

***BOMARC Off-Site and Vicinity
Groundwater Investigation
Westhampton N.Y.***



**Suffolk County
Department of Health Services**

**Edward P. Romaine
Suffolk County Executive**

**Gregson H. Pigott, M.D., M.P.H.
Commissioner**

**John Sohngen, P.E.
Director
Division of Environmental Quality**

**Andrew Rapiejko
Associate Hydrogeologist, Lead Author
Office of Water Resources**

September 11, 2025

Table of Contents

Executive Summary	i
Background	1
Site History	2
Groundwater Investigation	2
Groundwater Flow Direction in the Study Area	3
Evaluation of Potential PFAS Source Areas in the Vicinity of the BOMARC Site	4
1995 Wildfire Area (BOM20-62 through BOM20-66)	4
Former Westhampton Raceway (BOM20-59 through BOM20-61)	5
Westhampton Pines Senior Housing, Westhampton Nursing Home, and the Westhampton Senior Living STPs	6
Southampton Town’s Westhampton Transfer Station and Former Landfill (BOM20-66 through 70)	7
Westhampton Beach Fire Department Property (BOM20-51, 53 and 54) ..	7
Evaluation of PFAS Impacted Groundwater Migrating Off of the BOMARC Site	8
Evaluation of Potential PFAS Source(s) Impacting Private Wells in the Vicinity of the Site	9
Polychlorinated Biphenyl (PCB) Testing in Off-Site Groundwater Downgradient of the BOMARC Site	11
Conclusions.....	12
Figures	15

Figures

Figure 1 – BOMARC Facility & Vicinity 1962

Figure 2 – BOMARC Facility Areas of Interest

Figure 3 – Potential PFAS Sources, Vicinity of the BOMARC Facility

Figure 4 – Location of BOMARC Offsite & Vicinity Wells Sampled

Figure 5 – PFOS & PFOA Concentrations Profile Wells BOM20-61 through BOM20-69 BOMARC Site & Vicinity

Figure 6 – PFOS & PFOA Concentrations Profile Wells BOM20-35, BOM20-59, BOM20-60, BOM20-69, BOM20-70 & Westhampton Nursing Home STP Wells

Figure 7 – PFOS & PFOA Concentrations Profile Wells BOM20-36 Through BOM20-50, BOM21-76 & Westhampton Pines & Senior STP Wells

Figure 8 – PFOS & PFOA Concentrations Profile Wells BOM20-51 Through BOM20-58, BOM20-72, BOM21-77 & BOM21-78 BOMARC Site & Vicinity

Figure 9 – March 2021 Relative Groundwater Elevation Contours & Groundwater Flow Direction

Figure 10 – BOMARC Facility & Vicinity 2019 & 2020/2021 Monitoring Well Locations

Figure 11 – PFOS & PFOA Concentrations 2019 and 2020/2021 Profile Wells Upgradient of SCPD Shooting Range

Figure 12 – PFOS & PFOA Concentrations 2019 & 2020/2021 Profile Wells Southwest Site Area BOMARC Site & Vicinity

Figure 13 – PFOS Groundwater Concentrations BOMARC Facility & Vicinity

Figure 14 – Hydrogeologic Cross Section A-A' PFOS

Figure 15 – Hydrogeologic Cross Section B-B' PFOS

Figure 16 – Hydrogeologic Cross Section C-C' PFOS

Figure 17 – PFOA Groundwater Concentrations BOMARC Facility & Vicinity

Figures

Figure 18 – Hydrogeologic Cross Section A-A' PFOA

Figure 19 – Hydrogeologic Cross Section B-B' PFOA

Figure 20 – Hydrogeologic Cross Section C-C' PFOA

Figure 21 – Manganese Groundwater Concentrations BOMARC Facility & Vicinity

Figure 22 – Hydrogeologic Cross Section A-A' Manganese

Figure 23 – Hydrogeologic Cross Section B-B' Manganese

Figure 24 – Hydrogeologic Cross Section C-C' Manganese

Figure 25 – Specific Conductance Groundwater Concentrations BOMARC Facility & Vicinity

Figure 26 – Hydrogeologic Cross Section A-A' Specific Conductance

Figure 27 – Hydrogeologic Cross Section B-B' Specific Conductance

Figure 28 – Hydrogeologic Cross Section C-C' Specific Conductance

Figure 29 – Westhampton Private Well Survey Area

Appendices

Appendix A

Table 1 Groundwater Data, PFAS, PCBs, and Summary of Detected SCDHS Public and Environmental Health Laboratory Analytes

Appendix B

List of All Analytes Tested by the SCDHS Public and Environmental Health Laboratory

Appendix C

Profile Well Construction and Sampling Methodologies

Appendix D

Groundwater Data Table of Detected Analytes from the Suffolk County Department of Health Services' Report, Groundwater and Soil Investigation at the BOMARC Facility, Westhampton N.Y. In Accordance with Suffolk County Resolution No. 1065-2018, September 2020

Executive Summary

Background:

In 2018, the Suffolk County Department of Health Services (SCDHS) initiated a preliminary site investigation at the Suffolk County former Boeing Michigan Aeronautics Research Center (BOMARC) facility in Westhampton, NY. The results of this investigation, which were compiled in a report known as *Groundwater and Soil Investigation at the BOMARC Facility, Westhampton, N.Y., In Accordance with Suffolk County Legislative Resolution No. 1065-2018, September 2020* (2020 BOMARC Groundwater and Soil Report), revealed the presence of per- and polyfluoroalkyl substances (PFAS), specifically perfluorooctane sulfonic acid (PFOS) and perfluorooctanoic acid (PFOA), in onsite groundwater at concentrations exceeding New York State Department of Health (NYSDOH) drinking water maximum contaminant levels (MCLs) of 10 nanograms per liter (ng/L) each for both PFOS and PFOA. This subsequent investigation aimed to refine the groundwater flow direction, evaluate additional offsite PFAS sources, determine the extent of offsite PFAS migration from the BOMARC site (if any), and assess polychlorinated biphenyl (PCB) presence in BOMARC off-site groundwater.

Site History:

The BOMARC site, originally constructed in 1957 as a U.S. military facility housing BOMARC surface-to-air cruise missiles, spans approximately 90 developed acres. The facility ceased military activities in 1969. The site currently serves multiple purposes including vehicle storage, police training, and use by various tenants. The surrounding area includes residential homes, assisted living facilities, sewage treatment plants, and government-operated facilities such as a town operated yard waste transfer station, highway yard and police rifle/pistol range at the site of the former Westhampton Landfill. The Suffolk County Water Authority's (SCWA) Old Country Road wellfield, located just south of the BOMARC site, had detections of PFOS in untreated water as high as 26 ng/L, which exceeds the New York State maximum contaminant level (MCL) of 10 ng/L. To ensure safe drinking water, SCWA installed treatment systems on all three wells at the site, effectively reducing PFAS concentrations to below the state's MCLs before the water is delivered to customers.

Groundwater Investigation:

From 2020 to 2021, the SCDHS conducted extensive groundwater testing, including the installation and sampling of 36 profile wells and sampling of eight existing permanent sewage treatment plant (STP) monitoring wells. The investigation aimed

to establish the groundwater flow direction, identify potential offsite PFAS sources, and determine the extent of PFAS contamination migrating off of the BOMARC site.

Key Findings:

1. PFAS Contamination:

- a. Thirty-six (36) profile wells were drilled, with the highest PFOS concentration of 120 ng/L reported in well BOM20-60.
- b. Sixty-two (62) properties were tested in the private well survey area, with 16 of those wells exceeding the NYS MCLs of 10 ng/L each for PFOS and PFOA. An estimated 57 properties within the survey area are still served by private wells.
- c. Based on results acquired to prepare this report and the findings from the 2020 BOMARC Groundwater and Soil Report, potential significant PFAS sources include the former Westhampton Raceway (now Westhampton Pines senior housing), local sewage treatment plants, Southampton Town's Westhampton Transfer Station and Former Landfill, fireworks disposal areas and impounded vehicles involved with fires stored at the BOMARC facility.

2. Groundwater Flow:

- a. Groundwater flow in the study area generally trends south/southeast with localized influences from the nearby SCWA public water supply wells and natural water bodies.
- b. The investigation identified several distinct PFOS and PFOA plumes, suggesting multiple source areas contributing to the identified groundwater impacts.

3. PCB Testing:

- a. PCBs were not detected in the off-site groundwater samples collected downgradient of the BOMARC site.

Additional Potential PFAS Source Areas in the Vicinity of the BOMARC Site:

Monitoring wells were sampled downgradient of several potential PFAS source areas in the vicinity of the BOMARC site. The following wells exhibited PFOS and/or PFOA concentrations exceeding the 10 ng/L NYS MCLs for drinking water :

- *Former Westhampton Raceway/Westhampton Pines Senior Housing:* Profile wells BOM20-59, BOM20-60, and BOM20-61 indicated PFOS and/or PFOA detections above the MCL, with exceedances ranging from 14 ng/L to 120 ng/L.
- *Westhampton Pines STP:* Permanent STP monitoring wells MWG-WH-1, MWG-WH-2, and MWG-WH-3 exhibited PFOS and PFOA detections with MCL exceedances ranging from 12 ng/L to 64 ng/L.

- *Westhampton Nursing Home STP*: Downgradient permanent STP monitoring well GMW-3-WH showed PFOS concentrations exceeding the MCL at 11 ng/L.
- *Southampton Town's Westhampton Transfer Station and Former Landfill*: Profile wells BOM-68, BOM-69, and BOM-70 located on the transfer station site had PFOS and PFOA detections exceeding MCLs, ranging from 11 ng/L to 19 ng/L. Profile wells BOM20-49, BOM21-77, BOM21-78, BOM20-57 and BOM20-58, located downgradient of the transfer station, had PFOS and/or PFOA MCL exceedances ranging from 11 ng/L to 93 ng/L. Thirty-seven (37) properties which utilize a private well for potable water are located downgradient of this facility. Eleven of these wells exceeded the NYS MCL for PFOS and/or PFOA. Evaluation of the analytical data from groundwater profile wells and private wells indicates a co-located landfill leachate and PFAS groundwater plume is apparently migrating up to 9,000 feet southeast from the Westhampton Transfer Station and former landfill site.
- *Westhampton Beach Fire Department Property*: Profile wells BOM20-53 and BOM20-54 had PFOS and/or PFOA concentrations above the MCL, with exceedances ranging from 11 ng/L to 23 ng/L.

Conclusions:

The investigation determined that PFAS contamination in the groundwater originates from the BOMARC site as well as other significant offsite sources located within the vicinity (e.g., Westhampton Pines senior housing/former Westhampton Raceway property and the Town of Southampton's Westhampton Transfer Station and former landfill) (see Figure 13).

To address PFAS groundwater contamination in the private well survey area, the Suffolk County Water Authority is commencing a project to extend public water in the survey area to 57 properties, mainly downgradient of the Westhampton Transfer Station and former landfill, that are still utilizing private wells as their domestic water source. This public water extension project is funded by a number of sources including a grant from the New York State Water Infrastructure Improvement Act, a Congressionally Directed Spending grant, the Town of Southampton Community Preservation Fund, and Suffolk County's American Rescue Plan Act.

Finally, the investigation determined that PCBs do not appear to be migrating in the groundwater off the BOMARC site.

Suffolk County will continue to coordinate with the New York State Department of Environmental Conservation in identifying and addressing potential PFAS sources located on the BOMARC property.

Background

In 2018 the Suffolk County Department of Health Services (SCDHS) initiated a preliminary site investigation at the Suffolk County Boeing Michigan Aeronautics Research Center (BOMARC) facility in Westhampton, N.Y. The results of this investigation were compiled into a report issued in September of 2020.¹ Among other findings, the investigation revealed that two per-and polyfluoroalkyl substances (PFAS), perfluorooctane sulfonic acid (PFOS) and perfluorooctanoic acid (PFOA), were present in onsite groundwater at concentrations exceeding the New York State Department of Health (NYSDOH) drinking water maximum contaminant levels (MCLs) of 10 nanograms per liter (ng/L) each for PFOS and PFOA. However, PFAS detections were also observed in an upgradient well (north of the site) and in other wells situated close to the western property boundary, suggesting that additional PFAS source(s) could be located off of the BOMARC site. Properties served with private wells located southeast of the BOMARC site were found to be impacted with PFAS at concentrations exceeding the PFOS and PFOA MCLs. These properties do not appear to be located directly downgradient of the BOMARC facility, suggesting a possible PFAS source east of the BOMARC site. Also, soil samples collected on the BOMARC site indicated detections of polychlorinated biphenyls (PCBs)².

In the fall of 2020, the SCDHS initiated additional groundwater testing that was designed to:

1. Establish a more refined groundwater flow direction in the vicinity of the BOMARC site
2. Evaluate other potential PFAS source areas located in the vicinity of the BOMARC site
3. Determine if PFAS impacted groundwater is migrating off of the BOMARC property
4. Determine, to the extent practicable, PFAS source(s) impacting private wells in the vicinity of the site
5. Determine if PCBs are present in the groundwater off-site, downgradient of the BOMARC facility

¹ Groundwater and Soil Investigation at the BOMARC Facility, Westhampton, N.Y. In Accordance with Suffolk County Legislative Resolution No. 1065-218, September 2020,
<https://www.suffolkcountyny.gov/Portals/0/FormsDocs/Health/EnvironmentalQuality/Final%20Complete%20BOMARC%20Report%209-22-20.pdf>

² Ibid, pages 10-14

Site History

The subject property consists of approximately 90 developed acres. The remaining acreage is undeveloped. The property occupies Suffolk County Tax Map Numbers: 900-331-1-1.1 and 900-331-1-2 through 15.

The site is a former military complex that is currently owned by Suffolk County and is used for multiple purposes. Based on a review of the available historical data beginning with the late 1940's, the facility was constructed in Westhampton in 1957 by the United States (U.S.) Military and was occupied by the 6th Air Defense Missile Squadron of the U.S. Air Force Air Defense Command and was known as the Suffolk BOMARC Base (Figure 1). The primary purpose of the base was to defend the U.S. from enemy aircraft. The facility housed such missiles known as the BOMARC A. The BOMARC A was a Surface-to-Air Cruise Missile (SAM) with a length of 46 feet and armed with a 10-kiloton nuclear warhead.

The facility housed 58 missiles within individual silos; none of the missiles were launched. In 1964, technicians removed their nuclear tips and dismantled the weapons. Military activities ceased in 1969.

There are thirteen buildings on the site. The Suffolk County Police Department (SCPD) primarily uses the location for the storage of vehicles damaged in accidents and needed for evidentiary purposes (approximately 2,500 to date). In addition, the site is used by Suffolk County as a police training facility, motor vehicle impound, fireworks disposal site, rifle/pistol range, Sheriff's training facility, government archives storage and by various tenants for multiple purposes (Figure 2). The Town of Southamptton operates a transfer station for compost, a salt storage barn and a rifle/pistol range just east of the BOMARC property at the site of the former Westhampton Landfill. A former drag racing strip, which is now the Westhampton Pines senior housing development, is located to the west; undeveloped Pine Barrens are bordering to the north; a Suffolk County Water Authority wellfield, residential homes, an assisted living facility and a nursing home/rehabilitation center are located to the south (Figure 3).

Groundwater Investigation³

This groundwater investigation was designed to complement the 2018 preliminary site investigation work and included the installation and sampling of 36 profile wells and sampling of eight existing permanent sewage treatment plant (STP) groundwater

³ Details regarding the profile well construction methodology and groundwater sampling procedures are included in Appendix C.

monitoring wells. Groundwater well installation began in October 2020 and continued through June 2021. A New York State Department of Environmental Conservation (NYSDEC) contract laboratory (Pace Analytical Laboratories) was utilized for PFAS analysis in groundwater samples collected from 30 profile wells, which were located for evaluation of PFAS sources other than the BOMARC site, and the eight permanent STP monitoring wells. A SCDHS contract laboratory (Pace Analytical Laboratories) was utilized to analyze PFAS and PCBs in six off-site wells located on Old Country Road, downgradient of the BOMARC facility. Seven additional wells were installed and used only for the collection of geophysical information and water level measurements. Figure 4 displays the locations of all 36 profile wells and eight permanent STP monitoring wells which were sampled in this effort. The Suffolk County Public and Environmental Health Laboratory (PEHL) performed analysis for the following analytical groups on all of the groundwater samples⁴: metals; inorganic parameters; volatile organic compounds (VOCs); semi-volatile organic compounds (SVOCs); radiological parameters (gross alpha, gross beta, tritium)⁵; chlorate; 1,4-dioxane; herbicide metabolites; aldicarb pesticides; chlorinated pesticides; ammonia; and dacthal. All analytical results for PFAS and PCBs, and a summary of the detected parameters analyzed by the SCDHS PEHL, are provided in Appendix A, Table 1. A complete list of analytes tested in the groundwater samples by the PEHL is provided in Appendix B. A total of 184 groundwater samples were collected. The PFOS and PFOA results for all 44 of the profile and STP monitoring wells sampled are shown on Figure 5 through Figure 8.

1. Groundwater Flow Direction in the Study Area

Thirty-seven (37) wells were surveyed for elevation using a relative benchmark which had been established for the 2018 preliminary site investigation work. In March of 2021 synoptic water level measurements were collected on 62 wells that were installed on and off of the BOMARC site. The water level information from these wells was used to construct relative water table elevation contours (Figure 9) with the groundwater flow direction indicated as dark blue arrows. The central portion of the BOMARC site shows a general south/southeasterly groundwater flow. A significant impact on the groundwater elevation and flow direction is evident from the pumping of the Suffolk County Water Authority (SCWA) Old

⁴ Methylene blue activated substance (MBAS) analysis for the presence of detergents were performed only on the groundwater samples collected from the eight wells located at the sewage treatment plants.

⁵ Radiological parameters were not analyzed in the following four profile wells: BOM20-72, BOM20-76, BOM20-77 and BOM20-78.

Country Road wellfield located at the southern end of the BOMARC site.⁶ Groundwater is drawn toward the wellfield, particularly from the west, as it passes the pumping wells. The flow pattern returns to a more southerly direction before it reaches Old Country Road. Once groundwater passes south of Old Country Road, there is a southwestern component to the flow influenced by the Speonk River, which is located to the west, and a southeasterly flow toward Beaverdam Creek located to the east. A general southerly groundwater flow was observed on the Westhampton Transfer Station and former landfill property. As the groundwater in this area travels south past Old Country Road, the flow direction changes to more southeasterly as the influence of Beaverdam Creek becomes more predominant.

2. Evaluation of Potential PFAS Source Areas in the Vicinity of the BOMARC Site

Data collected as part of the BOMARC preliminary site investigation indicated a potential for other PFAS source areas to exist off of the site, in the vicinity of the BOMARC property. These areas were identified as follows: 1995 Wildfire Area; Former Westhampton Raceway Track; Sewage Treatment Plants (STPs) at Westhampton Pines senior housing, Westhampton Nursing Home, and the Westhampton Senior Living facilities; Southampton Town's Westhampton Transfer Station and former landfill; and a Westhampton Beach Fire District property. The assessment of these areas included the installation and sampling of 30 profile wells, and the sampling of eight permanent groundwater monitoring wells located at the three nearby STP sites. For reference, Figure 10 displays the locations of the wells sampled in both the 2019 preliminary on-site investigation, and in 2020/2021 for the BOMARC Offsite and Vicinity Groundwater Investigation. A summary of the detected analytes in the groundwater samples collected for the 2019 investigation is included in Appendix D.

- **1995 Wildfire Area (BOM20-62 through BOM20-66)**

The September 2020 report indicated that 2 of the 3 wells installed just north of the Suffolk County Police firing range, along the northern perimeter of the developed BOMARC site, exhibited detections of 9.8 ng/L PFOS and 1.8 ng/L PFOA in BOM-1 and BOM-2 respectively (Figure 11). These wells were intended to assess the upgradient water quality flowing onto the site from the

⁶ The SCWA Old Country Road wellfield has exhibited PFOS and PFOA detections in all three of the wells at the site with maximum concentrations of 26 ng/L and 6 ng/L respectively. SCWA has installed a treatment system at the wellfield that reduces PFAS concentrations below MCLs prior to service to their customers.

undeveloped woodland to the north. Although there are no obvious potential upgradient PFAS sources, this area was subjected to a significant wildfire in 1995 where firefighting foam potentially could have been used. To further assess this potential, five profile wells (Figure 11, BOM20-62 through BOM20-66) were located in the northern portion of the study area, north of the previous wells. No PFAS detections were observed in any of these five wells indicating no apparent PFAS source areas exist upgradient (north) of the BOMARC site.

- Former Westhampton Raceway (BOM20-59 through BOM20-61)

Profile wells BOM-21 and BOM-22 were installed and sampled in 2019 in the southwestern portion of the site as part of the initial BOMARC preliminary site investigation. Both wells exhibited elevated concentrations of PFOS in deeper profile levels (190 ng/L at 65-70 feet below grade (fbg) and 50 ng/L at 85-90 fbg, respectively) (Figure 12). The depth of the contamination and southeastern groundwater flow direction in the vicinity of these wells indicate a potential PFAS source area located a distance northwest of these wells, most likely off of the BOMARC property.

