (13) monitoring locations from KRCD's subsidence monitoring program have been added to the network. Alterations to the subsidence monitoring network are listed in Table 5-3.

Table 5-3 – Alterations to the Tulare Lake Subbasin Subsidence Monitoring Network

GSA	Removals to Network or Lack of New data
Mid-Kings River	• N 460 RESET (No available data) • SUB068 (Destroyed) • SUB091 (Inactive) • U 511 (No available data) • U 808 (No available data) • X 511 (No available data) • X 931 (No available data)
South Fork Kings	N/A
El Rico	• S234P2 (No available data) • S238 (No available data)
Tri-County Water Authority	N/A
Southwest Kings	• U 1097 (No available data)

5.6 Surface to Groundwater Interconnection

The Subbasin does not believe a surface to groundwater interconnection exists as the connection was severed many decades ago (Owen et al., 2019). The Subbasin will continue to review and consider information as it becomes available.

5.7 Sea Water Intrusion

The TLSB is approximately 85 miles east of the coastline. Based on the distance between the coastline and the Subbasin, sea water intrusion is not a concern and will not be monitored.

6. Projects and Management Actions Status

§356.2(b) (5) (C) A description of progress towards implementing the Plan, including achieving interim milestones, and implementation of projects or management actions since the previous annual report.

6.1 Mid-Kings River GSA

Progress towards GSP implementation by the Mid-Kings River GSA included the following:

TLS GSP, Section 7.2.1.2 – New Basins

- Esajian Basin by Kings CWD (top priority project for MKR GSA)
  - CEQA consideration and documentation was completed in 2019.
  - Construction on the basin facility began in 2020. The new 80 acre recharge basin is roughly 50% excavated at the time of reporting.
  - Additional work is underway to design and diversion facilities from existing adjacent surface water conveyance facilities that will likely be built in the fall of 2021.
- Griswold Basin by Kings CWD (next priority project for MKR GSA)
  - Further design of needed facilities related to diversion from the existing adjacent Riverside Ditch
  - Development of cost estimates for construction and work with local contractor to obtain prevailing wage quote for mass earthwork to develop new basin cells.
  - Identification of future basin site as an optimal location for a new clustered monitor well that would monitor groundwater levels above and below the Corcoran Clay and make possible water quality sampling. This facility would fill in a significant data gap in the area.
- New Basin Project Development
  - Several new recharge basin projects are currently in various stages of development. These projects are currently described as follows:
    - Last Chance Basin – Last Chance Water Ditch Company owns an eleven acre parcel along the Dutch John Cut of the Kings River that is very sandy. Kings CWD is working with Last Chance Water Ditch Company to investigate the development of a new groundwater recharge basin on that property that would increase the amount of floodwater that could be diverted when available and also potentially reduce losses in delivery of surface water to the Last Chance Water Ditch Company system through the Dutch John Cut.
    - Kingston Park Basin – Kings County owns a thirty acre site along the Kings River that is very sandy. Kings CWD is investigating the development of a new groundwater recharge basin on that property that would increase the amount of floodwater that could be diverted when available and also potentially reduce losses in delivery of surface water to the Lemoore Canal and Irrigation Company system through the Kings River.
    - Bookout Basin – Along an existing conveyance system, many years ago there used to be a series of recharge basins in a very sandy area. The property was converted to an orchard at some point. The potential Bookout Basin would

convert available sandy property in the area of the former basins to develop a new groundwater recharge basin through Kings CWD efforts.
        - North Hanford Basin – Kings CWD is in discussions with an existing property owner for the development of a new 10 acre basin site north of Hanford along an existing surface water delivery system. The facility is planned for evaluation with TowTEM in 2021 to determine if the property warrants purchase and development.
        - Many other potential new basin recharge basin locations have been identified and are being considered. This involves discussions with landowners about their current situation, evaluating nearby conveyance facilities for available delivery capacity and investigation of available information on soils, wells, geology and groundwater levels.
    - Two properties that were for sale in WY20 (Dias 80 acres and Tutschulte 182 acres) were considered by Kings CWD for potential purchase and conversion to new recharge basins. Both sites were located adjacent to existing surface water conveyance facilities. Unfortunately, both were not pursued as the soils did not show sufficient potential for high recharge rates.

TLS GSP, Section 7.2.1.2 – System Improvements

- Everett Recharge Basin - Efforts to rehabilitate a failing diversion facility at the Everett Basin were accomplished in 2020. The rehabilitated turnout facilities incorporated a significantly increased diversion capacity to facilitate greater use of floodwaters when available and improved metering facilities.
- Expansion of Existing Recharge Basins
    - Continue to make progress on plans to improve the capacity limited diversion facilities at Cody Slough, Railsback Basin, Lopez Basin and Smith Basins. Improvements would make it possible to divert greater volumes of floodwater when available. Conceptual designs for new turnout facilities have been developed along with estimated construction costs.
    - Continued discussions occur with the owner of adjacent properties at Cody Slough and Lopez Basin to gauge interest in potential to expand the Recharge Basins into adjacent sandy parcels.
    - Garner Basin Expansion – The property north of the Garner Basin is owned by Kings CWD and has been considered for development as an expansion of that basin for some time. Work continues to evaluate the design facility improvements, estimated costs, potential recharge benefits and construction schedule.
    - Esajian Basin Expansion – A landowner adjacent to the new Esajian Recharge Basin property made Kings CWD aware they were interested in selling their property. Kings CWD is investigating the opportunity and the needed facility improvements, estimated costs, potential recharge benefits and construction schedule for the effort.
- Ramboll Soil Evaluation – Kings CWD has pursued the evaluation of the soils at seven potential recharge basin project locations through a new evaluation method called TowTEM. This method of towing a land based unit over properties and evaluating soil properties using an

electromagnetic field has several significant benefits if the evaluations go well. This first contracted effort is being undertaken to see the potential of the method. The evaluation is planned to begin in April 2021.

- System Evaluations – Three existing ditch systems were evaluated by survey to better understand diminished capacity and whether the issues related to subsidence. The Independent Ditch was evaluated topographically and understood not to be suffering from subsidence related issues along the alignment. The Peoples West Branch and Last Chance Center Main were also surveyed to better understand diminished capacity and potential subsidence issues. The evaluation of the survey data for those two systems is pending.
- Pipeline to Sand Slough – There is an existing pipeline that connects and existing surface water conveyance facility to the Sandy Slough, south of Hanford. The pipeline has several issues and local landowners have engaged Kings CWD and the City of Hanford on potential modifications. Kings CWD is also considering how this facility could be improved to develop additional capacity to increase groundwater recharge from floodwater when available.
- Old Kings River Channel – The Old Kings River Channel (aka High Flow Channel or Old River) is operated by Kings CWD to facilitate delivery of available surplus surface water to the area for groundwater recharge. Improvements to the levees along the Old River, the turnouts to the Old River and the earthen checks in the Old River are being considered to develop plans to improve the facilities ability to convey and manage water available for groundwater recharge during Kings River floodwater events.

TLS GSP, Section 7.2.1.3 – On-Farm Recharge

- Several landowners in the MKR GSA have inquired regarding how private recharge facilities would be handled in connection with potential future groundwater pumping restrictions. Those kinds of policies are just beginning to be discussed by the Board and are hoped to be formalized by the end of 2021.

TLS GSP, Section 7.2.1.4 – Meter Requirements

- The MKR GSA Board considered draft groundwater well registration policies as well as draft policies to require Flow Meters on new and existing groundwater wells. There were several significant issues that required additional clarifications and work. The well registration policy and Flow Meter requirement policy continue to be developed and considered by the MKR GSA Board. The Board plans to have these policies finalized in 2021.

TLS GSP, Section 7.2.1.4 – Pumping Restrictions

- Investigations have been conducted to better define current groundwater pumping in the MKR GSA area.
    - Records relates to Annual Reports for CAFOs in the MKR GSA were obtained and are being evaluated for the groundwater, surface water and wastewater deliveries reported on properties associated with the CAFO.

    - Land IQ was contracted by Kings CWD to evaluate crop demands through a new method understood to be more accurate than previously available. The effort is underway and the products will be evaluated in WY 2021.
- The MKR GSA Board has begun discussion on how and why pumping restrictions would be implemented. The current general concept of implementation involves setting thresholds that would be monitored for periods of time and they adjusted down, as justified by monitoring information.

TLS GSP, Section 7.2.1.5 – Implementation Funding Plan

- Prop 218 efforts through consultant services were planned in 2020, but due to meeting restrictions from local Covid-19 conditions, little progress was made. Efforts are being reevaluated and planned to proceed in 2021.

TLS GSP, Section 7.2.1.5 – Grant Funds

- Contracts for the Round 3 SGM Planning Grant on behalf of the Tulare Lake Subbasin were finalized in WY20 and the initial grant reimbursement request was under development.
- Within the subbasin, Mid-Kings River GSA has coordinated with the other GSA's to determine the projects best suited for SGMA grant eligibility and funding.
- A grant application was developed and submitted by Kings CWD for the Proposition 68 SGM Grant Program's Round 1 Implementation Grant. The Kings CWD 2021 Groundwater Recharge Project application involved the development of the new Griswold Basin as well as the improvement of facilities at the existing Railsback, Cody, Lopez and Smith Basins.

6.2 El Rico GSA

Progress towards GSP implementation by the El Rico GSA included the following:

TLB GSP, Section 6.3.1 – Conveyance Facilities Modifications and Construction of New Facilities

- Several members and growers of the El Rico GSA have contributed to and intend to participate in the San Joaquin Valley Blueprint, with intent to gain rights to increased water supplies to reduce groundwater overdraft.
- Corcoran Irrigation District (CID) has adopted a project to create an efficient conveyance system. For conservation purposes, CID has also enclosed roughly 2 miles of open channel in its well field conveyance system. CID's goal over the next 10 years is to enclose over 20 miles of conveyance channels for conservation purposes.

TLB GSP, Section 6.3.2 – Above-Ground Surface Water Storage

- In Tulare Lake Basin Water Storage District, levee maintenance and cleaning of storage cells has been performed in anticipation of capturing periodic flood waters. Further, several wells have been connected to pipeline distribution at landowner expense for conservation purposes.

TLSB GSP, Section 6.3.3 – Recharge Basins/Water Banking

- CID has adopted a second project designed to increase percolation and storage CID has, starting in October of 2017, added approximately 1800 acre-feet of additional storage and has excavated roughly 2,100,000 and 800,000 cubic yards of material in two different recharge ponds. CID's goal over the next 10 years is to increase storge between 10,000 to 15,000 acre-feet and provide additional groundwater recharge.

TLS GSP, Section 6.4 Management Actions

- In El Rico GSA, over 15,000 acres were fallowed in 2020 over 2019 cropping by using flexible cropping patterns to adjust to available water supply, as opposed to overplanting permanent crops that create a fixed demand in excess of average sustainable supplies.

TLS GSP, Section 7.3 Identify Funding Alternatives

- Within the subbasin, El Rico GSA has coordinated with the other GSA's to determine the projects best suited for SGMA grant eligibility and funding.

TLS GSP, Section 7.0 Plan Implementation

- El Rico GSA has held initial and follow up meetings with Kaweah Subbasin and Tule Subbasin, with the goal of better understanding, defining, and resolving disputes over the artificial boundaries where the three subbasins intersect.

6.3 Tri-County Water Authority GSA

The TCWA made significant progress towards implementing their GSP during 2020. Some of the key projects and management actions included the following:

TLB GSP, Section 6.3.1 – Conveyance Facilities Modifications and Construction of New Facilities

- Participated in discussions with the San Joaquin Valley Blueprint with intent to increase water supplies to the area. TCWA provided the Blueprint staff with maps and overdraft data to help size the necessary conveyance systems.

TLS GSP, Section 7.2.4.3 Management Actions

- Implemented a GSA-wide meter policy which required the installation of meters on all active production wells. The policy also required regular reporting of the quantity of groundwater extracted.
- Implemented a groundwater allocation policy with significant input from stakeholders. TCWA prepared the policy following months of meetings and discussions with landowners. Monthly meetings were held with landowners and their input was incorporated into the final policy. The

policy specifies the amount of sustainable yield per acre and the allowable transitional pumping for productive land. The policy also includes penalties for exceeding the allocation.

- Implemented the use of Land IQ Satellite data to refine groundwater extraction data and create a shared data set with the Tule Subbasin for reporting.
- Refined the representative monitoring network to include wells listed in the GSP and the Tule subbasin model allowing for greater coverage across the GSA.

TLS GSP, Section 7.4 Data Management System

- Provided current data on water levels and land use to assist with the update to the Tule Subbasin Groundwater Model. The updated data was used to further refine the subbasin groundwater model.

TLS GSP, Section 7.0 Plan Implementation

- Participated in coordination meetings between the Kaweah and Tulare Lake subbasins. The purpose of the meetings was to identify common issues and to share data across the region. These meetings are expected to continue to help provide common solutions to regional issues.

6.4 South Fork Kings GSA

Progress towards GSP implementation by the SFK GSA included the following:

TLB GSP, Section 6.3.1 – Conveyance Facilities Modifications and Construction of New Facilities

- Participated in discussions with the San Joaquin Valley Blueprint with intent to increase water supplies to the area.

TLS GSP, Section 7.2.2.3 – Groundwater Monitoring Program

- Based on several wells being destroyed or inaccessible, SFKGSA worked with local landowners to modify the groundwater monitoring network. Access agreements were obtained for the modified network to ensure long term availability.

TLS GSP, Section 7.2.2.8 – Supply Enhancement Program

- SFK applied for and was awarded a grant from the California Resilience Challenge to implement an Aquifer Storage and Recovery (ASR) Pilot Test. Progress towards the ASR Pilot test included:
    - Prepared the engineering design and specifications to conduct the ASR Pilot Test
    - Preparation and submittal of ASR Pilot Test Workplan to the Regional Water Quality Control Board (RWQCB) and Division of Drinking Water (DDW)
    - Meet with and responded to comments from the RWQCB and DDW
    - Received approval of the Workplan from the RWQCB and DDW. This is a significant milestone as that was necessary for the project to continue forward

- Received approval from the USEPA to utilize the well as an injection well
- Received approval from the Lemoore Canal Company for them to supply 80 acre-feet of water to conduct the pilot test and allow the discharge of water into their canal system
- Retained a licensed surveyor to provide an elevation survey of the wells to be utilized as part of the pilot test
- Retained a contractor to construct the modification to the wells required for the pilot test. The contractor is currently making required modifications
- Continued the public outreach efforts by updating the public on the progress of the project at the SFKGSA Board meetings and on the website

TLS GSP, Section 7.0 – Plan Implementation

- Continue to engage with the neighboring Subbasins and GSAs to the north and west to help coordinate inter-basin coordination. This coordination included on-going data exchanges and technical discussions regarding boundary conditions.
- Participated in coordination meetings between the Kaweah and Tulare Lake subbasins. The purpose of the meetings was to identify common issues and to share data across the region. These meetings are expected to continue to help provide common solutions to regional issues.

6.5 Southwest Kings GSA

Progress towards GSP implementation by the SWK GSA included the following:

TLB GSP, Section 6.3.1 – Conveyance Facilities Modifications and Construction of New Facilities

- Participated in discussions with the San Joaquin Valley Blueprint with intent to increase water supplies to the area.

TLS GSP, Section 6.4 – Management Actions

- Implemented a GSA-wide meter policy which required the installation of meters on all active production wells. The policy also required regular reporting of the quantity of groundwater extracted.
- Implemented the use of Land IQ Satellite data to refine groundwater extraction data and create a shared data set with the TLSB for reporting.
- Refined the representative monitoring network allowing for greater coverage across the GSA.

TLS GSP, Section 7.0 – Plan Implementation

- Continue to engage with the neighboring Subbasin to the west to help coordinate inter-basin coordination. This coordination included on-going data exchanges and technical discussions regarding boundary conditions.

7. Data Gaps

After the submittal of the GSP, the TLSB has modified several components of the monitoring network. Data gaps in the networks are still set to be filled prior to the 5-year update in 2025 and will be included in that year's annual report if the data coincides with the data gathering cycle.

7.1 Water Supplies

A large portion of streams and canals within the TLSB are unlined and experience seepage which recharges surface water back into the Subbasin. Available seepage rates were included as intentional recharge when calculating groundwater pumping for the Subbasin/GSAs, however seepage volumes will need to be better quantified (TLSB GSP, pg 3-41). A seepage rate adjustment was applied to delivery systems where seepage was not reported and where canals are known to be unlined. This accounted for delivery losses experienced at the headgates before water is received at turnouts. Seepage adjustment was fifteen percent (15%), except for Southwest Kings GSA, with an adjustment of 10%.

7.2 Water Level

Data gaps within the A, B, and C-zones were identified in the GSP and first annual report. The TLSB is continuing evaluation for the area and intends to provide further coverage as data becomes available (TLSB Annual Report, pg 8). Shallow well data (A-zone) will provide a better understanding of how the aquifer is being used (TLSB GSP, pg 3-25). Data gaps for the semi-confined aquifer (B-zone) and confined aquifer (C-zone) are also undergoing further evaluation. As discussed in the 2019 annual report, there is a large data gap within Southwest Kings GSA due to the lack of wells in the area. As monitoring continues, data gaps will decrease as data becomes available.

The GSAs continue to apply and research grant opportunities for proposed monitoring wells. The Subbasin is currently applying for the TSS grant to decrease data gap areas within the C zone. Additionally, Kings County Water District (Mid-Kings River GSA) proposed a well be drilled as part of their application for the Prop 68 SGM Round 1 Implementation Grant.

As additional water level measurements are taken, groundwater surface elevation contours can be generated to cover larger extents of the Subbasin. Currently, contours covering the A and B-zone are limited and only cover areas within the Mid-Kings River and South Fork Kings GSAs. Collecting more water level measurements throughout the Subbasin will provide further coverage of groundwater storage.

7.3 Subsidence

The addition of KRCD's Subsidence Network has expanded coverage throughout the Subbasin, however, as monitoring continues, further coverage of the Subbasin may be needed to prevent undesirable effects. The C zone and total storage change were not able to be calculated for WY20 due to unavailable DWR InSAR data. The following reports will include storage change for the C zone and total storage change within the Subbasin if the data is available.

8. References

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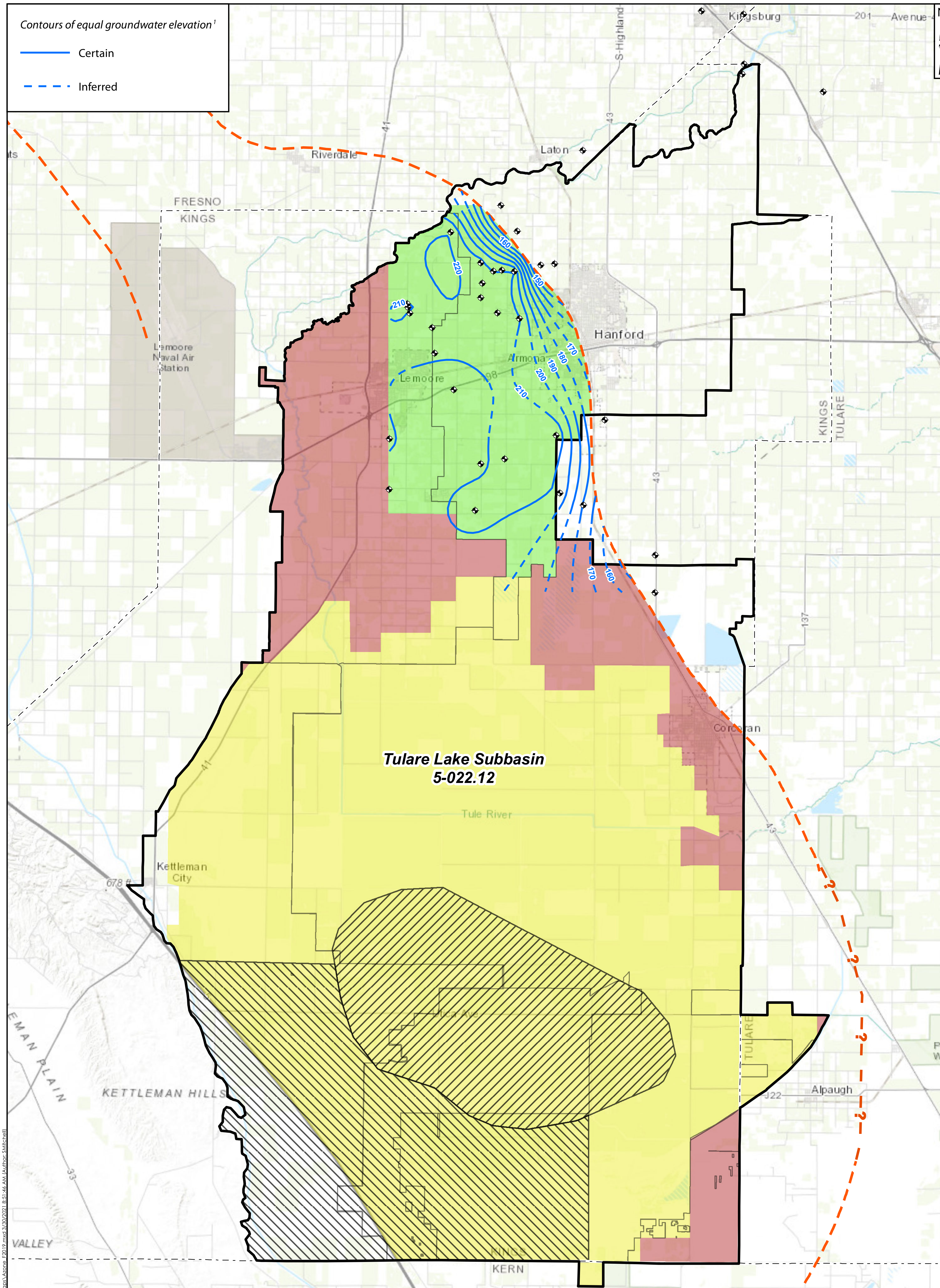
Appendix A – Groundwater Contour Maps



4 2 0 4 Miles

Legend

- Tulare Lake Subbasin
- GSA Boundaries
- A Clay Extent
- County lines
- Wells Used for Analysis
- Management Area A
- Management Area B
- A zone Analysis Area (56,334 ac)[2]
- A zone Limited Data Area (80,850 ac)
- Delisted Area To Top of A,C,& E Clay (282,376 ac)

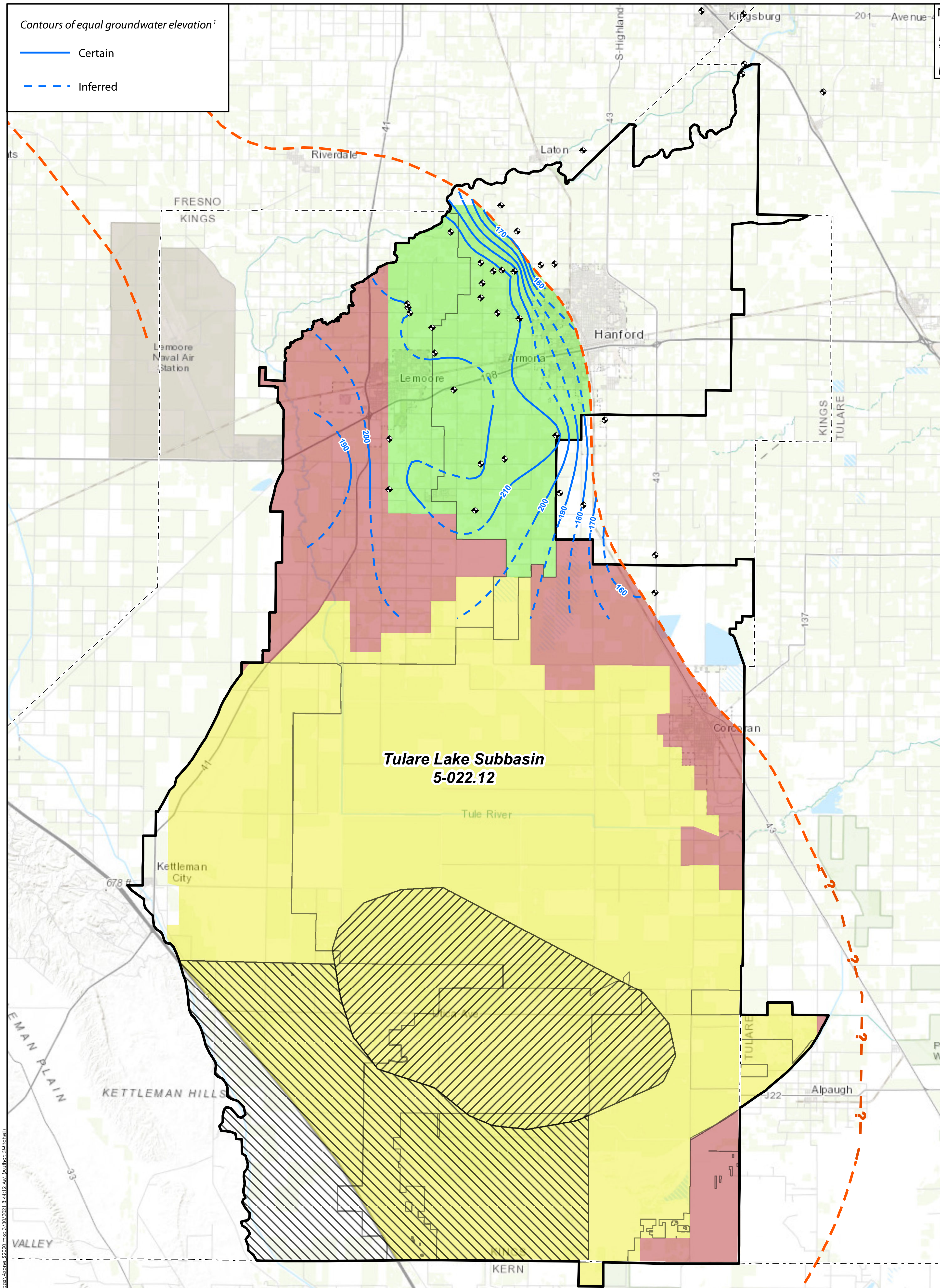
Notes:
1) 10 foot groundwater elevation contour interval.
2) Analysis area used to determine groundwater storage change.

Groundwater Elevations, A Zone Fall 2019
Tulare Lake Subbasin
WY 20 Annual Report

Geosyntec consultants

Project No.: SFO128 | March 2021

Figure A-1



Legend

- Tulare Lake Subbasin
- GSA Boundaries
- A Clay Extent
- County lines
- Wells Used for Analysis
- Management Area A
- Management Area B
- A zone Analysis Area (56,334 ac)[2]
- A zone Limited Data Area (80,850 ac)
- Delisted Area To Top of A,C,& E Clay (282,376 ac)

Notes:
1) 10 foot groundwater elevation contour interval.
2) Analysis area used to determine groundwater storage change.

4 2 0 4 Miles

Groundwater Elevations, A Zone Spring 2020
Tulare Lake Subbasin
WY 20 Annual Report

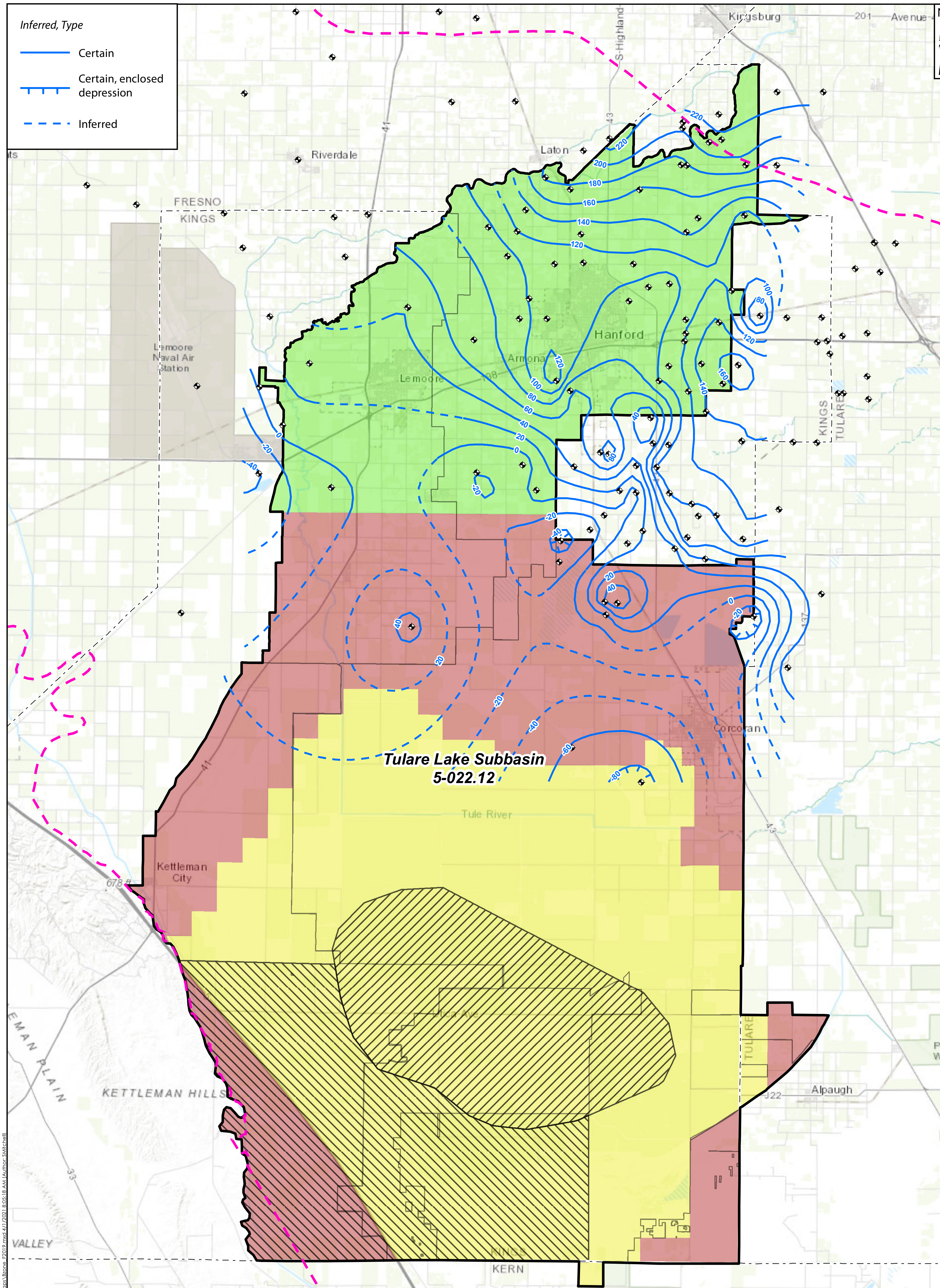
Geosyntec consultants

Project No.: SFO128

March 2021

Figure A-2

P:\GIS\SFO128 - TLSB Annual Report\Project\2021\02_Annual Report_Figures\Contour_Maps\Azone_S2020.mxd 3/30/2021 8:44:12 AM (Author: SMitchell)



Legend

- Tulare Lake Subbasin
- GSA Boundaries
- E Clay Extent
- County lines
- Wells Used for Analysis
- Management Area A
- Management Area B
- B zone Analysis Area (130,491 ac)[2]
- B zone Limited Data Area (163,803 ac)
- Delisted Area To Top of E Clay

Notes:
1) 20 foot groundwater elevation contour interval.
2) Analysis area used to determine groundwater storage change.

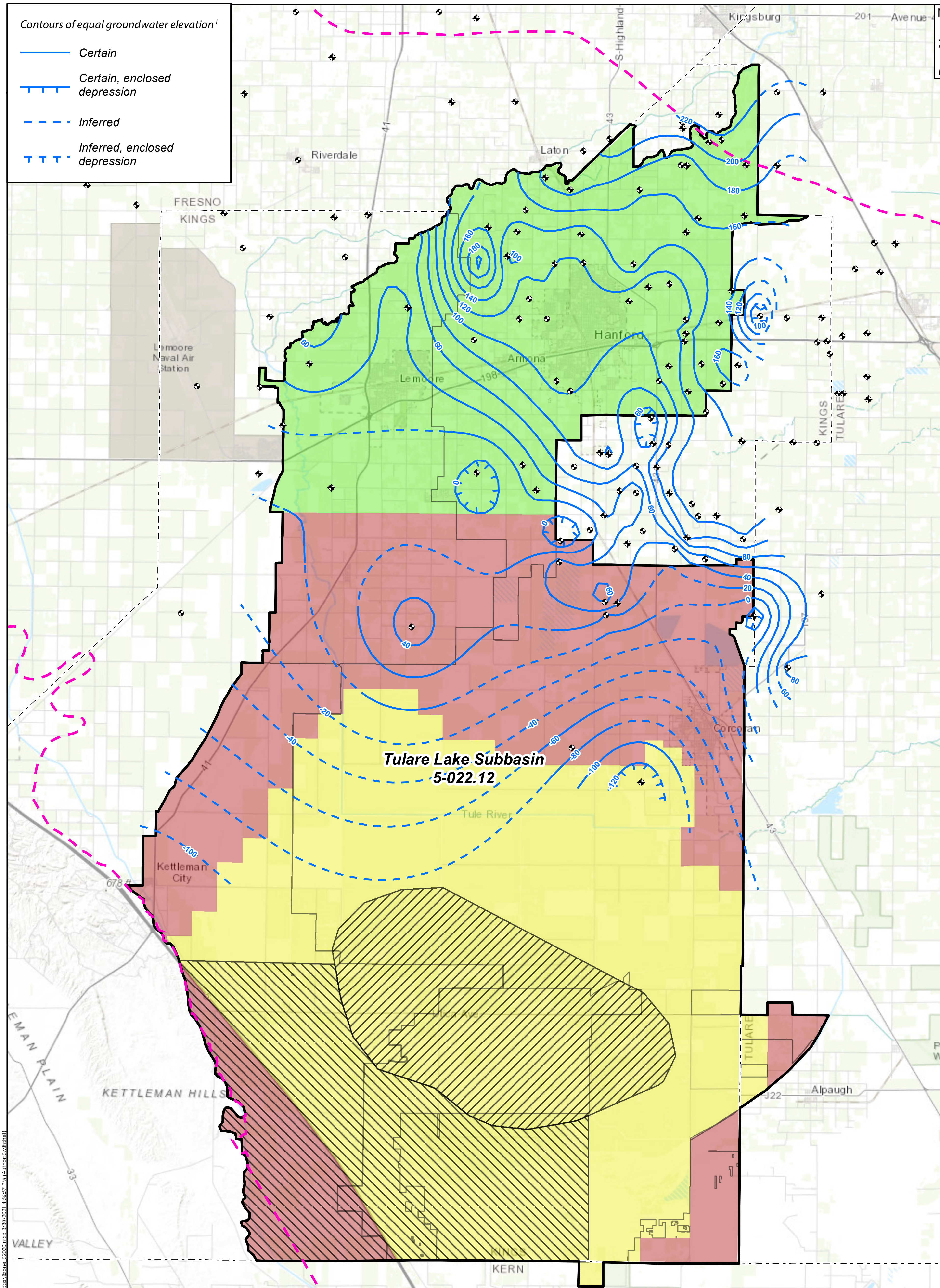
4 2 0 4 Miles

Groundwater Elevations, B Zone Fall 2019
Tulare Lake Subbasin
WY 20 Annual Report

Geosyntec consultants

Project No.: SFO128 | April 2021

Figure B-3



Legend

Tulare Lake Subbasin	Management Area A
GSA Boundaries	Management Area B
E Clay Extent	B zone Analysis Area (130,491 ac)[2]
County lines	B zone Limited Data Area (163,803 ac)
Wells Used for Analysis	Delisted Area To Top of E Clay

Notes:
1) 20 foot groundwater elevation contour interval.
2) Analysis area used to determine groundwater storage change.

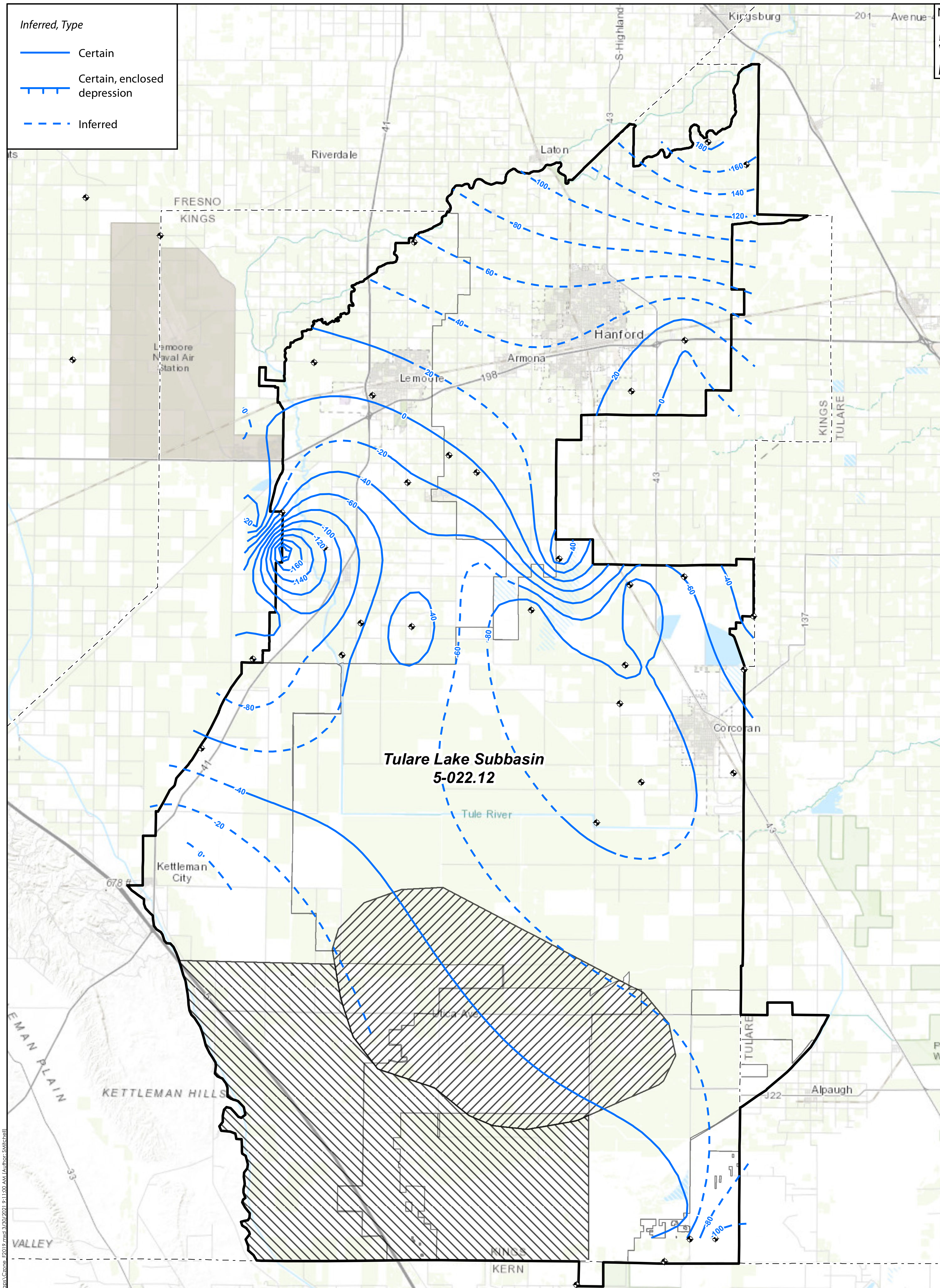
4 2 0 4 Miles

Groundwater Elevations, B Zone Spring 2020
Tulare Lake Subbasin
WY 20 Annual Report

Geosyntec consultants

Figure **A-4**

Project No.: SFO128 | March 2021



Legend

- Tulare Lake Subbasin
- GSA Boundaries
- County lines
- Wells Used for Analysis
- Management Area A
- Management Area B

Notes:
1) 20 foot groundwater elevation contour interval.

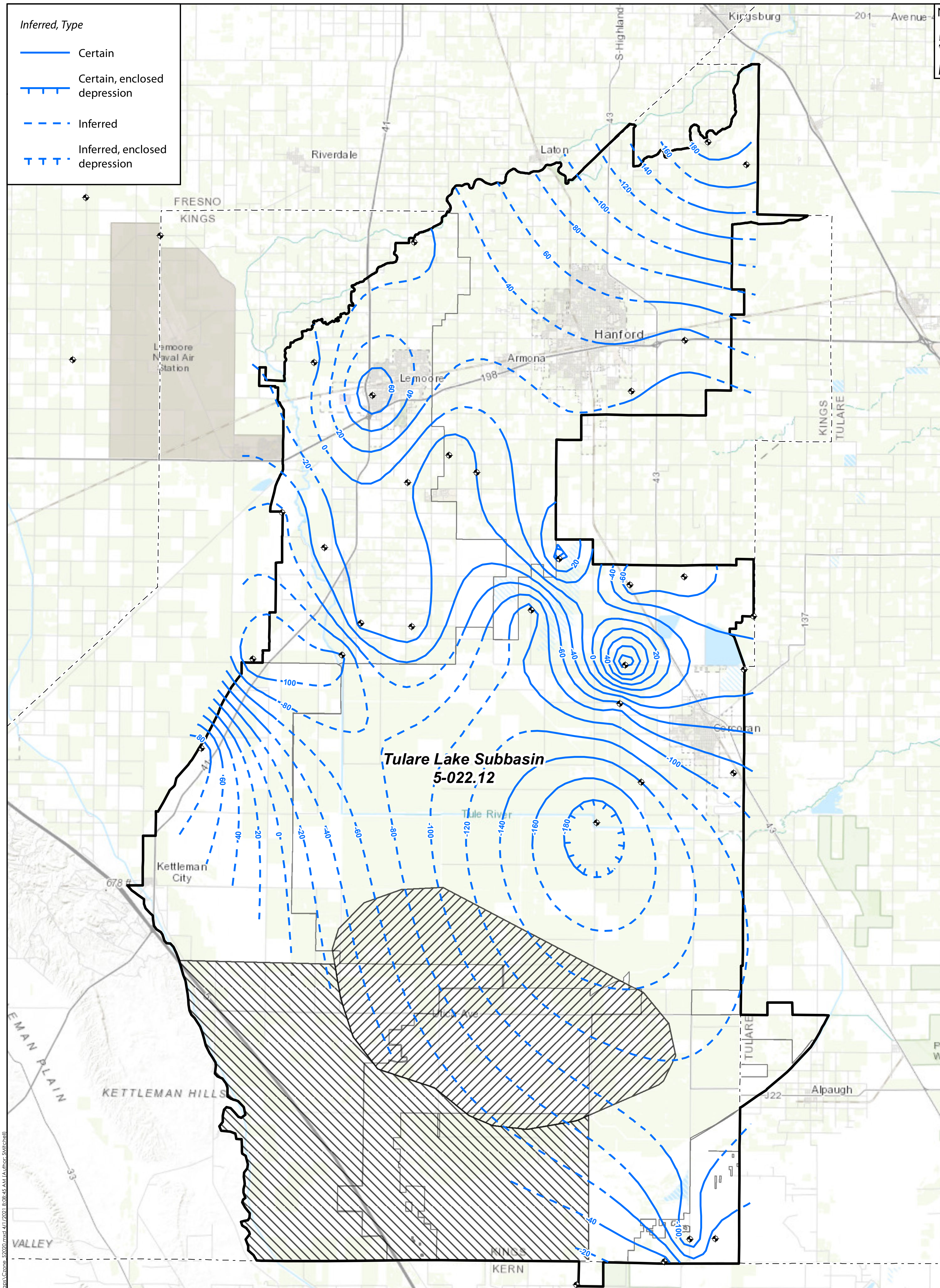
4 2 0 4 Miles

Groundwater Elevations, C Zone Fall 2019
Tulare Lake Subbasin
WY 20 Annual Report

Geosyntec consultants

Project No.: SFO128 | March 2021

Figure A-5



Legend

- Tulare Lake Subbasin
- GSA Boundaries
- County lines
- Wells Used for Analysis
- Management Area A
- Management Area B

Notes:
1) 20 foot groundwater elevation contour interval.

4 2 0 4 Miles

Groundwater Elevations, C Zone Spring 2020
Tulare Lake Subbasin
WY 20 Annual Report

Geosyntec consultants

Figure
B-6

Project No.: SFO128 | April 2021

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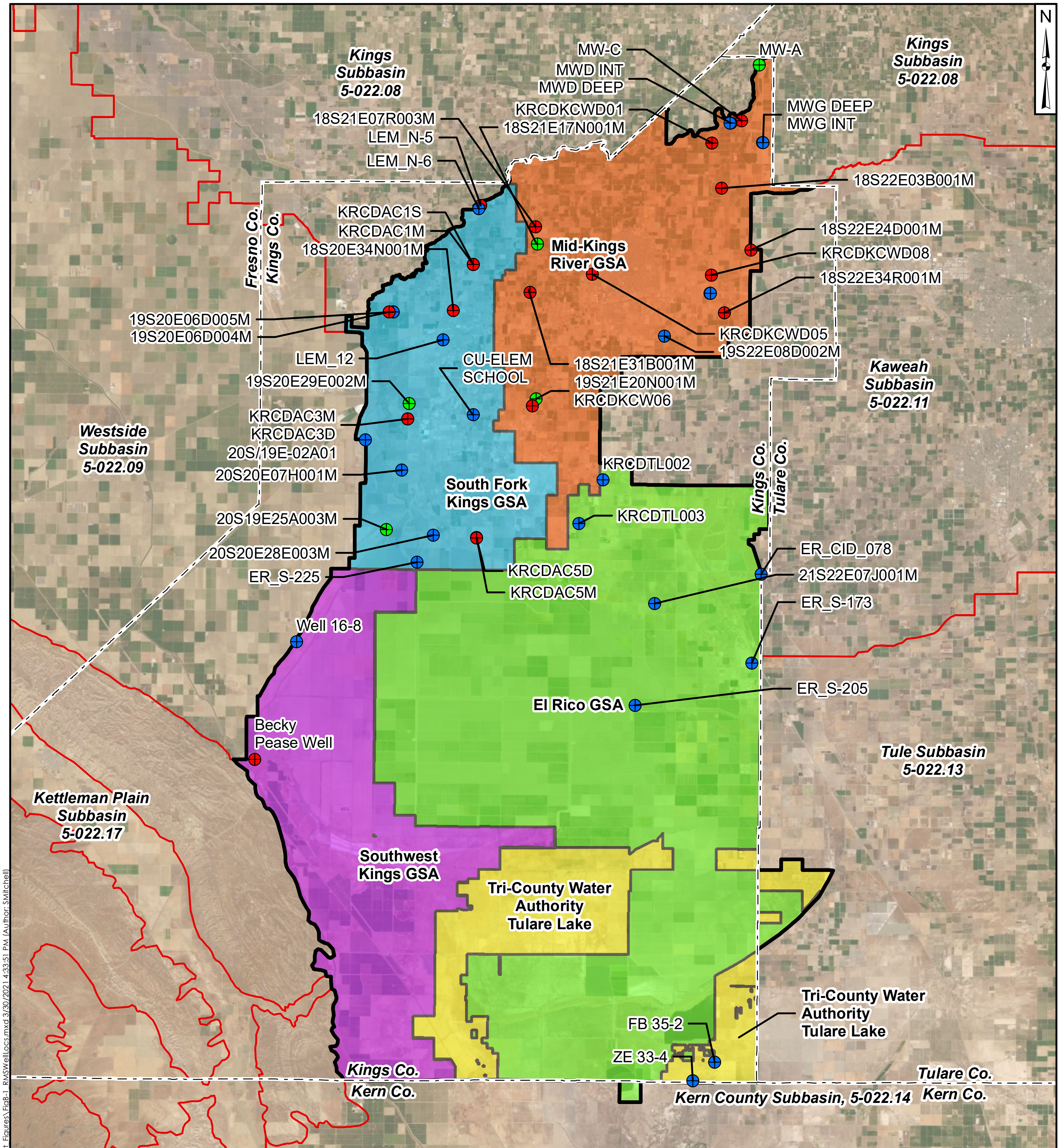
Appendix B – Hydrographs



Legend

Tulare Lake Subbasin 5-022.12

Surrounding Subbasins

County lines

RMS Wells

- A Zone
- B Zone
- C Zone

10 5 0 10 Miles

RMS Well Locations
Tulare Lake Subbasin
WY 2020 Annual Report

Geosyntec consultants

Project No.: SFO128

March 2021

Figure

B-1

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Table B-1
Representative Monitoring Sites - Groundwater Levels
Fall 2019 - Spring 2020

GSA	Site Code	State Well ID/System Well Number	Local Agency Well ID	GSE	RPE	Date	DTW from RP (July-Dec) 2019	GWE	Date	DTW from RP (Jan - June) 2020	GWE	Zone	Notes
South Fork	363500N1197800W003	18S20E23E003M	KRCDAC1S	217.13	217.13	10/22/2019	18.5	198.63	2/26/2020	20.93	196.2	A	
South Fork Kings	362500N1198310W001	19S20E29E002M	19S20E29E002M	209.55	211.25	NA	NA		4/20/2020	31.65	179.6	A	
South Fork Kings	361700N1198510W001	20S19E25A003M	20S19E25A003M	200.88	201.88	NA	NA		4/20/2020	6.55	195.33	A	
South Fork Kings	363863N1197745W001	1610005-009	LEM_N-5	227	227	NA	NA		5/13/2020	181.6	45.4	B	
South Fork Kings	363500N1197800W002	18S20E23E002M	KRCDAC1M	217.487	217.487	10/22/2019	174.61	42.877	2/26/2020	182.15	35.337	B	
South Fork Kings	363500N1197800W001	18S20E23E001M	KRCDAC1D	217.308	217.308	10/22/2019	177.44	39.868	2/26/2020	184.3	33.008	B	
South Fork Kings	363144N1197968W001	18S20E34N001M	18S20E34N001M	227.82	228.62	NA	NA		4/7/2020	115.88	112.74	B	
South Fork Kings	NA	19S20E06C001M	19S20E06C001M	NA	NA	NA	NA		NA	NA			Well Destroyed
South Fork Kings	NA	19S20E07F001M	19S20E07F001M	NA	NA	NA	NA		NA	NA			Well Destroyed
South Fork Kings	362400N1198300W001	19S20E32D002M	KRCDAC3M	196.812	196.812	10/22/2019	202.66	-5.848	2/26/2020	197.35	-0.538	B	
South Fork Kings	362400N1198300W002	19S20E32D003M	KRCDAC3D	196.696	196.696	10/22/2019	202.88	-6.184	2/26/2020	196.6	0.096	B	
South Fork Kings	361600N1197800W001	20S20E26L001M	KRCDAC5M	182.086	182.086	10/22/2019	134.49	47.596	2/26/2020	129.6	52.486	B	
South Fork Kings	361600N1197700W001	20S20E26L002M	KRCDAC5D	182.576	182.576	10/22/2019	203.95	-21.374	2/26/2020	187	-4.424	B	
South Fork Kings	NA	19S20E06L001M	19S20E06L001M	NA	NA	NA	NA		NA	NA			Well Destroyed
South Fork Kings	NA	19S20E19A001M	19S20E19A001M	NA	NA	NA	NA		NA	NA			Well removed from network due to access issues
South Fork Kings	363840N1197762W002	1610005-020	LEM_N-6	228	228	NA	NA		5/13/2020	218.1	9.9	C	
South Fork Kings	362944N1198055W001	1610005-011	LEM_12	205	205	NA	NA		5/13/2020	120	85	C	
South Fork Kings	362410N1197802W001	19S20E26N002M	CU-ELEM SCHOOL	207	207	10/15/2019	231.05	-24.05	3/3/2020	224.24	-17.24	C	
South Fork Kings	362258N1198699W001	20S19E02A001M	20S/19E-02A01	210.9	210.9	11/13/2019	251.27	-40.37	3/12/2020	275	-64.1	C	
South Fork Kings	362061N1198388W001	20S20E07H001M	20S20E07H001M	203.87	204.87	NA	NA		4/20/2020	230.7	-25.83	C	
South Fork Kings	361617N1198124W001	20S20E28E003M	20S20E28E003M	195.87	196.37	NA	NA		4/20/2020	205.64	-9.27	C	
South Fork Kings	363133N1198477W002	19S20E06D005M	19S20E06D005M	189	189	NA	NA		4/27/2020	196.55	-7.55	C	Well added to network

Table B-1
Representative Monitoring Sites - Groundwater Levels
Fall 2019 - Spring 2020

GSA	Site Code	State Well ID/System Well Number	Local Agency Well ID	GSE	RPE	Date	DTW from RP (July-Dec) 2019	GWE	Date	DTW from RP (Jan - June) 2020	GWE	Zone	Notes
South Fork Kings	363133N1198512W001	19S20E06D004M	19S20E06D004M	193	193	NA	NA		4/20/2020	137.17	55.83	B	Well added to network
Southwest Kings	360879N1199263W001	1610009-003	Becky Pease Well	211	211	NA	NA		6/12/2020	329.19	-118.19	B	
Southwest Kings	360074N1199605W001		Well 16-8	260	260	NA	NA		6/12/2020	161.57	98.43	C	
TCWA		23S23E15M001M		NA	NA	NA	NA		NA	NA			WelL (piezometer) destroyed
TCWA		24S22E35E001M		NA	NA	NA	NA		NA	NA			Well removed from network due to access issues
TCWA		24S22E33C001M		NA	NA	NA	NA		NA	NA			Well removed from network due to access issues
TCWA	357906N1195913W001		ZE 33-4	277.0	277.0	NA	NA		2/5/2020	306	-29	C	Well added to network
TCWA	358036N1195732W001		FB 35-2	179.0	179.0	NA	NA		1/17/2020	301	-122	C	Well added to network
Mid-Kings River	363603N1197266W001	18S21E17N001M	18S21E17N001M	240.78	240.98	NA	NA		2/2/2020	23.7	217.28	A	
Mid-Kings River	362549N1197266W001	19S21E20N001M	19S21E20N001M	227.82	227.82	NA	NA		2/7/2020	17.5	210.32	A	
Mid-Kings River	364834N1195404W001		MW-A	284.16	285.47	10/7/2019	38.8	246.67	2/6/2020	40.3	245.17	A	
Mid-Kings River	364303N1195841W001	17S22E28A001M	KRCDKCWD01	272.5	274.8	10/15/2019	95.4	179.4	1/31/2020	107	167.8		
Mid-Kings River	363992N1195716W001	18S22E03B001M	18S22E03B001M	268.72	268.72	NA	NA		2/1/2020	104.4	164.32	B	
Mid-Kings River	364008N1196477W001	18S21E01C001M	18S21E01C001M	263.24	263.74	NA	NA		NA	NA			Well Destroyed
Mid-Kings River	363864N1196193W001	18S22E07A001M	18S22E07A001M	262.74	263.24	NA	NA		NA	NA			Well Destroyed
Mid-Kings River	363572N1195468W001	18S22E24D001M	KRCDKCW09	258	259	10/15/2019	138.5	120.5	2/2/2020	112.1	146.9	B	
Mid-Kings River	363393N1195832W001	18S22E28A001M	KRCDKCWD08	249.4	250.5	NA	NA		2/2/2020	140.5	110	B	
Mid-Kings River	363142N1195685W001	18S22E34R001M	18S22E34R001M	250.4	250.9	NA	NA		3/8/2020	99	151.9	B	
Mid-Kings River	362892N1196235W001	19S22E07K001M	KRCDKCWD11	240	240	NA	NA		NA	NA			Well Destroyed
Mid-Kings River	363419N1196799W001	18S21E27B001M	KRCDKCWD05	231.9	236.6	NA	NA		2/6/2020	122	114.6	B	
Mid-Kings River	363722N1197282W001	18S21E07R003M	18S21E07R003M	242.77	242.77	NA	NA		2/1/2020	27	215.77	B	
Mid-Kings River	363274N1197327W001	18S21E31B001M	18S21E31B001M	241.79	241.79	NA	NA		2/6/2020	151	90.79	B	
Mid-Kings River	362618N1197496W001	19S21E30A001M	KRCDKCWD06	211.9	211.9	NA	NA		2/7/2020	231	-19.1	B	

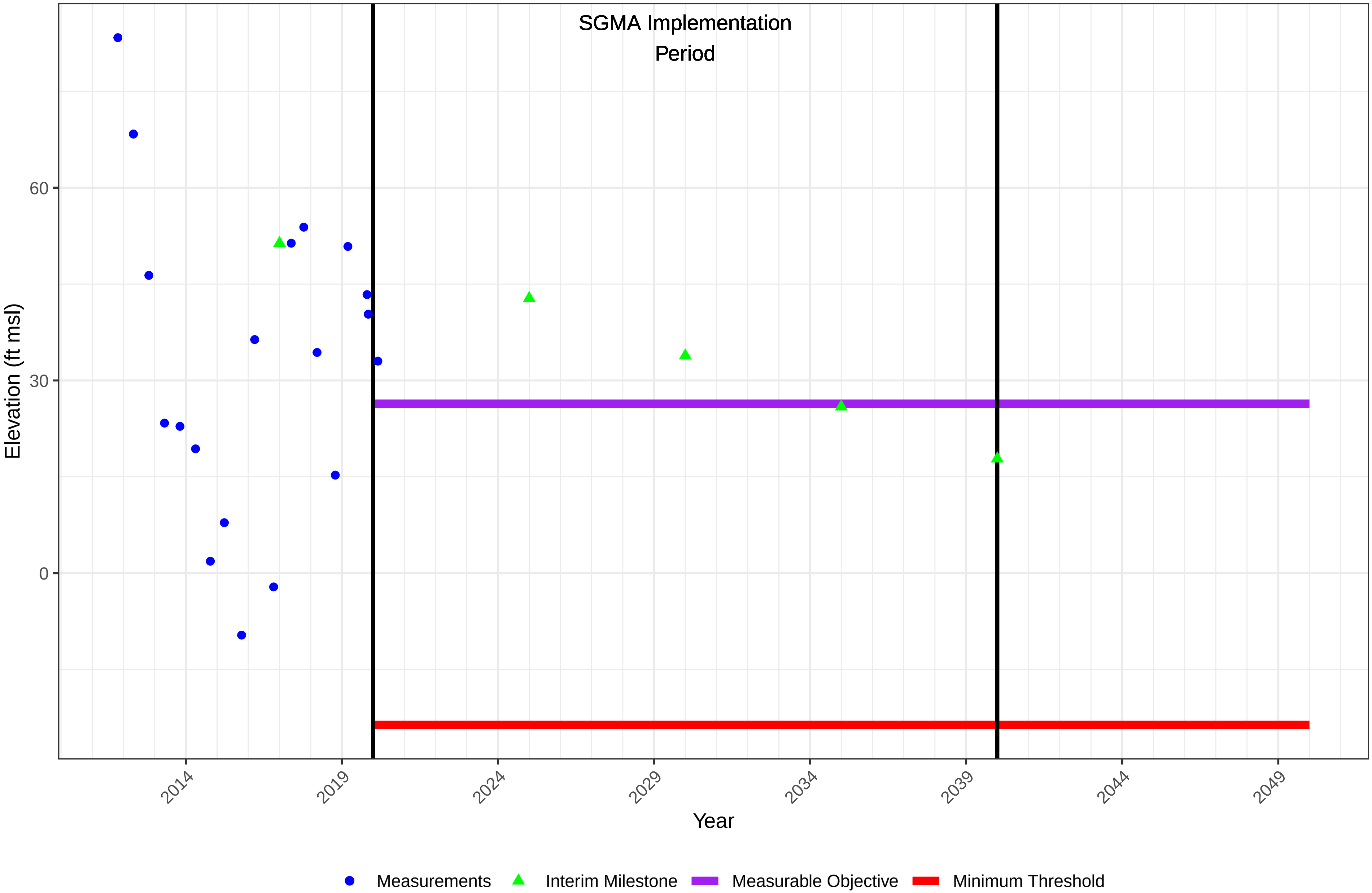
Table B-1
Representative Monitoring Sites - Groundwater Levels
Fall 2019 - Spring 2020

GSA	Site Code	State Well ID/System Well Number	Local Agency Well ID	GSE	RPE	Date	DTW from RP (July-Dec) 2019	GWE	Date	DTW from RP (Jan - June) 2020	GWE	Zone	Notes
Mid-Kings River	364452N1195550W001		MW-C	279.33	280.71	10/7/2019	63.3	217.41	2/6/2020	62.7	218.01	B	
Mid-Kings River	362981N1196189W001	19S22E08D002M	19S22E08D002M	243.7	243.2	NA	NA		3/9/2020	219	24.2	C	
Mid-Kings River	363274N1195809W001		MWH INT	246.05	248.19	10/7/2019	132.1	116.09	3/18/2020	127	121.19	B	
Mid-Kings River	363277N1195806W001		MWH DEEP	246.05	248.19	10/7/2019	248.4	-0.21	3/18/2020	217.5	30.69	C	
Mid-Kings River	364304N1195373W001		MWG INT	277	278.3	10/7/2019	85.3	193	2/6/2020	80.9	197.4	B	
Mid-Kings River	364436N1195641W001		MWD INT	278.07	279.35	10/7/2019	65.7	213.65	2/6/2020	66.2	213.15	B	
Mid-Kings River	364306N1195370W001		MWG DEEP	277	278.3	10/7/2019	118.9	159.4	2/6/2020	104.7	173.6	C	
Mid-Kings River	364436N1195648W001		MWD DEEP	278.07	279.35	10/7/2019	92.1	187.25	2/6/2020	86.3	193.05	C	
El Rico	361381N1195482W001	20S22E35R001M	20S22E35R001M	218.78	221.78	NA	NA		NA	NA			Well no longer monitored by CASGEM
El Rico	361429N1198259W001		ER_S-225	189	189	10/2/2019	253.31	-64.31	4/2/2020	295.2	-106.2	C	
El Rico	360757N1195438W001		ER_S-173	208	208	10/3/2019	280.3	-72.3	4/2/2020	295	-87	C	
El Rico	360462N1196418W001		ER_S-205	188	188	10/2/2019	NA	NA	5/11/2020	389	-201	C	
El Rico	366049N1197543W001		ER_CID_078	277.4	277.5	10/3/2019	NA	NA	3/4/2020	306	-28.5		Well no longer monitored by CASGEM
El Rico	361158N1196258W001	21S22E07J001M	21S22E07J001M	205.1	204.6	NA	NA	NA	3/6/2020	279	-74.4	C	
El Rico	361953N1195417W001		ER_CID_021	230	230	10/3/2019	NA	NA	NA	NA	NA		Well Destroyed
El Rico	361744N1196196W001	20S22E19J001M	20S22E19J001M	215.8	216.3	NA	NA	NA	NA	NA	NA		Well no longer monitored by CASGEM
El Rico	362000N1196700W001		KRCDTL002	195.3	197	12/10/2019	139.1	57.9	4/30/2020	145	52	C	
El Rico	361700N1196900W001		KRCDTL003	193.1	195.6	10/4/2019	296.4	-100.8	4/30/2020	312	-116.4	C	

Notes:
DTW = Depth to Water
RP = Reference Point

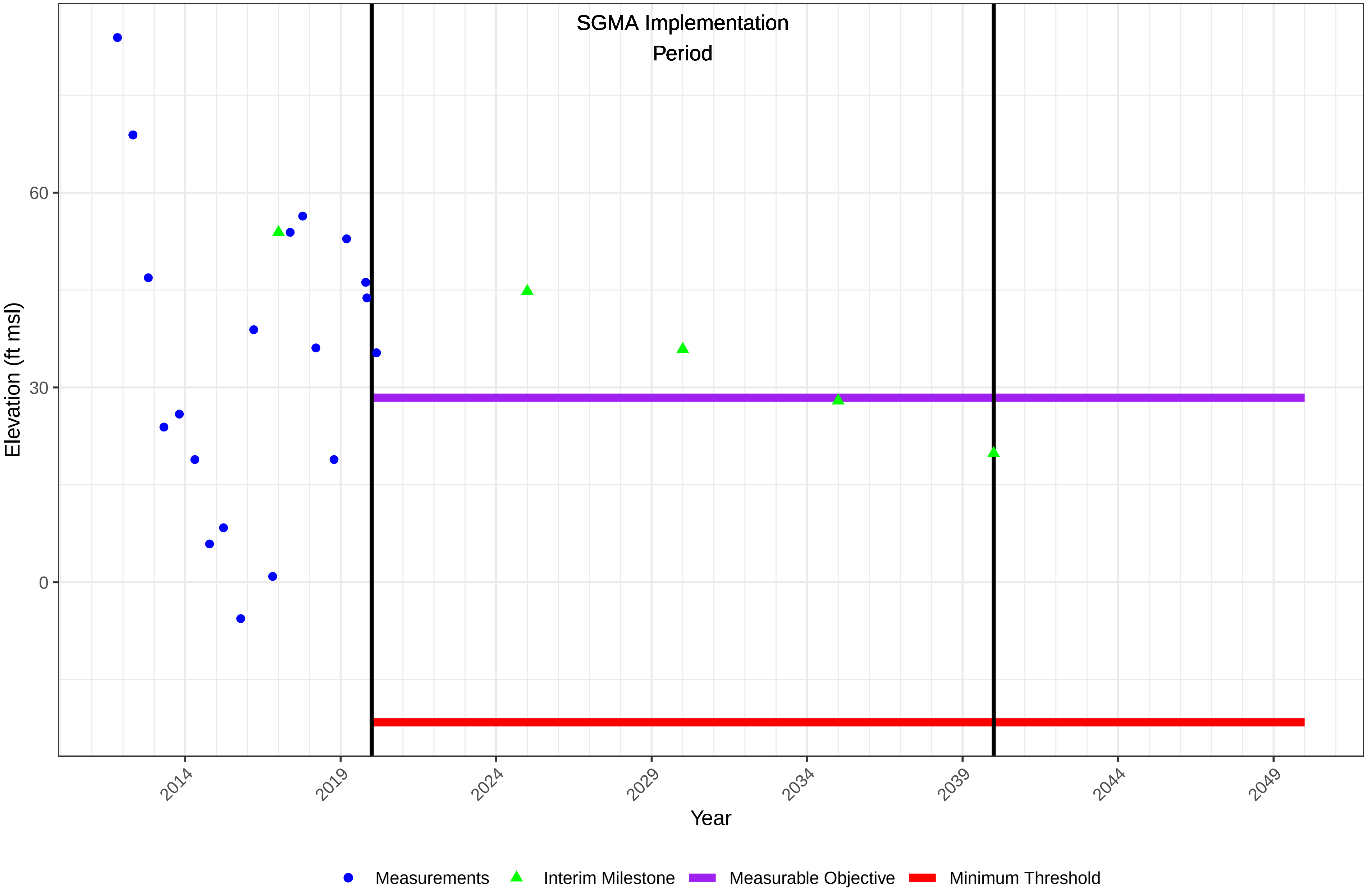
Groundwater Surface Elevation Hydrograph

GSP Well ID: SFK_18S20E23E001M
Site Code: 363500N1197800W001
Local Well Name: KRCDAC1D
GSA: South Fork Kings GSA
Zone: Above E Zone B



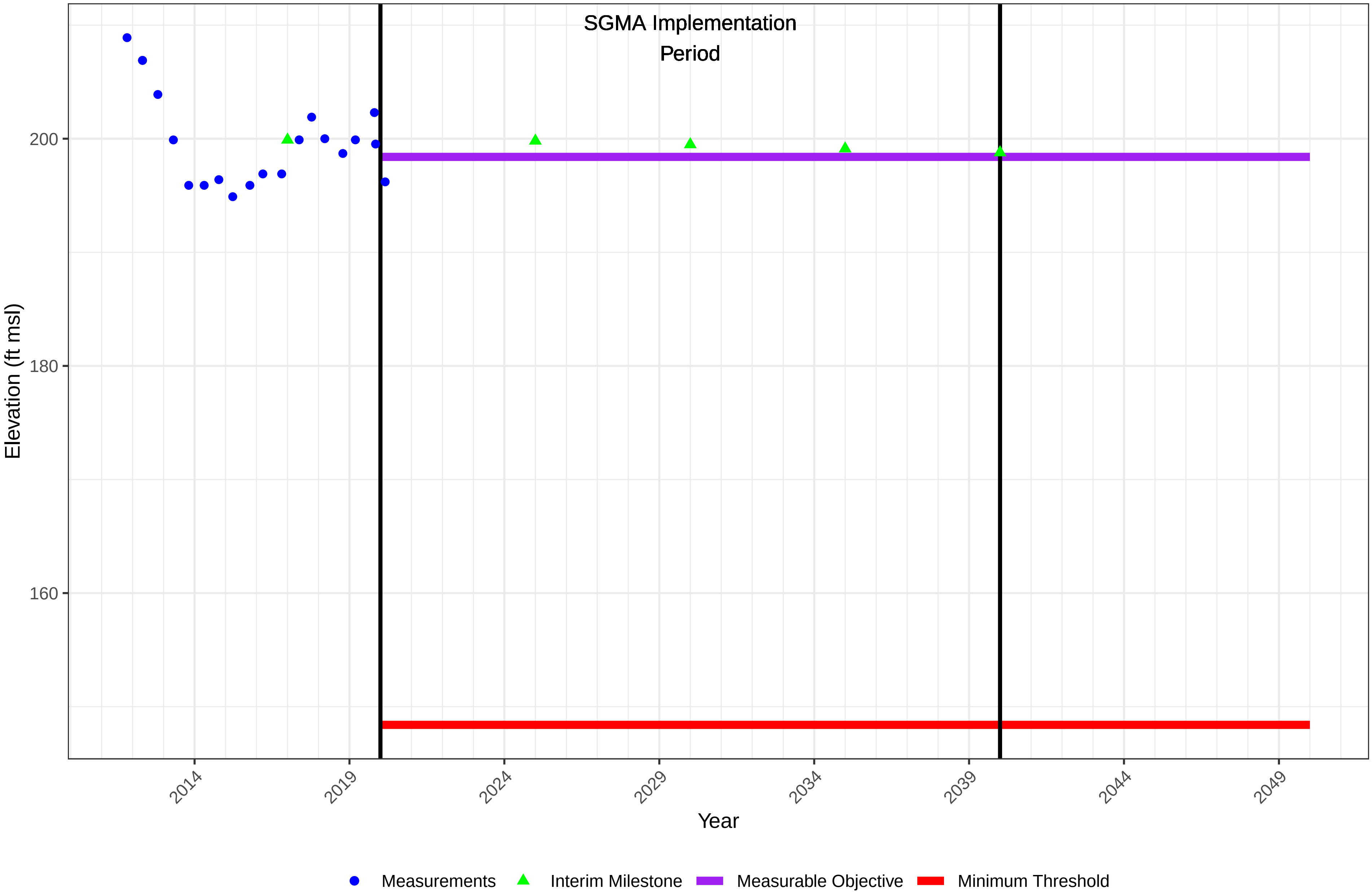
Groundwater Surface Elevation Hydrograph

GSP Well ID: SFK_18S20E23E002M
Site Code: 363500N1197800W002
Local Well Name: KRCDAC1M
GSA: South Fork Kings GSA
Zone: Above E Zone B



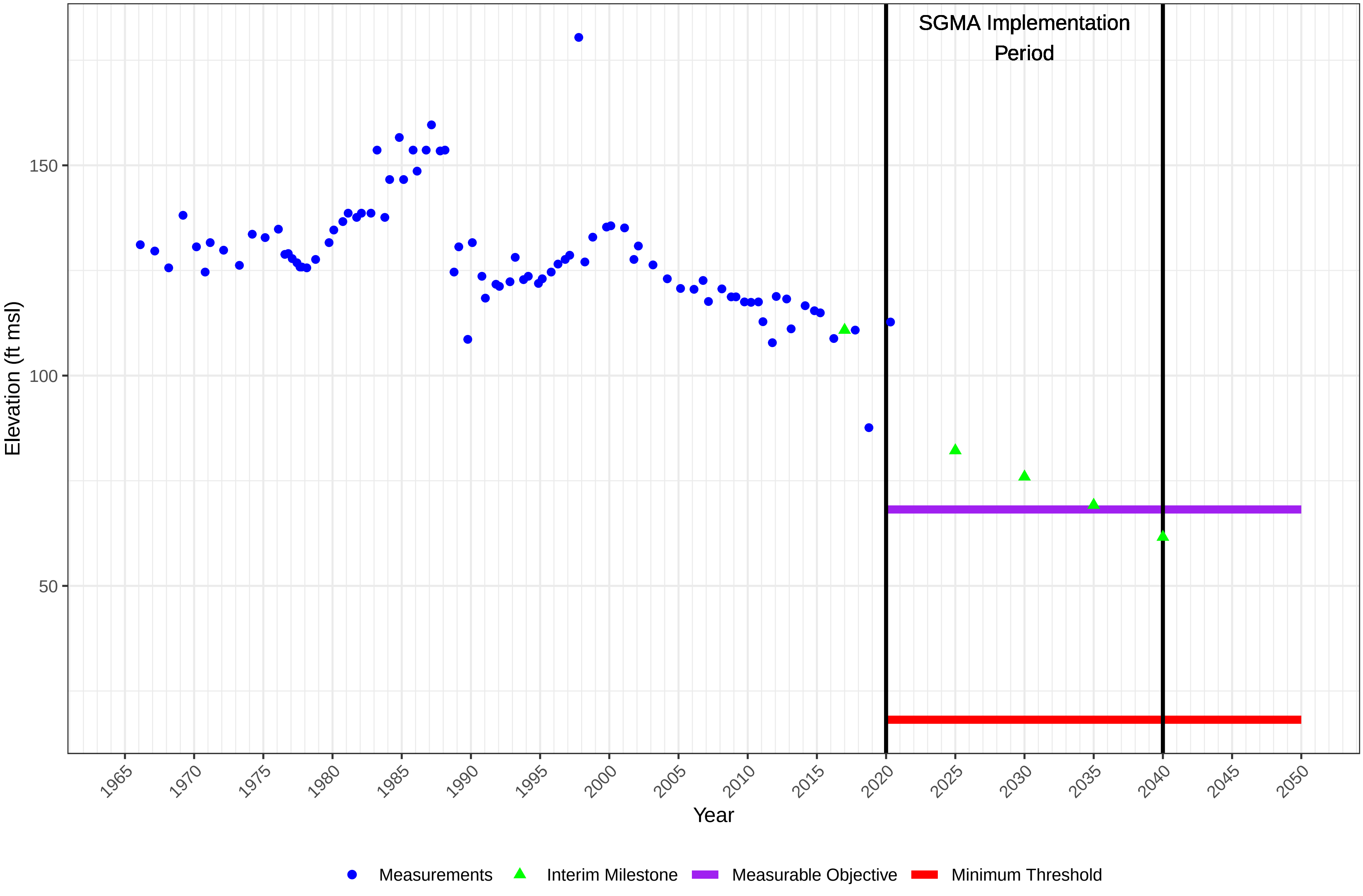
Groundwater Surface Elevation Hydrograph

GSP Well ID: SFK_18S20E23E003M
Site Code: 363500N1197800W003
Local Well Name: KRCDAC1S
GSA: South Fork Kings GSA
Zone: Above E Zone B



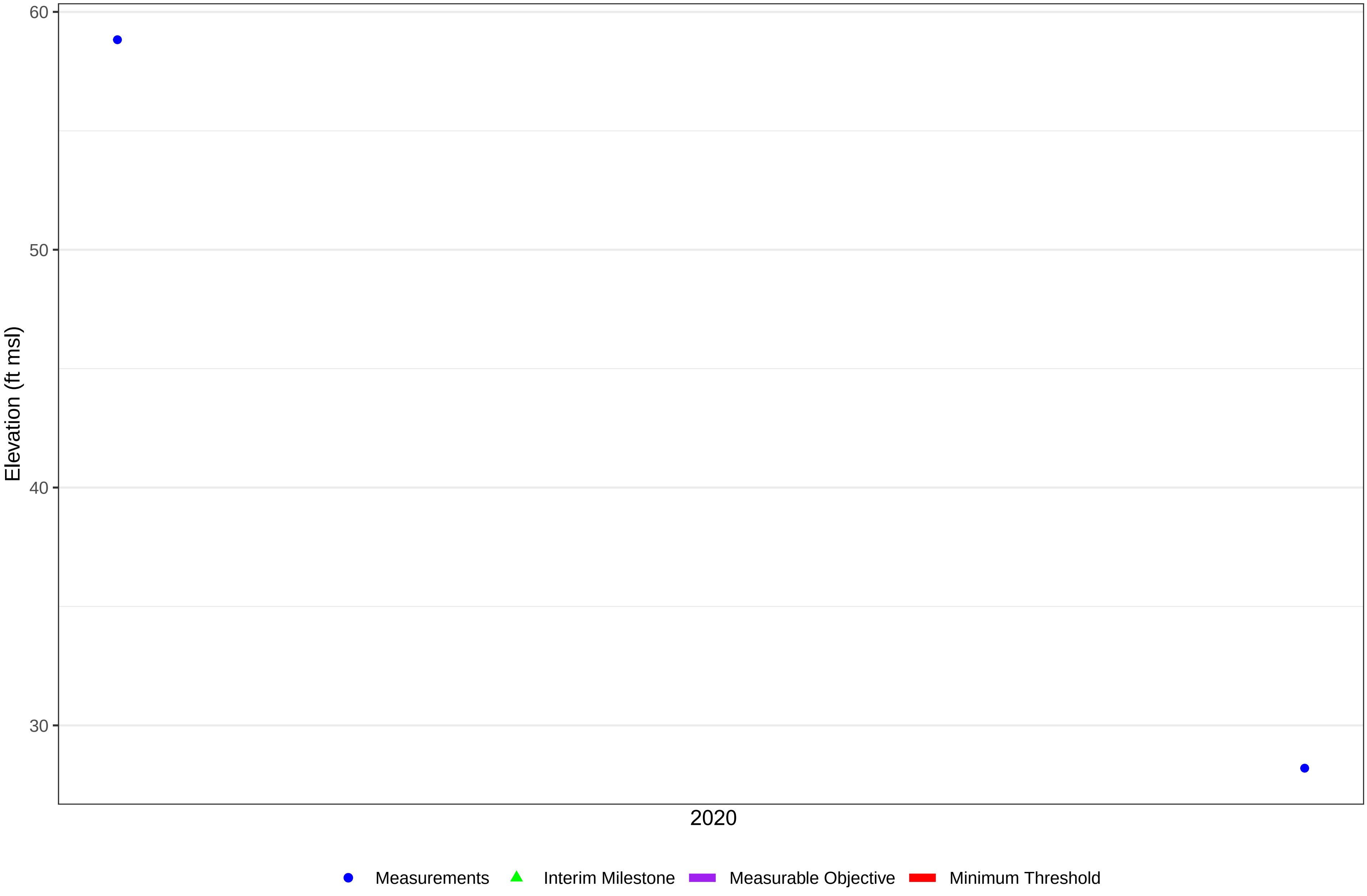
Groundwater Surface Elevation Hydrograph

GSP Well ID: SFK_18S20E34N001M
Site Code: 363144N1197968W001
Local Well Name: 18S20E34N001M
GSA: South Fork Kings GSA
Zone: Above E Zone B



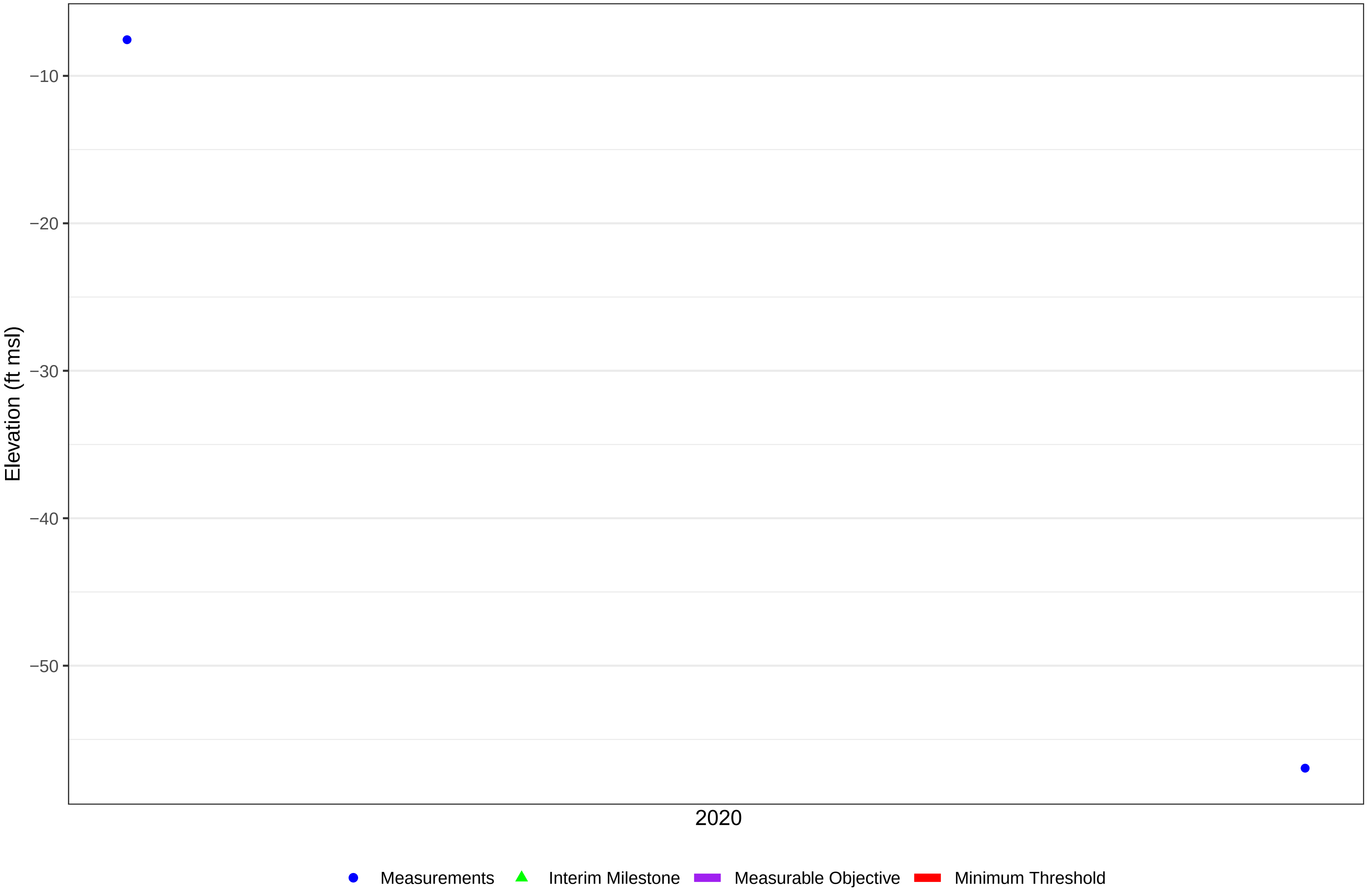
Groundwater Surface Elevation Hydrograph

GSP Well ID: SFK_19S20E06D004M
Site Code: 363133N1198512W001
Local Well Name: 19S20E06D004M
GSA: NA
Zone: NA



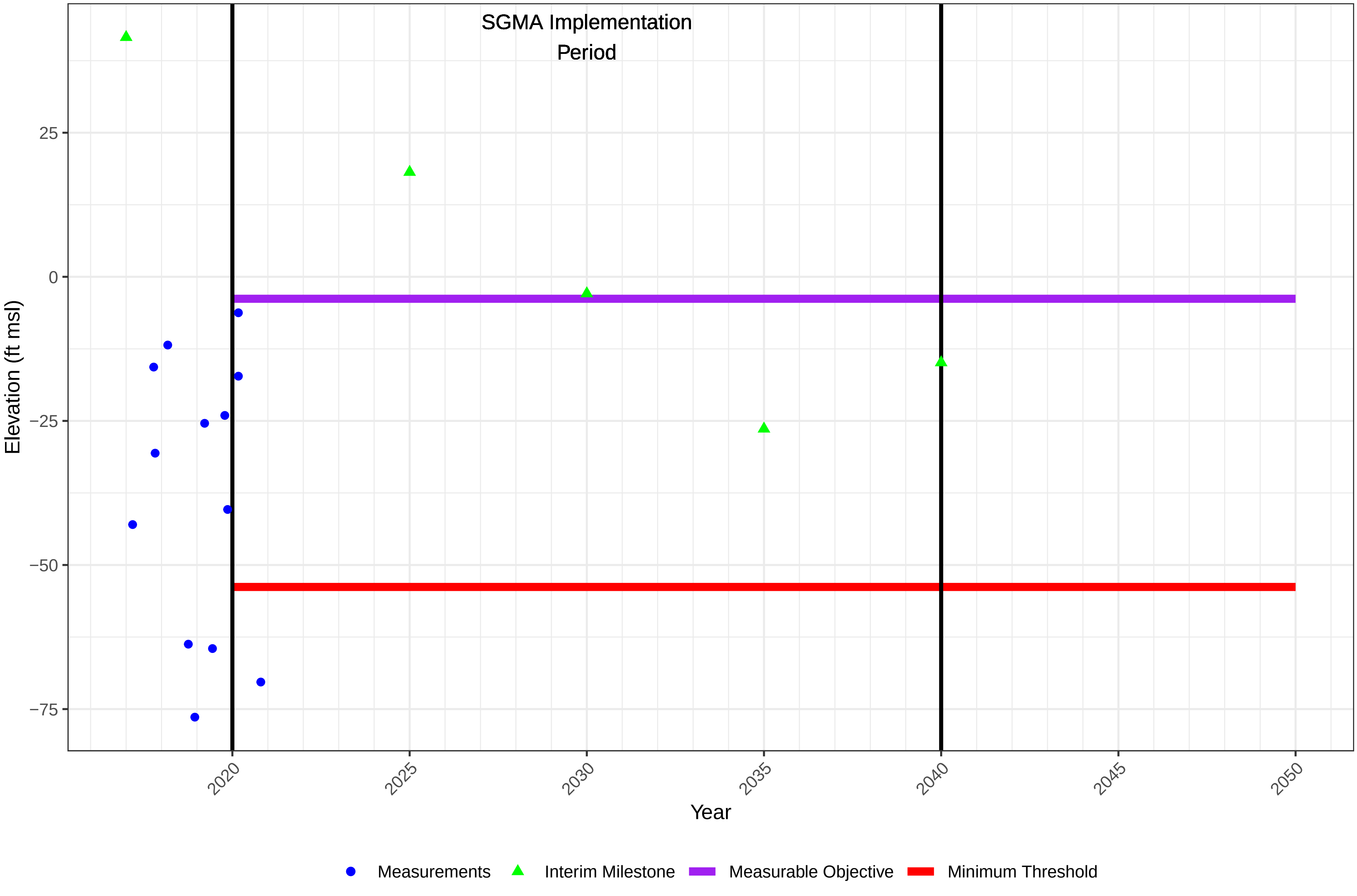
Groundwater Surface Elevation Hydrograph

GSP Well ID: SFK_19S20E06D005M
Site Code: 363133N1198477W002
Local Well Name: 19S20E06D005M
GSA: NA
Zone: NA

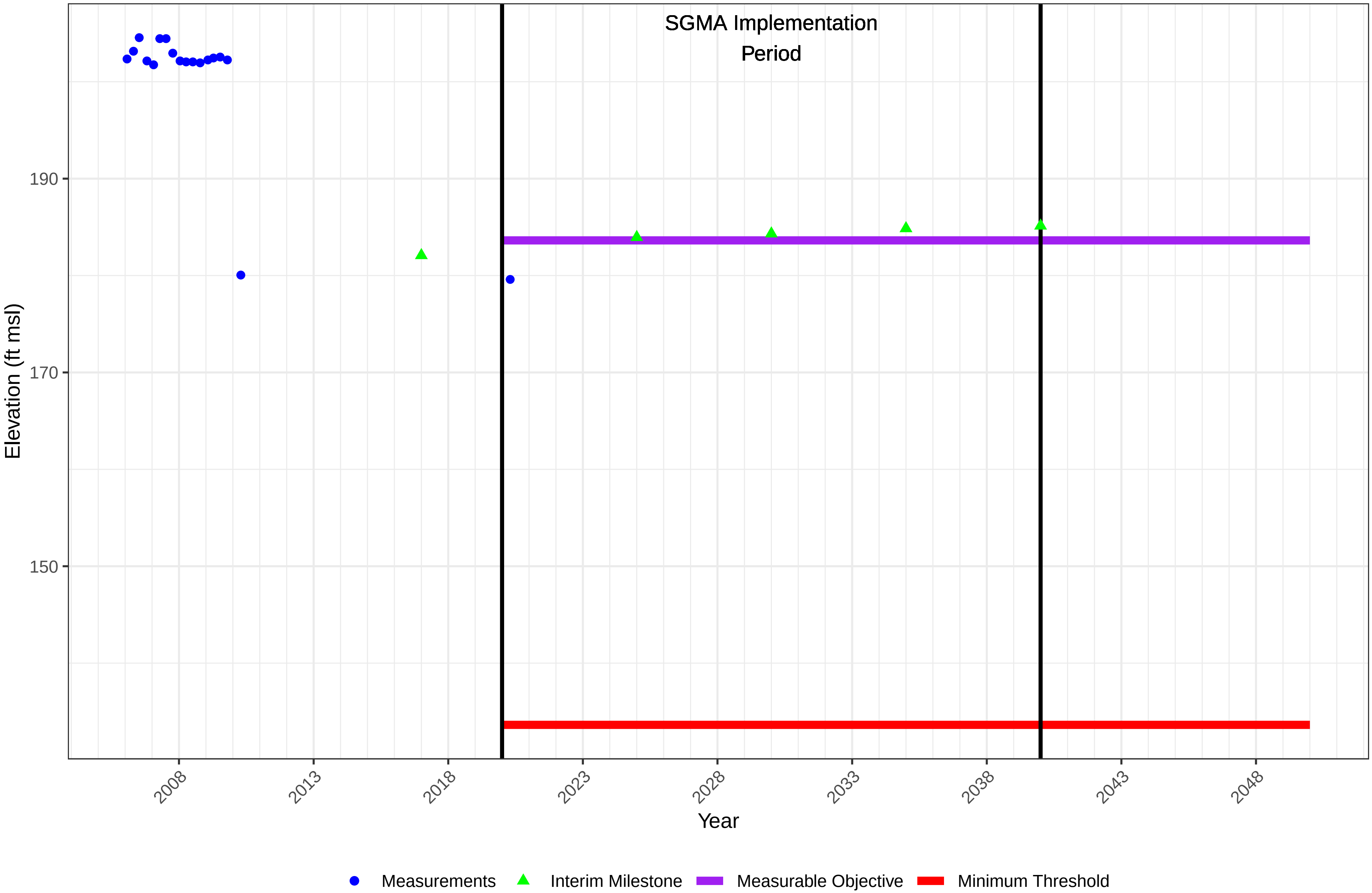


Groundwater Surface Elevation Hydrograph

GSP Well ID: SFK_19S20E26N002M
Site Code: 362410N1197802W001
Local Well Name: TL−SFK−10B
GSA: South Fork Kings GSA
Zone: Below E Zone C

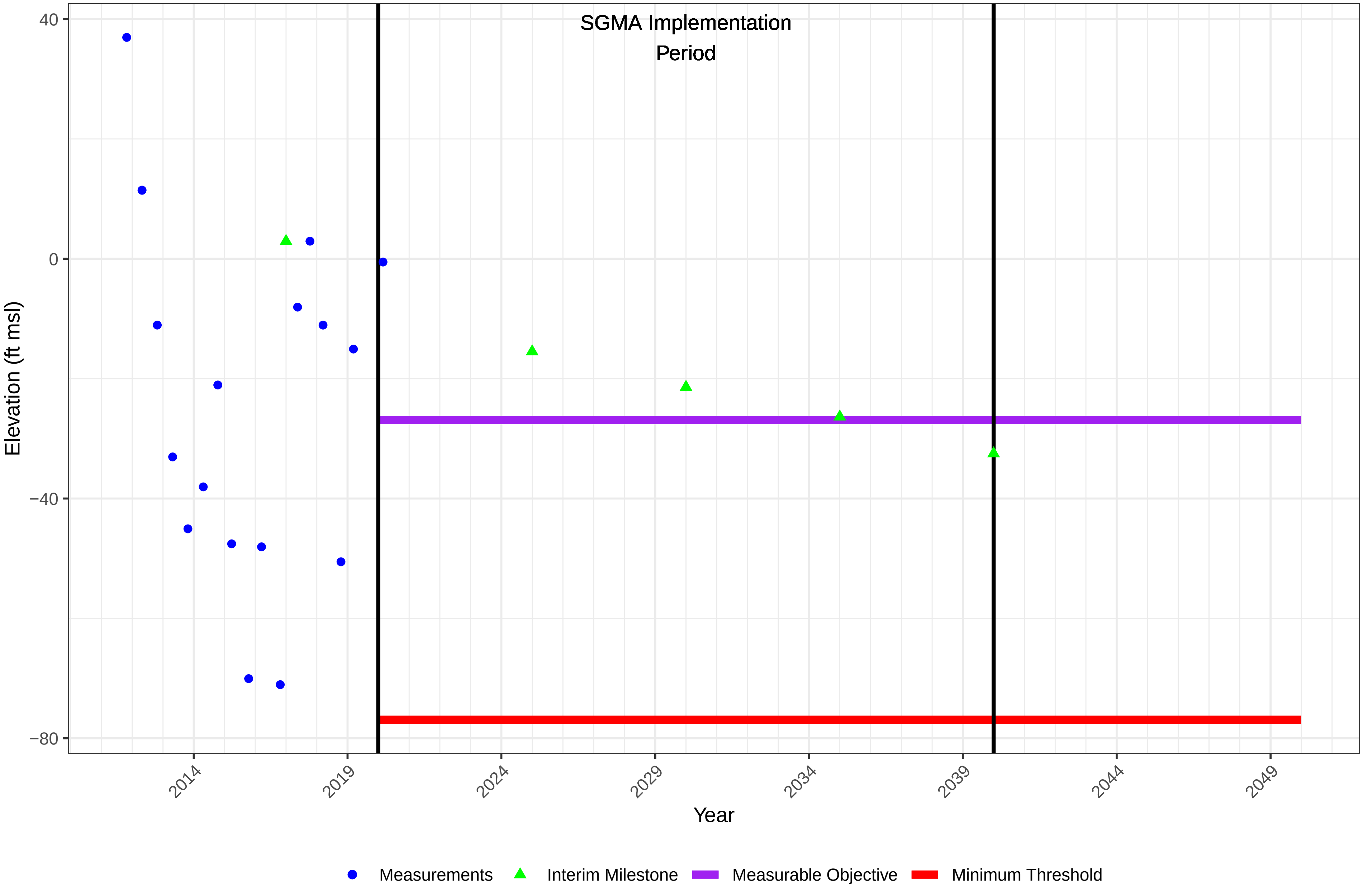


Groundwater Surface Elevation Hydrograph
GSP Well ID: SFK_19S20E29E002M
Site Code: 362500N1198310W001
Local Well Name: 19S20E29E002M
GSA: South Fork Kings GSA
Zone: Above A Zone A

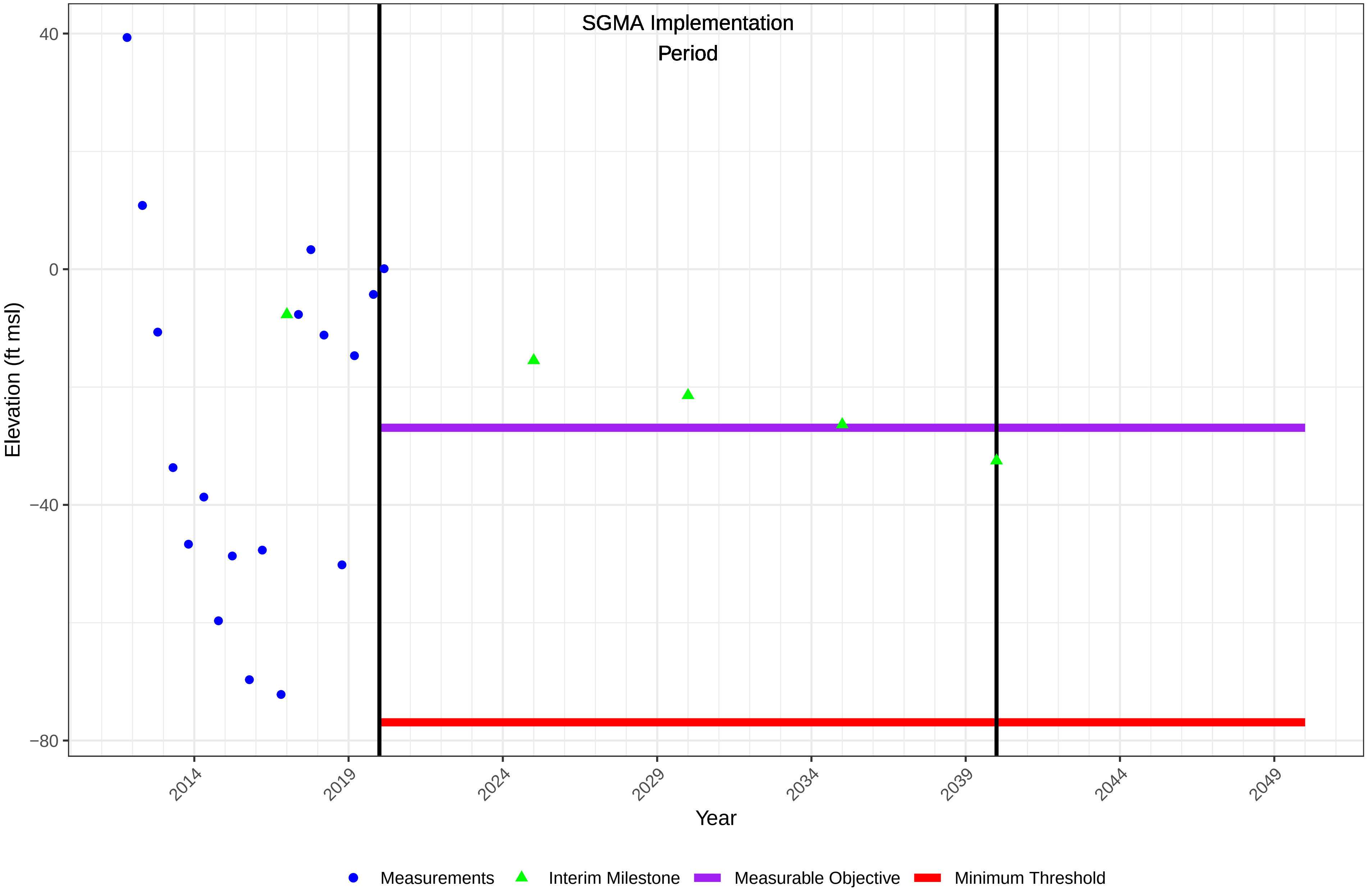


Groundwater Surface Elevation Hydrograph

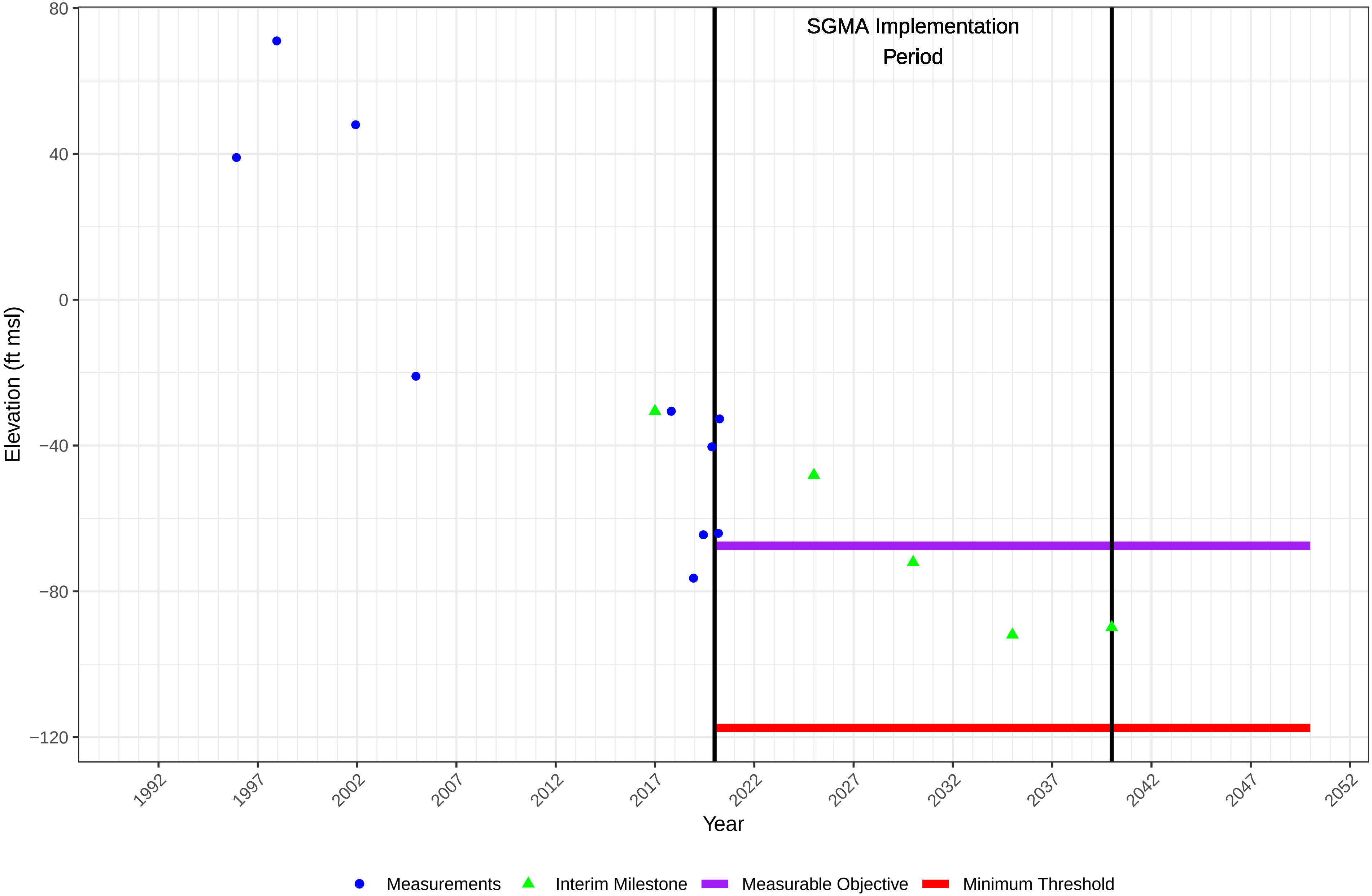
GSP Well ID: SFK_19S20E32D002M
Site Code: 362400N1198300W002
Local Well Name: KRCDAC3M
GSA: South Fork Kings GSA
Zone: Above E Zone B



Groundwater Surface Elevation Hydrograph
GSP Well ID: SFK_19S20E32D003M
Site Code: 362400N1198300W001
Local Well Name: KRCDAC3D
GSA: South Fork Kings GSA
Zone: Above E Zone B

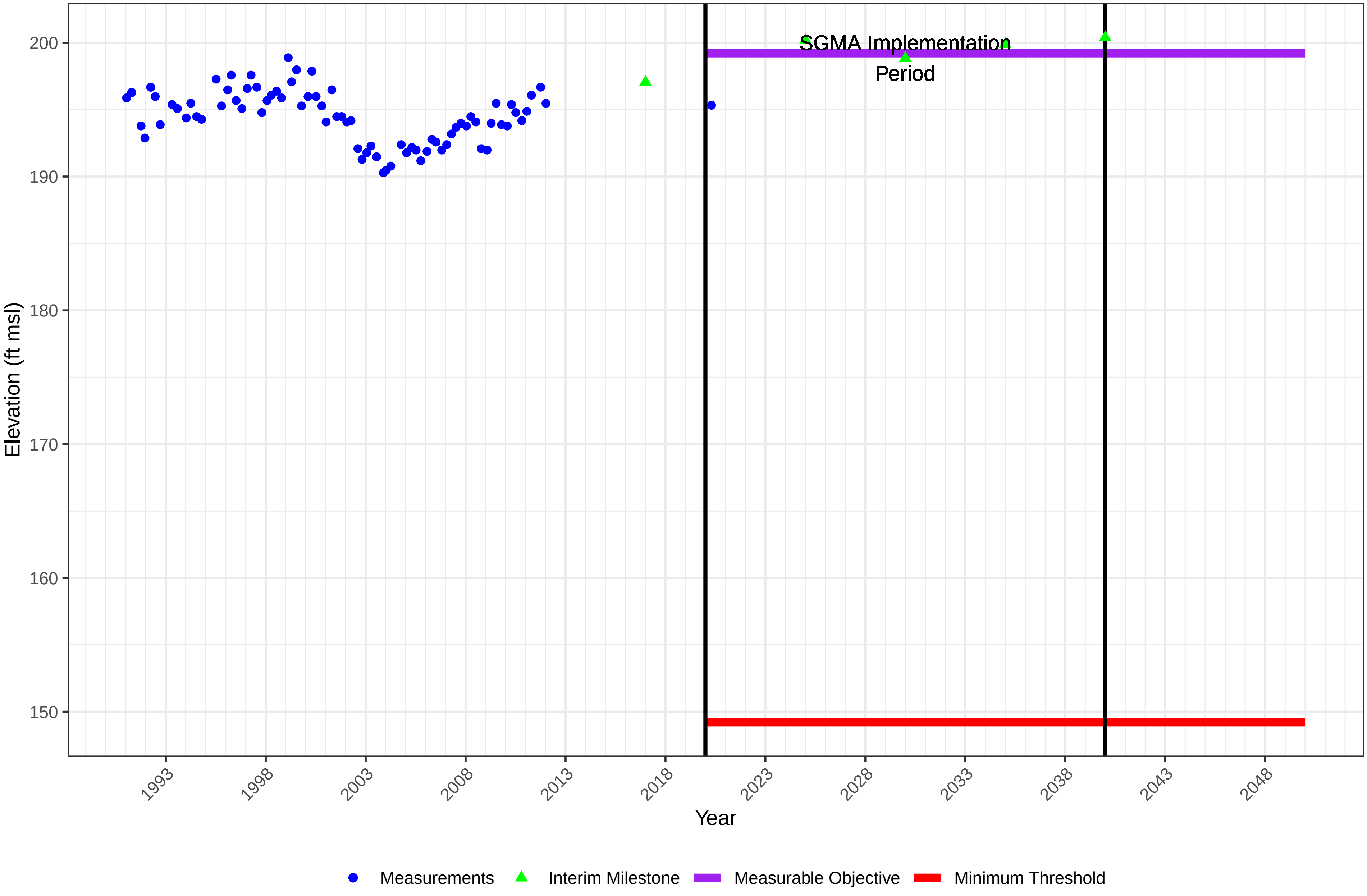


Groundwater Surface Elevation Hydrograph
GSP Well ID: SFK_20S19E02A001M
Site Code: 362258N1198699W001
Local Well Name: 20S/19E−02A01
GSA: South Fork Kings GSA
Zone: Below E Zone C



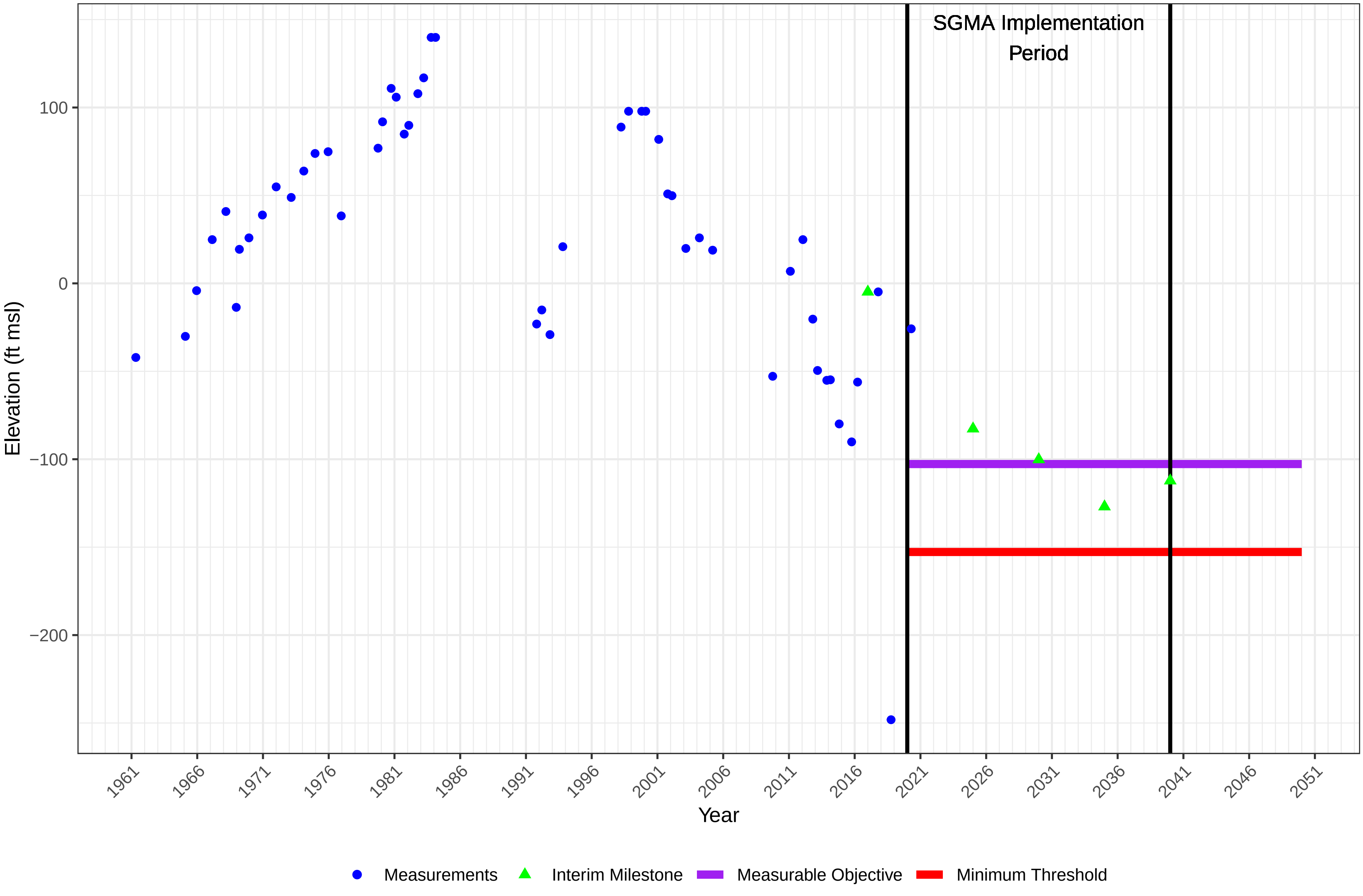
Groundwater Surface Elevation Hydrograph

GSP Well ID: SFK_20S19E25A003M
Site Code: 361700N1198510W001
Local Well Name: 20S19E25A003M
GSA: South Fork Kings GSA
Zone: Above A Zone A



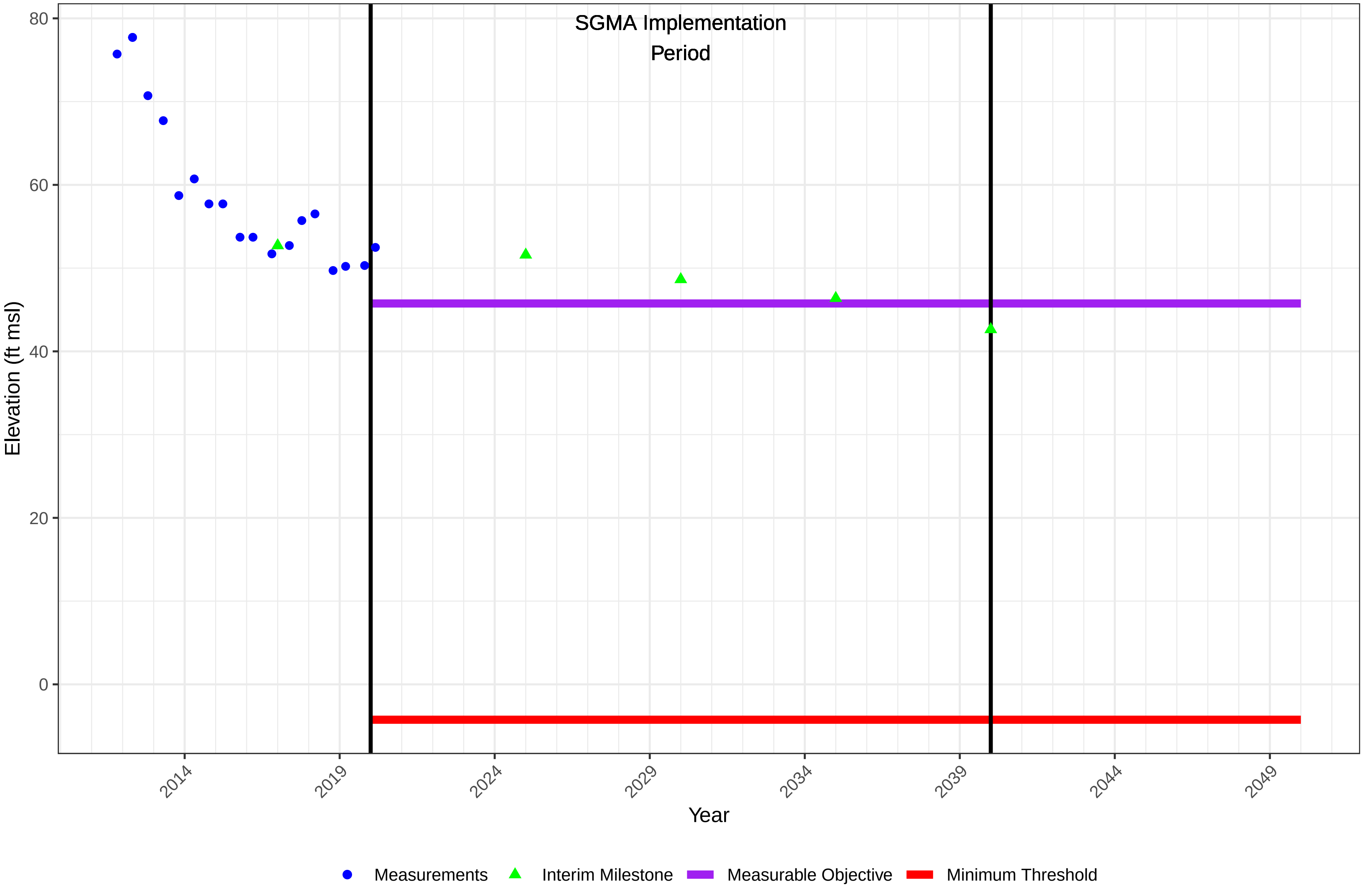
Groundwater Surface Elevation Hydrograph

GSP Well ID: SFK_20S20E07H001M
Site Code: 362061N1198388W001
Local Well Name: 20S20E07H001M
GSA: South Fork Kings GSA
Zone: Below E Zone C



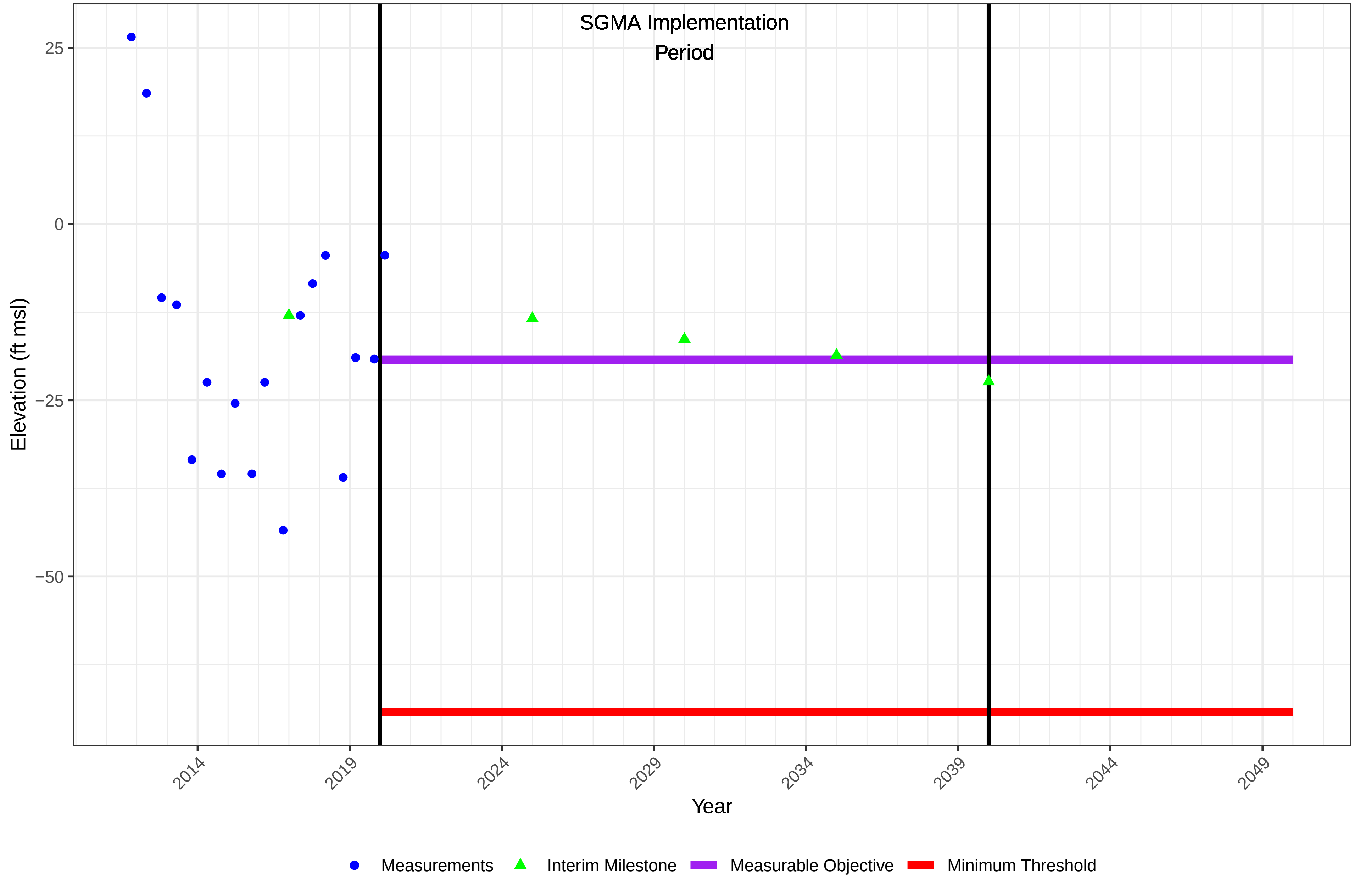
Groundwater Surface Elevation Hydrograph

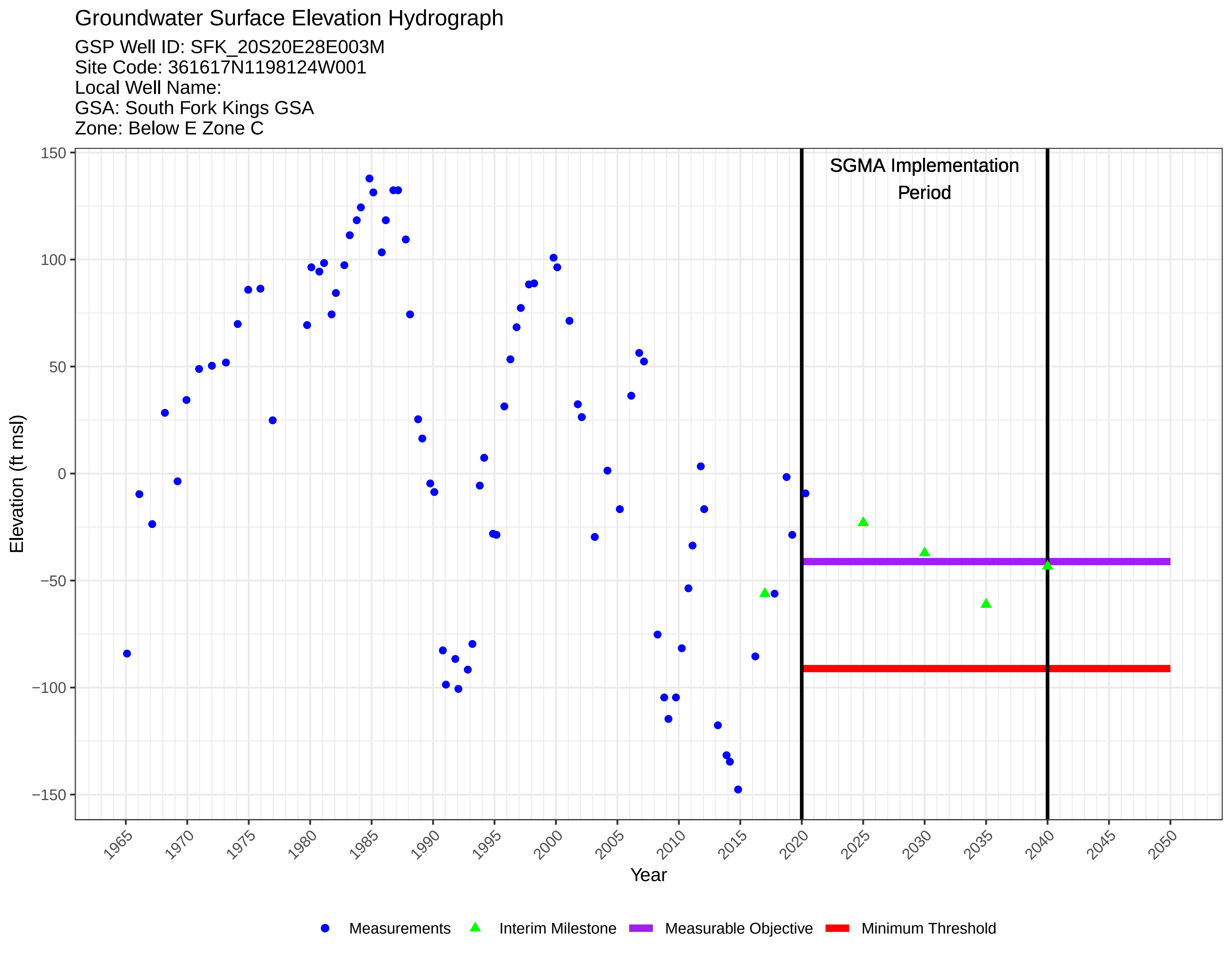
GSP Well ID: SFK_20S20E26L001M
Site Code: 361600N1197800W001
Local Well Name: KRCDAC5M
GSA: South Fork Kings GSA
Zone: Above E Zone B



Groundwater Surface Elevation Hydrograph

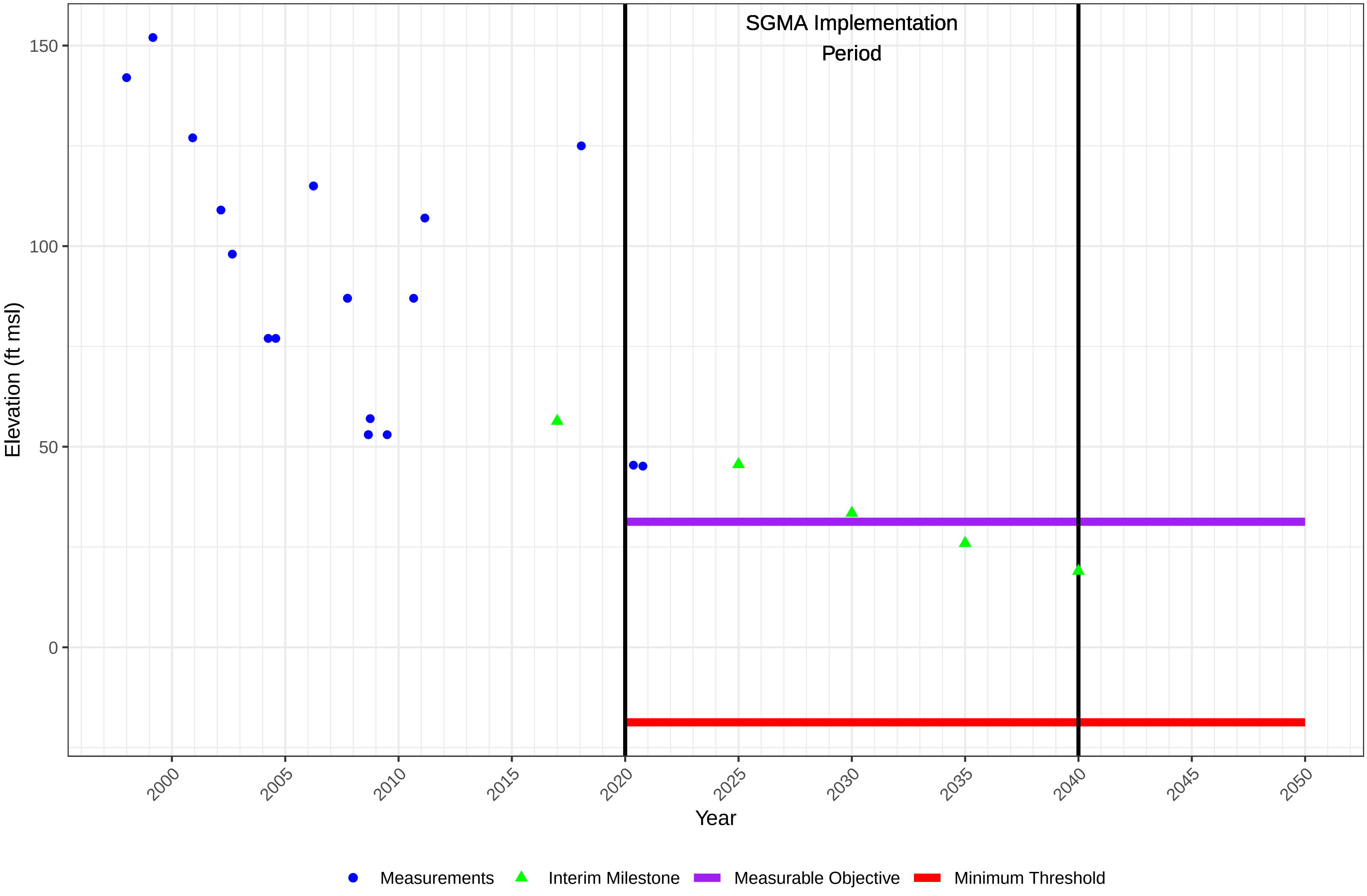
GSP Well ID: SFK_20S20E26L002M
Site Code: 361600N1197700W001
Local Well Name: KRCDAC5D
GSA: South Fork Kings GSA
Zone: Above E Zone B




Groundwater Surface Elevation Hydrograph
GSP Well ID: SFK_20S20E28E003M
Site Code: 361617N1198124W001
Local Well Name:
GSA: South Fork Kings GSA
Zone: Below E Zone C
SGMA Implementation Period
Elevation (ft msl)
150
100
50
0
−50
−100
−150
Year
1965
1970
1975
1980
1985
1990
1995
2000
2005
2010
2015
2020
2025
2030
2035
2040
2045
2050
Measurements
Interim Milestone
Measurable Objective
Minimum Threshold

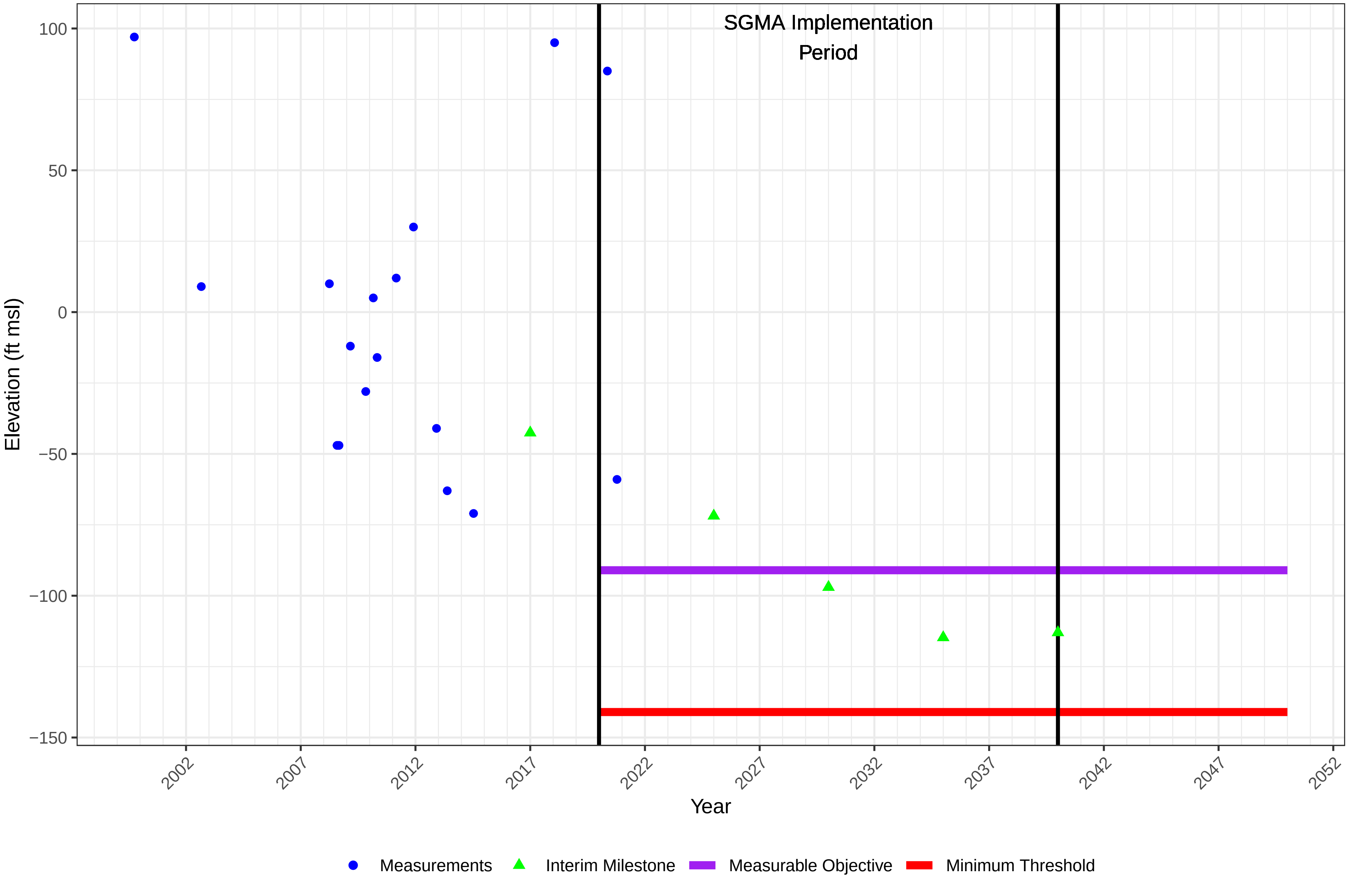
Groundwater Surface Elevation Hydrograph

GSP Well ID: SFK_1610005−009
Site Code: 363863N1197745W001
Local Well Name: NA
GSA: South Fork Kings GSA
Zone: NA

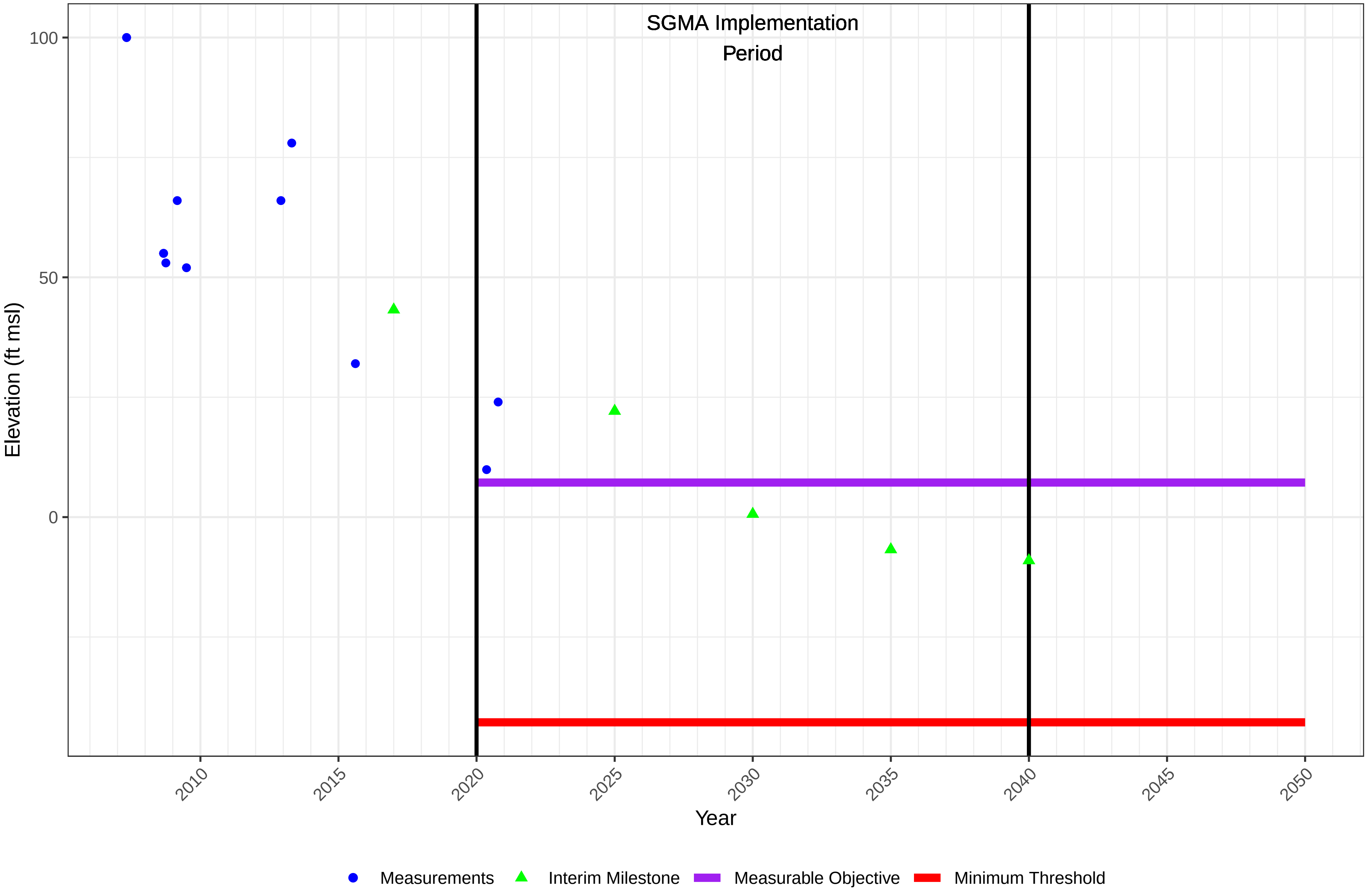


Groundwater Surface Elevation Hydrograph

GSP Well ID: SFK_1610005−011
Site Code: 362944N1198055W001
Local Well Name: NA
GSA: South Fork Kings GSA
Zone: NA

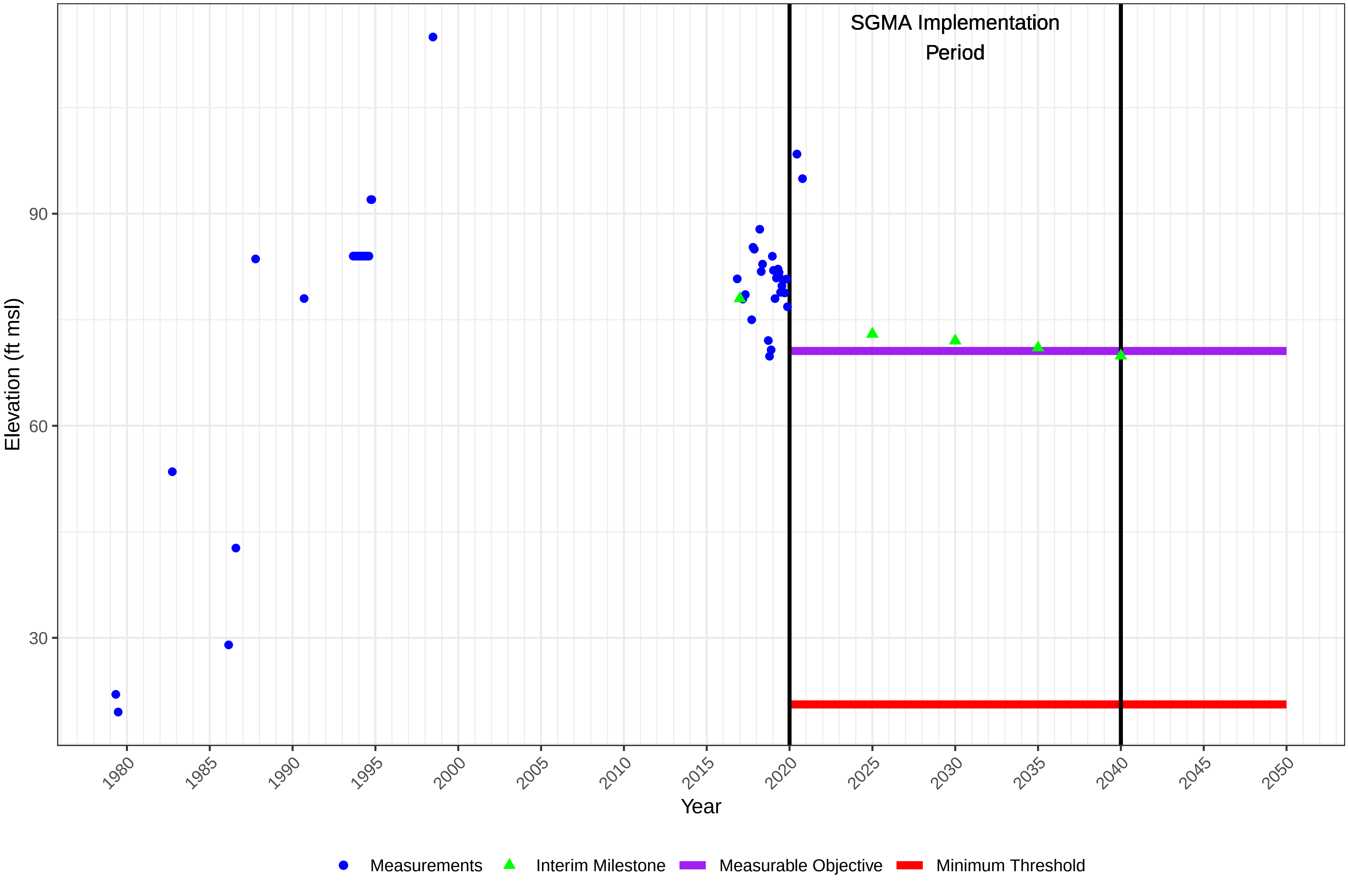


Groundwater Surface Elevation Hydrograph
GSP Well ID: SFK_1610005−020
Site Code: 363840N1197762W002
Local Well Name: NA
GSA: South Fork Kings GSA
Zone: NA



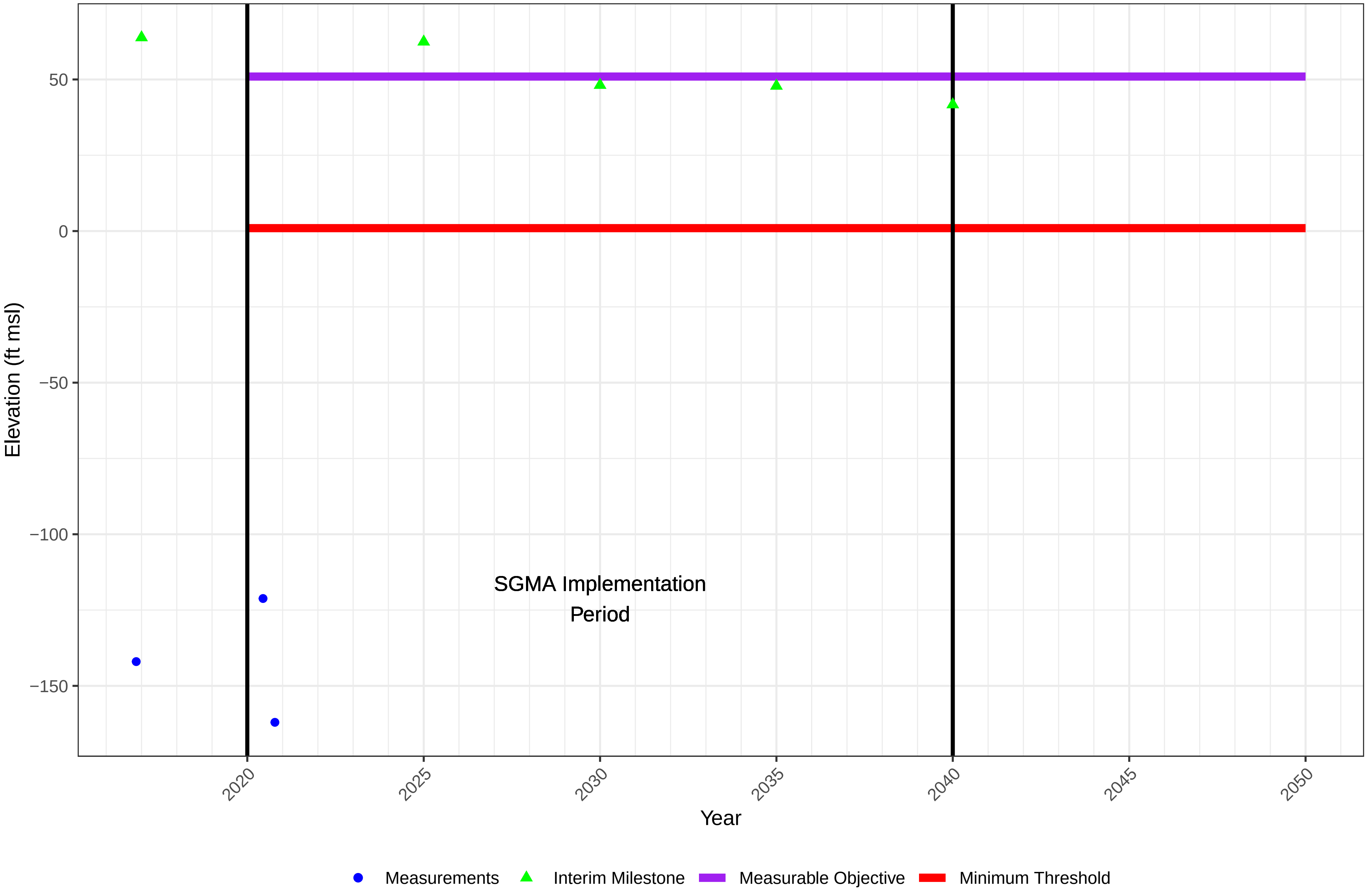
Groundwater Surface Elevation Hydrograph

GSP Well ID: SWK_Becky_Pease
Site Code: 360074N1199605W001
Local Well Name: Becky Pease Well
GSA: Southwest Kings GSA
Zone: Above E Zone B



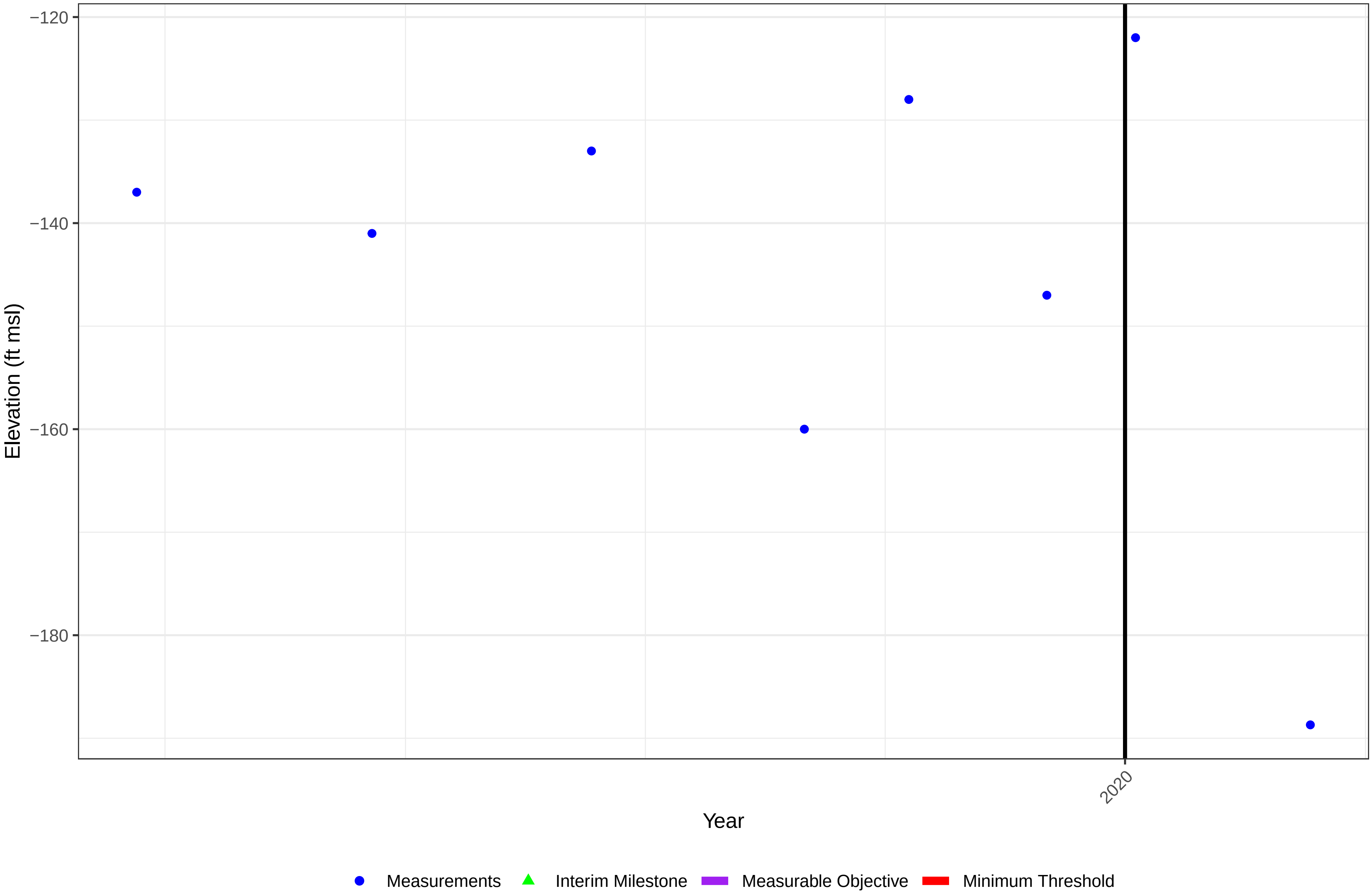
Groundwater Surface Elevation Hydrograph

GSP Well ID: SWK_Well_16−8
Site Code: 360879N1199263W001
Local Well Name: Well 16−8
GSA: Southwest Kings GSA
Zone: NA



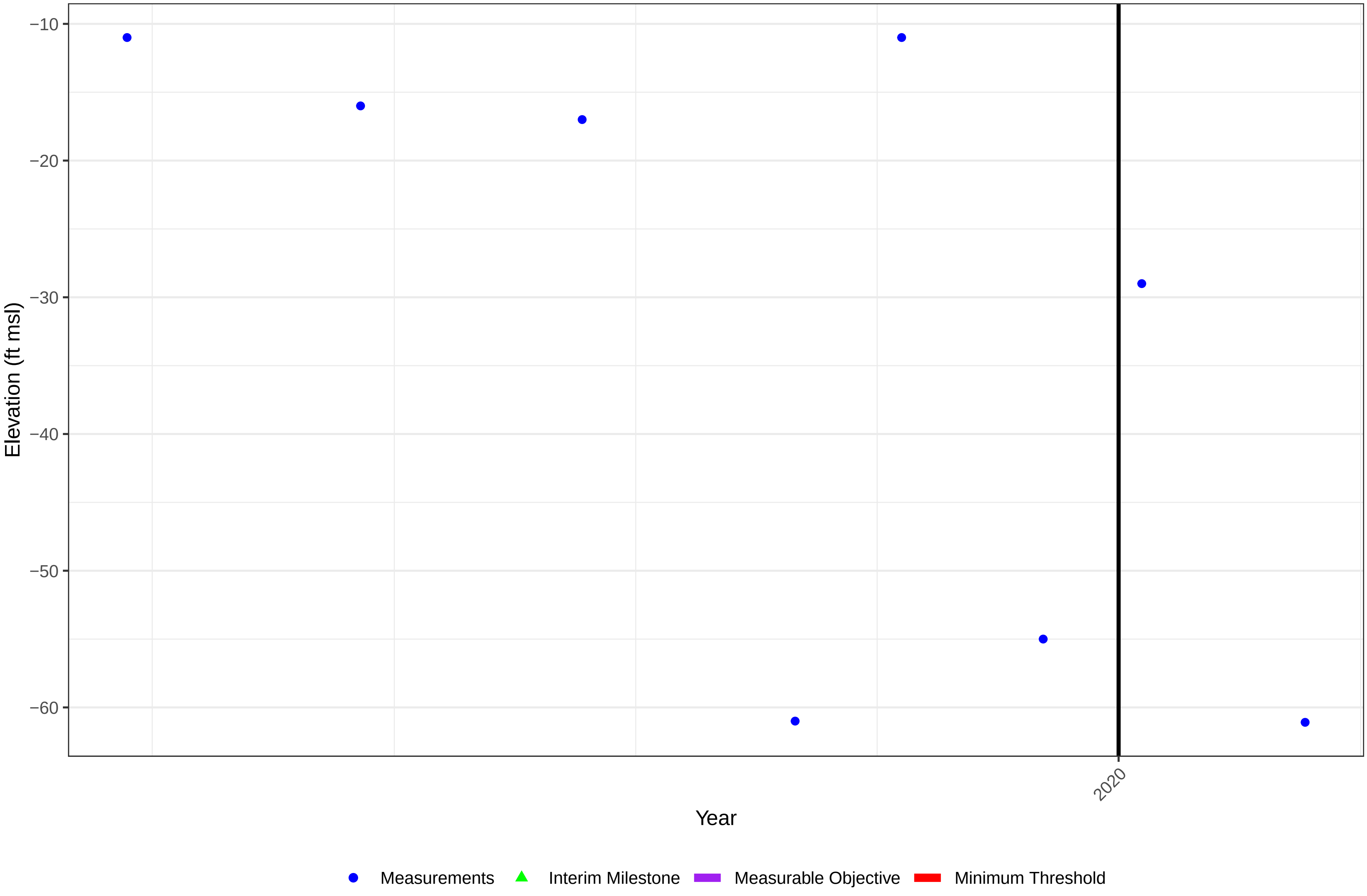
Groundwater Surface Elevation Hydrograph

GSP Well ID: TCWA_FB_35−2
Site Code: 358036N1195732W001
Local Well Name: FB 35−2
GSA: TCWA
Zone: NA



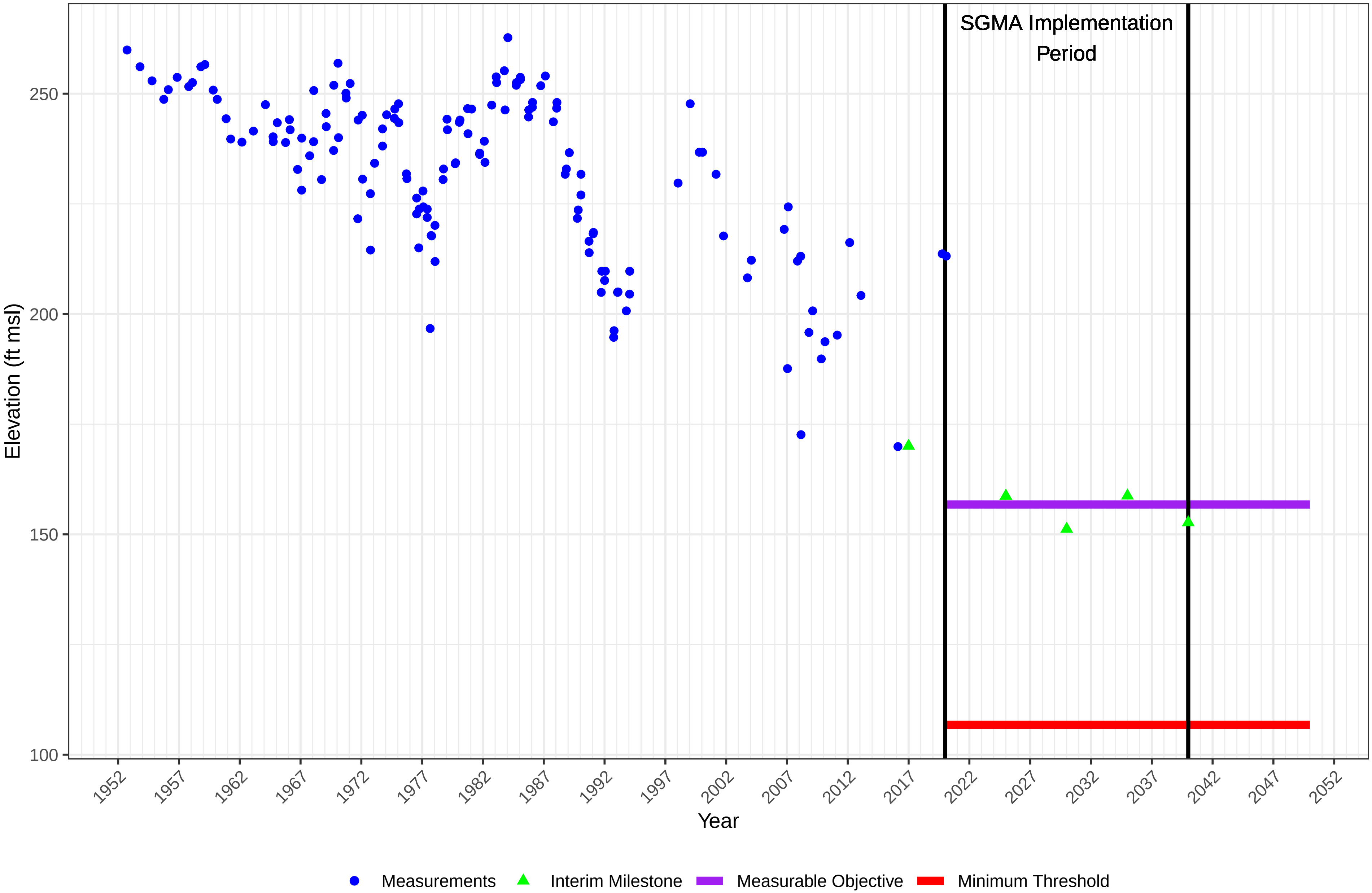
Groundwater Surface Elevation Hydrograph

GSP Well ID: TCWA_ZE_33−4
Site Code: 357906N1195913W001
Local Well Name: ZE 33−4
GSA: TCWA
Zone: NA



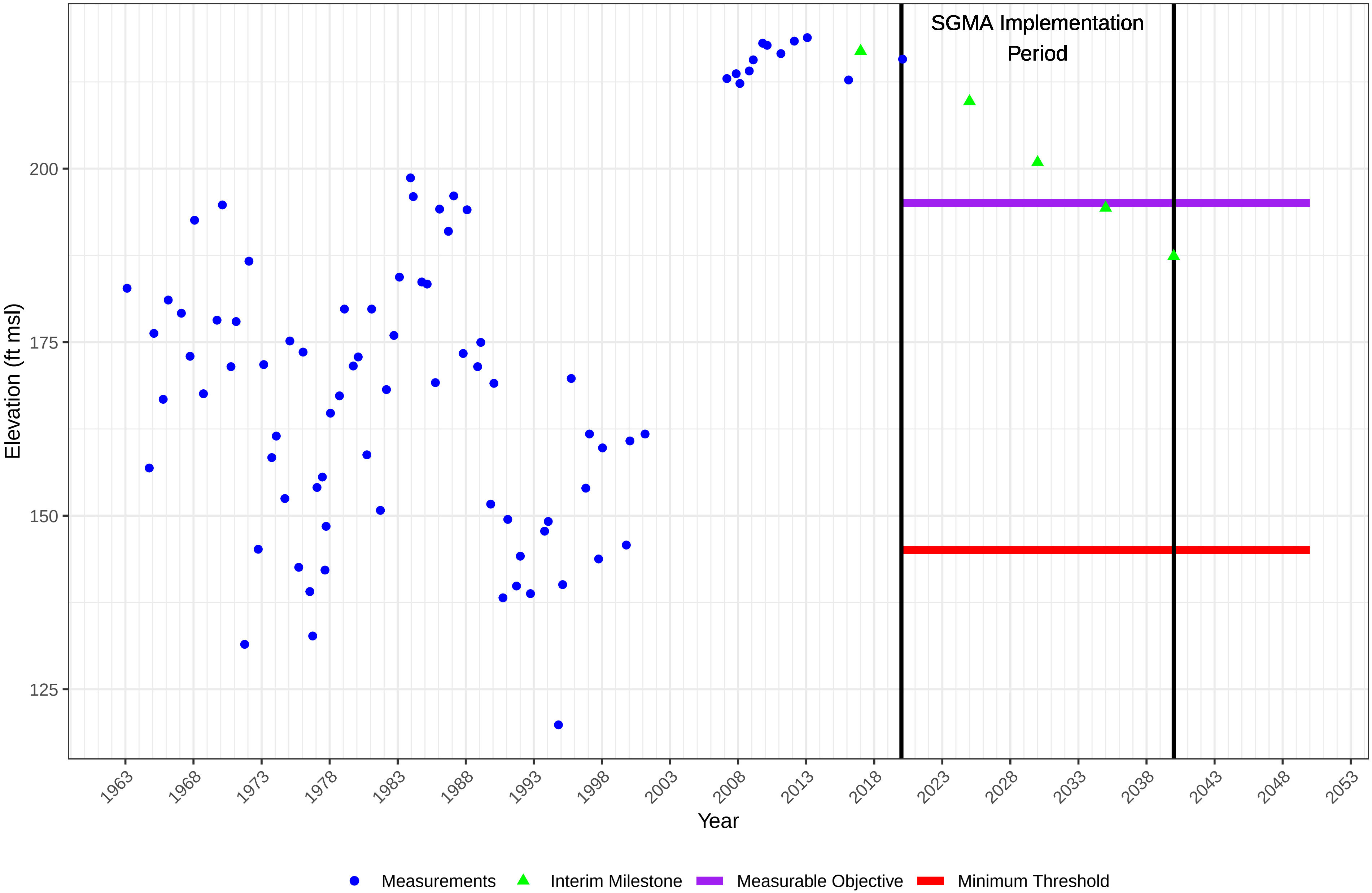
Groundwater Surface Elevation Hydrograph

GSP Well ID: MKR_17S22E28A001M
Site Code: 364303N1195841W001
Local Well Name: KRCDKCWD01
GSA: Mid−Kings River GSA
Zone: Above E Zone B



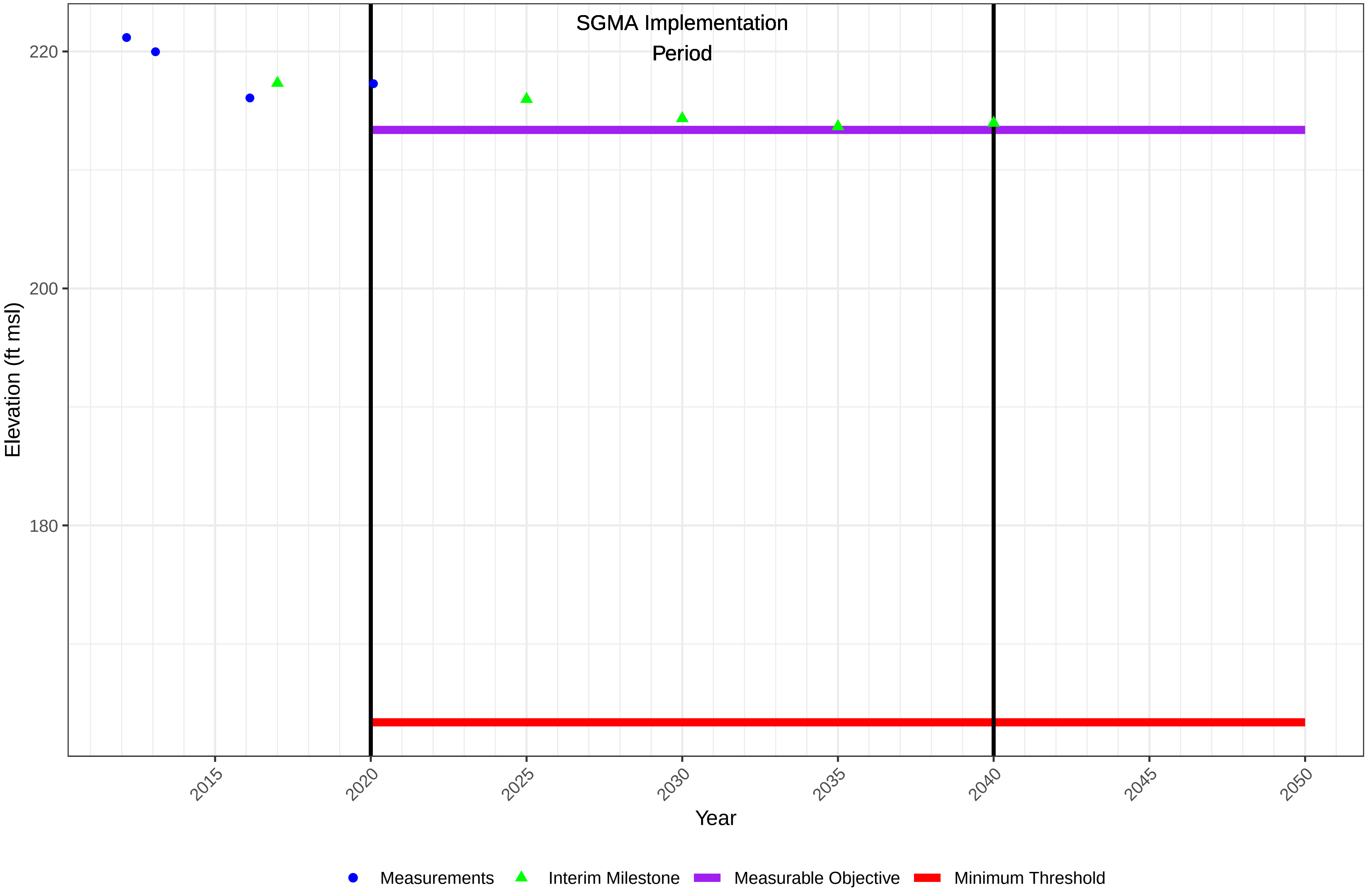
Groundwater Surface Elevation Hydrograph

GSP Well ID: MKR_18S21E07R003M
Site Code: 363722N1197282W001
Local Well Name: 18S21E07R003M
GSA: Mid−Kings River GSA
Zone: Above E Zone B



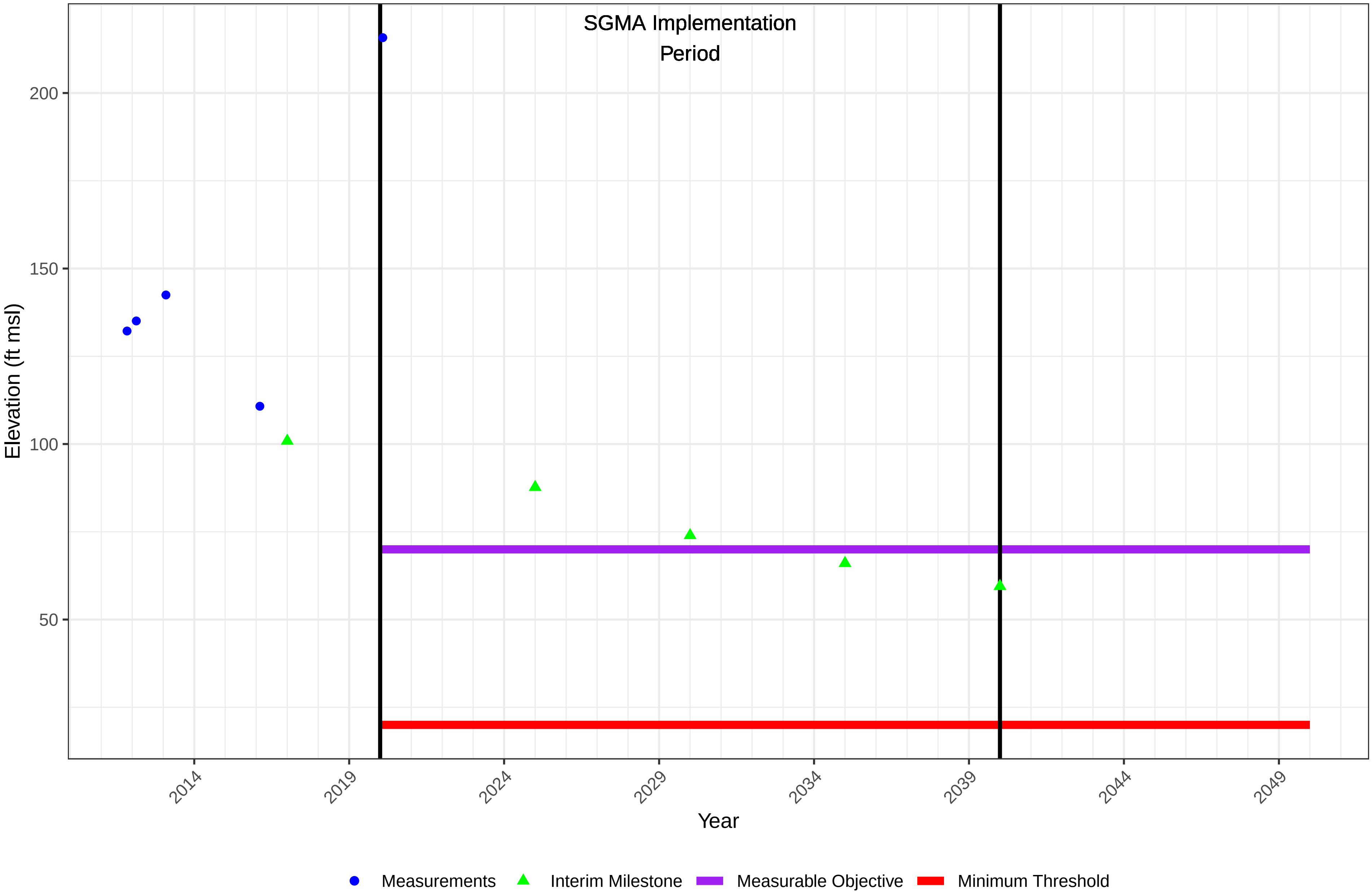
Groundwater Surface Elevation Hydrograph

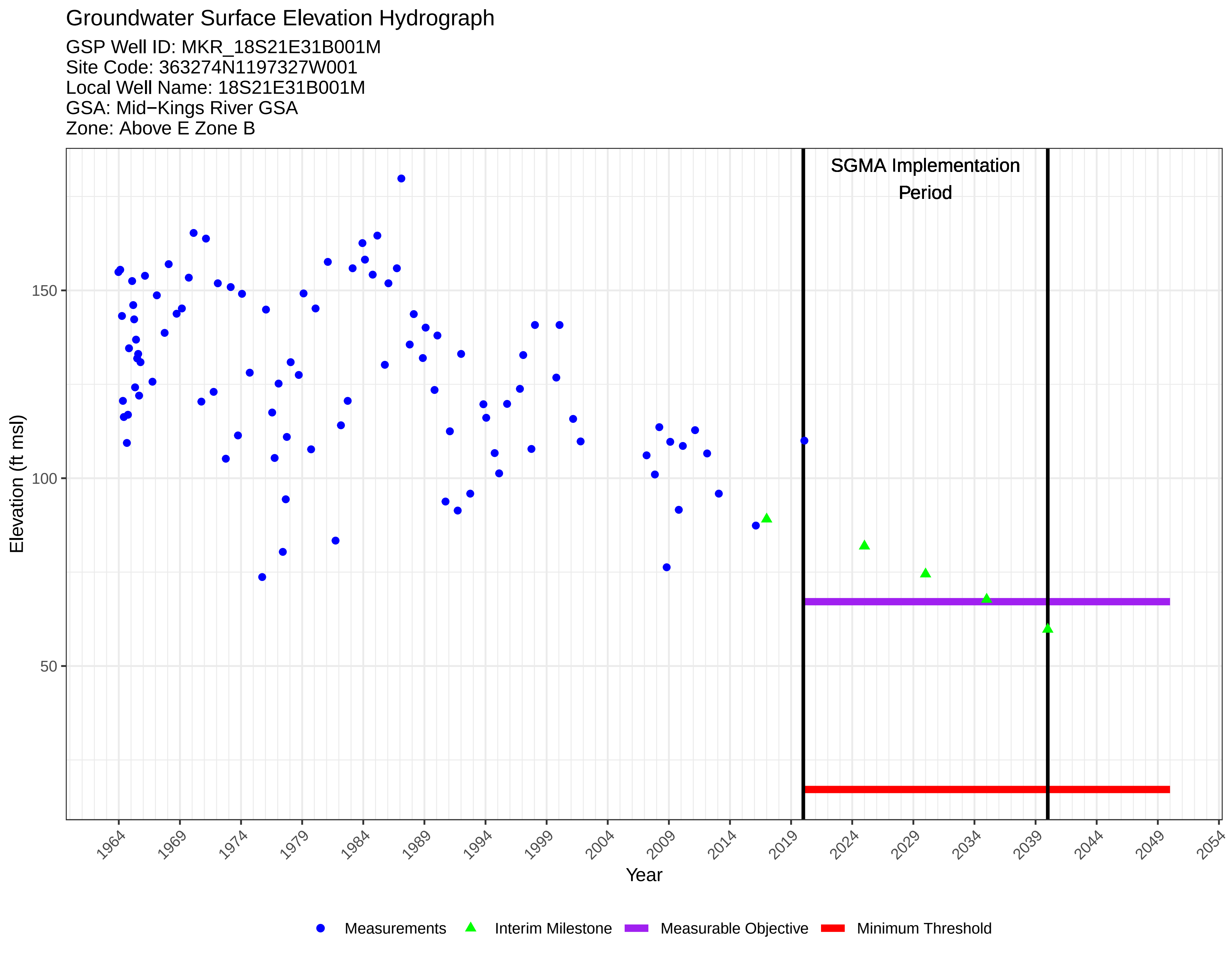
GSP Well ID: MKR_18S21E17N001M
Site Code: 363603N1197266W001
Local Well Name: 18S21E17N001M
GSA: Mid−Kings River GSA
Zone: Above A Zone A



Groundwater Surface Elevation Hydrograph

GSP Well ID: MKR_18S21E27B001M
Site Code: 363419N1196799W001
Local Well Name: KRCDKCWD05
GSA: Mid−Kings River GSA
Zone: Above E Zone B

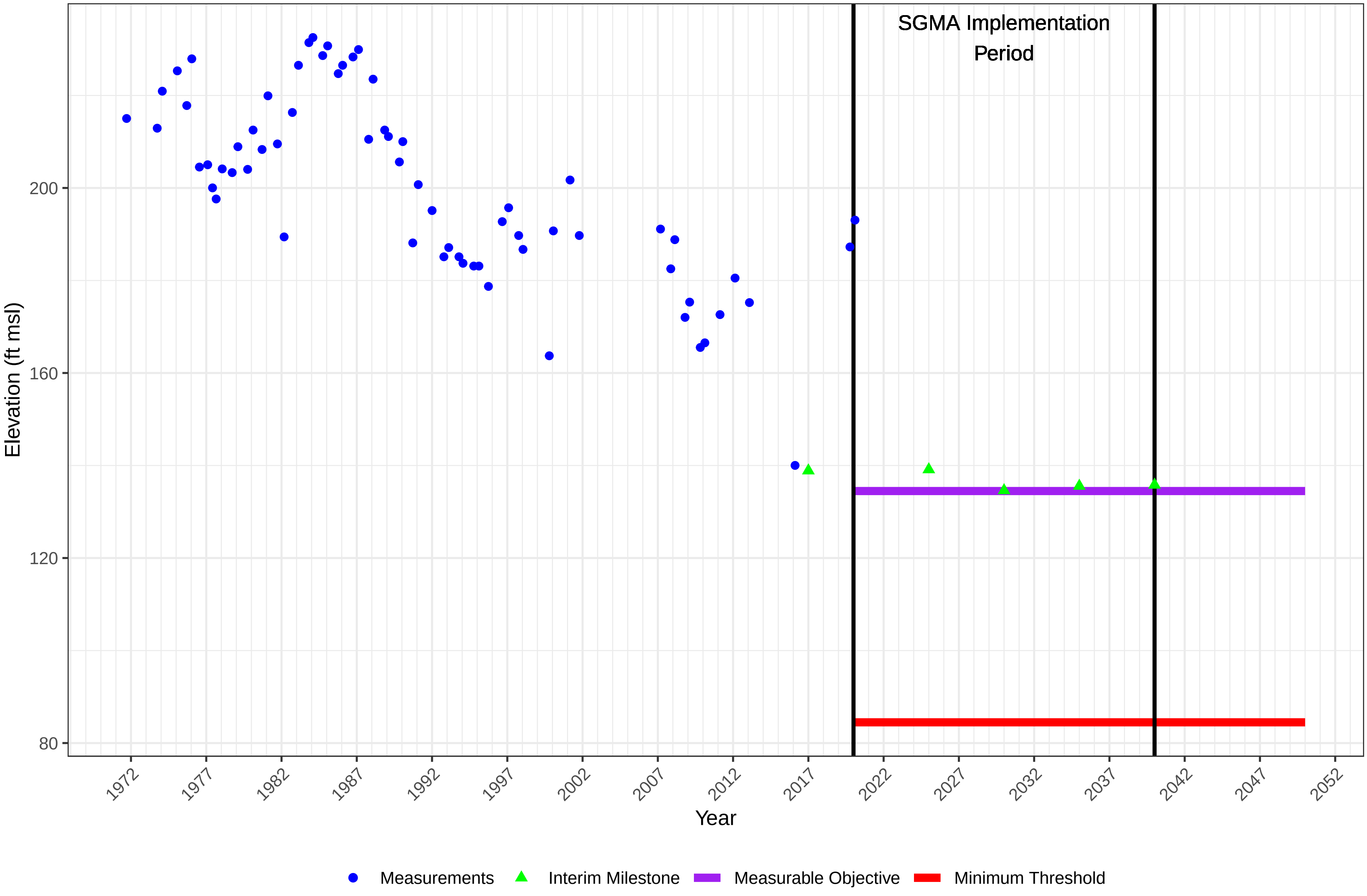




Groundwater Surface Elevation Hydrograph
GSP Well ID: MKR_18S21E31B001M
Site Code: 363274N1197327W001
Local Well Name: 18S21E31B001M
GSA: Mid−Kings River GSA
Zone: Above E Zone B
SGMA Implementation Period
Elevation (ft msl)
150
100
50
1964
1969
1974
1979
1984
1989
1994
1999
2004
2009
2014
2019
2024
2029
2034
2039
2044
2049
2054
Year
Measurements
Interim Milestone
Measurable Objective
Minimum Threshold

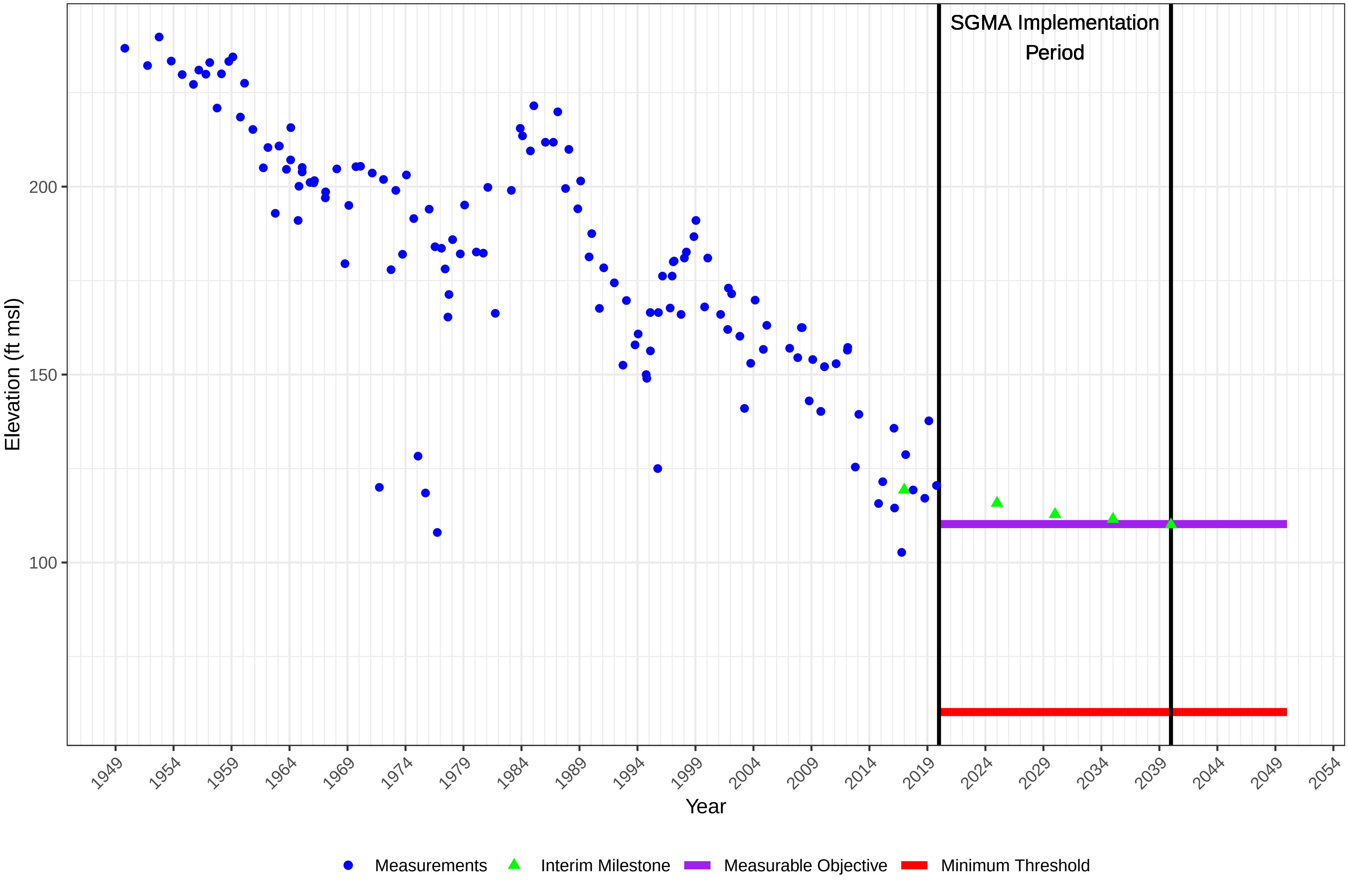
Groundwater Surface Elevation Hydrograph

GSP Well ID: MKR_18S22E03B001M
Site Code: 363992N1195716W001
Local Well Name: 18S22E03B001M
GSA: Mid−Kings River GSA
Zone: Above E Zone B

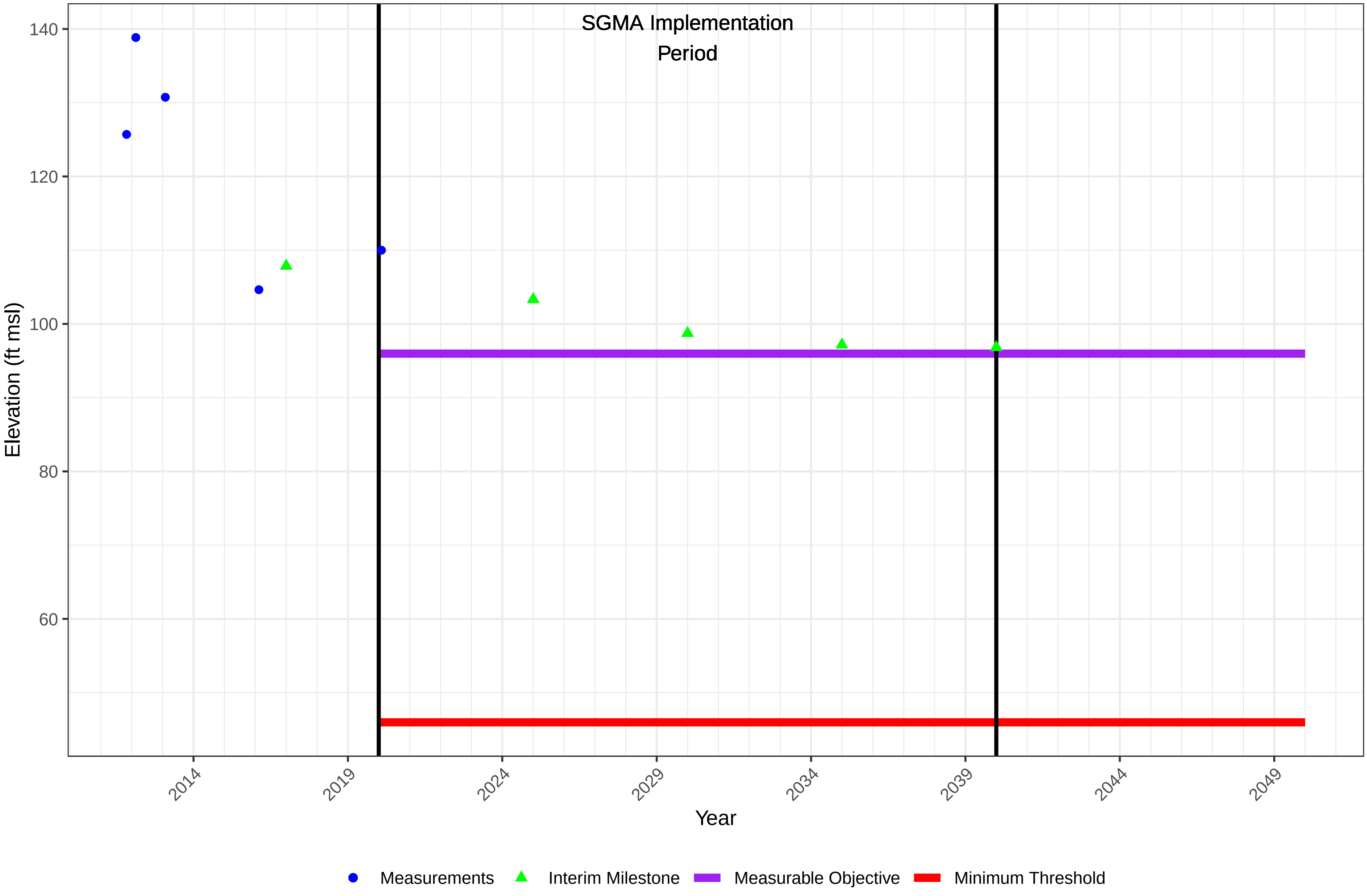


Groundwater Surface Elevation Hydrograph

GSP Well ID: MKR_18S22E24D001M
Site Code: 363572N1195468W001
Local Well Name: KRCDKCWD09
GSA: Mid−Kings River GSA
Zone: Above E Zone B

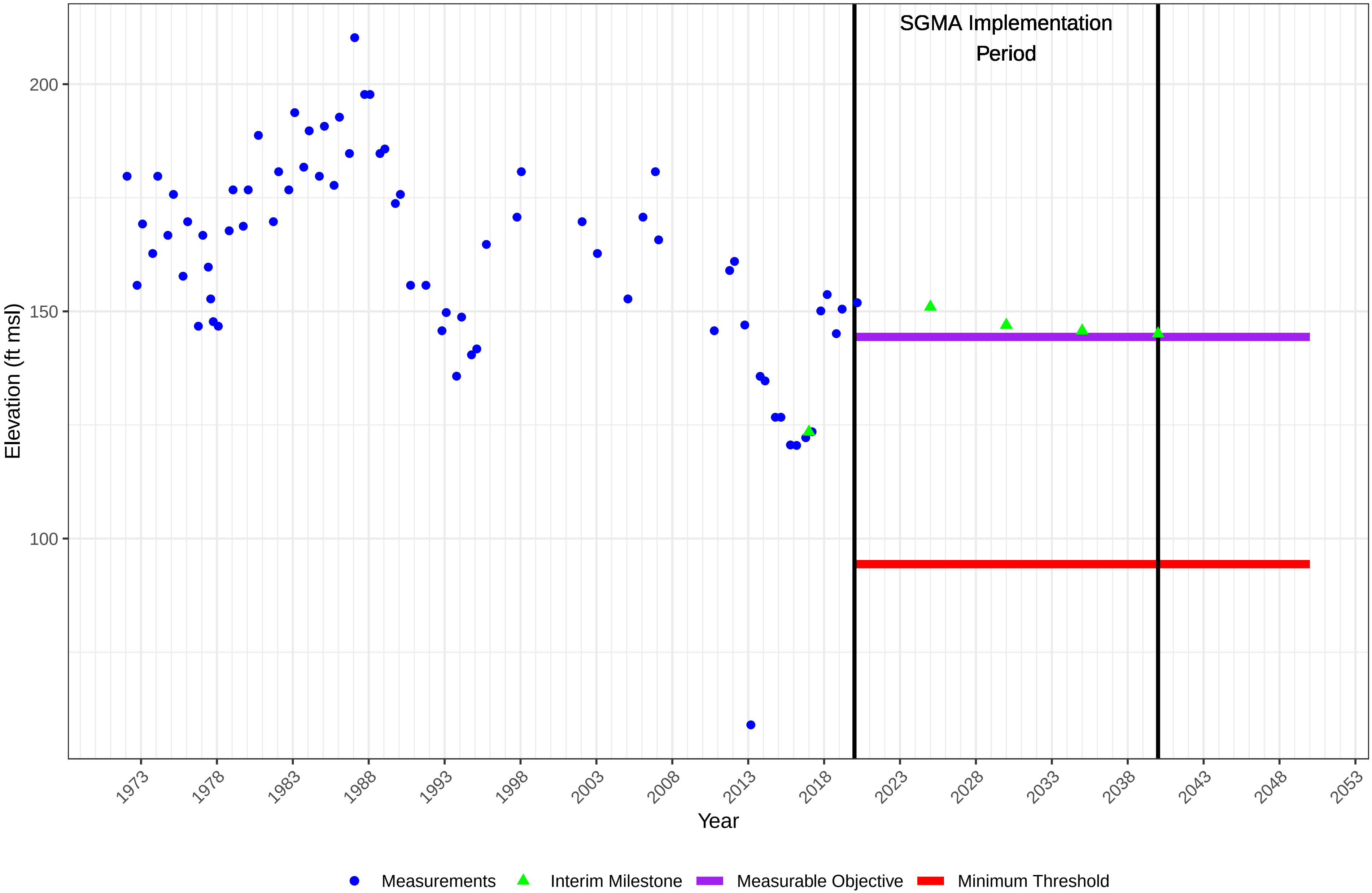


Groundwater Surface Elevation Hydrograph
GSP Well ID: MKR_18S22E28A001M
Site Code: 363393N1195832W001
Local Well Name: KRCDKCWD08
GSA: Mid−Kings River GSA
Zone: Above E Zone B



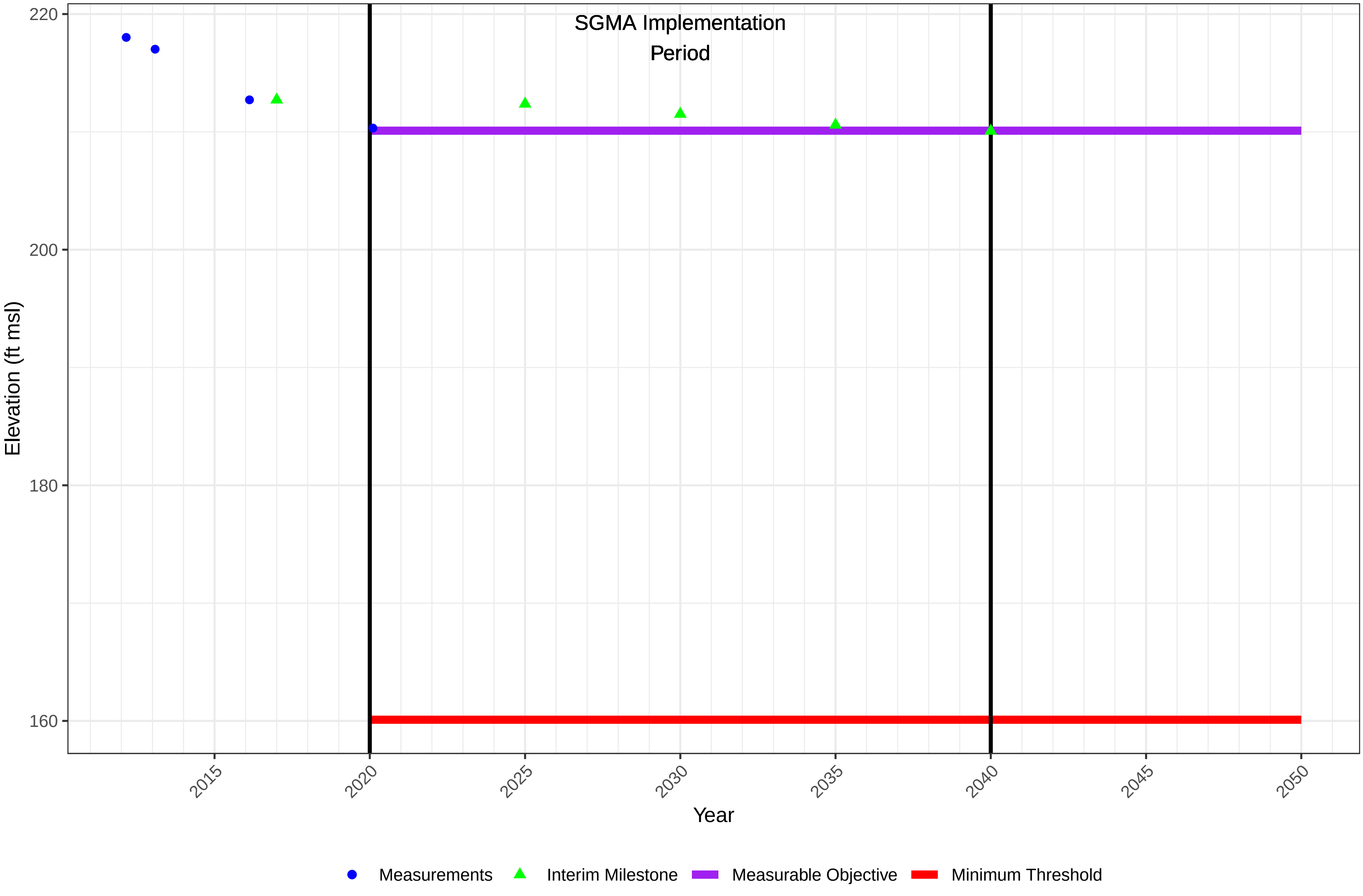
Groundwater Surface Elevation Hydrograph

GSP Well ID: MKR_18S22E34R001M
Site Code: 363142N1195685W001
Local Well Name: 18S22E34R001M
GSA: Mid−Kings River GSA
Zone: Above E Zone B



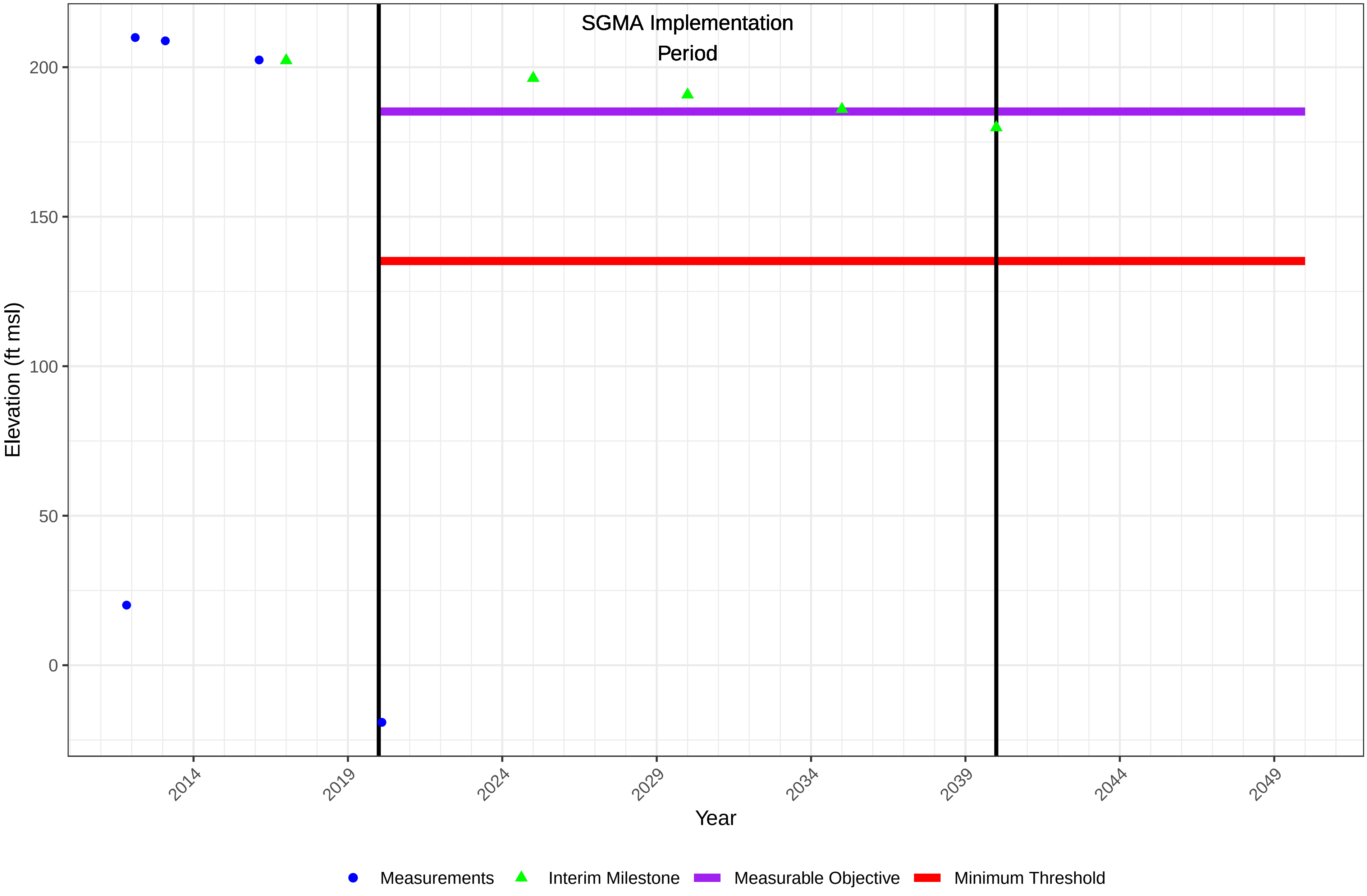
Groundwater Surface Elevation Hydrograph

GSP Well ID: MKR_19S21E20N001M
Site Code: 362549N1197266W001
Local Well Name: 19S21E20N001M
GSA: Mid−Kings River GSA
Zone: Above A Zone A



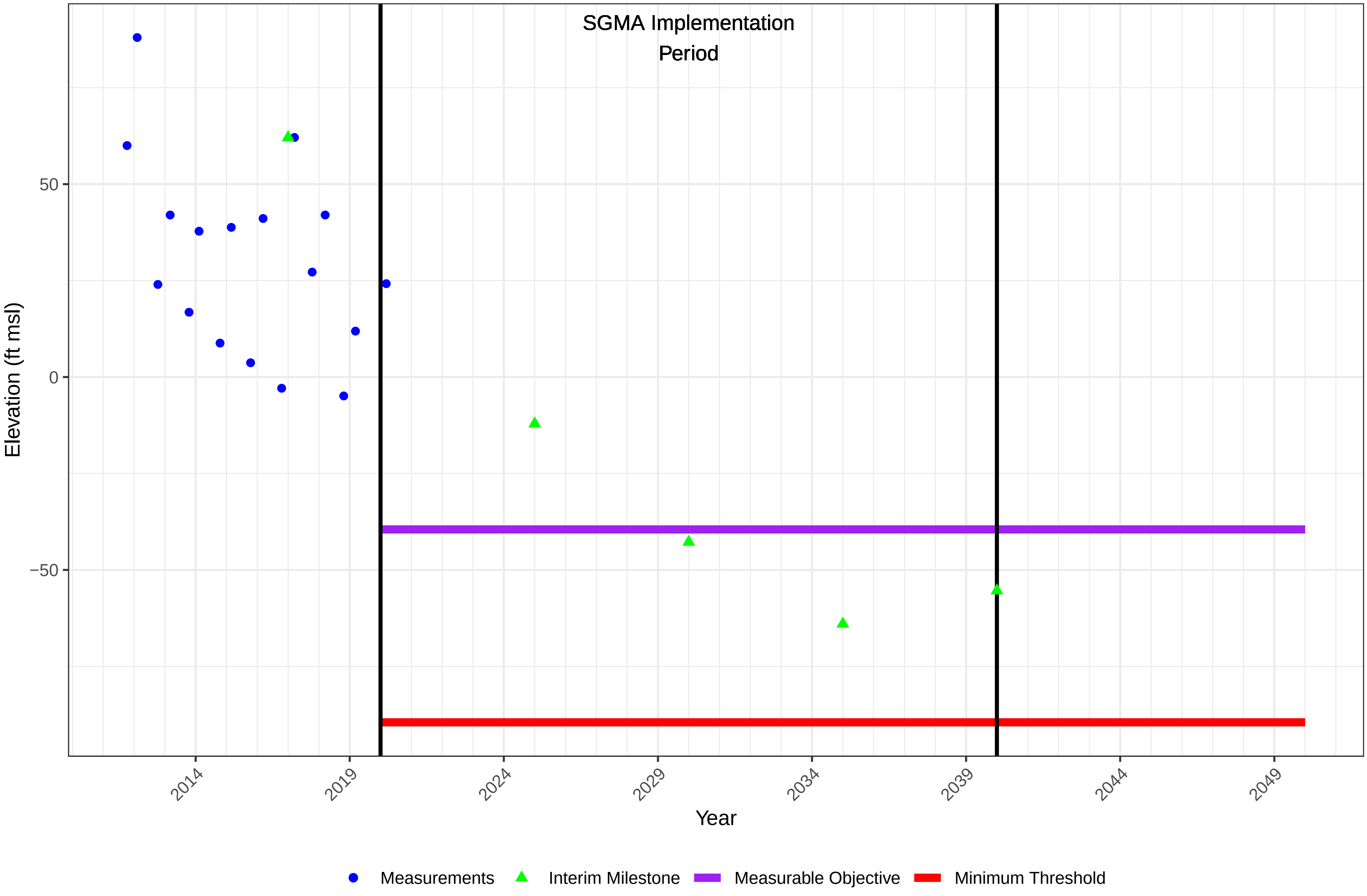
Groundwater Surface Elevation Hydrograph

GSP Well ID: MKR_19S21E30A001M
Site Code: 362618N1197496W001
Local Well Name: KRCDKCWD06
GSA: Mid−Kings River GSA
Zone: Above E Zone B



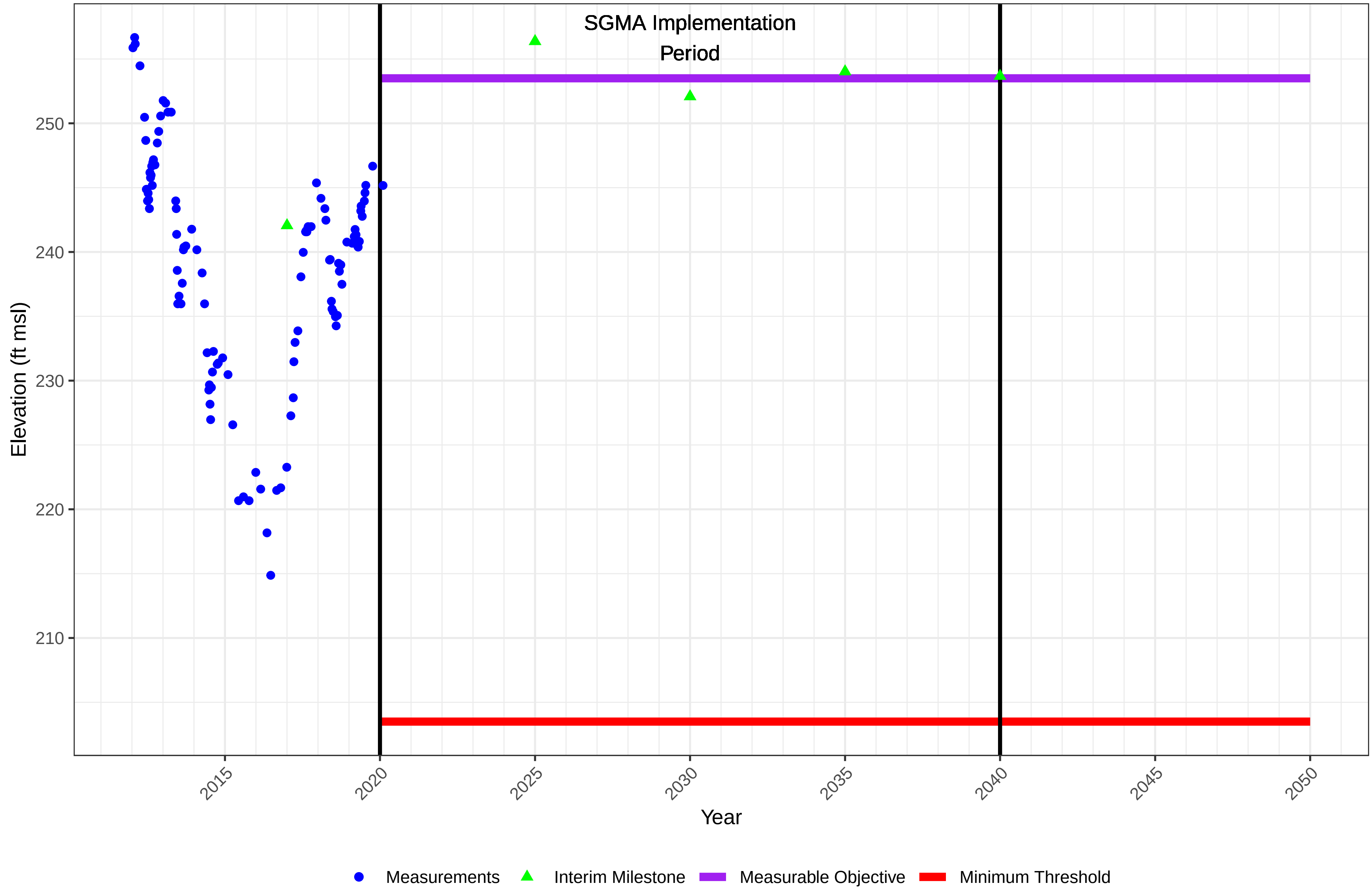
Groundwater Surface Elevation Hydrograph

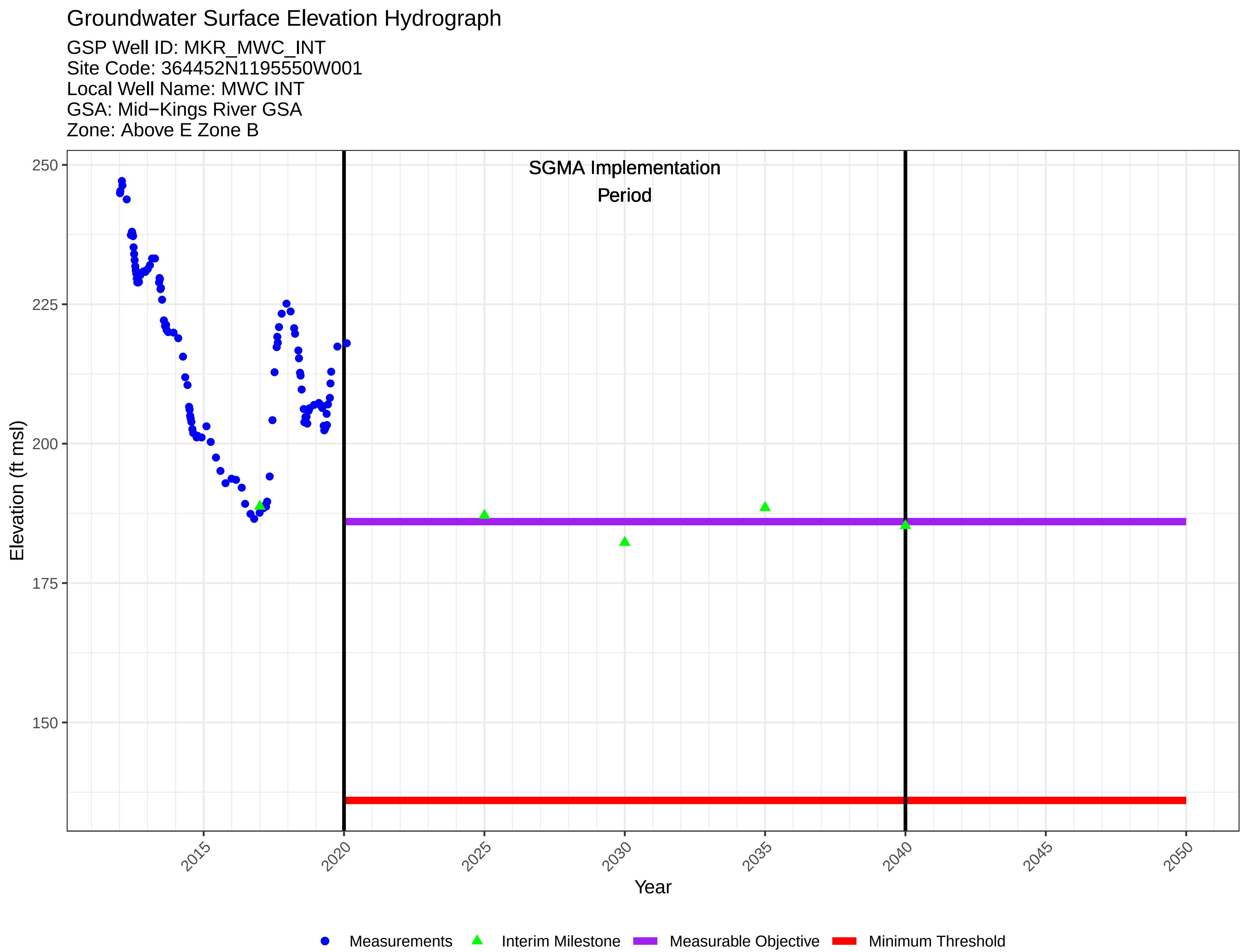
GSP Well ID: MKR_19S22E08D002M
Site Code: 362981N1196189W001
Local Well Name: 19S22E08D002M
GSA: Mid−Kings River GSA
Zone: Below E Zone C



Groundwater Surface Elevation Hydrograph

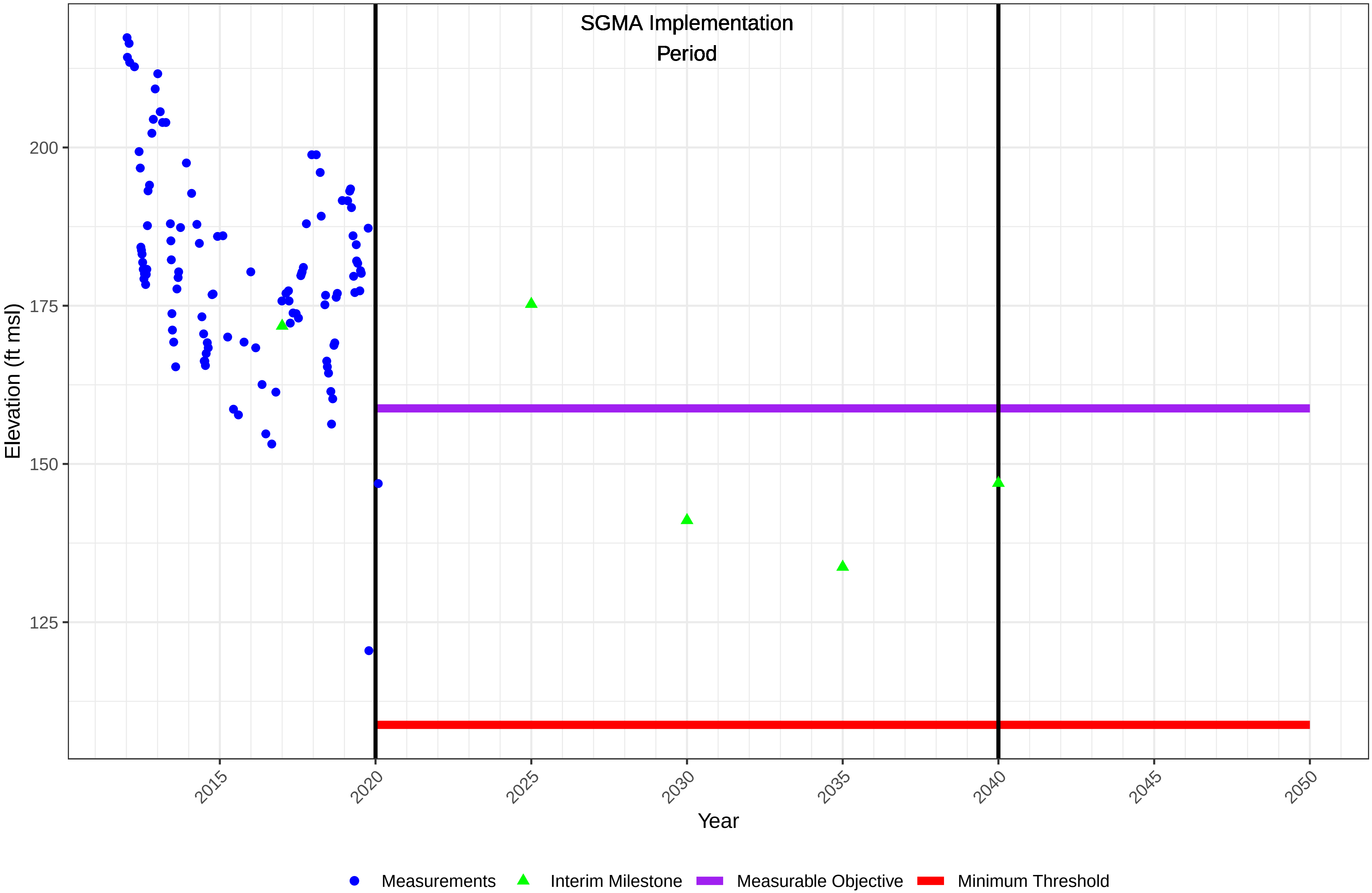
GSP Well ID: MKR_MWA_INTDEEP
Site Code: 364834N1195404W001
Local Well Name: MWA INTDEEP
GSA: Mid−Kings River GSA
Zone: Above E Zone B




Groundwater Surface Elevation Hydrograph
GSP Well ID: MKR_MWC_INT
Site Code: 364452N1195550W001
Local Well Name: MWC INT
GSA: Mid−Kings River GSA
Zone: Above E Zone B
SGMA Implementation Period
Elevation (ft msl)
250
225
200
175
150
2015
2020
2025
2030
2035
2040
2045
2050
Year
Measurements
Interim Milestone
Measurable Objective
Minimum Threshold

Groundwater Surface Elevation Hydrograph

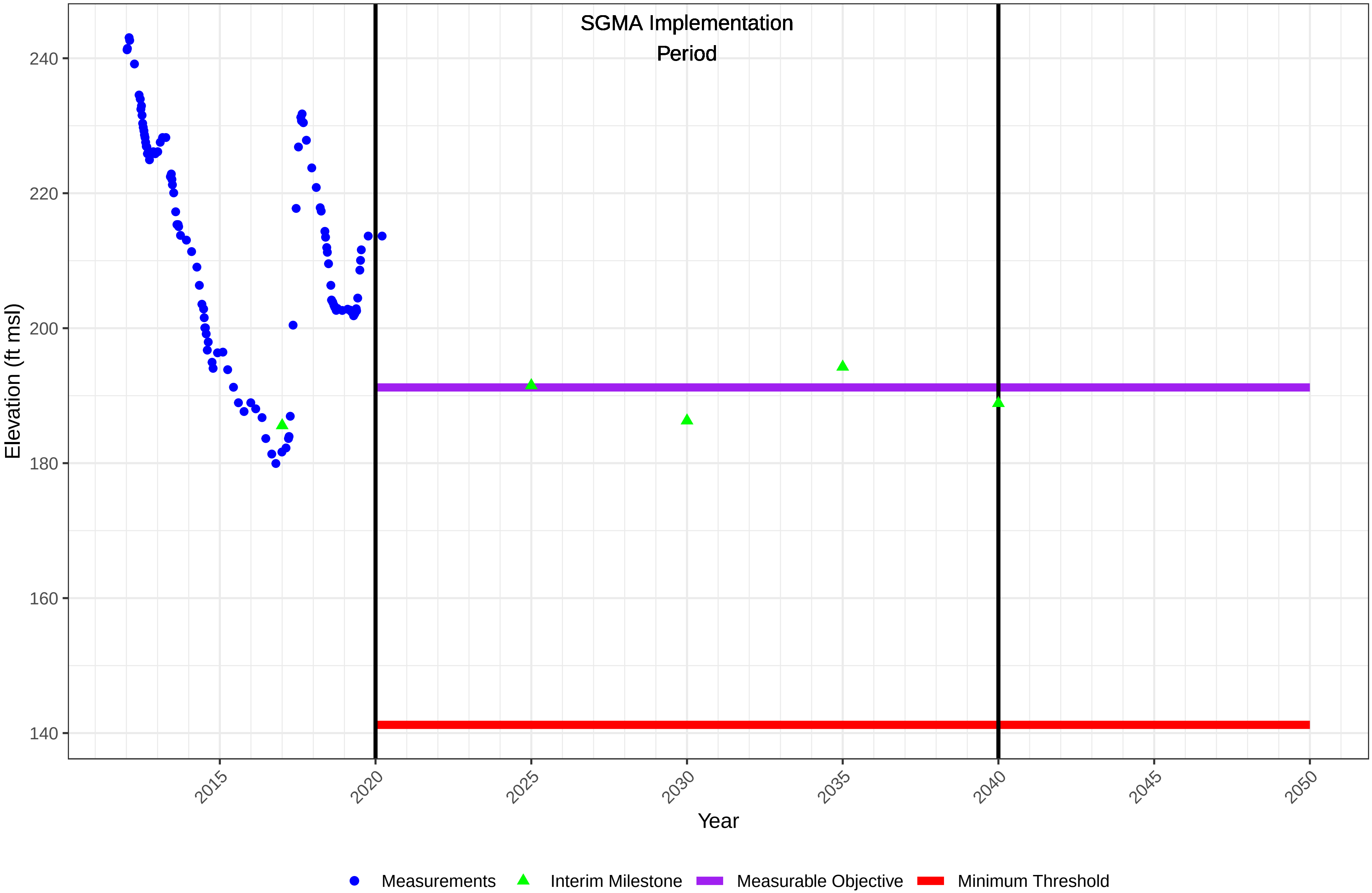
GSP Well ID: MKR_MWD_DEEP
Site Code: 364436N1195648W001
Local Well Name: MWD DEEP
GSA: Mid−Kings River GSA
Zone: Below E Zone C



Well added to Monitoring Network.

Groundwater Surface Elevation Hydrograph

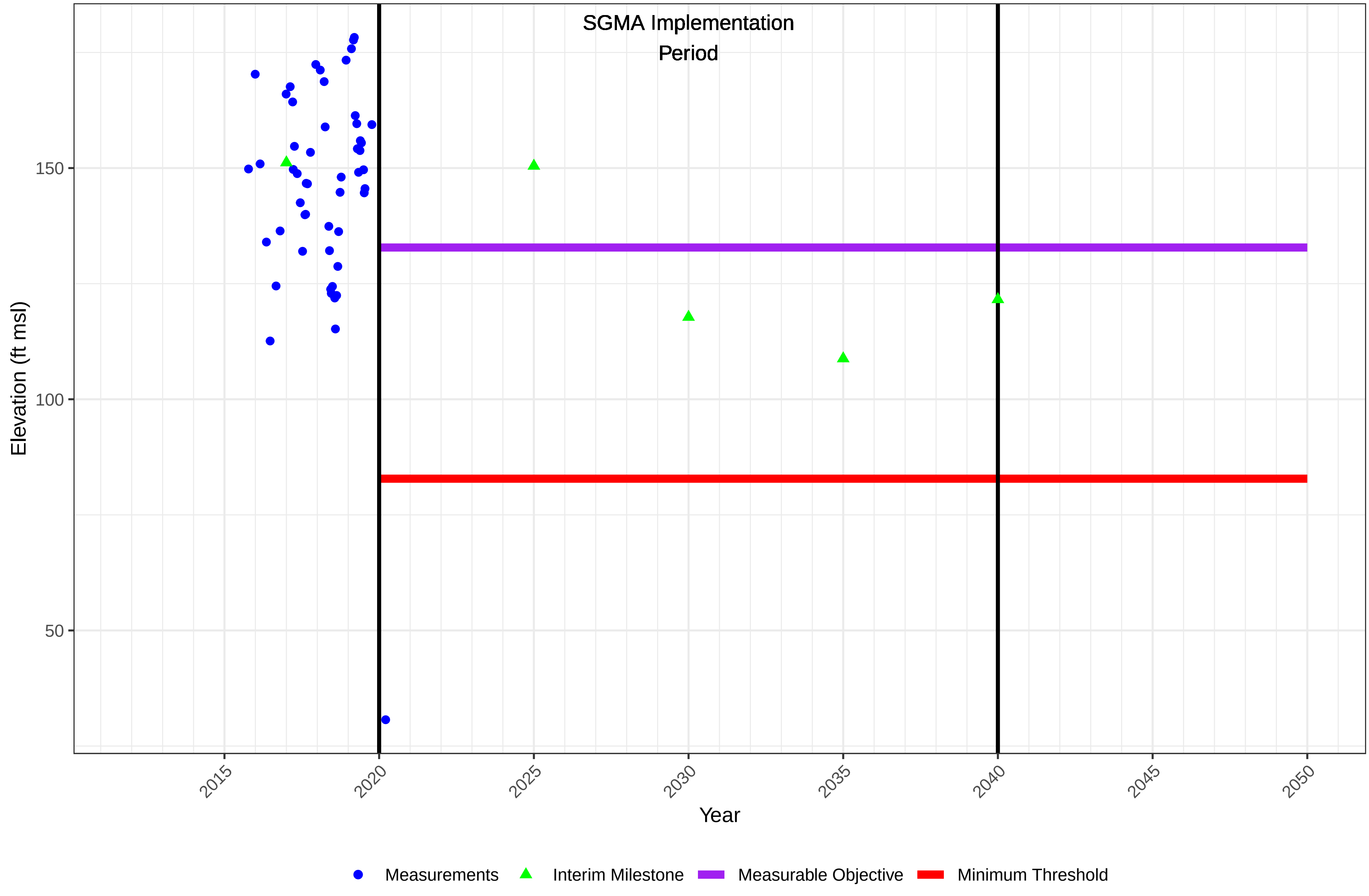
GSP Well ID: MKR_MWD_INT
Site Code: 364436N1195641W001
Local Well Name: MWD INT
GSA: Mid−Kings River GSA
Zone: Above E Zone B



Well added to Monitoring Network.

Groundwater Surface Elevation Hydrograph

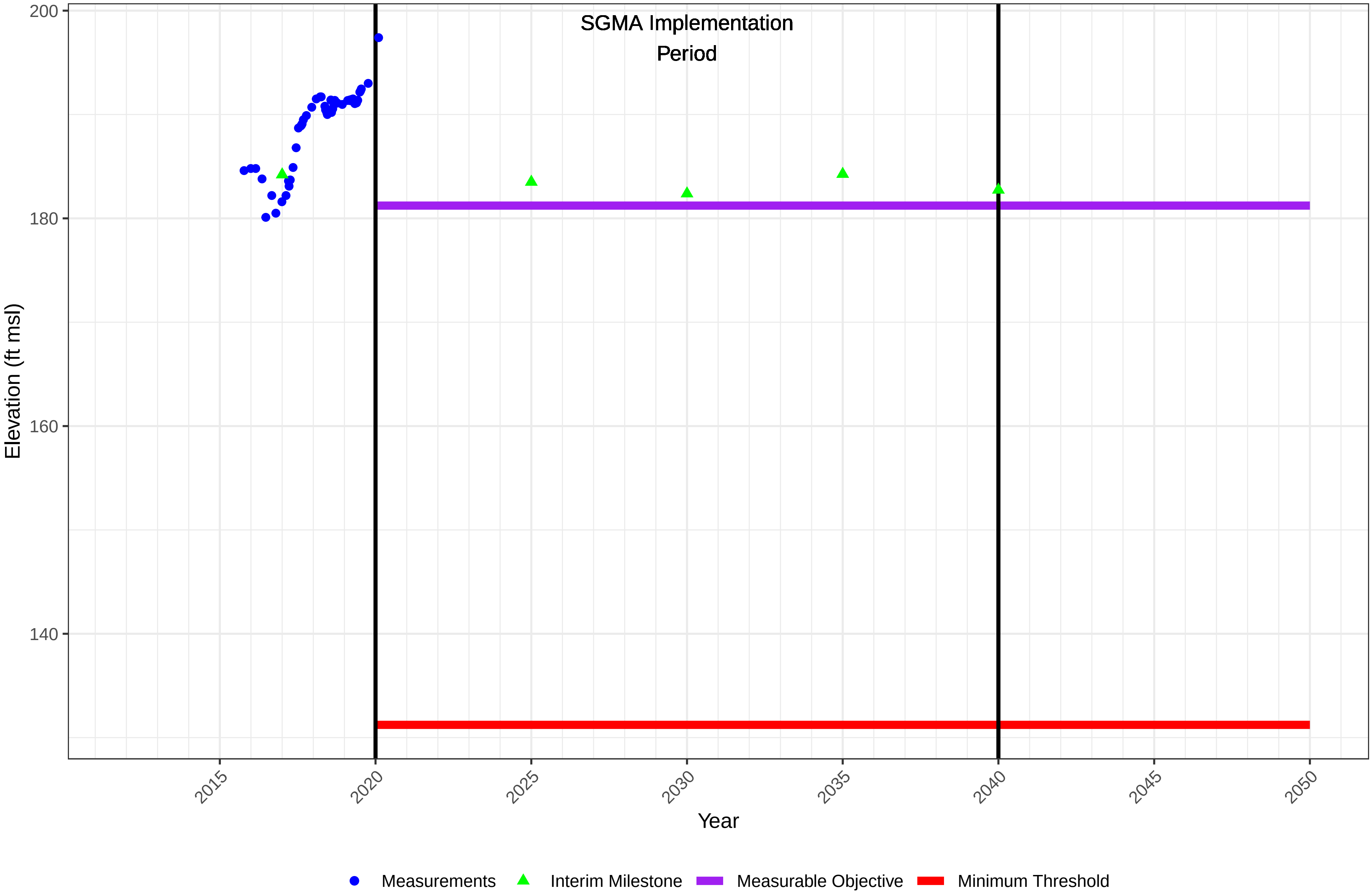
GSP Well ID: MKR_MWG_DEEP
Site Code: 364306N1195370W001
Local Well Name: MWG DEEP
GSA: Mid−Kings River GSA
Zone: Below E Zone C



Well added to Monitoring Network.

Groundwater Surface Elevation Hydrograph

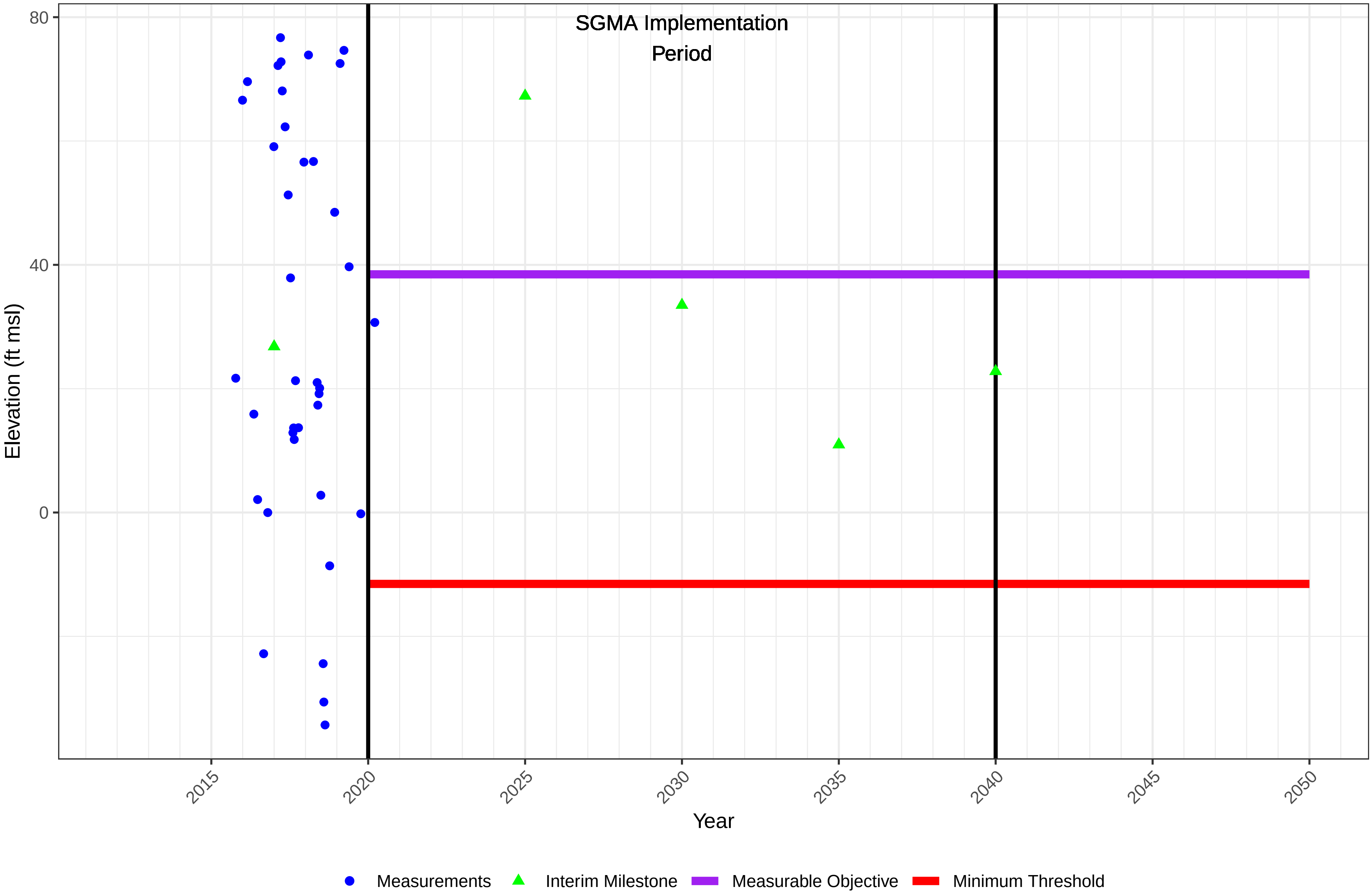
GSP Well ID: MKR_MWG_INT
Site Code: 364304N1195373W001
Local Well Name: MWG INT
GSA: Mid−Kings River GSA
Zone: Above E Zone B



Well added to Monitoring Network.

