

2020 First Quarter Groundwater Monitoring Report

January – March 2020

Claremont Polychemical Corporation Site

505 Winding Road

150 Winding Road (Groundwater Treatment Facility)

Old Bethpage, Nassau County, New York 11804

Contract/WA No. D0076025-28; Site No. 130015

Prepared for:

New York State

Department of Environmental Conservation

Division of Environmental Remediation

625 Broadway Albany, New York 12233

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**Department of
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Attachments (following figures)

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Attachment A1: Summary of Emerging Contaminant Results – First Quarter 2020 Groundwater Samples

Attachment B: Synoptic Water Level Data

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1 Introduction

This quarterly groundwater monitoring report prepared by Henningson, Durham & Richardson Architecture and Engineering, P.C. (HDR) presents groundwater sampling analytical results for the first quarter (January through March) of 2020 and supporting information on the history, groundwater extraction and treatment (GWE&T) system configuration and hydrogeologic conditions at the Claremont Polychemical Corporation Site (NYSDEC Site #130015); hereinafter referred to as CPC or the “Site” (Figure 1). The groundwater monitoring event was historically part of the on-going site management and long term monitoring (LTM) activities associated with Work Assignment #28 under contract D007625-28. In February 2020 the quarterly collection of groundwater samples and the preparation of this deliverable were transferred to WA#43 and includes the following:

- Brief overview of historical Site activities;
- Discussion of the on-site GWE&T system including discharge monitoring;
- Hydrological data;
- Brief description of the field activities;
- Analytical results of monitoring well sampling, specifically those for chlorinated volatile organic compounds (VOCs) including trends and plume evaluation;
- Analytical results of the six monitoring wells installed in the downgradient investigation for VOCs, and emerging contaminants including per- and polyfluoroylalkyl substances (PFAS) and 1,4-dioxane; and
- Conclusions and Recommendations.

2 Site Background

2.1 Site History

Claremont Polychemical Corporation, a former manufacturer of pigments for plastics and inks, coated metal flakes, and vinyl stabilizers, operated at the Site from 1966 to 1980. According to the “Second Five-Year Review Report for Claremont Polychemical Corporation” prepared by the Environmental Protection Agency (EPA), dated March 2014, during its operation, CPC disposed of liquid waste in three leaching basins and deposited solid wastes and treatment sludges in drums or in aboveground metal tanks. The principal wastes generated were organic solvents, resins, and wash wastes (mineral spirits). A solvent recovery system (steam distillation), two pigment dust collectors and a sump were located inside the Process Building. Five concrete treatment basins, each with a capacity of 5,000 gallons which contained sediments and water, were to the west of the building. Six aboveground tanks, three of which contained wastes, were located east of the

building. Other features included an underground tank farm, construction and demolition debris, dry wells and a water supply well (EPA 2014).

In 1979, the Nassau County Department of Health (NCDH) found 2,000 to 3,000 drums of inks, resins, and organic solvents throughout the Site during a series of inspections. Inspectors identified releases associated with damaged or mishandled drums in several areas including one larger release located east of the Process Building (referred to as the "spill area"). CPC sorted and removed the drums in 1980 (EPA 2014). In October 1980, the New York State Department of Environmental Conservation (NYSDEC) ordered CPC to commence clean-up activities at the Site. CPC did not perform the clean-up activities required by NYSDEC and CPC ceased operations at the Site in 1980 (EPA 2014). EPA proposed the Site for listing on the National Priorities List (NPL) in October 1984 (because of CPC's refusal to perform the clean-up) and CPC was subsequently listed on the NPL as a Superfund site in June 1986.

A Remedial Investigation Feasibility Study (RI/FS) was initiated in March 1988 under the oversight of the EPA. Surface and subsurface soil, groundwater, underground storage tanks, and the Process Building were sampled as part of the RI. The RI/FS reports were released to the public in August 1990. The RI/FS findings indicated that on-site soils contaminated with tetrachloroethylene (PCE), located in the former "spill area", constituted a potential threat to groundwater resources. The spill area is adjacent to and east of the former Process Building. Other VOCs including 2-butanone, toluene, xylene, 1,2-dichloroethene (DCE), trichloroethene (TCE), 1,1,1-trichloroethane (TCA), ethylbenzene, 1,2-dichloroethane (DCA), methylene chloride, and vinyl chloride were detected in groundwater at concentrations exceeding federal and state standards. EPA issued two Records of Decision (RODs) signed in September 1989 and September 1990 and two Explanations of Significant Differences (ESDs) signed in September 2000 and April 2003 since completion of the RI/FS. The operable units (OUs) addressed by the RODs and ESDs are described in Table 1.

Table 1 – CPC Operable Units

Operable Unit	Description	Remedy
OU-1	Treatment and removal of wastes in 14 underground storage tanks	14 USTs and contents removed. Achieved cleanup levels allowing for unlimited use and unrestricted exposure.
OU-2	Wastes stabilized during the Sept. 1988 removal action	Testing, consolidation, treatment, and disposal of wastes in containers and basins performed. Achieved unlimited use and unrestricted exposure, later changed to commercial/light industrial because of remaining contamination below the building. 2003 ESD added additional remedial actions for OU-2 under the former Process Building including an SVE system and using the building's concrete slab as a cap for cadmium contaminated soil.



Operable Unit	Description	Remedy
OU-3	Soil contaminated with PCE at the “spill area”	Approximately 8,800 tons of PCE contaminated soils excavated, treated and backfilled on Site. Achieved cleanup levels allowing for unlimited use and unrestricted exposure.
OU-4	Contaminated groundwater on the CPC property	Extraction and treatment of groundwater via metals precipitation, air stripping and carbon adsorption. On-site reinjection.
OU-5	Contaminated groundwater off of the CPC property.	Extraction and treatment of groundwater via air stripping and off-site reinjection using the Old Bethpage Landfill treatment system extraction wells south-southeast of the CPC Site.
OU-6	Decontamination of the former Process Building	Vacuuming and dusting surfaces, asbestos abatement, pressure washing walls and interior surfaces. Achieved cleanup levels allowing for unlimited use and unrestricted exposure.

A GWE&T system was installed on-site by the EPA and Army Corps of Engineers (ACOE) to hydraulically contain VOCs in groundwater as the OU-4 remedy. GWE&T system operation began in February 2000, reportedly pumping and treating over 400 gallons per day (gpd). SAIC Inc. (SAIC) operated and maintained the GWE&T system, collected plant effluent samples and performed quarterly groundwater sampling at 41 wells from 2000 to May 2011. In May 2011, the project was transferred from the ACOE/EPA to the NYSDEC. HRP Associates, Inc. (HRP) performed the same scope of work as SAIC under contract to NYSDEC from May 2011 to August 2015. HDR, also under contract to NYSDEC, took over HRP’s scope of work on September 1, 2015.

EPA issued an Explanation of Significant Differences (ESD) on September 29, 2000 that the Old Bethpage Landfill’s (OBL) GWE&T was inadvertently capturing the CPC OU-5 off-site groundwater plume; therefore the OBL GWE&T would be used to capture the off-site plume instead of constructing a new treatment facility. At that time the Town of Oyster Bay owned and operated the OBL GWE&T (USEPA 2000).

The Town of Oyster Bay operated the OBL GWE&T under a Municipal Response Action Reimbursement Agreement for treating the contaminated groundwater associated with CPC OU-5 from January 1997 through January 2007, followed by a State Assistance Contract (SAC No. C303223) from January 2007 through 2017. The NYSDEC terminated the SAC with the Town of Oyster Bay in August 2016 in a Site Transfer Agreement that outlined the schedule, terms, and responsibilities of the transfer (NYSDEC 2016).

NYSDEC’s Division of Environmental Remediation (DER) issued HDR Work Assignment (WA# 28) under contract D007625 for CPC OU-5. The purpose of the assignment was to transfer operations, maintenance, and monitoring of the OBL/CPC OU-5 GWE&T from Town of Oyster Bay’s consultant Lockwood, Kessler & Barlett, Inc. (LKB) to HDR. In October 2016, the OU-4 GWE&T was shut down, and HDR took over the operation of the OBL/OU-5 GWE&T. At that time, NYSDEC had also given

the Town of Oyster Bay permission to discontinue treatment for the OBL plume which involved shutting down recovery wells RW-1 and RW-2. HDR continued operations, maintenance and monitoring activities (collectively Site Management or SM) for CPC OU-5 consisting of former OBL GWE&T recovery wells RW-3, RW-4 and RW-5 for the period October 1, 2016 through February 28, 2018. Amendment #1 was approved April 16, 2018 for HDR to extend the operations and maintenance of the treatment facility through February 28, 2019, and Amendment #2 was approved on April 11, 2019 further extending the period of performance through February 28, 2020. NYSDEC approved Amendment #3 on February 13, 2020, extending the operations and maintenance of the Claremont OU5 facility through February 28, 2022. The monitoring and reporting task, including LTM with quarterly collection of groundwater samples, was transferred to WA#43 through February 28, 2022. This task includes the field efforts, coordination, oversight, and reporting for eight quarterly sampling events, with the addition of the six downgradient monitoring wells.

In 2018 an investigation downgradient from the Claremont Polychemical Site was performed as part of the NYSDEC Contract D007625, Work Assignment #43. This RI was conducted to further delineate the extent of off-site VOC contamination in the underlying aquifers and to evaluate the potential for contamination to reach downgradient public supply wells. The investigation involved installation of six vertical profile borings (VPBs) with push ahead groundwater sampling up to 450 ft. below ground surface (bgs), and installation and sampling of six permanent monitoring wells. The RI field activities were conducted in two phases from July 2018 through November 2018 for the installation of the first four VPBs south southeast of the CPC Site, and December 2019 through January 2020 for two VPBs to the south southwest. All groundwater samples were analyzed for Target Compound List (TCL) VOCs by EPA method 8260C; 1,4-Dioxane by EPA Method 8270C SIM; Perfluorooctane sulfonic acid (PFOS), Perfluorooctanoic acid (PFOA), and 19 other perfluorinated compounds by modified EPA method 537. Refer to the Final Remedial Investigation Report Claremont Polychemical FI/FS Offsite Groundwater Plume for additional details.

2.2 Location

The CPC site is located on a 9.5-acre parcel in an industrial section of Old Bethpage, Nassau County, New York (Figure 1). The former 35,000 square foot Process Building, demolished in 2012, was the only building historically on the property. The concrete slab from this building remains. The 5,200 square foot GWE&T system building was constructed as part of the OU-4 remedy. The OU-4 GWE&T system was shut down on October 1, 2016 and has not been in operation since that time.

The OU-5 GWE&T system is located across the street at 150 Winding Road within the Town of Oyster Bay Solid Waste Disposal Complex (OBSWDC). The OU-5 GWE&T system includes a groundwater recovery system, water conveyance system, discharge system, monitoring wells, air stripper, and a 3,100 square foot facility for monitoring and controlling the system. The treated effluent discharges to Recharge Basin No. 1 located west of the OBL. Secondary discharge is directed to Recharge Basin No. 33 west of the Bethpage State Park Black Course for golf course irrigation in the summer (Figure 2). The five extraction/recovery well pump houses (RW-1, RW-2, RW-3, RW-4 and RW-5) are located on the Bethpage Black Course (Figure 2).

The CPC Site lies approximately 800 feet west of the border between Nassau and Suffolk Counties and is accessed via Winding Road on the property's western border. Adjacent properties include (Figure 1):

- South and Southeast – Bethpage State Park and golf course;
- East – State University of New York (SUNY) - Farmingdale Campus;
- West – OBSWDC and OU-5 GWE&T; and
- North – Commercial and Light Industrial.

The OBSWDC includes the closed OBL, solid waste transfer operations and the OU-5 GWE&T system currently operated by HDR under contract to NYSDEC. The Nassau County Fireman's Training Center (FTC), which has also contributed to soil and groundwater contamination in the area, is located approximately 500 feet south of the OBL portion of the OBSWDC. FTC had a GWE&T system that ceased operations in 2013 having achieved the cleanup objectives. The closest residences are approximately one-half mile from the Site, immediately west of the OBL. The nearest public supply well is located 3,500 feet northwest of the Site.

2.3 Site Hydrogeological Setting

The CPC site is underlain primarily by sand with interbedded, discontinuous silt and lignitic clay lenses. Upper glacial aquifer deposits that are observed are mostly absent in the area, rather the Magothy Formation is the uppermost geologic unit with a thickness of approximately 750 feet. The Raritan clay below acts as a barrier between the Magothy and Lloyd aquifers.

The "Claremont Polychemical Superfund Site Long-Term Groundwater Monitoring Old Bethpage, New York" report dated December 2001 prepared by SAIC indicated historical gradients ranging from 0.001-0.002 feet/foot and horizontal flow velocities of 0.43 feet/day or 157 feet/year (Ebasco, 1990). Historically, groundwater contour maps produced from wells screened in both the upper glacial aquifer and the deeper Magothy aquifer depict a south-southeast flow direction across the site. The recent CPC contour maps are generally consistent with previous maps produced from the CPC monitoring well network and from investigations by others. The current hydrogeologic conditions and groundwater contour mapping (Figures 3, 4 and 5) are discussed in Section 4.1

3 Groundwater Extraction and Treatment System

A description of the GWE&T system and a review of its contaminant recovery and hydraulic control effectiveness are provided below.

3.1 Groundwater Extraction and Treatment System Description

The OU-5 GWE&T system was originally designed to capture and treat organic contaminants associated with the contaminated groundwater plume identified as a result of the disposal of hazardous substances at the Old Bethpage Landfill site (NYDEC Site No. 130001). The system

consists of groundwater recovery through three extraction wells, water conveyance, treatment via an air stripper and discharge to recharge basins. Each of the system components are discussed below.

GWE&T System Extraction Wells

The groundwater collection system originally consisted of five extraction wells known as RW-1, RW-2, RW-3, RW-4 and RW-5 approximately 800 feet apart located in Bethpage State Park Black Golf Course south of the CPC site (Figure 2). The recovery wells were designed with the total maximum pumping capacity of 1.76 million gpd and a designed flow of 1.5 million gpd to the treatment system (LKB, 1993). Table 2 provides extraction well screen intervals and total depths.

Table 2 – Extraction Well Construction Details

Well	Total Depth (ft)	Top of Screen (ft bgs)	Bottom of Screen (ft bgs)
RW-1*	280	185	265
RW-2*	290	230	271
RW-3	275	163	255
RW-4	270	147	250
RW-5	283	153	263

*RW-1 and RW-2 captured the OBL plume which has been remediated. These wells are no longer online or operated for purposes of groundwater remediation.

Recovery wells RW-1 and RW-2 were petitioned to be discontinued by the Town of Oyster Bay prior to the transition to HDR operating the OU-5 GWE&T (Town of Oyster Bay, 2016). These recovery wells historically had non-detectable or very low values for total VOCs, and did not capture the CPC off-site plume. The individual VOC results were lower than their Consent Decree and Class GA standards as stated in the LKB Quarterly Remedial Action Report dated June 2016. On October 2, 2016 at the direction of the NYSDEC, RW-1 and RW-2 were taken off-line.

Prior to October 2017, the system’s average influent flow rate was 628 gallons per minute (gpm), or 904,396 gpd, and the average effluent flow rate was 624 gpm, or 899,233 gpd. In October 2017, pump failures stemming from a possible power surge resulted in substantial system downtime and, thus, decreased average flow rates for influent (539 gpm, or 775,450 gpd) and effluent (532 gpm, or 765,700 gpd). The suspected power surge also caused process control issues that precluded automatic operation of the system. As such, the system was only run manually and only during working hours from November 2017 through July 2018. The restricted operation of the system in manual mode, along with the process alarms and interlock gauges not functioning required oversight of the facility while online. In early July, NYSDEC instructed HDR to add a second shift operator to accommodate NYS Parks, Recreation and Historic Preservation (Parks) request for additional irrigation water for the golf course. Recovery wells RW-1 and RW-2 were brought on-line to increase the water level in Basin 33 from which Parks obtains its irrigation water. On September 6, 2018, the control system was fully functional and RW-1 and RW-2 were taken off-line.

In September 2018, the process control system, controls and alarm system became fully functional which allowed the treatment system to operate without onsite staff supervision. The recovery wells currently run in automatic mode with remote start up, and the process pumps are operated in fully automatic mode.

Average system flow rates on days during the first quarter of 2020 were 451 gpm in January, 472 gpm in February, and 517 gpm in March. Under current conditions, the PLC and the control system are stable and fully functional. Flows from the individual recovery wells are remotely read, transmitted, and totalized. In January, an unbalanced flow caused the plant to be down for 1,185 minutes. RW-3 was down for 4,580 minutes total this reporting period. In February, a pump failure caused a complete system shut down for 316 minutes. In March, the system was shut down for 323 minutes for planned maintenance tasks.

On December 31, 2019 RW-4 tripped offline and diagnostics confirmed the motor and pump need replacement. The pump and motor for RW-4 were replaced April 7, 2020 and RW-4 is again fully operational. Refer to the Monthly O&M reports for January through March 2020 for details on the status of GWE&T system upgrades, issues encountered, and impacts on system operations and performance.

GWE&T System Path of Remediation

Groundwater is pumped from three extraction wells; designated RW-3, RW-4 and RW-5, installed in 1992 at what was then the leading edge of the off-site VOC plume from the OBL. The combined flow from the extraction wells is directed through common conveyance piping to the air stripper wet-well. A triplex pump arrangement delivers the collected groundwater into the top of the air stripper, which contains packing media. As the groundwater passes through and saturates the packing, it contacts air that is directed from the bottom of the air stripper via the blower. Dissolved VOCs pass from the liquid phase (groundwater) into the gas phase (air), and exit the stripper through a stack. Non-volatile organic compounds and inorganic contaminants, if any, are not removed by the treatment system.

The effluent is directed into a receiving wet-well, where another triplex pump arrangement delivers it to two recharge basins. Recharge Basin No. 1 contains a system of eight diffusion wells and is located upgradient of the OBL. Recharge Basin No. 33 receives effluent in the summer that is used beneficially for watering the golf course.

The GWE&T system is staffed by a plant manager/operator working 40-hour weeks, and an autodialer (telemetry unit) is installed to contact the plant manager in case of plant alarms. Typical response time is 30 minutes. The plant manager can monitor the plant remotely from the FactoryTalk View Site Edition Client control system and make adjustments to the system operations.

GWE&T System Operating Permits

Water Permit

The OU-5 GWE&T operates under a State Pollutant Discharge Elimination System (SPDES) permit equivalency dated October 24, 2012 which was valid until May 11, 2016. A permit equivalency

renewal application was submitted to the NYSDEC Bureau of Water Permits on March 30, 2016, and is pending approval. Effluent Limitations and Monitoring Requirements outlined in the permit are enforced by the NYSDEC Division of Environmental Remediation, Remedial Bureau E.

Air Permit

An air permit is not required for the GWE&T system operation since 6 NYCRR Part 375-1.7 states that “no permit is required when the substantive compliance is achieved as indicated by the NYSDEC approval of the workplan.” Emissions from the air stripper have historically been negligible and are compliant with air guideline concentrations.

3.2 Groundwater Extraction and Treatment System Performance Evaluation

3.2.1 Flow Rate

Since startup, the OU-4 GWE&T system treated more than approximately 2.47 billion gallons of groundwater associated with the CPC site until operation was suspended and transitioned to the OU-5 plant. The OU-5 GWE&T system historically operated at a rate of approximately one million gpd. During the first quarter of 2020, the system processed 62.1 million gallons at an average daily flow rate of 633,000 gpd for January, 674,552 gpd for February, and 739,516 gpd for March. Daily flow readings are provided in the O&M reports submitted monthly to NYSDEC (refer to the March 2020 O&M report for the most recent data). A summary of the flow in each recovery well is included in Table 3.

Table 3 – Recovery Well Flow Summary for First Quarter 2020

Location	January Total Flow (gallons)	February Total Flow (gallons)	March Total Flow (gallons)
RW-1*	2,475	2,350	3,480
RW-2*	2,080	2,600	24,700
RW-3	10,569,000	11,017,610	12,651,277
RW-4**	-	-	-
RW-5	9,256,575	8,712,000	10,493,000
Total Influent	20,284,000	20,202,000	23,651,000
Total Effluent	19,623,000	19,562,000	22,925,000
*Recovery wells RW-1 and RW-2 were taken offline at the conclusion of the Remedial System Optimization evaluation. Flows associated with RW-1 and RW-2 are from monthly operational tests. ** RW-4 was not operational from December 31, 2020 through April 6, 2020.			



The volume of treated water discharged by the GWE&T system to the recharge basins is determined daily from readings of the magnetic flow meter on the plant effluent line. The difference between the total influent and total effluent is due to a calibration error in the existing flow meters. The recharge basins are designed to receive 1.5 million gpd of effluent. During the first quarter of 2020, the treated water was directed to Basin No. 1, with no discharge redirected to Basin No. 33. Effluent was discharged at an average volume of 682,500 gpd during the first quarter of 2020.

3.2.2 Groundwater Extraction and Treatment System Contaminant Removal

To quantify the treatment system contaminant removal rate, HDR reviewed available GWE&T system influent and effluent analytical results from monthly operation and maintenance records. The OU-4 GWE&T system removed 8.1 kg during its 2016 operational period, and 947 kg cumulatively (combined mass of TCE, PCE and 1,1-DCE) from 2002 until the first week of October 2016, when it was taken offline. Most of the mass removed by the OU-4 GWE&T system was TCE (749 kilograms or 1,651 pounds) and PCE (170 kilograms or 375 pounds). Since October 1, 2016, when HDR took over operations of the OU-5 GWE&T system, approximately 334.14 kilograms (736.65 pounds) of TCE and 40.87 kilograms (90.1 pounds) of PCE have been removed by the OU-5 system. The operator prior to October 1, 2016 did not calculate VOC load, or track the contaminants of concern cumulatively over time. The LKB reports provided to HDR did not include historical data for daily flow rates.

Table 4 – VOC Mass Removed per Quarter for the Latest Five Quarters (kg)

	Quarter 1 2019	Quarter 2 2019	Quarter 3 2019	Quarter 4 2019	Quarter 1 2020	Cumulative Totals (Sum of TCE, PCE and 1,1-DCE)
OU-4 GWE&T	offline	offline	offline	offline	offline	947 (2002-2016)
OU-5 GWE&T	38.8	32.5	36.95	49.64	8.35	382 (10/1/2016 to present)

3.2.3 Groundwater Extraction and Treatment System Discharge Monitoring

System effluent samples are collected quarterly for the following analyses: VOCs, semi-volatiles (BNA), metals, total dissolved solids (TDS), total Kjeldahl nitrogen (TKN), cyanide, and anions. Effluent data for select VOC compounds (PCE, TCE, and 1,1-DCE) and semi-volatiles (BNA) are analyzed to evaluate compliance with effluent discharge limits. Figure 6 shows that effluent concentrations for the main contaminants, PCE and TCE, were below permissible discharge limits of 5 µg/L at the OU-5 GWE&T system during the first quarter of 2020. In addition, the effluent concentration of iron (211 µg/L) and manganese (402 µg/L) were both under the permissible levels of 600 µg/L in the first quarter of 2020, though they were significantly higher than in the fourth quarter of 2019. This is potentially due to the stripping of iron and manganese from the air stripper tower media. System effluent pH through the first quarter remained above or equal to the 6.50 su minimum requirement with average readings of 6.63 su in January, 6.75 su in February,

and 6.74 su in March. Refer to the March Monthly O&M report for additional information on remediation system performance and daily operations.

4 Groundwater Monitoring Program

A network of 54 monitoring wells is used to monitor the groundwater quality and effectiveness of the GWE&T system (Figure 2). On March 23-27, 2019, HDR sampled 48 of the 49 monitoring wells (no sample was collected at MW-6A due to insufficient water to collect a sample). The groundwater monitoring program includes wells both on the CPC property (OU-4) and off the CPC property (OU-5). OU-4 monitoring wells sampled were DW-1, DW-2, EW-5, EW-7C, EW-7D, SW-1 and WT-01. OU 5 wells sampled were BP-3A, BP-3B, BP-3C, EW-1A, EW-1B, EW-1C, EW-2A, EW-2B, EW-2C, EW-2D, EW-4A, EW-4B, EW-4C, EW-4D, EW-11D, EW-12D, EW-14D, LF-1, M-30B-R, MW-5B, MW-6B, MW-6C, MW-6D, MW-6E, MW-6F, MW-7B-R, MW-8A, MW-8B, MW-8C, MW-9B, MW-9C, MW-10D, MW-11A, MW-11B, and OBS-1. Following approval from the NYSDEC on August 21, 2019, an additional six wells were sampled from the western extent of the study area. These wells were BP-5B, BP-5C, BP-12B, BP-12C, BP-13B, and BP-13C. In February 2020 under WA#43 six downgradient VPB monitoring wells were added as part of the quarterly report including MW-CPC-36, MW-CPC-37, MW-CPC-38, MW-CPC-39, MW-CPC-40, and MW-CPC-41 (Figure 2). A description of the groundwater sampling event and results is provided below.

4.1 Hydrological Data

Sixteen wells were added to the CPC monitoring program as a result of the transition on October 1, 2016 to the OU-5 GWE&T system (Figure 2). In addition to the sixteen CPC monitoring wells, the first quarter 2020 synoptic water level round conducted on March 18 2020 also included four new wells installed as part of the NYSDEC WA#43 Claremont RI/FS to the south, and 6 existing wells not previously included. These wells are BP-5B, BP-5C, BP-12B, BP-12C, BP-13B, and BP-13C (Attachment B). Nassau County DPW Fireman's Training Center wells to the west were not included in the first quarter of 2020, due to the statewide COVID-19 quarantine furlough.

The average water table elevation across the site is 63 feet (vertical datum NAVD88). Depths to groundwater (DTW) in March 2020 ranged from 19.49 feet (well BP-12B) to 100.17 feet (well EW-11D) (Attachment B). Potentiometric surface elevations at each well were calculated by subtracting the DTW from each measurement from the top of casing elevation. HDR plotted the water level elevations and sketched the water table contours of the upper Magothy and the potentiometric surface in the middle and lower Magothy aquifers. These data show the groundwater flow direction is predominantly south-southeast at the water table (Figure 3), middle Magothy (Figure 4) and in the lower Magothy (Figure 5). The potentiometric surface contours in the middle Magothy depict notable pumping influence near and immediately down gradient from the OU5 recovery wells, RW-3 through RW-5. Overall, groundwater elevations and inferred groundwater flow direction based on groundwater elevation contours were consistent with previous data. There is a south-southwest component to groundwater flow within the deeper Magothy aquifer in the area of BP-13, and recently installed wells MW-CPC-40 and MW-CPC-41.



In addition horizontal gradients increase in the in the area of recently installed monitoring wells MW-CPC-36 through MW-CPC-41, ranging from 0.003-0.004 feet/foot.

4.2 Groundwater Sample Collection

The monitoring well groundwater samples were collected on March 23-27, 2020. The groundwater samples were collected using passive diffusion bags (PDBs) inserted at mid-point in the screens in each monitoring well. Each PDB bag was retrieved, pierced with a decontaminated sharp object and the water inside was collected in VOC vials with septum caps, and preserved with hydrochloric acid (HCl). The VOC vials are labeled, recorded on a chain of custody, and placed in a cooler with ice. New PDBs were installed at the mid-point of the screens of each monitoring well for the next scheduled sampling event.

Sixty two samples (including four field duplicates and four trip blanks) were submitted to Test America Laboratory, of Edison, New Jersey, an NYSDOH ELAP-approved laboratory (#12028), to be analyzed for VOCs via EPA Method 8260.

Seven samples (including one field duplicate) were additionally analyzed for PFAS by modified EPA Method 53. The six VPB monitoring well samples were collected using the low-flow sampling method “USEPA Low Stress (Low Flow) Purging and Sampling Procedure for the Collection of Groundwater Samples from monitoring Wells dated January 19, 2010”. The intake of the Geo-Tech PFC free portable bladder pump was installed at the mid-point in the screens, or biased to a high concentration value observed during the VPB sampling. Monitoring wells were purged until low-flow parameters (turbidity, dissolved oxygen, specific conductivity, temperature, pH, and oxidation/reduction potential) stabilized in accordance with EPA’s low flow method. Low flow sampling logs, chains of custody (COC), and PFC daily checklists are provided in Attachment D. A list of wells sampled and analytical results are presented in Table 5 and Attachment A.

4.3 Groundwater Analytical Results

4.3.1 Groundwater VOC Analytical Results

First quarter 2020 groundwater sampling VOC exceedances are summarized on Table 5 and are plotted in trend charts in Figures 7 through 28; treatment system effluent and influent water sampling results are shown in trend charts in Figures 6 and 29.. In addition to the results below, acetone was detected in 44 samples, though no acetone concentrations exceeded the GWQS of 50 µg/L. Although acetone is a common laboratory contaminant, its continued detections in the quarterly samples tend towards it being a contaminant of concern rather than a laboratory contaminant.

Table 5 – Monitoring Well VOC Exceedances –First Quarter 2020

Well	PCE	TCE	cis-1,2-DCE	1,1-DCA	1,2-DCA	Benzene
BP-3B	<u>27</u>	2.6	<u>13</u>	2.1	ND	ND
BP-3C	<u>54</u>	4.6	<u>37</u>	<u>7.3</u>	0.51 J	0.75 J

Well	PCE	TCE	cis-1,2-DCE	1,1-DCA	1,2-DCA	Benzene
DW-1	<u>6.4</u>	2.4	<u>25</u>	ND	ND	ND
EW-04A	<u>26</u>	<u>7</u>	<u>100</u>	ND	ND	ND
EW-04B	1.9	<u>5.9</u>	0.78 J	ND	ND	ND
EW-04C	4.4	<u>30</u>	0.86 J	ND	ND	ND
EW-07C	<u>13</u>	<u>140</u>	3.7	0.28 J	ND	ND
EW-11D	1.6	<u>7</u>	0.63 J	ND	ND	ND
EW-12D	<u>14</u>	<u>220</u>	<u>5.7</u>	0.88 J	ND	ND
EW-14D	1.5	<u>19</u>	0.46 J	ND	<u>0.65 J</u>	ND
MW-08A	<u>6.3</u>	2.1	4.7	ND	ND	ND
MW-10D	1.5	2	0.43 J	ND	<u>0.71 J</u>	ND
MW-11A	3.1	2.6	<u>19</u>	1.8	ND	ND
MW-11B	0.92 J	2.8	<u>30</u>	<u>13</u>	<u>0.82 J</u>	ND
MW-7B-R	2.8	<u>82</u>	<u>5.4</u>	ND	ND	ND
MW-CPC-36	<u>60</u>	<u>7.3</u>	<u>55</u>	0.96 J	<u>2.9</u>	<u>36</u>
MW-CPC-37	ND	ND	<u>6.7</u>	1.9	ND	ND
MW-CPC-40	ND	1.7	ND	<u>6.2</u>	ND	1
MW-CPC-41	<u>7.4</u>	0.55 J	0.45 J	ND	ND	ND
SW-1	<u>260</u>	<u>15</u>	<u>11</u>	ND	ND	ND

Results units are µg/L. Bold, underlined, italicized results are exceedances of the NYSDEC Part 703 Class GA criteria. See Attachment A for complete analytical results and comparison criteria. PCE – tetrachloroethylene; TCE – trichloroethylene; cis-1,2-DCE – cis-1,2-dichloroethylene; 1,1-DCA – 1,1-dichloroethane; 1,2-DCA – 1,2-dichloroethane; ND – not detected; J – estimated value.

4.3.2 Groundwater Emerging Contaminant Results

In the first quarter of 2020, the six downgradient VPB monitoring wells were analyzed for the emerging contaminant 1,4-Dioxane. In addition, the six new downgradient wells were analyzed for the PFAS group of contaminants. Groundwater results for 1,4-Dioxane and the perfluorinated compounds Perfluorooctane sulfonamide (PFOS) and Perfluorooctanoic acid (PFOA) were compared to the New York State Drinking Water Quality Council recommended Maximum Contaminant Levels (MCL) of 1 part per billion (ppb) and 10 parts per trillion (ppt), respectively. The sum of PFOA and PFOS is compared to the applicable EPA Health Advisory Level of 70 ppt. Total PFAS is compared to the New York State Drinking Water Quality Council recommended Maximum Contaminant Levels (MCL) of 500 parts per trillion (ppt). Exceedances of the NYSDEC PFAS Guidelines are summarized in Table 6.

