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Biennial Effectiveness Monitoring Report (EMR) for Monitored Natural Attenuation (MNA) at the C-Area Burning/Rubble Pit (131-C) and Old C-Area Burning/Rubble Pit (NBN) Operable Unit (U)

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EXECUTIVE SUMMARY

The final remedy for the C-Area Burning/Rubble Pit (CBRP) Operable Unit (OU) is Soil Vapor Extraction (SVE) and Monitored Natural Attenuation (MNA) with Land Use Controls. The MicroBlower™ SVE system began operating in 2004. It continues to remove volatile organic compounds from the fine-grained sediment within the vadose zone of the CBRP OU at a greater rate than vadose zone mass transport models indicate would be necessary to control migration to groundwater. Over the past two years volatile organic compounds (VOCs) have been removed at an estimated average rate of 19.5 pounds per year. In general, groundwater monitoring data indicate that the selected remedy is working as anticipated and remains protective.

The CBRP monitoring network includes 18 monitoring wells, 12 MNA monitoring wells, and five surface water sampling stations in Twin Lakes and Fourmile Branch. Groundwater monitoring is conducted in accordance with the CBRP OU Effectiveness Monitoring Plan (EMP) as approved by the U.S. Environmental Protection Agency and the South Carolina Department of Health and Environmental Control. This document summarizes data collected in 2021 and 2022.

Well CRW010CU is associated with the C-Area Groundwater (CAGW) OU, but is monitored as part of the CBRP OU well network. Groundwater flow directions (WSRC 2003b) and groundwater data indicate that the CAGW OU TCE plume from the reactor area impacts well CRW010CU, not the CBRP OU TCE plume. Nevertheless, CRW010CU will continue to be monitored as part of the CBRP OU well network.

In general, the MNA monitoring wells and surface water sampling points exhibit decreasing contaminant concentration trends. Detections of cis-1,2-dichloroethylene, vinyl chloride, and ethylene in the wetland and surface water sampling locations demonstrate that reductive dechlorination of trichloroethylene (TCE) and tetrachloroethylene is occurring in the distal portions of the CBRP OU plumes.

The EMP identifies TCE concentration levels for selected individual wells that ‘trigger’ additional attention. TCE concentrations at all monitoring wells associated with the CBRP OU were below their respective trigger levels. Well CRWO010CU exceeded its trigger level in 2021, but TCE groundwater concentrations decreased below the trigger limit in 2022. However, groundwater flow directions (WSRC 2003b) and groundwater data indicate that well CRW010CU is impacted by the CAGW OU TCE plume from the reactor area, not the CBRP OU TCE plume. Well CRP 8D was added in 2014 and CRP 6DR was added in 2017 to the CBRP OU monitoring well network to help delineate the CBRP OU TCE plume from the CAGW OU TCE plume. In 2021 and 2022, the TCE concentrations were below the detection limit in the groundwater at wells CRP 8D and CRP 6DR.

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LIST OF ABBREVIATIONS AND ACRONYMS

CBRP	C-Area Burning/Rubble Pit
cis-1,2-DCE	cis-1,2-dichloroethylene
cm	centimeter
cm/yr	centimeter per year
CSM	conceptual site model
1,1-DCE	1,1-dichloroethylene
DCM	dichloromethane
EMP	Effectiveness Monitoring Plan
EMR	Effectiveness Monitoring Report
EQL	Estimated Quantitation Limit
FMB	Fourmile Branch
ft	feet
ft/year	feet per year
ft^3/min	cubic feet per minute
GA	Gordon Aquifer
GCU	Gordon Confining Unit
in	inches/inch
in/yr	inches per year
kg	kilograms
KSZ	key source zone
L/min	liters per minute
LAZ	Lower Aquifer Zone
lbs	pounds
LUC	land use control
µg/L	microgram per liter
µg/kg	microgram per kilogram
m	meter
m/yr	meters per year
MAZ	Middle Aquifer Zone
MCL	maximum contaminant level
mi	mile
min	minute
MNA	monitored natural attenuation
msl	mean sea level
NBN	no building number
OU	operable unit
PCE	tetrachloroethylene
ppmv	parts per million vapor
RA	remedial action
RCOC	refined Constituent of Concern
RAO	remedial action objective
RCRA	Resource Conservation and Recovery Act
RGO	Remedial Goal Objective

LIST OF ABBREVIATIONS AND ACRONYMS *(Continued/End)*

ROD	Record of Decision
SCDHEC	South Carolina Department of Health and Environmental Control
SRNL	Savannah River National Laboratory
SRNS	Savannah River Nuclear Solutions, LLC
SRS	Savannah River Site
SVE	soil vapor extraction
TCCZ	Tan Clay Confining Zone
TCE	trichloroethylene
trans-1,2-DCE	trans-1,2-dichloroethylene
UAZ	Upper Aquifer Zone
USEPA	U.S. Environmental Protection Agency
UTRA	Upper Three Runs Aquifer
VC	vinyl chloride
VOC	volatile organic compound
WSRC	Washington Savannah River Company LLC (October 2005 through August 2008)
WSRC	Westinghouse Savannah River Company (before October 2005)
yr	year

1.0 INTRODUCTION

The C-Area Burning/Rubble Pit (CBRP) Operable Unit (OU) is listed as a Resource Conservation and Recovery Act (RCRA) 3004(u) Solid Waste Management Unit/Comprehensive Environmental Response, Compensation, and Liability Act unit in Appendix C of the Federal Facility Agreement (FFA 1993) for the Savannah River Site (SRS). The final remedy for the CBRP OU is Soil Vapor Extraction (SVE) and Monitored Natural Attenuation (MNA) with Land Use Controls (LUCs), with annual monitoring and biennial reporting. This Effectiveness Monitoring Report (EMR) documents groundwater monitoring well and surface water data collected in 2021 and 2022, in compliance with the *Monitored Natural Attenuation Effectiveness Monitoring Plan for the C-Area Burning/Rubble Pit Operable Unit (131-C) and Old C-Area Burning/Rubble Pit (NBN) (U)* (EMP) (Savannah River Nuclear Solutions [SRNS] 2009a) as approved by the U.S. Environmental Protection Agency (USEPA) and the South Carolina Department of Health and Environmental Control (SCDHEC). The previous EMR covered the years 2019-2020 (SRNS 2021).

2.0 OPERABLE UNIT DESCRIPTION AND HISTORY

C Area is located in the central portion of the SRS in Barnwell County, South Carolina (Figure 1). C-Reactor achieved criticality in March 1955 and operated until 1985 when it was placed in warm standby. The reactor was placed in cold standby in 1987. Past activities associated with C-Reactor operations have resulted in groundwater contamination beneath CBRP OU. During operations at the CBRP source unit, trichloroethylene (TCE) and tetrachloroethylene (PCE) were released to the environment, resulting in a groundwater contamination plume beneath CBRP OU. TCE is the principal volatile organic compound (VOC) in the groundwater. Additional groundwater contaminants that have also historically exceeded their maximum contaminant levels (MCLs) include dichloromethane (DCM), 1,1-dichloroethylene (1,1-DCE), cis-1,2-dichloroethylene (cis-1,2-DCE), and vinyl chloride (VC).

The CBRP OU encompasses VOC contaminated groundwater (tritium is excluded and is part of C-Area Groundwater [CAGW] OU) and surface water in the immediate vicinity and directly downgradient of CBRP. The TCE contaminated groundwater plume originates beneath the western end of CBRP and migrates west toward Twin Lakes and Fourmile Branch. Contamination is vertically confined to the Upper Three Runs Aquifer (UTRA) and outcrops into the wetlands and surface water of Twin Lakes and Fourmile Branch.

The source areas at the CBRP OU have been remediated to reduce the toxicity, mobility, or volume of the contamination that constituted sources of contamination to the groundwater. The source units were previously remediated under the unit-specific interim Record of Decision (ROD) (Westinghouse Savannah River Company [WSRC] 1998). In 1999, a low permeability soil cover was installed, and SVE and air sparging systems were installed as components of an interim action to control the VOC source in the vadose zone. The active SVE systems were shut down in 2004 and replaced by a MicroBlower™ SVE system (Figure 2). The MicroBlower™ system continues to passively recover the VOCs that diffuse from the fine-grained soils located about 9 meters (m) (30 feet [ft]) below ground surface at the western end of CBRP. The final ROD was issued in July 2008 (Washington Savannah River Company [WSRC] 2008).

2.1 Remedial Action Requirements and Objectives

As stated in the ROD (WSRC 2008), the scope of the CBRP OU final remedial action (RA) encompasses all of the TCE contaminated vadose zone, groundwater, and surface water immediately beneath and downgradient of the CBRP OU to Twin Lakes and Fourmile Branch. The final RA for the CBRP OU includes 1) a MicroBlower™ SVE system to control residual TCE in the vadose zone; 2) MNA with LUC boundaries; and 3) maintenance of the low permeability soil cover.

The Remedial Action Objective (RAO) for surface soil in CBRP is to prevent exposure of ecological receptors to heptachlorodibenzodioxin in the pit surface sediments. This objective is met by maintaining the low permeability soil cover.

The RAO for the vadose zone beneath CBRP is to prevent migration of TCE from the vadose zone soils to the groundwater at levels that will exceed the MCL. This objective is met by operating the MicroBlower™ SVE system to control residual TCE in the vadose zone. The Remedial Goal Objective (RGO) for TCE in vadose zone soils is 58 microgram per kilogram (µg/kg).

The RAOs for groundwater are the following:

- Treat and/or mitigate groundwater contaminated above MCLs;
- Prevent human exposure to groundwater contaminated with VOCs above MCLs;
- Reduce the concentration of VOCs in the groundwater to levels at or below their MCLs, and attenuate the groundwater plume to the extent possible; and
- Prevent discharge of contaminated groundwater to surface water resulting in concentrations exceeding their MCLs.

All these objectives have not been met, but as TCE concentrations continue to decline, it is anticipated that RAOs will be met by SVE, MNA, and LUCs (SRNS 2009b). CBRP OU LUCs include the following objectives:

- Restrict on-site worker access and prevent unauthorized contact, removal, or excavation of contaminated media (i.e., surface and vadose zone soils);
- Maintain the integrity of any current or future remediation or monitoring systems (i.e., soil cover, SVE systems, and groundwater monitoring wells);
- Prevent access to or use of groundwater and surface water until RGOs are attained;
- Prohibit the development and use of property for residential housing, elementary schools, childcare facilities, and playgrounds; and
- Prevent construction of inhabitable buildings without an evaluation of indoor air quality to address vapor intrusion.

The RAO for surface water is to reduce the levels of VOCs in surface water at or below their MCLs. This objective will be met by MNA.

2.2 Land Use Control Boundary and Monitoring Network

SRS has identified the area in which groundwater contamination exceeds applicable MCLs and developed a LUC boundary. The CBRP OU LUC boundary (Figure 3) encompasses all of the groundwater exceeding MCLs from CBRP west to Fourmile Branch and comprises approximately 30 acres. Restrictions on the use of groundwater within the LUC boundary will be enforced as long as contaminant levels exceed MCLs.

As outlined in the EMP (SRNS 2009a), the monitoring network at CBRP OU includes eighteen monitoring wells, twelve MNA wells, and five surface water stations (Figure 3). Monitoring well CRP 8D was added to the CBRP OU monitoring well network in 2014 and CRP 6DR was added in 2017 to help delineate the CBRP OU TCE plume.

3.0 SITE HYDROGEOLOGY

3.1 Physiographic Setting

The CBRP OU is approximately 2,000-ft west of C-Area Reactor Building (105-C) (Figure 1). It is located on a broad, convex ridge within the Fourmile Branch watershed. Local relief ranges from 89.9 m (295 ft) mean sea level (msl) to 48.2 m (158 ft) msl along Fourmile Branch. The ground surface slopes gently to the west from the CBRP OU to Fourmile Branch. Fourmile Branch discharges into the Savannah River floodplain and associated swamps about 8 miles (mi) downstream from its confluence with the Twin Lakes drainage.

3.2 Hydrogeologic Setting

A detailed description of the hydrostratigraphic units relevant to the CBRP OU can be found in the RCRA Facility Investigation/Remedial Investigation report (WSRC 2002).

The 30-year (yr) average (1990 through 2022) for SRS rainfall is 122.6 centimeter per year (cm/yr [48.25 inches per year {in./yr}]), based on data from the SRS 700-A rain gauge (Savannah River National Laboratory [SRNL] 2021). In 2021, SRS received 130.25 centimeters (cm) (51.28 inches [in.]) of rainfall, based on the SRNL Atmospheric Technology Group meteorological data from the 700-A rain gauge. In 2022, SRS received 104.13 cm (41.13 in.) of rainfall, based on the SRNL Atmospheric Technology Group meteorological data from the 700-A rain gauge. The average groundwater recharge is estimated at 31.8 cm/yr (12.5 in/yr), while the remainder is lost to evapotranspiration or run-off to surface water (WSRC 2003b). Years with greater than average rainfall will tend to provide more groundwater recharge, and the water table will tend to rise. Years with lower than average rainfall will tend to provide less groundwater recharge, and the water table will tend to fall.

The Floridan aquifer system is the aquifer system of concern within the CBRP OU area. The system is divided into two aquifer units separated by a confining unit. From top to bottom, they are known as the UTRA, the Gordon Confining Unit (GCU), and the Gordon Aquifer (GA). The UTRA occurs between the water table surface and the GCU. The UTRA is divided into three aquifer zones: The Upper Aquifer Zone (UAZ); the Middle Aquifer Zone (MAZ); and the Lower Aquifer Zone (LAZ). The UAZ and LAZ are divided by an informal aquitard referred to as the "Tan Clay Confining Zone" (TCCZ). The MAZ resides as a sandy to clayey-sand zone between the Tan Clay Upper Clay (TCUC) and the Tan Clay Lower Clay (TCLC) layers of the TCCZ. While the hydraulic conductivities vary within each of the aquifer zones, the overall average groundwater velocity is 21.3 meters per year (m/yr) (70 feet per year [ft/yr]) for the UTRA between the CBRP OU to the points of discharge along Fourmile Branch (WSRC 2001a).

4.0 MONITORING AND REPORTING

The CBRP OU RA start date was on May 13, 2009, and sampling of the CBRP OU monitoring network began in December 2009. The sampling schedule for monitoring wells, MNA monitoring wells, and surface water stations was established in the EMP (SRNS 2009a) and is shown in Table 1. In 2021, samples were collected at all of the CBRP OU stations (SVE wells, MNA wells, and surface water) per the sampling schedule. In 2022, samples were collected at all the monitoring stations, except one monitoring well (CRP 52B), which was dry and could not be sampled.

Monitoring results are discussed in text and presented in the appendices. Appendix A tabulates monitoring data from 2021 and 2022. Appendix B presents hydrographs of water levels at monitoring points since 1995. Appendix C consists of time-series plots of VOCs at monitoring points since 1995. Appendix D is a series of monitoring network maps with fourth quarter 2021 and 2022 TCE concentrations indicated. Appendix E is a series of potentiometric surface maps for the various aquifers.

4.1 Vadose Zone Monitoring

The MicroBlower™ SVE system consists of four SVE wells and is located on the western end of CBRP (Figure 2). The system was installed as an interim remedial action in 2004 to help control residual TCE from migrating out of the vadose zone. A vadose zone mass transport model (WSRC 2004) predicted that a minimum annual recovery rate of 0.82 kilograms (kg) (1.8 pounds [lbs]) of TCE for the operation year would be adequate to control vadose migration to the groundwater. Over the last two years, the system exceeded the minimal annual recovery rate with a total of 17.78 kg (39.18 lbs) of VOCs removed in 2021-2022.

4.2 Groundwater Monitoring Well Network

The current monitoring network includes 35 monitoring stations, i.e., eighteen monitoring wells, twelve MNA monitoring wells, and five surface water sampling stations in Twin Lakes and Fourmile Branch (Figure 3). One monitoring well in the original network, CRP 3C, was abandoned in 2009 and is no longer sampled. Well CRP 8D was added to the CBRP OU monitoring network in 2014 and well CRP 6DR was added in 2017 to help delineate the CBRP OU TCE plume from the CAGW OU TCE plume.

The Conceptual Site Model (CSM) for the CBRP OU TCE plume depicts the combination of the MicroBlower™ SVE system and the low-permeability soil cover have achieved source control, such that TCE is no longer contaminating the groundwater beneath the CBRP OU at concentrations above the MCL (Figure 4). Particle track analysis indicates it takes between 37 and 63 years for groundwater under the CBRP OU to reach points of discharge along Fourmile Branch (WSRC 2001b). As the TCE is transported from the CBRP OU to the point of discharge, attenuation greatly decreases the concentration of TCE in the groundwater (Figure 4). Very little biodegradation occurs during transport from the CBRP OU to the points of discharge, rather the CSM considers biodegradation to occur only at the wetland areas along Twin Lakes and Fourmile Branch as the TCE plume is discharging through the organic rich sediments (Figure 4).

Monitoring well data are used to assess the effectiveness of the SVE system and the low-permeability soil cover on groundwater. The monitoring well data are also used to evaluate if the

VOC plume is contracting or expanding in the Upper Three Runs and Gordon aquifers, and attenuates as the TCE plume travels from the CBRP OU pit to the points of discharge.

MNA well and surface water station data are used to assess the overall attenuation (biodegradation, volatilization, sorption, dilution, dispersion, and diffusion) of the VOC plume from the CBRP OU source area to the points of discharge. Each MNA location has two wells: a lower “B” well; and an upper “A” well. Comparisons are made between the TCE concentrations in the lower and upper wells, as well as the concentrations of TCE degradation products (cis-1,2-DCE, VC, and ethylene). The CSM predicts higher TCE concentrations in the lower wells, but higher concentrations of TCE degradation products in the upper wells, due to biodegradation occurring as the TCE plume discharges upward to surface water at a given location. The monitoring network overall is designed to verify the attainment of the remedial objectives.

4.3 Groundwater Elevation Measurements and Groundwater Flow Direction

Historic water elevations, extending from 1995 to present, are displayed as hydrographs in Appendix B. Potentiometric surfaces for fourth quarter 2022 were mapped for each aquifer (Appendix E). Water levels near the CBRP OU in water table wells CRP 3D and CRP 5D decreased between 2021 and 2022.

Within the CBRP OU LUC boundary, groundwater in the UTRA and the GA flows west from CBRP OU toward Fourmile Branch (Appendix E). Groundwater in the UAZ does flow slightly to the west southwest (Appendix E). Groundwater within the MAZ, LAZ, and GA flows west toward Fourmile Branch.

In the source area on average there is about a 10-ft head difference between the UAZ and LAZ, based on well clusters CRP 3C and CRP 3D and CRP 5C and CRP 5D, indicating a downward vertical gradient in addition to the horizontal gradient. In the mid-plume, there is about a 6-ft head difference between the UAZ and MAZ on average, based on well clusters CRP 18C and CRP 18D, and CRP 22CL and CRP 22CU, indicating a downward vertical gradient in addition to the horizontal gradient. In the distal portion of the plume near Fourmile Branch, there is very little head difference (~ 1-ft) between the upper MAZ and lower MAZ wells. In 2022, MNA well clusters CRP 45A and CRP 45B, CRP 46A and CRP 46B, and CRP 48A and CRP 48B, and

CRP 50A and CRP 50B indicate a slight upward vertical gradient as expected in these locations, but occasionally this gradient reverses.

4.4 Groundwater and Surface Water Compliance

Per the EMP (SRNS 2009a), monitoring well samples are analyzed for seven constituents:

- 1,1-dichloroethylene (1,1-DCE)
- cis-1,2-dichloroethylene (cis-1,2-DCE)
- trans-1,2-dichloroethylene (trans-1,2-DCE)
- vinyl chloride (VC)
- tetrachloroethylene (PCE)
- trichloroethylene (TCE)
- dichloromethane (DCM)

MNA monitoring well samples are analyzed for those seven constituents, plus ethylene. Sample results are compared to two different benchmarks: 1) MCLs (Table 2); and 2) Trigger Levels (Table 3) established in the CBRP OU EMP (SRNS 2009a). The concentrations of these seven constituents, which were identified as refined Constituents of Concern (RCOCs), excluding trans-1,2-DCE, by the Corrective Measures Implementation/Remedial Action Implementation Plan (SRNS 2009c), are compared to the respective MCLs (Table 2). Seven monitoring wells and one surface water station are assigned as a key source zone well, LUC boundary wells, and a point of compliance MNA station. These stations have designated trigger levels for TCE and are listed in Table 3 with the recent maximum TCE result for each station. If TCE exceeds a trigger level for any of the stations listed in Table 3, then the Core Team will be convened to determine a path forward.

4.5 Soil Vapor Extraction Results

Vapor concentrations and flow rates were used to estimate the VOC mass removed from the four MicroBlower™ SVE units. The four MicroBlower™ SVE units operated an estimated 99% utility in 2021, and an estimated utility of 100% in 2022. In 2021, a total flow rate of 563.5 liters per minute (L/min) (19.9 cubic feet per minute [ft^3/min]) was calculated based on a time-weighted average of the four MicroBlower™ SVE units. The total vapor phase contaminant concentration in 2021 for the four MicroBlower™ SVE units is 30.26 parts per million vapor (ppmv) for a removal of 12.35 kg (27.230 lbs) of VOCs. In 2022, a total flow rate of 400.96 L/min (14.16 ft^3/min) was calculated based on a time-weighted average of the four MicroBlower™ SVE units.

The total vapor phase contaminant concentration in the 2022 period for the four MicroBlower™ SVE units is 24.165 ppmv for a removal of 5.42 kg (11.95 lbs) of VOCs. Based on these conditions over the last two years, the average annual removal rate of TCE from the subsurface was calculated to be approximately 8.89 kg/yr (19.59 lbs/yr.). The VOC removal rates for 2021 and 2022 are lower than the average rate for 2019 and 2020 (11.41 kg/yr [25.148 lbs/yr]).

4.6 Groundwater and Surface Water Results

All prescribed samples were successfully collected in 2021-2022, except the November 2022 sample at well CRP 52B because the well was dry. Appendix A provides the results for CBRP OU groundwater and surface water post-remedial action sampling. Appendix C provides time-series plots for the CBRP OU wells for the RCOCs. Four RCOCs exceeded their MCLs in at least one groundwater sample during the 2021-2022 sampling period: PCE, TCE, cis-1,2-DCE and VC. No constituents exceeded their MCLs in surface water. There were no MCL exceedances for 1,1-DCE, trans-1,2-DCE, or DCM in any groundwater or surface water sample during the 2021-2022 reporting period.

Appendix D consists of maps showing TCE concentrations in groundwater and surface water for 2021 and 2022. Maps referring to 2022 also show plume delineations. As originally described in the EMP (SRNS 2009a), other VOC contaminants associated with CBRP OU are not included in Appendix D because they 1) generally coincide with the TCE contamination; 2) are lower in concentration than TCE; and 3) behave similarly in groundwater as TCE.

Analyte concentrations in CBRP OU groundwater and surface water during 2021-2022 generally continued with previous trends, which are steady or downward in most locations. Sample results for specific RCOCs are described below.

4.6.1 Trichloroethylene

TCE is the major groundwater contaminant at CBRP OU. During the 2021-2022 sampling period, TCE was detected at 21 of 35 monitoring stations. Concentrations exceeded the MCL in samples from 9 stations, including 8 monitoring wells and 1 MNA well, but no surface water stations. None of the LUC boundary wells exceeded a trigger level for TCE in 2021 or 2022 (Table 3). The highest reported concentration at any station was 2,430 microgram per liter (µg/L), in the November 2022 sample from monitoring well CRP 20CU. TCE concentrations are plotted on maps in Appendix D for all monitoring stations.

As TCE is the primary contaminant at CBRP OU, its occurrence can be used to delineate the physical extent of the total groundwater contaminant plume. The groundwater plume emanates westward from CBRP, extending toward Fourmile Branch (Figure D-3). It is constrained vertically to the UTRA and can be found within all three aquifer zones of the UTRA. The 2022 TCE plume has not changed significantly in concentration or extent since last reported in the 2019-2020 EMR (SRNS 2021). The upgradient wells CRP 3D and CRP 18D are continuing their long-term decline, CRP 3D TCE groundwater concentrations (10.7 µg/L) in 2022 are just above the MCL (5 µg/L), indicating that the 1999 remediation activities at CBRP were successful in cutting off the contamination pathway to groundwater. In general, TCE concentrations are decreasing throughout the monitoring network. In 2000, the highest concentrations were found at CRP 3D and CRP 18D (near the source), but the highest concentration in 2022 was seen downgradient at CRP 20CU. Although TCE concentrations have been decreasing in most wells, CRP 20CU had increasing TCE groundwater concentrations from 2002 to 2022. This is an indication the highest concentration portion of the TCE plume is passing through CRP 20CU, which is also consistent with groundwater flow rates. Each aquifer and surface water body impacted by the CBRP OU TCE plume is discussed in detail below.

Upper Aquifer Zone (UAZ)

Analytical data for TCE in the UAZ are shown in Appendix A and Appendix D, Figure D-1 (2021) and Figure D-3 (2022). The 2022 TCE plume emanates west from CBRP with elevated concentrations in CRP 18D, downgradient of CBRP, continues farther downgradient to CRP 22CU. The TCE plume descends into the MAZ before discharging into Fourmile Branch (FMB) as indicated by several MNA stations (CRP 50A, CRP 50B, CRP 51A, and CRP 51B). The southern portion of the TCE plume also seems to discharge into Twin Lakes, as indicated by the TCE concentrations observed at CRP 48B and TL 05 over time (Appendix C, C-112 and C-119).

During 2021-2022, exceedances of the 5 µg/L MCL for TCE were seen in three of six UAZ monitoring wells (CRP 3D, CRP 18D and CRP 22CU), one of four UAZ MNA monitoring well stations (CRP 45B), and none of the surface water stations. In 2022, the UAZ well with the highest TCE concentration was CRP 22CU (18.0 µg/L). Overall, there is less TCE in the UAZ than in former years. The near-source well CRP 3D had 41,700 µg/L in 2000, but only 10.71 µg/L in 2022. Likewise, the downgradient well CRP 22CU had 954 µg/L in 2000, but only 18.0 µg/L in 2022.

Middle Aquifer Zone (MAZ)

TCE concentrations for MAZ stations are shown in Appendix A and Appendix D combined with data for the LAZ. Figure D-2 shows MAZ and LAZ TCE data for 2021, and Figure D-4 shows 2022 TCE data.

The MAZ currently hosts the bulk of VOC contamination at CBRP OU. There are two monitoring wells in the MAZ: CRP 20CU and CRW 12C. In 2022, CRP 20CU had the highest TCE groundwater concentration (2,430 µg/L). The 2022 TCE groundwater concentration is higher than the 2020 result of 2,190 µg/L (Figure C-109). However, concentrations from 2001-2004 were in the range of 500 µg/L, so the long-term pattern is an increasing or stable trend as the central axis of the plume passes through CRP 20CU.

Prior to the installation of the soil cover in 1999, heavy rains (114.98 cm [45.27 inches]) from 11/01/97 to 4/30/98 transported a large quantity of TCE from the vadose zone into the groundwater as observed in well CRP 3D (Figure C-104). This hot spot has been moving from the CBRP OU source area toward FMB from 1998 to present (Figures 5 to 7). It is this hot spot which has been impacting TCE concentrations at well CRP 20CU. This TCE hot spot has decreased about 95% in concentration from 41,700 µg/L in November 2000 at CRP 3D to 2,430 µg/L in November 2022 at well CRP 20CU due to attenuation (i.e., sorption, dilution, dispersion, and diffusion). As this TCE plume continues to travel through the wetland soils adjacent to FMB and Twin Lakes, it will continue to attenuate and undergo biodegradation, which is estimated to yield another 99% reduction in TCE discharging to FMB (WSRC 2001b). Both attenuation during plume transport and biodegradation in wetland soils are anticipated to reduce TCE concentrations so that FMB surface water will never exceed the TCE MCL (5 µg/L).

The other MAZ monitoring well (CRW 12C) sample was non-detect in 2022. CRW 12C is near the northern most extent of the TCE plume and has had only one sample above the detection limit for TCE in 2010 (8.34 µg/L). TCE-contaminated groundwater within the MAZ is also discharging into the wetlands of Fourmile Branch near MNA monitoring well station CRP 51. In 2021, MAZ MNA well CRP 51B had a maximum TCE concentration of 4.64 µg/L, and in 2022 CRP 51A had a maximum TCE concentration of 3.89 µg/L.

Lower Aquifer Zone (LAZ)

TCE is present at concentrations exceeding its MCL in four of six monitoring wells screened in the LAZ (CRP 18C, CRP 20CL, CRW 10C, CRW010CU). The well with the highest concentration is CRP 20CL with 57.4 µg/L in 2022. The 2021 and 2022 TCE concentrations at well CRP 20CL are slightly less than the 2020 concentration (74.7 µg/L), but the TCE concentrations are continuing a long decline from a maximum of 8,330 µg/L in 2003. Data for the LAZ are tabulated in Appendix A, and shown in Appendix D, Figure D-2 and Figure D-4 (combined with MAZ data).

Two of the monitoring wells screened in the LAZ with MCL exceedances are LUC boundary wells: CRW 10C and CRW010CU. The maximum TCE groundwater concentration at well CRW 10C was 9.95 µg/L in November 2021, which did not exceed the trigger value (13.6 µg/L). The November 2021 CBRP OU CRP010CU sample had the maximum TCE concentration (14.9 µg/L), which exceeds the trigger level of 13.6 µg/L for the CBRP OU (Table 3). The CBRP OU sample collected in November 2022 at CRP010CU had a concentration of 12.6 µg/L.

CRW010CU had a history of exceeding the trigger level, having exceeded it almost every year since the well was installed in 2009. However, several lines of evidence indicate that contamination in CRW010CU and CRW 10C is not associated with CBRP OU, but rather with the CAGW OU northern VOC plume. Figure 8 is a contamination map, showing the maximum historic TCE concentration between 1985 and 2016 for any station sampled during that time. There are two distinct plumes, separated by an uncontaminated zone represented by wells CRP 4, CRP 6DR, and CRP 8D, as well as three 1998 DPT groundwater sample locations (CRSB-88, CRSB-89, and CRSB-90). Well CRP 4 had a maximum TCE groundwater concentration of 11.0 µg/L in January 1991, but all groundwater samples have been below detection limits or less than the MCL (5 µg/L) between August 1991 and November 2005, when monitoring of this station ceased. Well CRP 8D had a maximum TCE groundwater concentration of 1.24 µg/L in August 2003, and the 10 groundwater samples collected between June 2005 and November 2022 have all been below detection limits. All groundwater samples from well CRP 6DR have been below detection limits from 1996 to 2022.

Figure 8 shows the 2003 water table contours (WSRC 2003a). The water table contours indicate that groundwater at the CRW 10 cluster originates from the reactor area, rather than from the CBRP area. The CBRP OU groundwater modeling particle tracks (WSRC 2001b) also indicate the predominant flow path from the CBRP OU is towards Fourmile Branch (Figure 9). Monitoring well CRP 8D is located between the CBRP OU and CRW 010CU. The maximum TCE concentration at CRP 8D was only 1.24 µg/L, in 2003, which suggests that it is very unlikely that a flow path exists connecting CRW010CU with a source at the CBRP OU.

SRS concludes that contamination in CRW010CU (and CRW 10C) originates with the CAGW OU plume. However, monitoring of the CRW 10 well cluster will continue.

Gordon Aquifer (GA)

Three monitoring wells are screened in the GA (CRP022A, CRW 10A and CRW 12A). All three GA wells were sampled in 2021 and 2022, and all but one of the TCE results were below detection limits. The 2022 TCE result for CRP022A was an estimated “J qualified” result of 0.419 µg/L, which is below the estimated quantitation limit (EQL) (1 µg/L). Analytical data for the GA wells are tabulated in Appendix A, and TCE is shown in Appendix D, Figure D-5.

Groundwater Plume Development

Interpretive cross-sections of groundwater plume development are presented in Figures 5 through 7, showing the TCE plume extent in 2000, 2012, and 2022, respectively.

Surface Water

Five surface water stations are part of the CBRP OU monitoring network. Surface water stations TL-02, TL-03, TL-04 and TL-05 had TCE concentrations above the detection limit in 2021 and 2022. At TL-05, TCE has decreased from a maximum concentration of 22.8 µg/L in 2010 to a concentration of 2.76 µg/L in November 2022 (Appendix C; Figure C-119). Likewise, TCE concentrations at TL-02 have also been declining, from a maximum of 10.1 µg/L in 2003, to 2.77 µg/L in November 2022. The 2022 TCE result for TL-04 was a "J" qualified result (0.518 µg/L), which is below the EQL (1 µg/L). Surface water data are tabulated in Appendix A, and the 2021-2022 TCE plume data are shown in Appendix D.

The CBRP OU TCE groundwater plume appears to be discharging to the Twin Lakes surface water primarily between surface water stations TL-01 and TL-05, based on the lack of TCE and degradation products at station TL-01 and detections of TCE at stations TL-02, TL-04, and TL-05. TCE has never exceeded the MCL at the Fourmile Branch surface water stations (TL-03 and TL-04).

4.6.2 Tetrachloroethylene

In the 2021-2022 sampling period, samples with PCE results above the detection limit were from monitoring wells CRP 5C, CRP 18C, CRP 20CL, CRP 20CU, CRP 22CL, CRP 22CU, CRW 10C, and CRW010CU. However, only CRP 5C exceeded the MCL with the highest concentrations of PCE (9.95 µg/L) in November 2022, which is higher than in 2020 or 2021, but PCE concentrations at CRP 5C have overall been trending downward since the maximum (14.2 µg/L) in 2007 (Figure C-70). CRP 5C is a LAZ well that is upgradient of CBRP, which suggest the PCE plume emanating below CBRP OU might be associated with an upgradient source associated with past C-Reactor operations. PCE has never been above the detection limit at any of the surface water monitoring stations.

4.6.3 Cis-1,2-Dichloroethylene

During 2021-2022, cis-1,2-DCE was detected in 8 of 18 monitoring wells, 9 of 12 MNA monitoring wells, and 4 of 5 surface water stations. However, only MNA well CRP 50B exceeded the MCL (70 µg/L), with a maximum concentration of 105 µg/L in October 2021.

Cis-1,2-DCE is prevalent along the longitudinal axis of the TCE plume in the UAZ and detections have been observed from the source (i.e., CRP 3D), downgradient to the wetlands of Twin Lakes and Fourmile Branch. A general trend, observed from the time series plots, shows elevated cis-1,2-DCE concentrations at the start of remediation (2000) to decreasing below the MCL in 2012 in all monitoring wells, but the MNA wells. Wells CRP 3D and CRP 48B exemplify this trend (Appendix C; Figure C-33 and C-42) and the higher rate of occurrence in the MNA wells indicate that biodegradation is primarily occurring in the wetlands of Twin Lakes and Fourmile Branch as well as in other portions of the VOC plume. The cis-1,2-DCE groundwater concentrations in well CRP 48B increased from 0.60 µg/L in 2010 to a max of 28 µg/L in 2013, but the concentration has decreased to 8.60 µg/L in 2022. These concentrations are still well below the CBRP OU historic maximum cis-1,2-DCE concentration at CRP 48B of 1,890 µg/L sampled in 2003. Groundwater cis-1,2-DCE concentrations in CRP 20CU increased from 4.58 µg/L in 2003 to 40.5 µg/L in 2017, but have since leveled off in 2021 (41.60 µg/L) and 2022 (37.3 µg/L) (Appendix C, Figure C-38). Groundwater cis-1,2-DCE concentrations in FMB MNA well CRP 50B increased from 0.70 µg/L in 2010 to 150 µg/L in 2018, but concentrations have decreased to 26.1 µg/L in 2022. TCE concentrations appear to control the cis-1,2-DCE concentrations observed along the axis of the plume from CRP 3 to CRP022, comparing TCE time-series plots (Figures C-104 through C-110) to the cis-1,2-DCE time-series plots (Figures C-33 through C-39). The increase in TCE and cis-1,2-DCE concentrations at CRP 20CU is likely due to an upgradient hotspot, previously located at CRP 18D, which has been impacting CRP 20CU. Likewise, the TCE groundwater plume discharging along the Twin Lakes and FMB wetlands appears to be impacting cis-1,2-DCE concentrations observed at CRP 48B and CRP 50B. The absence of TCE at CRP 50B, along with the elevated levels of cis-1,2-DCE, VC and ethylene, is an indication of the significant amount of biodegradation occurring in the distal portion of the TCE groundwater plume in the wetland areas.

Surface water cis-1,2-DCE concentrations have never been above the MCL at any of the monitoring stations. The maximum surface water cis-1,2-DCE concentration was 30.6 µg/L in 2010 at TL-05 and has since decreased to 1.53 µg/L in 2022.

4.6.4 Vinyl Chloride

During the 2021-2022 sampling period, VC was detected in 7 of 12 MNA monitoring wells and one surface water station which border the Twin Lakes area and FMB. VC groundwater concentrations exceeded the MCL (2 µg/L) in four of the MNA wells (CRP 46B, CRP 48B, CRP 50A, and CRP 50B). VC was detected at surface water station TL-05 in 2022 with estimated groundwater concentrations of 0.433 µg/L, which is below the EQL (1 µg/L). The highest VC concentration in the CBRP OU monitoring network for 2021-2022 was 209 µg/L at CRP 50B in November 2021, which represents a decrease since a maximum VC groundwater concentration of 254 µg/L in 2017.

Most MNA monitoring wells have shown low levels or decreasing trends since monitoring began at the MNA wells in 2000, but stations CRP 45 and CRP 50 present more complex behavior. VC concentrations at CRP 45B were below the detection limit (5 µg/L) in 2002 and again in 2004, but increased steadily thereafter, reaching 30 µg/L in 2012. However, VC concentrations at CRP 45B have declined to below detection limit (EQL 1.0 µg/L) in November 2022. VC concentrations at CRP 50B decreased from 68.2 µg/L in May 2007 to 6.47 µg/L in November 2011, then VC concentrations at CRP 50B increased to 254 µg/L in 2017, but VC groundwater concentrations have since decreased at CRP 50B to 59.9 µg/L in November 2022. VC concentrations in samples from MNA well CRP 50A follow the same time-series trends as CRP 50B, but at lower concentrations. The increasing cis-1,2-DCE, VC and ethylene concentrations at wells CRP 50A and CRP 50B may indicate an elevated portion of the TCE plume is now reaching the CRP 50 well cluster, with the TCE biodegrading to cis-1,2-DCE, VC and ethylene.

TL-05 is the only surface water station to consistently detect VC; concentrations in 2009-2011 exceeded the MCL. VC at TL-05 has decreased from a maximum concentration of 7.51 µg/L in 2010 to below the EQL (2 µg/L) in 2018. VC concentrations at TL-05 have remained below detection during 2021, but VC was detected in November 2022 at an estimated groundwater concentration of 0.433 µg/L.

4.6.5 Ethylene

During the 2021-2022 sampling period, ethylene was detected in 2 of 12 MNA monitoring wells. The highest groundwater concentrations (41.70 µg/L and 52.2 µg/L) occurred at MNA well CRP 50A in 2021 and CRP 50B in 2022, respectively. These ethylene concentrations are expected because MNA well CRP 50B also had the highest VC concentrations and ethylene is a biodegradation product of VC. During the 2021-2022 sampling period, ethylene was not detected in any surface water stations. There is no MCL for ethylene.

4.6.6 Dichloromethane (Methylene Chloride)

Dichloromethane was not detected in any of the 35 sample stations during 2021-2022. In general, DCM does not show a distinct trend at any of the CBRP OU wells, rather sporadic detections were observed at all wells spanning the groundwater monitoring history of the CBRP OU. Dichloromethane is also a common laboratory contaminant. Based on the frequency of results above detection over the years, the low concentrations of the samples above the detection limit, and random distribution of those results above the detection limit at all wells, it appears that the reported detections of DCM were due to lab contamination and do not represent true aquifer conditions within the CBRP OU.

4.6.7 MNA Summary

VOC degradation products, cis-1,2-DCE, VC, and ethylene were observed in the groundwater and surface water at CBRP OU, indicating that TCE degradation by reductive dechlorination is occurring in CBRP OU wetlands. The highest concentrations of cis-1,2-DCE, VC, and ethylene were observed in the wetlands (e.g., monitoring well CRP 50B) and surface waters of Twin Lakes and Fourmile Branch. Historically, these data indicate decreasing trends over time for cis-1,2-DCE, VC, and ethylene. During the 2021-2022 sampling period for the MNA wells, the well with the highest concentration of TCE was CRP 45B. Constituents and their maximum 2021-2022 concentrations at CRP 45B were TCE (8.93 µg/L), cis-1,2-DCE (8.67 µg/L), VC (J 0.321 µg/L), and ethylene (U 10.0µg/L). The well with the highest concentrations of TCE degradation products was CRP 50B. Constituents and their maximum 2021-2022 concentrations at CRP 50B were TCE (2.66 µg/L), cis-1,2-DCE (105 µg/L), VC (209 µg/L), and ethylene (52.2 µg/L). CRP 48B also had significant concentrations of TCE degradation products. Wells CRP 45A, CRP 48A, and CRP 50A had lower levels of TCE, cis-1,2-DCE, VC, and ethylene than their respective "B" wells. This is consistent with the conceptual model which predicts biodegradation occurs as groundwater moves upward through the wetland soils to discharge into Fourmile Branch or Twin Lakes. Well CRP 45B had shown an increasing trend for VC, but VC has decreased from 30 µg/L in November 2012 to below detection limit (EQL 1.0 µg/L) in November 2022. A portion of the plume with elevated TCE ("Plume Hotspot") has migrated through the CRP 45 MNA well cluster, as indicated by the large decrease in TCE at upgradient well CRP 18D. Well CRP 50B had an increasing trend for VC, increasing from 7.33 µg/L in June 2012 to 254 µg/L in November 2017, but decreasing to 59.9 µg/L in November 2022. A plume hot spot is migrating through the CRP 50 MNA well cluster, as indicated by the large decrease in TCE as the plume passed through upgradient well CRP 22CU. Degradation products at the MNA monitoring wells (e.g., CRP 50A and CRP 50B) and surface water sampling points (e.g., TL-05) provide evidence that MNA continues to be a viable remedial action at CBRP OU.

5.0 SUMMARY

Annual inspections and maintenance continues for the low permeability soil cover which minimizes rainwater infiltration at the CBRP OU.

Data collected over the past two years indicate the MicroBlower™ SVE system has removed approximately 8.89 kg/yr (19.59 lbs/yr.) of TCE which exceeds the minimal annual recovery rate of 0.82 kg/yr (1.8 lbs/yr) (WSRC 2004). The minimal annual recovery rate controls the vadose zone source and prevents migration of TCE to the groundwater.

During 2021-2022 sampling period, overall VOC concentrations continued to decrease in most monitoring wells. Well CRP 20CU had an increasing TCE trend from 2002 to November 2018, TCE concentrations began decreasing from 2019-2021, but then increased in 2022. This indicates the portion of the plume with elevated TCE concentrations ("Plume Hotspot") is moving through CRP 20CU. In general, the MNA monitoring wells and surface water sampling points exhibit decreasing VOC concentration trends. MNA well CRP 50B had an increasing trend for degradation products cis-1,2-DCE and VC from June 2012 to November 2018, but concentrations began decreasing in 2019 and continued into 2022. Concentrations of cis-1,2-DCE, VC, and ethylene are the highest in the wetland and surface water sampling locations demonstrating that biodegradation, a key component of natural attenuation for VOCs, is occurring in the distal portions of the CBRP OU plumes.

The Statement of Basis/Proposed Plan for the C-Area Burning Rubble Pit Operable Unit (WSRC 2007) indicated Natural Attenuation would require 70 years before all areas of the VOC plume would be below the MCL (5 µg/L) based on groundwater modeling of the remedial alternatives. A simplistic comparison using current data would be to consider just degradation of the TCE and ignore discharge, dilution, and diffusion. The 2022 maximum TCE concentration for the plume was 2,430 µg/L (N_0), the MCL is 5 µg/L (N) and the longest degradation half-life for TCE is 4.53 years (t_h) (Howard 1991). These data yield a time of about 40 years using the following equation:

$$t = (t_h \text{ x } \ln(N/N_0))/(-0.693) = 40.44 \text{ years} \simeq 40 \text{ years}$$

The 40-year estimate is similar to the 2018 estimate (41 years), which supports the 2003 modeling estimate of 70 years (WSRC 2003b). The 2022 maximum TCE groundwater concentration (2,430 µg/L) at well CRP 20CU is much lower than the 2003 maximum concentration (8,330 µg/L) at co-located well CRP 20CL. The 2003 maximum concentration for well CRP 20CL never led to a TCE MCL exceedance in FMB, as indicated by surface water stations TL-03 and TL-04, so it is unlikely the 2022 groundwater TCE concentration at CRP 20CU will result in a TCE MCL exceedance in FMB.

In 2000, the maximum TCE groundwater plume concentration was 43,200 µg/L at well CRP 3D, and in 2022 the maximum TCE groundwater concentration is 2,430 µg/L at well CRP 20CU. If the 2000 TCE concentration is reduced by 4.41 half-lives (20 yrs) the resulting TCE concentration is 2,026 µg/L*, which is about the concentration (2,340 µg/L) observed at CRP 20CU in 2022, so the 4.53 TCE half-life appears to be a good estimate.

$$* \ A = A_0 \text{ x } e^{-\lambda t}$$

Where A_0 = initial amount (43,200); $\lambda = 0.693/t_{1/2}$; ($t_{1/2} = 4.53$); t = 22 yrs

Likewise, the TCE plume maximum transit of 2,376 ft from CRP 3D to CRP 20CU over 18 years (2018) yields 132 ft/yr, which is a reasonable flow velocity for the UAZ. Assuming the plume maximum is approximately halfway to FMB, then the plume will undergo another 4 half-lives of decay while traveling through the TCCZ and the LAZ and arriving in the FMB wetlands at a concentration of about 137 µg/L at the CRP 50 and CRP 51 well clusters. At this point biodegradation in the wetlands is likely to reduce the TCE concentration to below MCLs, as has been observed at well CRP 50B.

Fluctuations in TCE concentrations at the downgradient wells are expected until residual contamination from the hotspot has completely discharged to FMB and the Twin Lakes. Fluctuations in TCE degradation compounds are also expected at the MNA wells in the FMB and Twin Lakes wetland areas. The hot spot TCE concentrations, transport time, and attenuation mechanisms were incorporated into the 2003 CBRP OU groundwater model, which estimates the entire TCE plume will be below MCLs in 70 years.

Well CRW010CU did exceed the trigger level in 2021, but was below in 2022. However, groundwater flow paths and groundwater data indicate that the CAGW OU TCE plume from the reactor area impacts well CRW010CU, not the CBRP OU TCE plume. In addition, groundwater monitoring wells CRP 6DR and CRP 8D are now monitored to help delineate the CBRP OU TCE plume from the CAGW OU TCE plume. SRS recommends that wells CRW010CU, CRW 10A, and CRW 10C be removed from the CBRP monitoring program and replaced by wells CRP 6DR and CRP 8D as LUC boundary wells.

The next CBRP OU EMR is scheduled for June 2025 (Table 1) and will discuss data collected in 2023 and 2024.

6.0 REFERENCES

FFA, 1993. *Federal Facility Agreement for the Savannah River Site*, Administrative Docket No. 89-05-FF (Effective Date: August 16, 1993)

Howard, 1991. *Handbook of Environmental Degradation Rates*, 1991, P.H. Howard, et al, 725 pp., Lewis Publishers, Chelsea, MI

SRNL, 2021. *Atmospheric Technology Group Meteorological Monthly Monitoring Report, Savannah River Site*, SRNL-L2200-2021-00001, Revision 0, December 2020, Savannah River National Laboratory, Savannah River Nuclear Solutions, LLC, Savannah River Site, Aiken, SC

SRNS, 2009a. *Monitored Natural Attenuation Effectiveness Monitoring Plan for the C-Area Burning/Rubble Pit Operable Unit (131-C) and Old C-Area Burning/Rubble Pit (NBN) (U)*, WSRC-RP-2008-4049, Revision 1, January, Savannah River Nuclear Solutions, Savannah River Site, Aiken, SC

SRNS, 2009b. *Land Use Control Implementation Plan for the C-Area Burning/Rubble Pit Operable Unit (131-C) and Old C-Area Burning/Rubble Pit (NBN) (U)*, WSRC-RP-2008-4050, Revision 1.1, April 2009, Savannah River Nuclear Solutions, LLC, Savannah River Site, Aiken, SC

SRNS, 2009c. *Corrective Measures Implementation/Remedial Action Implementation Plan for the C-Area Burning/Rubble Pit Operable Unit (131-C) and Old C-Area Burning Rubble Pit (NBN) (U)*, WSRC-RP-2008-4051, Revision 1, January, Savannah River Nuclear Solutions, LLC, Savannah River Site, Aiken, SC

SRNS, 2021. *Biennial Effectiveness Monitoring Report (EMR) for the Monitored Natural Attenuation (MNA) at the C-Area Burning/Rubble Pit (131-C) and Old C-Area Burning/Rubble Pit (NBN) Operable Unit (U)*, SRNS-RP-2021-003749, June 2021, Savannah River Nuclear Solutions LLC, Savannah River Site, Aiken, SC

WSRC, 1998. *Interim Record of Decision Remedial Alternative Selection for the C-Area Burning/Rubble Pit Operable Unit (131-C) (U)*, WSRC-RP-98-4039, Revision 1, September, Westinghouse Savannah River Company, Savannah River Site, Aiken, SC

WSRC, 2001a. *Groundwater Transport Modeling for the Southern TCE and Tritium Plumes for the C-Area Groundwater Operable Unit (U)*, WSRC-TR-2001-00206, Revision 0, June, Westinghouse Savannah River Company, Savannah River Site, Aiken, SC

WSRC, 2001b. *Groundwater Modeling for the C-Area Burning/Rubble Pit (U),* WSRC-TR-2001-00298, Revision 0, October 2001, Westinghouse Savannah River Company, Savannah River Site, Aiken, SC

WSRC, 2002. *RCRA Facility Investigation/Remedial Investigation Report with Baseline Risk Assessment for the C-Area Burning/Rubble Pit (131-C) (U)*, WSRC-RP-96-170, Revision 1.4, July, Westinghouse Savannah River Company, Savannah River Site, Aiken, SC

WSRC, 2003a. *An Updated Regional Water Table of the Savannah River Site and Related Coverages*, WSRC-TR-2003-00250, Revision 0, Westinghouse Savannah River, Savannah River Site, Aiken, SC

WSRC, 2003b. *Groundwater Flow and TCE Transport Modeling for the C-Area Burning/Rubble Pit (U)*, WSRC-TR-2003-4066, Revision 0, Westinghouse Savannah River, Savannah River Site, Aiken, SC

WSRC, 2004. *Modeling Analysis of Low-Flow Soil Venting for the C-Area Burning/Rubble Pit (U),* WSRC-RP-2004-4030, Revision 0 (March), Westinghouse Savannah River Company, Savannah River Site, Aiken, SC

WSRC, 2007. *Statement of Basis / Proposed Plan for the C-Area Burning Rubble Pit Operable Unit (U),* WSRC-RP-2007-4004, Revision 1, September 2007, Washington Savannah River Company, Savannah River Site, Aiken, SC

WSRC, 2008. *Record of Decision for Remedial Alternative Selection for the C-Area Burning/Rubble Pit Operable Unit (131-C) and Old C-Area Burning/Rubble Pit (NBN) (U)*, WSRC-RP-2007-4082, Revision 1, May, Washington Savannah River Company, Savannah River Site, Aiken, SC

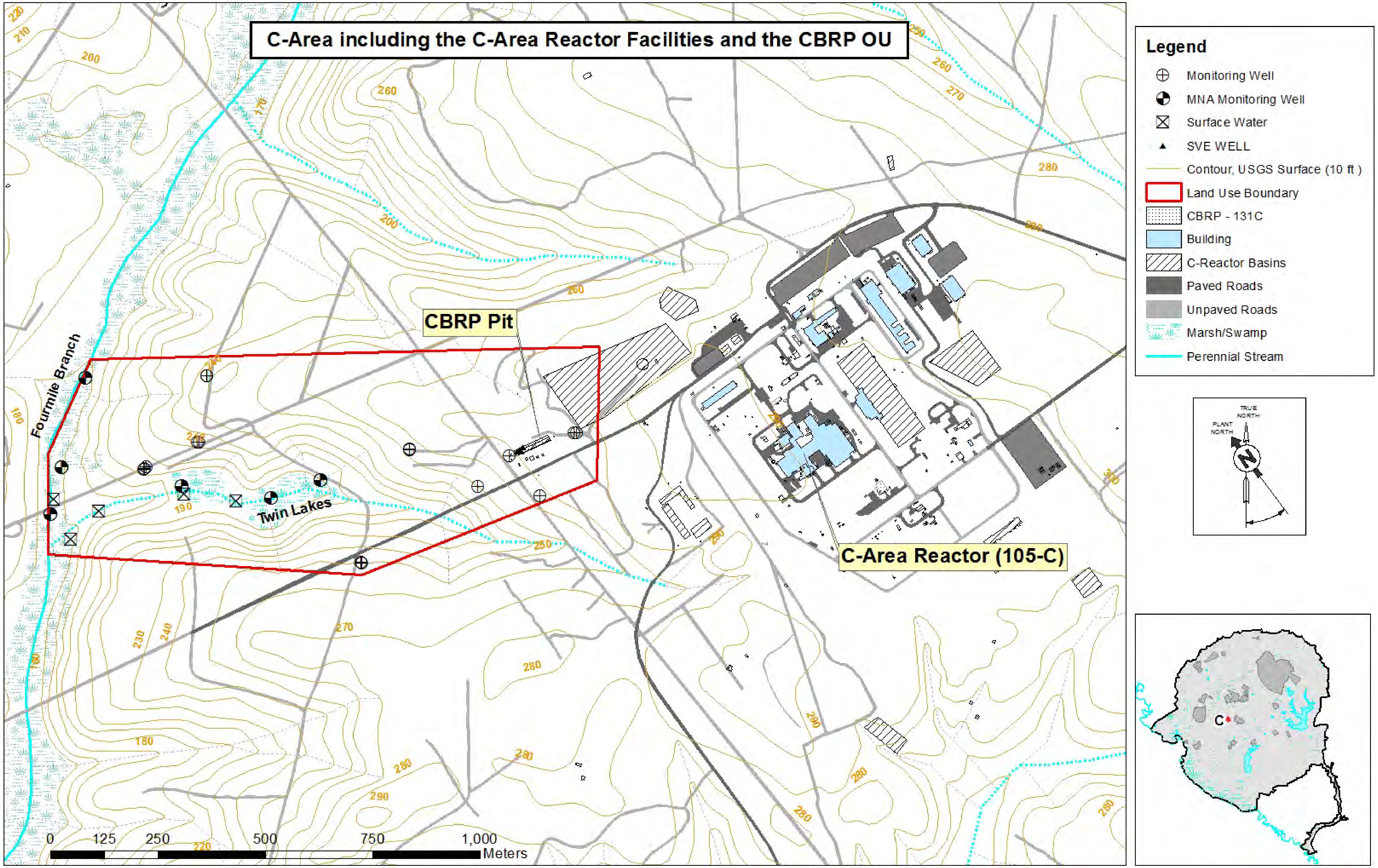


Figure 1. Location of CBRP OU in Relation to the C-Reactor Facilities

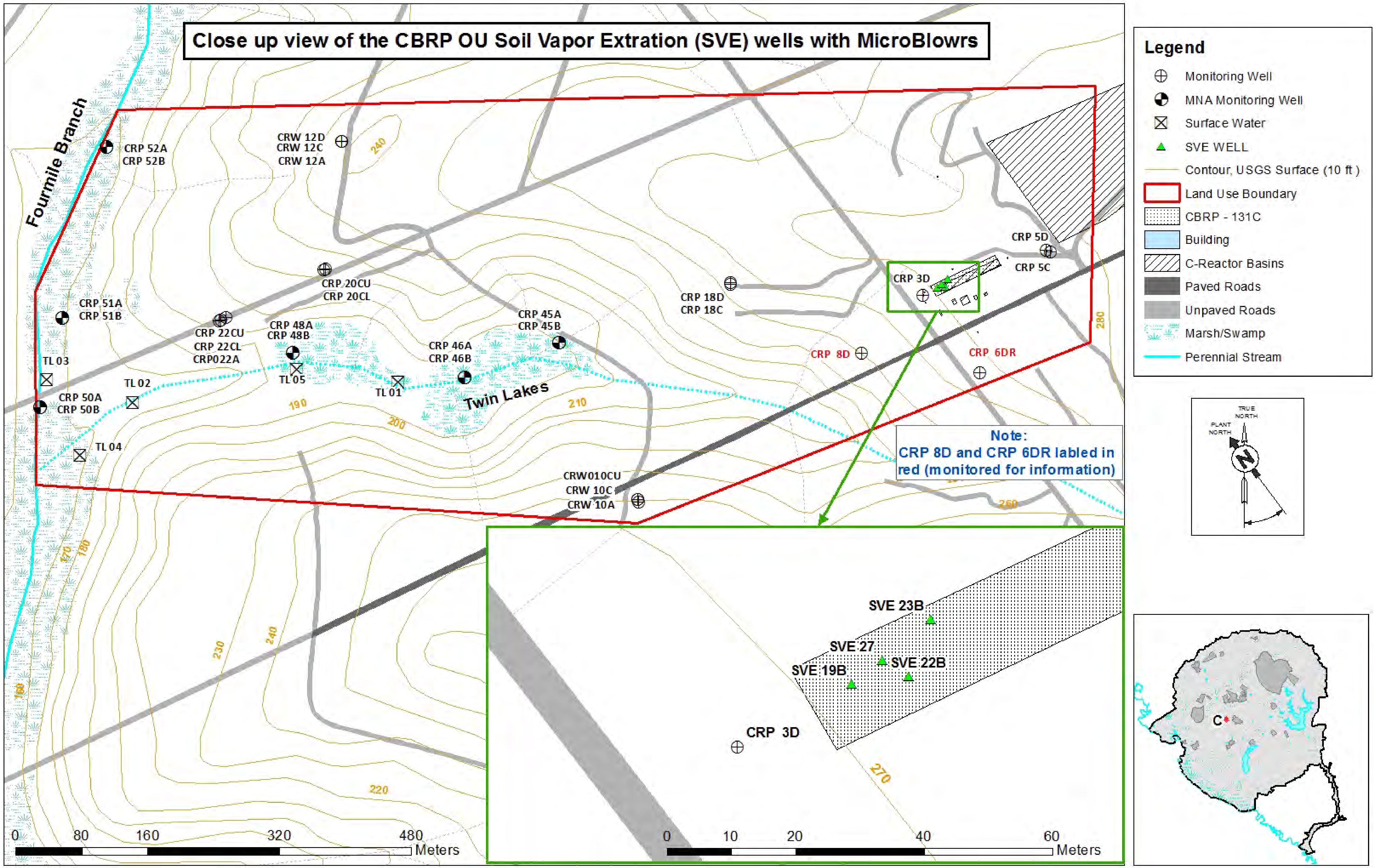
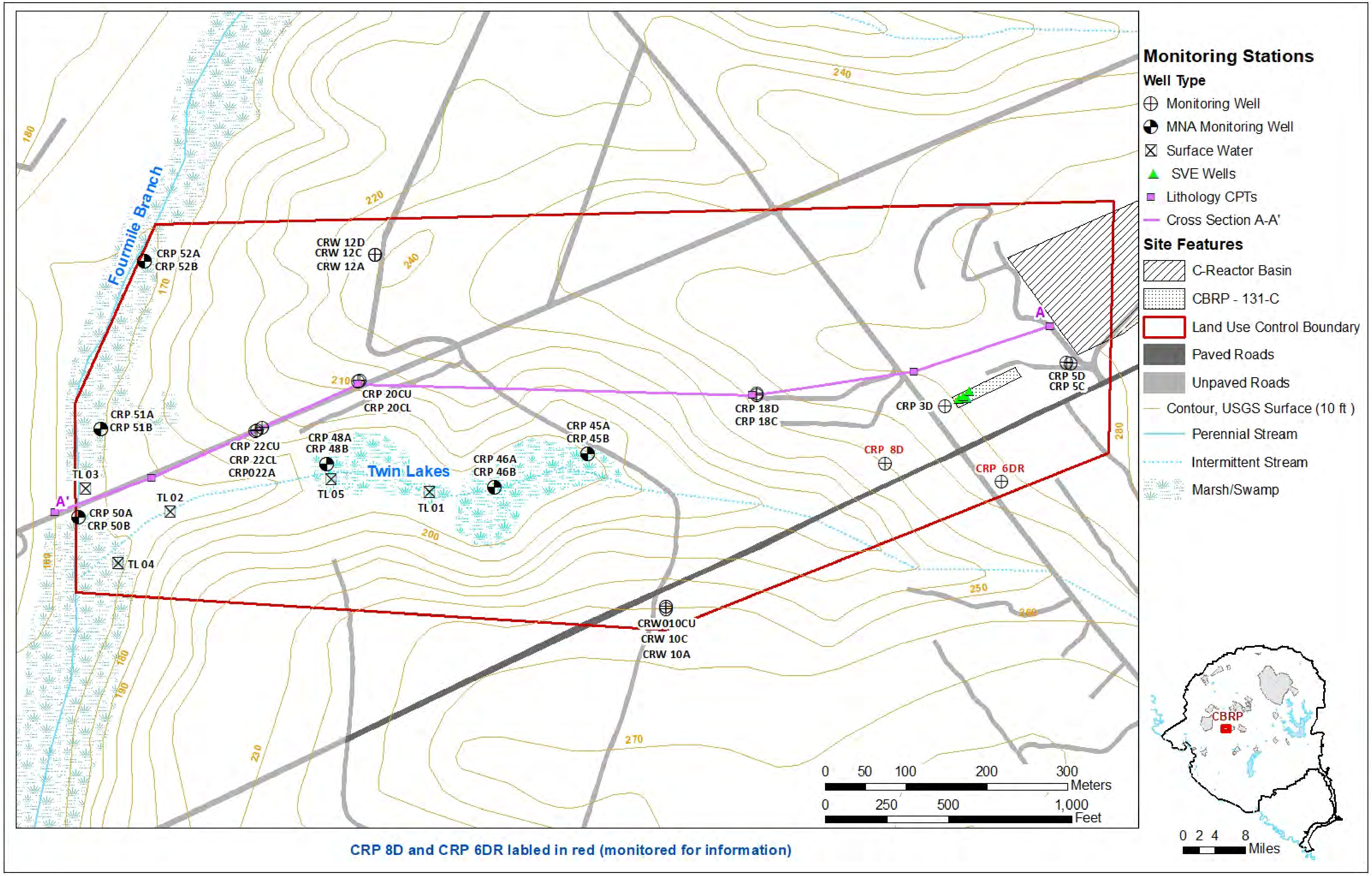


Figure 2. Location of the SVE System at the Western Edge of CBRP



CRP 8D and CRP 6DR labled in red (monitored for information)

Figure 3. CBRP OU LUC Boundary

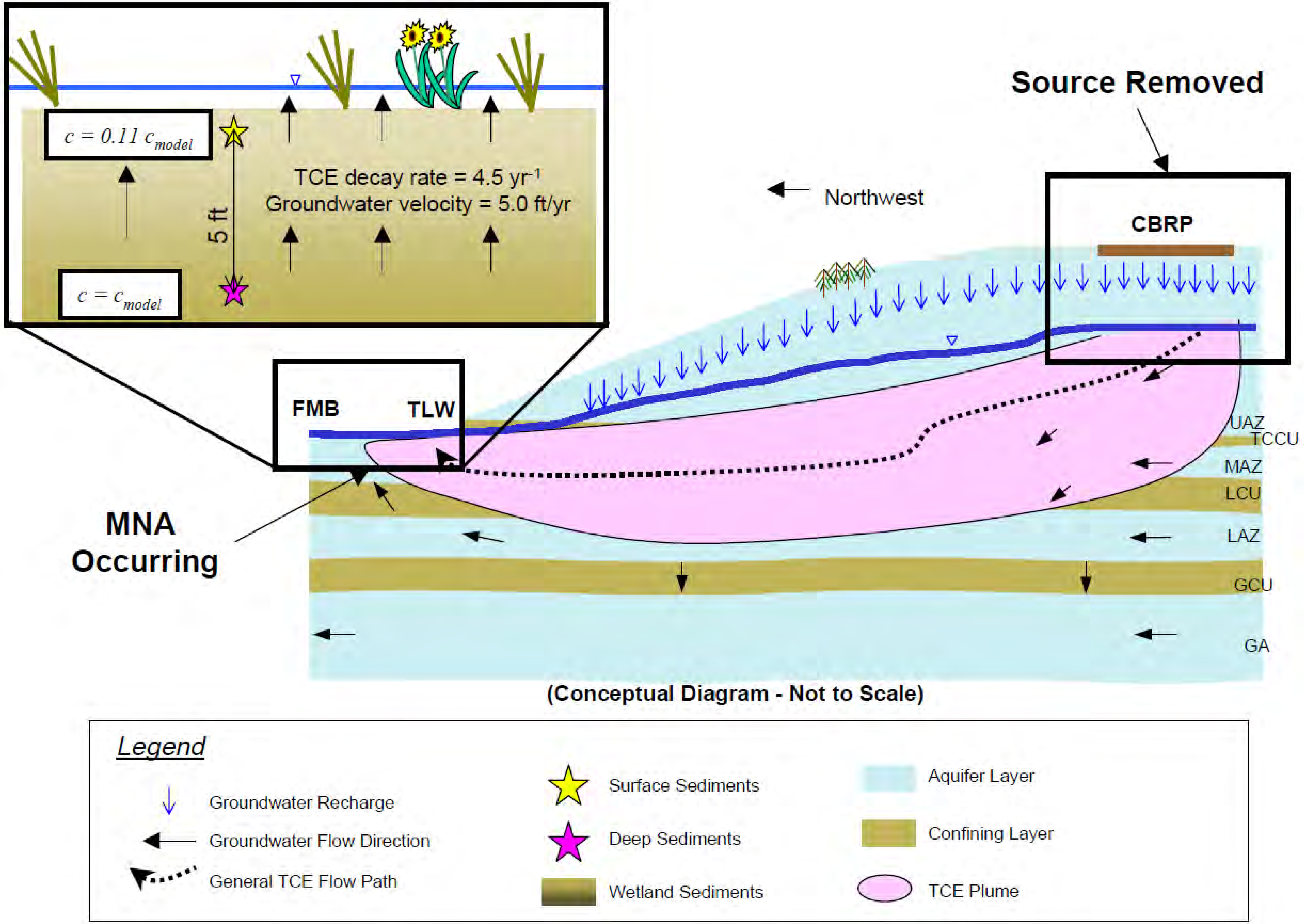


Figure 4. Conceptual Site Model of CBRP OU TCE Plume

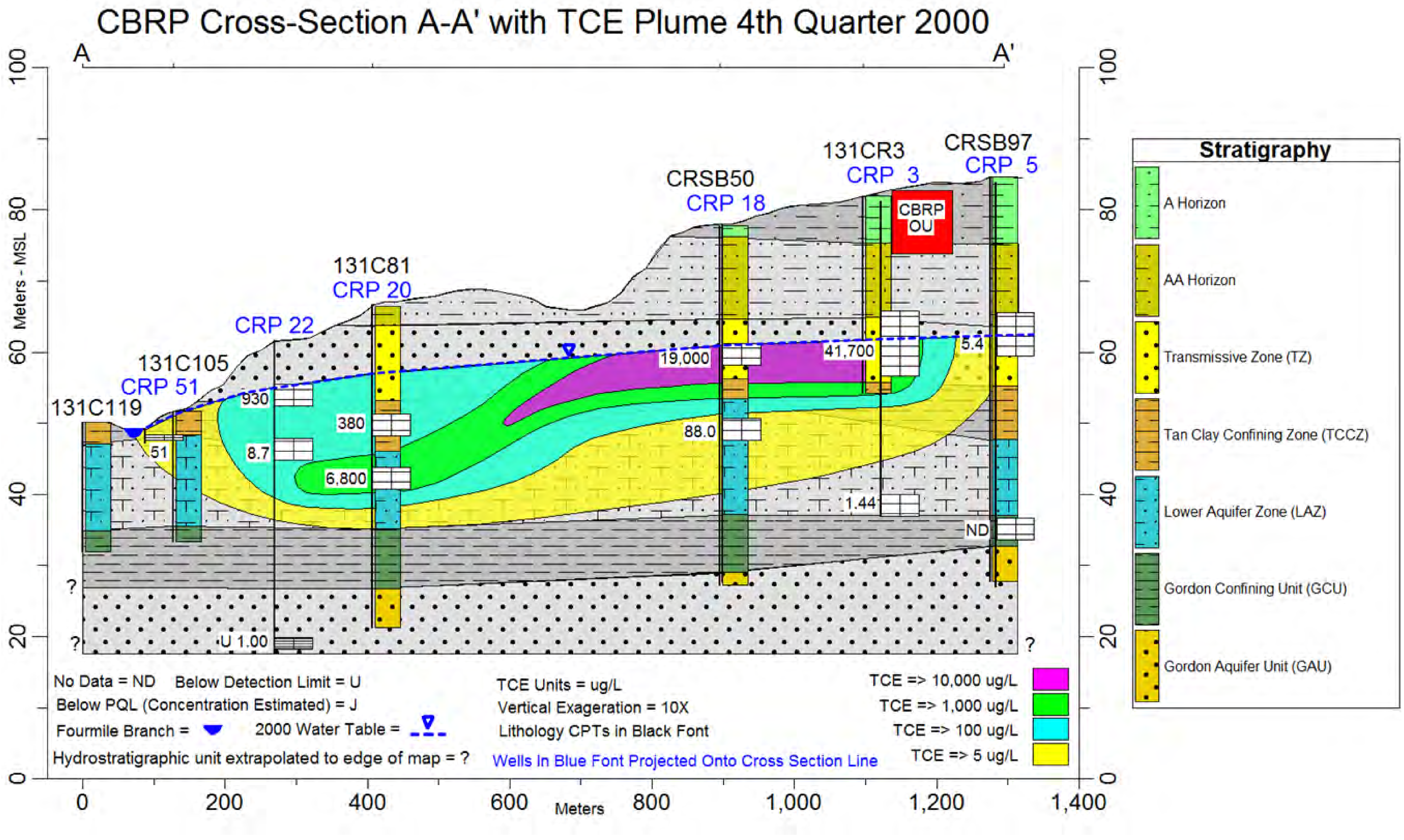


Figure 5. **CBRP Plume Cross Section, Fourth Quarter 2000**

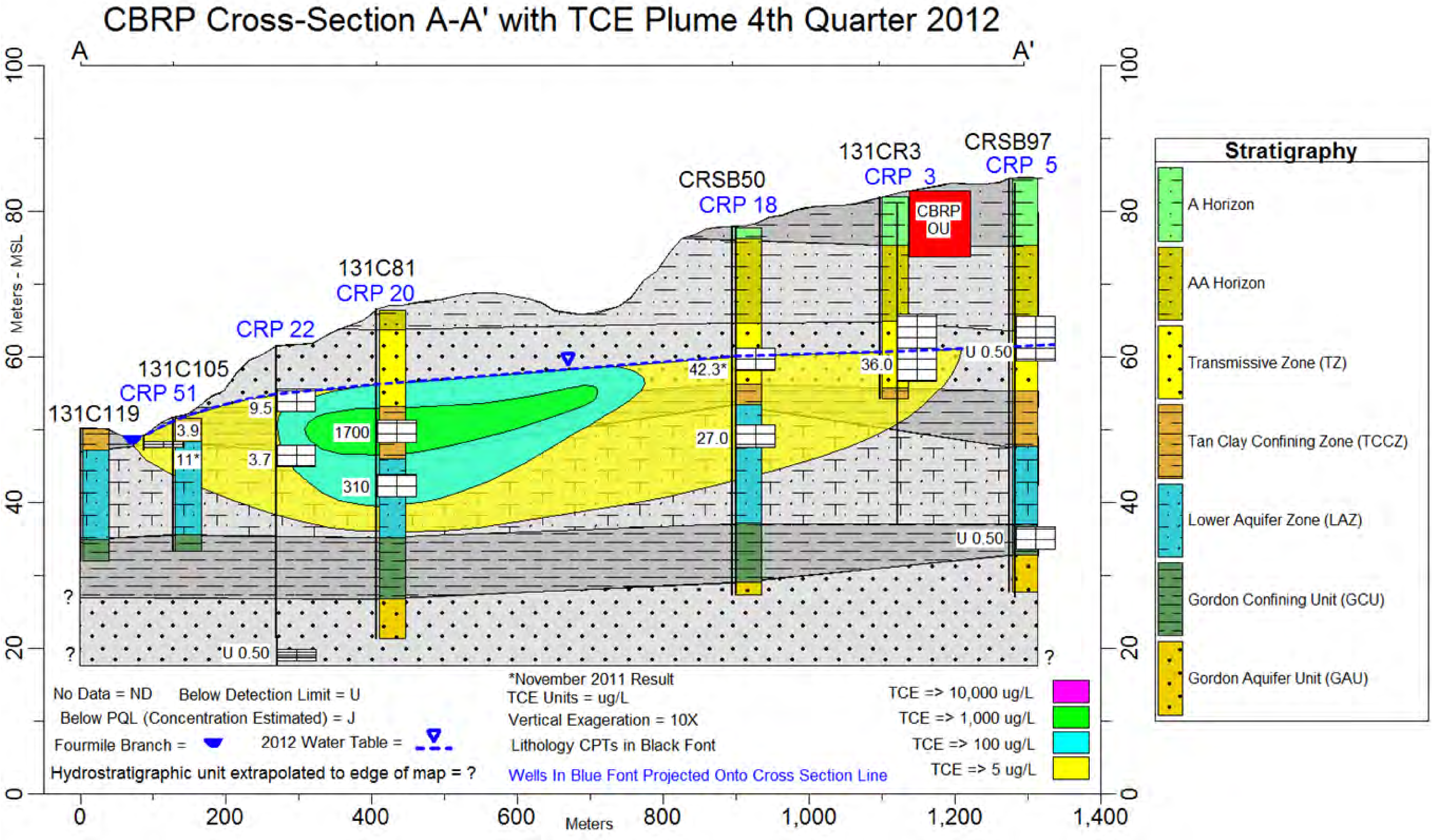


Figure 6. CBRP Plume Cross Section, Fourth Quarter 2012

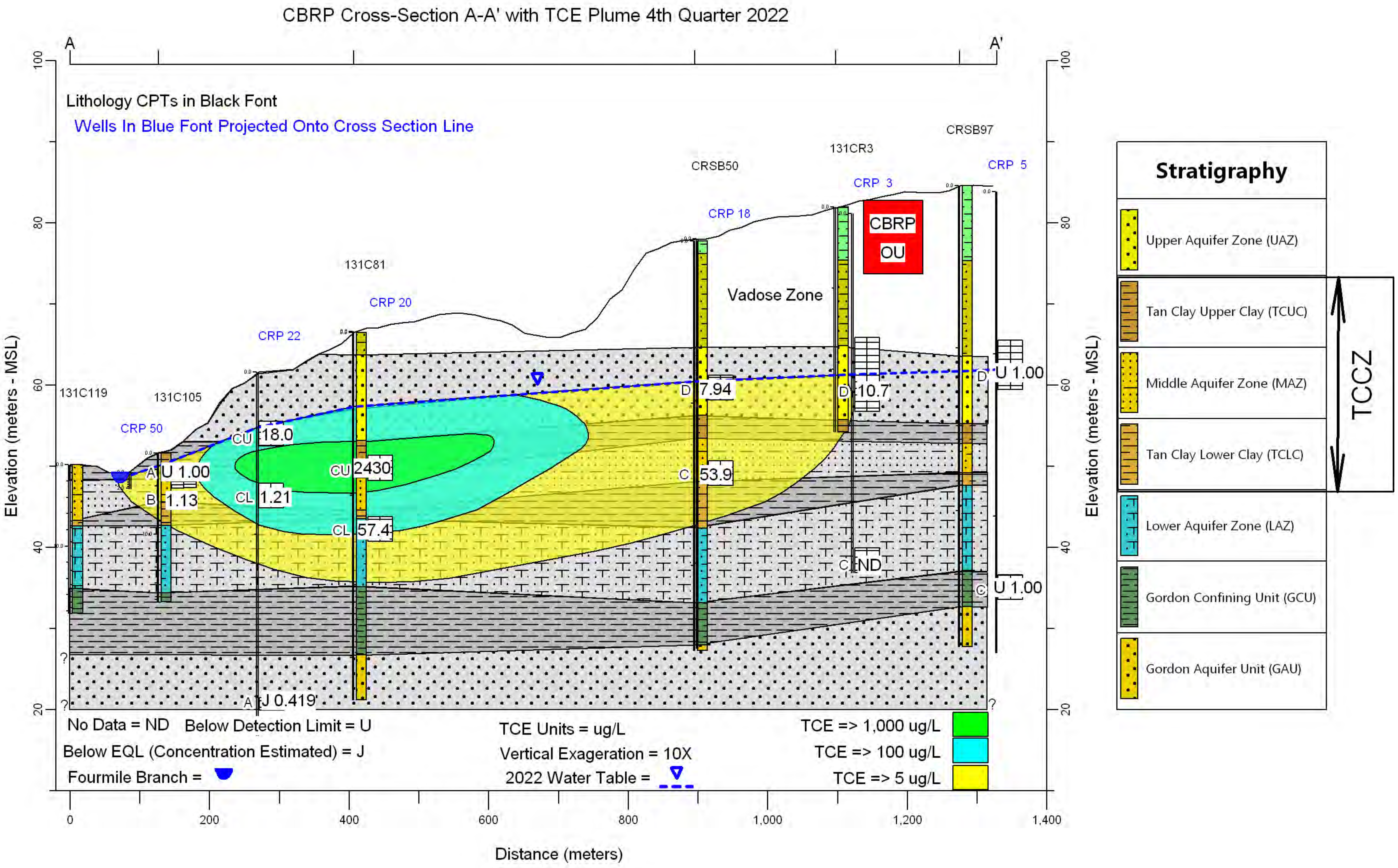


Figure 7. CBRP Plume Cross Section, Fourth Quarter 2022

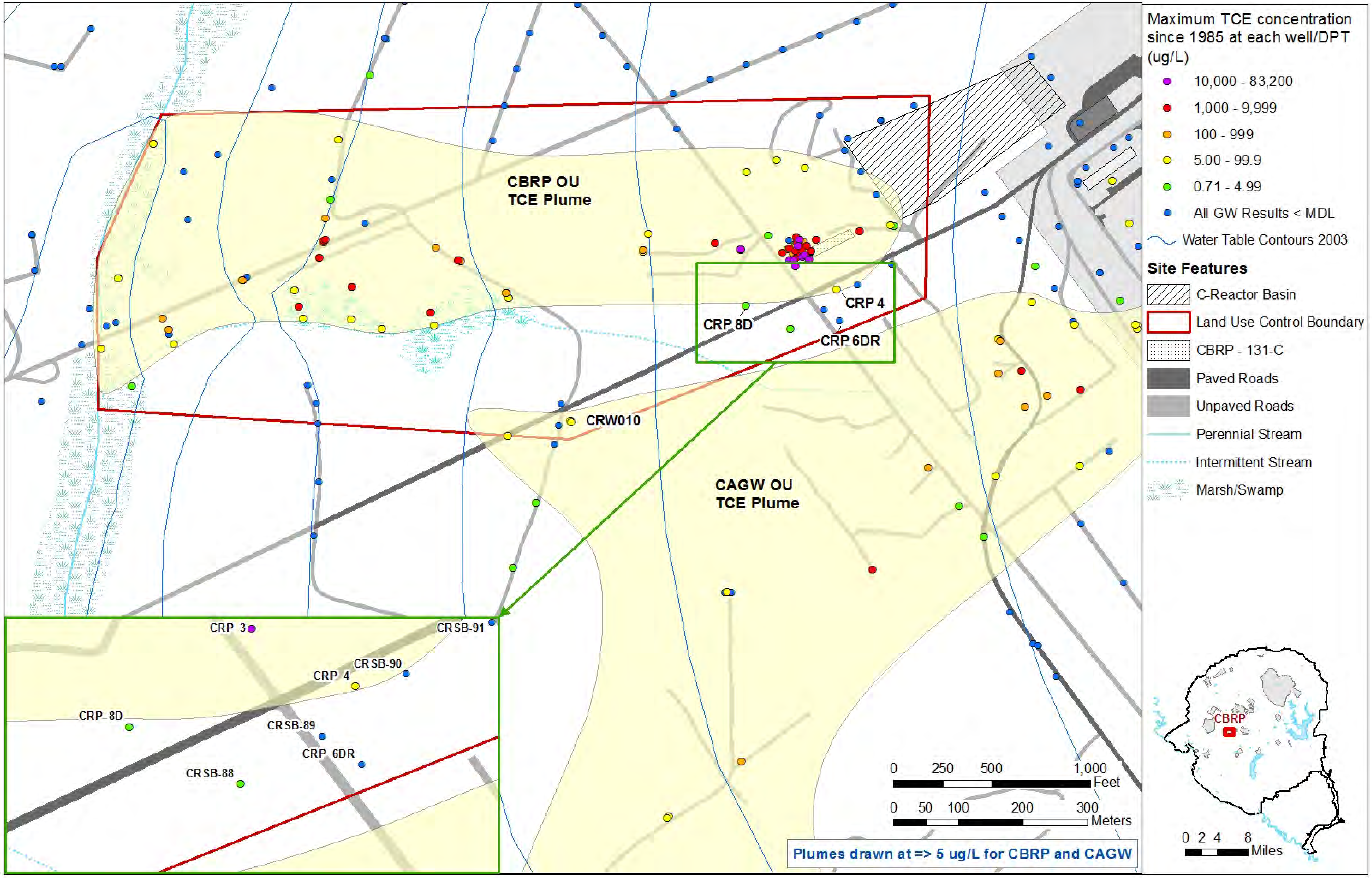


Figure 8. Maximum TCE concentrations for C-Area (1985- 2016)

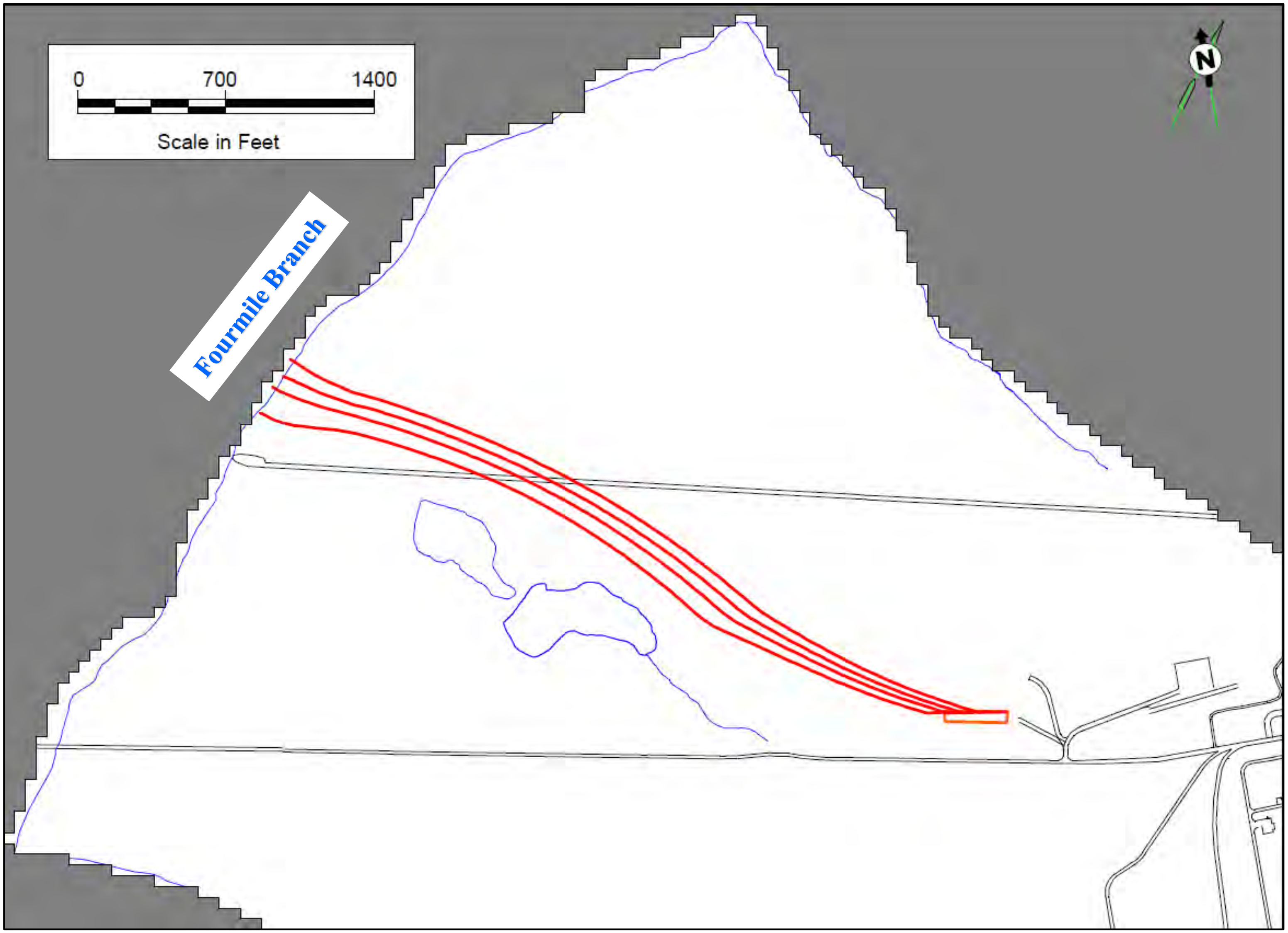


Figure 9. CBRP OU Groundwater Model Particle Tracks (WSRC-TR-2001-00298)

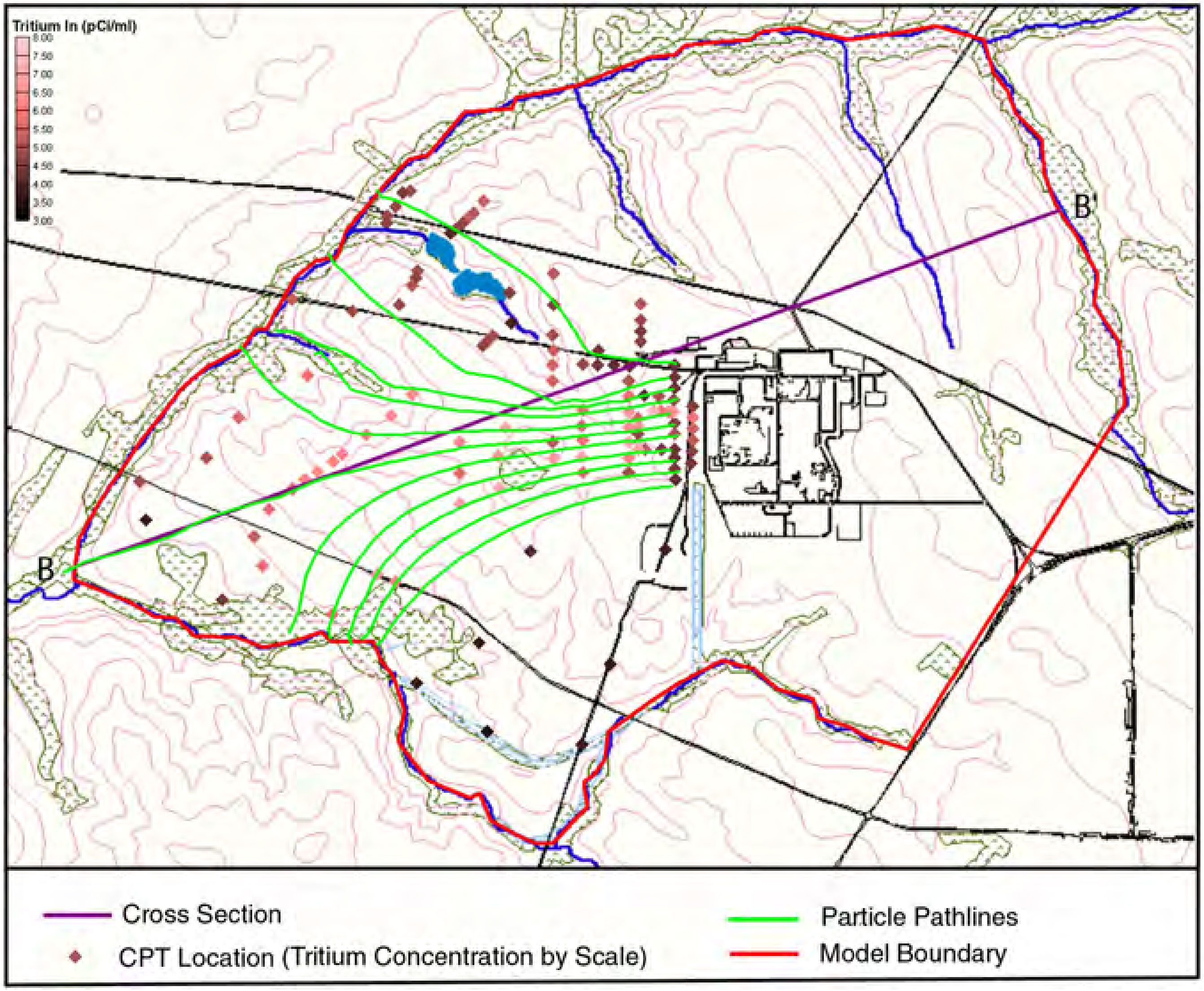


Figure 10. CAGW OU Groundwater Model Particle Tracks for Selected Locations (WSRC-RP-2000-4096)

Table 1. Sampling and Reporting Schedule

Year	Month	SVE Wells	Monitoring Wells	MNA Wells	Surface Sampling	Report
2009	Oct-Dec	X	X	X	X	
2010	Apr-Jun	X	X*	X	X	
	Oct-Dec	X	X	X	X	
2011	Apr-Jun	X		X	X	X
	Oct-Dec	X	X	X	X	
2012	Apr-Jun	X		X	X	
	Oct-Dec	X	X	X	X	
2013	Apr-Jun	X				X
	Oct-Dec	X		X	X	
2014	Apr-Jun	X				
	Oct-Dec	X	X	X	X	
2015	Apr-Jun	X				X
	Oct-Dec	X		X	X	
2016	Apr-Jun	X				
	Oct-Dec	X	X	X	X	
2017	Apr-Jun	X				X
	Oct-Dec	X		X	X	
2018	Apr-Jun	X				
	Oct-Dec	X	X	X	X	
2019	Apr-Jun	X				X
	Oct-Dec	X		X	X	
2020	Apr-Jun	X				
	Oct-Dec	X	X	X	X	
2021	Apr-Jun	X				X
	Oct-Dec	X		X	X	
2022	Apr-Jun	X				
	Oct-Dec	X	X	X	X	
2023	Apr-Jun	X				X
	Oct-Dec	X		X	X	

*Only CRP022A and CRW010CU

Table 2. MCLs for the RCOCs

RCOC*	MCL	Units
1,1-Dicholroethylene	7	µg/L
cis-1,2-Dichloroethylene	70	µg/L
Dichloromethane	5	µg/L
Tetrachloroethylene	5	µg/L
Trichloroethylene	5	µg/L
Vinyl Chloride	2	µg/L

*Trans-1,2-dichloroethylene and ethylene are not RCOCs, but concentrations are reported in Appendices A and C.

Table 3. Groundwater and Surface Water TCE Trigger Levels

Station ID	Well Type	Compliance Use	Station Maximum 2021 – 2022 (µg/L)	TCE Trigger Level
CRP 3D	Monitoring Well	KSZ Monitoring Well	10.70	= > 459 µg/L
CRP 20CU	Monitoring Well	Plume Definition Well	2,430	NA
CRW 10A	Monitoring Well	LUC Boundary Well	<EQL (1)	= > 13.6 µg/L
CRW 10C	Monitoring Well	LUC Boundary Well	9.95	= > 13.6 µg/L
CRW010CU	Monitoring Well	LUC Boundary Well	14.9	= > 13.6 µg/L
CRW 12A	Monitoring Well	LUC Boundary Well	<EQL (1)	= >5 µg/L (MCL)
CRW 12C	Monitoring Well	LUC Boundary Well	<EQL (1)	= >5 µg/L (MCL)
CRW 12D	Monitoring Well	LUC Boundary Well	<EQL (1)	= >5 µg/L (MCL)
TL 04	Surface Water	MNA POC	J 0.518	= >5 µg/L (MCL)

KSZ = Key Source Zone
LUC = Land Use Control
POC = Pont of Compliance
MCL = Maximum Contaminant Level

EQL = Estimated Quantitation Limit
J = Analyte detected, but value is estimated.
NA = Not Applicable

Table 4. CBRP Groundwater Monitoring Stations

Station ID	Screen Zone	Station Type	Top of Screen Depth (ft bgs)	Bottom of Screen Depth (ft bgs)	Well Diameter (in)	Total Depth (ft bgs)	Ground Elevation (ft amsl)
CRP 3D	UAZ	Monitoring Well	51	71	2	77.5	265.3
CRP 5C	LAZ	Monitoring Well	155	165	2	166.8	275.1
CRP 5D	UAZ	Monitoring Well	60	80	2	86.5	274.6
CRP 6DR	UAZ	Monitoring Well	47.3	67.3	2	75	261.5
CRP 8D	UAZ	Monitoring Well	35	55	2	63	246
CRP 18C	LAZ	Monitoring Well	89.8	99.8	2	100	256.02
CRP 18D	UAZ	Monitoring Well	55.23	65.26	2	66	256.07
CRP 20CL	LAZ	Monitoring Well	74.8	84.8	2	85	218.55
CRP 20CU	MAZ	Monitoring Well	50.15	60.15	2	60.5	218.95
CRP022A	GA	Monitoring Well	137	142	4	147.3	201.96
CRP 22CL	LAZ	Monitoring Well	45	55	2	56	202.26
CRP 22CU	UAZ	Monitoring Well	20	30	2	30.3	201.82
CRP 45A	UAZ	MNA Monitoring Well	4.33	5.83	2	6.16	197.8
CRP 45B	UAZ	MNA Monitoring Well	7.83	9.33	2	9.66	197.8
CRP 46A	UAZ	MNA Monitoring Well	3.2	4.5	1	5.5	189.48
CRP 46B	UAZ	MNA Monitoring Well	6.2	7.5	1	8.3	189.48
CRP 48A	TCCZ	MNA Monitoring Well	4.58	6.08	2	6.41	175.48
CRP 48B	TCCZ	MNA Monitoring Well	5.7	7	1	8	175.48

Table 4. CBRP Groundwater Monitoring Stations (continued)

Station ID	Screen Zone	Station Type	Top of Screen Depth (ft bgs)	Bottom of Screen Depth (ft bgs)	Well Diameter (in)	Total Depth (ft bgs)	Ground Elevation (ft amsl)
CRP 50A	TCCZ	MNA Monitoring Well	3	4.3	1	5.5	163.3
CRP 50B	TCCZ	MNA Monitoring Well	4.7	6	1	6	163.3
CRP 51A	MAZ	MNA Monitoring Well	2.9	4.2	1	5.4	161.68
CRP 51B	MAZ	MNA Monitoring Well	4.2	5.5	1	6.7	161.68
CRP 52A	MAZ	MNA Monitoring Well	2.58	4.08	2	4.41	162.88
CRP 52B	MAZ	MNA Monitoring Well	4.3	5.6	1	6.9	162.88
CRW 10A	GAU	Monitoring Well	157.2	162.9	4	163.2	246.83
CRW 10C	LAZ	Monitoring Well	111.6	117.3	4	117.3	246.83
CRW010CU	LAZ	Monitoring Well	90	100	4	105.3	246.31
CRW 12A	GA	Monitoring Well	131	136.7	4	137	231.44
CRW 12C	MAZ	Monitoring Well	80.2	85.9	4	85.9	231.44
CRW 12D	TCCZ	Monitoring Well	59.5	65.2	4	65.2	231.44
TL 01	NA	Surface Water	NA	NA	NA	NA	NA
TL 02	NA	Surface Water	NA	NA	NA	NA	NA
TL 03	NA	Surface Water	NA	NA	NA	NA	NA
TL 04	NA	Surface Water	NA	NA	NA	NA	NA
TL 05	NA	Surface Water	NA	NA	NA	NA	NA

NA = Not Applicable

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APPENDIX A

CBRP OU Analytical Data 2021-2022

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Table A-1, CBRP OU Monitoring Results, 2021 and 2022

			Field Data												VOCs							
			SAMPLE COLLECTION DATE	DEPTH TO WATER	WATER ELEVATION	TURBIDITY	PH	TOTAL ALKALINITY (AS CACO3)	WATER TEMPERATURE	VOLUME PURGED	SPECIFIC CONDUCTANCE	DISSOLVED OXYGEN	OXIDATION/REDUCTION POTENTIAL	FIELD CONDITIONS	1,1-DICHLOROETHYLENE	CHLOROETHENE (VINYL CHLORIDE)	CIS-1,2-DICHLOROETHYLENE	DICHLOROMETHANE (METHYLENE CHLORIDE)	ETHYLENE	TETRACHLOROETHYLENE (PCE)	TRANS-1,2-DICHLOROETHYLENE	TRICHLOROETHYLENE (TCE)
			day-month-year	ft	ft	NTU	pH	mg/L	degC	gal	uS/cm	mg/L	mV		ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
Station	Well Use	Aquifer Zone				15									7	2	70	5		5	100	5
CRP 45A	MNA Monitoring Well	TZ_UAZ_UTRAU	09-Nov-2021	6.38	195.42	8.7	5.3	1	15.9	1	31	3.08	53	No Comments	<EQL (1)	1.53	2.89	<EQL (5)	<EQL (25)	<EQL (1)	<EQL (1)	<EQL (1)
			28-Nov-2022	7.1	194.7	6	5.8	8	16.8	1	120	4.3	88	No Comments	<EQL (1)	[0.459]	[0.694]	<EQL (5)	<EQL (25)	<EQL (1.2)	<EQL (1)	[0.21]
CRP 45B	MNA Monitoring Well	TZ_UAZ_UTRAU	09-Nov-2021	2.64	195.66	3	5.3	1	16.3	2	21	6.48	172	No Comments	<EQL (1)	[0.321]	8.67	<EQL (5)	<EQL (25)	<EQL (1)	<EQL (1)	8.93
			28-Nov-2022	3.4	194.9	9.5	5.7	12	17.5	1	19	4.6	101	No Comments	<EQL (1)	<EQL (1)	7.66	<EQL (5)	<EQL (25)	<EQL (1.2)	<EQL (1)	8.04
CRP 46A	MNA Monitoring Well	TZ_UAZ_UTRAU	09-Nov-2021	2.4	190.08	9	5.4	1	14	0	36	2.88	186	No Comments	<EQL (1)	<EQL (1)	[0.352]	<EQL (5)	<EQL (25)	<EQL (1)	<EQL (1)	2.86
			28-Nov-2022	3.4	189.08	13.8	6.1	14	17.1	0.5	49	4.6	76	No Comments	<EQL (1)	<EQL (1)	[0.331]	<EQL (5)	<EQL (25)	<EQL (1.2)	<EQL (1)	1.39
CRP 46B	MNA Monitoring Well	TZ_UAZ_UTRAU	09-Nov-2021	2.9	187.98	3.6	6.4	51	16.7	0	139	2.92	-30	No Comments	<EQL (1)	3.8	[0.199]	<EQL (5)	<EQL (25)	<EQL (1)	<EQL (1)	<EQL (1)
			28-Nov-2022	3.5	187.38	14.2	6.2	18	16.1	1	156	4.4	77	No Comments	<EQL (1)	2.19	[0.138]	<EQL (5)	<EQL (25)	<EQL (1.2)	<EQL (1)	<EQL (1)
CRP 48A	MNA Monitoring Well	TCCZ	09-Nov-2021	3.8	175.43	7.1	4.5	0	16.7	1	24	5.11	291	No Comments	<EQL (1)	<EQL (1)	<EQL (1)	<EQL (5)	<EQL (25)	<EQL (1)	<EQL (1)	<EQL (1)
			28-Nov-2022	3.76	175.47	7.2	5.7	2	15.7	1	28	NS	NS	X	<EQL (1)	<EQL (1)	<EQL (1)	<EQL (5)	<EQL (25)	<EQL (1.2)	<EQL (1)	<EQL (1)
CRP 48B	MNA Monitoring Well	TCCZ	09-Nov-2021	3.12	175.96	11.5	5.9	4	18.4	1	43	3.07	37	No Comments	<EQL (1)	3.22	8.27	<EQL (5)	<EQL (25)	<EQL (1)	<EQL (1)	[0.779]
			28-Nov-2022	2.84	176.24	12.6	6.1	4	16.2	1	43	NS	NS	No Comments	<EQL (1)	3.21	8.6	<EQL (5)	<EQL (25)	<EQL (1.2)	<EQL (1)	[0.763]
CRP 50A	MNA Monitoring Well	TCCZ	15-Nov-2021	5.44	161.06	1.7	5.9	5	16	1	67	4.98	-22	No Comments	<EQL (1)	40.8	1.2	<EQL (5)	41.7	<EQL (1)	<EQL (1)	<EQL (1)
			28-Nov-2022	3.18	163.32	3	6	5	15.5	1	75	NS	NS	No Comments	<EQL (1)	15.2	[0.287]	<EQL (5)	25.6	<EQL (1.2)	<EQL (1)	<EQL (1)
CRP 50B	MNA Monitoring Well	TCCZ	15-Nov-2021	5.8	159	7.4	5.9	2	15.6	1	30	3.16	6	No Comments	2.9	209	105	<EQL (5)	41.2	<EQL (1)	[0.234]	2.66
			28-Nov-2022	1.38	163.42	25.4	5.9	3	16.2	1	38	NS	NS	T	[0.432]	59.9	26.1	<EQL (5)	52.2	<EQL (1.2)	<EQL (1)	1.13
CRP 51A	MNA Monitoring Well	MAZ_TC	15-Nov-2021	2.99	161.99	8.7	5.4	1	12	1	22	4.07	181	No Comments	<EQL (1)	[0.325]	[0.55]	<EQL (5)	<EQL (25)	<EQL (1)	<EQL (1)	3.47
			28-Nov-2022	2.8	162.18	7.7	5.6	5	15.6	NS	19	2.88	182	No Comments	<EQL (1)	<EQL (1)	[0.474]	<EQL (5)	<EQL (25)	<EQL (1.2)	<EQL (1)	2.73
CRP 51B	MNA Monitoring Well	MAZ_TC	15-Nov-2021	1.89	161.79	14.9	5.3	1	15.8	1	19	3.77	175	No Comments	<EQL (1)	<EQL (1)	[0.262]	<EQL (5)	<EQL (25)	<EQL (1)	<EQL (1)	4.64
			28-Nov-2022	NS	NS	4	5.3	2	16.2	NS	20	2.13	202	No Comments	<EQL (1)	[0.28]	[0.392]	<EQL (5)	<EQL (25)	<EQL (1.2)	<EQL (1)	3.89
CRP 52A	MNA Monitoring Well	MAZ_TC	15-Nov-2021	4.35	164.28	3.8	4.7	0	16.4	2	25	4.38	178	No Comments	<EQL (1)	<EQL (1)	<EQL (1)	<EQL (5)	<EQL (25)	<EQL (1)	<EQL (1)	<EQL (1)
			28-Nov-2022	4.52	164.11	5	5.1	0	14.9	NS	25	2.93	153	No Comments	<EQL (1)	<EQL (1)	<EQL (1)	<EQL (5)	<EQL (25)	<EQL (1.2)	<EQL (1)	<EQL (1)
CRP 52B	MNA Monitoring Well	MAZ_TC	23-Nov-2021	2.25	162.43	2.1	6	20	9.5	1	54	8.2	35	No Comments	<EQL (1)	<EQL (1)	<EQL (1)	<EQL (5)	<EQL (25)	<EQL (1)	<EQL (1)	<EQL (1)
			28-Nov-2022	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	D	NS	NS	NS	NS	NS	NS	NS	NS
CRP 3D	Monitoring Well	TZ_UAZ_UTRAU	28-Oct-2021	62.5	205.2	14.3	6.2	10	18.7	0	34	4.3	254	No Comments	<EQL (1)	<EQL (1)	[0.236]	<EQL (5)	<EQL (25)	<EQL (1)	<EQL (1)	9.26
			21-Nov-2022	65.09	202.61	281	5.4	3	18.2	NS	42	6.6	264	T	<EQL (1)	<EQL (1)	<EQL (1)	<EQL (5)	<EQL (25)	<EQL (1.2)	<EQL (1)	10.7
CRP 5C	Monitoring Well	LAZ_UTRAU	28-Oct-2021	81.5	195.8	3.9	6.3	32	18.1	0	54	4.7	251	No Comments	<EQL (1)	<EQL (1)	[0.13]	<EQL (5)	<EQL (25)	6.92	<EQL (1)	[0.335]
			21-Nov-2022	84.4	192.9	13.2	6	6	16.1	NS	55	6.9	233	No Comments	<EQL (1)	<EQL (1)	<EQL (1)	<EQL (5)	<EQL (25)	9.95	<EQL (1)	<EQL (1)
CRP 5D	Monitoring Well	TZ_UAZ_UTRAU	28-Oct-2021	68.6	208.3	12.8	6.4	12	17.9	0	16	5.1	286	No Comments	<EQL (1)	<EQL (1)	<EQL (1)	<EQL (5)	<EQL (25)	<EQL (1)	<EQL (1)	<EQL (1)
			21-Nov-2022	71.81	205.09	37.1	6.5	7	17.6	NS	21	6.8	205	T	<EQL (1)	<EQL (1)	<EQL (1)	<EQL (5)	<EQL (25)	<EQL (1.2)	<EQL (1)	<EQL (1)
CRP 6DR	Monitoring Well	TZ_UAZ_UTRAU	28-Oct-2021	58.5	205.4	0.9	5.5	6	18.7	7	25	5.4	291	No Comments	<EQL (1)	<EQL (1)	<EQL (1)	<EQL (5)	<EQL (25)	<EQL (1)	<EQL (1)	<EQL (1)
			21-Nov-2022	61	202.9	1.4	5.1	0	19.3	5	28	11.3	298	No Comments	<EQL (1)	<EQL (1)	<EQL (1)	<EQL (5)	<EQL (25)	<EQL (1.2)	<EQL (1)	<EQL (1)

Table A-1, CBRP OU Monitoring Results, 2021 and 2022 (continued)

			Field Data												**VOCs**							
			SAMPLE COLLECTION DATE	**DEPTH TO WATER**	**WATER ELEVATION**	**TURBIDITY**	**PH**	**TOTAL ALKALINITY (AS CACO3)**	**WATER TEMPERATURE**	**VOLUME PURGED**	**SPECIFIC CONDUCTANCE**	**DISSOLVED OXYGEN**	**OXIDATION/REDUCTION POTENTIAL**	**FIELD CONDITIONS**	**1,1-DICHLOROETHYLENE**	**CHLOROETHENE (VINYL CHLORIDE)**	**CIS-1,2-DICHLOROETHYLENE**	**DICHLOROMETHANE (METHYLENE CHLORIDE)**	**ETHYLENE**	**TETRACHLOROETHYLENE (PCE)**	**TRANS-1,2-DICHLOROETHYLENE**	**TRICHLOROETHYLENE (TCE)**
			day-month-year	**ft**	**ft**	**NTU**	**pH**	**mg/L**	**degC**	**gal**	**uS/cm**	**mg/L**	**mV**		**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**
Station	**Well Use**	**Aquifer Zone**				**15**									**7**	**2**	**70**	**5**		**5**	**100**	**5**
CRP 8D	Monitoring Well	TZ_UAZ_UTRAU	28-Oct-2021	44.48	204.22	0.5	4	0	21.1	6	23	3.7	218	No Comments	<EQL (1)	<EQL	<EQL (1)	<EQL (5)	<EQL (25)	<EQL (1)	<EQL (1)	<EQL (1)
			28-Nov-2022	46.88	201.82	5.5	4.9	0	20.9	6	20	4.03	178	No Comments	<EQL (1)	<EQL	<EQL (1)	<EQL (5)	<EQL (25)	<EQL (1.2)	<EQL (1)	<EQL (1)
CRP 18C	Monitoring Well	LAZ_UTRAU	28-Oct-2021	61.88	196.42	1.5	6.3	14	16	1	26	6.34	179	No Comments	<EQL (1)	<EQL	2.43	<EQL (5)	<EQL (25)	[0.875]	<EQL (1)	83.8
			21-Nov-2022	63.89	194.41	1.2	6	12	19	1	26	8.3	232	No Comments	<EQL (1)	<EQL	1.82	<EQL (5)	<EQL (25)	[0.75]	<EQL (1)	53.9
CRP 18D	Monitoring Well	TZ_UAZ_UTRAU	28-Oct-2021	55.34	203.06	2	6.2	10	15.7	1	32	6.1	189	No Comments	<EQL (1)	<EQL	<EQL (1)	<EQL (5)	<EQL (25)	<EQL (1)	<EQL (1)	6.64
			21-Nov-2022	58.29	200.11	11.7	5.3	4	18.2	1	30	8.1	248	No Comments	<EQL (1)	<EQL	<EQL (1)	<EQL (5)	<EQL (25)	<EQL (1.2)	<EQL (1)	7.94
CRP 20CL	Monitoring Well	LAZ_UTRAU	28-Oct-2021	39.05	181.86	0.1	4.8	0	19.9	18	22	3.8	297	No Comments	<EQL (1)	<EQL	2.44	<EQL (5)	<EQL (25)	1.34	<EQL (1)	67.2
			28-Nov-2022	39.81	181.1	0.2	5.5	2	19.4	16	24	7.58	271	No Comments	<EQL (1)	<EQL	1.85	<EQL (5)	<EQL (25)	1.21	<EQL (1)	57.4
CRP 20CU	Monitoring Well	MAZ_UTRAU	28-Oct-2021	33.7	187.5	2.4	5.3	0	22.1	11	26	3.88	150	No Comments	[0.308]	<EQL	41.6	<EQL (5)	<EQL (25)	2.06	[0.551]	1940
			28-Nov-2022	32.85	188.35	1.6	5.2	0	20.5	13	27	8.63	284	No Comments	[0.291]	<EQL	37.3	<EQL (5)	<EQL (25)	1.76	[0.475]	2430
CRP 22CL	Monitoring Well	LAZ_UTRAU	28-Oct-2021	29.87	174.8	6.7	5.5	6	18.6	9	25	1.95	226	No Comments	<EQL (1)	<EQL	<EQL (1)	<EQL (5)	<EQL (25)	[0.367]	<EQL (1)	1.36
			28-Nov-2022	30.28	174.39	0.2	5	3	21.4	9	24	3.56	207	No Comments	<EQL (1)	<EQL	<EQL (1)	<EQL (5)	<EQL (25)	<EQL (1.2)	<EQL (1)	1.21
CRP 22CU	Monitoring Well	TZ_UAZ_UTRAU	28-Oct-2021	22.9	181.23	5.2	5.2	5	19	4	23	5.88	205	No Comments	<EQL (1)	<EQL	[0.754]	<EQL (5)	<EQL (25)	<EQL (1)	<EQL (1)	15.5
			28-Nov-2022	23.4	180.73	0.2	5	3	20.9	12	22	4.31	284	No Comments	<EQL (1)	<EQL	[0.711]	<EQL (5)	<EQL (25)	[0.327]	<EQL (1)	18
CRP022A	Monitoring Well	GAU	28-Oct-2021	54	150.72	1	6.5	48	18.1	0	173	3.95	224	No Comments	<EQL (1)	<EQL	<EQL (1)	<EQL (5)	<EQL (25)	<EQL (1)	<EQL (1)	<EQL (1)
			28-Nov-2022	54.88	149.84	7.8	6.9	36	17.8	0	171	1.87	153	No Comments	<EQL (1)	<EQL	<EQL (1)	<EQL (5)	<EQL (25)	<EQL (1.2)	<EQL (1)	[0.419]
CRW 10A	Monitoring Well	GAU	01-Nov-2021	91.79	157.2	28.9	6.4	44	17.8	5	135	0.94	-21	No Comments	<EQL (1)	<EQL	<EQL (1)	<EQL (5)	<EQL (25)	<EQL (1)	<EQL (1)	<EQL (1)
			21-Nov-2022	92.71	156.28	131	6.8	42	17.8	8	120	9.28	8	T	<EQL (1)	<EQL	<EQL (1)	<EQL (5)	<EQL (25)	<EQL (1.2)	<EQL (1)	<EQL (1)
CRW 10C	Monitoring Well	LAZ_UTRAU	01-Nov-2021	61.86	187.13	0.9	6.2	6	18.1	1	23	2.87	196	No Comments	<EQL (1)	<EQL	[0.2]	<EQL (5)	<EQL (25)	2.49	<EQL (1)	9.95
			21-Nov-2022	63.53	185.46	2.3	5.7	4	17.4	1	23	8.91	244	No Comments	<EQL (1)	<EQL	[0.167]	<EQL (5)	<EQL (25)	2.07	<EQL (1)	8.19
CRW 12A	Monitoring Well	GCU	01-Nov-2021	79.68	153.89	1.1	6	11	19.3	2	63	1.99	105	No Comments	<EQL (1)	<EQL	<EQL (1)	<EQL (5)	<EQL (25)	<EQL (1)	<EQL (1)	<EQL (1)
			21-Nov-2022	80.38	153.19	1.7	6	7	15.2	3	41	3.56	192	No Comments	<EQL (1)	<EQL	<EQL (1)	<EQL (5)	<EQL (25)	<EQL (1.2)	<EQL (1)	<EQL (1)
CRW 12C	Monitoring Well	MAZ_TC	01-Nov-2021	49.95	183.62	0.6	5.8	6	19	1	32	4.05	209	No Comments	<EQL (1)	<EQL	<EQL (1)	<EQL (5)	<EQL (25)	<EQL (1)	<EQL (1)	<EQL (1)
			21-Nov-2022	50.94	182.63	3.4	5.8	5	15.8	1	34	4.18	187	No Comments	<EQL (1)	<EQL	<EQL (1)	<EQL (5)	<EQL (25)	<EQL (1.2)	<EQL (1)	<EQL (1)
CRW 12D	Monitoring Well	TCCZ	01-Nov-2021	44.89	188.68	1.4	4.9	3	19.3	1	48	4.2	285	No Comments	<EQL (1)	<EQL	<EQL (1)	<EQL (5)	<EQL (25)	<EQL (1)	<EQL (1)	<EQL (1)
			21-Nov-2022	45.98	187.59	1.2	4.9	0	11.7	1	39	3.11	235	No Comments	<EQL (1)	<EQL	<EQL (1)	<EQL (5)	<EQL (25)	<EQL (1.2)	<EQL (1)	<EQL (1)
CRW010CU	Monitoring Well	LAZ_UTRAU	01-Nov-2021	61.32	187.51	2.3	6.2	14	15.1	0	45	1.28	177	No Comments	<EQL (1)	<EQL	[0.159]	<EQL (5)	<EQL (25)	1.44	<EQL (1)	14.9
			21-Nov-2022	63	185.83	0.8	6.1	9	17.2	NS	43	NS	NS	No Comments	<EQL (1)	<EQL	<EQL (1)	<EQL (5)	<EQL (25)	1.3	<EQL (1)	12.6

Table A-1, CBRP OU Monitoring Results, 2021 and 2022 (continued, end)

			Field Data												VOCs							
			SAMPLE COLLECTION DATE	DEPTH TO WATER	WATER ELEVATION	TURBIDITY	PH	TOTAL ALKALINITY (AS CACO3)	WATER TEMPERATURE	VOLUME PURGED	SPECIFIC CONDUCTANCE	DISSOLVED OXYGEN	OXIDATION/REDUCTION POTENTIAL	FIELD CONDITIONS	1,1-DICHLOROETHYLENE	CHLOROETHENE (VINYL CHLORIDE)	CIS-1,2-DICHLOROETHYLENE	DICHLOROMETHANE (METHYLENE CHLORIDE)	ETHYLENE	TETRACHLOROETHYLENE (PCE)	TRANS-1,2-DICHLOROETHYLENE	TRICHLOROETHYLENE (TCE)
			day-month-year	ft	ft	NTU	pH	mg/L	degC	gal	uS/cm	mg/L	mV		ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
Station	Well Use	Aquifer Zone				15									7	2	70	5		5	100	5
TL 01	Surface Water	TZ_UAZ_UTRAU	23-Nov-2021	NS	NS	190	5.4	12	7.5	0	497	3.31	127	No Comments	<EQL (1)	<EQL (1)	<EQL (1)	<EQL (5)	<EQL (25)	<EQL (1)	<EQL	<EQL (1)
			21-Nov-2022	NS	NS	187	5.3	2	7.7	NS	21	2.81	236	No Comments	<EQL (1)	<EQL (1)	<EQL (1)	<EQL (5)	<EQL (25)	<EQL (1.2)	<EQL	<EQL (1)
TL 02	Surface Water	TZ_UAZ_UTRAU	23-Nov-2021	NS	NS	9	5.8	3	8.5	0	30	3.44	160	No Comments	<EQL (1)	<EQL (1)	[0.897]	<EQL (5)	<EQL (25)	<EQL (1)	<EQL	3.24
			21-Nov-2022	NS	NS	3.9	5.9	5	5.8	NS	24	3.65	294	No Comments	<EQL (1)	<EQL (1)	[0.707]	<EQL (5)	<EQL (25)	<EQL (1.2)	<EQL	2.77
TL 03	Surface Water	MAZ_TC	23-Nov-2021	NS	NS	6.9	6.6	15	8.3	0	90	6.74	108	No Comments	<EQL (1)	<EQL (1)	<EQL (1)	<EQL (5)	<EQL (25)	<EQL (1)	<EQL	[0.258]
			21-Nov-2022	NS	NS	1.1	5.4	6	5.4	NS	62	3.72	201	No Comments	<EQL (1)	<EQL (1)	1.82	<EQL (5)	<EQL (25)	<EQL (1.2)	<EQL	4.35
TL 04	Surface Water	MAZ_TC	23-Nov-2021	NS	NS	4.7	6.6	15	8	0	63	3.67	97	No Comments	<EQL (1)	<EQL (1)	[0.171]	<EQL (5)	<EQL (25)	<EQL (1)	<EQL	[0.417]
			21-Nov-2022	NS	NS	17.1	5.3	2	5.2	NS	21	3.36	223	No Comments	<EQL (1)	<EQL (1)	[0.162]	<EQL (5)	<EQL (25)	<EQL (1.2)	<EQL	[0.518]
TL 05	Surface Water	TZ_UAZ_UTRAU	23-Nov-2021	NS	NS	31.9	4	0	9.8	0	2870	4.23	326	No Comments	<EQL (1)	<EQL (1)	1.14	<EQL (5)	<EQL (25)	<EQL (1)	<EQL	2.68
			21-Nov-2022	NS	NS	2.3	5.4	3	8.9	NS	22	3.3	221	No Comments	<EQL (1)	[0.433]	1.53	<EQL (5)	<EQL (25)	<EQL (1.2)	<EQL	2.76

Table A-1 Table Notes

[##]	EPA Functional Guideline Code of 'J' was applied to the result, indicating an estimated quantity.
<EQL(##)	Constituent was below detection. The sample-specific Estimated Quantitation Limit is in parentheses.
🟥	Result exceeds applicable limit.
REJ	Result Rejected.
	Result is less than the applicable limit and without EPA Functional Guideline qualifiers.
NS	Requested to be sampled but was not. See comments as to why not.
Blue Text	Not a required sample analysis.