To further investigate the source of the PFAS in these wells, three profile wells (BOM20-59, BOM20-60 and BOM20-61) were installed along the western boundary of the BOMARC property, north (upgradient) of BOM-21 and BOM-22 (Figure 12). All three wells indicated PFOS and/or PFOA detections above the 10 ng/L NYSDOH MCLs for drinking water. These MCL exceedances ranged from 14 ng/L to 120 ng/L. The property located to the immediate west is the former Westhampton Raceway, which closed in 2004. In 2005 the property was developed into Westhampton Pines, a senior housing complex consisting of 189 townhomes. The groundwater flow direction indicates that this PFAS source area is northwest of the BOM20-59, BOM20-60 and BOM20-61 wells, potentially on the Westhampton Pines/former Westhampton Raceway property (Figure 13). The depth distribution of the PFOS concentrations in BOM-21 and BOM-22 is illustrated in Hydrogeologic PFOS Cross Section A-A' on Figure 14.

- Westhampton Pines Senior Housing, Westhampton Nursing Home, and the Westhampton Senior Living STPs

The Westhampton Pines senior housing, Westhampton Nursing Home, and the Westhampton Senior Living STPs are all located to the south of the BOMARC property, in the near vicinity of the site (Figure 3). To assess the potential PFAS contributions from these STPs to the groundwater in the area, sampling for PFAS was conducted from the permanent monitoring wells installed at each STP. These monitoring wells are used to monitor the groundwater for the treatment plant's discharge permits.

- o Westhampton Pines Senior Housing (MWG-WH-1, MWG-WH-2 & MWG-WH-3)

All three groundwater monitoring wells exhibited detections of PFOS and PFOA, with MWG-2-WH at 13 ng/L of PFOS, exceeding the MCL. PFOA concentrations exceeded the MCL in all three wells, with the highest reported in MWG-2-WH at 64 ng/L. MWG-1-WH (upgradient well) had PFOA at 12 ng/L indicating a potential PFOA source area upgradient of the STP (Figure 7). PFOS and PFOA were detected in a profile well located on Old Country Road (BOM20-38) at 18 ng/L and 22 ng/L in profile depth levels consistent with a source from this STP. The PFOS and PFOA plumes downgradient from this STP are depicted in Figures 13 and 17, respectively. No profile wells were located downgradient of Old Country Road; therefore, the southerly extent of these plumes is inferred. Two private wells are known to be located south of Old Country Road, north of Montauk Highway. Sampling of these private wells in 2018 and 2020 indicated PFOS and PFOA did not exceed the 10 ng/L MCL at the time they were sampled.

- o Westhampton Nursing Home (GMW-1-WH, GMW-2-WH, GMW-3-WH)

PFOS and PFOA were detected in both downgradient groundwater monitoring wells (GMW-2-WH and GMW-3-WH), with the PFOS concentration in GMW-3-WH (11 ng/L) exceeding the MCL (Figure 6). There were no PFOS or PFOA detections in the upgradient well (GMW-1-WH). This indicates the PFAS concentrations observed in the downgradient wells are most likely from the Westhampton Nursing Home STP.

o Westhampton Senior Living (MW-1-WH Senior, MW-2-WH Senior)

PFOS and PFOA were detected at 2.9 ng/L and 1.9 ng/L respectively in the downgradient well MW-WH-2. These concentrations are below the MCLs. PFOS and PFOA were not detected in the upgradient well (MW-WH-1) suggesting that the Westhampton Senior Living STP is the likely source of the PFAS detected in the downgradient well (Figure 7).

• Southampton Town's Westhampton Transfer Station and Former Landfill (BOM20-66 through 70)

Two profile wells located generally upgradient of the Southampton Town's Westhampton Transfer Station & former landfill property (BOM20-66 and BOM20-67) exhibited no PFAS detections (Figure 5). Three profile wells (BOM20-68, BOM20-69, BOM20-70) located on the transfer station site downgradient of the Southampton Police Firing Range, within the area of stored vegetative organic waste, each had PFOS and PFOA detections exceeding MCLs ranging from 12 ng/L to 19 ng/L (Figure 5 and Figure 6). The depth distributions of the PFOS and PFOA in wells BOM20-68 and BOM20-69 show that detections were predominantly at or near the top of the water table, indicating that the Southampton Police Firing Range and/or the vegetative organic waste storage area may be a source of the PFOS and PFOA observed in the groundwater of these wells. Data collected from additional profile wells further downgradient of the transfer station property, primarily BOM21-77 (PFOA 23 ng/L), BOM21-78 (PFOS 93 ng/L), BOM20-57 (PFOS 26 ng/L), and BOM20-58 (PFOS 85 ng/L), along with the data collected from private wells located in the area, indicate a PFOS and PFOA groundwater plume may extend up to 9,000 feet downgradient of the Westhampton Transfer Station and former landfill site (Figure 13 and Figure 17).

• Westhampton Beach Fire Department Property (BOM20-51, 53 & 54)

To assess potential PFAS contributions to the groundwater from a Westhampton Beach Fire Department property, three profile wells (BOM20-51, BOM20-53 & BOM20-54) were installed in the downgradient vicinity of a Westhampton Beach Fire Department property (Figure 8). Two of these profile wells (BOM20-53 and BOM20-54) had PFOS and/or PFOA concentrations above the MCL ranging from 11 ng/L to 23 ng/L. One well (BOM20-51) had PFOS and PFOA detections below the MCL. The depth

distribution of elevated PFOS and PFOA within the aquifer in these profile wells (MCL exceedances at 55-60 fbg in BOM20-53, at 45-50 fbg in BOM20-54 and a PFOA exceedance at 65-70 fbg in BOM20-54) indicate that the source of these elevated PFOS/PFOA concentrations in the groundwater is most likely upgradient of the fire department property.

3. Evaluation of PFAS Impacted Groundwater Migrating Off of the BOMARC Site

Six profile wells (BOM20-35, BOM20-40, BOM20-41, BOM20-42, BOM20-43, BOM20-44) were installed downgradient (south) of the BOMARC site to assess if impacted groundwater is present downgradient of the BOMARC property. BOM20-35 was installed on a cul-de-sac on Sophie Court, and BOM20-40 through BOM20-44 were installed in a west-to-east line along Old Country Road (Figure 4). PFOS was detected in four of five profile levels in BOM20-35, ranging from 15 ng/L to 67 ng/L, and PFOA was also detected in four of the profile levels, with concentrations ranging from 14 ng/L to 31 ng/L (Figure 6). BOM20-43 and BOM20-44 also had PFOS and PFOA detections. PFOS was reported in BOM20-43 in four of five profile levels ranging in concentration from 2 ng/L to 53 ng/L, and PFOA was detected in all five levels ranging from 2 ng/L to 21 ng/L. PFOS was reported in all five profile levels of BOM20-44, with concentrations ranging from 2 ng/L to 18 ng/L, and PFOA was also detected in all five levels ranging from 2 ng/L to 11 ng/L (Figure 7).

Figure 13 and Figure 17 depict PFOS and PFOA isoconcentration contours using the PFAS data collected to date.⁷ Figure 13, created using data from this study and data collected in 2019 that was presented in the 2020 BOMARC Groundwater and Soil Investigation Report, depicts two distinct groundwater plumes with PFOS concentrations greater than 100 ng/L located on the BOMARC site; a western plume that potentially originates on the property west of BOMARC (former Westhampton Raceway/current Westhampton Pines senior housing property); an eastern plume that appears to originate at the

⁷ The graphical depiction of the groundwater plumes in Figure 13 through Figure 28 are based upon the following: data collected from profile and permanent monitoring wells from 2019 to 2021; March 2021 groundwater flow direction as illustrated in Figure 2; and private well data. Note that to protect homeowner privacy, only the generalized locations of properties served with private wells are displayed. The depth of the screen zones on private wells are unknown and were estimated to be 40 feet below the water table.

southeast portion of the BOMARC site (in the vicinity of the vehicle-fire storage area). As both PFOS plumes migrate south they are pulled toward each other due to the influence of pumping from the SCWA Old Country Road wellfield, which is located immediately south of the BOMARC site between the plumes. After passing the SCWA wellfield, the PFOS plumes resume a more southerly flow with the eastern plume mixing with lower PFOS concentrations (less than 25 ng/L) downgradient from the Westhampton Nursing Home STP. These two distinct PFOS plumes are evident in profile wells installed along Old Country Road and can be seen in the B-B' hydrogeologic cross-section in Figure 15 (wells BOM20-43 and BOM20-46).

Figure 17 shows the PFOA isoconcentration contours and indicates that a relatively large area of groundwater on the southern portion of the BOMARC site exhibits PFOA concentrations between 10 ng/L and 25 ng/L. A portion of this PFOA appears to be flowing onto the site from the neighboring former Westhampton Raceway/current Westhampton Pines senior housing property, similar to PFOS. Higher concentration PFOA (100 ng/L) are evident in the groundwater on the southeastern side of the BOMARC site, in the vicinity of the vehicle-fire storage area. As with the PFOS plume, the PFOA plume is influenced by the SCWA Old Country Road Wellfield as it migrates off the site. This PFOA plume is evident at Old Country Road in profile well BOM-43 and is depicted in hydrogeologic cross-section B-B' in Figure 19.

Since no profile wells were installed south of Old Country Road in this area, the extent of both the PFOS and PFOA groundwater plumes downgradient of Old Country Road is unknown, therefore the southerly extent of these plumes illustrated in Figure 13 and Figure 17 are inferred.

4. Evaluation of Potential PFAS Source(s) Impacting Private Wells in the Vicinity of the Site

After reports of PFAS detections at SCWA's Old Country Road Wellfield, a private well sampling survey was conducted in the area in 2017, and private well sampling was repeated in 2020. In total, 62 properties were tested in the survey area, with 16 properties having wells with PFOS and/or PFOA concentrations exceeding New York State MCLs. As of August 2024, 57 properties in the area

are still served by on-site wells, and seven of those properties have point of use treatment (POET) filters installed for the removal of PFAS. Thirty-seven (37) of the known properties served with on-site wells identified since 2017 are in the downgradient vicinity of Southampton Town's Westhampton Transfer Station and former landfill property. Of these 37 properties, 26 had a detectable concentration of PFOS and/or PFOA, 11 of which exceeded the NYS MCL of 10 ng/L for PFOS and/or PFOA⁸.

The Westhampton Town Transfer Station and former landfill began operating in the late 1960s and historically contained leaching pits where septic wastes were disposed⁹. The site currently operates as a refuse transfer station, yard waste management site and a storage yard for highway maintenance materials. Figure 9 indicates a general southerly groundwater flow direction on the transfer station property that becomes southeasterly downgradient (i.e., south) of the site.

The concentration distribution of manganese and specific conductance, two parameters commonly associated with groundwater impacts from landfills, were evaluated in profile wells and off-site private wells to determine if groundwater impacts from the transfer station/former landfill site are evident. Manganese and specific conductance groundwater concentration contours are depicted in Figure 21 and Figure 25, respectively, and in cross-section in Figure 22 through Figure 24, and Figure 26 through Figure 28, respectively. These figures indicate that a plume of elevated manganese concentrations and elevated specific conductance is apparently migrating south/southeast from the Westhampton Town Transfer Station and former landfill site and is likely a result of landfill impacts to the groundwater. The impacted groundwater appears to extend downgradient from the transfer station/former landfill site, consistent with the groundwater flow direction, south of South Road. Other parameters also commonly associated with landfill impacts such as chlorides and ammonia were also found to be elevated in some of the profile wells within the depicted plume at depths consistent with a source from the transfer station/former landfill site (e.g., chlorides >200 milligrams per liter (mg/L) and ammonia >4 mg/L in well BOM21-78) (Table 1). Elevated concentrations of parameters often associated with landfill impacts were also observed in several private wells located within

⁸ All eleven of these properties have had a treatment system (e.g., POET) installed or have since connected to public water and no longer use their well for potable purposes.

⁹ Summary Report, Preliminary Site Assessment, Westhampton Landfill, Town of Southampton, Suffolk County, Site No. 152060, Parsons Engineering Science, Inc., September 1995, p.2

the defined plume (e.g., data from a private well located in the northern portion of the defined plume reported specific conductance >900 microsiemens per centimeter ($\mu\text{S}/\text{cm}$), manganese >4,000 micrograms per liter ($\mu\text{g}/\text{L}$), and chlorides >200 mg/L).

The PFOS and PFOA concentration distributions south of the Westhampton Transfer Station and former landfill depicted in Figure 13 and Figure 17, respectively, appear to have a very similar lateral distribution pattern as the landfill related parameters (e.g., manganese and specific conductance, Figure 21 and Figure 25). The same holds true for the PFAS concentrations' vertical distribution pattern depicted in the north-south Hydrogeologic Cross-Section C-C' in Figure 16 and Figure 20, and the manganese and specific conduction vertical distribution illustrated in Hydrogeologic Cross-Section C-C' Figure 24 and Figure 28. Elevated PFOS and PFOA concentrations were observed in a profile well on Old Country Road, hydraulically downgradient of the Westhampton Transfer Station and former landfill site (BOM20-49 PFOS 45 ng/L, PFOA 26 ng/L). Data collected from additional profile wells further downgradient of the landfill (BOM21-77 PFOA 23 ng/L, BOM21-78 PFOS 93 ng/L and BOM20-57 PFOS 26 ng/L, BOM20-58 PFOS 85 ng/L), along with the data collected from private wells located in the area, indicate a groundwater PFAS plume may extend up to 9,000 feet downgradient of Southampton Town's Westhampton Transfer Station and former landfill site.

5. Polychlorinated Biphenyl (PCB) Testing in Off-site Groundwater Downgradient of the BOMARC Site

The September 2020 preliminary site investigation report documented the presence of polychlorinated biphenyls (PCBs) in soils located on the BOMARC site. To assess potential PCB impacts to BOMARC off-site groundwater, six profile wells installed to assess off-site (BOM20-35, BOM20-40, BOM20-41, BOM20-42, BOM20-43 and BOM20-44) (Figure 4) had samples analyzed by Pace Analytical Laboratories for PCBs. All six wells are located south and hydraulically downgradient of the BOMARC site and each of the well's five profile levels analyzed for PCBs (30 samples total, see Table 1). PCBs were not detected in any of these samples; therefore, PCBs do not appear to be migrating in the groundwater off the BOMARC site.

Conclusions

Groundwater Flow Direction in the Study Area

This investigation refined the groundwater flow direction in the study area and established that there is a general south/southeasterly groundwater flow direction in the central portion of the BOMARC site that is influenced on the southern portion of the site by pumping of the SCWA's Old Country Road Wellfield. Once the groundwater flows past the wellfield, a portion travels more southwesterly toward the Speonk River, and a portion travels southeasterly toward the Beaverdam Creek. A general southerly groundwater flow was observed on the Town of Southampton's Westhampton Transfer Station and former landfill property. As the groundwater in this area travels south past Old Country Road, the flow direction changes to more southeasterly as the influence of Beaverdam Creek becomes more predominant.

Evaluation of Potential PFAS Sources in the Vicinity of the BOMARC Site

Several potential significant offsite PFAS sources were identified in the vicinity of the BOMARC site. These include the Westhampton Pines senior housing/former Westhampton Raceway property and the Town of Southampton's Westhampton Transfer Station and former landfill (see Figure 13). PFOS concentrations downgradient of the former Westhampton Raceway property, as high as 120 ng/L, were identified (BOM20-60), and PFOS concentrations as high as 93 ng/L were identified downgradient of the Westhampton Transfer Station and former landfill (BOM20-78). PFOS and/or PFOA concentrations exceeding NYS MCLs were also noted in downgradient permanent monitoring wells at two of the three STPs in the area. Two of the three profile wells installed in the downgradient vicinity of the Westhampton Beach Fire Department property exhibited PFOS and/or PFOA concentrations exceeding NYS MCLs. However, the depth distribution of the elevated concentrations indicates the source is likely located upgradient of the fire department property.

Evaluation of PFAS Impacted Groundwater Migrating off the BOMARC Site

Two distinct groundwater plumes with elevated PFOS concentrations greater than 100 ng/L were identified on the BOMARC site; a western plume that potentially originates on the property west of BOMARC (former Westhampton Raceway/current Westhampton Pines senior housing property); an eastern plume that appears to originate at the southeast portion of the BOMARC site (in the vicinity of the vehicle-

fire storage area). As both PFOS plumes migrate south and off-site, they are pulled toward each other due to the influence of pumping from the SCWA Old Country Road wellfield. After passing the SCWA wellfield, the PFOS plume resumes a more southerly flow, with the eastern plume comingling with lower PFOS concentrations (less than 25 ng/L) downgradient from the Westhampton Nursing Home STP. Elevated PFOS concentrations are evident downgradient of the BOMARC site in profile wells along Old Country Road. PFOA (up to 100 ng/L) in the groundwater was identified on the southeastern side of the BOMARC site, in the vicinity of the vehicle-fire storage area. As with the PFOS plume, the PFOA plume is influenced by the SCWA Old Country Road Wellfield as it migrates off the site. This PFOA plume is evident at Old Country Road in profile well BOM-43 and is depicted in hydrogeologic cross-section B-B' in Figure 19.

Since no profile wells were installed south of Old Country Road, the extent of both the PFOS and PFOA groundwater plumes downgradient of Old Country Road is unknown, therefore the southerly extent of these plumes illustrated in Figure 13 and Figure 17 are inferred.

Evaluation of Potential PFAS Source(s) Impacting Private Wells in the Vicinity of the BOMARC Site

In 2017, in order to identify any private wells that may have been impacted by PFAS contaminated groundwater, the SCDHS initiated a private well sampling survey in the vicinity of the BOMARC site. This private well sampling survey was repeated in 2020. In total, 62 properties were tested in the survey area, with 16 properties having wells with PFAS concentrations exceeding MCLs. Data from groundwater profile wells and private wells located in the area was used to create PFOS and PFOA plume maps (Figure 13 and Figure 17, respectively). These maps indicate a groundwater PFOS and PFOA plume, as well as landfill leachate impacted groundwater (Figure 21 and Figure 25), may extend up to 9,000 feet downgradient of Southampton Town's Westhampton Transfer Station and former landfill site. Many of the private wells are located downgradient of the Town's site.

To address PFAS groundwater contamination in the private well survey area, the Suffolk County Water Authority is commencing a project to extend public water in the survey area to 57 properties, mainly downgradient of the Town of Southampton

Transfer Station/former landfill that are still utilizing private wells as their domestic water source. This public water extension project is funded by a number of sources including a grant from the New York State Water Infrastructure Improvement Act, a Congressionally Directed Spending grant, the Town of Southampton Community Preservation Fund, and Suffolk County's American Resue Plan Act.

Polychlorinated Biphenyl (PCB) Testing om Off-Site Groundwater Downgradient of the BOMARC Site

The investigation determined that PCBs do not appear to be migrating in the groundwater off of the BOMARC site.

Suffolk County will continue to coordinate with the New York State Department of Environmental Conservation in identifying and addressing potential PFAS sources located on the BOMARC property.

Figures

Figure 1
Suffolk County
Department of Health Services
BOMARC Facility & Vicinity - 1962
Westhampton, N.Y.