Table 6 - Monitoring Well Emerging Contaminant Exceedances - First Quarter 2020

Well	1,4-D	PFNA	PFOS	PFOA	PFOA+PFOS	Total PFAS
MW-CPC-36	<u>3</u>	<u>333</u>	<u>158</u>	<u>126</u>	<u>284</u>	854.61
MW-CPC-37	<u>39 J</u>	0.25 J	17.1	40.3	57.4	98.67
MW-CPC-40	<u>1.6</u>	ND	ND	ND	ND	ND
MW-CPC-41	<u>1.5</u>	56.9	21.7	29.8	51.5	199.24

Results units are ng/L. Bold, underlined, italicized results are exceedances of the NYSDEC Part 703 Class GA criteria. See Attachment A for complete analytical results and comparison criteria. 1,4-D – 1,4-Dioxane; PFNA - Perfluorononanoic acid;

PFOS - Perfluorooctanesulfonic acid; PFOA - Perfluorooctanoic acid; PFOA+PFOS – sum of PFOA and PFOS; Total PFAS – sum of all detected Per- and polyfluoroalkyl substances; ND – not detected; J – estimated value.

4.3.3 Evaluation of Plumes

Figures 30 and 31 depict the horizontal plume location with isoconcentration lines in plan view for PCE and TCE. The groundwater contamination distribution was further evaluated by creating sample location pie chart figures for the contaminants PCE, TCE, 1,1-Dichloroethene, trans-1,2-Dichloroethene, cis-1,2-Dichloroethylene, and vinyl chloride in cross section (Figures 32 and 33) and plan view (Figure 34). The horizontal and vertical distribution of PCE and TCE continues to demonstrate a shallow PCE plume comingled with a deeper TCE plume.

OU-4 on-site plume. This plume originates on the CPC site with the highest PCE concentrations historically measured at well SW-1, a water table well. Currently, the on-site plume is predominantly PCE with concentrations an order of magnitude greater than those of TCE. In 2015, PCE showed an increasing trend in well SW-1, with spikes in the second quarter (210 µg/L) and in the fourth (190 µg/L). However in 2016, the PCE concentration steadily decreased from 150 µg/L during the first quarter down to 30 µg/L in the fourth. SW-1 was not sampled between the fourth quarter of 2016 and the second quarter of 2019, due to it becoming dry and subsequent low water levels. The PDB bag in SW-1, which was in the well since the fourth quarter of 2016, was submerged in the first and second quarter of 2019, due to an increase in the water level. It was subsequently sampled in the second quarter of 2019. The PCE concentration in SW-1 was the highest of the on-site wells, with a concentration of 180 µg/L. This is similar to concentrations collected in 2015 and the first quarter of 2016, prior to the well becoming dry. PCE concentration in SW-1 was consistently high for the third and fourth quarter of 2019, with a concentration of 200 and 190 µg/L, respectively. In the first quarter of 2020, PCE concentration has increased to 260 µg/L. At well EW-4C, PCE was the dominant contaminant of concern observed until concentrations decreased from 110 µg/L in the first quarter of 2017 to 34 µg/L in the third quarter of 2017 (Figure 13). PCE concentration has continued to decrease and is now 4.4 µg/L in the first quarter of 2020. TCE at EW-4C has been the dominant contaminant of concern since the third quarter of 2017 through the first quarter of 2020, where concentrations have ranged from 24 µg/L to 52 µg/L. TCE at EW-4C was detected at 30 µg/L during this first quarter of 2020.

Off-site plume upgradient of CPC site. This plume contains VOCs from upgradient sources such as Former Aluminum Louvre (FAL) and is detected as far upgradient as the EW-7-series well cluster and stretches to the southeast into OU5 as far as well MW-7B-R. The FAL (OU-1) and off-site (OU-2) investigations were completed in 2015, with the most recent Record of Decision (ROD) for OU-2 issued in March 2019. Groundwater containing VOCs, primarily TCE, migrated from FAL to beneath the Bethpage State Park Black Golf Course. The source area at FAL is at the east side of the facility and a large storm water recharge basin at Winding Road and Old Bethpage-Sweethollow Road is thought to influence shallow groundwater flow direction beneath FAL in an easterly direction. The FAL plume contains TCE, PCE, and 1,1,1-TCA and flows south-southeast after it moves off-site. When it reaches the CPC site, the FAL plume is found to the east of the CPC source areas. The plume is predominantly TCE, with TCE concentrations typically an order of magnitude greater than those of PCE in EW-7C (Figure 15). TCE-dominant wells include: EW-7C, EW-4C, EW-12D, EW-14D, and MW-7B-R. The overall trend in TCE concentrations since 2011 has

been decreasing in the EW-7 well cluster (Figure 15 and 16). EW-7C, EW-12D, and MW-7B-R have the highest TCE concentration compared to other wells, with concentrations at 140 µg/L, 220 µg/L, and 82 µg/L respectively in the first quarter of 2020. MW-7B-R TCE concentrations have been generally trending downward since the OU-4 plant was shut down (Figure 25).

The selected remedy for FAL (OU-1) and off-site (OU-2) outlined in the March 2019 ROD includes enhanced bioremediation, vapor mitigation, and various institutional controls.

Well EW-14D. Groundwater contamination at EW-14D is high in TCE, similar to the off-site, upgradient plume). The PCE concentration is below the criterion of 5 µg/L. Well EW-14D has the greatest variability in TCE concentrations. In the first quarter of 2018, concentrations decreased to 29 µg/L (from 250 µg/L in the fourth quarter of 2017), increased to 59 µg/L in the second quarter, increased to 100 µg/L in the third quarter, and then decreased to 45 µg/L in the fourth quarter of 2018. The TCE concentration in each of the four quarters of 2019 were 32, 19, 24, and 36 µg/L, respectively. TCE concentration is now 19 µg/L in the first quarter of 2020 (Figure 19).

Southern Area. This location is centered on the BP-3 series wells far south of the CPC site and downgradient of the extraction wells (Figures 20 through 22). The PCE concentrations at BP-3B and BP-3C are historically higher than those for TCE; BP-3B had a PCE concentration of 27 µg/L compared to a TCE concentration of 2.6 µg/L in the first quarter of 2020; BP-3C had a PCE concentration of 54 µg/L compared to a TCE concentration of 4.6 µg/L in the first quarter of 2020. However the TCE concentrations in BP-3A are typically higher than the PCE concentrations. PCE and TCE concentrations in BP-3A during the first quarter of 2020 were 1.4 µg/L and 1 µg/L, respectively. The source(s) of the PCE groundwater contamination at the BP-3 series wells is unknown.

Cross Sections. Two cross section figures depict the contaminants of concern along two transects (Figures 32 and 33). Cross section A-A' (Figure 32) begins at DW-1 and continues along the direction of groundwater flow (south-southeast) to the BP-3 series wells. The PCE-dominant plume is at a higher elevation than the TCE-dominant plume in the vicinity of the CPC site and moves south-southeast to well MW-08A. PCE is detected deeper in the BP-3-series wells, which are the farthest downgradient wells from the CPC site.

Cross section B-B' (Figure 33) begins east of A-A' at the EW-7-series wells and continues along the direction of groundwater flow to well MW-7B-R. PCE concentrations observed in wells in this cross section are below the 5 µg/L standard in the EW-2 series wells and at wells DW-2, EW-5, EW-4B, EW-4C, EW-4D, EW-7D, and MW-7B-R. TCE concentrations observed in wells in this cross section are below the 5 µg/L standard in the EW-2 series wells and at wells DW-2, EW-4B, EW-4D, EW-5, and EW-7D.

4.3.4 Comparison to Historical Groundwater Quality

Figures 7 through 29 illustrate the historical trends for VOC concentrations in multiple wells. Table 6 summarizes the concentration trends of PCE and TCE in each of the wells.



Table 7 – PCE and TCE Concentration Trends in Select Monitoring Wells

Well	Screen Depth	Location	PCE Trend	TCE Trend	Figure
CPC Plume Wells					
DW-1	93-98	South-southwest of CPC	Increasing	Slightly decreasing	Figure 7
SW-1	65-70	South-southwest of CPC	Increasing	Slightly increasing	Figure 8
EW-1A	65-75	Southwest of CPC	Slightly decreasing	Slightly increasing	Figure 9
EW-5	165-175	South-southeast of CPC	Slightly increasing	Decreasing	Figure 10
Off-Site Plume(s) Wells					
EW-4A	100-115	East of CPC	Increasing	Increasing	Figure 11
EW-4B	120-130	East of CPC	Slightly decreasing	Slightly decreasing	Figure 12
EW-4C	145-155	East of CPC	Slightly increasing	Slightly decreasing	Figure 13
EW-4D	285-295	East of CPC	Decreasing	Decreasing	Figure 14
EW-7C	189-199	Upgradient, North of CPC	Decreasing	Decreasing	Figure 15
EW-7D	273-283	Upgradient, North of CPC	Decreasing	Decreasing	Figure 16
MW-10D	346-351	Southeast of CPC	Decreasing	Decreasing	Figure 17
EW-12D	209-219	East of CPC	Increasing	Increasing	Figure 18
EW-14D	185-195	Southeast of CPC	Slightly decreasing	Decreasing	Figure 19
BP-3A	54-74	South-southeast of CPC	Slightly decreasing	Slightly increasing	Figure 20
BP-3B	215-235	South-southeast of CPC	Increasing	Increasing	Figure 21
BP-3C	280-300	South-southeast of CPC	Increasing	Slightly decreasing	Figure 22
MW-11A	140-145	South-southeast of CPC	Increasing	Increasing	Figure 23
MW-11B	240-245	South-southeast of CPC	Slightly increasing	Slightly increasing	Figure 24
MW-7B-R	230-235	South-southeast of CPC	Decreasing	Decreasing	Figure 25
Extraction Wells and Plant Influent					
RW-3	163-255	Extraction well south-southeast of CPC	Decreasing	Decreasing	Figure 26

Well	Screen Depth	Location	PCE Trend	TCE Trend	Figure
RW-4	147-250	Extraction well south-southeast of CPC	Decreasing	Decreasing	Figure 27
RW-5	153-263	Extraction well south-southeast of CPC	Decreasing	Decreasing	Figure 28
OU5 Plant Influent	NA	Plant influent	Slightly decreasing	Increasing	Figure 29

Decreasing trends indicate mass removal from groundwater in the area around the well. Increasing and stable trends indicate partial capture and/or additional source(s) contributing to groundwater contamination in the area of the well.

5 Conclusions and Recommendations

5.1 Conclusions

The first quarter 2020 groundwater monitoring event at the CPC site covered both the on-site plume (OU-4) and off-site plume (OU-5), as well as the downgradient area covered by the newly added VPB monitoring wells. Analysis of the data has resulted in the following conclusions:

- A groundwater plume of VOCs, primarily PCE, originates proximate to the former Process Building (on-site plume). Recent data obtained from OU-4 monitoring well SW-1, which had been dry for an extended period of time, indicates localized PCE concentrations are similar to those prior to the cessation of OU-4 pumping. The recently completed Remedial System Optimization (RSO) report for the OU-5 GWE&T concluded that the combined capture zone of recovery wells RW-3, RW-4 and RW-5 captures the estimated width of the OU-4 plume migrating directly south from the CPC Site.
- An off-site, upgradient plume consisting mostly of TCE originates to the north or northwest of the former CPC site. The TCE contamination was only partially captured by the CPC OU-4 GWE&T system. Similarly, the combined capture zone of OU-5 recovery wells RW-3, RW-4 and RW-5 is not sufficient to capture the upgradient TCE plume, only extending about 200 feet to the east of RW-4, the eastern-most recovery well.
- 8.35 kilograms (18.41 pounds) of total VOCs were removed during the first quarter of 2020 via operation of the OU-5 GWE&T system. This removal rate is a significant decrease from the four quarters of 2018 and the four quarters of 2019 (38.75 kg, or 85.43 pounds, 32.54 kg, or 71.74 pounds, and 36.95 kg, or 81.46 pounds, 49.6 kg, or 109.4 pounds respectively). The OU-5 GWE&T system influent concentration of TCE decreased from 140 µg/L to 27 µg/L between the fourth quarter of 2019 and the first quarter of 2020. RW-4 was offline between December 31, 2019 and April 7, 2020.

- Contaminant concentrations in effluent groundwater samples collected during the reporting period met discharge limits.
- The results from the first quarter 2020 groundwater sampling event show the following VOC compounds detected above the NYSDEC Part 703 Class GA groundwater criteria: PCE, TCE, cis-1,2-DCE, 1,1-DCA, 1,2-DCA, and Benzene.
- In BP-3C, PCE concentrations increased from 60 µg/L to 65 µg/L to 150 µg/L in the first through third quarters of 2018. In the fourth quarter of 2018, PCE decreased to 89 µg/L and further decreased to 61 µg/L in the first quarter of 2019. PCE concentrations increased to 91 µg/L in the second quarter of 2019. PCE concentrations have continue to fluctuate in BP-3C, with concentrations decreasing from 91 µg/L in the second quarter, 64 µg/L in the third quarter of 2019, and 63 µg/L in the fourth quarter of 2019. In the first quarter of 2020, PCE concentration was 54 µg/L. The individual capture zones of RW-3, RW-4, and RW-5 connect, making it seem unlikely that VOCs could migrate further south to the BP-3 series monitoring wells. However, given the vertical anisotropy resulting from the presence of clay beds, and limited recovery well influence on the deep zone potentiometric surface, it is possible that the mass is migrating beneath the vertical limits of the combined capture zone. The current operation of the OU-5 recovery wells is not capable of capturing groundwater contamination around the BP-3 series wells.
- For monitoring well EW-12D, PCE concentration has fluctuated from 12 µg/L to 30 µg/L throughout the four quarters of 2018 and the four quarters of 2019. PCE concentration is 14 µg/L in the first quarter of 2020. Cis-1,2-DCE concentrations were stable throughout all quarters of 2018, as well as all four quarters of 2019 at 5.1 µg/L, 4.5 µg/L, 5.2 µg/L, and 5.7 µg/L, respectively. Cis-1,2-DCE concentrations remained steady at 5.7 µg/L in the first quarter of 2020. 1,1,1-TCA concentrations were stable below the NYSDEC 703 Class GA value of 5 µg/L throughout all quarters of 2018 and 2019, with concentrations ranging from 1.4 to 4.5 µg/L. In the first quarter of 2020, the 1,1,1-TCA concentration is at 0.94 µg/L. TCE concentrations have fluctuated significantly during all four quarters of 2018 and 2019, ranging from 110 to 290 µg/L. In the first quarter of 2020, TCE concentration is 220 µg/L.
- The highest TCE concentration in monitoring well MW-7B-R since October 2016 when treatment transitioned from the OU-4 facility to the OU-5 facility was 900 µg/L in the first quarter of 2017. The concentration decreased during each successive quarter of 2017, and fluctuated throughout the four quarters of 2018 from 170 µg/L in the first quarter, 270 µg/L in the second quarter, 390 µg/L in the third quarter, to 240 µg/L in the fourth quarter. The TCE concentration was consistent in the first and second quarter of 2019 at 170 µg/L, decreased to 140 µg/L in the third quarter of 2019, and further decreased to 120 µg/L in the fourth quarter of 2019. In the first quarter of 2020, TCE concentrations decreased to 82 µg/L.
- The groundwater flow at the site remains predominately south-southeast with no regionally significant changes observed in flow direction during and since operation of the OU-4 GWE&T system.
- The results from the first quarter 2020 groundwater sampling event show 1,4-Dioxane was detected above the New York State Drinking Water Quality Council recommended Maximum

Contaminant Levels at four of the downgradient VPB monitoring wells: MW-CPC-36, MW-CPC-37, MW-CPC-40, and MW-CPC-41. The highest result value of 39 J $\mu\text{g/L}$ in MW-CPC-37 is directly upgradient from a public water supply well (PWS).

- The results from the first quarter 2020 groundwater sampling event show the following PFAS compounds detected above the New York State Drinking Water Quality Council recommended Maximum Contaminant Levels or the EPA Health Advisory Levels: Perfluorononanoic acid (PFNA), Perfluorooctanoic acid (PFOA), Perfluorooctanesulfonic acid (PFOS), Total PFOA & PFOS, and Total PFAS. There were exceedances at three wells: MW-CPC-36, MW-CPC-37, and MW-CPC-41. The highest levels of all exceedances were at MW-CPC-36, with Perfluorononanoic acid (PFNA) detected at 338 ng/L, Perfluorooctanoic acid (PFOA) detected at 134 ng/L, Perfluorooctanesulfonic acid (PFOS) detected at 158 ng/L, Total PFOA & PFOS detected at 286 ng/L, and Total PFAS detected at 859.43 ng/L.

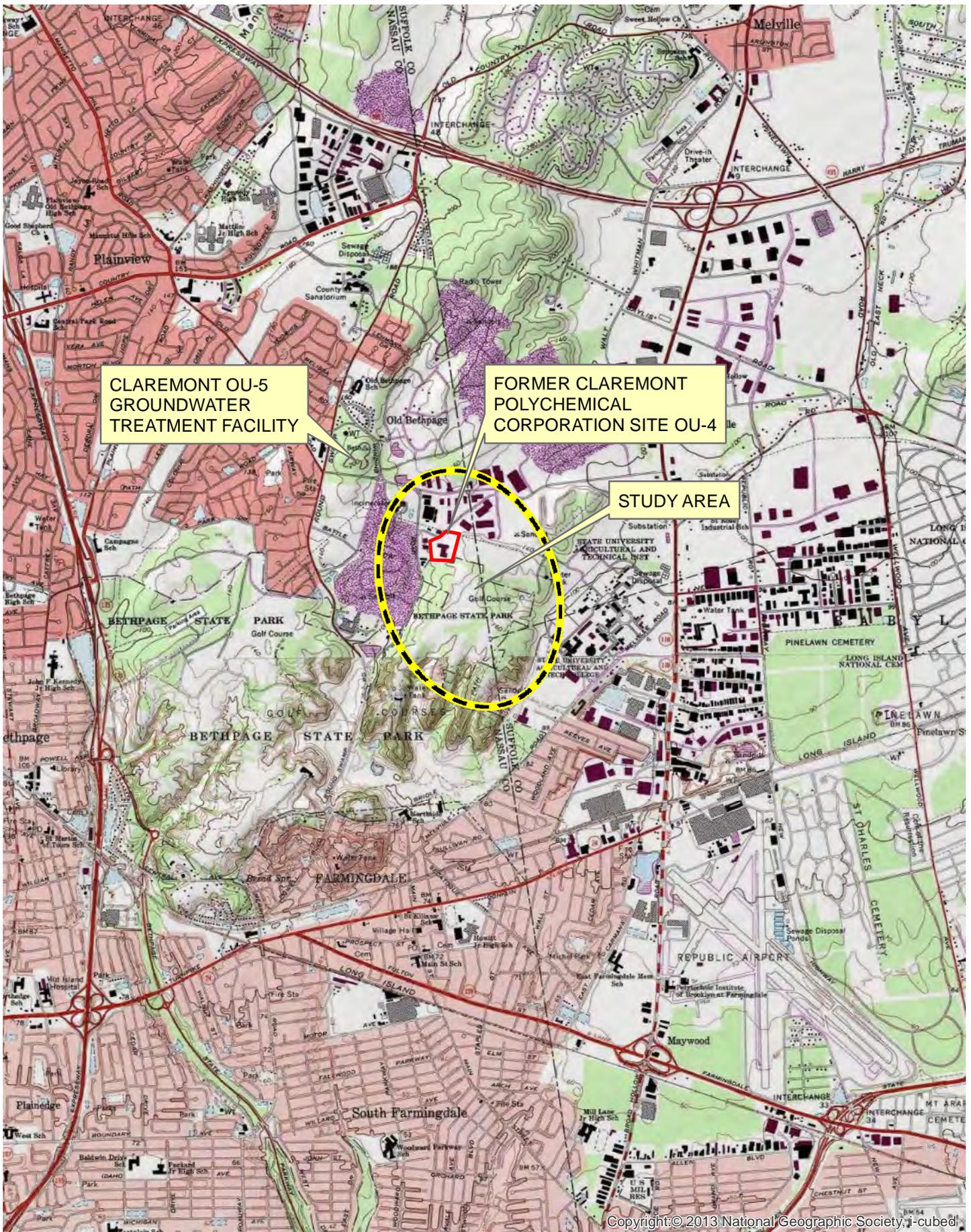
5.2 Recommendations

- Recondition recovery wells RW-3, RW-4 and RW-5 to improve performance and well efficiency which may increase contaminant mass removed.
- Evaluate defective, non-functioning, and critical components of the conveyance and treatment system to confirm the capacity of the piping system, condition of conveyance vaults, adequacy of treatment and recharge, and potential modifications necessary. Perform repairs to components adversely affecting current capacity and treatment (e.g. replacing defective air inlets on conveyance line).
- Determine vertical extent of TVOC contamination and depth of clay units at the location of the recovery wells and horizontal and vertical extent of the plume to the east by installing vertical profile borings (VPB) between RW-3 and RW-4 and east of monitoring well EW-14D.
- Based on the findings of the VPB investigation, upgrade and/or expand the system with additional extraction wells. Upgrade via installation of new pumps/motors in one or more of the existing recovery wells to increase pumping capacity and extend capture to the east. Install one or two new extraction wells screened deeper and further east.
- Recovery wells RW-1 and RW-2 should remain offline.

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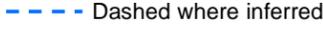
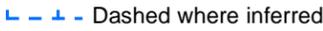
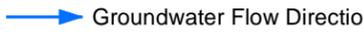
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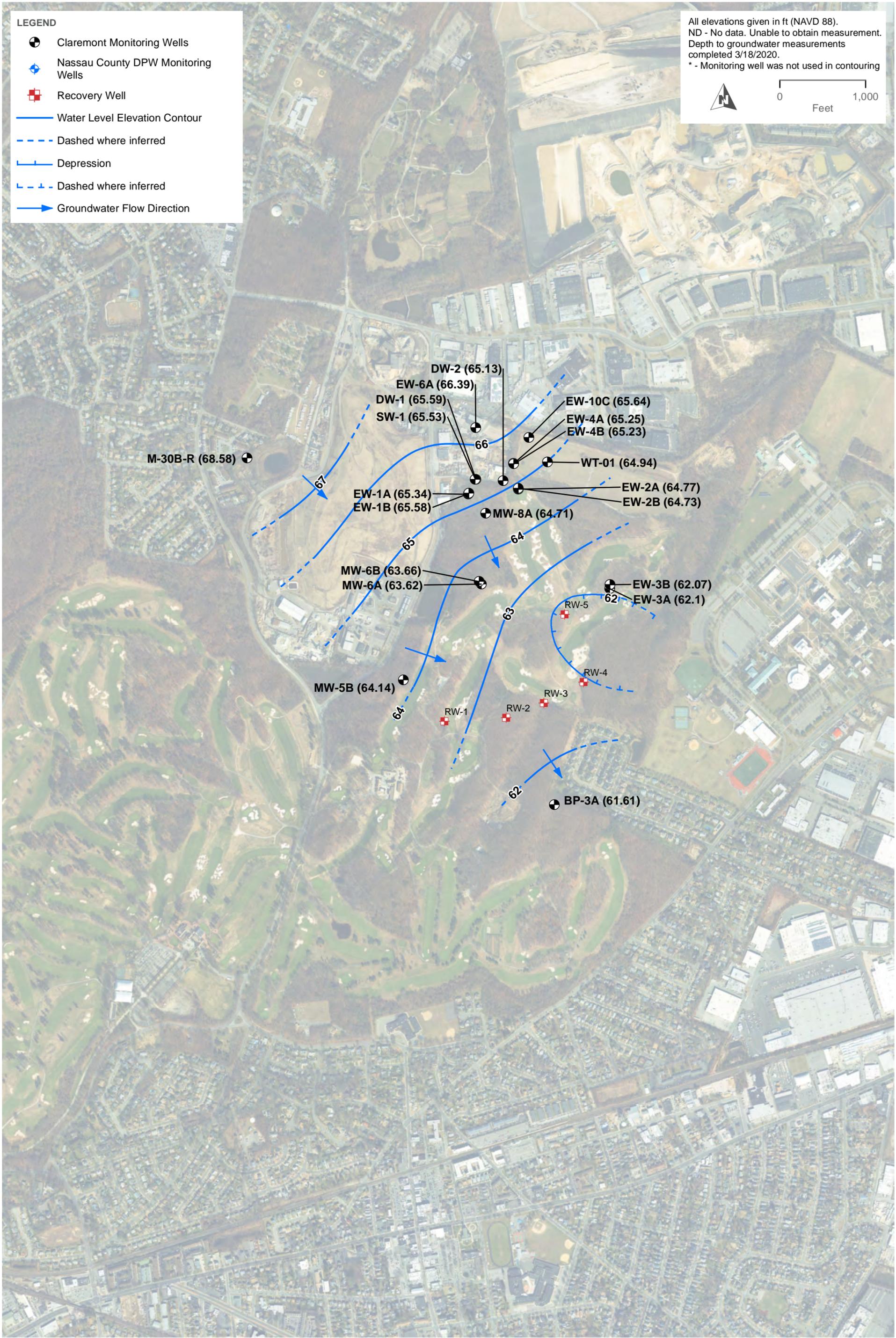
SITE LOCATION
CLAREMONT POLYCHEMICAL CORPORATION

FIGURE 1

LEGEND

-  Claremont Monitoring Wells
-  Nassau County DPW Monitoring Wells
-  Recovery Well
-  Water Level Elevation Contour
-  Dashed where inferred
-  Depression
-  Dashed where inferred
-  Groundwater Flow Direction

All elevations given in ft (NAVD 88).
 ND - No data. Unable to obtain measurement.
 Depth to groundwater measurements completed 3/18/2020.
 * - Monitoring well was not used in contouring

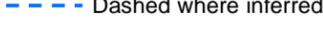


Service Layer Credits: Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community

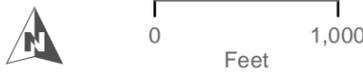
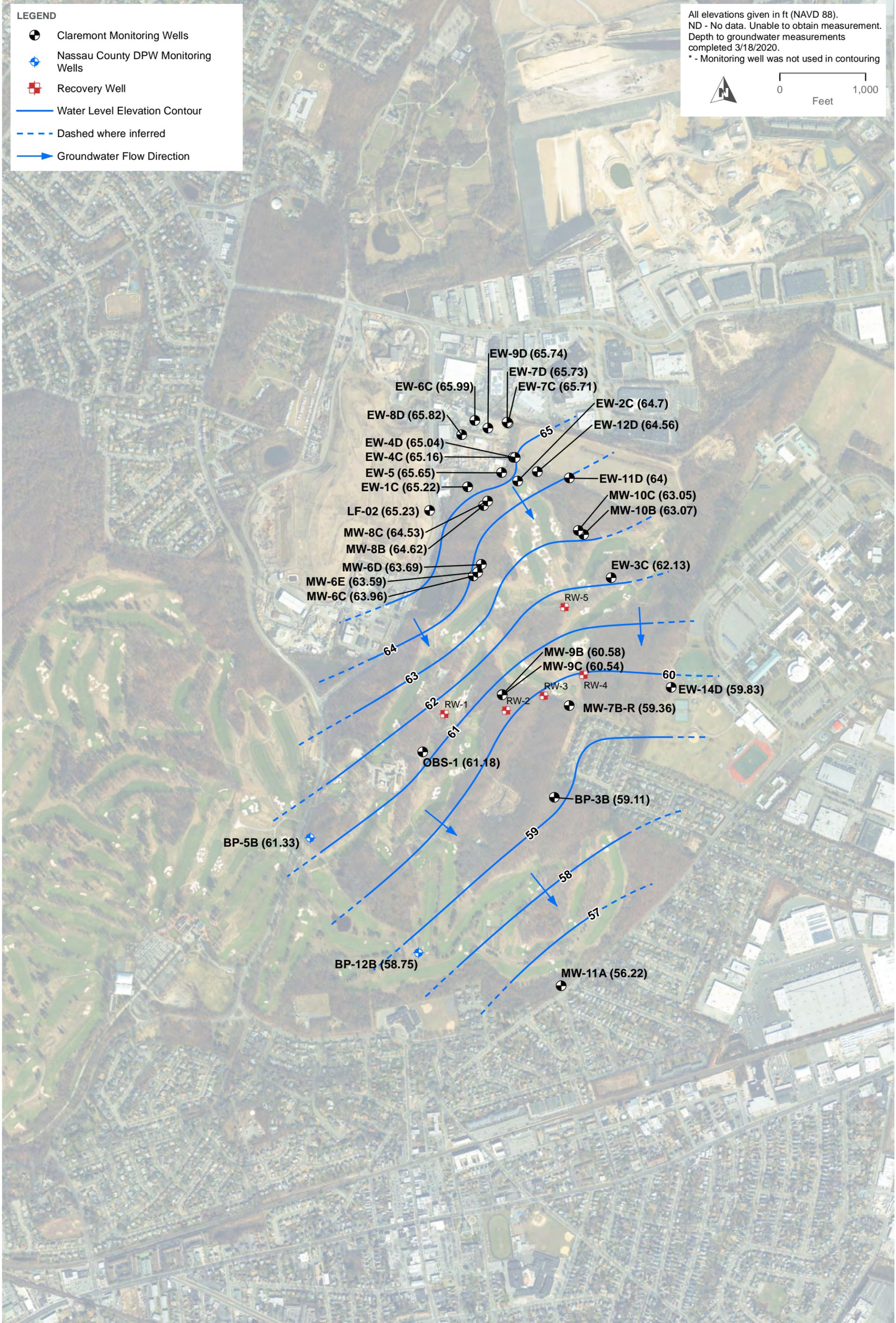
**MARCH 2020 POTENTIOMETRIC SURFACE - UPPER MAGOTHY
 +78 TO +20 FT (NAVD88)
 CLAREMONT POLYCHEMICAL CORPORATION
 FIGURE 3**



LEGEND

-  Claremont Monitoring Wells
-  Nassau County DPW Monitoring Wells
-  Recovery Well
-  Water Level Elevation Contour
-  Dashed where inferred
-  Groundwater Flow Direction

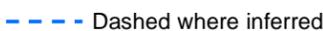
All elevations given in ft (NAVD 88).
 ND - No data. Unable to obtain measurement.
 Depth to groundwater measurements completed 3/18/2020.
 * - Monitoring well was not used in contouring

