



The Chemours Company
1007 Market Street
PO Box 2047
Wilmington, DE 19899

302-773-1000 t
chemours.com

March 5, 2020

**Conceptual Site Model (CSM) for Poly- and Perfluoroalkyl Substances (PFAS),
Chemours Chambers Works, Deepwater, New Jersey (submitted July
2017) – Redacted/Removed Information**

Notice – Figure 16 and parts of Appendices A and B, listed below, have been removed from the version of this report posted on this website because this figure and some parts of Appendices A and B contain private, personal information (PPI) such as names and/or addresses. To ensure residential confidentiality, residential drinking-water well results, are now identified by a Regulatory Location ID, instead of the sample ID, which is the drinking-water well address or an abbreviated version of the address. All drinking-water well results can be found in Table 1 ([hyperlink](#)) and Figure 1 ([hyperlink](#)) listed by the Regulatory Location ID.

Figure 16	Residential Drinking Water Well Locations with PFOA, PFOS, and PFNA Results (2009, 2016, and 2017)
Appendix A	Multimedia Sampling Result Tables for PFAS Table A-2 only
Appendix B	Posting Maps for PFAS Figures B-4.1 through B-4.5 only



The Chemours Company
1007 Market Street
PO Box 2047
Wilmington, DE 19899

302-773-1000 t
chemours.com

July 18, 2017

Ms. Anne Pavelka
CHMM, Site Manager
New Jersey Department of Environmental Protection (NJDEP)
Bureau of Case Management
401 East State Street
Trenton, NJ 08625-0028

**Conceptual Site Model (CSM) for Poly- and Perfluoroalkyl Substances (PFAS)
Chemours Chambers Works
Deepwater, New Jersey**

Dear Ms. Pavelka:

Attached please find the Conceptual Site Model (CSM) for Poly- and Perfluoroalkyl Substances (PFAS) for the Chemours Chambers Works Complex in Deepwater, New Jersey. The CSM was prepared in response to an April 6, 2016 request from NJDEP. The request specified that a CSM be created that included the identification and characterization of all former and/or current sources of PFAS at Chambers Works as well as all former and/or current modes of migration, pathways and receptors. This CSM was created in general accordance with the NJDEP Technical Guidance for the Preparation and Submission of a CSM (NJDEP, 2011). The areal scope of the CSM includes the Chambers Works Complex, the adjoining Delaware River, and surrounding off-site areas.

Also included in this CSM are data from an ongoing residential drinking water well program. These data indicate the presence of PFAS in off-site groundwater, at times exceeding NJDEP and/or U.S. Environmental Protection Agency (EPA) criteria for perfluorooctanoic acid (PFOA), perfluorooctane sulfonate (PFOS), or perfluorononanoic acid (PFNA). While the CSM supports conclusion that air emissions from the site contribute to these detections, off-site sources of PFAS unrelated to the site may also add to these detections as the variability in PFAS constituents detected and the variable nature of the observed concentrations do not support a single point of origin in all cases. However, Chemours is actively working with NJDEP and EPA to continue to investigate, remediate, and address potential drinking water exposure by offering to treat off-site drinking water for PFAS if criteria are exceeded.

Chemours is submitting three hard copies of the report and one electronic version on a CD to both NJDEP and EPA.

If you have any questions or would like to discuss the CSM document further, please email me at Andrew.S.Hartten@chemours.com or call me at 302-773-1289.

Sincerely,

A handwritten signature in black ink, appearing to read "Andrew S. Hartten", written in a cursive style.

Andrew S. Hartten
Project Director, Chambers Works
DuPont Corporate Remediation Group

cc: Sameh Abdellatif, EPA Region 2 (three hard copies and one CD)
Chambers Works File

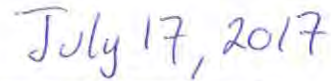
Chemours Chambers Works
Conceptual Site Model (CSM) for Poly- and Perfluoroalkyl Substances (PFAS)

CERTIFICATION I

"I certify under penalty of law that the information provided is true, accurate and complete. I am aware that there are significant civil penalties for knowingly submitting false, inaccurate or incomplete information and that I am committing a crime of the fourth degree if I make a written false statement which I do not believe to be true. I am also aware that if I knowingly direct or authorize the violation of any statute, I am personally liable for the penalties."

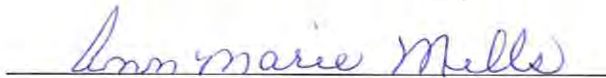


Andrew S. Hartten
Chemours Corporate Remediation Group
Principal Project Manager



Date

WITNESSED THIS 17th DAY OF July, 2017



Notary Public



Conceptual Site Model (CSM) for Poly- and Perfluoroalkyl Substances (PFAS)

Chemours Chambers Works
Deepwater, New Jersey

Submitted on behalf of:
The Chemours Company

Submitted by:
AECOM
Sabre Building
Suite 300
4051 Ogletown Road
Newark, DE 19713

Project Number: 60517181
Date: July 2017

Table of Contents

Acronym List	iv
Executive Summary	v
1.0 Introduction	1
1.1 Purpose and Objective	1
1.2 Report Structure	1
2.0 Site Background.....	3
2.1 Site Setting.....	3
2.2 Surrounding Land Use.....	3
2.3 Surface Water.....	3
2.3.1 Delaware River.....	3
2.3.2 Salem Canal.....	4
2.3.3 Bouttown Creek and Henby Creek.....	4
2.3.4 B Basin.....	5
2.4 Groundwater.....	5
3.0 PFAS Background Information and Sources.....	7
3.1 Poly- and Perfluoroalkyl Substances Background.....	7
3.2 PFAS Source Areas at Chambers Works.....	7
3.2.1 Fluoroelastomers Manufacturing Area	8
3.2.2 Fluorotelomer Manufacturing Area.....	8
3.2.3 Jackson Laboratory Area	9
3.2.4 Chambers Works WWTP Area.....	9
3.2.5 Chambers Works Performance Chemicals Areas.....	9
3.3 Chambers Works PFAS Load Reduction Programs Implemented.....	10
3.4 PFAS Sources Off-Site of Chambers Works	11
4.0 PFAS Environmental Data Set	13
4.1 Screening Criteria.....	13
4.2 On-Site PFAS Data	13
4.2.1 On-Site Soil	14
4.2.2 On-Site Groundwater	14
4.2.3 Permitted Outfalls.....	15
4.2.4 Stormwater Outfalls.....	16
4.2.5 Air Emissions.....	16
4.3 Off-Site PFAS Data	16
4.3.1 Delaware River Surface Water and Sediment.....	17
4.3.2 Salem Canal Surface Water and Sediment.....	18
4.3.3 Groundwater.....	19
4.3.4 Residential Drinking Water Wells	20
4.4 Summary of PFAS in On-Site and Off-Site Environmental Data	22
5.0 PFAS Migration Pathways	23
5.1 On-Site and Off-site Migration Pathways for On-Site Sources.....	23
5.1.1 Effluent Discharge (A).....	24

5.1.2	Air Emissions (B).....	24
5.1.3	Stormwater Runoff (C)	24
5.1.4	Direct Releases to Soil (D and E).....	25
5.1.5	Groundwater Discharge (F and G).....	25
5.2	Off-Site Migration Pathways for Off-Site Sources	25
6.0	Summary	27
6.1	PFAS Sources	27
6.2	Migration Pathways from PFAS Sources	27
6.3	PFAS Distributions in On-Site and Off-Site Environmental Media	28
7.0	References	30

List of Tables

Table 1	Perfluorinated Compounds
Table 2	PFAS Process Summary for Chambers Works
Table 3	PFAS Related Products Manufactured at Chambers Works
Table 4	Shallow PFOA Soil Sample Results – 2006
Table 5	Groundwater Sample Summary Statistics Table, On-Site PFAS Compounds
Table 6a	Outfall 662 PFOA Pounds per Day 2006 - 2017
Table 6b	Outfall 662 PFOA Sample Results
Table 6c	Outfall 662 PFNA Sample Results
Table 7	Stormwater Sampling Results
Table 8	Summary of Air Emissions Sampling
Table 9	Summary of Sediment Results – Delaware River Sediment - 2016
Table 10	Summary of Salem Canal Surface Water Results
Table 11	Summary of Salem Canal Sediment Results
Table 12	Summary of Off-Site Monitoring Well Results
Table 13	On-Site PFAS Pathways
Table 14	Off-Site PFAS Pathways

List of Figures

Figure 1	Site Location Map
Figure 2	Process Location Map
Figure 3	PFOA On-Site Soil Samples 2006 - 2007
Figure 4a	B Aquifer Groundwater Flow and PFAS Detections
Figure 4b	C Aquifer Groundwater Flow and PFAS Detections
Figure 4c	D Aquifer Groundwater Flow and PFAS Detections

Figure 4d	E Aquifer Groundwater Flow and PFAS Detections
Figure 5	Site Wells Sampled for RFI Report
Figure 6	Permitted Outfall Location Map
Figure 7	Average PFOA (Pounds per Day) at DSN662
Figure 8	Salem Canal Stormwater Outfalls
Figure 9	Process Stack Testing Locations
Figure 10	Delaware River Surface Water Sample Locations for PFOA
Figure 11	Delaware River Sediment Sample Location Map
Figure 12	Salem Canal Surface Water Sample Location Map
Figure 13	Salem Canal Sediment Sample Location Map
Figure 14	Distribution of PFAS in Sediment at Station SCD-189
Figure 15	Off-Site Groundwater Monitoring Well Posting Map
Figure 16	Residential Drinking Water Well Locations with PFOA, PFOS, and PFNA Results (2009, 2016, and 2017)
Figure 17	PFOA Detections vs Distance
Figure 18	Distribution Map of PFOA
Figure 19	Distribution Map of PFOS
Figure 20	Conceptual Cross-Section On-Site
Figure 21	Conceptual Cross-Section Local Off-Site

List of Appendices

Appendix A	Multimedia Sampling Result Tables for PFAS
Appendix B	Posting Maps for PFAS
Appendix C	Summary by Media of Samples Collected and Extent PFAS Parameters

Acronym List

Acronym	Explanation
µg/kg	Microgram per Kilogram
µg/L	Microgram per Liter
bgs	Below Ground Surface
CATT	C8 Assessment of Toxicity Team
cfs	Cubic Feet per Second
CRG	Corporate Remediation Group
CSM	Conceptual Site Model
DRBC	Delaware River Basin Commission
EPA	U.S. Environmental Protection Agency
GAC	Granular Activated Carbon
GWQS	Ground Water Quality Standards
HA	Health Advisory
IWS	Interceptor Well System
lbs/day	Pounds per Day
mg/kg	Milligram per Kilogram
mgd	Million Gallons per Day
ND	Not Detected
NJDEP	New Jersey Department of Environmental Protection
NJGWIIA	New Jersey Groundwater Class IIA Standards
NJPDES-DGW	New Jersey Pollutant Discharge Elimination System Permitting Discharge to Groundwater
NJSWQS	New Jersey Surface Water Quality Standards
NQ	Not Quantifiable
OM&M	Operations Maintenance and Monitoring
PAR	Preliminary Assessment Report
PFAS	Poly- and Perfluoroalkyl Substances
PFDA	Perfluorodecanoic Acid
PFHpA	Perfluoroheptanoic Acid
PFHxA	Perfluorohexanoic Acid
PFNA	Perfluorononanoic Acid
PFOA	Perfluorooctanoic Acid
PFOS	Perfluorooctane Sulfonate
PFPeA	Perfluoropentanoic Acid
ppm	Part per Million
PQL	Practical Quantitation Limit
PTFE	Polytetrafluoroethylene
RCRA	Resource Conservation and Recovery Act
RFI	RCRA Facility Investigation
SET	Secure Environmental Treatment
SPB	Sheet-Pile Barrier
WWTP	Wastewater Treatment Plant

Executive Summary

AECOM, on behalf of the Chemours Company (Chemours), has prepared this Conceptual Site Model (CSM) for Poly- and Perfluoroalkyl Substances (PFAS) for the Chambers Works Complex (the site) located in Deepwater, New Jersey, as requested by New Jersey Department of Environmental Protection (NJDEP) in an April 6, 2016 letter to Chemours. The CSM presented herein was created in general accordance with the NJDEP Technical Guidance for the Preparation and Submission of a CSM (NJDEP, 2011). The areal scope of the CSM includes the Chambers Works Complex, the adjoining Delaware River, and surrounding off-site areas.

The purpose of this CSM is to identify sources of PFAS and potential migration pathways that may have resulted in detections of PFAS in off-site environmental media receptors identified in this CSM as off-site surface water, sediment, and residential well water. As such, this CSM incorporates PFAS data associated with soil, sediment, surface water, groundwater, treatment plant effluent, and stack and vent emissions collected at and around the site since 2003 to construct the CSM framework.

A potential fourth source for PFAS detections should be recognized. This includes consumer and industrial products that contain PFAS, such as windshield wiper fluid, cosmetic products, and fire extinguishers. These products are not associated with the site but are frequently present in homes and businesses and could also contribute to the detections of PFAS in off-site environmental media. Although the possibility of these sources is acknowledged, no measured data were included in the development of this CSM.

Three primary sources of PFAS have been identified at Chambers Works: PFAS [e.g., perfluorooctanoic acid (PFOA)] were used or unintentionally created during the manufacturing of fluoroelastomers and fluorotelomers starting in the 1960s; PFAS were associated with breakdown constituents related to precursor compounds (e.g. fluorotelomer alcohols); and liquid wastes that potentially contained PFAS were brought to Chambers Works for treatment at the site's Wastewater Treatment Plant (WWTP). Since 2003, the use of PFOA has been reduced at Chambers Works. Chambers Works has continued to implement reduction programs that have resulted in an overall 99% reduction in PFOA emissions since 2000.

Migration pathways for the movement of PFAS from sources to off-site environmental media receptors include air emissions and downwind movement of PFAS from stacks and vents during manufacturing processes; discharge of a treated effluent that contains PFAS from the WWTP through two permitted outfalls to the Delaware River; stormwater runoff that contains PFAS and discharges through outfalls to Salem Canal; and to a lesser extent, groundwater containing PFAS that discharges through the shallow aquifer to the Delaware River. However, a sheet pile barrier (SPB) was installed along the Salem Canal, which contains groundwater on-site and limits the discharge from the shallow aquifer to off-site surface water. Discharge will be reduced with the installation of the final section of the SPB engineering control along the Delaware River in the manufacturing area in 2017. .Because groundwater flow is controlled by the site Interceptor Well System (IWS) and the SPB controls groundwater discharge along the southwestern perimeter, there is no migration pathway through groundwater to off-site well locations.

Several investigations have been completed and have adequately characterized PFAS in the media investigated to develop this CSM. PFAS have been detected in soil and groundwater at the Chambers Works Complex. PFAS were detected most frequently and at the highest concentrations in shallow groundwater samples closest to known site process areas that used PFAS. Concentrations decrease with increasing depth and distance from known process buildings.

Detections of PFAS in surface water in the Salem Canal adjacent to the site indicated little difference from upgradient background locations. For the Delaware River, PFAS concentrations were detected in surface water adjacent to the site. For sediment samples collected from the Delaware River and Salem Canal, higher PFAS detections were noted in samples collected near stormwater and permitted effluent discharge locations.

Off-site groundwater investigations in 2007, 2009, 2010, 2014, and 2016, as well as an ongoing residential drinking water well program, indicate the presence of PFAS in off-site groundwater, at times exceeding NJDEP and/or EPA criteria for PFOA, perfluorooctane sulfonate (PFOS), or perfluorononanoic acid (PFNA). While air emissions from the site contribute to these detections, off-site use of PFAS-containing products unrelated to the site may also add to these detections as the variability in PFAS constituents detected and the variable nature of the observed concentrations does not support a single point of origin in all cases. However, Chemours is actively working with NJDEP and EPA to continue to investigate and remediate, and to address potential drinking water exposure by offering to treat off-site drinking water for PFAS, if criteria are exceeded.

1.0 Introduction

AECOM, on behalf of The Chemours Company (Chemours), has prepared this Conceptual Site Model (CSM) for Poly- and Perfluorinated Substances (PFAS) for the Chambers Works Complex (the site) located in Deepwater, New Jersey (see Figure 1). PFAS are a diverse group of compounds that are resistant to heat, water, and oil. PFAS have been used in both industrial applications and consumer products such as carpeting, apparels, and fire-fighting foams. At Chambers Works, PFAS and precursors to PFAS (i.e., fluorotelomer alcohols) have been used in the production of fluoroelastomers, fluorotelomers, and have also been unintentionally created within manufacturing processes and waste streams.

As described in the New Jersey Department of Environmental Protection (NJDEP) *Technical Guidance for the Preparation and Submission of a CSM* (NJDEP, 2011), a CSM is a written and/or illustrative representation that describes sources, migration pathways, and potential impacts of contamination (in soil, air, groundwater, surface water, and/or sediments) to human and/or ecological receptors. The CSM presented herein was developed in general accordance with the aforementioned guidance as requested by NJDEP in an April 6, 2016 letter.

This Chambers Works PFAS CSM includes the following components: identification of potential source(s), characterization of media and extent of contamination, identification of all potential and confirmed migration pathways of the contaminants of concern for the investigation area, and identification of general off-site receptors (i.e., surface water, sediment, and drinking water).

1.1 Purpose and Objective

The purpose of this CSM is to provide a written and illustrative representation of the potential fate and transport of PFAS from on-site sources to on-site and off-site environmental media. As such, this CSM incorporates soil, sediment, surface water, groundwater, treatment plant effluent, and stack and vent emission PFAS data collected at and around the site since 2003. In addition, this CSM includes results of an ongoing off-site residential drinking water sampling program.

The objectives of this report are as follows:

- Identify known and potential on-site and off-site PFAS sources.
- Describe PFAS migration pathways.
- Present the comprehensive database of PFAS concentrations detected in the environmental media at the site and surrounding areas.

1.2 Report Structure

The remainder of this report is organized as follows:

- Section 2.0 describes the site environmental setting, including land uses on-site and surrounding the site.
- Section 3.0 presents information pertaining to historical and current use of PFAS at the site.

- Section 4.0 presents the PFAS environmental data collected during on-site and off-site investigations.
- Section 5.0 details PFAS migration pathways.
- Section 6.0 summarizes the key findings of the presented CSM components.
- Section 7.0 lists the references cited in this report.

2.0 Site Background

This section presents background information pertaining to the site setting, the surrounding land use, site groundwater conditions and containment, and surface water features.

2.1 Site Setting

The 1,455-acre site is located on the northwestern side of Salem County New Jersey, north of the Delaware Memorial Bridge and occupies approximately 2.7 miles of shoreline on the tidal Delaware River from Helms Cove to the Salem Canal (see Figure 1). The site consists of the former Carneys Point Works area, which manufactured explosives prior to 1978, and the currently active manufacturing area. The site is secured by a fence and is monitored 24 hours, 7 days a week by security personnel.

The Chambers Works Complex produces various products and intermediates. The manufacturing area of the site includes Performance Chemicals, which makes intermediates, and Secure Environmental Treatment (SET), which treats on-site wastewater at the site's wastewater treatment plant (WWTP). Manufacturing and utility tenants include DuPont Performance Elastomers, Aramids Intermediates, the Cogeneration Plant, and Praxair. The Cogeneration Plant is a utility tenant producing steam and electricity for the site and the regional electrical grid. Praxair is a utility tenant producing nitrogen for the site and regionally for other customers.

2.2 Surrounding Land Use

The site is located adjacent to the Delaware River, which extends along the entire western side of the site. The Salem Canal, Interstate 295, and the Delaware Memorial Bridge are located due south of the site. Further south are light industrial areas, including the Calpine Deepwater Energy Center (formerly Atlantic City Electric), residential areas, and recreational areas. North and east of the site are small businesses and residential neighborhoods.

2.3 Surface Water

The primary surface water features in the vicinity of Chambers Works consists of the following (see Figure 1).

- Delaware River
- Salem Canal
- Bouttown Creek and Henby Creek
- B Basin

Each of these features is described in more detail below.

2.3.1 Delaware River

The Delaware River forms the western property boundary of the site. The portion of the Delaware River adjacent to the site lies within the Delaware River Basin Commission (DRBC) Interstate Water Quality Management Zone 5, which extends from river mile

48.1 near Middletown, Delaware, upstream to river mile 78.7, near the Pennsylvania-Delaware border. Zone 5 designated uses include navigation, commercial shipping, and recreation. This portion of the river has been influenced by historical and current industrialization, as well as intensive upstream urban development associated with Philadelphia, Pennsylvania, and Camden, New Jersey. The flow of the Delaware River is reported in the range from 3,000 to 100,000 cubic feet per second (cfs), with an average flow rate of approximately 11,000 cfs, and a tidal amplitude of approximately 6 feet between high and low tides.

Adjacent to the site, the Delaware River is generally considered an oligohaline environment. An oligohaline environment represents the transitional zone between the tidal freshwater and estuarine environments. Salinities in this zone are controlled by the input of freshwater from the upper watershed and are tidally, seasonally, and annually variable. The Delaware River is not used for drinking water purposes in Zone 5 due to its brackish water quality and the industrial nature of the area. Chambers Works has a river water intake that is permitted to withdraw up to 13 to 22 million gallons per day (mgd) for site use, such as brine production and noncontact cooling water.

Chambers Works historically used one permitted outfall to the Delaware River. Outfall DSN001 was operated as the site's main outfall for wastewater discharge. This discharge included stormwater collected on-site, as well as treated SET wastewater. Starting in 2011, a second outfall, DSN002, was added. Historical wastewater outfalls, current stormwater outfalls, and the permitted outfalls have been identified from existing site plans and were or are potential migration pathways from the site to the Delaware River. Site-related outfalls are discussed further in Sections 4.0 and 5.0.

2.3.2 Salem Canal

The Salem Canal traverses the southern portion of the site for approximately 2,000 feet and is a freshwater, manmade canal that is approximately 7,000 feet long and approximately 200 feet wide. The Salem Canal was originally hand dug in 1872 to a depth of between 12 and 14 feet below ground surface (bgs). The Munson Dam was constructed in 1933 isolating the freshwater of the Salem Creek from the brackish tidal water of the Delaware River. Prior to the construction of the dam, the canal was a tidal water body connecting the Delaware River to the tidal wetlands of Salem Creek. Although Salem Canal is not used by the local community as a source of drinking water, Chambers Works has a water allocation permit to withdraw up to 5 to 7 mgd from the Salem Canal for plant use.

Chambers Works currently operates and has historically operated stormwater outfalls along the Salem Canal. Historical and current stormwater outfalls have been identified from existing site plans and were or are potential migration pathways from the site to the Salem Canal. Site-related outfalls are discussed further in Sections 4.0 and 5.0.

2.3.3 Bouttown Creek and Henby Creek

Bouttown Creek originates east of the site near the town of Carneys Point. Stormwater from Carneys Point Township enters the creek off-site and is regulated by a township-operated pump house located near the Chemours property line. Prior to 1974, Bouttown Creek discharged to the north through a sluice gate to the Delaware River. In 1974, the original point of discharge in Bouttown Creek was cut off and filled; flow in Bouttown Creek was then diverted to Henby Creek to the south via a constructed channel. Henby Creek flow is controlled by a sluice gate, and water discharges to the Delaware River

during low tide. Bouttown and Henby Creeks are flanked by low-lying wetlands. Neither of these creeks is used as a water source for the site.

2.3.4 B Basin

B Basin is an approximately 7.3-acre unlined basin used to manage stormwater and non-contact cooling water for the plant. The basin is located within active process areas of the site. The basin elevation is controlled by pumps, and the stormwater is mixed with treated wastewater from SET and is then discharged to the Delaware River through DSN001 and DSN002.

2.4 Groundwater

The Chambers Works site is underlain by a vertically stacked sequence of alternating coarser-grained (sand and gravel) and finer-grained (silt and clay) units that generally act as aquifers and aquitards, respectively. These units are the primary features that control groundwater storage and movement at the site. The primary hydrogeologic units are identified, from shallow to deep, by a series of letters from A to F. These include the designation of a discontinuous A zone (most shallow) and aquifers B through F with intervening aquitards described by the letter designations of the bounding aquifers (i.e., the C/D aquitard lies between the C and D aquifers).

Groundwater flow across the site has both horizontal and vertical flow components. Saturated groundwater in the A zone is not considered to be laterally extensive, and A zone groundwater either discharges to surface water where not controlled by passive flow barriers, or recharges the underlying B aquifer. Groundwater flow in the B aquifer is downward to the deeper C and D aquifers where the B/C aquitard is thin or absent, or horizontal to the surface water of the Salem Canal and Delaware River. Since 2009, a series of sheet-pile barriers (SPB) have been constructed to control the horizontal discharge from the A zone and B aquifer to the adjoining surface water. To date, the southern and southwestern extents of the B aquifer along the Salem Canal and the southwestern to western boundaries of the B aquifer along the Delaware River have been controlled by 4,618 feet of SPBs installed vertically from ground surface down to the B/C aquitard. Currently, a 2,233-foot-long length of SPB remains to be installed adjacent to the Delaware River along the northern most section of the manufacturing area. This construction is scheduled to be completed in the summer of 2017. When completed there will be no flow of groundwater from the A zone or B aquifer to surface water.

As stated above, some groundwater flow in the B aquifer is downward to the C and D aquifers. Groundwater flow in the C and D aquifers is hydraulically connected and would flow horizontally off-site if not controlled by the site interceptor well system (IWS). The D/E aquitard is a relatively thick, continuous, low permeable unit of regional significance that isolates the underlying E aquifer from the groundwater flow of the overlying aquifers. E aquifer groundwater is pumped and contained. There is a downward gradient from the D to the E aquifer, so leakage through the D/E aquitard can occur; however, the leakage is expected to be minimal due to the low vertical hydraulic conductivity and significant thickness of the D/E aquitard.

The IWS pumps a minimum average of 1.0 mgd from four primary and three backup recovery wells in the C and D aquifers and has been in operation since the 1970s. The IWS creates a capture zone that contains all on-site C and D aquifer groundwater. This

groundwater capture system, and the SPB, prevents the migration of groundwater off-site.

3.0 PFAS Background Information and Sources

This section presents PFAS background information; PFAS sources at Chambers Works; a summary of PFAS reduction programs at the site; and PFAS sources off-site unrelated to Chambers Works.

3.1 Poly- and Perfluoroalkyl Substances Background

PFAS is a class of emerging contaminants with over 3000 compounds that have been released into the environment from industrial processes, as well as from the use of PFAS-containing products. PFAS have been used globally since the mid-1960s. PFAS compounds contain carbon chains of various lengths and carbon-fluorine bonds. Table 1 provides a list of PFAS compounds analyzed for at the site in the investigations described in Section 4.0 although not all of these PFAS were analyzed for in each investigation. Table 1 also provides information pertaining to compound abbreviation and associated carbon length.

Carbon binds strongly with fluorine, which contributes to PFAS strength, durability, heat-resistance, and stability. These properties make PFAS useful for a wide range of industrial applications, as well as the manufacture of consumer goods including cleaners, textiles, leather, paper and paints, fire-fighting foams, and wire insulation. PFAS are also soluble in water and can enter environmental media through industrial releases to air and water, discharges from wastewater treatment plants, stormwater runoff, release of firefighting foams, and land application of contaminated biosolids.

PFAS have also been identified as a byproduct associated with the breakdown of fluorotelomer alcohol in the atmosphere and soil. Fluorotelomer alcohols, which are manufactured and used at the site, can be released into the environment through air and wastewater emissions. Once released, fluorotelomer alcohol may react or be oxidized in the atmosphere and/or in soil with chlorine atoms, oxygen molecules or photochemically generated hydroxyl radicals (Houtz et al., 2012), creating PFAS compounds as an oxidation byproduct.

The high solubility, low volatility, and resistance of PFAS to both chemical and biological degradation (Pancras et al., 2016) has led to the presence and persistence of PFAS in the environment. Depending on the length of the carbon chain, PFAS may sorb to naturally occurring solid organic carbon particles present in soil or sediment. Longer carbon chain PFAS tend to have a higher sorption potential, whereas shorter carbon chain PFAS have a lesser sorption potential (Pancras et al., 2016). Because PFAS are generally considered to be recalcitrant to biodegradation via naturally occurring microorganisms in water, soil, or sediment and can have a low potential for sorbing to naturally occurring carbon, PFAS have the potential to migrate within the environment.

3.2 PFAS Source Areas at Chambers Works

PFAS were used [e.g., perfluorooctanoic acid (PFOA)], manufactured (e.g., fluorotelomer alcohols), or unintentionally created in the production of fluoroelastomers and fluorotelomers at Chambers Works. In addition, PFAS-containing liquid waste from off-site sources was treated at the site WWTP. Associated residual waste sludge was disposed of in on-site landfills; treated effluent was discharged through the permitted WWTP outfall to the Delaware River.

One of the initial PFAS investigations at Chambers Works site involved the assessment of the PFAS PFOA at the site [DuPont Corporate Remediation Group (CRG), 2005]; PFOA was used at the site as a manufacturing polymerization aid. This PFOA assessment included a review of site records along with interviews of key employees.

During the historical records review, PFOA was determined to potentially be associated with the following process areas at the Chambers Works Complex (see Figure 2):

- Fluoroelastomer Manufacturing Area
- Fluorotelomer Manufacturing Area
- Jackson Laboratory Area
- Chambers Works WWTP
- Chambers Works Performance Chemical Areas

Historical PFAS information pertaining to these process areas are provided below. Table 1 lists PFAS compounds analyzed for in Chambers Works PFAS investigations. Table 2 presents a Chambers Works PFAS process summary, and Table 3 lists PFAS-related products and uses.

3.2.1 Fluoroelastomers Manufacturing Area

PFOA was used as a polymerization aid in the manufacturing of perfluoroelastomers and specialty fluoroelastomers, which began at Chambers Works in the late 1950s in Building 1163. PFOA was also used as a processing aid in the manufacturing of standard fluoroelastomers at Chambers Works in Building 745.

By the end of 2013, as part of the PFAS reduction program discussed in Section 3.3, the use of PFOA was discontinued in all perfluoroelastomer manufacturing processes.

3.2.2 Fluorotelomer Manufacturing Area

Fluorotelomer use and manufacture at Chambers Works began in 1962 in Buildings 1050 and 1205. The initial process development, scale-up, market development, and initial manufacturing, were conducted in these buildings. In 1967, the fluorotelomer production was moved to Buildings 234 and 1156, known as the ZI Area. Intermediates from the ZI Area are distributed to other locations, including Building 185, Building 788, Building 888, Building 115 (EO Center), and Buildings 1050 and 1205 for the manufacture of final products.

Fluorotelomers are not made with PFAS, nor is PFAS added during fluorotelomer manufacture. PFAS is present in trace quantities as an unintended by-product in portions of the fluorotelomer manufacturing process. The presence of PFAS in fluorotelomer intermediates, while low, is highly variable from not quantifiable¹ (NQ) to parts per million (ppm) (AECOM, 2015). The site's transition to the use of short-chain fluorotelomer chemistry, which cannot breakdown to PFOA, was completed in December 2014.

¹ Not Quantifiable = detected at a concentration between the limit of detection and the limit of quantification.

3.2.3 Jackson Laboratory Area

Jackson Laboratory provided analytical services, and research and development to the Chambers Works Complex. While there are no records of bulk use of PFAS in this area, PFAS presence may have been limited to quantities in samples analyzed at the area or through research and development (see Table 2). The Jackson Laboratory was shut down and its operations were moved to the Pederson Building beginning in late 2008.

3.2.4 Chambers Works WWTP Area

Prior to 1975, site buildings located at the interior of the site sent wastewater to the nearest ditch for conveyance to the site wastewater settling basin; water within the settling basin discharged to the Delaware River. For buildings adjacent to the Delaware River, wastewater entered the nearest ditch and flowed directly to the river through the nearest outfall location (DuPont CRG, 2006b).

In 1975, a WWTP was constructed at the Chambers Works site. The WWTP was constructed to treat wastewater associated with on-site process buildings. Prior to the 1990s, wastewater was transferred to the WWTP via a series of wood-lined culverts and ditches, which could have released PFAS during conveyance. In the early 1990s, as part of the site's efforts to decrease potential impacts to the environment, a series of enclosed overhead conveyance pipes were constructed to replace the wood-lined culverts and ditches. The installation of the overhead transfer system removed the potential for an on-going wastewater release to the environment.

Liquids transferred to the Chambers Works WWTP for treatment include on-site process wastewater streams, landfill leachate, and groundwater from the IWS. Until March 2012, the WWTP also accepted commercial wastewater streams and wastewater streams from other Chemours facilities for treatment. A small portion of these commercial streams contained ppm levels of PFAS according to the information evaluated for the PFOA Preliminary Assessment Report (PAR) (DuPont CRG, 2005). The PFAS associated with the WWTP could have been released during or after treatment via air, liquid, or as sludge. All commercial streams have been eliminated as part of PFAS reduction efforts, and PFAS from commercial wastewaters are no longer a contributor to PFAS in effluent from the WWTP.

Treated effluent from the WWTP that may contain PFAS is discharged through permitted outfalls DSN001 and DNS002 (after 2011). Hazardous sludge from the WWTP, which may contain PFAS, is placed in the on-site secure landfill (Secure C Landfill). The secure landfill cells are double-lined with a leachate collection system and leak detection system. Only Area 1 of this landfill is single-lined and in the past has leaked, but it was closed in 1979 and has a groundwater recovery system operating to contain and properly dispose of any leakage. Therefore, WWTP sludge potentially containing PFAS is properly contained and not a concern.

3.2.5 Chambers Works Performance Chemicals Areas

From 1999 to 2002, a PFOA recovery/purification process operated in Performance Chemicals West Building 1205, and material from this process was stored in Building 1050. The process purified approximately 50 batches and 60,000 pounds of PFOA during that time. All wastewater from this process was sent to the WWTP via the regional tank and overhead process sewer system.

Since 2014, a process to recycle iodide from material that contains PFAS has been operating at the site's Performance Chemicals East Building 115. This process was piloted in 2014 after successful trials showed no negative impact to the Chambers Works emission reductions program. The process was scaled up in March 2015 and continues to operate. Material from Chemours Washington Works is transported to Chambers Works to reclaim iodine (in the form of an iodide salt solution) from materials that contain longer chain PFAS. The reclaimed iodide solution is then sent to a third-party processor for further refinement before being sent back to Washington Works for reuse. After iodine removal at Building 115, the material remaining is sent to an off-site facility for incineration.

3.3 Chambers Works PFAS Load Reduction Programs Implemented

The Chambers Works complex has been reducing the release of PFAS and compounds that can convert to PFAS in the environment through process improvements and source elimination. In 2003, a comprehensive study was performed on the environmental emissions of PFOA from Chambers Works. The study assessed surface-water transport to the Delaware River, conducted air dispersion modeling of potential sources, and assessed concentrations in groundwater and surface waters adjacent to the site. The 2003 report (DuPont, 2003) showed that surface water and calculated fence-line air concentrations were below C8 Assessment of Toxicity Team (CATT; West Virginia Department of Environmental Protection) established 2002 screening levels for PFOA. In January 2005, Chambers Works implemented a sampling program to measure the effectiveness of the PFOA reduction efforts and to identify program areas that needed additional focus.

In January 2006, DuPont participated in the U.S. Environmental Protection Agency (EPA) 2010/15 PFOA Stewardship Program. Chambers Works was an important part of the DuPont commitment to reduce emissions of PFOA globally. By year end 2007, Chambers Works had reduced PFOA emissions from the site by 95%, three years ahead of the Stewardship Program's 2010 goal.

Chambers Works has continued to implement reduction programs through 2014, including installation of pre-treatment facilities, which resulted in an overall 99% reduction in PFOA emissions since 2000 based on production estimates (Andrew Hartten, personal communication, June 22, 2017). Some of the activities performed by the site to reduce the release of PFAS to the environment include the following:

- Early 1990s: Transitioned from an open process waste ditch to an overhead sewer system.
- Early 2000s: Enclosed handling/loading facilities to limit PFAS release to the environment.
- 2001: Discontinued use of PFOA in standard fluoroelastomers.
- 2003: Eliminated many PFOA-containing waste streams to the WWTP.
- 2004: Installed carbon treatment system to treat washwater and process cleanouts.
- 2012: Exited the commercial waste treatment business.
- 2013: Discontinued use of PFOA in all perfluoroelastomer manufacturing.

- 2014: Completed transition to short-chain fluorotelomer chemistry, which cannot breakdown to PFOA in the environment.

3.4 PFAS Sources Off-Site of Chambers Works

The off-site use and disposal of PFAS-containing products unrelated to Chambers Works could become off-site sources of PFAS to off-site environmental media. Some examples of PFAS associated products and materials that may be used or disposed of off-site by either residential property owners or by outside businesses include the following (Guo, 2009):

- Pre-treated carpeting
- Carpet care liquid treated carpeting
- Treated apparel
- Treated upholstery
- Treated home textiles
- Treated non-woven medical garments
- Industrial floor wax and wax removers
- Stone, tile, and wood sealants
- Membranes for apparel
- Food contact paper
- Dental floss/tape
- Thread sealant tape
- Polytetrafluoroethylene (PTFE) cookware

The off-site use or disposal of PFAS associated products/materials, or the washing of PFAS associated products/materials and subsequent disposal of graywater (either via discharge to ground surface or via septic system), could create a PFAS source that could migrate to off-site environmental media. A study of domestic drinking water wells (Schaidler, 2016; Silentspring.org article) found that residential septic systems were the main source of contaminants to groundwater; contaminants detected in this study included perfluorooctane sulfonate (PFOS) and PFOA. Although specific information on local off-site sources and migration pathways are not known in detail for the area surrounding the Chambers Works site, it is important to acknowledge that these likely do exist and may be contributing to the concentrations of PFAS measured in off-site environmental media.

However, the following potential sources and associated release mechanisms are known to exist within or near the area encompassed by the investigative area discussed within this report:

- Airports, which can contain fire training areas that use PFAS-containing foams
- Fire station training centers that can use or historically used PFAS-containing foams
- Landfills and sewage treatment plants that may aerate and expose PFOA-waste materials, which can be released to the air

- Light industry, which may use PFAS-containing products, thereby possibly generating PFAS-containing wastewater discharge and air emissions

4.0 PFAS Environmental Data Set

The first environmental assessment of PFAS at the Chambers Works site was performed in March 2003 (DuPont, 2003). This investigation evaluated the potential presence of PFOA in air, surface water, and groundwater around Chambers Works and provided a snapshot characterization of PFOA presence at Chambers Works in 2003. Since 2003, PFAS has been investigated in various media located both on-site and off-site and are discussed in this section. This section summarizes PFAS data that were collected as part of these investigations, including their objectives and findings.

4.1 Screening Criteria

This CSM focuses on PFAS as the constituents of potential concern and their presence detected in environmental media. Various PFAS (Table 1) were analyzed for in the investigations of PFAS in on- and off-site environmental media. To evaluate the concentrations detected in air, soil, groundwater, surface water and sediment, the laboratory analytical data for each media should be compared to applicable established criteria. There are established PFAS screening criteria for groundwater. However, there are no established NJDEP or EPA Region 2 screening criteria for PFAS in air, surface water, sediments, or industrial soil.

A New Jersey Groundwater Class IIA (NJGWIIA) groundwater quality criterion of 0.01 microgram per liter ($\mu\text{g/L}$) has been established for PFNA, and PFNA is the only PFAS for which a NJGWIIA has been established. PFOA and PFOS do not have an established New Jersey Ground Water Quality Standard (N.J.A.C 7:9C). However, in the absence of an available groundwater standard, individual PFOA and PFOS concentrations in on-site groundwater were compared to EPA's 2016 Lifetime Health Advisory (HA) for PFOA and PFOS. When both PFOA and PFOS are detected in a location, the individual PFOA and PFOS concentrations and the sum of PFOA and PFOS concentrations were compared to the HA of 0.07 $\mu\text{g/L}$. EPA has not established health advisories for any other PFAS listed in Table 1.

In addition, as part of the assessment of PFOA results associated with off-site residential drinking water, the residential drinking water results were also compared to the NJDEP preliminary health-based guidance for PFOA in drinking water value of 0.04 $\mu\text{g/L}$. This additional comparison of results was completed based on an agreement between Chemours and NJDEP.

4.2 On-Site PFAS Data

This section presents the results of on-site investigations into the distribution of PFAS in various media. On-site media investigated included the following:

- Soil
- Groundwater
- Permitted outfalls
- Stormwater outfalls
- Air emissions

Results are presented in tabular form (see Tables 4 through 7) as well as on posting maps and figures (see Figures 3 through 8).

4.2.1 On-Site Soil

PFOA has been detected on-site in shallow soil near process buildings due to the use and handling of PFAS at the nearby buildings. As reported in the October 2006 Site Investigation Report for PFOA (DuPont CRG, 2006a) and in the June 2007 Site Investigation Report Addendum for PFOA (DuPont CRG, 2007a), 25 soil samples were collected from the zone beneath the gravel or macadam surface and above the shallow aquifer. The objective of this focused site investigation was to determine if PFOA was present in soil in areas where PFOA was associated with former or current activities. Of the 25 samples analyzed, there were 24 detections of PFOA (see Figure 3). Soil concentrations ranged from not detected² [ND; <0.00048 milligrams per kilogram (mg/kg)] to 2.8 mg/kg (see Table 4).

Although the origin of these detections was not discussed in the 2006 and 2007 reports, the presence of PFOA in soil adjacent to these buildings is likely due to the use and handling of PFAS in and near these buildings.

4.2.2 On-Site Groundwater

Prior to 2007, two investigations included PFOA analysis of groundwater samples (DuPont CRG, 2006a and 2007a). A PFOA monitoring program has been incorporated into the New Jersey Pollutant Discharge Elimination System Permitting Discharge to Groundwater (NJPDES-DGW) monitoring program in 2007. Since then, PFOA and 12 additional PFAS have been analyzed in semi-annual groundwater samples from monitoring wells constructed in the A zone and the B, C, D, and E aquifers. Currently, there are 36 wells sampled: five in the Carneys Point Works area and 31 in the manufacturing area. The wells were selected to provide characterization of groundwater quality in the A zone and B through E aquifers along the site perimeter and in the area of former PFOA-related manufacturing operations. Results from the latest NJPDES-DGW sampling (AECOM, 2017a) were used to evaluate the groundwater quality of the B through E aquifers with respect to PFAS (see Figures 4a through 4d). A summary table of on-site groundwater results is presented in Appendix A. Table 5 contains a statistical summary of on-site PFAS results by aquifer.

In 2013, a review of on-site groundwater data gaps related to PFAS sampling was included as part of the *Comprehensive Resource Conservation and Recovery Act (RCRA) Facility Investigation (RFI) Report* (URS, 2014). Based on the data gap recommendations, a one-time sampling of 15 monitoring wells in the C and D aquifers for PFOA and PFOS was completed in February 2014. A summary of results associated with that one-time PFAS sampling event are shown in Figure 5.

Groundwater detections for PFOA, PFOS, and PFNA were compared to the screening criteria outlined in Section 4.1. The highest exceedance for on-site groundwater was for PFOA at G09-M01A with a concentration of 1,600 µg/L (see Figure 4a). G09-M01A was constructed in shallow groundwater adjacent to a sump at Building 1156, where PFOA was historically used.

² Not Detected = Not detected above the limit of detection as indicated in the associated tables and figures, as appropriate.

Evaluation of the data described above indicated the following:

- PFAS compounds are detected most frequently and at the highest concentrations in the shallow A zone and B aquifer and closer to known areas of PFAS use.
- The number of detections and the magnitude of detections tend to decrease with depth and distance from process areas.
- Detections are lowest along the perimeter wells and in deeper aquifers.

These trends are consistent with the source of PFAS at process buildings and former process waste culverts and wood-lined ditches from which process waters might originate and then migrate downward.

Although PFAS has been detected in on-site groundwater at concentrations that consistently exceed screening criteria for PFOA and PFNA, groundwater underlying the manufacturing area is contained by the operation of the IWS and the perimeter SPB (see Section 2.4). Potential and confirmed groundwater migration pathways are discussed further in Section 5.

4.2.3 Permitted Outfalls

Chambers Works has two permitted outfalls, DSN001 and DSN002, which convey treated WWTP wastewater mixed with non-contact cooling water and stormwater to a diffuser pipe located in the Delaware River, as shown in Figure 6. Since 2005, effluent monitoring samples from the WWTP are collected from location DSN662 on a weekly basis and analyzed for PFOA as part of the site NJPDES permit (see Tables 6a and 6b and Figure 7). From 2005 to present, the results of the NJPDES sampling, which includes the PFOA results, are reported by the site to EPA and NJDEP on a monthly basis. In addition, from 2005 through 2014, the permitted outfall PFOA results were submitted to EPA/NJDEP as part of the annual report *Status Report on PFOA Surface Water Emissions, Reductions, and Data Summary*; the references associated with the 2007 and the 2014 reports are noted in the reference section (DuPont CRG 2008a; AECOM 2015).

In addition to the weekly effluent permit samples, during a 15-month period from 2015 to 2017, outfall samples were collected on a monthly basis from DSN662 and analyzed for PFNA per agency request. PFNA results are posted in Table 6c. The results of the 15 monthly PFNA samples, along with associated PFOA results, were reported to EPA and NJDEP as part of the site's permit reporting process.

As part of the 2003 PFOA investigation (DuPont, 2003), outfall DSN001 was sampled for PFOA. At that time, the average PFOA detection was approximately 133 µg/L, and the outfall flow was recorded to be approximately 11 mgd. Using these values, a mass loading rate of 12 pounds per day (lbs/day) is calculated. Similar calculations using data collected from 2006 to 2014 indicate that PFOA loadings have decreased from 7 lbs/day in 2006 to less than 1 lbs/day in 2014 (see Table 6a). Results of regular outfall sampling have been tabulated and are provided in Table 6b and as a chart in Figure 7. Since 2000, a greater than 95% reduction of PFOA in the effluent discharge has been attained based on production estimates (Andrew Hartten, personal communication, June 22, 2017). These reductions are attributed to the PFAS load reduction programs implemented at the site, including the elimination of PFAS-containing waste streams managed at the WWTP, the installation of carbon treatment, and the manufacturing change to shorter chain PFAS.

4.2.4 Stormwater Outfalls

At Chambers Works, most rainfall is captured and transferred to the B Basin. From there, it is mixed with treated wastewater and discharged to the Delaware River. Rainfall not captured by the site sewer system can flow to adjoining surface water by means of grates and outfalls. A one-time sampling event was performed in April 2007 to determine the concentrations of PFAS at stormwater outfalls during a rainfall event. The results were reported via the *Status Report on PFOA Surface Water Emissions, Reductions, and Data Summary* (DuPont CRG, 2008a) and are shown in Figure 8 and in Table 7.

Several PFAS were detected during this one-time sampling event. The highest PFAS detected were perfluorohexanoic acid (PFHxA) and PFOA at Salem Canal outfall 07 (1.7 and 1.1 µg/L, respectively). Perfluoropentanoic acid (PFPeA) was the next highest (0.76 µg/L) at outfall SW003. Other PFAS detected were generally half that of the three highest PFAS compounds. These detections are believed to be due to the transport of PFAS in air emissions, or from general use and handling of PFAS at the site. These sources of PFAS may have migrated from paved areas and other catchment areas near the manufacturing areas to stormwater grates and outfalls during rainfall events.

4.2.5 Air Emissions

PFAS-containing air emissions, which are released through stacks and vents, have been generated as part of handling, processing, and disposal activities at Chambers Works. Air emissions containing PFAS were measured and reported in the 2003 report *DuPont Telomer Manufacturing Environmental Assessment of PFOA*. Based on that report, the loading of PFOA is estimated³ to have been about 0.79 lbs/day at Building 1163 and 0.001 lbs/day at Building 1156 (see Figure 9 for stack locations). Subsequent air emissions measurements were made for PFOA and other PFAS at Buildings 1156 and 1163 (see Table 8). In 2007, loading from Building 1156 was estimated to be 0.00017 lbs/day (DuPont CRG, 2008a). In 2008, PFOA loading from Building 1163 was estimated to be 0.024 lbs/day (DuPont CRG, 2008a). These data show that PFOA loadings vary depending on location at the site. However, the air emissions loading appear to have decreased over time due to the PFAS load reduction programs described in Section 3.4.

4.3 Off-Site PFAS Data

This section presents the results of previous off-site investigations of PFAS in various media. Off-site media investigated included the following:

- Delaware River surface water and sediment
- Salem Canal surface water and sediment
- Groundwater
- Residential drinking water

Results are presented in tabular form (see Tables 8 through 12) as well as on posting maps and figures (see Figures 9 through 18).