Groundwater Surface Elevation Hydrograph

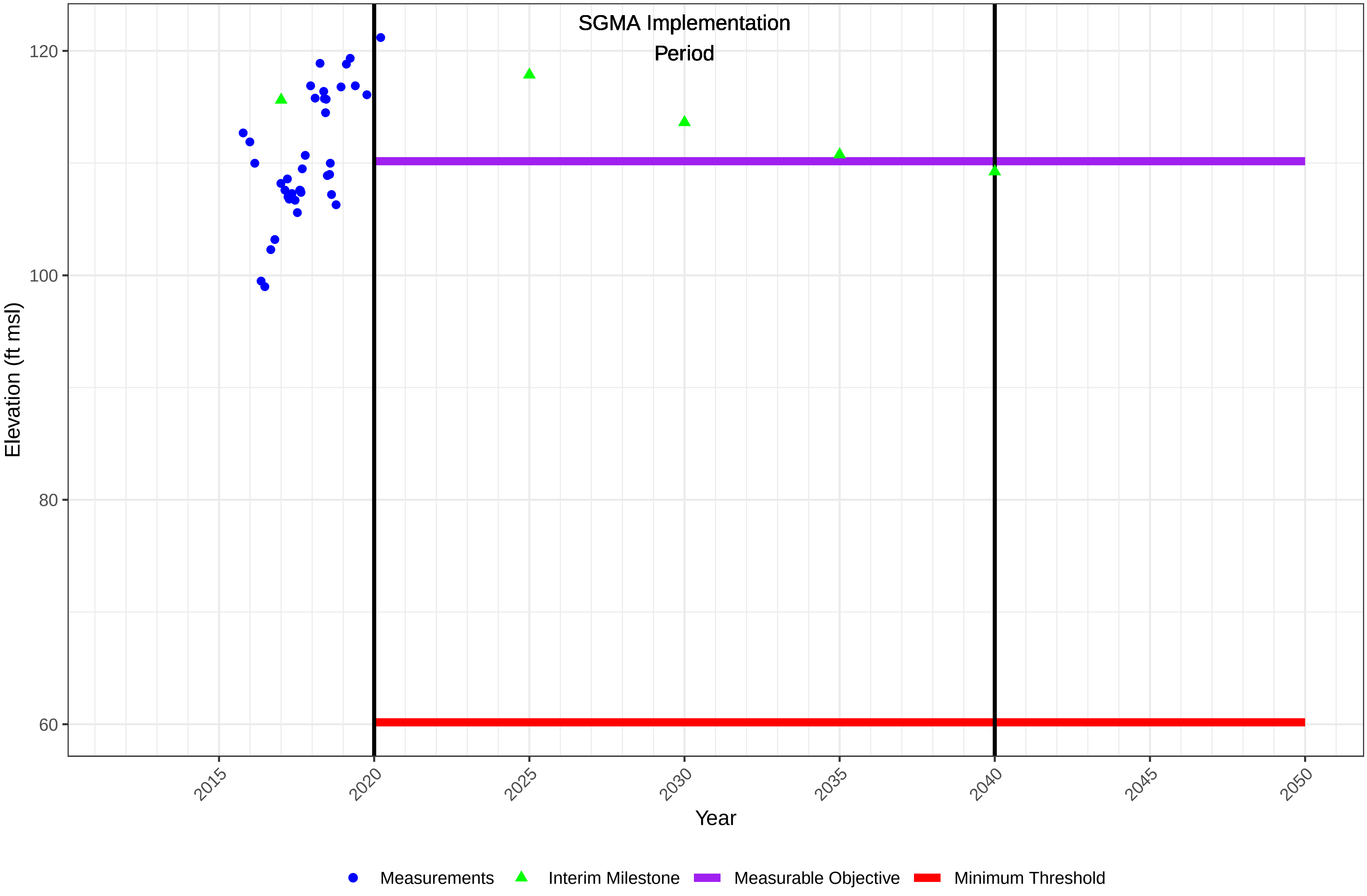
GSP Well ID: MKR_MWH_DEEP
Site Code: 363277N1195806W001
Local Well Name: MWH DEEP
GSA: Mid−Kings River GSA
Zone: Below E Zone C



Well added to Monitoring Network.

Groundwater Surface Elevation Hydrograph

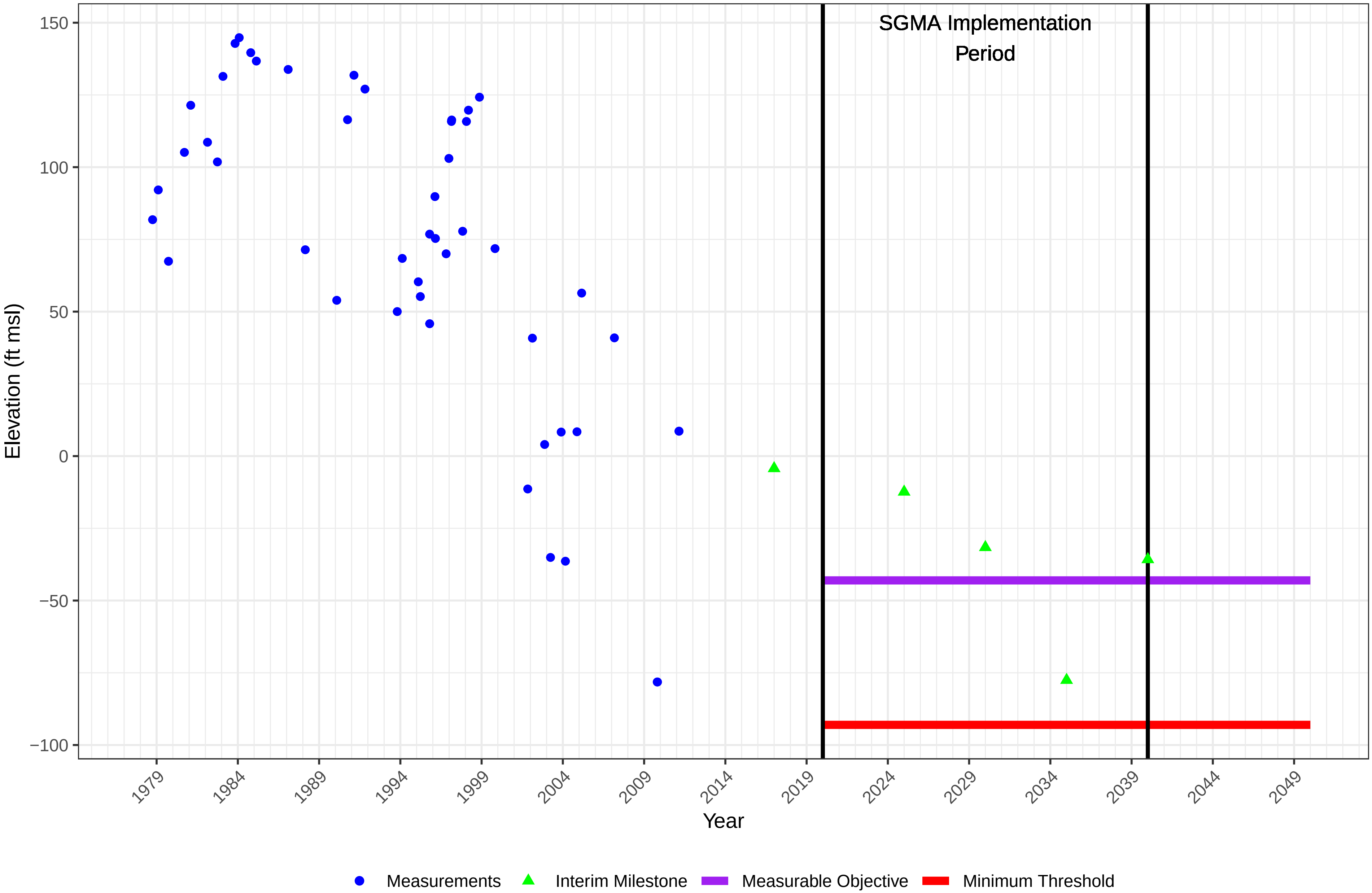
GSP Well ID: MKR_MWH_INT
Site Code: 363274N1195809W001
Local Well Name: MWH INT
GSA: Mid−Kings River GSA
Zone: Above E Zone B



Well added to Monitoring Network.

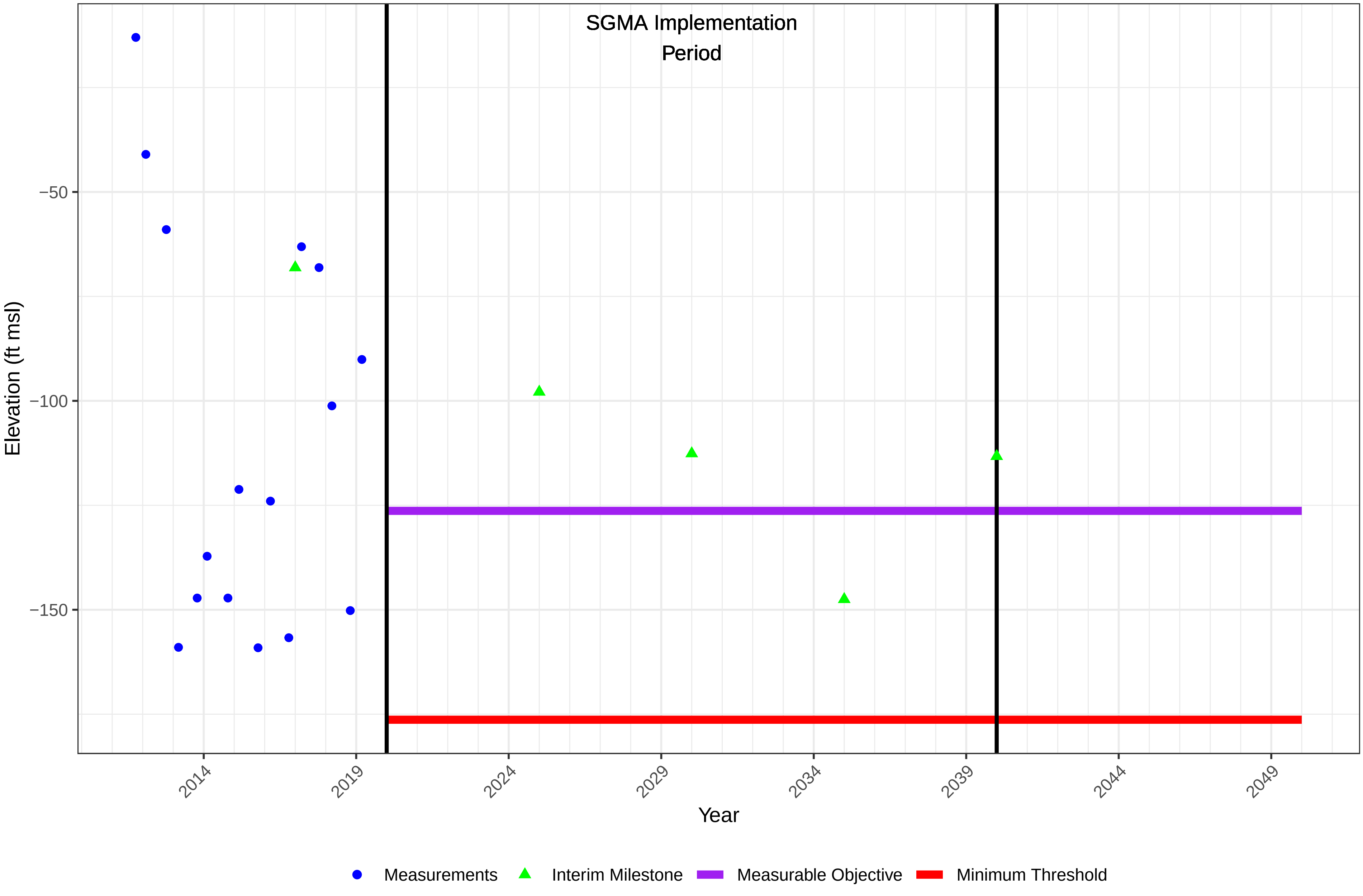
Groundwater Surface Elevation Hydrograph

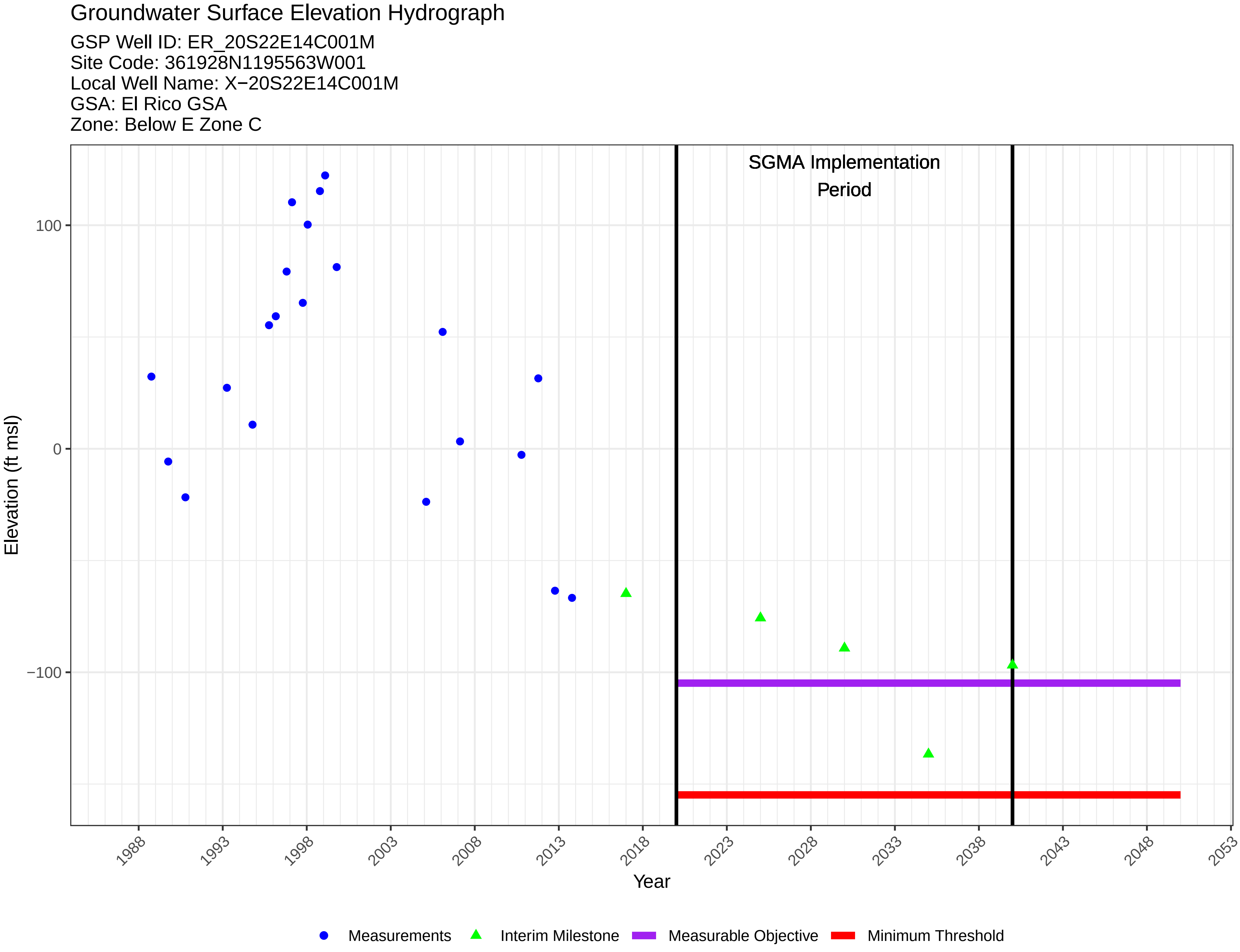
GSP Well ID: ER_20S21E11N001M
Site Code: 361983N1196704W001
Local Well Name: 20S21E11N001M
GSA: El Rico GSA
Zone: Below E Zone C



Groundwater Surface Elevation Hydrograph

GSP Well ID: ER_20S21E24F001M
Site Code: 361753N1196460W001
Local Well Name: 20S21E24F001M
GSA: El Rico GSA
Zone: Below E Zone C

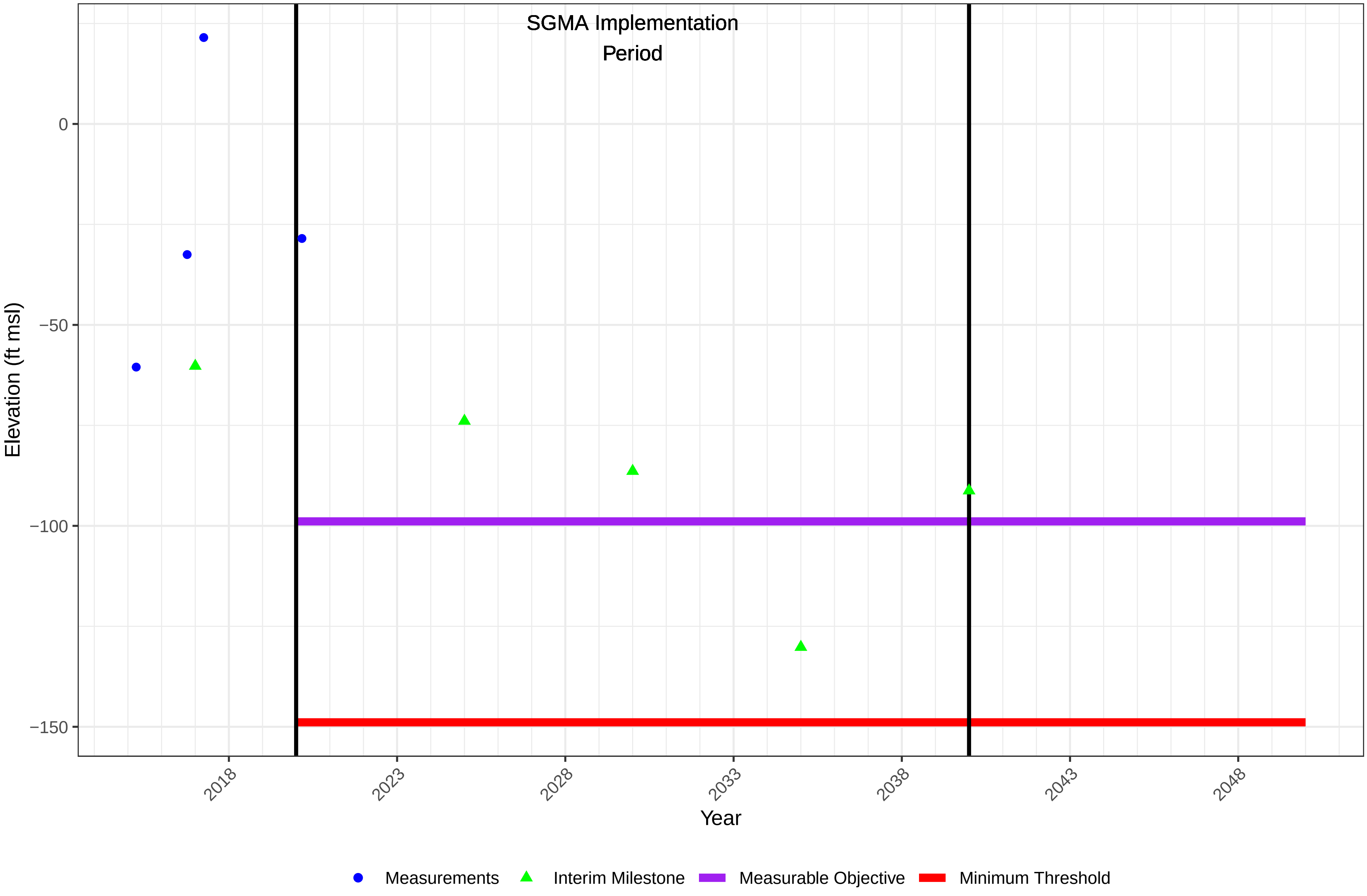




Groundwater Surface Elevation Hydrograph
GSP Well ID: ER_20S22E14C001M
Site Code: 361928N1195563W001
Local Well Name: X−20S22E14C001M
GSA: El Rico GSA
Zone: Below E Zone C
SGMA Implementation Period
Elevation (ft msl)
100
0
−100
1988
1993
1998
2003
2008
2013
2018
2023
2028
2033
2038
2043
2048
2053
Year
Measurements
Interim Milestone
Measurable Objective
Minimum Threshold

Groundwater Surface Elevation Hydrograph

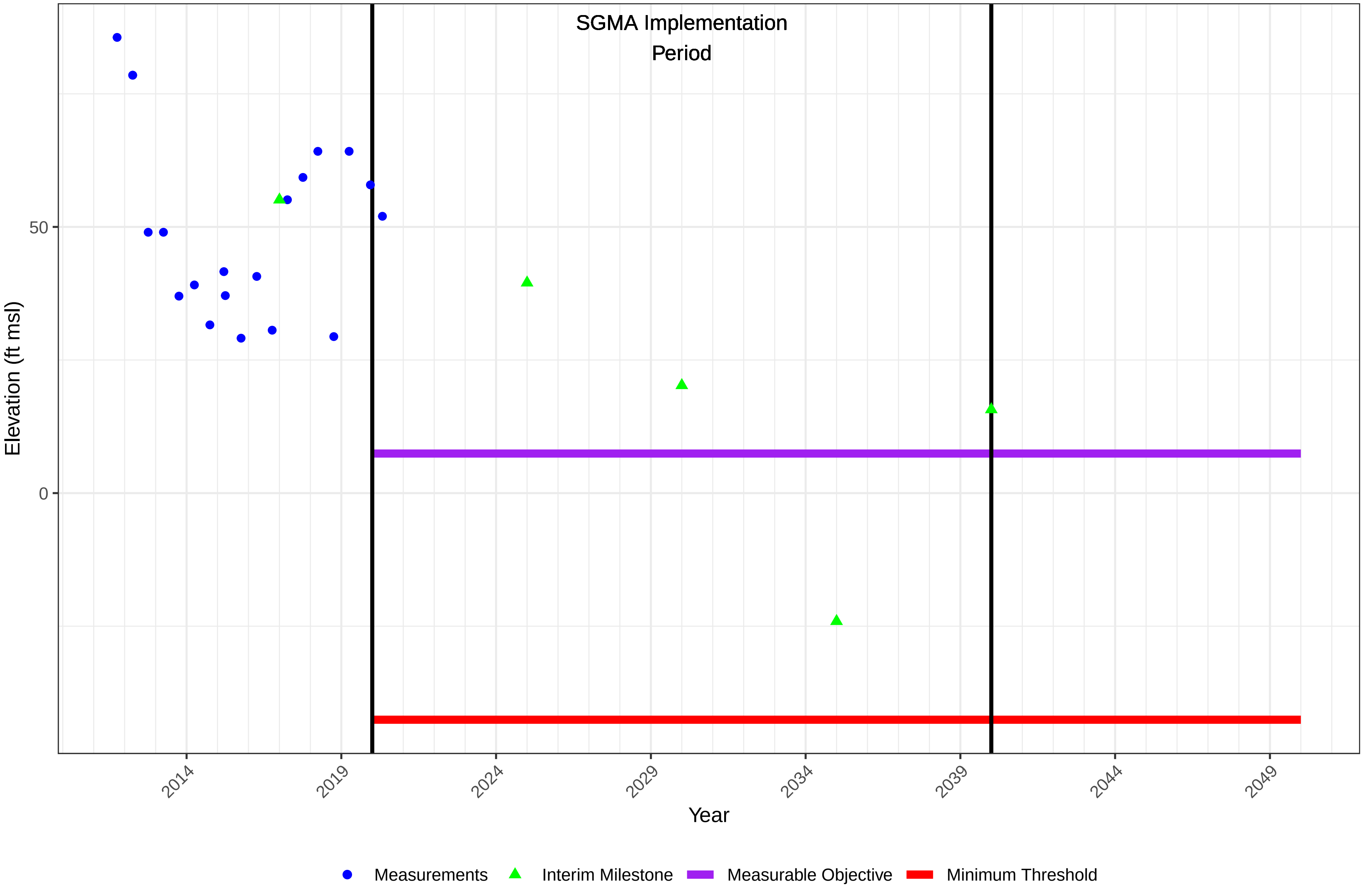
GSP Well ID: ER_CID_078
Site Code: 366049N1197543W001
Local Well Name: CID_078
GSA: El Rico GSA
Zone: Below E Zone C

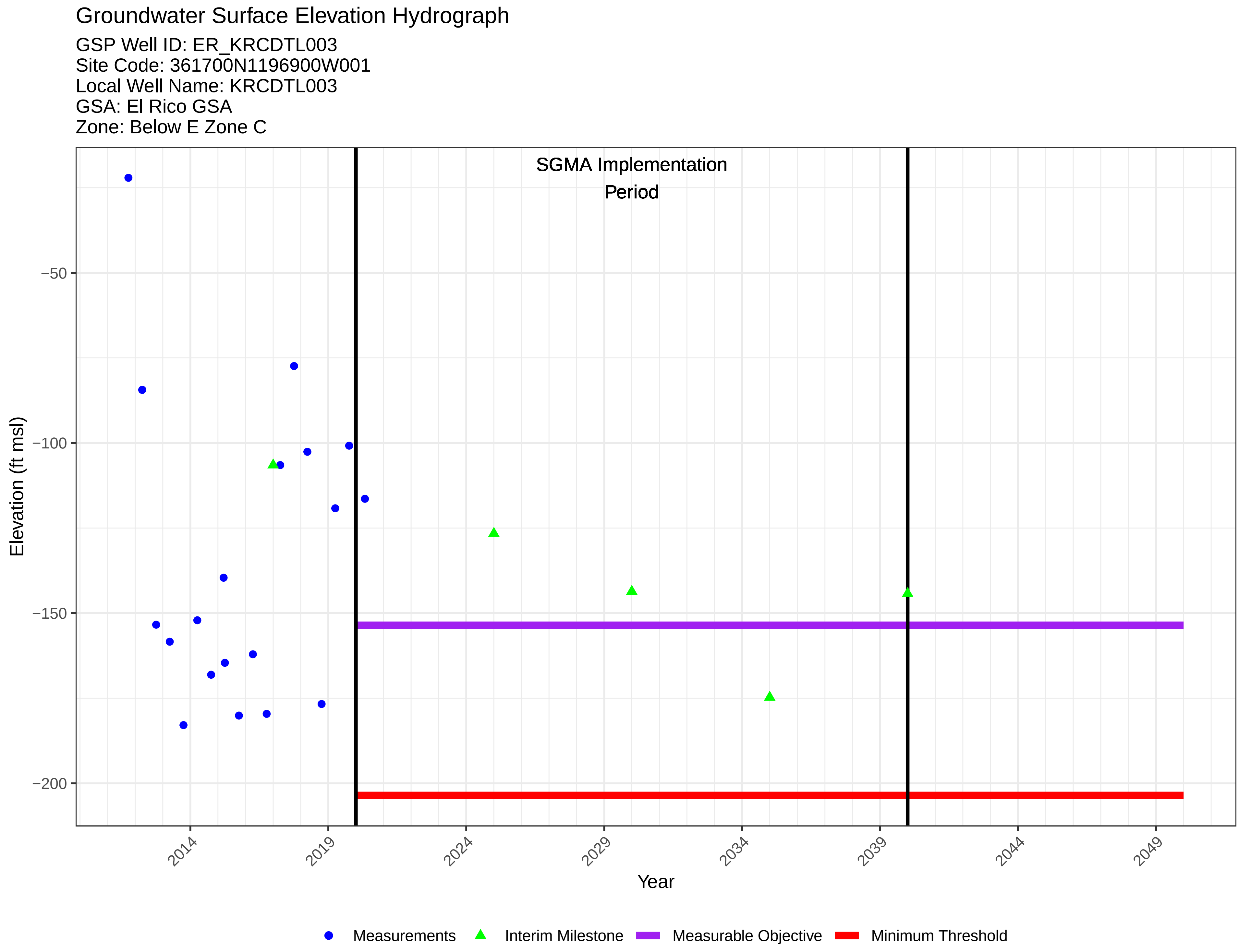


Well removed from original Monitoring Network as of Fall 2020.

Groundwater Surface Elevation Hydrograph

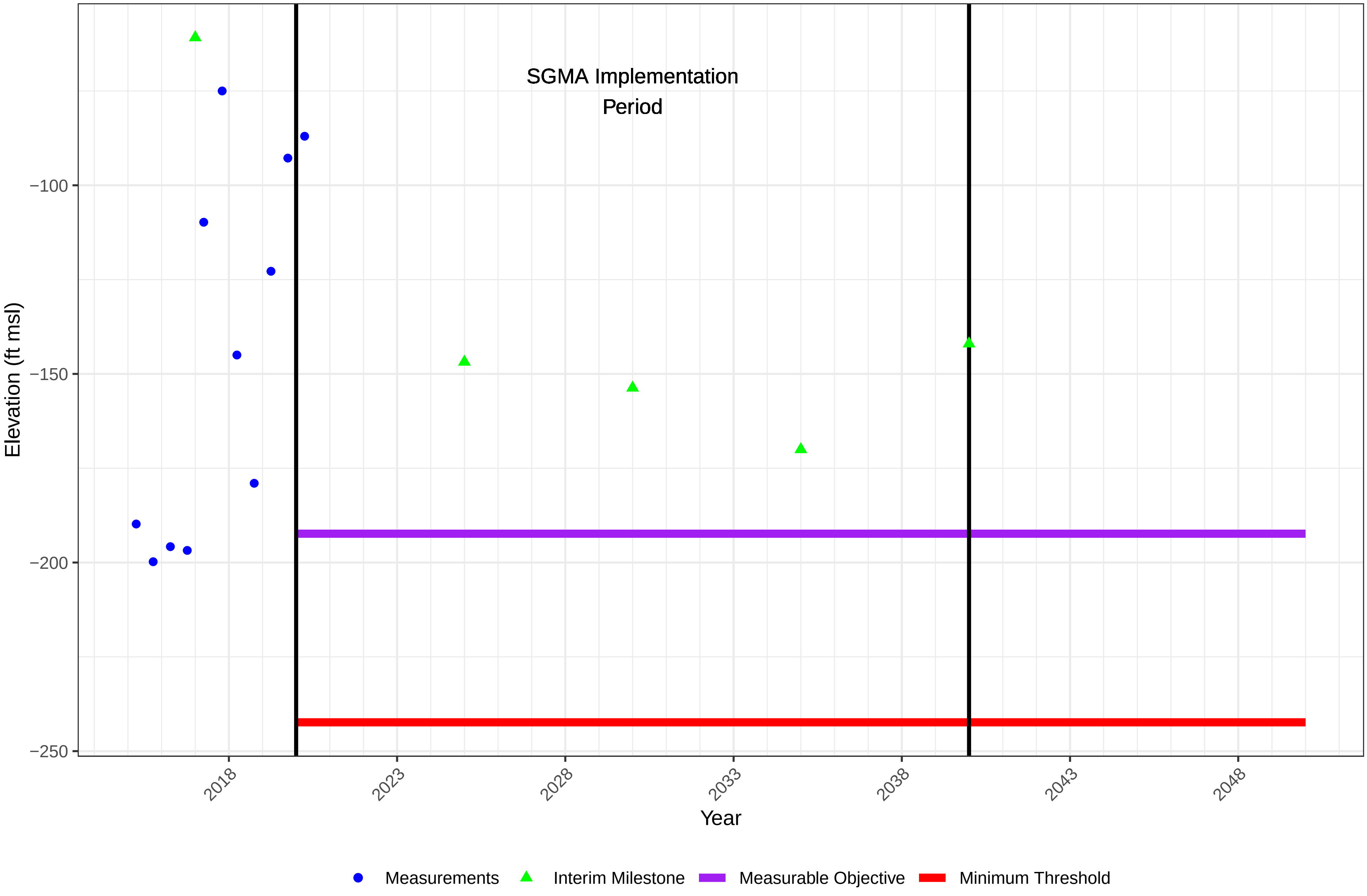
GSP Well ID: ER_KRCDTL002
Site Code: 362000N1196700W001
Local Well Name: KRCDTL002
GSA: El Rico GSA
Zone: Below E Zone C

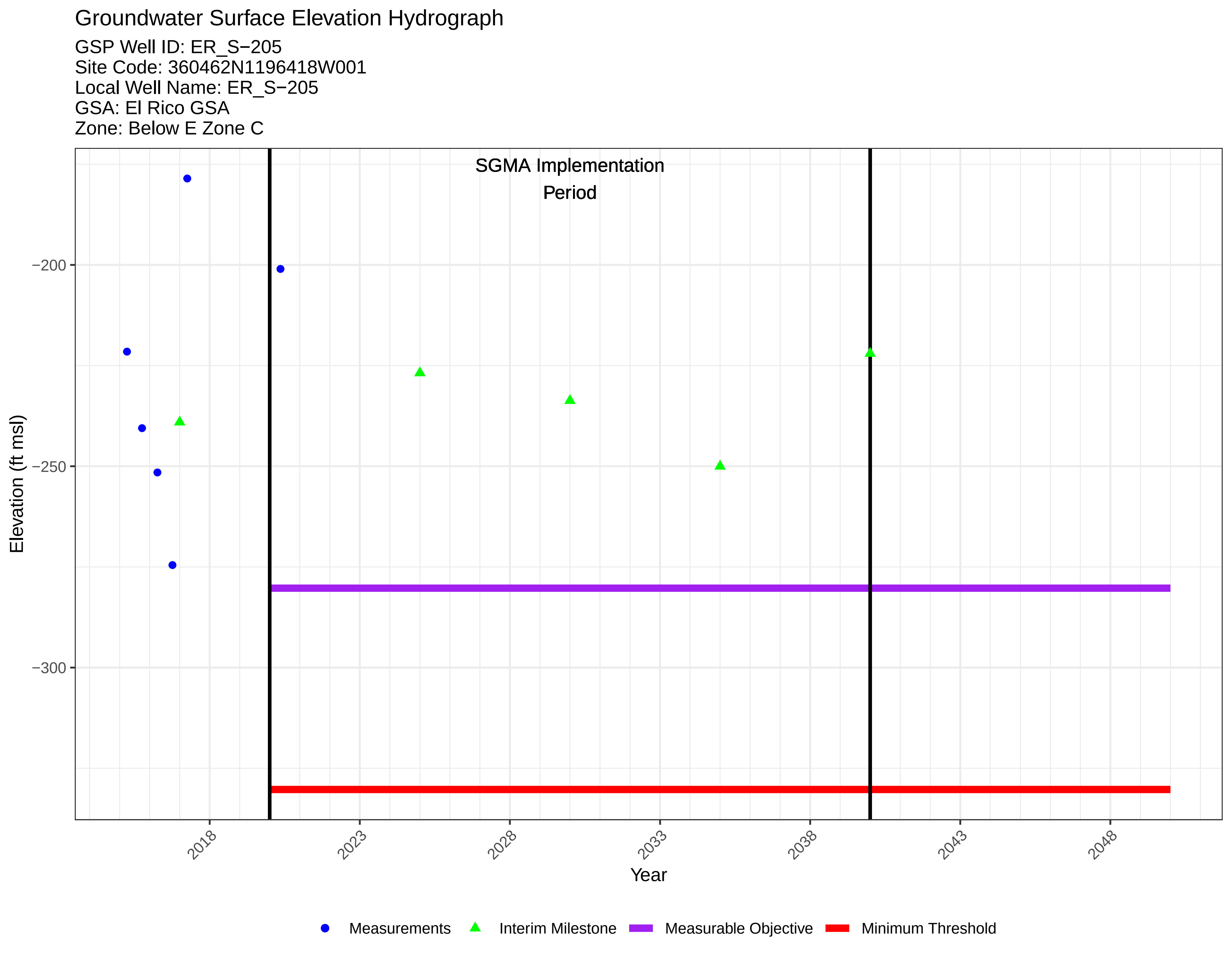



Groundwater Surface Elevation Hydrograph
GSP Well ID: ER_KRCDTL003
Site Code: 361700N1196900W001
Local Well Name: KRCDTL003
GSA: El Rico GSA
Zone: Below E Zone C
SGMA Implementation Period
Elevation (ft msl)
−50
−100
−150
−200
2014
2019
2024
2029
2034
2039
2044
2049
Year
Measurements
Interim Milestone
Measurable Objective
Minimum Threshold

Groundwater Surface Elevation Hydrograph

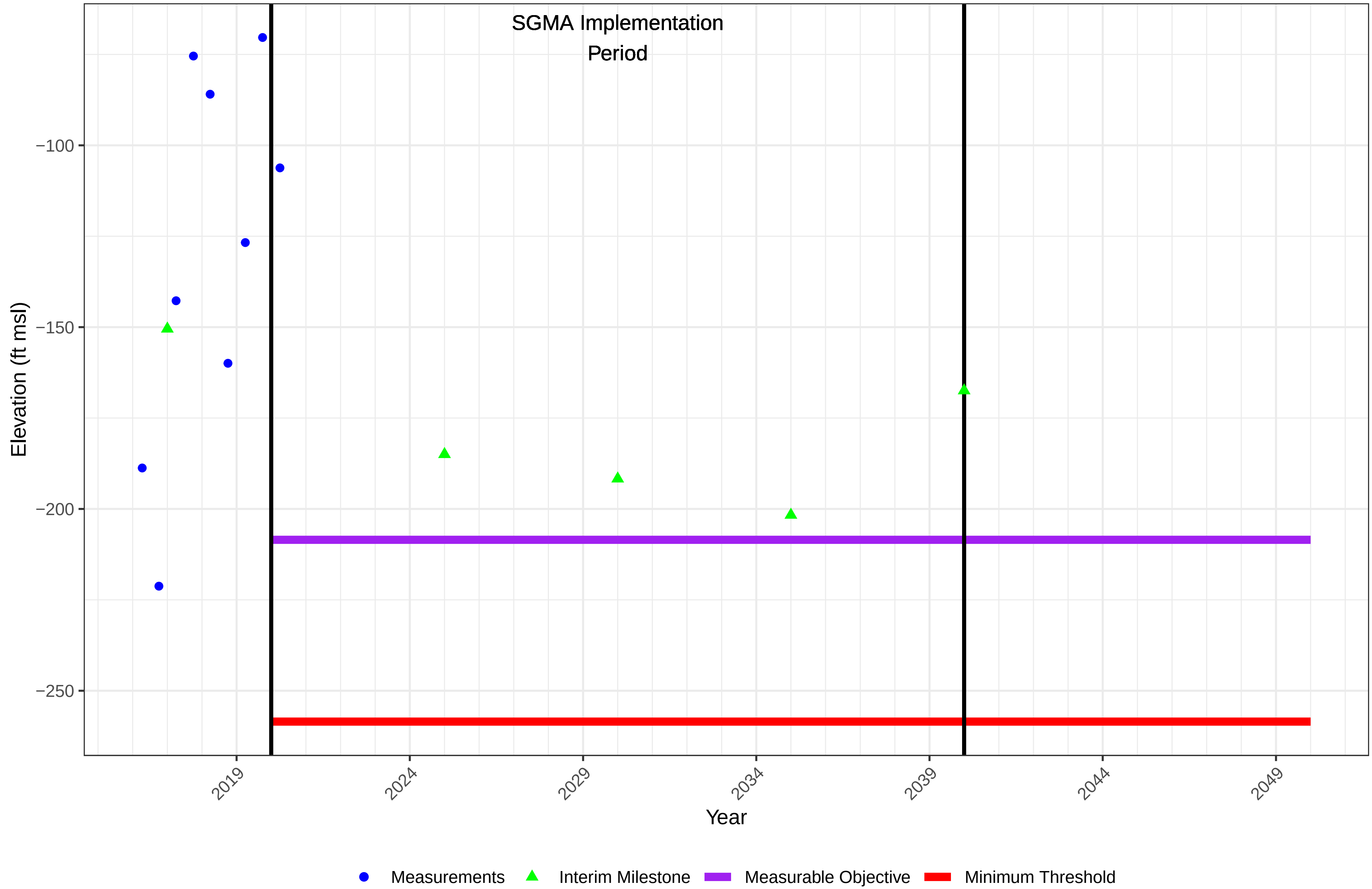
GSP Well ID: ER_S−173
Site Code: 360757N1195438W001
Local Well Name: ER_S−173
GSA: El Rico GSA
Zone: Below E Zone C





Groundwater Surface Elevation Hydrograph
GSP Well ID: ER_S−205
Site Code: 360462N1196418W001
Local Well Name: ER_S−205
GSA: El Rico GSA
Zone: Below E Zone C
SGMA Implementation Period
Elevation (ft msl)
−200
−250
−300
2018
2023
2028
2033
2038
2043
2048
Year
Measurements
Interim Milestone
Measurable Objective
Minimum Threshold

Groundwater Surface Elevation Hydrograph
GSP Well ID: ER_S−225
Site Code: 361429N1198259W001
Local Well Name: ER_S−225
GSA: El Rico GSA
Zone: Below E Zone C



Appendix C – Land Use

Historical & Current Land Use
Tulare Lake Subbasin Hydrologic Model
Kings, County, California

Land Use	Year					
	2015[1] (acres)	2016[1] (acres)	2017[2] (acres)	2018[2] (acres)	2019[2] (acres)	WY 2020[3] (acres)
Alfalfa	-	-	26,632	20,258	27,112	19,773
Almonds (Adolescent)	6,222	5,365	-	-	-	-
Almonds (Mature)	15,046	15,105	-	-	-	-
Almonds (Young)	16,983	21,576	-	-	-	-
Almonds	-	-	32,439	24,804	23,759	24,755
Apples	-	-	0	11	67	-
Barley	-	-	30,188	12,492	12,379	6,956
Barren	-	-	1,833	1,437	7,741	6,032
Beans (Dry)	-	-	-	-	-	194
Berries	0	0	-	-	-	-
Blueberries	-	-	0	148	0	-
Broccoli	-	-	0	93	4	3
Bush Berries	-	-	-	-	-	17
Cantaloupes	-	-	91	113	145	123
Carrots	2	16	935	174	166	151
Cherries	-	-	416	2,010	2,208	1,845
Chick Peas	-	-	0	0	70	1
Citrus	22	9	0	17	39	92
Clover/Wildflowers	-	-	0	2	0	0
Cole Crops	-	-	-	-	-	27
Corn and Grain Sorghum	18,826	17,400	-	-	-	-
Corn, Sorghum and Sudan						6,462
Corn	-	-	3,170	14,516	11,385	4,188
Cotton	44,532	73,720	86,210	80,879	93,212	85,822
Dairy Single Crop*	0	0	-	-	-	-
Dbl Crop Barley/Corn	-	-	1,405	119	448	39
Dbl Crop Oats/Corn	-	-	20	79	281	32
Dbl Crop Triticale/Corn	-	-	0	0	4,223	1,013
Dbl Crop WinWht/Corn	-	-	20,886	19,304	12,607	2,485
Dbl Crop WinWht/Cotton	-	-	491	-	19	-
Dbl Crop WinWht/Sorghum	-	-	7,383	3,251	3,694	1,948
Developed/High Intensity	-	-	2,791	2,800	2,613	917
Developed/Low Intensity	-	-	7,763	7,441	9,038	2,660
Developed/Medium Intensity	-	-	13,089	13,192	11,636	3,432
Developed/Open Space	-	-	8,878	8,788	10,611	2,038
Dry Beans	-	-	212	293	1	-
Durum Wheat	-	-	0	104	2,858	2,207
Evergreen Forest	-	-	10	0	3	-
Fallow/Idle Cropland	237,790	200,972	92,681	157,577	131,280	97,651
Flowers, Nursery and Christmas Tree Farms	-	-	-	-	-	8
Forest*	4	0	-	-	-	-
Garlic	-	-	84	697	636	334
Grain and Grain Hay	21,196	19,069	-	-	-	-
Grapes	-	-	6,568	5,427	6,215	4,623
Grass/Pasture	-	-	17,944	16,858	18,733	9,113
Greens	-	-	0	6	0	-
Hemp	-	-	26	15	73	-
Herbaceous Wetlands	-	-	99	336	4,722	4,037
Herbs	-	-	0	5	36	
Honeydew Melons	-	-	443	40	41	23
Kiwis	-	-	-	-	-	315
Lettuce	-	-	274	219	325	61
Melons	18	86	-	-	-	-
Miscellaneous Deciduous	-	-	-	-	-	54
Miscellaneous Field Crops	0	0	-	-	-	23
Miscellaneous Grain and Hay	-	-	-	-	-	29,656
Miscellaneous Grasses	-	-	-	-	-	321
Miscellaneous Truck Crops	-	-	-	-	-	129
Miscellaneous Vegs & Fruits	-	-	0	9	101	91
Mixed Pasture	-	-	-	-	-	2,111
Nectarines	-	-	55	479	308	-
Oats	-	-	1,515	466	3,372	2,315
Olives	-	-	0	81	124	815
Onions	-	-	-	-	-	2,464
Onions and Garlic	149	644	2,634	4,089	2,735	380
Open Water	5,919	5,435	11,321	11,333	7,458	5,639
Oranges	-	-	2	246	717	125
Other Crops	-	-	-	-	-	7
Other Hay/Non Alfalfa	-	-	7,749	1,821	1,738	1,389
Other Tree Crops	-	-	158	6,361	2,418	108

Appendix C
Land Use - Crop Data

Pasture and Misc. Grasses	15,744	13,743	-	-	-	
Peaches/Nectarines	-	-	-	-	-	1,398
Peaches	-	-	108	1,057	564	
Peas	-	-	0	280	144	143
Pecans	-	-	0	29	25	-
Peppers	-	-	152	9	8	72
Pistachio (Adolescent)	3,575	3,836	-	-	-	-
Pistachio (Mature)	485	469	-	-	-	-
Pistachio (Young)	22,678	22,570	-	-	-	-
Pistachios	-	-	49,902	22,977	24,514	28,961
Plums, Prunes and Apricots	-	-	-	-	-	1,503
Plums	-	-	240	292	1,582	-
Pomegranates (Adolescent)	16	27	-	-	-	-
Pomegranates (Young)	1,312	3,111	-	-	-	-
Pomegranates	-	-	3,838	3,472	3,769	3,110
Potatoes, Sugar beets, Turnip etc..	2	2	-	-	-	-
Potatoes	-	-	0	4	14	9
Radishes	-	-	0	6	0	-
Rice	-	-	2	3	26	6
Riparian*	248	194	-	-	-	-
Rye	-	-	2	361	1,264	197
Safflower	-	-	20,522	17,633	18,006	6,069
Shrubland	-	-	244	447	492	205
Small Vegetables	78	198	-	-	-	-
Sod/Grass Seed	-	-	118	16	33	9
Sorghum	-	-	3,175	6,698	1,324	691
Spring Wheat	-	-	954	0	196	60
Squash	-	-	0	0	12	11
Stone Fruit (Adolescent)	191	170	-	-	-	-
Stone Fruit (Mature)	27	39	-	-	-	-
Stone Fruit (Young)	1,183	713	-	-	-	-
Strawberries	-	-	0	2	1	3
Sugarcane	-	-	0	0	0	-
Sunflowers	-	-	0	2	1	-
Tomatoes and Peppers	19,211	23,420	13,795	16,127	18,961	-
Tomatoes	-	-	-	-	-	17,824
Triticale	-	-	3,273	4,550	2,100	765
Urban, Industrial*	30,530	30,930	-	-	-	-
Walnuts	-	-	19,549	14,826	18,698	15,255
Watermelons	-	-	30	27	1	1
Wheat	-	-	-	-	-	17,158
Wine Grapes with 80% canopy	4,672	10,985	-	-	-	-
Winter Wheat	19,420	21,690	32,896	27,902	26,022	9,450
Woody Wetlands	-	-	34	119	94	13
Young Perennials	-	-	-	-	-	4,950
Total	**486,081**	**491,494**	**535,223**	**535,233**	**535,223**	**442,866**

Appendix C
Land Use - Crop Data

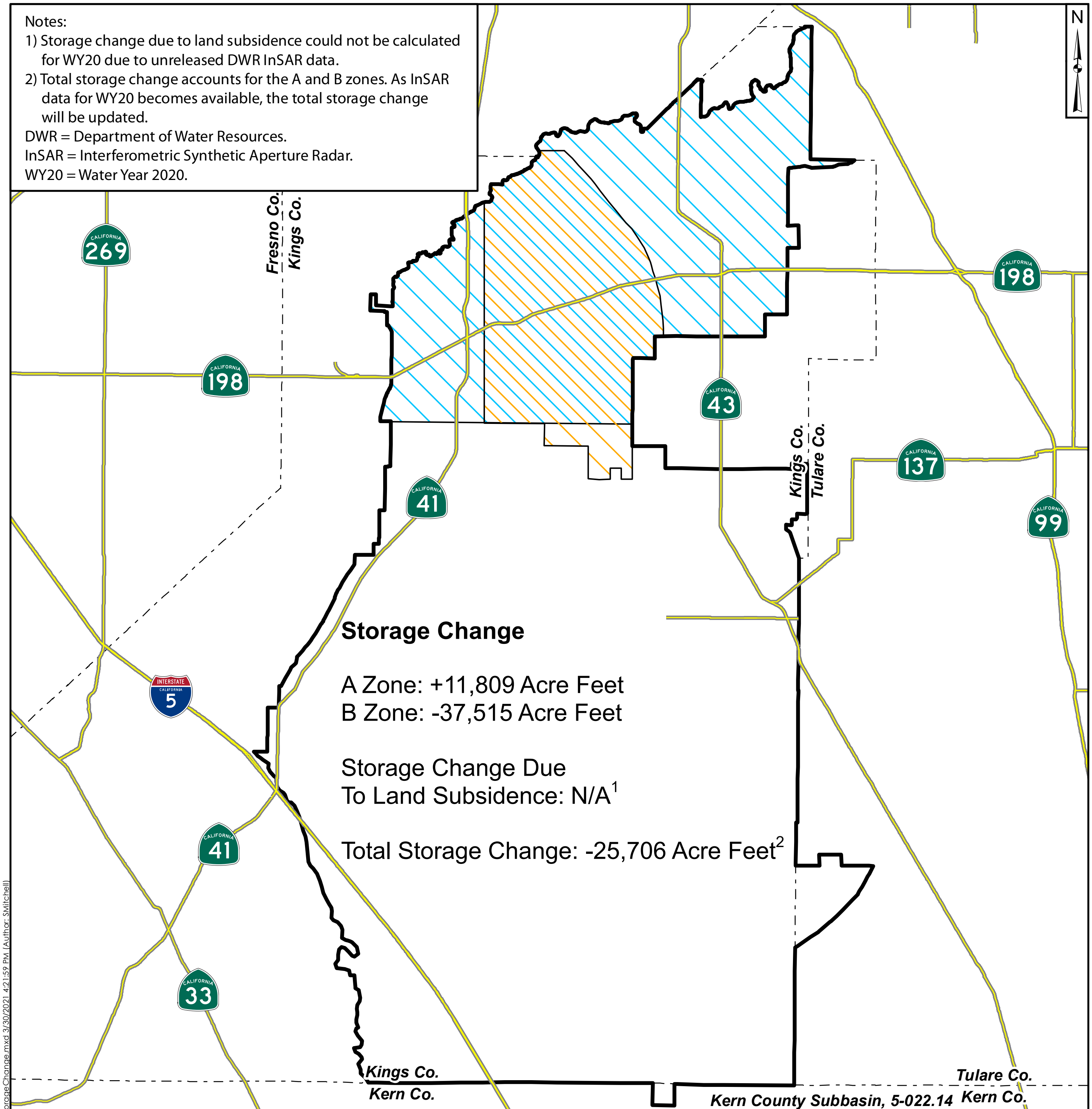
Historical & Current Cropping Tulare Lake Subbasin Hydrologic Model Kings, County, California						
Crop Use	Year					
	2015[1] (acres)	2016[1] (acres)	2017[2] (acres)	2018[2] (acres)	2019[2] (acres)	WY 2020[3] (acres)
Alfalfa Hay and Clover	29,665	24,245	-	-	-	-
Alfalfa	-	-	26,632	20,258	27,112	19,773
Almonds (Adolescent)	6,222	5,365	-	-	-	-
Almonds (Mature)	15,046	15,105	-	-	-	-
Almonds (Young)	16,983	21,576	-	-	-	-
Almonds	-	-	32439	24804	23759	24755
Apples	-	-	0	11	67	-
Barley	-	-	30,188	12,492	12,379	6,956
Beans (Dry)	-	-	-	-	-	194
Berries	0	0	-	-	-	-
Blueberries	-	-	0	148	0	-
Broccoli	-	-	0	93	4	3
Bush Berries	-	-				17
Cantaloupes	-	-	91	113	145	123
Carrots	2	16	935	174	166	151
Cherries	-	-	416	2,010	2,208	1,845
Chick Peas	-	-	0	0	70	1
Citrus	22	9	0	17	39	92
Clover/Wildflowers	-	-	-	-	-	0
Cole Crops	-	-	-	-	-	27
Corn and Grain Sorghum	18,826	17,400	-	-	-	-
Corn, Sorghum and Sudan	-	-	-	-	-	6,462
Corn	-	-	3,170	14,516	11,385	4,188
Cotton	44,532	73,720	86,210	80,879	93,212	85,822
Dbl Crop Barley/Corn	-	-	1,405	119	448	39
Dbl Crop Oats/Corn	-	-	20	79	281	32
Dbl Crop Triticale/Corn	-	-	0	0	4,223	1,013
Dbl Crop WinWht/Corn	-	-	20,886	19,304	12,607	2,485
Dbl Crop WinWht/Cotton	-	-	491	-	19	-
Dbl Crop WinWht/Sorghum	-	-	7,383	3,251	3,694	1,948
Dry Beans	-	-	212	293	1	-
Durum Wheat	-	-	0	104	2,858	2,207
Flowers, Nursery and Christmas Tree Farms	-	-	-	-	-	8
Garlic	-	-	84	697	636	334
Grain and Grain Hay	21,196	19,069	-	-	-	-
Grapes	-	-	6,568	5,427	6,215	4,623
Grass/Pasture	-	-	17,944	16,858	18,733	9,113
Greens	-	-	0	6	0	-
Hemp	-	-	26	15	73	-
Herbs	-	-	0	5	36	-
Honeydew Melons	-	-	443	40	41	23
Kiwis	-	-	-	-	-	315
Lettuce	-	-	274	219	325	61
Melons	18	86	-	-	-	-
Miscellaneous Deciduous	-	-	-	-	-	54
Miscellaneous field crops	-	-	-	-	-	23
Miscellaneous Grain and Hay	-	-	-	-	-	29,656
Miscellaneous Grasses	-	-	-	-	-	321
Miscellaneous Truck Crops	-	-	-	-	-	129
Miscellaneous Vegs & Fruits	-	-	0	9	101	91
Nectarines	-	-	55	479	308	-
Oats	-	-	1,515	466	3,372	2,315
Olives	-	-	0	81	124	815
Onions and Garlic	149	644	-	-	-	380
Onions	-	-	2,634	4,089	2,735	2,464
Oranges	-	-	2	246	717	125
Other Crops	-	-	-	-	-	7
Other Hay/Non Alfalfa	-	-	7,749	1,821	1,738	1,389
Other Tree Crops	-	-	158	6,361	2,418	108
Pasture and Misc. Grasses	15,744	13,743	-	-	-	-
Peaches	-	-	108	1,057	564	-
Peaches/Nectarines	-	-	-	-	-	1,398
Peas	-	-	0	280	144	143
Pecans	-	-	0	29	25	-
Peppers	-	-	152	9	8	72
Pistachio (Adolescent)	3,575	3,836	-	-	-	-
Pistachio (Mature)	485	469	-	-	-	-
Pistachio (Young)	22,678	22,570	-	-	-	-
Pistachios	16	27	49,902	22,977	24,514	28,961
Plums	1,312	3,111	240	292	1,582	-

Plums, Prunes and Apricots	-	-	-	-	-	1,503
Pomegranates (Adolescent)	-	-	-	-	-	-
Pomegranates (Young)	-	-	-	-	-	-
Pomegranates	-	-	3,838	3,472	3,769	3,111
Potatoes, Sugar beets, Turnip etc..	2	2	-	-	-	-
Potatoes	-	-	0	4	14	9
Radishes	-	-	0	6	0	-
Rice	-	-	2	3	26	6
Rye	-	-	2	361	1,264	197
Safflower	-	-	20,522	17,633	18,006	6,069
Small Vegetables	78	198	-	-	-	-
Sod/Grass Seed	-	-	118	16	33	9
Sorghum	-	-	3,175	6,698	1,324	691
Spring Wheat	-	-	954	0	196	60
Squash	-	-	0	0	12	11
Stone Fruit (Adolescent)	191	170	-	-	-	-
Stone Fruit (Mature)	27	39	-	-	-	-
Stone Fruit (Young)	1,183	713	-	-	-	-
Strawberries	-	-	0	2	1	3
Sugarcane	-	-	0	0	0	-
Sunflowers	-	-	0	2	1	-
Tomatoes and Peppers	19,211	23,420	-	-	-	-
Tomatoes	-	-	13,795	16,127	18,961	17,824
Triticale	-	-	3,273	4,550	2,100	765
Walnuts	-	-	19,549	14,826	18,698	15,255
Watermelons	-	-	30	27	1	1
Wheat	-	-	-	-	-	17,158
Wine Grapes with 80% canopy	4,672	10,985	-	-	-	-
Winter Wheat	19,420	21,690	32,896	27,902	26,022	9,450
Young Perennials	-	-	-	-	-	4,950
Total	**241,255**	**278,208**	**396481**	**331,751**	**349,508**	**318,132**

Notes:
Crop and Land use data compiled from multiple sources. See below notes for source information.
References:
1. Department of Water Resources (DWR)
2. CropScape
3. LandIQ & Provided by El Rico

Appendix D – Groundwater Storage Change

Notes:
1) Storage change due to land subsidence could not be calculated for WY20 due to unreleased DWR InSAR data.
2) Total storage change accounts for the A and B zones. As InSAR data for WY20 becomes available, the total storage change will be updated.
DWR = Department of Water Resources.
InSAR = Interferometric Synthetic Aperture Radar.
WY20 = Water Year 2020.



Legend

Tulare Lake Subbasin 5-022.12

Analysis Areas

A zone Analysis Area (56,334 ac)

B zone Analysis Area (130,491 ac)

Highways

County lines

10 5 0 10 Miles

Groundwater Storage Change
Spring 2019 - Spring 2020
Tulare Lake Subbasin
WY 20 Annual Report

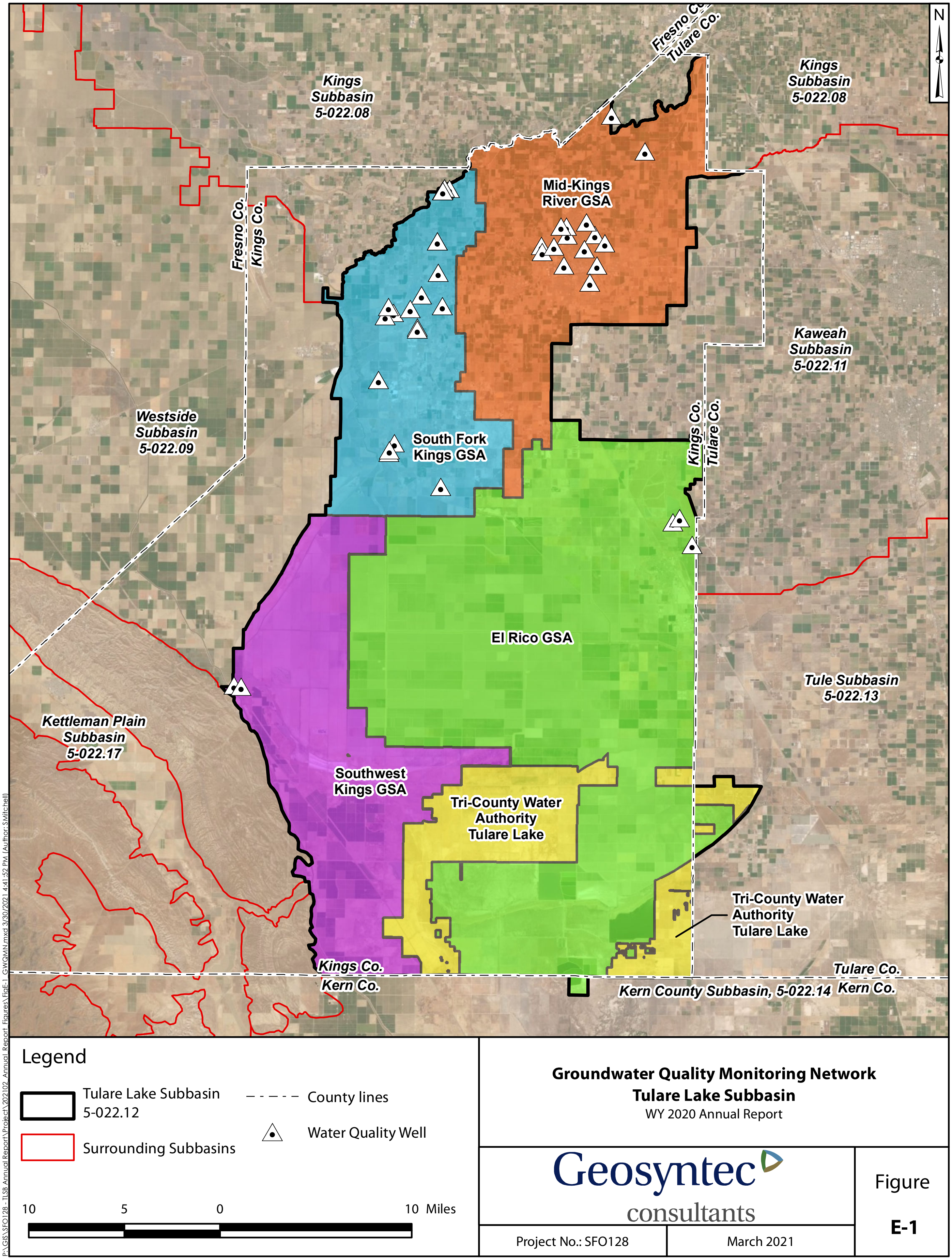
Geosyntec consultants

Project No.: SFO128

March 2021

Figure **D-1**

Appendix E – Groundwater Quality



Groundwater Quality Monitoring Network
Tulare Lake Subbasin
WY 2020 Annual Report

Geosyntec consultants

Figure **E-1**

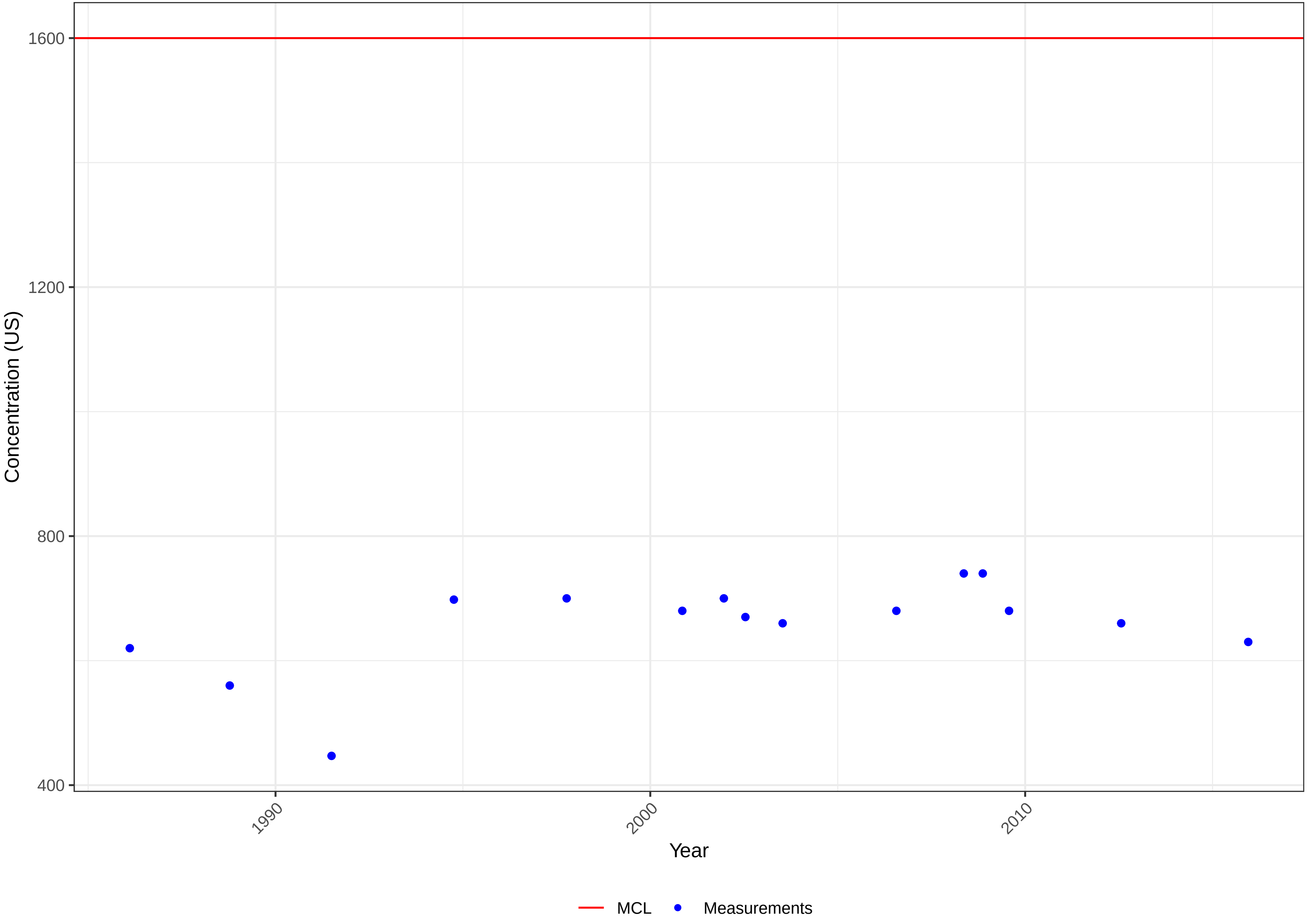
Project No.: SFO128

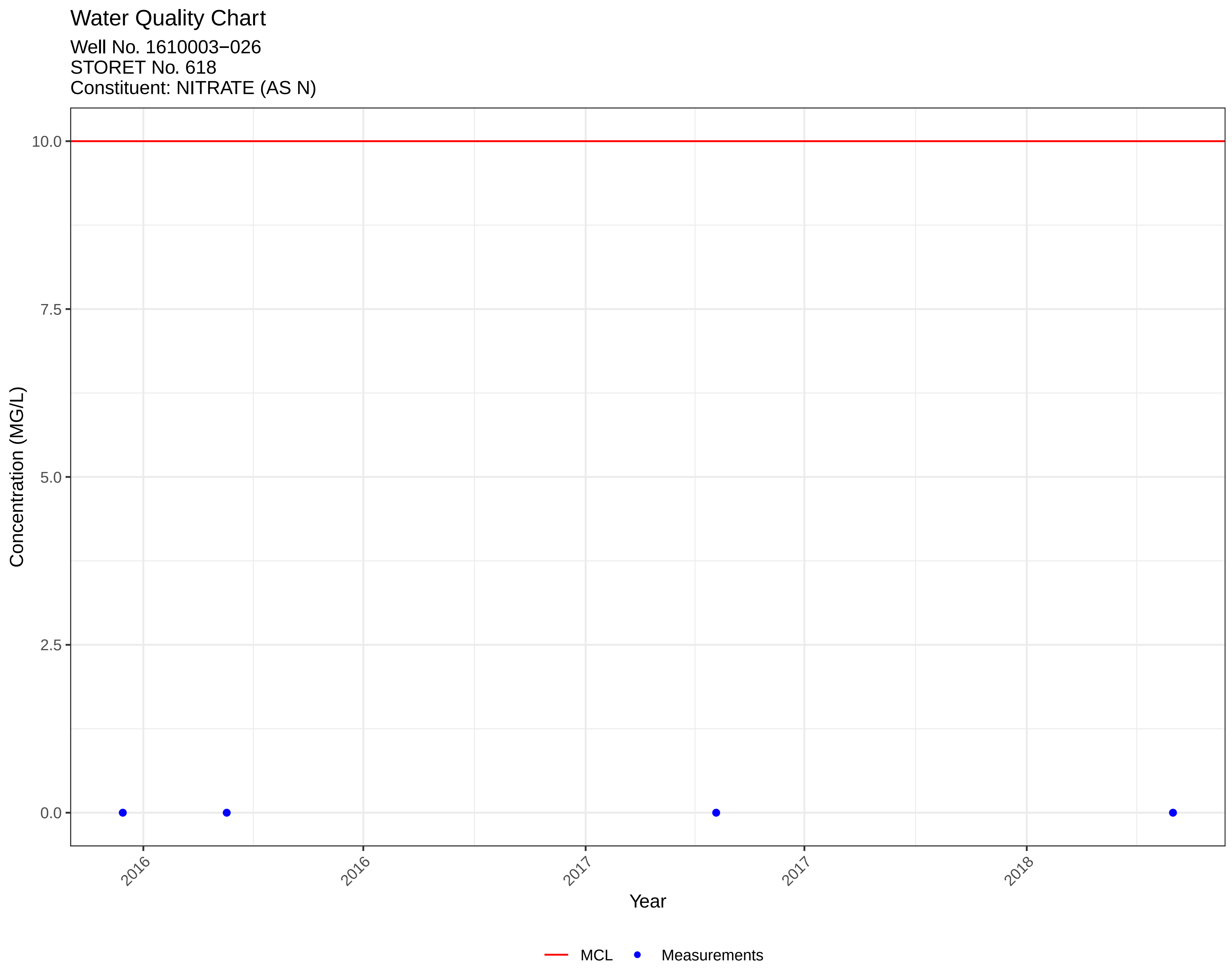
March 2021

P:\GIS\SFO128 - TLSB Annual Report\Project\202102_Annual_Report_Figures\FigE-1_GWQMN.mxd 3/30/2021 4:41:52 PM (Author: SMitchell)

Water Quality Chart

Well No. 1610003−026
STORET No. 95
Constituent: SPECIFIC CONDUCTANCE

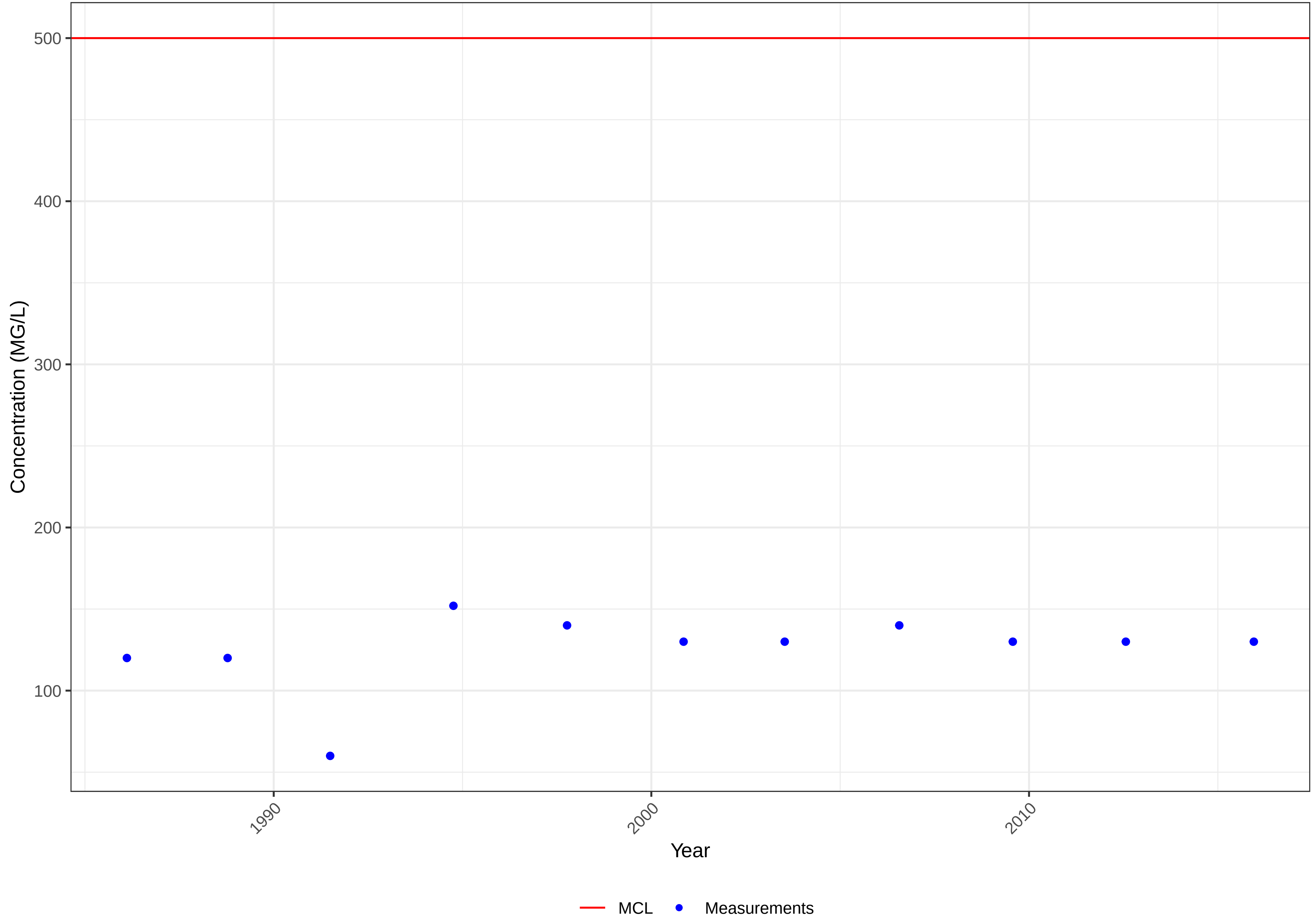


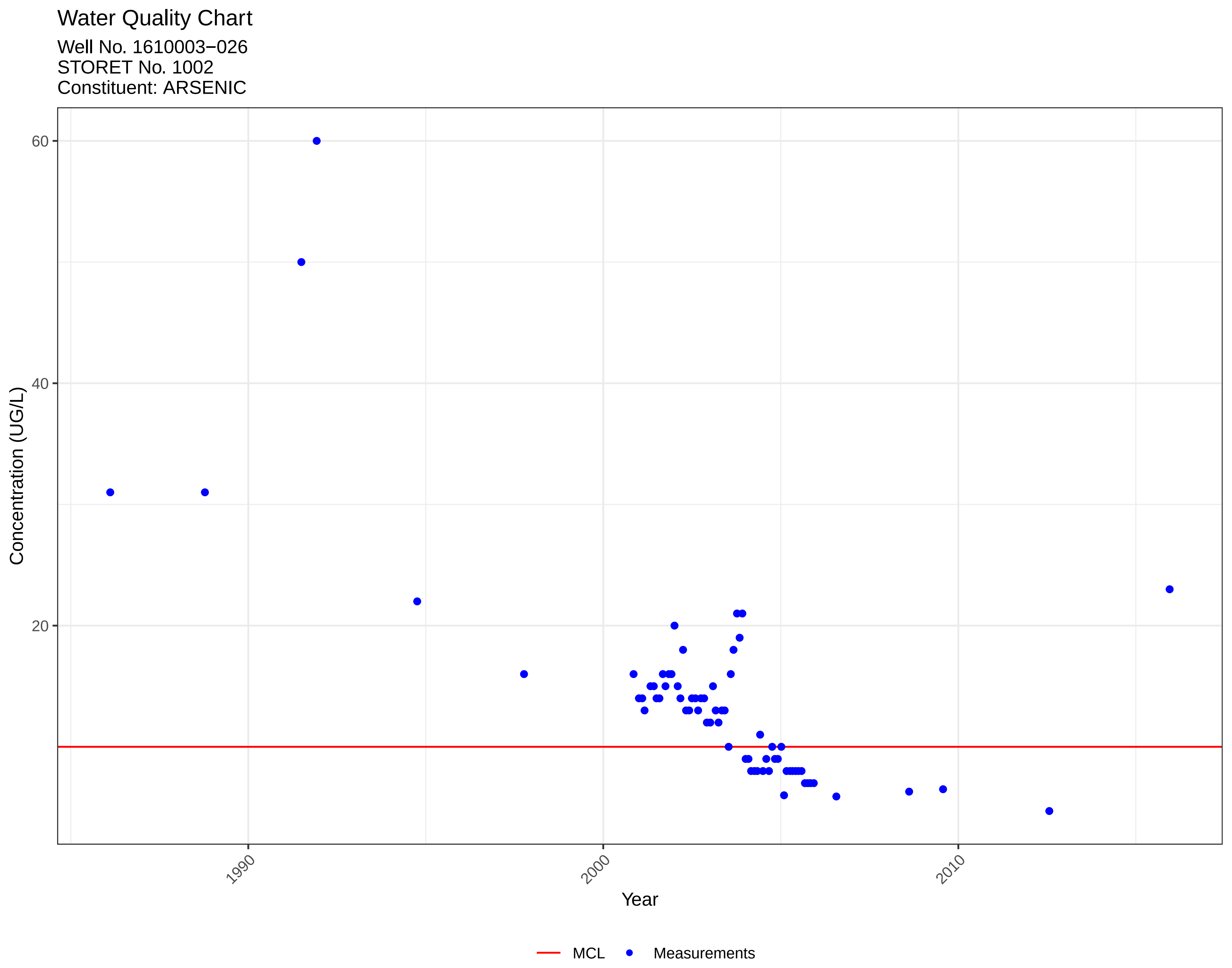


Water Quality Chart
Well No. 1610003−026
STORET No. 618
Constituent: NITRATE (AS N)
Concentration (MG/L)
10.0
7.5
5.0
2.5
0.0
2016
2016
2017
2017
2018
Year
MCL
Measurements

Water Quality Chart

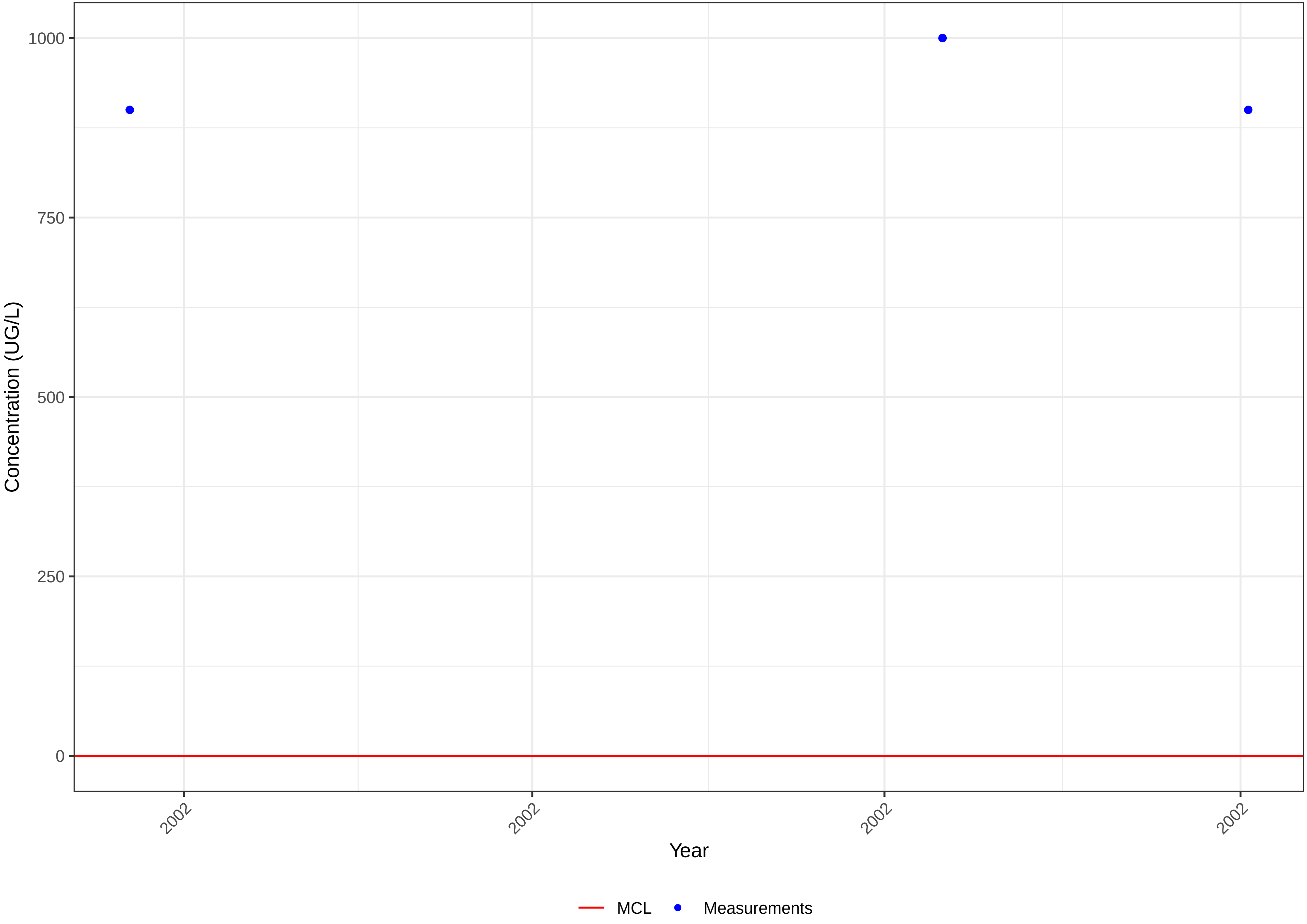
Well No. 1610003−026
STORET No. 940
Constituent: CHLORIDE




Water Quality Chart
Well No. 1610003−026
STORET No. 1002
Constituent: ARSENIC
60
40
20
Concentration (UG/L)
1990
2000
2010
Year
MCL
Measurements

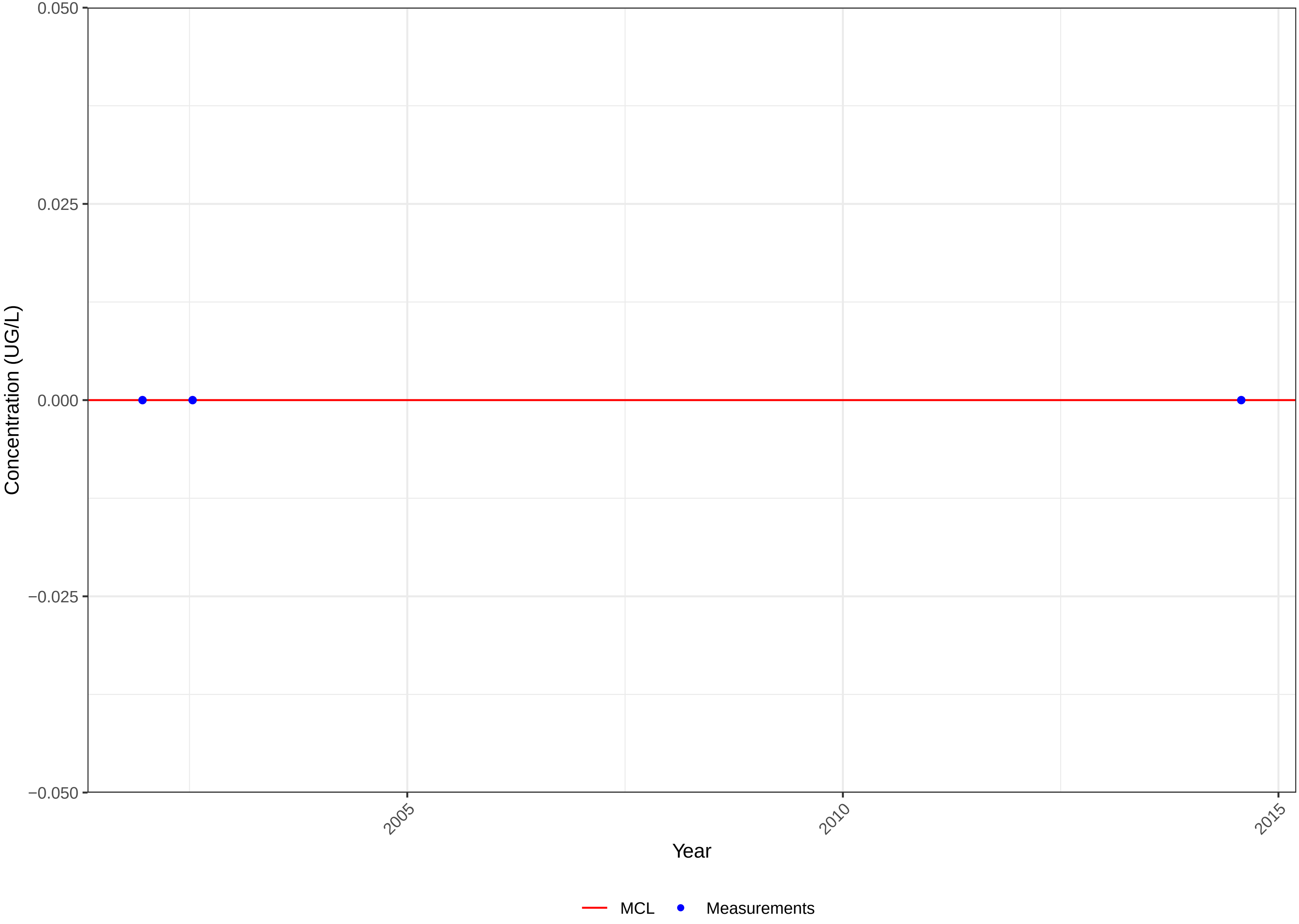
Water Quality Chart

Well No. 1610003−026
STORET No. 1020
Constituent: BORON



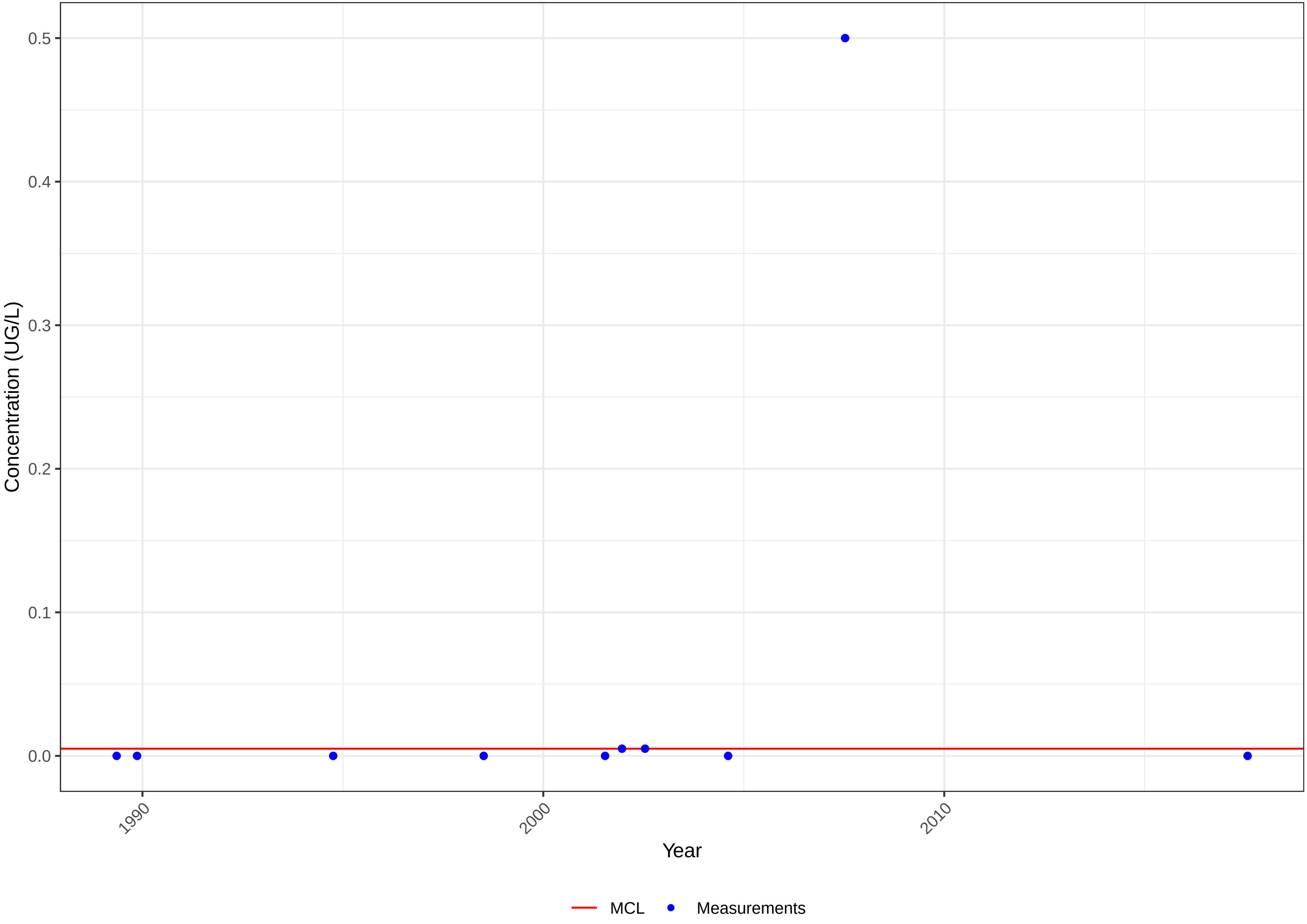
Water Quality Chart

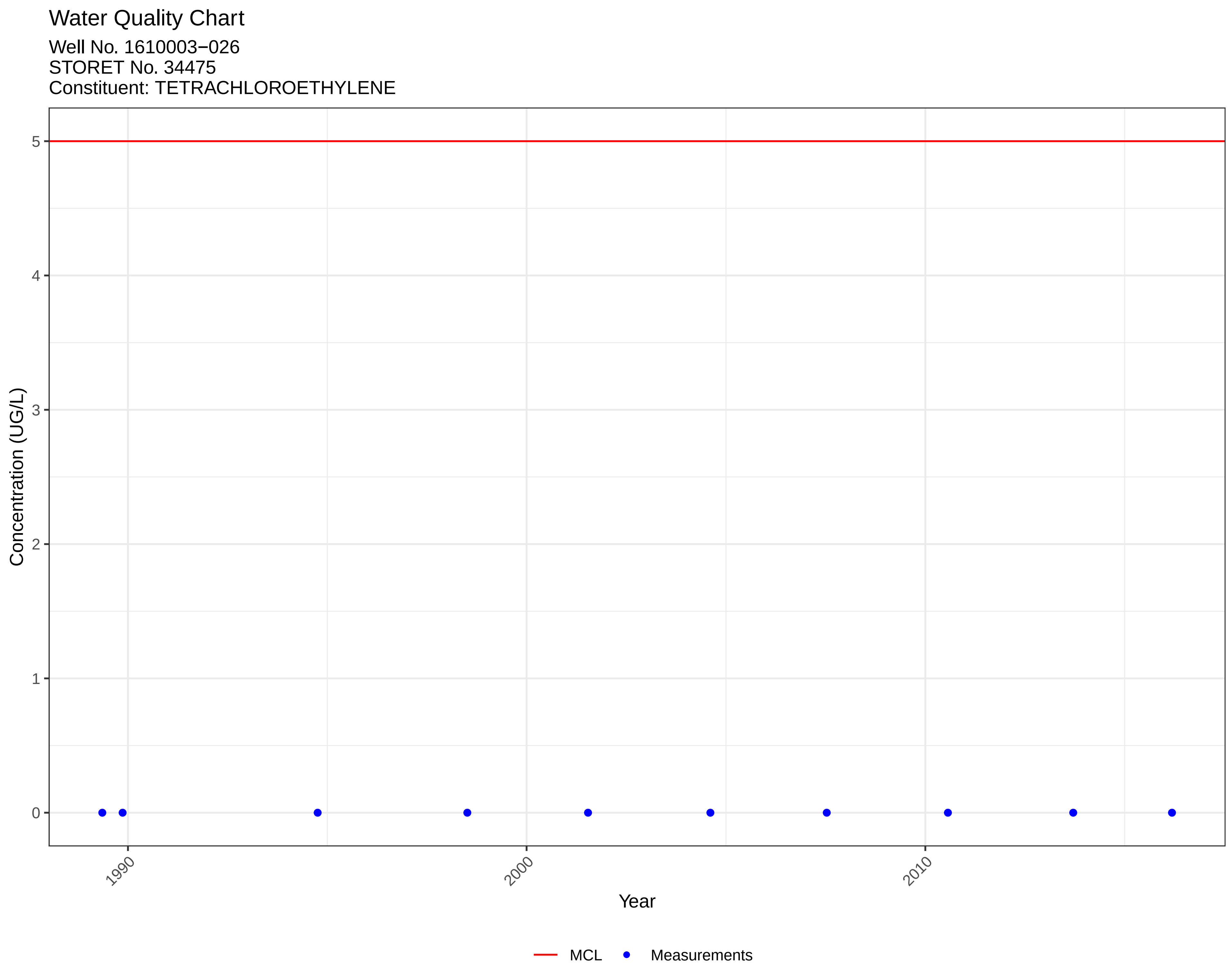
Well No. 1610003−026
STORET No. 1032
Constituent: CHROMIUM, HEXAVALENT



Water Quality Chart

Well No. 1610003−026
STORET No. 7744X
Constituent: 1,2,3−TRICHLOROPROPANE

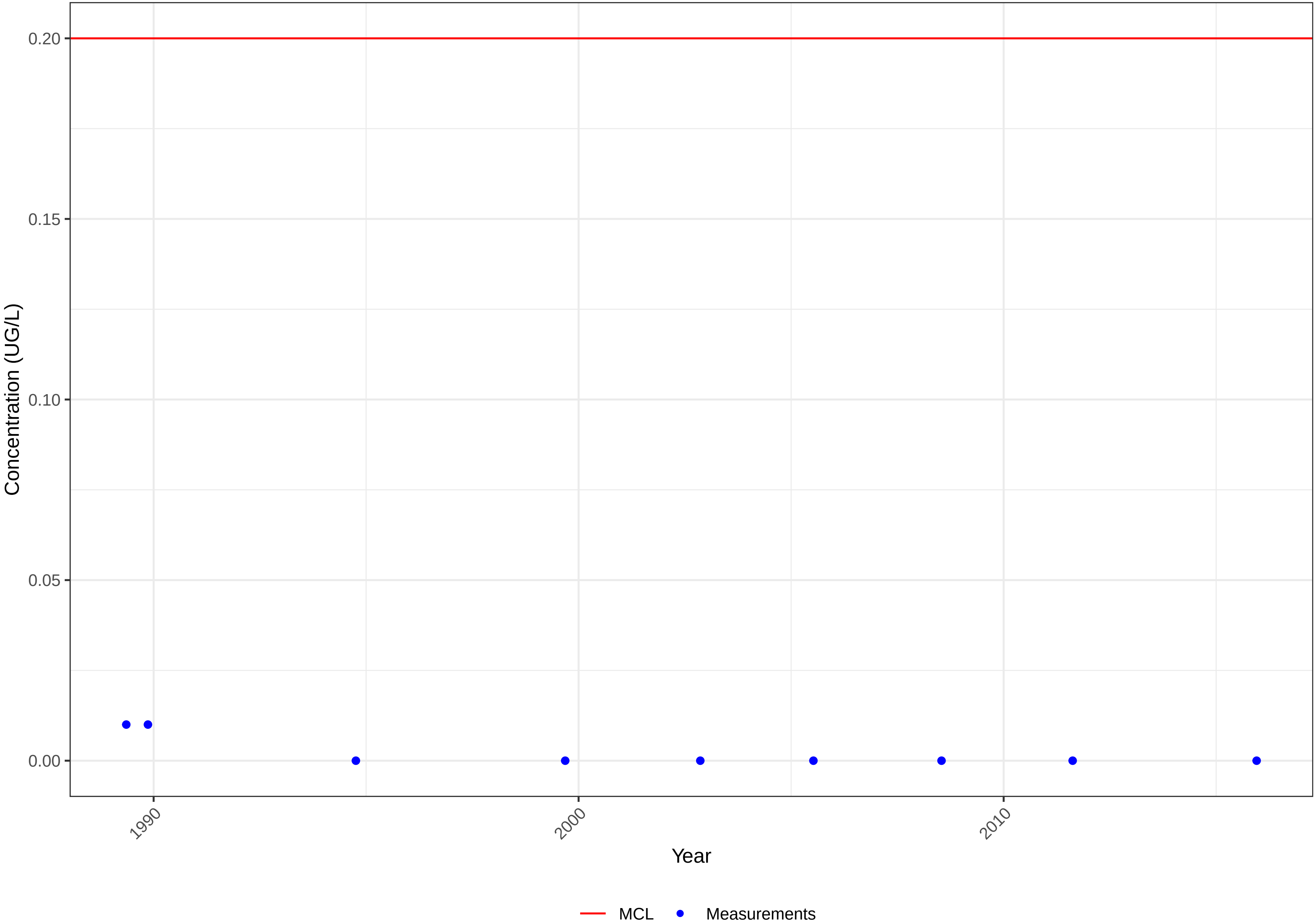




Water Quality Chart
Well No. 1610003−026
STORET No. 34475
Constituent: TETRACHLOROETHYLENE
Concentration (UG/L)
0
1
2
3
4
5
1990
2000
2010
Year
MCL
Measurements

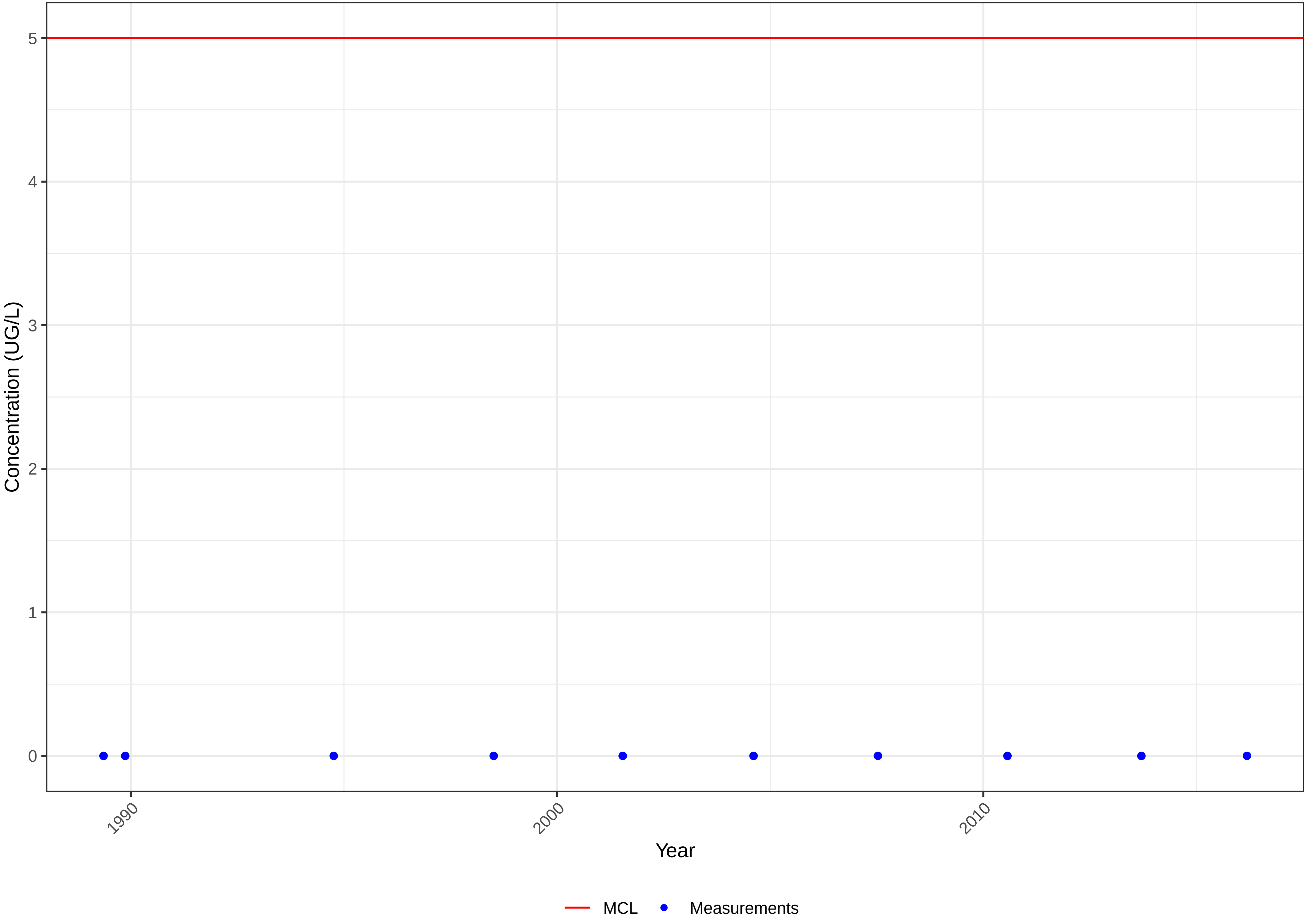
Water Quality Chart

Well No. 1610003−026
STORET No. 38761
Constituent: DIBROMOCHLOROPROPANE (DBCP)



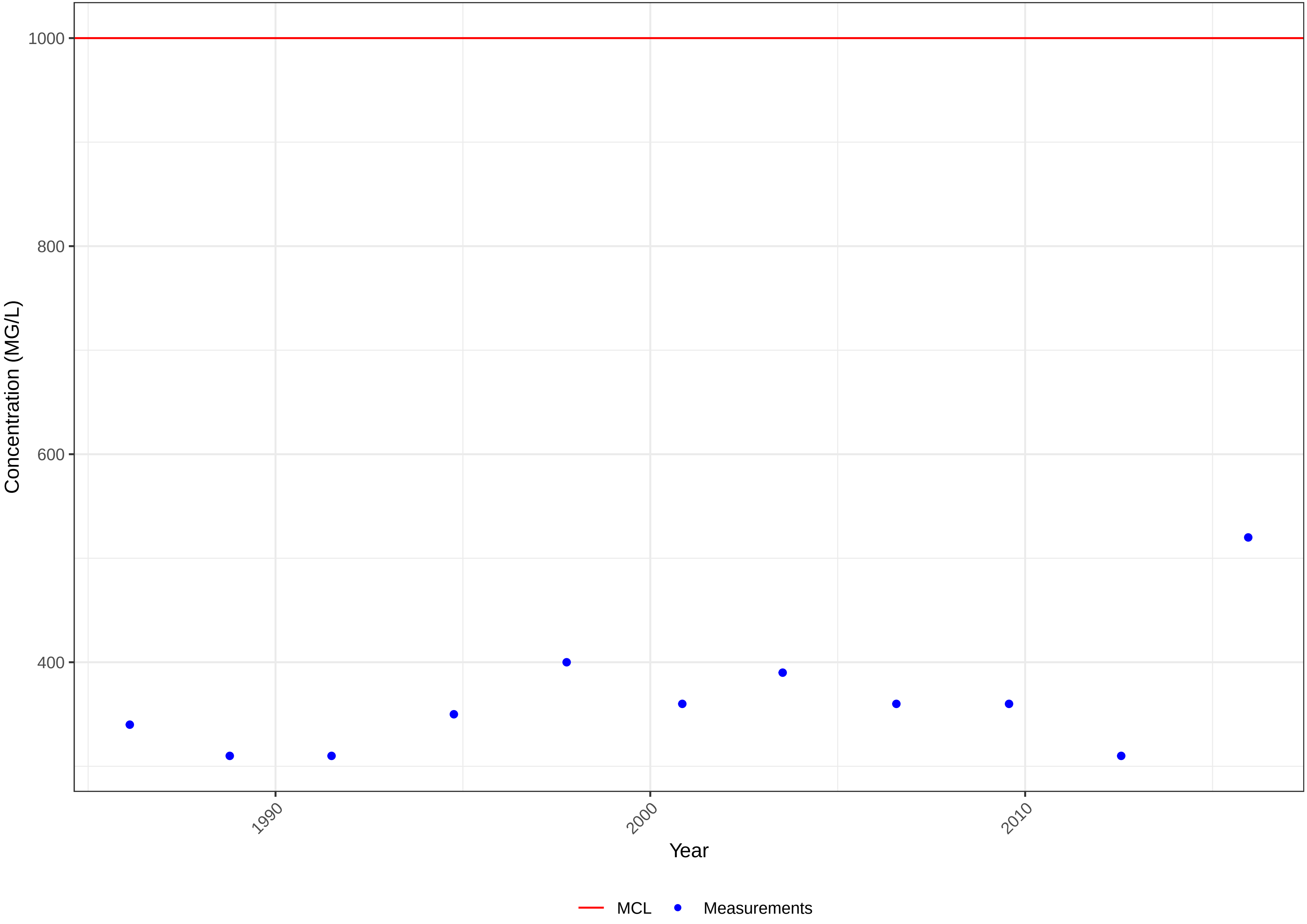
Water Quality Chart

Well No. 1610003−026
STORET No. 39180
Constituent: TRICHLOROETHYLENE



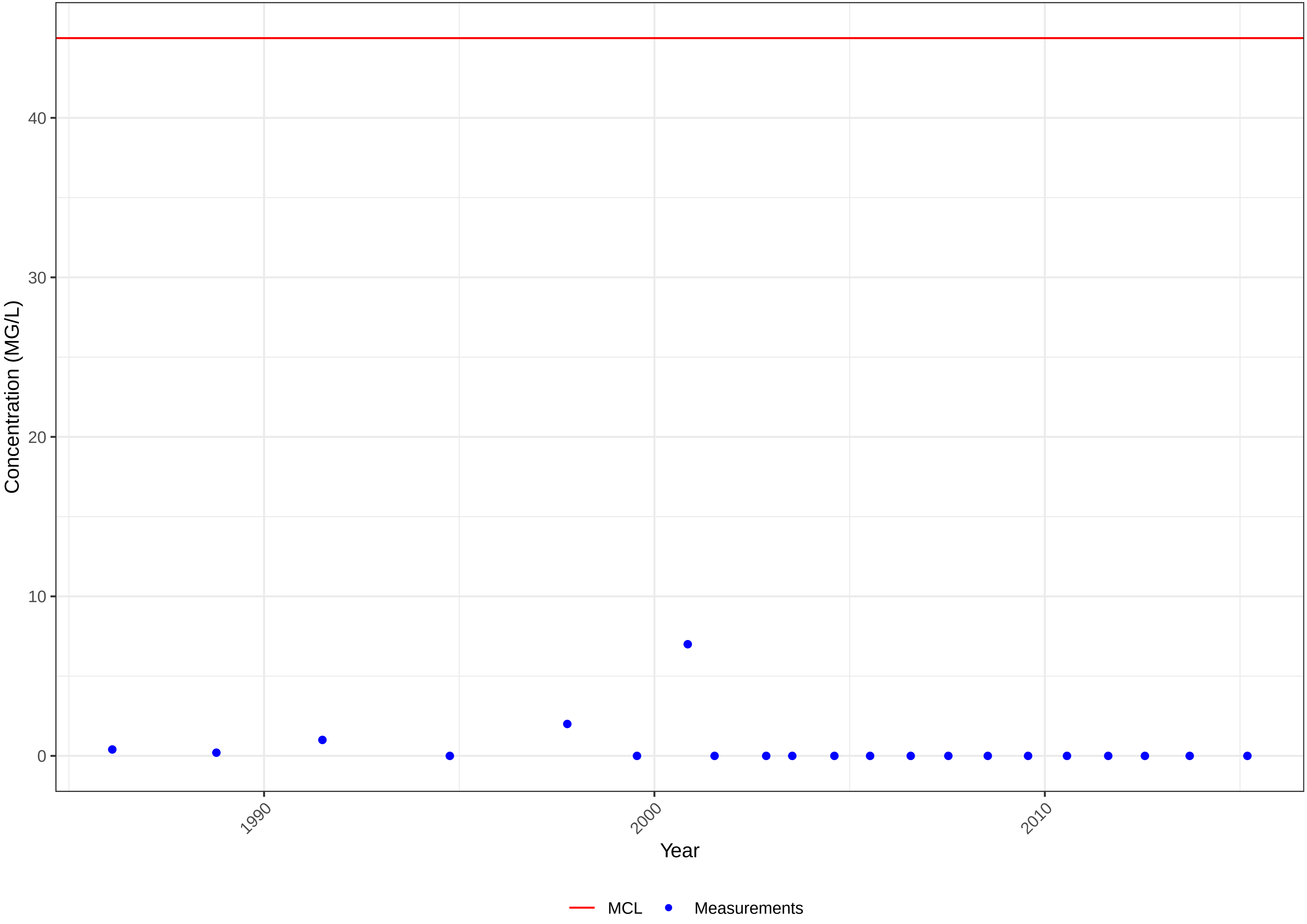
Water Quality Chart

Well No. 1610003−026
STORET No. 70300
Constituent: TOTAL DISSOLVED SOLIDS



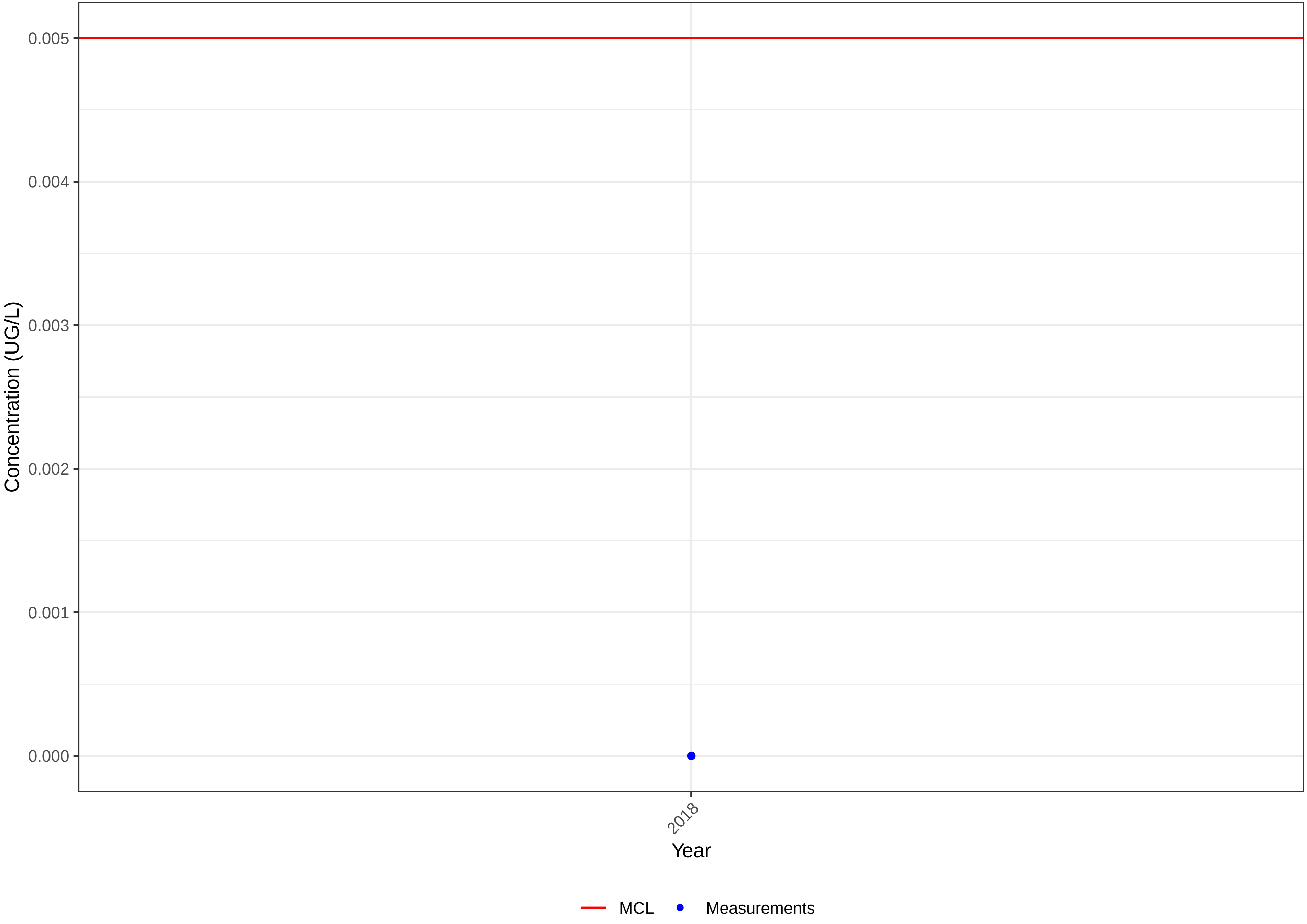
Water Quality Chart

Well No. 1610003−026
STORET No. 71850
Constituent: NITRATE (AS NO3)



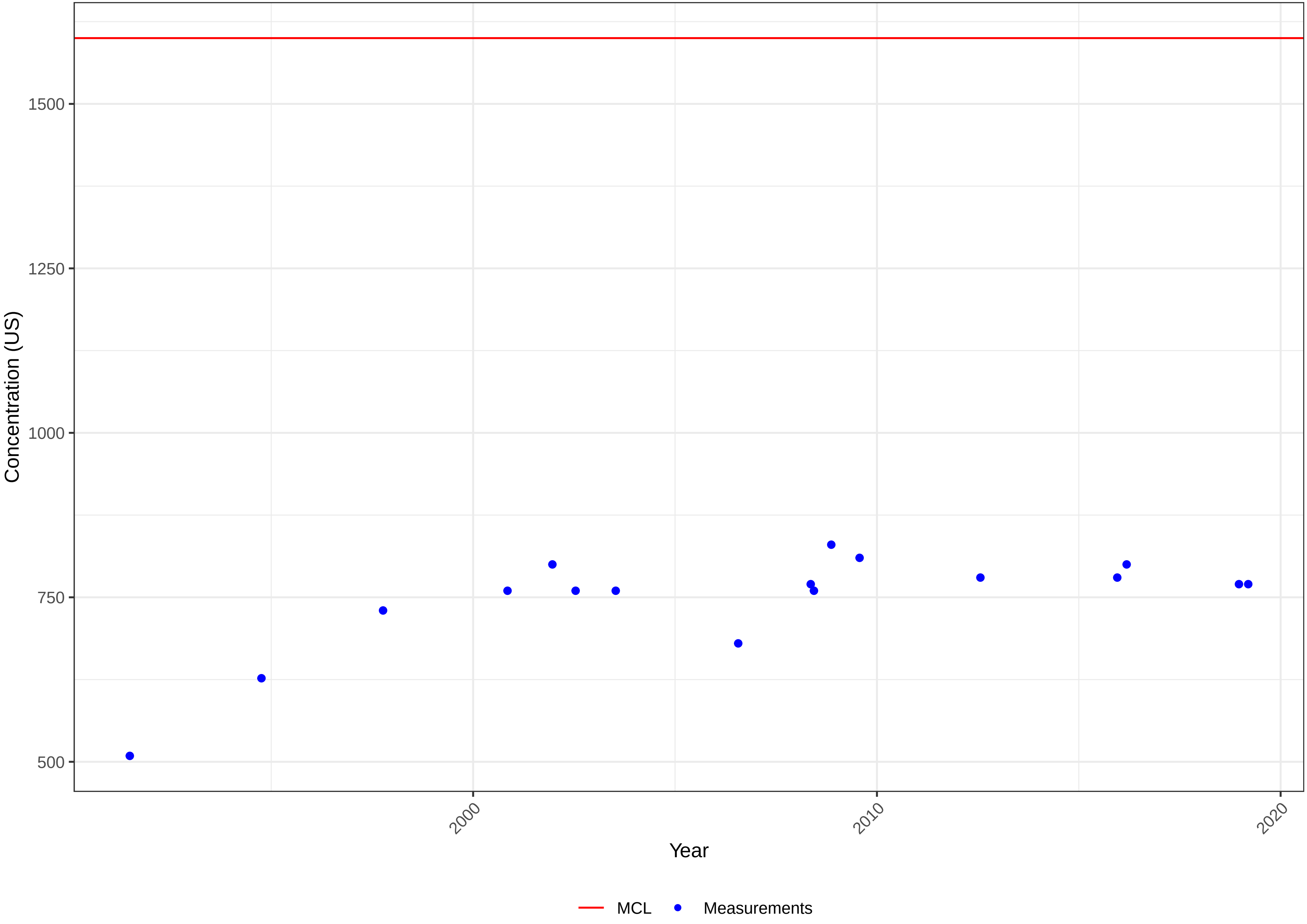
Water Quality Chart

Well No. 1610003−026
STORET No. 77443
Constituent: 1,2,3−TRICHLOROPROPANE



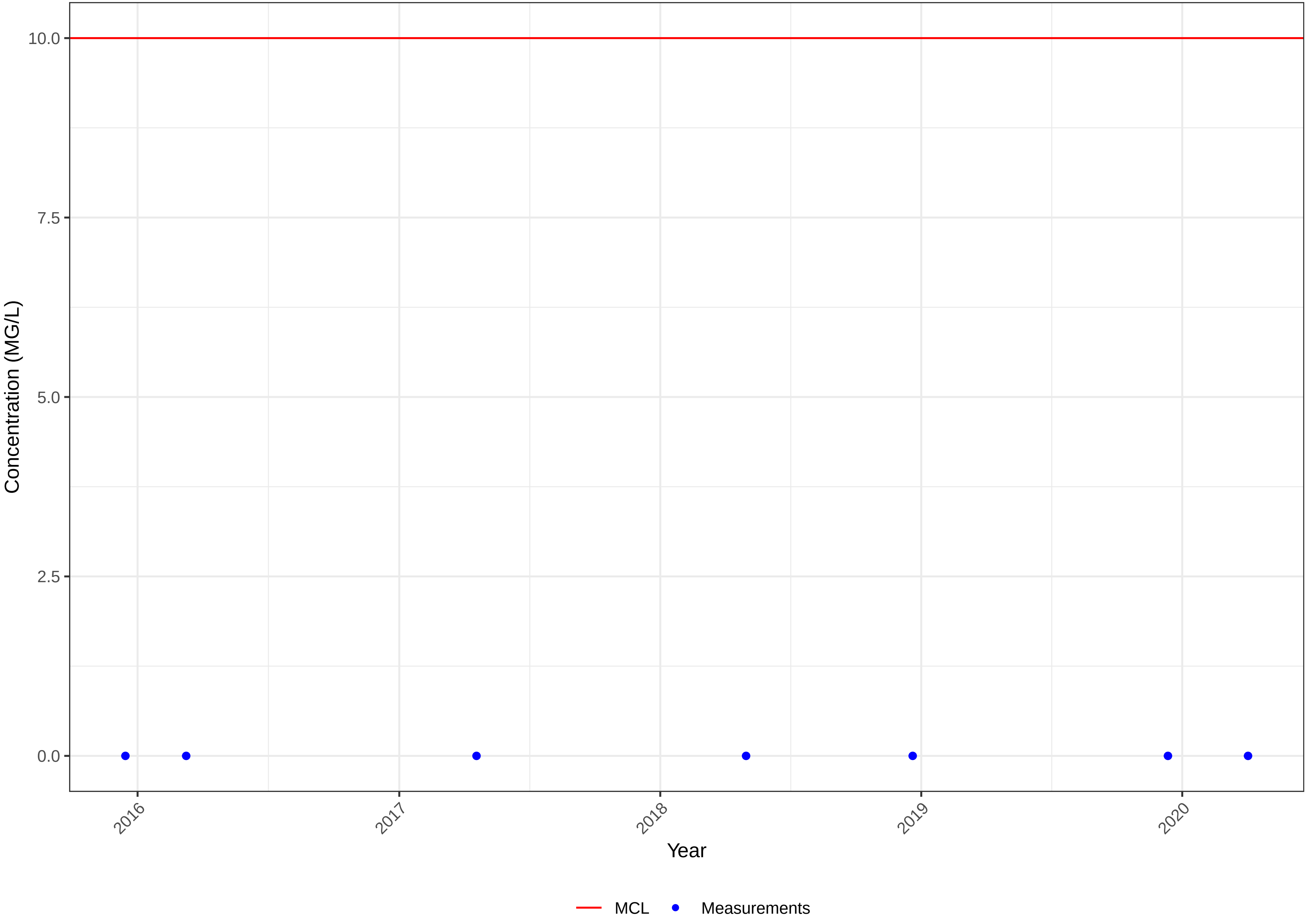
Water Quality Chart

Well No. 1610003−028
STORET No. 95
Constituent: SPECIFIC CONDUCTANCE



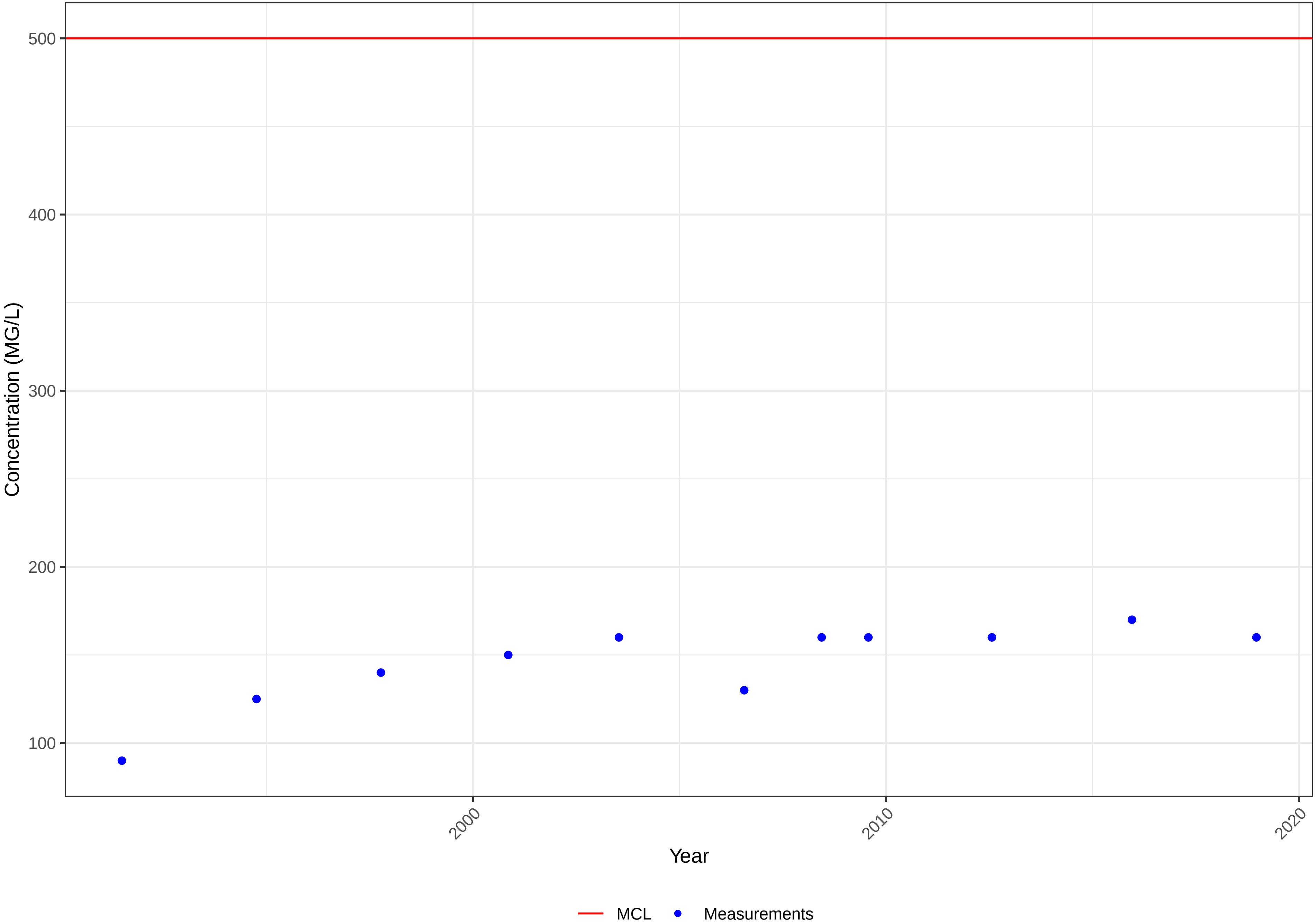
Water Quality Chart

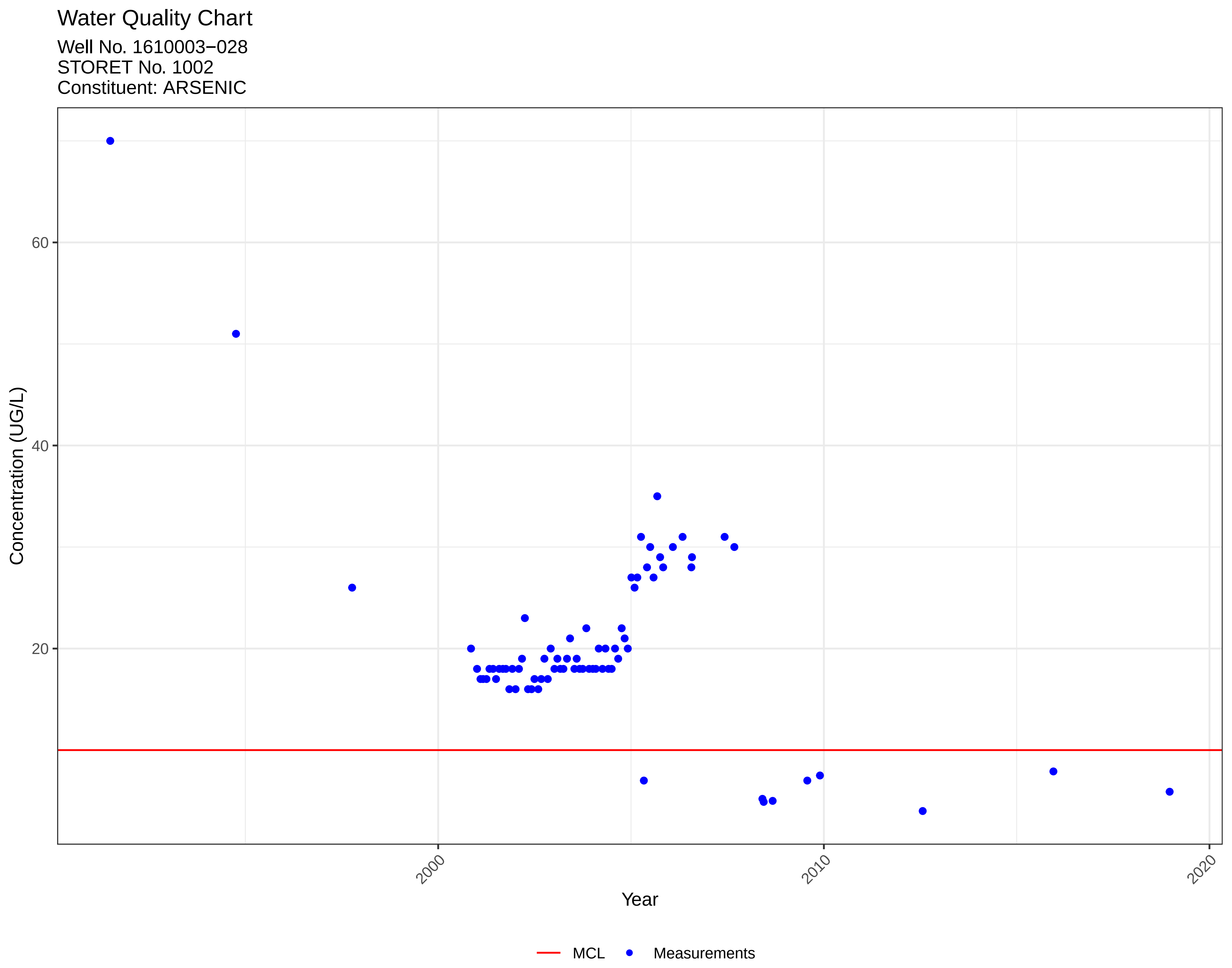
Well No. 1610003−028
STORET No. 618
Constituent: NITRATE (AS N)



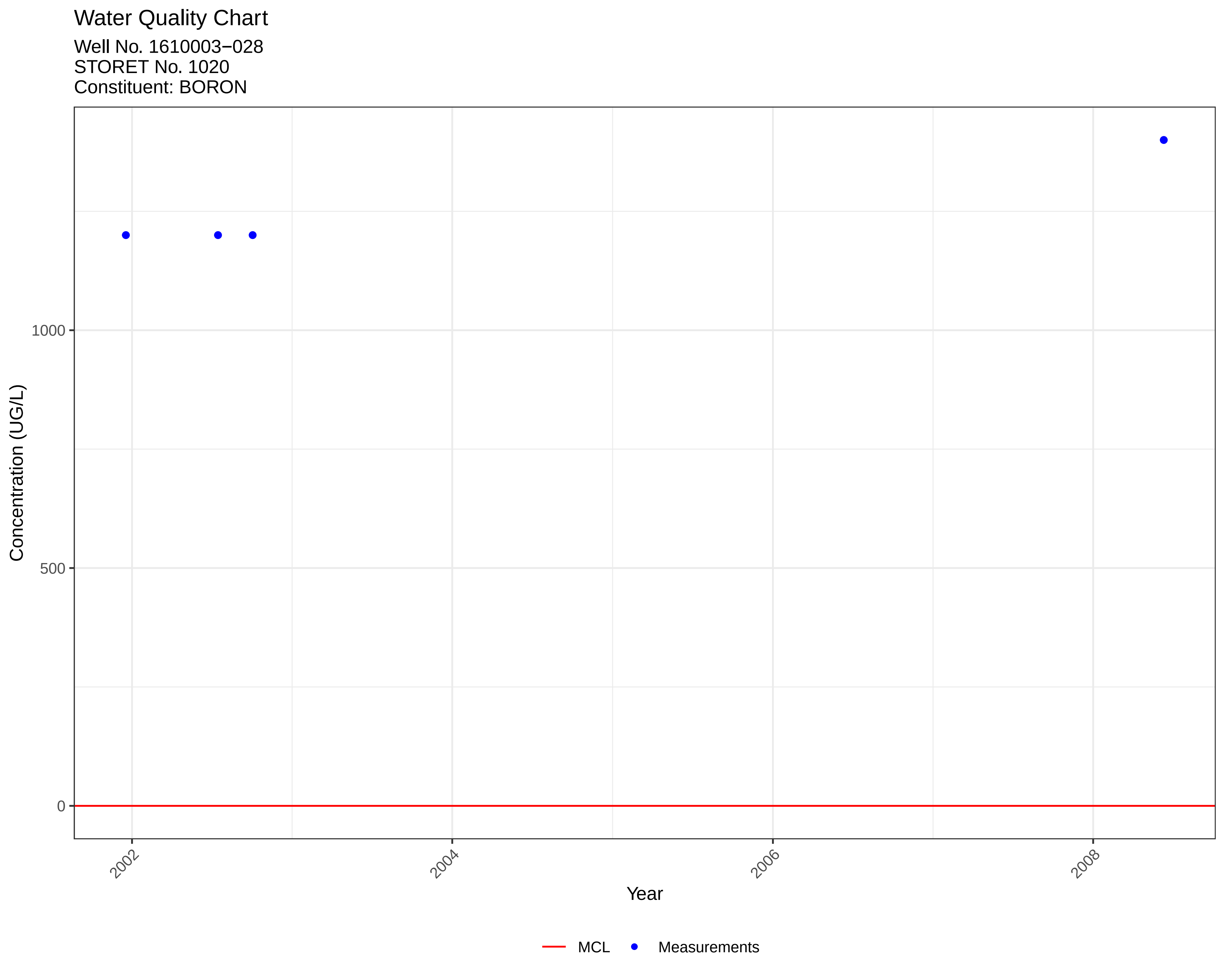
Water Quality Chart

Well No. 1610003−028
STORET No. 940
Constituent: CHLORIDE





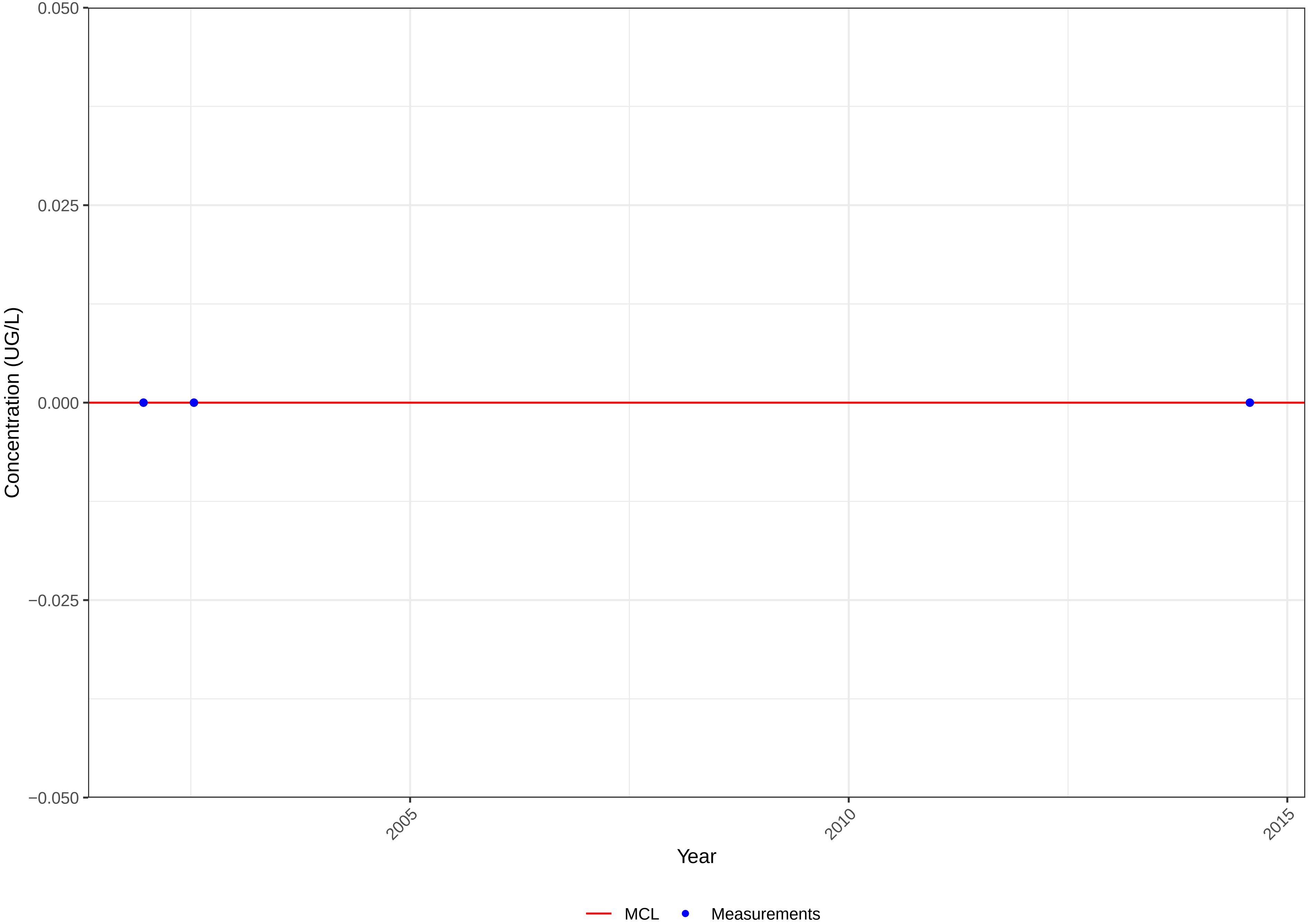
Water Quality Chart
Well No. 1610003−028
STORET No. 1002
Constituent: ARSENIC
Concentration (UG/L)
60
40
20
2000
2010
2020
Year
MCL
Measurements



Water Quality Chart
Well No. 1610003−028
STORET No. 1020
Constituent: BORON
Concentration (UG/L)
1000
500
0
2002
2004
2006
2008
Year
MCL
Measurements

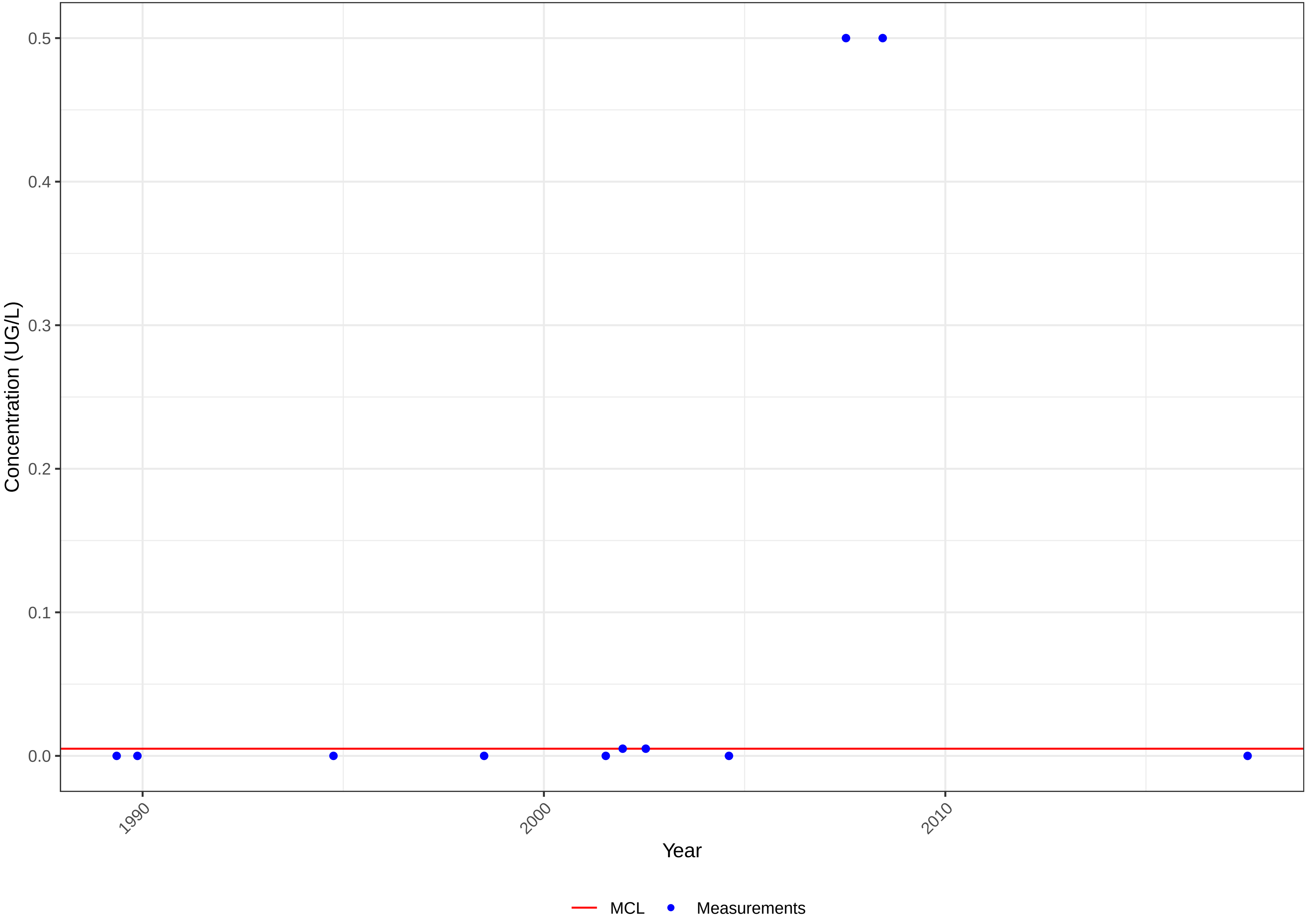
Water Quality Chart

Well No. 1610003−028
STORET No. 1032
Constituent: CHROMIUM, HEXAVALENT



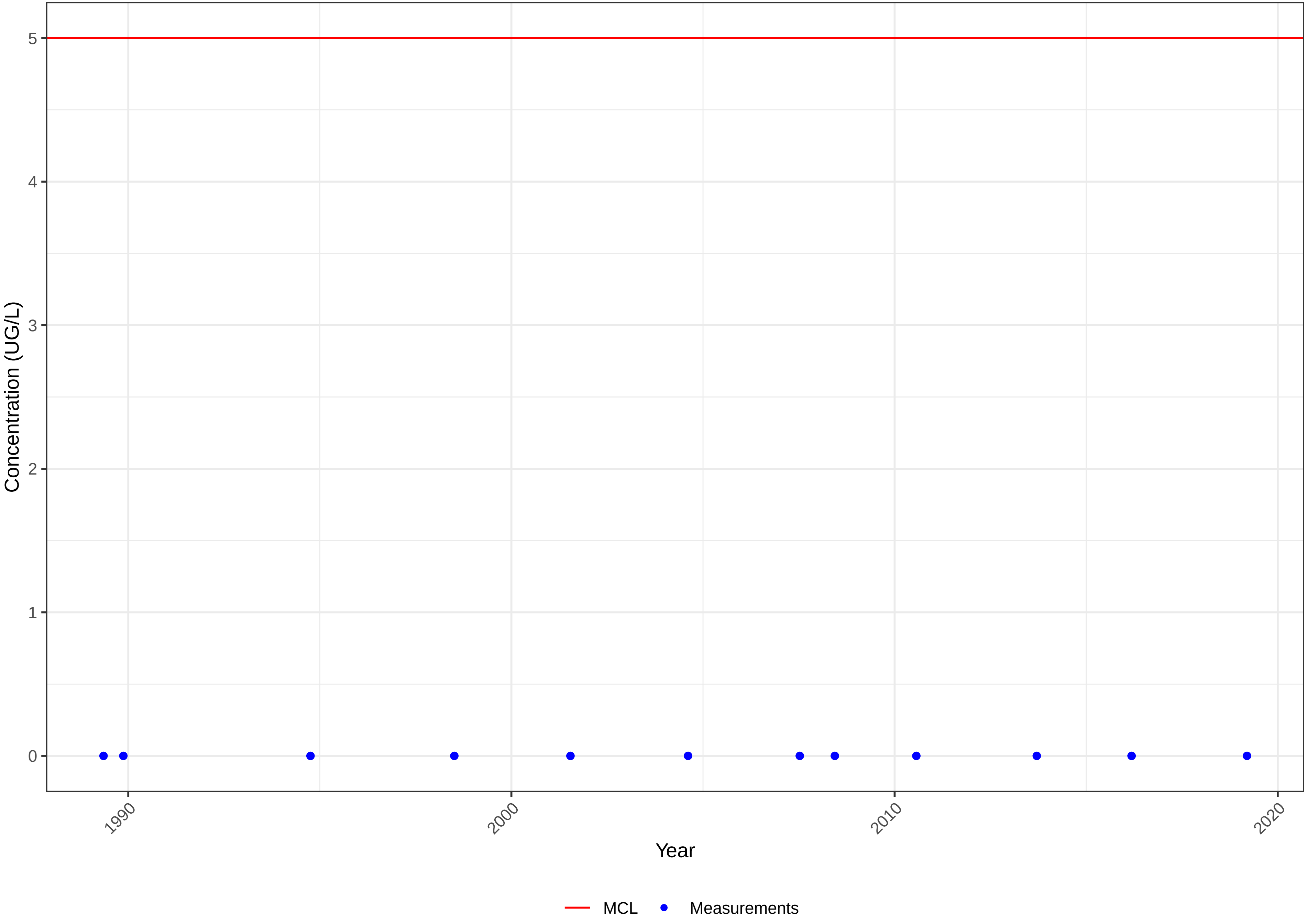
Water Quality Chart

Well No. 1610003−028
STORET No. 7744X
Constituent: 1,2,3−TRICHLOROPROPANE



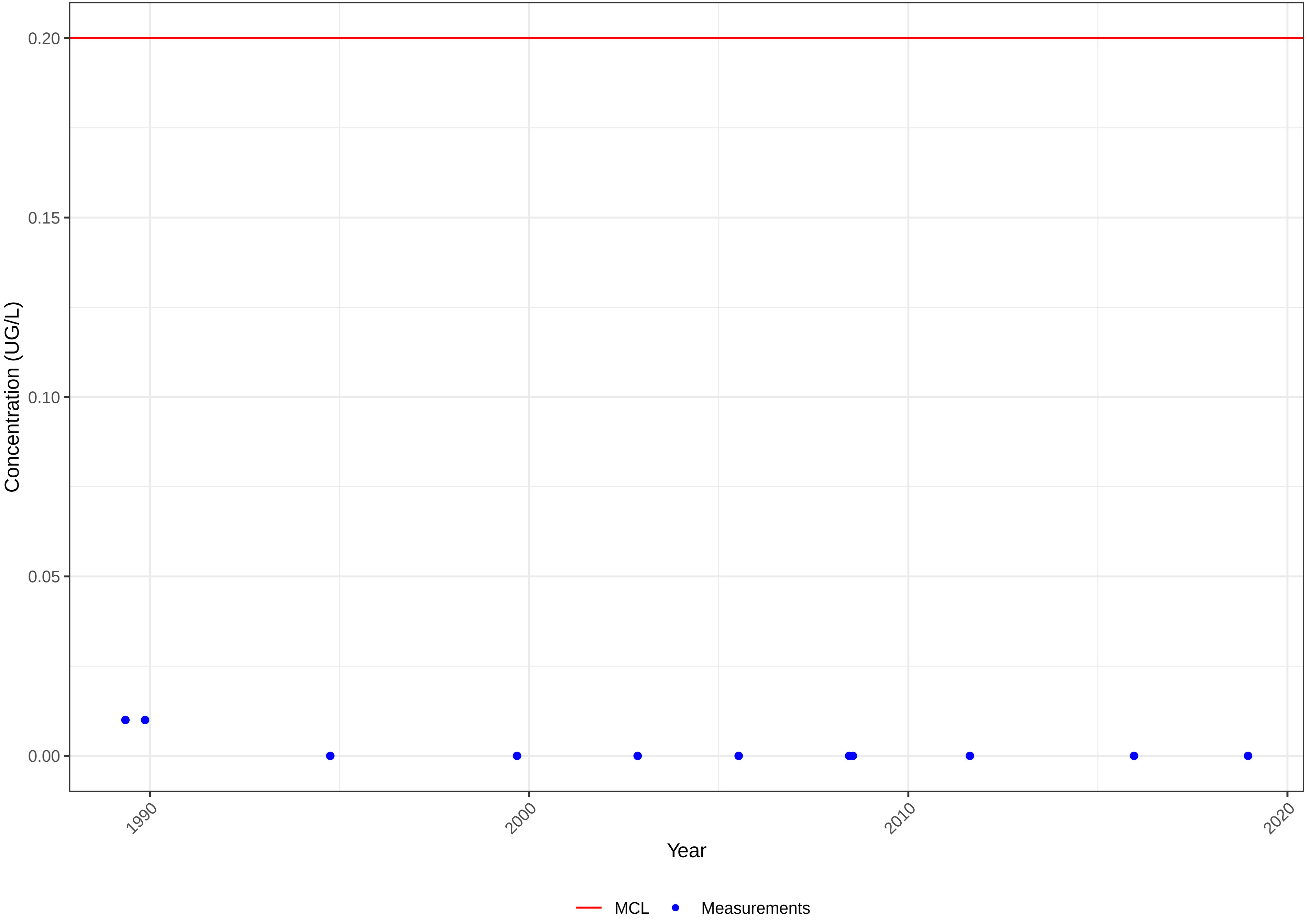
Water Quality Chart

Well No. 1610003−028
STORET No. 34475
Constituent: TETRACHLOROETHYLENE



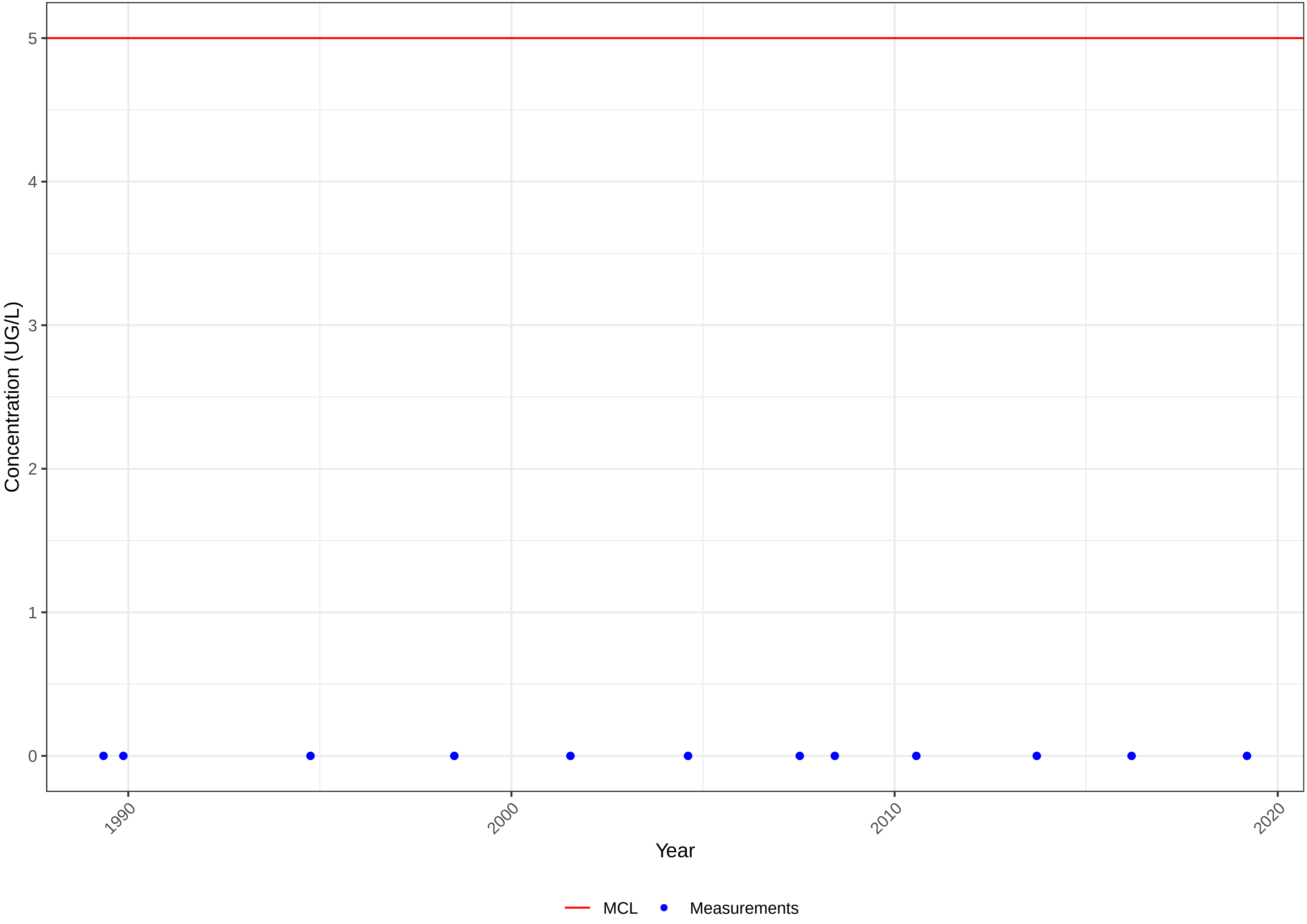
Water Quality Chart

Well No. 1610003−028
STORET No. 38761
Constituent: DIBROMOCHLOROPROPANE (DBCP)



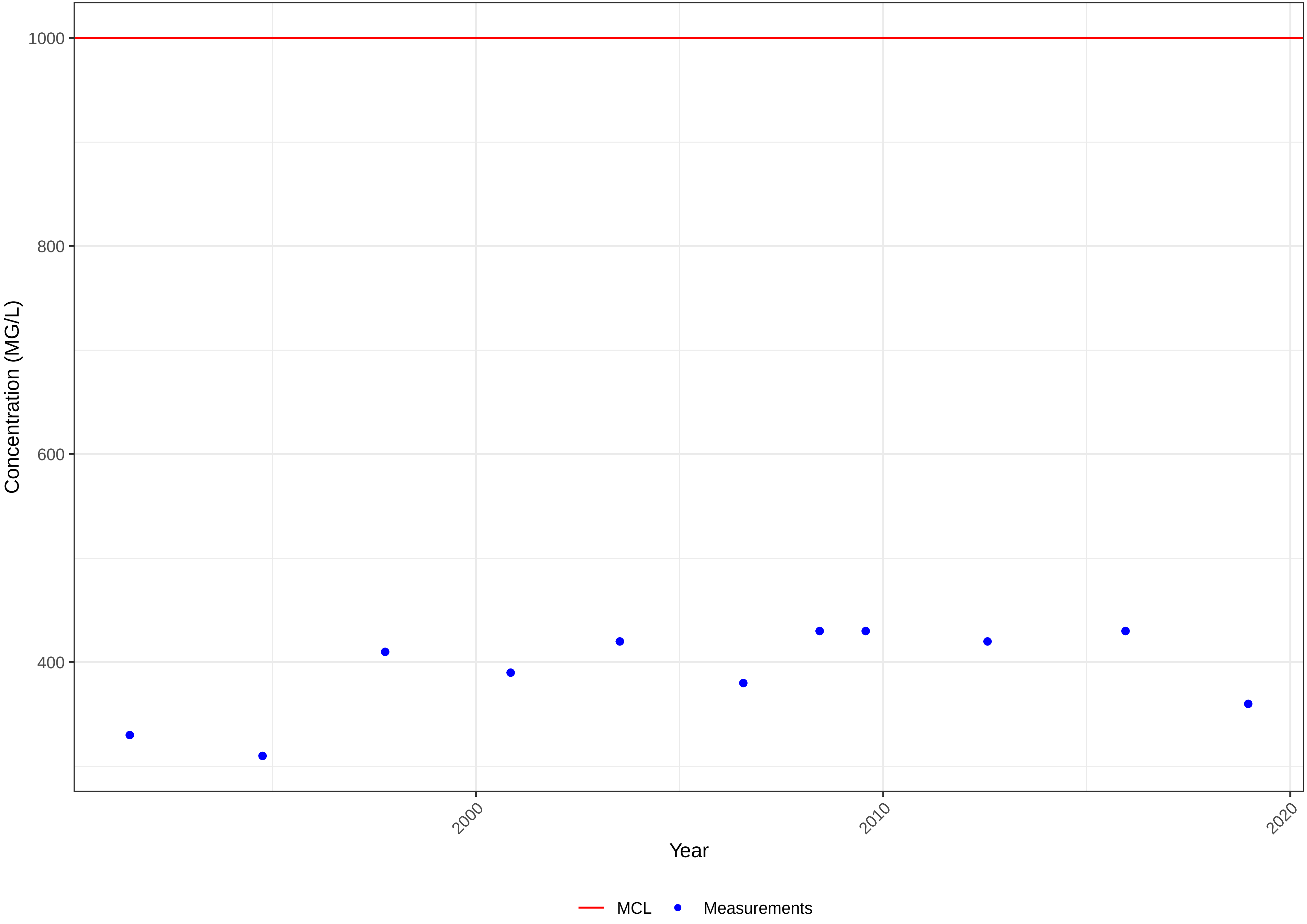
Water Quality Chart

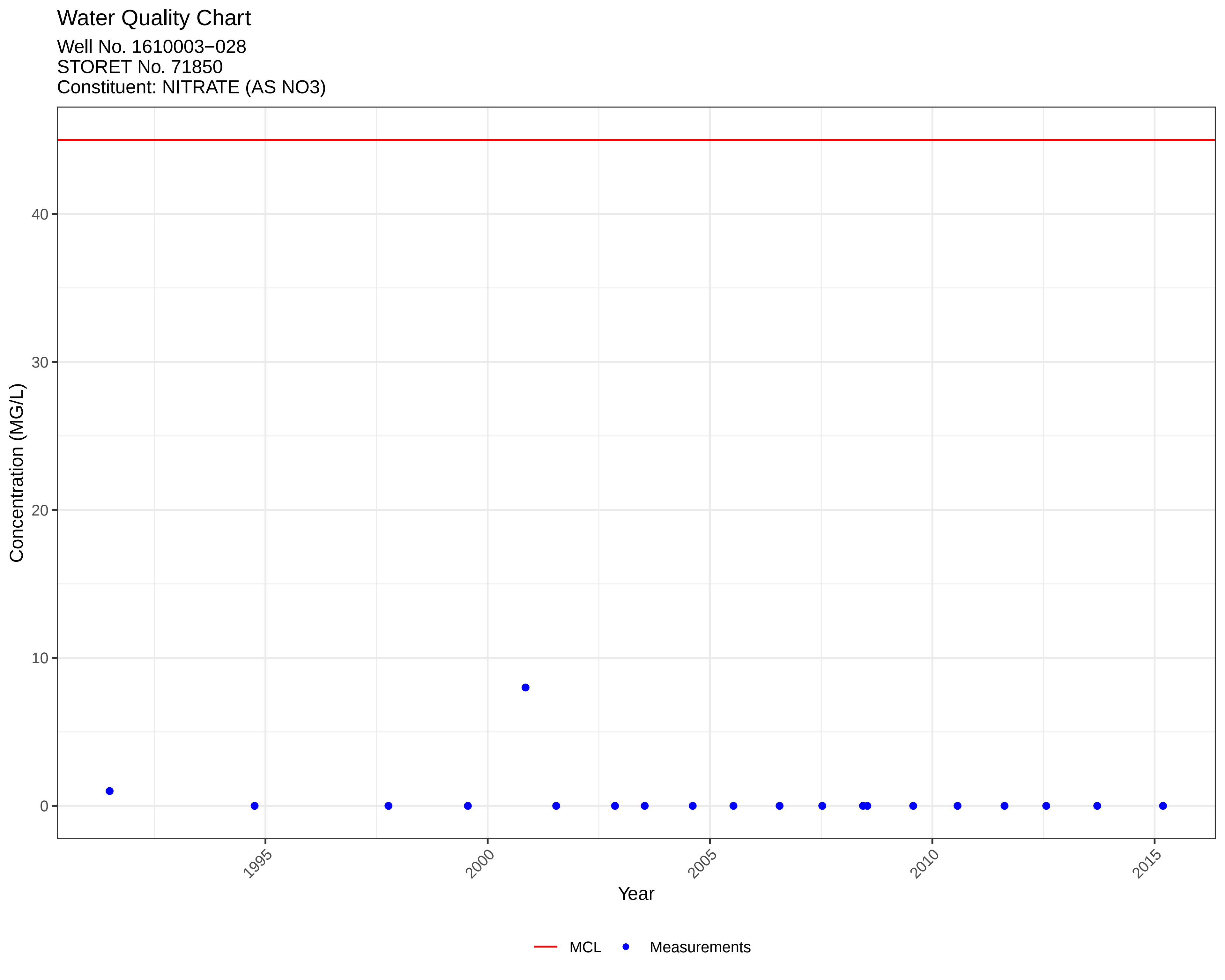
Well No. 1610003−028
STORET No. 39180
Constituent: TRICHLOROETHYLENE



Water Quality Chart

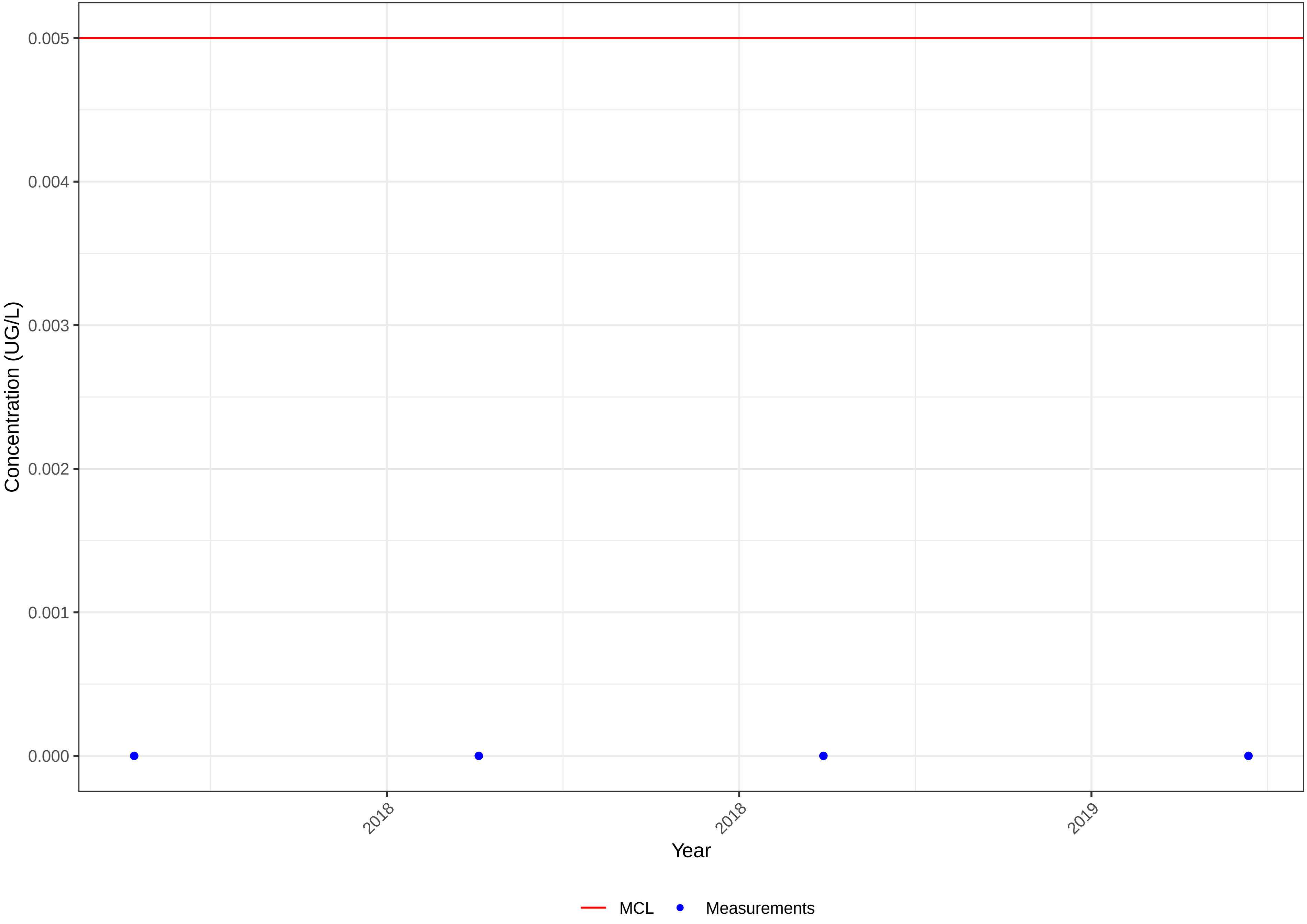
Well No. 1610003−028
STORET No. 70300
Constituent: TOTAL DISSOLVED SOLIDS

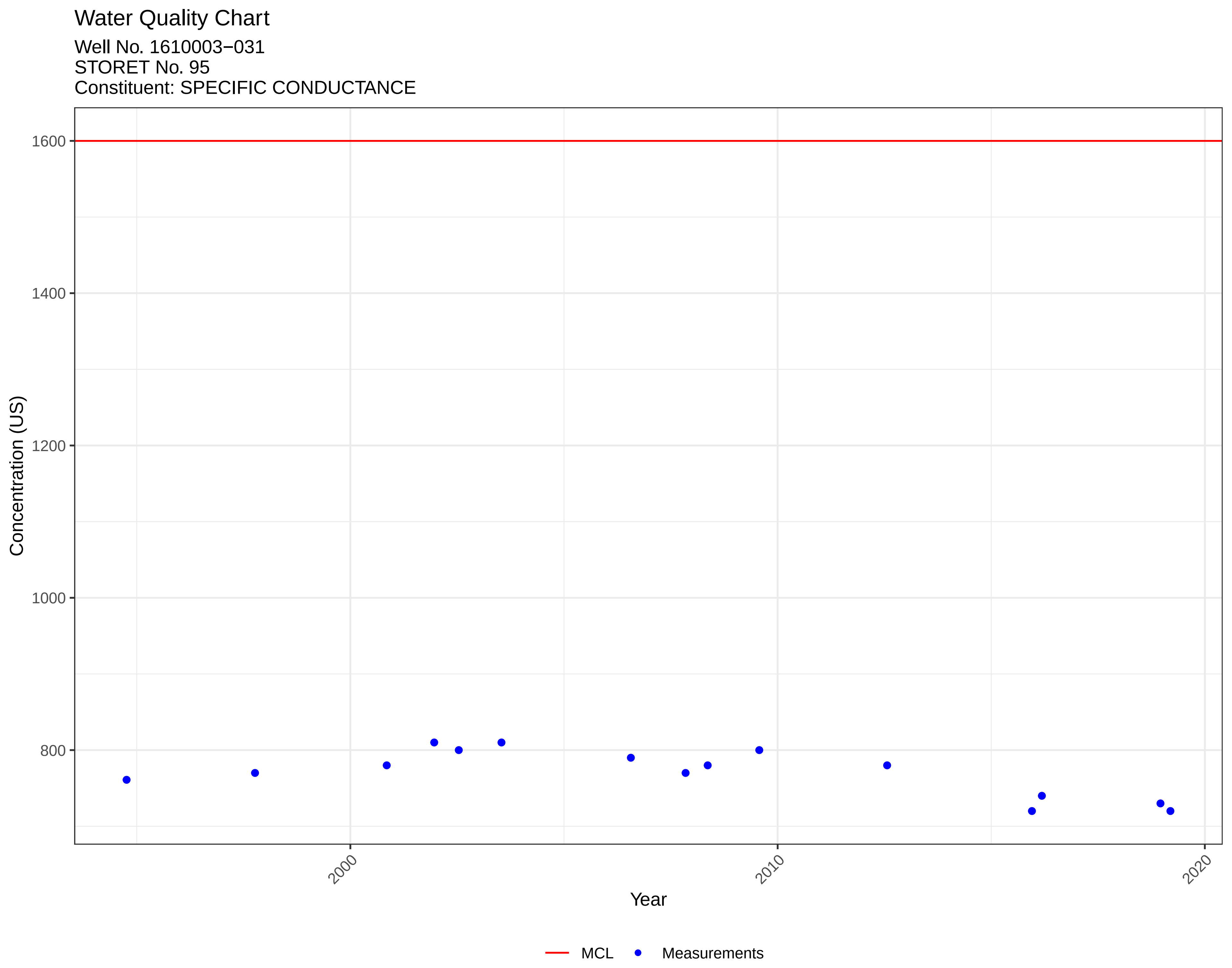



Water Quality Chart
Well No. 1610003−028
STORET No. 71850
Constituent: NITRATE (AS NO3)
Concentration (MG/L)
40
30
20
10
0
1995
2000
2005
2010
2015
Year
MCL
Measurements

Water Quality Chart

Well No. 1610003−028
STORET No. 77443
Constituent: 1,2,3−TRICHLOROPROPANE

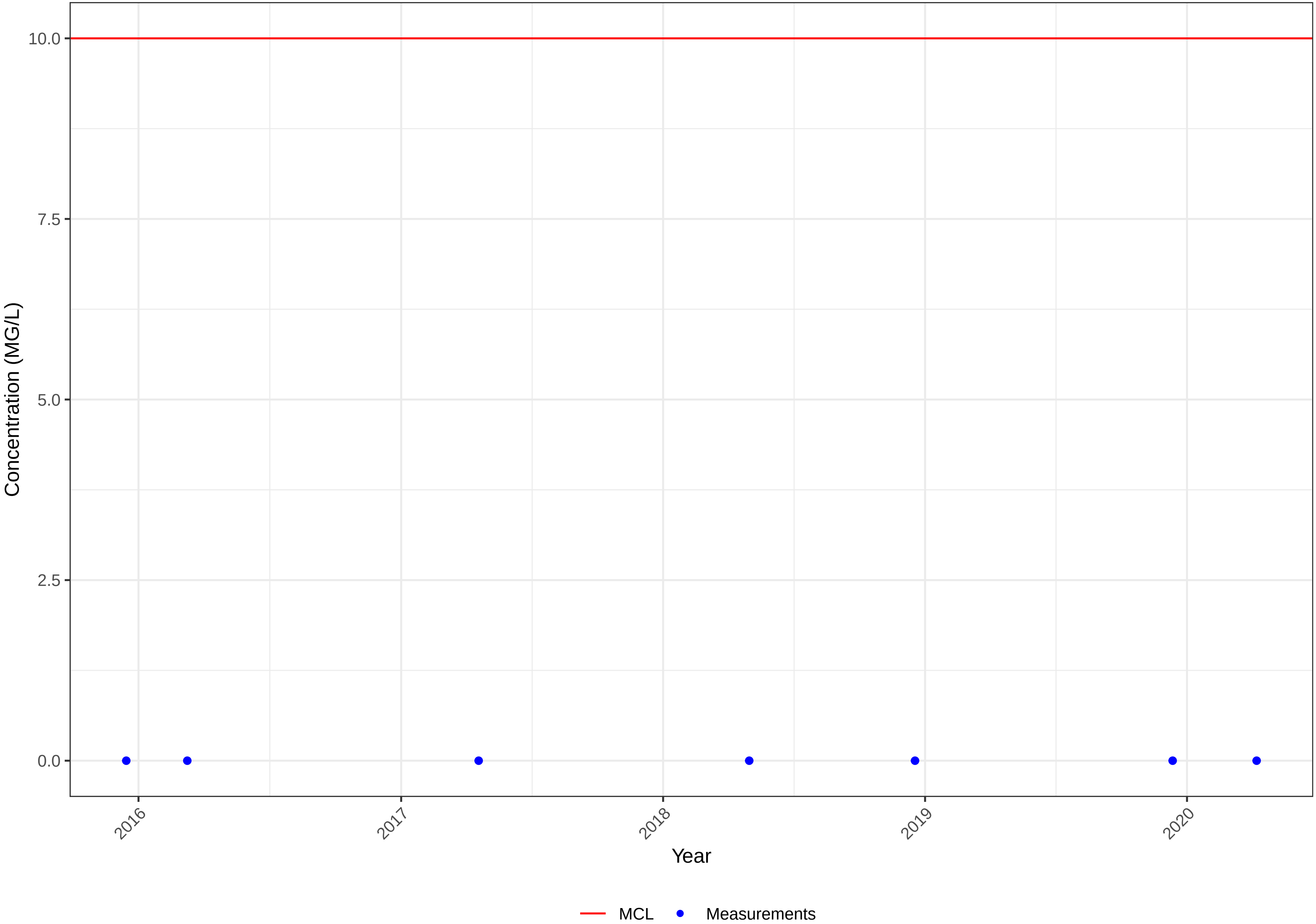




Water Quality Chart
Well No. 1610003−031
STORET No. 95
Constituent: SPECIFIC CONDUCTANCE
1600
1400
1200
1000
800
Concentration (US)
2000
2010
2020
Year
MCL
Measurements

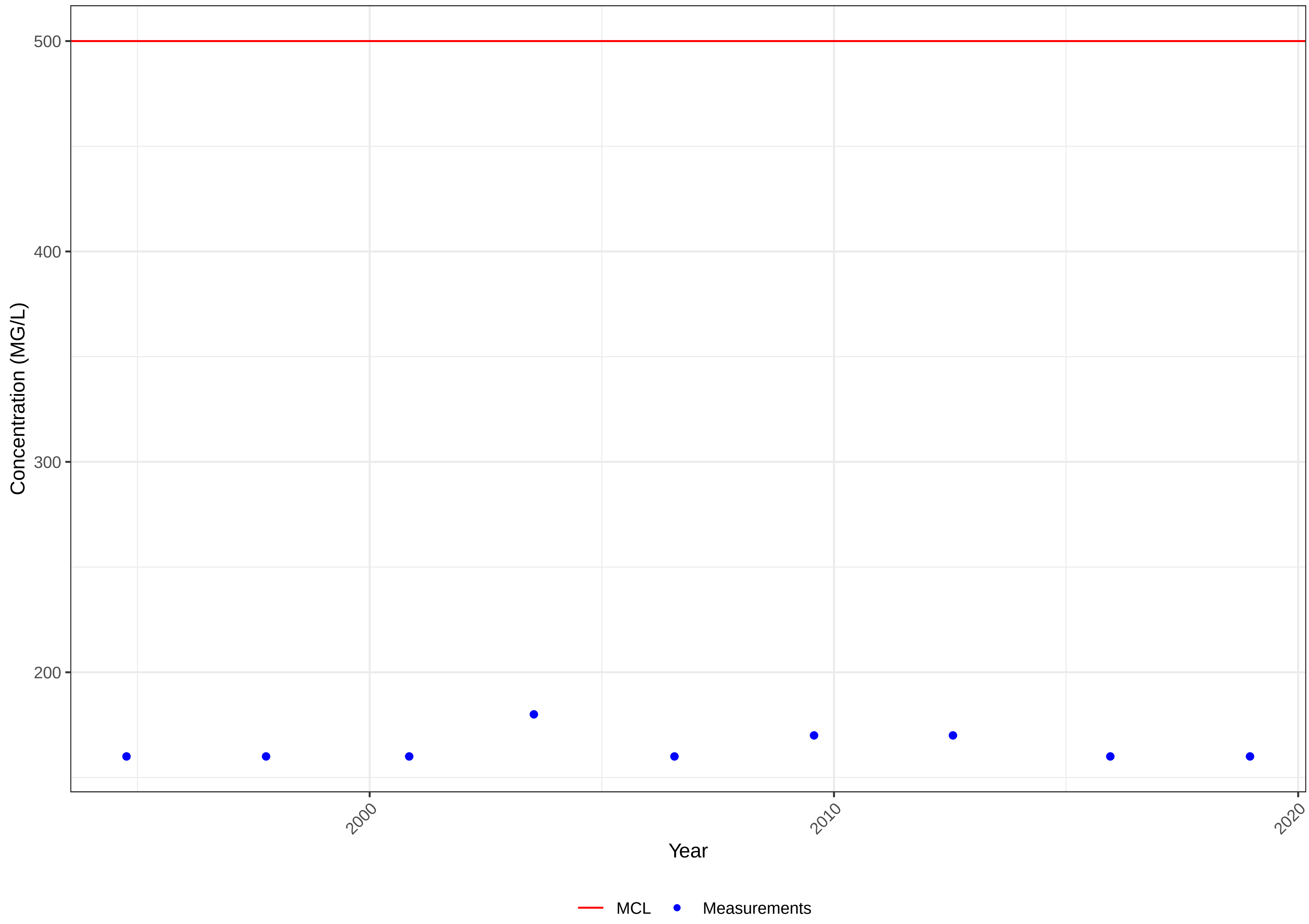
Water Quality Chart

Well No. 1610003−031
STORET No. 618
Constituent: NITRATE (AS N)



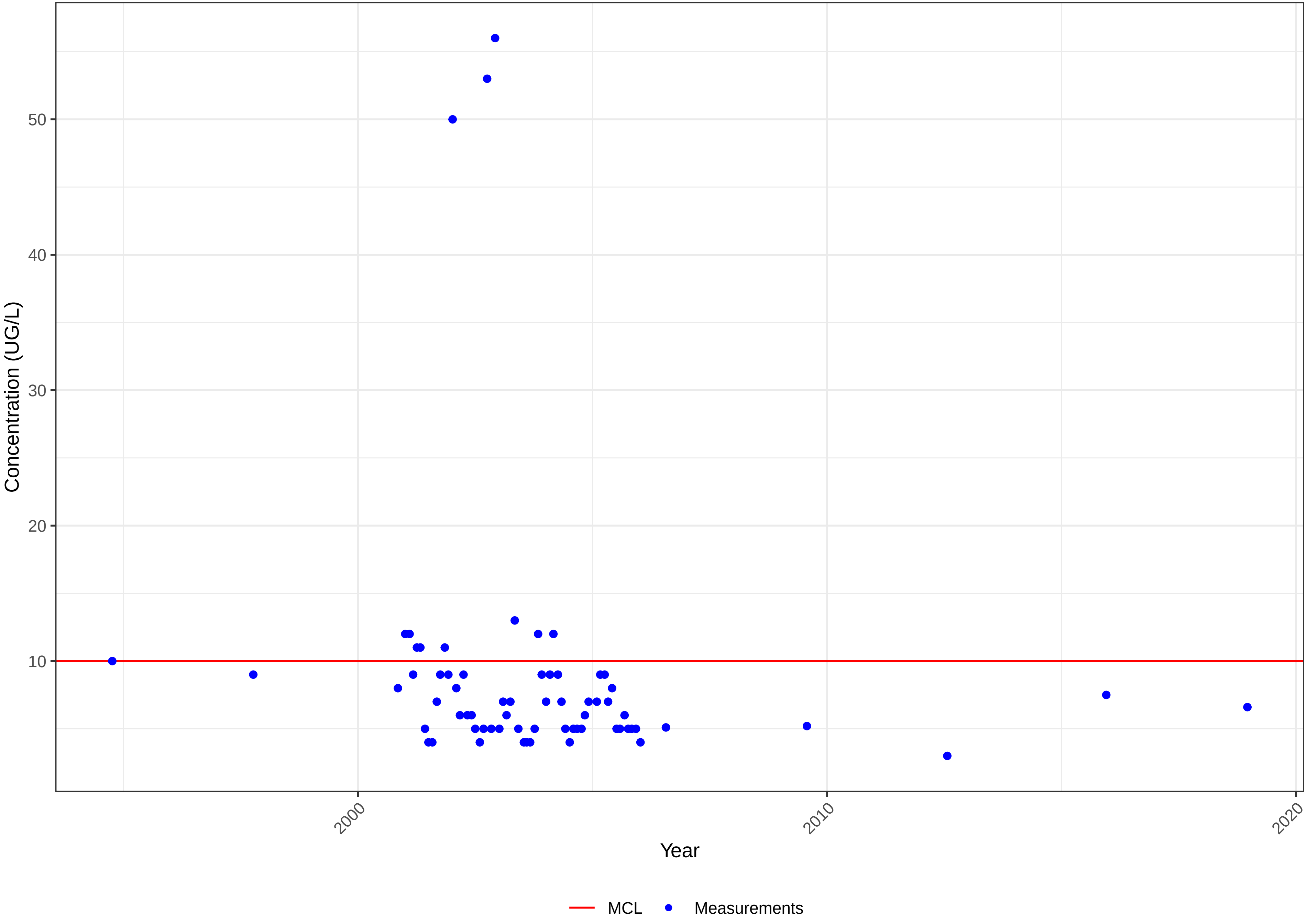
Water Quality Chart

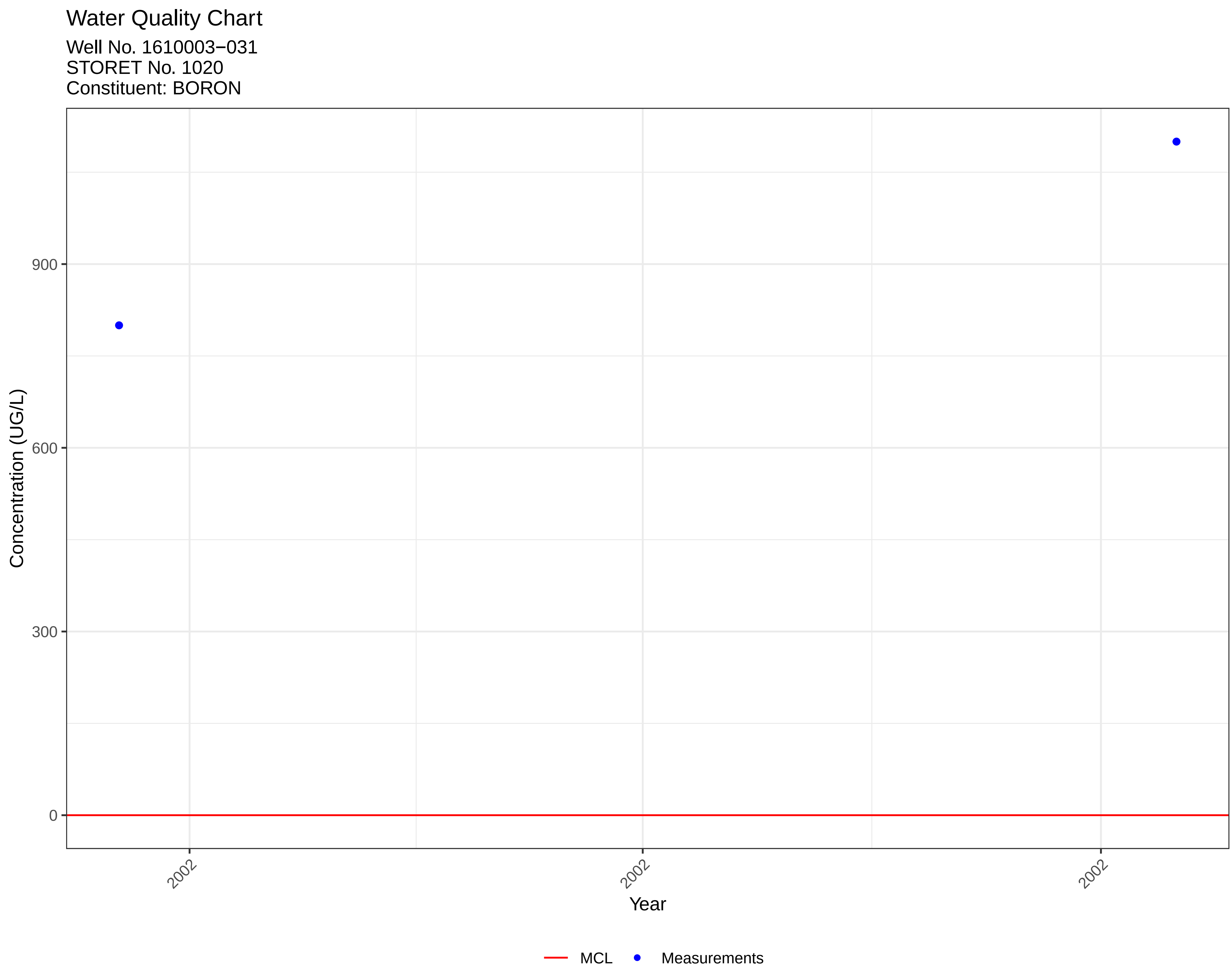
Well No. 1610003−031
STORET No. 940
Constituent: CHLORIDE



Water Quality Chart

Well No. 1610003−031
STORET No. 1002
Constituent: ARSENIC

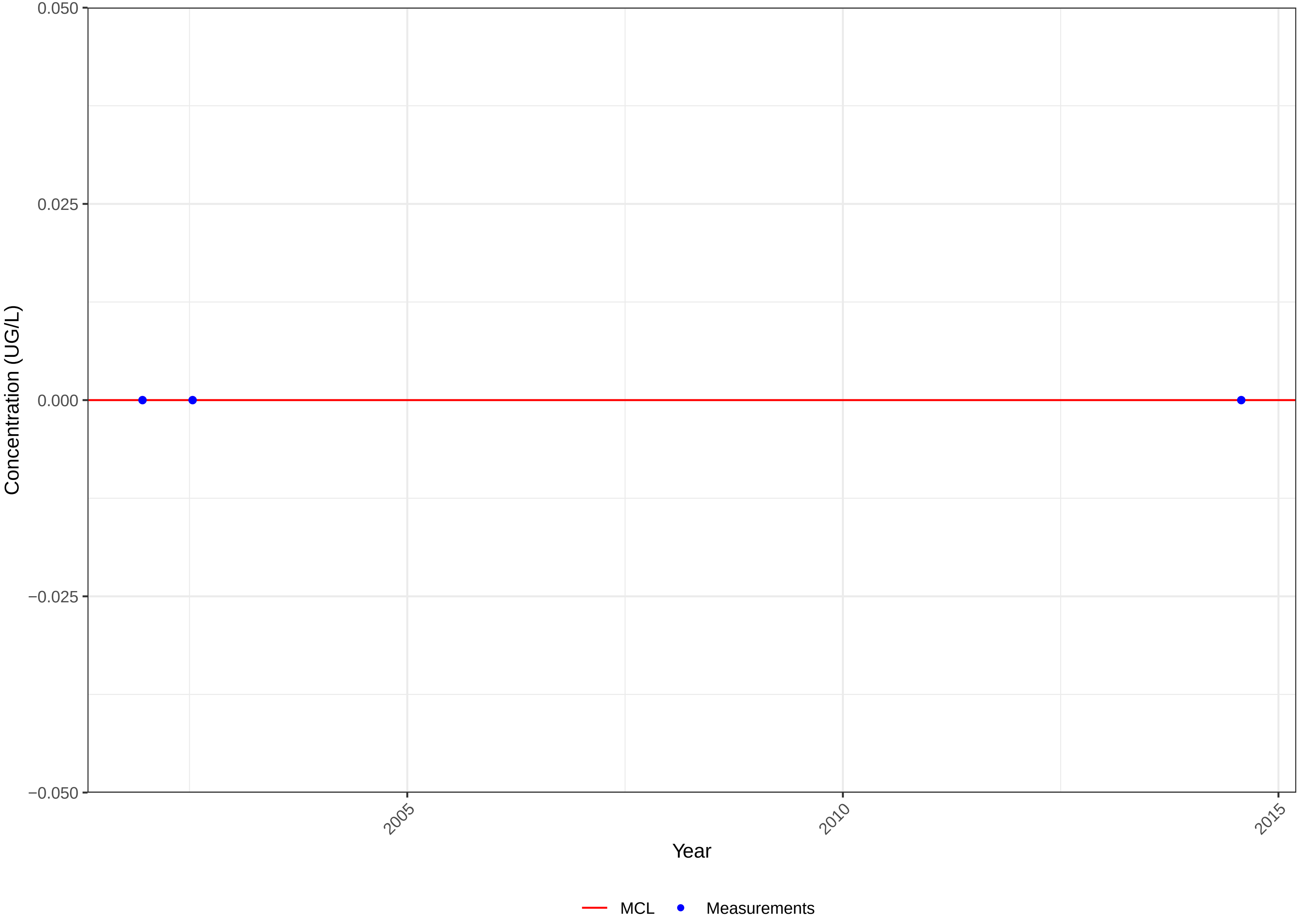


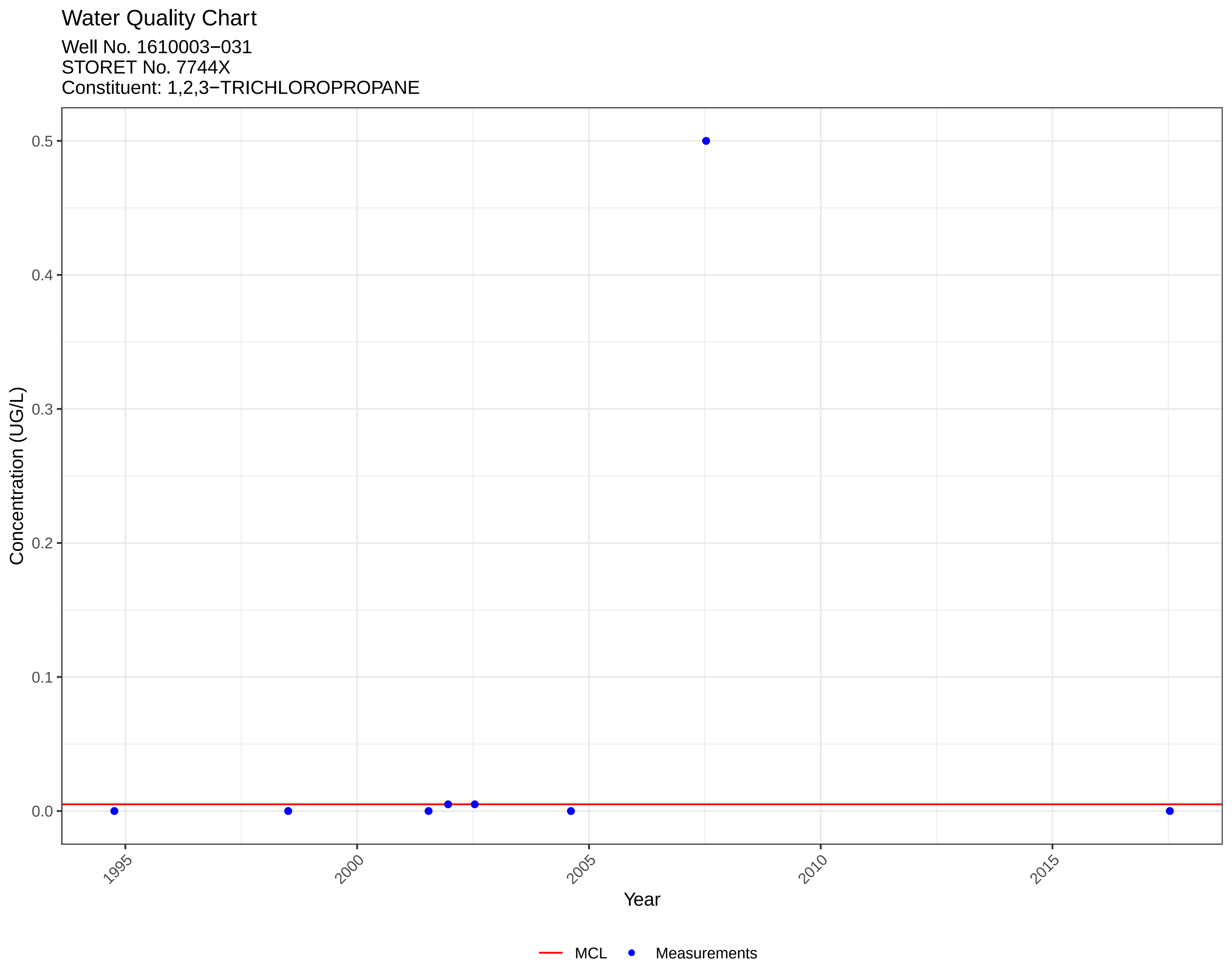


Water Quality Chart
Well No. 1610003−031
STORET No. 1020
Constituent: BORON
Concentration (UG/L)
900
600
300
0
2002
2002
2002
Year
MCL
Measurements

Water Quality Chart

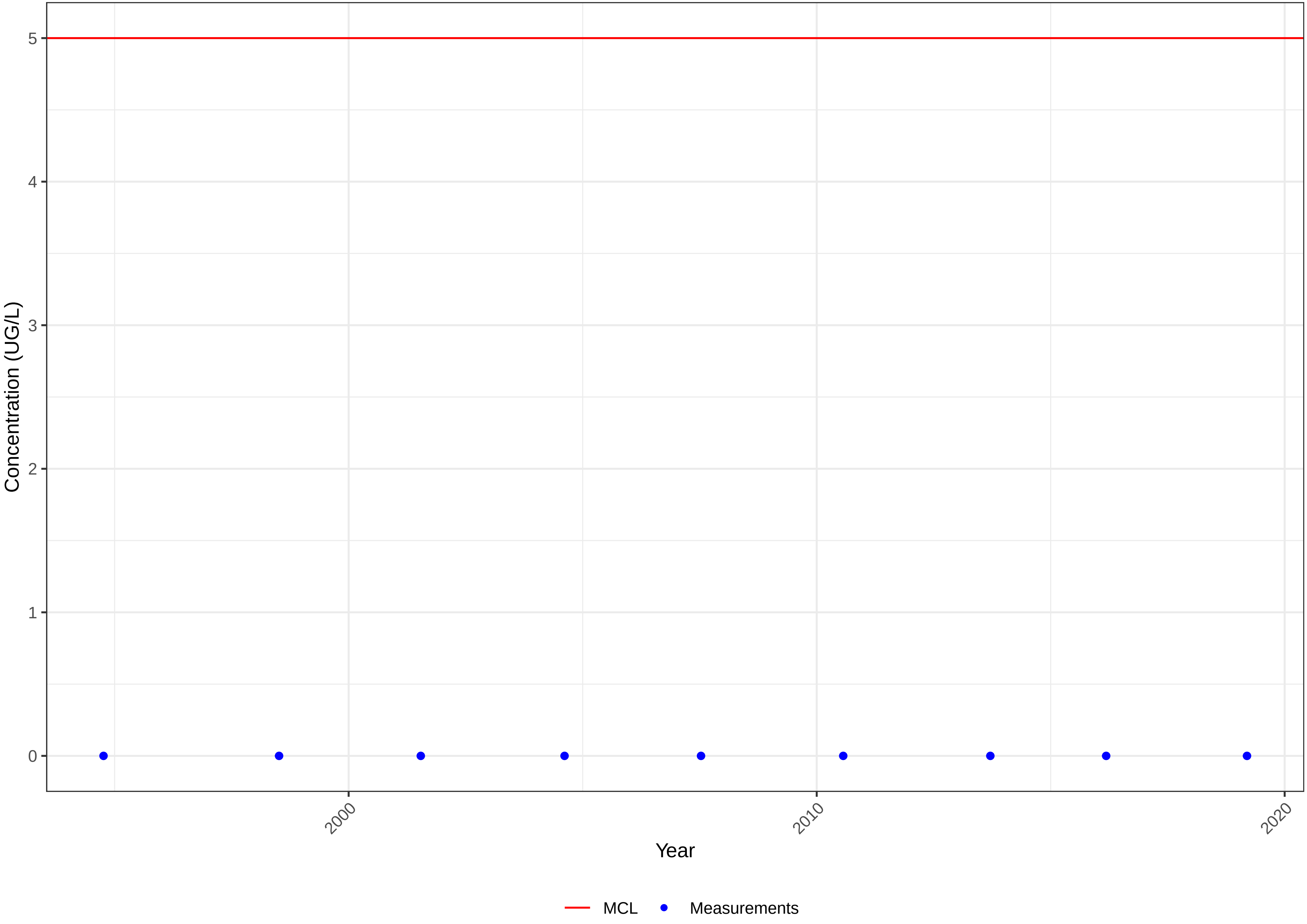
Well No. 1610003−031
STORET No. 1032
Constituent: CHROMIUM, HEXAVALENT

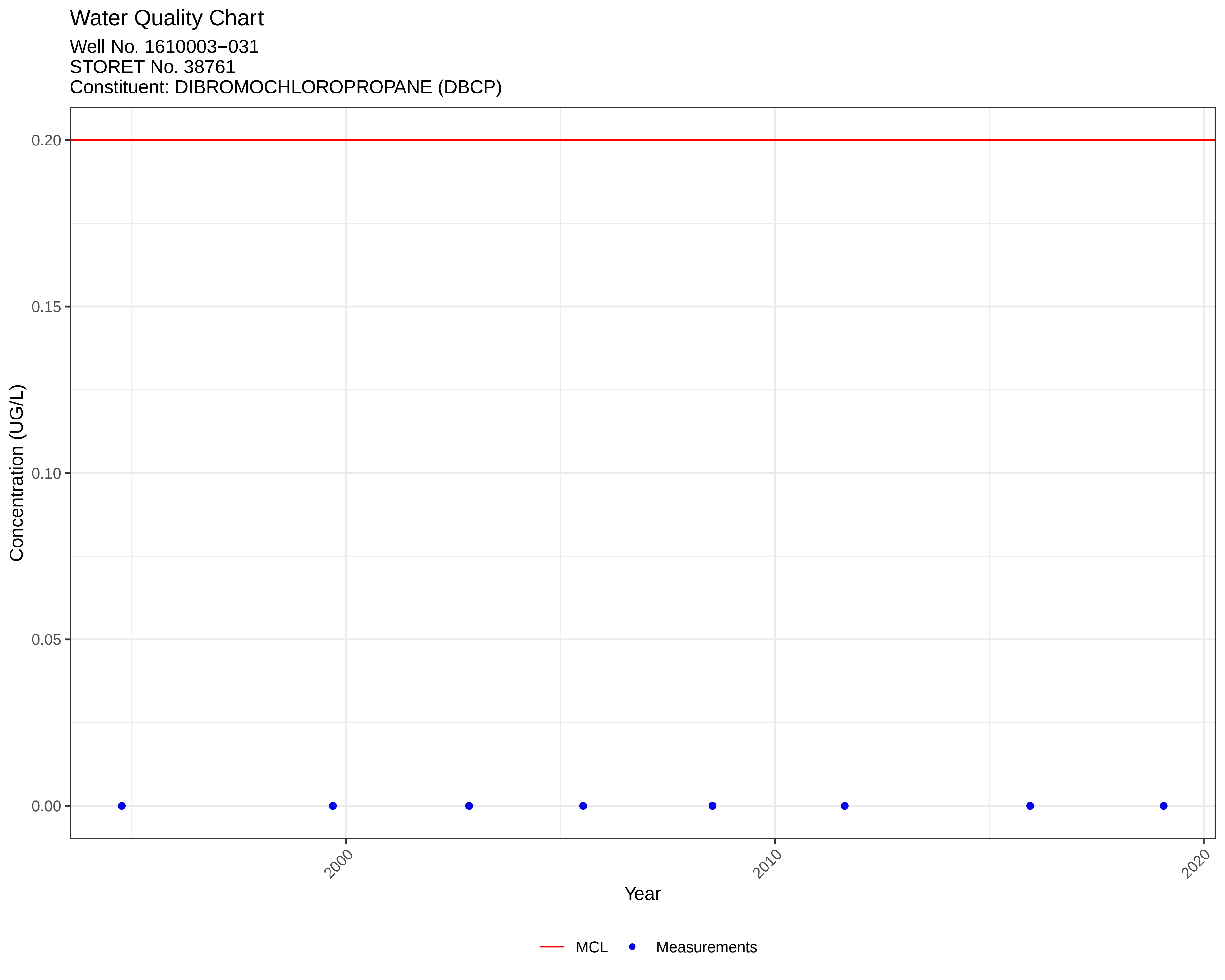


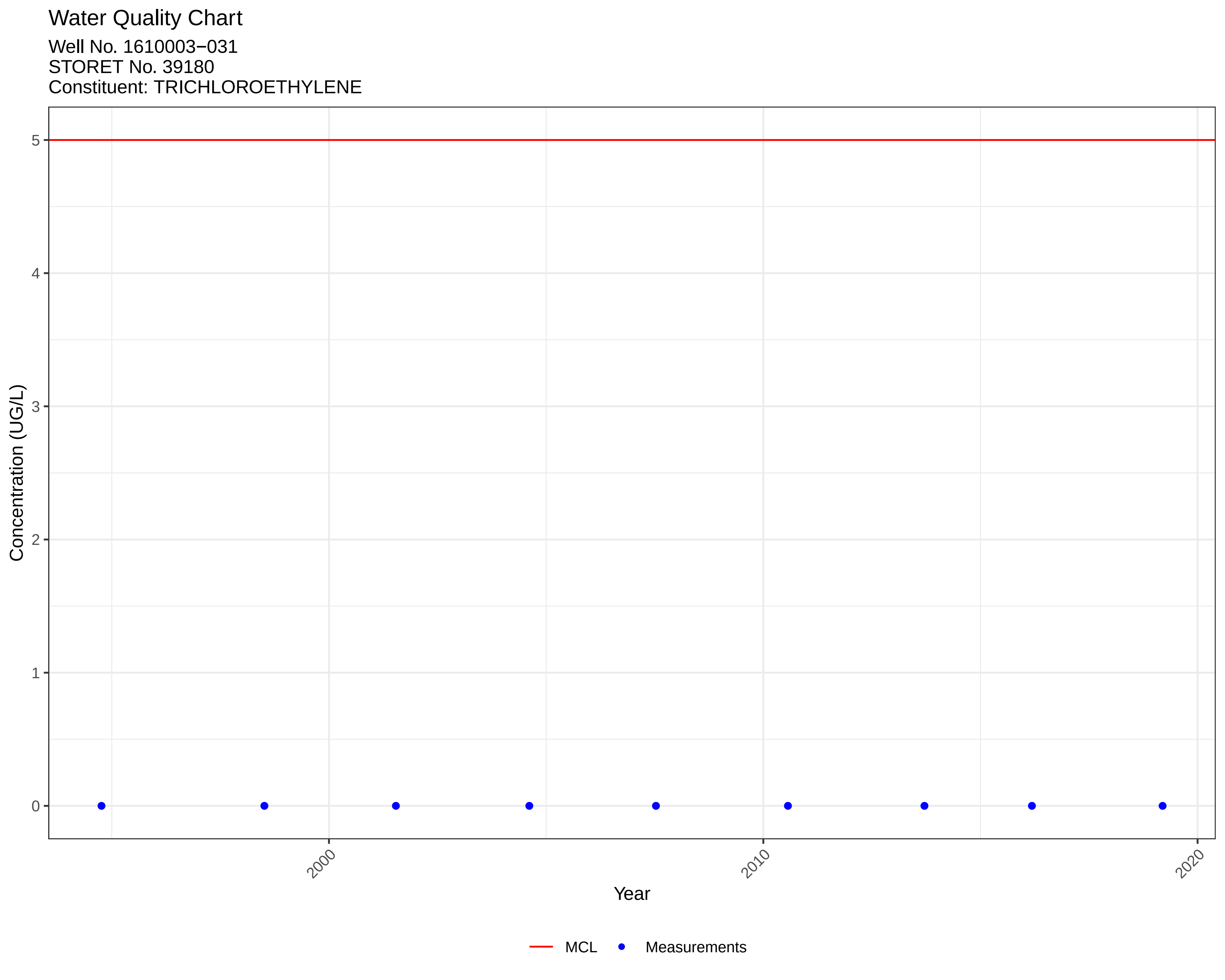

Water Quality Chart
Well No. 1610003−031
STORET No. 7744X
Constituent: 1,2,3−TRICHLOROPROPANE
Concentration (UG/L)
0.0
0.1
0.2
0.3
0.4
0.5
1995
2000
2005
2010
2015
Year
MCL
Measurements

Water Quality Chart

Well No. 1610003−031
STORET No. 34475
Constituent: TETRACHLOROETHYLENE



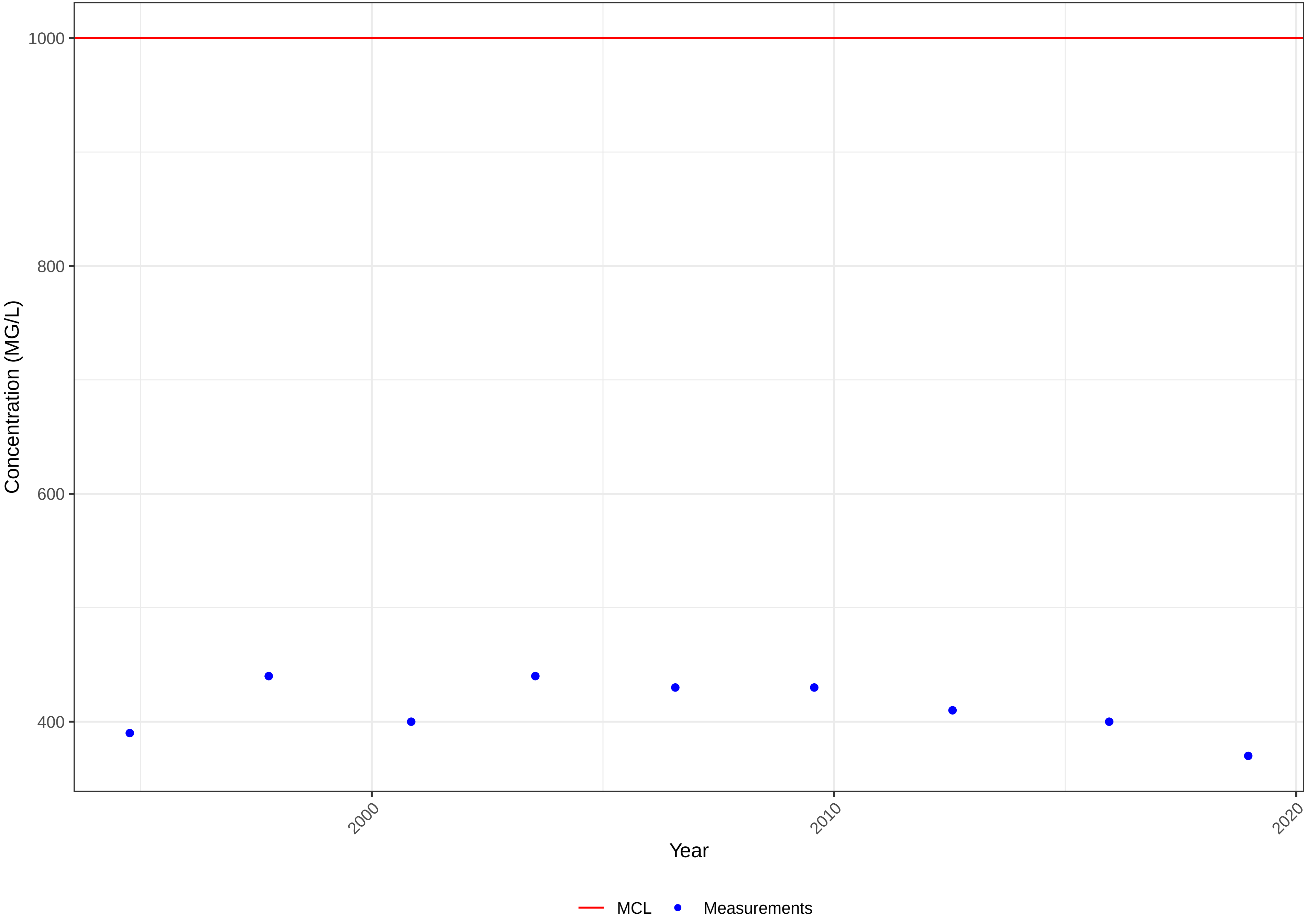

Water Quality Chart
Well No. 1610003−031
STORET No. 38761
Constituent: DIBROMOCHLOROPROPANE (DBCP)
Concentration (UG/L)
0.20
0.15
0.10
0.05
0.00
2000
2010
2020
Year
MCL
Measurements



Water Quality Chart
Well No. 1610003−031
STORET No. 39180
Constituent: TRICHLOROETHYLENE
Concentration (UG/L)
0
1
2
3
4
5
2000
2010
2020
Year
MCL
Measurements

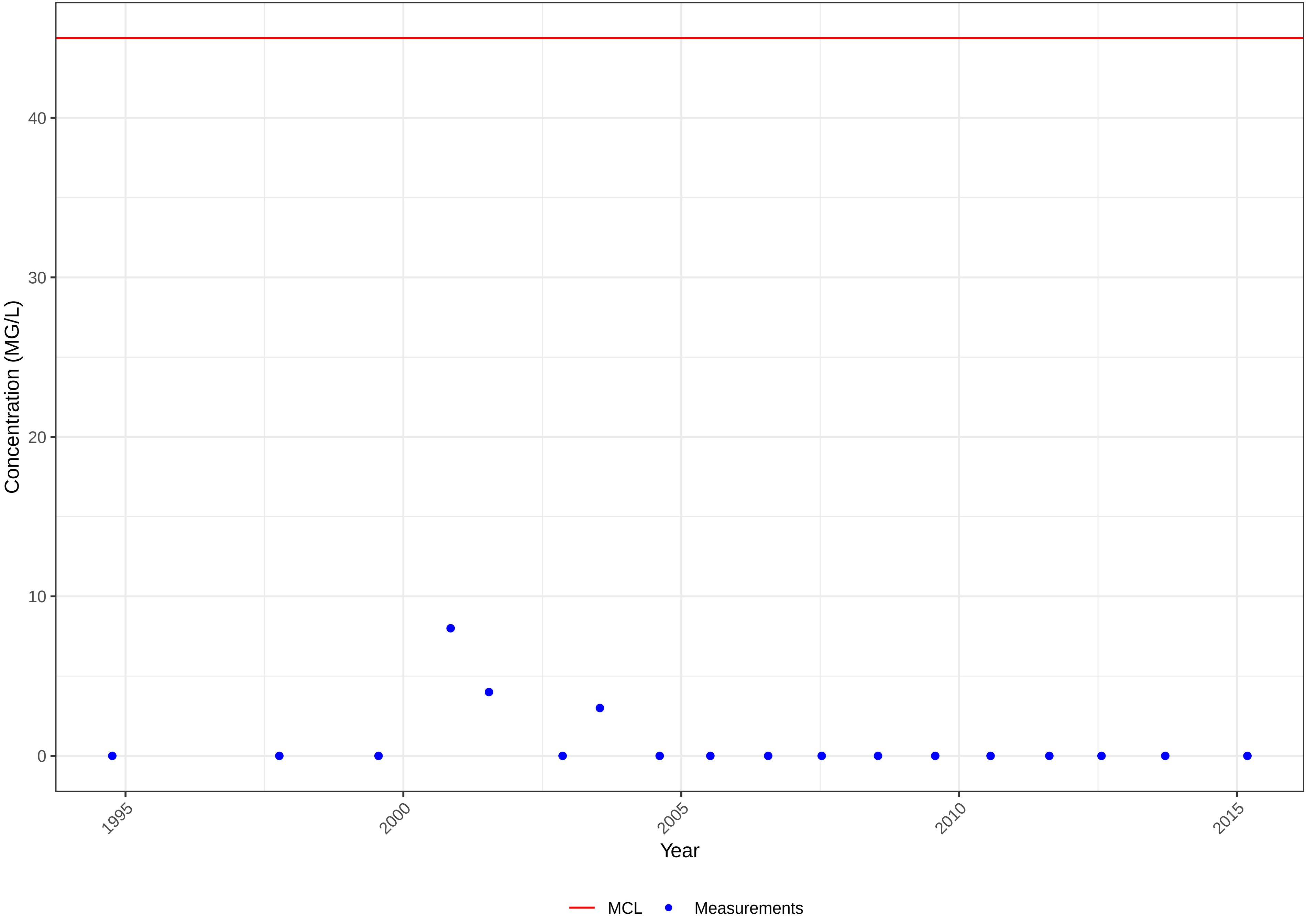
Water Quality Chart

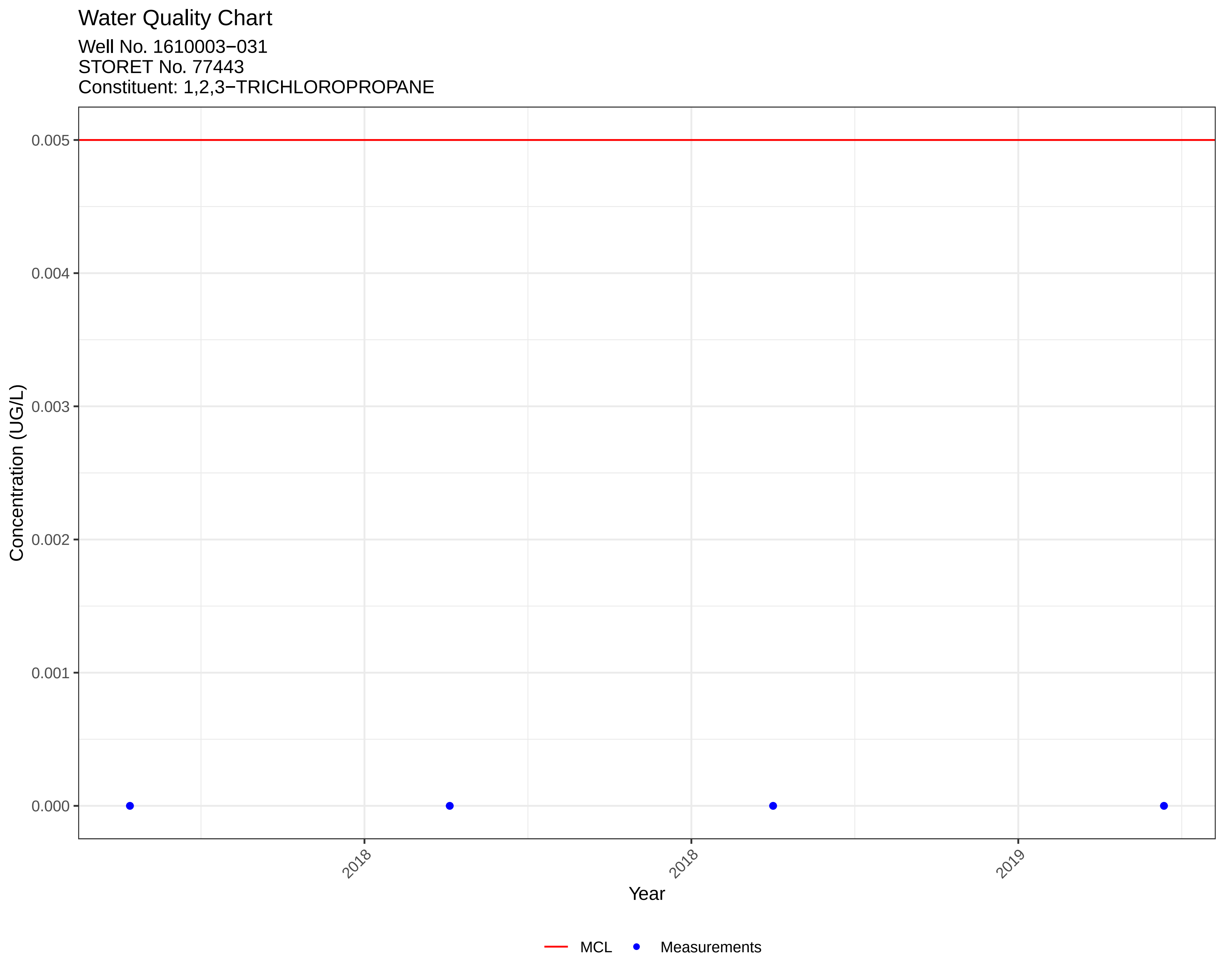
Well No. 1610003−031
STORET No. 70300
Constituent: TOTAL DISSOLVED SOLIDS



Water Quality Chart

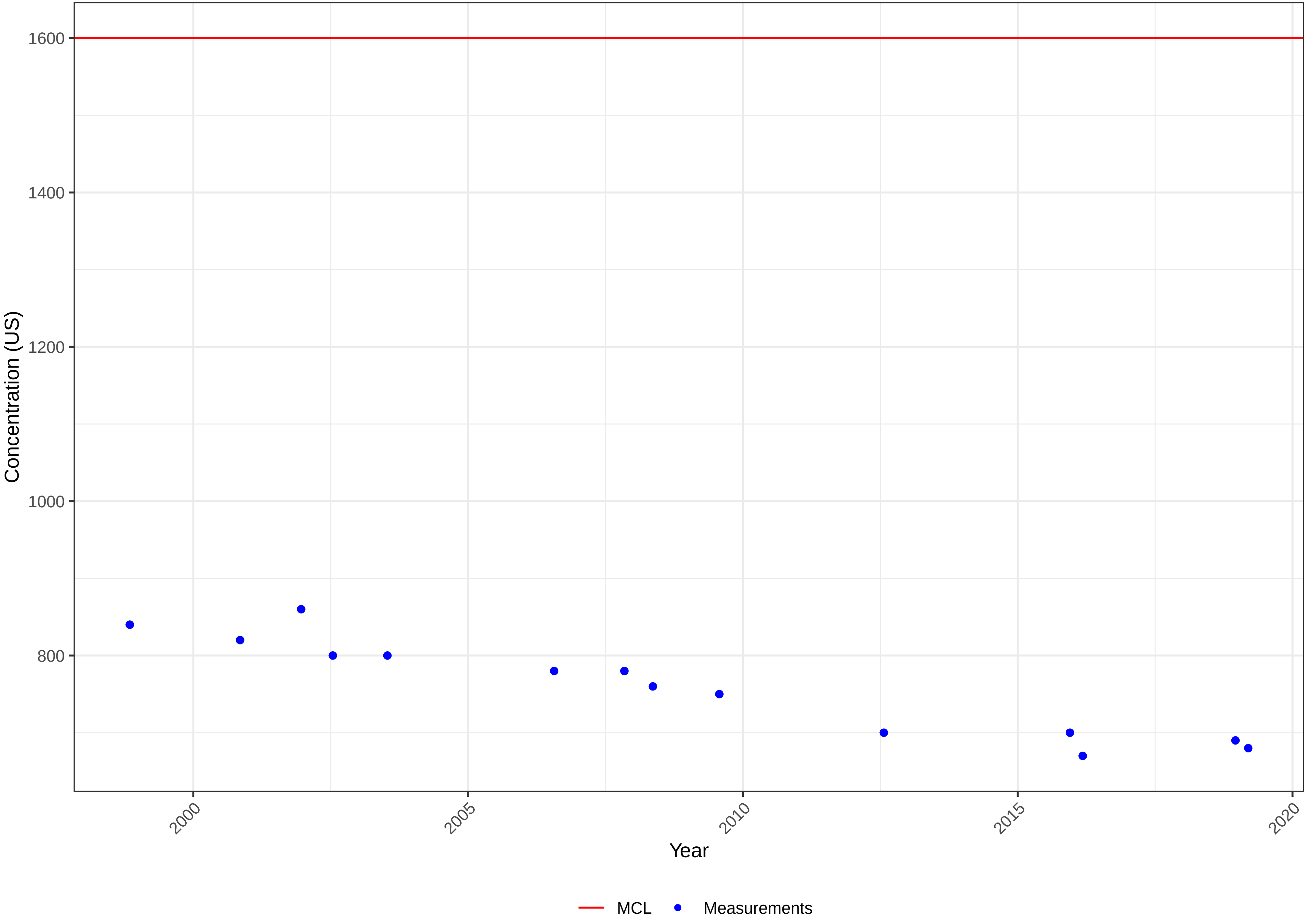
Well No. 1610003−031
STORET No. 71850
Constituent: NITRATE (AS NO3)




Water Quality Chart
Well No. 1610003−031
STORET No. 77443
Constituent: 1,2,3−TRICHLOROPROPANE
0.005
0.004
0.003
0.002
0.001
0.000
Concentration (UG/L)
2018
2018
2019
Year
MCL
Measurements

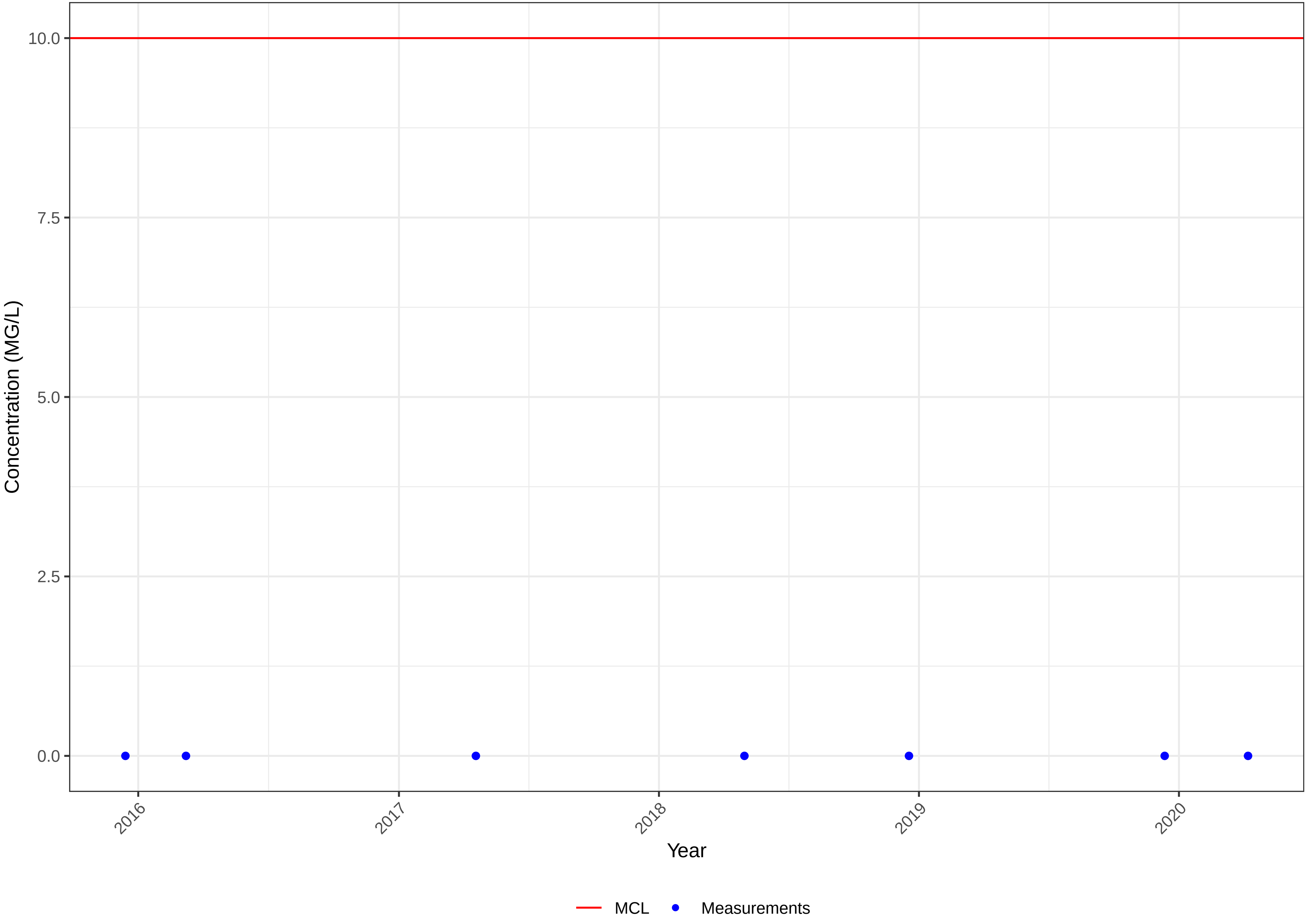
Water Quality Chart

Well No. 1610003−033
STORET No. 95
Constituent: SPECIFIC CONDUCTANCE



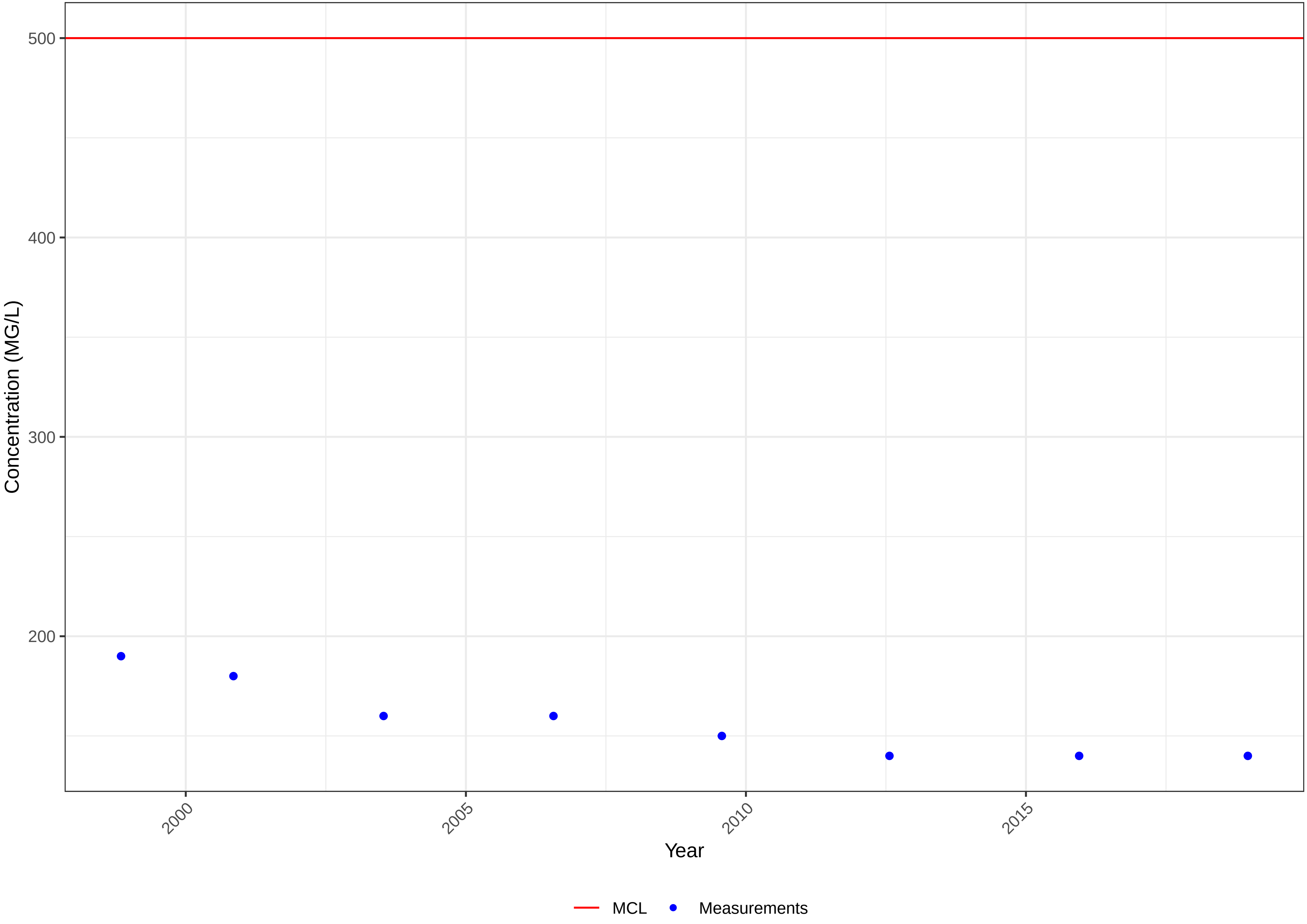
Water Quality Chart

Well No. 1610003−033
STORET No. 618
Constituent: NITRATE (AS N)