Table A-1 Field Condition Column Notes

A	Abandoned
C	Continuously pumping well / flowing stream
D	Dry well. No sample collected.
NS	Not sampled.
T	High turbidity. Some portions of the sample may not be analyzed.
X	Well pumped dry. Samples collected after well recovered.
N	Field parameters not stable when sample collected.
NC	No comment.

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APPENDIX B

CBRP OU Hydrographs

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Figure B-1.

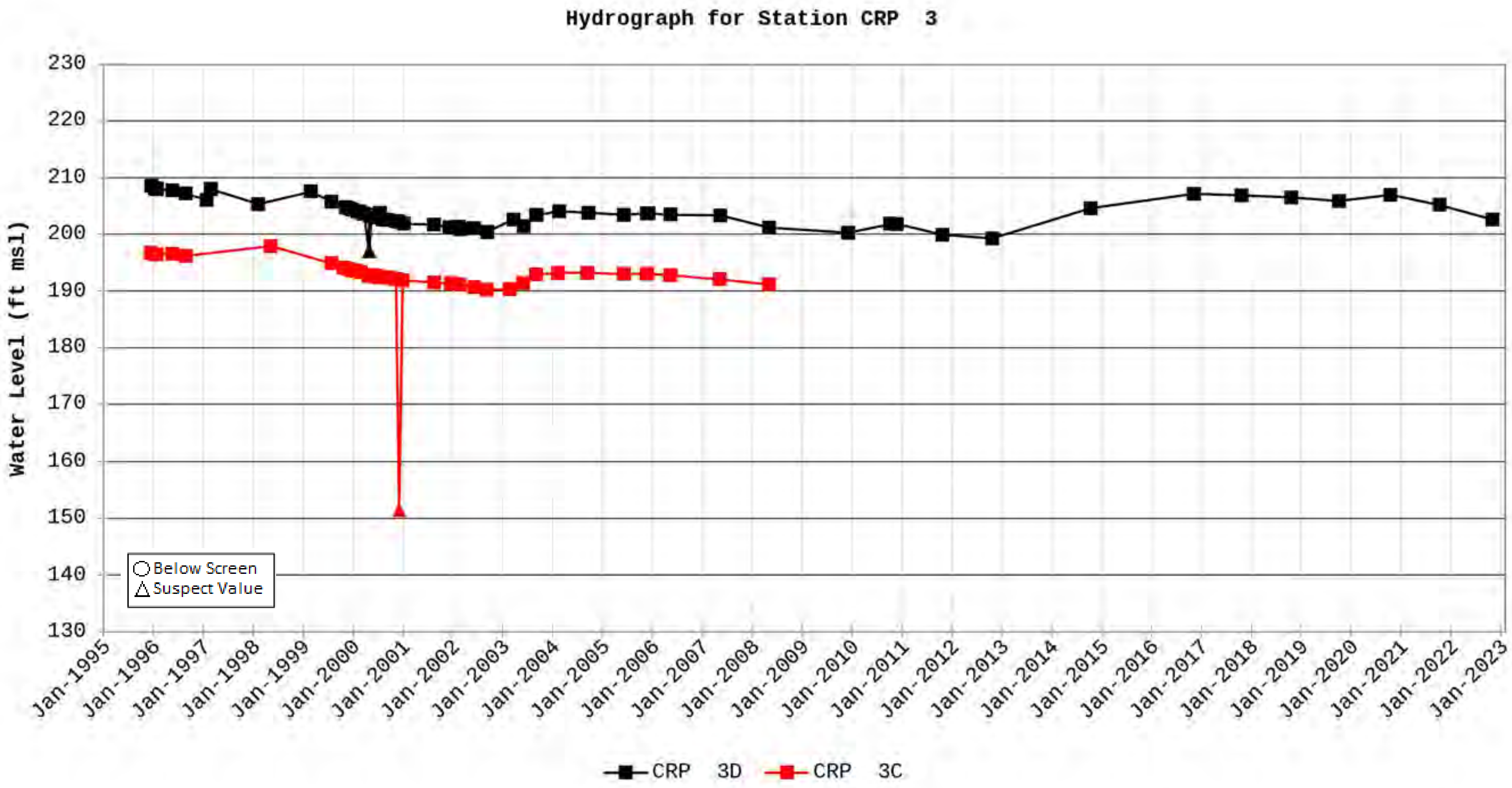

Hydrograph for Station CRP 3
Water Level (ft msl)
230
220
210
200
190
180
170
160
150
140
130
○ Below Screen
△ Suspect Value
Jan-1995
Jan-1996
Jan-1997
Jan-1998
Jan-1999
Jan-2000
Jan-2001
Jan-2002
Jan-2003
Jan-2004
Jan-2005
Jan-2006
Jan-2007
Jan-2008
Jan-2009
Jan-2010
Jan-2011
Jan-2012
Jan-2013
Jan-2014
Jan-2015
Jan-2016
Jan-2017
Jan-2018
Jan-2019
Jan-2020
Jan-2021
Jan-2022
Jan-2023
CRP 3D
CRP 3C

Figure B-2.

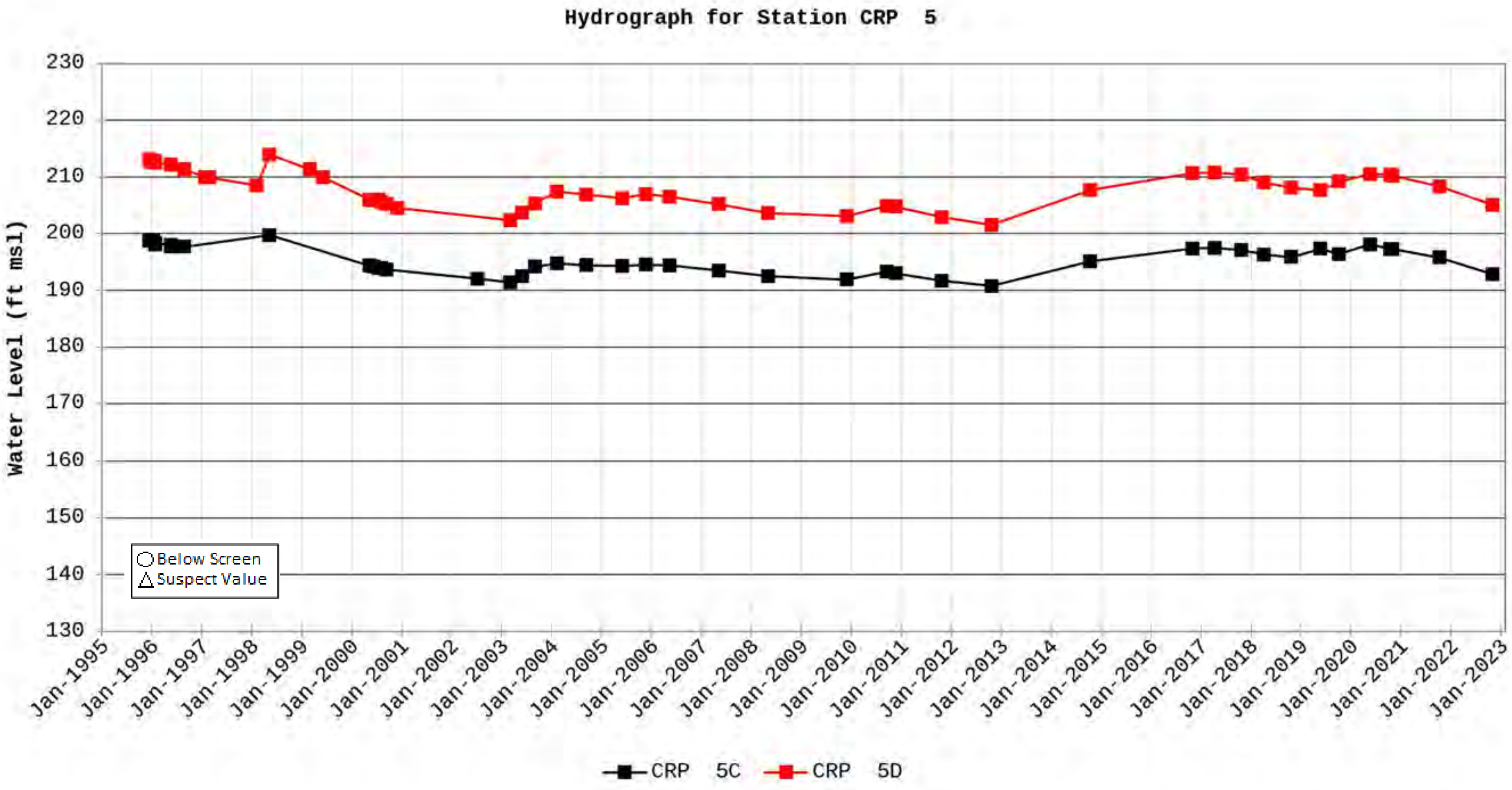

Hydrograph for Station CRP 5
Water Level (ft msl)
230
220
210
200
190
180
170
160
150
140
130
○ Below Screen
△ Suspect Value
Jan-1995
Jan-1996
Jan-1997
Jan-1998
Jan-1999
Jan-2000
Jan-2001
Jan-2002
Jan-2003
Jan-2004
Jan-2005
Jan-2006
Jan-2007
Jan-2008
Jan-2009
Jan-2010
Jan-2011
Jan-2012
Jan-2013
Jan-2014
Jan-2015
Jan-2016
Jan-2017
Jan-2018
Jan-2019
Jan-2020
Jan-2021
Jan-2022
Jan-2023
CRP 5C
CRP 5D

Figure B-3.

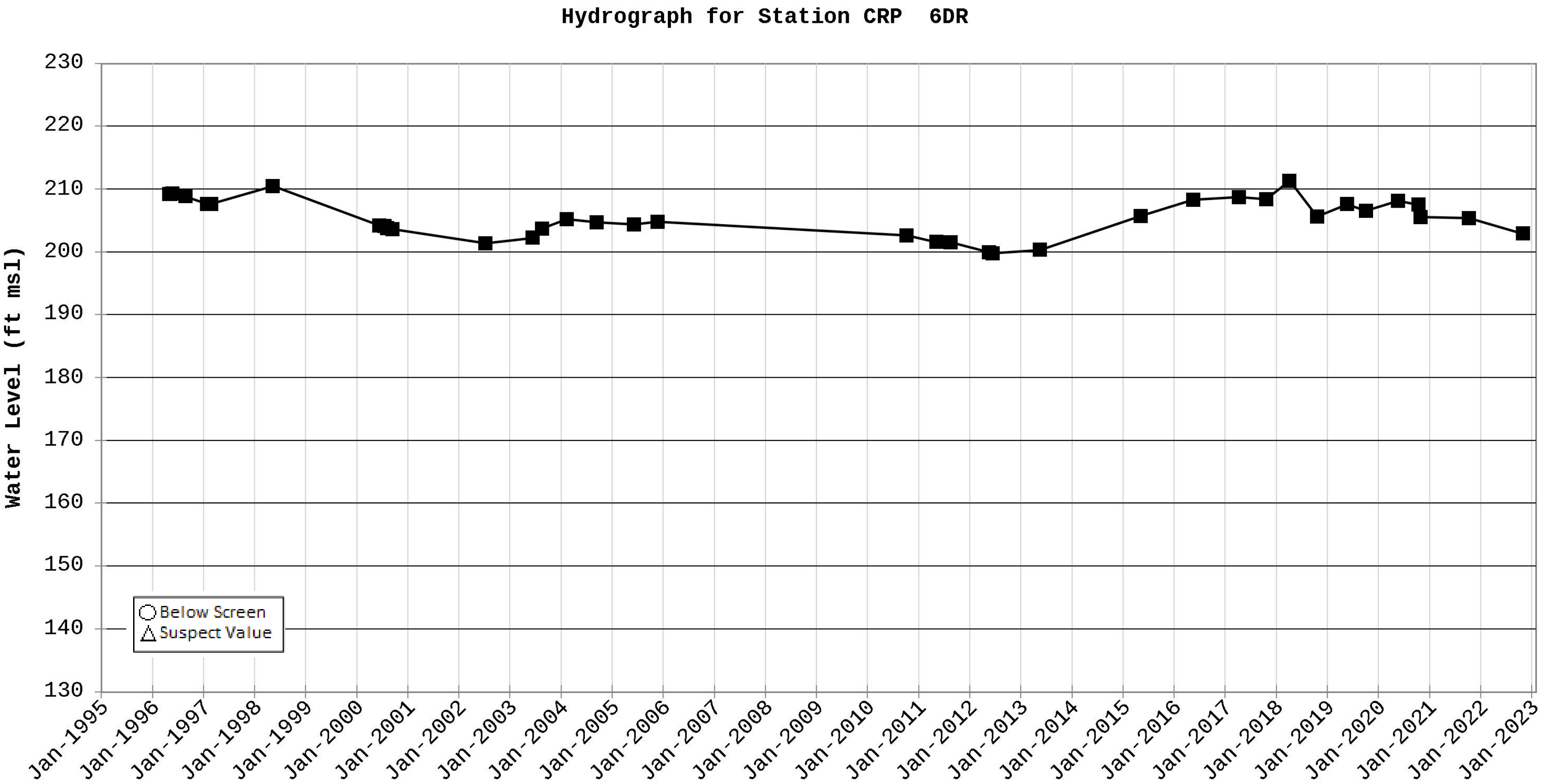

Hydrograph for Station CRP 6DR
Water Level (ft msl)
230
220
210
200
190
180
170
160
150
140
130
Jan-1995
Jan-1996
Jan-1997
Jan-1998
Jan-1999
Jan-2000
Jan-2001
Jan-2002
Jan-2003
Jan-2004
Jan-2005
Jan-2006
Jan-2007
Jan-2008
Jan-2009
Jan-2010
Jan-2011
Jan-2012
Jan-2013
Jan-2014
Jan-2015
Jan-2016
Jan-2017
Jan-2018
Jan-2019
Jan-2020
Jan-2021
Jan-2022
Jan-2023
○ Below Screen
△ Suspect Value

Figure B-4.

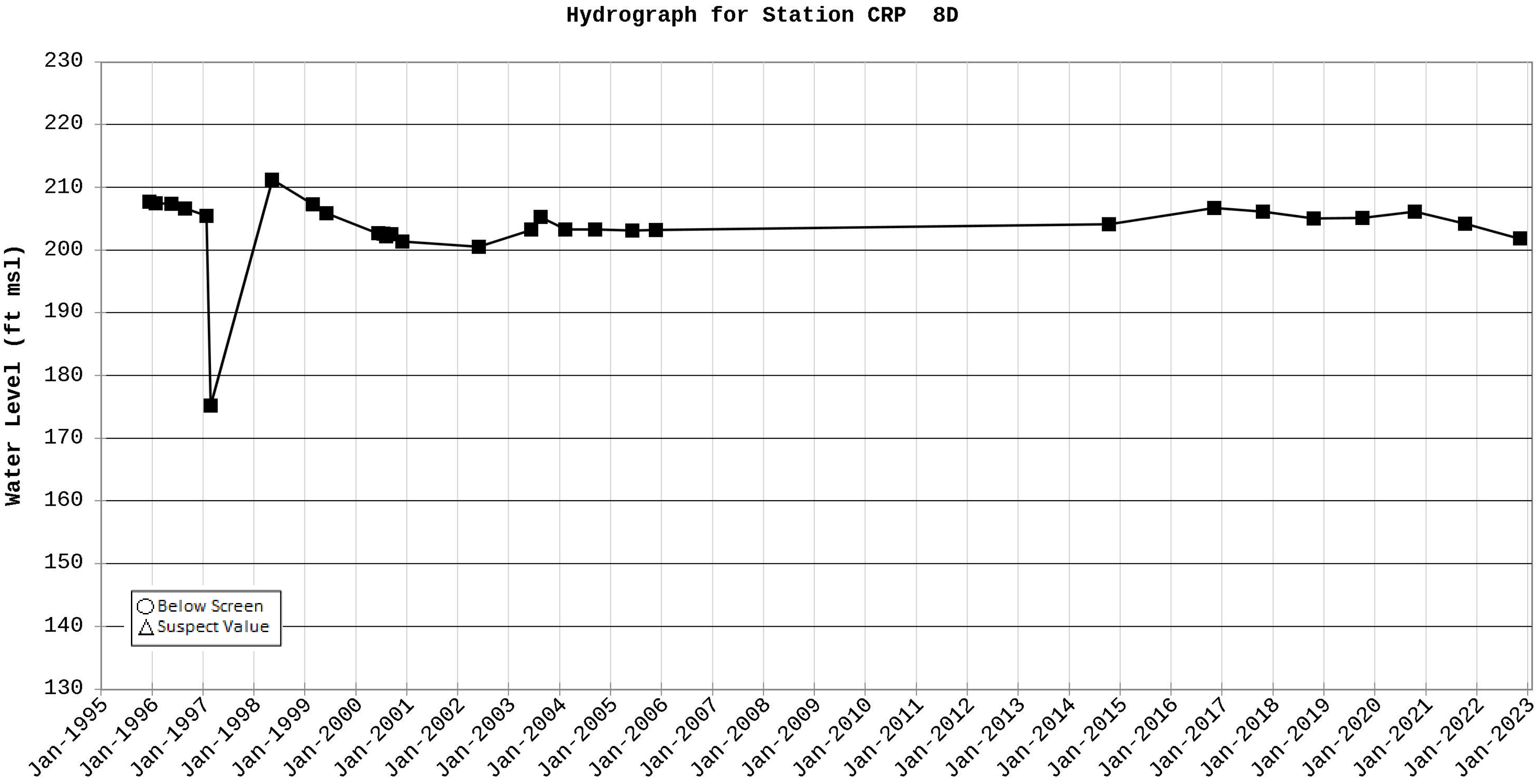

Hydrograph for Station CRP 8D
Water Level (ft msl)
230
220
210
200
190
180
170
160
150
140
130
○ Below Screen
△ Suspect Value
Jan-1995
Jan-1996
Jan-1997
Jan-1998
Jan-1999
Jan-2000
Jan-2001
Jan-2002
Jan-2003
Jan-2004
Jan-2005
Jan-2006
Jan-2007
Jan-2008
Jan-2009
Jan-2010
Jan-2011
Jan-2012
Jan-2013
Jan-2014
Jan-2015
Jan-2016
Jan-2017
Jan-2018
Jan-2019
Jan-2020
Jan-2021
Jan-2022
Jan-2023

Figure B-5.

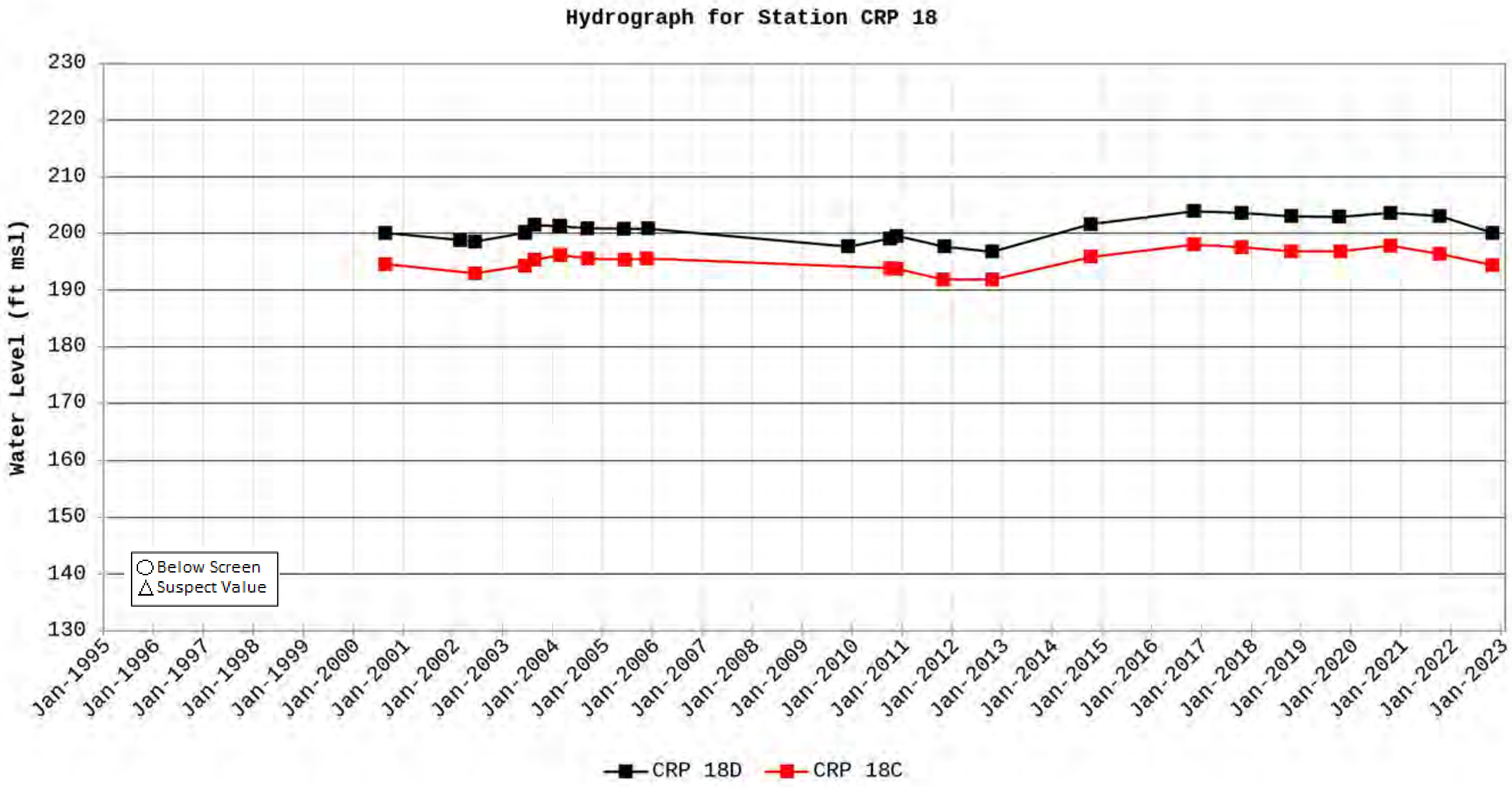

Hydrograph for Station CRP 18
Water Level (ft msl)
230
220
210
200
190
180
170
160
150
140
130
○ Below Screen
△ Suspect Value
Jan-1995
Jan-1996
Jan-1997
Jan-1998
Jan-1999
Jan-2000
Jan-2001
Jan-2002
Jan-2003
Jan-2004
Jan-2005
Jan-2006
Jan-2007
Jan-2008
Jan-2009
Jan-2010
Jan-2011
Jan-2012
Jan-2013
Jan-2014
Jan-2015
Jan-2016
Jan-2017
Jan-2018
Jan-2019
Jan-2020
Jan-2021
Jan-2022
Jan-2023
CRP 18D
CRP 18C

Figure B-6.

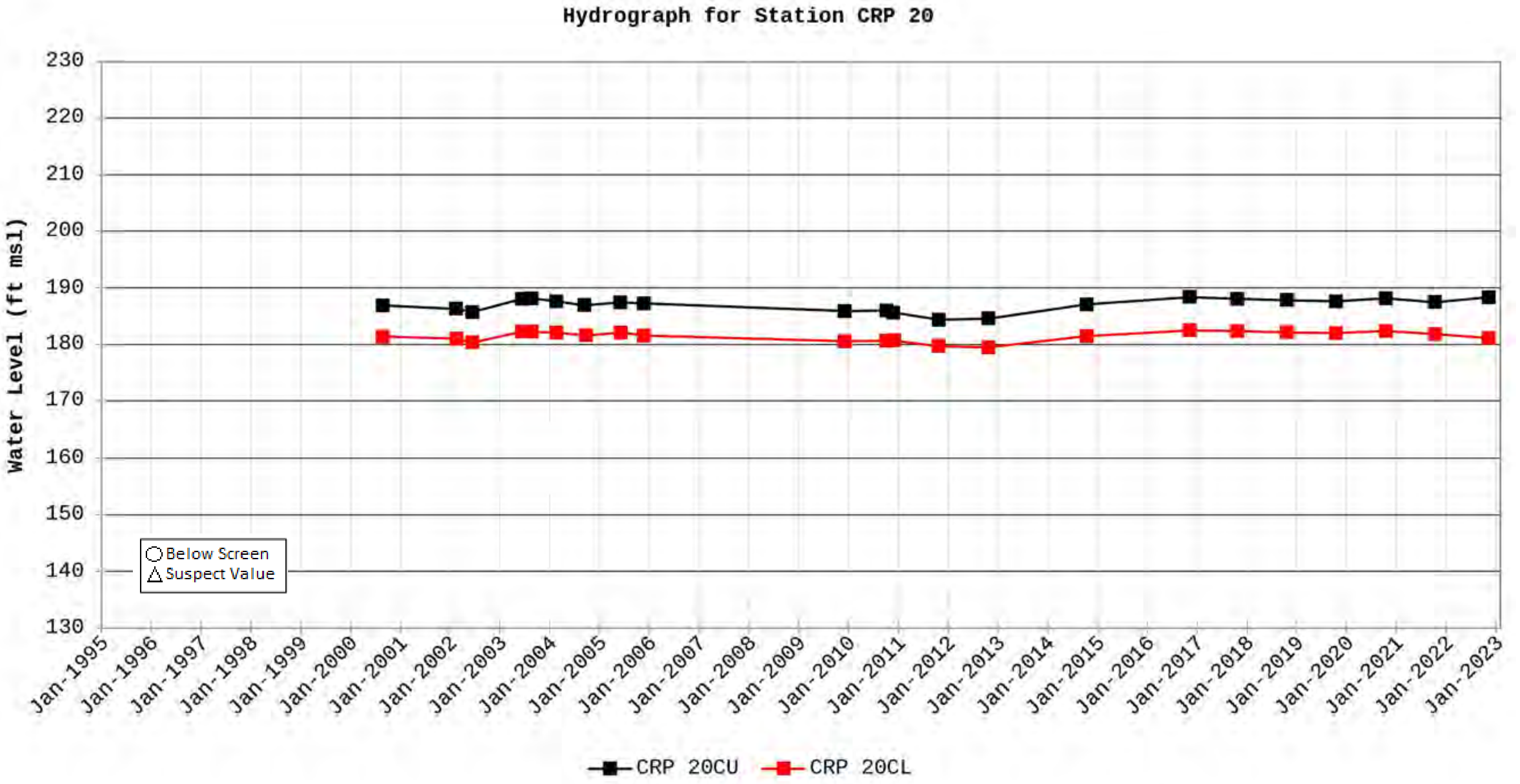

Hydrograph for Station CRP 20
Water Level (ft msl)
230
220
210
200
190
180
170
160
150
140
130
○ Below Screen
△ Suspect Value
Jan-1995
Jan-1996
Jan-1997
Jan-1998
Jan-1999
Jan-2000
Jan-2001
Jan-2002
Jan-2003
Jan-2004
Jan-2005
Jan-2006
Jan-2007
Jan-2008
Jan-2009
Jan-2010
Jan-2011
Jan-2012
Jan-2013
Jan-2014
Jan-2015
Jan-2016
Jan-2017
Jan-2018
Jan-2019
Jan-2020
Jan-2021
Jan-2022
Jan-2023
CRP 20CU
CRP 20CL

Figure B-7.

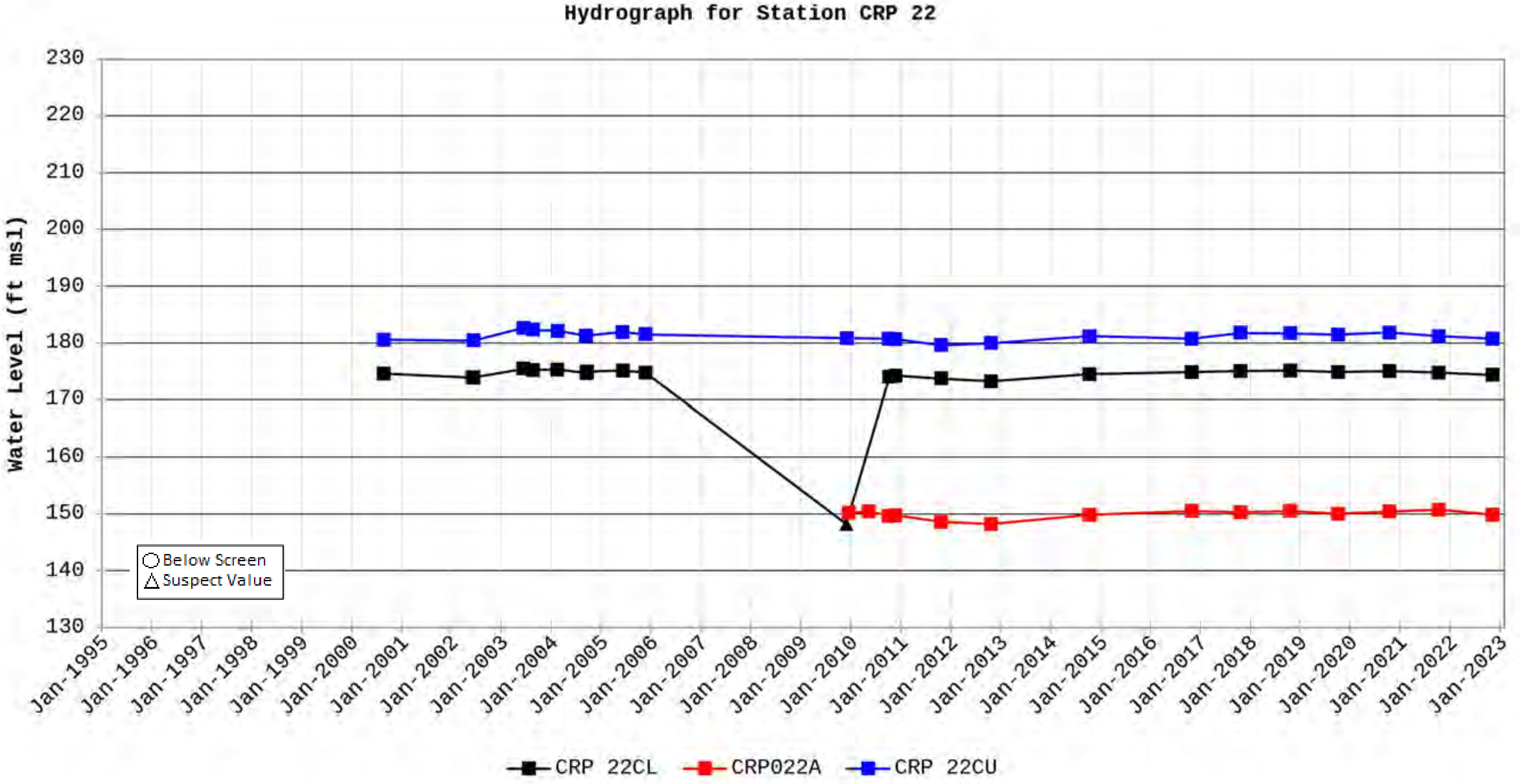

Hydrograph for Station CRP 22
Water Level (ft msl)
230
220
210
200
190
180
170
160
150
140
130
Jan-1995
Jan-1996
Jan-1997
Jan-1998
Jan-1999
Jan-2000
Jan-2001
Jan-2002
Jan-2003
Jan-2004
Jan-2005
Jan-2006
Jan-2007
Jan-2008
Jan-2009
Jan-2010
Jan-2011
Jan-2012
Jan-2013
Jan-2014
Jan-2015
Jan-2016
Jan-2017
Jan-2018
Jan-2019
Jan-2020
Jan-2021
Jan-2022
Jan-2023
○ Below Screen
△ Suspect Value
CRP 22CL
CRP022A
CRP 22CU

Figure B-8.

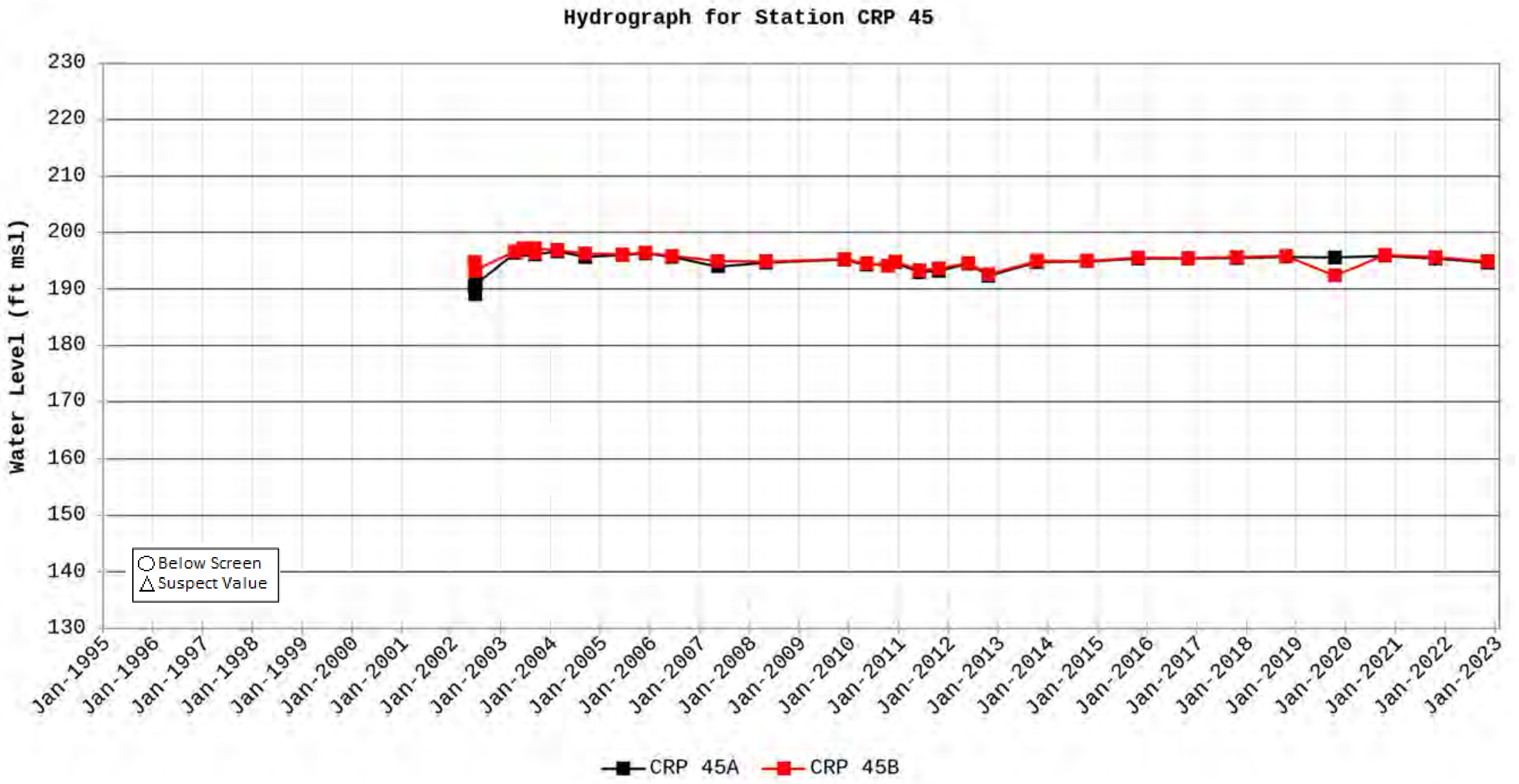

Hydrograph for Station CRP 45
Water Level (ft msl)
230
220
210
200
190
180
170
160
150
140
130
○ Below Screen
△ Suspect Value
Jan-1995
Jan-1996
Jan-1997
Jan-1998
Jan-1999
Jan-2000
Jan-2001
Jan-2002
Jan-2003
Jan-2004
Jan-2005
Jan-2006
Jan-2007
Jan-2008
Jan-2009
Jan-2010
Jan-2011
Jan-2012
Jan-2013
Jan-2014
Jan-2015
Jan-2016
Jan-2017
Jan-2018
Jan-2019
Jan-2020
Jan-2021
Jan-2022
Jan-2023
CRP 45A
CRP 45B

Figure B-9.

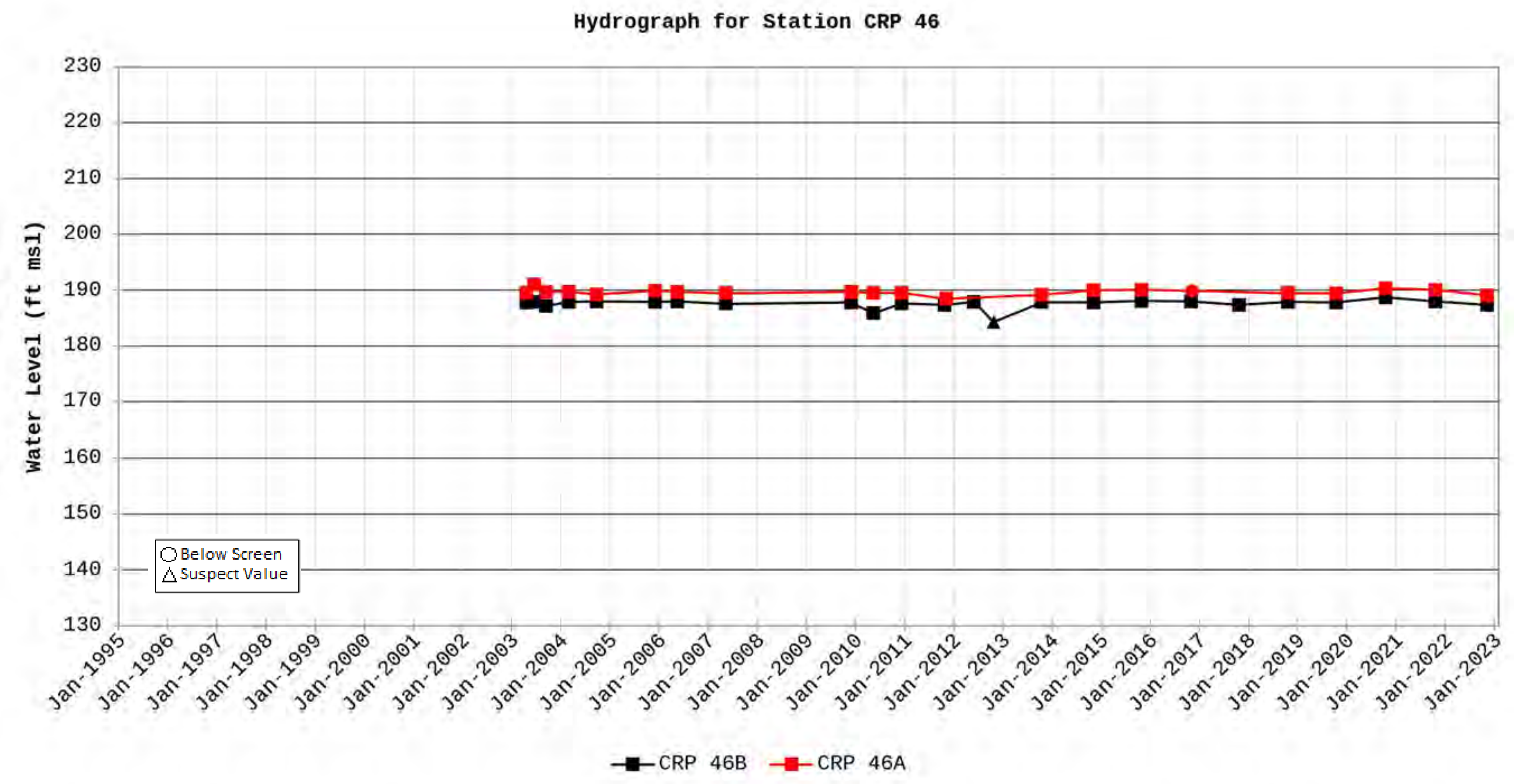

Hydrograph for Station CRP 46
Water Level (ft msl)
230
220
210
200
190
180
170
160
150
140
130
○ Below Screen
△ Suspect Value
Jan-1995
Jan-1996
Jan-1997
Jan-1998
Jan-1999
Jan-2000
Jan-2001
Jan-2002
Jan-2003
Jan-2004
Jan-2005
Jan-2006
Jan-2007
Jan-2008
Jan-2009
Jan-2010
Jan-2011
Jan-2012
Jan-2013
Jan-2014
Jan-2015
Jan-2016
Jan-2017
Jan-2018
Jan-2019
Jan-2020
Jan-2021
Jan-2022
Jan-2023
CRP 46B
CRP 46A

Figure B-10.

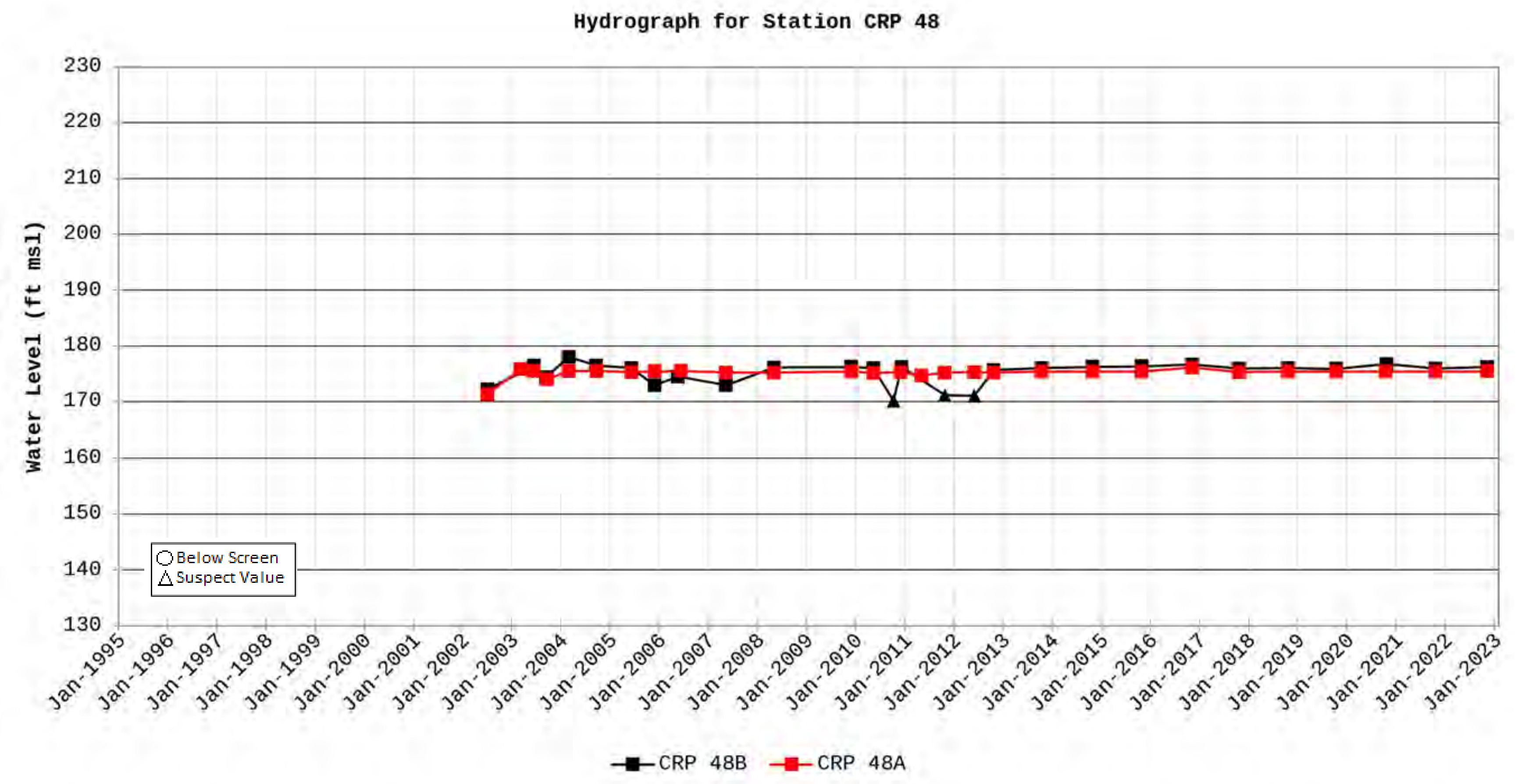

Hydrograph for Station CRP 48
Water Level (ft msl)
230
220
210
200
190
180
170
160
150
140
130
○ Below Screen
△ Suspect Value
Jan-1995
Jan-1996
Jan-1997
Jan-1998
Jan-1999
Jan-2000
Jan-2001
Jan-2002
Jan-2003
Jan-2004
Jan-2005
Jan-2006
Jan-2007
Jan-2008
Jan-2009
Jan-2010
Jan-2011
Jan-2012
Jan-2013
Jan-2014
Jan-2015
Jan-2016
Jan-2017
Jan-2018
Jan-2019
Jan-2020
Jan-2021
Jan-2022
Jan-2023
CRP 48B
CRP 48A

Figure B-11.

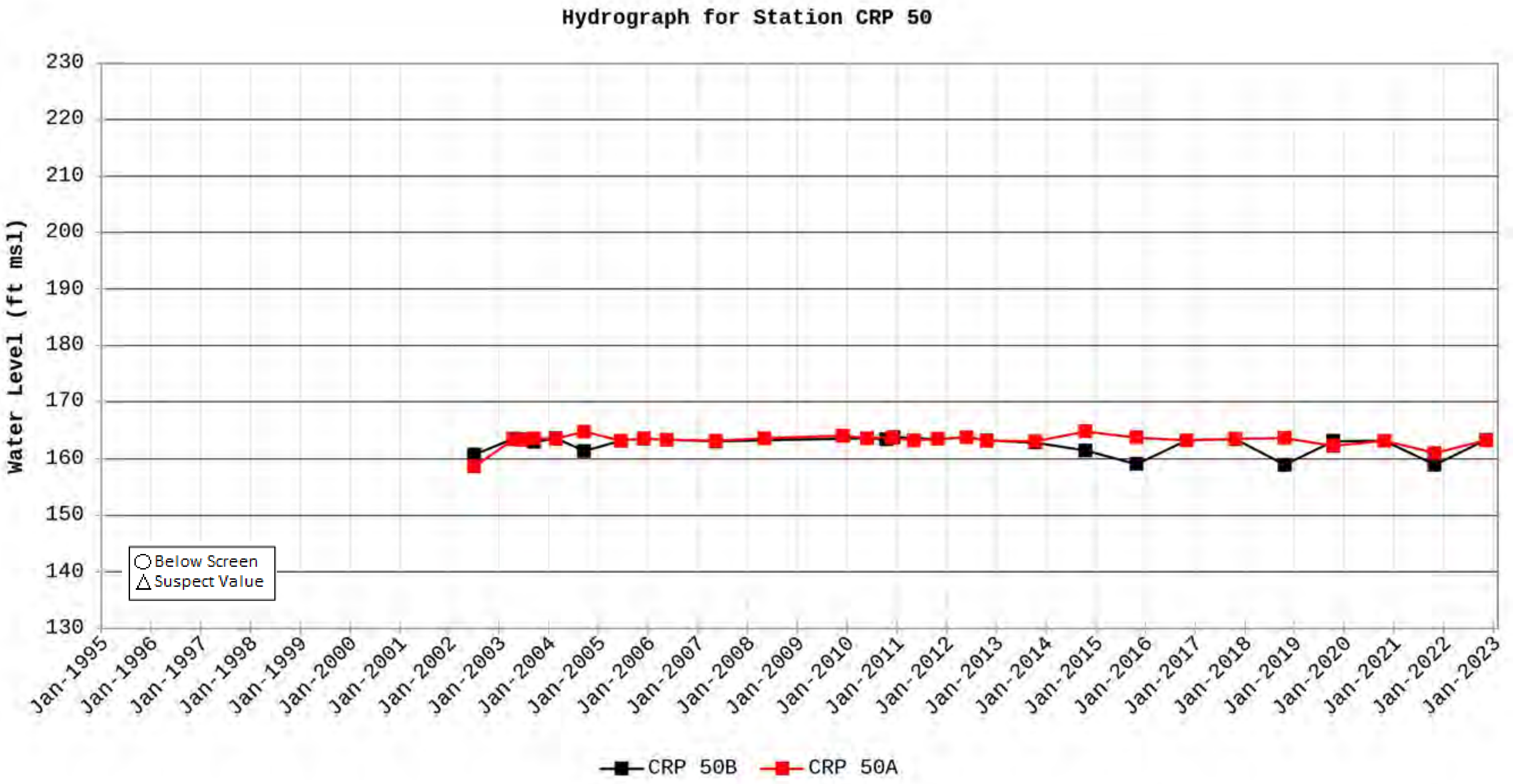

Hydrograph for Station CRP 50
Water Level (ft msl)
230
220
210
200
190
180
170
160
150
140
130
○ Below Screen
△ Suspect Value
Jan-1995
Jan-1996
Jan-1997
Jan-1998
Jan-1999
Jan-2000
Jan-2001
Jan-2002
Jan-2003
Jan-2004
Jan-2005
Jan-2006
Jan-2007
Jan-2008
Jan-2009
Jan-2010
Jan-2011
Jan-2012
Jan-2013
Jan-2014
Jan-2015
Jan-2016
Jan-2017
Jan-2018
Jan-2019
Jan-2020
Jan-2021
Jan-2022
Jan-2023
CRP 50B
CRP 50A

Figure B-12.

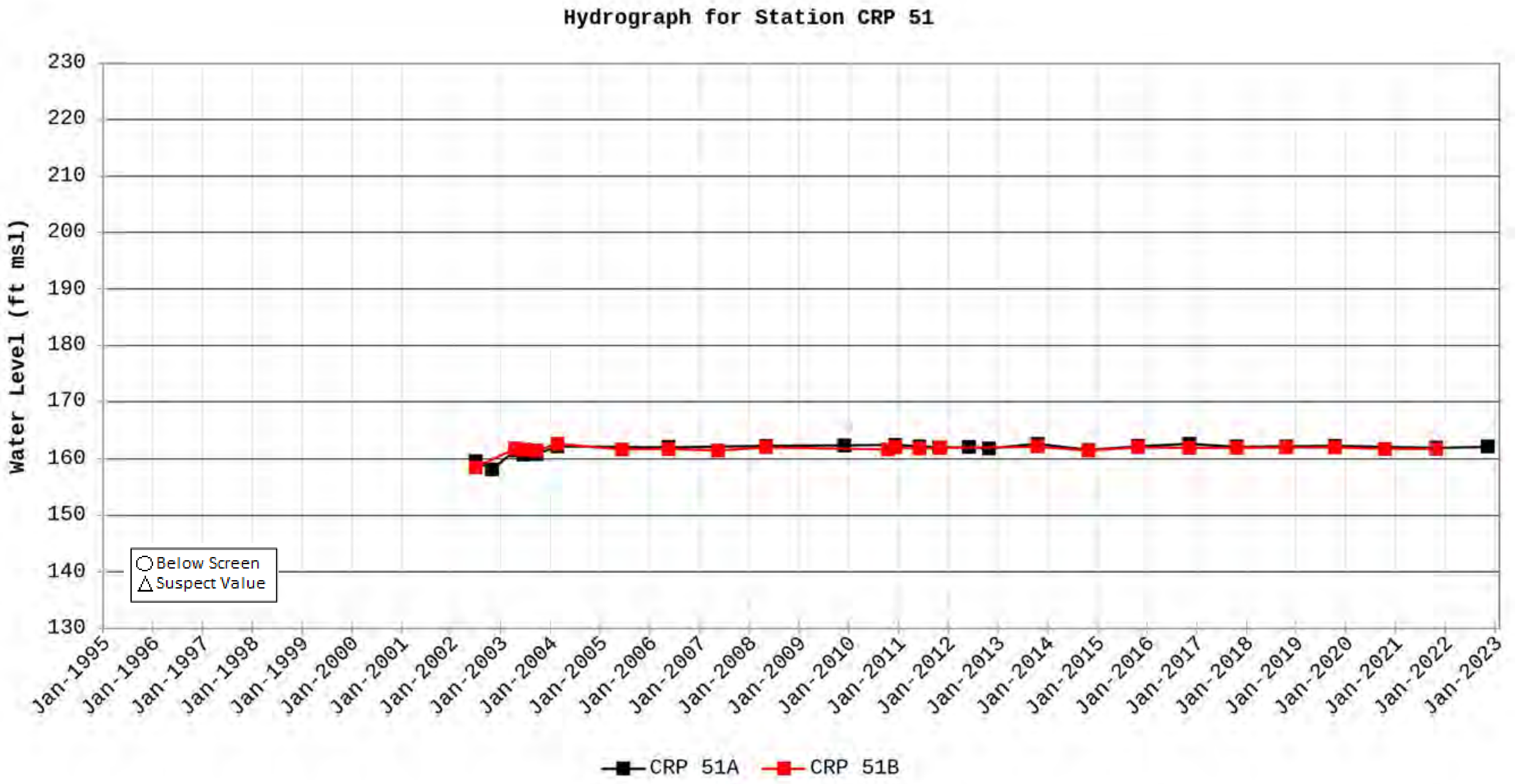

Hydrograph for Station CRP 51
Water Level (ft msl)
230
220
210
200
190
180
170
160
150
140
130
Jan-1995
Jan-1996
Jan-1997
Jan-1998
Jan-1999
Jan-2000
Jan-2001
Jan-2002
Jan-2003
Jan-2004
Jan-2005
Jan-2006
Jan-2007
Jan-2008
Jan-2009
Jan-2010
Jan-2011
Jan-2012
Jan-2013
Jan-2014
Jan-2015
Jan-2016
Jan-2017
Jan-2018
Jan-2019
Jan-2020
Jan-2021
Jan-2022
Jan-2023
○ Below Screen
△ Suspect Value
CRP 51A
CRP 51B

Figure B-13.

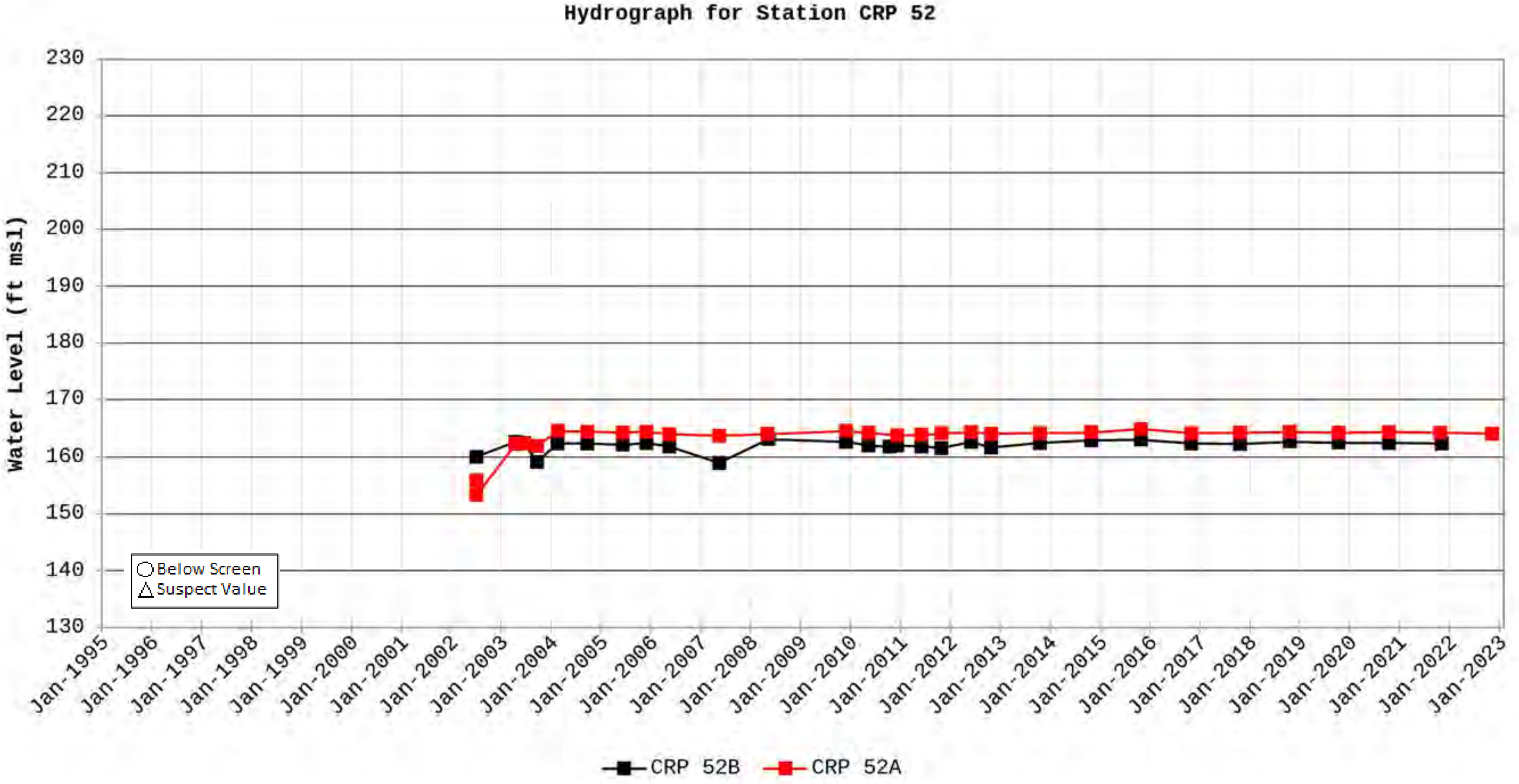

Hydrograph for Station CRP 52
Water Level (ft msl)
230
220
210
200
190
180
170
160
150
140
130
○ Below Screen
△ Suspect Value
Jan-1995
Jan-1996
Jan-1997
Jan-1998
Jan-1999
Jan-2000
Jan-2001
Jan-2002
Jan-2003
Jan-2004
Jan-2005
Jan-2006
Jan-2007
Jan-2008
Jan-2009
Jan-2010
Jan-2011
Jan-2012
Jan-2013
Jan-2014
Jan-2015
Jan-2016
Jan-2017
Jan-2018
Jan-2019
Jan-2020
Jan-2021
Jan-2022
Jan-2023
CRP 52B
CRP 52A

Figure B-14.

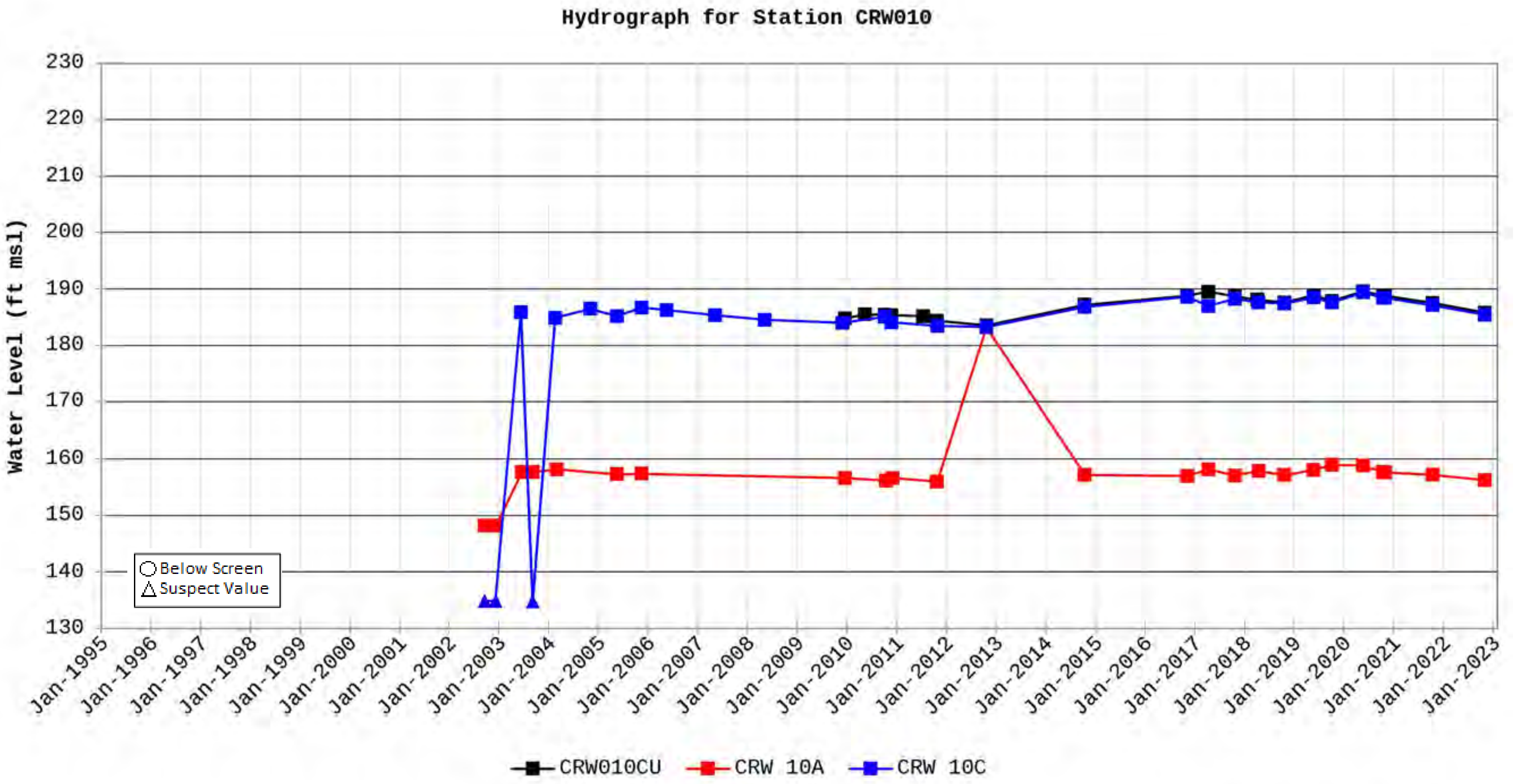
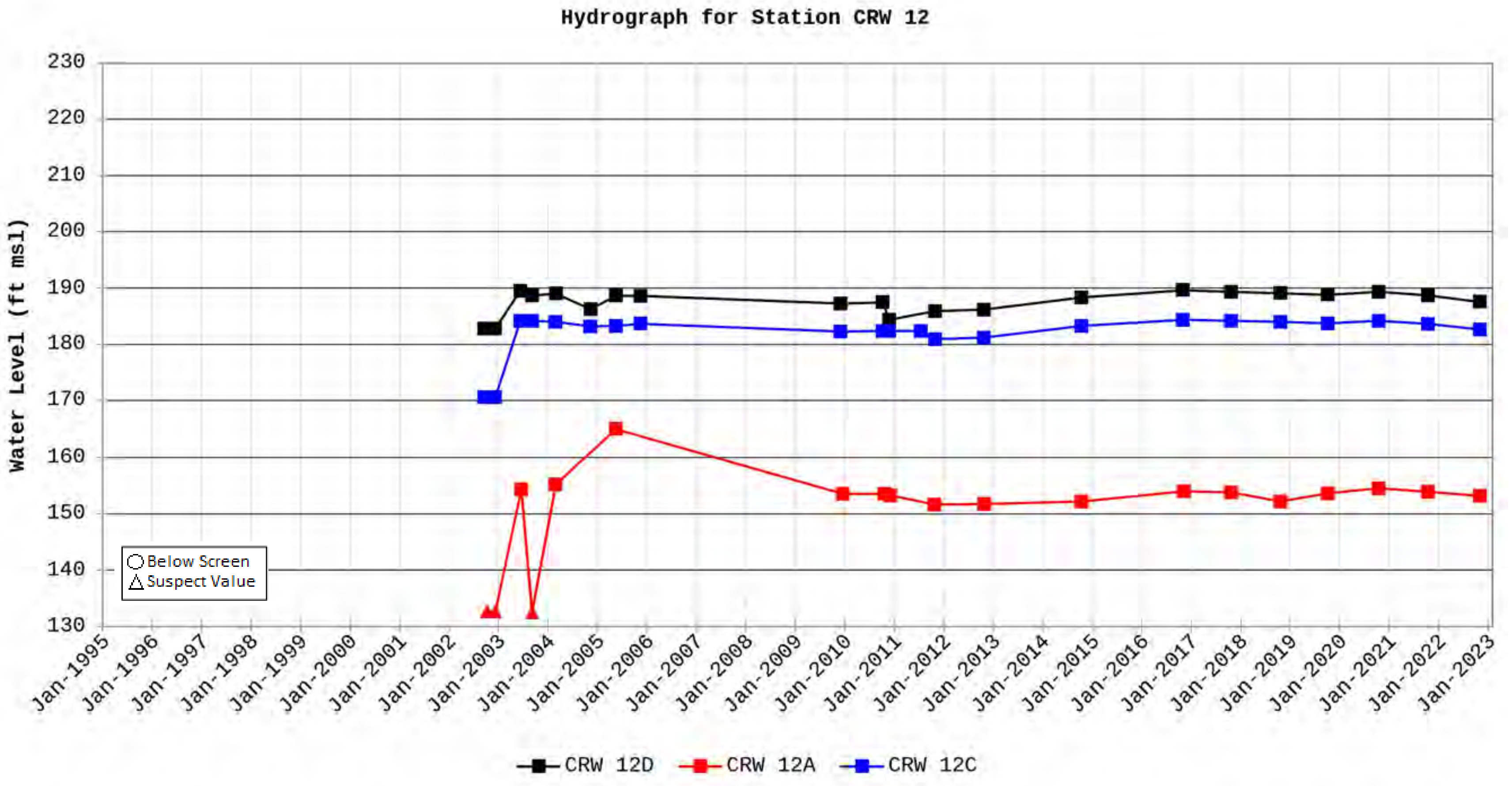

Hydrograph for Station CRW010
Water Level (ft msl)
230
220
210
200
190
180
170
160
150
140
130
○ Below Screen
△ Suspect Value
Jan-1995
Jan-1996
Jan-1997
Jan-1998
Jan-1999
Jan-2000
Jan-2001
Jan-2002
Jan-2003
Jan-2004
Jan-2005
Jan-2006
Jan-2007
Jan-2008
Jan-2009
Jan-2010
Jan-2011
Jan-2012
Jan-2013
Jan-2014
Jan-2015
Jan-2016
Jan-2017
Jan-2018
Jan-2019
Jan-2020
Jan-2021
Jan-2022
Jan-2023
CRW010CU
CRW 10A
CRW 10C

Figure B-15.


Hydrograph for Station CRW 12
Water Level (ft msl)
230
220
210
200
190
180
170
160
150
140
130
Jan-1995
Jan-1996
Jan-1997
Jan-1998
Jan-1999
Jan-2000
Jan-2001
Jan-2002
Jan-2003
Jan-2004
Jan-2005
Jan-2006
Jan-2007
Jan-2008
Jan-2009
Jan-2010
Jan-2011
Jan-2012
Jan-2013
Jan-2014
Jan-2015
Jan-2016
Jan-2017
Jan-2018
Jan-2019
Jan-2020
Jan-2021
Jan-2022
Jan-2023
○ Below Screen
△ Suspect Value
CRW 12D
CRW 12A
CRW 12C

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APPENDIX C

Time-Series Plots

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Figure C-1.

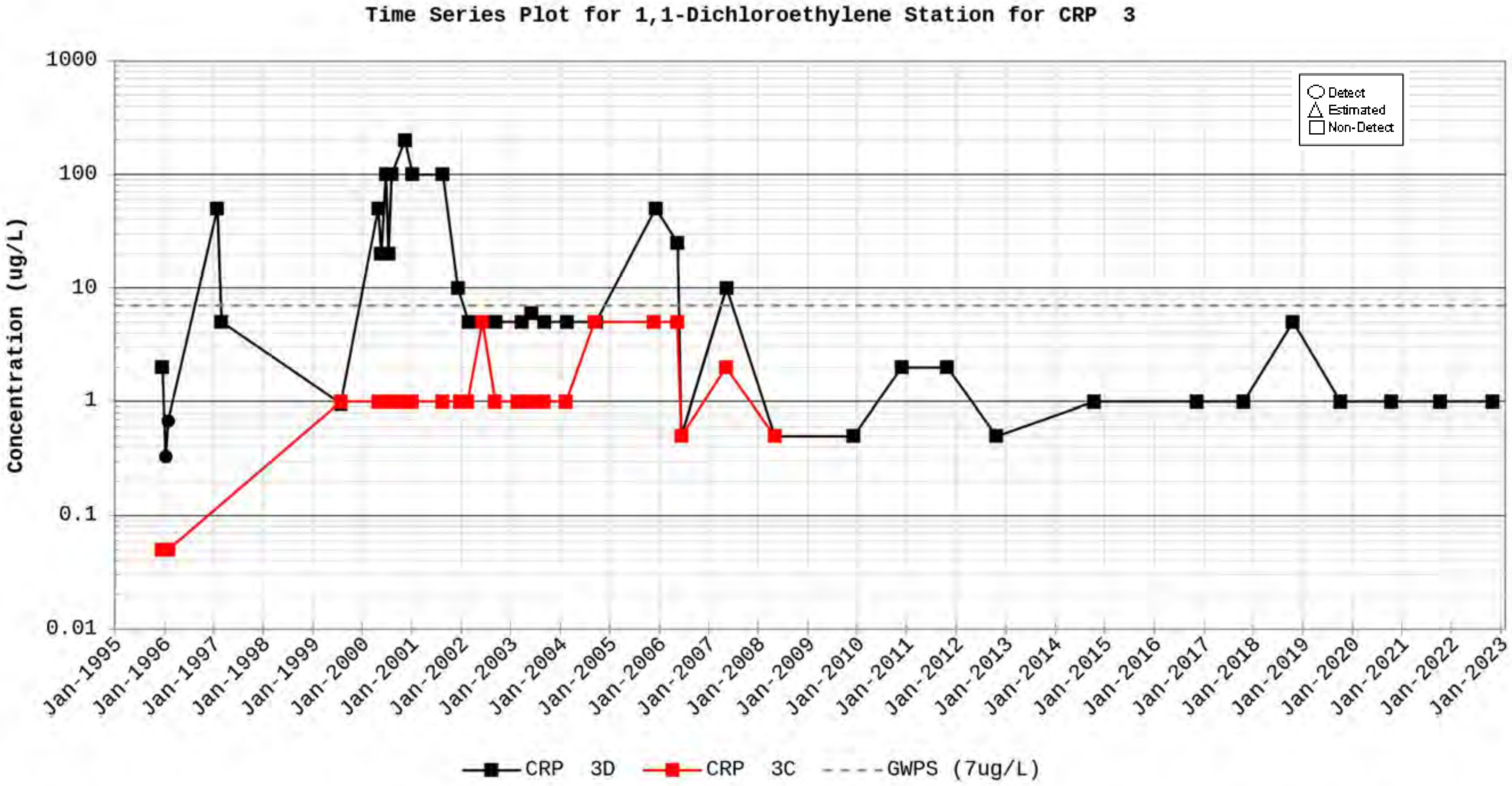

Time Series Plot for 1,1-Dichloroethylene Station for CRP 3
Concentration (ug/L)
1000
100
10
1
0.1
0.01
○ Detect
△ Estimated
☐ Non-Detect
Jan-1995
Jan-1996
Jan-1997
Jan-1998
Jan-1999
Jan-2000
Jan-2001
Jan-2002
Jan-2003
Jan-2004
Jan-2005
Jan-2006
Jan-2007
Jan-2008
Jan-2009
Jan-2010
Jan-2011
Jan-2012
Jan-2013
Jan-2014
Jan-2015
Jan-2016
Jan-2017
Jan-2018
Jan-2019
Jan-2020
Jan-2021
Jan-2022
Jan-2023
CRP 3D
CRP 3C
GWPS (7ug/L)

Figure C-2.

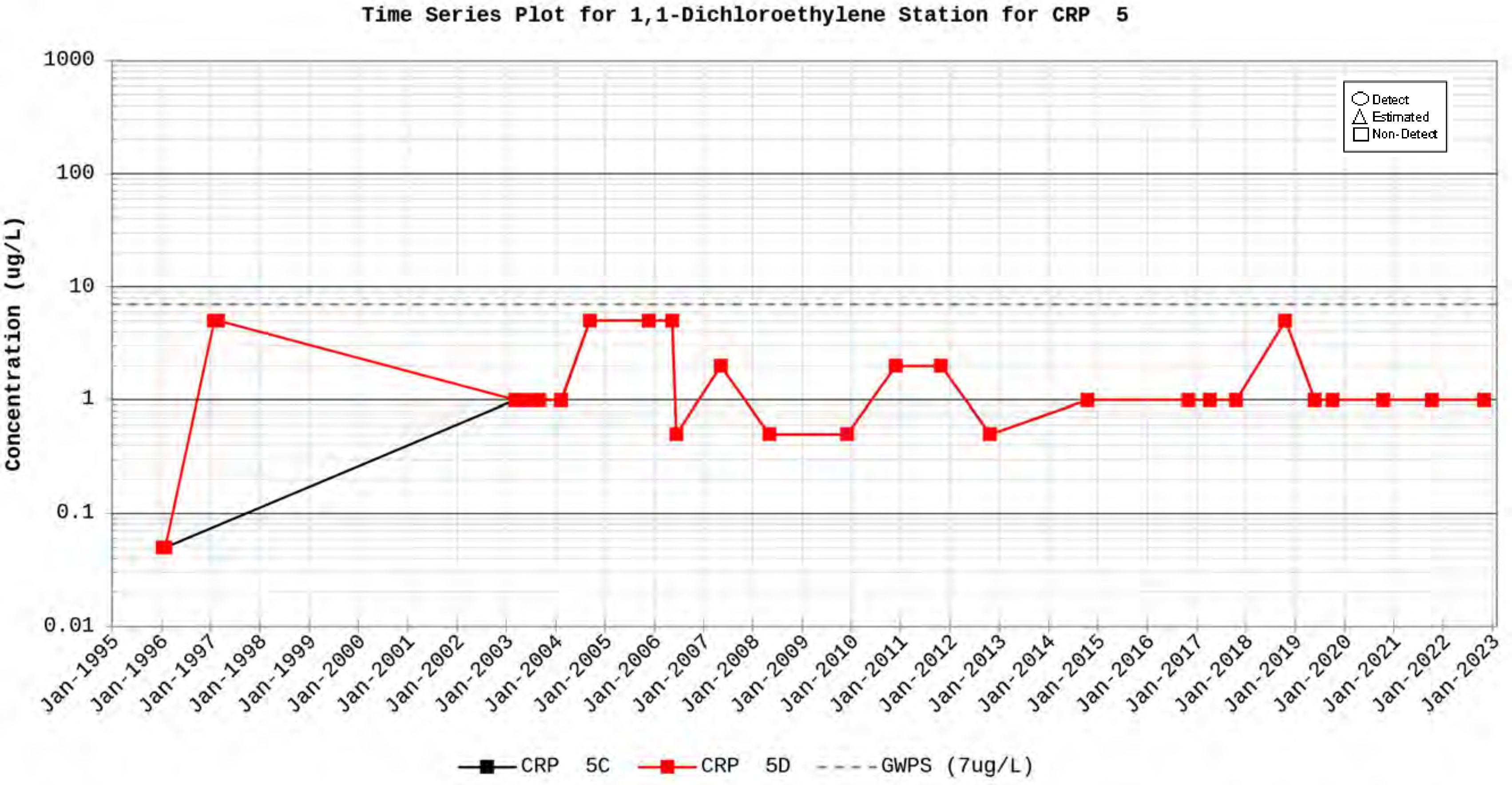

Time Series Plot for 1,1-Dichloroethylene Station for CRP 5
Concentration (ug/L)
1000
100
10
1
0.1
0.01
Jan-1995
Jan-1996
Jan-1997
Jan-1998
Jan-1999
Jan-2000
Jan-2001
Jan-2002
Jan-2003
Jan-2004
Jan-2005
Jan-2006
Jan-2007
Jan-2008
Jan-2009
Jan-2010
Jan-2011
Jan-2012
Jan-2013
Jan-2014
Jan-2015
Jan-2016
Jan-2017
Jan-2018
Jan-2019
Jan-2020
Jan-2021
Jan-2022
Jan-2023
○ Detect
△ Estimated
☐ Non-Detect
CRP 5C
CRP 5D
GWPS (7ug/L)

Figure C-3.

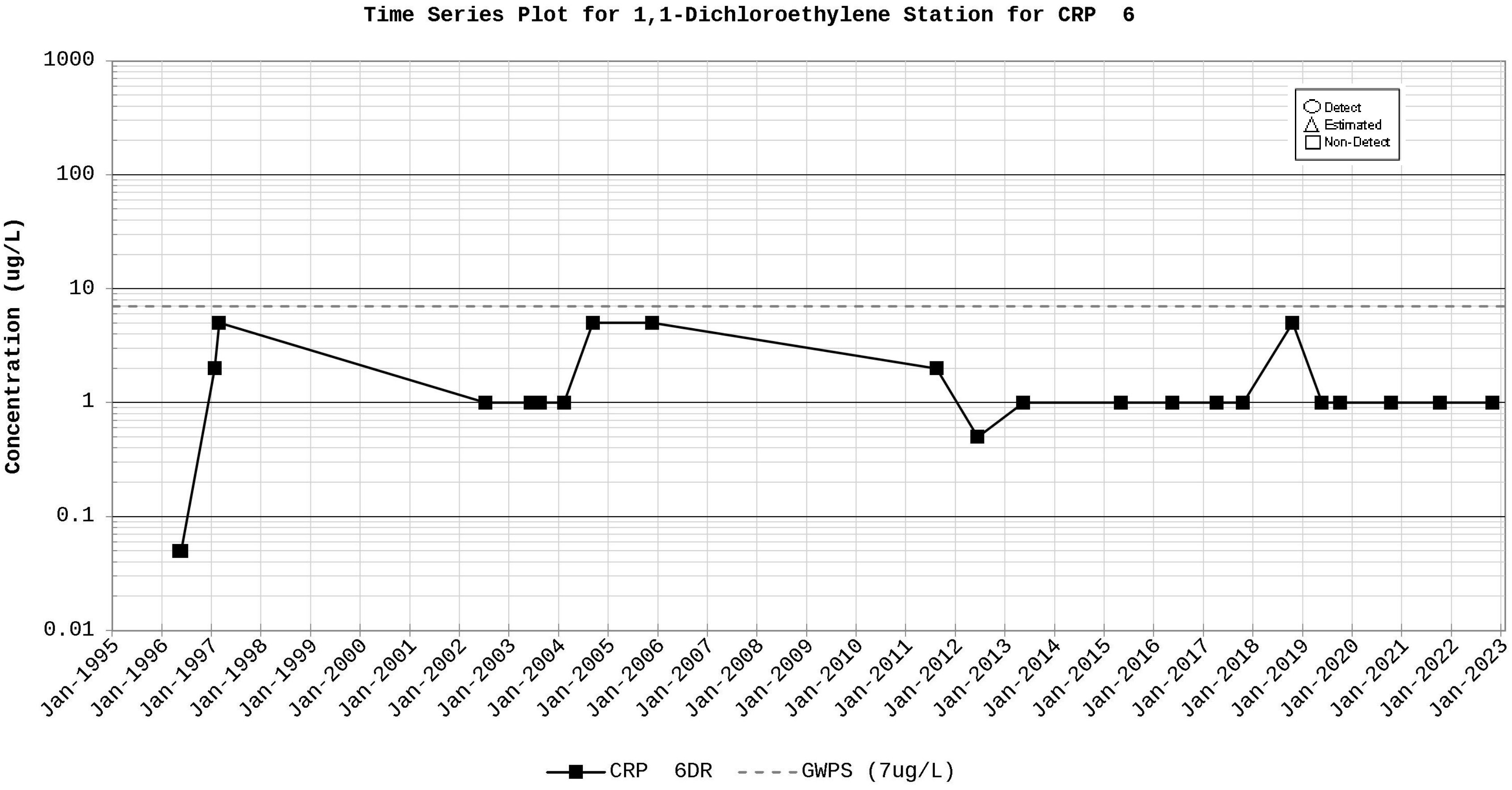

Time Series Plot for 1,1-Dichloroethylene Station for CRP 6
Concentration (ug/L)
1000
100
10
1
0.1
0.01
Jan-1995
Jan-1996
Jan-1997
Jan-1998
Jan-1999
Jan-2000
Jan-2001
Jan-2002
Jan-2003
Jan-2004
Jan-2005
Jan-2006
Jan-2007
Jan-2008
Jan-2009
Jan-2010
Jan-2011
Jan-2012
Jan-2013
Jan-2014
Jan-2015
Jan-2016
Jan-2017
Jan-2018
Jan-2019
Jan-2020
Jan-2021
Jan-2022
Jan-2023
○ Detect
△ Estimated
☐ Non-Detect
CRP 6DR
GWPS (7ug/L)

Figure C-4.

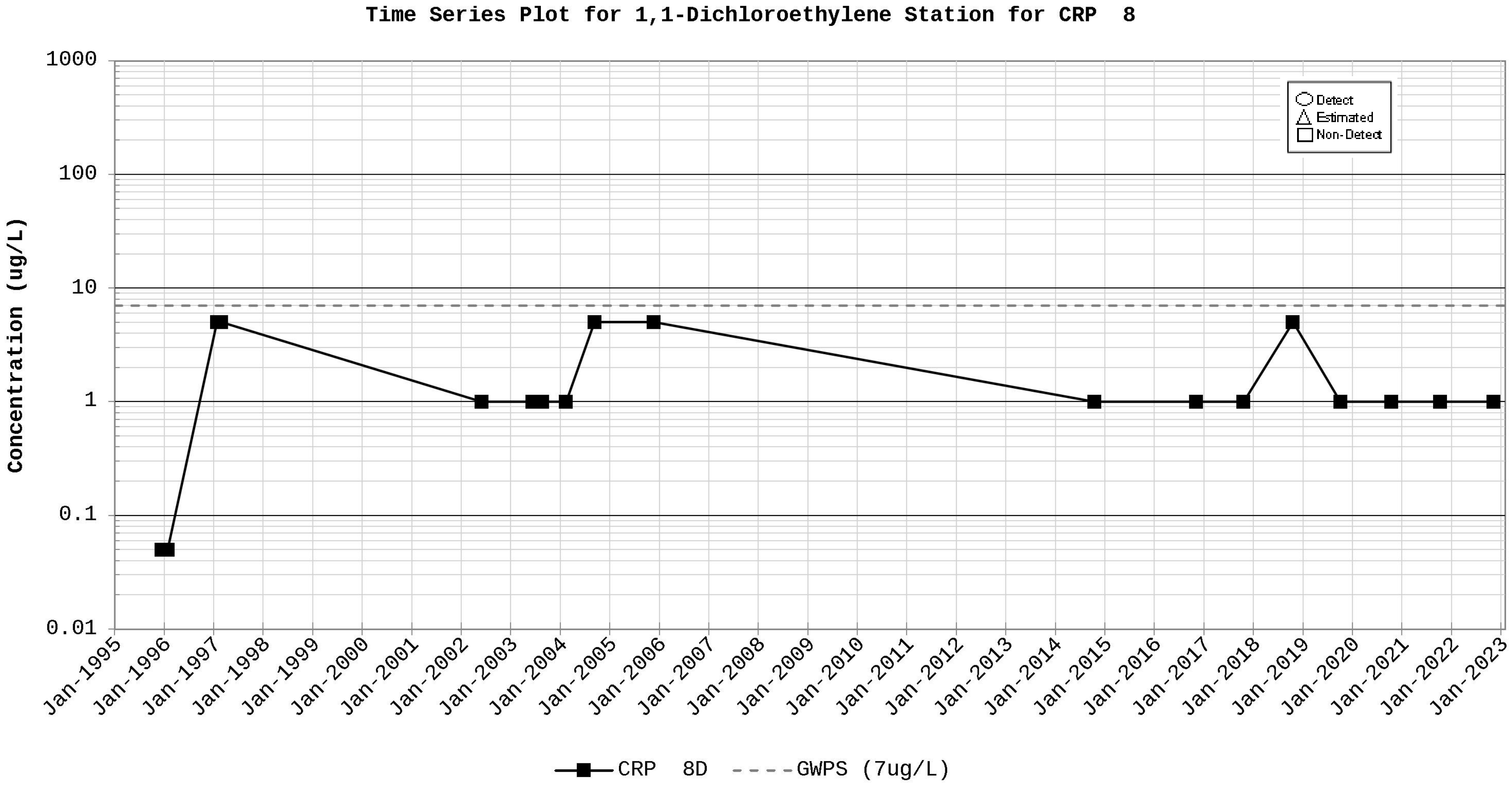

Time Series Plot for 1,1-Dichloroethylene Station for CRP 8
Concentration (ug/L)
1000
100
10
1
0.1
0.01
Jan-1995
Jan-1996
Jan-1997
Jan-1998
Jan-1999
Jan-2000
Jan-2001
Jan-2002
Jan-2003
Jan-2004
Jan-2005
Jan-2006
Jan-2007
Jan-2008
Jan-2009
Jan-2010
Jan-2011
Jan-2012
Jan-2013
Jan-2014
Jan-2015
Jan-2016
Jan-2017
Jan-2018
Jan-2019
Jan-2020
Jan-2021
Jan-2022
Jan-2023
○ Detect
△ Estimated
☐ Non-Detect
CRP 8D
GWPS (7ug/L)

Figure C-5.

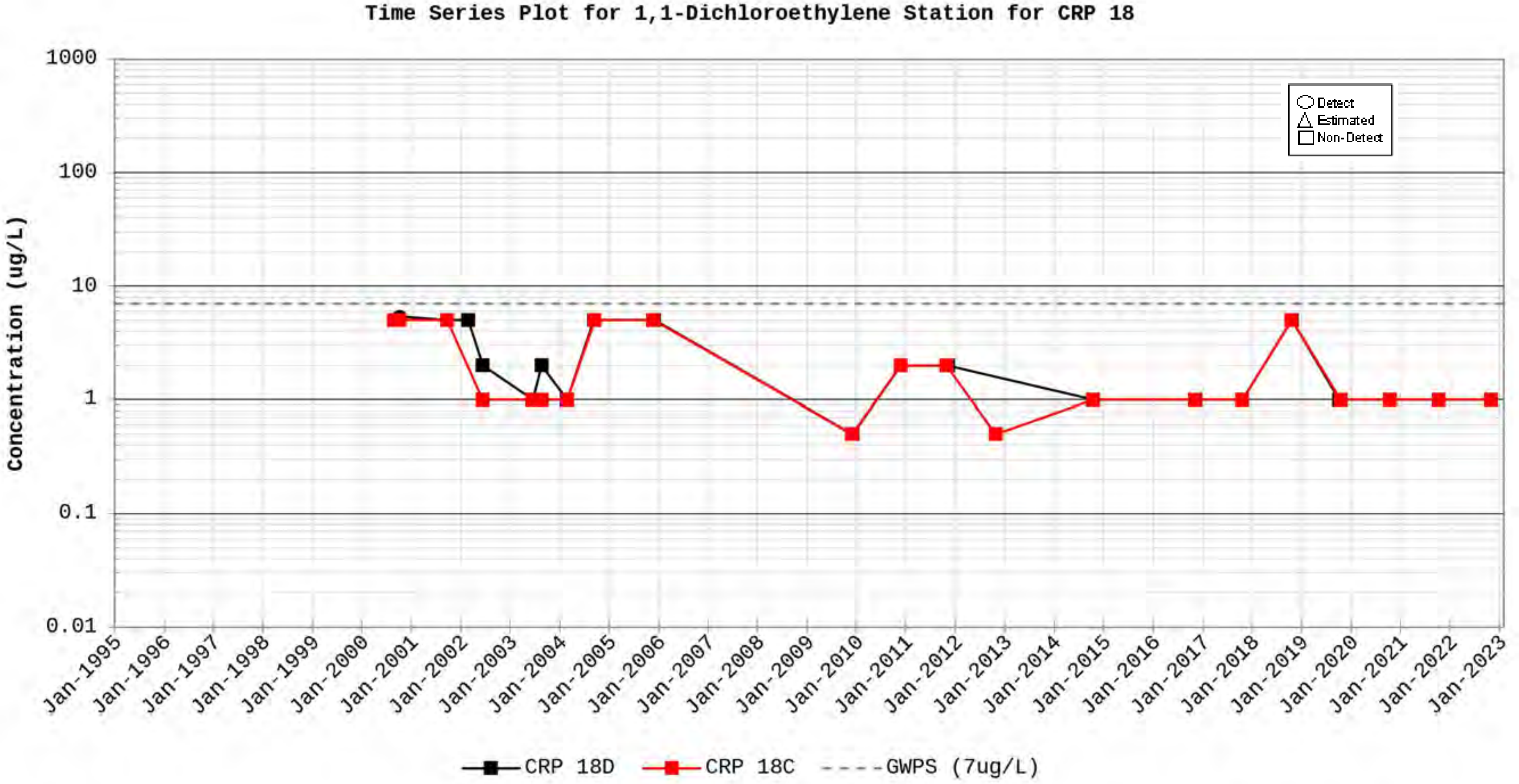

Time Series Plot for 1,1-Dichloroethylene Station for CRP 18
Concentration (ug/L)
1000
100
10
1
0.1
0.01
Jan-1995
Jan-1996
Jan-1997
Jan-1998
Jan-1999
Jan-2000
Jan-2001
Jan-2002
Jan-2003
Jan-2004
Jan-2005
Jan-2006
Jan-2007
Jan-2008
Jan-2009
Jan-2010
Jan-2011
Jan-2012
Jan-2013
Jan-2014
Jan-2015
Jan-2016
Jan-2017
Jan-2018
Jan-2019
Jan-2020
Jan-2021
Jan-2022
Jan-2023
Detect
Estimated
Non-Detect
CRP 18D
CRP 18C
GWPS (7ug/L)

Figure C-6.

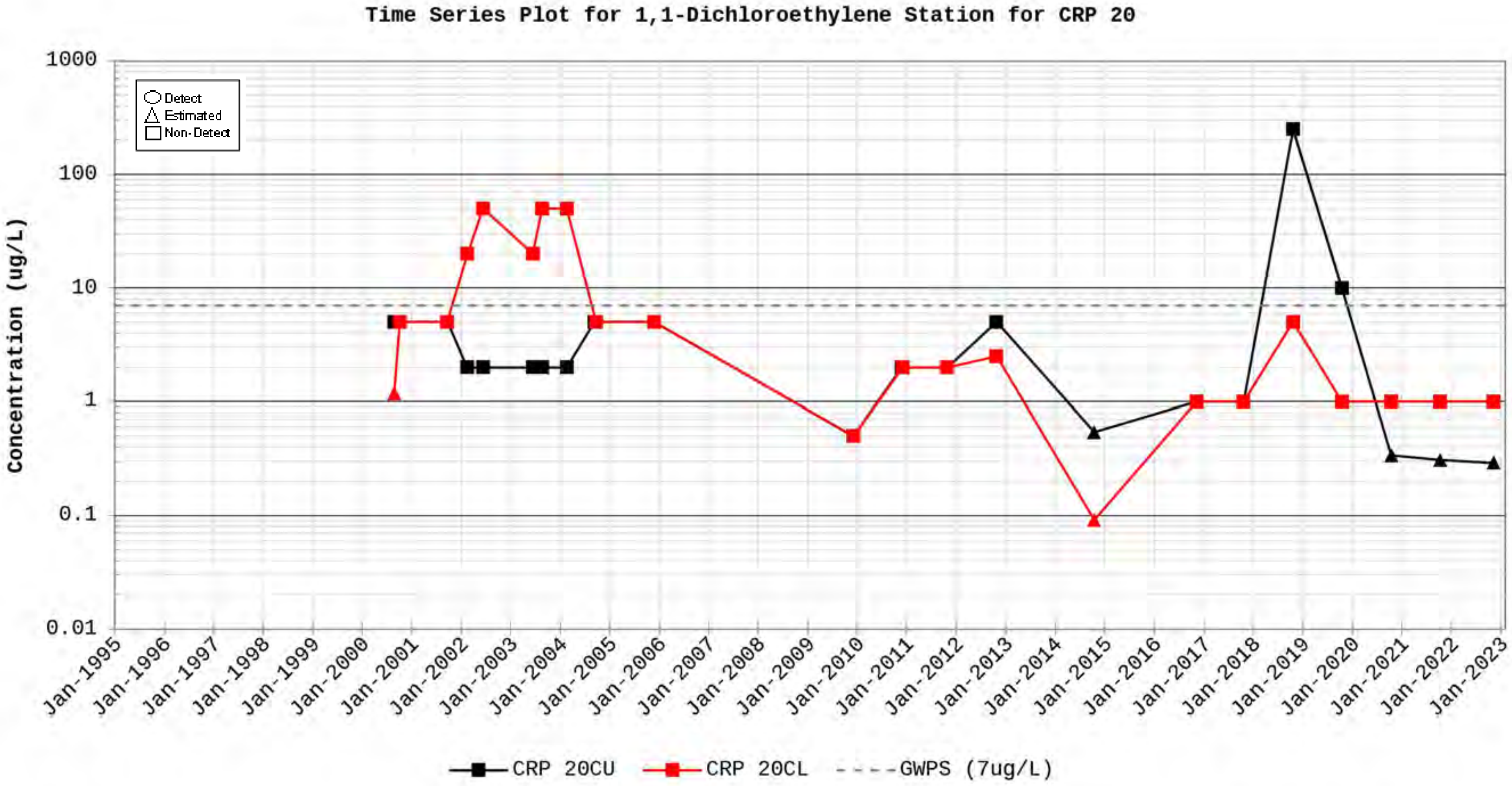

Time Series Plot for 1,1-Dichloroethylene Station for CRP 20
Concentration (ug/L)
1000
100
10
1
0.1
0.01
Detect
Estimated
Non-Detect
Jan-1995
Jan-1996
Jan-1997
Jan-1998
Jan-1999
Jan-2000
Jan-2001
Jan-2002
Jan-2003
Jan-2004
Jan-2005
Jan-2006
Jan-2007
Jan-2008
Jan-2009
Jan-2010
Jan-2011
Jan-2012
Jan-2013
Jan-2014
Jan-2015
Jan-2016
Jan-2017
Jan-2018
Jan-2019
Jan-2020
Jan-2021
Jan-2022
Jan-2023
CRP 20CU
CRP 20CL
GWPS (7ug/L)

Figure C-7.

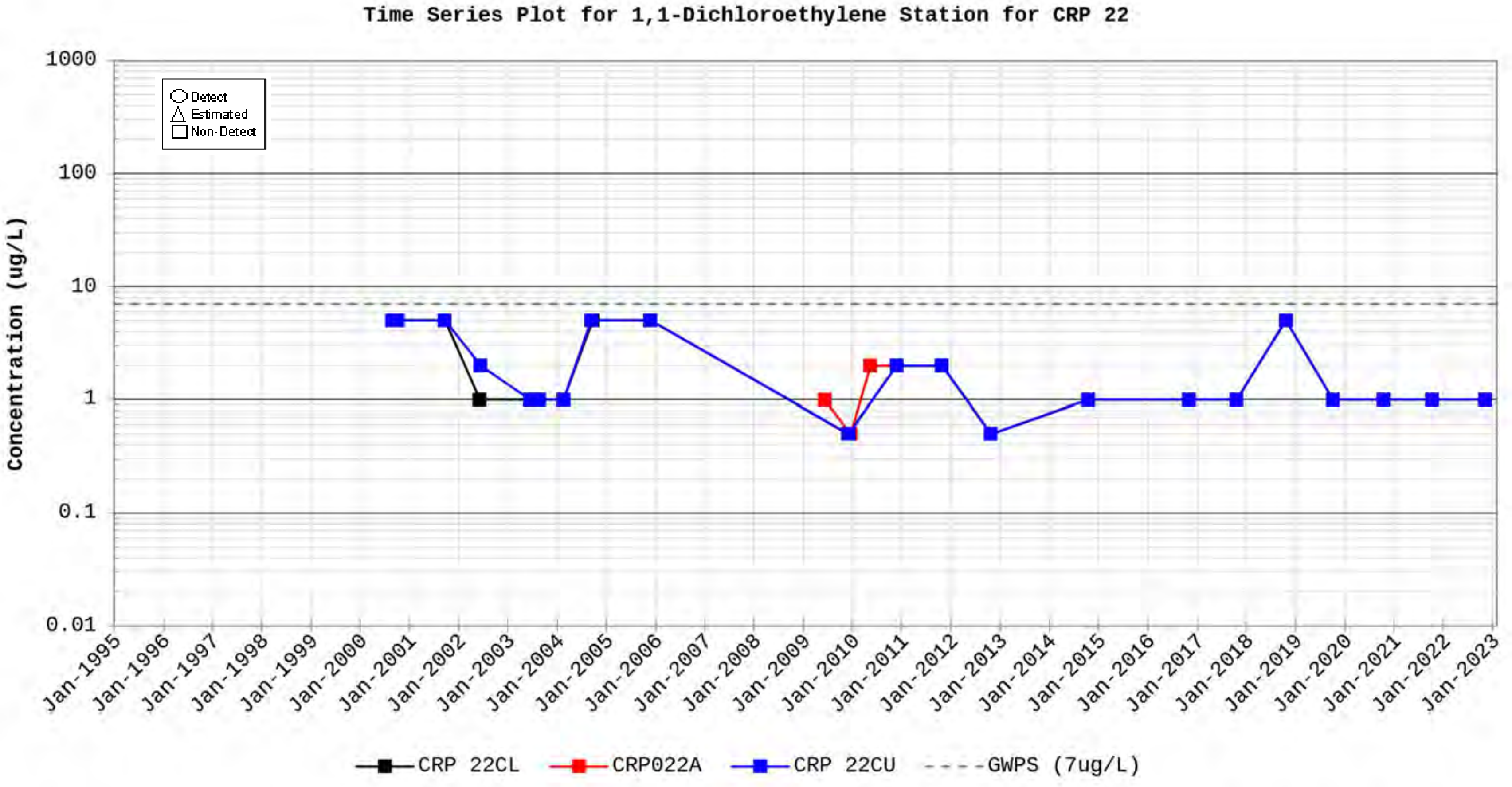

Time Series Plot for 1,1-Dichloroethylene Station for CRP 22
Concentration (ug/L)
1000
100
10
1
0.1
0.01
Detect
Estimated
Non-Detect
Jan-1995
Jan-1996
Jan-1997
Jan-1998
Jan-1999
Jan-2000
Jan-2001
Jan-2002
Jan-2003
Jan-2004
Jan-2005
Jan-2006
Jan-2007
Jan-2008
Jan-2009
Jan-2010
Jan-2011
Jan-2012
Jan-2013
Jan-2014
Jan-2015
Jan-2016
Jan-2017
Jan-2018
Jan-2019
Jan-2020
Jan-2021
Jan-2022
Jan-2023
CRP 22CL
CRP022A
CRP 22CU
GWPS (7ug/L)

Figure C-8.

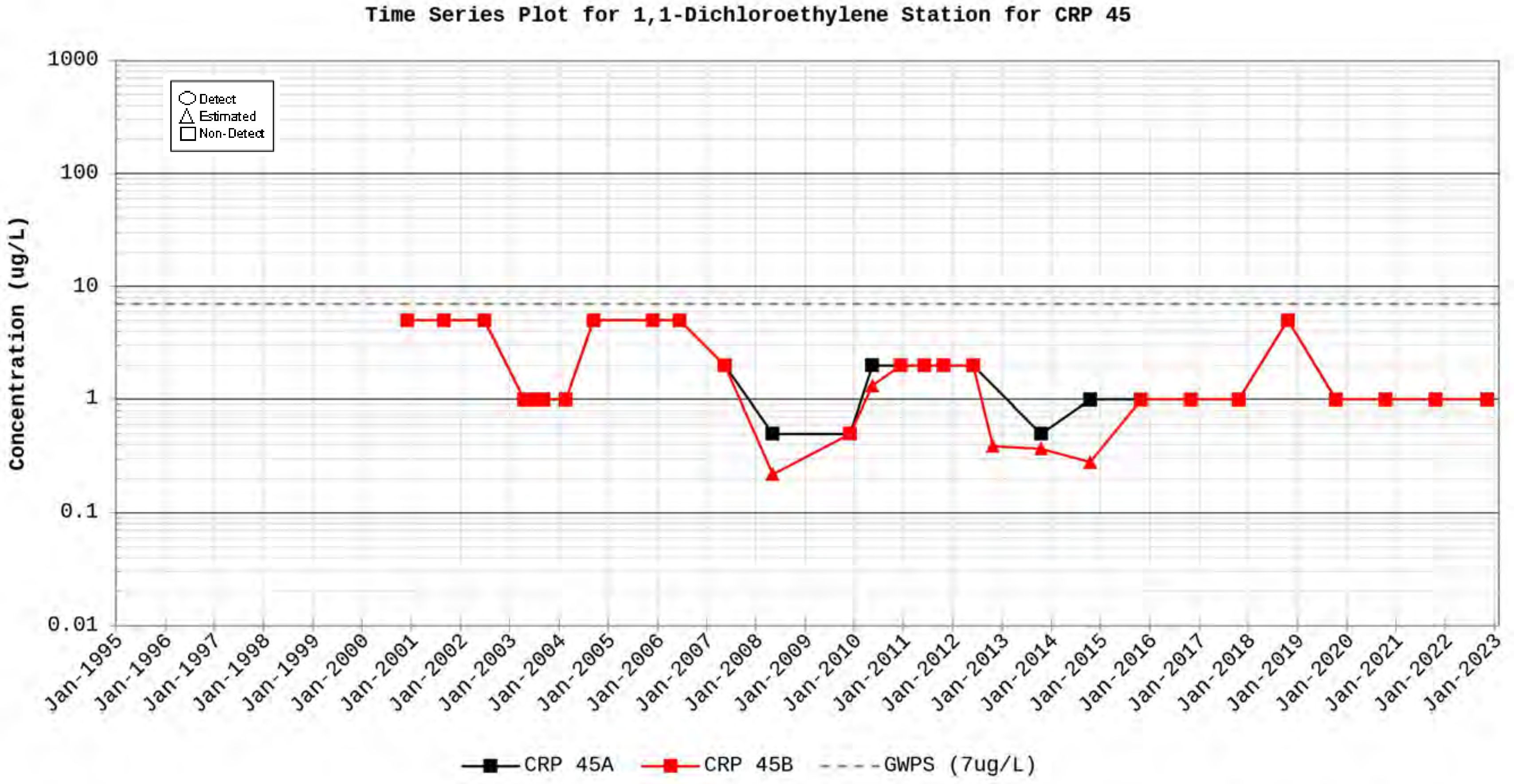

Time Series Plot for 1,1-Dichloroethylene Station for CRP 45
Concentration (ug/L)
1000
100
10
1
0.1
0.01
Detect
Estimated
Non-Detect
Jan-1995
Jan-1996
Jan-1997
Jan-1998
Jan-1999
Jan-2000
Jan-2001
Jan-2002
Jan-2003
Jan-2004
Jan-2005
Jan-2006
Jan-2007
Jan-2008
Jan-2009
Jan-2010
Jan-2011
Jan-2012
Jan-2013
Jan-2014
Jan-2015
Jan-2016
Jan-2017
Jan-2018
Jan-2019
Jan-2020
Jan-2021
Jan-2022
Jan-2023
CRP 45A
CRP 45B
GWPS (7ug/L)

Figure C-9.

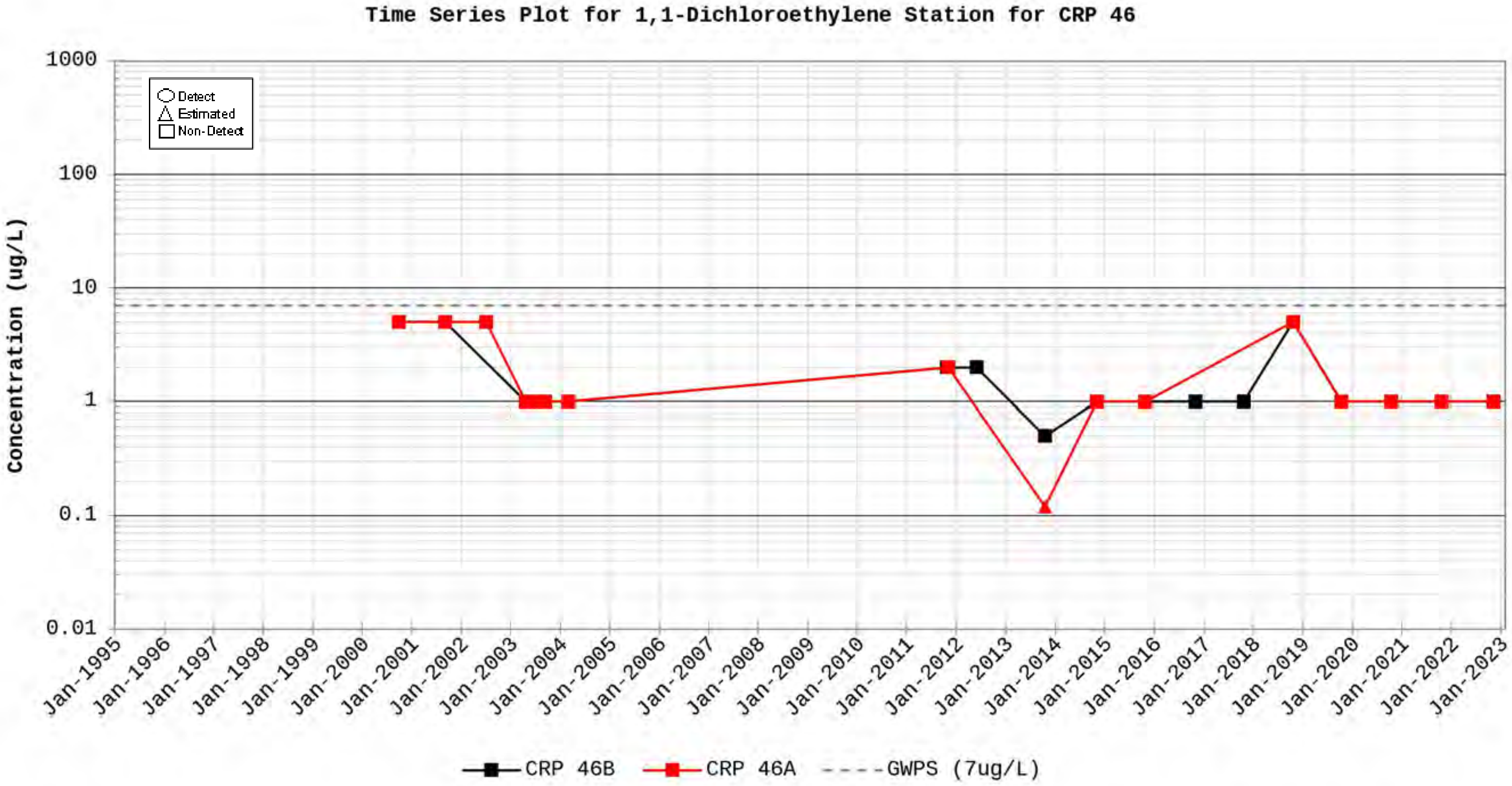

Time Series Plot for 1,1-Dichloroethylene Station for CRP 46
Concentration (ug/L)
1000
100
10
1
0.1
0.01
Detect
Estimated
Non-Detect
Jan-1995
Jan-1996
Jan-1997
Jan-1998
Jan-1999
Jan-2000
Jan-2001
Jan-2002
Jan-2003
Jan-2004
Jan-2005
Jan-2006
Jan-2007
Jan-2008
Jan-2009
Jan-2010
Jan-2011
Jan-2012
Jan-2013
Jan-2014
Jan-2015
Jan-2016
Jan-2017
Jan-2018
Jan-2019
Jan-2020
Jan-2021
Jan-2022
Jan-2023
CRP 46B
CRP 46A
GWPS (7ug/L)

Figure C-10.