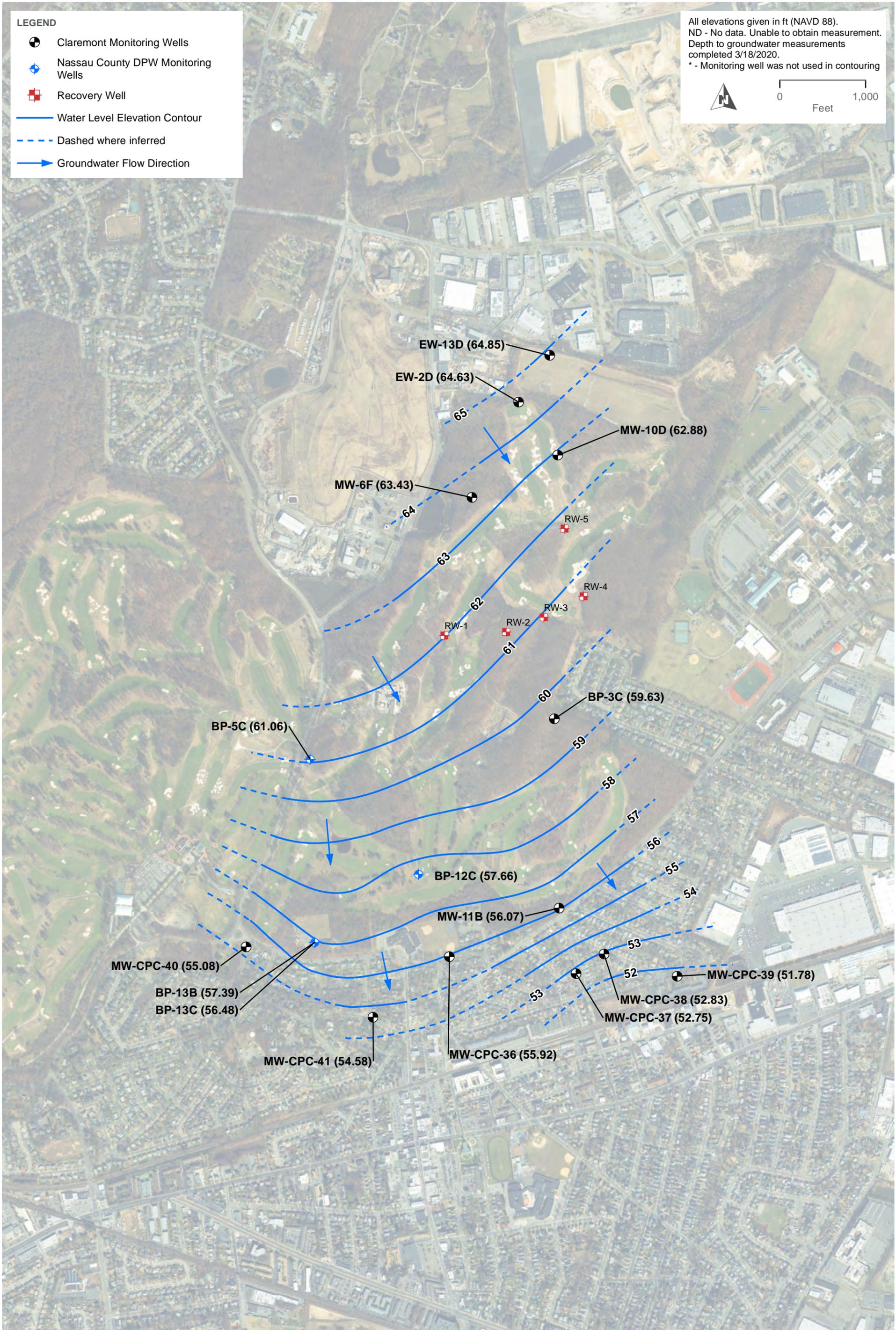
Service Layer Credits: Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community

MARCH 2020 POTENTIOMETRIC SURFACE - MIDDLE MAGOTHY
 +20 TO -131 FT (NAVD88)
 CLAREMONT POLYCHEMICAL CORPORATION
 FIGURE 4

LEGEND

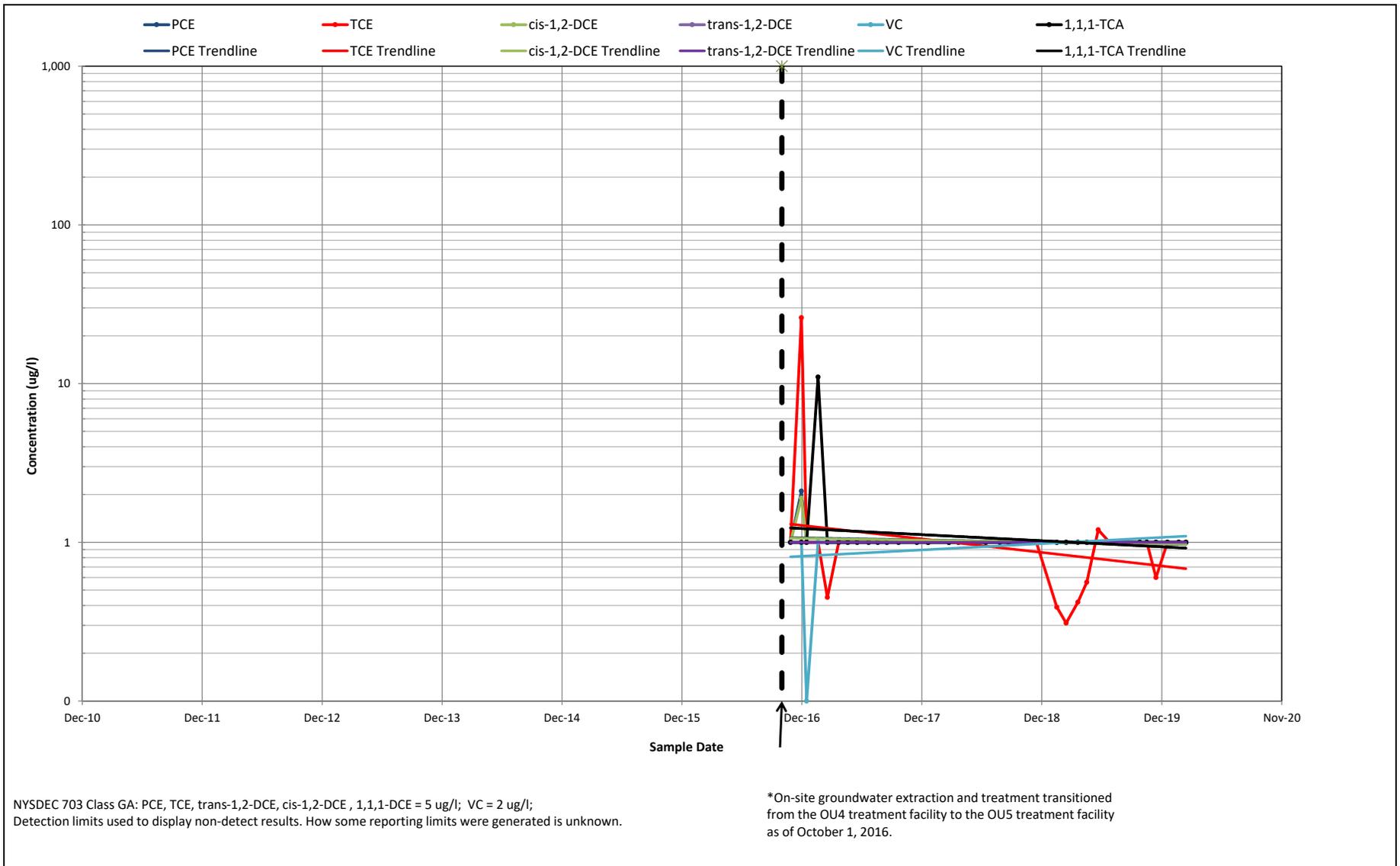
-  Claremont Monitoring Wells
-  Nassau County DPW Monitoring Wells
-  Recovery Well
-  Water Level Elevation Contour
-  Dashed where inferred
-  Groundwater Flow Direction

All elevations given in ft (NAVD 88).
 ND - No data. Unable to obtain measurement.
 Depth to groundwater measurements completed 3/18/2020.
 * - Monitoring well was not used in contouring



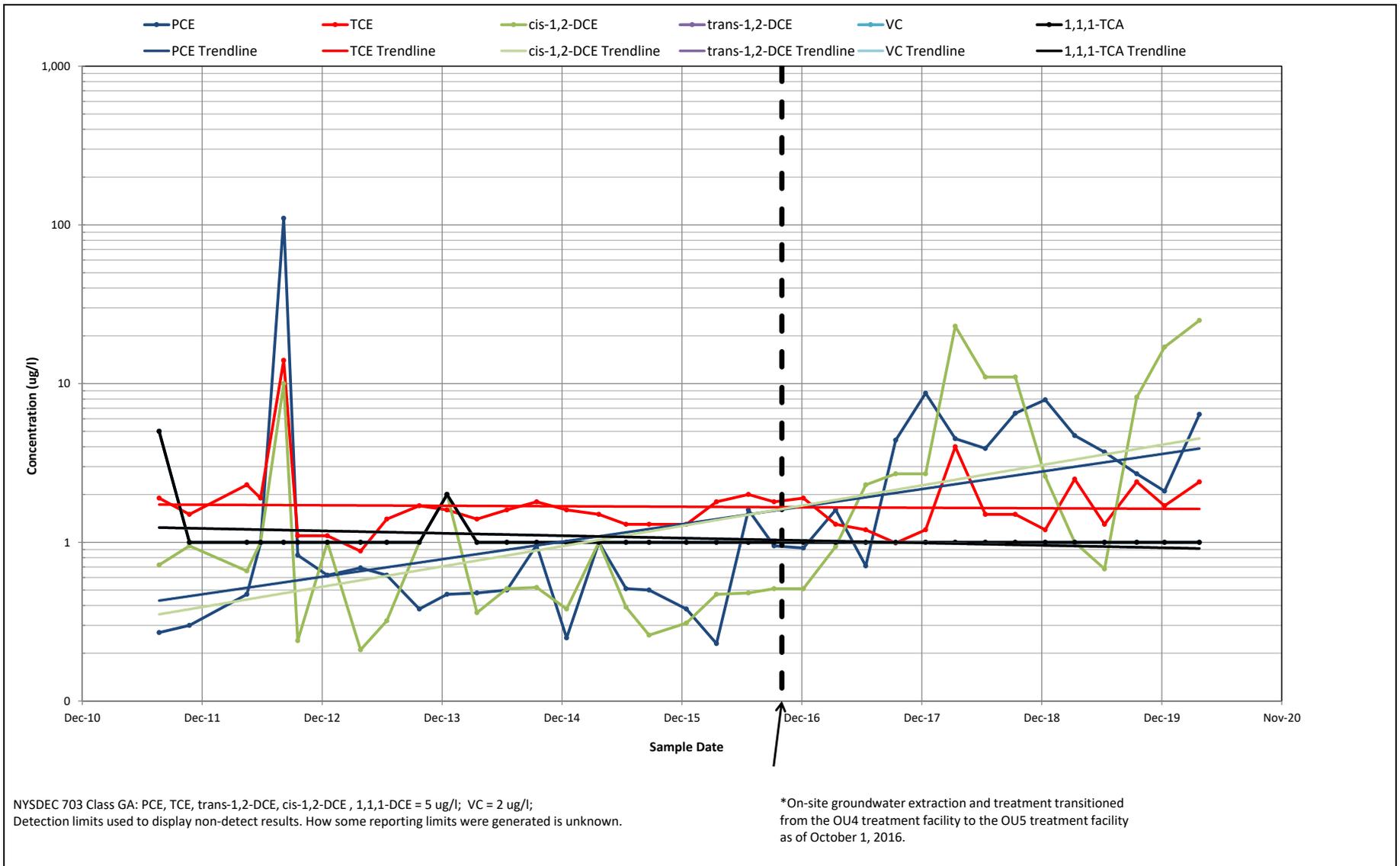
Service Layer Credits: Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community

**MARCH 2020 POTENTIOMETRIC SURFACE - LOWER MAGOTHY
 DEEPER THAN -131 (NAVD88)
 CLAREMONT POLYCHEMICAL CORPORATION
 FIGURE 5**



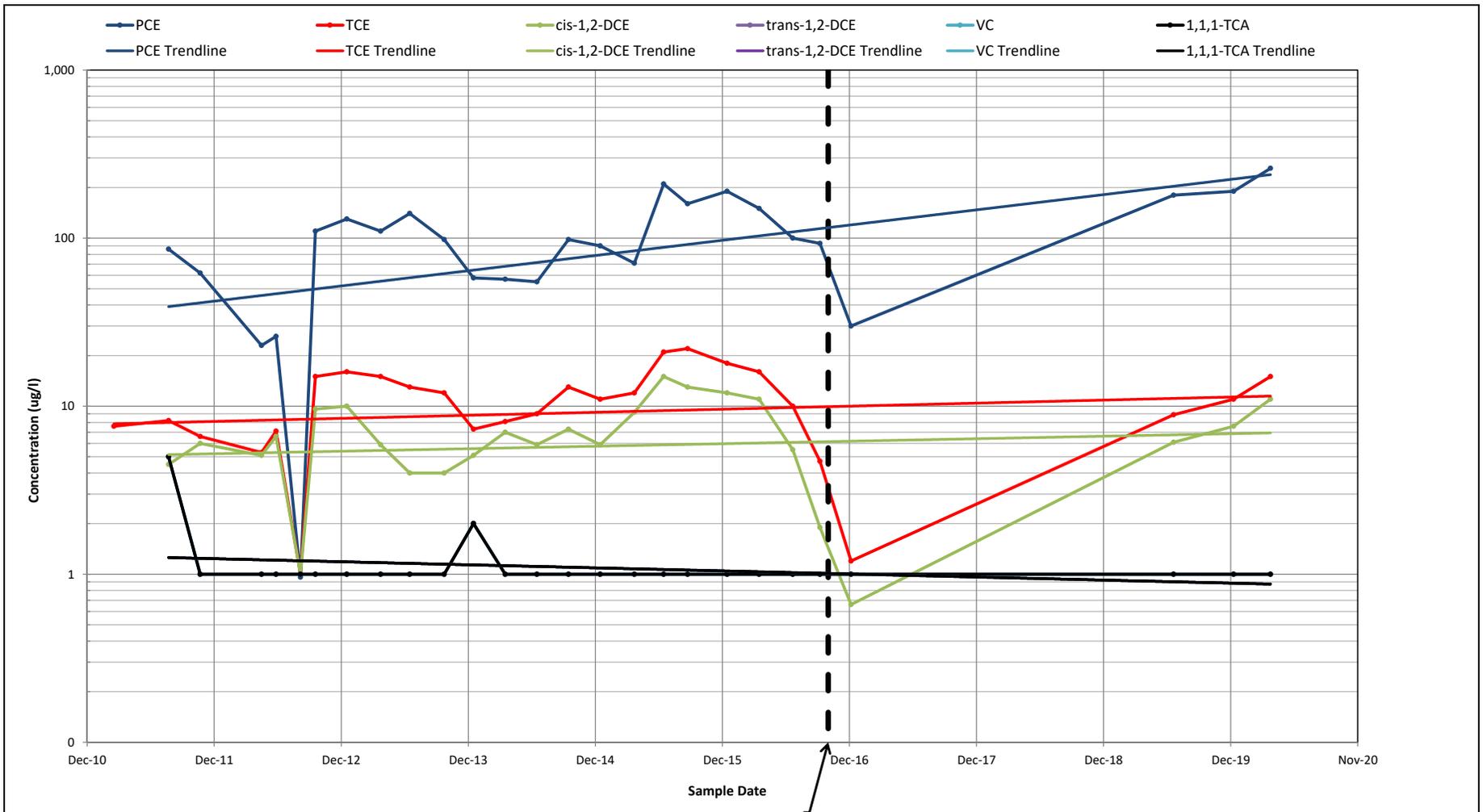
**CHLORINATED VOC CONCENTRATIONS
 EFFLUENT
 CLAREMONT POLYCHEMICAL CORPORATION OPERABLE UNIT 5
 NYSDEC SITE #130015**

DATE
 MARCH 2020
FIGURE



CHLORINATED VOC CONCENTRATIONS
WELL DW-1
CLAREMONT POLYCHEMICAL CORPORATION OPERABLE UNIT 5
NYSDEC SITE #130015

DATE
 MARCH 2020
FIGURE



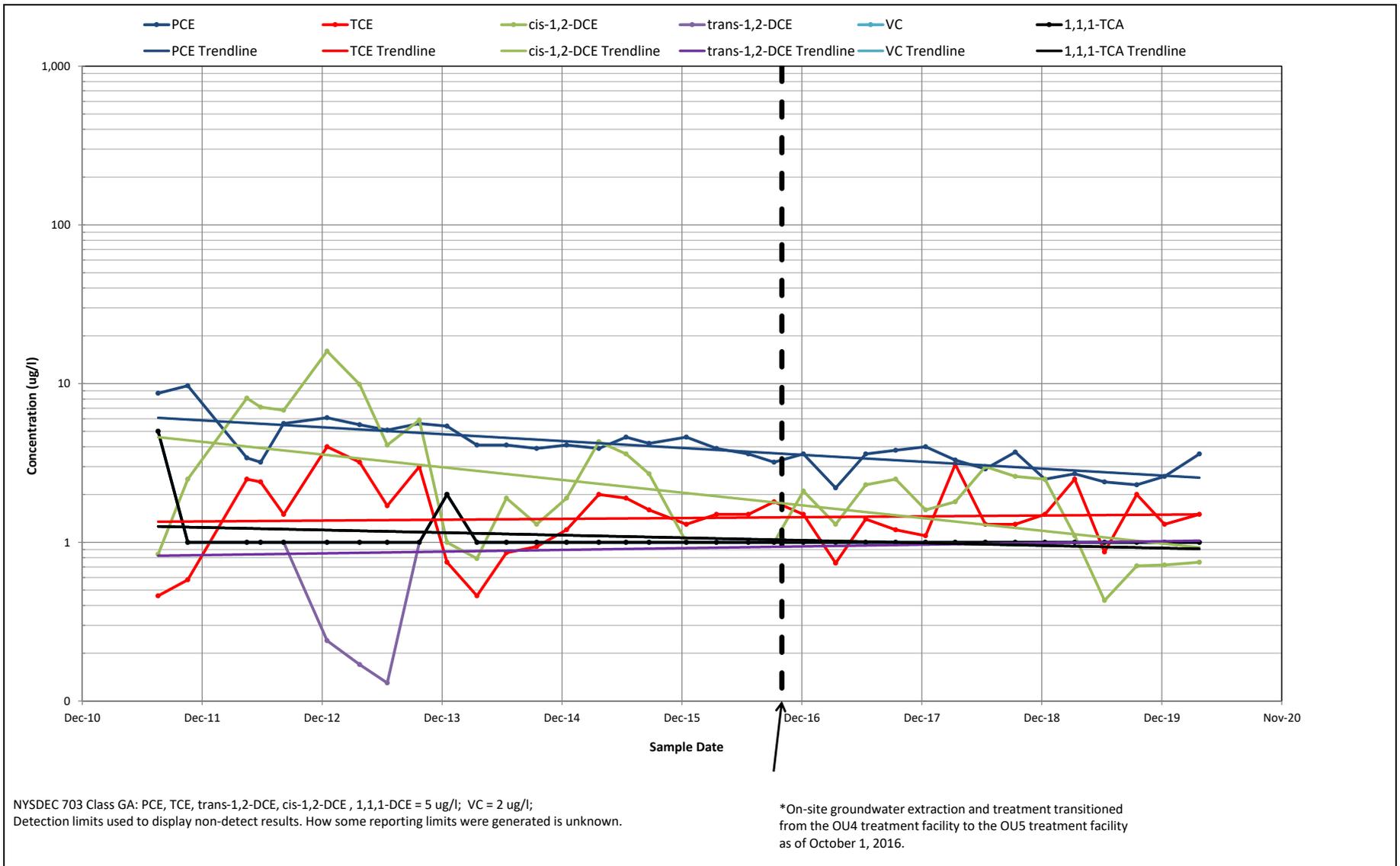
NYSDEC 703 Class GA: PCE, TCE, trans-1,2-DCE, cis-1,2-DCE, 1,1,1-DCE = 5 ug/l; VC = 2 ug/l;
 Detection limits used to display non-detect results. How some reporting limits were generated is unknown.
 Well was dry in for all four quarters of 2017.

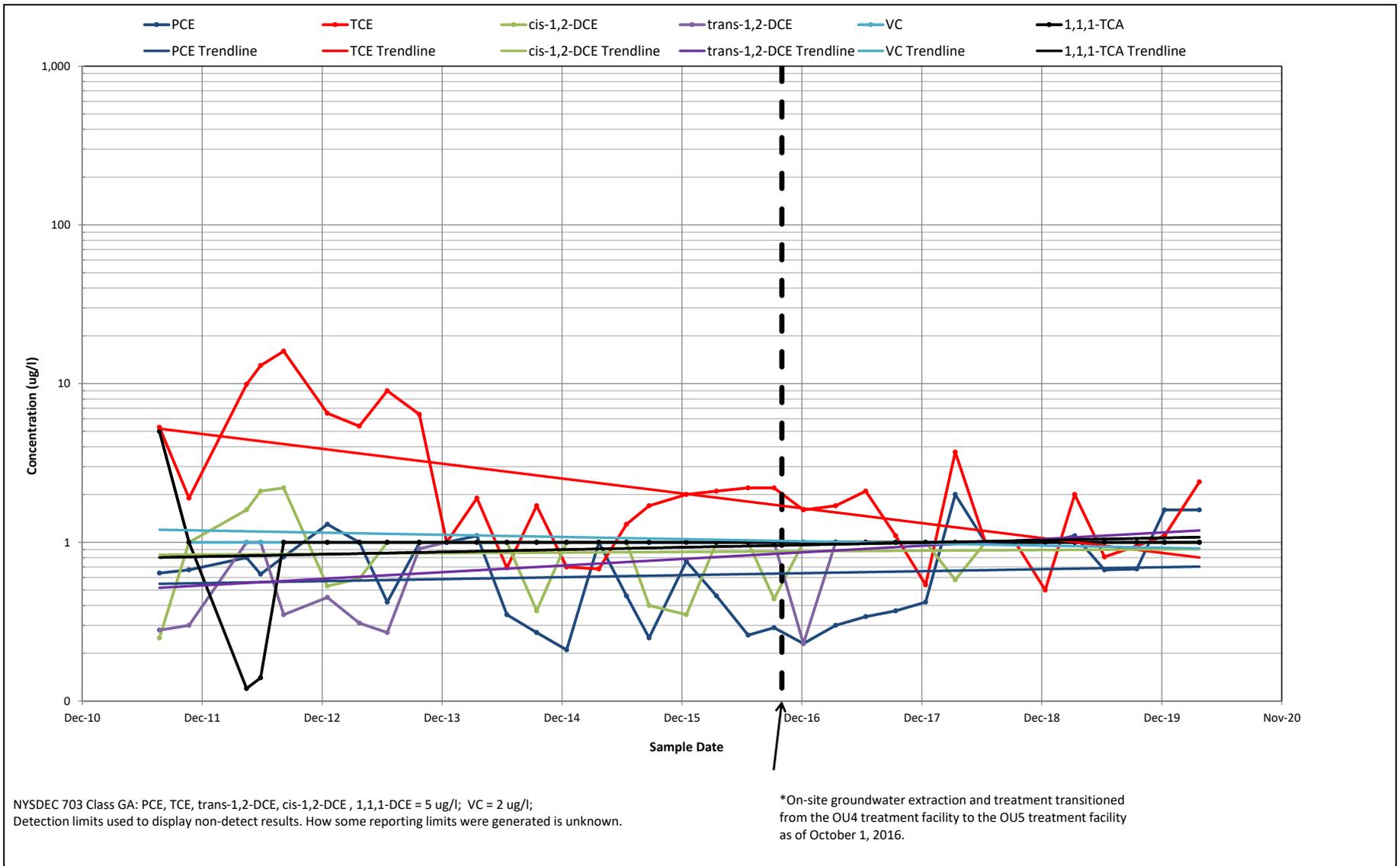
*On-site groundwater extraction and treatment transitioned from the OU4 treatment facility to the OUS treatment facility as of October 1, 2016.



CHLORINATED VOC CONCENTRATIONS
 WELL SW-1
 CLAREMONT POLYCHEMICAL CORPORATION OPERABLE UNIT 5
 NYSDEC SITE #130015

DATE
 MARCH 2020
 FIGURE

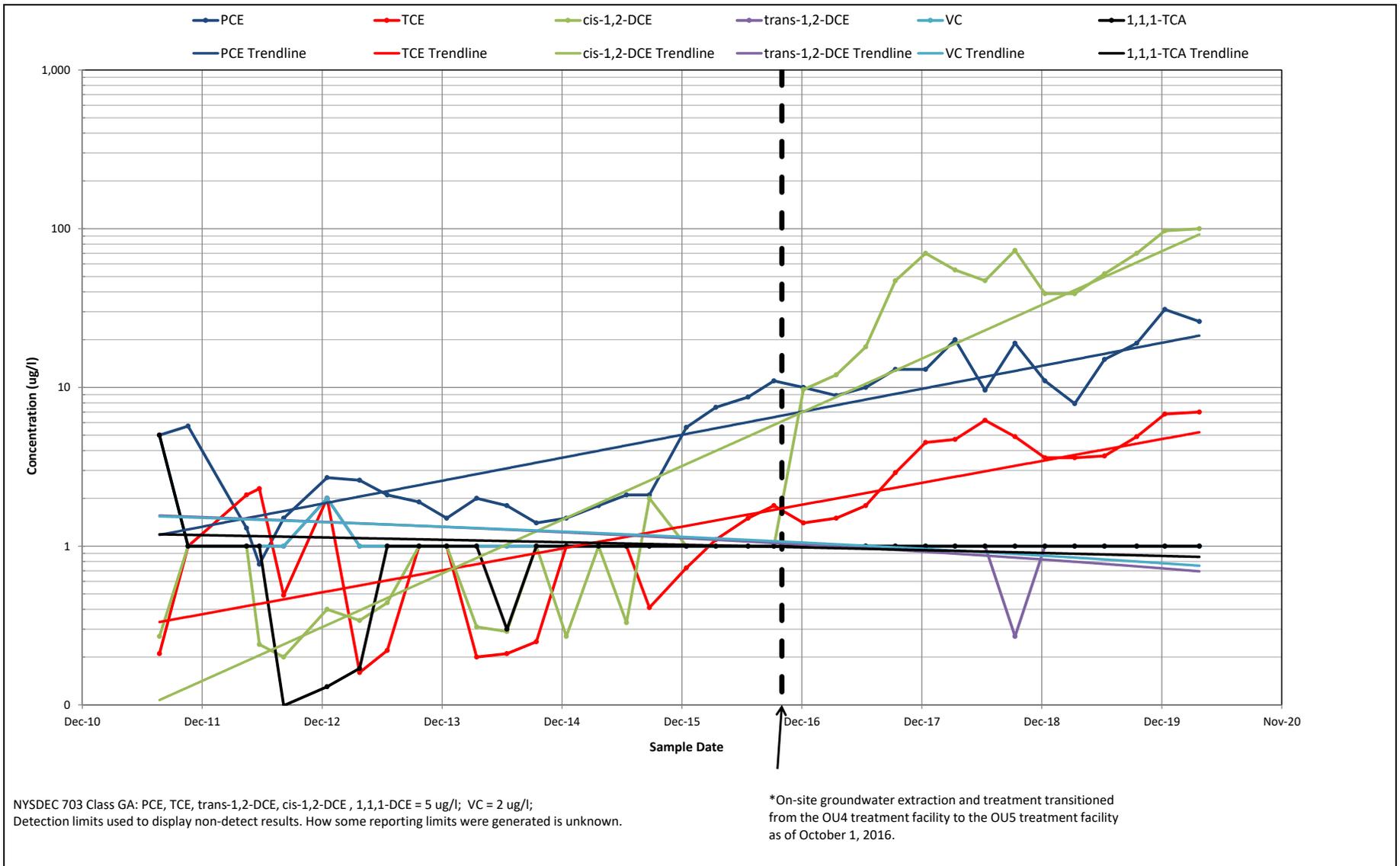




CHLORINATED VOC CONCENTRATIONS
WELL EW-5
CLAREMONT POLYCHEMICAL CORPORATION OPERABLE UNIT 5
NYSDEC SITE #130015

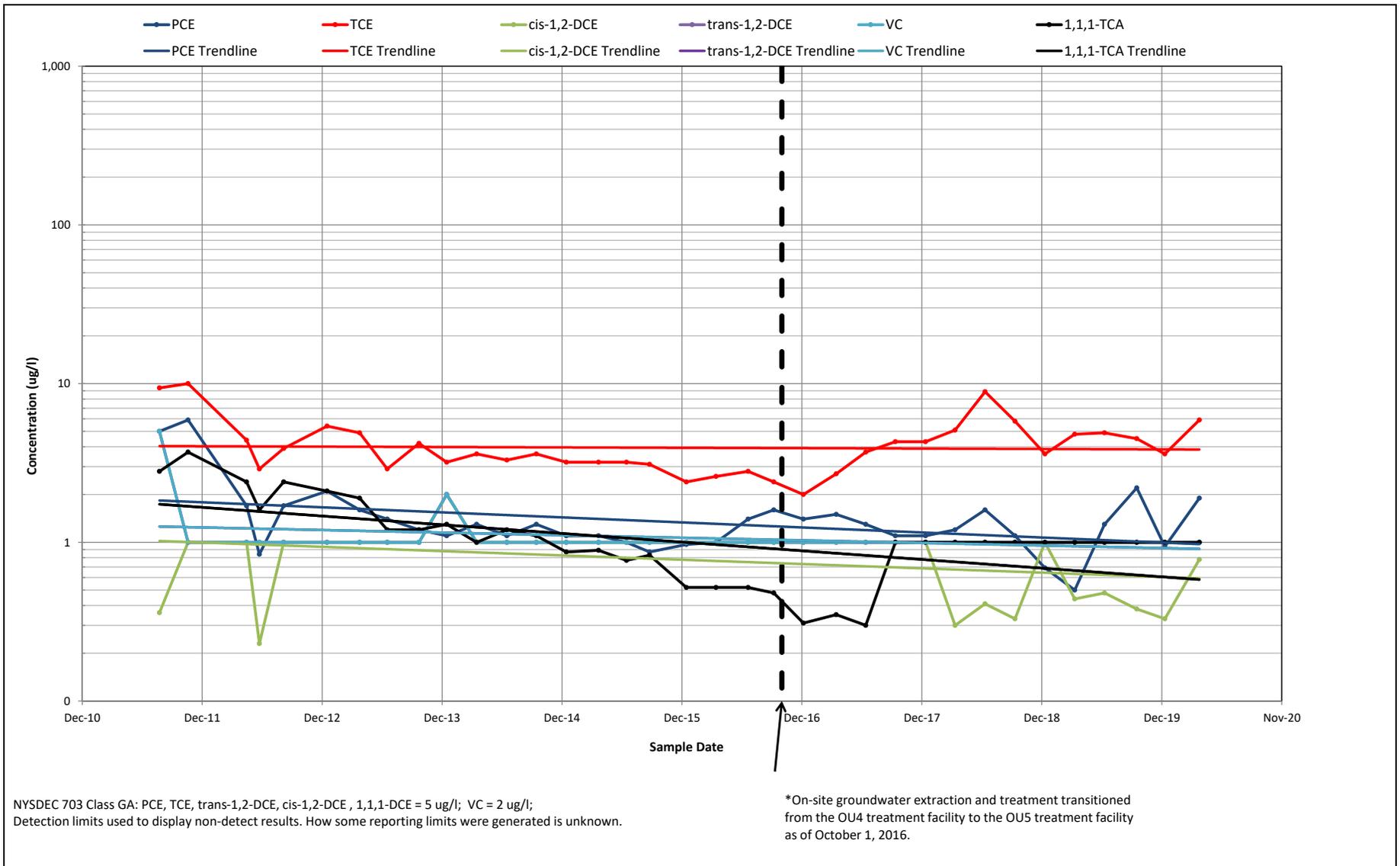
DATE
 MARCH 2020

FIGURE



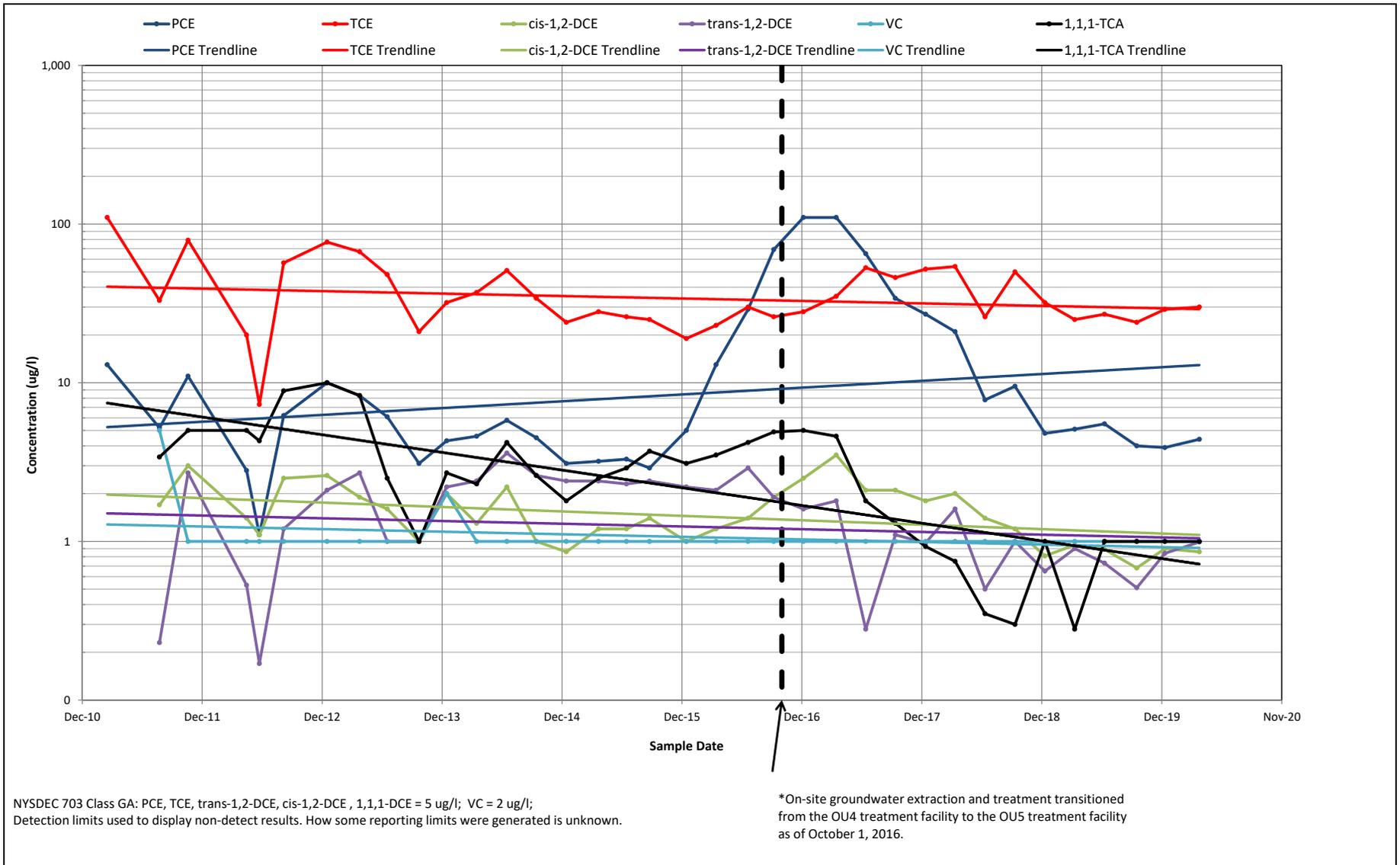
CHLORINATED VOC CONCENTRATIONS
WELL EW-4A
CLAREMONT POLYCHEMICAL CORPORATION OPERABLE UNIT 5
NYSDEC SITE #130015