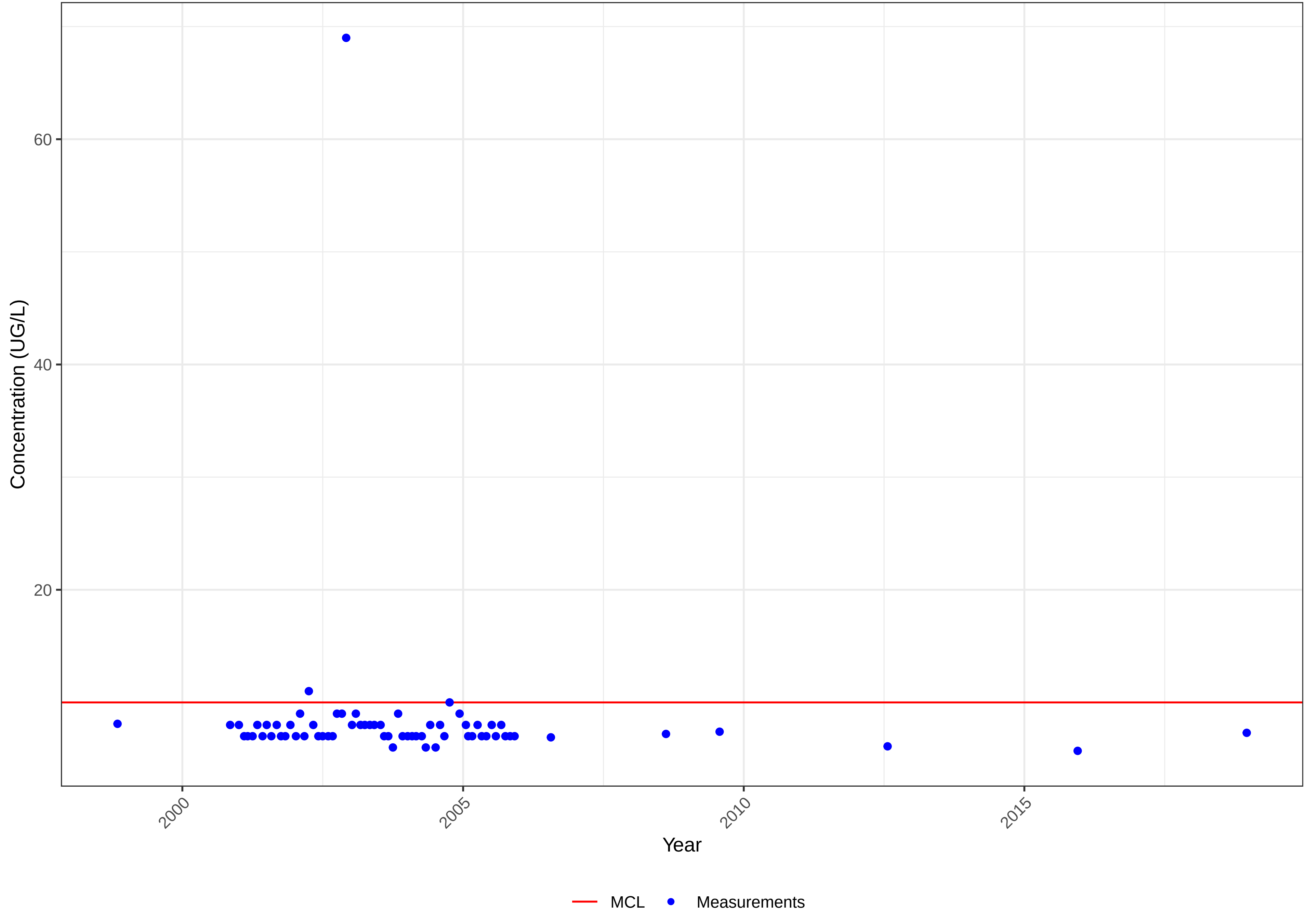
Water Quality Chart

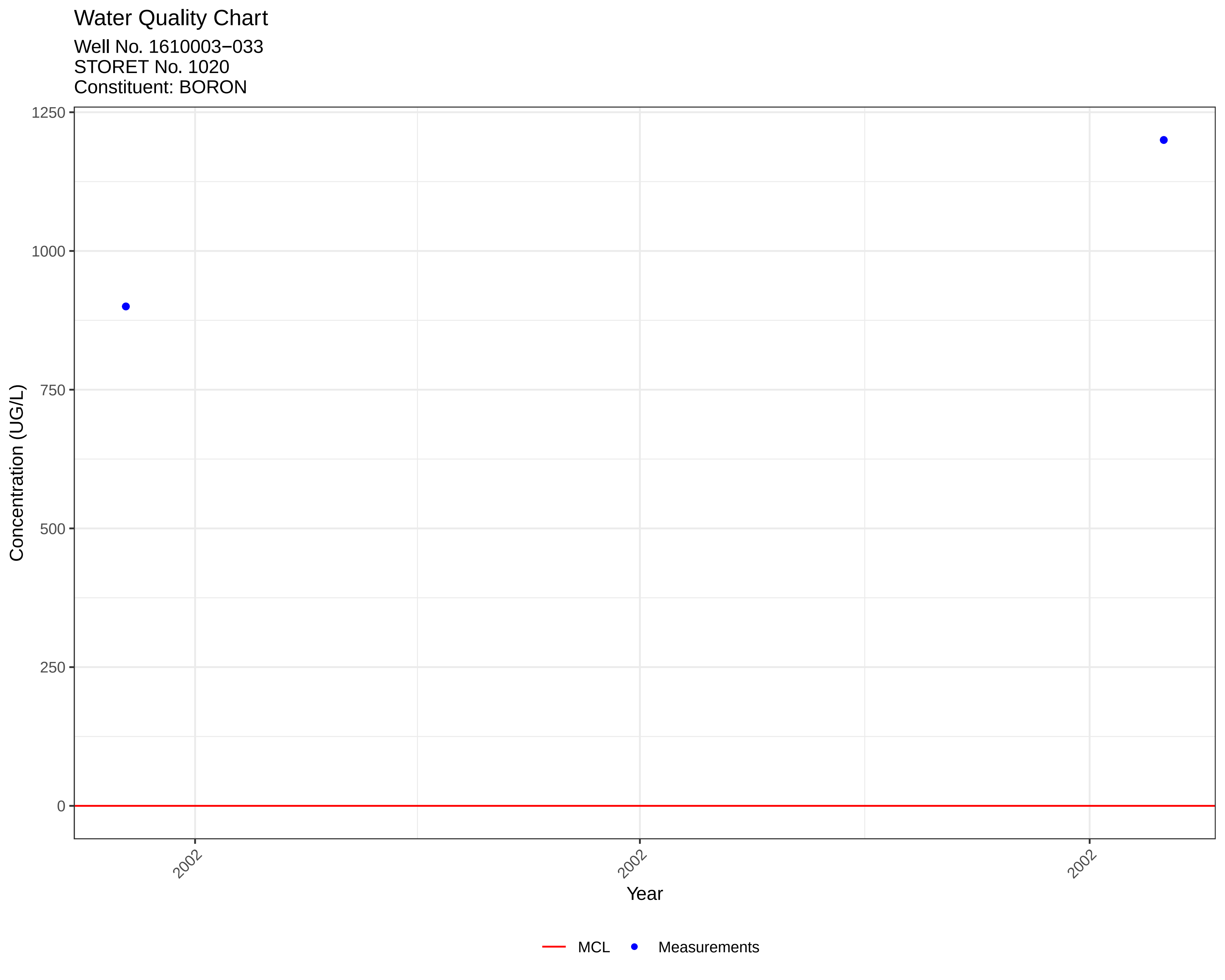
Well No. 1610003−033
STORET No. 940
Constituent: CHLORIDE



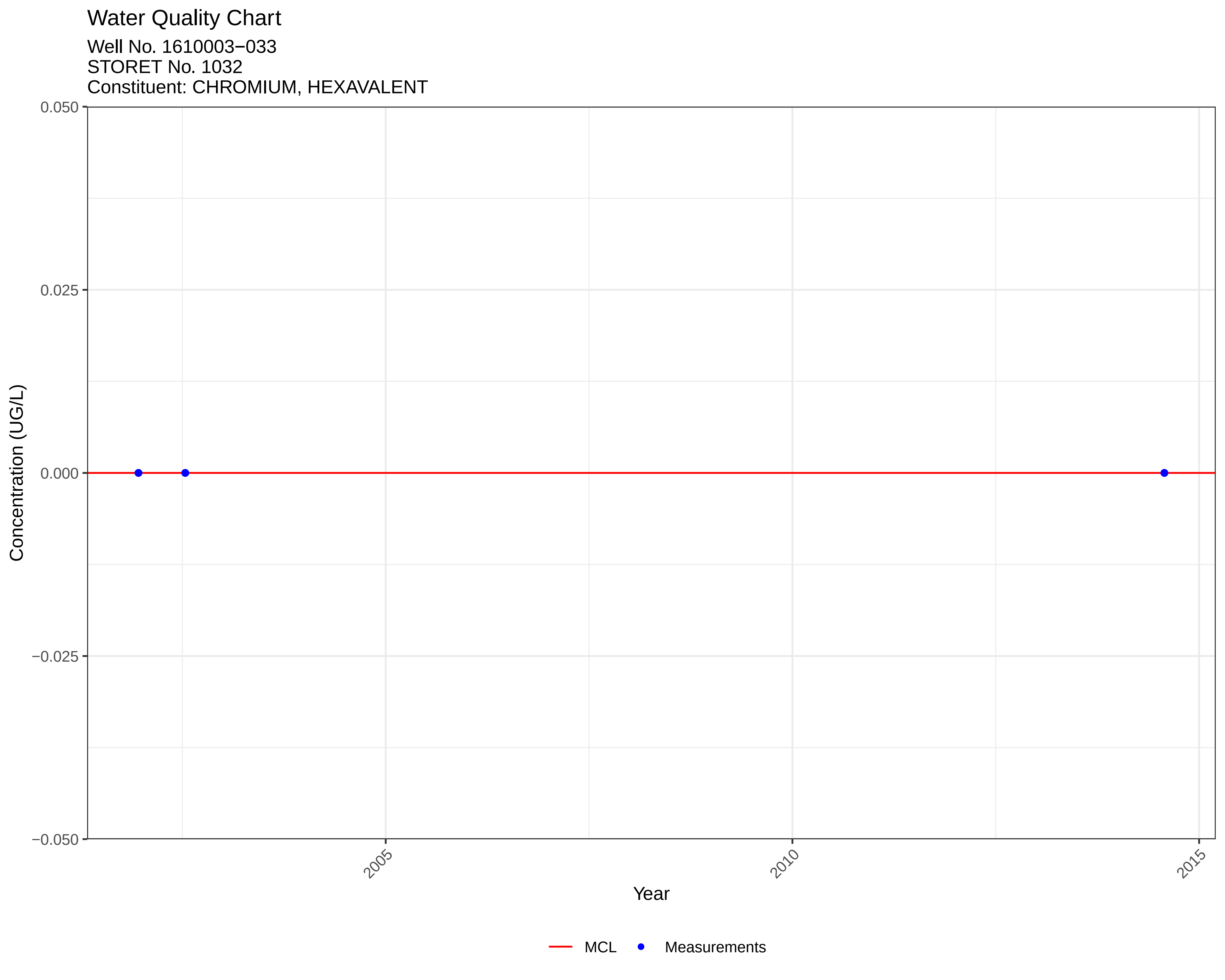
Water Quality Chart

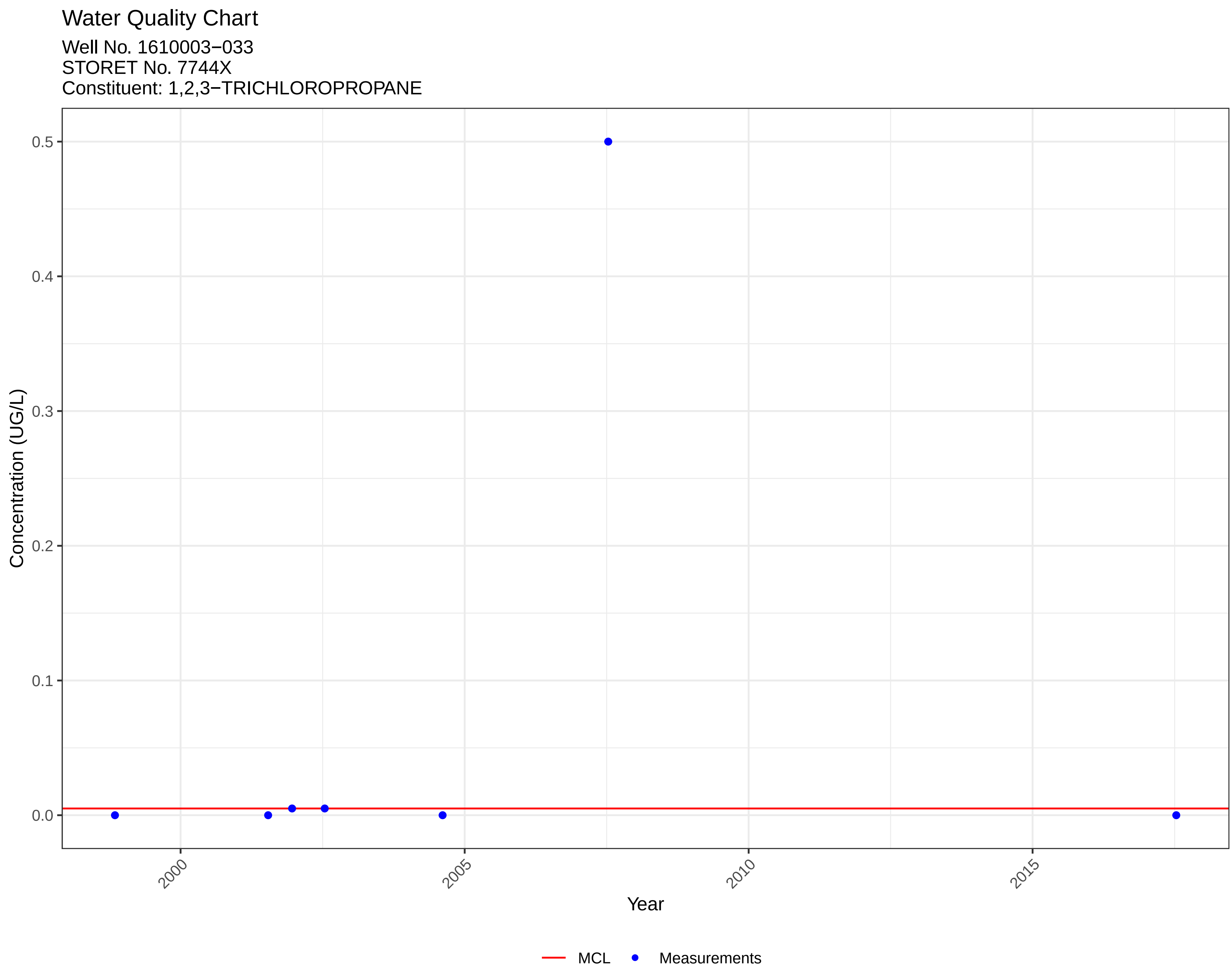
Well No. 1610003−033
STORET No. 1002
Constituent: ARSENIC





Water Quality Chart
Well No. 1610003−033
STORET No. 1020
Constituent: BORON
Concentration (UG/L)
1250
1000
750
500
250
0
2002
2002
2002
Year
MCL
Measurements

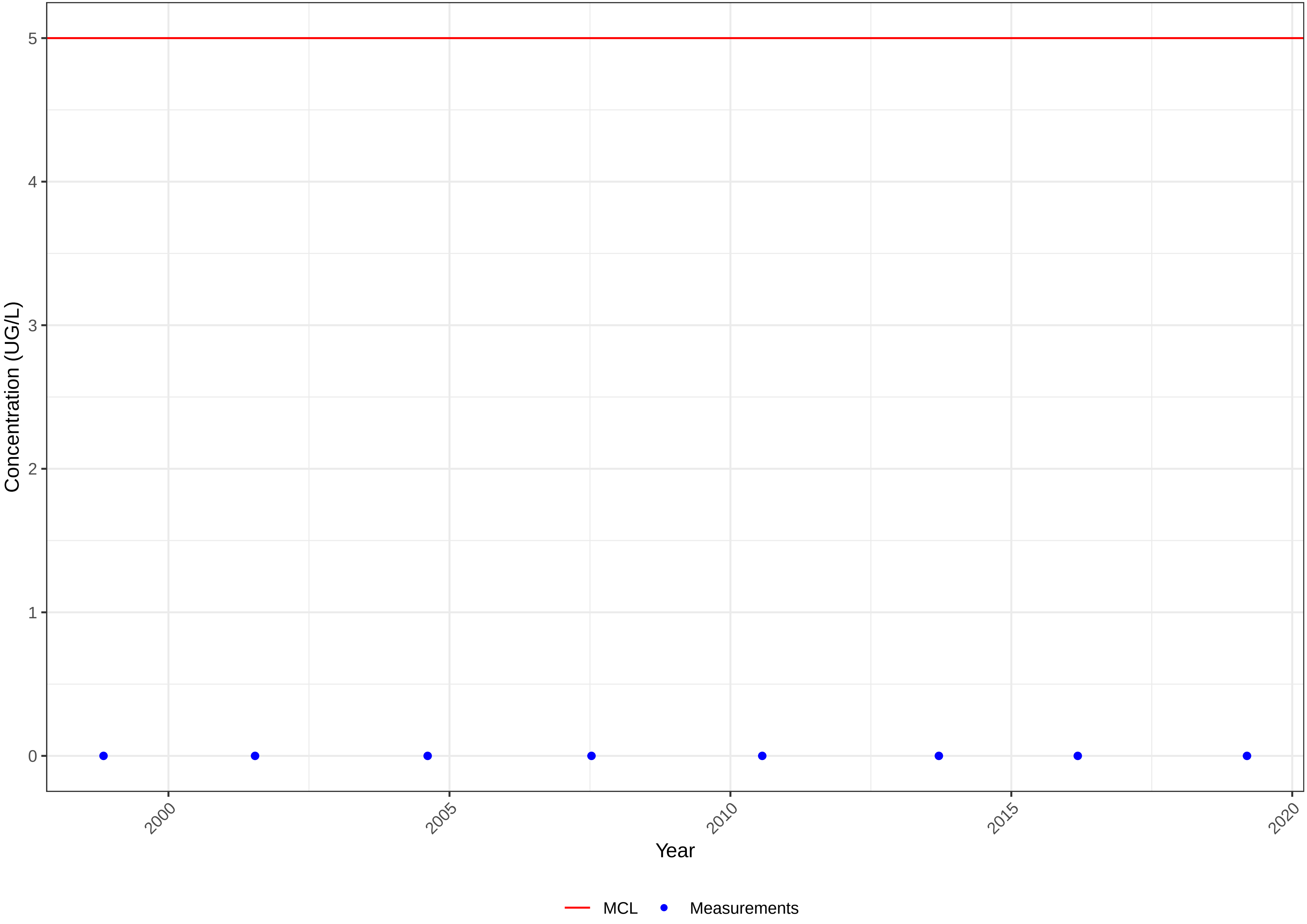

Water Quality Chart
Well No. 1610003−033
STORET No. 1032
Constituent: CHROMIUM, HEXAVALENT
0.050
0.025
0.000
−0.025
−0.050
Concentration (UG/L)
2005
2010
2015
Year
MCL
Measurements



Water Quality Chart
Well No. 1610003−033
STORET No. 7744X
Constituent: 1,2,3−TRICHLOROPROPANE
Concentration (UG/L)
0.0
0.1
0.2
0.3
0.4
0.5
2000
2005
2010
2015
Year
MCL
Measurements

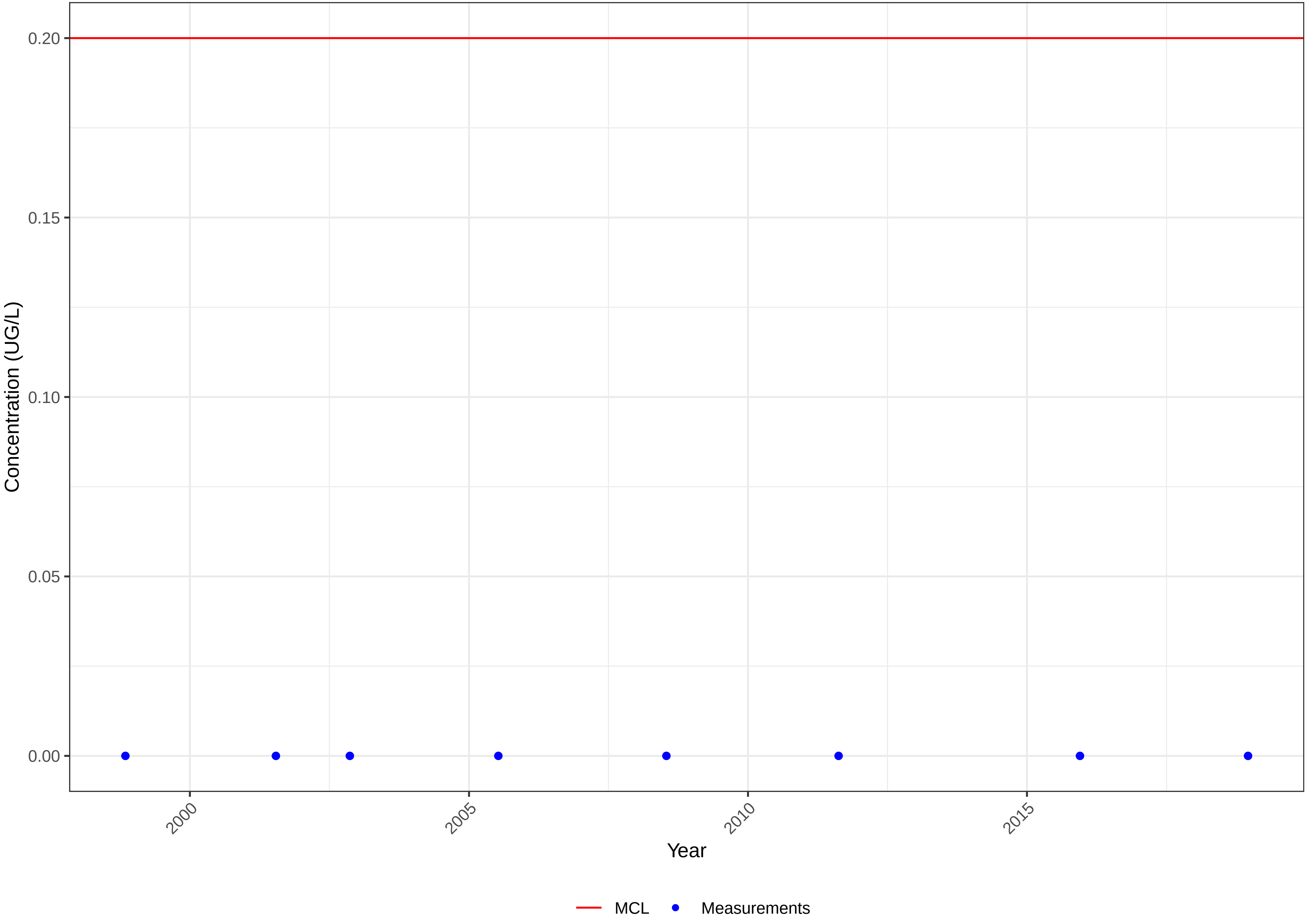
Water Quality Chart

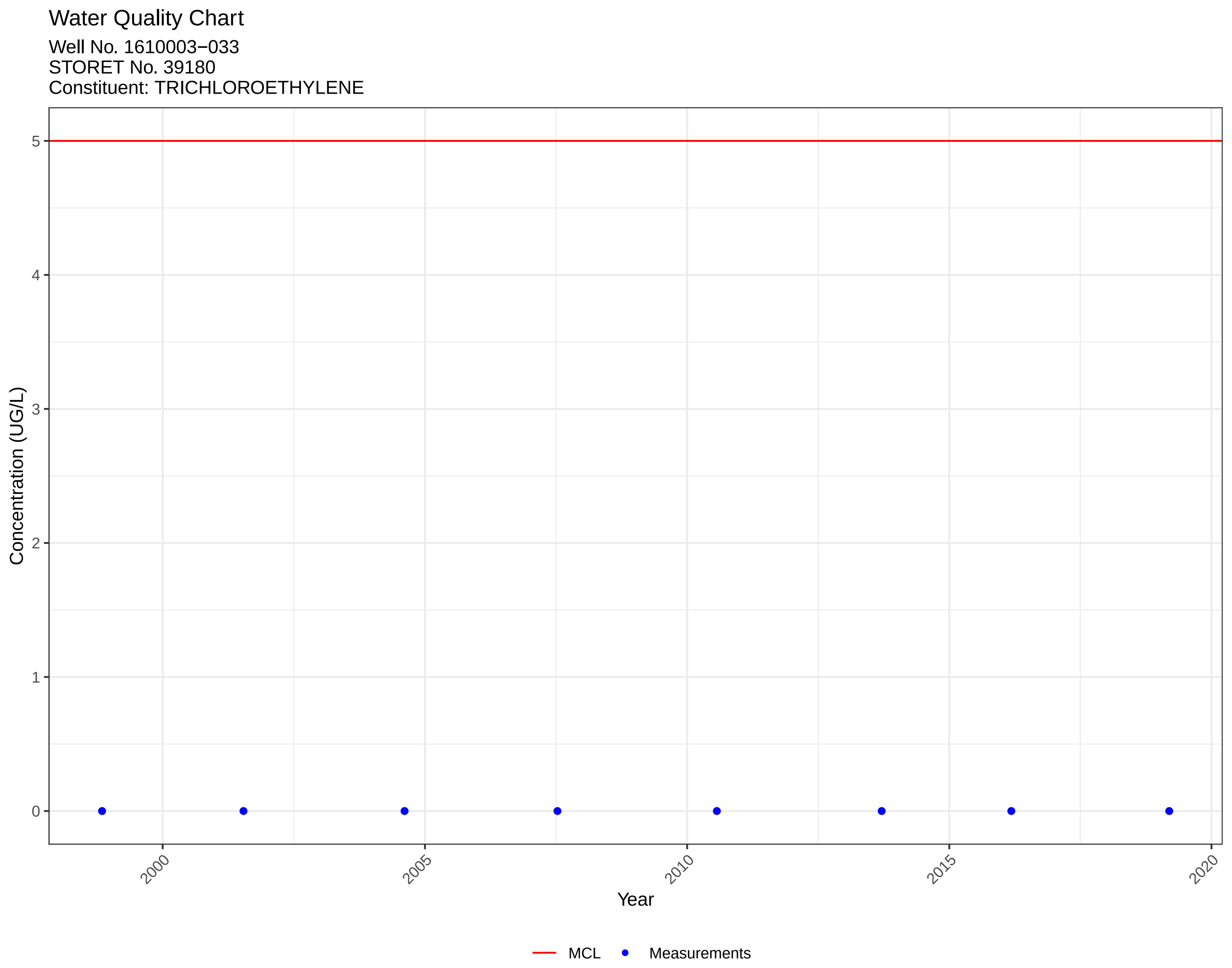
Well No. 1610003−033
STORET No. 34475
Constituent: TETRACHLOROETHYLENE



Water Quality Chart

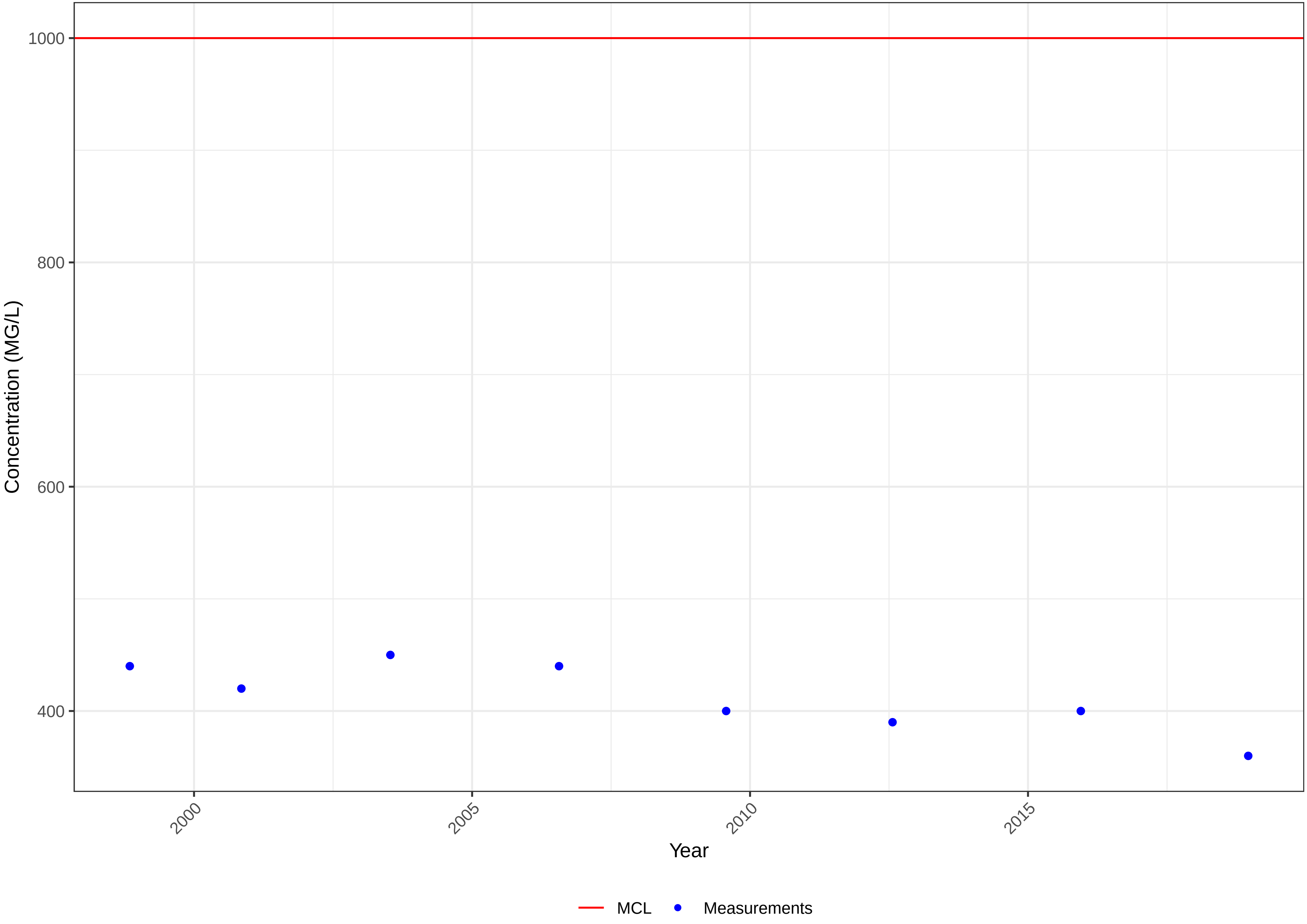
Well No. 1610003−033
STORET No. 38761
Constituent: DIBROMOCHLOROPROPANE (DBCP)




Water Quality Chart
Well No. 1610003−033
STORET No. 39180
Constituent: TRICHLOROETHYLENE
Concentration (UG/L)
0
1
2
3
4
5
2000
2005
2010
2015
2020
Year
MCL
Measurements

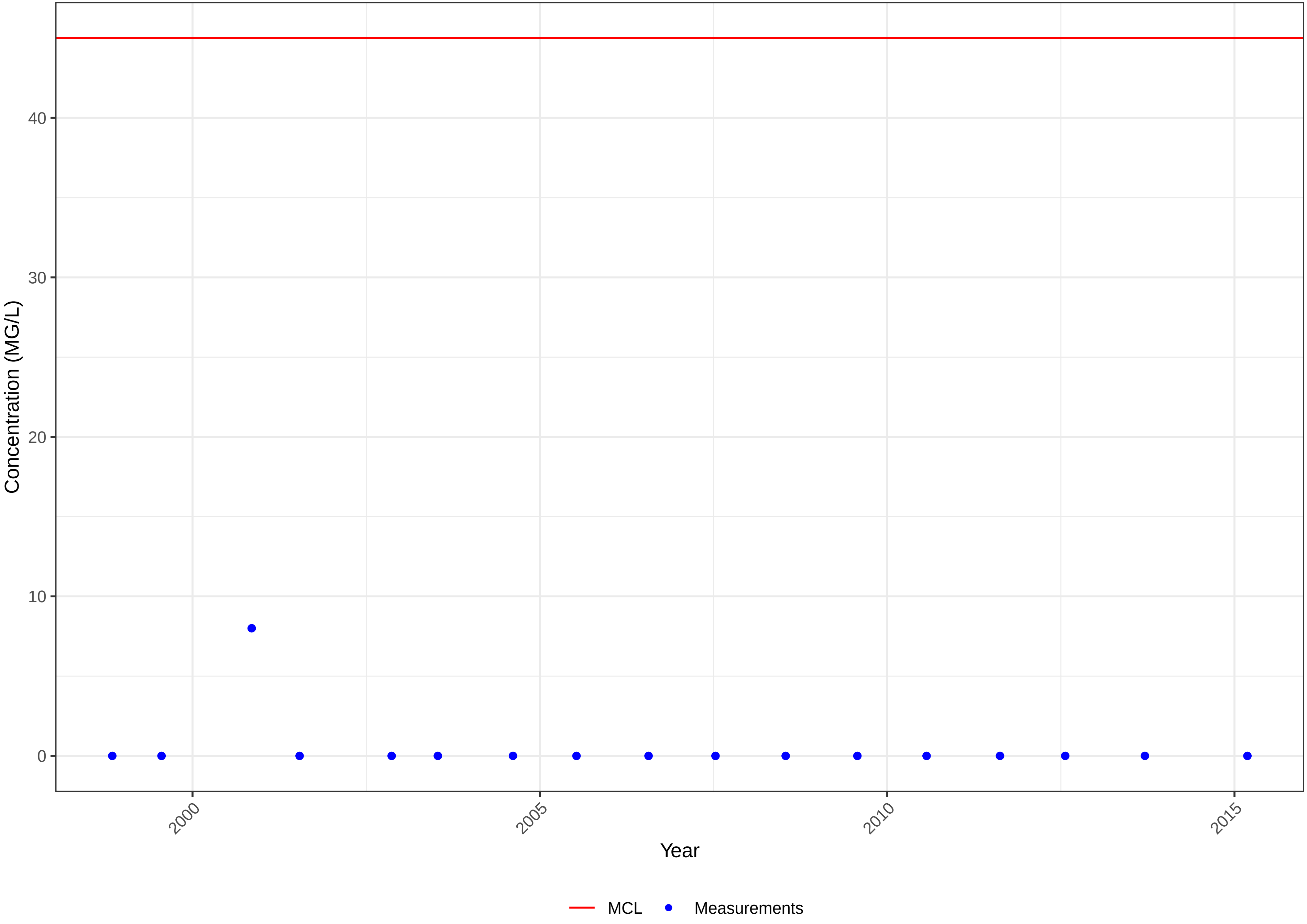
Water Quality Chart

Well No. 1610003−033
STORET No. 70300
Constituent: TOTAL DISSOLVED SOLIDS



Water Quality Chart

Well No. 1610003−033
STORET No. 71850
Constituent: NITRATE (AS NO3)

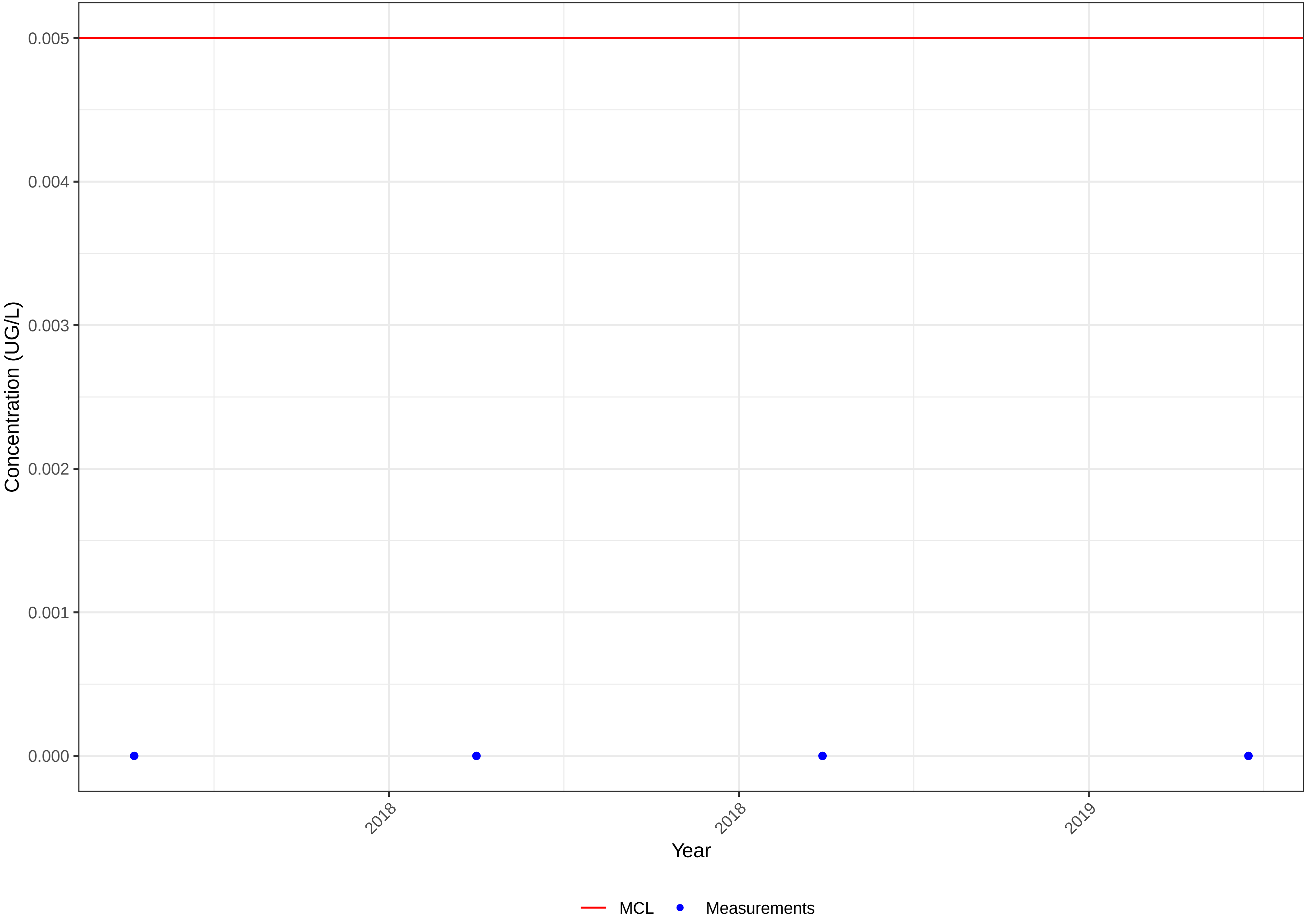


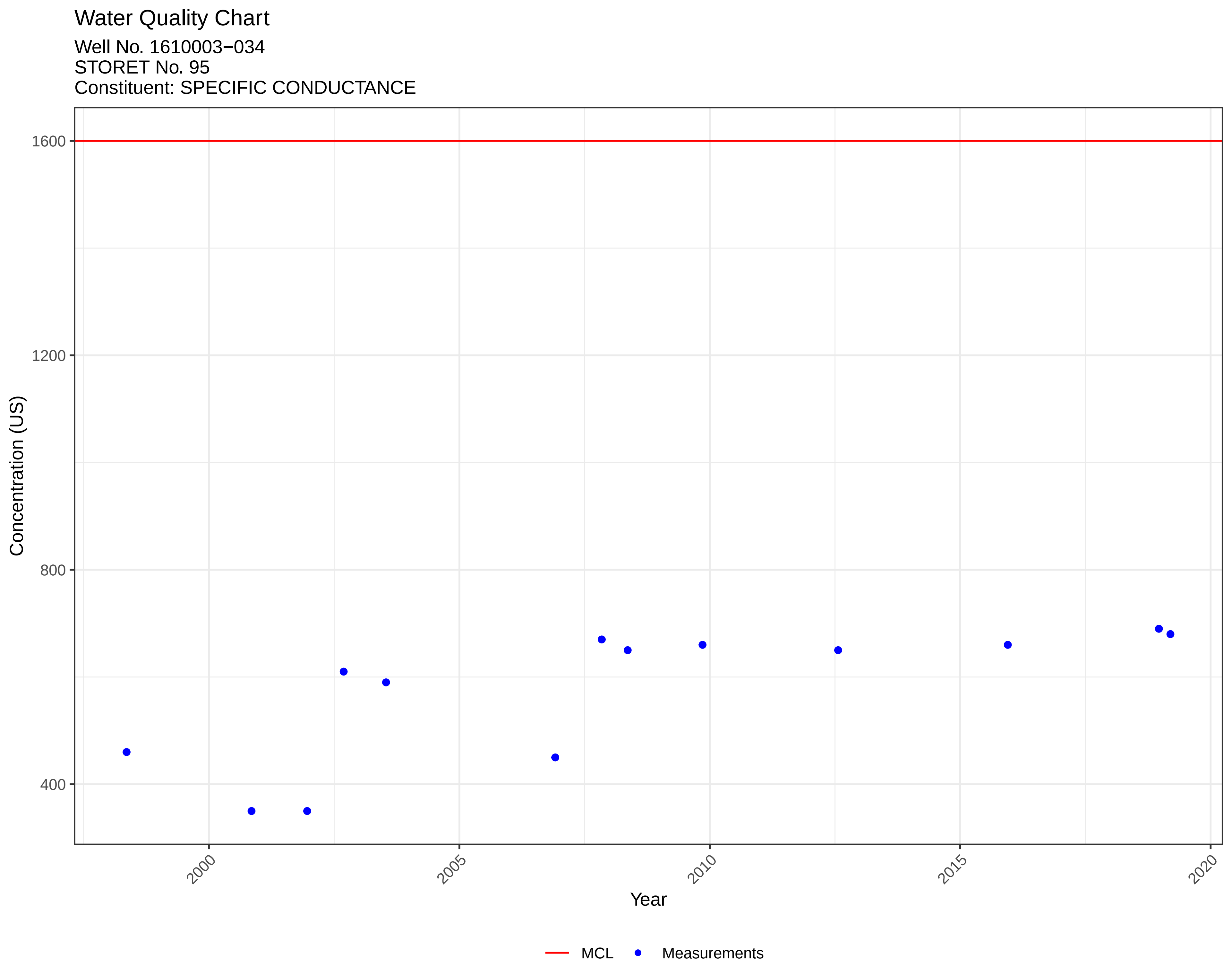
Water Quality Chart

Well No. 1610003−033

STORET No. 77443

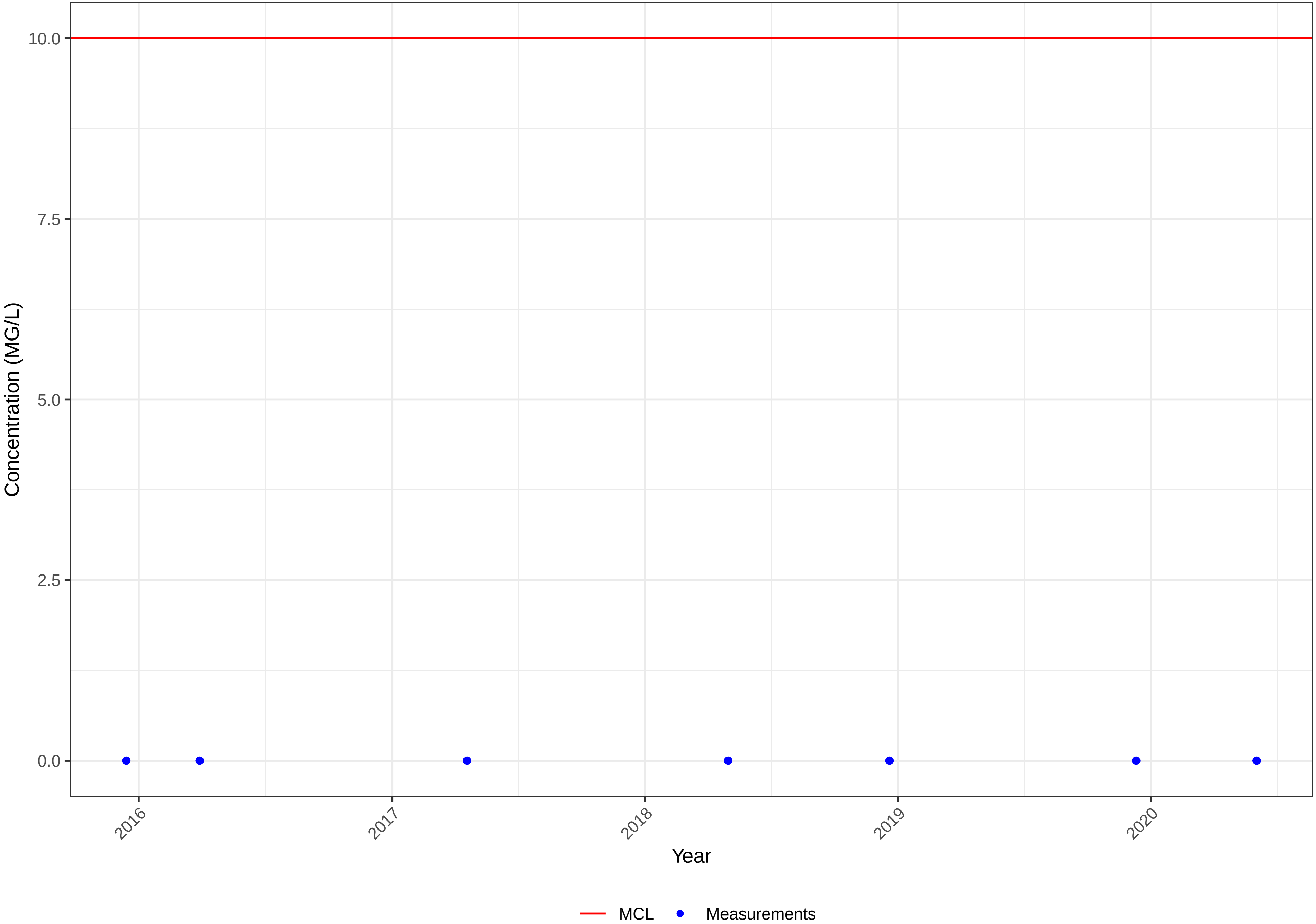
Constituent: 1,2,3−TRICHLOROPROPANE

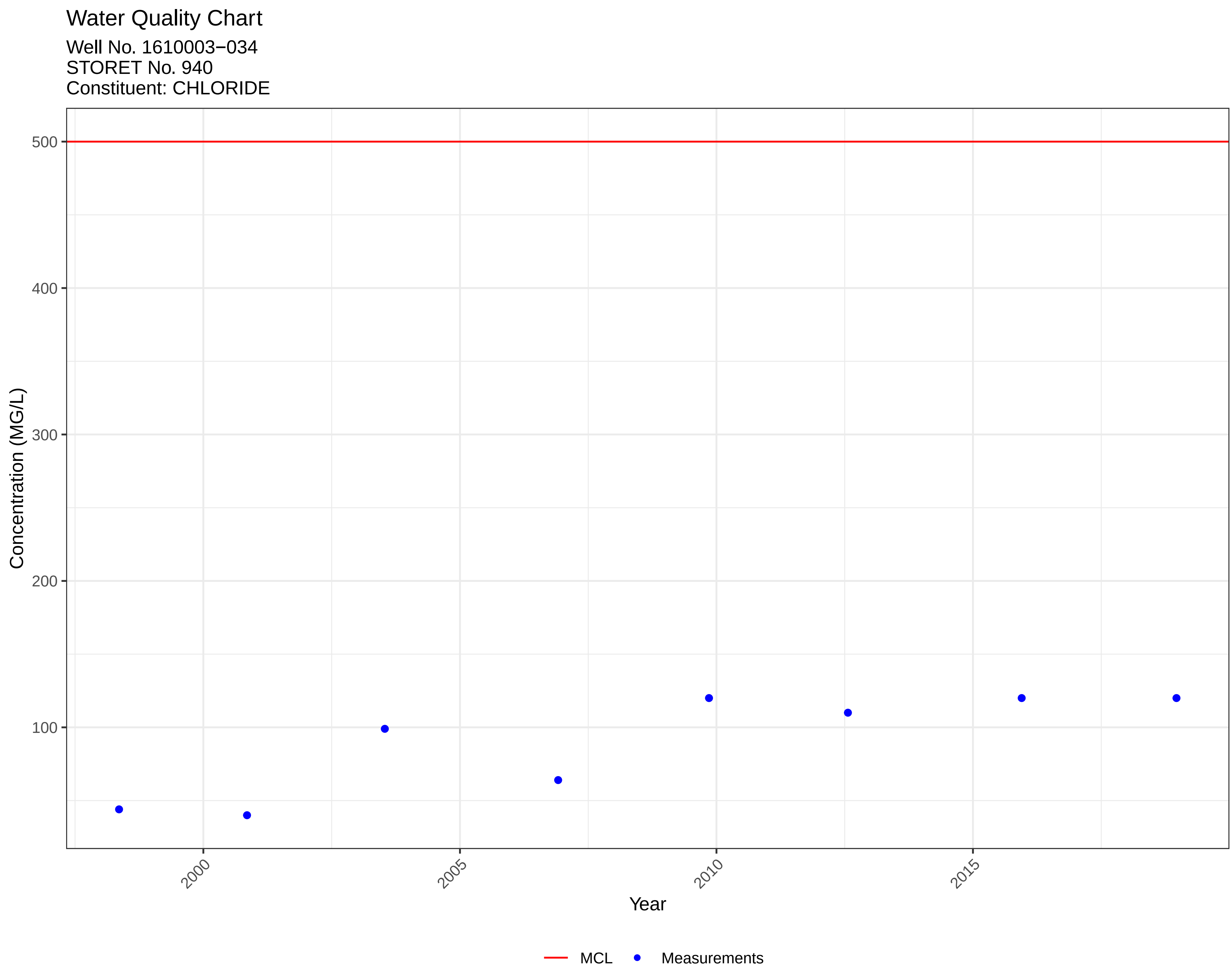



Water Quality Chart
Well No. 1610003−034
STORET No. 95
Constituent: SPECIFIC CONDUCTANCE
1600
1200
800
400
Concentration (US)
2000
2005
2010
2015
2020
Year
MCL
Measurements

Water Quality Chart

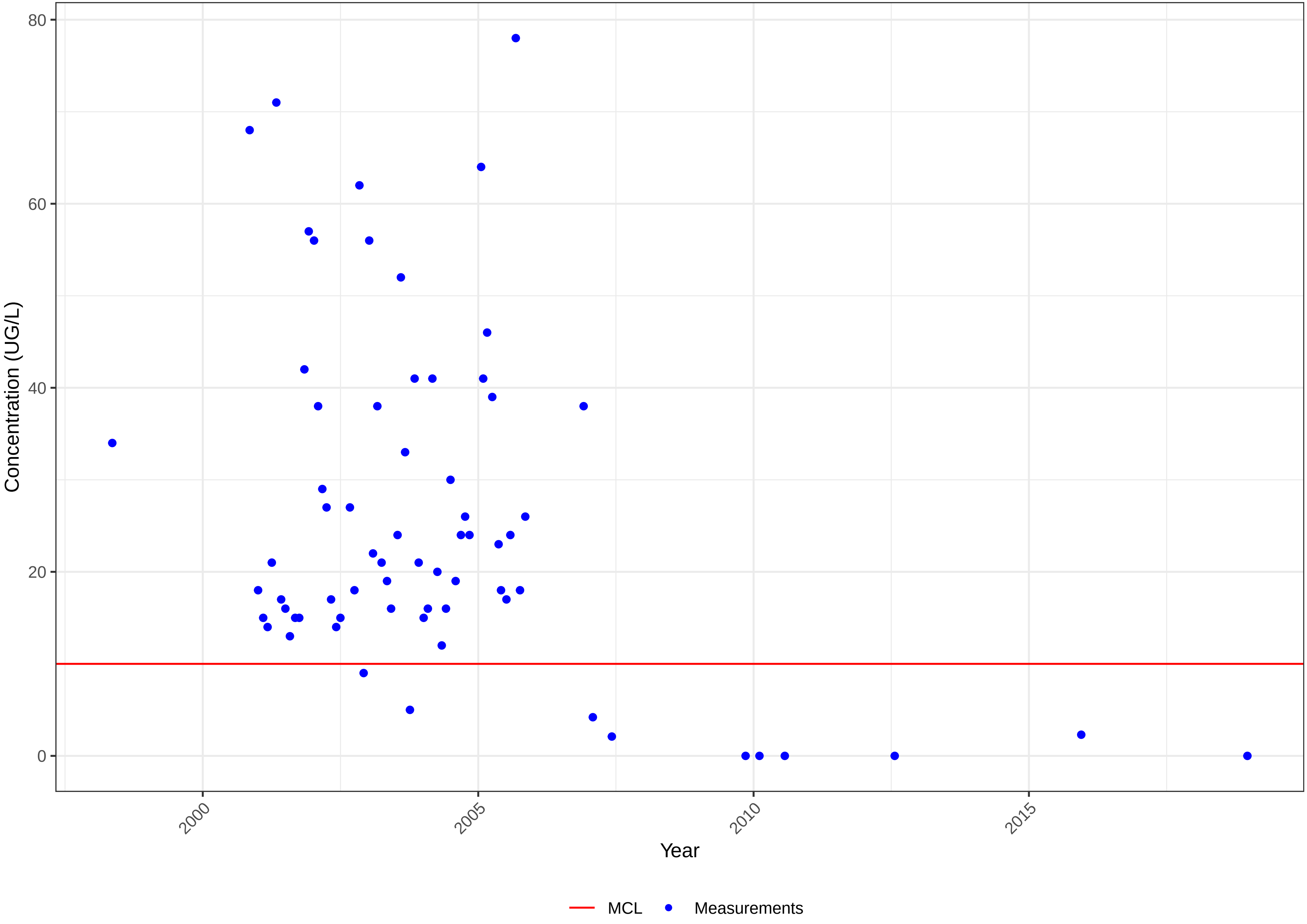
Well No. 1610003−034
STORET No. 618
Constituent: NITRATE (AS N)




Water Quality Chart
Well No. 1610003−034
STORET No. 940
Constituent: CHLORIDE
Concentration (MG/L)
500
400
300
200
100
2000
2005
2010
2015
Year
MCL
Measurements

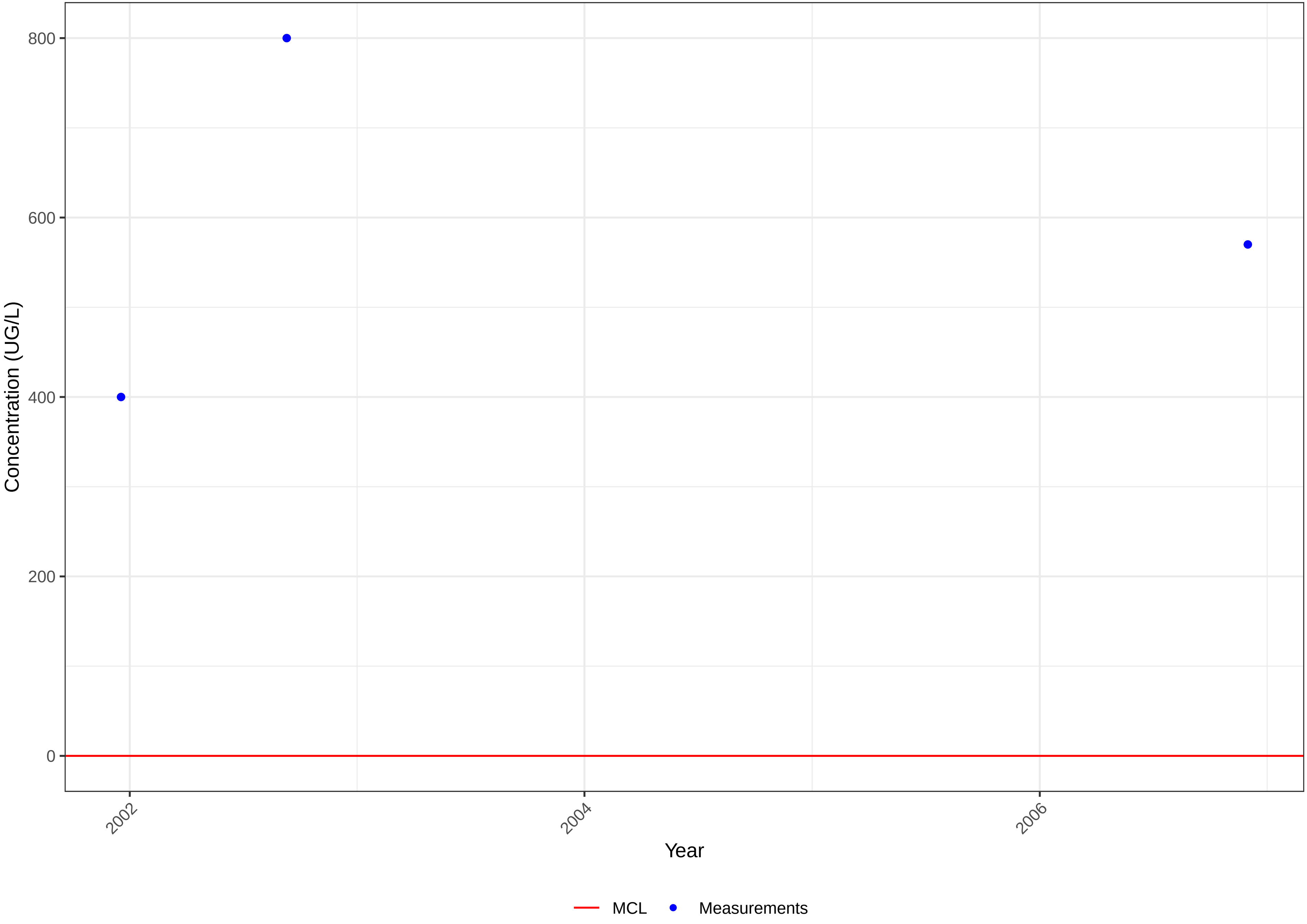
Water Quality Chart

Well No. 1610003−034
STORET No. 1002
Constituent: ARSENIC



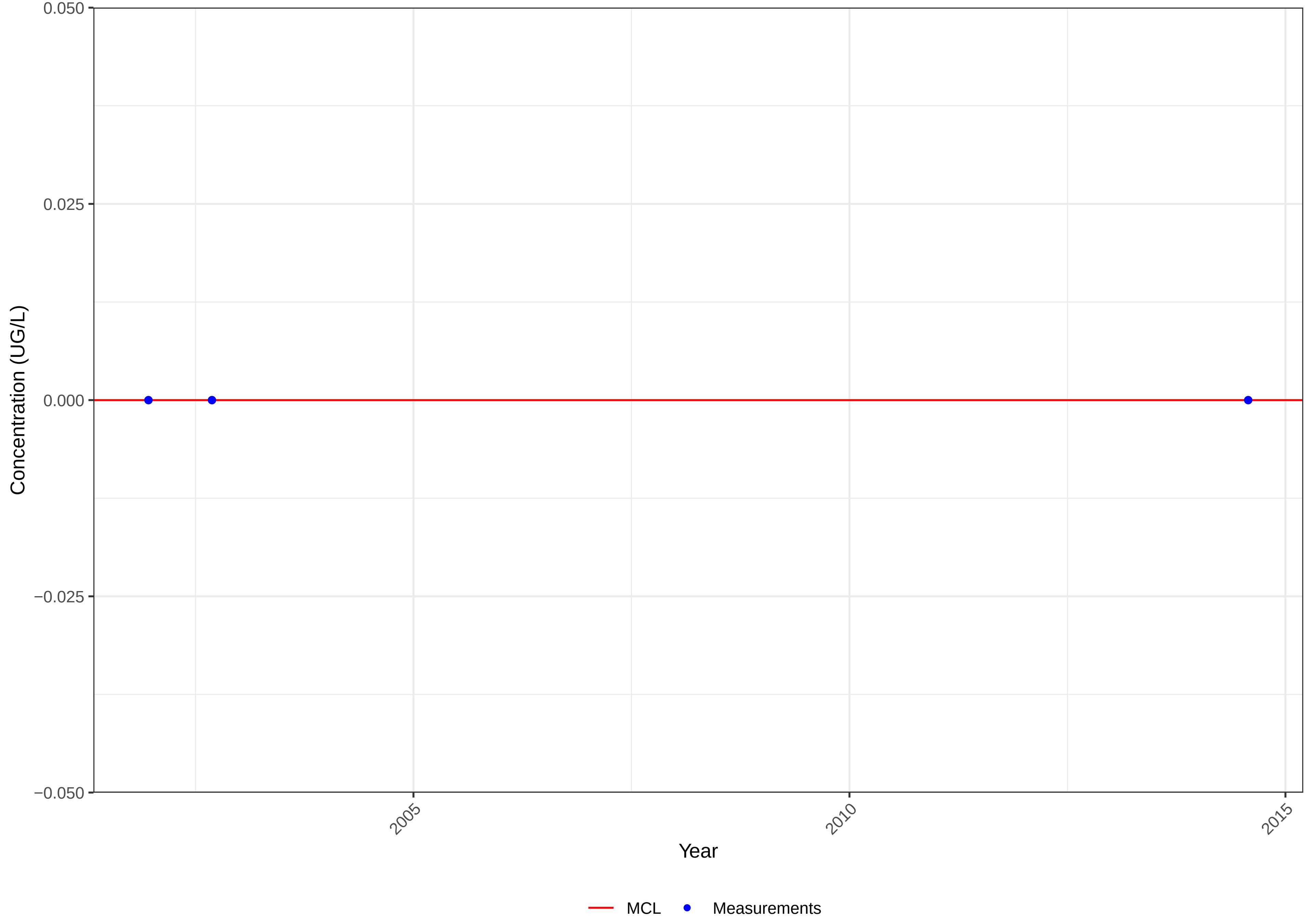
Water Quality Chart

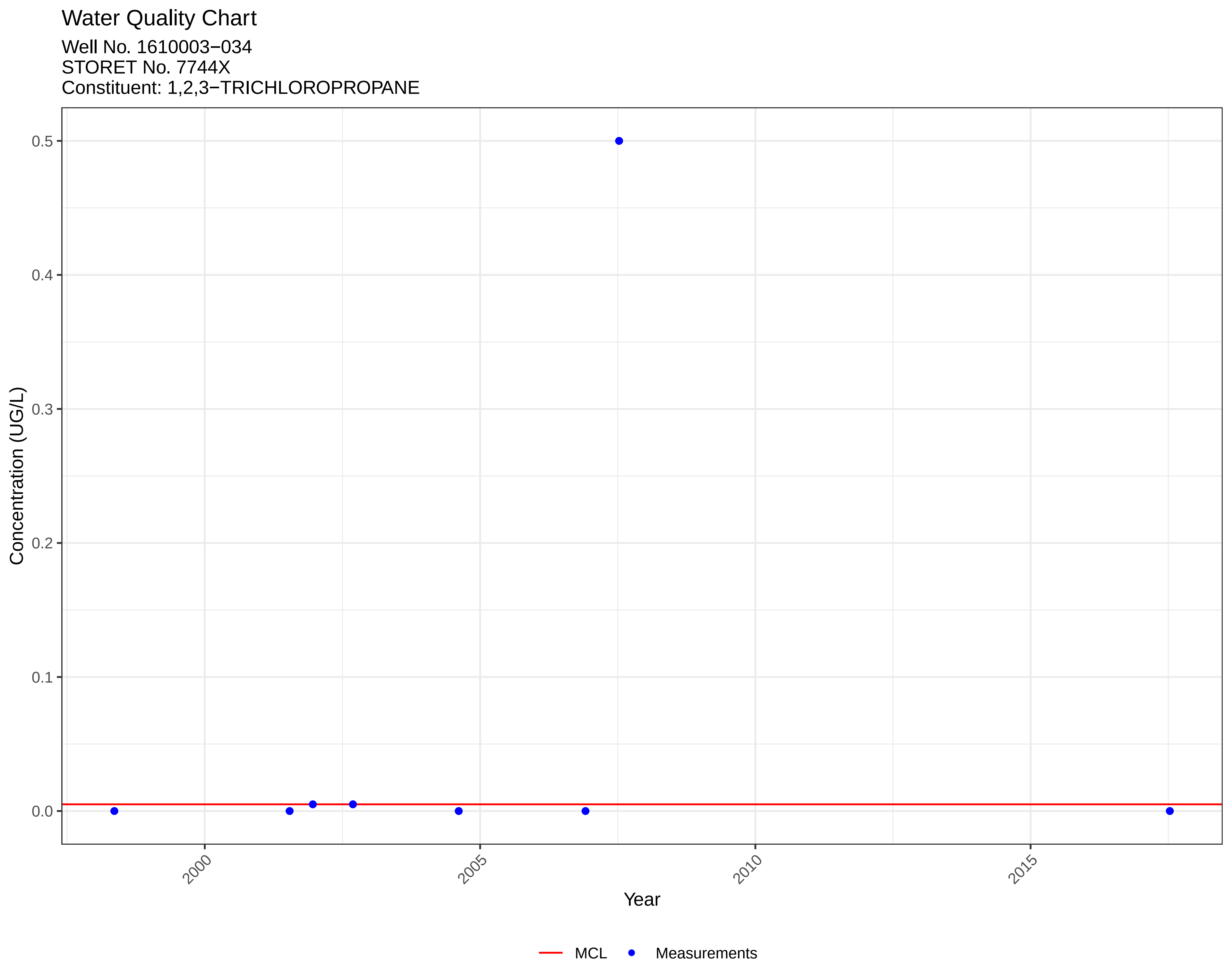
Well No. 1610003−034
STORET No. 1020
Constituent: BORON



Water Quality Chart

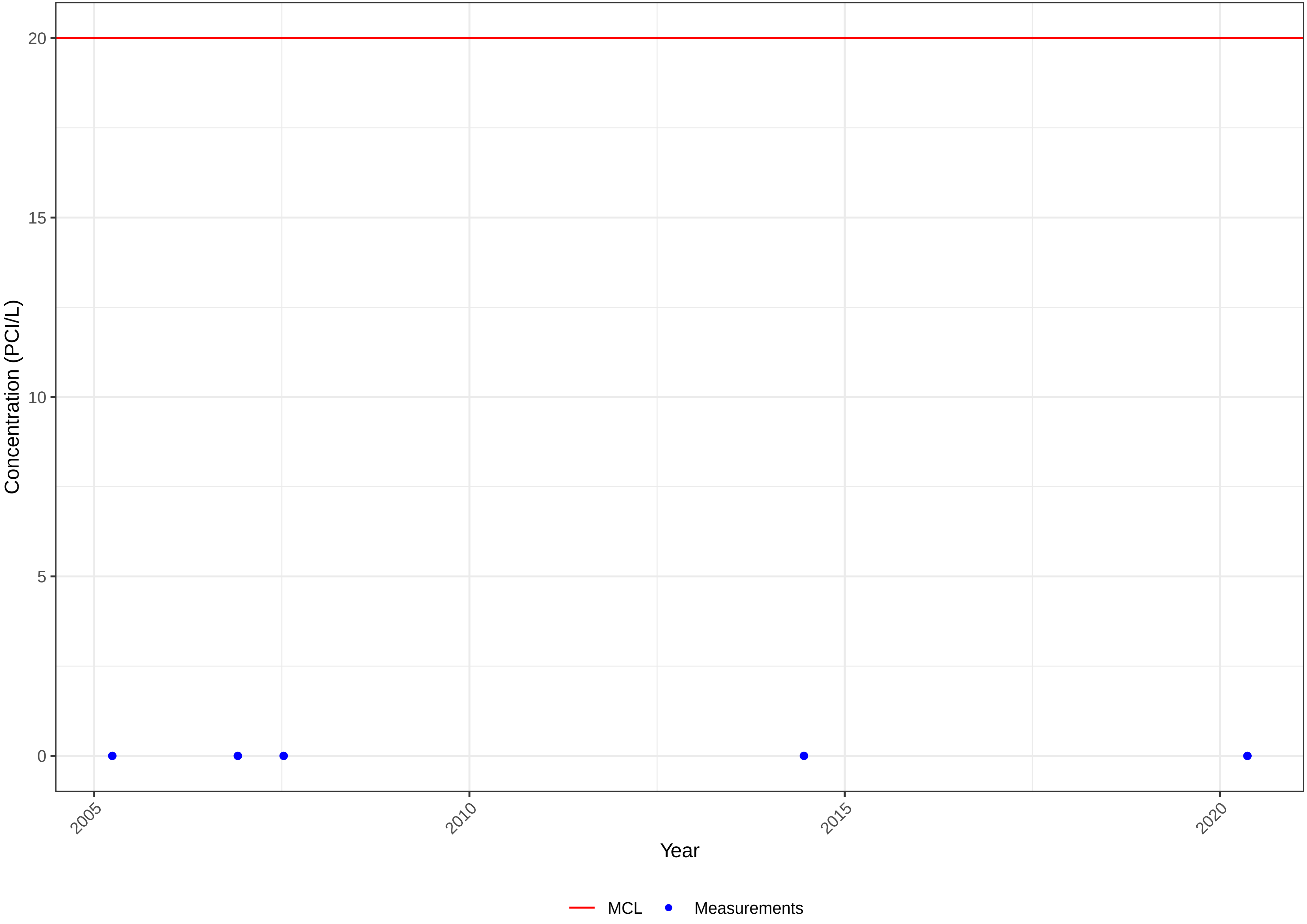
Well No. 1610003−034
STORET No. 1032
Constituent: CHROMIUM, HEXAVALENT




Water Quality Chart
Well No. 1610003−034
STORET No. 7744X
Constituent: 1,2,3−TRICHLOROPROPANE
Concentration (UG/L)
0.5
0.4
0.3
0.2
0.1
0.0
2000
2005
2010
2015
Year
MCL
Measurements

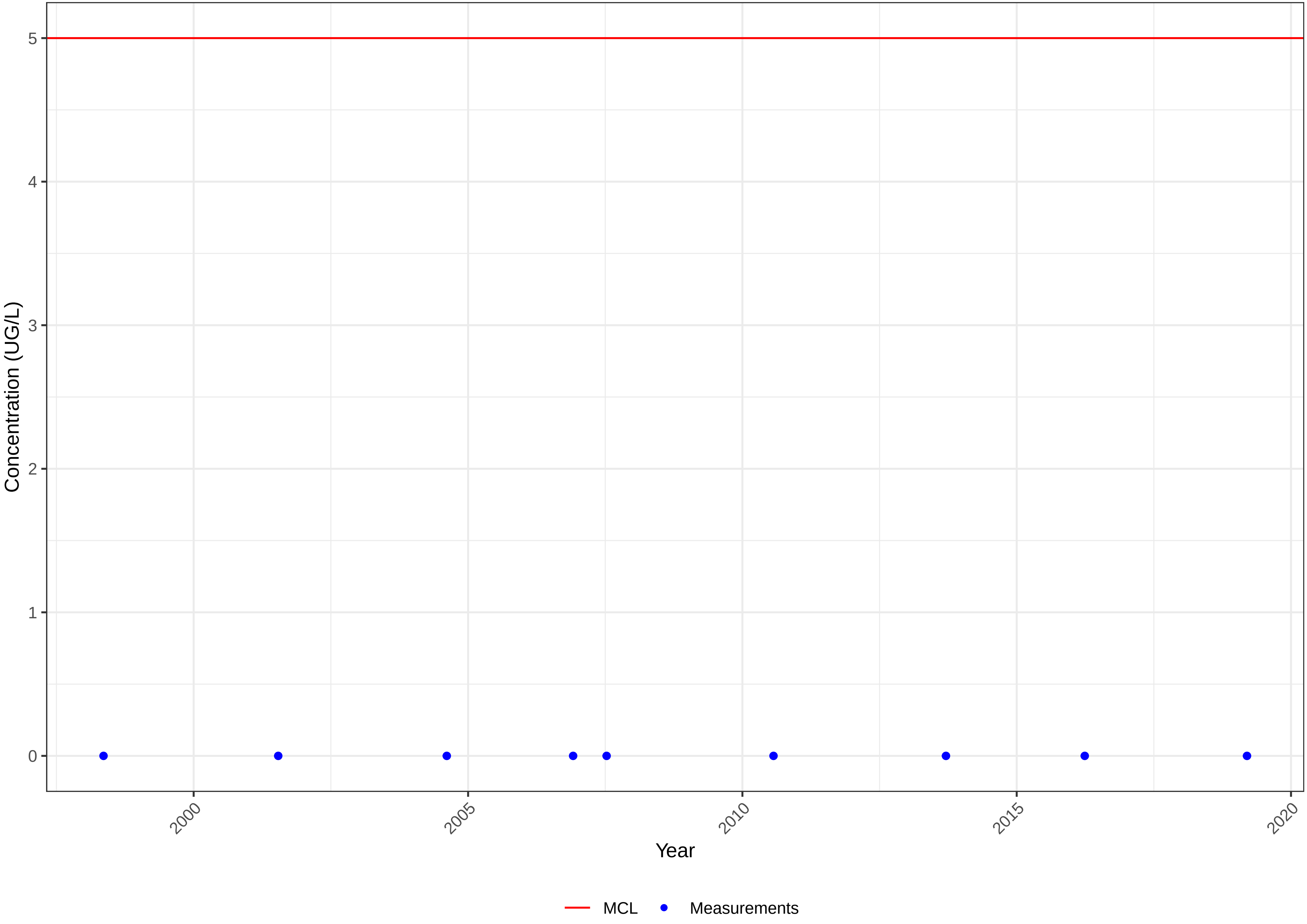
Water Quality Chart

Well No. 1610003−034
STORET No. 28012
Constituent: URANIUM (PCI/L)



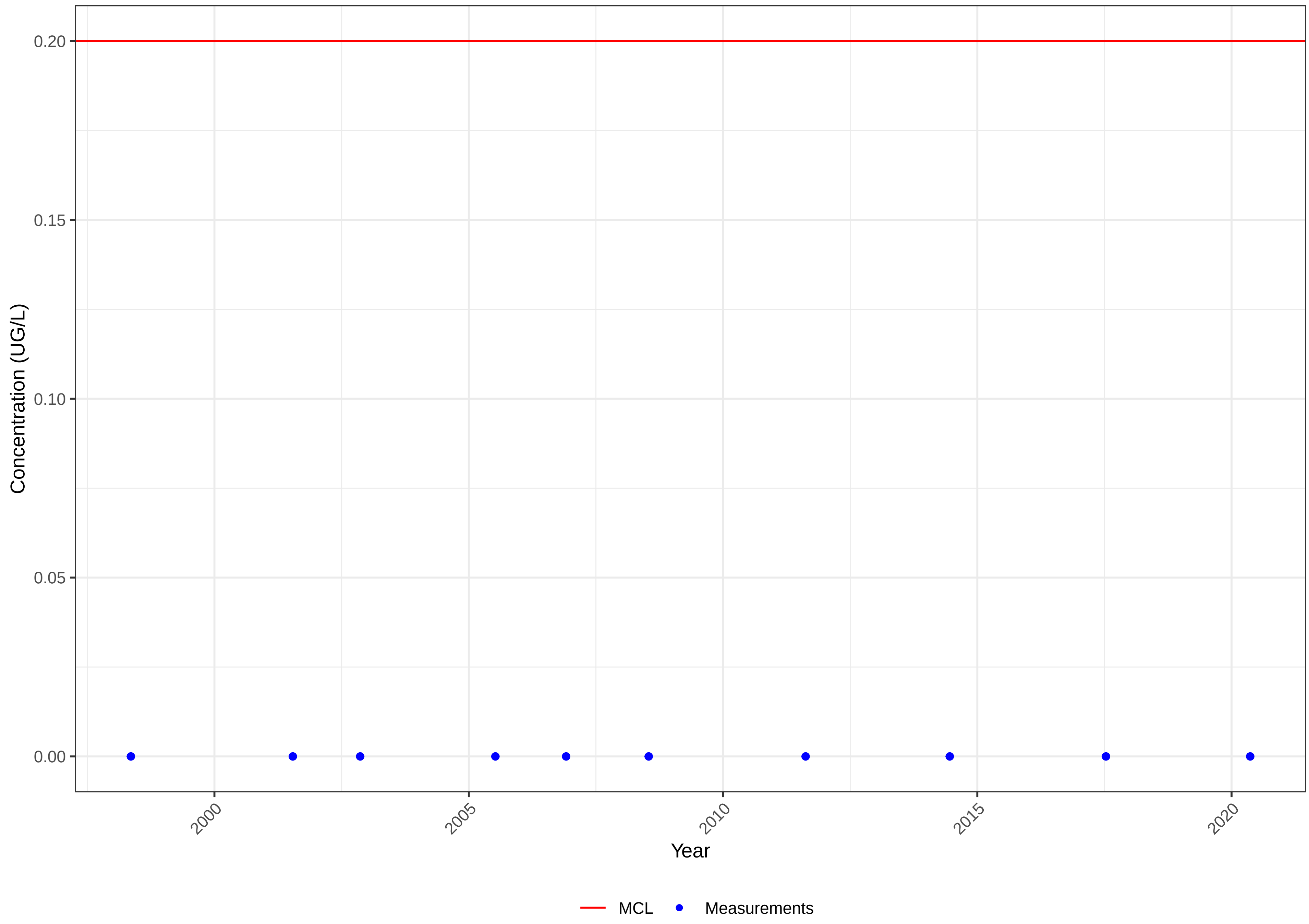
Water Quality Chart

Well No. 1610003−034
STORET No. 34475
Constituent: TETRACHLOROETHYLENE



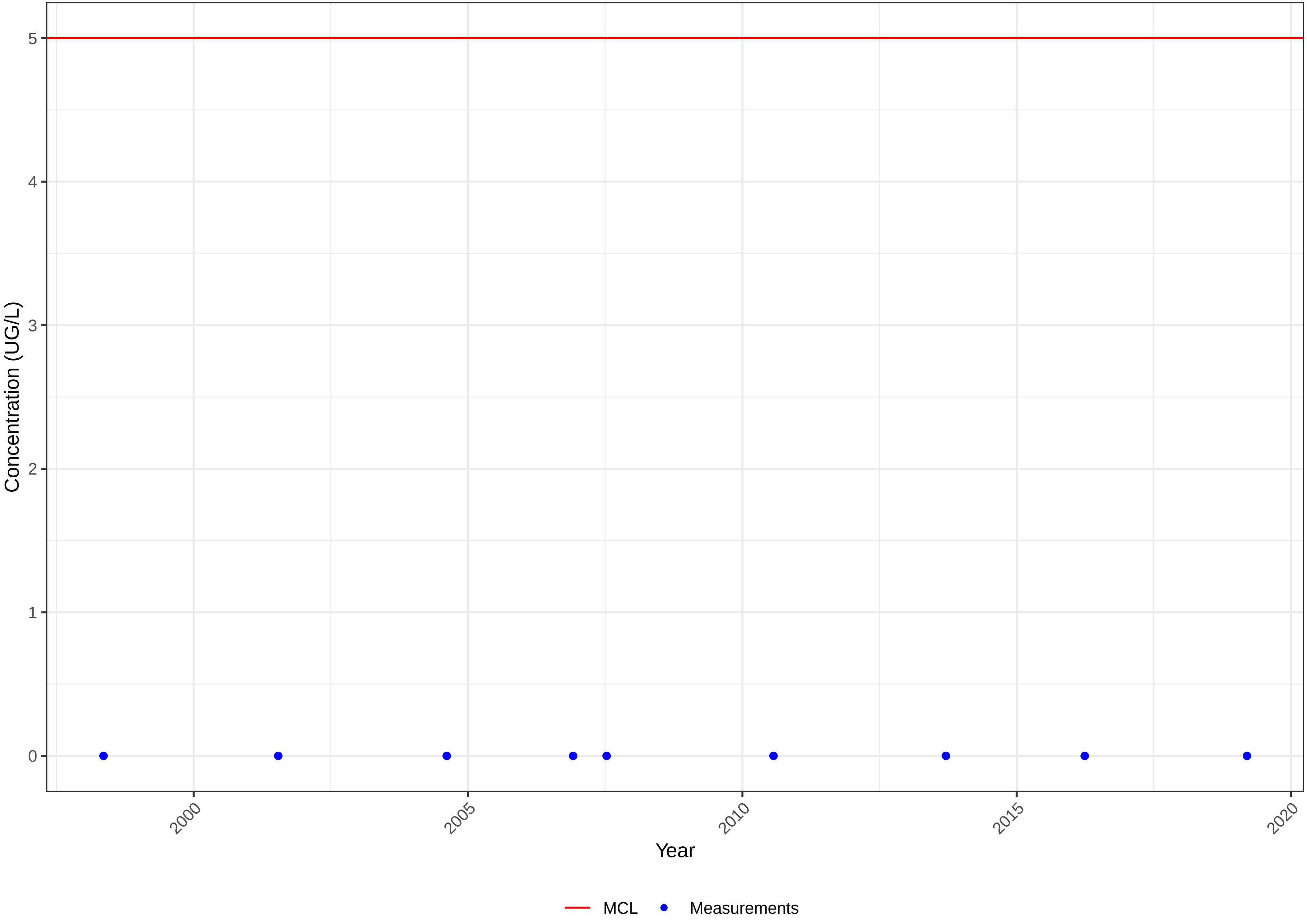
Water Quality Chart

Well No. 1610003−034
STORET No. 38761
Constituent: DIBROMOCHLOROPROPANE (DBCP)



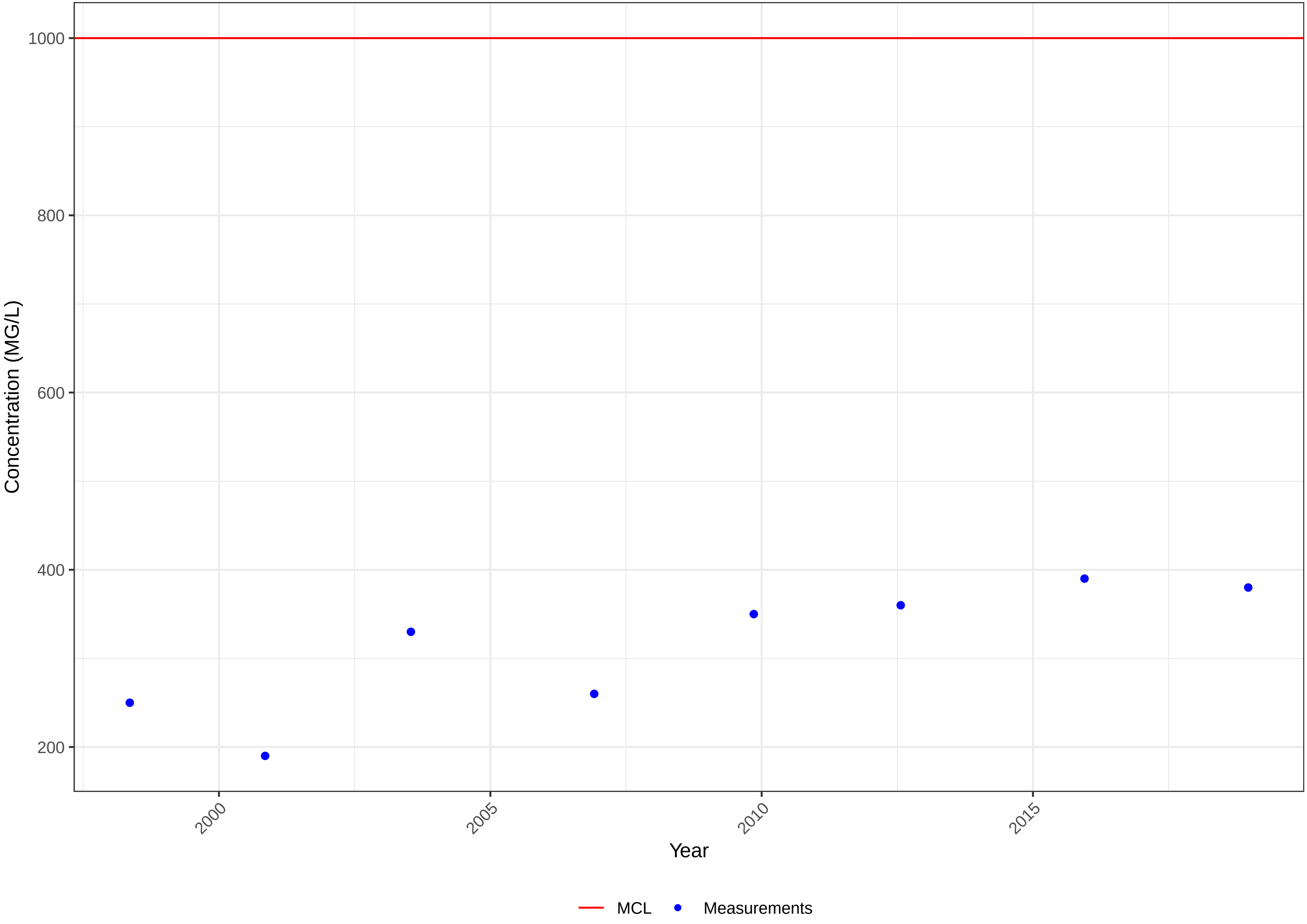
Water Quality Chart

Well No. 1610003−034
STORET No. 39180
Constituent: TRICHLOROETHYLENE



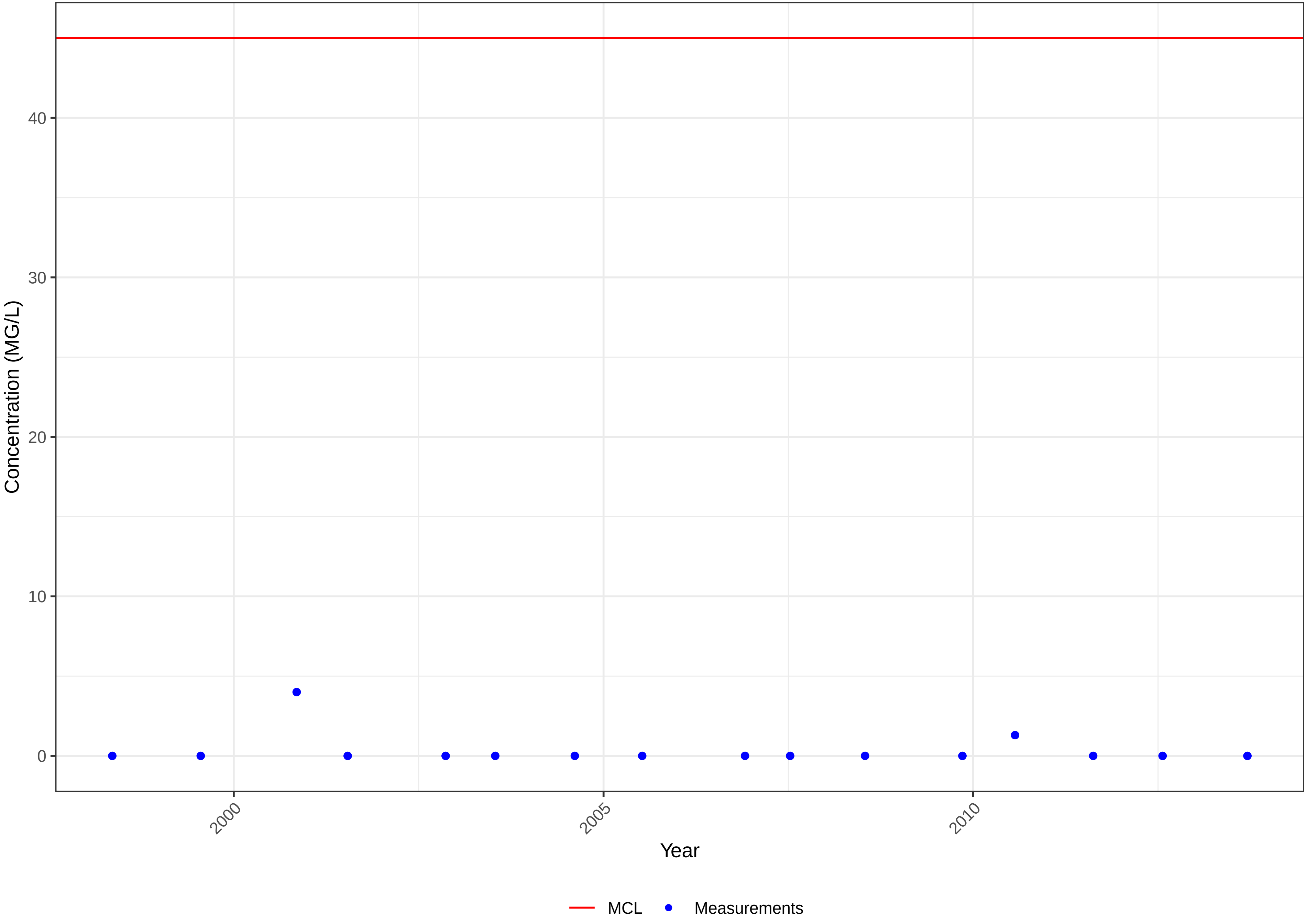
Water Quality Chart

Well No. 1610003−034
STORET No. 70300
Constituent: TOTAL DISSOLVED SOLIDS



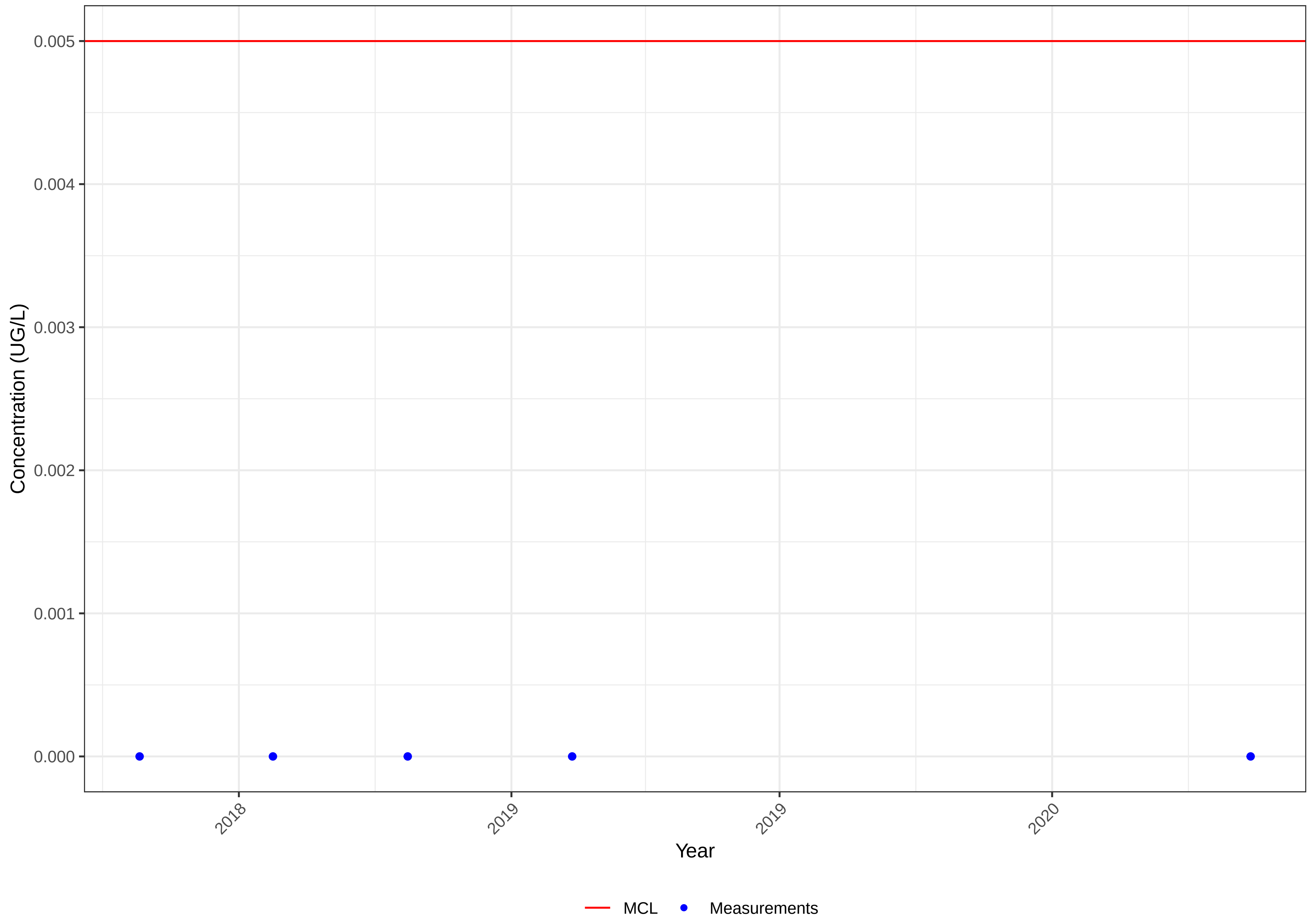
Water Quality Chart

Well No. 1610003−034
STORET No. 71850
Constituent: NITRATE (AS NO3)



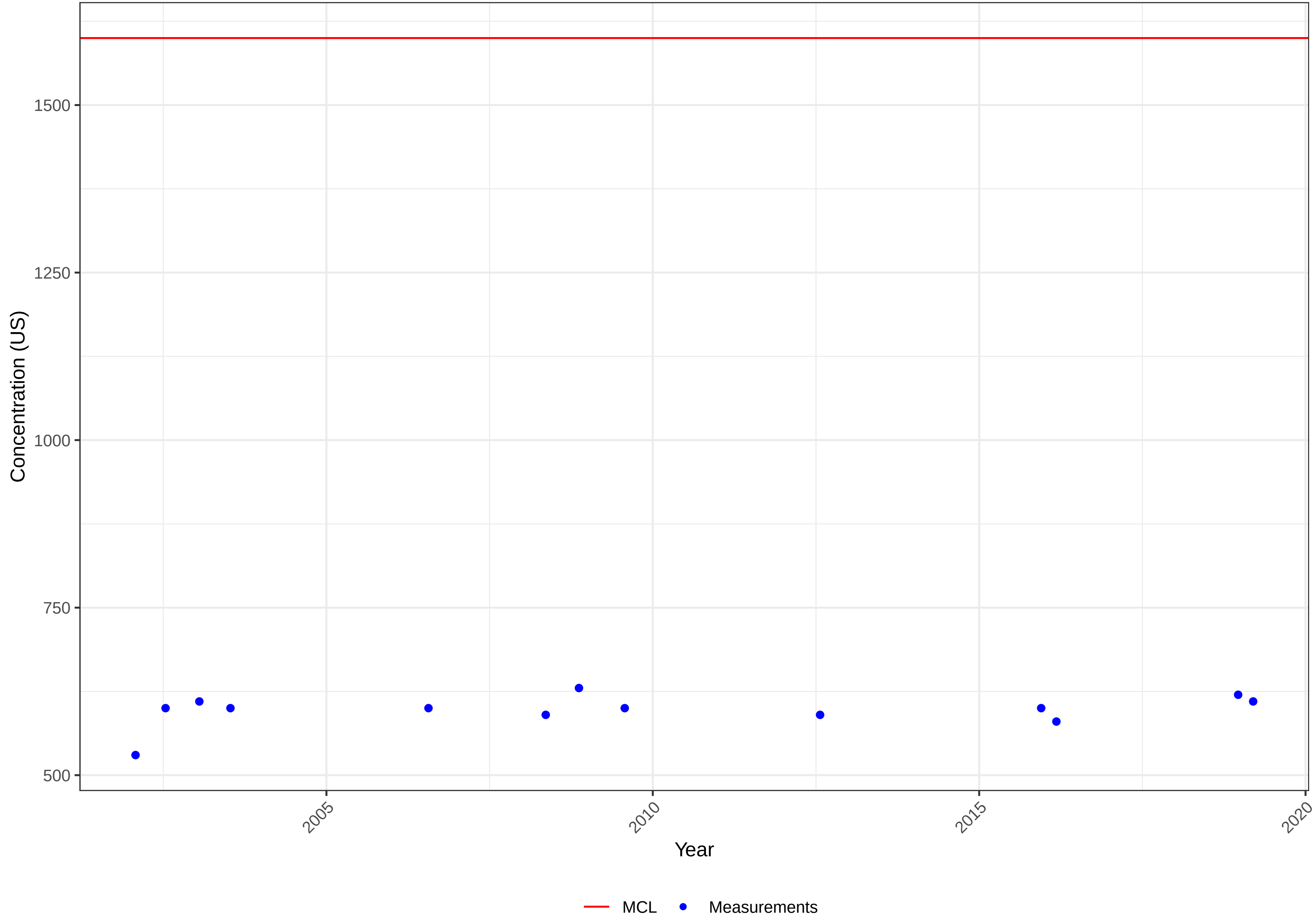
Water Quality Chart

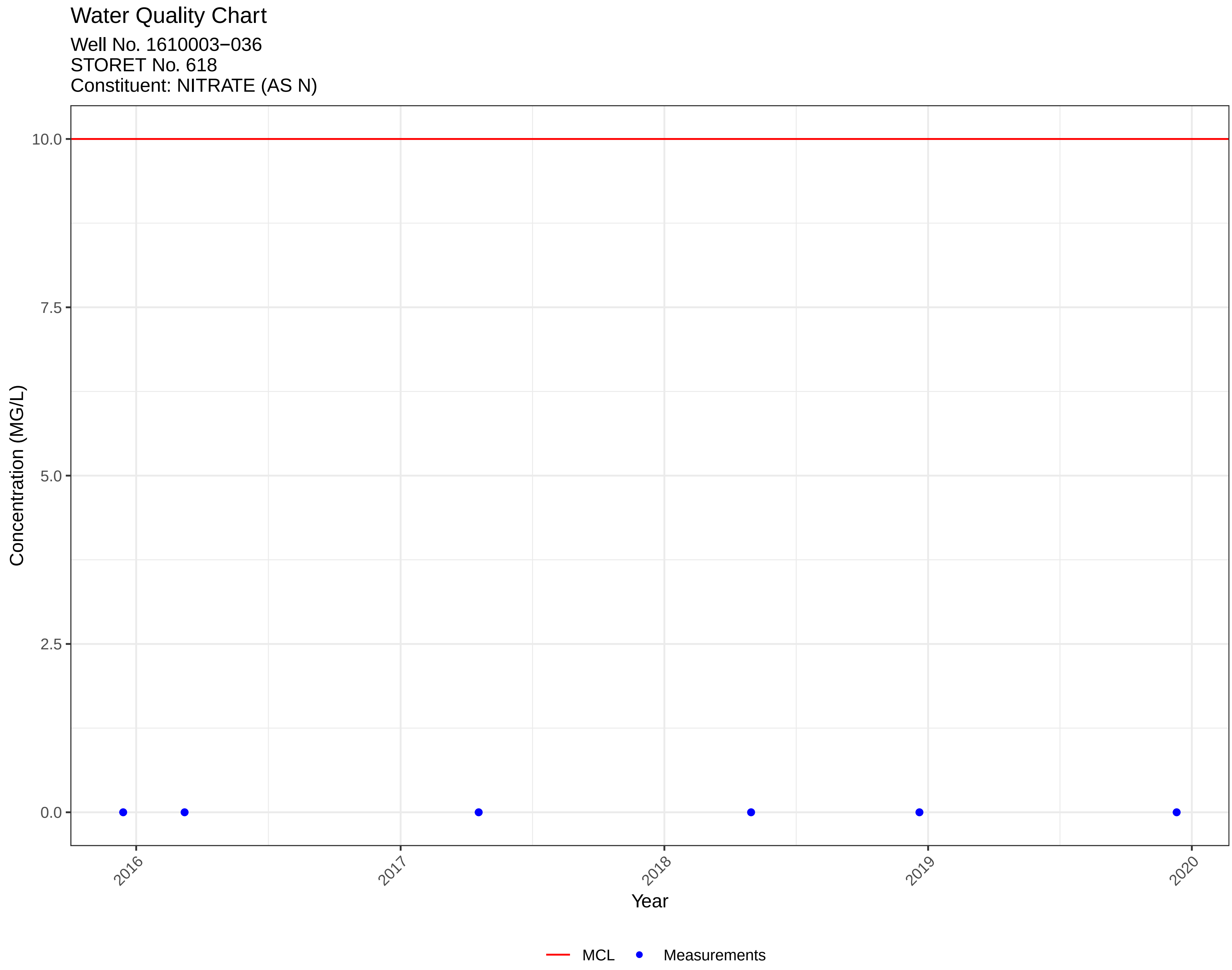
Well No. 1610003−034
STORET No. 77443
Constituent: 1,2,3−TRICHLOROPROPANE



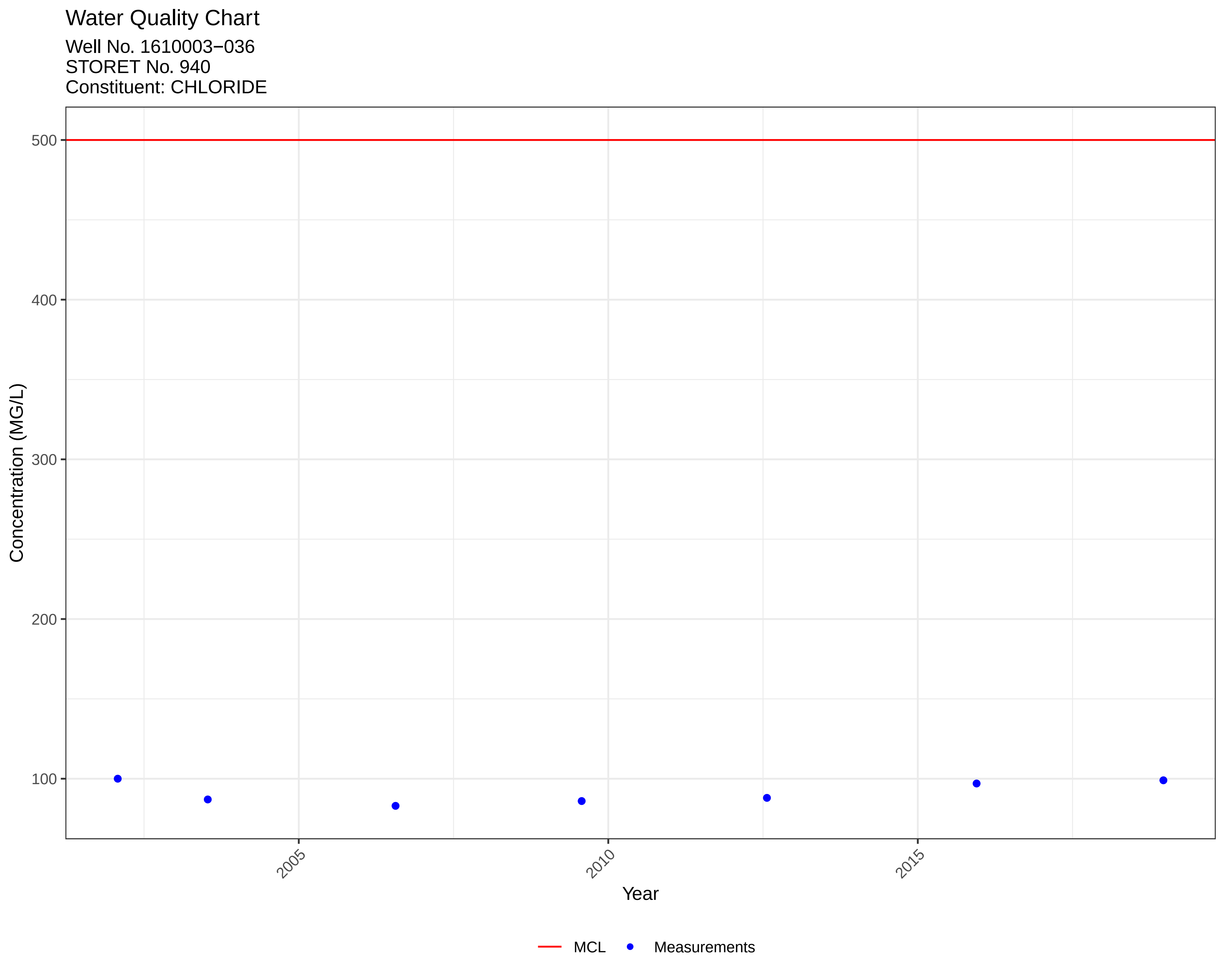
Water Quality Chart

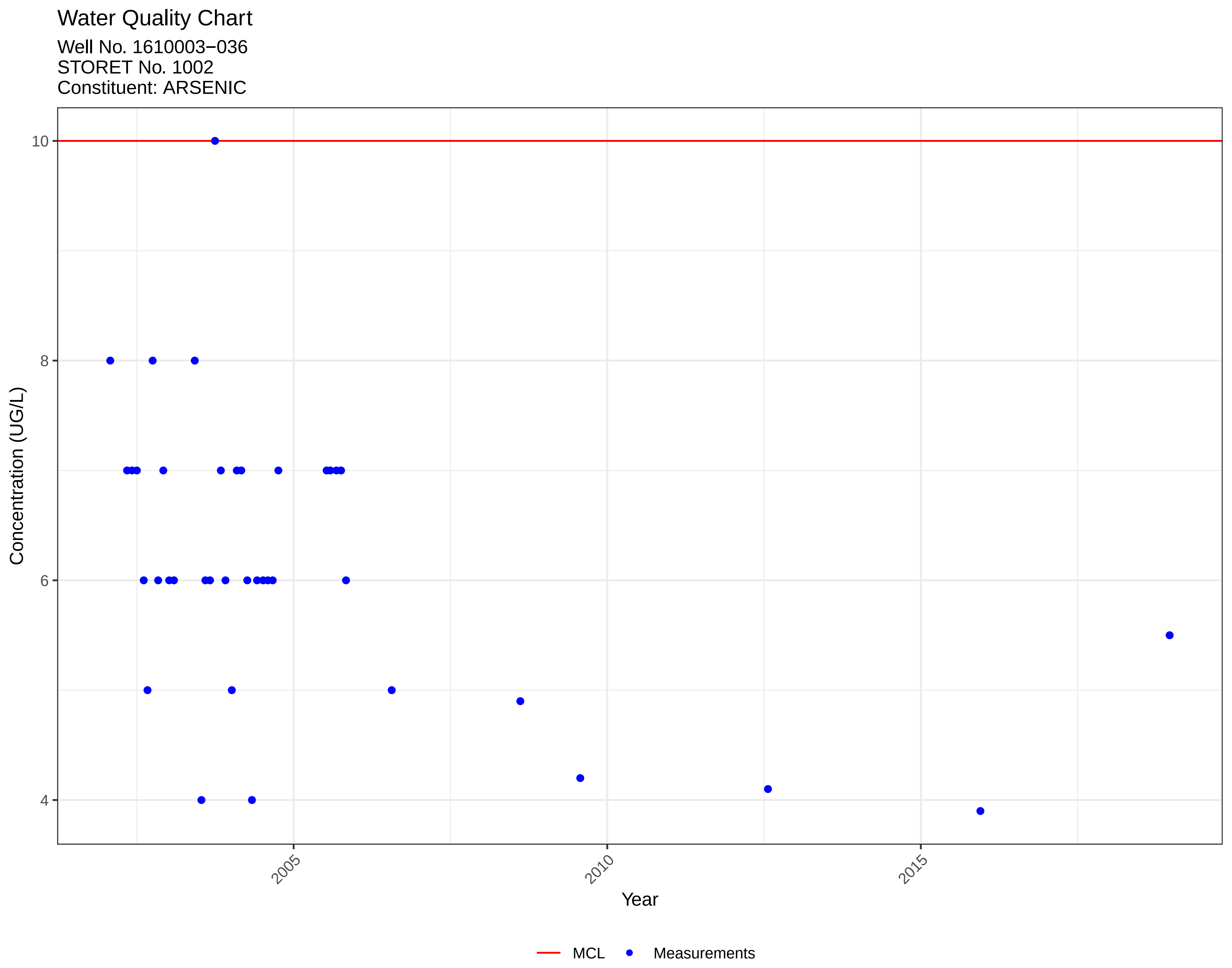
Well No. 1610003−036
STORET No. 95
Constituent: SPECIFIC CONDUCTANCE

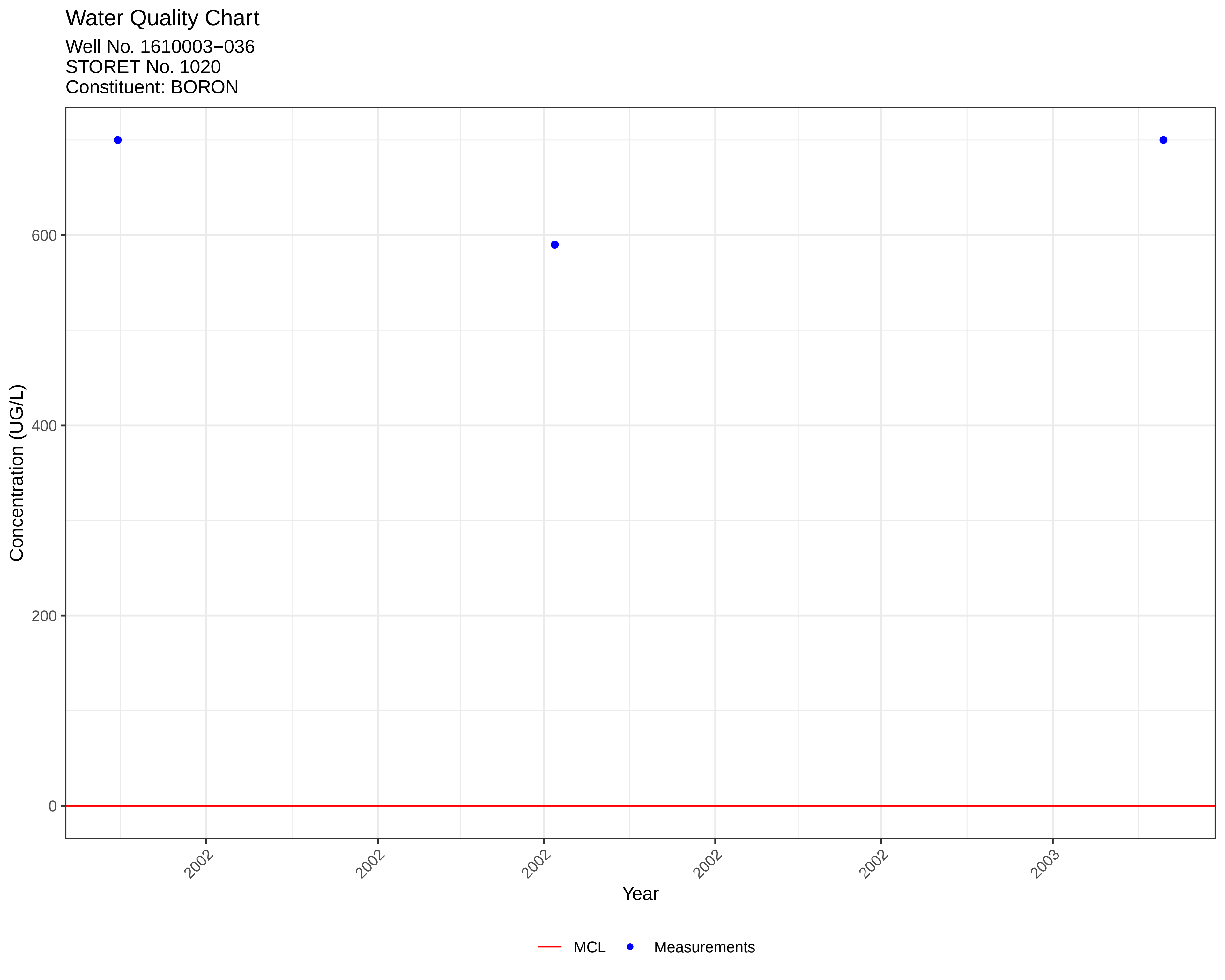




Water Quality Chart
Well No. 1610003−036
STORET No. 618
Constituent: NITRATE (AS N)
10.0
7.5
5.0
2.5
0.0
Concentration (MG/L)
2016
2017
2018
2019
2020
Year
MCL
Measurements


Water Quality Chart
Well No. 1610003−036
STORET No. 940
Constituent: CHLORIDE
500
400
300
200
100
Concentration (MG/L)
2005
2010
2015
Year
MCL
Measurements

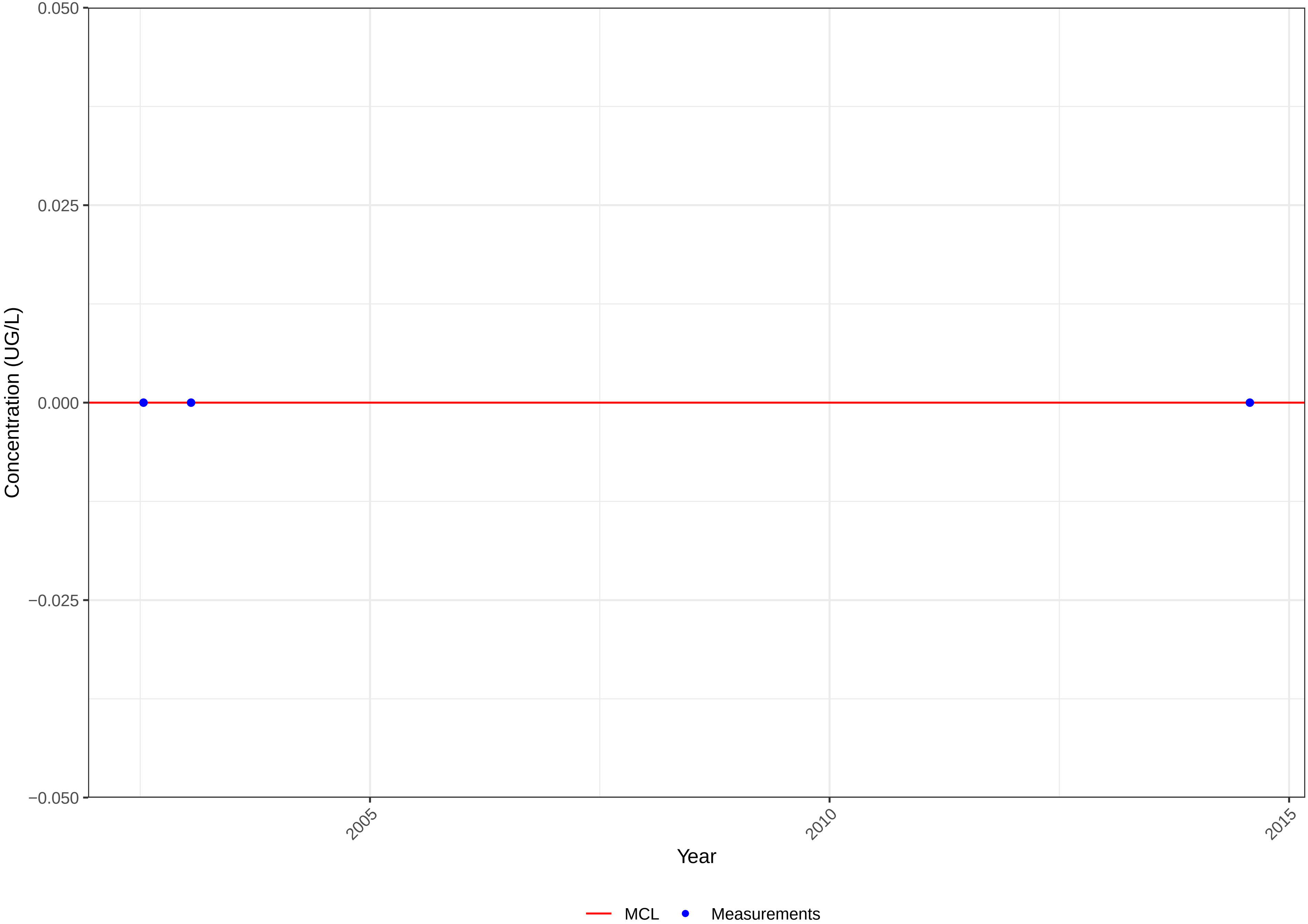

Water Quality Chart
Well No. 1610003−036
STORET No. 1002
Constituent: ARSENIC
Concentration (UG/L)
10
8
6
4
2005
2010
2015
Year
MCL
Measurements



Water Quality Chart
Well No. 1610003−036
STORET No. 1020
Constituent: BORON
Concentration (UG/L)
600
400
200
0
2002
2002
2002
2002
2002
2003
Year
MCL
Measurements

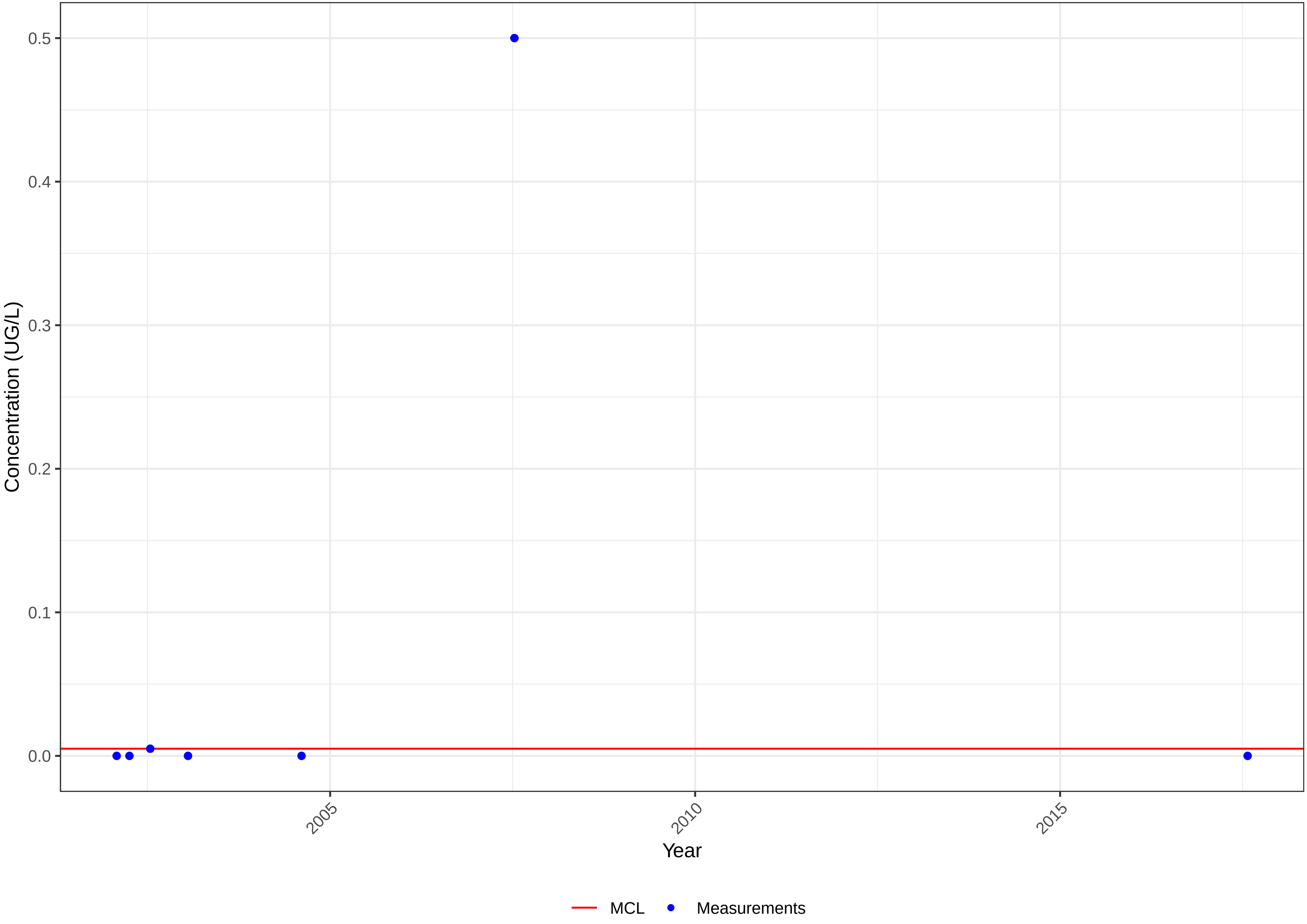
Water Quality Chart

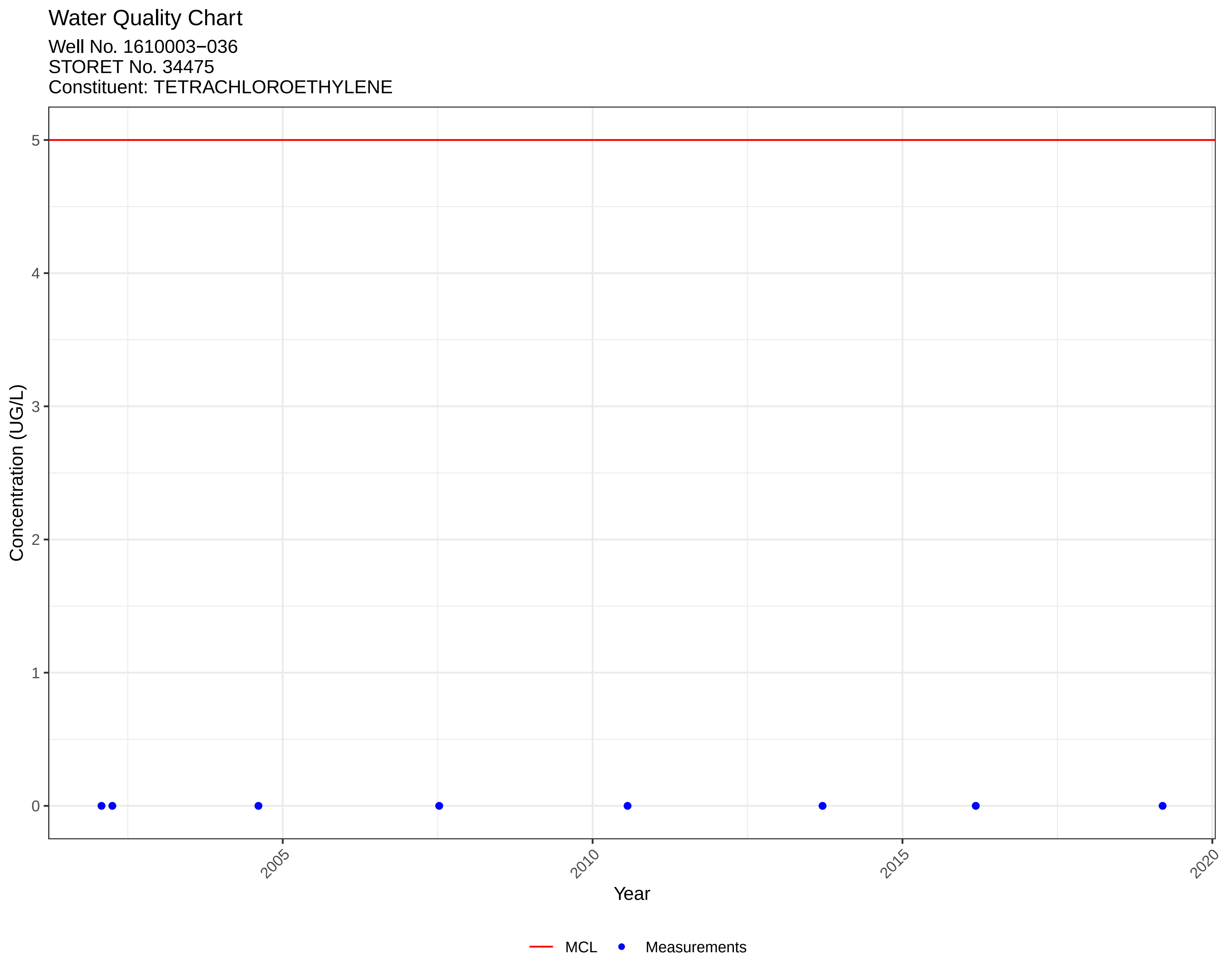
Well No. 1610003−036
STORET No. 1032
Constituent: CHROMIUM, HEXAVALENT



Water Quality Chart

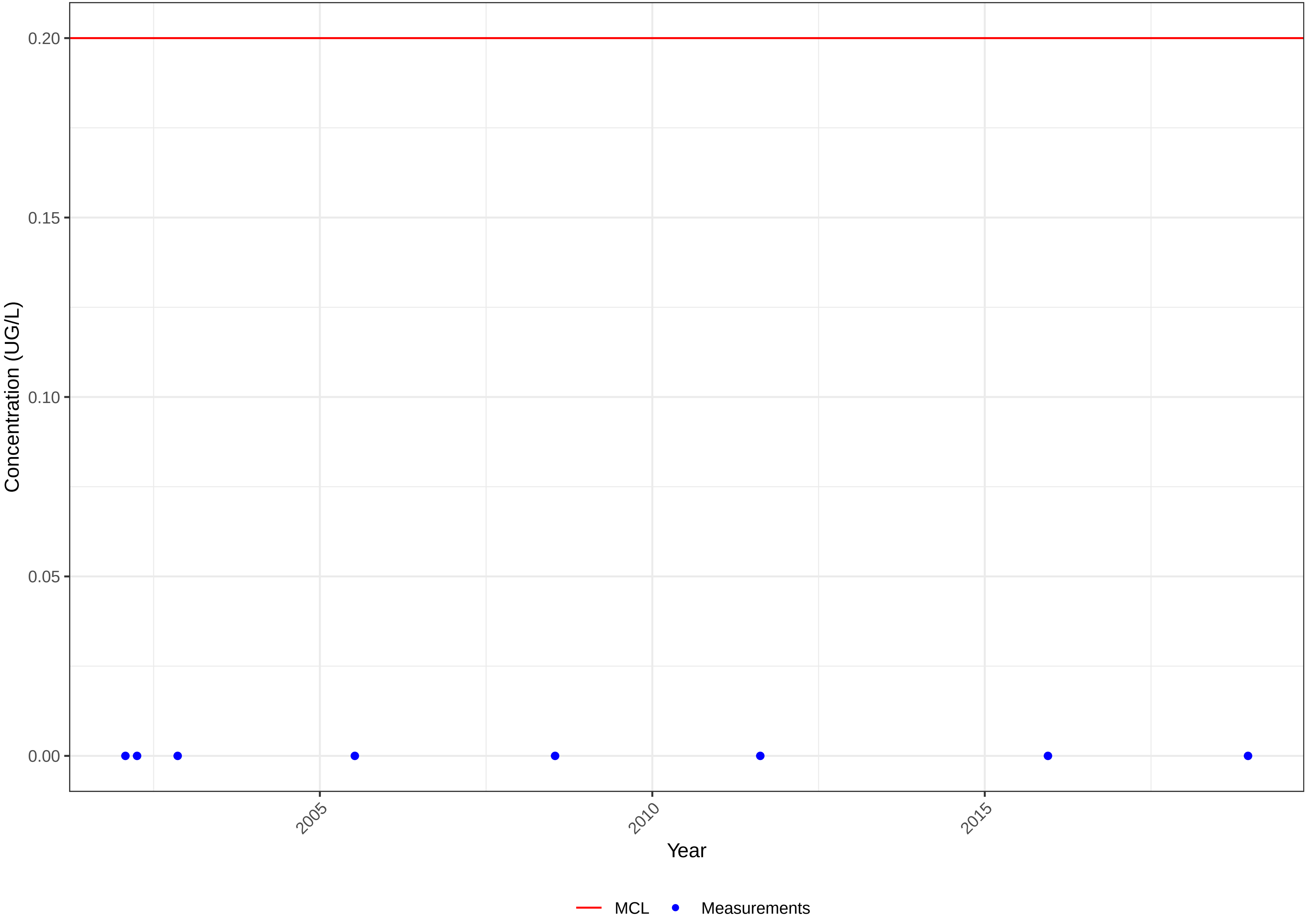
Well No. 1610003−036
STORET No. 7744X
Constituent: 1,2,3−TRICHLOROPROPANE




Water Quality Chart
Well No. 1610003−036
STORET No. 34475
Constituent: TETRACHLOROETHYLENE
Concentration (UG/L)
0
1
2
3
4
5
2005
2010
2015
2020
Year
MCL
Measurements

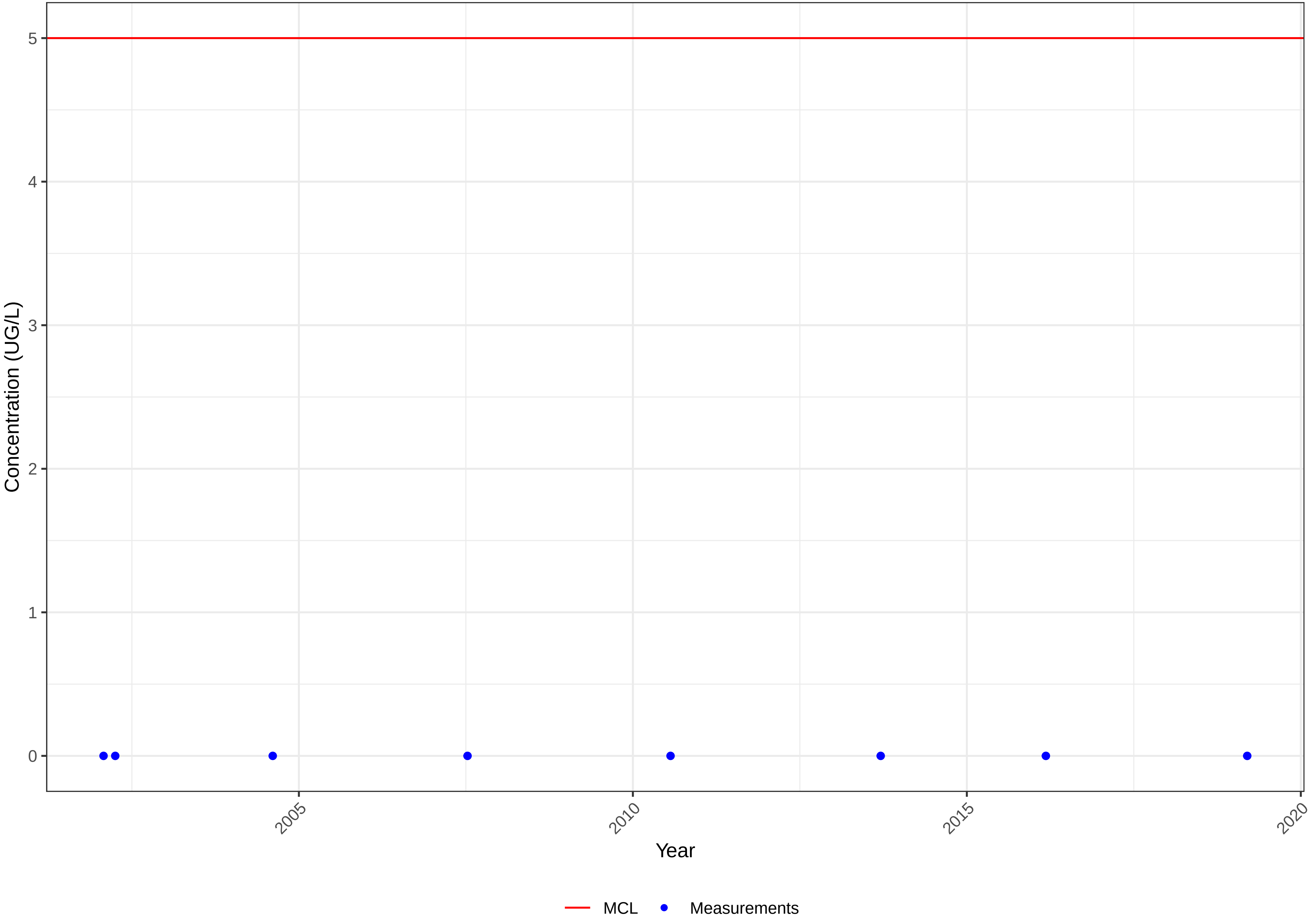
Water Quality Chart

Well No. 1610003−036
STORET No. 38761
Constituent: DIBROMOCHLOROPROPANE (DBCP)



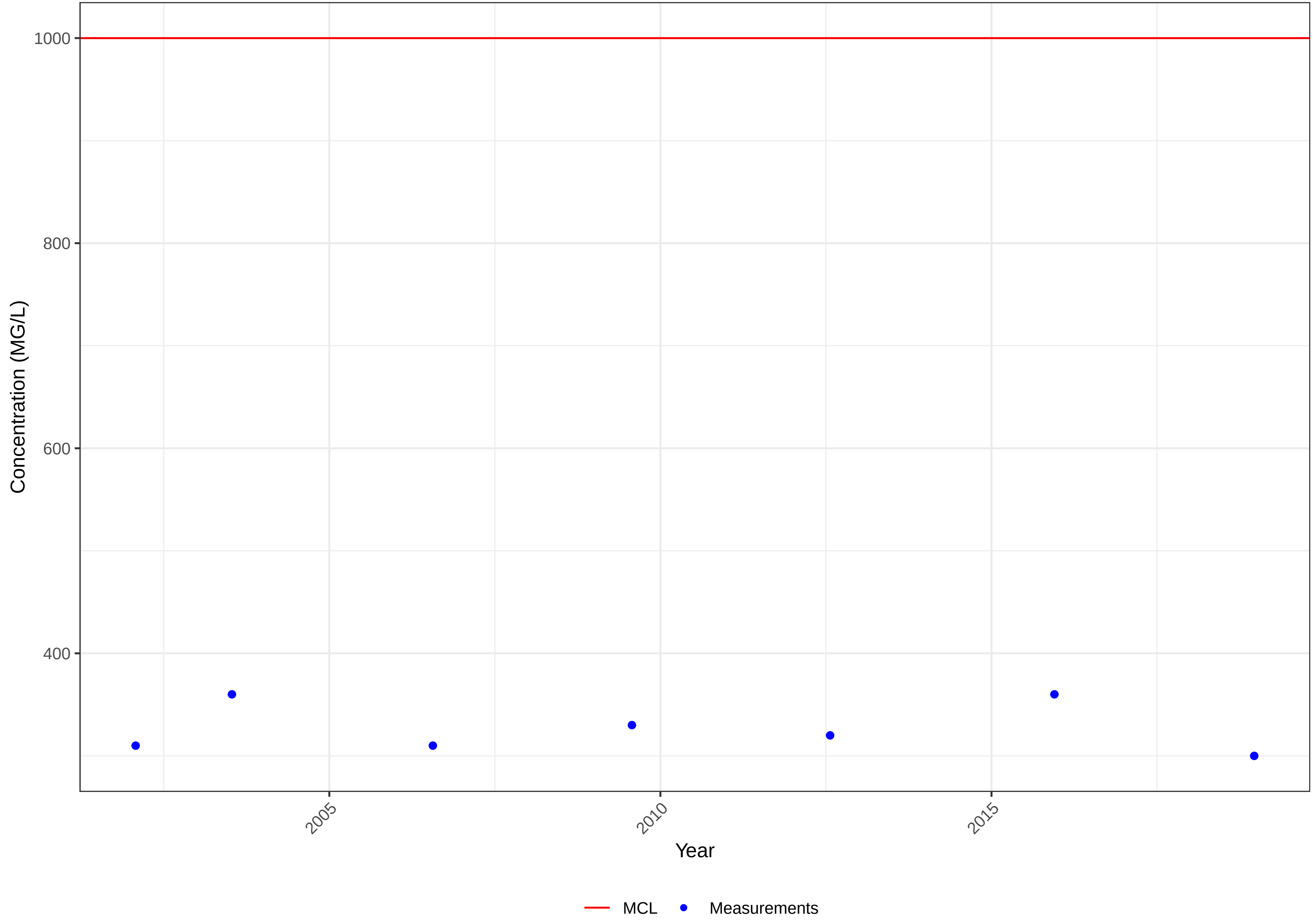
Water Quality Chart

Well No. 1610003−036
STORET No. 39180
Constituent: TRICHLOROETHYLENE



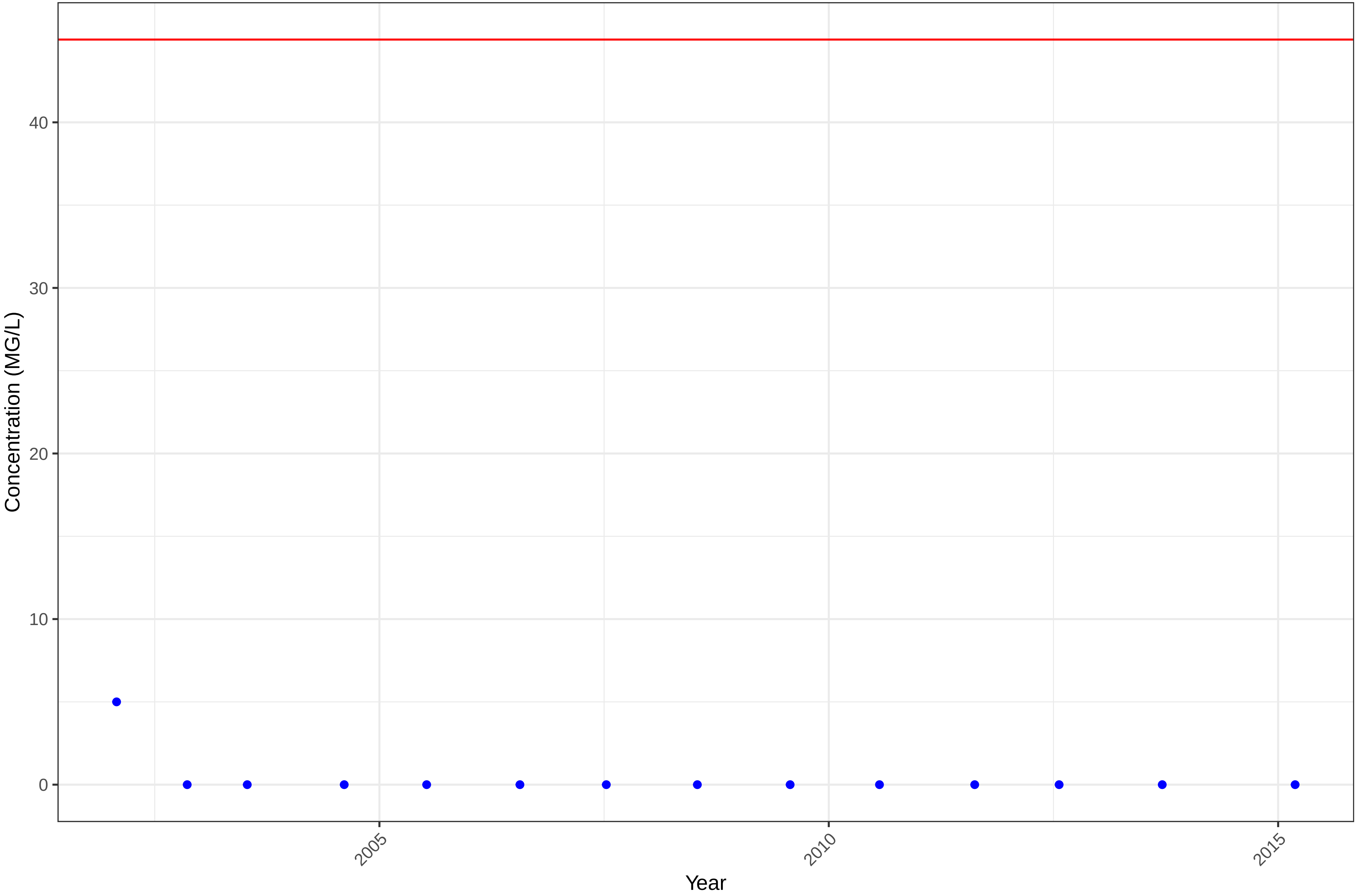
Water Quality Chart

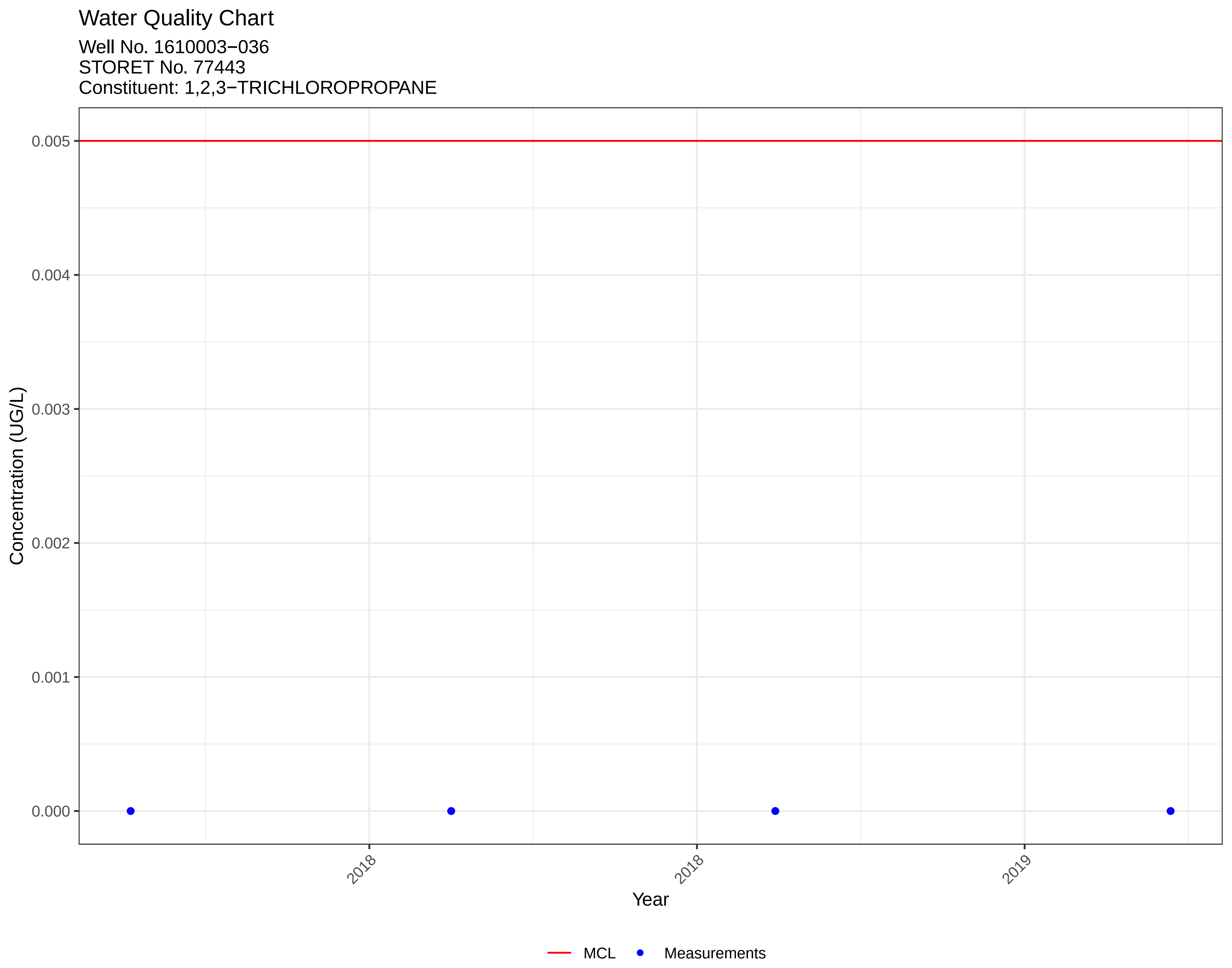
Well No. 1610003−036
STORET No. 70300
Constituent: TOTAL DISSOLVED SOLIDS



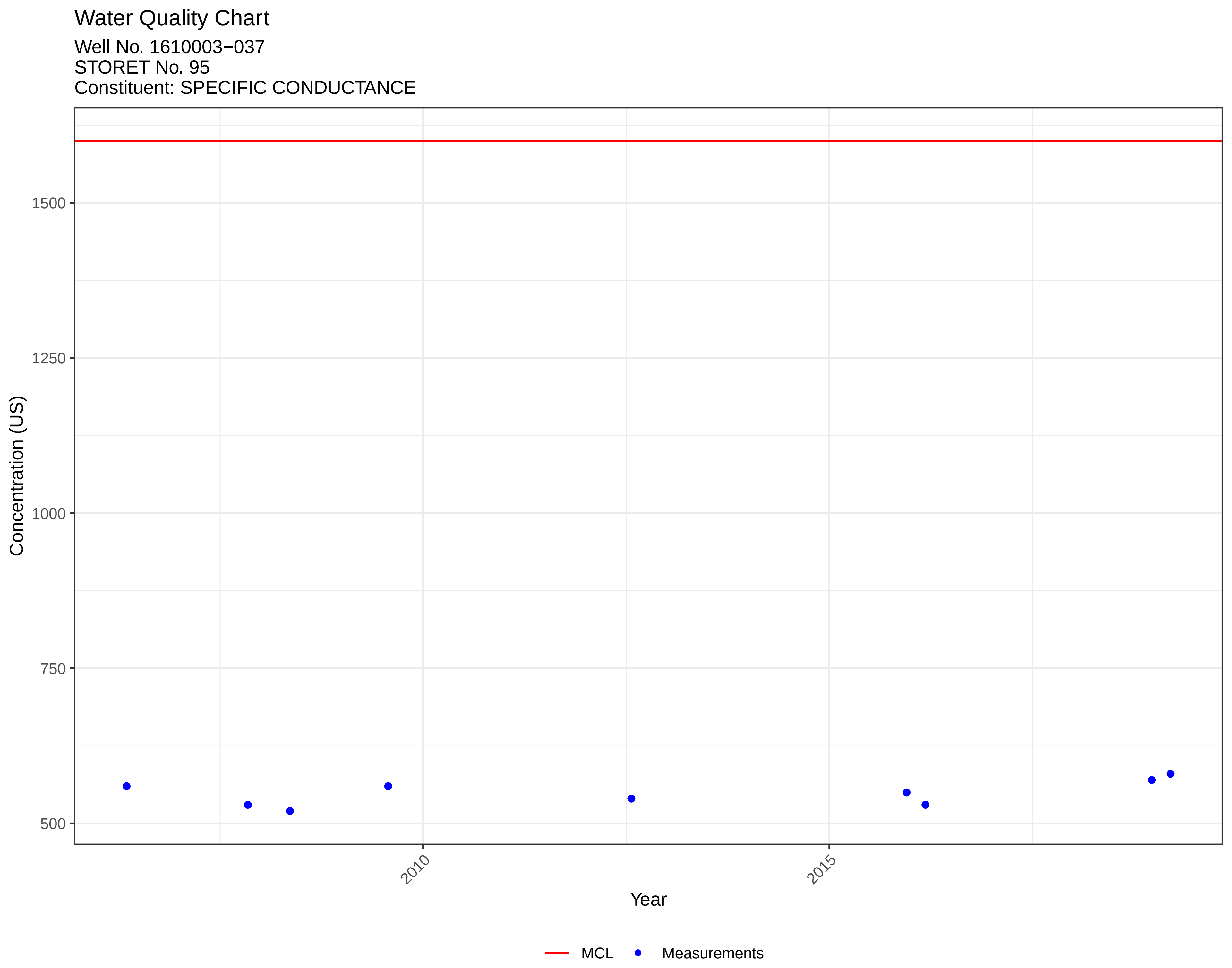
Water Quality Chart

Well No. 1610003−036
STORET No. 71850
Constituent: NITRATE (AS NO3)





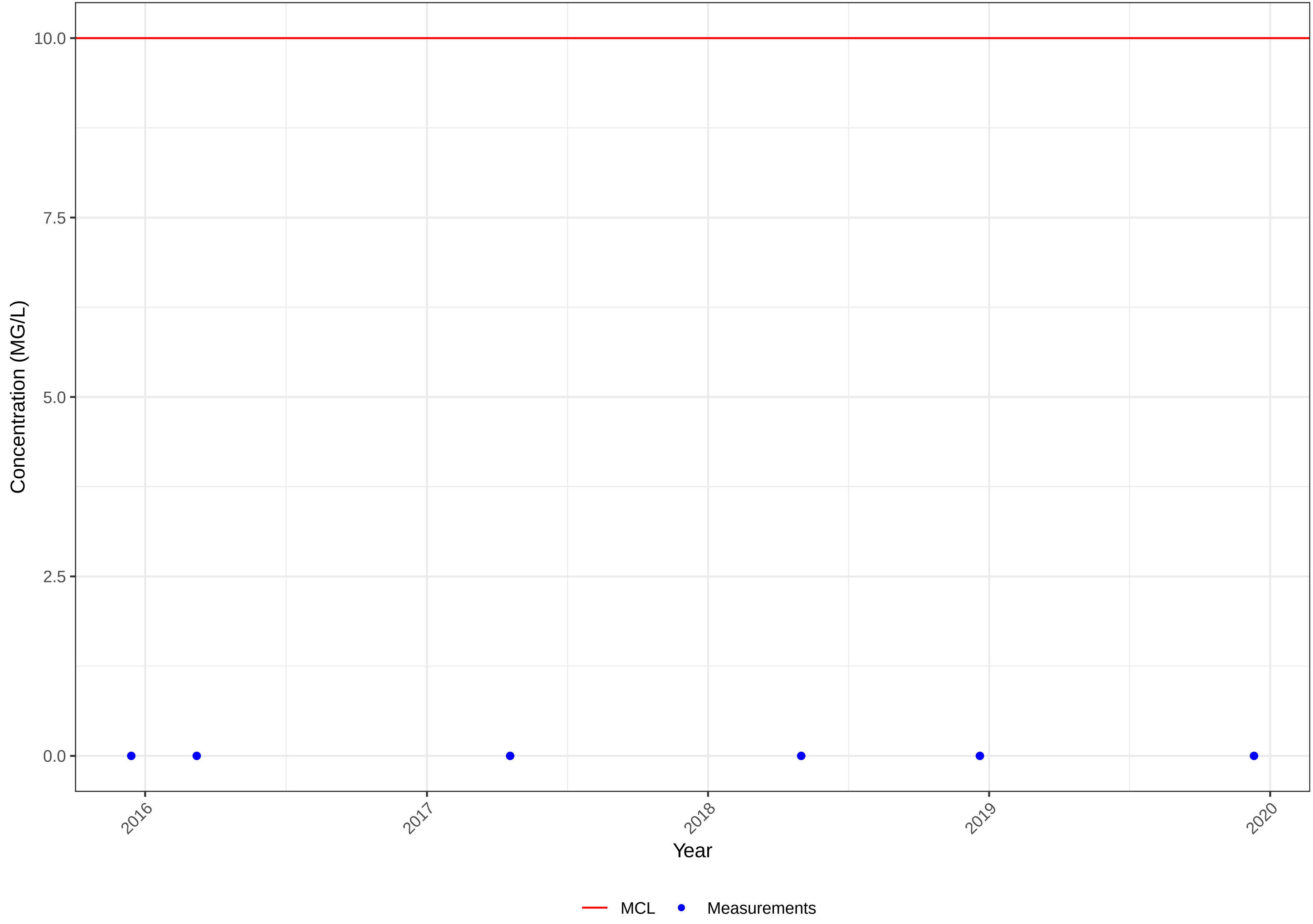
Water Quality Chart
Well No. 1610003−036
STORET No. 77443
Constituent: 1,2,3−TRICHLOROPROPANE
0.005
0.004
0.003
0.002
0.001
0.000
Concentration (UG/L)
2018
2018
2019
Year
MCL
Measurements



Water Quality Chart
Well No. 1610003−037
STORET No. 95
Constituent: SPECIFIC CONDUCTANCE
Concentration (US)
1500
1250
1000
750
500
2010
2015
Year
MCL
Measurements

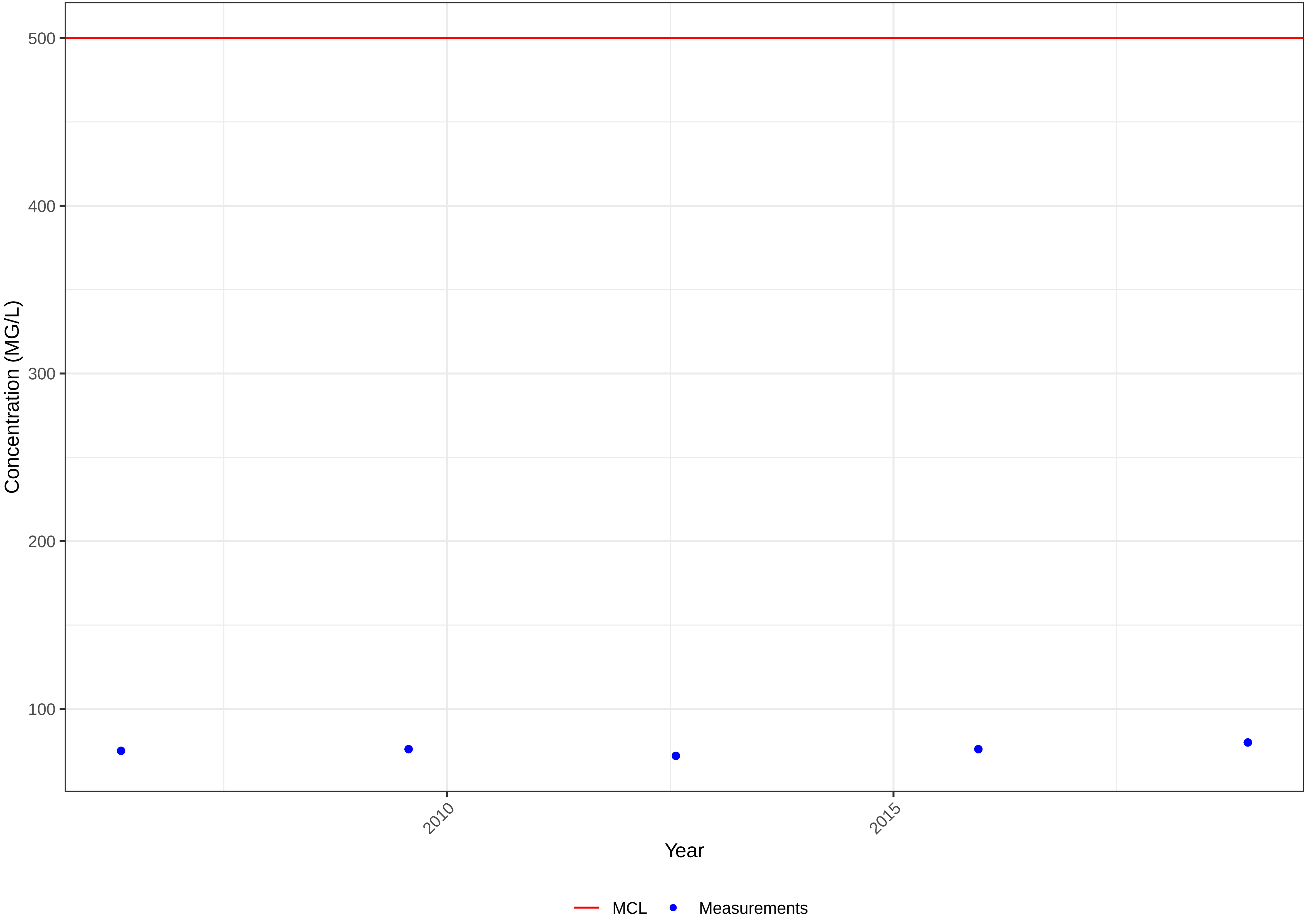
Water Quality Chart

Well No. 1610003−037
STORET No. 618
Constituent: NITRATE (AS N)



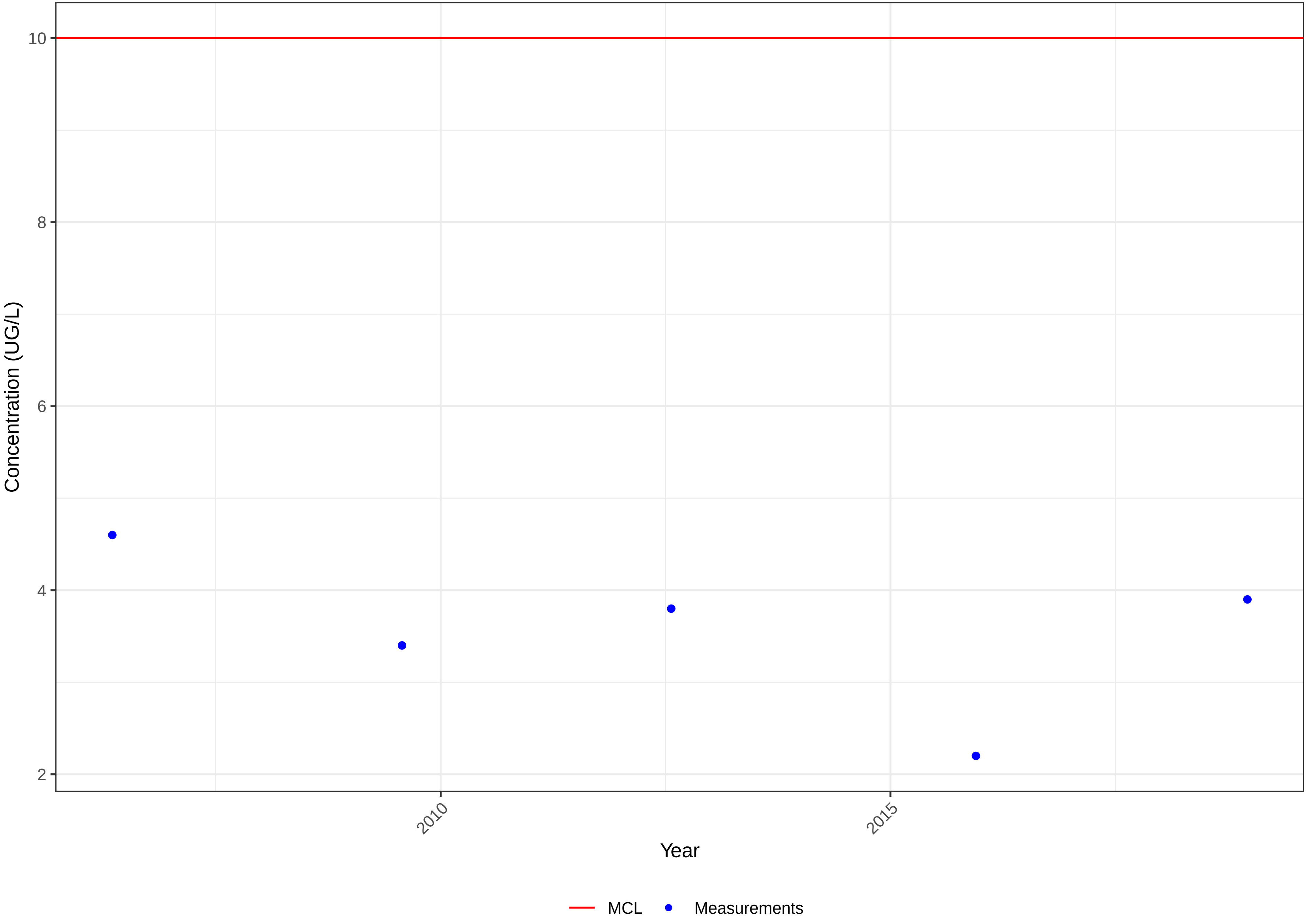
Water Quality Chart

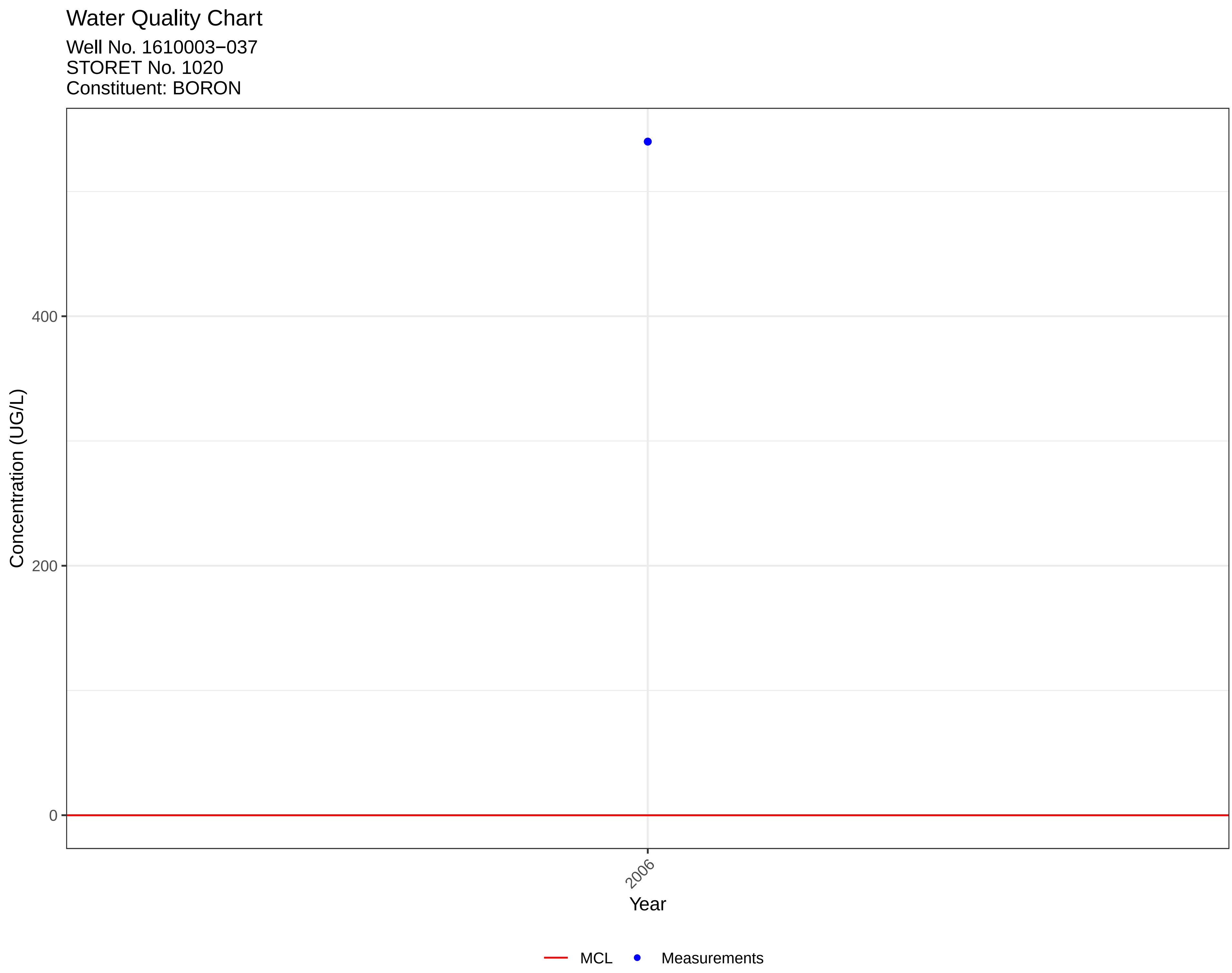
Well No. 1610003−037
STORET No. 940
Constituent: CHLORIDE

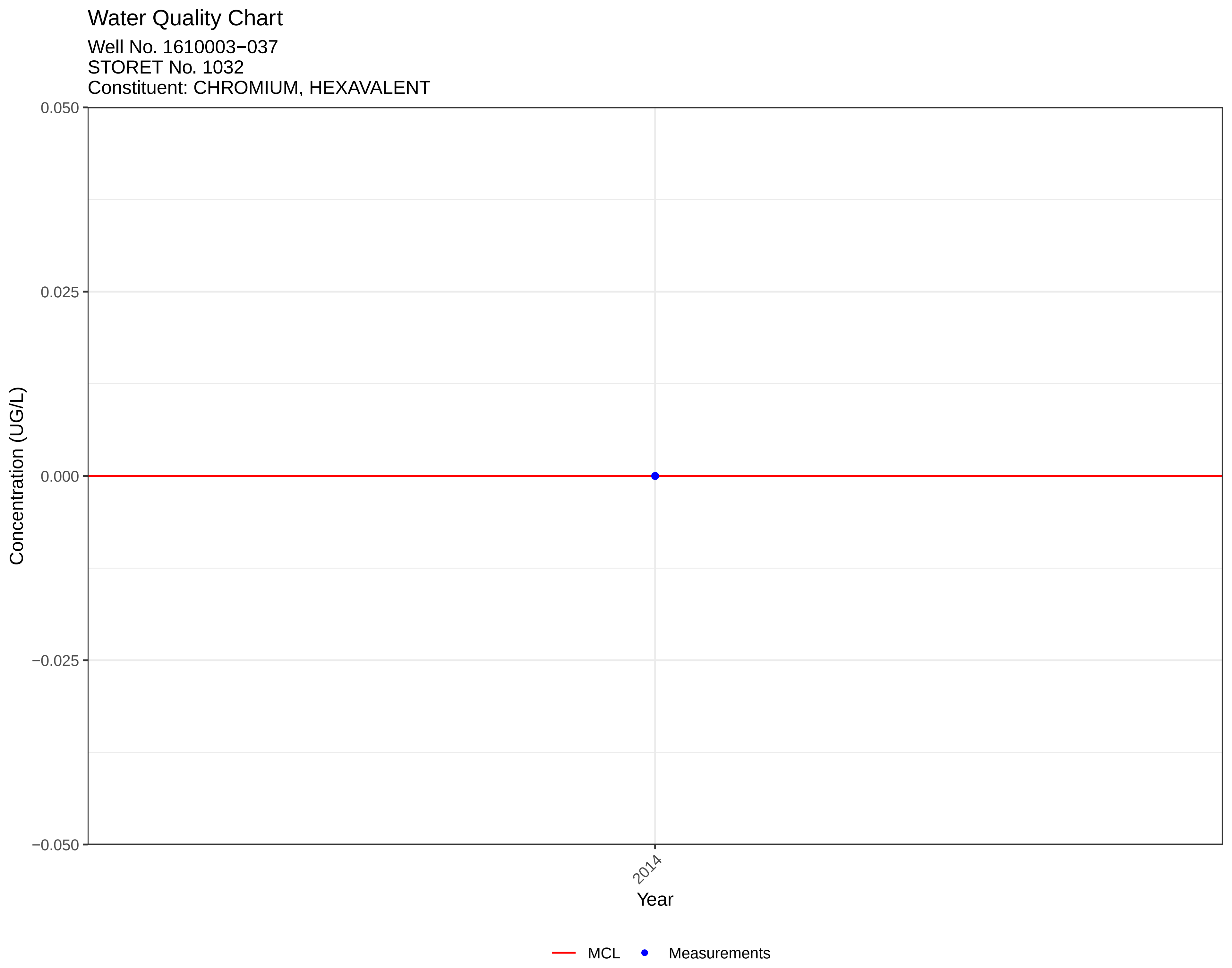


Water Quality Chart

Well No. 1610003−037
STORET No. 1002
Constituent: ARSENIC



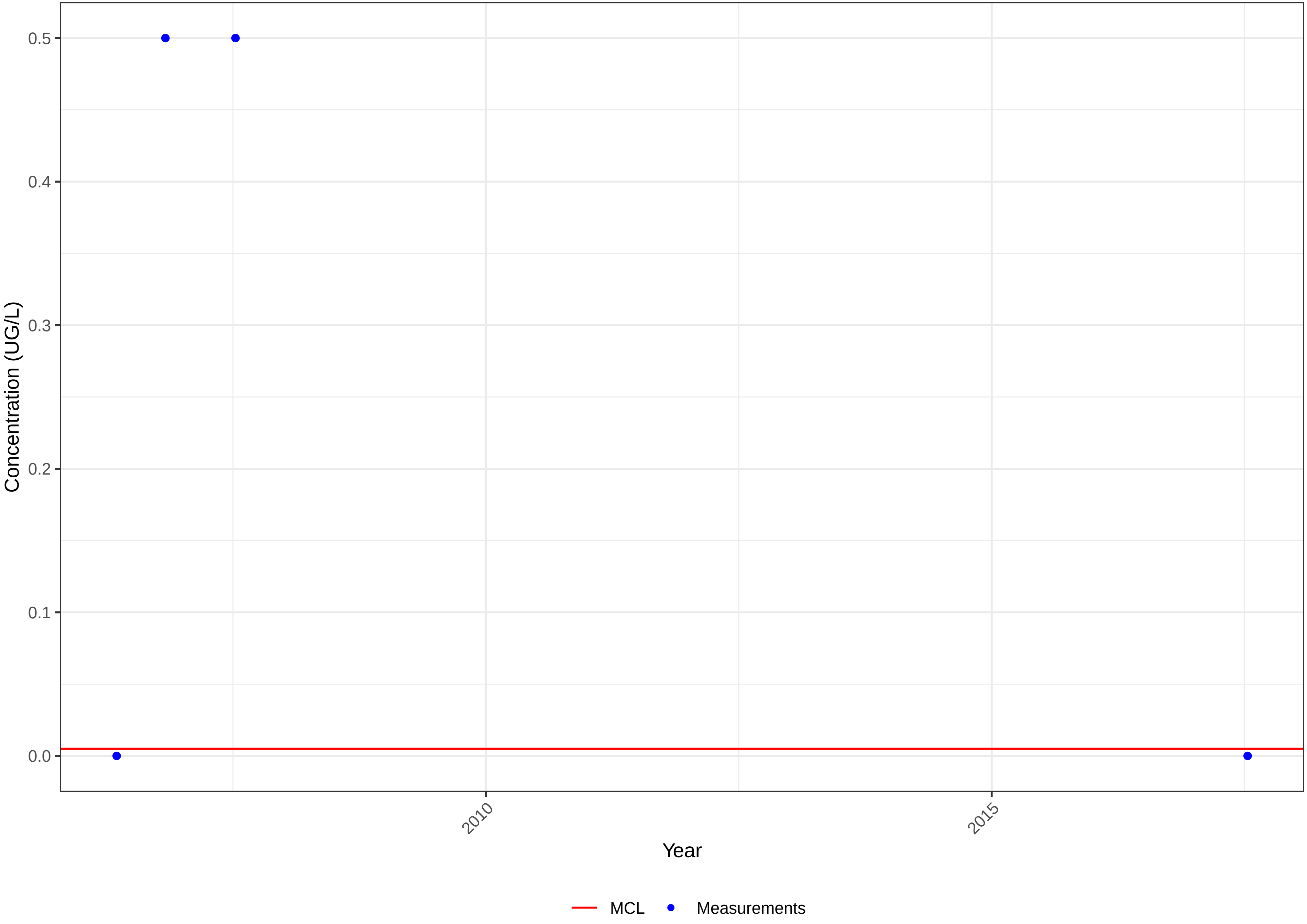

Water Quality Chart
Well No. 1610003−037
STORET No. 1020
Constituent: BORON
Concentration (UG/L)
400
200
0
2006
Year
MCL
Measurements



Water Quality Chart
Well No. 1610003−037
STORET No. 1032
Constituent: CHROMIUM, HEXAVALENT
0.050
0.025
0.000
−0.025
−0.050
Concentration (UG/L)
2014
Year
MCL
Measurements

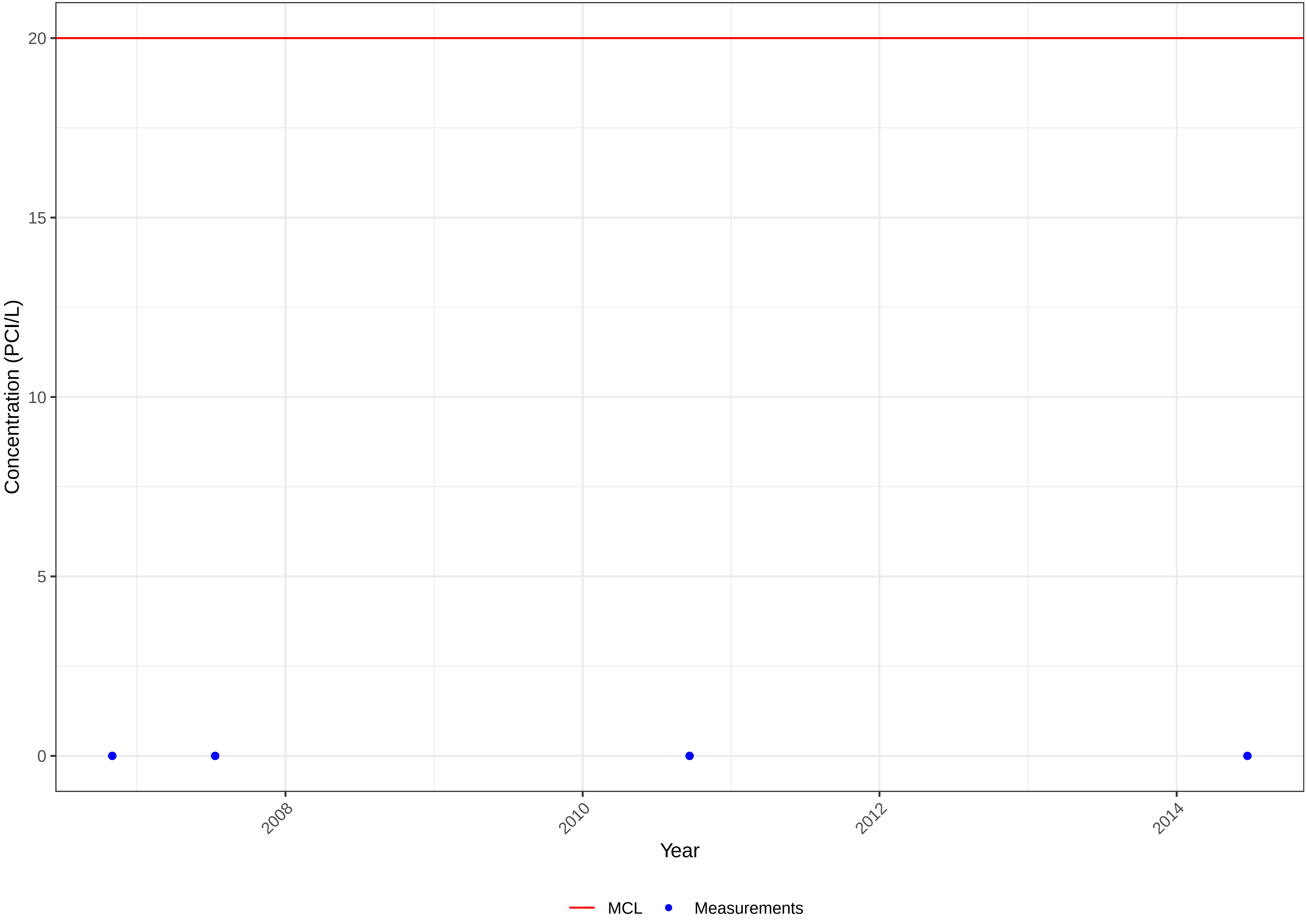
Water Quality Chart

Well No. 1610003−037
STORET No. 7744X
Constituent: 1,2,3−TRICHLOROPROPANE



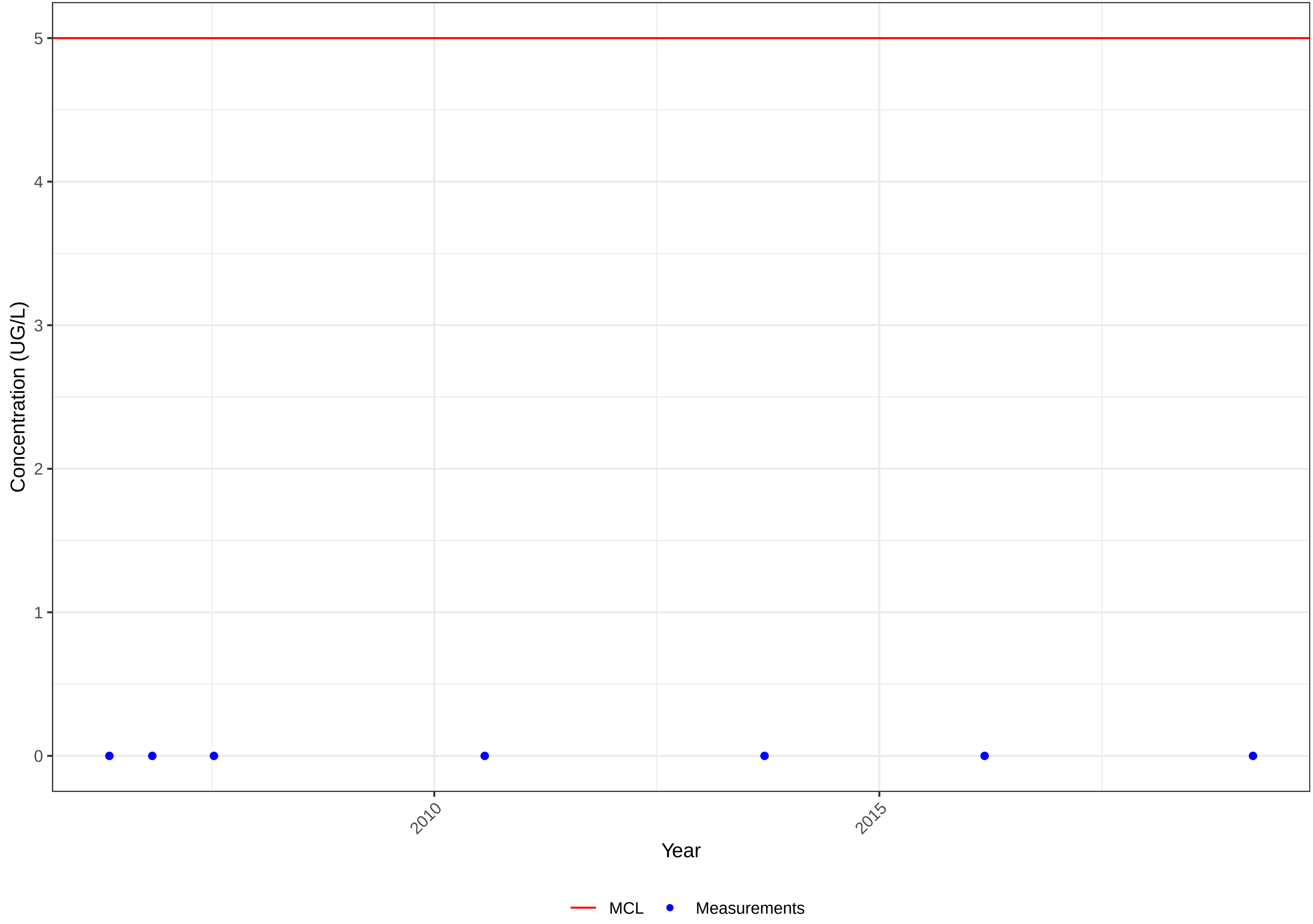
Water Quality Chart

Well No. 1610003−037
STORET No. 28012
Constituent: URANIUM (PCI/L)



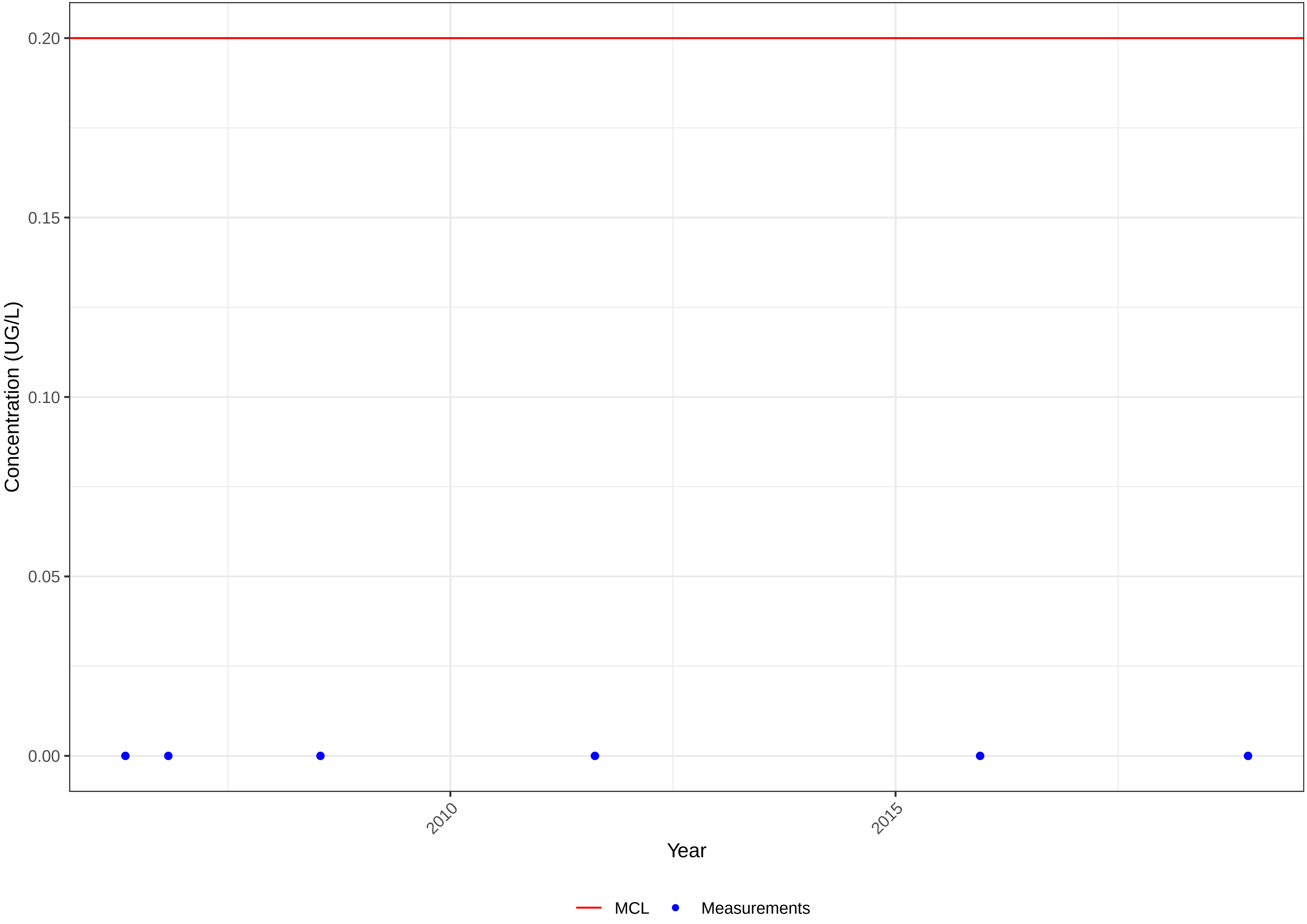
Water Quality Chart

Well No. 1610003−037
STORET No. 34475
Constituent: TETRACHLOROETHYLENE



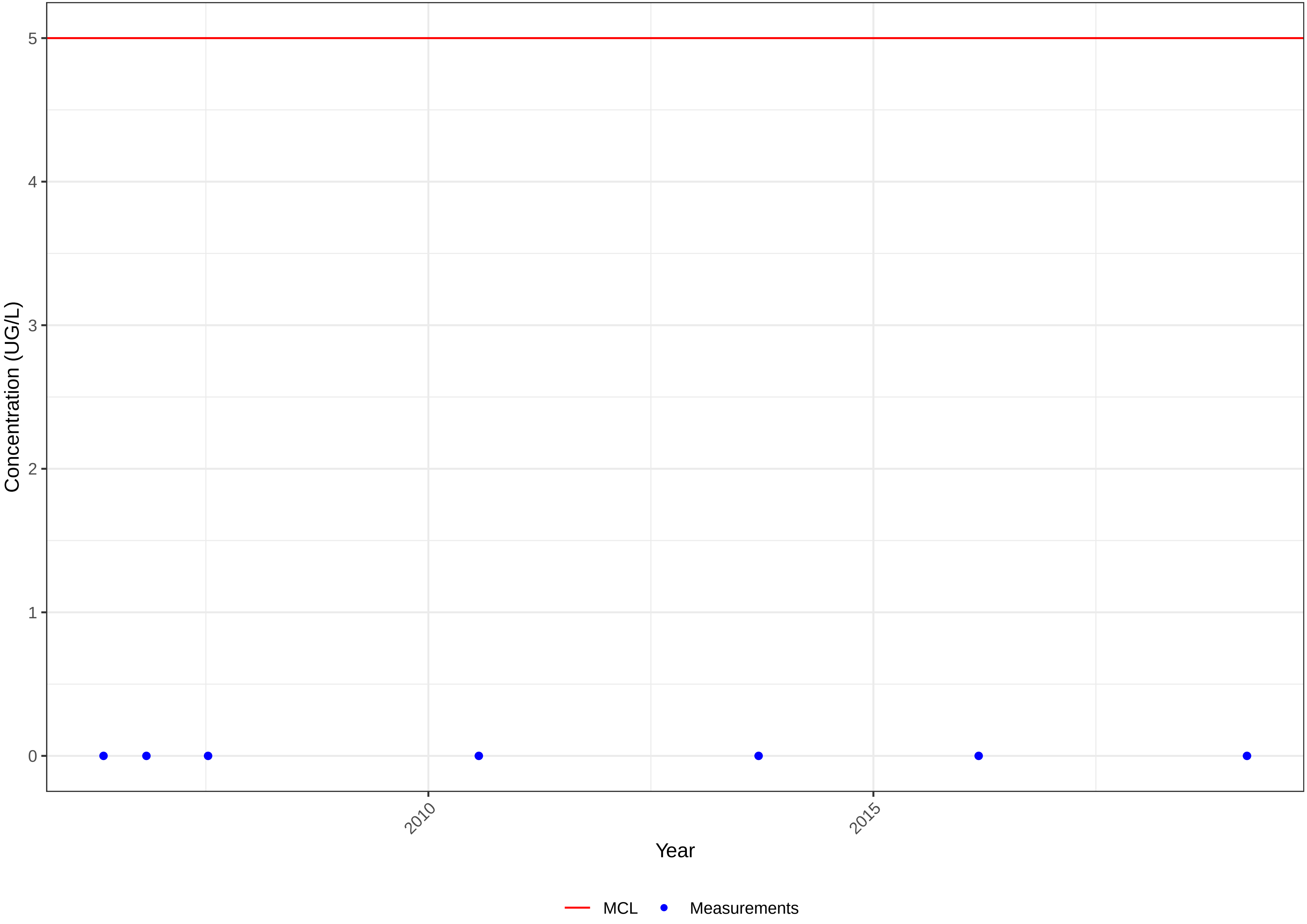
Water Quality Chart

Well No. 1610003−037
STORET No. 38761
Constituent: DIBROMOCHLOROPROPANE (DBCP)



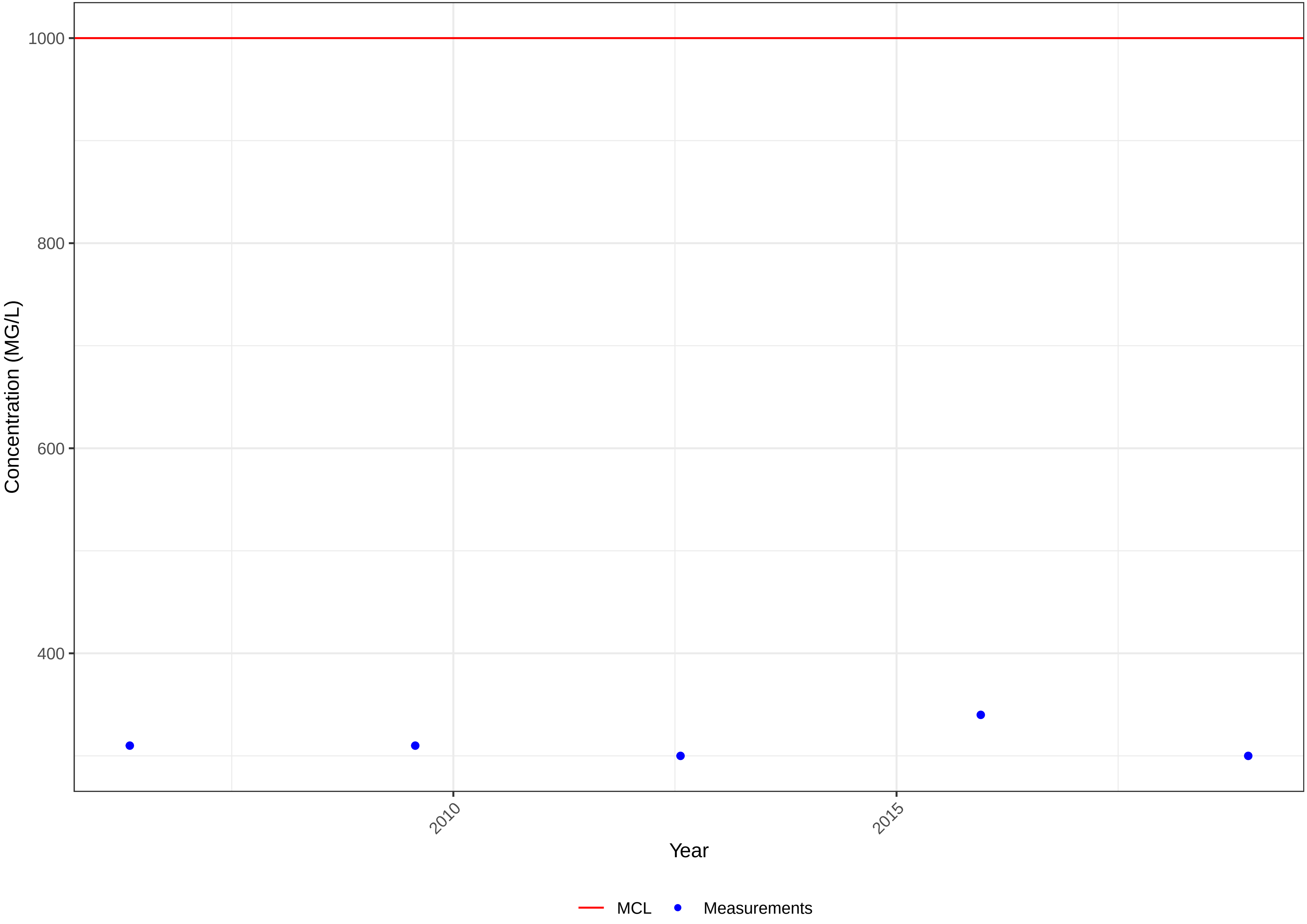
Water Quality Chart

Well No. 1610003−037
STORET No. 39180
Constituent: TRICHLOROETHYLENE



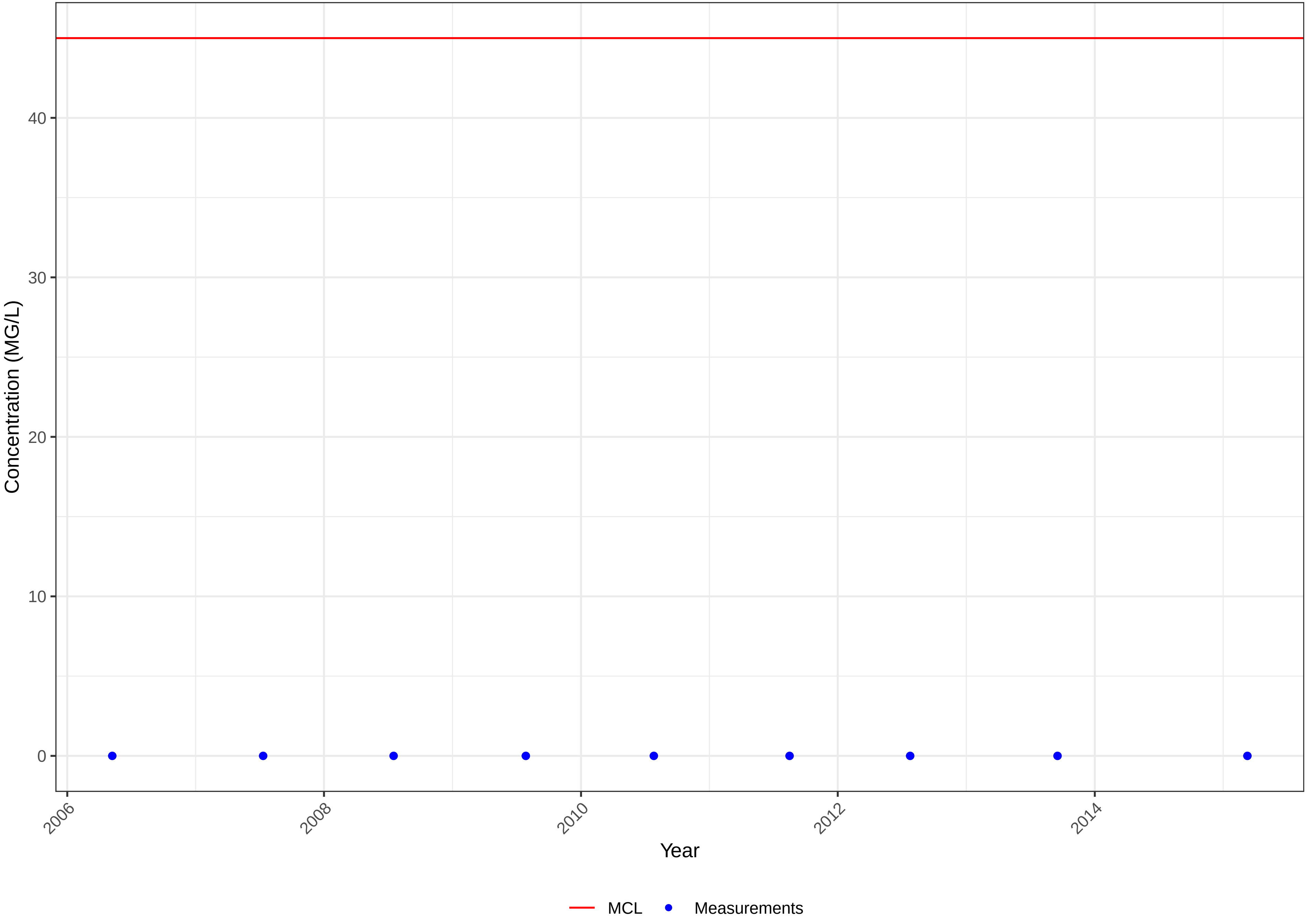
Water Quality Chart

Well No. 1610003−037
STORET No. 70300
Constituent: TOTAL DISSOLVED SOLIDS



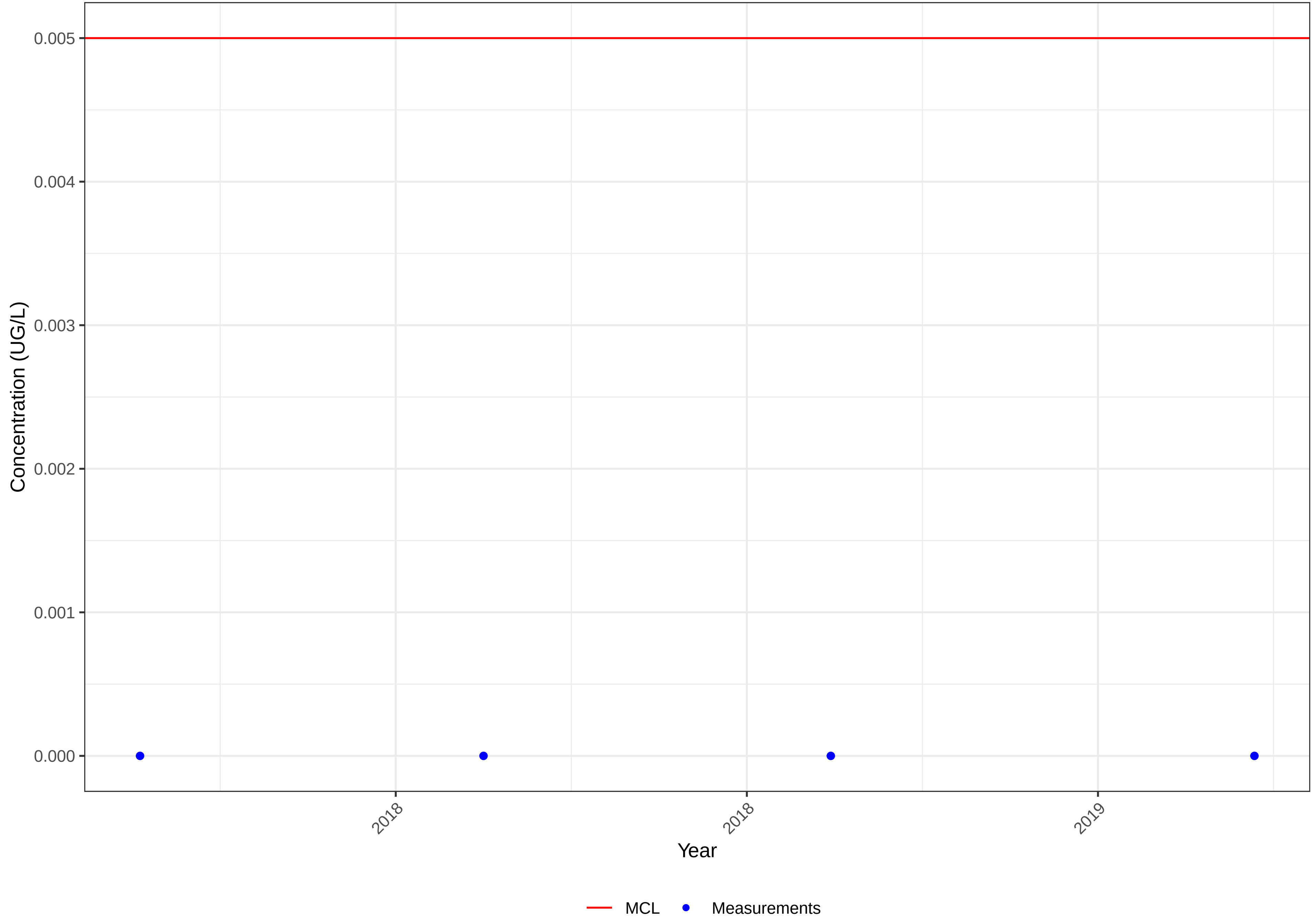
Water Quality Chart

Well No. 1610003−037
STORET No. 71850
Constituent: NITRATE (AS NO3)



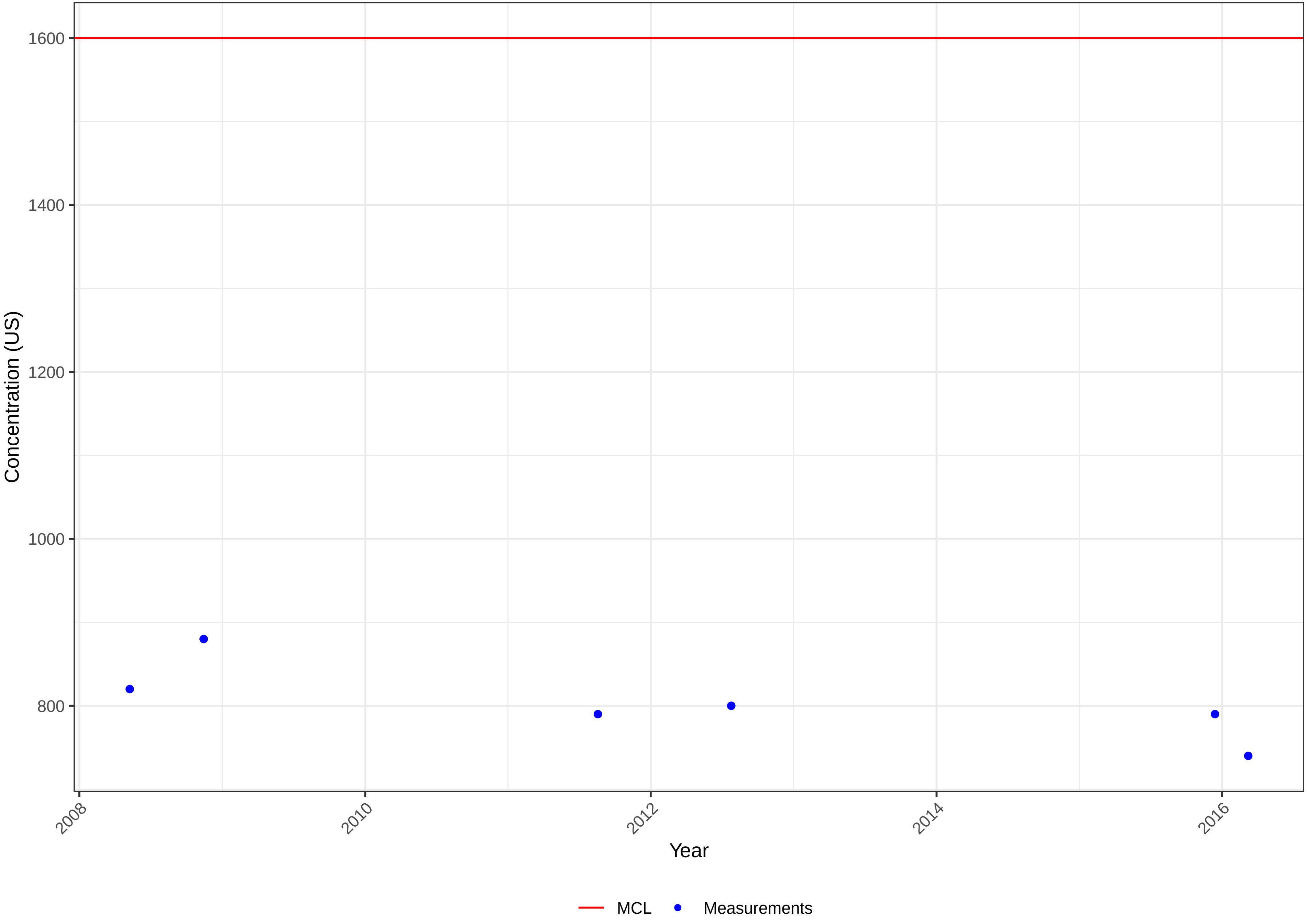
Water Quality Chart

Well No. 1610003−037
STORET No. 77443
Constituent: 1,2,3−TRICHLOROPROPANE



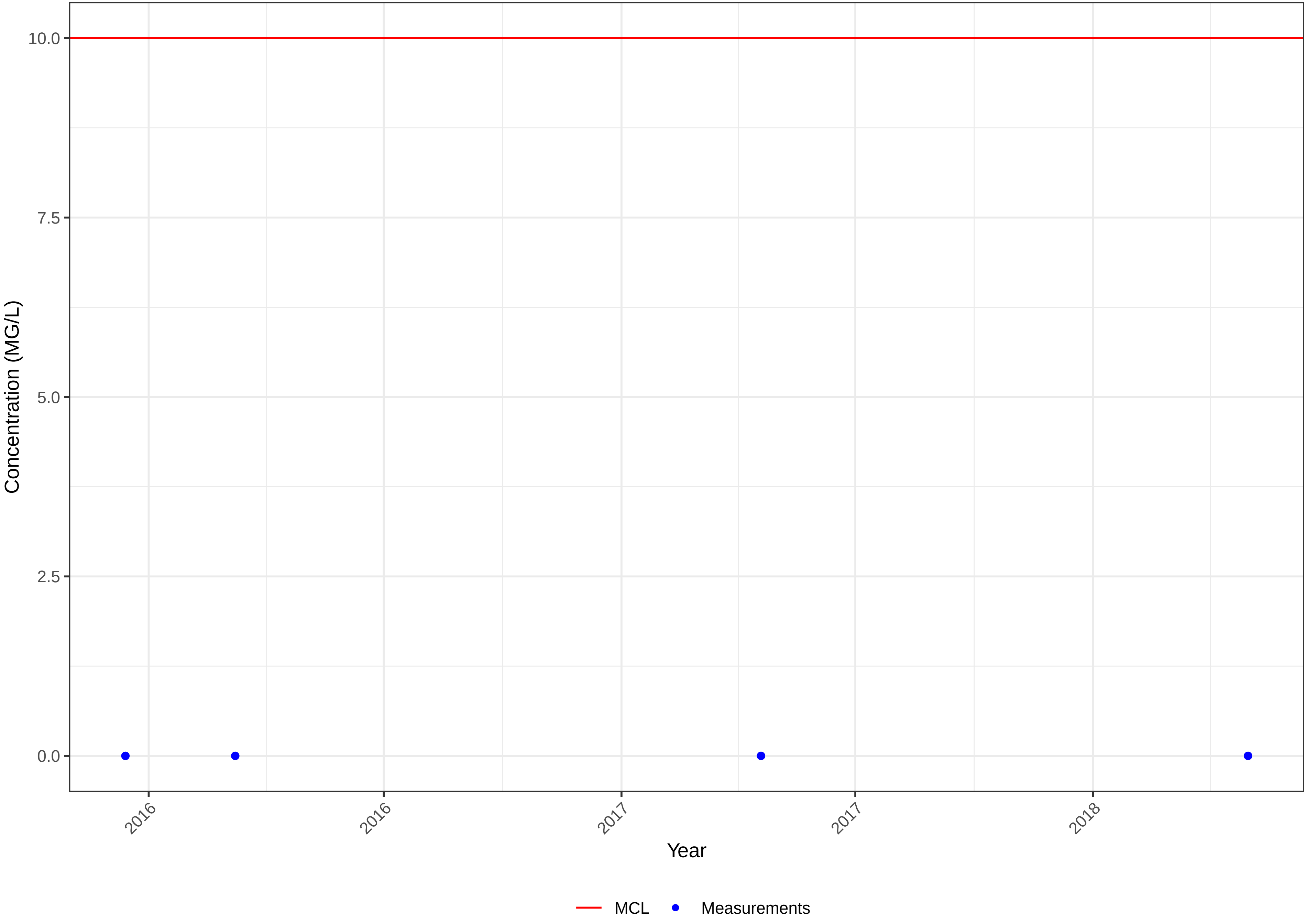
Water Quality Chart

Well No. 1610003−038
STORET No. 95
Constituent: SPECIFIC CONDUCTANCE



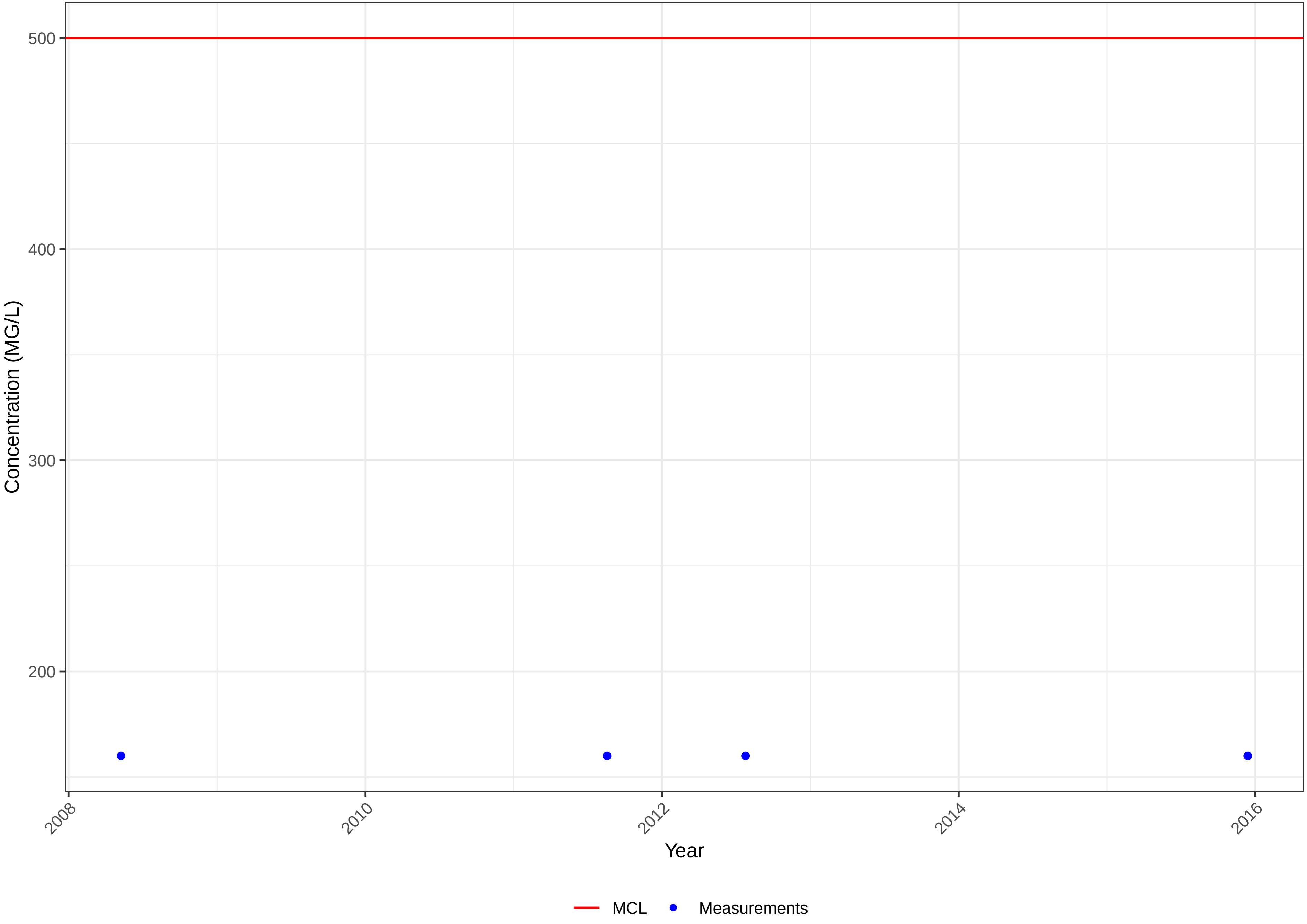
Water Quality Chart

Well No. 1610003−038
STORET No. 618
Constituent: NITRATE (AS N)



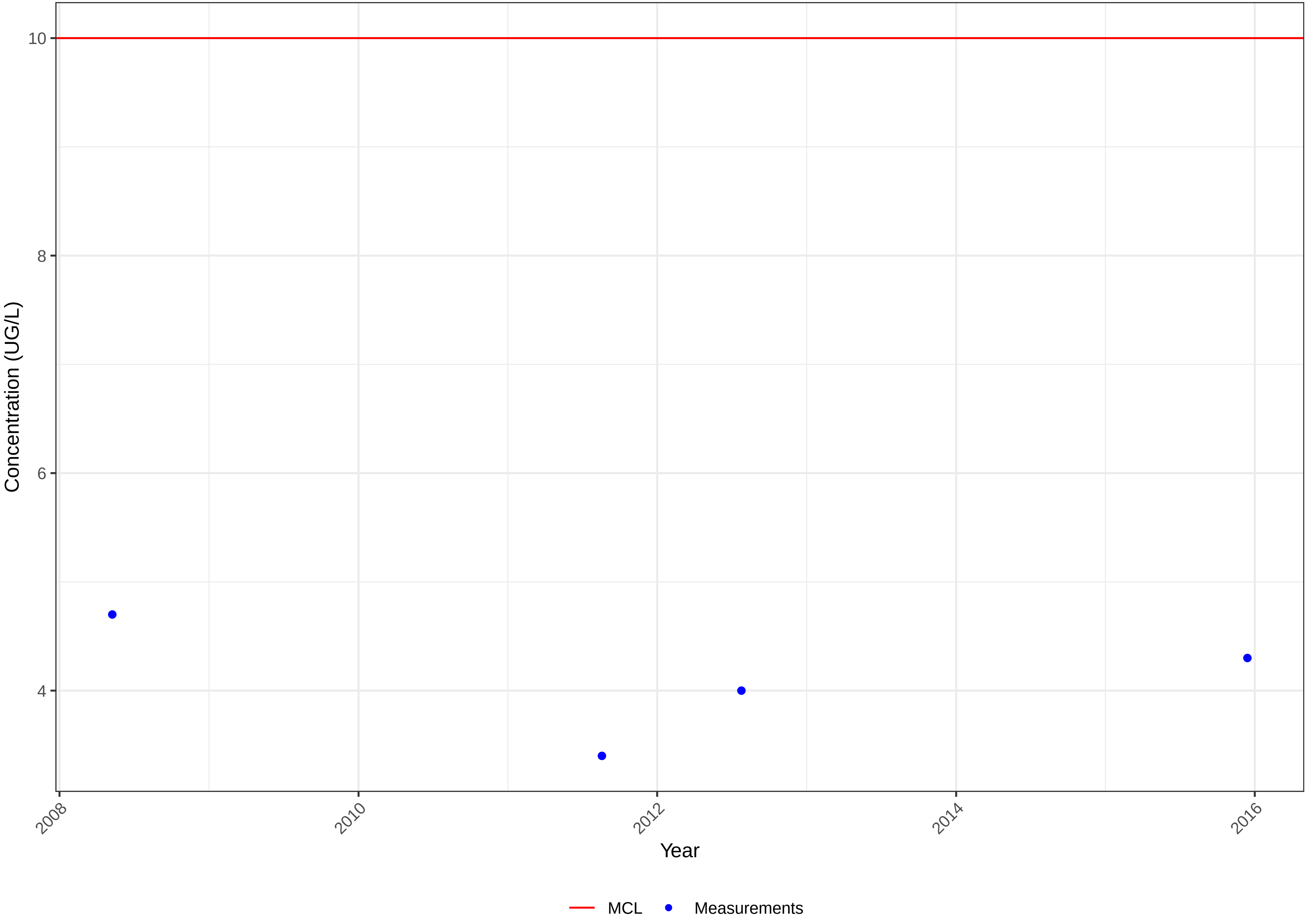
Water Quality Chart

Well No. 1610003−038
STORET No. 940
Constituent: CHLORIDE



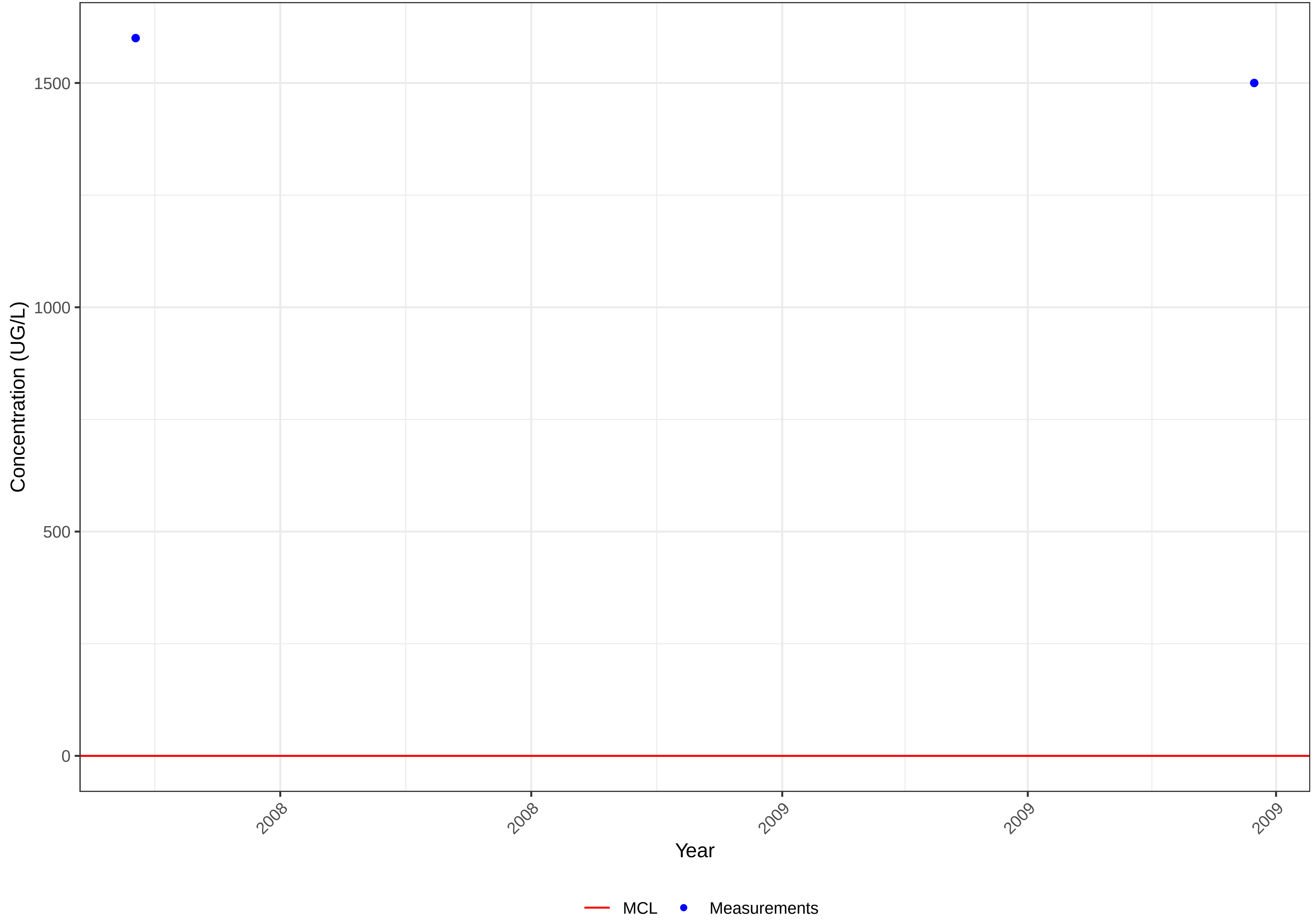
Water Quality Chart

Well No. 1610003−038
STORET No. 1002
Constituent: ARSENIC



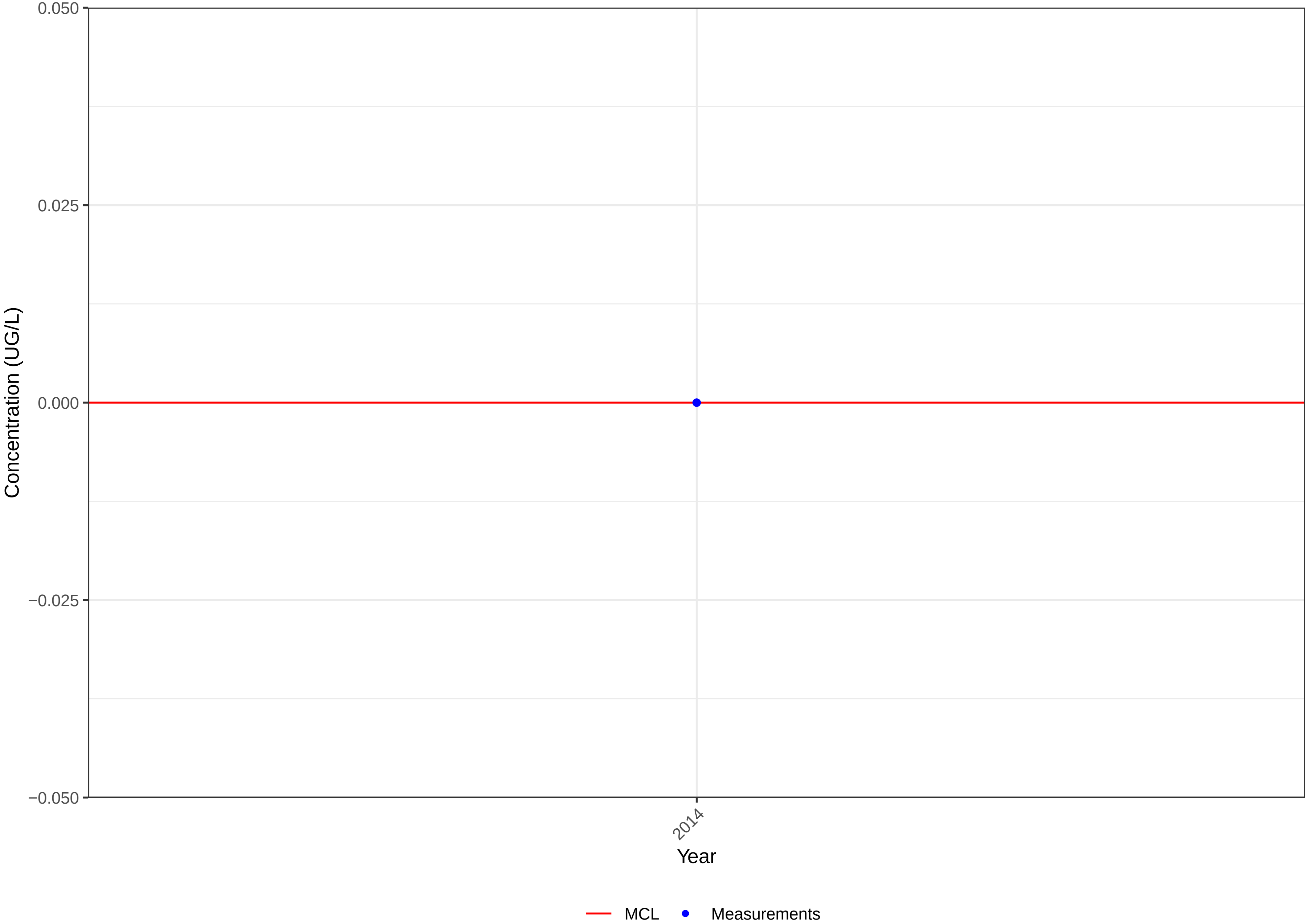
Water Quality Chart

Well No. 1610003−038
STORET No. 1020
Constituent: BORON



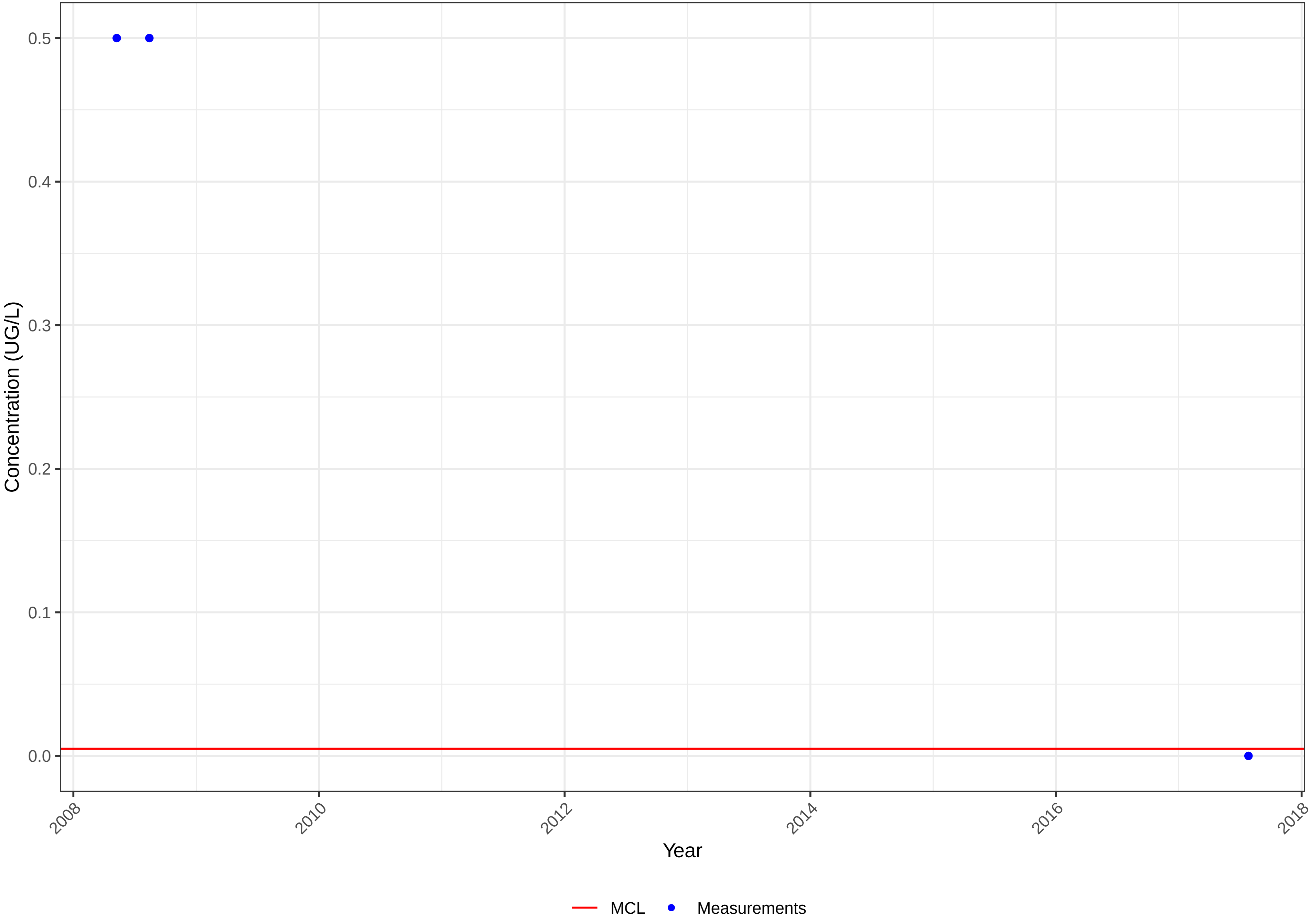
Water Quality Chart

Well No. 1610003−038
STORET No. 1032
Constituent: CHROMIUM, HEXAVALENT



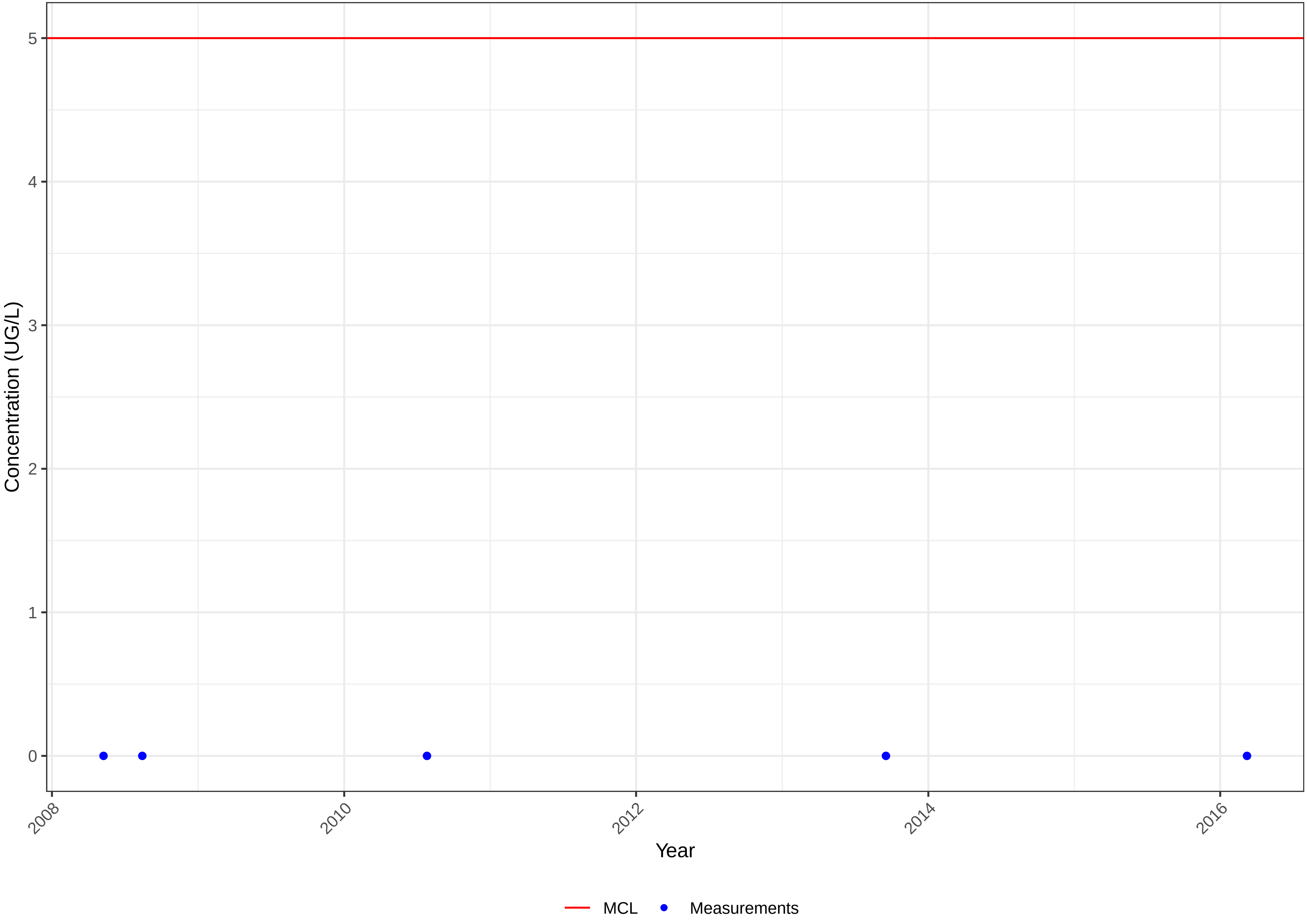
Water Quality Chart

Well No. 1610003−038
STORET No. 7744X
Constituent: 1,2,3−TRICHLOROPROPANE



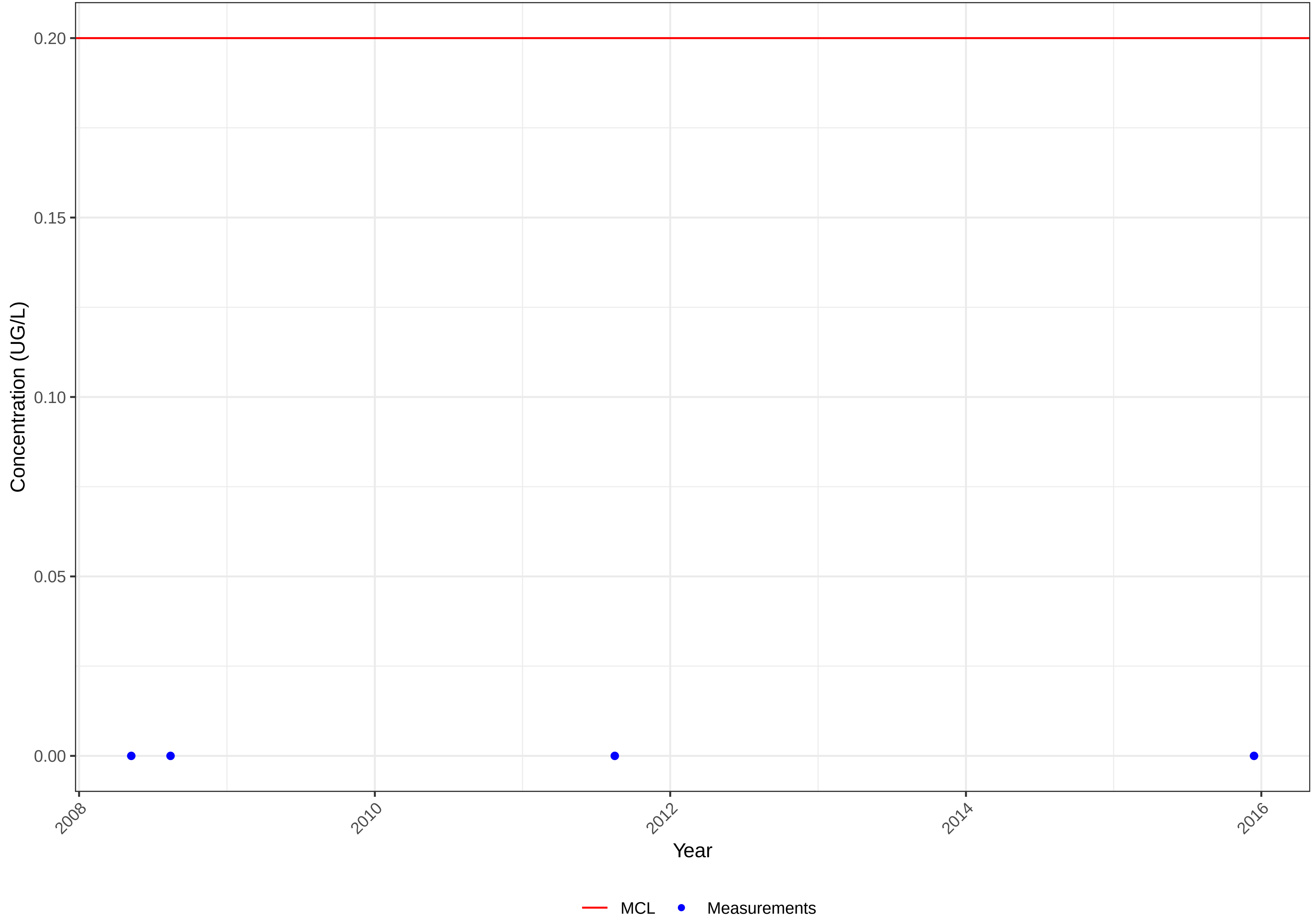
Water Quality Chart

Well No. 1610003−038
STORET No. 34475
Constituent: TETRACHLOROETHYLENE



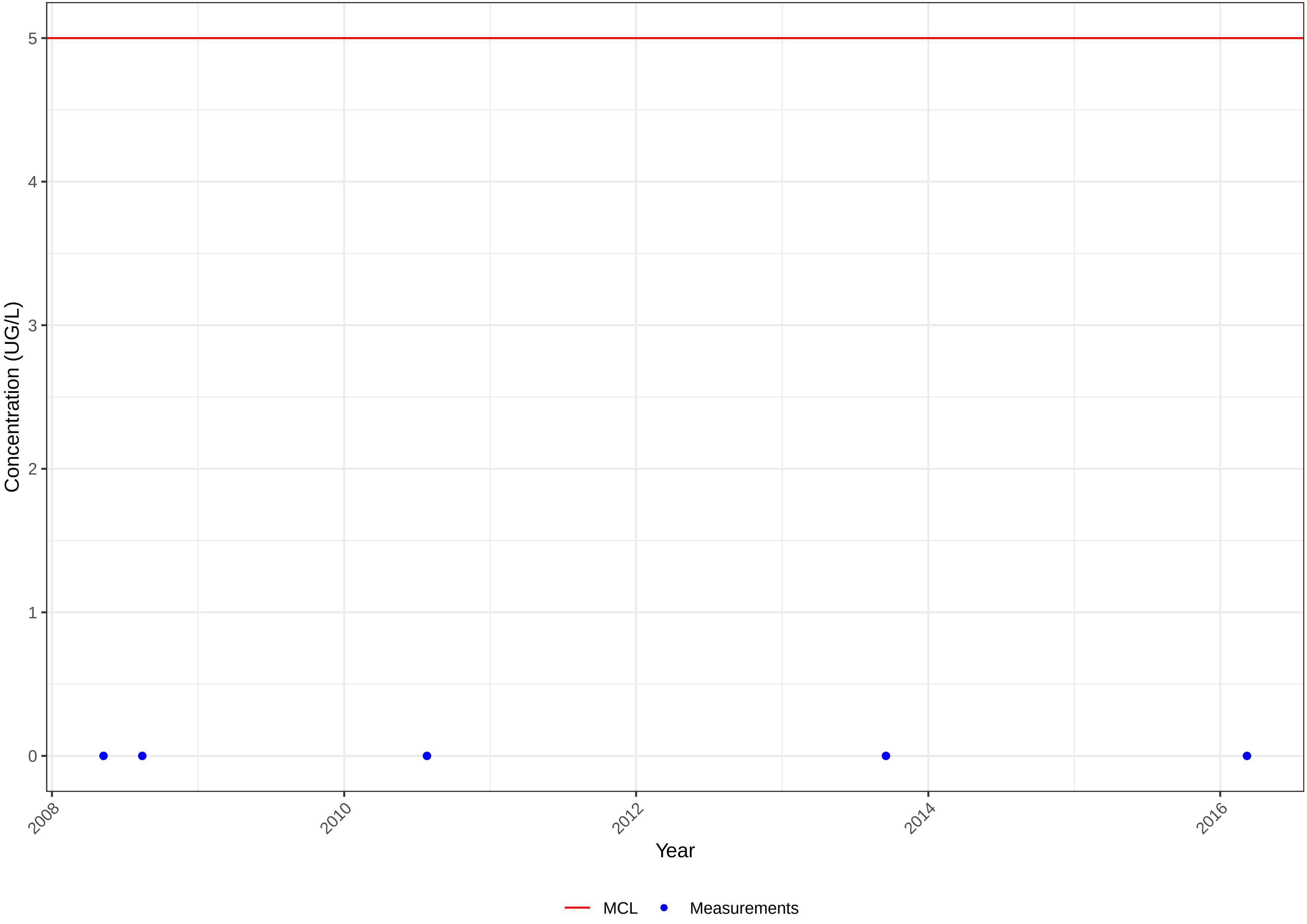
Water Quality Chart

Well No. 1610003−038
STORET No. 38761
Constituent: DIBROMOCHLOROPROPANE (DBCP)