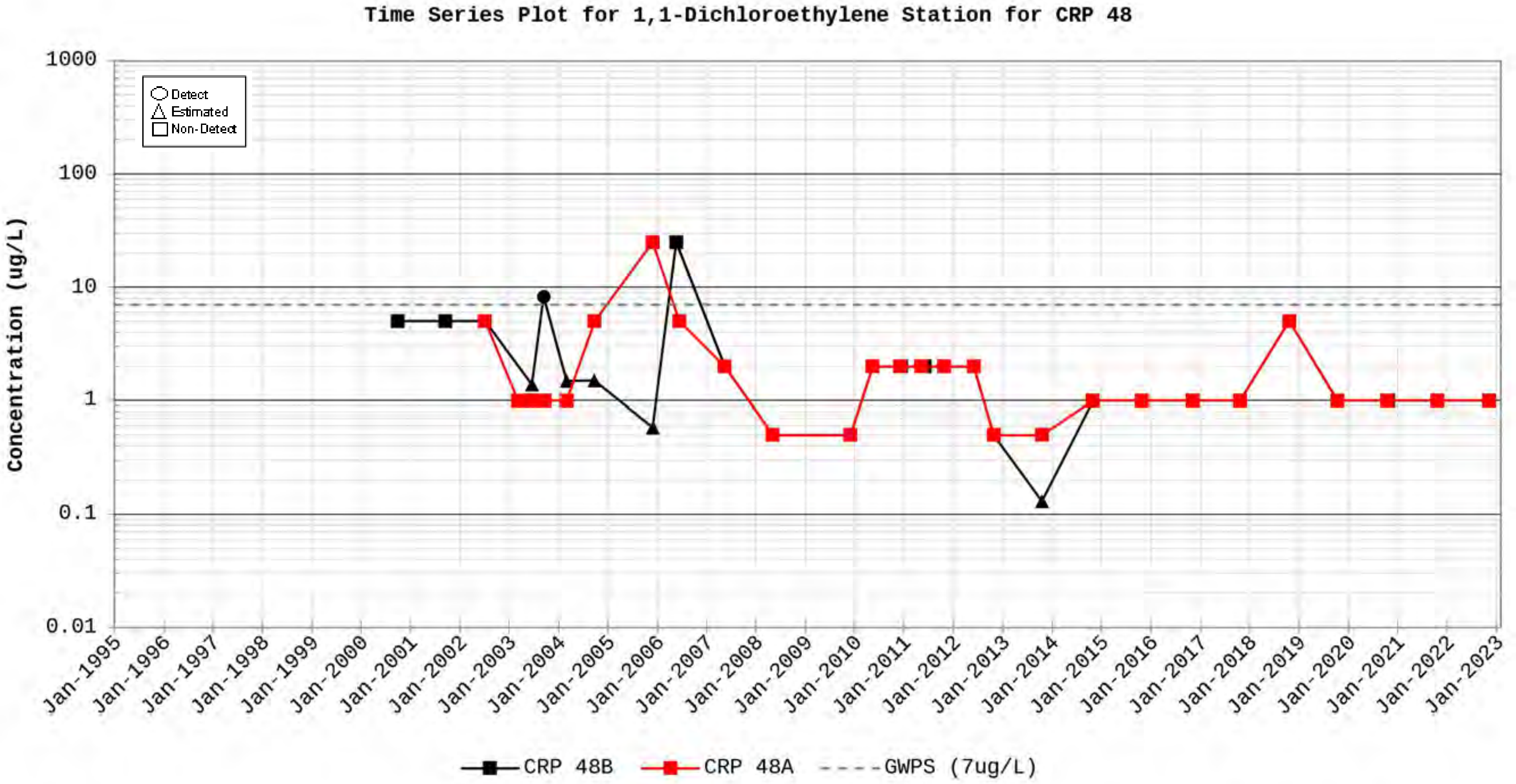

Time Series Plot for 1,1-Dichloroethylene Station for CRP 48
Concentration (ug/L)
1000
100
10
1
0.1
0.01
Detect
Estimated
Non-Detect
Jan-1995
Jan-1996
Jan-1997
Jan-1998
Jan-1999
Jan-2000
Jan-2001
Jan-2002
Jan-2003
Jan-2004
Jan-2005
Jan-2006
Jan-2007
Jan-2008
Jan-2009
Jan-2010
Jan-2011
Jan-2012
Jan-2013
Jan-2014
Jan-2015
Jan-2016
Jan-2017
Jan-2018
Jan-2019
Jan-2020
Jan-2021
Jan-2022
Jan-2023
CRP 48B
CRP 48A
GWPS (7ug/L)

Figure C-11.

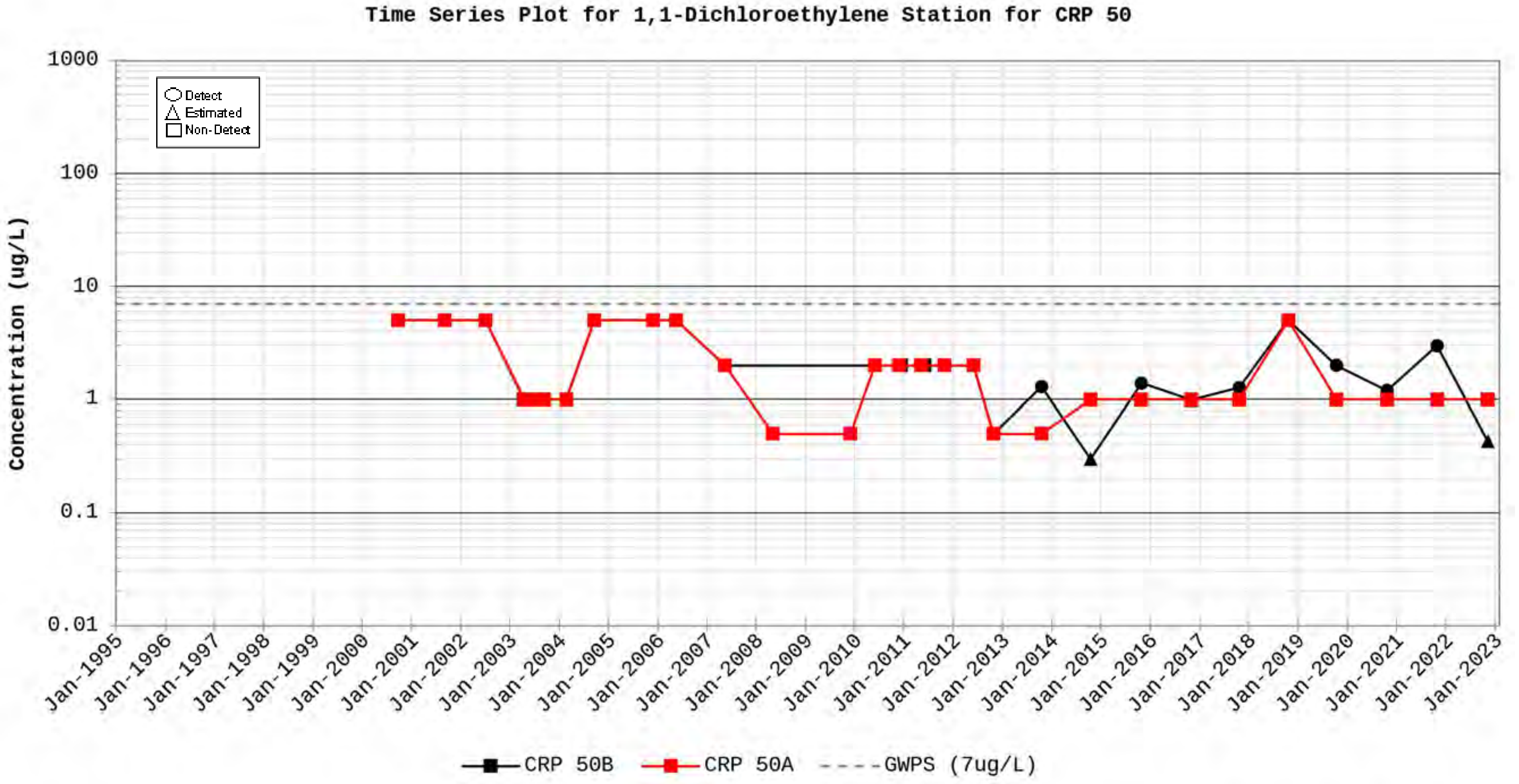

Time Series Plot for 1,1-Dichloroethylene Station for CRP 50
Detect
Estimated
Non-Detect
Concentration (ug/L)
1000
100
10
1
0.1
0.01
Jan-1995
Jan-1996
Jan-1997
Jan-1998
Jan-1999
Jan-2000
Jan-2001
Jan-2002
Jan-2003
Jan-2004
Jan-2005
Jan-2006
Jan-2007
Jan-2008
Jan-2009
Jan-2010
Jan-2011
Jan-2012
Jan-2013
Jan-2014
Jan-2015
Jan-2016
Jan-2017
Jan-2018
Jan-2019
Jan-2020
Jan-2021
Jan-2022
Jan-2023
CRP 50B
CRP 50A
GWPS (7ug/L)

Figure C-12.

Time Series Plot for 1,1-Dichloroethylene Station for CRP 51

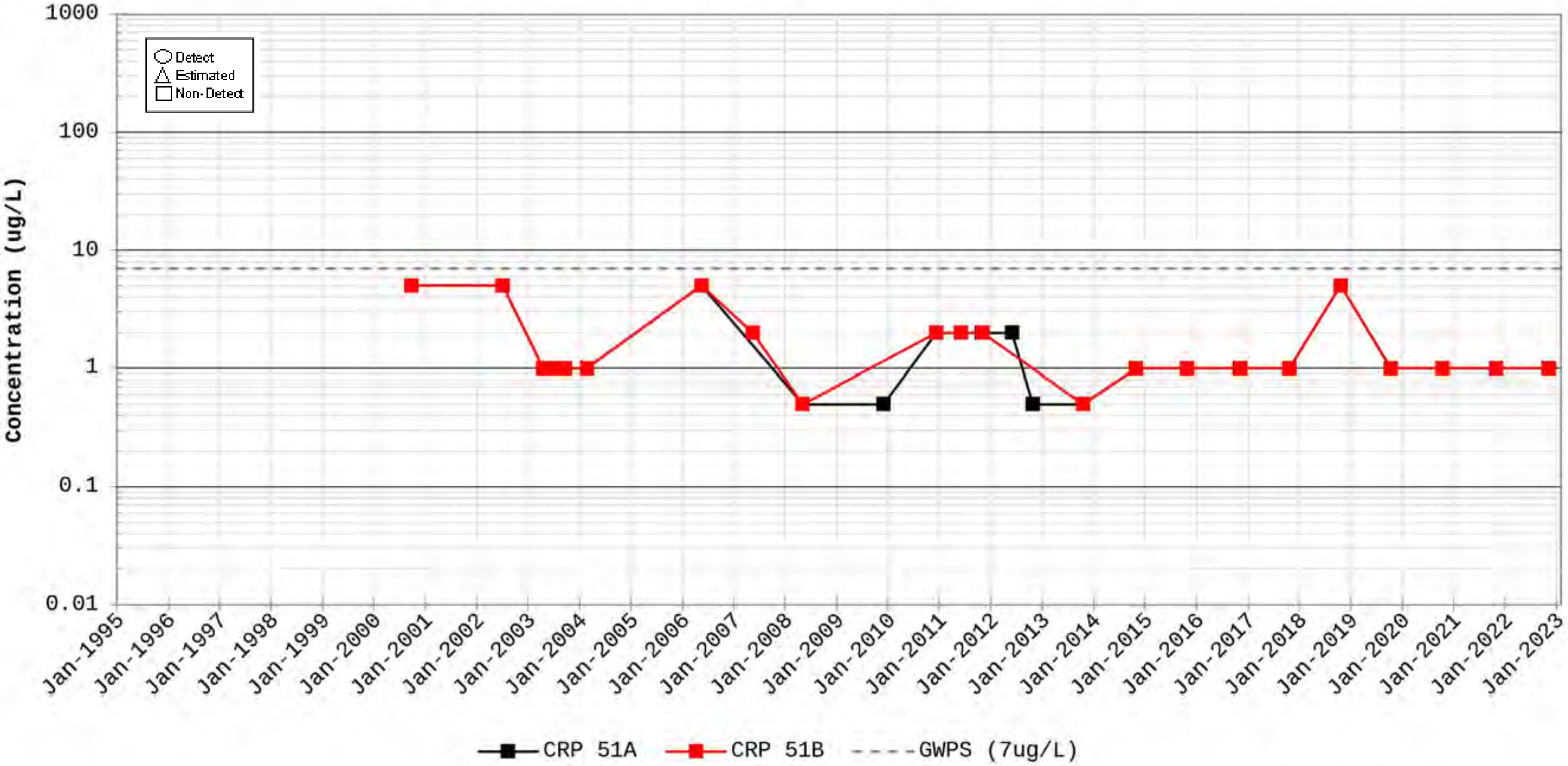


Figure C-13.

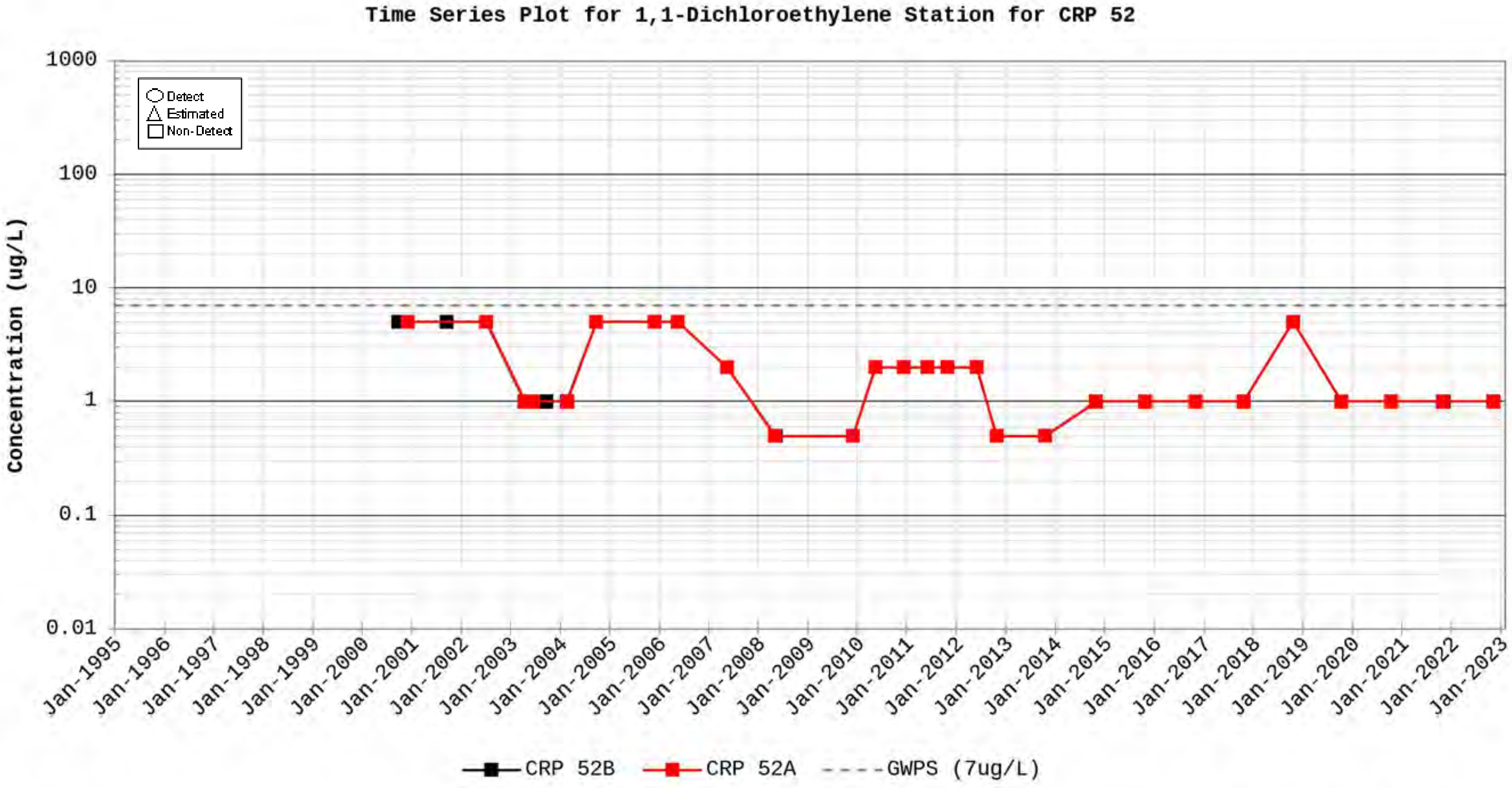

Time Series Plot for 1,1-Dichloroethylene Station for CRP 52
Concentration (ug/L)
1000
100
10
1
0.1
0.01
○ Detect
△ Estimated
☐ Non-Detect
Jan-1995
Jan-1996
Jan-1997
Jan-1998
Jan-1999
Jan-2000
Jan-2001
Jan-2002
Jan-2003
Jan-2004
Jan-2005
Jan-2006
Jan-2007
Jan-2008
Jan-2009
Jan-2010
Jan-2011
Jan-2012
Jan-2013
Jan-2014
Jan-2015
Jan-2016
Jan-2017
Jan-2018
Jan-2019
Jan-2020
Jan-2021
Jan-2022
Jan-2023
CRP 52B
CRP 52A
GWPS (7ug/L)

Figure C-14.

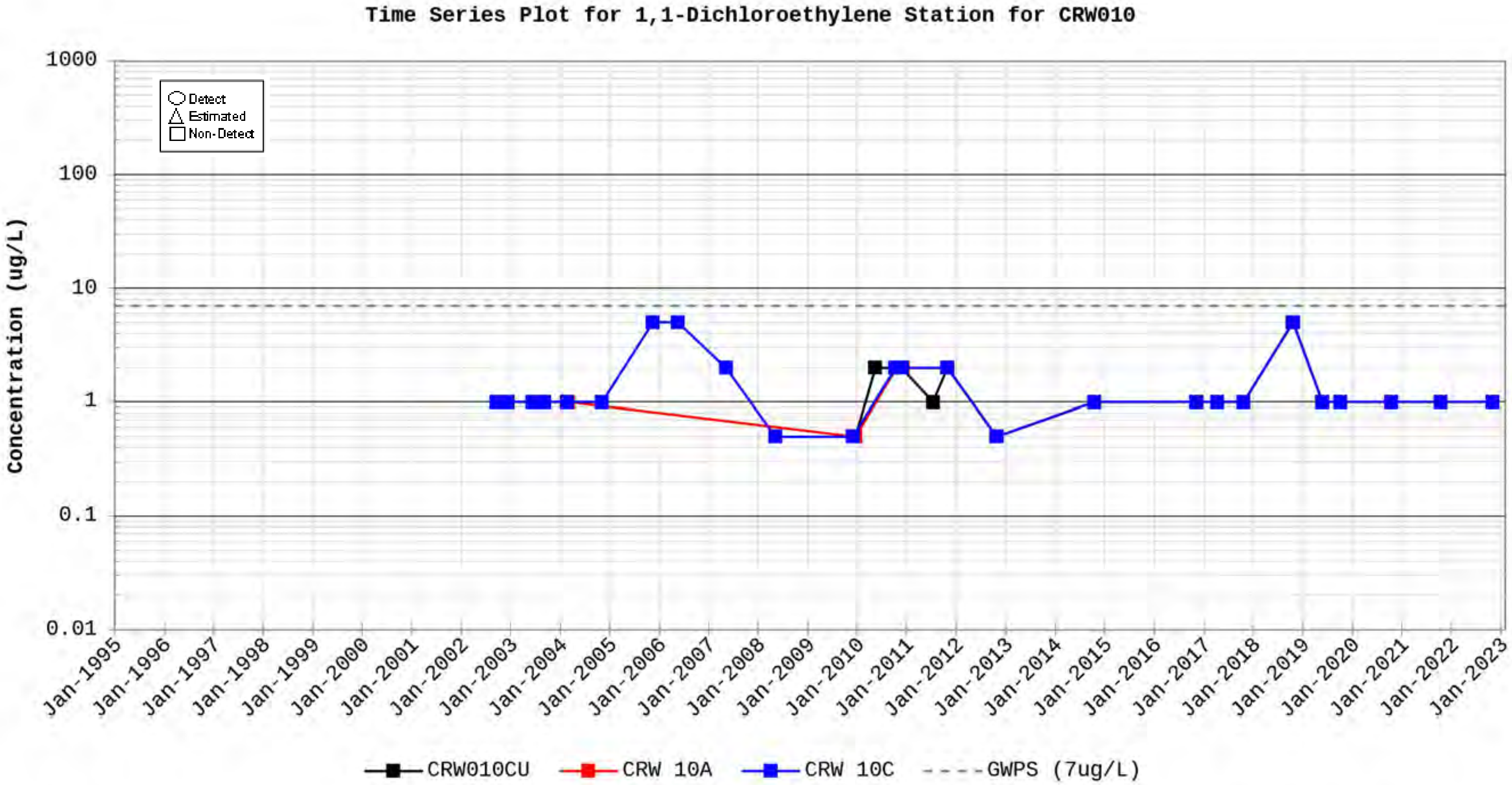

Time Series Plot for 1,1-Dichloroethylene Station for CRW010
Concentration (ug/L)
1000
100
10
1
0.1
0.01
Detect
Estimated
Non-Detect
Jan-1995
Jan-1996
Jan-1997
Jan-1998
Jan-1999
Jan-2000
Jan-2001
Jan-2002
Jan-2003
Jan-2004
Jan-2005
Jan-2006
Jan-2007
Jan-2008
Jan-2009
Jan-2010
Jan-2011
Jan-2012
Jan-2013
Jan-2014
Jan-2015
Jan-2016
Jan-2017
Jan-2018
Jan-2019
Jan-2020
Jan-2021
Jan-2022
Jan-2023
CRW010CU
CRW 10A
CRW 10C
GWPS (7ug/L)

Figure C-15.

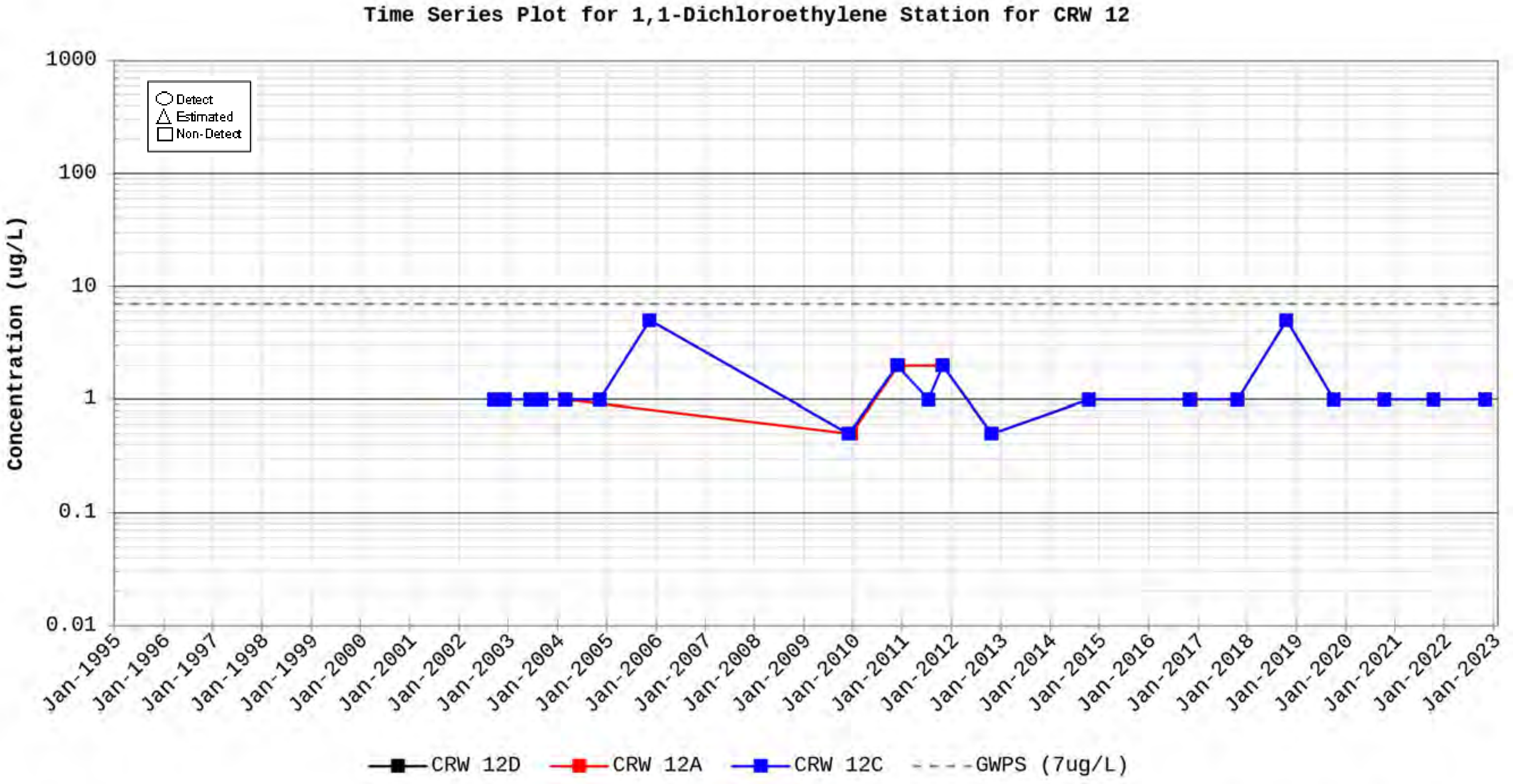

Time Series Plot for 1,1-Dichloroethylene Station for CRW 12
Concentration (ug/L)
1000
100
10
1
0.1
0.01
Detect
Estimated
Non-Detect
Jan-1995
Jan-1996
Jan-1997
Jan-1998
Jan-1999
Jan-2000
Jan-2001
Jan-2002
Jan-2003
Jan-2004
Jan-2005
Jan-2006
Jan-2007
Jan-2008
Jan-2009
Jan-2010
Jan-2011
Jan-2012
Jan-2013
Jan-2014
Jan-2015
Jan-2016
Jan-2017
Jan-2018
Jan-2019
Jan-2020
Jan-2021
Jan-2022
Jan-2023
CRW 12D
CRW 12A
CRW 12C
GWPS (7ug/L)

Figure C-16.

Time Series Plot for 1,1-Dichloroethylene Station for TL 01

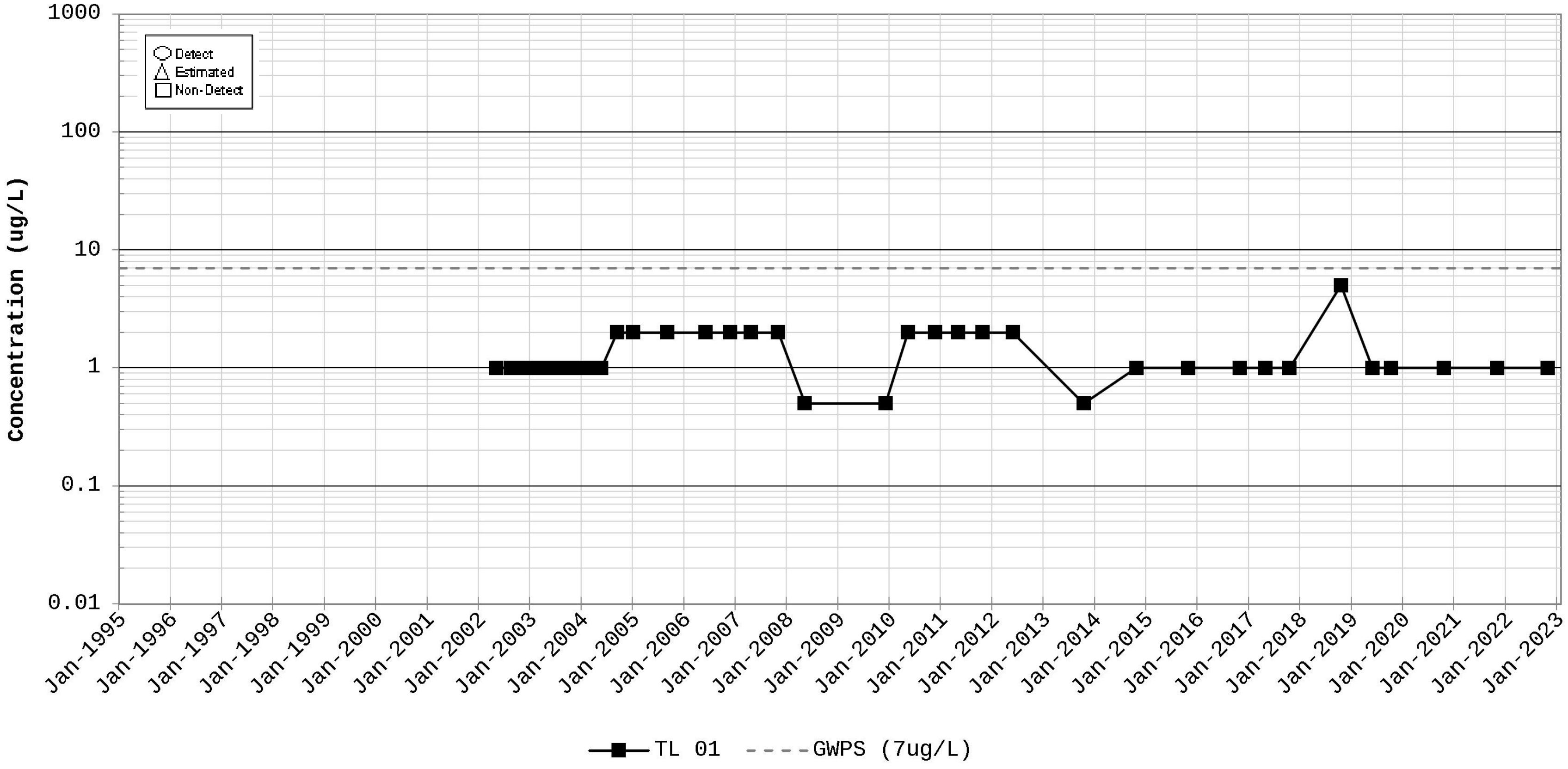


Figure C-17.

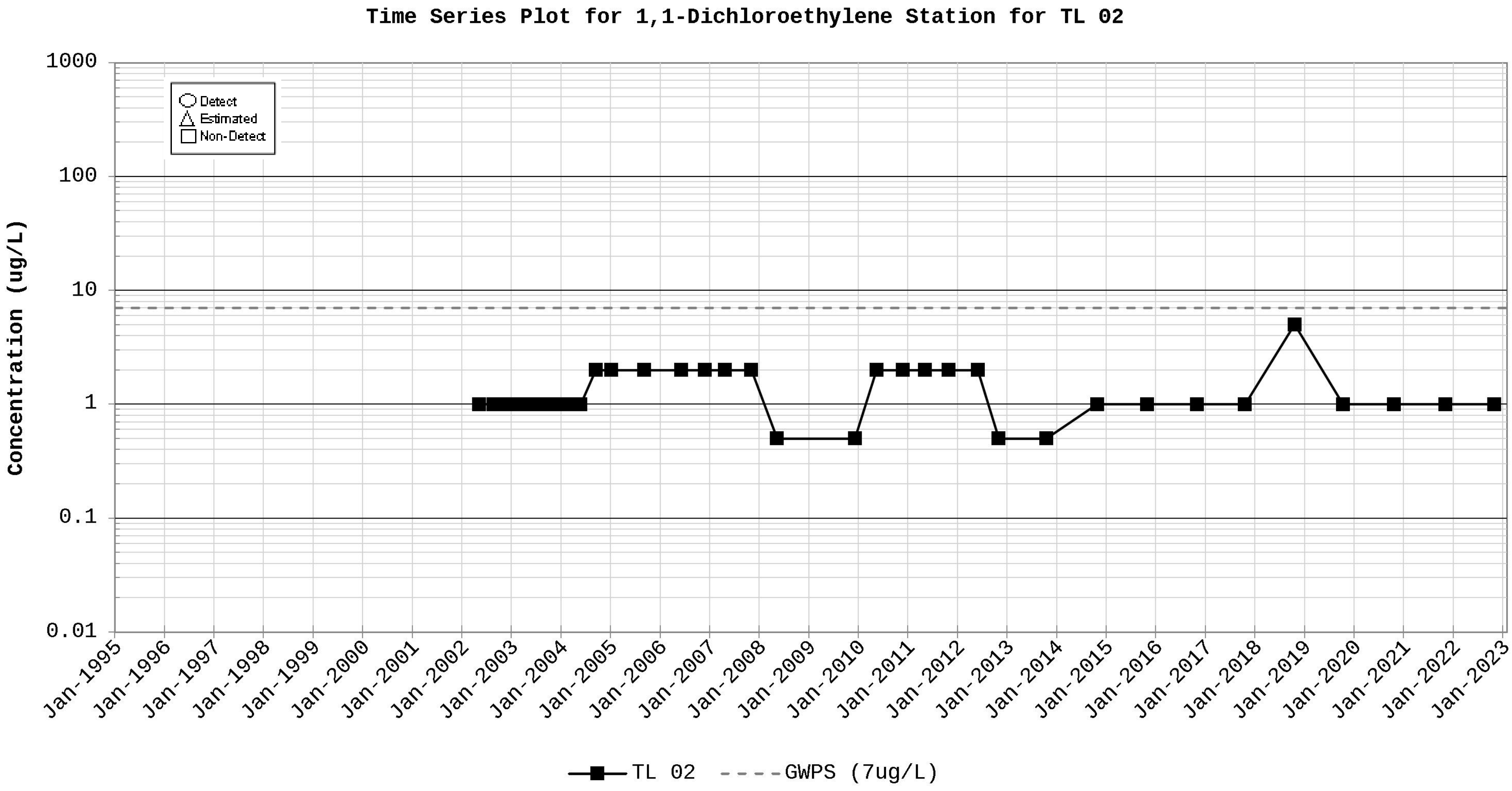

Time Series Plot for 1,1-Dichloroethylene Station for TL 02
Concentration (ug/L)
1000
100
10
1
0.1
0.01
Detect
Estimated
Non-Detect
Jan-1995
Jan-1996
Jan-1997
Jan-1998
Jan-1999
Jan-2000
Jan-2001
Jan-2002
Jan-2003
Jan-2004
Jan-2005
Jan-2006
Jan-2007
Jan-2008
Jan-2009
Jan-2010
Jan-2011
Jan-2012
Jan-2013
Jan-2014
Jan-2015
Jan-2016
Jan-2017
Jan-2018
Jan-2019
Jan-2020
Jan-2021
Jan-2022
Jan-2023
TL 02
GWPS (7ug/L)

Figure C-18.

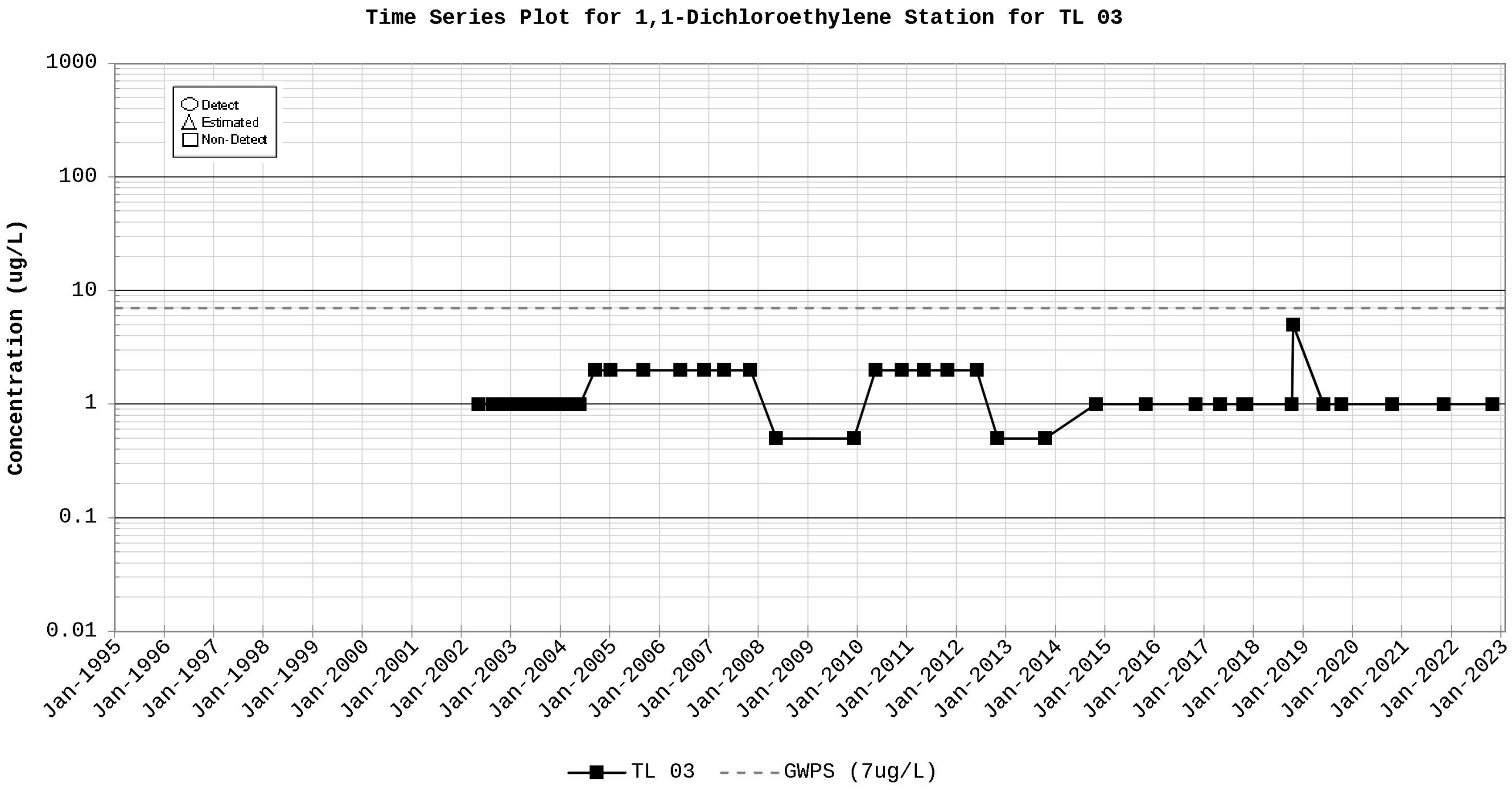

Time Series Plot for 1,1-Dichloroethylene Station for TL 03
Concentration (ug/L)
1000
100
10
1
0.1
0.01
Detect
Estimated
Non-Detect
Jan-1995
Jan-1996
Jan-1997
Jan-1998
Jan-1999
Jan-2000
Jan-2001
Jan-2002
Jan-2003
Jan-2004
Jan-2005
Jan-2006
Jan-2007
Jan-2008
Jan-2009
Jan-2010
Jan-2011
Jan-2012
Jan-2013
Jan-2014
Jan-2015
Jan-2016
Jan-2017
Jan-2018
Jan-2019
Jan-2020
Jan-2021
Jan-2022
Jan-2023
TL 03
GWPS (7ug/L)

Figure C-19.

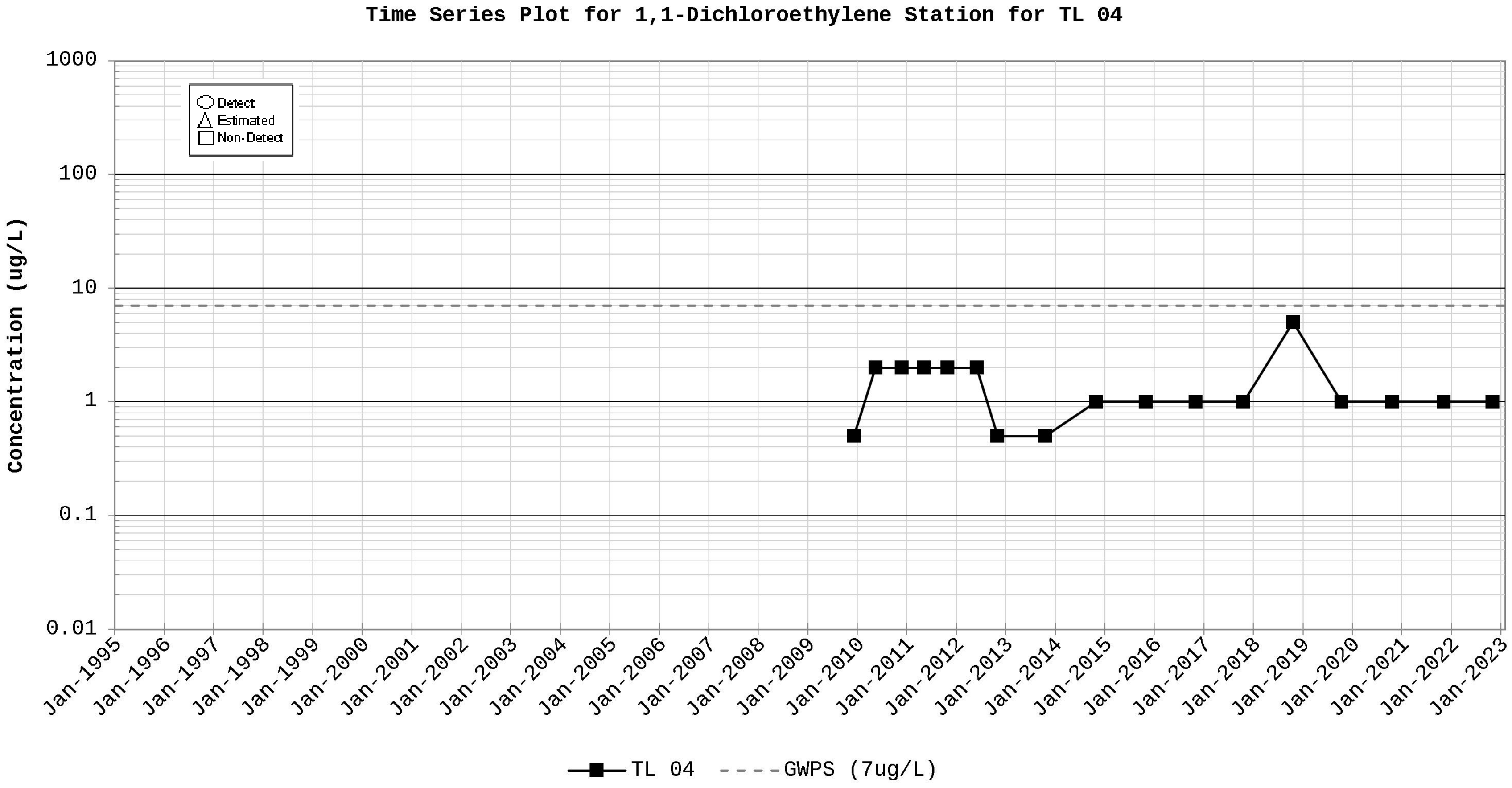

Time Series Plot for 1,1-Dichloroethylene Station for TL 04
Concentration (ug/L)
1000
100
10
1
0.1
0.01
○ Detect
△ Estimated
☐ Non-Detect
Jan-1995
Jan-1996
Jan-1997
Jan-1998
Jan-1999
Jan-2000
Jan-2001
Jan-2002
Jan-2003
Jan-2004
Jan-2005
Jan-2006
Jan-2007
Jan-2008
Jan-2009
Jan-2010
Jan-2011
Jan-2012
Jan-2013
Jan-2014
Jan-2015
Jan-2016
Jan-2017
Jan-2018
Jan-2019
Jan-2020
Jan-2021
Jan-2022
Jan-2023
TL 04
GWPS (7ug/L)

Figure C-20.

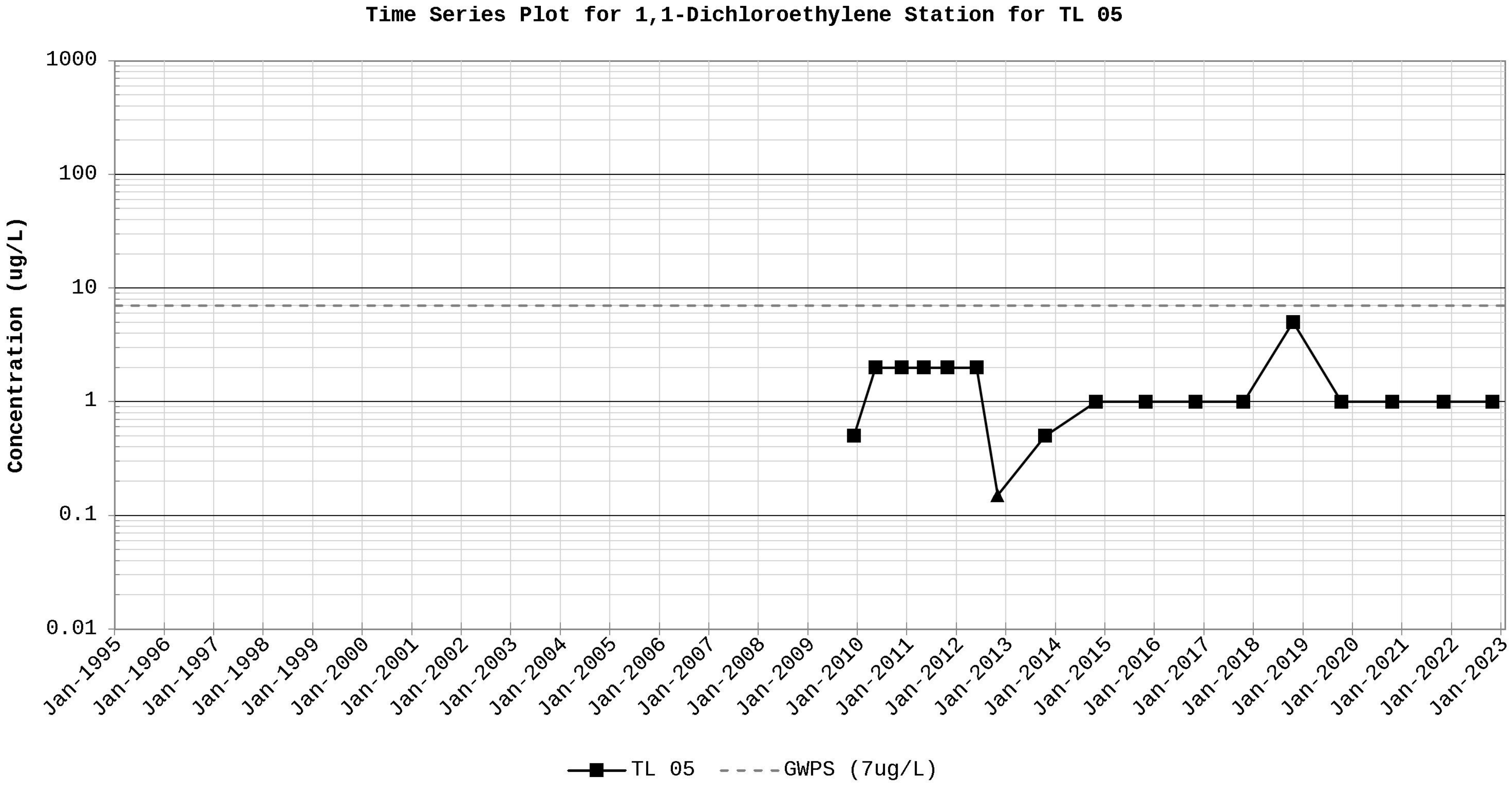

Time Series Plot for 1,1-Dichloroethylene Station for TL 05
Concentration (ug/L)
1000
100
10
1
0.1
0.01
Jan-1995
Jan-1996
Jan-1997
Jan-1998
Jan-1999
Jan-2000
Jan-2001
Jan-2002
Jan-2003
Jan-2004
Jan-2005
Jan-2006
Jan-2007
Jan-2008
Jan-2009
Jan-2010
Jan-2011
Jan-2012
Jan-2013
Jan-2014
Jan-2015
Jan-2016
Jan-2017
Jan-2018
Jan-2019
Jan-2020
Jan-2021
Jan-2022
Jan-2023
TL 05
GWPS (7ug/L)

Figure C-21.

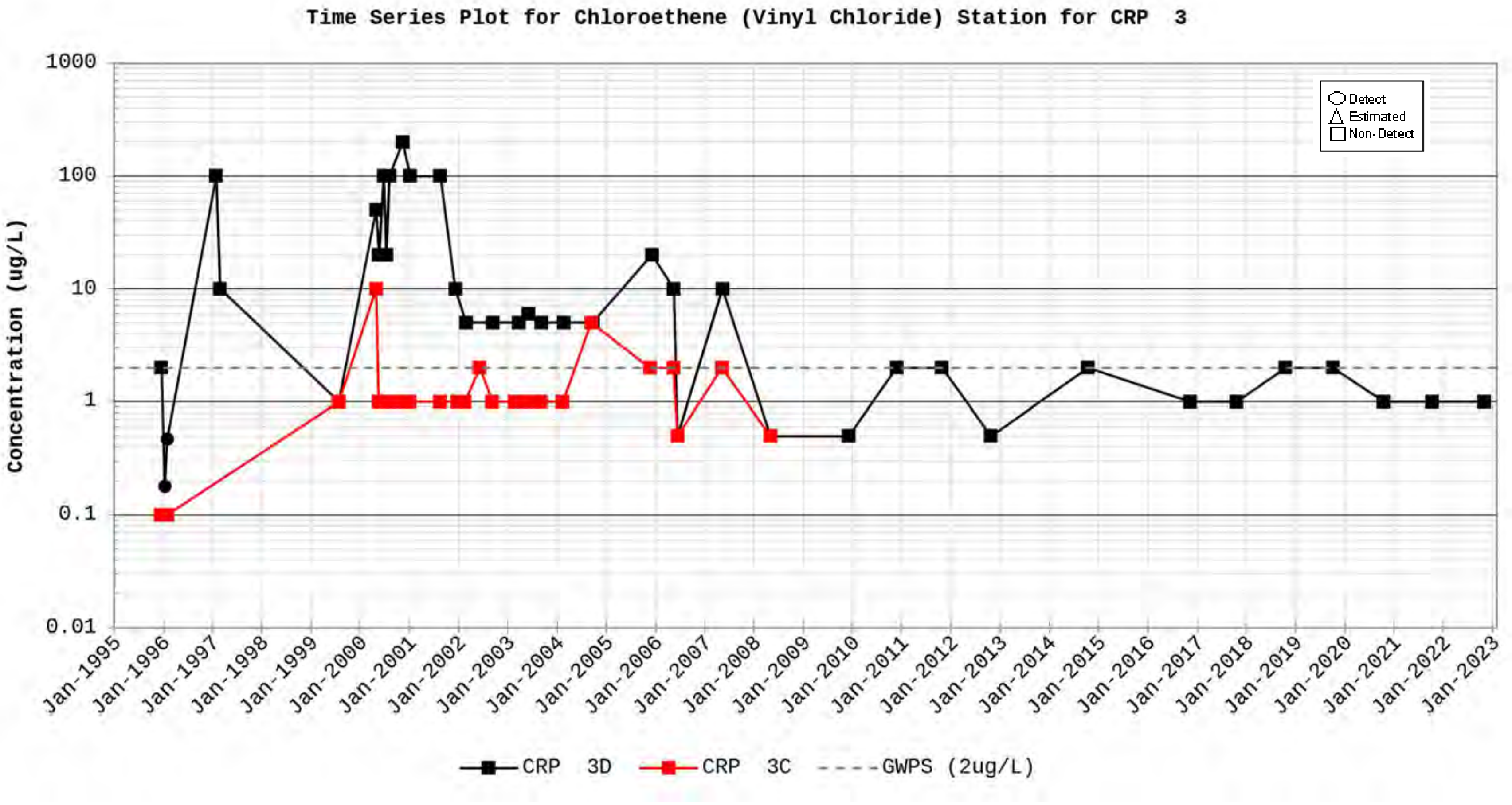

Time Series Plot for Chloroethene (Vinyl Chloride) Station for CRP 3
Concentration (ug/L)
1000
100
10
1
0.1
0.01
Jan-1995
Jan-1996
Jan-1997
Jan-1998
Jan-1999
Jan-2000
Jan-2001
Jan-2002
Jan-2003
Jan-2004
Jan-2005
Jan-2006
Jan-2007
Jan-2008
Jan-2009
Jan-2010
Jan-2011
Jan-2012
Jan-2013
Jan-2014
Jan-2015
Jan-2016
Jan-2017
Jan-2018
Jan-2019
Jan-2020
Jan-2021
Jan-2022
Jan-2023
○ Detect
△ Estimated
☐ Non-Detect
CRP 3D
CRP 3C
GWPS (2ug/L)

Figure C-22.

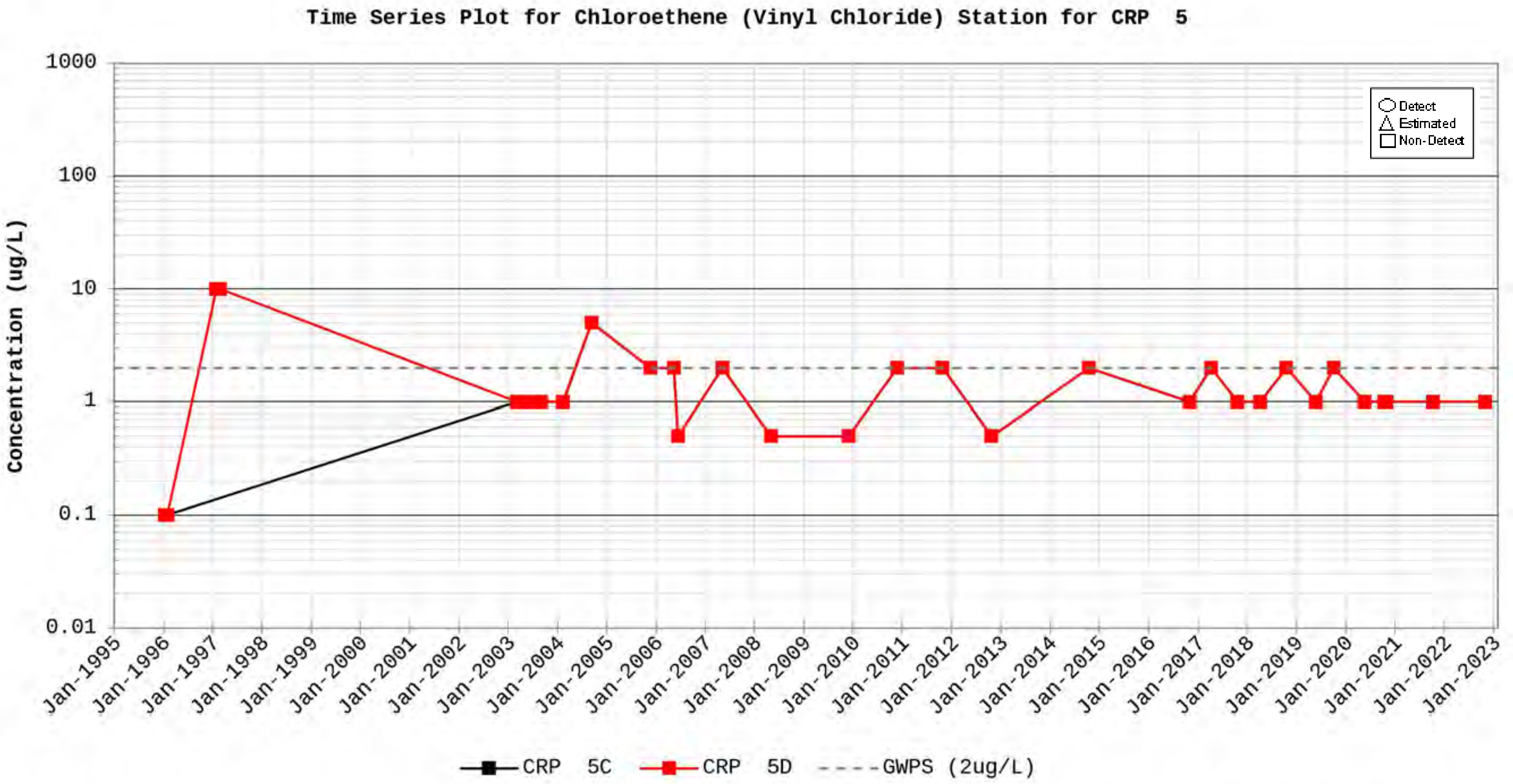

Time Series Plot for Chloroethene (Vinyl Chloride) Station for CRP 5
Concentration (ug/L)
1000
100
10
1
0.1
0.01
Jan-1995
Jan-1996
Jan-1997
Jan-1998
Jan-1999
Jan-2000
Jan-2001
Jan-2002
Jan-2003
Jan-2004
Jan-2005
Jan-2006
Jan-2007
Jan-2008
Jan-2009
Jan-2010
Jan-2011
Jan-2012
Jan-2013
Jan-2014
Jan-2015
Jan-2016
Jan-2017
Jan-2018
Jan-2019
Jan-2020
Jan-2021
Jan-2022
Jan-2023
○ Detect
△ Estimated
☐ Non-Detect
CRP 5C
CRP 5D
GWPS (2ug/L)

Figure C-23.

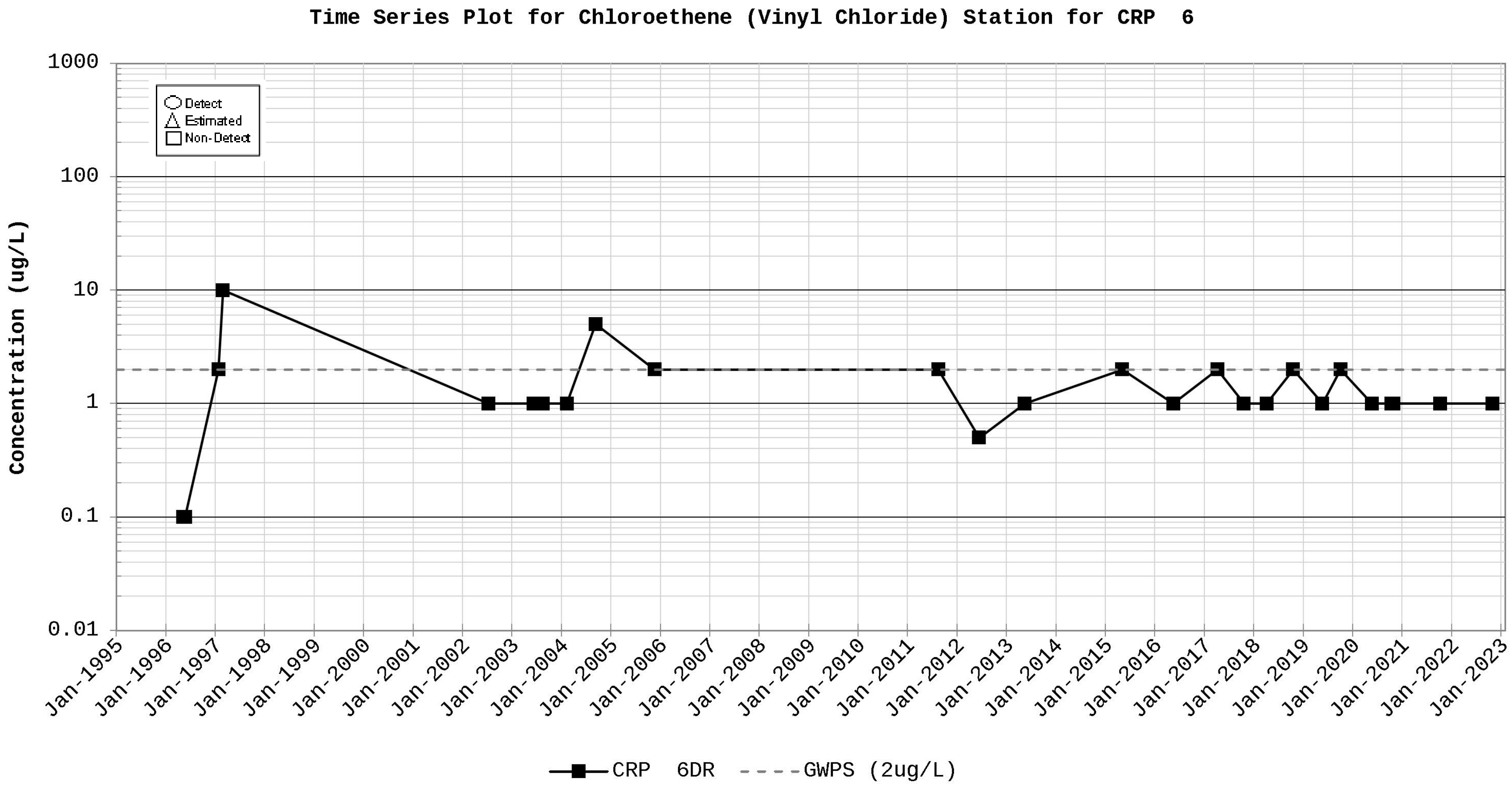
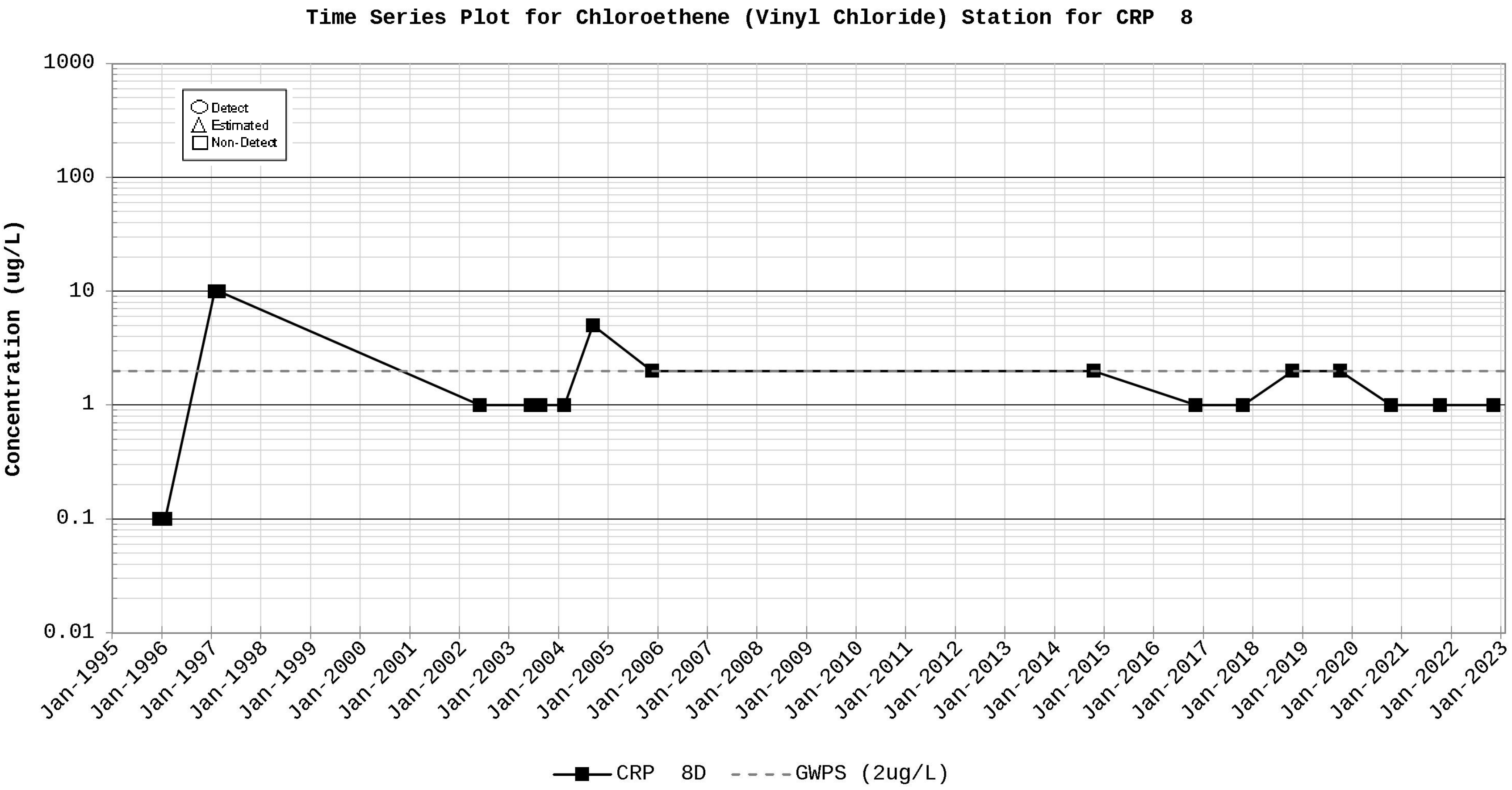

Time Series Plot for Chloroethene (Vinyl Chloride) Station for CRP 6
Concentration (ug/L)
1000
100
10
1
0.1
0.01
Detect
Estimated
Non-Detect
Jan-1995
Jan-1996
Jan-1997
Jan-1998
Jan-1999
Jan-2000
Jan-2001
Jan-2002
Jan-2003
Jan-2004
Jan-2005
Jan-2006
Jan-2007
Jan-2008
Jan-2009
Jan-2010
Jan-2011
Jan-2012
Jan-2013
Jan-2014
Jan-2015
Jan-2016
Jan-2017
Jan-2018
Jan-2019
Jan-2020
Jan-2021
Jan-2022
Jan-2023
CRP 6DR
GWPS (2ug/L)

Figure C-24.


Time Series Plot for Chloroethene (Vinyl Chloride) Station for CRP 8
Concentration (ug/L)
1000
100
10
1
0.1
0.01
Detect
Estimated
Non-Detect
Jan-1995
Jan-1996
Jan-1997
Jan-1998
Jan-1999
Jan-2000
Jan-2001
Jan-2002
Jan-2003
Jan-2004
Jan-2005
Jan-2006
Jan-2007
Jan-2008
Jan-2009
Jan-2010
Jan-2011
Jan-2012
Jan-2013
Jan-2014
Jan-2015
Jan-2016
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Jan-2018
Jan-2019
Jan-2020
Jan-2021
Jan-2022
Jan-2023
CRP 8D
GWPS (2ug/L)

Figure C-25.

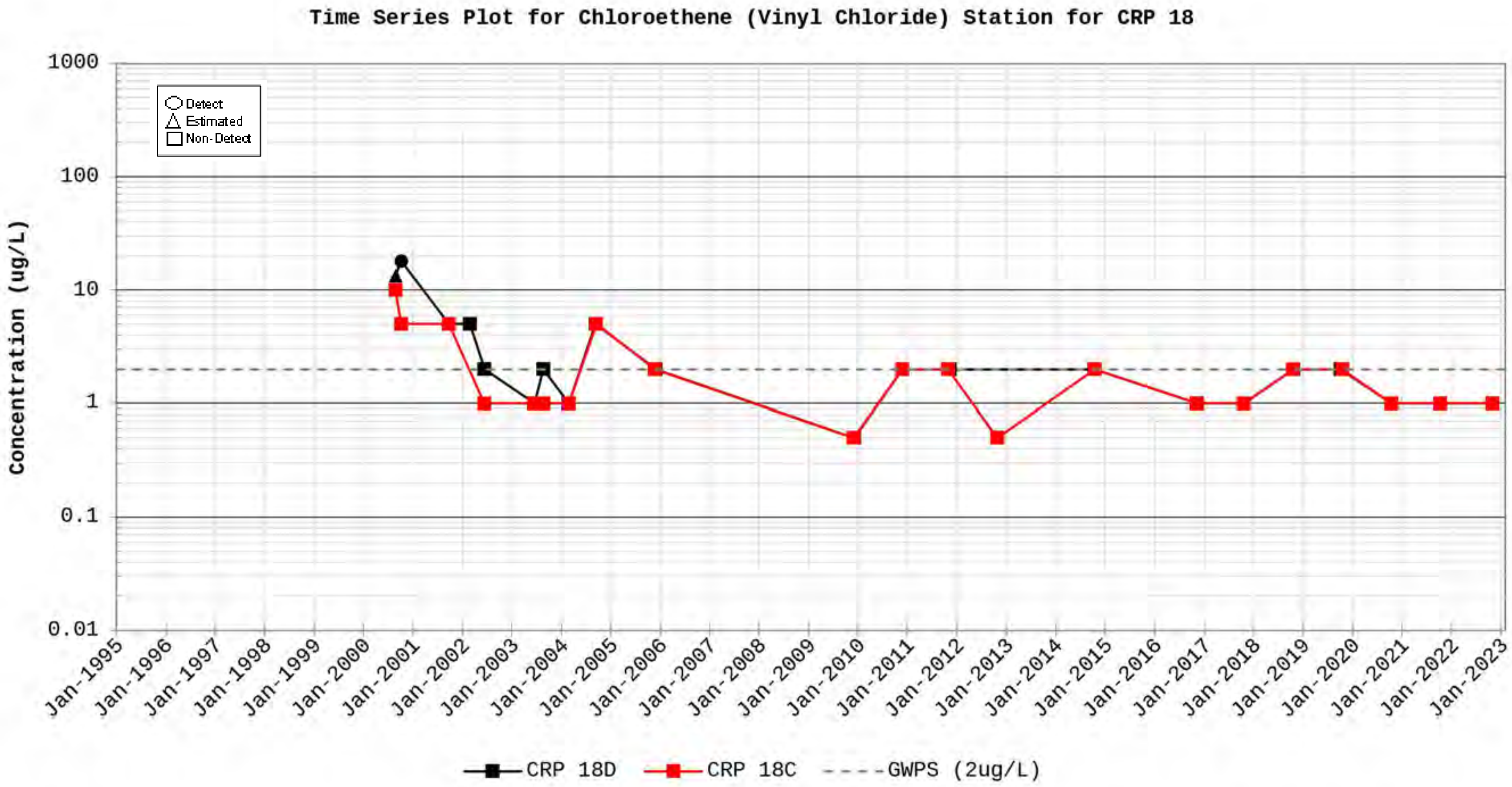

Time Series Plot for Chloroethene (Vinyl Chloride) Station for CRP 18
Concentration (ug/L)
1000
100
10
1
0.1
0.01
○ Detect
△ Estimated
☐ Non-Detect
Jan-1995
Jan-1996
Jan-1997
Jan-1998
Jan-1999
Jan-2000
Jan-2001
Jan-2002
Jan-2003
Jan-2004
Jan-2005
Jan-2006
Jan-2007
Jan-2008
Jan-2009
Jan-2010
Jan-2011
Jan-2012
Jan-2013
Jan-2014
Jan-2015
Jan-2016
Jan-2017
Jan-2018
Jan-2019
Jan-2020
Jan-2021
Jan-2022
Jan-2023
CRP 18D
CRP 18C
GWPS (2ug/L)

Figure C-26.

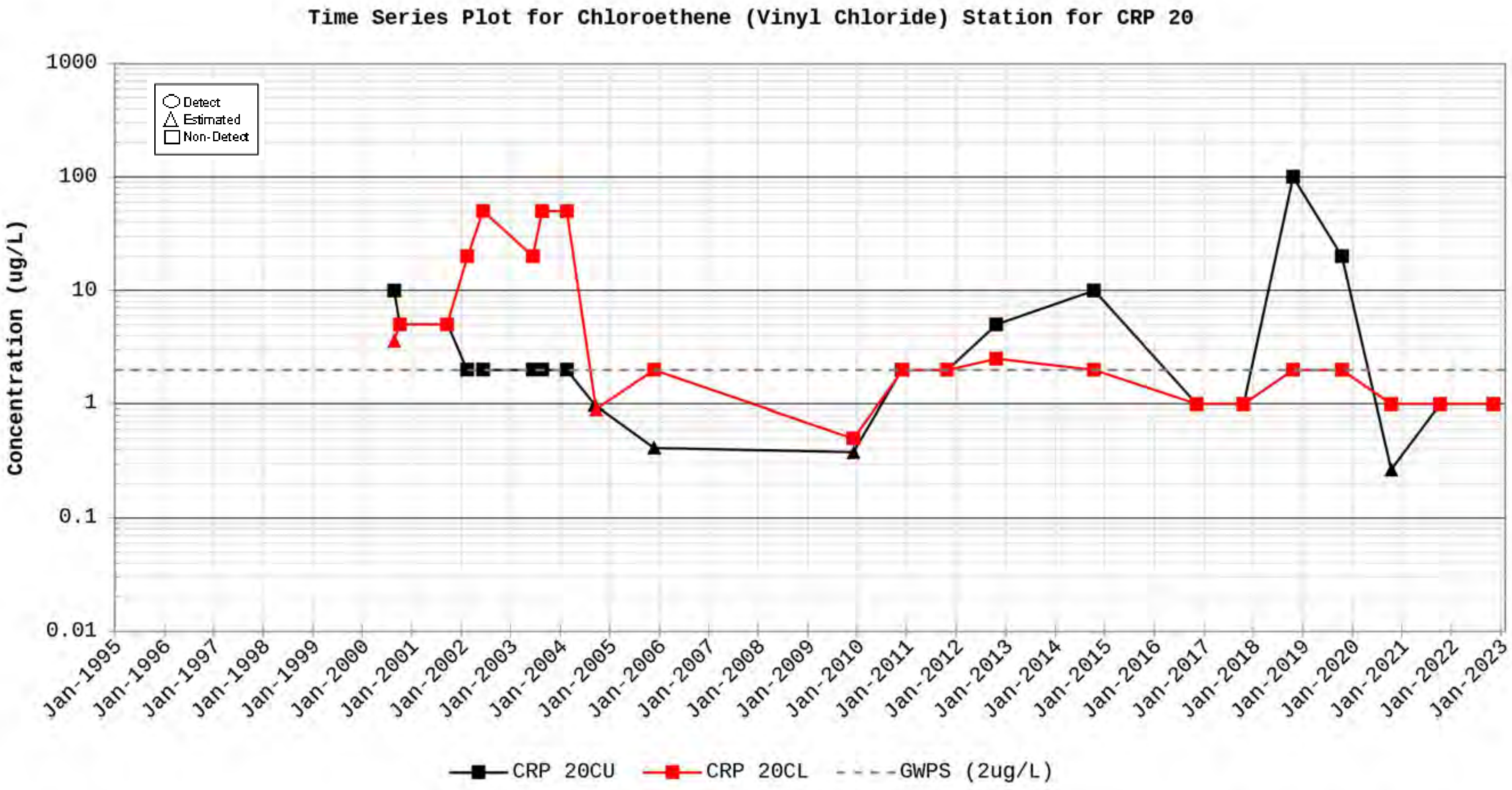

Time Series Plot for Chloroethene (Vinyl Chloride) Station for CRP 20
Concentration (ug/L)
1000
100
10
1
0.1
0.01
Detect
Estimated
Non-Detect
Jan-1995
Jan-1996
Jan-1997
Jan-1998
Jan-1999
Jan-2000
Jan-2001
Jan-2002
Jan-2003
Jan-2004
Jan-2005
Jan-2006
Jan-2007
Jan-2008
Jan-2009
Jan-2010
Jan-2011
Jan-2012
Jan-2013
Jan-2014
Jan-2015
Jan-2016
Jan-2017
Jan-2018
Jan-2019
Jan-2020
Jan-2021
Jan-2022
Jan-2023
CRP 20CU
CRP 20CL
GWPS (2ug/L)

Figure C-27.

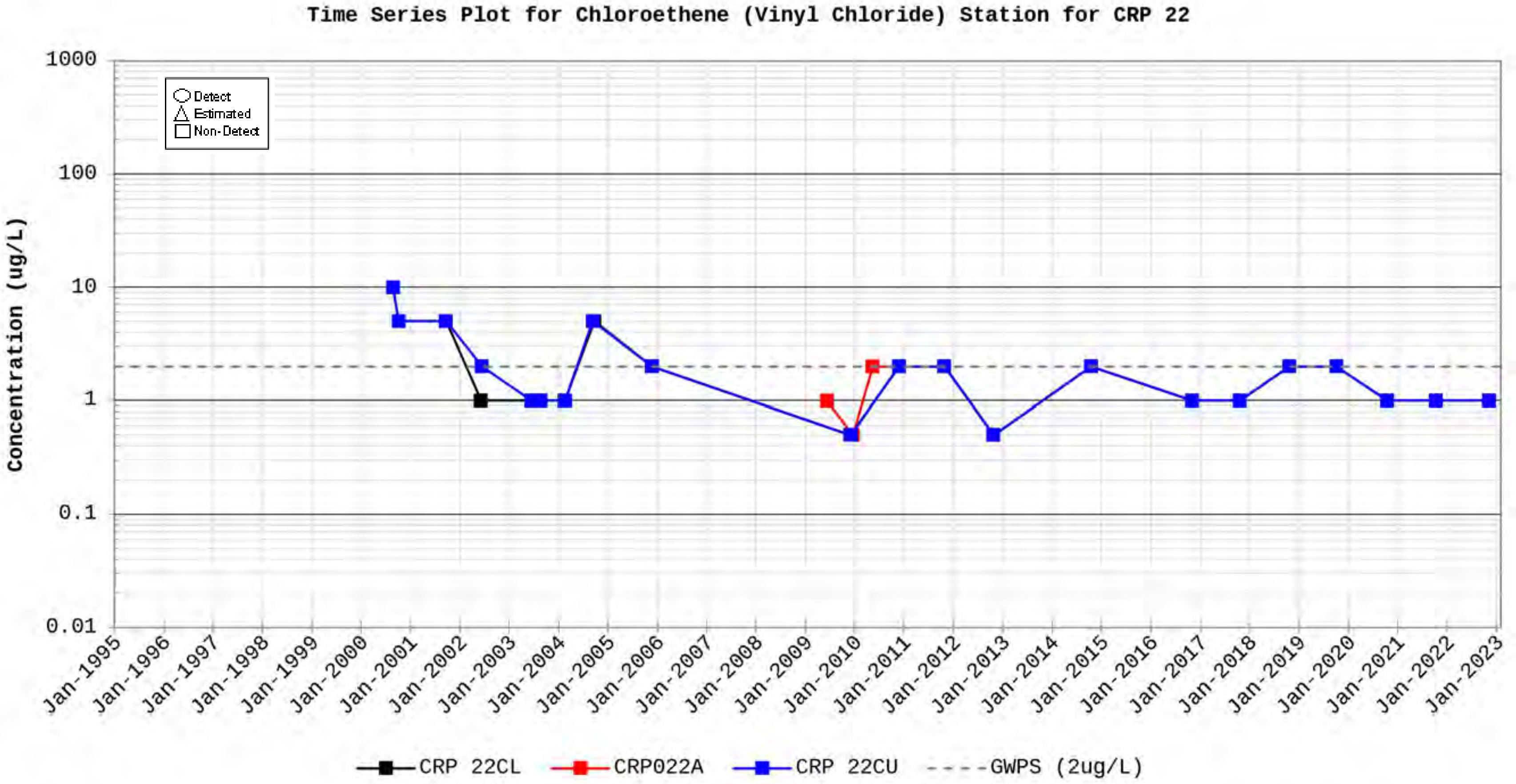

Time Series Plot for Chloroethene (Vinyl Chloride) Station for CRP 22
Concentration (ug/L)
1000
100
10
1
0.1
0.01
○ Detect
△ Estimated
☐ Non-Detect
Jan-1995
Jan-1996
Jan-1997
Jan-1998
Jan-1999
Jan-2000
Jan-2001
Jan-2002
Jan-2003
Jan-2004
Jan-2005
Jan-2006
Jan-2007
Jan-2008
Jan-2009
Jan-2010
Jan-2011
Jan-2012
Jan-2013
Jan-2014
Jan-2015
Jan-2016
Jan-2017
Jan-2018
Jan-2019
Jan-2020
Jan-2021
Jan-2022
Jan-2023
CRP 22CL
CRP022A
CRP 22CU
GWPS (2ug/L)

Figure C-28.

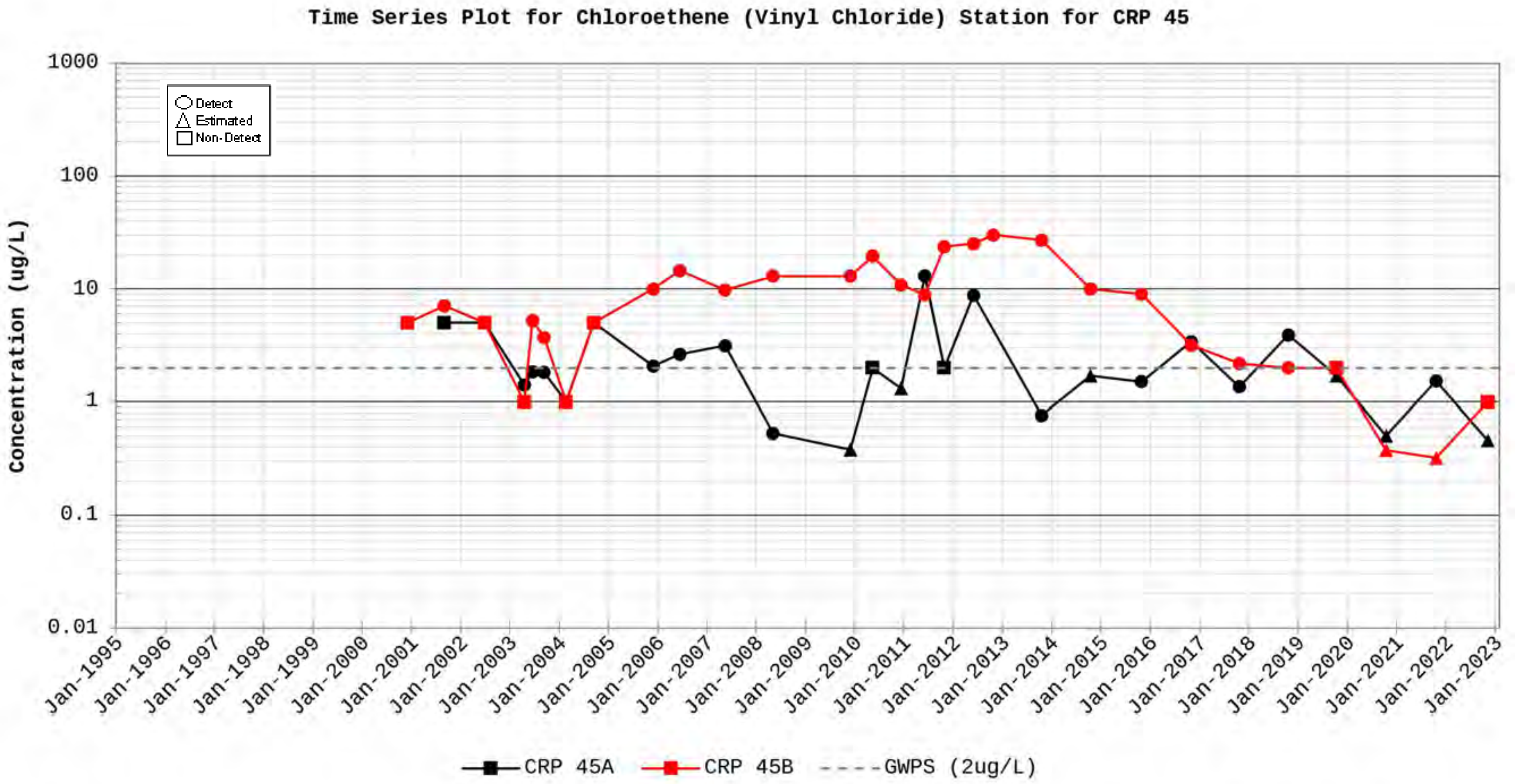

Time Series Plot for Chloroethene (Vinyl Chloride) Station for CRP 45
Concentration (ug/L)
1000
100
10
1
0.1
0.01
Detect
Estimated
Non-Detect
Jan-1995
Jan-1996
Jan-1997
Jan-1998
Jan-1999
Jan-2000
Jan-2001
Jan-2002
Jan-2003
Jan-2004
Jan-2005
Jan-2006
Jan-2007
Jan-2008
Jan-2009
Jan-2010
Jan-2011
Jan-2012
Jan-2013
Jan-2014
Jan-2015
Jan-2016
Jan-2017
Jan-2018
Jan-2019
Jan-2020
Jan-2021
Jan-2022
Jan-2023
CRP 45A
CRP 45B
GWPS (2ug/L)

Figure C-29.

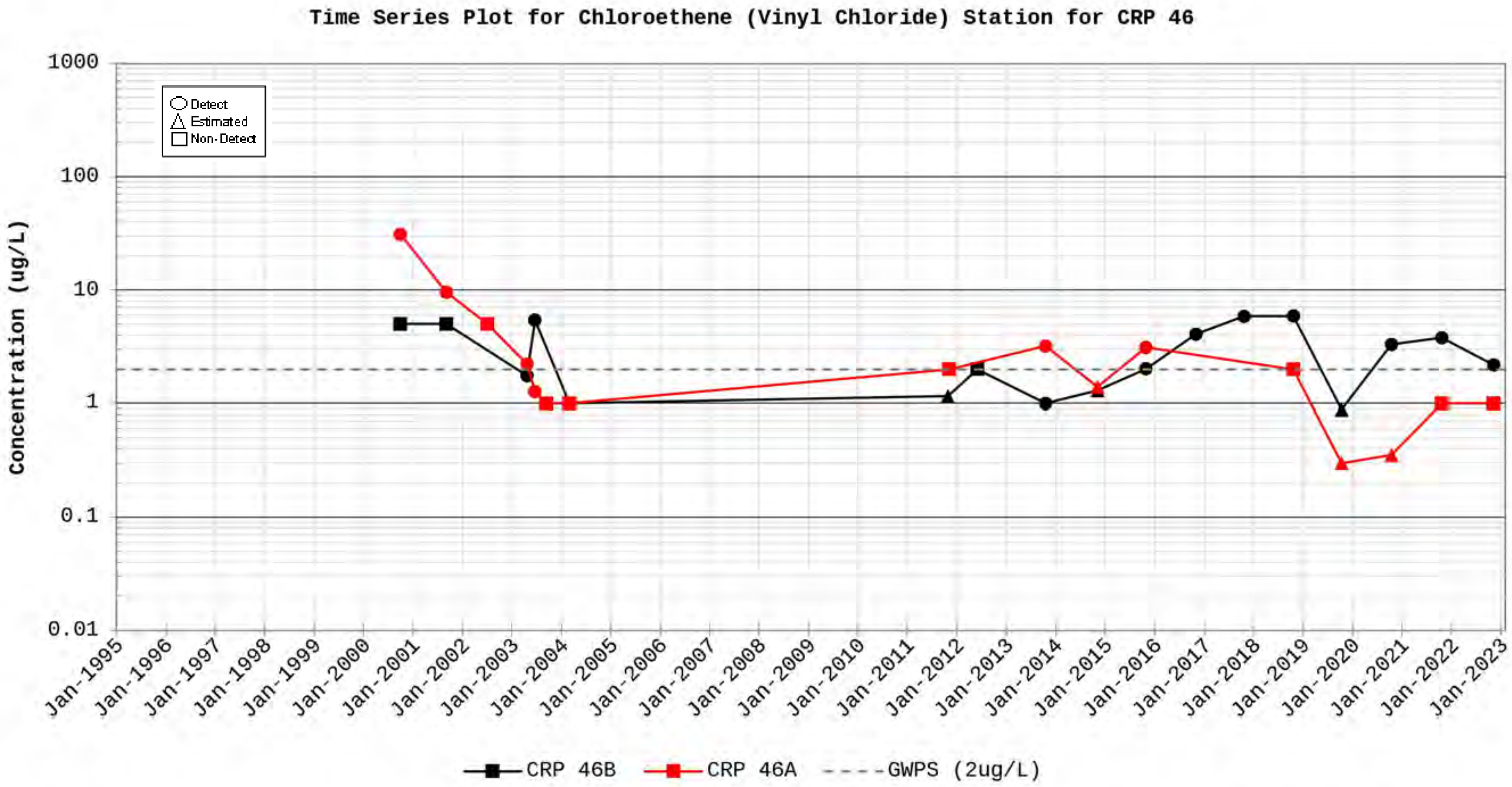
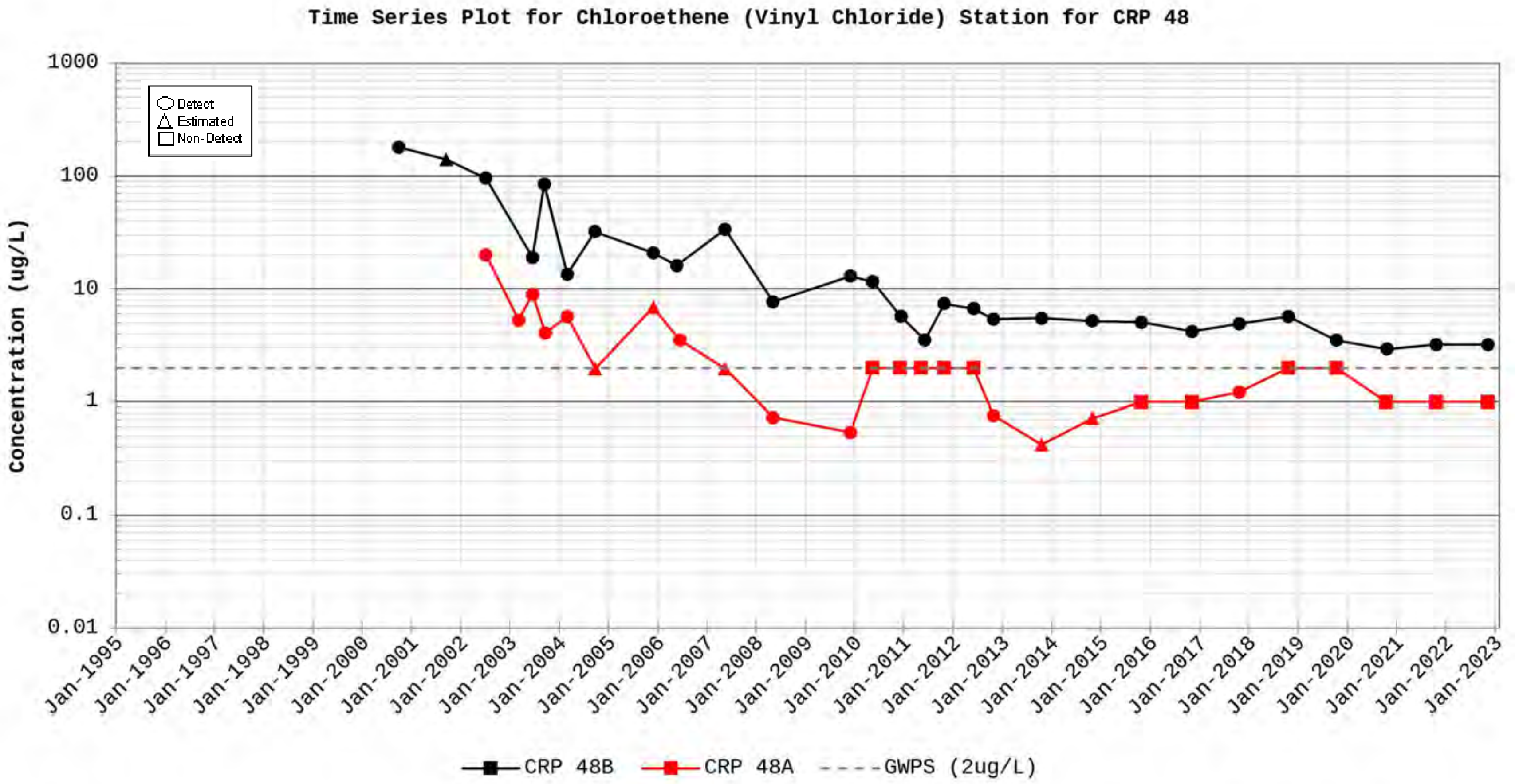

Time Series Plot for Chloroethene (Vinyl Chloride) Station for CRP 46
Concentration (ug/L)
1000
100
10
1
0.1
0.01
○ Detect
△ Estimated
☐ Non-Detect
Jan-1995
Jan-1996
Jan-1997
Jan-1998
Jan-1999
Jan-2000
Jan-2001
Jan-2002
Jan-2003
Jan-2004
Jan-2005
Jan-2006
Jan-2007
Jan-2008
Jan-2009
Jan-2010
Jan-2011
Jan-2012
Jan-2013
Jan-2014
Jan-2015
Jan-2016
Jan-2017
Jan-2018
Jan-2019
Jan-2020
Jan-2021
Jan-2022
Jan-2023
CRP 46B
CRP 46A
GWPS (2ug/L)

Figure C-30.


Time Series Plot for Chloroethene (Vinyl Chloride) Station for CRP 48
Concentration (ug/L)
1000
100
10
1
0.1
0.01
Detect
Estimated
Non-Detect
Jan-1995
Jan-1996
Jan-1997
Jan-1998
Jan-1999
Jan-2000
Jan-2001
Jan-2002
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Jan-2011
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Jan-2014
Jan-2015
Jan-2016
Jan-2017
Jan-2018
Jan-2019
Jan-2020
Jan-2021
Jan-2022
Jan-2023
CRP 48B
CRP 48A
GWPS (2ug/L)

Figure C-31.

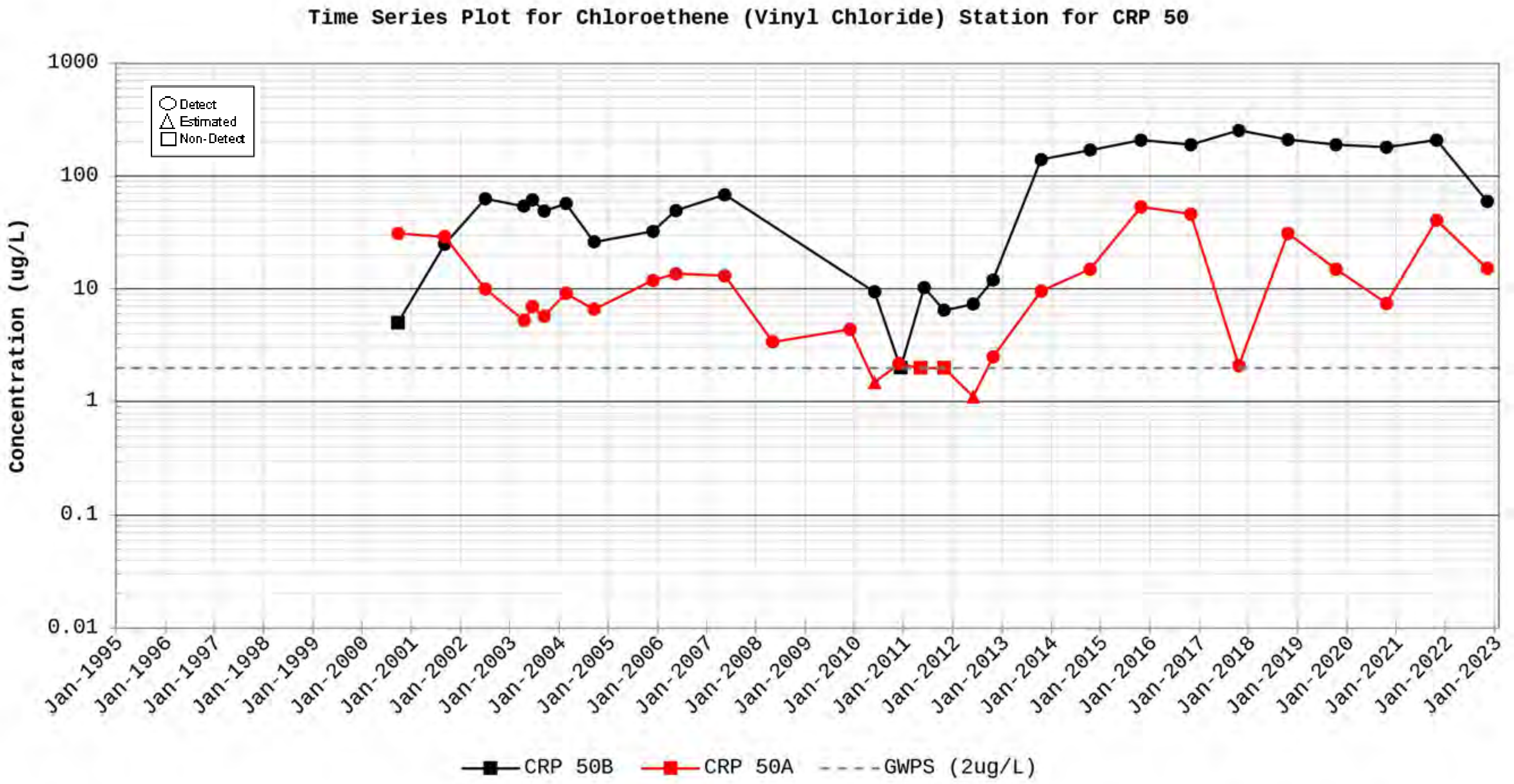

Time Series Plot for Chloroethene (Vinyl Chloride) Station for CRP 50
Concentration (ug/L)
1000
100
10
1
0.1
0.01
○ Detect
△ Estimated
☐ Non-Detect
Jan-1995
Jan-1996
Jan-1997
Jan-1998
Jan-1999
Jan-2000
Jan-2001
Jan-2002
Jan-2003
Jan-2004
Jan-2005
Jan-2006
Jan-2007
Jan-2008
Jan-2009
Jan-2010
Jan-2011
Jan-2012
Jan-2013
Jan-2014
Jan-2015
Jan-2016
Jan-2017
Jan-2018
Jan-2019
Jan-2020
Jan-2021
Jan-2022
Jan-2023
CRP 50B
CRP 50A
GWPS (2ug/L)

Figure C-32.

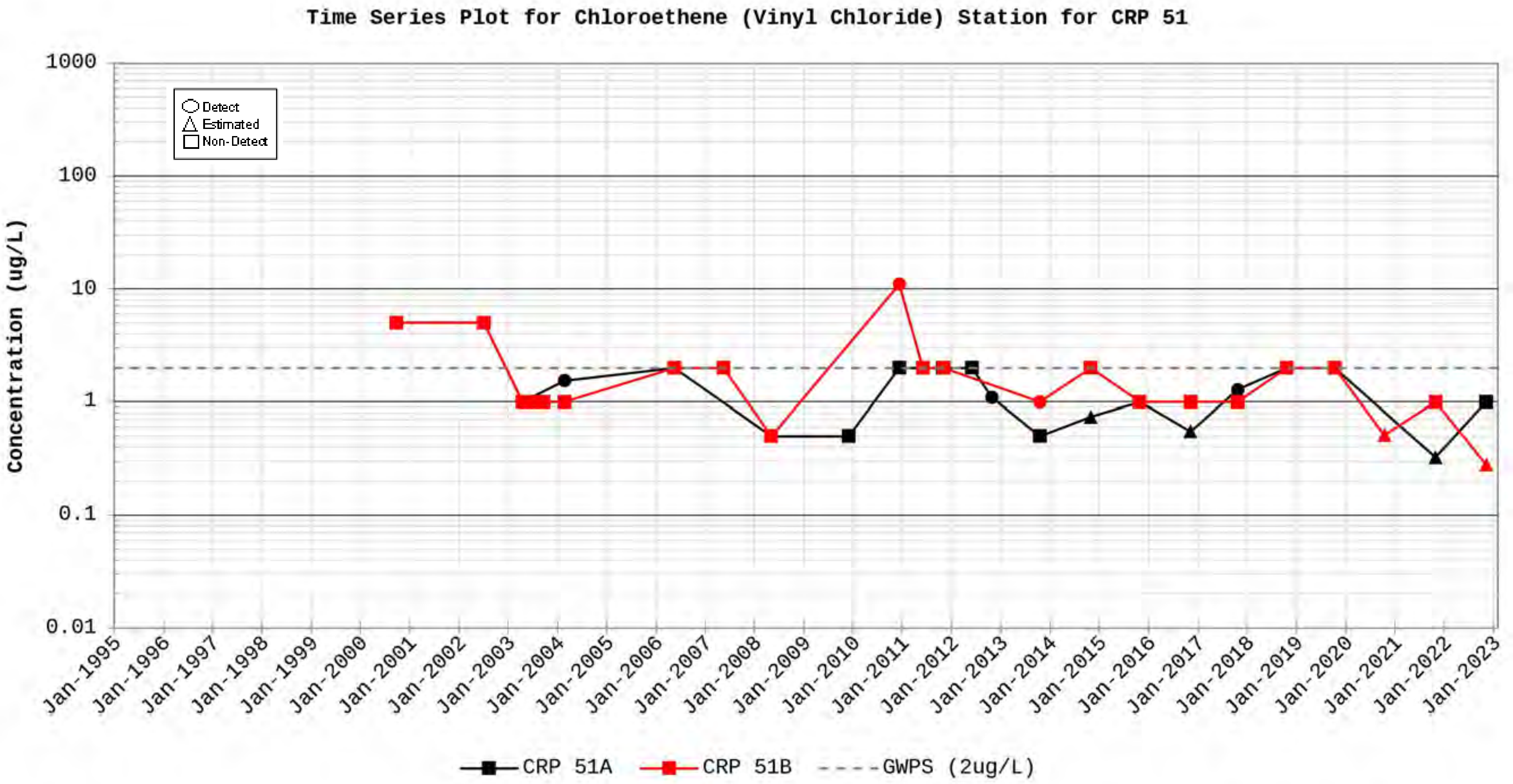

Time Series Plot for Chloroethene (Vinyl Chloride) Station for CRP 51
Concentration (ug/L)
1000
100
10
1
0.1
0.01
Detect
Estimated
Non-Detect
Jan-1995
Jan-1996
Jan-1997
Jan-1998
Jan-1999
Jan-2000
Jan-2001
Jan-2002
Jan-2003
Jan-2004
Jan-2005
Jan-2006
Jan-2007
Jan-2008
Jan-2009
Jan-2010
Jan-2011
Jan-2012
Jan-2013
Jan-2014
Jan-2015
Jan-2016
Jan-2017
Jan-2018
Jan-2019
Jan-2020
Jan-2021
Jan-2022
Jan-2023
CRP 51A
CRP 51B
GWPS (2ug/L)

Figure C-33.

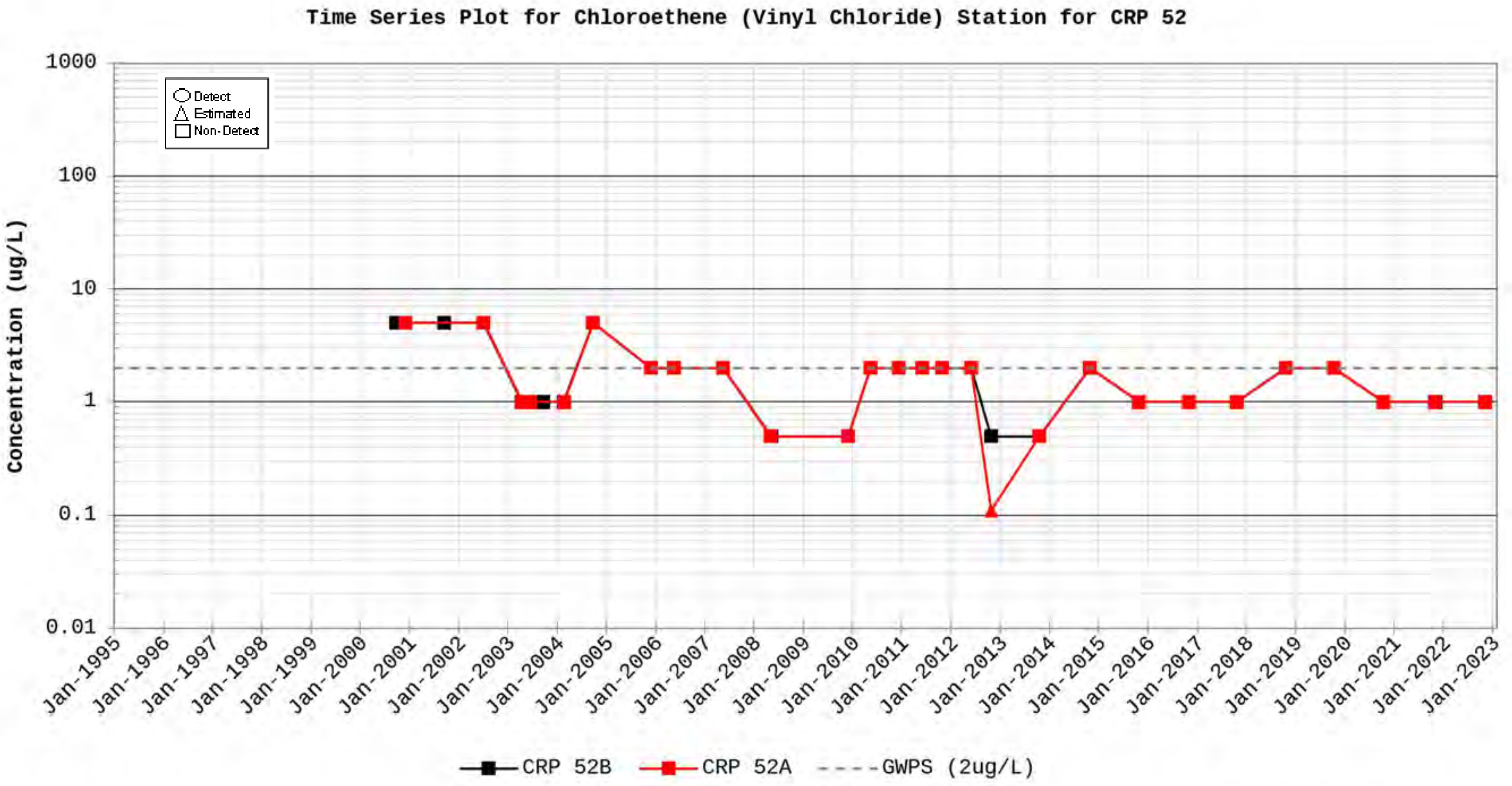

Time Series Plot for Chloroethene (Vinyl Chloride) Station for CRP 52
Concentration (ug/L)
1000
100
10
1
0.1
0.01
Detect
Estimated
Non-Detect
Jan-1995
Jan-1996
Jan-1997
Jan-1998
Jan-1999
Jan-2000
Jan-2001
Jan-2002
Jan-2003
Jan-2004
Jan-2005
Jan-2006
Jan-2007
Jan-2008
Jan-2009
Jan-2010
Jan-2011
Jan-2012
Jan-2013
Jan-2014
Jan-2015
Jan-2016
Jan-2017
Jan-2018
Jan-2019
Jan-2020
Jan-2021
Jan-2022
Jan-2023
CRP 52B
CRP 52A
GWPS (2ug/L)

Figure C-34.

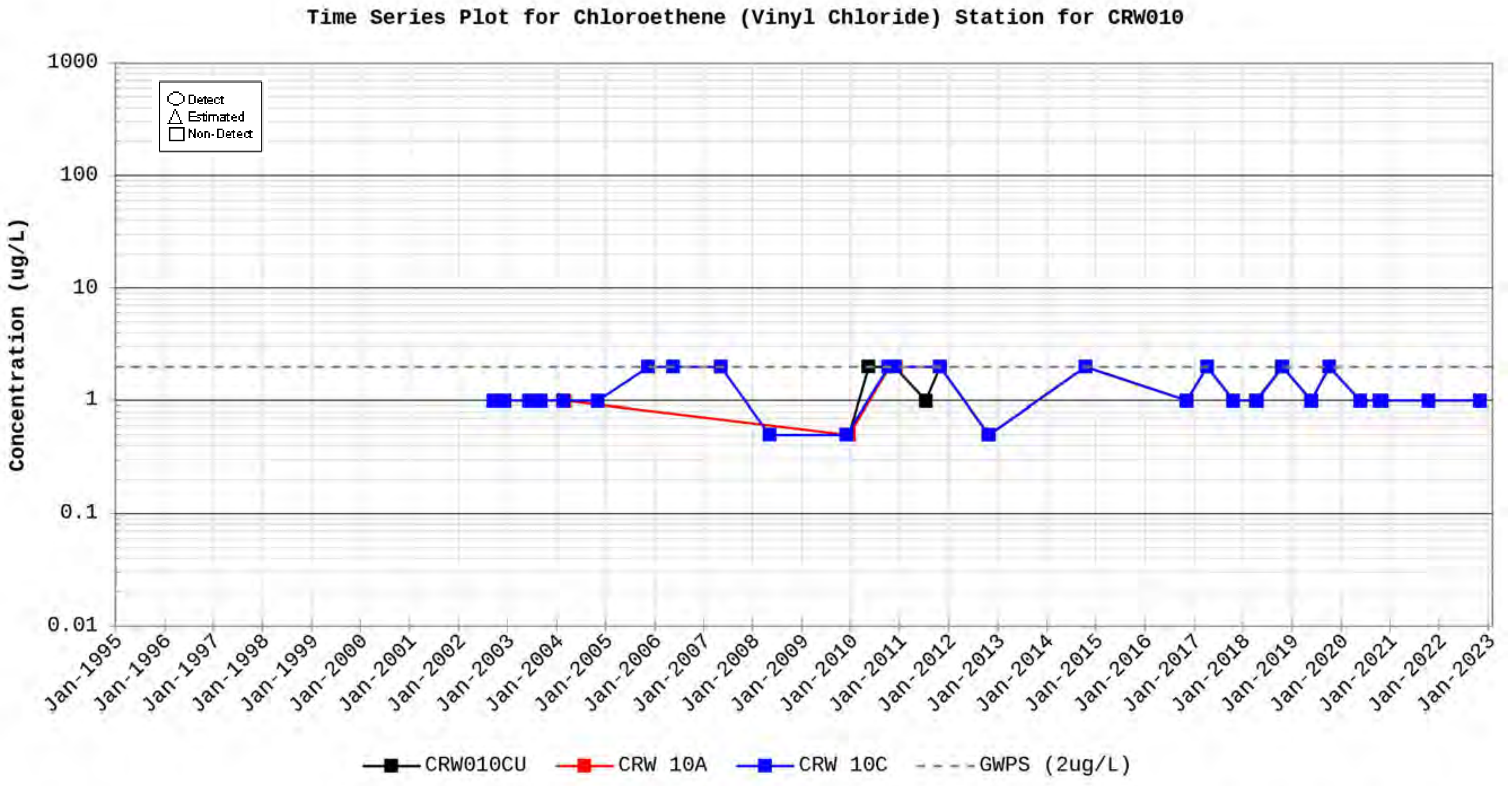

Time Series Plot for Chloroethene (Vinyl Chloride) Station for CRW010
Concentration (ug/L)
1000
100
10
1
0.1
0.01
Detect
Estimated
Non-Detect
Jan-1995
Jan-1996
Jan-1997
Jan-1998
Jan-1999
Jan-2000
Jan-2001
Jan-2002
Jan-2003
Jan-2004
Jan-2005
Jan-2006
Jan-2007
Jan-2008
Jan-2009
Jan-2010
Jan-2011
Jan-2012
Jan-2013
Jan-2014
Jan-2015
Jan-2016
Jan-2017
Jan-2018
Jan-2019
Jan-2020
Jan-2021
Jan-2022
Jan-2023
CRW010CU
CRW 10A
CRW 10C
GWPS (2ug/L)

Figure C-35.