³ Estimated for this report based on Average Annual Emission Rate (DuPont CRG, 2003, Table 5) per hour and 8,760 hours per year.

4.3.1 Delaware River Surface Water and Sediment

Surface Water

Thirty surface water samples for PFOA were collected from the Delaware River as part of the 2003 Environmental Assessment (DuPont, 2003). The purpose of this sampling was to characterize the background, near field, and far field concentrations of PFOA in relation to outfall DSN001 in the Delaware River. These samples were collected offshore of Chambers Works, as well as several miles upstream and downstream of the Chambers Works site (see Figure 10).

The 12 samples collected upstream of the site were all ND for PFAS. Six samples were collected adjacent to the site: three samples collected on the western side of the river were NQ⁴ while the three samples closest to the site ranged from 0.154 µg/L to 0.566 µg/L. The 12 samples collected downstream of the site ranged from NQ to 0.301 µg/L. The data show that upstream concentrations were ND, concentrations on the eastern side of the river were higher than the western side of the river, and concentrations measured near the site decreased downstream of the site.

Sediment

Two sampling events investigated the presence of PFAS in sediment within the Delaware River. Sediment samples for PFOA were collected at 19 stations along the western perimeter of Chambers Works in the Delaware River in 2013 (URS, 2013a). In addition, in 2016, 12 sediment samples from six locations were also collected for analysis of 16 PFAS compounds (AECOM, 2017b). The locations of these samples, along with associated summary data posting tables, are shown in Figure 11, and the results are presented in Table 9.

In the 2013 sampling, PFOA was not detected in any shallow (0 to 0.5 feet) sediment sample except for DER1-13, DER1-15, and DER1-16, which are within the vicinity of the permitted outfall DSN001. Detections were highest south of the outfall at DER1-13 [60 micrograms per kilogram (µg/kg)] and lower north of the outfall at DER1-15 and DER1-16 (5.2 and 21 µg/kg, respectively). No detections of PFOA were recorded further upstream or downstream of the permitted outfall.

In the 2016 investigation, PFOA had the greatest number of detections (eight out of 12 samples). However, PFHxA had the highest detection (40 µg/kg) and the highest average detection (9.87 µg/kg). Detections of PFHxA, PFOA, and perfluorodecanoic acid (PFDA) were generally three times higher than the other PFAS samples.

The Delaware River surface water and sediment samples indicated the presence of PFAS adjacent to the site manufacturing area. The 2013 PFAS detections in sediment adjacent to and down river from outfall DSN001 indicate that the outfall is a likely source. The 2016 Delaware River sediment samples also indicate the presence of PFAS in sediment and that the samples from the deeper interval (0.5 to 1 foot) had the higher number of PFAS detections and higher concentrations as compared to the shallower 0 to 0.5-foot interval.

⁴ Not Quantifiable = detected at a concentration between the limit of detection and the limit of quantification as indicated in the associated tables and figures, as appropriate.

4.3.2 Salem Canal Surface Water and Sediment

Surface Water

In February 2007, surface water samples for PFOA and 14 other PFAS were collected from nine locations to investigate PFAS in the Salem Canal, Salem Creek, and Clemente Pond (see Figure 12). The purpose of this investigation was to characterize the Salem Creek Watershed upstream of the site with respect to PFAS (DuPont CRG, 2007b). PFOA was detected in each upstream sample location (see Table 10). PFOA concentrations ranged from 0.017 µg/L to 1.100 µg/L, and generally decreased with distance upstream.

In 2016, 12 surface water samples for PFAS were collected from Salem Canal as part of the 2016 Salem Canal Investigation. The purpose of the canal-wide characterization was to evaluate whether Salem Canal sediments had been impacted by releases from past Chambers Works operations in general, and from the historical and/or current outfalls along the Chambers Works Complex in particular (AECOM and EHS Support, 2017). The locations of these surface water samples, collected at the surface water to sediment interface, are also shown in Figure 12.

Results from the 2016 sampling event indicate the presence of several PFAS. Five PFAS [PFBA, perfluoroheptanoic acid (PFHpA), PFHxA, PFPeA, and PFOA] were detected in each surface water sampling station. However, concentrations detected were typically low (0.05 µg/L; see Table 10) and showed little variation in concentration from the background detections upstream of the site to the confluence below the dam and into the Delaware River. As a result, it appears that Chambers Works is not contributing to changing PFAS characteristics as surface water moves across the southern portion of the Chambers Works site.

Sediment

Sediment samples from Salem Canal were also collected during the aforementioned 2016 Salem Canal Investigation. This investigation included the collection of 49 sediment samples from 16 stations in Salem Canal. Ten stations were located adjacent to existing and historical outfalls. Four stations were distributed in the center of the channel and near the south shore. The remaining two stations were collected upstream of the Chambers Works site in a reference area. Sediment sample locations are detailed in Figure 13.

Previous studies of Salem Canal have determined that the sedimentation rate associated with this canal is approximately 1 centimeter (0.39 inches) per year (AECOM and EHS Support, 2017). One foot of sediment equates to approximately 30 years of sedimentation. Therefore, to evaluate vertical changes in PFAS characteristics, vertically oriented samples were collected during the 2016 investigation to a depth of up to 3 feet in half foot intervals at six of the stations. Analytical results for sediment samples are summarized in Table 11 and detailed in figures provided in Appendix B.

As detailed in Table 11 and shown in the Appendix B figures, PFAS are detected within the sediments of the Salem Canal. PFAS was detected in samples collected both upstream and adjacent to the site. The upstream detections of PFAS within canal sediment indicate the potential impact to upstream sediment by an off-site PFAS source.

Most PFAS sediment detections along Salem Canal were low and slightly above laboratory practical quantitation limits (PQLs). The highest detections of PFAS were observed at sediment sampling stations SCD-189 and SCD-236, which are adjacent to

current or historical outfalls. The distribution of PFAS compounds is generally similar within each sediment sample at these stations, e.g. SCD-189 (see Figure 14). However, at SCD-189, the summed total concentration of PFAS decreases from a high of approximately 112 µg/kg at a depth of 1.5 to 2 feet to a low of approximately 16 µg/kg in the 0 to 0.5-foot interval. This decrease in concentration with decreasing depth of the sample within the top few feet of sediment is likely associated with the PFAS reduction programs that were enacted at the site.

4.3.3 Groundwater

Several off-site investigations were conducted between 2007 and 2014 to better understand the distribution of PFOA and other PFAS in the groundwater surrounding the site.

Initially, nine permanent monitoring wells (five on-site⁵ and four off-site) were installed in October 2007 in the shallow A zone and were sampled in November 2007 for PFOA and other PFAS as described in the *Perfluorooctanoic Acid (PFOA) Quality Assurance Project Plan with Sampling and Analysis Plan* (DuPont CRG, 2007c).

Following NJDEP's review of the November 2007 sampling results, NJDEP requested the installation of an additional eight monitoring wells in the surrounding community in a letter dated August 21, 2008. The objective of the investigation was to confirm the findings of the 2007 sampling effort and to better understand the distribution of PFAS in off-site groundwater and groundwater flow directions in the shallow aquifer. As a result, in January 2009, four off-site monitoring wells were installed in the A zone (BB31-M01A, EE16-M01A, R04-M01A, and U08-M01A), and four off-site monitoring wells were installed in the B aquifer (BB31-M01B, EE16-M01B, OSW-1, and R04-M01B). Groundwater was then sampled for PFAS in February 2009 from the eight newly installed off-site locations and nine locations previously sampled in November 2007.

Based on the findings of the 2009 investigation, NJDEP requested the installation of three additional wells in a letter dated September 23, 2009. As a result, in October 2010, three off-site monitoring wells were installed in the A zone (OSW-2, OSW-3, and OSW-4). Groundwater was then sampled for PFAS in November 2010 from the three newly installed off-site locations and 17 locations previously sampled in February 2009.

In a letter dated April 23, 2014, EPA Region 2 then requested an additional round groundwater sampling to evaluate temporal trends at all of the 20 monitoring well locations previously sampled as part of the prior off-site monitoring events. As a result, groundwater was sampled in July 2014 for PFOA plus 12 additional PFAS compounds.

To obtain updated off-site well data, nine of the 20 wells sampled in 2010 and 2014 were resampled in 2016: OSW-1, OSW-2, OSW-3, OSW-4, EE16-M01A, EE16-M01B, I120-M01A, R04-M01A, and R04-M04B. The groundwater samples collected were analyzed for PFOA plus 12 additional PFAS compounds.

The analytical data collected during these five sampling events (2007, 2009, 2010, 2014, and 2016) indicated that PFAS are present in the groundwater in the areas investigated

⁵ These five eastern and southern site boundary locations (Y31-M01A, X18-M01A, U08-M01A, O02-M01A, and G04-M01A) were installed on-site inside the site security fence. For consistency with prior reporting, data from these boundary locations are discussed along with the monitoring wells installed off-site outside of the security fence.

at varying concentrations and that, due to containment by the site IWS, groundwater flow is generally towards the site from the off-site locations. As detailed in Table 12:

- Groundwater PFOA concentrations ranged from NQ to 3.6 µg/L in the 20 wells sampled. The highest detection for PFOA was consistently reported at well X18-M01A, which is an eastern boundary location within the site security fence. PFOA concentrations in the off-site locations ranged from NQ to 1.5 µg/L.
- PFOS concentrations ranged between NQ and 0.046 µg/L.
- With the exception of off-site location CC23-M01A, concentrations of PFOA or the sum of PFOA and PFOS were detected above the EPA HA of 0.07 µg/L in each location sampled.
- PFNA concentrations ranged between 0.0014 µg/L and 0.36 µg/L. PFNA detections above the NJGWIIA criteria of 0.01 µg/L were observed in off-site locations northeast and southeast of the site.
- The concentrations of the other PFAS ranged from ND (< 0.0008 µg/L) to 2.9 µg/L.
- A review of the off-site well data did not identify any definitive concentration trends.

In addition to the off-site well data presented in Table 12, Figure 15 identifies the location of the 20 off-site monitoring wells and posts the latest data set (2014 or 2016) associated with each well.

4.3.4 Residential Drinking Water Wells

2009 Sampling

In 2009, Chemours (formerly DuPont) agreed to institute a voluntary program to evaluate private drinking water wells within a two-mile radius of the Chambers Works site. The purpose of this program was to evaluate the distribution of PFOA in off-site residential wells. As part of this study, residential well owners were given the opportunity to have their drinking water well tested. If agreed to, a drinking water sample was collected from an untreated faucet and submitted for PFOA analysis. The program included sampling of 113 private drinking water wells.

Of the 113 drinking water wells sampled, only one private well contained a PFOA concentration greater than EPA's 2009 Provisional Health Advisory Level (0.4 µg/L). A granular activated carbon (GAC) treatment system was installed, and quarterly operation, maintenance and monitoring (OM&M) are conducted to ensure the effectiveness of the GAC system.

2016 Sampling

Based on an agreement with EPA and NJDEP, re-sampling of off-site residential wells was initiated by Chemours in 2016 to determine the extent of impact to residential wells surrounding the Chambers Works Complex and to verify the findings of the previous sampling program. This new round of sampling evaluated residential drinking water wells for PFAS, with emphasis on PFOA, PFNA, and PFOS. The program was initiated using a phased approach. As results became available and additional sampling locations were identified, a figure was created to visually determine the extent of detections (see Figure 16). Figure 16 also provides the results of the 2009 sampling. Because this

program is ongoing, this summary only discusses information available through April 26, 2017.

Sample results were compared to the screening values as described in Section 4.1. Forty-eight drinking water wells were qualified for treatment. Each drinking water well owner was offered treatment by Chemours to remediate drinking water and eliminate potential drinking water exposure. Forty-seven residents with drinking water wells that qualified for treatment have accepted the treatment offer and either had a GAC filter installed or have been connected to public water. Each GAC system has been included in the ongoing quarterly OM&M. One resident with a drinking water well that qualified for treatment has declined treatment. Results of the residential sampling program through April 26, 2017 for all PFAS are provided in Appendix A and shown in Figure 16 for PFOA, PFOS, and PFNA.

An evaluation of the most recent data collected as part of the off-site B groundwater investigation (see Section 4.3.3 above) and that collected as part of the 2016 residential sampling program shows that PFOA was one of the most frequently detected PFAS and also had some of the highest detections. When the concentration of PFOA is graphed in relation to the distance of the sample point from the center of the Chambers Works site (see Figure 17), a general decreasing trend is observed moving away from the site. However, a similar trend is not as obvious when the PFOA data are plotted with respect to their location in relation to the Chambers Works site and the prevailing wind direction (see Figure 18). Although the trend data are suggestive of downwind transport from a source area, the spatial distribution of concentrations does not appear to be solely controlled by distance from the site and frequent prevailing wind directions. For example, wells may have widely differing PFAS concentrations despite close proximity to one another and a location that is downwind of the site. It is possible that other factors, including other PFAS sources, differences in well-construction/well-depth, or impermeable pavement account for the observed variability within the residential drinking water data set.

The variation in PFOA occurrence and magnitude of concentration in off-site residential wells as shown in Figure 18 does indicate the potential that the Chambers Works site is not the sole source for all observed off-site PFAS detections in groundwater. This conclusion is supported by the plot of PFOS well data in relation to its spatial distribution around Chambers Works (see Figure 19). PFOS is not a PFAS used at the Chambers Works site nor is it a breakdown product of other PFAS used at the site. Figure 19 shows that PFOS groundwater detections on and adjacent to Chambers Works are either low or below detection limit. However, a large PFOS detection was obtained in an off-site residential well located approximately 2 miles northeast of the site manufacturing area. The residential PFOS detection could be due to the use of household products on the property such as cleaning products and/or pesticides, or the PFOS detection could be due to a nearby source unrelated to the Chambers Works site. Based on the low PFOS detections between this residential property and the site, it is highly unlikely that the PFOS residential well detection is associated with Chambers Works.

4.4 Summary of PFAS in On-Site and Off-Site Environmental Data

Sampling of various media for laboratory analysis for PFAS has been conducted at and around the Chambers Works site as early as 2000. Over the past 15-plus years, PFAS laboratory analytical samples have been collected from multiple media including the following:

- Soil
- Groundwater (on and off-site)
- Surface water
- Sediment
- Outfalls
- Air emissions

A summary of the pertinent PFAS samples collected for each media, and the associated number of PFAS analyzed for each sample, can be found in Appendix C. Overall, the environmental data collected to date provide an adequate characterization and understanding of these media that is necessary to develop a conceptual site model. A summary of the PFAS analytical results and associated findings presented in this section is as follows:

- PFAS have been detected in soil and groundwater at the Chambers Works Complex. PFAS compounds are detected most frequently and at the highest concentrations in shallow groundwater samples closest to known process areas that used PFAS and decrease with increasing depth and distance from known process buildings.
- Past investigations have documented PFAS in surface water and sediment in the Salem Canal and Delaware River. Upstream detections of PFAS in Salem Canal could be associated with the deposition of air emissions from the site, or could indicate the potential for impact to the canal by an off-site PFAS source. However, the proximity of the higher PFAS sediment detections to the permitted outfalls and stormwater outfalls coincides with discharge from plant effluent and stormwater runoff.
- Elevated PFAS concentrations in deeper sediment and lower concentrations in shallower sediment can likely be attributed to reductions in sources.
- Off-site groundwater investigations in 2007, 2009, 2010, 2014, and 2016 as well as an on-going residential drinking water well sampling program indicate the presence of PFAS in off-site groundwater and drinking water.
- Remediation of drinking water is ongoing and includes the installation and OM&M of GAC treatment systems or connection to a public water supply, where possible, for off-site drinking water wells that exceed the applicable criteria.
- Spatial variability in off-site groundwater and drinking water concentrations suggest that factors other than distance from the site may influence PFOA and other PFAS concentrations. The distribution of PFOS concentrations supports the conclusion that the Chambers Works site is not the sole source for all observed off-site PFAS detections.

5.0 PFAS Migration Pathways

PFAS data collected in and around the Chambers Works Complex over approximately 15 years provide an adequate characterization and understanding of these compounds in the various media that is needed in order to develop a conceptual site model. On-site sources of PFAS at Chambers Works and off-site sources unrelated to Chambers Works were identified in Section 3.0. PFAS detections in various media were assessed to determine PFAS distribution on- and off-site as presented in Section 4.0. This section describes PFAS migration pathways from on-site sources to on- and off-site environmental media. A discussion of potential off-site sources and associated migration pathways is also provided.

5.1 On-Site and Off-site Migration Pathways for On-Site Sources

The conceptual model shown in Figure 20 depicts the known and potential on-site PFAS sources and the migration pathways from those sources to on- and off-site environmental media. These sources and migration pathways are identified in Table 13 using letters A through G and are depicted in Figure 20. Sources in Table 13 include both sources where PFAS material can originate as well as media that can act as a secondary source. These sources and migration pathways are as follows:

- (A) Treated wastewater effluent discharging from the WWTP to off-site surface water and sediment in the Delaware River.
- (B) Process building stack and vent air emissions that transport PFAS and fluorotelomer alcohol from sources inside process buildings to the atmosphere and then downwind. PFAS and precursor compounds can then be deposited onto on- and off-site surfaces (e.g., gravel, concrete, or asphalt), soil and/or surface water. Soils can then be a secondary source of PFAS where precursor compounds such as fluorotelomer alcohol breaks down to PFAS, which may then infiltrate and leach to underlying shallow groundwater.
- (C) During precipitation events, runoff from surfaces or runoff or erosion of PFAS-containing soil (because of air deposition or direct releases to soil) can migrate to on- and off-site site surface water and sediment such as Henby and Bouttown Creeks, or the Salem Canal or Delaware River via stormwater outfalls.
- (D) Direct releases to soil as the result of spills during storage, handling, or manufacturing; or during the transport of PFAS-containing waste materials in wood-lined culverts or ditches. Soils are then a secondary source of PFAS, which may then infiltrate and leach to underlying shallow groundwater.
- (E) Direct releases to soil or air from PFAS-containing WWTP sludge placed in the on-site landfill. Soils are then a secondary source of PFAS, which may then infiltrate and leach to underlying shallow groundwater.
- (F) PFAS-containing shallow A zone and/or B aquifer groundwater discharging to surface water and sediment (such as the Salem Canal or Delaware River).
- (G) PFAS from off-site surface water or sediments from migration pathway (A) (secondary source) infiltrating back into on-site groundwater.

5.1.1 Effluent Discharge (A)

The discharge of PFAS in treated process wastewater effluent from the WWTP to surface water and sediment in the Delaware River is a confirmed migration pathway. Process wastewater is collected in regional sumps and conveyed to the WWTP for treatment. Final effluent is mixed with non-contact cooling water and storm water before it is discharged to the Delaware River through permitted outfalls. Programs have been in place since 2004 to reduce emissions of PFAS. To monitor this migration pathway, effluent from the WWTP has been and continues to be sampled to characterize loading of PFAS, in particular PFOA, to the Delaware River. As discussed in Section 4.2.3, PFOA loading as a result of effluent discharge has decreased in response to site programs to reduce PFAS in emissions.

5.1.2 Air Emissions (B)

Process building stack and vent air emissions discharging PFAS to the atmosphere, which is then transported via dispersion and deposition to on- and off-site surfaces, soil and surface water, are a confirmed migration pathway. Releases due to the handling and processing of fluorotelomer and fluoroelastomer related products and intermediates create the potential for the movement of PFAS out of process stacks and vents. From there, these constituents can move downwind and be deposited on surfaces. As part of this migration pathway, soils, where precursor compounds can breakdown to PFAS, may then act as a secondary source from which PFAS may infiltrate and leach to underlying shallow groundwater during precipitation or migrate to surface water bodies via stormwater run-off. As discussed in Section 4.2.5, PFOA loading because of air emissions has decreased in response to site programs to reduce PFAS in emissions.

PFAS-containing air emission can also migrate to off-site soils and then to off-site groundwater, which is a drinking water source. Off-site drinking water wells have been sampled and 48 drinking water wells were qualified for treatment (see Section 4.3.4). Each drinking water well owner was offered treatment by Chemours to remediate drinking water and address potential drinking water exposure. Forty-seven residents with drinking water wells that qualified for treatment have accepted the treatment offer and had a GAC filter installed or have been connected to public water. Each GAC system has also been included in the ongoing quarterly OM&M program.

5.1.3 Stormwater Runoff (C)

During precipitation events, runoff from surfaces or runoff or erosion of PFAS-containing soil (because of air deposition or direct releases) via stormwater outfall discharge to off-site surface water and sediment (Salem Canal or Delaware River) is a confirmed migration pathway. Stormwater runoff is either 1) captured by the site stormwater system and transferred to the B Basin for storage prior to being discharged to the Delaware River; or 2) flows directly off-site via outfalls to the Salem Canal or Delaware River. PFAS has been detected in stormwater flowing from outfalls during a rainfall event (DuPont CRG, 2008a). In addition, PFAS has been detected in surface water and sediment of the Salem Canal. An assessment of surface water results determined that surface water PFAS concentrations were generally comparable throughout the Salem Canal, including upgradient of the site, and that upstream detections of PFAS in Salem Canal indicate the potential for impact to the canal by other off-site PFAS sources.

In sediment, elevated PFAS concentrations at depth and lower concentrations in the shallow sediment sampling depths (i.e., within the top few feet) were associated with two

sediment sampling stations (SCD-189 and SCD-236) located next to two stormwater outfalls (see Section 4.3.2). The pattern of lower concentrations in the shallow depth with increasing concentrations with depth may likely be attributed to the PFAS reduction programs that were enacted at the site. Thus, lower concentrations would be expected in the surficial sediment.

5.1.4 Direct Releases to Soil (D and E)

Direct releases to soil include spills and discharge from source processes (D) and the landfilling of PFAS-containing wastes from the WWTP (E). There were no documented spills of PFAS. Prior to 1970, process liquids were conveyed to the WWTP for treatment by means of a series of interconnected culverts and wood-lined ditches. Seepage from these features could have resulted in the movement of PFAS into soil and groundwater on site. This migration pathway was complete prior to the installation of the site's elevated liquid waste system in 1991 and the improvements in PFAS handling in the 1990s and onward. Although this soil to groundwater PFAS migration pathway is still a possibility, groundwater flow is largely controlled at the site by means of the IWS and the installed SPB. Therefore, there is no migration pathway from a release to soil to off-site well locations (see Section 2.4).

5.1.5 Groundwater Discharge (F and G)

The discharge of PFAS-containing shallow A zone and B aquifer groundwater to off-site surface water and sediment (F) is controlled by the installed SPB (see Section 2.4). Based on groundwater flow balance calculations presented in the 2014 RFI report and measurements of PFOA from on-site wells along the western perimeter, the discharge of on-site groundwater to off-site surface water was estimated to be less than 2 grams per day. Once installation of the final section of SPB is completed in 2017, shallow aquifer flow underlying the manufacturing area will be fully controlled at the site and the groundwater-to-surface water discharge pathway will be incomplete.

Chambers Works maintains control of C and D aquifer groundwater by means of pumping of the IWS. Therefore, groundwater is not a viable migration pathway for the movement of PFAS to off-site well locations.

5.2 Off-Site Migration Pathways for Off-Site Sources

As previously discussed in Section 3.4, the use and disposal of PFAS-containing products at off-site locations could be potential sources that result in releases of PFAS to the environment that are unrelated to Chambers Works. The conceptual model shown in Figure 21 depicts five potential off-site PFAS sources migration pathways. These sources and migration pathways are described on Table 14 and include the following:

- (1) Industrial, agricultural, landfilling, and anthropomorphic processes that use PFAS containing materials can result in the release of vapors, aerosols, and particulates. These air emissions may then be transported via dispersion and deposited to off-site as well as on-site surfaces, soil and surface water. Subsequent rainfall can dissolve or entrain these constituents, which can then migrate into soil or surface water and eventually migrate into groundwater.
- (2) Discharge of PFAS impacted groundwater to surface water. This discharge can result in the movement of dissolved constituents from upgradient sources to downgradient surface water.

- (3) Surface water may infiltrate into and recharge underlying aquifers, particularly in areas where groundwater pumping has drawn the groundwater surface elevation to below that of the surface water elevation. If the surface water contains PFAS, this can introduce PFAS into groundwater.
- (4) PFAS containing groundwater may be drawn into wells during pumping.
- (5) PFAS may enter household graywater due to the use of PFAS containing products that can then enter the waste stream. PFAS-containing graywater may then migrate from septic tank leachate fields to surrounding soils and underlying shallow groundwater (Schaidler 2016; Silentsprings.org article).

6.0 Summary

This CSM represents the current understanding of PFAS sources, migration pathways, and the on-site and off-site environmental media, which have been impacted by on-site sources. The purpose of this CSM was to provide a written and illustrative representation of the potential fate and transport of PFAS from on-site sources to on-site and off-site media. The areal scope of the CSM includes the Chambers Works Complex, the adjoining Delaware River, and surrounding off-site areas. Processes that used PFAS at Chambers Works were identified based on current and historical information. Results of ongoing and past PFAS investigations adequately characterize PFAS concentrations in environmental media on-site and off-site as well as in air emissions from site processes and water discharge from the permitted outfalls. A summary of the CSM components discussed within this report is provided in the following sections.

6.1 PFAS Sources

PFAS and precursors to PFAS (i.e., fluorotelomer alcohols) have been used in the production of fluoroelastomers, fluorotelomers, and have also been unintentionally created within manufacturing processes and waste streams at Chambers Works. In addition, PFAS were also contained in off-site waste brought to Chambers Works for treatment and disposal by the site. These processes and activities have been identified as potential sources of PFAS at Chambers Works.

6.2 Migration Pathways from PFAS Sources

Based on the use and manufacturing history, the following known or potential migration pathways from PFAS sources have been identified:

- PFAS transported by air emissions from sources, through stacks and vents, and then downwind during manufacturing or handling activities and deposited on surfaces, soils and surface water.
- Releases of fluorotelomer alcohols, which can deposit onto downwind soils and react in the environment and produce PFAS.
- Spills of PFAS-containing materials during storage, handling, and/or manufacturing processes (although none were documented).
- Releases of PFAS-containing wastes to soil during conveyance to the WWTP through culverts and wood-lined ditches, which can then leach and migrate to groundwater. However, groundwater flow is controlled at the site, and there is no migration pathway to off-site groundwater.
- PFAS-containing effluent discharges from the WWTP to surface water due to the treatment of PFAS-containing wastes.
- PFAS-containing sludge from the WWTP disposed of in the on-site landfill, which can then leach and migrate to groundwater. However, groundwater flow is controlled at the site, and there is no migration pathway to off-site groundwater.
- During precipitation events, runoff from surfaces or runoff or erosion of PFAS-containing soil (because of air deposition or direct releases) to off-site surface water and sediment (Salem Canal or Delaware River) via stormwater outfalls.

Since 2000, PFOA/PFAS emissions (air and effluent) at the site have declined 99%. These reductions decrease the availability of PFAS in on-site sources to migrate to environmental media.

The off-site use and disposal of PFAS-containing products unrelated to Chambers Works could also act as potential off-site PFAS sources. While specific off-site sources have not been identified, these sources may contribute to the PFAS detected in off-site environmental media, as well as on-site media (i.e., Salem Canal surface water).

6.3 PFAS Distributions in On-Site and Off-Site Environmental Media

Previous sampling programs have measured PFAS in stack and vent air emissions, WWTP effluent discharge at permitted outfalls, and in stormwater outfalls. PFAS have also been characterized in soil and groundwater at the Chambers Works Complex. PFAS compounds were detected most frequently and at the highest concentrations in shallow groundwater samples closest to known process areas that used PFAS and decreased with increasing depth and distance from known process buildings.

Past investigations have documented PFAS in off-site surface water and sediment in the Salem Canal and Delaware River. The proximity of the detections to the permitted outfalls and stormwater outfalls is consistent with WWTP effluent discharge and stormwater runoff. Elevated PFAS concentrations in deeper sediment and lower concentrations in shallower sediment likely reflect the success of the efforts to reduce the use of PFAS at the site that would be expected to result in lower PFAS concentrations in surficial (more recent) sediment samples.

Off-site groundwater investigations in 2007, 2009, 2010, 2014, and 2016, as well as an on-going residential drinking water well program, indicate the presence of PFAS in off-site groundwater and drinking water. Forty-eight drinking water wells were qualified for treatment and each drinking water well owner was offered treatment by Chemours to remediate drinking water and address potential drinking water exposure. Forty-seven of these residents have accepted the treatment offer and had a GAC filter installed or have been connected to public water. Each GAC system has also been included in the ongoing quarterly OM&M program.

Some of the residential well detections are believed to be due to air transport of PFAS to downwind locations because there is no migration pathway through groundwater to off-site groundwater locations. The concentration of PFOA in off-site samples tends to decrease with increasing distance from the site. However, the spatial variability on off-site groundwater concentrations, as well as the detections of PFAS unrelated to the site (PFOS), suggests that factors other than distance from the site, including potential off-site PFAS sources, may influence PFOA and other PFAS concentrations in groundwater.

Off-site groundwater investigations in 2007, 2009, 2010, 2014, and 2016, as well as an ongoing residential drinking water well program, indicate the presence of PFAS in off-site groundwater, at times exceeding NJDEP and/or EPA criteria for PFOA, perfluorooctane sulfonate (PFOS), or perfluorononanoic acid (PFNA). While air emissions from the site contribute to these detections, off-site sources of PFAS unrelated to the site may also add to these detections as the variability in PFAS constituents detected and the variable nature of the observed concentrations does not support a single point of origin in all cases. However, Chemours is actively working with NJDEP and EPA to continue to investigate, and remediate and address potential

drinking water exposure by offering to treat off-site drinking water for PFAS if criteria are exceeded.

7.0 References

- AECOM. 2017a. *Second Semester 2016 Semi-Annual NJPDES-DGW Report*. Chemours Chambers Works. Deepwater. New Jersey. April.
- AECOM. 2017b. 2016 Delaware River NAPL Delineation Report. Chemours Chambers Works Complex. Deepwater. New Jersey. April 2017
- AECOM. 2015. Status Report on PFOA Emissions Reductions and Data Summary for 2014. Chambers Works. Deepwater. New Jersey.
- AECOM and EHS Support. 2017. *Appendix B7: Perfluoroalkyl Substances – Sediment and Surface Water Sampling and Analysis Summary*. Chemours Chambers Works. Deepwater. New Jersey. February
- ASTM E1689-95. 2008, Standard Guide for Developing Conceptual Site Models for Contaminated Sites, ASTM International, West Conshohocken, PA, 2008
- DuPont. 2003. DuPont Telomer Manufacturing Sites: Environmental Assessment of PFOA Levels in Air and Water, September 2003, DuPont CRG Project No. 508501-18983843. 2003.
- DuPont CRG. 2008a. Status Report on PFOA Emissions Reductions and Data Summary for 2007. DuPont Chambers Works. Deepwater. New Jersey. June 2008
- DuPont CRG. 2008b. Perfluorooctanoic Acid Groundwater Investigation Report. DuPont Chambers Works. Deepwater. New Jersey. May 2008
- DuPont CRG. 2007a. *Site Investigation Report Addendum for Perfluorooctanoic Acid*. DuPont Chambers Works. Deepwater New Jersey. May.
- DuPont CRG. 2007b. *Perfluorooctanoic Acid Groundwater Investigation Work Plan*. DuPont Chambers Works. Deepwater New Jersey. May.
- DuPont CRG. 2007c. *Perfluorooctanoic Acid (PFOA) Quality Assurance Project Plan with Sampling and Analysis Plan*. DuPont Chambers Works. Deepwater, New Jersey. March
- DuPont CRG. 2006a. *Site Investigation Report for Perfluorooctanoic Acid (PFOA)*, DuPont Chambers Works. Deepwater New Jersey. October.
- DuPont CRG. 2006b. *Preliminary Assessment Report*. Chambers Works Complex. December.

- DuPont CRG. 2005. *Preliminary Assessment Report for Perfluorooctanoic Acid*, DuPont Chambers Works. Deepwater New Jersey. August.
- Guo, Liu, Krebs, Roache. 2009. Perfluorocarboxylic Acid Content in 116 Articles of Commerce. National Risk Management Research Laboratory, Office of Research and Development. U.S. Environmental Protection Agency. EPA/600/R-09/033. March 2009
- Houtz, Erika F. and David L. Selak. *Oxidative Conversion as a Means of Detecting Precursors to Perfluoroalkyl Acids in Urban Runoff*. Environmental Science & Technology.
- NJDEP. 2011. Technical Guidance for Preparation and Submission of a Conceptual Site Model. New Jersey Department of Environmental Protection. Site Remediation Program. December 16. 2011
- Pancras et al., 2016, *Environmental fate and effect of poly- and perfluoroalkyl substances (PFAS), Prepared for the Concawe Soil and Groundwater Taskforce (STF/33)*. Report No. 8/16, June.
- Schaider et al., 2016. Septic systems as sources of organic wastewater compounds in domestic drinking water wells in a shallow sand and gravel aquifer. *Science of the Total Environment* 547 (2016) 470-481
- SilentSpring.org article. Tests find new contaminants in Cape Cod's drinking water supply; septic systems are likely the main source of the pollution.
<http://www.silentspring.org/research-update/tests-find-new-contaminants-cape-cod%E2%80%99s-drinking-water-supply-septic-systems-are>
- URS. October 2014. *Comprehensive RCRA Facility Investigation Report*. DuPont Chambers Works Complex, Deepwater, New Jersey
- West Virginia Department of Environmental Protection. 2002a. C8 Assessment of Toxicity Team (CATT) Aquatic Life Advisory concentration for C8, October 2002.
- West Virginia Department of Environmental Protection. 2002b. Final Ammonium Perfluorooctanoate (C8) Assessment of Toxicity (CATT) Report, August 2002.

Tables

Table 1
Perfluorinated Compounds
Conceptual Site Model for PFAS
Chemours Chambers Works
Deepwater, New Jersey

Analyte Name	Abbreviation	CAS No.	Carbon Atoms
Perfluorobutane sulfonate	PFBuS	375-73-5	4
Perfluorobutanoic acid	PFBA	375-22-4	4
Perfluoropentanoic Acid	PFPEA	2706-90-3	5
Perfluorohexane sulfonate	PFHxS	432-50-7	6
Perfluorohexanoic acid	PFHxA	307-24-4	6
Perfluoroheptane sulfonate	PFHpS	375-92-8	7
Perfluoroheptanoic acid	PFHpA	375-85-9	7
Perfluorooctanesulfonamide	PFOSA	754-91-6	8
Perfluorooctane sulfonate	PFOS	1763-23-1	8
Perfluorooctanoic acid	PFOA	335-67-1	8
Perfluorononanoic acid	PFNA	375-95-1	9
Perfluorodecane sulfonate	PFDS	335-77-3	10
Perfluorodecanoic acid	PFDA	335-76-2	10
Perfluoroundecanoic acid	PFUA	2058-94-8	11
Perfluorododecanoic acid	PFDoA	307-55-1	12
Perfluorotridecanoic acid	PFTTrA	72629-94-8	13
Perfluorotetradecanoic acid	PFTeA	376-06-7	14

Table 2
PFAS Process Summary for Chambers Works
Conceptual Site Model for PFAS
Chemours Chambers Works
Deepwater, New Jersey

Building	Area	Process	Use
1163	FMDL	Elastomer	PFOA used as a processing aid
745	Viton	Elastomer	PFOA used as a processing aid
1156	PC East	Fluorotelomer	PFOA was an unintended byproduct
115	PC East	Fluorotelomer	Iodine recycling
185	PC East	Fluorotelomer	Intermediates
788	PC East	Fluorotelomer	Intermediates
888	PC East	Fluorotelomer	Intermediates
J-94	Jackson Lab	Laboratory	Samples were analyzed
1050	PC West	Fluorotelomer Purification/ Recycling	PFOA was an unintended byproduct - PFOA recycling process
1205	PC West	Fluorotelomer Purification/ Recycling	PFOA was an unintended byproduct - PFOA recycling process

Table 3
PFAS Related Products Manufactured at Chambers Works
Conceptual Site Model for PFAS
Chemours Chambers Works
Deepwater, New Jersey

Products	Common Name	Uses	Comments
FluoroTelomer	Zepel/Zonyl [®] , Capstone [®]	Stain resistant products, oleophobic coatings for bags and boxes	Mixture of per and poly fluorinated compounds. Previously C-8 chemistry was used, C-6 chemistry has replaced C-8. Also includes other lengths of carbon chains in the mixture
FluoroElastomer	Viton [®] , Kalrez [®]	Gaskets, o-rings, seals	PFAS used as processing aid, PFOA was also an unintended byproduct
Intermediates	Olefins, iodides, alcohols	Processing aid for other products	Occur as impurities, byproducts, or dispersants that can be lost to waste stream

Table 4
Shallow PFOA Soil Sample Results - 2006
Conceptual Site Model for PFAS
Chemours Chambers Works
Deepwater, New Jersey

		Sample ID	BLDG 1050-1	BLDG 115-1	BLDG 115-2	BLDG 115-3	BLDG 115-3	BLDG 1156-1	BLDG 1156-2	BLDG 1156-3	BLDG 1156-4	BLDG 1163-1
		Date	06/01/2006	05/31/2006	05/31/2006	06/01/2006	06/01/2006	06/06/2006	06/07/2006	06/06/2006	06/07/2006	06/05/2006
		Depth	1'-2'	2'-3'	1.5'-2'	1.5'-2'	1.5'-2'	0.5'-1'	1'-2'	2'-2.5'	1'-2'	4.5'-5'
Analyte	Units	Sample Type	FS	FS	FS	FS	DUP	FS	FS	FS	FS	FS
PFOA	ug/kg		NQ	21 J	18 J	29	28	91	71	42	990	48

		Sample ID	BLDG 1163-2	BLDG 1163-3	BLDG 1163-3	BLDG 1205-1	BLDG 1205-2	BLDG 185-1	BLDG 745-1	BLDG 745-2	BLDG 745-3	BLDG 745-4
		Date	06/05/2006	06/05/2006	06/05/2006	06/02/2006	06/01/2006	05/30/2006	06/06/2006	06/06/2006	06/06/2006	06/06/2006
		Depth	4'-5'	3'-3.5'	3'-3.5'	1'-1.5'	1.5'-2.5'	1'-2'	1'-1.5'	0.5'-1'	1'-2'	2'-2.5'
Analyte	Units	Sample Type	FS	DUP	FS	FS	FS	FS	FS	FS	FS	FS
PFOA	ug/kg		9	NQ	NQ	250	55	50 J	5.6	23	<0.48	190

		Sample ID	BLDG 81-1	BLDG 888-1	BLDG 94-1	BLDG788-1	BLDG788-1	BLDG788-2	BLDG788-3	BLDG788-4
		Date	06/02/2006	06/05/2006	06/02/2006	04/17/2007	04/17/2007	04/17/2007	04/17/2007	04/17/2007
		Depth	0.5'-1.5'	1'-1.5'	0.5'-1'	1'-1.5'	1'-1.5'	1.5'-2'	1'-1.5'	1'-1.5'
Analyte	Units	Sample Type	FS	FS	FS	DUP	FS	FS	FS	FS
PFOA	ug/kg		NQ	18	3.6	16	23	490 J	2800	12

Notes:

J - Estimated Value

< = Not detected at stated reporting limit

ND=not detected (shown as <limit of detection)

NQ = not quantifiable (shown as <limit of quantification)

Sample Type: FS = Field Sample; DUP = Duplicate Sample

Depth = Sample depth below ground surface

Units = ug/kg (parts per billion)

Table 5
Groundwater Sample Summary Statistics Table: On-Site PFAS Compounds
On-Site PFAS Compounds
Conceptual Site Model for PFAS
Chemours Chambers Works
Deepwater, New Jersey

Parameter Name	Abbreviated Name	Units	No. of Samples	Minimum Lab Detection Limit	Maximum Lab Detection Limit	No. of Detects	% Detects	Minimum Detected Result	Maximum Reported Result	Mean Detection	Screening Criteria
B Aquifer											
Perfluorooctanoic Acid	PFOA	UG/L	332	0.00099	9	331	100	0.16	320	11.89	0.07
Perfluorooctanesulfonic Acid	PFOS	UG/L	314	0.0019	10	86	27	0.0024	2	0.13	0.07
Perfluorononanoic Acid	PFNA	UG/L	293	0.00098	0.77	287	98	0.035	16	0.82	0.01
Perfluorohexanoic Acid	PFHxA	UG/L	293	0.001	20	293	100	0.12	380	28.01	
Perfluoropentanoic Acid	PFPEA	UG/L	293	0.001	6.8	293	100	0.053	150	8.01	
Perfluorobutanoic Acid	PFBA	UG/L	293	0.00095	3.3	293	100	0.0072	110	6.78	
Perfluoroheptanoic Acid	PFHpA	UG/L	293	0.001	0.77	293	100	0.097	110	5.49	
Ammonium Pentadecafluorooctanoate	APFO	UG/L	15	0.013	5	15	100	0.19	46	8.39	
Perfluorodecanoic Acid	PFDA	UG/L	293	0.001	0.77	266	91	0.0065	10	0.54	
Perfluorobutane Sulfonic Acid	PFBS	UG/L	293	0.0019	1.5	124	42	0.0031	2.2	0.18	
Perfluorohexane Sulfonic Acid	PFHxS	UG/L	293	0.0019	1.5	21	7	0.0025	1.5	0.11	
Perfluorooctane Sulfonamide	PFOSA	UG/L	293	0.00093	1.3	25	9	0.0016	1.3	0.06	
Perfluoroundecanoic Acid	PFUNA	UG/L	293	0.00095	0.77	128	44	0.0021	0.77	0.09	
Perfluorododecanoic Acid	PFDOA	UG/L	293	0.00095	0.77	67	23	0.0017	0.77	0.07	
C Aquifer											
Perfluorooctanoic Acid	PFOA	UG/L	221	0.0009	0.16	221	100	0.065	4.6	0.86	0.07
Perfluorooctanesulfonic Acid	PFOS	UG/L	209	0.0018	0.042	135	65	0.0022	0.1	0.01	0.07
Perfluorononanoic Acid	PFNA	UG/L	196	0.0009	1.6	196	100	0.0018	3	0.27	0.01
Perfluorohexanoic Acid	PFHxA	UG/L	196	0.0009	0.055	196	100	0.11	4.9	0.84	
Ammonium Pentadecafluorooctanoate	APFO	UG/L	9	0.013	0.13	9	100	0.113	2.6	0.82	
Perfluoropentanoic Acid	PFPEA	UG/L	196	0.0009	0.24	196	100	0.075	4.7	0.59	
Perfluorobutanoic Acid	PFBA	UG/L	196	0.0009	1.2	195	99	0.027	8.9	0.52	
Perfluoroheptanoic Acid	PFHpA	UG/L	196	0.0009	0.033	196	100	0.054	4.7	0.52	
Perfluorodecanoic Acid	PFDA	UG/L	196	0.0009	0.018	179	91	0.0011	1.9	0.08	
Perfluoroundecanoic Acid	PFUNA	UG/L	196	0.0009	0.024	56	29	0.0015	0.24	0.02	
Perfluorobutane Sulfonic Acid	PFBS	UG/L	196	0.0018	0.041	62	32	0.002	0.17	0.01	
Perfluorohexane Sulfonic Acid	PFHxS	UG/L	196	0.0018	0.042	108	55	0.0025	0.045	0.01	
Perfluorododecanoic Acid	PFDOA	UG/L	196	0.0009	0.018	32	16	0.0011	0.078	0.01	
Perfluorooctane Sulfonamide	PFOSA	UG/L	196	0.0009	0.021	2	1	0.0011	0.021	0.00	
D Aquifer											
Perfluorooctanoic Acid	PFOA	UG/L	172	0.00092	0.45	156	91	0.0011	4	1.14	0.07
Perfluorooctanesulfonic Acid	PFOS	UG/L	165	0.0018	0.1	40	24	0.0026	0.08	0.01	0.07
Perfluorononanoic Acid	PFNA	UG/L	150	0.00092	0.061	119	79	0.0012	2.19	0.28	0.01
Ammonium Pentadecafluorooctanoate	APFO	UG/L	7	0.013	0.13	7	100	0.032	3.3	1.60	
Perfluorohexanoic Acid	PFHxA	UG/L	150	0.00092	0.079	131	87	0.002	7	1.00	
Perfluoropentanoic Acid	PFPEA	UG/L	150	0.00092	0.092	131	87	0.0014	6.4	0.78	
Perfluoroheptanoic Acid	PFHpA	UG/L	150	0.00092	0.079	130	87	0.0019	5.7	0.65	
Perfluorobutanoic Acid	PFBA	UG/L	150	0.00092	0.39	130	87	0.0033	2.3	0.38	
Perfluorodecanoic Acid	PFDA	UG/L	150	0.00092	0.04	112	75	0.0014	0.52	0.04	
Perfluorobutane Sulfonic Acid	PFBS	UG/L	150	0.0018	0.08	38	25	0.002	0.56	0.03	
Perfluorohexane Sulfonic Acid	PFHxS	UG/L	150	0.0018	0.095	20	13	0.002	0.0947	0.01	
Perfluoroundecanoic Acid	PFUNA	UG/L	150	0.00092	0.04	49	33	0.0012	0.04	0.01	
Perfluorododecanoic Acid	PFDOA	UG/L	150	0.00092	0.061	13	9	0.0013	0.061	0.01	
Perfluorooctane Sulfonamide	PFOSA	UG/L	150	0.00091	0.048	3	2	0.0012	0.048	0.00	
E Aquifer											
Perfluorooctanoic Acid	PFOA	UG/L	95	0.00088	0.013	78	82	0.0011	0.471	0.04	0.07
Perfluorooctanesulfonic Acid	PFOS	UG/L	92	0.0018	0.01	2	2	0.0024	0.0061	0.00	0.07
Perfluorononanoic Acid	PFNA	UG/L	86	0.00088	0.013	29	34	0.001	0.061	0.00	0.01
Ammonium Pentadecafluorooctanoate	APFO	UG/L	4	0.013	0.013	4	100	0.028	0.15	0.09	
Perfluorohexanoic Acid	PFHxA	UG/L	86	0.00088	0.0084	69	80	0.0015	0.22	0.05	
Perfluorobutanoic Acid	PFBA	UG/L	86	0.00088	0.1	62	72	0.001	1.1	0.04	
Perfluoropentanoic Acid	PFPEA	UG/L	86	0.00088	0.0077	63	73	0.0016	0.57	0.04	
Perfluoroheptanoic Acid	PFHpA	UG/L	86	0.00088	0.0031	65	76	0.001	0.095	0.02	
Perfluorodecanoic Acid	PFDA	UG/L	86	0.00088	0.003	17	20	0.0012	0.095	0.01	
Perfluorobutane Sulfonic Acid	PFBS	UG/L	86	0.0018	0.008	5	6	0.0031	0.008	0.00	
Perfluorohexane Sulfonic Acid	PFHxS	UG/L	86	0.0018	0.0061	0	0		0.0061	0.00	
Perfluorododecanoic Acid	PFDOA	UG/L	86	0.00088	0.003	13	15	0.001	0.019	0.00	
Perfluoroundecanoic Acid	PFUNA	UG/L	86	0.00088	0.003	9	10	0.0012	0.014	0.00	
Perfluorooctane Sulfonamide	PFOSA	UG/L	86	0.00087	0.003	1	1	0.0026	0.003	0.00	

Notes:
 Units: UG/L = (Parts per billion)

Table 6a
Outfall 662 Pounds per Day 2006 - 2017
Conceptual Site Model for PFAS
Chemours Chambers Works
Deepwater, New Jersey

Date	Average PFOA lb/day
Jan-06	6.5100
Feb-06	3.3140
Mar-06	4.3850
Apr-06	7.3025
May-06	5.0386
Jun-06	4.6108
Jul-06	4.3692
Aug-06	5.9577
Sep-06	7.2500
Oct-06	5.2569
Nov-06	6.0608
Dec-06	4.4362
Jan-07	6.4821
Feb-07	5.3867
Mar-07	6.2577
Apr-07	4.4723
May-07	2.7423
Jun-07	4.1977
Jul-07	2.3515
Aug-07	3.0057
Sep-07	4.4833
Oct-07	3.7064
Nov-07	1.8983
Dec-07	2.3327
Jan-08	3.0069
Feb-08	4.6196
Mar-08	4.1933
Apr-08	1.7155
May-08	1.6984
Jun-08	2.8746
Jul-08	2.4889
Aug-08	1.9920
Sep-08	1.7036
Oct-08	1.1922
Nov-08	0.8592
Dec-08	0.6894
Jan-09	0.2979
Feb-09	0.3594
Mar-09	0.3623
Apr-09	0.4521
May-09	0.6868
Jun-09	1.0998
Jul-09	0.7982
Aug-09	0.8929
Sep-09	0.9680
Oct-09	1.2548
Nov-09	1.6913
Dec-09	2.3944