Westhampton Drag
Race Track

Suffolk BOMARC Base

0 1,000

US Survey feet



Figure 2
Suffolk County
Department of Health Services
BOMARC Facility
Westhampton, N.Y.
Areas of Interest

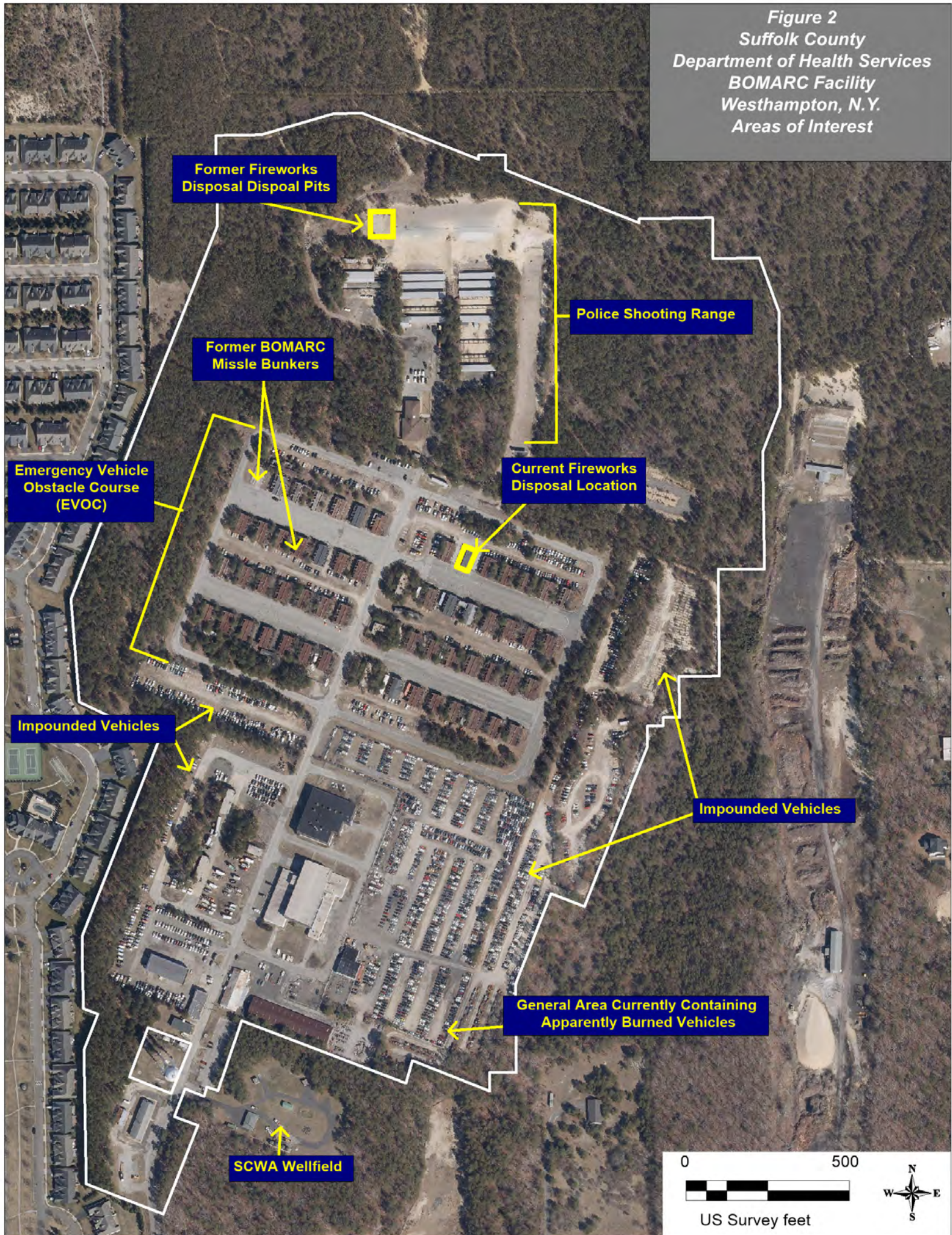


Figure 3
Suffolk County
Department of Health Services
Potential PFAS Sources
Vicinity of the BOMARC Facility
Westhampton, N.Y.

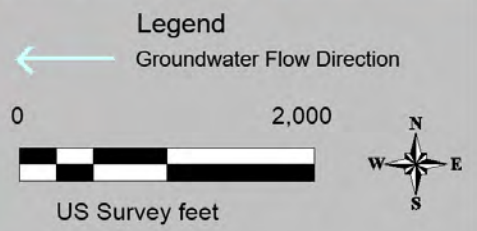


Figure 4
Suffolk County
Department of Health Services
Location of BOMARC
Offsite & Vicinity Wells Sampled
Westhampton, N.Y.



Figure 5
Suffolk County
Department of Health Services
PFOS & PFOA Concentrations
Profile Wells BOM20-61 through BOM20-69
BOMARC Site & Vicinity
Westhampton, NY

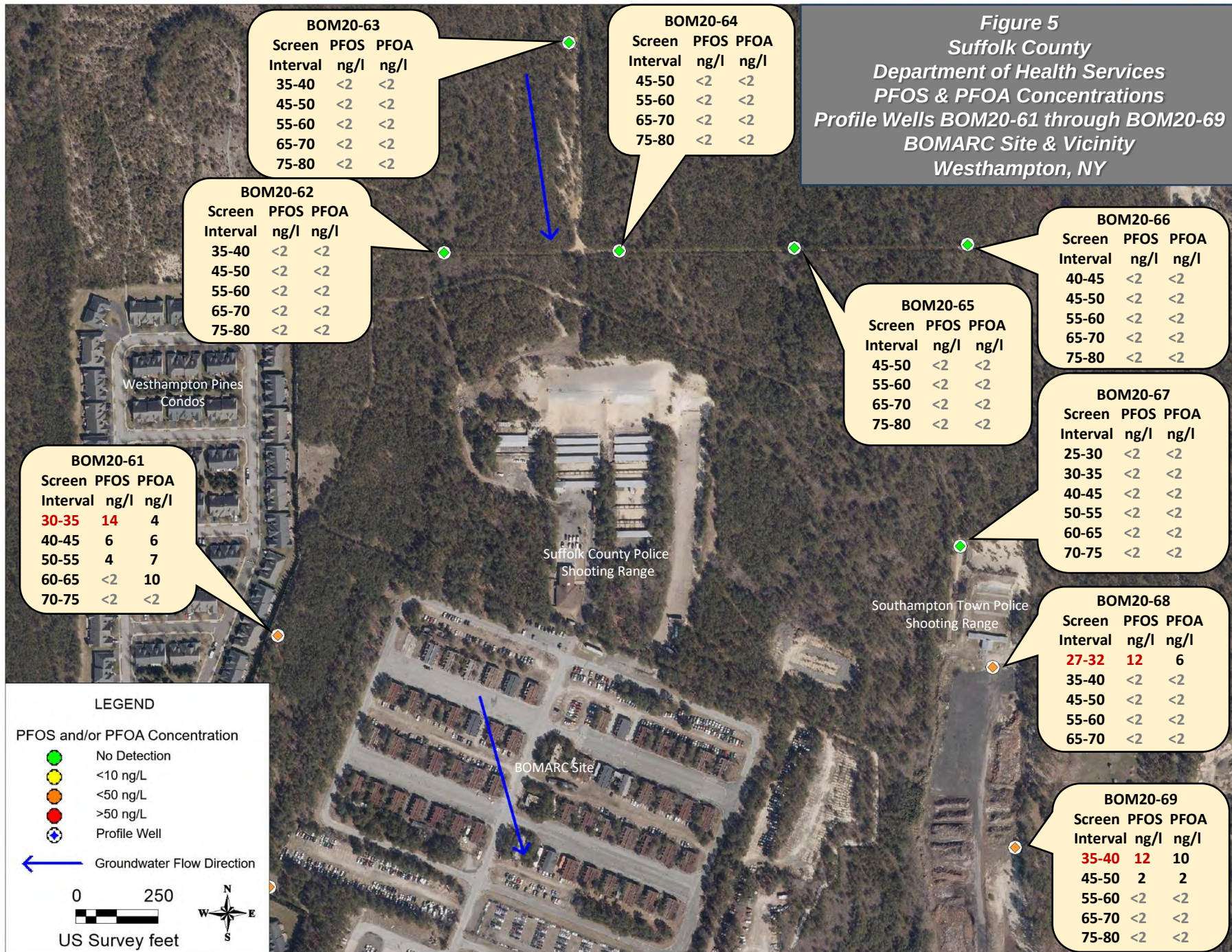


Figure 6
Suffolk County
Department of Health Services
PFOS & PFOA Concentrations
Profile Wells BOM20-35, BOM20-59, BOM20-60,
BOM20-69, BOM20-70, &
Westhampton Nursing Home STP Wells
BOMARC Site & Vicinity
Westhampton, NY

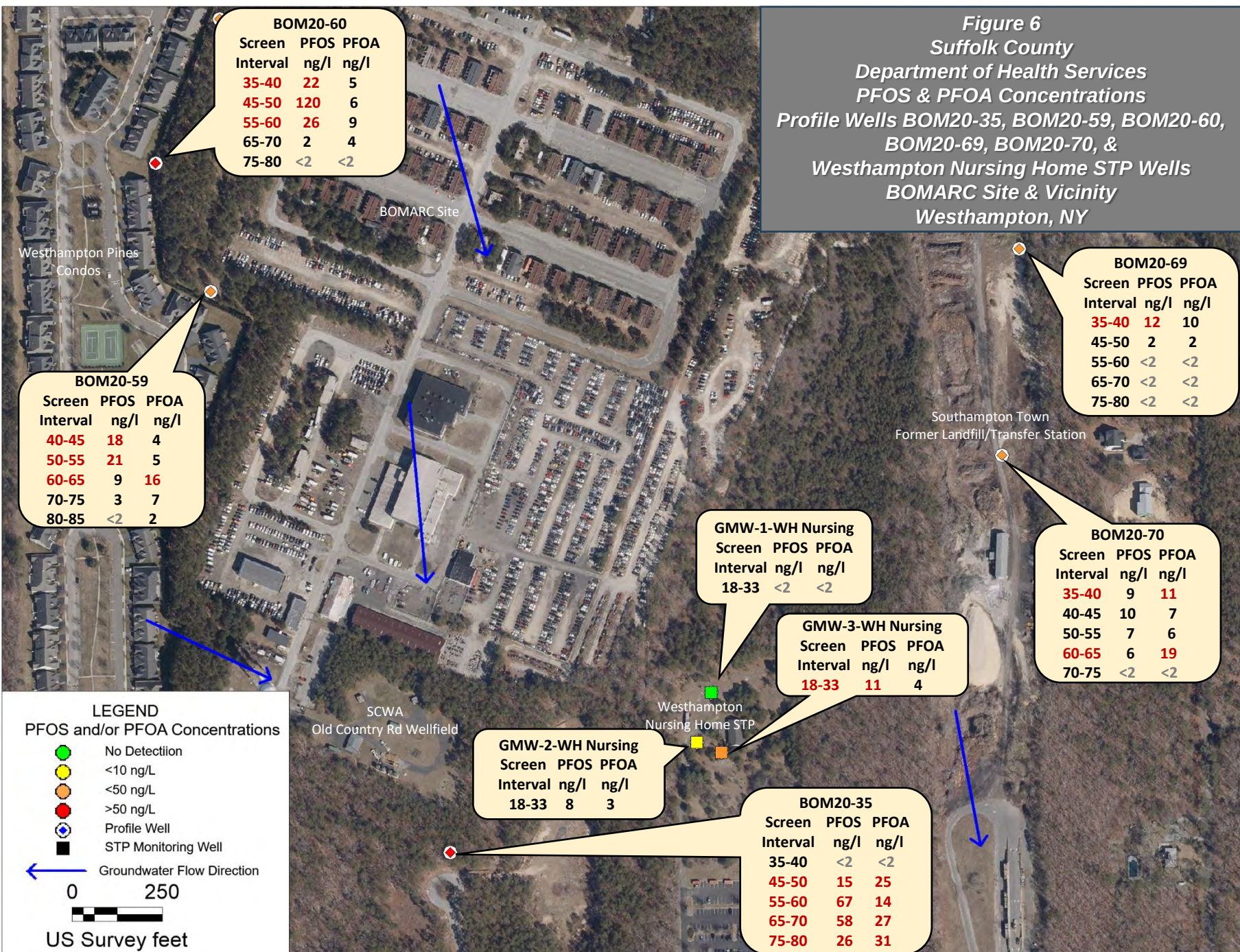


Figure 7
Suffolk County
Department of Health Services
PFOS & PFOA Concentrations
Profile Wells BOM20-36 Through BOM20-50,
BOM21-76, Westhampton Pines & Senior STP Wells
BOMARC Site & Vicinity
Westhampton, NY

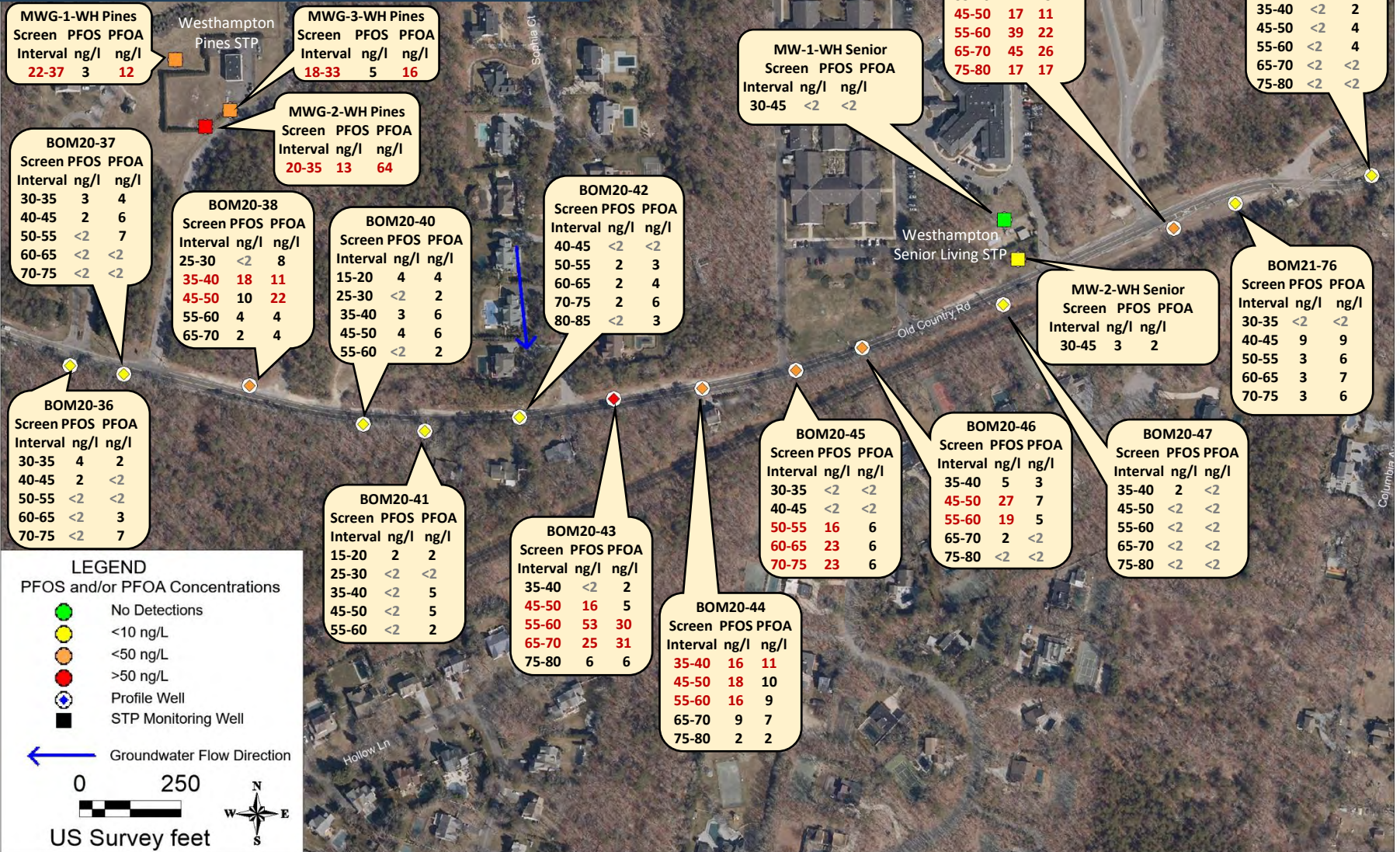


Figure 8
Suffolk County
Department of Health Services
PFOS & PFOA Concentrations
Profile Wells BOM20-51 Through BOM20-58,
BOM21-77 & BOM21-78
BOMARC Site & Vicinity
Westhampton, NY

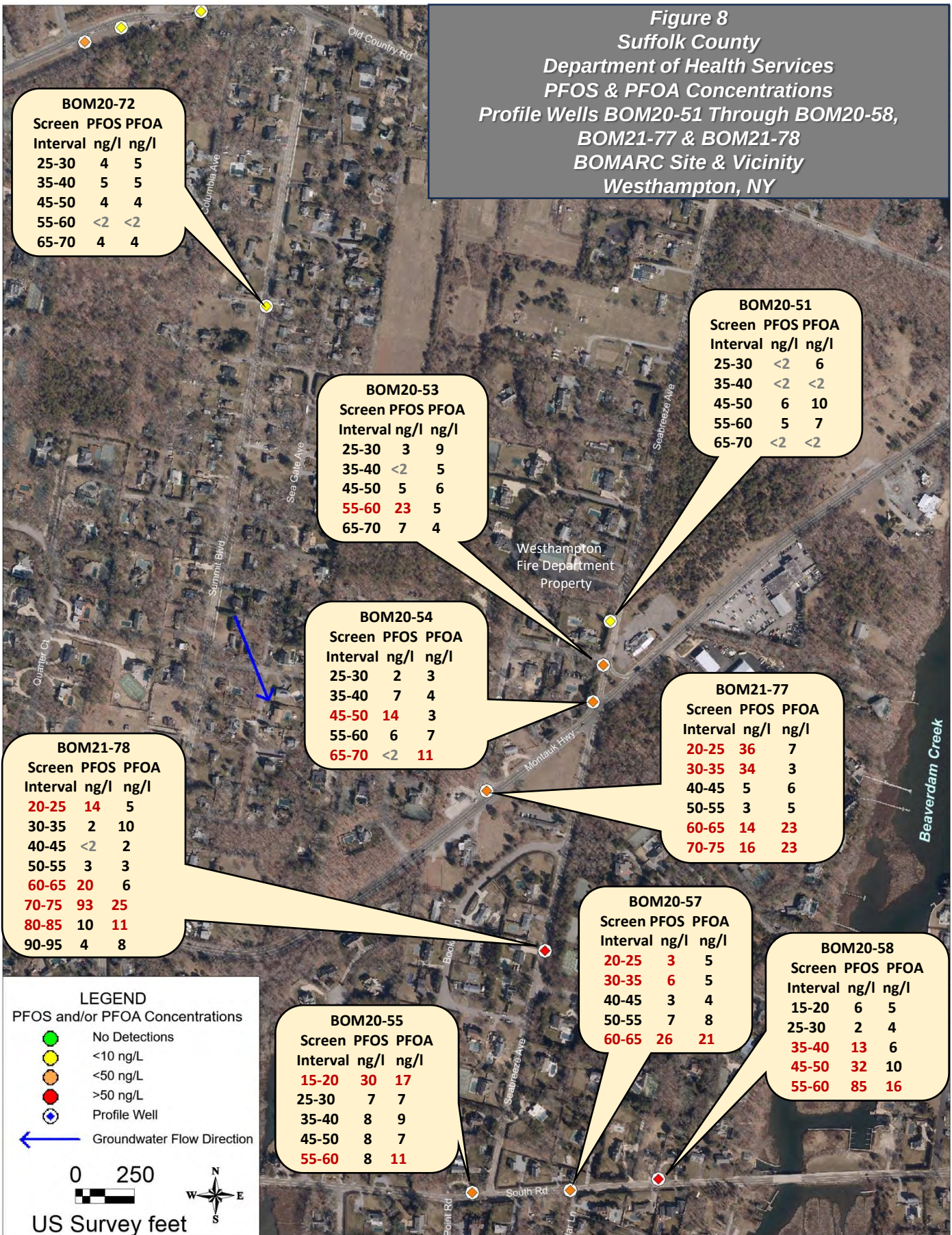


Figure 9
Suffolk County
Department of Health Services
March 2021 Relative Groundwater
Elevation Contours & Groundwater
Flow Direction

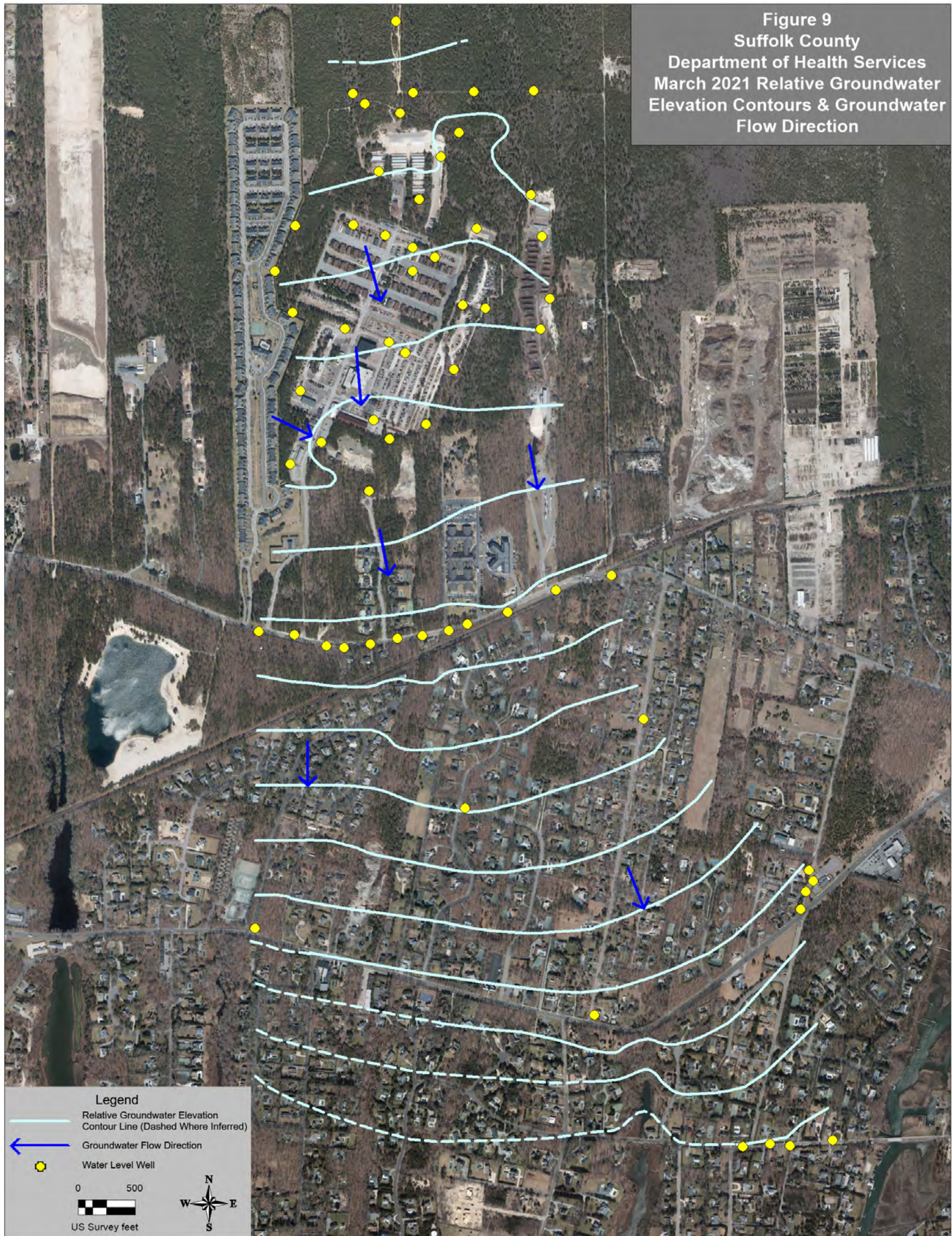


Figure 10
Suffolk County
Department of Health Services
BOMARC Facility & Vicinity
2019 & 2020/2021 Monitoring Well Locations
Westhampton, N.Y.