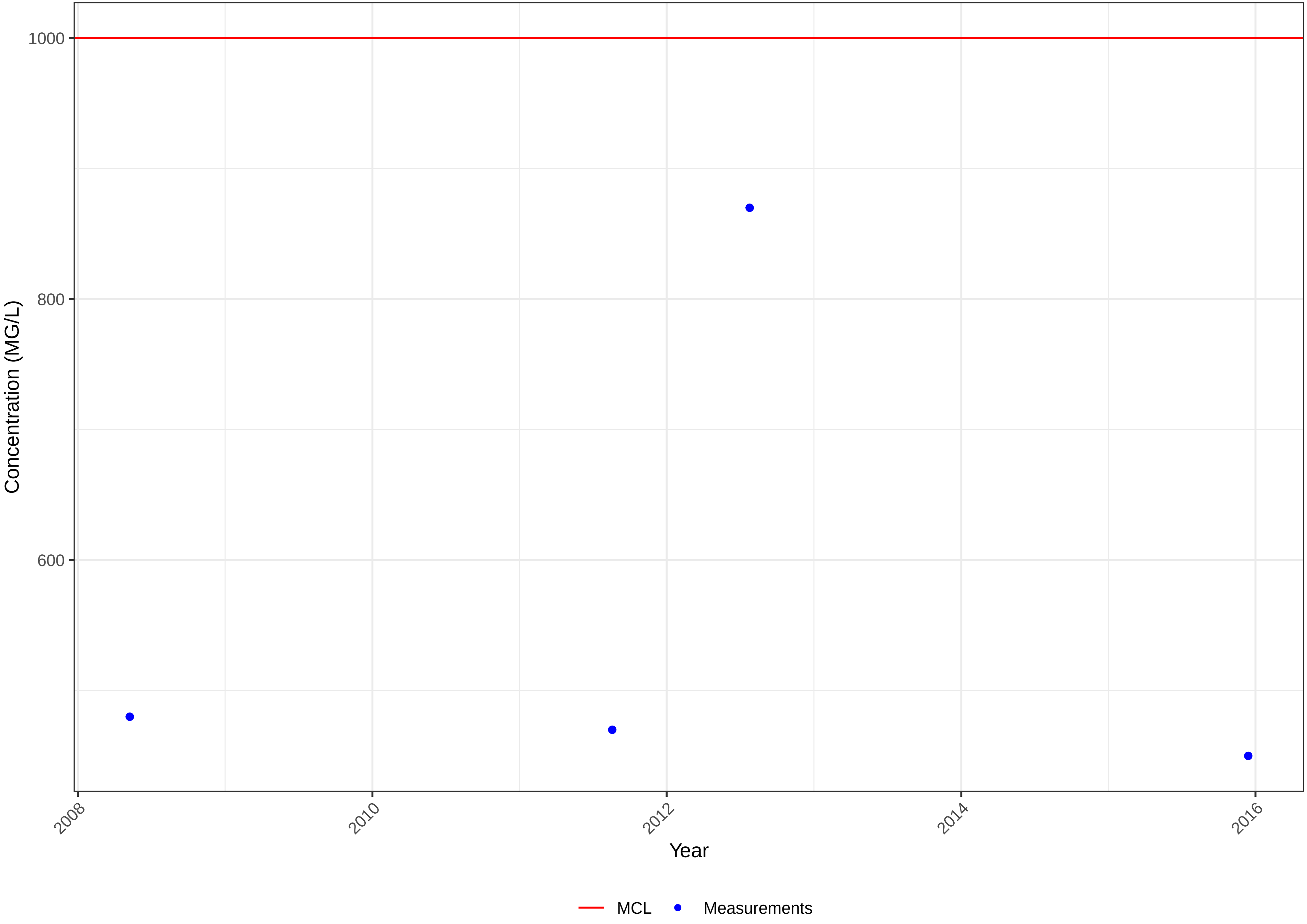
Water Quality Chart

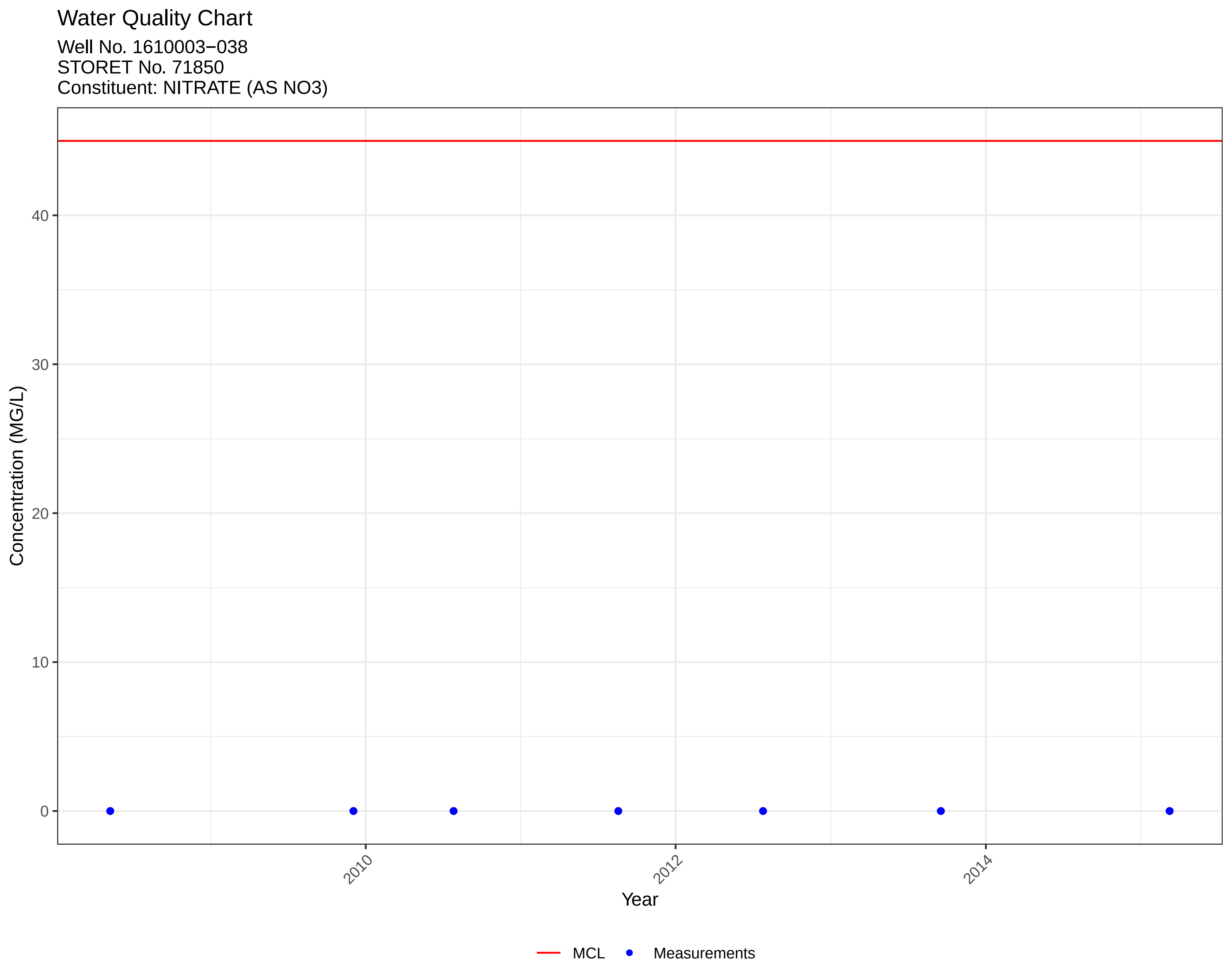
Well No. 1610003−038
STORET No. 39180
Constituent: TRICHLOROETHYLENE

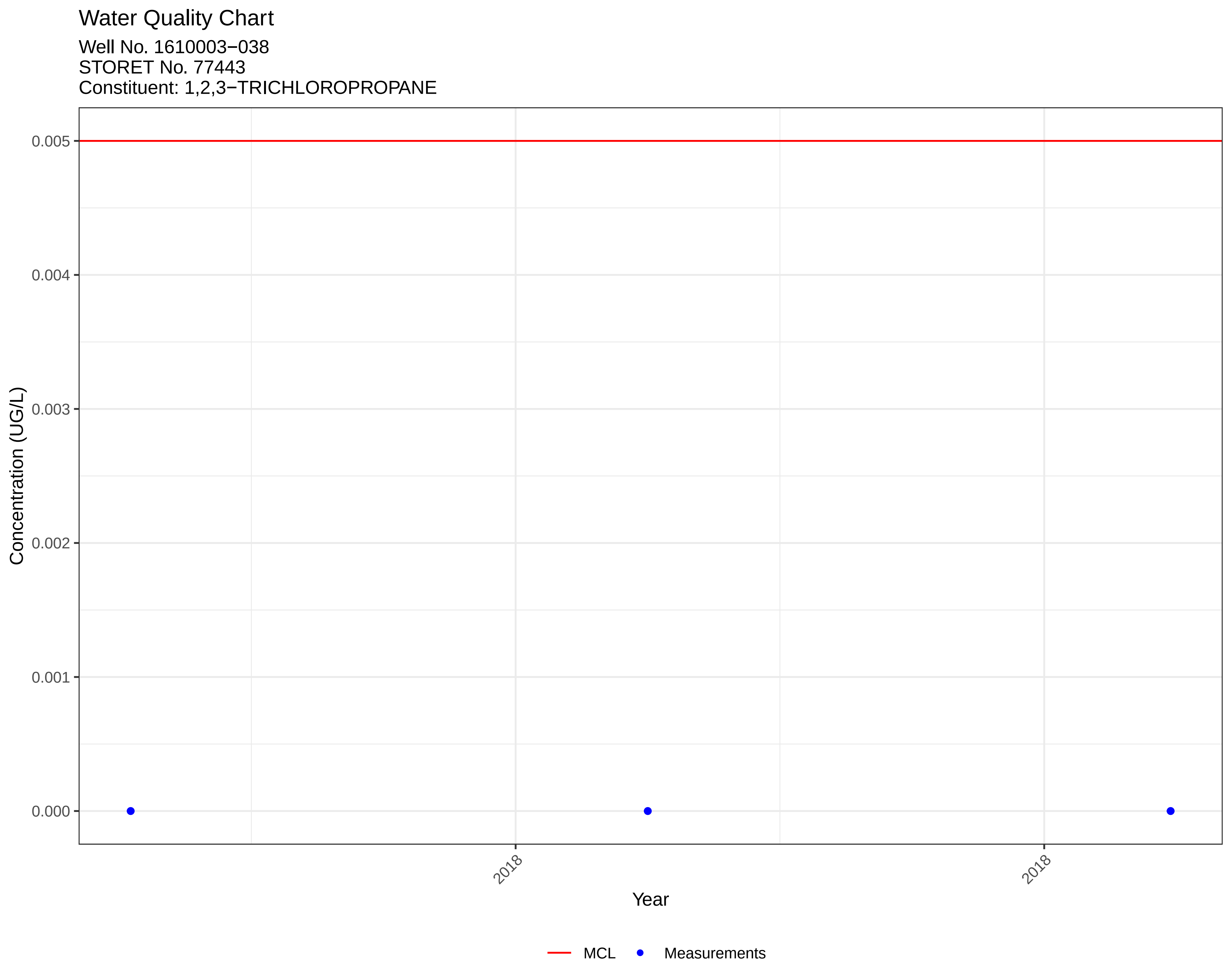


Water Quality Chart

Well No. 1610003−038
STORET No. 70300
Constituent: TOTAL DISSOLVED SOLIDS

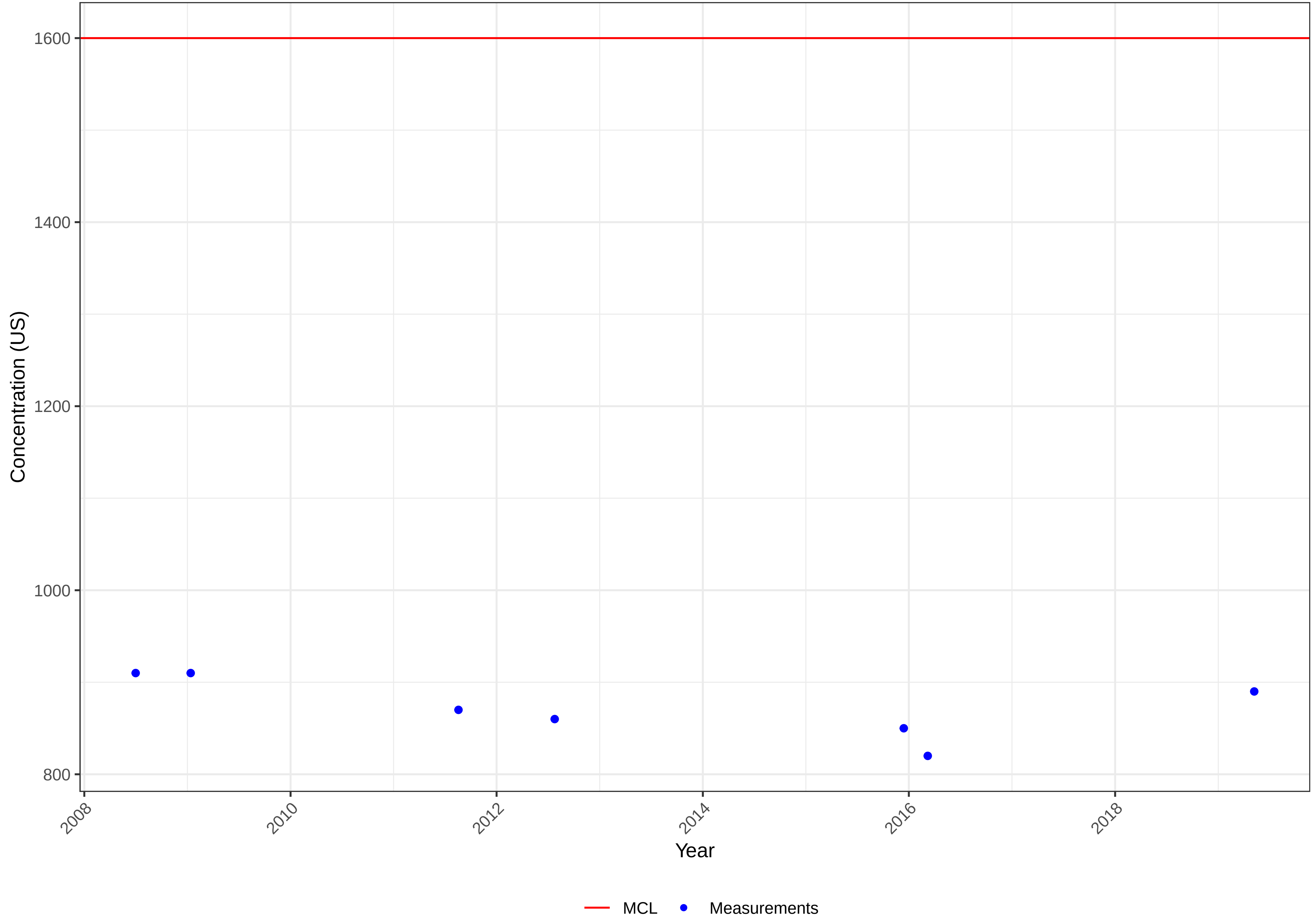



Water Quality Chart
Well No. 1610003−038
STORET No. 71850
Constituent: NITRATE (AS NO3)
Concentration (MG/L)
40
30
20
10
0
2010
2012
2014
Year
MCL
Measurements


Water Quality Chart
Well No. 1610003−038
STORET No. 77443
Constituent: 1,2,3−TRICHLOROPROPANE
Concentration (UG/L)
0.005
0.004
0.003
0.002
0.001
0.000
2018
2018
Year
MCL
Measurements

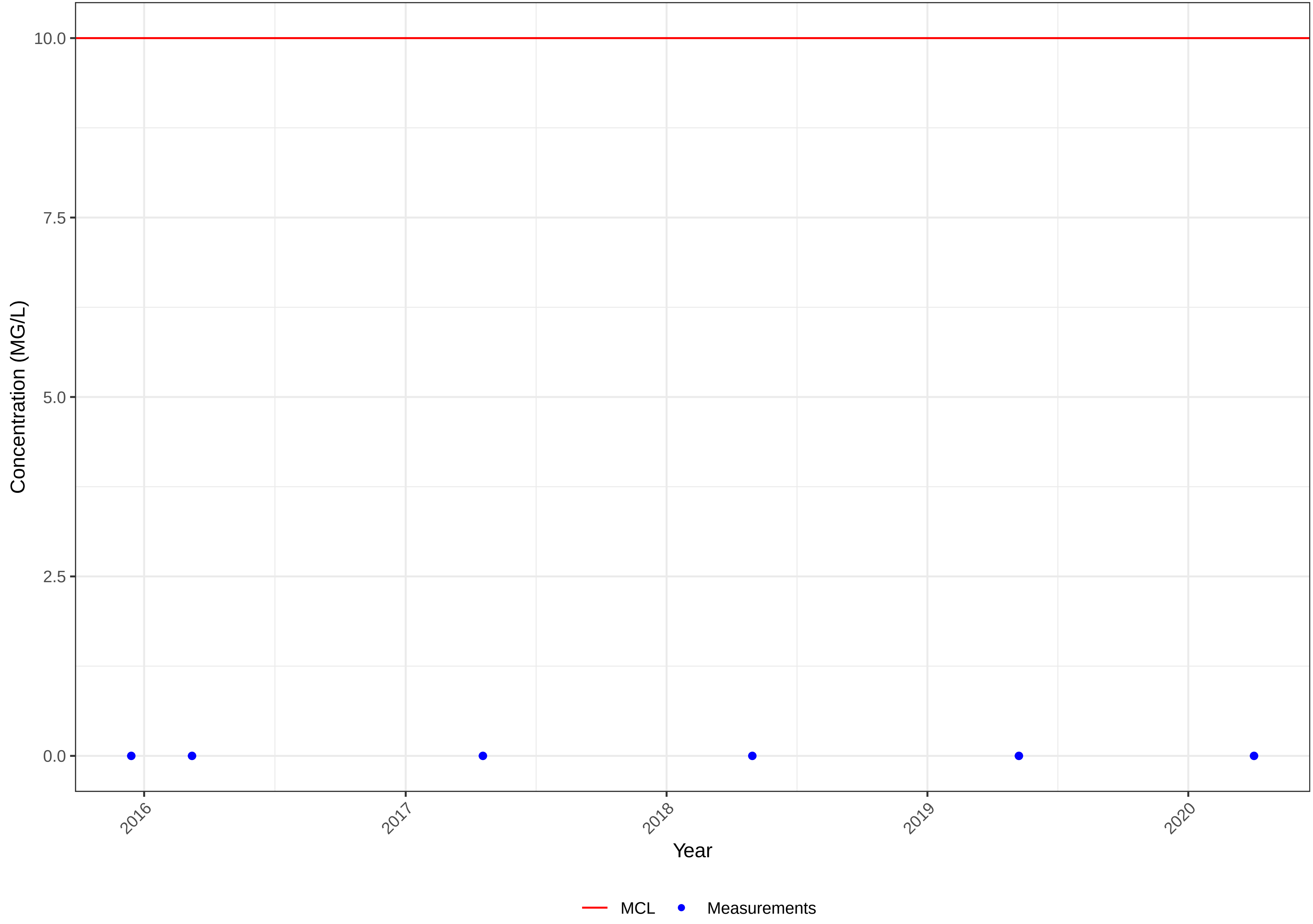
Water Quality Chart

Well No. 1610003−039
STORET No. 95
Constituent: SPECIFIC CONDUCTANCE



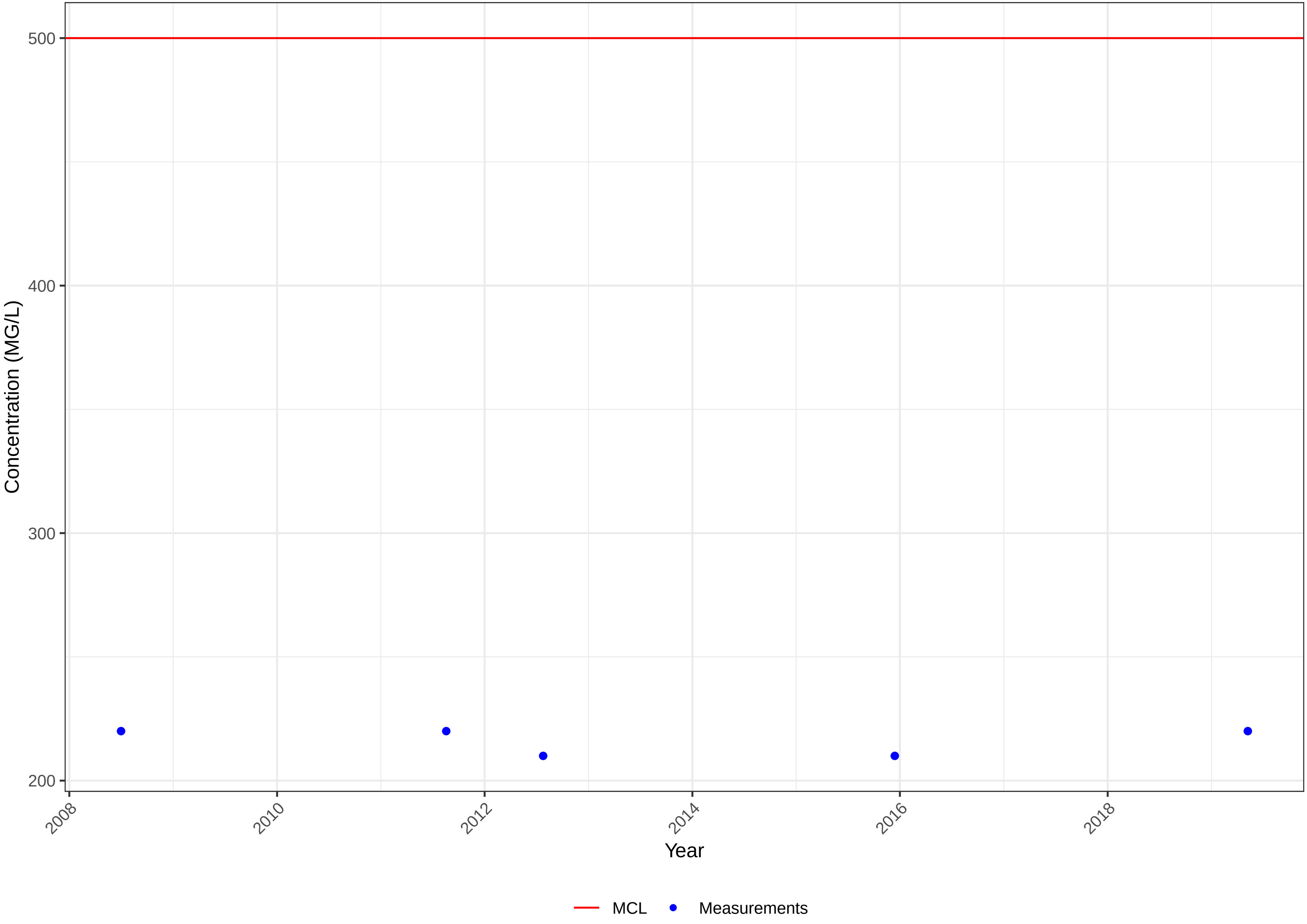
Water Quality Chart

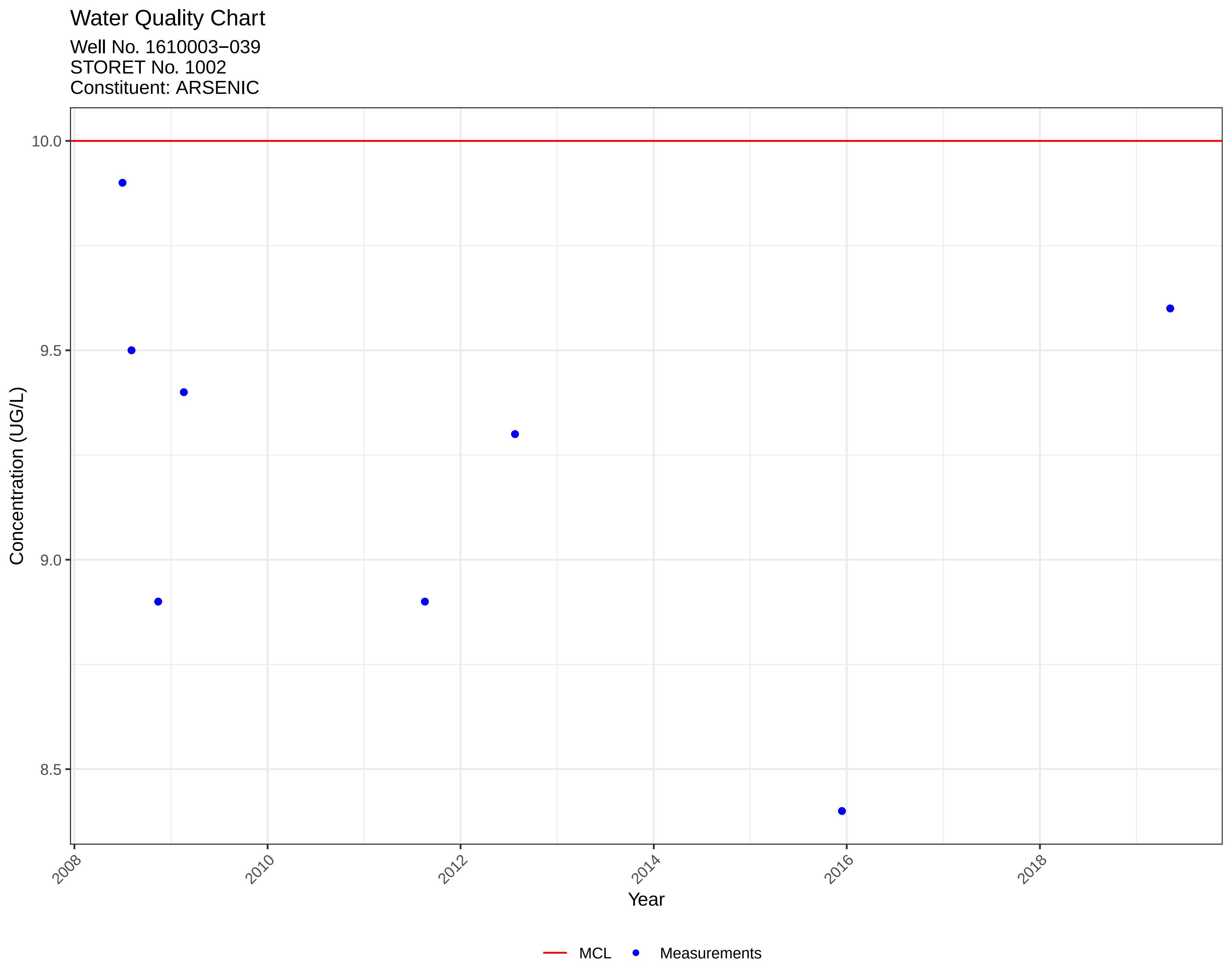
Well No. 1610003−039
STORET No. 618
Constituent: NITRATE (AS N)



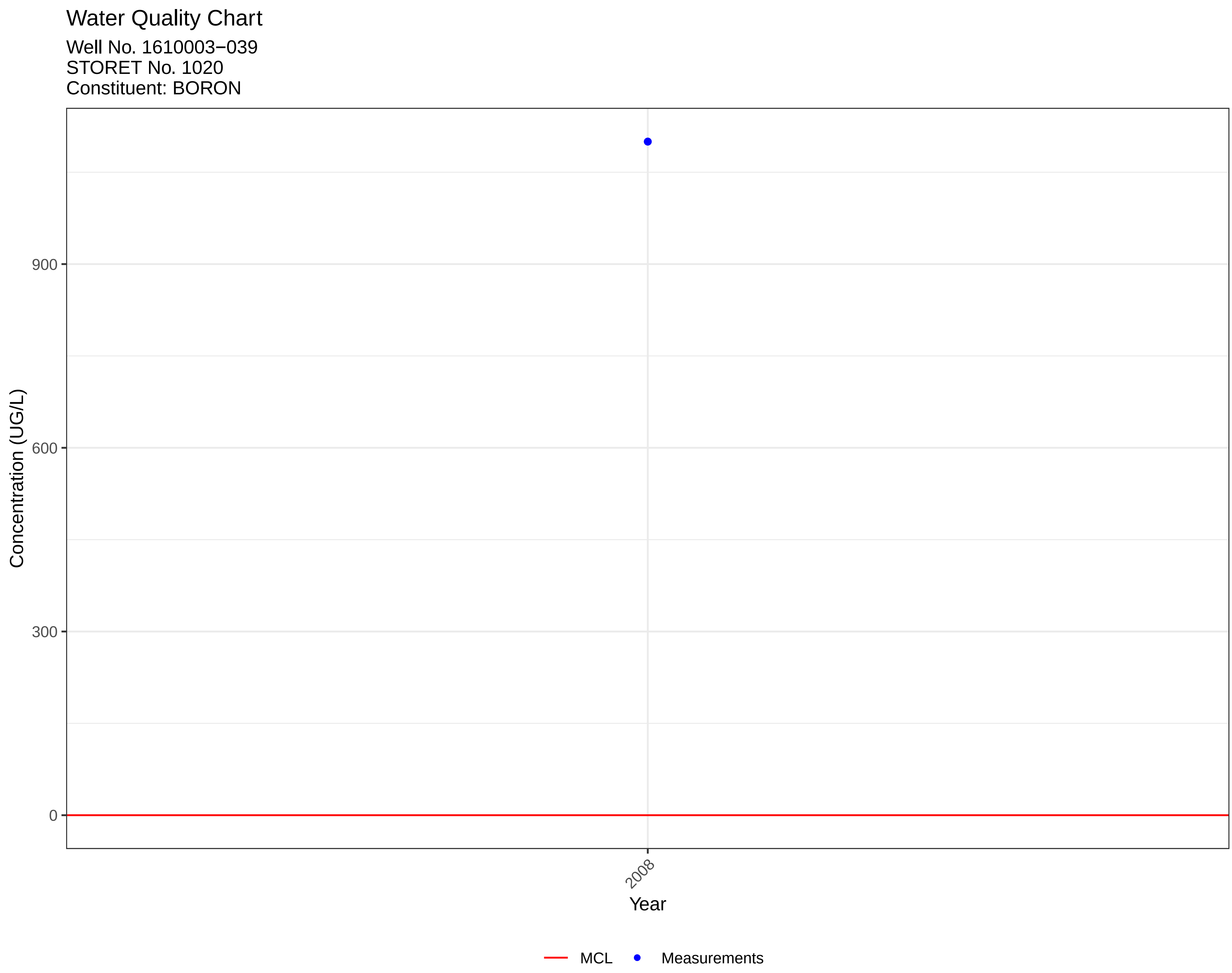
Water Quality Chart

Well No. 1610003−039
STORET No. 940
Constituent: CHLORIDE





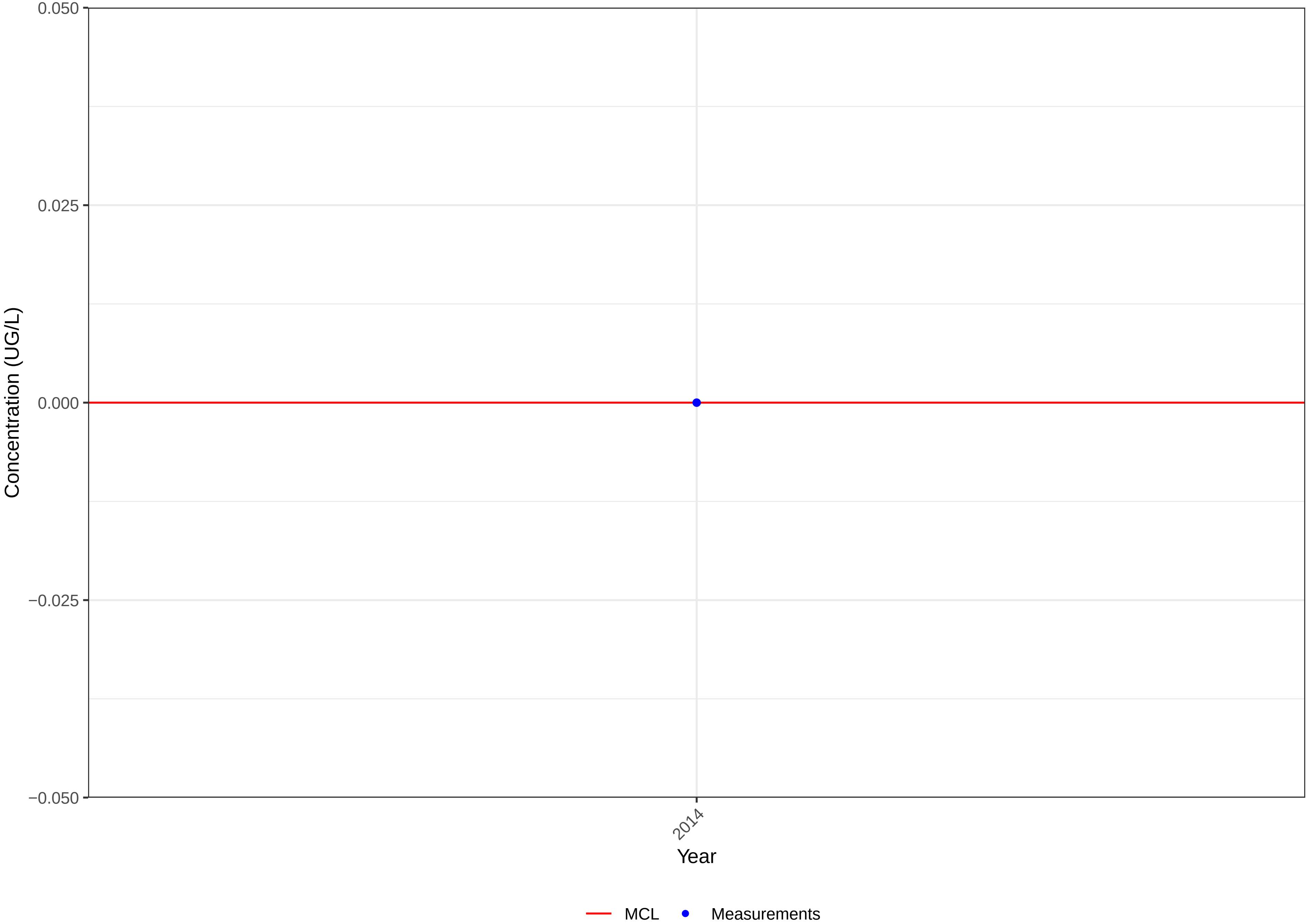
Water Quality Chart
Well No. 1610003−039
STORET No. 1002
Constituent: ARSENIC
Concentration (UG/L)
10.0
9.5
9.0
8.5
2008
2010
2012
2014
2016
2018
Year
MCL
Measurements



Water Quality Chart
Well No. 1610003−039
STORET No. 1020
Constituent: BORON
Concentration (UG/L)
900
600
300
0
2008
Year
MCL
Measurements

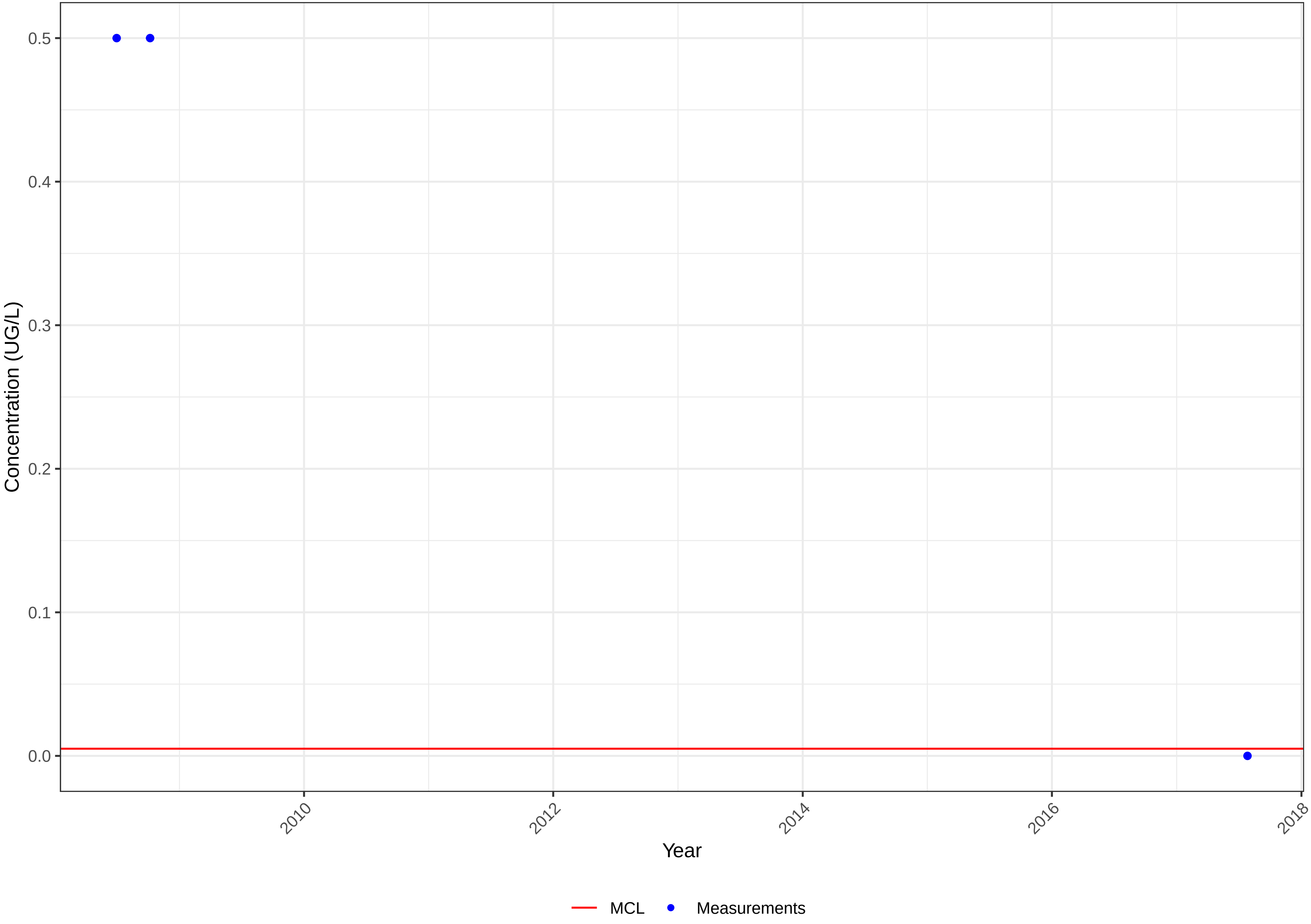
Water Quality Chart

Well No. 1610003−039
STORET No. 1032
Constituent: CHROMIUM, HEXAVALENT



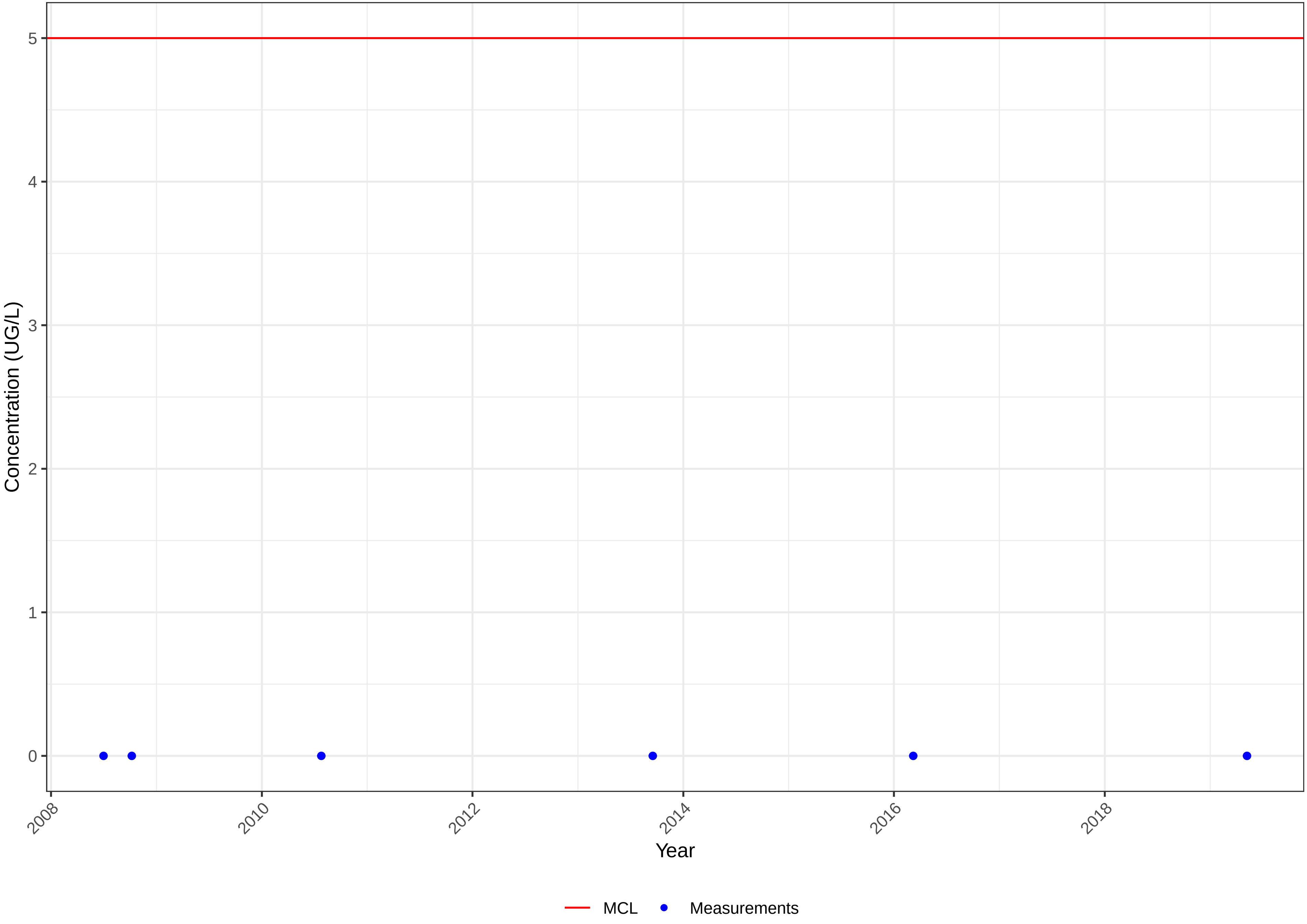
Water Quality Chart

Well No. 1610003−039
STORET No. 7744X
Constituent: 1,2,3−TRICHLOROPROPANE



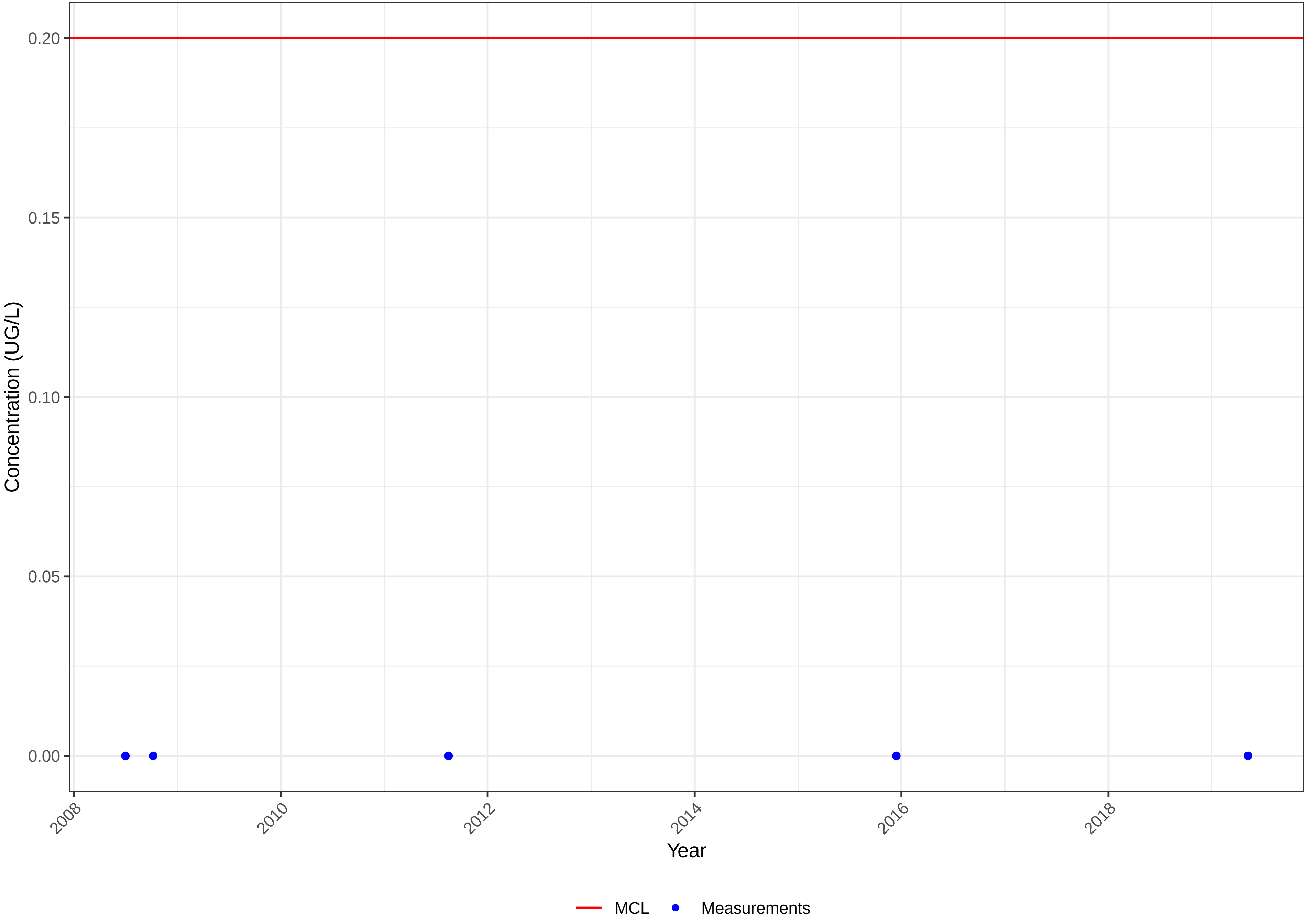
Water Quality Chart

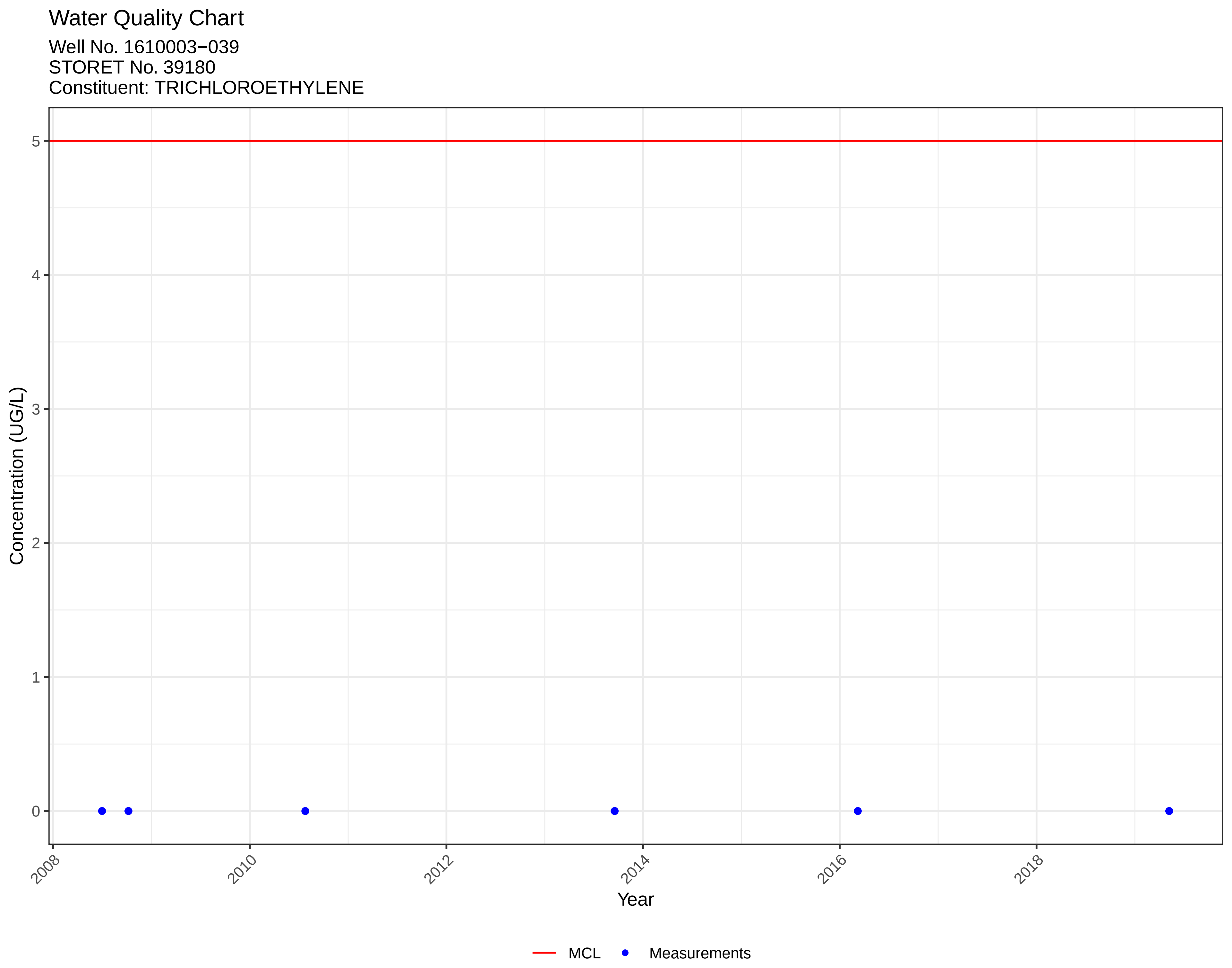
Well No. 1610003−039
STORET No. 34475
Constituent: TETRACHLOROETHYLENE



Water Quality Chart

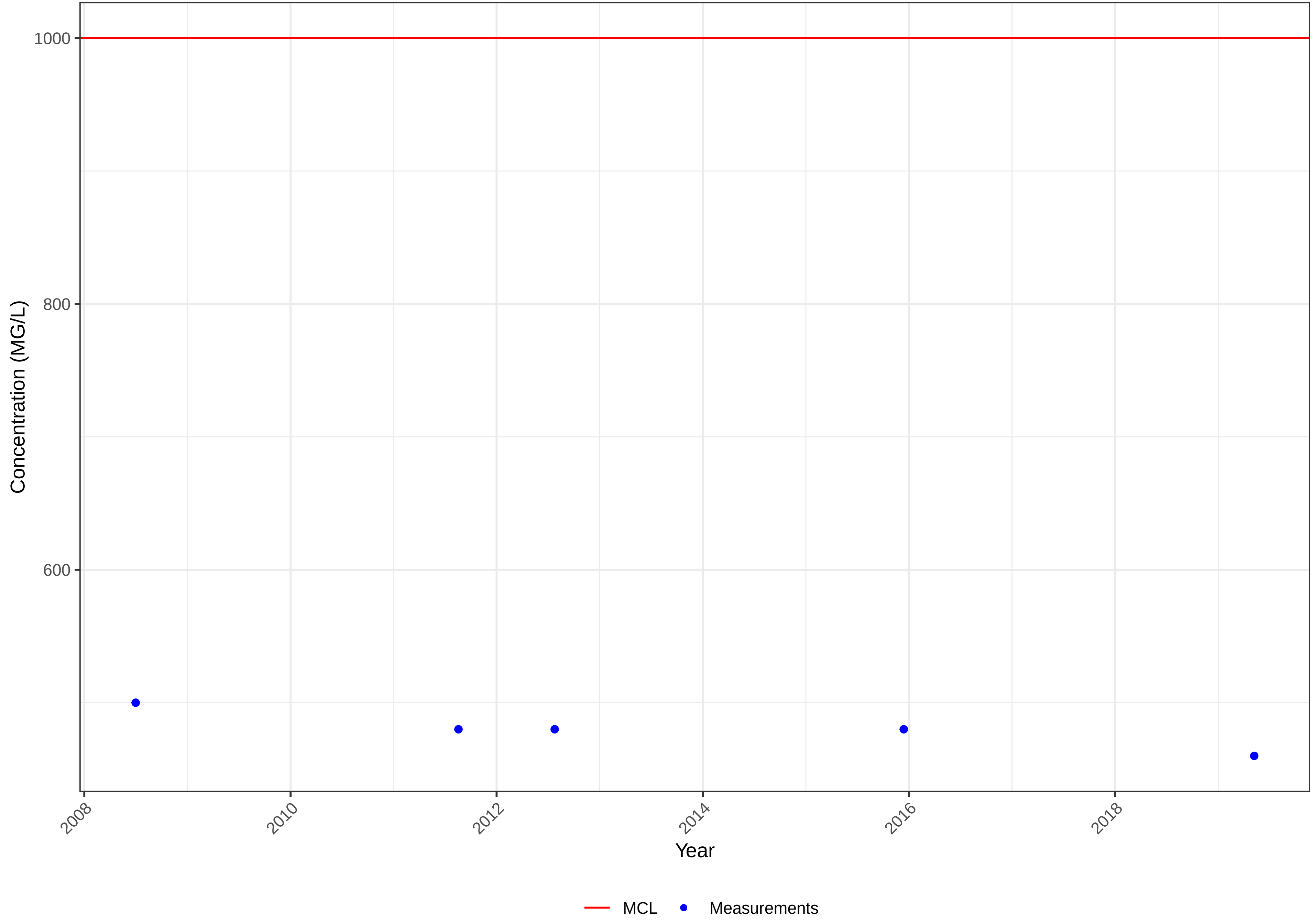
Well No. 1610003−039
STORET No. 38761
Constituent: DIBROMOCHLOROPROPANE (DBCP)




Water Quality Chart
Well No. 1610003−039
STORET No. 39180
Constituent: TRICHLOROETHYLENE
Concentration (UG/L)
0
1
2
3
4
5
2008
2010
2012
2014
2016
2018
Year
MCL
Measurements

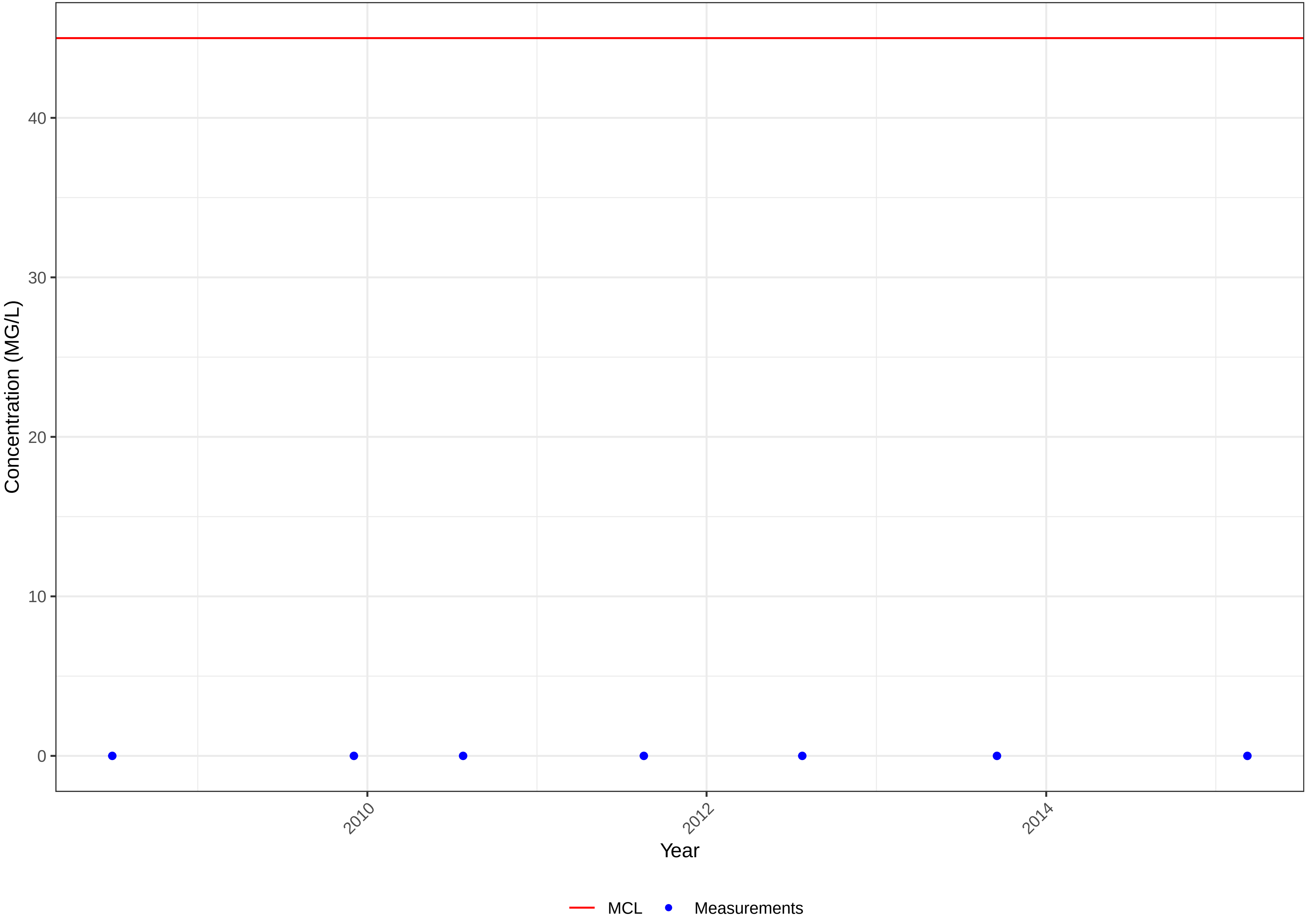
Water Quality Chart

Well No. 1610003−039
STORET No. 70300
Constituent: TOTAL DISSOLVED SOLIDS



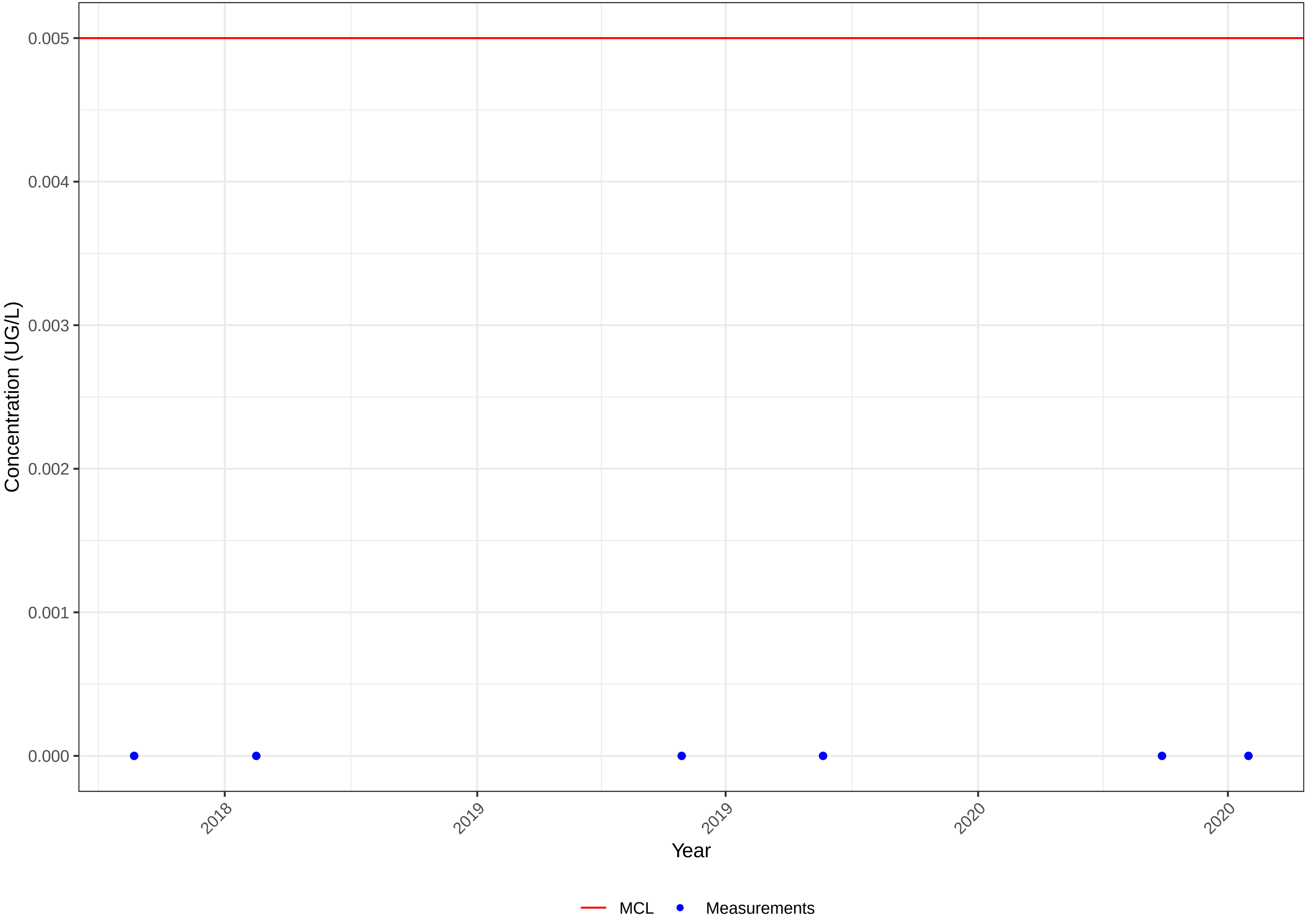
Water Quality Chart

Well No. 1610003−039
STORET No. 71850
Constituent: NITRATE (AS NO3)



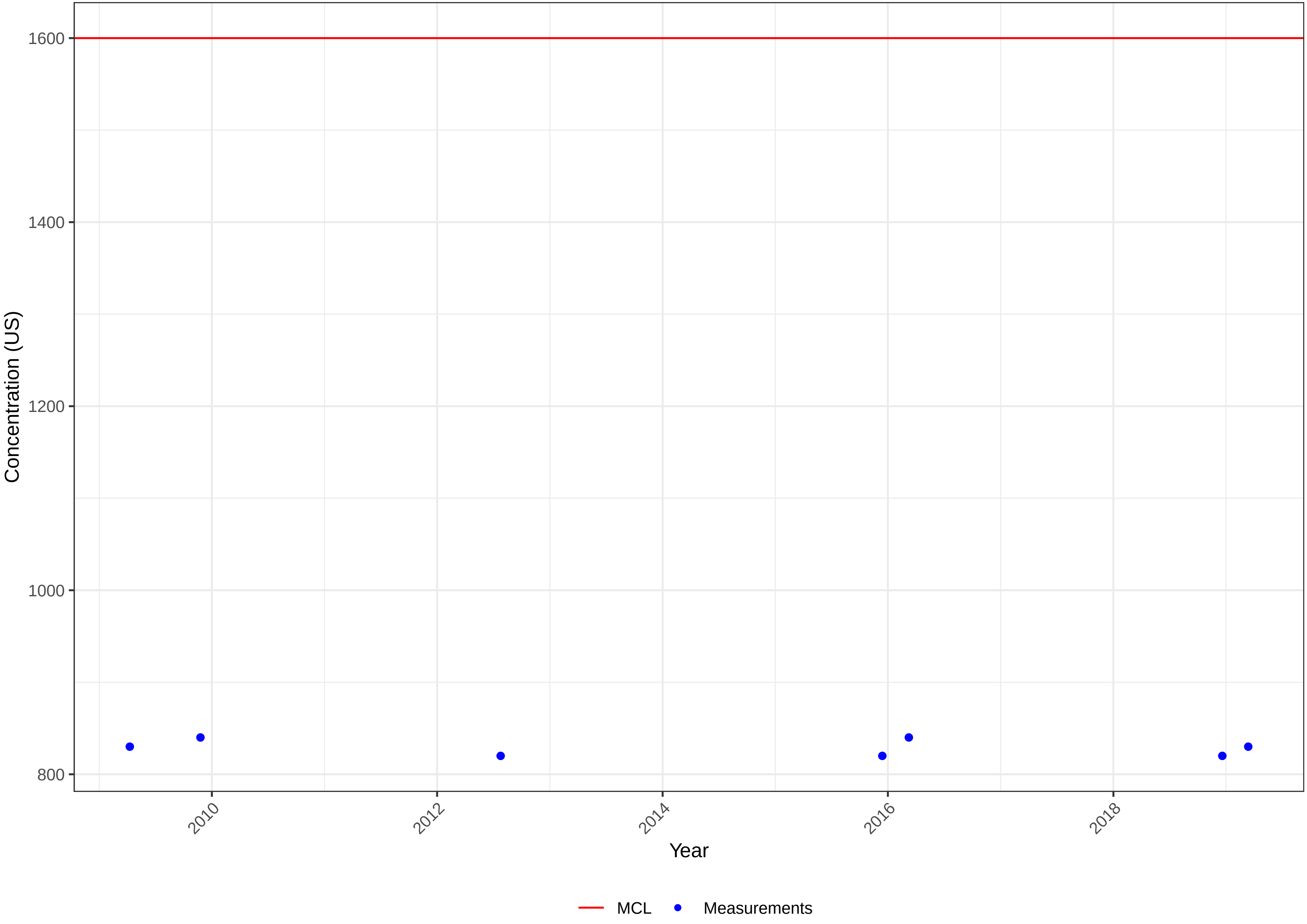
Water Quality Chart

Well No. 1610003−039
STORET No. 77443
Constituent: 1,2,3−TRICHLOROPROPANE



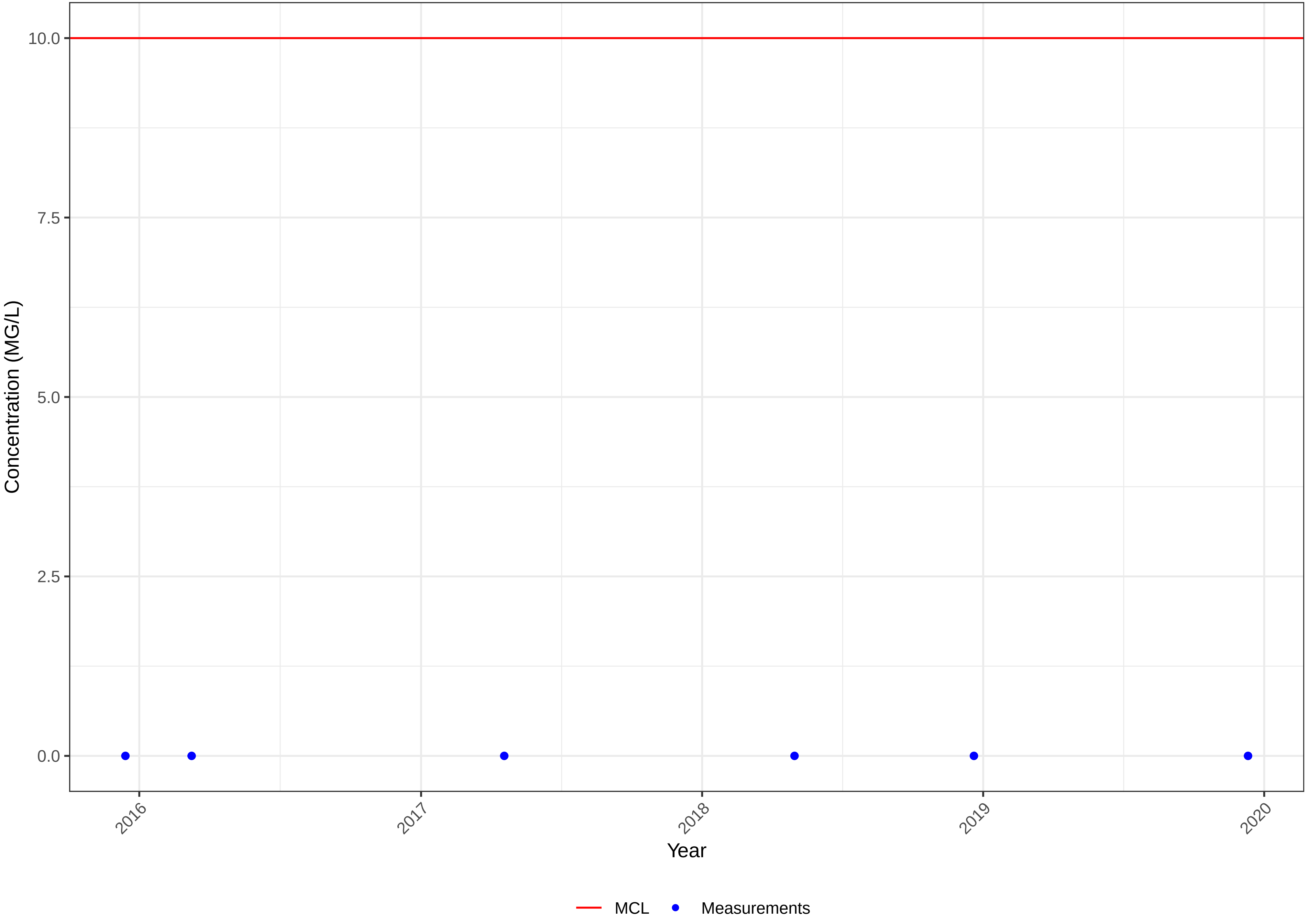
Water Quality Chart

Well No. 1610003−040
STORET No. 95
Constituent: SPECIFIC CONDUCTANCE



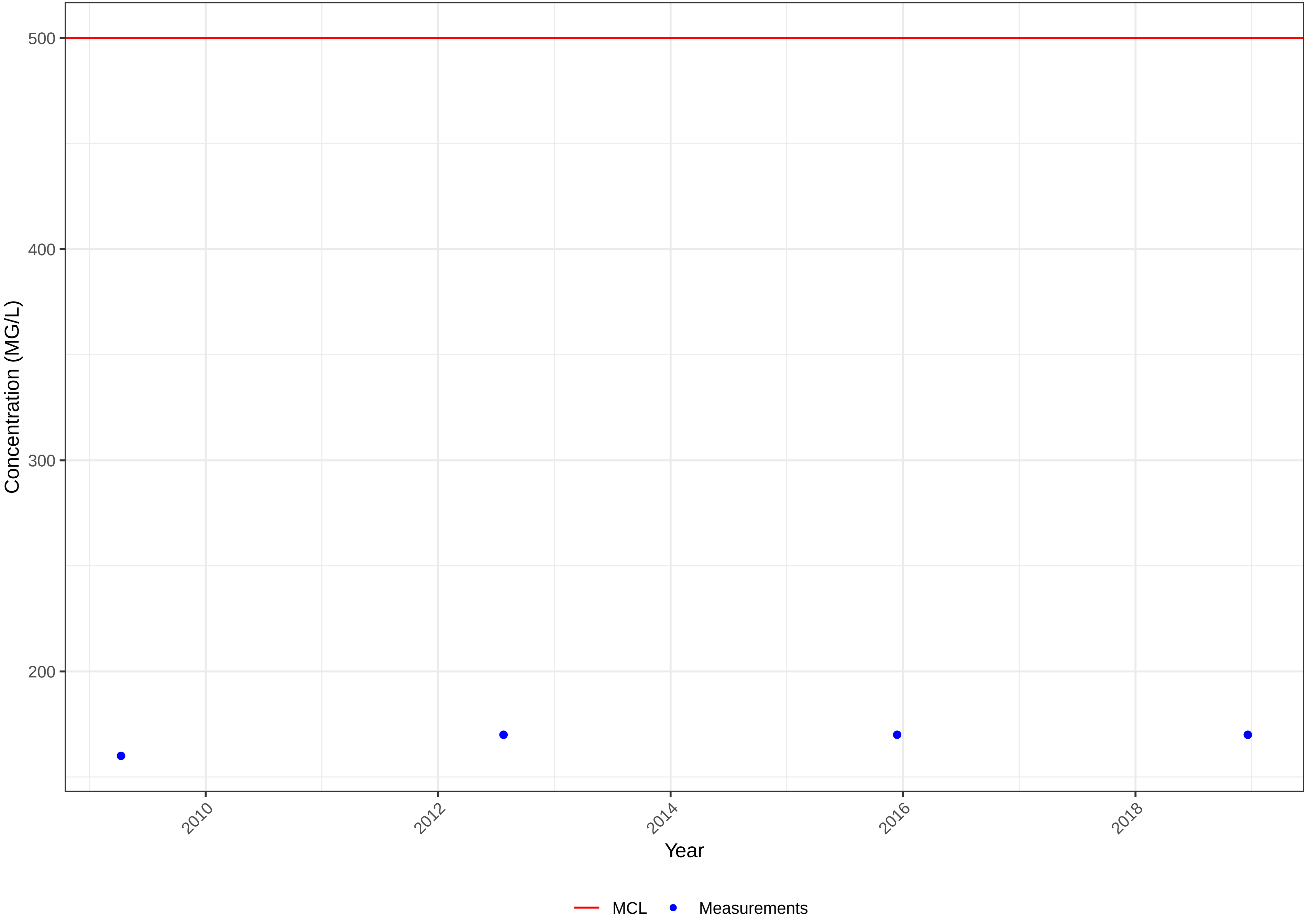
Water Quality Chart

Well No. 1610003−040
STORET No. 618
Constituent: NITRATE (AS N)



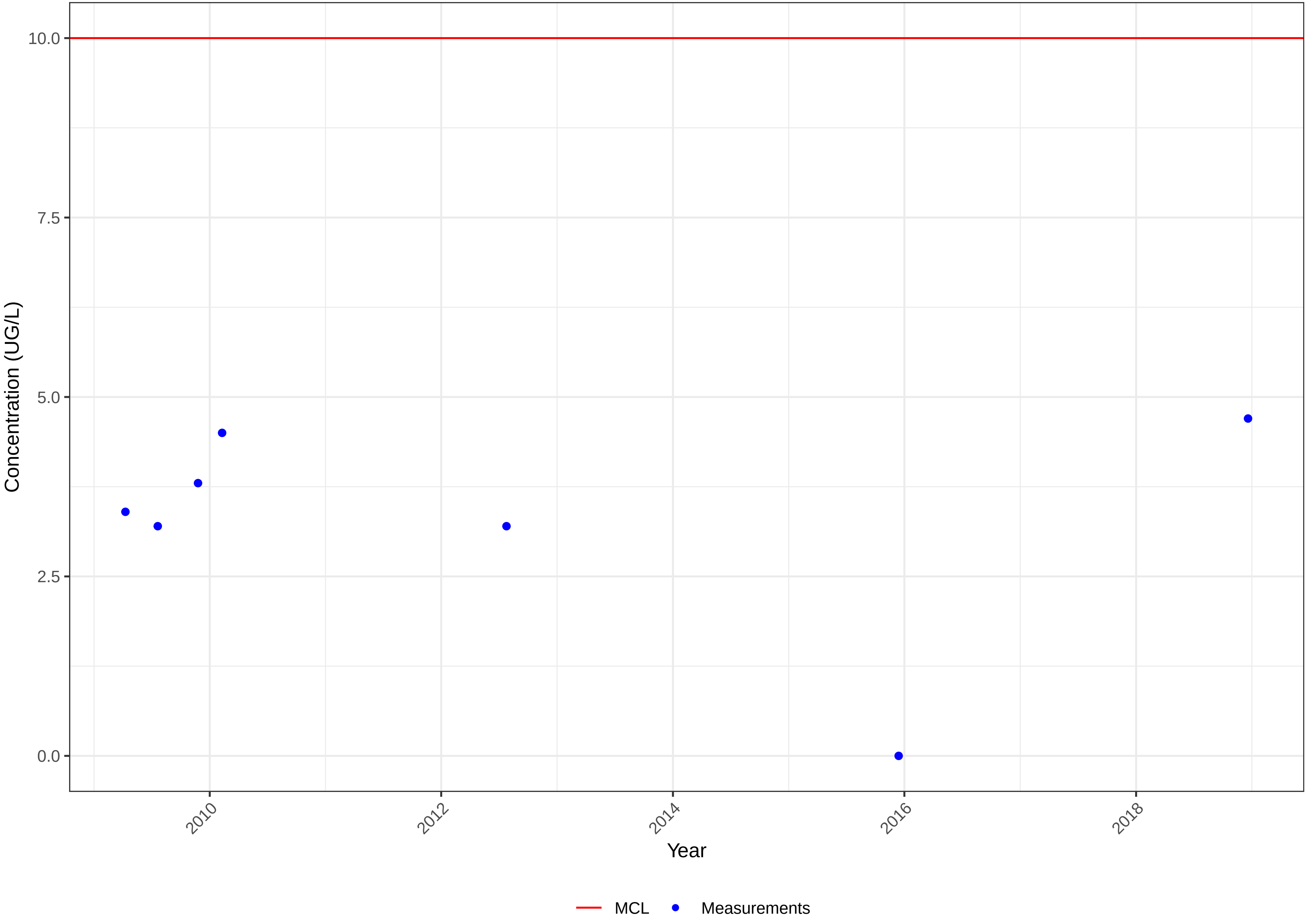
Water Quality Chart

Well No. 1610003−040
STORET No. 940
Constituent: CHLORIDE



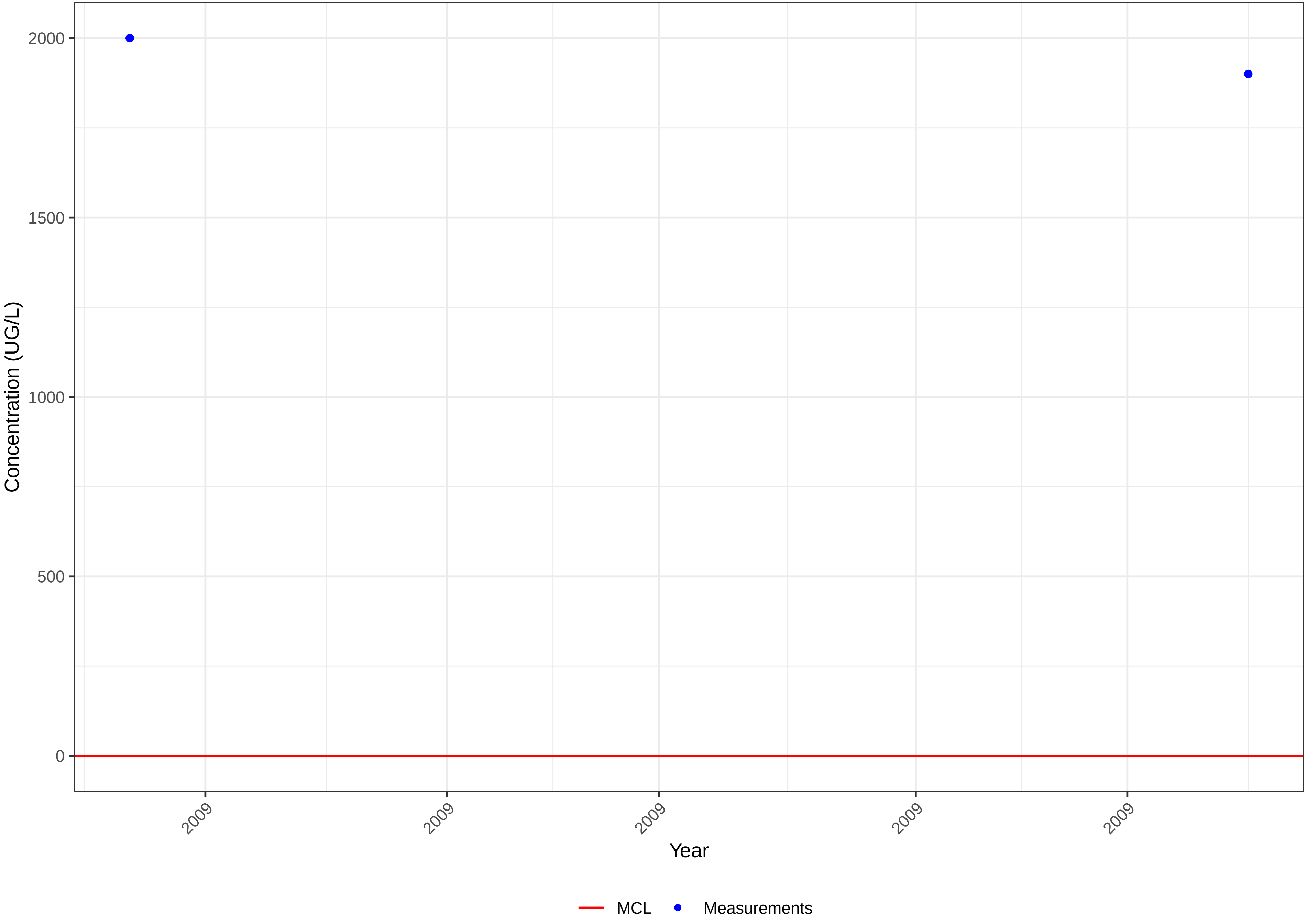
Water Quality Chart

Well No. 1610003−040
STORET No. 1002
Constituent: ARSENIC



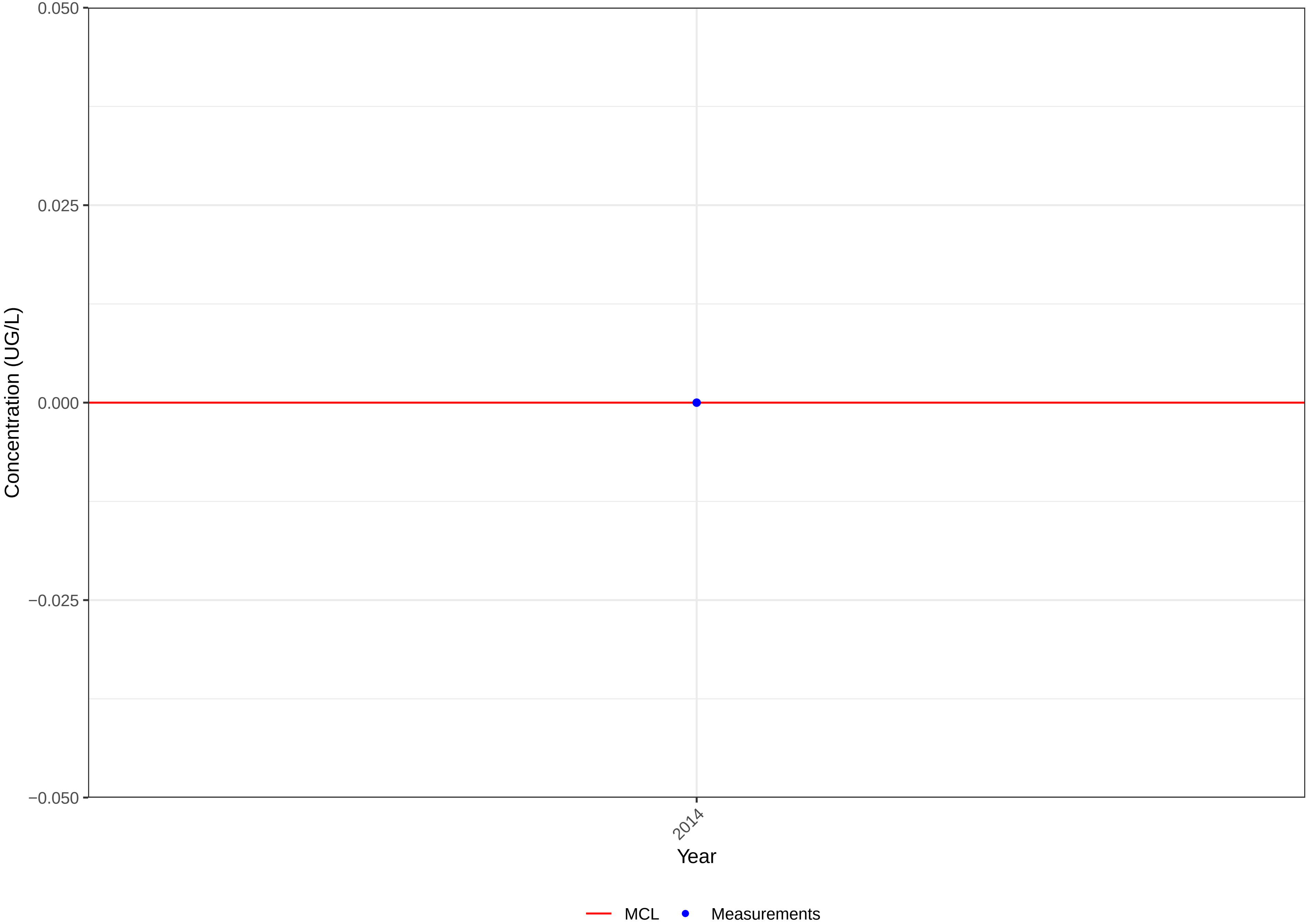
Water Quality Chart

Well No. 1610003−040
STORET No. 1020
Constituent: BORON



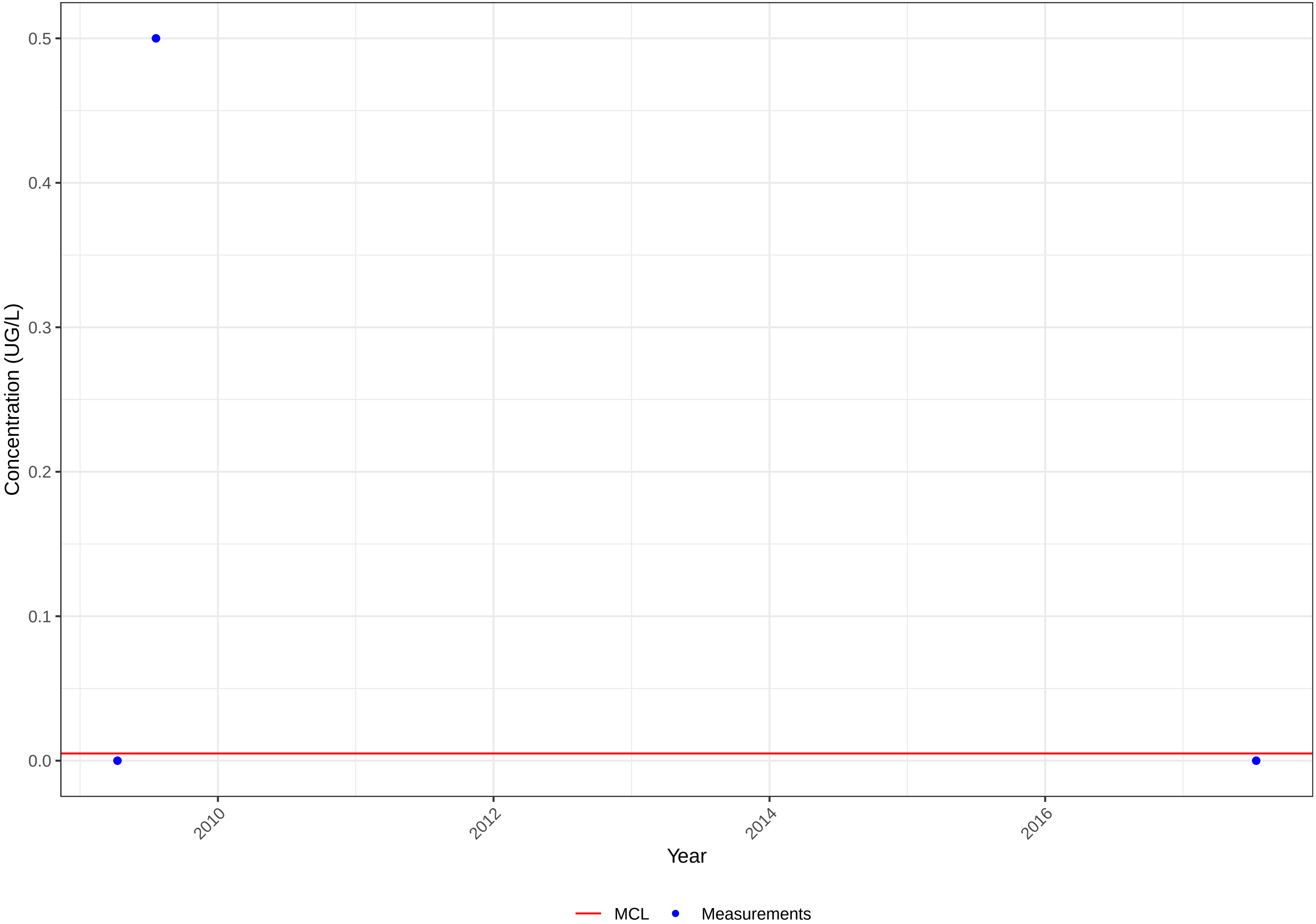
Water Quality Chart

Well No. 1610003−040
STORET No. 1032
Constituent: CHROMIUM, HEXAVALENT



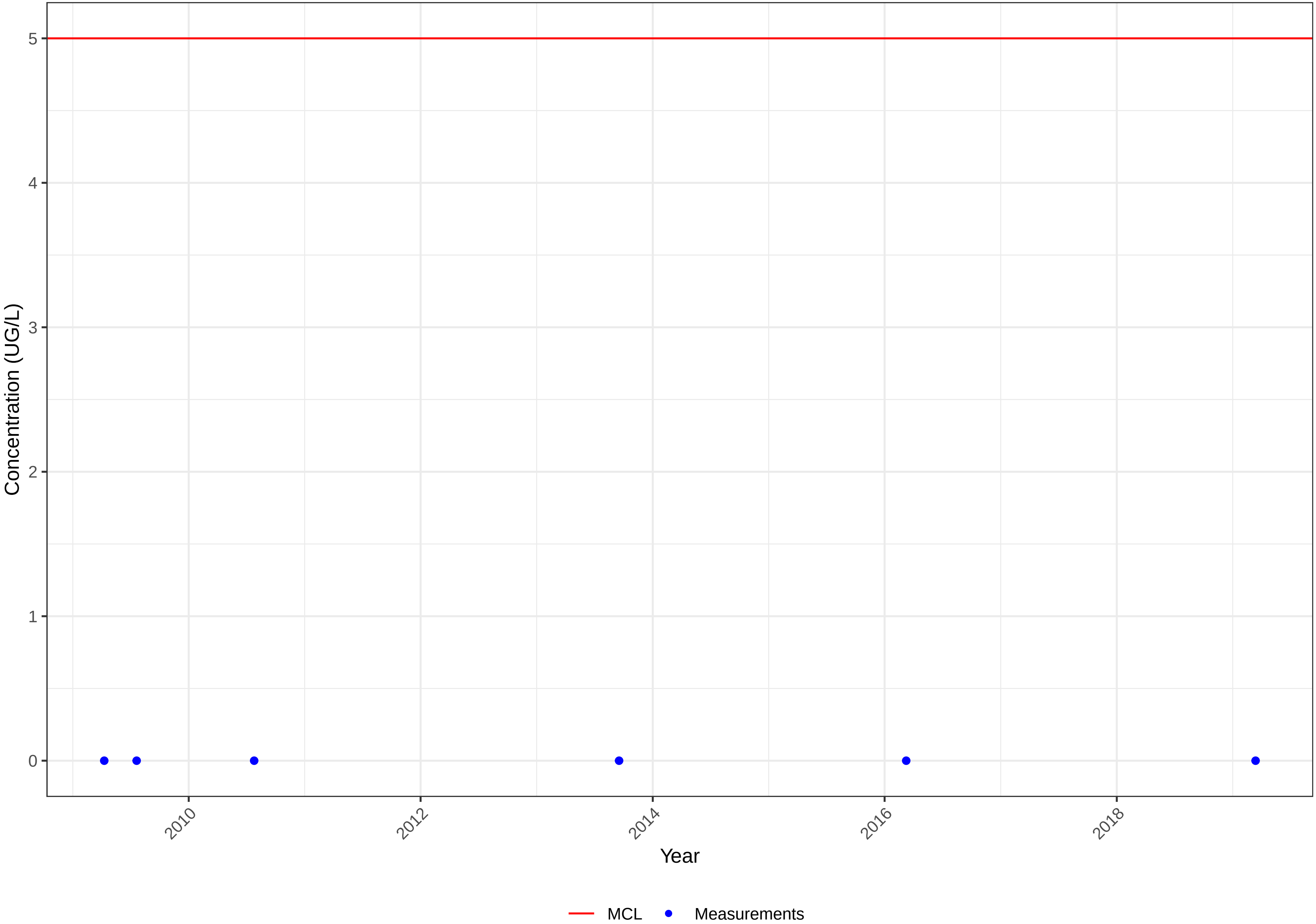
Water Quality Chart

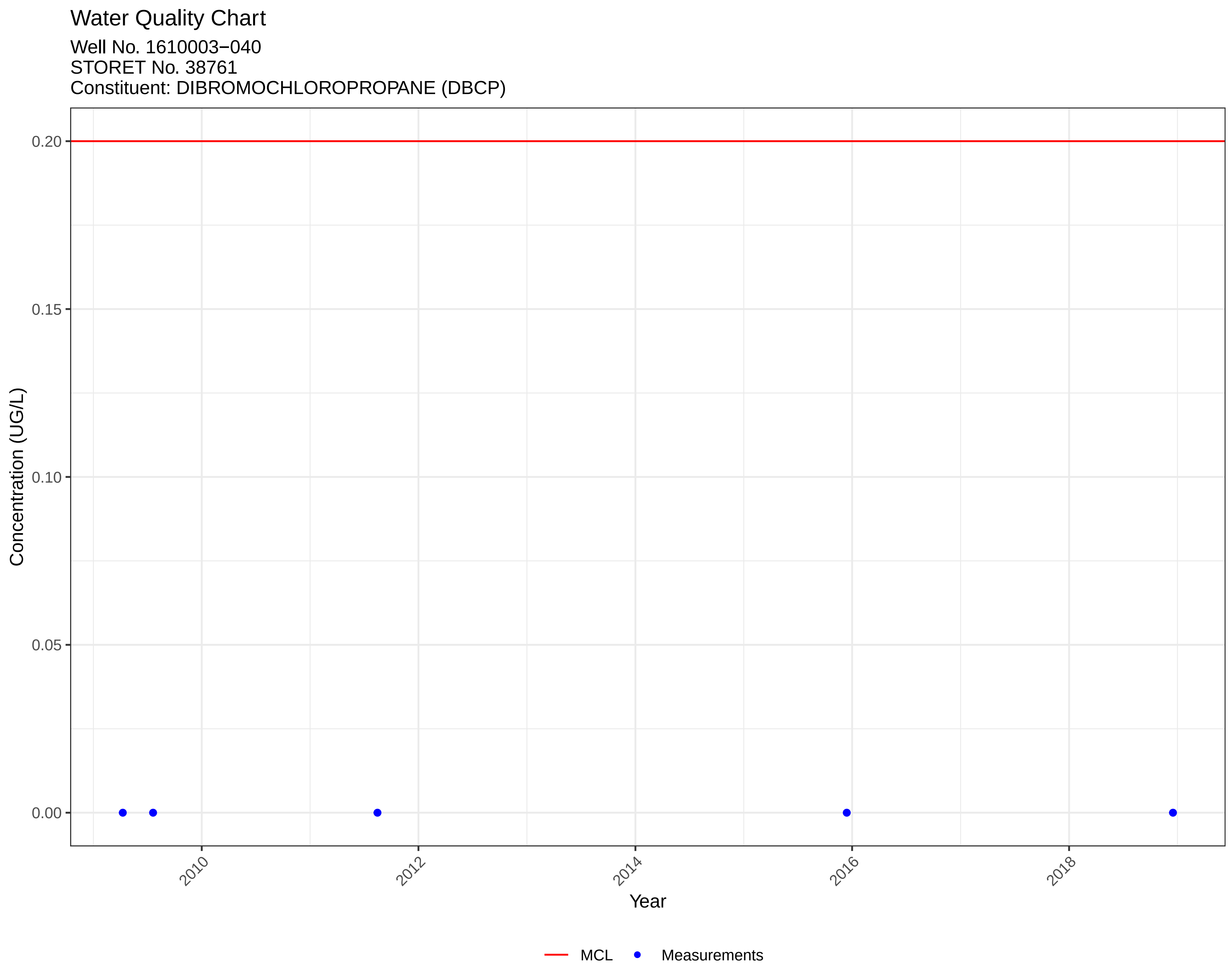
Well No. 1610003−040
STORET No. 7744X
Constituent: 1,2,3−TRICHLOROPROPANE



Water Quality Chart

Well No. 1610003−040
STORET No. 34475
Constituent: TETRACHLOROETHYLENE

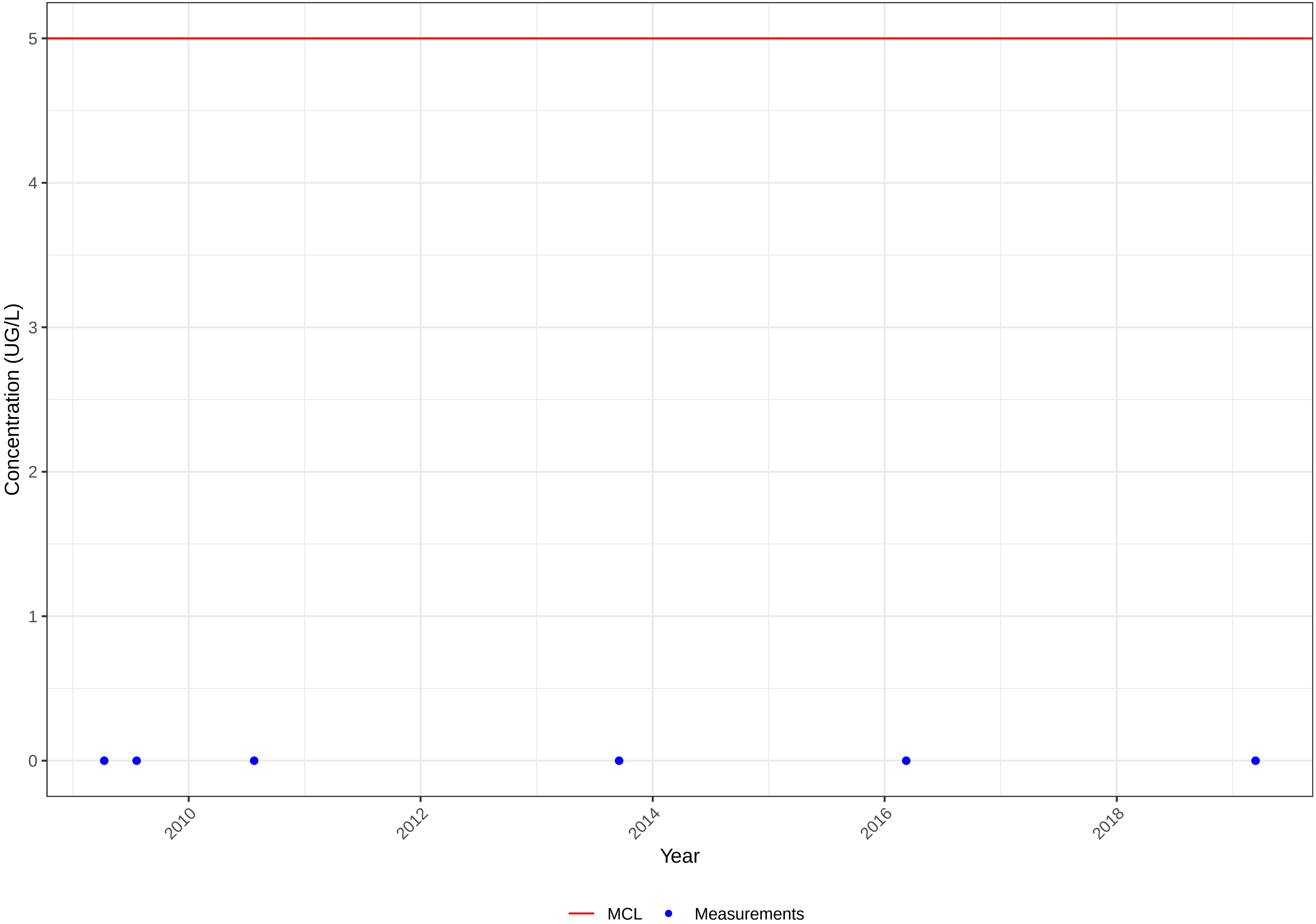


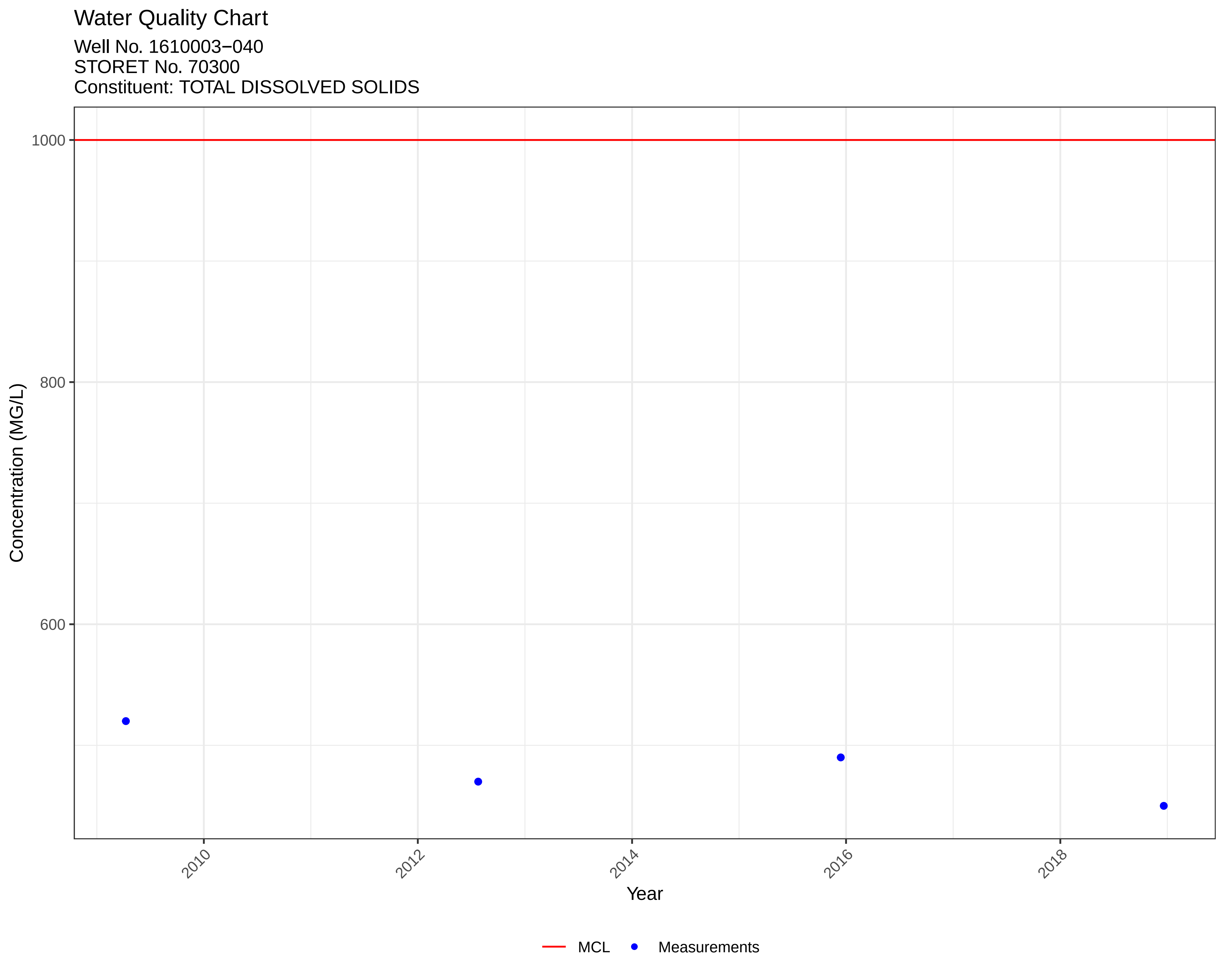


Water Quality Chart
Well No. 1610003−040
STORET No. 38761
Constituent: DIBROMOCHLOROPROPANE (DBCP)
Concentration (UG/L)
0.20
0.15
0.10
0.05
0.00
2010
2012
2014
2016
2018
Year
MCL
Measurements

Water Quality Chart

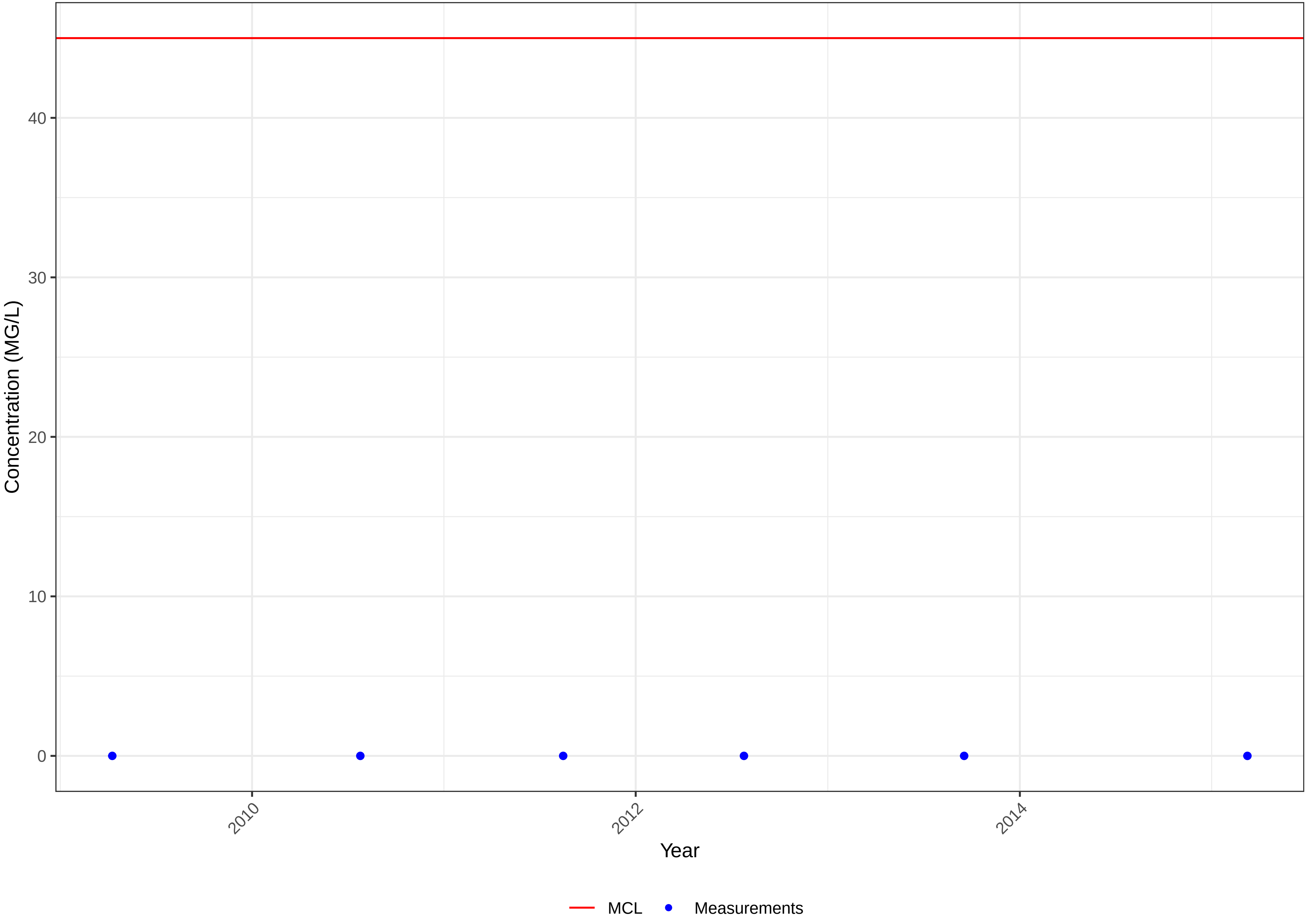
Well No. 1610003−040
STORET No. 39180
Constituent: TRICHLOROETHYLENE




Water Quality Chart
Well No. 1610003−040
STORET No. 70300
Constituent: TOTAL DISSOLVED SOLIDS
1000
800
600
Concentration (MG/L)
2010
2012
2014
2016
2018
Year
MCL
Measurements

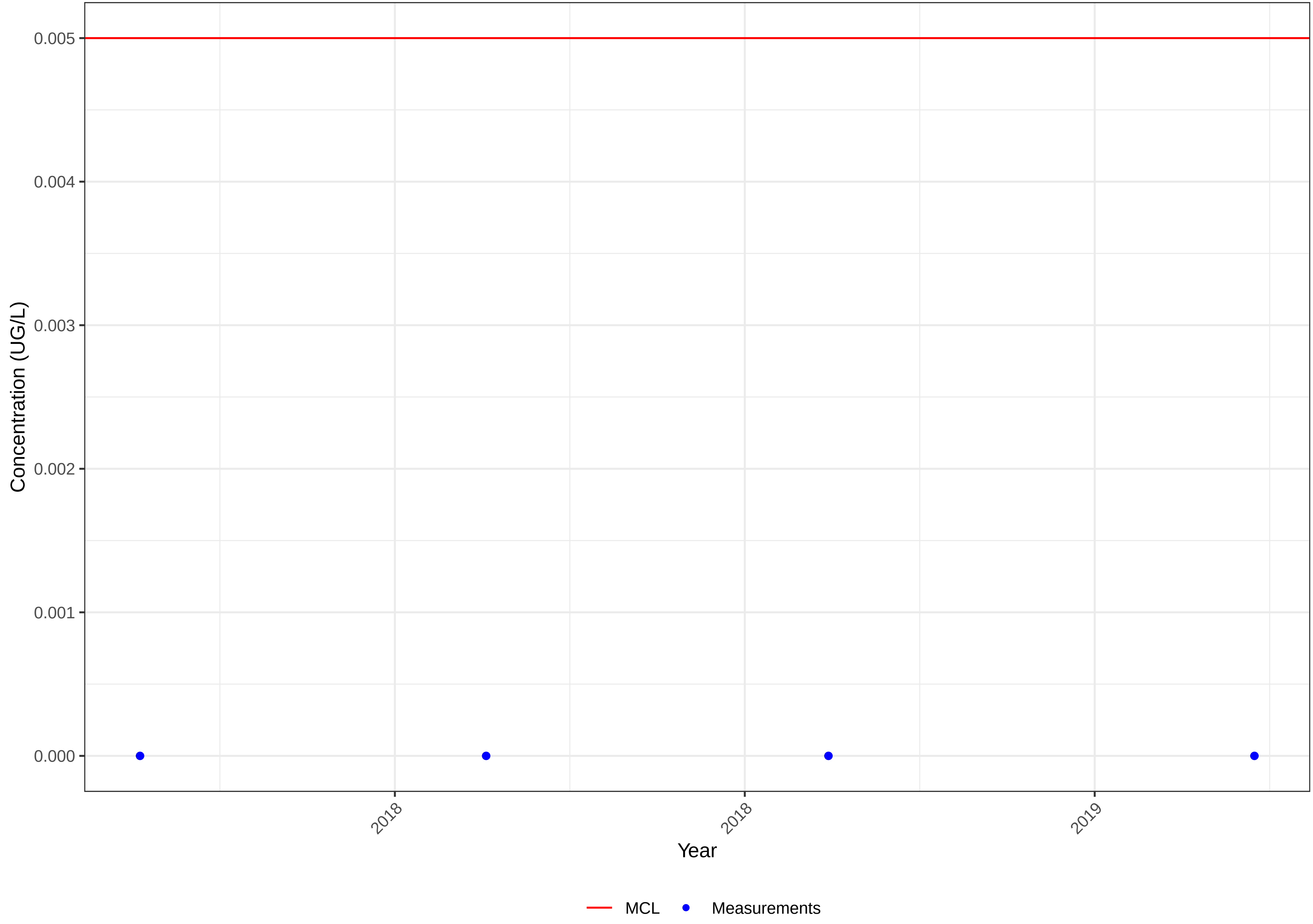
Water Quality Chart

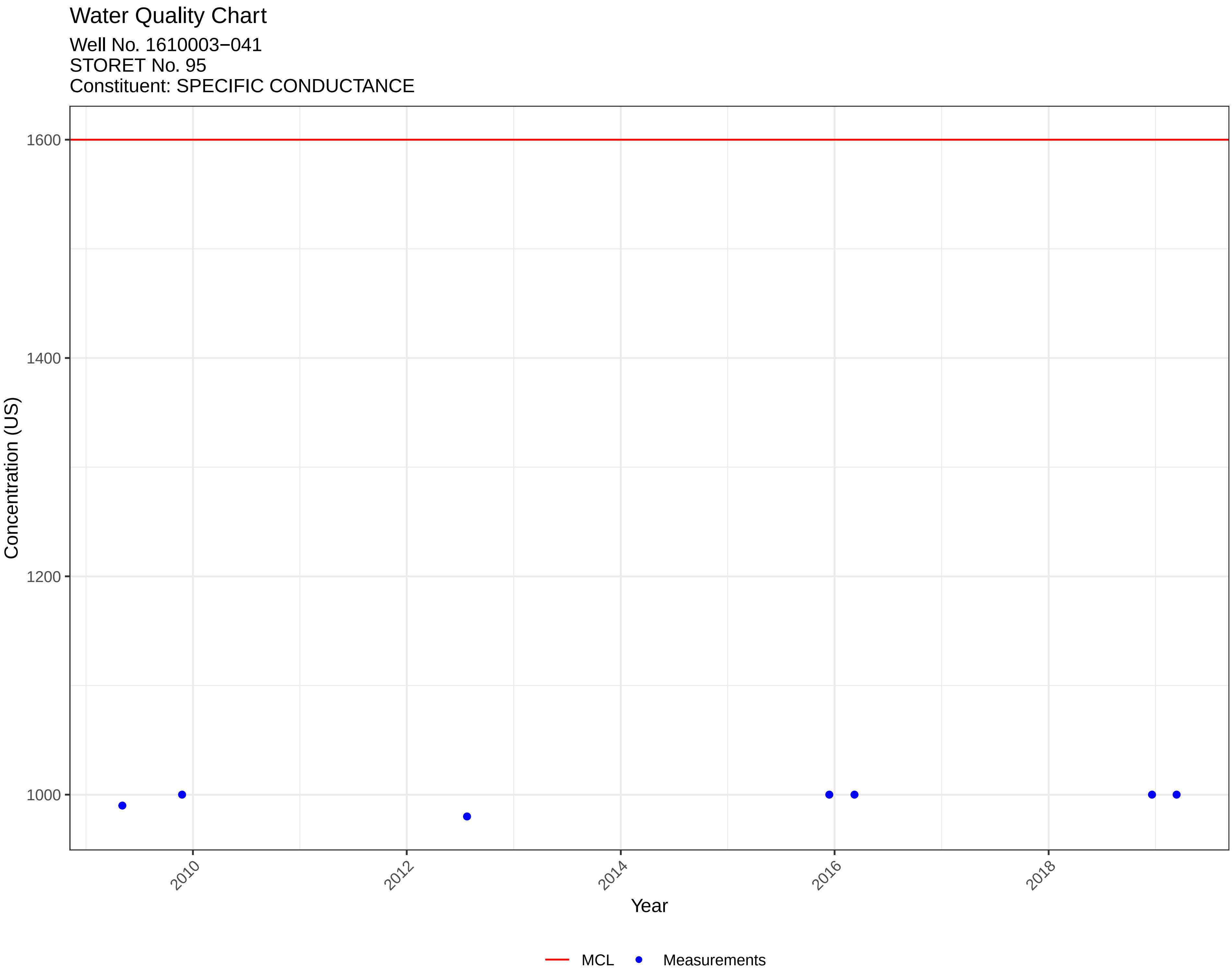
Well No. 1610003−040
STORET No. 71850
Constituent: NITRATE (AS NO3)



Water Quality Chart

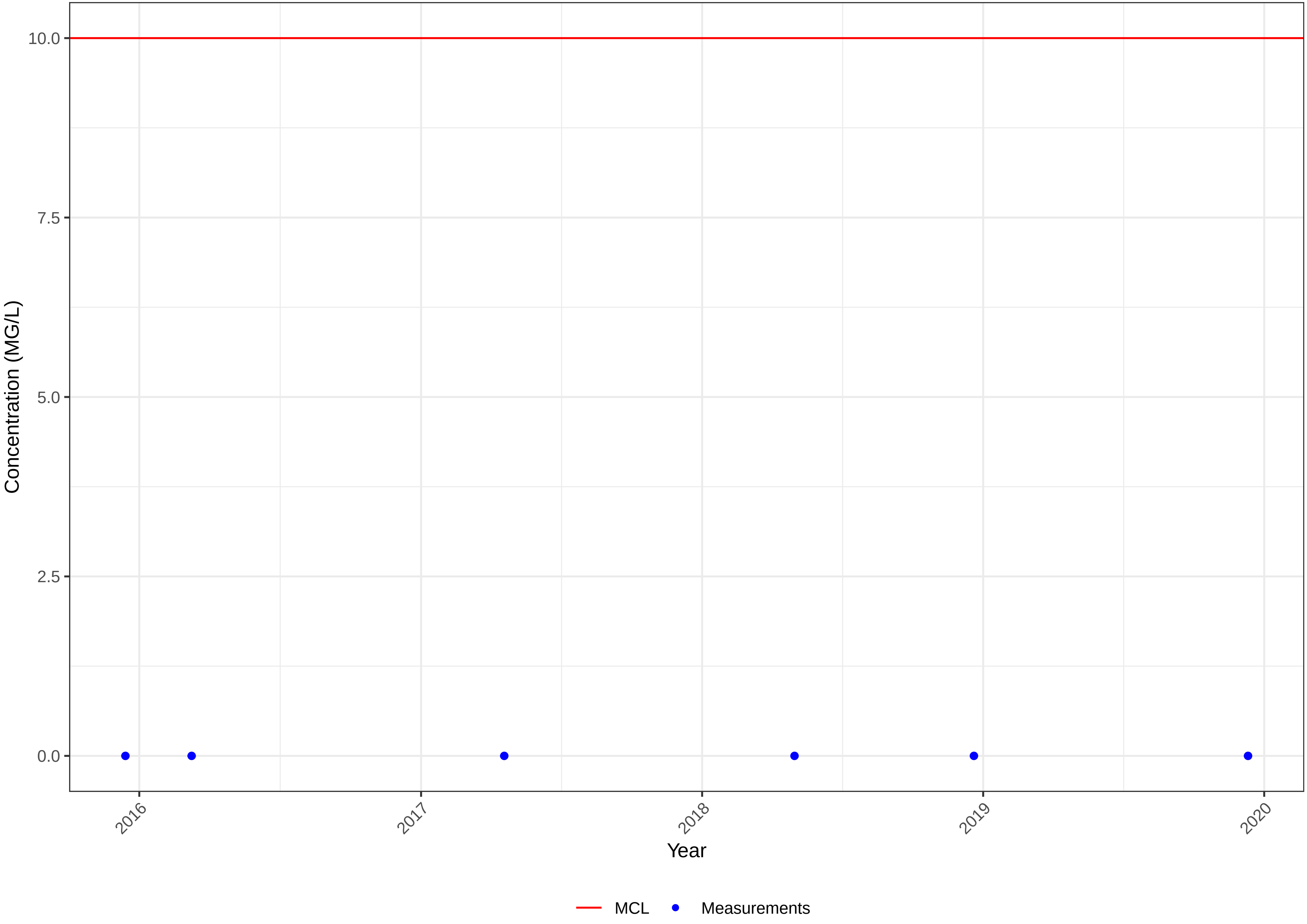
Well No. 1610003−040
STORET No. 77443
Constituent: 1,2,3−TRICHLOROPROPANE




Water Quality Chart
Well No. 1610003−041
STORET No. 95
Constituent: SPECIFIC CONDUCTANCE
1600
1400
1200
1000
Concentration (US)
2010
2012
2014
2016
2018
Year
MCL
Measurements

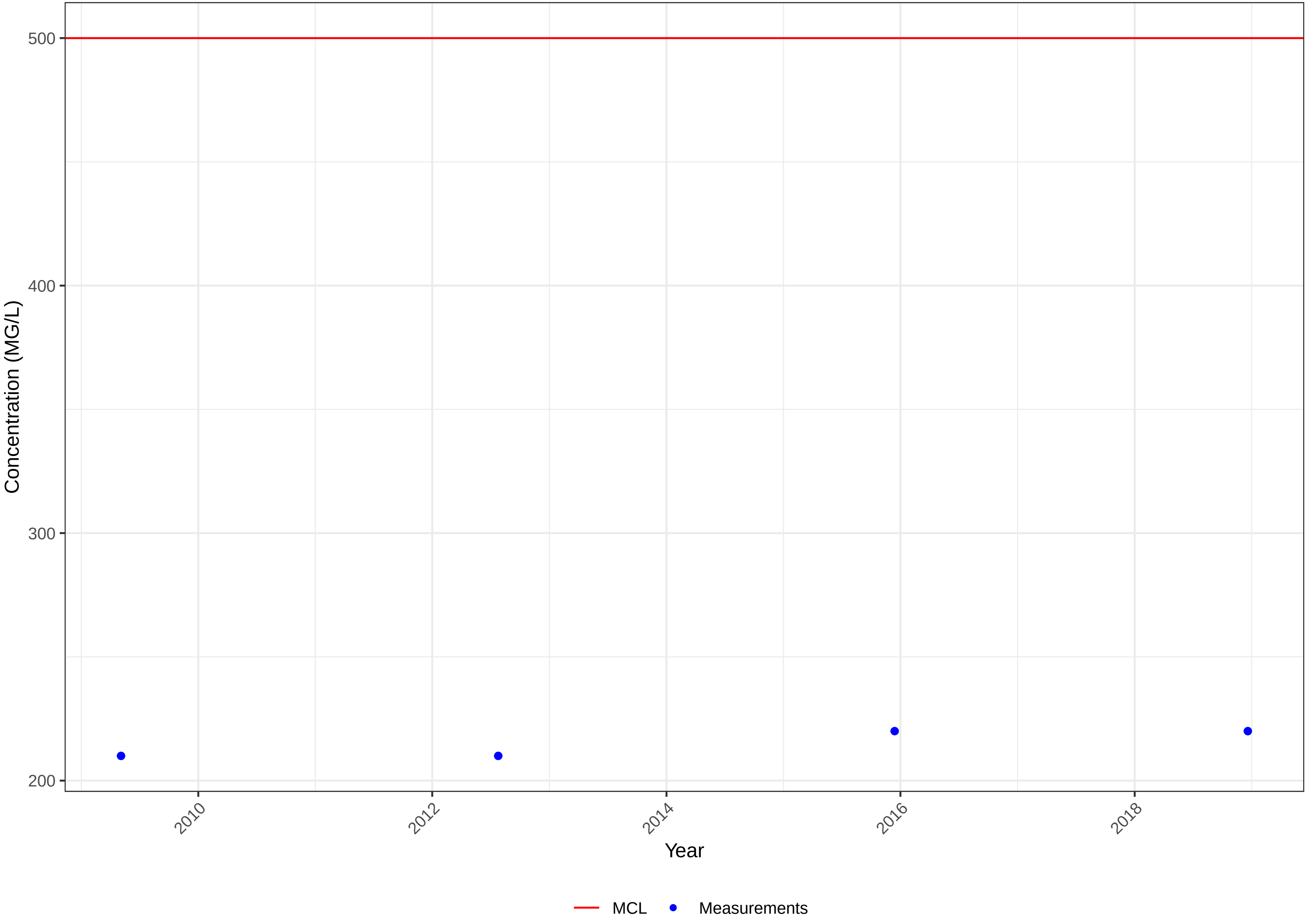
Water Quality Chart

Well No. 1610003−041
STORET No. 618
Constituent: NITRATE (AS N)



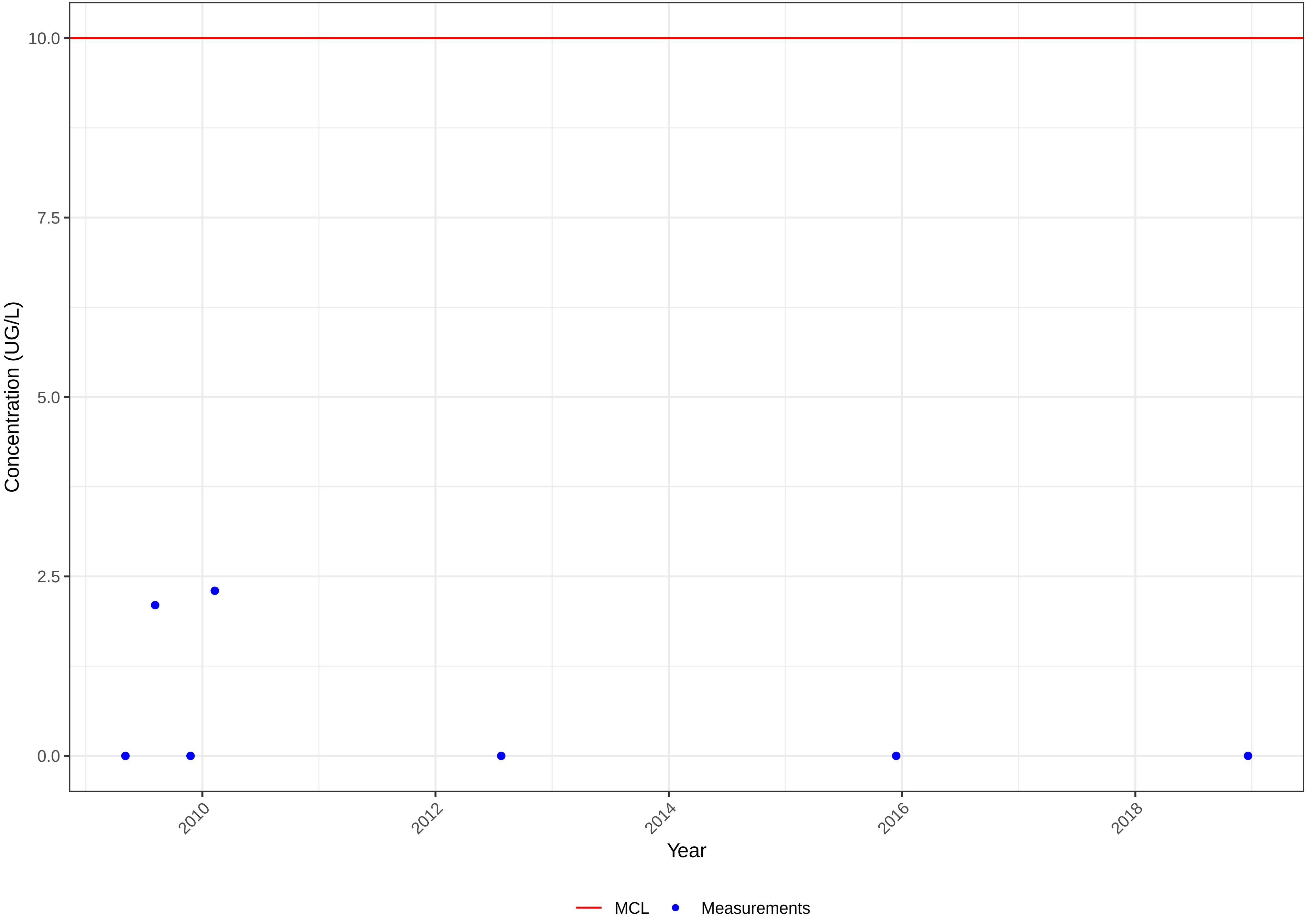
Water Quality Chart

Well No. 1610003−041
STORET No. 940
Constituent: CHLORIDE



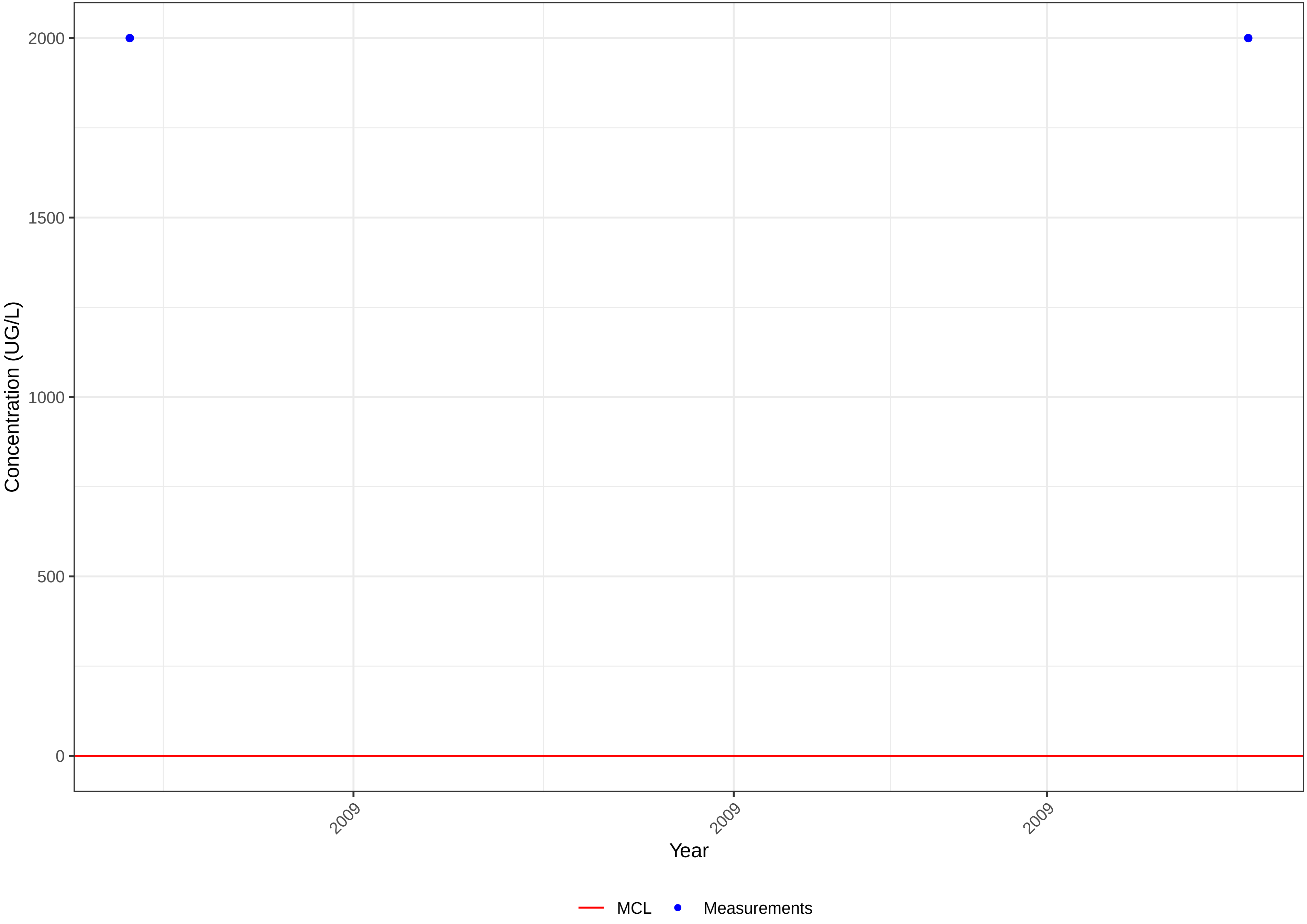
Water Quality Chart

Well No. 1610003−041
STORET No. 1002
Constituent: ARSENIC



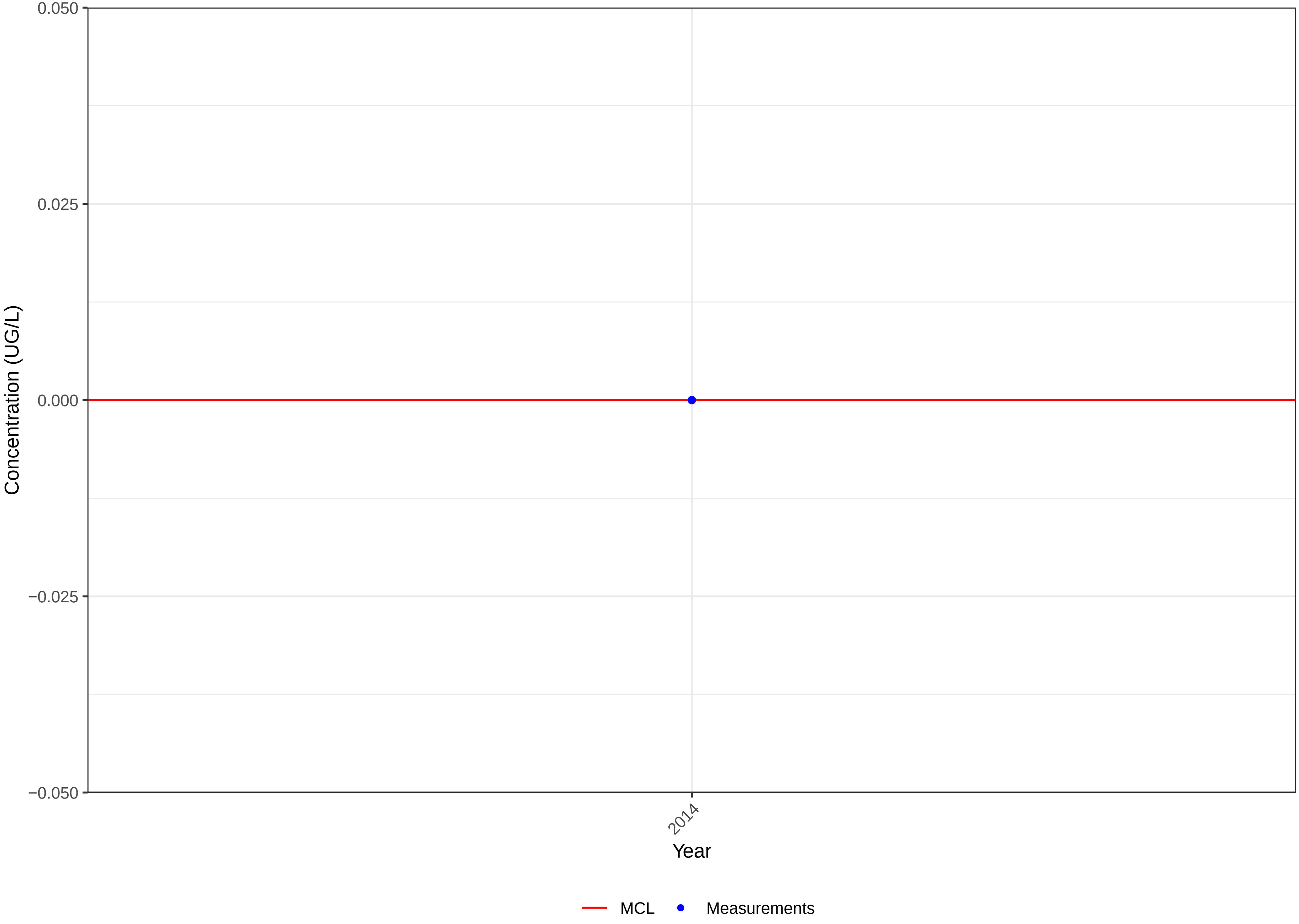
Water Quality Chart

Well No. 1610003−041
STORET No. 1020
Constituent: BORON



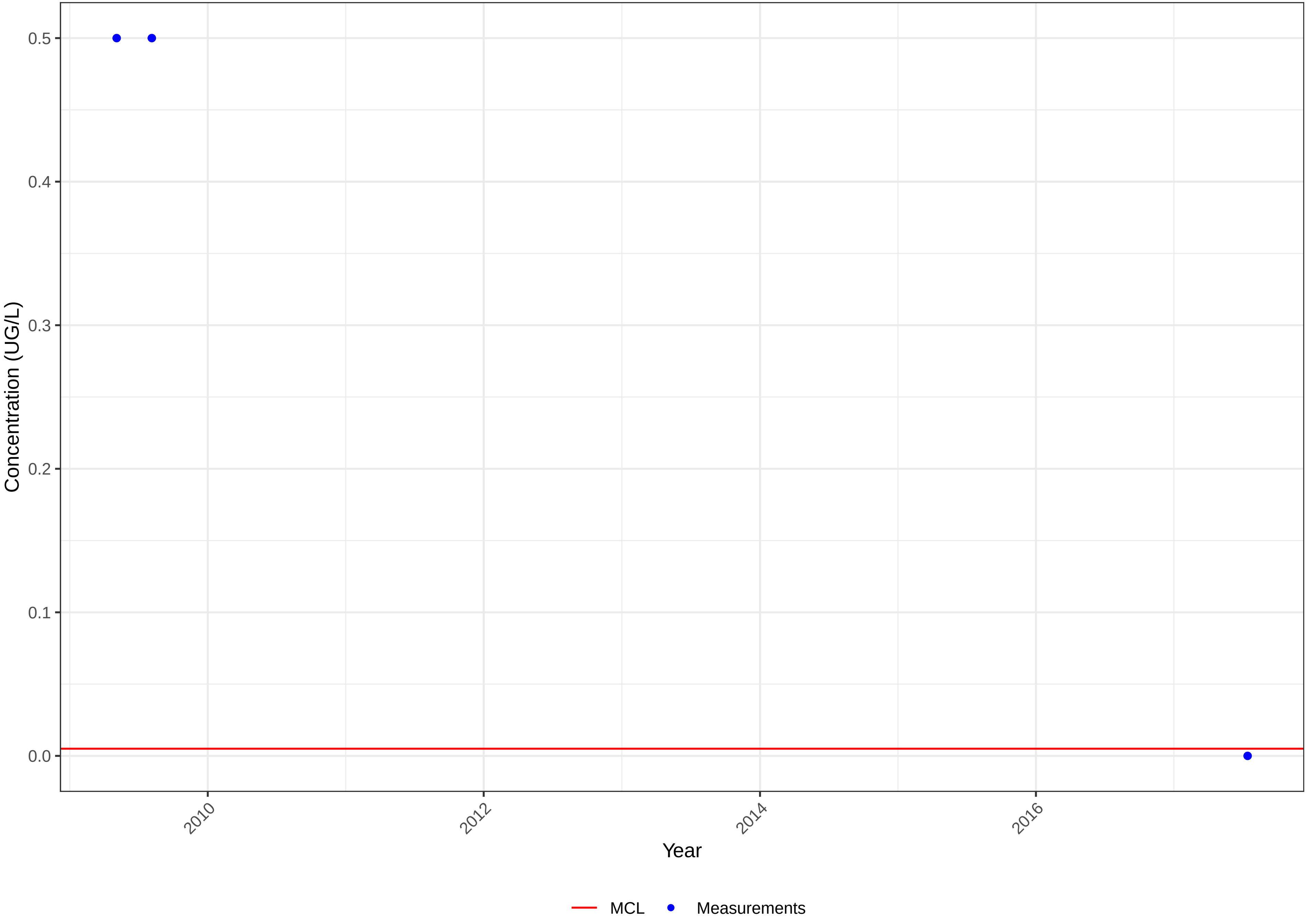
Water Quality Chart

Well No. 1610003−041
STORET No. 1032
Constituent: CHROMIUM, HEXAVALENT



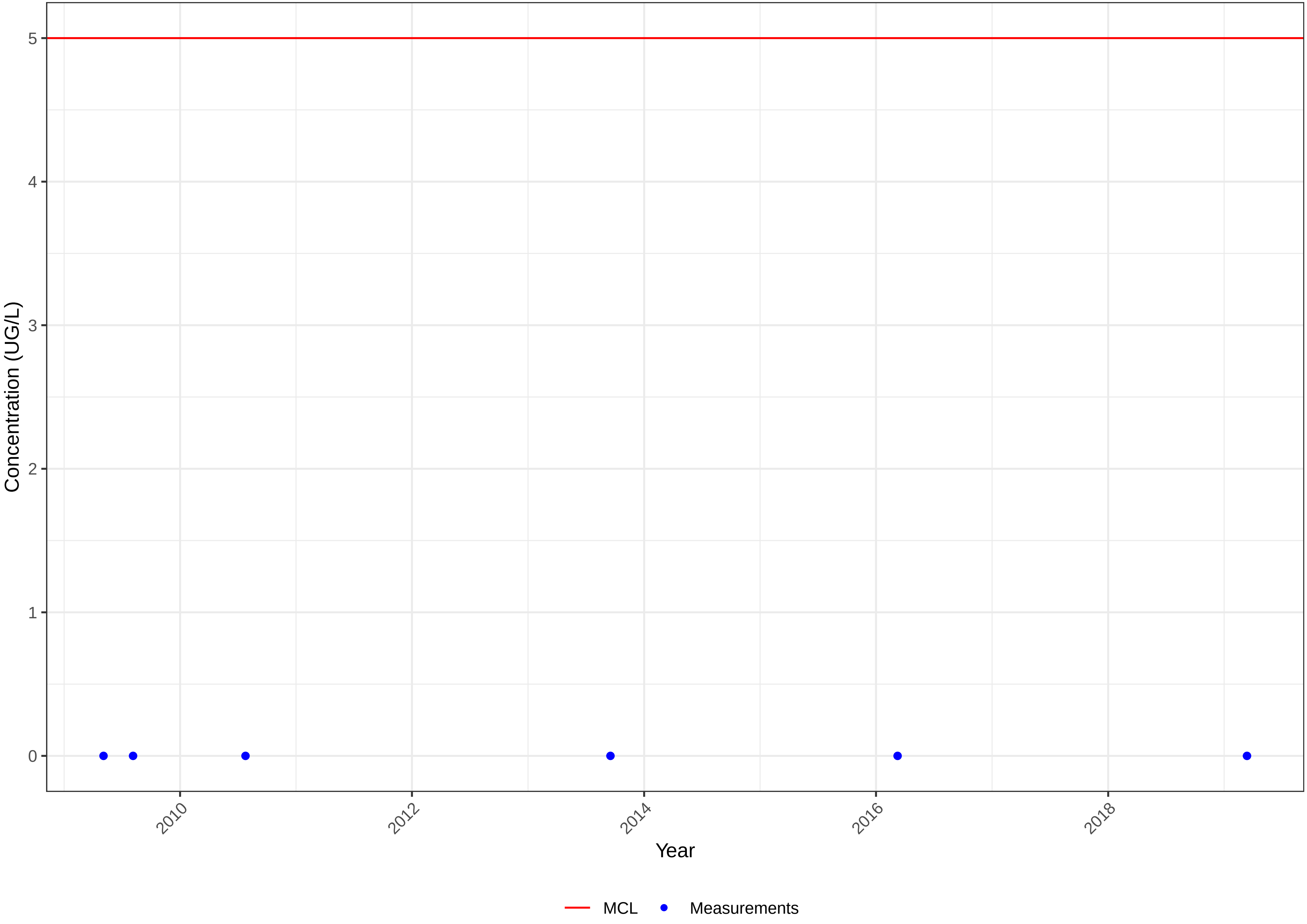
Water Quality Chart

Well No. 1610003−041
STORET No. 7744X
Constituent: 1,2,3−TRICHLOROPROPANE



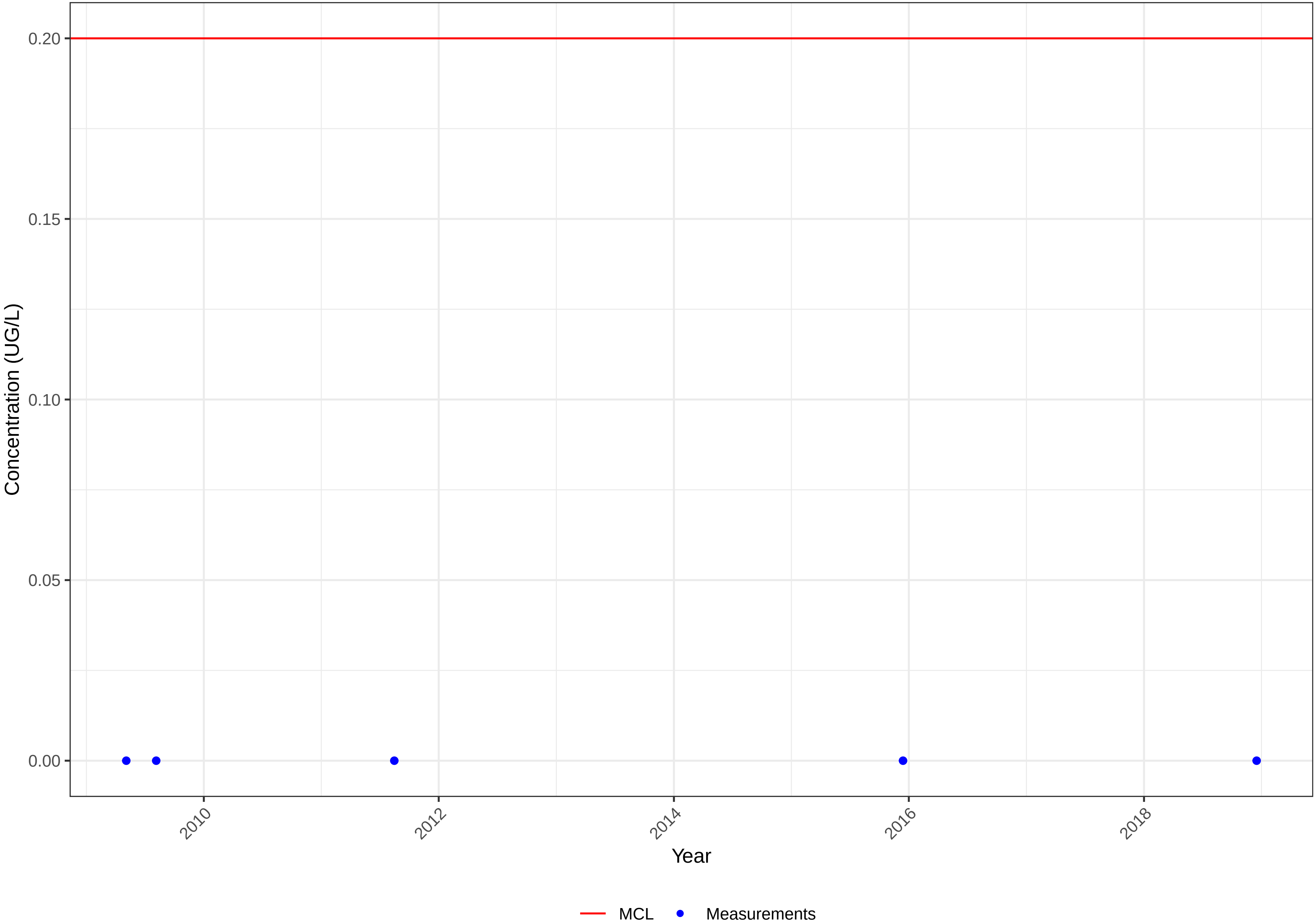
Water Quality Chart

Well No. 1610003−041
STORET No. 34475
Constituent: TETRACHLOROETHYLENE



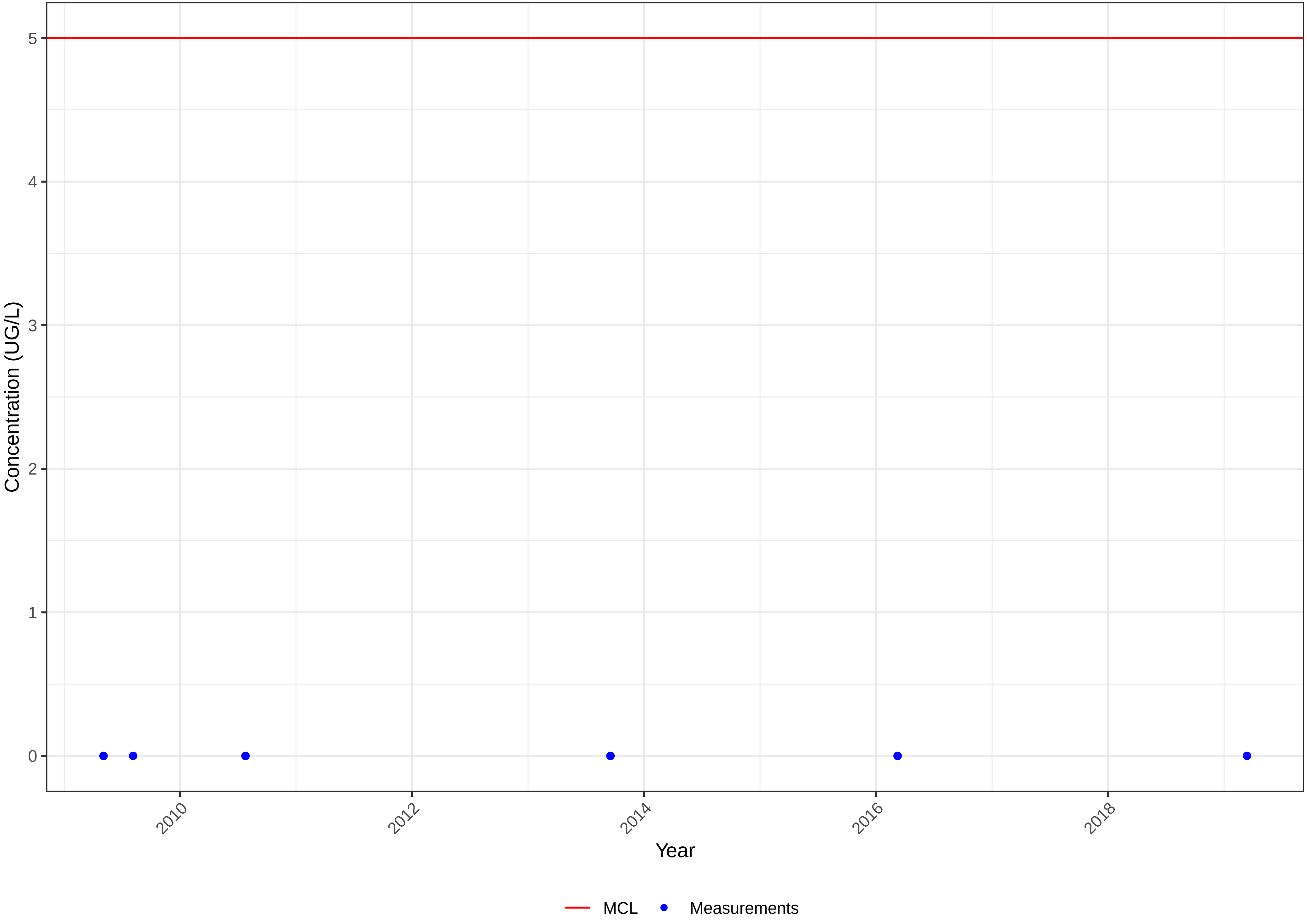
Water Quality Chart

Well No. 1610003−041
STORET No. 38761
Constituent: DIBROMOCHLOROPROPANE (DBCP)



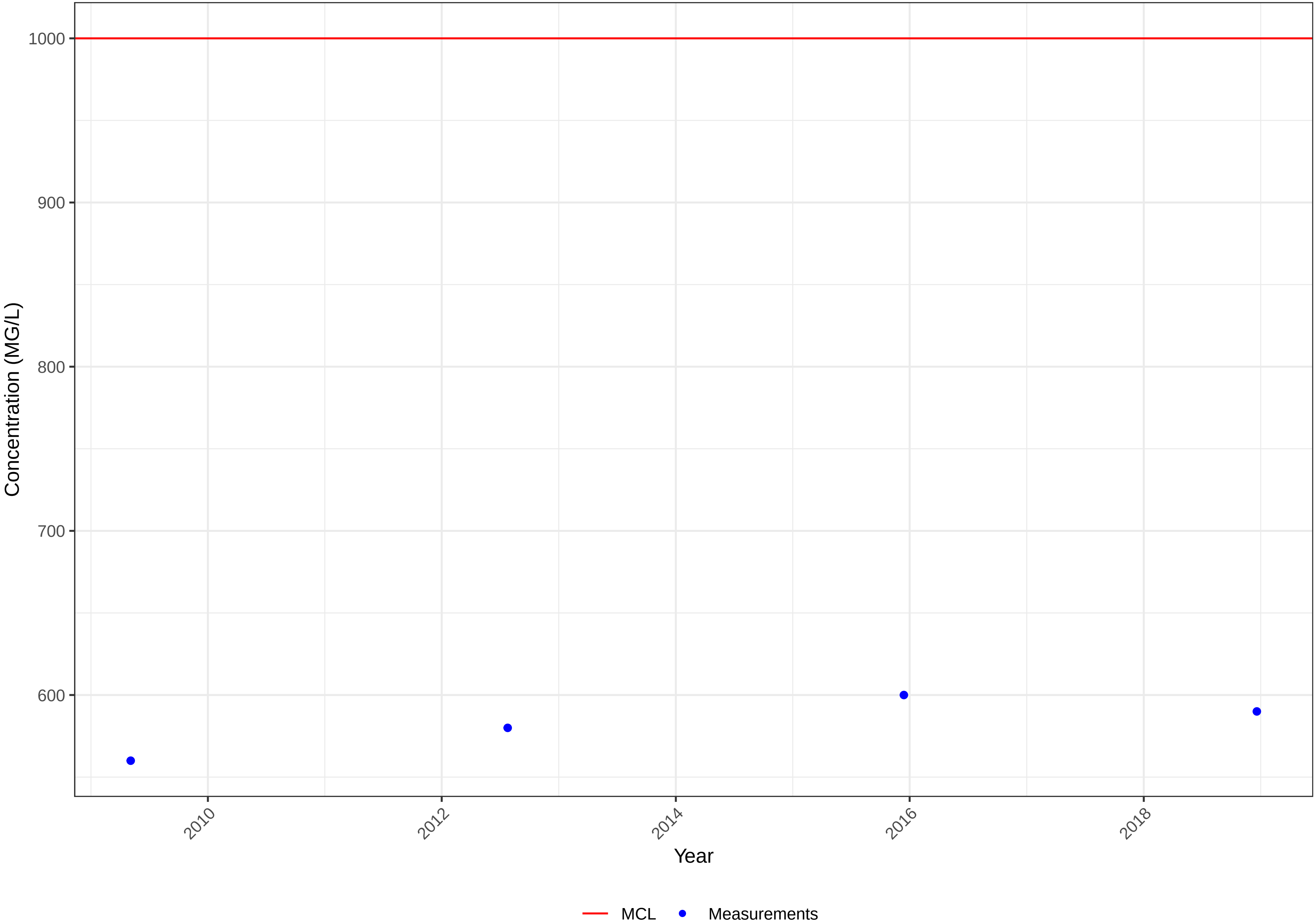
Water Quality Chart

Well No. 1610003−041
STORET No. 39180
Constituent: TRICHLOROETHYLENE



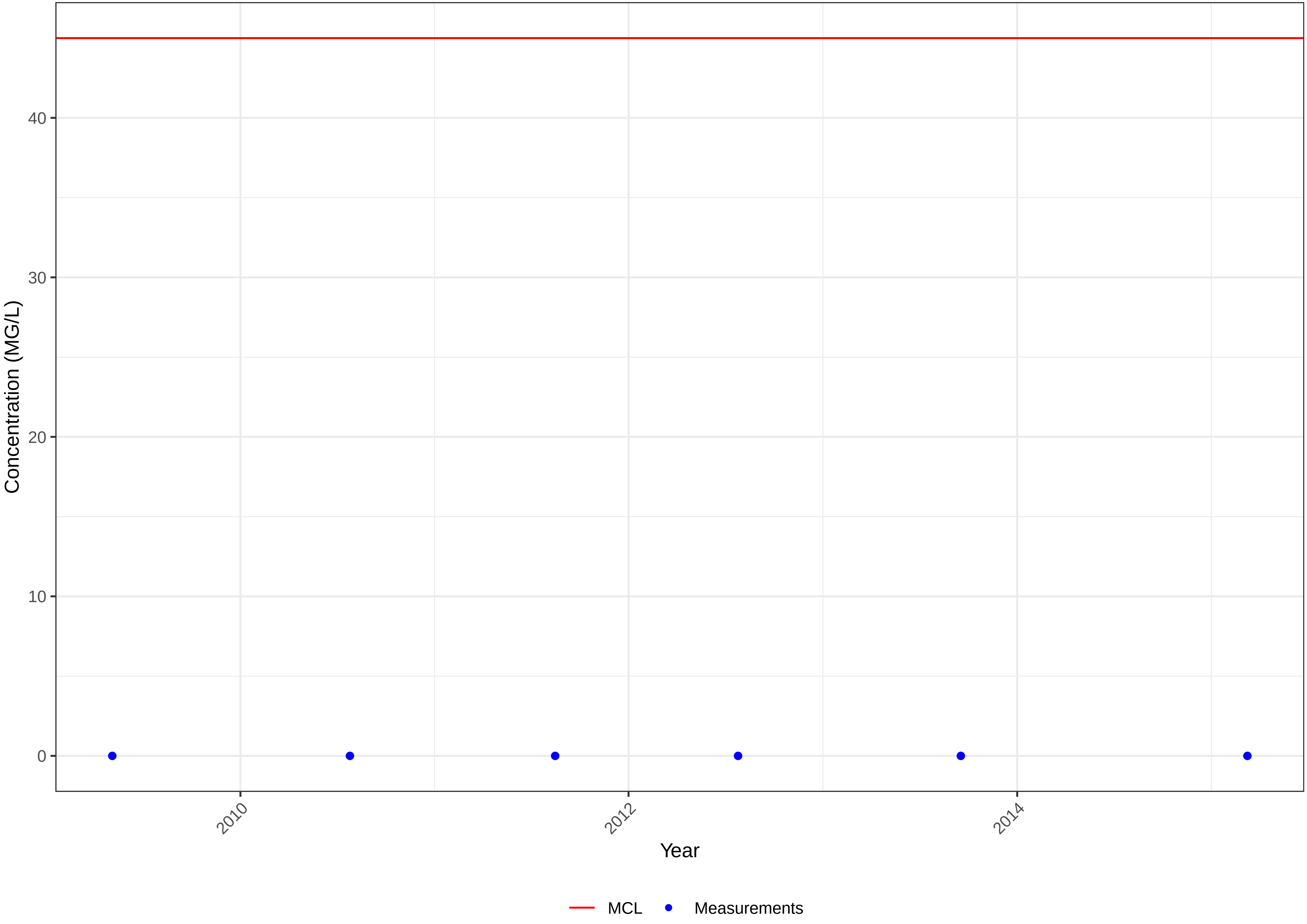
Water Quality Chart

Well No. 1610003−041
STORET No. 70300
Constituent: TOTAL DISSOLVED SOLIDS



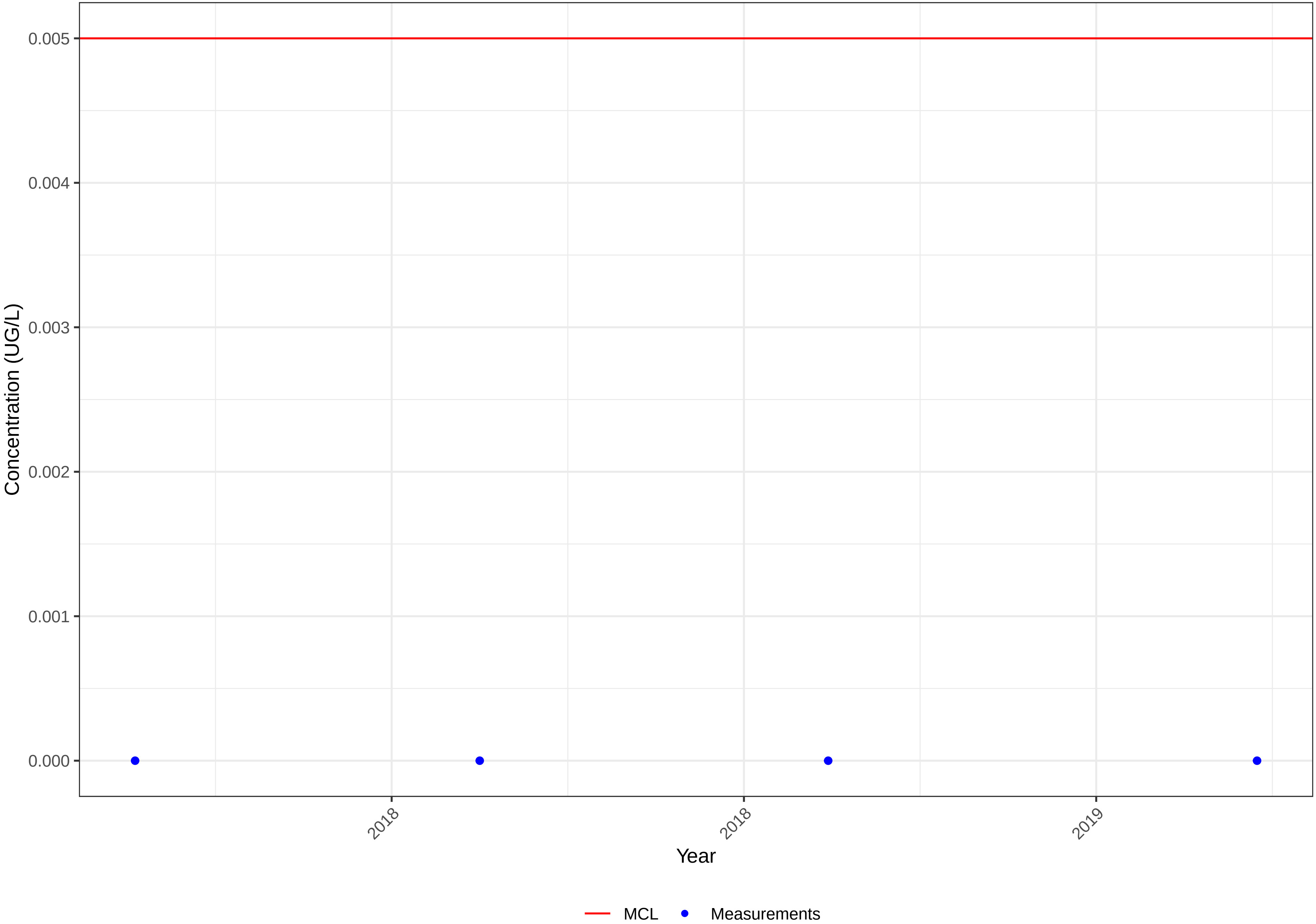
Water Quality Chart

Well No. 1610003−041
STORET No. 71850
Constituent: NITRATE (AS NO3)



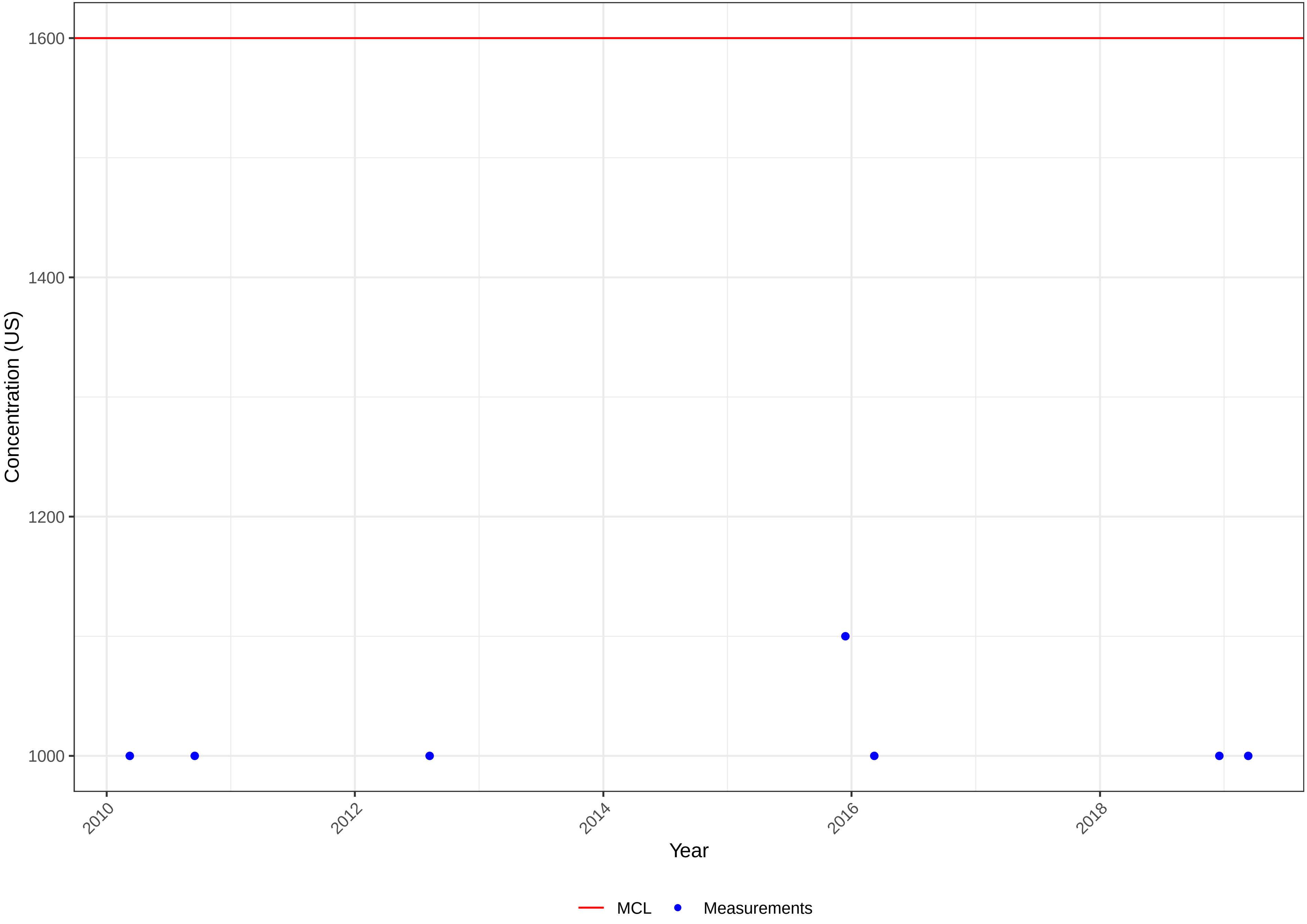
Water Quality Chart

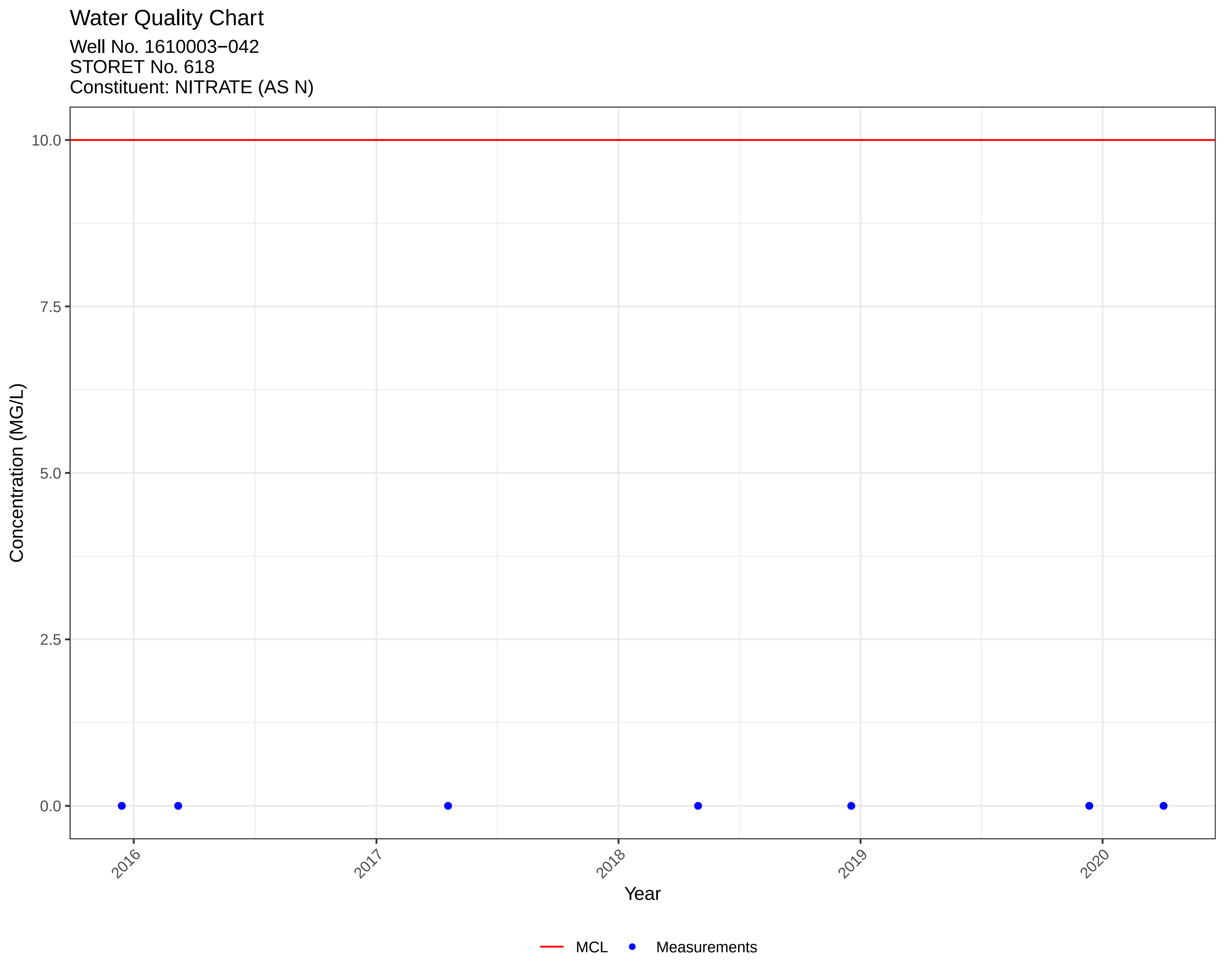
Well No. 1610003−041
STORET No. 77443
Constituent: 1,2,3−TRICHLOROPROPANE

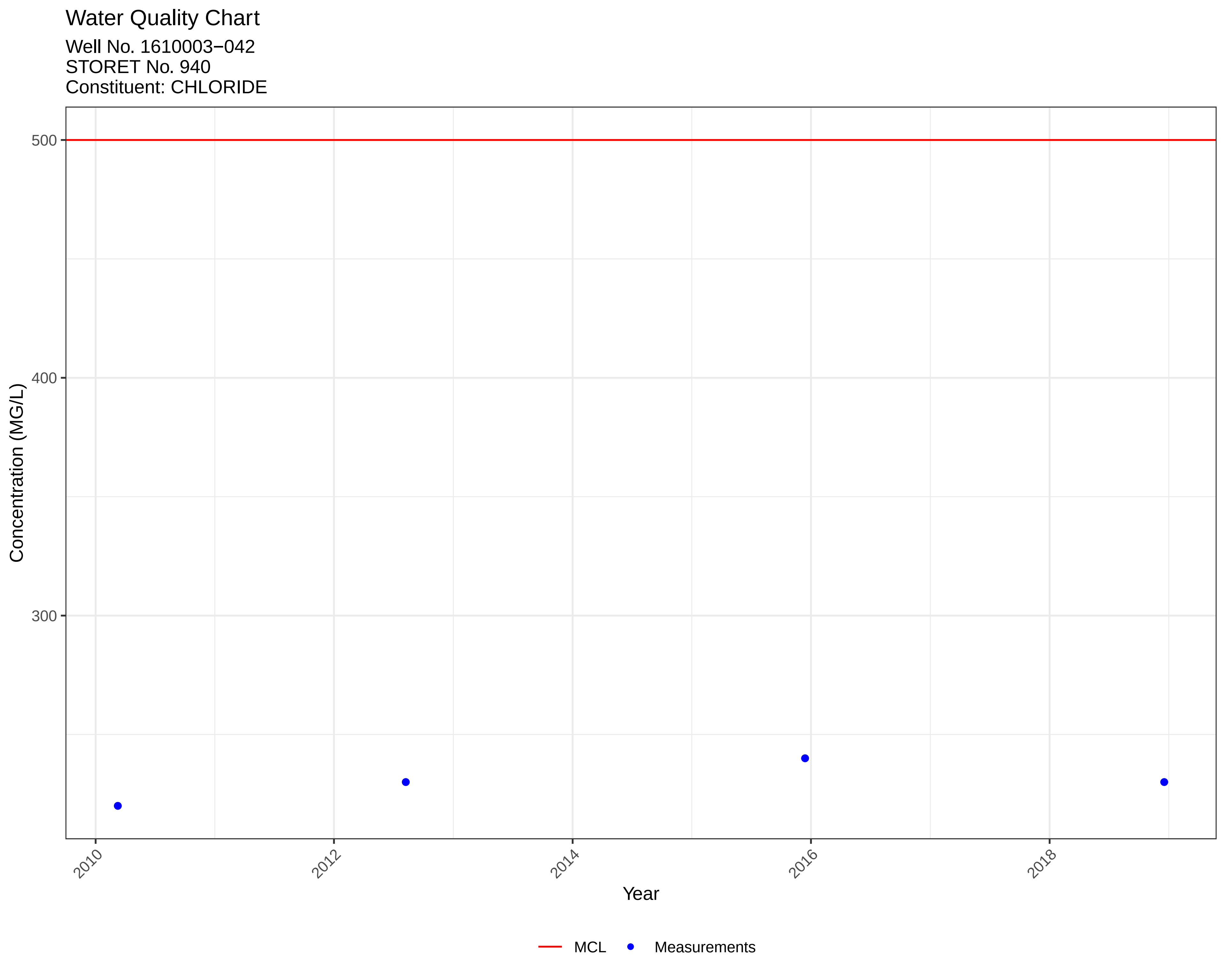


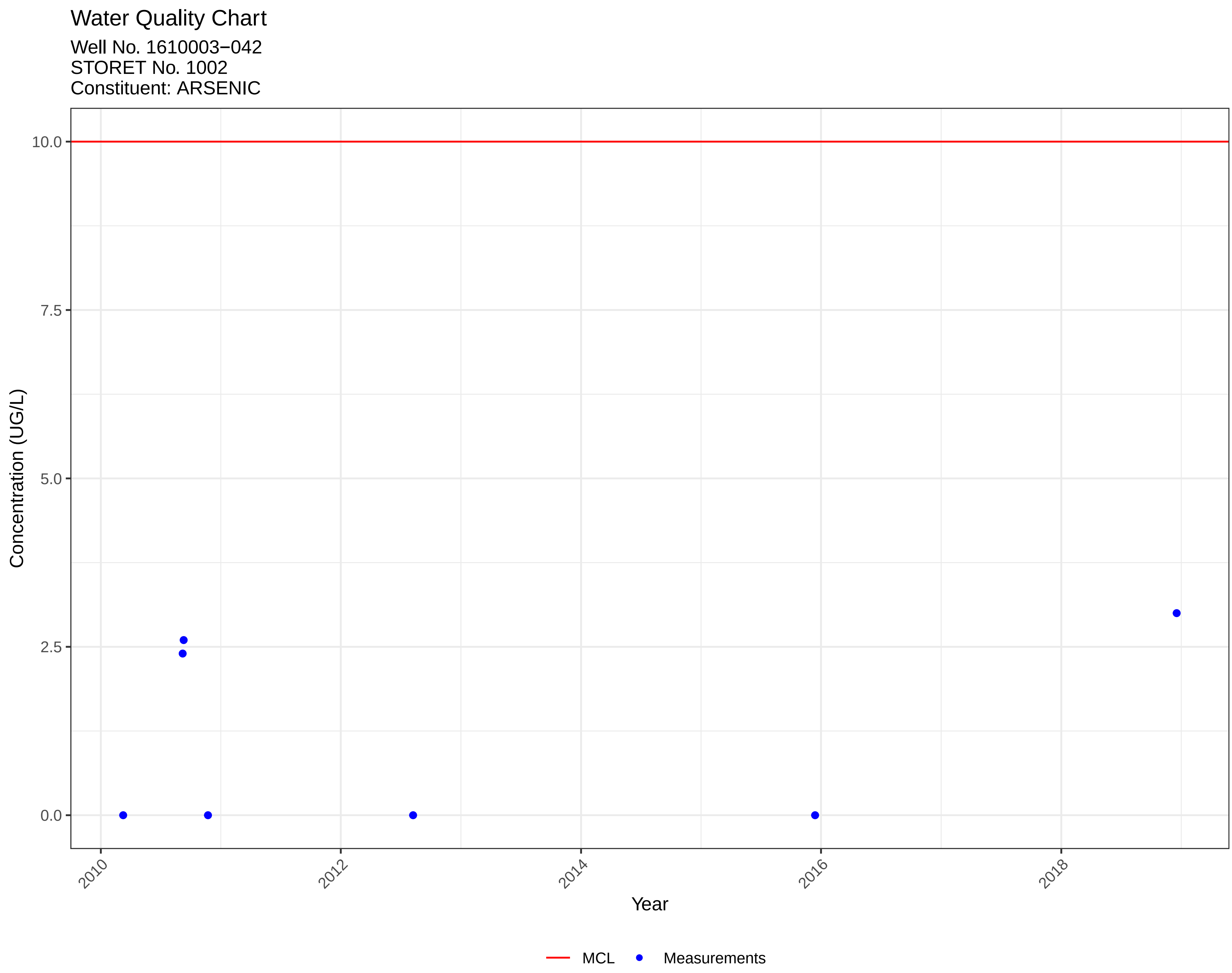
Water Quality Chart

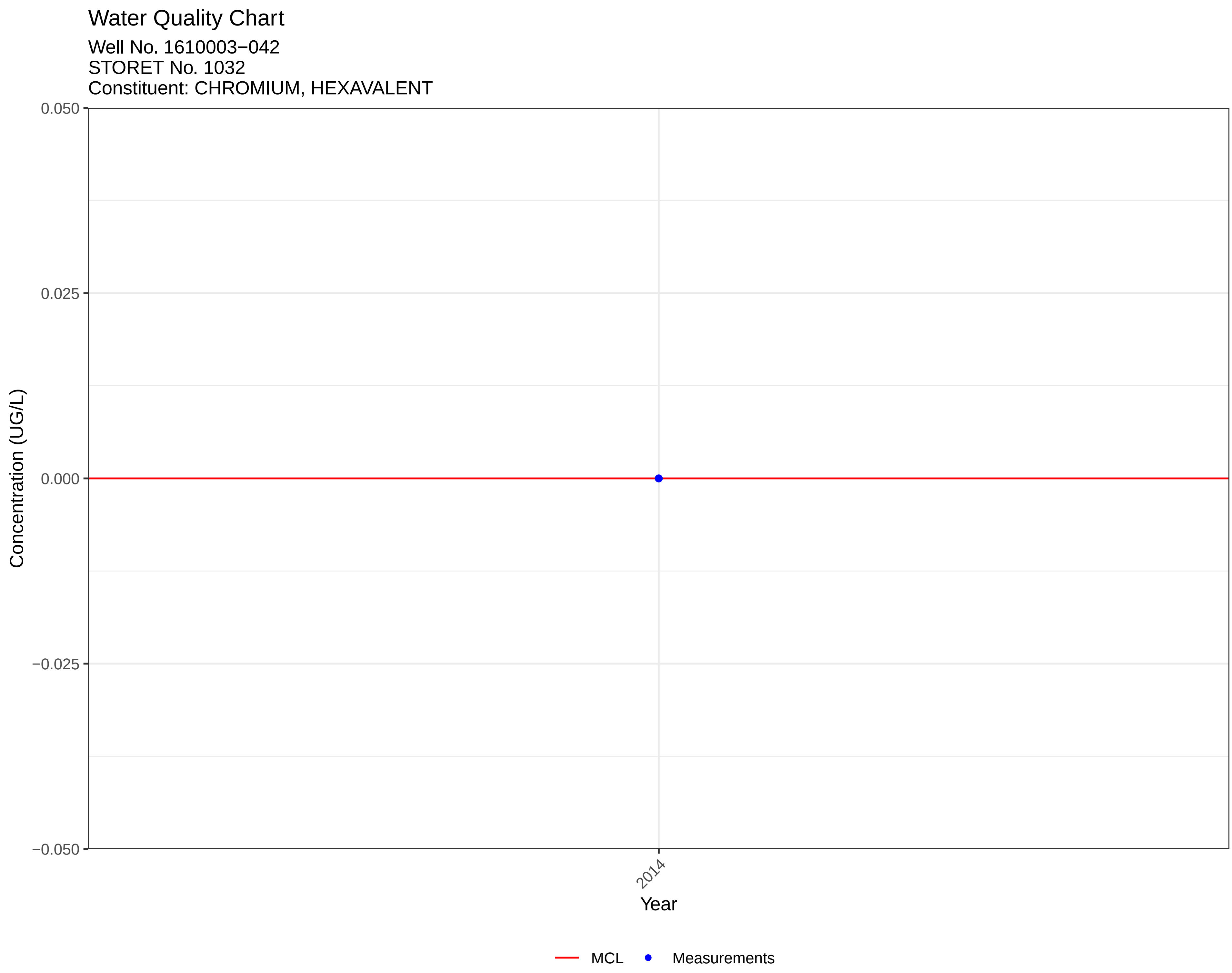
Well No. 1610003−042
STORET No. 95
Constituent: SPECIFIC CONDUCTANCE




Water Quality Chart
Well No. 1610003−042
STORET No. 618
Constituent: NITRATE (AS N)
Concentration (MG/L)
10.0
7.5
5.0
2.5
0.0
2016
2017
2018
2019
2020
Year
MCL
Measurements

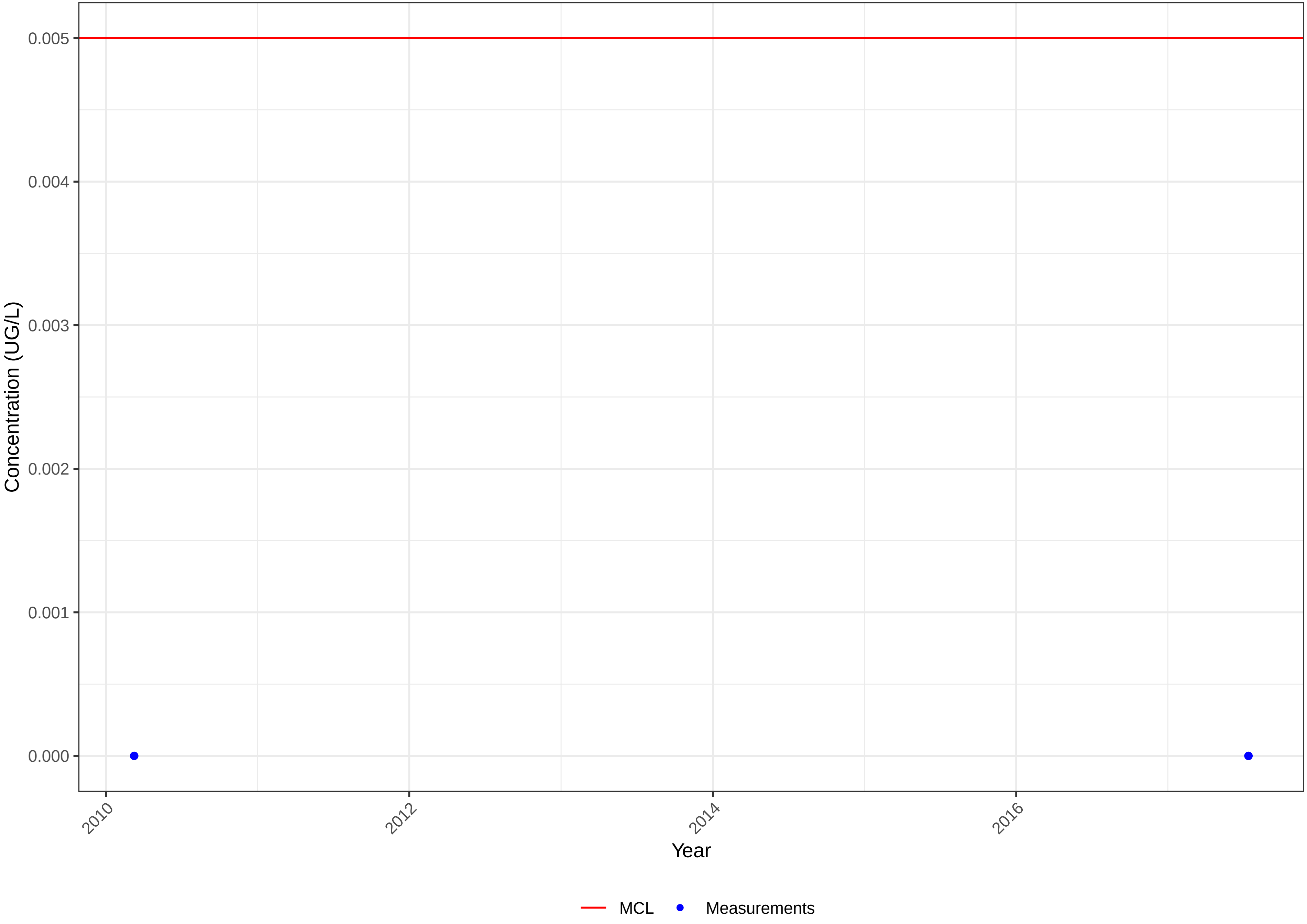

Water Quality Chart
Well No. 1610003−042
STORET No. 940
Constituent: CHLORIDE
500
400
300
Concentration (MG/L)
2010
2012
2014
2016
2018
Year
MCL
Measurements


Water Quality Chart
Well No. 1610003−042
STORET No. 1002
Constituent: ARSENIC
10.0
7.5
5.0
2.5
0.0
Concentration (UG/L)
2010
2012
2014
2016
2018
Year
MCL
Measurements


Water Quality Chart
Well No. 1610003−042
STORET No. 1032
Constituent: CHROMIUM, HEXAVALENT
0.050
0.025
0.000
−0.025
−0.050
Concentration (UG/L)
2014
Year
MCL
Measurements

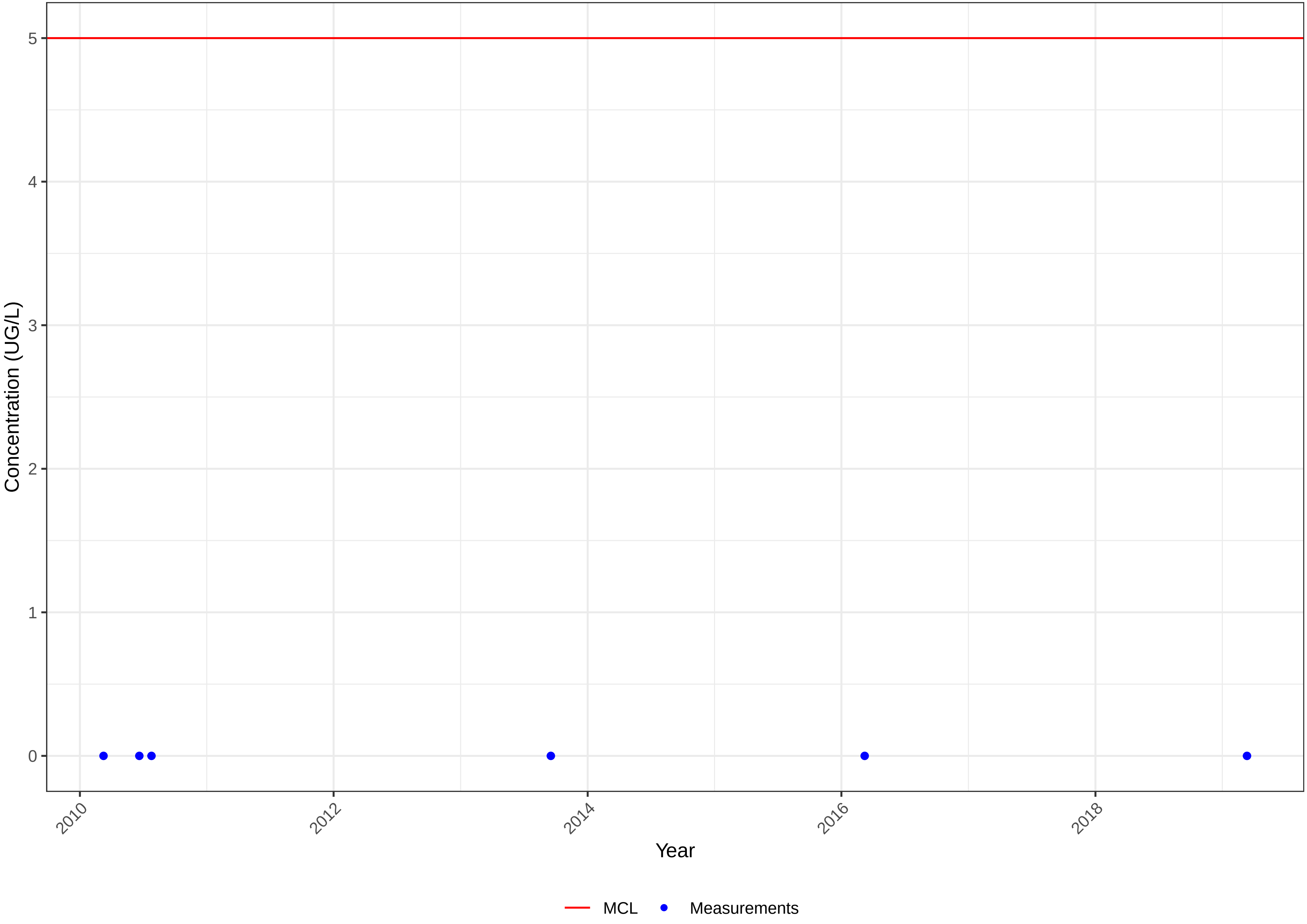
Water Quality Chart

Well No. 1610003−042
STORET No. 7744X
Constituent: 1,2,3−TRICHLOROPROPANE



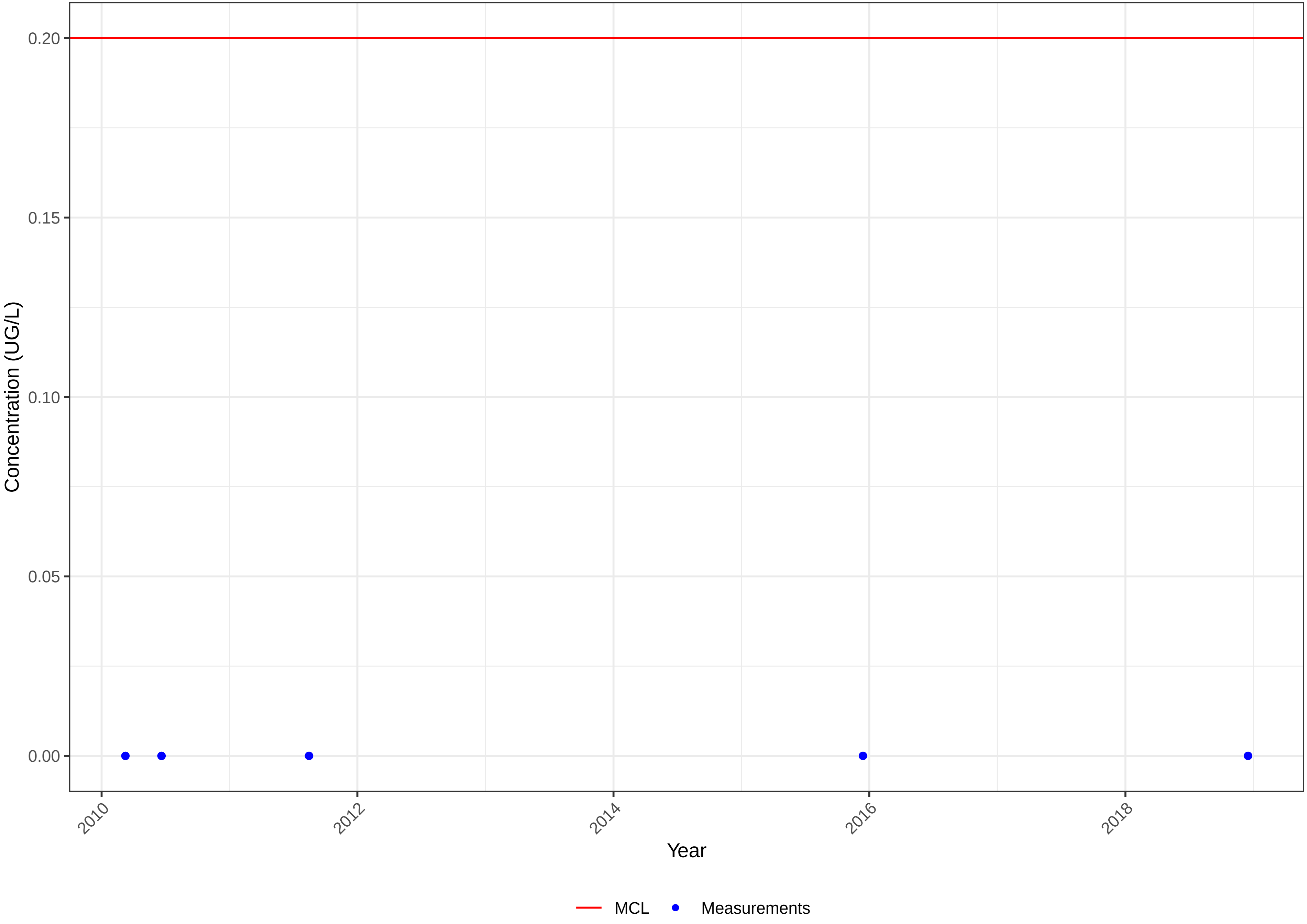
Water Quality Chart

Well No. 1610003−042
STORET No. 34475
Constituent: TETRACHLOROETHYLENE



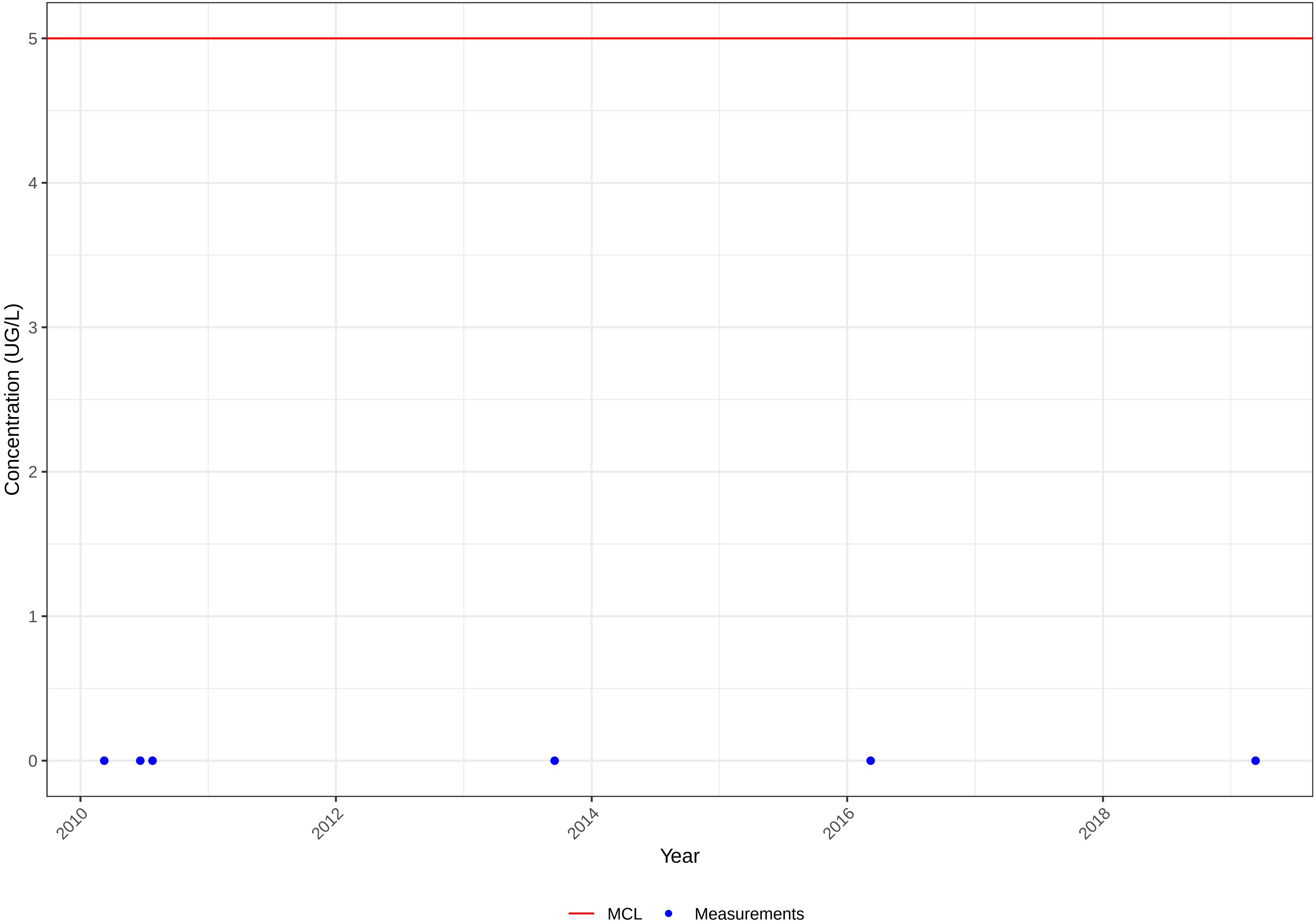
Water Quality Chart

Well No. 1610003−042
STORET No. 38761
Constituent: DIBROMOCHLOROPROPANE (DBCP)



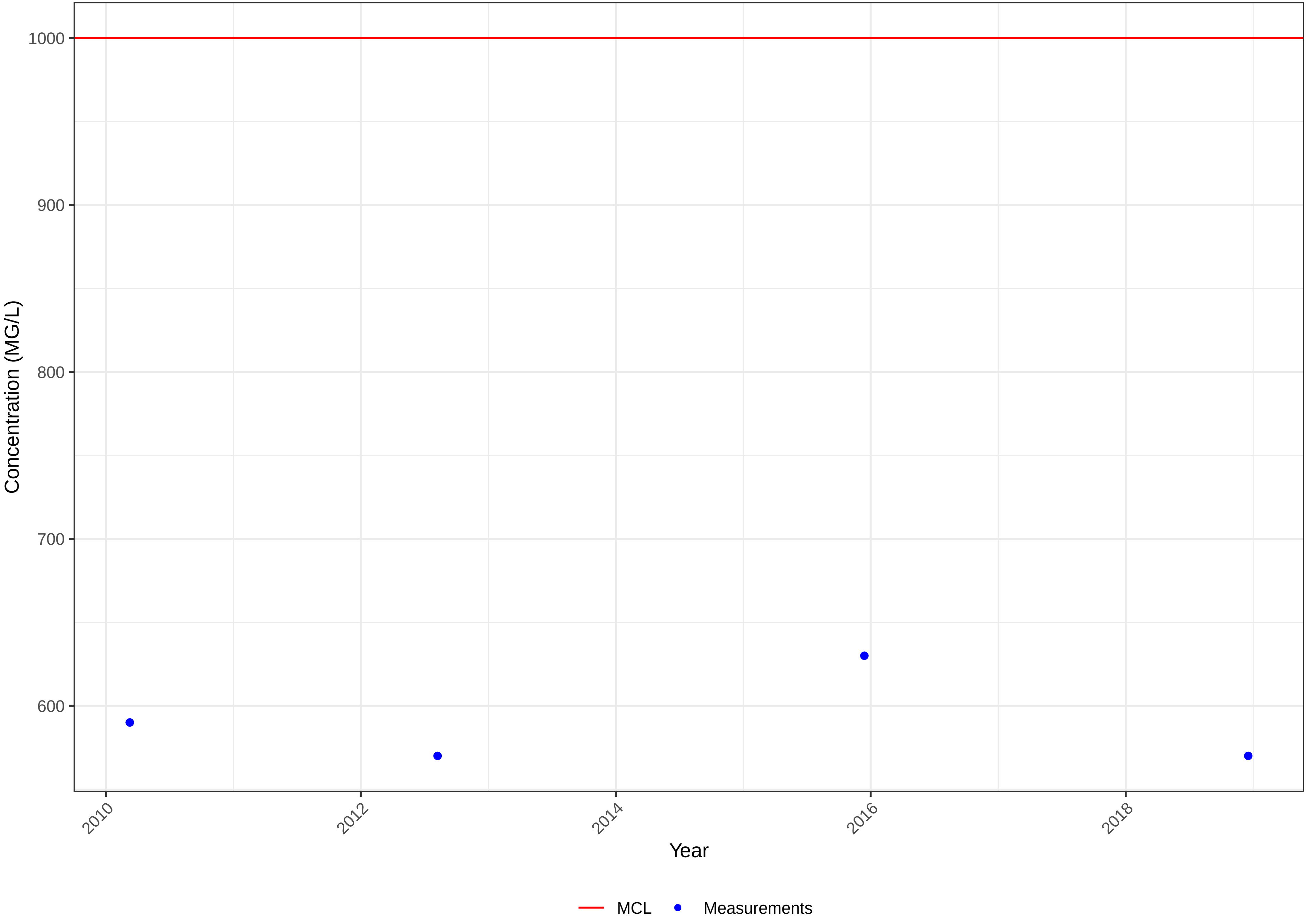
Water Quality Chart

Well No. 1610003−042
STORET No. 39180
Constituent: TRICHLOROETHYLENE



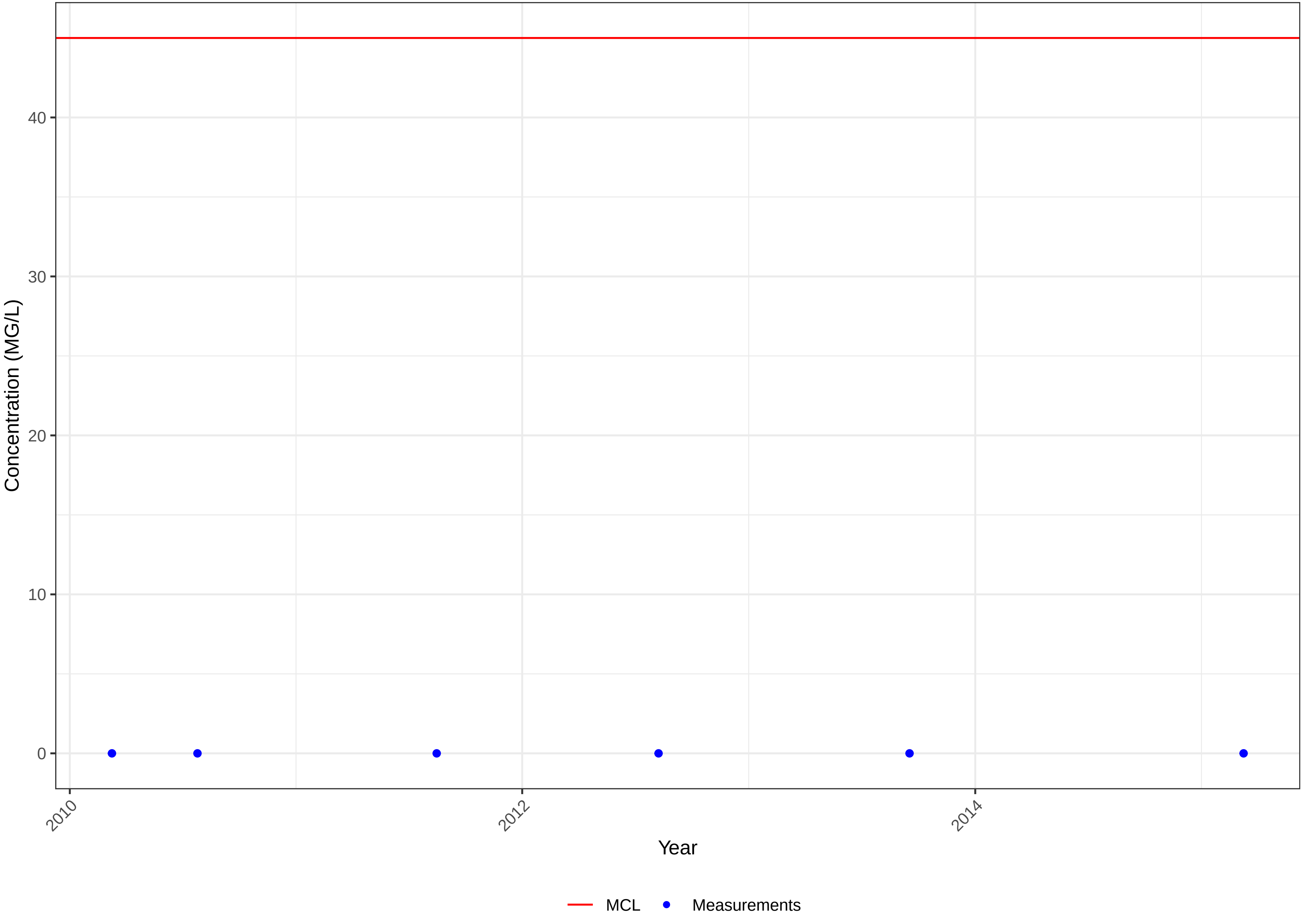
Water Quality Chart

Well No. 1610003−042
STORET No. 70300
Constituent: TOTAL DISSOLVED SOLIDS



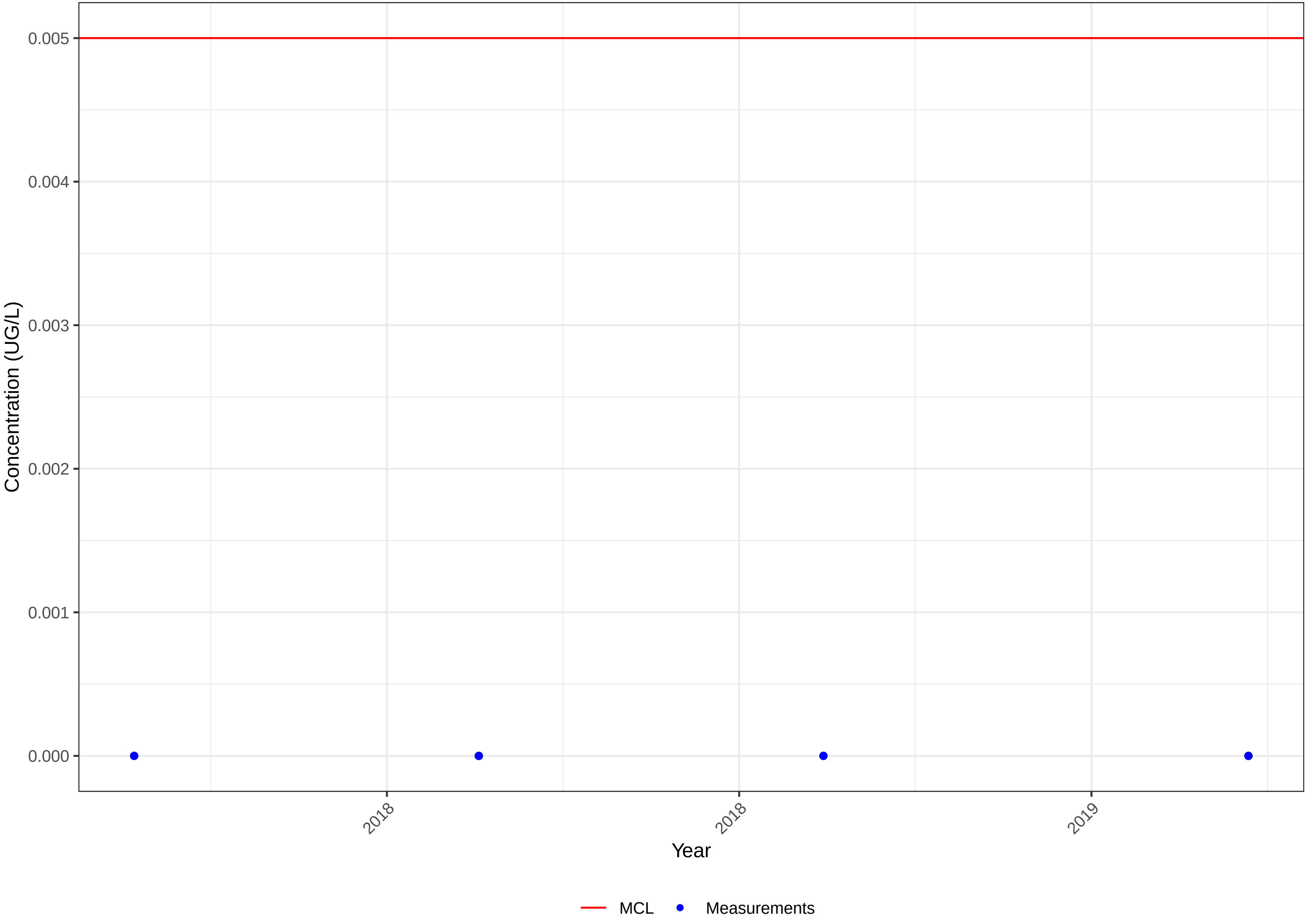
Water Quality Chart

Well No. 1610003−042
STORET No. 71850
Constituent: NITRATE (AS NO3)



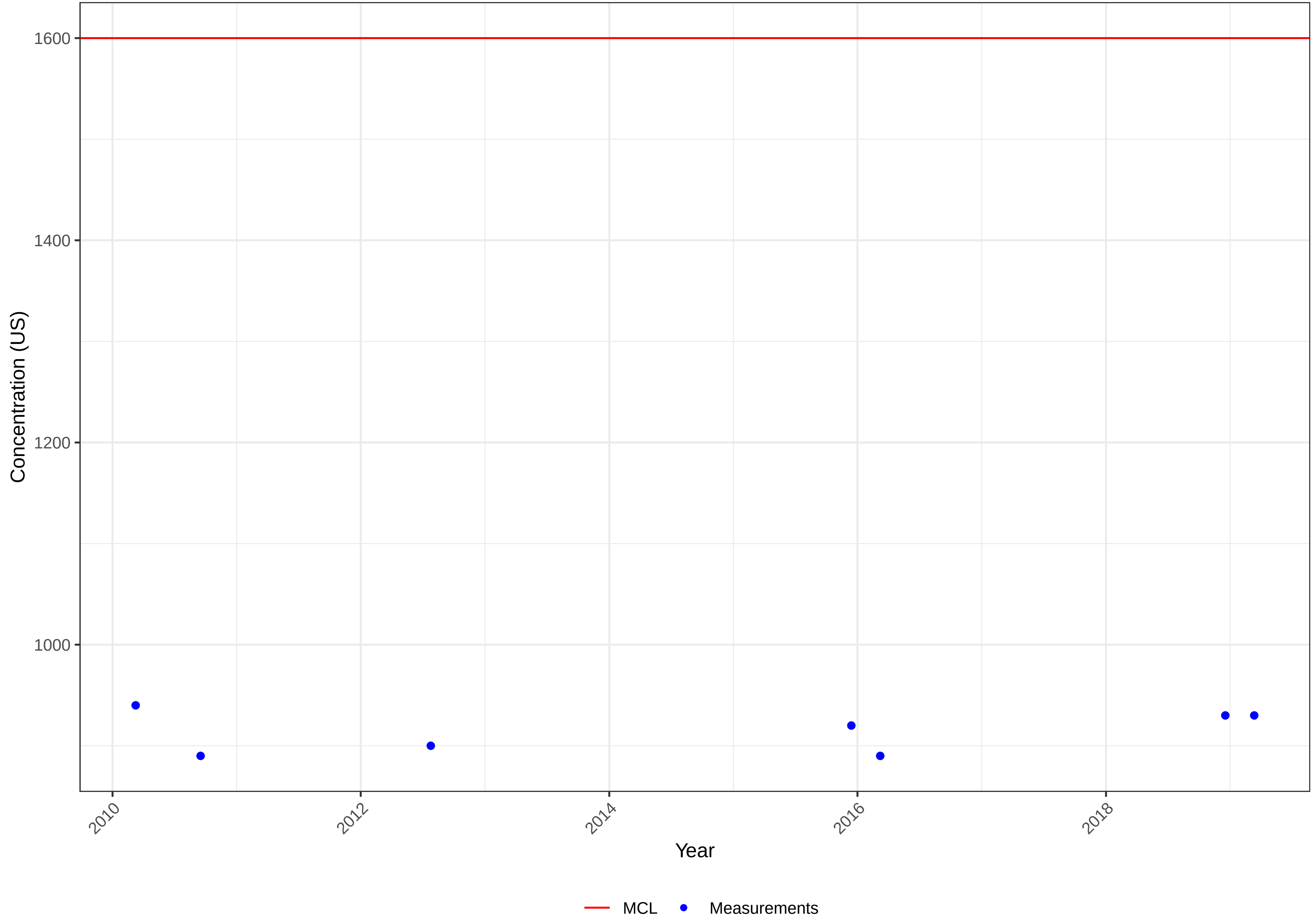
Water Quality Chart

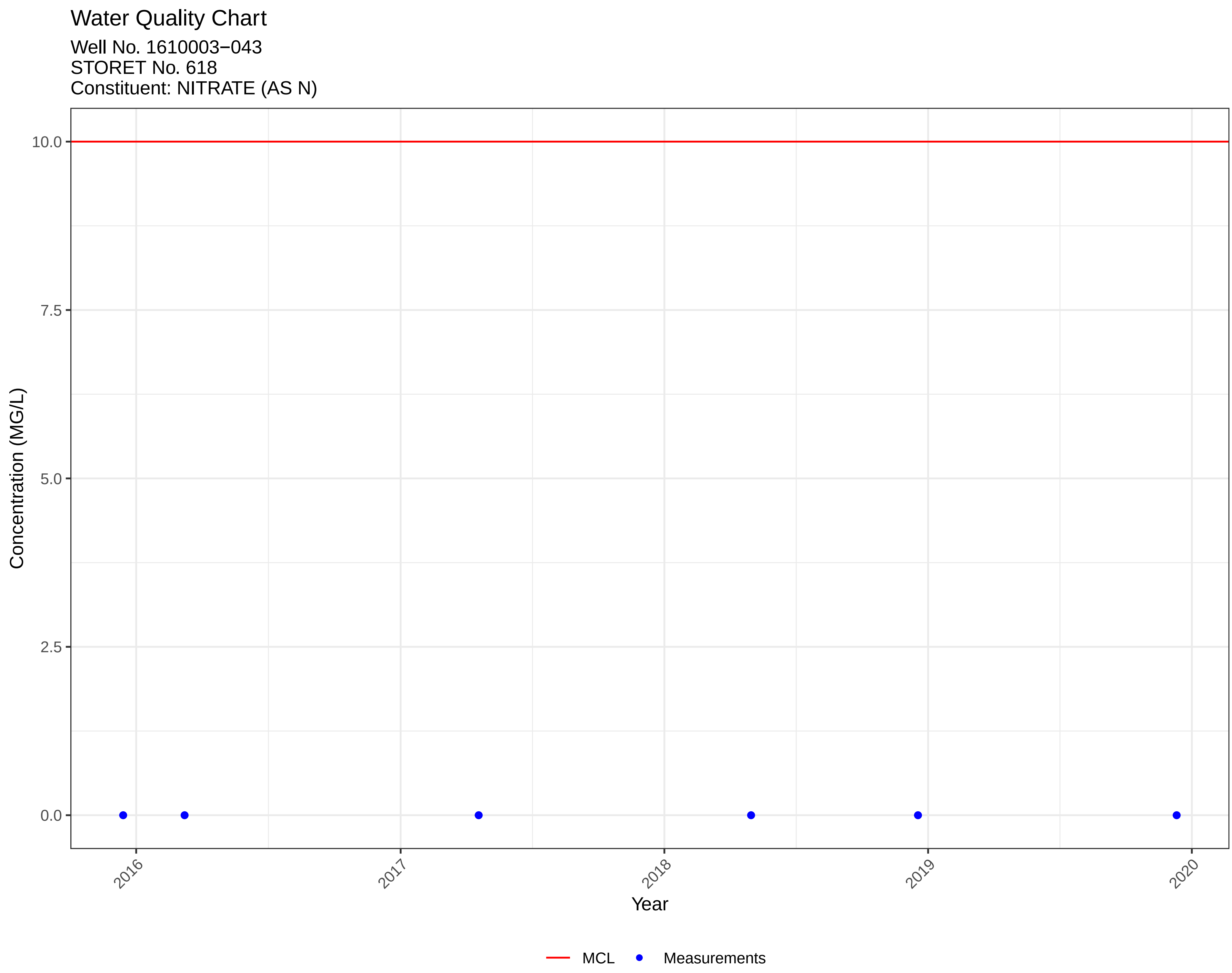
Well No. 1610003−042
STORET No. 77443
Constituent: 1,2,3−TRICHLOROPROPANE



Water Quality Chart

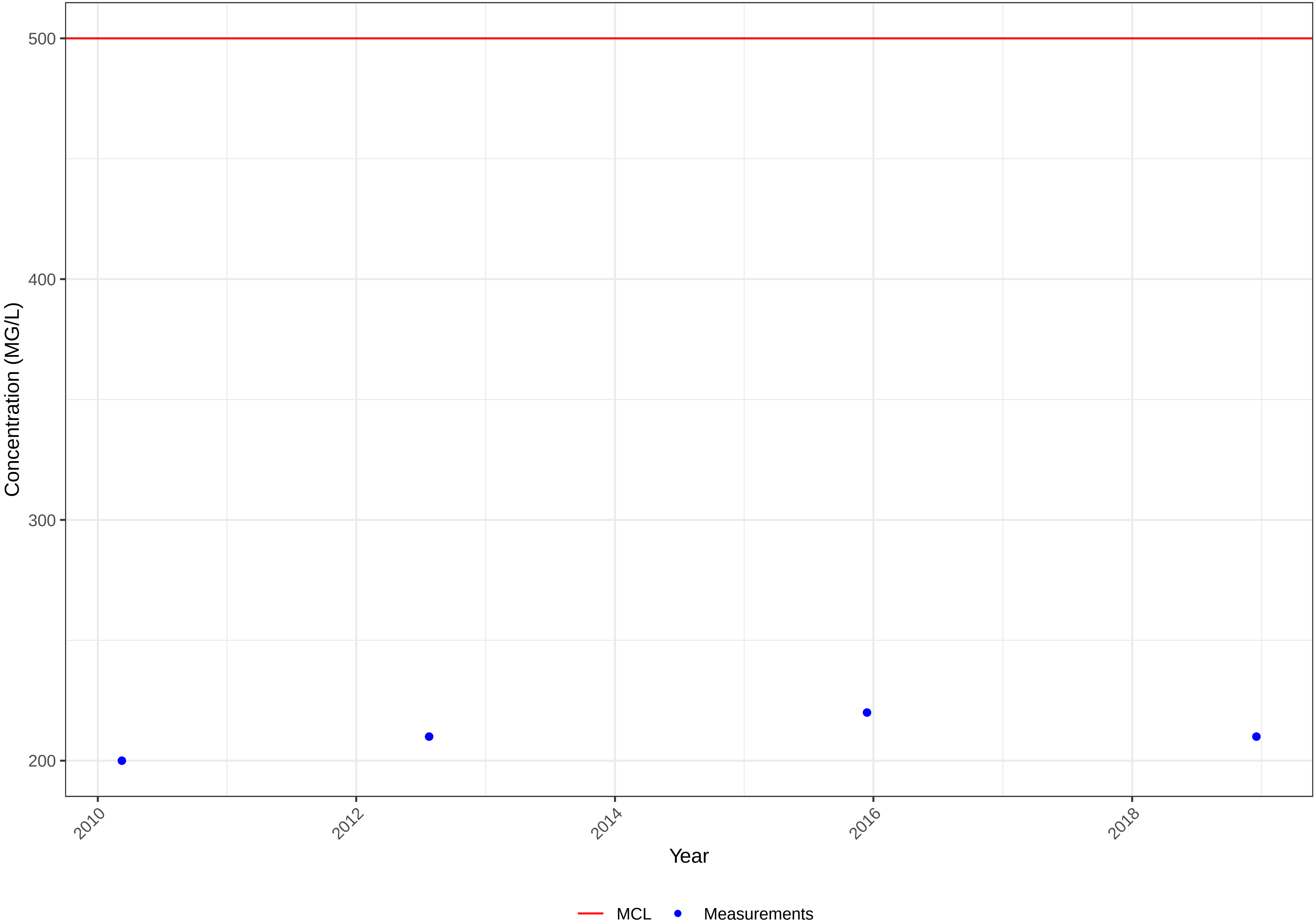
Well No. 1610003−043
STORET No. 95
Constituent: SPECIFIC CONDUCTANCE