Date	Average PFOA lb/day
Jan-10	1.8187
Feb-10	0.9091
Mar-10	1.3250
Apr-10	0.8481
May-10	0.7534
Jun-10	1.1664
Jul-10	2.1237
Aug-10	0.9769
Sep-10	0.8659
Oct-10	1.1032
Nov-10	0.5480
Dec-10	1.6700
Jan-11	2.1706
Feb-11	0.8597
Mar-11	0.8351
Apr-11	0.6848
May-11	0.4539
Jun-11	0.4782
Jul-11	0.3459
Aug-11	0.4269
Sep-11	0.5056
Oct-11	0.3391
Nov-11	0.3690
Dec-11	0.3322
Jan-12	0.2010
Feb-12	0.1874
Mar-12	0.2018
Apr-12	0.1709
May-12	0.1505
Jun-12	0.1944
Jul-12	0.1852
Aug-12	0.1672
Sep-12	0.1917
Oct-12	0.0714
Nov-12	0.0815
Dec-12	0.1800
Jan-13	0.0733
Feb-13	0.2213
Mar-13	0.1906
Apr-13	0.1876
May-13	0.1448
Jun-13	0.1667
Jul-13	0.2477
Aug-13	0.3524
Sep-13	0.2561
Oct-13	0.1770
Nov-13	0.1294
Dec-13	0.2082

Date	Average PFOA lb/day
Jan-14	0.1915
Feb-14	0.2326
Mar-14	0.2205
Apr-14	0.2059
May-14	0.2635
Jun-14	0.1462
Jul-14	0.8219
Aug-14	0.7978
Sep-14	0.5895
Oct-14	0.2264
Nov-14	0.1154
Dec-14	0.2628
Jan-15	0.2672
Feb-15	0.2031
Mar-15	0.3943
Apr-15	0.2494
May-15	0.1290
Jun-15	0.2088
Jul-15	0.1814
Aug-15	0.1884
Sep-15	0.1589
Oct-15	0.1603
Nov-15	0.1359
Dec-15	0.1368
Jan-16	0.1603
Feb-16	0.2355
Mar-16	0.1919
Apr-16	0.1790
May-16	0.1694
Jun-16	0.2196
Jul-16	0.1686
Aug-16	0.2148
Sep-16	0.1394
Oct-16	0.1939
Nov-16	0.1264
Dec-16	0.1212
Jan-17	0.1602
Feb-17	0.1243

Table 6b
Outfall 662 PFOA Sample Results
Conceptual Site Model for PFAS
Chemours Chambers Works
Deepwater, New Jersey

Lab Analyte	Units	Total (T)/ Diss. (D)	Location Date Samp. Type	662 1/24/05	662 1/25/05	662 1/26/05	662 1/27/05	662 1/28/05	662 2/21/05	662 2/22/05	662 2/23/05	662 2/24/05	662 2/25/05	662 3/29/05	662 3/30/05	662 3/31/05	662 4/1/05	662 4/25/05	662 4/26/05	662 4/27/05	662 4/28/05	662 4/29/05	662 5/24/05	662 5/25/05	662 5/26/05	662 5/27/05	
PFOA	µg/L	T	FS	48.9	50.3	44.9	33.9	41.3	37.2	49.8	33.4	44.8	43.7	64.3	46.7	45.4	48.6	42.9	79.1	95	72.8	79.4	72.8	56.7	39.6	42.7	46.3

Notes:
 FS = Field Sample
 (I) = Internal standard recovery was outside of the 50-200% acceptable range.
 (F) = Sample had a failed matrix spike. Re-preparation and analysis were performed and sample and spike gave similar results, indicating a matrix effect.
 PFOA = Perfluorooctanoic Acid
 Units: ug/L = Parts per billion

Table 6b
Outfall 662 PFOA Sample Results
Conceptual Site Model for PFAS
Chemours Chambers Works
Deepwater, New Jersey

Lab Analyte	Units	Total (T)/ Diss. (D)	Location Date Samp. Type	662 7/9/07	662 7/11/07	662 7/13/07	662 7/16/07	662 7/16/07	662 7/18/07	662 7/20/07	662 7/23/07	662 7/23/07	662 7/25/07	662 7/25/07	662 7/27/07	662 7/30/07	662 7/30/07	662 8/1/07	662 8/3/07	662 8/6/07	662 8/6/07	662 8/8/07	662 8/10/07	662 8/13/07	662 8/13/07	662 8/15/07	662 8/17/07	662 8/20/07
PFOA	µg/L	T	FS	14	16	21	19	19	23	26	29	24	29	40	34	30	33	33	30	26	27	38	28	24	23	33	44	
Lab Analyte	Units	Total (T)/ Diss. (D)	Location Date Samp. Type	662 8/20/07	662 8/22/07	662 8/24/07	662 8/27/07	662 8/27/07	662 8/29/07	662 8/31/07	662 9/4/07	662 9/5/07	662 9/7/07	662 9/10/07	662 9/10/07	662 9/12/07	662 9/14/07	662 9/17/07	662 9/17/07	662 9/19/07	662 9/19/07	662 9/24/07	662 9/24/07	662 9/24/07	662 9/24/07	662 9/26/07	662 9/28/07	662 10/1/07
PFOA	µg/L	T	FS	41	36	29	36	33	38	48	28	22	25	31	32	30	30	42	47	40	35	45	57	47	51	100	120	
Lab Analyte	Units	Total (T)/ Diss. (D)	Location Date Samp. Type	662 10/1/07	662 10/3/07	662 10/5/07	662 10/8/07	662 10/8/07	662 10/10/07	662 10/12/07	662 10/15/07	662 10/15/07	662 10/17/07	662 10/19/07	662 10/22/07	662 10/24/07	662 10/26/07	662 10/29/07	662 10/29/07	662 10/31/07	662 11/2/07	662 11/5/07	662 11/5/07	662 11/7/07	662 11/9/07	662 11/12/07	662 11/12/07	
PFOA	µg/L	T	FS	66	72	75	41	32	29	27	26	22	23	27	22	19	19	24	26	24	23	31	26	24	25	21	17	
Lab Analyte	Units	Total (T)/ Diss. (D)	Location Date Samp. Type	662 11/12/07	662 11/14/07	662 11/16/07	662 11/19/07	662 11/19/07	662 11/21/07	662 11/26/07	662 11/28/07	662 11/30/07	662 12/3/07	662 12/3/07	662 12/5/07	662 12/7/07	662 12/10/07	662 12/10/07	662 12/12/07	662 12/14/07	662 12/17/07	662 12/19/07	662 12/19/07	662 12/21/07	662 12/26/07	662 12/26/07	662 12/28/07	662 12/28/07
PFOA	µg/L	T	FS	15	12	12	18	14	18	43	40	34	24	26	19	26	26	20	14	14	14	22	33	41	36	27	27	
Lab Analyte	Units	Total (T)/ Diss. (D)	Location Date Samp. Type	662 12/31/07	662 12/31/07	662 1/2/08	662 1/4/08	662 1/4/08	662 1/7/08	662 1/7/08	662 01/09/2008	662 01/11/2008	662 01/14/2008	662 01/14/2008	662 01/16/2008	662 01/18/2008	662 01/21/2008	662 01/23/2008	662 01/25/2008	662 01/28/2008	662 01/28/2008	662 01/30/2008	662 02/01/2008	662 02/06/2008	662 02/08/2008	662 02/11/2008	662 02/11/2008	
PFOA	µg/L	T	FS	32	30	18	25	25	23	17	20	25	27	24	26	22	25	21	25	26	24	19	19	20	24	22	26	
Lab Analyte	Units	Total (T)/ Diss. (D)	Location Date Samp. Type	662 02/11/2008	662 02/13/2008	662 02/15/2008	662 02/18/2008	662 02/18/2008	662 02/20/2008	662 02/22/2008	662 02/25/2008	662 02/25/2008	662 02/27/2008	662 02/29/2008	662 03/03/2008	662 03/03/2008	662 03/05/2008	662 03/07/2008	662 03/10/2008	662 03/10/2008	662 03/12/2008	662 03/14/2008	662 03/17/2008	662 03/17/2008	662 03/19/2008	662 03/21/2008	662 03/24/2008	
PFOA	µg/L	T	FS	24	18	16	32	27	38	57	68	62	39	46	53	37	32	52	45	37	35	34	30	30	23	18	25	
Lab Analyte	Units	Total (T)/ Diss. (D)	Location Date Samp. Type	662 03/24/2008	662 03/26/2008	662 03/28/2008	662 03/31/2008	662 03/31/2008	662 04/02/2008	662 04/04/2008	662 04/07/2008	662 04/07/2008	662 04/09/2008	662 04/11/2008	662 04/14/2008	662 04/14/2008	662 04/16/2008	662 04/18/2008	662 04/21/2008	662 04/21/2008	662 04/23/2008	662 04/25/2008	662 04/28/2008	662 04/28/2008	662 04/30/2008	662 05/02/2008	662 05/05/2008	
PFOA	µg/L	T	FS	22	20	24	33	31	27	19	18	17	14	14	21	18	19	25	22	18	14	14	13	8.6	12	12	9.3	
Lab Analyte	Units	Total (T)/ Diss. (D)	Location Date Samp. Type	662 05/05/2008	662 05/07/2008	662 05/09/2008	662 05/12/2008	662 05/12/2008	662 05/14/2008	662 05/16/2008	662 05/19/2008	662 05/19/2008	662 05/21/2008	662 05/23/2008	662 05/27/2008	662 05/27/2008	662 05/28/2008	662 05/30/2008	662 06/02/2008	662 06/02/2008	662 06/04/2008	662 06/06/2008	662 06/09/2008	662 06/09/2008	662 06/11/2008	662 06/13/2008	662 06/16/2008	
PFOA	µg/L	T	FS	8.5	8.3	7.3	9.8	9.6	12	14	15	14	19	33	26	24	22	19	64	56	55	36	26	21	20	24	22	
Lab Analyte	Units	Total (T)/ Diss. (D)	Location Date Samp. Type	662 06/16/2008	662 06/18/2008	662 06/20/2008	662 06/23/2008	662 06/23/2008	662 06/25/2008	662 06/27/2008	662 06/30/2008	662 30/06/2008	662 07/03/2008	662 07/03/2008	662 07/07/2008	662 07/07/2008	662 07/09/2008	662 07/11/2008	662 07/14/2008	662 07/14/2008	662 16/07/2008	662 07/18/2008	662 07/21/2008	662 07/21/2008	662 07/23/2008	662 07/25/2008	662 07/28/2008	
PFOA	µg/L	T	FS	17	21	26	33	26	22	21	20	17	18	22	22	19	18	31	26	18	18	17	21	18	24	29	21	
Lab Analyte	Units	Total (T)/ Diss. (D)	Location Date Samp. Type	662 07/28/2008	662 07/30/2008	662 01/08/2008	662 08/04/2008	662-GRAB 08/04/2008	662-GRAB 08/04/2008	662-GRAB 08/04/2008	662 08/04/2008	662 08/04/2008	662 08/06/2008	662-GRAB 08/06/2008	662 08/08/2008	662 08/08/2008	662-GRAB 08/08/2008	662 08/11/2008	662-GRAB 08/11/2008	662-GRAB 08/11/2008	662-GRAB 08/11/2008	662 08/11/2008	662 11/08/2008	662 11/08/2008	662 08/13/2008	662-GRAB 08/13/2008	662 08/13/2008	
PFOA	µg/L	T	FS	16	16	15	25.7	25.7	18.9	18.9	16	13	22.8	22.8	12	24.2	24.2	14	34.6	34.6	29.1	29.1	21	19	27.9	27.9	18	
Lab Analyte	Units	Total (T)/ Diss. (D)	Location Date Samp. Type	662 08/15/2008	662-GRAB 08/15/2008	662 08/15/2008	662 08/18/2008	662 08/18/2008	662 08/20/2008	662 08/22/2008	662 08/25/2008	662 08/25/2008	662 08/27/2008	662 08/29/2008	662 09/02/2008	662 09/02/2008	662 09/03/2008	662 09/05/2008	662 09/08/2008	662 09/08/2008	662 09/10/2008	662 09/12/2008	662 09/15/2008	662 09/15/2008	662 09/17/2008	662 09/19/2008	662 09/22/2008	
PFOA	µg/L	T	FS	30.5	30.5	20	23	22	20	14	31	19	28	19	23	15	14	16	20	15	13	19	16	11	14	12		
Lab Analyte	Units	Total (T)/ Diss. (D)	Location Date Samp. Type	662 09/22/2008	662 09/24/2008	662 09/26/2008	662 09/29/2008	662 09/29/2008	662 10/01/2008	662 10/03/2008	662 10/06/2008	662 10/08/2008	662 10/10/2008	662 10/13/2008	662 10/13/2008	662 10/15/2008	662 10/17/2008	662 10/20/2008	662 10/20/2008	662 10/22/2008	662 10/23/2008	662 10/23/2008	662 10/27/2008	662 10/27/2008	662 10/29/2008	662 10/31/2008	662 11/03/2008	
PFOA	µg/L	T	FS	12	12	16	21	15	15	15	16	16	17	9.5	7	6.4	6.9	8.8	7.7	7.4	7.3	7.2	6.9	5.8	6.6	5.1	6.4	

Notes:
 FS = Field Sample
 (I) = Internal standard recovery was outside of the 50-200% acceptable range.
 (F) = Sample had a failed matrix spike. Re-preparation and analysis were performed and sample and spike gave similar results, indicating a matrix effect.
 PFOA = Perfluorooctanoic Acid
 Units: µg/L = Parts per billion

Table 6b
Outfall 662 PFOA Sample Results
Conceptual Site Model for PFAS
Chemours Chambers Works
Deepwater, New Jersey

Lab Analyte	Units	Total (T)/ Diss. (D)	Location Date Samp. Type	662	662	662	662	662	662	662	662	662	662	662	662	662	662	662	662	662	662	662	662	662	662	662	
PFOA	µg/L	T	11/10/2008 FS	7.3	13	8	6.5	6	8	8	2.9	2.9	4.1	2.9	3.1	4.5	3.7	3.2	4.9	3.9	3.7	4.1	4.1	7.3	5.1	4.6	7.8
PFOA	µg/L	T	04/27/2009 FS	5.1	6.8	6.2	7.8	9.4	11	10	12	11	9.6	8.8	7.7	7.5	7.2	9.6	9.6	7.1	8.7	8.7	9.66	9.66	8.74	8.74	5.92
PFOA	µg/L	T	31/08/2009 FS	5.92	4.52	4.52	4.34	4.34	5.86	5.86	12.2	12.2	18.9	18.9	12.1	12.1	17	8.45	10.5	9.08	29.9	15.9	22.7	27.7	16.3	26.4	51.1
PFOA	µg/L	T	21/12/2009 FS	20.8	15.1	14.6	9.87	8.7	7.83	7.67	10.6	19.7	12	11.4	12.4	19.6	8.52	10.7	11.6	10.9	7.96	6.6	12.3	9.6	6.77	10	21.7
PFOA	µg/L	T	06/14/2010 FS	20.4	9.85	14	13.8	10.7	41.5	24.4	17.4	14.1	14.2	10	14.8	13	12.9	8.28	12.4	15.6	35.4	16.4	8.46	9.63	4.57	3.16	7.28
PFOA	µg/L	T	11/29/2010 FS	17.6	5.32	5.19	19.5	42.4	26.6	21.4	21.7	24.8	10.4	7.95	9.83	7.49	5.04	5.05	7.01	17.5	8.17	7.49	7.36	5.61	7.24	3.93	5.89
PFOA	µg/L	T	05/16/2011 FS	4.99	5.19	3.97	11.1	7.11	6.82	5.13	3.79	6.89	4.28	3.96	3.4	3.7	3.45	6.74	4.1	5.53	10.9	6.98	8.67	5.55	6.09	3.51	3.47
PFOA	µg/L	T	10/24/2011 FS	9.17	4.36	5	7.36	3.55	13.1	3.3	5.14	2.14	3.65	3.26	3.91	6.78	4.52	5.88	2.21	2.23	2.64	2.28	2.28	1.36	1.69	1.73	2.89
PFOA	µg/L	T	05/14/2012 FS	1.85	0.551	1.58	1.15	2.82	4.66	1.39	3.38	1.75	1.91	1.4	1.58	3.57	0.974	1.14	1.1	4.15	3.34	2.81	1.47	0.444	0.312	0.234	2.09
PFOA	µg/L	T	10/31/2012 FS	2.53	1.54	1.68	0.501	0.631	0.619	2.83	4.01	2.2	1.03	1.75	0.784	1.2	2.37	3.13	3.07	6.41	2.61	3.38	2.15	3	2.25	2.94	2.62
Notes:																											
PFOA	µg/L	T	04/15/2013 FS	2.86	2.79	2.43	1.71	2.22	2.06	2.5	1.92	3.28	2.33	2.25	3.65	2.69	3.62	1.46	4.08	2.32	5.25	3.33	2.76	5.93	2.91	2.01	2.32
PFOA	µg/L	T	09/30/2013 FS	2.69	2.68	4.48	2.72	2.38	3.07	2.2	1.9	2.17	2.45	3.41	2.74	2.66	1.84	1.6	1.98	1.78	3.31	3.26	2.23	2.8	2.57	2.31	4.3
PFOA	µg/L	T	03/24/2014 FS	3.05	3.49	2.75	3.07	3.77	3.09	5.5	2.94	3.85	2.9	2.15	2.55	2.46	1.77	6.55	4.93	13.6	10.8	21.6	7.15	8.02	5.77	4.87	6.57

Notes:
 FS = Field Sample
 (I) = Internal standard recovery was outside of the 50-200% acceptable range.
 (F) = Sample had a failed matrix spike. Re-preparation and analysis were performed and sample and spike gave similar results, indicating a matrix effect.
 PFOA = Perfluorooctanoic Acid
 Units: ug/L = Parts per billion

**Table 6b
Outfall 662 PFOA Sample Results
Conceptual Site Model for PFAS
Chemours Chambers Works
Deepwater, New Jersey**

Lab Analyte	Units	Total (T)/ Diss. (D)	Location Date Samp. Type	662-GRAB 09/15/2014 FS	662-GRAB 09/22/2014 FS	662-GRAB 09/29/2014 FS	662-GRAB 10/06/2014 FS	662-GRAB 10/13/2014 FS	662-GRAB 10/20/2014 FS	662-GRAB 10/27/2014 FS	662-GRAB 11/03/2014 FS	662-GRAB 10/11/2014 FS	662-GRAB 11/17/2014 FS	662-GRAB 11/24/2014 FS	662-GRAB 12/01/2014 FS	662-GRAB 12/08/2014 FS	662-GRAB 12/15/2014 FS	662-GRAB 12/22/2014 FS	662-GRAB 12/29/2014 FS	662-GRAB 05/01/2015 FS	662-GRAB 01/12/2015 FS	662-GRAB 01/19/2015 FS	662-GRAB 01/26/2015 FS	662-GRAB 02/02/2015 FS	662-GRAB 02/02/2015 FS	662-GRAB 02/02/2015 FS	662-GRAB 02/09/2015 FS
PFOA	µg/L	T		5.31	15.7	5.96	3.68	3.82	3.88	2.36	1.32	0.57	1.52	2.92	3.43	4.77	4.07	3.05	4.92	2.71	3.53	4.06	7.05	4.19	3.95	3.92	2.75

Lab Analyte	Units	Total (T)/ Diss. (D)	Location Date Samp. Type	662-GRAB 02/23/2015 FS	662-GRAB 03/02/2015 FS	662-GRAB 03/09/2015 FS	662-GRAB 03/16/2015 FS	662-GRAB 03/23/2015 FS	662-GRAB 03/30/2015 FS	662-GRAB 04/06/2015 FS	662-GRAB 04/13/2015 FS	662-GRAB 20/04/2015 FS	662-GRAB 04/27/2015 FS	662-GRAB 05/04/2015 FS	662-GRAB 05/11/2015 FS	662-GRAB 05/18/2015 FS	662-GRAB 05/26/2015 FS	662-GRAB 06/01/2015 FS	662-GRAB 06/08/2015 FS	662-GRAB 15/06/2015 FS	662-GRAB 06/22/2015 FS	662-GRAB 06/29/2015 FS	662-GRAB 07/06/2015 FS	662-GRAB 07/13/2015 FS	662-GRAB 07/20/2015 FS	662-GRAB 07/27/2015 FS	662-GRAB 08/03/2015 FS
PFOA	µg/L	T		3.45	2.08	3.25	12	8	4.85	4.37	4.06	3.1	4.42	3.11	2.58	3.27	2.58	2.96	4.05	4.08	3.9	3.49	3.47	3.76	3.22	2.17	4

Lab Analyte	Units	Total (T)/ Diss. (D)	Location Date Samp. Type	662-GRAB 08/10/2015 FS	662-GRAB 08/17/2015 FS	662-GRAB 08/24/2015 FS	662-GRAB 08/31/2015 FS	662-GRAB 09/08/2015 FS	662-GRAB 09/14/2015 FS	662-GRAB 09/21/2015 FS	662-GRAB 09/28/2015 FS	662-GRAB 05/10/2015 FS	662-GRAB 10/12/2015 FS	662-GRAB 10/19/2015 FS	662-GRAB 10/26/2015 FS	662-GRAB 11/02/2015 FS	662-GRAB 11/09/2015 FS	662-GRAB 11/16/2015 FS	662-GRAB 11/23/2015 FS	662-GRAB 30/11/2015 FS	662-GRAB 12/07/2015 FS	662-GRAB 12/14/2015 FS	662-GRAB 12/21/2015 FS	662-GRAB 12/28/2015 FS	662-GRAB 01/04/2016 FS	662-GRAB 01/11/2016 FS	662-GRAB 01/18/2016 FS
PFOA	µg/L	T		2.84	3.61	3.47	2.84	2.65	3.21	2.56	2.66	3.81	3.06	2.57	2.51	3.4	2.6	2.23	2.75	2.44	2.48	2.32	2.73	2.04	3.12	3.02	2.67

Lab Analyte	Units	Total (T)/ Diss. (D)	Location Date Samp. Type	662-GRAB 01/25/2016 FS	662-GRAB 02/01/2016 FS	662-GRAB 02/08/2016 FS	662-GRAB 02/18/2016 FS	662-GRAB 02/22/2016 FS	662-GRAB 02/23/2016 FS	662-GRAB 02/29/2016 FS	662-GRAB 03/07/2016 FS	662-GRAB 14/03/2016 FS	662-GRAB 03/21/2016 FS	662-GRAB 03/28/2016 FS	662-GRAB 04/04/2016 FS	662-GRAB 04/11/2016 FS	662-GRAB 04/18/2016 FS	662-GRAB 04/25/2016 FS	662-GRAB 05/02/2016 FS	662-GRAB 09/05/2016 FS	662-GRAB 05/16/2016 FS	662-GRAB 05/23/2016 FS	662-GRAB 05/31/2016 FS	662-GRAB 06/06/2016 FS	662-GRAB 06/13/2016 FS	662-GRAB 06/20/2016 FS	662-GRAB 06/27/2016 FS
PFOA	µg/L	T		3.03	3.5	5.7	2.9	4.35	4.01	5.84	4.27	3.37	3.34	3.17	2.8	4.13	3.31	3.14	1.95	3.8	3.72	3.65	3.88	4.05	3.6	4.11	4.59

Lab Analyte	Units	Total (T)/ Diss. (D)	Location Date Samp. Type	662-GRAB 07/04/2016 FS	662-GRAB 07/11/2016 FS	662-GRAB 07/18/2016 FS	662-GRAB 07/25/2016 FS	662-GRAB 08/01/2016 FS	662-GRAB 08/08/2016 FS	662-GRAB 08/15/2016 FS	662-GRAB 08/22/2016 FS	662-GRAB 29/08/2016 FS	662-GRAB 09/06/2016 FS	662-GRAB 09/12/2016 FS	662-GRAB 09/19/2016 FS	662-GRAB 09/26/2016 FS	662-GRAB 10/03/2016 FS	662-GRAB 10/10/2016 FS	662-GRAB 10/17/2016 FS	662-GRAB 31/10/2016 FS	662-GRAB 11/07/2016 FS	662-GRAB 11/14/2016 FS	662-GRAB 11/21/2016 FS	662-GRAB 11/28/2016 FS	662-GRAB 12/05/2016 FS	662-GRAB 12/12/2016 FS	662-GRAB 12/19/2016 FS
PFOA	µg/L	T		3.7	3.67	3.53	2.81	4.34	3.72	4.52	4.04	2.72	2.26	2.81	2.46	2.08	5.39	2.98	3.84	3.74	3.51	3.27	3.11	2.73	2.65	2.14	2.52

Lab Analyte	Units	Total (T)/ Diss. (D)	Location Date Samp. Type	662-GRAB 12/27/2016 FS	662-GRAB 01/03/2017 FS	662-GRAB 01/09/2017 FS	662-GRAB 01/16/2017 FS	662-GRAB 01/23/2017 FS	662-GRAB 01/30/2017 FS	662-GRAB 02/06/2017 FS	662-GRAB 02/13/2017 FS	662-GRAB 20/02/2017 FS	662-GRAB 02/27/2017 FS	662-GRAB 03/06/2017 FS	662-GRAB 03/13/2017 FS	662-GRAB 03/20/2017 FS	662-GRAB 03/27/2017 FS	662-GRAB 04/03/2017 FS	662-GRAB 04/10/2017 FS	662-GRAB 17/04/2017 FS	662-GRAB 04/24/2017 FS
PFOA	µg/L	T		2.48	2.5	2.32	3.01	3.04	3.05	2.4	2.48	2.63	2.48	2.58	2.37	2.76	3.9	2.66	3.66	3.52	3.56

Notes:
 FS = Field Sample
 (I) = Internal standard recovery was outside of the 50-200% acceptable range.
 (F) = Sample had a failed matrix spike. Re-preparation and analysis were performed and sample and spike gave similar results, indicating a matrix effect.
 PFOA = Perfluorooctanoic Acid
 Units: ug/L = Parts per billion

**Table 6c
 Outfall 662 PFNA Sample Results
 Conceptual Site Model for PFAS
 Chemours Chambers Works
 Deepwater, New Jersey**

Lab		Total (T)/	Location	662-GRAB	662-GRAB	662-GRAB	662-GRAB	662-GRAB	662-GRAB	662-GRAB	662-GRAB	662-GRAB	662-GRAB	662-GRAB	662-GRAB	662-GRAB	662-GRAB	662-GRAB
Analyte	Units	Diss. (D)	Date Samp. Type	7/13/15 FS	7/20/15 FS	8/17/15 FS	9/21/15 FS	10/19/15 FS	11/16/15 FS	12/21/15 FS	1/18/16 FS	2/22/16 FS	3/21/16 FS	4/18/16 FS	5/16/16 FS	6/20/16 FS	7/18/16 FS	1/16/17 FS
PFNA	ug/L	T		0.431	0.402	0.384	0.234	0.234	0.178	0.228	0.173	0.682	0.552	0.528	0.352	0.362	0.294	0.162

Notes:
 FS = Field Sample
 PFNA = Perfluorononanoic Acid

**Table 7
Stormwater Sampling Results
Conceptual Site Model for PFAS
Chemours Chambers Works
Deepwater, New Jersey**

Lab	Parameter Name	Name	Units	Analytical Method	Location Sample Date Sample Purpose	SCOUTFALL04 04/12/2007 FS	SCOUTFALL04 04/12/2007 FS	SCOUTFALL05 04/12/2007 FS	SCOUTFALL05 04/12/2007 FS	SCOUTFALL06 04/12/2007 FS	SCOUTFALL06 04/12/2007 FS	SCOUTFALL07 04/12/2007 FS	SCOUTFALL07 04/12/2007 FS	SCOUTFALL08 04/12/2007 FS	SCOUTFALL09 04/12/2007 FS	SCOUTFALL10 04/12/2007 FS	SW002 04/12/2007 FS	SW002 04/12/2007 DUP	SW003 04/12/2007 FS	SW003 04/12/2007 FS
Axys	Perfluorobutane Sulfonic Acid	PFBS	UG/L	MLA-040 Rev 04		NA	0.00851	NA	<0.00770 U	NA	0.0105	NA	<0.0122 U	<0.00420 U	<0.00201 U	0.00809	<0.00521 U	<0.00554 U	NA	0.0181
Axys	Perfluorobutanoic Acid	PFBA	UG/L	MLA-040 Rev 04		NA	0.0606	NA	0.0981	NA	0.101	NA	0.128	0.0613	0.0155	0.0443	0.0303	0.0433	NA	0.258
Axys	Perfluorodecanoic Acid	PFDA	UG/L	MLA-040 Rev 04		NA	0.137	NA	0.114	NA	0.243	NA	0.371	0.0931	0.0362	0.101	0.0804	0.0842	NA	0.257
Axys	Perfluorododecanoic Acid	PFDOA	UG/L	MLA-040 Rev 04		NA	0.00523	NA	0.00676	NA	0.0166	NA	0.059	0.0249	0.0165	0.00377	0.0255	0.0218	NA	0.00419
Axys	Perfluoroheptanoic Acid	PFHPA	UG/L	MLA-040 Rev 04		NA	0.226	NA	0.161	NA	0.259	NA	0.232	0.0698	0.0356	0.186	0.0532	0.0559	NA	0.398
Axys	Perfluorohexane Sulfonic Acid	PFHXS	UG/L	MLA-040 Rev 04		NA	<0.00203 U	NA	<0.00518 U	NA	<0.00389 U	NA	<0.00993 U	<0.00397 U	<0.00201 U	<0.00202 U	<0.00199 U	<0.00329 U	NA	<0.00705 U
Axys	Perfluorohexanoic Acid	PFHXA	UG/L	MLA-040 Rev 04		NA	0.45	NA	0.777	NA	0.682	NA	1.73	0.537	0.148	0.319	0.222	0.239	NA	1.01
Axys	Perfluorononanoic Acid	PFNA	UG/L	MLA-040 Rev 04		NA	0.155	NA	0.104	NA	0.182	NA	0.21	0.0586	0.035	0.13	0.0613	0.064	NA	0.247
Axys	Perfluorooctane Sulfonamide	PFOSA	UG/L	MLA-040 Rev 04		NA	<0.00101 U	NA	<0.00259 U	NA	<0.00194 U	NA	<0.00496 U	<0.00199 U	<0.00101 U	<0.00101 U	<0.000995 U	<0.00165 U	NA	<0.00352 U
Axys	Perfluoropentanoic Acid	PFPEA	UG/L	MLA-040 Rev 04		NA	0.258	NA	0.281	NA	0.337	NA	0.184	0.0844	0.0278	0.169	0.042	0.0473	NA	0.759
Axys	Perfluoroundecanoic Acid	PFUNA	UG/L	MLA-040 Rev 04		NA	0.0225	NA	0.0171	NA	0.0429	NA	0.0671	0.0241	0.0156	0.0142	0.0246	0.0242	NA	0.0267
TA	Perfluorooctanoic Acid	PFOA	UG/L	LC-0012		0.34 J	NA	0.53 J	NA	0.43	NA	1.1	NA	0.34 J	0.12	0.42 J	0.19	0.2	0.84 J	NA
Axys	Perfluorooctanoic Acid	PFOA	UG/L	MLA-040 Rev 04		NA	0.403	NA	0.544	NA	0.541	NA	1.17	0.272	0.101	0.446	0.194	0.184	NA	0.848
TA	Perfluorooctane Sulfonic Acid	PFOS	UG/L	LC-0012		<0.020	NA	<0.010	NA	<0.020	NA	<0.020	NA	<0.0020	<0.0020	NA	<0.0020	<0.0020	<0.020	NA
Axys	Perfluorooctane Sulfonic Acid	PFOS	UG/L	MLA-040 Rev 04		NA	<0.00203 U	NA	<0.00518 U	NA	<0.00389 U	NA	<0.00993 U	<0.00397 U	<0.00201 U	<0.00202 U	<0.00199 U	<0.00329 U	NA	<0.00705 U

Notes:
 J = Estimated Value
 U = Not Detected
 < = Not detected at stated reporting limit
 Sample Type FS = Field Sample; DUP = Duplicate Sample
 NA = Not Analyzed
 Units: ug/L = Parts per billion

Table 8
Summary of Air Emissions Sampling
Conceptual Site Model for PFAS
Chemours Chambers Works
Deepwater, New Jersey

LabAnalyte	Abbreviated Name	Location Date Sample Type	DPE Run 1 10/1/07 FS	DPE Run 2 10/1/07 FS	DPE Run 3 10/1/07 FS	DPE Run 4 10/1/07 FS	DPE1163 Run 1 4/26/07 FS	DPE1163 Run 2 4/26/07 FS
PERFLUOROBUTANOIC ACID	PFBA	UG/L	<2.5	<1.3	<0.5	<0.25	0.0124	<0.00634
PERFLUOROPENTANOIC ACID	PFPEA	UG/L	<2.5	<1.3	<0.5	<0.25	0.0479	0.0251
PERFLUOROHEXANOIC ACID	PFHXA	UG/L	2.6	<1.3	<0.5	<0.25	0.778	0.0631
PERFLUOROHEPTANOIC ACID	PFHPA	UG/L	<2.5	<1.3	<0.5	0.38	1.54	0.0925
PERFLUOROOCCTANOIC ACID	PFOA	UG/L	2200	1100	270	140	7630	11.8
PERFLUORONONANOIC ACID	PFNA	UG/L	<2.5	<1.3	<0.5	<0.25	0.00778	<0.00625
PERFLUORODECANOIC ACID	PFDA	UG/L	<2.5	<1.3	<0.5	<0.25	<0.00585	<0.00608
PERFLUOROUNDECANOIC ACID	PFUNA	UG/L	<2.5	<1.3	<0.5	<0.25	<0.00681	<0.00708
PERFLUORODODECANOIC ACID	PFDOA	UG/L	<2.5	<1.3	<0.5	0.26	<0.00522	<0.00542
PERFLUOROBUTANE SULFONIC ACID	PFBS	UG/L	<5	<2.5	<1	<0.5	<0.0117	<0.0121
PERFLUOROHEXANE SULFONIC ACID	PFHXS	UG/L	<5	<2.5	<1	<0.5	<0.0118	<0.0122
PERFLUOROOCCTANESULFONIC ACID	PFOS	UG/L	<5	<2.5	<1	<0.5	<0.0118	<0.0122
PERFLUOROOCCTANE SULFONAMIDE	PFOSA	UG/L	<2.5	<1.3	<0.5	<0.25	<0.00475	<0.00494

LabAnalyte	Abbreviated Name	Location Date Sample Type	DPE1163 Run 4 4/26/07 FS	DPE1163 Run 3 4/26/07 FS	DPE 1163-RUN 1 7/21/08 FS	DPE 1163-RUN 2 7/21/08 FS	DPE 1163-RUN 3 7/21/08 FS	DPE 1163-RUN 4 7/21/08 FS
PERFLUOROBUTANOIC ACID	PFBA	UG/L	<0.00581	0.00661	0.067	0.022	0.021	0.013
PERFLUOROPENTANOIC ACID	PFPEA	UG/L	0.00764	0.0136	0.23	<0.055	0.04	0.022
PERFLUOROHEXANOIC ACID	PFHXA	UG/L	0.0424	0.0736	0.91	0.29	0.23	0.068
PERFLUOROHEPTANOIC ACID	PFHPA	UG/L	0.287	0.382	1.9	1.5	1.2	0.33
PERFLUOROOCCTANOIC ACID	PFOA	UG/L	110	68.2	4200	2100	1200	480 J
PERFLUORONONANOIC ACID	PFNA	UG/L	<0.00573	<0.00646	0.29	0.18	0.08	0.051
PERFLUORODECANOIC ACID	PFDA	UG/L	<0.00557	<0.00628	0.07	0.057	0.041	0.023
PERFLUOROUNDECANOIC ACID	PFUNA	UG/L	<0.00649	<0.00732	0.035	0.1	0.04	0.029
PERFLUORODODECANOIC ACID	PFDOA	UG/L	<0.00496	<0.0056	<0.019	<0.019	<0.020	<0.010
PERFLUOROBUTANE SULFONIC ACID	PFBS	UG/L	<0.0111	<0.0125	<0.039	<0.039	<0.039	<0.021
PERFLUOROHEXANE SULFONIC ACID	PFHXS	UG/L	<0.0112	<0.0127	<0.039	<0.039	<0.039	<0.021
PERFLUOROOCCTANESULFONIC ACID	PFOS	UG/L	<0.0112	<0.0127	<0.039	<0.039	<0.039	<0.021
PERFLUOROOCCTANE SULFONAMIDE	PFOSA	UG/L	<0.00452	<0.00511	<0.019	<0.019	<0.020	<0.010

Notes:

B = Not detected substantially above the level reported in the laboratory or field blanks.

J = Estimated Value, Analyte present. Reported value may not be accurate or precise.

UJ = Not detected at stated quantification limit. Reporting limit may not be accurate or precise.

< = Not detected at stated reporting limit

Sample Type; FS = Field Sample; DUP = Duplicate; TBLK = Trip Blank; EQBLK = Equipment Blank

Units: ug/L = Parts per billion

Table 8
Summary of Air Emissions Sampling
Conceptual Site Model for PFAS
Chemours Chambers Works
Deepwater, New Jersey

LabAnalyte	Abbreviated Name	Location Date Sample Type	DPE 1163-RUN 1 7/22/08 FS	DPE 1163-RUN 2 7/22/08 FS	DPE 1163-RUN 3 7/22/08 FS	DPE 1163-RUN 4 7/22/08 FS	DPE 1163-RUN 1 7/23/08 FS	DPE 1163-RUN 2 7/23/08 FS
PERFLUOROBUTANOIC ACID	PFBA	UG/L	<0.020	<0.012	<0.0096	<0.0096	0.017 B	<0.0098
PERFLUOROPENTANOIC ACID	PFPEA	UG/L	<0.030	<0.012	0.011 B	0.015 B	0.032 B	0.014 B
PERFLUOROHEXANOIC ACID	PFHXA	UG/L	0.098 B	0.079 B	0.075 B	0.076 B	0.18 B	0.10 B
PERFLUOROHEPTANOIC ACID	PFHPA	UG/L	0.22 B	0.38 B	0.31 B	0.24 B	0.55 B	0.23 B
PERFLUOROOCCTANOIC ACID	PFOA	UG/L	730	240 B	140 B	120 B	550	220 B
PERFLUORONONANOIC ACID	PFNA	UG/L	0.16	0.096	<0.0096	0.066	0.12	0.11
PERFLUORODECANOIC ACID	PFDA	UG/L	0.19	0.11	<0.0096	0.099	0.16	0.17
PERFLUOROUNDECANOIC ACID	PFUNA	UG/L	0.67	0.34	<0.0096	0.44	0.63	0.76
PERFLUORODODECANOIC ACID	PFDOA	UG/L	0.026	0.023	<0.0096	0.022	0.028	0.05
PERFLUOROBUTANE SULFONIC ACID	PFBS	UG/L	<0.040	<0.024	<0.019	<0.019	<0.030	<0.020
PERFLUOROHEXANE SULFONIC ACID	PFHXS	UG/L	<0.040	<0.024	<0.019	<0.019	<0.030	<0.020
PERFLUOROOCCTANESULFONIC ACID	PFOS	UG/L	<0.040	<0.024	<0.019	<0.019	<0.030	<0.020
PERFLUOROOCCTANE SULFONAMIDE	PFOSA	UG/L	<0.020	<0.012	<0.0096	<0.0096	<0.015	<0.0098

LabAnalyte	Abbreviated Name	Location Date Sample Type	DPE 1163-RUN 3 7/23/08 FS	DPE 1163-RUN 4 7/23/08 FS	DPE COAG-RUN 1 7/21/08 FS	DPE COAG-RUN 1 7/22/08 FS	DPE COAG-RUN 1 7/23/08 FS	ZI_1156 EQBLK 1 6/13/07 EQBLK
PERFLUOROBUTANOIC ACID	PFBA	UG/L	<0.031	<0.022	<6.8	0.02	<38	0.00567 J
PERFLUOROPENTANOIC ACID	PFPEA	UG/L	<0.031	<0.022	<2.5	0.099	<38	0.00332 J
PERFLUOROHEXANOIC ACID	PFHXA	UG/L	0.046 B	0.043 B	5.9	0.76	<38	0.00809 J
PERFLUOROHEPTANOIC ACID	PFHPA	UG/L	0.065 B	0.050 B	3.6	1.4	<38	0.0359 J
PERFLUOROOCCTANOIC ACID	PFOA	UG/L	22 B	24 B	31000	1600	79000	3.78
PERFLUORONONANOIC ACID	PFNA	UG/L	<0.031	<0.022	<2.5	0.28	<38	0.00319 J
PERFLUORODECANOIC ACID	PFDA	UG/L	<0.031	<0.022	<2.5	0.28	<38	<0.00178 UJ
PERFLUOROUNDECANOIC ACID	PFUNA	UG/L	<0.031	<0.022	<2.5	0.35	<38	<0.00178 UJ
PERFLUORODODECANOIC ACID	PFDOA	UG/L	<0.031	<0.022	<2.5	<0.0095	<38	<0.00178 UJ
PERFLUOROBUTANE SULFONIC ACID	PFBS	UG/L	<0.061	<0.044	<5.0	<0.019	<75	<0.00356 UJ
PERFLUOROHEXANE SULFONIC ACID	PFHXS	UG/L	<0.061	<0.044	<5.0	<0.019	<75	<0.00356 UJ
PERFLUOROOCCTANESULFONIC ACID	PFOS	UG/L	<0.061	<0.044	<5.0	<0.019	<75	<0.00356 UJ
PERFLUOROOCCTANE SULFONAMIDE	PFOSA	UG/L	<0.031	<0.022	<2.5	<0.0095	<38	<0.00178 UJ

Notes:

B = Not detected substantially above the level reported in the laboratory or field blanks.

J = Estimated Value, Analyte present. Reported value may not be accurate or precise.

UJ = Not detected at stated quantification limit. Reporting limit may not be accurate or precise.

< = Not detected at stated reporting limit

Sample Type; FS = Field Sample; DUP = Duplicate; TBLK = Trip Blank; EQBLK = Equipment Blank

Units: ug/L = Parts per billion

Table 8
Summary of Air Emissions Sampling
Conceptual Site Model for PFAS
Chemours Chambers Works
Deepwater, New Jersey

Analyte	Abbreviated Name	Location Date Sample Type	ZI_1156 RUN 1	ZI_1156 RUN 2	ZI_1156 RUN 3	ZI_1156 RUN 4	ZI_1156 TBLK
			6/13/07 FS	6/13/07 FS	6/13/07 FS	6/13/07 FS	6/13/07 TBLK
PERFLUOROBUTANOIC ACID	PFBA	UG/L	25.7 J	46.2 J	29.7 J	37.9 J	<0.00103 UJ
PERFLUOROPENTANOIC ACID	PFPEA	UG/L	7.02 J	6.87 J	4.02 J	7.07 J	<0.00103 UJ
PERFLUOROHEXANOIC ACID	PFHXA	UG/L	125 J	138 J	51 J	59.4 J	<0.00103 UJ
PERFLUOROHEPTANOIC ACID	PFHPA	UG/L	43.1 J	41.6 J	11.4 J	14.8 J	<0.00103 UJ
PERFLUOROOCTANOIC ACID	PFOA	UG/L	74.3	72.6	14.3 B	10.7 B	<0.00103
PERFLUORONONANOIC ACID	PFNA	UG/L	4.42 J	1.67 J	0.0671 J	0.0944 J	<0.00103 UJ
PERFLUORODECANOIC ACID	PFDA	UG/L	0.42 J	0.341 J	<0.0053 UJ	<0.00513 UJ	<0.00103 UJ
PERFLUOROUNDECANOIC ACID	PFUNA	UG/L	0.0159 J	<0.00497 UJ	<0.0053 UJ	<0.00513 UJ	<0.00103 UJ
PERFLUORODODECANOIC ACID	PFDOA	UG/L	<0.00527 UJ	<0.00497 UJ	<0.0053 UJ	<0.00513 UJ	<0.00103 UJ
PERFLUOROBUTANE SULFONIC ACID	PFBS	UG/L	<0.0105 UJ	<0.00995 UJ	<0.0106 UJ	<0.0103 UJ	<0.00206 UJ
PERFLUOROHEXANE SULFONIC ACID	PFHXS	UG/L	<0.0105 UJ	<0.00995 UJ	<0.0106 UJ	<0.0103 UJ	<0.00206 UJ
PERFLUOROOCTANESULFONIC ACID	PFOS	UG/L	<0.0105 UJ	<0.00995 UJ	<0.0106 UJ	<0.0103 UJ	<0.00206 UJ
PERFLUOROOCTANE SULFONAMIDE	PFOSA	UG/L	<0.00527 UJ	<0.00497 UJ	<0.0053 UJ	<0.00513 UJ	<0.00103 UJ

Notes:

B = Not detected substantially above the level reported in the laboratory or field blanks.

J = Estimated Value, Analyte present. Reported value may not be accurate or precise.

UJ = Not detected at stated quantification limit. Reporting limit may not be accurate or precise.