Figure 11
Suffolk County
Department of Health Services
PFOS & PFOA Concentrations
2019 and 2020/2021 Profile Wells
Upgradient of SCPD Shooting Range
Westhampton, NY

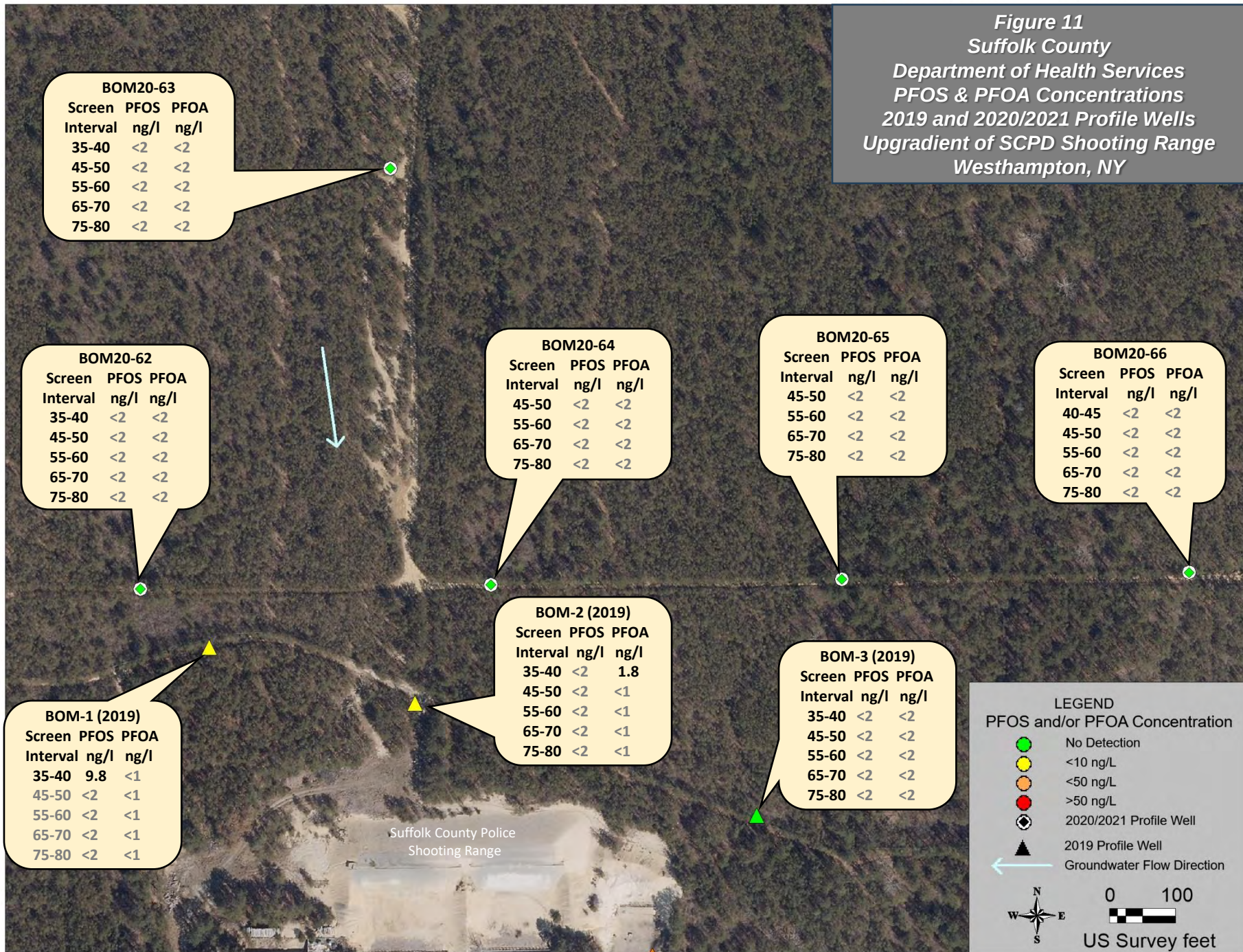


Figure 12
Suffolk County
Department of Health Services
PFOS & PFOA Concentrations
2019 & 2020/2021 Profile Wells
Southwest Site Area
BOMARC Site & Vicinity
Westhampton, NY

BOM20-61

Screen Interval	PFOS ng/l	PFOA ng/l
30-35	14	4
40-45	6	6
50-55	4	7
60-65	<2	10
70-75	<2	<2

BOM20-60

Screen Interval	PFOS ng/l	PFOA ng/l
35-40	22	5
45-50	120	6
55-60	26	9
65-70	2	4
75-80	<2	<2

BOM16 (2019)

Screen Interval	PFOS ng/l	PFOA ng/l
35-40	<1	1
45-50	8	6
55-60	9	9
65-70	5	4
75-80	5	6

BOM20-59

Screen Interval	PFOS ng/l	PFOA ng/l
40-45	18	4
50-55	21	5
60-65	9	16
70-75	3	7
80-85	<2	2

BOM21 (2019)

Screen Interval	PFOS ng/l	PFOA ng/l
35-40	4	21
45-50	76	11
55-60	180	12
65-70	190	16
75-80	64	11

BOM22 (2019)

Screen Interval	PFOS ng/l	PFOA ng/l
35-40	13	6
45-50	5	3
55-60	12	13
65-70	42	9
75-80	38	10
85-90	50	8

BOM27 (2019)

Screen Interval	PFOS ng/l	PFOA ng/l
35-40	9	22
45-50	5	7
55-60	6	7
65-70	7	6
75-80	14	6

BOM28 (2019)

Screen Interval	PFOS ng/l	PFOA ng/l
35-40	4	10
45-50	<2	5
55-60	<2	<2
65-70	<2	<2
75-80	5	6
85-90	<2	<2

BOM20-35

Screen Interval	PFOS ng/l	PFOA ng/l
35-40	<2	<2
45-50	15	25
55-60	67	14
65-70	58	27
75-80	26	31

LEGEND
PFOS and/or PFOA Concentrations

- No Detection
- <10 ng/L
- <50 ng/L
- >50 ng/L
- 2020/2021 Profile Well
- 2019 Profile Well
- Groundwater Flow Direction

0 200
 US Survey feet

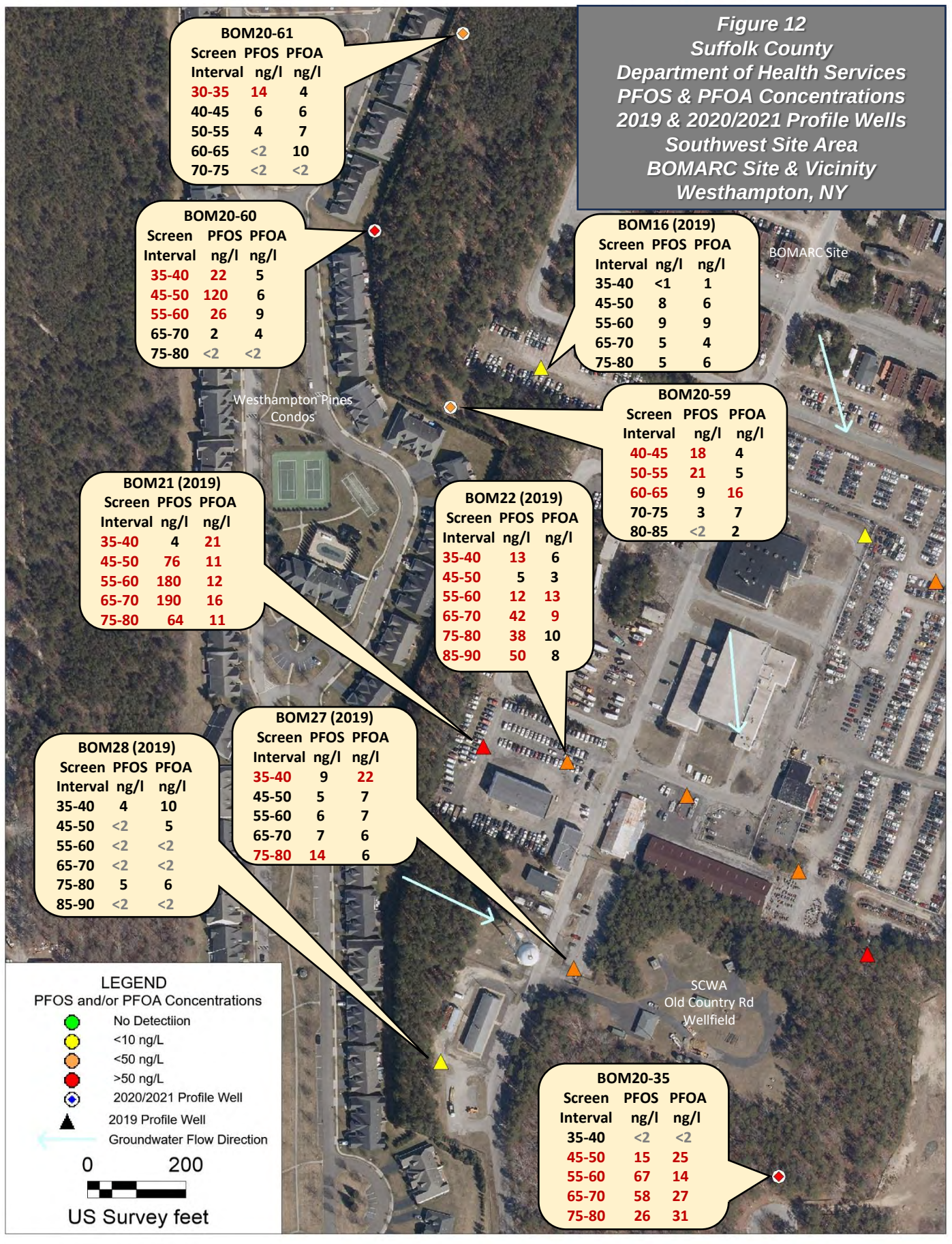


Figure 13
Suffolk County
Department of Health Services
PFOS Groundwater Concentrations
BOMARC Facility & Vicinity
Westhampton, N.Y.

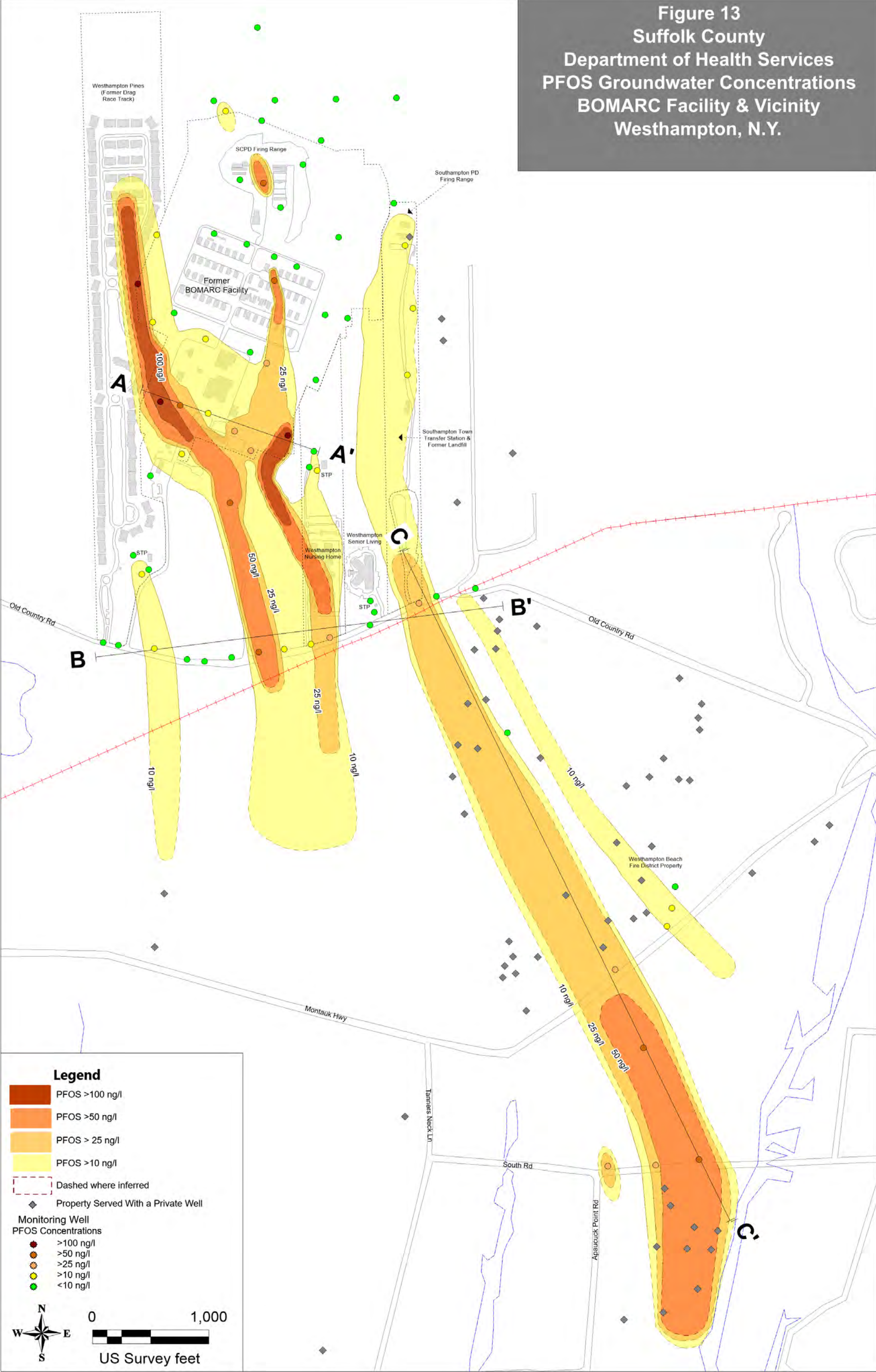


Figure 14
Hydrogeologic Cross Section A - A'
PFOS

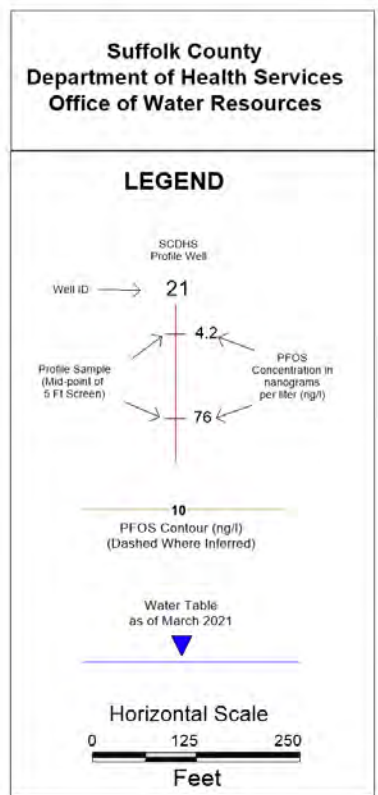
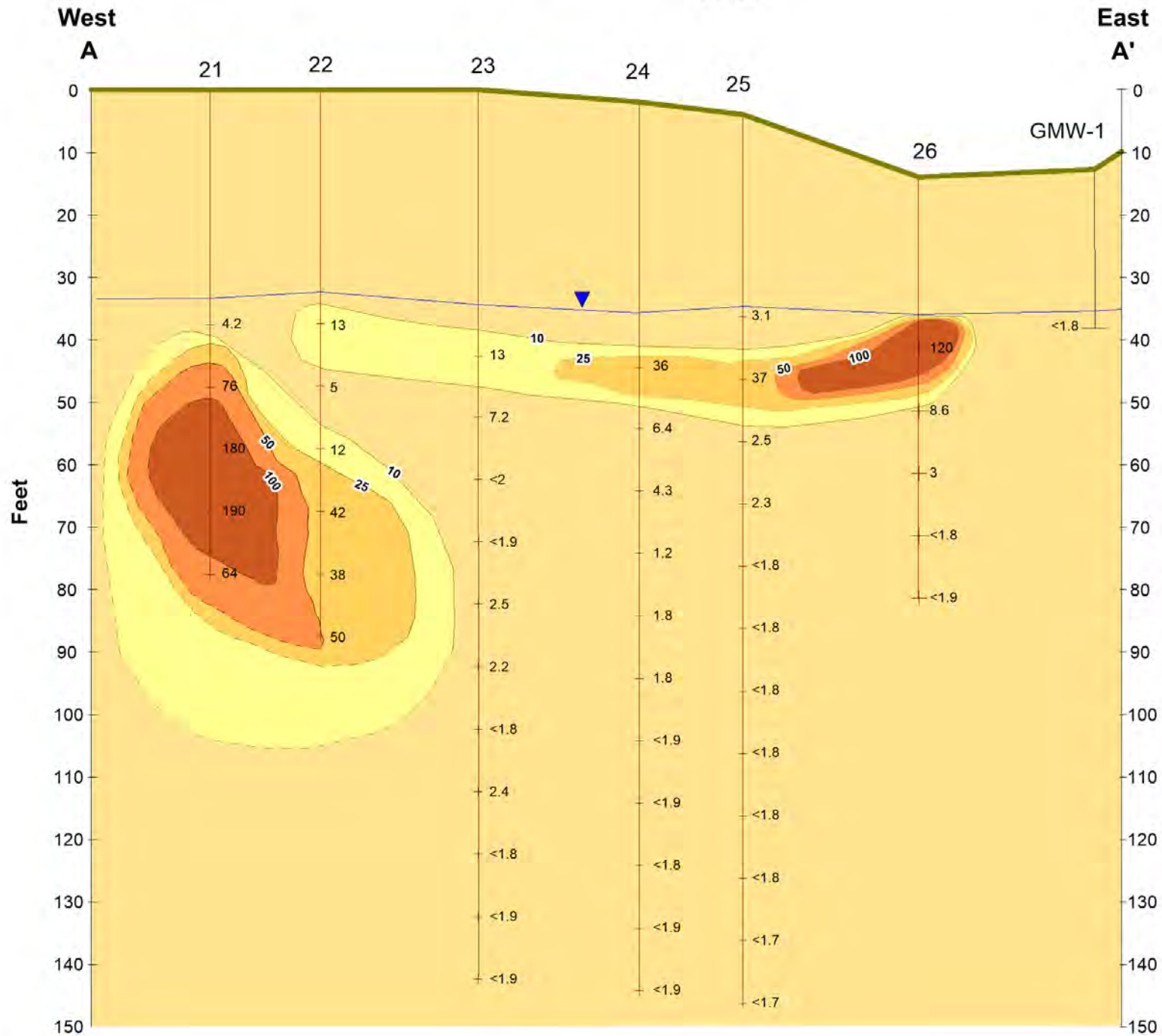
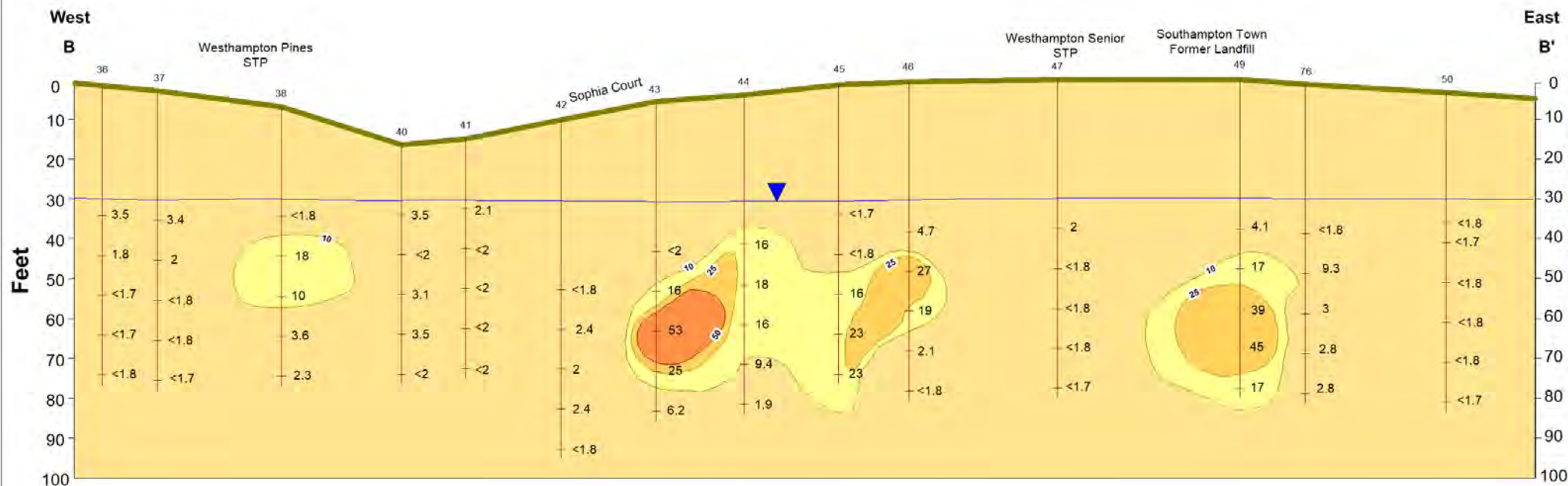
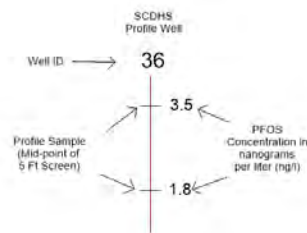
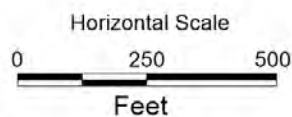