Water Quality Chart
Well No. 1610003−043
STORET No. 618
Constituent: NITRATE (AS N)
Concentration (MG/L)
10.0
7.5
5.0
2.5
0.0
2016
2017
2018
2019
2020
Year
MCL
Measurements

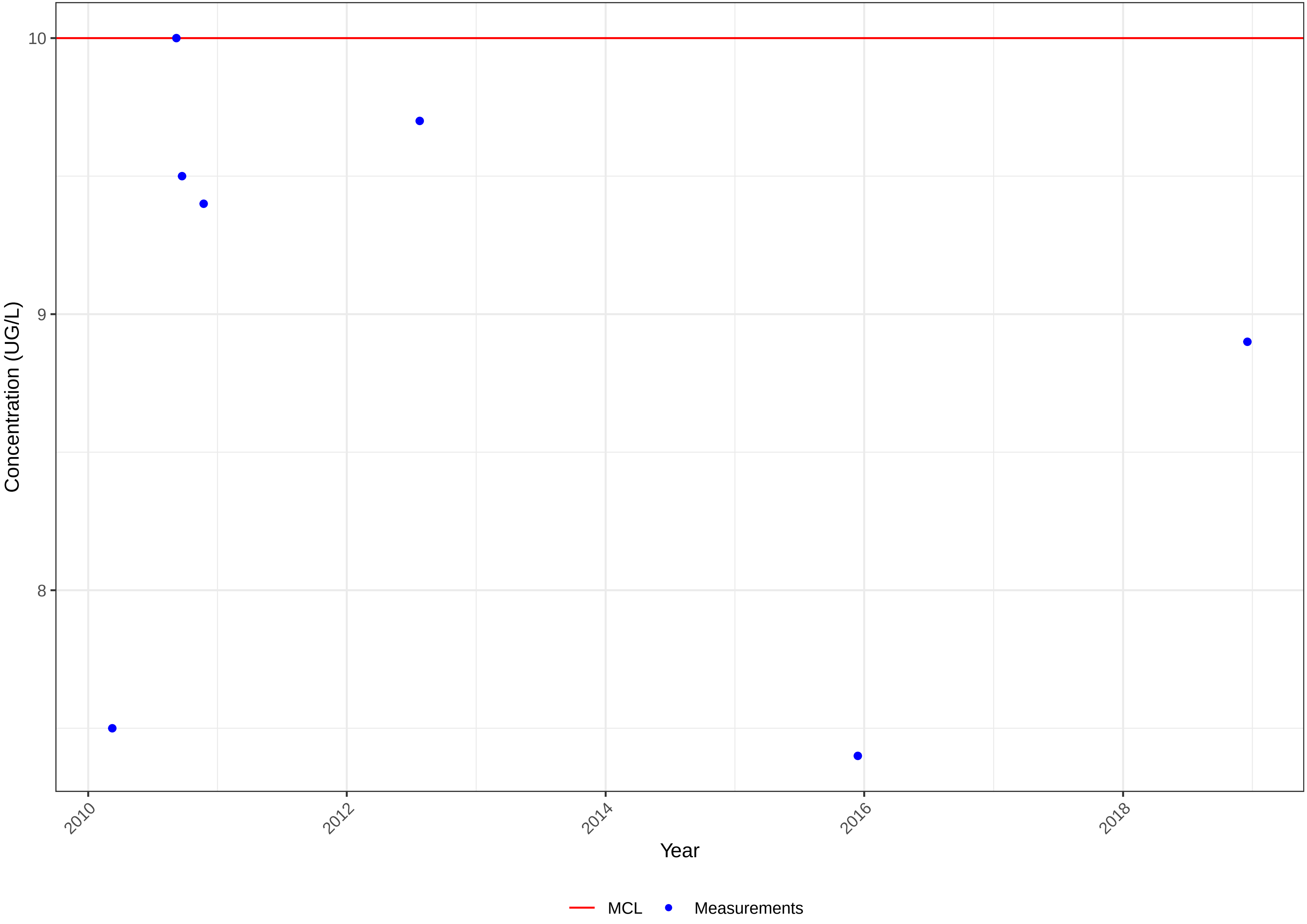
Water Quality Chart

Well No. 1610003−043
STORET No. 940
Constituent: CHLORIDE



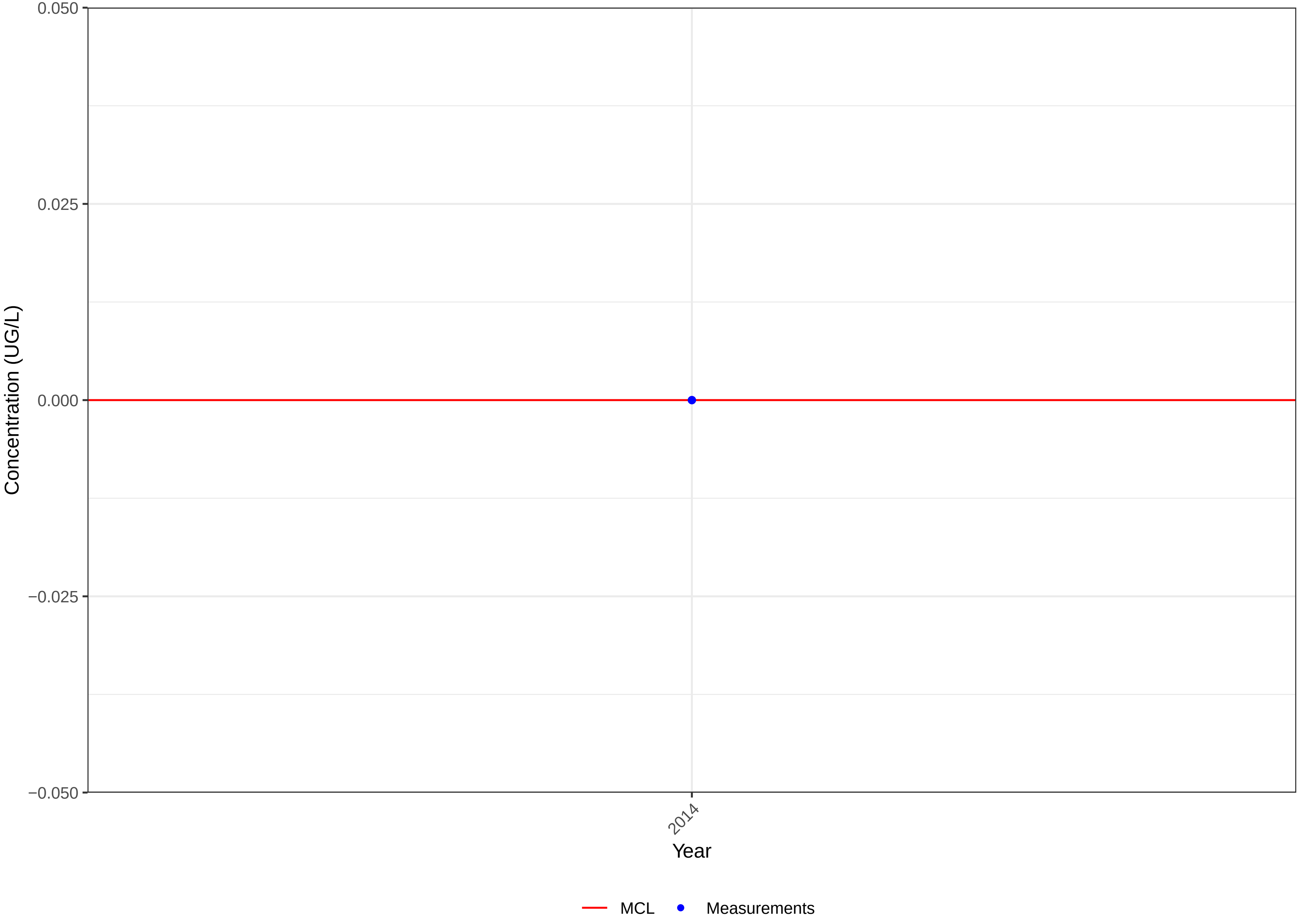
Water Quality Chart

Well No. 1610003−043
STORET No. 1002
Constituent: ARSENIC



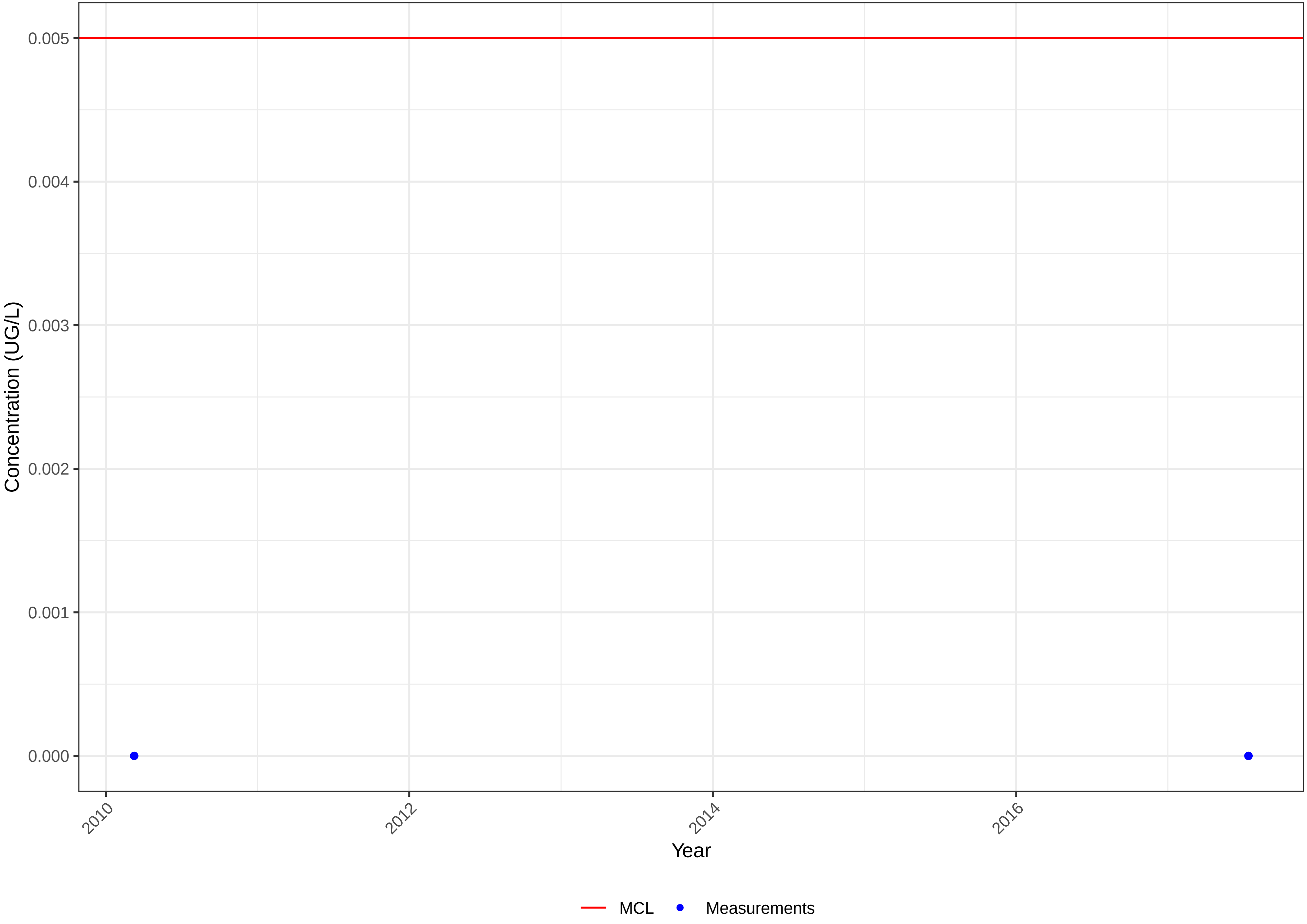
Water Quality Chart

Well No. 1610003−043
STORET No. 1032
Constituent: CHROMIUM, HEXAVALENT



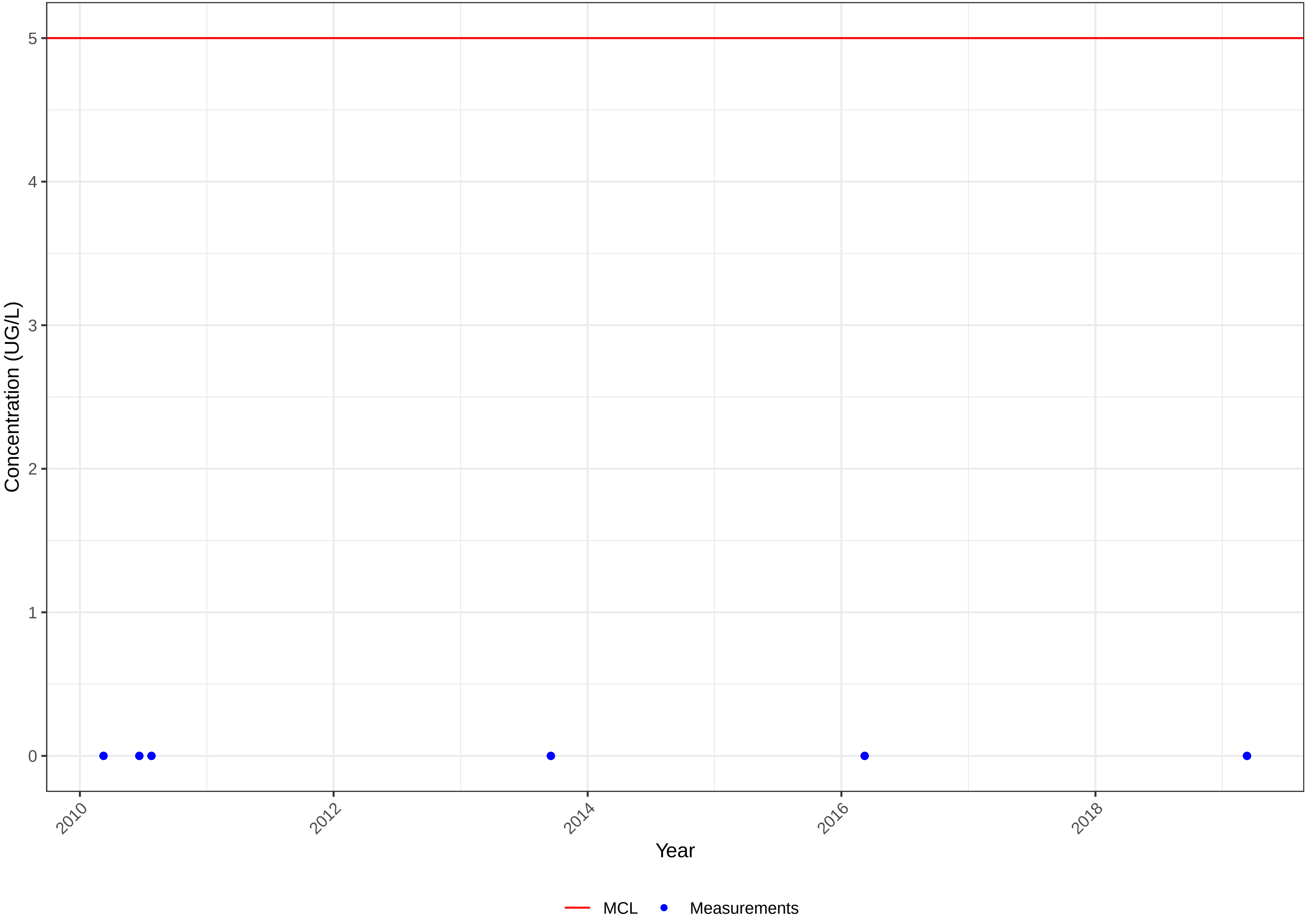
Water Quality Chart

Well No. 1610003−043
STORET No. 7744X
Constituent: 1,2,3−TRICHLOROPROPANE



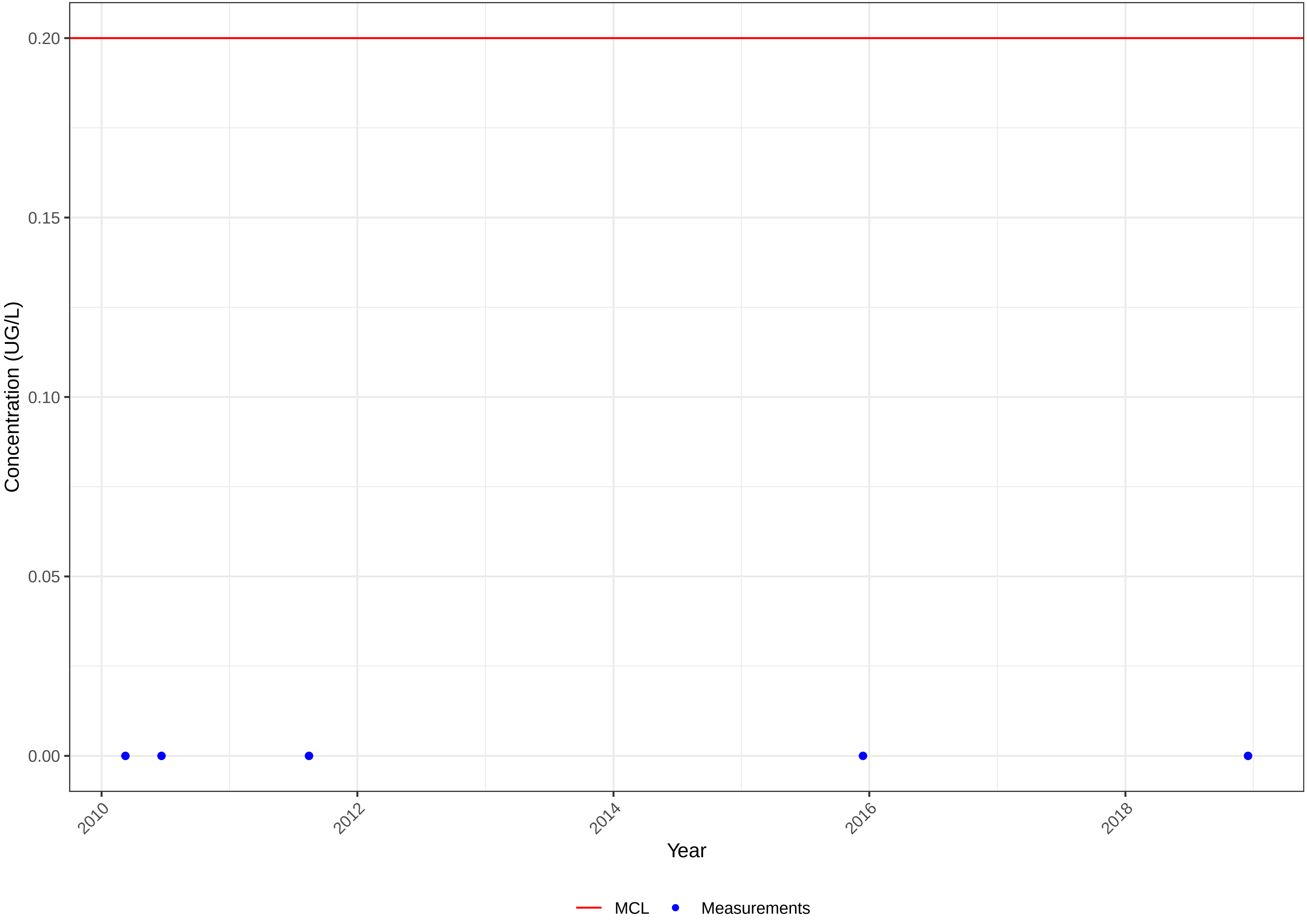
Water Quality Chart

Well No. 1610003−043
STORET No. 34475
Constituent: TETRACHLOROETHYLENE



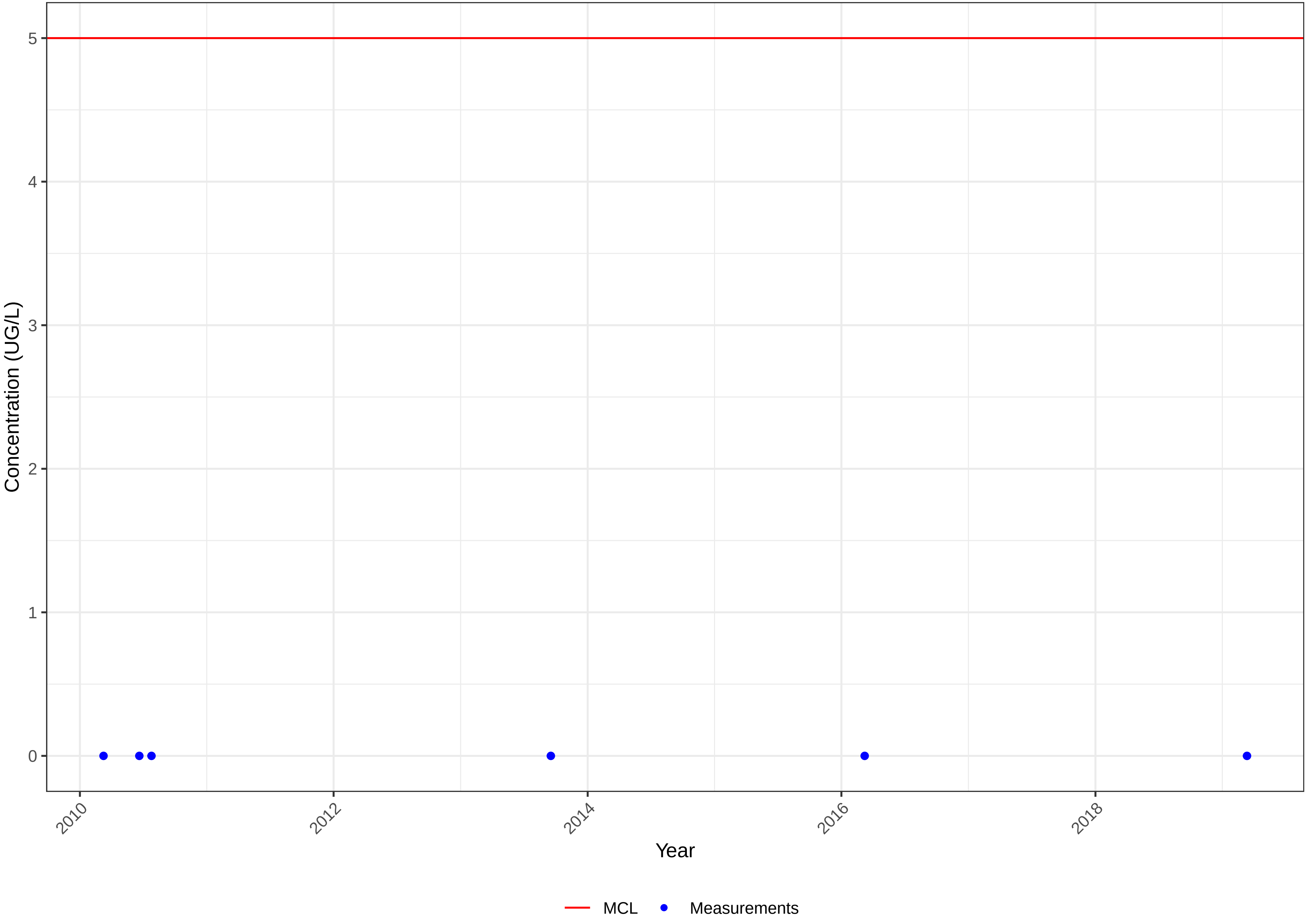
Water Quality Chart

Well No. 1610003−043
STORET No. 38761
Constituent: DIBROMOCHLOROPROPANE (DBCP)



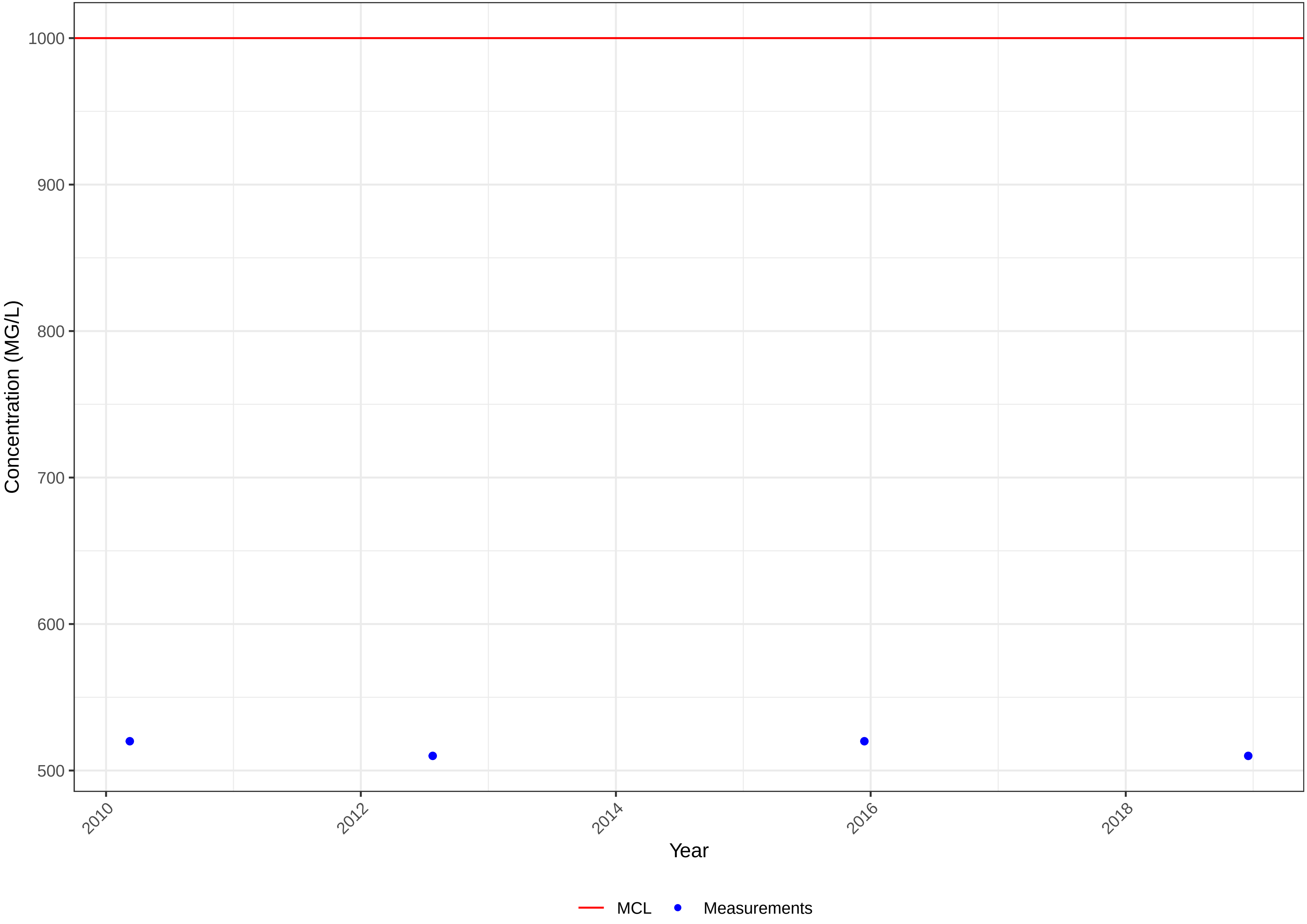
Water Quality Chart

Well No. 1610003−043
STORET No. 39180
Constituent: TRICHLOROETHYLENE



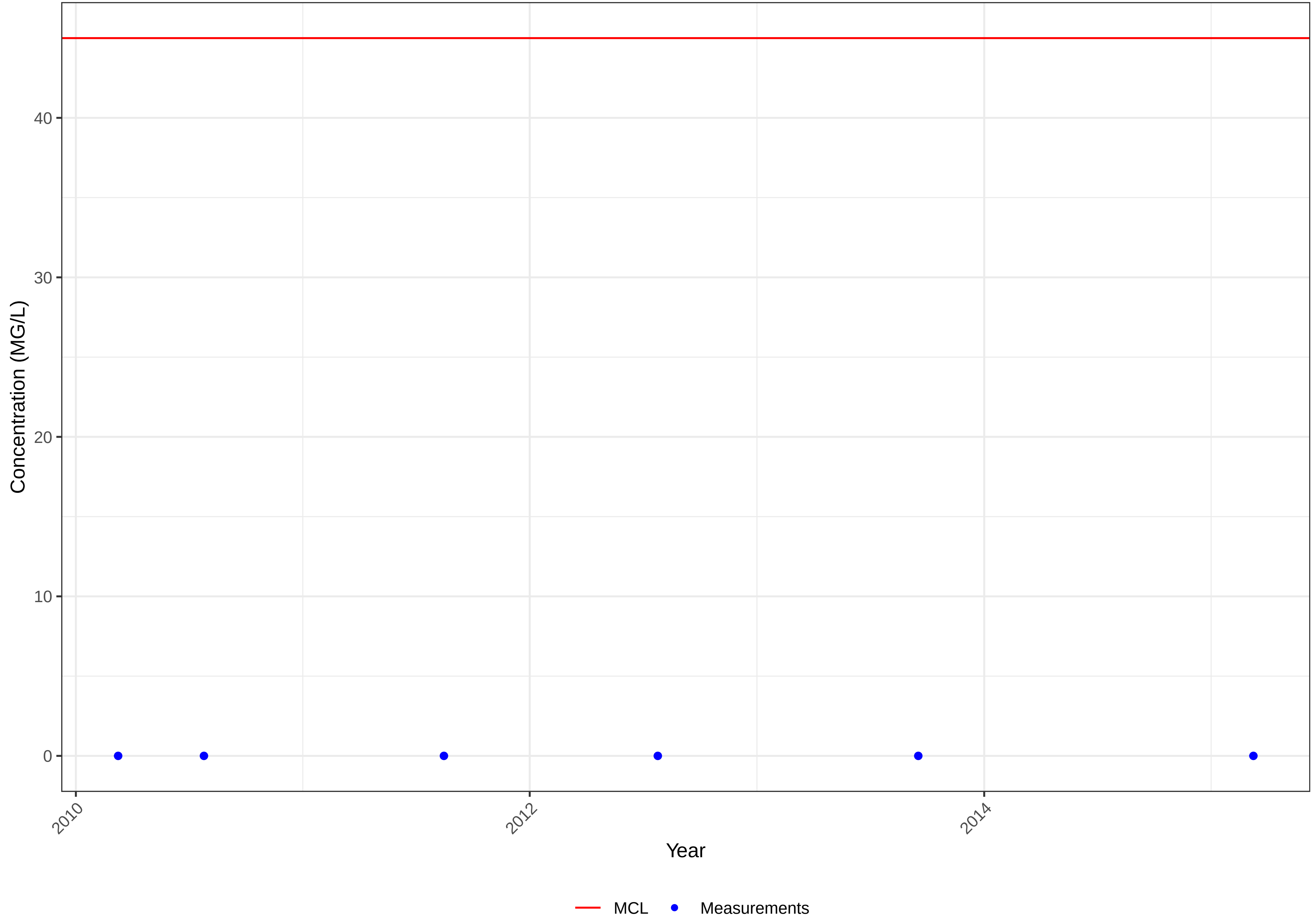
Water Quality Chart

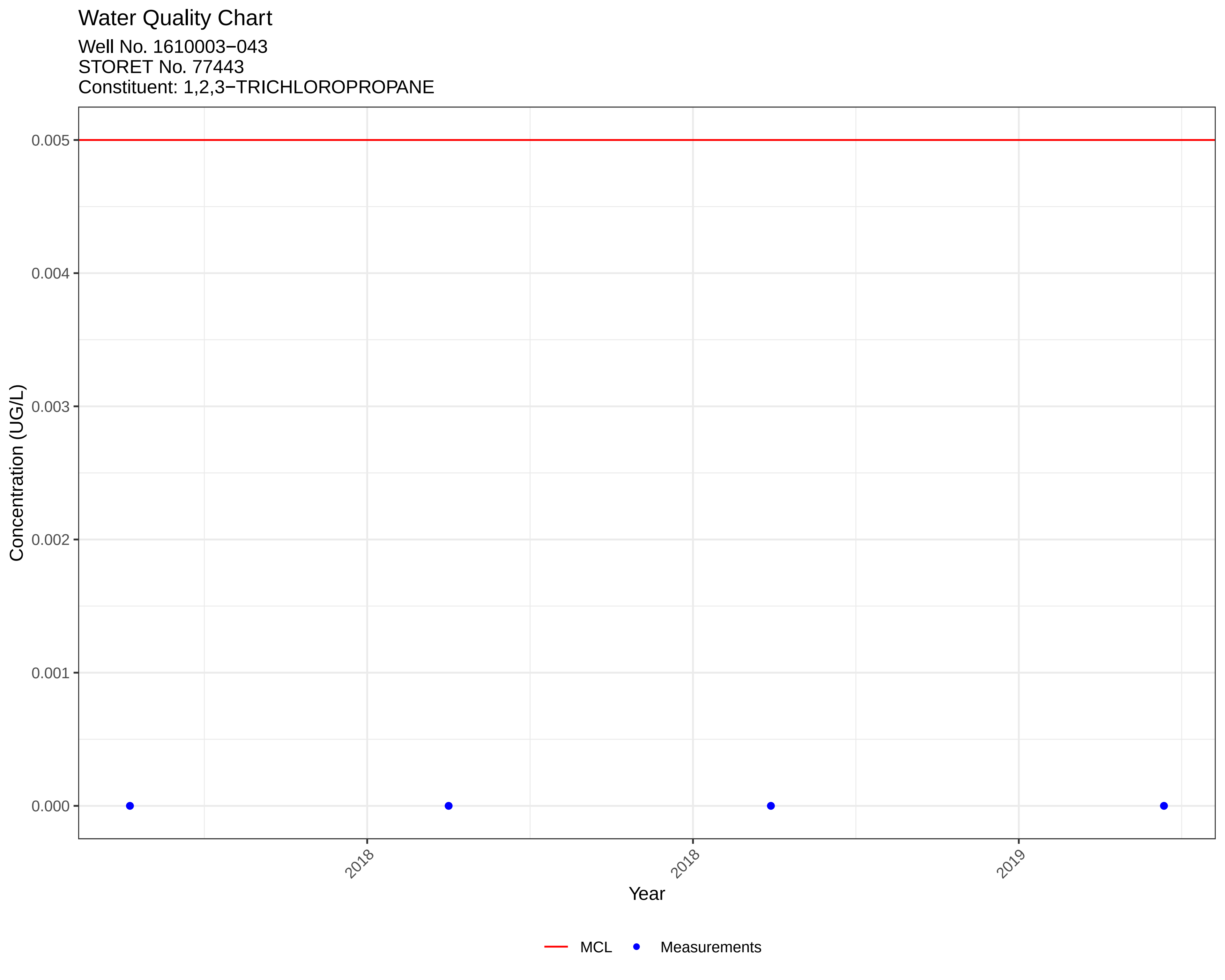
Well No. 1610003−043
STORET No. 70300
Constituent: TOTAL DISSOLVED SOLIDS



Water Quality Chart

Well No. 1610003−043
STORET No. 71850
Constituent: NITRATE (AS NO3)

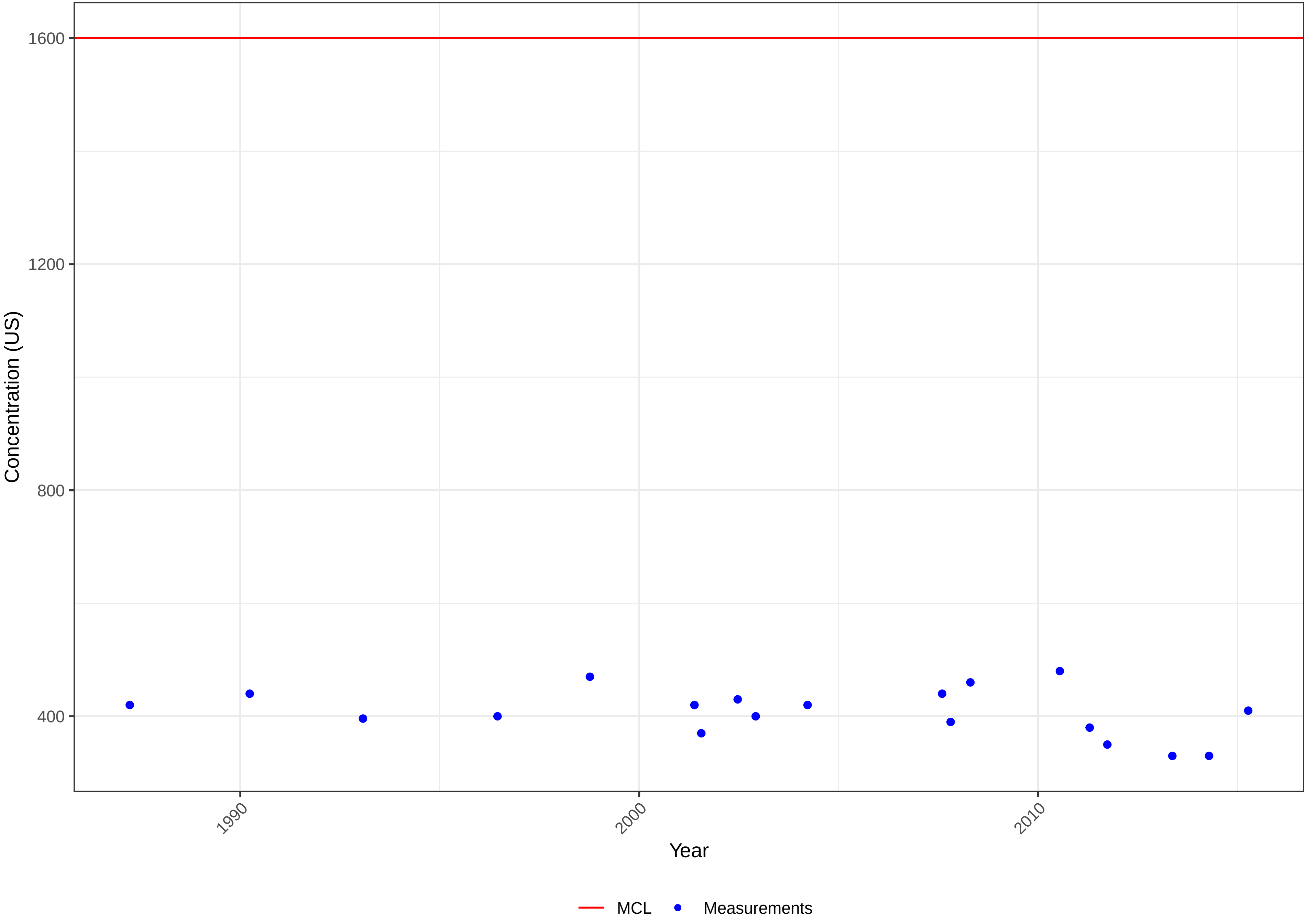


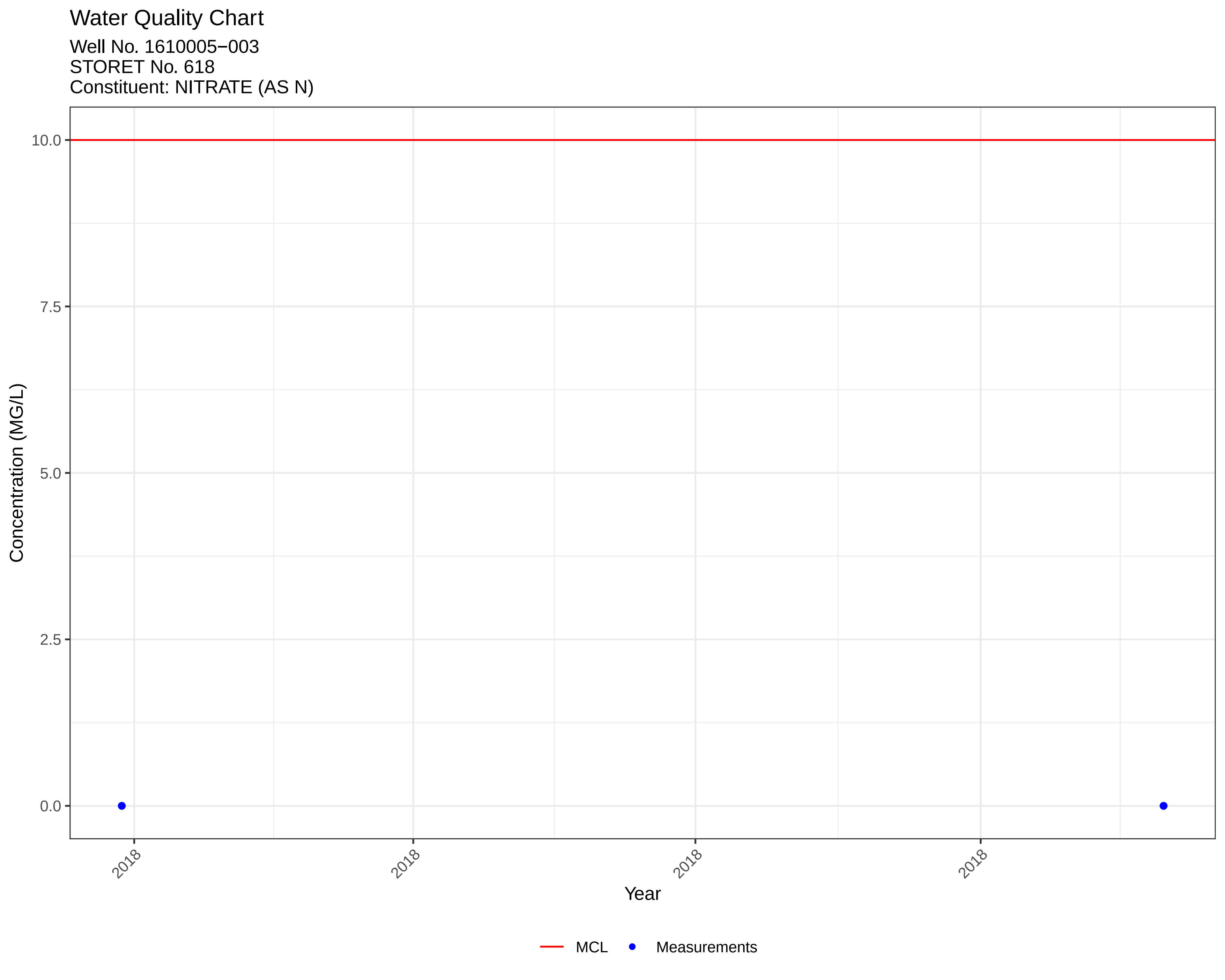


Water Quality Chart
Well No. 1610003−043
STORET No. 77443
Constituent: 1,2,3−TRICHLOROPROPANE
Concentration (UG/L)
0.005
0.004
0.003
0.002
0.001
0.000
2018
2018
2019
Year
MCL
Measurements

Water Quality Chart

Well No. 1610005−003
STORET No. 95
Constituent: SPECIFIC CONDUCTANCE

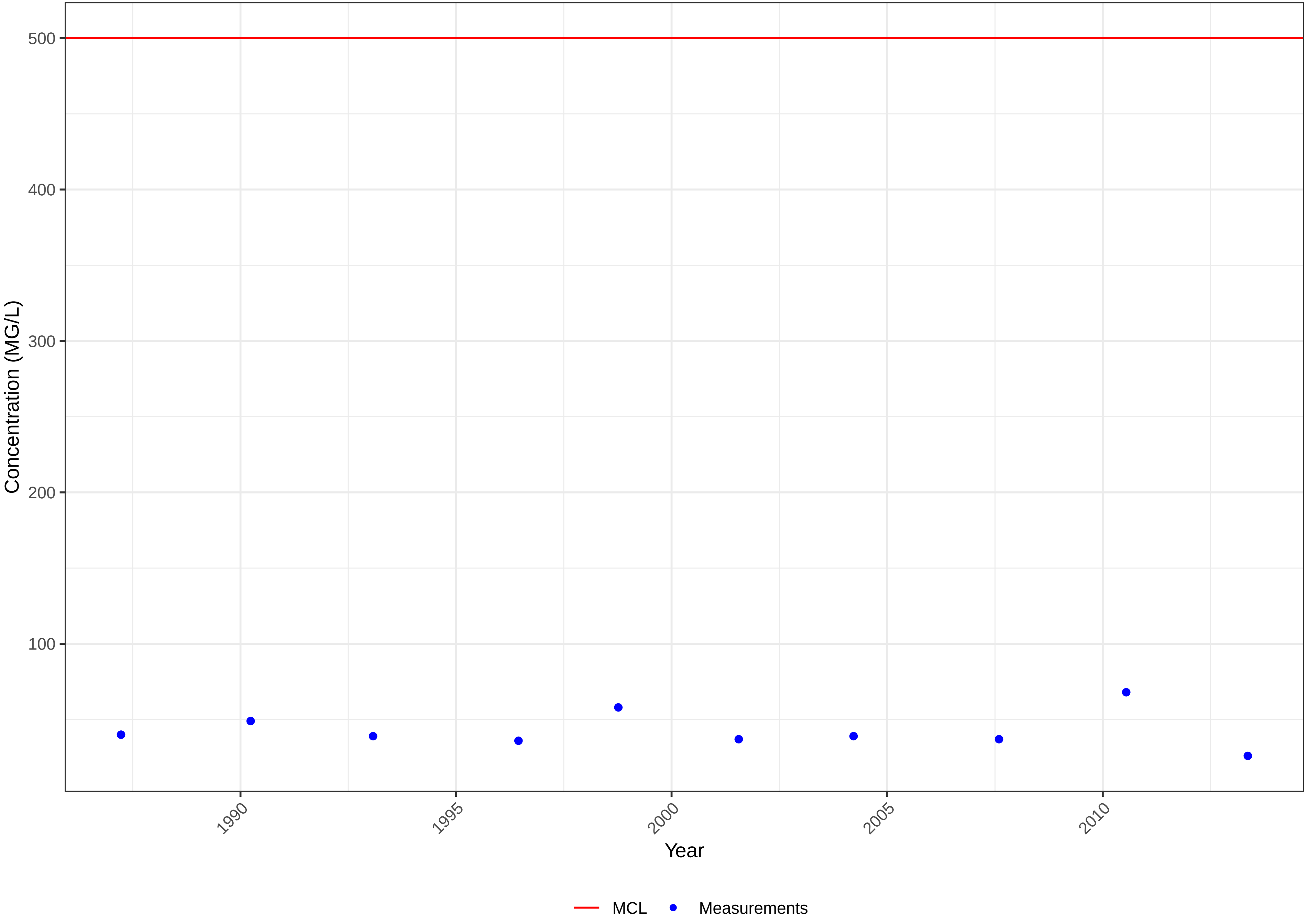


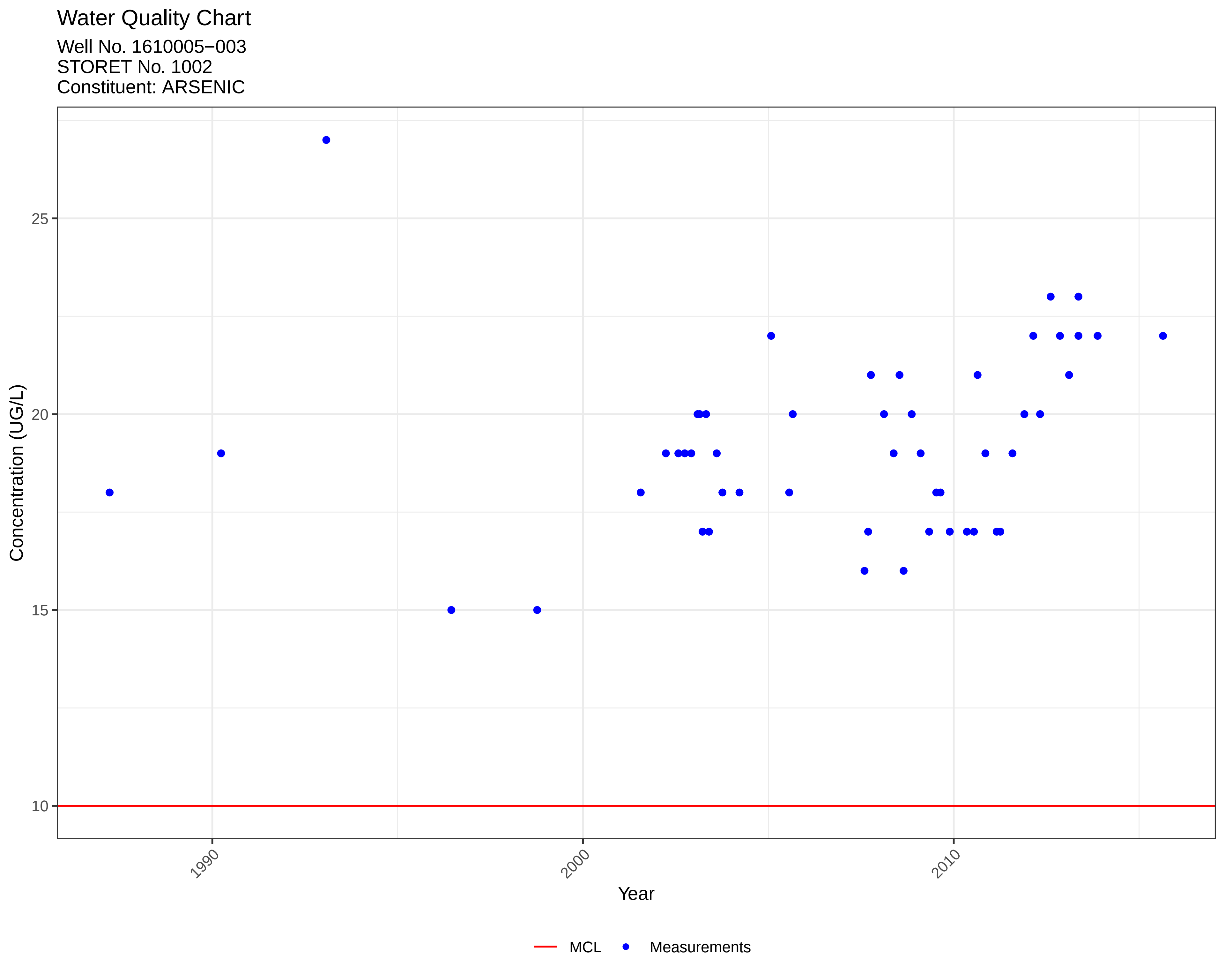


Water Quality Chart
Well No. 1610005−003
STORET No. 618
Constituent: NITRATE (AS N)
Concentration (MG/L)
10.0
7.5
5.0
2.5
0.0
2018
2018
2018
2018
Year
MCL
Measurements

Water Quality Chart

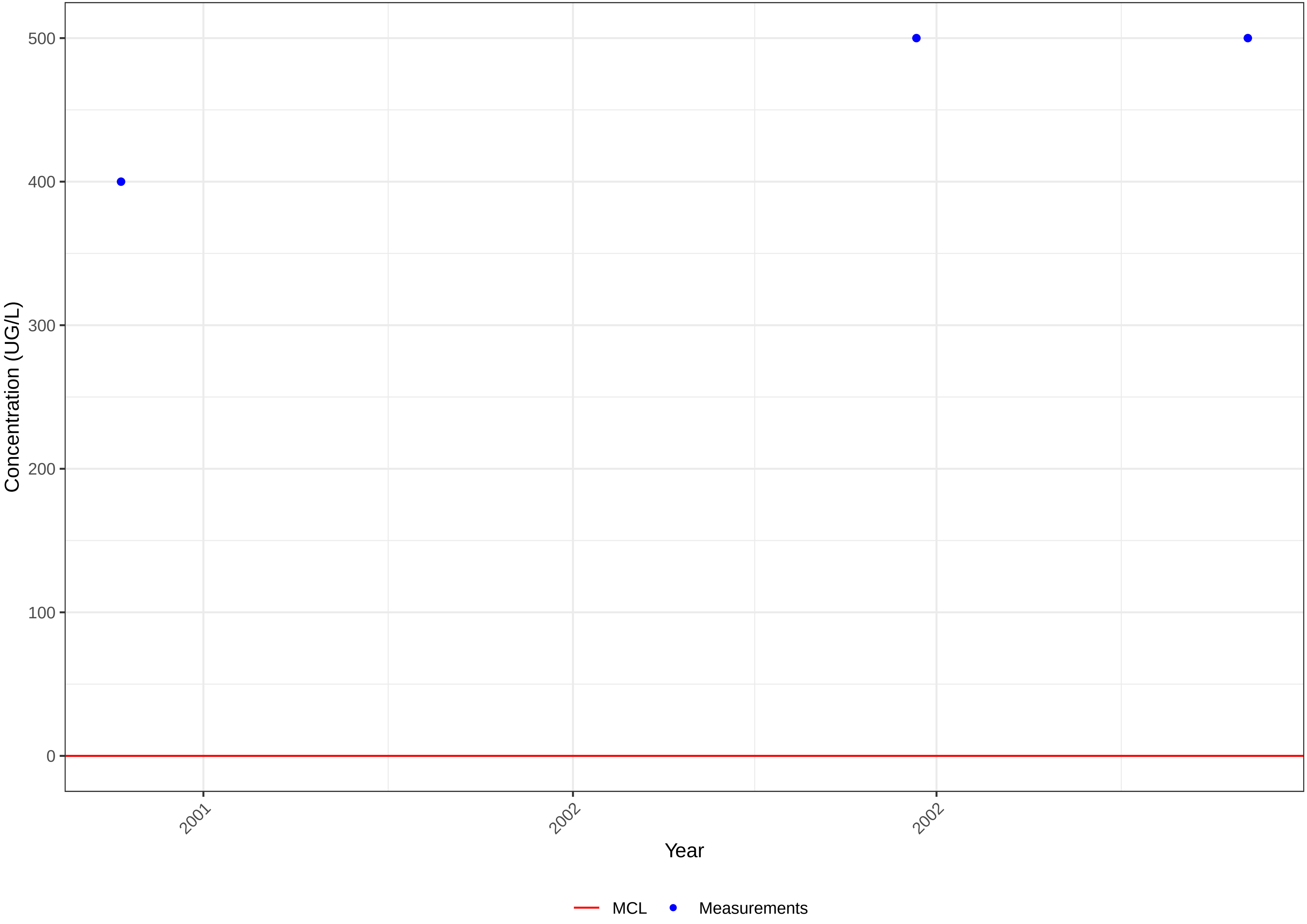
Well No. 1610005−003
STORET No. 940
Constituent: CHLORIDE




Water Quality Chart
Well No. 1610005−003
STORET No. 1002
Constituent: ARSENIC
Concentration (UG/L)
25
20
15
10
1990
2000
2010
Year
MCL
Measurements

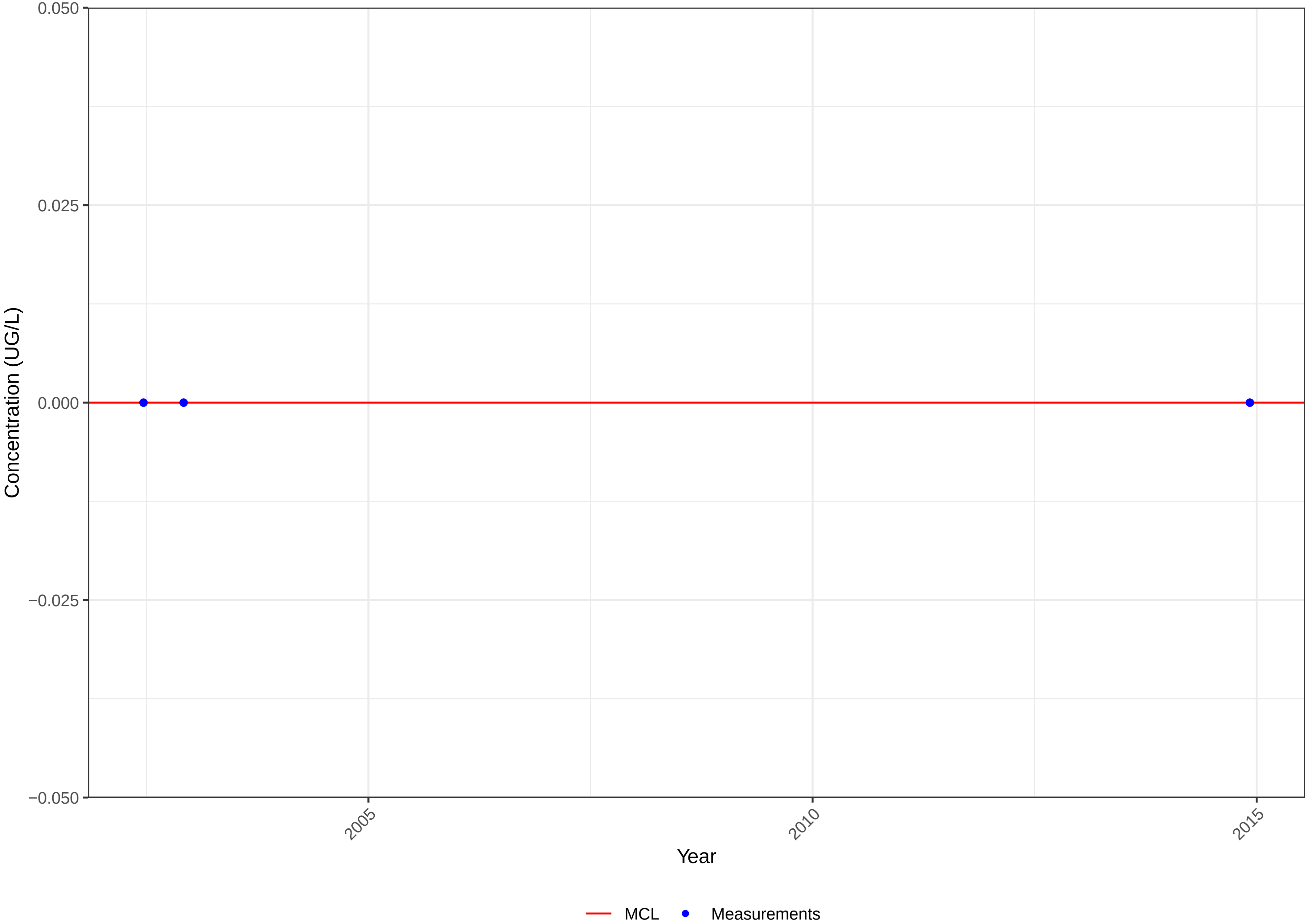
Water Quality Chart

Well No. 1610005−003
STORET No. 1020
Constituent: BORON



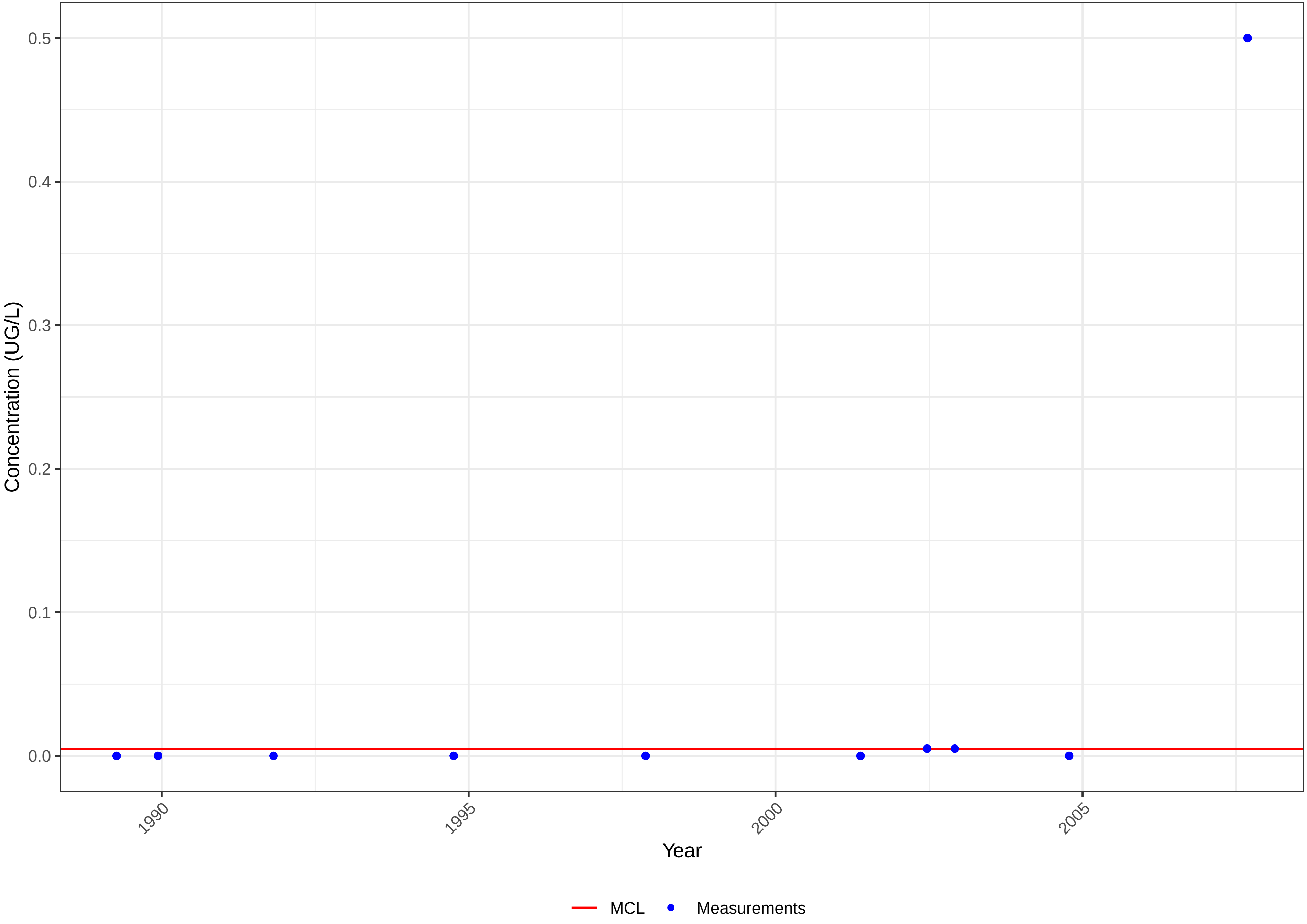
Water Quality Chart

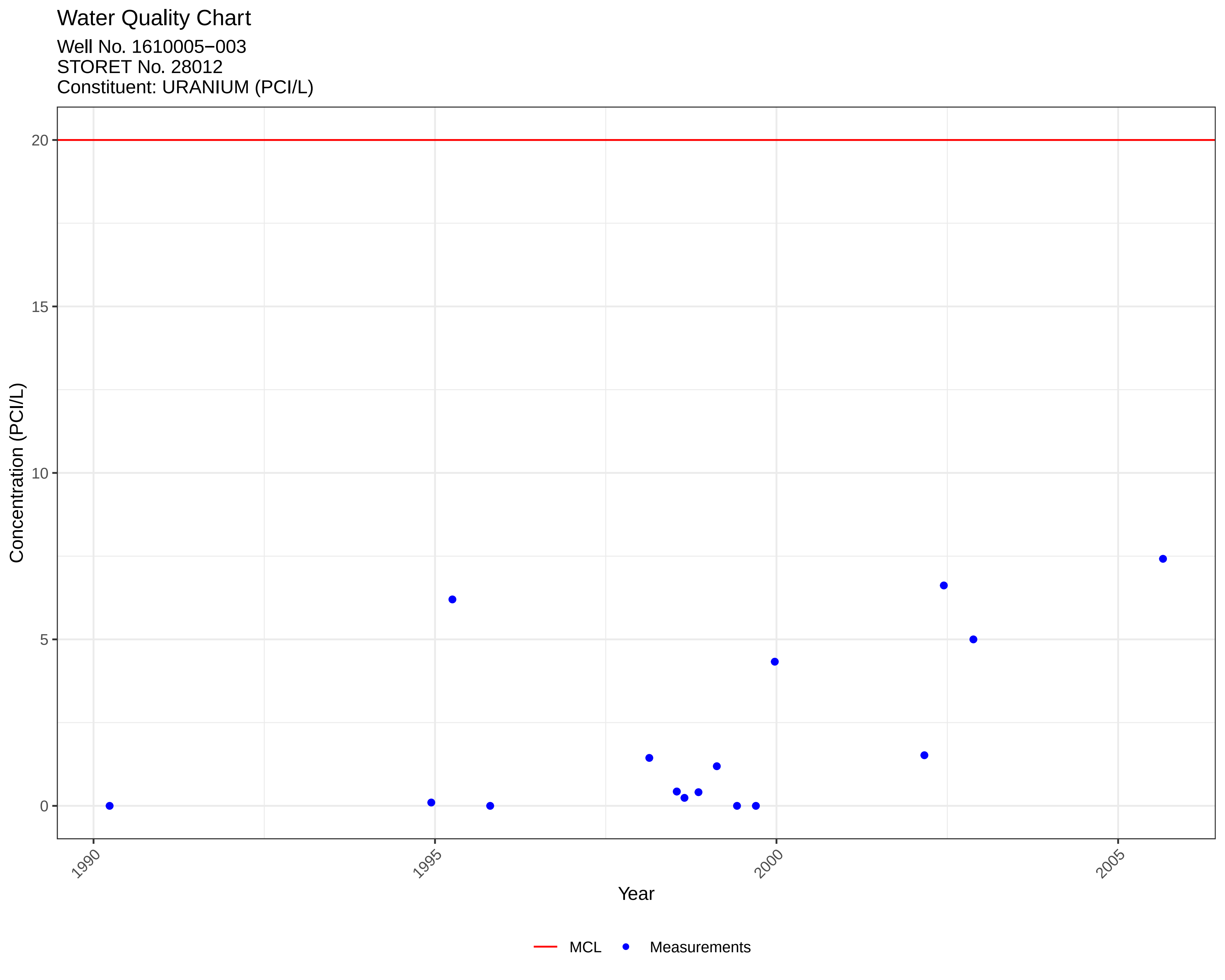
Well No. 1610005−003
STORET No. 1032
Constituent: CHROMIUM, HEXAVALENT



Water Quality Chart

Well No. 1610005−003
STORET No. 7744X
Constituent: 1,2,3−TRICHLOROPROPANE

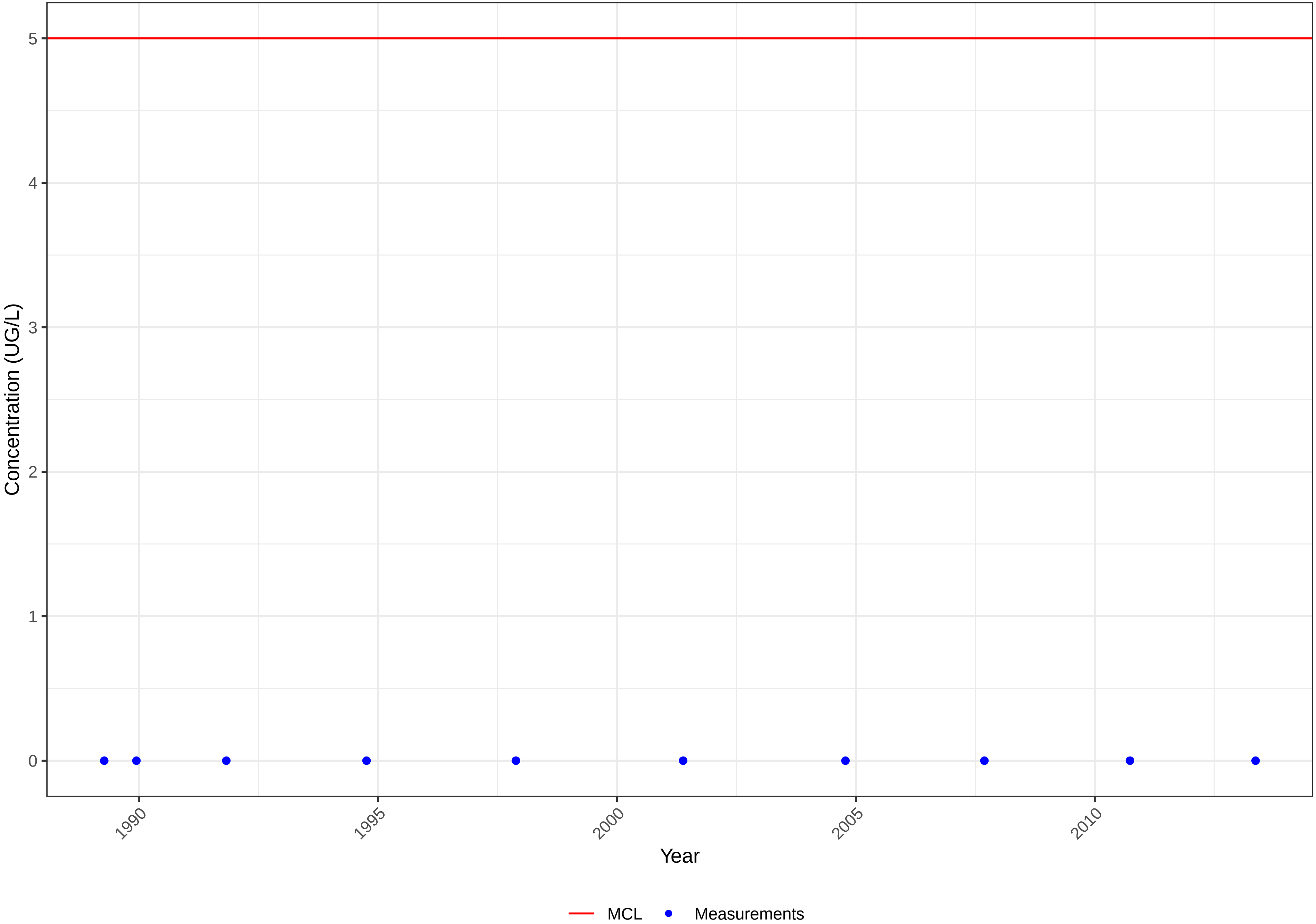




Water Quality Chart
Well No. 1610005−003
STORET No. 28012
Constituent: URANIUM (PCI/L)
Concentration (PCI/L)
20
15
10
5
0
1990
1995
2000
2005
Year
MCL
Measurements

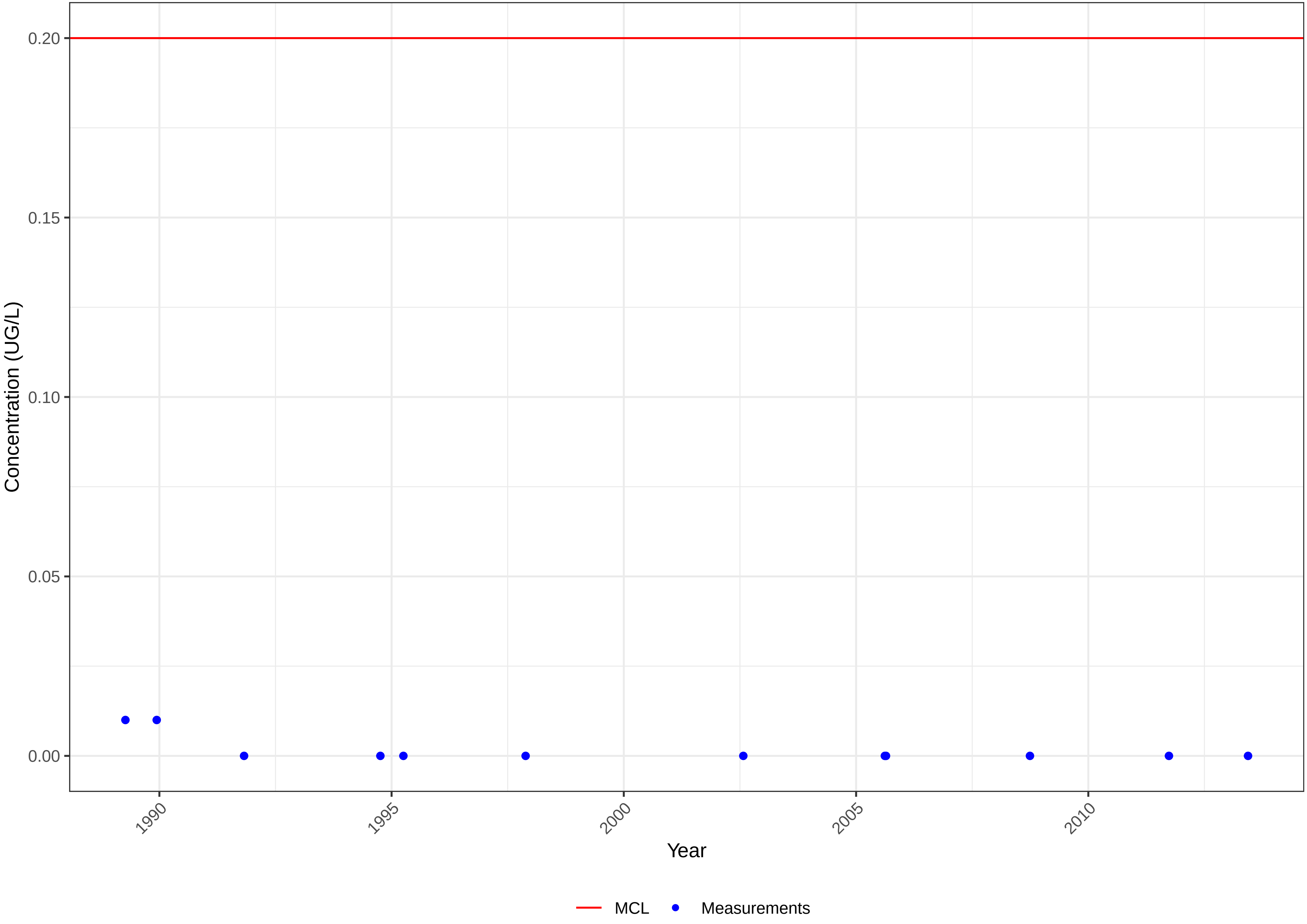
Water Quality Chart

Well No. 1610005−003
STORET No. 34475
Constituent: TETRACHLOROETHYLENE

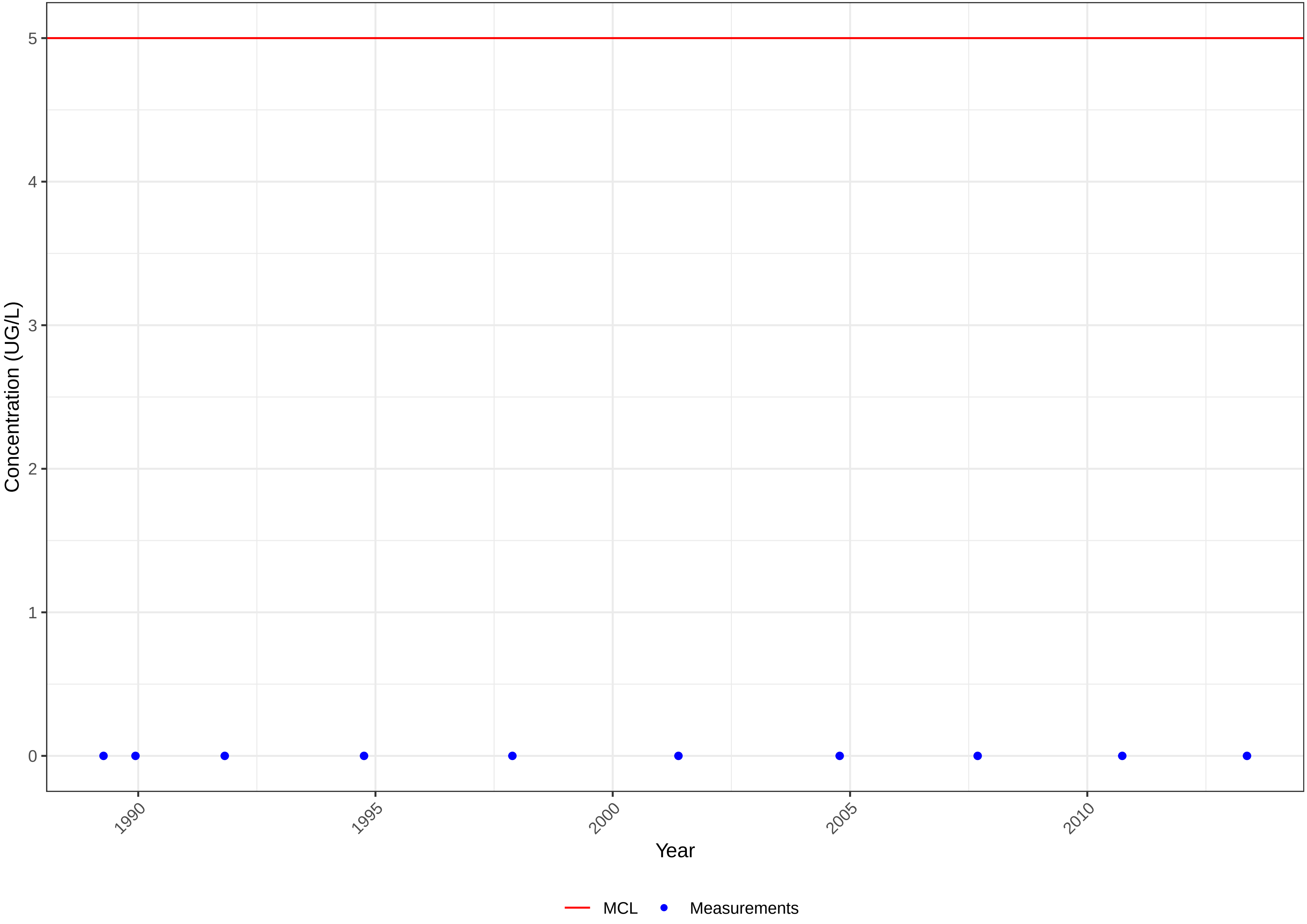


Water Quality Chart

Well No. 1610005−003
STORET No. 38761
Constituent: DIBROMOCHLOROPROPANE (DBCP)

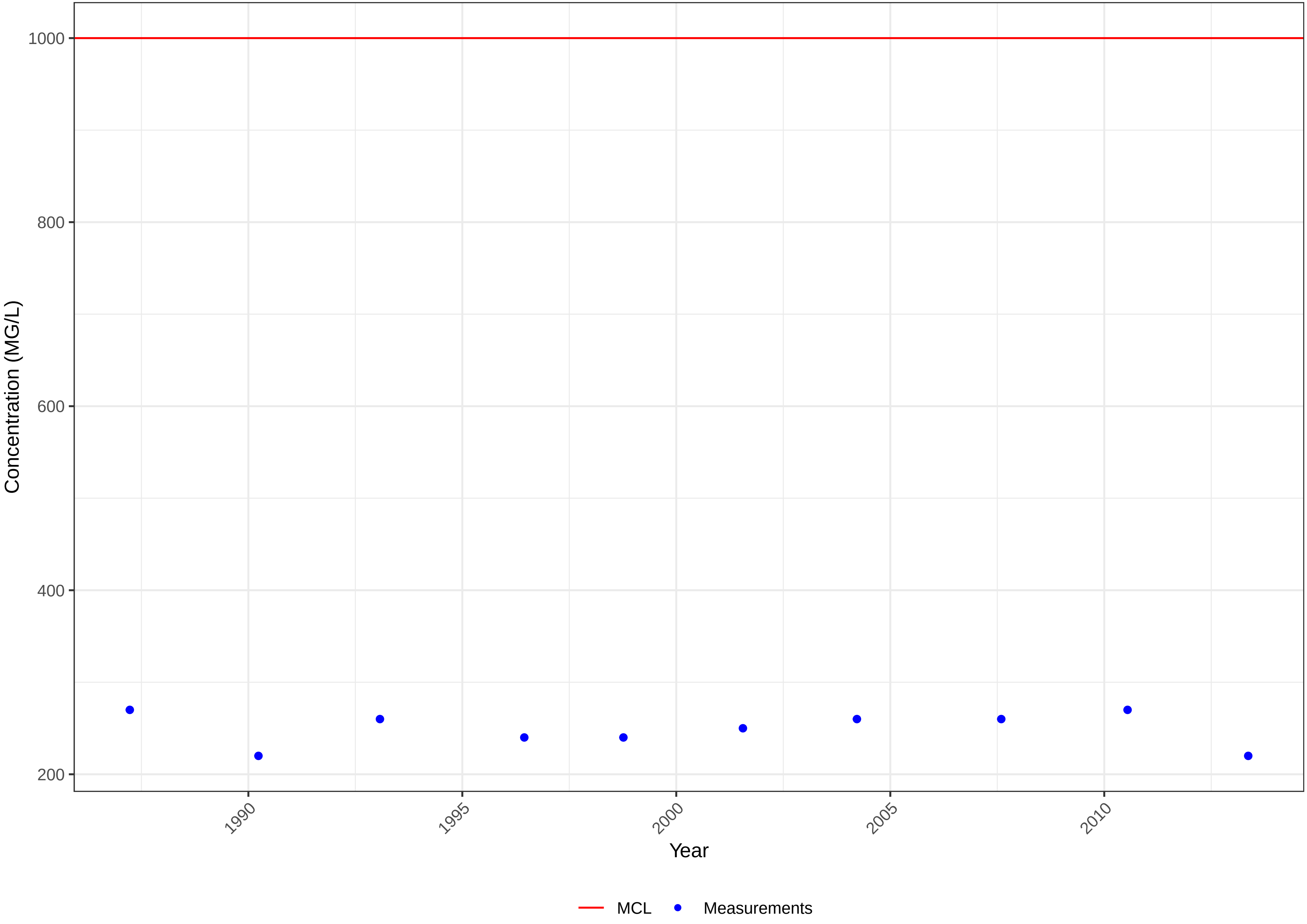


Water Quality Chart
Well No. 1610005−003
STORET No. 39180
Constituent: TRICHLOROETHYLENE



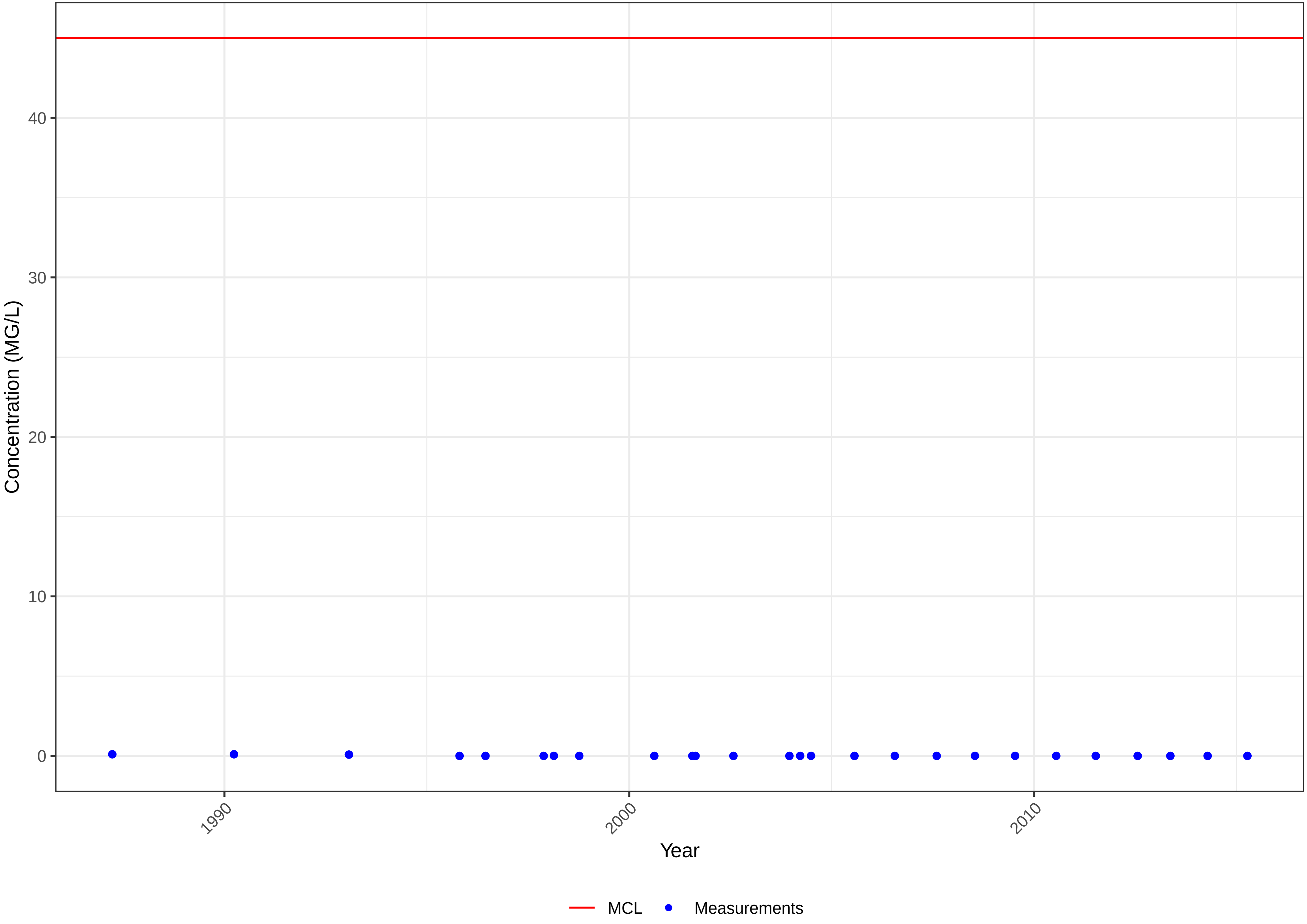
Water Quality Chart

Well No. 1610005−003
STORET No. 70300
Constituent: TOTAL DISSOLVED SOLIDS



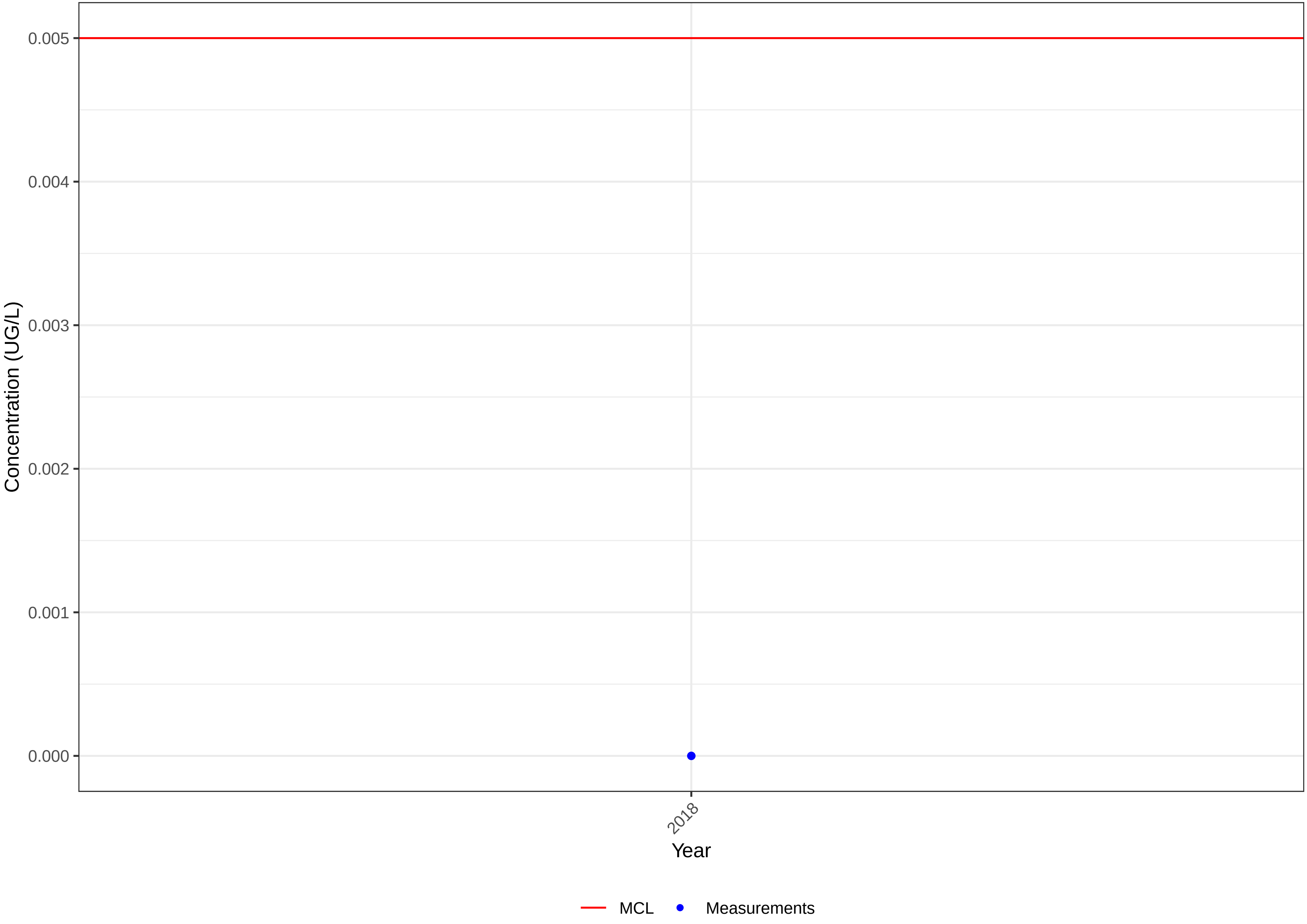
Water Quality Chart

Well No. 1610005−003
STORET No. 71850
Constituent: NITRATE (AS NO3)



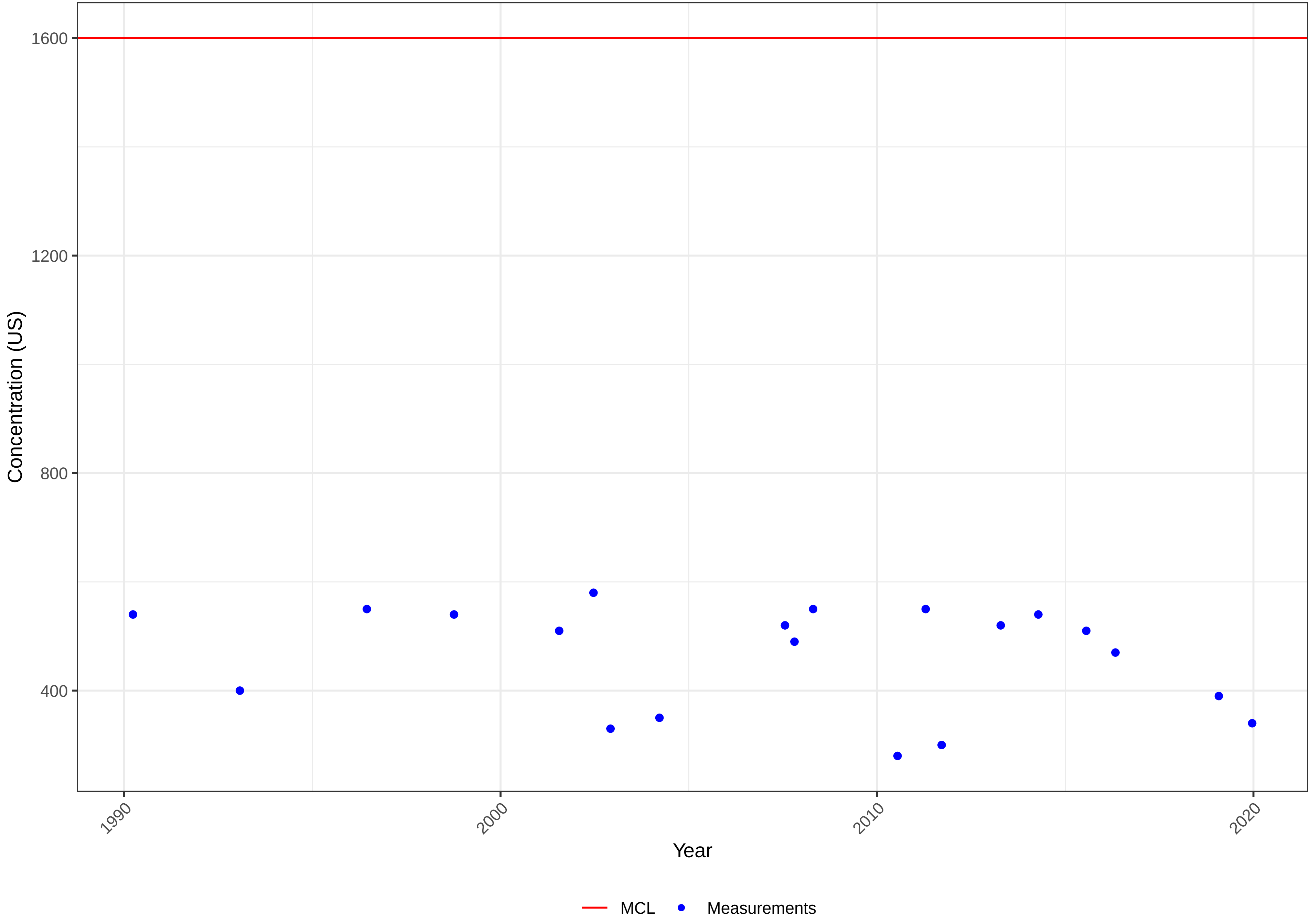
Water Quality Chart

Well No. 1610005−003
STORET No. 77443
Constituent: 1,2,3−TRICHLOROPROPANE



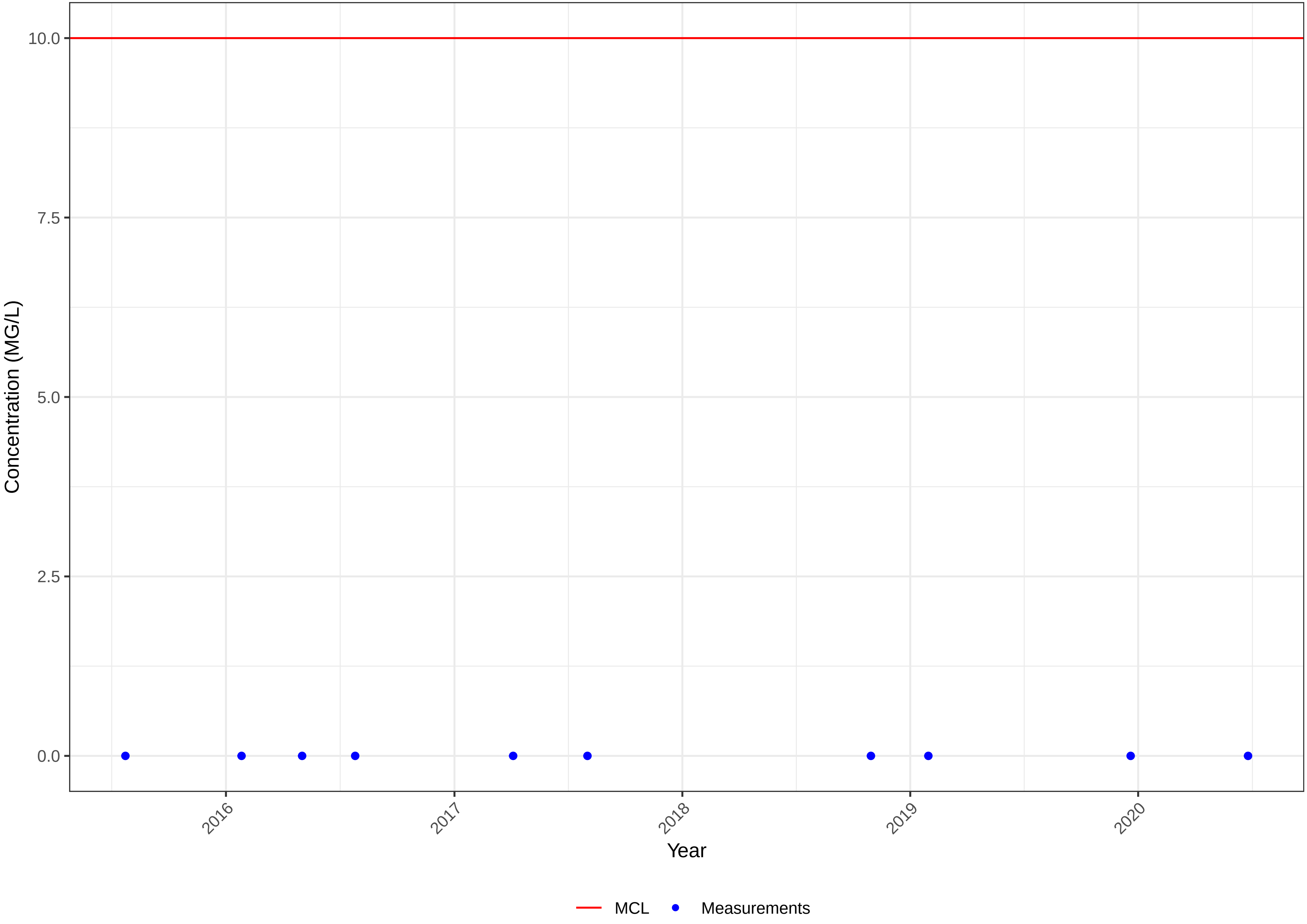
Water Quality Chart

Well No. 1610005−005
STORET No. 95
Constituent: SPECIFIC CONDUCTANCE



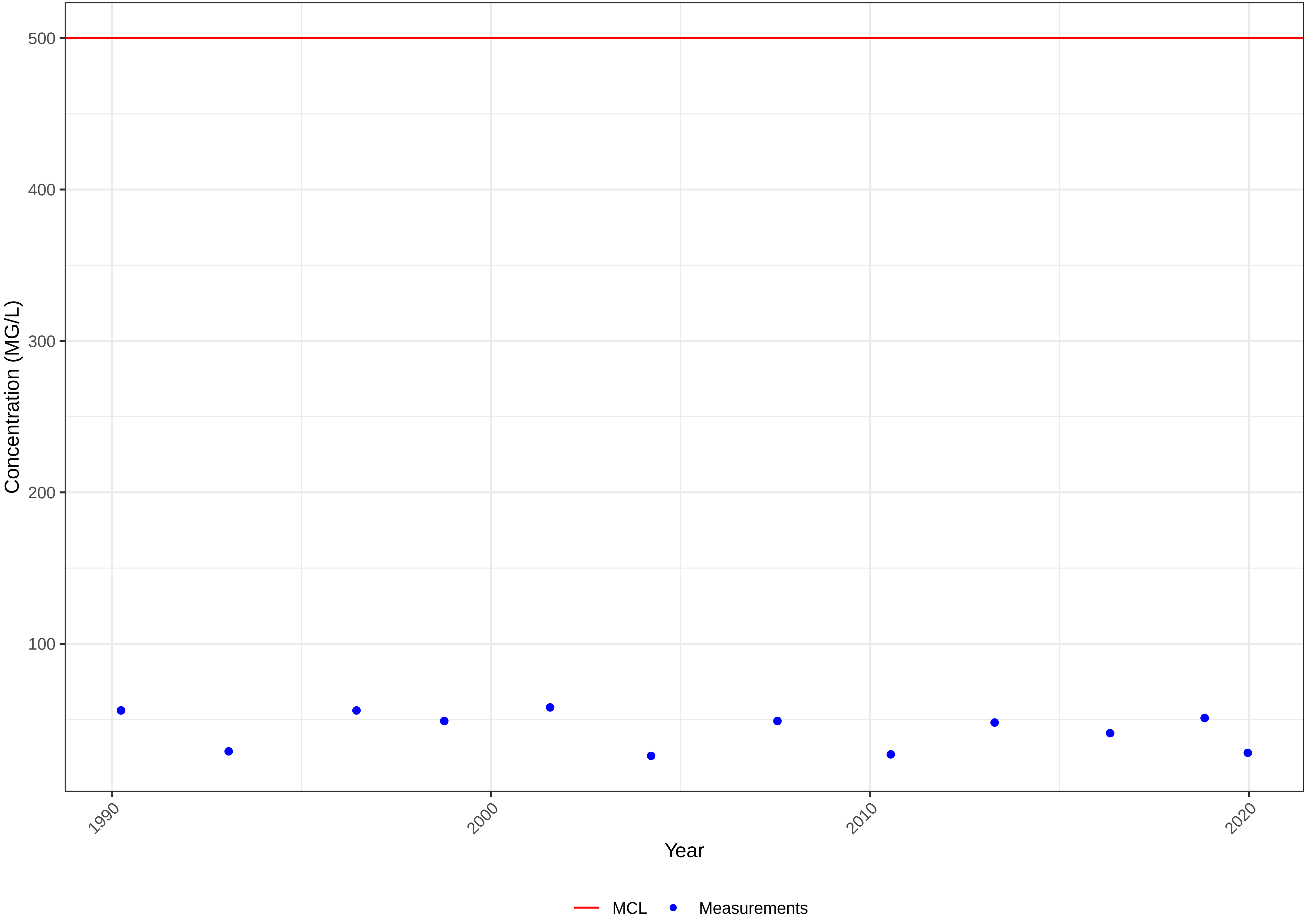
Water Quality Chart

Well No. 1610005−005
STORET No. 618
Constituent: NITRATE (AS N)



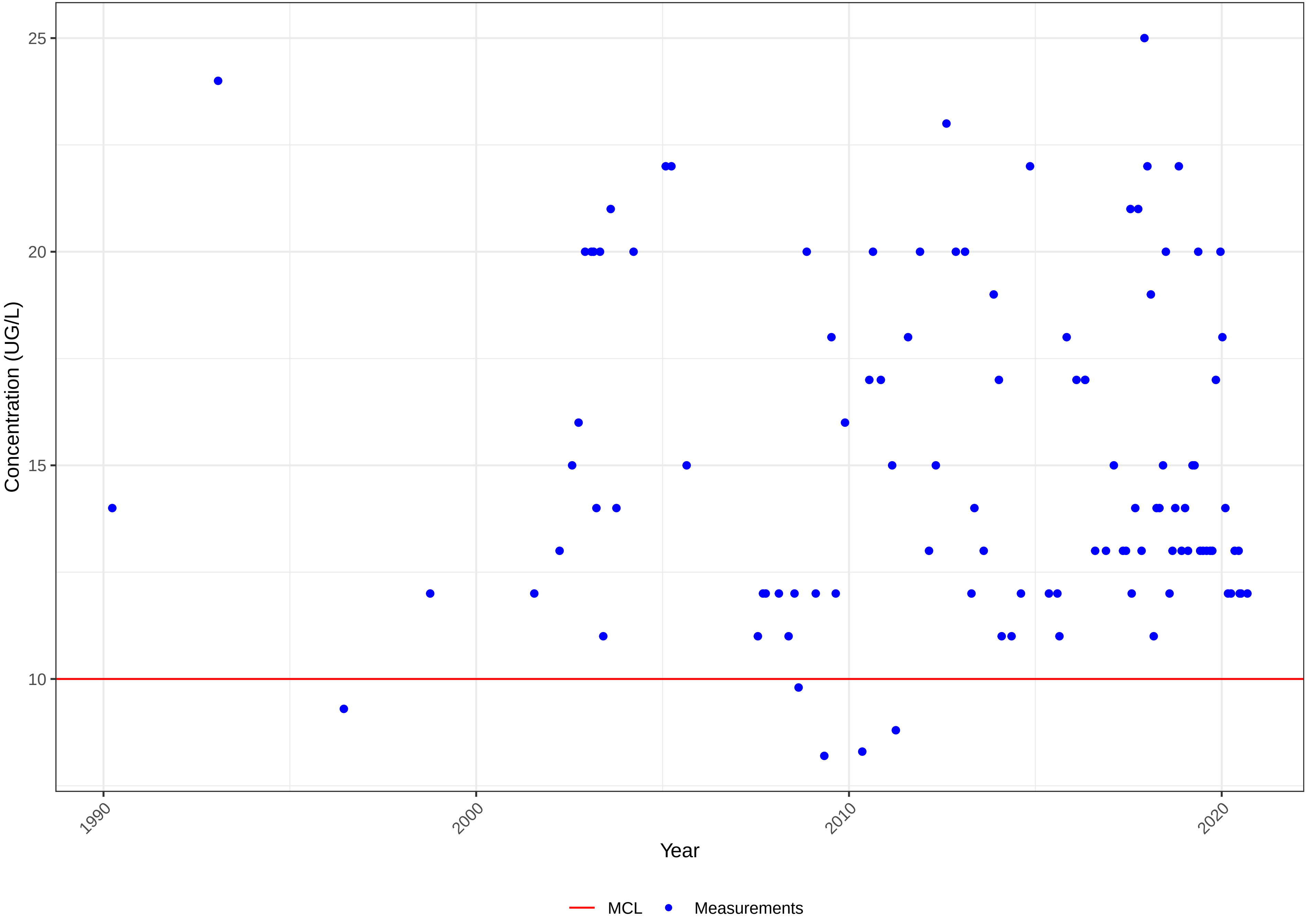
Water Quality Chart

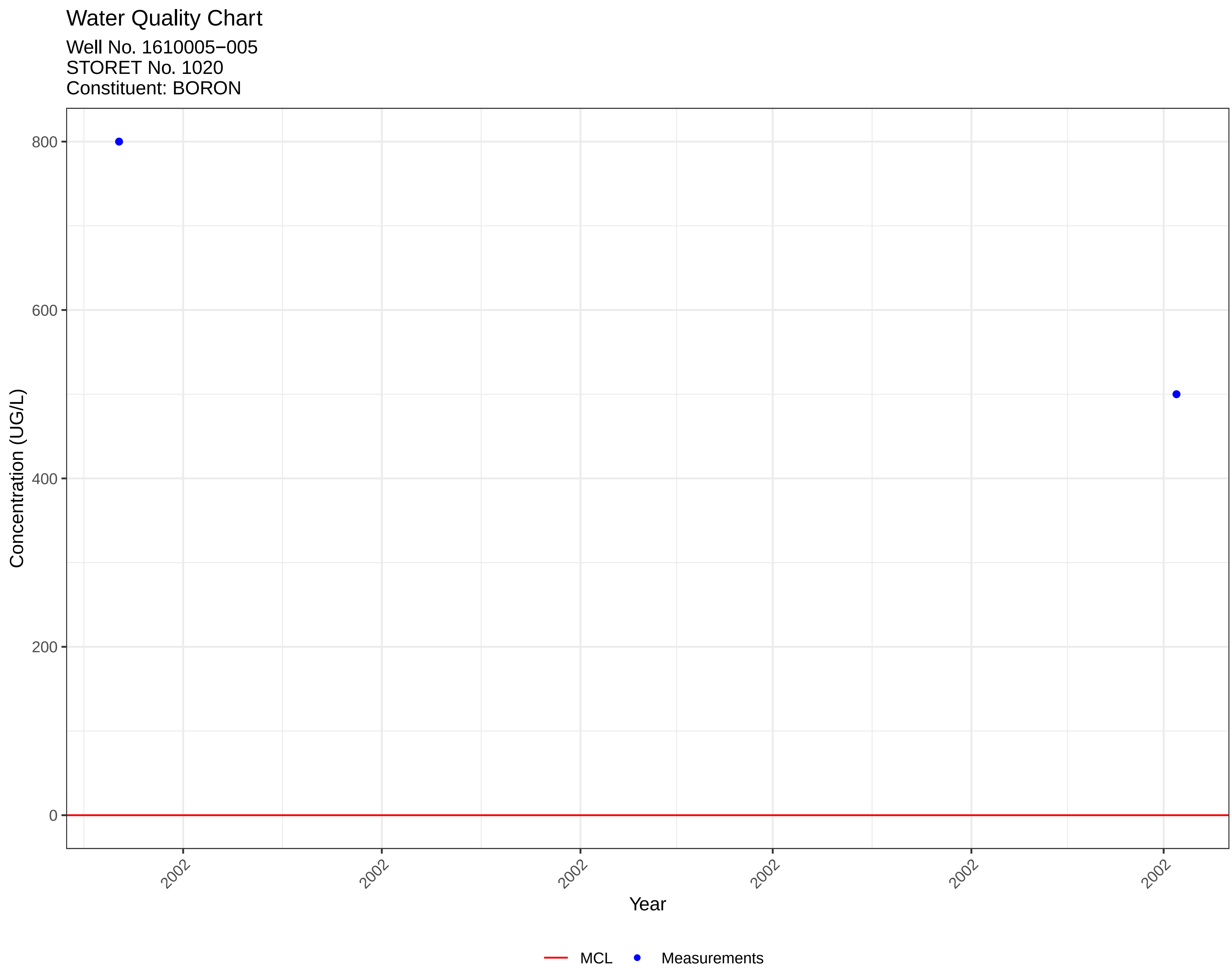
Well No. 1610005−005
STORET No. 940
Constituent: CHLORIDE



Water Quality Chart

Well No. 1610005−005
STORET No. 1002
Constituent: ARSENIC

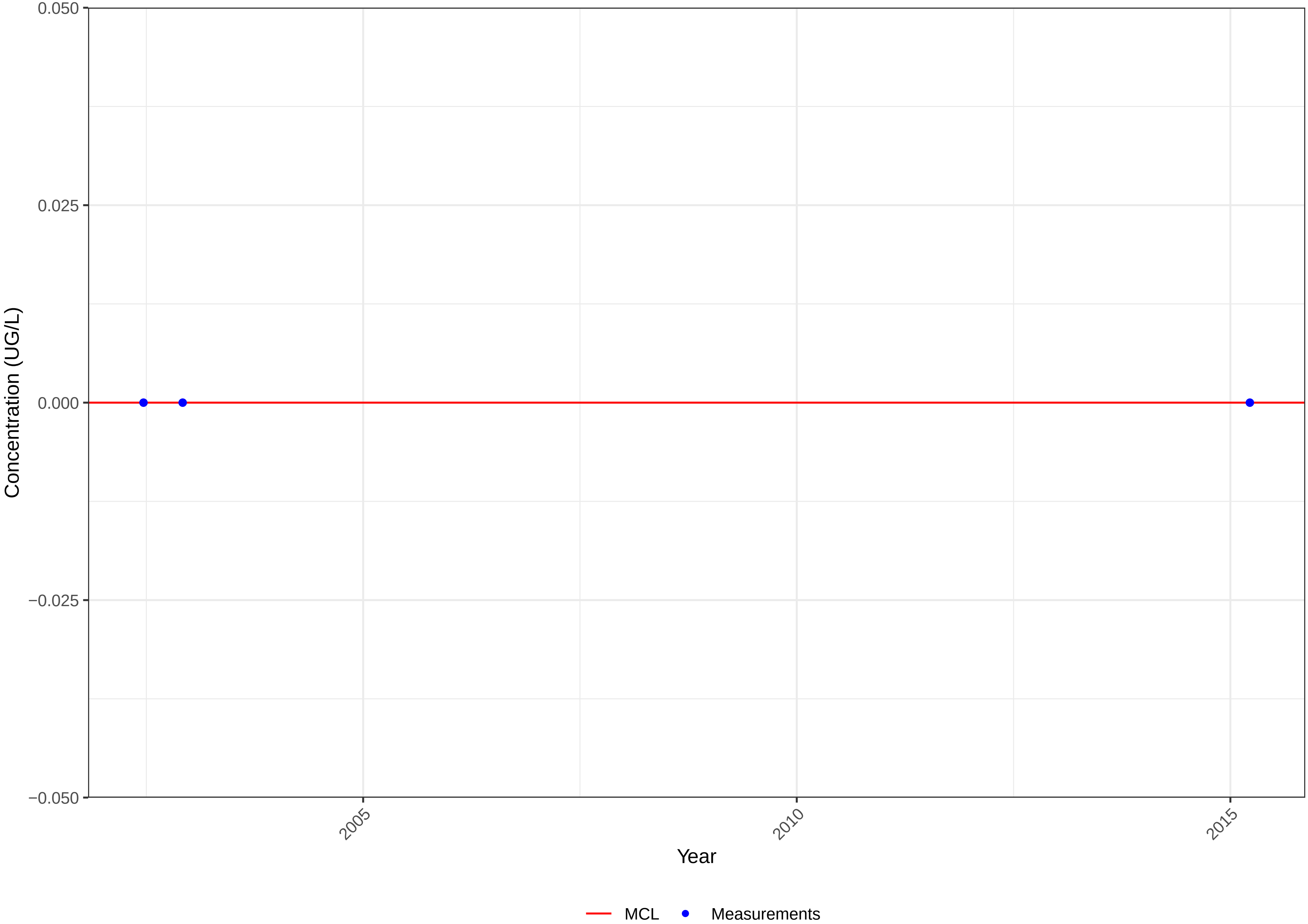




Water Quality Chart
Well No. 1610005−005
STORET No. 1020
Constituent: BORON
Concentration (UG/L)
800
600
400
200
0
2002
2002
2002
2002
2002
2002
Year
MCL
Measurements

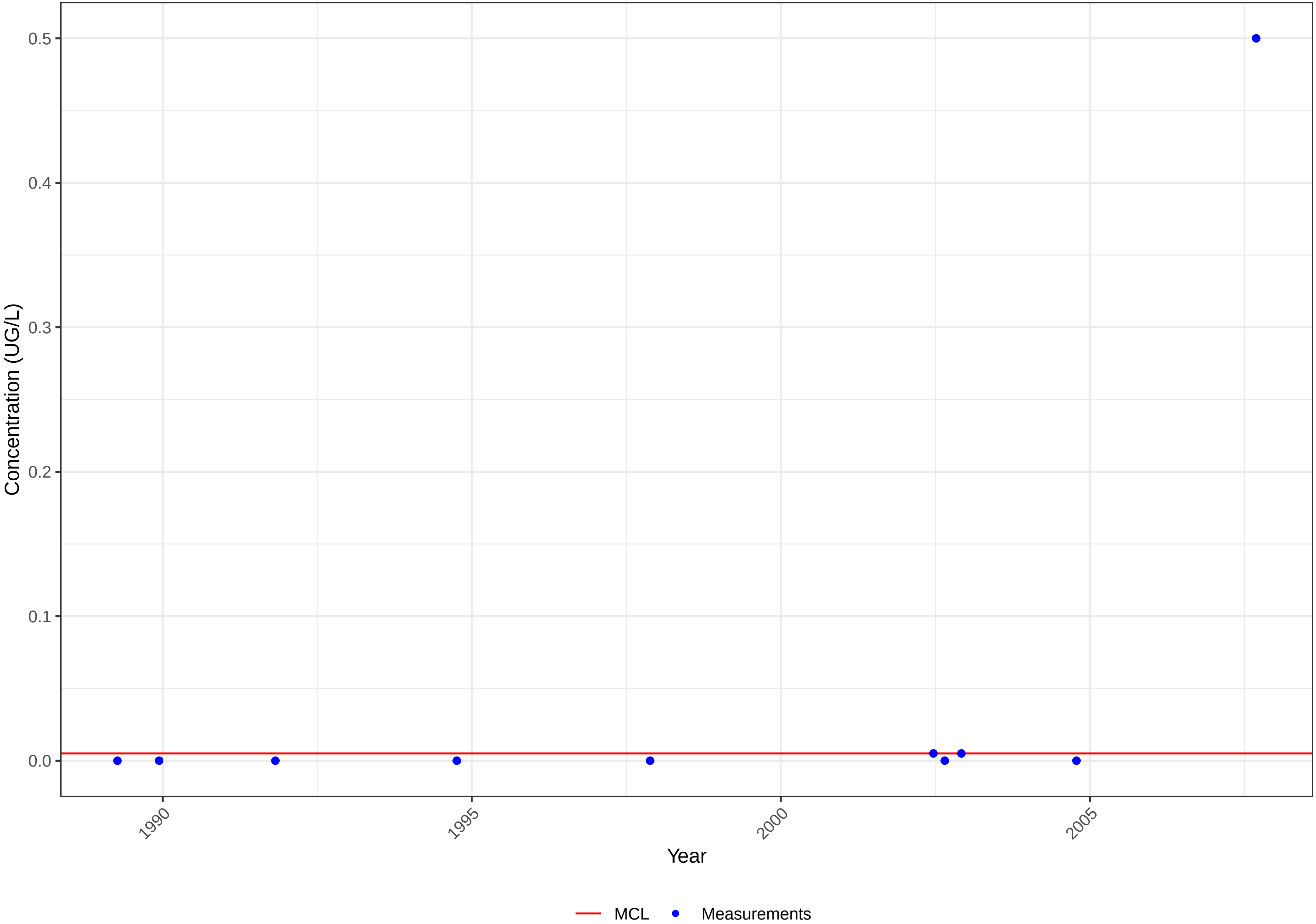
Water Quality Chart

Well No. 1610005−005
STORET No. 1032
Constituent: CHROMIUM, HEXAVALENT



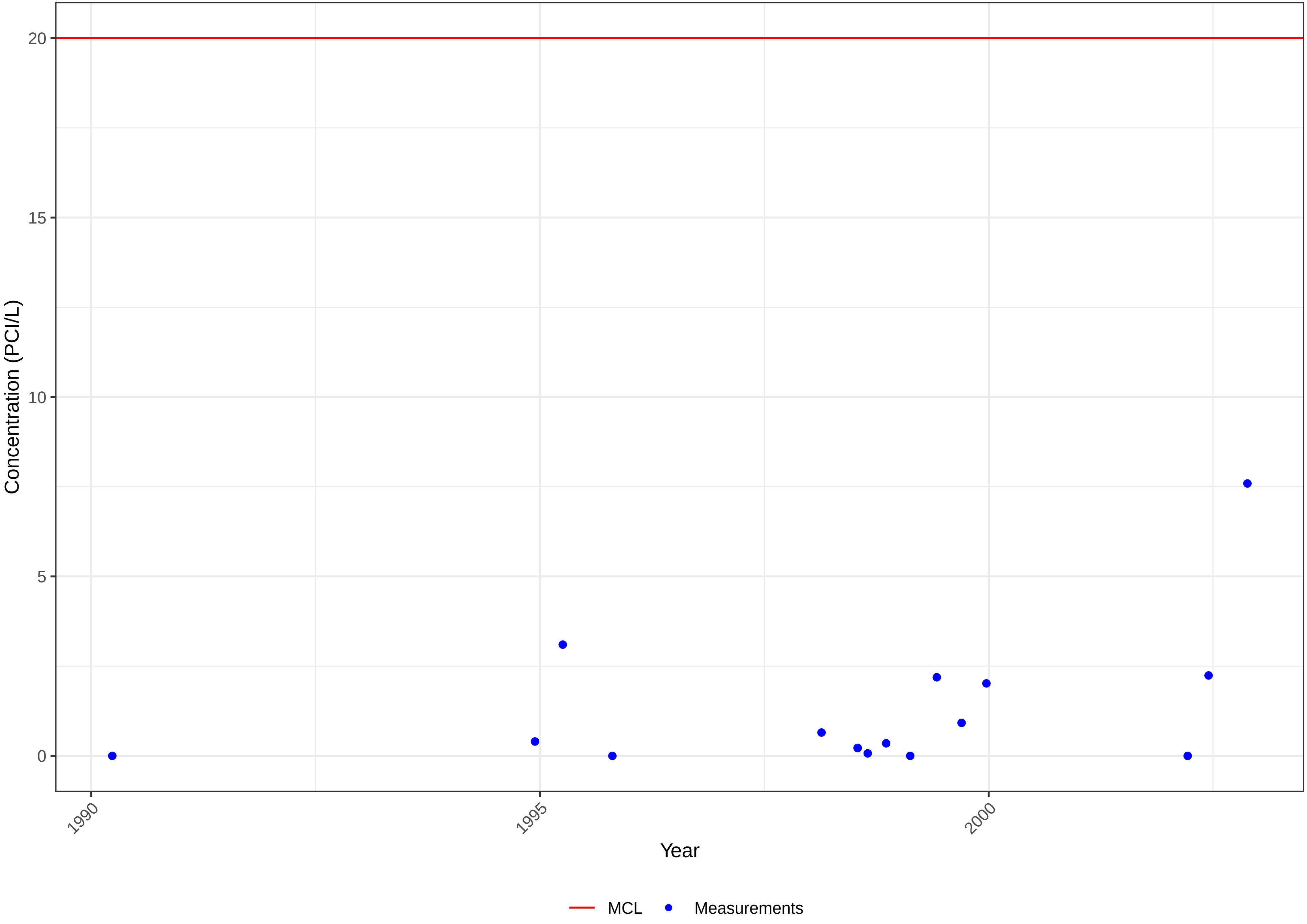
Water Quality Chart

Well No. 1610005−005
STORET No. 7744X
Constituent: 1,2,3−TRICHLOROPROPANE



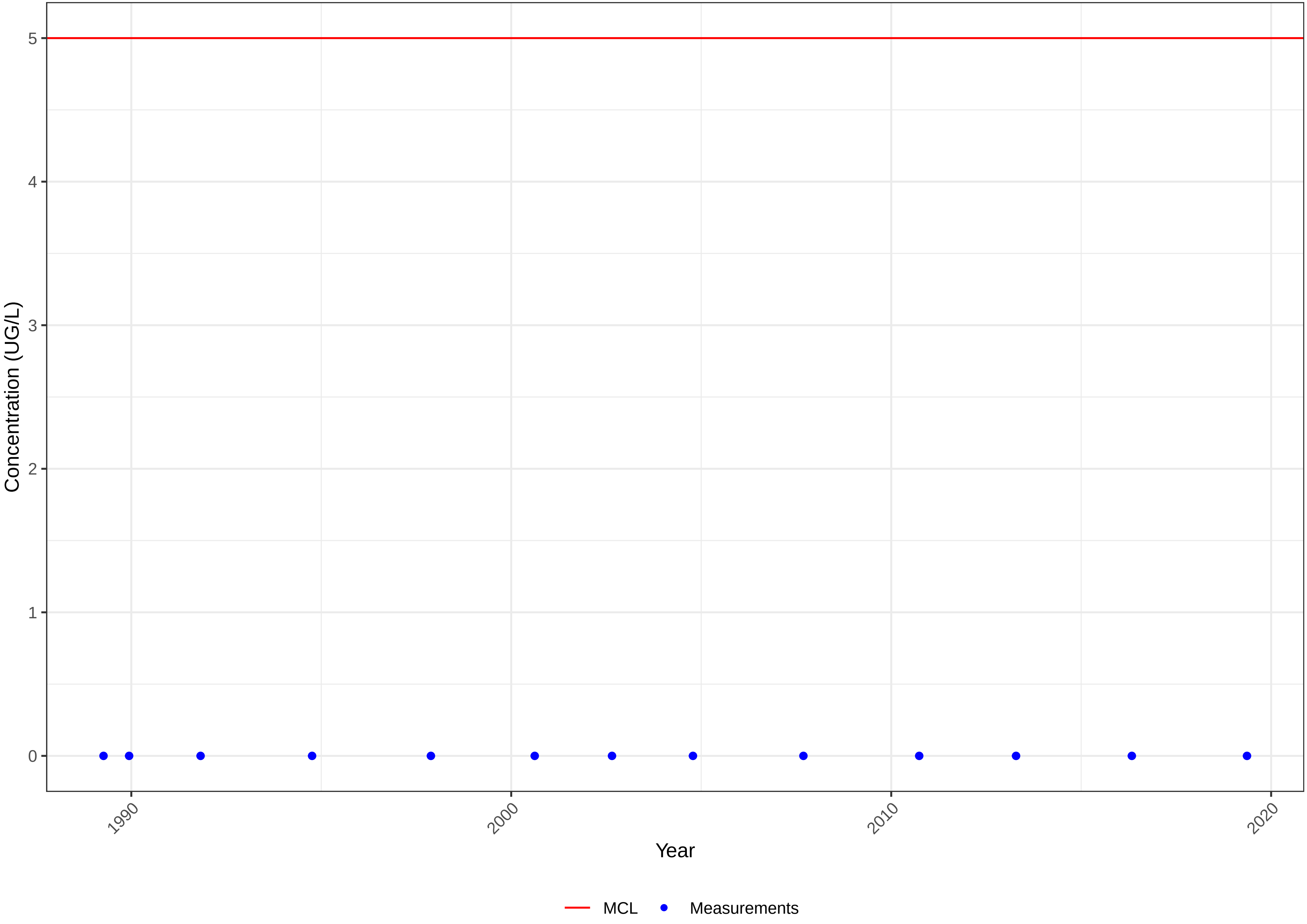
Water Quality Chart

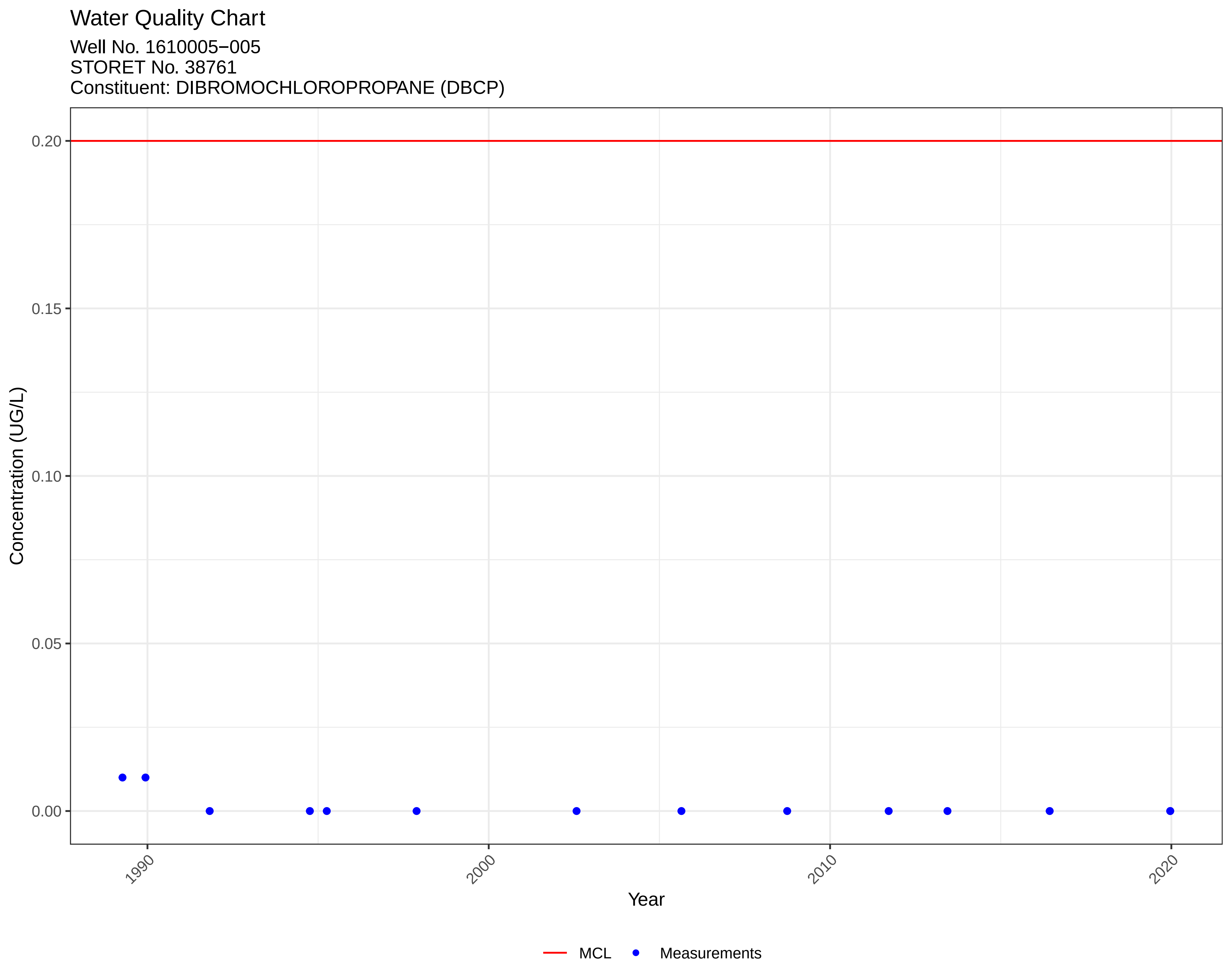
Well No. 1610005−005
STORET No. 28012
Constituent: URANIUM (PCI/L)



Water Quality Chart

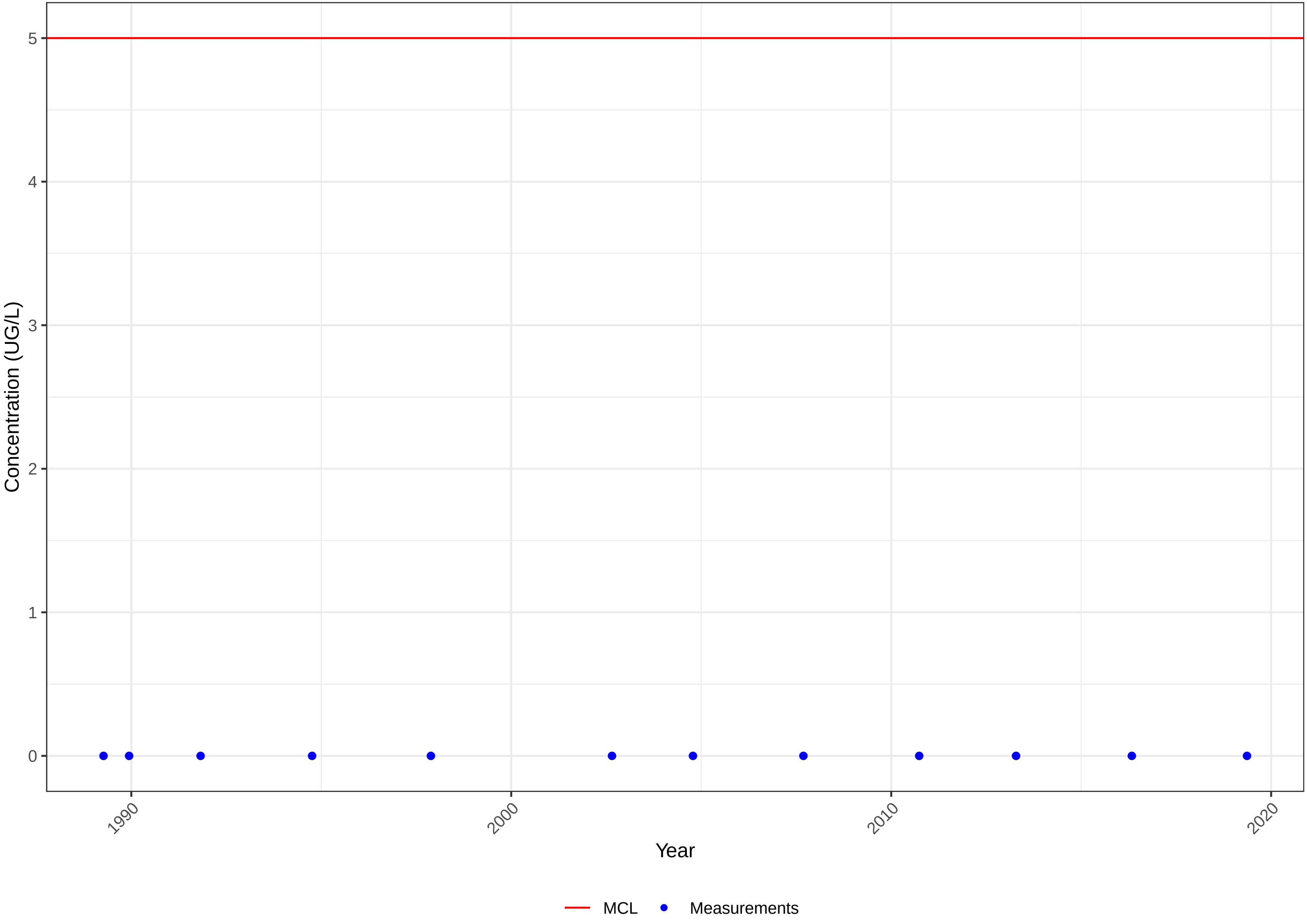
Well No. 1610005−005
STORET No. 34475
Constituent: TETRACHLOROETHYLENE




Water Quality Chart
Well No. 1610005−005
STORET No. 38761
Constituent: DIBROMOCHLOROPROPANE (DBCP)
Concentration (UG/L)
0.20
0.15
0.10
0.05
0.00
1990
2000
2010
2020
Year
MCL
Measurements

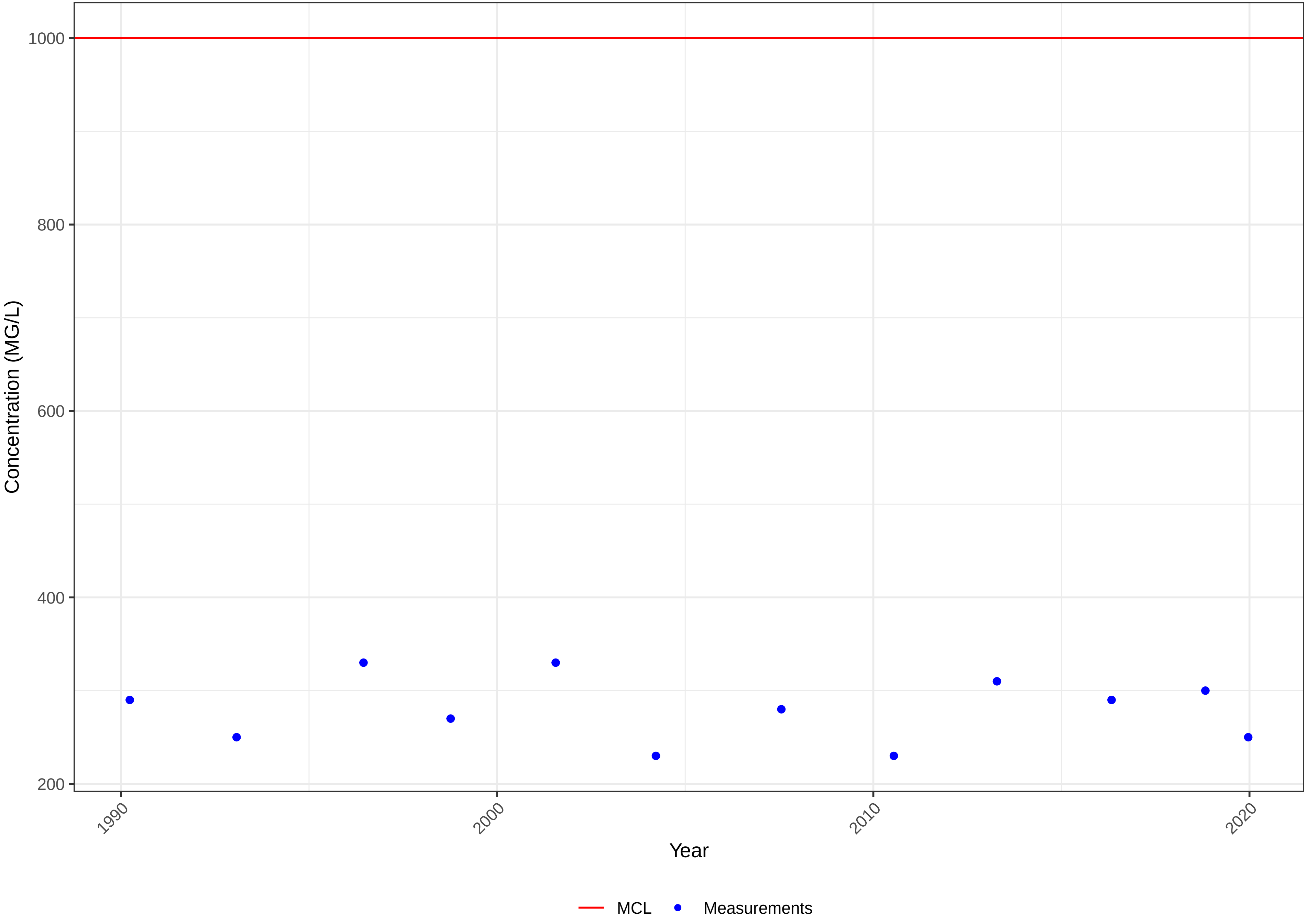
Water Quality Chart

Well No. 1610005−005
STORET No. 39180
Constituent: TRICHLOROETHYLENE



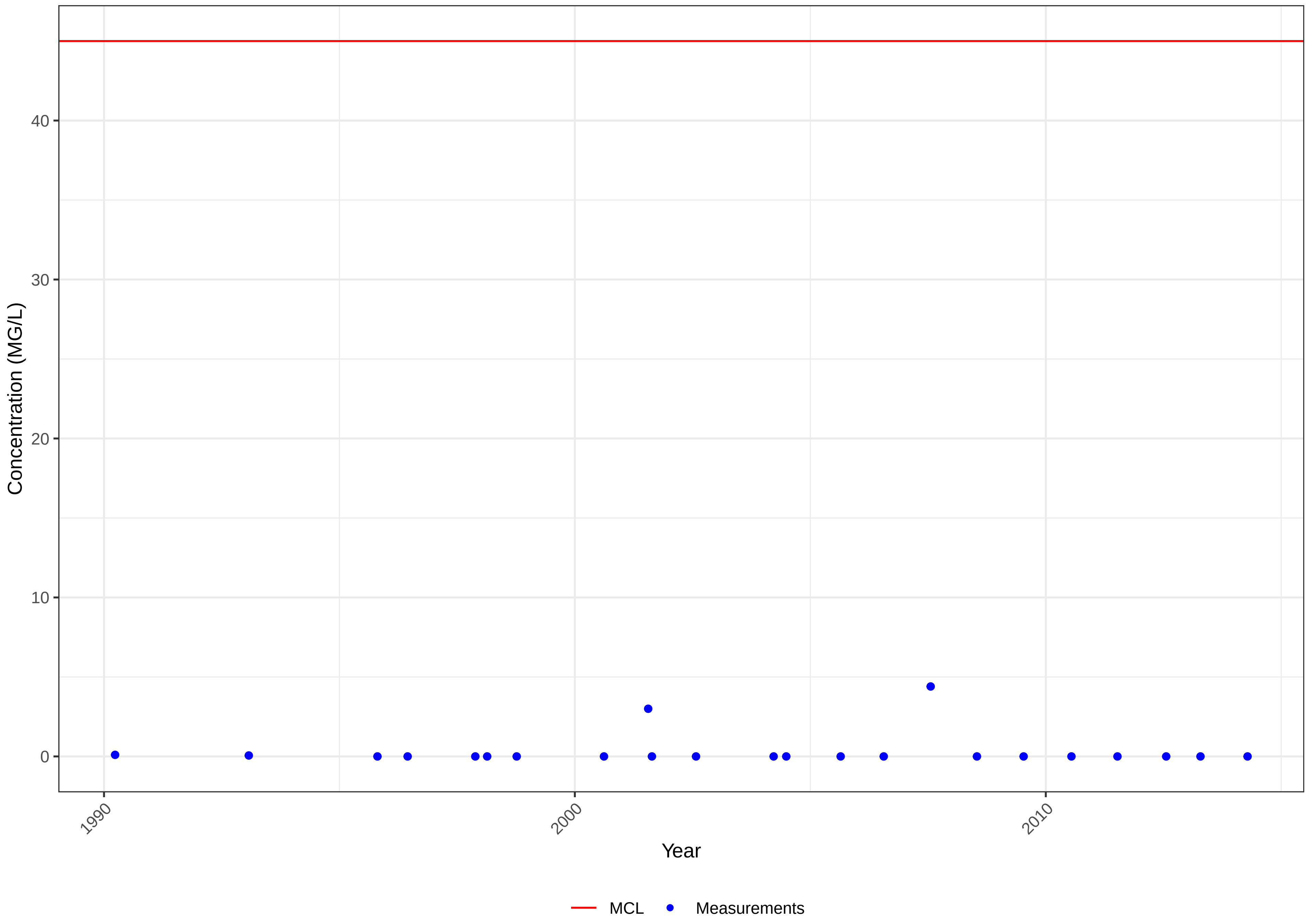
Water Quality Chart

Well No. 1610005−005
STORET No. 70300
Constituent: TOTAL DISSOLVED SOLIDS



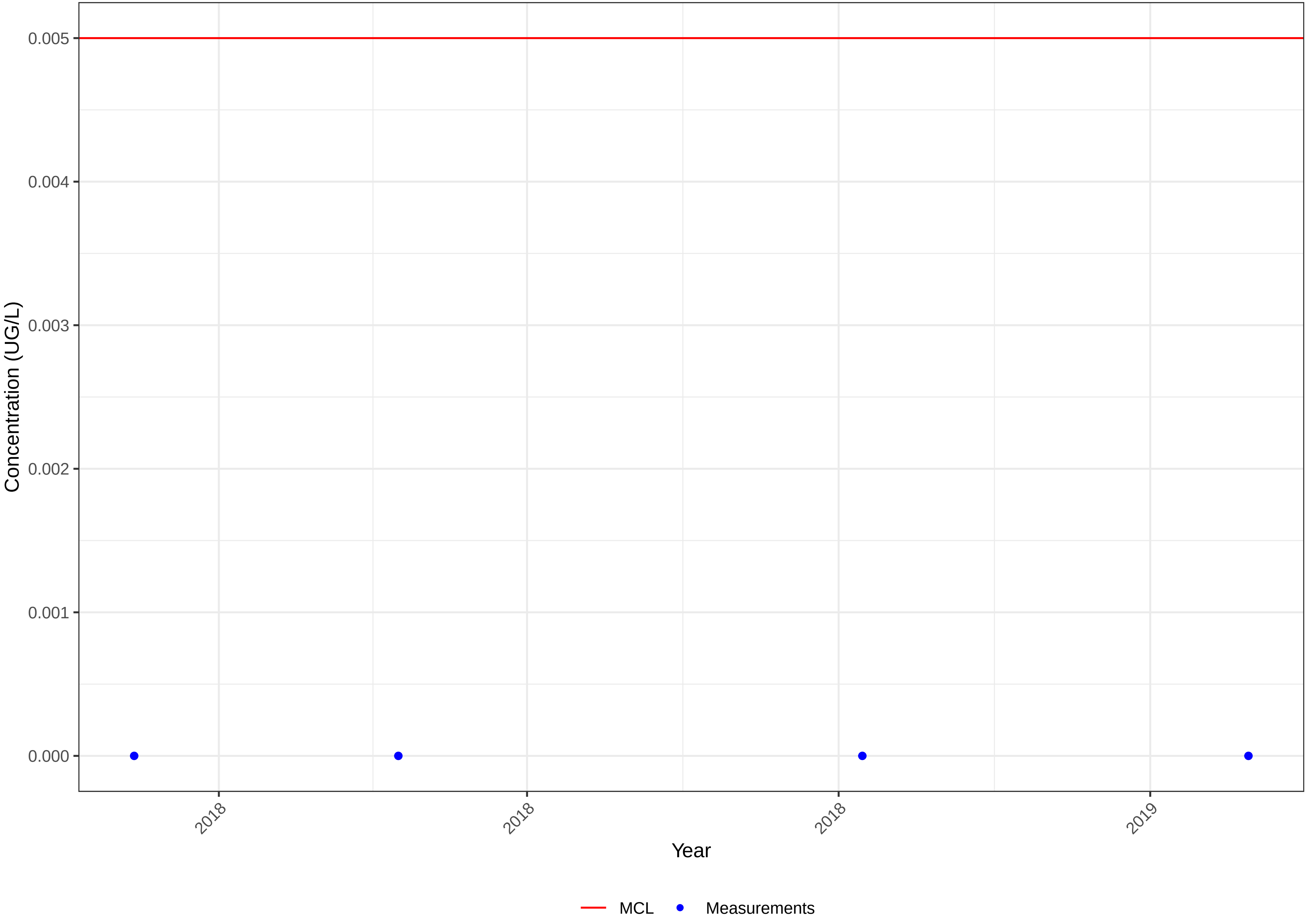
Water Quality Chart

Well No. 1610005−005
STORET No. 71850
Constituent: NITRATE (AS NO3)



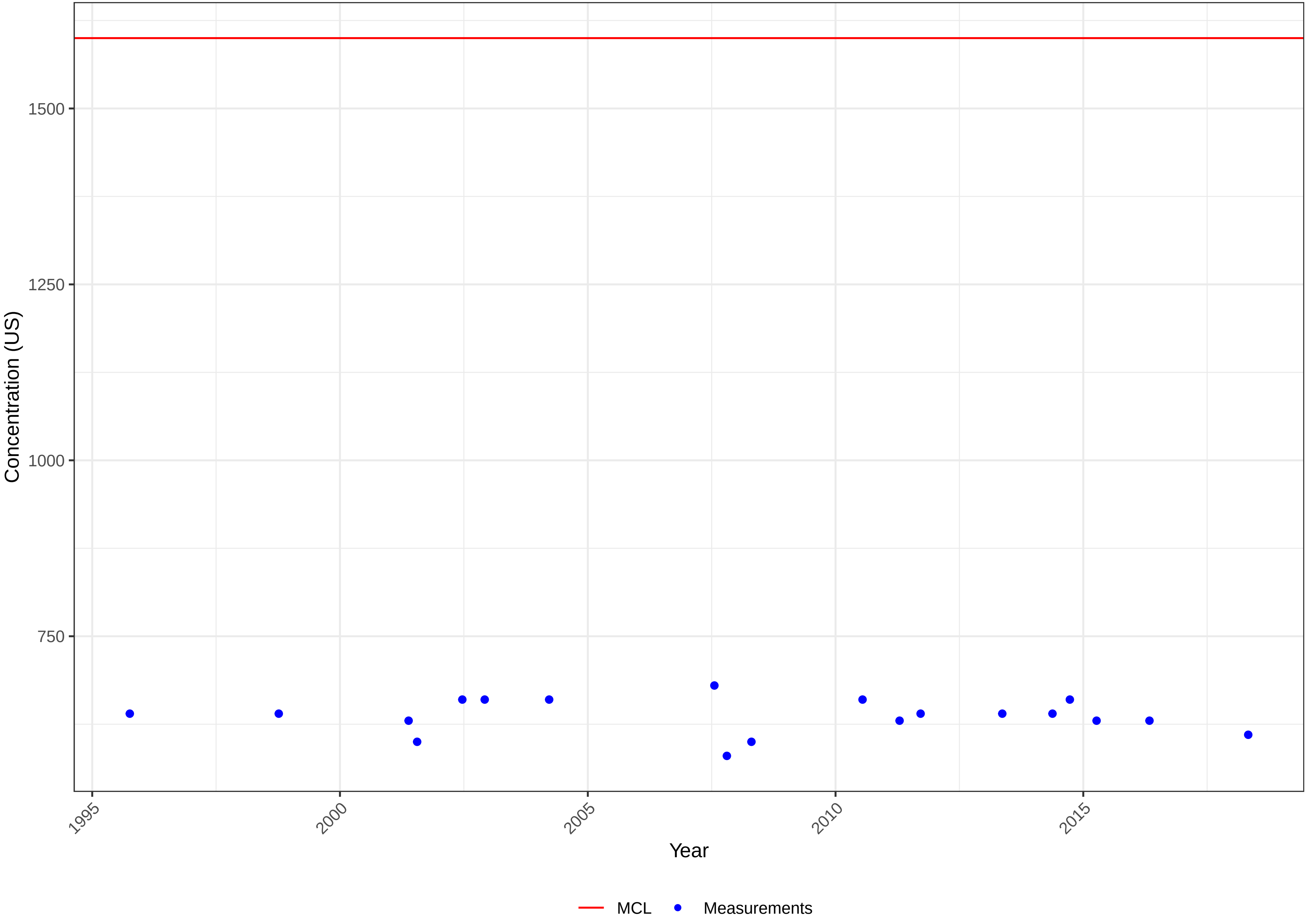
Water Quality Chart

Well No. 1610005−005
STORET No. 77443
Constituent: 1,2,3−TRICHLOROPROPANE



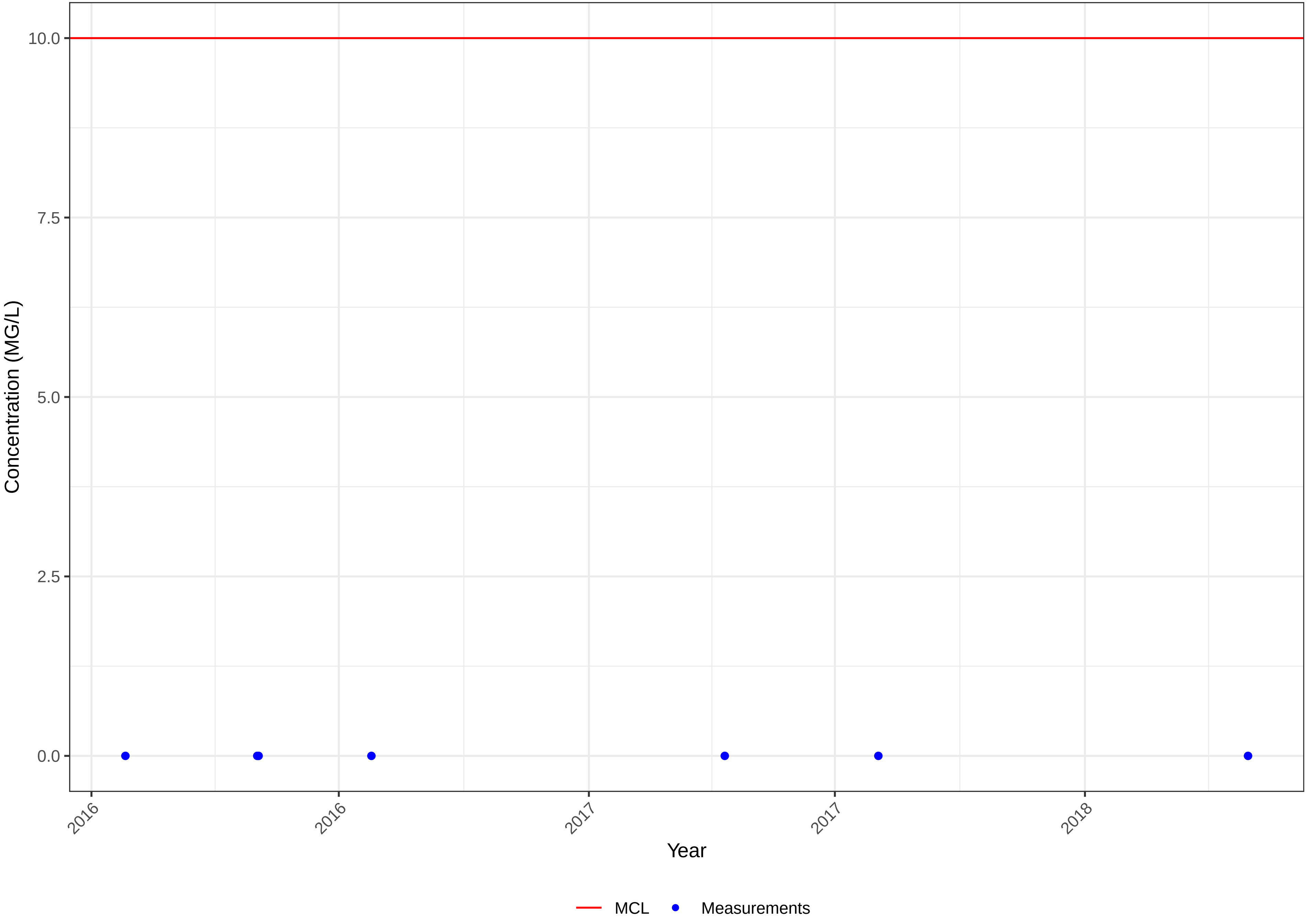
Water Quality Chart

Well No. 1610005−006
STORET No. 95
Constituent: SPECIFIC CONDUCTANCE



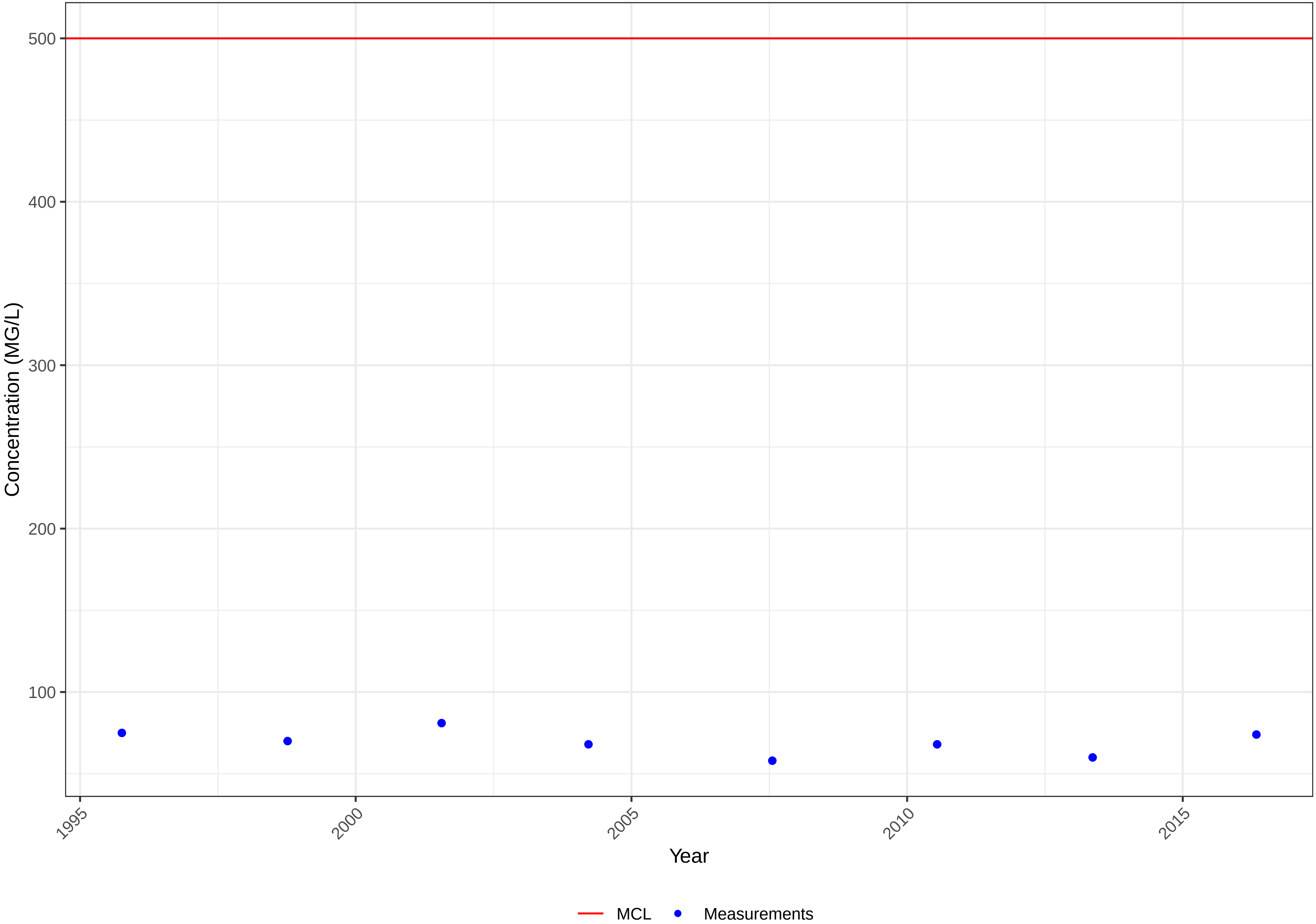
Water Quality Chart

Well No. 1610005−006
STORET No. 618
Constituent: NITRATE (AS N)



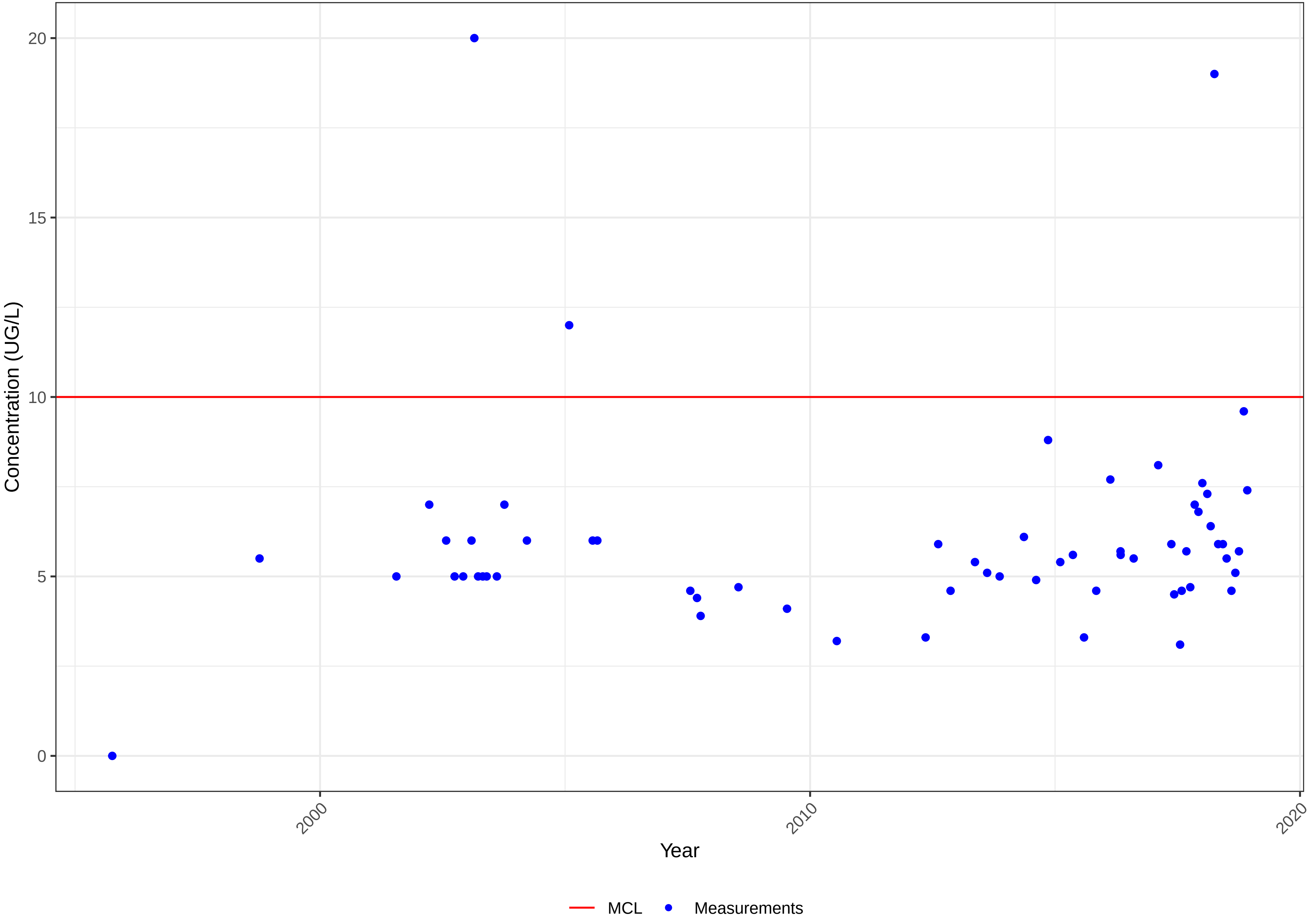
Water Quality Chart

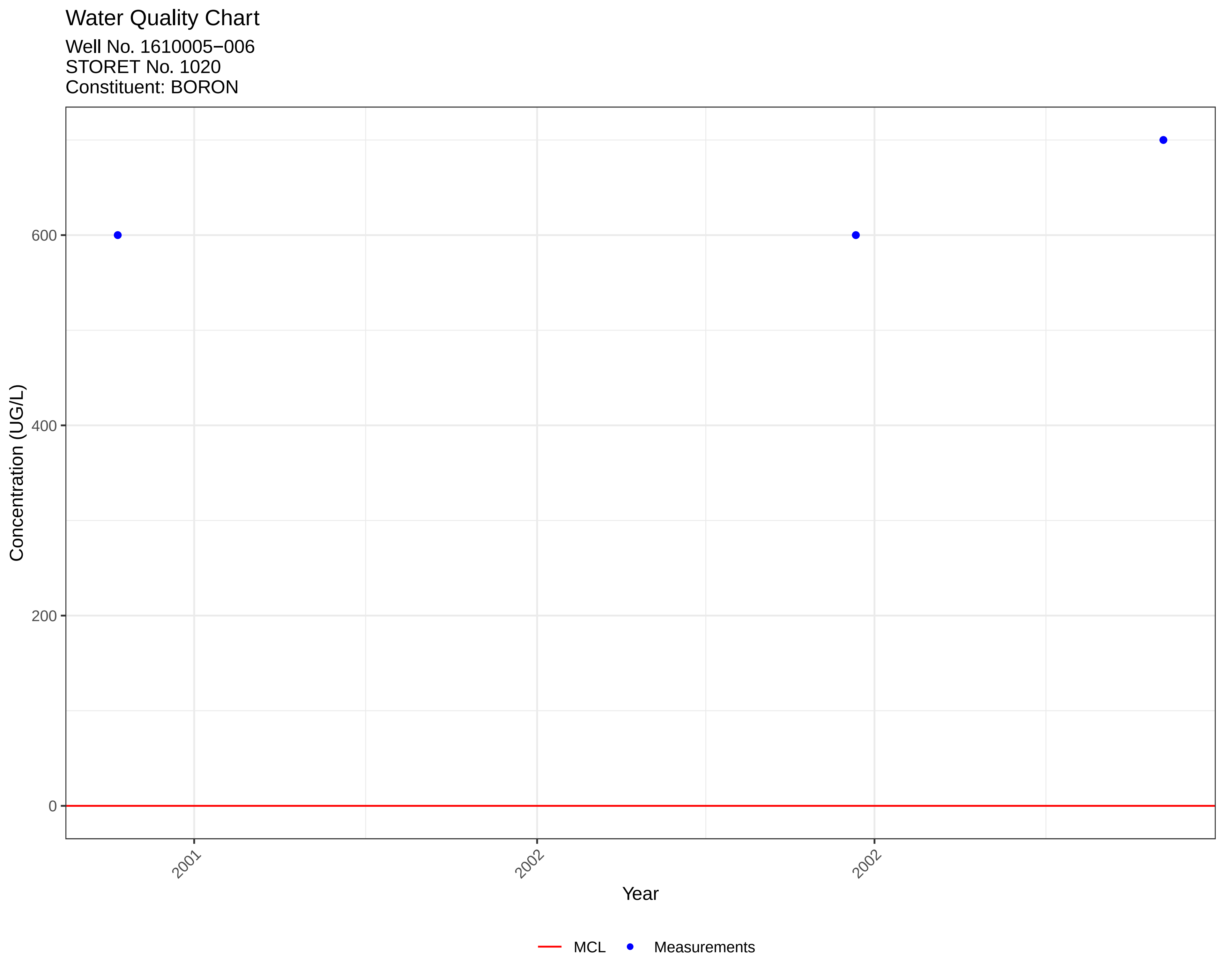
Well No. 1610005−006
STORET No. 940
Constituent: CHLORIDE

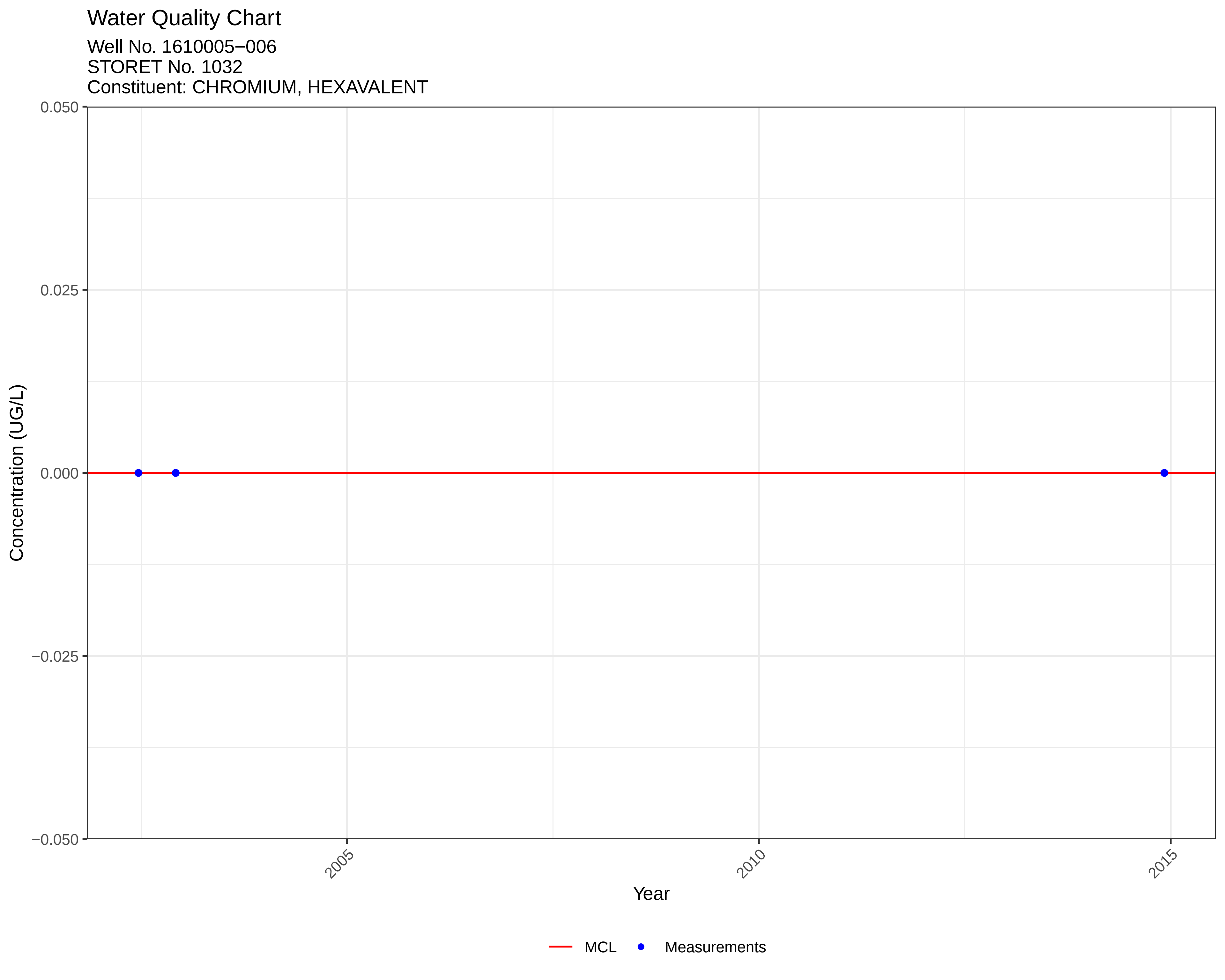


Water Quality Chart

Well No. 1610005−006
STORET No. 1002
Constituent: ARSENIC



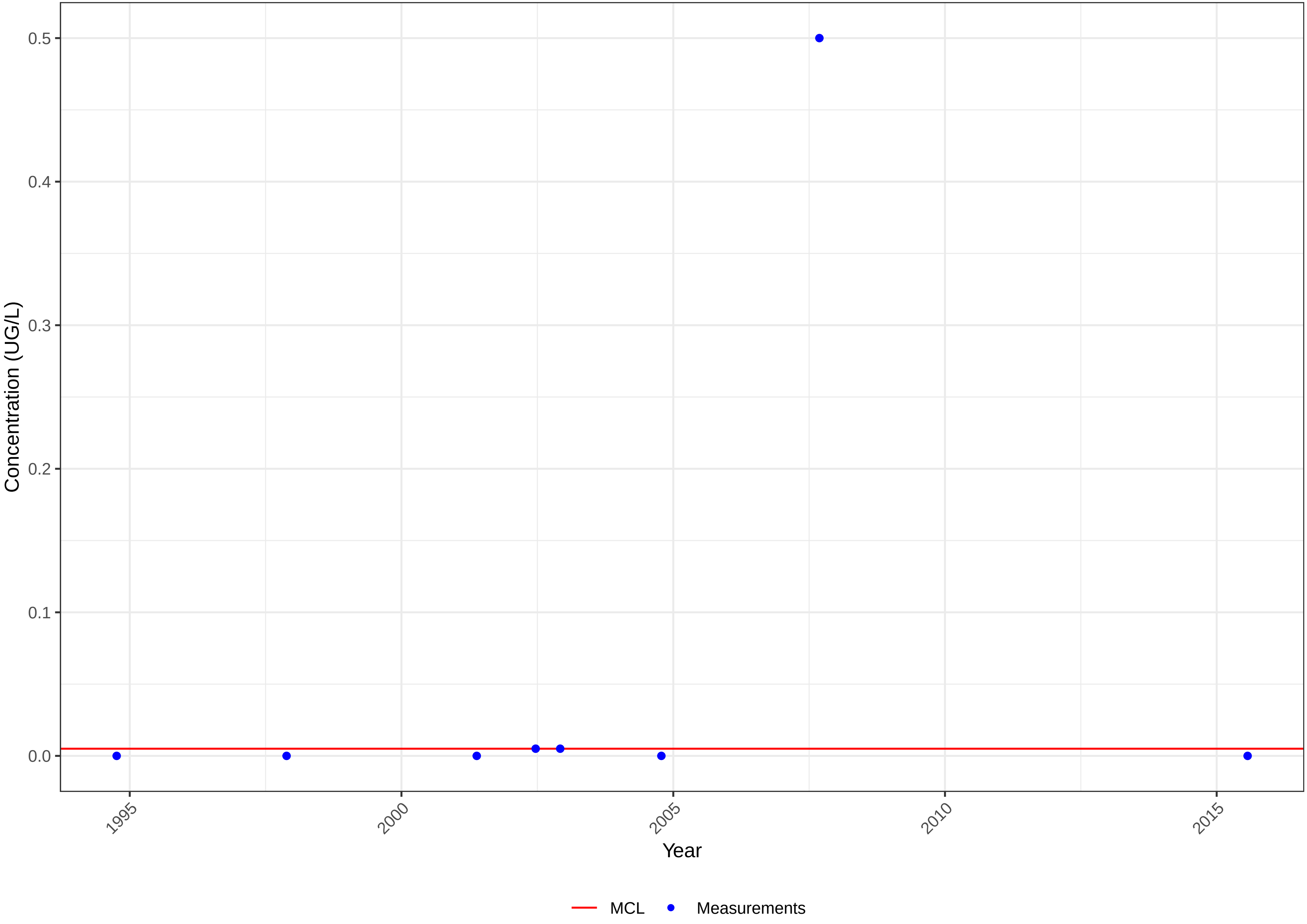

Water Quality Chart
Well No. 1610005−006
STORET No. 1020
Constituent: BORON
Concentration (UG/L)
600
400
200
0
2001
2002
2002
Year
MCL
Measurements



Water Quality Chart
Well No. 1610005−006
STORET No. 1032
Constituent: CHROMIUM, HEXAVALENT
0.050
0.025
0.000
−0.025
−0.050
Concentration (UG/L)
2005
2010
2015
Year
MCL
Measurements

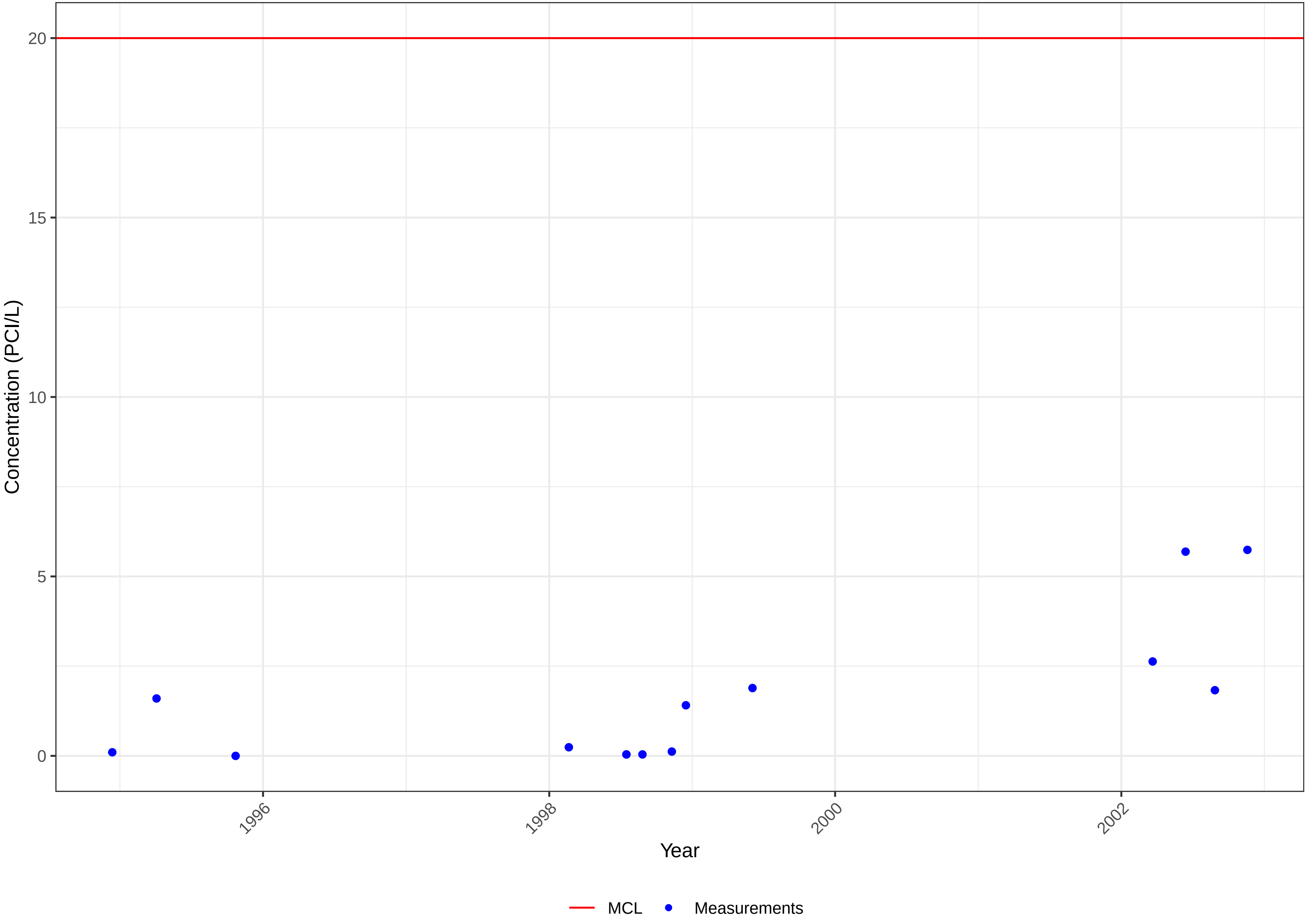
Water Quality Chart

Well No. 1610005−006
STORET No. 7744X
Constituent: 1,2,3−TRICHLOROPROPANE



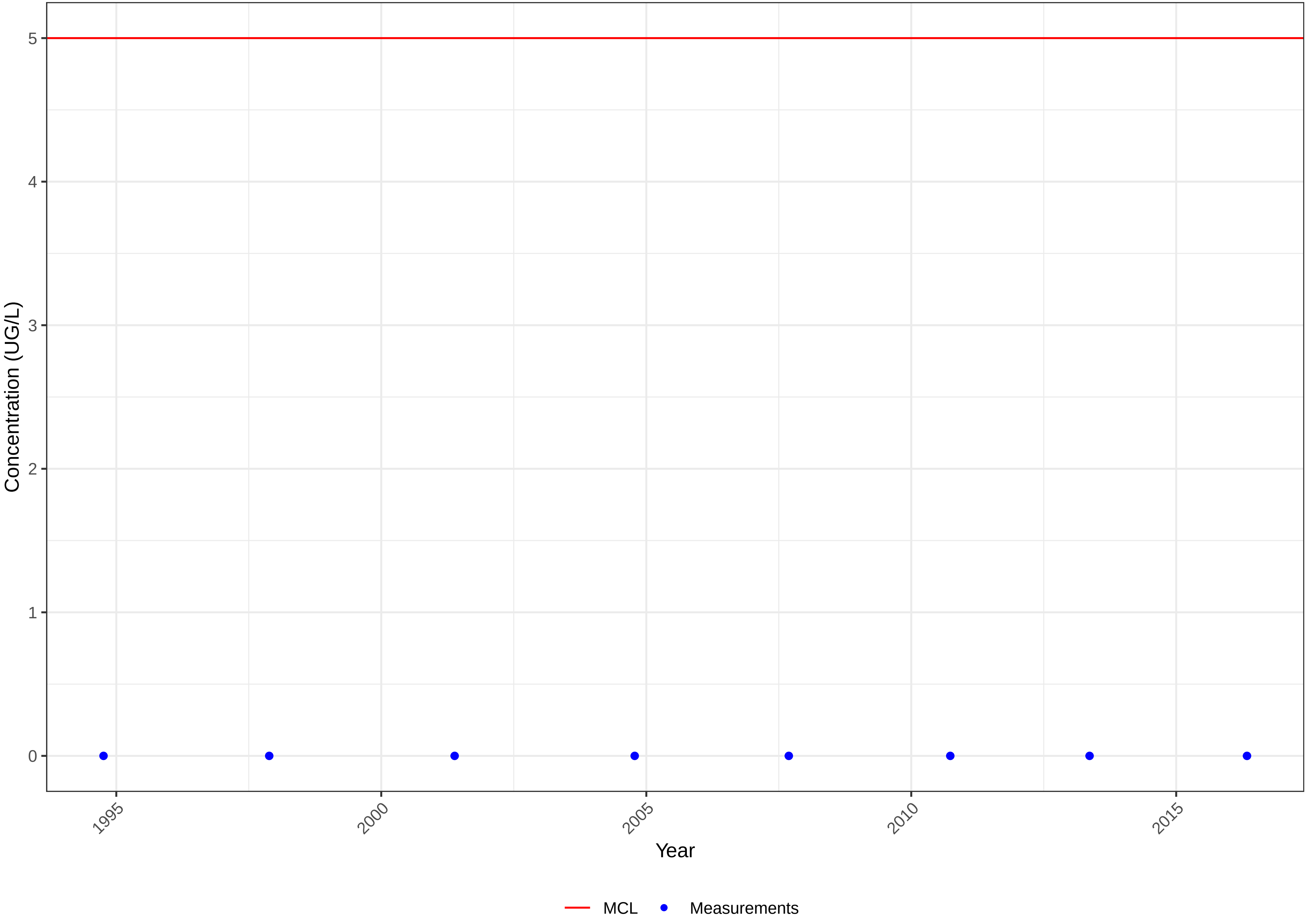
Water Quality Chart

Well No. 1610005−006
STORET No. 28012
Constituent: URANIUM (PCI/L)



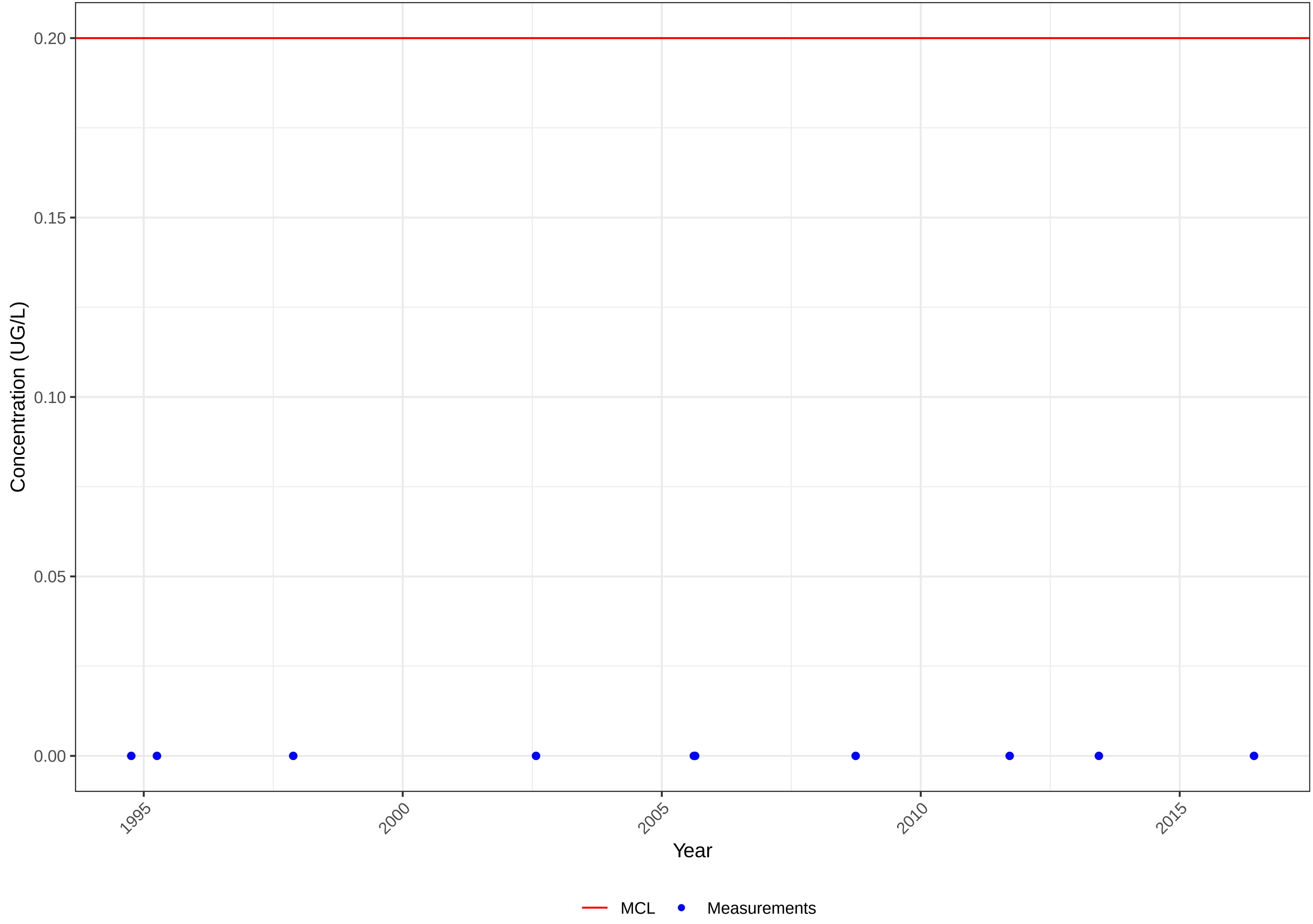
Water Quality Chart

Well No. 1610005−006
STORET No. 34475
Constituent: TETRACHLOROETHYLENE



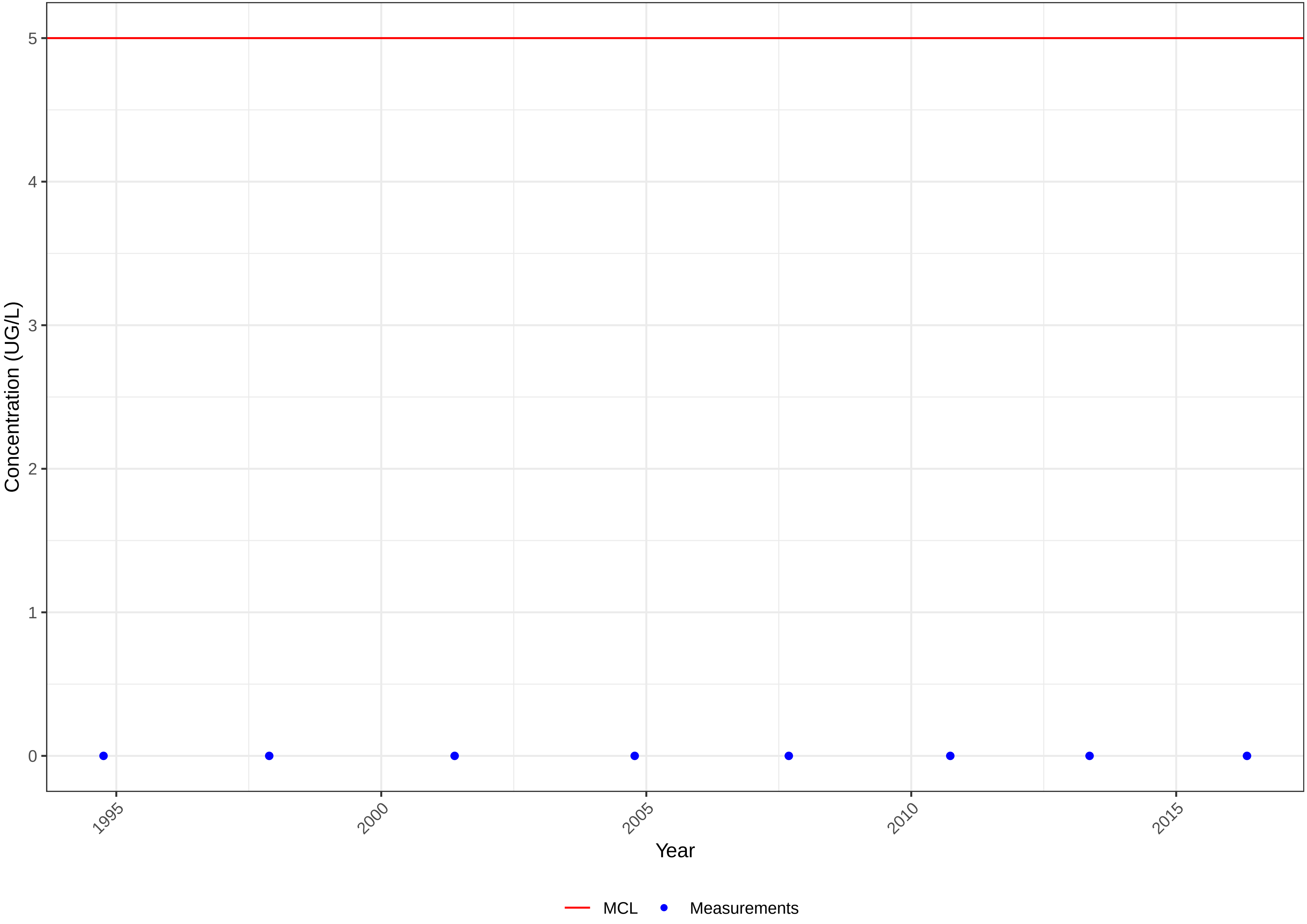
Water Quality Chart

Well No. 1610005−006
STORET No. 38761
Constituent: DIBROMOCHLOROPROPANE (DBCP)



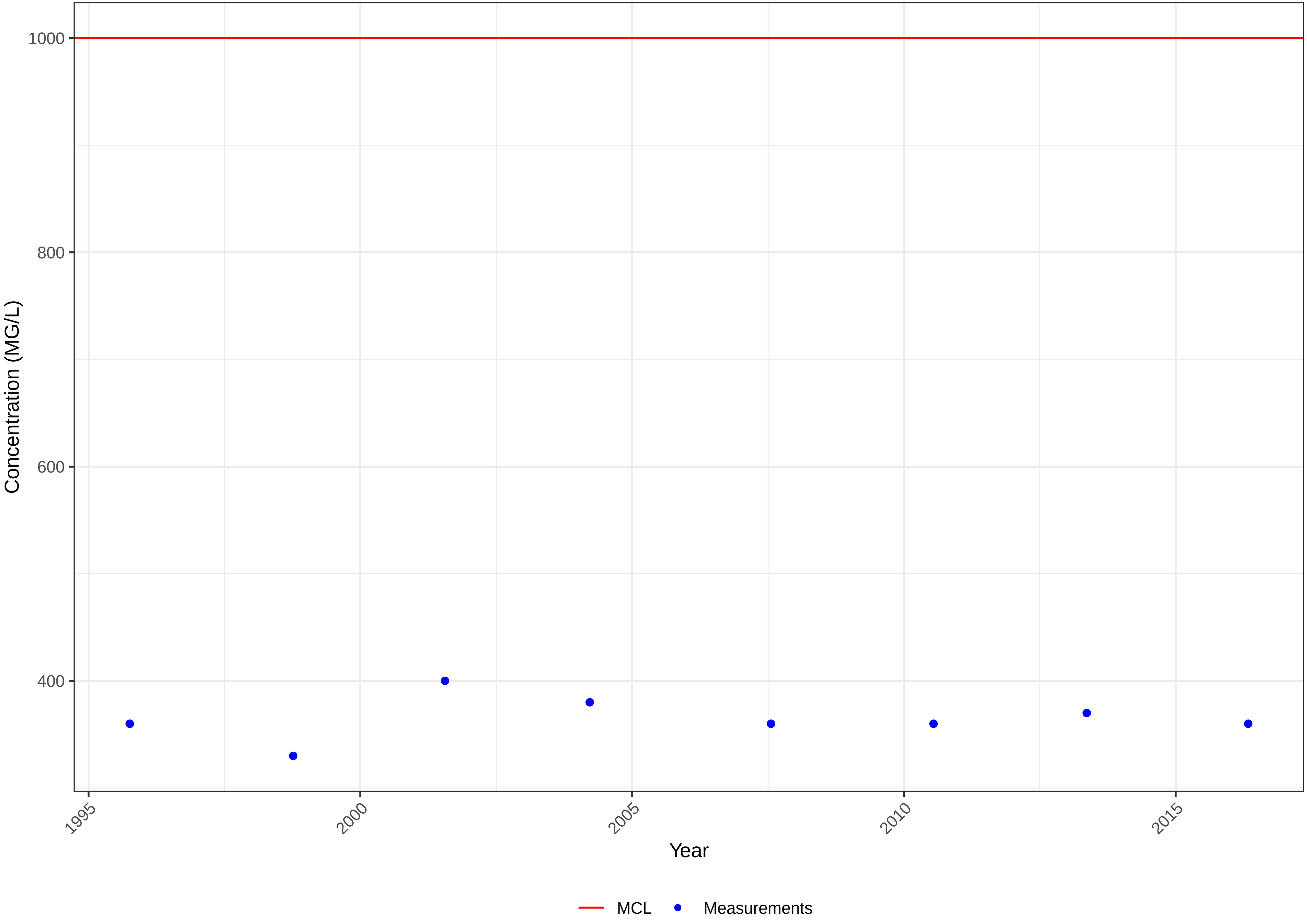
Water Quality Chart

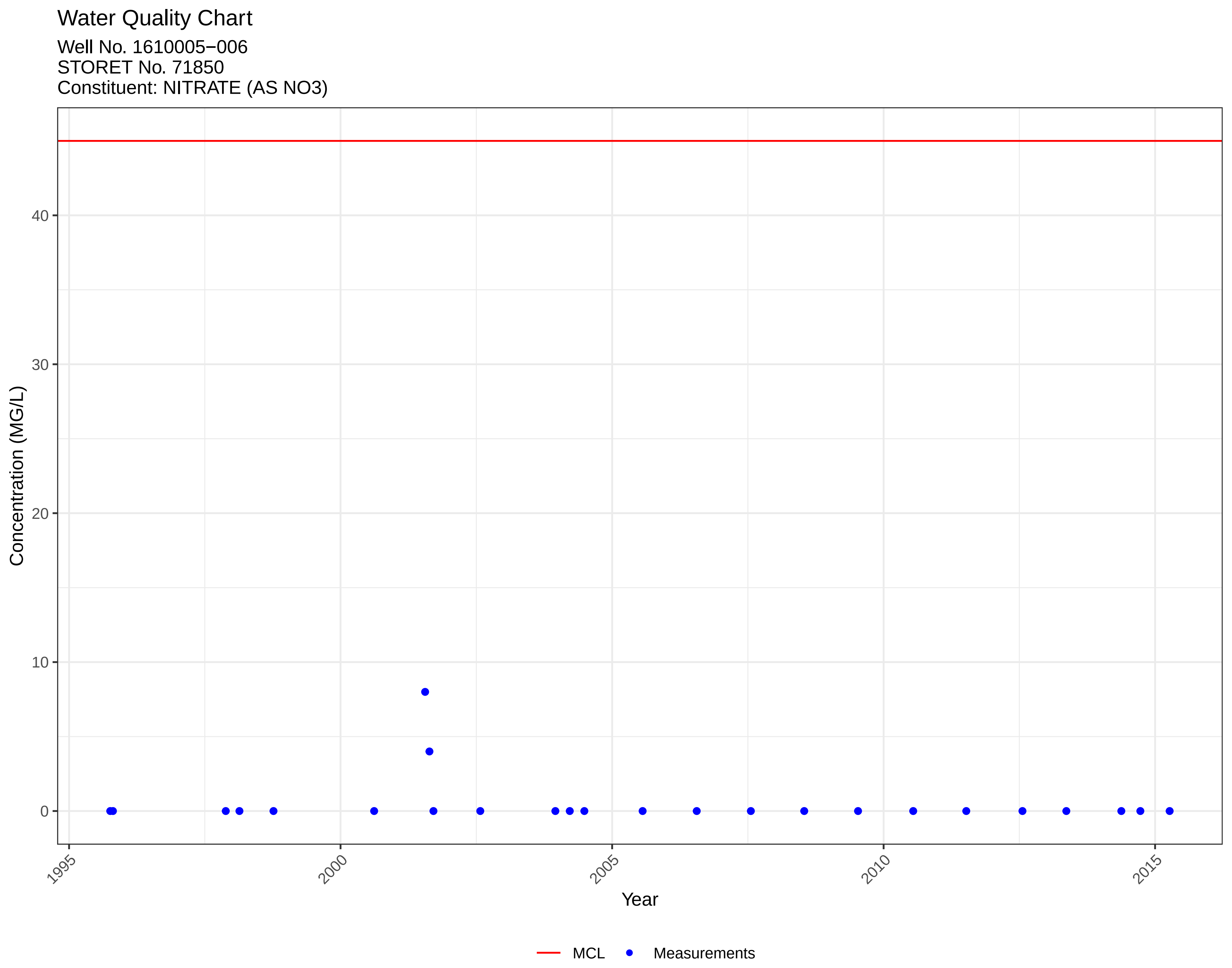
Well No. 1610005−006
STORET No. 39180
Constituent: TRICHLOROETHYLENE



Water Quality Chart

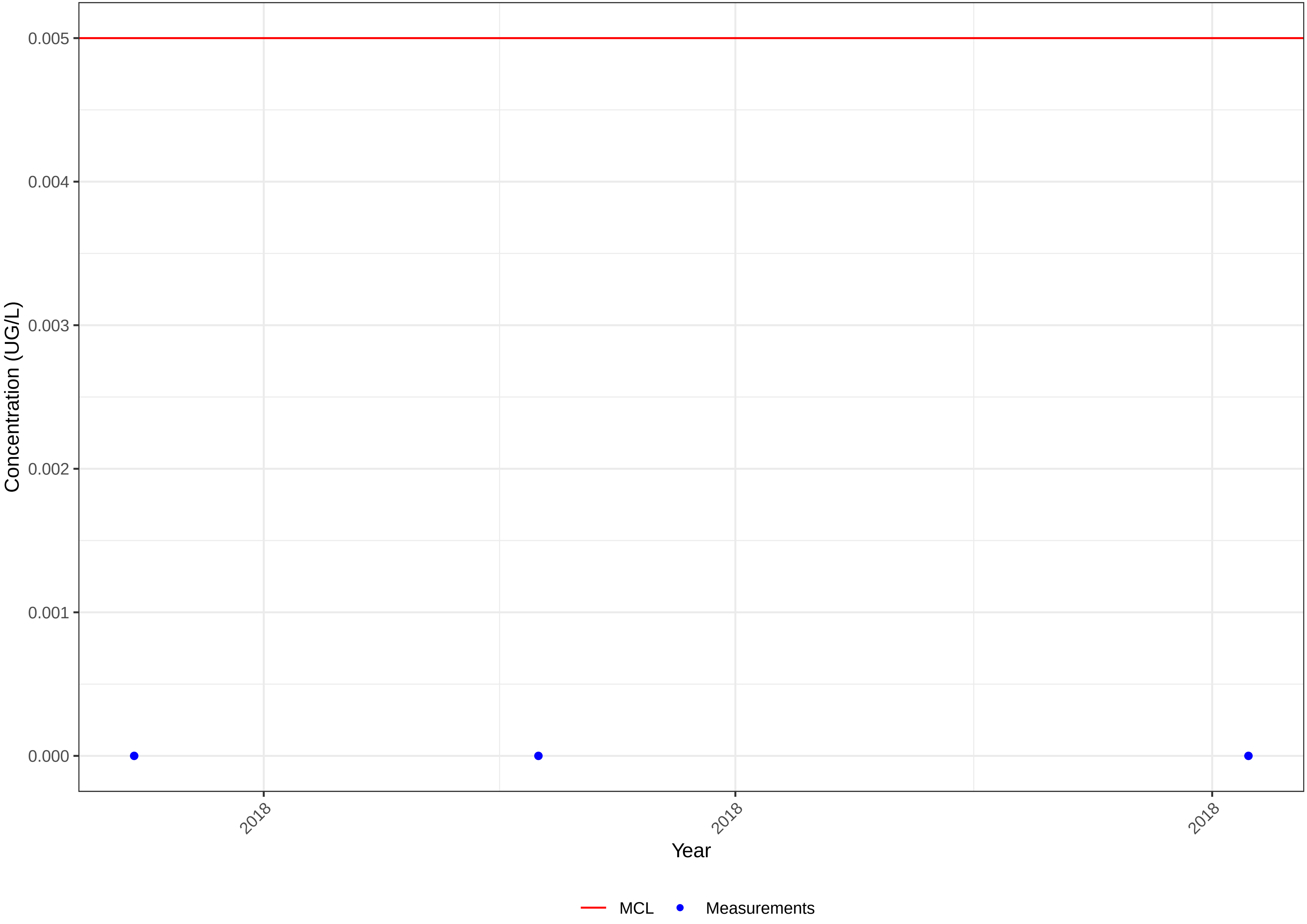
Well No. 1610005−006
STORET No. 70300
Constituent: TOTAL DISSOLVED SOLIDS

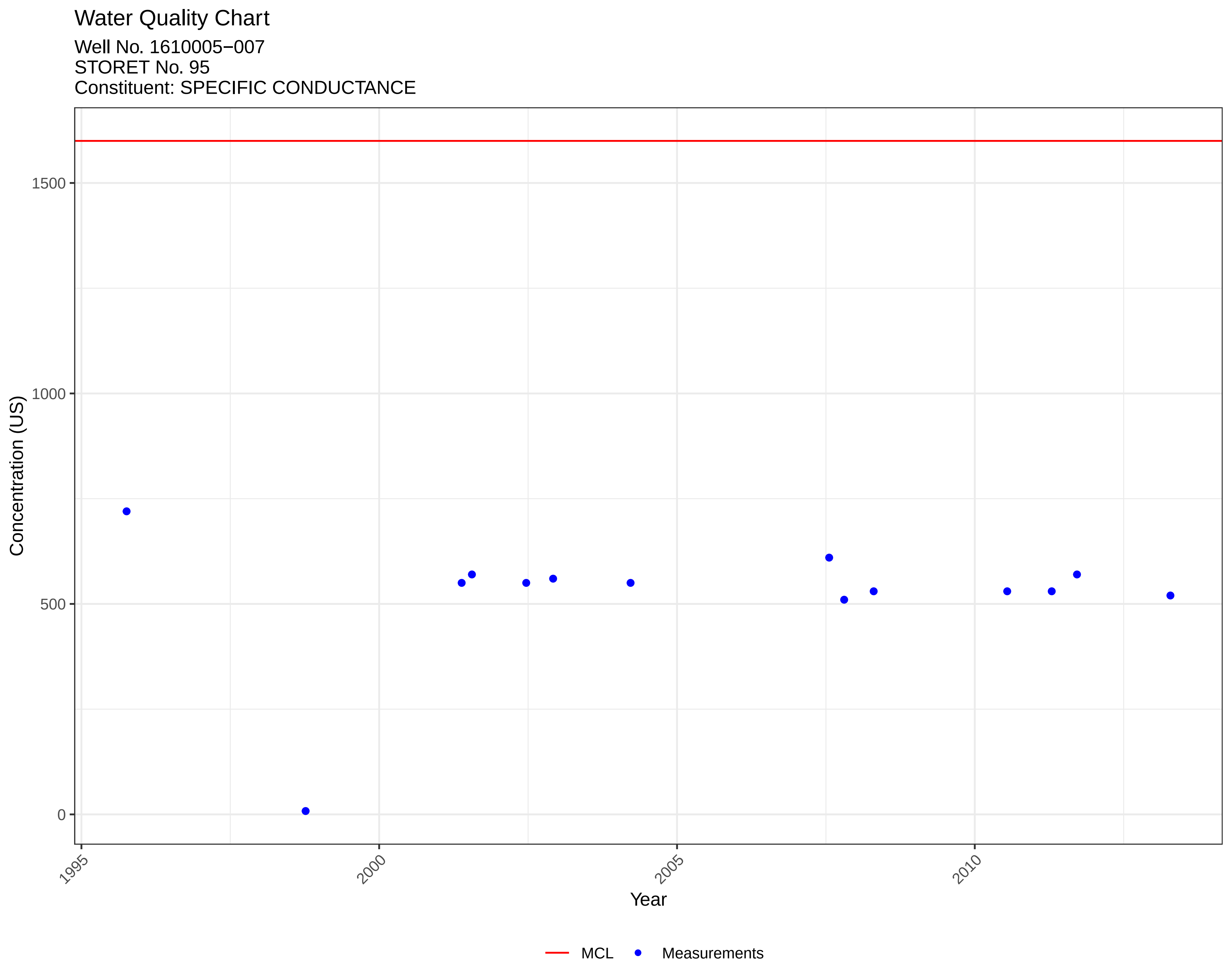



Water Quality Chart
Well No. 1610005−006
STORET No. 71850
Constituent: NITRATE (AS NO3)
Concentration (MG/L)
0
10
20
30
40
1995
2000
2005
2010
2015
Year
MCL
Measurements

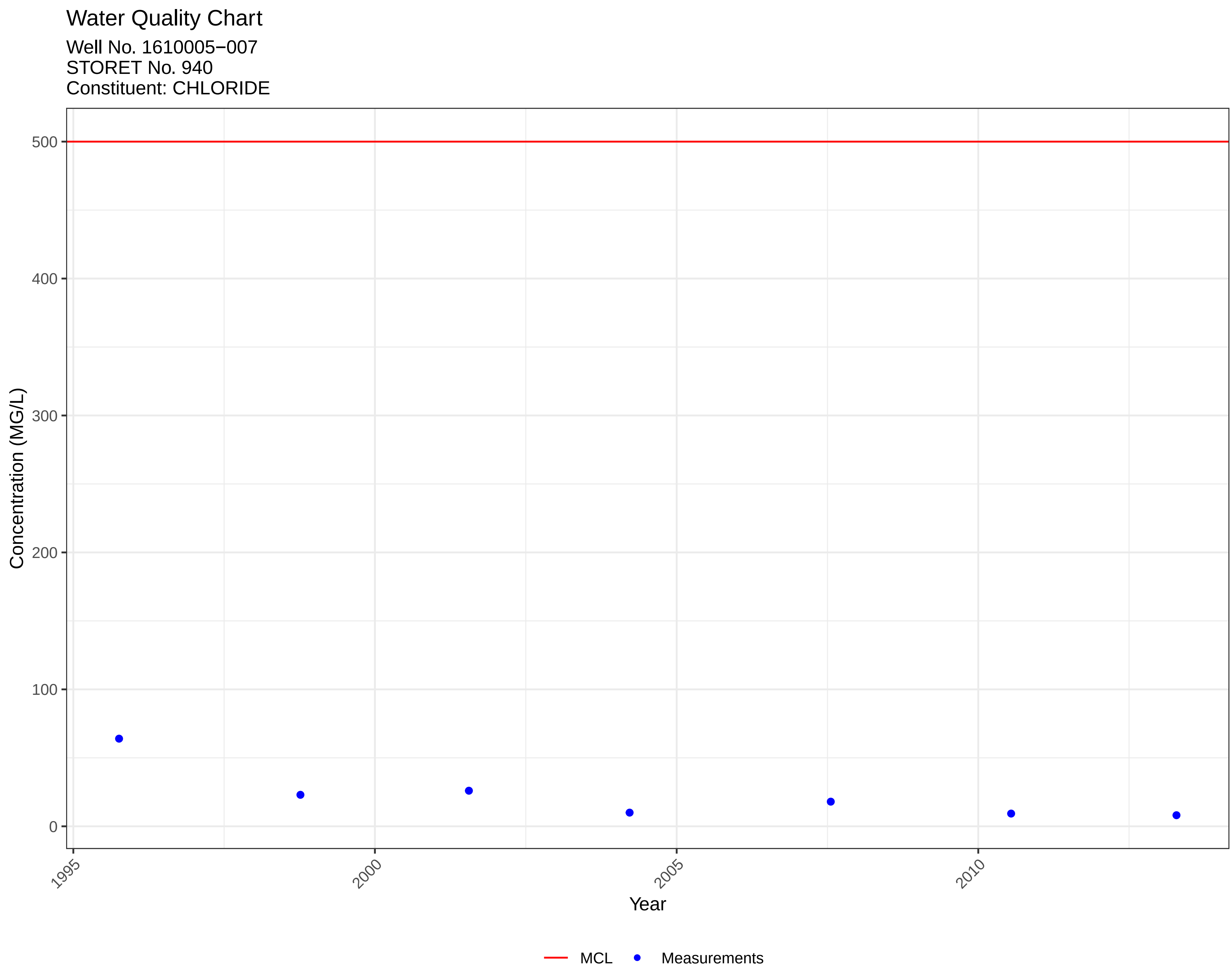
Water Quality Chart

Well No. 1610005−006
STORET No. 77443
Constituent: 1,2,3−TRICHLOROPROPANE





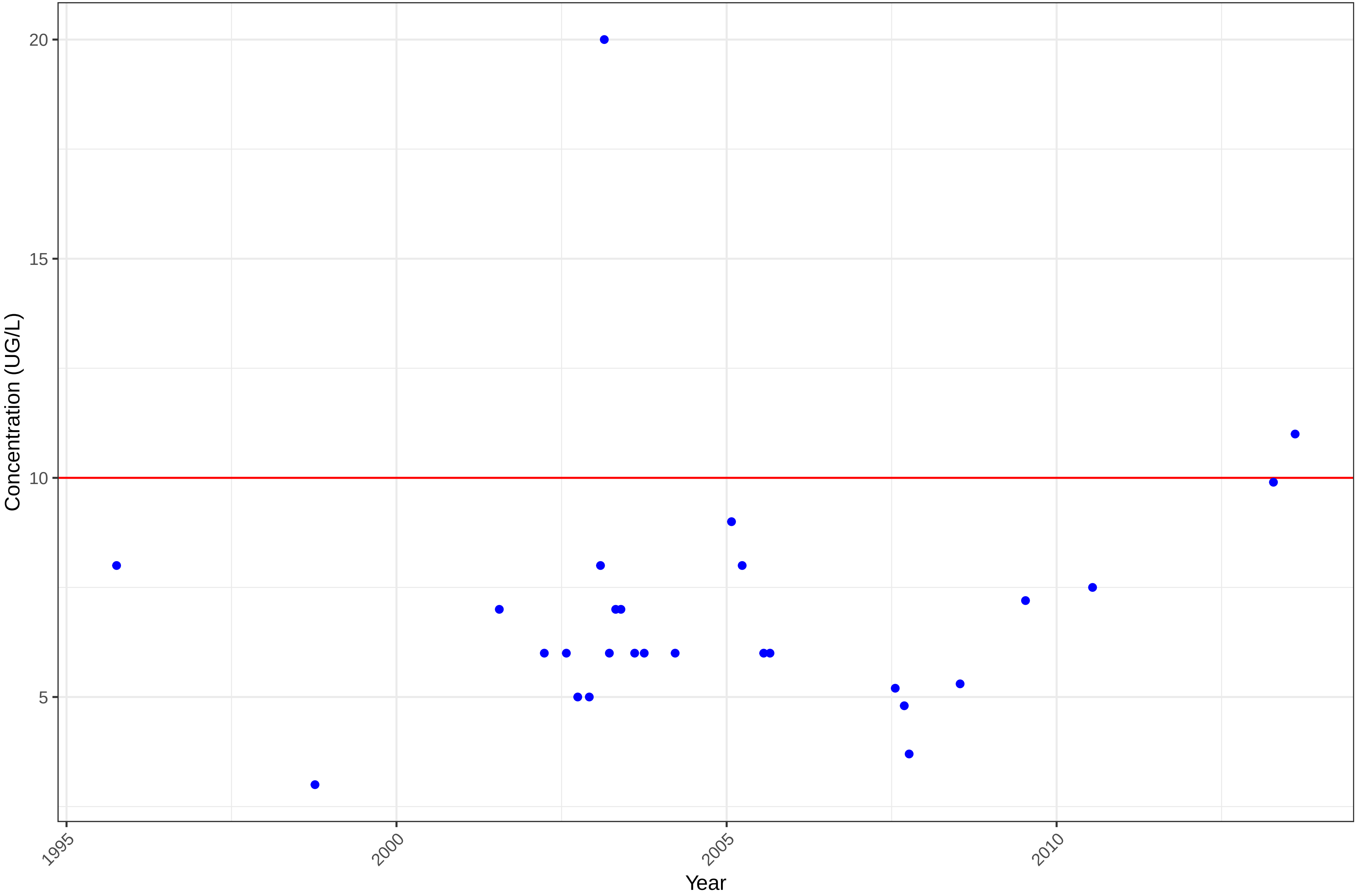
Water Quality Chart
Well No. 1610005−007
STORET No. 95
Constituent: SPECIFIC CONDUCTANCE
Concentration (US)
1500
1000
500
0
1995
2000
2005
2010
Year
MCL
Measurements

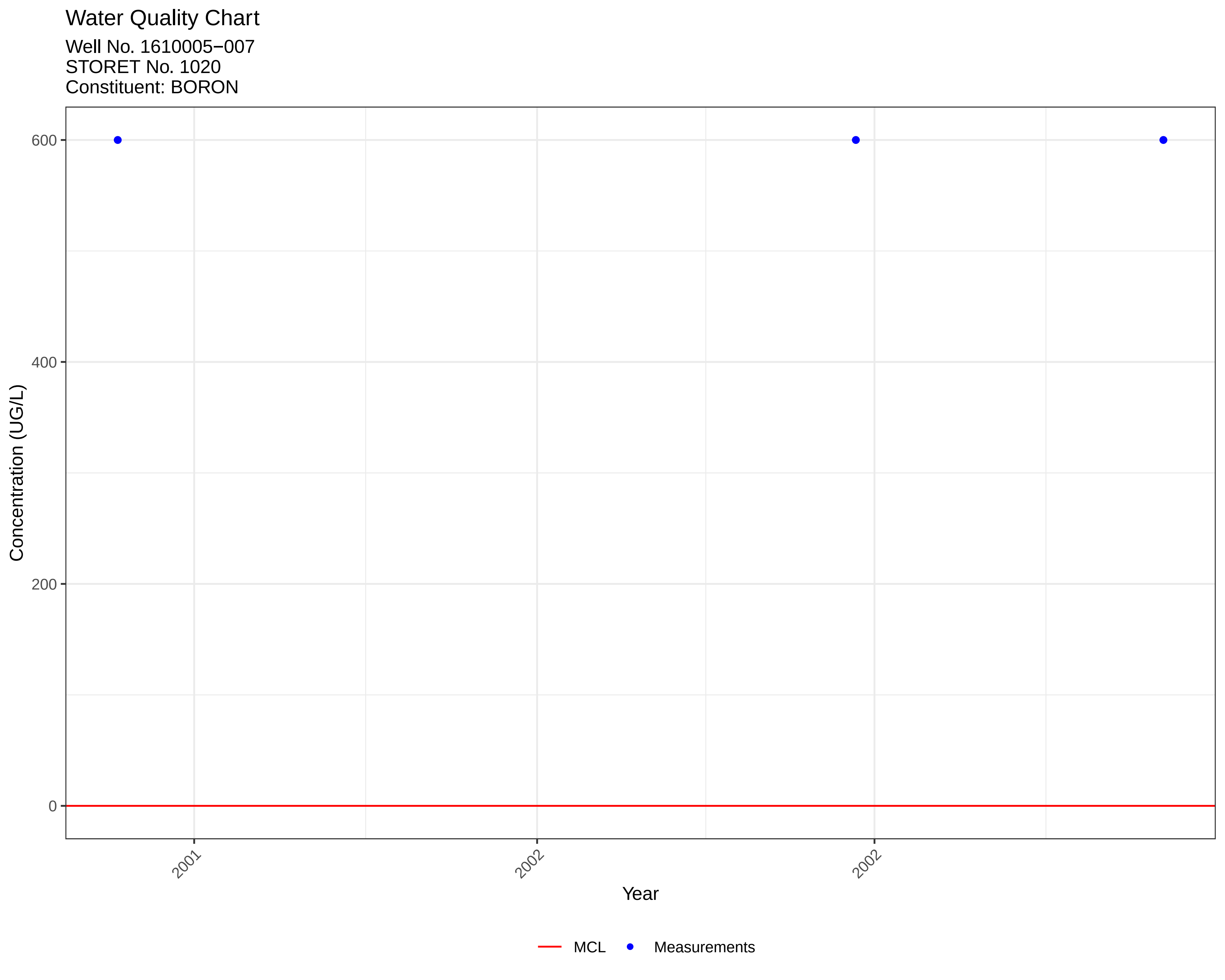


Water Quality Chart
Well No. 1610005−007
STORET No. 940
Constituent: CHLORIDE
Concentration (MG/L)
500
400
300
200
100
0
1995
2000
2005
2010
Year
MCL
Measurements

Water Quality Chart

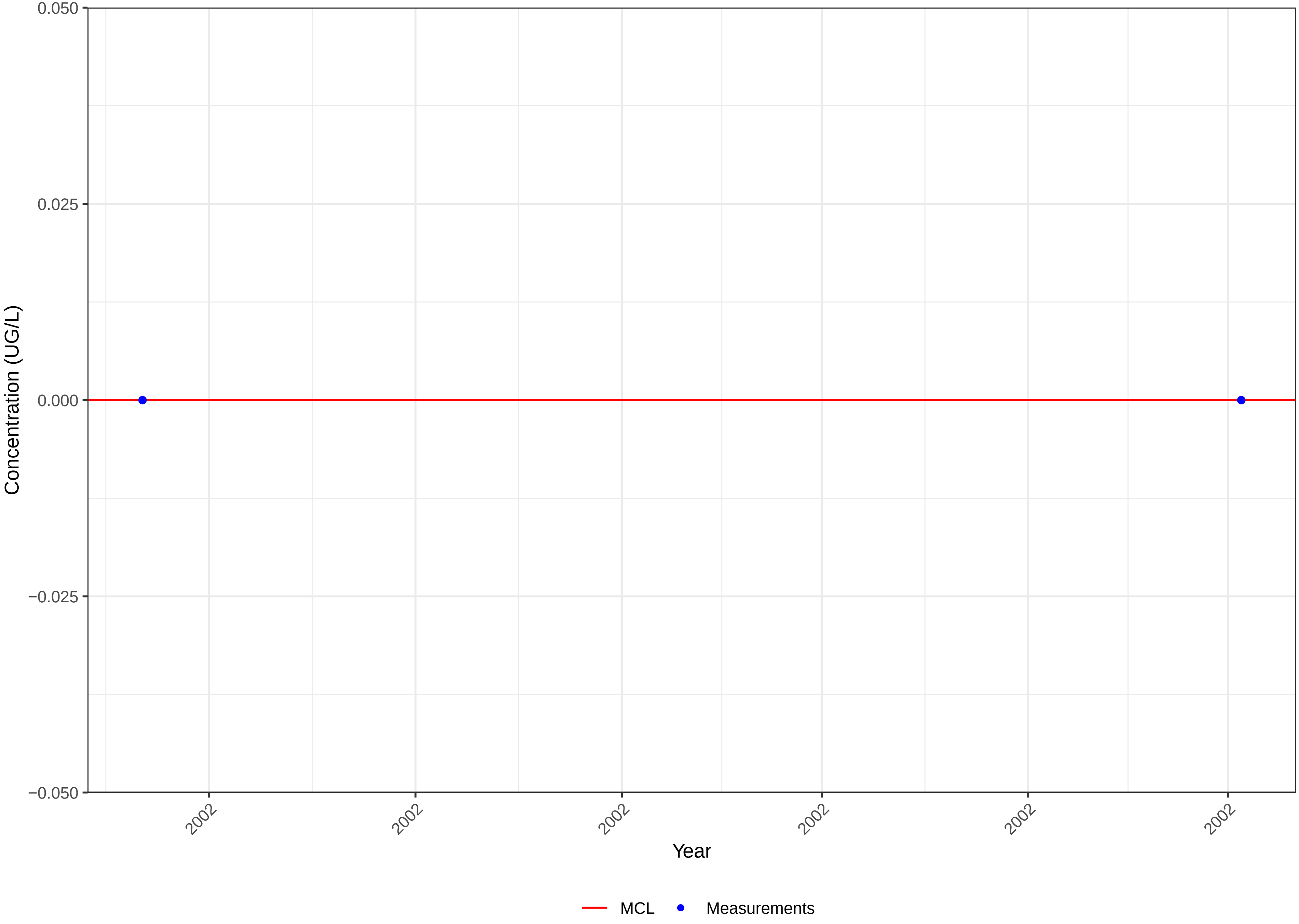
Well No. 1610005−007
STORET No. 1002
Constituent: ARSENIC

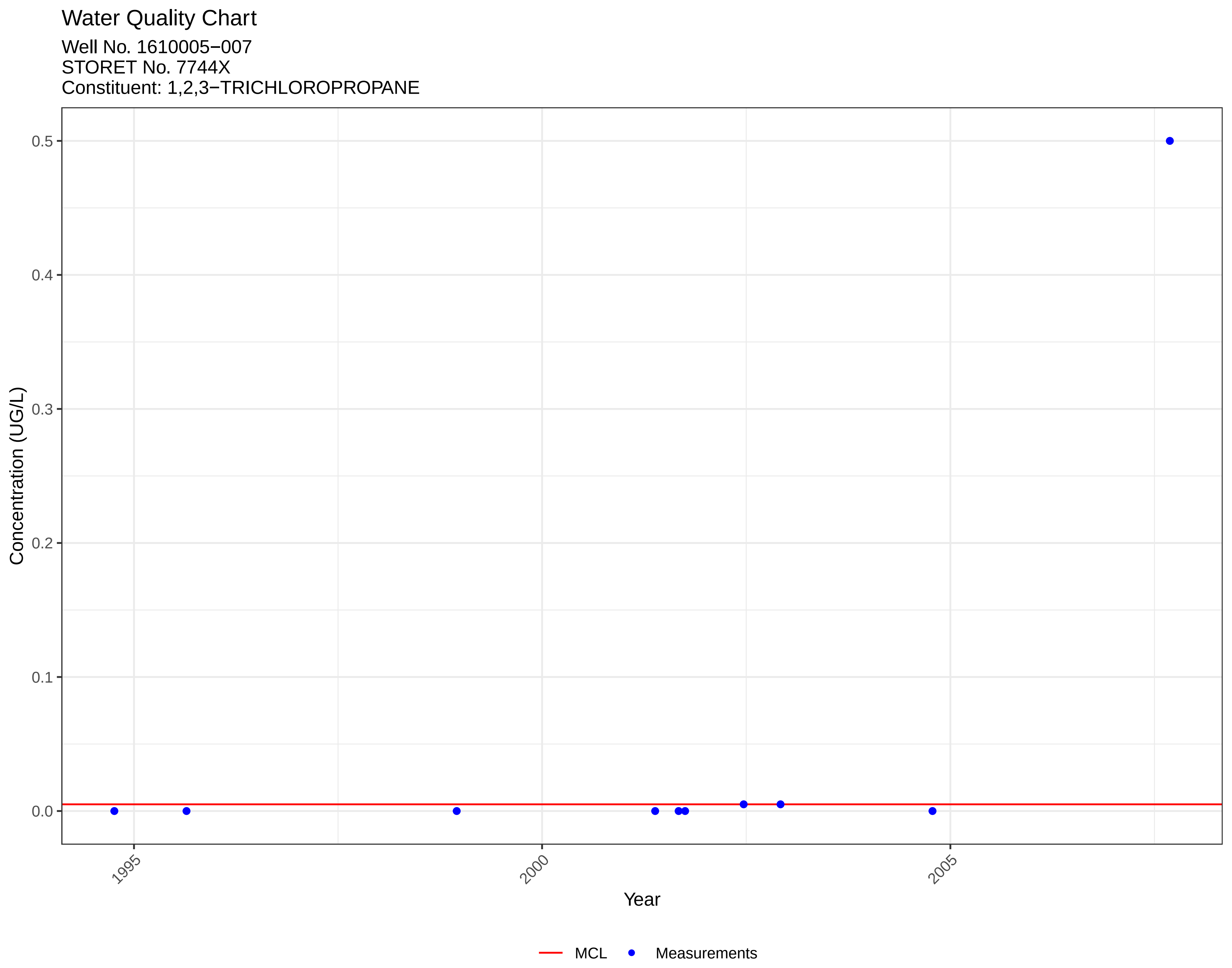



Water Quality Chart
Well No. 1610005−007
STORET No. 1020
Constituent: BORON
600
400
200
0
Concentration (UG/L)
2001
2002
2002
Year
MCL
Measurements

Water Quality Chart

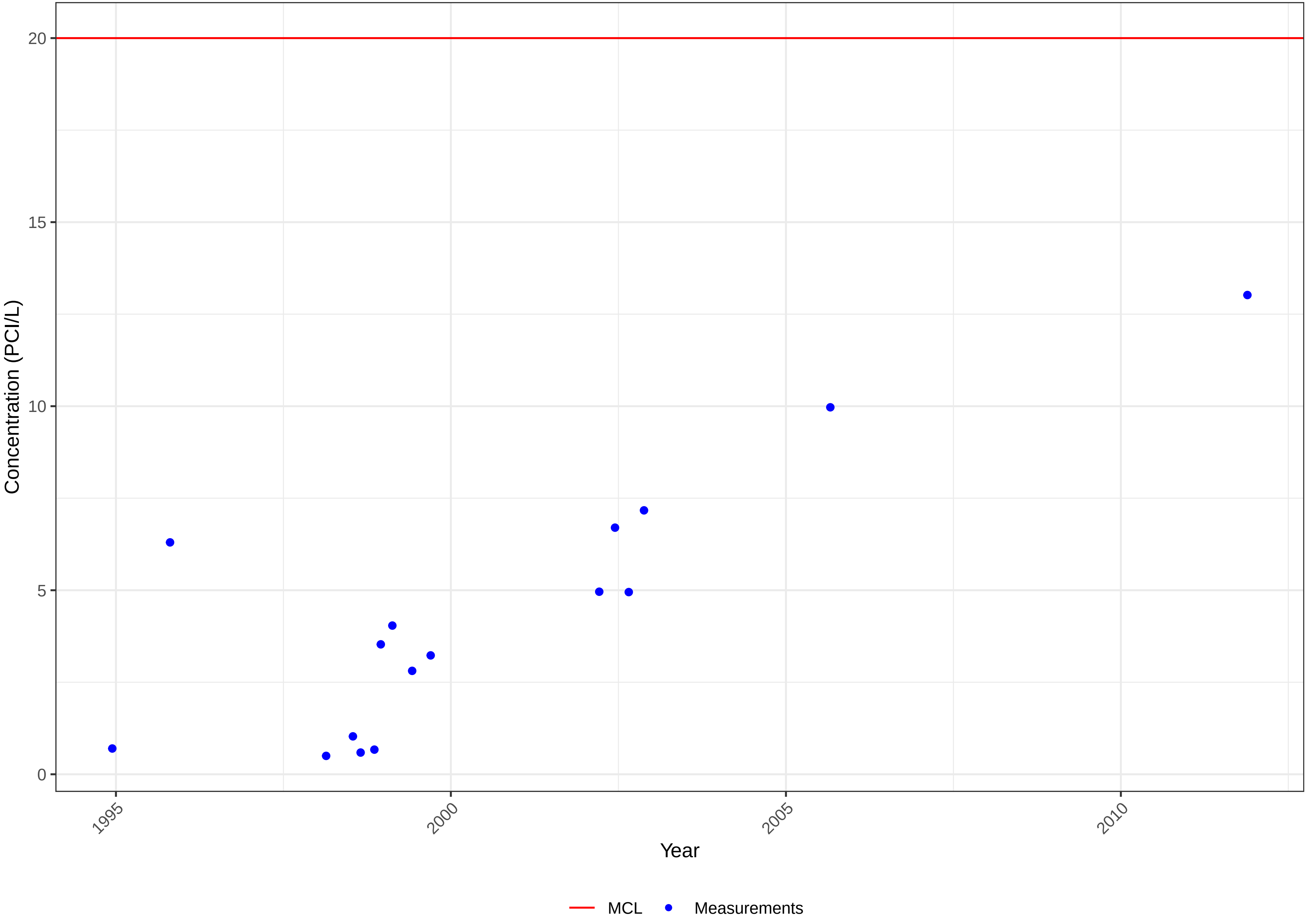
Well No. 1610005−007
STORET No. 1032
Constituent: CHROMIUM, HEXAVALENT




Water Quality Chart
Well No. 1610005−007
STORET No. 7744X
Constituent: 1,2,3−TRICHLOROPROPANE
Concentration (UG/L)
0.5
0.4
0.3
0.2
0.1
0.0
1995
2000
2005
Year
MCL
Measurements

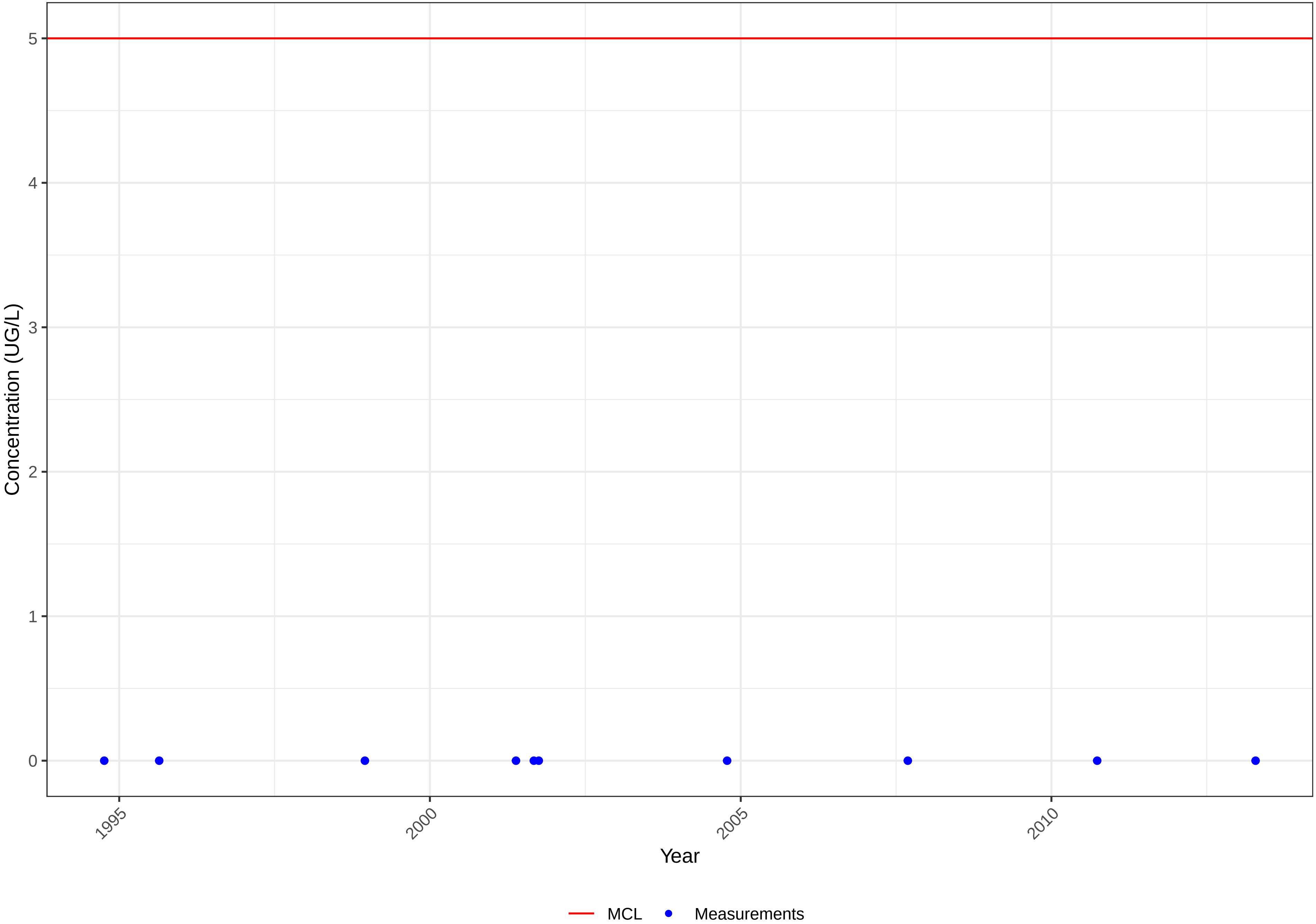
Water Quality Chart

Well No. 1610005−007
STORET No. 28012
Constituent: URANIUM (PCI/L)