< = Not detected at stated reporting limit

Sample Type; FS = Field Sample; DUP = Duplicate; TBLK = Trip Blank; EQBLK = Equipment Blank

Units: ug/L = Parts per billion

Table 9
Summary of Sediment Results- Delaware River Sediment - 2016
Conceptual Site Model for PFAS
Chemours Chambers Works
Deepwater, New Jersey

Parameter Name	Abbreviated Name	Units	Analytical Method	Location Sample Date Sample Depth Sample Type	D15-BOR-14	D15-BOR-14	D15-BOR-14	D15-BOR-20	D15-BOR-20	D16-BOR-06	D16-BOR-06
					10/26/2016	10/26/2016	10/26/2016	10/25/2016	10/25/2016	10/25/2016	10/25/2016
					0-0.5 Feet	0-0.5 Feet	0.5-1.0 Feet	0-0.5 Feet	0.5-1.0 Feet	0-0.5 Feet	0.5-1.0 Feet
					FS	DUP	FS	FS	FS	FS	FS
Perfluorooctanoic Acid	PFOA	UG/KG	DV-LC-0012		<0.80 U	<0.80 U	<0.80 U	1.4	24	1.9	16
Perfluorooctane Sulfonic Acid	PFOS	UG/KG	DV-LC-0012		<0.80 U	<0.80 U	<0.80 U	<0.80 U	4.1	<0.80 U	1.9
Perfluorobutane Sulfonic Acid	PFBS	UG/KG	DV-LC-0012		<0.80 U	<0.80 U	<0.80 U	<0.80 U	<0.80 U	<0.80 U	<0.80 U
Perfluorobutanoic Acid	PFBA	UG/KG	DV-LC-0012		<0.80 U	<0.80 U	<0.80 U	<0.80 U	4.5	<0.80 U	<0.80 U
Perfluorodecane Sulfonic Acid	PFDS	UG/KG	DV-LC-0012		<0.80 U	<0.80 U	<0.80 U	<0.80 U	<0.80 U	<0.80 U	<0.80 U
Perfluorodecanoic Acid	PFDA	UG/KG	DV-LC-0012		<0.80 U	<0.80 U	<0.80 U	<0.80 U	20	<0.80 U	7.7
Perfluorododecanoic Acid	PFDOA	UG/KG	DV-LC-0012		<2.0 U	<2.0 U	<2.0 U	<2.0 U	3.9	<2.0 U	3.7
Perfluoroheptanoic Acid	PFHpA	UG/KG	DV-LC-0012		<0.80 U	<0.80 U	<0.80 U	<0.80 U	1.4	<0.80 U	<0.80 U
Perfluorohexane Sulfonic Acid	PFHxS	UG/KG	DV-LC-0012		<0.80 U	<0.80 U	<0.80 U	<0.80 U	<0.80 U	<0.80 U	<0.80 U
Perfluorohexanoic Acid	PFHxA	UG/KG	DV-LC-0012		<0.80 U	<0.80 U	<0.80 U	0.91	40	1.4	5.3
Perfluorononanoic Acid	PFNA	UG/KG	DV-LC-0012		<0.80 U	<0.80 U	<0.80 U	<0.80 U	4.3	<0.80 U	2.6
Perfluorooctane Sulfonamide	PFOSA	UG/KG	DV-LC-0012		<0.80 U	<0.80 U	<0.80 U	<0.80 U	<0.80 U	<0.80 U	<0.80 U
Perfluoropentanoic Acid	PFPEA	UG/KG	DV-LC-0012		<0.80 U	<0.80 U	<0.80 U	<0.80 U	2	<0.80 U	<0.80 U
Perfluorotetradecanoic Acid	PFTEDA	UG/KG	DV-LC-0012		<2.0 U	<2.0 U	<2.0 U	<2.0 U	<2.0 U	<2.0 U	<2.0 U
Perfluorotridecanoic Acid	PFTriDA	UG/KG	DV-LC-0012		<0.80 U	<0.80 U	<0.80 U	<0.80 U	1.7	<0.80 U	3
Perfluoroundecanoic Acid	PFUNA	UG/KG	DV-LC-0012		<0.80 U	<0.80 U	<0.80 U	<0.80 U	5.7	<0.80 U	2.5

Parameter Name	Abbreviated Name	Units	Analytical Method	Location Sample Date Sample Depth Sample Type	D16-BOR-07	D16-BOR-07	D16-BOR-07	D16-BOR-08	D16-BOR-08	E16-BOR-06	E16-BOR-06
					10/25/2016	10/25/2016	10/25/2016	10/25/2016	10/25/2016	10/26/2016	10/26/2016
					0-0.5 Feet	0-0.5 Feet	0.5-1.0 Feet	0-0.5 Feet	0.5-1.0 Feet	0-0.5 Feet	0.5-1.0 Feet
					FS	DUP	FS	FS	FS	FS	FS
Perfluorooctanoic Acid	PFOA	UG/KG	DV-LC-0012		0.89	0.96	3.1	1.6	22	<0.80 U	<0.80 U
Perfluorooctane Sulfonic Acid	PFOS	UG/KG	DV-LC-0012		<0.80 U	<0.80 U	<0.80 U	<0.80 U	<0.80 U	<0.80 U	<0.80 U
Perfluorobutane Sulfonic Acid	PFBS	UG/KG	DV-LC-0012		<0.80 U	<0.80 U	<0.80 U	<0.80 U	<0.80 U	<0.80 U	<0.80 U
Perfluorobutanoic Acid	PFBA	UG/KG	DV-LC-0012		<0.80 U	<0.80 U	<0.80 U	<0.80 U	1.6	<0.80 U	<0.80 U
Perfluorodecane Sulfonic Acid	PFDS	UG/KG	DV-LC-0012		<0.80 U	<0.80 U	<0.80 U	<0.80 U	<0.80 U	<0.80 U	<0.80 U
Perfluorodecanoic Acid	PFDA	UG/KG	DV-LC-0012		<0.80 U	<0.80 U	1.7	0.9	9.2	<0.80 U	<0.80 U
Perfluorododecanoic Acid	PFDOA	UG/KG	DV-LC-0012		<2.0 U	<2.0 U	<2.0 U	<2.0 U	<2.0 U	<2.0 U	<2.0 U
Perfluoroheptanoic Acid	PFHpA	UG/KG	DV-LC-0012		<0.80 U	<0.80 U	<0.80 U	<0.80 U	0.82	<0.80 U	<0.80 U
Perfluorohexane Sulfonic Acid	PFHxS	UG/KG	DV-LC-0012		<0.80 U	<0.80 U	<0.80 U	<0.80 U	<0.80 U	<0.80 U	<0.80 U
Perfluorohexanoic Acid	PFHxA	UG/KG	DV-LC-0012		<0.80 U	<0.80 U	1.6	<0.80 U	10	<0.80 U	<0.80 U
Perfluorononanoic Acid	PFNA	UG/KG	DV-LC-0012		<0.80 U	<0.80 U	<0.80 U	<0.80 U	4	<0.80 U	<0.80 U
Perfluorooctane Sulfonamide	PFOSA	UG/KG	DV-LC-0012		<0.80 U	<0.80 U	<0.80 U	<0.80 U	<0.80 U	<0.80 U	<0.80 U
Perfluoropentanoic Acid	PFPEA	UG/KG	DV-LC-0012		<0.80 U	<0.80 U	<0.80 U	<0.80 U	1.1	<0.80 U	<0.80 U
Perfluorotetradecanoic Acid	PFTEDA	UG/KG	DV-LC-0012		<2.0 U	<2.0 U	<2.0 U	<2.0 U	<2.0 U	<2.0 U	<2.0 U
Perfluorotridecanoic Acid	PFTriDA	UG/KG	DV-LC-0012		<0.80 U	<0.80 U	<0.80 U	<0.80 U	2	<0.80 U	<0.80 U
Perfluoroundecanoic Acid	PFUNA	UG/KG	DV-LC-0012		<0.80 U	<0.80 U	<0.80 U	<0.80 U	2.6	<0.80 U	<0.80 U

Notes:
 Sample Type; FS = Field Sample; DUP = Duplicate
 U - Not Detected at specified quantification limit
 Sample Type; FS = Field Sample; DUP = Duplicate
 Depth = Depth below surface
 Units: UG/KG = Parts per billion

Table 9
Summary of Sediment Results - DE River 2010 (Reported in 2013)
Conceptual Site Model for PFAS
Chemours Chambers Works
Deepwater, New Jersey

Parameter Name	Abbreviated Name	Units	Analytical Method	Location Sample Date Depth	DER1-01	DER1-04	DER1-07	DER1-09	DER1-12	DER1-13	DER1-15	DER1-18
					04/22/2010 0-0.5 Feet	04/22/2010 0-0.5 Feet	04/22/2010 0-0.5 Feet	04/22/2010 0-0.5 Feet	04/20/2010 0-0.5 Feet	04/20/2010 0-0.5 Feet	04/22/2010 0-0.5 Feet	04/22/2010 0-0.5 Feet
Perfluorooctanoic Acid	PFOA	UG/KG	LC-0012		<0.59 U	--	<1.0 U	<0.72 U	--	60.0 J	5.3 J	<0.64 UJ
Perfluorooctane Sulfonic Acid	PFOS	UG/KG	LC-0012		<0.14 U	<0.15 UJ	<0.25 U	<0.17 U	<0.17 UJ	3.58 J	<0.17 UJ	<0.15 UJ

Parameter Name	Abbreviated Name	Units	Analytical Method	Location Sample Date Depth	DER1-22	DER1-27	DER1-29	DER2-01	DER2-03	DER2-11	DER2-16	DER2-23
					05/04/2010 0-0.5 Feet	04/22/2010 0-0.5 Feet	04/21/2010 0-0.5 Feet	04/21/2010 0-0.5 Feet	04/22/2010 0-0.5 Feet	04/20/2010 0-0.5 Feet	04/20/2010 0-0.5 Feet	04/22/2010 0-0.5 Feet
Perfluorooctanoic Acid	PFOA	UG/KG	LC-0012		<0.72 U	<1.0 U	<0.64 UJ	<0.65 U	<0.80 U	<1.4 UJ	21 J	<1.1 U
Perfluorooctane Sulfonic Acid	PFOS	UG/KG	LC-0012		<0.17 U	<0.24 U	<0.15 UJ	<0.15 U	<0.19 U	<0.34 UJ	<0.33 UJ	<0.25 U

Parameter Name	Abbreviated Name	Units	Analytical Method	Location Sample Date Depth	DER2-28	DER2-29	DER2-32	DER2-33	DER2-34
					04/22/2010 0-0.5 Feet	04/21/2010 0-0.5 Feet	04/28/2010 0-0.5 Feet	04/28/2010 0-0.5 Feet	04/28/2010 0-0.5 Feet
Perfluorooctanoic Acid	PFOA	UG/KG	LC-0012		<0.97 U	<0.98 U	<0.90 U	<1.4 U	<1.3 U
Perfluorooctane Sulfonic Acid	PFOS	UG/KG	LC-0012		<0.23 U	<0.23 U	<0.21 U	<0.33 U	<0.30 U

Notes:

J - Estimated Value

UJ = Non detect result with estimated reporting limits due to poor lab matrix spike recovery

U = Not detected at specified quantification limit

-- No sample collected

Depth = Depth below surface

Units: UG/KG = Parts per billion

Table 10
Summary of Salem Canal Surface Water Results
Conceptual Site Model for PFAS
Chemours Chambers Works
Deepwater, New Jersey

Parameter Name	Abbrev. Name	Units	Location Sample Date Sample Purpose Analytical Method	SC-240	SC-241	SC-242	SC-243	SC-244	SC-245	SC-246
				08/26/2016 FS	08/26/2016 FS	08/26/2016 FS	08/15/2016 FS	08/15/2016 FS	08/15/2016 FS	08/15/2016 FS
Perfluorobutane Sulfonic Acid	PFBS	UG/L	DV-LC-0012	<0.0078 U	<0.0079 U	<0.0075 U	<0.0080 U	<0.0087 U	<0.0082 U	<0.0082 U
Perfluorobutanoic Acid	PFBA	UG/L	DV-LC-0012	0.013 J	0.02	0.016 J	0.03	0.025	0.027	0.027
Perfluorodecane Sulfonic Acid	PFDS	UG/L	DV-LC-0012	<0.0086 U	<0.0088 U	<0.0083 U	<0.0089 U	<0.0097 U	<0.0091 U	<0.0091 U
Perfluorodecanoic Acid	PFDA	UG/L	DV-LC-0012	<0.0074 U	0.011 J	<0.0071 U	<0.0076 U	<0.0083 U	<0.0077 U	<0.0077 U
Perfluorododecanoic Acid	PFDOA	UG/L	DV-LC-0012	<0.014 U	<0.014 U	<0.014 U	<0.014 U	<0.016 U	<0.015 U	<0.015 U
Perfluoroheptanoic Acid	PFHpA	UG/L	DV-LC-0012	0.015 J	0.021 J	0.018 J	0.027 J	0.025 J	0.026 J	0.021 J
Perfluorohexane Sulfonic Acid	PFHxS	UG/L	DV-LC-0012	<0.0066 U	<0.0067 U	<0.0064 U	<0.0068 U	<0.0074 U	<0.0069 U	<0.0069 U
Perfluorohexanoic Acid	PFHxA	UG/L	DV-LC-0012	0.066 B	0.089 B	0.082 B	0.068	0.064	0.058	0.046
Perfluorononanoic Acid	PFNA	UG/L	DV-LC-0012	<0.016 U	<0.017 U	<0.016 U	<0.017 U	<0.018 U	<0.017 U	<0.017 U
Perfluorooctane Sulfonamide	PFOSA	UG/L	DV-LC-0012	<0.0053 U	<0.0052 U	<0.0068 U	<0.0056 UJ	<0.0055 UJ	<0.0054 U J	<0.0061 UJ
Perfluoropentanoic Acid	PFPEA	UG/L	DV-LC-0012	0.036	0.053	0.044	0.052	0.051	0.042	0.039
Perfluorotetradecanoic Acid	PFTEDA	UG/L	DV-LC-0012	<0.014 U	<0.014 U	<0.013 U	<0.014 U	<0.016 U	<0.015 U	<0.015 U
Perfluorotridecanoic Acid	PFTriDA	UG/L	DV-LC-0012	<0.017 U	<0.017 U	<0.016 U	<0.017 U	<0.019 U	<0.018 U	<0.018 U
Perfluoroundecanoic Acid	PFUNA	UG/L	DV-LC-0012	<0.0065 U	<0.0066 U	<0.0063 U	<0.0067 U	<0.0073 U	<0.0068 U	<0.0068 U
Perfluorooctanoic Acid	PFOA	UG/L	DV-LC-0012	0.022	0.04	0.029	0.047	0.046	0.045	0.042
Perfluorooctane Sulfanic Acid	PFOS	UG/L	DV-LC-0012	<0.013 U	<0.013 U	<0.012 U	<0.013 U	<0.014 U	<0.013 U	<0.013 U

Parameter Name	Abbrev. Name	Units	Location Sample Date Sample Purpose Analytical Method	SC-247	SC-248	SC-249	SC-249	SC-250	SC-251
				08/15/2016 FS	08/15/2016 FS	08/15/2016 FS	08/15/2016 DUP	08/15/2016 FS	08/15/2016 FS
Perfluorobutane Sulfonic Acid	PFBS	UG/L	DV-LC-0012	<0.0079 U	<0.0083 U	<0.0080 U	<0.0080 U	<0.0081 U	<0.0081 U
Perfluorobutanoic Acid	PFBA	UG/L	DV-LC-0012	0.022	0.025	0.021	0.021	0.021	0.022
Perfluorodecane Sulfonic Acid	PFDS	UG/L	DV-LC-0012	<0.0087 U	<0.0093 U	<0.0089 U	<0.0089 U	<0.0090 U	<0.0090 U
Perfluorodecanoic Acid	PFDA	UG/L	DV-LC-0012	<0.0075 U	<0.0079 U	<0.0076 U	<0.0076 U	<0.0077 U	<0.0077 U
Perfluorododecanoic Acid	PFDOA	UG/L	DV-LC-0012	<0.014 U	<0.015 U	<0.015 U	<0.015 U	<0.015 U	<0.015 U
Perfluoroheptanoic Acid	PFHpA	UG/L	DV-LC-0012	0.021 J	0.02 J	0.022 J	0.024 J	0.022 J	0.02 J
Perfluorohexane Sulfonic Acid	PFHxS	UG/L	DV-LC-0012	<0.0067 U	<0.0071 U	<0.0068 U	<0.0068 U	<0.0069 U	<0.0069 U
Perfluorohexanoic Acid	PFHxA	UG/L	DV-LC-0012	0.045	0.045	0.045	0.044	0.036	0.037
Perfluorononanoic Acid	PFNA	UG/L	DV-LC-0012	<0.017 U	<0.018 U	<0.017 U	<0.017 U	<0.017 U	<0.017 U
Perfluorooctane Sulfonamide	PFOSA	UG/L	DV-LC-0012	<0.0056 UJ	<0.0057 UJ	<0.0056 UJ	<0.0058 UJ	<0.0059 UJ	<0.0058 UJ
Perfluoropentanoic Acid	PFPEA	UG/L	DV-LC-0012	0.041	0.039	0.042	0.036	0.033	0.037
Perfluorotetradecanoic Acid	PFTEDA	UG/L	DV-LC-0012	<0.014 U	<0.015 U	<0.014 U	<0.014 U	<0.015 U	<0.015 U
Perfluorotridecanoic Acid	PFTriDA	UG/L	DV-LC-0012	<0.017 U	<0.018 U	<0.017 U	<0.017 U	<0.017 U	<0.018 U
Perfluoroundecanoic Acid	PFUNA	UG/L	DV-LC-0012	<0.0066 U	<0.0070 U	<0.0067 U	<0.0067 U	<0.0068 U	<0.0068 U
Perfluorooctanoic Acid	PFOA	UG/L	DV-LC-0012	0.039	0.043	0.038	0.038	0.033	0.033
Perfluorooctane Sulfanic Acid	PFOS	UG/L	DV-LC-0012	<0.013 U	<0.013 U	0.013 J	<0.013 U	<0.013 U	<0.013 U

Notes:

Sample Type: FS = Field Sample; DUP = Duplicate Sample
 B = Not detected substantially above the level reported in the laboratory or field blank
 J = Estimated Value
 U = Not detected at specified quantitation limit
 UJ = Not detected at estimated quantification limit
 < = Not detected at stated reporting limit
 Units: UG/L = Parts per billion

Table 11
Summary of Salem Canal Sediment Results
Conceptual Site Model for PFAS
Chemours Chambers Works
Deepwater, New Jersey

Parameter Name	Abbreviated Name	Units	Analytical Method	Sample ID Sample Date Sample Depth Sample Purpose	SC-182	SC-182	SC-182	SC-182	SC-187	SC-187	SC-189	SC-189	SC-189	SC-189	SC-189	SC-189	SC-191
					08/19/2016 0.5-1.0 Feet FS	08/19/2016 0-0.5 Feet FS	08/19/2016 1.0-1.5 Feet FS	08/19/2016 1.5-2.0 Feet FS	08/19/2016 0.5-1.0 Feet FS	08/19/2016 0-0.5 Feet FS	08/19/2016 0.5-1.0 Feet FS	08/19/2016 0-0.5 Feet FS	08/19/2016 1.0-1.5 Feet FS	08/19/2016 1.5-2.0 Feet FS	08/19/2016 2.0-2.5 Feet FS	08/19/2016 2.5-3.0 Feet FS	08/19/2016 0-0.5 Feet FS
PFOA	PFOA	UG/KG	DV-LC-0012		<0.27	<0.28	1.2 J	1.8	3.3	0.43 J	8.6	2.7	25	25	21	6.5	0.6 J
PFOS	PFOS	UG/KG	DV-LC-0012		0.22 J	0.18 J	0.51 J	0.28 J	<0.21	<0.20	<0.23	0.21 J	<0.42	0.77 J	<0.42	0.27 J	<0.17
Perfluorobutane Sulfonic Acid	PFBS	UG/KG	DV-LC-0012		<0.17	<0.17	<0.23	<0.23	<0.21	<0.20	<0.23	<0.18	<0.42	<0.46	<0.42	<0.21	<0.17
Perfluorobutanoic Acid	PFBA	UG/KG	DV-LC-0012		<0.14	<0.15	<0.20	<0.20	0.46 J	<0.17	1.7	<0.15	3.6	5.4	4.1	1.7	<0.15
Perfluorodecane Sulfonic Acid	PFDS	UG/KG	DV-LC-0012		<0.35	<0.37	<0.49	<0.49	<0.46	1.3	<0.49	<0.38	1.1 J	1.7 J	<0.89	<0.46	<0.37
Perfluorodecanoic Acid	PFDA	UG/KG	DV-LC-0012		<0.32	1	3.2	5.5	1.6	0.65 J	4	1.7	6	4.1	4.8	2	0.39 J
Perfluorododecanoic Acid	PFDOA	UG/KG	DV-LC-0012		0.75 J	2.3 J	0.98 J	<0.93	<0.87	<0.80	<0.93	<0.72	<1.7	<1.9	<1.7	<0.87	<0.71
Perfluoroheptanoic Acid	PFHpA	UG/KG	DV-LC-0012		<0.14	<0.15	0.29 J	0.3 J	0.83 J	<0.17	3	0.74 J	9.3	10	8.6	2.4	<0.15
Perfluorohexane Sulfonic Acid	PFHxS	UG/KG	DV-LC-0012		<0.33	<0.34	<0.46	<0.46	<0.43	<0.39	<0.46	<0.35	<0.85	<0.92	<0.83	<0.43	<0.35
Perfluorohexanoic Acid	PFHxA	UG/KG	DV-LC-0012		<0.18	<0.18	1.1 J	1.2 J	2.6	<0.21	11	3.4	36	38	34	9	<0.19
Perfluorononanoic Acid	PFNA	UG/KG	DV-LC-0012		<0.26	<0.27	0.52 J	1.2 J	1.2	0.31 J	1.7	0.82 J	4.8	4.2	3.8	1.4	<0.27
Perfluorooctane Sulfonamide	PFOSA	UG/KG	DV-LC-0012		<0.12	<0.12	<0.16	<0.16	<0.15	<0.14	<0.16	<0.12	<0.30	<0.32	<0.29	<0.15	<0.12
Perfluoropentanoic Acid	PFPEA	UG/KG	DV-LC-0012		<0.28	<0.29	<0.39	<0.39	0.47 J	<0.33	3.5	0.94 J	11	11	11	2.7	<0.30
Perfluorotetradecanoic Acid	PFTEDA	UG/KG	DV-LC-0012		<0.82	<0.85	<1.1	<1.1	<1.1 UJ	<0.96	<1.1	<0.87	<2.1	<2.3	<2.1	<1.1	<0.86
Perfluorotridecanoic Acid	PFTriDA	UG/KG	DV-LC-0012		<0.38	<0.39	<0.52	<0.52	<0.49 UJ	<0.45	<0.52	<0.40	<0.97	<1.0	<0.95	<0.49	<0.40
Perfluoroundecanoic Acid	PFUNA	UG/KG	DV-LC-0012		<0.38	<0.39	0.97 J	<0.52	<0.49	<0.45	<0.52	<0.40	<0.97	<1.0	<0.95	<0.49	<0.40

Parameter Name	Abbreviated Name	Units	Analytical Method	Sample ID Sample Date Sample Depth Sample Purpose	SC-196	SC-204	SC-204	SC-208	SC-208	SC-208	SC-208	SC-209	SC-209	SC-209	SC-209	SC-209	SC-209
					08/19/2016 0-0.5 Feet FS	08/22/2016 0.5-1.0 Feet FS	08/22/2016 0-0.5 Feet FS	08/22/2016 0.5-1.0 Feet FS	08/22/2016 0-0.5 Feet FS	08/22/2016 1.0-1.5 Feet FS	08/22/2016 1.5-1.8 Feet FS	08/22/2016 0.5-1.0 Feet DUP	08/22/2016 0-0.5 Feet FS	08/22/2016 1.0-1.5 Feet FS	08/22/2016 1.5-2.0 Feet FS	08/22/2016 2.0-2.5 Feet FS	08/22/2016 2.5-3.0 Feet FS
Perfluorooctanoic Acid	PFOA	UG/KG	DV-LC-0012		0.42 J	2.4	1.4	1.6	2.6	2.5	0.37 J	<0.68	0.77 J	<0.59	1.1 J	1.5 J	2
Perfluorooctane Sulfonic Acid	PFOS	UG/KG	DV-LC-0012		<0.18	<0.22	<0.18	0.46 J	<0.29	0.4 J	<0.18	0.45 J	0.86 J	0.6 J	0.82 J	0.39 J	<0.30
Perfluorobutane Sulfonic Acid	PFBS	UG/KG	DV-LC-0012		<0.18	<0.22	<0.18	<0.29	<0.29	<0.30	<0.18	<0.41	<0.44	<0.36	<0.36	<0.31	<0.30
Perfluorobutanoic Acid	PFBA	UG/KG	DV-LC-0012		0.27 J	<0.19	<0.15	0.81 J	<0.25	0.69 J	<0.15	1.4 J	0.7 J	0.49 J	0.69 J	0.82 J	0.3 J
Perfluorodecane Sulfonic Acid	PFDS	UG/KG	DV-LC-0012		0.48 J	<0.48	<0.39	<0.62	<0.63	0.65 J	<0.38	<0.88	<0.94	<0.78	<0.76	<0.66	<0.64
Perfluorodecanoic Acid	PFDA	UG/KG	DV-LC-0012		<0.34	2.6	1.6	0.83 J	1.7	1.1 J	<0.35	<0.79	1.1 J	1.0 J	1.5 J	0.82 J	<0.57
Perfluorododecanoic Acid	PFDOA	UG/KG	DV-LC-0012		<0.73	<0.91	1.3 J	<1.2	<1.1 J	<1.2	<0.73	<1.7	<1.8	<1.5	1.4 J	<1.3	<1.2
Perfluoroheptanoic Acid	PFHpA	UG/KG	DV-LC-0012		<0.15	<0.19	0.24 J	<0.25	<0.25	0.39 J	<0.15	<0.35	<0.38	<0.31	0.66 J	0.69 J	0.66 J
Perfluorohexane Sulfonic Acid	PFHxS	UG/KG	DV-LC-0012		<0.36	<0.45	0.81 J	<0.58	<0.59	<0.60	<0.36	<0.82	<0.88	<0.72	<0.71	<0.62	<0.59
Perfluorohexanoic Acid	PFHxA	UG/KG	DV-LC-0012		2.6	<0.24	<0.19	<0.31	0.63 J	0.67 J	<0.19	<0.44	0.47 J	1.2 J	1.1 J	0.88 J	0.77 J
Perfluorononanoic Acid	PFNA	UG/KG	DV-LC-0012		<0.28	0.87 J	<0.28	<0.45	0.66 J	0.53 J	<0.28	<0.65	<0.69	<0.57	<0.56	<0.49	<0.47
Perfluorooctane Sulfonamide	PFOSA	UG/KG	DV-LC-0012		<0.13	<0.16	<0.13	<0.20	<0.21	<0.21	<0.13	<0.29	<0.31	<0.25	<0.25	<0.22	<0.21
Perfluoropentanoic Acid	PFPEA	UG/KG	DV-LC-0012		0.37 J	<0.38	<0.31	<0.49	<0.50	<0.51	<0.31	<0.71	<0.75	<0.62	0.76 J	<0.53	<0.51
Perfluorotetradecanoic Acid	PFTEDA	UG/KG	DV-LC-0012		<0.88	<1.1	<0.89	<1.4	1.9 J	<1.5	<0.89	<2.0	<2.2	<1.8	<1.8	<1.5	<1.5
Perfluorotridecanoic Acid	PFTriDA	UG/KG	DV-LC-0012		<0.41	0.58 J	<0.41	<0.66	0.82 J	<0.68	<0.41	<0.94	<1.0	<0.83	<0.81	<0.71	<0.68
Perfluoroundecanoic Acid	PFUNA	UG/KG	DV-LC-0012		<0.41	<0.51	<0.41	<0.66	1.0 J	<0.68	<0.41	<0.94	<1.0	<0.83	<0.81	<0.71	<0.68

Notes:
Sample Type: FS = Field Sample; DUP = Duplicate Sample
J - Estimated Value
U - Not detected at specified quantitation limit
UJ - Not detected at estimated reporting limit
< = Not detected at stated reporting limit
Sample Depth = Depth below surface
Units: UG/KG = Paarts per billion

**Table 11
Summary of Salem Canal Sediment Results
Conceptual Site Model for PFAS
Chemours Chambers Works
Deepwater, New Jersey**

Parameter Name	Abbreviated Name	Units	Analytical Method	Sample ID Sample Date Sample Depth Sample Purpose	SC-213	SC-213	SC-213	SC-213	SC-213	SC-215	SC-215	SC-215	SC-215	SC-215	SC-215	SC-215	SC-215
					08/23/2016 0.5-1.0 Feet FS	08/23/2016 0-0.5 Feet FS	08/23/2016 1.0-1.5 Feet FS	08/23/2016 1.5-2.0 Feet FS	08/23/2016 2.0-2.5 Feet FS	08/23/2016 0.5-1.0 Feet FS	08/23/2016 0-0.5 Feet FS	08/23/2016 1.0-1.5 Feet FS	08/23/2016 1.5-2.0 Feet FS	08/23/2016 2.0-2.5 Feet FS	08/23/2016 2.5-3.0 Feet FS	08/23/2016 3.0-3.5 Feet FS	08/23/2016 3.5-3.92 Feet FS
Perfluorooctanoic Acid	PFOA	UG/KG	DV-LC-0012		<0.39	<0.28	<0.28	<0.30	<0.29	0.98 J	0.96 J	0.77 J	0.55 J	0.62 J	0.68 J	1.2 J	1.1 J
Perfluorooctane Sulfonic Acid	PFOS	UG/KG	DV-LC-0012		<0.24	<0.17	<0.17	<0.18	<0.18	0.66 J	1.1 J	1.0 J	<0.32	<0.30	<0.30	<0.27	<0.25
Perfluorobutane Sulfonic Acid	PFBS	UG/KG	DV-LC-0012		<0.24	<0.17	<0.17	<0.18	<0.18	<0.37	<0.30	<0.34	<0.32	<0.30	<0.30	<0.27	<0.25
Perfluorobutanoic Acid	PFBA	UG/KG	DV-LC-0012		<0.20	<0.15	<0.15	<0.16	<0.15	2.1	1.2 J	1.1 J	0.89 J	2.1	0.4 J	0.28 J	0.84 J
Perfluorodecane Sulfonic Acid	PFDS	UG/KG	DV-LC-0012		<0.50	<0.37	<0.37	<0.39	<0.38	<0.78	<0.64	<0.73	<0.69	<0.64	<0.64	<0.59	<0.54
Perfluorodecanoic Acid	PFDA	UG/KG	DV-LC-0012		<0.45	<0.33	<0.33	<0.35	<0.34	1.7 J	0.77 J	1.2 J	0.64 J	<0.57	<0.58	<0.53	<0.48
Perfluorododecanoic Acid	PFDOA	UG/KG	DV-LC-0012		<0.96	<0.70	<0.70	<0.74	<0.72	1.8 J	1.5 J	<1.4	<1.3	<1.2	<1.2	<1.1	<1.0
Perfluoroheptanoic Acid	PFHpA	UG/KG	DV-LC-0012		<0.20	<0.15	<0.15	<0.16	<0.15	0.68 J	<0.25	<0.29	<0.28	<0.26	<0.26	<0.23	<0.22
Perfluorohexane Sulfonic Acid	PFHxS	UG/KG	DV-LC-0012		<0.47	<0.34	<0.34	<0.36	<0.35	<0.73	<0.59	<0.69	<0.65	<0.60	<0.60	<0.55	<0.50
Perfluorohexanoic Acid	PFHxA	UG/KG	DV-LC-0012		<0.25	<0.18	<0.18	<0.19	<0.19	1.4 J	<0.32	0.63 J	1.5 J	0.83 J	<0.32	0.52 J	0.28 J
Perfluorononanoic Acid	PFNA	UG/KG	DV-LC-0012		<0.37	<0.27	<0.27	<0.29	<0.28	<0.57	<0.47	<0.54	<0.51	<0.47	<0.47	<0.43	<0.39
Perfluorooctane Sulfonamide	PFOSA	UG/KG	DV-LC-0012		<0.16	<0.12	<0.12	<0.13	<0.12	<0.26	<0.21	<0.24	<0.23	<0.21	<0.21	<0.19	<0.18
Perfluoropentanoic Acid	PFPEA	UG/KG	DV-LC-0012		<0.40	<0.30	<0.29	<0.31	<0.30	<0.63	<0.51	<0.59	<0.55	<0.51	<0.52	<0.47	<0.43
Perfluorotetradecanoic Acid	PFTEDA	UG/KG	DV-LC-0012		<1.2 UJ	<0.85	<0.84	<0.89	<0.87	<1.8	<1.5	<1.7	<1.6	<1.5	<1.5	<1.3	<1.2
Perfluorotridecanoic Acid	PFTriDA	UG/KG	DV-LC-0012		<0.54	<0.39	<0.39	<0.42	<0.40	<0.84	<0.68	<0.78	<0.74	<0.68	<0.69	<0.62	<0.57
Perfluoroundecanoic Acid	PFUNA	UG/KG	DV-LC-0012		<0.54	<0.39	<0.39	<0.42	<0.40	1.1 J	0.83 J	<0.78	<0.74	<0.68	<0.69	<0.62	<0.57

Parameter Name	Abbreviated Name	Units	Analytical Method	Sample ID Sample Date Sample Depth Sample Purpose	SC-218	SC-218	SC-222	SC-222	SC-222	SC-224	SC-224	SC-226	SC-226	SC-227	SC-227	SC-227	SC-227
					08/24/2016 0.5-1.0 Feet FS	08/24/2016 0-0.5 Feet FS	08/25/2016 0.5-1.0 Feet FS	08/25/2016 0.5-1.0 Feet DUP	08/25/2016 0-0.5 Feet FS	08/25/2016 0.5-1.0 Feet FS	08/25/2016 0-0.5 Feet FS	08/25/2016 0-0.5 Feet FS	08/16/2016 0.5-1.0 Feet FS	08/16/2016 0-0.5 Feet FS	08/25/2016 0.5-1.0 Feet FS	08/25/2016 0-0.5 Feet FS	08/25/2016 0.5-1.0 Feet FS
Perfluorooctanoic Acid	PFOA	UG/KG	DV-LC-0012		<0.55	<0.66	<0.42	<0.41	<0.47	0.92 J	<0.54	<0.65 UJ	<0.86 UJ	0.32 J	0.66 J	0.36 J	<0.26
Perfluorooctane Sulfonic Acid	PFOS	UG/KG	DV-LC-0012		0.55 J	1.0 J	<0.26	<0.25	<0.28	<0.31	1.7 J	1.2 J	2.2 J	<0.18	<0.20	<0.16	<0.16
Perfluorobutane Sulfonic Acid	PFBS	UG/KG	DV-LC-0012		<0.33	<0.40	<0.26	<0.25	<0.28	<0.31	<0.33	<0.39 UJ	<0.52 UJ	<0.18	<0.20	<0.16	<0.16
Perfluorobutanoic Acid	PFBA	UG/KG	DV-LC-0012		0.8 J	2.5	0.38 J	0.33 J	<0.24	<0.99	<0.28	<0.34 UJ	<0.45 UJ	<0.16	<0.17	<0.14	<0.14
Perfluorodecane Sulfonic Acid	PFDS	UG/KG	DV-LC-0012		<0.71	<0.86	<0.55	<0.53	<0.61	<0.66	<0.71	<0.85 UJ	<1.1 UJ	<0.39	<0.42	<0.34	<0.34
Perfluorodecanoic Acid	PFDA	UG/KG	DV-LC-0012		<0.64	1.0 J	<0.49	<0.48	<0.55	0.8 J	0.79 J	<0.76 UJ	<1.0 UJ	0.92 J	0.93 J	<0.30	<0.30
Perfluorododecanoic Acid	PFDOA	UG/KG	DV-LC-0012		<1.4	<1.6	<1.0	<1.0	<1.2	<1.3	<1.3	<1.6 UJ	<2.1 UJ	1.6 J	<0.79	<0.64	<0.64
Perfluoroheptanoic Acid	PFHpA	UG/KG	DV-LC-0012		<0.28	<0.34	<0.22	<0.21	<0.24	<0.26	<0.28	<0.34 UJ	<0.45 UJ	<0.16	<0.17	<0.14	<0.14
Perfluorohexane Sulfonic Acid	PFHxS	UG/KG	DV-LC-0012		<0.66	<0.80	<0.51	<0.49	<0.57	<0.61	<0.66	<0.79 UJ	<1.0 UJ	<0.36	<0.39	<0.32	<0.32
Perfluorohexanoic Acid	PFHxA	UG/KG	DV-LC-0012		0.44 J	<0.43	<0.27	<0.26	<0.30	<0.33	<0.36	<0.42 UJ	<0.56 UJ	0.56 J	<0.21	<0.17	<0.17
Perfluorononanoic Acid	PFNA	UG/KG	DV-LC-0012		<0.52	<0.63	<0.40	<0.39	<0.45	<0.48	<0.52	<0.62 UJ	<0.82 UJ	<0.28	<0.31	<0.25	<0.25
Perfluorooctane Sulfonamide	PFOSA	UG/KG	DV-LC-0012		<0.23	<0.28	<0.18	<0.17	<0.20	<0.22	<0.23	<0.28 UJ	<0.37 UJ	<0.13	<0.14	<0.11	<0.11
Perfluoropentanoic Acid	PFPEA	UG/KG	DV-LC-0012		<0.57	<0.69	<0.44	<0.42	<0.49	<0.53	<0.57	<0.68 UJ	<0.90 UJ	<0.31	<0.33	<0.27	<0.27
Perfluorotetradecanoic Acid	PFTEDA	UG/KG	DV-LC-0012		<1.6	<2.0	<1.3	<1.2	<1.4	<1.5 UJ	<1.6	<1.9 UJ	<2.6 UJ	1.7 J	<0.96	<0.78	<0.78
Perfluorotridecanoic Acid	PFTriDA	UG/KG	DV-LC-0012		<0.76	<0.91	<0.59	<0.56	<0.65	<0.70	<0.76	<0.90 UJ	<1.2 UJ	0.43 J	<0.45	<0.36	<0.36
Perfluoroundecanoic Acid	PFUNA	UG/KG	DV-LC-0012		<0.76	<0.91	<0.59	<0.56	<0.65	0.86 J	<0.76	<0.90 UJ	1.3 J	<0.41	<0.45	<0.36	<0.36

Notes:
 Sample Type: FS = Field Sample; DUP = Duplicate Sample
 J - Estimated Value
 U - Not detected at specified quantitation limit
 UJ - Not detected at estimated reporting limit
 < = Not detected at stated reporting limit
 Sample Depth = Depth below surface
 Units: UG/KG = Paarts per billion

Table 11
Summary of Salem Canal Sediment Results
Conceptual Site Model for PFAS
Chemours Chambers Works
Deepwater, New Jersey

Parameter Name	Abbreviated Name	Units	Analytical Method	Sample ID Sample Date Sample Depth Sample Purpose	SC-233	SC-233	SC-234	SC-234	SC-236	SC-236
					08/25/2016 0.5-1.0 Feet FS	08/25/2016 0-0.5 Feet FS	08/24/2016 0.5-1.0 Feet FS	08/24/2016 0-0.5 Feet FS	08/25/2016 0.5-1.0 Feet FS	08/25/2016 0-0.5 Feet FS
Perfluorooctanoic Acid	PFOA	UG/KG	DV-LC-0012		0.32 J	0.73 J	<0.26	<0.29	5.2	1.8
Perfluorooctane Sulfonic Acid	PFOS	UG/KG	DV-LC-0012		<0.17	<0.18	<0.16	<0.18	<0.27	<0.22
Perfluorobutane Sulfonic Acid	PFBS	UG/KG	DV-LC-0012		<0.17	<0.18	<0.16	<0.18	<0.27	<0.22
Perfluorobutanoic Acid	PFBA	UG/KG	DV-LC-0012		<0.15	<0.16	0.26 J	<0.15	1.4 J	0.66 J
Perfluorodecane Sulfonic Acid	PFDS	UG/KG	DV-LC-0012		<0.37	<0.39	<0.34	<0.38	<0.58	<0.48
Perfluorodecanoic Acid	PFDA	UG/KG	DV-LC-0012		<0.33	2.1	<0.31	<0.34	9.5	4.9
Perfluorododecanoic Acid	PFDOA	UG/KG	DV-LC-0012		<0.70	1.2 J	<0.65	<0.72	7.3	2.0 J
Perfluoroheptanoic Acid	PFHpA	UG/KG	DV-LC-0012		<0.15	0.16 J	<0.14	<0.15	1.7	0.24 J
Perfluorohexane Sulfonic Acid	PFHxS	UG/KG	DV-LC-0012		<0.34	<0.37	<0.32	<0.35	<0.54	<0.45
Perfluorohexanoic Acid	PFHxA	UG/KG	DV-LC-0012		0.47 J	0.29 J	<0.17	<0.19	5.9	1.8
Perfluorononanoic Acid	PFNA	UG/KG	DV-LC-0012		<0.27	<0.29	<0.25	<0.28	1.7	0.56 J
Perfluorooctane Sulfonamide	PFOSA	UG/KG	DV-LC-0012		<0.12	<0.13	<0.11	<0.12	0.25 J	<0.16
Perfluoropentanoic Acid	PFPEA	UG/KG	DV-LC-0012		<0.29	<0.31	<0.27	<0.30	0.88 J	<0.38
Perfluorotetradecanoic Acid	PFTEDA	UG/KG	DV-LC-0012		<0.85	<0.90	<0.78	<0.87	<1.3	<1.1
Perfluorotridecanoic Acid	PFTriDA	UG/KG	DV-LC-0012		<0.39	<0.42	<0.36	<0.40	1.4 J	0.72 J
Perfluoroundecanoic Acid	PFUNA	UG/KG	DV-LC-0012		<0.39	0.63 J	<0.36	<0.40	4.5	3.3

Notes:
 Sample Type: FS = Field Sample; DUP = Duplicate Sample
 J - Estimated Value
 U - Not detected at specified quantitation limit
 UJ - Not detected at estimated reporting limit
 < = Not detected at stated reporting limit
 Sample Depth = Depth below surface
 Units: UG/KG = Paarts per billion

Table 12
Summary of Off-Site Monitoring Well Results
Conceptual Site Model for PFAS
Chemours Chambers Works
Deepwater New Jersey

Parameter Name	Abbreviated Name	Screening Criteria	Location Sample Date Sample Purpose	CC23M01A	G04M01A	I120M01A	O02M01A	P04M01A	R06M01A	S09M01A	X18M01A	Y31M01A	BB31M01A
				11/05/2007 FS	11/05/2007 FS	11/06/2007 FS	11/06/2007 FS	11/05/2007 FS	11/07/2007 FS	11/05/2007 FS	11/05/2007 FS	11/05/2007 FS	11/05/2007 FS
Nethyl perfluorooctane sulfonamidoacetic acid	N-EtFOSAA		ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Nmethyl perfluorooctane sulfonamidoacetic acid	N-MeFOSA-AcOH		ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Perfluorobutane Sulfonic Acid	PFBS		ug/L	<0.0020	<0.010	<0.0021	<0.0022	<0.0099	<0.0041	<0.0099	<0.010	<0.0020	<0.0052
Perfluorobutanoic Acid	PFBA		ug/L	<0.0010 UJ	0.24	0.012 J	0.0093 J	0.21	0.029	0.38	0.31	0.017 J	0.065
Perfluorodecanoic Acid	PFDA		ug/L	0.0015	0.10 J	0.0026	0.015	0.0056	<0.0010	<0.0050	0.037	0.0033	0.0087
Perfluorododecanoic Acid	PFDOA		ug/L	<0.0010	<0.0050	<0.0010	<0.0011	<0.0050	<0.0010	<0.0050	<0.0051	<0.00099	<0.0026
Perfluoroheptanoic Acid	PFHpA		ug/L	0.0031	0.24	0.05	0.070 J	0.56	0.14	0.58	0.59	0.071	0.14
Perfluorohexane Sulfonic Acid	PFHxS		ug/L	<0.0020	<0.010	<0.0021	<0.0022	<0.0099	<0.0020	<0.0099	<0.010	<0.0020	0.0056
Perfluorohexanoic Acid	PFHxA		ug/L	0.0045	0.74	0.066	0.080 J	0.82	0.22	1.1	1.4	0.14 J	0.24
Perfluorononanoic Acid	PFNA	0.01	ug/L	0.0014	0.11 J	0.0026	0.023	0.063	0.0048	0.099	0.23	0.021	0.037
Perfluorooctane Sulfonamide	PFOSA		ug/L	<0.0010	<0.0050	<0.0010	<0.0011	<0.0050	<0.0010	<0.0050	<0.0051	<0.00099	<0.0025
Perfluoropentanoic Acid	PFPEA		ug/L	0.0050 J	0.45	0.086	0.058	0.52	0.13	0.95	0.61	0.054	0.16
Perfluorotetradecanoic Acid	PFTEDA		ug/L										NA
Perfluorotridecanoic Acid	PFTriDA		ug/L										<0.0026
Perfluorooctanoic Acid	PFOA	0.07*	ug/L	0.012	0.67	0.061	0.18 J	1.1	0.32	0.88	2.0	0.33	0.29
Perfluorooctane Sulfonic Acid	PFOS	0.07*	ug/L	<0.0020	<0.010	<0.0021	0.0057	<0.0099	<0.0020	<0.0099	<0.010	<0.0020	0.012
Perfluoroundecanoic Acid	PFUNA		ug/L	<0.0010	<0.0050	<0.0010	0.0035	<0.0050	<0.0010	<0.0050	<0.0051	<0.00099	NA
Perfluorooctanoic Acid	PFOA	0.07*	ug/L	NQ	0.92	0.07	0.31 J	1.4	0.45	1.0	2.2	0.46	NA
Perfluorooctane Sulfonic Acid	PFOS	0.07*	ug/L	<0.00080 UJ	NQ	NQ	0.016 J	<0.0080	NQ	<0.0080	<0.040	<0.0080	NA

Parameter Name	Abbreviated Name	Screening Criteria	Location Sample Date Sample Purpose	BB31M01A	BB31M01A	BB31M01B	BB31M01B	BB31M01B	CC23M01A	CC23M01A	CC23M01A	EE16M01A	EE16M01A
				11/12/2010 FS	07/25/2014 FS	02/24/2009 FS	11/12/2010 FS	07/25/2014 FS	02/24/2009 FS	11/12/2010 FS	07/28/2014 FS	02/24/2009 FS	11/11/2010 FS
Nethyl perfluorooctane sulfonamidoacetic acid	N-EtFOSAA		ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Nmethyl perfluorooctane sulfonamidoacetic acid	N-MeFOSA-AcOH		ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Perfluorobutane Sulfonic Acid	PFBS		ug/L	0.01	0.0074	0.0038	0.007	0.0071	<0.0020	<0.0020	<0.0020	<0.0020	0.004
Perfluorobutanoic Acid	PFBA		ug/L	0.11	0.13	0.052	0.13	0.11	0.0011	<0.00098	0.02	0.036	0.076
Perfluorodecanoic Acid	PFDA		ug/L	0.016	0.016	0.013	0.015	0.012	<0.0010	0.0014	<0.0010	0.0024	0.0032
Perfluorododecanoic Acid	PFDOA		ug/L	<0.00097	<0.0010	0.0018	<0.0016	<0.0010	<0.0010	<0.00098	<0.0010 UJ	<0.0010	<0.00099
Perfluoroheptanoic Acid	PFHpA		ug/L	0.27	0.25	0.098	0.21	0.2	0.002	0.0016	0.034	0.063	0.1
Perfluorohexane Sulfonic Acid	PFHxS		ug/L	0.0062	0.0036	0.0051	0.0093	0.0048	<0.0020	<0.0020	<0.0020	<0.0020	0.002
Perfluorohexanoic Acid	PFHxA		ug/L	0.4	0.24	0.17	0.36	0.19	0.0035	0.0025	0.047	0.11	0.17
Perfluorononanoic Acid	PFNA	0.01	ug/L	0.056	0.085	0.036	0.056	0.071	<0.0010	0.0017	<0.0010	0.0052	0.0061
Perfluorooctane Sulfonamide	PFOSA		ug/L	<0.00097	<0.0010	0.0023	<0.0016	<0.0010	<0.00095	<0.00098	<0.0010	<0.00097	<0.00099
Perfluoropentanoic Acid	PFPEA		ug/L	0.24	0.29	0.12	0.31	0.23	0.0022	0.0016	0.055	0.075	0.14
Perfluorotetradecanoic Acid	PFTEDA		ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Perfluorotridecanoic Acid	PFTriDA		ug/L	<0.00097	<0.0010	0.0041	<0.0016	<0.0010	<0.0010	0.0012	<0.0010	<0.0010	0.0014
Perfluorooctanoic Acid	PFOA	0.07*	ug/L	0.52	0.62	0.19	0.43	0.5	0.0043	0.0019	0.039	0.087	0.25
Perfluorooctane Sulfonic Acid	PFOS	0.07*	ug/L	0.013	0.03	0.012	0.011	0.028	<0.0020	<0.0020	<0.0020	<0.0020	0.0042
Perfluoroundecanoic Acid	PFUNA		ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Perfluorooctanoic Acid	PFOA	0.07*	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Perfluorooctane Sulfonic Acid	PFOS	0.07*	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

Notes:
 J = Estimated result; the value may be biased low or high.
 UJ = Detection limit may be higher due to a low recovery observed in the associated matrix spike analysis
 < = Not detect at stated reporting limit
 NA = Not Analyzed
 NQ = Not Quantifiable
 Highlighted cells exceed stated screening criteria.
 * Health Advisory for PFOA PFOS, EPA 2016
 FS = Field Sample; DUP = Duplicate
 Units: ug/L = Parts per billion

Table 12
Summary of Off-Site Monitoring Well Results
Conceptual Site Model for PFAS
Chemours Chambers Works
Deepwater New Jersey