Figure 15
Hydrogeologic Cross Section B - B'
PFOS

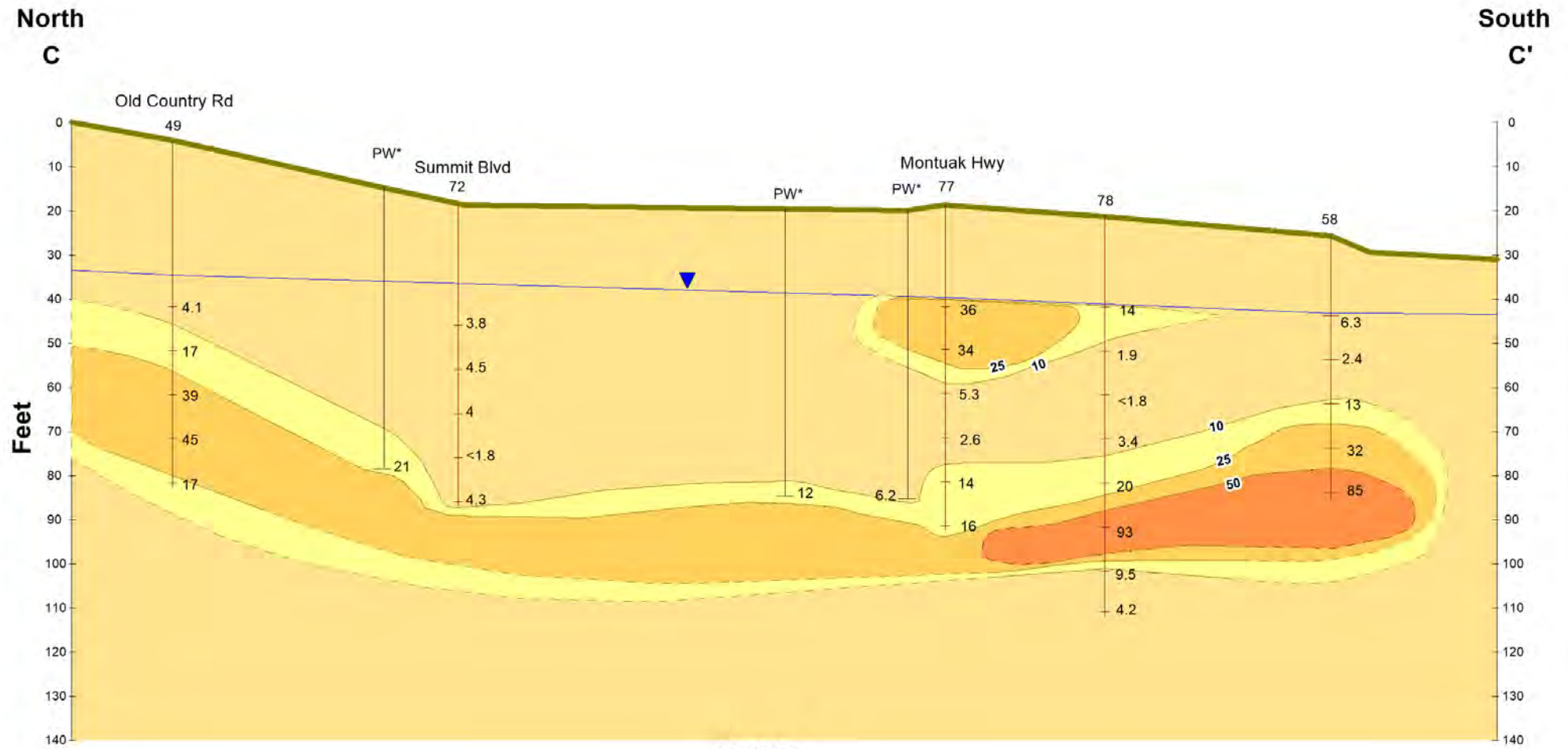


LEGEND

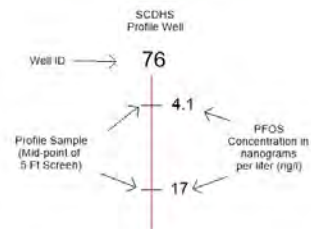
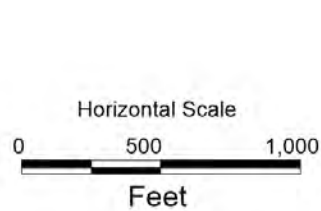


Water Table
as of March 2021

Figure 16
Hydrogeologic Cross Section C - C'
PFOS



LEGEND



PW* - depth of the private well is estimated to be 40 feet below the groundwater table as per the Suffolk County Sanitary Code.

10
 PFOS Contour (ng/l)
 (Dashed Where Inferred)

Water Table
 as of March 2021

Figure 17
Suffolk County
Department of Health Services
PFOA Concentrations in Groundwater
BOMARC Facility & Vicinity
Westhampton, N.Y.

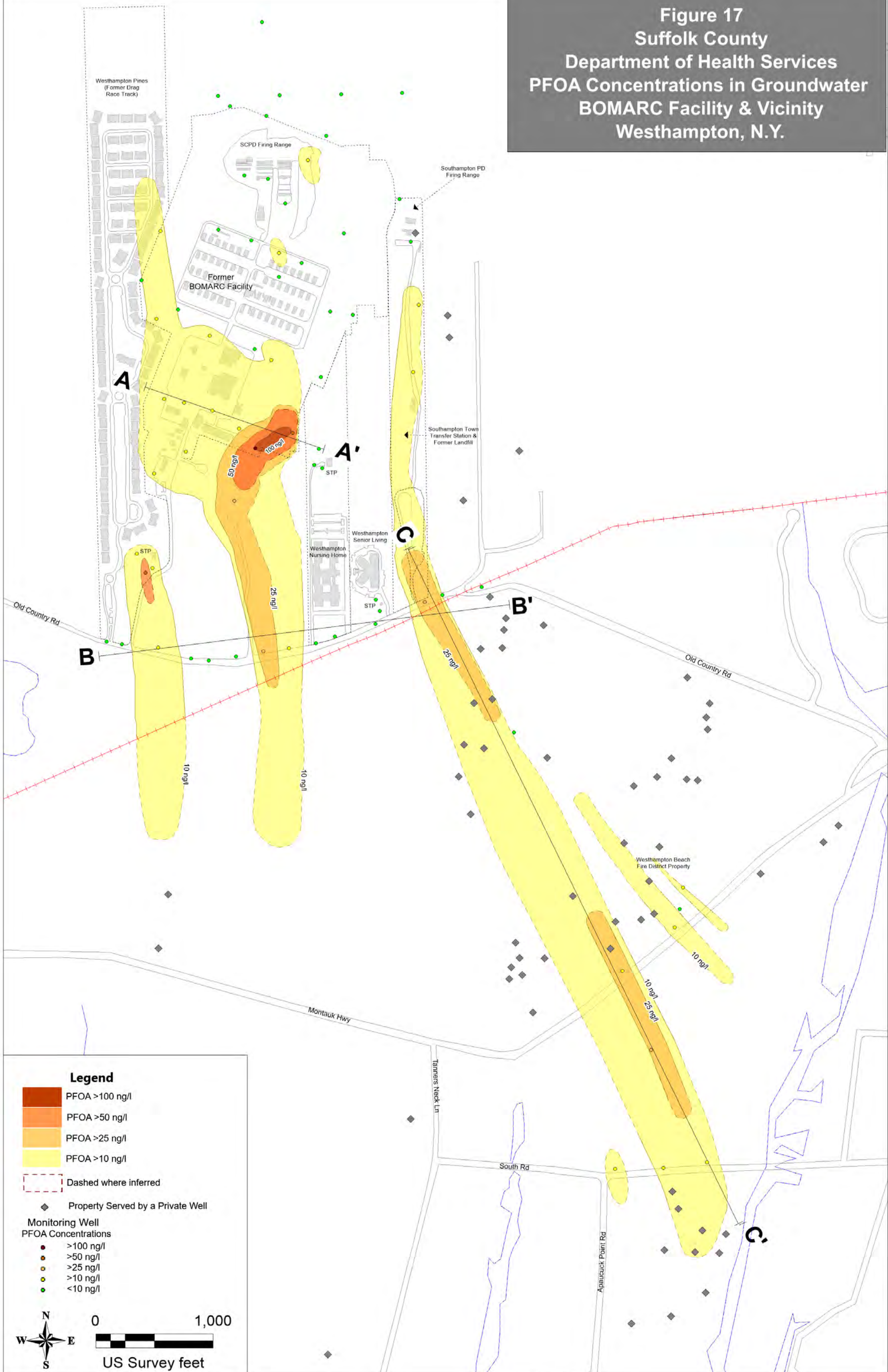


Figure 18
Hydrogeologic Cross Section A - A'
PFOA

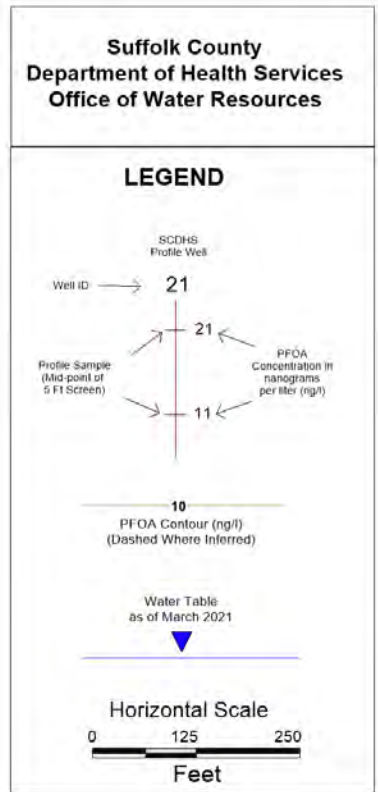
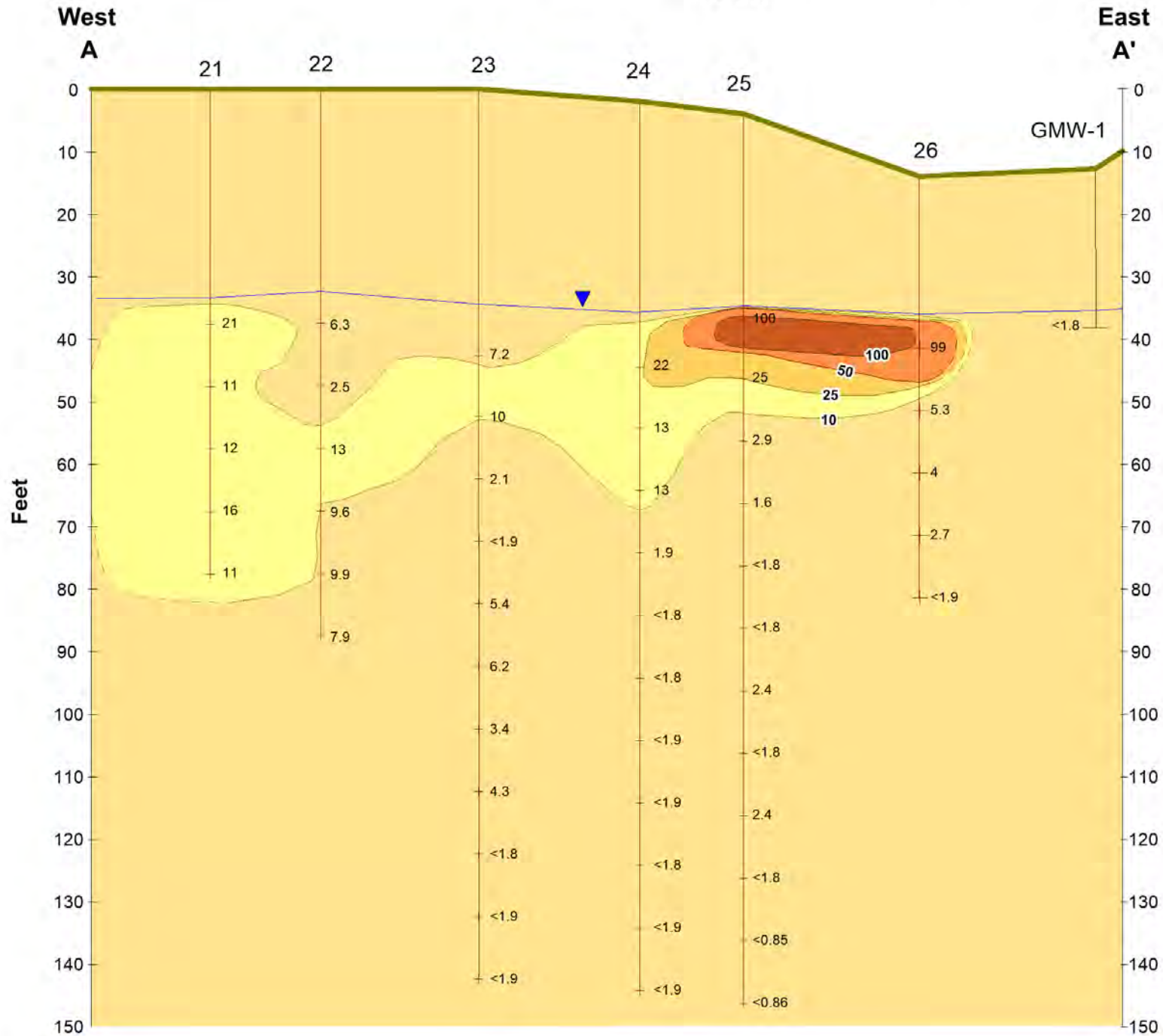
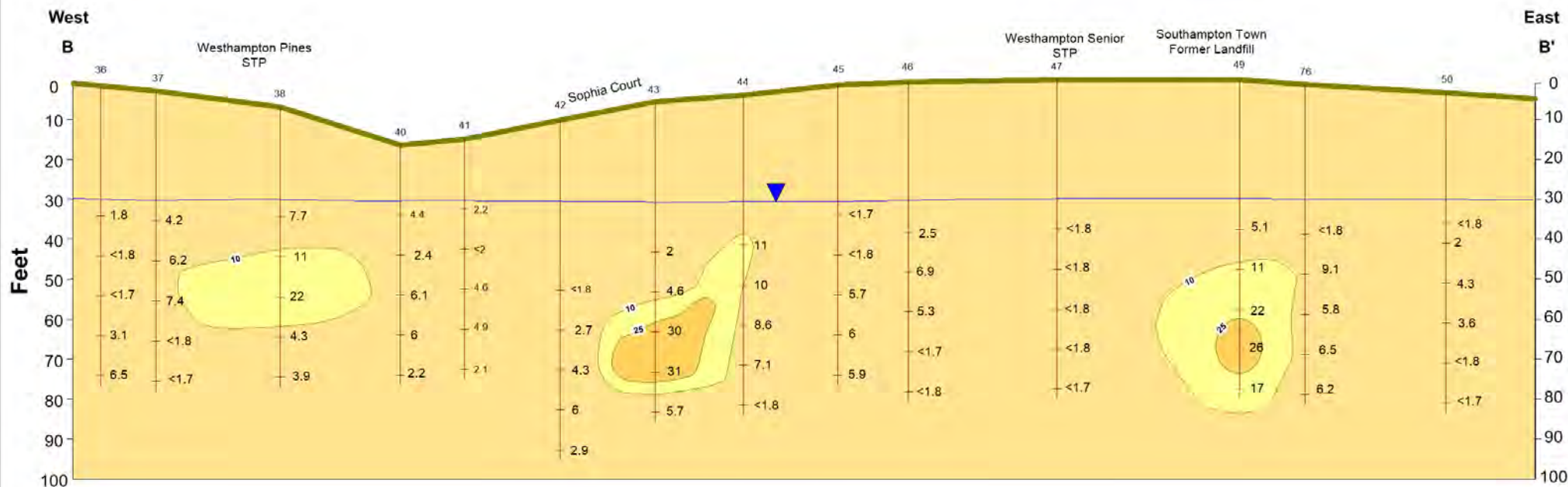
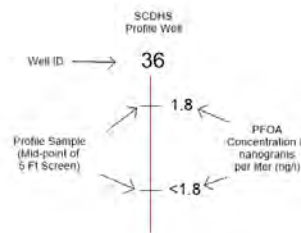
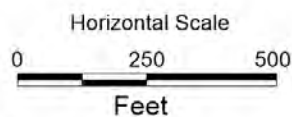


Figure 19
Hydrogeologic Cross Section B - B'
PFOA



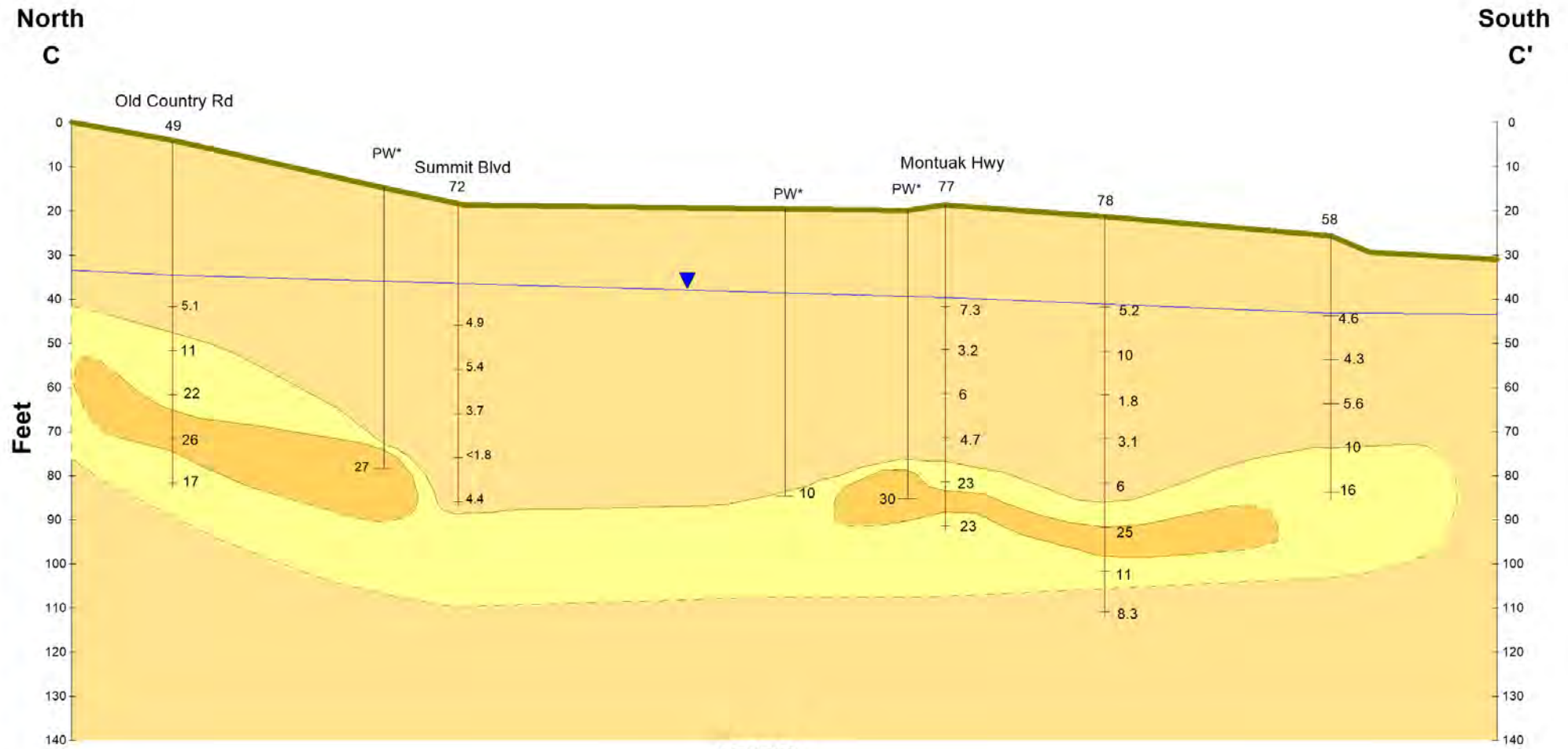
LEGEND



Water Table
as of March 2021



Figure 20
Hydrogeologic Cross Section C - C'
PFOA



LEGEND

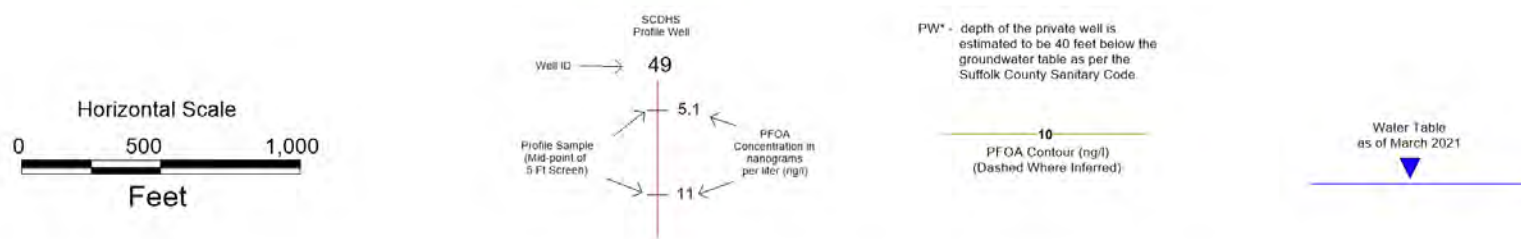


Figure 21
Suffolk County
Department of Health Services
Manganese Groundwater Concentrations
BOMARC Facility & Vicinity
Westhampton, N.Y.