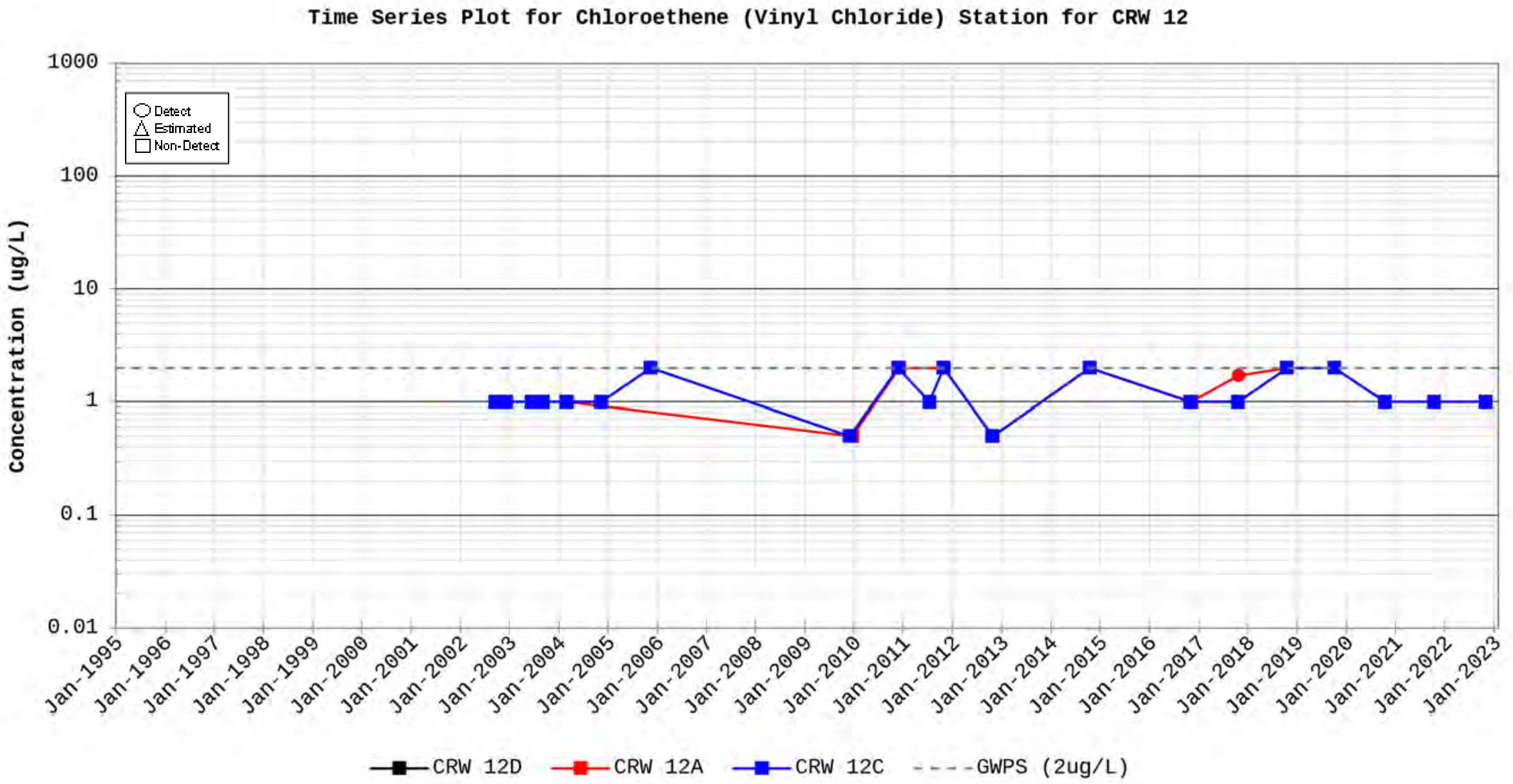

Time Series Plot for Chloroethene (Vinyl Chloride) Station for CRW 12
Concentration (ug/L)
1000
100
10
1
0.1
0.01
○ Detect
△ Estimated
☐ Non-Detect
Jan-1995
Jan-1996
Jan-1997
Jan-1998
Jan-1999
Jan-2000
Jan-2001
Jan-2002
Jan-2003
Jan-2004
Jan-2005
Jan-2006
Jan-2007
Jan-2008
Jan-2009
Jan-2010
Jan-2011
Jan-2012
Jan-2013
Jan-2014
Jan-2015
Jan-2016
Jan-2017
Jan-2018
Jan-2019
Jan-2020
Jan-2021
Jan-2022
Jan-2023
CRW 12D
CRW 12A
CRW 12C
GWPS (2ug/L)

Figure C-36.

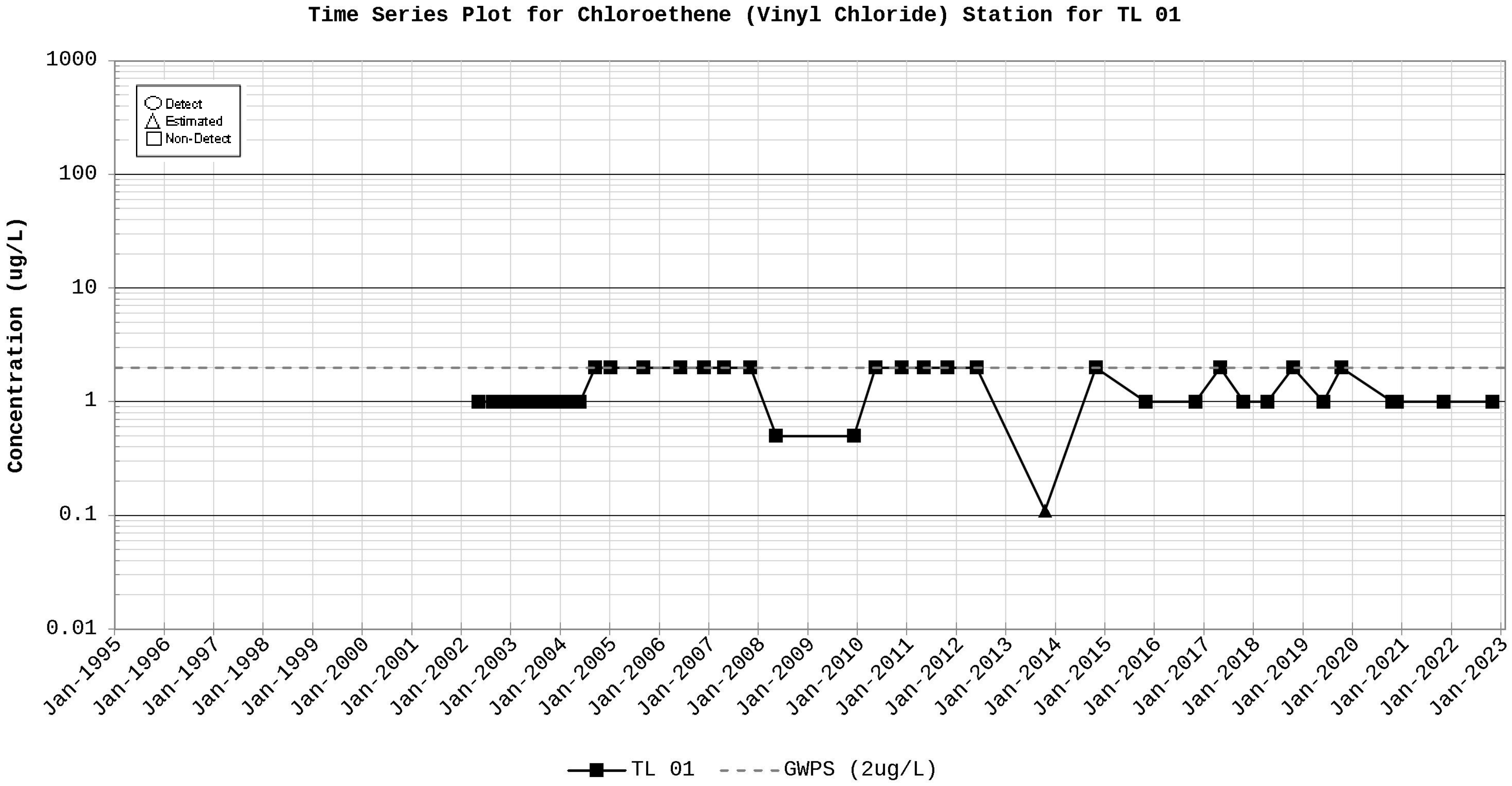

Time Series Plot for Chloroethene (Vinyl Chloride) Station for TL 01
Concentration (ug/L)
1000
100
10
1
0.1
0.01
Detect
Estimated
Non-Detect
Jan-1995
Jan-1996
Jan-1997
Jan-1998
Jan-1999
Jan-2000
Jan-2001
Jan-2002
Jan-2003
Jan-2004
Jan-2005
Jan-2006
Jan-2007
Jan-2008
Jan-2009
Jan-2010
Jan-2011
Jan-2012
Jan-2013
Jan-2014
Jan-2015
Jan-2016
Jan-2017
Jan-2018
Jan-2019
Jan-2020
Jan-2021
Jan-2022
Jan-2023
TL 01
GWPS (2ug/L)

Figure C-37.

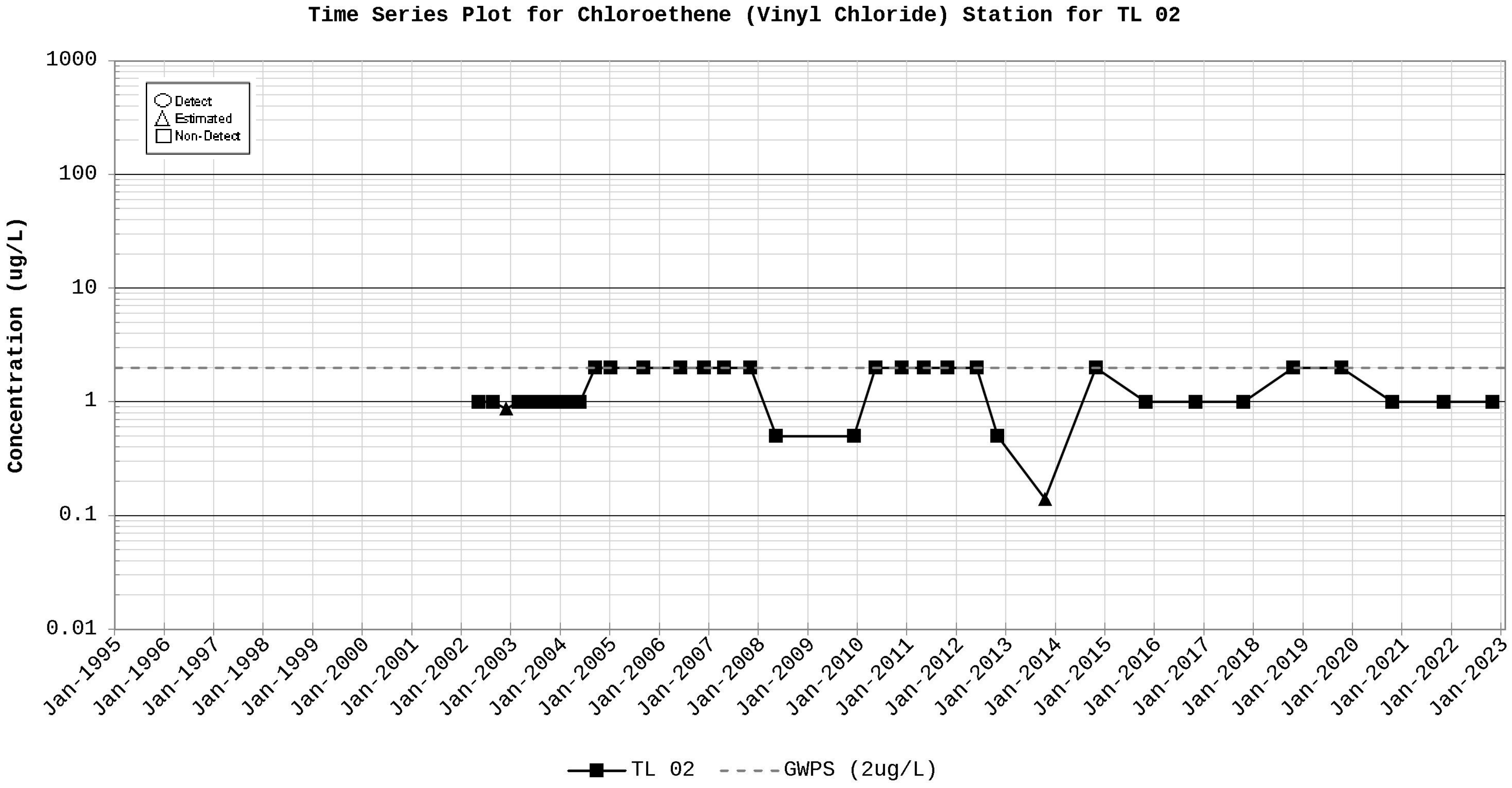

Time Series Plot for Chloroethene (Vinyl Chloride) Station for TL 02
Concentration (ug/L)
1000
100
10
1
0.1
0.01
○ Detect
△ Estimated
☐ Non-Detect
Jan-1995
Jan-1996
Jan-1997
Jan-1998
Jan-1999
Jan-2000
Jan-2001
Jan-2002
Jan-2003
Jan-2004
Jan-2005
Jan-2006
Jan-2007
Jan-2008
Jan-2009
Jan-2010
Jan-2011
Jan-2012
Jan-2013
Jan-2014
Jan-2015
Jan-2016
Jan-2017
Jan-2018
Jan-2019
Jan-2020
Jan-2021
Jan-2022
Jan-2023
TL 02
GWPS (2ug/L)

Figure C-38.

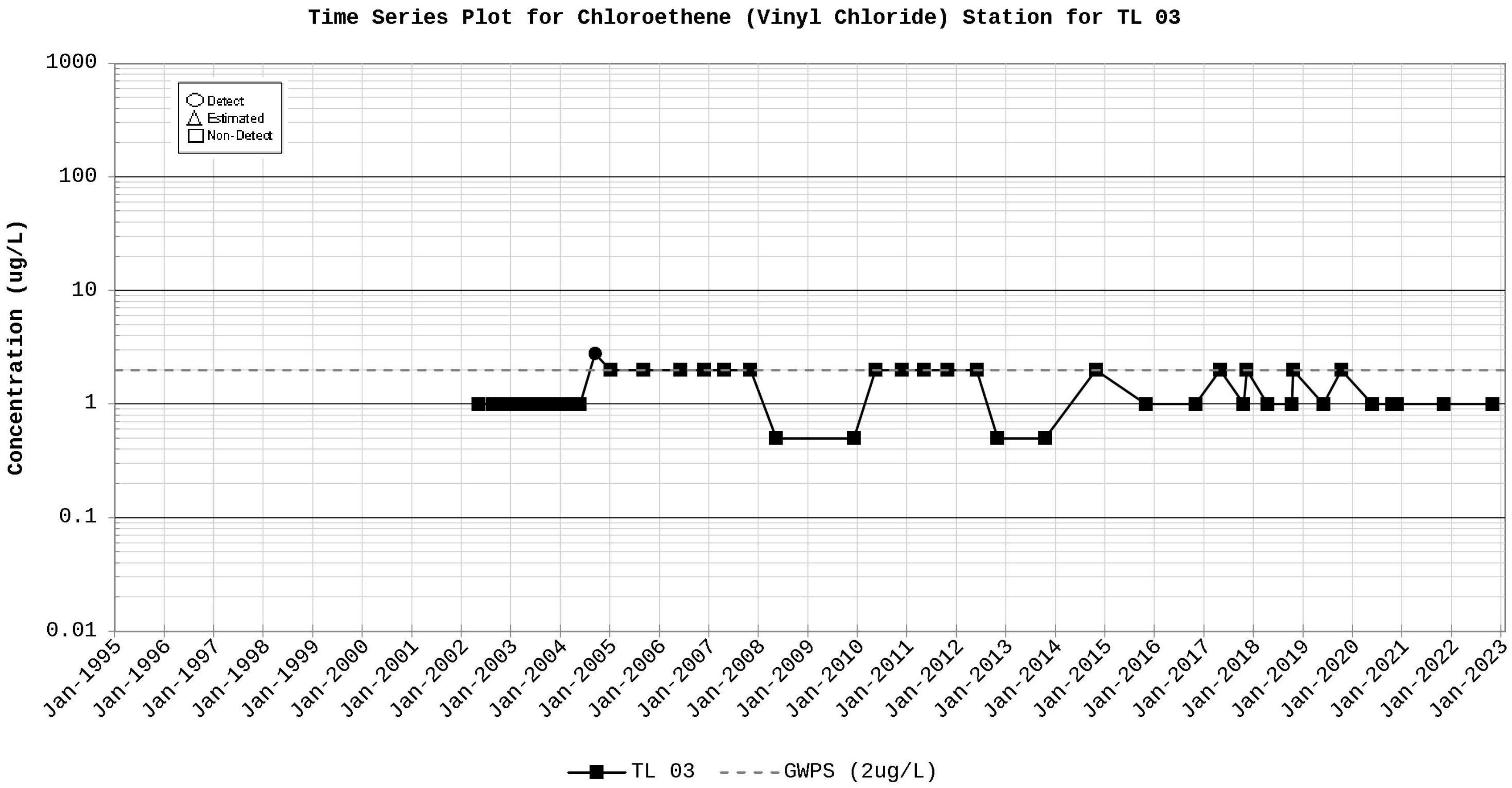
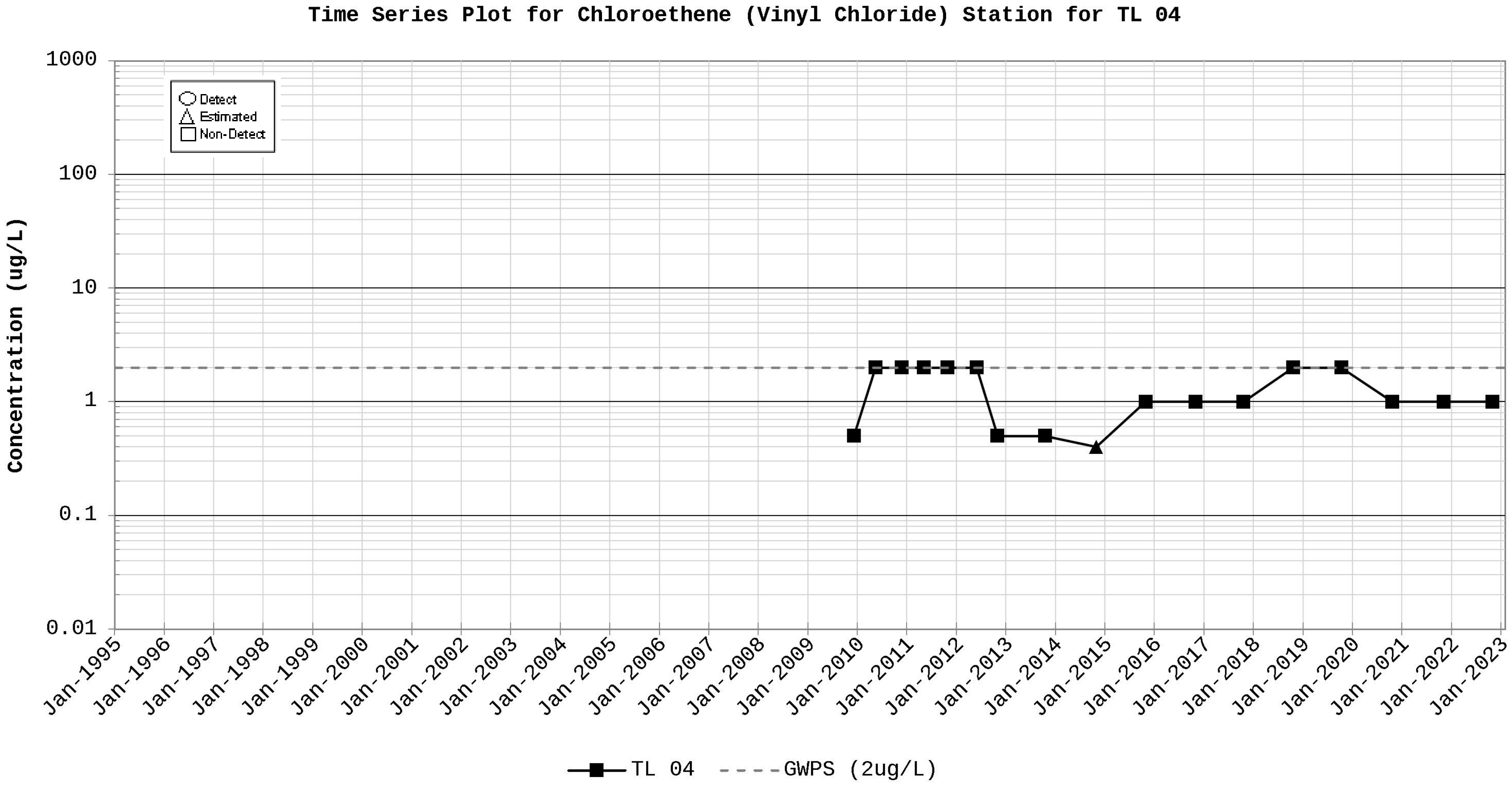

Time Series Plot for Chloroethene (Vinyl Chloride) Station for TL 03
Concentration (ug/L)
1000
100
10
1
0.1
0.01
Detect
Estimated
Non-Detect
Jan-1995
Jan-1996
Jan-1997
Jan-1998
Jan-1999
Jan-2000
Jan-2001
Jan-2002
Jan-2003
Jan-2004
Jan-2005
Jan-2006
Jan-2007
Jan-2008
Jan-2009
Jan-2010
Jan-2011
Jan-2012
Jan-2013
Jan-2014
Jan-2015
Jan-2016
Jan-2017
Jan-2018
Jan-2019
Jan-2020
Jan-2021
Jan-2022
Jan-2023
TL 03
GWPS (2ug/L)

Figure C-39.


Time Series Plot for Chloroethene (Vinyl Chloride) Station for TL 04
Concentration (ug/L)
1000
100
10
1
0.1
0.01
Detect
Estimated
Non-Detect
Jan-1995
Jan-1996
Jan-1997
Jan-1998
Jan-1999
Jan-2000
Jan-2001
Jan-2002
Jan-2003
Jan-2004
Jan-2005
Jan-2006
Jan-2007
Jan-2008
Jan-2009
Jan-2010
Jan-2011
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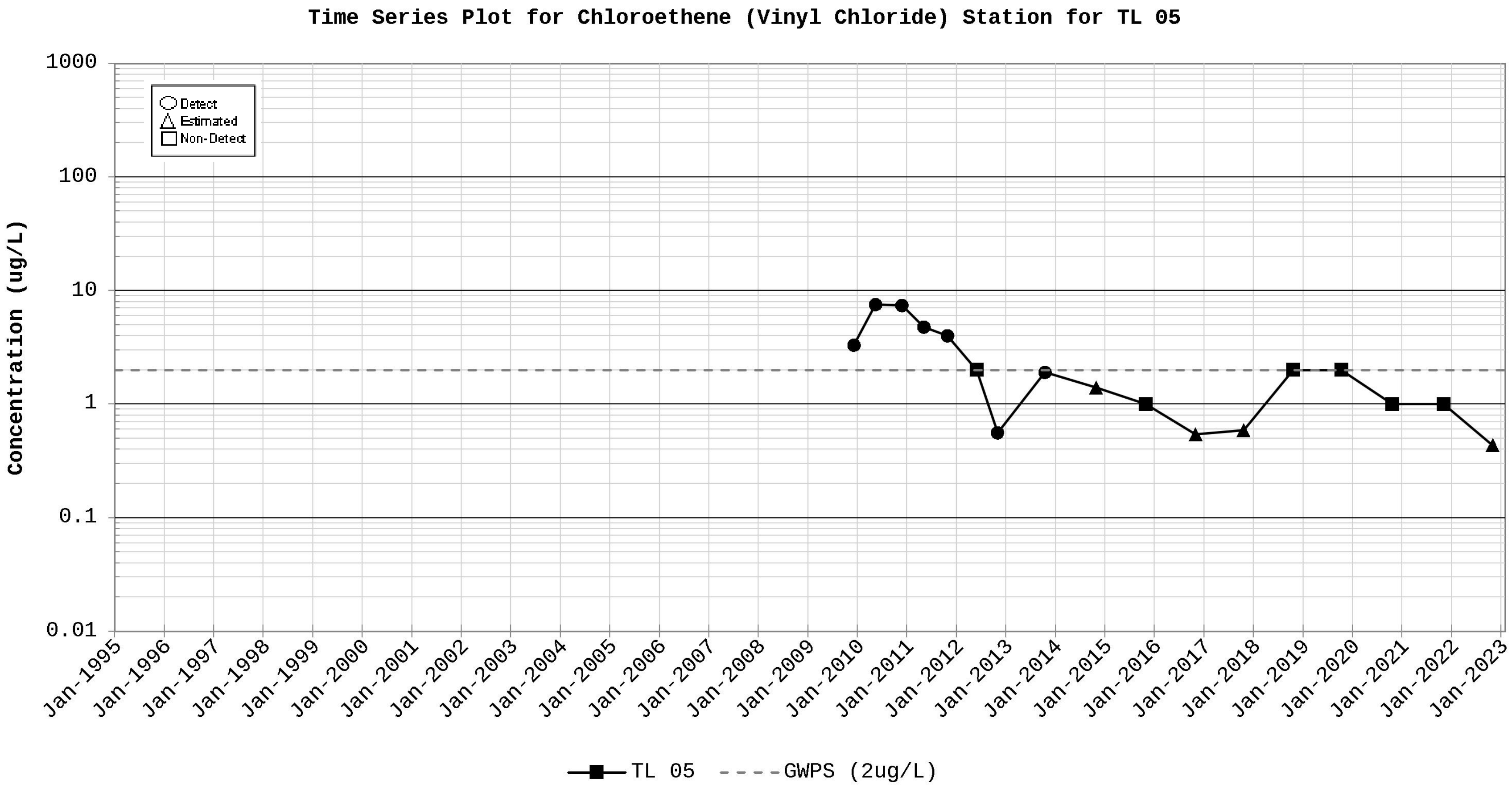
Jan-2015
Jan-2016
Jan-2017
Jan-2018
Jan-2019
Jan-2020
Jan-2021
Jan-2022
Jan-2023
TL 04
GWPS (2ug/L)

Figure C-40.


Time Series Plot for Chloroethene (Vinyl Chloride) Station for TL 05
Concentration (ug/L)
1000
100
10
1
0.1
0.01
Detect
Estimated
Non-Detect
Jan-1995
Jan-1996
Jan-1997
Jan-1998
Jan-1999
Jan-2000
Jan-2001
Jan-2002
Jan-2003
Jan-2004
Jan-2005
Jan-2006
Jan-2007
Jan-2008
Jan-2009
Jan-2010
Jan-2011
Jan-2012
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Jan-2014
Jan-2015
Jan-2016
Jan-2017
Jan-2018
Jan-2019
Jan-2020
Jan-2021
Jan-2022
Jan-2023
TL 05
GWPS (2ug/L)

Figure C-41.

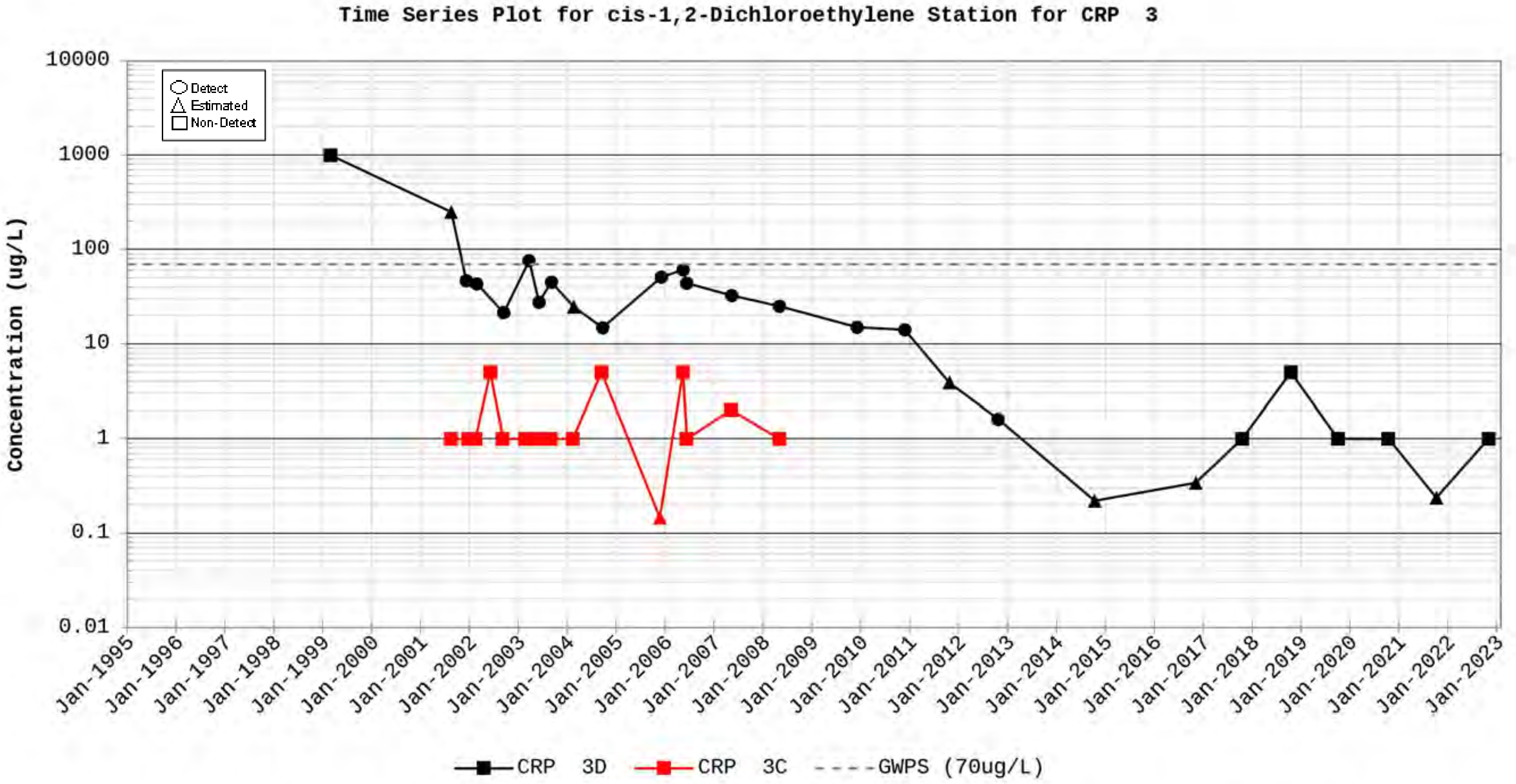

Time Series Plot for cis-1,2-Dichloroethylene Station for CRP 3
Concentration (ug/L)
10000
1000
100
10
1
0.1
0.01
○ Detect
△ Estimated
☐ Non-Detect
Jan-1995
Jan-1996
Jan-1997
Jan-1998
Jan-1999
Jan-2000
Jan-2001
Jan-2002
Jan-2003
Jan-2004
Jan-2005
Jan-2006
Jan-2007
Jan-2008
Jan-2009
Jan-2010
Jan-2011
Jan-2012
Jan-2013
Jan-2014
Jan-2015
Jan-2016
Jan-2017
Jan-2018
Jan-2019
Jan-2020
Jan-2021
Jan-2022
Jan-2023
CRP 3D
CRP 3C
GWPS (70ug/L)

Figure C-42.

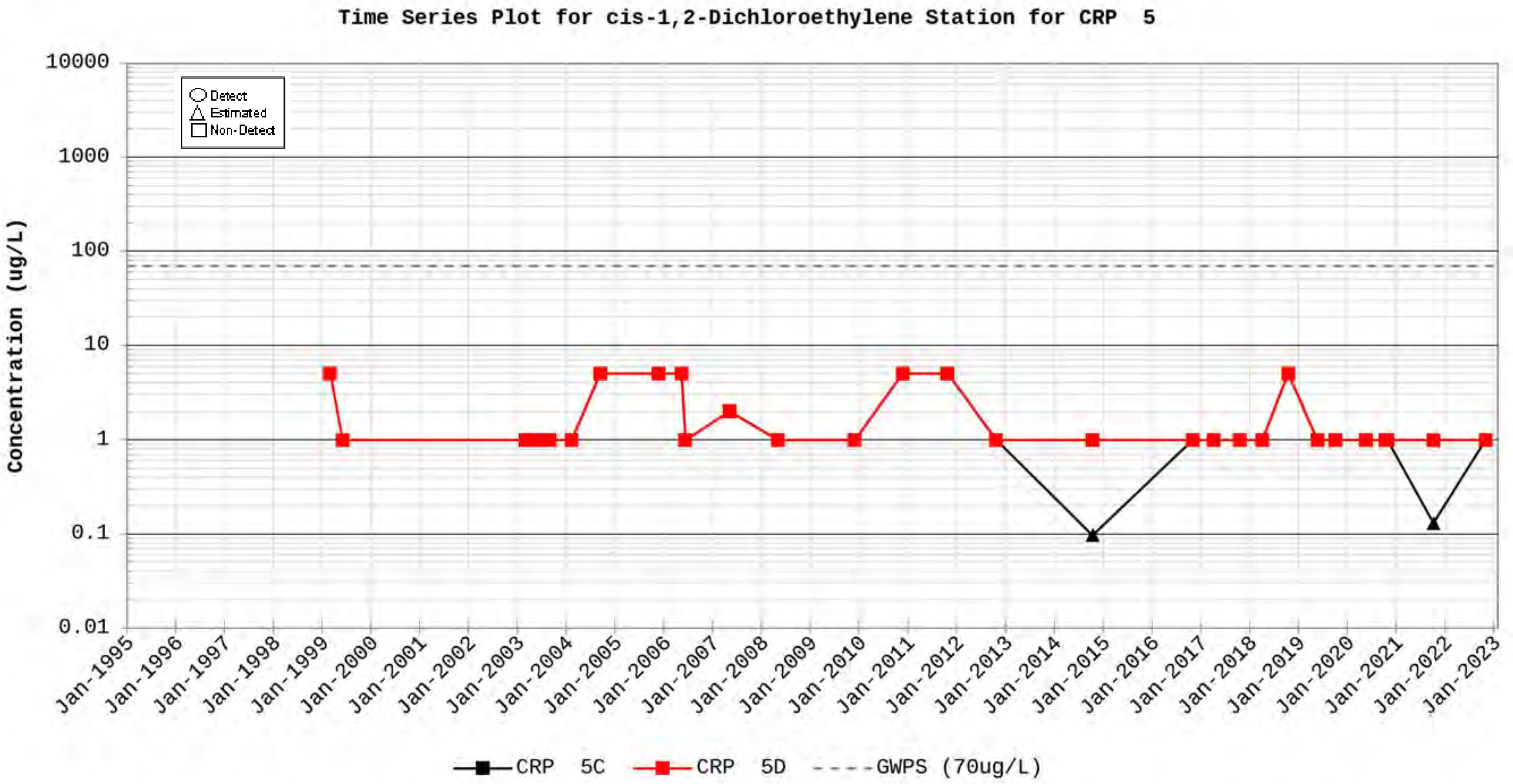

Time Series Plot for cis-1,2-Dichloroethylene Station for CRP 5
Concentration (ug/L)
10000
1000
100
10
1
0.1
0.01
Detect
Estimated
Non-Detect
Jan-1995
Jan-1996
Jan-1997
Jan-1998
Jan-1999
Jan-2000
Jan-2001
Jan-2002
Jan-2003
Jan-2004
Jan-2005
Jan-2006
Jan-2007
Jan-2008
Jan-2009
Jan-2010
Jan-2011
Jan-2012
Jan-2013
Jan-2014
Jan-2015
Jan-2016
Jan-2017
Jan-2018
Jan-2019
Jan-2020
Jan-2021
Jan-2022
Jan-2023
CRP 5C
CRP 5D
GWPS (70ug/L)

Figure C-43.

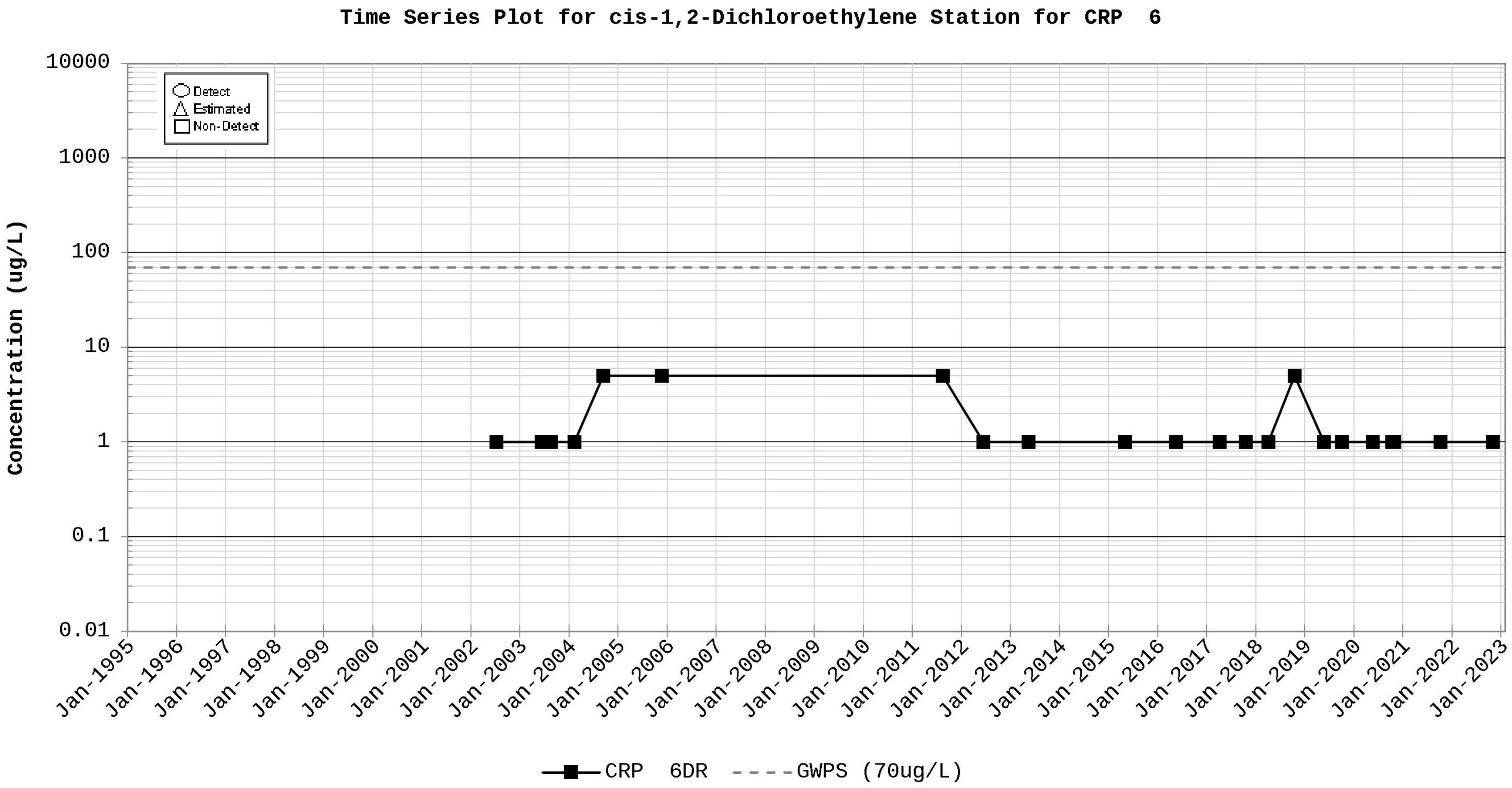

Time Series Plot for cis-1,2-Dichloroethylene Station for CRP 6
Concentration (ug/L)
10000
1000
100
10
1
0.1
0.01
Detect
Estimated
Non-Detect
Jan-1995
Jan-1996
Jan-1997
Jan-1998
Jan-1999
Jan-2000
Jan-2001
Jan-2002
Jan-2003
Jan-2004
Jan-2005
Jan-2006
Jan-2007
Jan-2008
Jan-2009
Jan-2010
Jan-2011
Jan-2012
Jan-2013
Jan-2014
Jan-2015
Jan-2016
Jan-2017
Jan-2018
Jan-2019
Jan-2020
Jan-2021
Jan-2022
Jan-2023
CRP 6DR
GWPS (70ug/L)

Figure C-44.

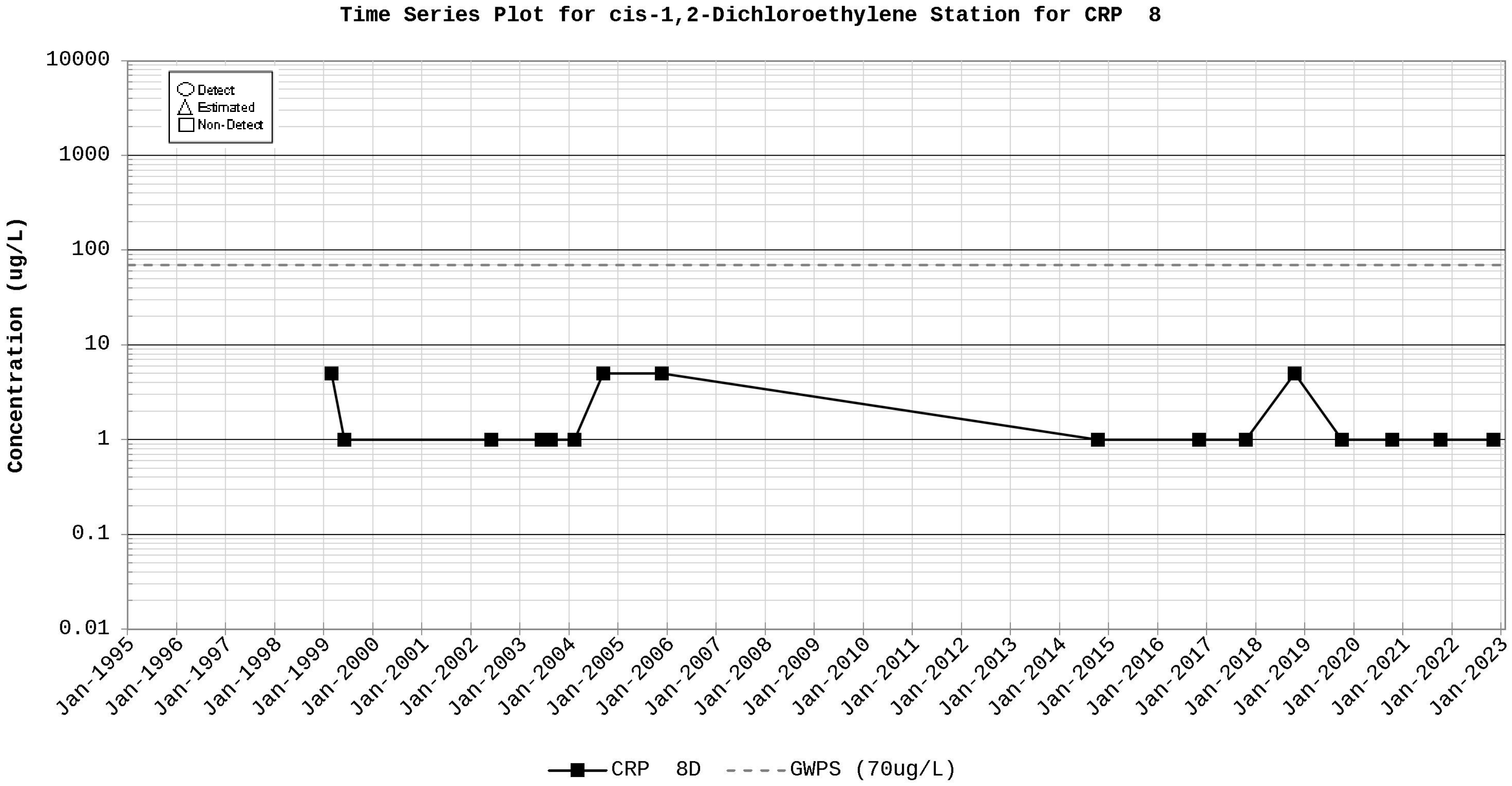

Time Series Plot for cis-1,2-Dichloroethylene Station for CRP 8
Detect
Estimated
Non-Detect
Concentration (ug/L)
10000
1000
100
10
1
0.1
0.01
Jan-1995
Jan-1996
Jan-1997
Jan-1998
Jan-1999
Jan-2000
Jan-2001
Jan-2002
Jan-2003
Jan-2004
Jan-2005
Jan-2006
Jan-2007
Jan-2008
Jan-2009
Jan-2010
Jan-2011
Jan-2012
Jan-2013
Jan-2014
Jan-2015
Jan-2016
Jan-2017
Jan-2018
Jan-2019
Jan-2020
Jan-2021
Jan-2022
Jan-2023
CRP 8D
GWPS (70ug/L)

Figure C-45.

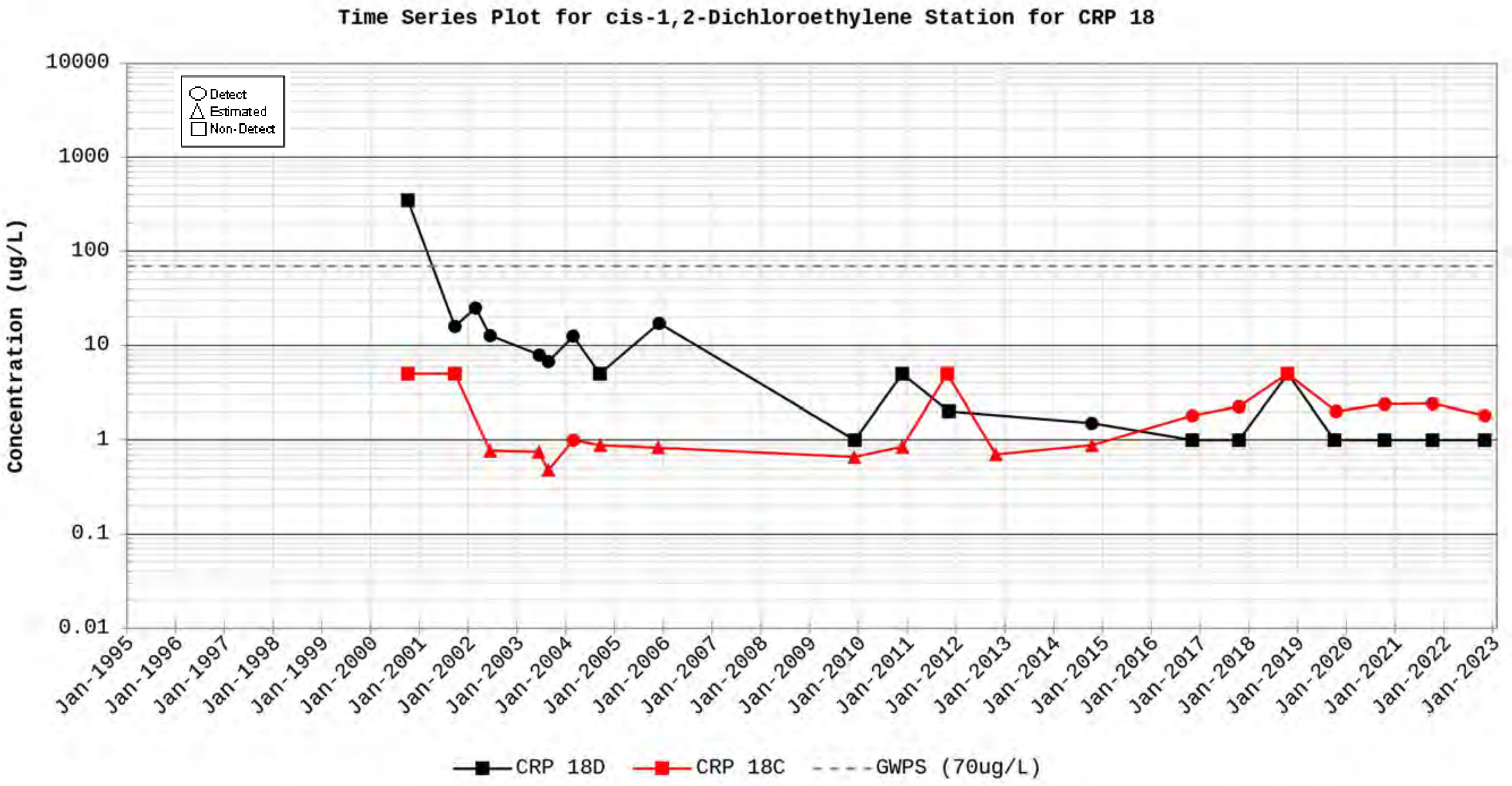
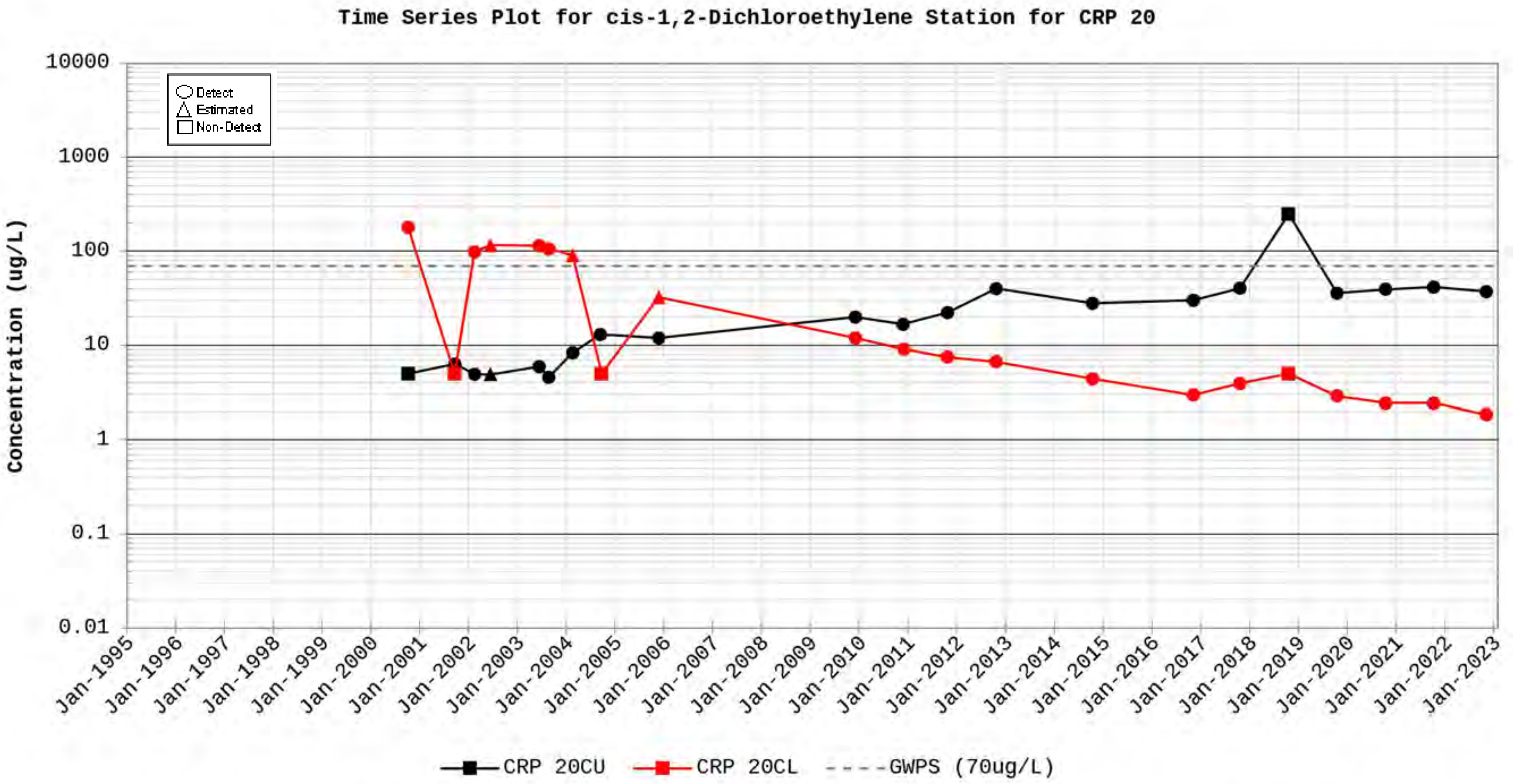

Time Series Plot for cis-1,2-Dichloroethylene Station for CRP 18
Concentration (ug/L)
10000
1000
100
10
1
0.1
0.01
Detect
Estimated
Non-Detect
Jan-1995
Jan-1996
Jan-1997
Jan-1998
Jan-1999
Jan-2000
Jan-2001
Jan-2002
Jan-2003
Jan-2004
Jan-2005
Jan-2006
Jan-2007
Jan-2008
Jan-2009
Jan-2010
Jan-2011
Jan-2012
Jan-2013
Jan-2014
Jan-2015
Jan-2016
Jan-2017
Jan-2018
Jan-2019
Jan-2020
Jan-2021
Jan-2022
Jan-2023
CRP 18D
CRP 18C
GWPS (70ug/L)

Figure C-46.


Time Series Plot for cis-1,2-Dichloroethylene Station for CRP 20
Concentration (ug/L)
10000
1000
100
10
1
0.1
0.01
Detect
Estimated
Non-Detect
Jan-1995
Jan-1996
Jan-1997
Jan-1998
Jan-1999
Jan-2000
Jan-2001
Jan-2002
Jan-2003
Jan-2004
Jan-2005
Jan-2006
Jan-2007
Jan-2008
Jan-2009
Jan-2010
Jan-2011
Jan-2012
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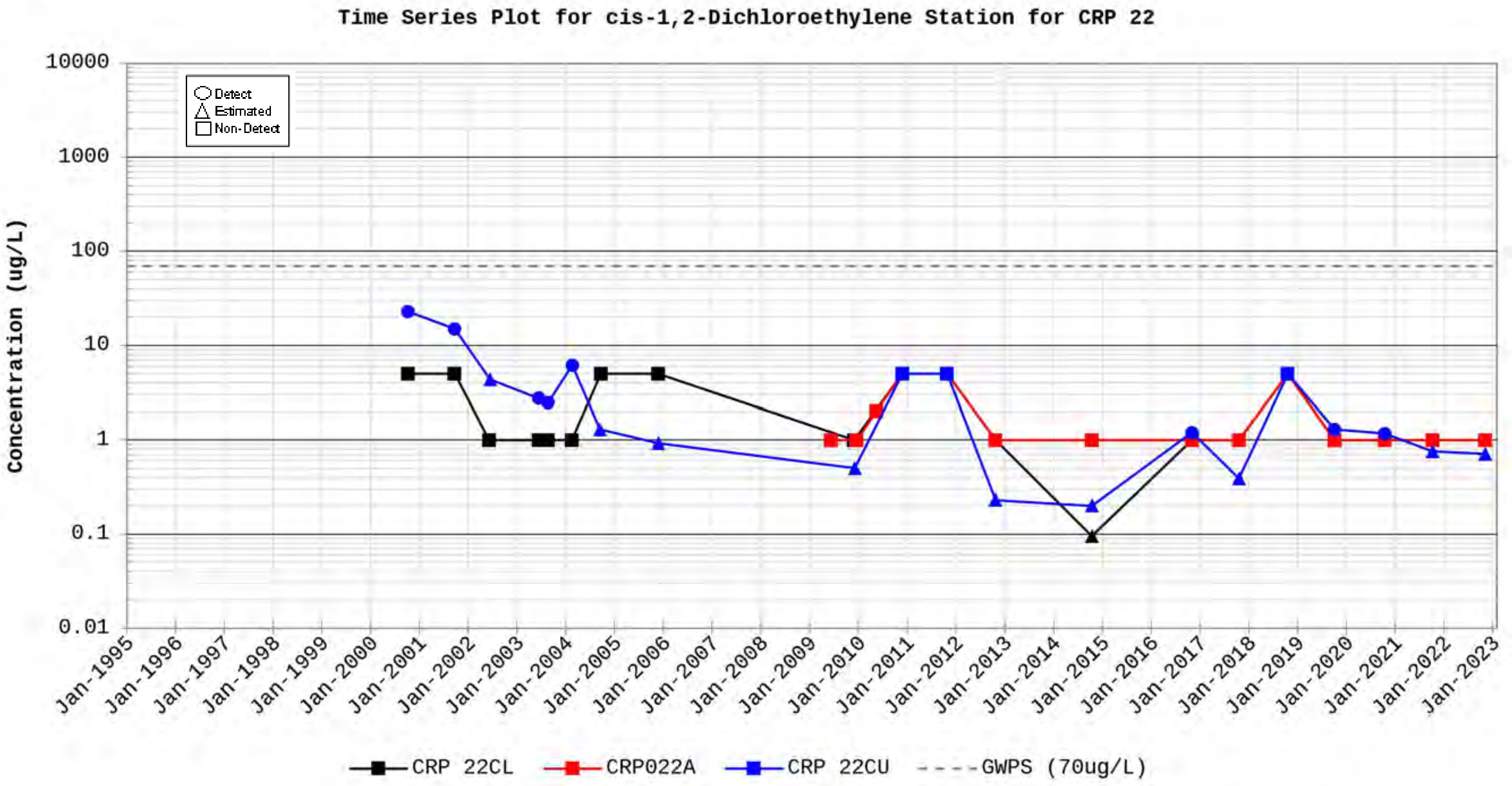
Jan-2016
Jan-2017
Jan-2018
Jan-2019
Jan-2020
Jan-2021
Jan-2022
Jan-2023
CRP 20CU
CRP 20CL
GWPS (70ug/L)

Figure C-47.


Time Series Plot for cis-1,2-Dichloroethylene Station for CRP 22
Concentration (ug/L)
10000
1000
100
10
1
0.1
0.01
○ Detect
△ Estimated
☐ Non-Detect
Jan-1995
Jan-1996
Jan-1997
Jan-1998
Jan-1999
Jan-2000
Jan-2001
Jan-2002
Jan-2003
Jan-2004
Jan-2005
Jan-2006
Jan-2007
Jan-2008
Jan-2009
Jan-2010
Jan-2011
Jan-2012
Jan-2013
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Jan-2015
Jan-2016
Jan-2017
Jan-2018
Jan-2019
Jan-2020
Jan-2021
Jan-2022
Jan-2023
CRP 22CL
CRP022A
CRP 22CU
GWPS (70ug/L)

Figure C-48.

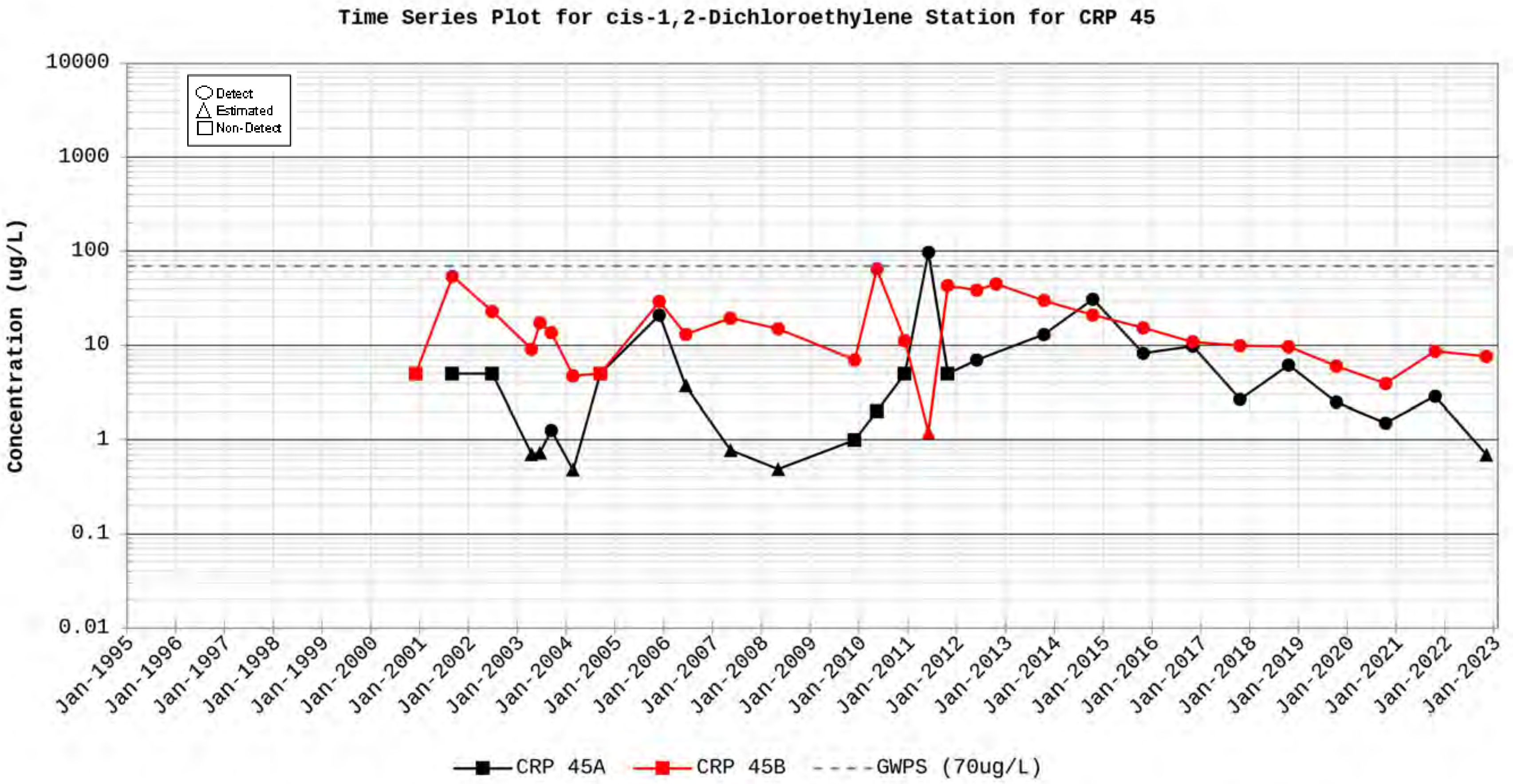

Time Series Plot for cis-1,2-Dichloroethylene Station for CRP 45
Concentration (ug/L)
10000
1000
100
10
1
0.1
0.01
Detect
Estimated
Non-Detect
Jan-1995
Jan-1996
Jan-1997
Jan-1998
Jan-1999
Jan-2000
Jan-2001
Jan-2002
Jan-2003
Jan-2004
Jan-2005
Jan-2006
Jan-2007
Jan-2008
Jan-2009
Jan-2010
Jan-2011
Jan-2012
Jan-2013
Jan-2014
Jan-2015
Jan-2016
Jan-2017
Jan-2018
Jan-2019
Jan-2020
Jan-2021
Jan-2022
Jan-2023
CRP 45A
CRP 45B
GWPS (70ug/L)

Figure C-49.

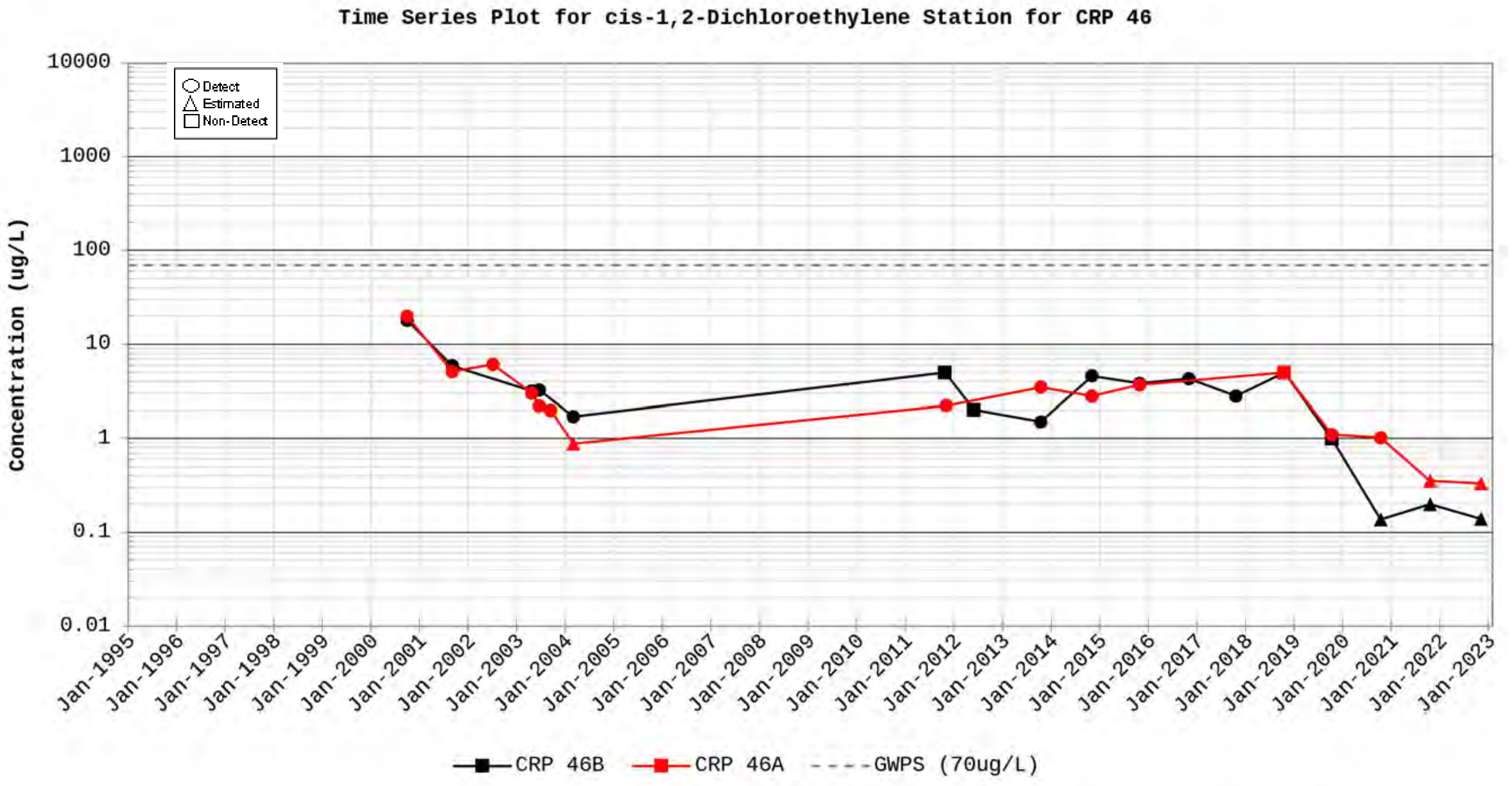

Time Series Plot for cis-1,2-Dichloroethylene Station for CRP 46
Concentration (ug/L)
10000
1000
100
10
1
0.1
0.01
Detect
Estimated
Non-Detect
Jan-1995
Jan-1996
Jan-1997
Jan-1998
Jan-1999
Jan-2000
Jan-2001
Jan-2002
Jan-2003
Jan-2004
Jan-2005
Jan-2006
Jan-2007
Jan-2008
Jan-2009
Jan-2010
Jan-2011
Jan-2012
Jan-2013
Jan-2014
Jan-2015
Jan-2016
Jan-2017
Jan-2018
Jan-2019
Jan-2020
Jan-2021
Jan-2022
Jan-2023
CRP 46B
CRP 46A
GWPS (70ug/L)

Figure C-50.

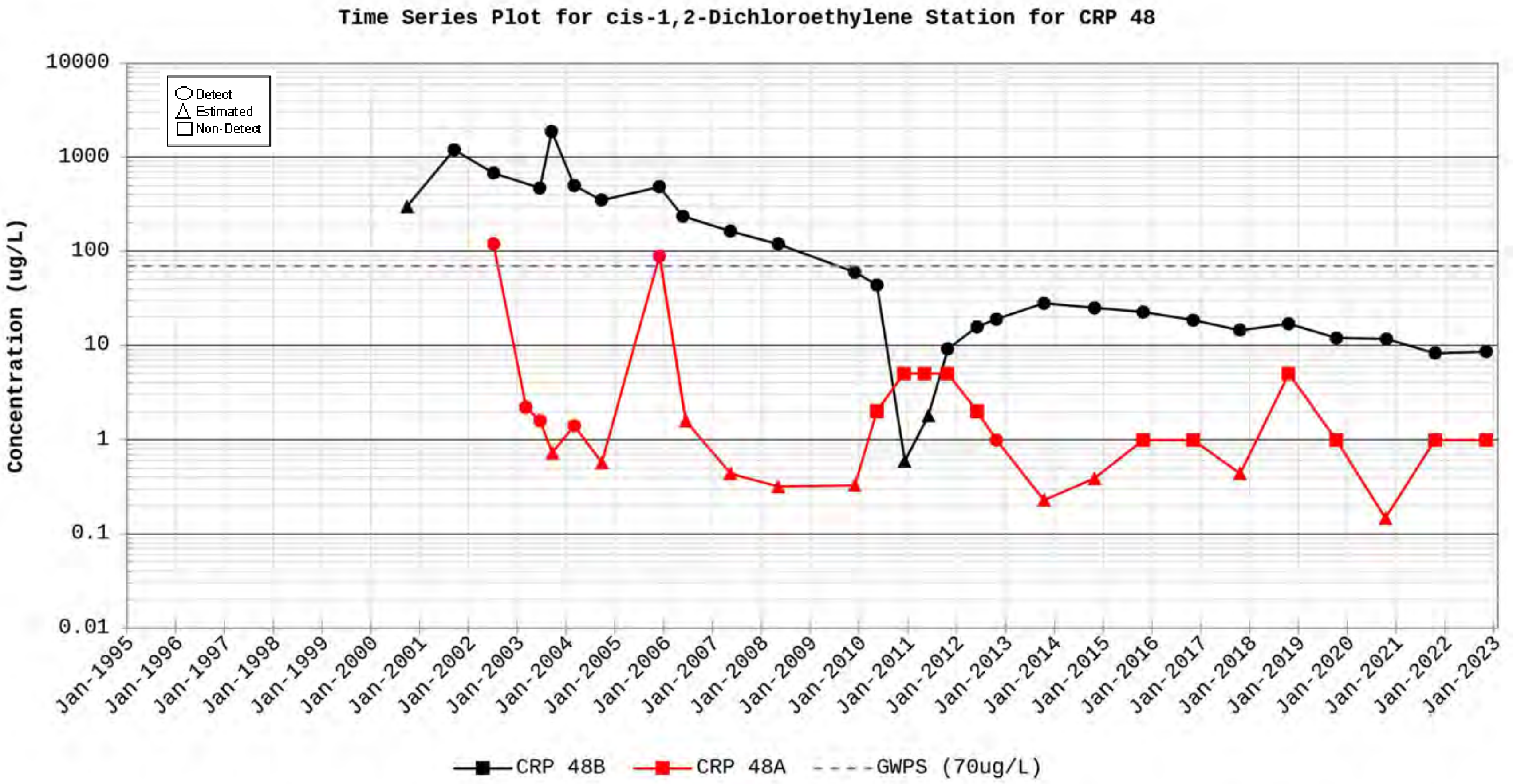
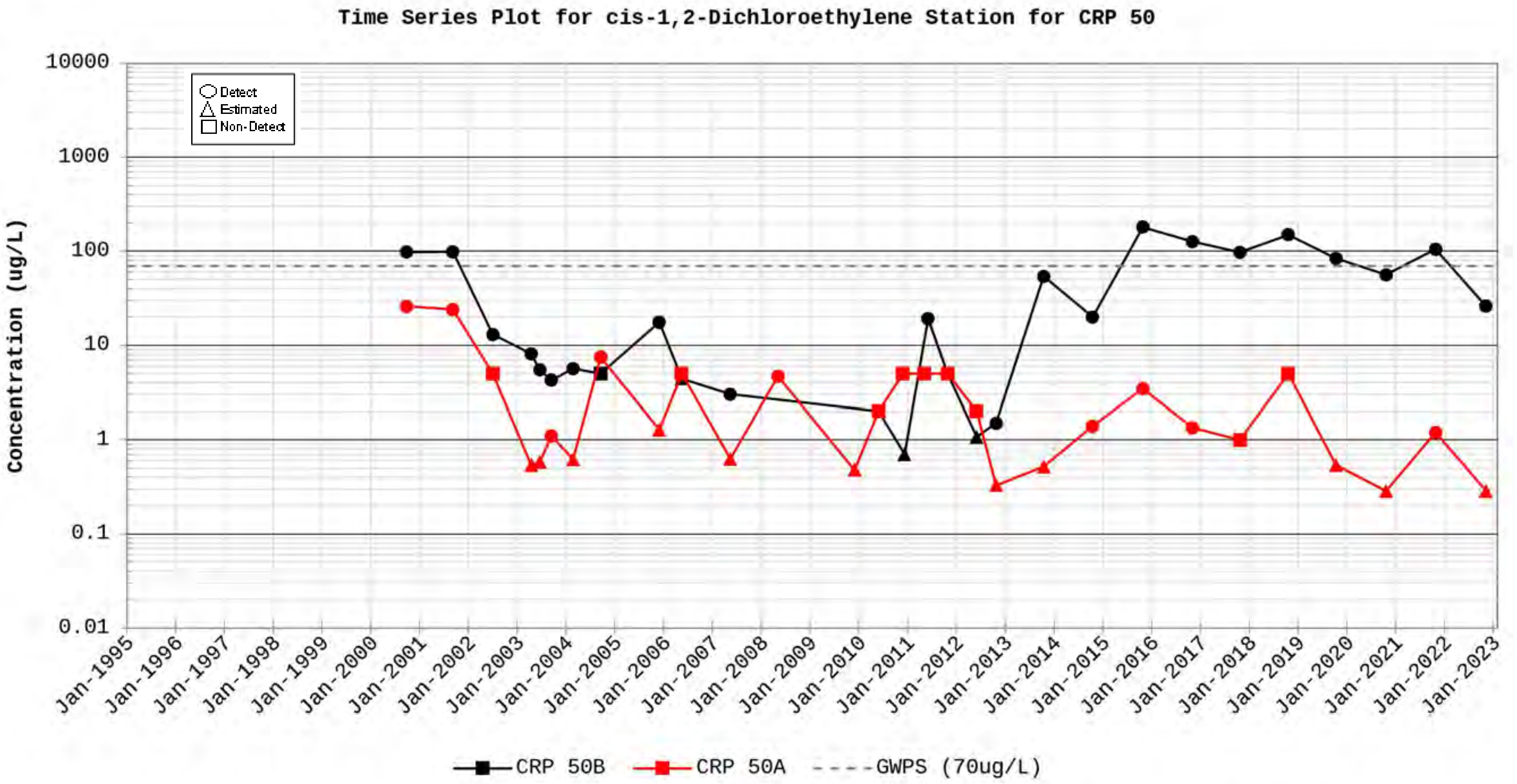

Time Series Plot for cis-1,2-Dichloroethylene Station for CRP 48
Concentration (ug/L)
10000
1000
100
10
1
0.1
0.01
Detect
Estimated
Non-Detect
Jan-1995
Jan-1996
Jan-1997
Jan-1998
Jan-1999
Jan-2000
Jan-2001
Jan-2002
Jan-2003
Jan-2004
Jan-2005
Jan-2006
Jan-2007
Jan-2008
Jan-2009
Jan-2010
Jan-2011
Jan-2012
Jan-2013
Jan-2014
Jan-2015
Jan-2016
Jan-2017
Jan-2018
Jan-2019
Jan-2020
Jan-2021
Jan-2022
Jan-2023
CRP 48B
CRP 48A
GWPS (70ug/L)

Figure C-51.


Time Series Plot for cis-1,2-Dichloroethylene Station for CRP 50
Detect
Estimated
Non-Detect
Concentration (ug/L)
10000
1000
100
10
1
0.1
0.01
Jan-1995
Jan-1996
Jan-1997
Jan-1998
Jan-1999
Jan-2000
Jan-2001
Jan-2002
Jan-2003
Jan-2004
Jan-2005
Jan-2006
Jan-2007
Jan-2008
Jan-2009
Jan-2010
Jan-2011
Jan-2012
Jan-2013
Jan-2014
Jan-2015
Jan-2016
Jan-2017
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Jan-2019
Jan-2020
Jan-2021
Jan-2022
Jan-2023
CRP 50B
CRP 50A
GWPS (70ug/L)

Figure C-52.

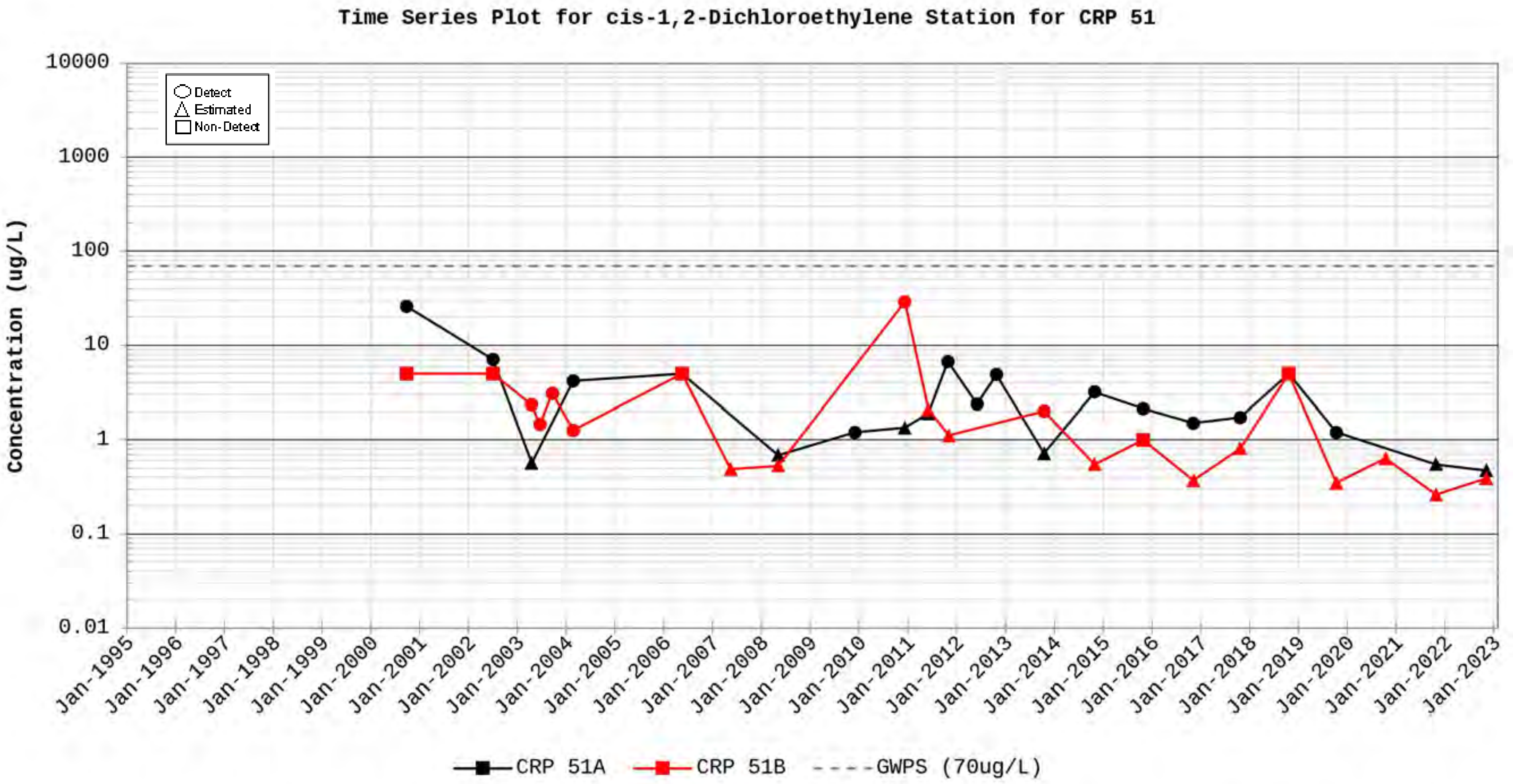
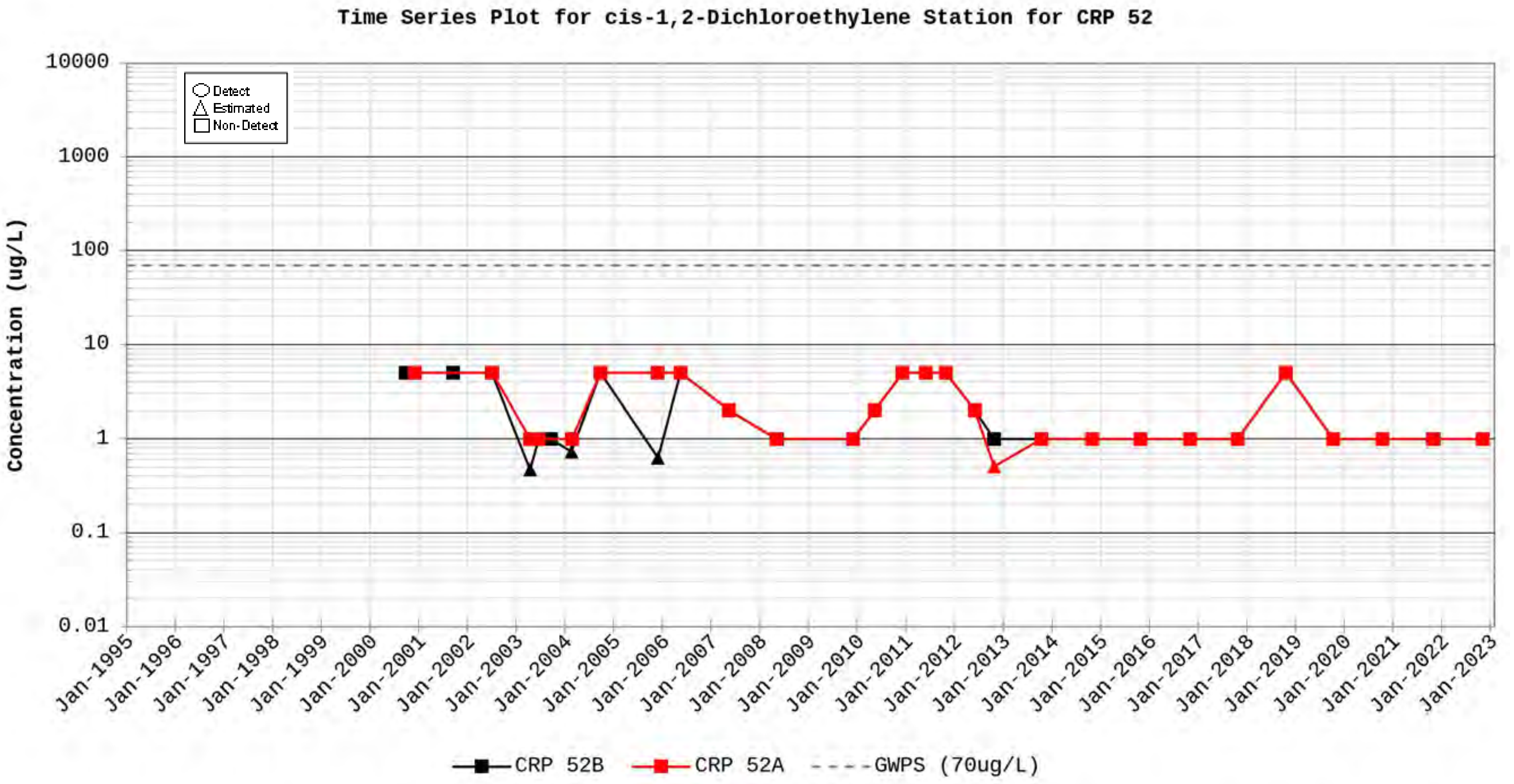

Time Series Plot for cis-1,2-Dichloroethylene Station for CRP 51
Concentration (ug/L)
10000
1000
100
10
1
0.1
0.01
○ Detect
△ Estimated
☐ Non-Detect
Jan-1995
Jan-1996
Jan-1997
Jan-1998
Jan-1999
Jan-2000
Jan-2001
Jan-2002
Jan-2003
Jan-2004
Jan-2005
Jan-2006
Jan-2007
Jan-2008
Jan-2009
Jan-2010
Jan-2011
Jan-2012
Jan-2013
Jan-2014
Jan-2015
Jan-2016
Jan-2017
Jan-2018
Jan-2019
Jan-2020
Jan-2021
Jan-2022
Jan-2023
CRP 51A
CRP 51B
GWPS (70ug/L)

Figure C-53.


Time Series Plot for cis-1,2-Dichloroethylene Station for CRP 52
Concentration (ug/L)
10000
1000
100
10
1
0.1
0.01
Detect
Estimated
Non-Detect
Jan-1995
Jan-1996
Jan-1997
Jan-1998
Jan-1999
Jan-2000
Jan-2001
Jan-2002
Jan-2003
Jan-2004
Jan-2005
Jan-2006
Jan-2007
Jan-2008
Jan-2009
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Jan-2011
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Jan-2016
Jan-2017
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Jan-2020
Jan-2021
Jan-2022
Jan-2023
CRP 52B
CRP 52A
GWPS (70ug/L)

Figure C-54.

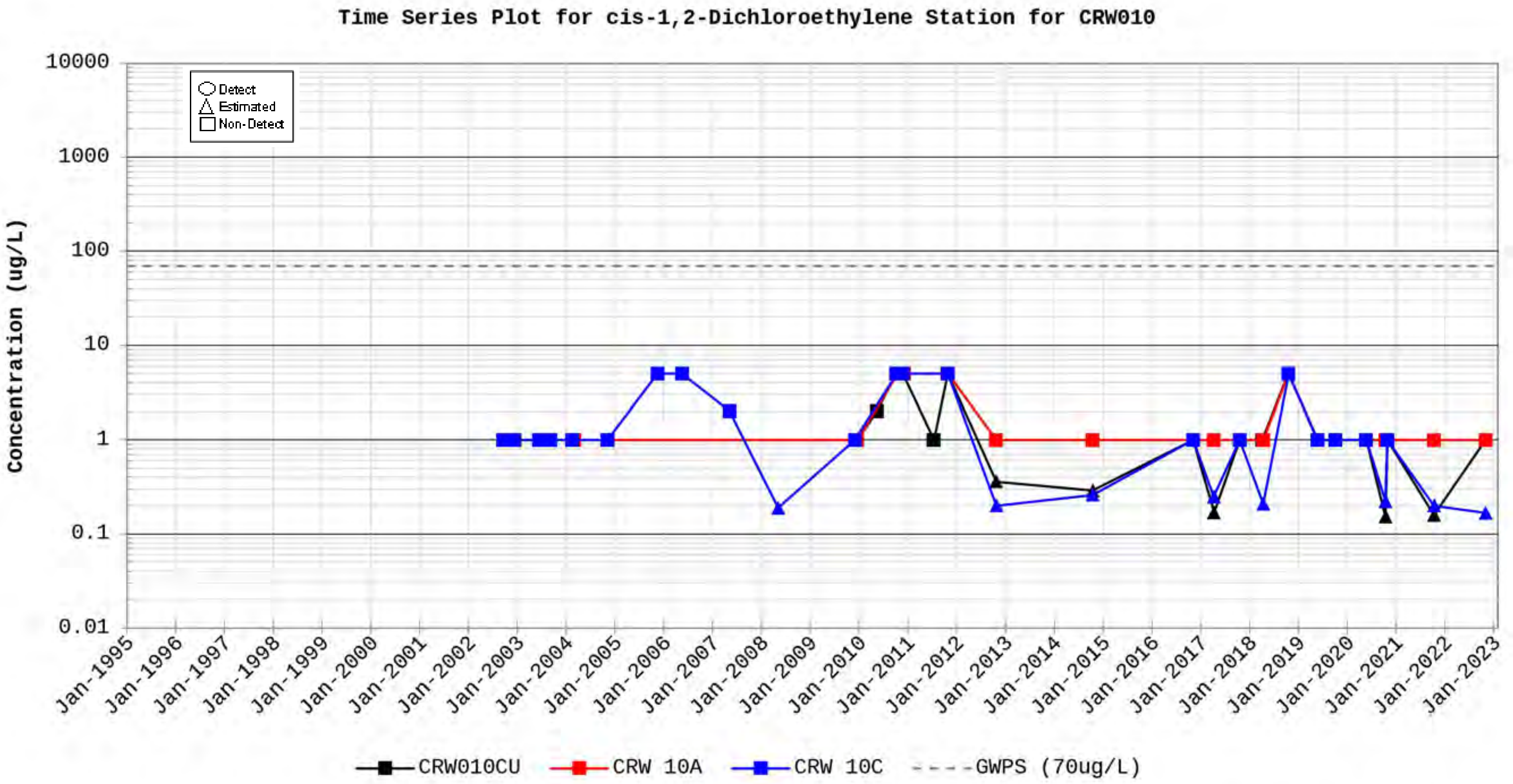

Time Series Plot for cis-1,2-Dichloroethylene Station for CRW010
Concentration (ug/L)
10000
1000
100
10
1
0.1
0.01
○ Detect
△ Estimated
☐ Non-Detect
Jan-1995
Jan-1996
Jan-1997
Jan-1998
Jan-1999
Jan-2000
Jan-2001
Jan-2002
Jan-2003
Jan-2004
Jan-2005
Jan-2006
Jan-2007
Jan-2008
Jan-2009
Jan-2010
Jan-2011
Jan-2012
Jan-2013
Jan-2014
Jan-2015
Jan-2016
Jan-2017
Jan-2018
Jan-2019
Jan-2020
Jan-2021
Jan-2022
Jan-2023
CRW010CU
CRW 10A
CRW 10C
GWPS (70ug/L)

Figure C-55.

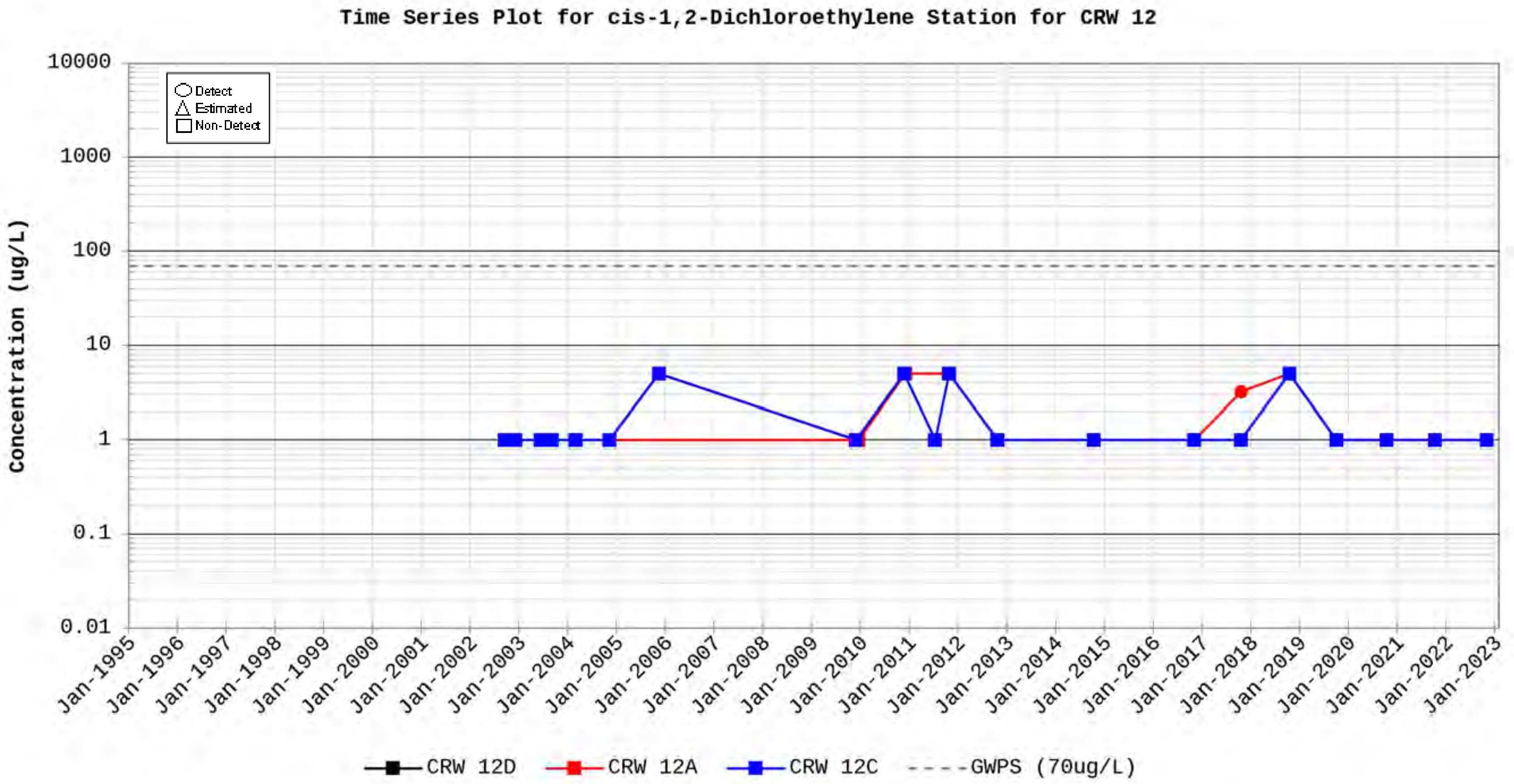

Time Series Plot for cis-1,2-Dichloroethylene Station for CRW 12
Concentration (ug/L)
10000
1000
100
10
1
0.1
0.01
○ Detect
△ Estimated
☐ Non-Detect
Jan-1995
Jan-1996
Jan-1997
Jan-1998
Jan-1999
Jan-2000
Jan-2001
Jan-2002
Jan-2003
Jan-2004
Jan-2005
Jan-2006
Jan-2007
Jan-2008
Jan-2009
Jan-2010
Jan-2011
Jan-2012
Jan-2013
Jan-2014
Jan-2015
Jan-2016
Jan-2017
Jan-2018
Jan-2019
Jan-2020
Jan-2021
Jan-2022
Jan-2023
CRW 12D
CRW 12A
CRW 12C
GWPS (70ug/L)

Figure C-56.

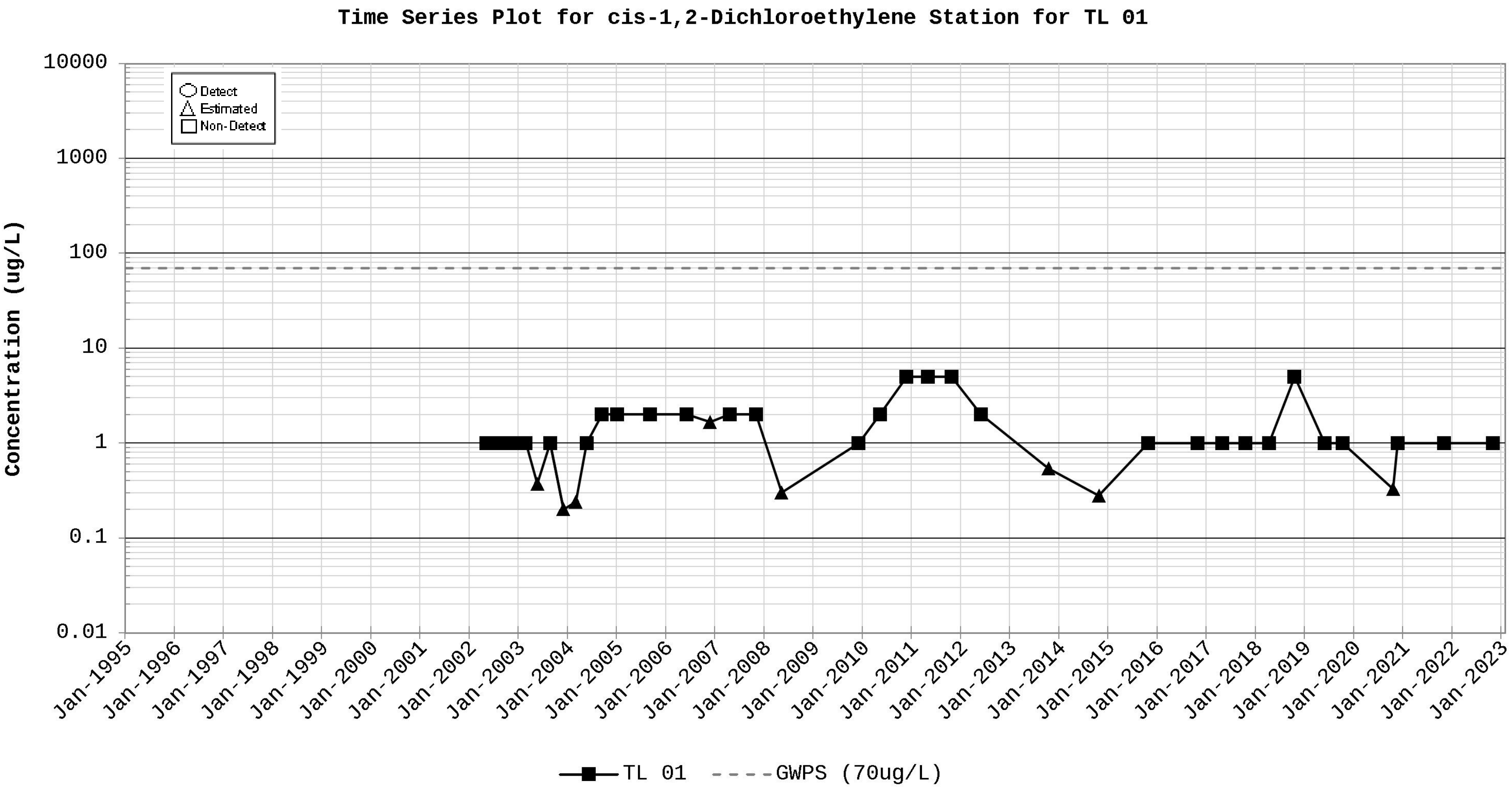

Time Series Plot for cis-1,2-Dichloroethylene Station for TL 01
Detect
Estimated
Non-Detect
Concentration (ug/L)
10000
1000
100
10
1
0.1
0.01
Jan-1995
Jan-1996
Jan-1997
Jan-1998
Jan-1999
Jan-2000
Jan-2001
Jan-2002
Jan-2003
Jan-2004
Jan-2005
Jan-2006
Jan-2007
Jan-2008
Jan-2009
Jan-2010
Jan-2011
Jan-2012
Jan-2013
Jan-2014
Jan-2015
Jan-2016
Jan-2017
Jan-2018
Jan-2019
Jan-2020
Jan-2021
Jan-2022
Jan-2023
TL 01
GWPS (70ug/L)

Figure C-57.

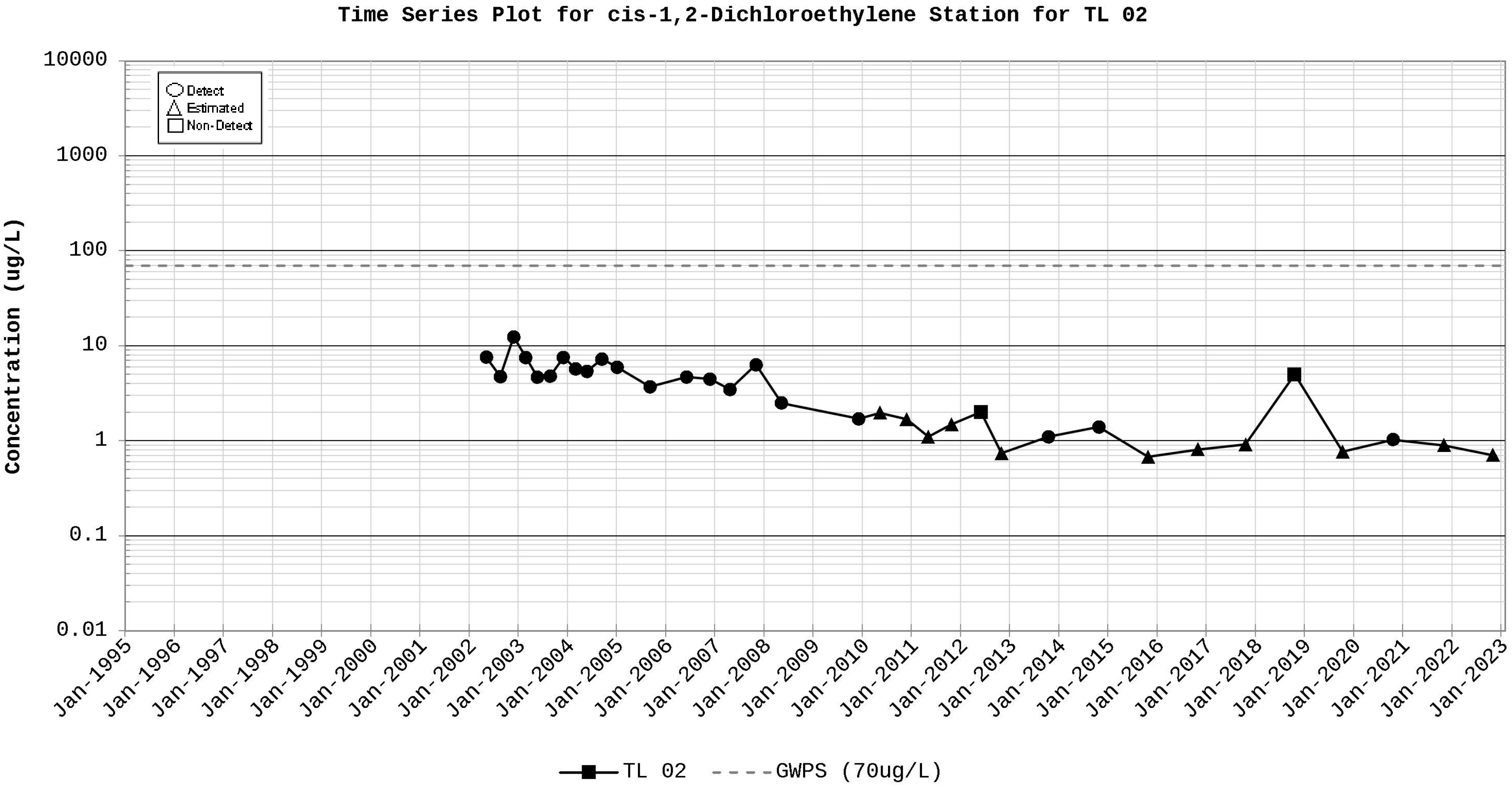

Time Series Plot for cis-1,2-Dichloroethylene Station for TL 02
Concentration (ug/L)
10000
1000
100
10
1
0.1
0.01
Detect
Estimated
Non-Detect
Jan-1995
Jan-1996
Jan-1997
Jan-1998
Jan-1999
Jan-2000
Jan-2001
Jan-2002
Jan-2003
Jan-2004
Jan-2005
Jan-2006
Jan-2007
Jan-2008
Jan-2009
Jan-2010
Jan-2011
Jan-2012
Jan-2013
Jan-2014
Jan-2015
Jan-2016
Jan-2017
Jan-2018
Jan-2019
Jan-2020
Jan-2021
Jan-2022
Jan-2023
TL 02
GWPS (70ug/L)

Figure C-58.

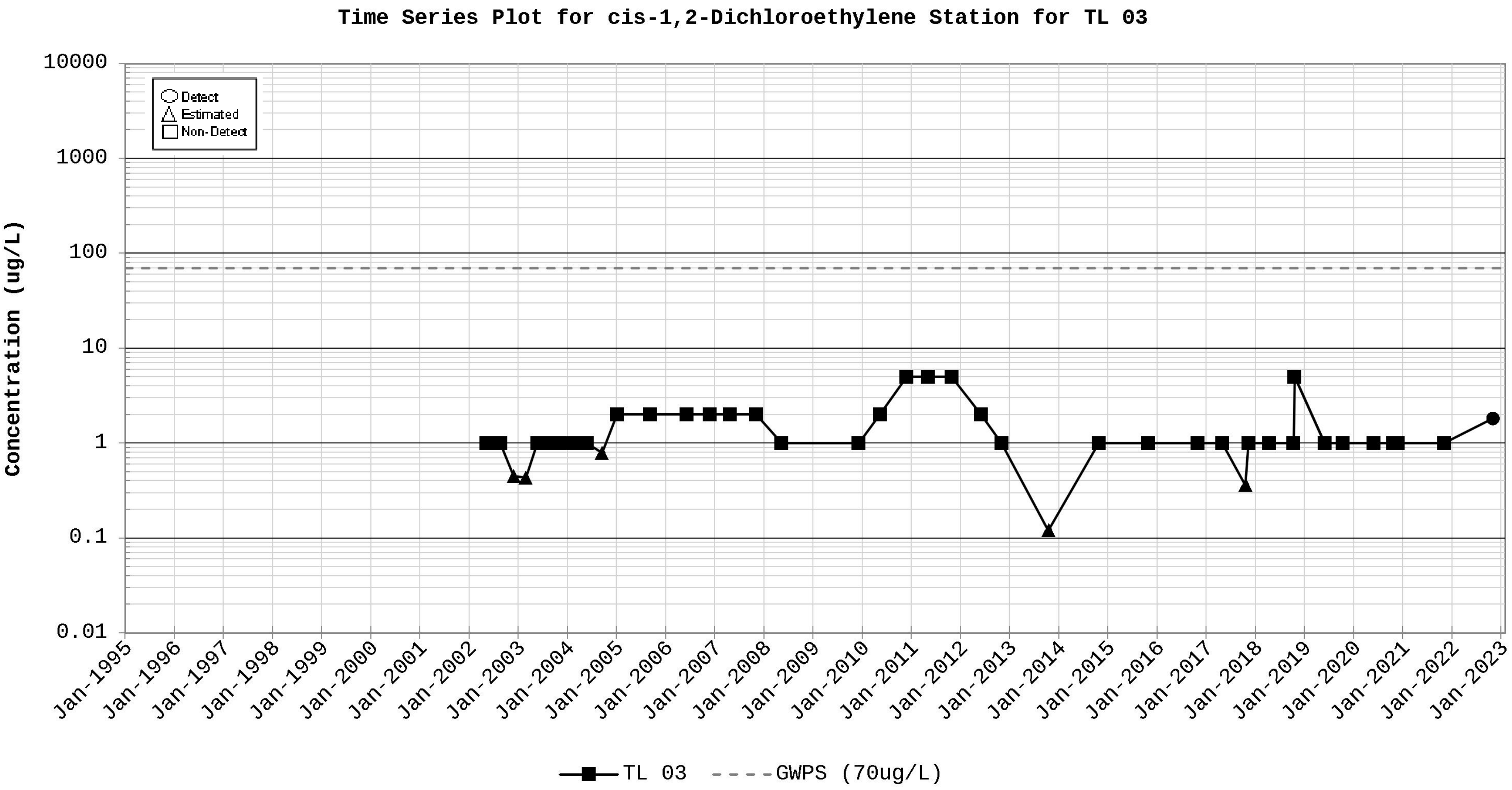

Time Series Plot for cis-1,2-Dichloroethylene Station for TL 03
Concentration (ug/L)
10000
1000
100
10
1
0.1
0.01
Detect
Estimated
Non-Detect
Jan-1995
Jan-1996
Jan-1997
Jan-1998
Jan-1999
Jan-2000
Jan-2001
Jan-2002
Jan-2003
Jan-2004
Jan-2005
Jan-2006
Jan-2007
Jan-2008
Jan-2009
Jan-2010
Jan-2011
Jan-2012
Jan-2013
Jan-2014
Jan-2015
Jan-2016
Jan-2017
Jan-2018
Jan-2019
Jan-2020
Jan-2021
Jan-2022
Jan-2023
TL 03
GWPS (70ug/L)

Figure C-59.

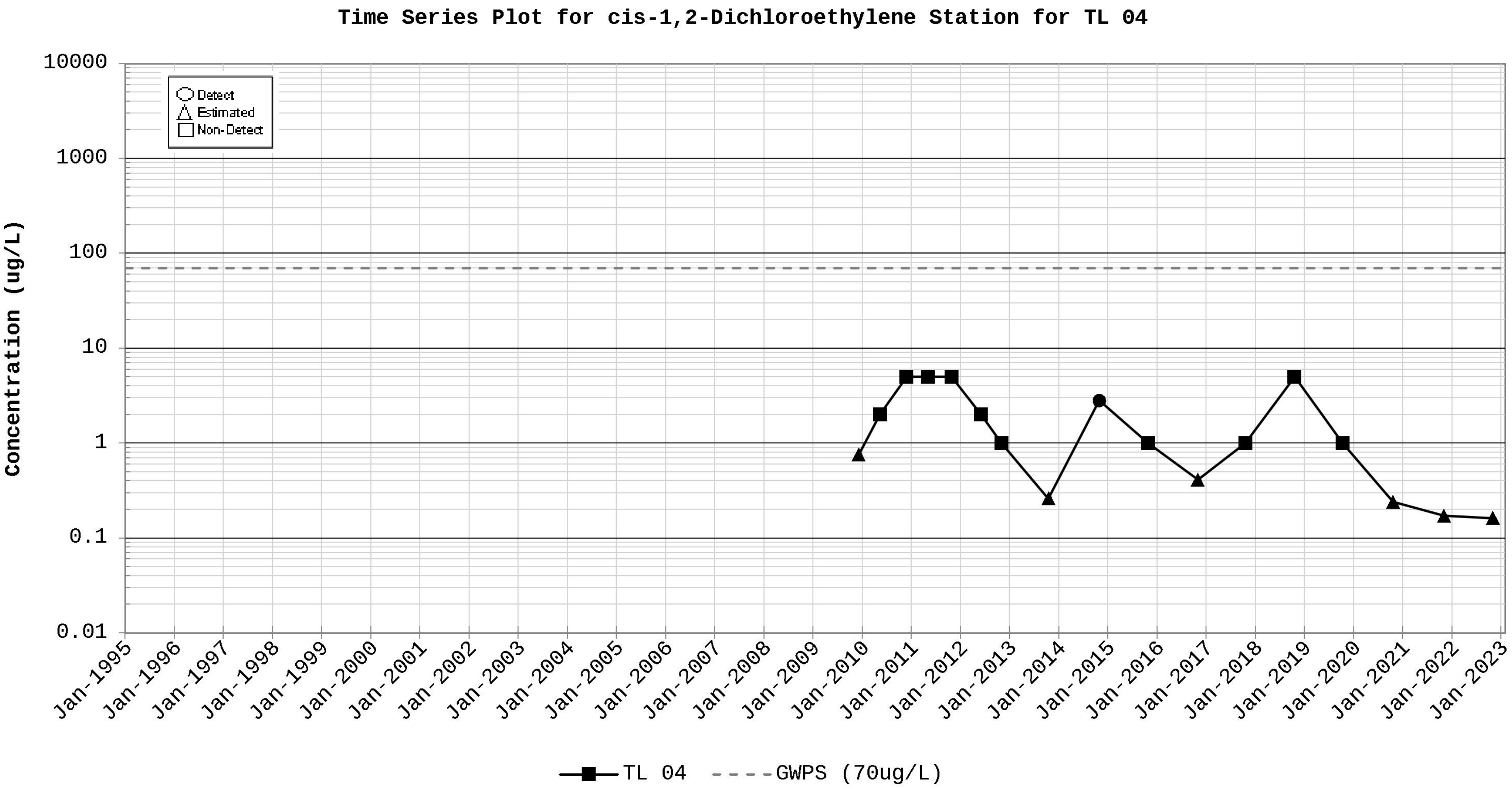

Time Series Plot for cis-1,2-Dichloroethylene Station for TL 04
Concentration (ug/L)
10000
1000
100
10
1
0.1
0.01
Detect
Estimated
Non-Detect
Jan-1995
Jan-1996
Jan-1997
Jan-1998
Jan-1999
Jan-2000
Jan-2001
Jan-2002
Jan-2003
Jan-2004
Jan-2005
Jan-2006
Jan-2007
Jan-2008
Jan-2009
Jan-2010
Jan-2011
Jan-2012
Jan-2013
Jan-2014
Jan-2015
Jan-2016
Jan-2017
Jan-2018
Jan-2019
Jan-2020
Jan-2021
Jan-2022
Jan-2023
TL 04
GWPS (70ug/L)

Figure C-60.