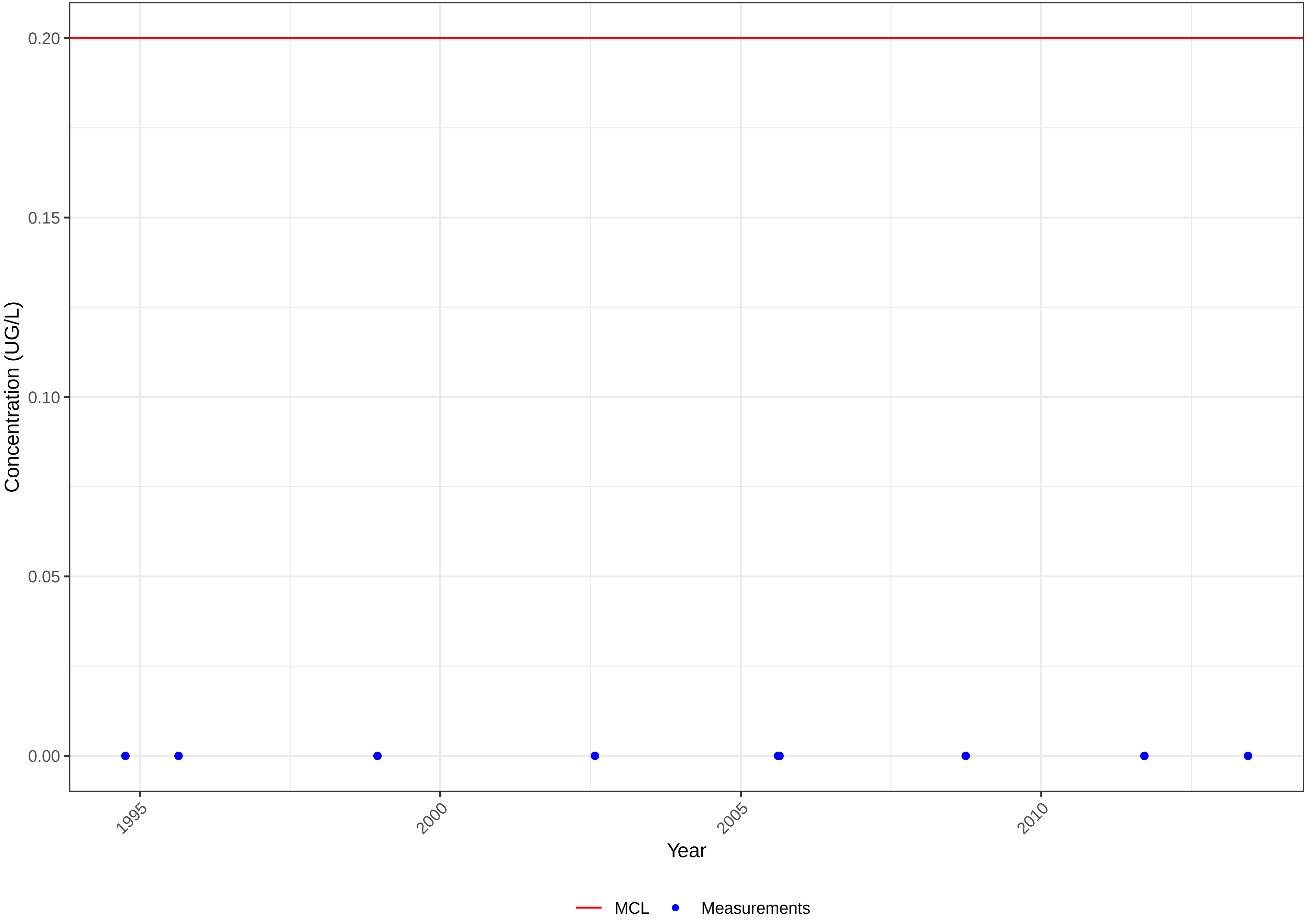
Water Quality Chart

Well No. 1610005−007
STORET No. 34475
Constituent: TETRACHLOROETHYLENE



Water Quality Chart

Well No. 1610005−007
STORET No. 38761
Constituent: DIBROMOCHLOROPROPANE (DBCP)

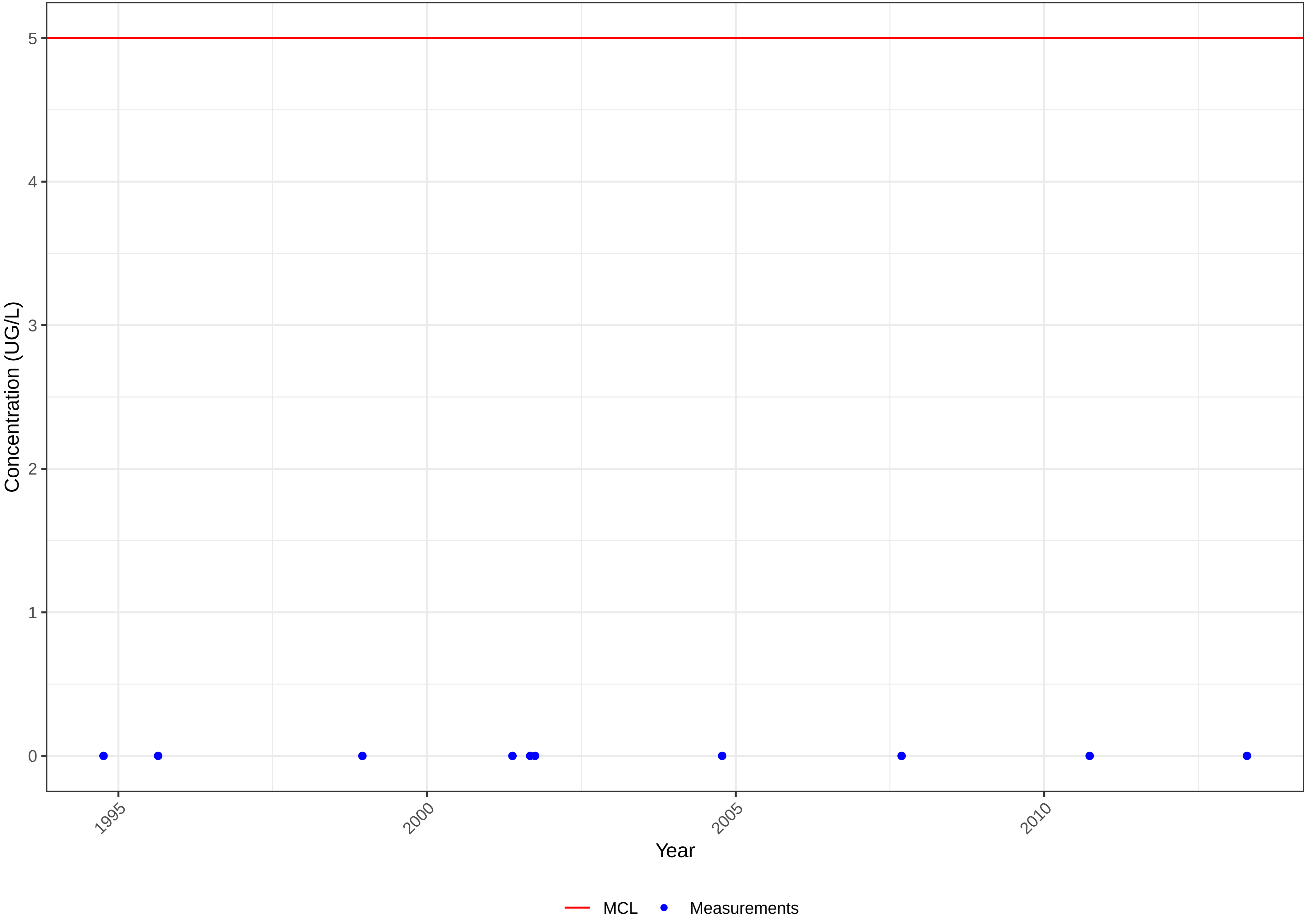


Water Quality Chart

Well No. 1610005−007

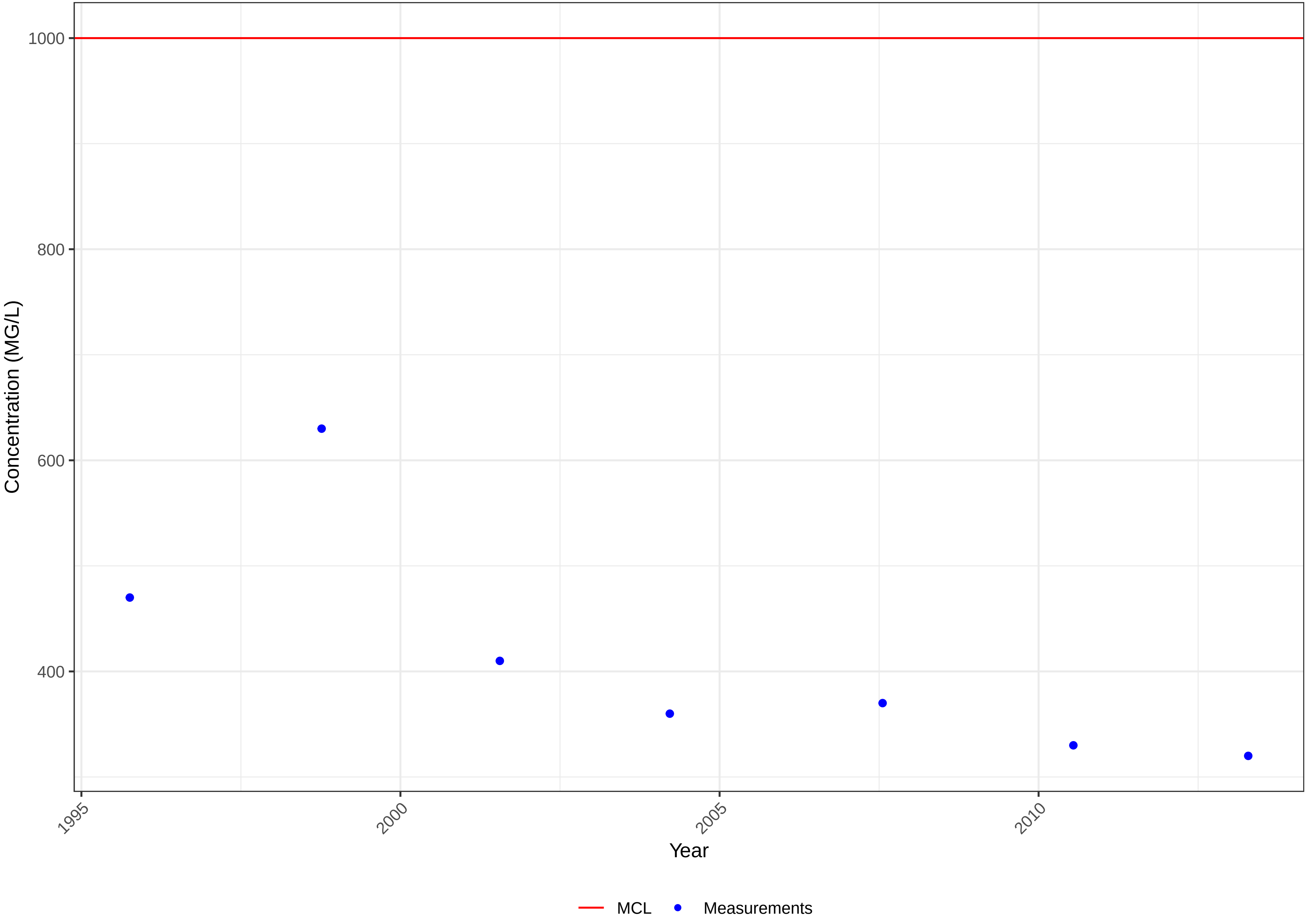
STORET No. 39180

Constituent: TRICHLOROETHYLENE



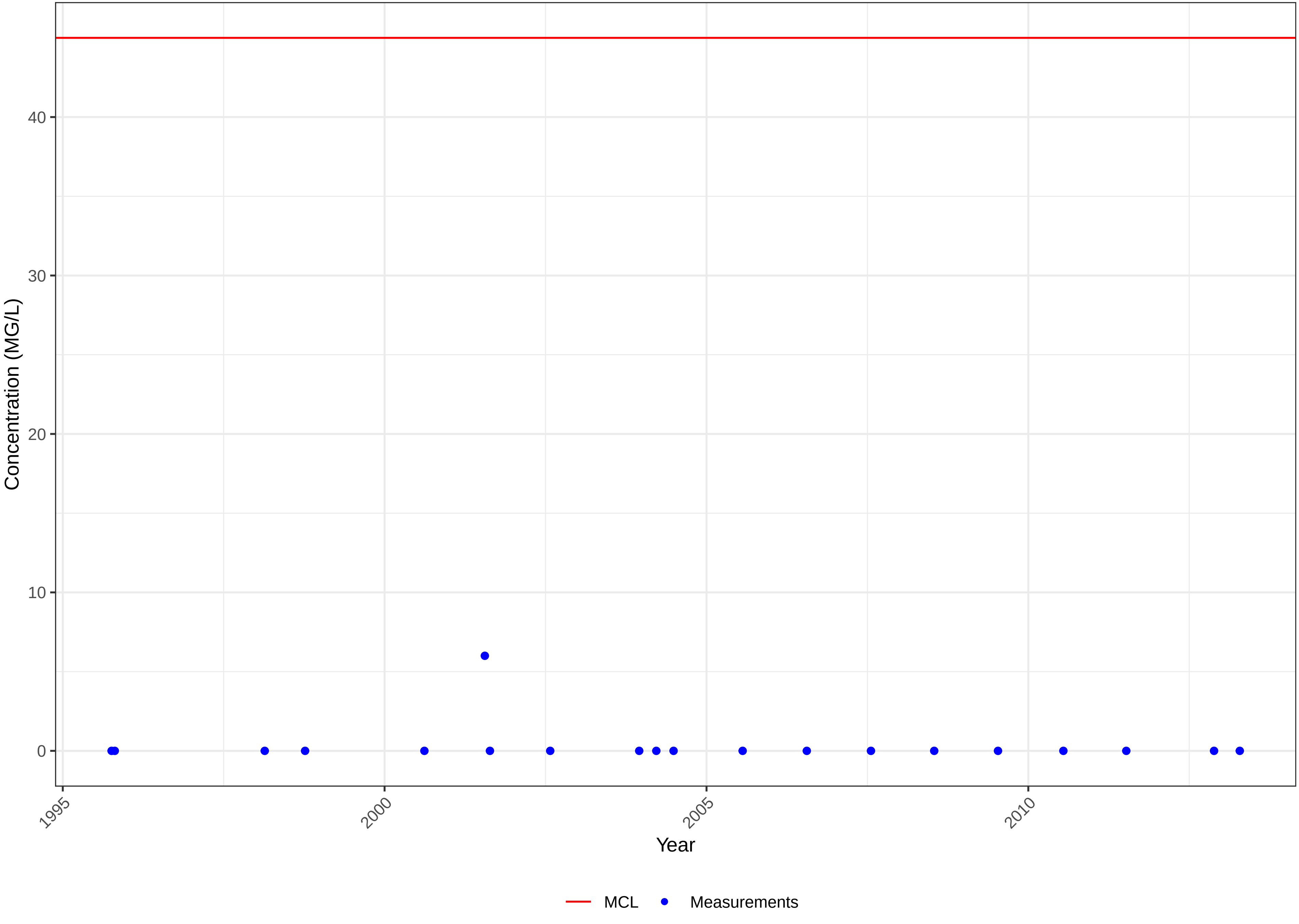
Water Quality Chart

Well No. 1610005−007
STORET No. 70300
Constituent: TOTAL DISSOLVED SOLIDS



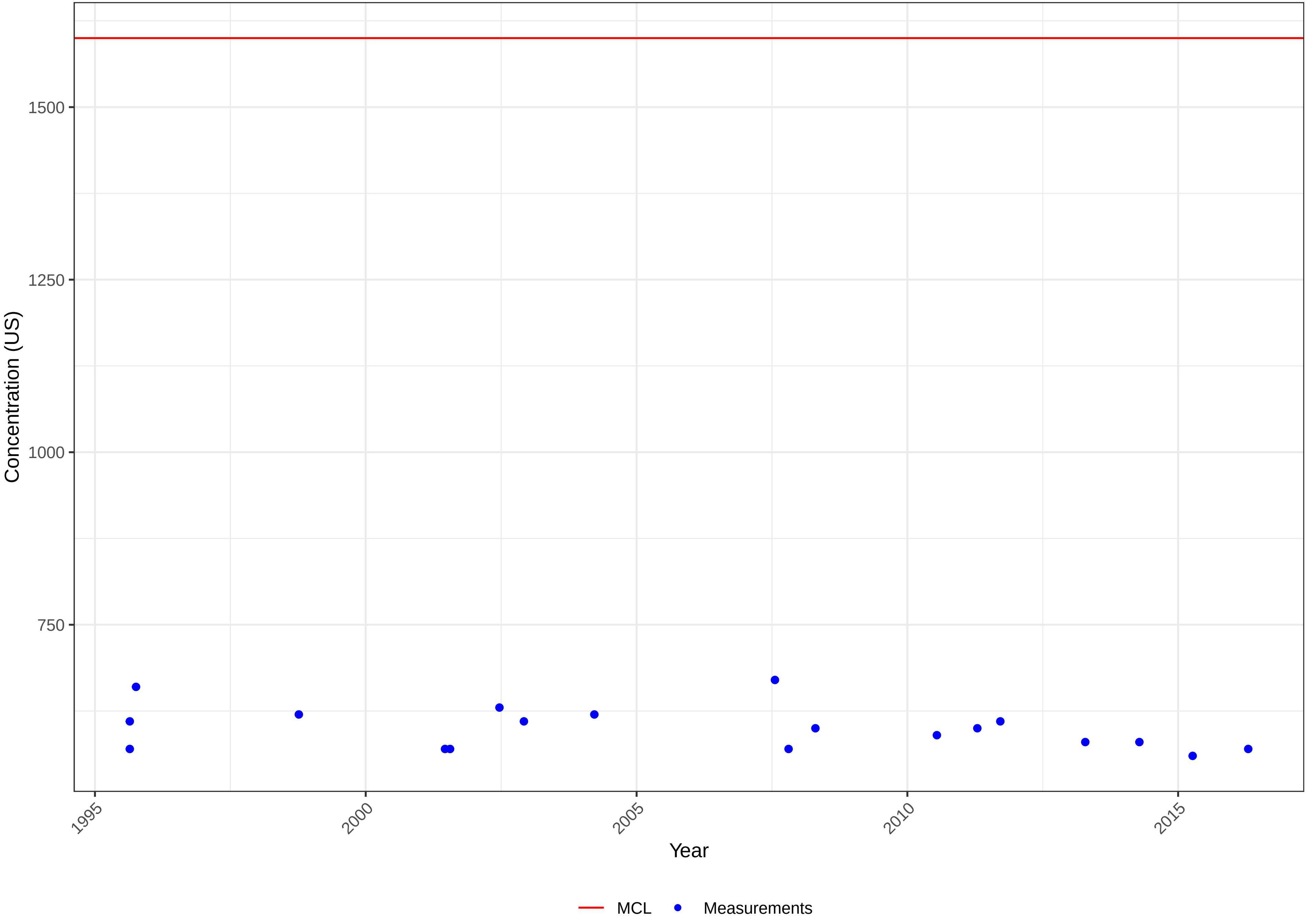
Water Quality Chart

Well No. 1610005−007
STORET No. 71850
Constituent: NITRATE (AS NO3)



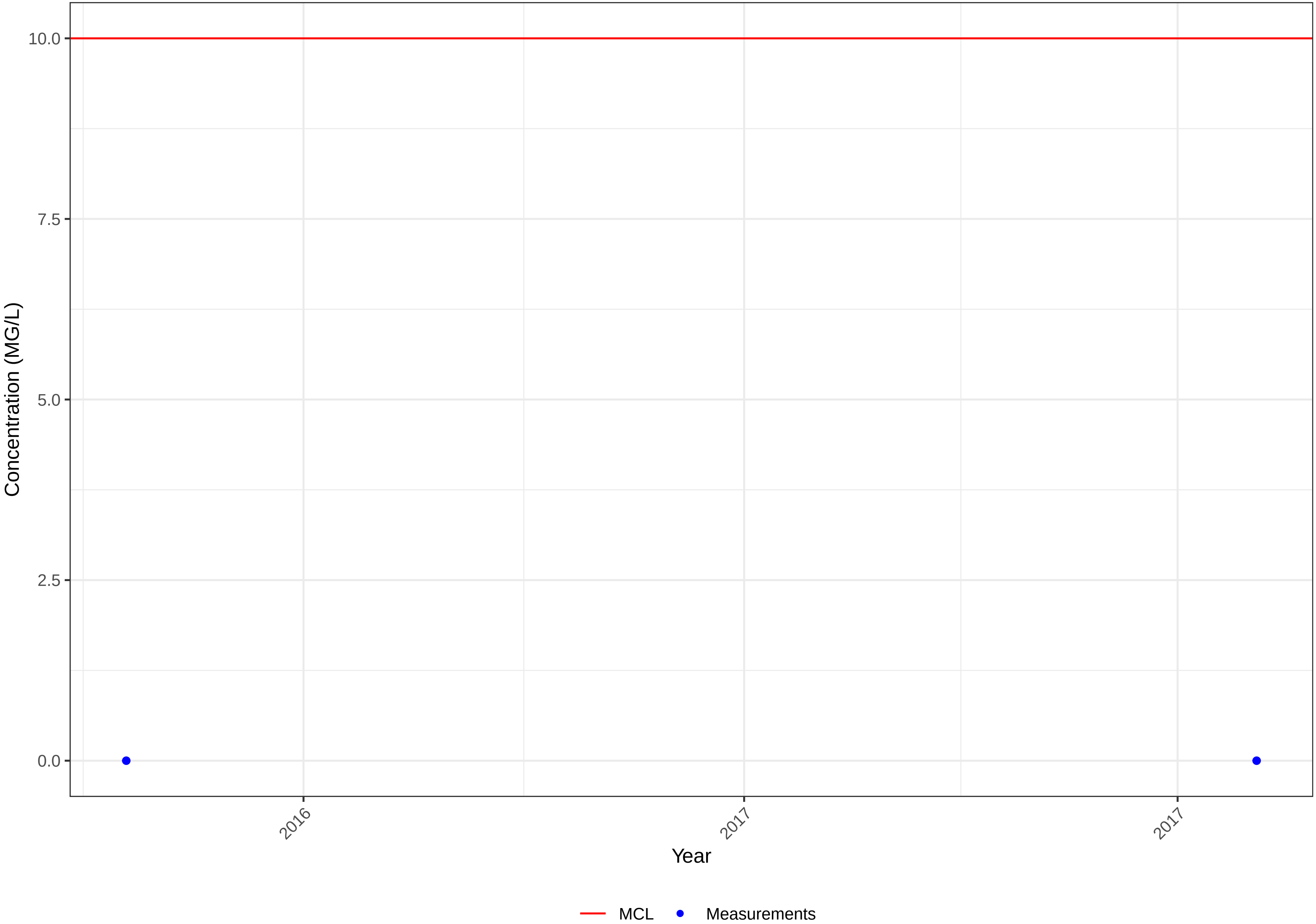
Water Quality Chart

Well No. 1610005−008
STORET No. 95
Constituent: SPECIFIC CONDUCTANCE



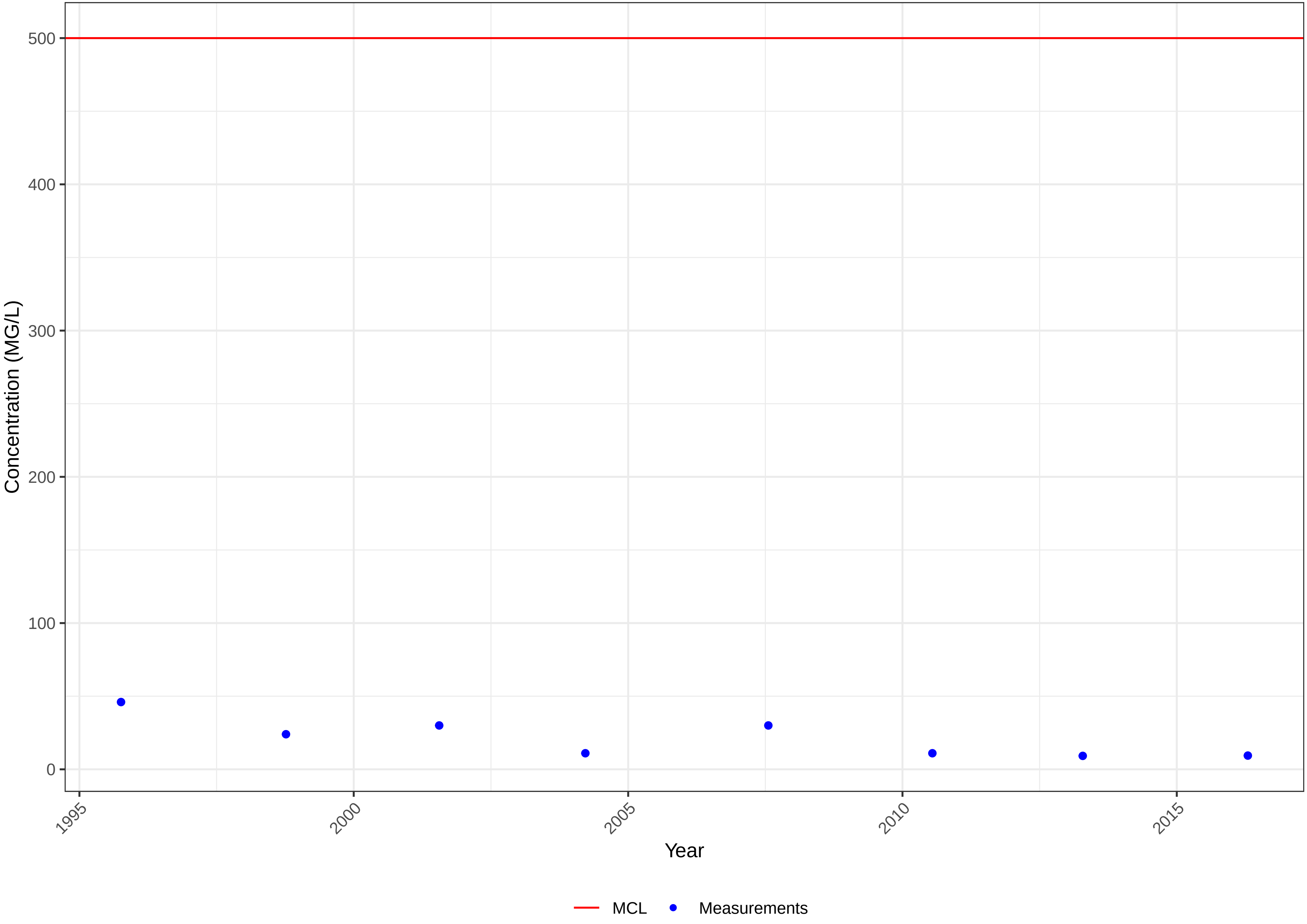
Water Quality Chart

Well No. 1610005−008
STORET No. 618
Constituent: NITRATE (AS N)



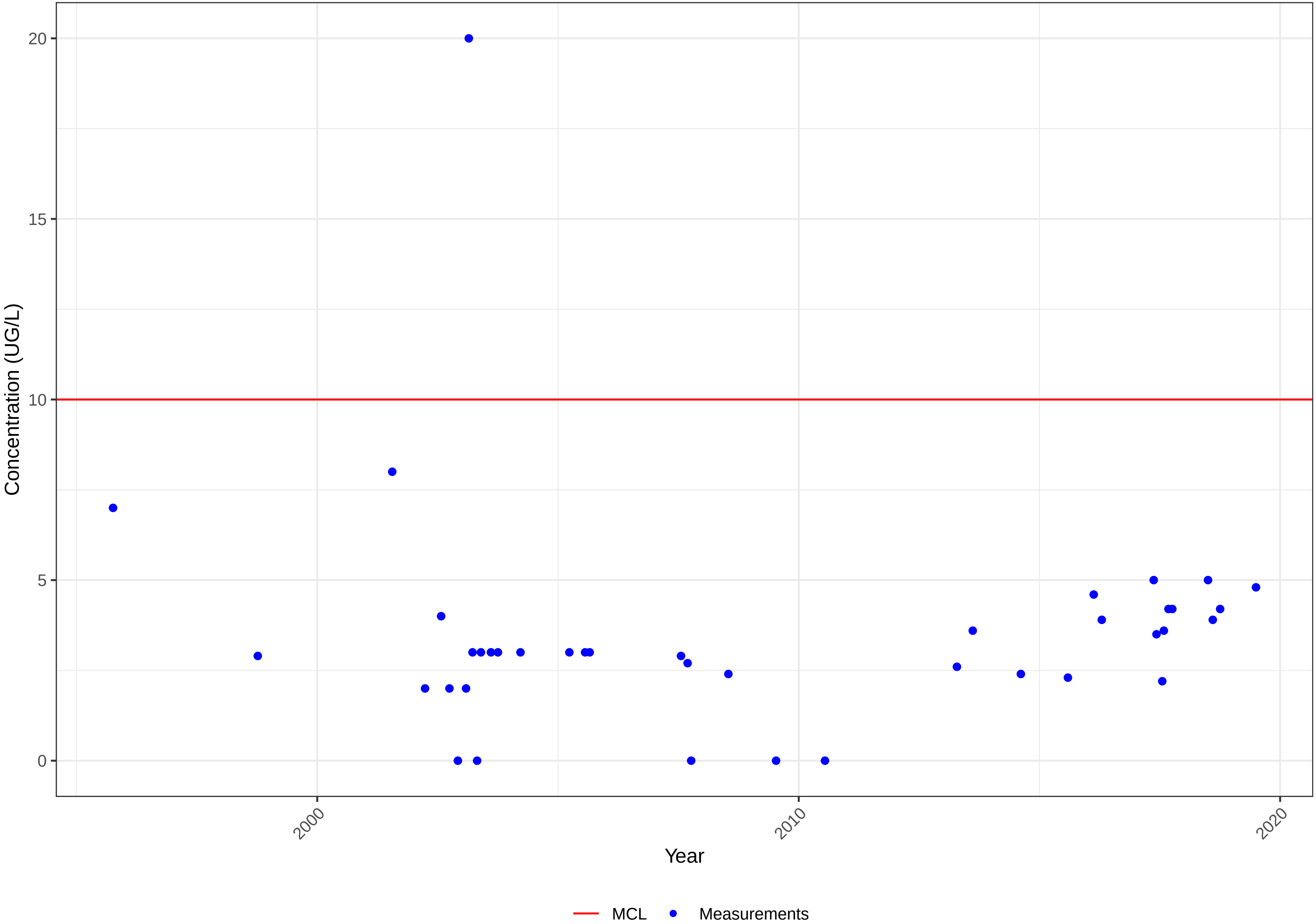
Water Quality Chart

Well No. 1610005−008
STORET No. 940
Constituent: CHLORIDE



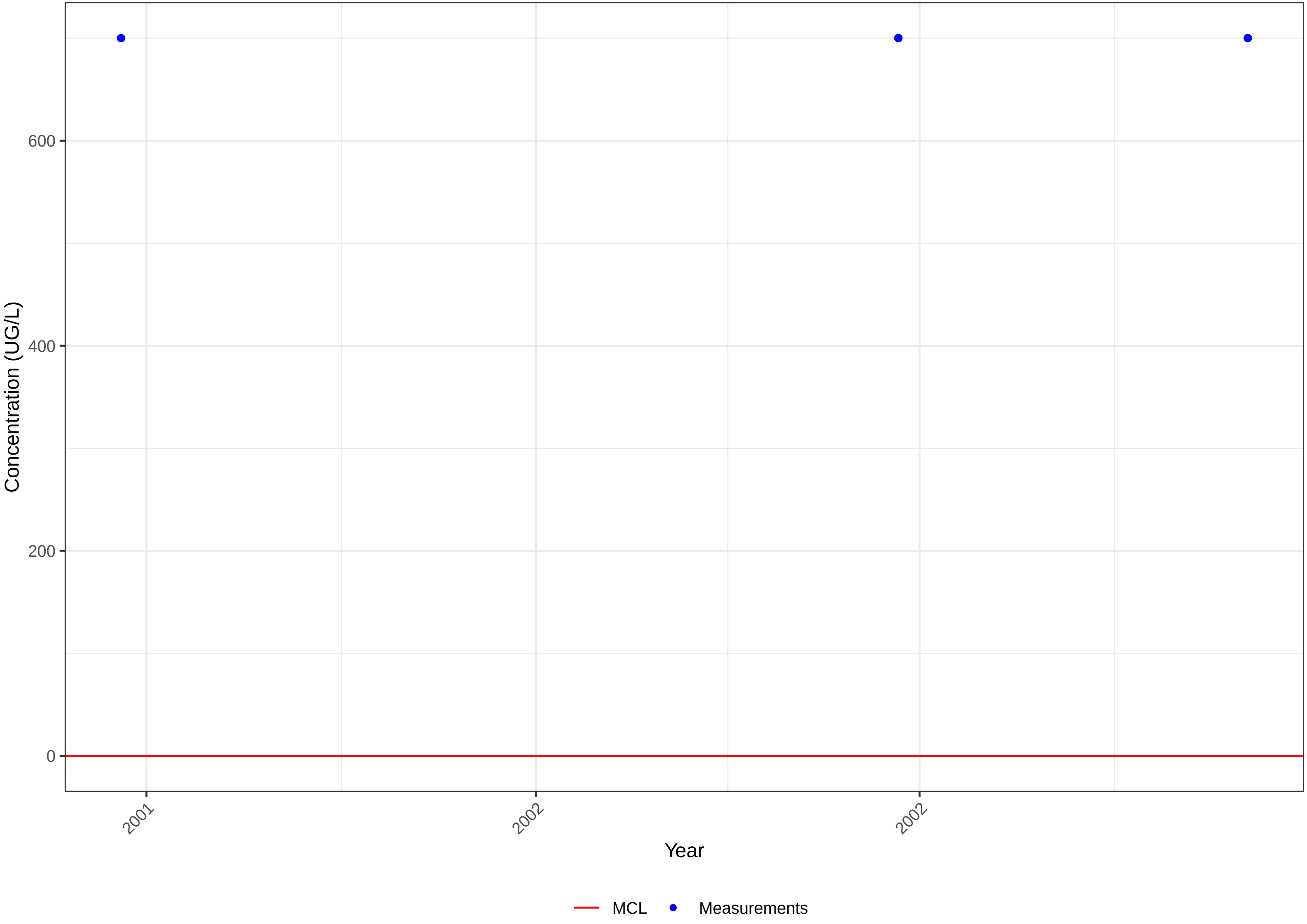
Water Quality Chart

Well No. 1610005−008
STORET No. 1002
Constituent: ARSENIC



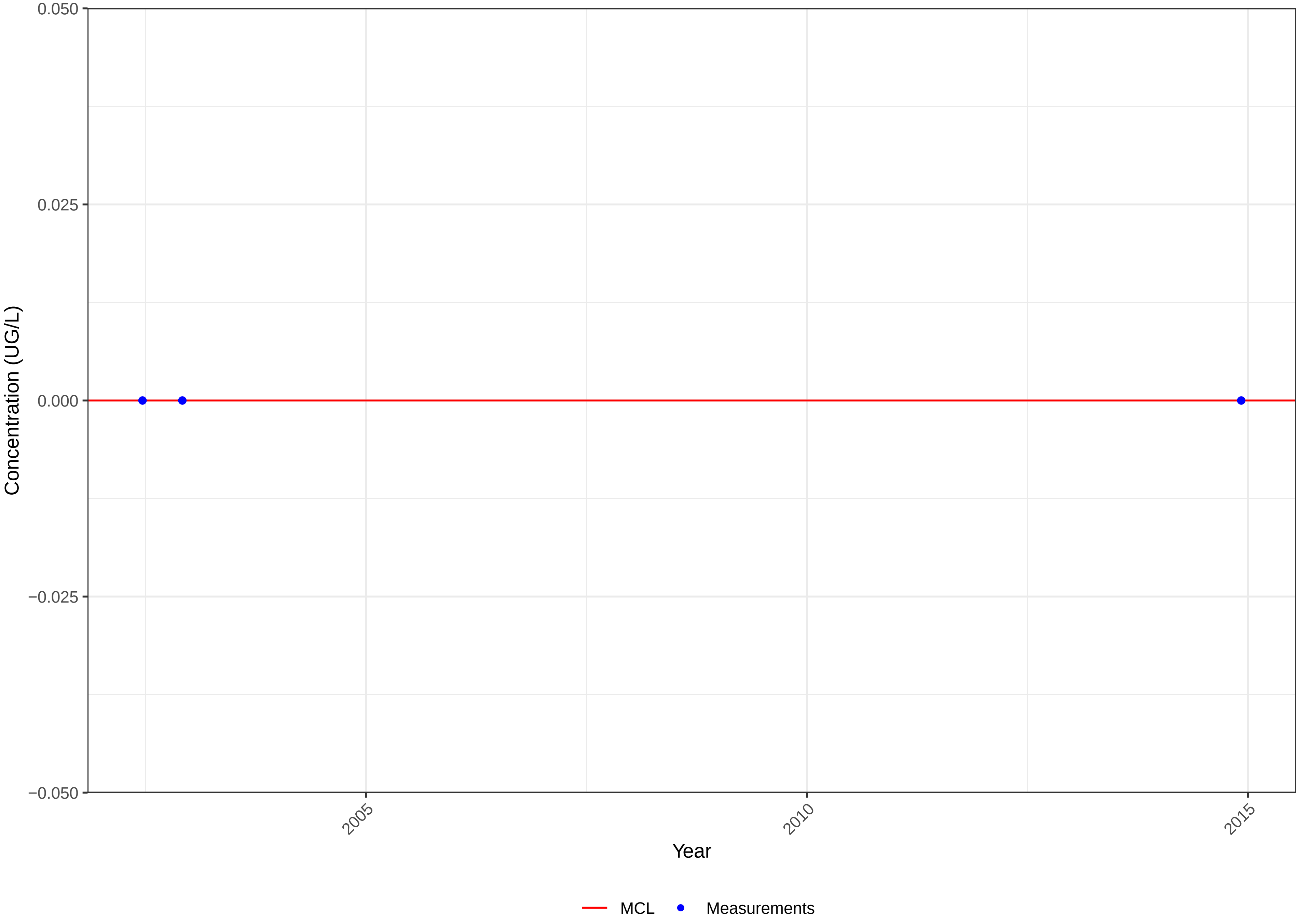
Water Quality Chart

Well No. 1610005−008
STORET No. 1020
Constituent: BORON



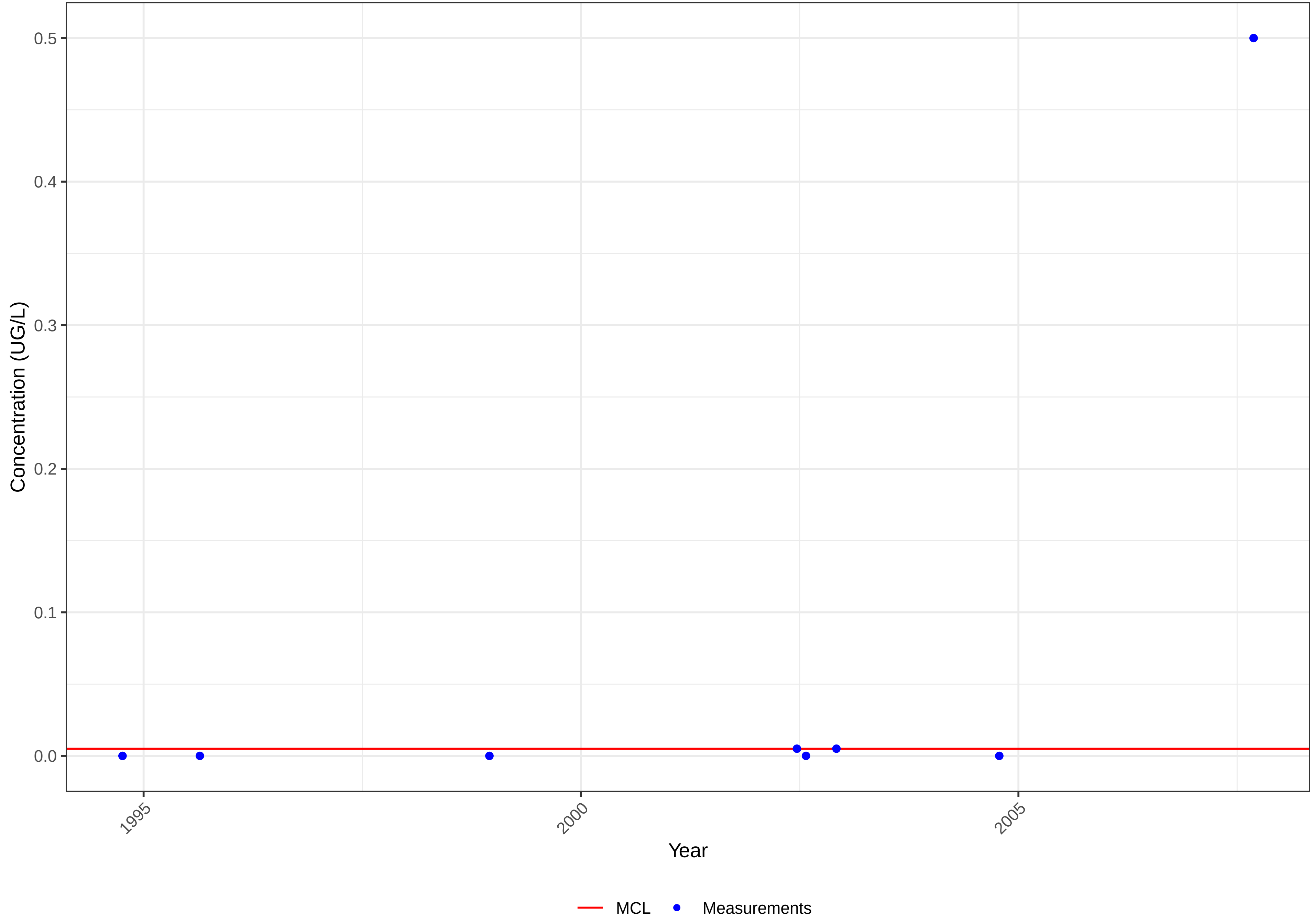
Water Quality Chart

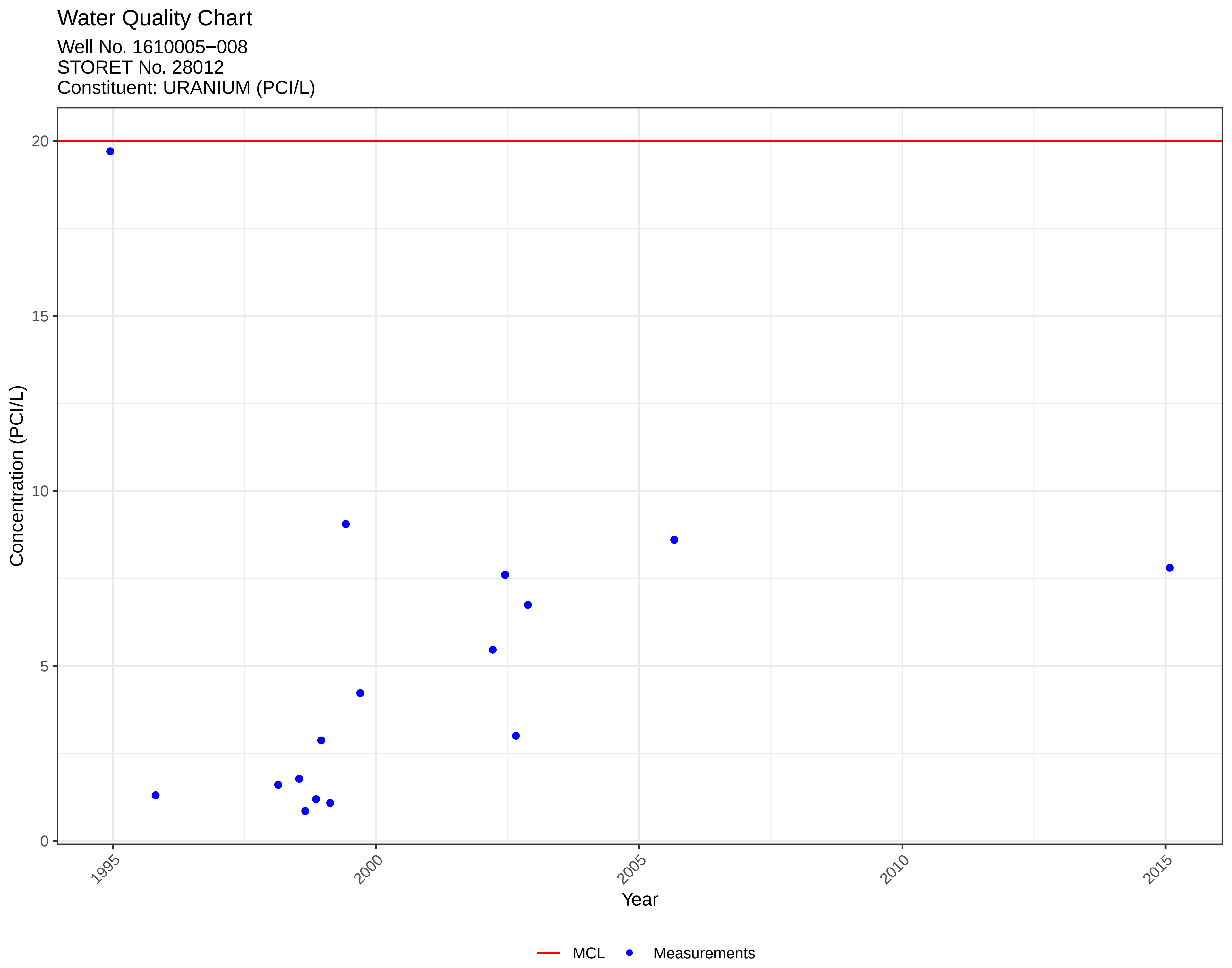
Well No. 1610005−008
STORET No. 1032
Constituent: CHROMIUM, HEXAVALENT



Water Quality Chart

Well No. 1610005−008
STORET No. 7744X
Constituent: 1,2,3−TRICHLOROPROPANE





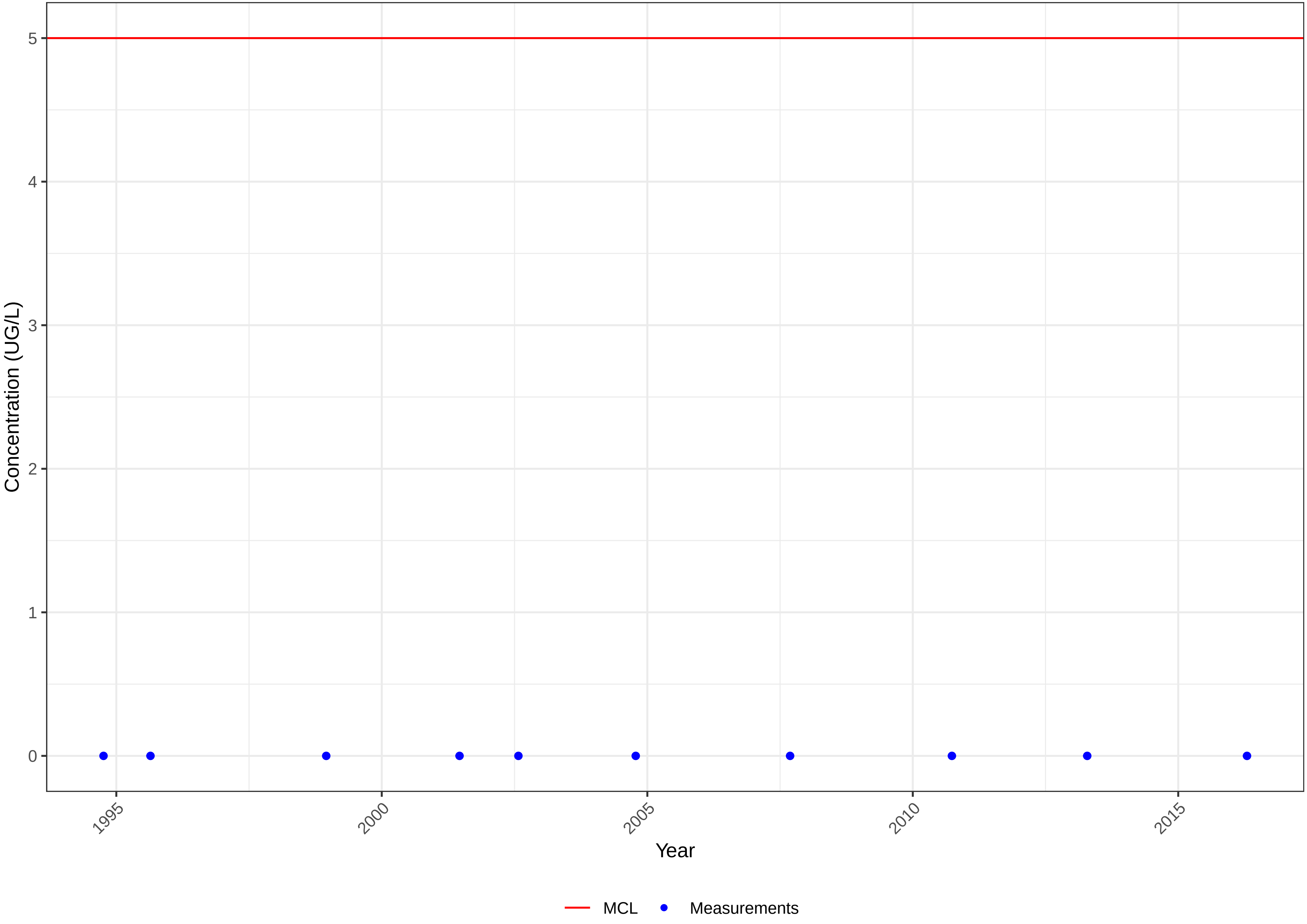
Water Quality Chart
Well No. 1610005−008
STORET No. 28012
Constituent: URANIUM (PCI/L)
Concentration (PCI/L)
20
15
10
5
0
1995
2000
2005
2010
2015
Year
MCL
Measurements

Water Quality Chart

Well No. 1610005−008

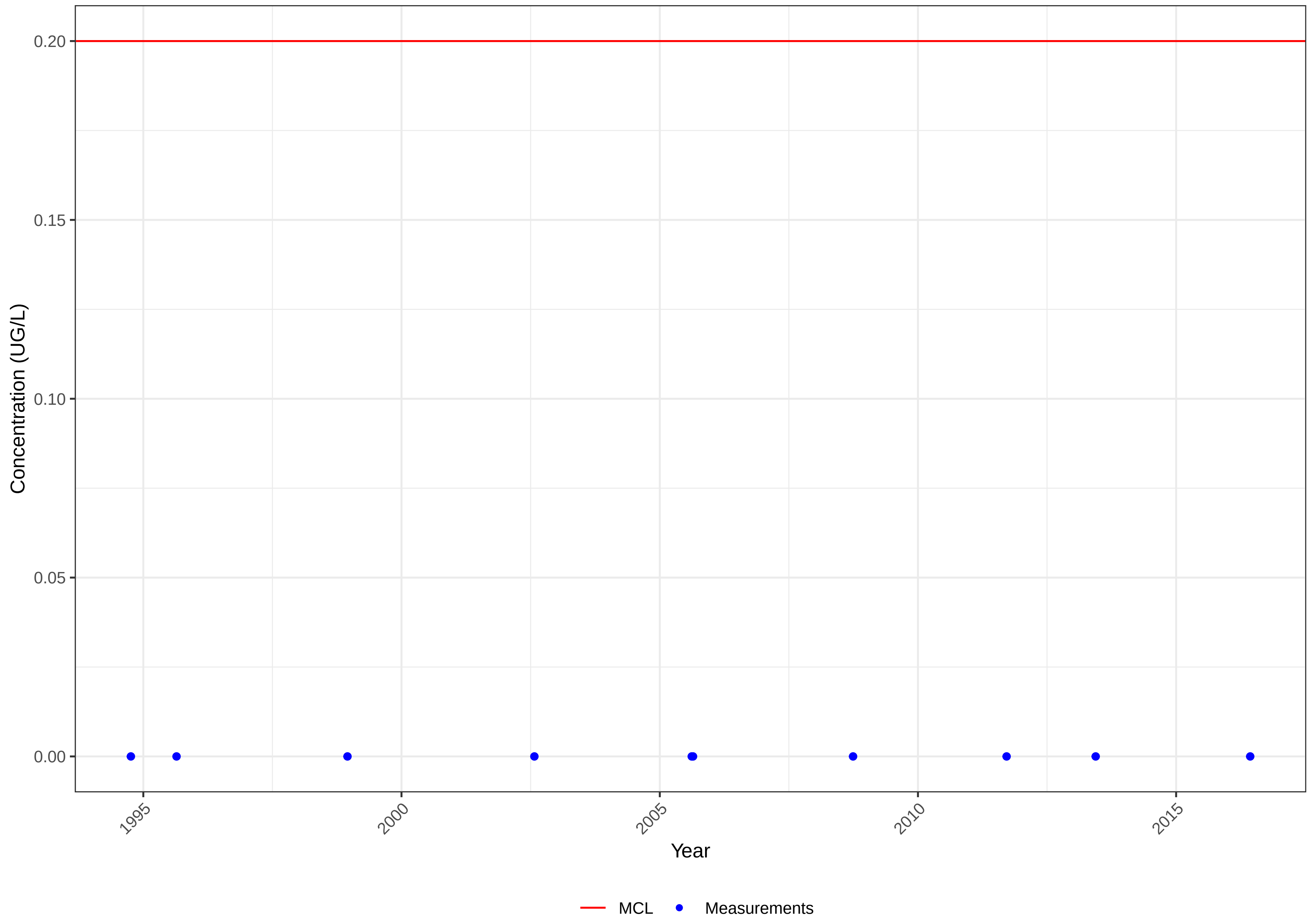
STORET No. 34475

Constituent: TETRACHLOROETHYLENE



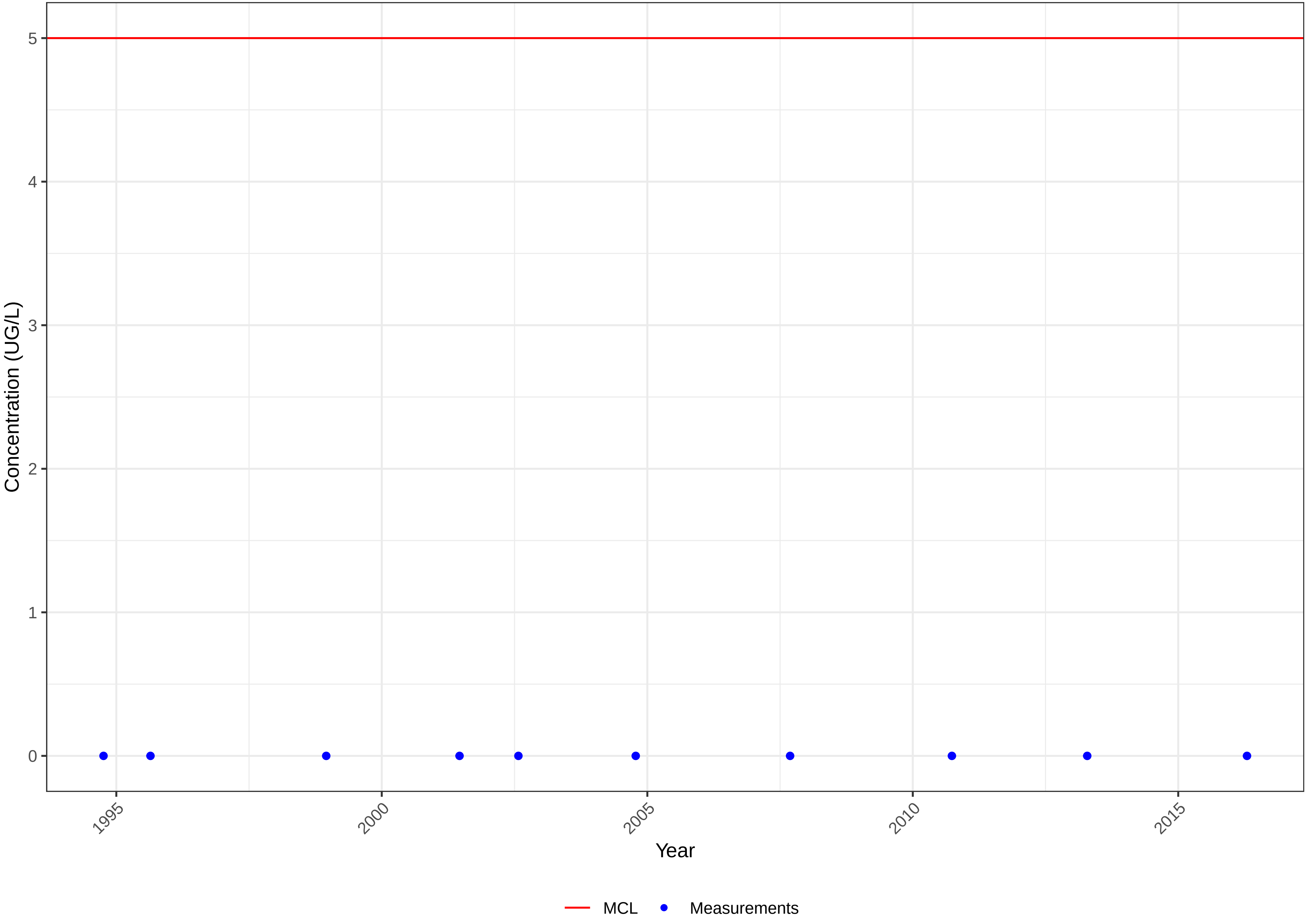
Water Quality Chart

Well No. 1610005−008
STORET No. 38761
Constituent: DIBROMOCHLOROPROPANE (DBCP)



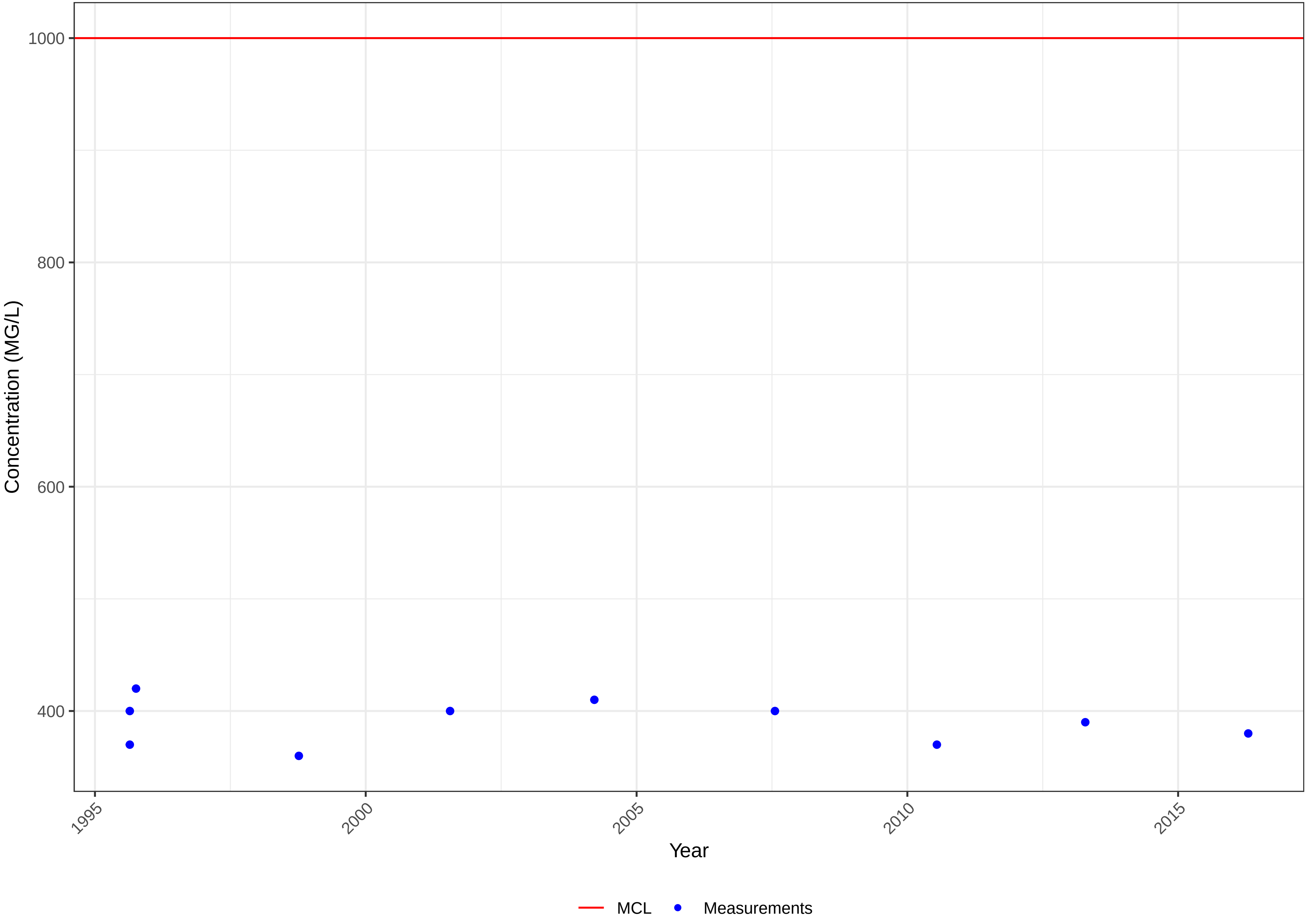
Water Quality Chart

Well No. 1610005−008
STORET No. 39180
Constituent: TRICHLOROETHYLENE



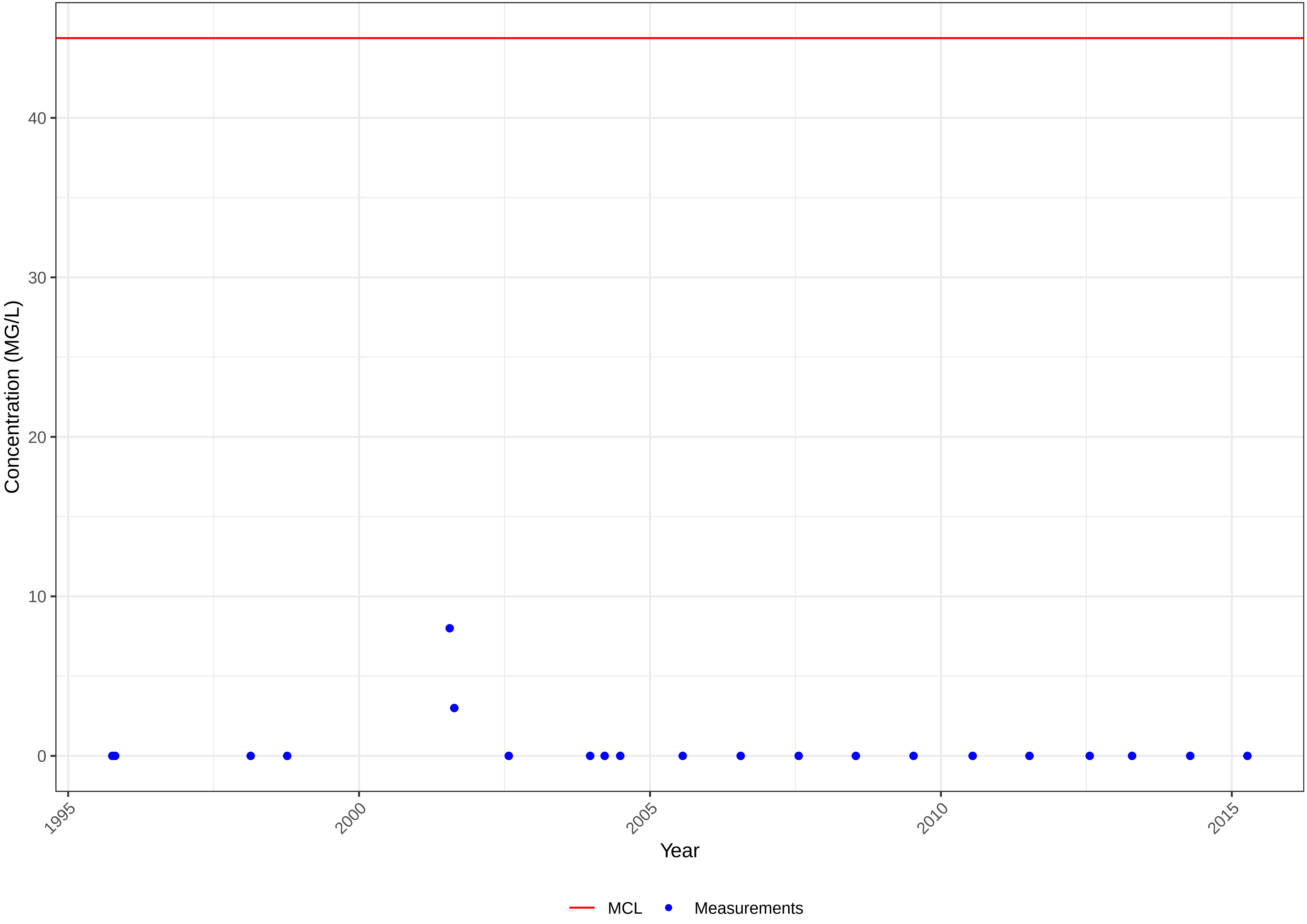
Water Quality Chart

Well No. 1610005−008
STORET No. 70300
Constituent: TOTAL DISSOLVED SOLIDS



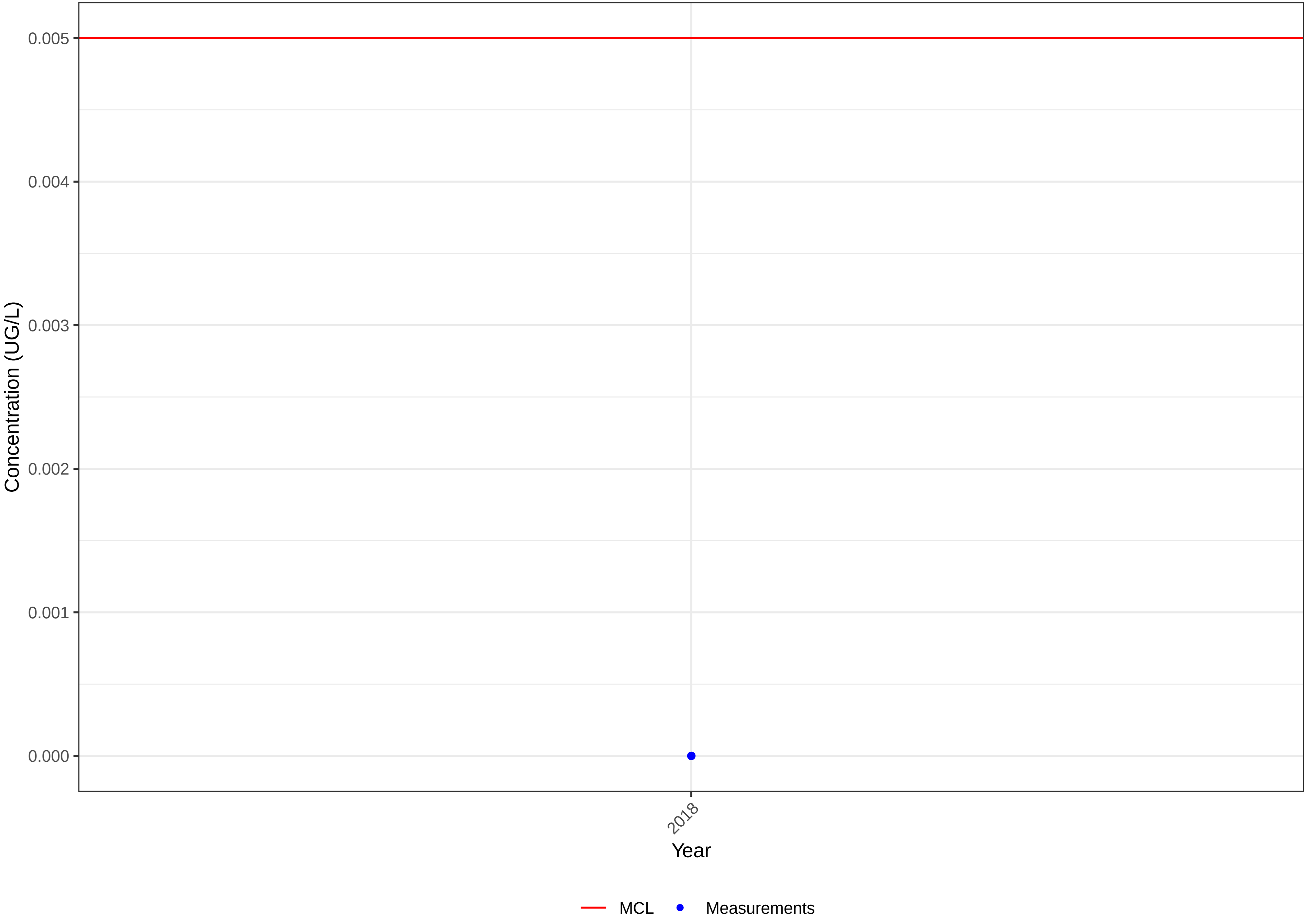
Water Quality Chart

Well No. 1610005−008
STORET No. 71850
Constituent: NITRATE (AS NO3)



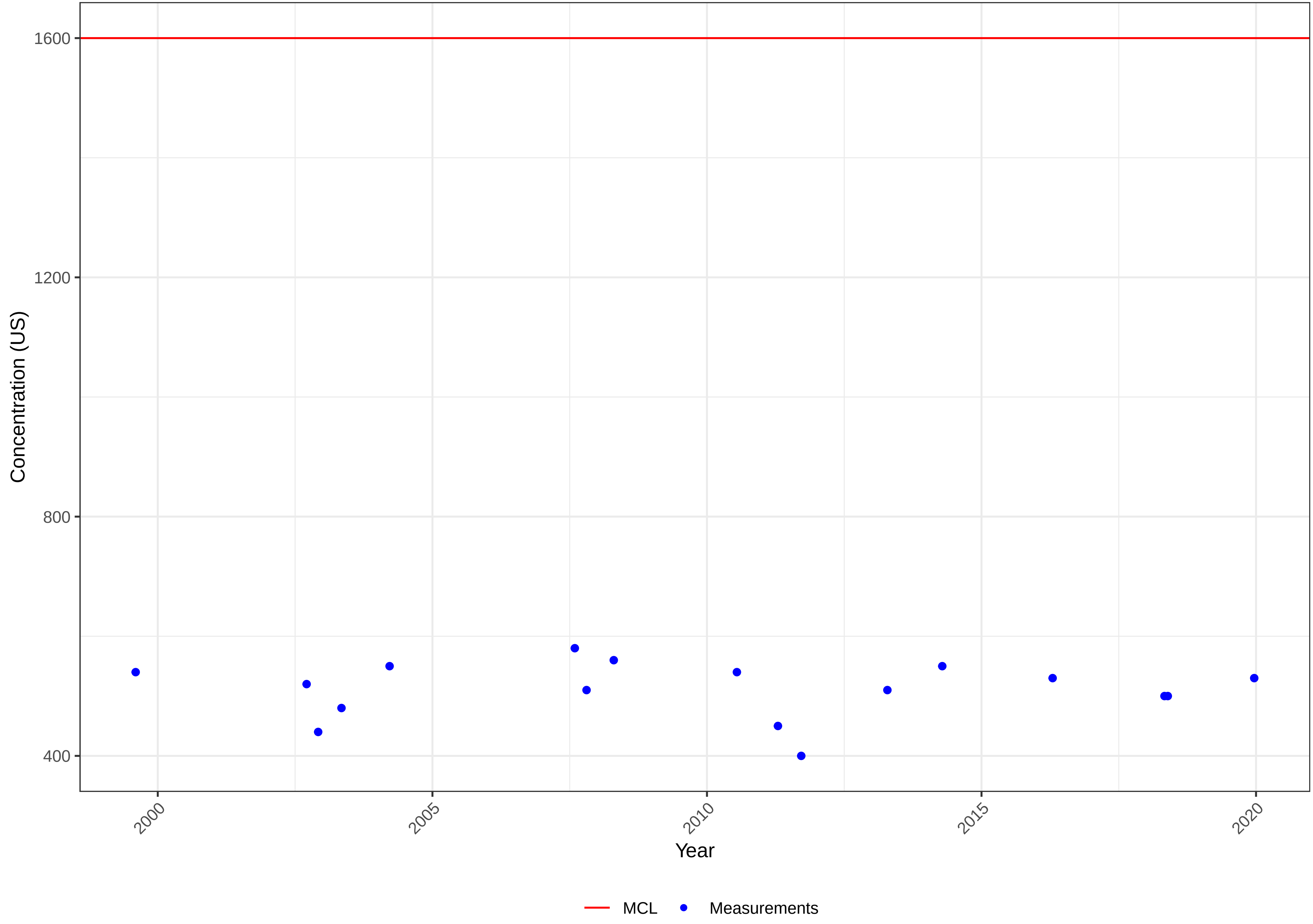
Water Quality Chart

Well No. 1610005−008
STORET No. 77443
Constituent: 1,2,3−TRICHLOROPROPANE



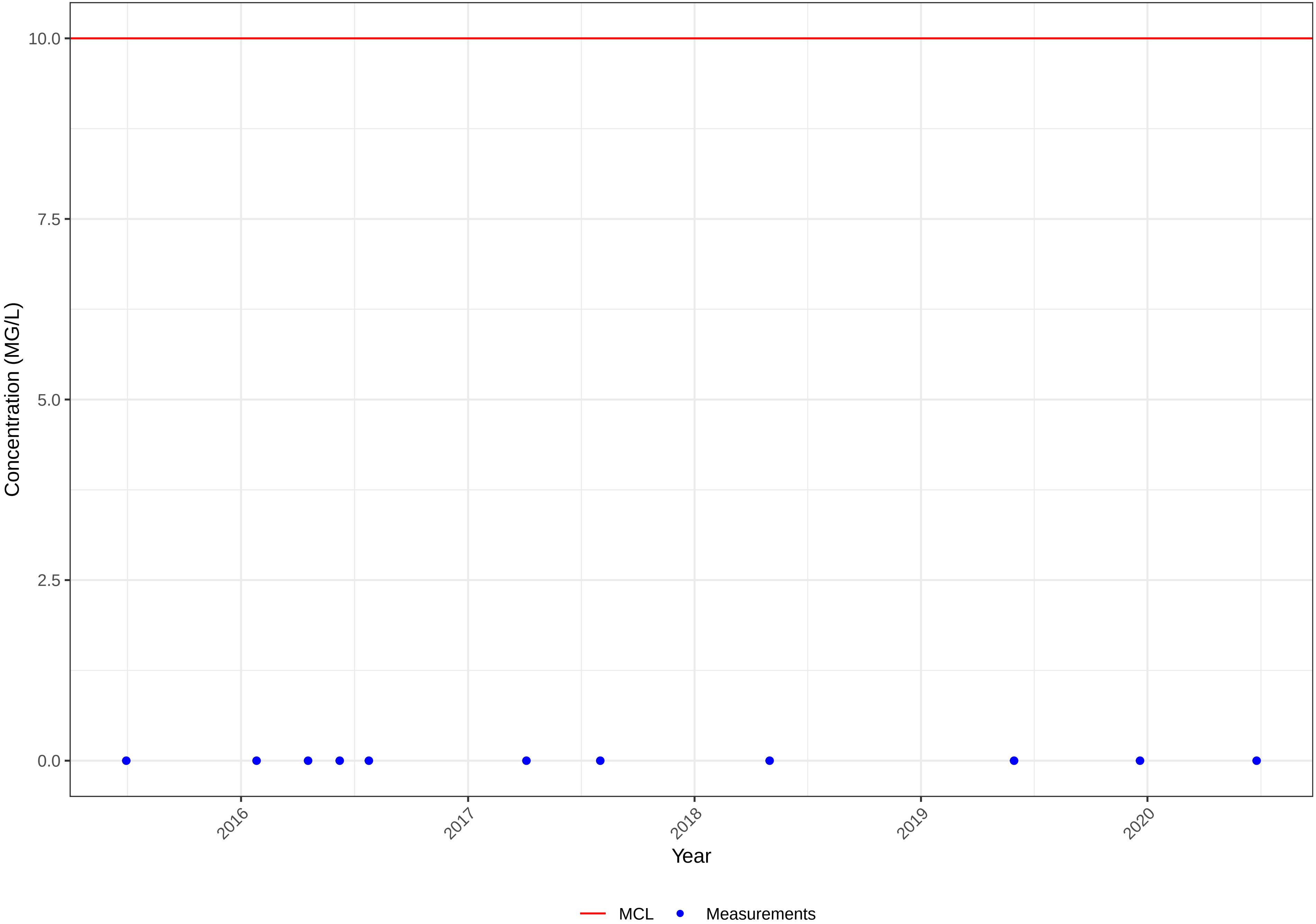
Water Quality Chart

Well No. 1610005−010
STORET No. 95
Constituent: SPECIFIC CONDUCTANCE



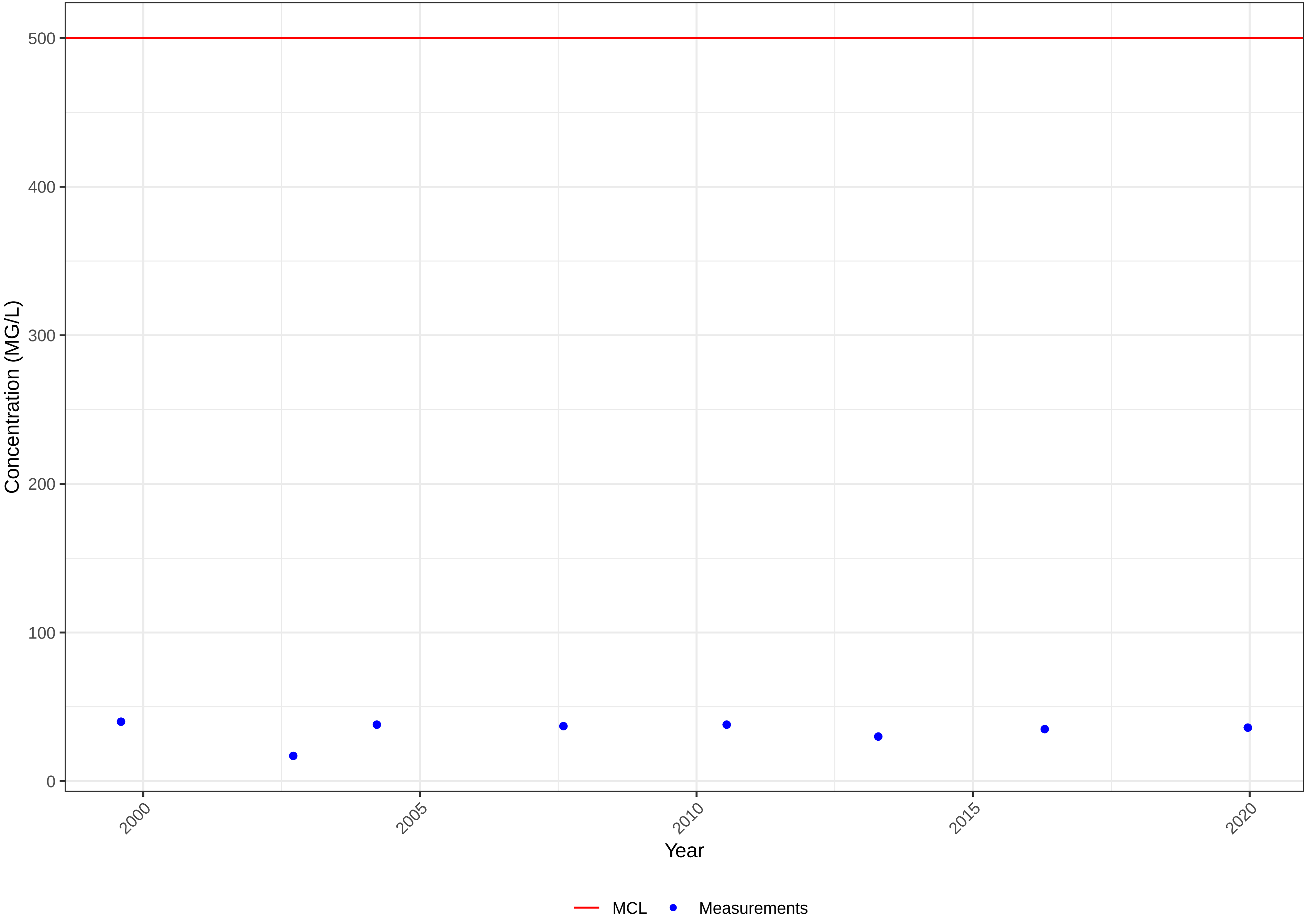
Water Quality Chart

Well No. 1610005−010
STORET No. 618
Constituent: NITRATE (AS N)



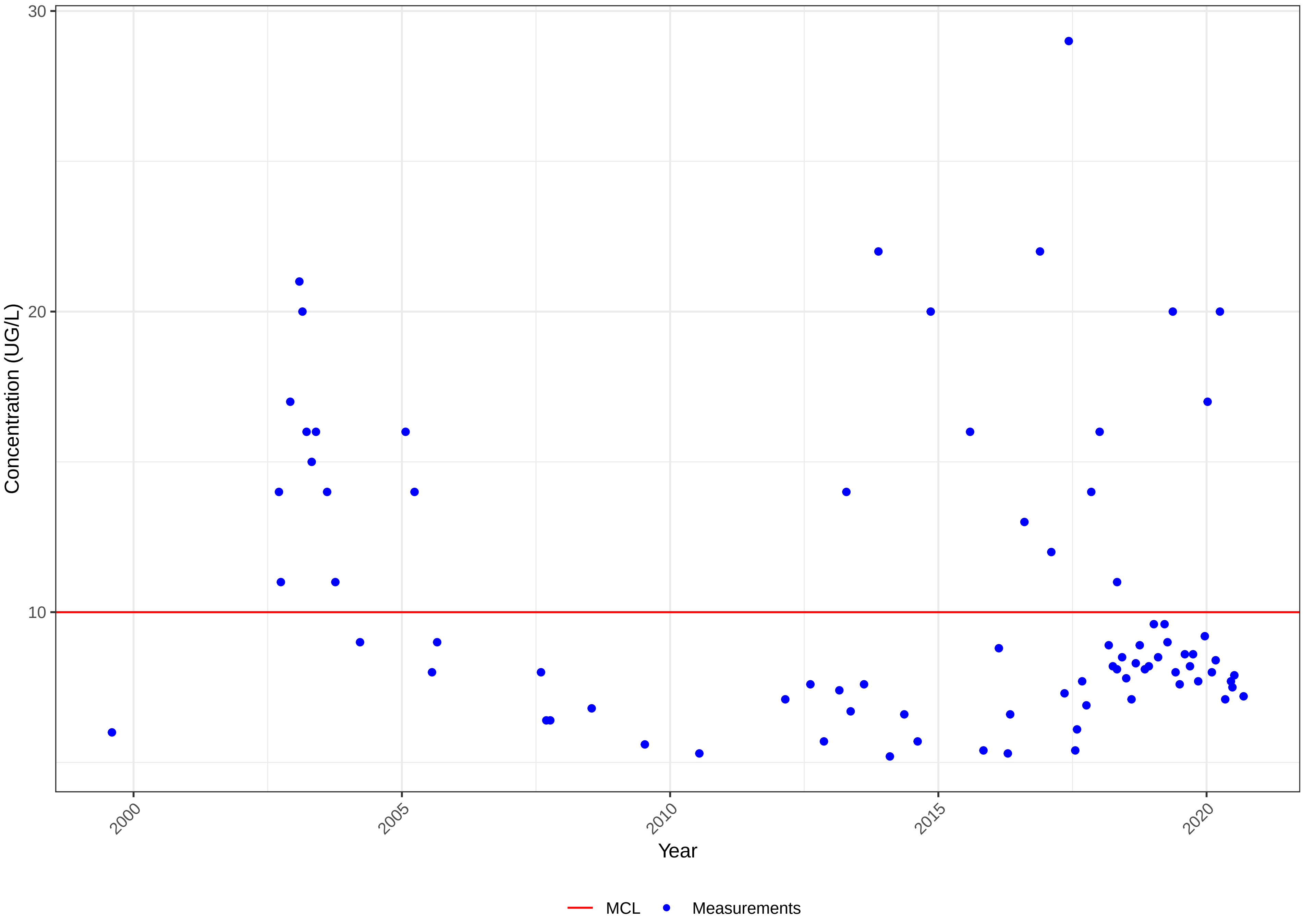
Water Quality Chart

Well No. 1610005−010
STORET No. 940
Constituent: CHLORIDE



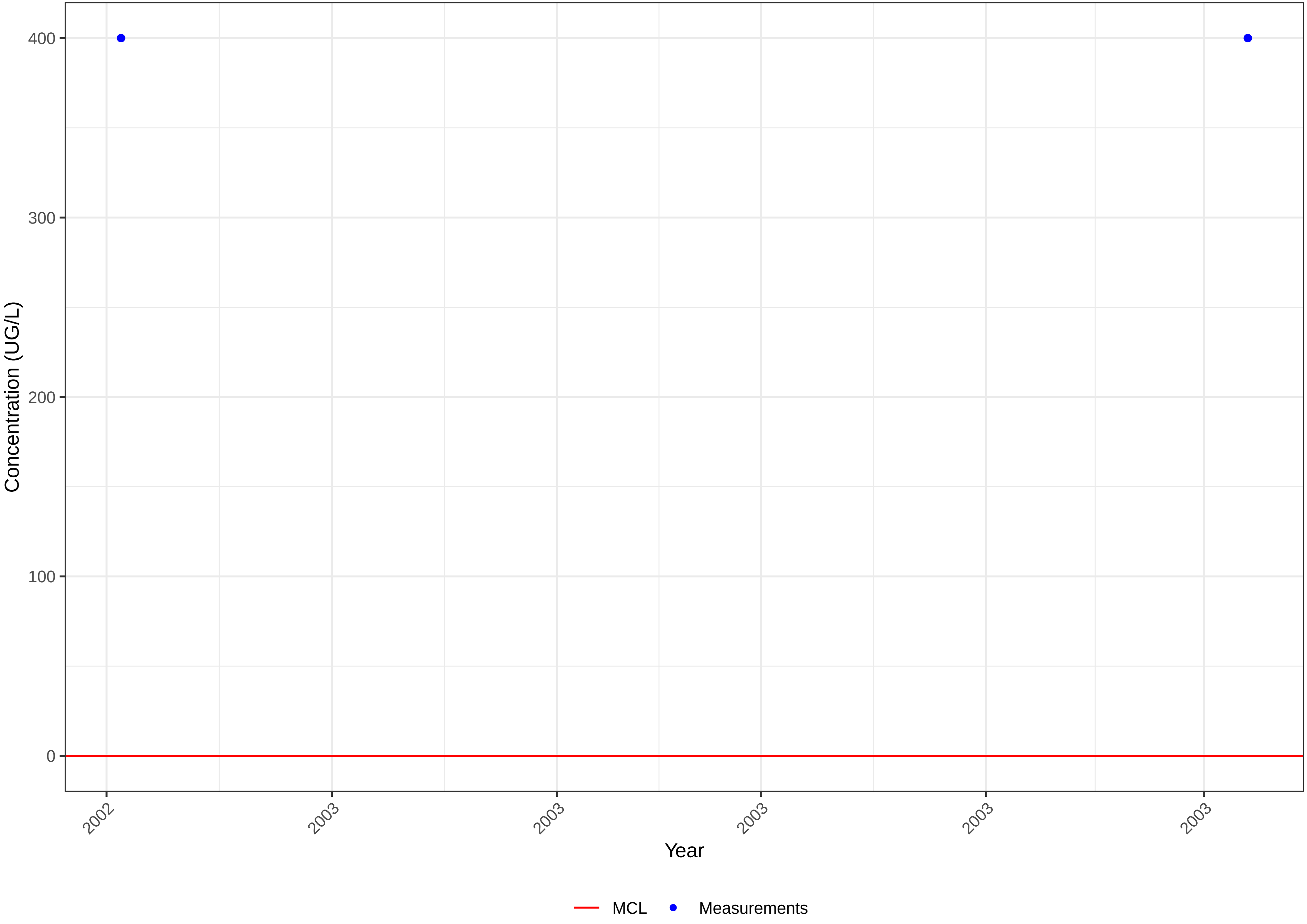
Water Quality Chart

Well No. 1610005−010
STORET No. 1002
Constituent: ARSENIC



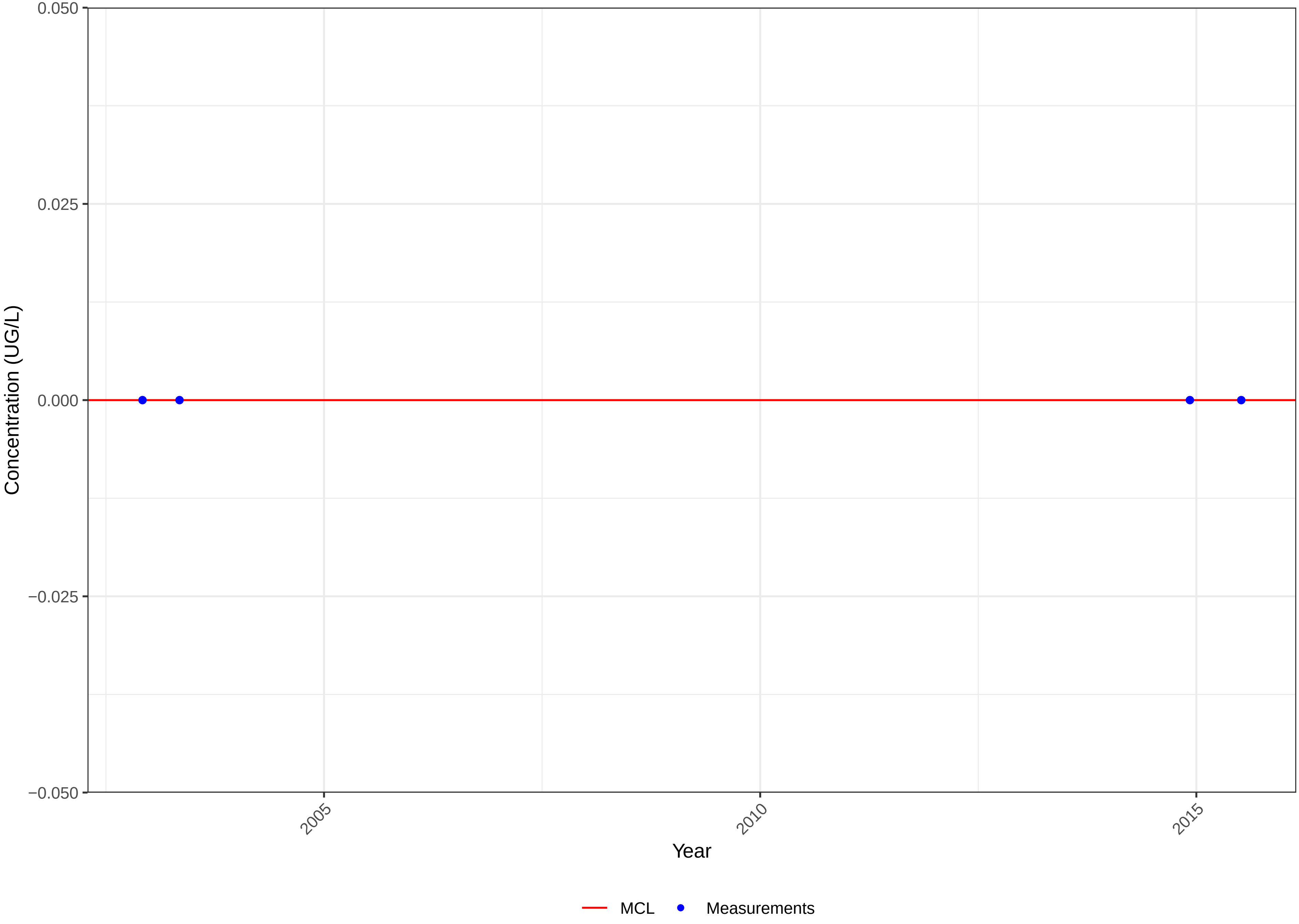
Water Quality Chart

Well No. 1610005−010
STORET No. 1020
Constituent: BORON



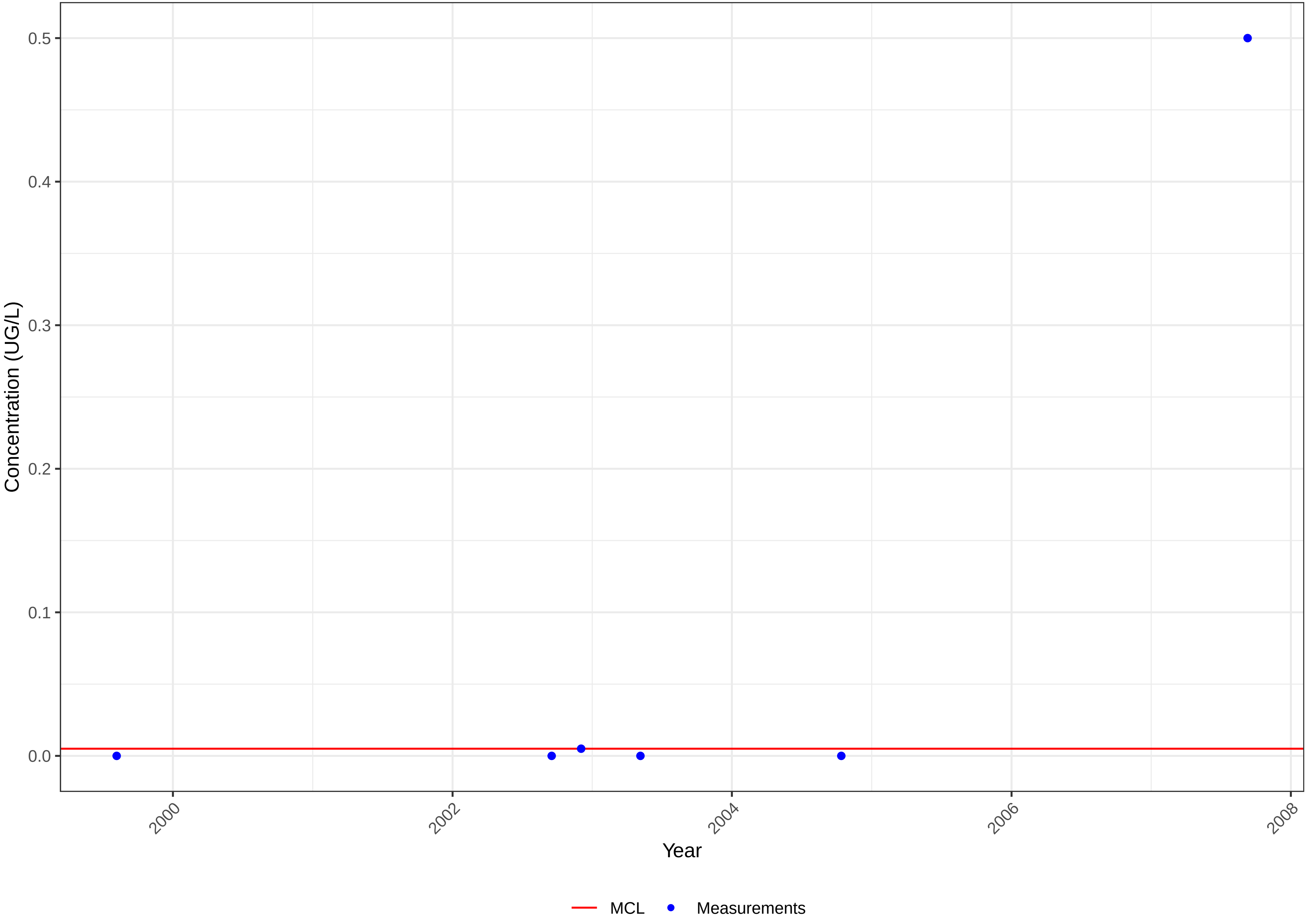
Water Quality Chart

Well No. 1610005−010
STORET No. 1032
Constituent: CHROMIUM, HEXAVALENT



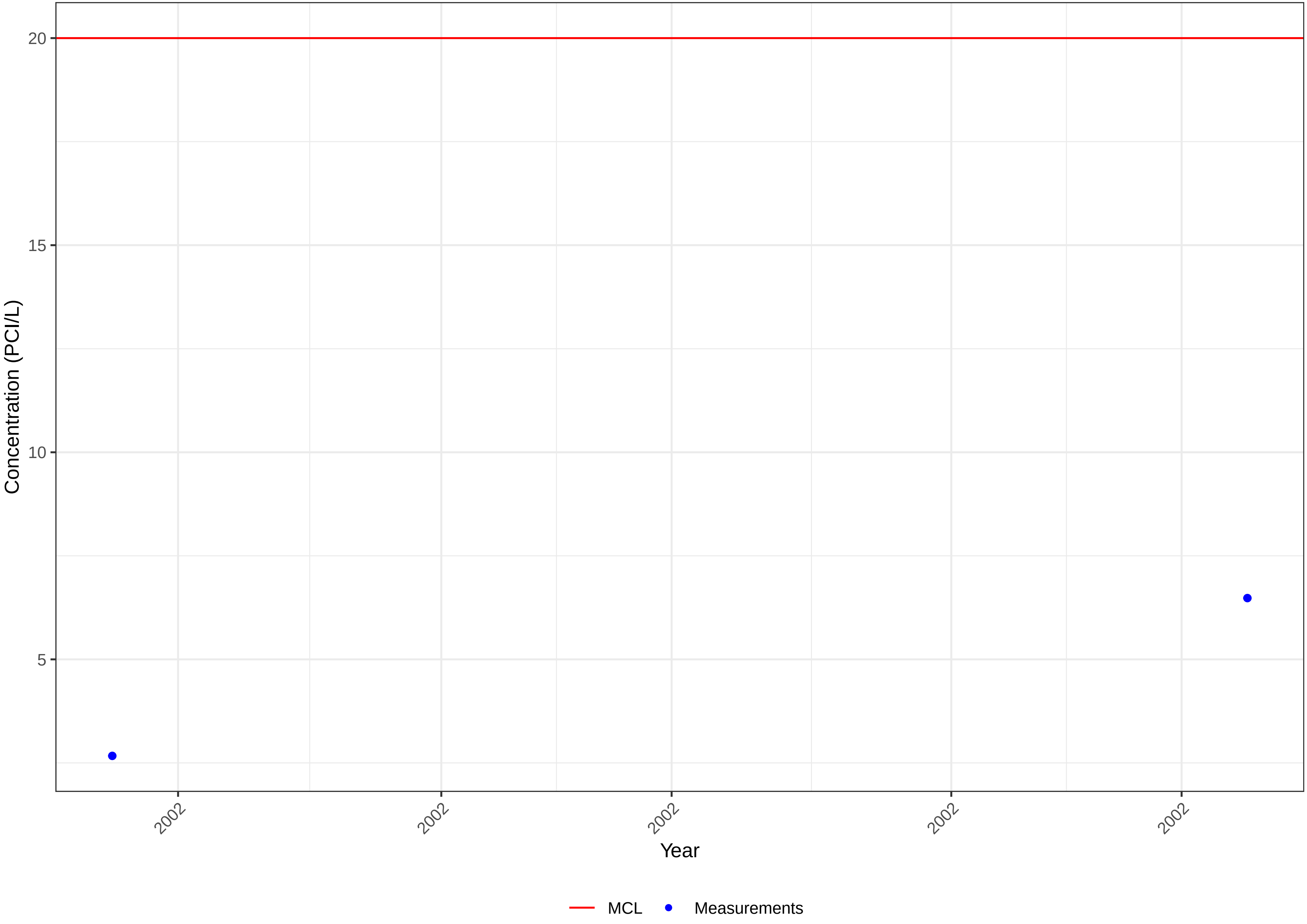
Water Quality Chart

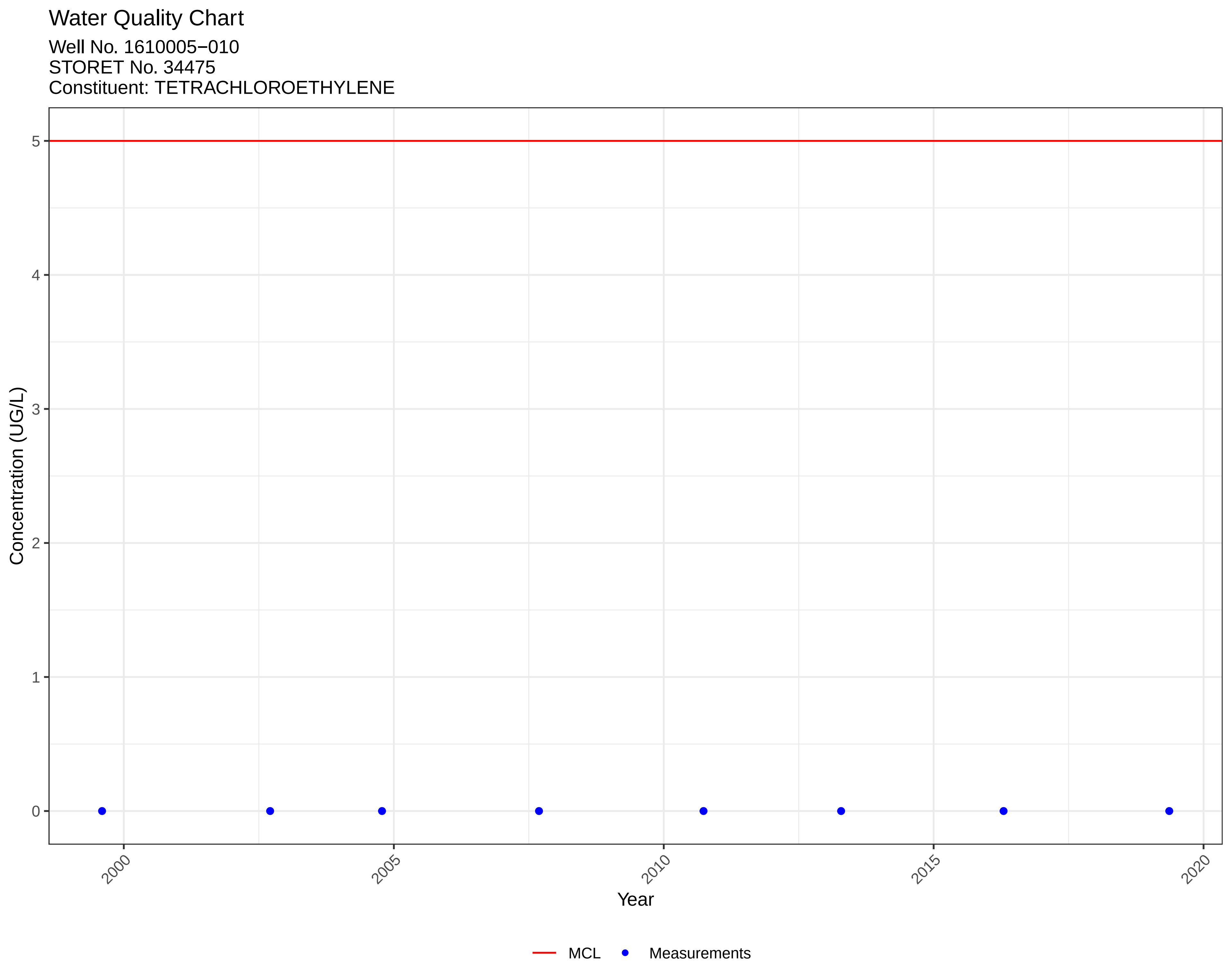
Well No. 1610005−010
STORET No. 7744X
Constituent: 1,2,3−TRICHLOROPROPANE



Water Quality Chart

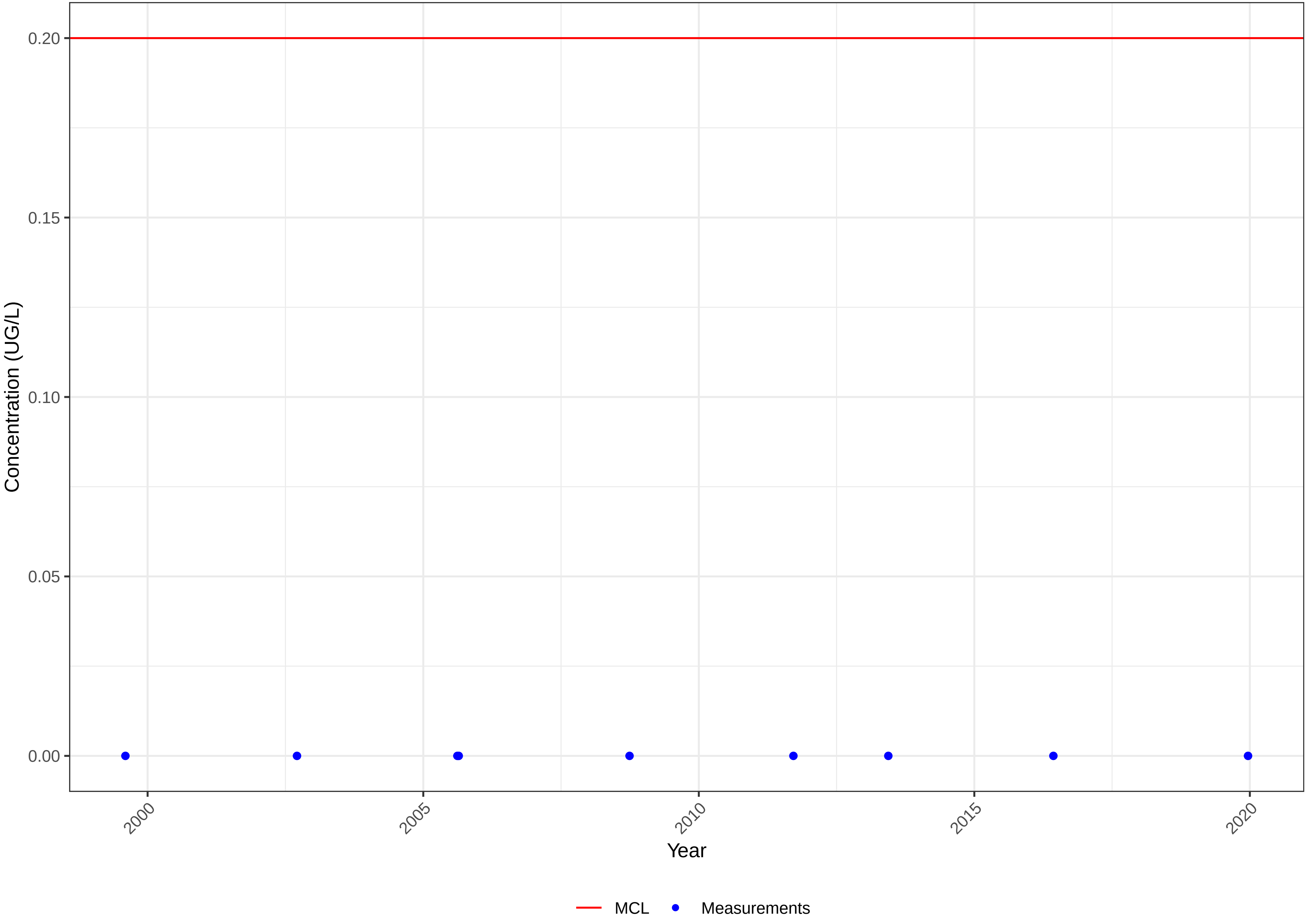
Well No. 1610005−010
STORET No. 28012
Constituent: URANIUM (PCI/L)




Water Quality Chart
Well No. 1610005−010
STORET No. 34475
Constituent: TETRACHLOROETHYLENE
Concentration (UG/L)
0
1
2
3
4
5
2000
2005
2010
2015
2020
Year
MCL
Measurements

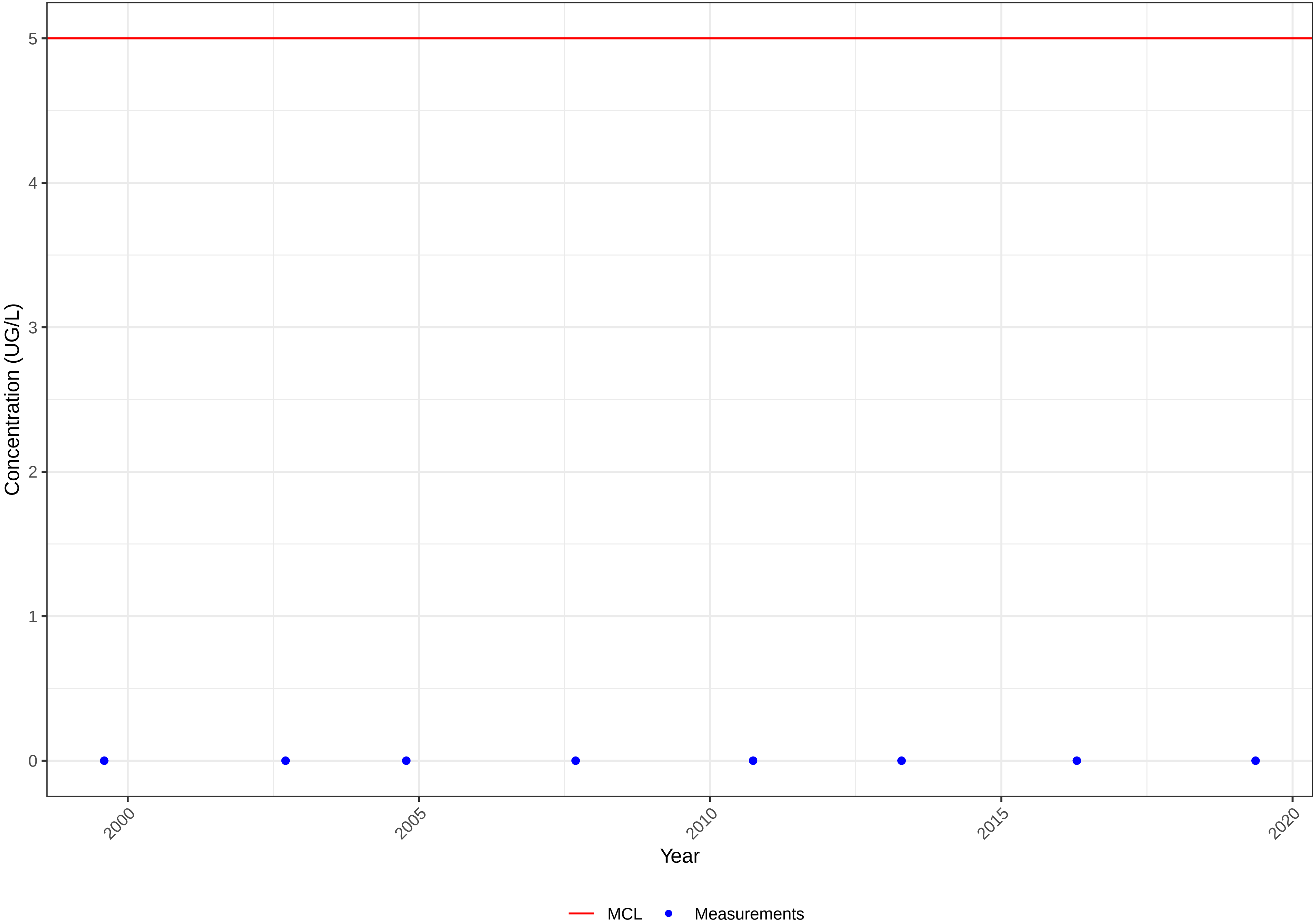
Water Quality Chart

Well No. 1610005−010
STORET No. 38761
Constituent: DIBROMOCHLOROPROPANE (DBCP)



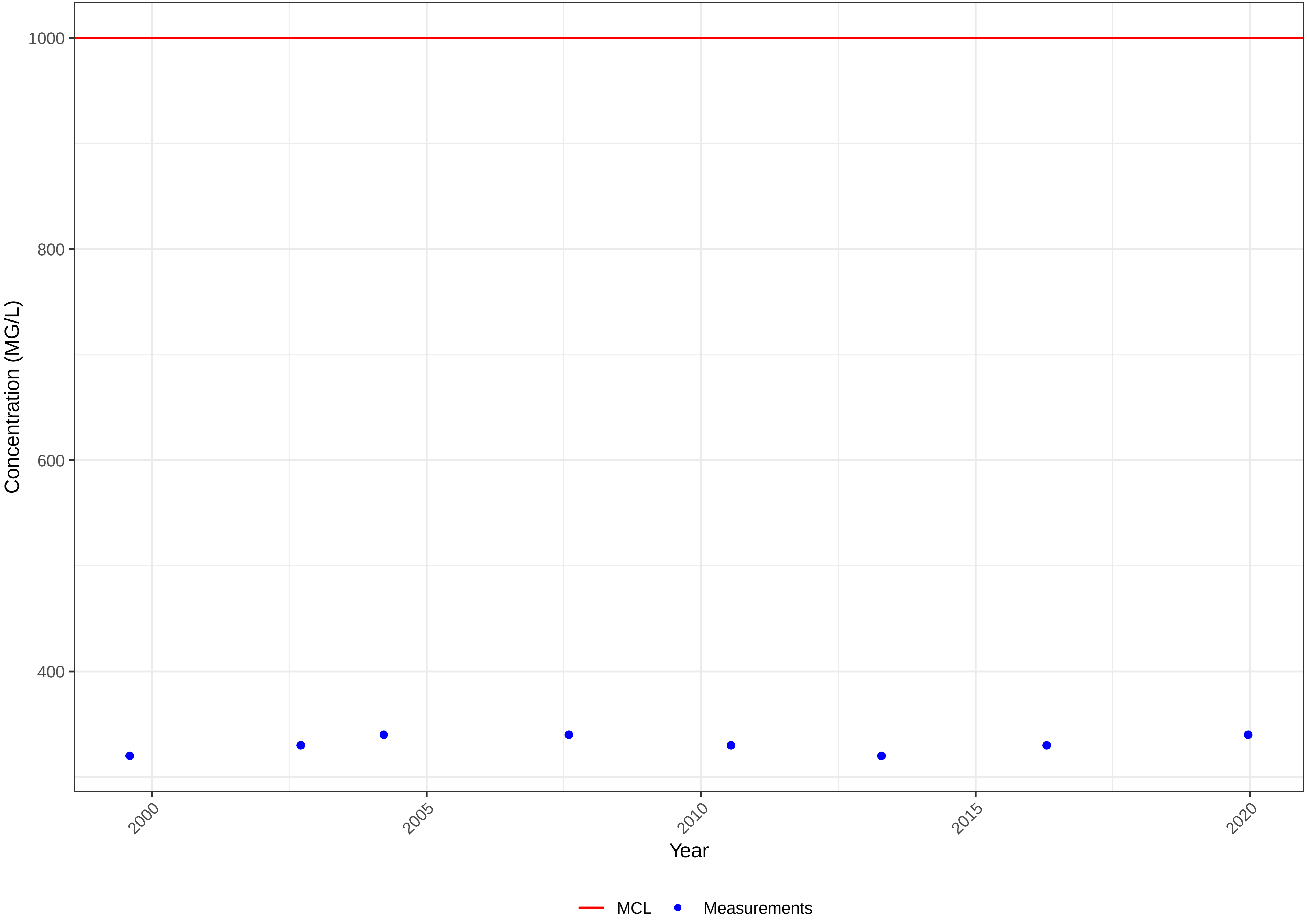
Water Quality Chart

Well No. 1610005−010
STORET No. 39180
Constituent: TRICHLOROETHYLENE



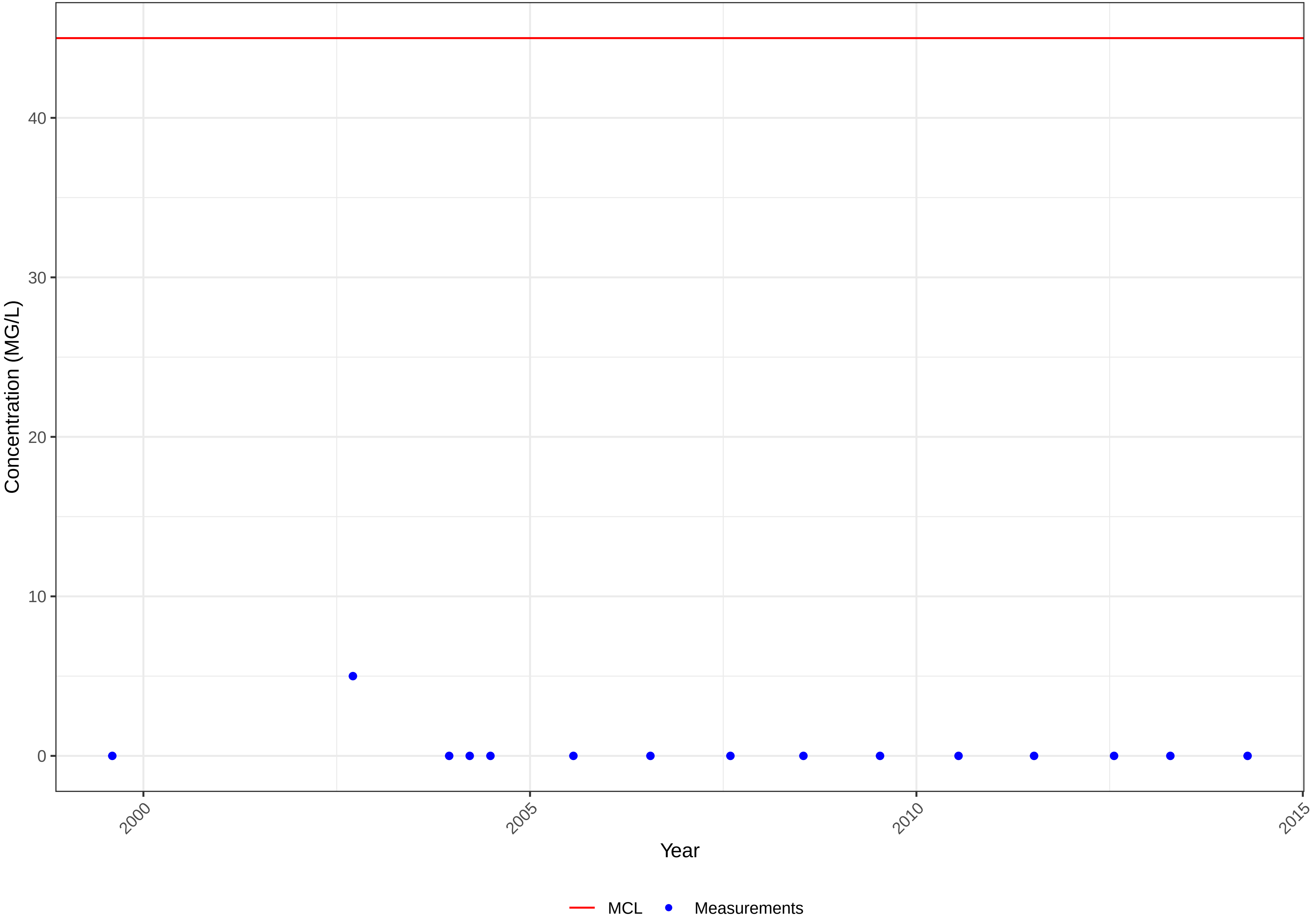
Water Quality Chart

Well No. 1610005−010
STORET No. 70300
Constituent: TOTAL DISSOLVED SOLIDS



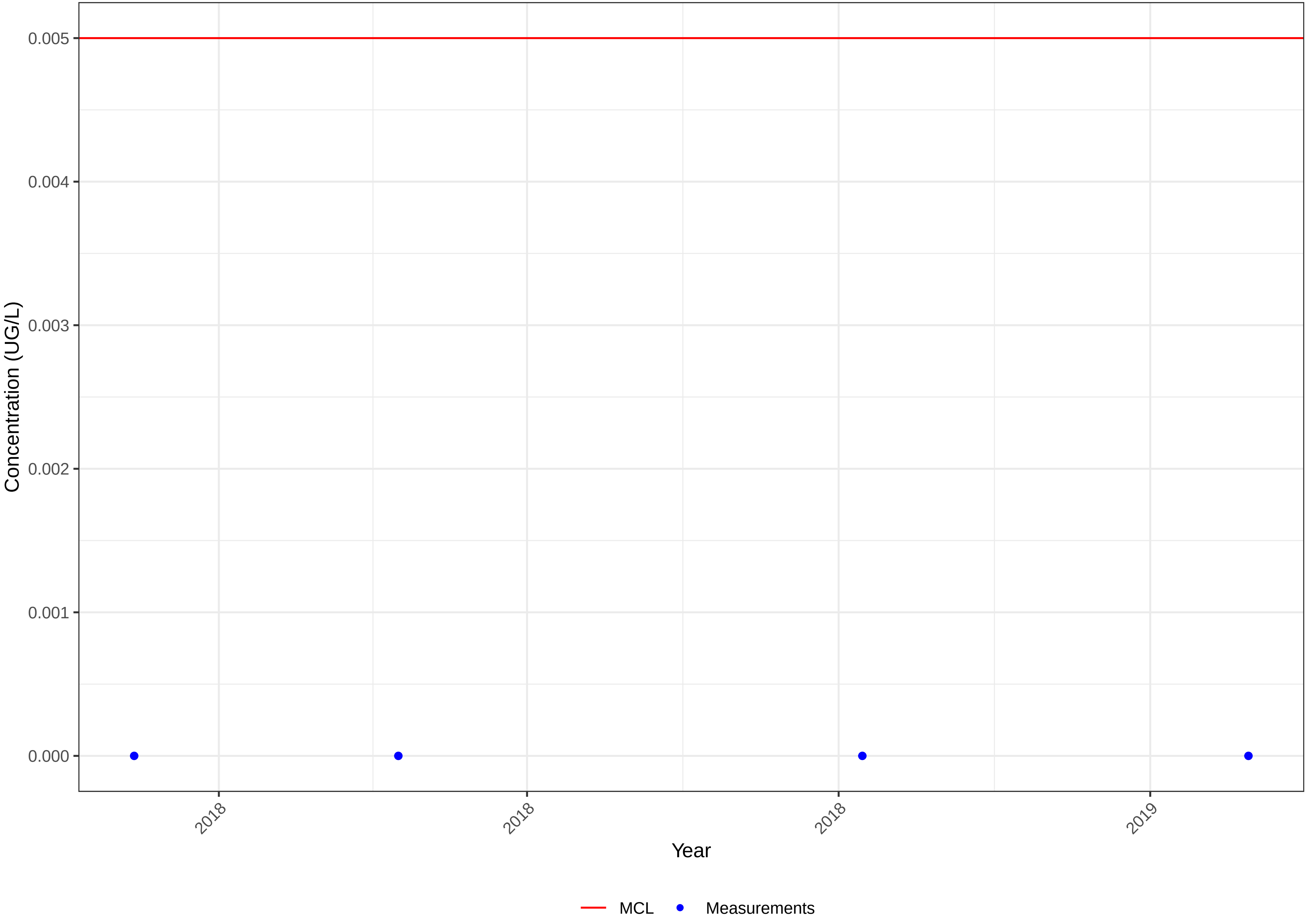
Water Quality Chart

Well No. 1610005−010
STORET No. 71850
Constituent: NITRATE (AS NO3)



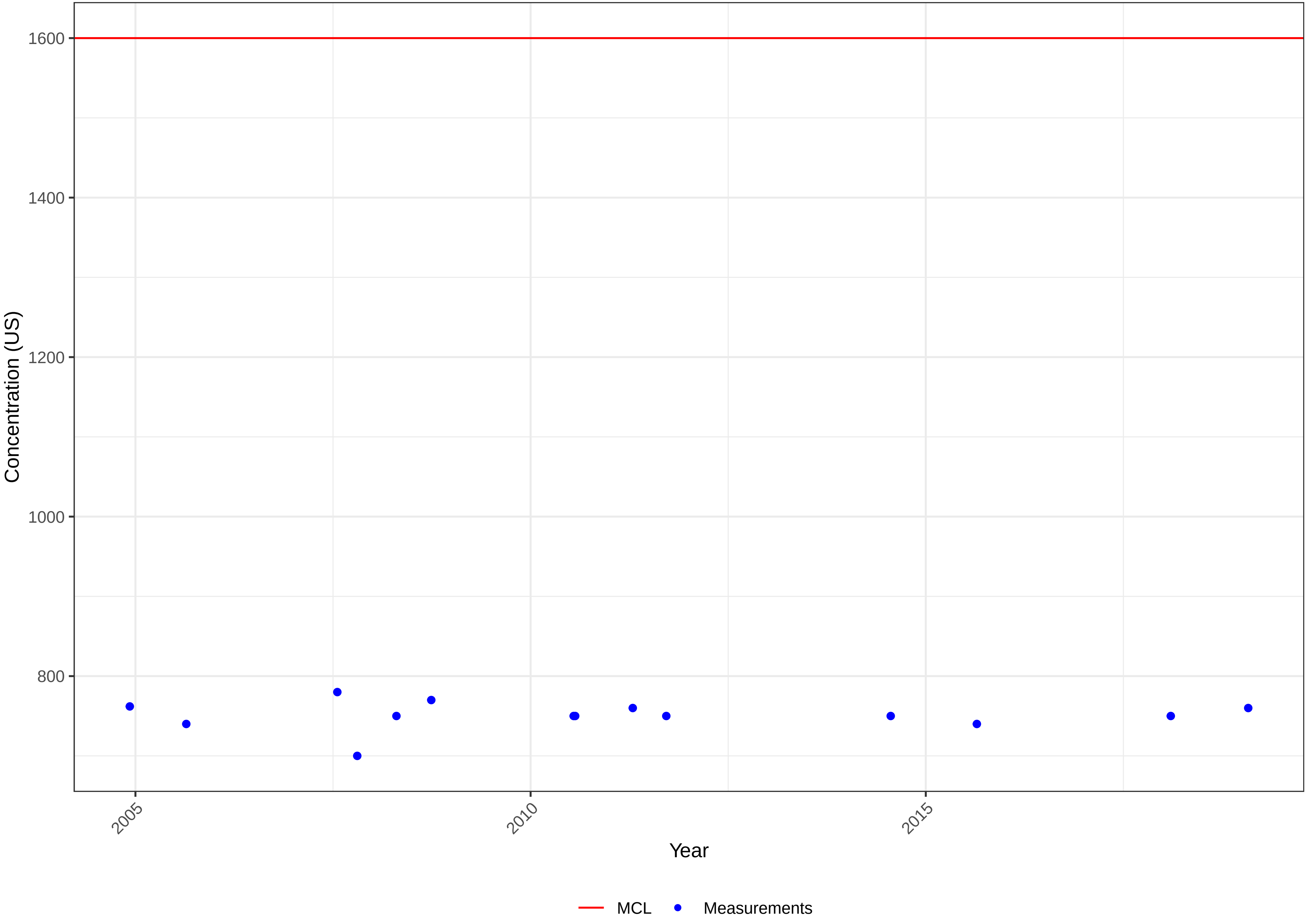
Water Quality Chart

Well No. 1610005−010
STORET No. 77443
Constituent: 1,2,3−TRICHLOROPROPANE



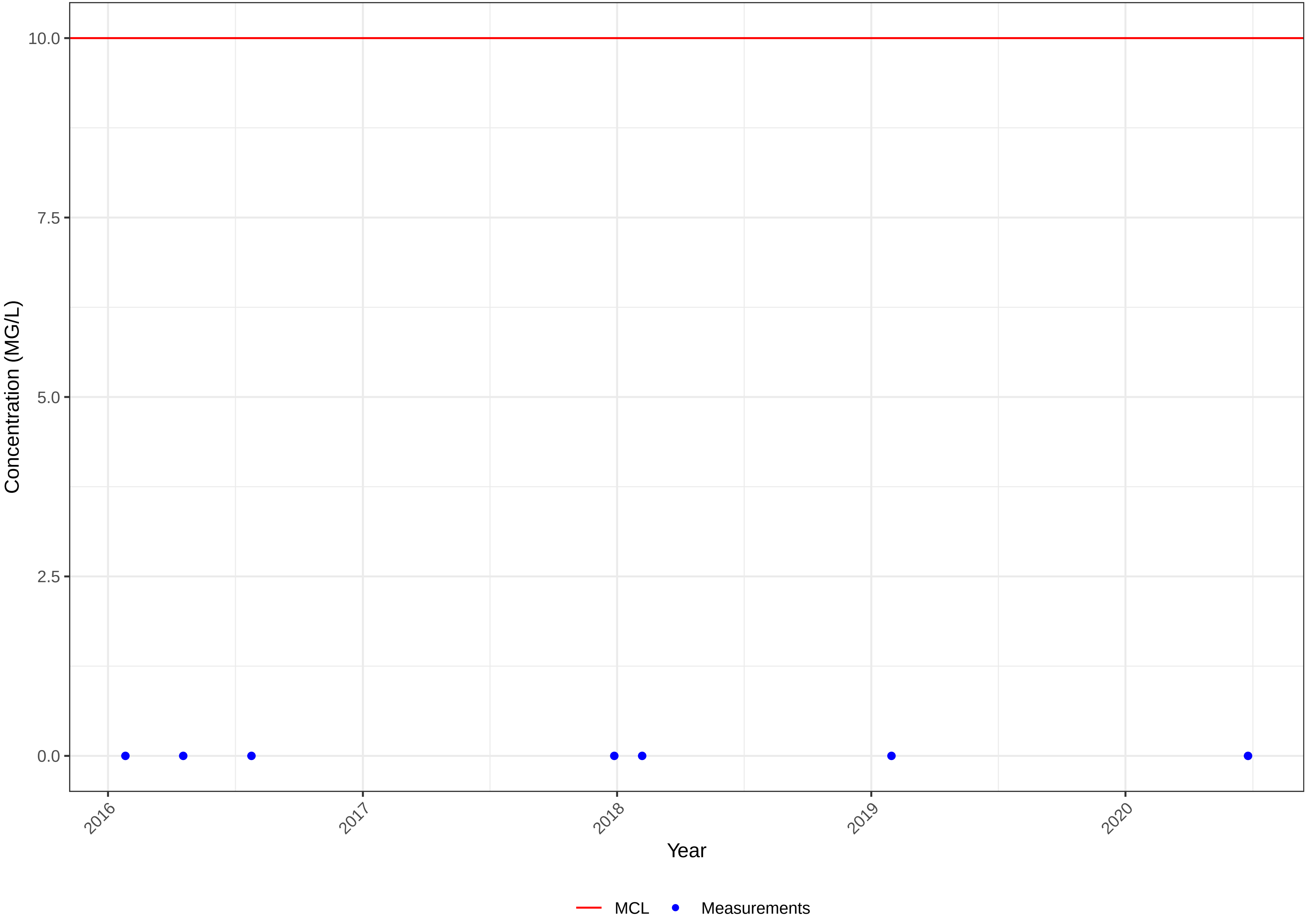
Water Quality Chart

Well No. 1610005−018
STORET No. 95
Constituent: SPECIFIC CONDUCTANCE



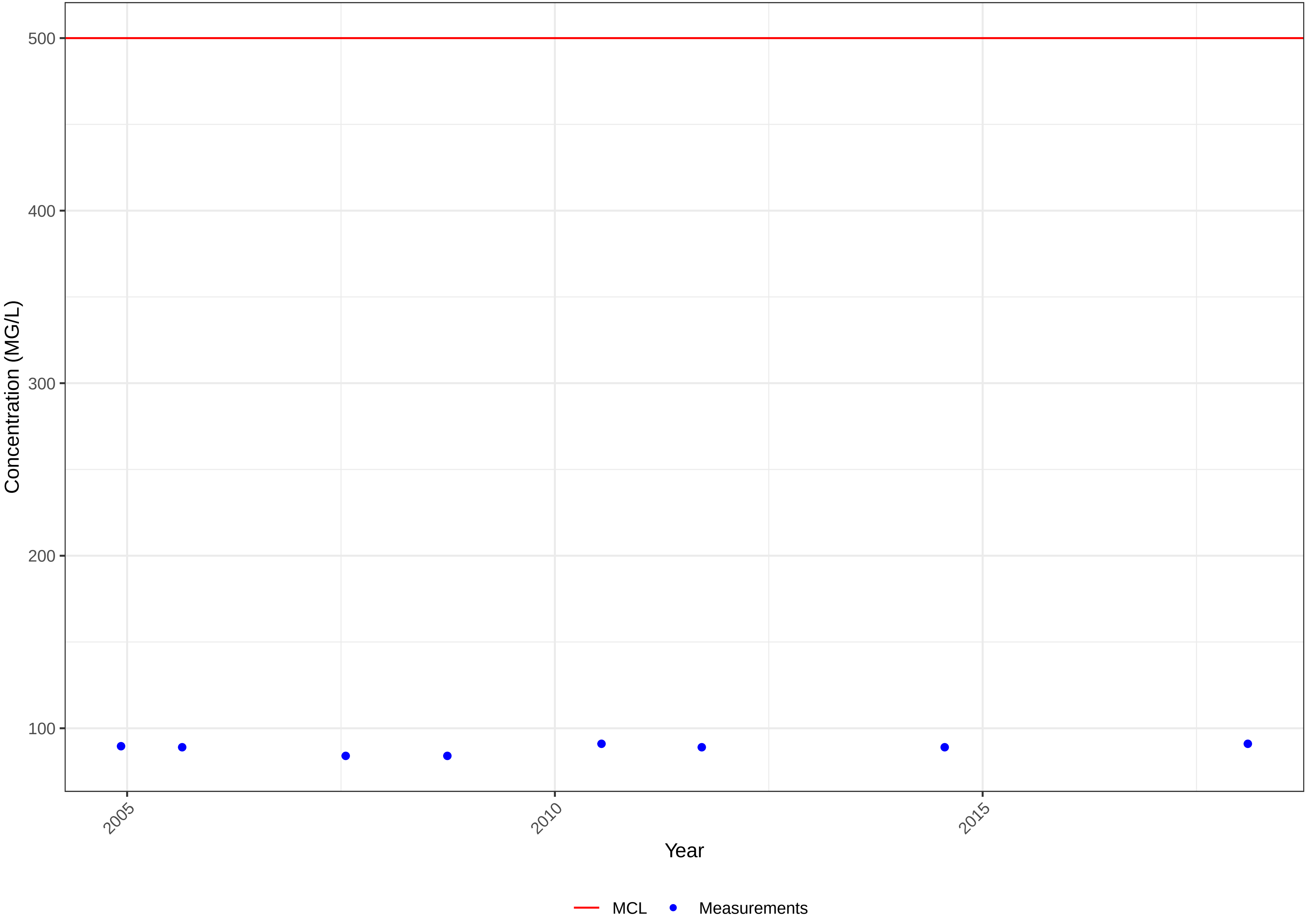
Water Quality Chart

Well No. 1610005−018
STORET No. 618
Constituent: NITRATE (AS N)



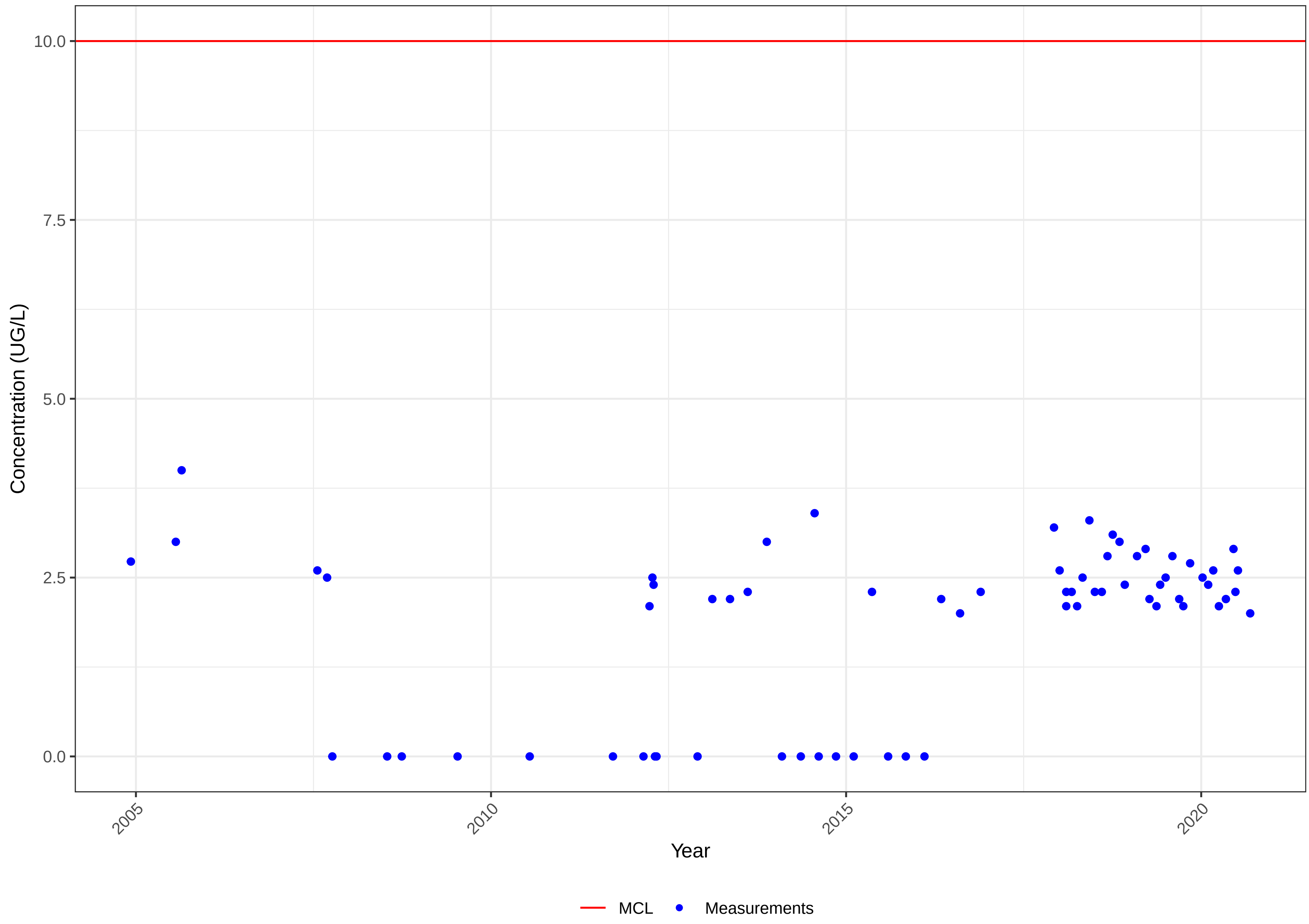
Water Quality Chart

Well No. 1610005−018
STORET No. 940
Constituent: CHLORIDE



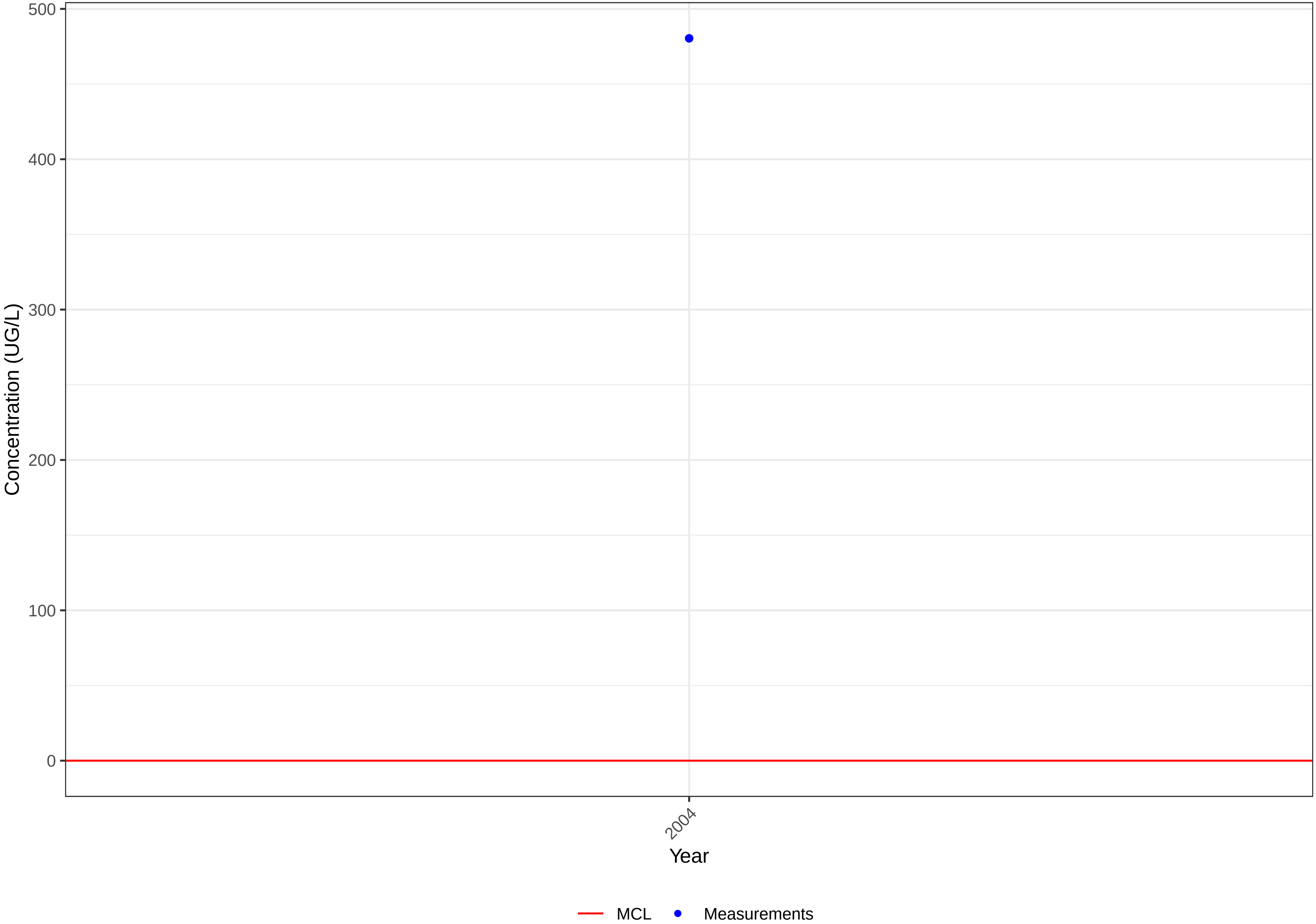
Water Quality Chart

Well No. 1610005−018
STORET No. 1002
Constituent: ARSENIC



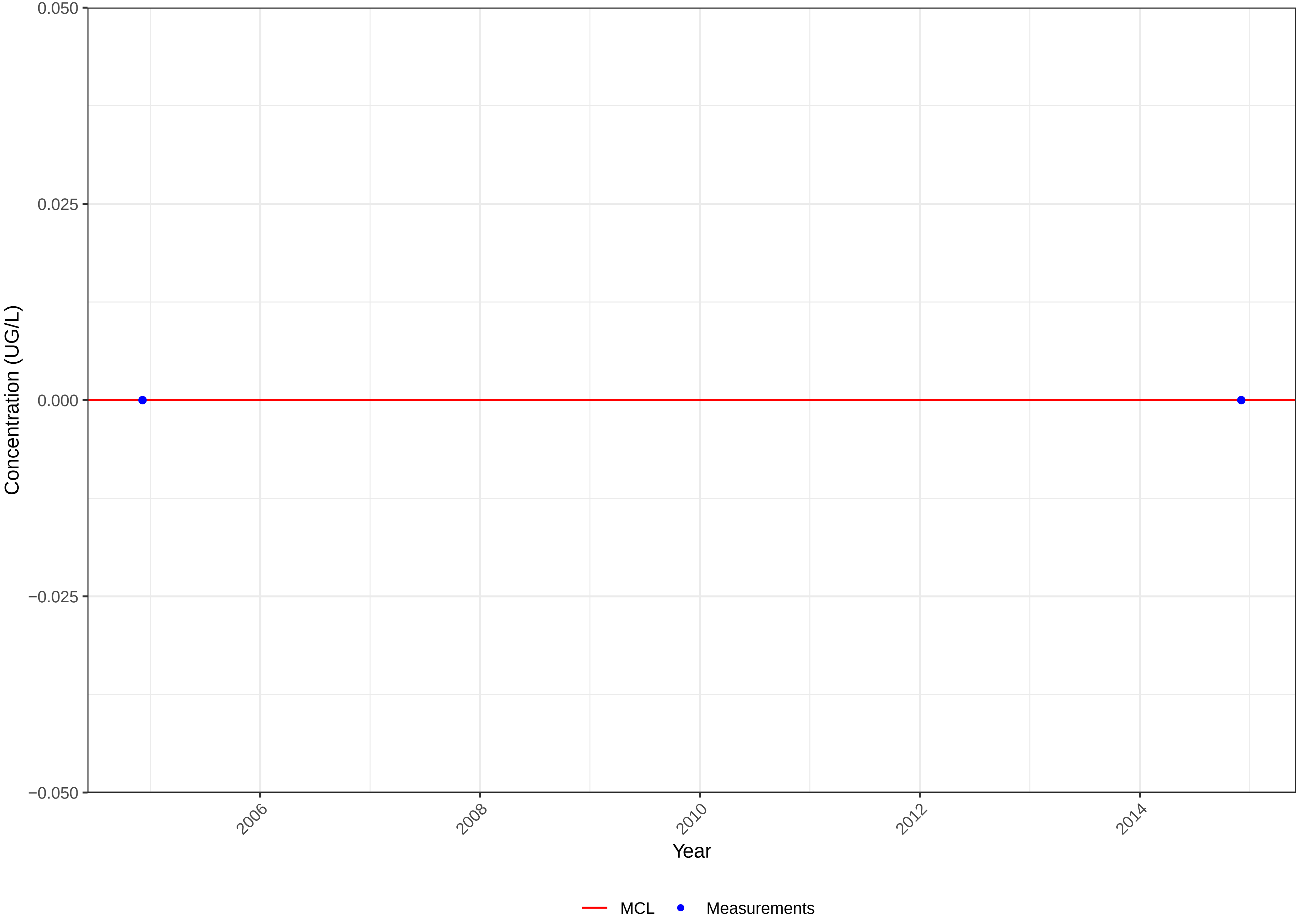
Water Quality Chart

Well No. 1610005−018
STORET No. 1020
Constituent: BORON



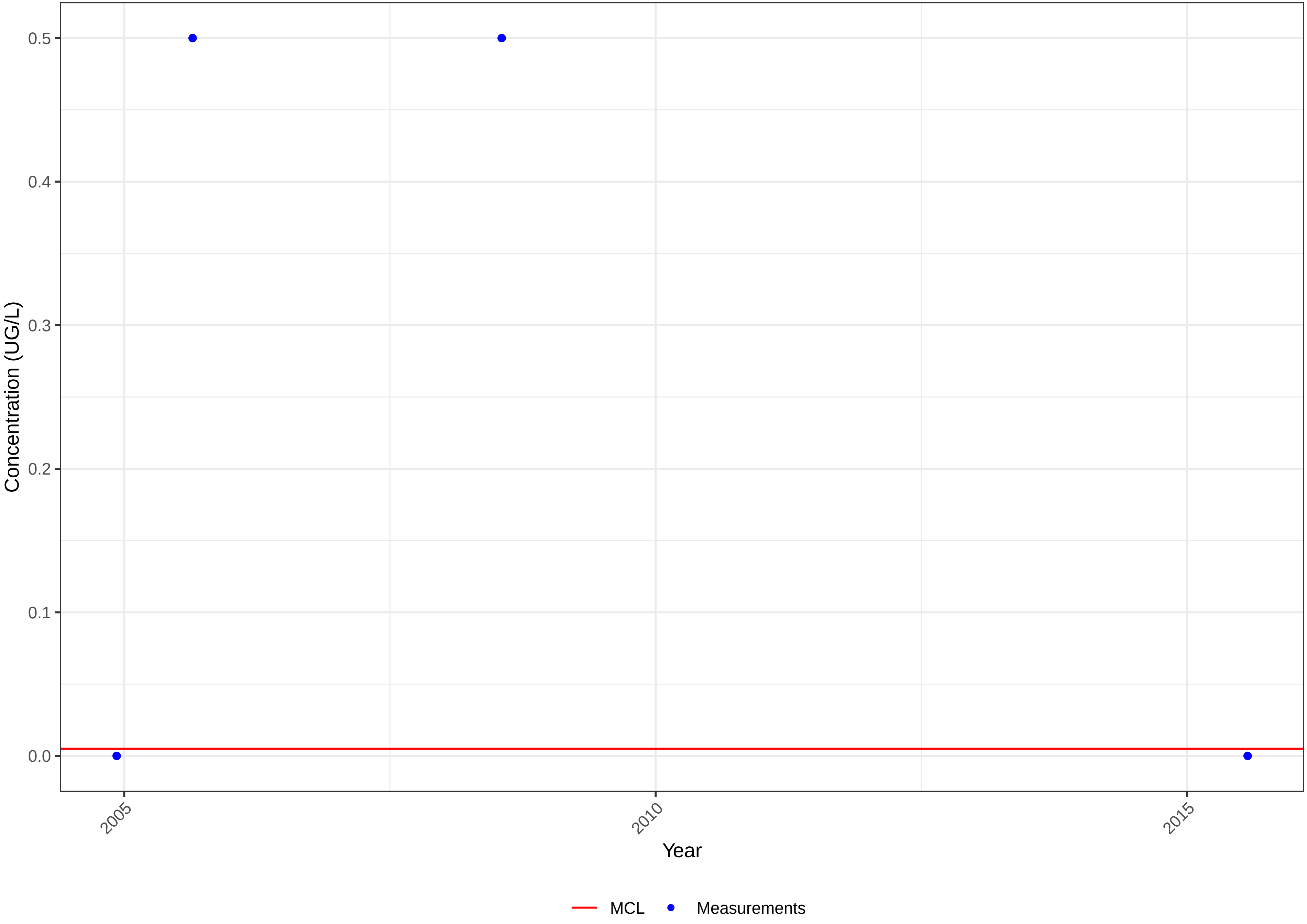
Water Quality Chart

Well No. 1610005−018
STORET No. 1032
Constituent: CHROMIUM, HEXAVALENT



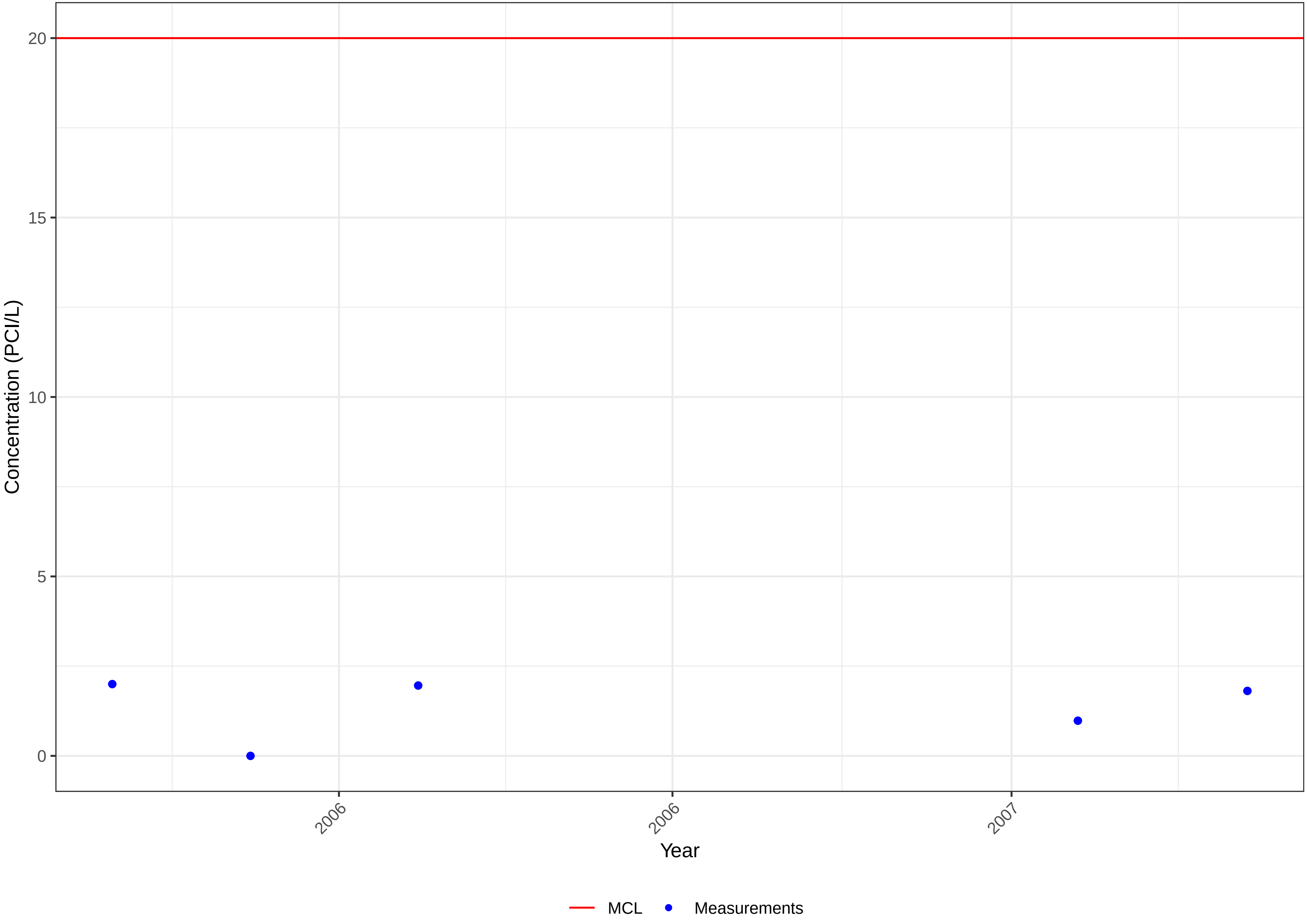
Water Quality Chart

Well No. 1610005−018
STORET No. 7744X
Constituent: 1,2,3−TRICHLOROPROPANE



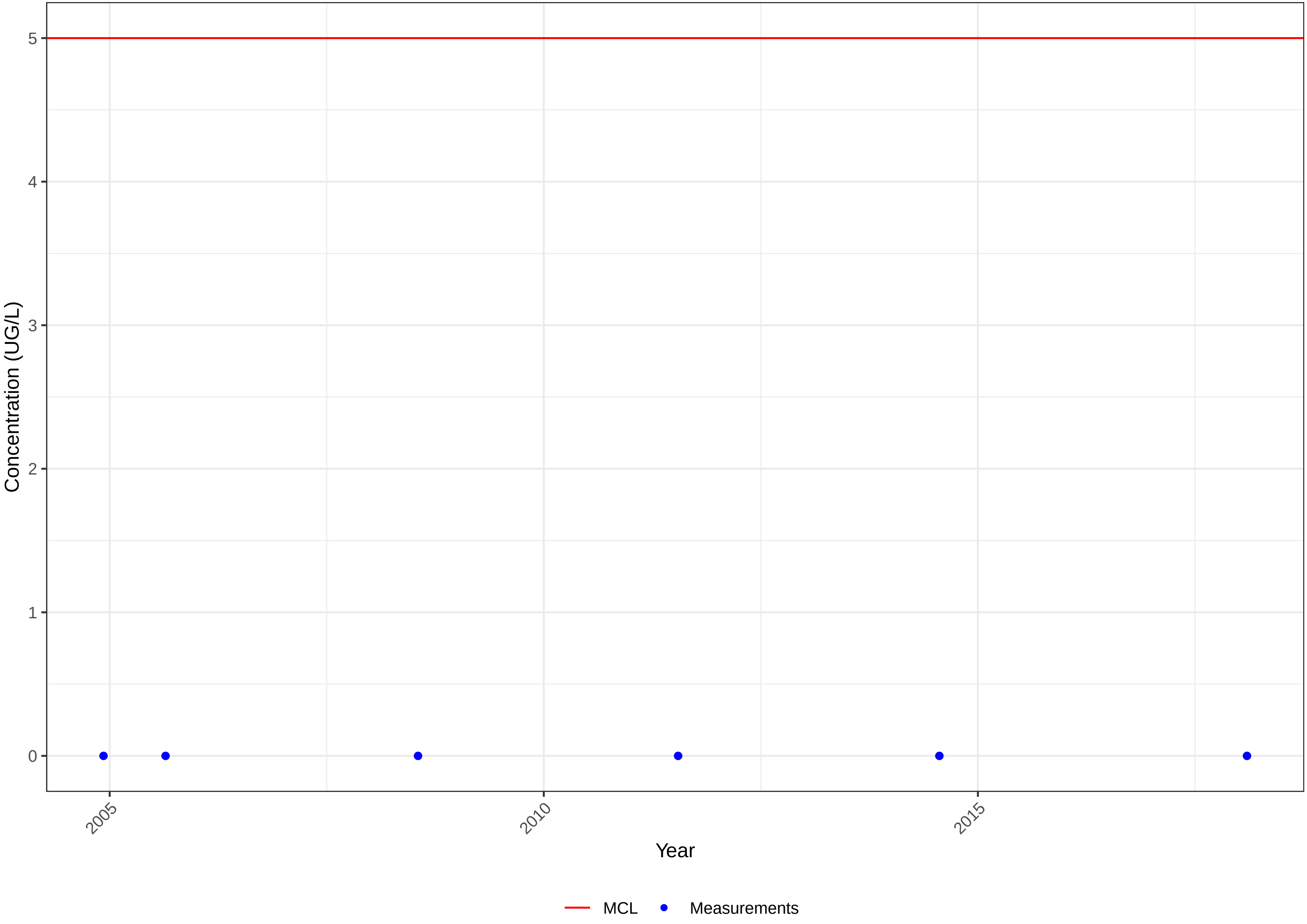
Water Quality Chart

Well No. 1610005−018
STORET No. 28012
Constituent: URANIUM (PCI/L)



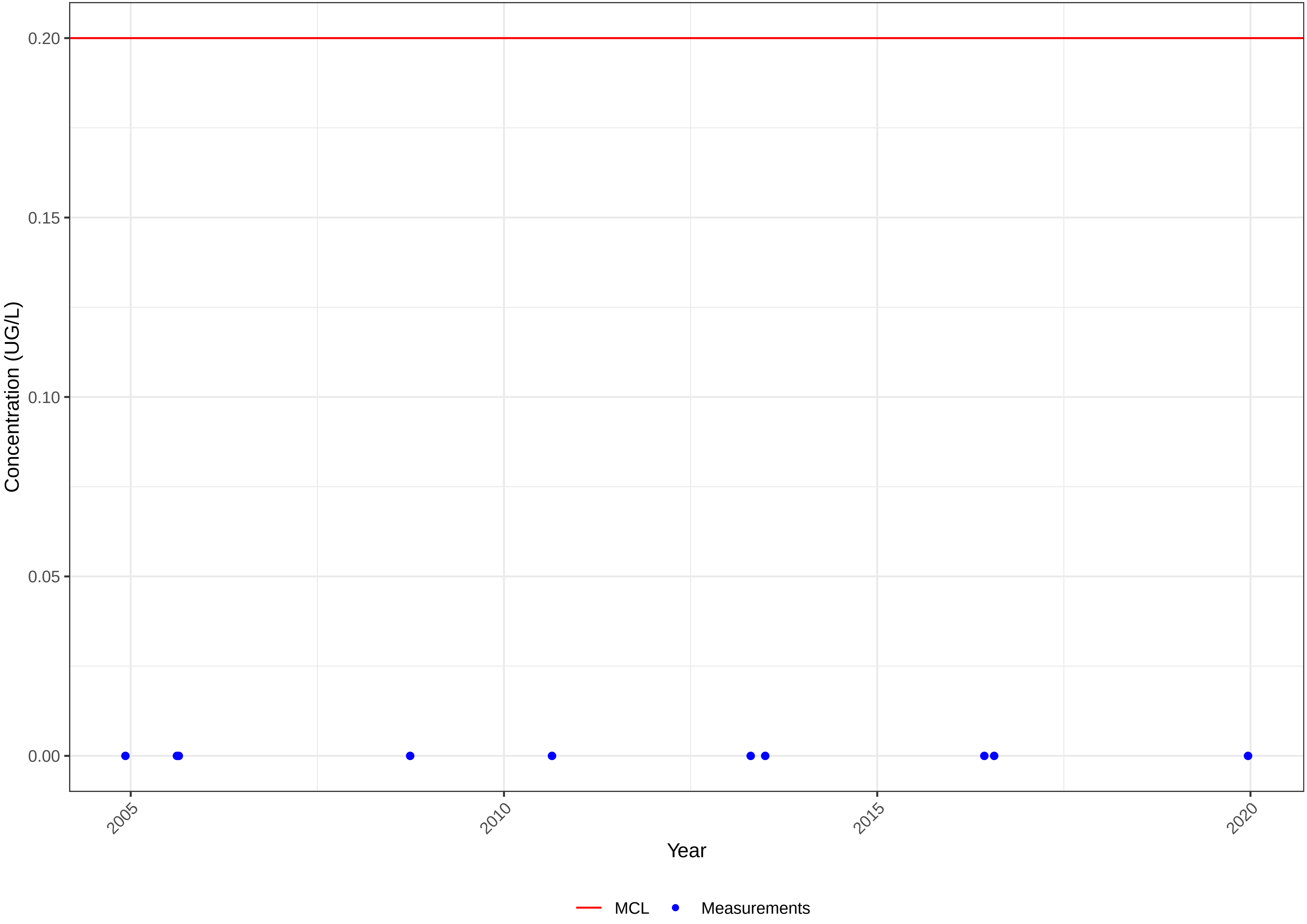
Water Quality Chart

Well No. 1610005−018
STORET No. 34475
Constituent: TETRACHLOROETHYLENE



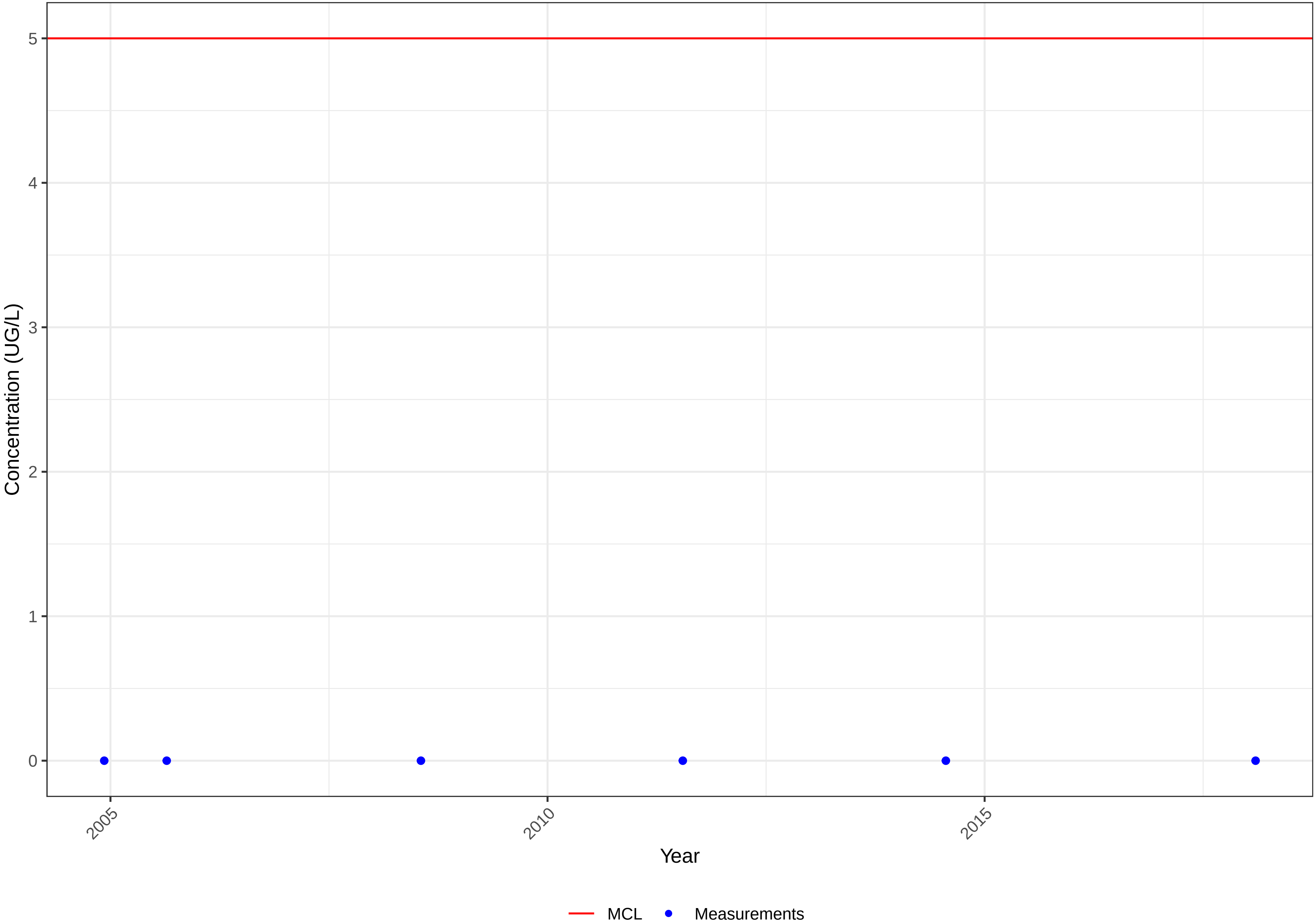
Water Quality Chart

Well No. 1610005−018
STORET No. 38761
Constituent: DIBROMOCHLOROPROPANE (DBCP)



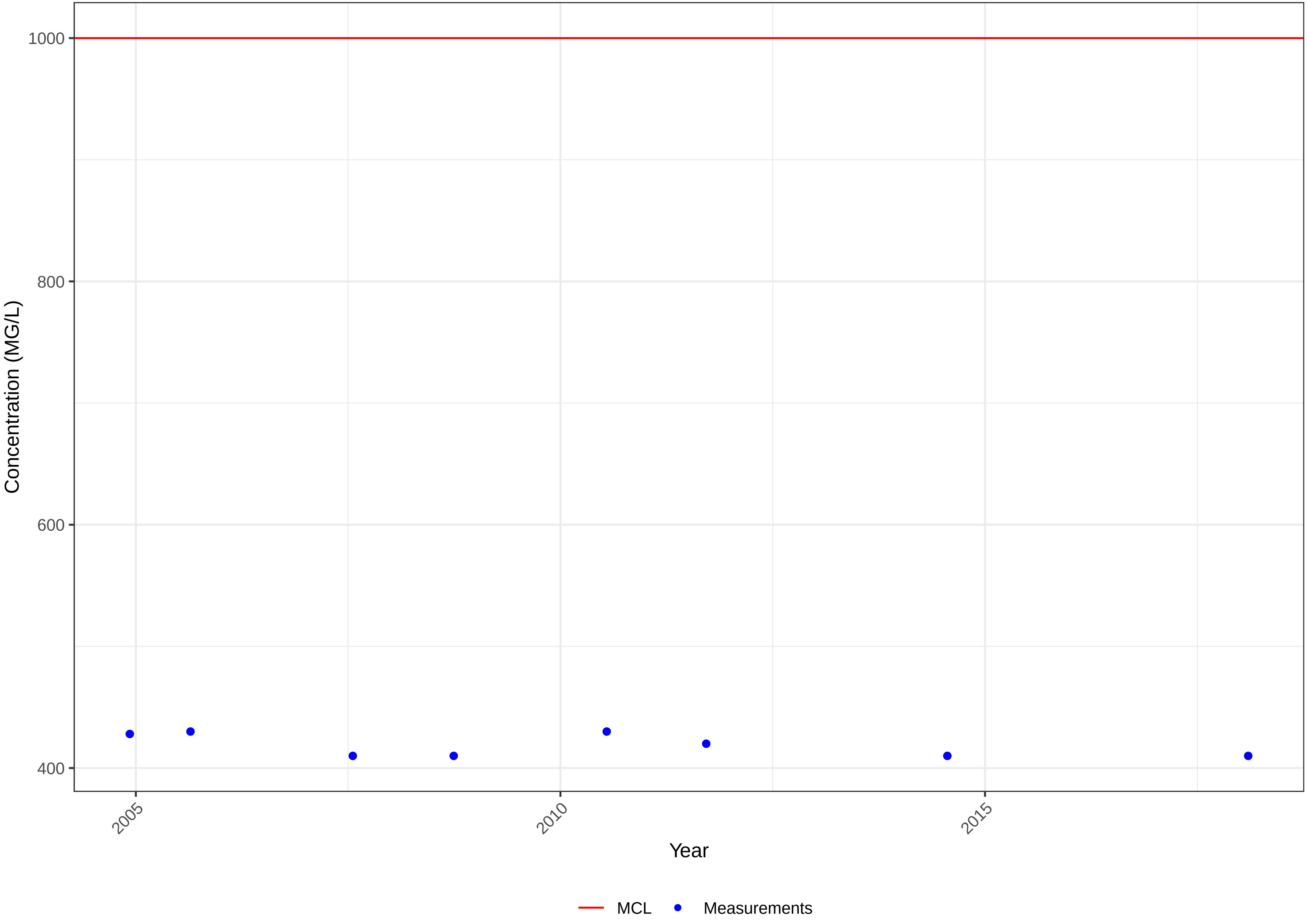
Water Quality Chart

Well No. 1610005−018
STORET No. 39180
Constituent: TRICHLOROETHYLENE



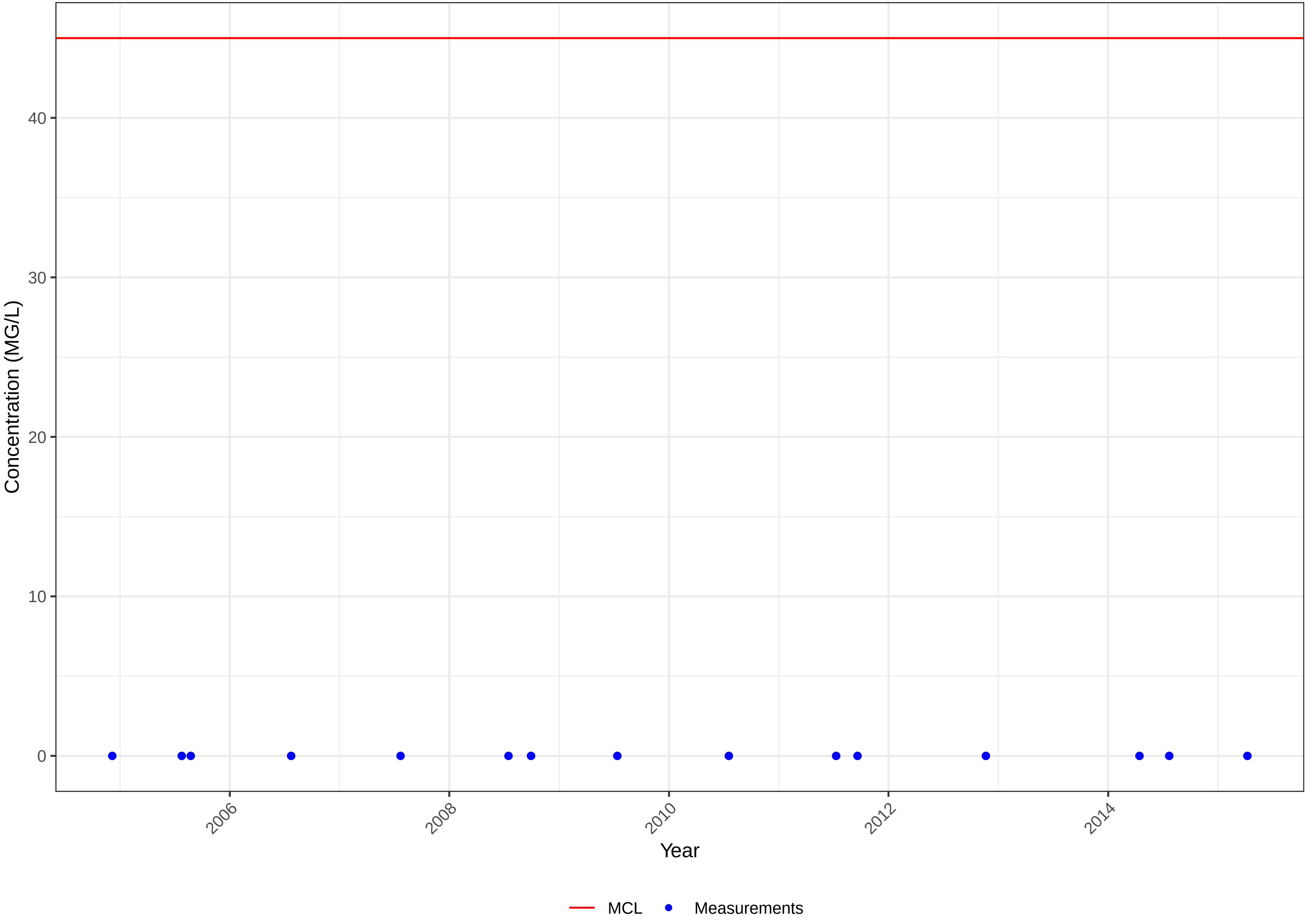
Water Quality Chart

Well No. 1610005−018
STORET No. 70300
Constituent: TOTAL DISSOLVED SOLIDS



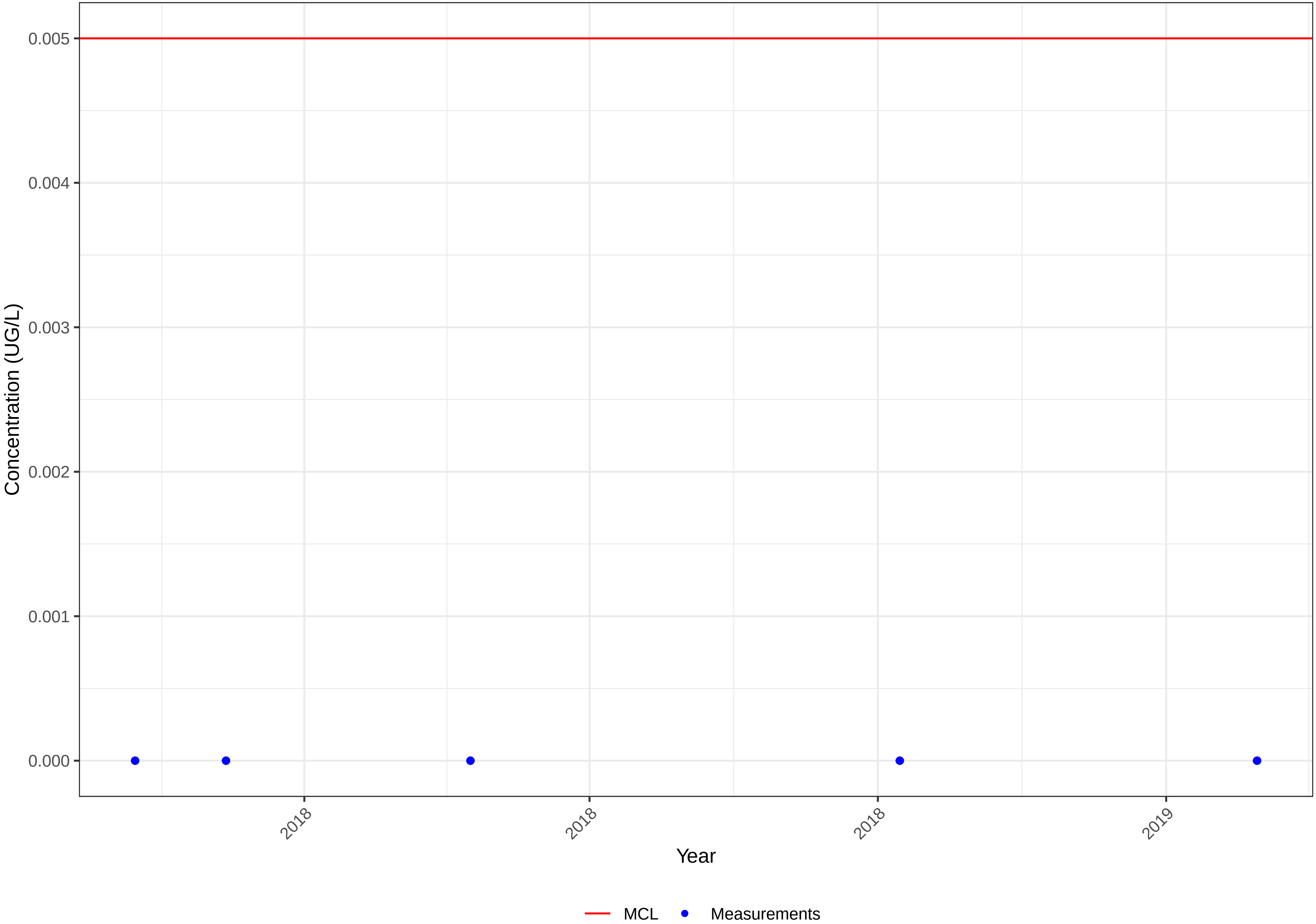
Water Quality Chart

Well No. 1610005−018
STORET No. 71850
Constituent: NITRATE (AS NO3)



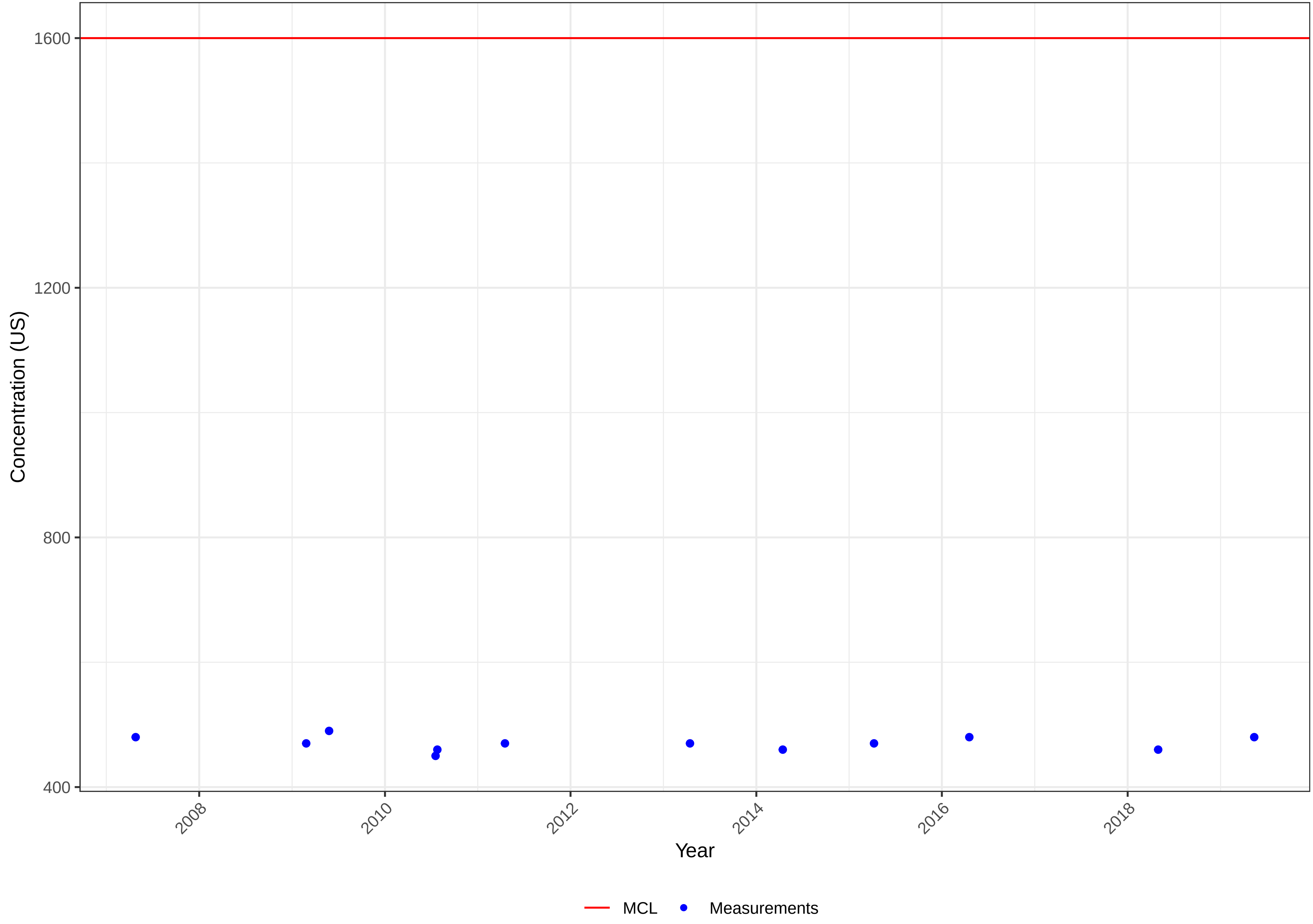
Water Quality Chart

Well No. 1610005−018
STORET No. 77443
Constituent: 1,2,3−TRICHLOROPROPANE



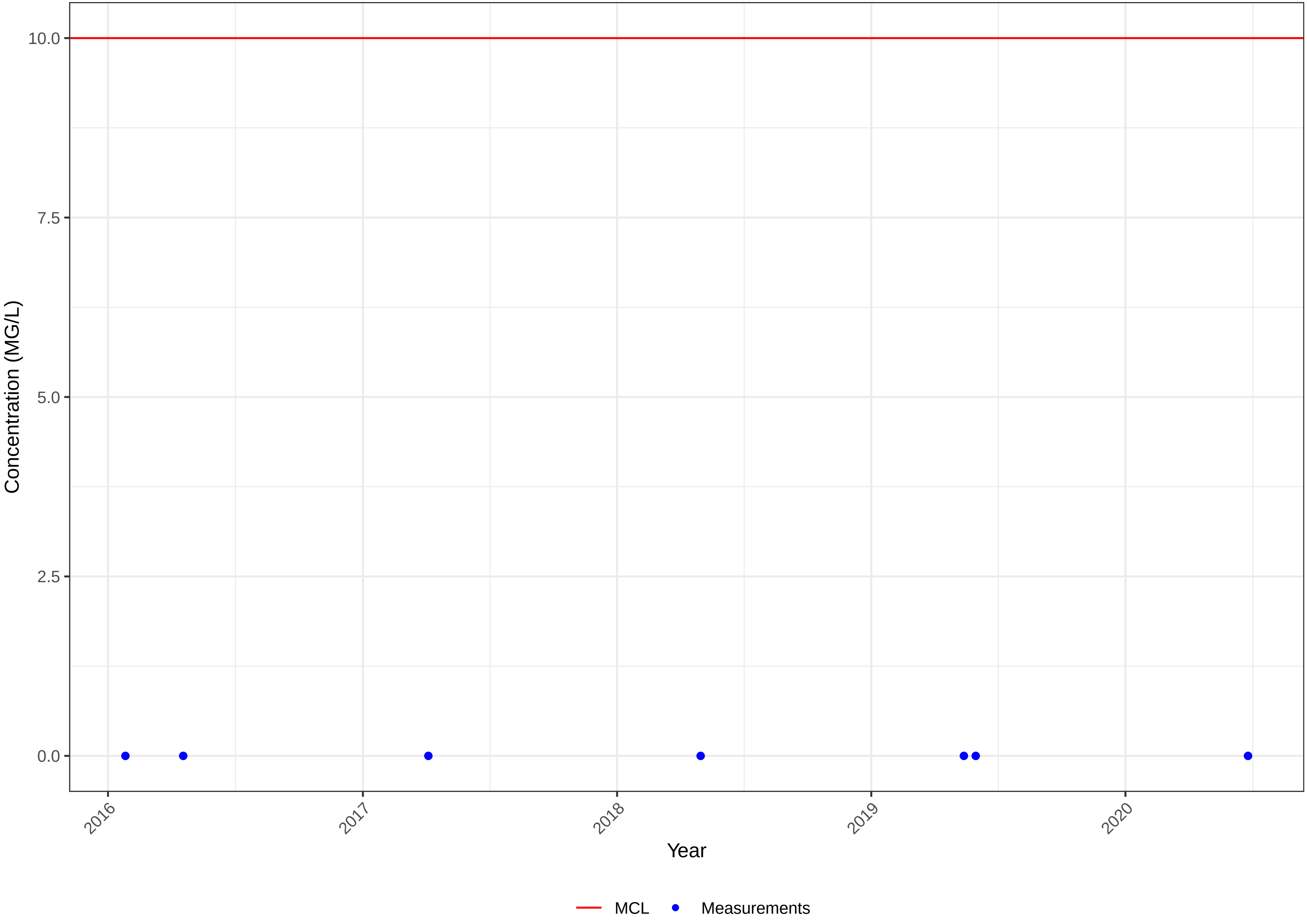
Water Quality Chart

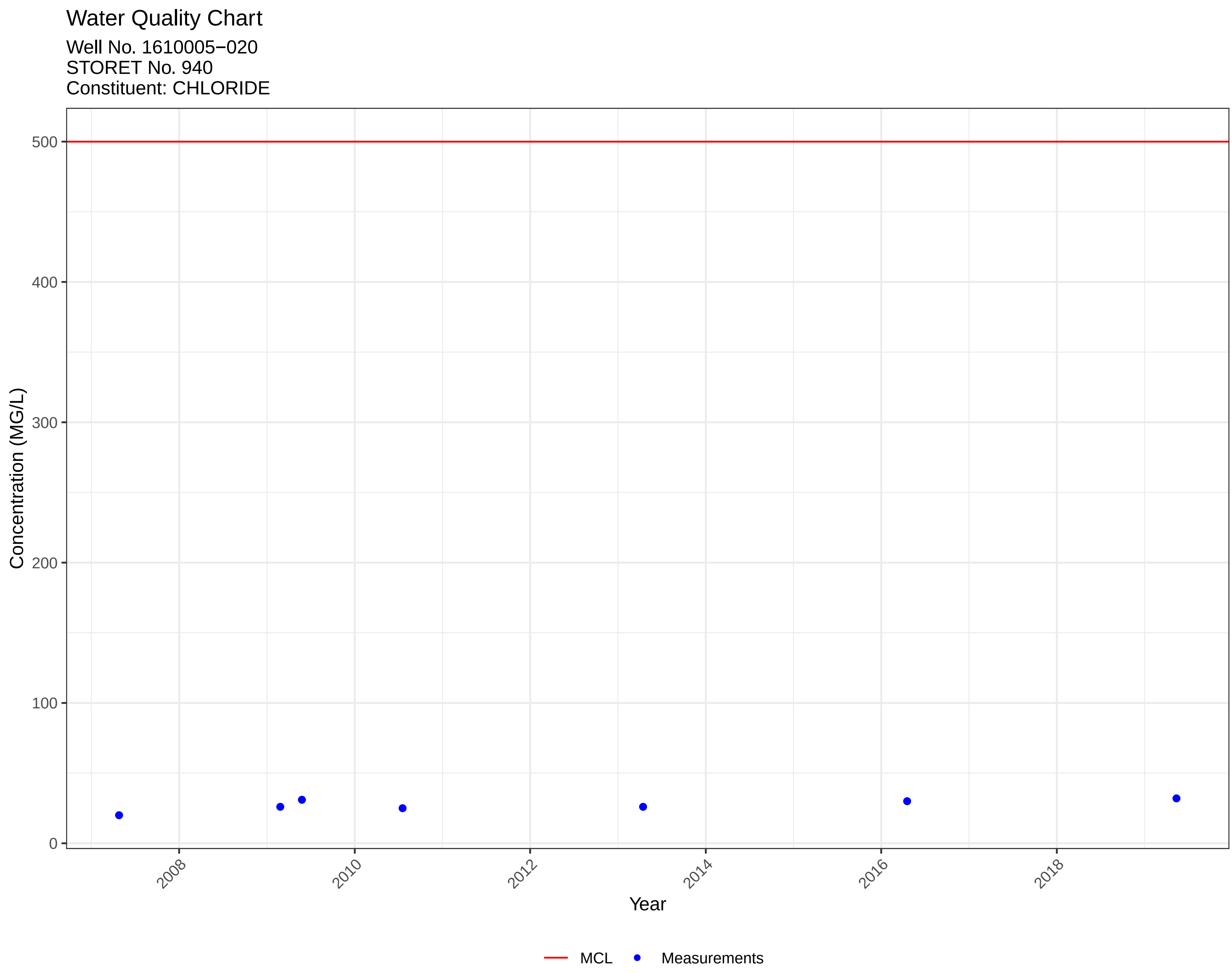
Well No. 1610005−020
STORET No. 95
Constituent: SPECIFIC CONDUCTANCE



Water Quality Chart

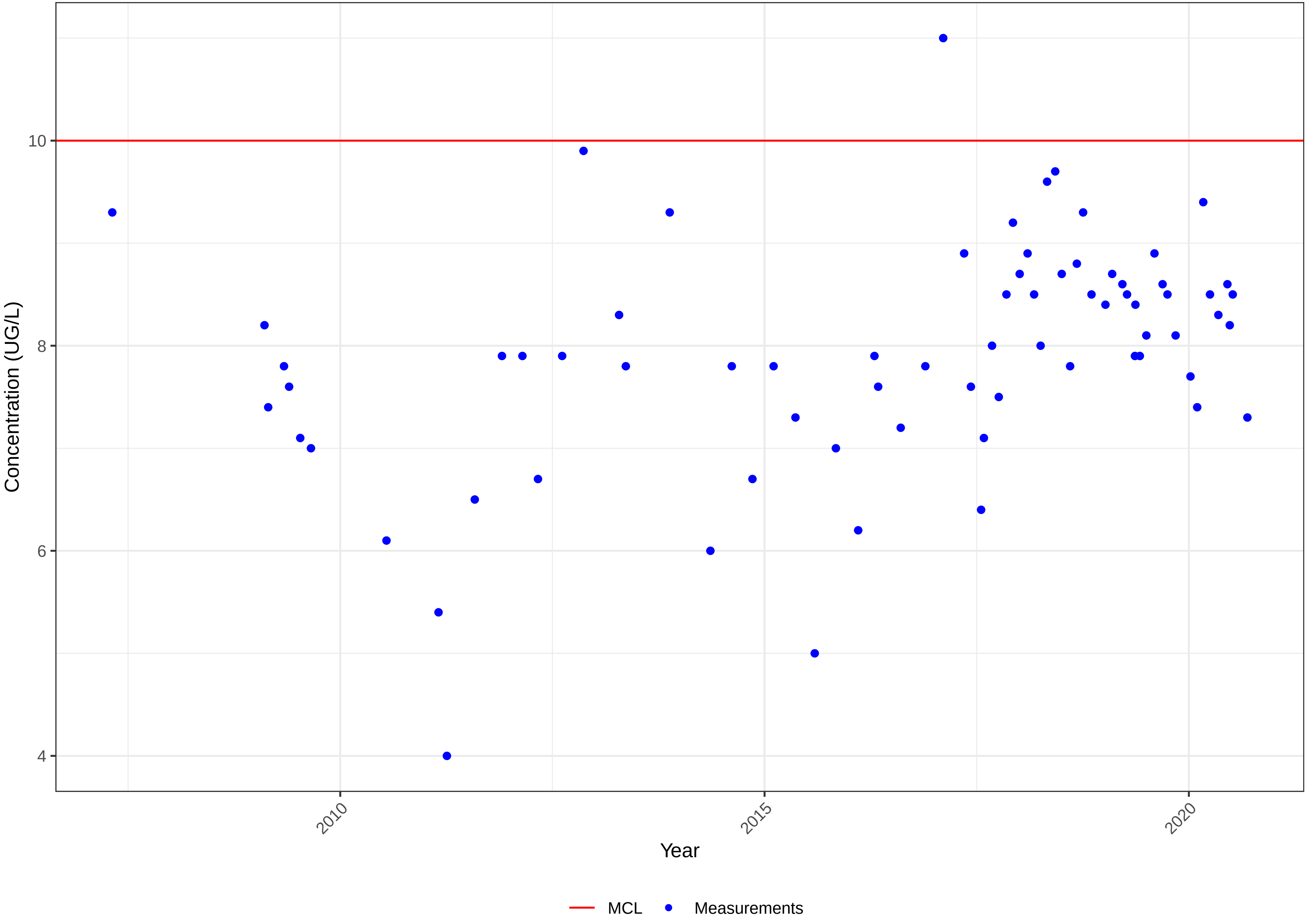
Well No. 1610005−020
STORET No. 618
Constituent: NITRATE (AS N)




Water Quality Chart
Well No. 1610005−020
STORET No. 940
Constituent: CHLORIDE
Concentration (MG/L)
500
400
300
200
100
0
2008
2010
2012
2014
2016
2018
Year
MCL
Measurements

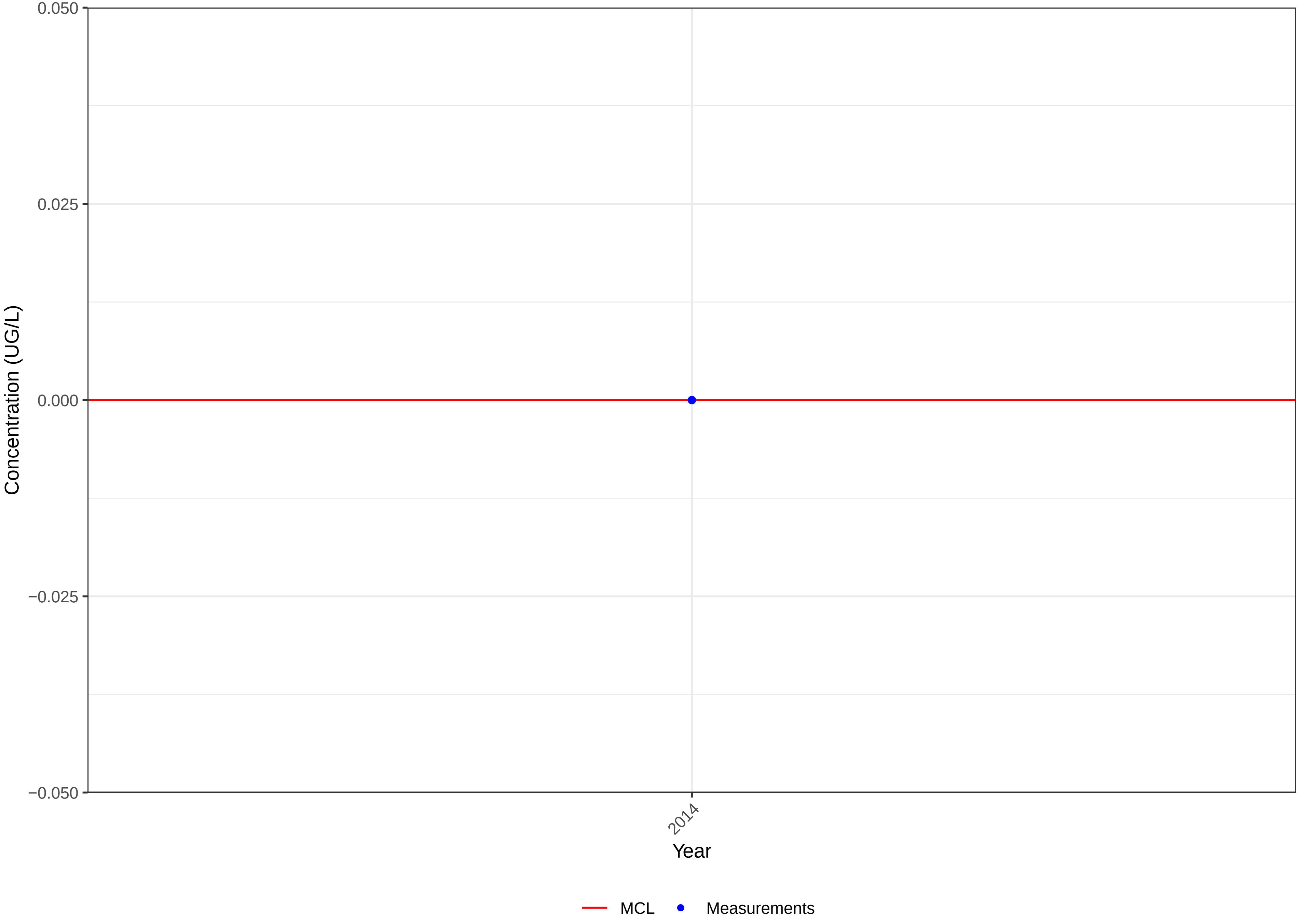
Water Quality Chart

Well No. 1610005−020
STORET No. 1002
Constituent: ARSENIC



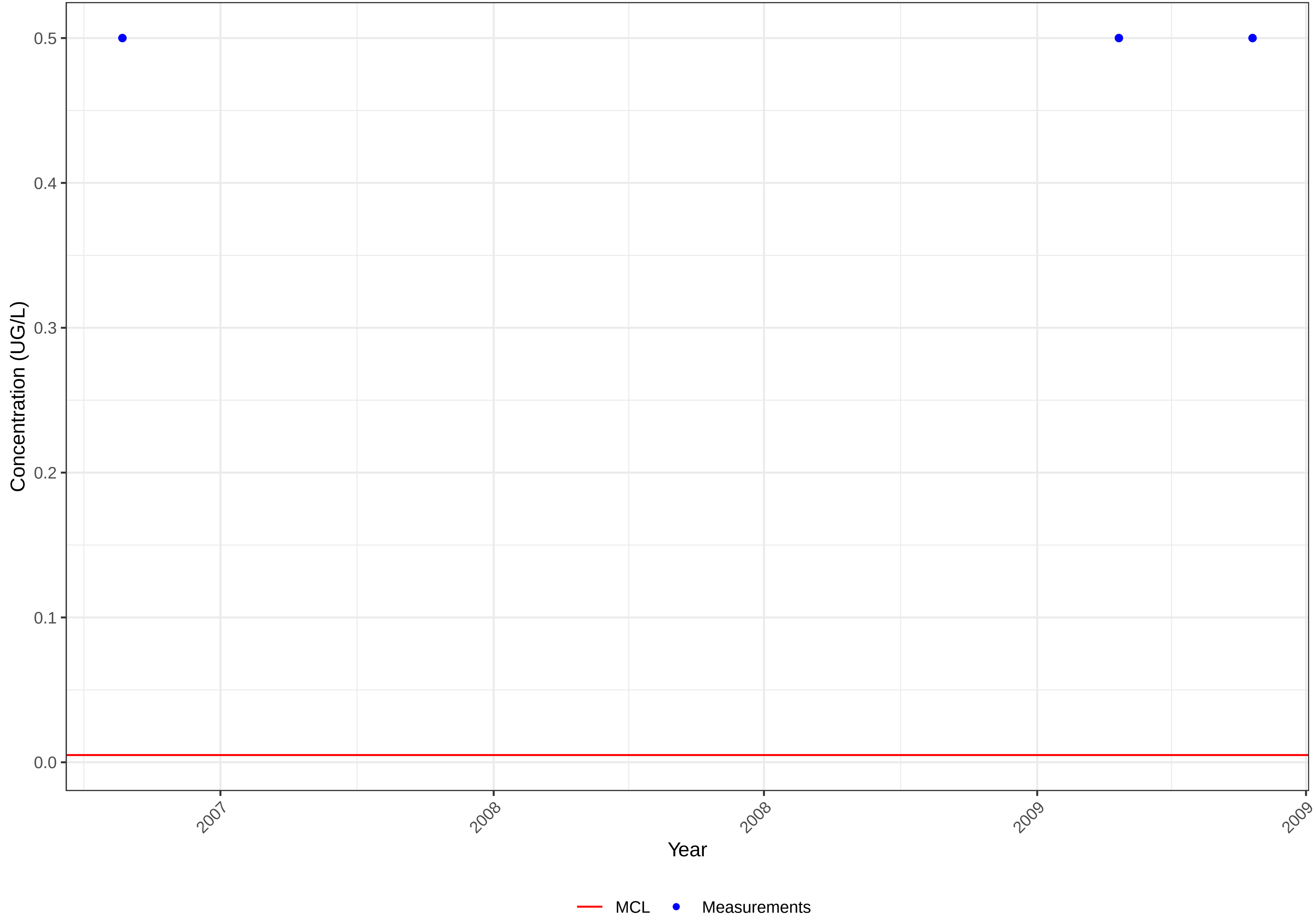
Water Quality Chart

Well No. 1610005−020
STORET No. 1032
Constituent: CHROMIUM, HEXAVALENT



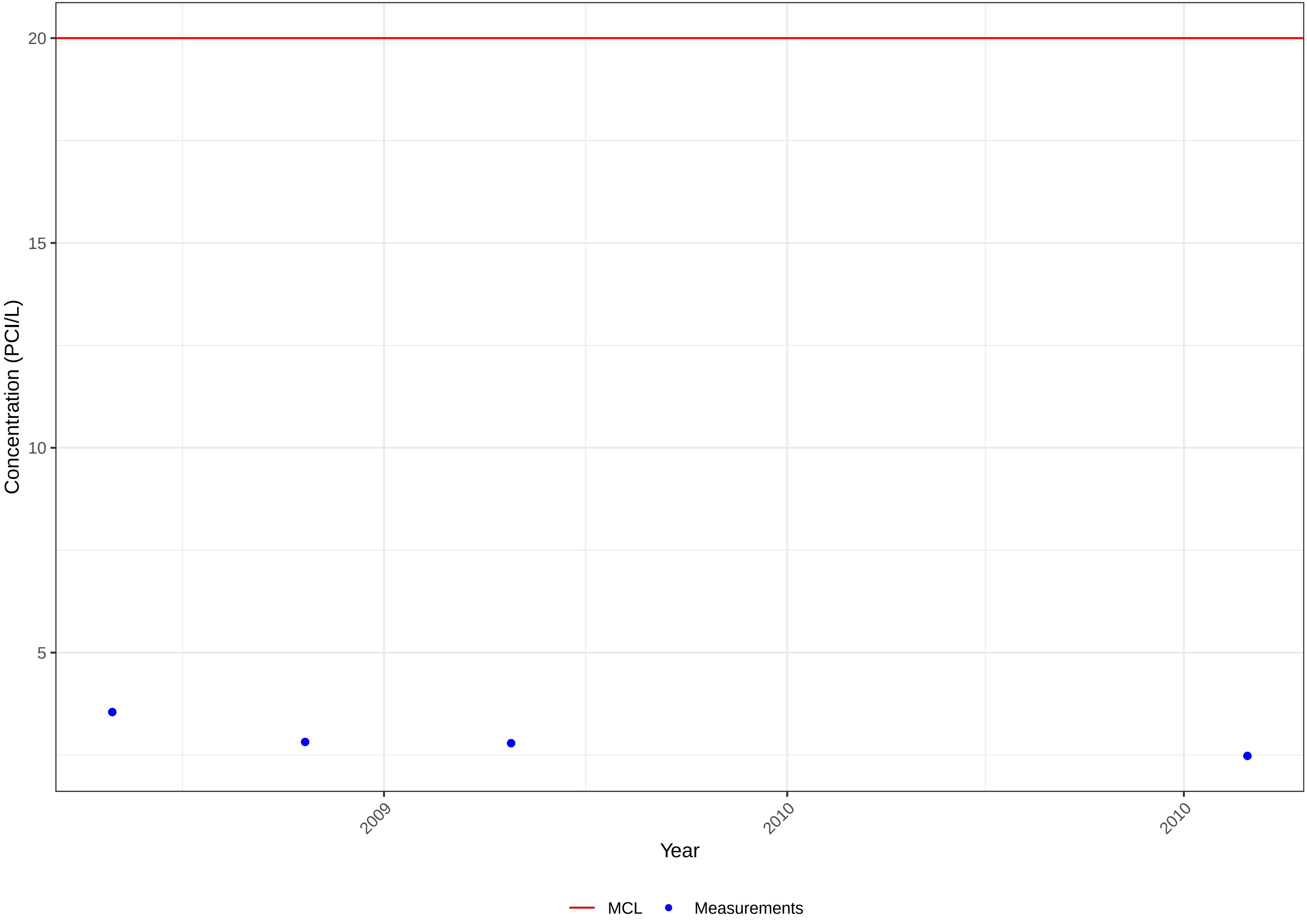
Water Quality Chart

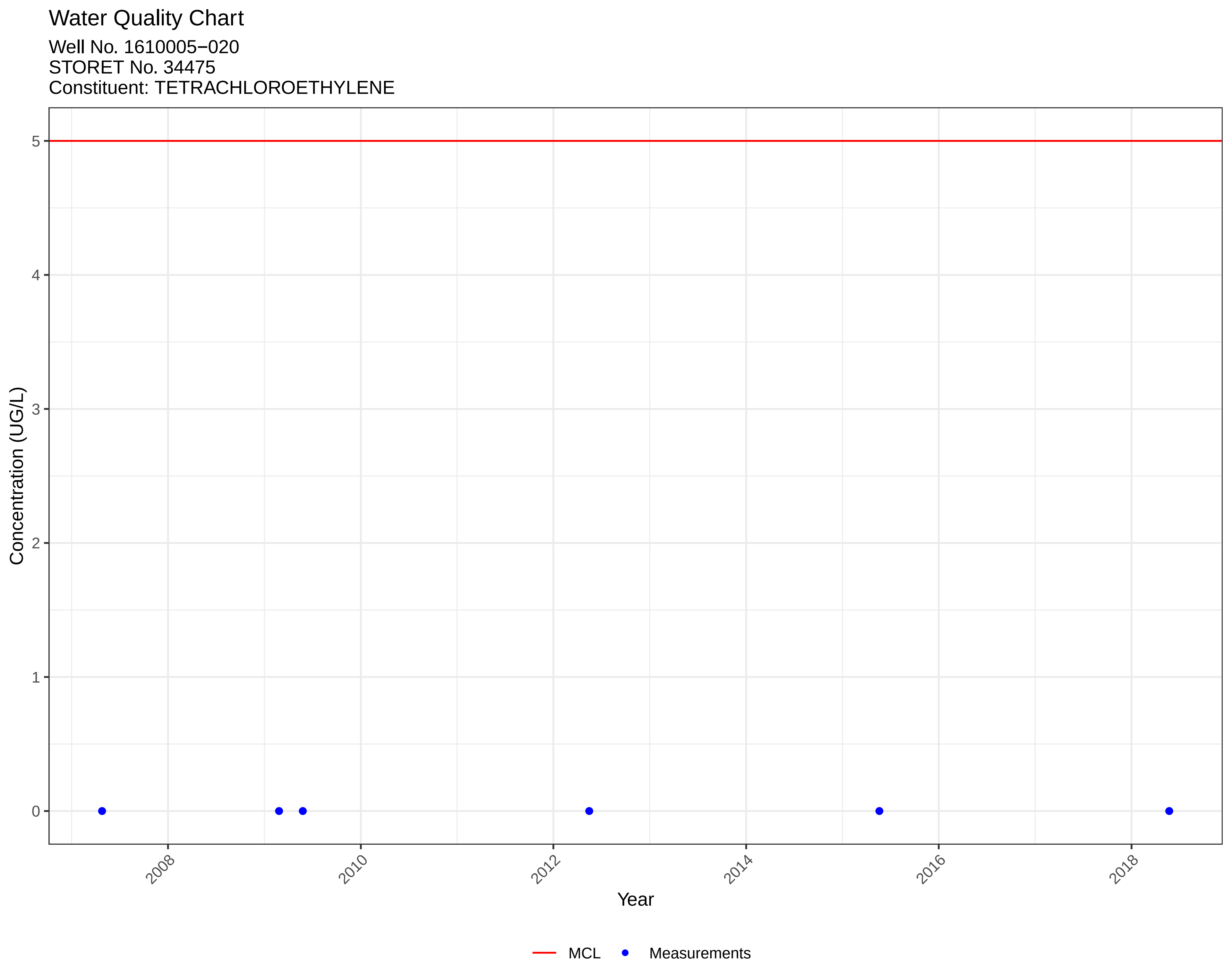
Well No. 1610005−020
STORET No. 7744X
Constituent: 1,2,3−TRICHLOROPROPANE



Water Quality Chart

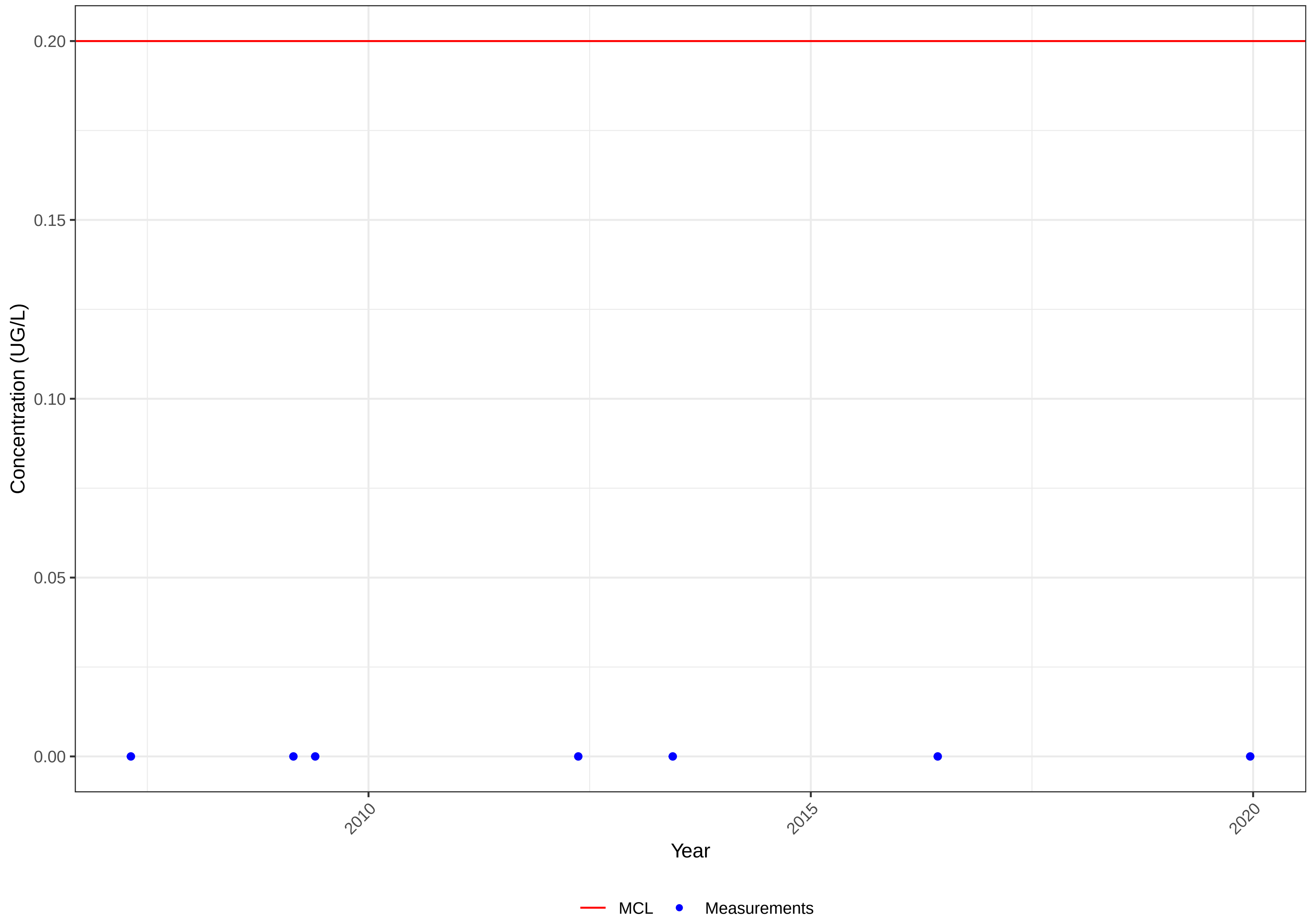
Well No. 1610005−020
STORET No. 28012
Constituent: URANIUM (PCI/L)

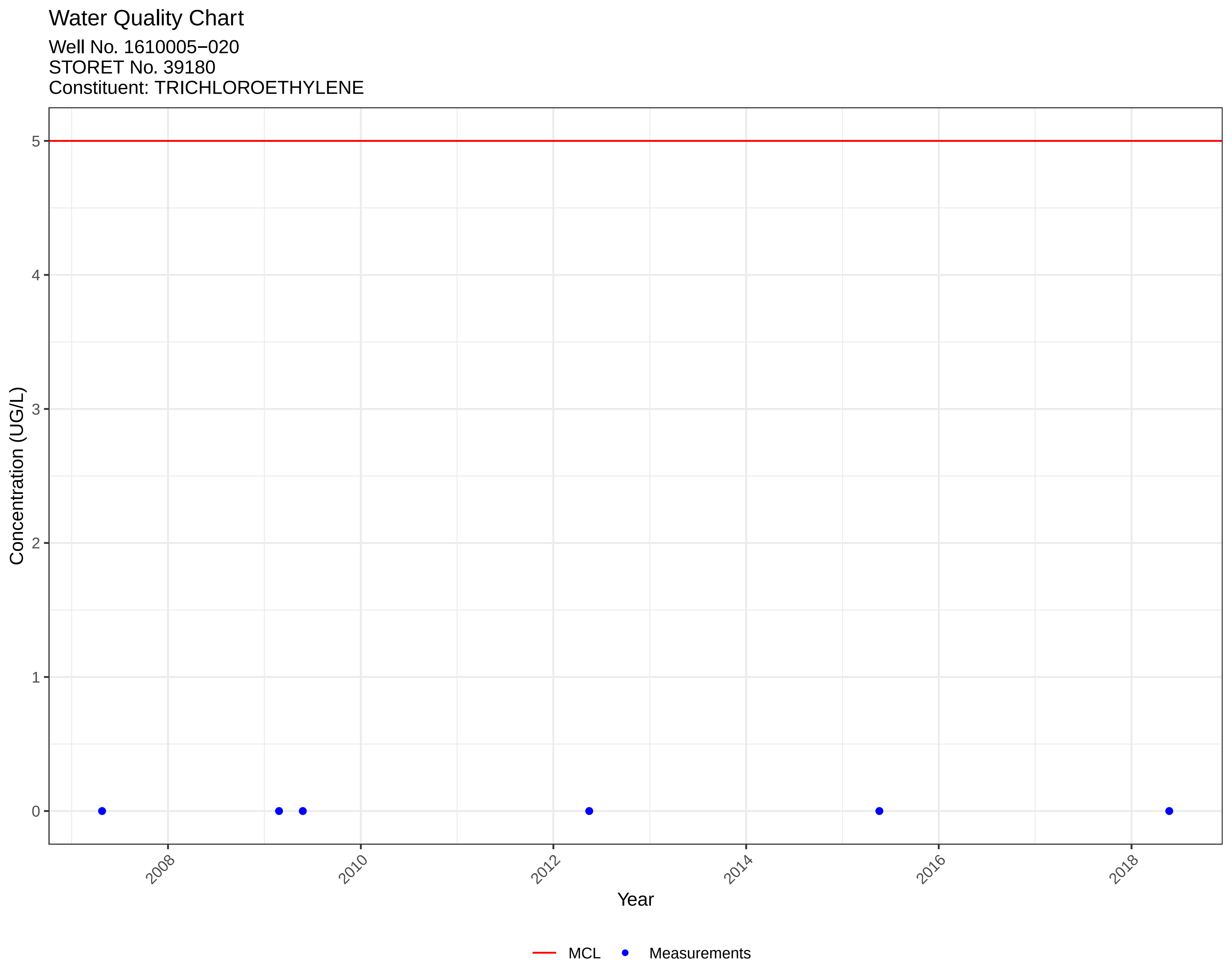



Water Quality Chart
Well No. 1610005−020
STORET No. 34475
Constituent: TETRACHLOROETHYLENE
Concentration (UG/L)
0
1
2
3
4
5
2008
2010
2012
2014
2016
2018
Year
MCL
Measurements

Water Quality Chart

Well No. 1610005−020
STORET No. 38761
Constituent: DIBROMOCHLOROPROPANE (DBCP)

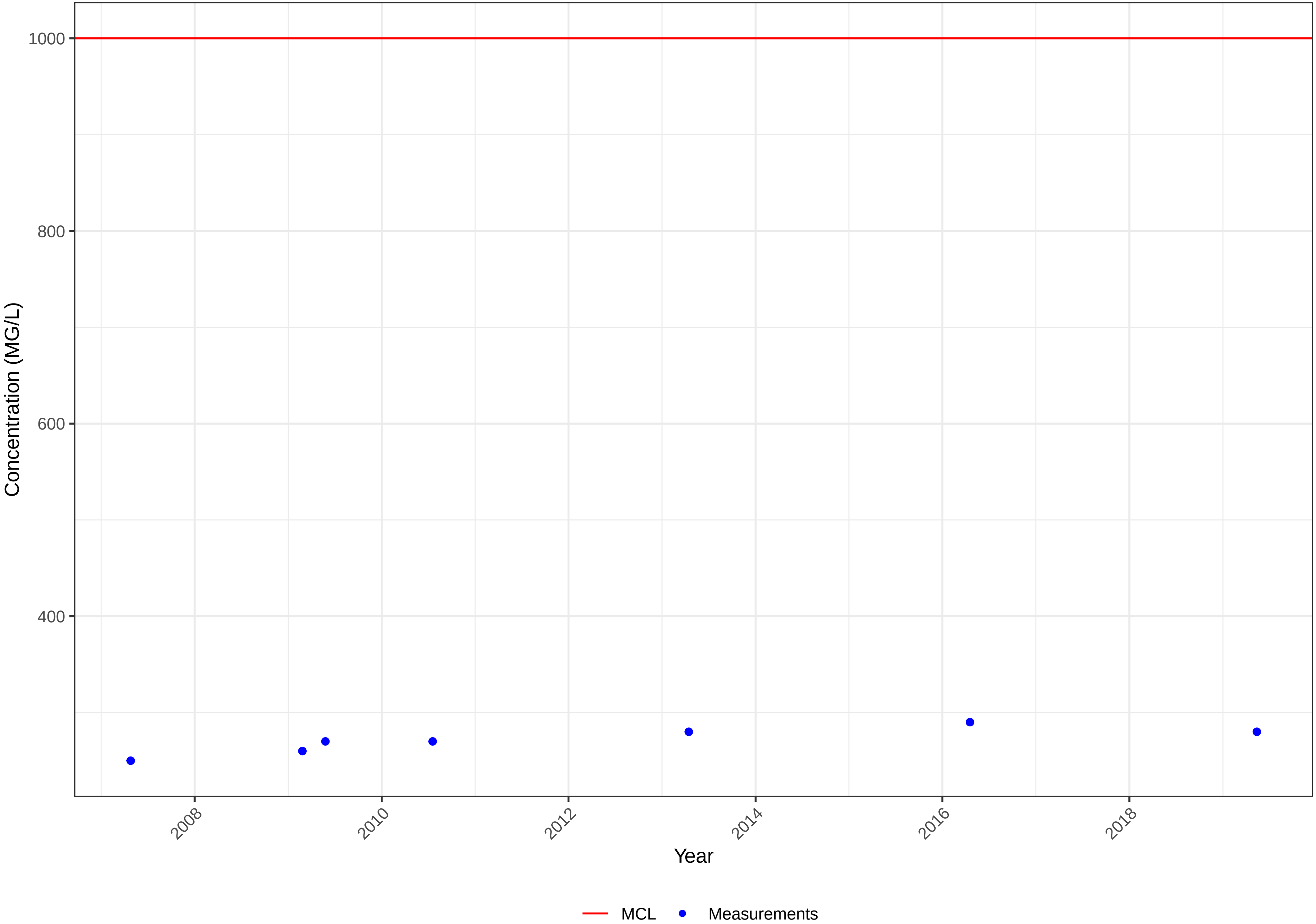




Water Quality Chart
Well No. 1610005−020
STORET No. 39180
Constituent: TRICHLOROETHYLENE
Concentration (UG/L)
0
1
2
3
4
5
2008
2010
2012
2014
2016
2018
Year
MCL
Measurements

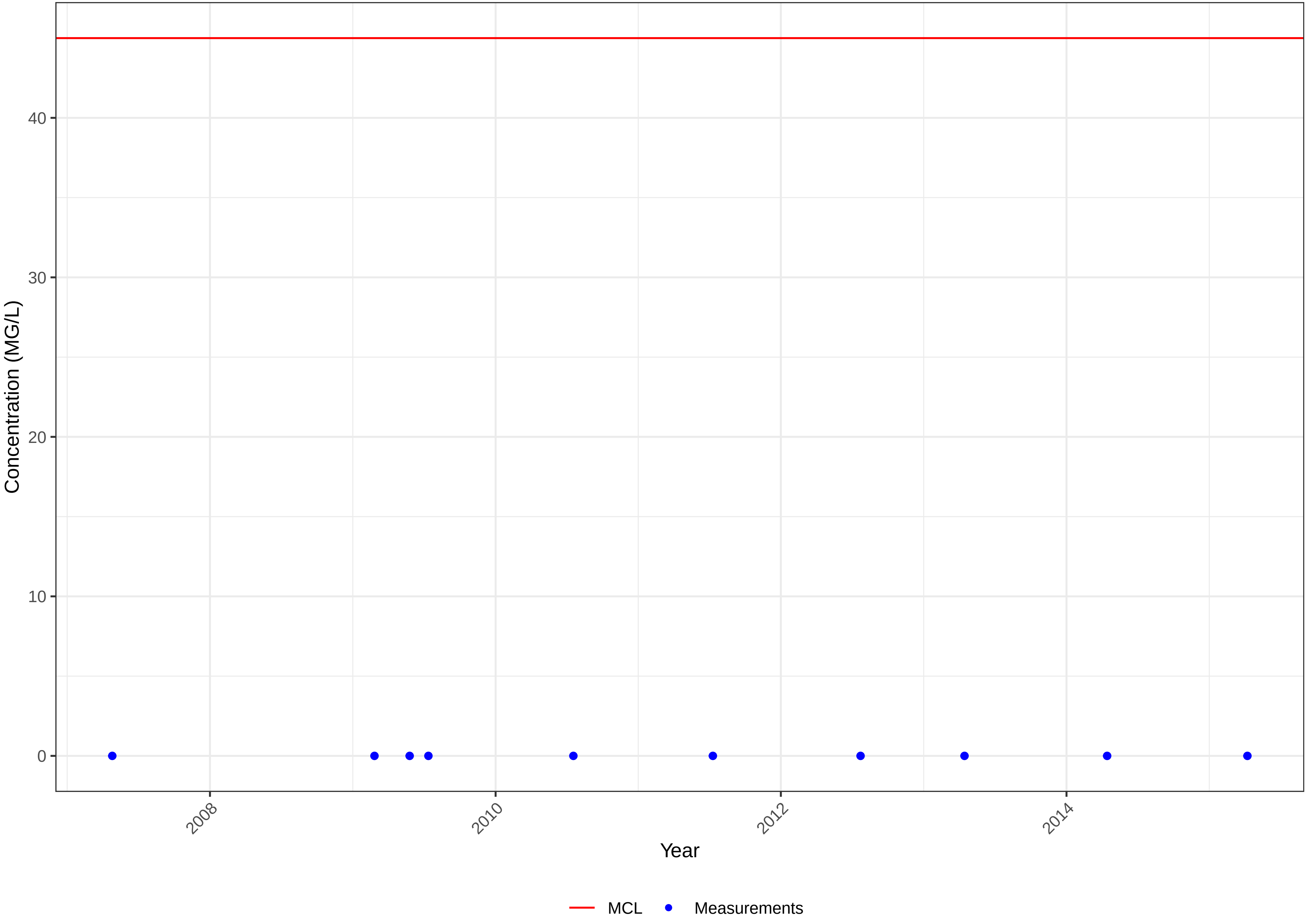
Water Quality Chart

Well No. 1610005−020
STORET No. 70300
Constituent: TOTAL DISSOLVED SOLIDS



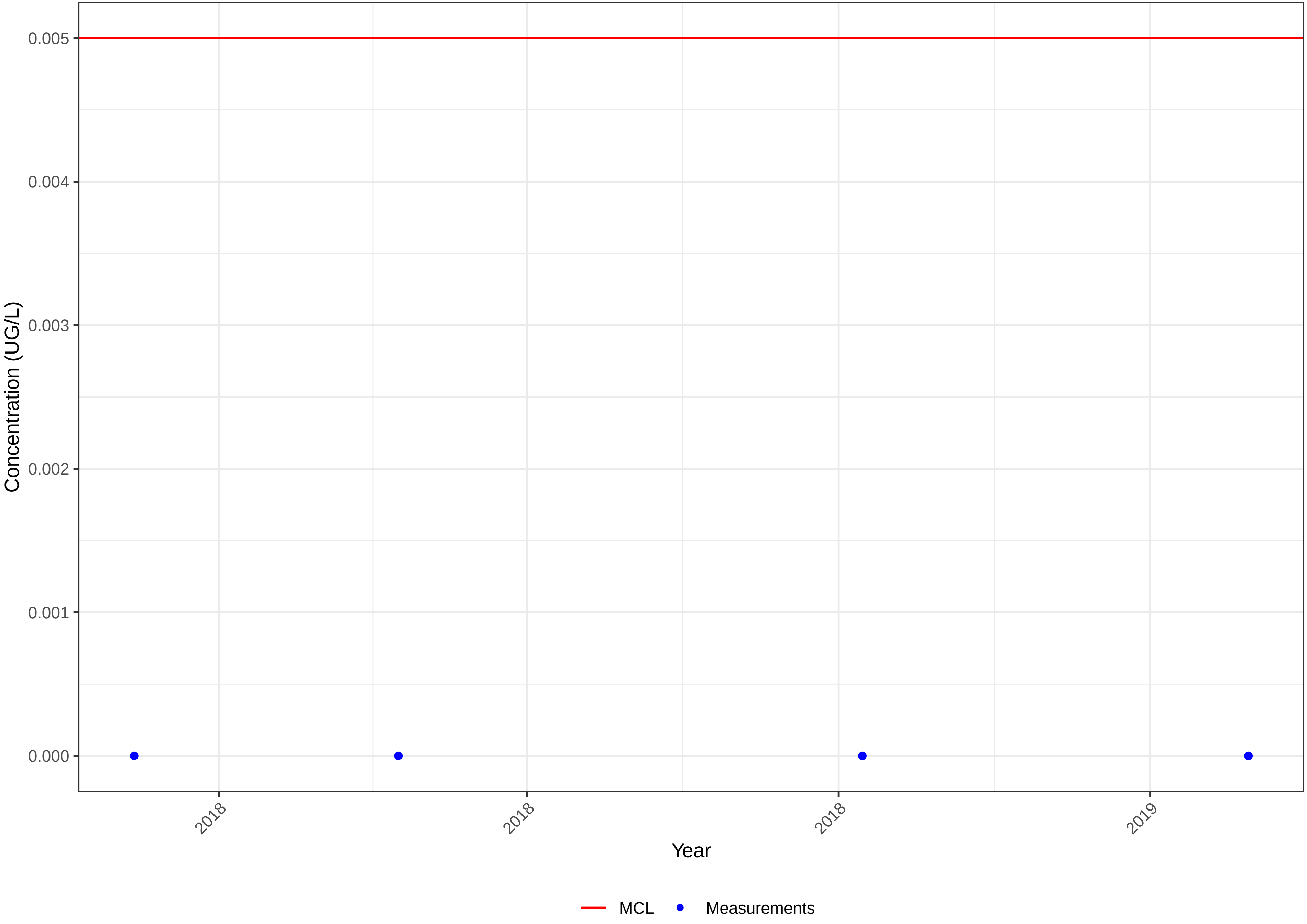
Water Quality Chart

Well No. 1610005−020
STORET No. 71850
Constituent: NITRATE (AS NO3)