Parameter Name	Abbreviated Name	Screening Criteria	Location Sample Date Sample Purpose	EE16M01A	EE16M01A	EE16M01B	EE16M01B	EE16M01B	EE16M01B	G04M01A	G04M01A	G04M01A	I120M01A
				07/25/2014	07/27/2016	02/24/2009	11/11/2010	07/25/2014	07/27/2016	02/25/2009	11/10/2010	07/23/2014	02/25/2009
				FS	FS	FS	FS	FS	FS	FS	FS	FS	FS
Nethyl perfluorooctane sulfonamidoacetic acid	N-EtFOSAA		ug/L	NA	<0.020	NA	NA	NA	NA	<0.020	NA	NA	NA
Nmethyl perfluorooctane sulfonamidoacetic acid	N-MeFOSA-AcOH		ug/L	NA	<0.020	NA	NA	NA	NA	<0.020	NA	NA	NA
Perfluorobutane Sulfonic Acid	PFBS		ug/L	0.0041	0.0026	<0.0024	0.0026	0.0065	0.003	0.0077	0.0065	<0.0052	<0.0020
Perfluorobutanoic Acid	PFBA		ug/L	0.089	NA	0.036	0.037	0.077	NA	0.44	0.32	0.32	0.044
Perfluorodecanoic Acid	PFDA		ug/L	<0.0010	<0.0020	<0.0012	<0.00099	<0.0010	<0.0020	0.25	0.21	0.063	<0.00099
Perfluorododecanoic Acid	PFDOA		ug/L	<0.0010	<0.0020	<0.0012	<0.00099	<0.0010	<0.0020	<0.0022	0.0039	0.0075 J	<0.00099
Perfluoroheptanoic Acid	PFHpA		ug/L	0.19	0.11	0.099	0.073 J	0.15	0.12	0.53	0.46	0.42	0.059
Perfluorohexane Sulfonic Acid	PFHxS		ug/L	<0.0020	<0.0020	<0.0024	<0.0020	<0.0020	<0.0020	<0.0044	<0.0032	<0.0044	<0.0020
Perfluorohexanoic Acid	PFHxA		ug/L	0.2	0.14	0.12	0.10 J	0.17	0.18	1.3	1.4	1	0.092
Perfluorononanoic Acid	PFNA	0.01	ug/L	0.0083	0.008	<0.0012	0.0018	0.0013	<0.0020	0.31	0.23	0.16	0.0042
Perfluorooctane Sulfonamide	PFOSA		ug/L	<0.0010	NA	0.0012	<0.00099	<0.0010	NA	<0.0021	<0.0016	<0.0022	<0.00094
Perfluoropentanoic Acid	PFPEA		ug/L	0.19	NA	0.094	0.092 J	0.18	NA	0.69	0.54	0.61	0.089
Perfluorotetradecanoic Acid	PFTEDA		ug/L	NA	<0.0020	NA	NA	NA	<0.0020	NA	NA	NA	NA
Perfluorotridecanoic Acid	PFTriDA		ug/L	<0.0010	<0.0020	<0.0012	<0.00099	<0.0010	<0.0020	0.0098	0.014	0.0067	<0.00099
Perfluorooctanoic Acid	PFOA	0.07*	ug/L	0.32	0.26	0.17	0.2	0.27	0.27	1	1.9	0.95	0.057
Perfluorooctane Sulfonic Acid	PFOS	0.07*	ug/L	0.0077	<0.0020	<0.0024	<0.0020	<0.0020	0.0022	0.015	0.0094	0.0084	<0.0020
Perfluoroundecanoic Acid	PFUNA		ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Perfluorooctanoic Acid	PFOA	0.07*	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Perfluorooctane Sulfonic Acid	PFOS	0.07*	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

Parameter Name	Abbreviated Name	Screening Criteria	Location Sample Date Sample Purpose	I120M01A	I120M01A	I120M01A	O02M01A	O02M01A	O02M01A	O02M01A	O02M01A	OSW1	OSW1	OSW1
				11/11/2010	07/28/2014	07/29/2016	02/25/2009	11/11/2010	11/11/2010	07/23/2014	02/25/2009	11/12/2010	07/28/2014	
				FS	FS	FS	FS	FS	DUP	FS	FS	FS	FS	FS
Nethyl perfluorooctane sulfonamidoacetic acid	N-EtFOSAA		ug/L	NA	NA	<0.020	NA	NA	NA	NA	NA	NA	NA	NA
Nmethyl perfluorooctane sulfonamidoacetic acid	N-MeFOSA-AcOH		ug/L	NA	NA	<0.020	NA	NA	NA	NA	NA	NA	NA	NA
Perfluorobutane Sulfonic Acid	PFBS		ug/L	0.0033	0.0065	0.0029	0.018	0.019	0.017	0.009	<0.0037	0.0056	0.0046	
Perfluorobutanoic Acid	PFBA		ug/L	0.07	0.054	NA	0.4	0.35	0.34	0.18	0.093	0.096	0.13	
Perfluorodecanoic Acid	PFDA		ug/L	<0.00099	<0.0010	<0.0020	0.01	0.027	0.019	0.027	0.0079	0.0064	0.0067	
Perfluorododecanoic Acid	PFDOA		ug/L	<0.00099	0.0063	<0.0020	<0.0022	<0.0024	<0.0024	0.0019 J	<0.0019	<0.0010	<0.0010 UJ	
Perfluoroheptanoic Acid	PFHpA		ug/L	0.14	0.18	0.11	0.66	0.57	0.51	0.45	0.2	0.2	0.33	
Perfluorohexane Sulfonic Acid	PFHxS		ug/L	<0.0020	0.002	<0.0020	<0.0043	0.0052	<0.0049	<0.0020	<0.0037	0.0024	<0.0021	
Perfluorohexanoic Acid	PFHxA		ug/L	0.19	0.17	0.14	1.2	0.94	0.9	0.63	0.27	0.28	0.29	
Perfluorononanoic Acid	PFNA	0.01	ug/L	0.0038	0.0038	0.0031	0.079	0.1	0.096	0.17	0.023	0.035	0.037	
Perfluorooctane Sulfonamide	PFOSA		ug/L	<0.00099	<0.0010	NA	<0.0021	<0.0024	<0.0024	<0.0010	<0.0018	<0.0010	0.0015	
Perfluoropentanoic Acid	PFPEA		ug/L	0.19	0.2	NA	0.72	0.7	0.7	0.42	0.2	0.22	0.29	
Perfluorotetradecanoic Acid	PFTEDA		ug/L	NA	NA	<0.0020	NA	NA	NA	NA	NA	NA	NA	
Perfluorotridecanoic Acid	PFTriDA		ug/L	<0.00099	<0.0010	<0.0020	<0.0022	<0.0024	<0.0024	<0.0010	<0.0019	<0.0010	<0.0010	
Perfluorooctanoic Acid	PFOA	0.07*	ug/L	0.12	0.16	0.14	0.78	0.69	0.72	0.79	0.2	0.27	0.26	
Perfluorooctane Sulfonic Acid	PFOS	0.07*	ug/L	<0.0020	<0.0020	<0.0020	<0.0043	0.0092	0.0082	0.012	<0.0037	0.0067	0.014	
Perfluoroundecanoic Acid	PFUNA		ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
Perfluorooctanoic Acid	PFOA	0.07*	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
Perfluorooctane Sulfonic Acid	PFOS	0.07*	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	

Notes:
 J = Estimated result; the value may be biased low or high.
 UJ = Detection limit may be higher due to a low recovery observed in the associated matrix spike analysis
 < = Not detect at stated reporting limit
 NA = Not Analyzed
 NQ = Not Quantifiable
 Highlighted cells exceed stated screening criteria.
 * Health Advisory for PFOA PFOS, EPA 2016
 FS = Field Sample; DUP = Duplicate
 Units: ug/L = Parts per billion

Table 12
Summary of Off-Site Monitoring Well Results
Conceptual Site Model for PFAS
Chemours Chambers Works
Deepwater New Jersey

Parameter Name	Abbreviated Name	Screening Criteria	Location Sample Date Sample Purpose	OSW1	OSW2	OSW2	OSW2	OSW2	OSW3	OSW3	OSW3	OSW4	OSW4
				07/29/2016 FS	11/11/2010 FS	11/11/2010 DUP	07/28/2014 FS	07/28/2016 FS	11/11/2010 FS	07/28/2014 FS	07/28/2016 FS	11/11/2010 FS	07/25/2014 FS
Nethyl perfluorooctane sulfonamidoacetic acid	N-EtFOSAA		ug/L	<0.020	NA	NA	NA	<0.020	NA	NA	<0.020	NA	NA
Nmethyl perfluorooctane sulfonamidoacetic acid	N-MeFOSA-AcOH		ug/L	<0.020	NA	NA	NA	<0.020	NA	NA	<0.020	NA	NA
Perfluorobutane Sulfonic Acid	PFBS		ug/L	0.0038	0.0031	0.0033	0.0029	0.0034	0.0032	0.0028	0.0043	0.0051	0.0071 J
Perfluorobutanoic Acid	PFBA		ug/L	NA	0.046	0.043	0.064	NA	0.043	0.047	NA	0.078	<0.015 R
Perfluorodecanoic Acid	PFDA		ug/L	0.017	<0.00098	<0.0010	<0.0010	<0.0020	0.0022	0.0032	0.004	0.0062	0.0033
Perfluorododecanoic Acid	PFDOA		ug/L	<0.0020	<0.00098	<0.0010	<0.0010	<0.0020	<0.0010	<0.00099	<0.0020	<0.00098	<0.0011 UJ
Perfluoroheptanoic Acid	PFHpA		ug/L	0.13	0.068 J	0.067 J	0.088	0.039	0.063	0.075	0.062	0.13	0.18 J
Perfluorohexane Sulfonic Acid	PFHxS		ug/L	0.002	0.0021	<0.0020	<0.0021	0.002	<0.0020	<0.0029	<0.0020	0.003	<0.0029 UJ
Perfluorohexanoic Acid	PFHxA		ug/L	0.22	0.10 J	0.10 J	0.089	0.071	0.085	0.076	0.097	0.28	0.23 J
Perfluorononanoic Acid	PFNA	0.01	ug/L	0.043	0.0024	0.0014	0.02	0.003	0.06	0.071	0.051	0.018	0.02
Perfluorooctane Sulfonamide	PFOSA		ug/L	NA	<0.00098	<0.0010	<0.0010	NA	<0.0010	<0.00099 UJ	NA	<0.00098	<0.0011
Perfluoropentanoic Acid	PFPEA		ug/L	NA	0.093 J	0.097 J	0.14	NA	0.07	0.087	NA	0.13	0.083 J
Perfluorotetradecanoic Acid	PFTEDA		ug/L	<0.0020	NA	NA	NA	<0.0020	NA	NA	<0.0020	NA	NA
Perfluorotridecanoic Acid	PFTriDA		ug/L	<0.0020	<0.00098	<0.0010	<0.0010	<0.0020	<0.0010	<0.00099	<0.0020	<0.00098	<0.0011
Perfluorooctanoic Acid	PFOA	0.07*	ug/L	0.21	0.12	0.12	0.15	0.082	0.19	0.14	0.13	0.33	0.32
Perfluorooctane Sulfonic Acid	PFOS	0.07*	ug/L	0.0089	<0.0020	<0.0020	0.0061	<0.0020	0.0021	0.012	0.0089	<0.0020	0.0029
Perfluoroundecanoic Acid	PFUNA		ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Perfluorooctanoic Acid	PFOA	0.07*	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Perfluorooctane Sulfonic Acid	PFOS	0.07*	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

Parameter Name	Abbreviated Name	Screening Criteria	Location Sample Date Sample Purpose	OSW4	OSW4	P04M01A	P04M01A	P04M01A	R04M01A	R04M01A	R04M01A	R04M01A	R04M01B
				07/29/2016 FS	07/29/2016 DUP	02/25/2009 FS	11/10/2010 FS	07/23/2014 FS	02/25/2009 FS	11/11/2010 FS	07/28/2014 FS	07/28/2016 FS	02/25/2009 FS
Nethyl perfluorooctane sulfonamidoacetic acid	N-EtFOSAA		ug/L	<0.020	<0.020	NA	NA	NA	NA	NA	NA	<0.020 UJ	NA
Nmethyl perfluorooctane sulfonamidoacetic acid	N-MeFOSA-AcOH		ug/L	<0.020	<0.020	NA	NA	NA	NA	NA	NA	<0.020 UJ	NA
Perfluorobutane Sulfonic Acid	PFBS		ug/L	0.0046	0.0049	0.01	0.014	0.022	<0.013	0.011	0.014	0.0087 J	<0.0080
Perfluorobutanoic Acid	PFBA		ug/L	NA	NA	0.46	0.25	0.23	0.4	0.62	0.69	NA	0.28
Perfluorodecanoic Acid	PFDA		ug/L	0.0057	0.0056	0.016	0.016	0.0058	<0.0063	<0.0025	<0.0025	<0.0020 UJ	<0.0040
Perfluorododecanoic Acid	PFDOA		ug/L	<0.0020	<0.0020	<0.0018	<0.0014	<0.00091	<0.0063	<0.0025	<0.0025	<0.0020 UJ	<0.0040
Perfluoroheptanoic Acid	PFHpA		ug/L	0.089	0.093	0.61	0.35	0.39 J	1	0.91	1.2	1.1	0.47
Perfluorohexane Sulfonic Acid	PFHxS		ug/L	0.002	0.0021	<0.0037	<0.0028	<0.0018	<0.013	<0.0050	<0.013	0.0036 J	<0.0080
Perfluorohexanoic Acid	PFHxA		ug/L	0.18	0.18	1.2	0.6	0.48 J	1.9	1.7	1.2	1.6	0.78
Perfluorononanoic Acid	PFNA	0.01	ug/L	0.031	0.032	0.1	0.088	0.11	<0.0063	0.012	0.0055	0.0091 J	0.0089
Perfluorooctane Sulfonamide	PFOSA		ug/L	NA	NA	<0.0017	<0.0014	<0.00091	<0.0060	<0.0025	<0.0025	NA	<0.0038
Perfluoropentanoic Acid	PFPEA		ug/L	NA	NA	0.82	0.29	0.32 J	1.4	1.6	1.7	NA	0.59
Perfluorotetradecanoic Acid	PFTEDA		ug/L	<0.0020	<0.0020	NA	NA	NA	NA	NA	NA	<0.0020 UJ	NA
Perfluorotridecanoic Acid	PFTriDA		ug/L	<0.0020	<0.0020	<0.0018	<0.0014	<0.00091	<0.0063	<0.0025	<0.0025	<0.0020 UJ	<0.0040
Perfluorooctanoic Acid	PFOA	0.07*	ug/L	0.24	0.24	0.93	1.1	0.65	0.11	0.66	0.59	0.94	0.48
Perfluorooctane Sulfonic Acid	PFOS	0.07*	ug/L	0.0054	0.0061	<0.0037	0.0031	0.0028	<0.013	<0.0050	<0.015	<0.0020 UJ	<0.0080
Perfluoroundecanoic Acid	PFUNA		ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Perfluorooctanoic Acid	PFOA	0.07*	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Perfluorooctane Sulfonic Acid	PFOS	0.07*	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

Notes:
 J = Estimated result; the value may be biased low or high.
 UJ = Detection limit may be higher due to a low recovery observed in the associated matrix spike analysis
 < = Not detect at stated reporting limit
 NA = Not Analyzed
 NQ = Not Quantifiable
 Highlighted cells exceed stated screening criteria.
 * Health Advisory for PFOA PFOS, EPA 2016
 FS = Field Sample; DUP = Duplicate
 Units: ug/L = Parts per billion

Table 12
Summary of Off-Site Monitoring Well Results
Conceptual Site Model for PFAS
Chemours Chambers Works
Deepwater New Jersey

Parameter Name	Abbreviated Name	Screening Criteria	Location Sample Date Sample Purpose	R04M01B	R04M01B	R04M01B	R06M01A	R06M01A	R06M01A	S09M01A	S09M01A	S09M01A
				11/11/2010	07/28/2014	07/28/2016	02/25/2009	11/10/2010	07/23/2014	02/25/2009	11/10/2010	07/23/2014
				FS	FS	FS	FS	FS	FS	FS	FS	FS
Nethyl perfluorooctane sulfonamidoacetic acid	N-EtFOSAA		ug/L	NA	NA	<0.020	NA	NA	NA	NA	NA	NA
Nmethyl perfluorooctane sulfonamidoacetic acid	N-MeFOSA-AcOH		ug/L	NA	NA	<0.020	NA	NA	NA	NA	NA	NA
Perfluorobutane Sulfonic Acid	PFBS		ug/L	0.0074	0.008	0.0098	0.0088	0.0088	0.0073	0.0072	0.024	0.0052
Perfluorobutanoic Acid	PFBA		ug/L	0.28	0.3	NA	0.21	0.26	0.29	0.39	0.32	0.25
Perfluorodecanoic Acid	PFDA		ug/L	0.0081	0.0025	0.0098	<0.0016	<0.0013	<0.0010	<0.0014	0.0043	0.0097
Perfluorododecanoic Acid	PFDOA		ug/L	<0.0014	<0.0020 UJ	<0.0020	<0.0016	<0.0013	<0.0010	<0.0014	<0.0012	<0.0020 UJ
Perfluoroheptanoic Acid	PFHpA		ug/L	0.45	0.49	0.28	0.41	0.38	0.40 J	0.53	0.77	0.39
Perfluorohexane Sulfonic Acid	PFHxS		ug/L	0.0032	<0.0039	0.0065	<0.0032	0.0033	<0.0023	<0.0028	<0.0025	<0.0041
Perfluorohexanoic Acid	PFHxA		ug/L	0.92	0.68	0.61	0.55	0.54	0.49 J	1.1	0.86	0.52
Perfluorononanoic Acid	PFNA	0.01	ug/L	0.028	0.058	0.096	0.021	0.024	0.042	0.052	0.27	0.21
Perfluorooctane Sulfonamide	PFOSA		ug/L	<0.0014	<0.0020 UJ	NA	<0.0015	<0.0013	<0.0010	<0.0013	<0.0012	<0.0020
Perfluoropentanoic Acid	PFPEA		ug/L	0.67	0.63	NA	0.34	0.35	0.38 J	0.84	0.68	0.64
Perfluorotetradecanoic Acid	PFTEDA		ug/L	NA	NA	<0.0020	NA	NA	NA	NA	NA	NA
Perfluorotridecanoic Acid	PFTriDA		ug/L	<0.0014	<0.0020	<0.0020	<0.0016	<0.0013	<0.0010	<0.0014	<0.0012	<0.0020
Perfluorooctanoic Acid	PFOA	0.07*	ug/L	0.75	0.89	0.8	1	1.1	0.67	0.93	1.5	1.2
Perfluorooctane Sulfonic Acid	PFOS	0.07*	ug/L	<0.0028	0.03	0.046	<0.0032	<0.0025	<0.0020	<0.0028	<0.0025	<0.0059
Perfluoroundecanoic Acid	PFUNA		ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA
Perfluorooctanoic Acid	PFOA	0.07*	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA
Perfluorooctane Sulfonic Acid	PFOS	0.07*	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA

Parameter Name	Abbreviated Name	Screening Criteria	Location Sample Date Sample Purpose	U08M01A	U08M01A	U08M01A	X18M01A	X18M01A	X18M01A	Y31M01A	Y31M01A	Y31M01A
				02/25/2009	11/10/2010	07/23/2014	02/25/2009	11/10/2010	07/25/2014	02/25/2009	11/10/2010	07/25/2014
				FS	FS	FS	FS	FS	FS	FS	FS	FS
Nethyl perfluorooctane sulfonamidoacetic acid	N-EtFOSAA		ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA
Nmethyl perfluorooctane sulfonamidoacetic acid	N-MeFOSA-AcOH		ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA
Perfluorobutane Sulfonic Acid	PFBS		ug/L	0.012	0.0089	0.0039	<0.023	0.0074	<0.012 UJ	<0.0020	<0.0025	<0.0028
Perfluorobutanoic Acid	PFBA		ug/L	0.35	0.27	0.23	0.55	0.46	0.31	0.08	0.067	0.025 J
Perfluorodecanoic Acid	PFDA		ug/L	<0.0056	0.0025	0.0012	<0.012	0.022	0.025	0.035	0.035	0.1
Perfluorododecanoic Acid	PFDOA		ug/L	0.008	<0.0016	<0.0010	<0.012	<0.0033	<0.0050 UJ	<0.0010	<0.0010	0.0013 J
Perfluoroheptanoic Acid	PFHpA		ug/L	0.49	0.35	0.38	1.2	0.35	0.57	0.16	0.088	0.061
Perfluorohexane Sulfonic Acid	PFHxS		ug/L	<0.011	<0.0033	<0.0020	<0.023	<0.0066	<0.010 UJ	<0.0020	<0.0020	<0.0020
Perfluorohexanoic Acid	PFHxA		ug/L	0.87	0.55	0.41	2.9	2.3	0.79	0.32	0.21	0.062
Perfluorononanoic Acid	PFNA	0.01	ug/L	0.049	0.12	0.19	0.36	0.23	0.12	0.092	0.057	0.079
Perfluorooctane Sulfonamide	PFOSA		ug/L	0.0067	<0.0016	<0.0010	<0.011	<0.0033	<0.0050	<0.00095	<0.0010	<0.0010
Perfluoropentanoic Acid	PFPEA		ug/L	0.89	0.52	0.42	0.93	0.77	0.57	0.11	0.08	0.043
Perfluorotetradecanoic Acid	PFTEDA		ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA
Perfluorotridecanoic Acid	PFTriDA		ug/L	<0.0056	<0.0016	<0.0010	<0.012	<0.0033	<0.0050	0.0022	<0.0010	<0.0010
Perfluorooctanoic Acid	PFOA	0.07*	ug/L	1.1	0.78	0.8	1.9	3.6	2.3	0.44	0.33	0.14
Perfluorooctane Sulfonic Acid	PFOS	0.07*	ug/L	<0.011	0.021	0.023	<0.023	<0.0066	<0.010 UJ	<0.0020	<0.0020	0.0035
Perfluoroundecanoic Acid	PFUNA		ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA
Perfluorooctanoic Acid	PFOA	0.07*	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA
Perfluorooctane Sulfonic Acid	PFOS	0.07*	ug/L	NA	NA	NA	NA	NA	NA	NA	NA	NA

Notes:
 J = Estimated result; the value may be biased low or high.
 UJ = Detection limit may be higher due to a low recovery observed in the associated matrix spike analysis
 < = Not detect at stated reporting limit
 NA = Not Analyzed
 NQ = Not Quantifiable
 Highlighted cells exceed stated screening criteria.
 * Health Advisory for PFOA PFOS, EPA 2016
 FS = Field Sample; DUP = Duplicate
 Units: ug/L = Parts per billion

Table 13
On-Site PFAS Pathways
Conceptual Site Model for PFAS
Chemours Chambers Works
Deepwater, New Jersey

Index	Source/Impacted Media Acting as a Source	Release Mechanism/Pathway	Secondary Source	Release Mechanism/Pathway	Receptor Media Potentially Impacted	Notes
A	Manufacturing Operations	WWTP Process Waste Water Discharge	-	-	Surface Water and Sediment	Process waste water is collected in regional sumps and conveyed to the WWTP for treatment. Final effluent is mixed with non-contact cooling water and storm water before it is discharged to the Delaware River through permitted outfalls. Programs have been in place since 2004 to reduce emissions of PFAS.
B	Manufacturing Operations	Stack and Vent Air Emissions	Soil - Precursors can breakdown in soil creating a secondary source of PFAS	Infiltration/Leaching of PFAS from soil to groundwater and surface water	Air, Soil, Surface Water, Sediment and Groundwater	The storage, handling and processing of fluorotelomer and fluoroelastomer related products and intermediates creates the potential for the movement of PFAS out of process stacks and vents. From there, these constituents can move downwind and be deposited on surfaces. Programs have been in place since 2004 to reduce these emissions.
C	Manufacturing Operations	Stack and Vent Air Emissions	Soil - Precursors can breakdown on surfaces creating a secondary source of PFAS	Runoff/Erosion during storm events that mobilize sedentary particulates to stormwater grates and outfalls	Surface Water and Sediment	The storage, handling, and processing of fluorotelomer and fluoroelastomer-related products and intermediates creates the potential for the movement of PFAS out of process stacks and vents. From there, these constituents can move downwind and be deposited on surfaces near the point of origination on site. Subsequent rainfall could cause these constituents to be flushed to surface water through storm water outfalls.
D	Manufacturing Operations	Spills or releases during the transport of PFAS-containing waste materials in wood-lined culverts or ditches	Soil	Infiltration/Leaching	Soil and Groundwater	No documented spills of PFAS. However, prior to 1970 process liquids were conveyed to the WWTP for treatment by means of a series of interconnected culverts and wood-lined ditches. Seepage from these features could result in the movement of PFAS into soil and groundwater on site.
E	WWTP Sludge	On-Site Landfill Disposal	Soil	Wind Erosion, Atmospheric Dispersion, Physical Disturbance, Infiltration/Leaching	Soil/Air/Groundwater	Previously, programs were in place to receive wastes from offsite locations. Liquid wastes were treated at the WWTP and solid sludges from the WWTP were sent to the secure RCRA landfill on site where they were dewatered and placed in the landfill. This handling and dewatering process could create a source of PFAS to air, soil, and groundwater.
F	PFAS-Containing Groundwater	Discharge	-	-	Surface Water and Sediment	Chambers Work controls groundwater by means of impermeable barriers and pumping. One remaining area has the potential of migrating offsite. A remedial action is scheduled to mitigate the potential pathway in 2017. Therefore this small remaining pathway will be eliminated.
G	PFAS-Containing Off-Site Surface Water	Infiltration to on-site Groundwater	-	-	Groundwater	Chambers Works maintains control of groundwater by means of pumping. This pumping can cause the movement of surface water to on-site aquifers. Therefore this is not a viable pathway for off site movement

Table 14
Off-Site PFAS Pathways
Conceptual Site Model for PFAS
Chemours Chambers Works
Deepwater, New Jersey

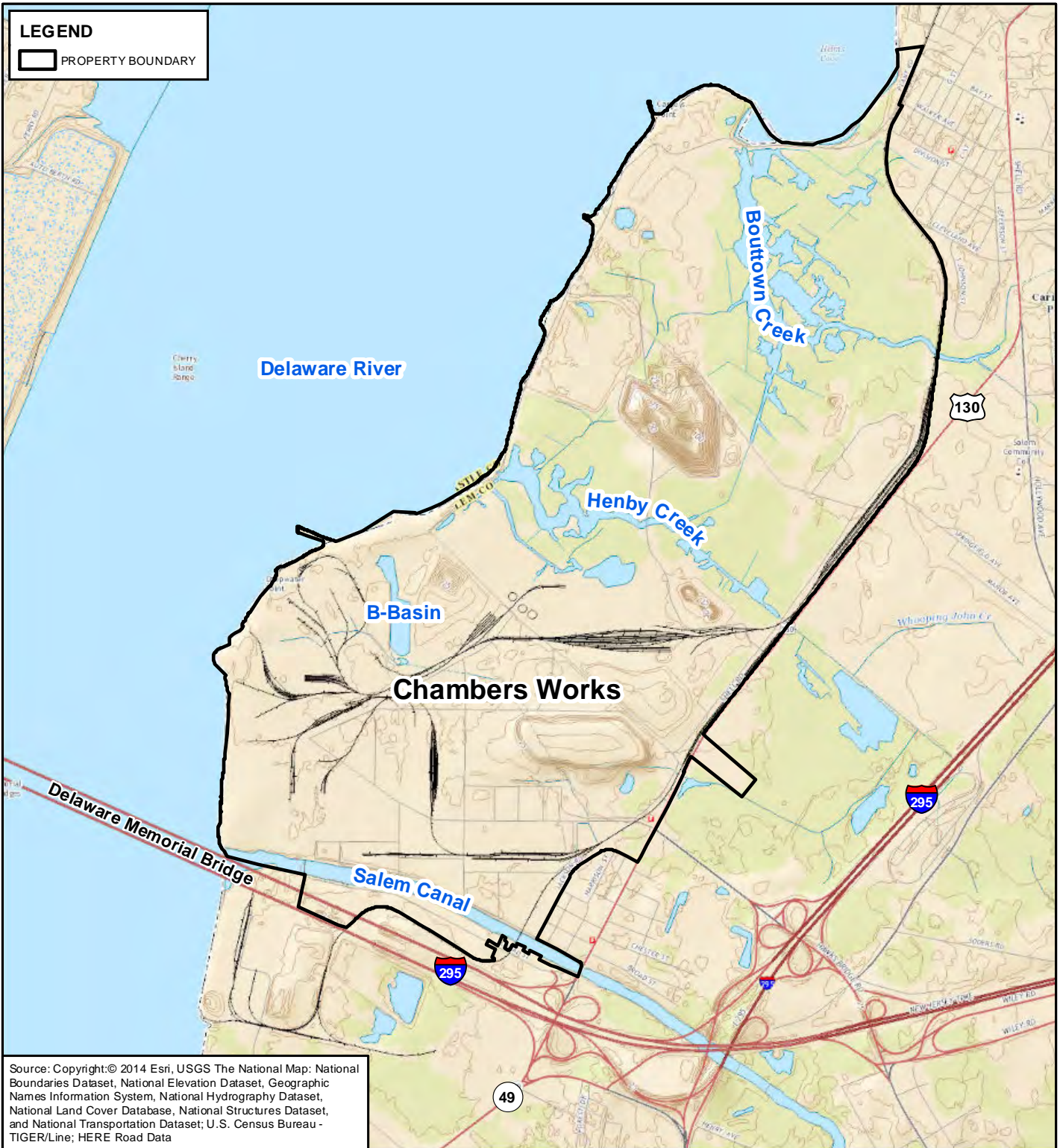
Index	Impacted Media Acting as a Source	Release Mechanism/Pathway	Receptor Media Potentially Impacted	Notes
1	Landfill Leachate, Airport Tarmacs, Paved Surfaces, Fields	Air Emissions	Air, Soil, Surface Water, Sediment and Groundwater	Industrial, agricultural, landfilling, and anthropomorphic processes can result in the release of vapors, aerosols, and particulates. These accumulants can be moved by winds until eventually deposited on paved or permeable surfaces. Subsequent rainfall can dissolve or entrain these constituents which can then migrate into soil or surface water and eventually migrate into groundwater.
2	PFAS-Containing Groundwater	Discharge	Surface Water and Sediment	Where conditions permit, groundwater naturally discharges to surface water. This discharge can result in the movement of dissolved constituents from upgradient sources to surface water. Where dissolved constituents have an affinity for organic matter, and there is organic rich sediment in the surface water features, this discharge can result in the partitioning of the constituents to organic matter in the sediment within a surface water feature which can mitigate or otherwise inhibit the movement of constituents into surface water.
3	PFAS-Containing Surface Water	Infiltrate and Recharge	Groundwater	Pumping groundwater can lower the level of aquifers to lower than the surface water in adjacent streams and rivers. This lowering can induce surface water to enter groundwater and bring with it any dissolved constituents. "Salt water intrusion" which can occur along coastal communities is caused by this condition. Where dissolved constituents have an affinity for organic matter, and there is organic rich sediment in the surface water features, this recharge can result in the partitioning of the dissolved constituents to organic matter in the sediment which can mitigate or otherwise inhibit the movement of constituents into groundwater.
4	PFAS-Containing Groundwater	Well Pumping	Potable, Industrial, or Irrigation Water	Wells constructed in aquifers in which dissolved constituents are present can draw water along with constituents into the water supply. Water wells impacted in such a way often need a treatment system connected to the water supply to remove or reduce these constituents to permissible levels.
5	PFAS-Containing Grey Water	Discharge to Septic Systems (Tanks, Leachate Fields)	Groundwater	Water used for washing and cleaning can accumulate constituents which are discharged to the shallow groundwater through septic systems, tile fields, and leaking pipes.

Impacted Media Acting as a Source - Source of initial media impact is not defined but could include the following: Fire Stations and Fire Training Areas, Landfills, Treatment Plants, Industry and Residential properties that have historically used, stored, or disposed of PFAS containing products

Figures

LEGEND

 PROPERTY BOUNDARY



Source: Copyright:© 2014 Esri, USGS The National Map: National Boundaries Dataset, National Elevation Dataset, Geographic Names Information System, National Hydrography Dataset, National Land Cover Database, National Structures Dataset, and National Transportation Dataset; U.S. Census Bureau - TIGER/Line; HERE Road Data

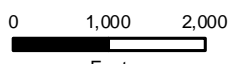
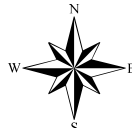
SITE LOCATION MAP

CONCEPTUAL SITE MODEL FOR PFAS
CHEMOURS CHAMBERS WORKS COMPLEX
DEEPWATER, NEW JERSEY

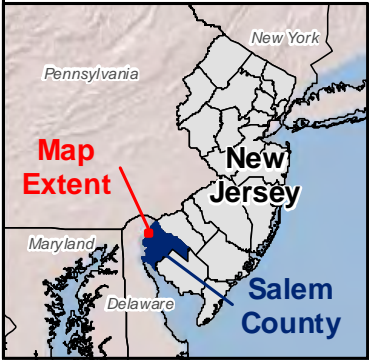
FILE NUMBER:	16003	PROJECT NUMBER:	60517181
DESIGNED BY:	M.LAYTON	DATE:	5/26/2016
DRAWN BY:	M.LAYTON	FIGURE NUMBER:	1
DATA QUALITY CHECK BY:	T.MCGEE		



AECOM
Sabre Building, Suite 300
4051 Ogletown Road
Newark, DE 19713

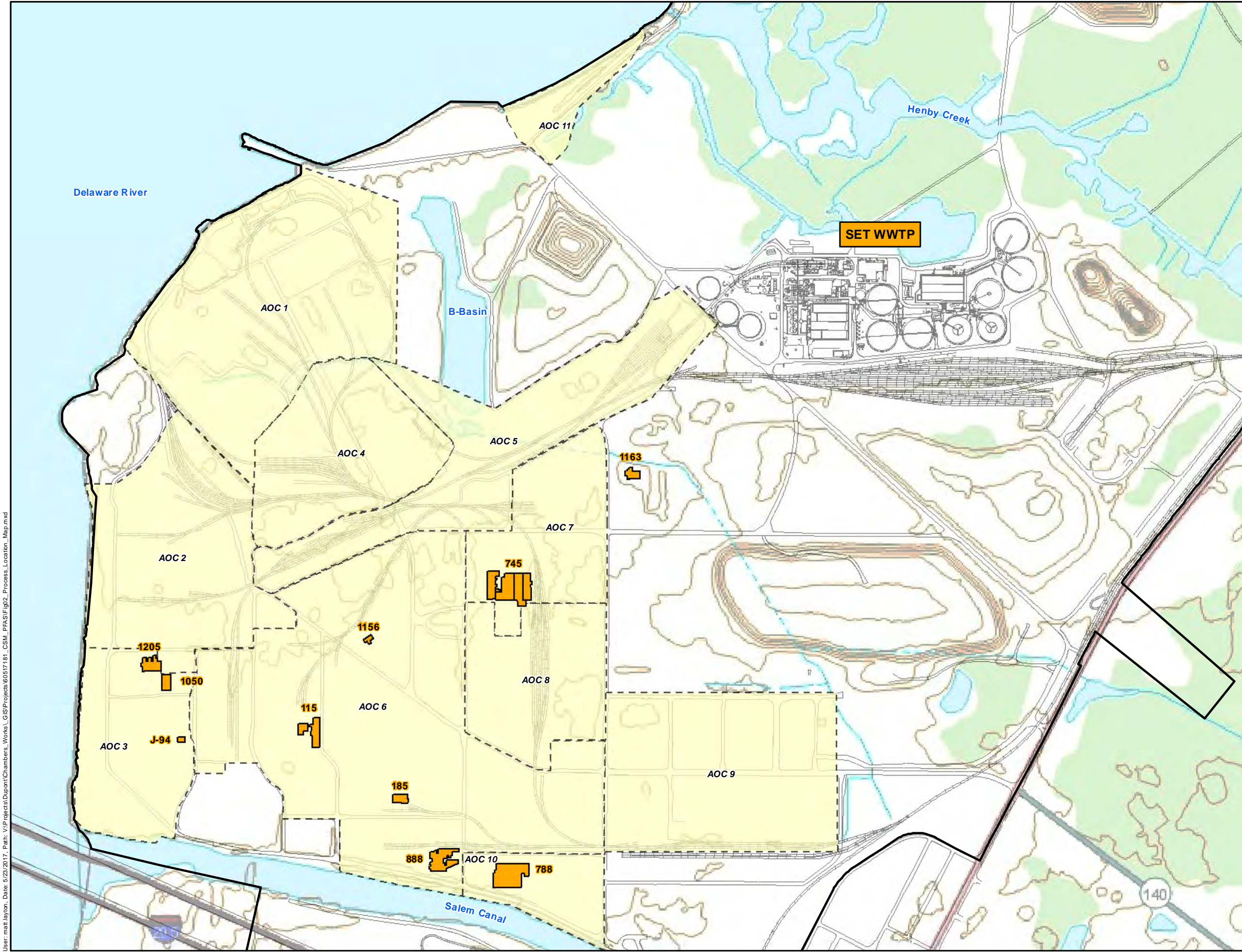


1 inch = 2,000 feet
MAP FORMATTED FOR "A" (8.5" X 11") SIZE SHEET.
TEXT SCALE NOT VALID FOR DIFFERENT PAGE SIZE.



M:\Projects\Durham\Chambers_Works\GIS\Projects\60517181_CSM_PFA_S\Fig\01_Site_Loc_Map.mxd

User: mat.layton, Date: 5/23/2017, Path: V:\Projects\Dupont\Chambers_Works_GIS\Projects\60517181_CSM_PFA\Fig02_Process_Location_Map.mxd



LEGEND

- PROPERTY BOUNDARY
- AOC (AREA OF CONCERN)

Building J-94 - PFOA was potentially analyzed in samples at this location.

Building 115 - Fluorotelomer intermediates were used here. Iodide recycling process.

Building 185 - Fluorotelomer intermediates were used here.

Building 745 - Used as a processing aid for fluoroelastomers thru 2001.

Building 788 - Fluorotelomer intermediates were used here.

Building 888 - Fluorotelomer intermediates were used here.

Building 1050/1205 - Fluorotelomer process. PFOA was an unintended byproduct. Process recovery/purified 60,000 pounds of PFOA.

Building 1156 - Fluorotelomer process. PFOA was an unintended byproduct.

Building 1163 - Used as a Perfluoroelastomer and specialty fluoroelastomer processing aid.

SET WWTP accepted site wastewater and waste streams from other facilities/companies off site, that may have contained PFAS.

Notes:
Map Projection: NAD83 NJ State Plane feet
Source: USGS TNM - National Structures Dataset, USGS TNM - National Transportation Dataset, TeleAtlas Commercial Roads, USGS TNM - Governmental Units Dataset, U.S. Census Bureau - TIGER/Line, USGS TNM - Geographic Names Information Systems (GNIS), USGS TNM - National Hydrography Dataset (NHD)

MAP FORMATTED FOR "B" (11" X 17") SIZE SHEET. TEXT SCALE NOT VALID FOR DIFFERENT PAGE SIZE.

AECOM

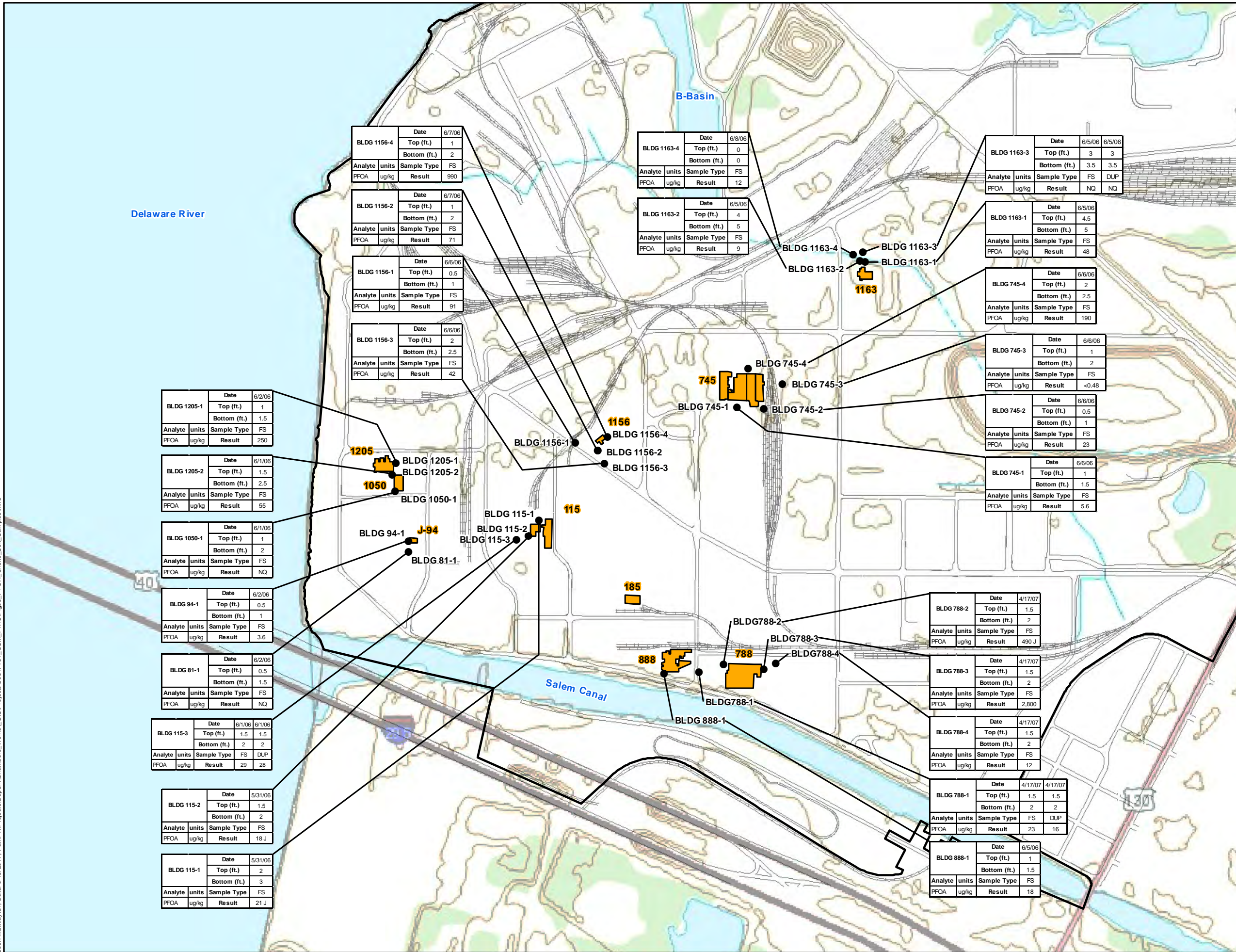
AECOM
Sabre Building, Suite 300
4051 Ogletown Road
Newark, DE 19713

PROCESS LOCATION MAP

CONCEPTUAL SITE MODEL FOR PFAS
CHEMOURS CHAMBERS WORKS COMPLEX
DEEPWATER, NEW JERSEY

TASK NUMBER:	16003	PROJECT NUMBER:	60517181
DESIGNED BY:	T.MCGEE	DATE:	5/26/2017
DRAWN BY:	M.LAYTON	FIGURE NUMBER:	2
DATA QUALITY CHECK BY:	K.WEST		

User: mat.layton, Date: 6/15/2017, Path: V:\Projects\Dupont\Chambers_Work\GIS\Projects\60517181_CSM_PFOA\Fig3_PFOA_Onsite_Soil_Samples.mxd



LEGEND

PROPERTY BOUNDARY

Building J-94 - PFOA was potentially analyzed in samples at this location.

Building 115 - Fluorotelomer intermediates were used here. Iodide recycling process.

Building 185 - Fluorotelomer intermediates were used here.

Building 745 - Used as a processing aid for fluoroelastomers thru 2001.

Building 788 - Fluorotelomer intermediates were used here.

Building 888 - Fluorotelomer intermediates were used here.

Building 1050/1205 - Fluorotelomer process. PFOA was an unintended byproduct. Process recovery/purified 60,000 pounds of PFOA.

Building 1156 - Fluorotelomer process. PFOA was an unintended byproduct.

Building 1163 - Used as a Perfluoroelastomer and specialty fluoroelastomer processing aid.

Notes:

- < = Not detected at state'd reporting limit
- ug/kg = microgram/kilogram
- J = Estimated Value
- FS = Field Sample
- DUP = Duplicate
- NQ = Not Quantifiable
- PFOA = Perfluorooctanoic acid

Map Projection: NAD83 NJ State Plane feet
 Source: USGS TNM - National Structures Dataset, USGS TNM - National Transportation Dataset, TeleAtlas Commercial Roads, USGS TNM - Governmental Units Dataset, U.S. Census Bureau - TIGER/Line, USGS TNM - Geographic Names Information Systems (GNIS), USGS TNM - National Hydrography Dataset (NHD)

0 300 600 1,200
Feet
1 inch = 600 feet
MAP FORMATTED FOR "B" (11" X 17") SIZE SHEET.
TEXT SCALE NOT VALID FOR DIFFERENT PAGE SIZE.

AECOM

AECOM
 Sabre Building, Suite 300
 4051 Ogletown Road
 Newark, DE 19713

**PFOA ON-SITE
 SOIL SAMPLES 2006 - 2007**

CONCEPTUAL SITE MODEL FOR PFAS
 CHEMOURS CHAMBERS WORKS COMPLEX
 DEEPWATER, NEW JERSEY

TASK NUMBER:	16003	PROJECT NUMBER:	60517181
DESIGNED BY:	T.MCGEE	DATE:	6/15/2017
DRAWN BY:	M.LAYTON	FIGURE NUMBER:	3
DATA QUALITY CHECK BY:	K.WEST		

LEGEND

- PROPERTY BOUNDARY
- POTENTIAL SOURCE BUILDING
- B AQUIFER GROUNDWATER ELEVATION
- CONTOUR - 1 FT INTERVAL (NAVD88) - OCTOBER 27, 2016
- GENERAL GROUNDWATER FLOW
- SHEET PILE BARRIER (INSTALLED)
- SWMU 5 SLURRY WALL (INSTALLED)
- WESTERN PERIMETER SPB EXTENSION (PROPOSED)
- B AQUIFER WELL
- RECOVERY WELL

Notes:

PFOA = Perfluorooctanoic Acid
 PFOS = Perfluorooctanesulfonic Acid
 PFNA = Perfluorononanoic Acid

 B = Comparable detection in lab or field blank
 J = Reported value may not be accurate or precise.
 UJ = Not detected. Reporting limit may not be accurate or precise.
 DUP = Duplicate Sample
 FS = Field Sample
 < = Not detected at stated reporting limit
 UG/L = microgram/liter
 = Highlighted Cells = Greater than Screening Criteria

 Groundwater contours are from October 27, 2016 as reported in the 2H16 DGW report.