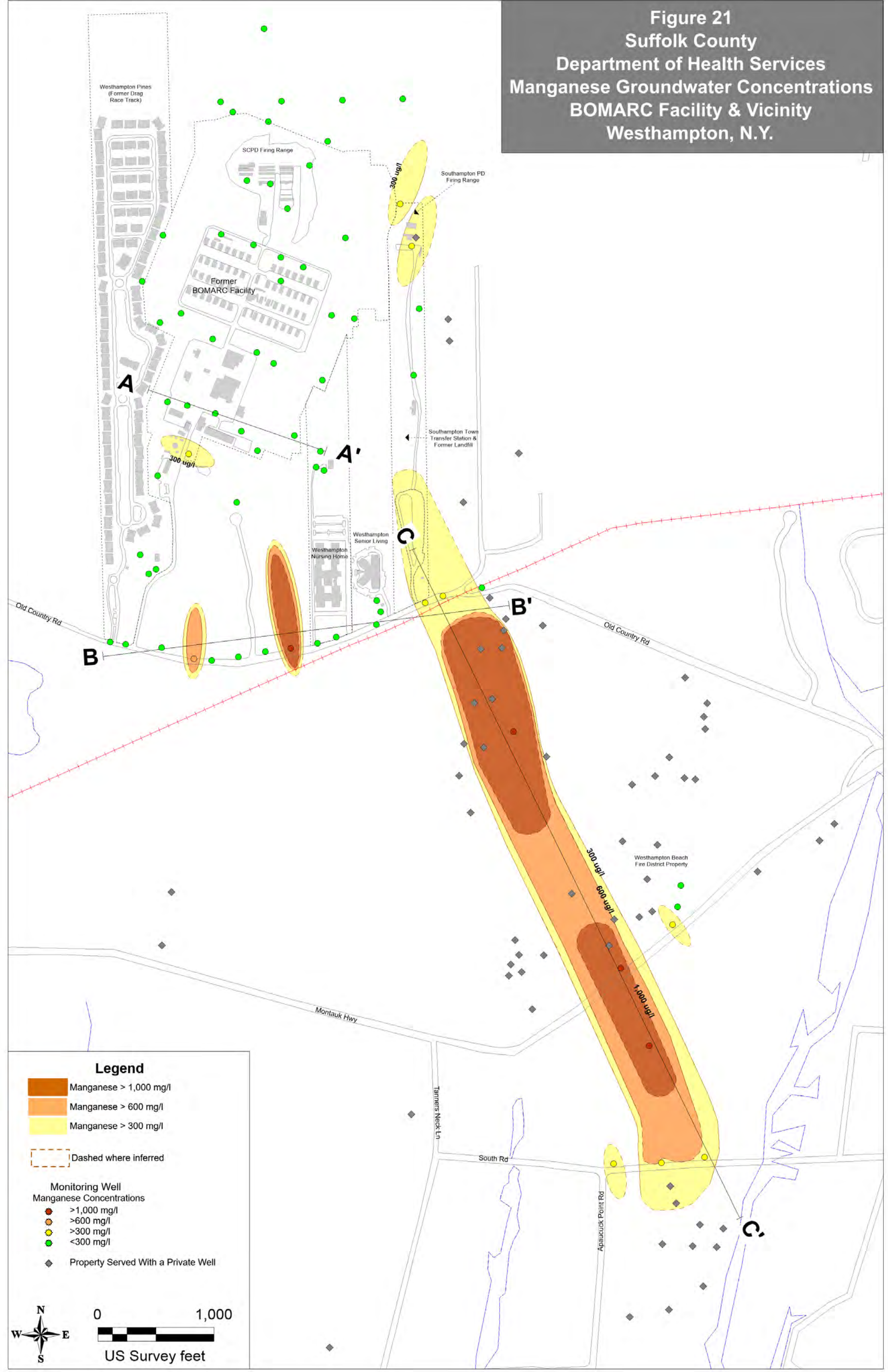


Figure 22
Hydrogeologic Cross Section A - A'
Manganese

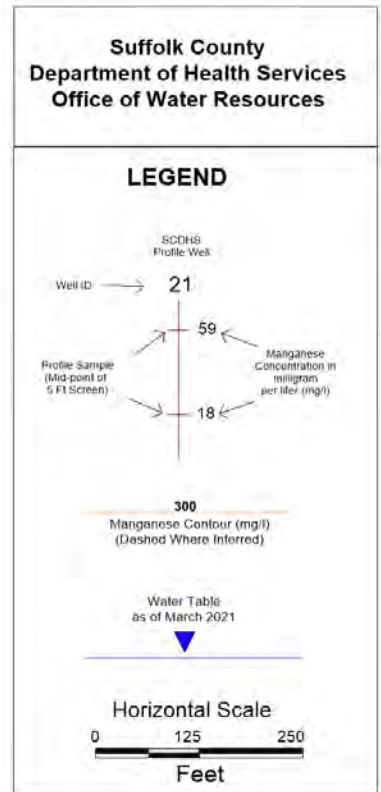
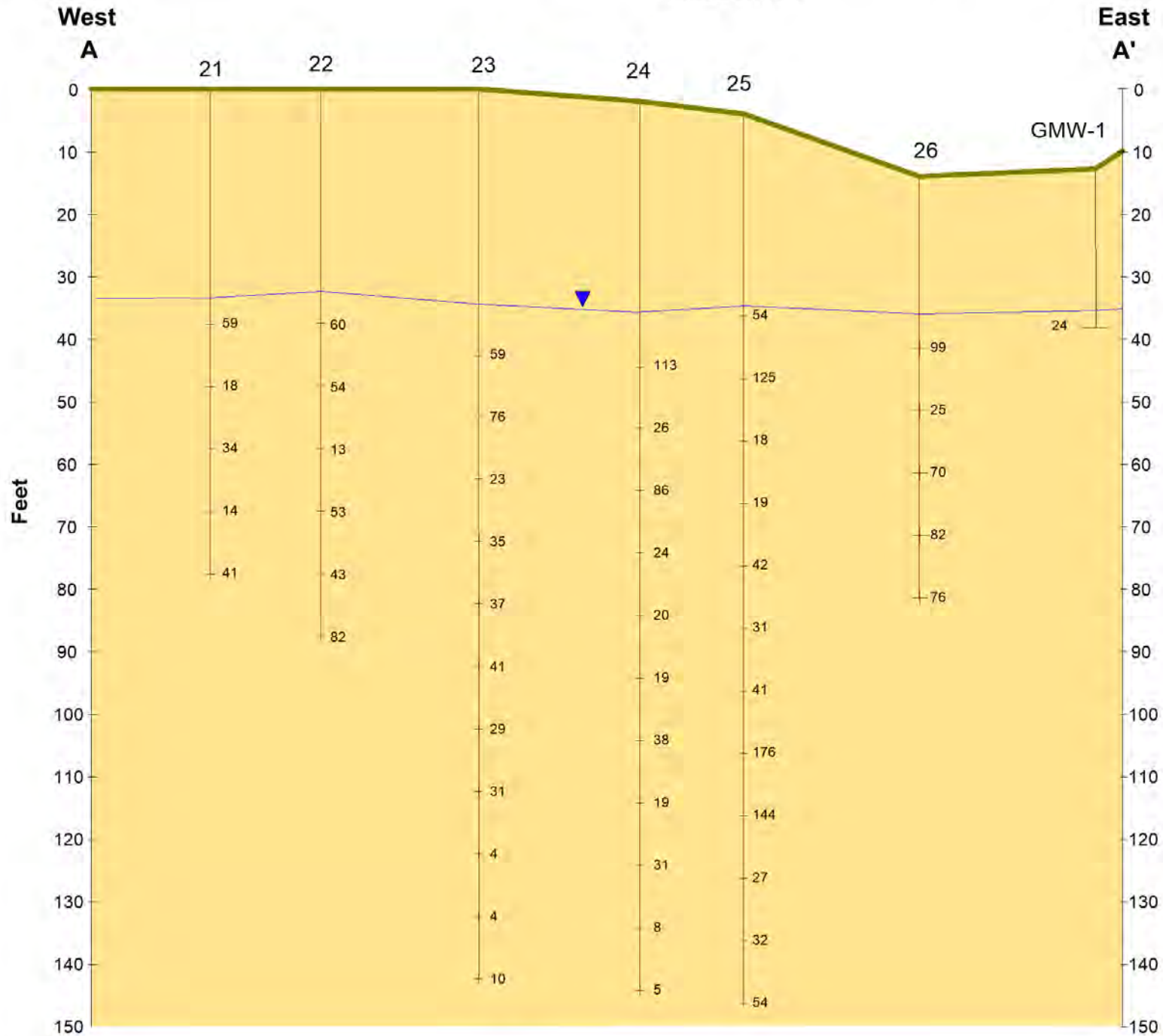
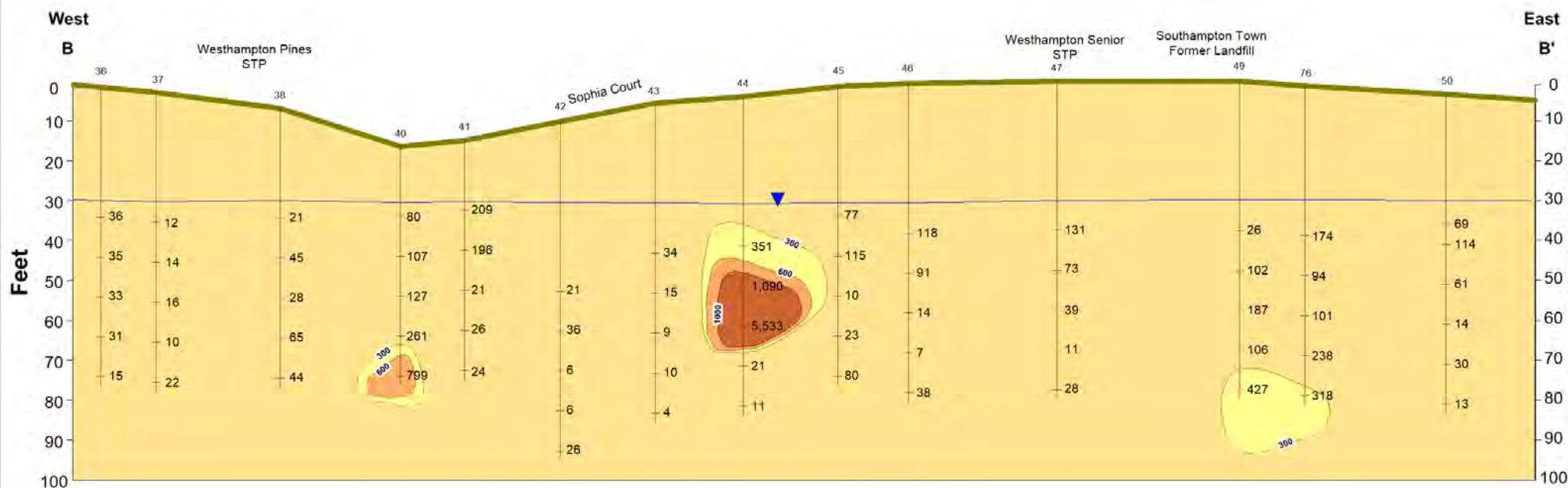


Figure 23
Hydrogeologic Cross Section B - B'
Manganese



LEGEND

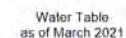
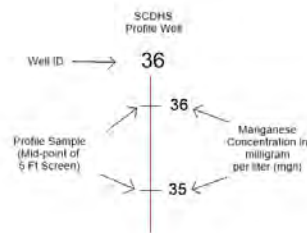
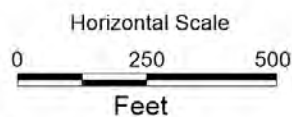
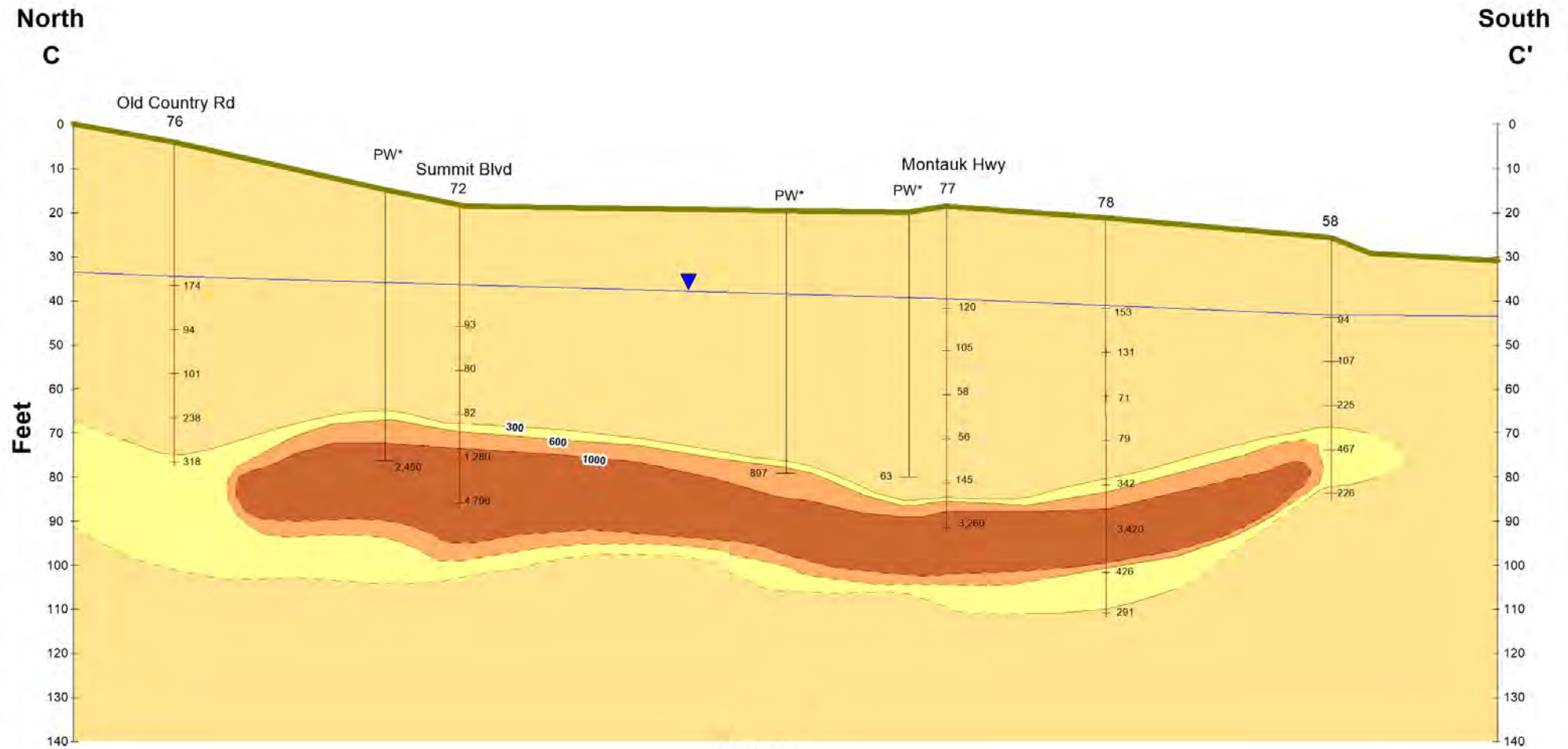


Figure 24
Hydrogeologic Cross Section C - C'
Manganese



LEGEND

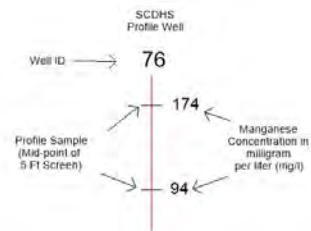
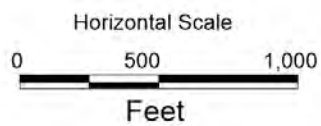
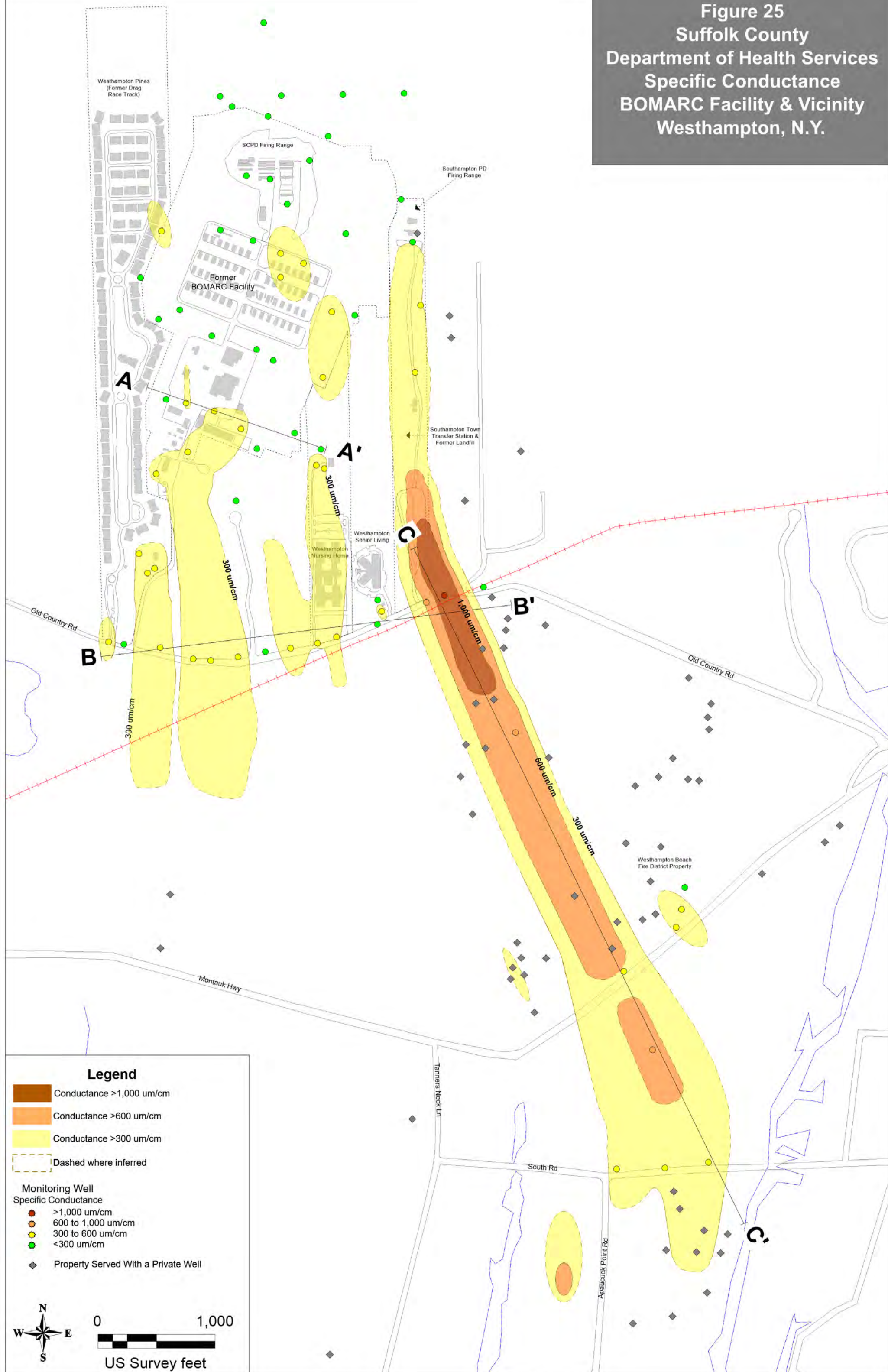


Figure 25
Suffolk County
Department of Health Services
Specific Conductance
BOMARC Facility & Vicinity
Westhampton, N.Y.