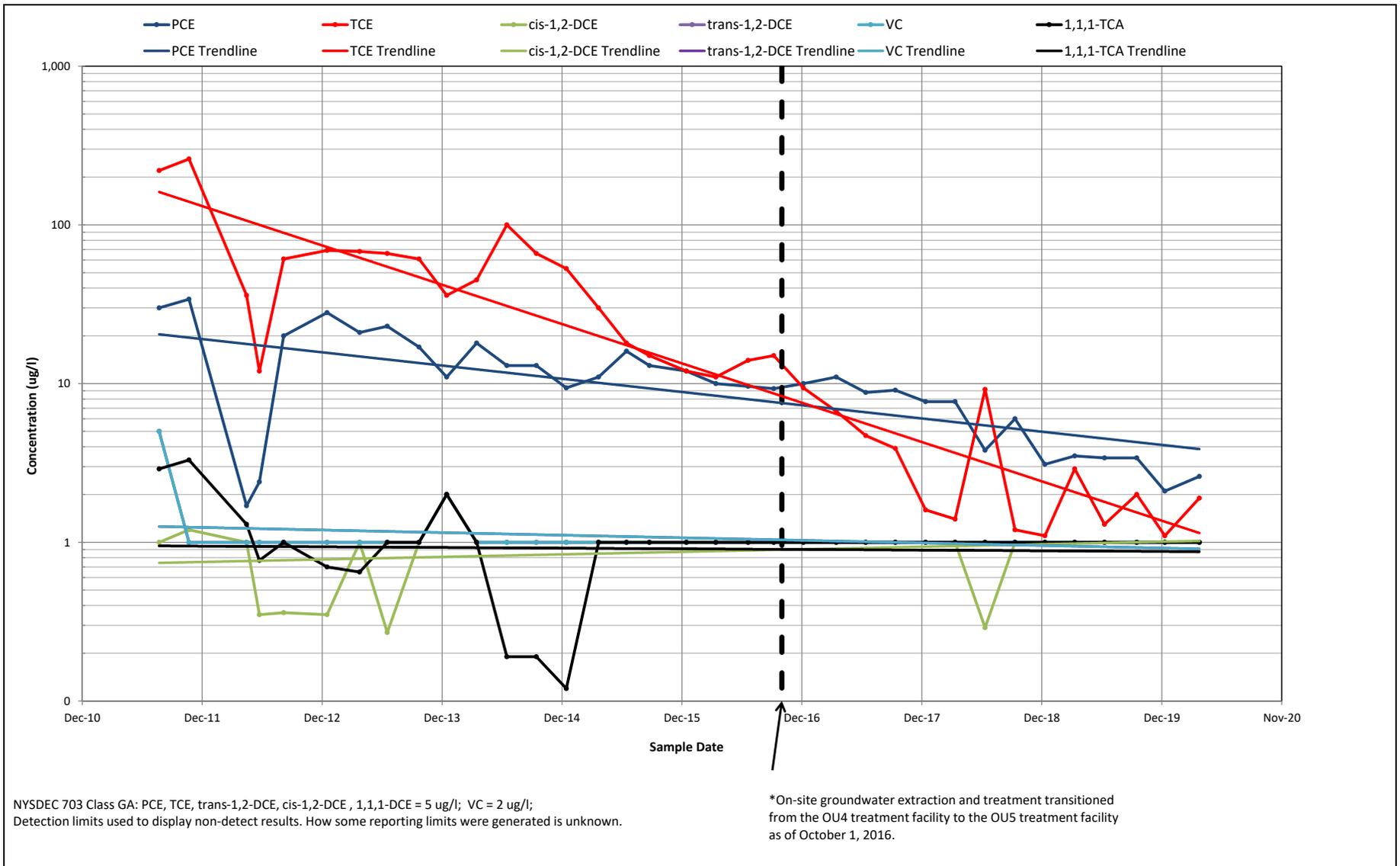
DATE
 MARCH 2020
FIGURE

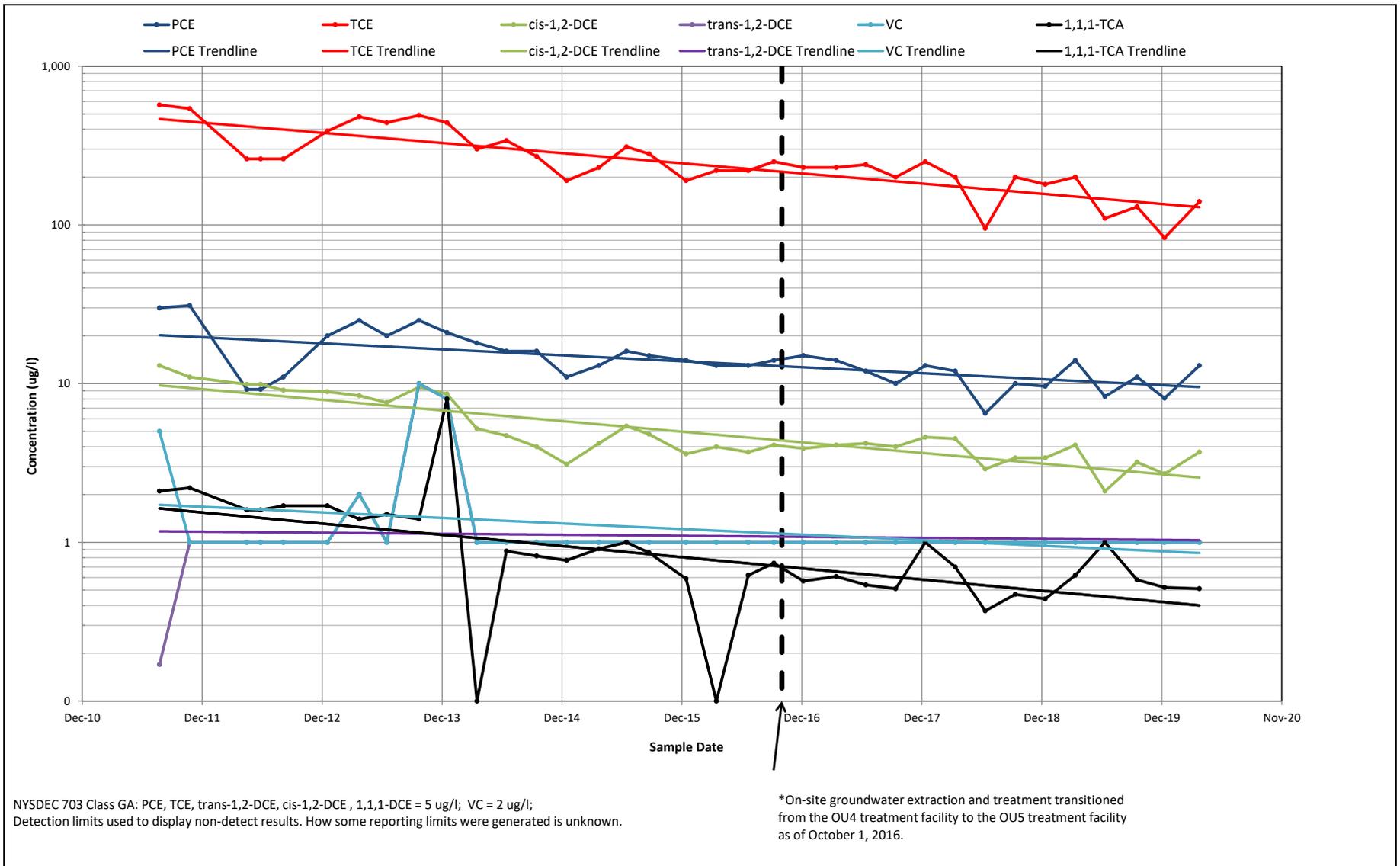


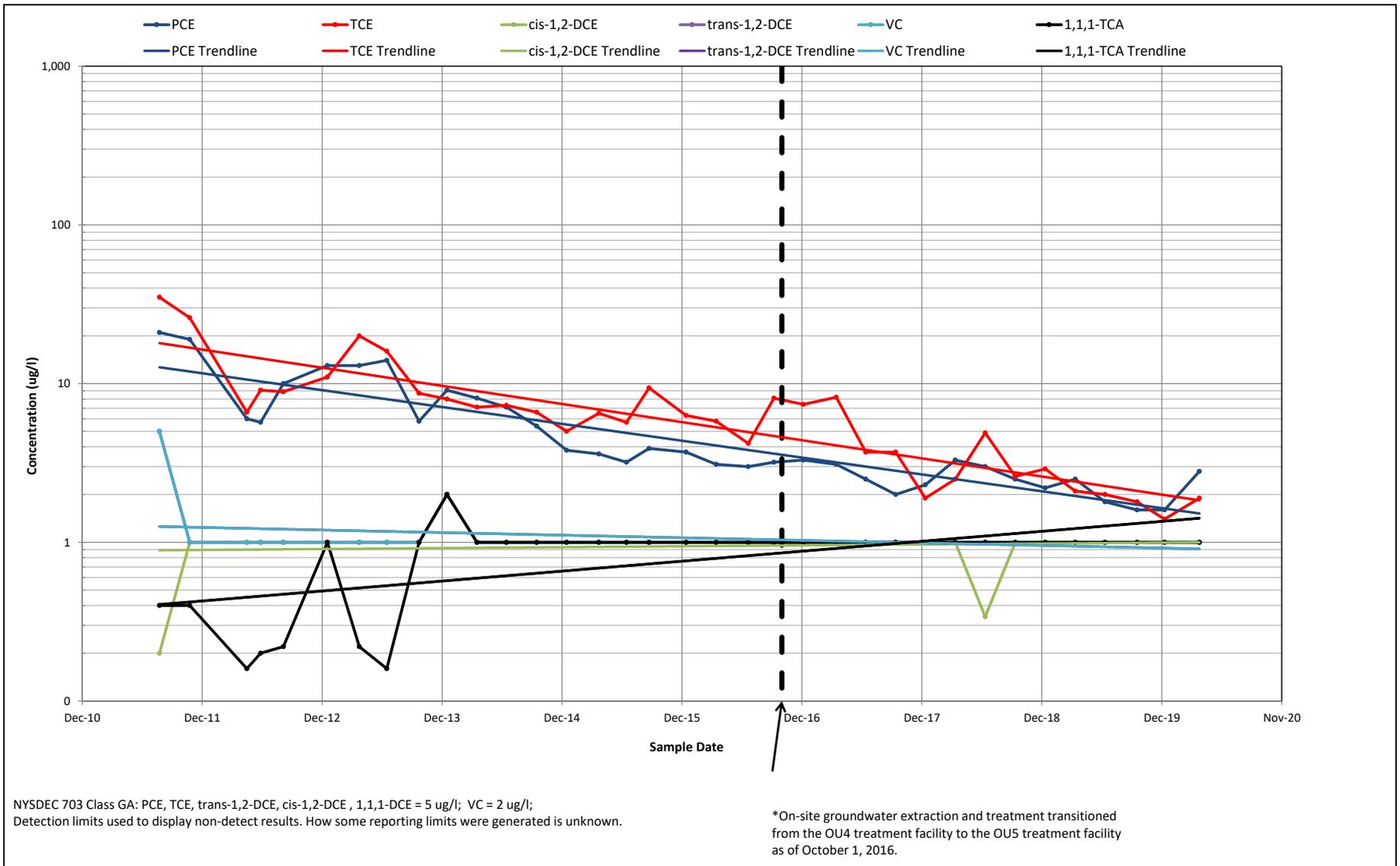
CHLORINATED VOC CONCENTRATIONS
WELL EW-4B
CLAREMONT POLYCHEMICAL CORPORATION OPERABLE UNIT 5
NYSDEC SITE #130015