 *Detections for PFOA and PFOS were compared to EPA 0.07 ug/L Health Advisory Criteria and PFNA NJGWIIA 0.01 ug/L

Map Projection: NAD83 NJ State Plane feet
 Source: Copyright:©2014 Esri, USGS The National Map, National Boundaries Dataset, National Elevation Dataset, Geographic Names Information System, National Hydrography Dataset, National Land Cover Database, National Structures Dataset, and National Transportation Dataset; U.S. Census Bureau - TIGER/Line; HERE Road Data

Analyte	Screening Criteria	Location ID	Date Sampled	Sample Type	FS
PFNA	0.01	D15-M01B	01/17/2017	FS	0.13
PFOS	0.07*				0.04
PFOA	0.07*				0.42

Analyte	Screening Criteria	Location ID	Date Sampled	Sample Type	FS
PFNA	0.01	C11-M03B	01/26/2017	FS	0.094
PFOS	0.07*				0.038
PFOA	0.07*				0.62

Analyte	Screening Criteria	Location ID	Date Sampled	Sample Type	FS
PFNA	0.01	C08-M01B	01/28/2017	FS	0.46
PFOS	0.07*				0.15
PFOA	0.07*				2.6

Analyte	Screening Criteria	Location ID	Date Sampled	Sample Type	FS
PFNA	0.01	D06-M01B	01/17/2017	FS	0.27
PFOS	0.07*				0.04
PFOA	0.07*				0.78

Analyte	Screening Criteria	Location ID	Date Sampled	Sample Type	FS
PFNA	0.01	F07-M01B	01/24/2017	FS	0.33
PFOS	0.07*				<0.015
PFOA	0.07*				1.3

Analyte	Screening Criteria	Location ID	Date Sampled	Sample Type	FS
PFNA	0.01	G05-M02B	01/17/2017	FS	0.45
PFOS	0.07*				<0.087
PFOA	0.07*				3.9

Analyte	Screening Criteria	Location ID	Date Sampled	Sample Type	FS
PFNA	0.01	F08-M01A	01/20/2017	FS	5
PFOS	0.07*				<0.11
PFOA	0.07*				100

Analyte	Screening Criteria	Location ID	Date Sampled	Sample Type	FS
PFNA	0.01	F08-M01B	01/24/2017	FS	1.4
PFOS	0.07*				<0.020
PFOA	0.07*				3.9

Analyte	Screening Criteria	Location ID	Date Sampled	Sample Type	FS
PFNA	0.01	G09-M01A	01/20/2017	FS	500
PFOS	0.07*				<0.54
PFOA	0.07*				1600

Analyte	Screening Criteria	Location ID	Date Sampled	Sample Type	FS
PFNA	0.01	P21-M01B	01/10/2017	FS	16
PFOS	0.07*				<0.57
PFOA	0.07*				320

Analyte	Screening Criteria	Location ID	Date Sampled	Sample Type	FS	DUP
PFNA	0.01	K13-M02B	01/16/2017	FS	2.4	1.9
PFOS	0.07*				<0.18	<0.15
PFOA	0.07*				25	23

Analyte	Screening Criteria	Location ID	Date Sampled	Sample Type	FS
PFNA	0.01	K12-M01A	01/23/2017	FS	0.095
PFOS	0.07*				<0.014
PFOA	0.07*				9.7

Analyte	Screening Criteria	Location ID	Date Sampled	Sample Type	FS	DUP
PFNA	0.01	R09-M02B	01/24/2017	FS	0.56	0.54
PFOS	0.07*				0.017	0.019
PFOA	0.07*				3.5	2.8

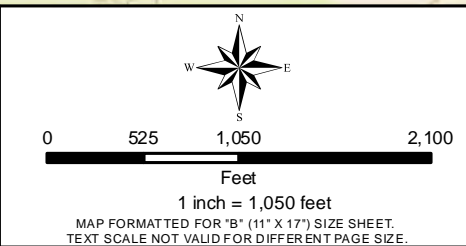
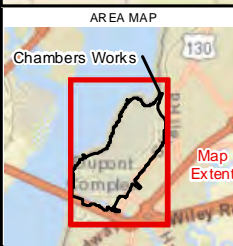
Analyte	Screening Criteria	Location ID	Date Sampled	Sample Type	FS
PFNA	0.01	L09-M01B	01/30/2017	FS	0.3
PFOS	0.07*				<0.017
PFOA	0.07*				1.5

Analyte	Screening Criteria	Location ID	Date Sampled	Sample Type	FS
PFNA	0.01	N08-M01B	01/23/2017	FS	0.13
PFOS	0.07*				0.01
PFOA	0.07*				0.97

Analyte	Screening Criteria	Location ID	Date Sampled	Sample Type	FS
PFNA	0.01	P06-M01B	01/25/2017	FS	0.14
PFOS	0.07*				0.0051
PFOA	0.07*				1.1

Analyte	Screening Criteria	Location ID	Date Sampled	Sample Type	FS
PFNA	0.01	J10-M02B	01/20/2017	FS	0.13
PFOS	0.07*				<0.039
PFOA	0.07*				5.2

Path: V:\Projects\060517181_CSM_PFA5\Fig\04a_B_Aquifer.mxd



TASK NUMBER: 16003
 DESIGNED BY: T.MCGEE
 DRAWN BY: M.LAYTON
 DATA QUALITY CHECK BY: K.WEST

AECOM
 Sabre Building, Suite 300
 4051 Ogletown Road
 Newark, DE 19713

B AQUIFER GROUNDWATER FLOW AND PFAS DETECTIONS

 CONCEPTUAL SITE MODEL FOR PFAS CHEMOURS CHAMBERS WORKS COMPLEX DEEPWATER, NEW JERSEY

PROJECT NUMBER: 60517181
 DATE: 6/14/2017
 FIGURE NUMBER: 4a

LEGEND

- PROPERTY BOUNDARY
- POTENTIAL SOURCE BUILDING
- C AQUIFER GROUNDWATER ELEVATION CONTOUR - 2 FT INTERVAL (NAVD88) - OCTOBER 27, 2016
- GENERAL GROUNDWATER FLOW
- C AQUIFER WELL
- RECOVERY WELL

Notes:

PFOA = Perfluorooctanoic Acid
 PFOS = Perfluorooctanesulfonic Acid
 PFNA = Perfluorononanoic Acid

B = Comparable detection in lab or field blank
 J = Reported value may not be accurate or precise.
 UJ = Not detected. Reporting limit may not be accurate or precise.
 DUP = Duplicate Sample
 FS = Field Sample
 < = Not detected at stated reporting limit
 UG/L = microgram/liter
 = Highlighted Cells = Greater than Screening Criteria

Groundwater contours are from October 27, 2016 as reported in the 2H16 DGW report.

*Detections for PFOA and PFOS were compared to EPA 0.07 ug/L Health Advisory Criteria and PFNA NJGWIA 0.01 ug/L

Map Projection: NAD83 NJ State Plane feet
 Source: Copyright:© 2014 Esri, USGS The National Map, National Boundaries Dataset, National Elevation Dataset, Geographic Names Information System, National Hydrography Dataset, National Land Cover Database, National Structures Dataset, and National Transportation Dataset; U.S. Census Bureau - TIGER/Line; HERE Road Data

Analyte	Screening Criteria	Location ID Date Sampled Sample Type	Z28-M01B	Z28-M01B
			01/27/2017 FS	01/27/2017 DUP
PFNA	0.01		0.028	0.027
PFOS	0.07*		0.018	0.022
PFOA	0.07*		0.31	0.3

Analyte	Screening Criteria	Location ID Date Sampled Sample Type	C11-M02D
			01/26/2017 FS
PFNA	0.01		0.91
PFOS	0.07*		0.034
PFOA	0.07*		1.8

Analyte	Screening Criteria	Location ID Date Sampled Sample Type	C11-M01C
			01/26/2017 FS
PFNA	0.01		0.045
PFOS	0.07*		0.008
PFOA	0.07*		0.11

Analyte	Screening Criteria	Location ID Date Sampled Sample Type	AA25-M01B
			01/27/2017 FS
PFNA	0.01		0.033
PFOS	0.07*		0.017
PFOA	0.07*		0.32

Analyte	Screening Criteria	Location ID Date Sampled Sample Type	R10-M01C
			01/24/2017 FS
PFNA	0.01		0.031
PFOS	0.07*		0.0054
PFOA	0.07*		0.42

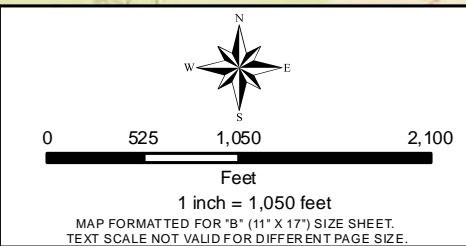
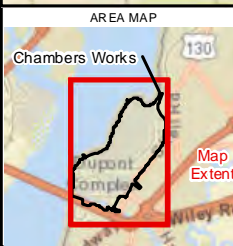
Analyte	Screening Criteria	Location ID Date Sampled Sample Type	N08-M01C
			01/23/2017 FS
PFNA	0.01		2.8
PFOS	0.07*		0.059
PFOA	0.07*		4.1

Analyte	Screening Criteria	Location ID Date Sampled Sample Type	P06-M02C	P06-M02C
			01/25/2017 FS	01/25/2017 DUP
PFNA	0.01		0.041	0.045
PFOS	0.07*		0.0066	0.0059
PFOA	0.07*		0.58	0.55

Analyte	Screening Criteria	Location ID Date Sampled Sample Type	L09-M01C
			01/30/2017 FS
PFNA	0.01		0.18
PFOS	0.07*		0.019
PFOA	0.07*		1.5

Analyte	Screening Criteria	Location ID Date Sampled Sample Type	G04-M01B
			01/20/2017 FS
PFNA	0.01		0.088
PFOS	0.07*		0.0044
PFOA	0.07*		0.69

Path: V:\Projects\Dupont\Chambers_Works\GIS\Projects\60517181_CSM_PFA5\Fig\4b_C_Aquifer.mxd



TASK NUMBER:
16003
 DESIGNED BY:
T.MCGEE
 DRAWN BY:
M.LAYTON
 DATA QUALITY CHECK BY:
K.WEST

AECOM
 AECOM
 Sabre Building, Suite 300
 4051 Ogletown Road
 Newark, DE 19713

C AQUIFER GROUNDWATER FLOW AND PFAS DETECTIONS
 CONCEPTUAL SITE MODEL FOR PFAS
 CHEMOURS CHAMBERS WORKS COMPLEX
 DEEPWATER, NEW JERSEY

PROJECT NUMBER:
60517181
 DATE:
6/14/2017
 FIGURE NUMBER:
4b

LEGEND

- PROPERTY BOUNDARY
- POTENTIAL SOURCE BUILDING
- D AQUIFER GROUNDWATER ELEVATION CONTOUR - 2 FT INTERVAL (NAVD88) - OCTOBER 27, 2016
- GENERAL GROUNDWATER FLOW
- D AQUIFER WELL
- RECOVERY WELL

Notes:

PFOA = Perfluorooctanoic Acid
 PFOS = Perfluorooctanesulfonic Acid
 PFNA = Perfluorononanoic Acid

B = Comparable detection in lab or field blank
 J = Reported value may not be accurate or precise.
 UJ = Not detected. Reporting limit may not be accurate or precise.
 DUP = Duplicate Sample
 FS = Field Sample
 <= = Not detected at stated reporting limit
 UG/L = microgram/liter
 Yellow = Highlighted Cells = Greater than Screening Criteria

Groundwater contours are from October 27, 2016 as reported in the 2H16 DGW report.

*Detections for PFOA and PFOS were compared to EPA 0.07 ug/L Health Advisory Criteria and PFNA NJGWIA 0.01 ug/L

Map Projection: NAD83 NJ State Plane feet
 Source: Copyright:©2014 Esri, USGS The National Map: National Boundaries Dataset, National Elevation Dataset, Geographic Names Information System, National Hydrography Dataset, National Land Cover Database, National Structures Dataset, and National Transportation Dataset; U.S. Census Bureau - TIGER/Line; HERE Road Data

Analyte	Screening Criteria	Date Sampled	Location ID
PFNA	0.01	01/27/2017	AA25-M01C
PFOS	0.07*		FS
PFOA	0.07*		<0.0010

Analyte	Screening Criteria	Date Sampled	Location ID
PFNA	0.01	01/26/2017	C11-M02D
PFOS	0.07*		FS
PFOA	0.07*		0.91

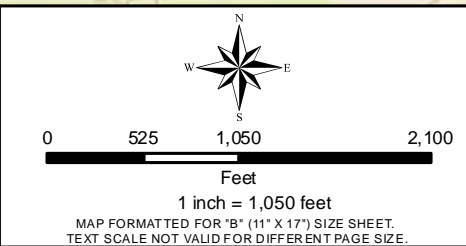
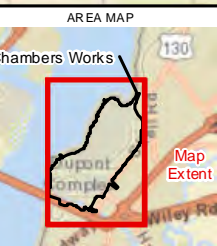
Analyte	Screening Criteria	Date Sampled	Location ID
PFNA	0.01	01/27/2017	AA22-M01B
PFOS	0.07*		FS
PFOA	0.07*		0.058

Analyte	Screening Criteria	Date Sampled	Location ID
PFNA	0.01	01/30/2017	L09-M01D
PFOS	0.07*		FS
PFOA	0.07*		0.6

Analyte	Screening Criteria	Date Sampled	Location ID
PFNA	0.01	01/23/2017	N08-M01D
PFOS	0.07*		FS
PFOA	0.07*		<0.027

Analyte	Screening Criteria	Date Sampled	Location ID
PFNA	0.01	01/25/2017	P06-M01D
PFOS	0.07*		FS
PFOA	0.07*		0.35

Analyte	Screening Criteria	Date Sampled	Location ID
PFNA	0.01	01/17/2017	J05-M01C
PFOS	0.07*		FS
PFOA	0.07*		<0.0099



TASK NUMBER: 16003
 DESIGNED BY: T.MCGEE
 DRAWN BY: M.LAYTON
 DATA QUALITY CHECK BY: K.WEST



D AQUIFER GROUNDWATER FLOW AND PFAS DETECTIONS

CONCEPTUAL SITE MODEL FOR PFAS
 CHEMOURS CHAMBERS WORKS COMPLEX
 DEEPWATER, NEW JERSEY

PROJECT NUMBER: 60517181
 DATE: 6/14/2017
 FIGURE NUMBER: 4c

Path: V:\Projects\Upon\Chambers_Works\GIS\Project\60517181_CSM_PFA\Fig4c_D_Aquifer.mxd

LEGEND

- PROPERTY BOUNDARY
- POTENTIAL SOURCE BUILDING
- E AQUIFER GROUNDWATER ELEVATION CONTOUR - 5 FT INTERVAL (NAVD88) - OCTOBER 27, 2016
- GENERAL GROUNDWATER FLOW
- E AQUIFER WELL

Notes:

PFOA = Perfluorooctanoic Acid
 PFOS = Perfluorooctanesulfonic Acid
 PFNA = Perfluorononanoic Acid

B = Comparable detection in lab or field blank
 J = Reported value may not be accurate or precise.
 UJ = Not detected. Reporting limit may not be accurate or precise.
 DUP = Duplicate Sample
 FS = Field Sample
 < = Not detected at stated reporting limit
 UG/L = microgram/liter
 = Highlighted Cells = Greater than Screening Criteria

Groundwater contours are from October 27, 2016 as reported in the 2H16 DGW report.

*Detections for PFOA and PFOS were compared to EPA 0.07 ug/L Health Advisory Criteria and PFNA NJGWIA 0.01 ug/L

Map Projection: NAD83 NJ State Plane feet
 Source: Copyright:©2014 Esri, USGS The National Map, National Boundaries Dataset, National Elevation Dataset, Geographic Names Information System, National Hydrography Dataset, National Land Cover Database, National Structures Dataset, and National Transportation Dataset; U.S. Census Bureau - TIGER/Line; HERE Road Data

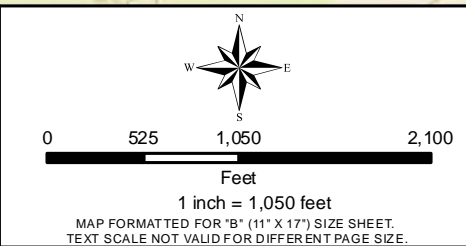
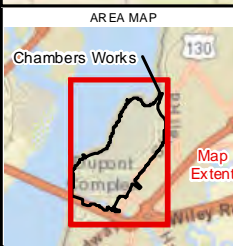
Analyte	Screening Criteria	Location ID	C11-M01E
		Date Sampled	01/26/2017
		Sample Type	FS
PFNA	0.01		<0.0010
PFOS	0.07*		<0.0020
PFOA	0.07*		<0.0010

Analyte	Screening Criteria	Location ID	R10-M01E
		Date Sampled	01/24/2017
		Sample Type	FS
PFNA	0.01		<0.0010
PFOS	0.07*		<0.0020
PFOA	0.07*		0.017

Analyte	Screening Criteria	Location ID	P06-M01E
		Date Sampled	01/25/2017
		Sample Type	FS
PFNA	0.01		0.0024
PFOS	0.07*		<0.0020
PFOA	0.07*		0.072

Analyte	Screening Criteria	Location ID	G04-M01E
		Date Sampled	01/20/2017
		Sample Type	FS
PFNA	0.01		<0.00098
PFOS	0.07*		<0.0020
PFOA	0.07*		0.0066

Path: V:\Projects\Upon\Chambers_Works_GIS\Project\60517181_CSM_PFA5\Fig04d_E_Aquifer.mxd



TASK NUMBER: 16003
 DESIGNED BY: T.MCGEE
 DRAWN BY: M.LAYTON
 DATA QUALITY CHECK BY: K.WEST

AECOM
 Sabre Building, Suite 300
 4051 Ogletown Road
 Newark, DE 19713



E AQUIFER GROUNDWATER FLOW AND PFAS DETECTIONS

CONCEPTUAL SITE MODEL FOR PFAS CHEMOURS CHAMBERS WORKS COMPLEX DEEPWATER, NEW JERSEY

PROJECT NUMBER: 60517181
 DATE: 6/14/2017
 FIGURE NUMBER: 4d

User: mat.layton, Date: 6/14/2017, Path: V:\Projects\Dupont\Chambers_Works\GIS\Projects\Dupont\Chambers_Works\GIS\Projects\Dupont\Chambers_Works_Sampled_RF_Report.mxd

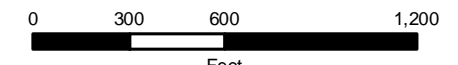
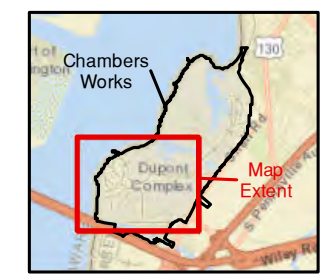
LEGEND

-  WELL LOCATION SAMPLED FOR PFAS
-  PROPERTY BOUNDARY

Notes:
 PFOA = Perfluorooctanoic Acid
 PFOS = Perfluorooctanesulfonic Acid
 PFNA = Perfluorononanoic Acid
 PFOA, PFOS, PFOA + PFOS = 0.07 ug/L Health Advisory 2016
 PFNA = 0.01 ug/L New Jersey Groundwater Class IIA Criteria

B = Comparable detection in lab or field blank
 J = Estimated Value
 < = Not detected at stated reporting limit
 UG/L = microgram/liter
 * Provisional Health Advisory for PFOA/ PFOS, EPA 2016
 ■ = Exceedance of Screening Criteria

Map Projection: NAD83 NJ State Plane feet
 Source: USGS TNM - National Structures Dataset,
 USGS TNM - National Transportation Dataset, TeleAtlas
 Commercial Roads, USGS TNM - Governmental Units Dataset,
 U.S. Census Bureau - TIGER/Line, USGS TNM - Geographic
 Names Information Systems (GNIS), USGS TNM - National
 Hydrography Dataset (NHD)



1 inch = 600 feet
 MAP FORMATTED FOR "B" (11" X 17") SIZE SHEET.
 TEXT SCALE NOT VALID FOR DIFFERENT PAGE SIZE.



AECOM
 Sabre Building, Suite 300
 4051 Ogletown Road
 Newark, DE 19713

**SITE WELLS
 SAMPLED FOR
 RFI REPORT**

CONCEPTUAL SITE MODEL FOR PFAS
 CHEMOURS CHAMBERS WORKS COMPLEX
 DEEPWATER, NEW JERSEY

TASK NUMBER: 16003	PROJECT NUMBER: 60517181
DESIGNED BY: T.MCGEE	DATE: 6/14/2017
DRAWN BY: M.LAYTON	FIGURE NUMBER: 5
DATA QUALITY CHECK BY: K.WEST	

K17-M01C		Screening	Sample Date
Analytes	Units	Criteria	02/12/2014
Perfluorononanoic Acid	UG/L	0.01	0.26
PFOA*	UG/L	0.07*	1
PFOS*	UG/L	0.07*	0.043

O16-P01B		Screening	Sample Date
Analytes	Units	Criteria	02/12/2014
Perfluorononanoic Acid	UG/L	0.01	0.57
PFOA*	UG/L	0.07*	4.9
PFOS*	UG/L	0.07*	<0.020

I15-M01C		Screening	Sample Date
Analytes	Units	Criteria	01/28/2014
Perfluorononanoic Acid	UG/L	0.01	0.63 J
PFOA*	UG/L	0.07*	17
PFOS*	UG/L	0.07*	<0.28

P15-M01C		Screening	Sample Date
Analytes	Units	Criteria	02/12/2014
Perfluorononanoic Acid	UG/L	0.01	0.17
PFOA*	UG/L	0.07*	3.3
PFOS*	UG/L	0.07*	<0.017

E14-M01D		Screening	Sample Date
Analytes	Units	Criteria	02/11/2014
Perfluorononanoic Acid	UG/L	0.01	0.21
PFOA*	UG/L	0.07*	1
PFOS*	UG/L	0.07*	0.012

I15-M01D		Screening	Sample Date
Analytes	Units	Criteria	01/28/2014
Perfluorononanoic Acid	UG/L	0.01	0.4
PFOA*	UG/L	0.07*	5.1
PFOS*	UG/L	0.07*	<0.050

E14-M01C		Screening	Sample Date
Analytes	Units	Criteria	02/11/2014
Perfluorononanoic Acid	UG/L	0.01	0.24
PFOA*	UG/L	0.07*	1.4
PFOS*	UG/L	0.07*	0.011

G12-M01C		Screening	Sample Date
Analytes	Units	Criteria	01/30/2014
Perfluorononanoic Acid	UG/L	0.01	0.15
PFOA*	UG/L	0.07*	1.8
PFOS*	UG/L	0.07*	0.0084

P15-M01C		Screening	Sample Date
Analytes	Units	Criteria	02/12/2014
Perfluorononanoic Acid	UG/L	0.01	0.17
PFOA*	UG/L	0.07*	3.3
PFOS*	UG/L	0.07*	<0.017

G12-M01D		Screening	Sample Date
Analytes	Units	Criteria	01/30/2014
Perfluorononanoic Acid	UG/L	0.01	0.02
PFOA*	UG/L	0.07*	0.24
PFOS*	UG/L	0.07*	<0.0019

K11-M01C		Screening	Sample Date
Analytes	Units	Criteria	01/28/2014
Perfluorononanoic Acid	UG/L	0.01	0.15
PFOA*	UG/L	0.07*	2.7
PFOS*	UG/L	0.07*	<0.020

F09-M01D		Screening	Sample Date
Analytes	Units	Criteria	02/11/2014
Perfluorononanoic Acid	UG/L	0.01	0.074
PFOA*	UG/L	0.07*	0.69
PFOS*	UG/L	0.07*	<0.0019

H07-M01C		Screening	Sample Date
Analytes	Units	Criteria	01/31/2014
Perfluorononanoic Acid	UG/L	0.01	0.5
PFOA*	UG/L	0.07*	36
PFOS*	UG/L	0.07*	<0.21

F09-M01C		Screening	Sample Date
Analytes	Units	Criteria	02/11/2014
Perfluorononanoic Acid	UG/L	0.01	0.037
PFOA*	UG/L	0.07*	0.28
PFOS*	UG/L	0.07*	<0.0023

H07-M01D		Screening	Sample Date
Analytes	Units	Criteria	01/31/2014
Perfluorononanoic Acid	UG/L	0.01	0.17
PFOA*	UG/L	0.07*	4.3
PFOS*	UG/L	0.07*	<0.026

C06-M01D		Screening	Sample Date
Analytes	Units	Criteria	01/29/2014
Perfluorononanoic Acid	UG/L	0.01	0.017
PFOA*	UG/L	0.07*	0.094
PFOS*	UG/L	0.07*	0.0044 B

Delaware River

Henby Creek

Salem Canal

40

User: mat.layton, Date: 6/14/2017, Path: V:\Projects\Dupont\Chambers_Works_GIS\Projects\60517181_CSM_PFAS\Fig06_Permitted_Outfalls.mxd



LEGEND

- OUTFALL
- PROPERTY BOUNDARY

Notes:
 Map Projection: NAD83 NJ State Plane feet
 Source: USGS TNM - National Structures Dataset, USGS TNM - National Transportation Dataset, TeleAtlas Commercial Roads, USGS TNM - Governmental Units Dataset, U.S. Census Bureau - TIGER/Line, USGS TNM - Geographic Names Information Systems (GNIS), USGS TNM - National Hydrography Dataset (NHD)

0 300 600 1,200
 Feet
 1 inch = 600 feet
 MAP FORMATTED FOR "B" (11" X 17") SIZE SHEET.
 TEXT SCALE NOT VALID FOR DIFFERENT PAGE SIZE.

AECOM

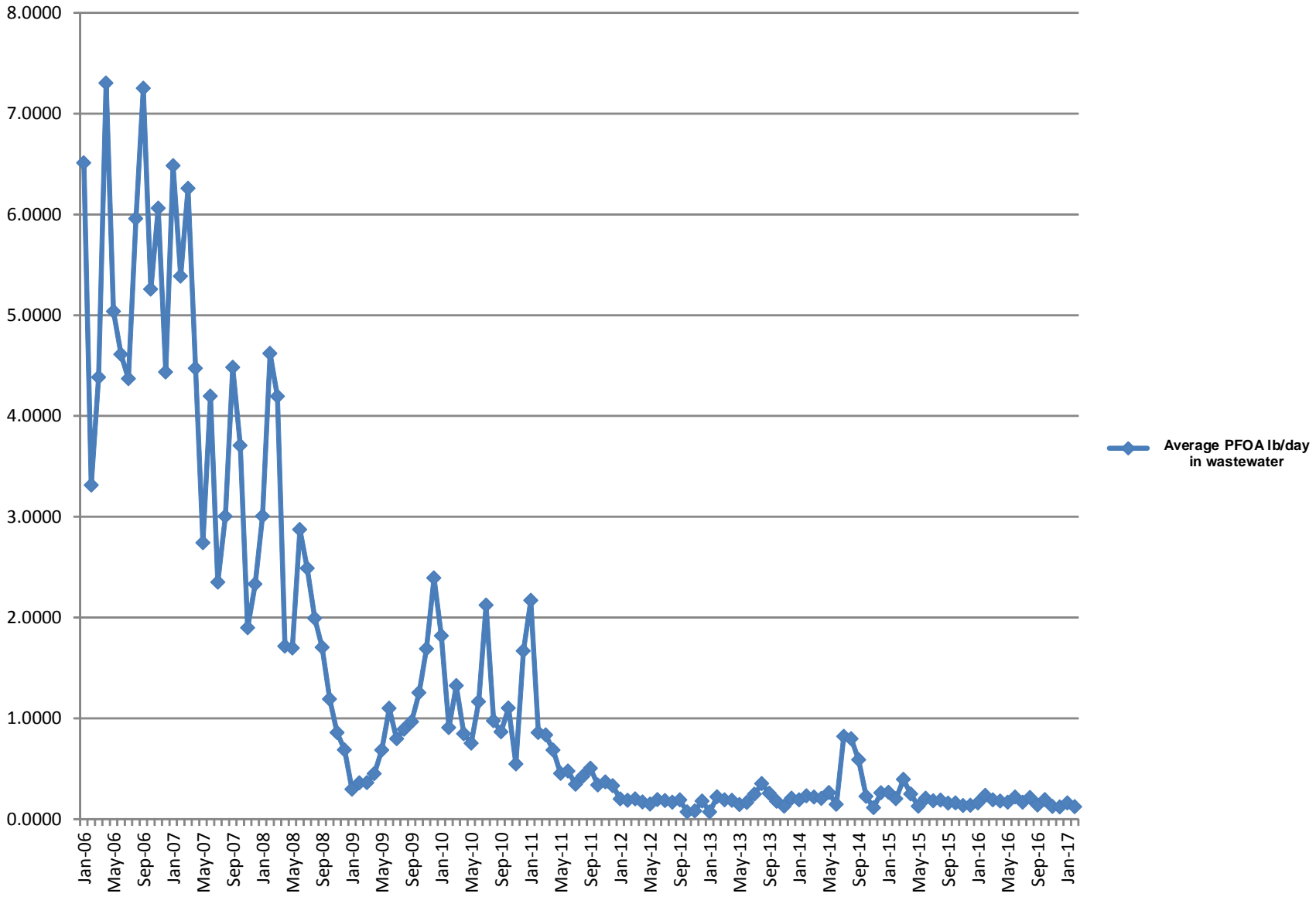
AECOM
 Sabre Building, Suite 300
 4051 Ogletown Road
 Newark, DE 19713

**PERMITTED OUTFALL
 LOCATION MAP**

CONCEPTUAL SITE MODEL FOR PFAS
 CHEMOURS CHAMBERS WORKS COMPLEX
 DEEPWATER, NEW JERSEY

TASK NUMBER:	16003	PROJECT NUMBER:	60517181
DESIGNED BY:	T.MCGEE	DATE:	6/14/2017
DRAWN BY:	M.LAYTON	FIGURE NUMBER:	6
DATA QUALITY CHECK BY:	K.WEST		

Average PFOA lb/day (DSN662) In Wastewater



Path: V:\Projects\10\Report\Chambers_Works\GIS\Projects\60517181_CSM_PFAS\Fig07_Average_PFOA_at_DSN662.mxd

TASK NUMBER:	16003
DESIGNED BY:	T.MCGEE
DRAWN BY:	M.LAYTON
DATA QUALITY CHECK BY:	K.WEST

AECOM
 Sabre Building, Suite 300
 4051 Ogletown Road
 Newark, DE 19713

**AVERAGE PFOA (lb/day)
 AT DSN662**

CONCEPTUAL SITE MODEL FOR PFAS
 CHEMOURS CHAMBERS WORKS COMPLEX
 DEEPWATER, NEW JERSEY

PROJECT NUMBER:	60517181
DATE:	5/19/2017
FIGURE NUMBER:	7

User: mat.layton, Date: 6/15/2017, Path: V:\Projects\Dupont\Chambers_Works_GIS\Projects\0517181_CSM_PFA5\Fig8_Sc_Stormwater_Outfalls.mxd

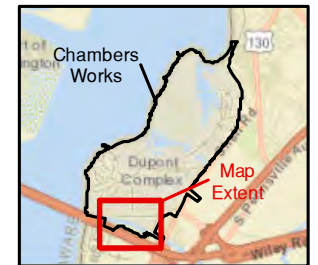
LEGEND

- STORMWATER SAMPLE LOCATION
- PROPERTY BOUNDARY

Notes:

Sample Type FS = Field Sample
 AxyS= AxyS Analytical Laboratories - British Columbia, Canada
 TA= Test America - Denver
 J = Estimated Result; The value may be biased low or high
 ND = Not Detected at stated reporting limit
 NQ = Not Quantifiable at stated reporting limit
 UG/L = microgram/liter

Map Projection: NAD83 NJ State Plane feet
 Source: USGS TNM - National Structures Dataset,
 USGS TNM - National Transportation Dataset, TeleAtlas
 Commercial Roads, USGS TNM - Governmental Units Dataset,
 U.S. Census Bureau - TIGER/Line, USGS TNM - Geographic
 Names Information Systems (GNIS), USGS TNM - National
 Hydrography Dataset (NHD)



0 150 300 600

Feet

1 inch = 300 feet

MAP FORMATTED FOR "B" (11" X 17") SIZE SHEET.
 TEXT SCALE NOT VALID FOR DIFFERENT PAGE SIZE.



AECOM
 Sabre Building, Suite 300
 4051 Ogletown Road
 Newark, DE 19713

**SALEM CANAL
 STORMWATER OUTFALLS**

**CONCEPTUAL SITE MODEL FOR PFAS
 CHEMOURS CHAMBERS WORKS COMPLEX
 DEEPWATER, NEW JERSEY**

TASK NUMBER:	16003	PROJECT NUMBER:	60517181
DESIGNED BY:	T.MCGEE	DATE:	6/15/2017
DRAWN BY:	M.LAYTON	FIGURE NUMBER:	8
DATA QUALITY CHECK BY:	K.WEST		

SCOUTFALL09						Date	4/12/07
Lab	Analyte	Alternate Name	Units	Total (T)/ Diss (D)	FS		
Axys	PERFLUOROCTANOIC ACID	PFOA	UG/L	T	0.101		
TA	PERFLUOROCTANOIC ACID	PFOA	UG/L	T	0.12		
Axys	PERFLUORONONANOIC ACID	PFNA	UG/L	T	0.035		
Axys	PERFLUOROCTANESULFONIC ACID	PFOS	UG/L	T	ND (0.00201)		
TA	PERFLUOROCTANESULFONIC ACID	PFOS	UG/L	T	ND (0.002)		

SCOUTFALL06						Date	4/12/07
Lab	Analyte	Alternate Name	Units	Total (T)/ Diss (D)	FS		
Axys	PERFLUOROCTANOIC ACID	PFOA	UG/L	T	0.541		
TA	PERFLUOROCTANOIC ACID	PFOA	UG/L	T	0.43		
Axys	PERFLUORONONANOIC ACID	PFNA	UG/L	T	0.182		
Axys	PERFLUOROCTANESULFONIC ACID	PFOS	UG/L	T	ND (0.00389)		
TA	PERFLUOROCTANESULFONIC ACID	PFOS	UG/L	T	ND (0.02)		

SCOUTFALL07						Date	4/12/07
Lab	Analyte	Alternate Name	Units	Total (T)/ Diss (D)	FS		
Axys	PERFLUOROCTANOIC ACID	PFOA	UG/L	T	1.17		
TA	PERFLUOROCTANOIC ACID	PFOA	UG/L	T	1.1		
Axys	PERFLUORONONANOIC ACID	PFNA	UG/L	T	0.21		
Axys	PERFLUOROCTANESULFONIC ACID	PFOS	UG/L	T	ND (0.00993)		
TA	PERFLUOROCTANESULFONIC ACID	PFOS	UG/L	T	ND (0.02)		

SCOUTFALL08						Date	4/12/07
Lab	Analyte	Alternate Name	Units	Total (T)/ Diss (D)	FS		
Axys	PERFLUOROCTANOIC ACID	PFOA	UG/L	T	0.272		
TA	PERFLUOROCTANOIC ACID	PFOA	UG/L	T	0.34 J		
Axys	PERFLUORONONANOIC ACID	PFNA	UG/L	T	0.0586		
Axys	PERFLUOROCTANESULFONIC ACID	PFOS	UG/L	T	ND (0.00397)		
TA	PERFLUOROCTANESULFONIC ACID	PFOS	UG/L	T	ND (0.002)		

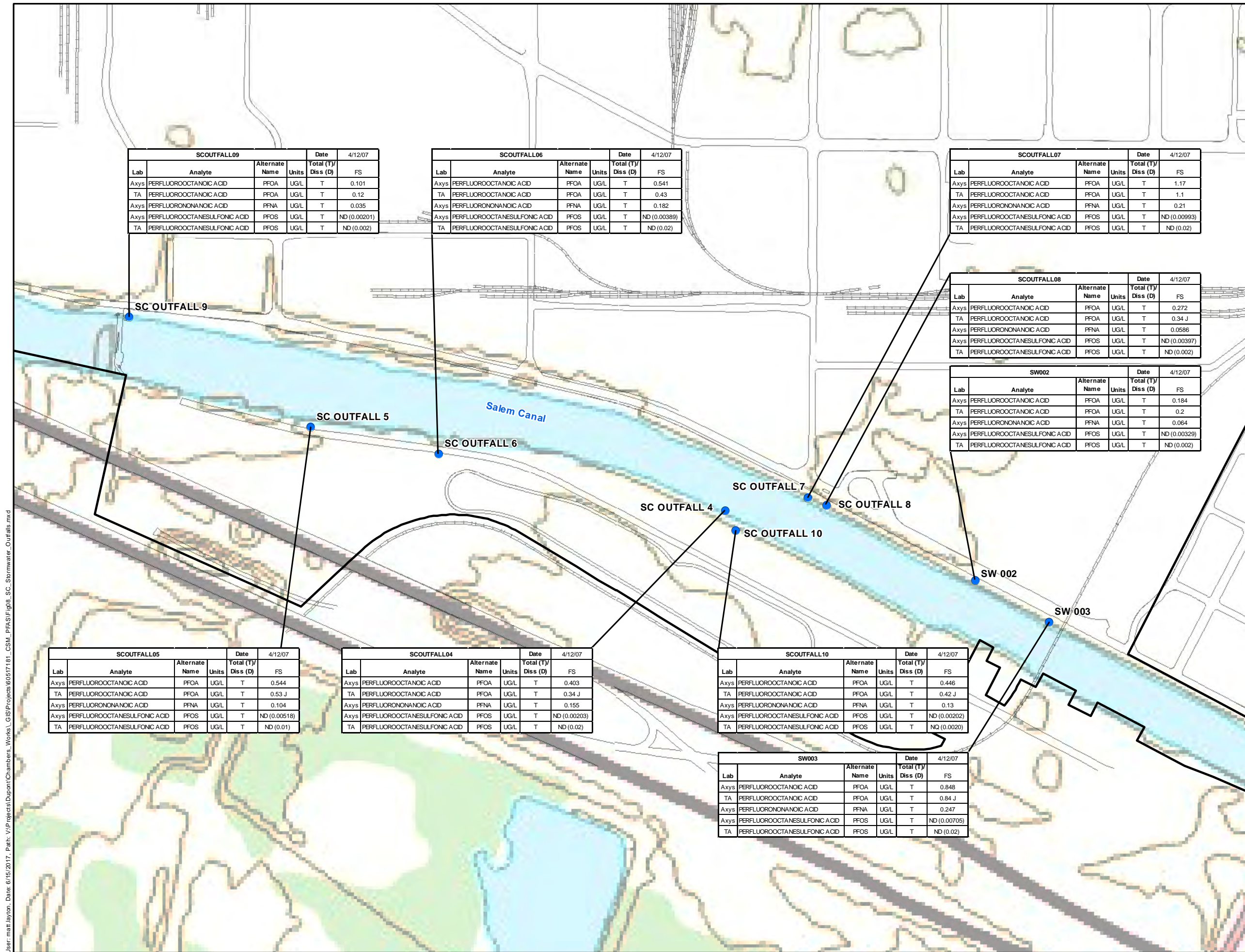
SW002						Date	4/12/07
Lab	Analyte	Alternate Name	Units	Total (T)/ Diss (D)	FS		
Axys	PERFLUOROCTANOIC ACID	PFOA	UG/L	T	0.184		
TA	PERFLUOROCTANOIC ACID	PFOA	UG/L	T	0.2		
Axys	PERFLUORONONANOIC ACID	PFNA	UG/L	T	0.064		
Axys	PERFLUOROCTANESULFONIC ACID	PFOS	UG/L	T	ND (0.00329)		
TA	PERFLUOROCTANESULFONIC ACID	PFOS	UG/L	T	ND (0.002)		

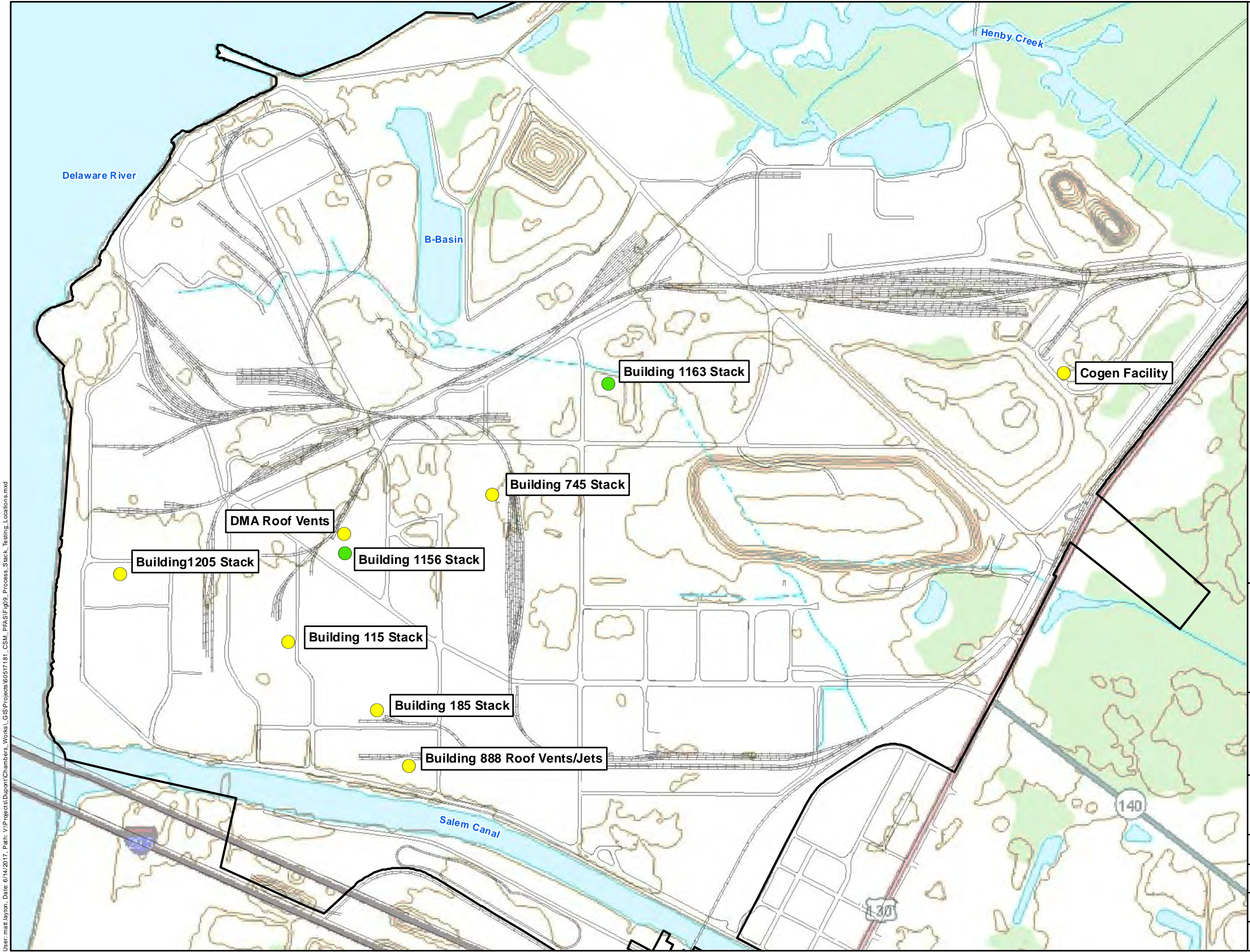
SCOUTFALL05						Date	4/12/07
Lab	Analyte	Alternate Name	Units	Total (T)/ Diss (D)	FS		
Axys	PERFLUOROCTANOIC ACID	PFOA	UG/L	T	0.544		
TA	PERFLUOROCTANOIC ACID	PFOA	UG/L	T	0.53 J		
Axys	PERFLUORONONANOIC ACID	PFNA	UG/L	T	0.104		
Axys	PERFLUOROCTANESULFONIC ACID	PFOS	UG/L	T	ND (0.00518)		
TA	PERFLUOROCTANESULFONIC ACID	PFOS	UG/L	T	ND (0.01)		

SCOUTFALL04						Date	4/12/07
Lab	Analyte	Alternate Name	Units	Total (T)/ Diss (D)	FS		
Axys	PERFLUOROCTANOIC ACID	PFOA	UG/L	T	0.403		
TA	PERFLUOROCTANOIC ACID	PFOA	UG/L	T	0.34 J		
Axys	PERFLUORONONANOIC ACID	PFNA	UG/L	T	0.155		
Axys	PERFLUOROCTANESULFONIC ACID	PFOS	UG/L	T	ND (0.00203)		
TA	PERFLUOROCTANESULFONIC ACID	PFOS	UG/L	T	ND (0.02)		

SCOUTFALL10						Date	4/12/07
Lab	Analyte	Alternate Name	Units	Total (T)/ Diss (D)	FS		
Axys	PERFLUOROCTANOIC ACID	PFOA	UG/L	T	0.446		
TA	PERFLUOROCTANOIC ACID	PFOA	UG/L	T	0.42 J		
Axys	PERFLUORONONANOIC ACID	PFNA	UG/L	T	0.13		
Axys	PERFLUOROCTANESULFONIC ACID	PFOS	UG/L	T	ND (0.00202)		
TA	PERFLUOROCTANESULFONIC ACID	PFOS	UG/L	T	NQ (0.0020)		

SW003						Date	4/12/07
Lab	Analyte	Alternate Name	Units	Total (T)/ Diss (D)	FS		
Axys	PERFLUOROCTANOIC ACID	PFOA	UG/L	T	0.848		
TA	PERFLUOROCTANOIC ACID	PFOA	UG/L	T	0.84 J		
Axys	PERFLUORONONANOIC ACID	PFNA	UG/L	T	0.247		
Axys	PERFLUOROCTANESULFONIC ACID	PFOS	UG/L	T	ND (0.00705)		
TA	PERFLUOROCTANESULFONIC ACID	PFOS	UG/L	T	ND (0.02)		

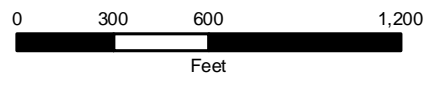
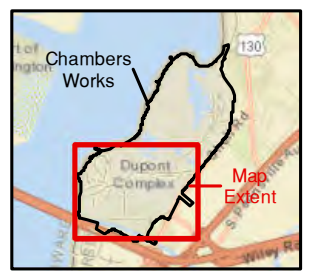




LEGEND

- NOT SAMPLED SITE AIR EMISSION SOURCE
- SAMPLED SITE AIR EMISSION SOURCE
- PROPERTY BOUNDARY

Map Projection: NAD83 NJ State Plane feet
 Source: USGS TNM - National Structures Dataset, USGS TNM - National Transportation Dataset, TeleAtlas Commercial Roads, USGS TNM - Governmental Units Dataset, U.S. Census Bureau - TIGER/Line, USGS TNM - Geographic Names Information Systems (GNIS), USGS TNM - National Hydrography Dataset (NHD)



1 inch = 600 feet

MAP FORMATTED FOR 'B' (11" X 17") SIZE SHEET. TEXT SCALE NOT VALID FOR DIFFERENT PAGE SIZE.



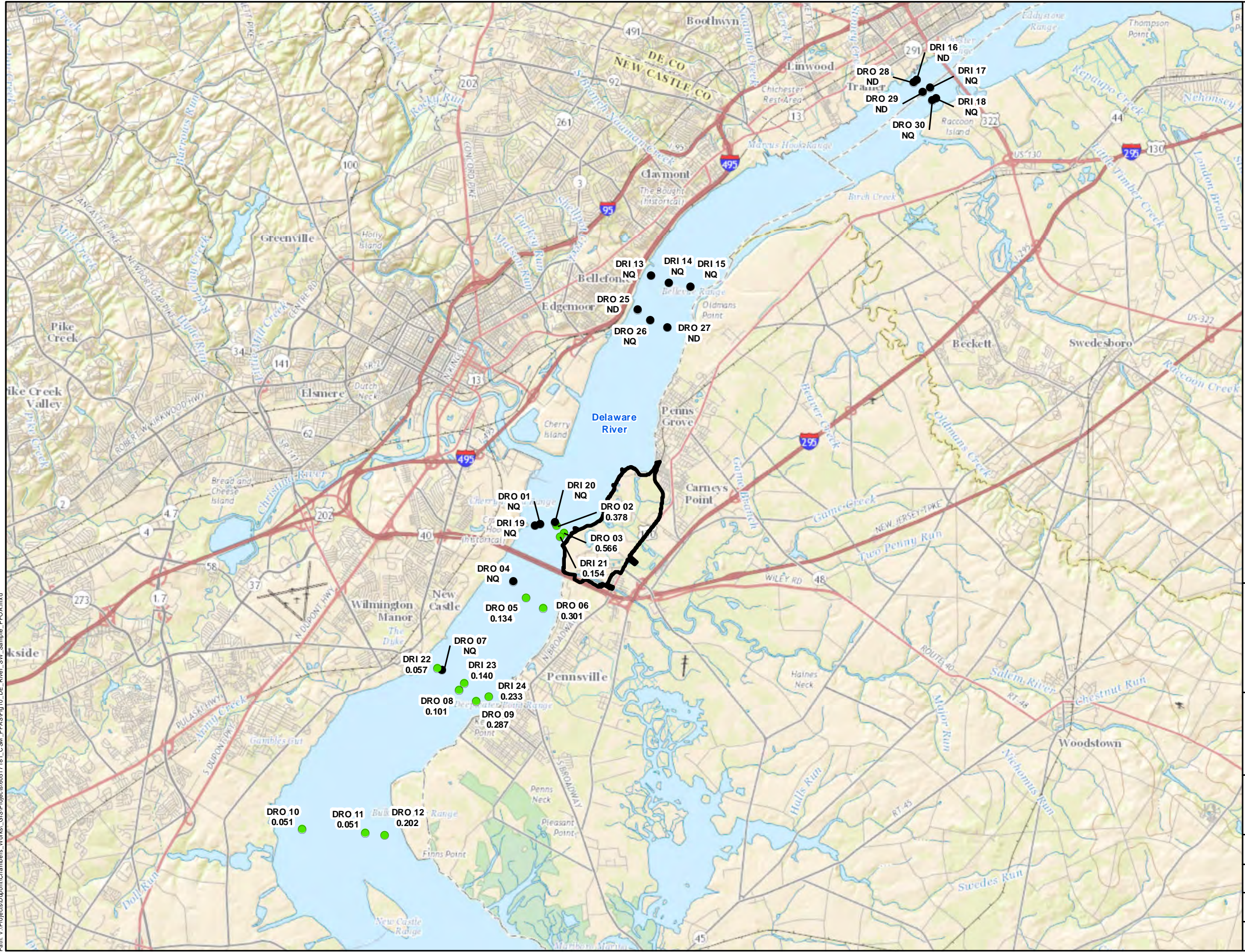
AECOM
 Sabre Building, Suite 300
 4051 Ogletown Road
 Newark, DE 19713

PROCESS STACK TESTING LOCATIONS

CONCEPTUAL SITE MODEL FOR PFAS
 CHEMOURS CHAMBERS WORKS COMPLEX
 DEEPWATER, NEW JERSEY

TASK NUMBER:	16003	PROJECT NUMBER:	60517181
DESIGNED BY:	T.MCGEE	DATE:	6/14/2017
DRAWN BY:	M.LAYTON	FIGURE NUMBER:	9
DATA QUALITY CHECK BY:	K.WEST		

User: mat.layton, Date: 6/14/2017, Path: V:\Projects\Dupont\Chambers_Works_GIS\Projects\60517181_CSM_PFA\Fig5_Process_Stack_Testing_Locations.mxd



LEGEND

CHEMOURS CHAMBERS WORKS

DELAWARE RIVER SAMPLE - JUNE 2003

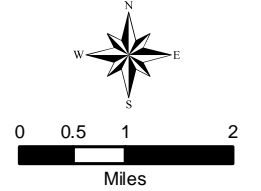
NO DETECTION

DETECTION

Notes:

DRI 03 = Sample ID
 ND = Not Detected at stated reporting limit
 NQ = Not Quantifiable at stated reporting limit
 0.566 = PFOA Result (ug/L)
 Results are in ppb

Map Projection: NAD83 NJ State Plane feet
 Source: Copyright:©2014 Esri, USGS The National Map, National Boundaries Dataset, National Elevation Dataset, Geographic Names Information System, National Hydrography Dataset, National Land Cover Database, National Structures Dataset, and National Transportation Dataset; U.S. Census Bureau - TIGER/Line; HERE Road Data



MAP FORMATTED FOR 'B' (11" X 17") SIZE SHEET.
 TEXT SCALE NOT VALID FOR DIFFERENT PAGE SIZE.