Legend

- Conductance >1,000 um/cm
- Conductance >600 um/cm
- Conductance >300 um/cm
- Dashed where inferred
- Monitoring Well**
Specific Conductance
 - >1,000 um/cm
 - 600 to 1,000 um/cm
 - 300 to 600 um/cm
 - <300 um/cm
- Property Served With a Private Well

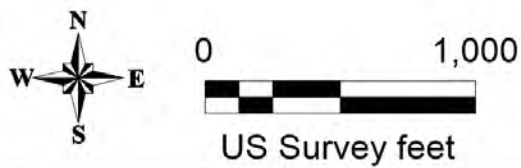


Figure 26
Hydrogeologic Cross Section A - A'
Specific Conductance

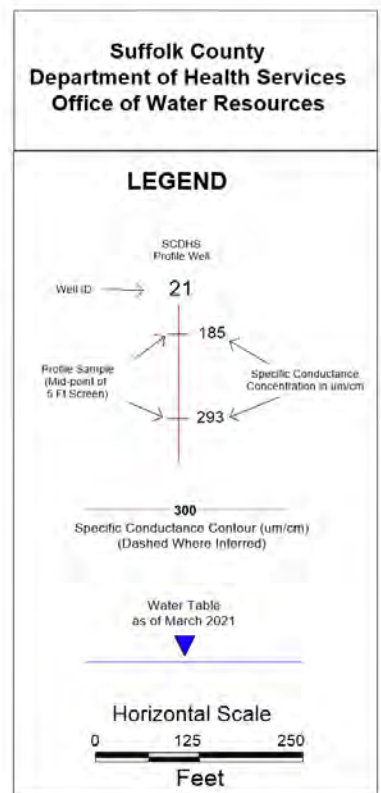
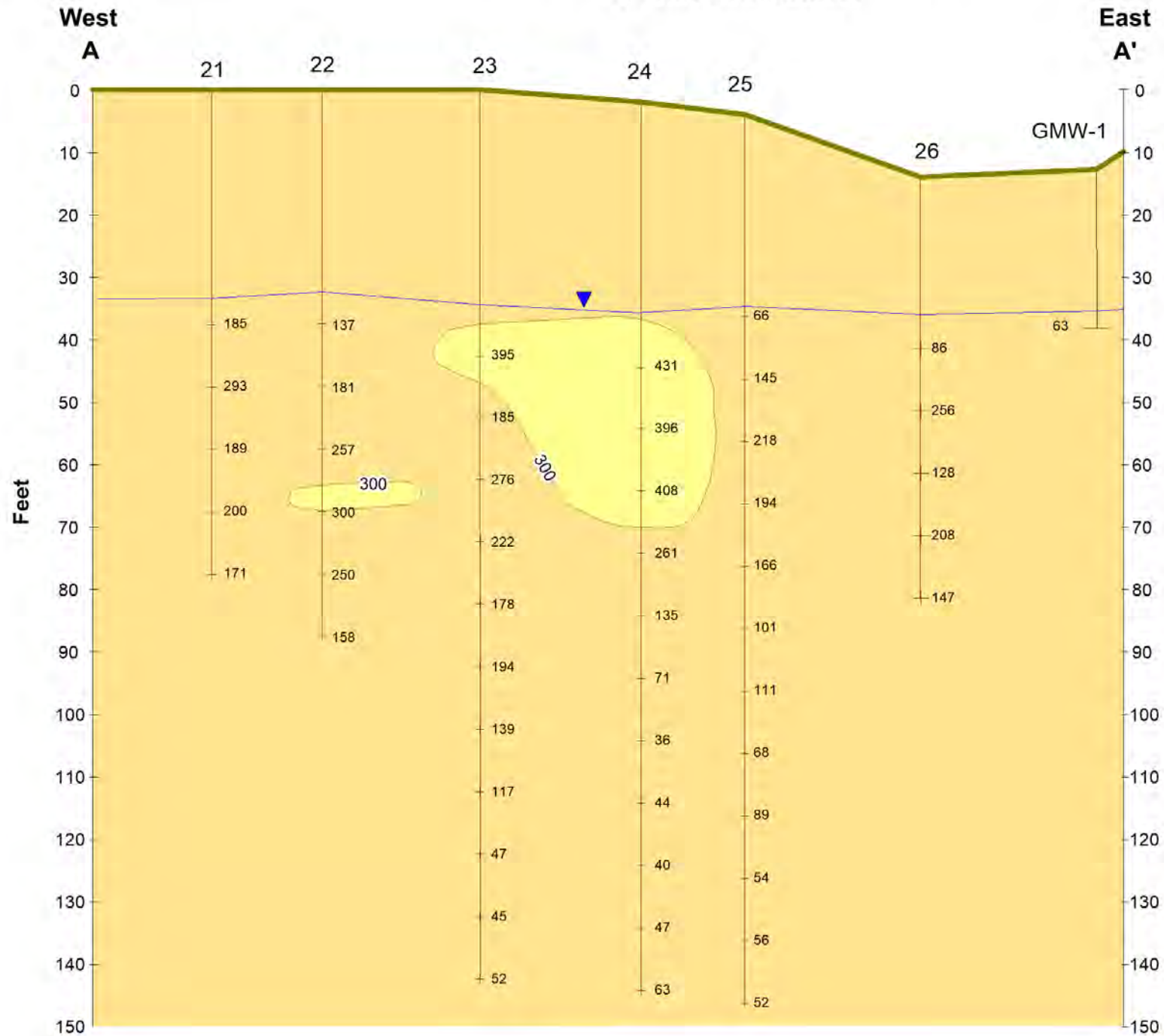
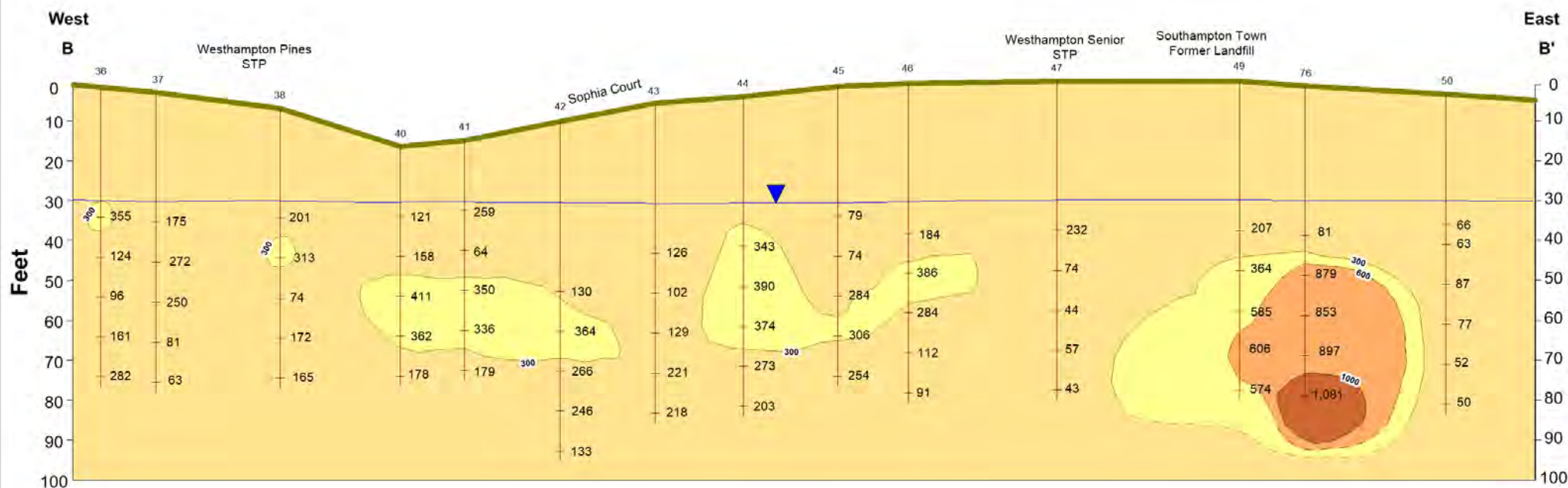


Figure 27
Hydrogeologic Cross Section B - B'
Specific Conductance



LEGEND

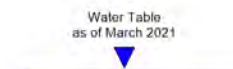
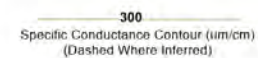
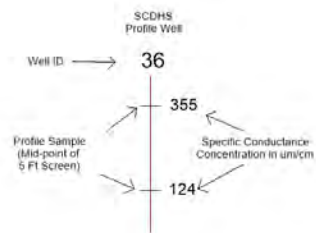
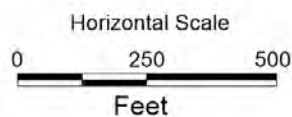
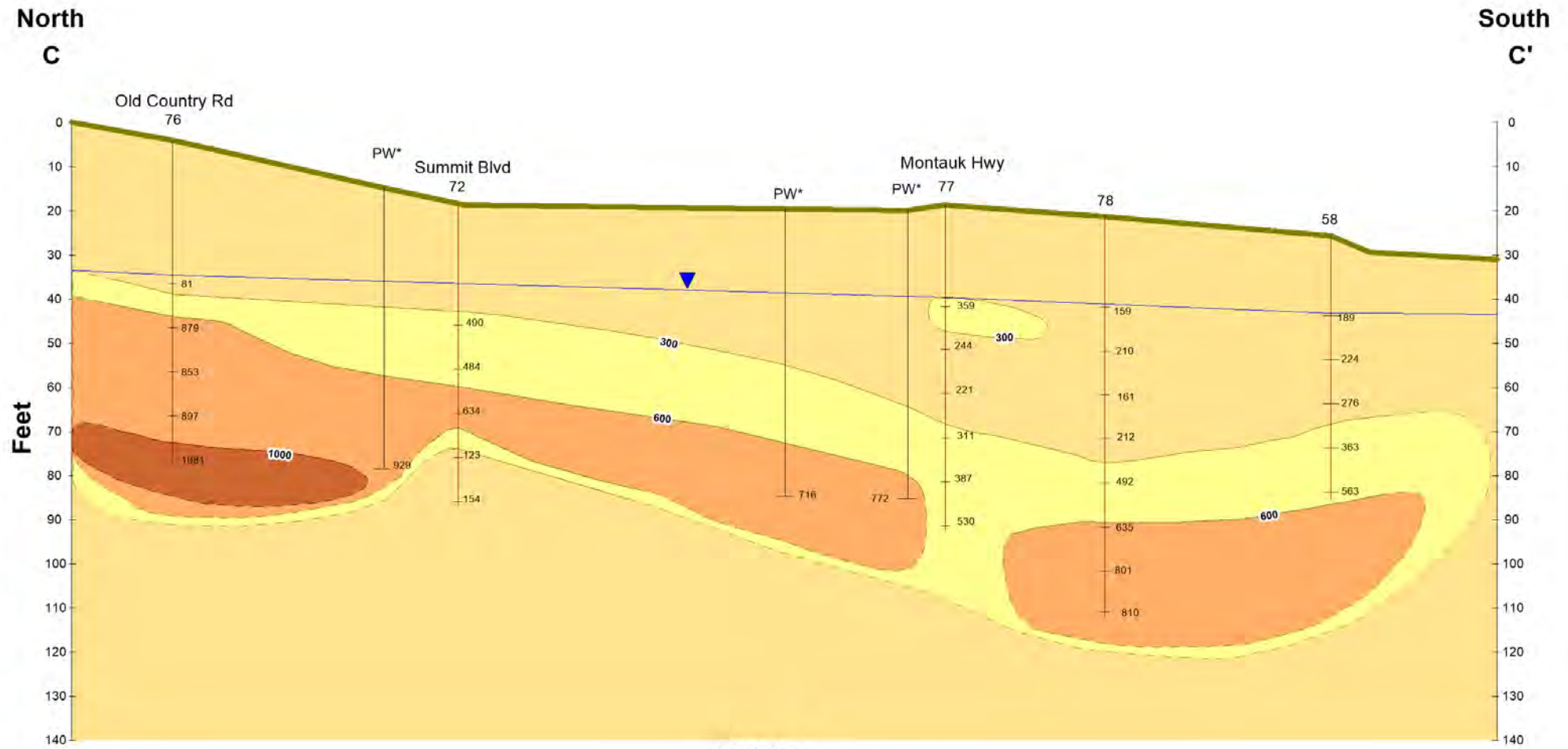
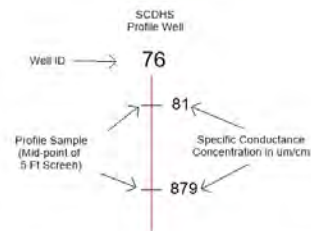
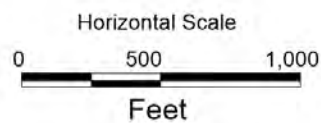


Figure 28
Hydrogeologic Cross Section C - C'
Specific Conductance



LEGEND



PW* - depth of the private well is estimated to be 40 feet below the groundwater table as per the Suffolk County Sanitary Code.

300

Specific Conductance Contour (um/cm)
 (Dashed Where Inferred)

Water Table
 as of March 2021



Figure 29
Suffolk County
Department of Health Services
Westhampton
Private Well Survey Area



Appendix A

Table 1

Groundwater Data

PFAS, PCBs and Summary of Detected

SCDHS Public and Environmental Health Laboratory Analytes

Appendix B

List of All Analytes Tested by the SCDHS Public and Environmental Health Laboratory

**SUFFOLK COUNTY DEPARTMENT OF HEALTH SERVICES
PUBLIC AND ENVIRONMENTAL HEALTH LABORATORY
SAMPLE ANALYTE LIST**

Notes: mg/L = milligrams per liter; ug/L = micrograms per liter; ng/L= nanograms per liter. MRL = Minimum Reporting Level. MCL = NYSDOH Maximum Contaminant Level or Drinking Water Standard. The MCL for nickel is a proposed limit. Any MCLs not shown below have not been established.

Results for Sample Group: **ALDICARB PESTICIDES** analyzed by Suffolk County Department of Health Services

	<u>MRL</u>	<u>MCL</u>			<u>MRL</u>	<u>MCL</u>	
1-Naphthol	.5000	50.0000	ug/L	3-Hydroxycarbofuran	.5000	50.0000	ug/L
Aldicarb	.5000	3.0000	ug/L	Aldicarb-Sulfone	.5000	2.0000	ug/L
Aldicarb-Sulfoxide	.5000	4.0000	ug/L	Carbaryl	.5000	50.0000	ug/L
Carbofuran	.5000	40.0000	ug/L	Methiocarb	.5000	50.0000	ug/L
Methiocarb sulfone	.5000	50.0000	ug/L	Methomyl	.5000	50.0000	ug/L
Oxamyl	.5000	50.0000	ug/L	Propoxur (Baygon)	.5000	50.0000	ug/L

Results for Sample Group: **CHLORINATED PESTICIDES** analyzed by Suffolk County Department of Health Services

	<u>MRL</u>	<u>MCL</u>			<u>MRL</u>	<u>MCL</u>	
1,2-dibromo-3-chloropropane	.0200	.2000	ug/L	1,2-dibromoethane	.0100	.0500	ug/L
4,4-DDD	.2000	5.0000	ug/L	4,4-DDE	.2000	50.0000	ug/L
4,4-DDT	.2000	5.0000	ug/L	Alachlor	.2000	2.0000	ug/L
Aldrin	.2000	5.0000	ug/L	alpha-BHC	.2000	5.0000	ug/L
beta-BHC	.2000	5.0000	ug/L	Chlordane	.2000	2.0000	ug/L
Dacthal	.2000	50.0000	ug/L	delta-BHC	.2000	5.0000	ug/L
Dieldrin	.2000	50.0000	ug/L	Endosulfan I	.2000	5.0000	ug/L
Endosulfan II	.2000	5.0000	ug/L	Endosulfan Sulfate	.2000	50.0000	ug/L
Endrin	.0100	2.0000	ug/L	gamma-BHC (Lindane)	.0200	.2000	ug/L
Heptachlor	.0400	.4000	ug/L	Heptachlor epoxide	.0200	.2000	ug/L
Methoxychlor	.1000	40.0000	ug/L				

Results for Sample Group: **DACTHAL PESTICIDES** analyzed by Suffolk County Department of Health Services

	<u>MRL</u>	<u>MCL</u>			<u>MRL</u>	<u>MCL</u>	
Monomethyltetrachloroterephthalate	5.0000	50.0000	ug/L	Tetrachloroterephthalic acid	5.0000	50.0000	ug/L

Results for Sample Group: **DIOXANE** analyzed by Suffolk County Department of Health Services

	<u>MRL</u>	<u>MCL</u>			<u>MRL</u>	<u>MCL</u>	
1,4-Dioxane	.1000	50.0000	ug/L				

**SUFFOLK COUNTY DEPARTMENT OF HEALTH SERVICES
PUBLIC AND ENVIRONMENTAL HEALTH LABORATORY
SAMPLE ANALYTE LIST**

Notes: mg/L = milligrams per liter; ug/L = micrograms per liter; ng/L= nanograms per liter. MRL = Minimum Reporting Level. MCL = NYSDOH Maximum Contaminant Level or Drinking Water Standard. The MCL for nickel is a proposed limit. Any MCLs not shown below have not been established.

Results for Sample Group: **HERBICIDE METABOLITES** analyzed by Suffolk County Department of Health Services

	<u>MRL</u>	<u>MCL</u>			<u>MRL</u>	<u>MCL</u>	
17 alpha Ethynylestradiol	.5000	50.0000	ug/L	17 beta Estradiol	.5000	50.0000	ug/L
2,6-Dichlorobenzamide	.5000	50.0000	ug/L	2-HydroxyAtrazine (G-34048)	.3000	50.0000	ug/L
4-Androstene-3,17-dione	.5000	50.0000	ug/L	4-Hydroxyphenytoin	.5000	50.0000	ug/L
Acetaminophen	.2000	50.0000	ug/L	Alachlor ESA (Sulfonic Acid)	.2000	50.0000	ug/L
Alachlor OA (Oxanilic Acid)	.4000	50.0000	ug/L	Bisphenol A	.2000	50.0000	ug/L
Bisphenol B	.2000	50.0000	ug/L	Caffeine	.2000	50.0000	ug/L
Deisopropylatrazine (G-28279)	.2000	50.0000	ug/L	Desethylatrazine (G-30033)	.4000	50.0000	ug/L
Dichlorvos	.6000	50.0000	ug/L	Didealkylatrazine (G-28273)	.8000	50.0000	ug/L
Diethylstilbestrol	.5000	50.0000	ug/L	Diethyltoluamide (DEET)	.2000	50.0000	ug/L
Dinoseb	.3000	7.0000	ug/L	Diuron	.2000	50.0000	ug/L
Equilin	.7000	50.0000	ug/L	Estriol	.7000	50.0000	ug/L
Estrone	.2000	50.0000	ug/L	Gemfibrozil	.4000	50.0000	ug/L
Ibuprofen	.2000	50.0000	ug/L	Imidacloprid	.2000	50.0000	ug/L
Imidacloprid Urea	.2000	50.0000	ug/L	Malaoxon	.2000	50.0000	ug/L
Metalaxyl	.2000	50.0000	ug/L	Metolachlor	.2000	50.0000	ug/L
Metolachlor ESA (CGA-354743)	.3000	50.0000	ug/L	Metolachlor metabolite (CGA-37735)	.2000	50.0000	ug/L
Metolachlor metabolite (CGA-40172)	.3000	50.0000	ug/L	Metolachlor metabolite (CGA-41638)	.3000	50.0000	ug/L
Metolachlor metabolite (CGA-67125)	.3000	50.0000	ug/L	Metolachlor OA (CGA-51202)	.3000	50.0000	ug/L
Phenytoin (Dilantin)	.2000	50.0000	ug/L	Picaridin	.5000	50.0000	ug/L
Propachlor ESA	.2000	50.0000	ug/L	Propachlor OA	.3000	5.0000	ug/L
Propamocarb hydrochloride	.3000	50.0000	ug/L	Siduron	.3000	50.0000	ug/L
Tebuthiuron	.3000	50.0000	ug/L	Testosterone	.3000	50.0000	ug/L
Trichlorfon	.3000	50.0000	ug/L				

Results for Sample Group: **METALS** analyzed by Suffolk County Department of Health Services

	<u>MRL</u>	<u>MCL</u>			<u>MRL</u>	<u>MCL</u>	
Aluminum (Al)	5.0000		ug/L	Antimony (Sb)	.2000	6.0000	ug/L
Arsenic (As)	1.0000	10.0000	ug/L	Barium (Ba)	1.0000	2000.0000	ug/L
Beryllium (Be)	.2000	4.0000	ug/L	Cadmium (Cd)	1.0000	5.0000	ug/L
Calcium	.1000		mg/L	Chromium (Cr)	1.0000	100.0000	ug/L
Cobalt (Co)	1.0000		ug/L	Copper (Cu)	5.0000	1300.0000	ug/L
Germanium	.5000		ug/L	Iron (Fe)	.1000	.3000	mg/L
				Lead (Pb)	1.0000	15.0000	ug/L
Lithium	1.0000		ug/L	Magnesium	.1000		mg/L
Manganese (Mn)	0.001	0.30	mg/L	Mercury (Hg)	.3000	2.0000	ug/L
Molybdenum (Mo)	1.0000		ug/L	Nickel (Ni)	.2000	100.0000	ug/L
Potassium	.5000		mg/L	Selenium (Se)	1.0000	50.0000	ug/L
Silver (Ag)	2.5000	100.0000	ug/L	Sodium (Na)	1.0000		mg/L
Strontium	1.0000		ug/L	Tellurium	.5000		ug/L
Thallium (Tl)	.2000	2.0000	ug/L	Thorium (Th)	2.0000		ug/L
Tin	.5000		ug/L	Titanium (Ti)	1.0000		ug/L
Uranium	.5000	30.0000	ug/L	Vanadium (V)	1.0000		ug/L
Zinc (Zn)	5.0000	5000.0000	ug/L				

Results for Sample Group: **RADIOLOGICAL** analyzed by Suffolk County Department of Health Services*

	<u>MRL</u>	<u>MCL</u>			<u>MRL</u>	<u>MCL</u>	
Gross Alpha	1.0000	15.0000	pCi/L	Gross beta	1.0000	50.0000	pCi/L
Tritium	200.0000	20000.0000	pCi/L				

*Note: Radiological parameters were not analyzed in the following four profile wells: BOM20-72, BOM20-76, BOM20-77 and BOM20-78.