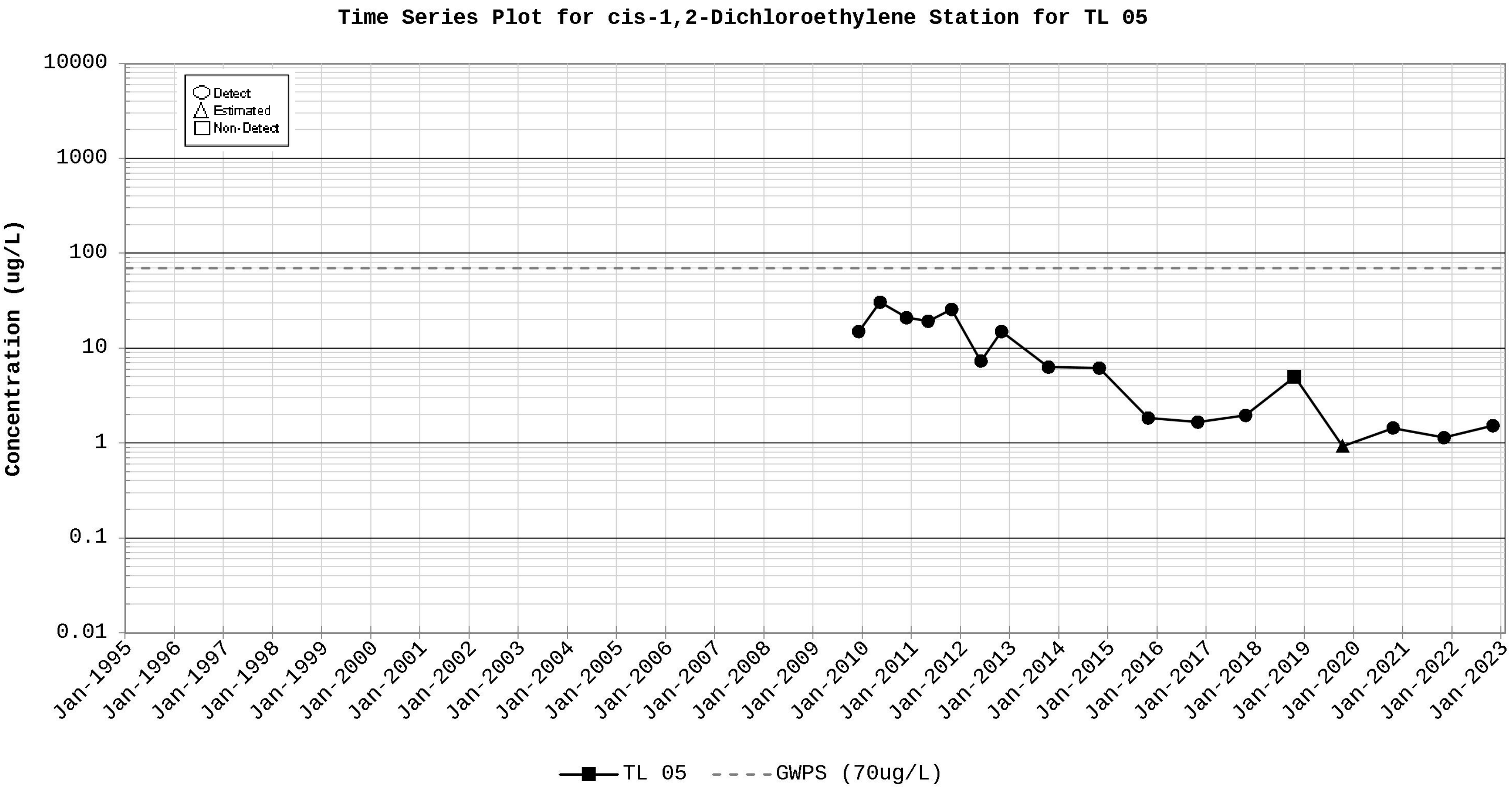

Time Series Plot for cis-1,2-Dichloroethylene Station for TL 05
Concentration (ug/L)
10000
1000
100
10
1
0.1
0.01
Detect
Estimated
Non-Detect
Jan-1995
Jan-1996
Jan-1997
Jan-1998
Jan-1999
Jan-2000
Jan-2001
Jan-2002
Jan-2003
Jan-2004
Jan-2005
Jan-2006
Jan-2007
Jan-2008
Jan-2009
Jan-2010
Jan-2011
Jan-2012
Jan-2013
Jan-2014
Jan-2015
Jan-2016
Jan-2017
Jan-2018
Jan-2019
Jan-2020
Jan-2021
Jan-2022
Jan-2023
TL 05
GWPS (70ug/L)

Figure C-61.

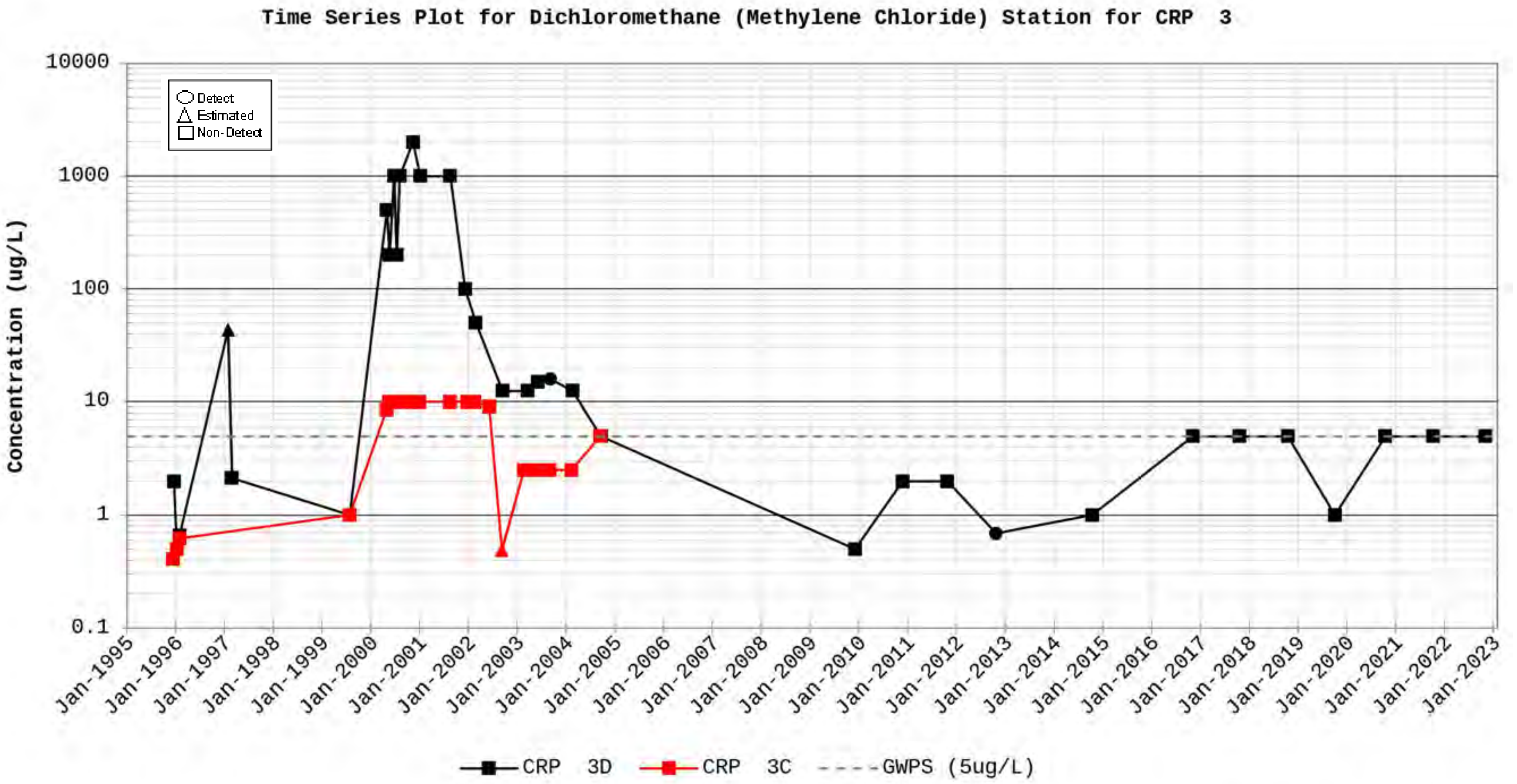

Time Series Plot for Dichloromethane (Methylene Chloride) Station for CRP 3
Concentration (ug/L)
10000
1000
100
10
1
0.1
○ Detect
△ Estimated
☐ Non-Detect
Jan-1995
Jan-1996
Jan-1997
Jan-1998
Jan-1999
Jan-2000
Jan-2001
Jan-2002
Jan-2003
Jan-2004
Jan-2005
Jan-2006
Jan-2007
Jan-2008
Jan-2009
Jan-2010
Jan-2011
Jan-2012
Jan-2013
Jan-2014
Jan-2015
Jan-2016
Jan-2017
Jan-2018
Jan-2019
Jan-2020
Jan-2021
Jan-2022
Jan-2023
CRP 3D
CRP 3C
GWPS (5ug/L)

Figure C-62.

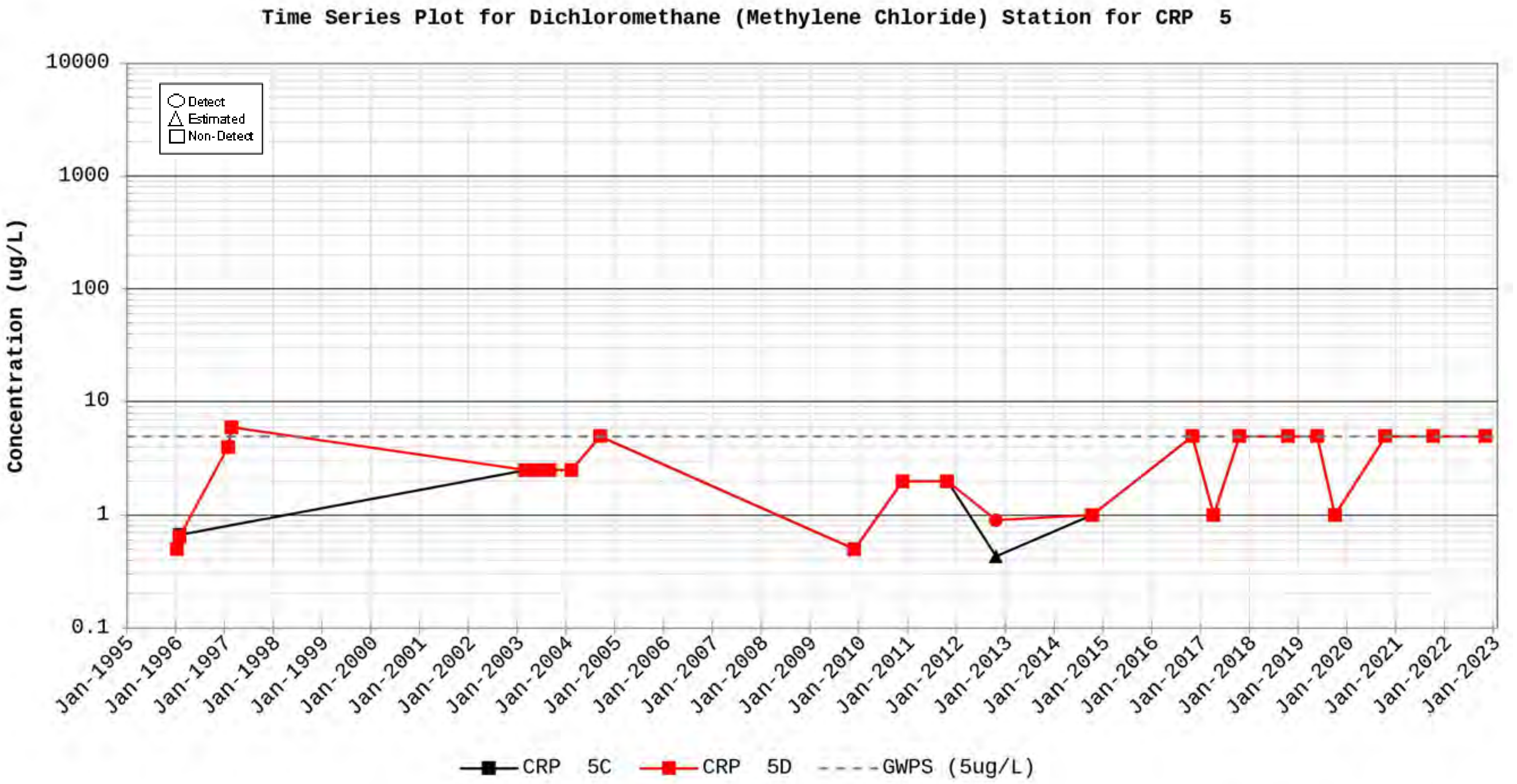

Time Series Plot for Dichloromethane (Methylene Chloride) Station for CRP 5
Concentration (ug/L)
10000
1000
100
10
1
0.1
○ Detect
△ Estimated
☐ Non-Detect
Jan-1995
Jan-1996
Jan-1997
Jan-1998
Jan-1999
Jan-2000
Jan-2001
Jan-2002
Jan-2003
Jan-2004
Jan-2005
Jan-2006
Jan-2007
Jan-2008
Jan-2009
Jan-2010
Jan-2011
Jan-2012
Jan-2013
Jan-2014
Jan-2015
Jan-2016
Jan-2017
Jan-2018
Jan-2019
Jan-2020
Jan-2021
Jan-2022
Jan-2023
CRP 5C
CRP 5D
GWPS (5ug/L)

Figure C-63.

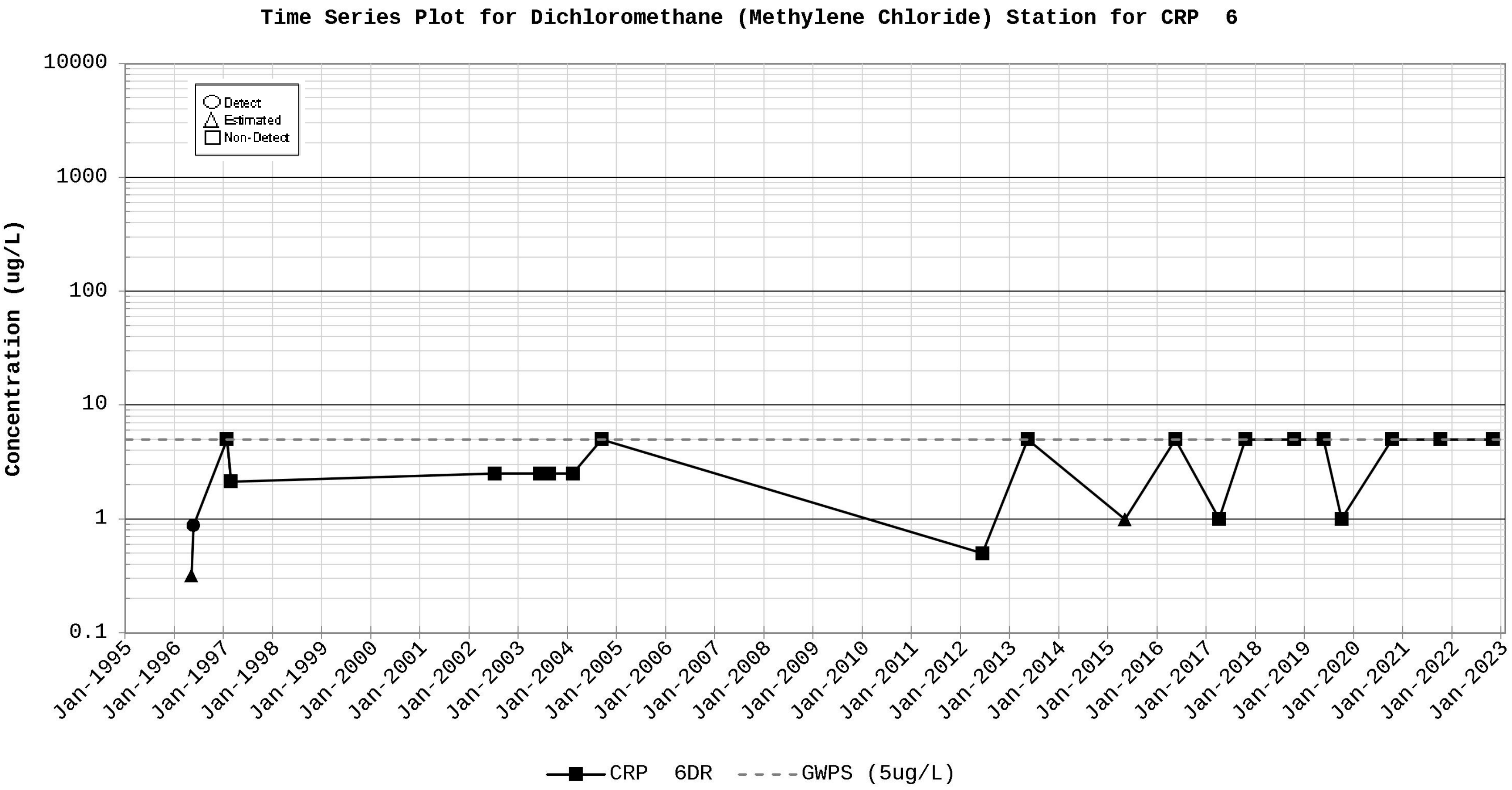

Time Series Plot for Dichloromethane (Methylene Chloride) Station for CRP 6
Concentration (ug/L)
10000
1000
100
10
1
0.1
Detect
Estimated
Non-Detect
Jan-1995
Jan-1996
Jan-1997
Jan-1998
Jan-1999
Jan-2000
Jan-2001
Jan-2002
Jan-2003
Jan-2004
Jan-2005
Jan-2006
Jan-2007
Jan-2008
Jan-2009
Jan-2010
Jan-2011
Jan-2012
Jan-2013
Jan-2014
Jan-2015
Jan-2016
Jan-2017
Jan-2018
Jan-2019
Jan-2020
Jan-2021
Jan-2022
Jan-2023
CRP 6DR
GWPS (5ug/L)

Figure C-64.

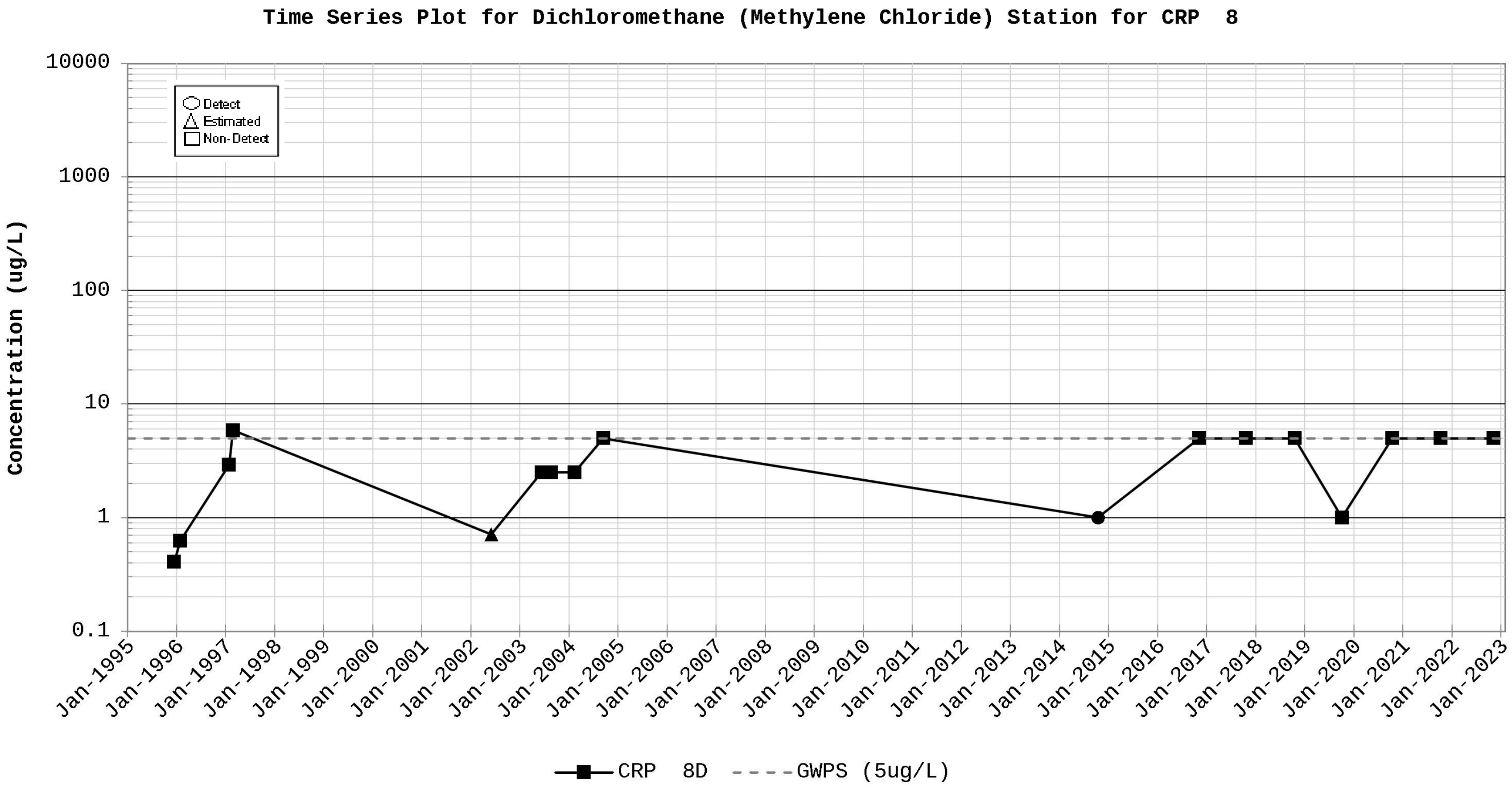

Time Series Plot for Dichloromethane (Methylene Chloride) Station for CRP 8
Concentration (ug/L)
10000
1000
100
10
1
0.1
Detect
Estimated
Non-Detect
Jan-1995
Jan-1996
Jan-1997
Jan-1998
Jan-1999
Jan-2000
Jan-2001
Jan-2002
Jan-2003
Jan-2004
Jan-2005
Jan-2006
Jan-2007
Jan-2008
Jan-2009
Jan-2010
Jan-2011
Jan-2012
Jan-2013
Jan-2014
Jan-2015
Jan-2016
Jan-2017
Jan-2018
Jan-2019
Jan-2020
Jan-2021
Jan-2022
Jan-2023
CRP 8D
GWPS (5ug/L)

Figure C-65.

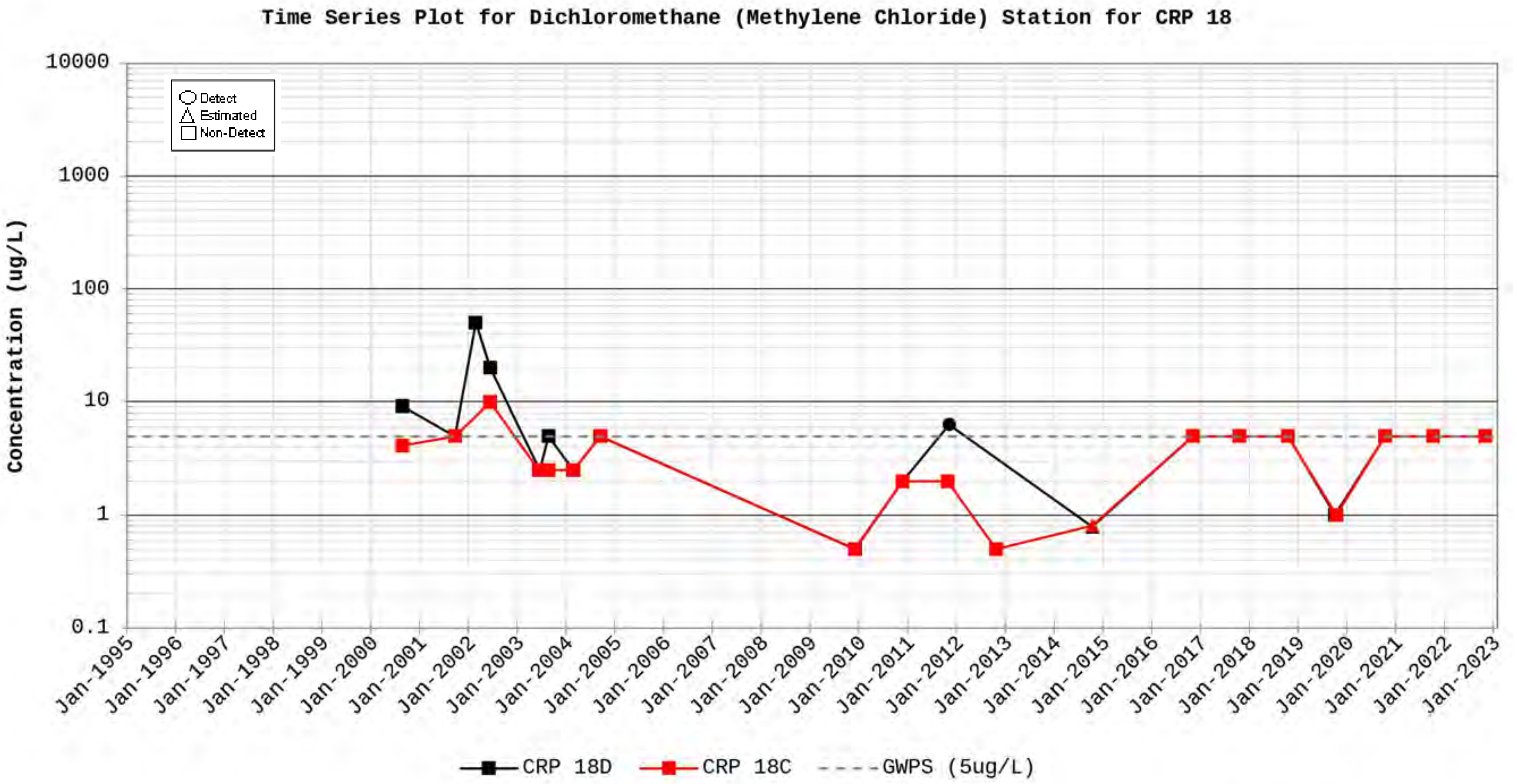

Time Series Plot for Dichloromethane (Methylene Chloride) Station for CRP 18
Concentration (ug/L)
10000
1000
100
10
1
0.1
Detect
Estimated
Non-Detect
Jan-1995
Jan-1996
Jan-1997
Jan-1998
Jan-1999
Jan-2000
Jan-2001
Jan-2002
Jan-2003
Jan-2004
Jan-2005
Jan-2006
Jan-2007
Jan-2008
Jan-2009
Jan-2010
Jan-2011
Jan-2012
Jan-2013
Jan-2014
Jan-2015
Jan-2016
Jan-2017
Jan-2018
Jan-2019
Jan-2020
Jan-2021
Jan-2022
Jan-2023
CRP 18D
CRP 18C
GWPS (5ug/L)

Figure C-66.

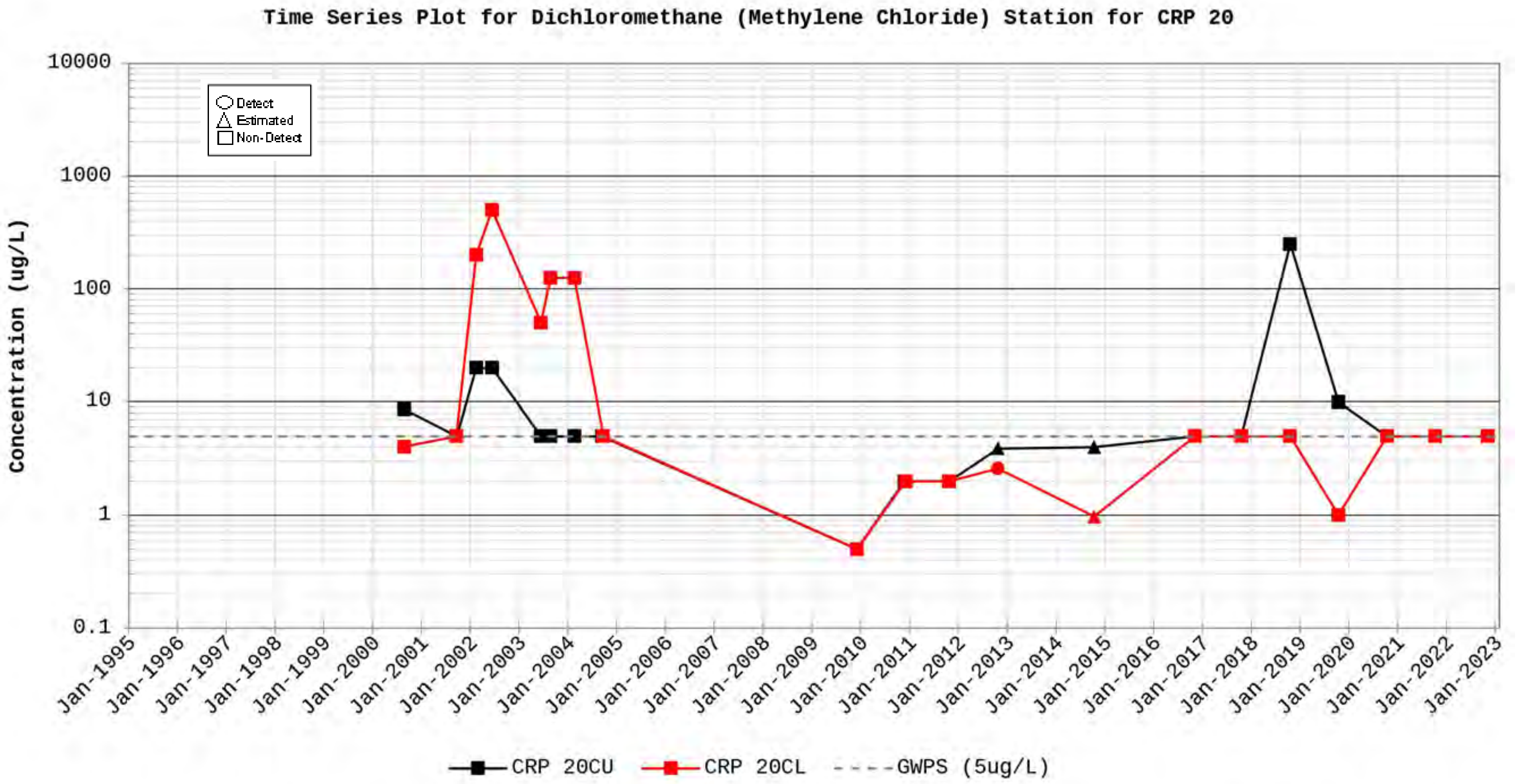

Time Series Plot for Dichloromethane (Methylene Chloride) Station for CRP 20
Concentration (ug/L)
10000
1000
100
10
1
0.1
Detect
Estimated
Non-Detect
Jan-1995
Jan-1996
Jan-1997
Jan-1998
Jan-1999
Jan-2000
Jan-2001
Jan-2002
Jan-2003
Jan-2004
Jan-2005
Jan-2006
Jan-2007
Jan-2008
Jan-2009
Jan-2010
Jan-2011
Jan-2012
Jan-2013
Jan-2014
Jan-2015
Jan-2016
Jan-2017
Jan-2018
Jan-2019
Jan-2020
Jan-2021
Jan-2022
Jan-2023
CRP 20CU
CRP 20CL
GWPS (5ug/L)

Figure C-67.

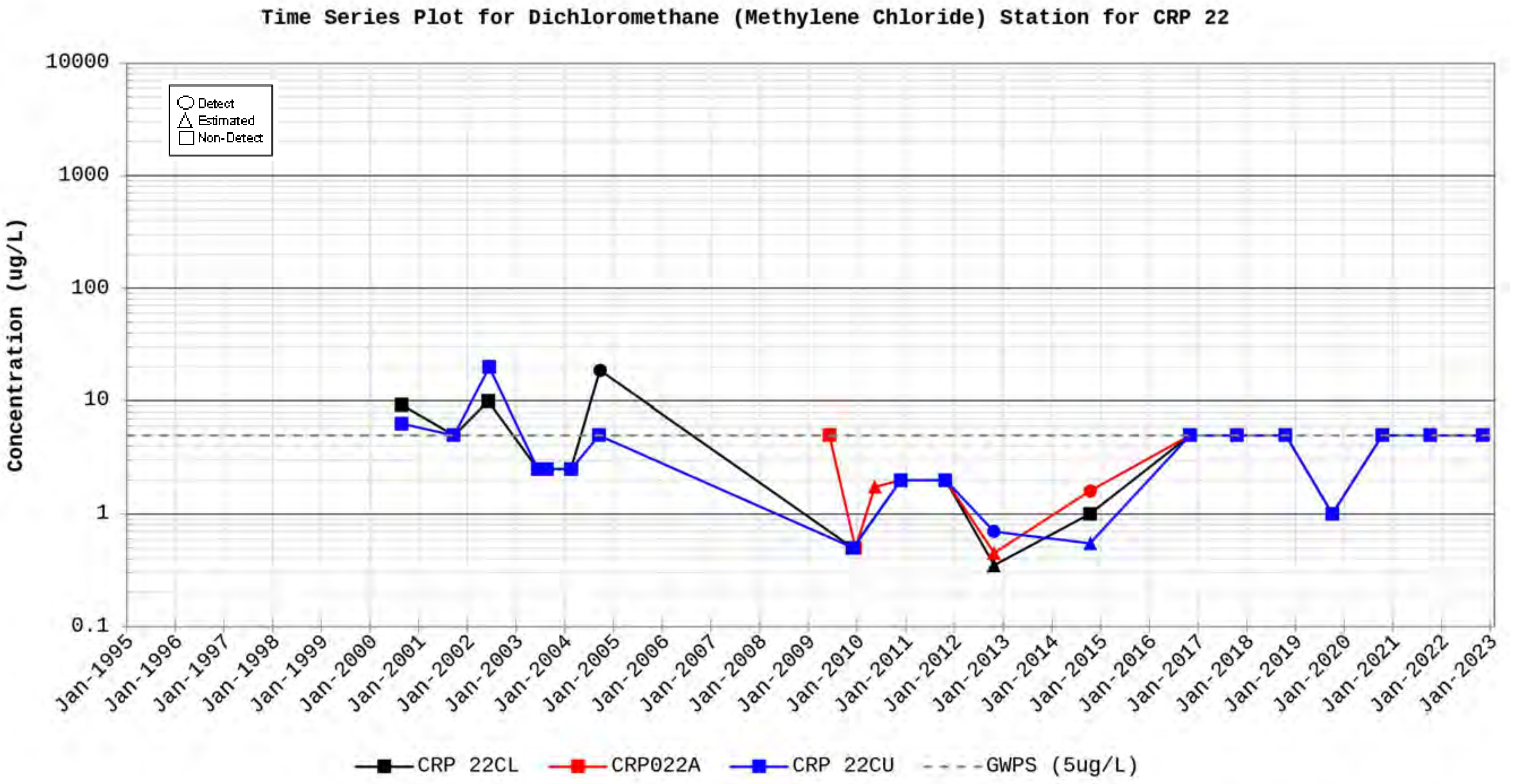

Time Series Plot for Dichloromethane (Methylene Chloride) Station for CRP 22
Concentration (ug/L)
10000
1000
100
10
1
0.1
Detect
Estimated
Non-Detect
Jan-1995
Jan-1996
Jan-1997
Jan-1998
Jan-1999
Jan-2000
Jan-2001
Jan-2002
Jan-2003
Jan-2004
Jan-2005
Jan-2006
Jan-2007
Jan-2008
Jan-2009
Jan-2010
Jan-2011
Jan-2012
Jan-2013
Jan-2014
Jan-2015
Jan-2016
Jan-2017
Jan-2018
Jan-2019
Jan-2020
Jan-2021
Jan-2022
Jan-2023
CRP 22CL
CRP022A
CRP 22CU
GWPS (5ug/L)

Figure C-68.

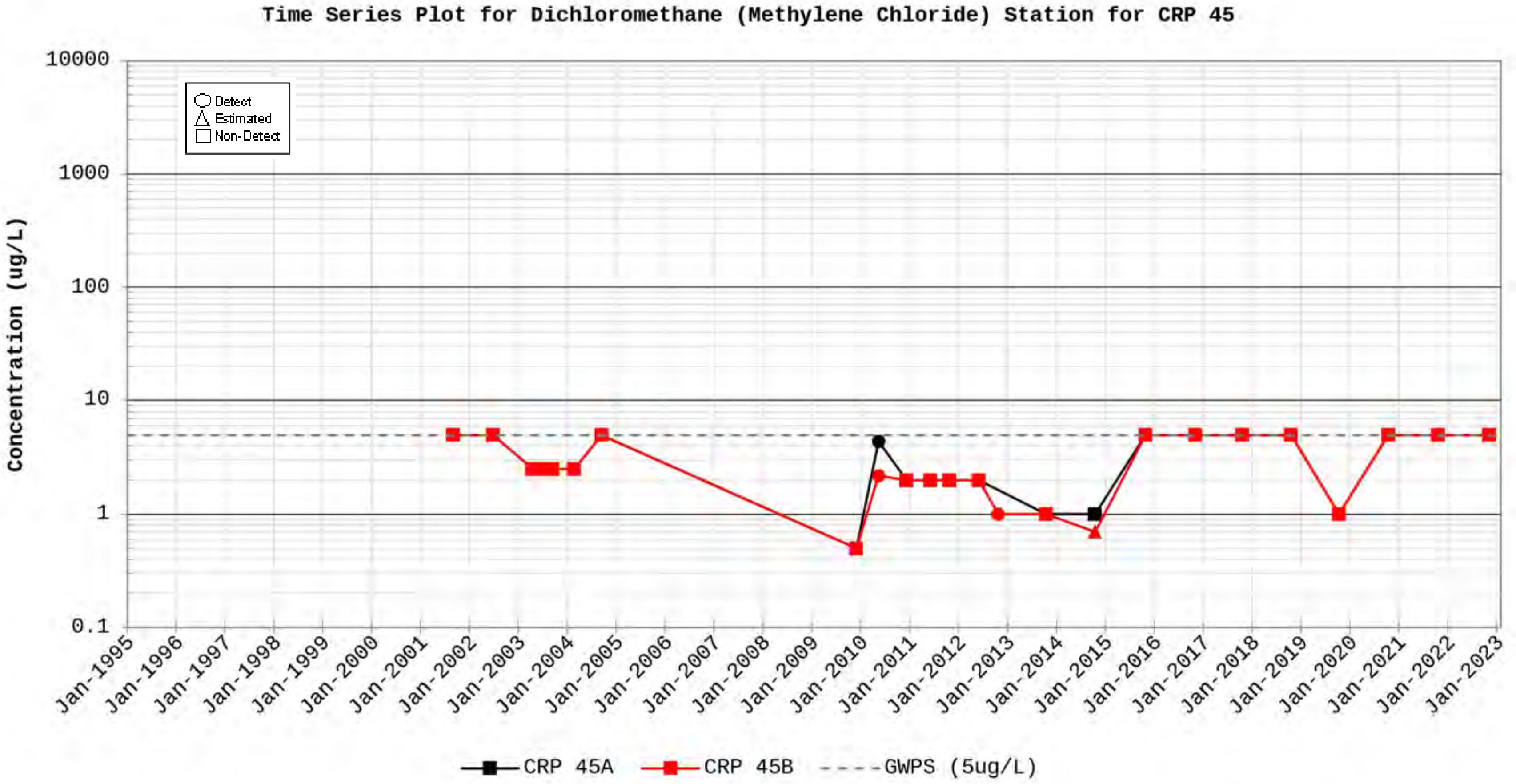

Time Series Plot for Dichloromethane (Methylene Chloride) Station for CRP 45
Concentration (ug/L)
10000
1000
100
10
1
0.1
Detect
Estimated
Non-Detect
Jan-1995
Jan-1996
Jan-1997
Jan-1998
Jan-1999
Jan-2000
Jan-2001
Jan-2002
Jan-2003
Jan-2004
Jan-2005
Jan-2006
Jan-2007
Jan-2008
Jan-2009
Jan-2010
Jan-2011
Jan-2012
Jan-2013
Jan-2014
Jan-2015
Jan-2016
Jan-2017
Jan-2018
Jan-2019
Jan-2020
Jan-2021
Jan-2022
Jan-2023
CRP 45A
CRP 45B
GWPS (5ug/L)

Figure C-69.

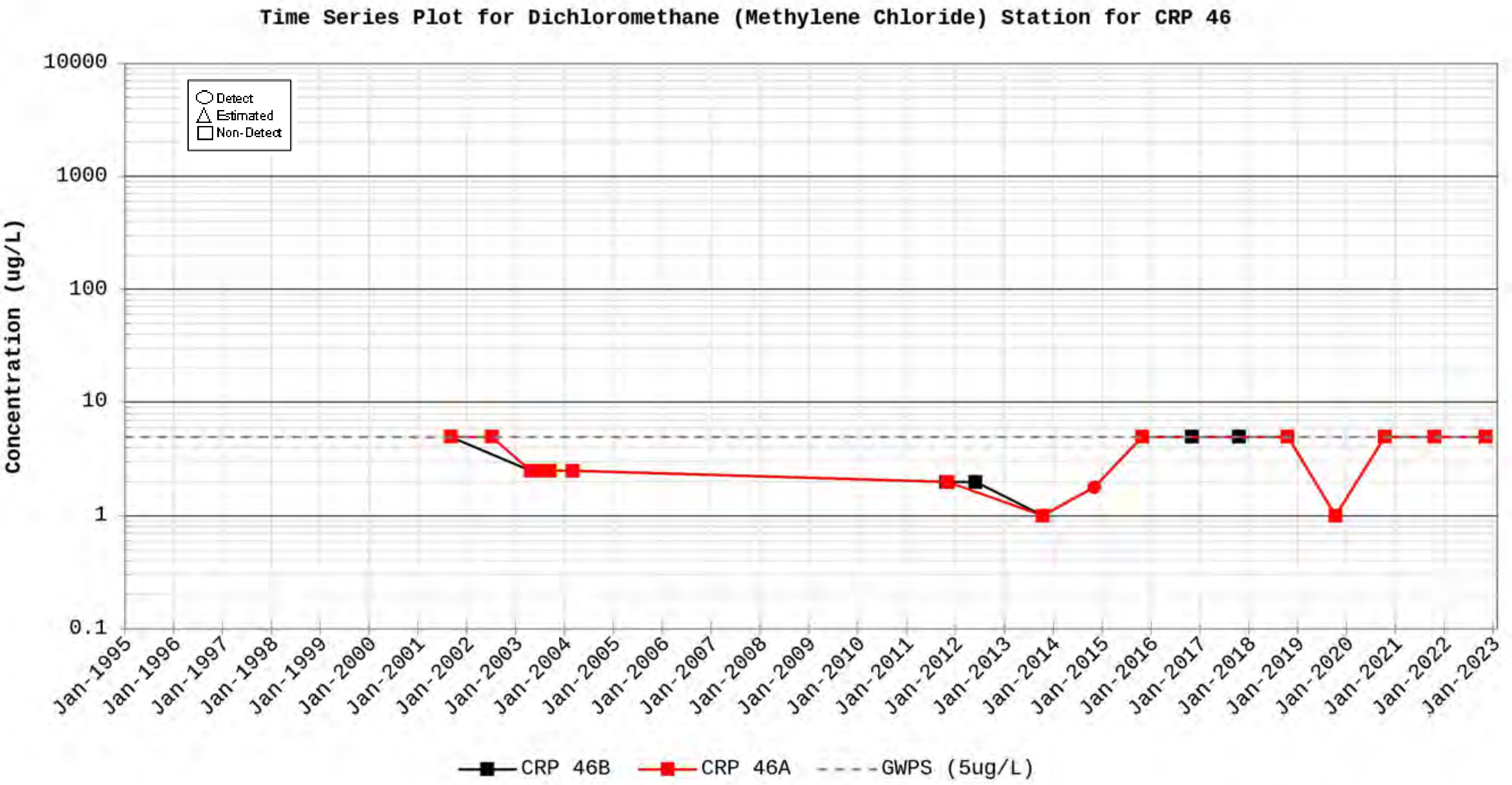

Time Series Plot for Dichloromethane (Methylene Chloride) Station for CRP 46
Concentration (ug/L)
10000
1000
100
10
1
0.1
Detect
Estimated
Non-Detect
Jan-1995
Jan-1996
Jan-1997
Jan-1998
Jan-1999
Jan-2000
Jan-2001
Jan-2002
Jan-2003
Jan-2004
Jan-2005
Jan-2006
Jan-2007
Jan-2008
Jan-2009
Jan-2010
Jan-2011
Jan-2012
Jan-2013
Jan-2014
Jan-2015
Jan-2016
Jan-2017
Jan-2018
Jan-2019
Jan-2020
Jan-2021
Jan-2022
Jan-2023
CRP 46B
CRP 46A
GWPS (5ug/L)

Figure C-70.

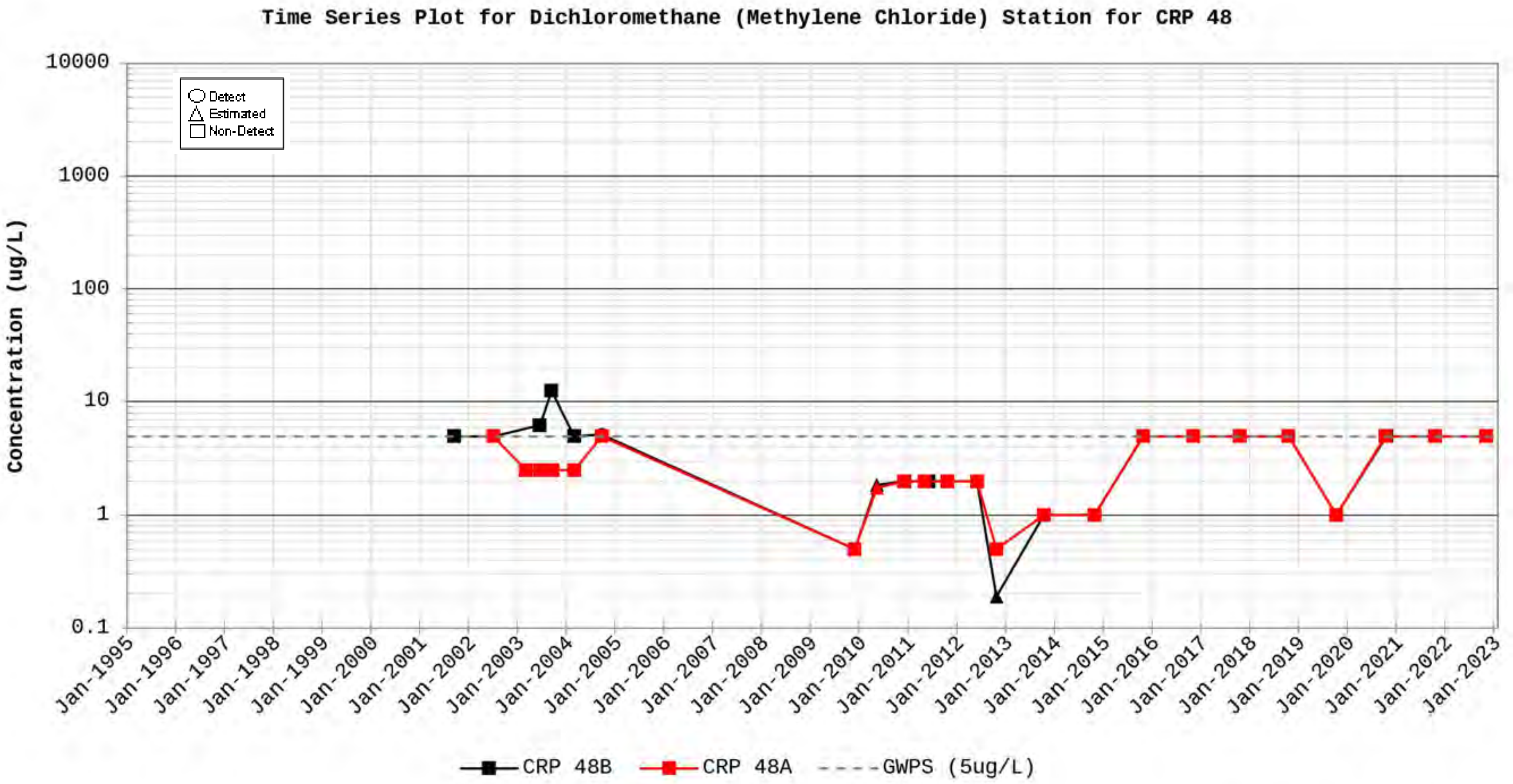

Time Series Plot for Dichloromethane (Methylene Chloride) Station for CRP 48
Concentration (ug/L)
10000
1000
100
10
1
0.1
○ Detect
△ Estimated
☐ Non-Detect
Jan-1995
Jan-1996
Jan-1997
Jan-1998
Jan-1999
Jan-2000
Jan-2001
Jan-2002
Jan-2003
Jan-2004
Jan-2005
Jan-2006
Jan-2007
Jan-2008
Jan-2009
Jan-2010
Jan-2011
Jan-2012
Jan-2013
Jan-2014
Jan-2015
Jan-2016
Jan-2017
Jan-2018
Jan-2019
Jan-2020
Jan-2021
Jan-2022
Jan-2023
CRP 48B
CRP 48A
GWPS (5ug/L)

Figure C-71.

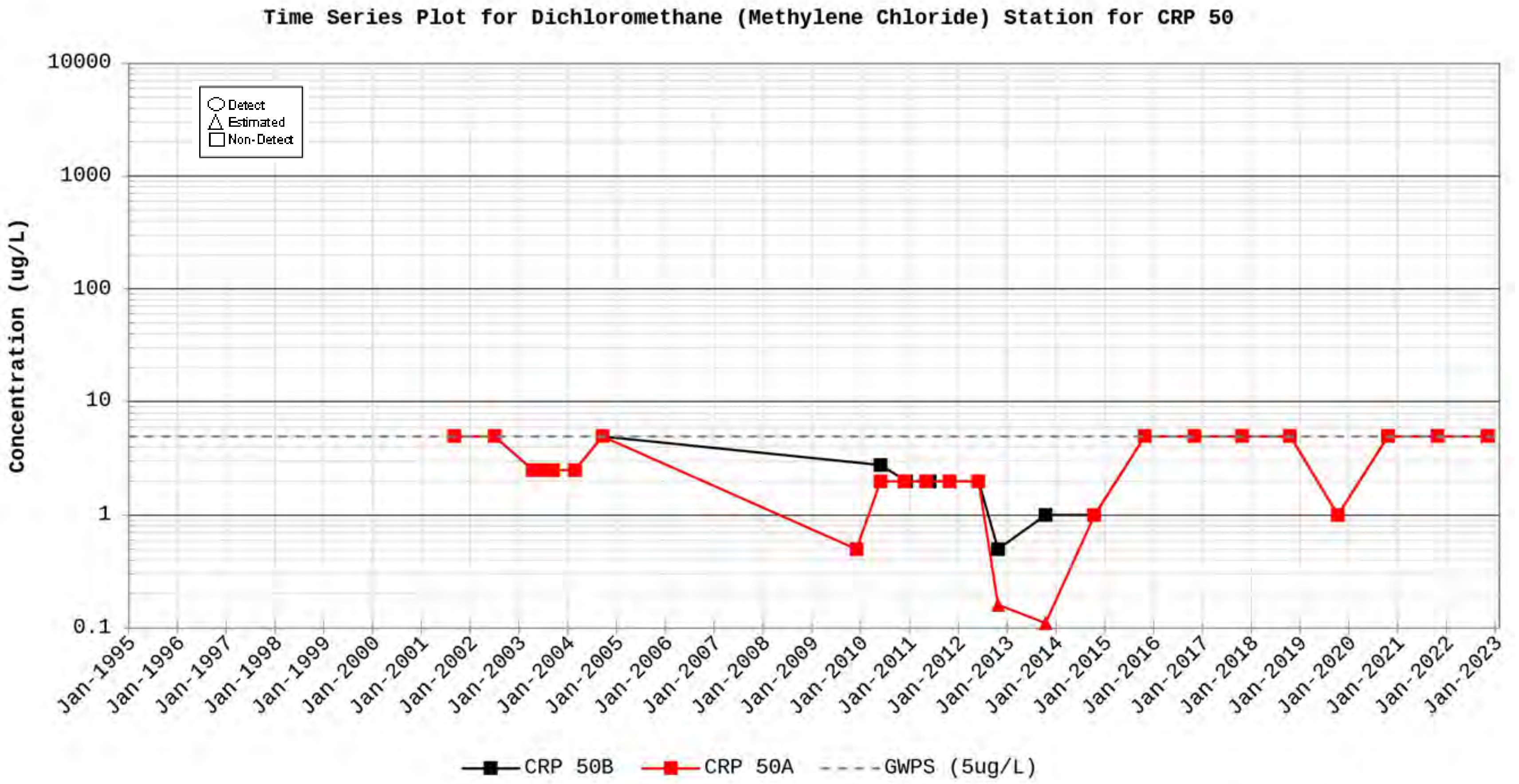

Time Series Plot for Dichloromethane (Methylene Chloride) Station for CRP 50
Concentration (ug/L)
10000
1000
100
10
1
0.1
Detect
Estimated
Non-Detect
Jan-1995
Jan-1996
Jan-1997
Jan-1998
Jan-1999
Jan-2000
Jan-2001
Jan-2002
Jan-2003
Jan-2004
Jan-2005
Jan-2006
Jan-2007
Jan-2008
Jan-2009
Jan-2010
Jan-2011
Jan-2012
Jan-2013
Jan-2014
Jan-2015
Jan-2016
Jan-2017
Jan-2018
Jan-2019
Jan-2020
Jan-2021
Jan-2022
Jan-2023
CRP 50B
CRP 50A
GWPS (5ug/L)

Figure C-72.

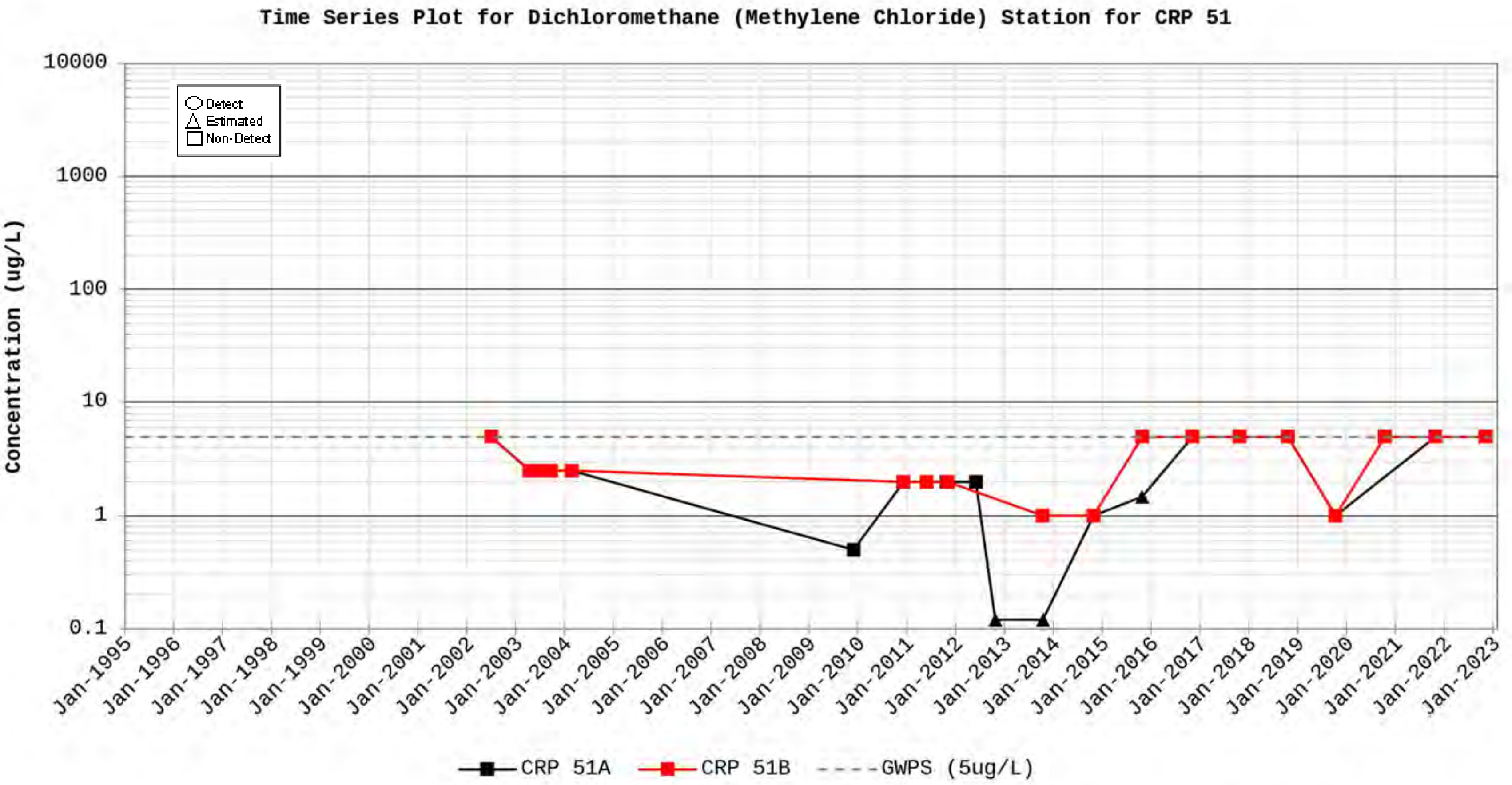

Time Series Plot for Dichloromethane (Methylene Chloride) Station for CRP 51
Concentration (ug/L)
10000
1000
100
10
1
0.1
Detect
Estimated
Non-Detect
Jan-1995
Jan-1996
Jan-1997
Jan-1998
Jan-1999
Jan-2000
Jan-2001
Jan-2002
Jan-2003
Jan-2004
Jan-2005
Jan-2006
Jan-2007
Jan-2008
Jan-2009
Jan-2010
Jan-2011
Jan-2012
Jan-2013
Jan-2014
Jan-2015
Jan-2016
Jan-2017
Jan-2018
Jan-2019
Jan-2020
Jan-2021
Jan-2022
Jan-2023
CRP 51A
CRP 51B
GWPS (5ug/L)

Figure C-73.

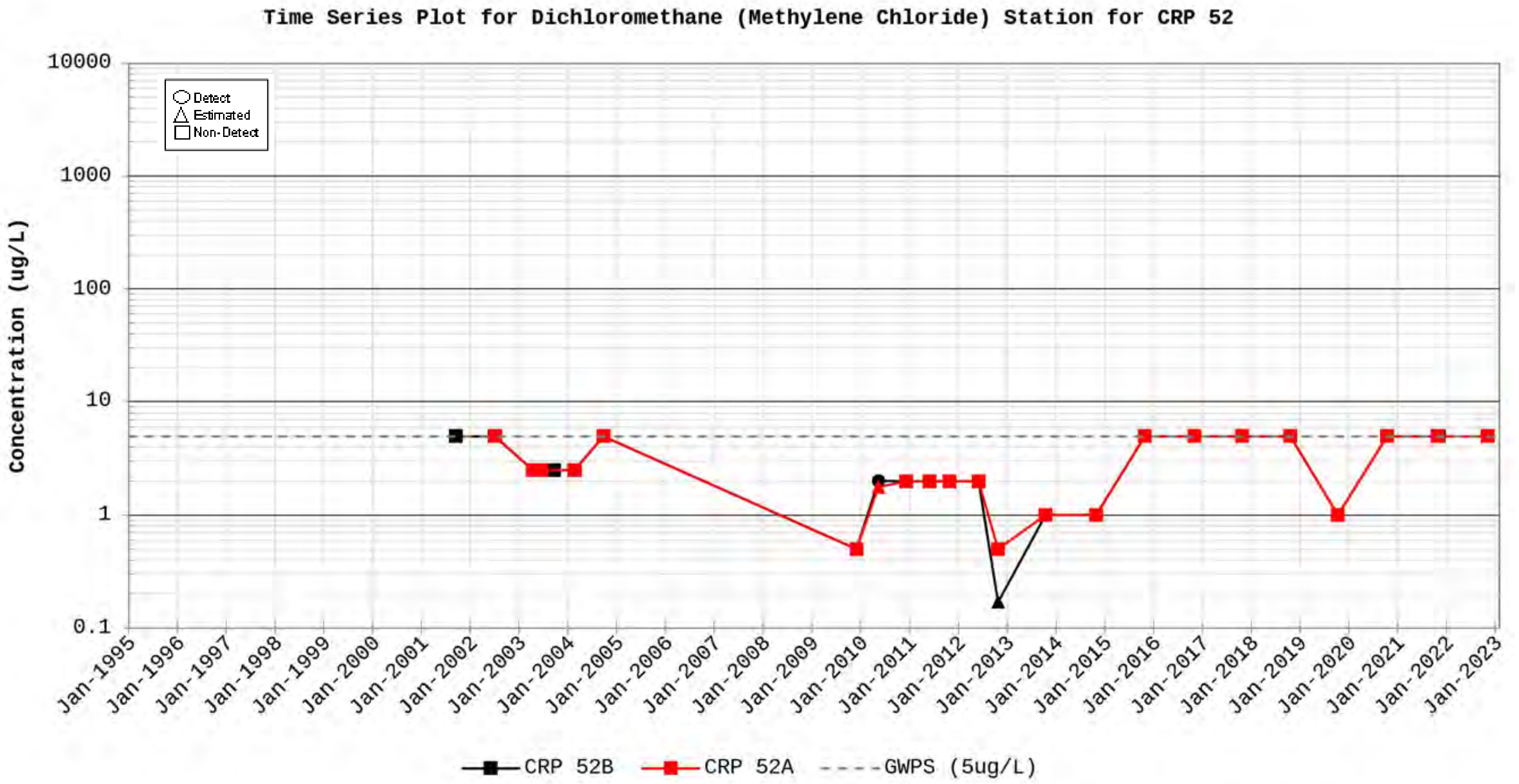

Time Series Plot for Dichloromethane (Methylene Chloride) Station for CRP 52
Concentration (ug/L)
10000
1000
100
10
1
0.1
Detect
Estimated
Non-Detect
Jan-1995
Jan-1996
Jan-1997
Jan-1998
Jan-1999
Jan-2000
Jan-2001
Jan-2002
Jan-2003
Jan-2004
Jan-2005
Jan-2006
Jan-2007
Jan-2008
Jan-2009
Jan-2010
Jan-2011
Jan-2012
Jan-2013
Jan-2014
Jan-2015
Jan-2016
Jan-2017
Jan-2018
Jan-2019
Jan-2020
Jan-2021
Jan-2022
Jan-2023
CRP 52B
CRP 52A
GWPS (5ug/L)

Figure C-74.

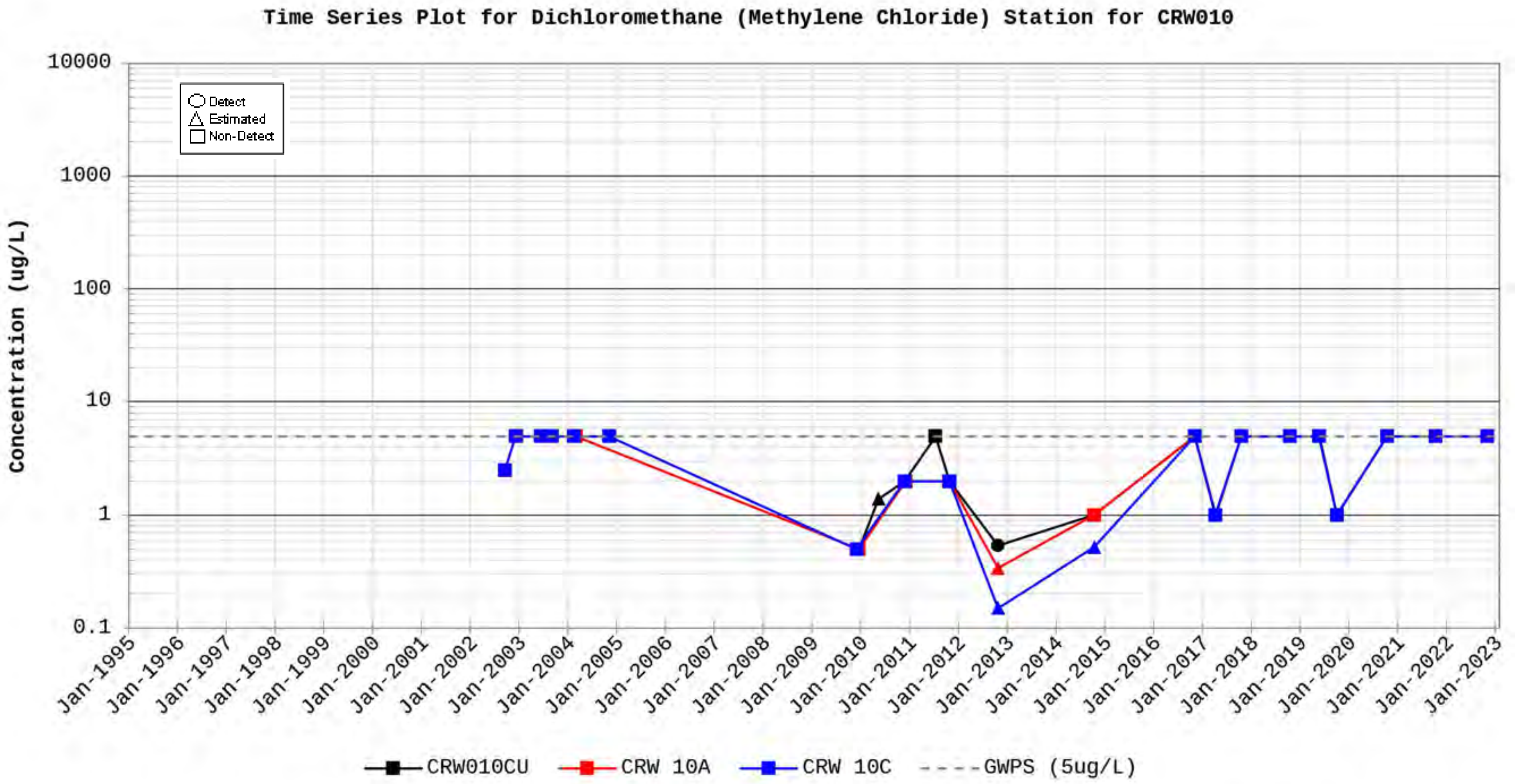

Time Series Plot for Dichloromethane (Methylene Chloride) Station for CRW010
Concentration (ug/L)
10000
1000
100
10
1
0.1
Detect
Estimated
Non-Detect
Jan-1995
Jan-1996
Jan-1997
Jan-1998
Jan-1999
Jan-2000
Jan-2001
Jan-2002
Jan-2003
Jan-2004
Jan-2005
Jan-2006
Jan-2007
Jan-2008
Jan-2009
Jan-2010
Jan-2011
Jan-2012
Jan-2013
Jan-2014
Jan-2015
Jan-2016
Jan-2017
Jan-2018
Jan-2019
Jan-2020
Jan-2021
Jan-2022
Jan-2023
CRW010CU
CRW 10A
CRW 10C
GWPS (5ug/L)

Figure C-75.

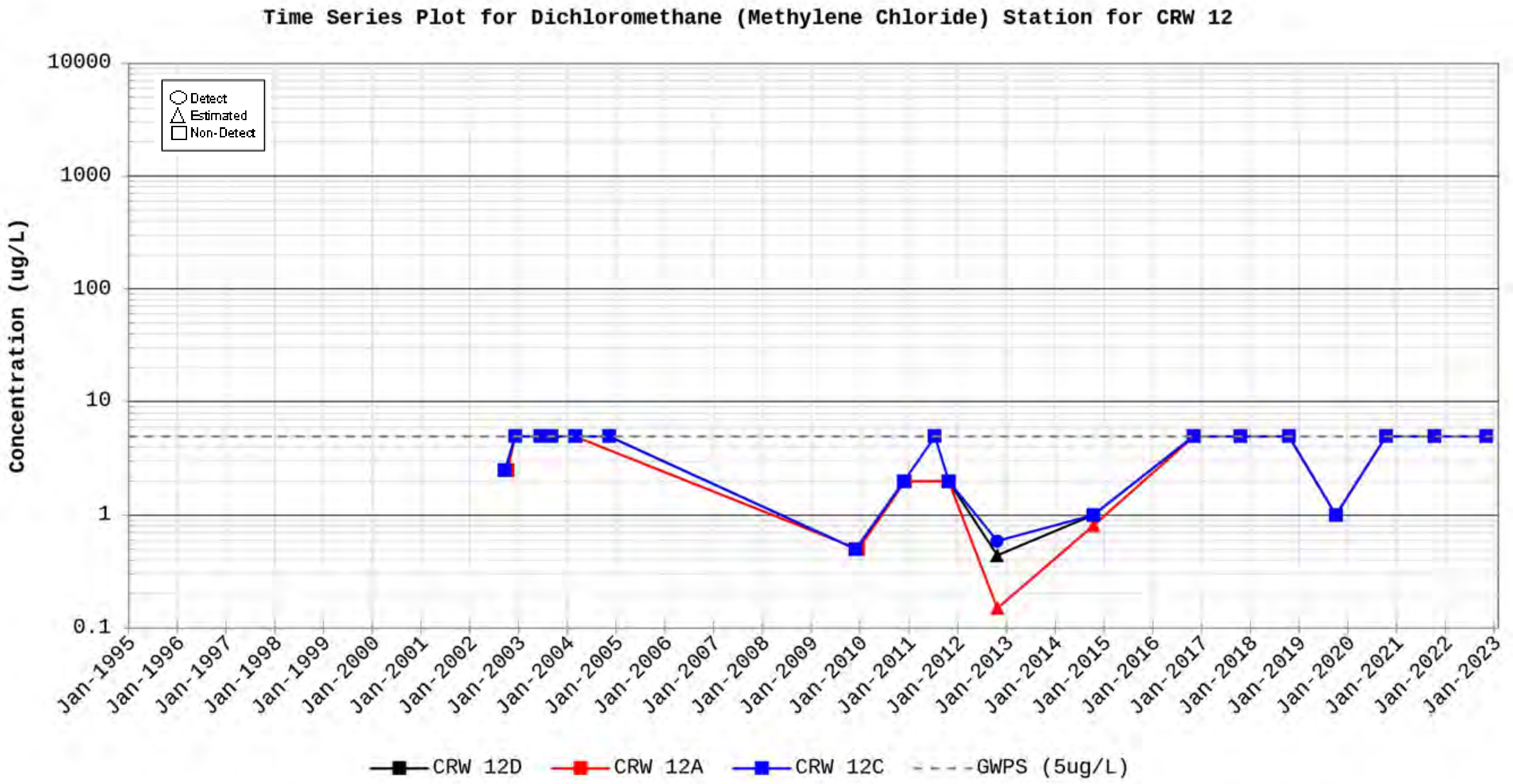

Time Series Plot for Dichloromethane (Methylene Chloride) Station for CRW 12
Concentration (ug/L)
10000
1000
100
10
1
0.1
○ Detect
△ Estimated
☐ Non-Detect
Jan-1995
Jan-1996
Jan-1997
Jan-1998
Jan-1999
Jan-2000
Jan-2001
Jan-2002
Jan-2003
Jan-2004
Jan-2005
Jan-2006
Jan-2007
Jan-2008
Jan-2009
Jan-2010
Jan-2011
Jan-2012
Jan-2013
Jan-2014
Jan-2015
Jan-2016
Jan-2017
Jan-2018
Jan-2019
Jan-2020
Jan-2021
Jan-2022
Jan-2023
CRW 12D
CRW 12A
CRW 12C
GWPS (5ug/L)

Figure C-76.

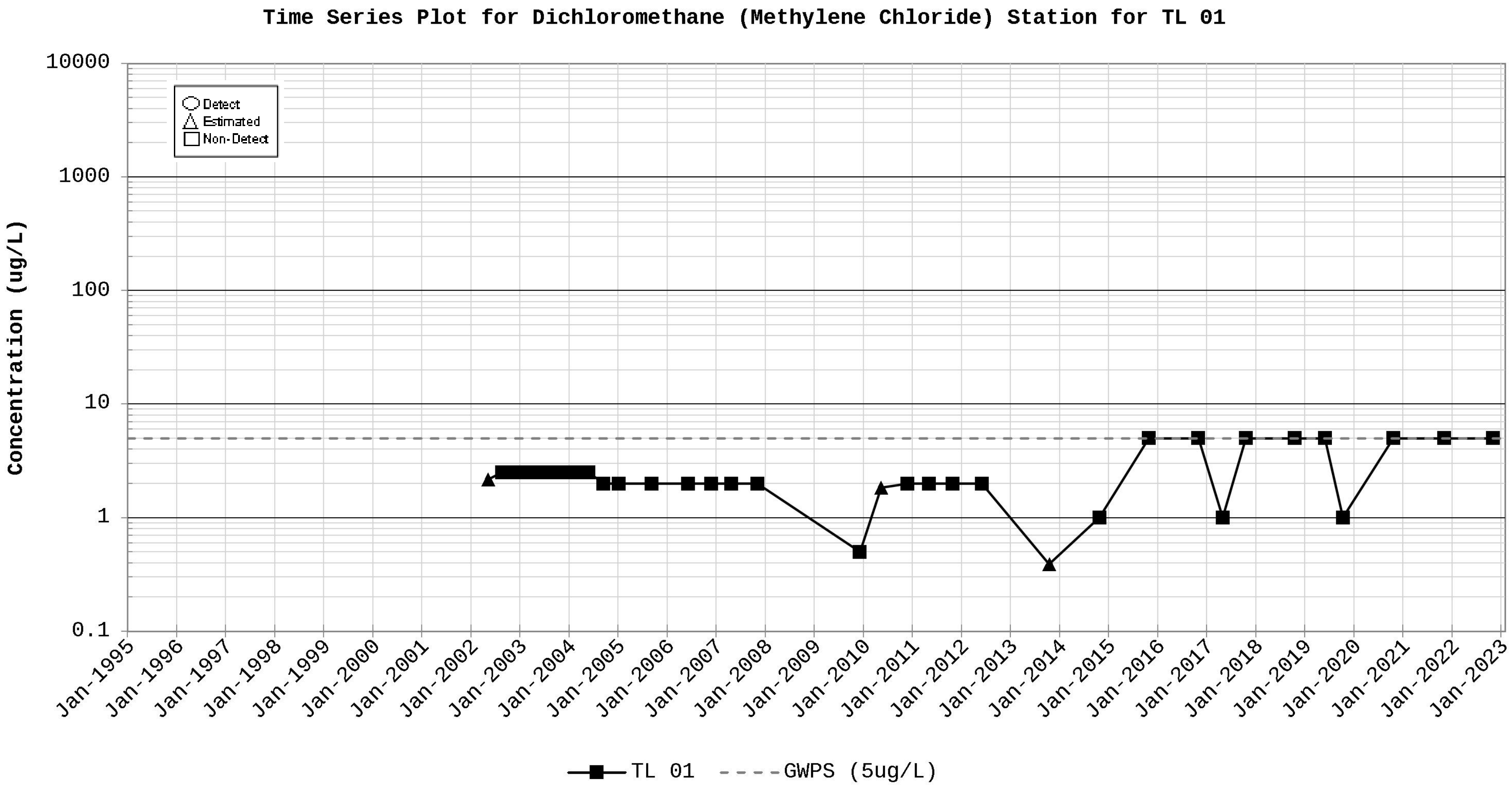

Time Series Plot for Dichloromethane (Methylene Chloride) Station for TL 01
Concentration (ug/L)
10000
1000
100
10
1
0.1
Detect
Estimated
Non-Detect
Jan-1995
Jan-1996
Jan-1997
Jan-1998
Jan-1999
Jan-2000
Jan-2001
Jan-2002
Jan-2003
Jan-2004
Jan-2005
Jan-2006
Jan-2007
Jan-2008
Jan-2009
Jan-2010
Jan-2011
Jan-2012
Jan-2013
Jan-2014
Jan-2015
Jan-2016
Jan-2017
Jan-2018
Jan-2019
Jan-2020
Jan-2021
Jan-2022
Jan-2023
TL 01
GWPS (5ug/L)

Figure C-77.

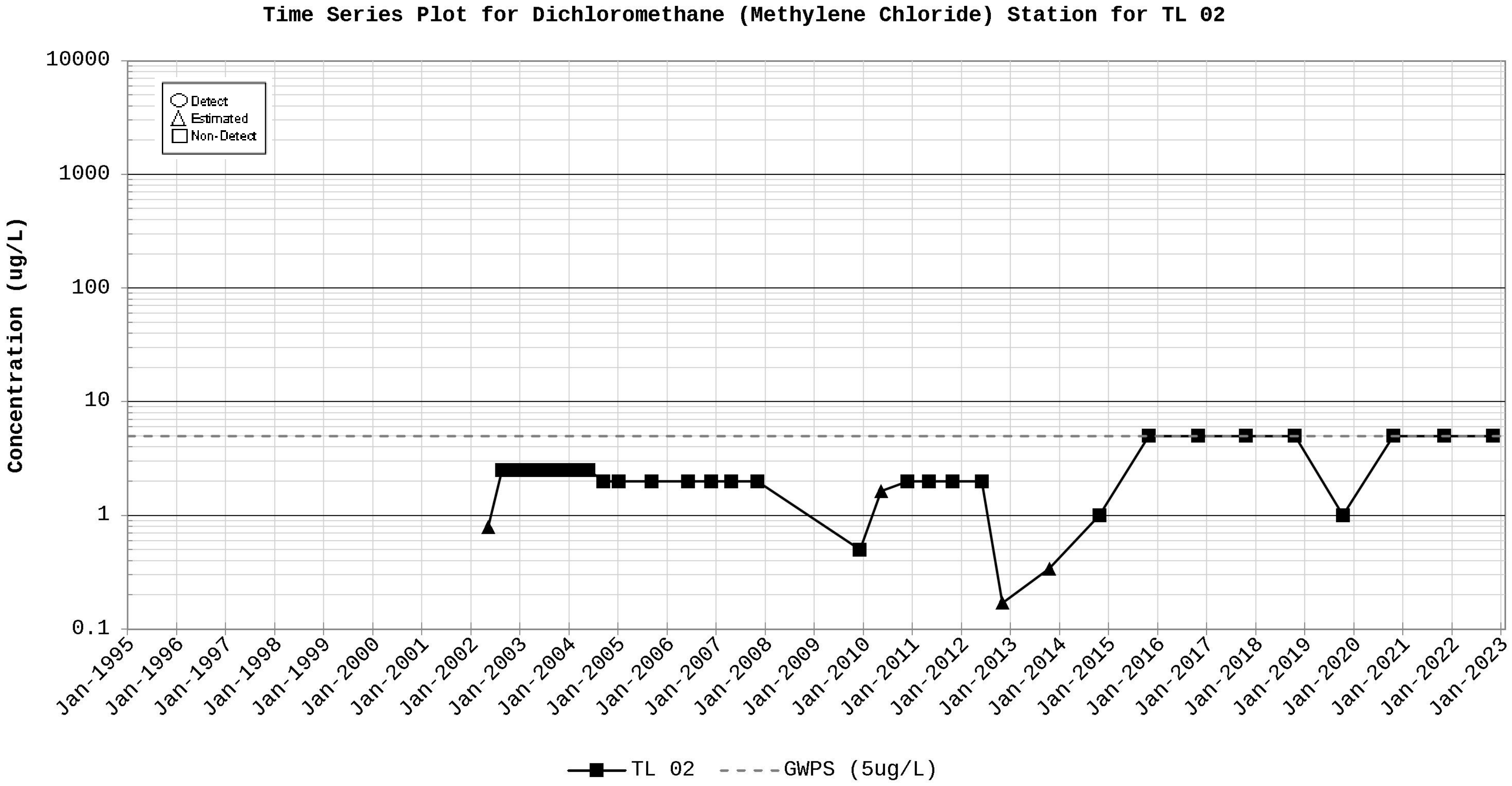

Time Series Plot for Dichloromethane (Methylene Chloride) Station for TL 02
Concentration (ug/L)
10000
1000
100
10
1
0.1
Detect
Estimated
Non-Detect
Jan-1995
Jan-1996
Jan-1997
Jan-1998
Jan-1999
Jan-2000
Jan-2001
Jan-2002
Jan-2003
Jan-2004
Jan-2005
Jan-2006
Jan-2007
Jan-2008
Jan-2009
Jan-2010
Jan-2011
Jan-2012
Jan-2013
Jan-2014
Jan-2015
Jan-2016
Jan-2017
Jan-2018
Jan-2019
Jan-2020
Jan-2021
Jan-2022
Jan-2023
TL 02
GWPS (5ug/L)

Figure C-78.

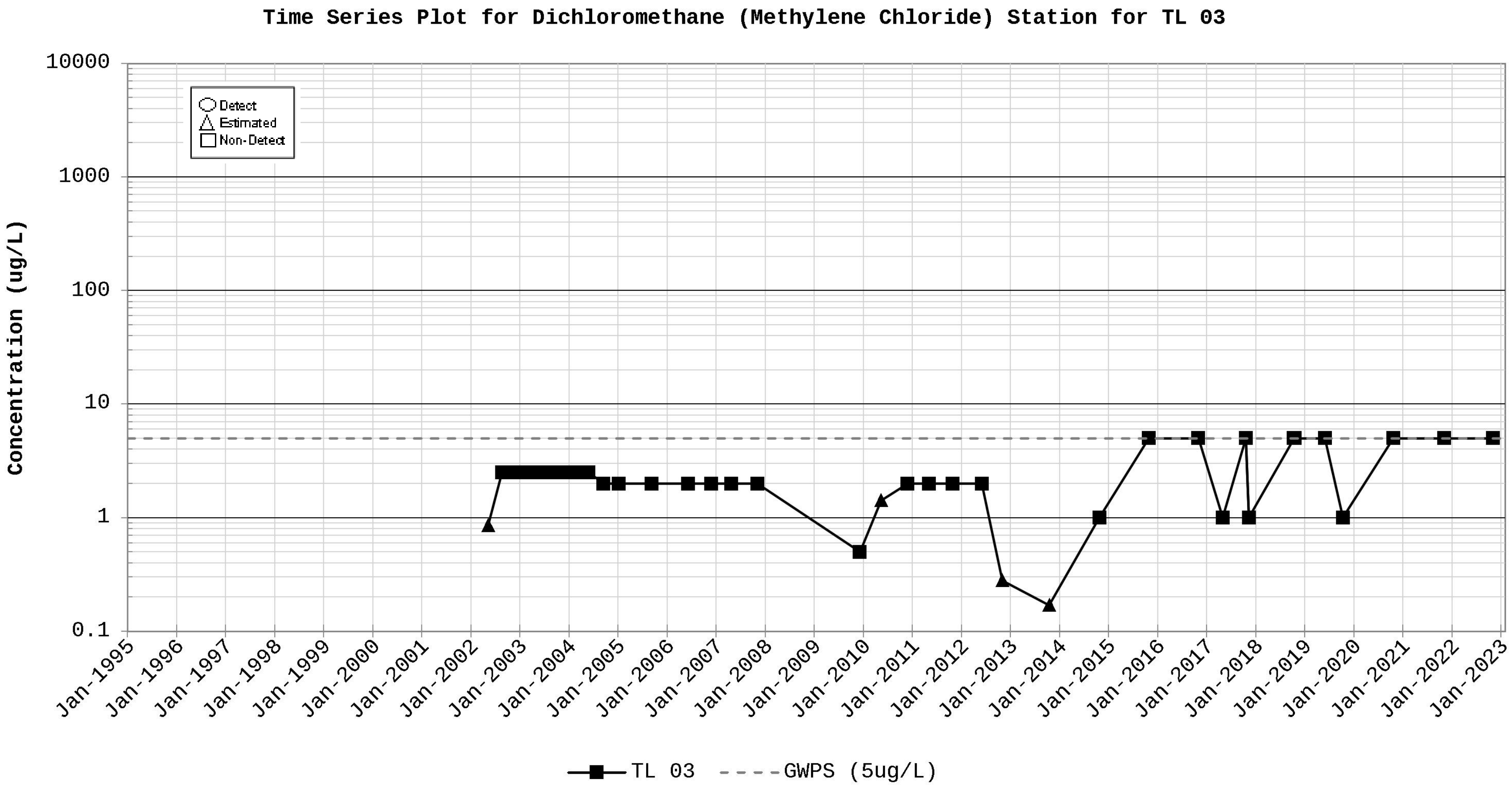

Time Series Plot for Dichloromethane (Methylene Chloride) Station for TL 03
Detect
Estimated
Non-Detect
Concentration (ug/L)
10000
1000
100
10
1
0.1
Jan-1995
Jan-1996
Jan-1997
Jan-1998
Jan-1999
Jan-2000
Jan-2001
Jan-2002
Jan-2003
Jan-2004
Jan-2005
Jan-2006
Jan-2007
Jan-2008
Jan-2009
Jan-2010
Jan-2011
Jan-2012
Jan-2013
Jan-2014
Jan-2015
Jan-2016
Jan-2017
Jan-2018
Jan-2019
Jan-2020
Jan-2021
Jan-2022
Jan-2023
TL 03
GWPS (5ug/L)

Figure C-79.

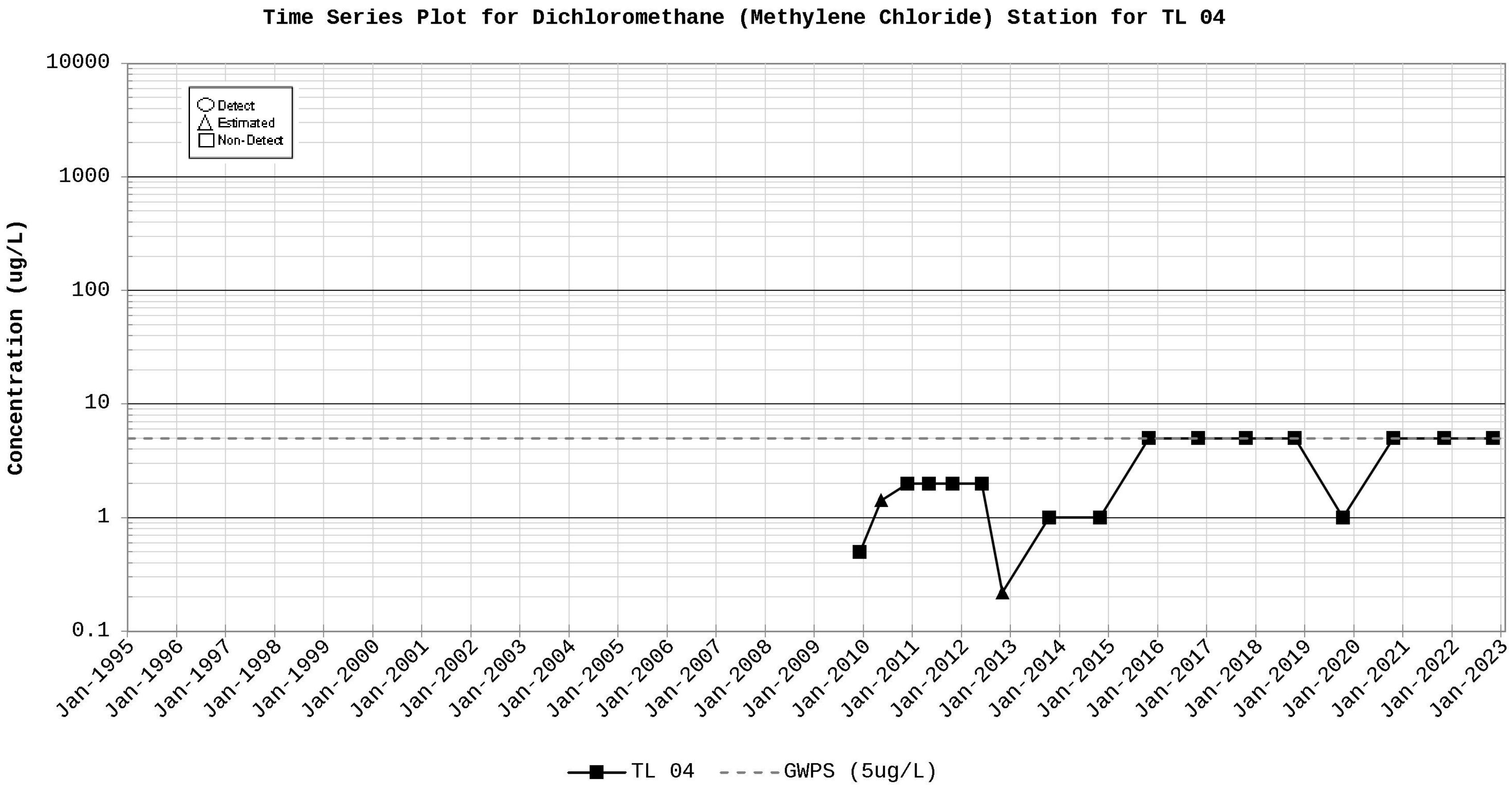

Time Series Plot for Dichloromethane (Methylene Chloride) Station for TL 04
Concentration (ug/L)
10000
1000
100
10
1
0.1
Detect
Estimated
Non-Detect
Jan-1995
Jan-1996
Jan-1997
Jan-1998
Jan-1999
Jan-2000
Jan-2001
Jan-2002
Jan-2003
Jan-2004
Jan-2005
Jan-2006
Jan-2007
Jan-2008
Jan-2009
Jan-2010
Jan-2011
Jan-2012
Jan-2013
Jan-2014
Jan-2015
Jan-2016
Jan-2017
Jan-2018
Jan-2019
Jan-2020
Jan-2021
Jan-2022
Jan-2023
TL 04
GWPS (5ug/L)

Figure C-80.

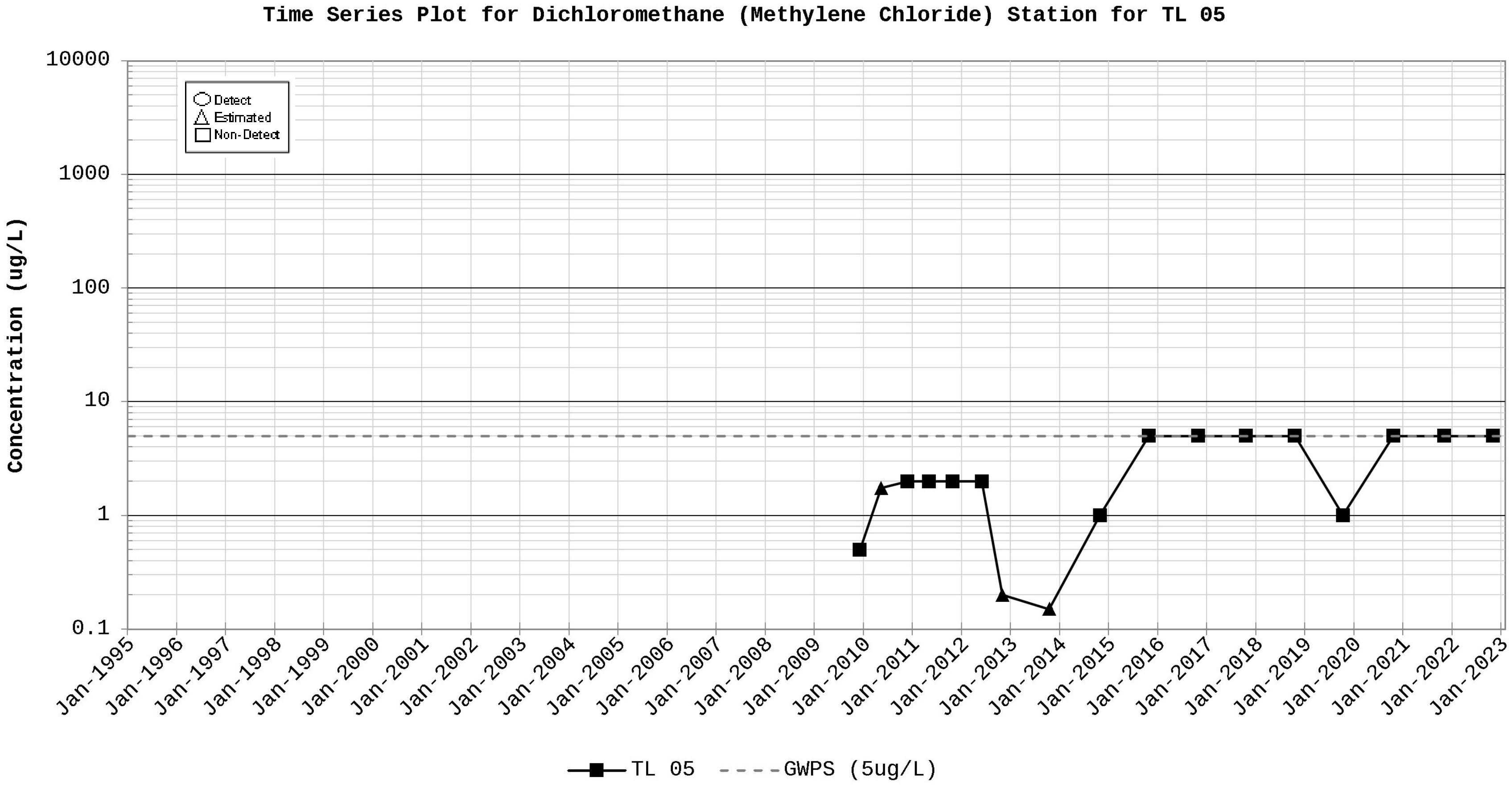

Time Series Plot for Dichloromethane (Methylene Chloride) Station for TL 05
Concentration (ug/L)
10000
1000
100
10
1
0.1
Detect
Estimated
Non-Detect
Jan-1995
Jan-1996
Jan-1997
Jan-1998
Jan-1999
Jan-2000
Jan-2001
Jan-2002
Jan-2003
Jan-2004
Jan-2005
Jan-2006
Jan-2007
Jan-2008
Jan-2009
Jan-2010
Jan-2011
Jan-2012
Jan-2013
Jan-2014
Jan-2015
Jan-2016
Jan-2017
Jan-2018
Jan-2019
Jan-2020
Jan-2021
Jan-2022
Jan-2023
TL 05
GWPS (5ug/L)

Figure C-81.

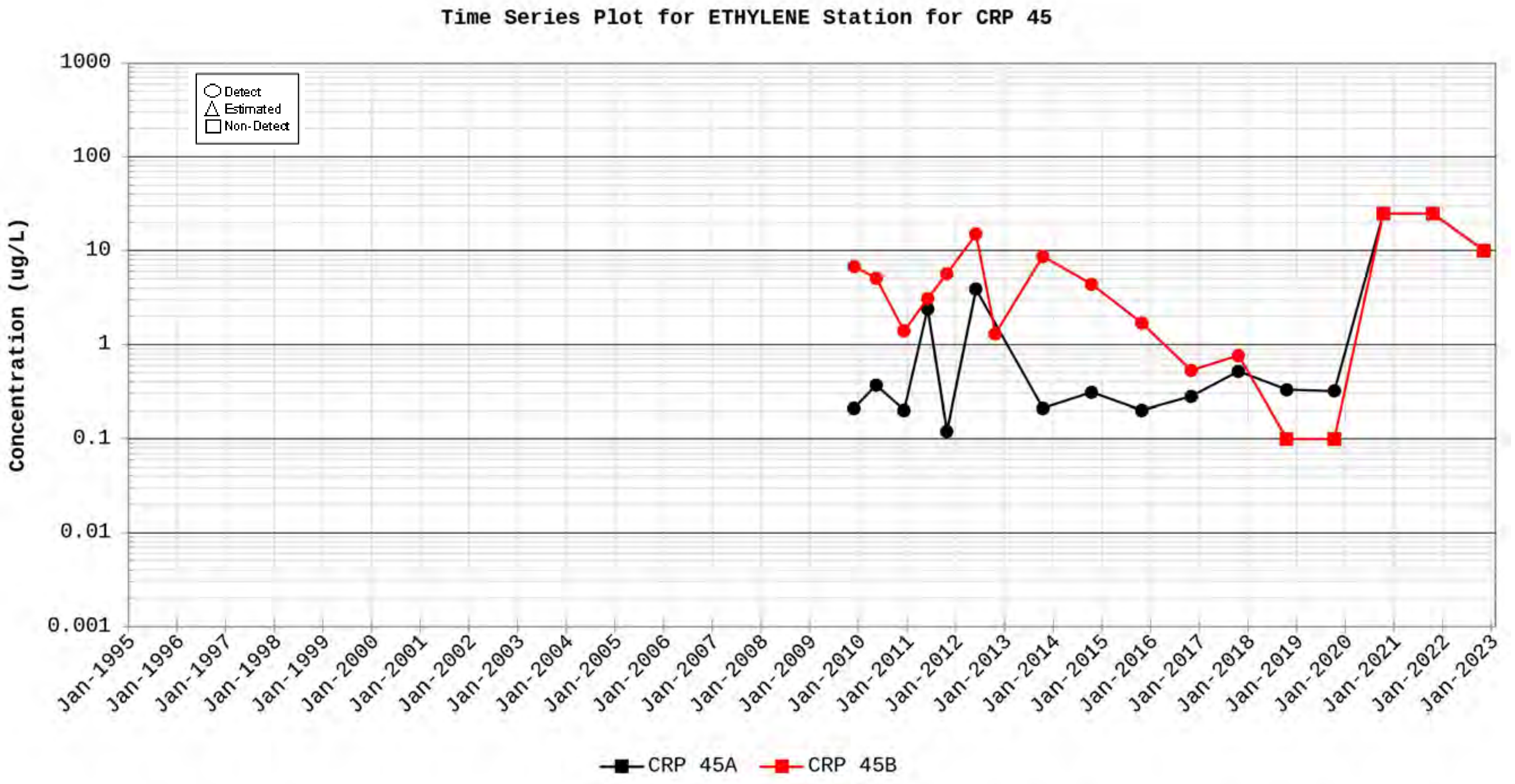

Time Series Plot for ETHYLENE Station for CRP 45
Concentration (ug/L)
1000
100
10
1
0.1
0.01
0.001
Detect
Estimated
Non-Detect
Jan-1995
Jan-1996
Jan-1997
Jan-1998
Jan-1999
Jan-2000
Jan-2001
Jan-2002
Jan-2003
Jan-2004
Jan-2005
Jan-2006
Jan-2007
Jan-2008
Jan-2009
Jan-2010
Jan-2011
Jan-2012
Jan-2013
Jan-2014
Jan-2015
Jan-2016
Jan-2017
Jan-2018
Jan-2019
Jan-2020
Jan-2021
Jan-2022
Jan-2023
CRP 45A
CRP 45B

Figure C-82.

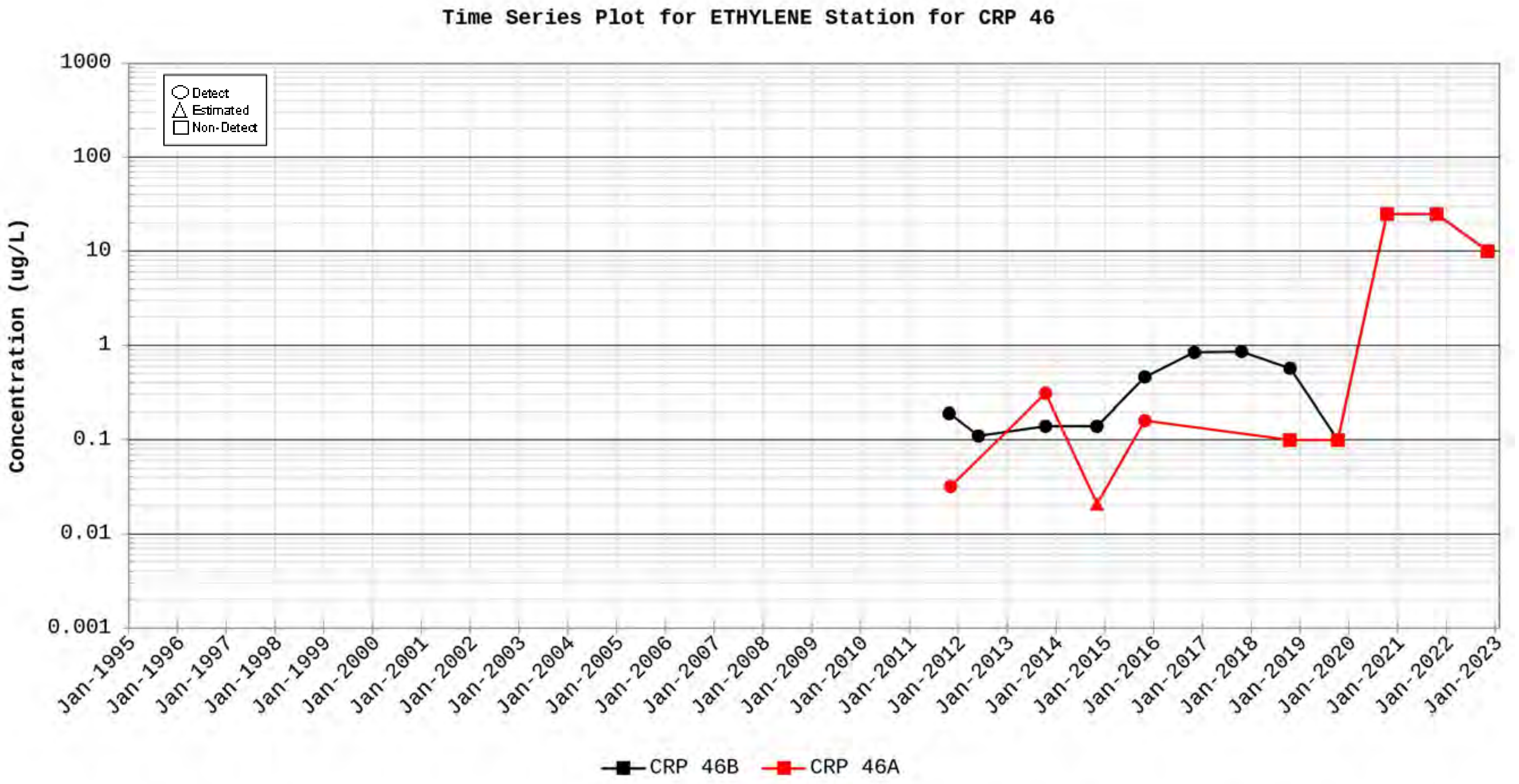

Time Series Plot for ETHYLENE Station for CRP 46
Concentration (ug/L)
1000
100
10
1
0.1
0.01
0.001
Detect
Estimated
Non-Detect
Jan-1995
Jan-1996
Jan-1997
Jan-1998
Jan-1999
Jan-2000
Jan-2001
Jan-2002
Jan-2003
Jan-2004
Jan-2005
Jan-2006
Jan-2007
Jan-2008
Jan-2009
Jan-2010
Jan-2011
Jan-2012
Jan-2013
Jan-2014
Jan-2015
Jan-2016
Jan-2017
Jan-2018
Jan-2019
Jan-2020
Jan-2021
Jan-2022
Jan-2023
CRP 46B
CRP 46A

Figure C-83.

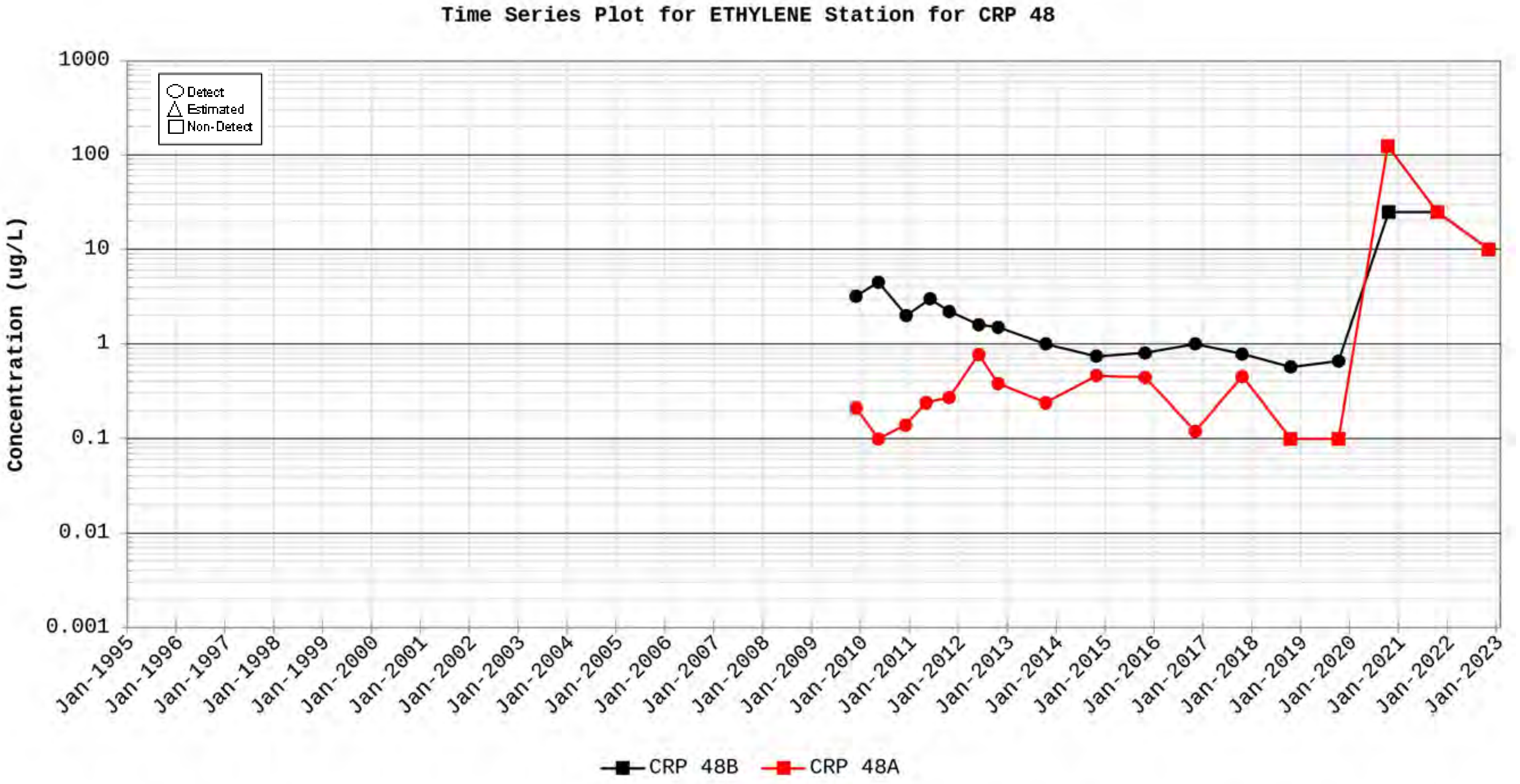

Time Series Plot for ETHYLENE Station for CRP 48
Concentration (ug/L)
1000
100
10
1
0.1
0.01
0.001
Detect
Estimated
Non-Detect
Jan-1995
Jan-1996
Jan-1997
Jan-1998
Jan-1999
Jan-2000
Jan-2001
Jan-2002
Jan-2003
Jan-2004
Jan-2005
Jan-2006
Jan-2007
Jan-2008
Jan-2009
Jan-2010
Jan-2011
Jan-2012
Jan-2013
Jan-2014
Jan-2015
Jan-2016
Jan-2017
Jan-2018
Jan-2019
Jan-2020
Jan-2021
Jan-2022
Jan-2023
CRP 48B
CRP 48A

Figure C-84.

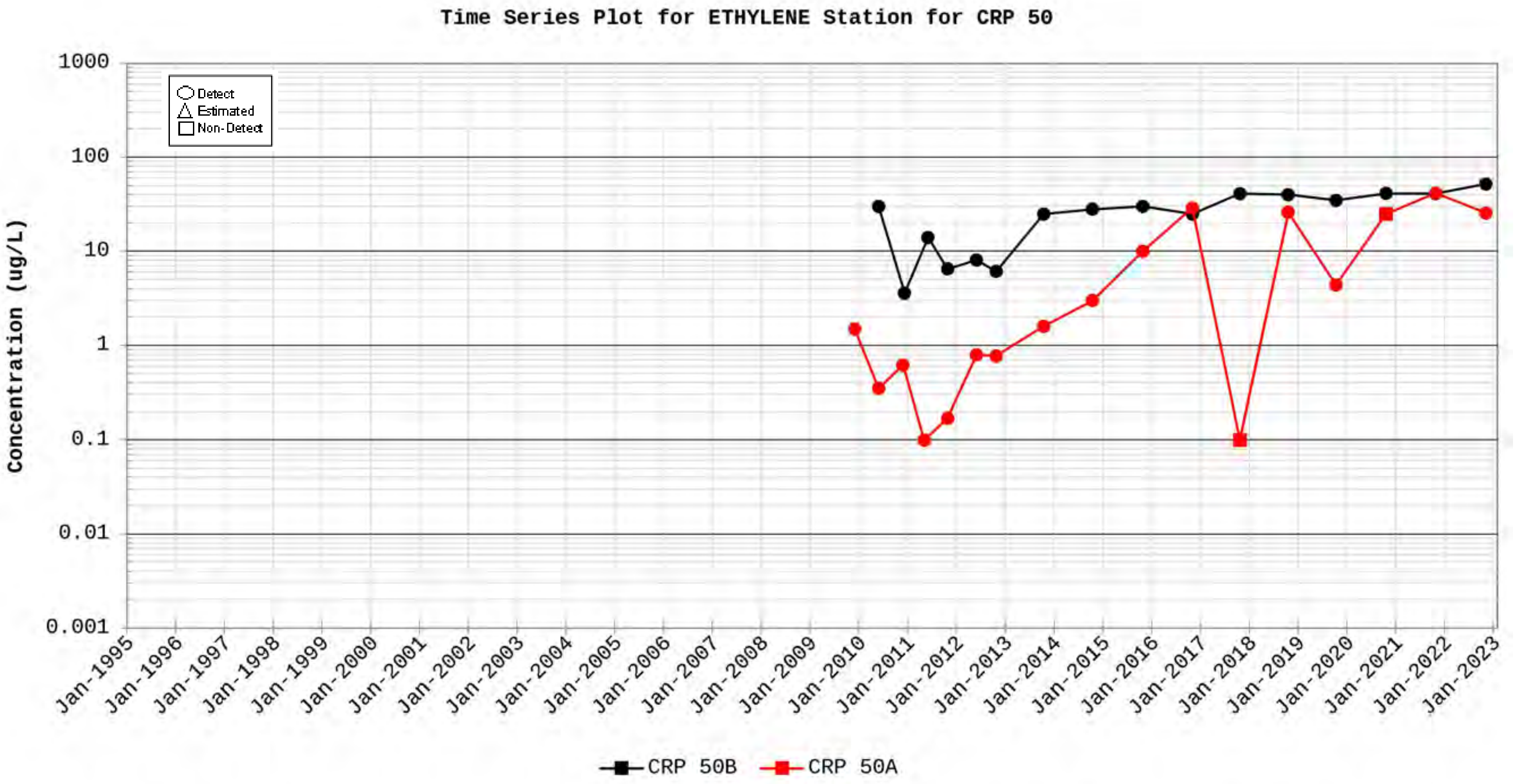

Time Series Plot for ETHYLENE Station for CRP 50
Detect
Estimated
Non-Detect
Concentration (ug/L)
1000
100
10
1
0.1
0.01
0.001
Jan-1995
Jan-1996
Jan-1997
Jan-1998
Jan-1999
Jan-2000
Jan-2001
Jan-2002
Jan-2003
Jan-2004
Jan-2005
Jan-2006
Jan-2007
Jan-2008
Jan-2009
Jan-2010
Jan-2011
Jan-2012
Jan-2013
Jan-2014
Jan-2015
Jan-2016
Jan-2017
Jan-2018
Jan-2019
Jan-2020
Jan-2021
Jan-2022
Jan-2023
CRP 50B
CRP 50A

Figure C-85.