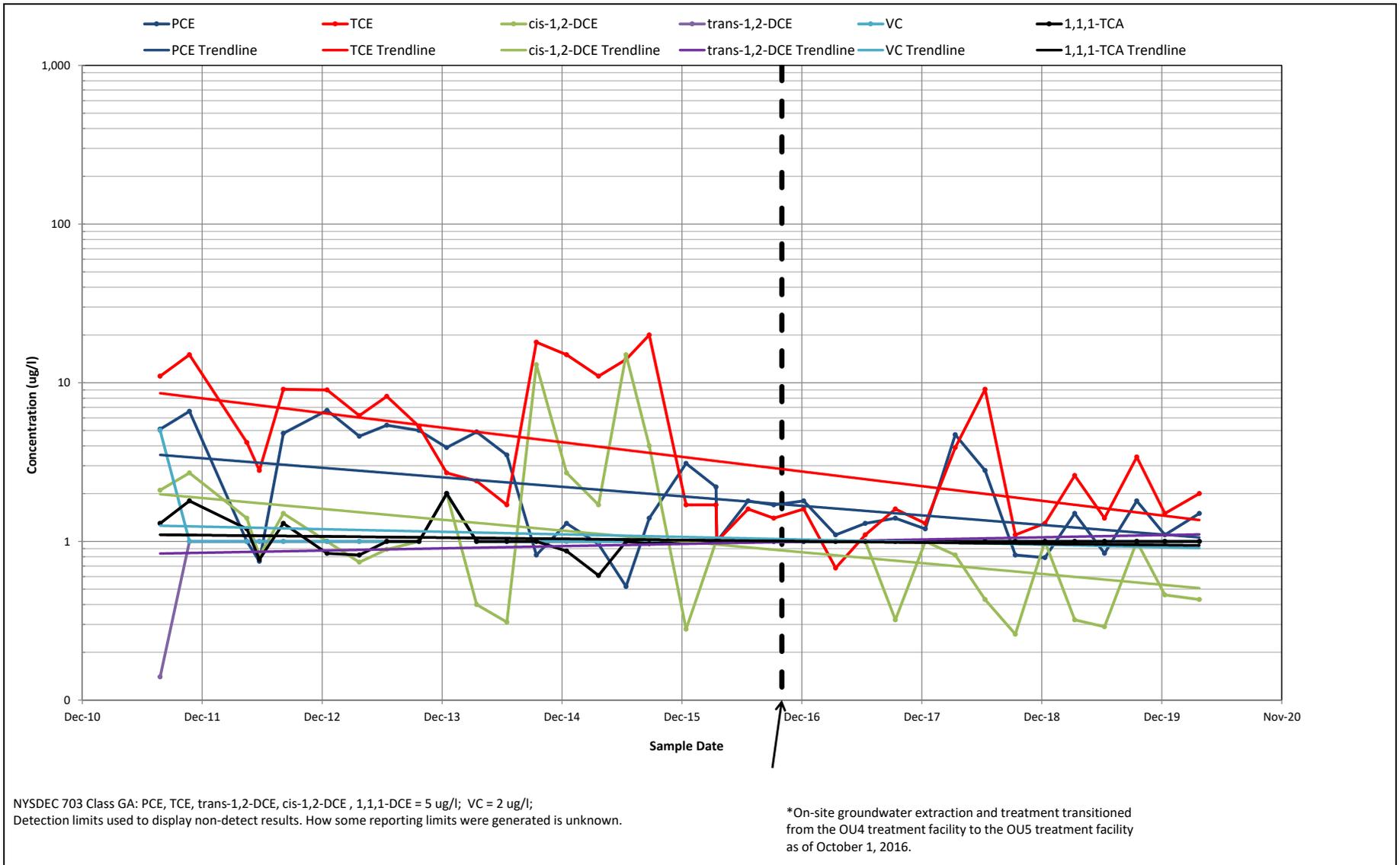
DATE
 MARCH 2020
FIGURE
 12

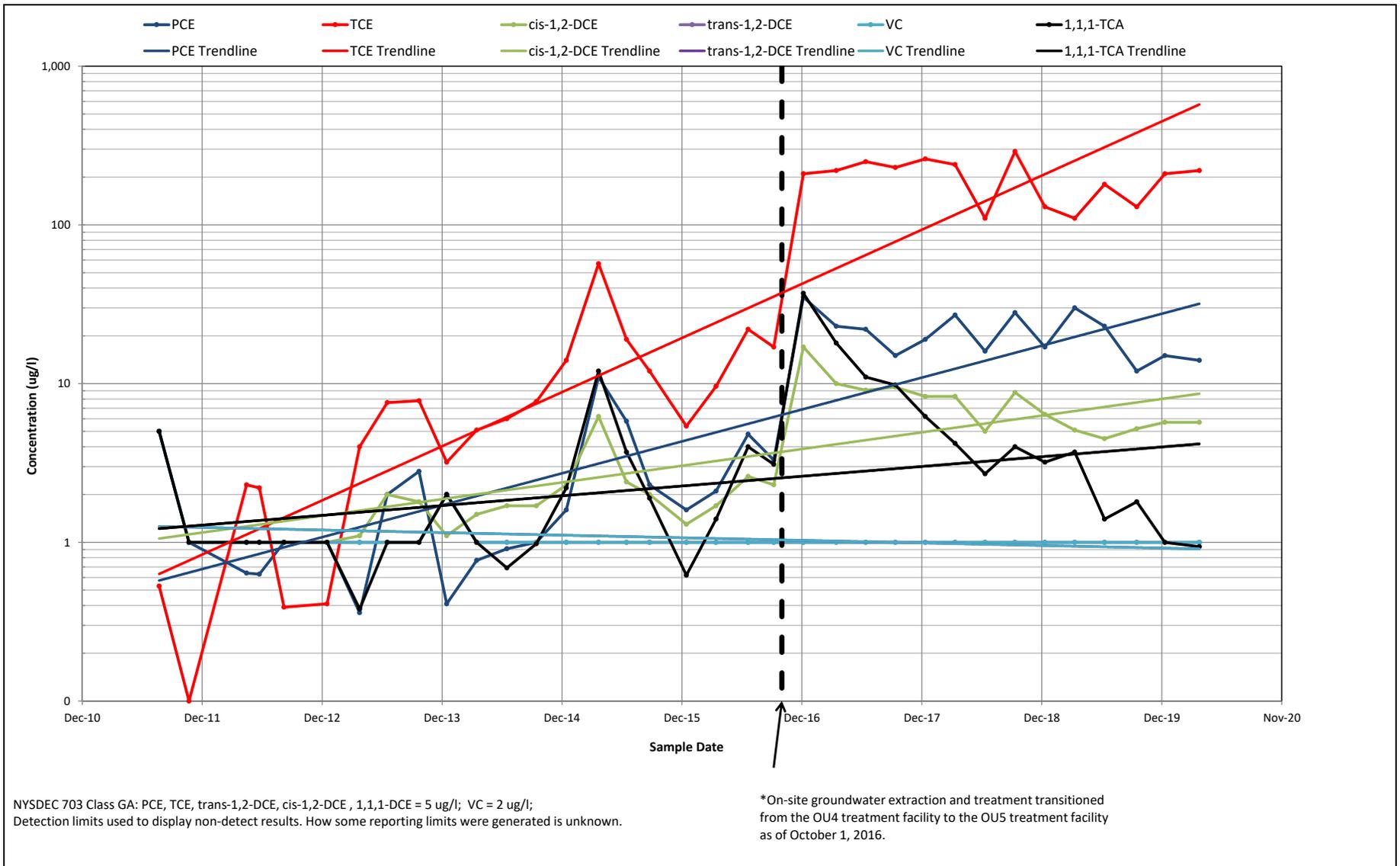


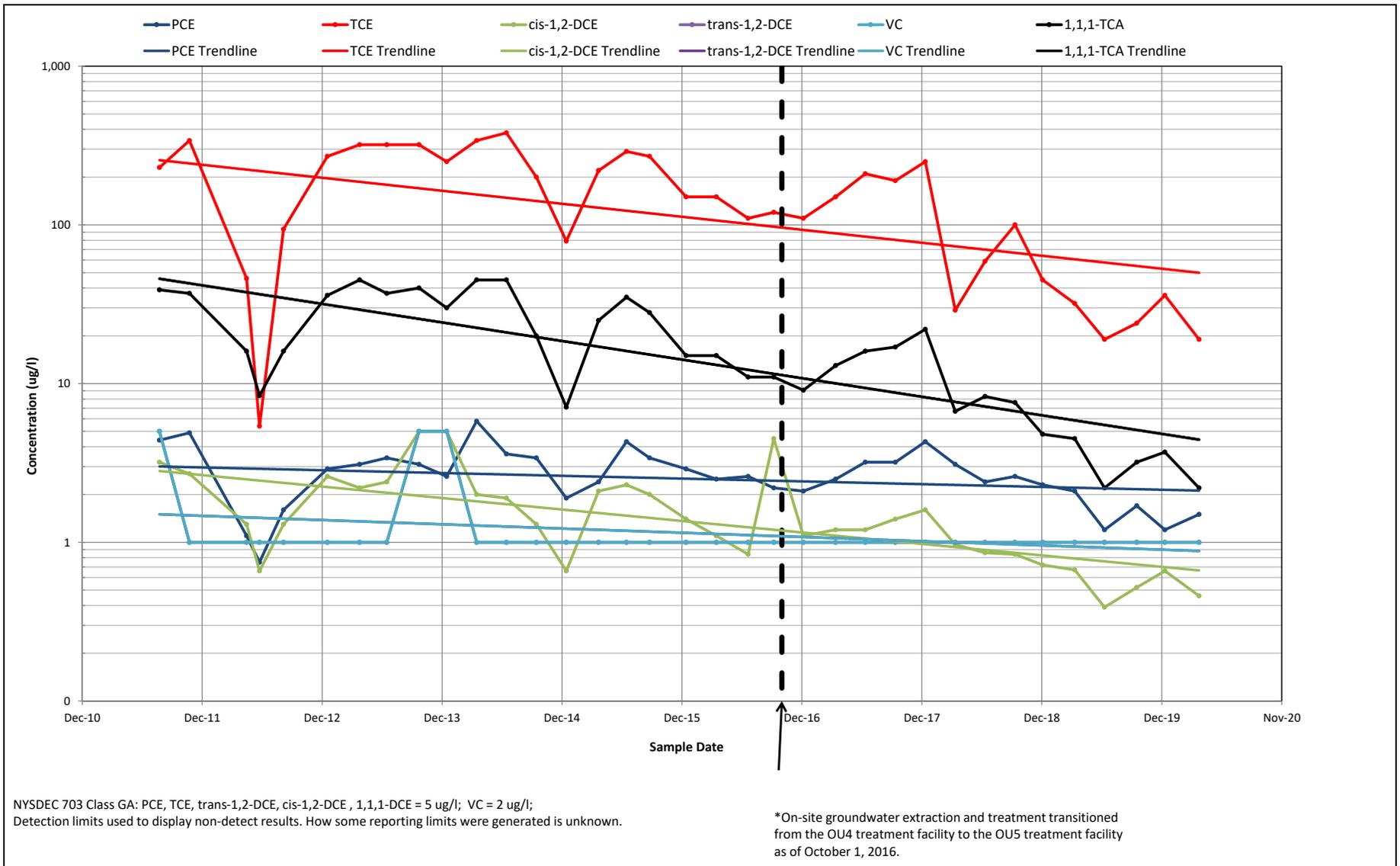


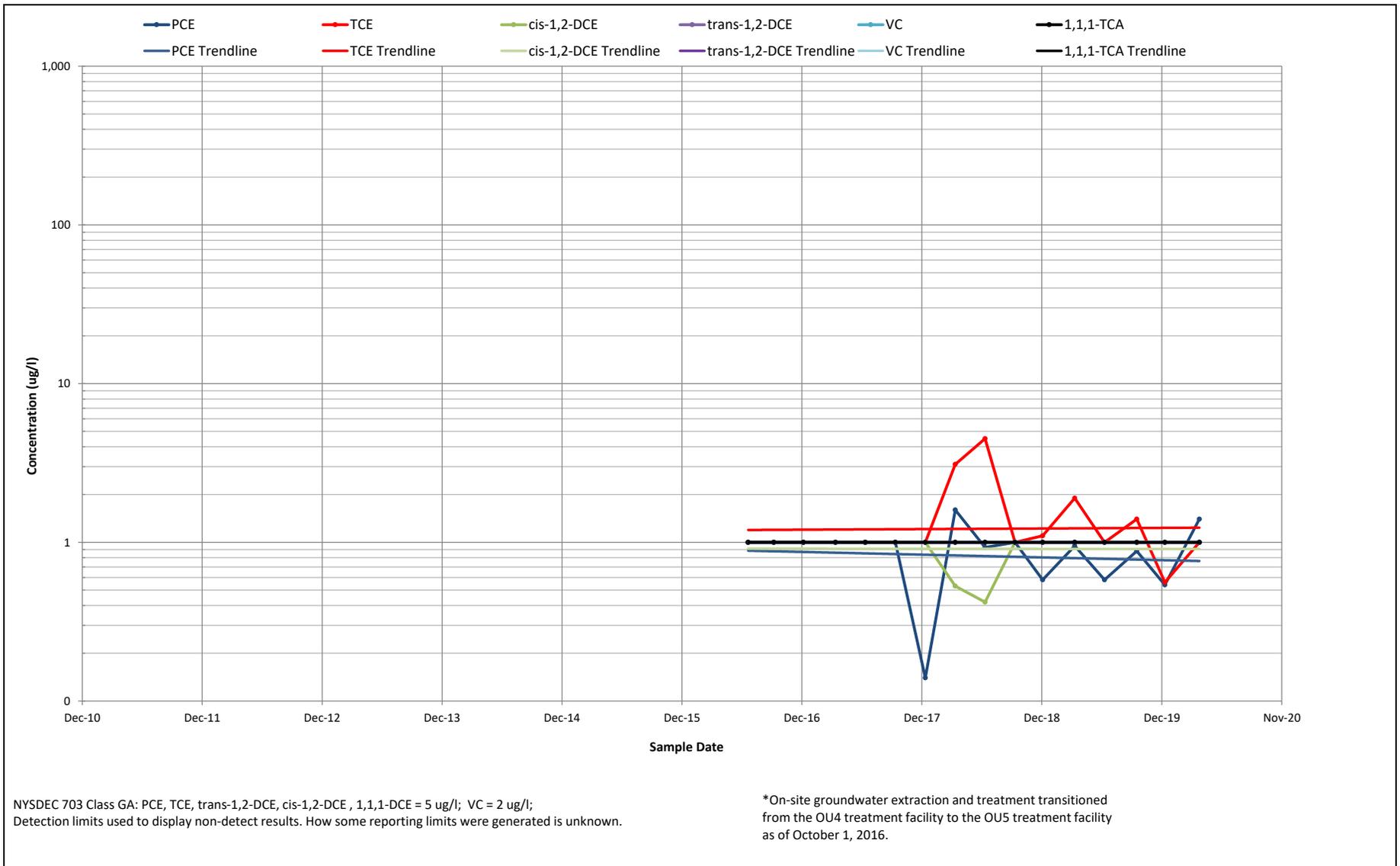






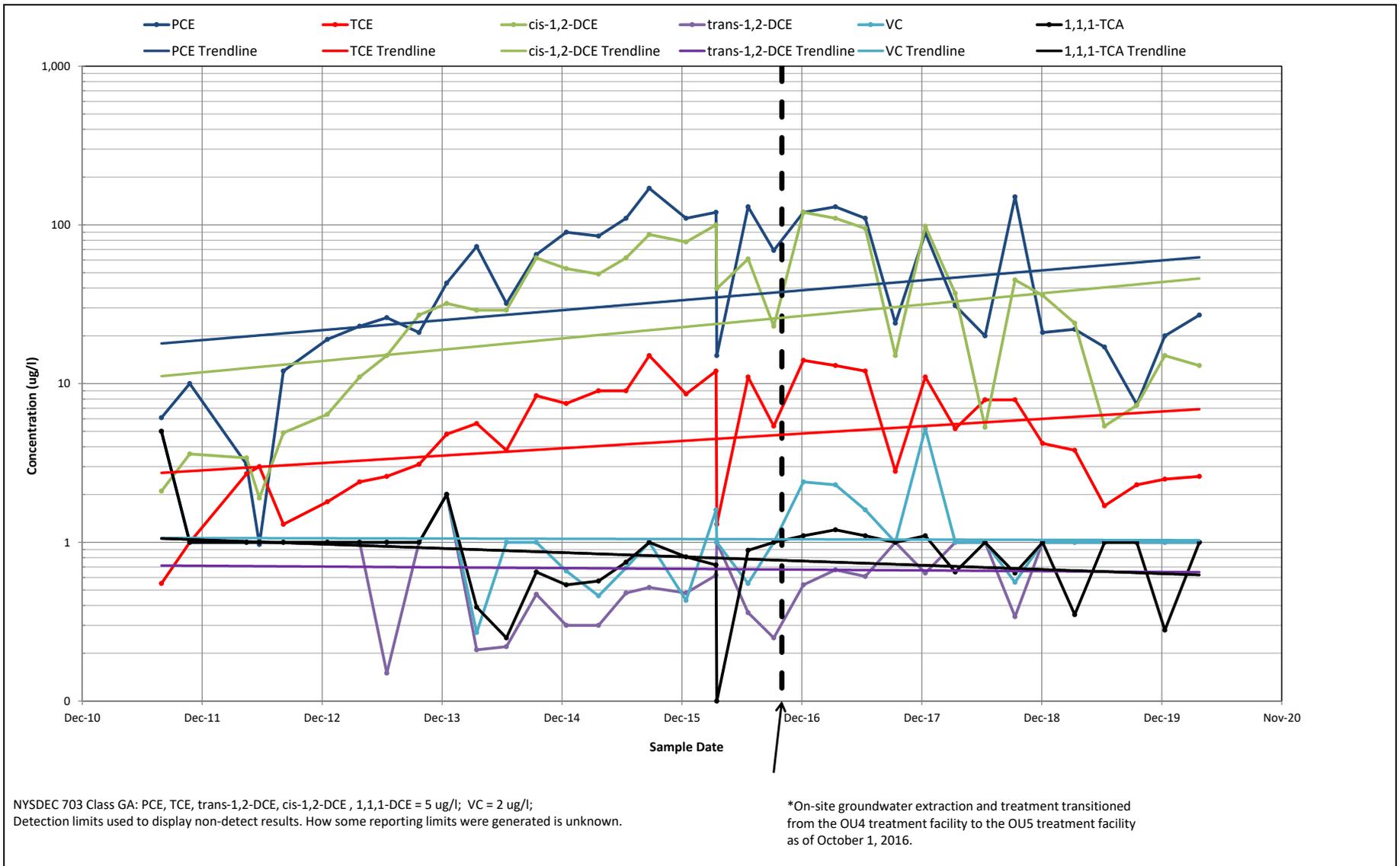


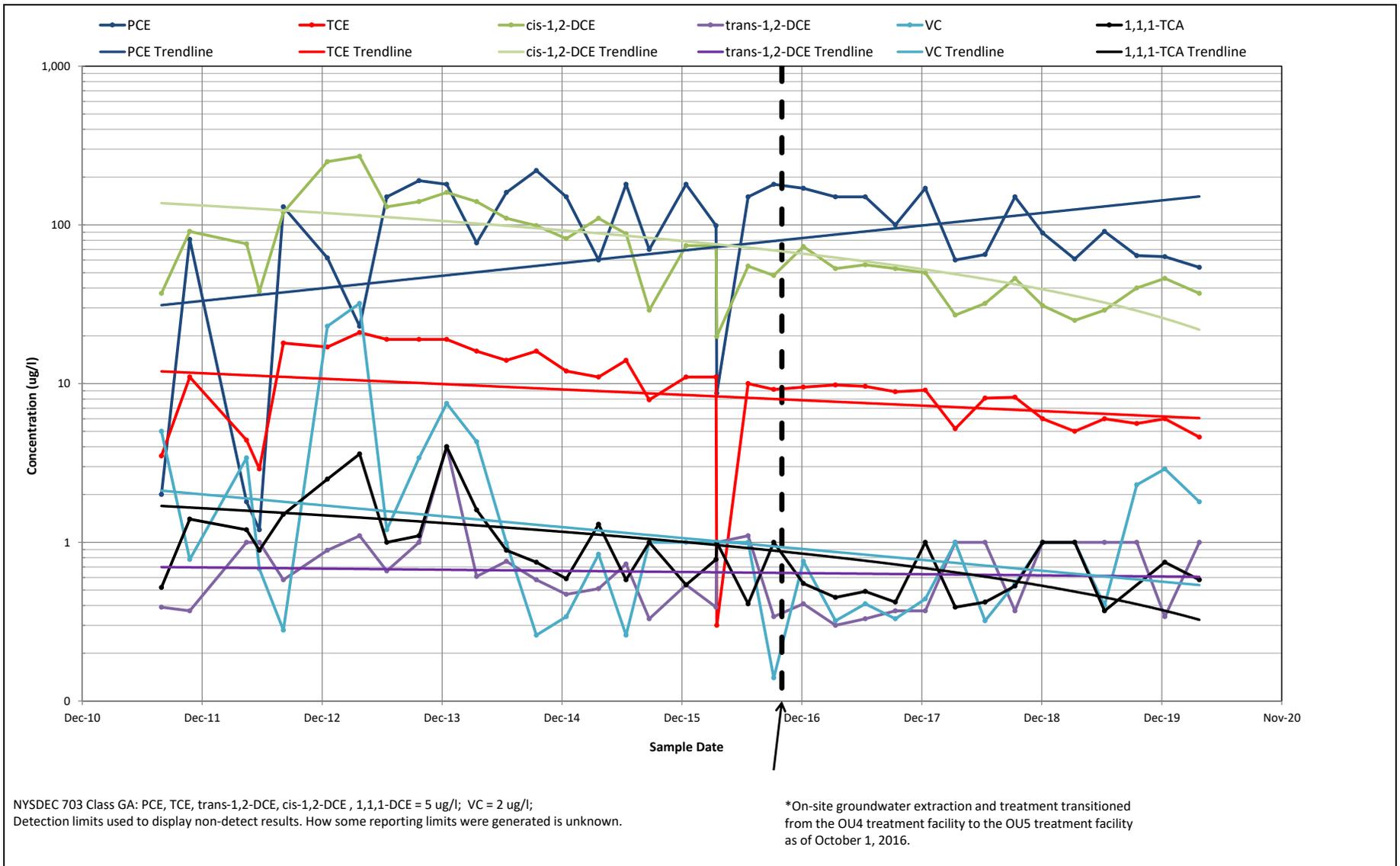




CHLORINATED VOC CONCENTRATIONS
WELL BP-3A
CLAREMONT POLYCHEMICAL CORPORATION OPERABLE UNIT 5
NYSDEC SITE #130015

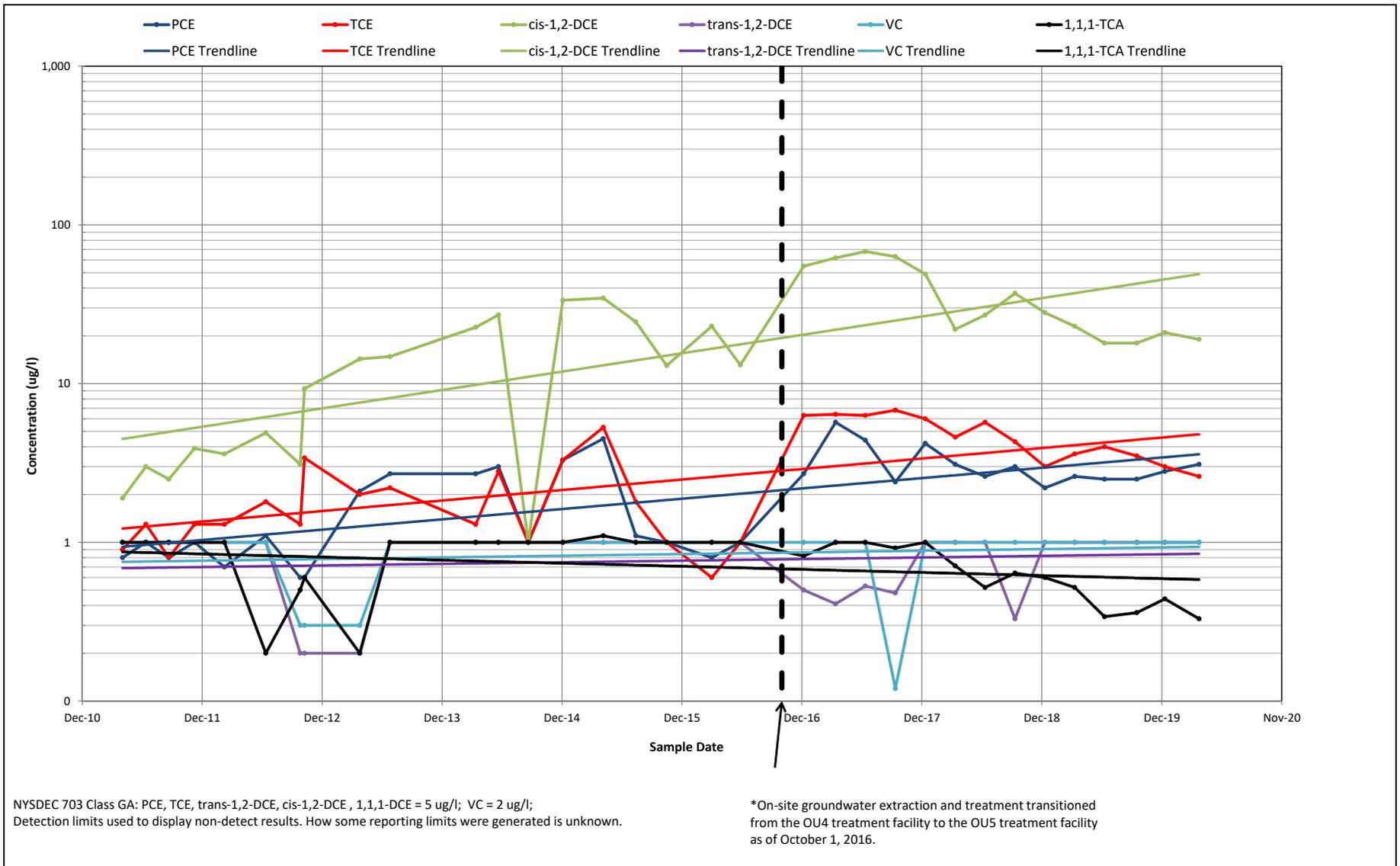
DATE
 MARCH 2020
FIGURE
 20

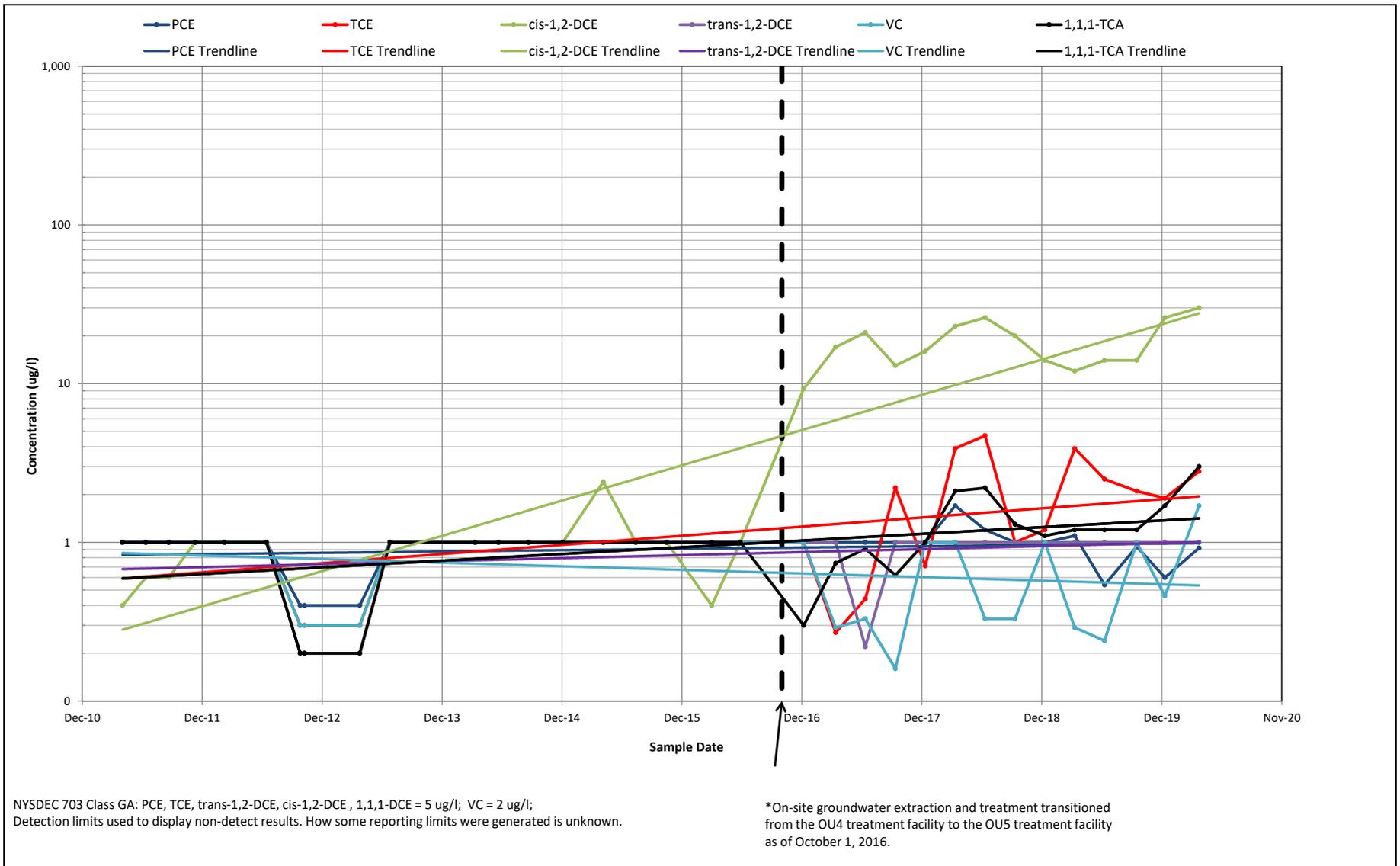


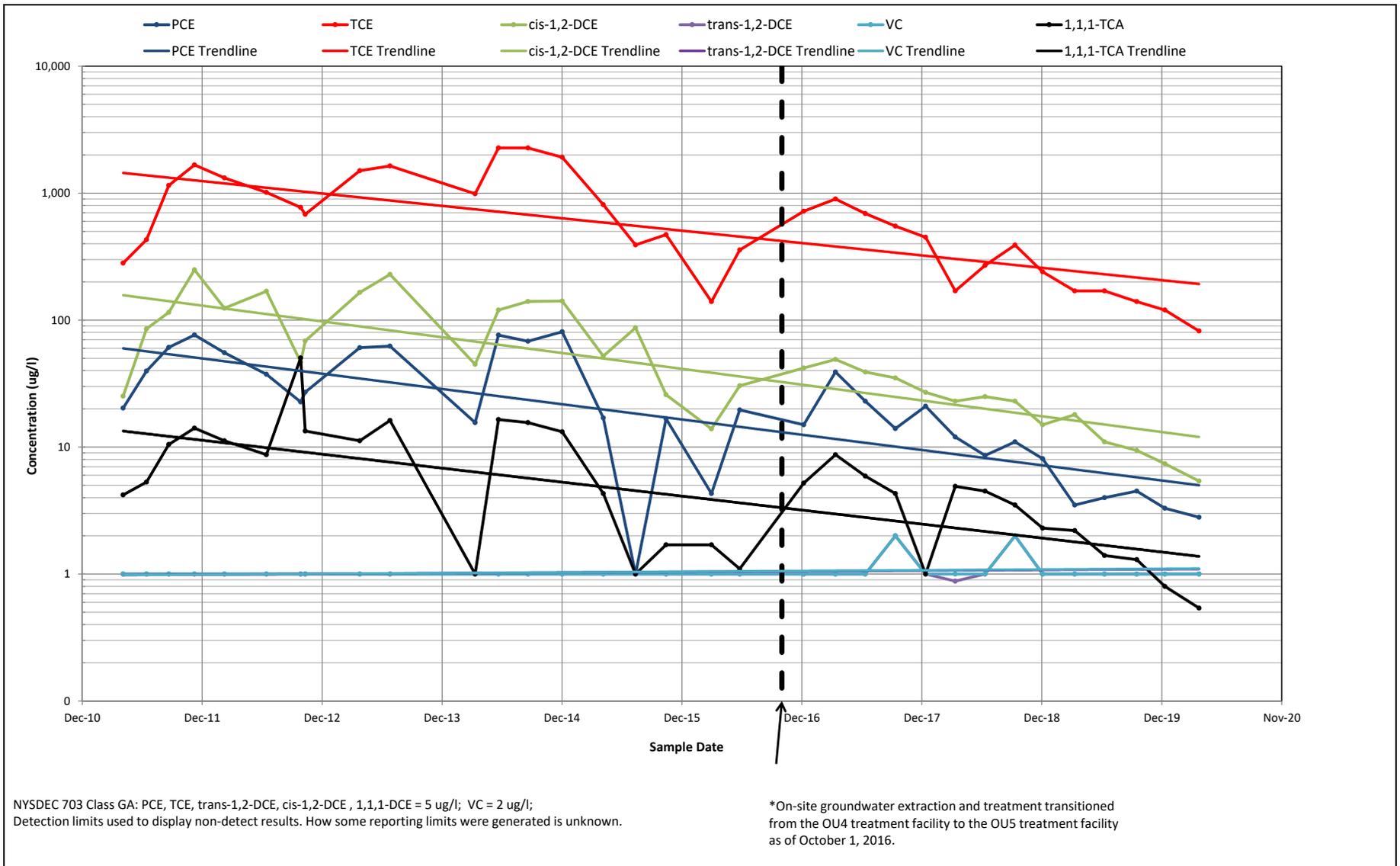


CHLORINATED VOC CONCENTRATIONS
WELL BP-3C
CLAREMONT POLYCHEMICAL CORPORATION OPERABLE UNIT 5
NYSDEC SITE #130015

DATE
 MARCH 2020
FIGURE
 22



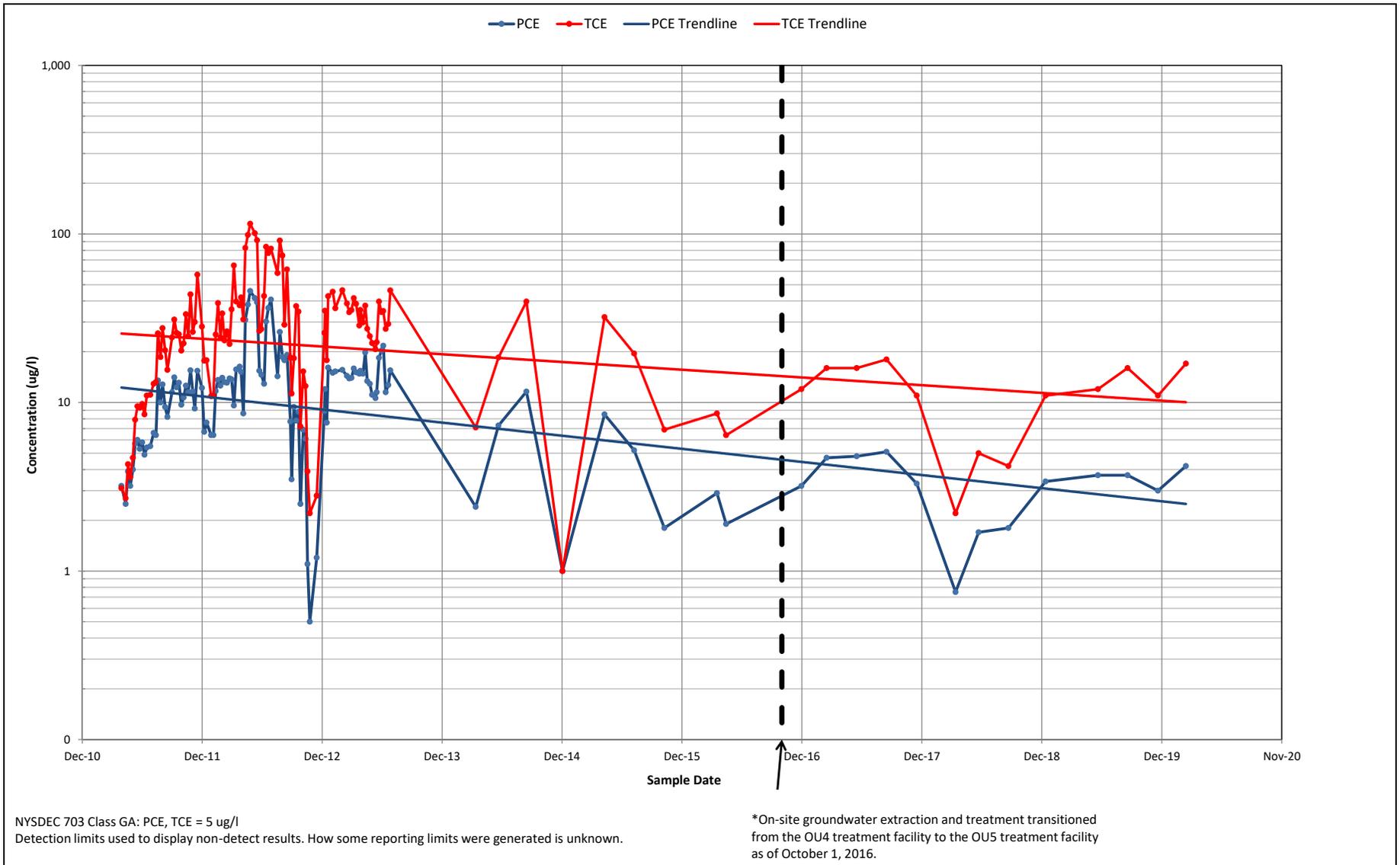




CHLORINATED VOC CONCENTRATIONS
WELL MW-7B-R
CLAREMONT POLYCHEMICAL CORPORATION OPERABLE UNIT 5
NYSDEC SITE #130015

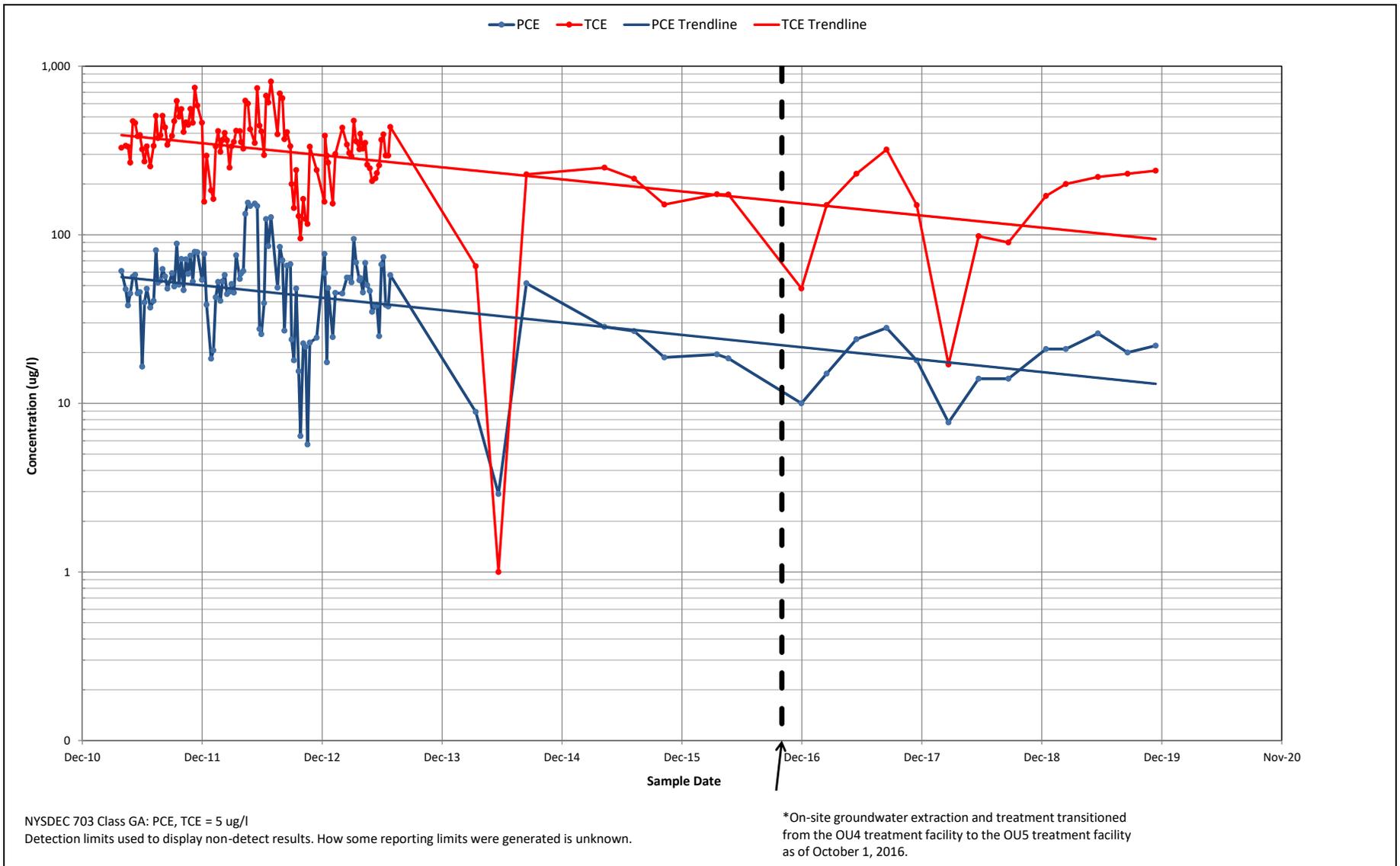
DATE
 MARCH 2020

FIGURE



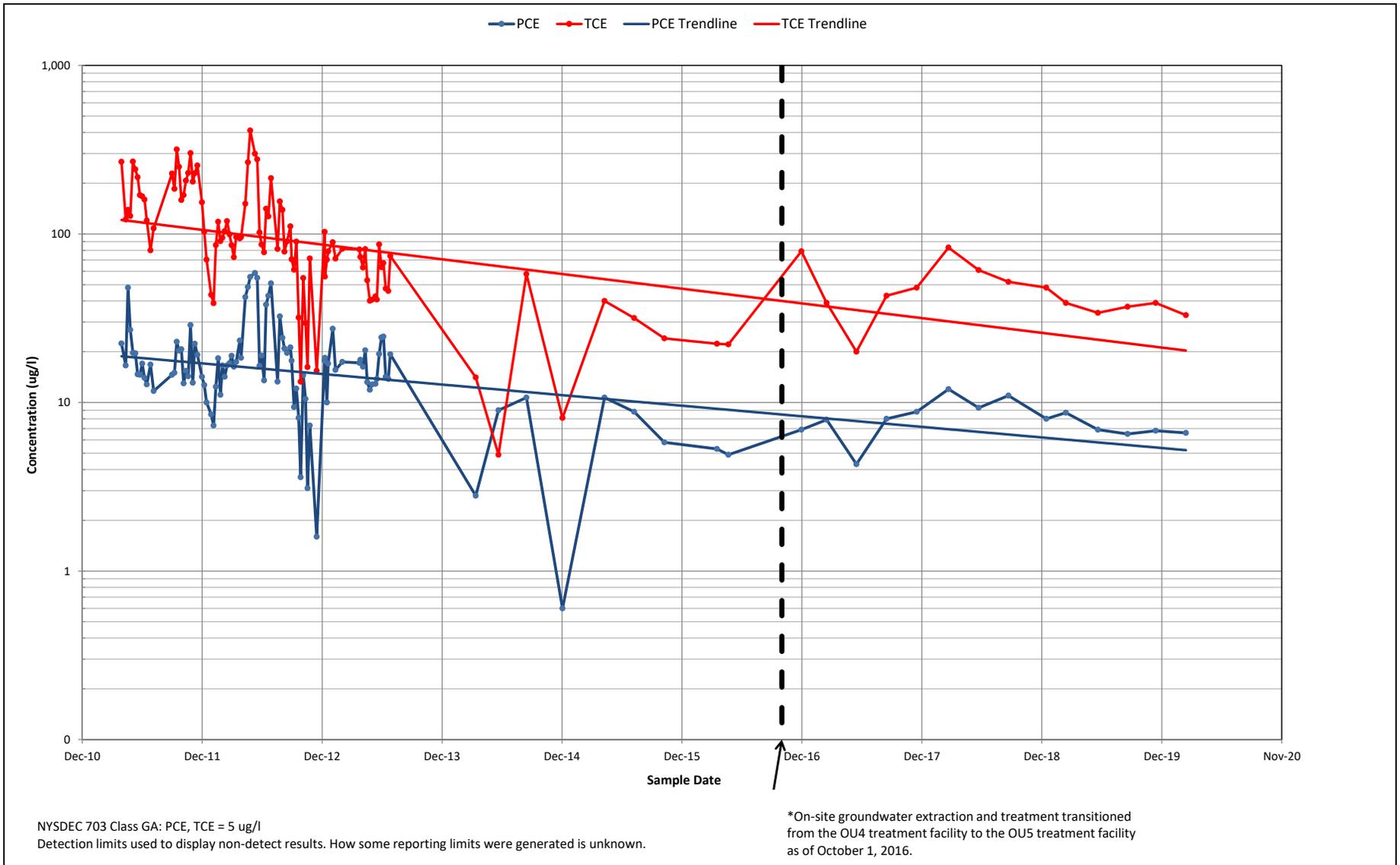
PCE AND TCE CONCENTRATIONS
 WELL RW-3
 CLAREMONT POLYCHEMICAL CORPORATION OPERABLE UNIT 5
 NYSDEC SITE #130015

DATE
 MARCH 2020
 FIGURE
 26



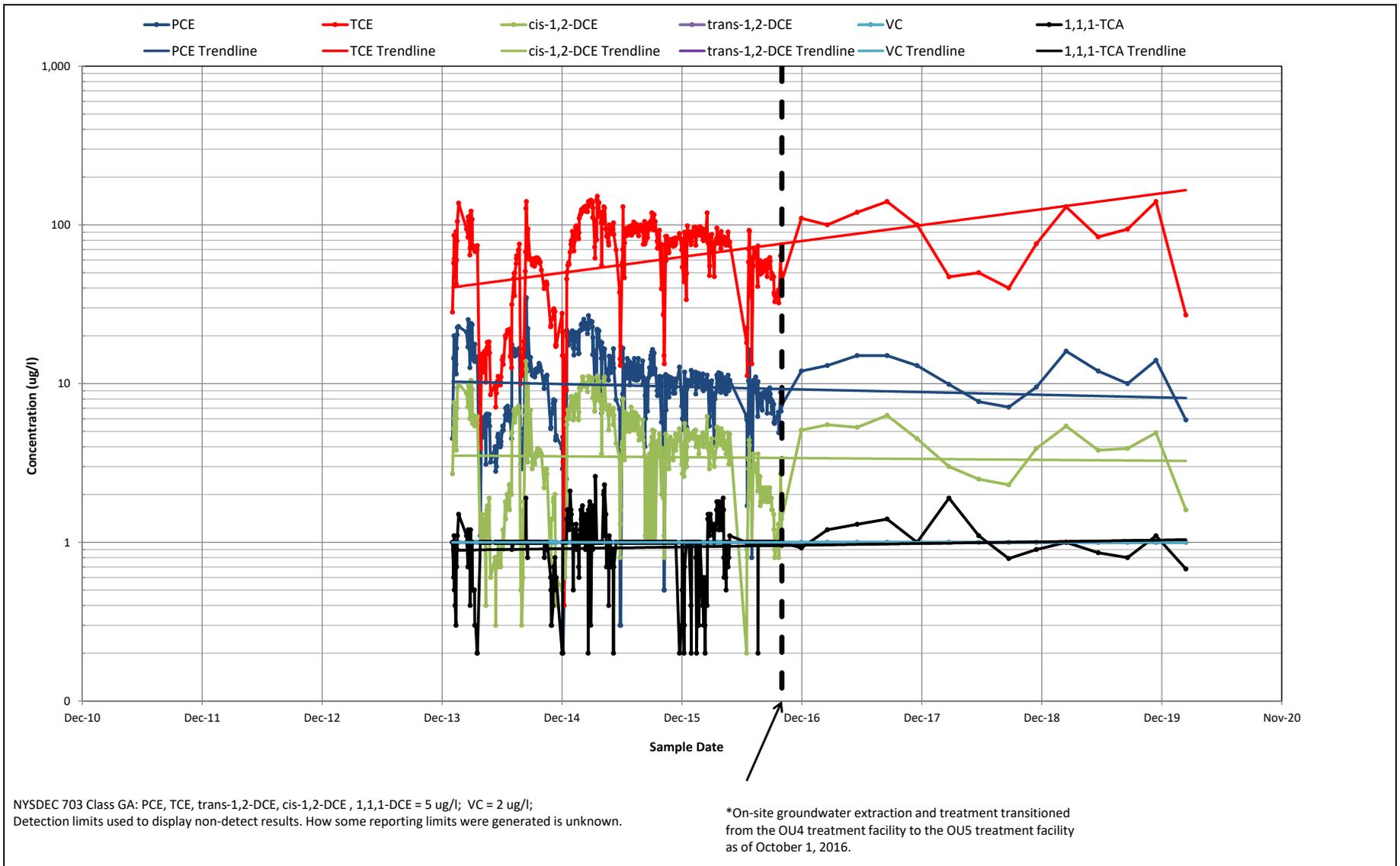
PCE AND TCE CONCENTRATIONS
WELL RW-4
CLAREMONT POLYCHEMICAL CORPORATION OPERABLE UNIT 5
NYSDEC SITE #130015