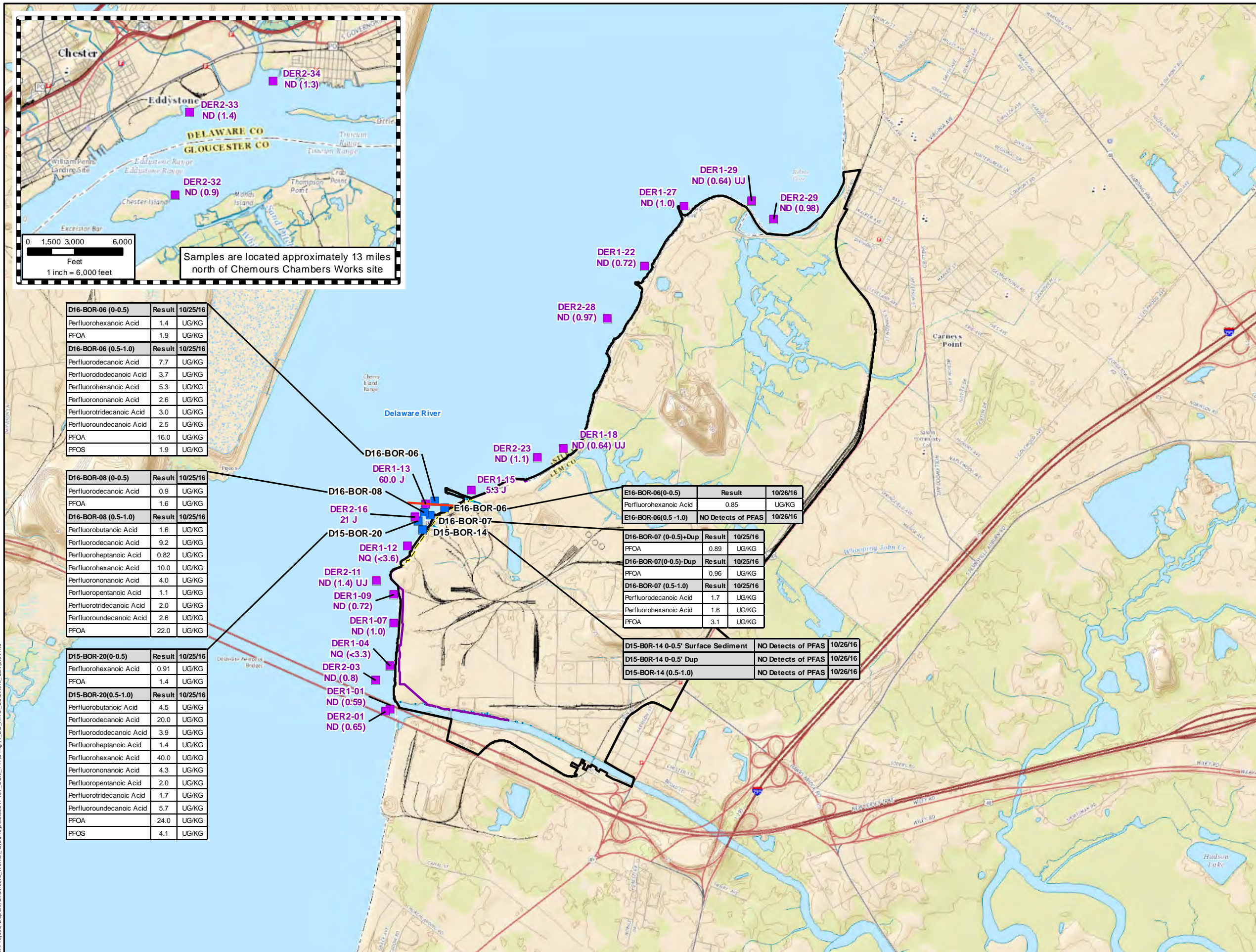
AECOM
 Sabre Building, Suite 300
 4051 Ogletown Road
 Newark, DE 19713

**DELAWARE RIVER
 SURFACE WATER SAMPLE
 LOCATIONS FOR PFOA**

CONCEPTUAL SITE MODEL FOR PFAS
 CHEMOURS CHAMBERS WORKS COMPLEX
 DEEPWATER, NEW JERSEY

TASK NUMBER:	16003	PROJECT NUMBER:	60517181
DESIGNED BY:	T.MCGEE	DATE:	6/14/2017
DRAWN BY:	M.LAYTON	FIGURE NUMBER:	10
DATA QUALITY CHECK BY:	K.WEST		

Path: V:\Projects\Dupont\Chambers_Works_GIS\Projects\60517181_CSM_PFOA\Fig10_DE_River_SW_Sample_PFOA.mxd

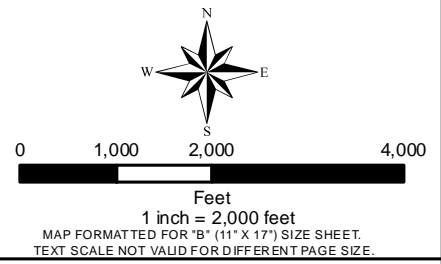


LEGEND

- 2013 SEDIMENT SAMPLE LOCATION (PFOA ONLY)
- 2016 SHALLOW SEDIMENT SAMPLE LOCATION
- SHEET PILE BARRIER (INSTALLED)
- - - WESTERN PERIMETER SPB (PROPOSED)
- APPROXIMATE TRACE OF OUTFALL PIPE (DSN002)
- EXISTING OUTFALL
- PROPERTY BOUNDARY

Notes:
 PFAS = Perfluoroalkyl Substances
 PFOA = Perfluorooctanoic Acid
 PFOS = Perfluorooctanesulfonic Acid
 () = Reporting Limit
 J = Estimated Value
 UJ = Not detected. Reporting limit may not be accurate or precise.
 ND = Not Detected at stated reporting limit
 NQ = Not Quantifiable at stated reporting limit
 UG/KG = microgram/kilogram

Map Projection: New Jersey State Plane Feet NAD83
 Source: Copyright © 2014 Esri, USGS The National Map, National Boundaries Dataset, National Elevation Dataset, Geographic Names Information System, National Hydrography Dataset, National Land Cover Database, National Structures Dataset, and National Transportation Dataset, U.S. Census Bureau - TIGERLine, HERE Road Data



AECOM
 Sabre Building, Suite 300
 4051 Ogletown Road
 Newark, DE 19713

**DELAWARE RIVER
 SEDIMENT SAMPLE
 LOCATION MAP**

**CONCEPTUAL SITE MODEL FOR PFAS
 CHEMOURS CHAMBERS WORKS COMPLEX
 DEEPWATER, NEW JERSEY**

TASK NUMBER: 16003	PROJECT NUMBER: 60517181
DESIGNED BY: T.MCGEE	DATE: 6/14/2017
DRAWN BY: M.LAYTON	FIGURE NUMBER: 11
DATA QUALITY CHECK BY: K.WEST	

D16-BOR-06 (0-0.5)	Result	10/25/16
Perfluorohexanoic Acid	1.4	UG/KG
PFOA	1.9	UG/KG

D16-BOR-06 (0.5-1.0)	Result	10/25/16
Perfluorodecanoic Acid	7.7	UG/KG
Perfluorododecanoic Acid	3.7	UG/KG
Perfluorohexanoic Acid	5.3	UG/KG
Perfluorononanoic Acid	2.6	UG/KG
Perfluorotridecanoic Acid	3.0	UG/KG
Perfluoroundecanoic Acid	2.5	UG/KG
PFOA	16.0	UG/KG
PFOS	1.9	UG/KG

D16-BOR-08 (0-0.5)	Result	10/25/16
Perfluorodecanoic Acid	0.9	UG/KG
PFOA	1.6	UG/KG

D16-BOR-08 (0.5-1.0)	Result	10/25/16
Perfluorobutanoic Acid	1.6	UG/KG
Perfluorodecanoic Acid	9.2	UG/KG
Perfluoroheptanoic Acid	0.82	UG/KG
Perfluorohexanoic Acid	10.0	UG/KG
Perfluorononanoic Acid	4.0	UG/KG
Perfluoropentanoic Acid	1.1	UG/KG
Perfluorotridecanoic Acid	2.0	UG/KG
Perfluoroundecanoic Acid	2.6	UG/KG
PFOA	22.0	UG/KG

D15-BOR-20(0-0.5)	Result	10/25/16
Perfluorohexanoic Acid	0.91	UG/KG
PFOA	1.4	UG/KG

D15-BOR-20(0.5-1.0)	Result	10/25/16
Perfluorobutanoic Acid	4.5	UG/KG
Perfluorodecanoic Acid	20.0	UG/KG
Perfluorododecanoic Acid	3.9	UG/KG
Perfluoroheptanoic Acid	1.4	UG/KG
Perfluorohexanoic Acid	40.0	UG/KG
Perfluorononanoic Acid	4.3	UG/KG
Perfluoropentanoic Acid	2.0	UG/KG
Perfluorotridecanoic Acid	1.7	UG/KG
Perfluoroundecanoic Acid	5.7	UG/KG
PFOA	24.0	UG/KG
PFOS	4.1	UG/KG

E16-BOR-06(0-0.5)	Result	10/26/16
Perfluorohexanoic Acid	0.85	UG/KG
E16-BOR-06(0.5-1.0)	NO Detects of PFAS	10/26/16

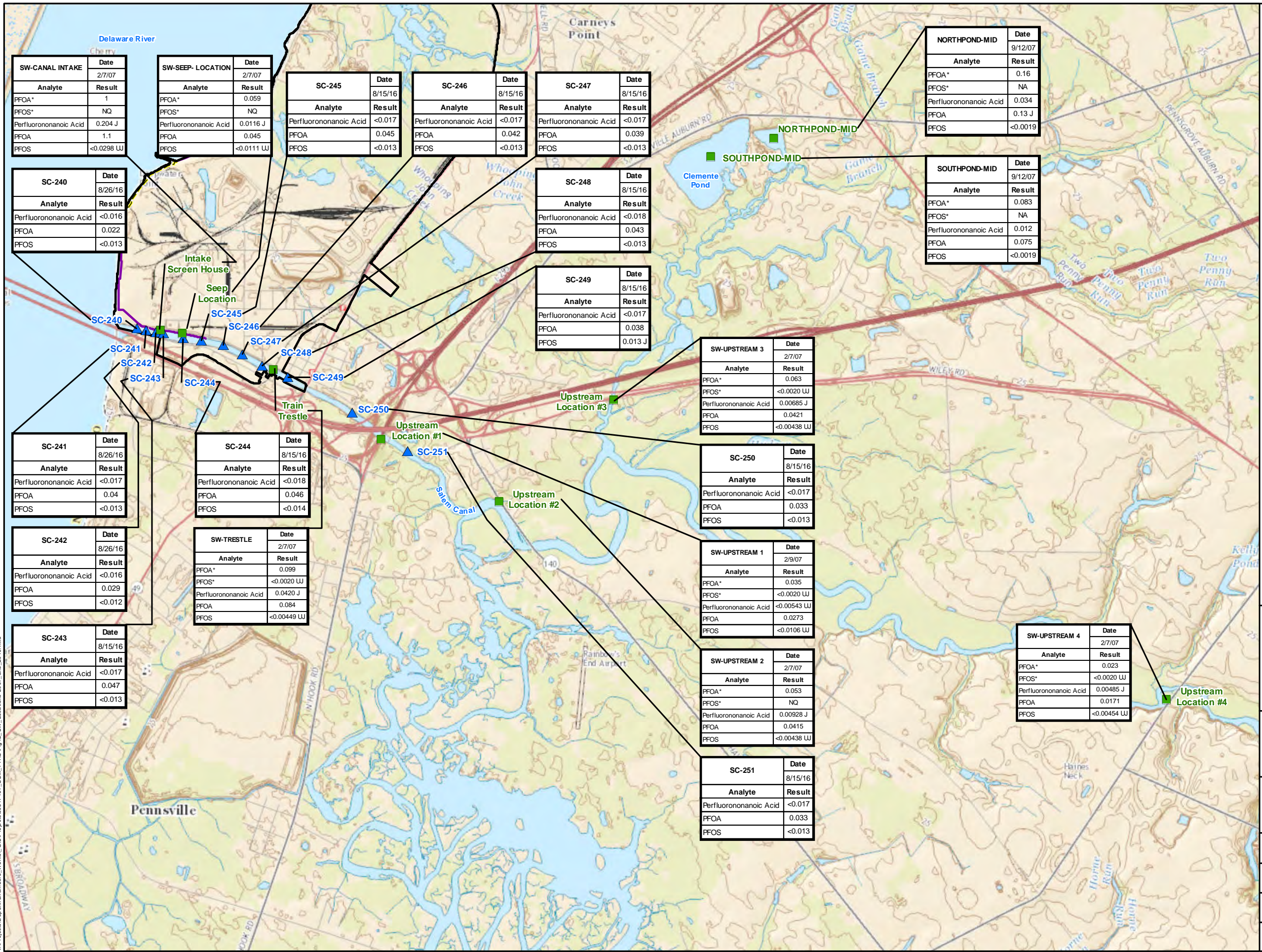
D16-BOR-07 (0-0.5)+Dup	Result	10/25/16
PFOA	0.89	UG/KG

D16-BOR-07(0-0.5)-Dup	Result	10/25/16
PFOA	0.96	UG/KG

D16-BOR-07 (0.5-1.0)	Result	10/25/16
Perfluorodecanoic Acid	1.7	UG/KG
Perfluorohexanoic Acid	1.6	UG/KG
PFOA	3.1	UG/KG

D15-BOR-14 0-0.5' Surface Sediment	NO Detects of PFAS	10/26/16
D15-BOR-14 0-0.5' Dup	NO Detects of PFAS	10/26/16
D15-BOR-14 (0.5-1.0)	NO Detects of PFAS	10/26/16

V:\Projects\Dupont\Chambers_Works_GIS\Projects\60517181_CSM_PPFAS\Fig 11_DE_River_Sediment_Samples.mxd



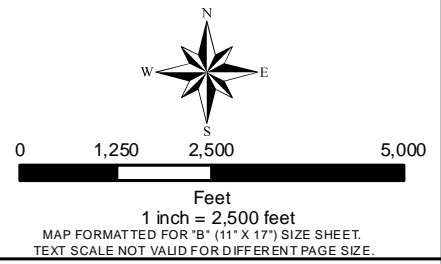
LEGEND

- 2007 SURFACE WATER SAMPLE LOCATION
- ▲ 2016 SURFACE WATER SAMPLE LOCATION
- SHEET PILE BARRIER
- PROPERTY BOUNDARY

Notes:
 PFOA = Perfluorooctanoic Acid
 PFOS = Perfluorooctanesulfonic Acid

* - Analytical data provided by TA-Denver Laboratory
 2016 Analytical Method = DV-LC-0012
 Units = UG/L
 "J" = Estimated concentration
 NA = Not Analyzed
 UJ = Not detected. Reporting limit may not be accurate or precise.
 < = Not detected at stated reporting limit

Map Projection: NAD83 NJ State Plane feet
 Source: Copyright© 2014 Esri, USGS The National Map: National Boundaries Dataset, National Elevation Dataset, Geographic Names Information System, National Hydrography Dataset, National Land Cover Database, National Structures Dataset, and National Transportation Dataset; U.S. Census Bureau - TIGER/Line; HERE Road Data



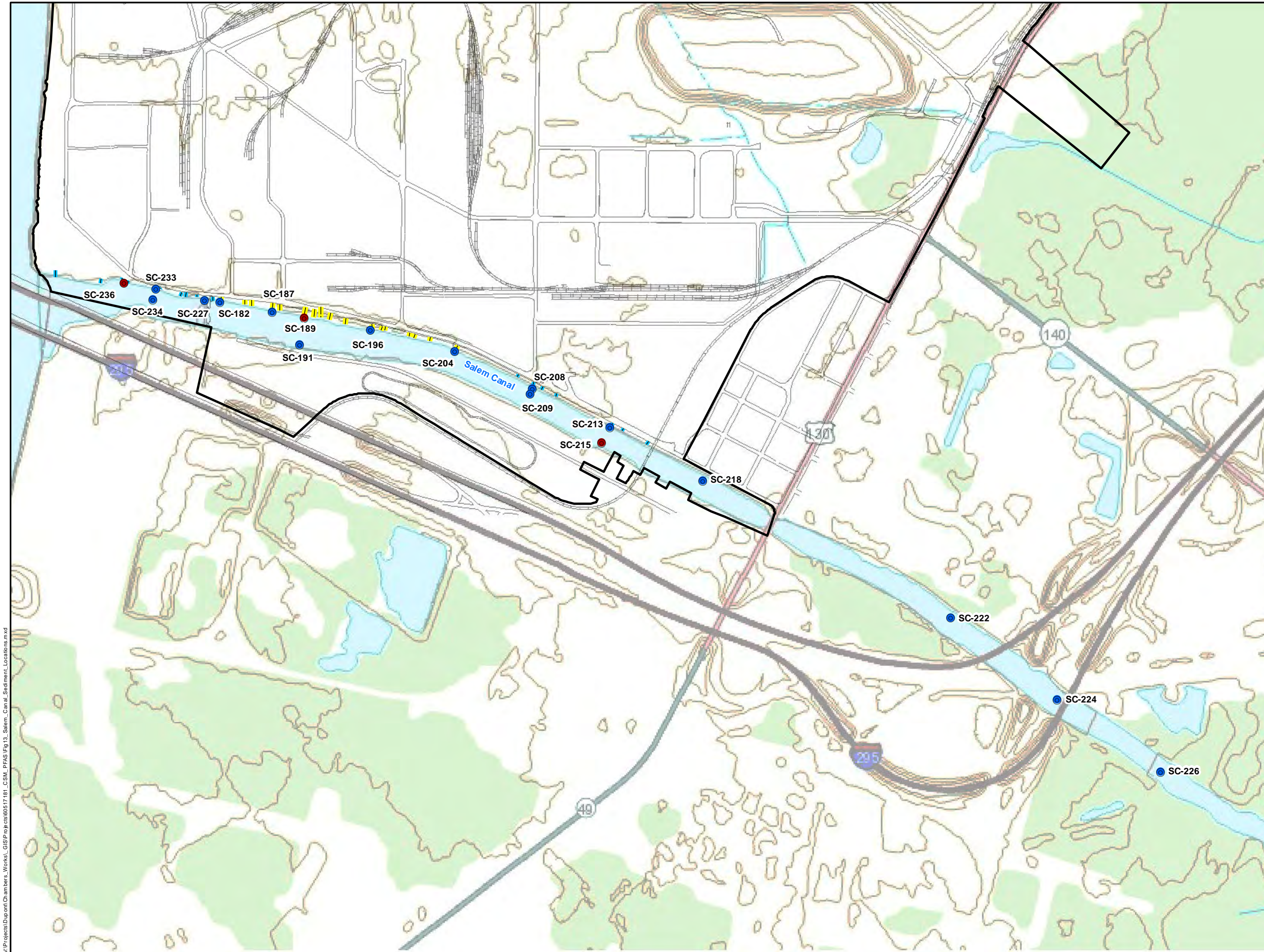
AECOM
 Sabre Building, Suite 300
 4051 Ogletown Road
 Newark, DE 19713

SALEM CANAL SURFACE WATER SAMPLE LOCATION MAP

CONCEPTUAL SITE MODEL FOR PFAS CHEMOURS CHAMBERS WORKS COMPLEX DEEPWATER, NEW JERSEY

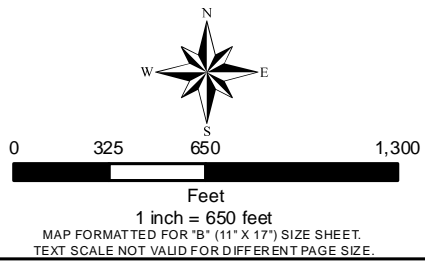
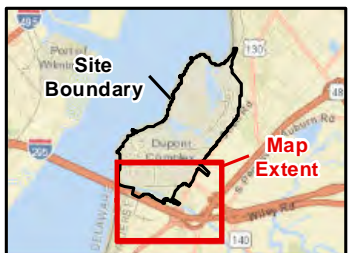
TASK NUMBER: 16003	PROJECT NUMBER: 60517181
DESIGNED BY: T.MCGEE	DATE: 6/15/2017
DRAWN BY: M.LAYTON	FIGURE NUMBER: 12
DATA QUALITY CHECK BY: K.WEST	

V:\Projects\Dupont\Chambers Works\GIS\Reports\figs\161_CSM_PFOA_PFS Fig 12_SW_Locations-2017_and_2016.mxd



- LEGEND**
- 2016 SEDIMENT SAMPLE LOCATION
 - 2016 SEDIMENT SAMPLE PFAS DETECTED NEAR HISTORIC OUTFALL
 - EXISTING OUTFALL
 - HISTORIC OUTFALL (ABANDONED)
 - ▭ PROPERTY BOUNDARY

Map Projection: NAD83 NJ State Plane feet
 Source: USGS TNM - National Structures Dataset, USGS TNM - National Transportation Dataset, TeleAtlas Commercial Roads, USGS TNM - Governmental Units Dataset, U.S. Census Bureau - TIGER/Line, USGS TNM - Geographic Names Information Systems (GNIS), USGS TNM - National Hydrography Dataset (NHD)



AECOM
 Sabre Building, Suite 300
 4051 Ogletown Road
 Newark, DE 19713

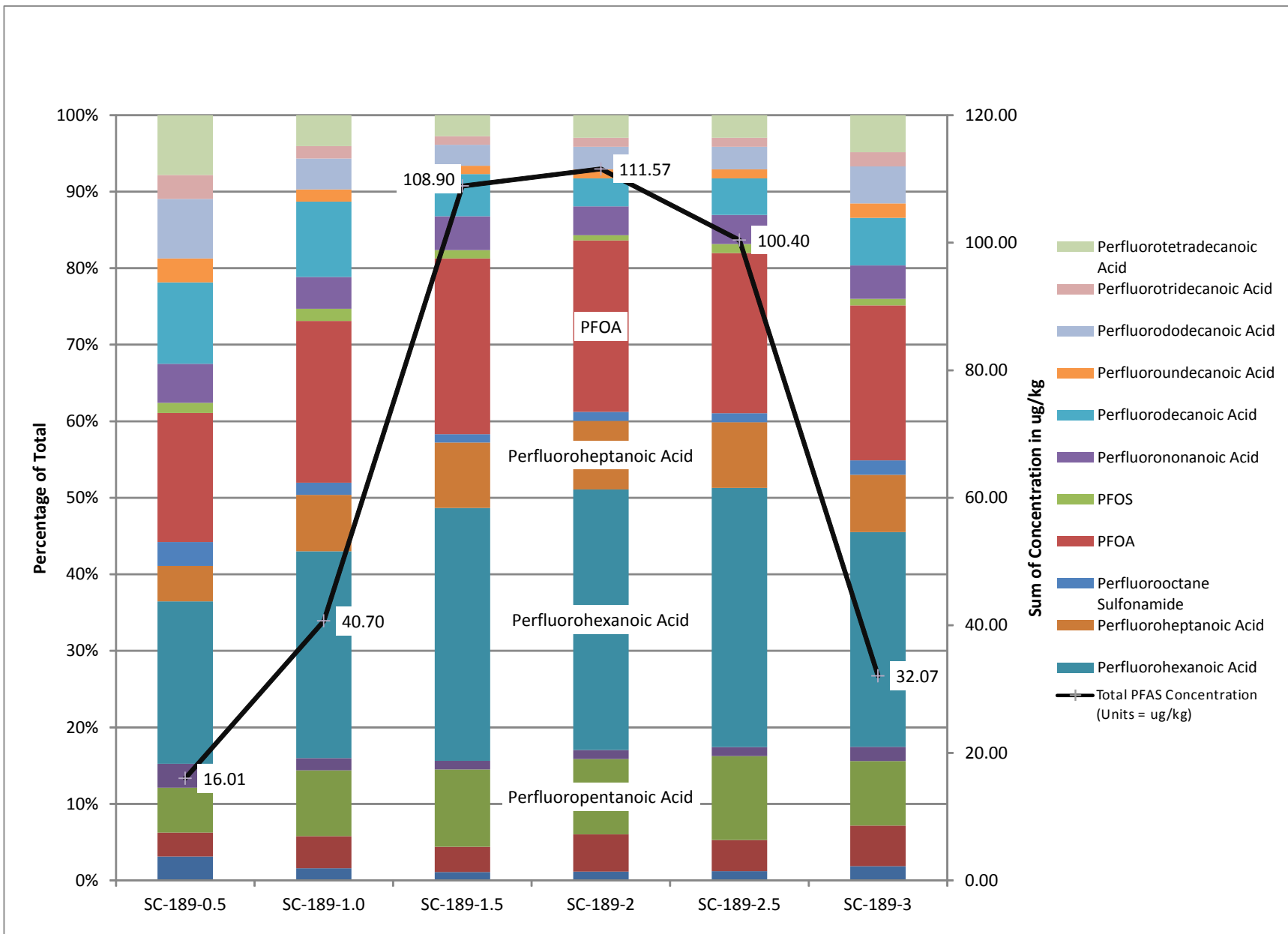
SALEM CANAL SEDIMENT SAMPLE LOCATION MAP

CONCEPTUAL SITE MODEL FOR PFAS CHEMOURS CHAMBERS WORKS COMPLEX DEEPWATER, NEW JERSEY

TASK NUMBER: 16003	PROJECT NUMBER: 60517181
DESIGNED BY: T.MCGEE	DATE: 6/14/2017
DRAWN BY: M.LAYTON	FIGURE NUMBER: 13
DATA QUALITY CHECK BY: K.WEST	

V:\Projects\Dupont\Chambers_Works\GIS\Projects\60517181_CSM_Pfas\Fig13_Salem_Canal_Sediment_Locations.mxd

V:\Projects\Dupont\Chambers_Works\GISP\Projects\60517181_CSM_PFAStFig14_Distribution_of_PFASt_Station_SCD189.mxd



TASK NUMBER:
16003

DESIGNED BY:
T.MCGEE

DRAWN BY:
M.LAYTON

DATA QUALITY CHECK BY:
K.WEST



AECOM
Sabre Building, Suite 300
4051 Ogletown Road
Newark, DE 19713

**DISTRIBUTION OF PFAS
IN SEDIMENT AT STATION
SCD-189**

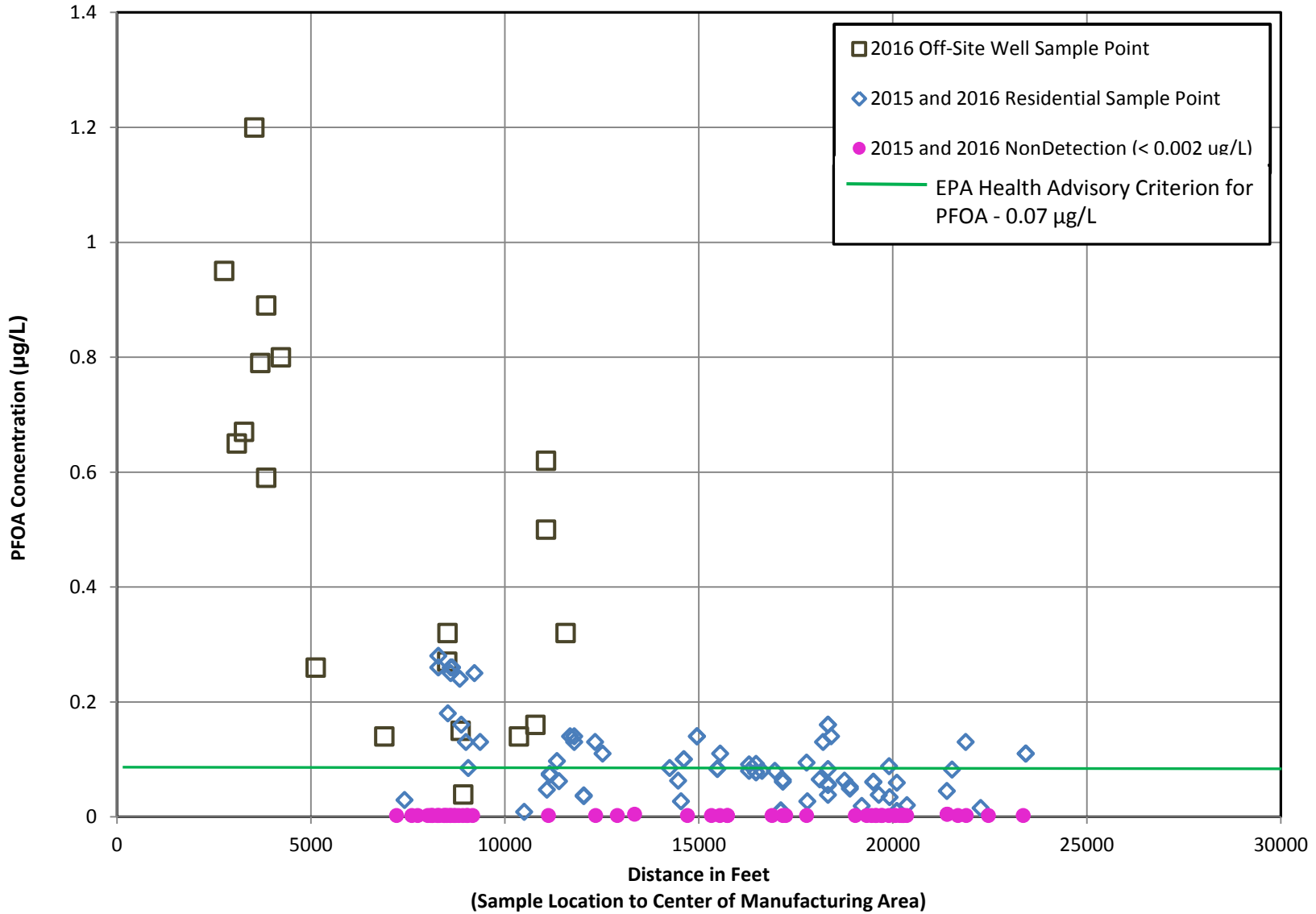
CONCEPTUAL SITE MODEL FOR PFAS
CHEMOURS CHAMBERS WORKS COMPLEX
DEEPWATER, NEW JERSEY

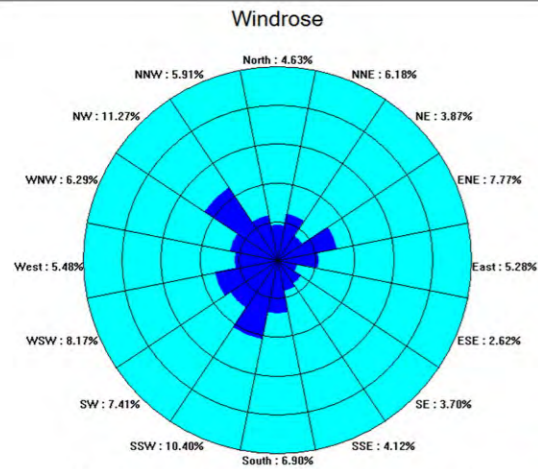
PROJECT NUMBER:
60517181

DATE:
6/14/2017

FIGURE NUMBER:
14

Figure 17
PFOA Detections vs. Distance
Chambers Works PFAS CSM
Deepwater, New Jersey

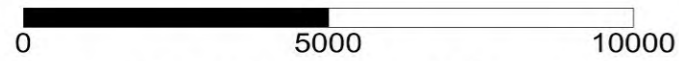




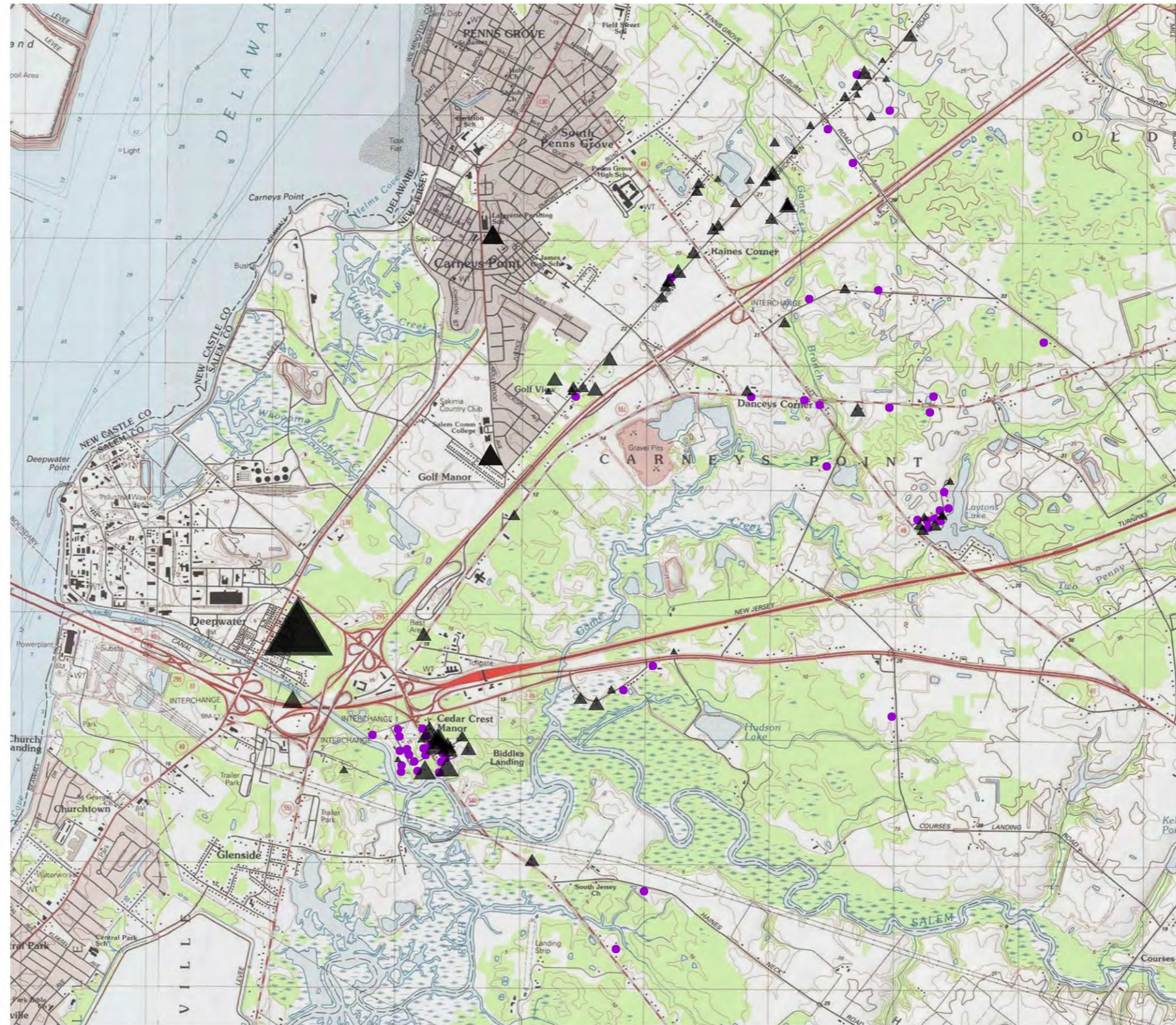
Windrose showing prevailing winds average direction and strength based on data collected at Chambers Works Caer Building Met. Station for 2016.

LEGEND

- ▲ Location of PFOA detection based on most recent offsite well or residential well sampling event. Symbols are scaled to show variation in concentration detected.
- Location of PFOA nondetection, PFOA less than 0.002 micrograms per liter, based on most recent offsite well or residential well sampling event.



Map Projection NAD 83 NJ State Plane feet



AECOM
Sabre Building, Suite 300
4051 Ogletown Road
Newark, DE 19713

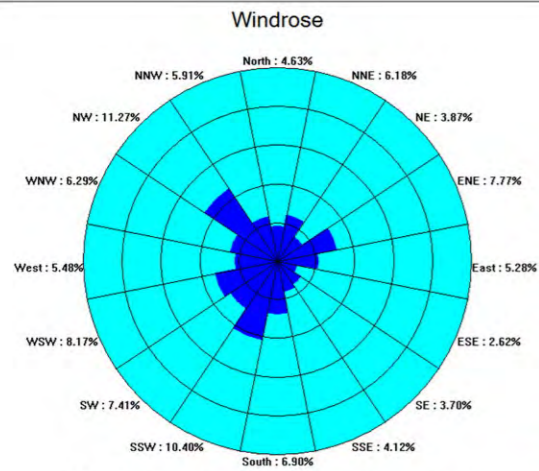
TITLE:

Distribution Map of PFOA
Conceptual Site Model for PFAS
Chemours Chambers Works Complex
Deepwater, NJ

DWN: SAM APPD: TM
CHKD: REV:
DATE: 5/18/17

PROJECT NO:
60517181

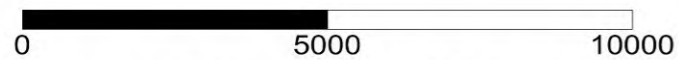
FIGURE NO:
18



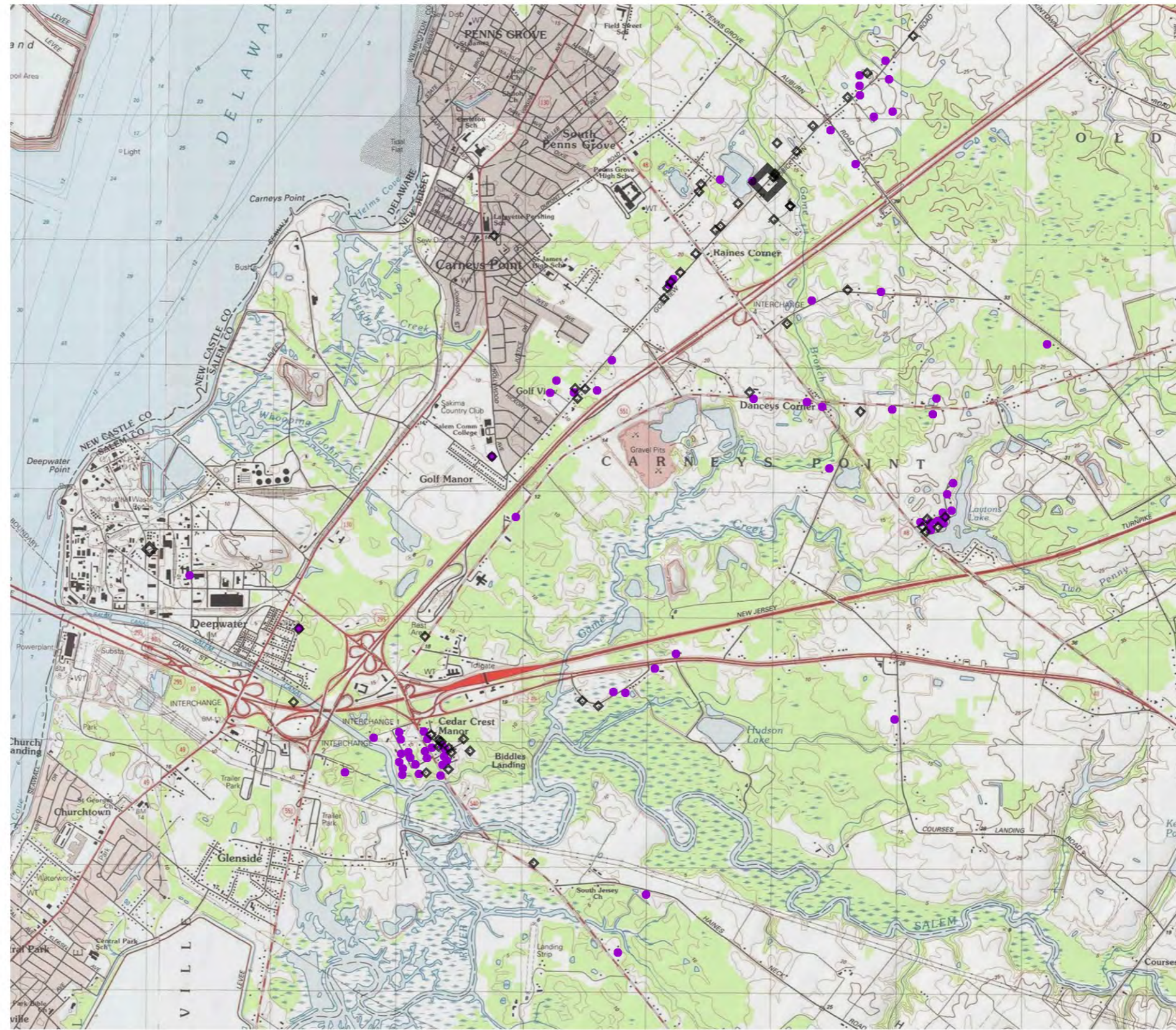
Windrose showing prevailing winds average direction and strength based on data collected at Chambers Works Caer Building Met. Station for 2016.

LEGEND

- ◆ Location of PFOS detection based on most recent offsite well or residential well sampling event. Symbols are scaled to show variation in concentration detected.
- Location of PFOS nondetection, PFOS less than 0.002 micrograms per liter, based on most recent offsite well or residential well sampling event.



Map Projection NAD 83 NJ State Plane feet

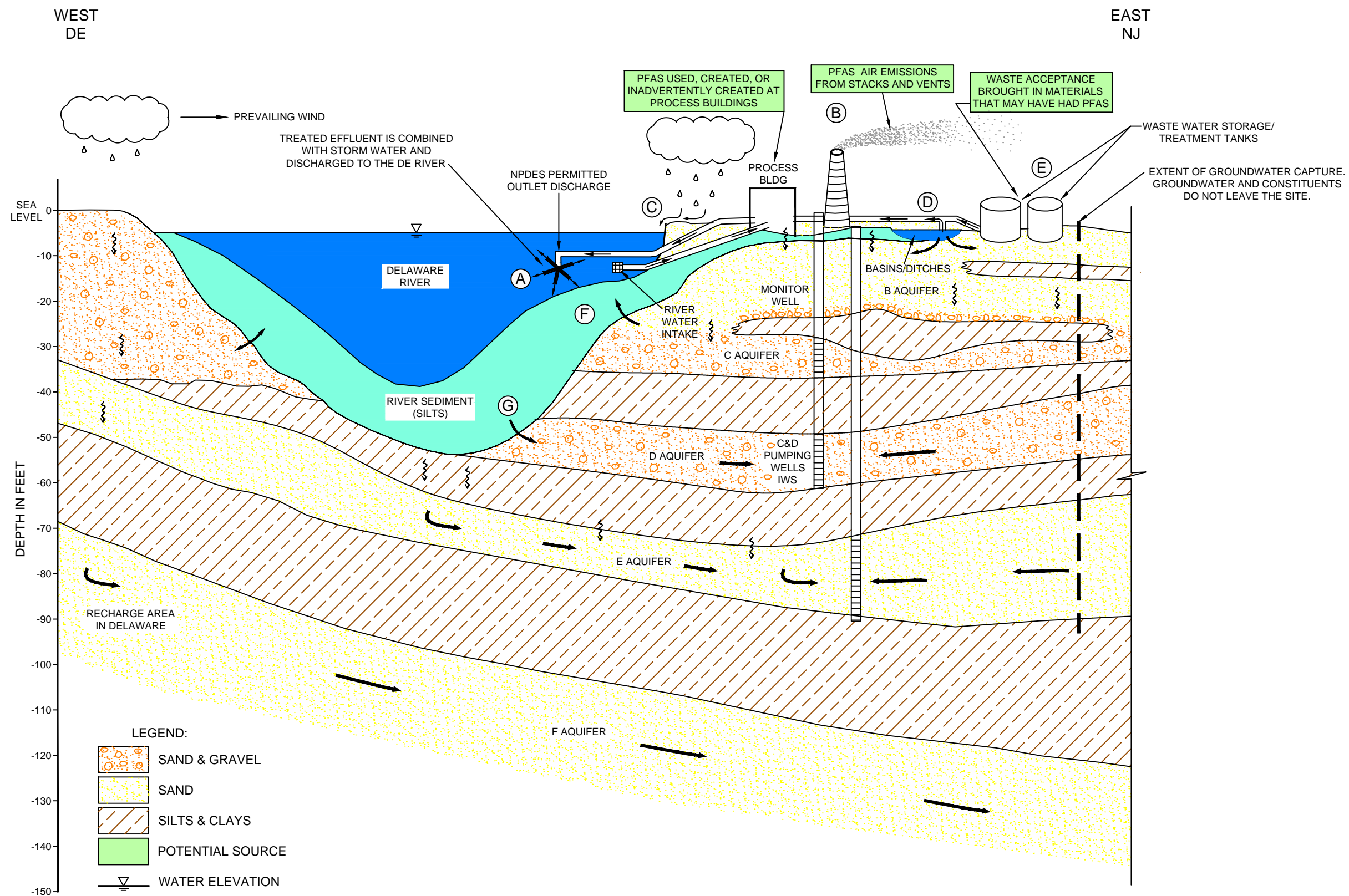


AECOM
 AECOM
 Sabre Building, Suite 300
 4051 Ogletown Road
 Newark, DE 19713

TITLE:
Distribution Map of PFOS
 Conceptual Site Model for PFAS
 Chemours Chambers Works Complex
 Deepwater, NJ

DWN: SAM	APPD: TM	PROJECT NO: 60517181
CHKD:	REV:	FIGURE NO: 19
DATE: 5/18/17		

V:\Projects\Dupont\Chambers\Works\DAO_1\60463012 - PFOA Report\112017\PFAS Conceptual Site Model Cross-Section2.dwg, 6/14/2017 2:38 PM, Littell, David E., P:\9595.p3, User:2787, 1'-0" = 1'-0"



- LEGEND:**
- SAND & GRAVEL
 - SAND
 - SILTS & CLAYS
 - POTENTIAL SOURCE
 - WATER ELEVATION
 - DIRECTION OF GROUNDWATER FLOW
 - WATER FLOW DIRECTION ASSOCIATED WITH ON-SITE FACILITY
 - DOWNWARD GROUNDWATER MIGRATION

NOTE:
DRAWING IS A SCHEMATIC CROSS-SECTION, BUT REPRESENTS CONDITIONS ACROSS THE SITE AND IS NOT TO SCALE.