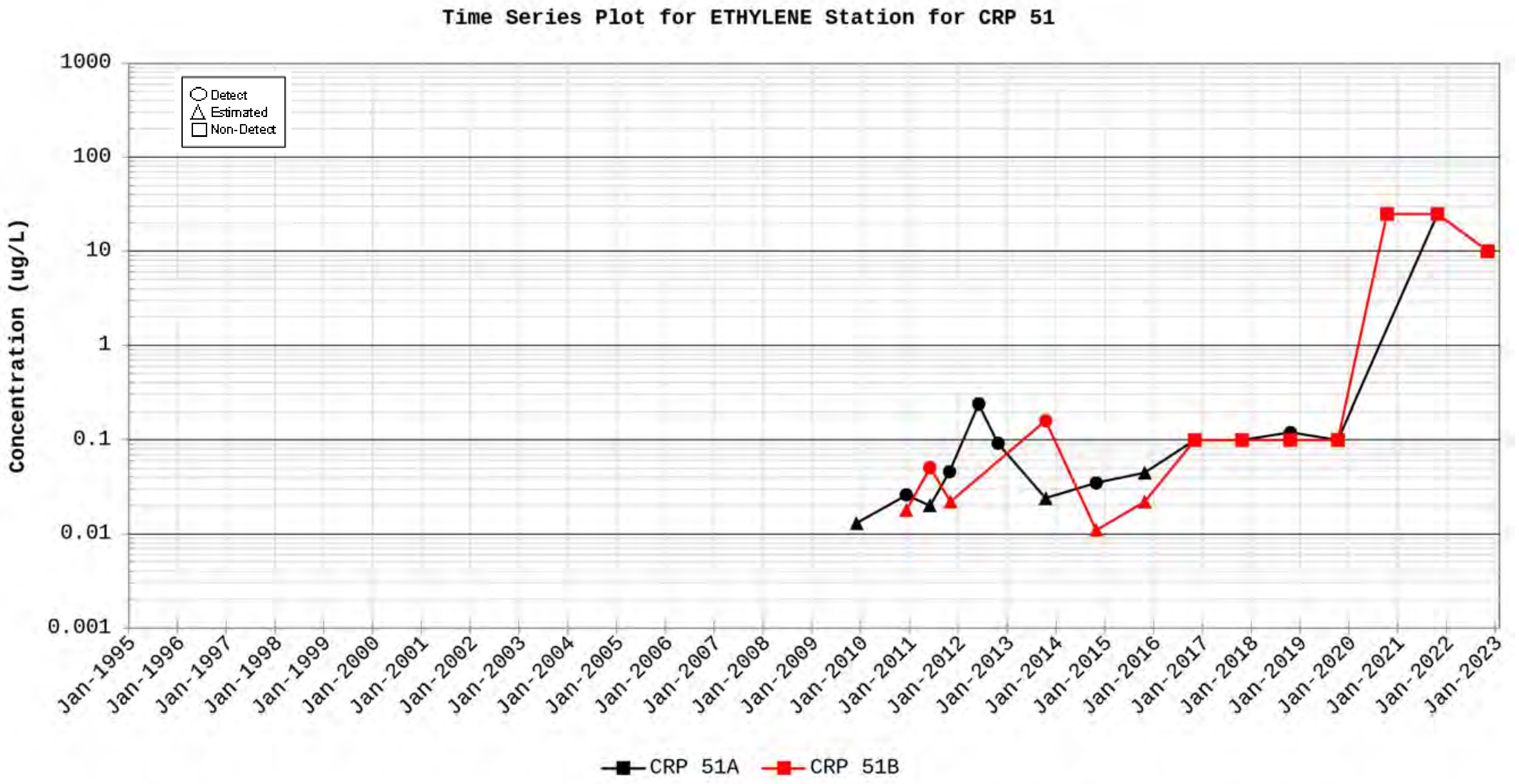

Time Series Plot for ETHYLENE Station for CRP 51
Concentration (ug/L)
1000
100
10
1
0.1
0.01
0.001
Detect
Estimated
Non-Detect
Jan-1995
Jan-1996
Jan-1997
Jan-1998
Jan-1999
Jan-2000
Jan-2001
Jan-2002
Jan-2003
Jan-2004
Jan-2005
Jan-2006
Jan-2007
Jan-2008
Jan-2009
Jan-2010
Jan-2011
Jan-2012
Jan-2013
Jan-2014
Jan-2015
Jan-2016
Jan-2017
Jan-2018
Jan-2019
Jan-2020
Jan-2021
Jan-2022
Jan-2023
CRP 51A
CRP 51B

Figure C-86.

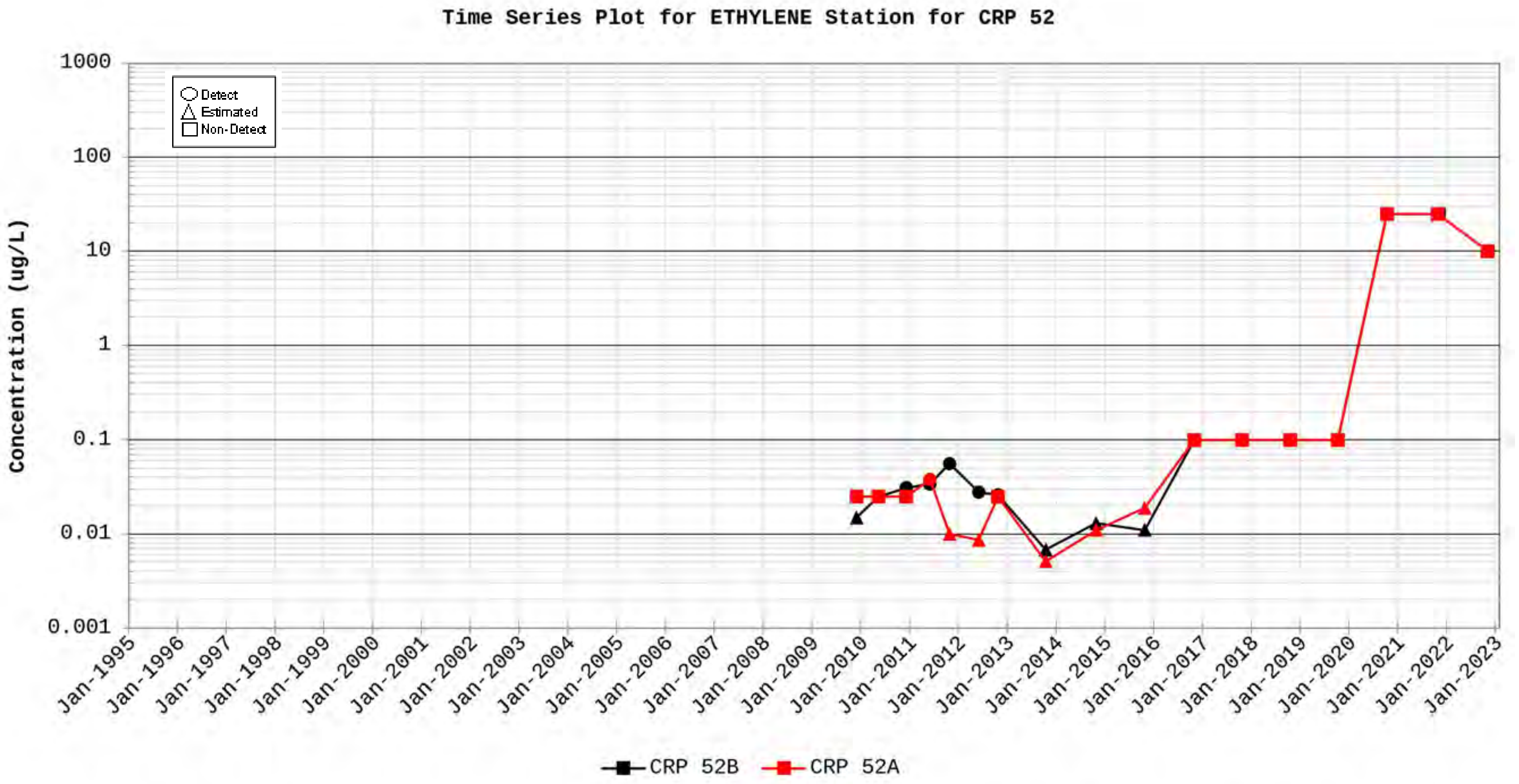

Time Series Plot for ETHYLENE Station for CRP 52
Concentration (ug/L)
1000
100
10
1
0.1
0.01
0.001
Detect
Estimated
Non-Detect
Jan-1995
Jan-1996
Jan-1997
Jan-1998
Jan-1999
Jan-2000
Jan-2001
Jan-2002
Jan-2003
Jan-2004
Jan-2005
Jan-2006
Jan-2007
Jan-2008
Jan-2009
Jan-2010
Jan-2011
Jan-2012
Jan-2013
Jan-2014
Jan-2015
Jan-2016
Jan-2017
Jan-2018
Jan-2019
Jan-2020
Jan-2021
Jan-2022
Jan-2023
CRP 52B
CRP 52A

Figure C-87.

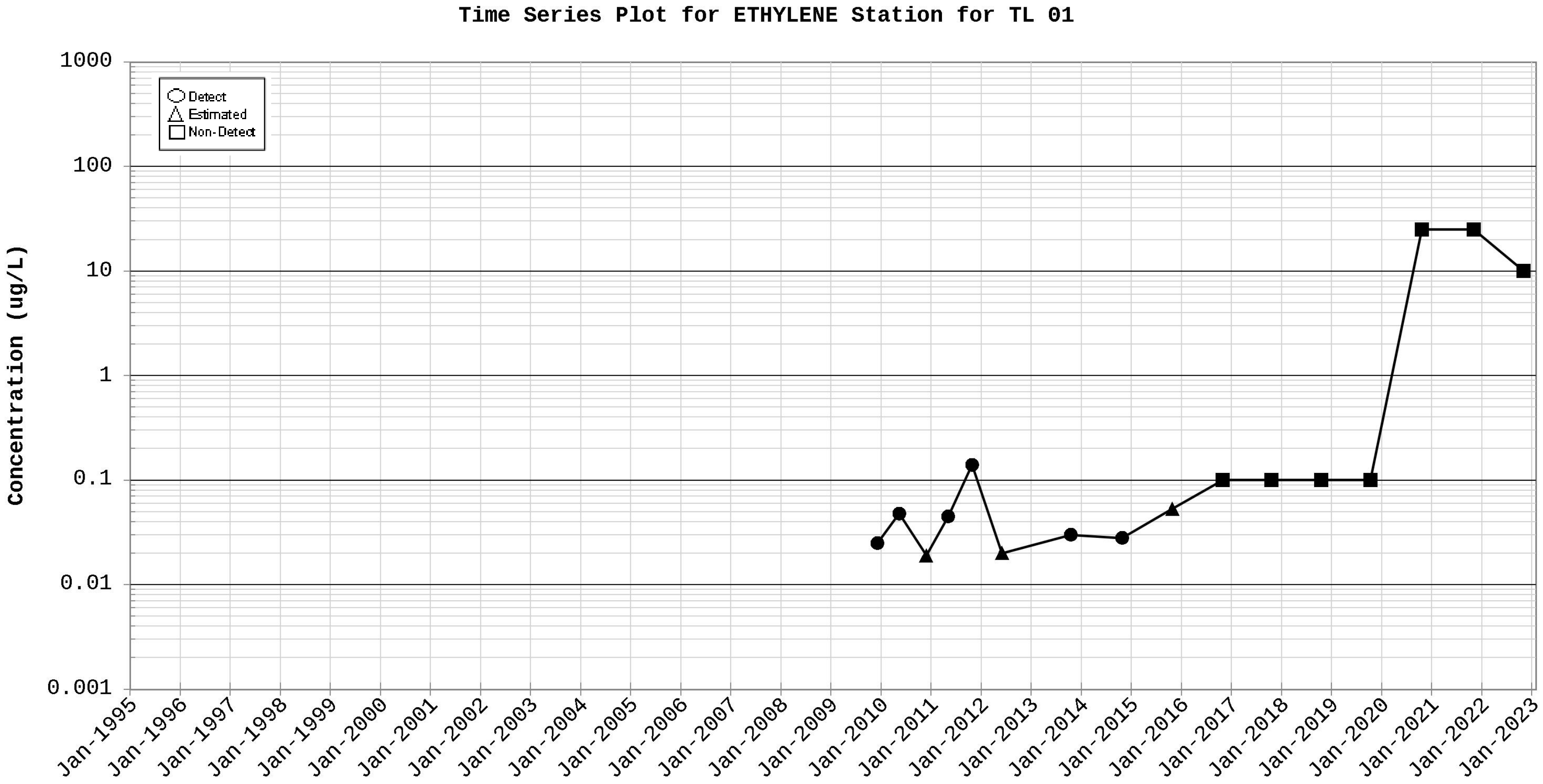

Time Series Plot for ETHYLENE Station for TL 01
Concentration (ug/L)
1000
100
10
1
0.1
0.01
0.001
○ Detect
△ Estimated
□ Non-Detect
Jan-1995
Jan-1996
Jan-1997
Jan-1998
Jan-1999
Jan-2000
Jan-2001
Jan-2002
Jan-2003
Jan-2004
Jan-2005
Jan-2006
Jan-2007
Jan-2008
Jan-2009
Jan-2010
Jan-2011
Jan-2012
Jan-2013
Jan-2014
Jan-2015
Jan-2016
Jan-2017
Jan-2018
Jan-2019
Jan-2020
Jan-2021
Jan-2022
Jan-2023

Figure C-88.

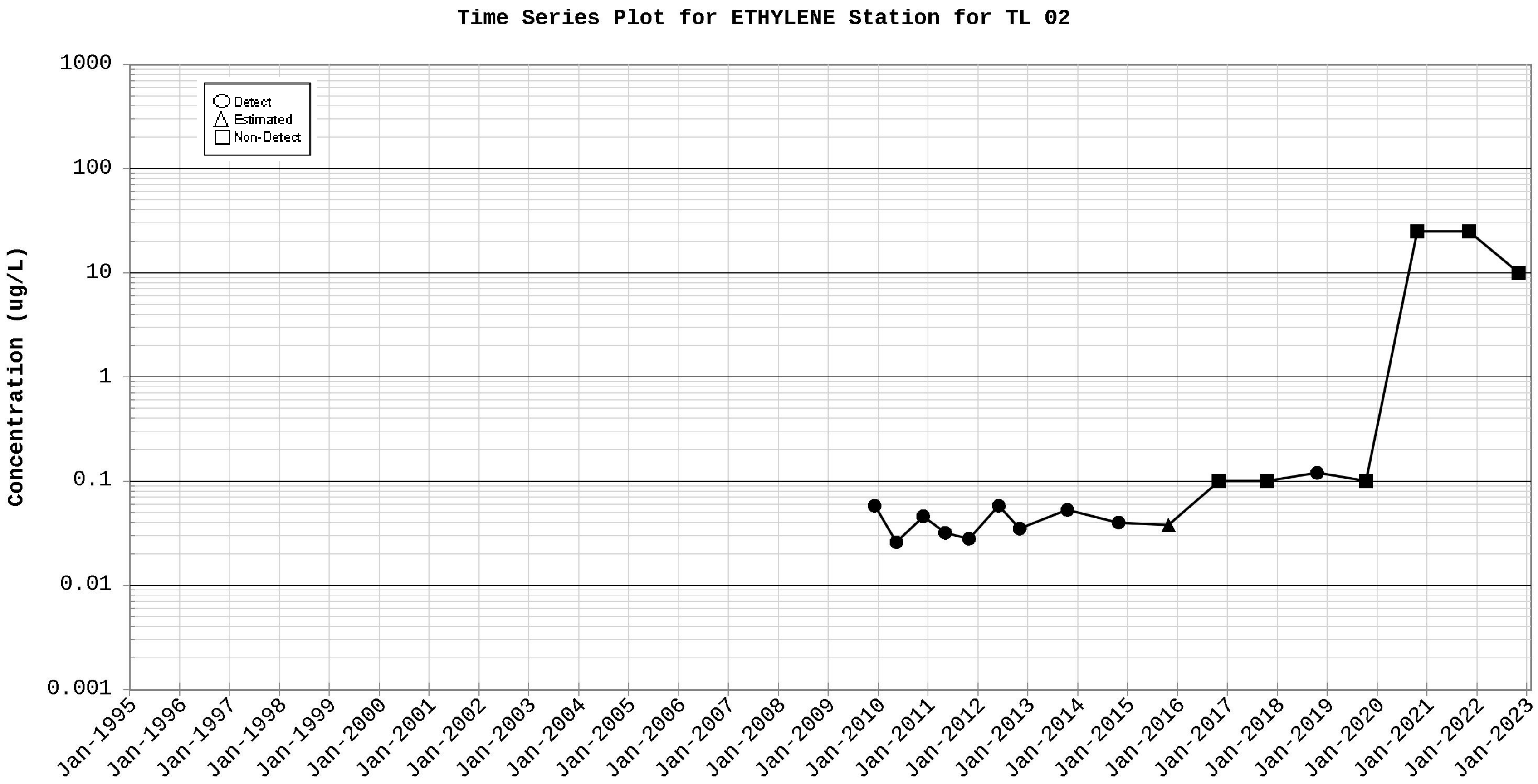

Time Series Plot for ETHYLENE Station for TL 02
Concentration (ug/L)
1000
100
10
1
0.1
0.01
0.001
Detect
Estimated
Non-Detect
Jan-1995
Jan-1996
Jan-1997
Jan-1998
Jan-1999
Jan-2000
Jan-2001
Jan-2002
Jan-2003
Jan-2004
Jan-2005
Jan-2006
Jan-2007
Jan-2008
Jan-2009
Jan-2010
Jan-2011
Jan-2012
Jan-2013
Jan-2014
Jan-2015
Jan-2016
Jan-2017
Jan-2018
Jan-2019
Jan-2020
Jan-2021
Jan-2022
Jan-2023

Figure C-89.

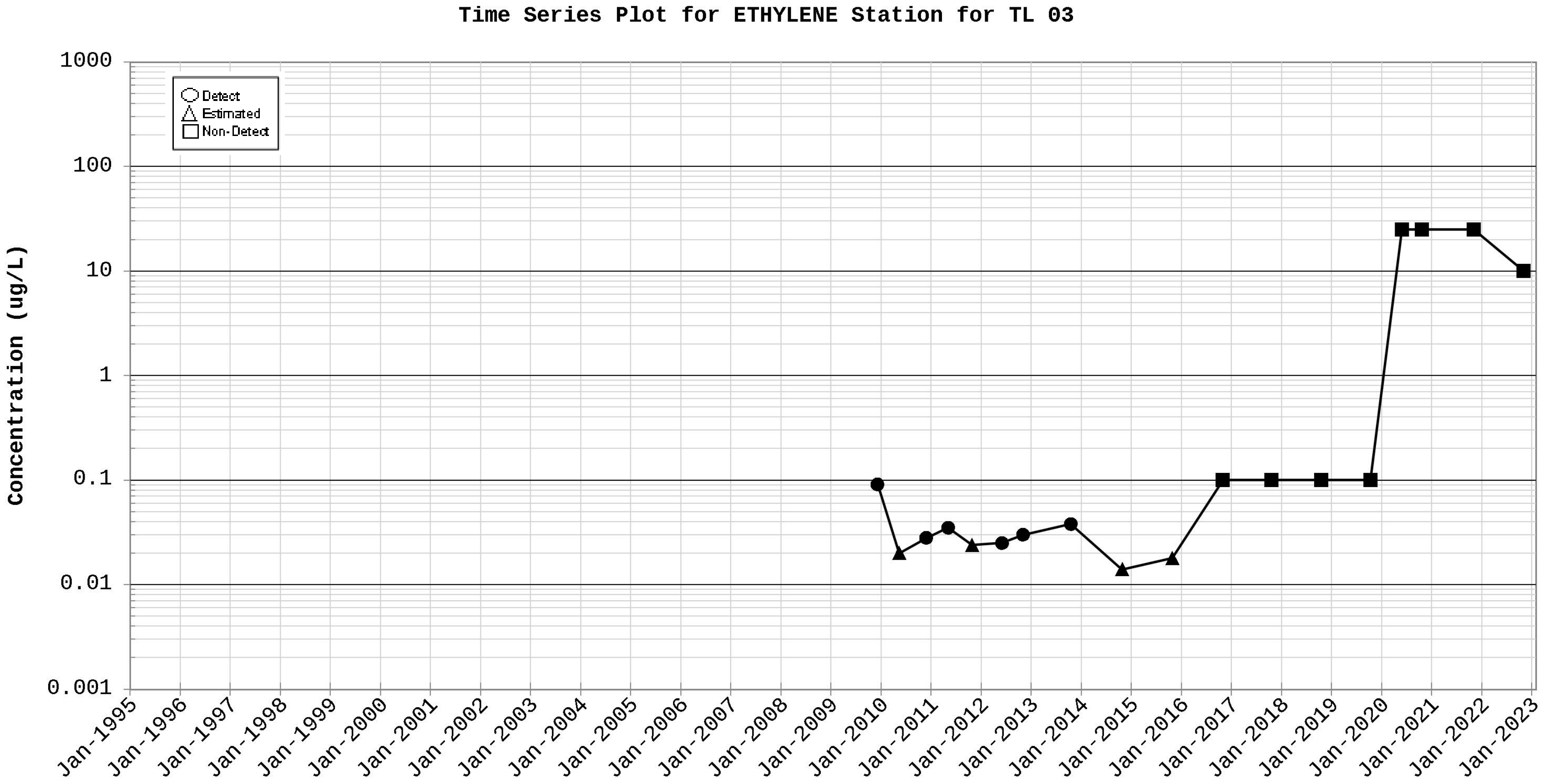

Time Series Plot for ETHYLENE Station for TL 03
Concentration (ug/L)
1000
100
10
1
0.1
0.01
0.001
Detect
Estimated
Non-Detect
Jan-1995
Jan-1996
Jan-1997
Jan-1998
Jan-1999
Jan-2000
Jan-2001
Jan-2002
Jan-2003
Jan-2004
Jan-2005
Jan-2006
Jan-2007
Jan-2008
Jan-2009
Jan-2010
Jan-2011
Jan-2012
Jan-2013
Jan-2014
Jan-2015
Jan-2016
Jan-2017
Jan-2018
Jan-2019
Jan-2020
Jan-2021
Jan-2022
Jan-2023

Figure C-90.

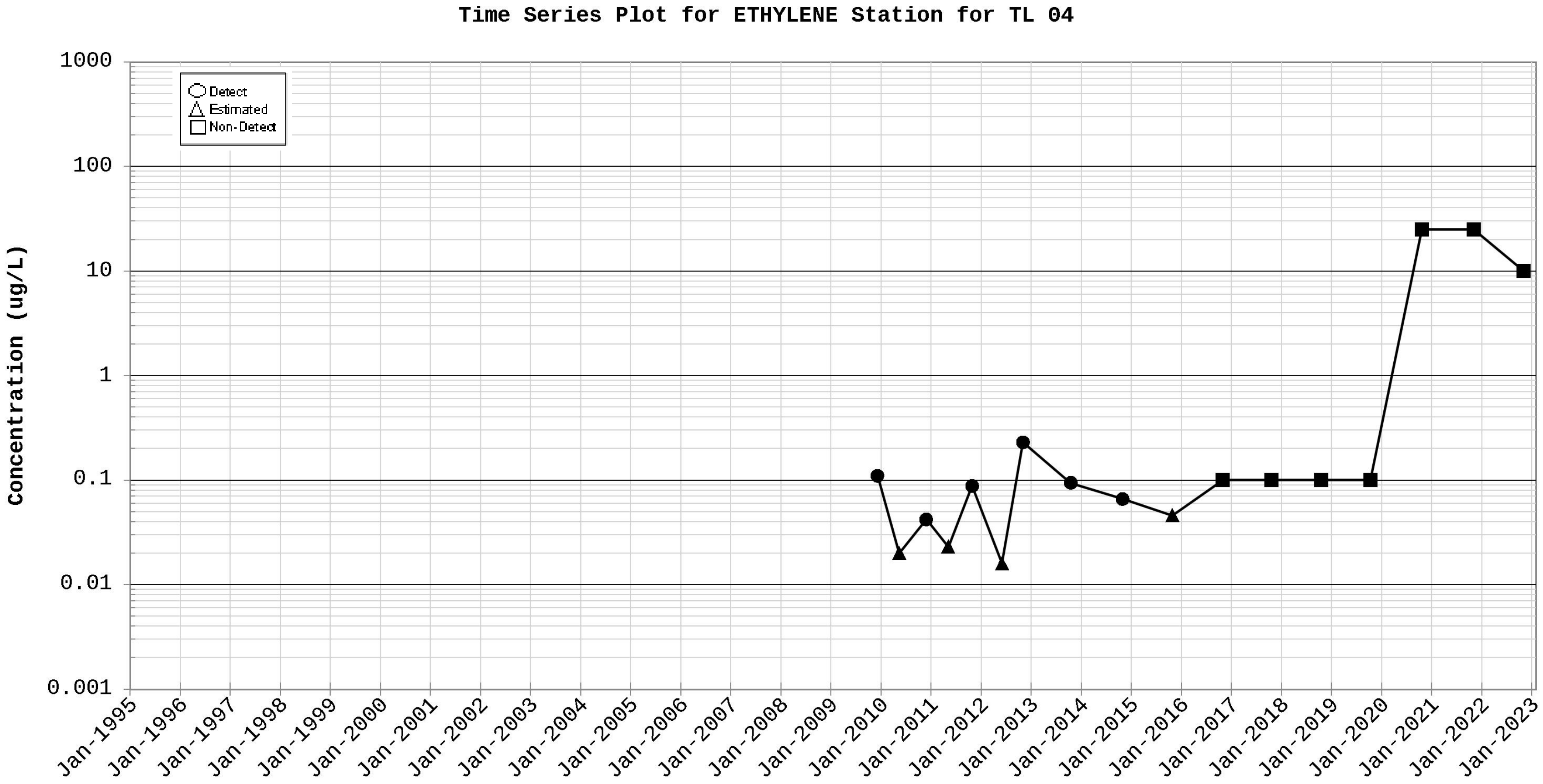

Time Series Plot for ETHYLENE Station for TL 04
Concentration (ug/L)
1000
100
10
1
0.1
0.01
0.001
Detect
Estimated
Non-Detect
Jan-1995
Jan-1996
Jan-1997
Jan-1998
Jan-1999
Jan-2000
Jan-2001
Jan-2002
Jan-2003
Jan-2004
Jan-2005
Jan-2006
Jan-2007
Jan-2008
Jan-2009
Jan-2010
Jan-2011
Jan-2012
Jan-2013
Jan-2014
Jan-2015
Jan-2016
Jan-2017
Jan-2018
Jan-2019
Jan-2020
Jan-2021
Jan-2022
Jan-2023

Figure C-91.

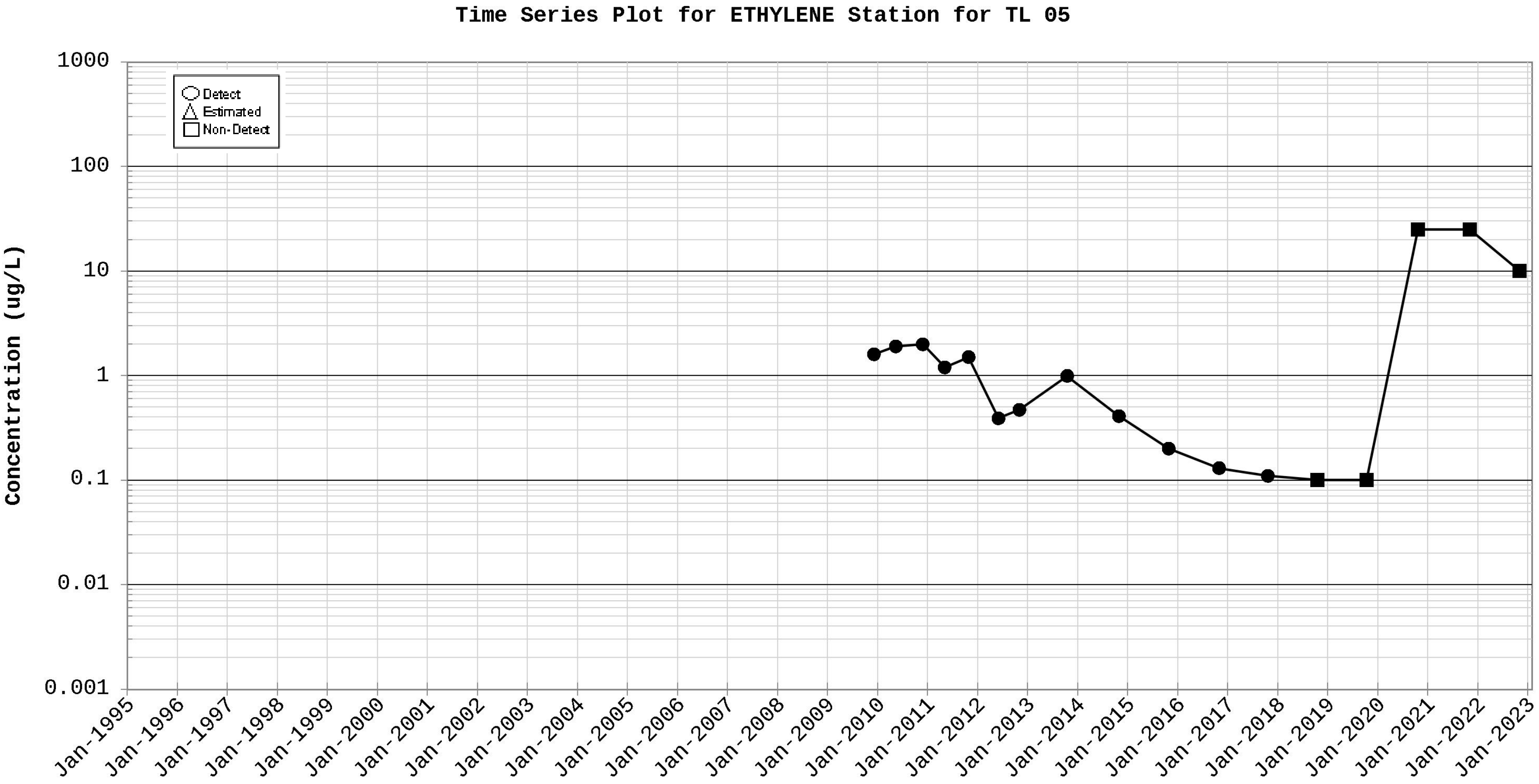

Time Series Plot for ETHYLENE Station for TL 05
Concentration (ug/L)
1000
100
10
1
0.1
0.01
0.001
Detect
Estimated
Non-Detect
Jan-1995
Jan-1996
Jan-1997
Jan-1998
Jan-1999
Jan-2000
Jan-2001
Jan-2002
Jan-2003
Jan-2004
Jan-2005
Jan-2006
Jan-2007
Jan-2008
Jan-2009
Jan-2010
Jan-2011
Jan-2012
Jan-2013
Jan-2014
Jan-2015
Jan-2016
Jan-2017
Jan-2018
Jan-2019
Jan-2020
Jan-2021
Jan-2022
Jan-2023

Figure C-92.

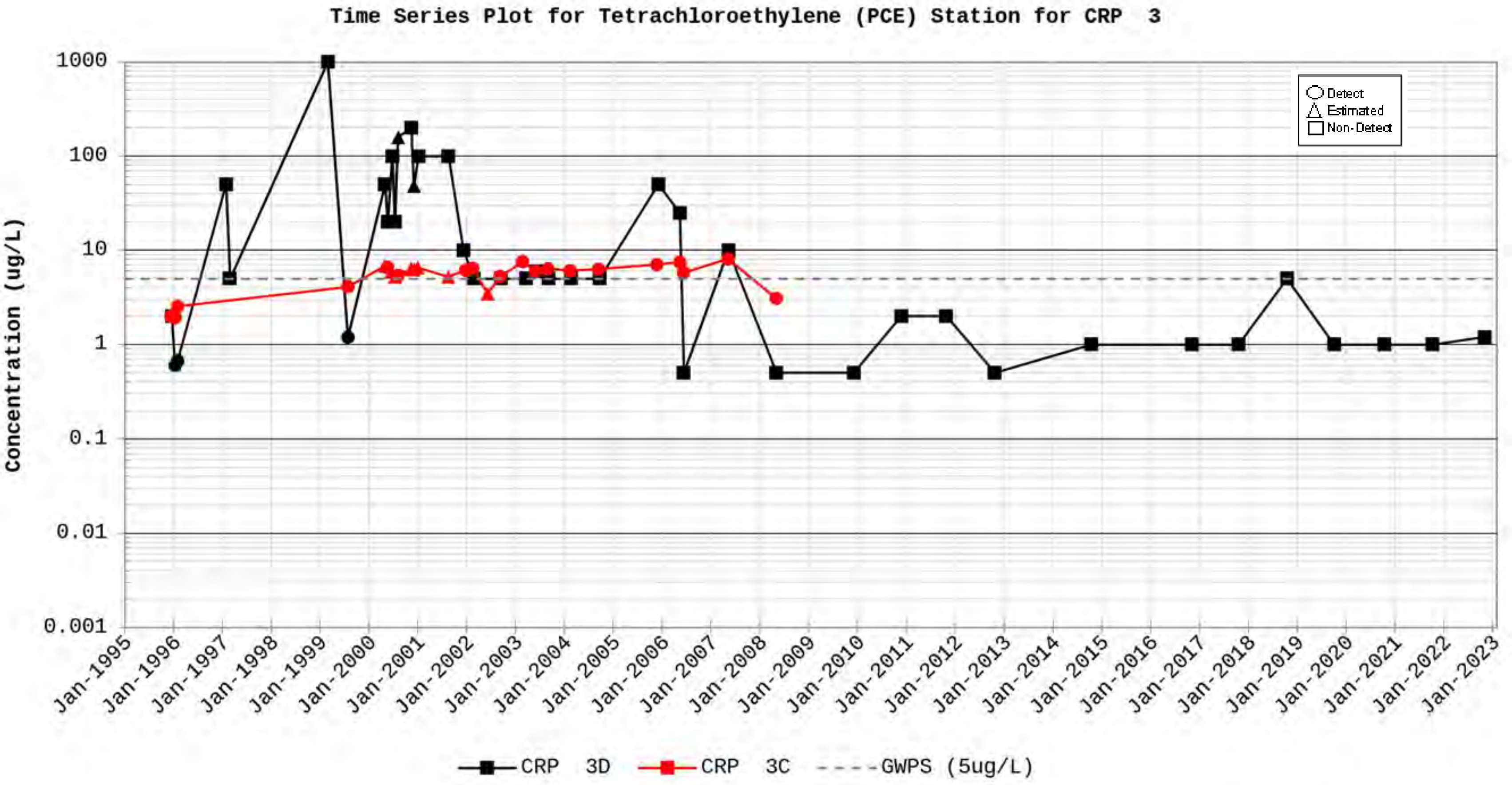

Time Series Plot for Tetrachloroethylene (PCE) Station for CRP 3
Concentration (ug/L)
1000
100
10
1
0.1
0.01
0.001
Jan-1995
Jan-1996
Jan-1997
Jan-1998
Jan-1999
Jan-2000
Jan-2001
Jan-2002
Jan-2003
Jan-2004
Jan-2005
Jan-2006
Jan-2007
Jan-2008
Jan-2009
Jan-2010
Jan-2011
Jan-2012
Jan-2013
Jan-2014
Jan-2015
Jan-2016
Jan-2017
Jan-2018
Jan-2019
Jan-2020
Jan-2021
Jan-2022
Jan-2023
○ Detect
△ Estimated
☐ Non-Detect
CRP 3D
CRP 3C
GWPS (5ug/L)

Figure C-93.

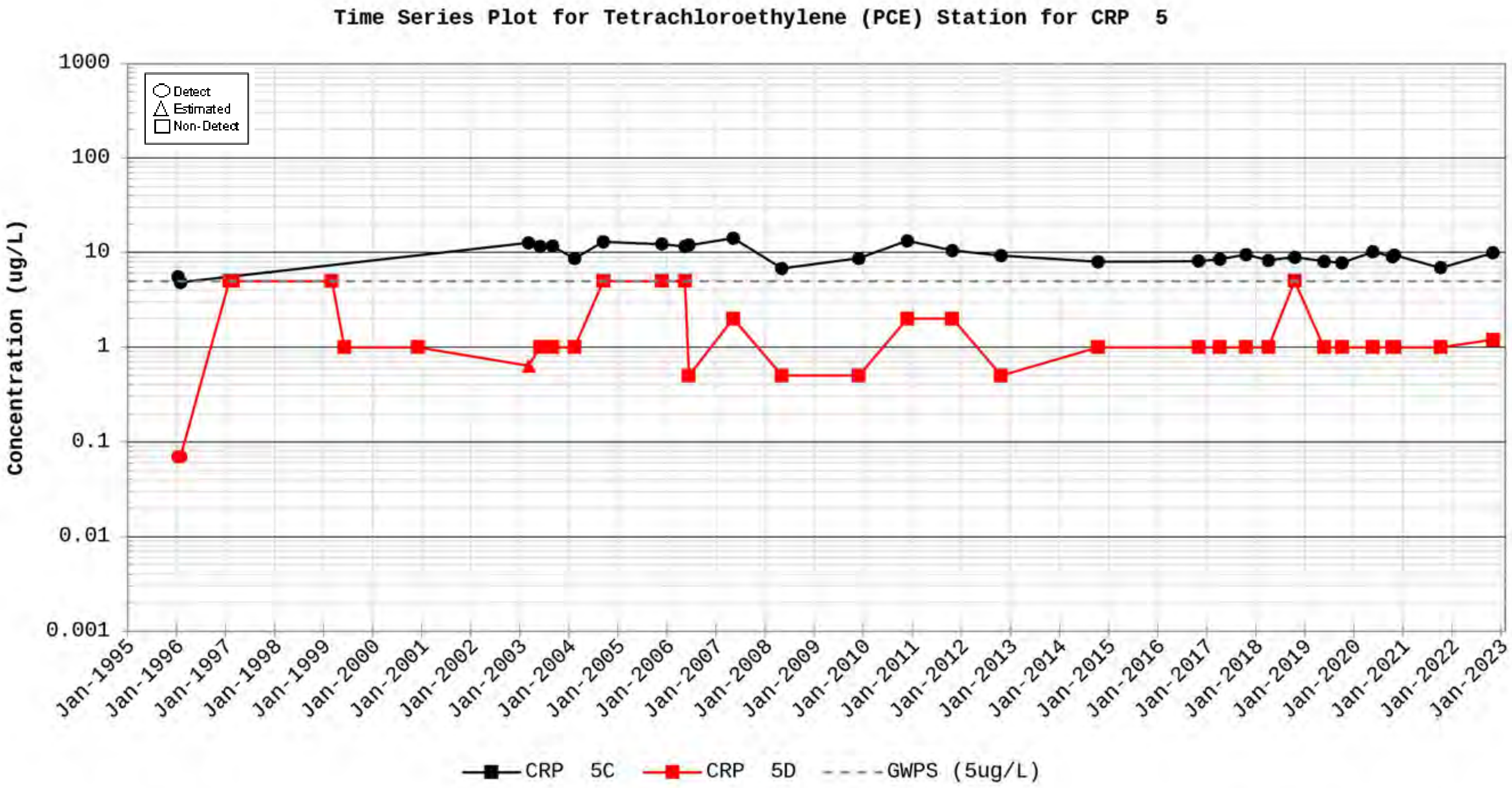

Time Series Plot for Tetrachloroethylene (PCE) Station for CRP 5
Detect
Estimated
Non-Detect
Concentration (ug/L)
1000
100
10
1
0.1
0.01
0.001
Jan-1995
Jan-1996
Jan-1997
Jan-1998
Jan-1999
Jan-2000
Jan-2001
Jan-2002
Jan-2003
Jan-2004
Jan-2005
Jan-2006
Jan-2007
Jan-2008
Jan-2009
Jan-2010
Jan-2011
Jan-2012
Jan-2013
Jan-2014
Jan-2015
Jan-2016
Jan-2017
Jan-2018
Jan-2019
Jan-2020
Jan-2021
Jan-2022
Jan-2023
CRP 5C
CRP 5D
GWPS (5ug/L)

Figure C-94.

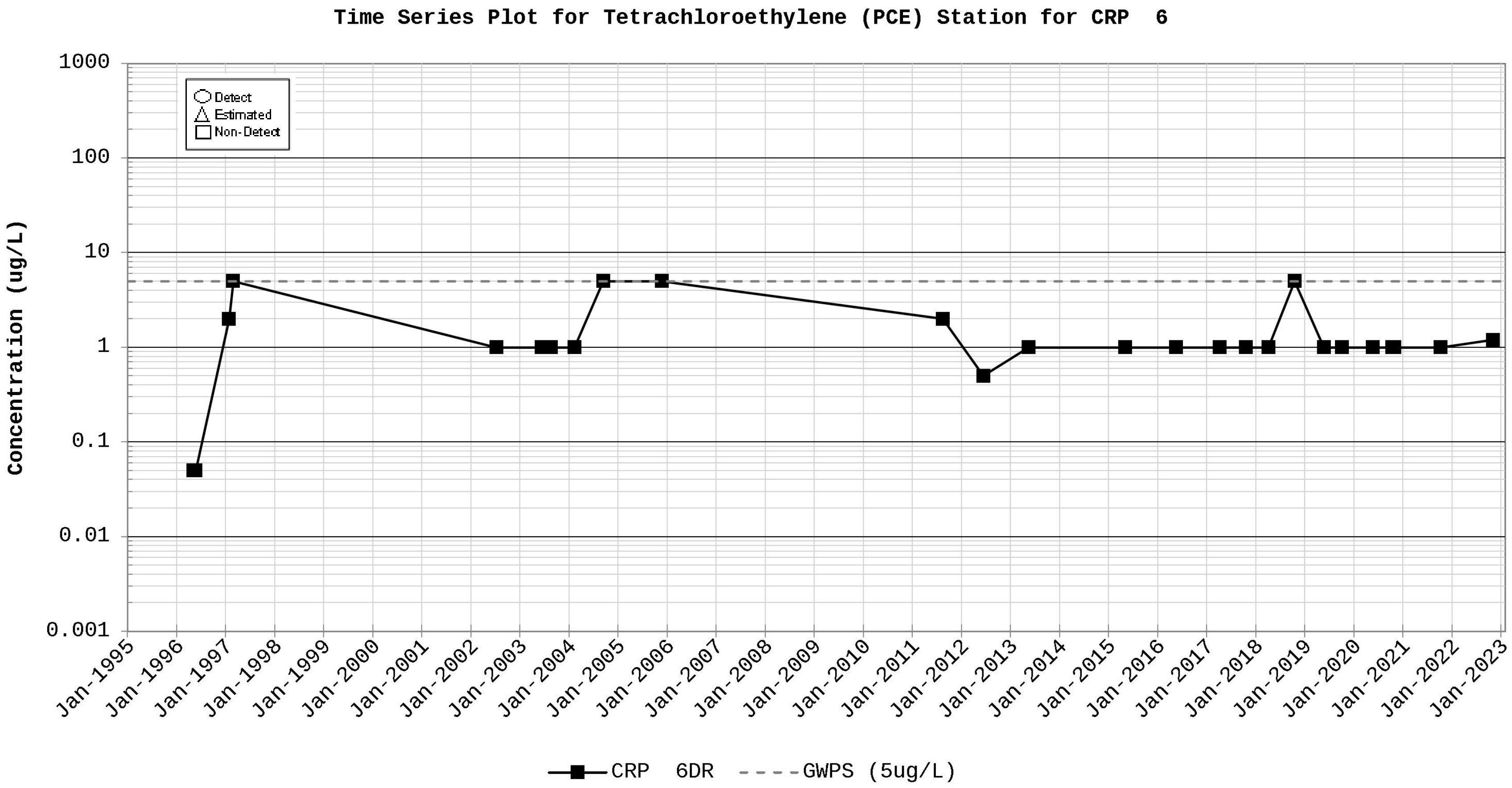

Time Series Plot for Tetrachloroethylene (PCE) Station for CRP 6
Concentration (ug/L)
1000
100
10
1
0.1
0.01
0.001
Detect
Estimated
Non-Detect
Jan-1995
Jan-1996
Jan-1997
Jan-1998
Jan-1999
Jan-2000
Jan-2001
Jan-2002
Jan-2003
Jan-2004
Jan-2005
Jan-2006
Jan-2007
Jan-2008
Jan-2009
Jan-2010
Jan-2011
Jan-2012
Jan-2013
Jan-2014
Jan-2015
Jan-2016
Jan-2017
Jan-2018
Jan-2019
Jan-2020
Jan-2021
Jan-2022
Jan-2023
CRP 6DR
GWPS (5ug/L)

Figure C-95.

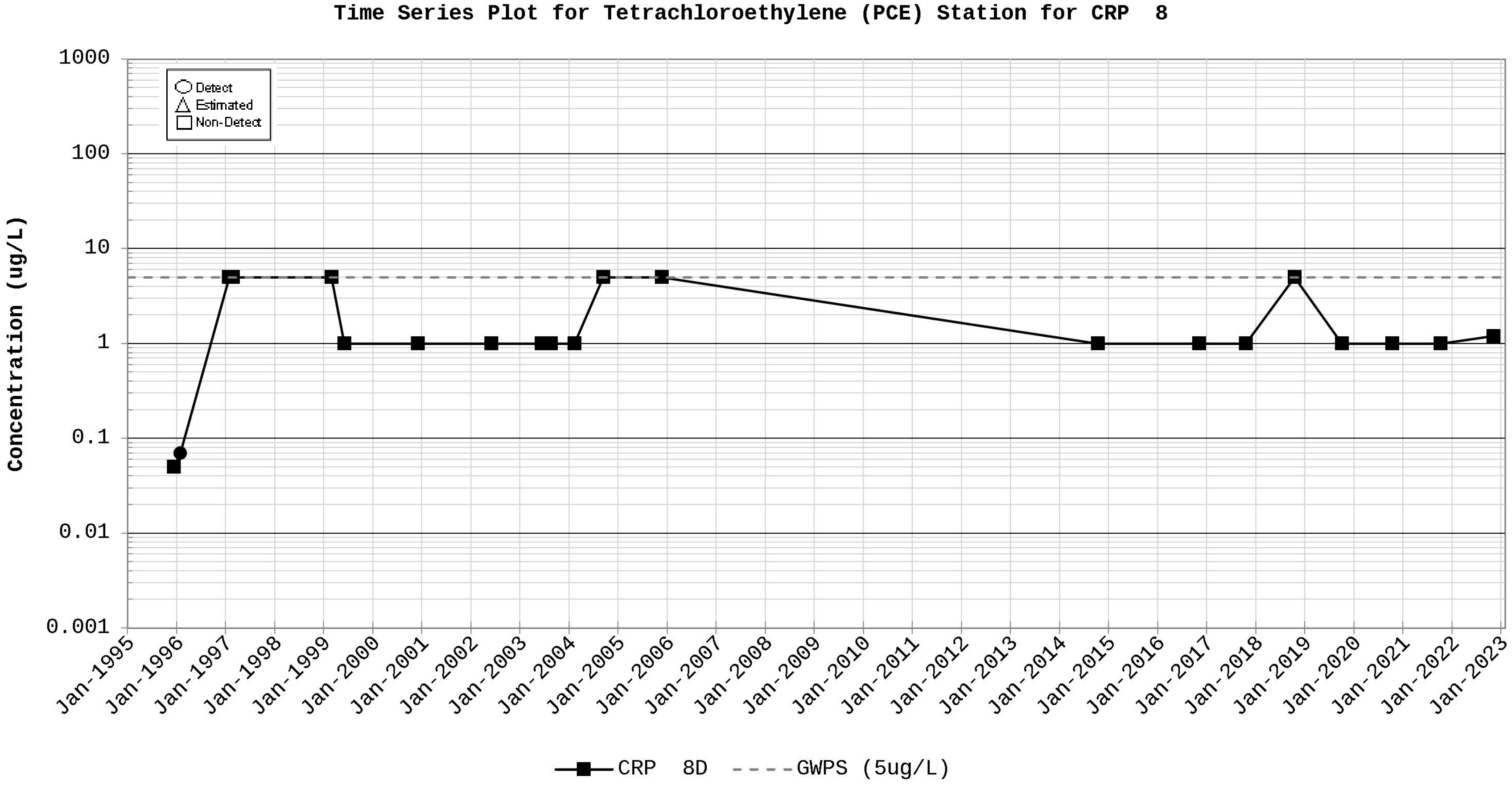

Time Series Plot for Tetrachloroethylene (PCE) Station for CRP 8
Concentration (ug/L)
1000
100
10
1
0.1
0.01
0.001
Detect
Estimated
Non-Detect
Jan-1995
Jan-1996
Jan-1997
Jan-1998
Jan-1999
Jan-2000
Jan-2001
Jan-2002
Jan-2003
Jan-2004
Jan-2005
Jan-2006
Jan-2007
Jan-2008
Jan-2009
Jan-2010
Jan-2011
Jan-2012
Jan-2013
Jan-2014
Jan-2015
Jan-2016
Jan-2017
Jan-2018
Jan-2019
Jan-2020
Jan-2021
Jan-2022
Jan-2023
CRP 8D
GWPS (5ug/L)

Figure C-96.

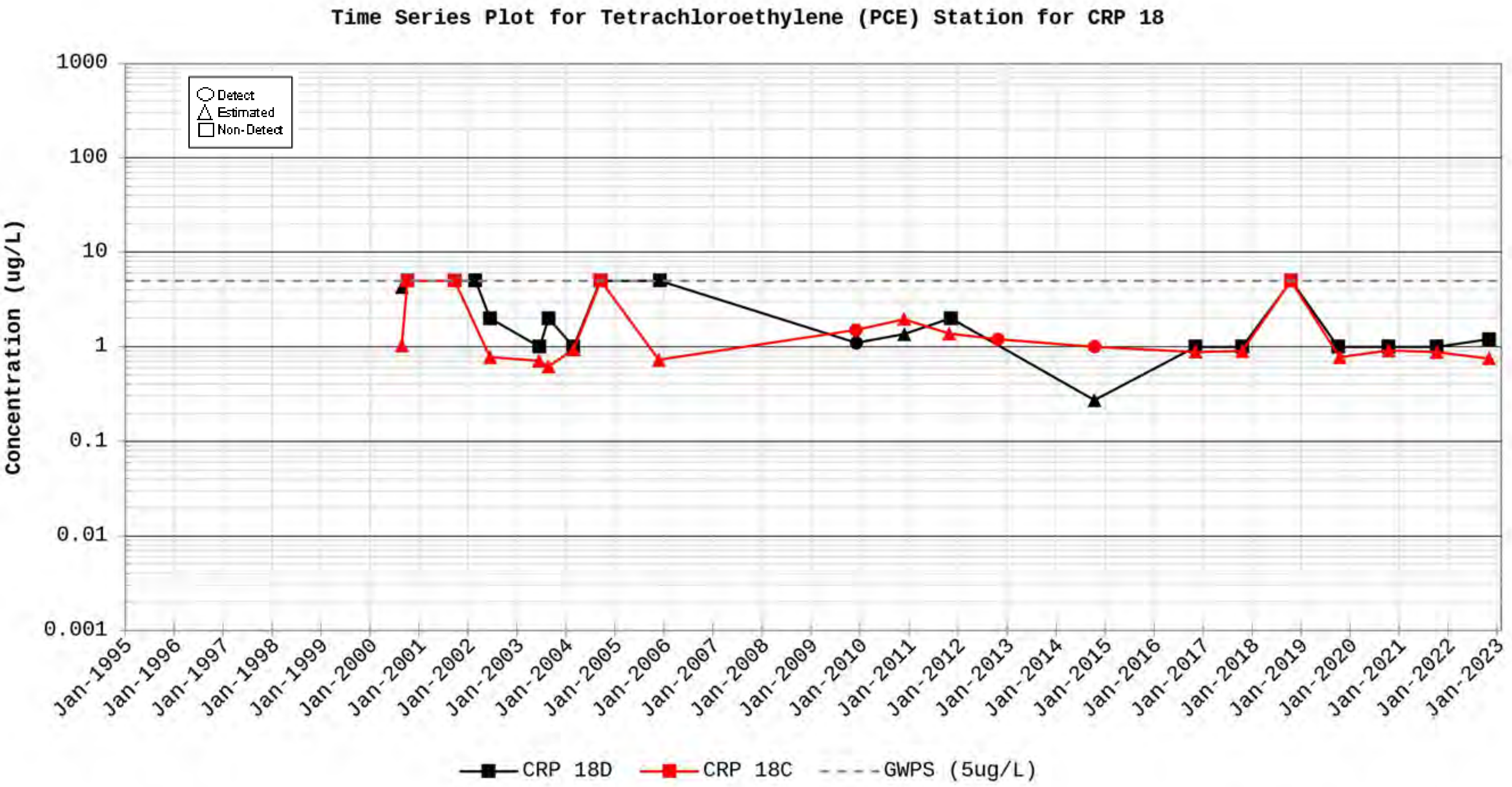

Time Series Plot for Tetrachloroethylene (PCE) Station for CRP 18
Concentration (ug/L)
1000
100
10
1
0.1
0.01
0.001
Detect
Estimated
Non-Detect
Jan-1995
Jan-1996
Jan-1997
Jan-1998
Jan-1999
Jan-2000
Jan-2001
Jan-2002
Jan-2003
Jan-2004
Jan-2005
Jan-2006
Jan-2007
Jan-2008
Jan-2009
Jan-2010
Jan-2011
Jan-2012
Jan-2013
Jan-2014
Jan-2015
Jan-2016
Jan-2017
Jan-2018
Jan-2019
Jan-2020
Jan-2021
Jan-2022
Jan-2023
CRP 18D
CRP 18C
GWPS (5ug/L)

Figure C-97.

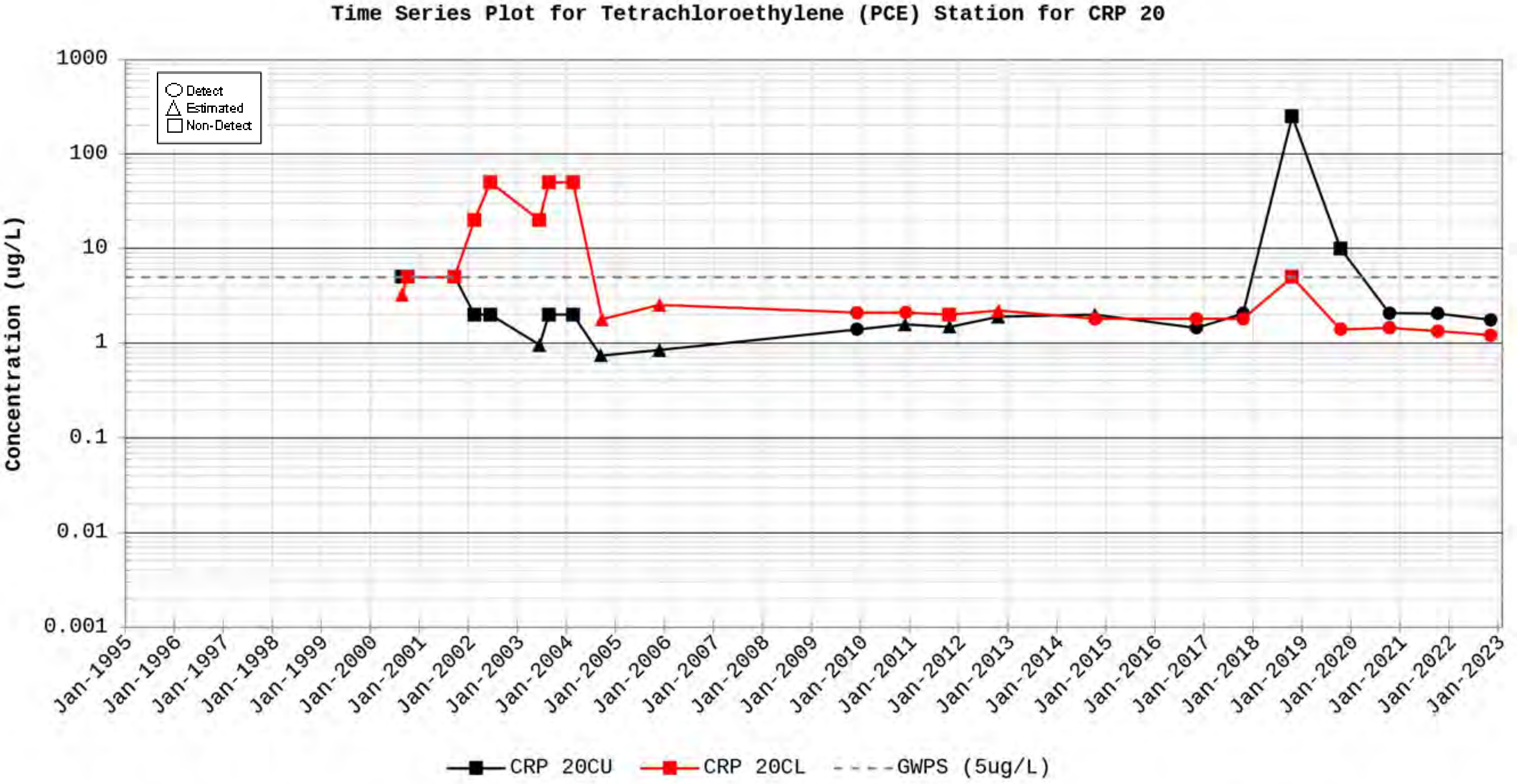

Time Series Plot for Tetrachloroethylene (PCE) Station for CRP 20
Concentration (ug/L)
1000
100
10
1
0.1
0.01
0.001
Detect
Estimated
Non-Detect
Jan-1995
Jan-1996
Jan-1997
Jan-1998
Jan-1999
Jan-2000
Jan-2001
Jan-2002
Jan-2003
Jan-2004
Jan-2005
Jan-2006
Jan-2007
Jan-2008
Jan-2009
Jan-2010
Jan-2011
Jan-2012
Jan-2013
Jan-2014
Jan-2015
Jan-2016
Jan-2017
Jan-2018
Jan-2019
Jan-2020
Jan-2021
Jan-2022
Jan-2023
CRP 20CU
CRP 20CL
GWPS (5ug/L)

Figure C-98.

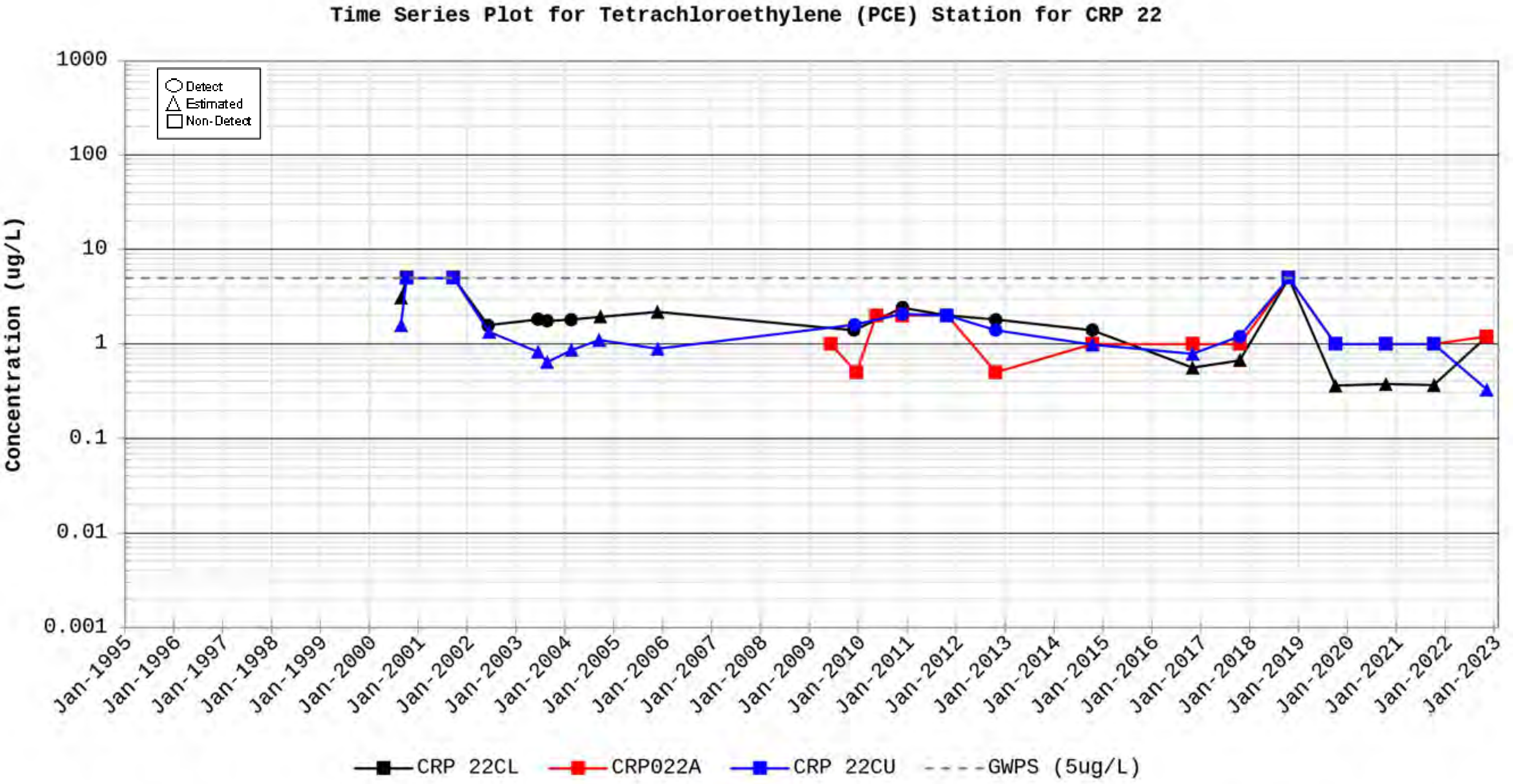

Time Series Plot for Tetrachloroethylene (PCE) Station for CRP 22
Concentration (ug/L)
1000
100
10
1
0.1
0.01
0.001
Detect
Estimated
Non-Detect
Jan-1995
Jan-1996
Jan-1997
Jan-1998
Jan-1999
Jan-2000
Jan-2001
Jan-2002
Jan-2003
Jan-2004
Jan-2005
Jan-2006
Jan-2007
Jan-2008
Jan-2009
Jan-2010
Jan-2011
Jan-2012
Jan-2013
Jan-2014
Jan-2015
Jan-2016
Jan-2017
Jan-2018
Jan-2019
Jan-2020
Jan-2021
Jan-2022
Jan-2023
CRP 22CL
CRP022A
CRP 22CU
GWPS (5ug/L)

Figure C-99.

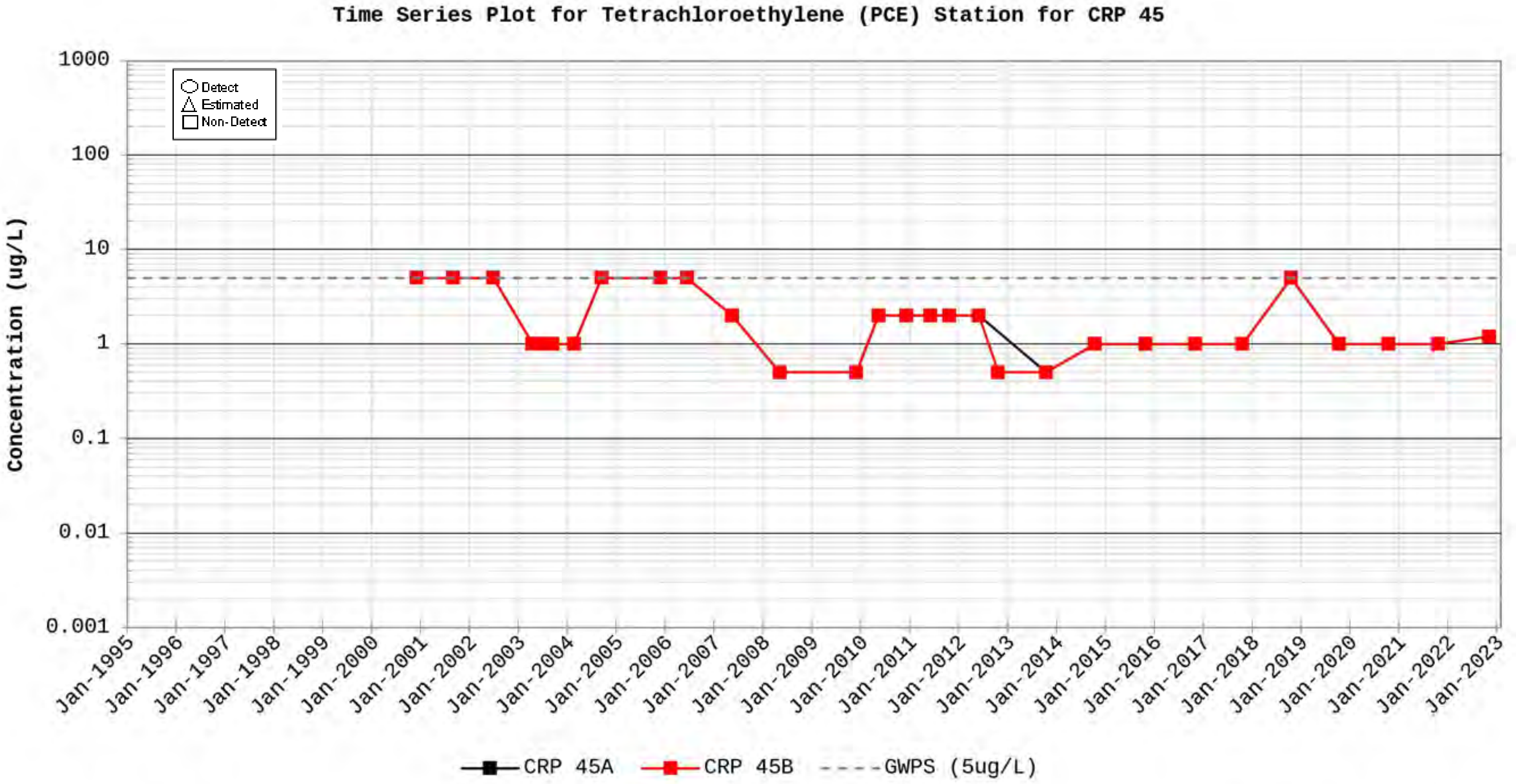

Time Series Plot for Tetrachloroethylene (PCE) Station for CRP 45
Concentration (ug/L)
1000
100
10
1
0.1
0.01
0.001
○ Detect
△ Estimated
☐ Non-Detect
Jan-1995
Jan-1996
Jan-1997
Jan-1998
Jan-1999
Jan-2000
Jan-2001
Jan-2002
Jan-2003
Jan-2004
Jan-2005
Jan-2006
Jan-2007
Jan-2008
Jan-2009
Jan-2010
Jan-2011
Jan-2012
Jan-2013
Jan-2014
Jan-2015
Jan-2016
Jan-2017
Jan-2018
Jan-2019
Jan-2020
Jan-2021
Jan-2022
Jan-2023
CRP 45A
CRP 45B
GWPS (5ug/L)

Figure C-100.

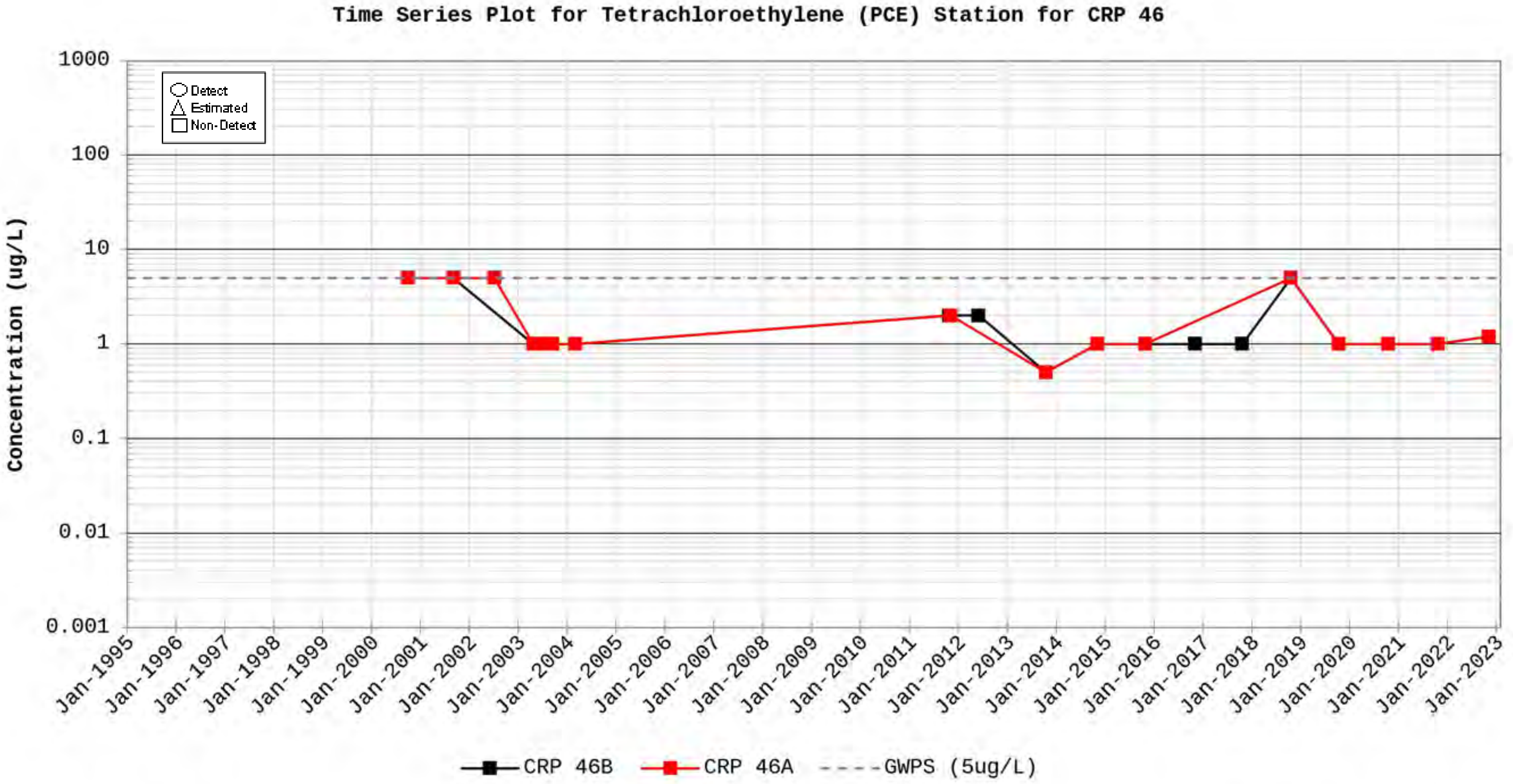
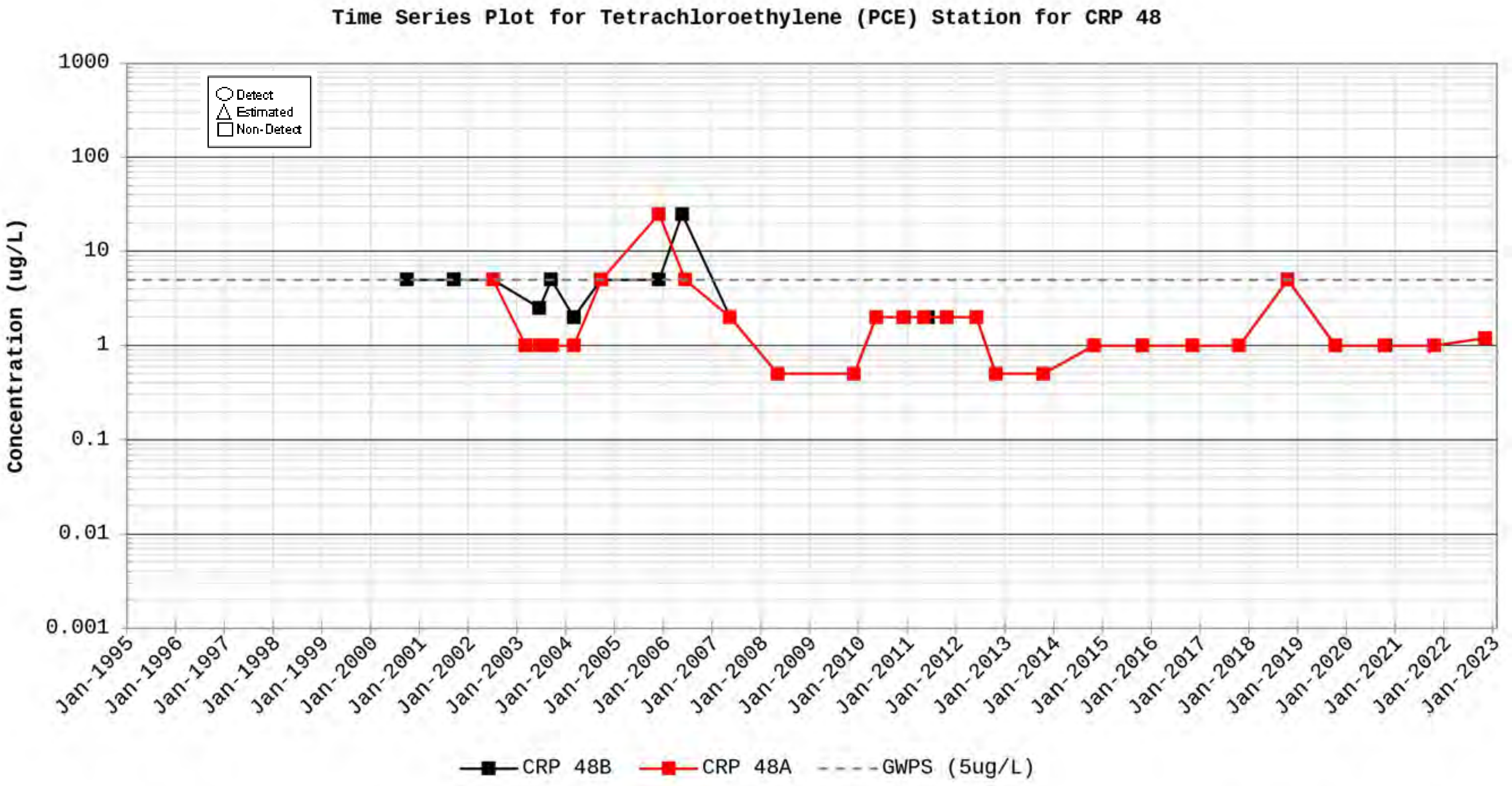

Time Series Plot for Tetrachloroethylene (PCE) Station for CRP 46
Concentration (ug/L)
1000
100
10
1
0.1
0.01
0.001
Detect
Estimated
Non-Detect
Jan-1995
Jan-1996
Jan-1997
Jan-1998
Jan-1999
Jan-2000
Jan-2001
Jan-2002
Jan-2003
Jan-2004
Jan-2005
Jan-2006
Jan-2007
Jan-2008
Jan-2009
Jan-2010
Jan-2011
Jan-2012
Jan-2013
Jan-2014
Jan-2015
Jan-2016
Jan-2017
Jan-2018
Jan-2019
Jan-2020
Jan-2021
Jan-2022
Jan-2023
CRP 46B
CRP 46A
GWPS (5ug/L)

Figure C-101.


Time Series Plot for Tetrachloroethylene (PCE) Station for CRP 48
Concentration (ug/L)
1000
100
10
1
0.1
0.01
0.001
○ Detect
△ Estimated
☐ Non-Detect
Jan-1995
Jan-1996
Jan-1997
Jan-1998
Jan-1999
Jan-2000
Jan-2001
Jan-2002
Jan-2003
Jan-2004
Jan-2005
Jan-2006
Jan-2007
Jan-2008
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Jan-2011
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Jan-2015
Jan-2016
Jan-2017
Jan-2018
Jan-2019
Jan-2020
Jan-2021
Jan-2022
Jan-2023
CRP 48B
CRP 48A
GWPS (5ug/L)

Figure C-102.

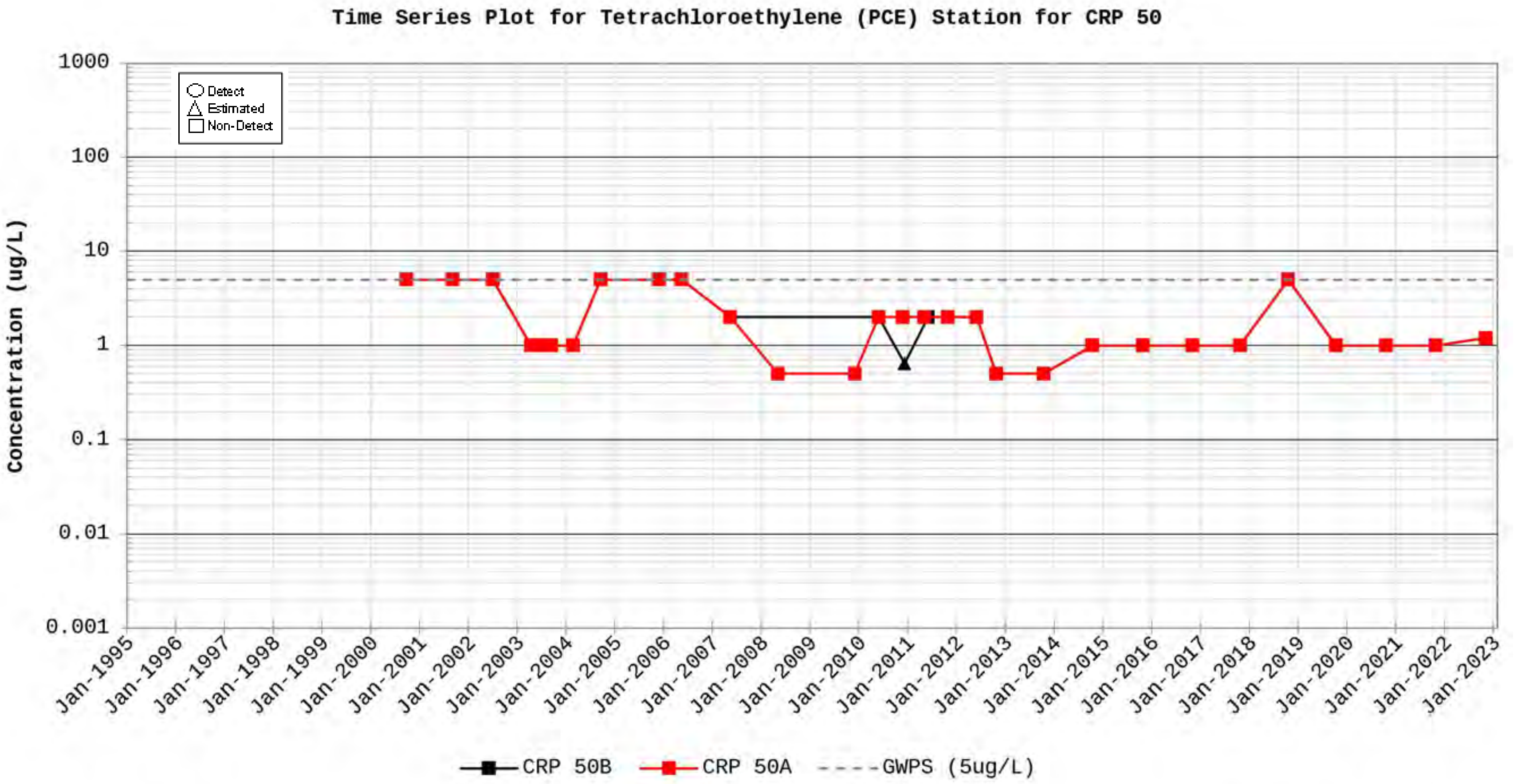

Time Series Plot for Tetrachloroethylene (PCE) Station for CRP 50
Concentration (ug/L)
1000
100
10
1
0.1
0.01
0.001
Detect
Estimated
Non-Detect
Jan-1995
Jan-1996
Jan-1997
Jan-1998
Jan-1999
Jan-2000
Jan-2001
Jan-2002
Jan-2003
Jan-2004
Jan-2005
Jan-2006
Jan-2007
Jan-2008
Jan-2009
Jan-2010
Jan-2011
Jan-2012
Jan-2013
Jan-2014
Jan-2015
Jan-2016
Jan-2017
Jan-2018
Jan-2019
Jan-2020
Jan-2021
Jan-2022
Jan-2023
CRP 50B
CRP 50A
GWPS (5ug/L)

Figure C-103.

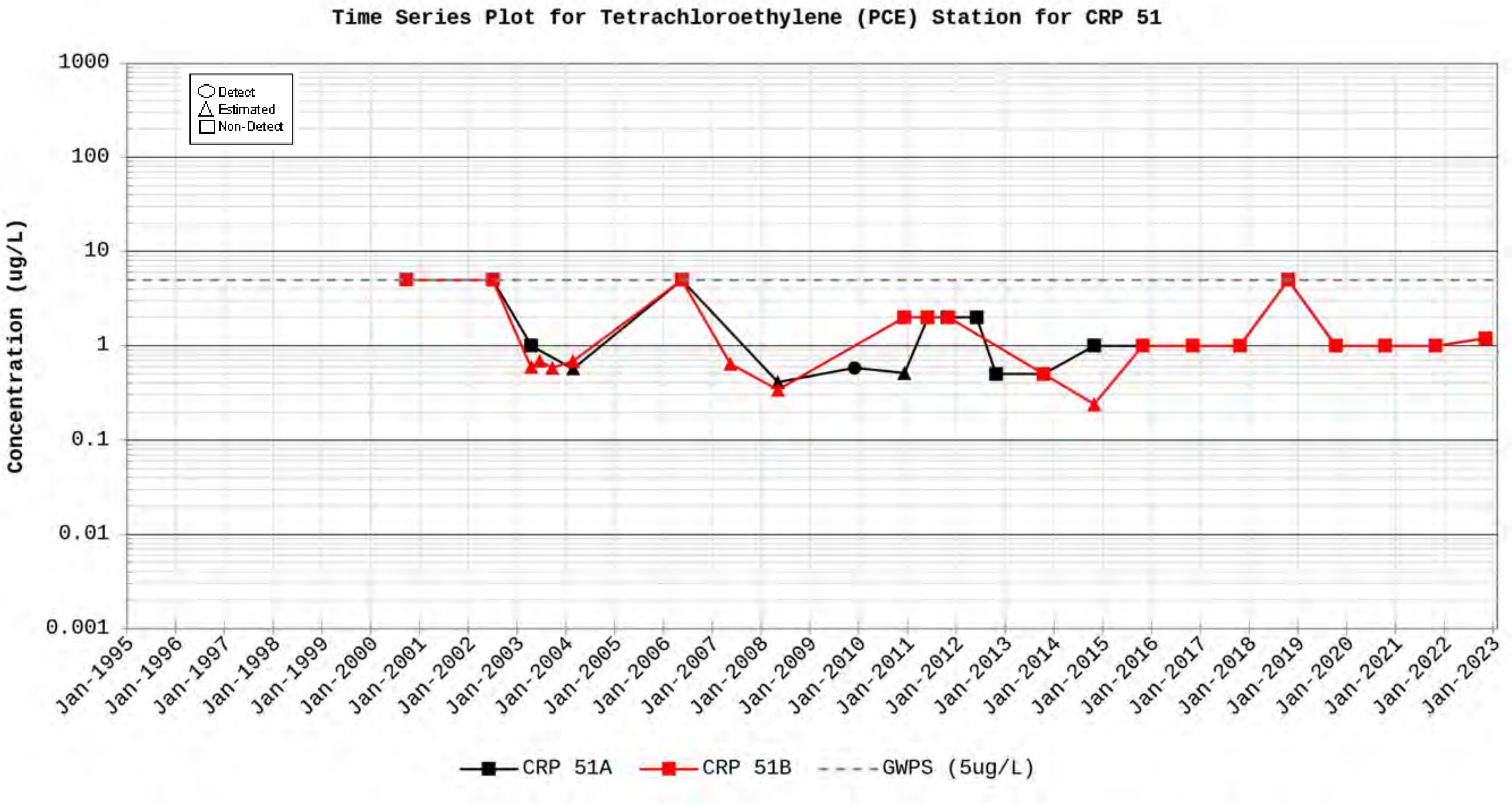

Time Series Plot for Tetrachloroethylene (PCE) Station for CRP 51
Concentration (ug/L)
1000
100
10
1
0.1
0.01
0.001
○ Detect
△ Estimated
☐ Non-Detect
Jan-1995
Jan-1996
Jan-1997
Jan-1998
Jan-1999
Jan-2000
Jan-2001
Jan-2002
Jan-2003
Jan-2004
Jan-2005
Jan-2006
Jan-2007
Jan-2008
Jan-2009
Jan-2010
Jan-2011
Jan-2012
Jan-2013
Jan-2014
Jan-2015
Jan-2016
Jan-2017
Jan-2018
Jan-2019
Jan-2020
Jan-2021
Jan-2022
Jan-2023
CRP 51A
CRP 51B
GWPS (5ug/L)

Figure C-104.

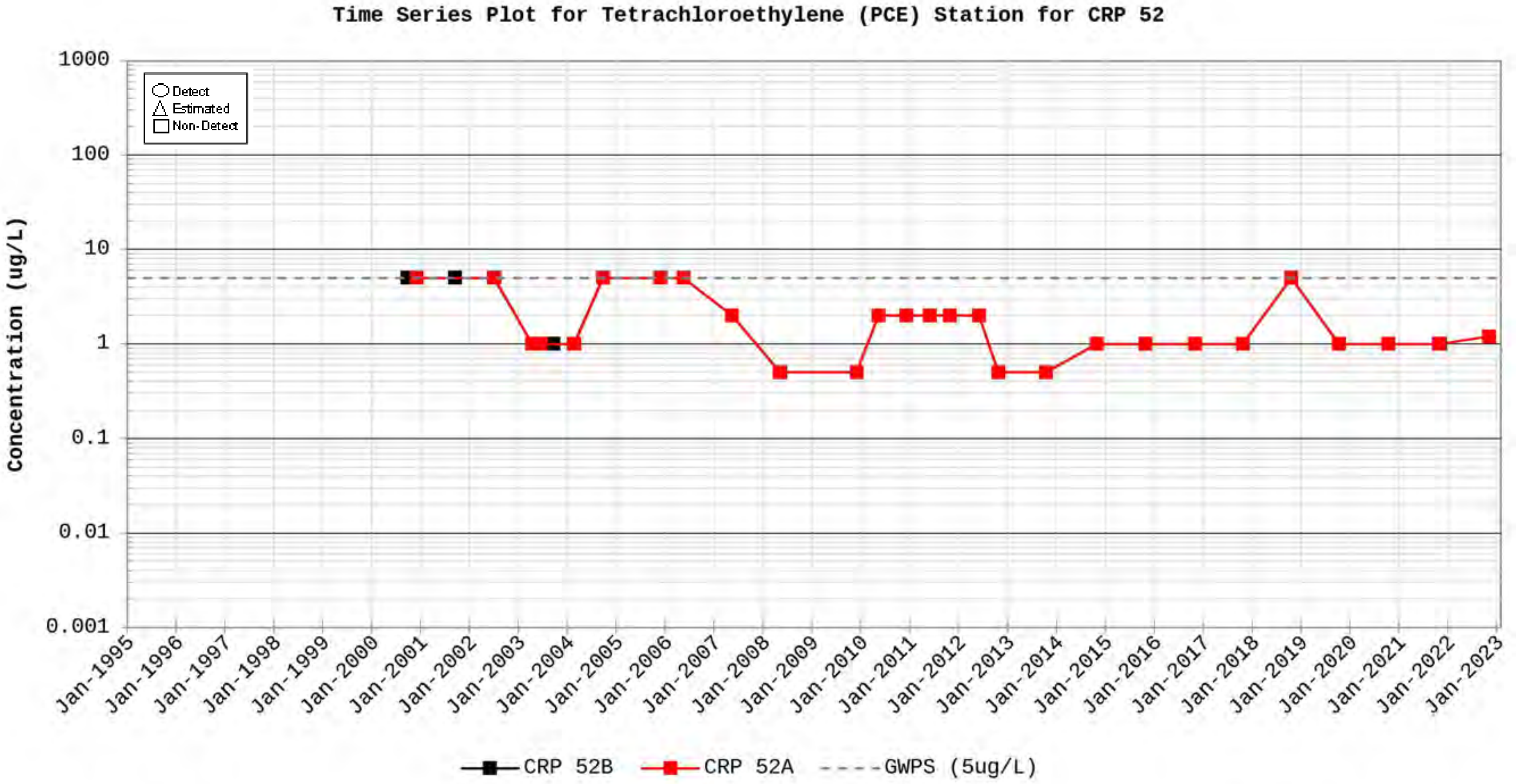

Time Series Plot for Tetrachloroethylene (PCE) Station for CRP 52
Concentration (ug/L)
1000
100
10
1
0.1
0.01
0.001
○ Detect
△ Estimated
☐ Non-Detect
Jan-1995
Jan-1996
Jan-1997
Jan-1998
Jan-1999
Jan-2000
Jan-2001
Jan-2002
Jan-2003
Jan-2004
Jan-2005
Jan-2006
Jan-2007
Jan-2008
Jan-2009
Jan-2010
Jan-2011
Jan-2012
Jan-2013
Jan-2014
Jan-2015
Jan-2016
Jan-2017
Jan-2018
Jan-2019
Jan-2020
Jan-2021
Jan-2022
Jan-2023
CRP 52B
CRP 52A
GWPS (5ug/L)

Figure C-105.

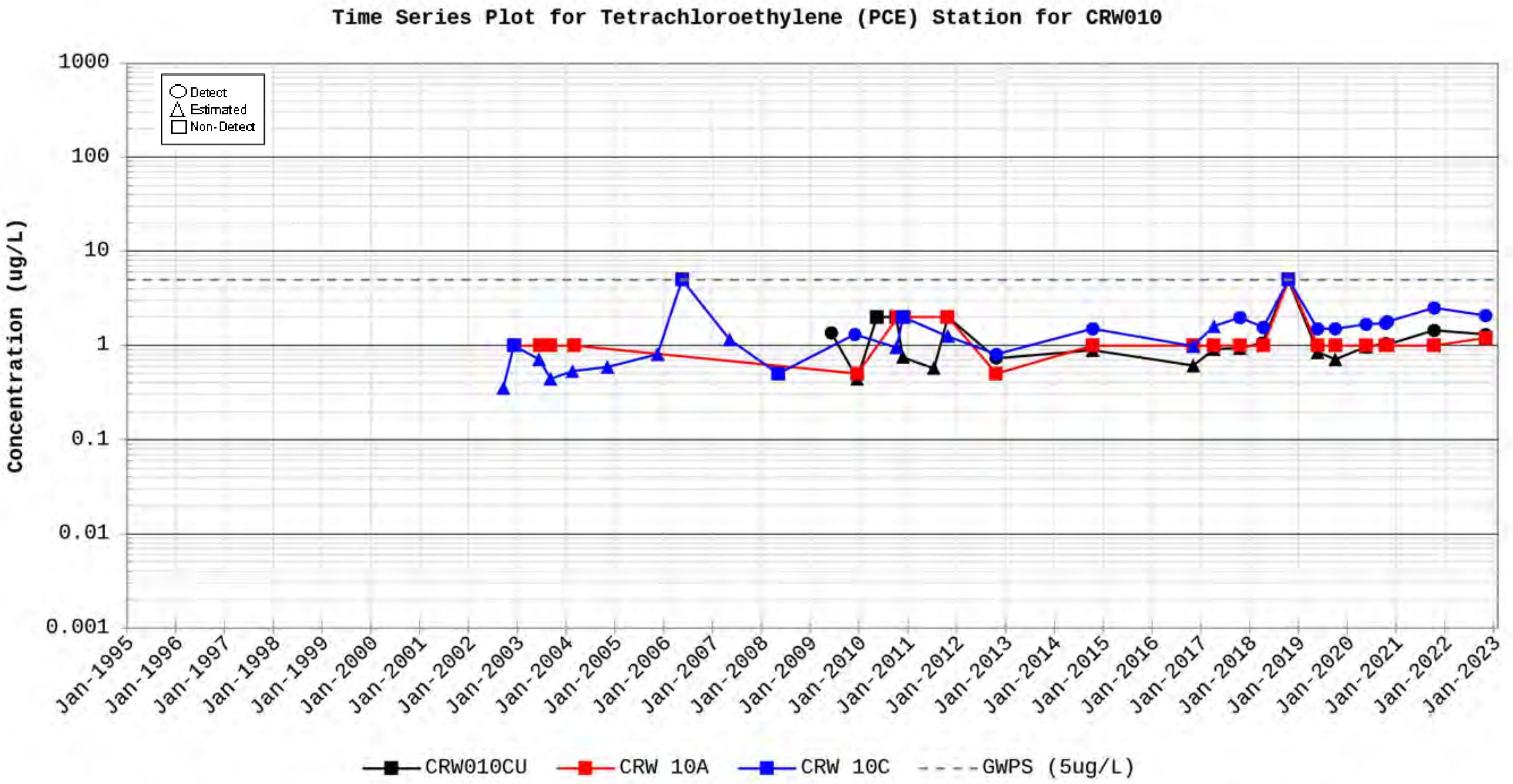

Time Series Plot for Tetrachloroethylene (PCE) Station for CRW010
Concentration (ug/L)
1000
100
10
1
0.1
0.01
0.001
Detect
Estimated
Non-Detect
Jan-1995
Jan-1996
Jan-1997
Jan-1998
Jan-1999
Jan-2000
Jan-2001
Jan-2002
Jan-2003
Jan-2004
Jan-2005
Jan-2006
Jan-2007
Jan-2008
Jan-2009
Jan-2010
Jan-2011
Jan-2012
Jan-2013
Jan-2014
Jan-2015
Jan-2016
Jan-2017
Jan-2018
Jan-2019
Jan-2020
Jan-2021
Jan-2022
Jan-2023
CRW010CU
CRW 10A
CRW 10C
GWPS (5ug/L)

Figure C-106.

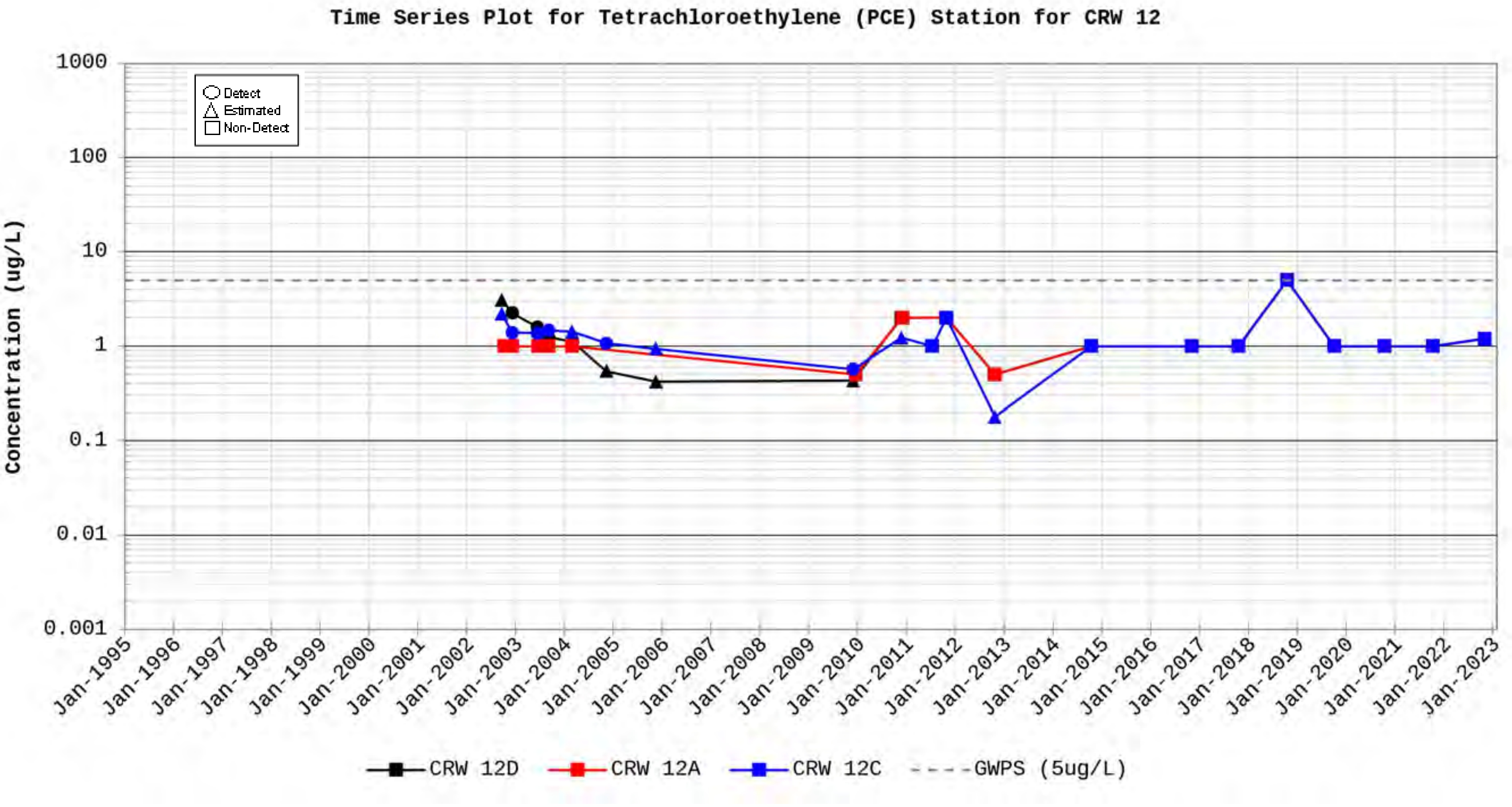

Time Series Plot for Tetrachloroethylene (PCE) Station for CRW 12
Concentration (ug/L)
1000
100
10
1
0.1
0.01
0.001
○ Detect
△ Estimated
☐ Non-Detect
Jan-1995
Jan-1996
Jan-1997
Jan-1998
Jan-1999
Jan-2000
Jan-2001
Jan-2002
Jan-2003
Jan-2004
Jan-2005
Jan-2006
Jan-2007
Jan-2008
Jan-2009
Jan-2010
Jan-2011
Jan-2012
Jan-2013
Jan-2014
Jan-2015
Jan-2016
Jan-2017
Jan-2018
Jan-2019
Jan-2020
Jan-2021
Jan-2022
Jan-2023
CRW 12D
CRW 12A
CRW 12C
GWPS (5ug/L)

Figure C-107.

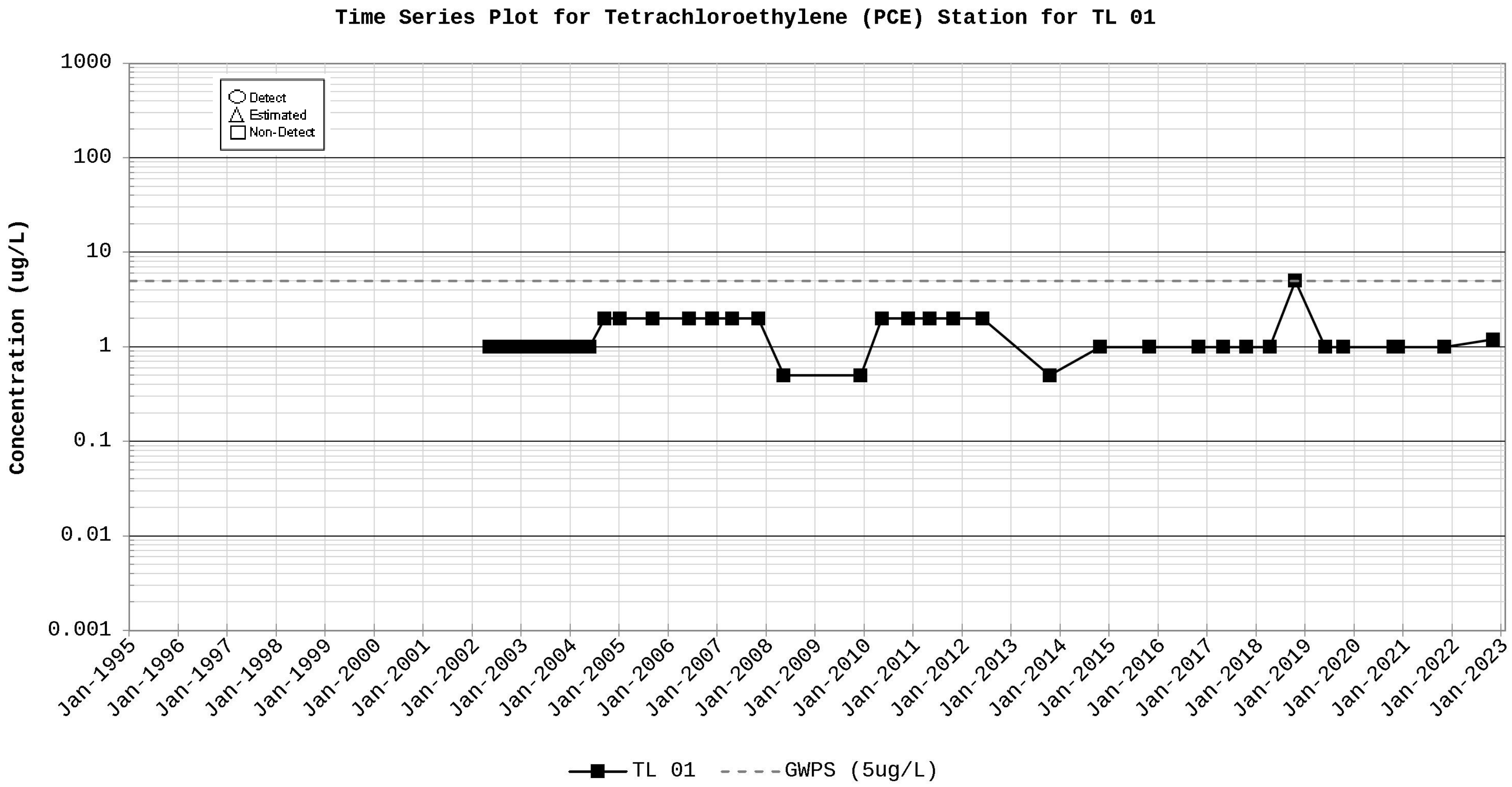

Time Series Plot for Tetrachloroethylene (PCE) Station for TL 01
Concentration (ug/L)
1000
100
10
1
0.1
0.01
0.001
Detect
Estimated
Non-Detect
Jan-1995
Jan-1996
Jan-1997
Jan-1998
Jan-1999
Jan-2000
Jan-2001
Jan-2002
Jan-2003
Jan-2004
Jan-2005
Jan-2006
Jan-2007
Jan-2008
Jan-2009
Jan-2010
Jan-2011
Jan-2012
Jan-2013
Jan-2014
Jan-2015
Jan-2016
Jan-2017
Jan-2018
Jan-2019
Jan-2020
Jan-2021
Jan-2022
Jan-2023
TL 01
GWPS (5ug/L)

Figure C-108.

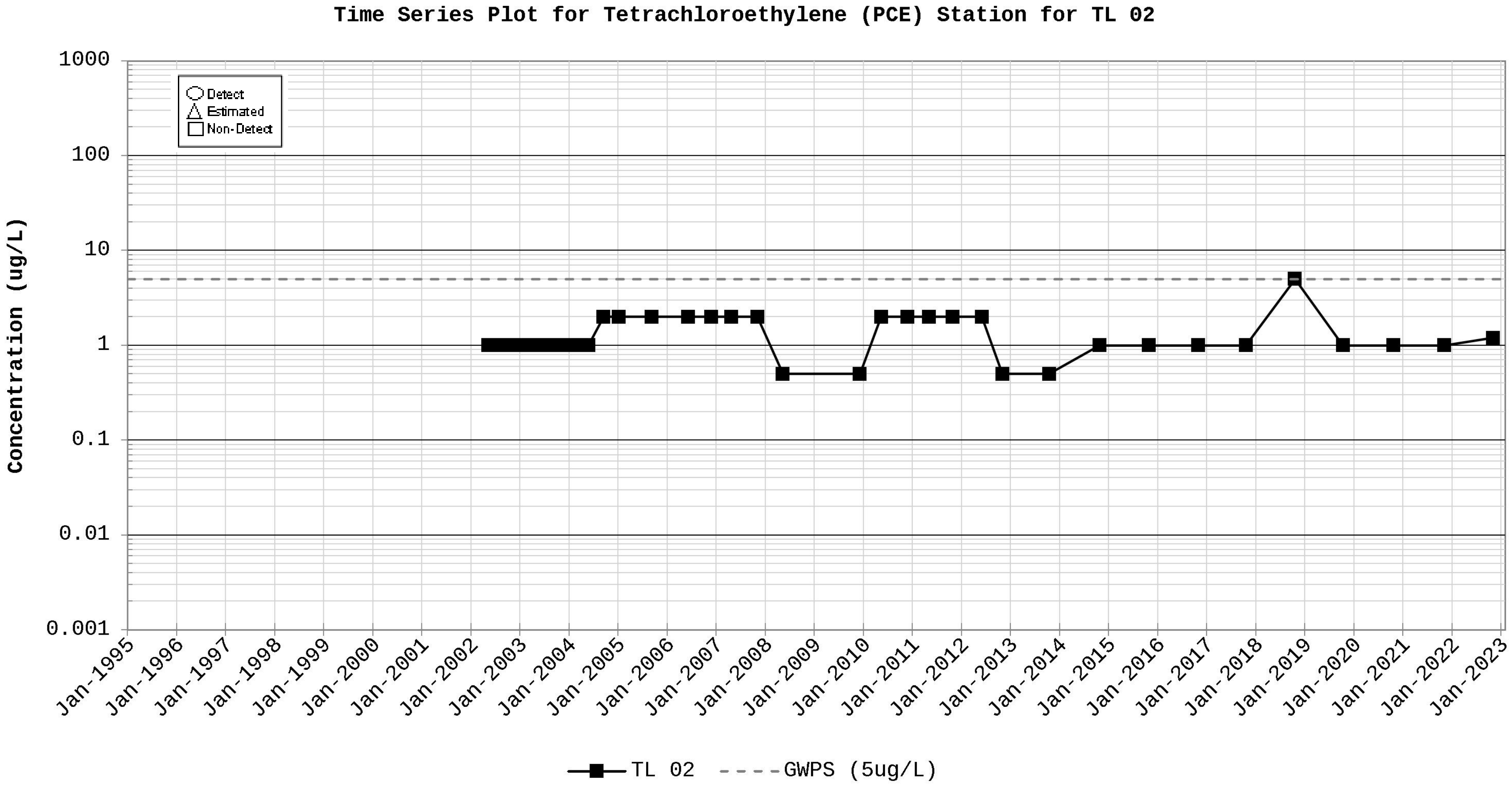

Time Series Plot for Tetrachloroethylene (PCE) Station for TL 02
Concentration (ug/L)
1000
100
10
1
0.1
0.01
0.001
Detect
Estimated
Non-Detect
Jan-1995
Jan-1996
Jan-1997
Jan-1998
Jan-1999
Jan-2000
Jan-2001
Jan-2002
Jan-2003
Jan-2004
Jan-2005
Jan-2006
Jan-2007
Jan-2008
Jan-2009
Jan-2010
Jan-2011
Jan-2012
Jan-2013
Jan-2014
Jan-2015
Jan-2016
Jan-2017
Jan-2018
Jan-2019
Jan-2020
Jan-2021
Jan-2022
Jan-2023
TL 02
GWPS (5ug/L)

Figure C-109.

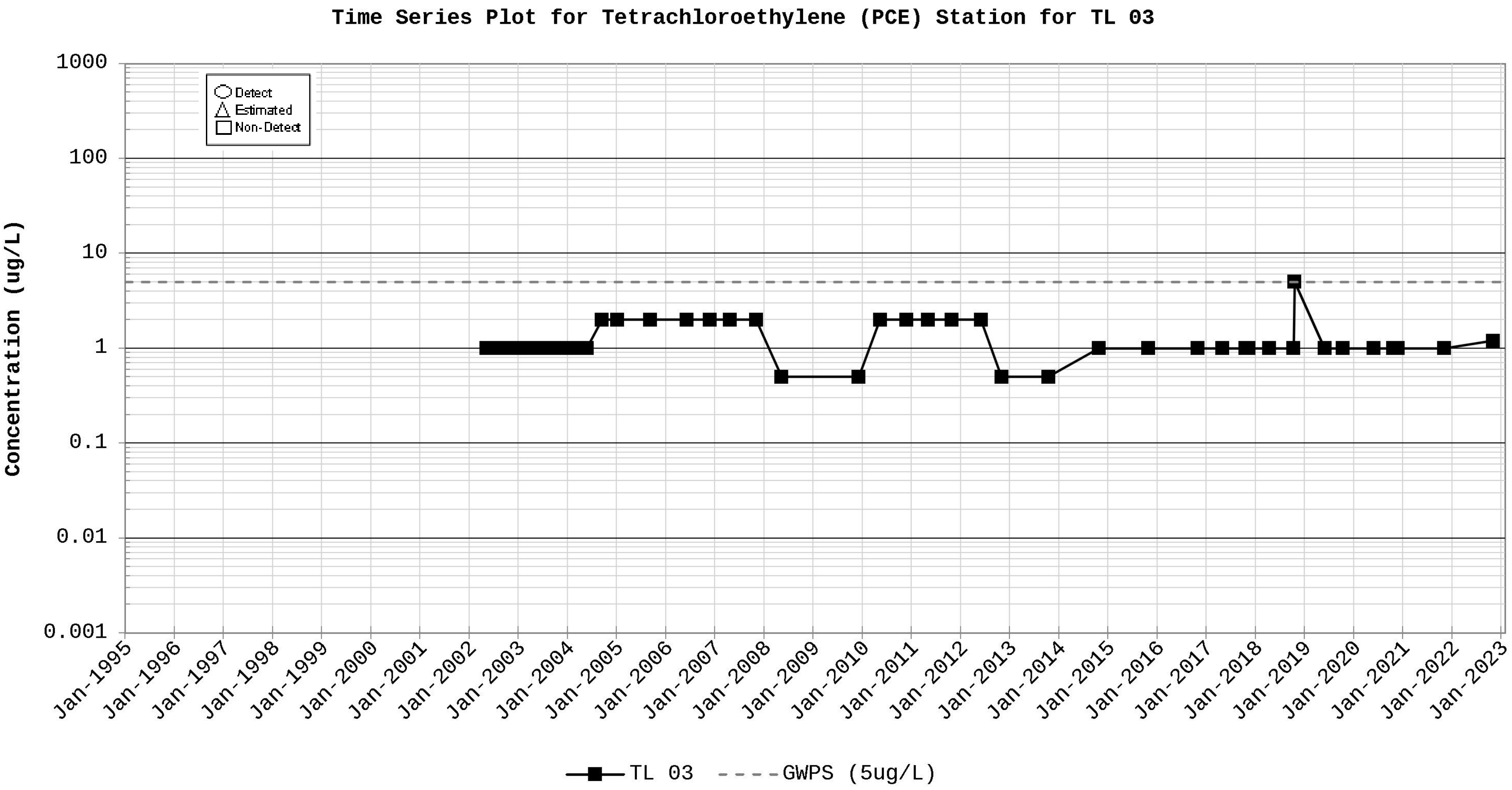

Time Series Plot for Tetrachloroethylene (PCE) Station for TL 03
Concentration (ug/L)
1000
100
10
1
0.1
0.01
0.001
Detect
Estimated
Non-Detect
Jan-1995
Jan-1996
Jan-1997
Jan-1998
Jan-1999
Jan-2000
Jan-2001
Jan-2002
Jan-2003
Jan-2004
Jan-2005
Jan-2006
Jan-2007
Jan-2008
Jan-2009
Jan-2010
Jan-2011
Jan-2012
Jan-2013
Jan-2014
Jan-2015
Jan-2016
Jan-2017
Jan-2018
Jan-2019
Jan-2020
Jan-2021
Jan-2022
Jan-2023
TL 03
GWPS (5ug/L)

Figure C-110.

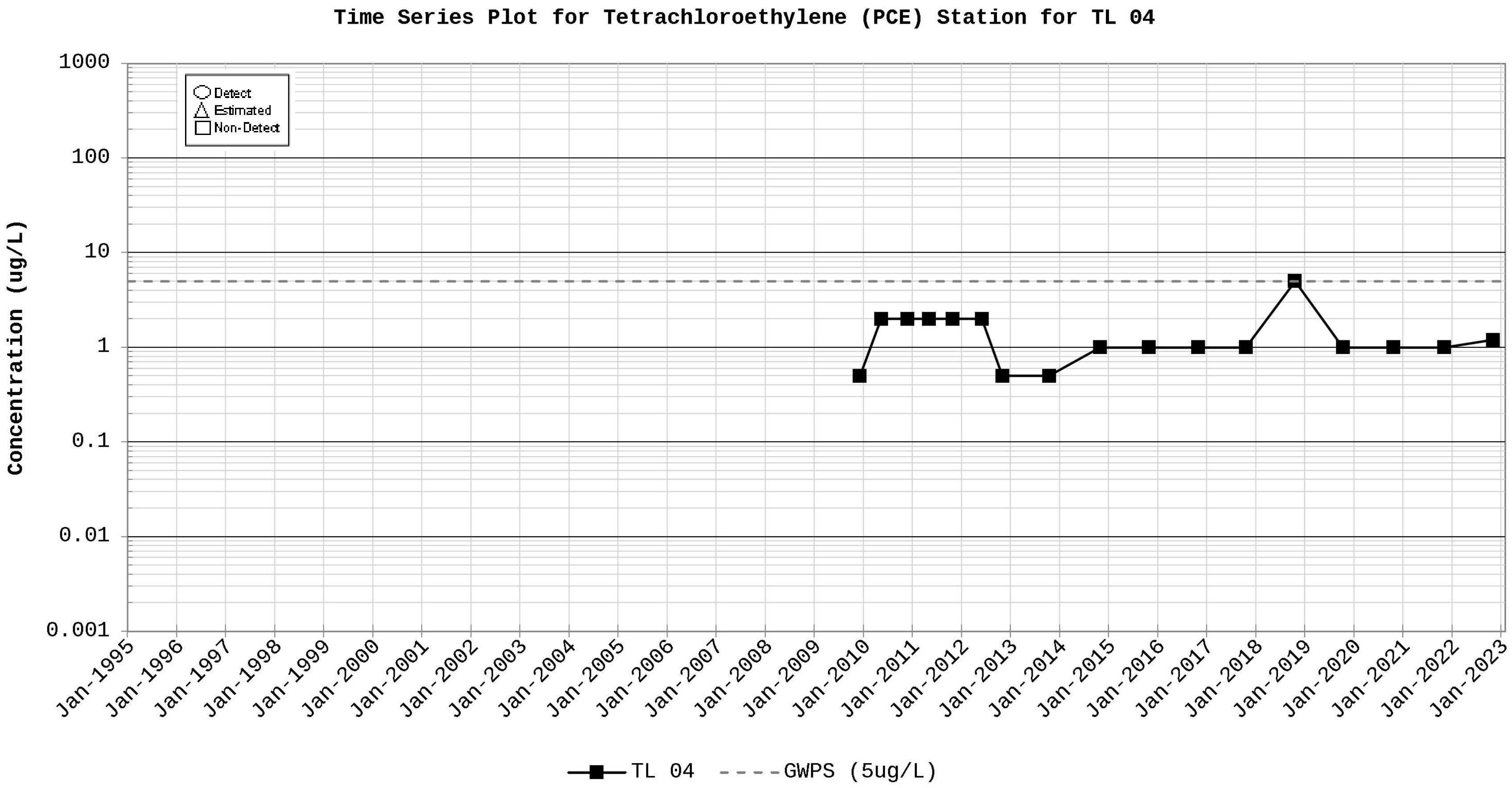

Time Series Plot for Tetrachloroethylene (PCE) Station for TL 04
Concentration (ug/L)
1000
100
10
1
0.1
0.01
0.001
Detect
Estimated
Non-Detect
Jan-1995
Jan-1996
Jan-1997
Jan-1998
Jan-1999
Jan-2000
Jan-2001
Jan-2002
Jan-2003
Jan-2004
Jan-2005
Jan-2006
Jan-2007
Jan-2008
Jan-2009
Jan-2010
Jan-2011
Jan-2012
Jan-2013
Jan-2014
Jan-2015
Jan-2016
Jan-2017
Jan-2018
Jan-2019
Jan-2020
Jan-2021
Jan-2022
Jan-2023
TL 04
GWPS (5ug/L)

Figure C-111.