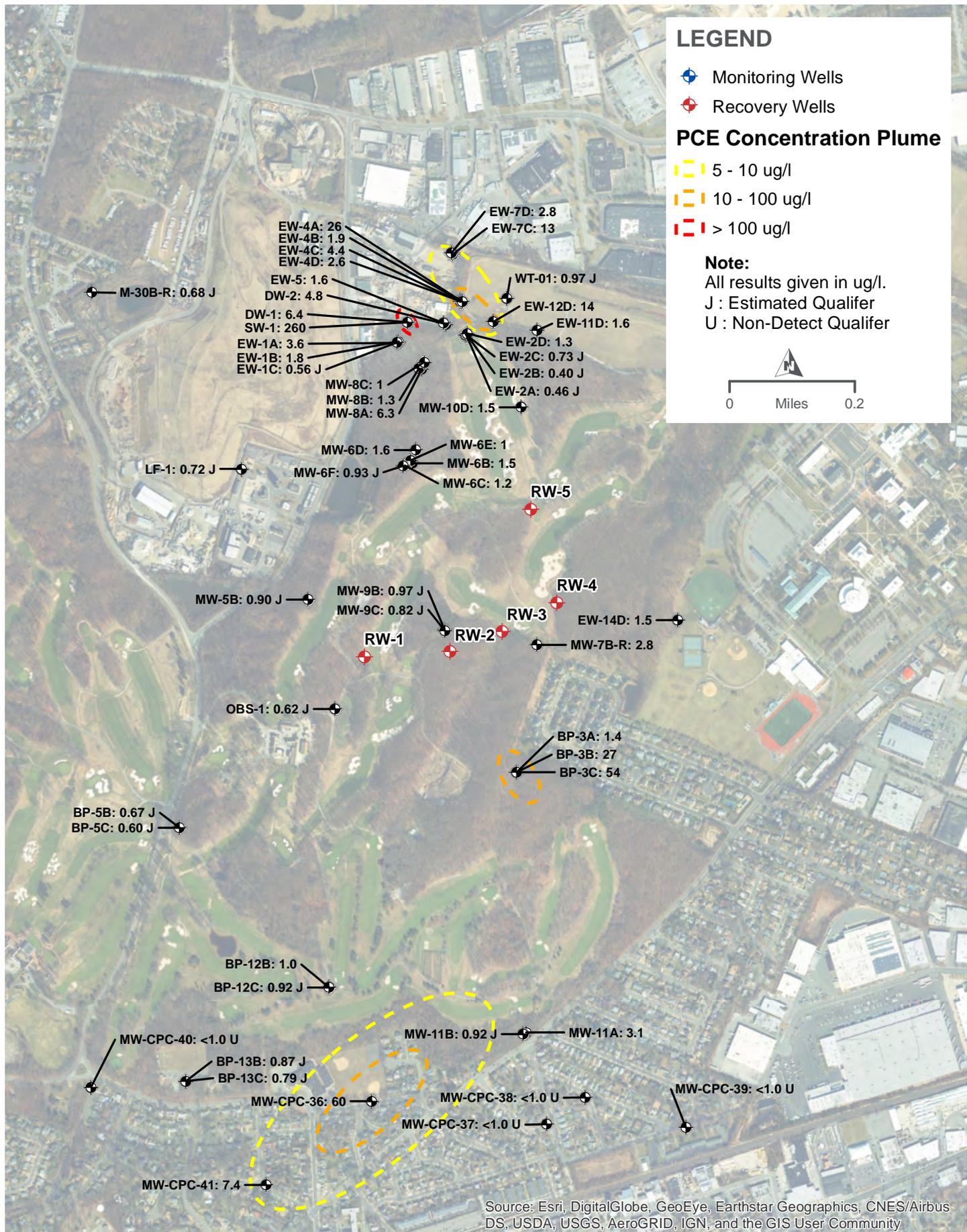
DATE
 MARCH 2020
FIGURE
 27



PCE AND TCE CONCENTRATIONS
WELL RW-5
CLAREMONT POLYCHEMICAL CORPORATION OPERABLE UNIT 5
NYSDEC SITE #130015

DATE
 MARCH 2020
FIGURE
 28





Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community

**MARCH 2020 TETRACHLOROETHENE (PCE) PLUME
CLAREMONT POLYCHEMICAL CORPORATION**

FIGURE 30



LEGEND

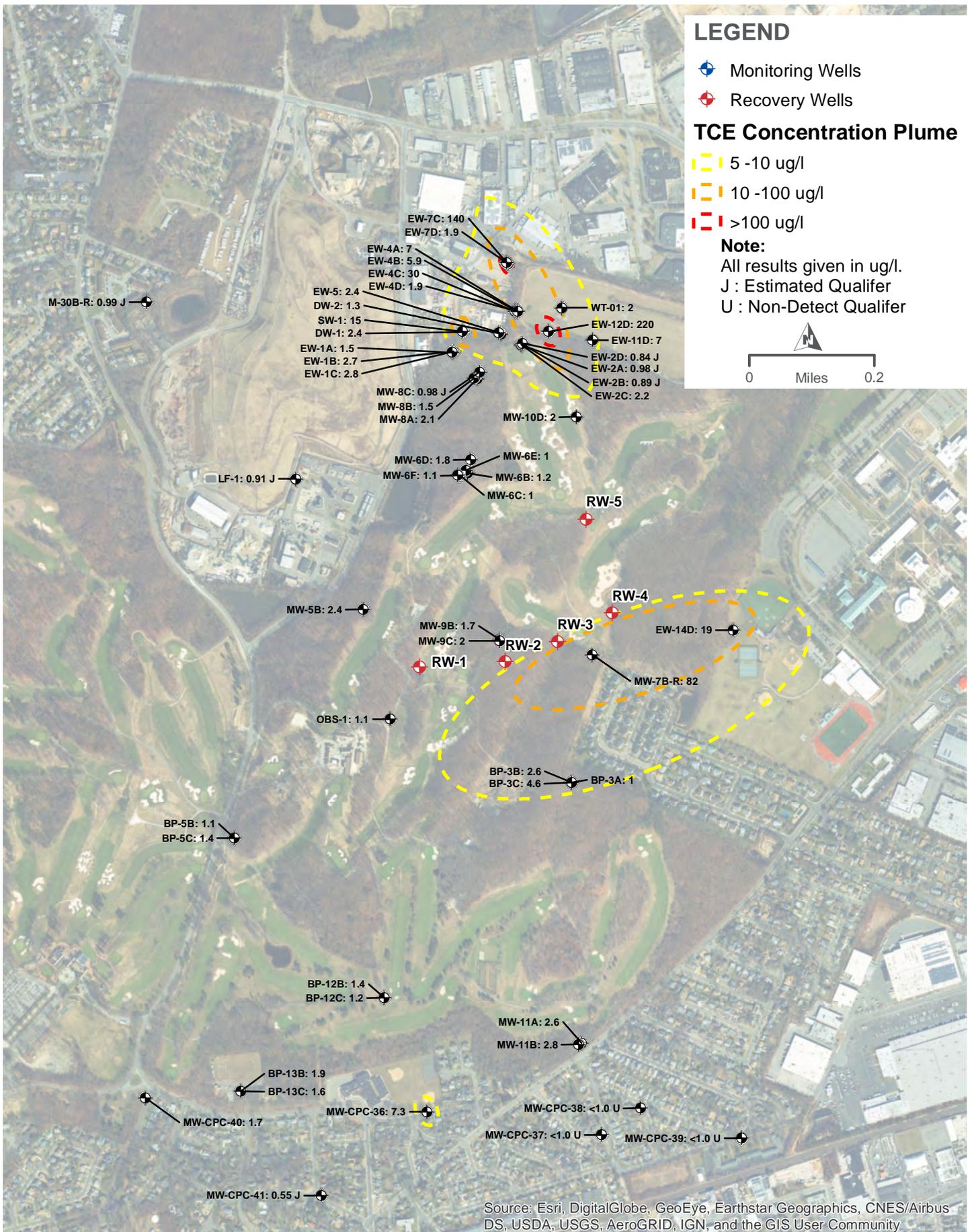
-  Monitoring Wells
-  Recovery Wells

TCE Concentration Plume

-  5 -10 ug/l
-  10 -100 ug/l
- >100 ug/l plume boundary" data-bbox="705 170 730 185"/> >100 ug/l

Note:

All results given in ug/l.
 J : Estimated Qualifier
 U : Non-Detect Qualifier

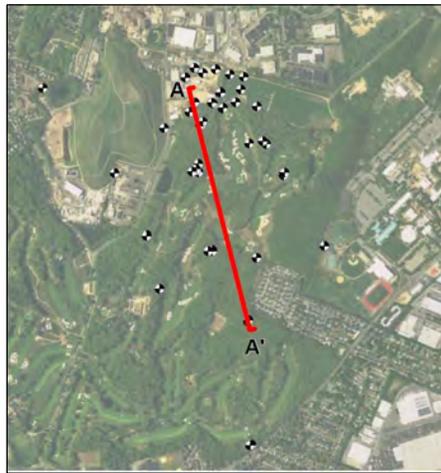
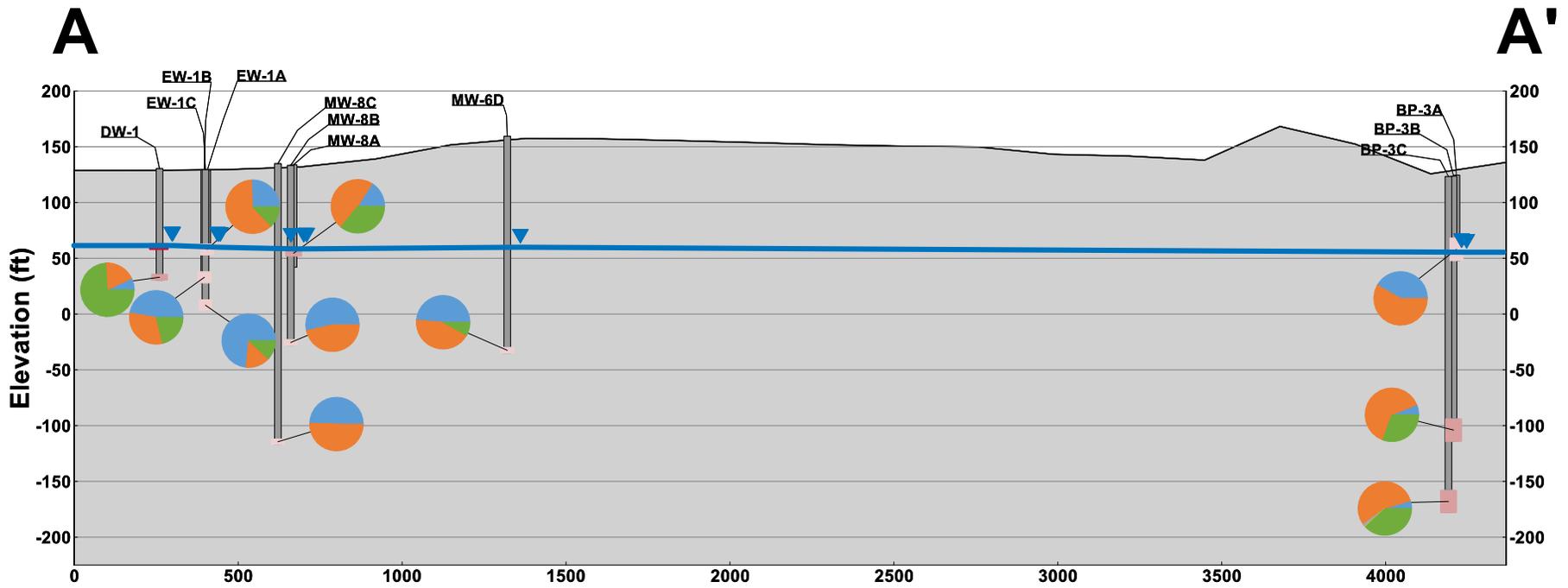


Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community



MARCH 2020 TRICHLOROETHENE (TCE) PLUME CLAREMONT POLYCHEMICAL CORPORATION

FIGURE 31



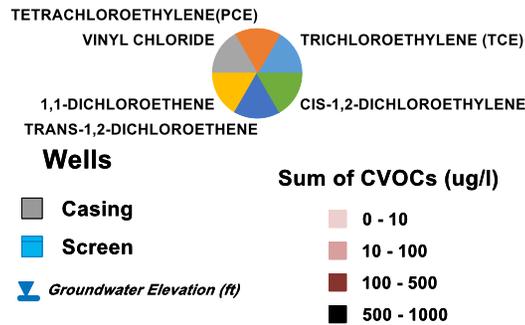
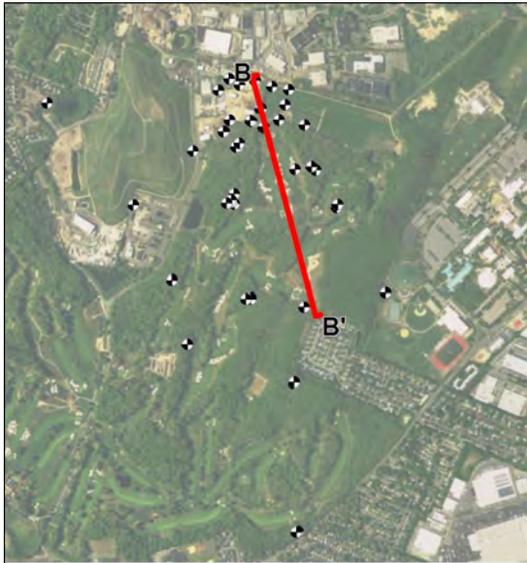
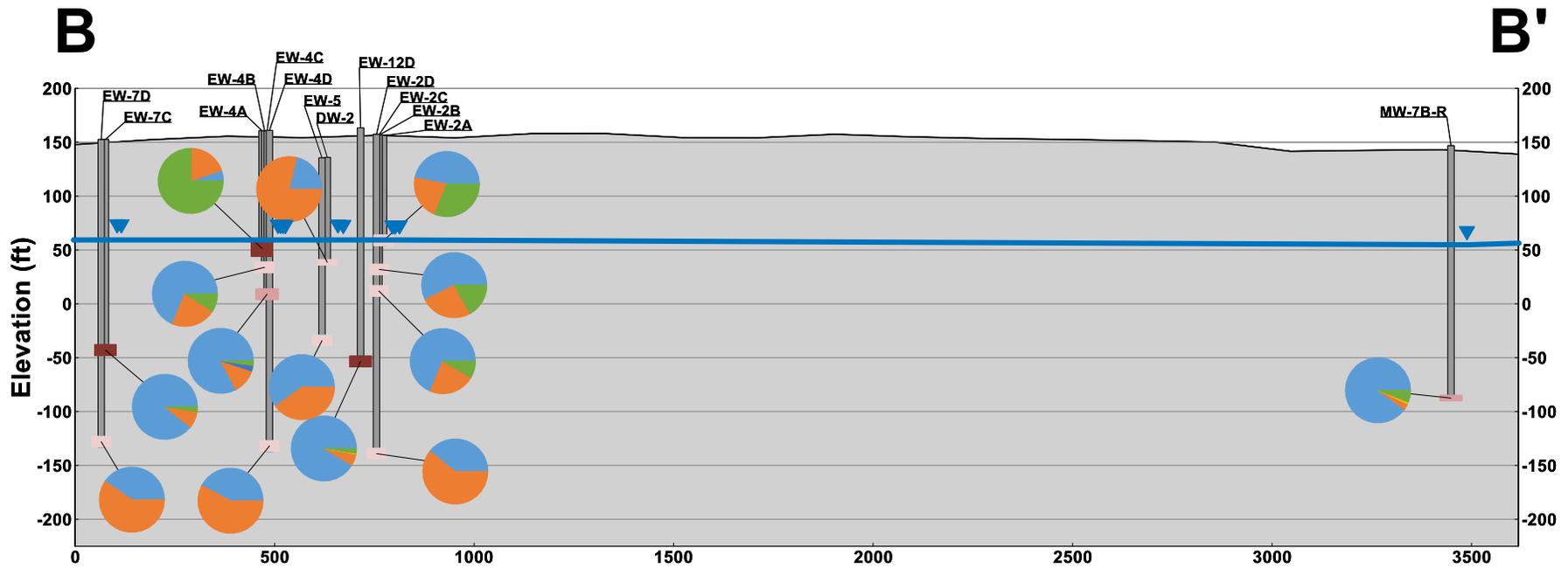
TETRACHLOROETHYLENE (PCE)
 VINYL CHLORIDE
 TRICHLOROETHYLENE (TCE)
 1,1-DICHLOROETHENE
 CIS-1,2-DICHLOROETHYLENE
 TRANS-1,2-DICHLOROETHENE

Sum of CVOCs (ug/l)

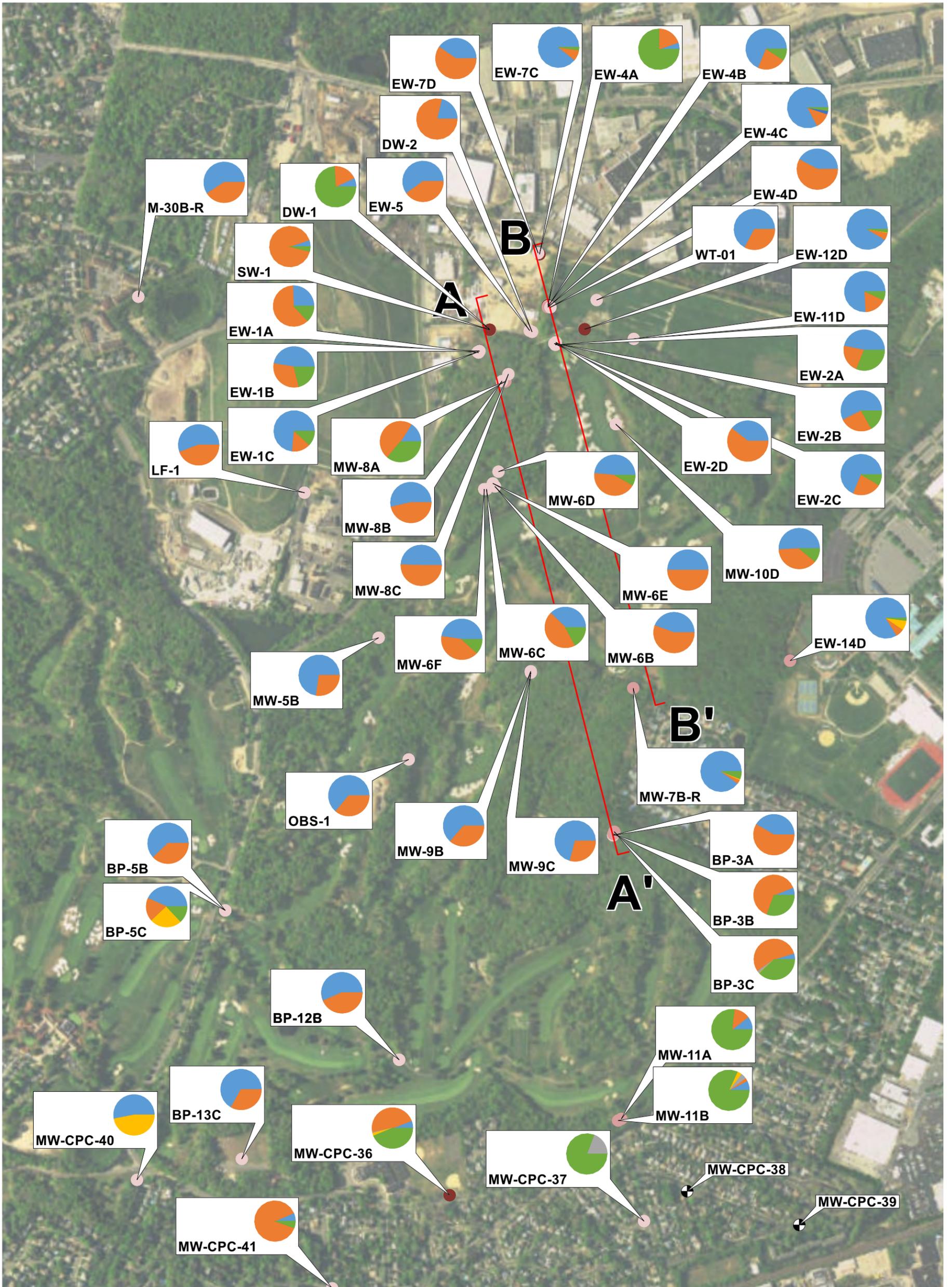


NOTES:

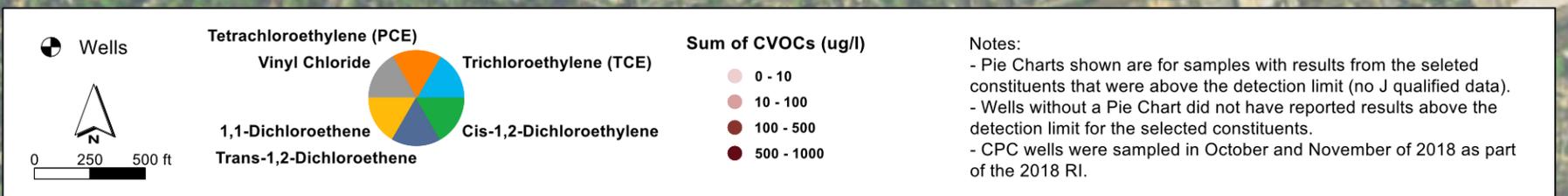
- Capture distance to transect line is 250 feet.
- Pie Charts shown are for samples with results from the selected constituents that were above the detection limit.
- Wells without a Pie Chart did not have reported results above the detection limit for the selected constituents.



NOTES:
 - Capture distance to transect line is 250 feet.
 - Pie Charts shown are for samples with results from the selected constituents that were above the detection limit.
 - Wells without a Pie Chart did not have reported results above the detection limit for the selected constituents.



Aerial Image Source: ESRI, DigitalGlobe, GeoEye, EarthStar Geographics, CNES/Airbus DS, USDA, USGS, AEX, Getmapping, Aerogrid, IGN, swisstopo, and the GIS User Community



DETECTED CHLORINATED BREAKDOWN PRODUCTS
CLAREMONT POLYCHEMICAL CORPORATION

FIGURE 34

ATTACHMENT A

Summary of Analytical Results – First Quarter 2020 Groundwater Samples

Attachment A
 Summary of Analytical Results
 March 2020 (1Q20) Sampling Event
 Claremont Polychemical Superfund Site OU5
 Old Bethpage, NY

CAS RN:	127-18-4	79-01-6	156-59-2	156-60-5	75-35-4	75-01-4	79-34-5	71-55-6	79-00-5	107-06-2	75-34-3	76-13-1	87-61-6	120-82-1	96-12-8	106-93-4	95-50-1	78-87-5	541-73-1	542-75-6	106-46-7	123-91-1	591-78-6	67-64-1	71-43-2	74-97-5	75-27-4	75-25-2	74-83-9	
Unit:	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	
NYSDEC 703 Class GA:	5	5	5	5	5	2	5	5	1	0.6	5	5	5	5	0.04	0.0006	3	1	3	0.4	3	1	50	50	1	5	50	50	5	
Sample Description	Date Collected	Tetrachloroethylene (PCE)	Trichloroethylene (TCE)	Cis-1,2-Dichloroethylene	Trans-1,2-Dichloroethene	1,1-Dichloroethene	Vinyl Chloride	1,1,2,2-Tetrachloroethane	1,1,1-Trichloroethane	1,1,2-Trichloroethane	1,2-Dichloroethane	1,1-Dichloroethane	1,1,2-Trichloro-1,2,2-Trifluoroethane	1,2,3-Trichlorobenzene	1,2,4-Trichlorobenzene	1,2-Dibromo-3-Chloropropane	1,2-Dibromoethane (Ethylene Dibromide)	1,2-Dichlorobenzene	1,2-Dichloropropane	1,3-Dichlorobenzene	1,3-Dichloropropene	1,4-Dichlorobenzene	1,4-Dioxane (P-Dioxane)	2-Hexanone	Acetone	Benzene	Bromochloromethane	Bromodichloromethane	Bromoform	Bromomethane
MW-06E	3/24/2020	1	1	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U
MW-06F	3/24/2020	0.93 J	1.1	0.27 J	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	0.51 J	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U
MW-7B-R	3/23/2020	2.8	82	5.4	< 1.0 U	0.78 J	< 1.0 U	< 1.0 U	0.54 J	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U
MW-08A	3/24/2020	6.3	2.1	4.7	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U
MW-08B	3/24/2020	1.3	1.5	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U
MW-08C	3/24/2020	1	0.98 J	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U
MW-09B	3/23/2020	0.97 J	1.7	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U
MW-09C	3/23/2020	0.82 J	2	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U
MW-10D	3/24/2020	1.5	2	0.43 J	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	0.71 J	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U
MW-11A	3/23/2020	3.1	2.6	19	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	0.33 J	< 1.0 U	< 1.0 U	1.8	0.44 J	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U
MW-11B	3/23/2020	0.92 J	2.8	30	< 1.0 U	1.3	1.7	< 1.0 U	3	< 1.0 U	0.82 J	13	1.3	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U
OBS-1	3/23/2020	0.62 J	1.1	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U
SW-1	3/24/2020	260	15	11	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U
WT-01	3/24/2020	0.97 J	2	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U
WT-01 DUP	3/24/2020	1.2	2.1	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U
TB (CPC)	3/25/2020	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	NA	< 1.0 U	< 1.0 U	< 1.0 U
TB (CPC)	3/26/2020	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	NA	< 1.0 U	< 1.0 U	< 1.0 U	
TB (CPC)	3/27/2020	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	NA	< 1.0 U	< 1.0 U	< 1.0 U	
TB	3/25/2020	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U

Note: U = not detected; J = estimated value; T = quality control parameter exceeded laboratory limits (LCS/LCSD failed recovery criteria)
 Values in shaded cells exceed NYSDEC 703 Class GA criteria.

Attachment A
 Summary of Analytical Results
 March 2020 (1Q20) Sampling Event
 Claremont Polychemical Superfund Site OU5
 Old Bethpage, NY

CAS RN:	75-15-0	56-23-5	108-90-7	75-00-3	67-66-3	74-87-3	0061-01-1	110-82-7	124-48-1	75-71-8	100-41-4	98-82-8	79601-23	79-20-9	78-93-3	108-10-1	108-87-2	75-09-2	95-47-6	100-42-5	75-65-0	1634-04-4	108-88-3	0061-02-1	75-69-4	1330-20-7	
Unit:	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	
NYSDEC 703 Class GA:	60	5	5	5	7	5			50	5	5	5			50			5	5	5		10	5		5	5	
Sample Description		Carbon Disulfide	Carbon Tetrachloride	Chlorobenzene	Chloroethane	Chloroform	Chloromethane	Cis-1,3-Dichloropropene	Cyclohexane	Dibromochloromethane	Dichlorodifluoromethane	Ethylbenzene	Isopropylbenzene (Cumene)	m,p-Xylene	Methyl Acetate	Methyl Ethyl Ketone (2-Butanone)	Methyl Isobutyl Ketone (4-Methyl-2-Pentanone)	Methylcyclohexane	Methylene Chloride	O-Xylene (1,2-Dimethylbenzene)	Styrene	Tert-Butyl Alcohol	Tert-Butyl Methyl Ether	Toluene	Trans-1,3-Dichloropropene	Trichlorofluoromethane	Xylenes (Total)
Date Collected																											
MW-06E	3/24/2020	< 1.0 U	< 1.0 U	3.3	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 5.0 U	< 5.0 U	< 5.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U
MW-06F	3/24/2020	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	0.67 J	0.48 J	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 5.0 U	< 5.0 U	< 5.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U
MW-7B-R	3/23/2020	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	0.46 J	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 5.0 U	< 5.0 U	< 5.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U
MW-08A	3/24/2020	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	0.57 J	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 5.0 U	< 5.0 U	< 5.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U
MW-08B	3/24/2020	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 5.0 U	< 5.0 U	< 5.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U
MW-08C	3/24/2020	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 5.0 U	< 5.0 U	< 5.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U
MW-09B	3/23/2020	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 5.0 U	< 5.0 U	< 5.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U
MW-09C	3/23/2020	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 5.0 U	< 5.0 U	< 5.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U
MW-10D	3/24/2020	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 5.0 U	< 5.0 U	< 5.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U
MW-11A	3/23/2020	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	0.91 J	< 1.0 U	< 1.0 U	< 1.0 U	< 5.0 U	< 5.0 U	< 5.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	0.82 J	< 1.0 U
MW-11B	3/23/2020	< 1.0 U	< 1.0 U	< 1.0 U	0.58 J	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	3.1	< 1.0 U	< 1.0 U	< 1.0 U	< 5.0 U	< 5.0 U	< 5.0 U	< 1.0 U	1.8	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	1	< 1.0 U
OBS-1	3/23/2020	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 5.0 U	< 5.0 U	< 5.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U
SW-1	3/24/2020	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 5.0 U	< 5.0 U	< 5.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U
WT-01	3/24/2020	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 5.0 U	< 5.0 U	< 5.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U
WT-01 DUP	3/24/2020	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 5.0 U	< 5.0 U	< 5.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U
TB (CPC)	3/25/2020	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	NA	< 5.0 U	< 5.0 U	< 5.0 U	< 1.0 U	< 1.0 U	NA	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 2.0 U
TB (CPC)	3/26/2020	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	NA	< 5.0 U	< 5.0 U	< 5.0 U	< 1.0 U	0.42 J	NA	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 2.0 U
TB (CPC)	3/27/2020	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	NA	< 5.0 U	< 5.0 U	< 5.0 U	< 1.0 U	0.43 J	NA	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 2.0 U
TB	3/25/2020	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 5.0 U	3.3 J	< 5.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U

Note: U = not detected; J = estimated value; T = quality control parameter exceeded laboratory limits (LCS/LCSD failed recovery criteria)
 Values in shaded cells exceed NYSDEC 703 Class GA criteria.