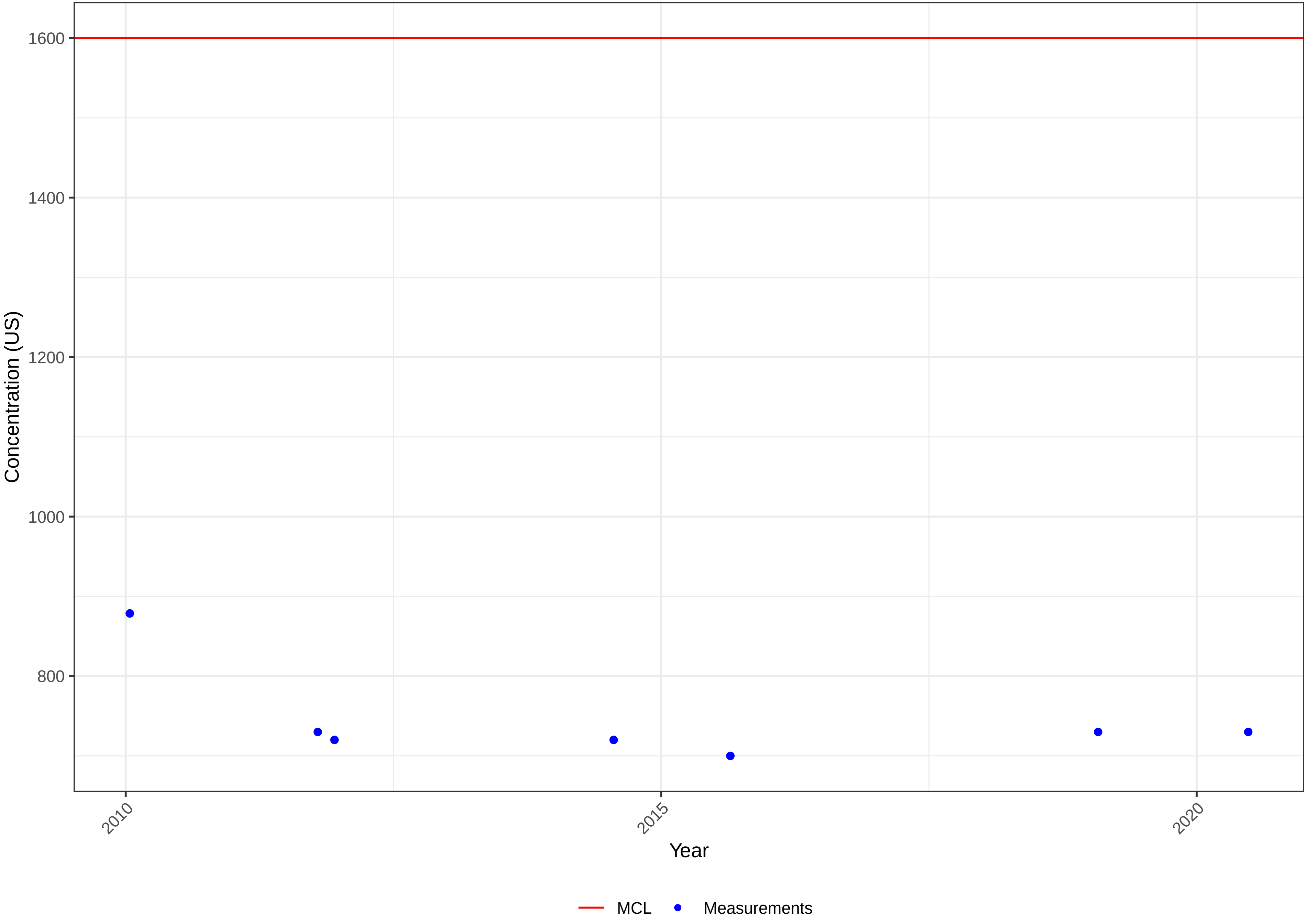
Water Quality Chart

Well No. 1610005−020
STORET No. 77443
Constituent: 1,2,3−TRICHLOROPROPANE



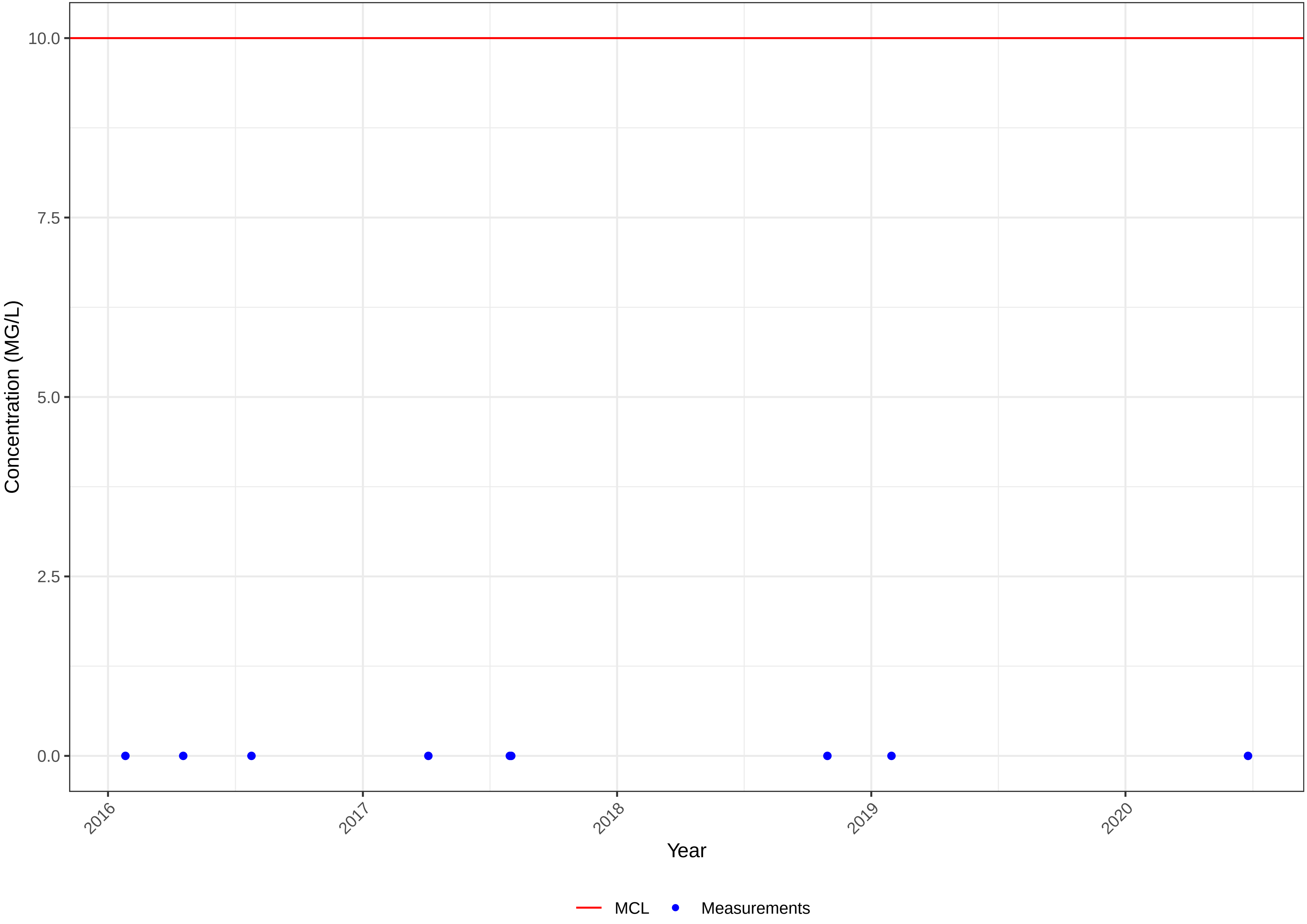
Water Quality Chart

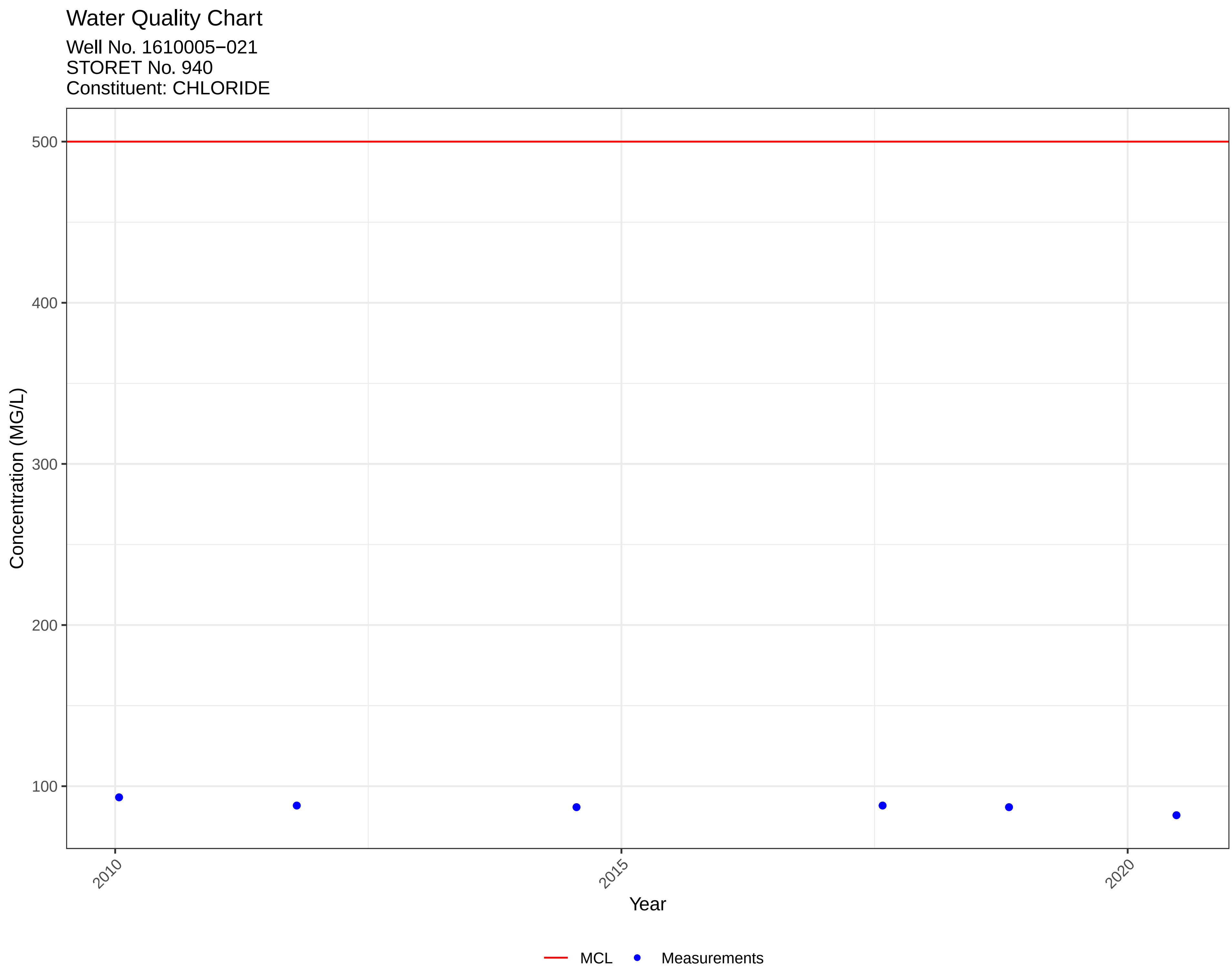
Well No. 1610005−021
STORET No. 95
Constituent: SPECIFIC CONDUCTANCE



Water Quality Chart

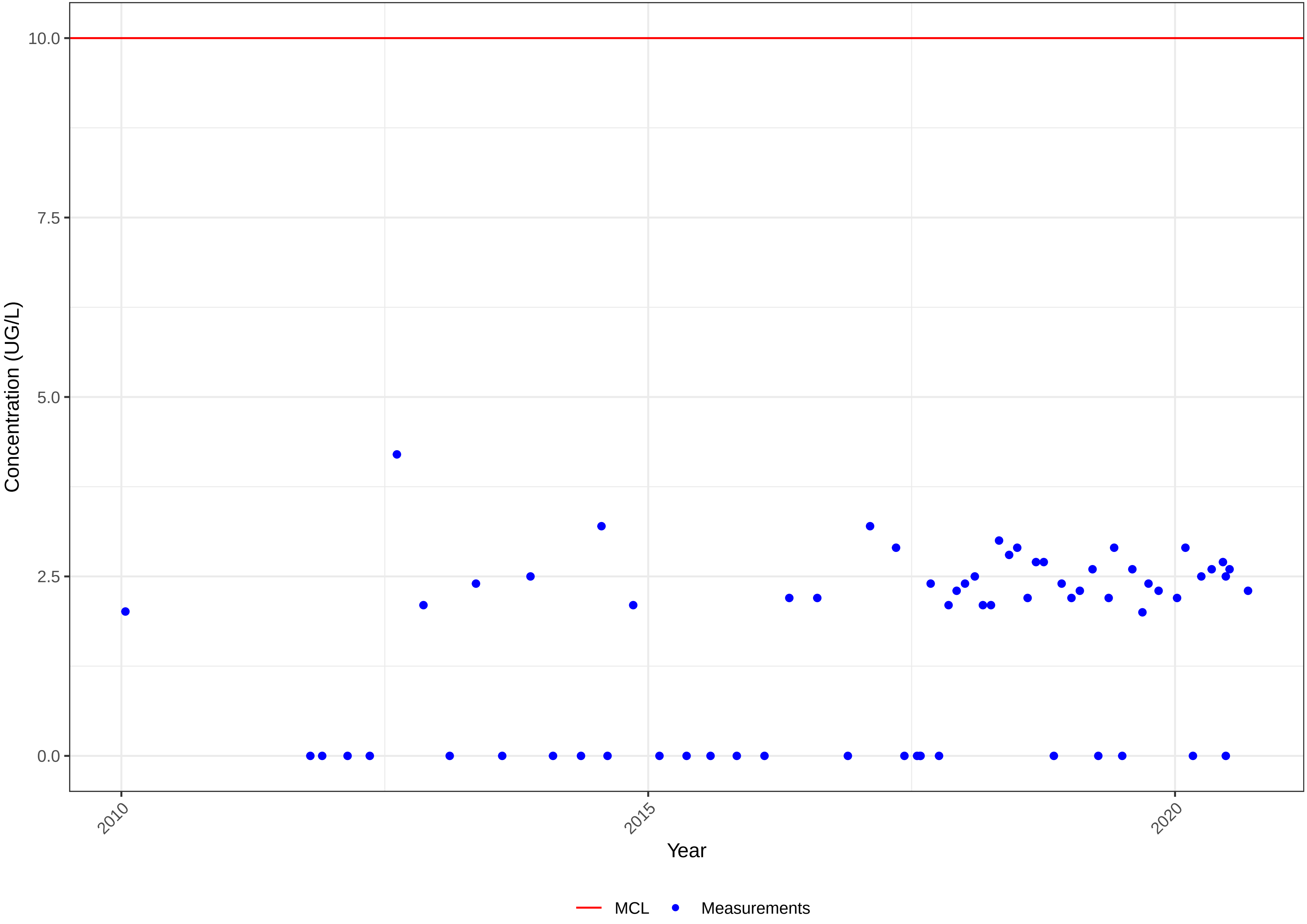
Well No. 1610005−021
STORET No. 618
Constituent: NITRATE (AS N)




Water Quality Chart
Well No. 1610005−021
STORET No. 940
Constituent: CHLORIDE
Concentration (MG/L)
500
400
300
200
100
2010
2015
2020
Year
MCL
Measurements

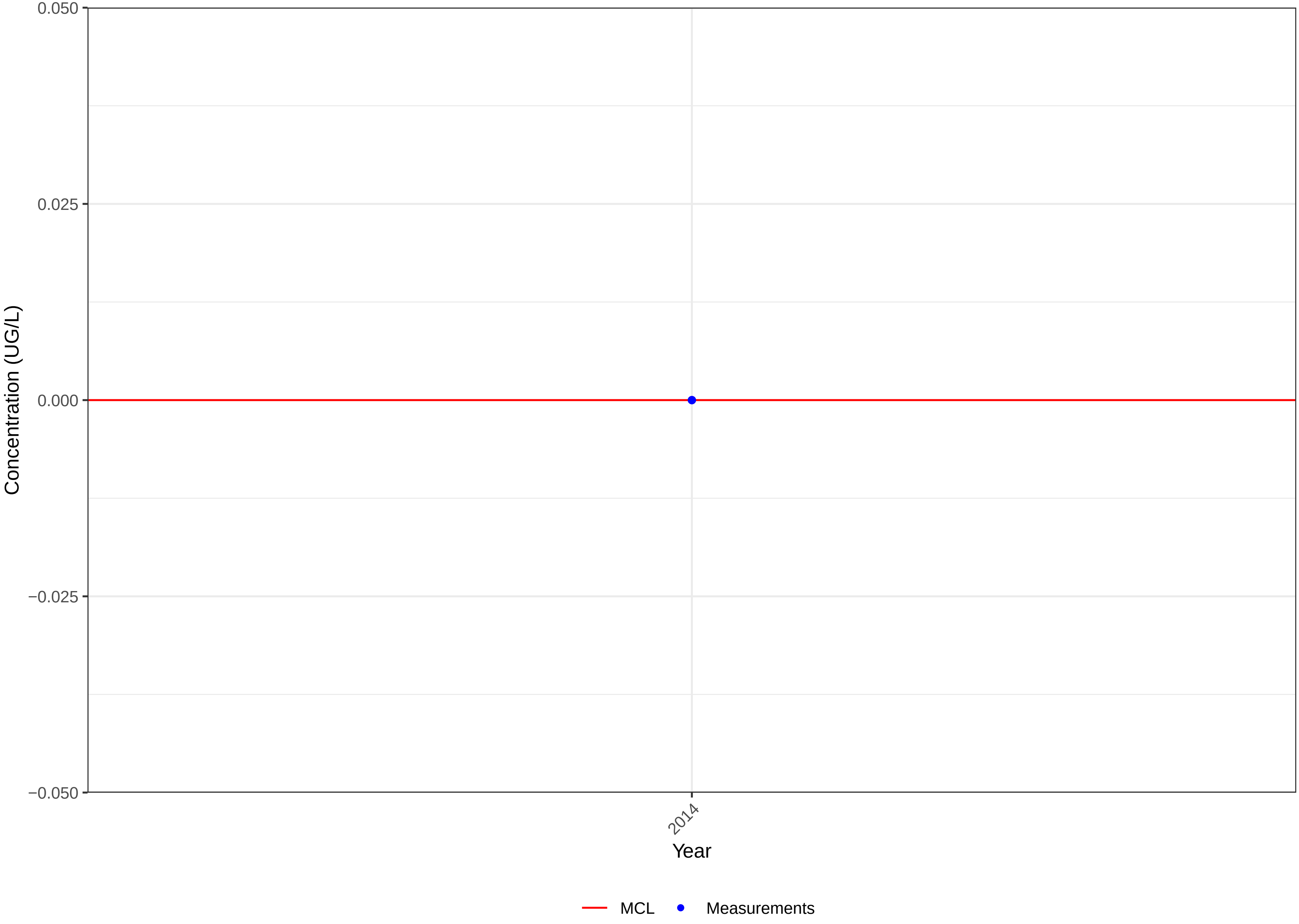
Water Quality Chart

Well No. 1610005−021
STORET No. 1002
Constituent: ARSENIC



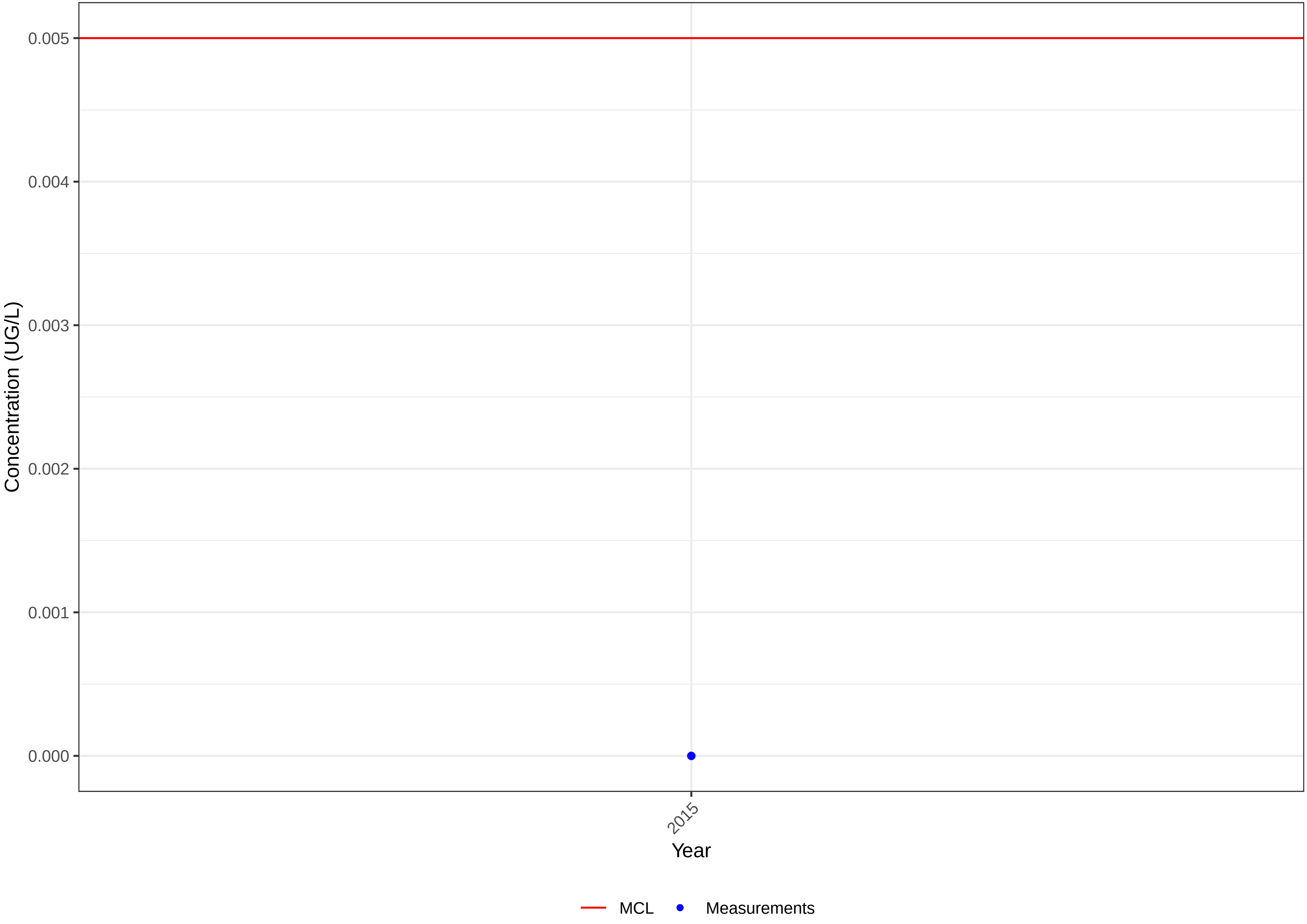
Water Quality Chart

Well No. 1610005−021
STORET No. 1032
Constituent: CHROMIUM, HEXAVALENT



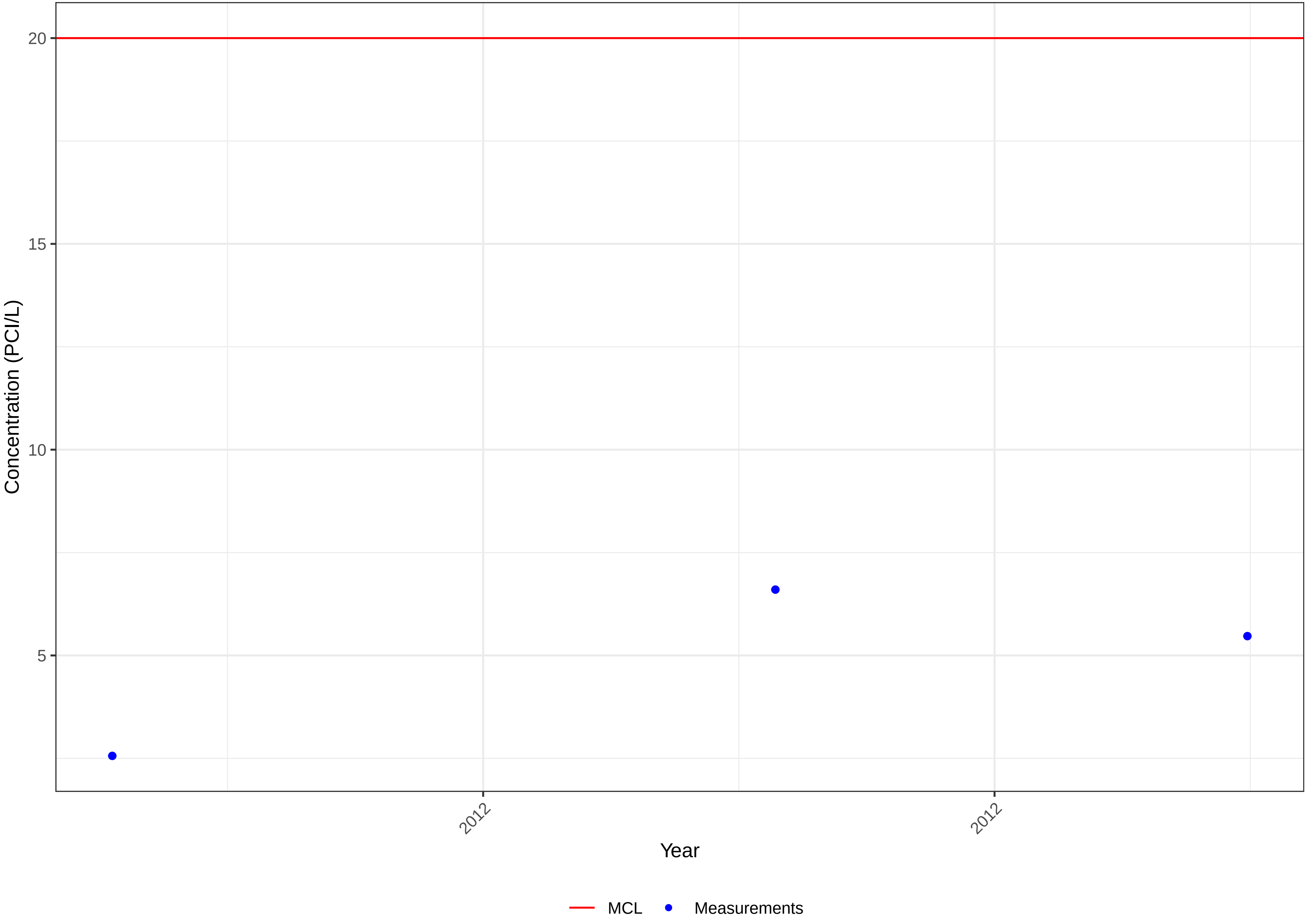
Water Quality Chart

Well No. 1610005−021
STORET No. 7744X
Constituent: 1,2,3−TRICHLOROPROPANE



Water Quality Chart

Well No. 1610005−021
STORET No. 28012
Constituent: URANIUM (PCI/L)

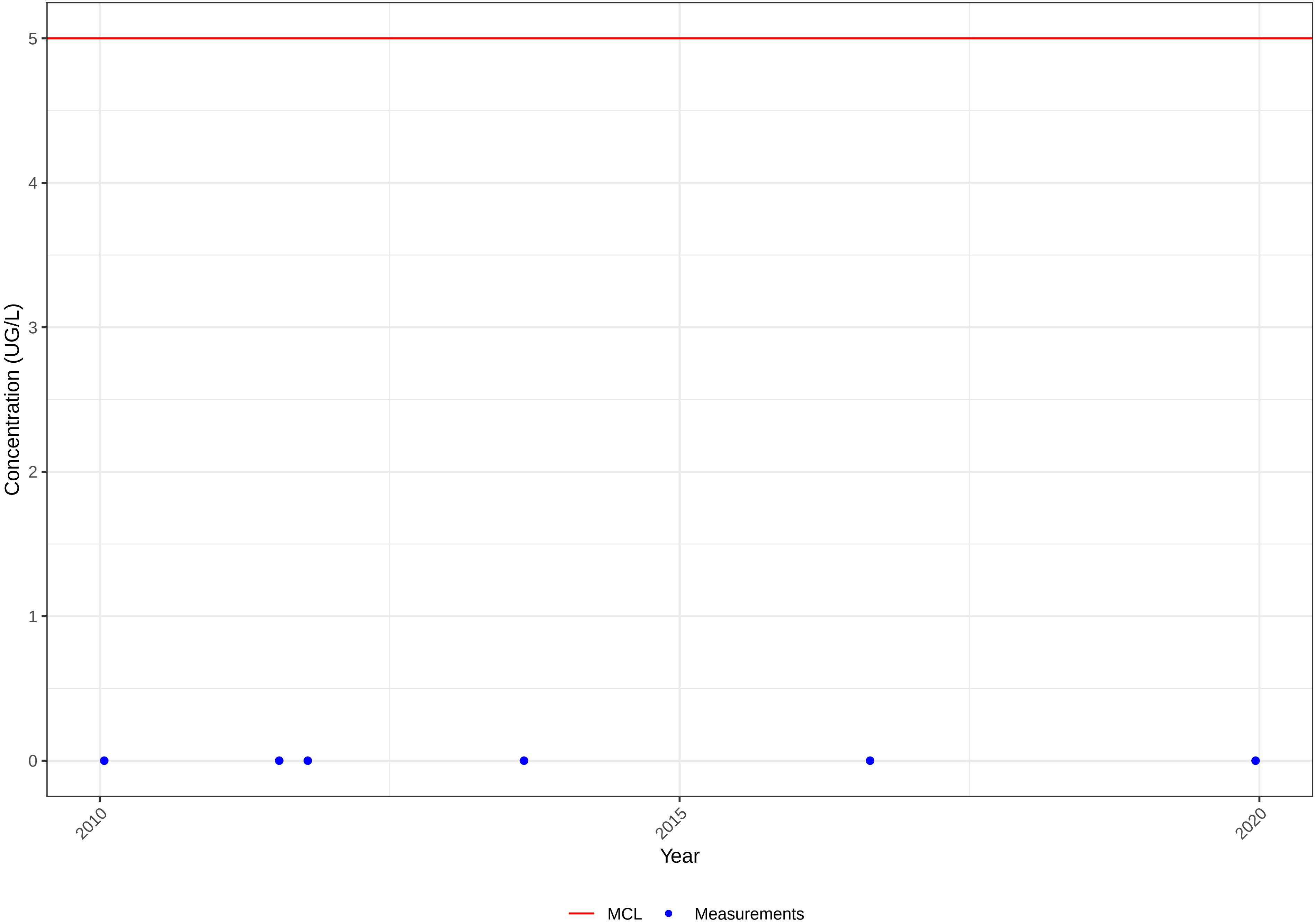


Water Quality Chart

Well No. 1610005−021

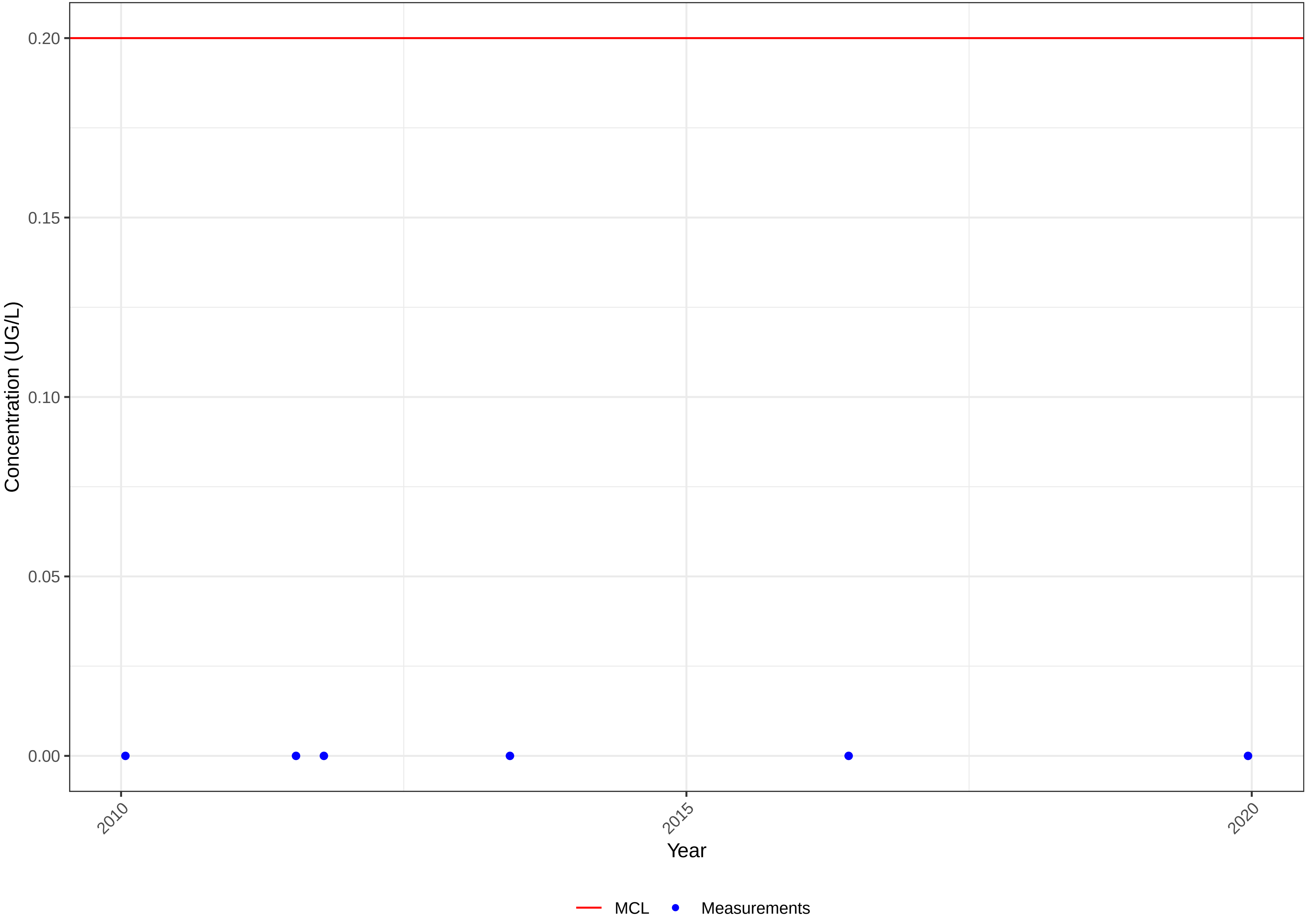
STORET No. 34475

Constituent: TETRACHLOROETHYLENE



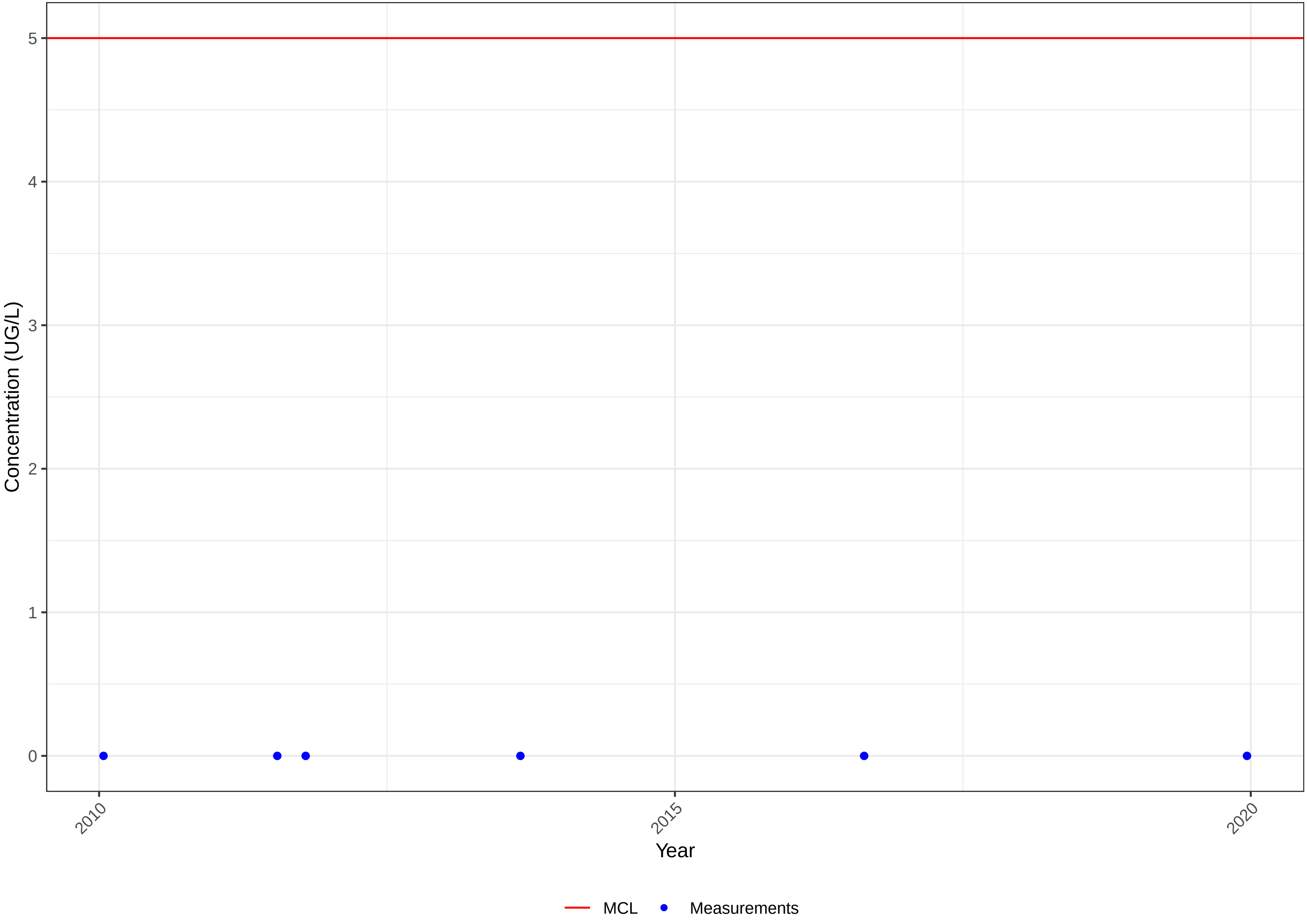
Water Quality Chart

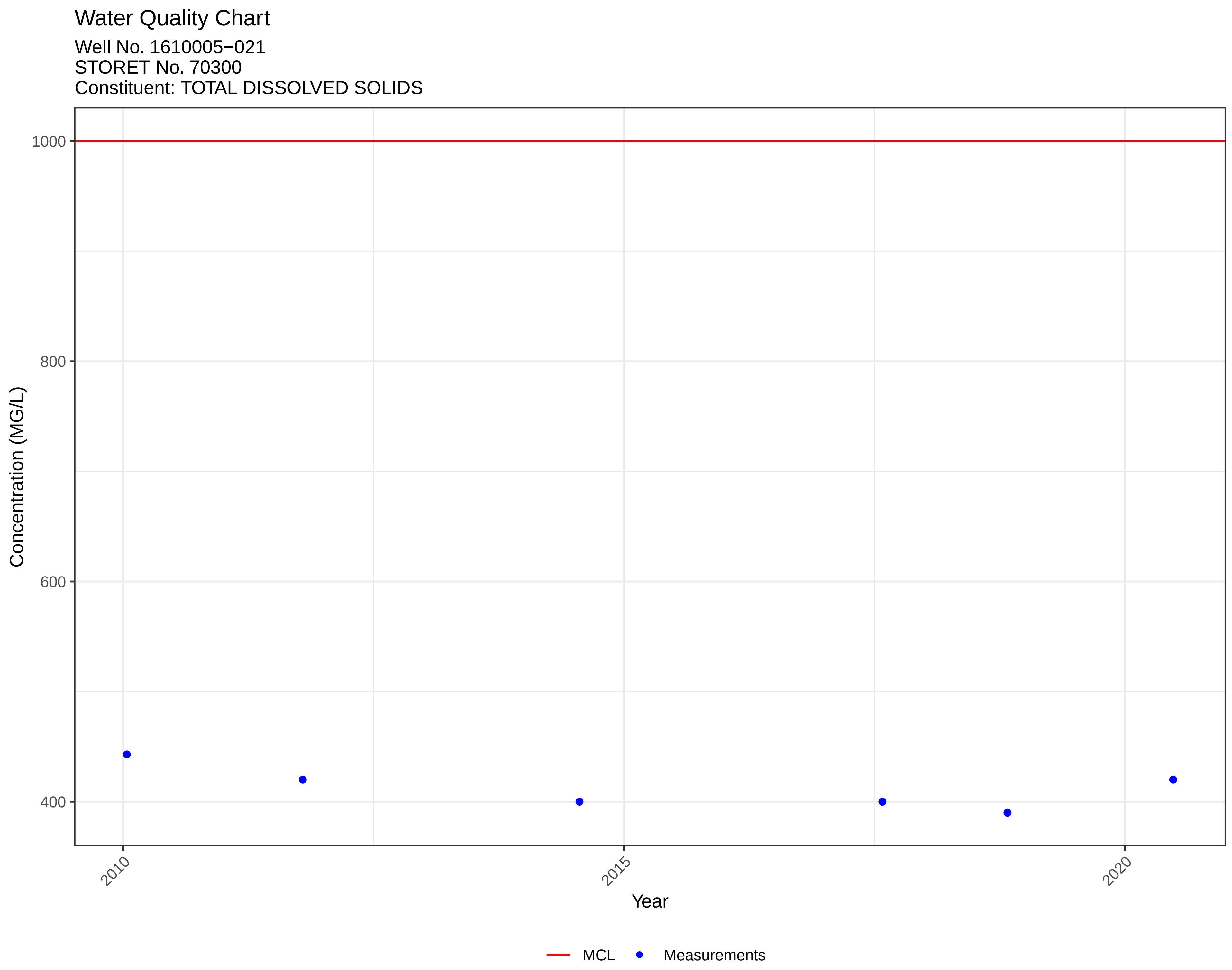
Well No. 1610005−021
STORET No. 38761
Constituent: DIBROMOCHLOROPROPANE (DBCP)



Water Quality Chart

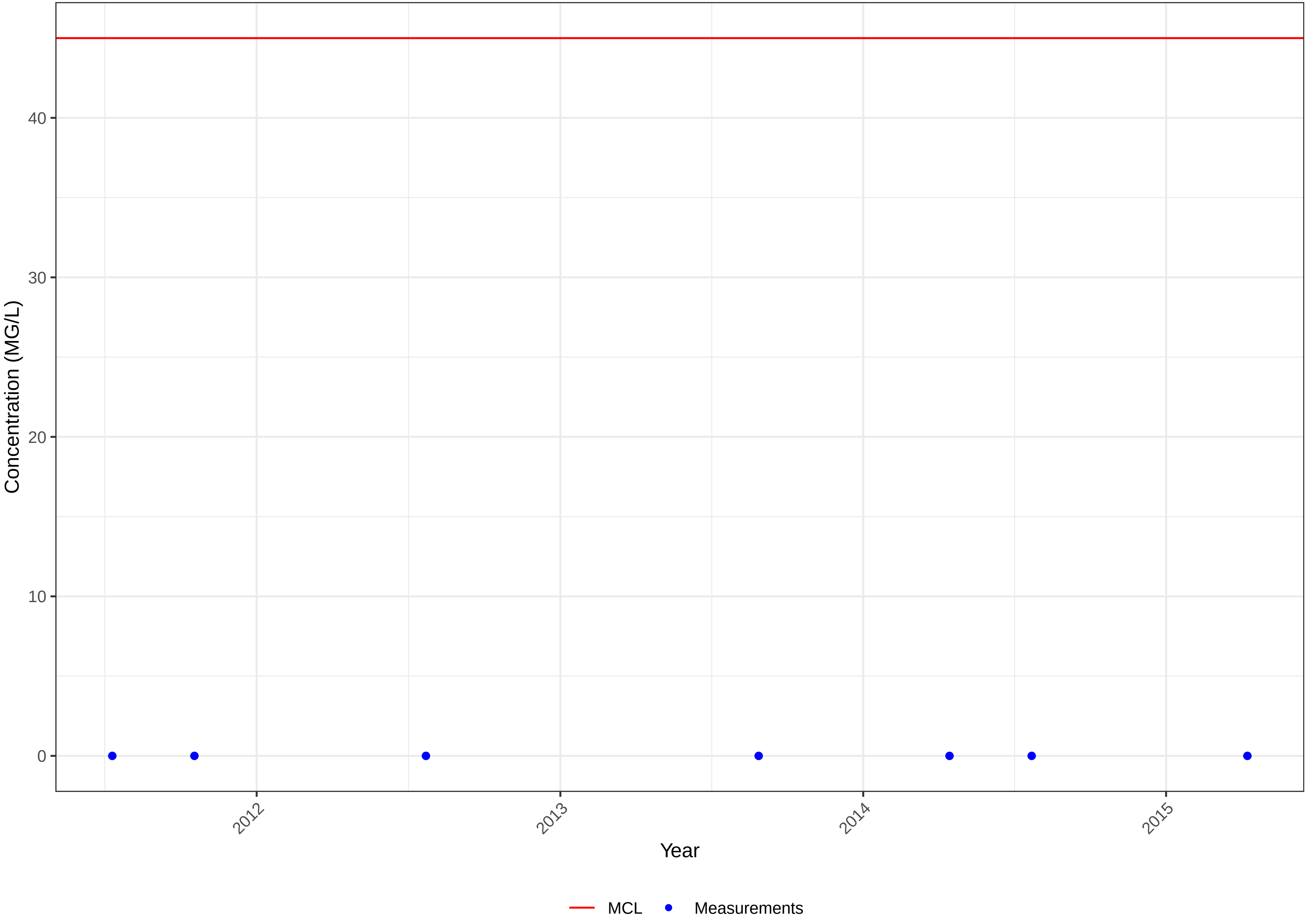
Well No. 1610005−021
STORET No. 39180
Constituent: TRICHLOROETHYLENE




Water Quality Chart
Well No. 1610005−021
STORET No. 70300
Constituent: TOTAL DISSOLVED SOLIDS
1000
800
600
400
Concentration (MG/L)
2010
2015
2020
Year
MCL
Measurements

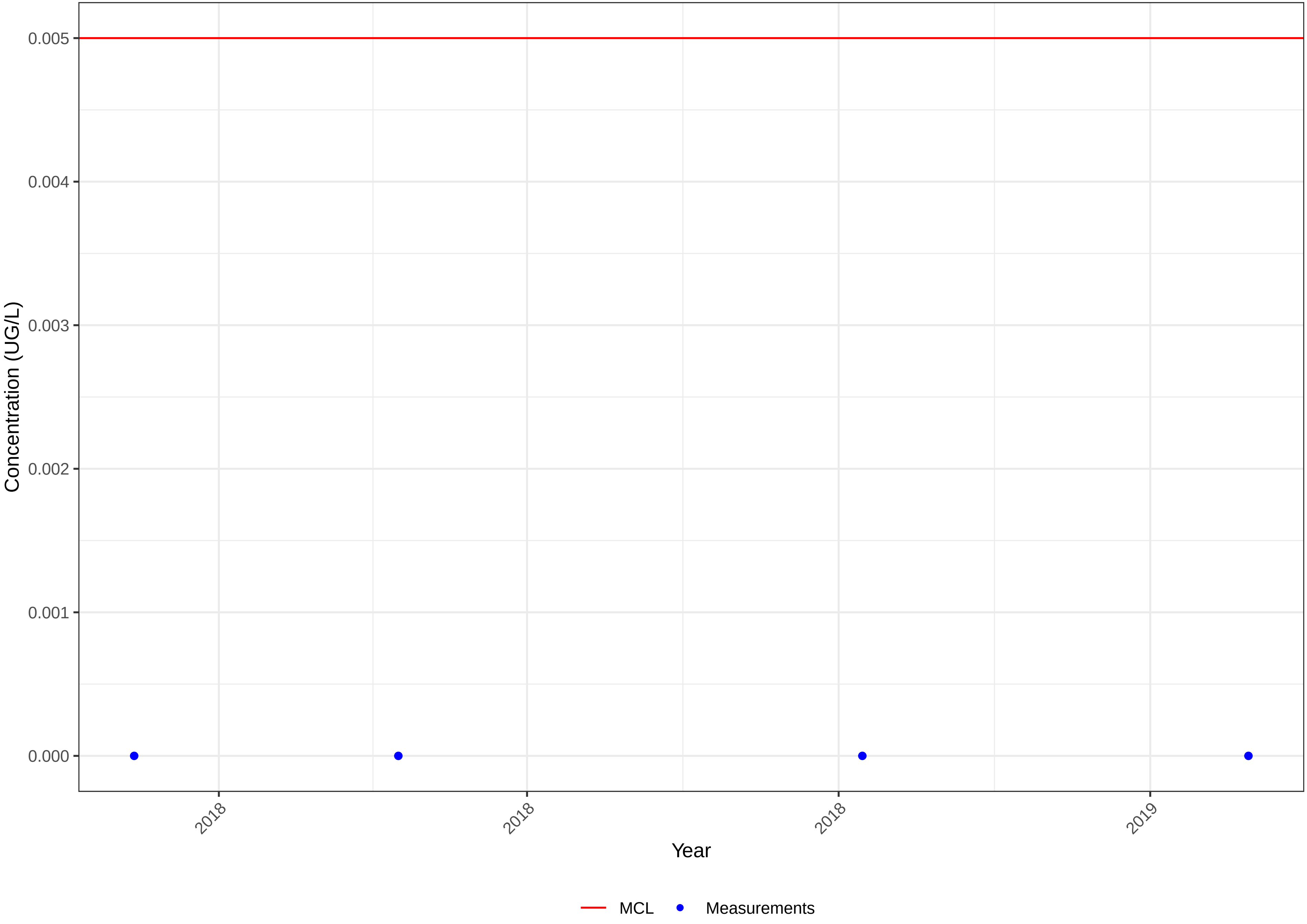
Water Quality Chart

Well No. 1610005−021
STORET No. 71850
Constituent: NITRATE (AS NO3)



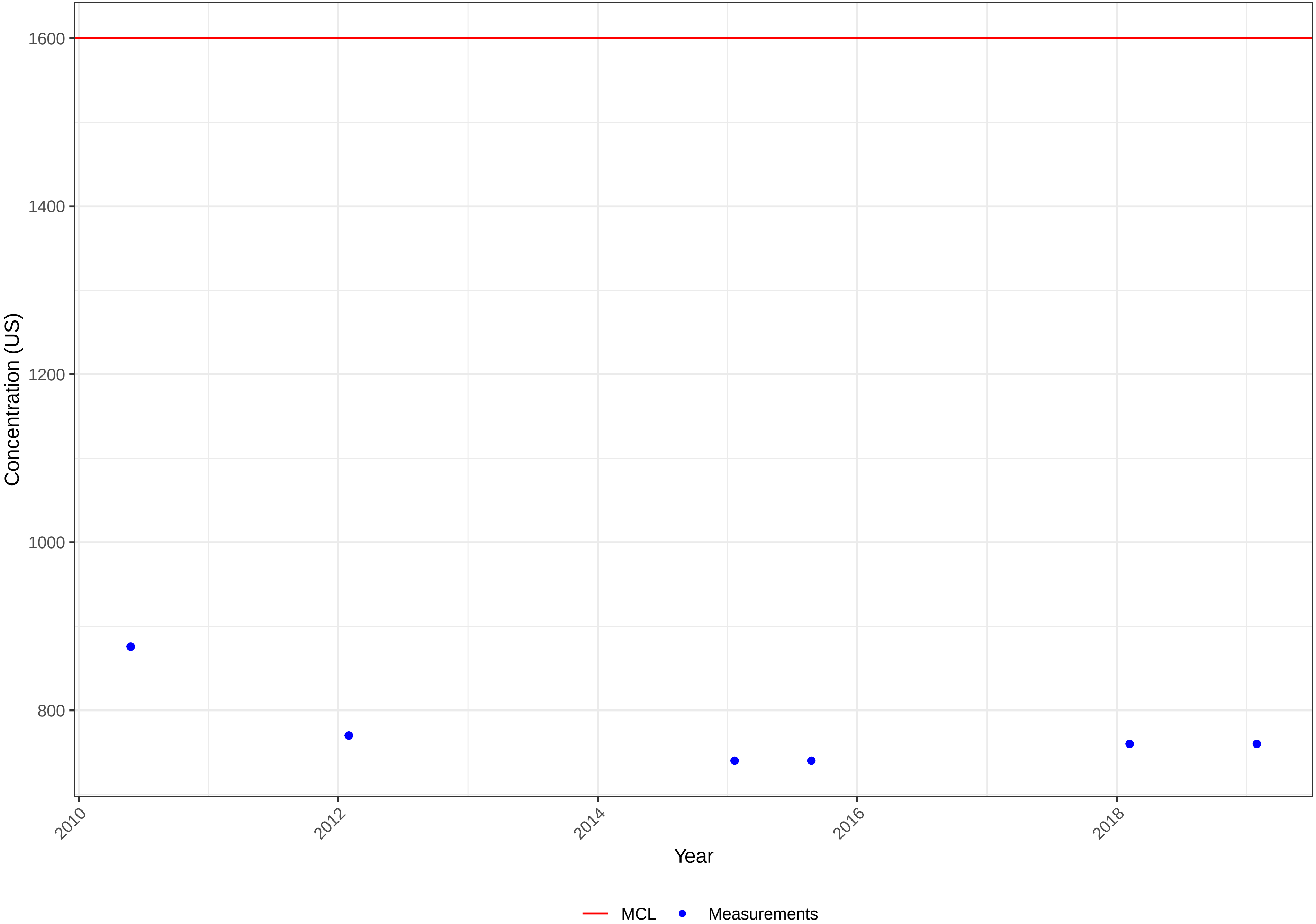
Water Quality Chart

Well No. 1610005−021
STORET No. 77443
Constituent: 1,2,3−TRICHLOROPROPANE



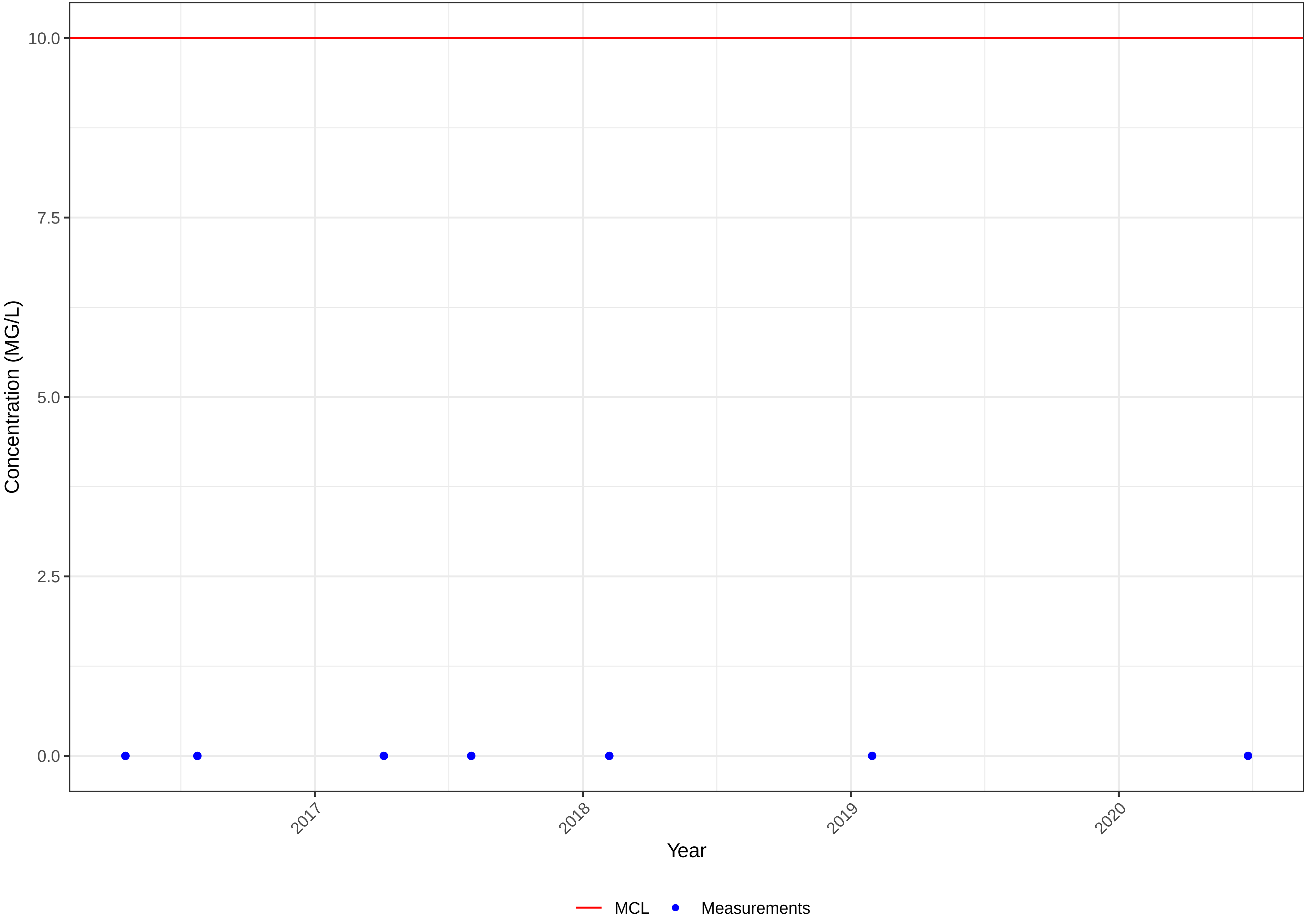
Water Quality Chart

Well No. 1610005−022
STORET No. 95
Constituent: SPECIFIC CONDUCTANCE



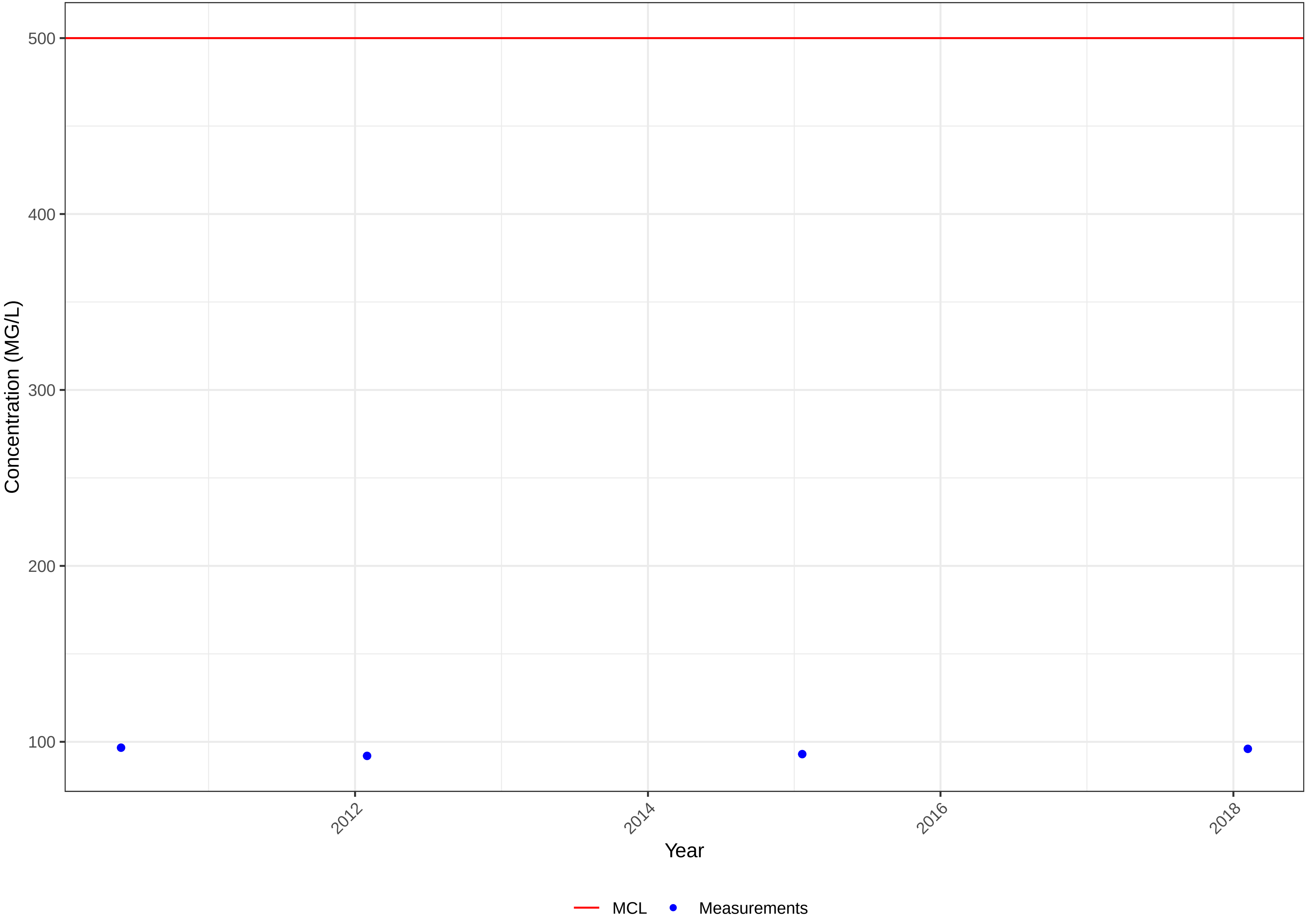
Water Quality Chart

Well No. 1610005−022
STORET No. 618
Constituent: NITRATE (AS N)



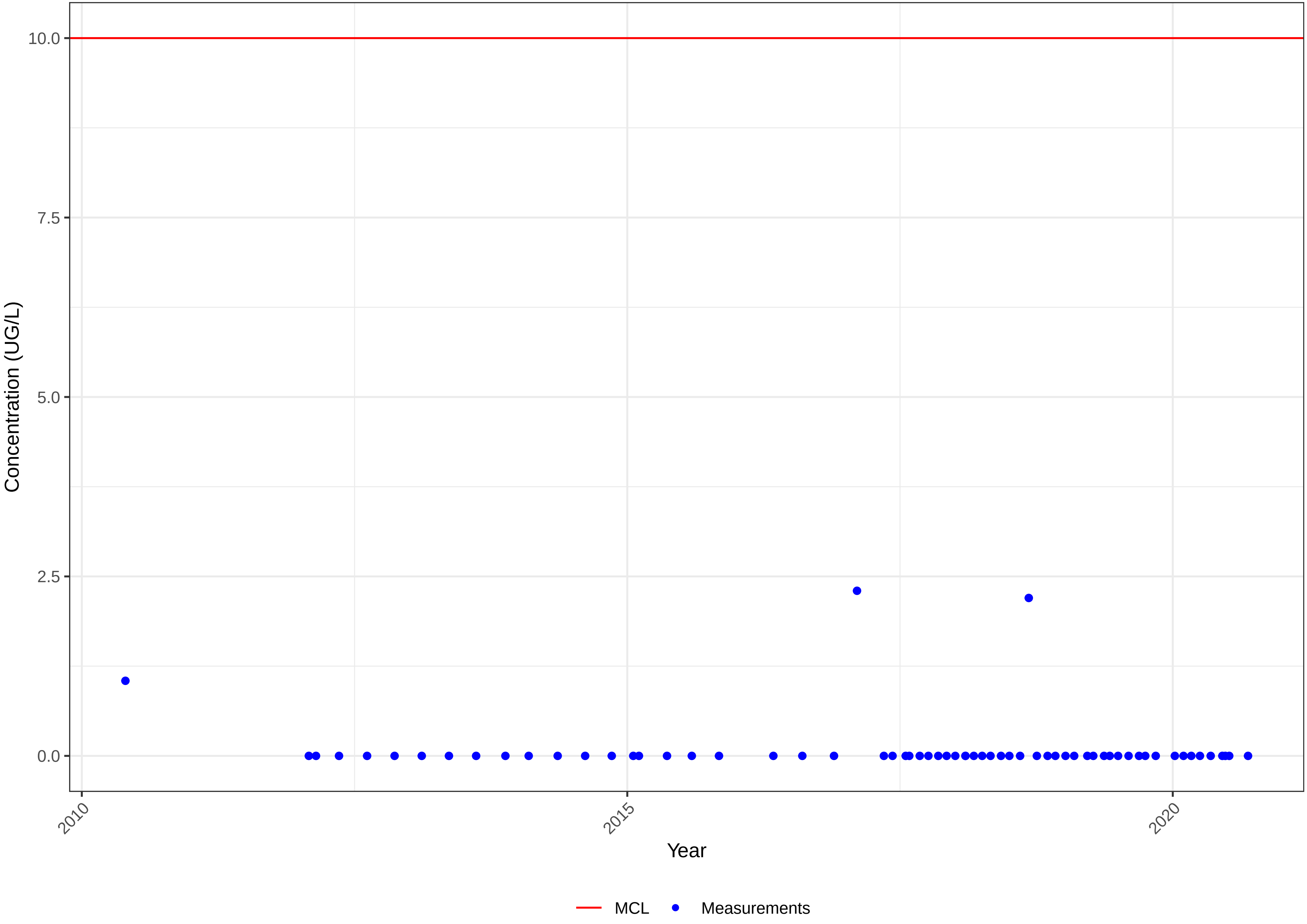
Water Quality Chart

Well No. 1610005−022
STORET No. 940
Constituent: CHLORIDE



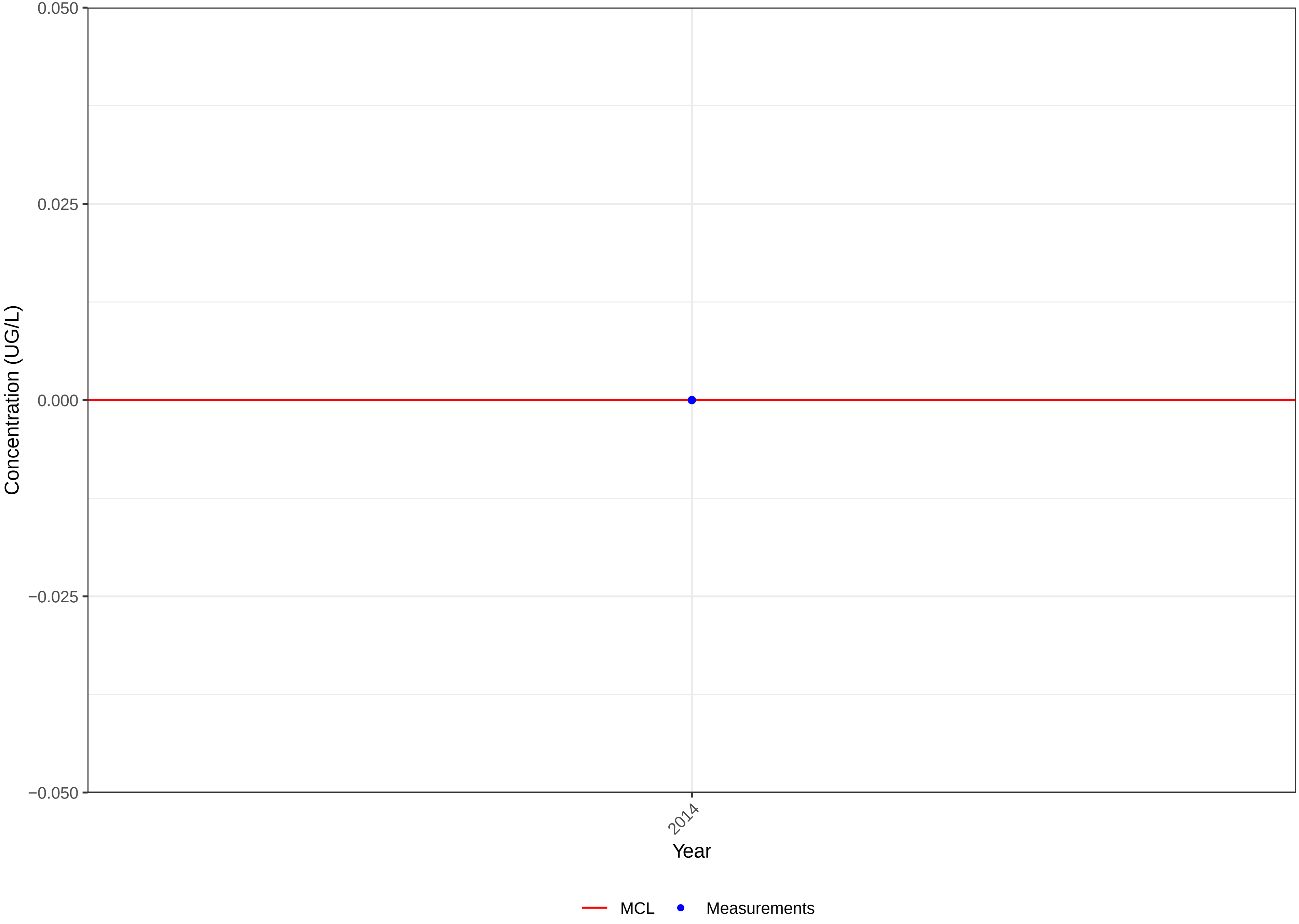
Water Quality Chart

Well No. 1610005−022
STORET No. 1002
Constituent: ARSENIC



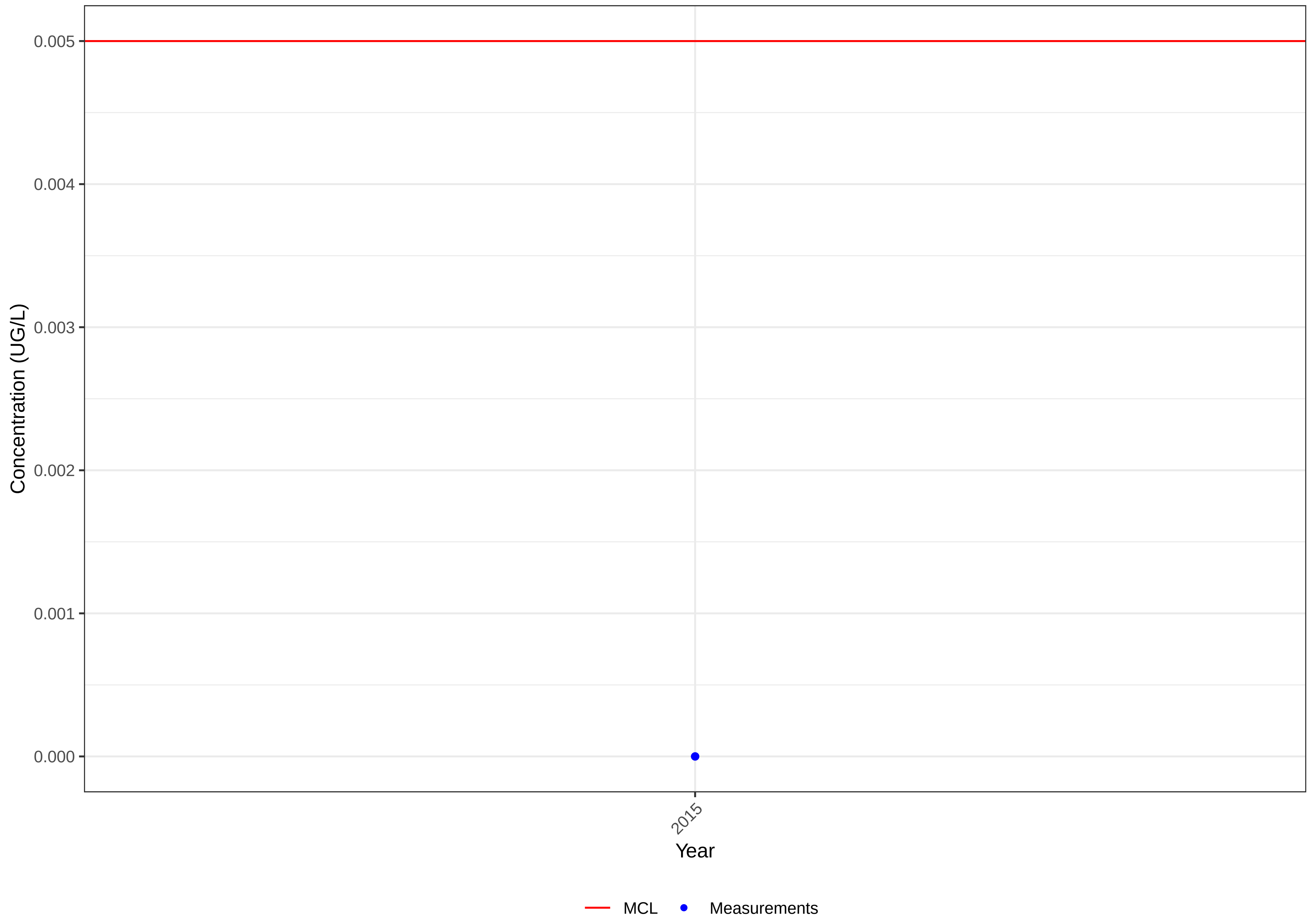
Water Quality Chart

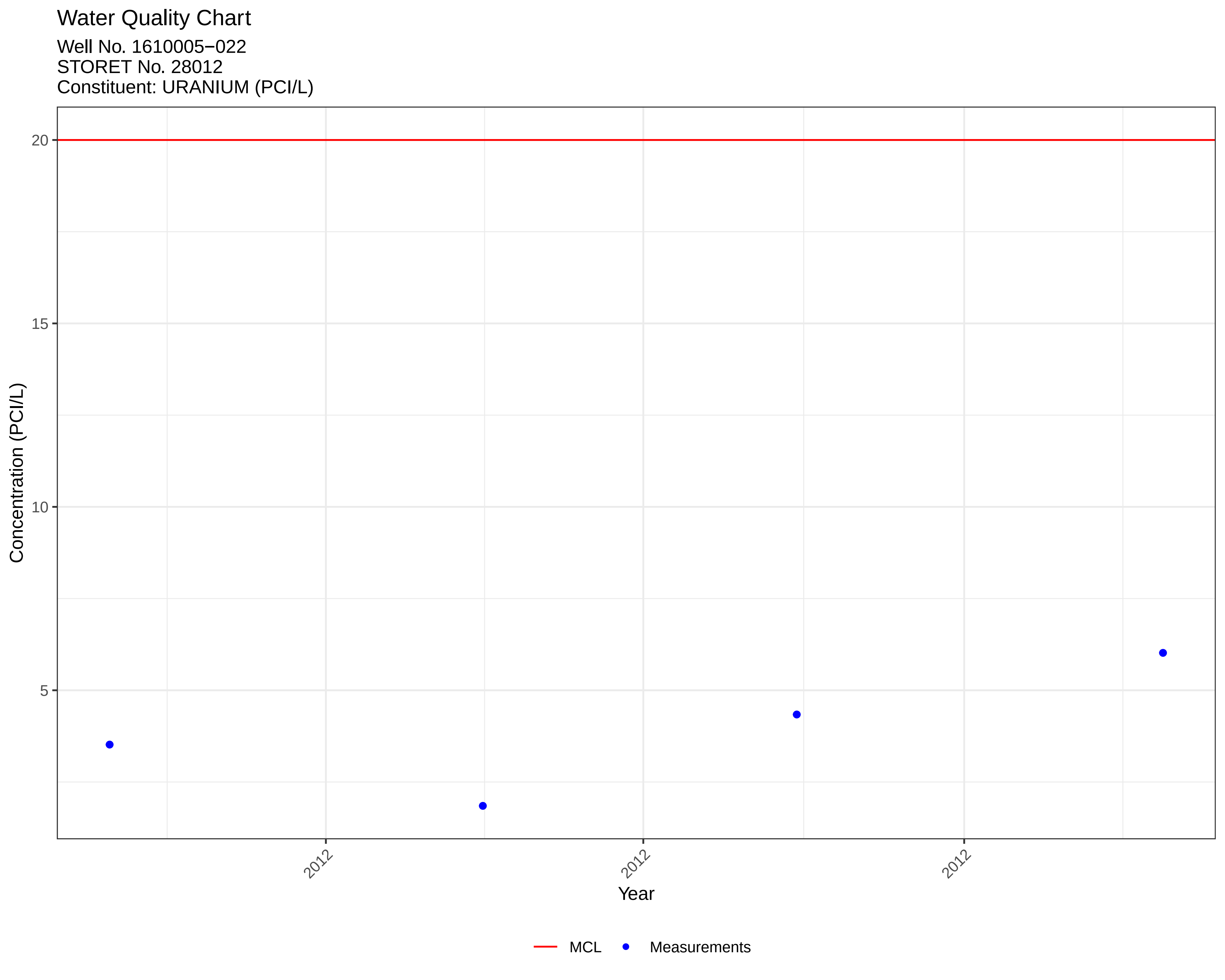
Well No. 1610005−022
STORET No. 1032
Constituent: CHROMIUM, HEXAVALENT



Water Quality Chart

Well No. 1610005−022
STORET No. 7744X
Constituent: 1,2,3−TRICHLOROPROPANE

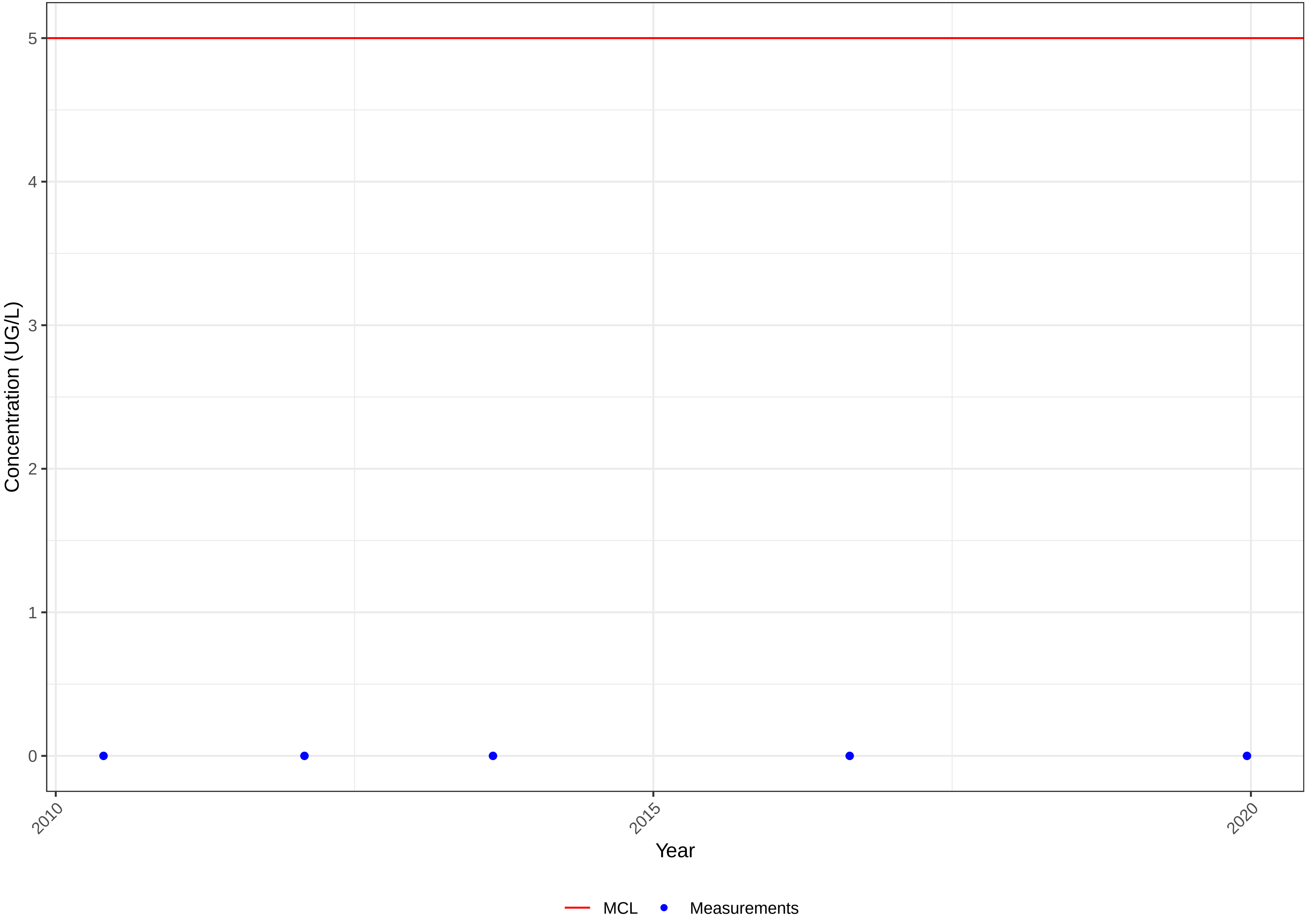




Water Quality Chart
Well No. 1610005−022
STORET No. 28012
Constituent: URANIUM (PCI/L)
20
15
10
5
Concentration (PCI/L)
2012
2012
2012
Year
MCL
Measurements

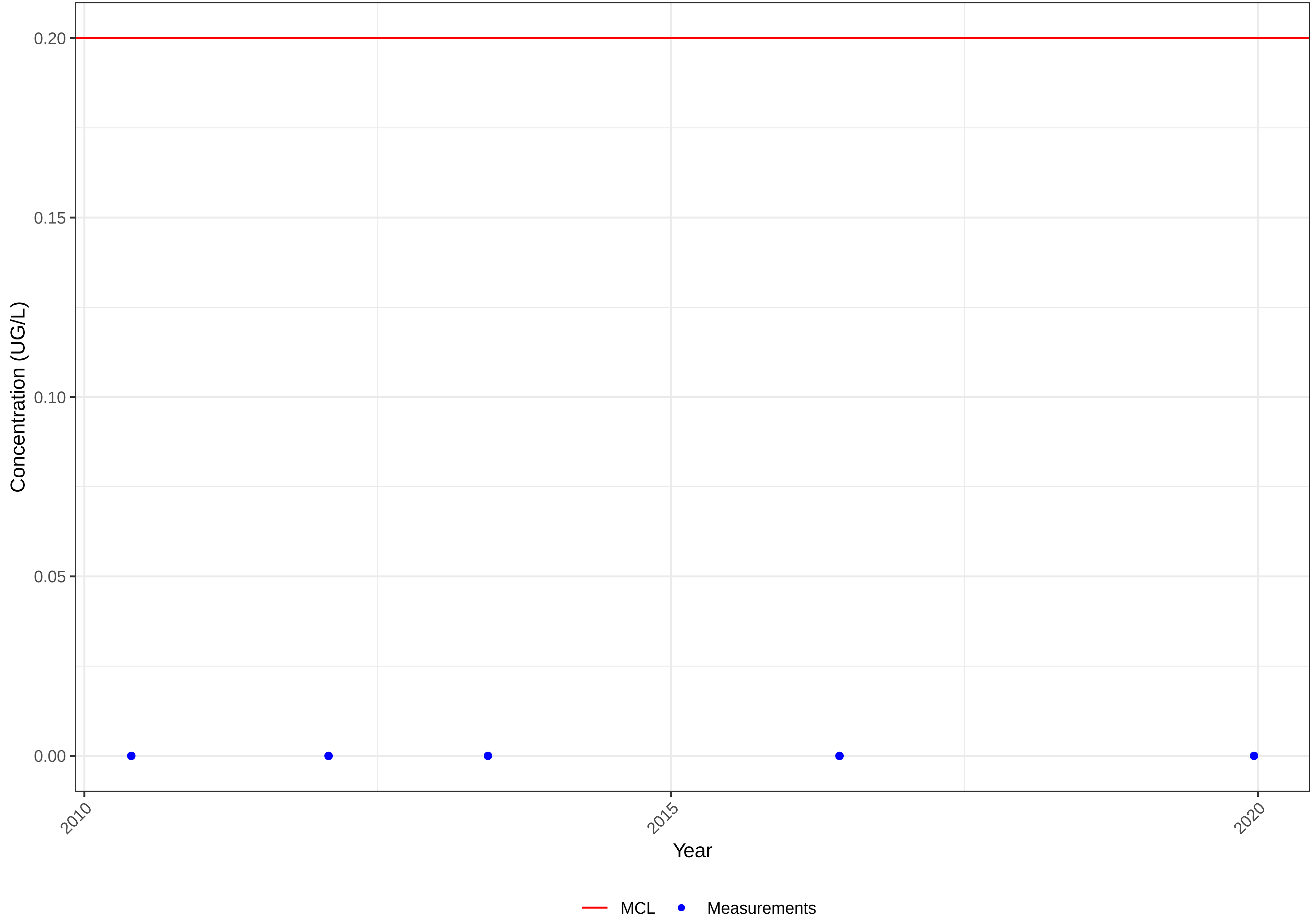
Water Quality Chart

Well No. 1610005−022
STORET No. 34475
Constituent: TETRACHLOROETHYLENE



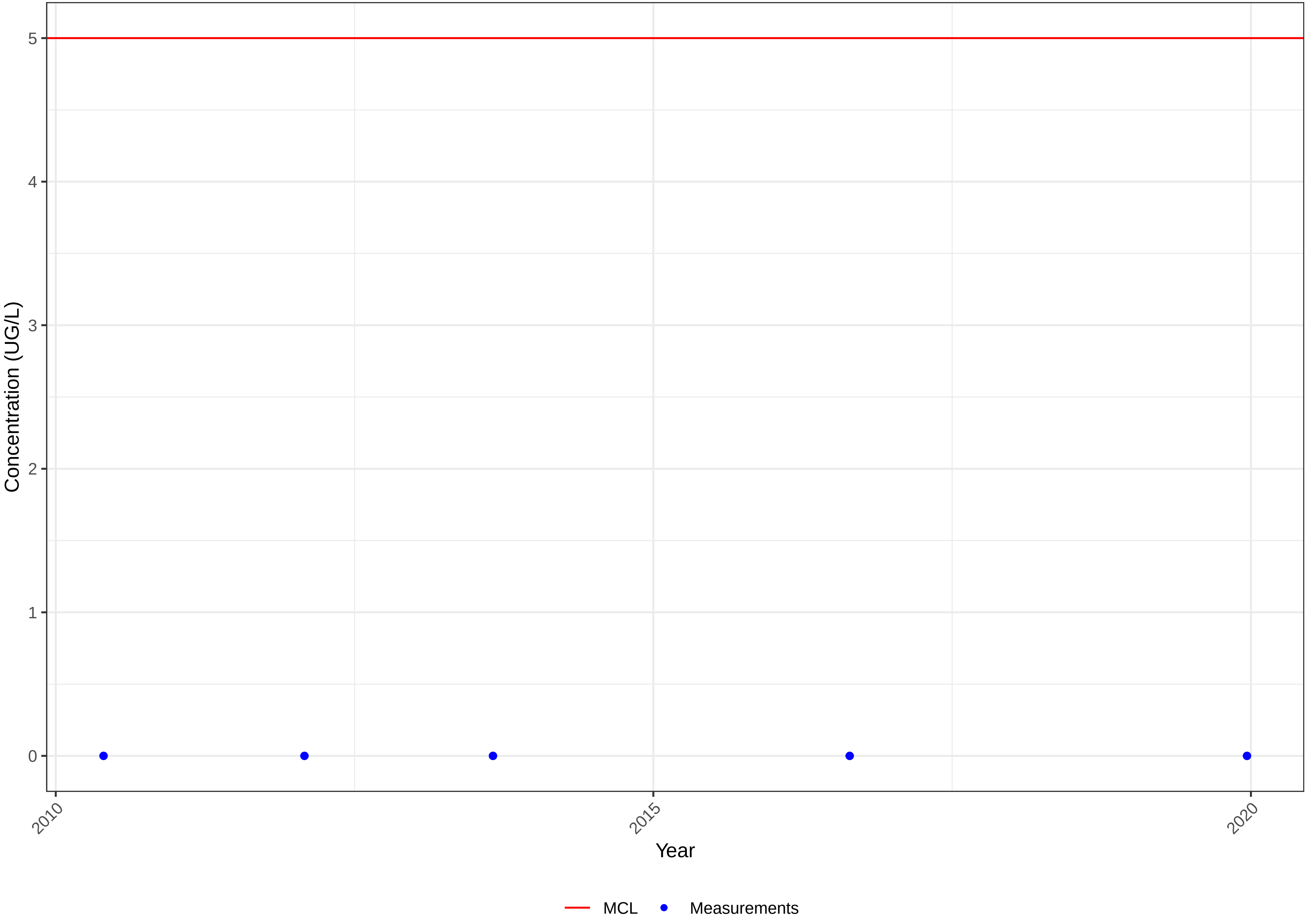
Water Quality Chart

Well No. 1610005−022
STORET No. 38761
Constituent: DIBROMOCHLOROPROPANE (DBCP)



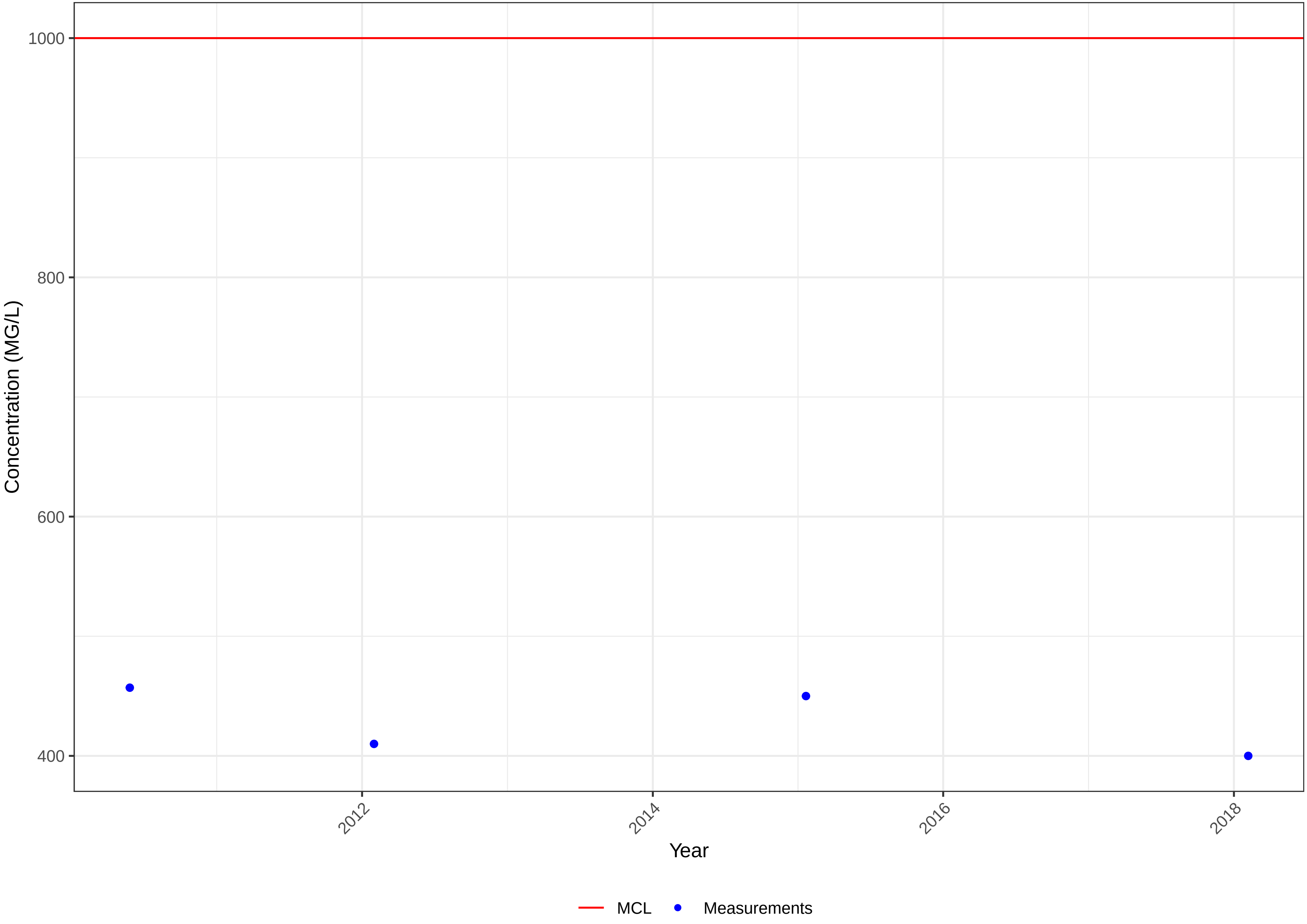
Water Quality Chart

Well No. 1610005−022
STORET No. 39180
Constituent: TRICHLOROETHYLENE



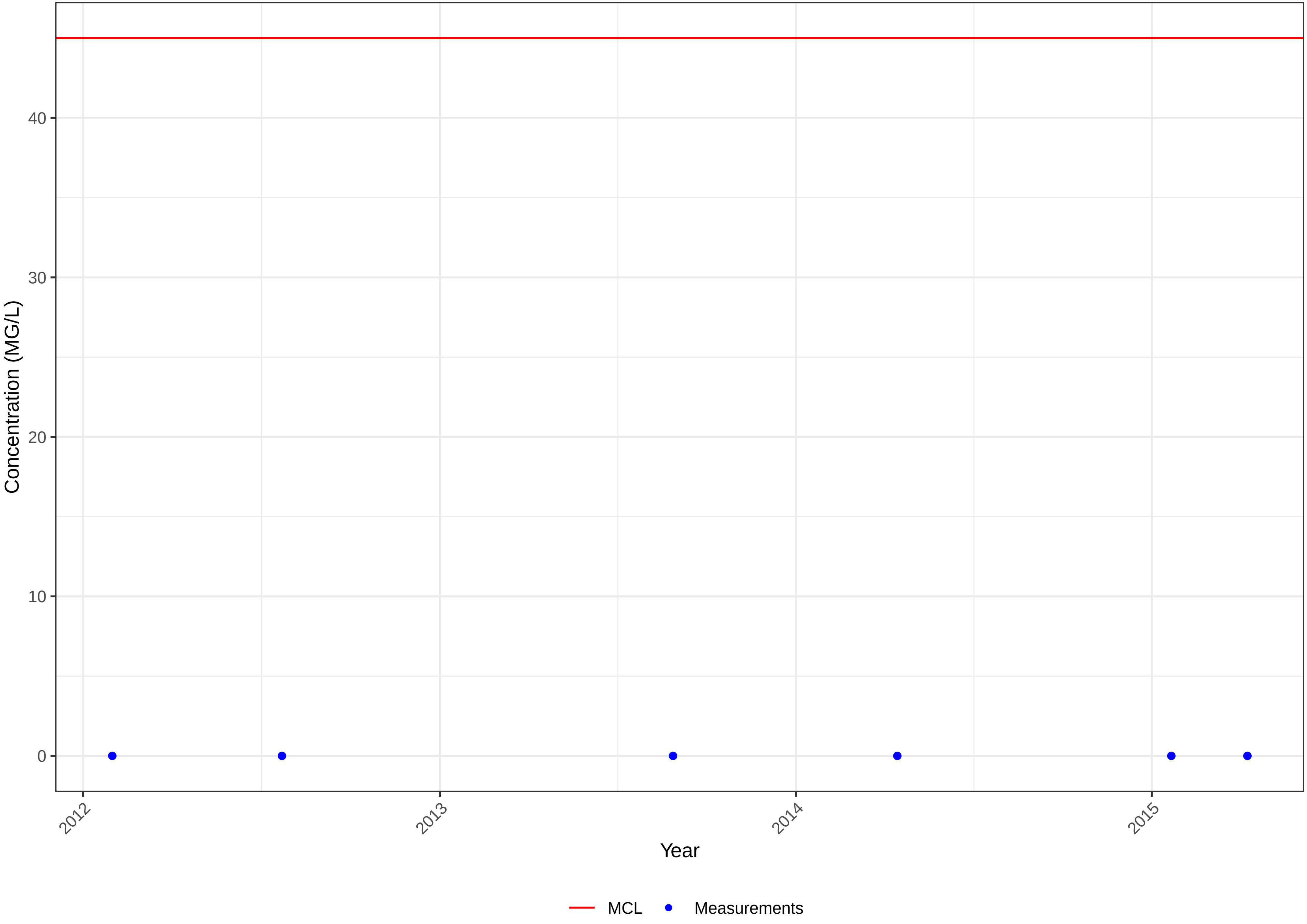
Water Quality Chart

Well No. 1610005−022
STORET No. 70300
Constituent: TOTAL DISSOLVED SOLIDS



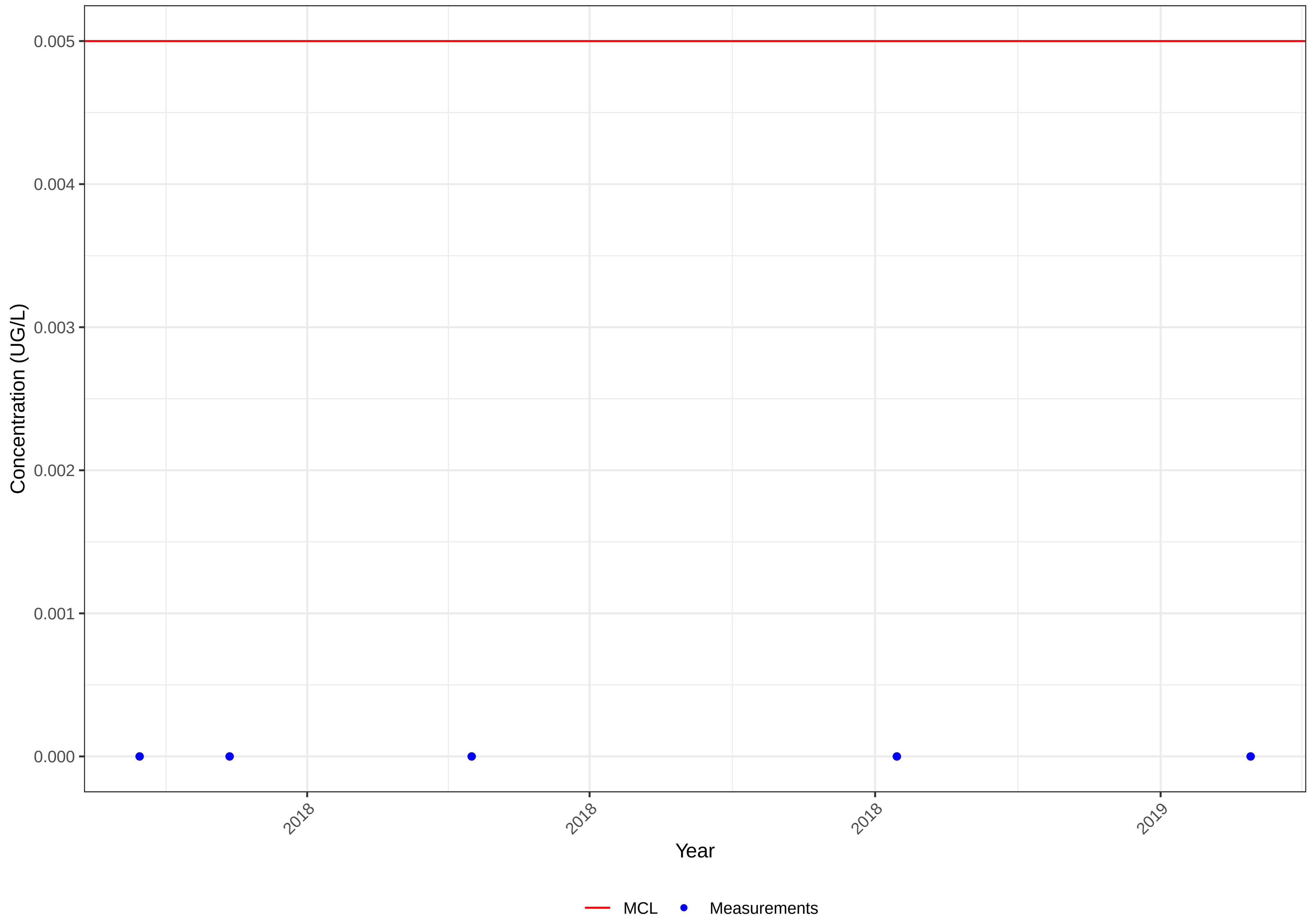
Water Quality Chart

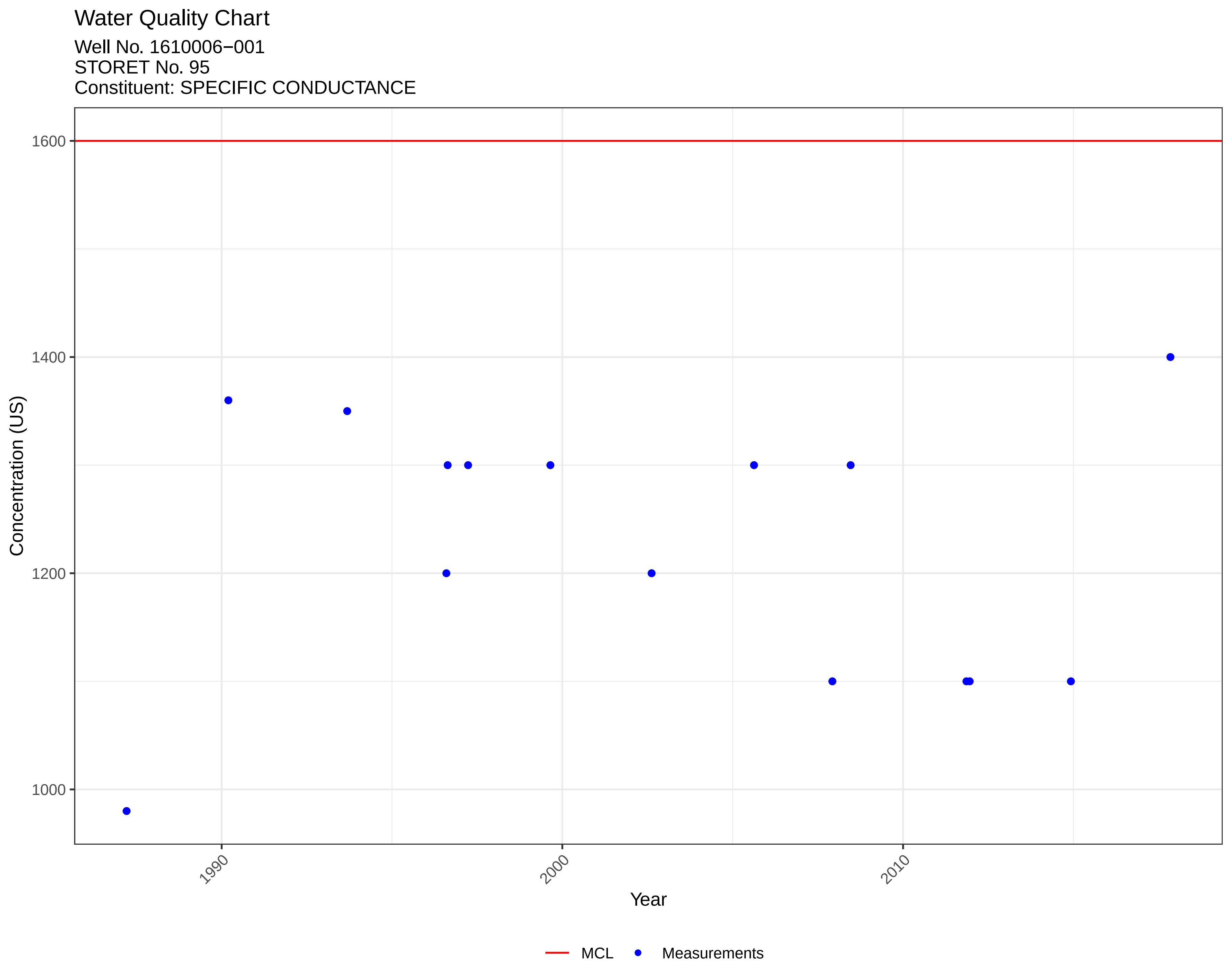
Well No. 1610005−022
STORET No. 71850
Constituent: NITRATE (AS NO3)



Water Quality Chart

Well No. 1610005−022
STORET No. 77443
Constituent: 1,2,3−TRICHLOROPROPANE

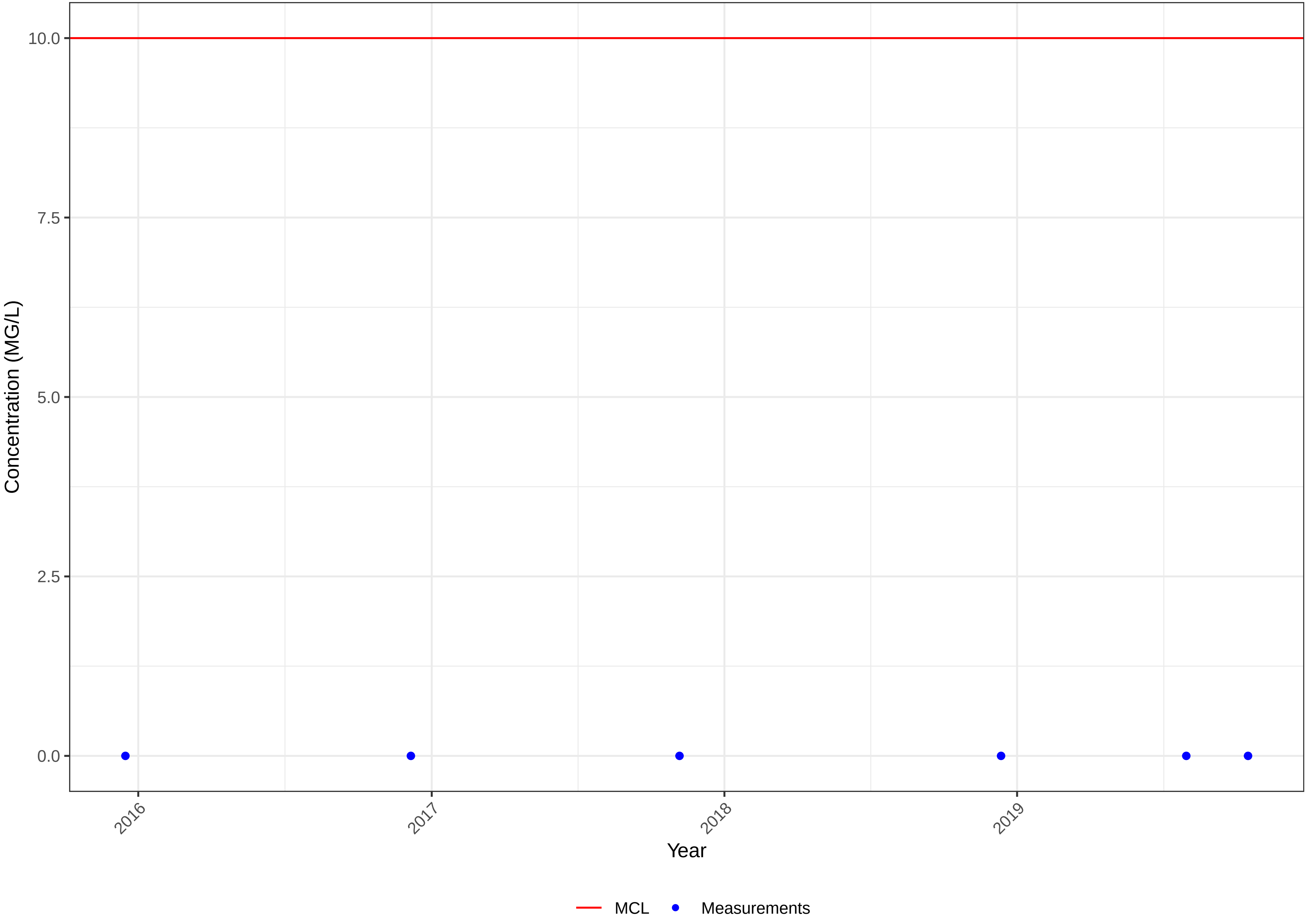




Water Quality Chart
Well No. 1610006−001
STORET No. 95
Constituent: SPECIFIC CONDUCTANCE
1600
1400
1200
1000
Concentration (US)
1990
2000
2010
Year
MCL
Measurements

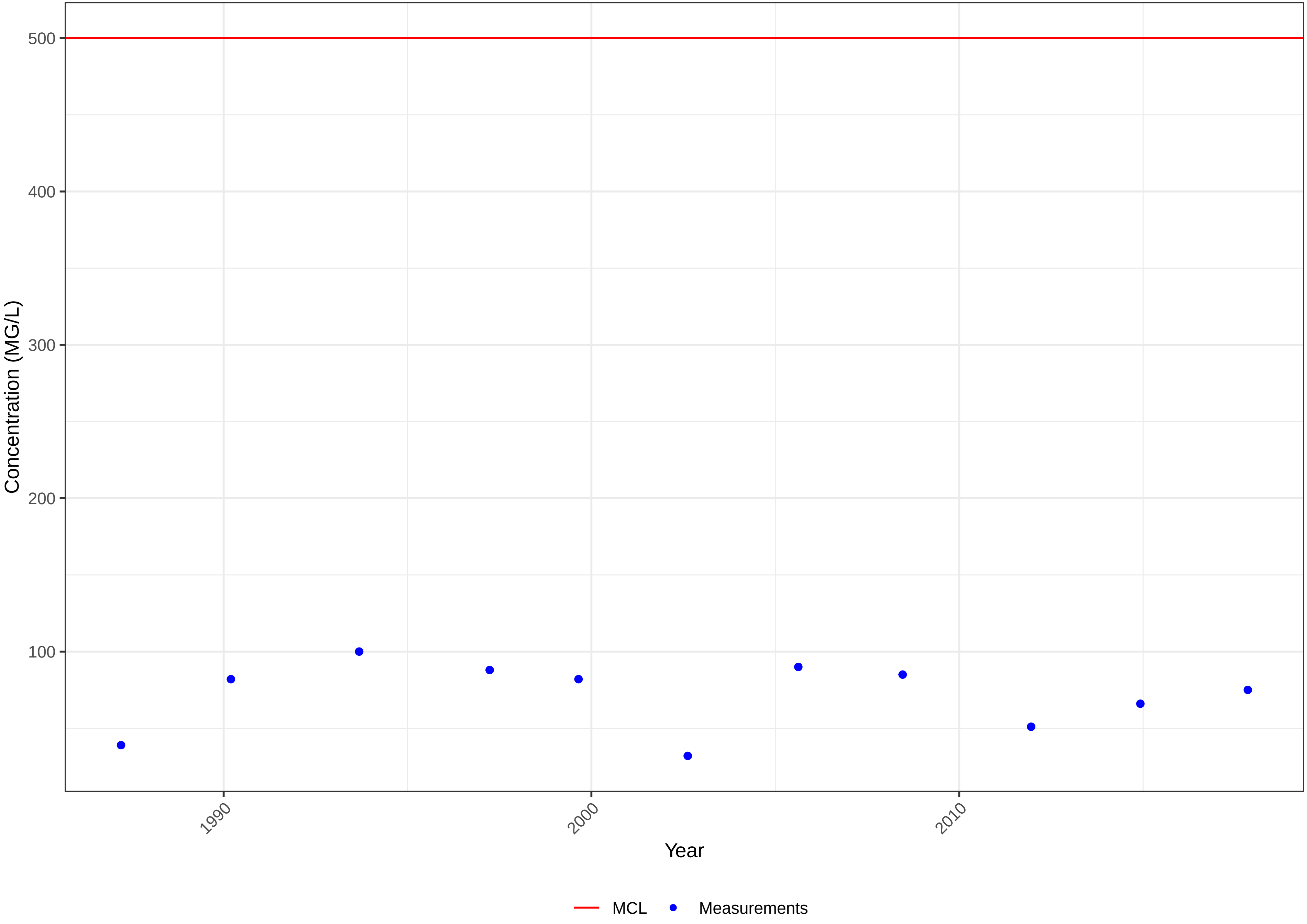
Water Quality Chart

Well No. 1610006−001
STORET No. 618
Constituent: NITRATE (AS N)



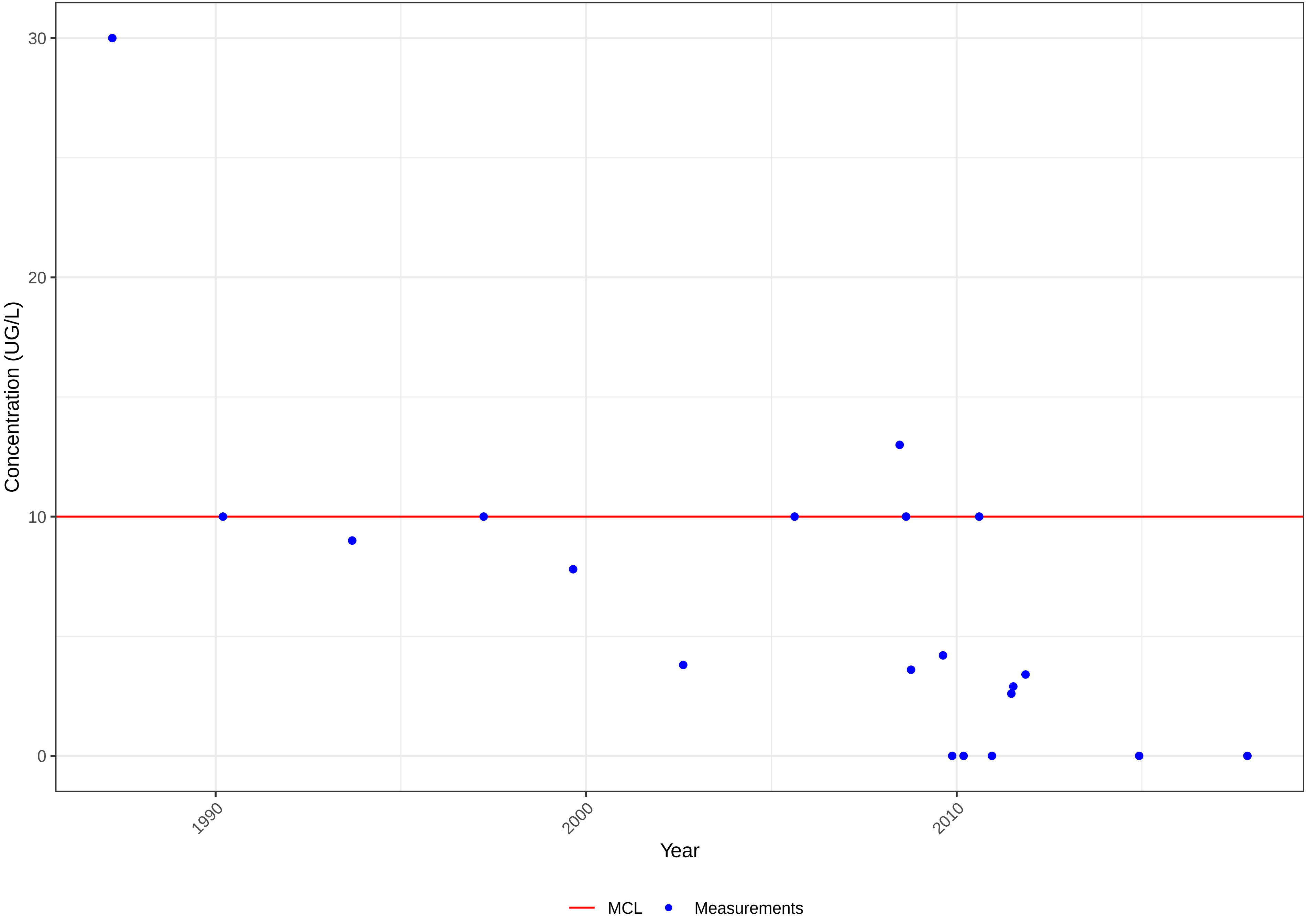
Water Quality Chart

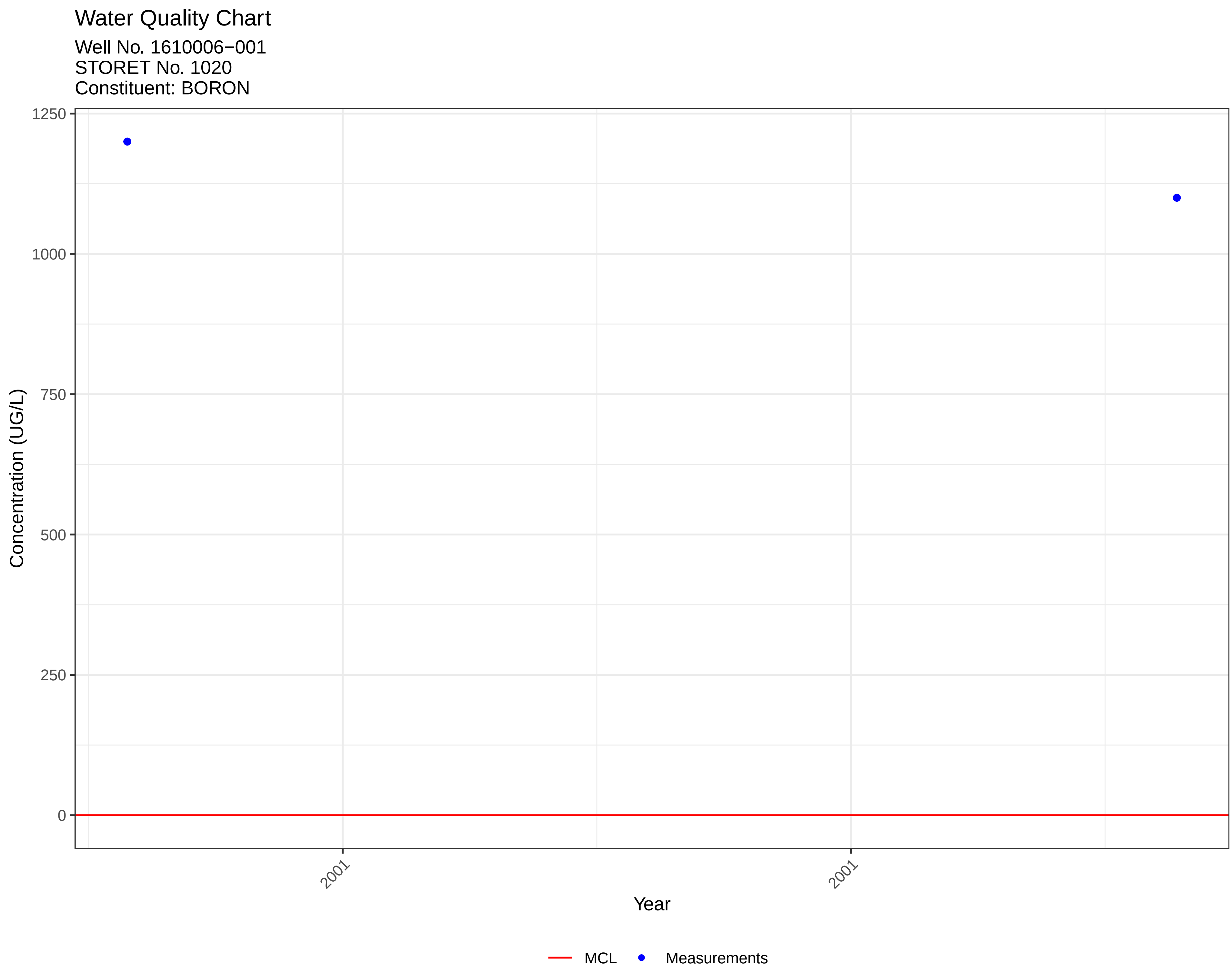
Well No. 1610006−001
STORET No. 940
Constituent: CHLORIDE



Water Quality Chart

Well No. 1610006−001
STORET No. 1002
Constituent: ARSENIC

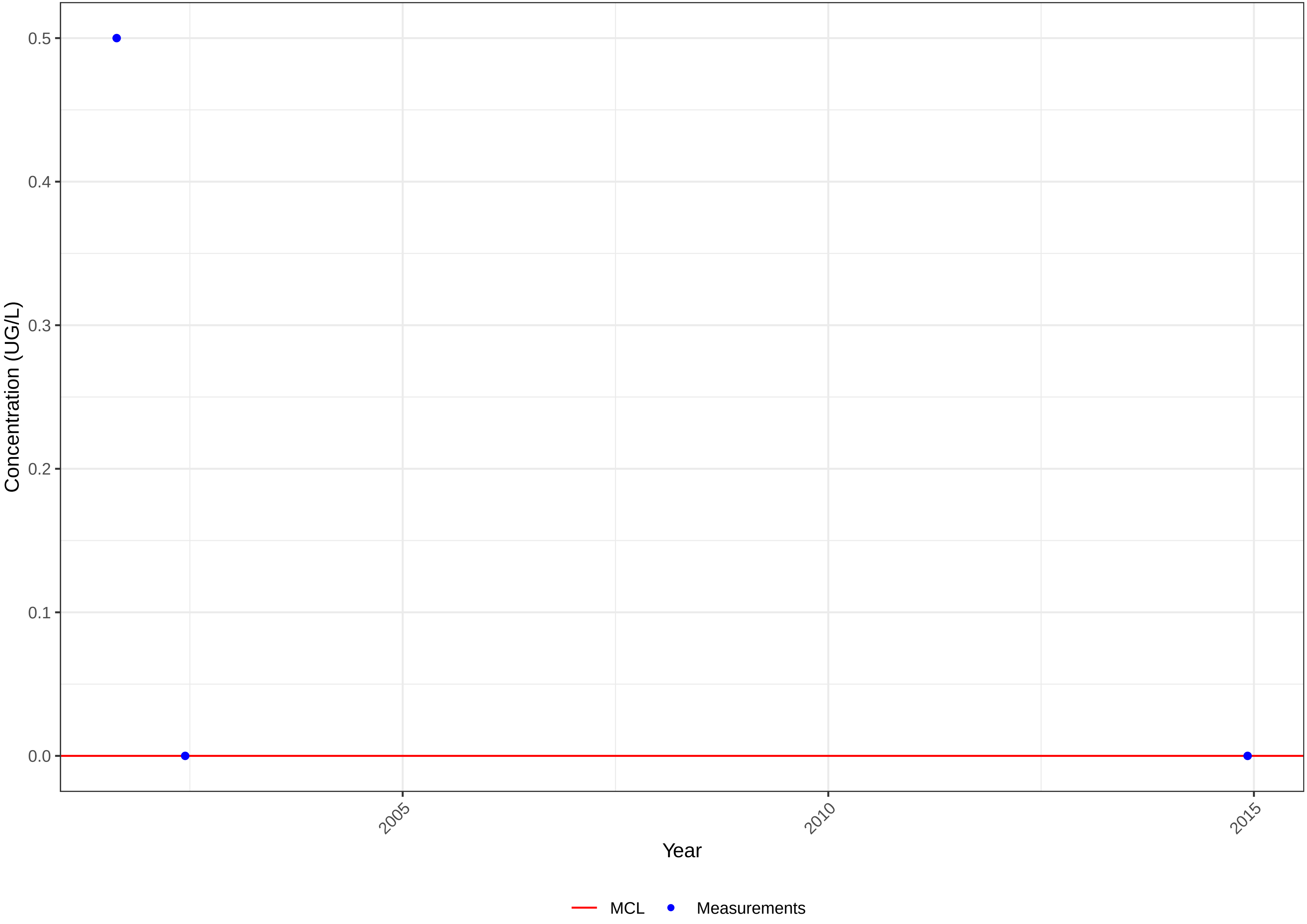




Water Quality Chart
Well No. 1610006−001
STORET No. 1020
Constituent: BORON
Concentration (UG/L)
1250
1000
750
500
250
0
2001
2001
Year
MCL
Measurements

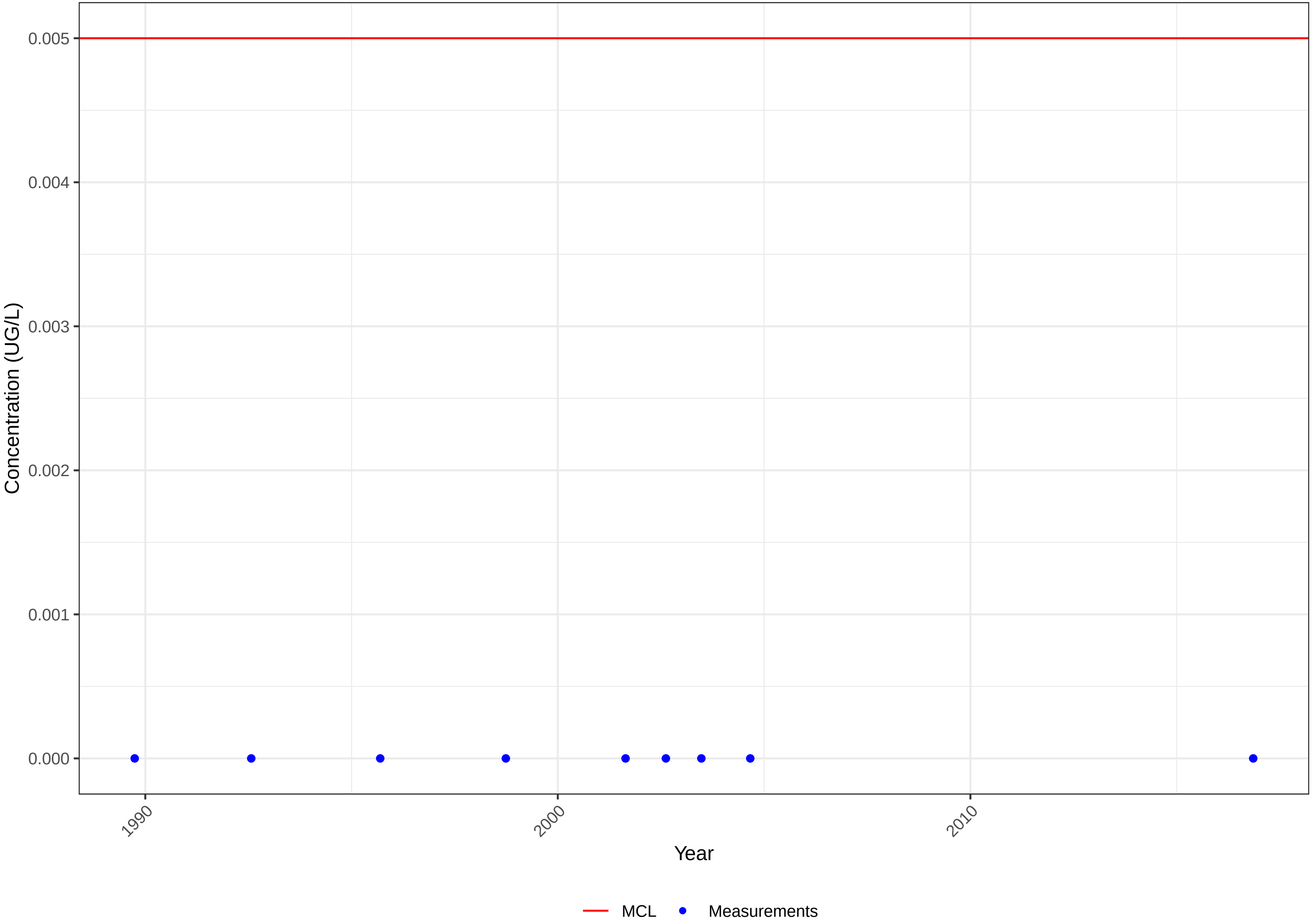
Water Quality Chart

Well No. 1610006−001
STORET No. 1032
Constituent: CHROMIUM, HEXAVALENT



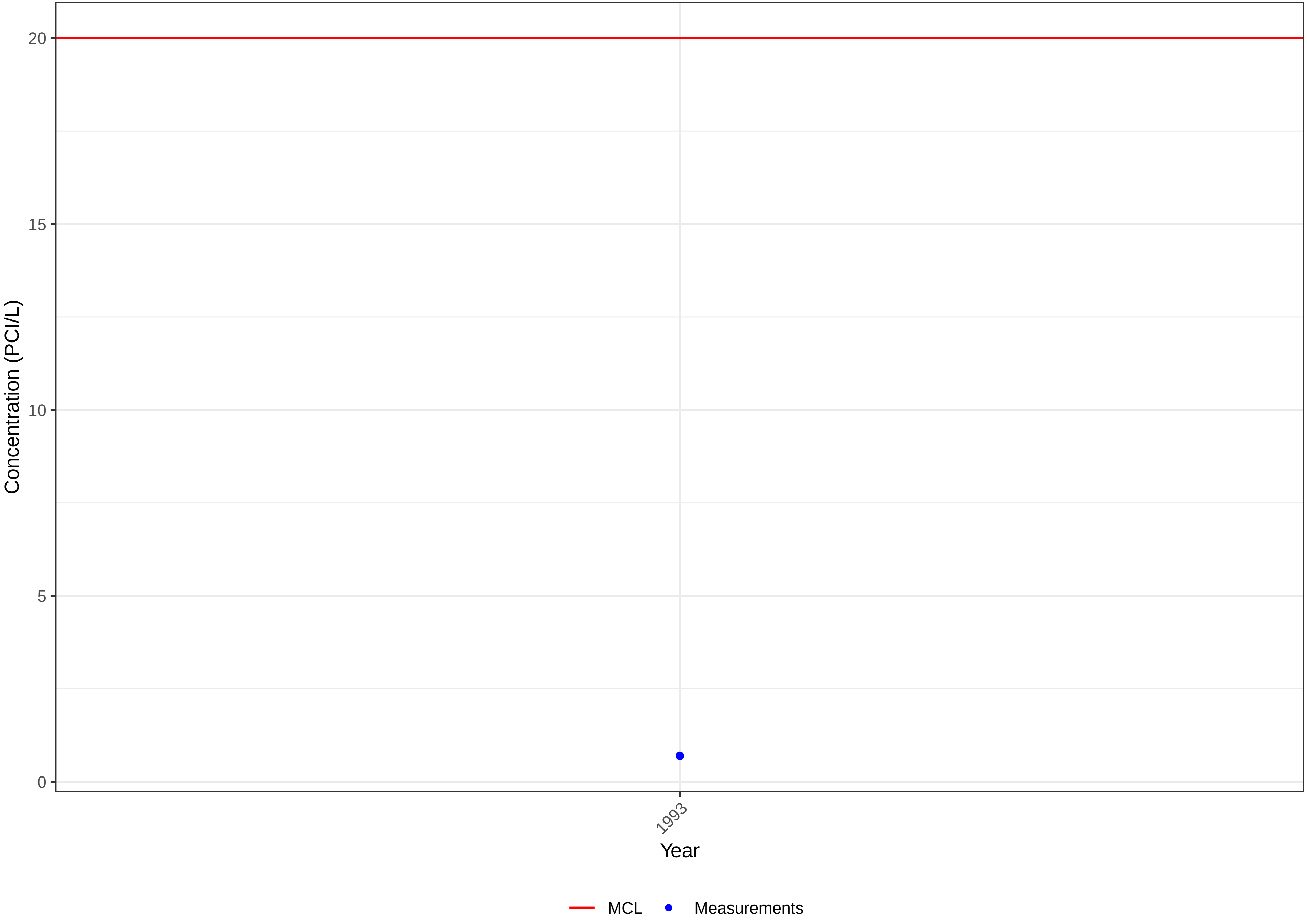
Water Quality Chart

Well No. 1610006−001
STORET No. 7744X
Constituent: 1,2,3−TRICHLOROPROPANE



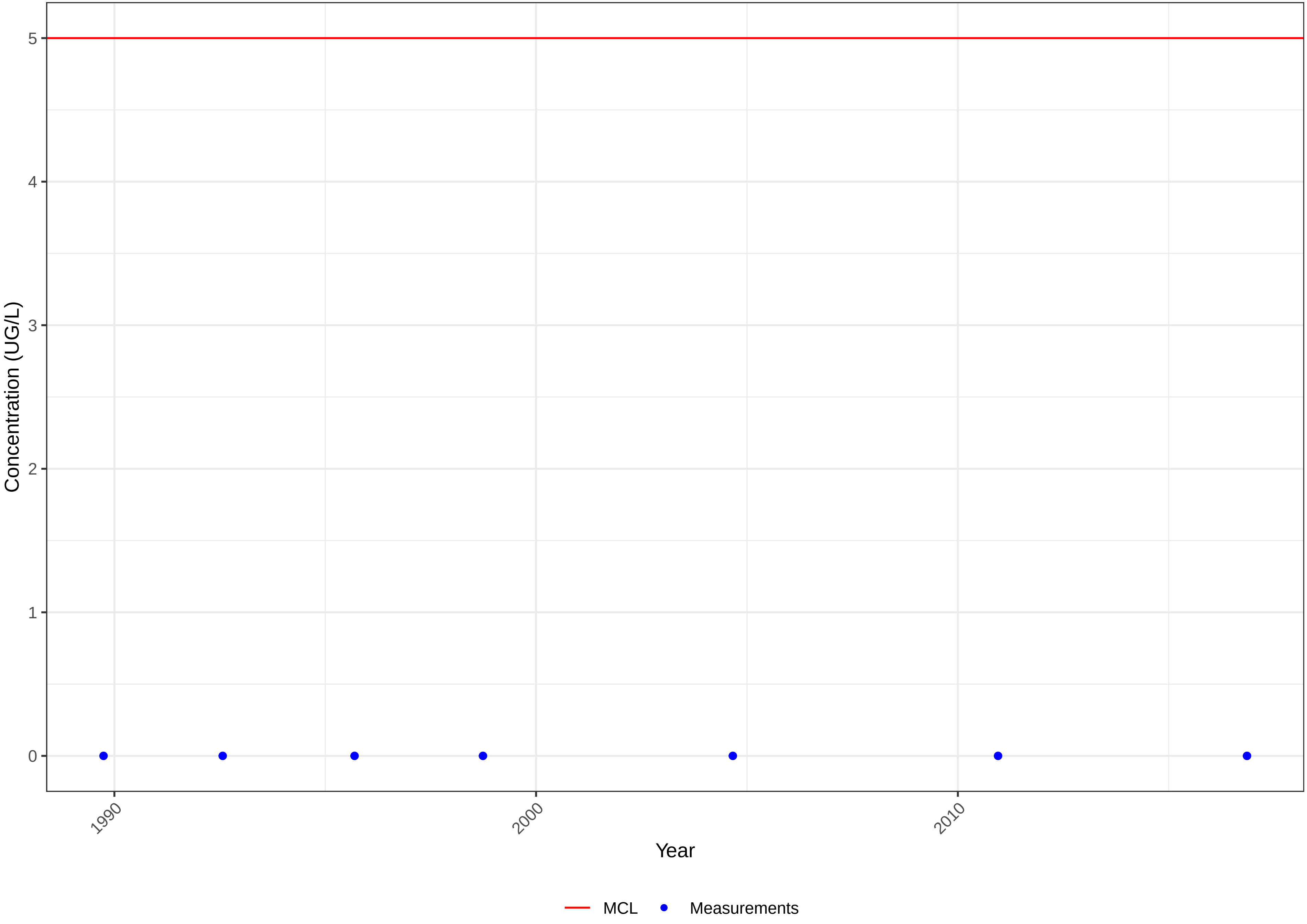
Water Quality Chart

Well No. 1610006−001
STORET No. 28012
Constituent: URANIUM (PCI/L)



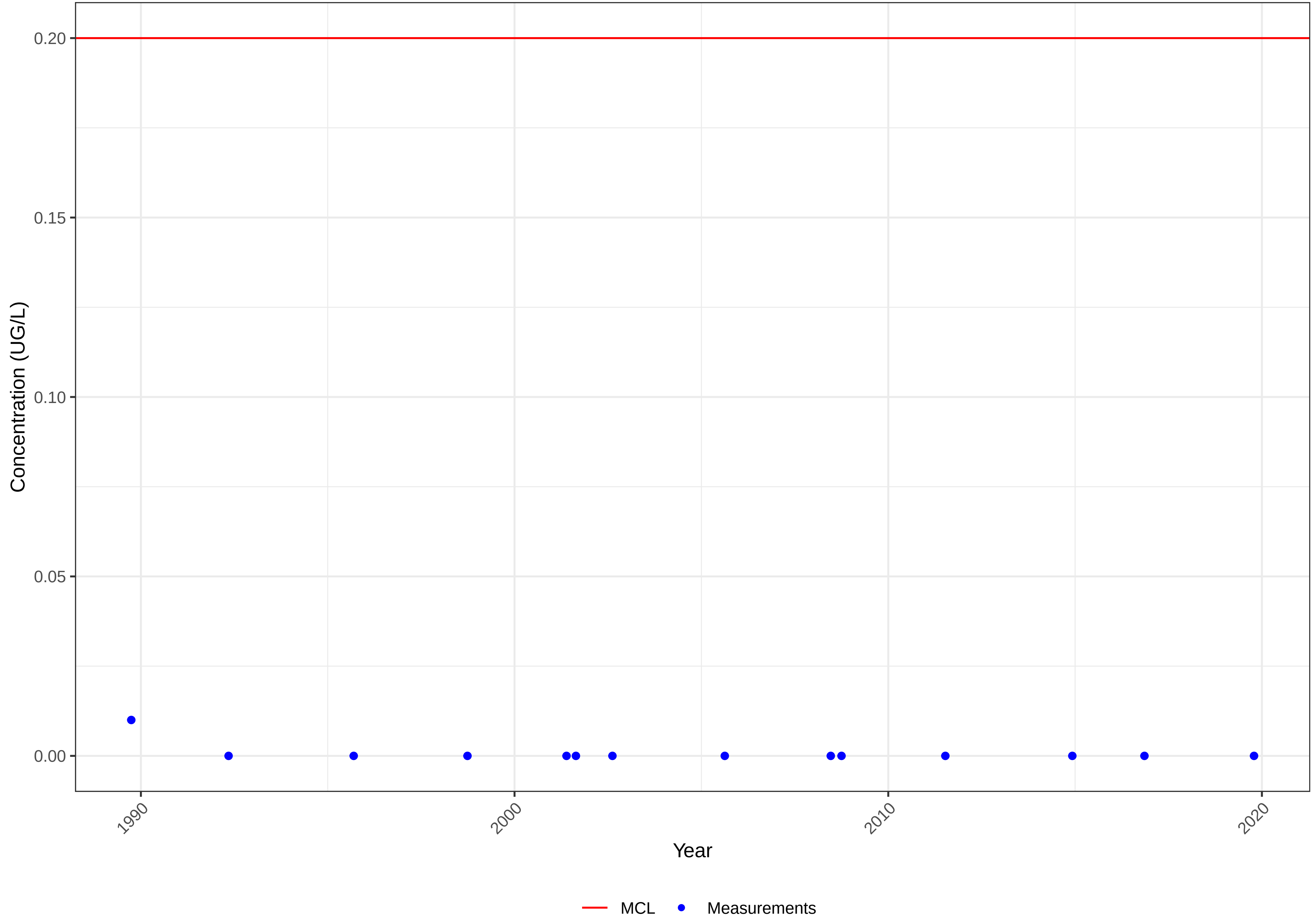
Water Quality Chart

Well No. 1610006−001
STORET No. 34475
Constituent: TETRACHLOROETHYLENE



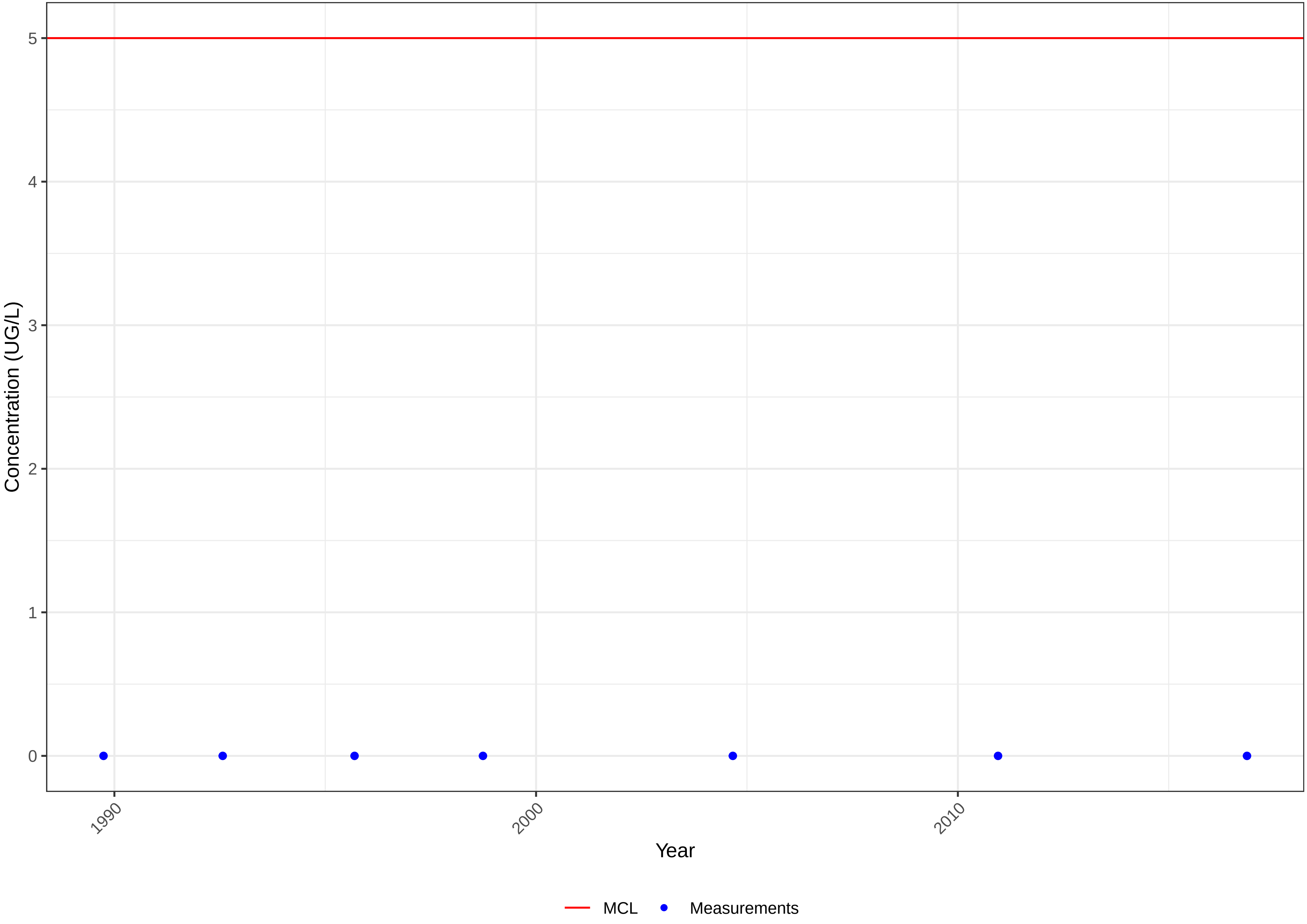
Water Quality Chart

Well No. 1610006−001
STORET No. 38761
Constituent: DIBROMOCHLOROPROPANE (DBCP)



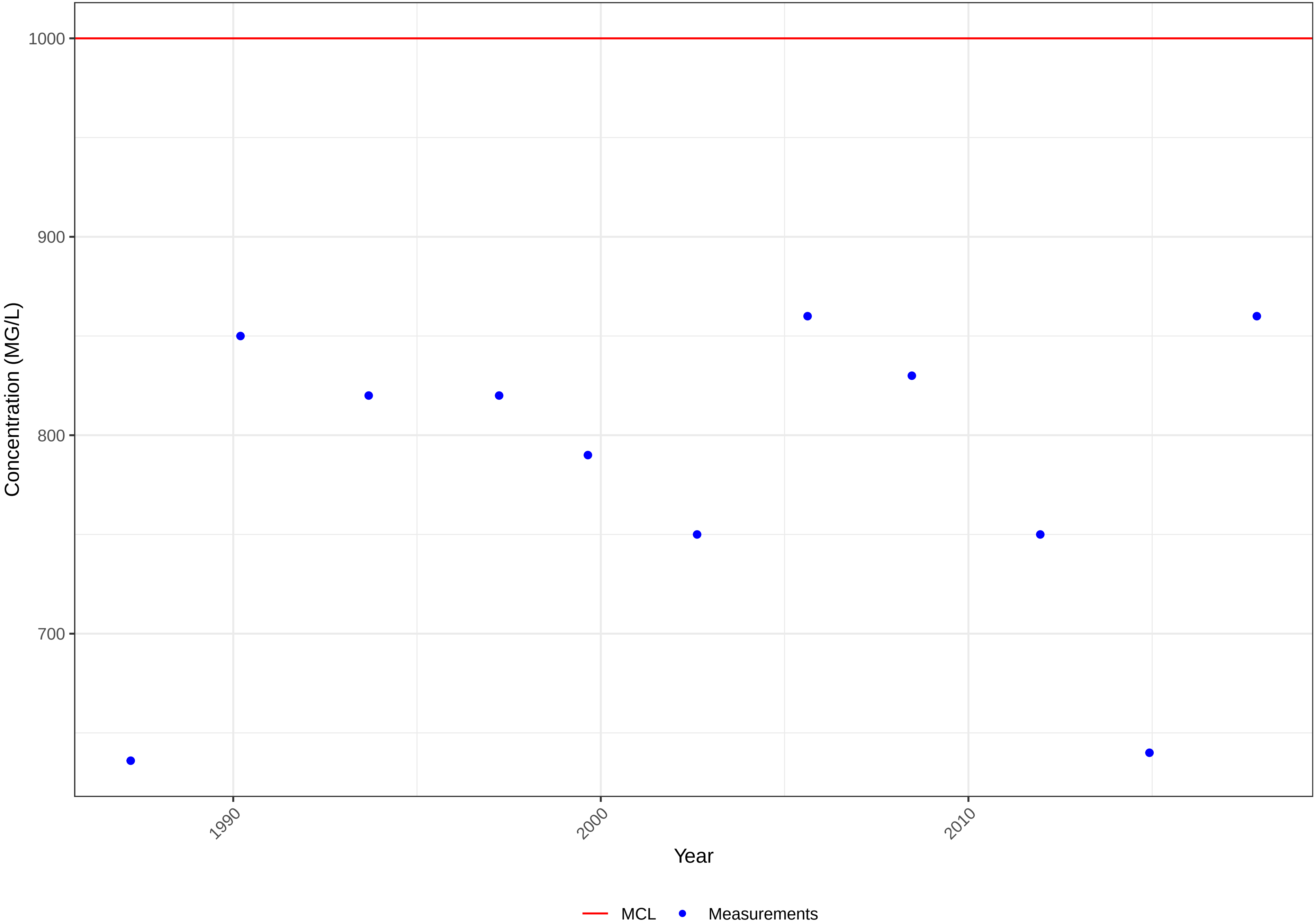
Water Quality Chart

Well No. 1610006−001
STORET No. 39180
Constituent: TRICHLOROETHYLENE



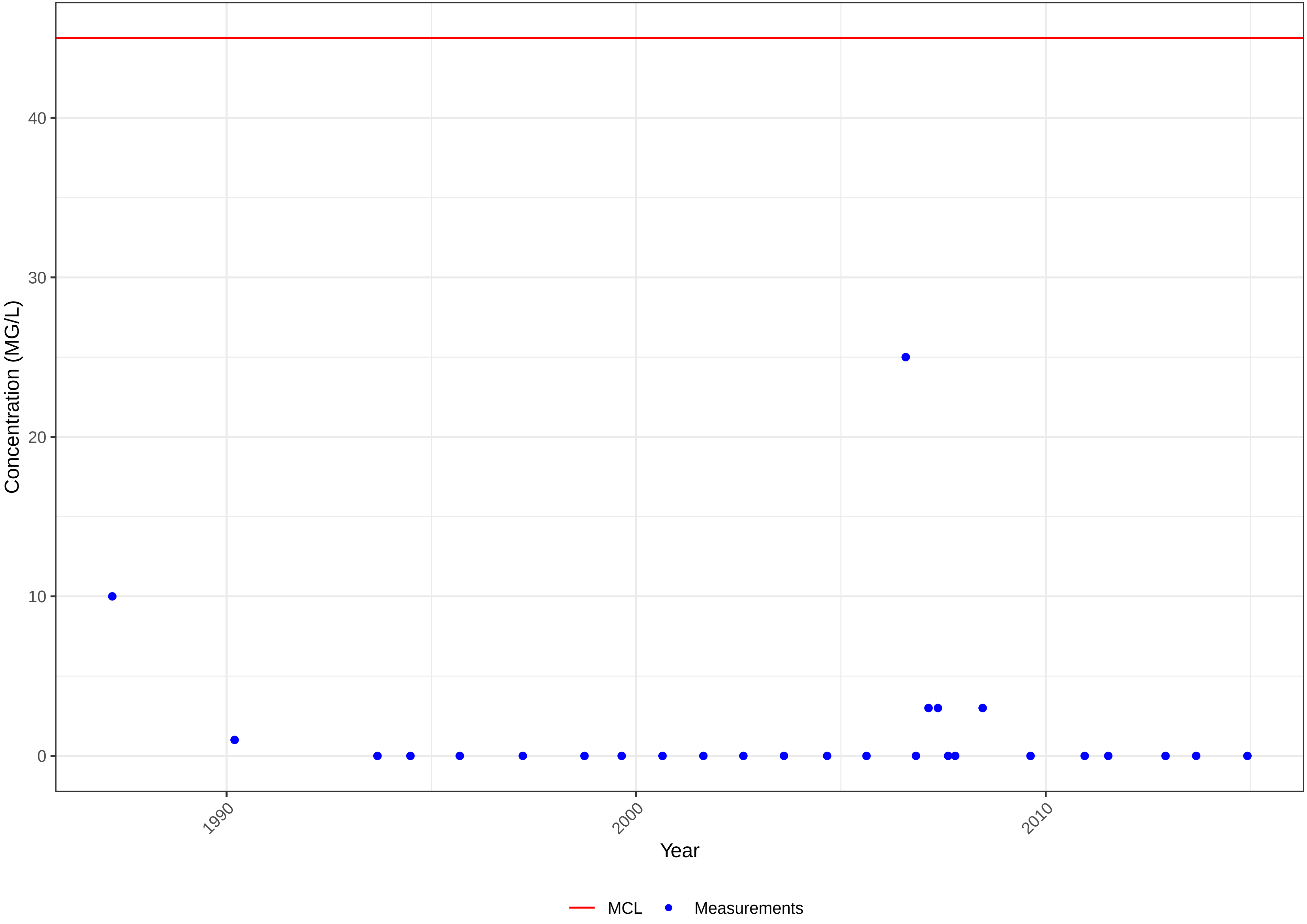
Water Quality Chart

Well No. 1610006−001
STORET No. 70300
Constituent: TOTAL DISSOLVED SOLIDS



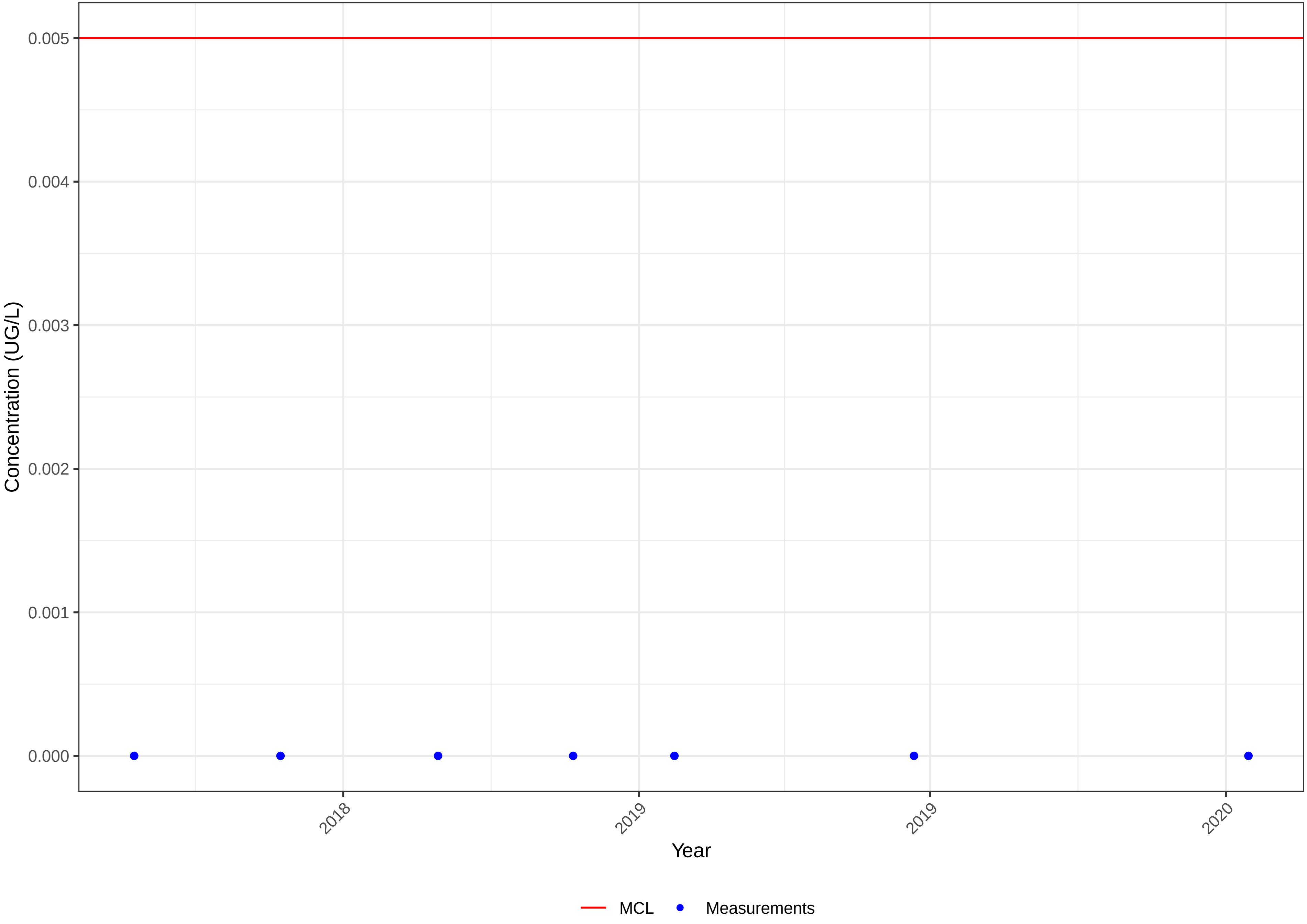
Water Quality Chart

Well No. 1610006−001
STORET No. 71850
Constituent: NITRATE (AS NO3)



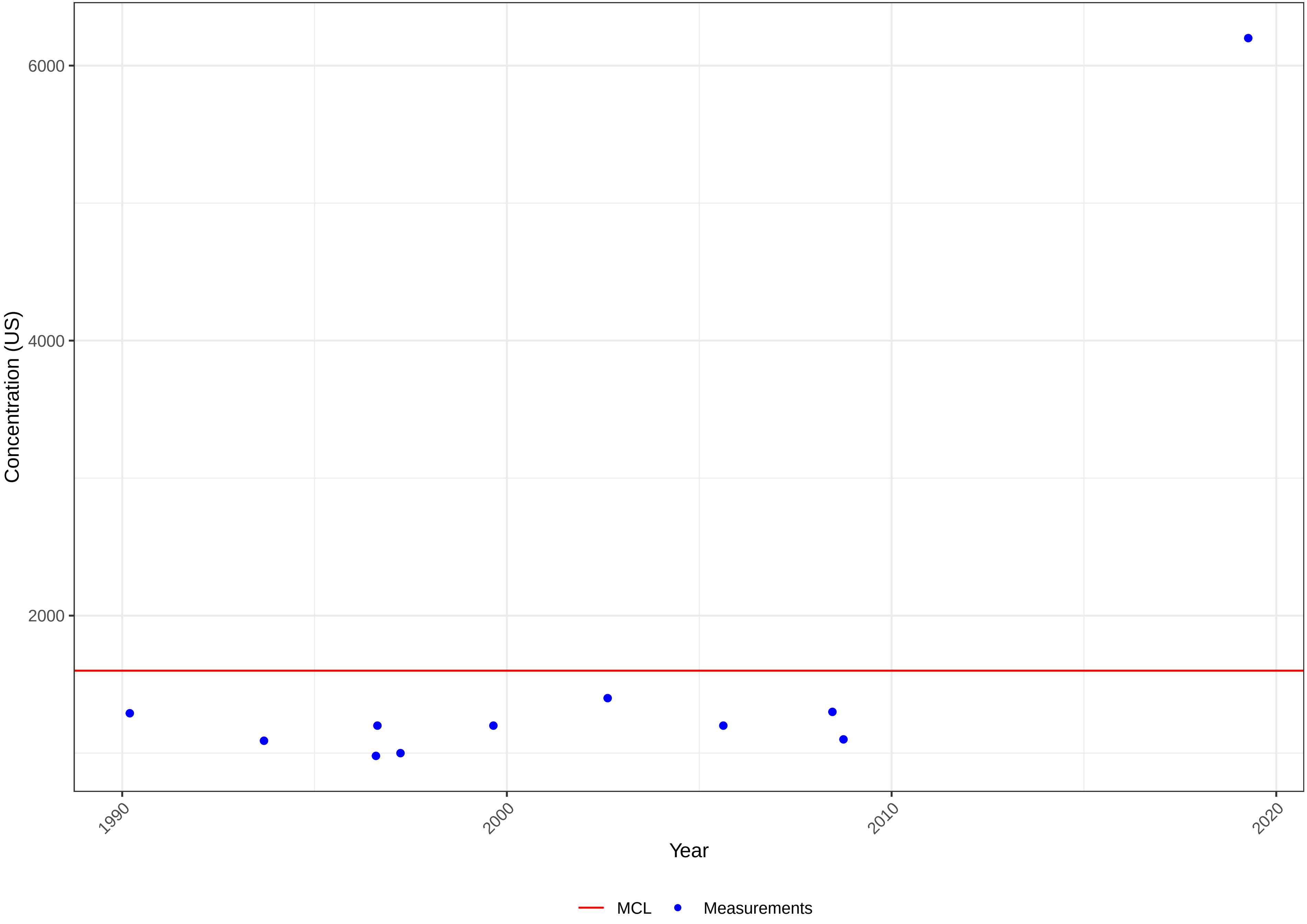
Water Quality Chart

Well No. 1610006−001
STORET No. 77443
Constituent: 1,2,3−TRICHLOROPROPANE



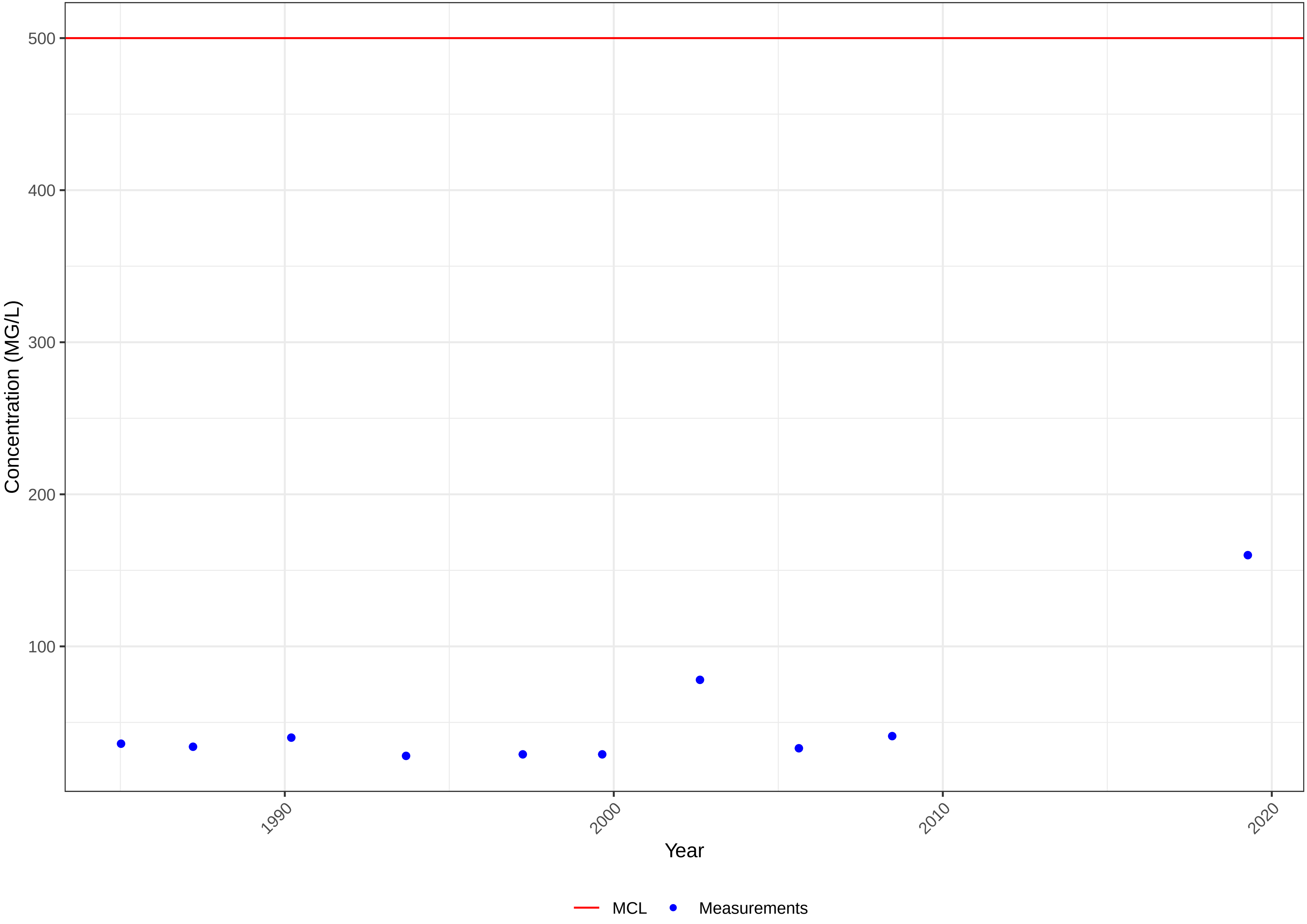
Water Quality Chart

Well No. 1610006−002
STORET No. 95
Constituent: SPECIFIC CONDUCTANCE



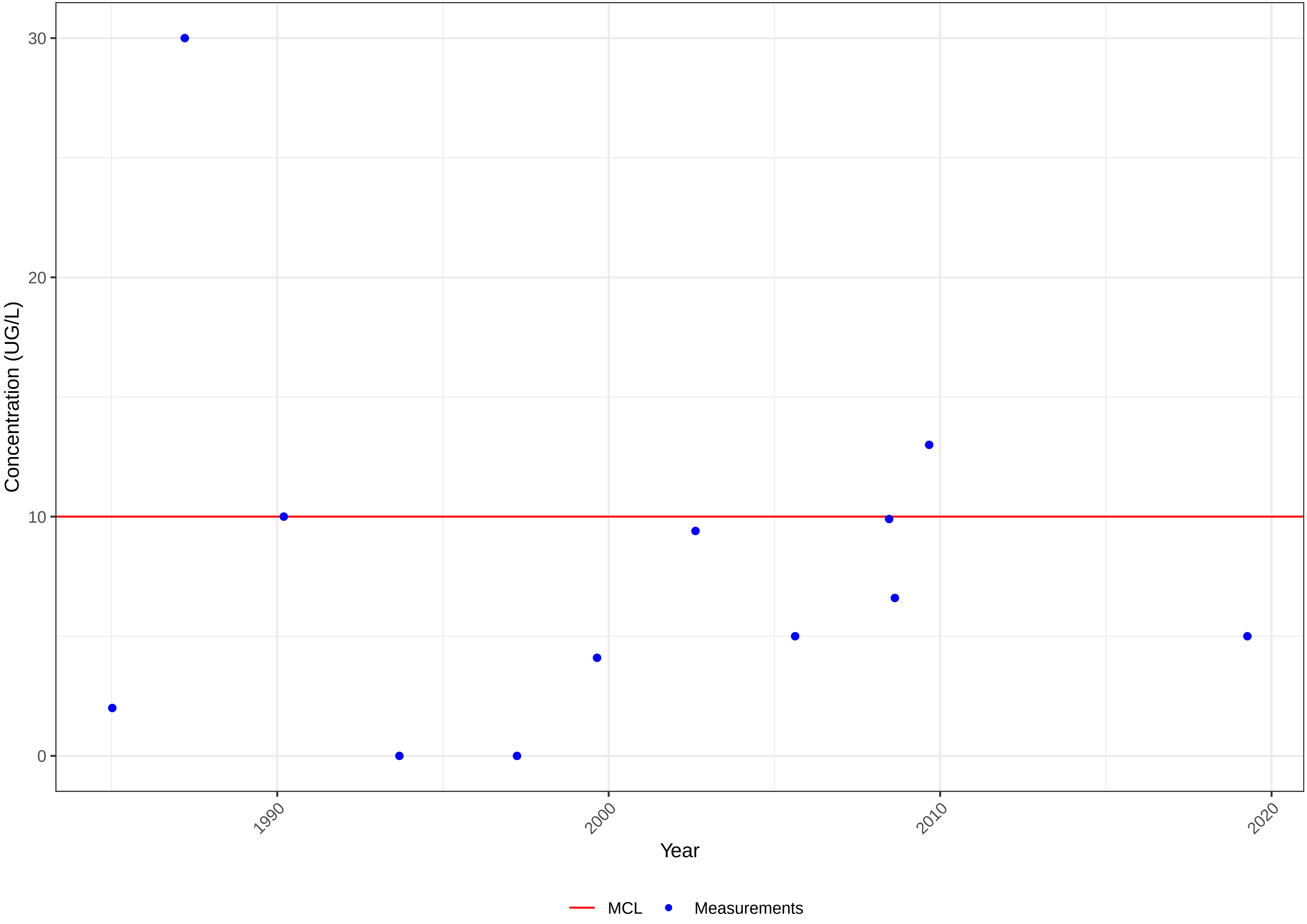
Water Quality Chart

Well No. 1610006−002
STORET No. 940
Constituent: CHLORIDE



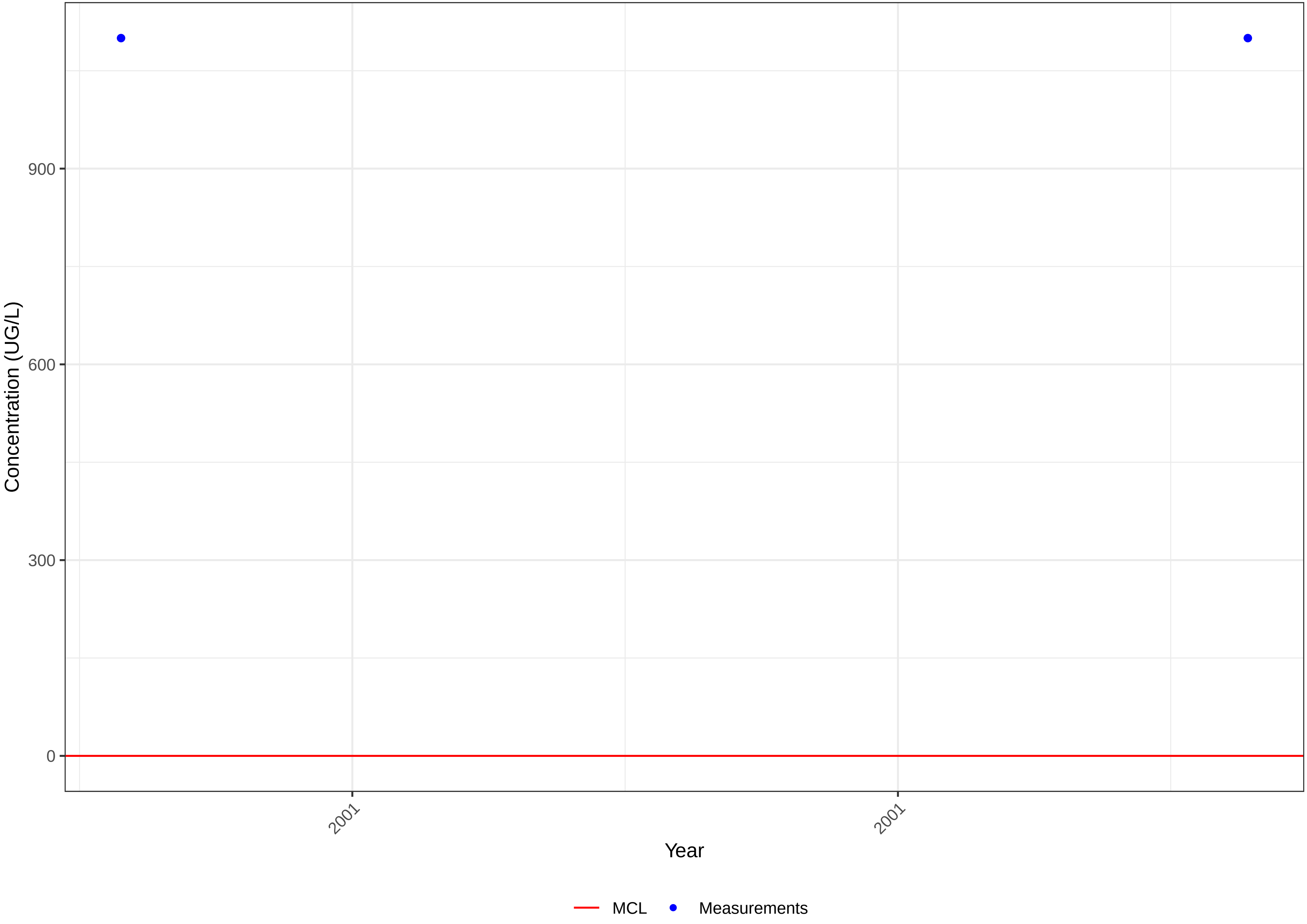
Water Quality Chart

Well No. 1610006−002
STORET No. 1002
Constituent: ARSENIC



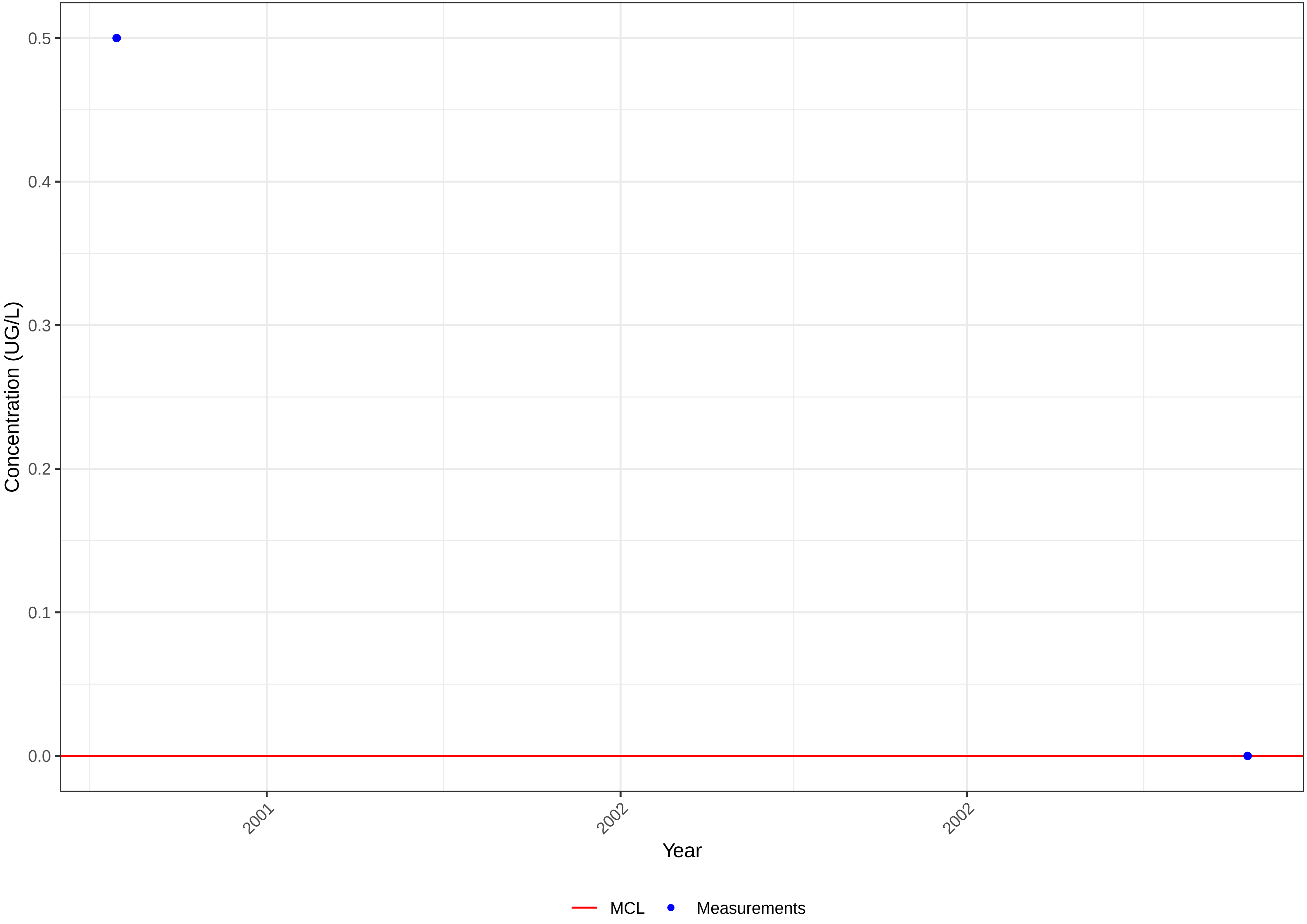
Water Quality Chart

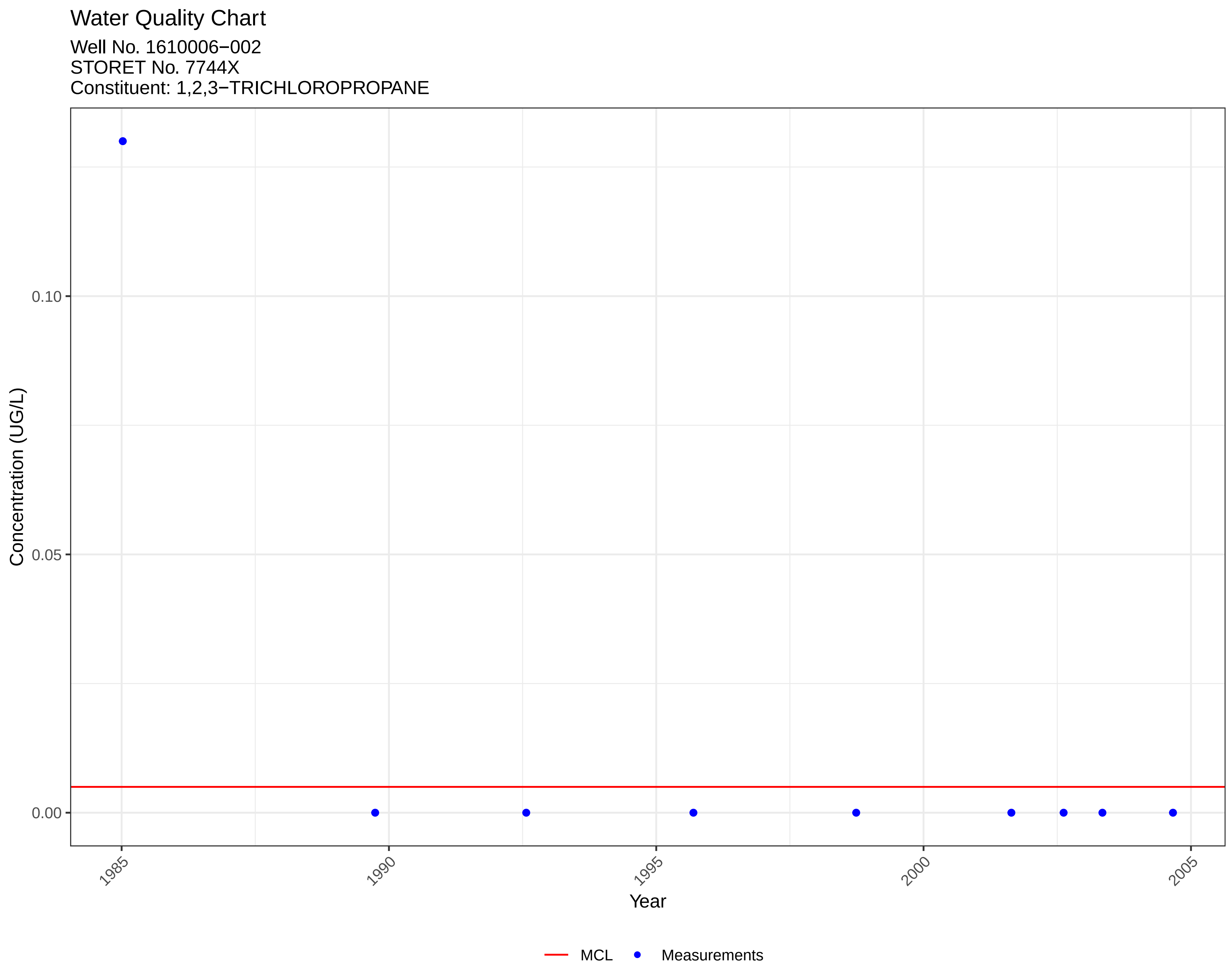
Well No. 1610006−002
STORET No. 1020
Constituent: BORON



Water Quality Chart

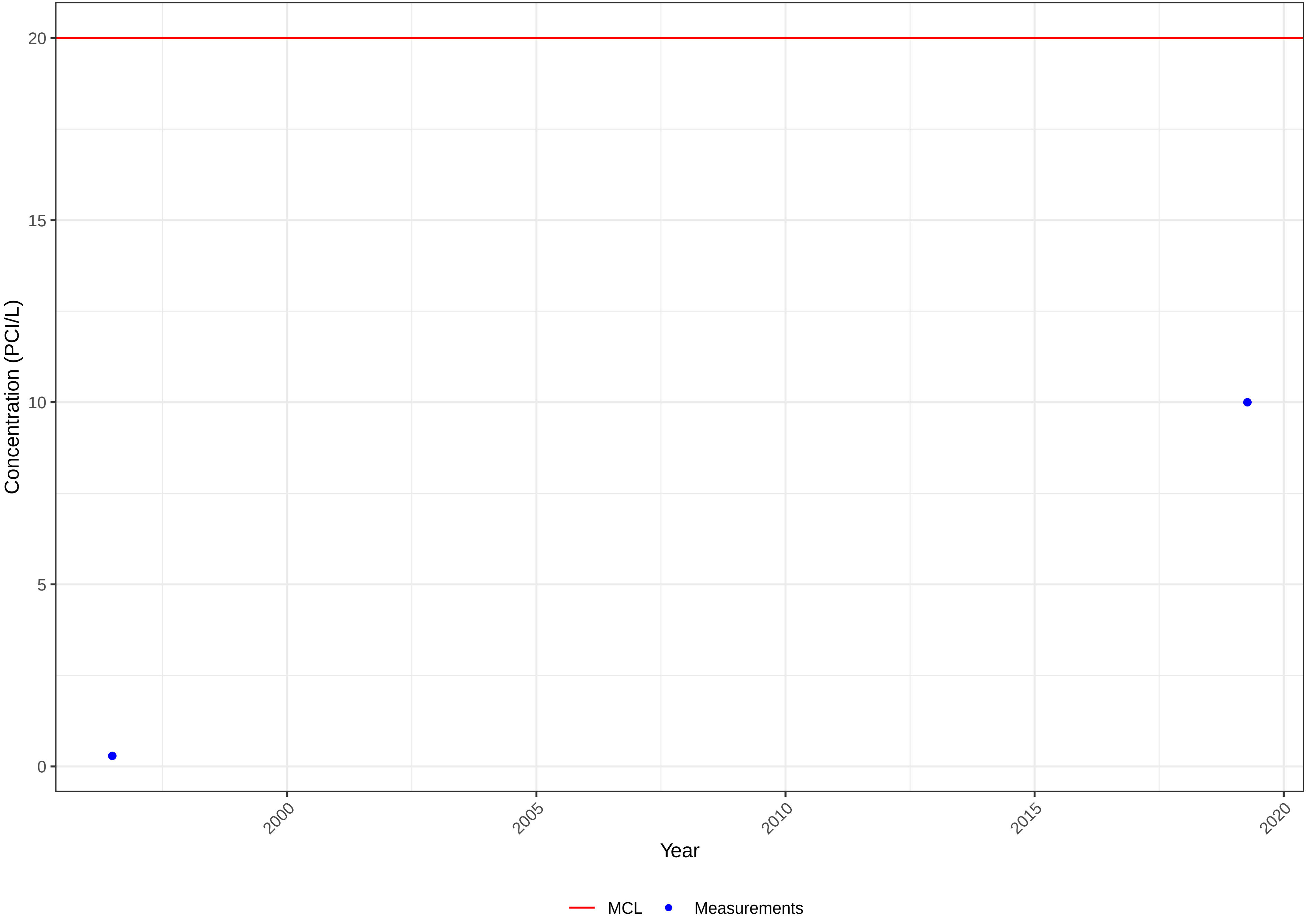
Well No. 1610006−002
STORET No. 1032
Constituent: CHROMIUM, HEXAVALENT




Water Quality Chart
Well No. 1610006−002
STORET No. 7744X
Constituent: 1,2,3−TRICHLOROPROPANE
Concentration (UG/L)
0.10
0.05
0.00
1985
1990
1995
2000
2005
Year
MCL
Measurements

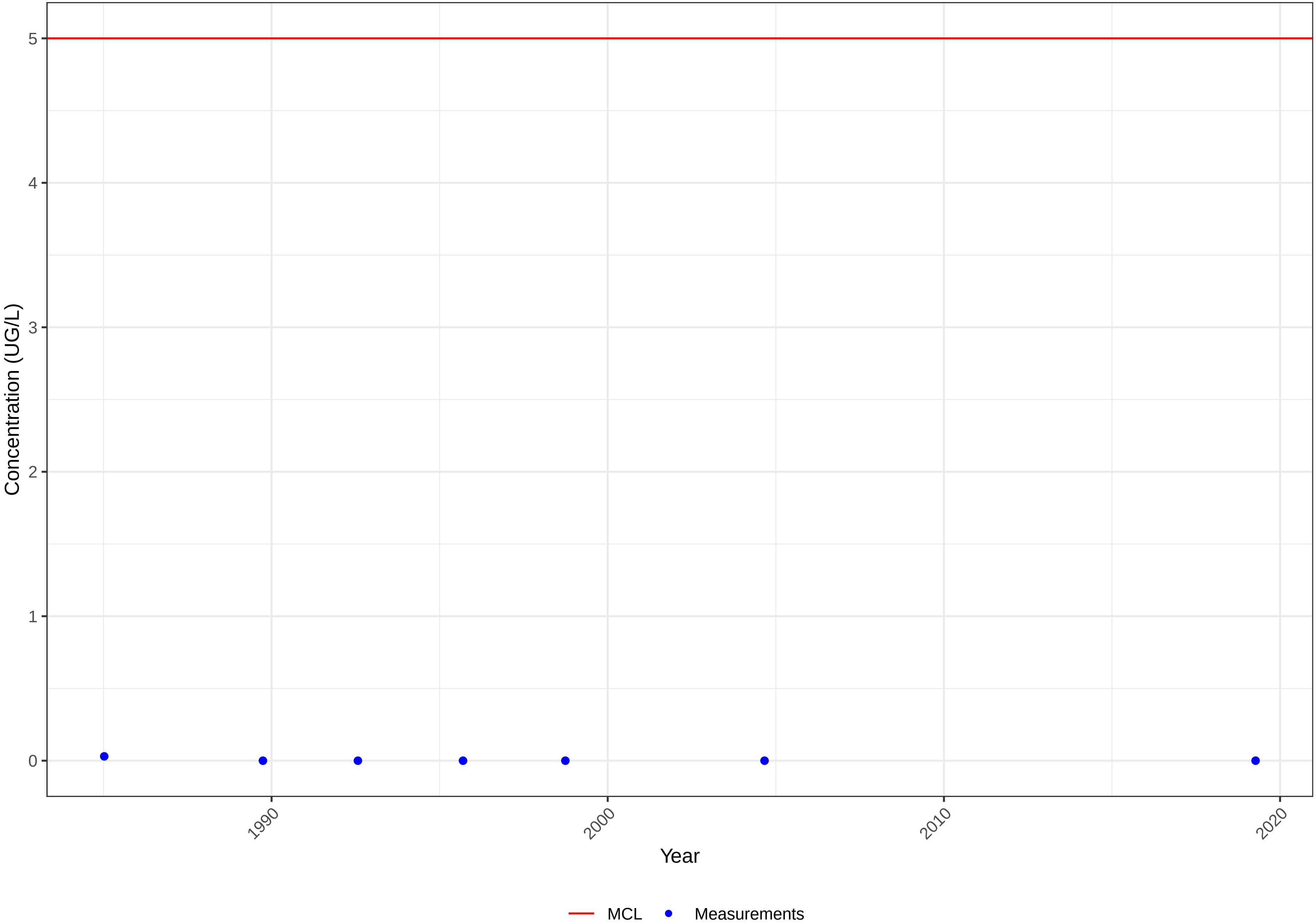
Water Quality Chart

Well No. 1610006−002
STORET No. 28012
Constituent: URANIUM (PCI/L)



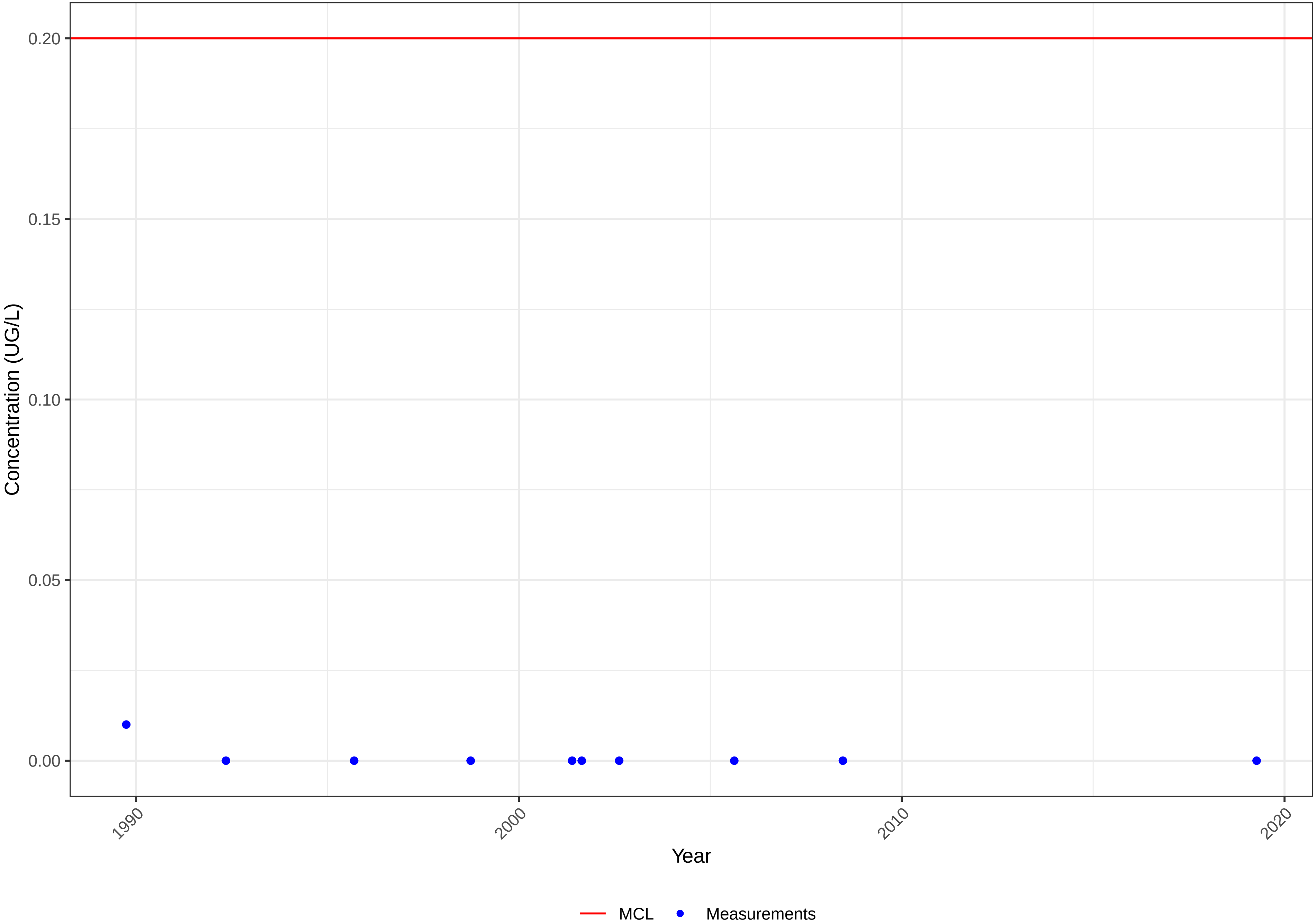
Water Quality Chart

Well No. 1610006−002
STORET No. 34475
Constituent: TETRACHLOROETHYLENE



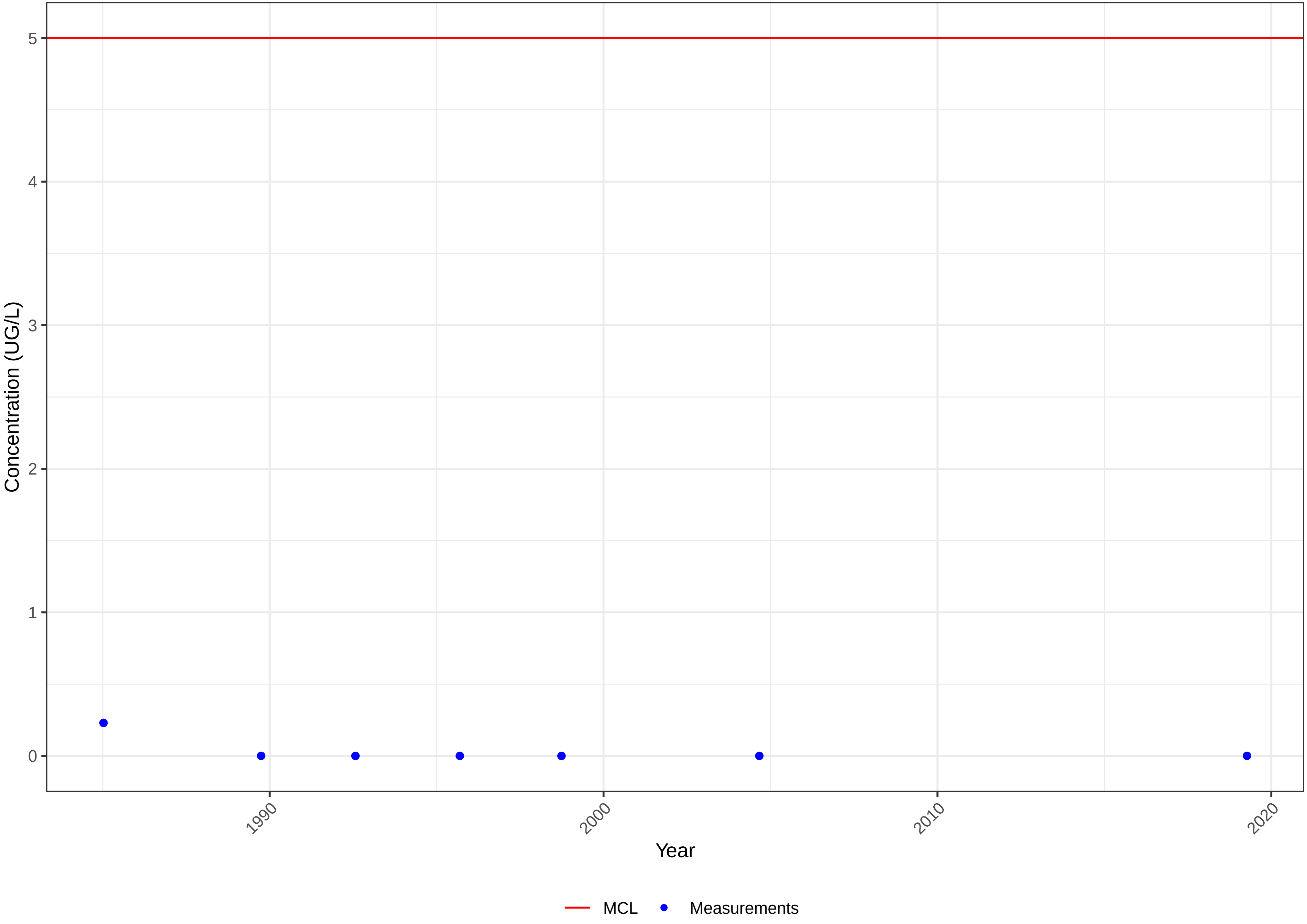
Water Quality Chart

Well No. 1610006−002
STORET No. 38761
Constituent: DIBROMOCHLOROPROPANE (DBCP)



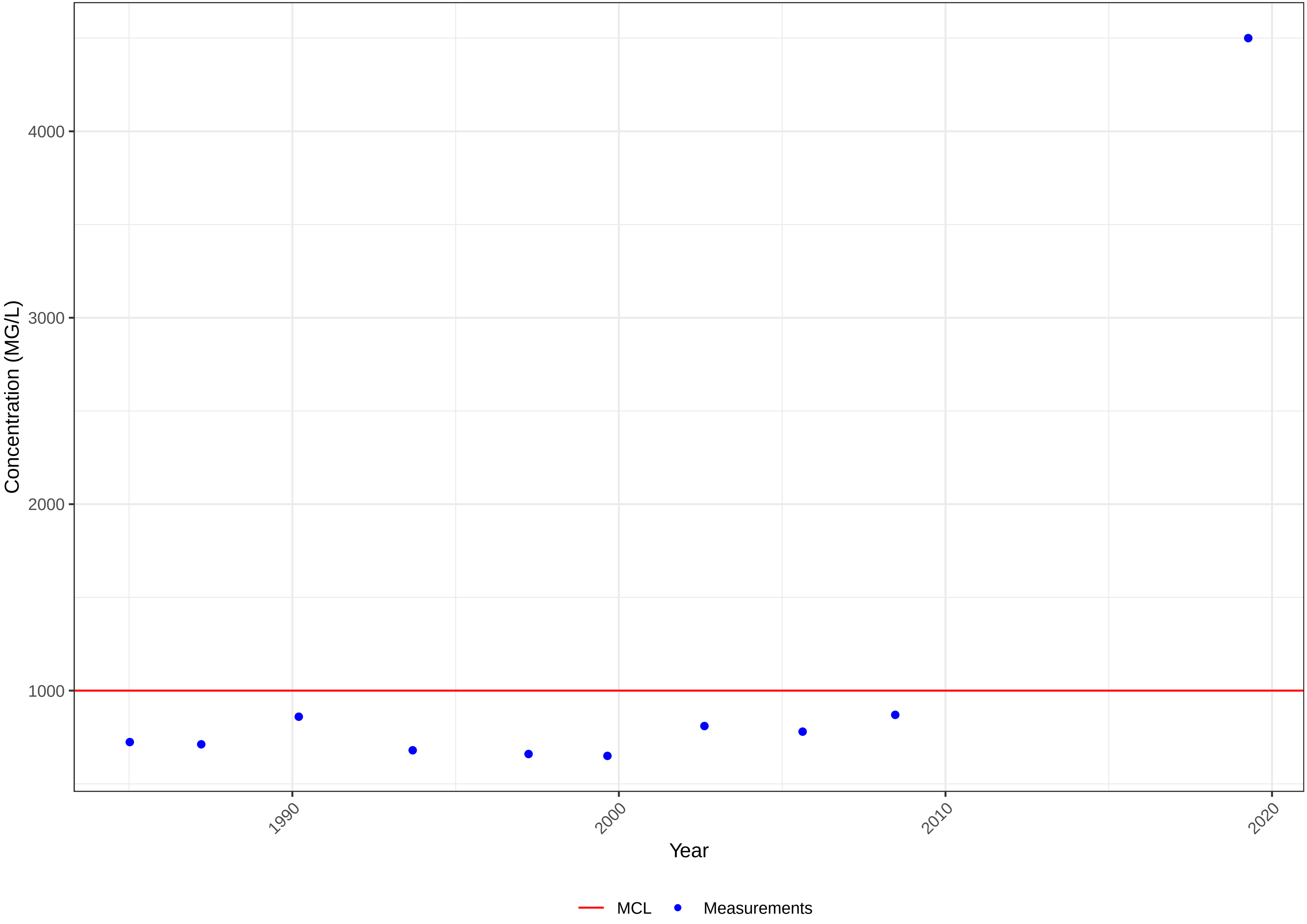
Water Quality Chart

Well No. 1610006−002
STORET No. 39180
Constituent: TRICHLOROETHYLENE



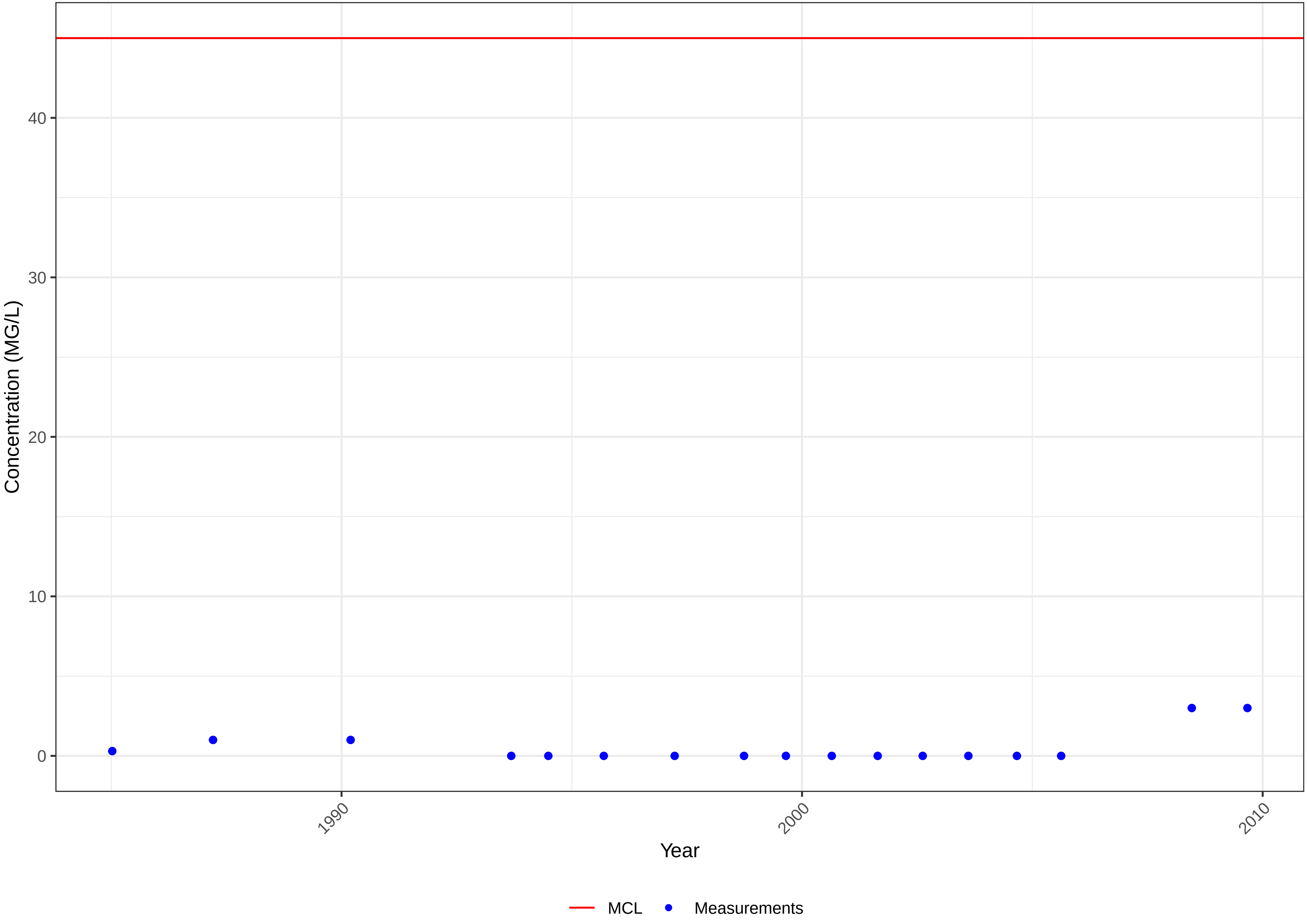
Water Quality Chart

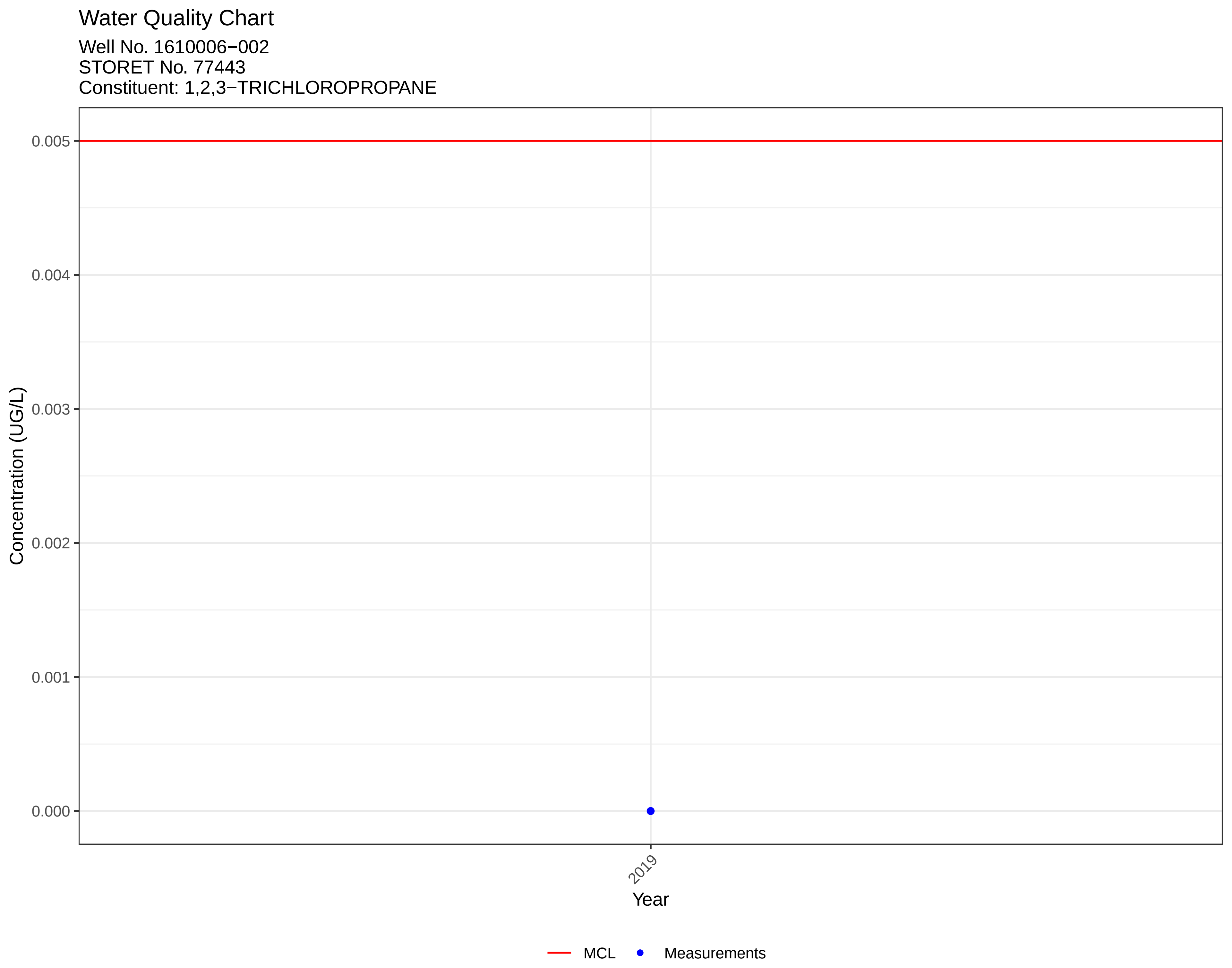
Well No. 1610006−002
STORET No. 70300
Constituent: TOTAL DISSOLVED SOLIDS



Water Quality Chart

Well No. 1610006−002
STORET No. 71850
Constituent: NITRATE (AS NO3)

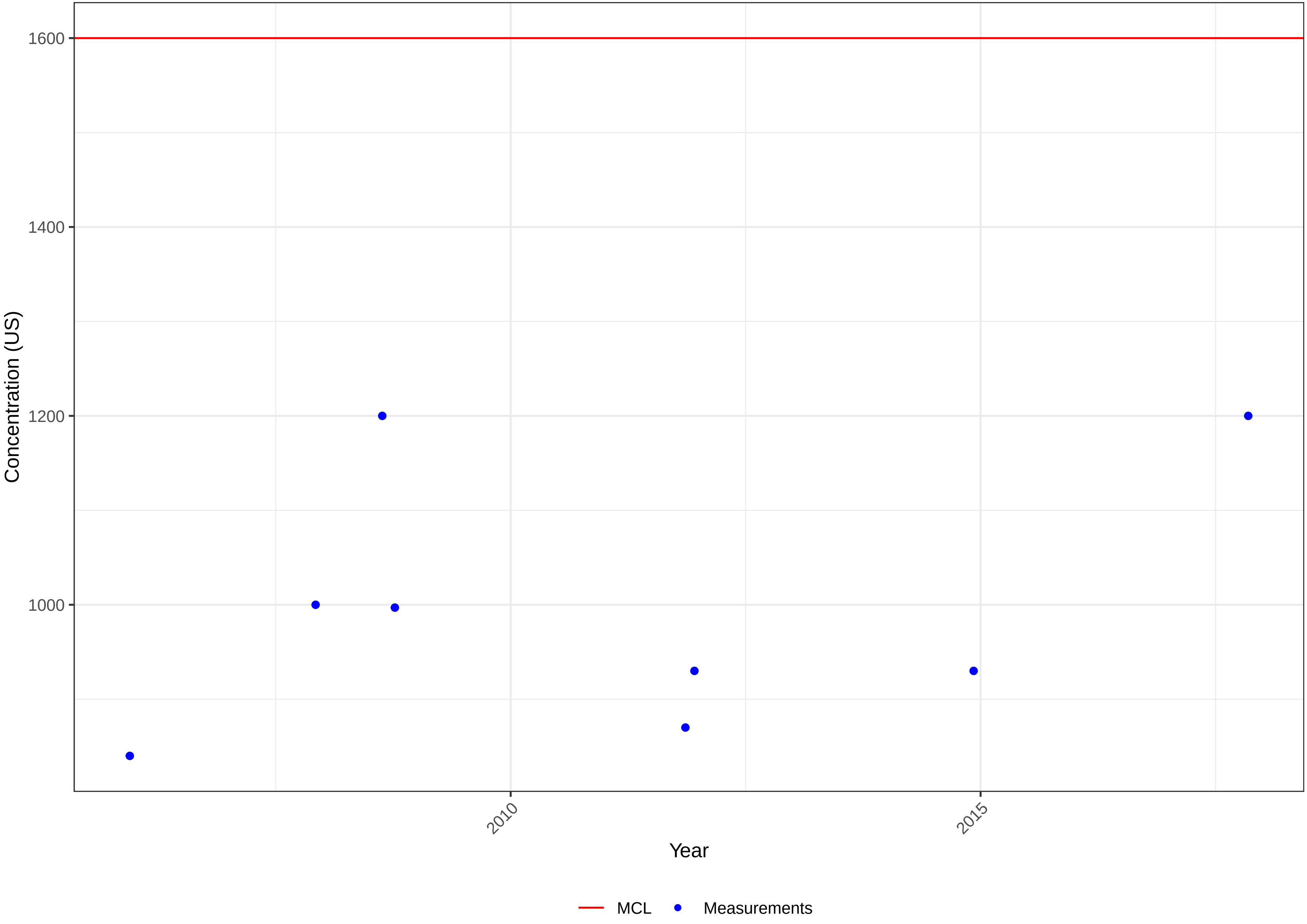




Water Quality Chart
Well No. 1610006−002
STORET No. 77443
Constituent: 1,2,3−TRICHLOROPROPANE
Concentration (UG/L)
0.005
0.004
0.003
0.002
0.001
0.000
2019
Year
MCL
Measurements

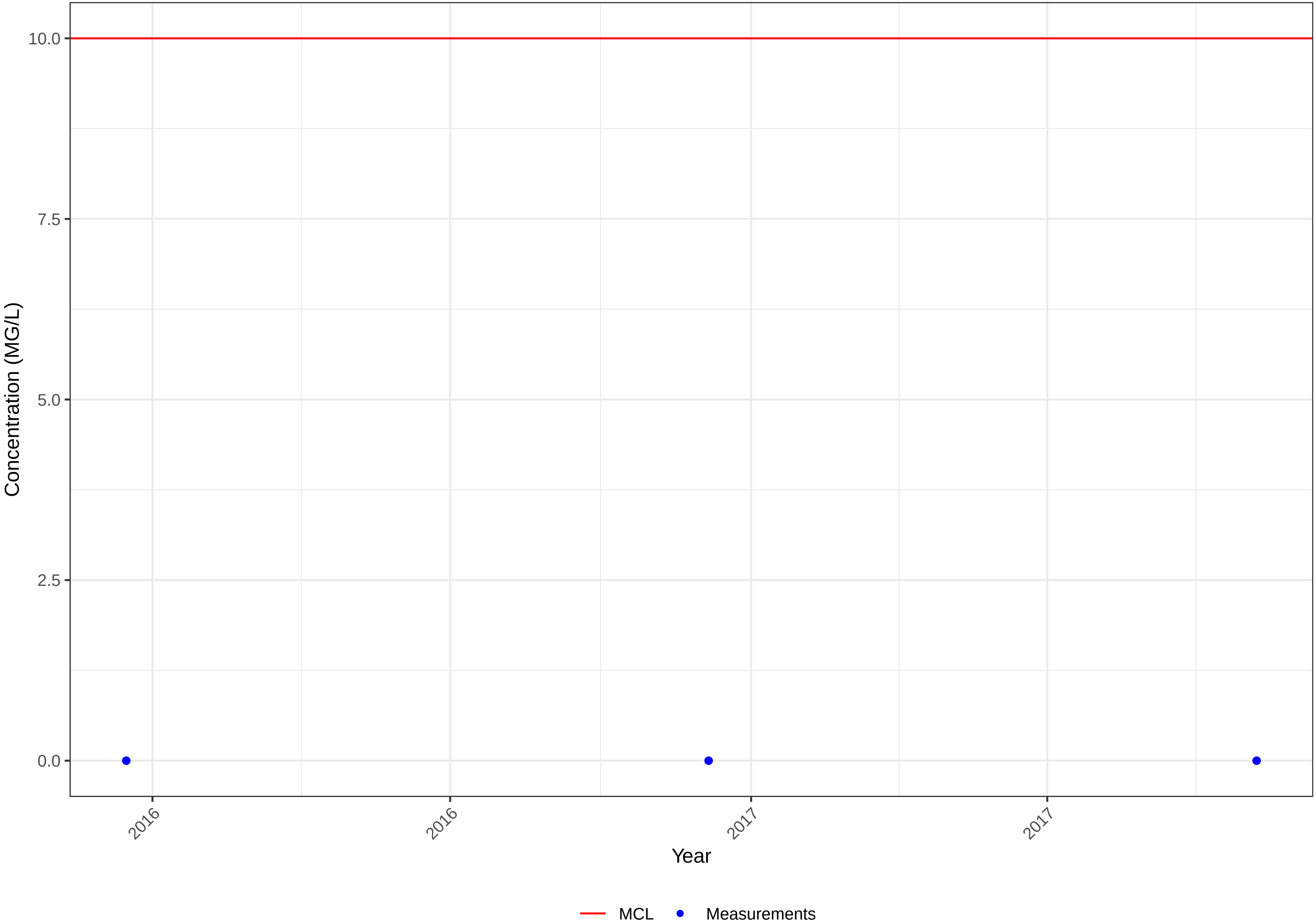
Water Quality Chart

Well No. 1610006−005
STORET No. 95
Constituent: SPECIFIC CONDUCTANCE



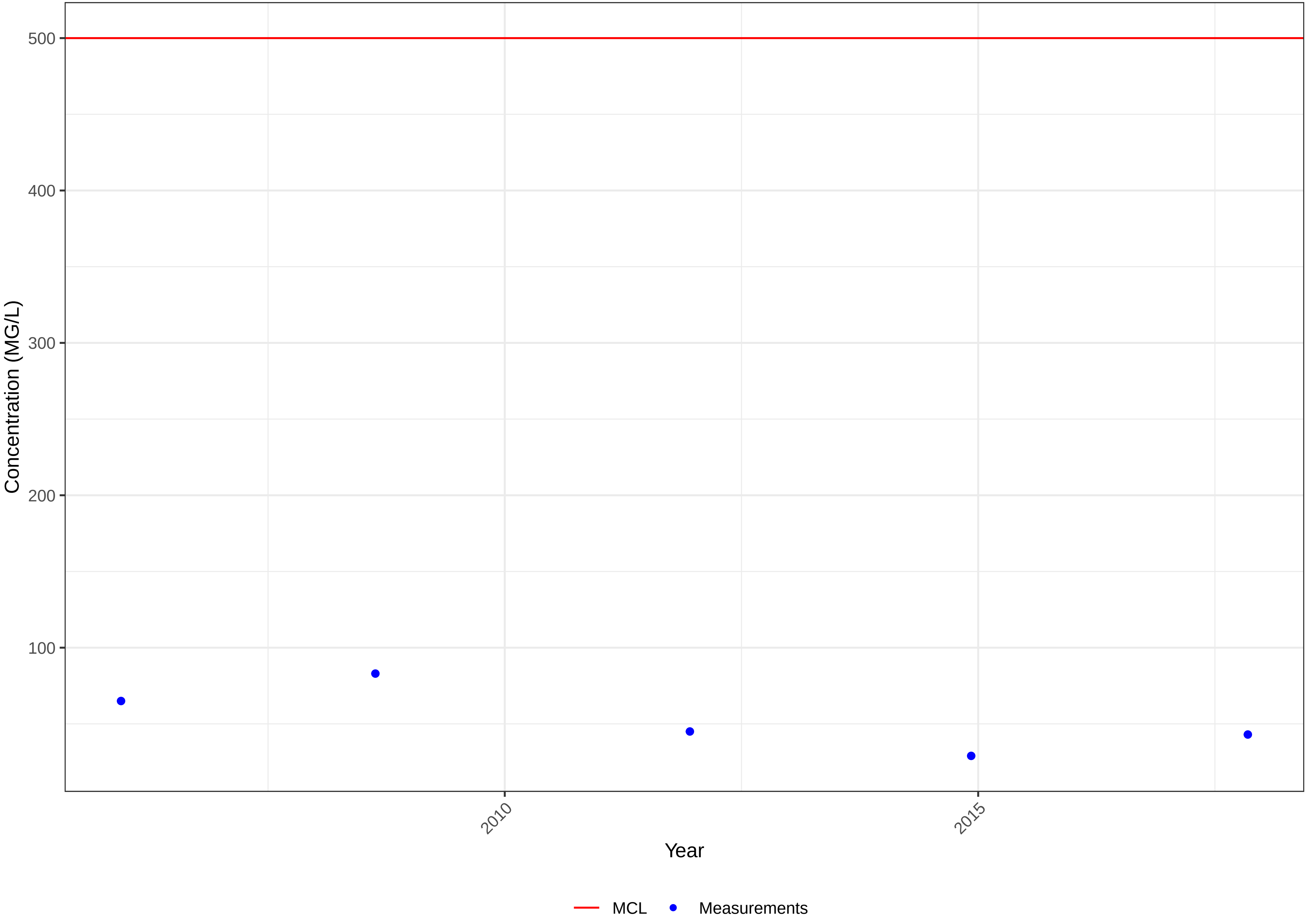
Water Quality Chart

Well No. 1610006−005
STORET No. 618
Constituent: NITRATE (AS N)



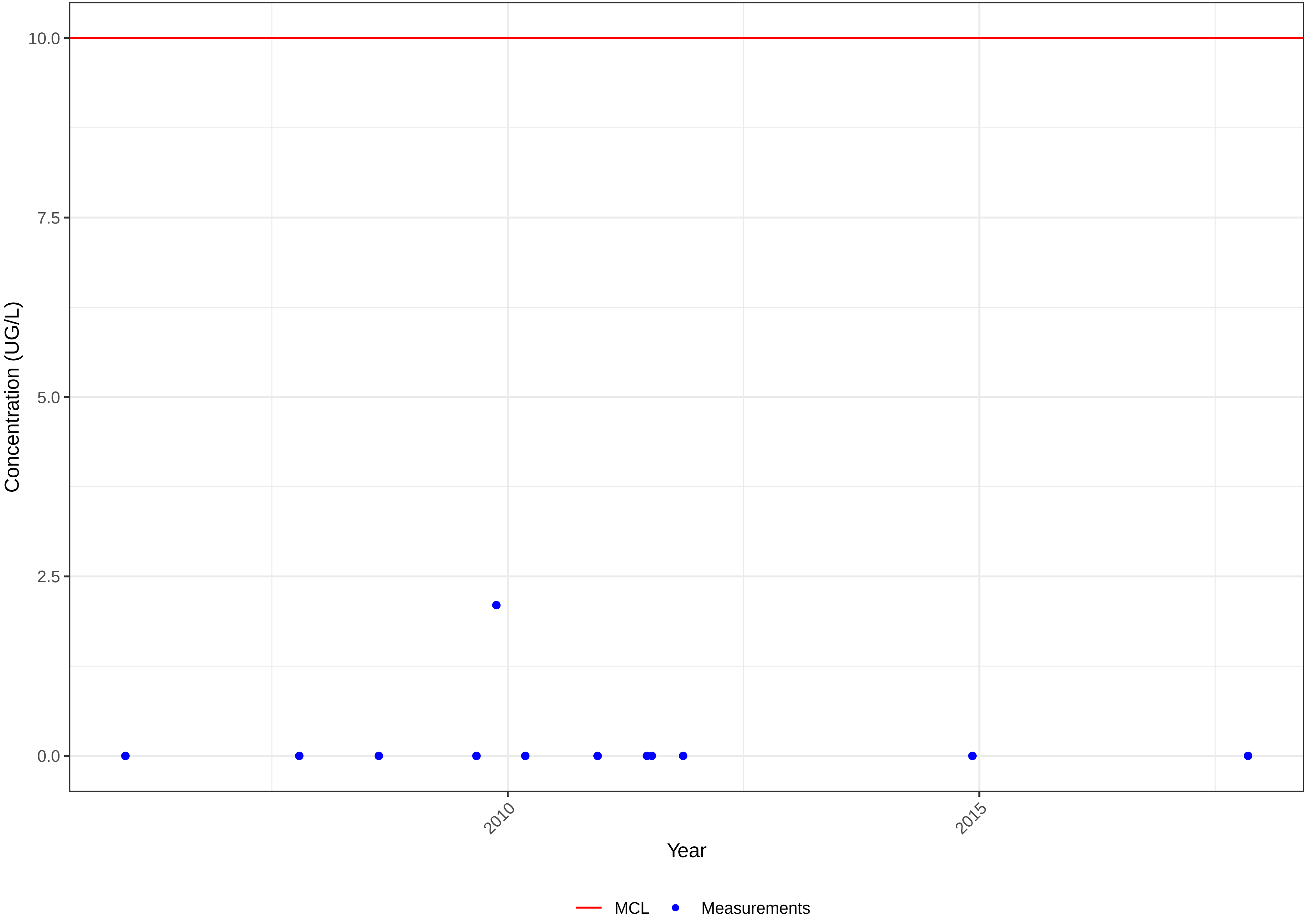
Water Quality Chart

Well No. 1610006−005
STORET No. 940
Constituent: CHLORIDE



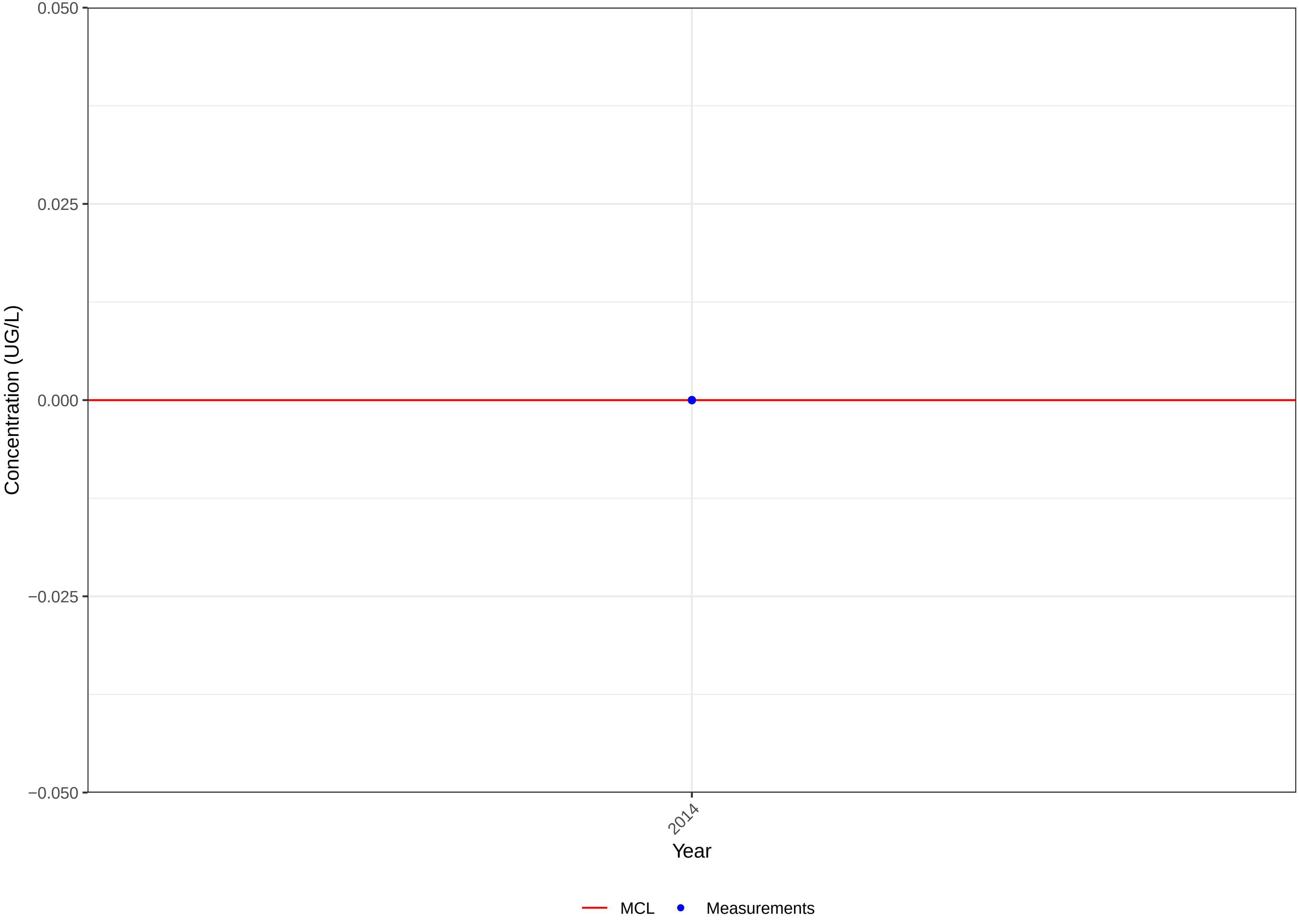
Water Quality Chart

Well No. 1610006−005
STORET No. 1002
Constituent: ARSENIC



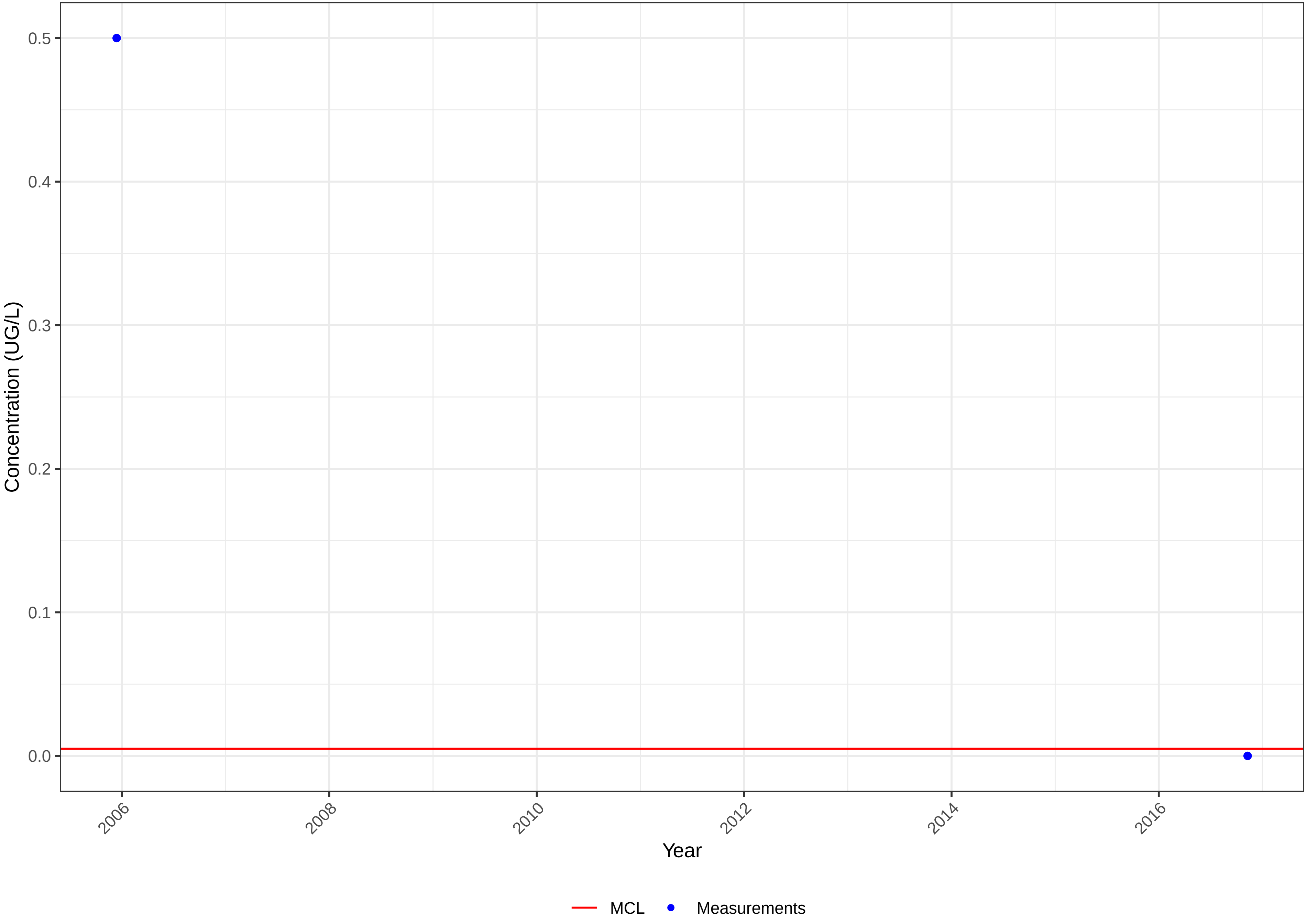
Water Quality Chart

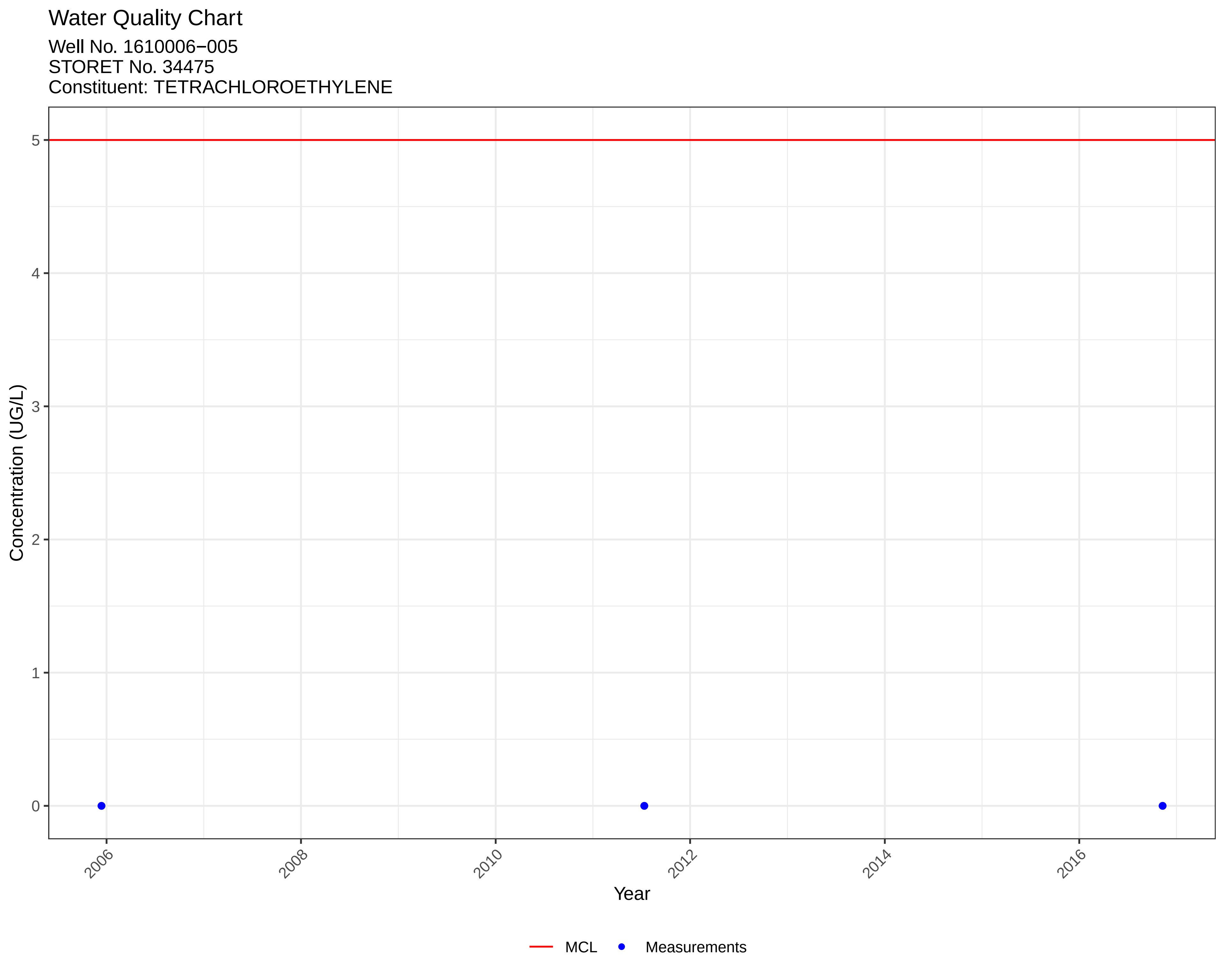
Well No. 1610006−005
STORET No. 1032
Constituent: CHROMIUM, HEXAVALENT