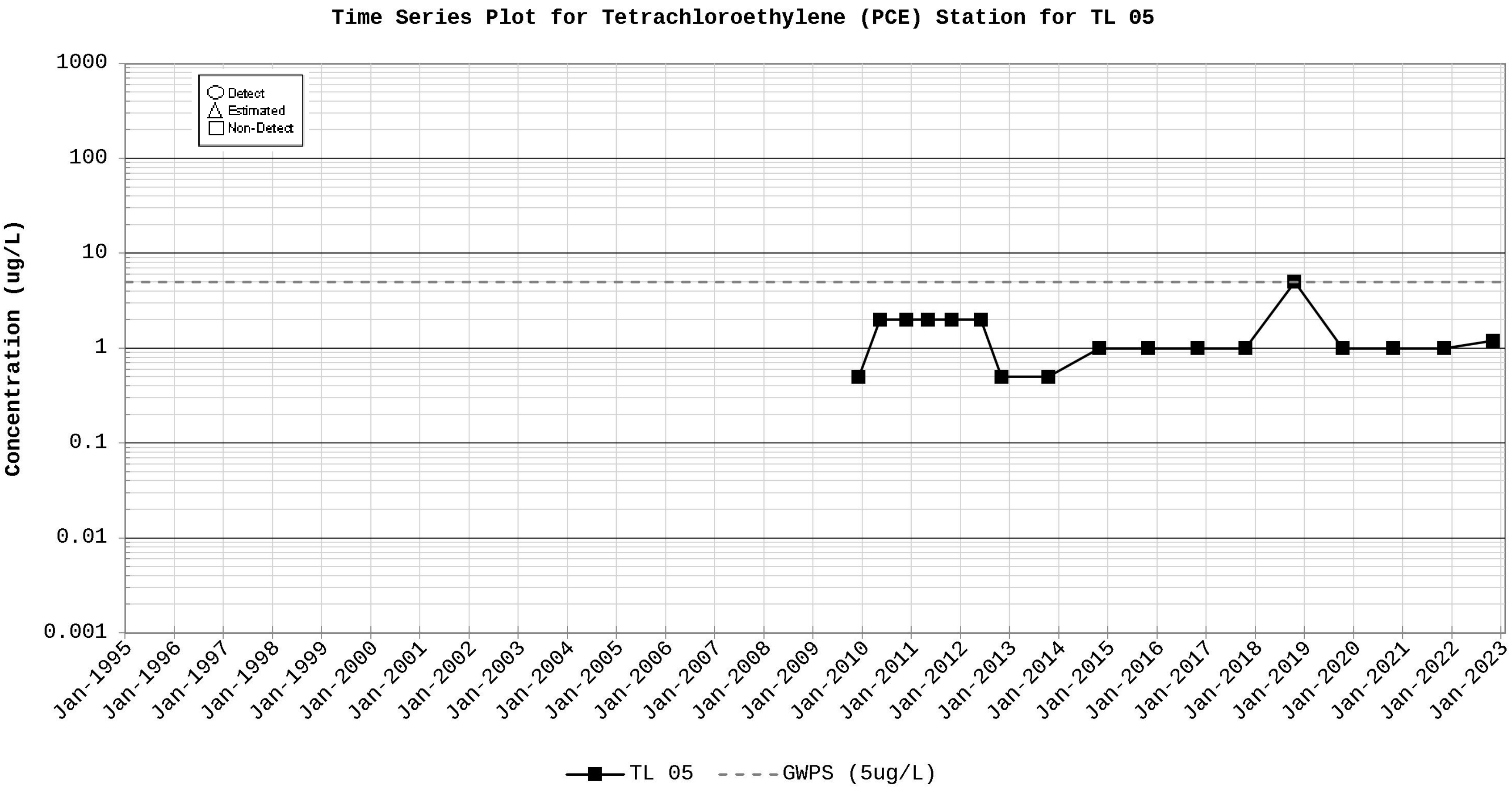

Time Series Plot for Tetrachloroethylene (PCE) Station for TL 05
Concentration (ug/L)
1000
100
10
1
0.1
0.01
0.001
Detect
Estimated
Non-Detect
Jan-1995
Jan-1996
Jan-1997
Jan-1998
Jan-1999
Jan-2000
Jan-2001
Jan-2002
Jan-2003
Jan-2004
Jan-2005
Jan-2006
Jan-2007
Jan-2008
Jan-2009
Jan-2010
Jan-2011
Jan-2012
Jan-2013
Jan-2014
Jan-2015
Jan-2016
Jan-2017
Jan-2018
Jan-2019
Jan-2020
Jan-2021
Jan-2022
Jan-2023
TL 05
GWPS (5ug/L)

Figure C-112.

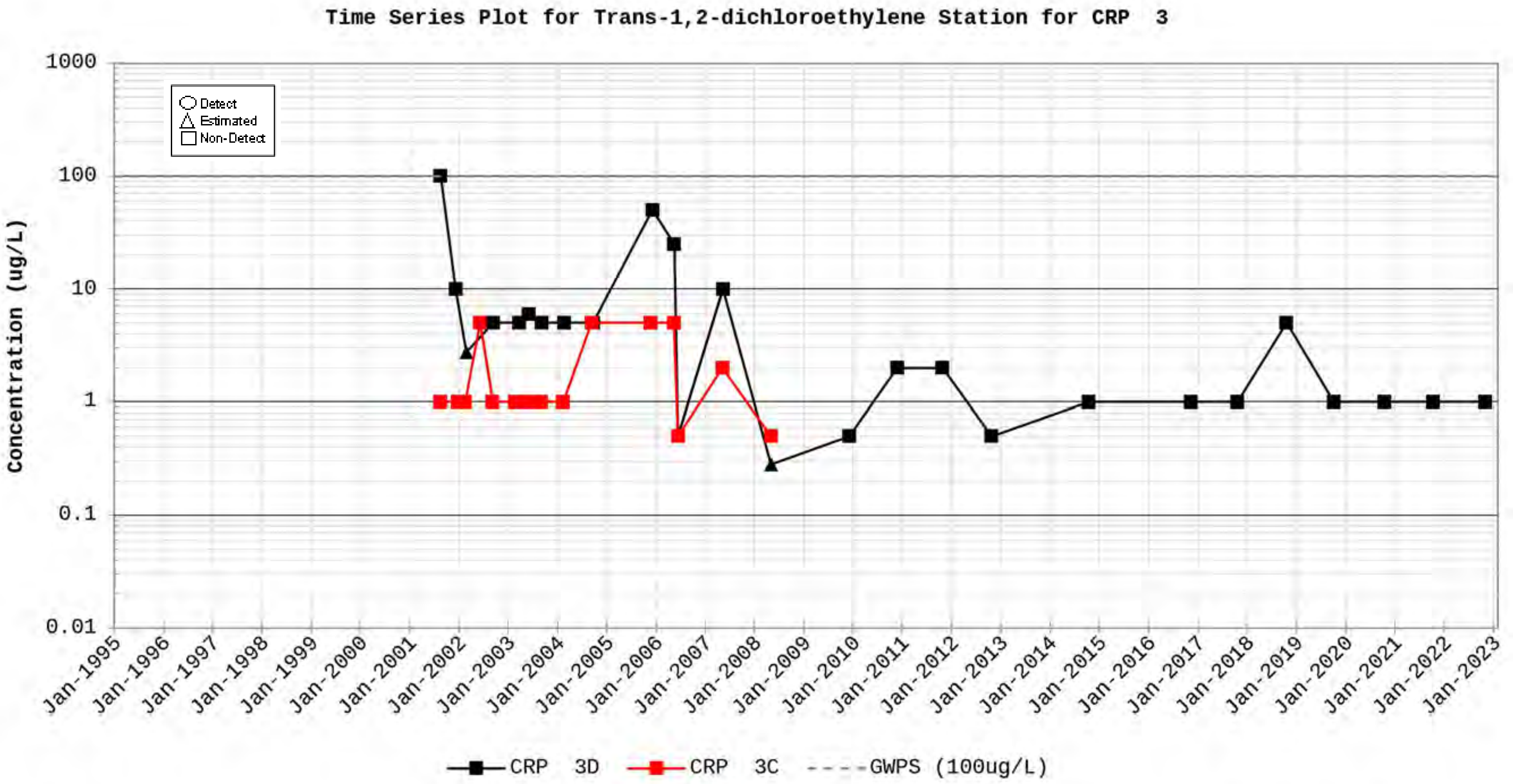

Time Series Plot for Trans-1,2-dichloroethylene Station for CRP 3
Concentration (ug/L)
1000
100
10
1
0.1
0.01
○ Detect
△ Estimated
☐ Non-Detect
Jan-1995
Jan-1996
Jan-1997
Jan-1998
Jan-1999
Jan-2000
Jan-2001
Jan-2002
Jan-2003
Jan-2004
Jan-2005
Jan-2006
Jan-2007
Jan-2008
Jan-2009
Jan-2010
Jan-2011
Jan-2012
Jan-2013
Jan-2014
Jan-2015
Jan-2016
Jan-2017
Jan-2018
Jan-2019
Jan-2020
Jan-2021
Jan-2022
Jan-2023
CRP 3D
CRP 3C
GWPS (100ug/L)

Figure C-113.

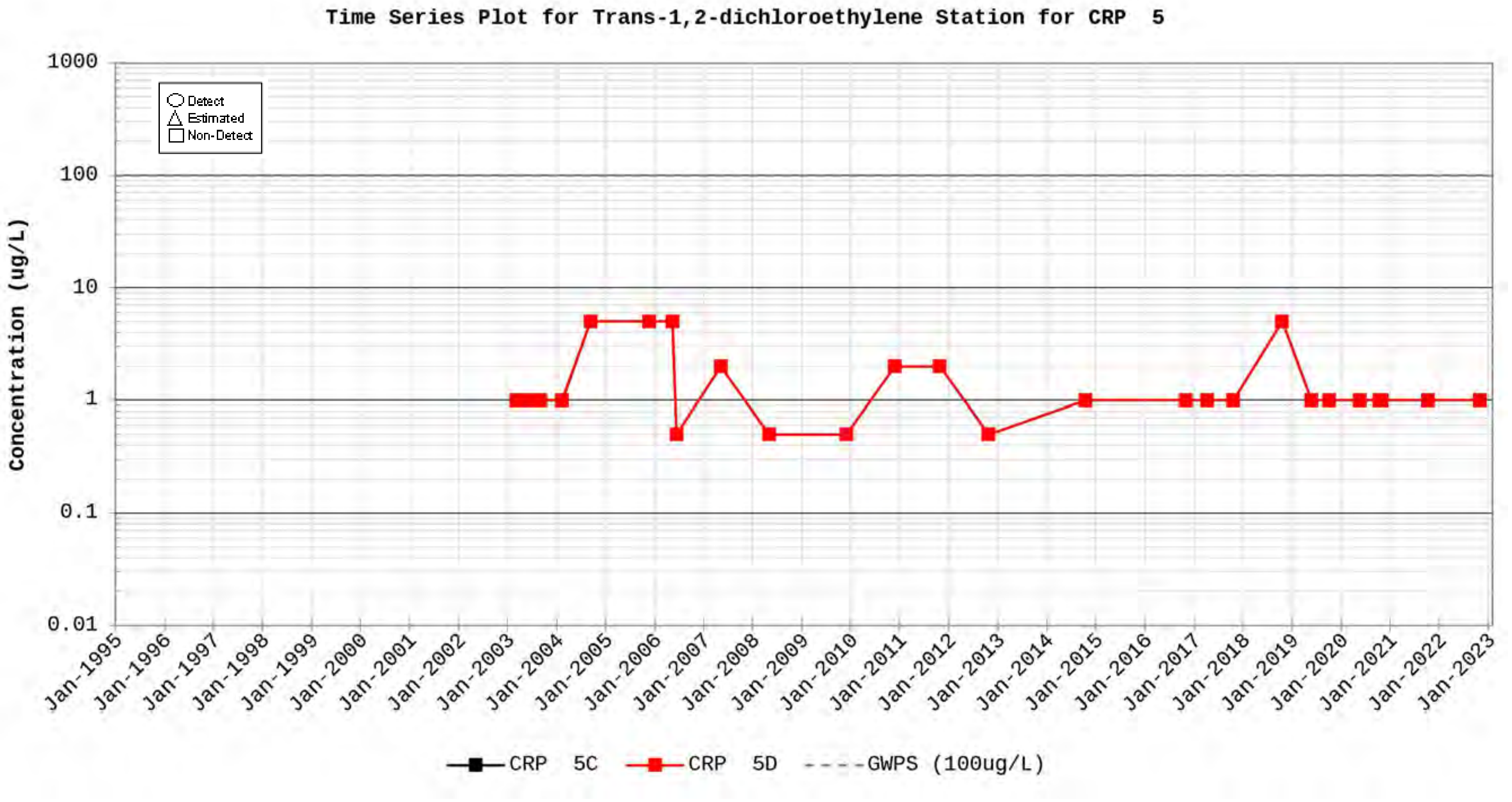

Time Series Plot for Trans-1,2-dichloroethylene Station for CRP 5
Concentration (ug/L)
1000
100
10
1
0.1
0.01
○ Detect
△ Estimated
☐ Non-Detect
Jan-1995
Jan-1996
Jan-1997
Jan-1998
Jan-1999
Jan-2000
Jan-2001
Jan-2002
Jan-2003
Jan-2004
Jan-2005
Jan-2006
Jan-2007
Jan-2008
Jan-2009
Jan-2010
Jan-2011
Jan-2012
Jan-2013
Jan-2014
Jan-2015
Jan-2016
Jan-2017
Jan-2018
Jan-2019
Jan-2020
Jan-2021
Jan-2022
Jan-2023
CRP 5C
CRP 5D
GWPS (100ug/L)

Figure C-114.

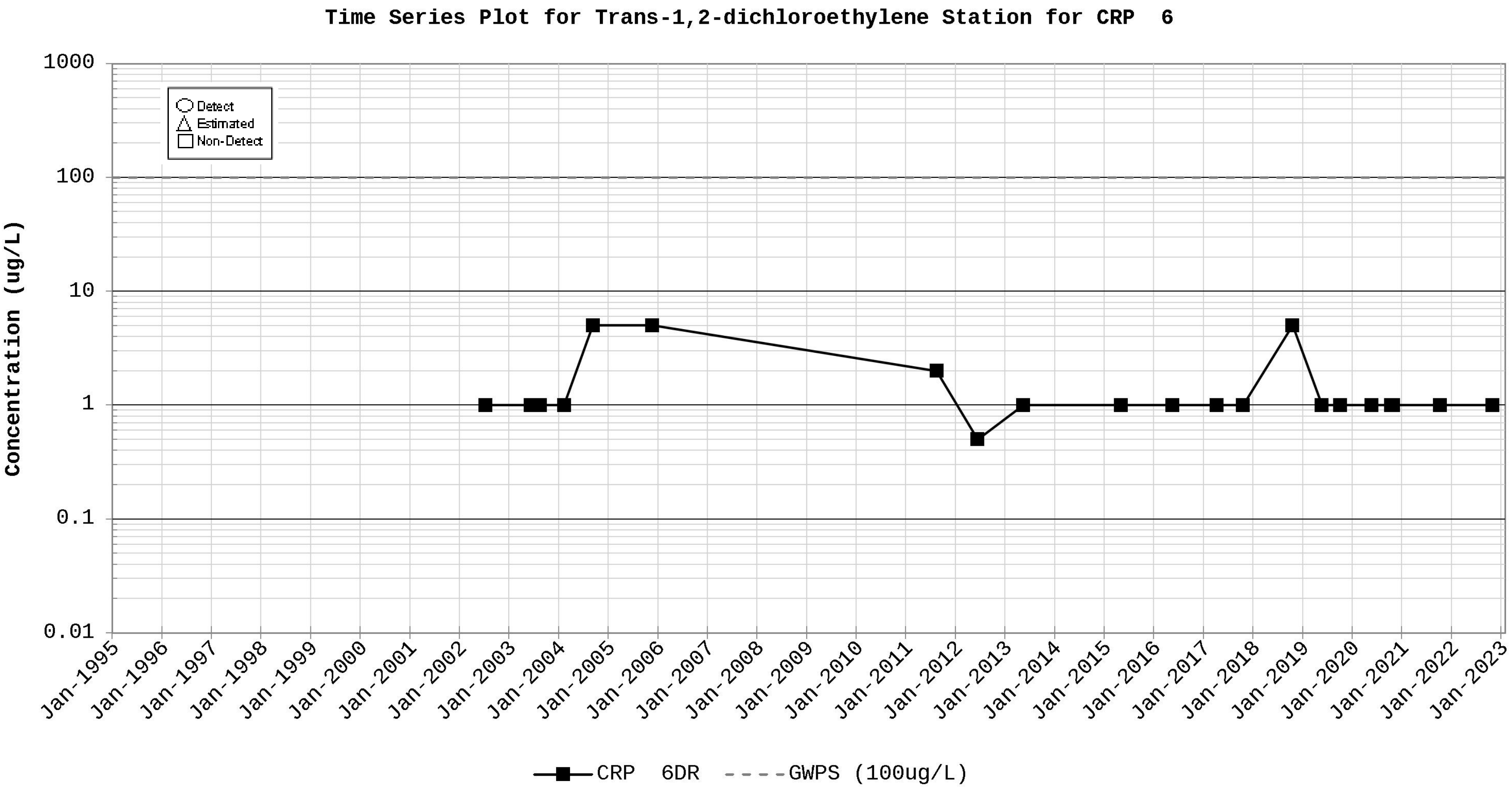

Time Series Plot for Trans-1,2-dichloroethylene Station for CRP 6
Concentration (ug/L)
1000
100
10
1
0.1
0.01
Detect
Estimated
Non-Detect
Jan-1995
Jan-1996
Jan-1997
Jan-1998
Jan-1999
Jan-2000
Jan-2001
Jan-2002
Jan-2003
Jan-2004
Jan-2005
Jan-2006
Jan-2007
Jan-2008
Jan-2009
Jan-2010
Jan-2011
Jan-2012
Jan-2013
Jan-2014
Jan-2015
Jan-2016
Jan-2017
Jan-2018
Jan-2019
Jan-2020
Jan-2021
Jan-2022
Jan-2023
CRP 6DR
GWPS (100ug/L)

Figure C-115.

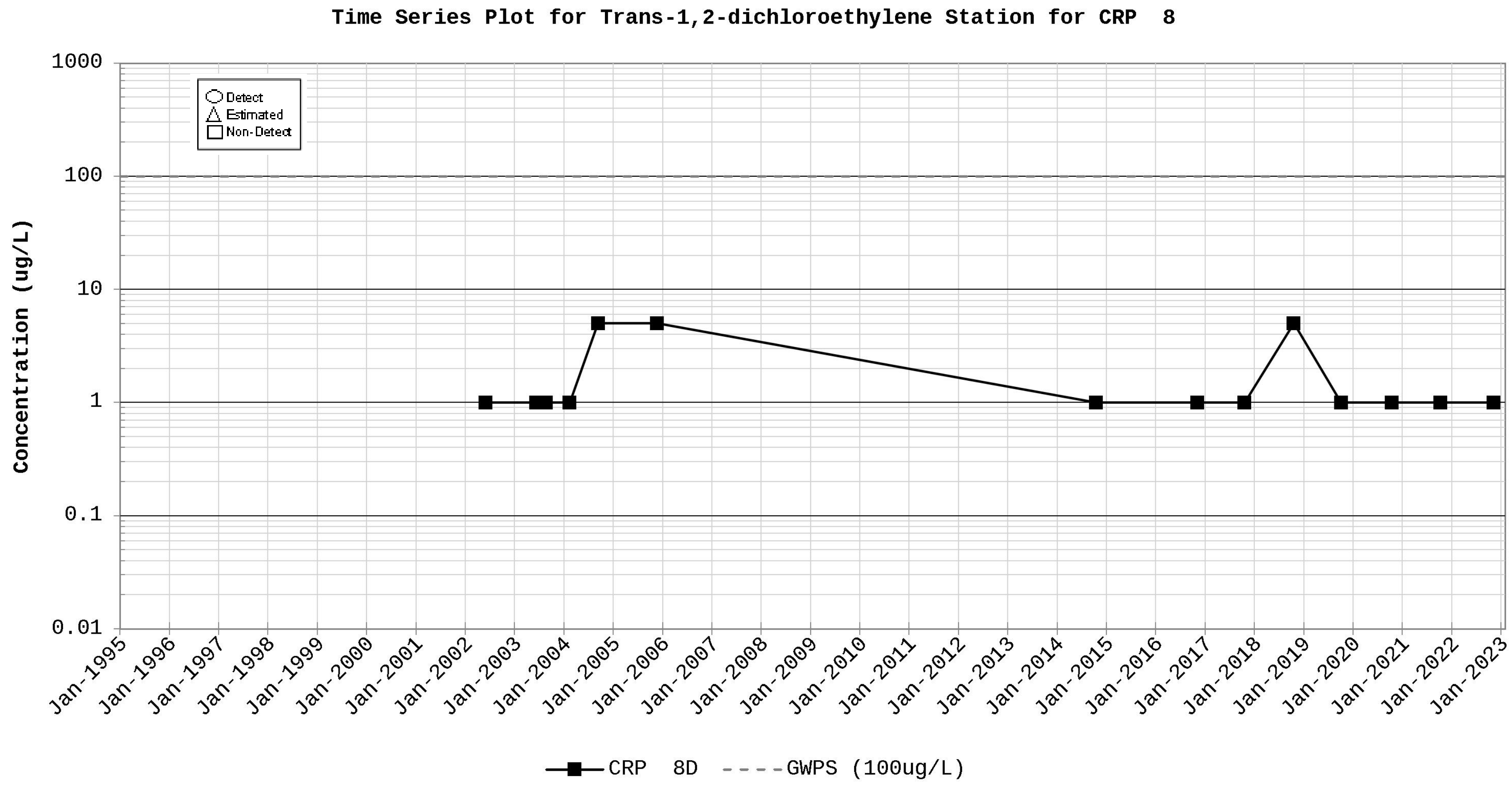

Time Series Plot for Trans-1,2-dichloroethylene Station for CRP 8
Concentration (ug/L)
1000
100
10
1
0.1
0.01
Detect
Estimated
Non-Detect
Jan-1995
Jan-1996
Jan-1997
Jan-1998
Jan-1999
Jan-2000
Jan-2001
Jan-2002
Jan-2003
Jan-2004
Jan-2005
Jan-2006
Jan-2007
Jan-2008
Jan-2009
Jan-2010
Jan-2011
Jan-2012
Jan-2013
Jan-2014
Jan-2015
Jan-2016
Jan-2017
Jan-2018
Jan-2019
Jan-2020
Jan-2021
Jan-2022
Jan-2023
CRP 8D
GWPS (100ug/L)

Figure C-116.

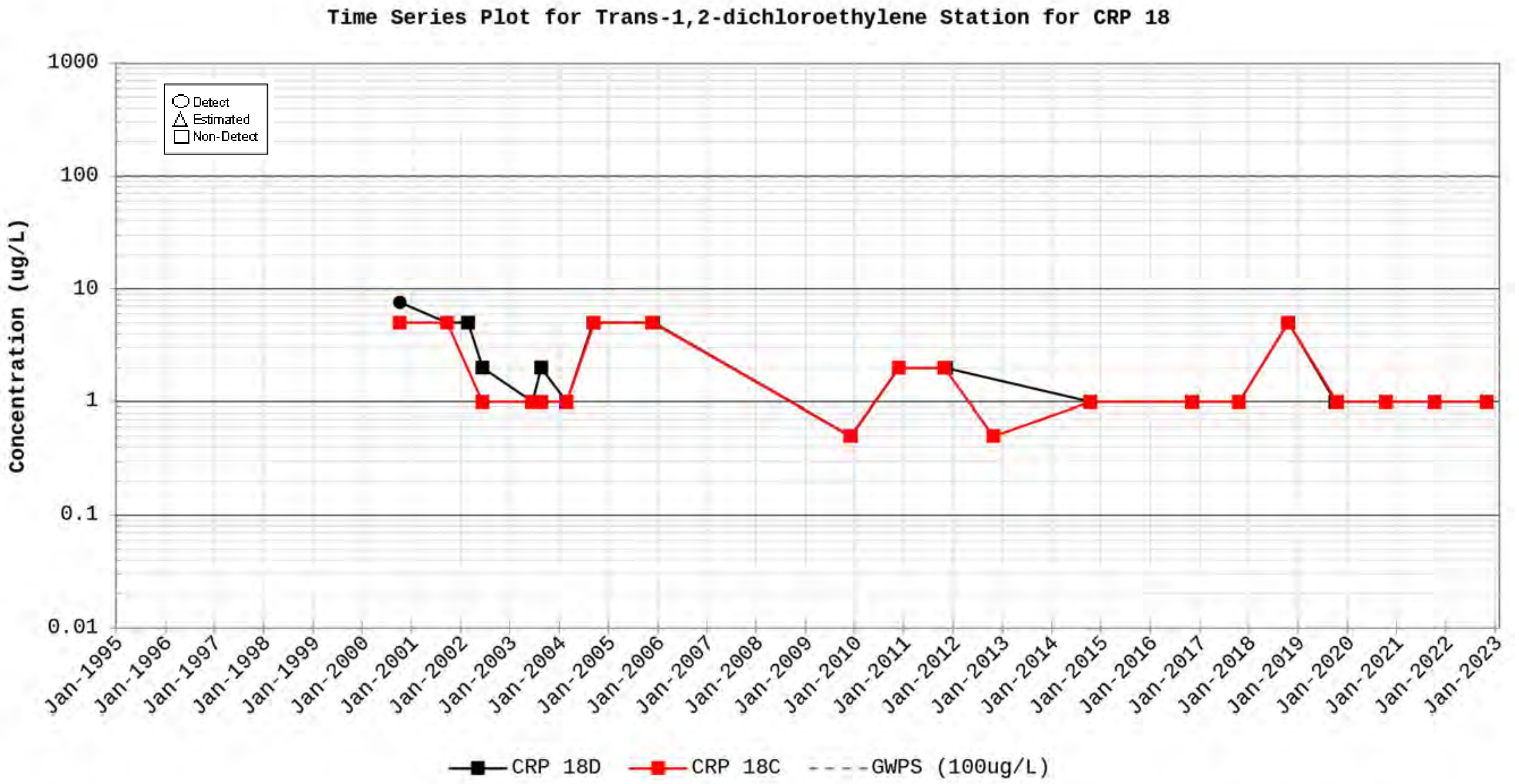

Time Series Plot for Trans-1,2-dichloroethylene Station for CRP 18
Concentration (ug/L)
1000
100
10
1
0.1
0.01
○ Detect
△ Estimated
☐ Non-Detect
Jan-1995
Jan-1996
Jan-1997
Jan-1998
Jan-1999
Jan-2000
Jan-2001
Jan-2002
Jan-2003
Jan-2004
Jan-2005
Jan-2006
Jan-2007
Jan-2008
Jan-2009
Jan-2010
Jan-2011
Jan-2012
Jan-2013
Jan-2014
Jan-2015
Jan-2016
Jan-2017
Jan-2018
Jan-2019
Jan-2020
Jan-2021
Jan-2022
Jan-2023
CRP 18D
CRP 18C
GWPS (100ug/L)

Figure C-117.

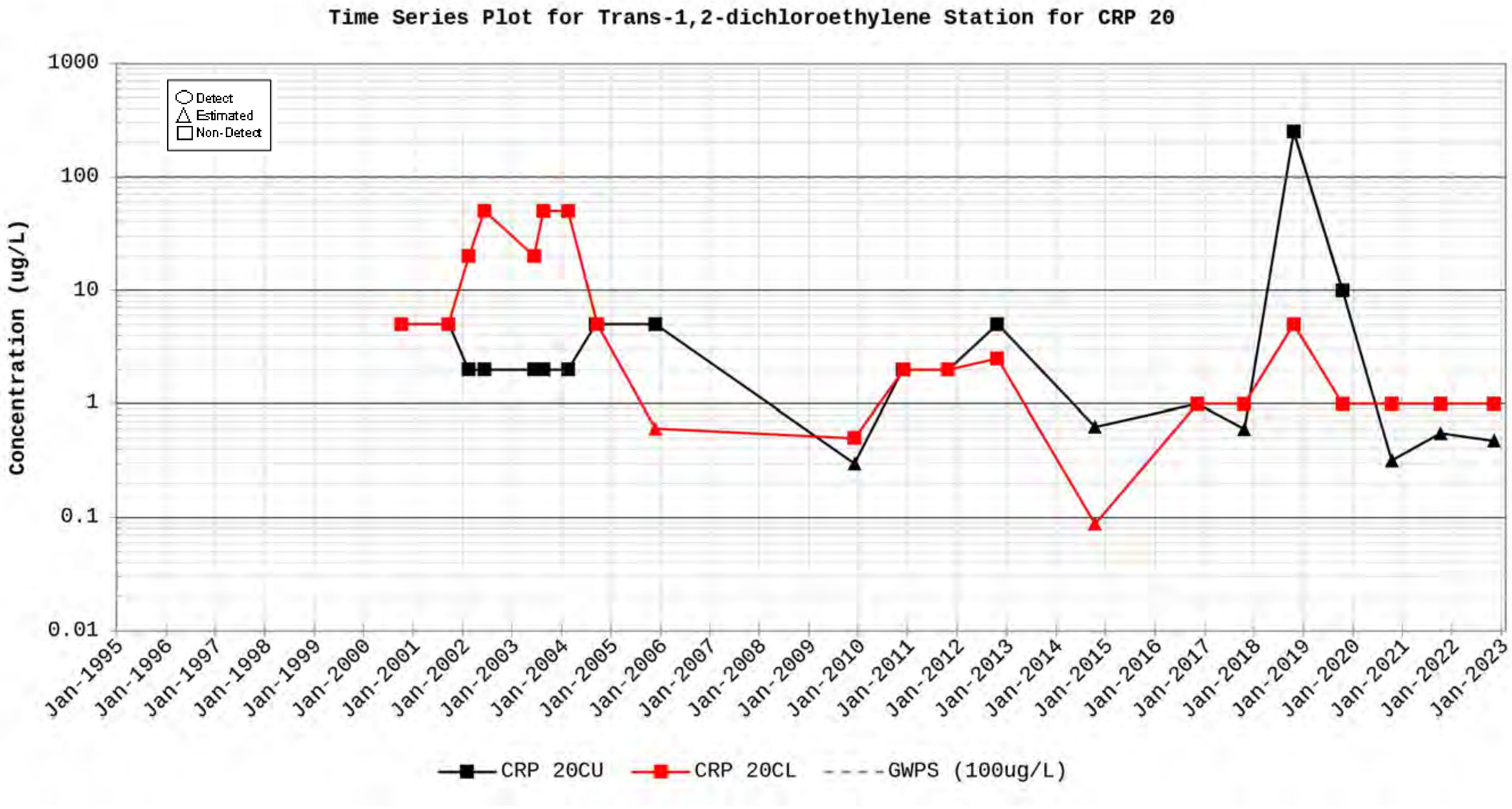

Time Series Plot for Trans-1,2-dichloroethylene Station for CRP 20
Concentration (ug/L)
1000
100
10
1
0.1
0.01
Detect
Estimated
Non-Detect
Jan-1995
Jan-1996
Jan-1997
Jan-1998
Jan-1999
Jan-2000
Jan-2001
Jan-2002
Jan-2003
Jan-2004
Jan-2005
Jan-2006
Jan-2007
Jan-2008
Jan-2009
Jan-2010
Jan-2011
Jan-2012
Jan-2013
Jan-2014
Jan-2015
Jan-2016
Jan-2017
Jan-2018
Jan-2019
Jan-2020
Jan-2021
Jan-2022
Jan-2023
CRP 20CU
CRP 20CL
GWPS (100ug/L)

Figure C-118.

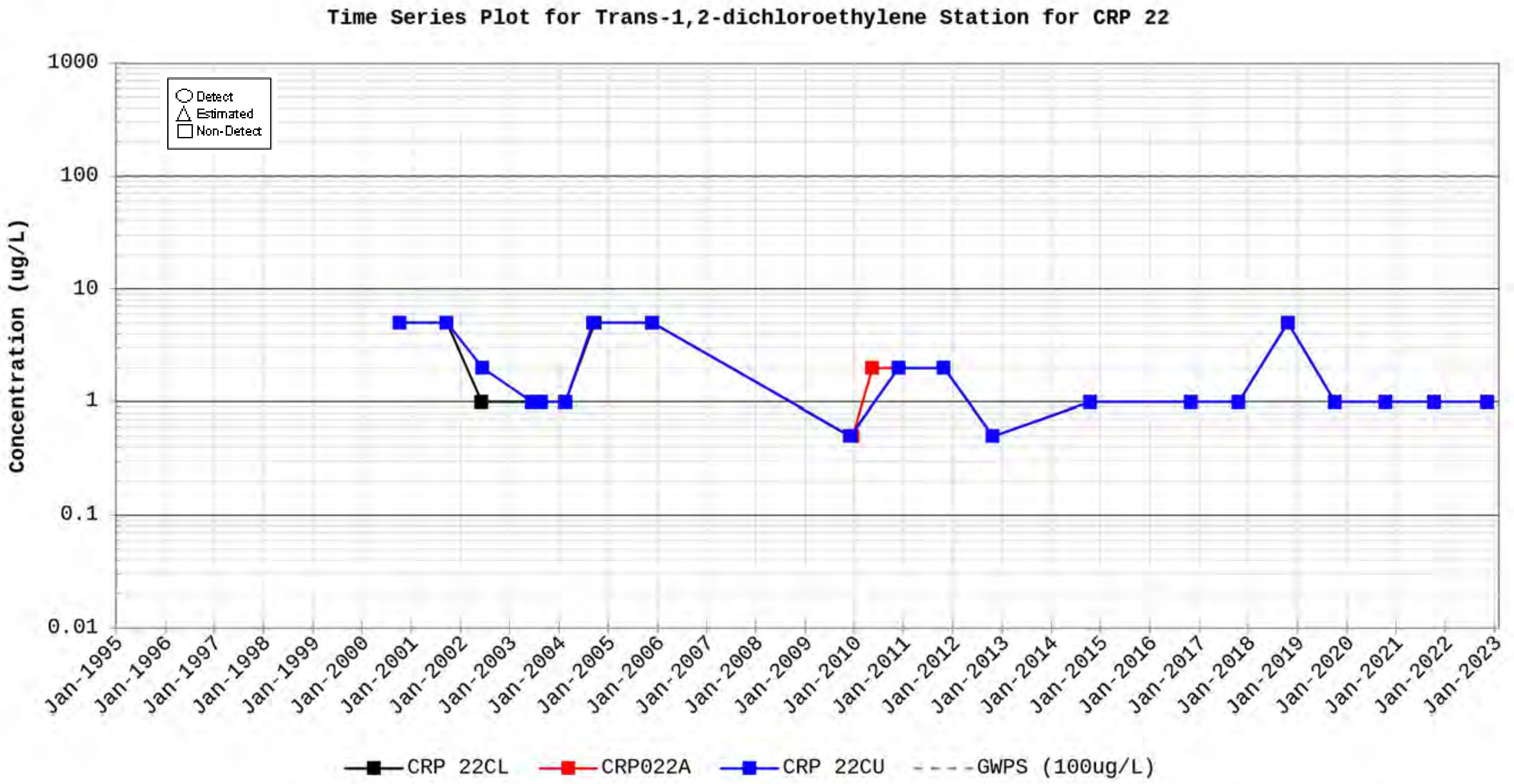
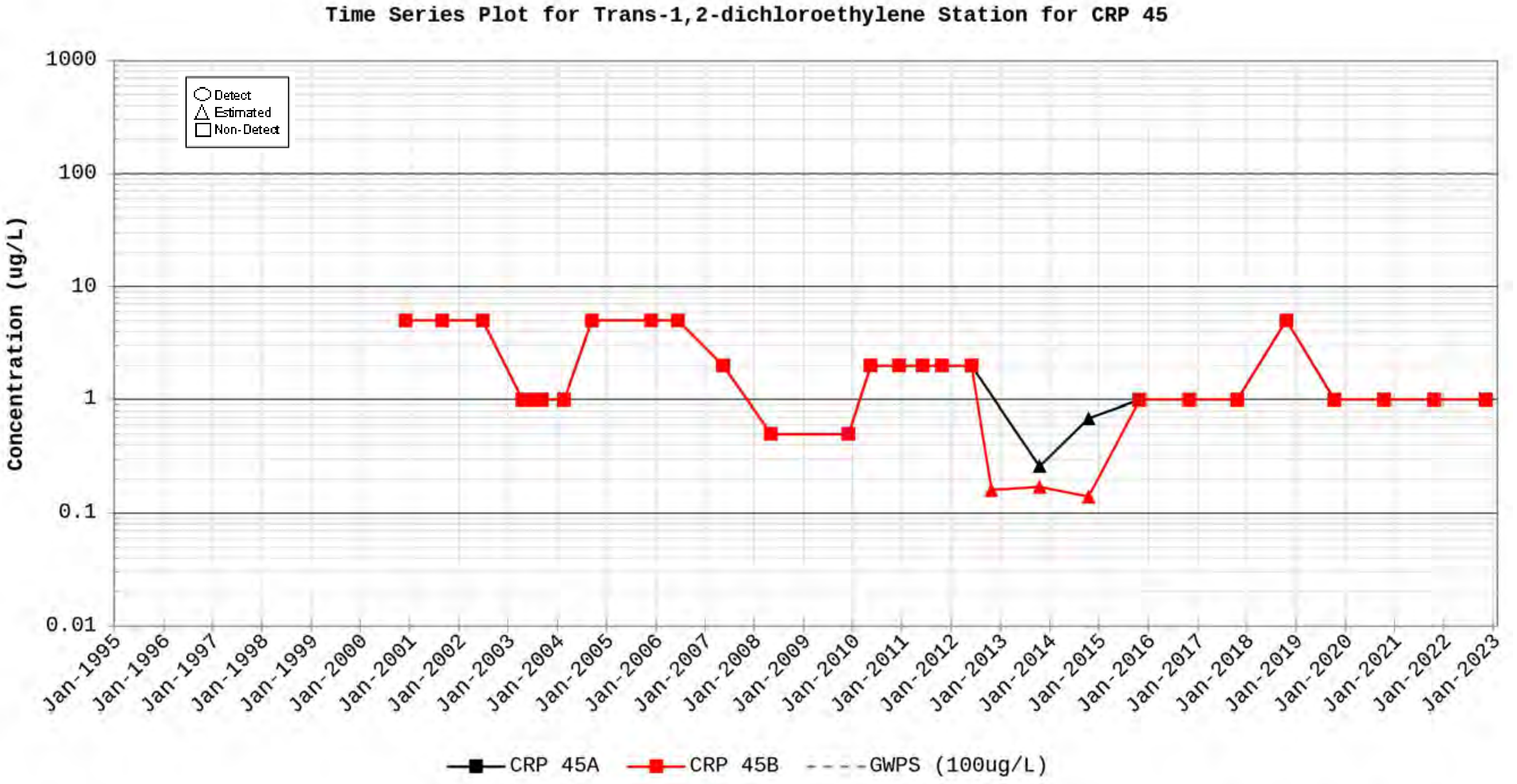

Time Series Plot for Trans-1,2-dichloroethylene Station for CRP 22
○ Detect
△ Estimated
☐ Non-Detect
Concentration (ug/L)
1000
100
10
1
0.1
0.01
Jan-1995
Jan-1996
Jan-1997
Jan-1998
Jan-1999
Jan-2000
Jan-2001
Jan-2002
Jan-2003
Jan-2004
Jan-2005
Jan-2006
Jan-2007
Jan-2008
Jan-2009
Jan-2010
Jan-2011
Jan-2012
Jan-2013
Jan-2014
Jan-2015
Jan-2016
Jan-2017
Jan-2018
Jan-2019
Jan-2020
Jan-2021
Jan-2022
Jan-2023
CRP 22CL
CRP022A
CRP 22CU
GWPS (100ug/L)

Figure C-119.


Time Series Plot for Trans-1,2-dichloroethylene Station for CRP 45
Concentration (ug/L)
1000
100
10
1
0.1
0.01
Detect
Estimated
Non-Detect
Jan-1995
Jan-1996
Jan-1997
Jan-1998
Jan-1999
Jan-2000
Jan-2001
Jan-2002
Jan-2003
Jan-2004
Jan-2005
Jan-2006
Jan-2007
Jan-2008
Jan-2009
Jan-2010
Jan-2011
Jan-2012
Jan-2013
Jan-2014
Jan-2015
Jan-2016
Jan-2017
Jan-2018
Jan-2019
Jan-2020
Jan-2021
Jan-2022
Jan-2023
CRP 45A
CRP 45B
GWPS (100ug/L)

]

Figure C-120.

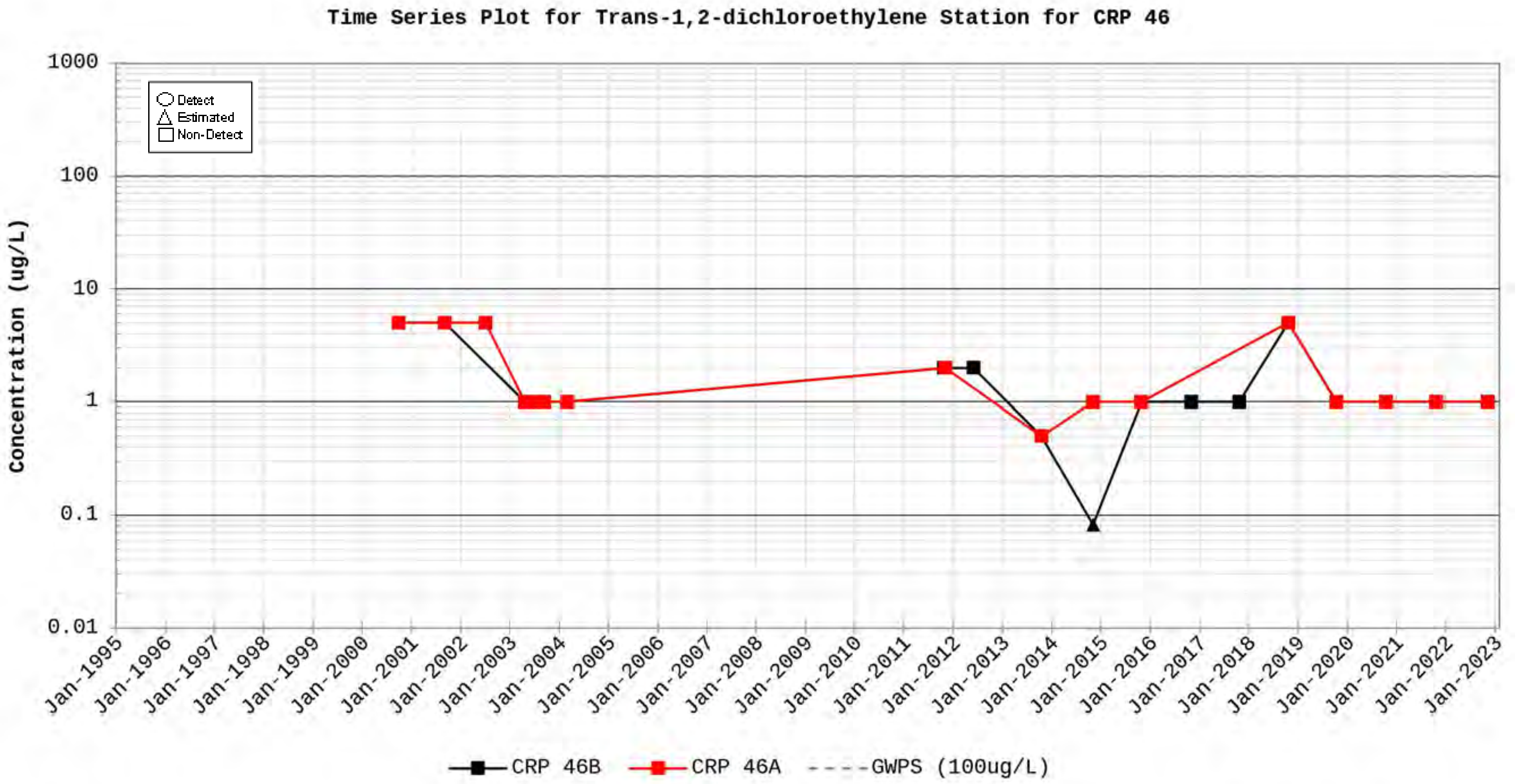

Time Series Plot for Trans-1,2-dichloroethylene Station for CRP 46
Concentration (ug/L)
1000
100
10
1
0.1
0.01
Detect
Estimated
Non-Detect
Jan-1995
Jan-1996
Jan-1997
Jan-1998
Jan-1999
Jan-2000
Jan-2001
Jan-2002
Jan-2003
Jan-2004
Jan-2005
Jan-2006
Jan-2007
Jan-2008
Jan-2009
Jan-2010
Jan-2011
Jan-2012
Jan-2013
Jan-2014
Jan-2015
Jan-2016
Jan-2017
Jan-2018
Jan-2019
Jan-2020
Jan-2021
Jan-2022
Jan-2023
CRP 46B
CRP 46A
GWPS (100ug/L)

Figure C-121.

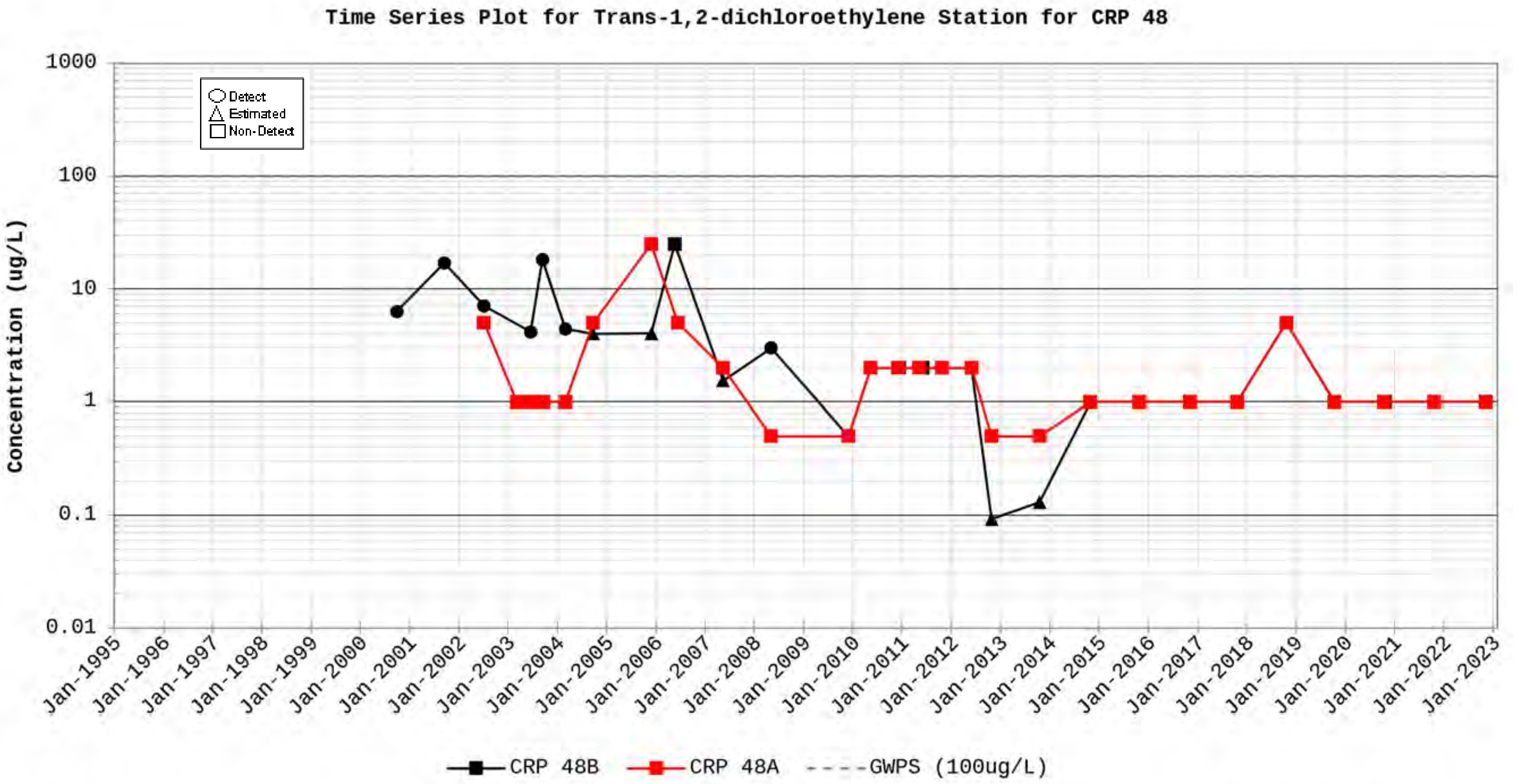

Time Series Plot for Trans-1,2-dichloroethylene Station for CRP 48
Concentration (ug/L)
1000
100
10
1
0.1
0.01
○ Detect
△ Estimated
☐ Non-Detect
Jan-1995
Jan-1996
Jan-1997
Jan-1998
Jan-1999
Jan-2000
Jan-2001
Jan-2002
Jan-2003
Jan-2004
Jan-2005
Jan-2006
Jan-2007
Jan-2008
Jan-2009
Jan-2010
Jan-2011
Jan-2012
Jan-2013
Jan-2014
Jan-2015
Jan-2016
Jan-2017
Jan-2018
Jan-2019
Jan-2020
Jan-2021
Jan-2022
Jan-2023
CRP 48B
CRP 48A
GWPS (100ug/L)

Figure C-122.

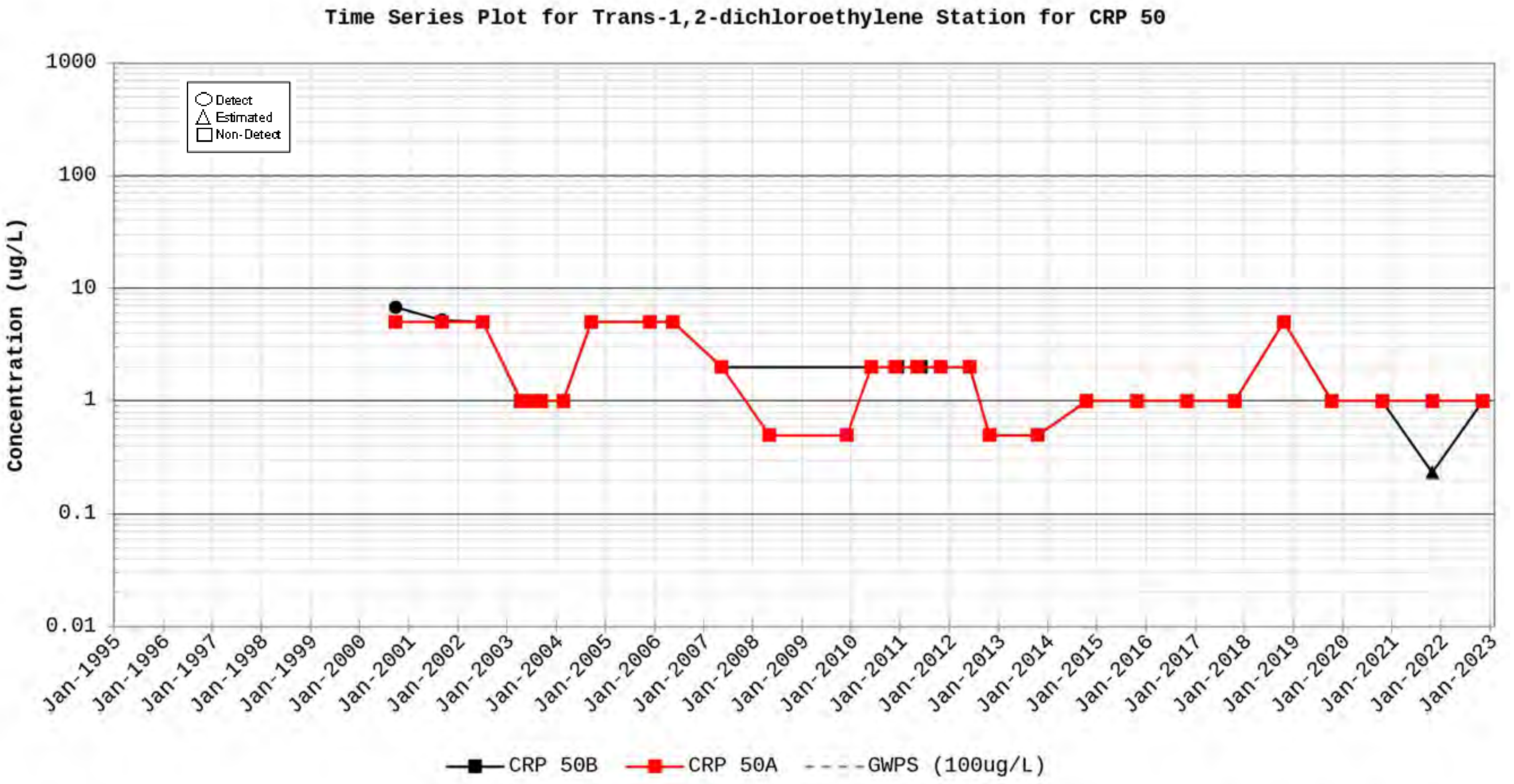

Time Series Plot for Trans-1,2-dichloroethylene Station for CRP 50
Concentration (ug/L)
1000
100
10
1
0.1
0.01
Detect
Estimated
Non-Detect
Jan-1995
Jan-1996
Jan-1997
Jan-1998
Jan-1999
Jan-2000
Jan-2001
Jan-2002
Jan-2003
Jan-2004
Jan-2005
Jan-2006
Jan-2007
Jan-2008
Jan-2009
Jan-2010
Jan-2011
Jan-2012
Jan-2013
Jan-2014
Jan-2015
Jan-2016
Jan-2017
Jan-2018
Jan-2019
Jan-2020
Jan-2021
Jan-2022
Jan-2023
CRP 50B
CRP 50A
GWPS (100ug/L)

Figure C-123.

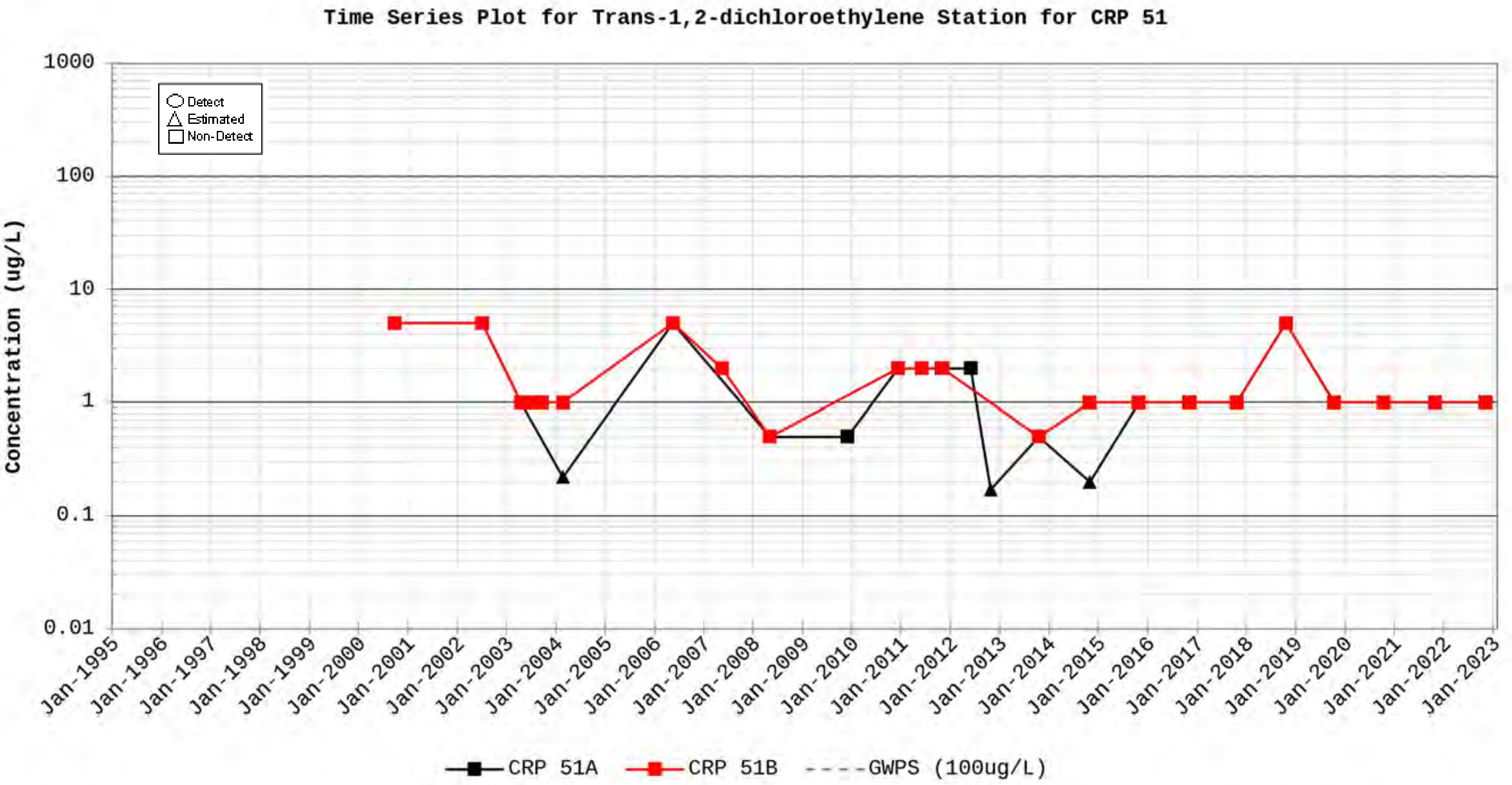

Time Series Plot for Trans-1,2-dichloroethylene Station for CRP 51
Concentration (ug/L)
1000
100
10
1
0.1
0.01
○ Detect
△ Estimated
☐ Non-Detect
Jan-1995
Jan-1996
Jan-1997
Jan-1998
Jan-1999
Jan-2000
Jan-2001
Jan-2002
Jan-2003
Jan-2004
Jan-2005
Jan-2006
Jan-2007
Jan-2008
Jan-2009
Jan-2010
Jan-2011
Jan-2012
Jan-2013
Jan-2014
Jan-2015
Jan-2016
Jan-2017
Jan-2018
Jan-2019
Jan-2020
Jan-2021
Jan-2022
Jan-2023
CRP 51A
CRP 51B
GWPS (100ug/L)

Figure C-124.

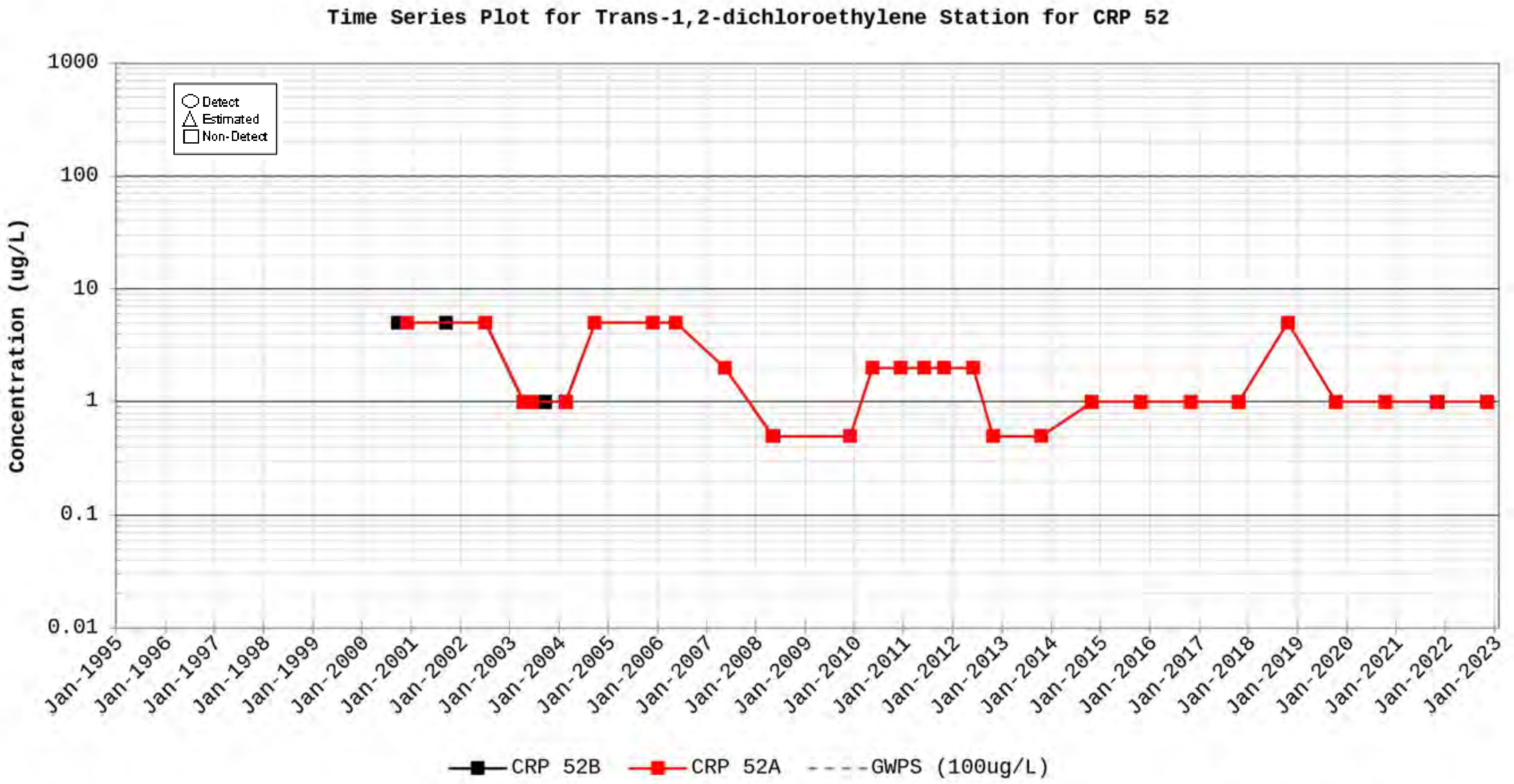

Time Series Plot for Trans-1,2-dichloroethylene Station for CRP 52
Concentration (ug/L)
1000
100
10
1
0.1
0.01
Detect
Estimated
Non-Detect
Jan-1995
Jan-1996
Jan-1997
Jan-1998
Jan-1999
Jan-2000
Jan-2001
Jan-2002
Jan-2003
Jan-2004
Jan-2005
Jan-2006
Jan-2007
Jan-2008
Jan-2009
Jan-2010
Jan-2011
Jan-2012
Jan-2013
Jan-2014
Jan-2015
Jan-2016
Jan-2017
Jan-2018
Jan-2019
Jan-2020
Jan-2021
Jan-2022
Jan-2023
CRP 52B
CRP 52A
GWPS (100ug/L)

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Figure C-125.

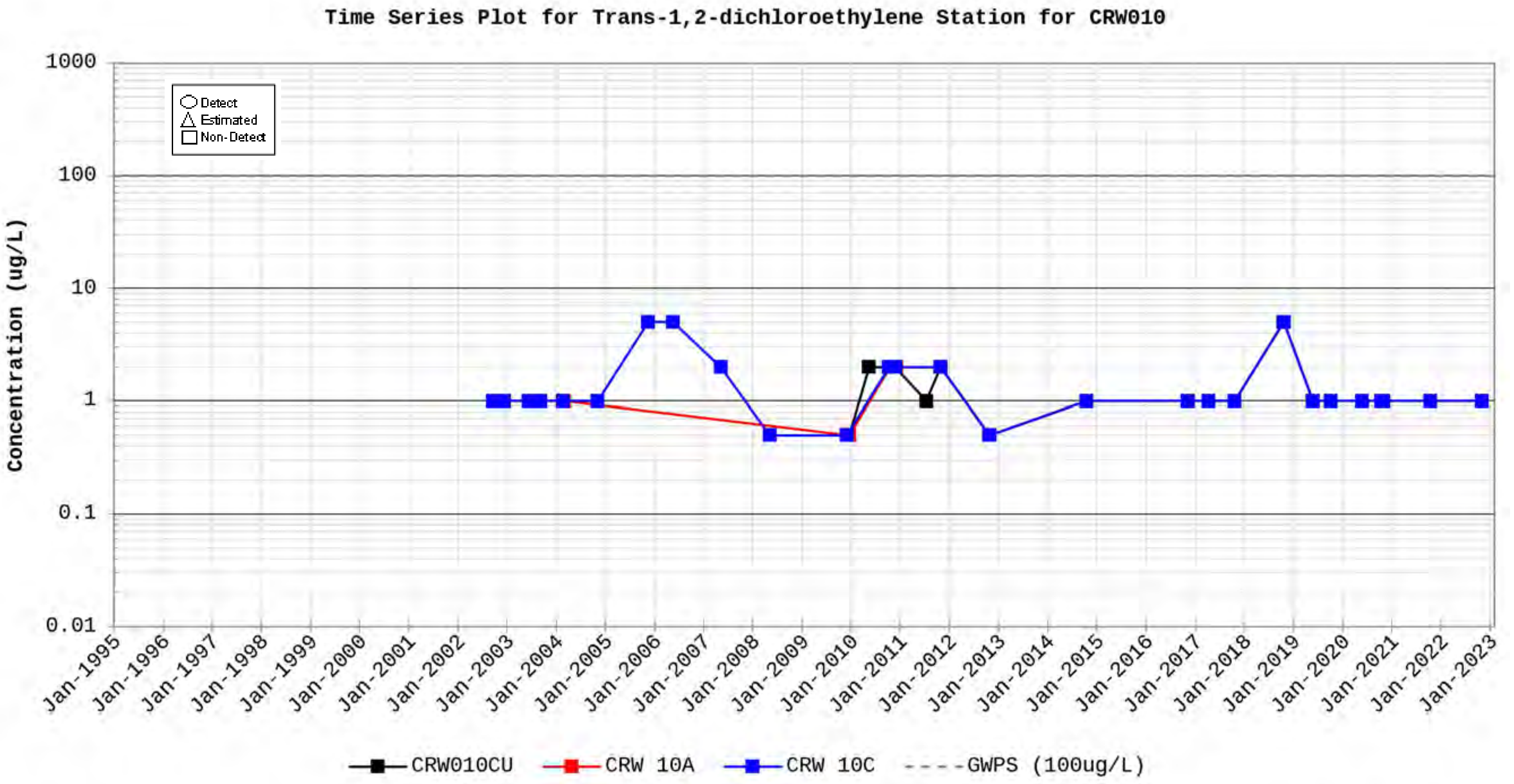

Time Series Plot for Trans-1,2-dichloroethylene Station for CRW010
Concentration (ug/L)
1000
100
10
1
0.1
0.01
Detect
Estimated
Non-Detect
Jan-1995
Jan-1996
Jan-1997
Jan-1998
Jan-1999
Jan-2000
Jan-2001
Jan-2002
Jan-2003
Jan-2004
Jan-2005
Jan-2006
Jan-2007
Jan-2008
Jan-2009
Jan-2010
Jan-2011
Jan-2012
Jan-2013
Jan-2014
Jan-2015
Jan-2016
Jan-2017
Jan-2018
Jan-2019
Jan-2020
Jan-2021
Jan-2022
Jan-2023
CRW010CU
CRW 10A
CRW 10C
GWPS (100ug/L)

Figure C-126.

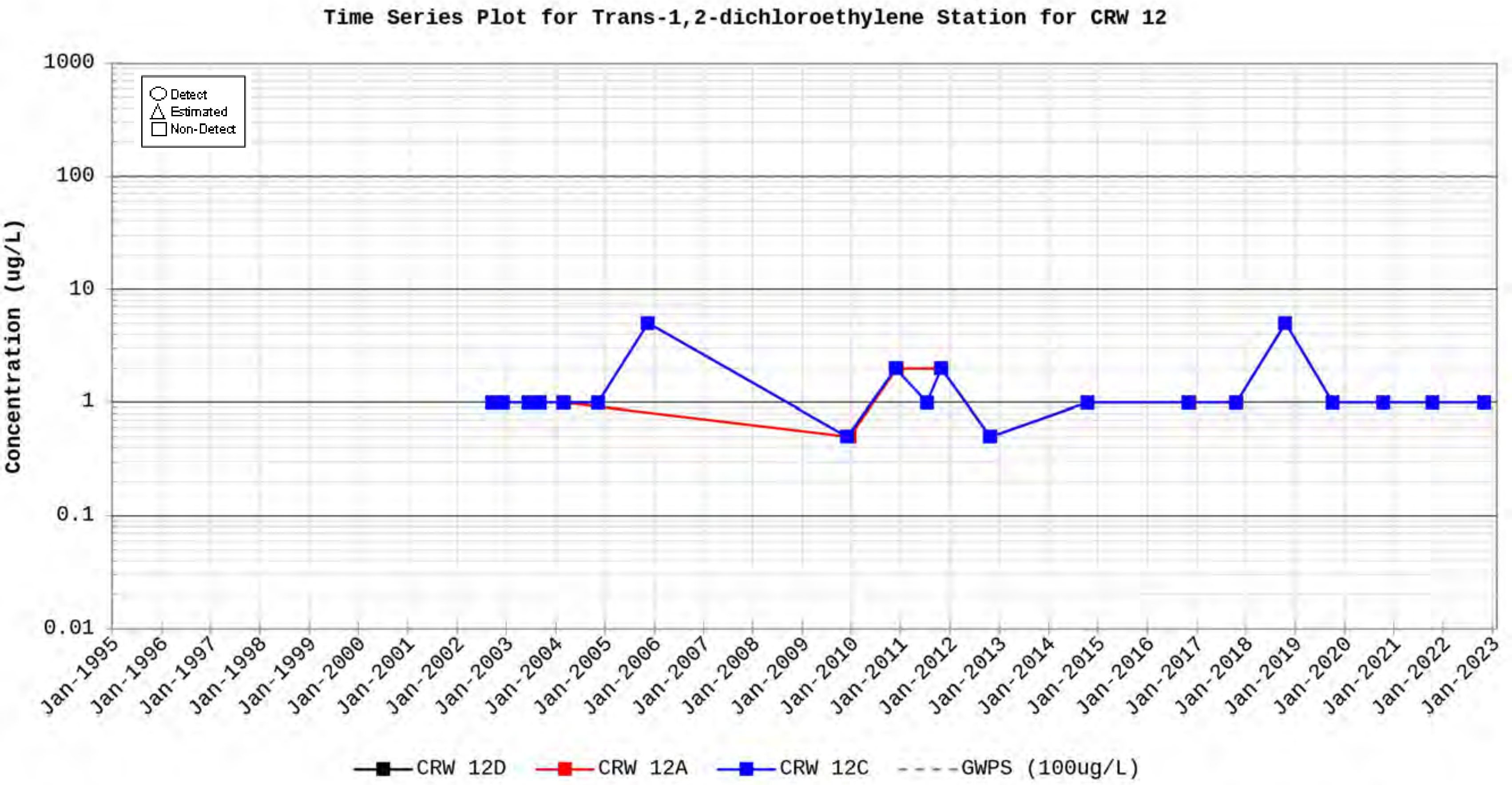

Time Series Plot for Trans-1,2-dichloroethylene Station for CRW 12
Concentration (ug/L)
1000
100
10
1
0.1
0.01
Detect
Estimated
Non-Detect
Jan-1995
Jan-1996
Jan-1997
Jan-1998
Jan-1999
Jan-2000
Jan-2001
Jan-2002
Jan-2003
Jan-2004
Jan-2005
Jan-2006
Jan-2007
Jan-2008
Jan-2009
Jan-2010
Jan-2011
Jan-2012
Jan-2013
Jan-2014
Jan-2015
Jan-2016
Jan-2017
Jan-2018
Jan-2019
Jan-2020
Jan-2021
Jan-2022
Jan-2023
CRW 12D
CRW 12A
CRW 12C
GWPS (100ug/L)

Figure C-127.

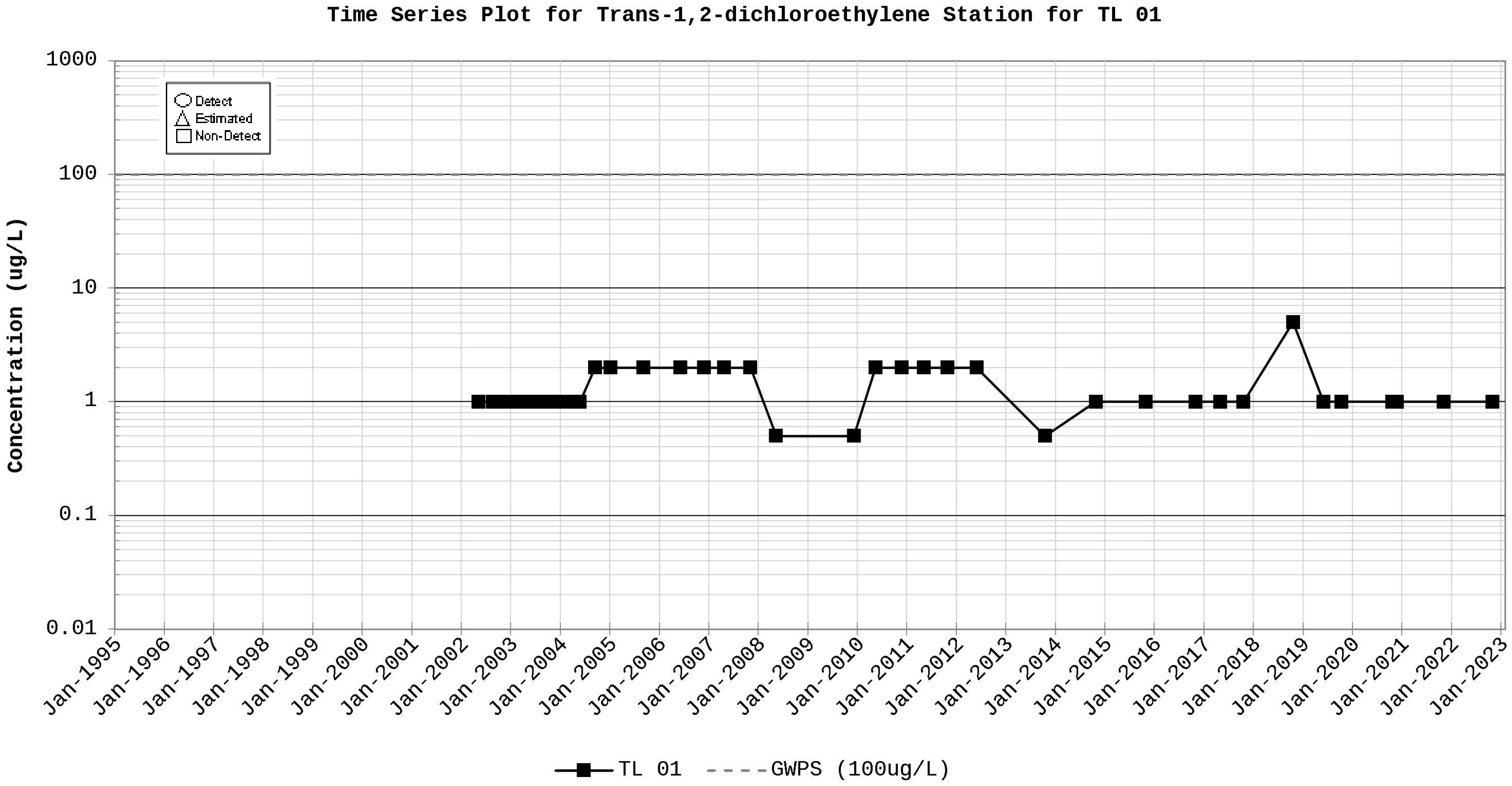

Time Series Plot for Trans-1,2-dichloroethylene Station for TL 01
Concentration (ug/L)
1000
100
10
1
0.1
0.01
○ Detect
△ Estimated
☐ Non-Detect
Jan-1995
Jan-1996
Jan-1997
Jan-1998
Jan-1999
Jan-2000
Jan-2001
Jan-2002
Jan-2003
Jan-2004
Jan-2005
Jan-2006
Jan-2007
Jan-2008
Jan-2009
Jan-2010
Jan-2011
Jan-2012
Jan-2013
Jan-2014
Jan-2015
Jan-2016
Jan-2017
Jan-2018
Jan-2019
Jan-2020
Jan-2021
Jan-2022
Jan-2023
TL 01
GWPS (100ug/L)

Figure C-128.

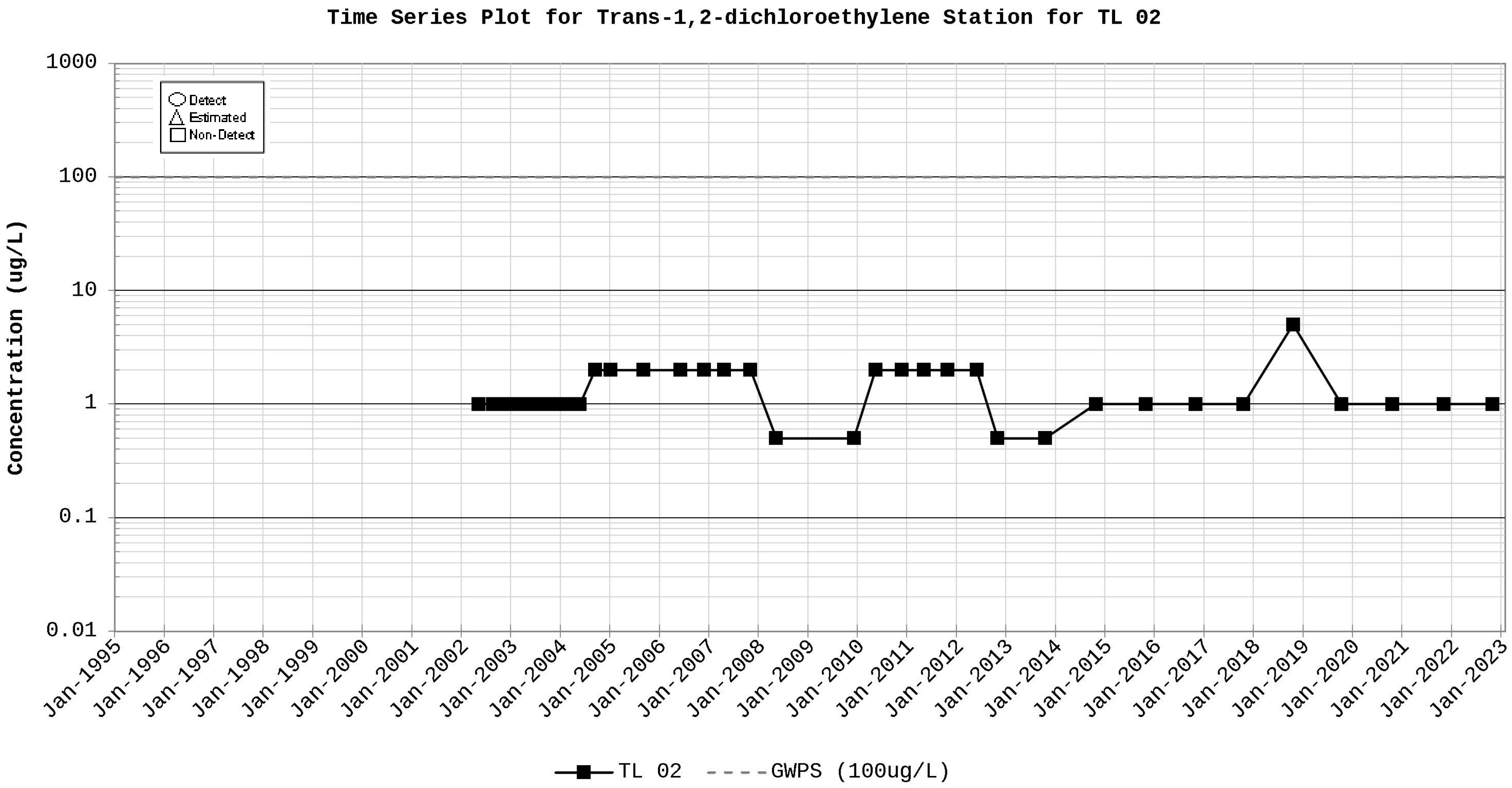

Time Series Plot for Trans-1,2-dichloroethylene Station for TL 02
Concentration (ug/L)
1000
100
10
1
0.1
0.01
Detect
Estimated
Non-Detect
Jan-1995
Jan-1996
Jan-1997
Jan-1998
Jan-1999
Jan-2000
Jan-2001
Jan-2002
Jan-2003
Jan-2004
Jan-2005
Jan-2006
Jan-2007
Jan-2008
Jan-2009
Jan-2010
Jan-2011
Jan-2012
Jan-2013
Jan-2014
Jan-2015
Jan-2016
Jan-2017
Jan-2018
Jan-2019
Jan-2020
Jan-2021
Jan-2022
Jan-2023
TL 02
GWPS (100ug/L)

Figure C-129.

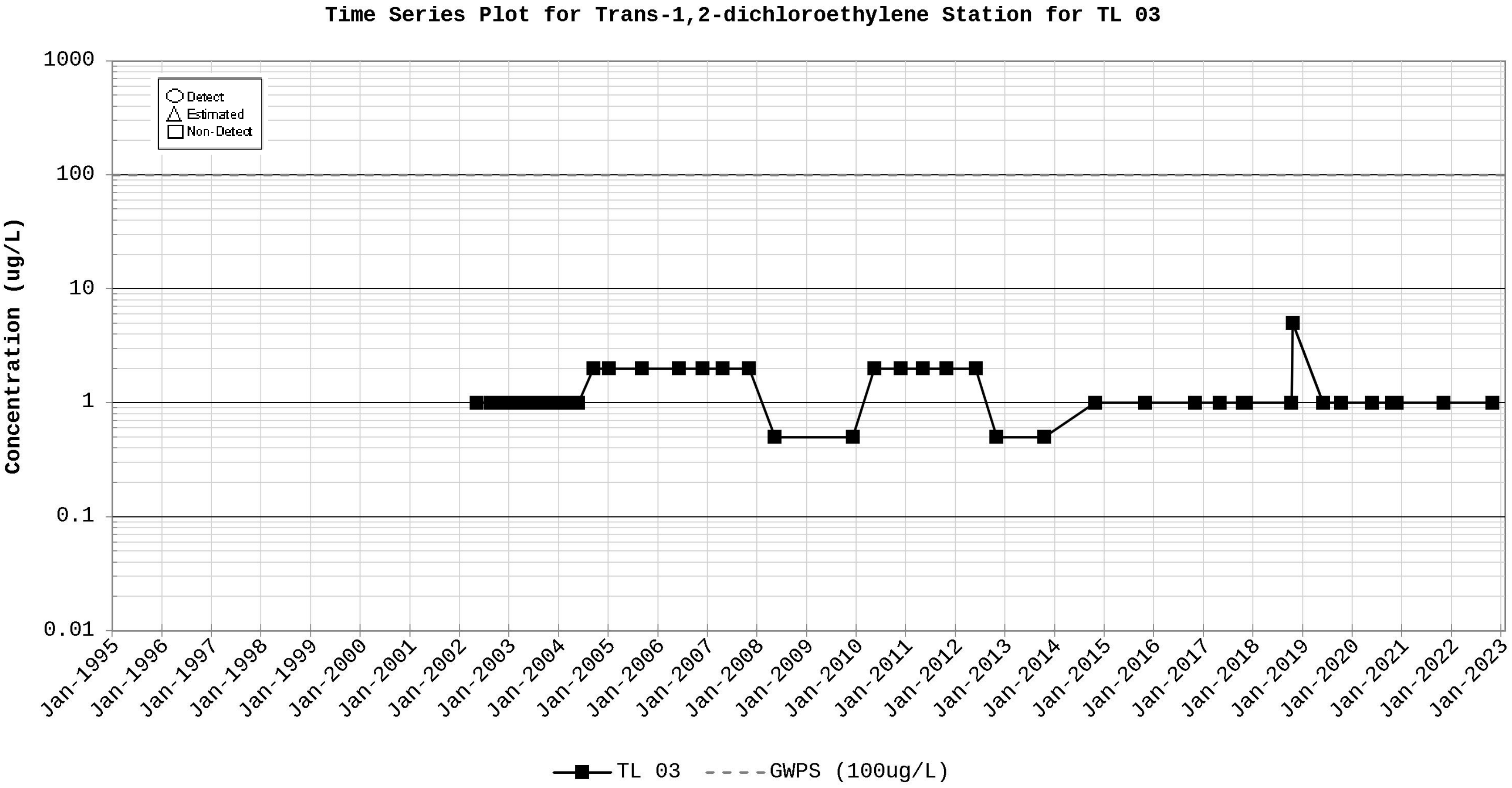

Time Series Plot for Trans-1,2-dichloroethylene Station for TL 03
Concentration (ug/L)
1000
100
10
1
0.1
0.01
Detect
Estimated
Non-Detect
Jan-1995
Jan-1996
Jan-1997
Jan-1998
Jan-1999
Jan-2000
Jan-2001
Jan-2002
Jan-2003
Jan-2004
Jan-2005
Jan-2006
Jan-2007
Jan-2008
Jan-2009
Jan-2010
Jan-2011
Jan-2012
Jan-2013
Jan-2014
Jan-2015
Jan-2016
Jan-2017
Jan-2018
Jan-2019
Jan-2020
Jan-2021
Jan-2022
Jan-2023
TL 03
GWPS (100ug/L)

Figure C-130.

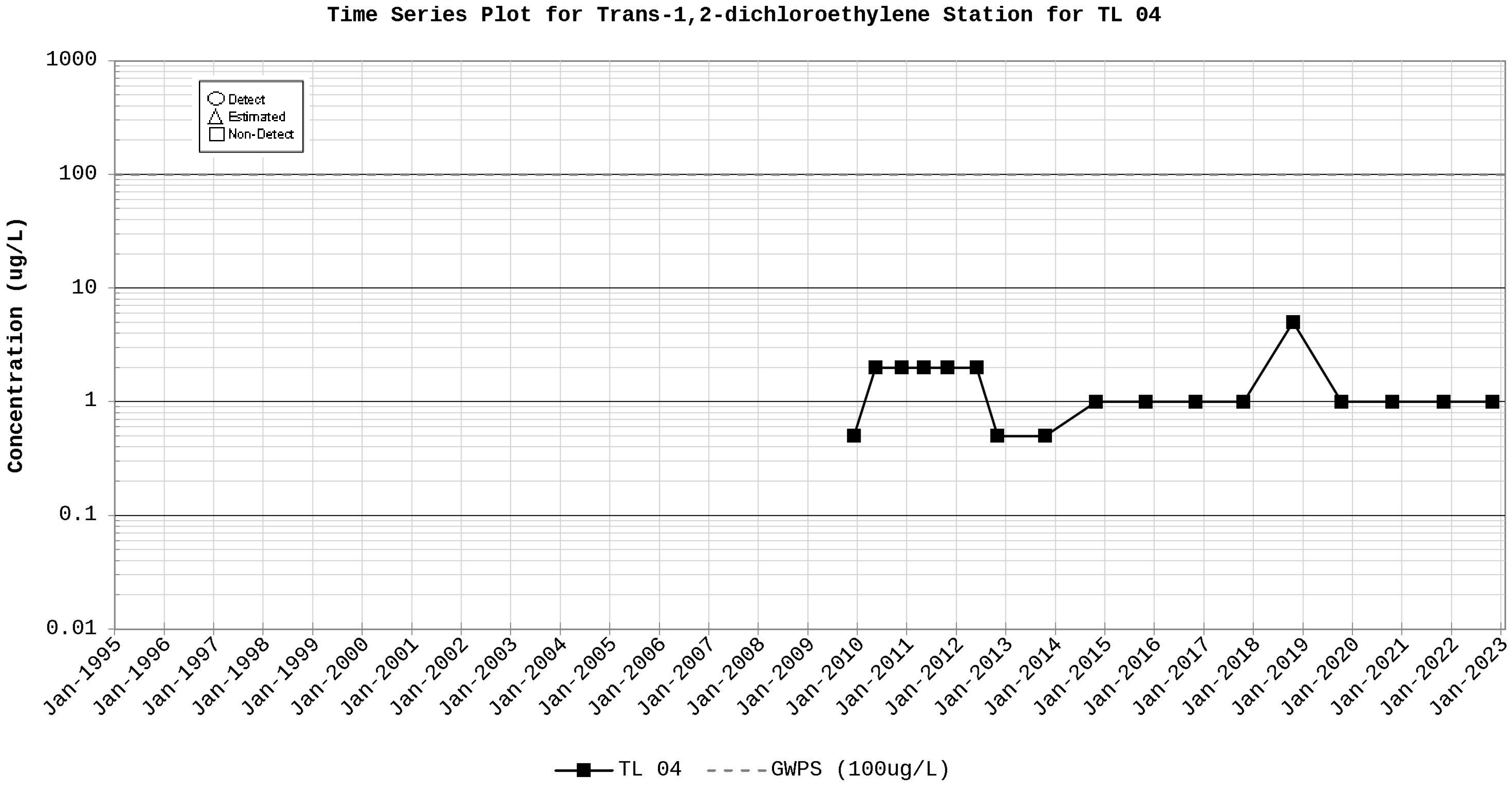

Time Series Plot for Trans-1,2-dichloroethylene Station for TL 04
Concentration (ug/L)
1000
100
10
1
0.1
0.01
Detect
Estimated
Non-Detect
Jan-1995
Jan-1996
Jan-1997
Jan-1998
Jan-1999
Jan-2000
Jan-2001
Jan-2002
Jan-2003
Jan-2004
Jan-2005
Jan-2006
Jan-2007
Jan-2008
Jan-2009
Jan-2010
Jan-2011
Jan-2012
Jan-2013
Jan-2014
Jan-2015
Jan-2016
Jan-2017
Jan-2018
Jan-2019
Jan-2020
Jan-2021
Jan-2022
Jan-2023
TL 04
GWPS (100ug/L)

Figure C-131.

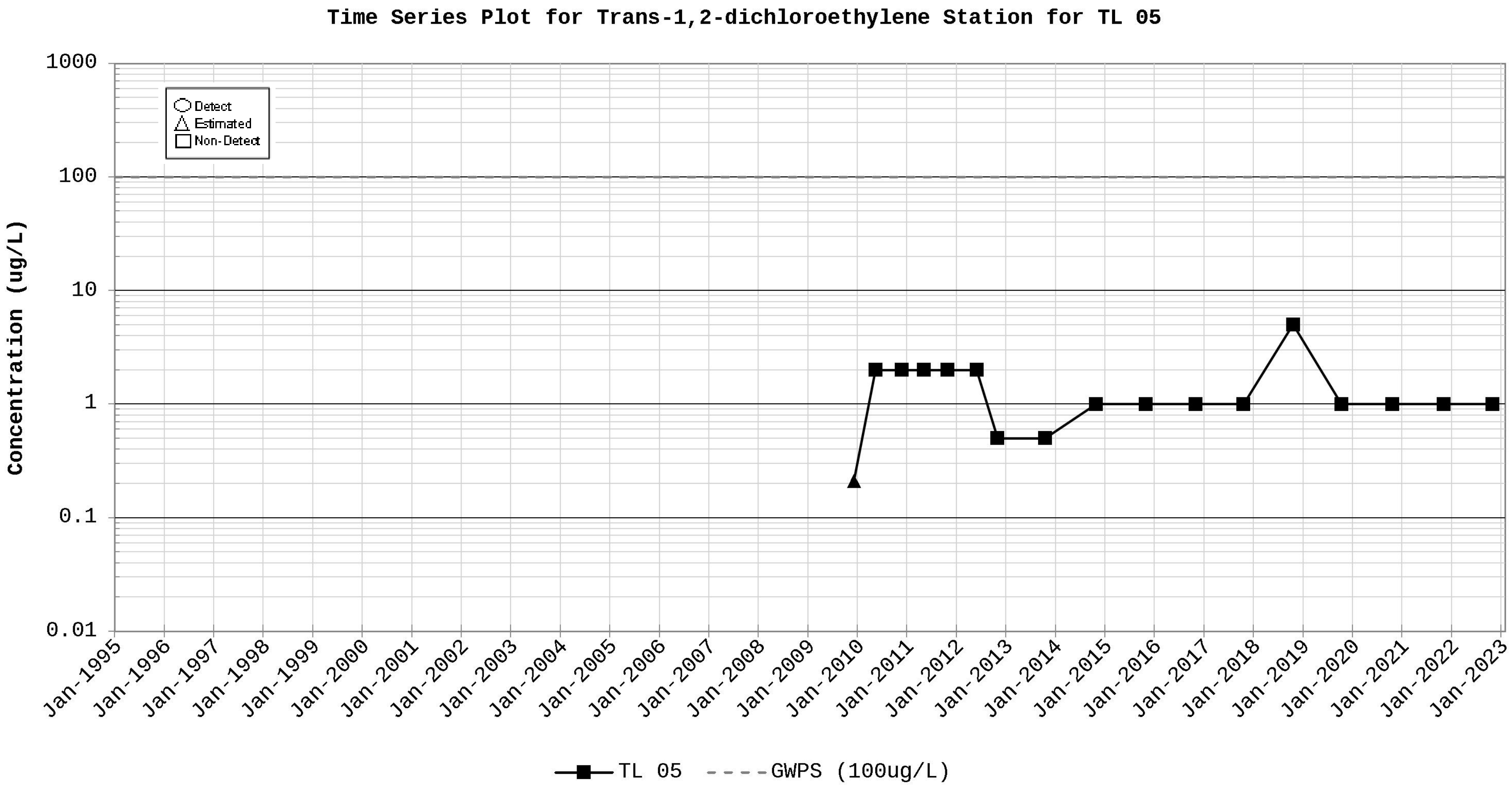

Time Series Plot for Trans-1,2-dichloroethylene Station for TL 05
Concentration (ug/L)
1000
100
10
1
0.1
0.01
Detect
Estimated
Non-Detect
Jan-1995
Jan-1996
Jan-1997
Jan-1998
Jan-1999
Jan-2000
Jan-2001
Jan-2002
Jan-2003
Jan-2004
Jan-2005
Jan-2006
Jan-2007
Jan-2008
Jan-2009
Jan-2010
Jan-2011
Jan-2012
Jan-2013
Jan-2014
Jan-2015
Jan-2016
Jan-2017
Jan-2018
Jan-2019
Jan-2020
Jan-2021
Jan-2022
Jan-2023
TL 05
GWPS (100ug/L)

Figure C-132.

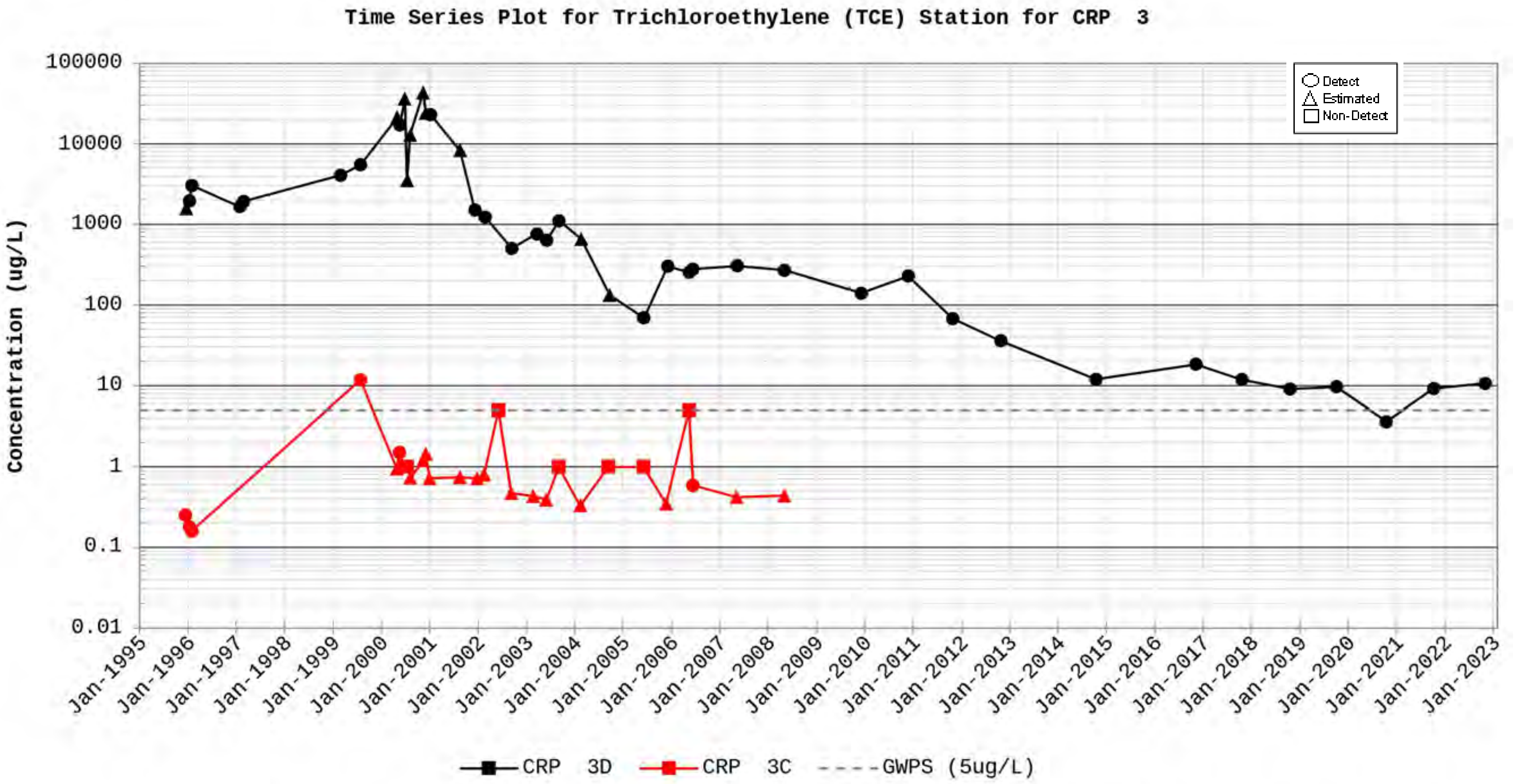

Time Series Plot for Trichloroethylene (TCE) Station for CRP 3
Concentration (ug/L)
100000
10000
1000
100
10
1
0.1
0.01
Jan-1995
Jan-1996
Jan-1997
Jan-1998
Jan-1999
Jan-2000
Jan-2001
Jan-2002
Jan-2003
Jan-2004
Jan-2005
Jan-2006
Jan-2007
Jan-2008
Jan-2009
Jan-2010
Jan-2011
Jan-2012
Jan-2013
Jan-2014
Jan-2015
Jan-2016
Jan-2017
Jan-2018
Jan-2019
Jan-2020
Jan-2021
Jan-2022
Jan-2023
○ Detect
△ Estimated
☐ Non-Detect
CRP 3D
CRP 3C
GWPS (5ug/L)

Figure C-133.

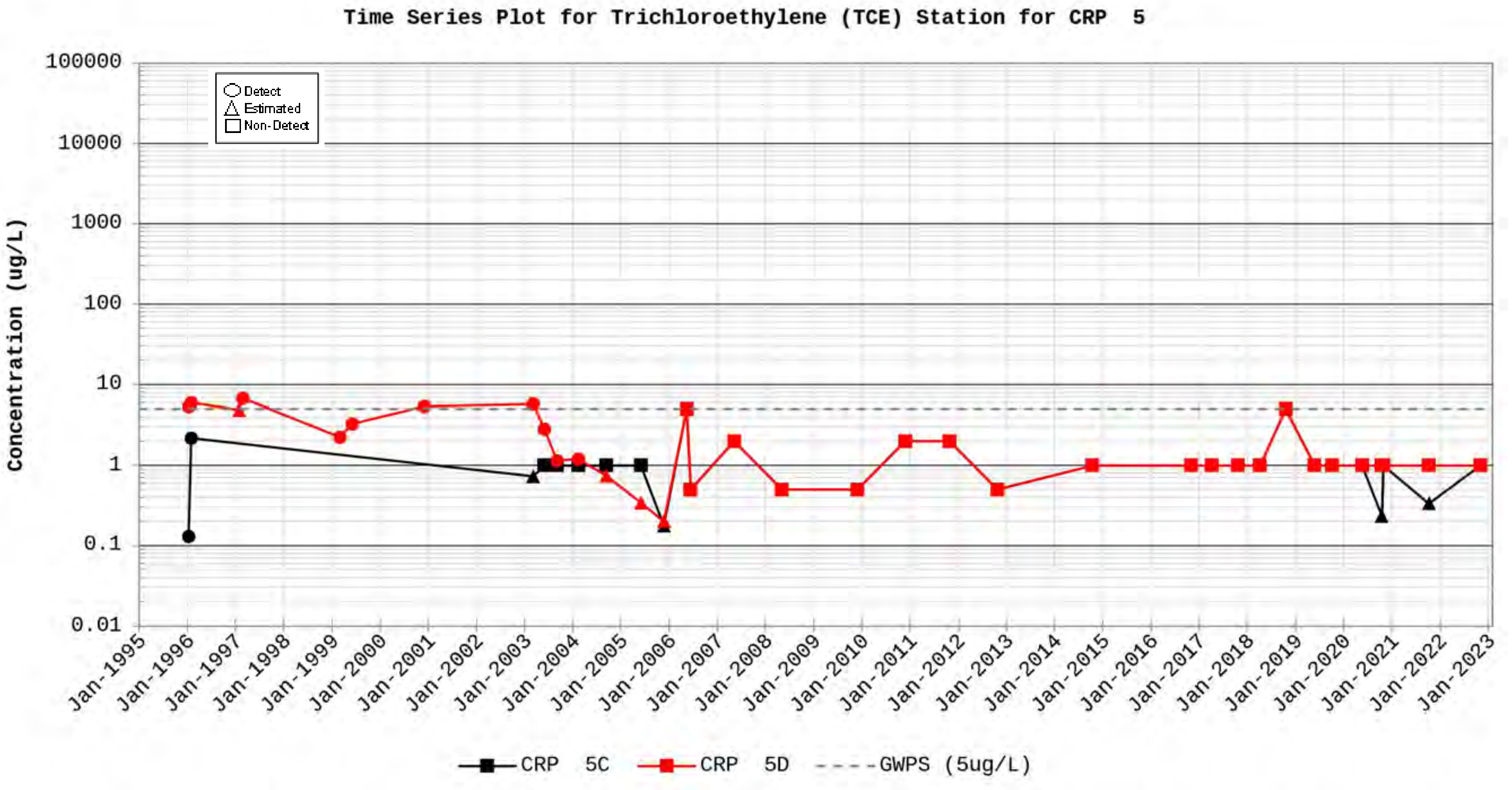

Time Series Plot for Trichloroethylene (TCE) Station for CRP 5
Concentration (ug/L)
100000
10000
1000
100
10
1
0.1
0.01
Detect
Estimated
Non-Detect
Jan-1995
Jan-1996
Jan-1997
Jan-1998
Jan-1999
Jan-2000
Jan-2001
Jan-2002
Jan-2003
Jan-2004
Jan-2005
Jan-2006
Jan-2007
Jan-2008
Jan-2009
Jan-2010
Jan-2011
Jan-2012
Jan-2013
Jan-2014
Jan-2015
Jan-2016
Jan-2017
Jan-2018
Jan-2019
Jan-2020
Jan-2021
Jan-2022
Jan-2023
CRP 5C
CRP 5D
GWPS (5ug/L)

Figure C-134.

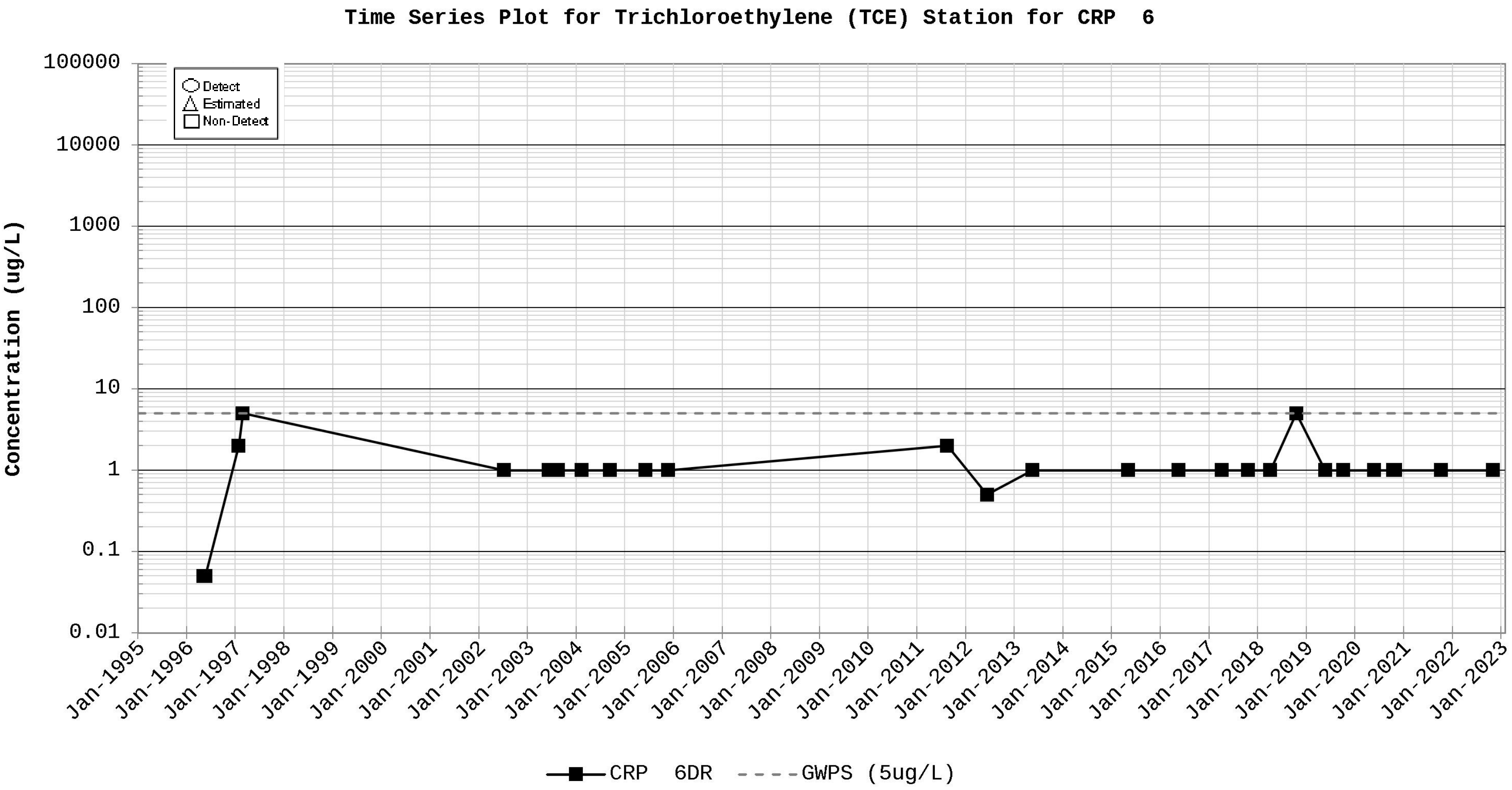

Time Series Plot for Trichloroethylene (TCE) Station for CRP 6
Concentration (ug/L)
100000
10000
1000
100
10
1
0.1
0.01
○ Detect
△ Estimated
☐ Non-Detect
Jan-1995
Jan-1996
Jan-1997
Jan-1998
Jan-1999
Jan-2000
Jan-2001
Jan-2002
Jan-2003
Jan-2004
Jan-2005
Jan-2006
Jan-2007
Jan-2008
Jan-2009
Jan-2010
Jan-2011
Jan-2012
Jan-2013
Jan-2014
Jan-2015
Jan-2016
Jan-2017
Jan-2018
Jan-2019
Jan-2020
Jan-2021
Jan-2022
Jan-2023
CRP 6DR
GWPS (5ug/L)

Figure C-135.

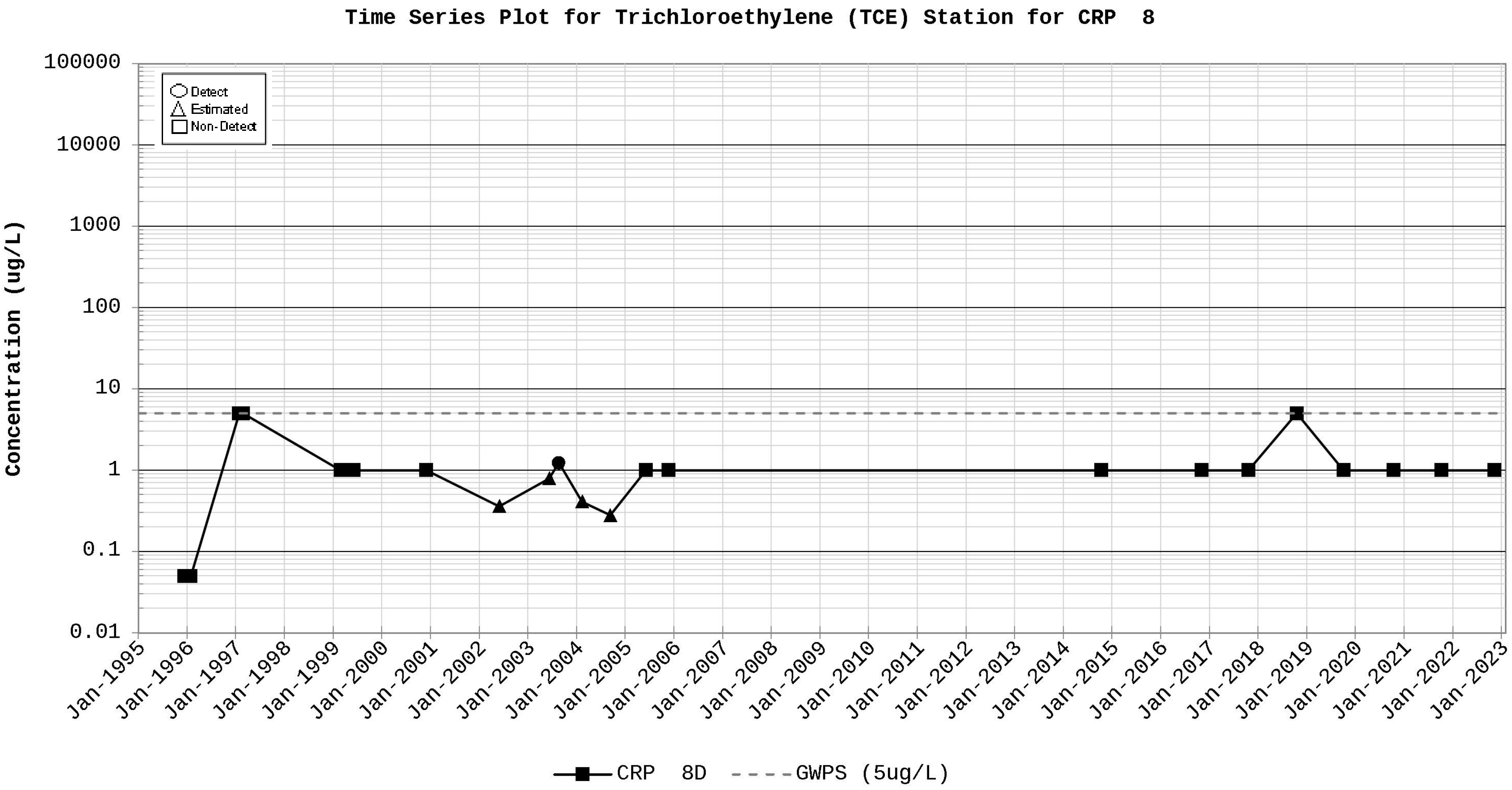

Time Series Plot for Trichloroethylene (TCE) Station for CRP 8
Concentration (ug/L)
100000
10000
1000
100
10
1
0.1
0.01
Detect
Estimated
Non-Detect
Jan-1995
Jan-1996
Jan-1997
Jan-1998
Jan-1999
Jan-2000
Jan-2001
Jan-2002
Jan-2003
Jan-2004
Jan-2005
Jan-2006
Jan-2007
Jan-2008
Jan-2009
Jan-2010
Jan-2011
Jan-2012
Jan-2013
Jan-2014
Jan-2015
Jan-2016
Jan-2017
Jan-2018
Jan-2019
Jan-2020
Jan-2021
Jan-2022
Jan-2023
CRP 8D
GWPS (5ug/L)

Figure C-136.