ATTACHMENT A1

Summary of Emerging Contaminant Results – First Quarter 2020 Groundwater Samples

Attachment A1
 Summary of Emerging Contaminant Results
 March 2020 (1Q20) Sampling Event
 Claremont Polychemical Superfund Site OU5
 Old Bethpage, NY

CAS RN:	2058-94-8	2706-90-3	307-24-4	307-55-1	335-76-2	335-77-3	355-46-4	375-22-4	375-73-5	375-85-9	375-92-8	375-95-1	376-06-7	39108-34-4	72629-94-8	754-91-6	335-67-1	1763-23-1			123-91-1	
Unit:	ng/l	ng/l	ng/l	ng/l	ng/l	ng/l	ng/l	ng/l	ng/l	ng/l	ng/l	ng/l	ng/l	ng/l	ng/l	ng/l	ng/l	ng/l	ng/l	ng/l	ug/l	
NYSDEC Part 375:	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	10	10	70	500	1	
Sample Description	Date Collected	Perfluoroundecanoic Acid (PFUnA)	Perfluoropentanoic Acid (PFPeA)	Perfluorohexanoic acid (PFHxA)	Perfluorododecanoic acid (PFDoA)	Perfluorodecanoic acid (PFDA)	Perfluorodecane Sulfonic Acid	Perfluorohexanesulfonic acid (PFHxS)	Perfluorobutanoic Acid	Perfluorobutanesulfonic acid (PFBS)	Perfluoroheptanoic acid (PFHpA)	Perfluoroheptane Sulfonate (PFHPS)	Perfluorononanoic acid (PFNA)	Perfluorotetradecanoic acid (PFTA)	1H,1H,2H,2H-Perfluorodecane Sulfonate (8:2)	Perfluorotridecanoic Acid (PFTrIA)	Perfluorooctane Sulfonamide (FOSA)	Perfluorooctanoic acid (PFOA)	Perfluorooctanesulfonic acid (PFOS)	Total PFOA & PFOS	Total PFAS	1,4-Dioxane (P-Dioxane)
MW-CPC-36	3/26/2020	3.12	55.4	56.1	< 1.86 U	2.69	< 1.86 U	35.3 B	24.3 B	7.82	35.7	3.14	333	< 1.86 U	13.5 J	< 1.86 U	0.54 J	126	158	284	854.61	3
MW-CPC-36 DUP	3/26/2020	2.95	54.8	56.3	< 1.87 U	2.68	< 1.87 U	35.4 B	23.7 B	8.29	34.7	3.13	338	< 1.87 U	12.5 J	< 1.87 U	0.98 J	134	152	286	859.43	2.6
MW-CPC-37	3/27/2020	< 1.66 U	4.47 B	8.95	< 1.66 U	< 1.66 U	< 1.66 U	5.17	14.6	3.52	4.56	< 1.66 U	0.25 J	< 1.66 U	< 16.6 U	< 1.66 U	< 8.32 U	40.3	17.1	57.4	98.67	39 J
MW-CPC-38	3/27/2020	< 1.78 U	< 1.78 U	< 1.78 U	< 1.78 U	< 1.78 U	< 1.78 U	< 1.78 U	1.54 J	0.76 J	< 1.78 U	< 1.78 U	< 1.78 U	< 1.78 U	< 17.8 U	< 1.78 U	< 8.92 U	< 1.78 U	< 1.78 U	< 1.78 U	2.3	0.57
MW-CPC-39	3/26/2020	< 1.91 U	< 1.91 U	< 1.91 U	< 1.91 U	< 1.91 U	< 1.91 U	0.29 BJ	1.15 BJ	< 1.91 U	< 1.91 U	< 1.91 U	< 1.91 U	0.39 BJ	< 19.1 U	< 1.91 U	0.47 J	< 1.91 U	< 1.91 U	< 1.91 U	2.3	< 0.20 U
MW-CPC-40	3/25/2020	< 1.76 U	< 1.76 U	< 1.76 U	< 1.76 U	< 1.76 U	< 1.76 U	< 1.76 U	< 1.76 U	< 1.76 U	< 1.76 U	< 1.76 U	< 1.76 U	< 1.76 U	< 17.6 U	< 1.76 U	< 8.81 U	< 1.76 U	< 1.76 U	< 1.76 U	< 8.81 U	1.6
MW-CPC-41	3/25/2020	< 1.84 U	28.9	25.5	< 1.84 U	< 1.84 U	< 1.84 U	7.73	13.9	3.41	11.4	< 1.84 U	56.9	< 1.84 U	< 18.4 U	< 1.84 U	< 9.19 U	29.8	21.7	51.5	199.24	1.5

Note: U = not detected; J = estimated value; B = contamination detected in the associated blank
 Values in shaded cells exceed NYSDEC Part 375 PFAS Criteria.

Qualifiers	Definitions
B	Indicates analyte found in associated method blank.
J	Indicates an estimated value.
T	Indicates a tentatively identified compound and an estimated value.
U	Indicates result was not detected. Reporting detection limit is listed instead.

Matrix	Applicable Criteria	Defintions
Groundwater	NYS Ground Water Class GA	New York State Part 703.5 Criteria, Class GA (a)
	NYSDEC Part 375 PFAS	NYSDEC Part 375 (b)
	PFOA & PFOS Sum	EPA PFOA & PFOS HAL (c)
	NYSDEC Part 375 1,4-Dioxane	NYSDEC Part 375 (d)

References:

- (a) New York State Part 703.5 Water quality standards for taste-, color- and odor-producing, toxic and other deleterious substances
[https://govt.westlaw.com/nycrr/Document/14ed90418cd1711dda432a117e6e0f345?viewType=FullText&originationContext=documenttoc&transitionType=CategoryPageItem&contextData=\(sc.Default\)&bhcp=1](https://govt.westlaw.com/nycrr/Document/14ed90418cd1711dda432a117e6e0f345?viewType=FullText&originationContext=documenttoc&transitionType=CategoryPageItem&contextData=(sc.Default)&bhcp=1)
- (b) Guidelines for Sampling and Analysis of PFAS Under NYSDEC's Part 375 Remedial Programs, January 2020
https://www.dec.ny.gov/docs/remediation_hudson_pdf/pfassampanaly.pdf
- (c) EPA Fact Sheet PFOA & PFOS Drinking Water Health Advisories, November 2016
https://www.epa.gov/sites/production/files/2016-06/documents/drinkingwaterhealthadvisories_pfoa_pfos_updated_5.31.16.pdf
- (d) Sampling for 1,4-Dioxane and Per- and Polyfluoroalkyl Substances (PFAS) Under DEC's Part 375 Remedial Programs, June 2019
<https://nysba.org/app/uploads/2020/02/DEC-Sampling-for-PFAS-and-14-Dioxane-in-Part-375-Remedial-Programs.pdf>

Notes:

Totalled fields include the total of all detected results of constituents. If all results are non-detect, the total is equal to the maximum result detection limit.
 NA indicates constituent was not analyzed for, due to variations in requested lab methods.

ATTACHMENT B
Synoptic Water Level Data

Water Level Data Sheet

Claremont GWTF OU5

Old Bethpage, New York

Date of Recording:		18-Mar-20		Data Recorded By:		PET/MP
Well ID	12-6-19 DTW Reading	Time	DTW	Riser Elevation	Water Elevation	Comments/Notes
BP-3A	62.12	1244	62.55	124.16	61.61	
BP-3B	64.79	1240	64.08	123.19	59.11	
BP-3C	64.95	1242	64.28	123.91	59.63	
DW-1	65.04	1418	64.54	130.13	65.59	
DW-2	70.92	1427	70.39	135.52	65.13	
EW-1A	63.90	1407	63.41	128.75	65.34	
EW-1B	64.45	1409	63.73	129.31	65.58	
EW-1C	64.39	1412	63.94	129.16	65.22	
EW-2A	91.73	845	91.32	156.09	64.77	
EW-2B	92.21	850	91.77	156.50	64.73	
EW-2C	92.25	848	91.8	156.50	64.70	
EW-2D	92.89	852	92.49	157.12	64.63	
EW-3A	96.37	903	95.78	157.88	62.10	
EW-3B	96.55	905	95.92	157.99	62.07	
EW-3C	96.44	910	95.74	157.87	62.13	
EW-4A	95.82	1319	95.33	160.58	65.25	
EW-4B	95.84	1316	95.36	160.59	65.23	
EW-4C	95.61	1315	95.17	160.33	65.16	
EW-4D	95.95	1312	95.58	160.62	65.04	
EW-5	70.42	1426	69.4	135.05	65.65	
EW-6A	63.02	1440	62.53	128.92	66.39	
EW-6C	63.34	1439	63.03	129.02	65.99	
EW-7C	87.12	1452	86.74	152.45	65.71	
EW-7D	87.05	1457	86.62	152.35	65.73	
EW-8D	64.74	1432	64.39	130.21	65.82	
EW-9D	70.86	1444	70.46	136.20	65.74	
EW-10C	94.62	1324	94.16	159.80	65.64	
EW-11D	100.61	1305	100.17	164.17	64.00	
EW-12D	99.22	1307	98.78	163.34	64.56	
EW-13D	99.10	1328	98.76	163.61	64.85	
EW-14D	41.53	1223	40.75	100.58	59.83	
LF-1	44.89	-	-	109.83	NA	Not Accessible
LF-02	52.36	1507	51.95	117.18	65.23	
M-30BR	84.66	1516	84.49	153.07	68.58	
MW-5B	73.22	835	72.85	136.99	64.14	
MW-6A	95.77	1337	95.21	158.83	63.62	
MW-6B	95.85	1351	95.36	159.02	63.66	
MW-6C	95.24	1345	94.69	158.65	63.96	
MW-6D	96.42	1347	95.32	159.01	63.69	
MW-6E	96.42	1349	95.95	159.54	63.59	
MW-6F	95.72	1340	95.28	158.71	63.43	
MW-7BR	87.80	918	86.91	146.27	59.36	
MW-8A	69.33	1358	68.81	133.52	64.71	
MW-8B	68.70	1356	68.22	132.84	64.62	

Water Level Data Sheet

Claremont GWTF OU5

Old Bethpage, New York

Date of Recording:		18-Mar-20		Data Recorded By:		PET/MP
Well ID	12-6-19 DTW Reading	Time	DTW	Riser Elevation	Water Elevation	Comments/Notes
MW-8C	70.16	1400	69.74	134.27	64.53	
MW-9B	91.37	924	91.2	151.78	60.58	
MW-9C	92.03	926	91.43	151.97	60.54	
MW-10B	97.34	859	96.83	159.90	63.07	
MW-10C	96.41	1258	95.84	158.89	63.05	
MW-10D	97.22	1256	96.79	159.67	62.88	
MW-11A	23.31	1123	22.49	78.71	56.22	
MW-11B	23.12	1127	22.36	78.43	56.07	
OBS-1	48.37	934	47.85	109.03	61.18	
SW-1	65.20	1422	64.71	130.24	65.53	
WT-01	98.89	1331	98.34	163.28	64.94	
55 wells						
MW-CPC-36	20.64	1016	20.01	75.90	55.89	
MW-CPC-37	26.42	1049	25.12	77.90	52.78	
MW-CPC-38	27.19	1042	26.08	78.90	52.82	
MW-CPC-39	24.58	1034	23.47	75.30	51.83	
BP-5B	35.73	942	35.15			
BP-5C	35.74	939	35.22			
BP-12B	20.19	952	19.49			
BP-12C	20.13	955	20.9			
BP-13B	76.61	1006	75.98			
BP-13C	77.65	1004	77.19			

ATTACHMENT C

Full Laboratory Data Deliverable available on Claremont OU4 Sharepoint Site

ATTACHMENT D
Field Documentation

TestAmerica Edison

777 New Durham Road
Edison, NJ 08817
Phone (732) 549-3900 Fax (732) 549-3679

Chain of Custody Record



Client Information		Sampler: HDR Inc.		Lab PM: Julie Gilmore		Carrier Tracking No(s):		COC No: CPO GW COC 032620													
Client Contact: Mr. Payson Long		Phone: 516-777-7242		E-Mail: julie.gilmore@testamericainc.com				Page 1 of 3													
Company: New York State D.E.C.								Job: 206016													
Address: 625 Broadway 12th Floor		Due Date Requested:						Analysis Requested													
City: Albany		TAT Requested (days): 10 days						Preservation Codes:													
State, Zip: NY, 12233-7017		PO #: CallOut: 136112; Site: 130015						M - Hexane N - None O - AsNaO2 P - Na2O4S Q - Na2SO3 R - Na2S2O3 S - H2SO4 T - TSP Dodecahydrate U - Acetone V - MCAA W - pH 4-5 Z - other (specify)													
Phone:		WO #: 150 Winding Road, Old Bethpage						Barcode: 460-206016 Chain of Custody													
Email: payson.long@dec.ny.gov		Project #: 46008579						Other:													
Project Name: DEC Claremont Treatment Plant; 130015		SSOW#:						Total Number of containers:													
Site: Claremont Polychemical GWTF OUS								Special Instructions/Note:													
Sample Identification	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	MATRIX (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	B260C - Routine SOW VOC List+TBA	B270D - Routine SOW SVOC List	6010D - Metals - As,Ba,Cd,Cr,Fe,Mn,Pb,Sb,Se	7470A - Mercury	2570D - TDS	2540D - TSS	7186A - Hexavalent Chromium	351.2 - TKN	9060A - TOC	300.0 - Cl, F, SO4	9012B - Total Cyanide				
BP3A-CP-00-032420	3/24/20	8:43	G	W	N	N	3												field sample 1		
BP3B-CP-00-032420	3/24/20	8:34	G	W	N	N	3												field sample 2		
BP3C-CP-00-032420	3/24/20	8:24	G	W	N	N	3												field sample 3		
DW1-CP-00-032420	3/24/20	13:12	G	W	N	N	3												field sample 4		
DW2-CP-00-032420	3/24/20	13:21	G	W	N	N	3												field sample 5		
EW1A-CP-00-032420	3/24/20	12:56	G	W	N	N	3												field sample 6		
EW1A-CP-01-032420	3/24/20	12:56	G	W	N	N	3												field duplicate sample 7		
EW1B-CP-00-032420	3/24/20	12:50	G	W	N	N	3												field sample 8		
EW1C-CP-00-032420	3/24/20	12:45	G	W	N	N	3												field sample 9		
EW2A-CP-00-032320	3/23/20	10:02	G	W	N	N	3												field sample 10		
EW2B-CP-00-032320	3/23/20	9:53	G	W	N	N	3												field sample 11		
EW2C-CP-00-032320	3/23/20	9:48	G	W	N	N	3												field sample 12		
Possible Hazard Identification						Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)															
<input type="checkbox"/> Non-Hazard <input type="checkbox"/> Flammable <input type="checkbox"/> Skin Irritant <input type="checkbox"/> Poison B <input type="checkbox"/> Unknown <input type="checkbox"/> Radiological						<input type="checkbox"/> Return To Client <input checked="" type="checkbox"/> Disposal By Lab <input type="checkbox"/> Archive For _____ Months															
Deliverable Requested: I, II, III, IV, Other (specify) NY Cat B						Special Instructions/QC Requirements:															
Empty Kit Relinquished by:		Date:		Time:		Method of Shipment:															
Relinquished by: <i>Peter Long</i>		Date/Time: 3/24/20 9:35		Company: HDR		Received by: <i>[Signature]</i>		Date/Time: 3/26/20 9:36		Company: <i>[Signature]</i>											
Relinquished by: <i>[Signature]</i>		Date/Time: 3/24/20 15:00		Company: JPL		Received by: <i>[Signature]</i>		Date/Time: 3/26/20 16:00		Company: <i>[Signature]</i>											
Relinquished by: <i>[Signature]</i>		Date/Time: 3/26/20 8:00		Company: JPL		Received by: <i>[Signature]</i>		Date/Time: 3/26/20 18:00		Company: ETA											
Custody Seals Intact: <input type="checkbox"/> Yes <input type="checkbox"/> No		Custody Seal No.:		Cooler Temperature(s) °C and Other Remarks:																	

3-7 ZR 11

TestAmerica Edison

777 New Durham Road
Edison, NJ 08817
Phone (732) 549-3900 Fax (732) 549-3679

Chain of Custody Record



Client Information		Sampler: HDR Inc.		Lab PM: Julie Gilmore		Carrier Tracking No(s):		COC No: CPC GW COC 032620		
Client Contact: Mr. Payson Long		Phone: 516-777-7242		E-Mail: julie.gilmore@testamericainc.com				Page: 2 of 5		
Company: New York State D.E.C.				Analysis Requested				Job # 206016		
Address: 625 Broadway 12th Floor		Due Date Requested:		Field Filtered Sample (Yes or No) Perform MS/MSD (Yes or No) 8260C - Routine SOW VOC List+TBA 8270D - Routine SOW SVOC List 8010D - Metals - As, Ba, Cd, Cr, Fe, Mn, Pb, Sb, Se 7470A - Mercury 2570D - TDS 2540D - TSS 7196A - Hexavalent Chromium 351.2 - TN 9080A - TOC 300.0 - Cl, F, SO4 9012B - Total Cyanide		Total Number of containers		Preservation Codes: A - HCL M - Hexane B - NaOH N - None C - Zn Acetate O - AsNaO2 D - Nitric Acid P - Na2O4S E - NaHSO4 Q - Na2SO3 F - MeOH R - Na2S2O3 G - Amchlor S - H2SO4 H - Ascorbic Acid T - TSP Dodecahydrate I - Ice U - Acetone J - DI Water V - MCAA K - EDTA W - pH 4-5 L - EDA Z - other (specify)		
City: Albany		TAT Requested (days): 10 days								
State, Zip: NY, 12233-7017		PO #: CallOut: 136112; Site: 130015								
Email: payson.long@dec.ny.gov		WO #: 150 Winding Road, Old Bethpage								
Project Name: DEC Claremont Treatment Plant; 130015		Project #: 46008579								
Site: Claremont Polychemical GWTF OUS		SSOW#:						Other:		
Sample Identification		Sample Date		Sample Time		Sample Type (C=Comp, G=grab)		MATRIX (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)		
								Preservation Code:		
								A N D D N N N S S N B		
EW2D-CP-00-032320		3/23/20		9:30		G		W		
EW4A-CP-00-032420		3/24/20		9:54		G		W		
EW4B-CP-00-032420		3/24/20		9:49		G		W		
EW4C-CP-00-032420		3/24/20		9:43		G		W		
EW4D-CP-00-032420		3/24/20		9:36		G		W		
EW5-CP-00-032420		3/24/20		13:26		G		W		
EW7C-CP-00-032420		3/24/20		13:55		G		W		
EW7D-CP-00-032420		3/24/20		13:45		G		W		
EW11D-CP-00-032420		3/24/20		9:13		G		W		
EW12D-CP-00-032420		3/24/20		9:24		G		W		
EW14D-CP-00-032320		3/23/20		13:07		G		W		
LF1-CP-00-032320		3/23/20		9:18		G		W		
Possible Hazard Identification					Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)					
<input type="checkbox"/> Non-Hazard <input type="checkbox"/> Flammable <input type="checkbox"/> Skin Irritant <input type="checkbox"/> Poison B <input type="checkbox"/> Unknown <input type="checkbox"/> Radiological					<input type="checkbox"/> Return To Client <input checked="" type="checkbox"/> Disposal By Lab <input type="checkbox"/> Archive For _____ Months					
Deliverable Requested: I, II, III, IV, Other (specify) NY Cat B					Special Instructions/QC Requirements:					
Empty Kit Relinquished by:		Date:		Time:		Method of Shipment				
Relinquished by: <i>Peter Taxach</i>		Date/Time: 3/24/20 9:30		Company: HDR		Received by: <i>[Signature]</i>		Date/Time: 3/26/20 1930		Company: <i>ETA</i>
Relinquished by: <i>[Signature]</i>		Date/Time: 3/26/20 1500		Company: <i>ETA</i>		Received by: <i>[Signature]</i>		Date/Time: 3/26/20 1600		Company: <i>ETA</i>
Relinquished by: <i>[Signature]</i>		Date/Time: 3/26/20 1500		Company: <i>ETA</i>		Received by: <i>[Signature]</i>		Date/Time: 3/26/20 1800		Company: <i>ETA</i>
Custody Seals Intact: Δ Yes Δ No		Custody Seal No.:		Cooler Temperature(s) °C and Other Remarks						

3-7 IR 11

TestAmerica Edison

777 New Durham Road
Edison, NJ 08817
Phone (732) 549-3900 Fax (732) 549-3679

Chain of Custody Record



Client Information		Sampler: HDR Inc.		Lab PM: Julie Gilmore		Carrier Tracking No(s):		COC No: CPC GW COC 032620											
Client Contact: Mr. Payson Long		Phone: 516-777-7242		E-Mail: julie.gilmore@testamericainc.com				Page: 3 of 5											
Company: New York State D.E.C.		Due Date Requested:		Analysis Requested Field Filtered Sample (Yes or No) [X] Perform MS/MSD (Yes or No) [X] B260C - Routine SOW VOC List+TBA B270D - Routine SOW SVOC List 6010D - Metals - As, Ba, Cd, Cr, Fe, Mn, Pb, Sb, Se 7470A - Mercury 2570D - TDS 2540D - TSS 7196A - Hexavalent Chromium 351.2 - TKN 9060A - TOC 3000 - Cl, F, SO4 9012B - Total Cyanide		Job #: 206016222		NYC											
Address: 625 Broadway 12th Floor		TAT Requested (days): 10 days				Preservation Codes:		A - HCL M - Hexane B - NaOH N - None C - Zn Acetate O - As/NaO2 D - Nitric Acid P - Na2O4S E - NaHSO4 Q - Na2SO3 F - MeOH R - Na2S2O3 G - Amchlor S - H2SO4 H - Ascorbic Acid T - TSP Dodecahydrate I - Ice U - Acetone J - DI Water V - MCAA K - EDTA W - pH 4-5 L - EDA Z - other (specify)											
City: Albany		PO #: CallOut: 136112; Site: 130015				Total Number of containers:		Other:											
State, Zip: NY, 12233-7017		WO #: 150 Winding Road, Old Bethpage				Special Instructions/Note:													
Project Name: DEC Claremont Treatment Plant; 130015		Project #: 46008579																	
Site: Claremont Polychemical GWTF OU5		SSOW#:																	
Sample Identification		Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	MATRIX (W=water, S=solid, O=wastewater, BT=Tissue, A=Air)	Preservation Code:													
						A	N	D	D	N	N	N	S	S	N	B			
M30BR-CP-00-032420	3/24/20	14:08	G	W	N	N	3											field sample	25
MW05B-CP-00-032320	3/23/20	9:31	G	W	N	N	3											field sample	26
MW06B-CP-00-032420	3/24/20	10:49	G	W	N	N	3											field sample	27
MW06C-CP-00-032420	3/24/20	10:20	G	W	N	N	3											field sample	28
MW06D-CP-00-032420	3/24/20	10:36	G	W	N	N	3											field sample	29
MW06E-CP-00-032420	3/24/20	10:42	G	W	N	N	3											field sample	30
MW06F-CP-00-032420	3/24/20	10:27	G	W	N	N	3											field sample	31
MW07BR-CP-00-032320	3/23/20	10:20	G	W	N	N	3											field sample	32
MW08A-CP-00-032420	3/24/20	12:26	G	W	N	N	3											field sample	33
MW08B-CP-00-032420	3/24/20	12:21	G	W	N	N	3											field sample	34
MW08C-CP-00-032420	3/24/20	12:32	G	W	N	N	3											field sample	35
MW09B-CP-00-032320	3/23/20	10:39	G	W	N	N	3											field sample	36
Possible Hazard Identification						Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)													
<input type="checkbox"/> Non-Hazard <input type="checkbox"/> Flammable <input type="checkbox"/> Skin Irritant <input type="checkbox"/> Poison B <input type="checkbox"/> Unknown <input type="checkbox"/> Radiological						<input type="checkbox"/> Return To Client <input checked="" type="checkbox"/> Disposal By Lab <input type="checkbox"/> Archive For _____ Months													
Deliverable Requested: I, II, III, IV, Other (specify) NY Cat B						Special Instructions/QC Requirements:													
Empty Kit Relinquished by:		Date:		Time:		Method of Shipment:													
Relinquished by: <i>PETER TARDUCCI</i>		Date/Time: 3/26/20 9:36		Company: HDR		Received by: <i>[Signature]</i>		Date/Time: 3/26/20 9:36		Company: HDR									
Relinquished by: <i>[Signature]</i>		Date/Time: 3/26/20 1500		Company: HDR		Received by: <i>[Signature]</i>		Date/Time: 3/26/20 1600		Company: HDR									
Relinquished by: <i>[Signature]</i>		Date/Time: 3/26/20 1800		Company: HDR		Received by: <i>[Signature]</i>		Date/Time: 3-26-20 1800		Company: ETA									
Custody Seals Intact: Δ Yes Δ No		Custody Seal No.:		Cooler Temperature(s) °C and Other Remarks:															

3-7 IR11

PFCs Sampling Checklist

Date: 25-Mar-2020

Weather (temp./precipitation): 41° F, overcast Site Name: clairmont
W 10-15 MPM

Field Clothing and PPE:

- No clothing or boots containing Gore-Tex™
- All safety boots made from polyurethane and PVC
- No materials containing Tyvek®
- Field crew has not used fabric softener on clothing
- Field crew has not used cosmetics, moisturizers, hand cream, or other related products this morning
- Field crew has not applied unauthorized sunscreen or insect repellent

Field Equipment:

- No Teflon® or LDPE containing materials on-site
- All sample materials made from stainless steel, HDPE, acetate, silicon, or polypropylene
- No waterproof field books on-site
- No plastic clipboards, binders, or spiral hard cover notebooks on-site
- No adhesives (Post-It Notes) on-site

- Coolers filled with regular ice only. No chemical (blue) ice packs in possession

Sample Containers:

- All sample containers made of HDPE or polypropylene
- Caps are unlined and made of HDPE or polypropylene

Wet Weather (as applicable):

- Wet weather gear made of polyurethane and PVC only

Equipment Decontamination:

- "PFC-free" water on-site for decontamination of sample equipment. No other water sources to be used.
- Alconox and Liquinox to be used as decontamination materials

Food Considerations:

- No food or drink on-site with exception of bottled water and/or hydration drinks (i.e., Gatorade and Powerade) that is available for consumption only in the staging area

If any applicable boxes cannot be checked, the Field Lead shall describe the noncompliance issues below and work with field personnel to address noncompliance issues prior to commencement of that day's work. Corrective action shall include removal of noncompliance items from the site or removal of worker offsite until in compliance.

Describe the noncompliance issues (include personnel not in compliance) and action/outcome of noncompliance:

Field Lead Name: Matthew T. Papula

Field Lead Signature: _____ Time: 0740

PFCs Sampling Checklist

Date: 26 Mar- 2020

Weather (temp./precipitation): 57°F, clear, N 0-5 mph Site Name: Clairemont

Field Clothing and PPE:

- No clothing or boots containing Gore-Tex™
- All safety boots made from polyurethane and PVC
- No materials containing Tyvek®
- Field crew has not used fabric softener on clothing
- Field crew has not used cosmetics, moisturizers, hand cream, or other related products this morning
- Field crew has not applied unauthorized sunscreen or insect repellent

Field Equipment:

- No Teflon® or LDPE containing materials on-site
- All sample materials made from stainless steel, HDPE, acetate, silicon, or polypropylene
- No waterproof field books on-site
- No plastic clipboards, binders, or spiral hard cover notebooks on-site
- No adhesives (Post-It Notes) on-site

- Coolers filled with regular ice only. No chemical (blue) ice packs in possession

Sample Containers:

- All sample containers made of HDPE or polypropylene
- Caps are unlined and made of HDPE or polypropylene

Wet Weather (as applicable):

- Wet weather gear made of polyurethane and PVC only

Equipment Decontamination:

- "PFC-free" water on-site for decontamination of sample equipment. No other water sources to be used.
- Alconox and Liquinox to be used as decontamination materials

Food Considerations:

- No food or drink on-site with exception of bottled water and/or hydration drinks (i.e., Gatorade and Powerade) that is available for consumption only in the staging area

If any applicable boxes cannot be checked, the Field Lead shall describe the noncompliance issues below and work with field personnel to address noncompliance issues prior to commencement of that day's work. Corrective action shall include removal of noncompliance items from the site or removal of worker offsite until in compliance.

Describe the noncompliance issues (include personnel not in compliance) and action/outcome of noncompliance:

Field Lead Name: Matthew T. Popovich

Field Lead Signature: _____ Time: 0730

PFCs Sampling Checklist

Date: 27-Mar-2020

Weather (temp./precipitation): 49°F overcast Site Name: Claremont
SW 5-10 MPH

Field Clothing and PPE:

- No clothing or boots containing Gore-Tex™
- All safety boots made from polyurethane and PVC
- No materials containing Tyvek®
- Field crew has not used fabric softener on clothing
- Field crew has not used cosmetics, moisturizers, hand cream, or other related products this morning
- Field crew has not applied unauthorized sunscreen or insect repellent

Field Equipment:

- No Teflon® or LDPE containing materials on-site
- All sample materials made from stainless steel, HDPE, acetate, silicon, or polypropylene
- No waterproof field books on-site
- No plastic clipboards, binders, or spiral hard cover notebooks on-site
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- Coolers filled with regular ice only. No chemical (blue) ice packs in possession

Sample Containers:

- All sample containers made of HDPE or polypropylene
- Caps are unlined and made of HDPE or polypropylene

Wet Weather (as applicable):

- Wet weather gear made of polyurethane and PVC only

Equipment Decontamination:

- "PFC-free" water on-site for decontamination of sample equipment. No other water sources to be used.
- Alconox and Liquinox to be used as decontamination materials

Food Considerations:

- No food or drink on-site with exception of bottled water and/or hydration drinks (i.e., Gatorade and Powerade) that is available for consumption only in the staging area

If any applicable boxes cannot be checked, the Field Lead shall describe the noncompliance issues below and work with field personnel to address noncompliance issues prior to commencement of that day's work. Corrective action shall include removal of noncompliance items from the site or removal of worker offsite until in compliance.

Describe the noncompliance issues (include personnel not in compliance) and action/outcome of noncompliance:

Field Lead Name: Matthew J. Papuly

Field Lead Signature: _____ Time: 0745

Project Safety Briefing

Operator: Matthew T. Popala	Day: Thursday	Date: 26-Mar-2020	Time: 0730
---------------------------------------	-------------------------	-----------------------------	----------------------

Plant concerns

- Noise
- Process equipment
- Floor surfaces
- Potential hazardous materials

Project concerns

- Field work – ground surface, weather, insects, etc.
- Potential hazardous materials
- Physical exertion

Task concerns -

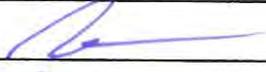
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- Slips/Trips/Falls
- COVID-19 Safety - GAT robe
- Review JHAs

Typical PPE

- Safety glasses
- Work boots
- Safety vest
- Work gloves
- Latex gloves

The following have attended this briefing, understand the potential site hazards and are aware of and have been made available the personal protective equipment required for this project.

Attendee	Signature	Date
Matthew T. Popala		26-Mar-2020
BRENDAN M PHILLIPS	BMP	3.26.20

Document No.: CPC 5 Form - 23	Date Issued: May 26, 2017	Revision Level: B
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Operations and Maintenance Document

Project Safety Briefing

Operator: <i>Matthew T. Papale</i>	Day: <i>Friday</i> 27-Mar-2020	Date: <i>27-Mar-2020</i>	Time: <i>0745</i>
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Plant concerns

- Noise
- Process equipment
- Floor surfaces
- Potential hazardous materials

Project concerns

- Field work – ground surface, weather, insects, etc.
- Potential hazardous materials
- Physical exertion

Task concerns -

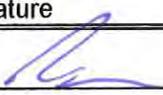
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- Slip/Trips/Falls
- COVID-19 safety. 6ft ~~minimum~~
- Social Distancing

Typical PPE

- Safety glasses
- Work boots
- Safety vest
- Work gloves
- Latex gloves

The following have attended this briefing, understand the potential site hazards and are aware of and have been made available the personal protective equipment required for this project.

Attendee	Signature	Date
<i>Matthew T. Papale</i>		<i>27-Mar-2020</i>
<i>BRENDAN M PHILLIPS</i>	<i>BMP</i>	<i>27-3-2020</i>

Document No.:	Date Issued:	Revision Level:
CPC 5 Form - 23	May 26, 2017	B

Project Safety Briefing

Operator: Matthew T. Papale	Day: Wednesday	Date: 25-Mar-2020	Time: 0740
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Plant concerns

- Noise
- Process equipment
- Floor surfaces
- Potential hazardous materials

Project concerns

- Field work – ground surface, weather, insects, etc.
- Potential hazardous materials
- Physical exertion

Task concerns -

- Slips/Trips/Falls
- COVID-19
- Discussed SHAs

Typical PPE

- Safety glasses
- Work boots
- Safety vest
- Work gloves
- Latex gloves

The following have attended this briefing, understand the potential site hazards and are aware of and have been made available the personal protective equipment required for this project.