Water Quality Chart

Well No. 1610006−005
STORET No. 7744X
Constituent: 1,2,3−TRICHLOROPROPANE

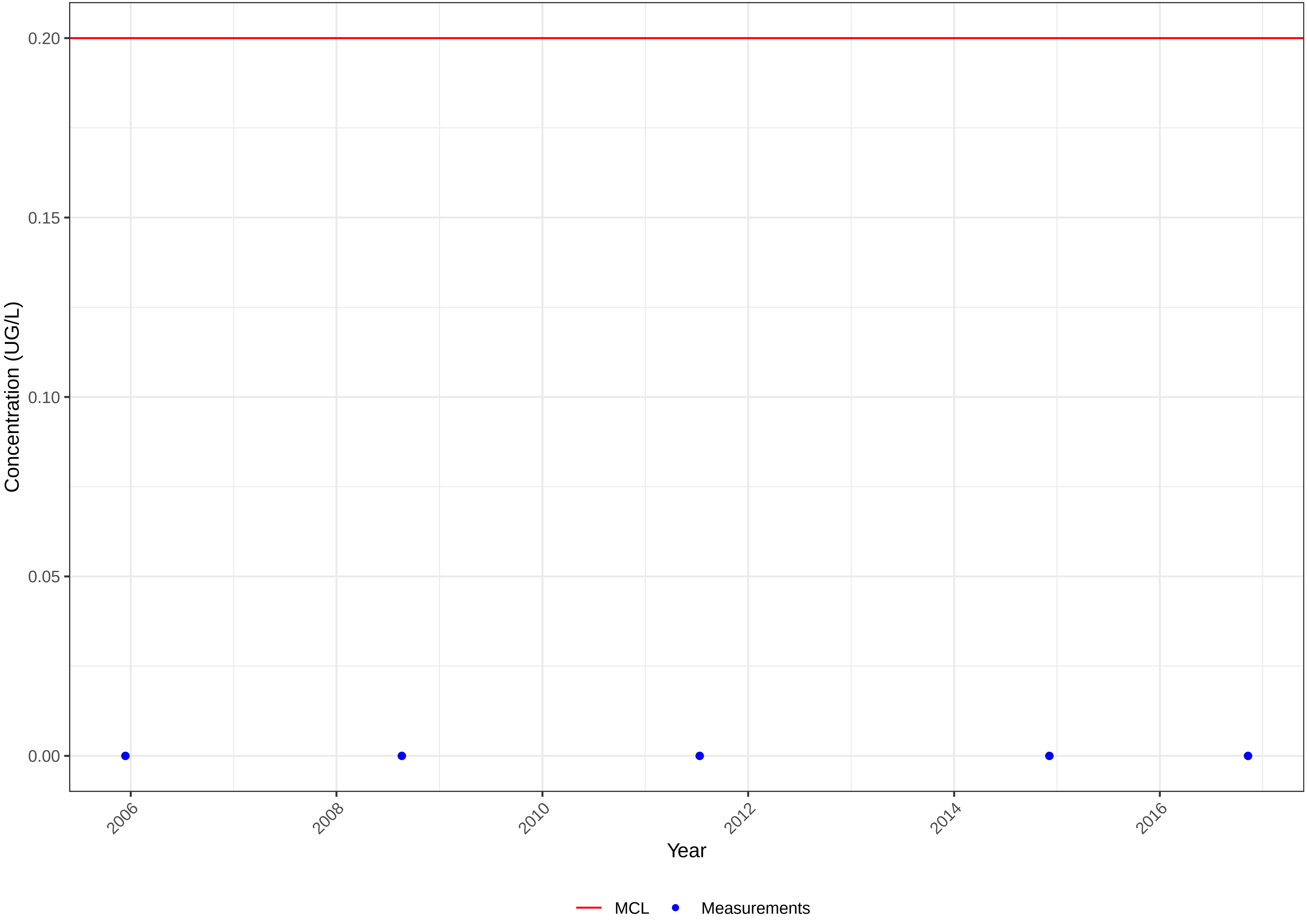




Water Quality Chart
Well No. 1610006−005
STORET No. 34475
Constituent: TETRACHLOROETHYLENE
Concentration (UG/L)
0
1
2
3
4
5
2006
2008
2010
2012
2014
2016
Year
MCL
Measurements

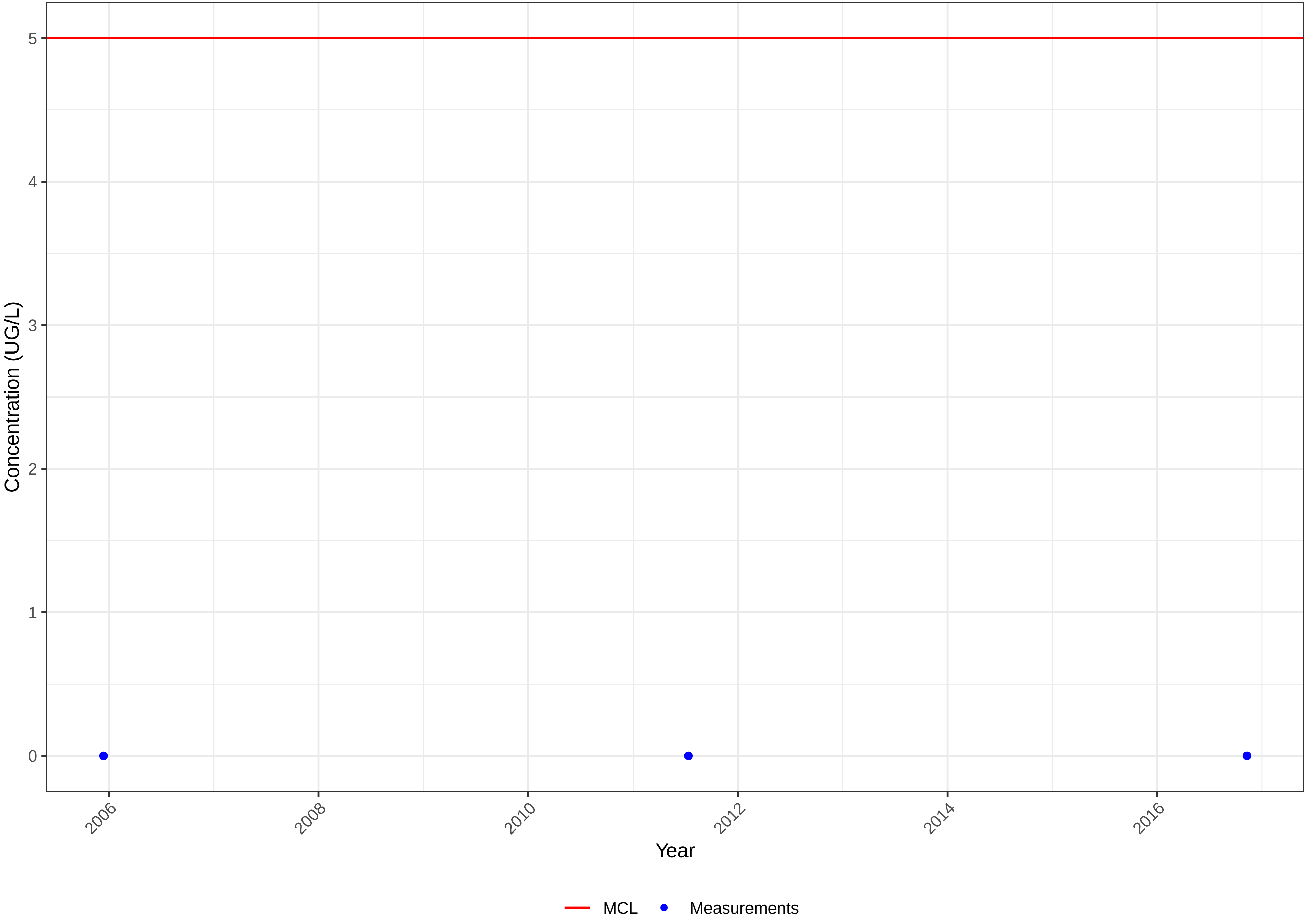
Water Quality Chart

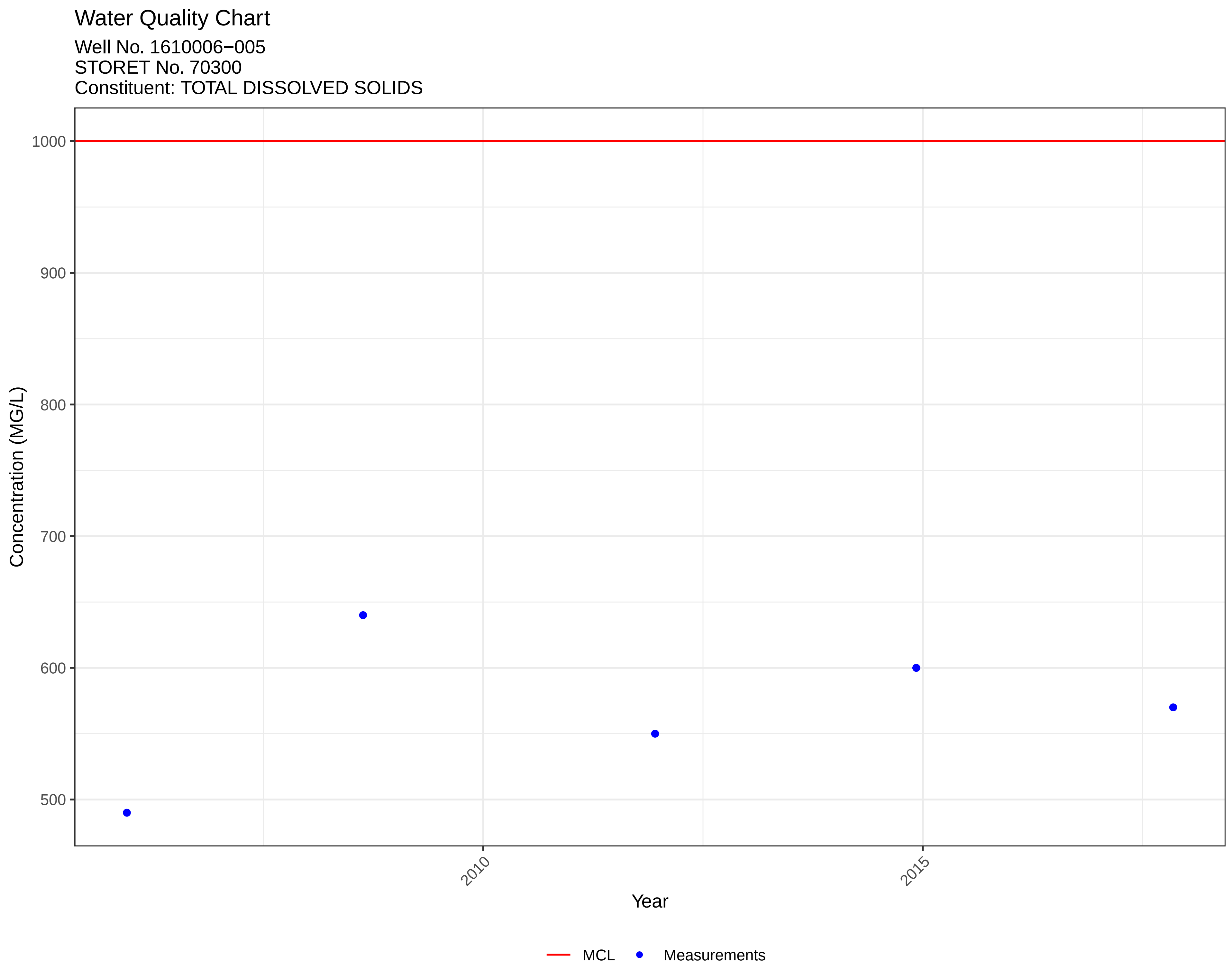
Well No. 1610006−005
STORET No. 38761
Constituent: DIBROMOCHLOROPROPANE (DBCP)



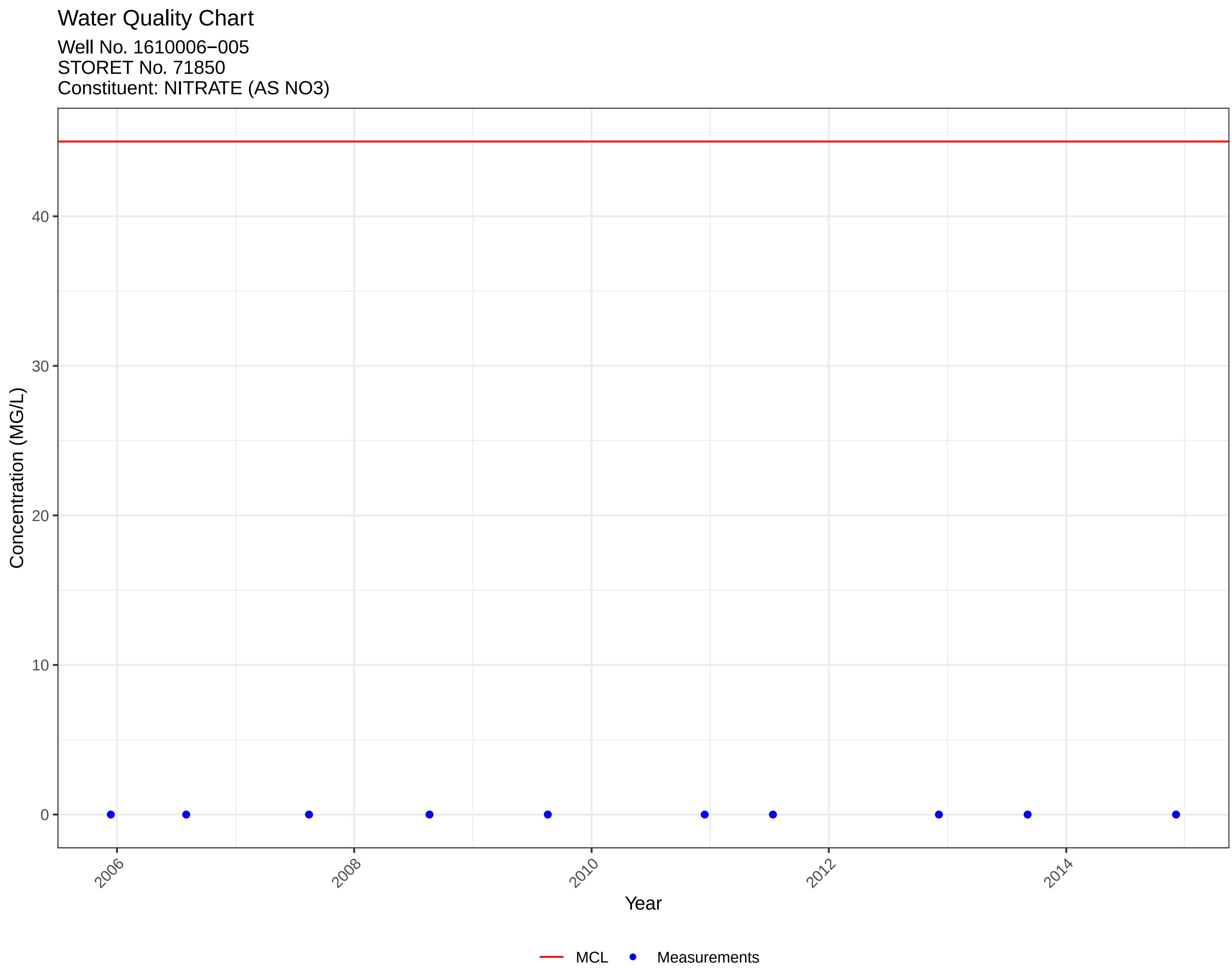
Water Quality Chart

Well No. 1610006−005
STORET No. 39180
Constituent: TRICHLOROETHYLENE



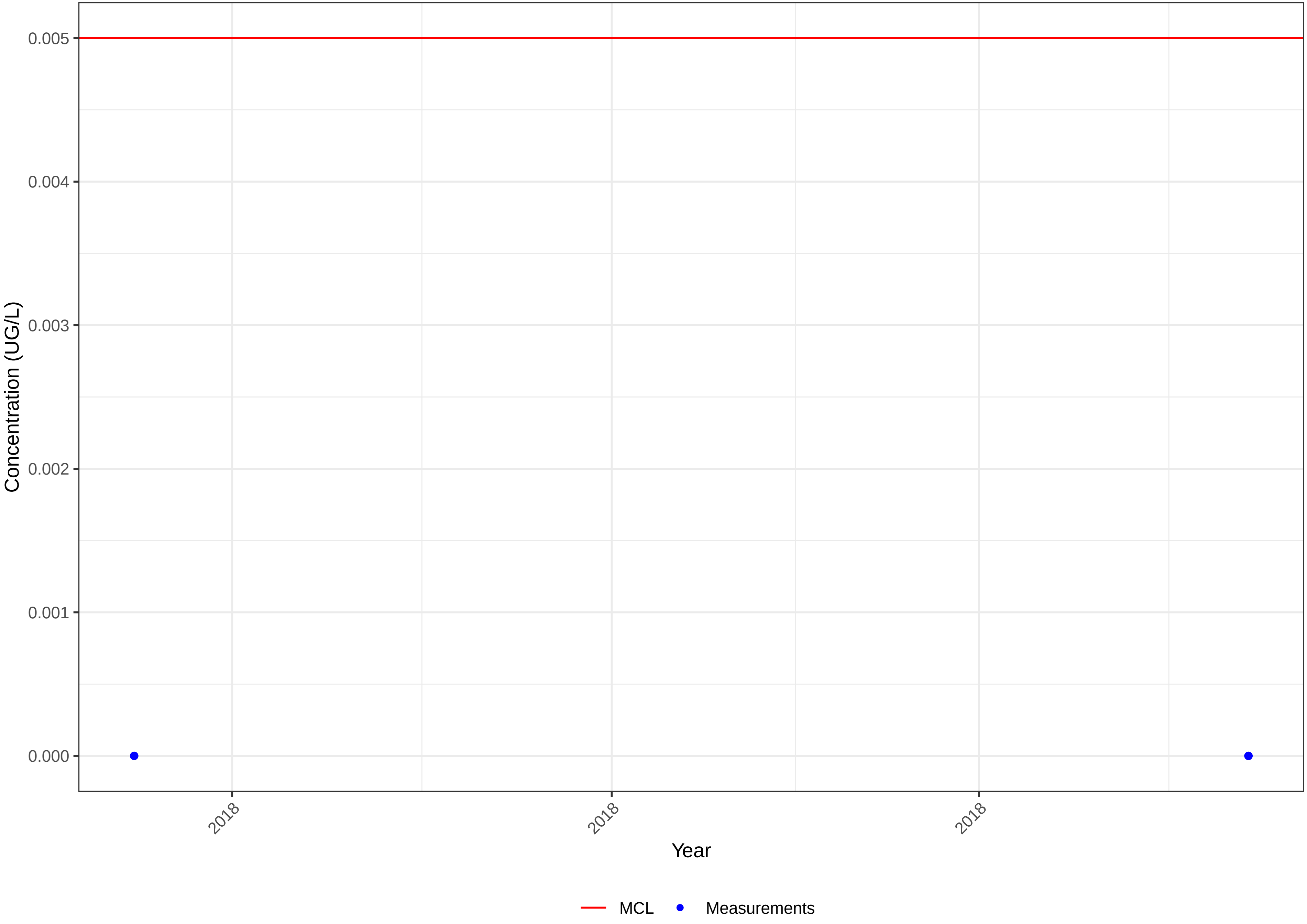


Water Quality Chart
Well No. 1610006−005
STORET No. 70300
Constituent: TOTAL DISSOLVED SOLIDS
Concentration (MG/L)
1000
900
800
700
600
500
2010
2015
Year
MCL
Measurements


Water Quality Chart
Well No. 1610006−005
STORET No. 71850
Constituent: NITRATE (AS NO3)
Concentration (MG/L)
40
30
20
10
0
2006
2008
2010
2012
2014
Year
MCL
Measurements

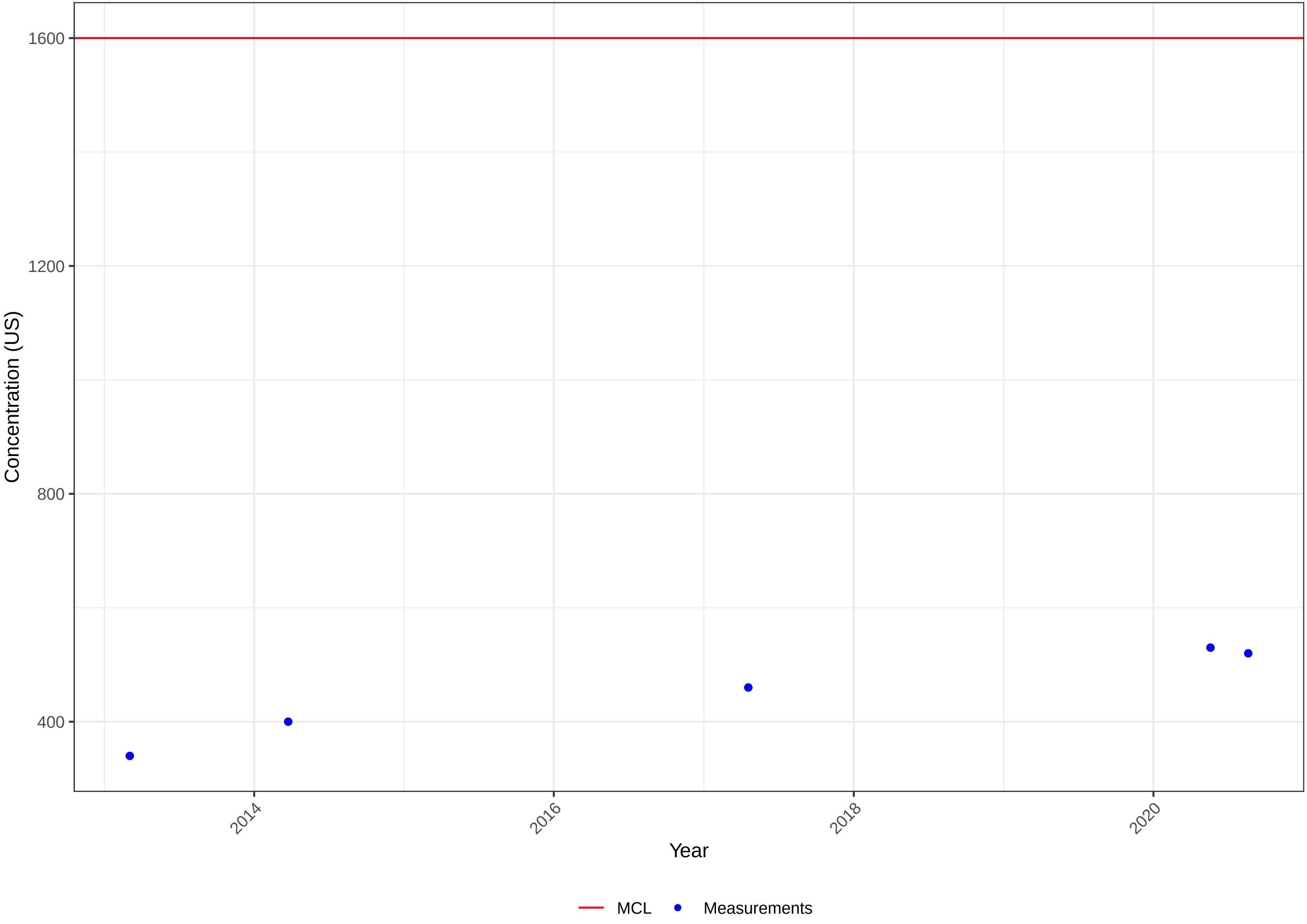
Water Quality Chart

Well No. 1610006−005
STORET No. 77443
Constituent: 1,2,3−TRICHLOROPROPANE



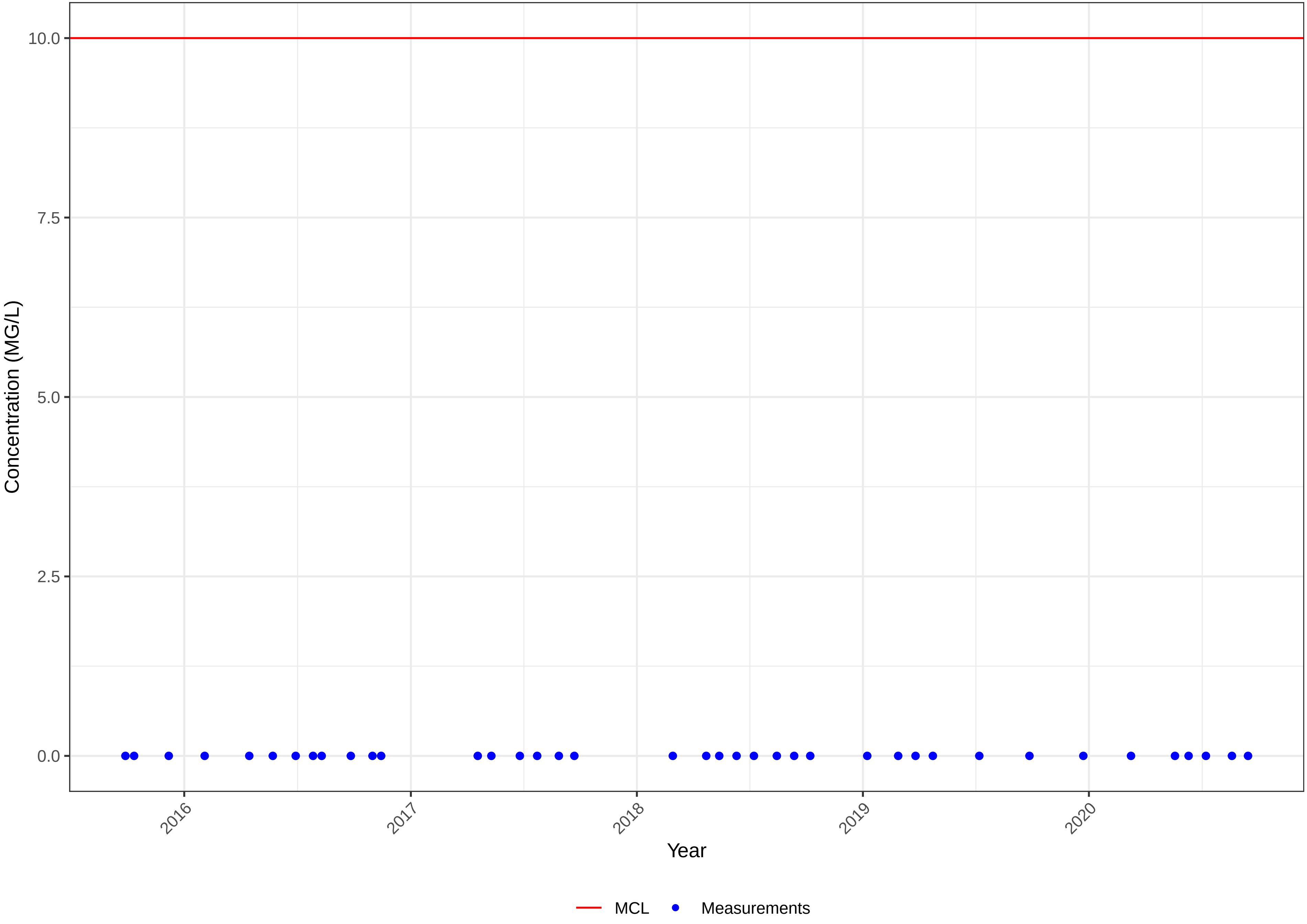
Water Quality Chart

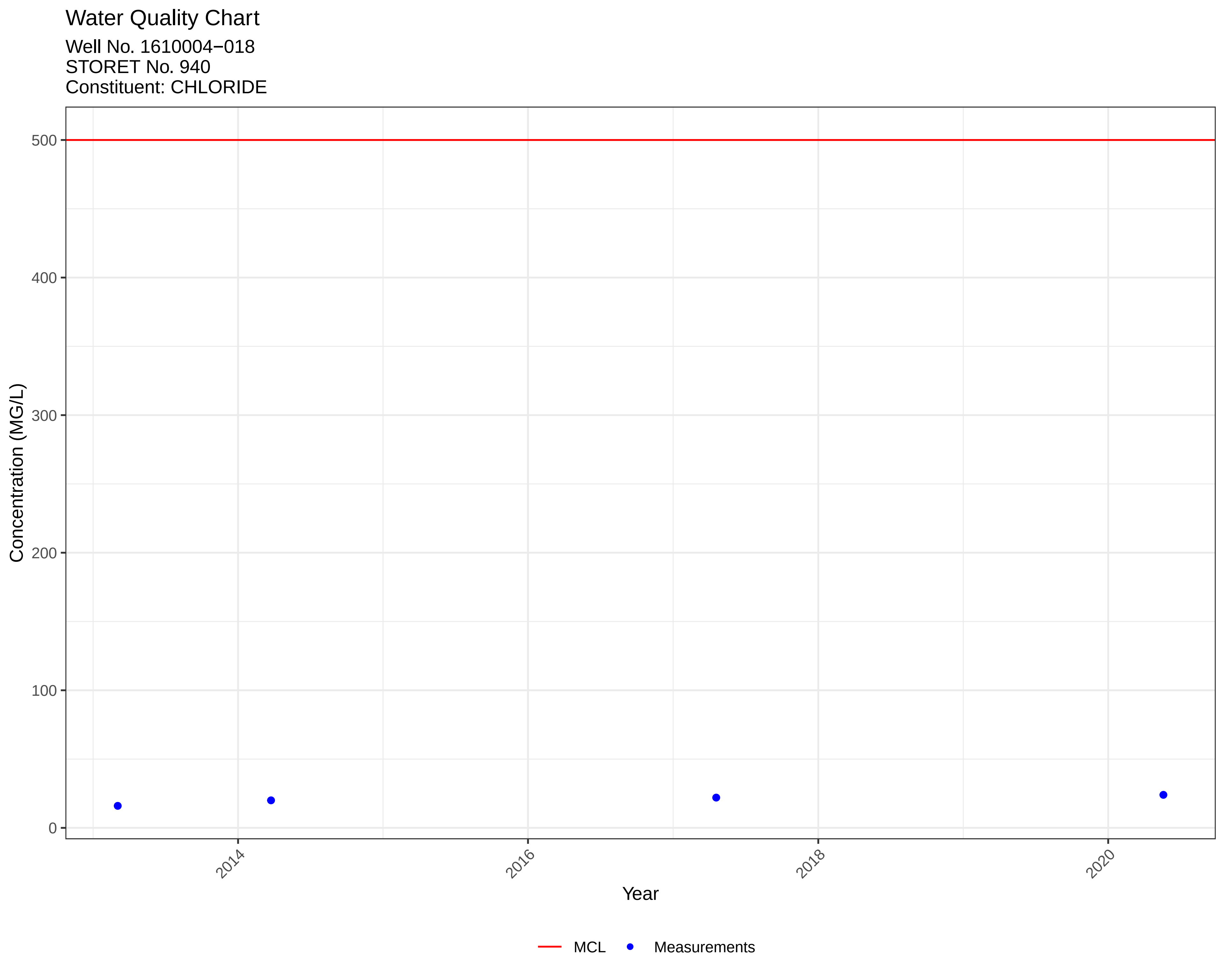
Well No. 1610004−018
STORET No. 95
Constituent: SPECIFIC CONDUCTANCE



Water Quality Chart

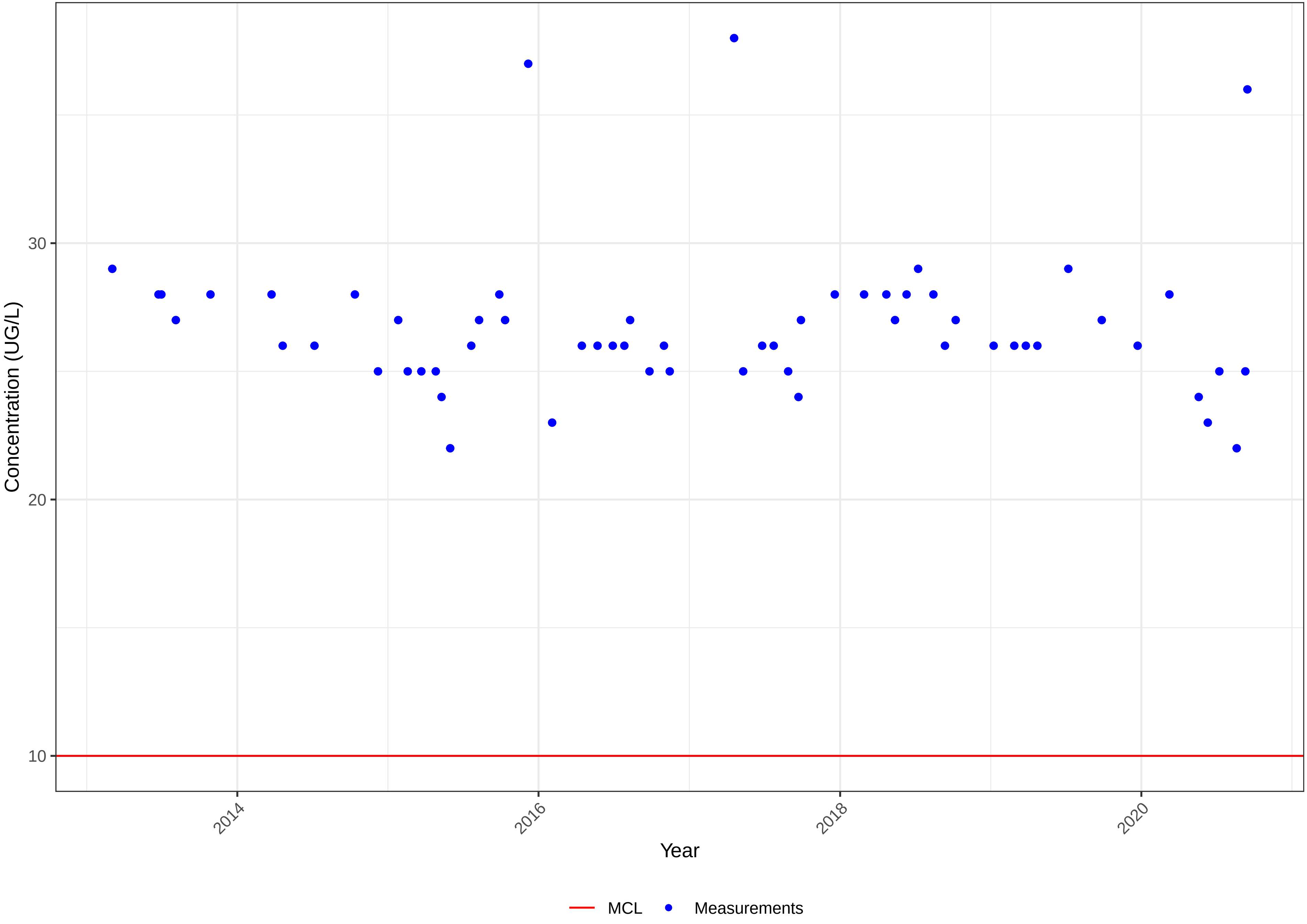
Well No. 1610004−018
STORET No. 618
Constituent: NITRATE (AS N)




Water Quality Chart
Well No. 1610004−018
STORET No. 940
Constituent: CHLORIDE
Concentration (MG/L)
500
400
300
200
100
0
2014
2016
2018
2020
Year
MCL
Measurements

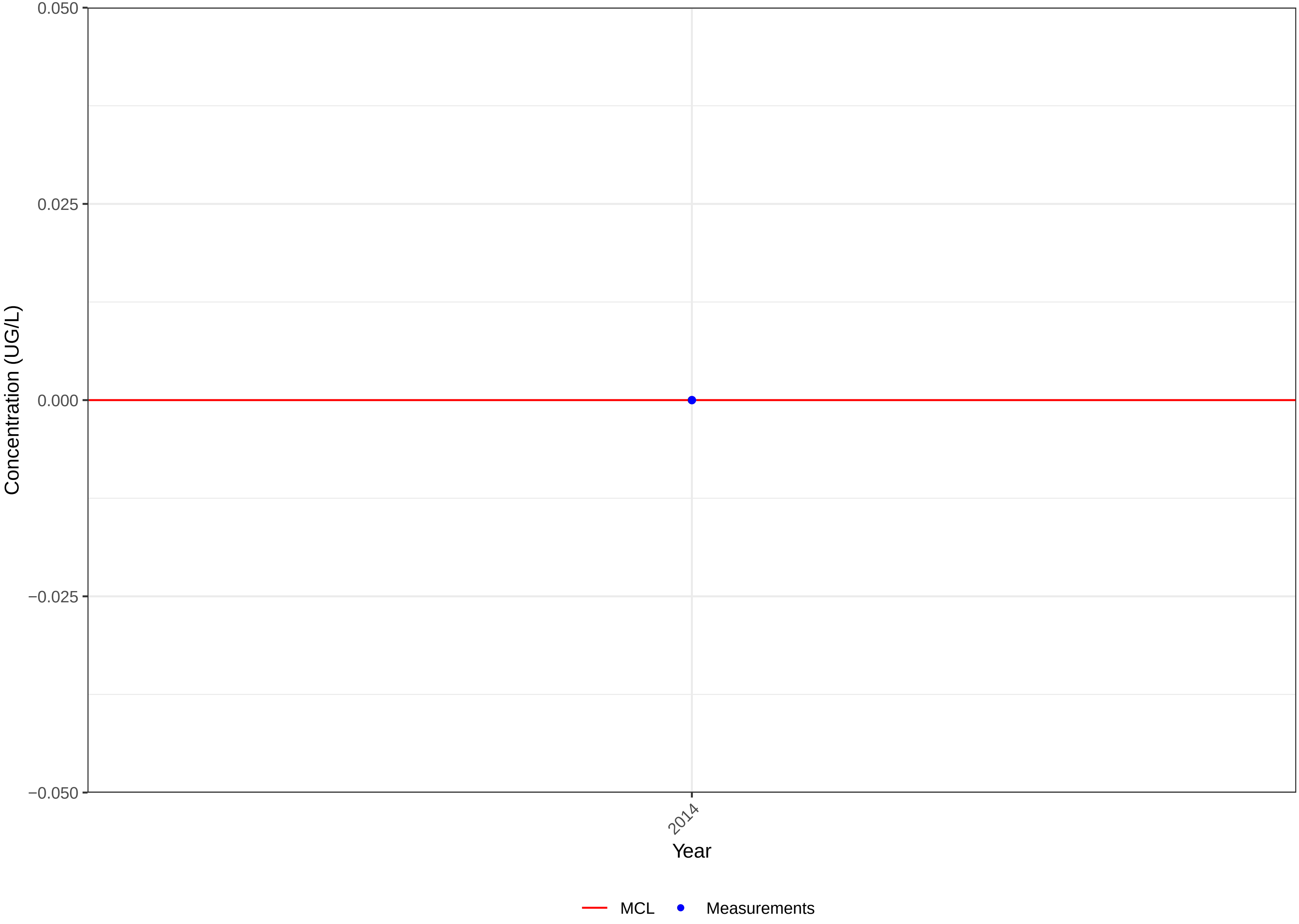
Water Quality Chart

Well No. 1610004−018
STORET No. 1002
Constituent: ARSENIC



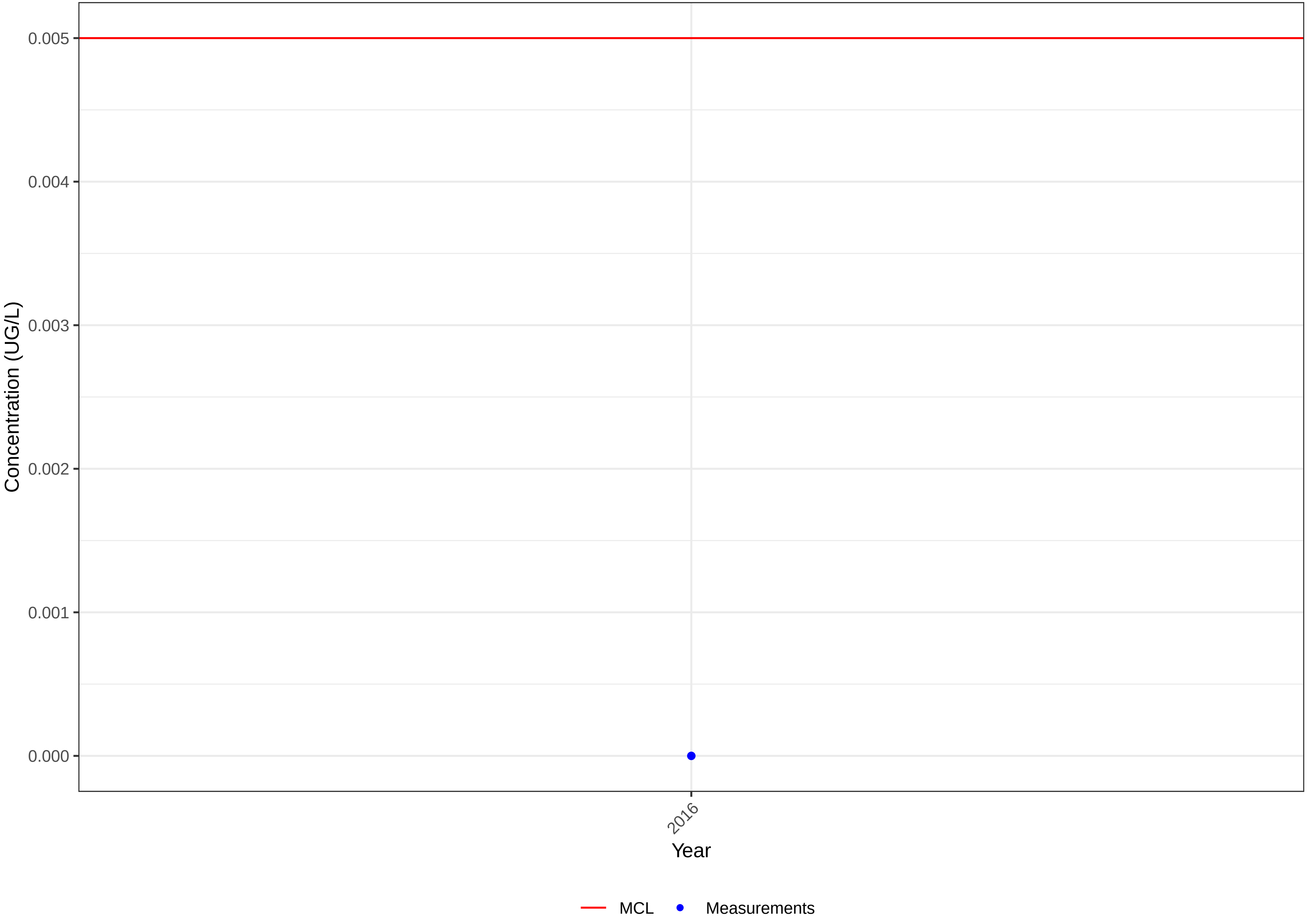
Water Quality Chart

Well No. 1610004−018
STORET No. 1032
Constituent: CHROMIUM, HEXAVALENT



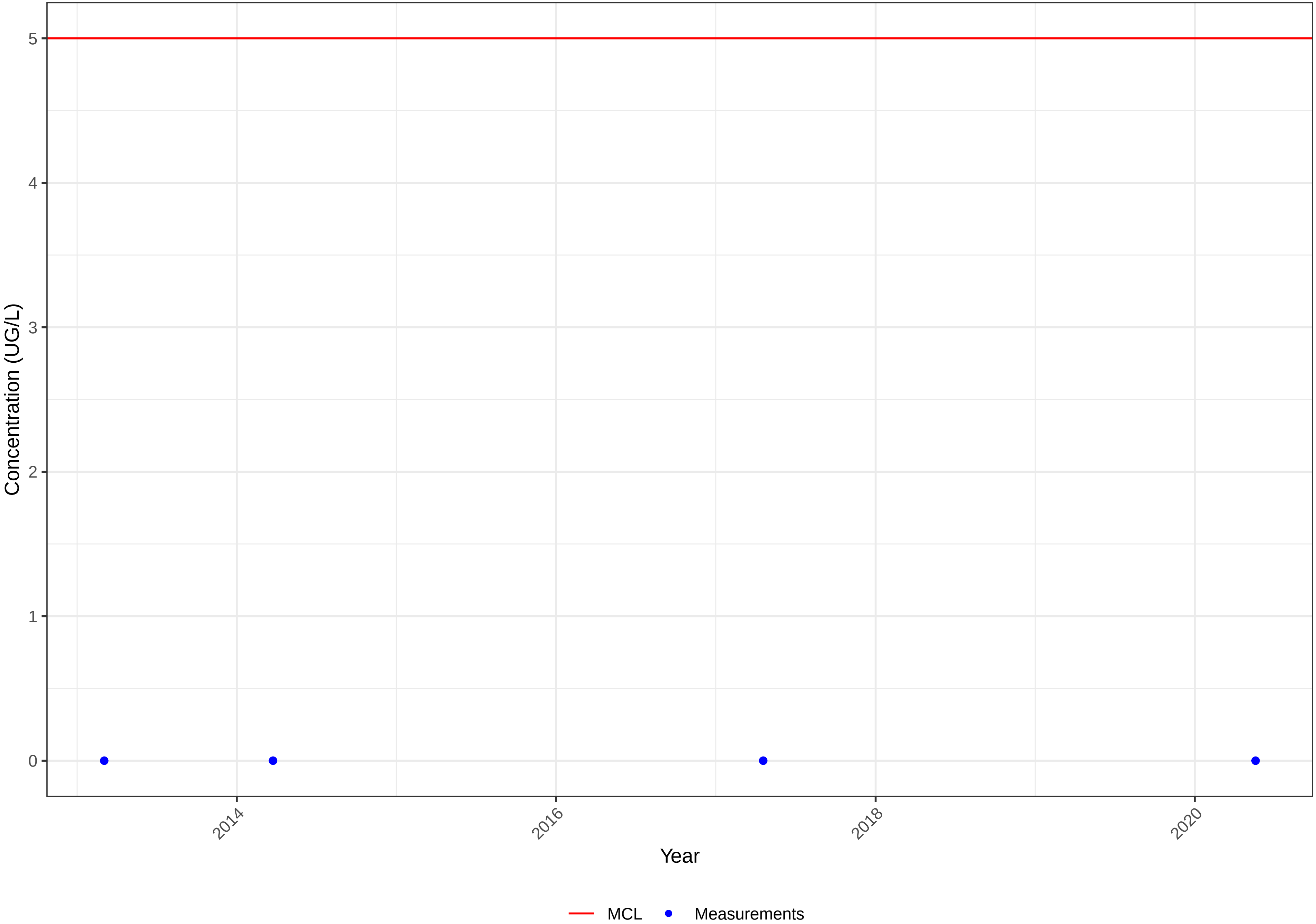
Water Quality Chart

Well No. 1610004−018
STORET No. 7744X
Constituent: 1,2,3−TRICHLOROPROPANE



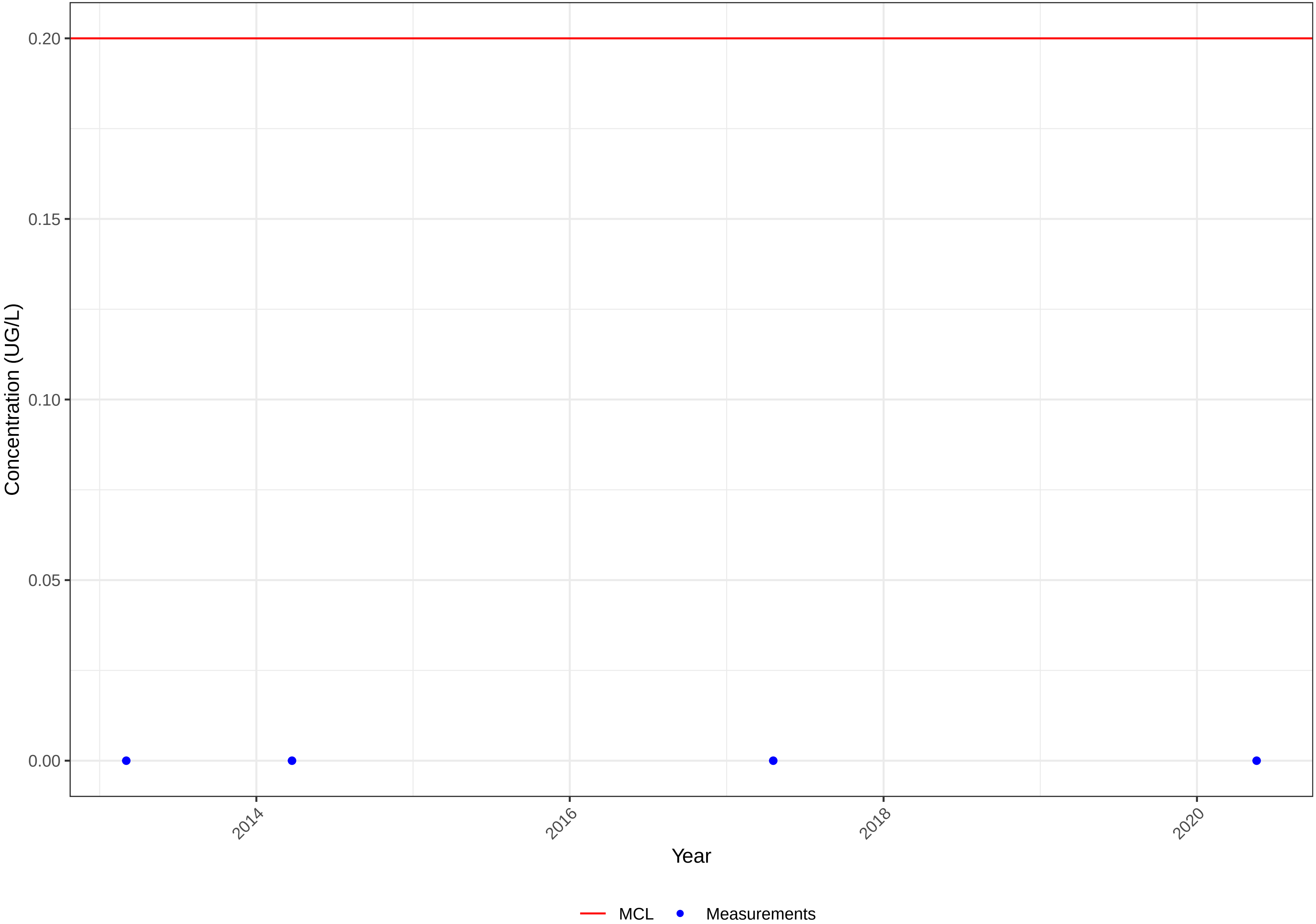
Water Quality Chart

Well No. 1610004−018
STORET No. 34475
Constituent: TETRACHLOROETHYLENE



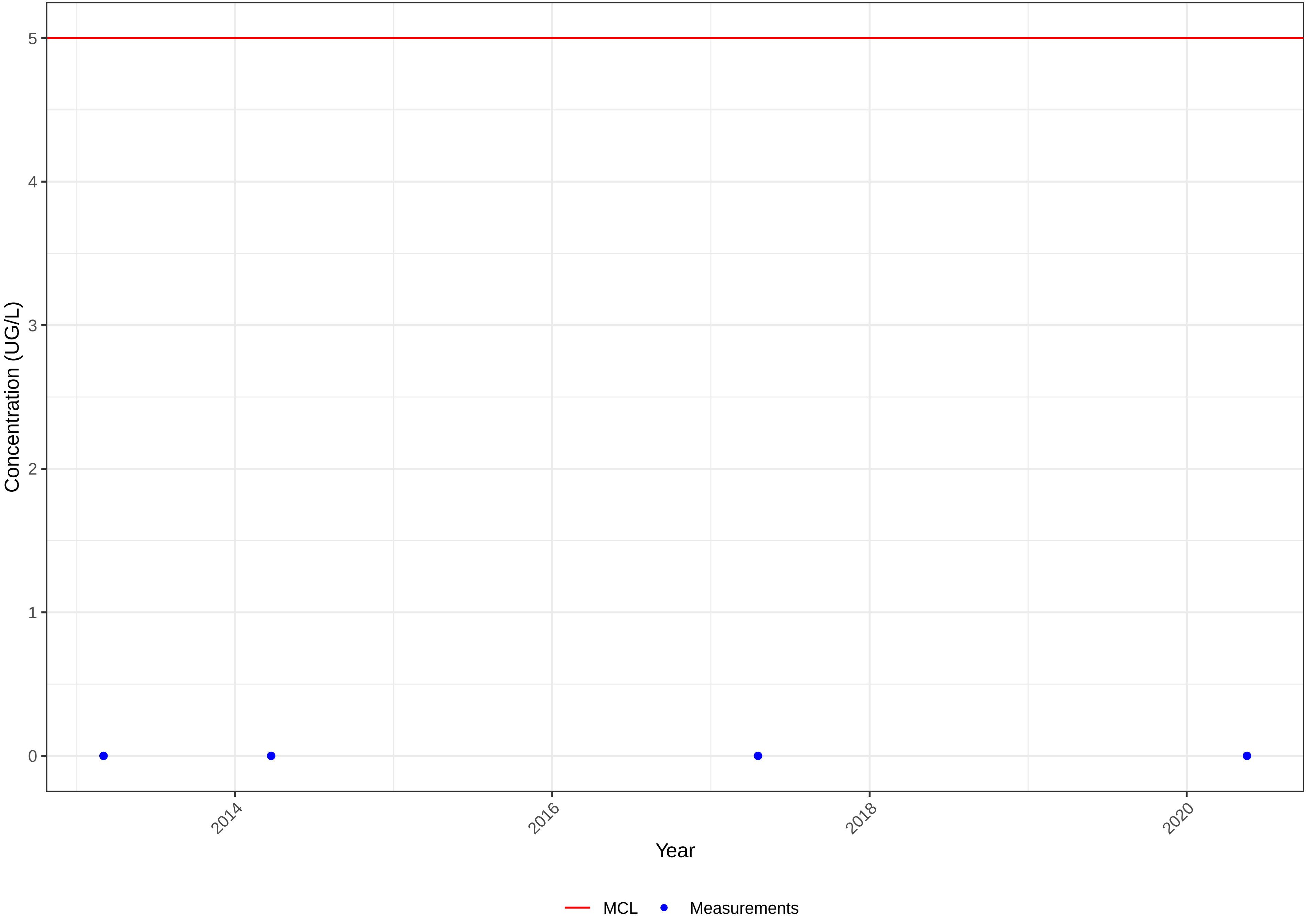
Water Quality Chart

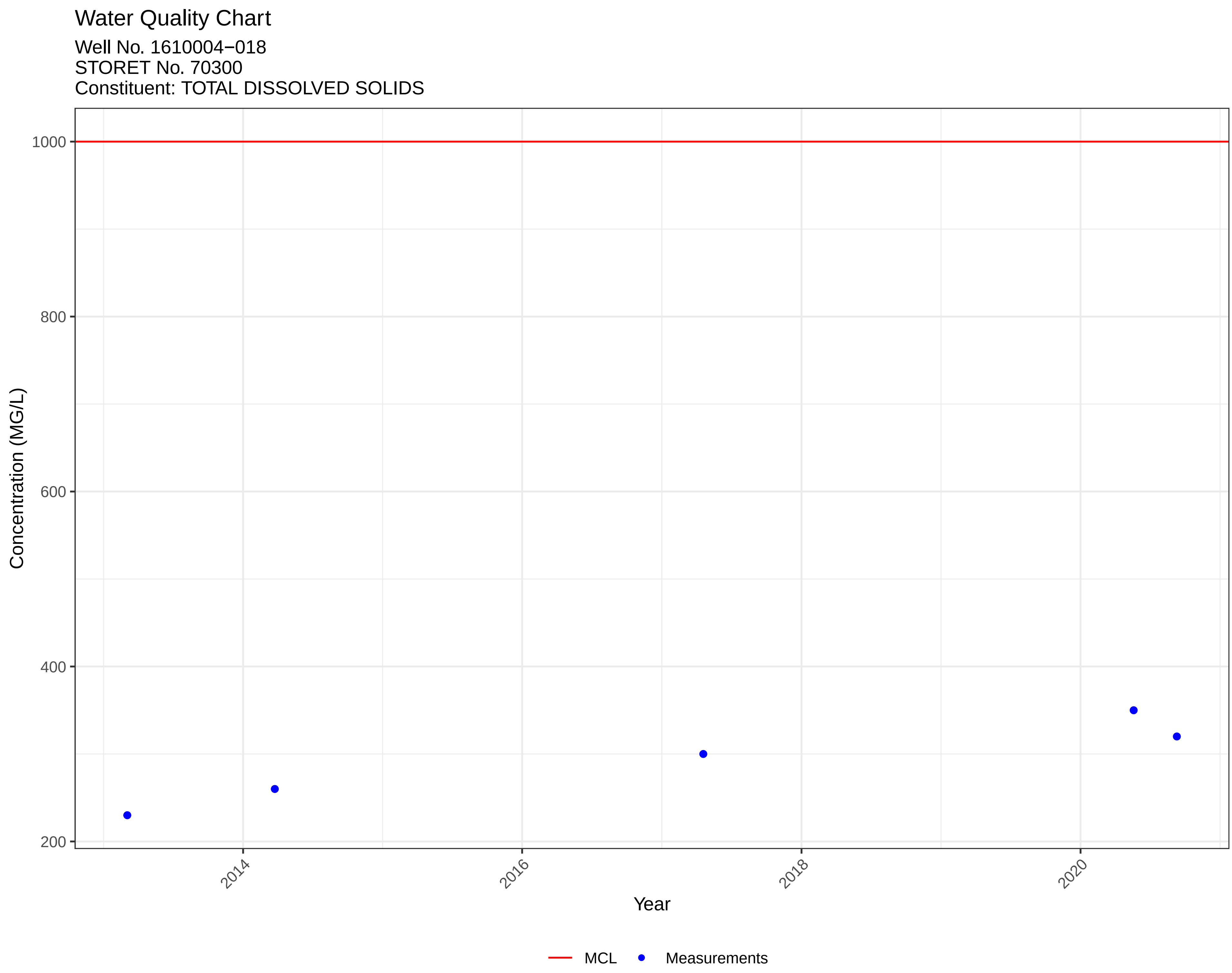
Well No. 1610004−018
STORET No. 38761
Constituent: DIBROMOCHLOROPROPANE (DBCP)



Water Quality Chart

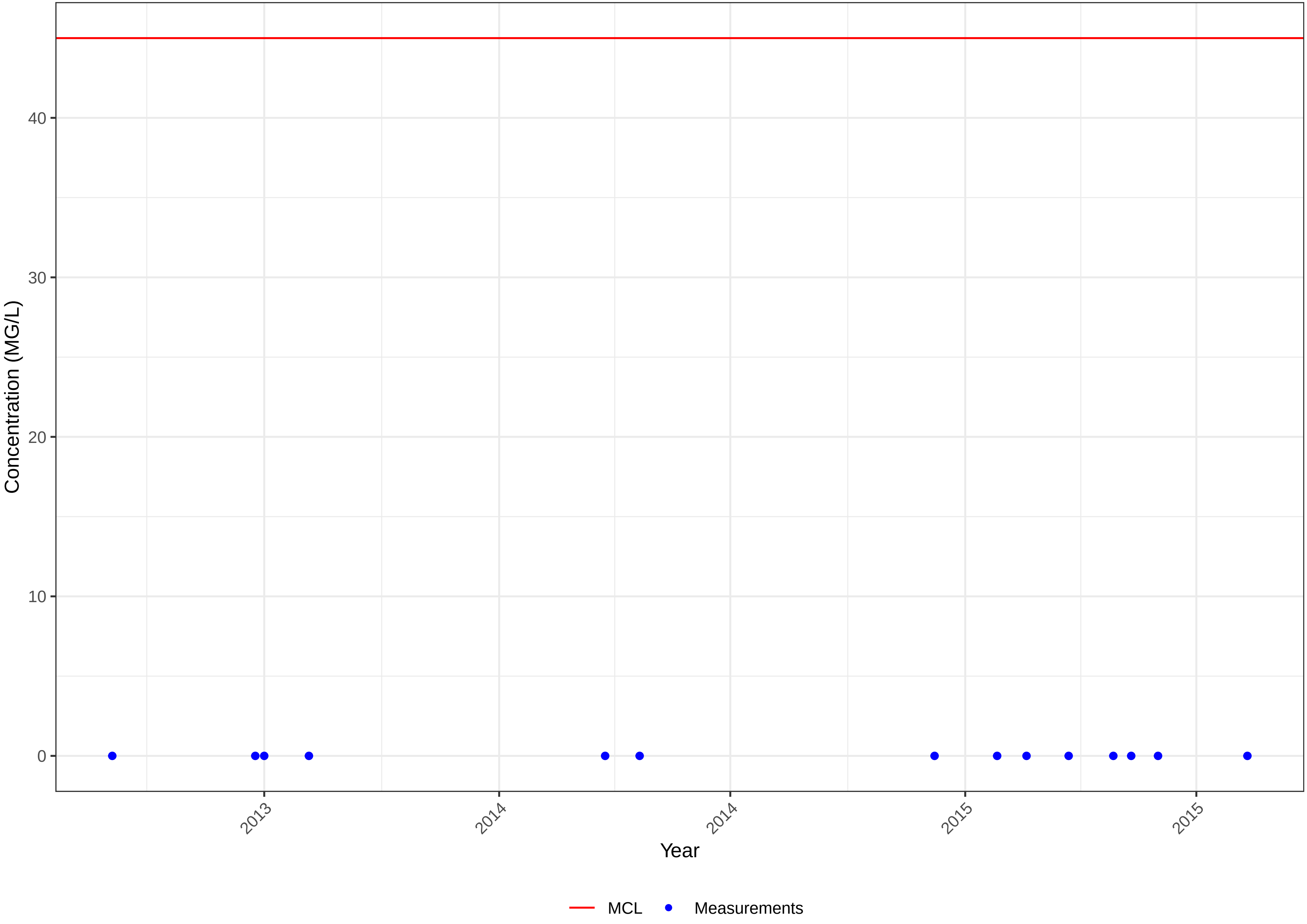
Well No. 1610004−018
STORET No. 39180
Constituent: TRICHLOROETHYLENE




Water Quality Chart
Well No. 1610004−018
STORET No. 70300
Constituent: TOTAL DISSOLVED SOLIDS
Concentration (MG/L)
1000
800
600
400
200
2014
2016
2018
2020
Year
MCL
Measurements

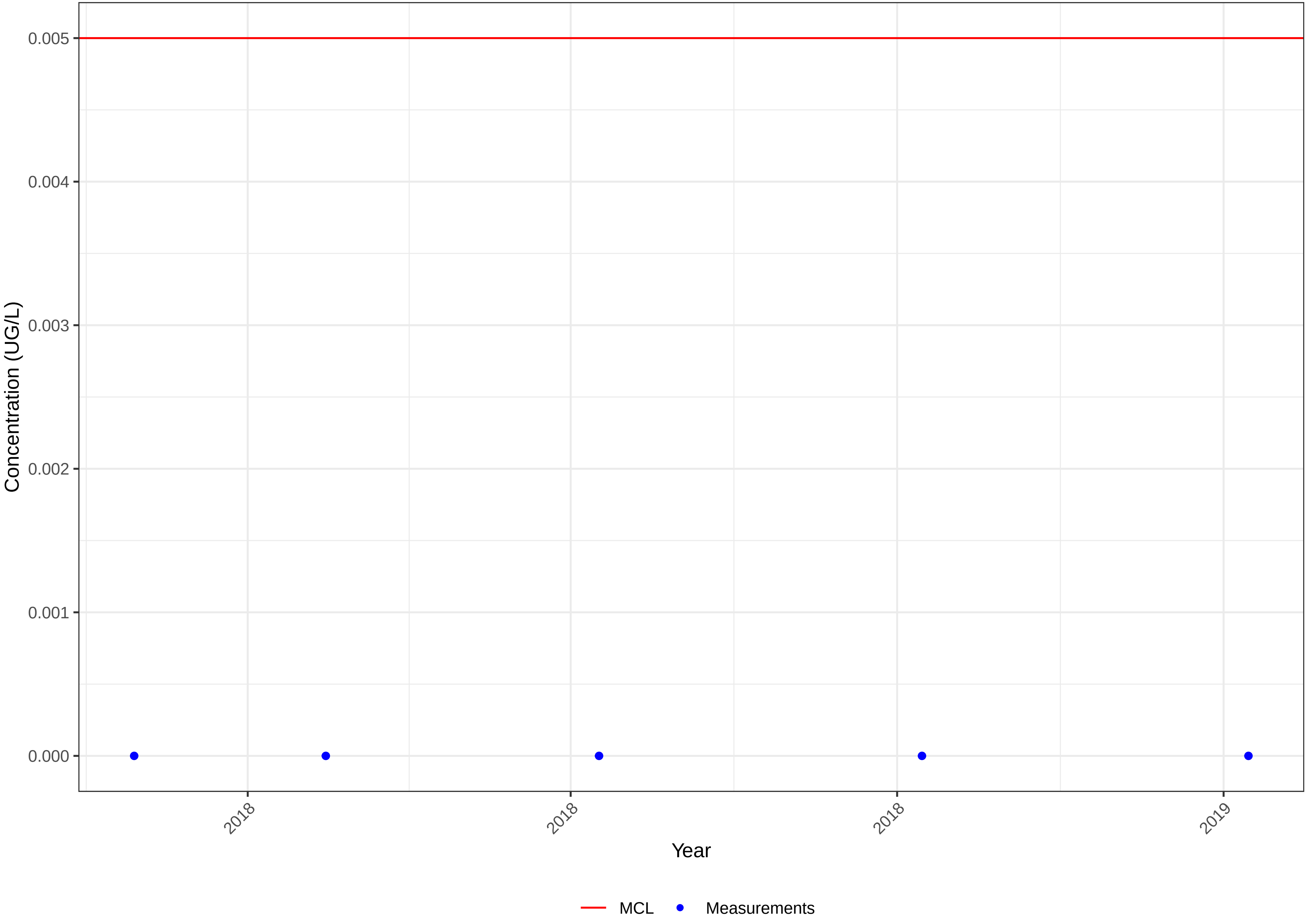
Water Quality Chart

Well No. 1610004−018
STORET No. 71850
Constituent: NITRATE (AS NO3)



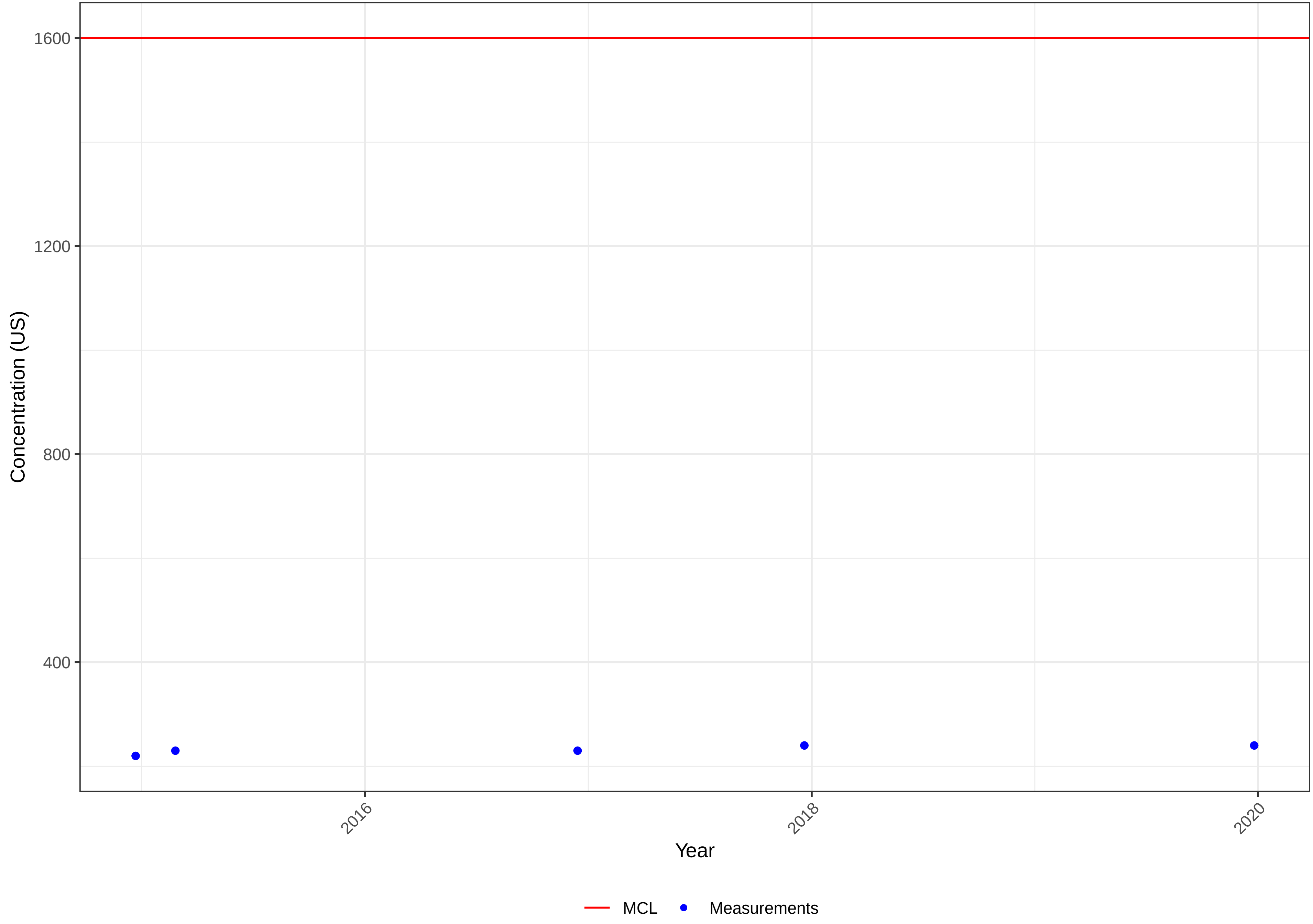
Water Quality Chart

Well No. 1610004−018
STORET No. 77443
Constituent: 1,2,3−TRICHLOROPROPANE



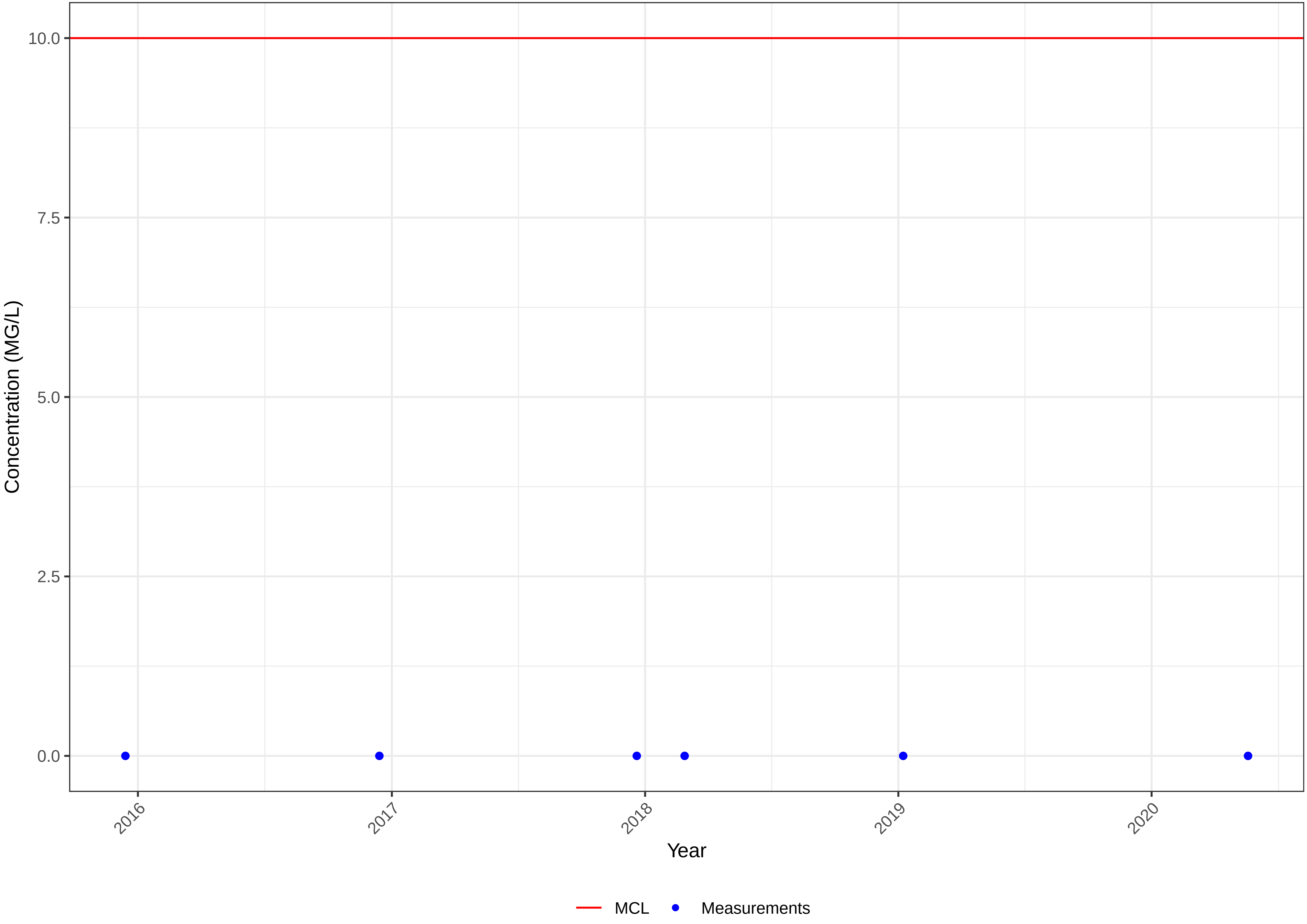
Water Quality Chart

Well No. 1610004−019
STORET No. 95
Constituent: SPECIFIC CONDUCTANCE



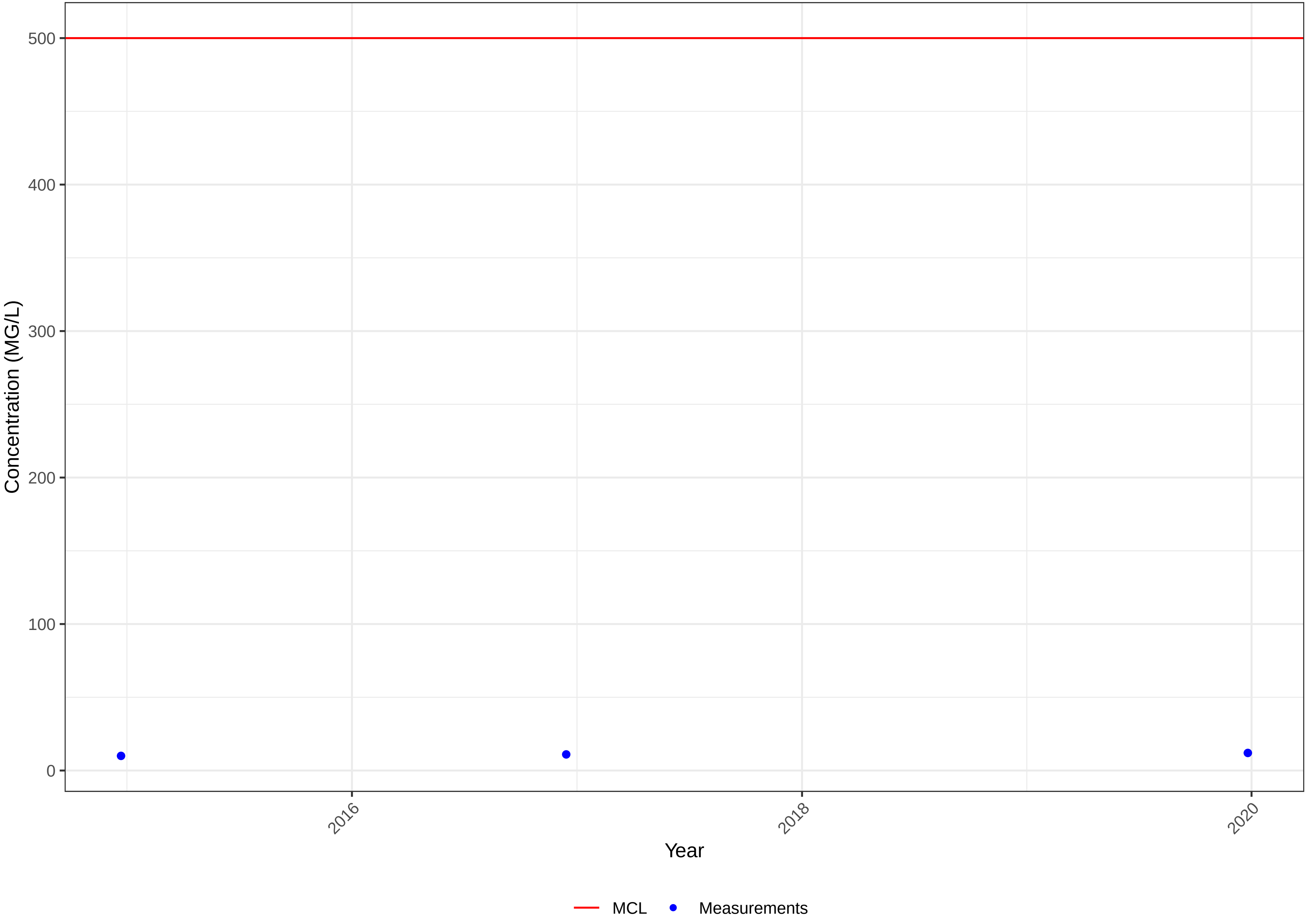
Water Quality Chart

Well No. 1610004−019
STORET No. 618
Constituent: NITRATE (AS N)



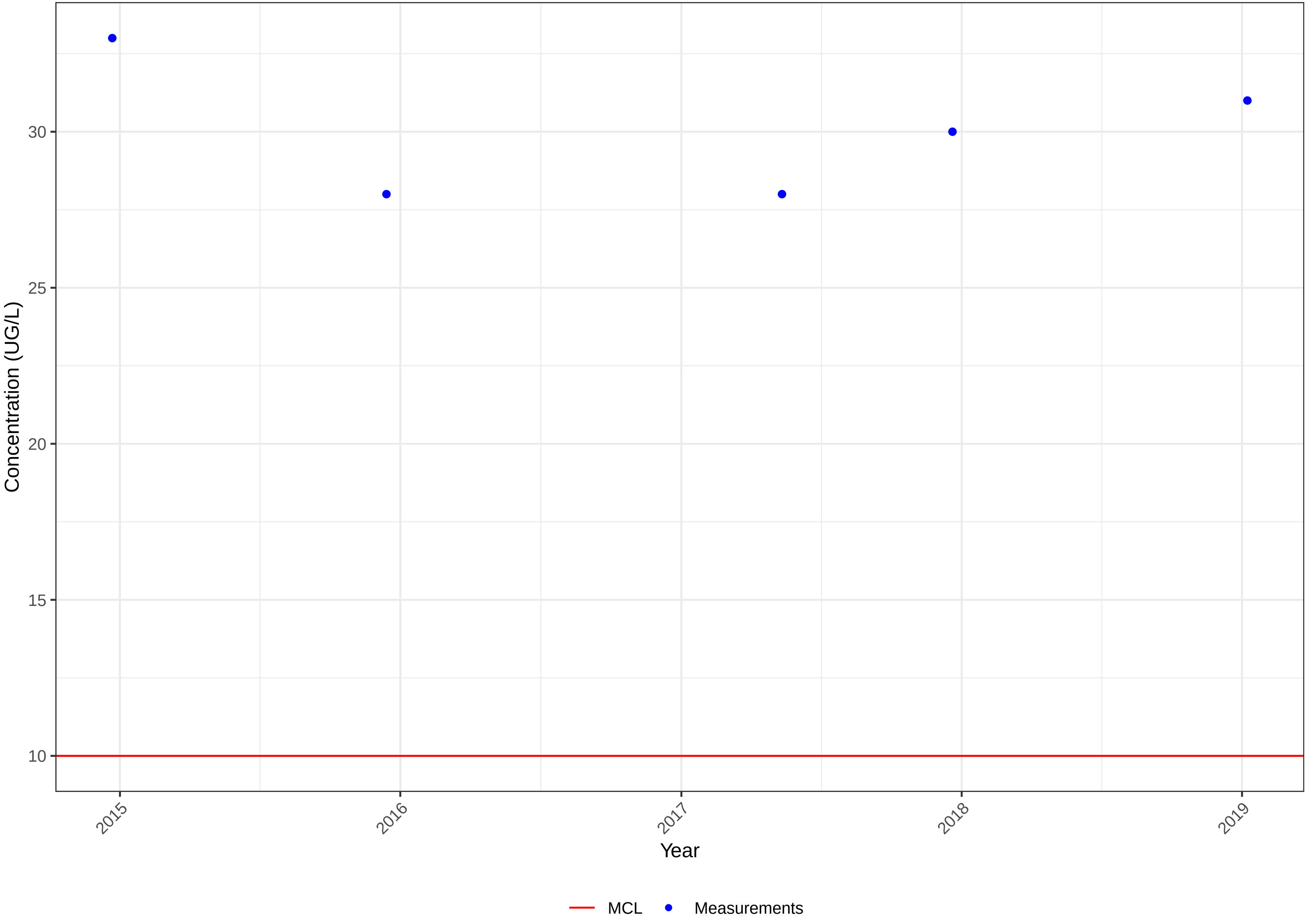
Water Quality Chart

Well No. 1610004−019
STORET No. 940
Constituent: CHLORIDE



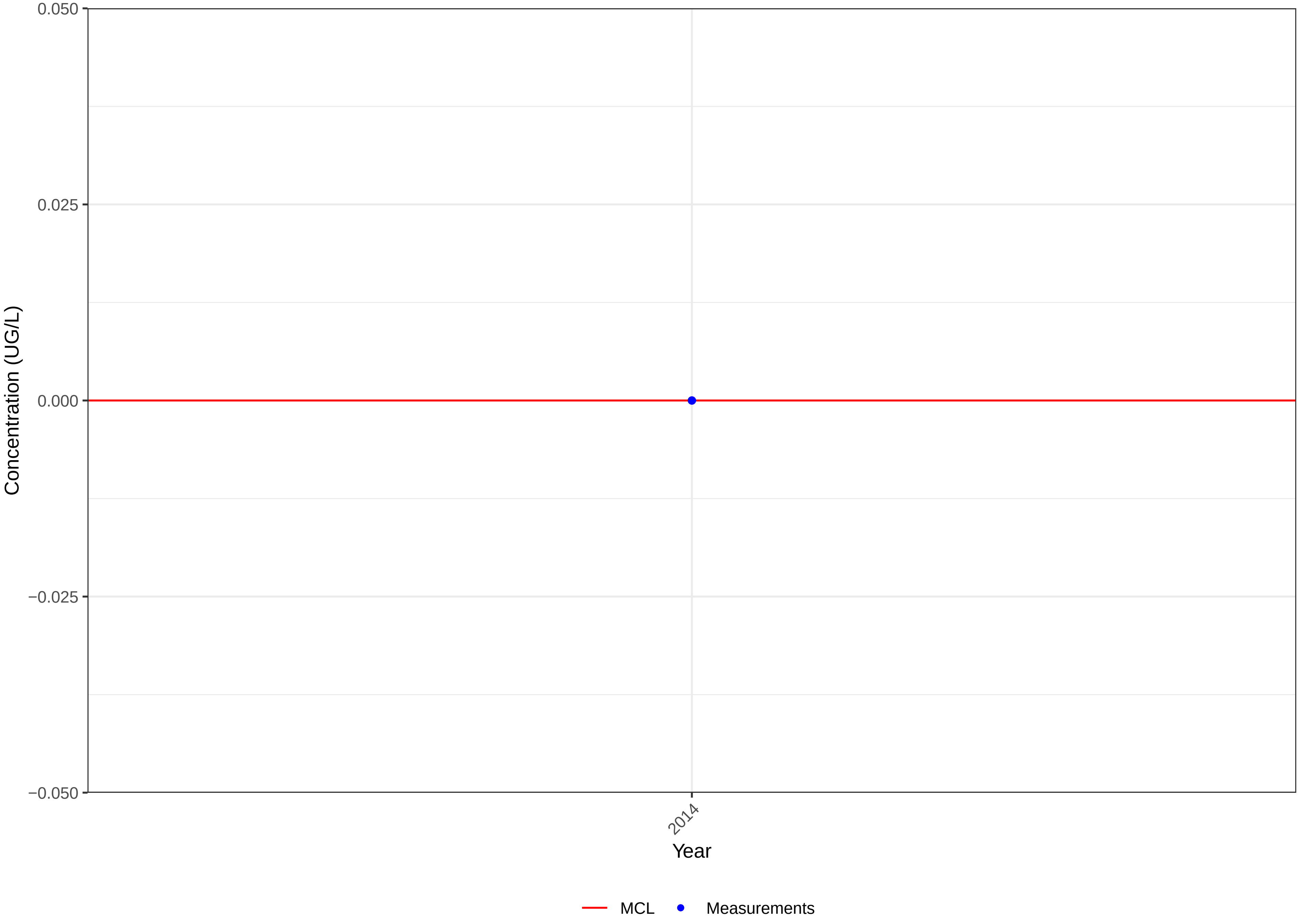
Water Quality Chart

Well No. 1610004−019
STORET No. 1002
Constituent: ARSENIC



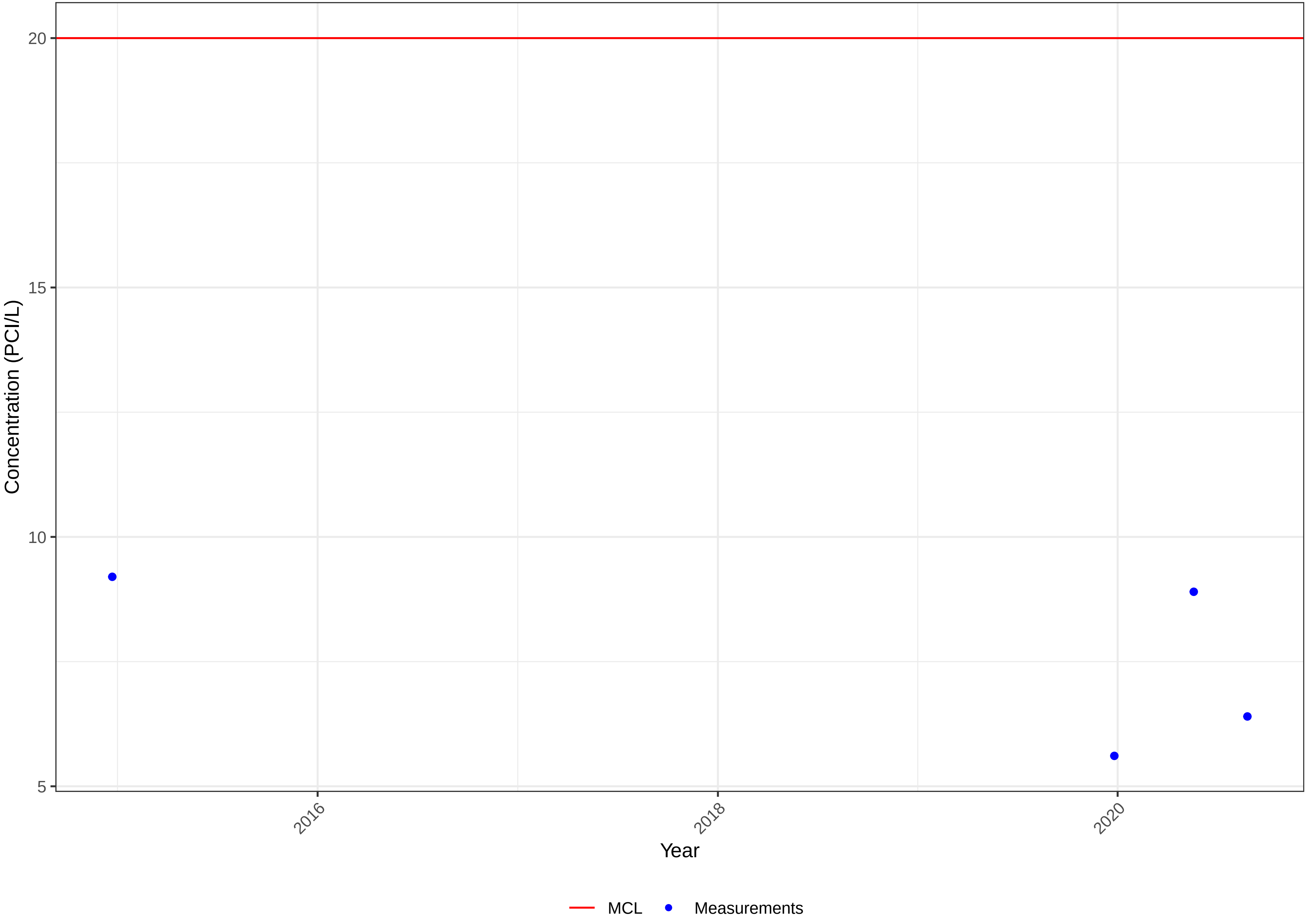
Water Quality Chart

Well No. 1610004−019
STORET No. 1032
Constituent: CHROMIUM, HEXAVALENT



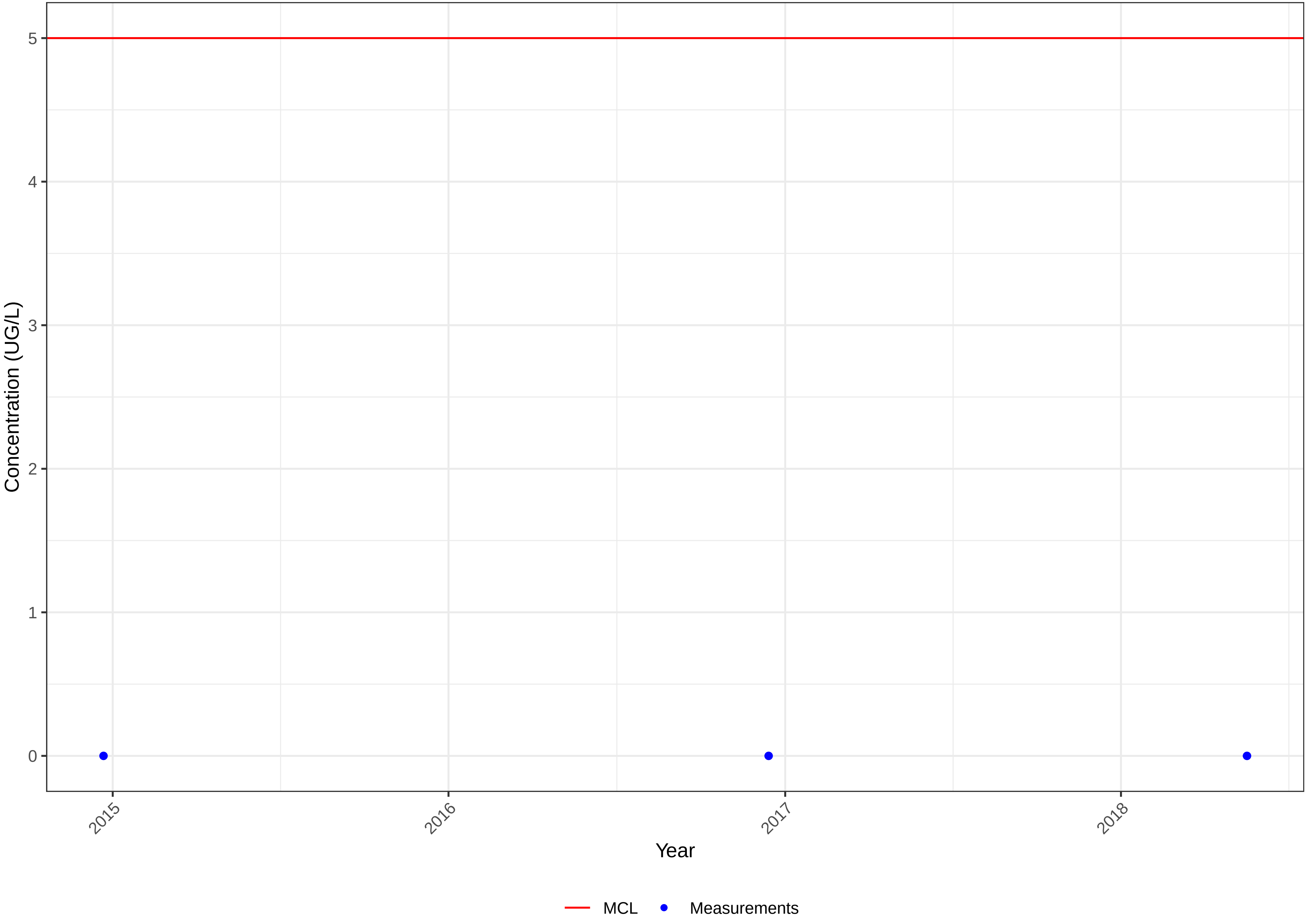
Water Quality Chart

Well No. 1610004−019
STORET No. 28012
Constituent: URANIUM (PCI/L)



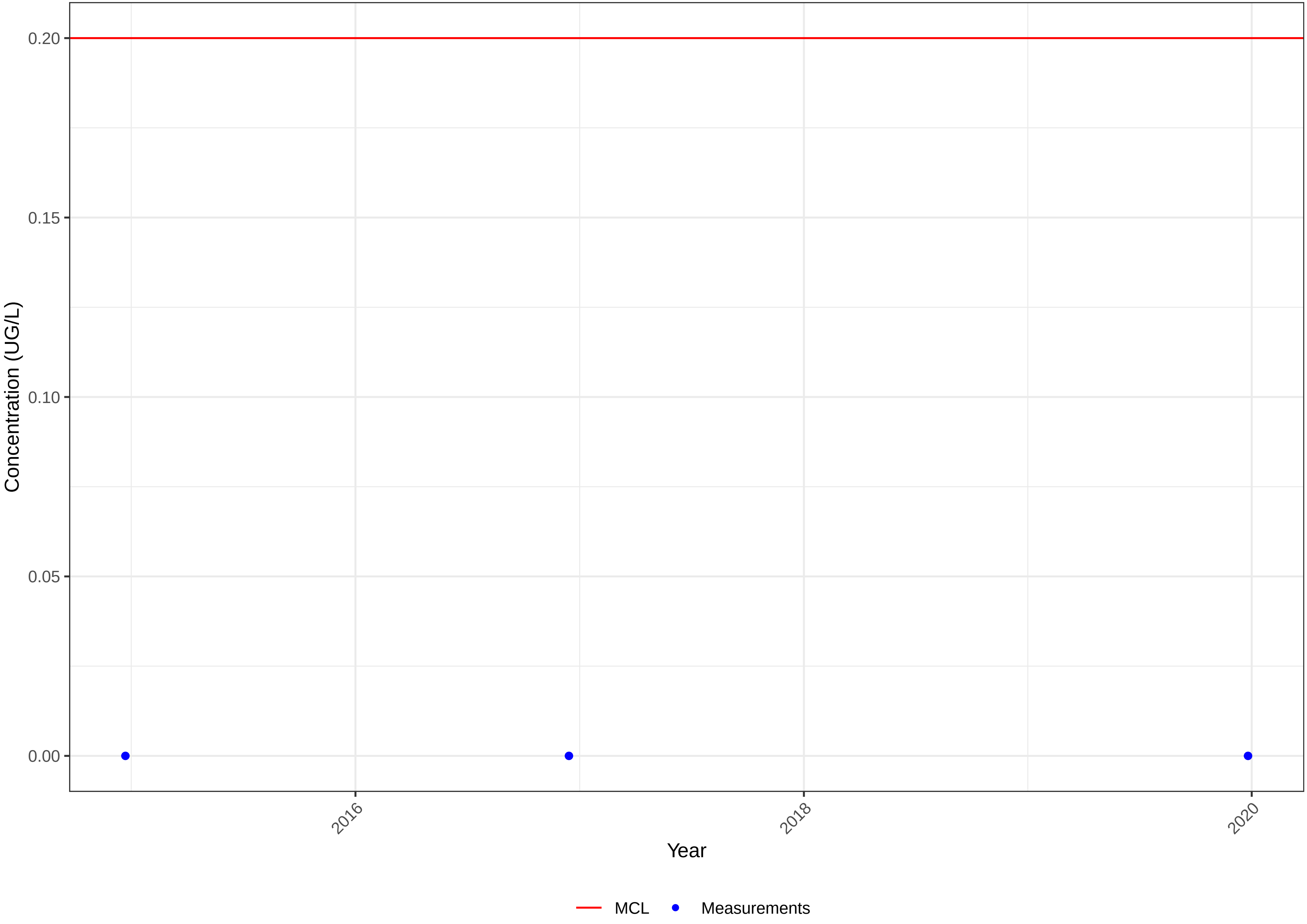
Water Quality Chart

Well No. 1610004−019
STORET No. 34475
Constituent: TETRACHLOROETHYLENE



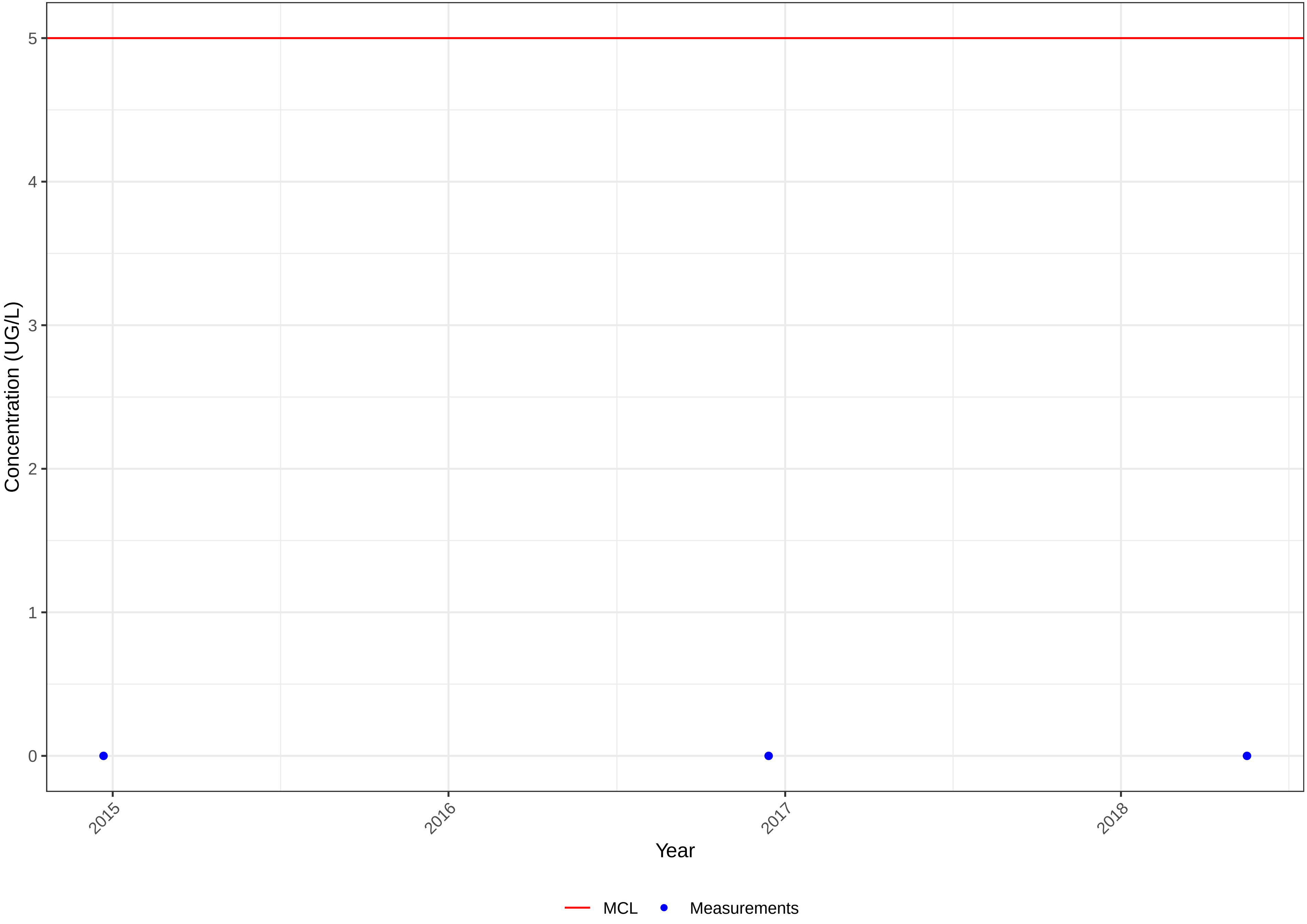
Water Quality Chart

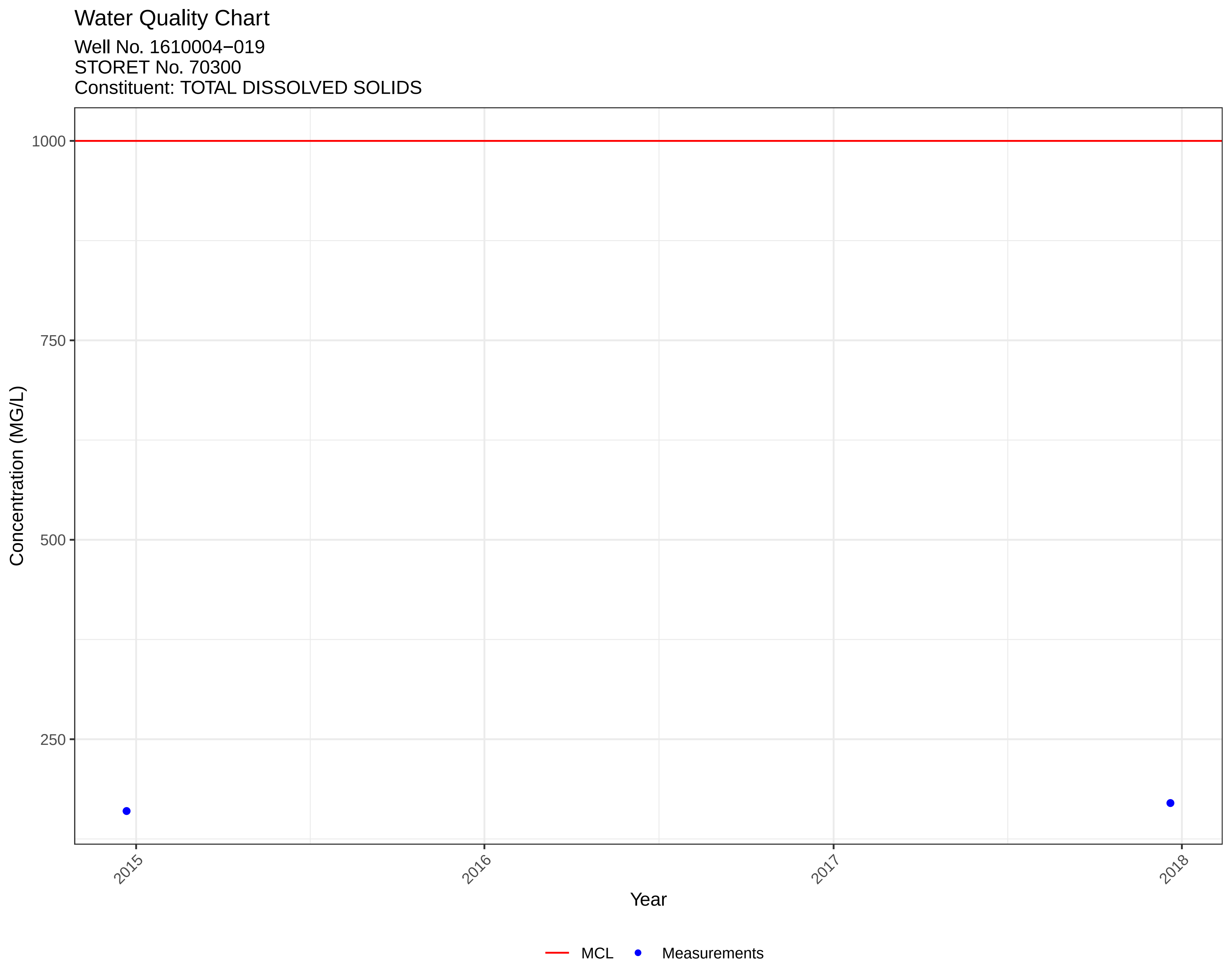
Well No. 1610004−019
STORET No. 38761
Constituent: DIBROMOCHLOROPROPANE (DBCP)

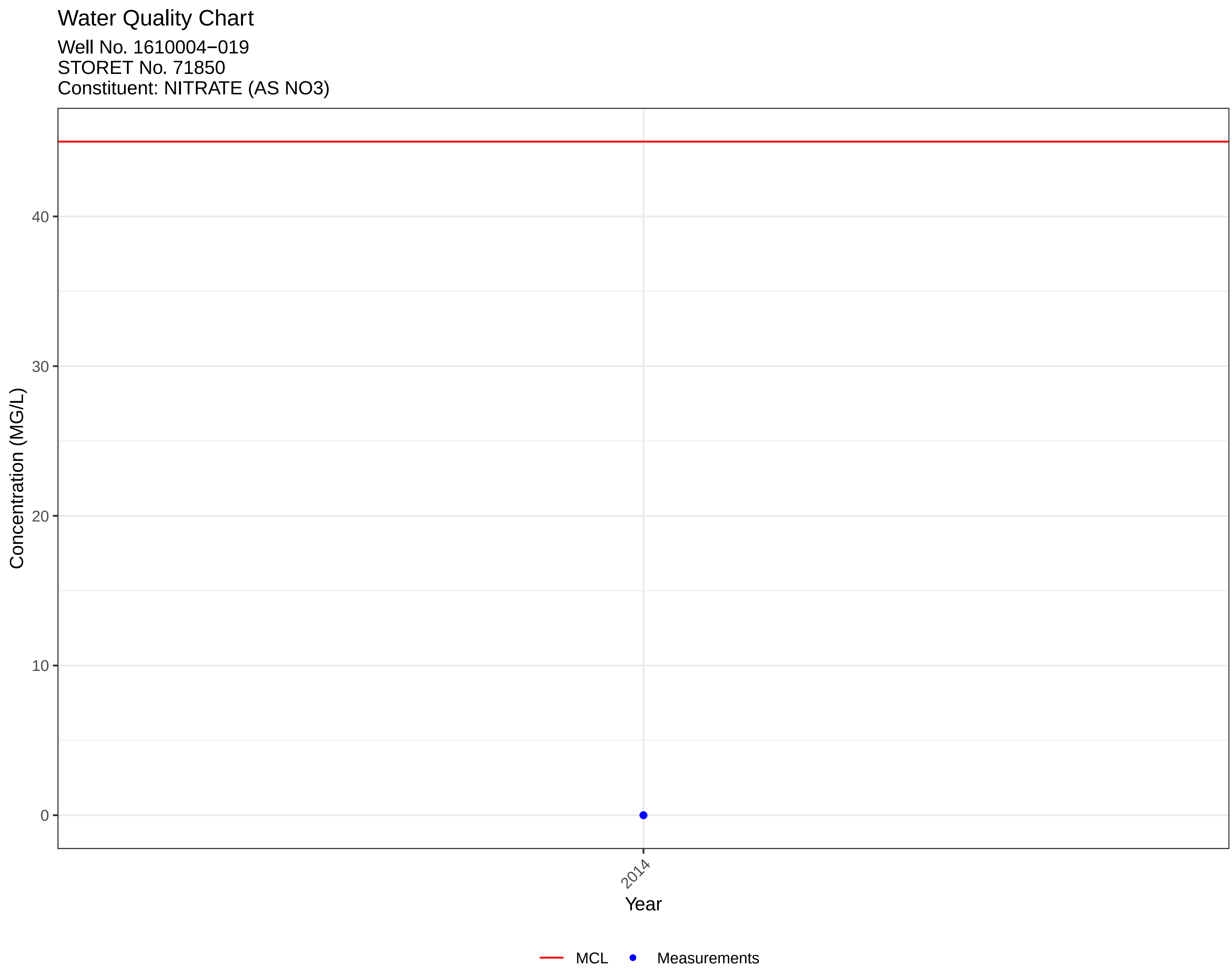


Water Quality Chart

Well No. 1610004−019
STORET No. 39180
Constituent: TRICHLOROETHYLENE



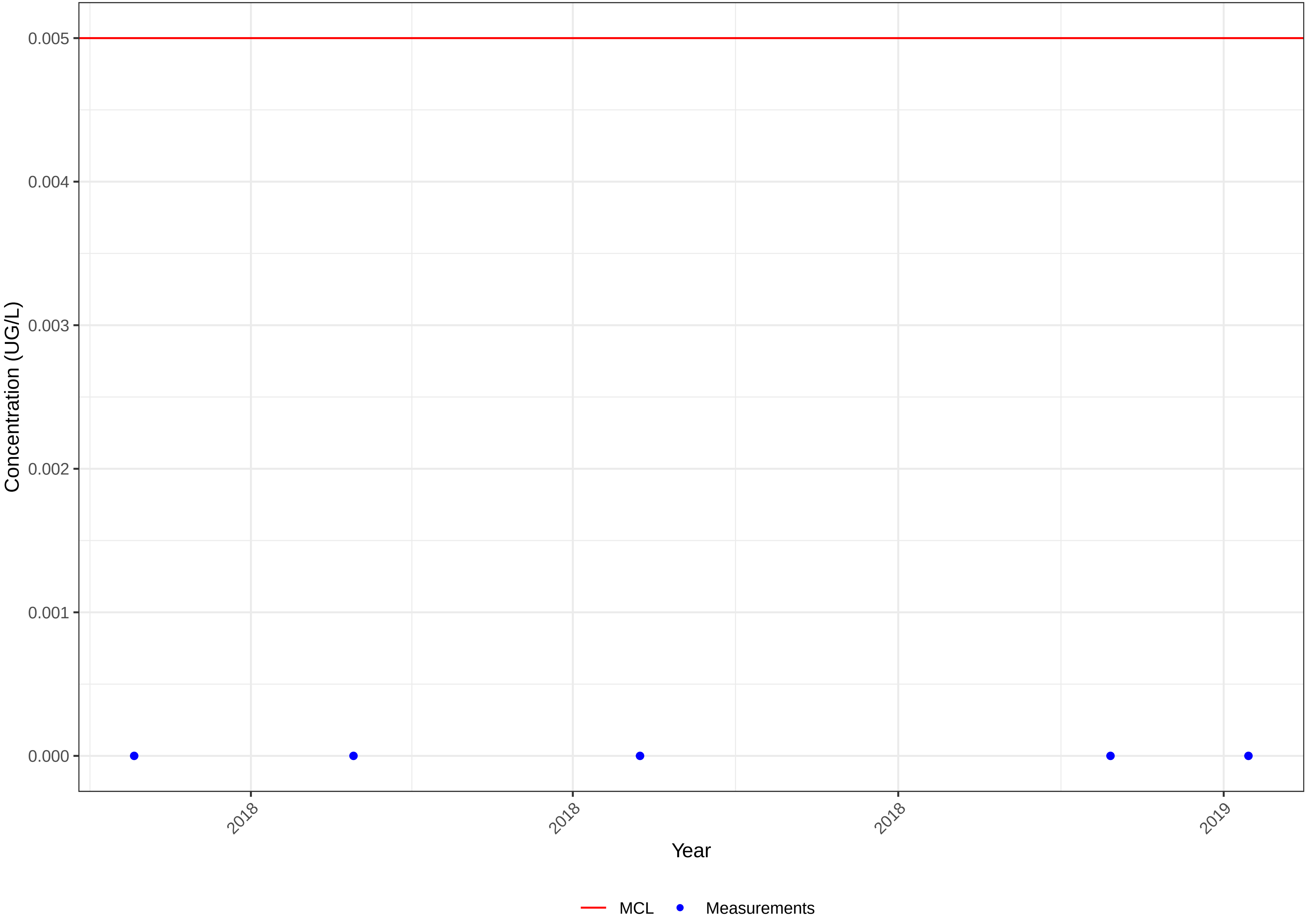

Water Quality Chart
Well No. 1610004−019
STORET No. 70300
Constituent: TOTAL DISSOLVED SOLIDS
1000
750
500
250
Concentration (MG/L)
2015
2016
2017
2018
Year
MCL
Measurements



Water Quality Chart
Well No. 1610004−019
STORET No. 71850
Constituent: NITRATE (AS NO3)
Concentration (MG/L)
40
30
20
10
0
2014
Year
MCL
Measurements

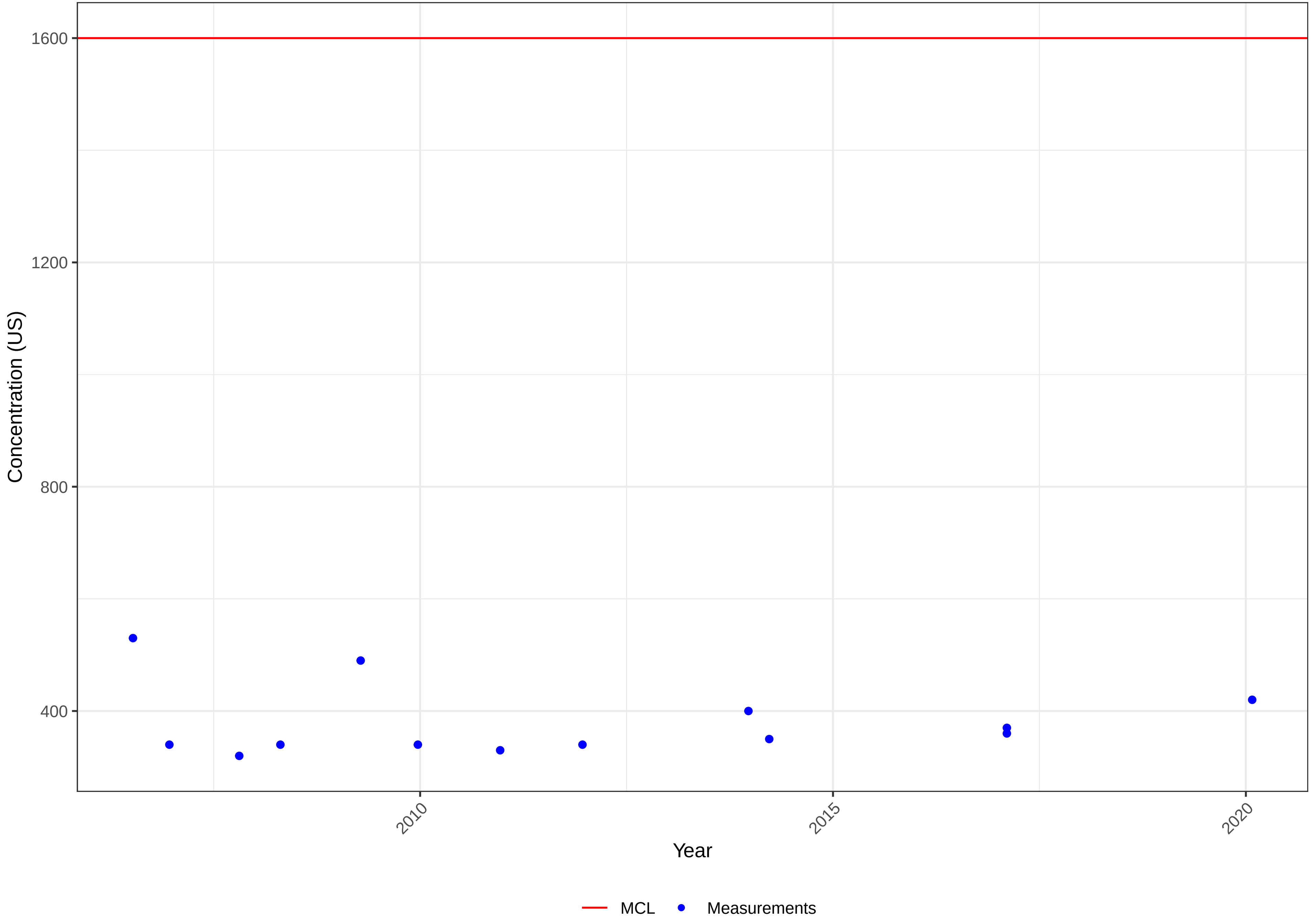
Water Quality Chart

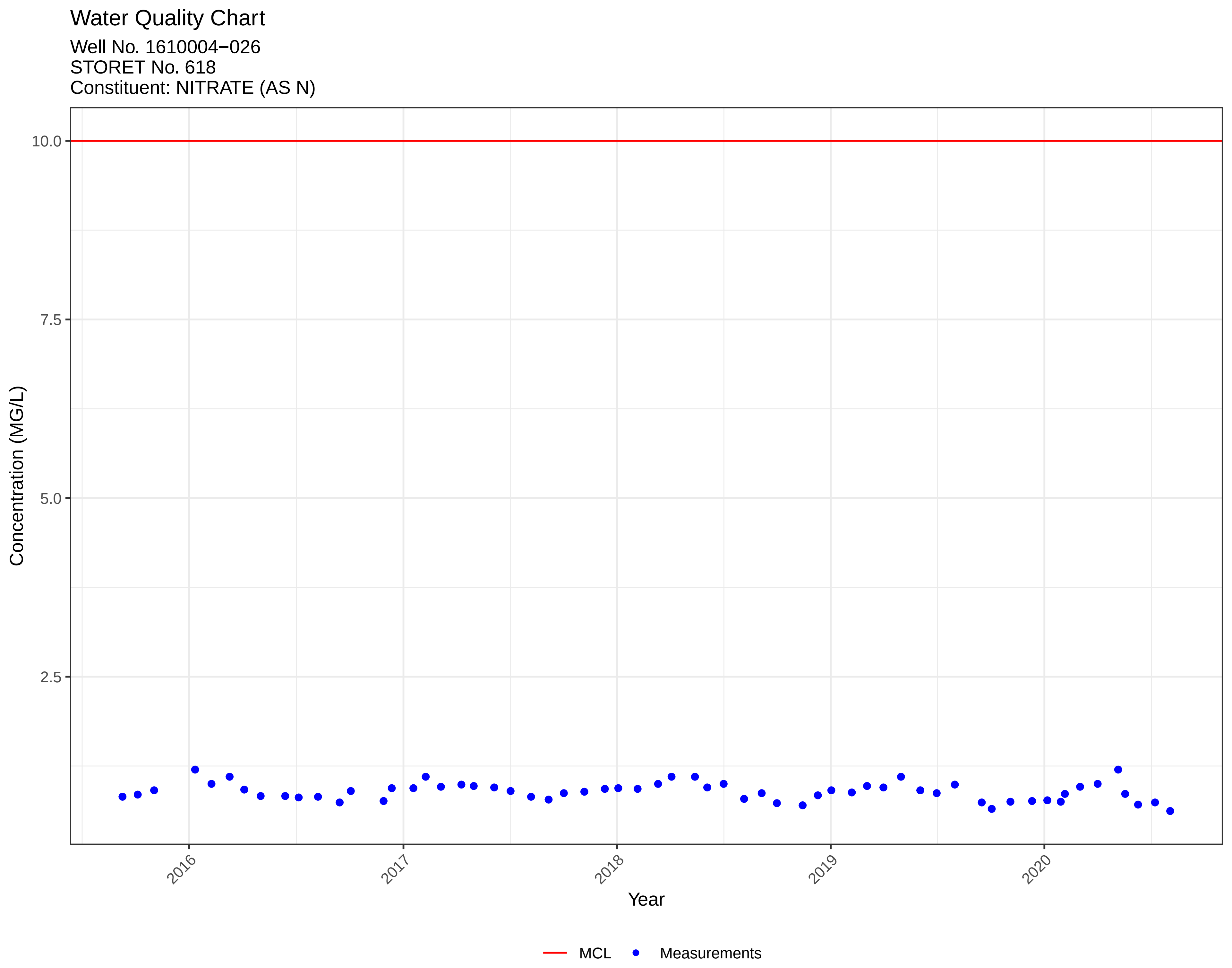
Well No. 1610004−019
STORET No. 77443
Constituent: 1,2,3−TRICHLOROPROPANE



Water Quality Chart

Well No. 1610004−026
STORET No. 95
Constituent: SPECIFIC CONDUCTANCE

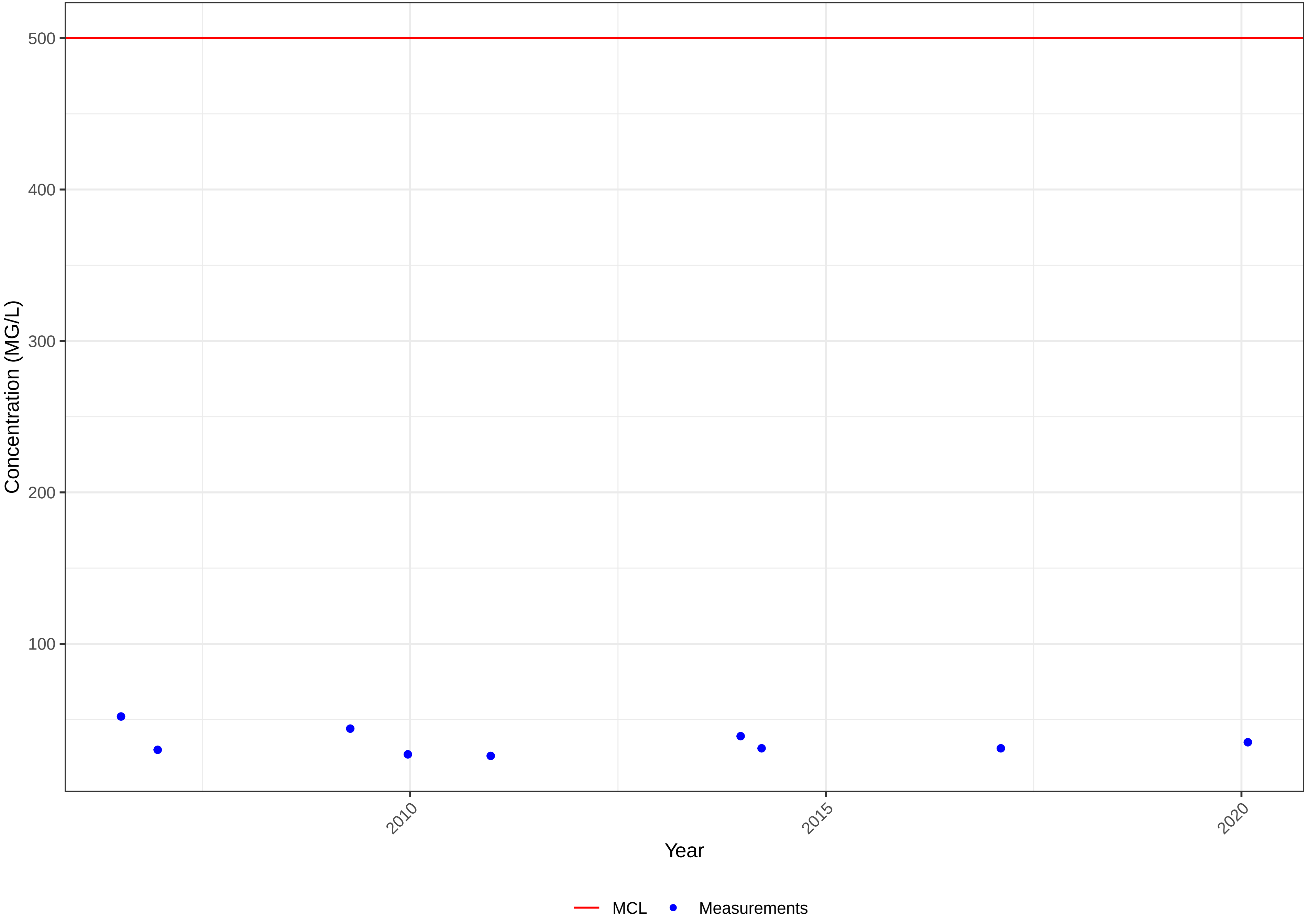




Water Quality Chart
Well No. 1610004−026
STORET No. 618
Constituent: NITRATE (AS N)
10.0
7.5
5.0
2.5
Concentration (MG/L)
2016
2017
2018
2019
2020
Year
MCL
Measurements

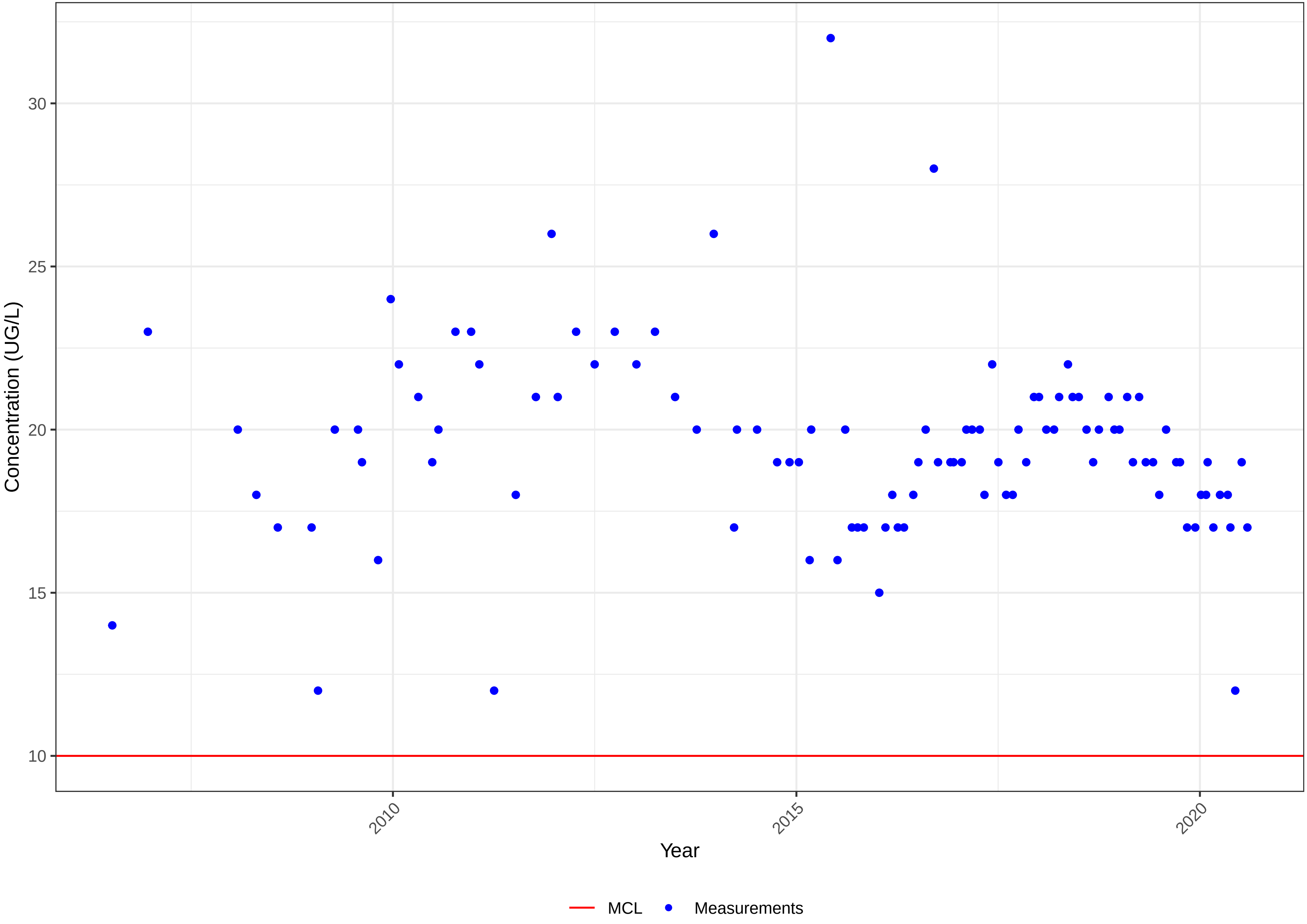
Water Quality Chart

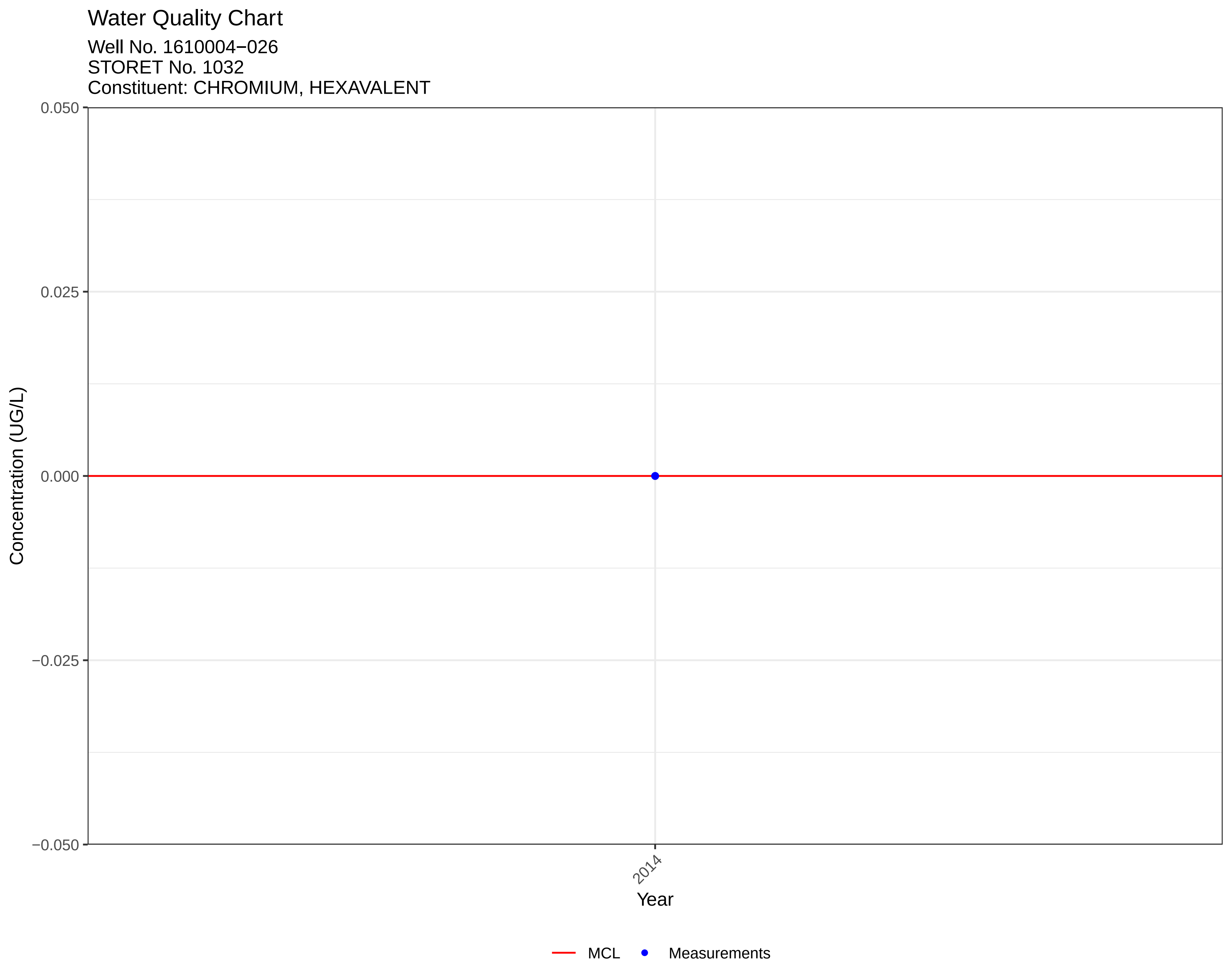
Well No. 1610004−026
STORET No. 940
Constituent: CHLORIDE

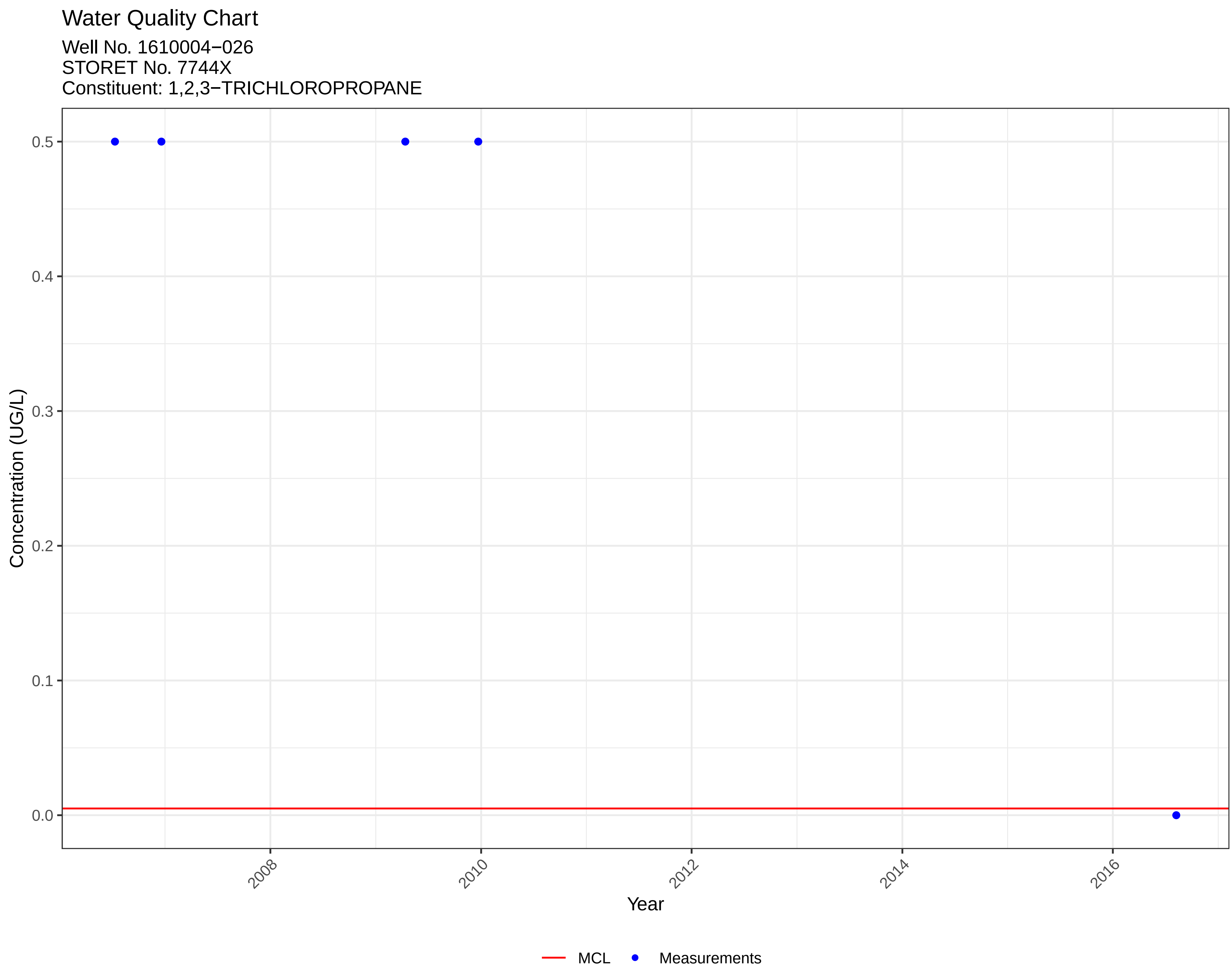


Water Quality Chart

Well No. 1610004−026
STORET No. 1002
Constituent: ARSENIC

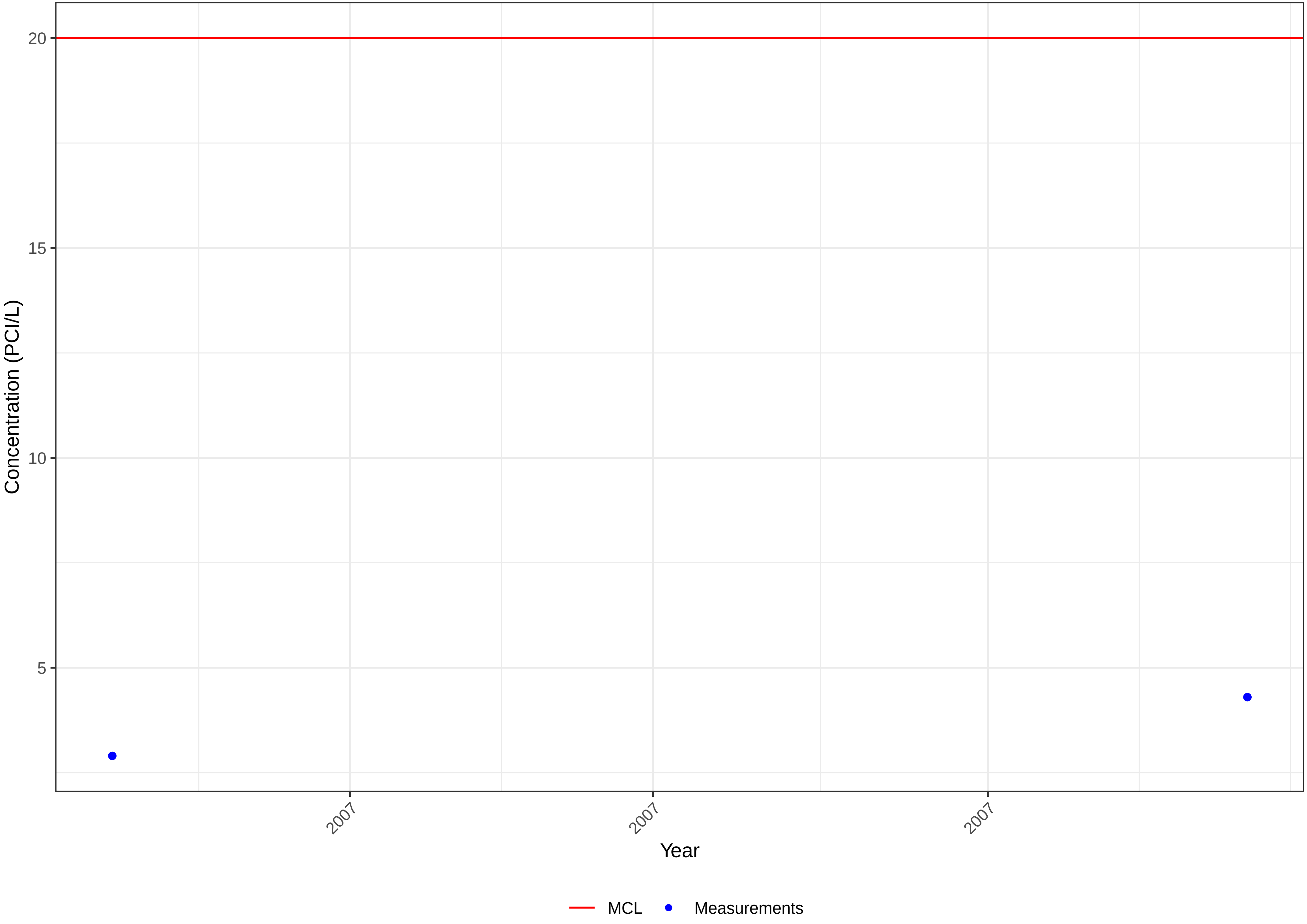



Water Quality Chart
Well No. 1610004−026
STORET No. 1032
Constituent: CHROMIUM, HEXAVALENT
0.050
0.025
0.000
−0.025
−0.050
Concentration (UG/L)
2014
Year
MCL
Measurements


Water Quality Chart
Well No. 1610004−026
STORET No. 7744X
Constituent: 1,2,3−TRICHLOROPROPANE
0.5
0.4
0.3
0.2
0.1
0.0
Concentration (UG/L)
2008
2010
2012
2014
2016
Year
MCL
Measurements

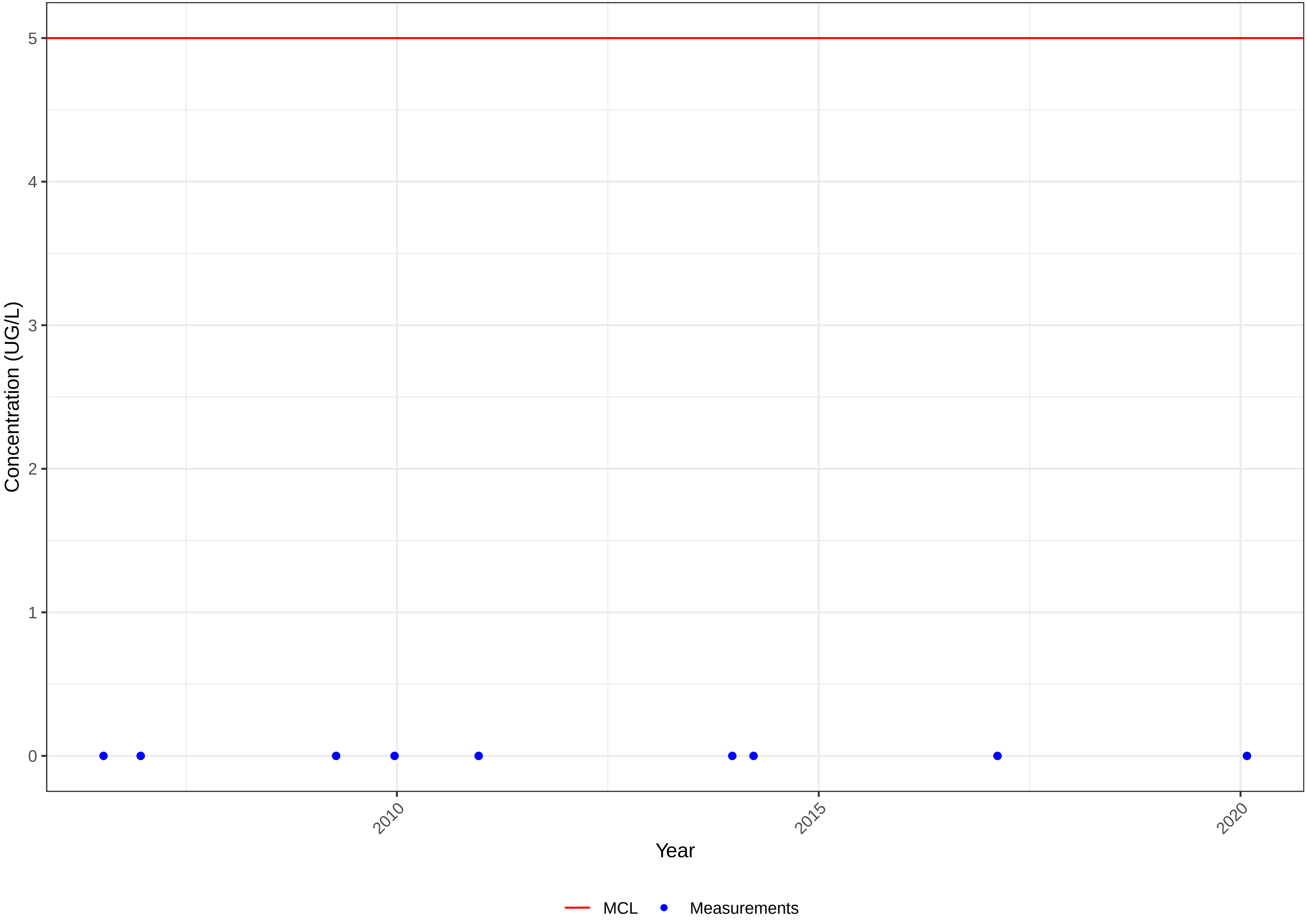
Water Quality Chart

Well No. 1610004−026
STORET No. 28012
Constituent: URANIUM (PCI/L)



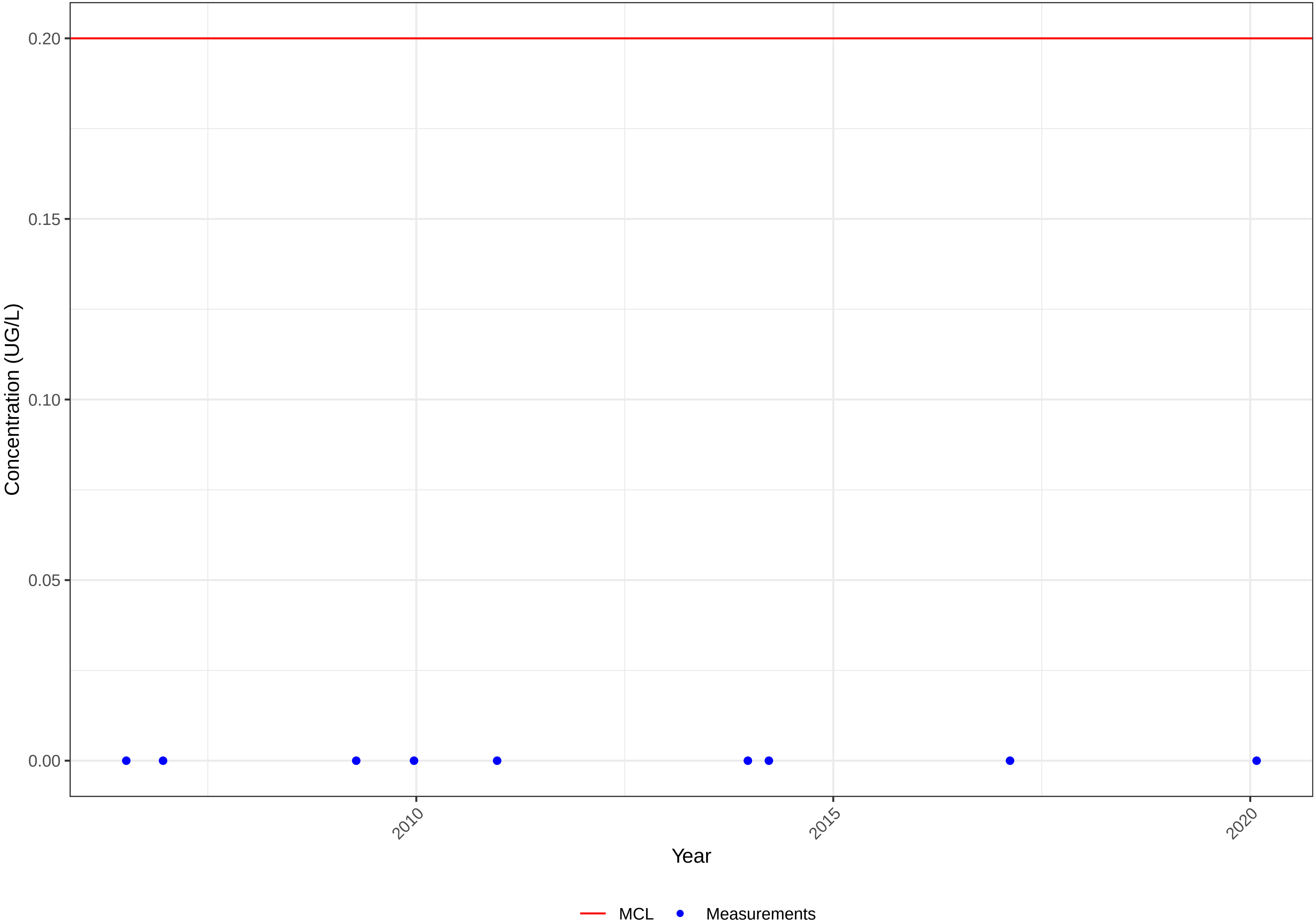
Water Quality Chart

Well No. 1610004−026
STORET No. 34475
Constituent: TETRACHLOROETHYLENE



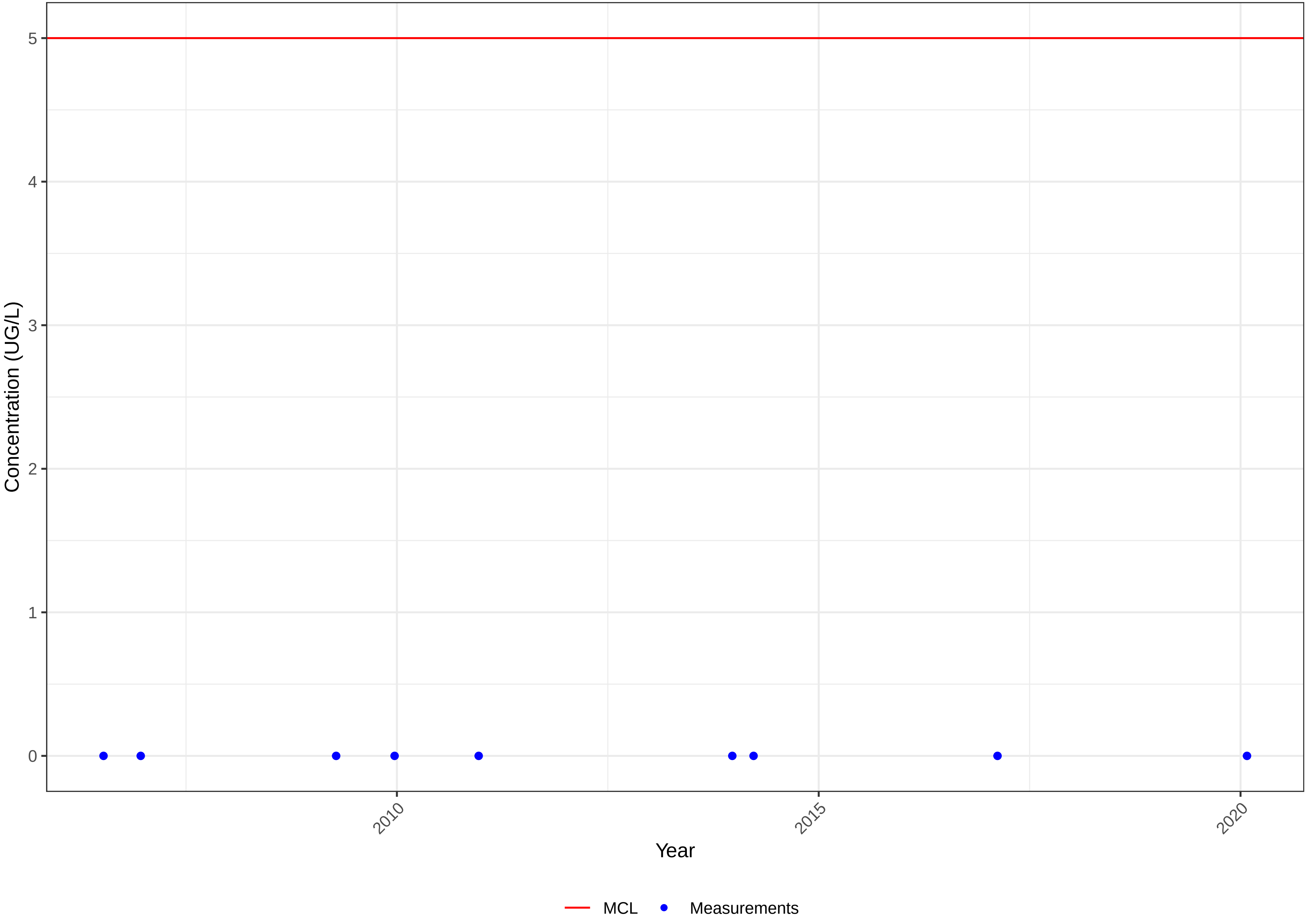
Water Quality Chart

Well No. 1610004−026
STORET No. 38761
Constituent: DIBROMOCHLOROPROPANE (DBCP)



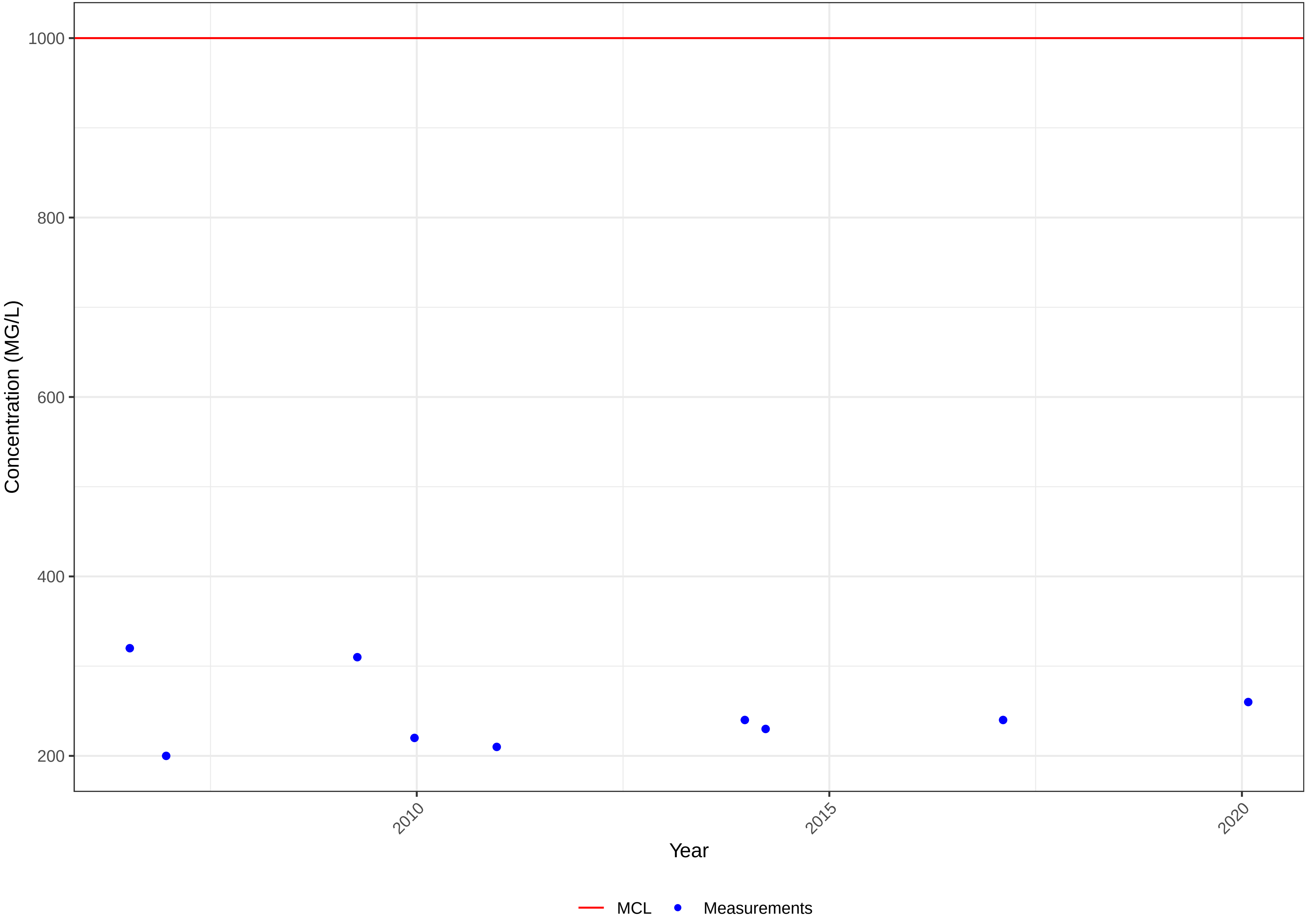
Water Quality Chart

Well No. 1610004−026
STORET No. 39180
Constituent: TRICHLOROETHYLENE



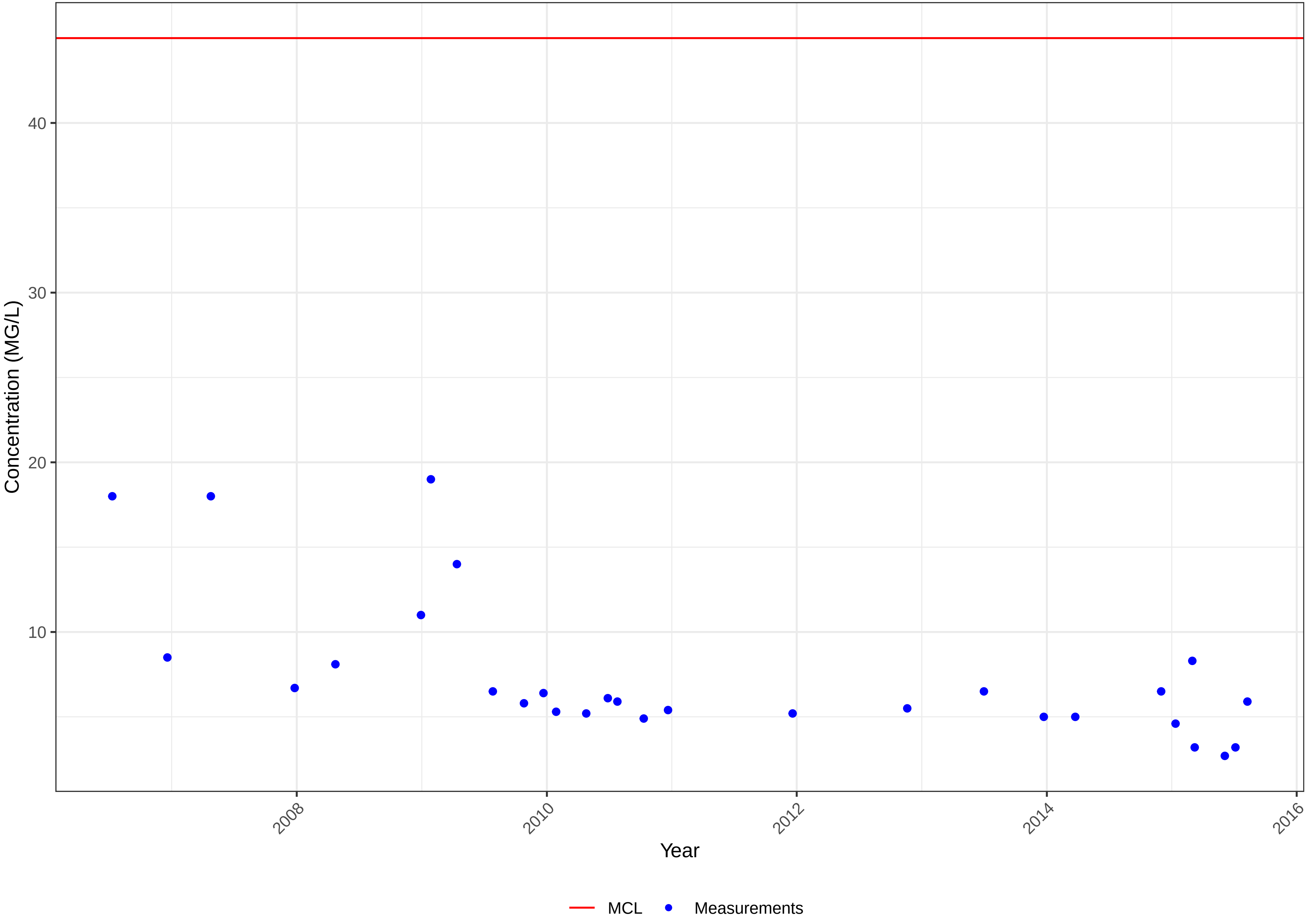
Water Quality Chart

Well No. 1610004−026
STORET No. 70300
Constituent: TOTAL DISSOLVED SOLIDS



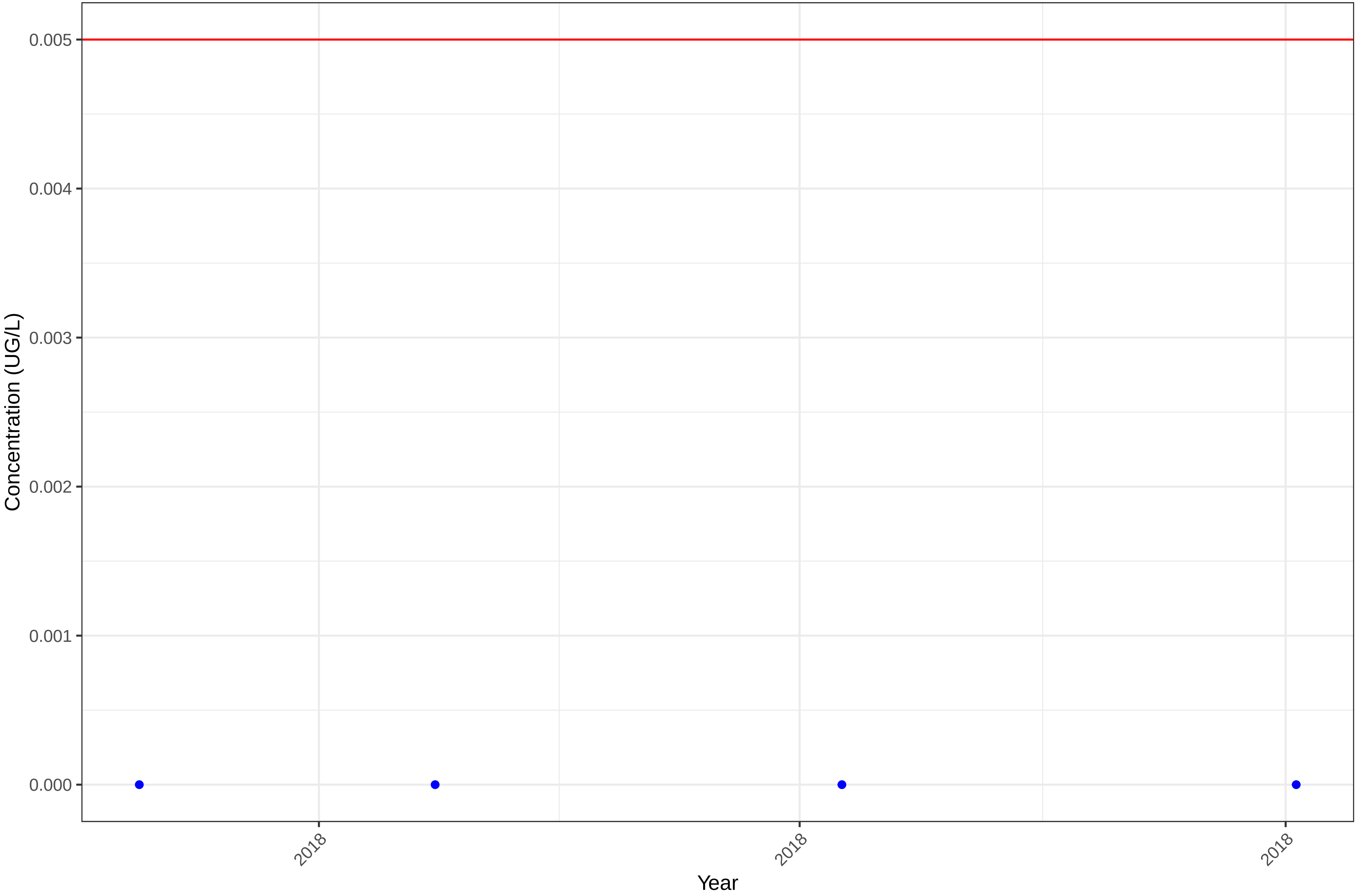
Water Quality Chart

Well No. 1610004−026
STORET No. 71850
Constituent: NITRATE (AS NO3)



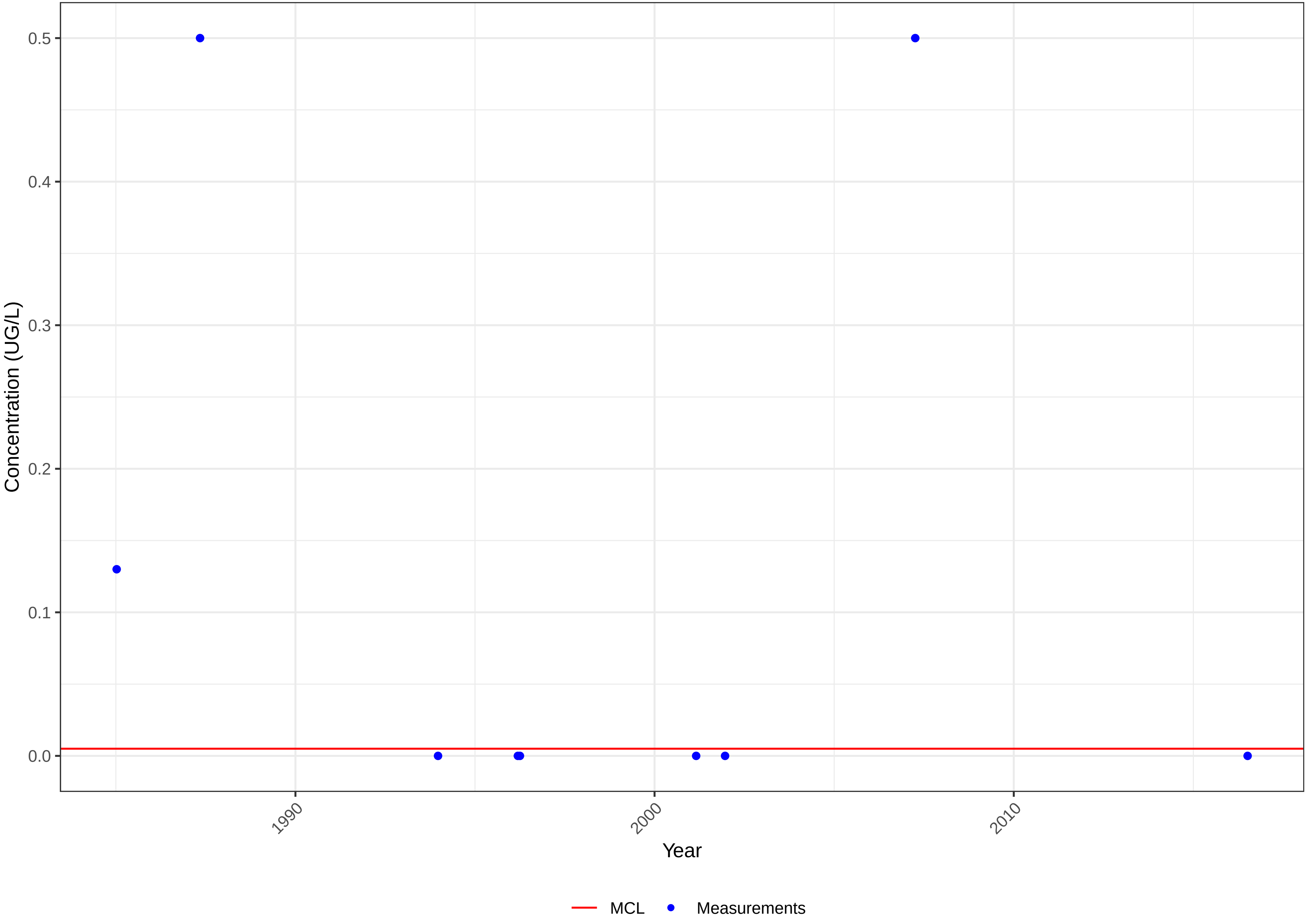
Water Quality Chart

Well No. 1610004−026
STORET No. 77443
Constituent: 1,2,3−TRICHLOROPROPANE



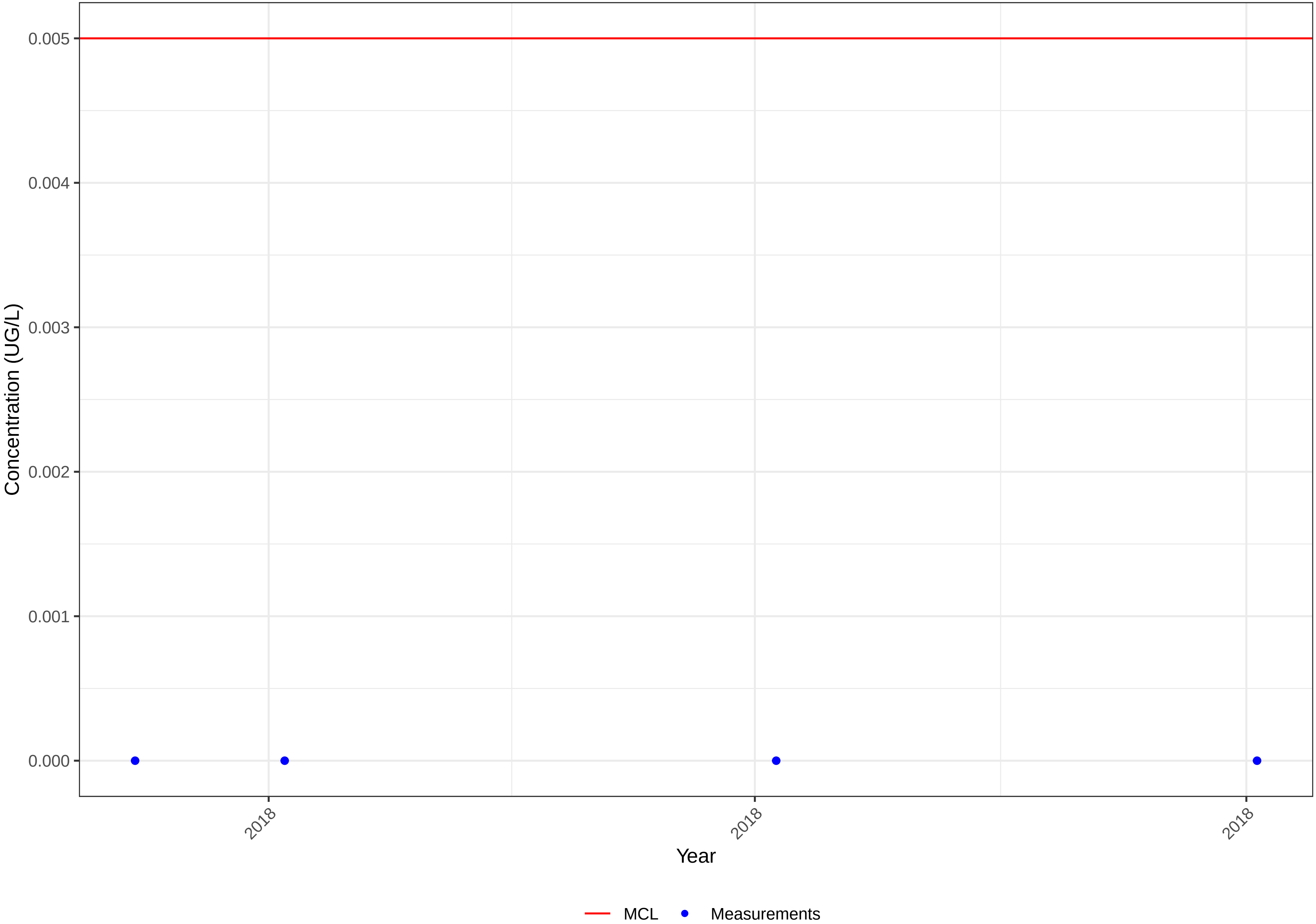
Water Quality Chart

Well No. 1610009−003
STORET No. 7744X
Constituent: 1,2,3−TRICHLOROPROPANE



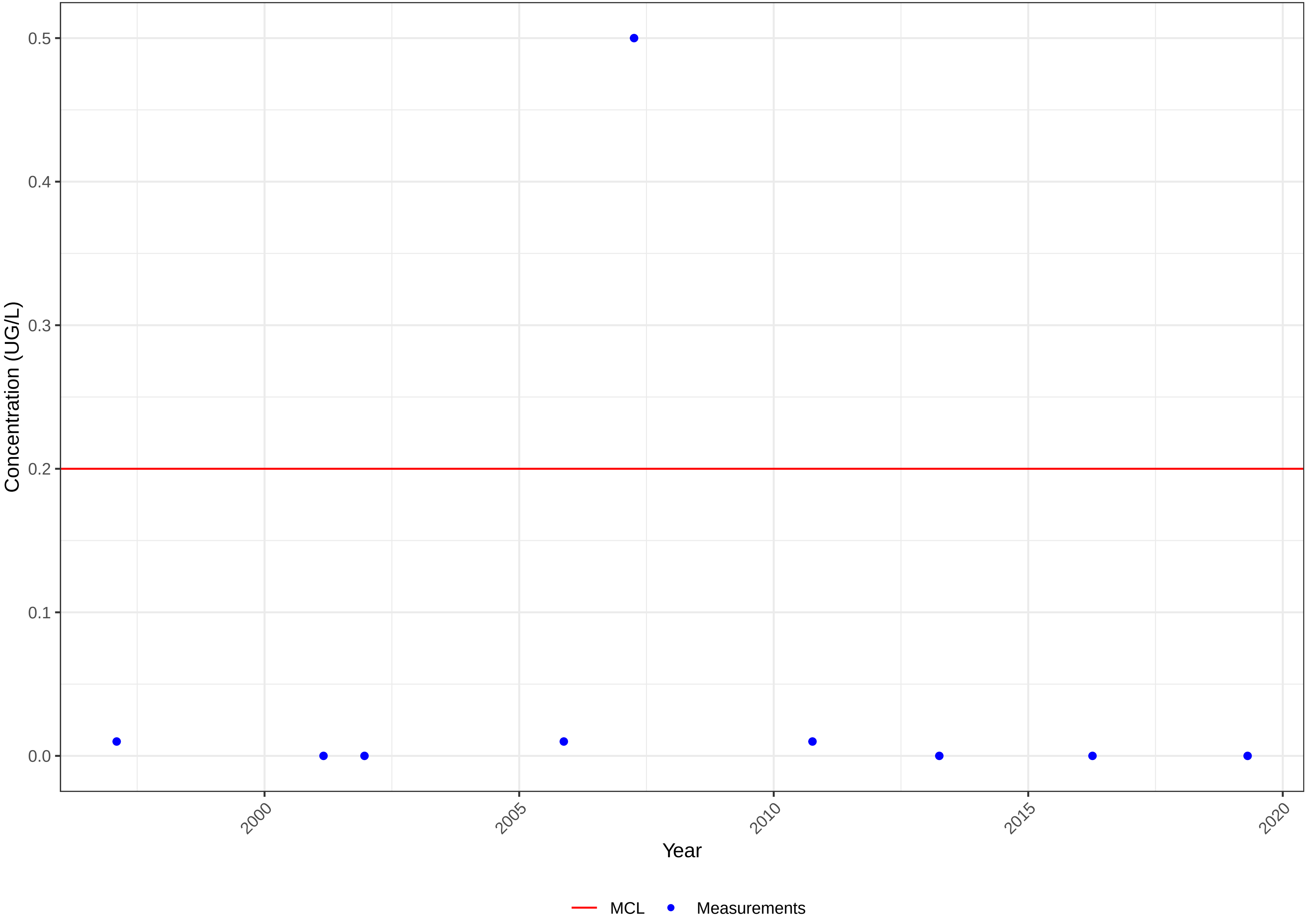
Water Quality Chart

Well No. 1610009−003
STORET No. 77443
Constituent: 1,2,3−TRICHLOROPROPANE



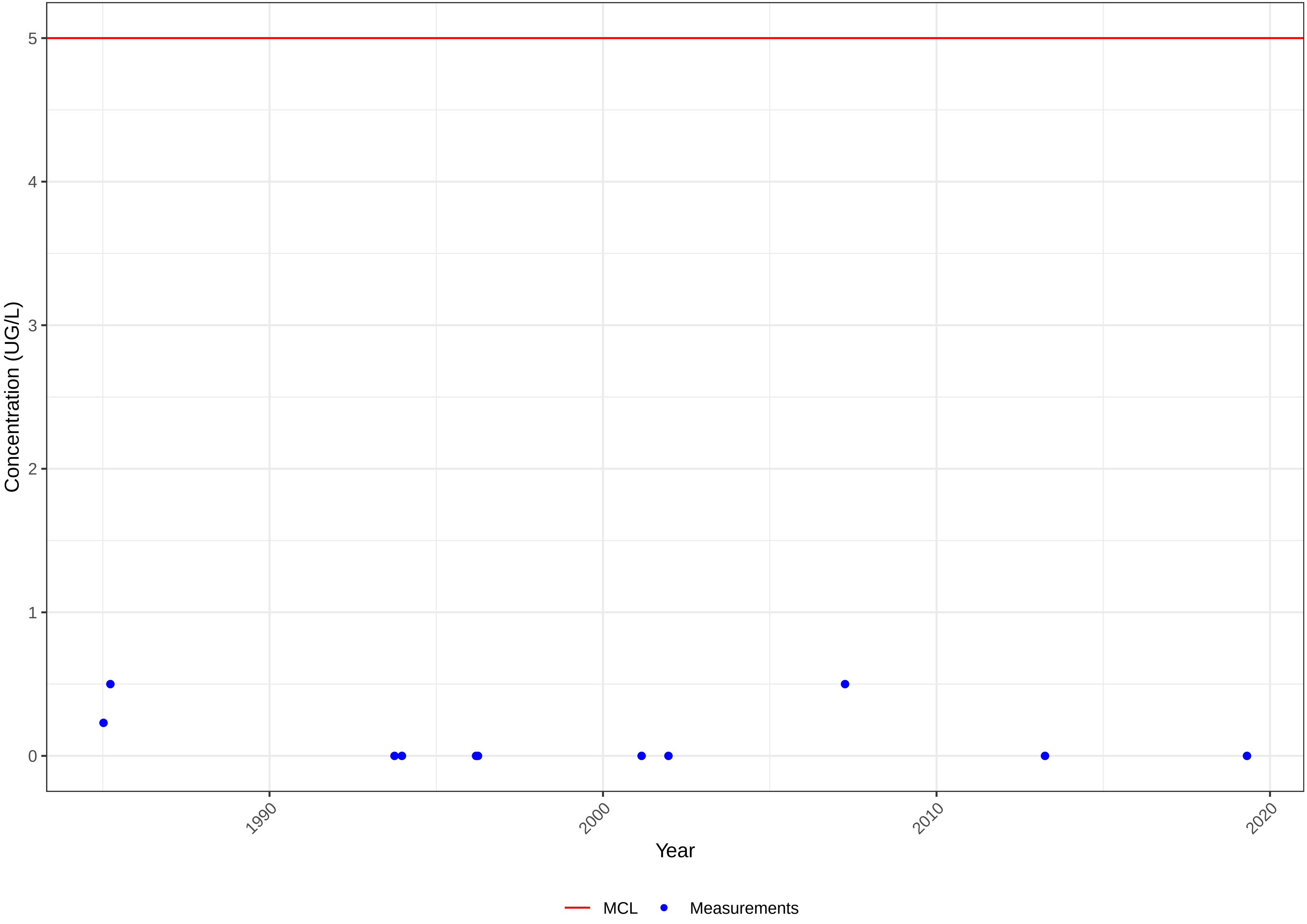
Water Quality Chart

Well No. 1610009−003
STORET No. 38761
Constituent: DIBROMOCHLOROPROPANE (DBCP)



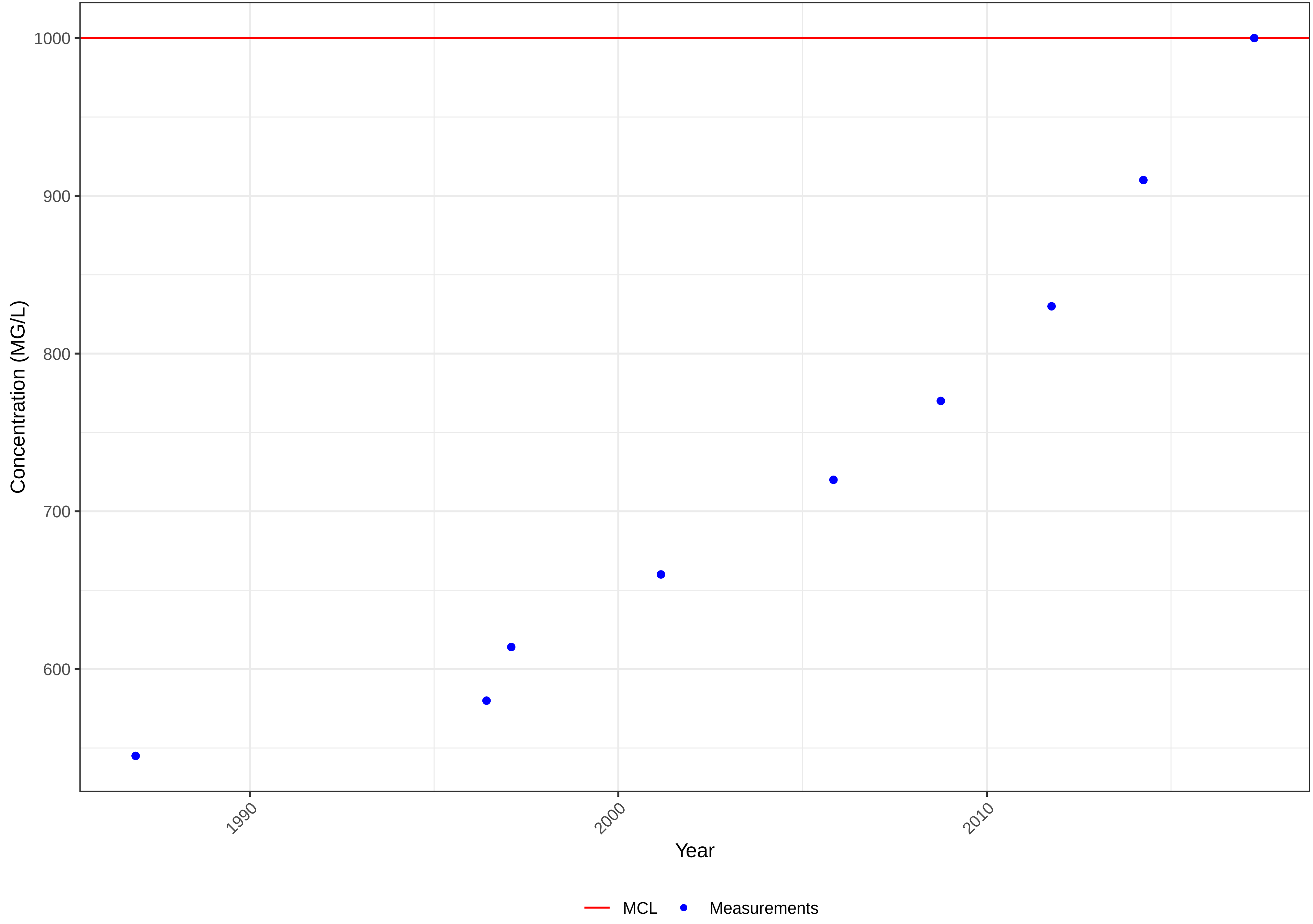
Water Quality Chart

Well No. 1610009−003
STORET No. 39180
Constituent: TRICHLOROETHYLENE



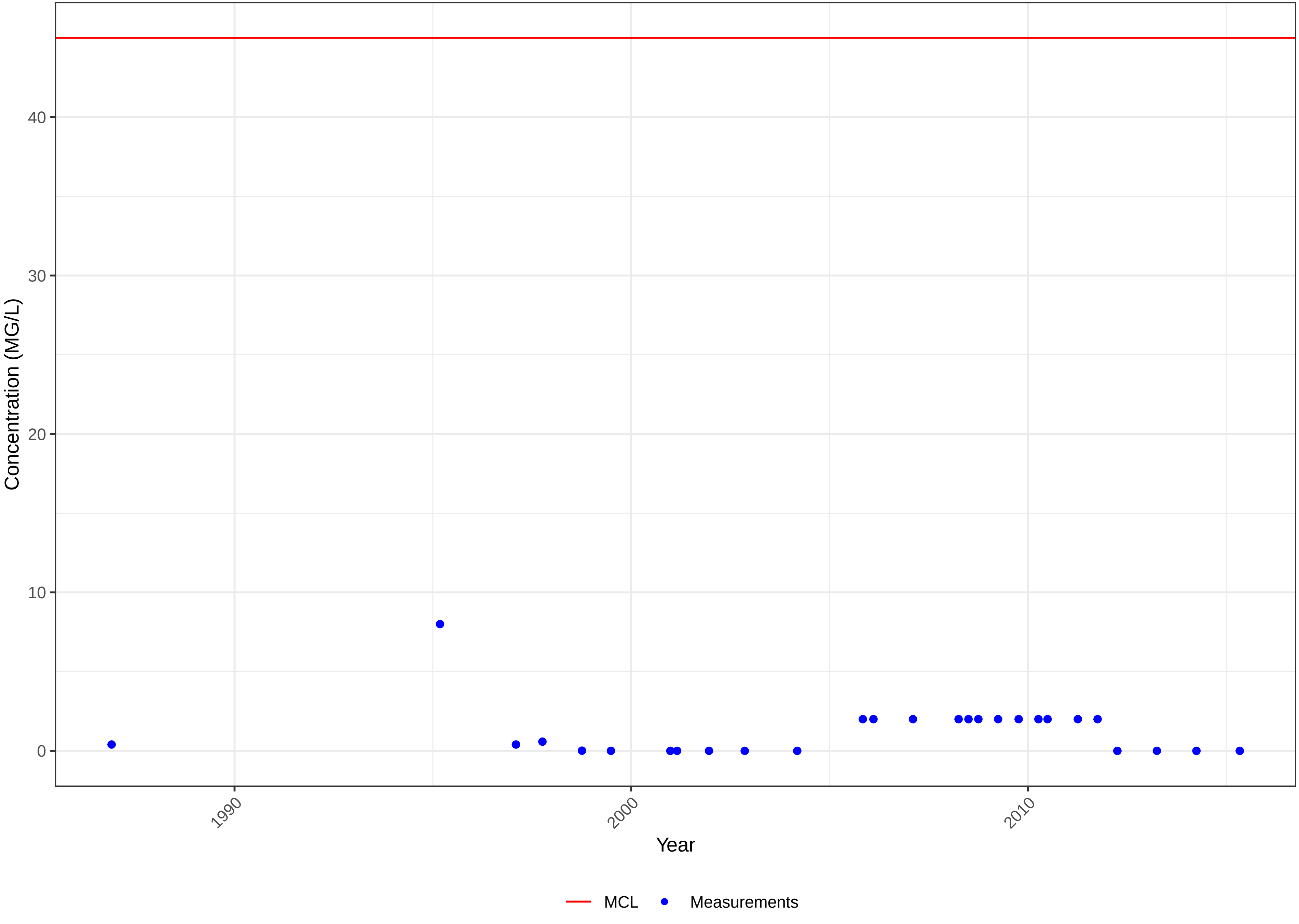
Water Quality Chart

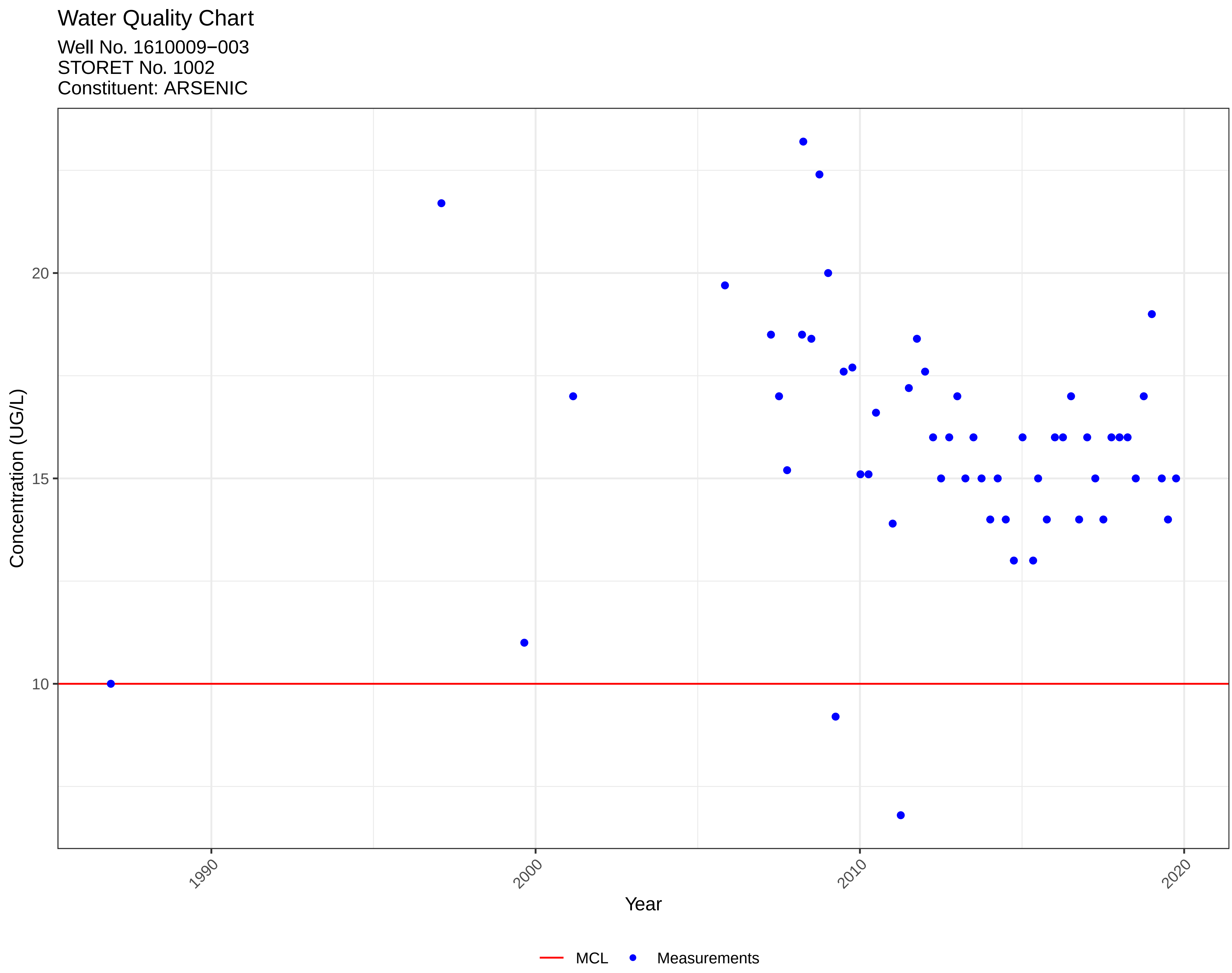
Well No. 1610009−003
STORET No. 70300
Constituent: TOTAL DISSOLVED SOLIDS



Water Quality Chart

Well No. 1610009−003
STORET No. 71850
Constituent: NITRATE (AS NO3)

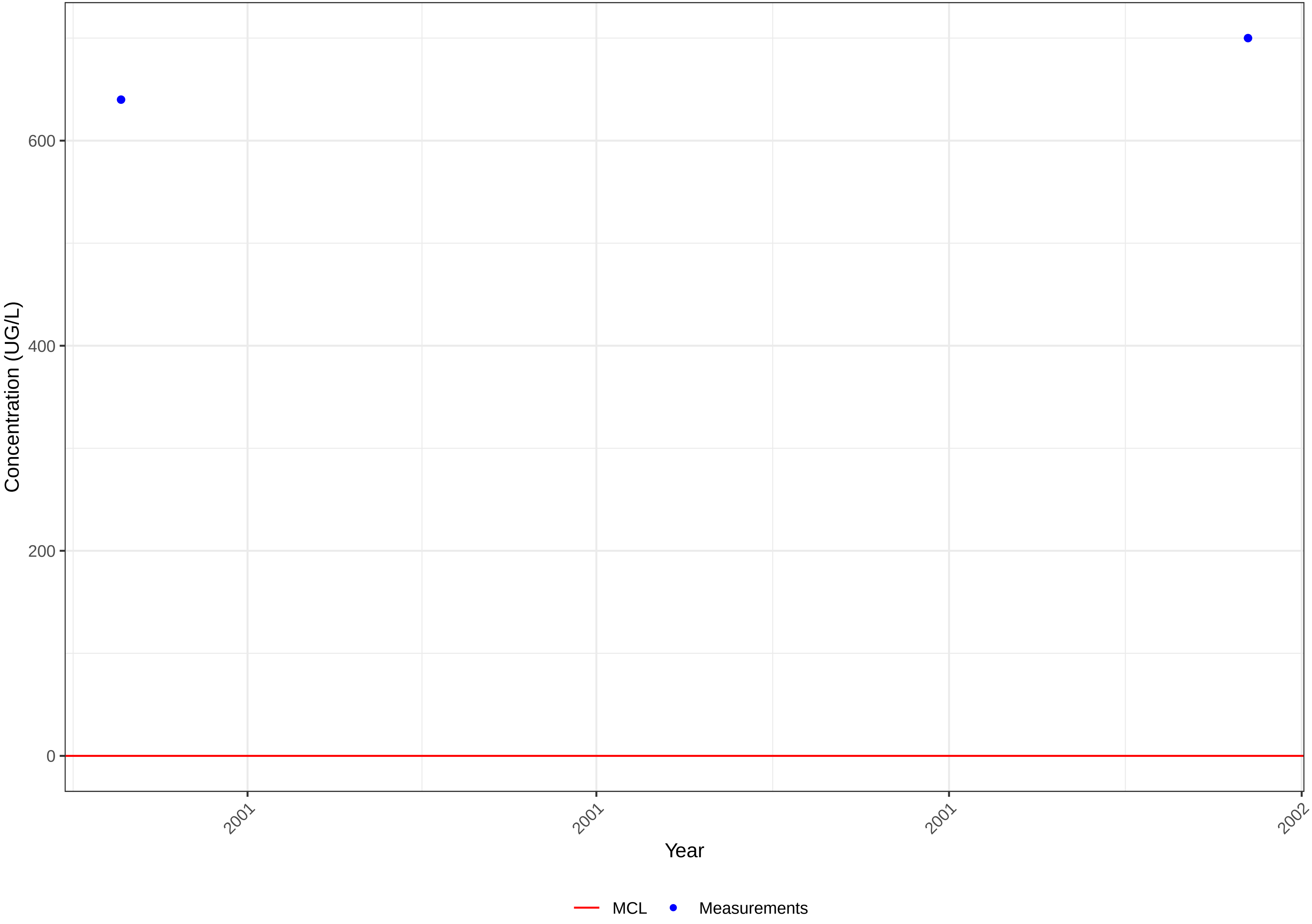




Water Quality Chart
Well No. 1610009−003
STORET No. 1002
Constituent: ARSENIC
Concentration (UG/L)
20
15
10
1990
2000
2010
2020
Year
MCL
Measurements

Water Quality Chart

Well No. 1610009−003
STORET No. 1020
Constituent: BORON

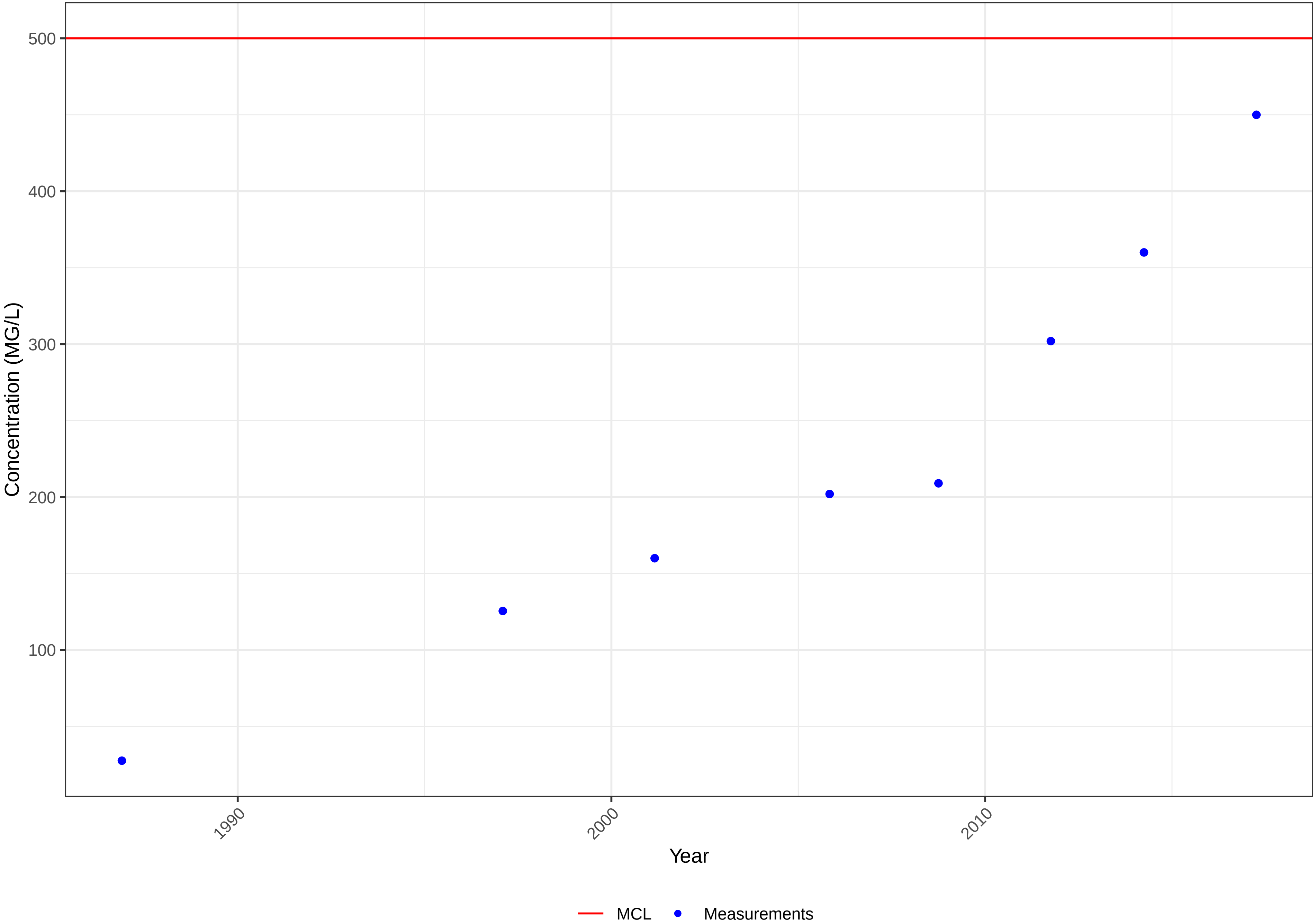


Water Quality Chart

Well No. 1610009−003

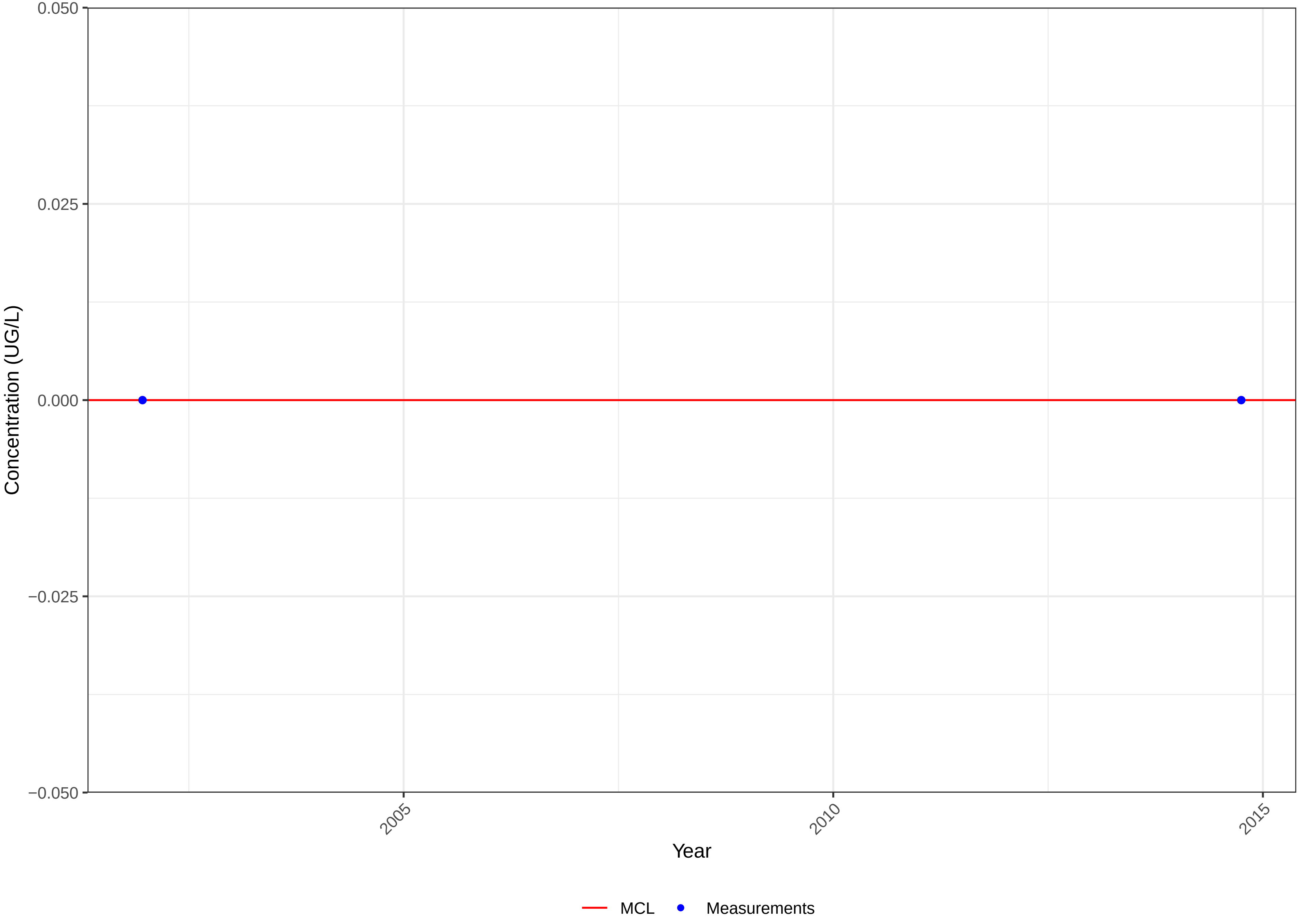
STORET No. 940

Constituent: CHLORIDE



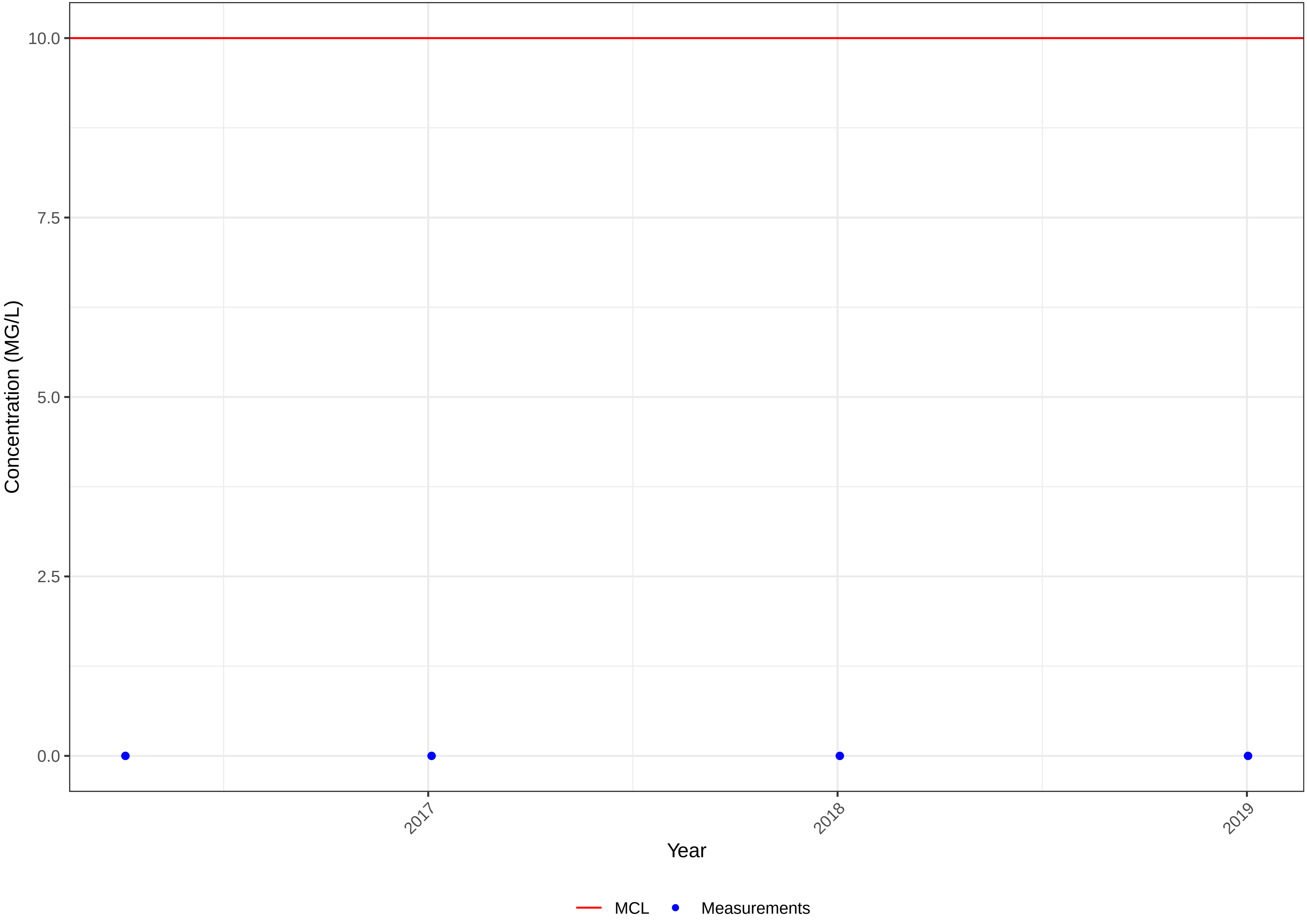
Water Quality Chart

Well No. 1610009−003
STORET No. 1032
Constituent: CHROMIUM, HEXAVALENT



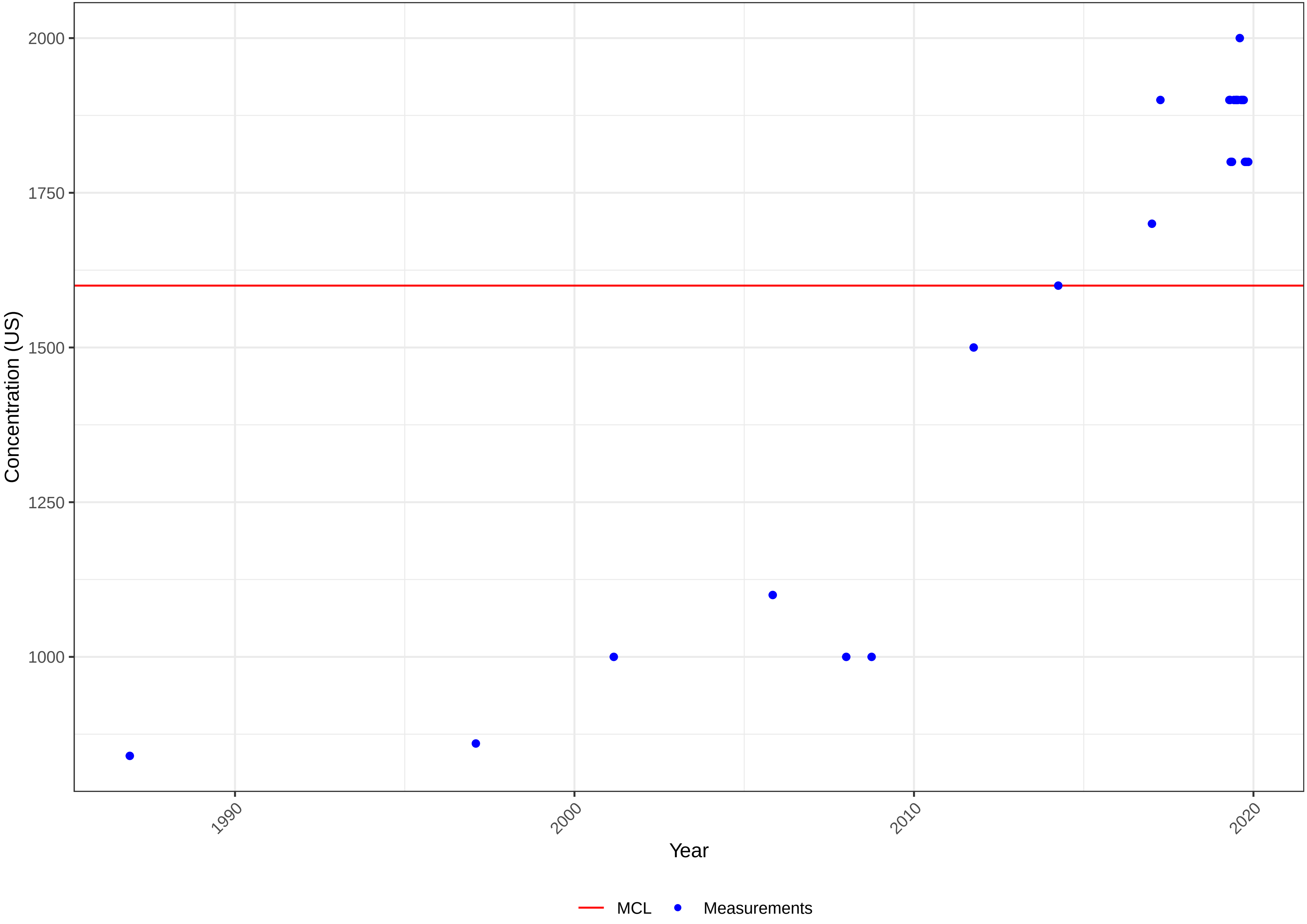
Water Quality Chart

Well No. 1610009−003
STORET No. 618
Constituent: NITRATE (AS N)



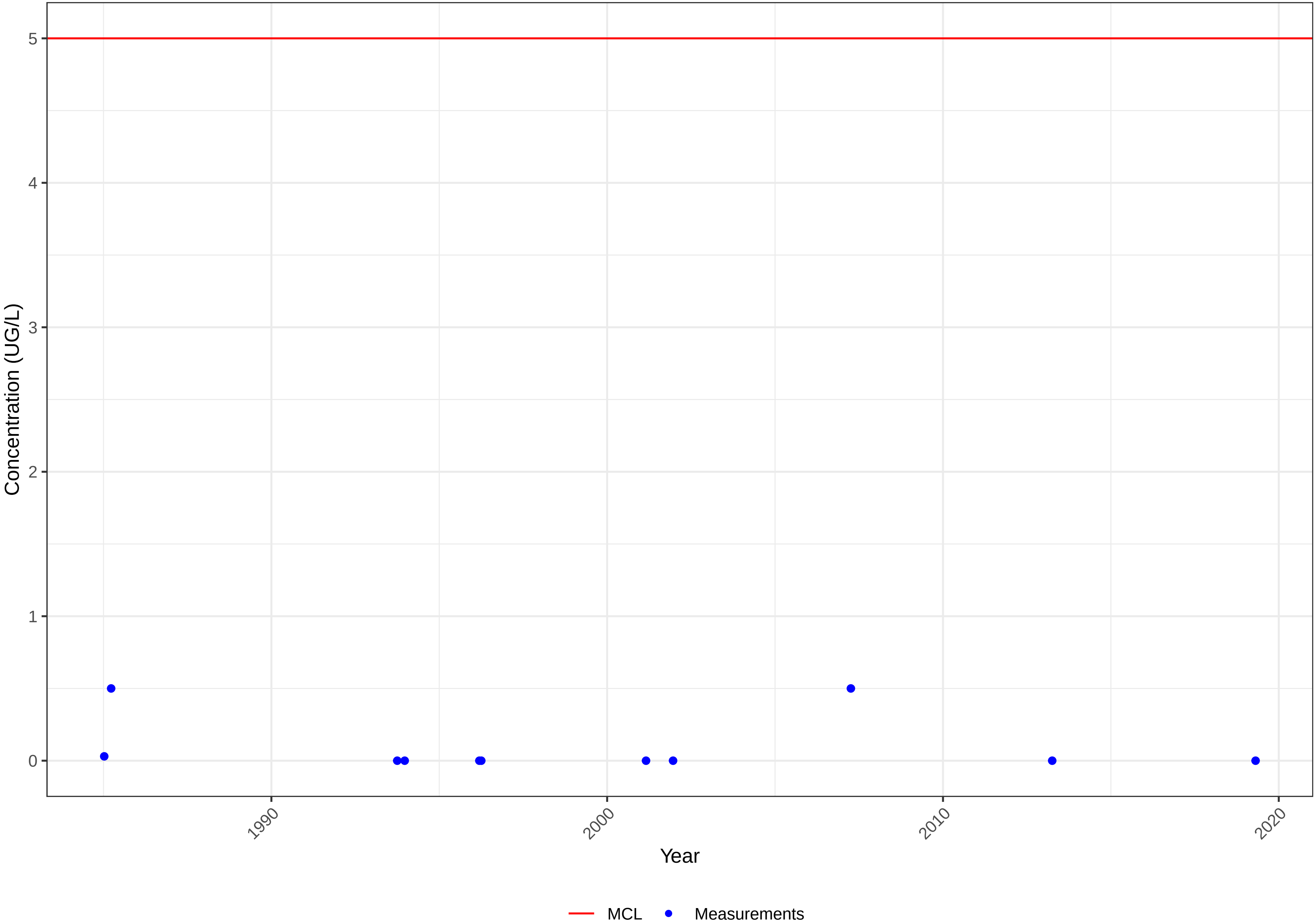
Water Quality Chart

Well No. 1610009−003
STORET No. 95
Constituent: SPECIFIC CONDUCTANCE



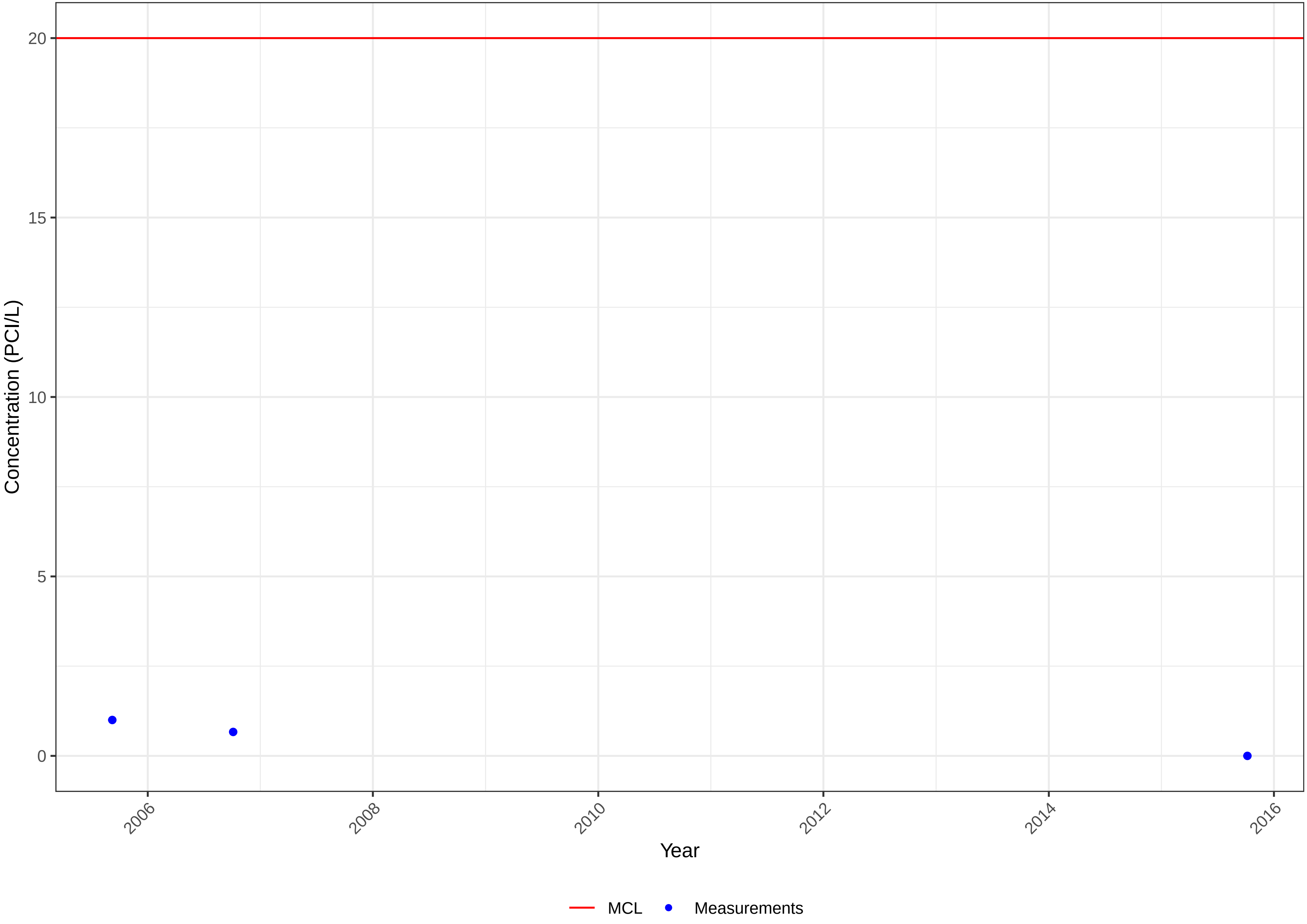
Water Quality Chart

Well No. 1610009−003
STORET No. 34475
Constituent: TETRACHLOROETHYLENE

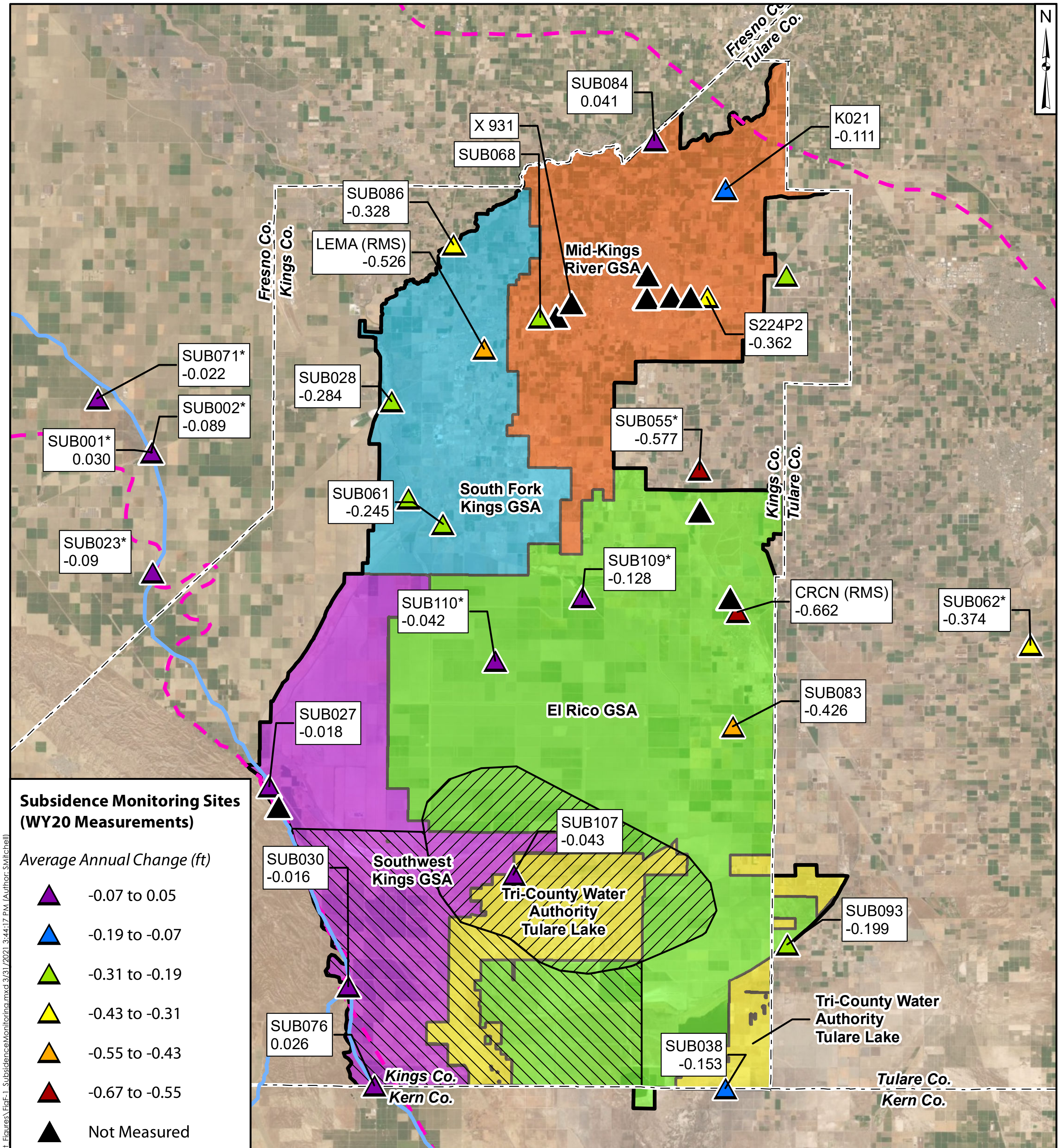


Water Quality Chart

Well No. 1610009−003
STORET No. 28012
Constituent: URANIUM (PCI/L)



Appendix F – Subsidence Monitoring



Legend

- County lines
- Subbasin
- California Aqueduct
- E Clay Extent
- Management Area A
- Management Area B

10 5 0 10 Miles

Note:
*Additional wells added as part of KRCD's Subsidence Network.

Land Subsidence Monitoring Points
Tulare Lake Subbasin
WY 2020 Annual Report

Geosyntec consultants

Figure **F-1**

Project No.: SFO128 | March 2021

P:\GIS\SFO128 - TLSB Annual Report\Project\202102_Annual_Report_Figures\FigF-1_SubsidenceMonitoring.mxd 3/31/2021 3:44:17 PM (Author: SMitchell)