**SUFFOLK COUNTY DEPARTMENT OF HEALTH SERVICES
PUBLIC AND ENVIRONMENTAL HEALTH LABORATORY
SAMPLE ANALYTE LIST**

Notes: mg/L = milligrams per liter; ug/L = micrograms per liter; ng/L= nanograms per liter. MRL = Minimum Reporting Level. MCL = NYSDOH Maximum Contaminant Level or Drinking Water Standard. The MCL for nickel is a proposed limit. Any MCLs not shown below have not been established.

Results for Sample Group: **SEMI-VOLATILE ORGANICS METHOD 525** analyzed by Suffolk County Department of Health Services

	<u>MRL</u>	<u>MCL</u>			<u>MRL</u>	<u>MCL</u>	
1-Methylnaphthalene	.2000	50.0000	ug/L	2-Methylnaphthalene	.2000	50.0000	ug/L
Acenaphthene	.2000	50.0000	ug/L	Acenaphthylene	.2000	50.0000	ug/L
Acetochlor	.2000	50.0000	ug/L	Alachlor	.2000	2.0000	ug/L
Allethrin	.2000	50.0000	ug/L	Anthracene	.5000	50.0000	ug/L
Atrazine	.1000	3.0000	ug/L	Azoxystrobin	.2000	50.0000	ug/L
Benfluralin	.5000	50.0000	ug/L	Benzo(A)Anthracene	.5000	50.0000	ug/L
Benzo(a)Pyrene	.0200	.2000	ug/L	Benzo(B)Fluoranthene	.2000	50.0000	ug/L
Benzo(GHI)Perylene	.2000	50.0000	ug/L	Benzo(K)Fluoranthene	.2000	50.0000	ug/L
Benzophenone	.2000	50.0000	ug/L	Benzyl butyl phthalate	.2000	50.0000	ug/L
Bis(2-ethylhexyl)adipate	.5000	50.0000	ug/L	Bis(2-ethylhexyl)phthalate	3.0000	6.0000	ug/L
Bisphenol A	.5000	50.0000	ug/L	Bloc	.2000	50.0000	ug/L
Bromacil	.5000	50.0000	ug/L	Butachlor	.2000	50.0000	ug/L
Carbamazepine	.5000	50.0000	ug/L	Carbazole	.2000	50.0000	ug/L
Carisoprodol	.5000	50.0000	ug/L	Chlordane	.2000	2.0000	ug/L
Chlorofenvinphos	.2000	50.0000	ug/L	Chloroxyleneol	.2000	50.0000	ug/L
Chlorpyrifos	.2000	50.0000	ug/L	Chrysene	.2000	50.0000	ug/L
Cyfluthrin	.2000	50.0000	ug/L	Cypermethrin	.5000	50.0000	ug/L
Dacthal	.2000	50.0000	ug/L	Deltamethrin	.5000	50.0000	ug/L
Dibenzo(A,H)Anthracene	.2000	50.0000	ug/L	Dibutyl Phthalate	1.0000	50.0000	ug/L
Dichlobenil	.2000	50.0000	ug/L	Dichlorvos	.5000	50.0000	ug/L
Dieldrin	.2000	50.0000	ug/L	Diethyl phthalate	1.0000	50.0000	ug/L
Diethyltoluamide (DEET)	.2000	50.0000	ug/L	Dimethyl phthalate	.2000	50.0000	ug/L
Diocetyl Phthalate	.2000	50.0000	ug/L	Disulfoton sulfone	.2000	50.0000	ug/L
Endosulfan Sulfate	.2000	50.0000	ug/L	EPTC	.2000	50.0000	ug/L
Ethofumesate	.2000	50.0000	ug/L	Ethyl Parathion	.2000	50.0000	ug/L
Etofenprox	.2000	50.0000	ug/L	Etofenprox alpha-CO	.2000	50.0000	ug/L
Fluoranthene	.2000	50.0000	ug/L	Fluorene	.2000	50.0000	ug/L
Hexachlorobenzene	.1000	1.0000	ug/L	Hexachlorocyclopentadiene	.1000	5.0000	ug/L
Hexachloroethane	1.0000	5.0000	ug/L	Hexazinone	1.0000	50.0000	ug/L
Indeno(1,2,3-cd) Pyrene	.2000	50.0000	ug/L	Iodofenphos	.2000	50.0000	ug/L
Iprodione	.5000	50.0000	ug/L	Isofenphos	.5000	50.0000	ug/L
Kelthane	.5000	50.0000	ug/L	Malathion	.5000	50.0000	ug/L
Metalaxyl	.2000	50.0000	ug/L	Methoprene	.2000	50.0000	ug/L
Methoxychlor	.1000	50.0000	ug/L	Methyl Parathion	.2000	50.0000	ug/L
Metolachlor	.2000	50.0000	ug/L	Metribuzin	.2000	50.0000	ug/L
Naled (Dibrom)	.2000	50.0000	ug/L	Napropamide	.2000	50.0000	ug/L
Pendimethalin	.2000	5.0000	ug/L	Pentachlorobenzene	.2000	50.0000	ug/L
Pentachloronitrobenzene	.2000	50.0000	ug/L	Permethrin	.2000	50.0000	ug/L
Phenanthrene	.2000	50.0000	ug/L	Piperonyl butoxide	.5000	50.0000	ug/L
Prallethrin	.2000	50.0000	ug/L	Prometon	.5000	50.0000	ug/L
Prometryne	.2000	50.0000	ug/L	Propachlor	.2000	50.0000	ug/L
Propiconazole (Tilt)	.2000	50.0000	ug/L	Pyrene	.5000	50.0000	ug/L
Resmethrin	.2000	50.0000	ug/L	Ronstar	.2000	50.0000	ug/L
Simazine	.0700	4.0000	ug/L	Sumithrin	.2000	50.0000	ug/L
Tebuthiuron	.5000	50.0000	ug/L	Terbacil	.5000	50.0000	ug/L
Total Triazines + Metabolites (Calc)	.0000	4.0000	ug/L	Triadimefon	.5000	50.0000	ug/L
Triclosan	.5000	50.0000	ug/L	Trifluralin	.5000	50.0000	ug/L
Vinclozolin	.5000	50.0000	ug/L				

Results for Sample Group: **STANDARD INORGANICS** analyzed by Suffolk County Department of Health Services

	<u>MRL</u>	<u>MCL</u>			<u>MRL</u>	<u>MCL</u>	
Ammonia (NH3-N)	.5000		mg/L	Bromide	.5000		mg/L
Chlorate	.0500		mg/L	Chloride (Cl)	3.0000	250.0000	mg/L
Fluoride	.2000	2.2000	mg/L	Nitrite (NO2-N)	.1000	1.0000	mg/L
Nitrate	.5000	10.0000	mg/L	Sulfate (SO4)	5.0000	250.0000	mg/L
Orthophosphate	.5000		mg/L	MBAS**	.1000		

**Note: MBAS (methylene blue activated substance) analysis was performed only on the groundwater samples collected from the eight monitoring wells located at the sewage treatment plants.

**SUFFOLK COUNTY DEPARTMENT OF HEALTH SERVICES
PUBLIC AND ENVIRONMENTAL HEALTH LABORATORY
SAMPLE ANALYTE LIST**

Notes: mg/L = milligrams per liter; ug/L = micrograms per liter; ng/L= nanograms per liter. MRL = Minimum Reporting Level. MCL = NYSDOH Maximum Contaminant Level or Drinking Water Standard. The MCL for nickel is a proposed limit. Any MCLs not shown below have not been established.

Results for Sample Group: **VOLATILE ORGANICS** analyzed by Suffolk County Department of Health Services

	<u>MRL</u>	<u>MCL</u>			<u>MRL</u>	<u>MCL</u>	
1,1 Dichloroethane	.5000	5.0000	ug/L	1,1 Dichloroethene	.5000	5.0000	ug/L
1,1 Dichloropropene	.5000	5.0000	ug/L	1,1,1 Trichloroethane	.5000	5.0000	ug/L
1,1,1,2 Tetrachloroethane	.5000	5.0000	ug/L	1,1,2 Trichloroethane	.5000	5.0000	ug/L
1,1,2,2-Tetrachloroethane	.5000	5.0000	ug/L	1,2 Dichlorobenzene (o)	.5000	5.0000	ug/L
1,2 Dichloroethane	.5000	5.0000	ug/L	1,2 Dichloropropane	.5000	5.0000	ug/L
1,2,3 Trichlorobenzene	.5000	5.0000	ug/L	1,2,3 Trichloropropane	.5000	5.0000	ug/L
1,2,4 Trichlorobenzene	.5000	5.0000	ug/L	1,2,4 Trimethylbenzene	.5000	5.0000	ug/L
1,2,4,5 Tetramethylbenzene	.5000	5.0000	ug/L	1,3 Dichloropropane	.5000	5.0000	ug/L
1,3,5 Trimethylbenzene	.5000	5.0000	ug/L	1,3-Dichlorobenzene (m)	.5000	5.0000	ug/L
1,4-Dichlorobenzene (p)	.5000	5.0000	ug/L	1,4-Dichlorobutane	.5000	5.0000	ug/L
1-Bromo-2-Chloroethane	.5000	5.0000	ug/L	2,2 Dichloropropane	.5000	5.0000	ug/L
2,3 Dichloropropene	.5000	5.0000	ug/L	2-Bromo-1-Chloropropane	.5000	5.0000	ug/L
2-Butanone (MEK)	20.0000	50.0000	ug/L	2-Chlorotoluene	.5000	5.0000	ug/L
4-Chlorotoluene	.5000	5.0000	ug/L	Acrylonitrile	.5000	5.0000	ug/L
Allyl chloride	.5000	5.0000	ug/L	Benzene	.5000	5.0000	ug/L
Bromobenzene	.5000	5.0000	ug/L	Bromochloromethane	.5000	5.0000	ug/L
Bromodichloromethane	.5000	80.0000	ug/L	Bromoform	.5000	80.0000	ug/L
Bromomethane	.5000	5.0000	ug/L	Carbon Disulfide	.5000		ug/L
Carbon Tetrachloride	.5000	5.0000	ug/L	Chlorobenzene	.5000	5.0000	ug/L
Chlorodibromomethane	.5000	80.0000	ug/L	Chlorodifluoromethane	.5000	5.0000	ug/L
Chloroethane	.5000	5.0000	ug/L	Chloroform	.5000	80.0000	ug/L
Chloromethane	.5000	5.0000	ug/L	cis-1,2-Dichloroethene	.5000	5.0000	ug/L
cis-1,3-Dichloropropene	.5000	5.0000	ug/L	d-Limonene	.5000	50.0000	ug/L
Dibromomethane	.5000	5.0000	ug/L	Dichlorodifluoromethane	.5000	5.0000	ug/L
Diethyl Ether	.5000	50.0000	ug/L	Dimethyldisulfide	.5000	50.0000	ug/L
Ethenylbenzene (Styrene)	.5000	5.0000	ug/L	Ethyl Methacrylate	.5000	50.0000	ug/L
Ethylbenzene	.5000	5.0000	ug/L	Freon 113	.5000	5.0000	ug/L
Hexachlorobutadiene	.5000	5.0000	ug/L	Isobutane	2.0000	50.0000	ug/L
Isopropylbenzene	.5000	5.0000	ug/L	m & p-Xylene	.5000	5.0000	ug/L
Methacrylonitrile	.5000	5.0000	ug/L	Methyl Isothiocyanate	2.0000	50.0000	ug/L
Methyl Methacrylate	.5000	50.0000	ug/L	Methyl Sulfide	.5000	50.0000	ug/L
Methyl-Tert-Butyl-Ether (MTBE)	.5000	10.0000	ug/L	Methylene Chloride	.5000	5.0000	ug/L
n-Butane	2.0000	50.0000	ug/L	n-Butylbenzene	.5000	5.0000	ug/L
n-Propylbenzene	.5000	5.0000	ug/L	Naphthalene	.5000	50.0000	ug/L
o-Xylene	.5000	5.0000	ug/L	p-Diethylbenzene	.5000	5.0000	ug/L
p-Isopropyltoluene	.5000	5.0000	ug/L	Propanal	15.0000	50.0000	ug/L
sec-Butylbenzene	.5000	5.0000	ug/L	tert-Butylbenzene	.5000	5.0000	ug/L
Tetrachloroethene	.5000	5.0000	ug/L	Tetrahydrofuran	20.0000	50.0000	ug/L
Toluene	.5000	5.0000	ug/L	Total Xylenes	.5000	5.0000	ug/L
trans 1,2 Dichloroethene	.5000	5.0000	ug/L	trans-1,3-Dichloropropene	.5000	5.0000	ug/L
Trichloroethene	.5000	5.0000	ug/L	Trichlorofluoromethane	.5000	5.0000	ug/L
Vinyl Chloride	.5000	2.0000	ug/L				

Appendix C

Profile Well Construction and Sampling Methodologies

Groundwater Profile Well Construction

From 2020 to 2021, the SCDHS installed and sampled 36 profile wells. All wells were installed using a Geoprobe percussion drill rig, using virgin schedule 40 flush fit PVC pipe in five-foot lengths with a flush fit schedule 40 five-foot 0.010 slot screen and finished with a well point. The one-inch diameter temporary profile wells were installed to varying depths (dependent upon the well site's depth to water) that would yield approximately five groundwater samples profiled at ten-foot intervals. The deepest well installed was BOM21-78 where the initial screen zone was set at ninety to ninety-five feet below grade (fbg), yielding eight profile levels. All wells were capped with a J-plug and a rain tight manhole cover was placed over the casings to further protect the wells.

Groundwater Sampling Technique and Sample Analyses

Each of the temporary profile wells were initially developed and sampled at the deepest level and then pulled up ten feet, developed and sampled again. This process was repeated until the top of the water table was reached. This procedure resulted in the collection of four to eight samples in each of the thirty-six profile wells. This method produces an analytical profile of the groundwater from the top of the water table down to the depth at which the wells were drilled.

High density polyethylene (HDPE) tubing was used with a Waterra Hydrolift portable actuator (inertial pump) with a stainless-steel foot valve attached to extract groundwater from the wells. The wells were purged a minimum of three well casing volumes at each profile interval. Samples were not collected until field parameters were stabilized and the turbidity was ≤ 50 NTU. Field parameters recorded included temperature, dissolved oxygen, conductivity, oxidation-reduction potential (ORP), and pH. Samples were collected by SCDHS Office of Water Resources public health sanitarians and the Suffolk County Public Health and Environmental Laboratory (PEHL) performed analysis for the following analysis groups on all the groundwater samples¹⁰: metals; inorganics parameters; volatile organic compounds (VOCs); semi-volatile organic compounds (SVOCs); radiological parameters (gross alpha, gross beta, tritium)¹¹; chlorate; 1,4-dioxane;

¹⁰ Methylene blue activated substance (MBAS) analysis for the presence of detergents were performed only on the groundwater samples collected from the eight monitoring wells located at the sewage treatment plants.

¹¹ Radiological parameters were not analyzed in the following four profile wells: BOM20-72, BOM20-76, BOM20-77 and BOM20-78.

herbicide metabolites; aldicarb pesticides; chlorinated pesticides; ammonia; and dacthal. A New York State Department of Environmental Conservation (NYSDEC) contract laboratory (Pace Analytical Laboratories) was used for PFAS analysis in 30 profile wells which were located for evaluation of PFAS sources other than the BOMARC site. A SCDHS contact laboratory (Pace Analytical Laboratories) was used to analyze PFAS and PCBs in six off-site wells located on Old Country Road, directly downgradient of the BOMARC Facility (Figure 4). A summary of the analytical results for the detected parameters is provided in Appendix A, Table 1, a complete list of analytes tested by the SCDHS PEHL is provided in Appendix B.

Nutrients

Groundwater samples were analyzed by the PEHL in accordance with “Standard Operating Procedure for Sampling for Inorganic Compounds in Aqueous Samples” (US EPA, 2002). The samples were stored on ice at 4° C and transported to the PEHL for analysis utilizing US EPA method 350.1 for Ammonia; US EPA method 300.1 for Nitrates; US EPA method 353.2/354.1 for Nitrites; and US EPA method 300.0 for Chlorides.

Volatile Organic Compounds

Groundwater samples were analyzed for Volatile Organic Compounds by the PEHL in accordance with “Standard Operating Procedure for Head Space Screening for Volatile Organic Compounds in Aqueous Samples” (US EPA, 2002). The samples were stored on ice at 4° C and transported to the PEHL for analysis using US EPA method 524.2 (US EPA, 1995).

Groundwater Sample Analytical Methods

Analysis	Method	Analysis	Method
Inorganics	EPA 300.0	Semi-volatile organics	EPA 525.2
Metals	EPA 200.8	Carbamates	SM 21 6610B
Volatile Organics	EPA 524.2	Herbicide metabolites	SCDHS LC/MS
Chlorinated pesticides	EPA 505	Dacthal metabolites	SCDHS HPLC/LC-UV
Microextractables	EPA 504.1	1,4-Dioxane	EPA 522
PFAS	EPA Mod. 537	PCBs	EPA 608.3

Semi -Volatile Organic Compounds

Groundwater samples were analyzed for Semi-Volatile Organic Compounds by the SCPEHL following the “Standard Operating Procedure for Sampling for Semi Volatile Organic Compounds in Aqueous Samples” (US EPA, 2002). The samples were stored on ice at 4° C and transported to the PEHL for analysis using US EPA method 525.2 (US EPA, 1995)

Metals

Groundwater samples were analyzed by the PEHL following the “Standard Operating Procedure for Dissolved Metals for in Aqueous Samples” (US EPA, 2002). The samples were stored on ice at 4° C and transported to the PEHL for analysis using US EPA method 200.8 (US EPA, 1995).

Pesticides

Groundwater samples were analyzed for pesticides by the PEHL following the “Standard Operating Procedure for Sampling for Pesticide Compounds in Aqueous Samples” (US EPA, 2002). The samples were stored on ice at 4° C and transported to the PEHL for validation analysis by US EPA methods 505, 531.1, SM21 6610B, LC-MS and SCM method developed at PEHL.

Radiology

Groundwater samples were analyzed for radiation by the PEHL. The samples were stored on ice at 4° C and transported to the PEHL for validation analysis by US EPA methods 906.0, 900.0 and SM207110C.

1,4-Dioxane

Groundwater samples were analyzed for 1,4-dioxane and were stored on ice at 4° C and transported to PEHL for validation by US EPA method 522.

PFAS

Groundwater samples were stored at 4° C and were analyzed for analytes by Pace Analytical Laboratories using method EPA Mod. 537.

PCBS

Groundwater samples were stored at 4° C and were analyzed for analytes by Pace Analytical Laboratories using method EPA 608.3.

Appendix D

Groundwater Data Table of Detected Analytes from the Suffolk County
Department of Health Services' Report, Groundwater and Soil Investigation at
the BOMARC Facility, Westhampton N.Y. In Accordance with Suffolk County
Resolution No. 1065-2018, September 2020