Attendee	Signature	Date
Matthew T. Papale		25-Mar-2020
BRENDAN M. PHILLIPS	BMPPhillips	3.25.20

Document No.: CPC 5 Form - 23	Date Issued: May 26, 2017	Revision Level: B
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Well Sampling Log

Well ID No.:

MW-CPC-36

Well Casing Type: 2.5" Sch 80 PVC Start SWL: 19.75 Project: 10109218 - 99
 Well Depth**: 256 Water Column Ht.: 236.25 Date: 3/26/2020
 Screened Interval: 246 - 255.7 Well Volume (gallons): 60 Crew: MTP/BM
 Well Elevation**: SWL During Sampling: 19.95 Pump Intake (ft) 251
 Well Diameter (in.) 2.5 Sample Time: 1715 Meters Used: Horiba U-52
 Well Condition: New Sample Method: Pump PID Head Space (ppm): 0
 Weather Conditions: 55°F, Clear,N 0-5 MPH Sample Analyses: VOC, PFCs, 1,4-Dioxane Sample ID: MW-CPC-36-R4-GW-251-20200326-0
 Comments: Collected MW-CPC-36-R4-GW-251-20200326-2 EB @ 1330 on the bladder used during this well purge and sampling. Collected Field Duplicate MW-CPC-36-R4-GW-251-20200326-1 at this location.

Notes: * - Measurement taken from top of well casing

Time	Est. Liters. Purged	Purge Rate (Lpm)	Temp. (C°)	Cond. (ms/cm)	ORP (mV)	D.O. (mg/L)	pH	TDS	Salinity (ppt)	Turbidity (NTU)	Depth to Water*	Comments
1440	0	0.28	15.87	0.464	385	7.65	6.05	0.302	0.2	70.9	19.86	
1445	1.4	0.28	15.04	0.475	243	1.4	6.19	0.309	0.2	43.4	19.92	
1450	2.8	0.28	15.28	0.484	118	2.89	6.21	0.315	0.3	57.7	19.92	
1455	4.2	0.28	15.3	0.538	16	4.09	6.36	0.344	0.3	29.3	19.92	
1500	5.6	0.28	14.93	0.555	-24	4.18	6.44	0.355	0.3	0	19.92	
1505	7	0.28	15.38	0.557	-50	4.1	6.59	0.356	0.3	299	19.92	
1510	8.4	0.28	15.88	0.555	-63	4.02	6.66	0.355	0.3	1000	19.92	
1515	9.8	0.28	16.27	0.554	-71	3.95	6.67	0.354	0.3	1000	19.92	
1520	11.2	0.4	16.32	0.533	-66	4.81	6.55	0.341	0.3	1000	19.96	
1525	13.2	0.4								1000	19.96	Well is very turbid. Unhooked from horiba and
1530	15.2	0.4								756.2	19.96	increased flow to .4 L per min to clear up well.
1535	17.2	0.4								426.4	19.96	only Turbidity readings from now on.
1540	19.2	0.4								1000	19.95	
1545	21.2	0.4								1000	19.95	
1550	23.2	0.4								710	19.95	
1555	25.2	0.4								816	19.95	
1600	27.2	0.4								562	19.95	
1605	29.2	0.4								277	19.95	
1610	31.2	0.4								142	19.95	
1615	33.2	0.4								54.1	19.95	Hooking it back up to the horiba
1620	35.2	0.4	12.72	0.42	288	0.56	5.78	0.274	0.2	80.2	19.96	
1625	37.2	0.4	12.59	0.422	245	0.55	5.78	0.274	0.2	92.1	19.95	
1630	39.2	0.4	12.52	0.421	192	0.53	5.77	0.274	0.2	163	19.95	
1635	41.2	0.4	12.53	0.417	154	0.51	5.75	0.271	0.2	120	19.95	
1640	43.2	0.4	12.52	0.415	139	0.49	5.73	0.269	0.2	100	19.95	
1645	45.2	0.4	12.5	0.413	127	0.48	5.71	0.268	0.2	105	19.95	
1650	47.2	0.4	12.4	0.41	117	0.47	5.69	0.267	0.2	32.5	19.95	
1655	49.2	0.4	12.34	0.412	109	0.47	5.68	0.268	0.2	226	19.95	
1700	51.2	0.4	12.26	0.411	104	0.46	5.68	0.267	0.2	153	19.95	
1705	53.2	0.4	12.2	0.411	99	0.44	5.65	0.267	0.2	122	19.95	
1710	55.2	0.4	12.21	0.41	97	0.45	5.66	0.266	0.2	61.2	19.95	
1715	Sampling											

Comments: 60 PSI, 10/20 cycle. When the turbidity was high the purge rate was raised. 70 PSI 5/10 cycle.



Well Sampling Log

Well ID No.:

MW-CPC-37

Well Casing Type: 2.5" Sch 80 PVC

Start SWL: 24.79

Project:

10109218 - 99

Well Depth:** 450

Water Column Ht.: 425.21

Date:

3/27/2020

Screened Interval: 440 - 450

Well Volume (gallons): 108.3

Crew:

MTP/BM

Well Elevation:**

SWL During Sampling: 1615

Pump Intake (ft)

445

Well Diameter (in.) 2.5

Sample Time: 24.6

Meters Used:

Horiba U-52

Well Condition: New

Sample Method: Pump

PID Head Space (ppm):

0

Weather Conditions: 64°F, Clear, NNW 10-15 MPH

Sample Analyses: VOC, PFCs, 1,4-Dioxane

Sample ID:

MW-CPC-37-R4-GW-445-20200327-0

Comments:

Notes: * - Measurement taken from top of well casing

Time	Est. Liters. Purged	Purge Rate (Lpm)	Temp. (C°)	Cond. (ms/cm)	ORP (mV)	D.O. (mg/L)	pH	TDS	Salinity (ppt)	Turbidity (NTU)	Depth to Water*	Comments
1450	0	0.28	14.98	0.216	325	3.12	6.34	0.14	0.1	0	24.75	
1455	1.4	0.28	14.66	0.226	213	1.34	6.38	0.147	0.1	0	24.73	
1500	2.8	0.28	14.62	0.232	108	1.19	6.41	0.151	0.1	0	24.71	
1505	4.2	0.28	14.07	0.236	54	1.16	6.37	0.154	0.1	0	24.72	
1510	5.6	0.28	13.83	0.263	94	0.86	5.6	0.171	0.1	0	24.71	
1515	7	0.28	13.96	0.275	136	0.58	5.1	0.178	0.1	0	24.69	
1520	8.4	0.28	13.84	0.279	153	0.55	5.02	0.182	0.1	0	24.65	
1525	9.8	0.28	13.82	0.285	169	0.55	4.92	0.186	0.1	0	24.67	
1530	11.2	0.28	13.65	0.293	180	0.53	4.82	0.19	0.1	0	24.62	
1535	12.6	0.28	13.72	0.305	192	0.52	4.72	0.198	0.1	0	24.59	
1540	14	0.28	13.52	0.313	203	0.53	4.63	0.203	0.1	0	24.61	
1545	15.4	0.28	13.42	0.317	212	0.51	4.56	0.206	0.2	0	24.6	
1550	16.8	0.28	13.40	0.321	218	0.51	4.53	0.209	0.2	0	24.58	
1555	18.2	0.28	13.27	0.328	226	0.51	4.49	0.213	0.2	0	24.6	
1600	19.6	0.28	13.22	0.331	232	0.5	4.44	0.215	0.2	0	24.6	
1605	21	0.28	13.23	0.332	239	0.49	4.41	0.216	0.2	0	24.6	
1610	22.4	0.28	13.26	0.334	242	0.48	4.41	0.217	0.2	0	24.6	
1615	Sampling											
Comments: 65 PSI, 10/20 cycle.												



Well Sampling Log

Well ID No.:

MW-CPC-38

Well Casing Type: 2.5" Sch 80 PVC
 Well Depth**: 394.5
 Screened Interval: 384 - 395
 Well Elevation**:
 Well Diameter (in.): 2.5
 Well Condition: New
 Weather Conditions: 49°F, Overcast, Lt. Rain, SW 5-10 MPH
 Comments:

Start SWL: 24.94
 Water Column Ht.: 370.06
 Well Volume (gallons): 94.5
 SWL During Sampling: 26.21
 Sample Time: 1315
 Sample Method: Pump
 Sample Analyses: VOC, PFCs, 1,4-Dioxane

Project: 10109218 - 99
 Date: 3/27/2020
 Crew: MTP/BM
 Pump Intake (ft): 391
 Meters Used: Horiba U-52
 PID Head Space (ppm): 0
 Sample ID: MW-CPC-38-R4-GW-391-20200327-0

Notes: * - Measurement taken from top of well casing

Time	Est. Liters Purged	Purge Rate (Lpm)	Temp. (C°)	Cond. (ms/cm)	ORP (mV)	D.O. (mg/L)	pH	TDS	Salinity (ppt)	Turbidity (NTU)	Depth to Water*	Comments
0915	0	0.4	12.55	0.118	380	1.75	6.04	0.077	0	109	25.12	
0920	2	0.4	12.57	0.111	266	1.26	6.31	0.072	0	108	25.18	
0925	4	0.4	12.59	0.111	149	1.02	6.42	0.072	0	137	25.21	
0930	6	0.4	12.6	0.111	48	0.98	6.55	0.072	0	1000	25.24	
0935	8	0.4	12.59	0.109	5	0.93	6.58	0.071	0	1000	25.29	
0940	10	0.4	12.68	0.105	-17	0.99	6.63	0.069	0	1000	25.3	
0945	12	0.4	12.72	0.102	-24	0.99	6.6	0.066	0	1000	25.32	
0950	14	0.4	12.79	0.099	-30	1.01	6.61	0.065	0	1000	25.33	
0955	16	0.4	12.81	0.096	-33	1.01	6.59	0.063	0	1000	25.32	
1000	18	0.4	12.87	0.094	-34	1	6.57	0.061	0	1000	25.34	
1005	20	0.4	12.94	0.091	-36	1.01	6.55	0.059	0	1000	25.36	
1010	22	0.4	13.01	0.089	-36	1	6.54	0.058	0	1000	25.38	
1015	24	0.4	13.15	0.088	-34	0.96	6.49	0.057	0	1000	25.41	
1020	26	0.4	13.2	0.086	-35	0.96	6.49	0.056	0	1000	25.45	
1025	28	0.4	13.31	0.085	-35	0.98	6.48	0.055	0	1000	25.48	
1030	30	0.4	13.32	0.085	-33	0.96	6.45	0.055	0	1000	25.54	
1035	32	0.4	13.27	0.084	-35	0.98	6.47	0.055	0	607	25.59	
1040	34	0.4	13.22	0.084	-34	0.98	6.44	0.054	0	594	25.63	
1045	36	0.4	12.96	0.083	-31	0.96	6.41	0.054	0	648	25.71	
1050	38	0.4	13.03	0.083	-33	0.98	6.43	0.054	0	521	25.8	
1055	40	0.4	12.98	0.082	-32	0.96	6.4	0.054	0	412	25.91	
1100	42	0.4	13.05	0.082	-32	0.96	6.41	0.053	0	401	26.02	



Well Sampling Log

Well ID No.:

MW-CPC-38

Well Casing Type: 2.5" Sch 80 PVC

Start SWL: 24.94

Project: 10109218 - 99

Well Depth**: 394.5

Water Column Ht.: 370.06

Date: 3/27/2020

Screened Interval: 384 - 395

Well Volume (gallons): 94.5

Crew: MTP/BM

Well Elevation**:

SWL During Sampling: 26.21

Pump Intake (ft) 391

Well Diameter (in.) 2.5

Sample Time: 1315

Meters Used: Horiba U-52

Well Condition: New

Sample Method: Pump

PID Head Space (ppm): 0

Weather Conditions: 49°F, Overcast, Lt. Rain, SW 5-10 MPH

Sample Analyses: VOC, PFCs, 1,4-Dioxane

Sample ID: MW-CPC-38-R4-GW-391-20200327-0

Comments:

Notes: * - Measurement taken from top of well casing

Time	Est. Liters. Purged	Purge Rate (Lpm)	Temp. (C°)	Cond. (ms/cm)	ORP (mV)	D.O. (mg/L)	pH	TDS	Salinity (ppt)	Turbidity (NTU)	Depth to Water*	Comments
1105	44	0.4	13.03	0.082	-31	0.95	6.38	0.053	0	394	26.13	
1110	46	0.4	13.18	0.081	-31	0.94	6.39	0.053	0	385	26.24	
1115	48	0.4	13.26	0.08	-30	0.93	6.33	0.052	0	385	26.38	
1120	50	0.4	13.29	0.08	-29	0.93	6.37	0.052	0	389	26.42	
1125	52	0.4	13.18	0.081	-31	0.95	6.35	0.052	0	390	26.5	
1130	54	0.4	13.28	0.079	-28	0.91	6.3	0.051	0	393	26.51	
1135	56	0.4	13.3	0.079	-29	0.92	6.3	0.051	0	383	26.53	
1140	58	0.4	13.2	0.079	-28	0.91	6.28	0.051	0	377	26.56	
1145	60	0.4	13.9	0.078	-28	0.91	6.29	0.051	0	374	26.58	
1150	62	0.4	13.29	0.078	-28	0.91	6.26	0.051	0	360	26.61	
1155	64	0.4	13.37	0.078	-29	0.89	6.25	0.05	0	360	26.64	
1200	66	0.4	13.39	0.077	-27	0.88	6.24	0.05	0	326	26.68	
1205	68	0.4	13.7	0.077	-28	0.89	6.29	0.05	0	315	26.71	
1210	70	0.4	13.6	0.077	-27	0.88	6.24	0.05	0	297	26.75	
1215	72	0.4	13.55	0.077	-28	0.88	6.25	0.05	0	284	26.78	
1220	74	0.4	13.58	0.076	-27	0.88	6.24	0.05	0	270	26.82	
1225	76	0.4	13.41	0.076	-26	0.87	6.22	0.049	0	265	26.75	
1230	78	0.4	13.43	0.076	-27	0.88	6.24	0.05	0	256	26.72	
1235	80	0.4	13.38	0.076	-26	0.87	6.22	0.049	0	234	26.69	
1240	82	0.4	13.52	0.076	-27	0.87	6.23	0.049	0	225	26.68	
1245	84	0.4	13.45	0.076	-27	0.86	6.22	0.049	0	215	26.66	
1250	86	0.4	13.57	0.076	-27	0.85	6.23	0.049	0	204	26.65	



Well Sampling Log

Well ID No.:

MW-CPC-38

Well Casing Type: 2.5" Sch 80 PVC

Start SWL: 24.94

Project: 10109218 - 99

Well Depth:** 394.5

Water Column Ht.: 370.06

Date: 3/27/2020

Screened Interval: 384 - 395

Well Volume (gallons): 94.5

Crew: MTP/BM

Well Elevation:**

SWL During Sampling: 26.21

Pump Intake (ft) **391**

Well Diameter (in.) 2.5

Sample Time: 1315

Meters Used: Horiba U-52

Well Condition: New

Sample Method: Pump

PID Head Space (ppm): 0

Weather Conditions: 49°F, Overcast, Lt. Rain, SW 5-10 MPH

Sample Analyses: VOC, PFCs, 1,4-Dioxane

Sample ID: MW-CPC-38-R4-GW-391-20200327-0

Comments:

Notes: * - Measurement taken from top of well casing

Time	Est. Liters. Purged	Purge Rate (Lpm)	Temp. (C°)	Cond. (ms/cm)	ORP (mV)	D.O. (mg/L)	pH	TDS	Salinity (ppth)	Turbidity (NTU)	Depth to Water*	Comments
1255	88	0.4	13.59	0.075	-26	0.85	6.2	0.049	0	200	26.64	
1300	90	0.4	13.53	0.075	-27	0.85	6.21	0.049	0	184	26.5	
1305	92	0.4	13.55	0.075	-27	0.85	6.22	0.049	0	181	26.52	
1310	94	0.4	13.57	0.074	-26	0.84	6.21	0.048	0	178	26.49	
1315	96	0.4	13.71	0.073	-25	0.83	6.2	0.048	0	178	26.21	
1315	Sampling											

Comments: 65 PSI, 9/11 cycle. Sampled after well was purged for 4 hrs.



Well Sampling Log

Well ID No.:

MW-CPC-39

Well Casing Type: 2.5" Sch 80 PVC Start SWL: 22.46 Project: 10109218 - 99
 Well Depth**: 390 Water Column Ht.: 367.54 Date: 3/26/2020
 Screened Interval: 370.6 - 390 Well Volume (gallons): 93.7 Crew: MTP/BM
 Well Elevation**: SWL During Sampling: 22.96 Pump Intake (ft) 374
 Well Diameter (in.) 2.5 Sample Time: 1300 Meters Used: Horiba U-52
 Well Condition: New Sample Method: Pump PID Head Space (ppm): 0
 Weather Conditions: 37°F, Clear,N 0-5 MPH Sample Analyses: VOC, PFCs, 1,4-Dioxane Sample ID: MW-CPC-39-R4-GW-374-20200326-0
 Comments:

Notes: * - Measurement taken from top of well casing

Time	Est. Liters Purged	Purge Rate (Lpm)	Temp. (C°)	Cond. (ms/cm)	ORP (mV)	D.O. (mg/L)	pH	TDS	Salinity (ppth)	Turbidity (NTU)	Depth to Water*	Comments
0900	0	0.125	10.17	0.14	402	3.68	5.41	0.091	0	80.6	23.2	
0905	0.625	0.125	10.85	0.101	303	2.04	5.9	0.066	0	56.5	23.28	
0910	1.25	0.125	11.2	0.091	248	1.77	6.05	0.059	0	55.2	23.32	
0915	1.875	0.125	11.42	0.086	209	1.59	6.09	0.056	0	54.8	23.39	
0920	2.5	0.125	11.61	0.082	177	1.47	6.11	0.053	0	46.8	23.45	
0925	3.125	0.125	12.12	0.079	154	1.36	6.09	0.051	0	46.2	23.53	
0930	3.75	0.125	12.32	0.077	136	1.31	6.08	0.05	0	46.2	23.59	
0935	4.375	0.125	12.32	0.077	121	1.23	6.09	0.05	0	53.5	23.64	
0940	5	0.125	12.39	0.077	109	1.2	6.1	0.05	0	58.4	23.74	
0945	5.625	0.125	12.51	0.072	94	1.09	6.07	0.0046	0	365	23.85	
0950	6.25	0.125	12.5	0.07	94	1.04	6.01	0.045	0	518	23.86	
0955	6.875	0.125	12.62	0.069	92	1	5.99	0.045	0	599	23.87	
1000	7.5	0.125	12.72	0.068	90	0.97	5.97	0.044	0	635	23.89	
1005	8.125	0.125	12.85	0.068	88	0.94	5.96	0.044	0	630	23.92	
1010	8.75	0.125	12.95	0.068	87	0.91	5.95	0.044	0	633	23.84	
1015	9.375	0.125	13.07	0.067	83	0.88	5.96	0.044	0	573	23.78	
1020	10	0.125	13.06	0.067	81	0.89	5.97	0.043	0	513	23.72	
1025	10.625	0.125	13.08	0.067	79	0.86	5.96	0.043	0	517	23.7	
1030	11.25	0.125	13.13	0.066	76	0.86	5.97	0.043	0	496	23.65	
1035	11.875	0.125	13.14	0.066	75	0.85	5.96	0.043	0	486	23.66	
1040	12.5	0.125	13.11	0.066	75	0.86	5.95	0.043	0	487	23.64	
1045	13.125	0.125	13.11	0.066	74	0.85	5.94	0.043	0	472	23.64	
1050	13.75	0.125	13.21	0.066	71	0.84	5.95	0.043	0	479	23.61	
1055	14.375	0.125	13.12	0.066	69	0.84	5.95	0.043	0	478	23.6	
1100	15	0.125	13.17	0.066	67	0.83	5.95	0.043	0	475	23.58	



Well Sampling Log

Well ID No.:

MW-CPC-39

Well Casing Type: 2.5" Sch 80 PVC Start SWL: 22.46 Project: 10109218 - 99
 Well Depth**: 390 Water Column Ht.: 367.54 Date: 3/26/2020
 Screened Interval: 370.6 - 390 Well Volume (gallons): 93.7 Crew: MTP/BM
 Well Elevation**: SWL During Sampling: 22.96 Pump Intake (ft) 374
 Well Diameter (in.) 2.5 Sample Time: 1300 Meters Used: Horiba U-52
 Well Condition: New Sample Method: Pump PID Head Space (ppm): 0
 Weather Conditions: 37°F, Clear,N 0-5 MPH Sample Analyses: VOC, PFCs, 1,4-Dioxane Sample ID: MW-CPC-39-R4-GW-374-20200326-0
 Comments:

Notes: * - Measurement taken from top of well casing

Time	Est. Liters Purged	Purge Rate (Lpm)	Temp. (C°)	Cond. (ms/cm)	ORP (mV)	D.O. (mg/L)	pH	TDS	Salinity (ppt)	Turbidity (NTU)	Depth to Water*	Comments
1105	15.625	0.125	13.15	0.066	66	0.83	5.95	0.043	0	476	23.6	
1110	16.25	0.125	13.27	0.066	64	0.82	5.94	0.043	0	471	23.59	
1115	16.875	0.125	13.24	0.066	63	0.83	5.94	0.043	0	480	23.58	
1120	17.5	0.125	13.27	0.066	62	0.82	5.93	0.043	0	478	23.6	
1125	18.125	0.125	13.3	0.065	61	0.81	5.93	0.043	0	515	23.62	
1130	18.75	0.125	13.31	0.063	61	0.79	5.91	0.043	0	531	23.58	
1135	19.375	0.125	13.26	0.061	62	0.78	5.9	0.04	0	565	23.59	
1140	20	0.125	13.3	0.061	63	0.77	5.88	0.04	0	598	23.58	
1145	20.625	0.125	-	-	-	-	-	-	-	-	-	Cleaned out Horiba
1150	21.25	0.125	13.29	0.059	118	0.77	5.85	0.039	0	660	23.59	
1155	21.875	0.125	13.3	0.059	114	0.76	5.85	0.039	0	665	23.58	
1200	22.5	0.125	13.39	0.059	92	0.73	5.83	0.038	0	672	23.59	
1205	23.125	0.125	13.43	0.059	84	0.71	5.83	0.038	0	661	23.59	
1210	23.75	0.125	13.47	0.058	77	1.06	5.82	0.038	0	652	23.6	
1215	24.375	0.125	13.52	0.058	74	0.73	5.84	0.038	0	648	23.51	
1220	25	0.125	13.51	0.059	71	0.71	5.83	0.038	0	636	23.44	
1225	25.625	0.125	13.54	0.059	68	0.69	5.83	0.038	0	622	23.38	
1230	26.25	0.125	13.55	0.06	66	0.69	5.84	0.039	0	612	23.32	
1235	26.875	0.125	13.6	0.06	63	0.7	5.84	0.039	0	601	23.25	
1240	27.5	0.125	13.65	0.059	62	0.68	5.84	0.038	0	586	23.19	
1245	28.125	0.125	13.65	0.059	62	0.68	5.81	0.038	0	576	23.13	
1250	28.75	0.125	13.68	0.059	62	0.68	5.8	0.039	0	562	23.08	
1255	29.375	0.125	13.74	0.06	60	0.68	5.82	0.039	0	550	23.01	
1300	30	0.125	13.76	0.06	59	0.69	5.84	0.039	0	543	22.96	



Well Sampling Log

Well ID No.:

MW-CPC-39

Well Casing Type:	2.5" Sch 80 PVC	Start SWL:	22.46	Project:	10109218 - 99
Well Depth**:	390	Water Column Ht.:	367.54	Date:	3/26/2020
Screened Interval:	370.6 - 390	Well Volume (gallons):	93.7	Crew:	MTP/BM
Well Elevation**:		SWL During Sampling:	22.96	Pump Intake (ft)	374
Well Diameter (in.)	2.5	Sample Time:	1300	Meters Used:	Horiba U-52
Well Condition:	New	Sample Method:	Pump	PID Head Space (ppm):	0
Weather Conditions:	37°F, Clear,N 0-5 MPH	Sample Analyses:	VOC, PFCs, 1,4-Dioxane	Sample ID:	MW-CPC-39-R4-GW-374-20200326-0
Comments:					

Notes: * - Measurement taken from top of well casing

Time	Est. Liters. Purged	Purge Rate (Lpm)	Temp. (C°)	Cond. (ms/cm)	ORP (mV)	D.O. (mg/L)	pH	TDS	Salinity (ppth)	Turbidity (NTU)	Depth to Water*	Comments
1300	Sampling											

Comments: 60 PSI, 10/20 cycle. Sampled after well was purged for 4 hrs.



Well Sampling Log

Well ID No.:

MW-CPC-40

Well Casing Type: 2.5" Sch 80 PVC
 Well Depth**: 317
 Screened Interval: 307-317
 Well Elevation**:
 Well Diameter (in.): 2.5
 Well Condition: New
 Weather Conditions: 41°F, Overcast, W 10-15 MPH
 Comments:

Start SWL: 54.62
 Water Column Ht.: 262.38
 Well Volume (gallons): 67
 SWL During Sampling: 54.52
 Sample Time: 1225
 Sample Method: Pump
 Sample Analyses: VOC, PFCs, 1,4-Dioxane

Project: 10109218 - 99
 Date: 3/25/2020
 Crew: MTP/BM
 Pump Intake (ft): 312
 Meters Used: Horiba U-52
 PID Head Space (ppm): 0
 Sample ID: MW-CPC-40-R4-GW-312-20200325-0

Notes: * - Measurement taken from top of well casing

Time	Est. Liters. Purged	Purge Rate (Lpm)	Temp. (C°)	Cond. (ms/cm)	ORP (mV)	D.O. (mg/L)	pH	TDS	Salinity (ppt)	Turbidity (NTU)	Depth to Water*	Comments
1023	0	0.12	10.81	0.169	256	9.42	5.76	0.11	0.1	3.8	54.61	
1028	0.6	0.12	11.23	0.158	255	6.62	5.86	0.103	0.1	2.9		
1033	1.2	0.12	11.5	0.155	236	3.61	5.9	0.101	0.1	3		
1038	1.8	0.12	11.63	0.152	181	2.57	5.96	0.099	0.1	4.2		
1043	2.4	0.12	11.82	0.149	41	1.88	6.01	0.097	0.1	10.6	54.56	
1048	3	0.12	11.85	0.149	-1	1.64	5.98	0.097	0.1	109	54.55	
1053	3.6	0.12	11.77	0.152	11	1.58	5.87	0.099	0.1	223	54.56	
1058	4.2	0.12	11.83	0.154	42	1.58	5.78	0.1	0.1	227	54.54	
1103	4.8	0.12	11.86	0.155	78	1.6	5.7	0.1	0.1	187	54.54	
1108	5.4	0.12	11.79	0.155	109	1.58	5.74	0.101	0.1	139	54.54	
1113	6	0.12	12	0.155	129	1.53	5.76	0.101	0.1	115	54.51	
1118	6.6	0.12	11.96	0.155	150	1.51	5.77	0.101	0.1	86.9	54.49	
1123	7.2	0.12	11.96	0.155	165	1.47	5.78	0.1	0.1	66.1	54.49	
1128	7.8	0.12	11.98	0.155	176	1.41	5.78	0.1	0.1	51.2	54.48	
1133	8.4	0.12	11.98	0.154	180	1.35	5.81	0.1	0.1	41.6	54.47	
1138	9	0.12	12	0.155	185	1.29	5.81	0.1	0.1	34.4	54.46	
1143	9.6	0.12	12.08	0.155	190	1.23	5.82	0.101	0.1	29.5	54.45	
1148	10.2	0.12	12.13	0.155	193	1.23	5.82	0.101	0.1	27.4	54.44	
1153	10.8	0.12	12.15	0.155	200	1.2	5.79	0.101	0.1	23.5	54.45	
1158	11.4	0.12	12.12	0.155	204	1.19	5.81	0.101	0.1	21.3	54.48	
1203	12	0.12	12.05	0.155	213	1.19	5.79	0.101	0.1	19.6	54.47	
1208	12.6	0.12	12.02	0.155	219	1.18	5.78	0.101	0.1	18.6	54.48	
1213	13.2	0.12	12.02	0.155	238	1.19	5.56	0.101	0.1	17	54.49	
1218	13.8	0.12	12.04	0.155	244	1.17	5.54	0.101	0.1	17	54.48	
1223	14.4	0.12	12.1	0.155	247	1.16	5.55	0.101	0.1	16.9	54.52	
1225	Sampling											

Comments: 50 PSI, 10/20 cycle.



Well Sampling Log

Well ID No.:

MW-CPC-41

Well Casing Type: 2.5" Sch 80 PVC
 Well Depth**: 263
 Screened Interval: 253 - 263
 Well Elevation**:
 Well Diameter (in.): 2.5
 Well Condition: New
 Weather Conditions: 41°F, Overcast, W 10-15 MPH

Start SWL: 17.53
 Water Column Ht.: 245.47
 Well Volume (gallons): 62.5
 SWL During Sampling: 17.61
 Sample Time: 1620
 Sample Method: Pump
 Sample Analyses: VOC, PFCs, 1,4-Dioxane

Project: 10109218 - 99
 Date: 3/25/2020
 Crew: MTP/BM
 Pump Intake (ft): 258
 Meters Used: Horiba U-52
 PID Head Space (ppm): 0
 Sample ID: MW-CPC-41-R4-GW-258-20200325-0

Comments:

Notes: * - Measurement taken from top of well casing

Time	Est. Liters. Purged	Purge Rate (Lpm)	Temp. (C°)	Cond. (ms/cm)	ORP (mV)	D.O. (mg/L)	pH	TDS	Salinity (ppt)	Turbidity (NTU)	Depth to Water*	Comments
1412	0	0.27	12.77	0.17	322	13.05	4.87	0.111	0.1	1.9	17.53	
1417	1.35	0.27	13.06	0.168	225	2.4	4.69	0.109	0.1	0	17.54	
1422	2.7	0.27	13.15	0.167	214	1.66	4.6	0.109	0.1	5.7	17.54	
1427	4.05	0.27	13.13	0.169	244	1.36	4.51	0.11	0.1	42.1	17.55	
1432	5.4	0.27	13.18	0.169	266	1.22	4.52	0.11	0.1	79.2	17.55	
1437	6.75	0.27	13.17	0.168	277	1.09	4.56	0.109	0.1	114	17.55	
1442	8.1	0.27	13.16	0.165	281	1.06	4.6	0.107	0.1	101	17.56	
1447	9.45	0.27	13.19	0.164	288	1.03	4.56	0.107	0.1	91	17.56	
1452	10.8	0.27	13.2	0.164	289	1	4.59	0.107	0.1	102	17.57	
1457	12.15	0.27	13.22	0.165	290	1	4.59	0.107	0.1	133	17.57	
1502	13.5	0.27	13.21	0.166	290	1.01	4.62	0.108	0.1	153	17.58	
1507	14.85	0.27	13.22	0.167	299	1.02	4.59	0.108	0.1	157	17.59	
1512	16.2	0.27	13.24	0.167	303	1.03	4.58	0.109	0.1	132	17.6	
1517	17.55	0.27	13.26	0.167	306	1.03	4.56	0.109	0.1	126	17.6	
1522	18.9	0.27	13.23	0.167	311	1.04	4.55	0.109	0.1	115	17.61	
1527	20.25	0.27	13.24	0.166	314	1.03	4.55	0.108	0.1	117	17.61	
1532	21.6	0.27	13.27	0.166	316	1.02	4.58	0.108	0.1	119	17.61	
1537	22.95	0.27	13.22	0.166	324	1.02	4.55	0.108	0.1	126	17.61	
1542	24.3	0.27	13.17	0.166	326	1.02	4.55	0.108	0.1	111	17.61	
1547	25.65	0.27	13.17	0.166	330	1.02	4.53	0.108	0.1	102	17.61	
1552	27	0.27	13.19	0.166	332	1.01	4.55	0.108	0.1	108	17.61	
1557	28.35	0.27	13.23	0.166	335	1	4.55	0.108	0.1	108	17.61	
1602	29.7	0.27	13.24	0.166	338	1.01	4.52	0.108	0.1	98.2	17.61	
1607	31.05	0.27	13.14	0.166	340	1.02	4.53	0.108	0.1	75.6	17.61	
1612	32.4	0.27	13.12	0.166	340	1.04	4.57	0.108	0.1	70.2	17.61	
1617	33.75	0.27	13.12	0.166	341	1.04	4.53	0.108	0.1	73.6	17.61	
1620	Sampling											

Comments: 50 PSI, 10/20 cycle.