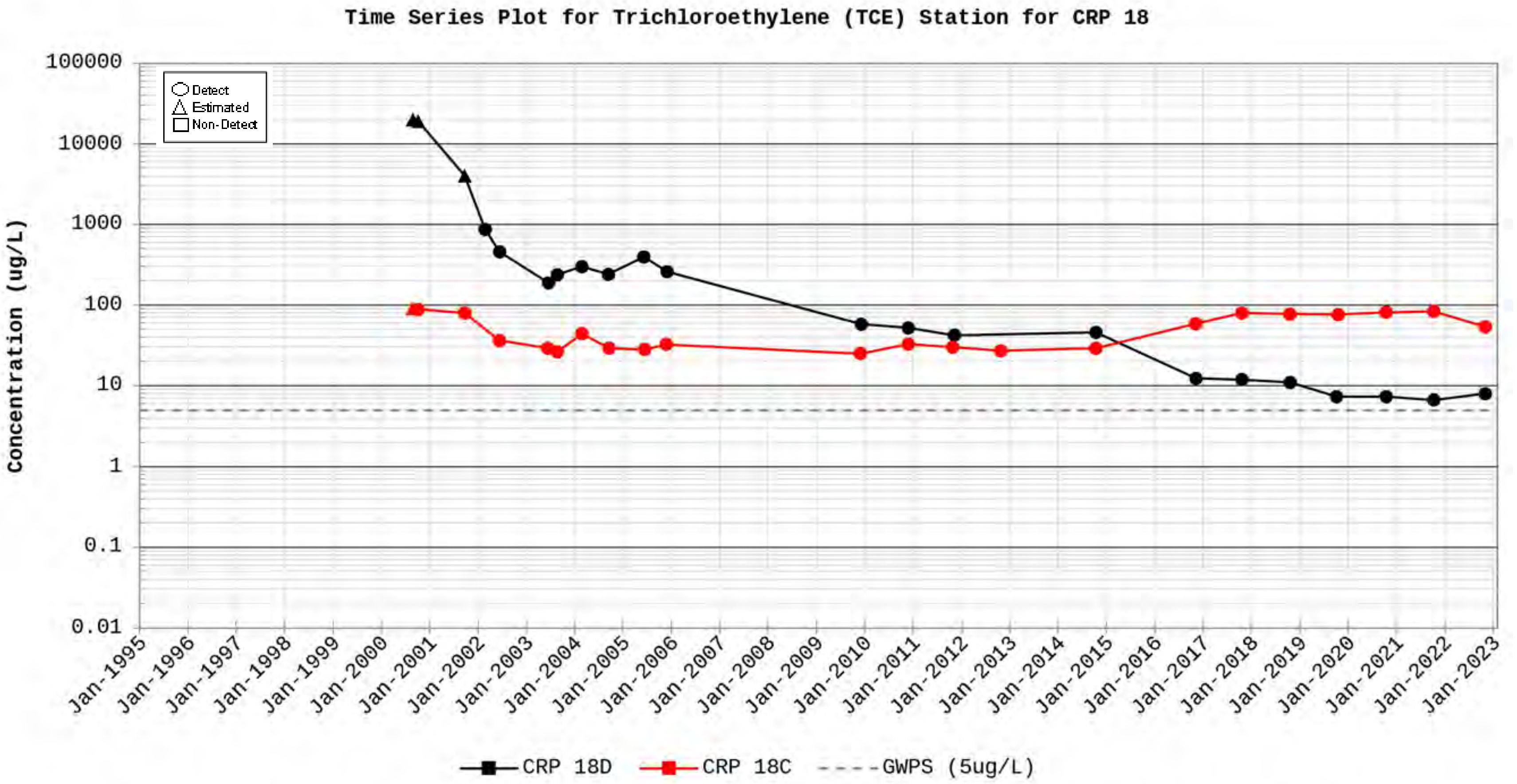

Time Series Plot for Trichloroethylene (TCE) Station for CRP 18
Concentration (ug/L)
100000
10000
1000
100
10
1
0.1
0.01
Detect
Estimated
Non-Detect
Jan-1995
Jan-1996
Jan-1997
Jan-1998
Jan-1999
Jan-2000
Jan-2001
Jan-2002
Jan-2003
Jan-2004
Jan-2005
Jan-2006
Jan-2007
Jan-2008
Jan-2009
Jan-2010
Jan-2011
Jan-2012
Jan-2013
Jan-2014
Jan-2015
Jan-2016
Jan-2017
Jan-2018
Jan-2019
Jan-2020
Jan-2021
Jan-2022
Jan-2023
CRP 18D
CRP 18C
GWPS (5ug/L)

Figure C-137.

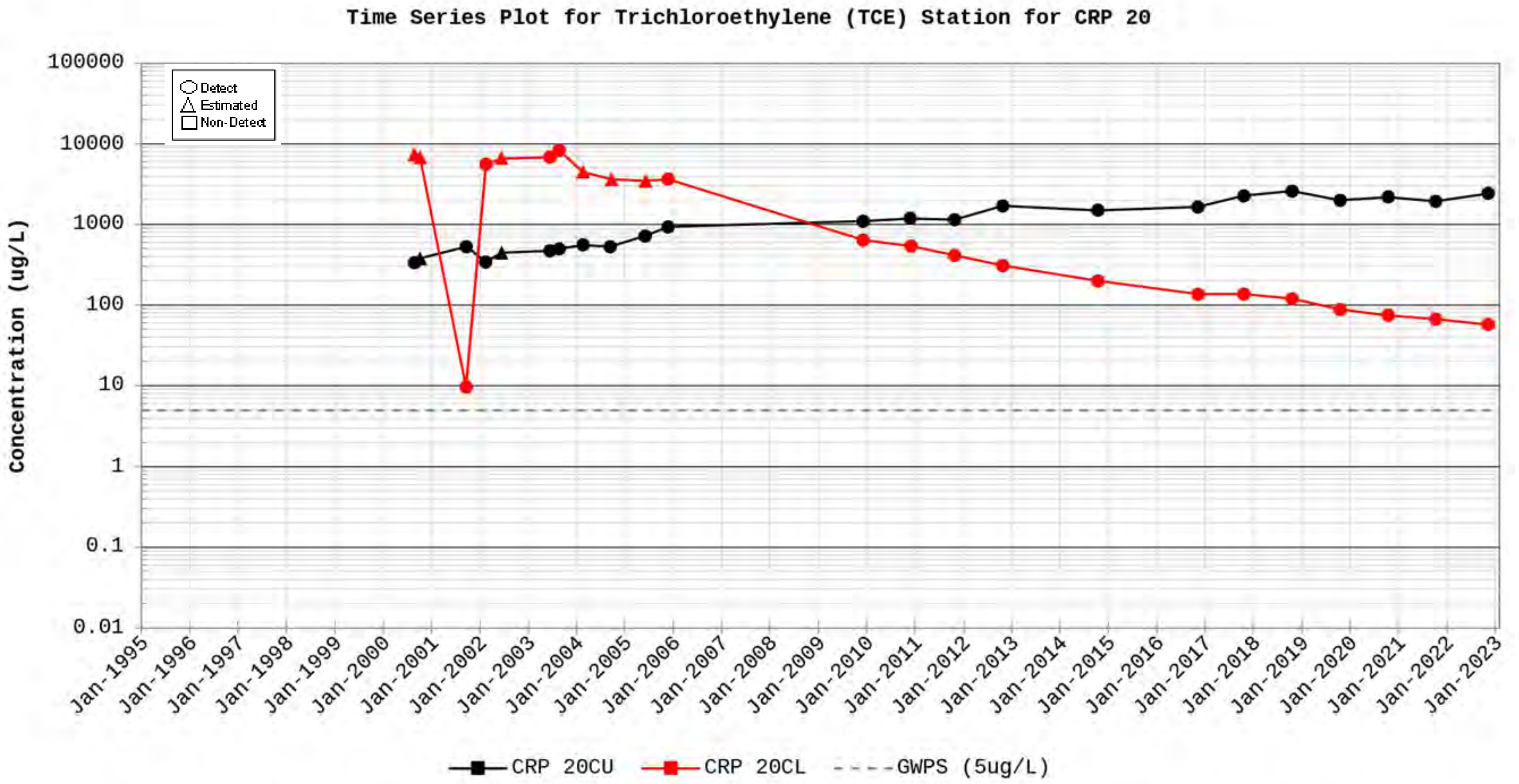

Time Series Plot for Trichloroethylene (TCE) Station for CRP 20
Concentration (ug/L)
100000
10000
1000
100
10
1
0.1
0.01
Detect
Estimated
Non-Detect
Jan-1995
Jan-1996
Jan-1997
Jan-1998
Jan-1999
Jan-2000
Jan-2001
Jan-2002
Jan-2003
Jan-2004
Jan-2005
Jan-2006
Jan-2007
Jan-2008
Jan-2009
Jan-2010
Jan-2011
Jan-2012
Jan-2013
Jan-2014
Jan-2015
Jan-2016
Jan-2017
Jan-2018
Jan-2019
Jan-2020
Jan-2021
Jan-2022
Jan-2023
CRP 20CU
CRP 20CL
GWPS (5ug/L)

Figure C-138.

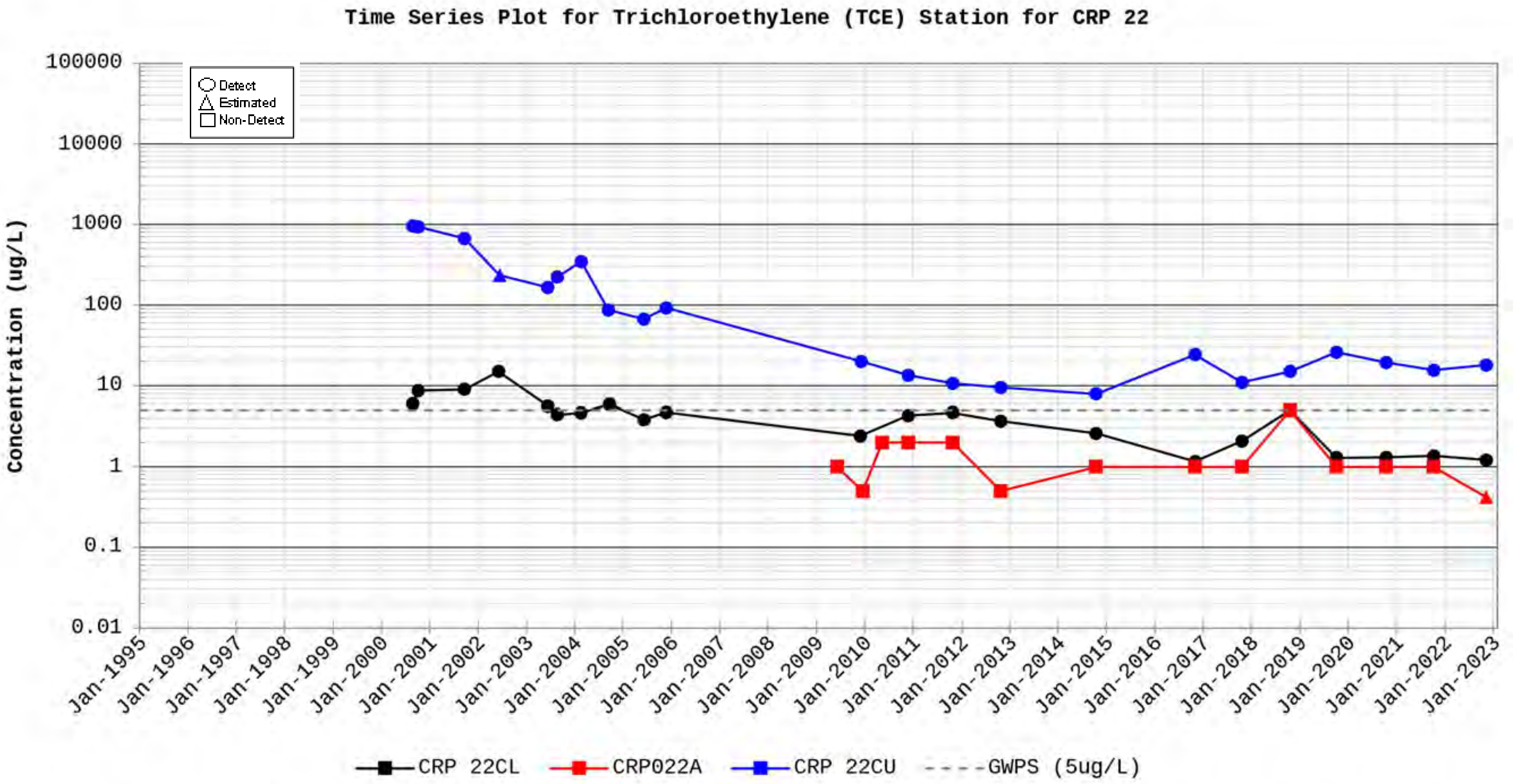

Time Series Plot for Trichloroethylene (TCE) Station for CRP 22
Concentration (ug/L)
100000
10000
1000
100
10
1
0.1
0.01
○ Detect
△ Estimated
☐ Non-Detect
Jan-1995
Jan-1996
Jan-1997
Jan-1998
Jan-1999
Jan-2000
Jan-2001
Jan-2002
Jan-2003
Jan-2004
Jan-2005
Jan-2006
Jan-2007
Jan-2008
Jan-2009
Jan-2010
Jan-2011
Jan-2012
Jan-2013
Jan-2014
Jan-2015
Jan-2016
Jan-2017
Jan-2018
Jan-2019
Jan-2020
Jan-2021
Jan-2022
Jan-2023
CRP 22CL
CRP022A
CRP 22CU
GWPS (5ug/L)

Figure C-139.

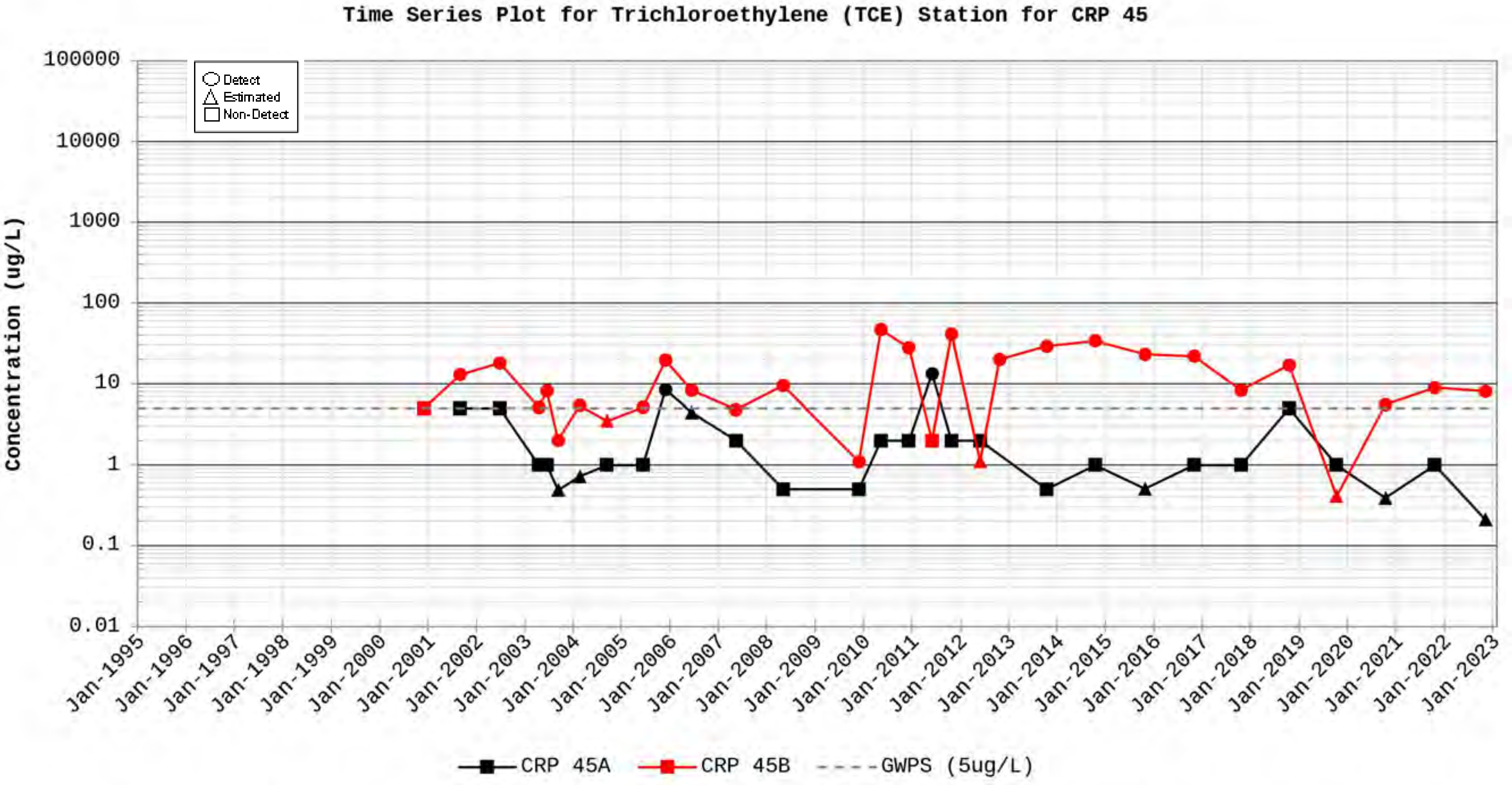

Time Series Plot for Trichloroethylene (TCE) Station for CRP 45
Concentration (ug/L)
100000
10000
1000
100
10
1
0.1
0.01
○ Detect
△ Estimated
☐ Non-Detect
Jan-1995
Jan-1996
Jan-1997
Jan-1998
Jan-1999
Jan-2000
Jan-2001
Jan-2002
Jan-2003
Jan-2004
Jan-2005
Jan-2006
Jan-2007
Jan-2008
Jan-2009
Jan-2010
Jan-2011
Jan-2012
Jan-2013
Jan-2014
Jan-2015
Jan-2016
Jan-2017
Jan-2018
Jan-2019
Jan-2020
Jan-2021
Jan-2022
Jan-2023
CRP 45A
CRP 45B
GWPS (5ug/L)

Figure C-140.

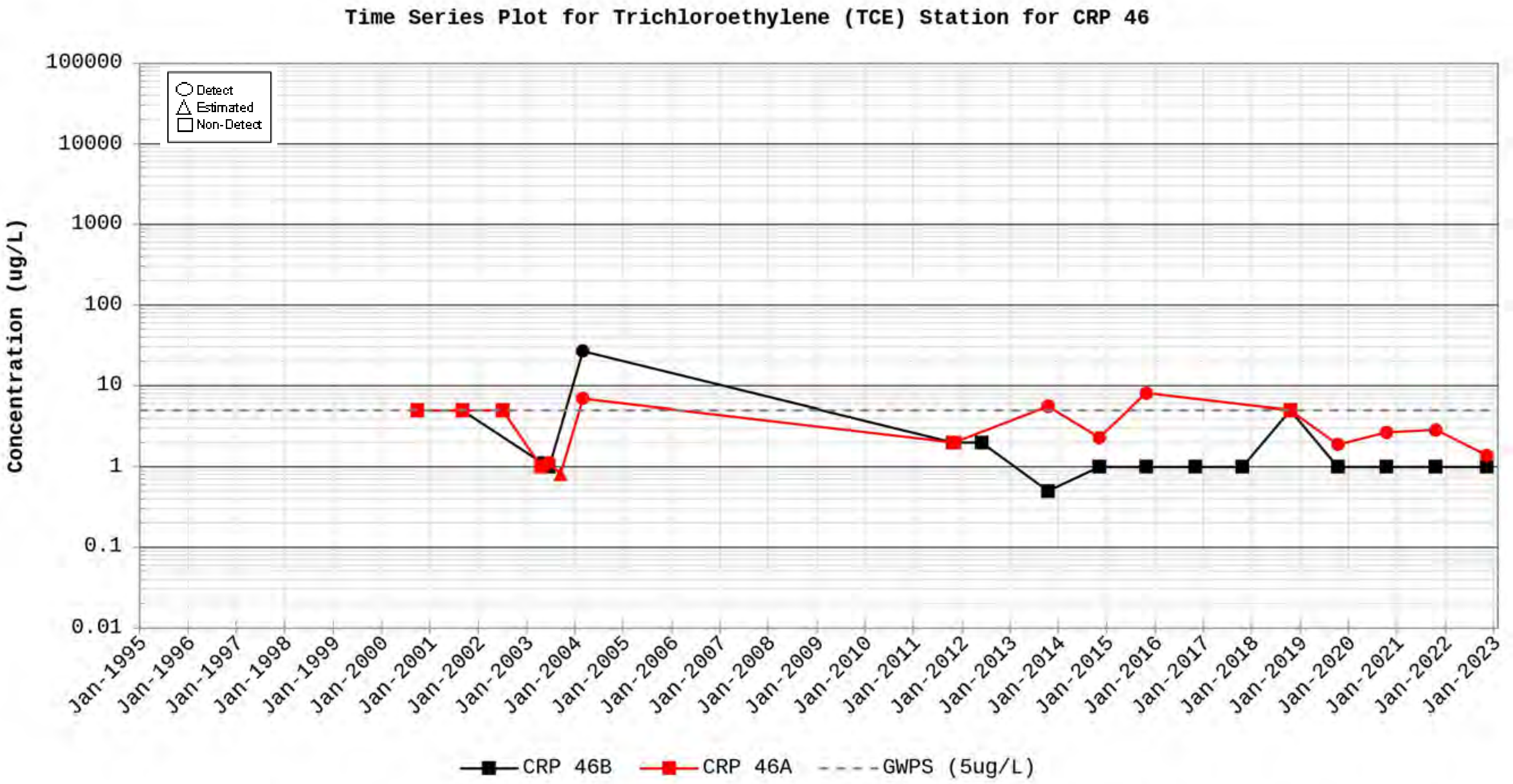

Time Series Plot for Trichloroethylene (TCE) Station for CRP 46
Concentration (ug/L)
100000
10000
1000
100
10
1
0.1
0.01
Detect
Estimated
Non-Detect
Jan-1995
Jan-1996
Jan-1997
Jan-1998
Jan-1999
Jan-2000
Jan-2001
Jan-2002
Jan-2003
Jan-2004
Jan-2005
Jan-2006
Jan-2007
Jan-2008
Jan-2009
Jan-2010
Jan-2011
Jan-2012
Jan-2013
Jan-2014
Jan-2015
Jan-2016
Jan-2017
Jan-2018
Jan-2019
Jan-2020
Jan-2021
Jan-2022
Jan-2023
CRP 46B
CRP 46A
GWPS (5ug/L)

Figure C-141.

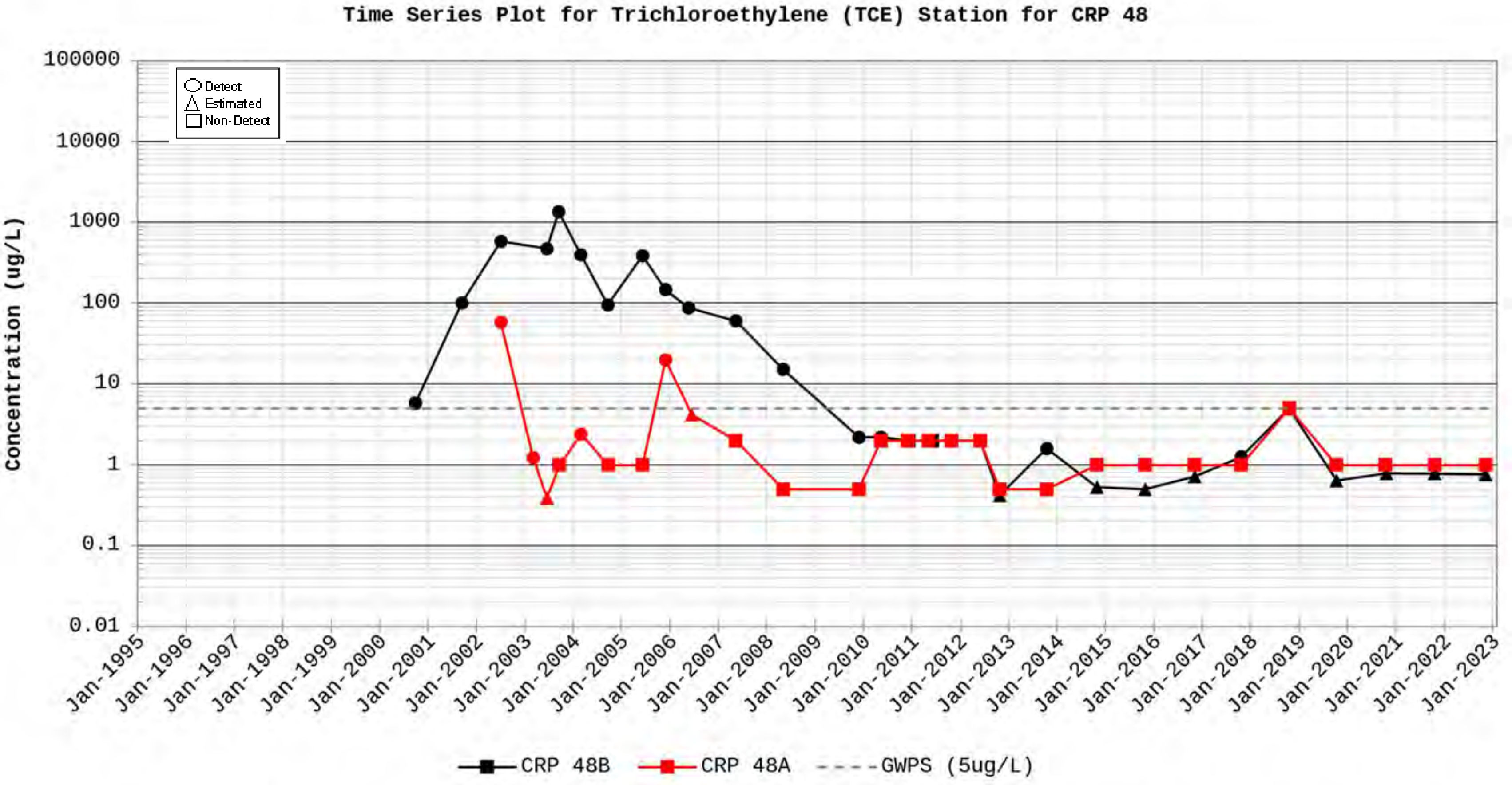

Time Series Plot for Trichloroethylene (TCE) Station for CRP 48
Concentration (ug/L)
100000
10000
1000
100
10
1
0.1
0.01
Detect
Estimated
Non-Detect
Jan-1995
Jan-1996
Jan-1997
Jan-1998
Jan-1999
Jan-2000
Jan-2001
Jan-2002
Jan-2003
Jan-2004
Jan-2005
Jan-2006
Jan-2007
Jan-2008
Jan-2009
Jan-2010
Jan-2011
Jan-2012
Jan-2013
Jan-2014
Jan-2015
Jan-2016
Jan-2017
Jan-2018
Jan-2019
Jan-2020
Jan-2021
Jan-2022
Jan-2023
CRP 48B
CRP 48A
GWPS (5ug/L)

Figure C-142.

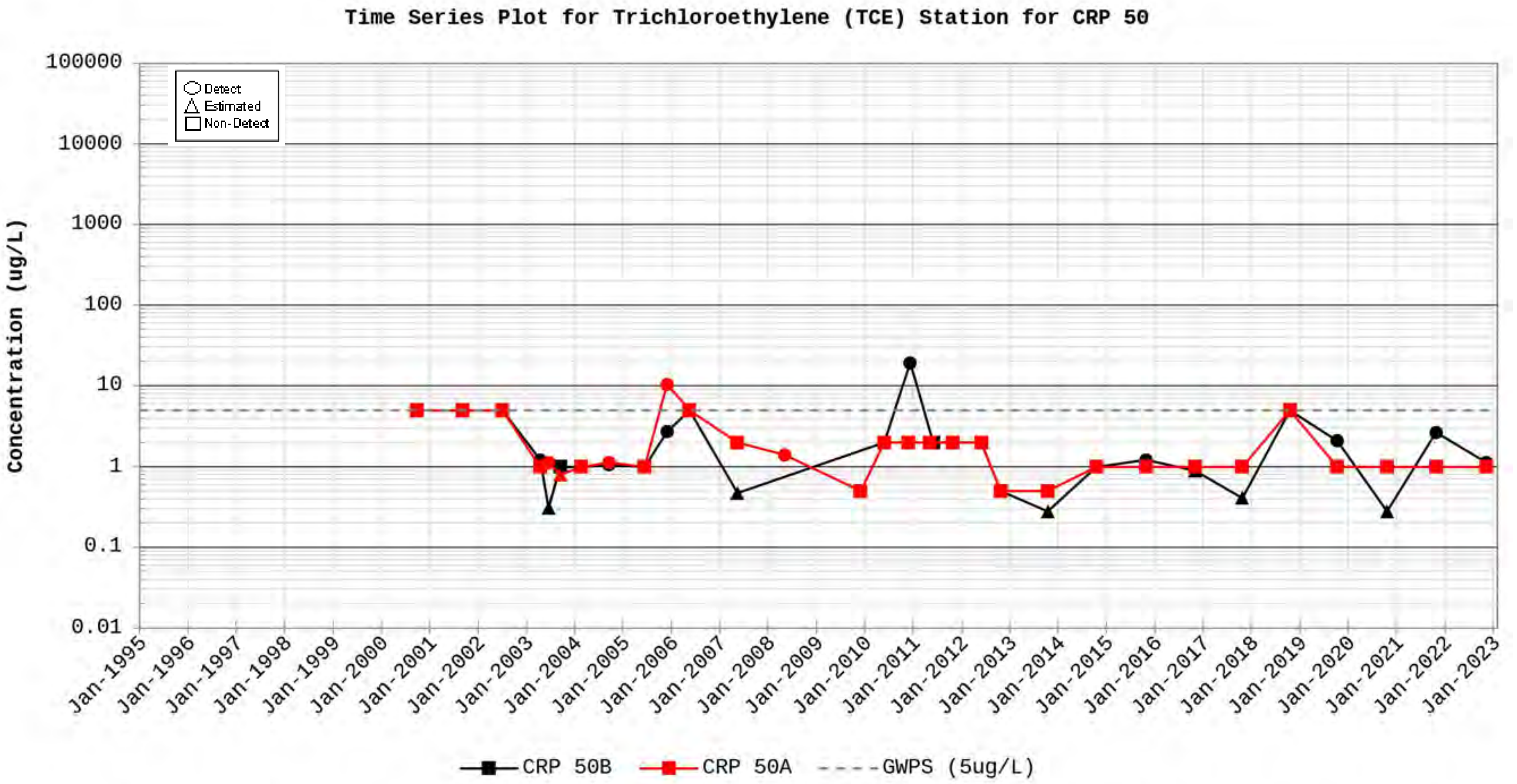

Time Series Plot for Trichloroethylene (TCE) Station for CRP 50
Concentration (ug/L)
100000
10000
1000
100
10
1
0.1
0.01
Detect
Estimated
Non-Detect
Jan-1995
Jan-1996
Jan-1997
Jan-1998
Jan-1999
Jan-2000
Jan-2001
Jan-2002
Jan-2003
Jan-2004
Jan-2005
Jan-2006
Jan-2007
Jan-2008
Jan-2009
Jan-2010
Jan-2011
Jan-2012
Jan-2013
Jan-2014
Jan-2015
Jan-2016
Jan-2017
Jan-2018
Jan-2019
Jan-2020
Jan-2021
Jan-2022
Jan-2023
CRP 50B
CRP 50A
GWPS (5ug/L)

Figure C-143.

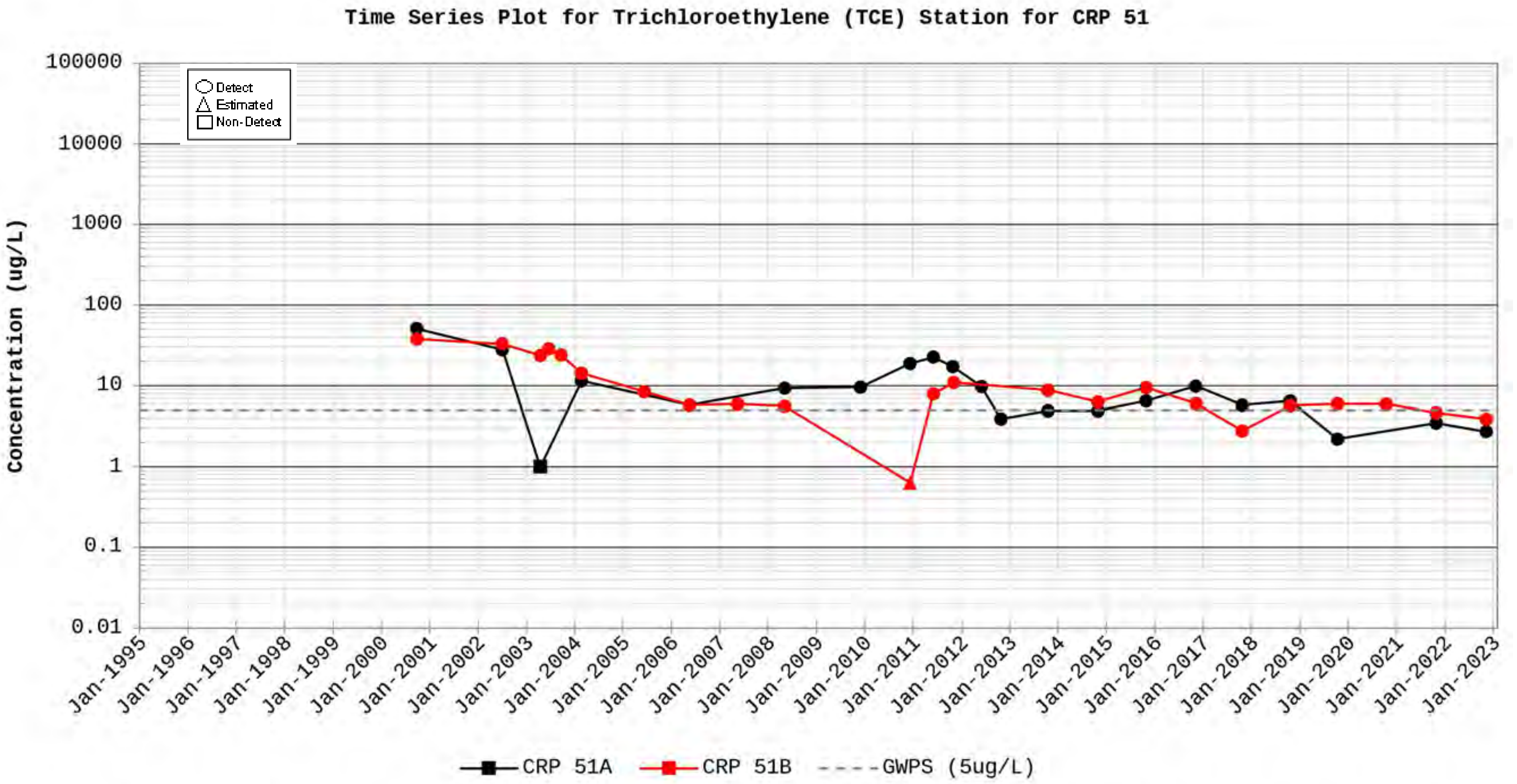

Time Series Plot for Trichloroethylene (TCE) Station for CRP 51
Concentration (ug/L)
100000
10000
1000
100
10
1
0.1
0.01
Detect
Estimated
Non-Detect
Jan-1995
Jan-1996
Jan-1997
Jan-1998
Jan-1999
Jan-2000
Jan-2001
Jan-2002
Jan-2003
Jan-2004
Jan-2005
Jan-2006
Jan-2007
Jan-2008
Jan-2009
Jan-2010
Jan-2011
Jan-2012
Jan-2013
Jan-2014
Jan-2015
Jan-2016
Jan-2017
Jan-2018
Jan-2019
Jan-2020
Jan-2021
Jan-2022
Jan-2023
CRP 51A
CRP 51B
GWPS (5ug/L)

Figure C-144.

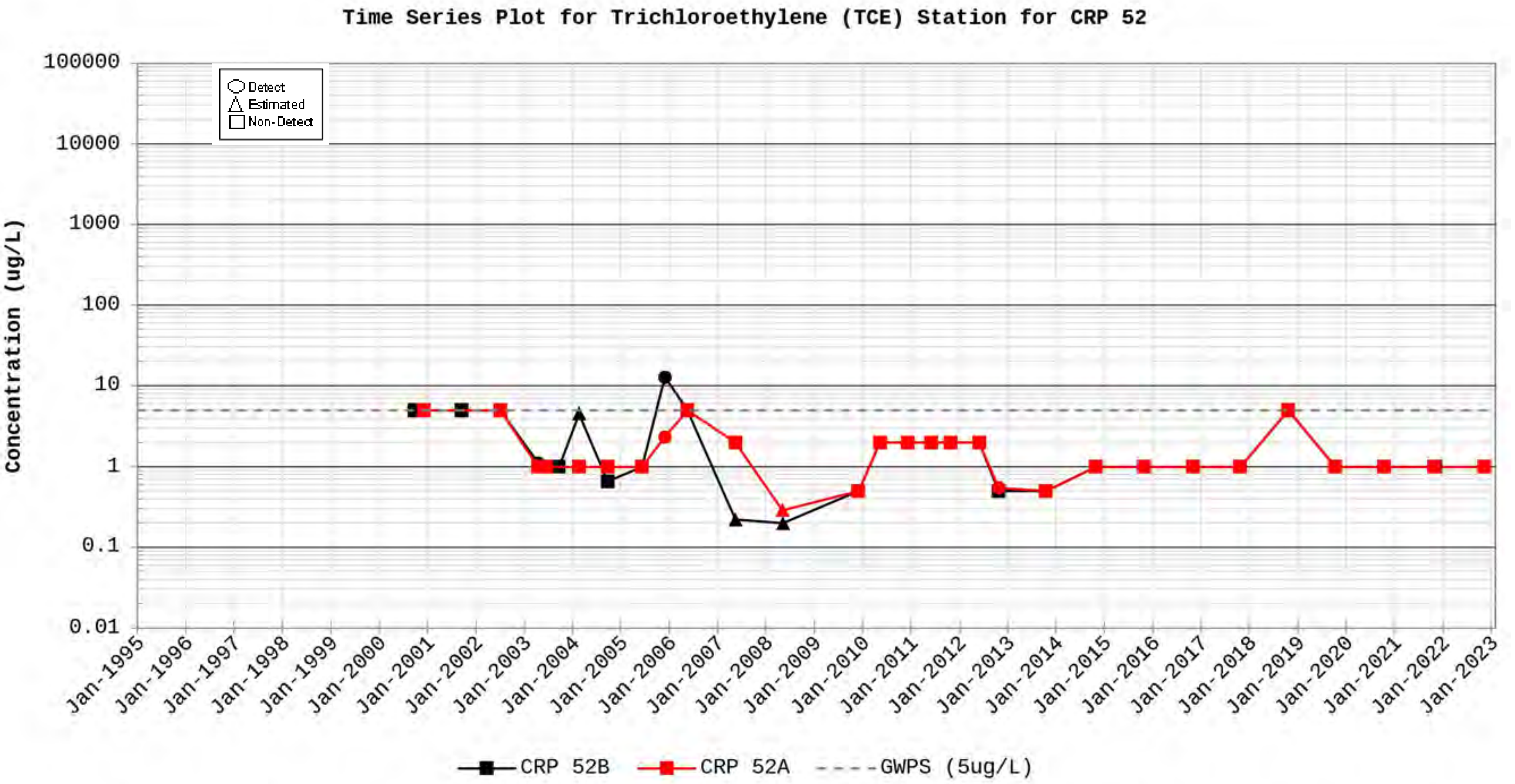

Time Series Plot for Trichloroethylene (TCE) Station for CRP 52
Concentration (ug/L)
100000
10000
1000
100
10
1
0.1
0.01
○ Detect
△ Estimated
☐ Non-Detect
Jan-1995
Jan-1996
Jan-1997
Jan-1998
Jan-1999
Jan-2000
Jan-2001
Jan-2002
Jan-2003
Jan-2004
Jan-2005
Jan-2006
Jan-2007
Jan-2008
Jan-2009
Jan-2010
Jan-2011
Jan-2012
Jan-2013
Jan-2014
Jan-2015
Jan-2016
Jan-2017
Jan-2018
Jan-2019
Jan-2020
Jan-2021
Jan-2022
Jan-2023
CRP 52B
CRP 52A
GWPS (5ug/L)

Figure C-145.

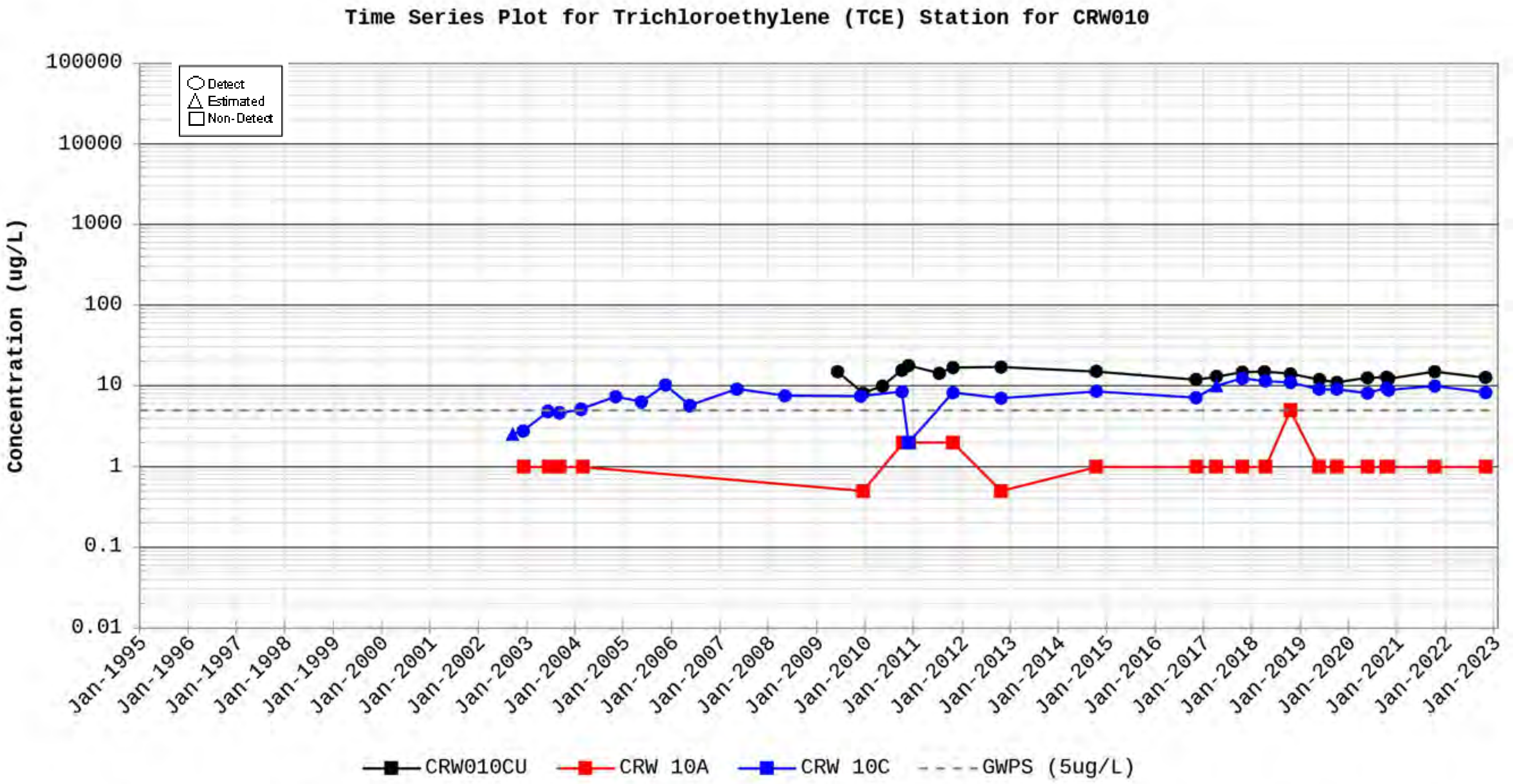

Time Series Plot for Trichloroethylene (TCE) Station for CRW010
Concentration (ug/L)
100000
10000
1000
100
10
1
0.1
0.01
○ Detect
△ Estimated
☐ Non-Detect
Jan-1995
Jan-1996
Jan-1997
Jan-1998
Jan-1999
Jan-2000
Jan-2001
Jan-2002
Jan-2003
Jan-2004
Jan-2005
Jan-2006
Jan-2007
Jan-2008
Jan-2009
Jan-2010
Jan-2011
Jan-2012
Jan-2013
Jan-2014
Jan-2015
Jan-2016
Jan-2017
Jan-2018
Jan-2019
Jan-2020
Jan-2021
Jan-2022
Jan-2023
CRW010CU
CRW 10A
CRW 10C
GWPS (5ug/L)

Figure C-146.

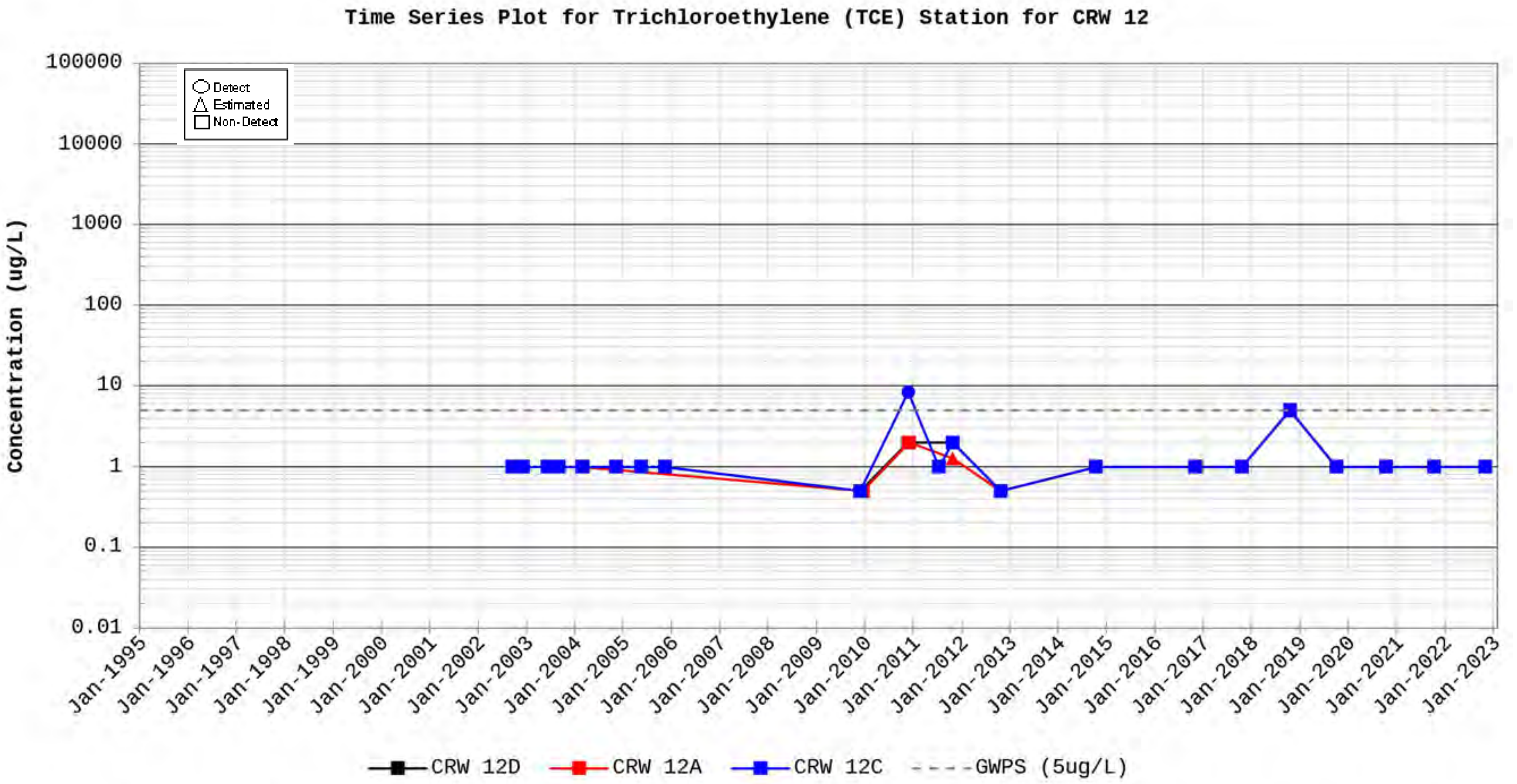

Time Series Plot for Trichloroethylene (TCE) Station for CRW 12
Concentration (ug/L)
100000
10000
1000
100
10
1
0.1
0.01
○ Detect
△ Estimated
☐ Non-Detect
Jan-1995
Jan-1996
Jan-1997
Jan-1998
Jan-1999
Jan-2000
Jan-2001
Jan-2002
Jan-2003
Jan-2004
Jan-2005
Jan-2006
Jan-2007
Jan-2008
Jan-2009
Jan-2010
Jan-2011
Jan-2012
Jan-2013
Jan-2014
Jan-2015
Jan-2016
Jan-2017
Jan-2018
Jan-2019
Jan-2020
Jan-2021
Jan-2022
Jan-2023
CRW 12D
CRW 12A
CRW 12C
GWPS (5ug/L)

Figure C-147.

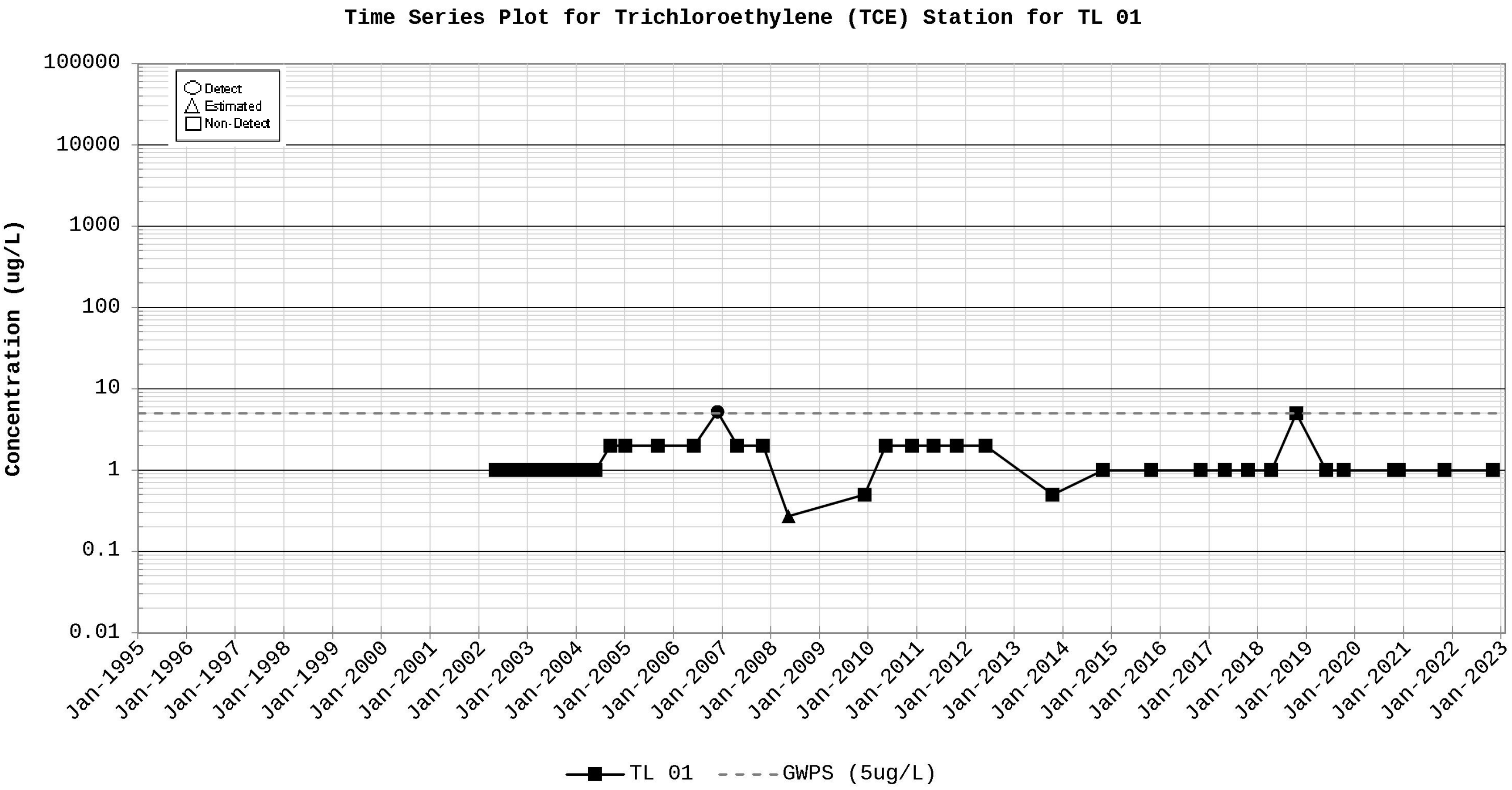

Time Series Plot for Trichloroethylene (TCE) Station for TL 01
Concentration (ug/L)
100000
10000
1000
100
10
1
0.1
0.01
○ Detect
△ Estimated
☐ Non-Detect
Jan-1995
Jan-1996
Jan-1997
Jan-1998
Jan-1999
Jan-2000
Jan-2001
Jan-2002
Jan-2003
Jan-2004
Jan-2005
Jan-2006
Jan-2007
Jan-2008
Jan-2009
Jan-2010
Jan-2011
Jan-2012
Jan-2013
Jan-2014
Jan-2015
Jan-2016
Jan-2017
Jan-2018
Jan-2019
Jan-2020
Jan-2021
Jan-2022
Jan-2023
TL 01
GWPS (5ug/L)

Figure C-148.

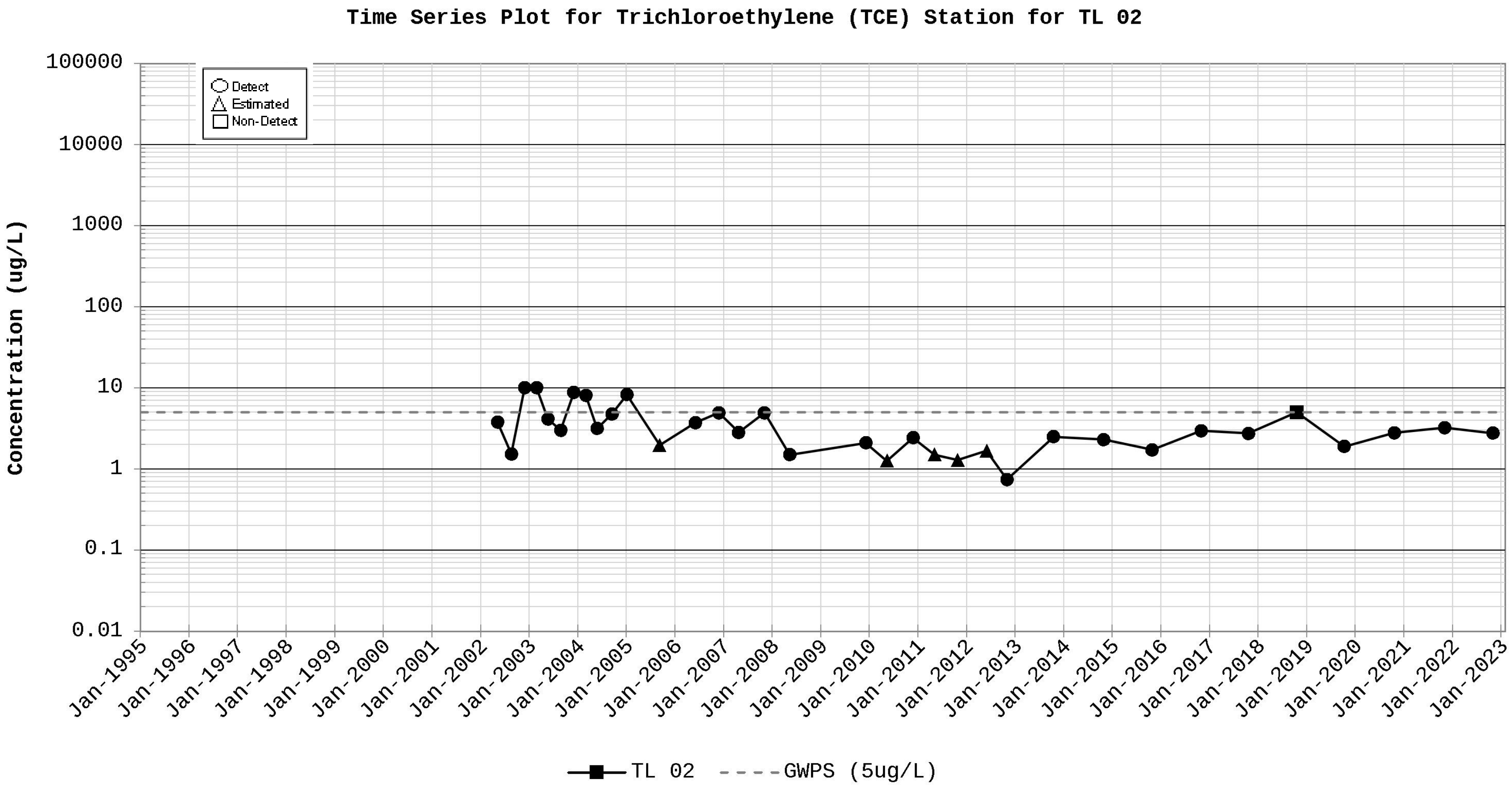

Time Series Plot for Trichloroethylene (TCE) Station for TL 02
Concentration (ug/L)
100000
10000
1000
100
10
1
0.1
0.01
Detect
Estimated
Non-Detect
Jan-1995
Jan-1996
Jan-1997
Jan-1998
Jan-1999
Jan-2000
Jan-2001
Jan-2002
Jan-2003
Jan-2004
Jan-2005
Jan-2006
Jan-2007
Jan-2008
Jan-2009
Jan-2010
Jan-2011
Jan-2012
Jan-2013
Jan-2014
Jan-2015
Jan-2016
Jan-2017
Jan-2018
Jan-2019
Jan-2020
Jan-2021
Jan-2022
Jan-2023
TL 02
GWPS (5ug/L)

Figure C-149.

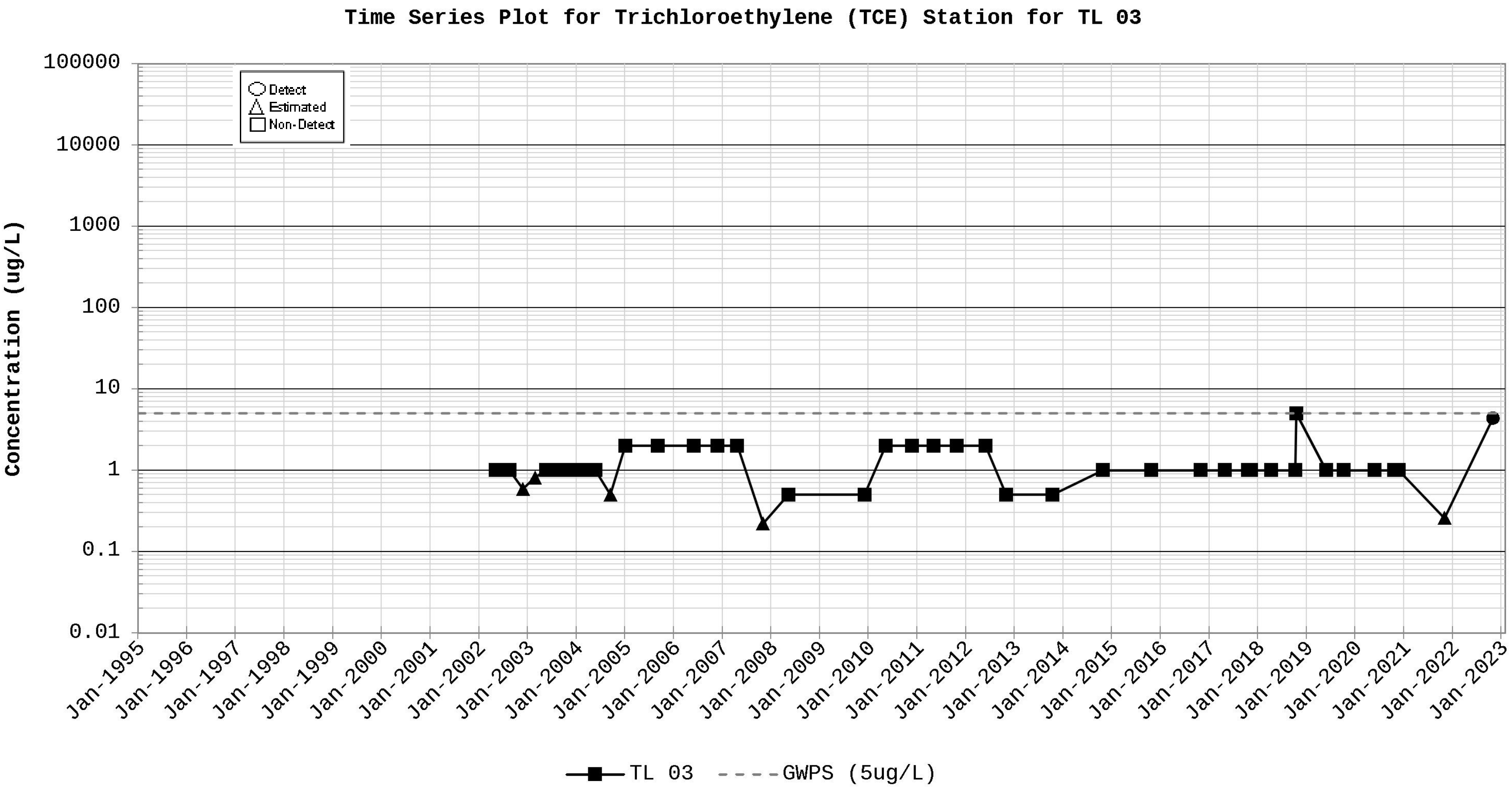

Time Series Plot for Trichloroethylene (TCE) Station for TL 03
Concentration (ug/L)
100000
10000
1000
100
10
1
0.1
0.01
○ Detect
△ Estimated
☐ Non-Detect
Jan-1995
Jan-1996
Jan-1997
Jan-1998
Jan-1999
Jan-2000
Jan-2001
Jan-2002
Jan-2003
Jan-2004
Jan-2005
Jan-2006
Jan-2007
Jan-2008
Jan-2009
Jan-2010
Jan-2011
Jan-2012
Jan-2013
Jan-2014
Jan-2015
Jan-2016
Jan-2017
Jan-2018
Jan-2019
Jan-2020
Jan-2021
Jan-2022
Jan-2023
TL 03
GWPS (5ug/L)

Figure C-150.

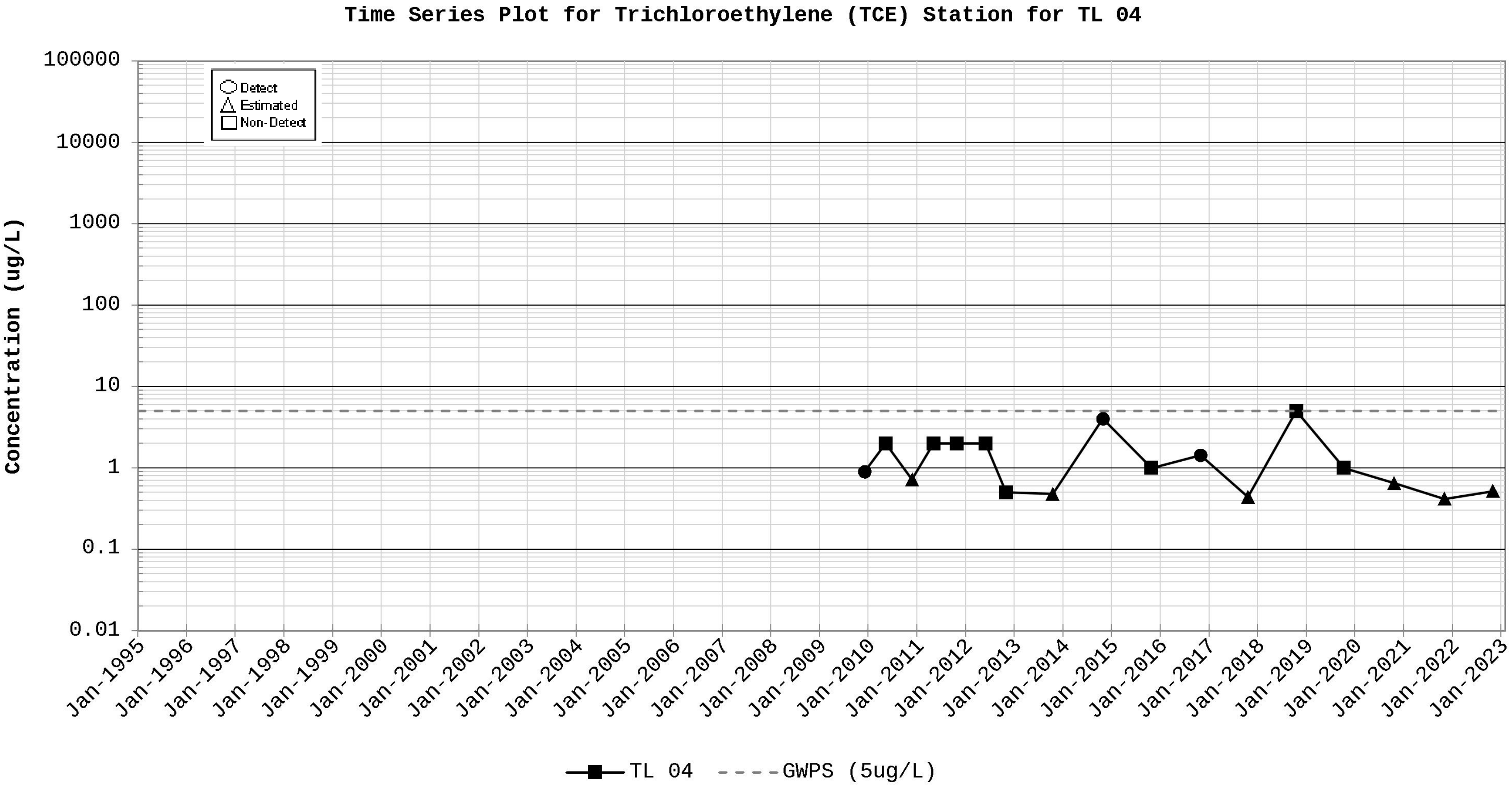
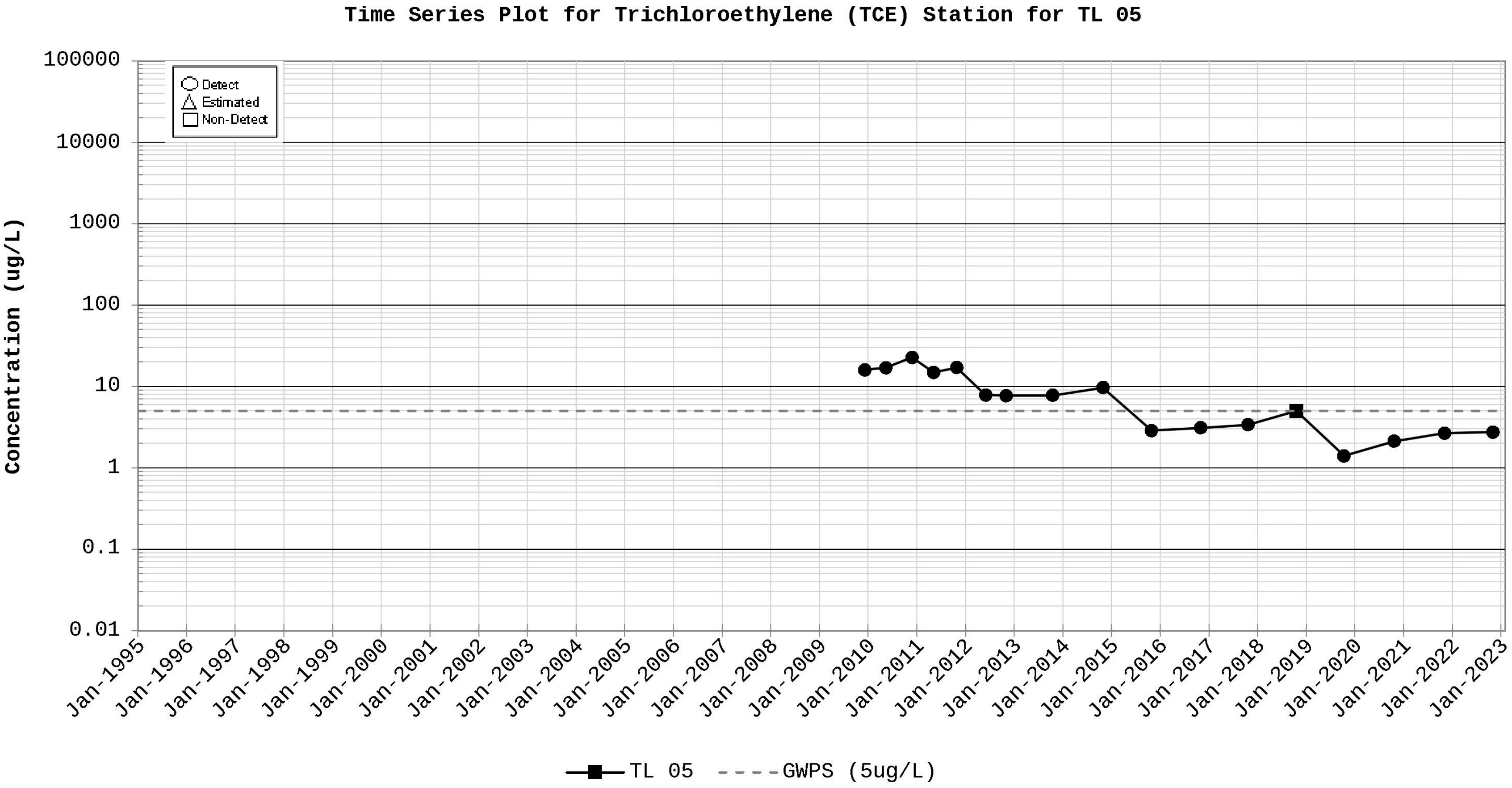

Time Series Plot for Trichloroethylene (TCE) Station for TL 04
Concentration (ug/L)
100000
10000
1000
100
10
1
0.1
0.01
Detect
Estimated
Non-Detect
Jan-1995
Jan-1996
Jan-1997
Jan-1998
Jan-1999
Jan-2000
Jan-2001
Jan-2002
Jan-2003
Jan-2004
Jan-2005
Jan-2006
Jan-2007
Jan-2008
Jan-2009
Jan-2010
Jan-2011
Jan-2012
Jan-2013
Jan-2014
Jan-2015
Jan-2016
Jan-2017
Jan-2018
Jan-2019
Jan-2020
Jan-2021
Jan-2022
Jan-2023
TL 04
GWPS (5ug/L)

Figure C-151.


Time Series Plot for Trichloroethylene (TCE) Station for TL 05
Concentration (ug/L)
100000
10000
1000
100
10
1
0.1
0.01
Detect
Estimated
Non-Detect
Jan-1995
Jan-1996
Jan-1997
Jan-1998
Jan-1999
Jan-2000
Jan-2001
Jan-2002
Jan-2003
Jan-2004
Jan-2005
Jan-2006
Jan-2007
Jan-2008
Jan-2009
Jan-2010
Jan-2011
Jan-2012
Jan-2013
Jan-2014
Jan-2015
Jan-2016
Jan-2017
Jan-2018
Jan-2019
Jan-2020
Jan-2021
Jan-2022
Jan-2023
TL 05
GWPS (5ug/L)

Appendix C Footnotes:

1) High concentrations of TCE (e.g., Figure C-137) in samples require them to be diluted prior to analysis, which results in elevated MDLs and EQLs for all VOCs in those samples (e.g., Figure C-6).

APPENDIX D

TCE Plume Maps

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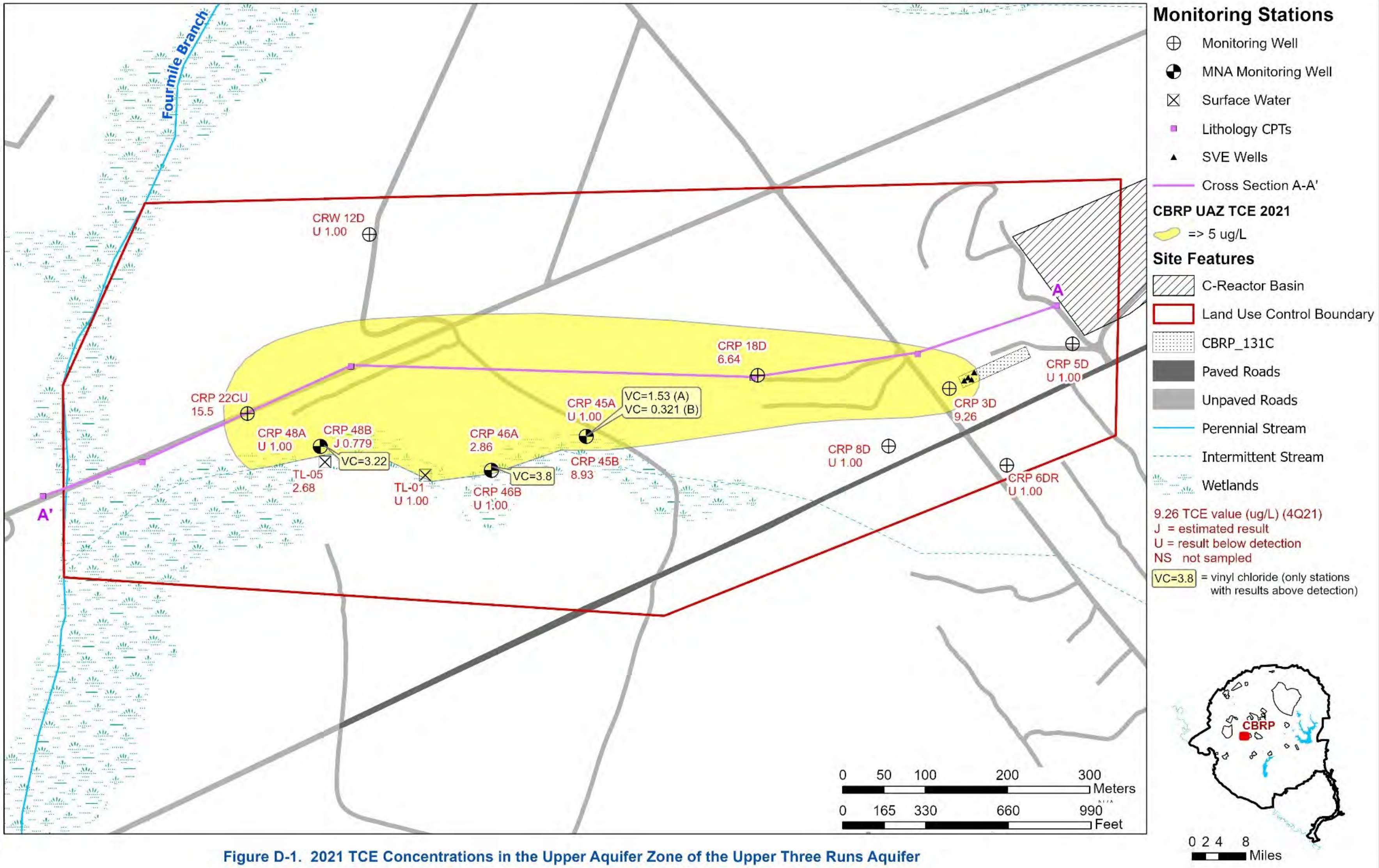

Figure D-1. 2021 TCE Concentrations in the Upper Aquifer Zone of the Upper Three Runs Aquifer

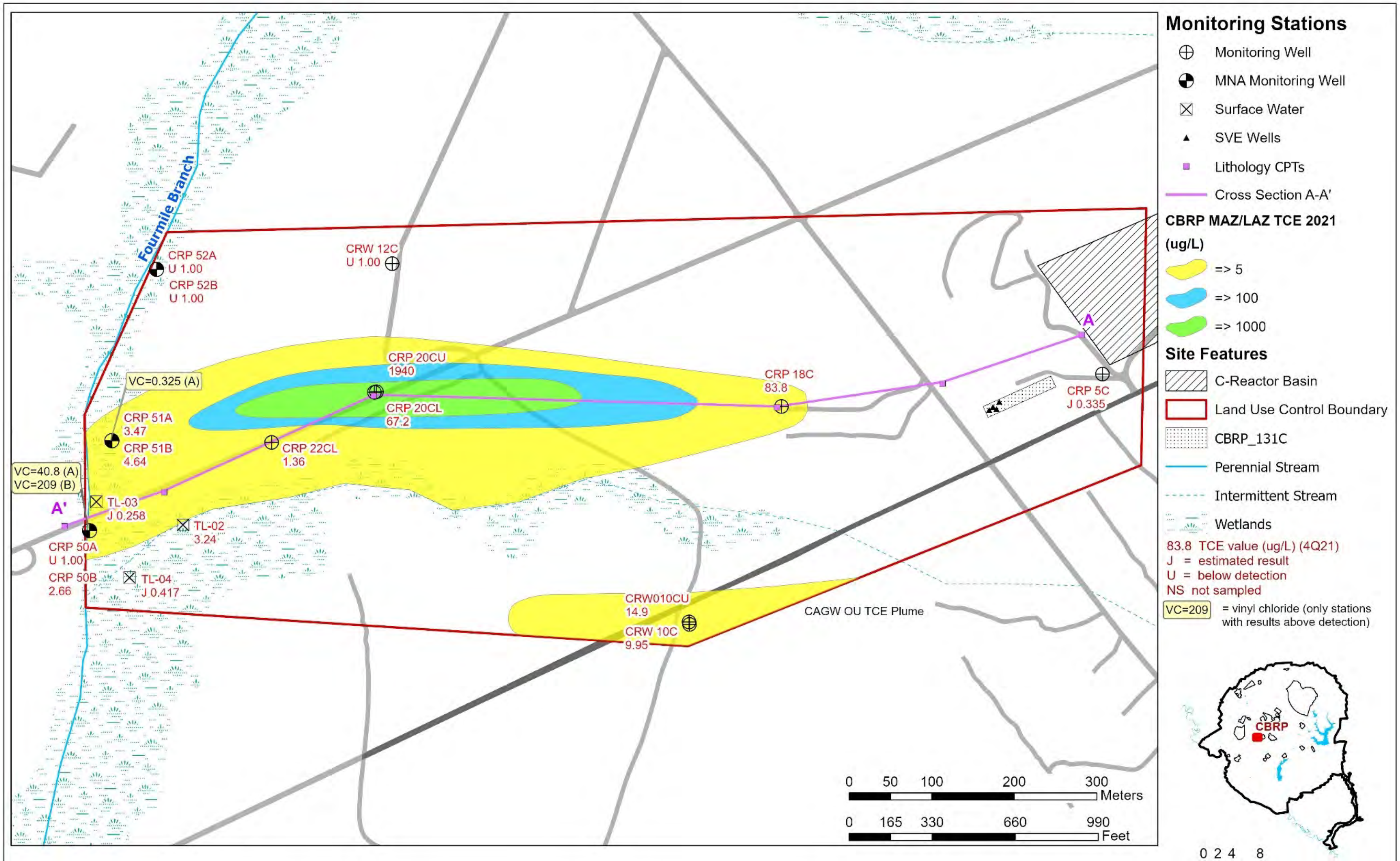

Figure D-2. 2021 TCE Concentrations in the Middle/Lower Aquifer Zone of the Upper Three Runs Aquifer

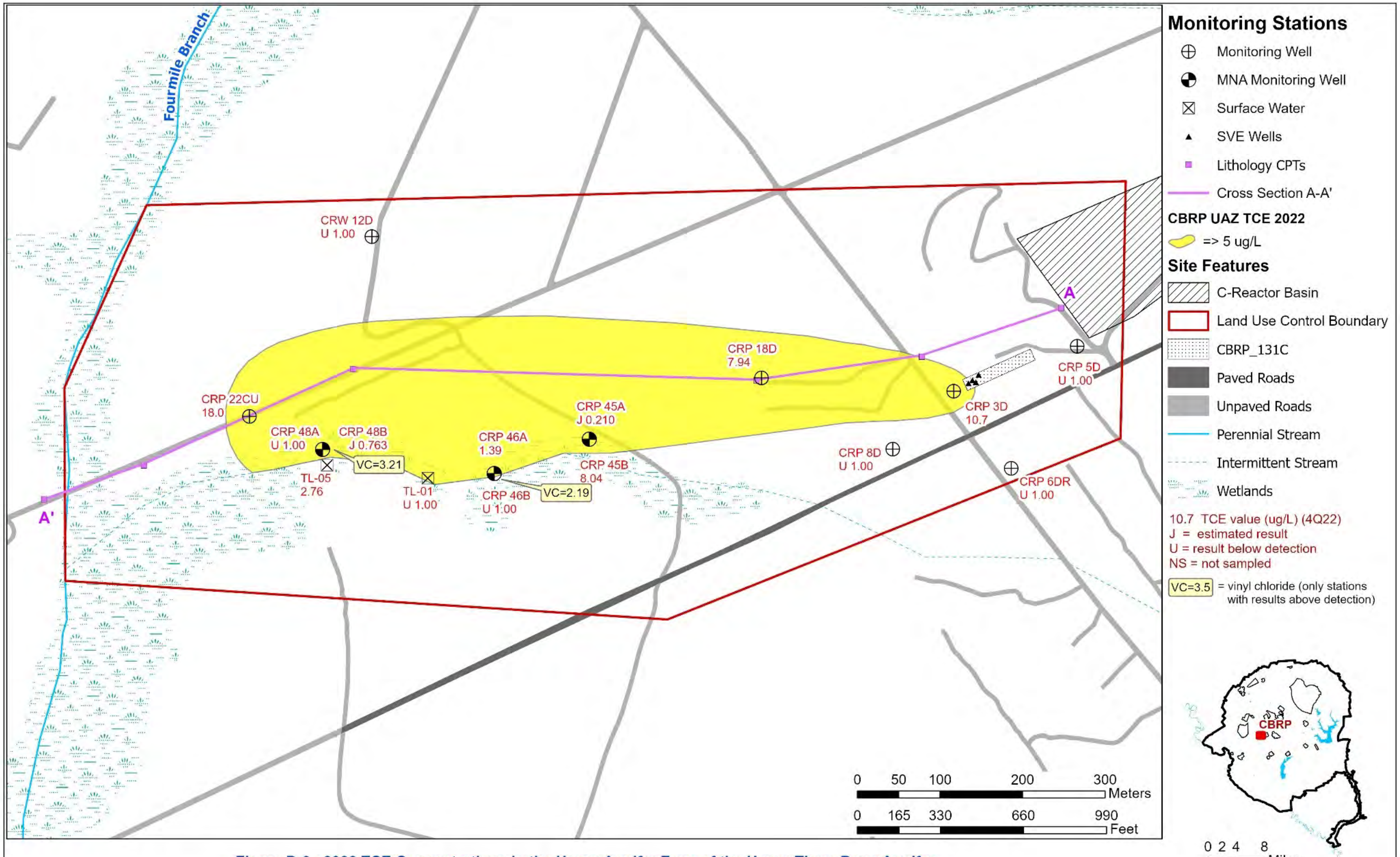

Figure D-3. 2022 TCE Concentrations in the Upper Aquifer Zone of the Upper Three Runs Aquifer

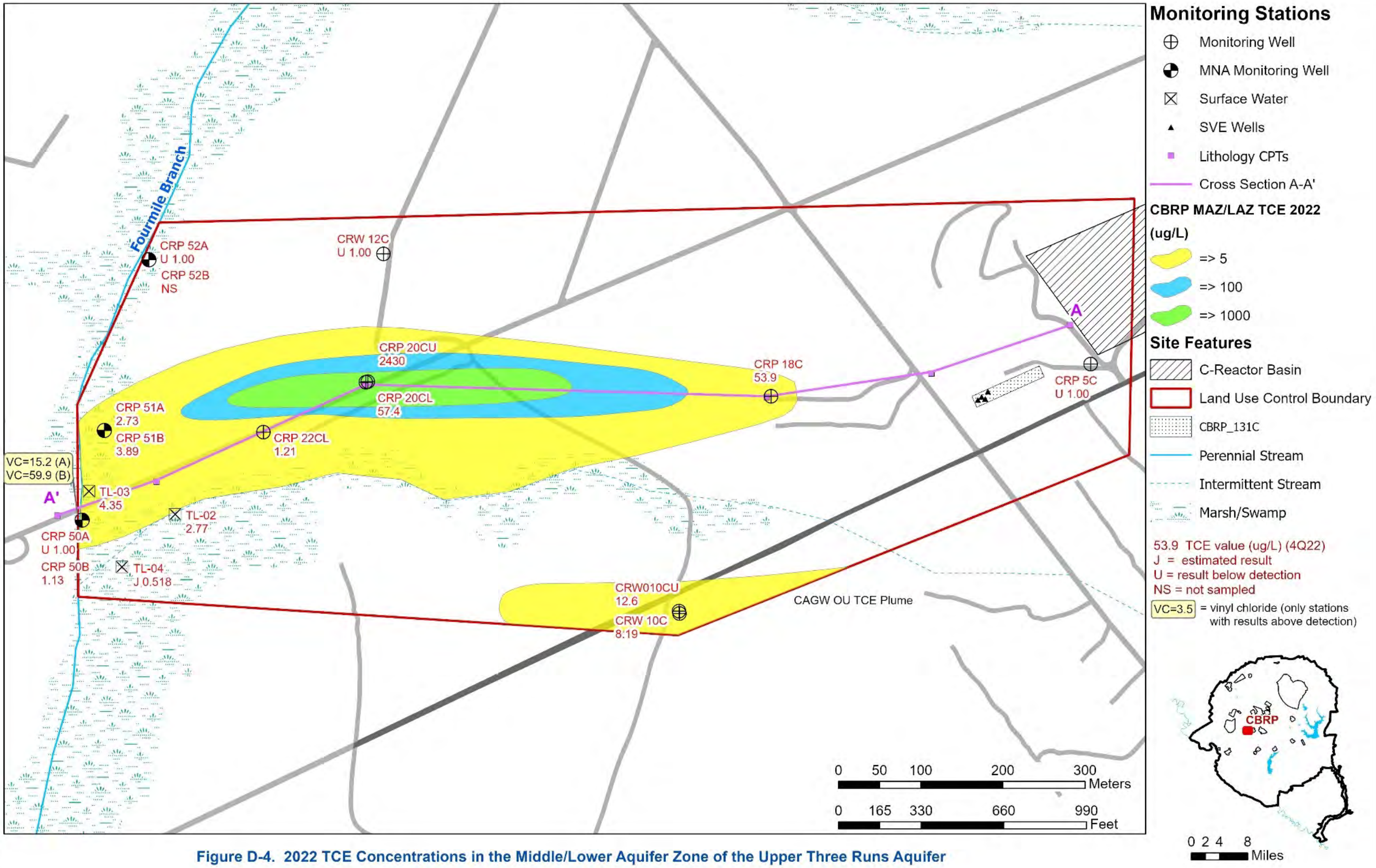

Figure D-4. 2022 TCE Concentrations in the Middle/Lower Aquifer Zone of the Upper Three Runs Aquifer

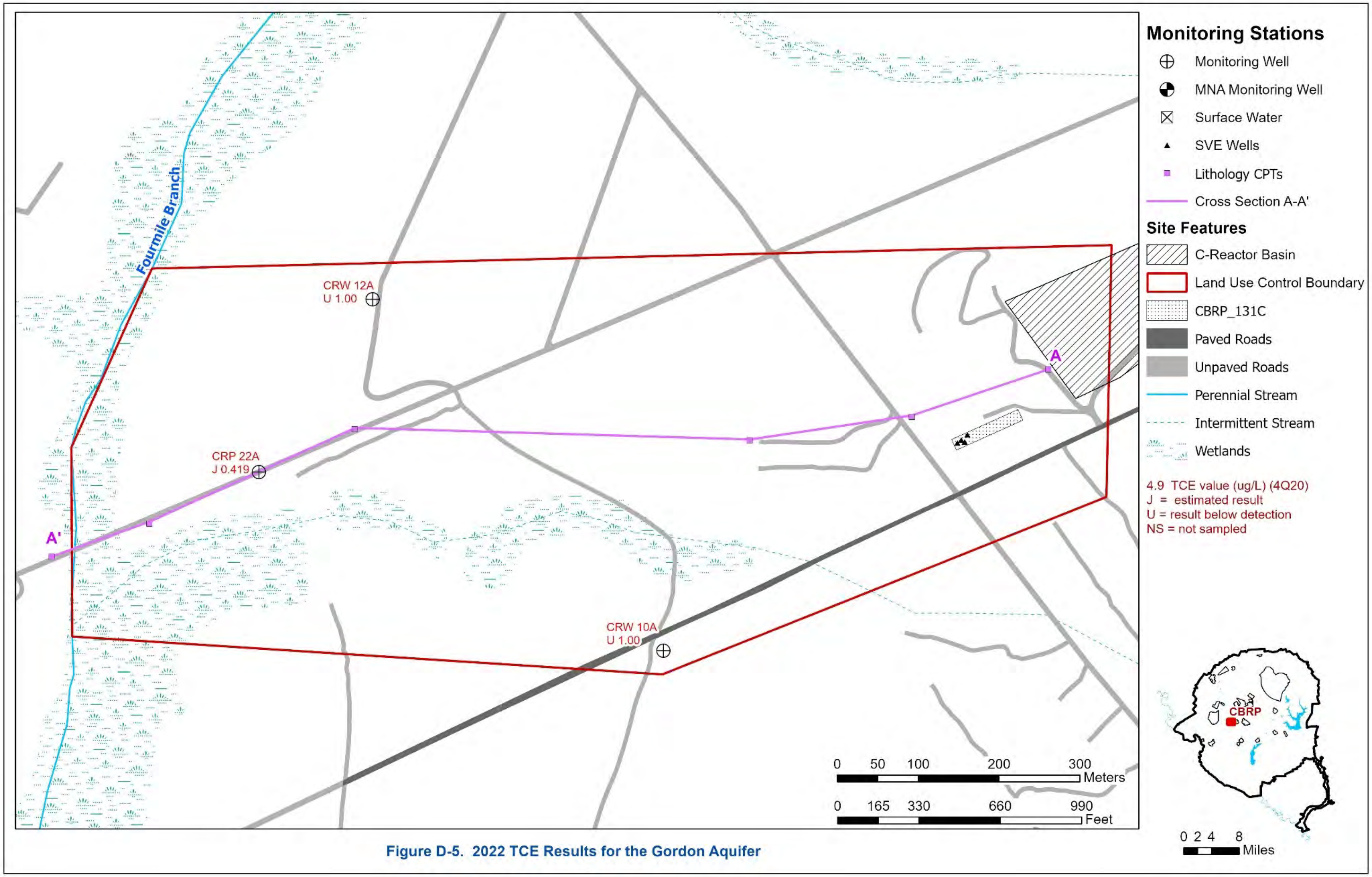

Figure D-5. 2022 TCE Results for the Gordon Aquifer

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APPENDIX E

Potentiometric Maps

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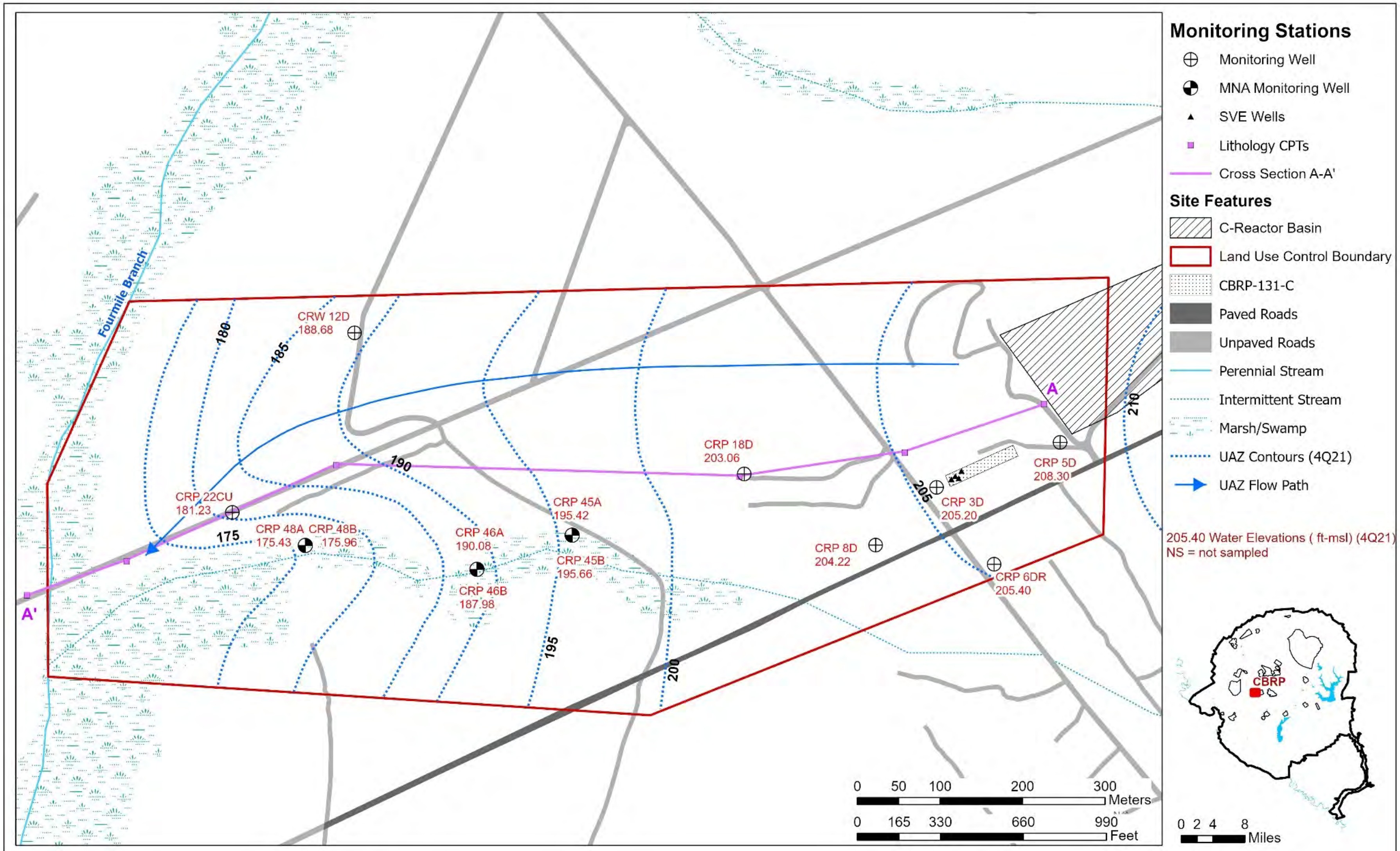

Figure E-1. 2021 Potentiometric Contours of the Upper Aquifer Zone (UAZ) of the Upper Three Runs Aquifer (UTRA)

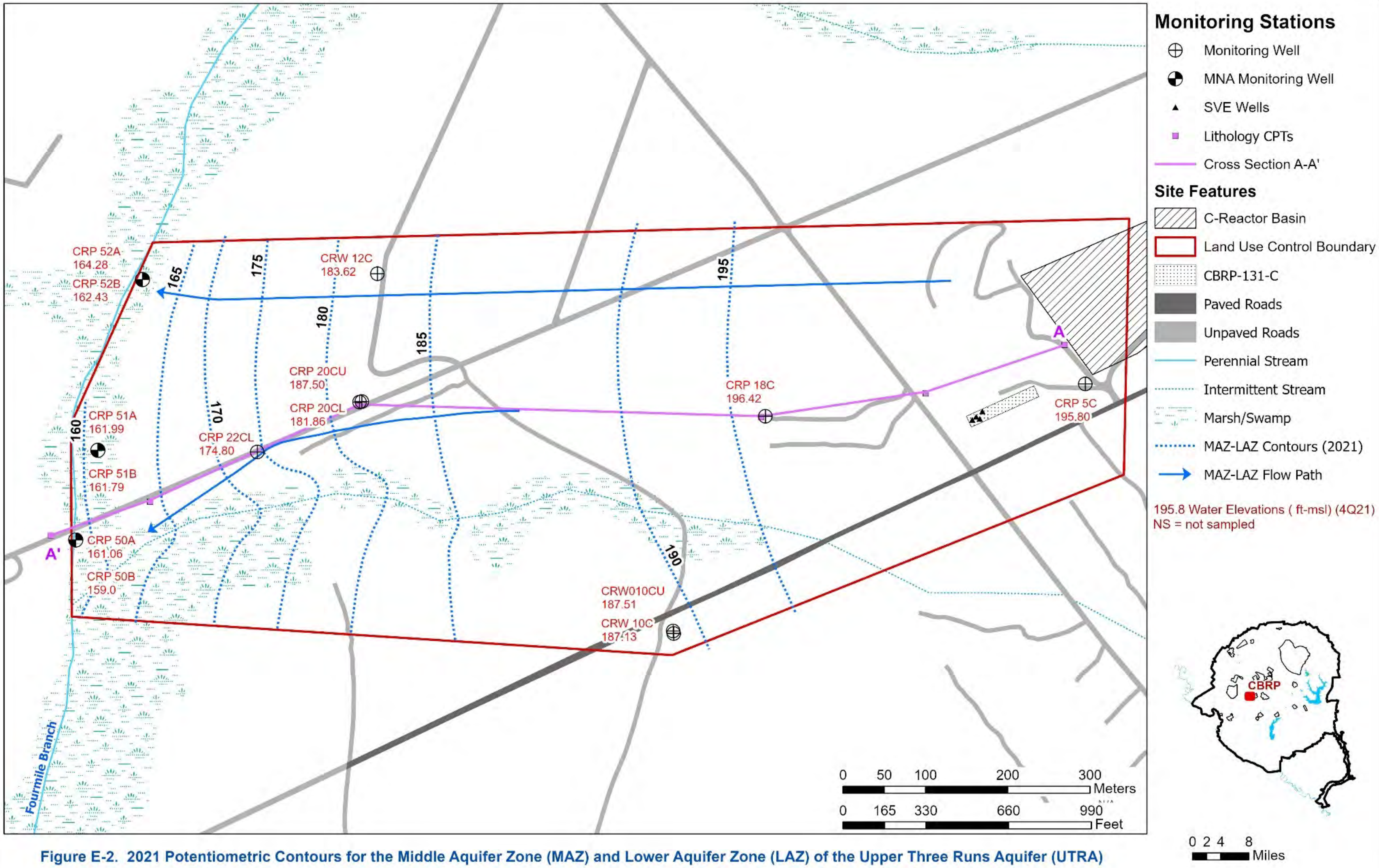

Figure E-2. 2021 Potentiometric Contours for the Middle Aquifer Zone (MAZ) and Lower Aquifer Zone (LAZ) of the Upper Three Runs Aquifer (UTRA)

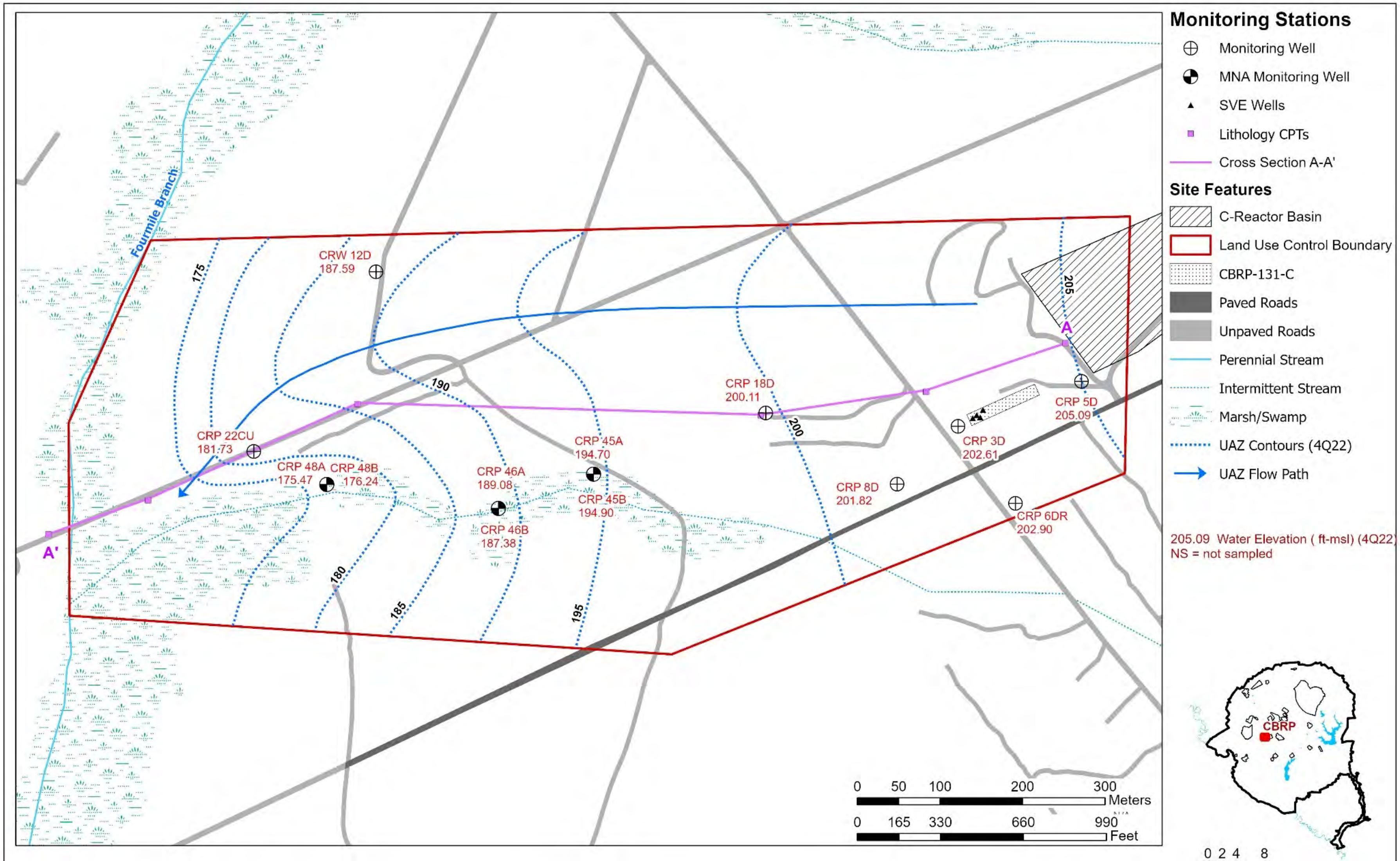

Figure E-3. 2022 Potentiometric Contours of the Upper Aquifer Zone (UAZ) of the Upper Three Runs Aquifer (UTRA)

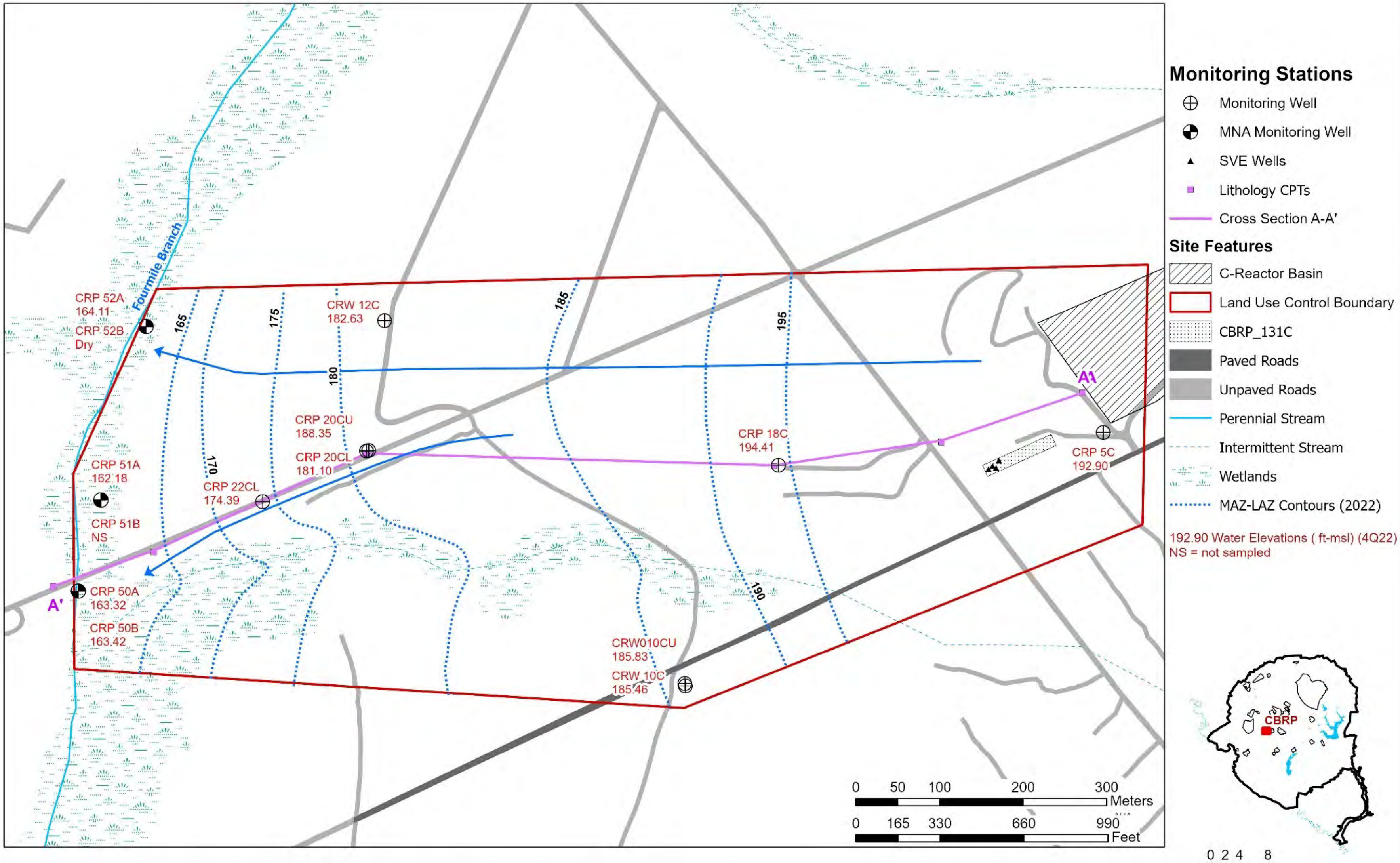

Figure E-4. 2022 Potentiometric Contours for the Middle Aquifer Zone (MAZ) and Lower Aquifer Zone (LAZ) of the Upper Three Runs Aquifer (UTRA)

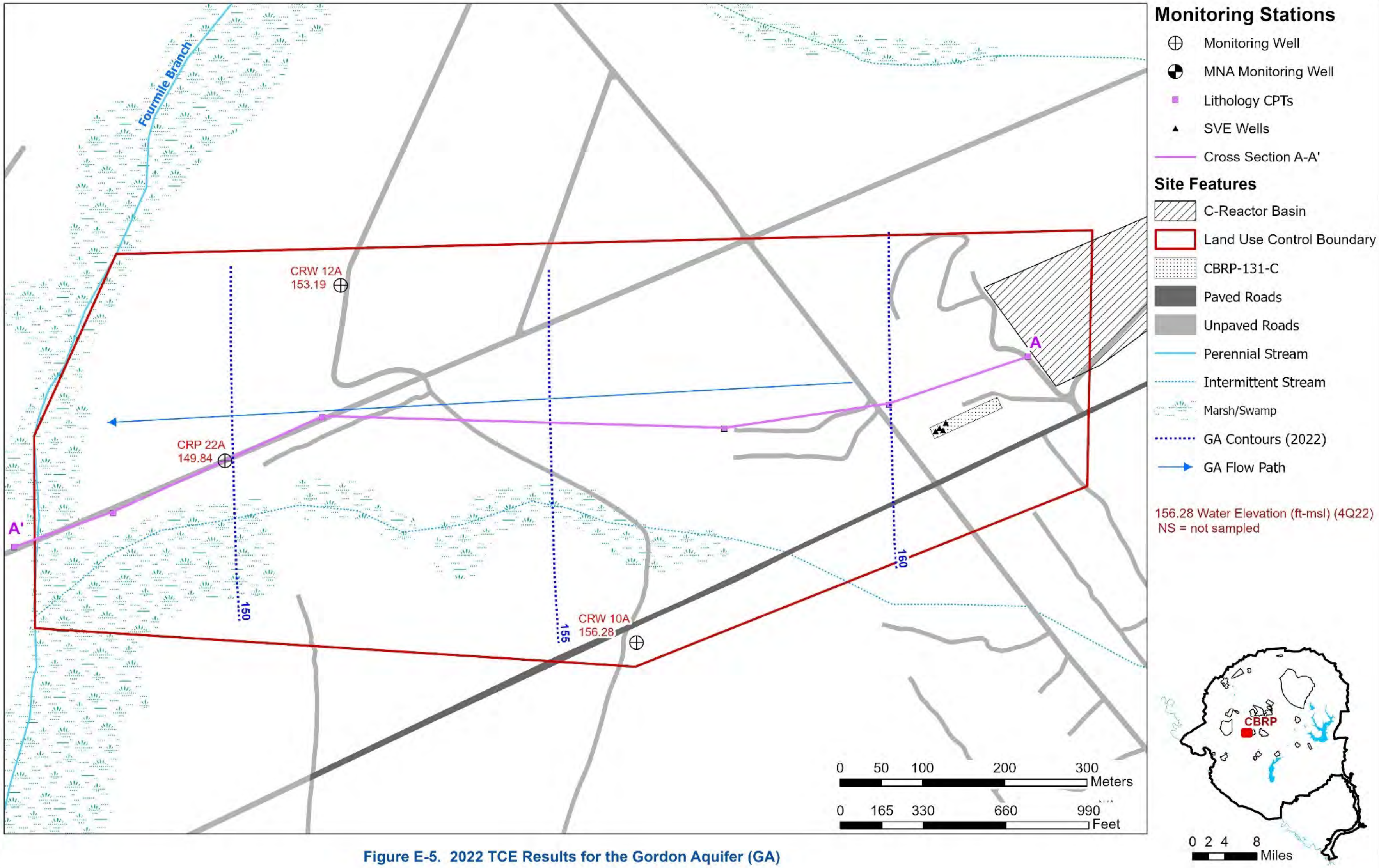

Figure E-5. 2022 TCE Results for the Gordon Aquifer (GA)

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