DESIGNED BY:
K. WEST
DRAWN BY:
D. LITTEL
DATA QUALITY CHKD:
T. MCGEE
APPROVED BY:

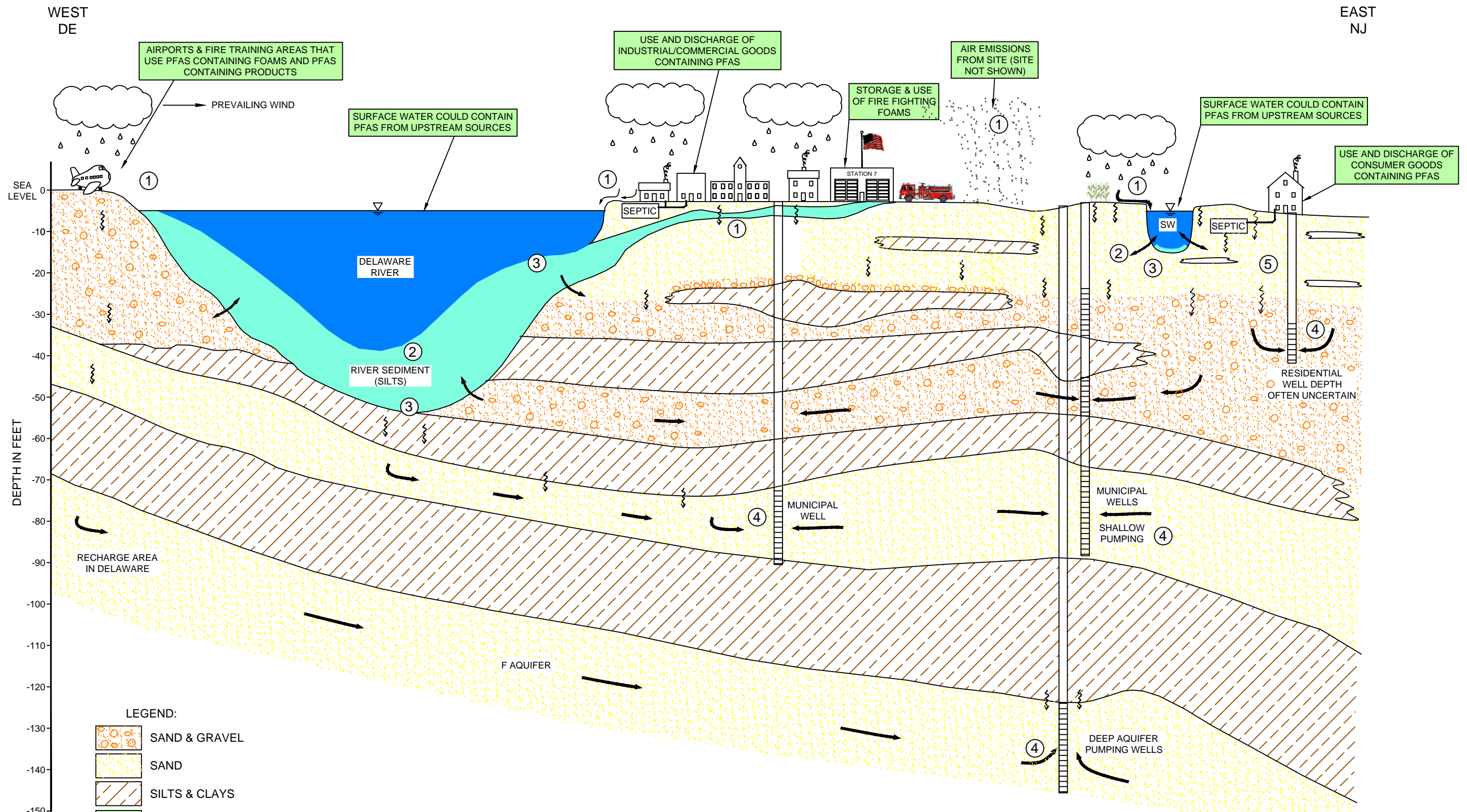
AECOM
Sabre Building, Suite 300
4051 Ogletown Road
Newark, Delaware 19713
Phone: 302-781-5900

CONCEPTUAL CROSS-SECTION ON-SITE

CONCEPTUAL SITE MODEL
CHEMOURS CHAMBERS WORKS COMPLEX
DEEPWATER, NEW JERSEY

PROJECT NO.
60517181
DATE
4/25/17
FIGURE No.
20

V:\Projects\Dupont\Chambers_Works\CAO_1\60463012 - PFOA Report\112017\PFAS Conceptual Site Model Cross-Section2.dwg, 6/14/2017 2:43 PM, Littell, David E., P:\PFAS\95\pc3_User\2787, 1'-0" = 1'-0"



- LEGEND:**
- SAND & GRAVEL
 - SAND
 - SILTS & CLAYS
 - POTENTIAL SOURCE
 - WATER ELEVATION
 - DIRECTION OF GROUNDWATER FLOW
 - DOWNWARD GROUNDWATER MIGRATION

NOTE:
DRAWING IS A SCHEMATIC CROSS-SECTION, BUT REPRESENTS CONDITIONS ACROSS THE SITE AND IS NOT TO SCALE.

DESIGNED BY: K. WEST	AECOM Sabre Building, Suite 300 4051 Ogletown Road Newark, Delaware 19713 Phone: 302-781-5900
DRAWN BY: D. LITTEL	
DATA QUALITY CHKD: T. MCGEE	
APPROVED BY:	

**CONCEPTUAL CROSS-SECTION
LOCAL OFF-SITE**

CONCEPTUAL SITE MODEL
CHEMOURS CHAMBERS WORKS COMPLEX
DEEPWATER, NEW JERSEY

PROJECT NO. 60517181
DATE 4/6/17
FIGURE No. 21

Appendices

Appendix A

Multimedia Sampling Result Tables for PFAS

Table A-1 Summary of On-Site Groundwater Results Conceptual Site Model for PFAS Chemours Chambers Works Deepwater, New Jersey

Table with 25 columns: Parameter Name, Units, Analytical Method, Location Sample Date, Sample Purpose, Dilution Factor, Lab ID, and 20 columns of data for various sample dates from 02/05/2010 to 01/23/2015. Rows include Ammonium Perfluorooctanoate, Perfluorooctanoic acid, Perfluorooctanesulfonic acid, Perfluorobutane Sulfonic Acid, Perfluorobutanoic Acid, Perfluorodecanoic Acid, Perfluorododecanoic Acid, Perfluoroheptanoic Acid, Perfluorohexane Sulfonic Acid, Perfluorohexanoic Acid, Perfluorononanoic Acid, Perfluorooctane Sulfonamide, Perfluoropentanoic Acid, and Perfluoroundecanoic Acid.

Table with 25 columns: Parameter Name, Units, Analytical Method, Location Sample Date, Sample Purpose, Dilution Factor, Lab ID, and 20 columns of data for various sample dates from 07/24/2015 to 01/23/2009. Rows include Ammonium Perfluorooctanoate, Perfluorooctanoic acid, Perfluorooctanesulfonic acid, Perfluorobutane Sulfonic Acid, Perfluorobutanoic Acid, Perfluorodecanoic Acid, Perfluorododecanoic Acid, Perfluoroheptanoic Acid, Perfluorohexane Sulfonic Acid, Perfluorohexanoic Acid, Perfluorononanoic Acid, Perfluorooctane Sulfonamide, Perfluoropentanoic Acid, and Perfluoroundecanoic Acid.

Table with 25 columns: Parameter Name, Units, Analytical Method, Location Sample Date, Sample Purpose, Dilution Factor, Lab ID, and 20 columns of data for various sample dates from 07/28/2009 to 07/22/2014. Rows include Ammonium Perfluorooctanoate, Perfluorooctanoic acid, Perfluorooctanesulfonic acid, Perfluorobutane Sulfonic Acid, Perfluorobutanoic Acid, Perfluorodecanoic Acid, Perfluorododecanoic Acid, Perfluoroheptanoic Acid, Perfluorohexane Sulfonic Acid, Perfluorohexanoic Acid, Perfluorononanoic Acid, Perfluorooctane Sulfonamide, Perfluoropentanoic Acid, and Perfluoroundecanoic Acid.

Notes: J - Estimated Value UJ - Detection limit estimated U - Not Detected at stated quantification limit R - Rejected value

Table A-1
Summary of On-Site Groundwater Results
Conceptual Site Model for PFAS
Chemours Chambers Works
Deepwater, New Jersey

Parameter Name	Units	Analytical Method	Location Sample Date Sample Purpose Dilution Factor Lab ID	AA25-M01C 01/20/2015		AA25-M01C 07/24/2015		AA25-M01C 01/21/2016		AA25-M01C 07/25/2016		AA25-M01C 01/27/2017		C08-M01B 05/02/2003		C08-M01B 07/11/2006		C08-M01B 01/25/2007		C08-M01B 07/13/2007		C08-M01B 07/13/2007		C08-M01B 01/11/2008	
				FS	MDL	FS	MDL	FS	MDL	FS	MDL	FS	MDL	FS	MDL	FS	MDL	FS	MDL	FS	MDL	FS	MDL	FS	MDL
Ammonium Perfluorooctanoate	UG/L	01M-008-046	MPI	---	---	---	---	---	---	---	---	---	---	5.25	5	12	1.3	---	---	---	---	---	---	---	---
Perfluorooctanoic acid	UG/L	01M-008-046	MPI	---	---	---	---	---	---	---	---	---	---	5.04	5	12	1.3	---	---	---	---	---	---	---	
Perfluorooctanoic acid	UG/L	LC-0012	QES-DEN	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	20 J	0.9	---	---	21	1.1
Perfluorooctanoic acid	UG/L	MLA-040 Rev 04-11	AAS	<0.0012 U	0.0012	<0.0010 U	0.001	<0.00093 U	0.00093	<0.0010 U	0.001	<0.0010 U	0.001	---	---	---	---	17.8	0.042	---	---	25.1 J	0.0648	---	---
Perfluorooctanesulfonic acid	UG/L	01M-008-046	MPI	---	---	---	---	---	---	---	---	---	---	0.05	0.05	---	---	---	---	---	---	---	---	---	
Perfluorooctanesulfonic acid	UG/L	LC-0012	QES-DEN	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	0.024 J	0.01	---	---	0.016 J	0.003
Perfluorooctanesulfonic acid	UG/L	MLA-040 Rev 04	AAS	<0.0020 U	0.002	<0.0021 U	0.0021	<0.0019 U	0.0019	<0.0021 U	0.0021	<0.0020 U	0.002	---	---	---	---	<0.0971 U	0.0971	---	---	<0.0817 U	0.0817	---	---
Perfluorobutane Sulfonic Acid	UG/L	MLA-040 Rev 04-11	AAS	<0.0020 U	0.002	<0.0021 U	0.0021	<0.0019 U	0.0019	<0.0021 U	0.0021	<0.0020 U	0.002	---	---	---	---	<0.0961 U	0.0961	---	---	<0.0817 U	0.0817	---	---
Perfluorobutanoic Acid	UG/L	MLA-040 Rev 04-11	AAS	<0.0010 U	0.001	<0.0010 U	0.001	<0.00093 U	0.00093	<0.0010 U	0.001	<0.0010 U	0.001	---	---	---	---	1.06	0.0503	---	---	1.33	0.0408	---	---
Perfluorodecanoic Acid	UG/L	MLA-040 Rev 04-11	AAS	<0.0010 U	0.001	<0.0010 U	0.001	<0.00093 U	0.00093	<0.0010 U	0.001	<0.0010 U	0.001	---	---	---	---	0.938	0.0482	---	---	1.41	0.0408	---	---
Perfluorododecanoic Acid	UG/L	MLA-040 Rev 04-11	AAS	<0.0010 U	0.001	<0.0010 U	0.001	<0.00093 U	0.00093	<0.0010 U	0.001	<0.0010 U	0.001	---	---	---	---	<0.0430 U	0.043	---	---	<0.0408 U	0.0408	---	---
Perfluoroheptanoic Acid	UG/L	MLA-040 Rev 04-11	AAS	<0.0010 U	0.001	<0.0010 U	0.001	<0.00093 U	0.00093	<0.0010 U	0.001	<0.0010 U	0.001	---	---	---	---	2.31	0.0454	---	---	2.5	0.0408	---	---
Perfluorohexane Sulfonic Acid	UG/L	MLA-040 Rev 04-11	AAS	<0.0020 U	0.002	<0.0021 U	0.0021	<0.0019 U	0.0019	<0.0021 U	0.0021	<0.0020 U	0.002	---	---	---	---	<0.0971 U	0.0971	---	---	<0.0817 U	0.0817	---	---
Perfluorohexanoic Acid	UG/L	MLA-040 Rev 04-11	AAS	<0.0010 U	0.001	<0.0010 U	0.001	<0.00093 U	0.00093	<0.0010 U	0.001	<0.0010 U	0.001	---	---	---	---	6.94	0.0454	---	---	7.23	0.073	---	---
Perfluorononanoic Acid	UG/L	MLA-040 Rev 04-11	AAS	<0.0010 U	0.001	<0.0044 U	0.0044	<0.00093 U	0.00093	<0.0010 U	0.001	<0.0010 U	0.001	---	---	---	---	0.943	0.0496	---	---	1.1	0.0408	---	---
Perfluorooctane Sulfonamide	UG/L	MLA-040 Rev 04-11	AAS	<0.0010 U	0.001	<0.0010 U	0.001	<0.00093 U	0.00093	<0.0010 U	0.001	<0.0010 U	0.001	---	---	---	---	<0.0392 U	0.0392	---	---	<0.0408 U	0.0408	---	---
Perfluoropentanoic Acid	UG/L	MLA-040 Rev 04	AAS	<0.0010 U	0.001	0.0014	0.0014	<0.00093 U	0.00093	<0.0010 U	0.001	<0.0010 U	0.001	---	---	---	---	2.57	0.0441	---	---	2.47	0.106	---	---
Perfluoroundecanoic Acid	UG/L	MLA-040 Rev 04	AAS	<0.0010 U	0.001	<0.0010 U	0.001	<0.00093 U	0.00093	<0.0010 U	0.001	<0.0010 U	0.001	---	---	---	---	<0.0562 U	0.0562	---	---	<0.0408 U	0.0408	---	---

Parameter Name	Units	Analytical Method	Location Sample Date Sample Purpose Dilution Factor Lab ID	C08-M01B 01/11/2008		C08-M01B 07/14/2008	
				FS	MDL	FS	MDL
Ammonium Perfluorooctanoate	UG/L	01M-008-046	MPI	---	---	---	---
Perfluorooctanoic acid	UG/L	01M-008-046	MPI	---	---	---	---
Perfluorooctanoic acid	UG/L	LC-0012	QES-DEN	---	---	---	---
Perfluorooctanoic acid	UG/L	MLA-040 Rev 04 or 060-06-11	AAS	33	0.043	15	0.22
Perfluorooctanesulfonic acid	UG/L	01M-008-046	MPI	---	---	---	---
Perfluorooctanesulfonic acid	UG/L	LC-0012	QES-DEN	---	---	---	---
Perfluorooctanesulfonic acid	UG/L	MLA-040 Rev 04 or 060-06-11	AAS	<0.086 U	0.086	<0.069 U	0.069
Perfluorobutane Sulfonic Acid	UG/L	MLA-040 Rev 04 or 060-06-11	AAS	<0.11 U	0.11	<0.069 U	0.069
Perfluorobutanoic Acid	UG/L	MLA-040 Rev 04 or 060-06-11	AAS	1.8	0.043	0.66	0.035
Perfluorodecanoic Acid	UG/L	MLA-040 Rev 04 or 060-06-11	AAS	1.2	0.086	0.16	0.035
Perfluorododecanoic Acid	UG/L	MLA-040 Rev 04 or 060-06-11	AAS	<0.043 U	0.043	<0.035 U	0.035
Perfluoroheptanoic Acid	UG/L	MLA-040 Rev 04 or 060-06-11	AAS	2.8	0.043	1.8	0.035
Perfluorohexane Sulfonic Acid	UG/L	MLA-040 Rev 04 or 060-06-11	AAS	<0.086 U	0.086	<0.069 U	0.069
Perfluorohexanoic Acid	UG/L	MLA-040 Rev 04 or 060-06-11	AAS	9.2	0.18	8.3	0.035
Perfluorononanoic Acid	UG/L	MLA-040 Rev 04 or 060-06-11	AAS	1.4	0.043	0.43	0.035
Perfluorooctane Sulfonamide	UG/L	MLA-040 Rev 04 or 060-06-11	AAS	<0.043 U	0.043	0.045	0.035
Perfluoropentanoic Acid	UG/L	MLA-040 Rev 04 or 060-06-11	AAS	2.5	0.26	1.8	0.1
Perfluoroundecanoic Acid	UG/L	MLA-040 Rev 04 or 060-06-11	AAS	<0.043 U	0.043	<0.035 U	0.035

Notes:
 J - Estimated Value
 U - Not Detected at stated quantification limit
 UJ - Detection limit estimated
 R - Rejected value

Table A-1
Summary of On-Site Groundwater Results
Conceptual Site Model for PFAS
Chemours Chambers Works
Deepwater, New Jersey

Parameter Name	Units	Analytical Method	Location Sample Date Sample Purpose Dilution Factor Lab ID	C11-M02D 07/11/2006		C11-M02D 01/25/2007		C11-M02D 07/16/2007		C11-M02D 07/16/2007		C11-M02D 01/14/2008		C11-M02D 07/14/2008		C11-M02D 01/21/2009		C11-M02D 07/15/2009		C11-M02D 02/04/2010		C11-M02D 07/15/2010										
				FS	MDL	FS	MDL	FS	MDL	FS	MDL	FS	MDL	FS	MDL	FS	MDL	FS	MDL	FS	MDL	FS	MDL	FS	MDL							
Ammonium Perfluorooctanoate	UG/L	01M-008-046	MPI	3.3	0.13	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---									
Perfluorooctanoic acid	UG/L	01M-008-046	MPI	3.2	0.13	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---									
Perfluorooctanoic acid	UG/L	LC-0012	QES-DEN	---	---	---	---	3.3	0.45	---	---	2.7	0.11	---	---	---	---	---	---	---	---	---	---									
Perfluorooctanoic acid	UG/L	MLA-040 Rev 04 or 060-06-11	AAS	---	---	2.3	0.01	---	---	3.75	J	0.01	---	---	3.5	0.0053	2.8	0.072	1.9	0.009	2.5	0.0058	2.2	0.0049	3.2	0.0046						
Perfluorooctanesulfonic acid	UG/L	LC-0012	QES-DEN	---	---	---	---	0.067	0.01	---	---	0.067	0.003	---	---	---	---	---	---	---	---	---	---									
Perfluorooctanesulfonic acid	UG/L	MLA-040 Rev 04 or 060-06-11	AAS	---	---	<0.0232	U	0.023	---	---	0.0325	0.01	---	---	0.0056	0.0052	<0.013	U	0.013	<0.019	U	0.019	<0.012	U	0.012	<0.0098	U	0.0098	<0.0091	U	0.0091	
Perfluorobutane Sulfonic Acid	UG/L	MLA-040 Rev 04 or 060-06-11	AAS	---	---	<0.0230	U	0.023	---	---	<0.0117	U	0.01	---	<0.015	U	0.015	<0.013	U	0.013	<0.019	U	0.019	<0.012	U	0.012	<0.0098	U	0.0098	<0.0091	U	0.0091
Perfluorobutanoic Acid	UG/L	MLA-040 Rev 04 or 060-06-11	AAS	---	---	0.172	0.012	---	---	0.234	0.01	---	---	0.2	0.0026	0.14	0.0063	0.16	0.009	0.2	0.0058	0.15	0.0049	0.21	0.0046							
Perfluorodecanoic Acid	UG/L	MLA-040 Rev 04 or 060-06-11	AAS	---	---	<0.0115	U	0.012	---	---	0.106	0.01	---	0.094	0.003	0.016	0.0063	<0.0094	U	0.009	0.026	J	0.0058	0.039	0.0049	0.026	0.0046					
Perfluorododecanoic Acid	UG/L	MLA-040 Rev 04 or 060-06-11	AAS	---	---	<0.0103	U	0.01	---	---	<0.00587	U	0.01	---	<0.0026	U	0.0026	<0.0063	U	0.0063	<0.0094	U	0.009	<0.0058	U	0.0058	<0.0049	U	0.0049	<0.0046	U	0.0046
Perfluoroheptanoic Acid	UG/L	MLA-040 Rev 04 or 060-06-11	AAS	---	---	0.127	0.011	---	---	0.176	0.01	---	---	0.16	0.0026	0.15	0.0063	0.1	0.009	0.14	0.0058	0.12	0.0049	0.15	0.0046							
Perfluorohexane Sulfonic Acid	UG/L	MLA-040 Rev 04 or 060-06-11	AAS	---	---	<0.0232	U	0.023	---	---	<0.0117	U	0.01	---	0.011	J	0.0052	<0.013	U	0.013	<0.019	U	0.019	<0.012	U	0.012	<0.0098	U	0.0098	<0.0091	U	0.0091
Perfluorohexanoic Acid	UG/L	MLA-040 Rev 04 or 060-06-11	AAS	---	---	0.624	0.011	---	---	0.707	0.01	---	---	0.63	0.0031	0.8	0.025	0.49	0.009	0.63	0.0058	0.46	0.0049	0.67	0.0046							
Perfluorononanoic Acid	UG/L	MLA-040 Rev 04 or 060-06-11	AAS	---	---	0.584	0.012	---	---	2.19	0.01	---	---	1.7	0.0026	0.93	0.0063	0.6	0.009	0.85	0.0058	1.2	0.0049	1.3	0.0046							
Perfluorooctane Sulfonamide	UG/L	MLA-040 Rev 04 or 060-06-11	AAS	---	---	<0.00937	U	0.009	---	---	<0.00587	U	0.01	---	<0.0026	U	0.0026	<0.0063	U	0.0063	<0.0094	U	0.009	<0.014	U	0.014	<0.0049	U	0.0049	<0.0046	U	0.0046
Perfluoropentanoic Acid	UG/L	MLA-040 Rev 04 or 060-06-11	AAS	---	---	0.131	0.011	---	---	0.134	0.01	---	---	0.12	0.0026	0.11	0.013	0.1	0.009	0.13	0.0058	0.11	0.0049	0.14	0.0046							
Perfluoroundecanoic Acid	UG/L	MLA-040 Rev 04 or 060-06-11	AAS	---	---	<0.0134	U	0.013	---	---	0.0112	0.01	---	---	0.009	0.0026	<0.0063	U	0.0063	<0.0094	U	0.009	<0.0058	U	0.0058	<0.0049	U	0.0049	<0.0046	U	0.0046	

Parameter Name	Units	Analytical Method	Location Sample Date Sample Purpose Dilution Factor Lab ID	C11-M02D 01/28/2011		C11-M02D 07/19/2011		C11-M02D 01/19/2012				
				FS	MDL	FS	MDL	FS	MDL			
Ammonium Perfluorooctanoate	UG/L	01M-008-046	MPI	---	---	---	---	---	---			
Perfluorooctanoic acid	UG/L	01M-008-046	MPI	---	---	---	---	---	---			
Perfluorooctanoic acid	UG/L	LC-0012	QES-DEN	---	---	---	---	---	---			
Perfluorooctanoic acid	UG/L	MLA-040 Rev 04 or 060-06-11	AAS	3.2	0.005	2.8	0.005	1.9	J	0.005		
Perfluorooctanesulfonic acid	UG/L	LC-0012	QES-DEN	---	---	---	---	---	---			
Perfluorooctanesulfonic acid	UG/L	MLA-040 Rev 04 or 060-06-11	AAS	0.015	0.011	<0.010	U	0.01	<0.0098	U	0.01	
Perfluorobutane Sulfonic Acid	UG/L	MLA-040 Rev 04 or 060-06-11	AAS	<0.011	U	0.011	<0.010	U	0.01	0.012	0.01	
Perfluorobutanoic Acid	UG/L	MLA-040 Rev 04 or 060-06-11	AAS	0.19	0.005	0.18	0.005	0.14	0.005			
Perfluorodecanoic Acid	UG/L	MLA-040 Rev 04 or 060-06-11	AAS	0.09	0.005	0.06	0.005	0.049	0.005			
Perfluorododecanoic Acid	UG/L	MLA-040 Rev 04 or 060-06-11	AAS	<0.0053	U	0.005	<0.0052	U	0.005	<0.0049	U	0.005
Perfluoroheptanoic Acid	UG/L	MLA-040 Rev 04 or 060-06-11	AAS	0.17	0.005	0.15	0.005	0.12	0.005			
Perfluorohexane Sulfonic Acid	UG/L	MLA-040 Rev 04 or 060-06-11	AAS	<0.011	U	0.011	<0.010	U	0.01	<0.0098	U	0.01
Perfluorohexanoic Acid	UG/L	MLA-040 Rev 04 or 060-06-11	AAS	0.64	0.005	0.61	0.005	0.42	0.005			
Perfluorononanoic Acid	UG/L	MLA-040 Rev 04 or 060-06-11	AAS	1.9	0.005	1.5	0.005	0.92	0.005			
Perfluorooctane Sulfonamide	UG/L	MLA-040 Rev 04 or 060-06-11	AAS	<0.0053	U	0.005	<0.0052	U	0.005	<0.0049	U	0.005
Perfluoropentanoic Acid	UG/L	MLA-040 Rev 04 or 060-06-11	AAS	0.13	0.005	0.13	0.005	0.11	J	0.005		
Perfluoroundecanoic Acid	UG/L	MLA-040 Rev 04 or 060-06-11	AAS	0.0085	0.005	<0.0052	U	0.005	0.005	U	0.005	

Notes:
 J - Estimated Value
 U - Not Detected at stated quantification limit
 UJ - Detection limit estimated
 R - Rejected value

Table A-1
Summary of On-Site Groundwater Results
Conceptual Site Model for PFAS
Chemours Chambers Works
Deepwater, New Jersey

Table with 27 columns: Parameter Name, Units, Analytical Method, Location (Sample Date, Sample Purpose, Dilution Factor, Lab ID), and 12 sets of data for different dates (D06-M01B) with FS and MDL values.

Table with 27 columns: Parameter Name, Units, Analytical Method, Location (Sample Date, Sample Purpose, Dilution Factor, Lab ID), and 13 sets of data for different dates (D06-M01B) with FS and MDL values.

Table with 27 columns: Parameter Name, Units, Analytical Method, Location (Sample Date, Sample Purpose, Dilution Factor, Lab ID), and 13 sets of data for different dates (D15-M01B) with FS and MDL values.

Notes:
J - Estimated Value
U - Not Detected at stated quantification limit

UJ - Detection limit estimated
R - Rejected value

Table A-1
Summary of On-Site Groundwater Results
Conceptual Site Model for PFAS
Chemours Chambers Works
Deepwater, New Jersey

Parameter Name	Units	Analytical Method	Location Sample Date Sample Purpose Dilution Factor Lab ID	D15-M01B 07/20/2011		D15-M01B 01/19/2012		D15-M01B 07/18/2012		D15-M01B 01/24/2013		D15-M01B 07/23/2013		D15-M01B 01/23/2014		D15-M01B 07/10/2014		D15-M01B 01/28/2015									
				FS	MDL	FS	MDL	FS	MDL	FS	MDL	FS	MDL	FS	MDL	FS	MDL	FS	MDL	FS	MDL						
Ammonium Perfluorooctanoate	UG/L	01M-008-046	MPI	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---							
Perfluorooctanoic acid	UG/L	01M-008-046	MPI	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---							
Perfluorooctanoic acid	UG/L	LC-0012	QES-DEN	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---							
Perfluorooctanoic acid	UG/L	MLA-040 Rev 04 or 060-06-11	AAS	0.96	0.0048	0.82	J	0.005	0.24	0.0062	0.48	0.0054	0.63	0.0048	0.9	0.0045	0.84	0.0052	1	0.0042							
Perfluorooctanesulfonic acid	UG/L	LC-0012	QES-DEN	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---							
Perfluorooctanesulfonic acid	UG/L	MLA-040 Rev 04 or 060-06-11	AAS	<0.0096	U	0.0096	<0.0099	U	0.0099	<0.012	U	0.012	0.03	0.011	0.05	0.0096	0.048	0.0089	<0.026	U	0.026	0.027	0.0083				
Perfluorobutane Sulfonic Acid	UG/L	MLA-040 Rev 04 or 060-06-11	AAS	<0.0096	U	0.0096	<0.0099	U	0.0099	<0.012	U	0.012	0.011	U	0.011	<0.0096	U	0.0096	<0.0089	U	0.0089	0.013	0.01	0.015	0.0083		
Perfluorobutanoic Acid	UG/L	MLA-040 Rev 04 or 060-06-11	AAS	0.21	0.0048	0.13	0.005	0.066	0.0062	0.11	0.0054	0.13	0.0048	0.16	0.0045	0.15	0.0027	0.21	0.0095								
Perfluorodecanoic Acid	UG/L	MLA-040 Rev 04 or 060-06-11	AAS	0.13	0.0048	0.2	0.005	0.15	0.0062	0.24	0.0054	0.29	0.0048	0.25	0.0045	0.24	0.0052	0.22	0.0041								
Perfluorododecanoic Acid	UG/L	MLA-040 Rev 04 or 060-06-11	AAS	<0.0048	U	0.0048	<0.0050	U	0.005	0.0077	0.0062	0.0057	U	0.0056	0.026	0.0048	0.0093	0.0045	0.0086	0.0052	0.0082	0.0041					
Perfluoroheptanoic Acid	UG/L	MLA-040 Rev 04 or 060-06-11	AAS	0.55	0.0048	0.2	0.005	0.15	0.0062	0.2	0.0054	0.51	0.0048	0.54	0.0045	0.35	0.0052	0.4	0.0041								
Perfluorohexane Sulfonic Acid	UG/L	MLA-040 Rev 04 or 060-06-11	AAS	<0.0096	U	0.0096	<0.0099	U	0.0099	<0.012	U	0.012	0.011	U	0.011	<0.0096	U	0.0096	<0.0089	U	0.0089	<0.010	U	0.01	<0.0083	U	0.0083
Perfluorohexanoic Acid	UG/L	MLA-040 Rev 04 or 060-06-11	AAS	0.99	0.0048	0.75	0.005	0.25	0.0062	0.41	0.0054	0.62	0.0048	0.82	0.0045	0.86	0.0052	0.92	0.0041								
Perfluorononanoic Acid	UG/L	MLA-040 Rev 04 or 060-06-11	AAS	0.22	0.0048	0.16	0.005	0.078	0.0062	0.15	0.0054	0.22	0.0048	0.21	0.0045	0.17	0.0052	0.17	0.0041								
Perfluorooctane Sulfonamide	UG/L	MLA-040 Rev 04 or 060-06-11	AAS	<0.0048	U	0.0048	<0.0050	U	0.005	<0.0062	U	0.0062	0.0054	U	0.0054	<0.0048	U	0.0048	<0.0045	U	0.0045	0.0056	0.0052	0.0057	0.0041		
Perfluoropentanoic Acid	UG/L	MLA-040 Rev 04 or 060-06-11	AAS	0.46	0.0048	0.22	J	0.005	0.11	0.0062	0.19	0.0054	0.22	0.0048	0.39	0.0045	0.32	0.0052	0.34	0.0041							
Perfluoroundecanoic Acid	UG/L	MLA-040 Rev 04 or 060-06-11	AAS	<0.0048	U	0.0048	0.0061	0.005	0.031	0.0062	0.033	0.0054	0.06	0.0048	0.043	0.0045	0.027	0.0052	0.035	0.0041							

Notes:
 J - Estimated Value
 U - Not Detected at stated quantification limit

UJ - Detection limit estimated
 R - Rejected value

Table A-1
Summary of On-Site Groundwater Results
Conceptual Site Model for PFAS
Chemours Chambers Works
Deepwater, New Jersey

Table with 25 columns: Parameter Name, Units, Analytical Method, Location Sample Date, Dilution Factor, Lab ID, and 15 columns for sampling events from G04-M01B 07/21/2008 to G04-M01B 07/31/2013. Rows include Ammonium Perfluorooctanoate, Perfluorooctanoic acid, Perfluorobutanoic acid, Perfluorodecanoic acid, Perfluoroheptanoic acid, Perfluorohexanoic acid, Perfluorononanoic acid, Perfluorooctane Sulfonamide, Perfluoropentanoic acid, and Perfluoroundecanoic acid.

Table with 25 columns: Parameter Name, Units, Analytical Method, Location Sample Date, Dilution Factor, Lab ID, and 15 columns for sampling events from G04-M01B 01/30/2014 to G04-M01E 07/23/2007. Rows include Ammonium Perfluorooctanoate, Perfluorooctanoic acid, Perfluorobutanoic acid, Perfluorodecanoic acid, Perfluoroheptanoic acid, Perfluorohexanoic acid, Perfluorononanoic acid, Perfluorooctane Sulfonamide, Perfluoropentanoic acid, and Perfluoroundecanoic acid.

Table with 25 columns: Parameter Name, Units, Analytical Method, Location Sample Date, Dilution Factor, Lab ID, and 15 columns for sampling events from G04-M01E 01/16/2008 to G04-M01E 07/25/2012. Rows include Ammonium Perfluorooctanoate, Perfluorooctanoic acid, Perfluorobutanoic acid, Perfluorodecanoic acid, Perfluoroheptanoic acid, Perfluorohexanoic acid, Perfluorononanoic acid, Perfluorooctane Sulfonamide, Perfluoropentanoic acid, and Perfluoroundecanoic acid.

Notes:
J - Estimated Value
U - Not Detected at stated quantification limit
UJ - Detection limit estimated
R - Rejected value

Table A-1
Summary of On-Site Groundwater Results
Conceptual Site Model for PFAS
Chemours Chambers Works
Deepwater, New Jersey

Parameter Name	Units	Analytical Method	Location Sample Date Sample Purpose Dilution Factor Lab ID	G09-M01A 07/26/2007 FS MDL (1-2000)		G09-M01A 07/26/2007 FS MDL 1		G09-M01A 01/11/2008 FS MDL (1-5000)		G09-M01A 01/11/2008 FS MDL 1		G09-M01A 07/23/2008 FS MDL 1		G09-M01A 01/20/2009 FS MDL 1		G09-M01A 07/28/2009 FS MDL 1		G09-M01A 02/02/2010 FS MDL 1		G09-M01A 07/28/2010 FS MDL 1		G09-M01A 02/03/2011 FS MDL 1		G09-M01A 08/01/2011 FS MDL 1			
				FS	MDL	FS	MDL	FS	MDL	FS	MDL	FS	MDL	FS	MDL	FS	MDL	FS	MDL	FS	MDL	FS	MDL	FS	MDL	FS	MDL
Ammonium Perfluorooctanoate	UG/L	01M-008-046	MPI	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Perfluorooctanoic acid	UG/L	01M-008-046	MPI	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Perfluorooctanoic acid	UG/L	LC-0012	QES-DEN	540	J 36	---	---	420	55	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Perfluorooctanoic acid	UG/L	MLA-040 Rev 04 or 060-06-11	AAS	---	---	370	J 12	---	---	330	1.3	38	0.6	200	0.5	380	0.5	420	0.52	8.4	0.53	0.73	0.38	560	0.5	---	---
Perfluorooctanesulfonic acid	UG/L	LC-0012	QES-DEN	0.023	J 0.01	---	---	0.013	J 0.003	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Perfluorooctanesulfonic acid	UG/L	MLA-040 Rev 04 or 060-06-11	AAS	---	---	<10.0	U 10	---	---	<0.63	U 0.63	<0.88	U 0.88	<1.0	U 1	1.6	1	<1.0	U 1	<1.1	U 1.1	<0.77	U 0.77	<1.0	U 1	---	---
Perfluorobutane Sulfonic Acid	UG/L	MLA-040 Rev 04 or 060-06-11	AAS	---	---	<10.0	U 10	---	---	<0.63	U 0.63	<0.88	U 0.88	<1.0	U 1	<1.0	U 1	<1.0	U 1	<1.1	U 1.1	<0.77	U 0.77	<1.0	U 1	---	---
Perfluorobutanoic Acid	UG/L	MLA-040 Rev 04 or 060-06-11	AAS	---	---	69.6	10	---	---	73	0.31	45	0.44	35	0.5	38	0.5	53	0.52	61	0.53	13	0.38	91	1.4	---	---
Perfluorodecanoic Acid	UG/L	MLA-040 Rev 04 or 060-06-11	AAS	---	---	17	J 0.52	---	---	13	0.31	<0.44	U 0.44	<0.50	U 0.5	86	0.5	16	0.52	<0.53	U 0.53	<0.38	U 0.38	30	0.5	---	---
Perfluorododecanoic Acid	UG/L	MLA-040 Rev 04 or 060-06-11	AAS	---	---	<5.00	U 5	---	---	<0.31	U 0.31	<0.44	U 0.44	<0.50	U 0.5	<0.50	U 0.5	<0.52	U 0.52	<0.53	U 0.53	<0.38	U 0.38	<0.50	U 0.5	---	---
Perfluoroheptanoic Acid	UG/L	MLA-040 Rev 04 or 060-06-11	AAS	---	---	62.7	5	---	---	150	0.41	65	0.44	80	0.5	96	0.5	130	0.52	38	0.53	2.7	0.38	150	0.5	---	---
Perfluorohexane Sulfonic Acid	UG/L	MLA-040 Rev 04 or 060-06-11	AAS	---	---	<10.0	U 10	---	---	<0.63	U 0.63	<0.88	U 0.88	<1.0	U 1	<1.0	U 1	<1.0	U 1	<1.1	U 1.1	<0.77	U 0.77	<1.0	U 1	---	---
Perfluorohexanoic Acid	UG/L	MLA-040 Rev 04 or 060-06-11	AAS	---	---	199	6.97	---	---	210	1.1	250	0.44	180	0.5	220	0.5	300	0.52	250	0.53	33	0.38	610	0.5	---	---
Perfluorononanoic Acid	UG/L	MLA-040 Rev 04 or 060-06-11	AAS	---	---	67	J 0.52	---	---	140	0.55	<0.96	U 0.96	17	0.5	150	0.5	100	0.52	<0.53	U 0.53	<0.38	U 0.38	91	0.5	---	---
Perfluorooctane Sulfonamide	UG/L	MLA-040 Rev 04 or 060-06-11	AAS	---	---	<5.00	U 5	---	---	<0.31	U 0.31	<0.44	U 0.44	<0.50	U 0.5	<1.3	U 1.3	<0.52	U 0.52	<0.53	U 0.53	<0.38	U 0.38	<0.50	U 0.5	---	---
Perfluoropentanoic Acid	UG/L	MLA-040 Rev 04 or 060-06-11	AAS	---	---	81.7	5	---	---	61	4.7	53	1.9	53	0.5	59	0.5	110	0.52	91	0.53	8.4	0.38	140	0.5	---	---
Perfluoroundecanoic Acid	UG/L	MLA-040 Rev 04 or 060-06-11	AAS	---	---	<5.00	U 5	---	---	<0.31	U 0.31	<0.44	U 0.44	<0.50	U 0.5	0.67	0.5	<0.52	U 0.52	<0.53	U 0.53	<0.38	U 0.38	<0.50	U 0.5	---	---

Parameter Name	Units	Analytical Method	Location Sample Date Sample Purpose Dilution Factor Lab ID	G09-M01A 01/24/2012 FS MDL 1		G09-M01A 07/27/2012 FS MDL 1		G09-M01A 01/21/2013 FS MDL 1	
				FS	MDL	FS	MDL	FS	MDL
Ammonium Perfluorooctanoate	UG/L	01M-008-046	MPI	---	---	---	---	---	---
Perfluorooctanoic acid	UG/L	01M-008-046	MPI	---	---	---	---	---	---
Perfluorooctanoic acid	UG/L	LC-0012	QES-DEN	---	---	---	---	---	---
Perfluorooctanoic acid	UG/L	MLA-040 Rev 04 or 060-06-11	AAS	11	J 0.47	200	0.51	360	0.51
Perfluorooctanesulfonic acid	UG/L	LC-0012	QES-DEN	---	---	---	---	---	---
Perfluorooctanesulfonic acid	UG/L	MLA-040 Rev 04 or 060-06-11	AAS	<0.94	U 0.94	<1.0	U 1	1	U 1
Perfluorobutane Sulfonic Acid	UG/L	MLA-040 Rev 04 or 060-06-11	AAS	<0.94	U 0.94	<1.0	U 1	1	U 1
Perfluorobutanoic Acid	UG/L	MLA-040 Rev 04 or 060-06-11	AAS	40	0.47	51	0.51	81	0.51
Perfluorodecanoic Acid	UG/L	MLA-040 Rev 04 or 060-06-11	AAS	<0.47	U 0.47	54	0.51	120	0.51
Perfluorododecanoic Acid	UG/L	MLA-040 Rev 04 or 060-06-11	AAS	<0.47	U 0.47	<0.51	U 0.51	0.51	U 0.51
Perfluoroheptanoic Acid	UG/L	MLA-040 Rev 04 or 060-06-11	AAS	22	0.47	59	0.51	110	0.51
Perfluorohexane Sulfonic Acid	UG/L	MLA-040 Rev 04 or 060-06-11	AAS	<0.94	U 0.94	<1.0	U 1	1	U 1
Perfluorohexanoic Acid	UG/L	MLA-040 Rev 04 or 060-06-11	AAS	170	0.47	210	0.51	340	0.51
Perfluorononanoic Acid	UG/L	MLA-040 Rev 04 or 060-06-11	AAS	<0.47	U 0.47	45	0.51	100	0.51
Perfluorooctane Sulfonamide	UG/L	MLA-040 Rev 04 or 060-06-11	AAS	<0.47	U 0.47	<0.51	U 0.51	0.51	U 0.51
Perfluoropentanoic Acid	UG/L	MLA-040 Rev 04 or 060-06-11	AAS	70	J 0.47	74	0.51	110	0.51
Perfluoroundecanoic Acid	UG/L	MLA-040 Rev 04 or 060-06-11	AAS	<0.47	U 0.47	1.6	0.51	0.63	0.51

Notes:
 J - Estimated Value
 U - Not Detected at stated quantification limit

UJ - Detection limit estimated
 R - Rejected value

Table A-1
Summary of On-Site Groundwater Results
Conceptual Site Model for PFAS
Chemours Chambers Works
Deepwater, New Jersey

Table with 28 columns: Parameter Name, Units, Analytical Method, Location Sample Date, Sample Purpose, Dilution Factor, Lab ID, and 24 data columns for various sampling events (G09-M01A, J05-M01C) with FS and MDL sub-columns.

Table with 28 columns: Parameter Name, Units, Analytical Method, Location Sample Date, Sample Purpose, Dilution Factor, Lab ID, and 24 data columns for various sampling events (J05-M01C) with FS and MDL sub-columns.

Table with 28 columns: Parameter Name, Units, Analytical Method, Location Sample Date, Sample Purpose, Dilution Factor, Lab ID, and 24 data columns for various sampling events (J05-M01C) with FS and MDL sub-columns.

Notes:
J - Estimated Value
U - Not Detected at stated quantification limit
UU - Detection limit estimated
R - Rejected value

Table A-1
Summary of On-Site Groundwater Results
Conceptual Site Model for PFAS
Chemours Chambers Works
Deepwater, New Jersey

Parameter Name	Units	Analytical Method	Location Sample Date Sample Purpose Dilution Factor Lab ID	K12-M01A 01/23/2017		K13-M02B 08/08/2006		K13-M02B 01/16/2007		K13-M02B 07/09/2007		K13-M02B 07/09/2007		K13-M02B 01/07/2008		K13-M02B 01/07/2008		K13-M02B 07/08/2008		
				FS	MDL	FS	MDL	FS	MDL	FS	MDL	FS	MDL	FS	MDL	FS	MDL	FS	MDL	FS
Ammonium Perfluorooctanoate	UG/L	01M-008-046	MPI	---	---	46	1.3	---	---	---	---	---	---	---	---	---	---	---	---	
Perfluorooctanoic acid	UG/L	01M-008-046	MPI	---	---	44	1.3	---	---	---	---	---	---	---	---	---	---	---	---	
Perfluorooctanoic acid	UG/L	LC-0012	QES-DEN	---	---	---	---	---	---	27	0.9	---	---	37	J	1.1	---	---	---	
Perfluorooctanoic acid	UG/L	MLA-040 Rev 04 or 060-06-11	AAS	9.7	0.01	---	---	46.4	0.37	---	---	24.6	J	0.09	---	---	19	1.5	27	0.43
Perfluorooctanesulfonic acid	UG/L	LC-0012	QES-DEN	---	---	---	---	---	---	<0.20	1	---	---	<0.050	0.3	---	---	---	---	
Perfluorooctanesulfonic acid	UG/L	MLA-040 Rev 04 or 060-06-11	AAS	<0.014	U 0.01	---	---	<0.848	U 0.85	---	---	<0.186	U 0.19	---	---	<0.67	U 0.67	<0.50	U 0.5	
Perfluorobutane Sulfonic Acid	UG/L	MLA-040 Rev 04 or 060-06-11	AAS	<0.014	U 0.01	---	---	<0.839	U 0.84	---	---	<0.186	U 0.19	---	---	<0.67	U 0.67	<0.50	U 0.5	
Perfluorobutanoic Acid	UG/L	MLA-040 Rev 04 or 060-06-11	AAS	0.088	0.01	---	---	35.6	0.4	---	---	19.3	0.09	---	---	36	0.33	28	0.25	
Perfluorodecanoic Acid	UG/L	MLA-040 Rev 04 or 060-06-11	AAS	0.24	0.01	---	---	<0.421	U 0.42	---	---	0.147	0.09	---	---	<0.33	U 0.33	<0.25	U 0.25	
Perfluorododecanoic Acid	UG/L	MLA-040 Rev 04 or 060-06-11	AAS	0.0076	0.01	---	---	<0.376	U 0.38	---	---	<0.0929	U 0.09	---	---	<0.33	U 0.33	<0.25	U 0.25	
Perfluoroheptanoic Acid	UG/L	MLA-040 Rev 04 or 060-06-11	AAS	0.26	0.01	---	---	13.6	0.36	---	---	7.43	0.09	---	---	11	0.33	8.6	0.25	
Perfluorohexane Sulfonic Acid	UG/L	MLA-040 Rev 04 or 060-06-11	AAS	<0.014	U 0.01	---	---	<0.848	U 0.85	---	---	<0.186	U 0.19	---	---	<0.67	U 0.67	<0.50	U 0.5	
Perfluorohexanoic Acid	UG/L	MLA-040 Rev 04 or 060-06-11	AAS	0.54	0.01	---	---	218	1.19	---	---	87.9	0.15	---	---	180	0.52	250	1	
Perfluorononanoic Acid	UG/L	MLA-040 Rev 04 or 060-06-11	AAS	0.095	0.01	---	---	1.69	0.39	---	---	1.21	0.09	---	---	0.83	0.33	<0.25	U 0.25	
Perfluorooctane Sulfonamide	UG/L	MLA-040 Rev 04 or 060-06-11	AAS	<0.0072	U 0.01	---	---	<0.342	U 0.34	---	---	<0.0929	U 0.09	---	---	<0.33	U 0.33	<0.25	U 0.25	
Perfluoropentanoic Acid	UG/L	MLA-040 Rev 04 or 060-06-11	AAS	0.36	0.01	---	---	26.7	0.35	---	---	15.1	0.15	---	---	23	1.4	18	1.5	
Perfluoroundecanoic Acid	UG/L	MLA-040 Rev 04 or 060-06-11	AAS	0.024	0.01	---	---	<0.491	U 0.49	---	---	<0.0929	U 0.09	---	---	<0.33	U 0.33	<0.25	U 0.25	

Notes:
 J - Estimated Value
 U - Not Detected at stated quantification limit
 UJ - Detection limit estimated
 R - Rejected value

**Table A-1
Summary of On-Site Groundwater Results
Conceptual Site Model for PFAS
Chemours Chambers Works
Deepwater, New Jersey**

Parameter Name	Units	Analytical Method	Location Sample Date Sample Purpose Dilution Factor Lab ID	L09-M01C 01/29/2015		L09-M01C 07/24/2015		L09-M01C 01/22/2016		L09-M01C 07/25/2016		L09-M01C 01/30/2017		L09-M01D 08/10/2006		L09-M01D 01/22/2007		L09-M01D 07/26/2007			
				FS	MDL	FS	MDL	FS	MDL	FS	MDL	FS	MDL	FS	MDL	FS	MDL	FS	MDL	FS	MDL
APFO	UG/L	01M-008-046	MPI	---	---	---	---	---	---	---	---	---	---	3.2	0.13	---	---	---	---		
PFOA	UG/L	01M-008-046	MPI	---	---	---	---	---	---	---	---	---	---	3.1	0.13	---	---	---	---		
PFOA	UG/L	LC-0012	QES-DEN	---	---	---	---	---	---	---	---	---	---	---	---	---	---	2.8	0.09		
PFOA	UG/L	MLA-040 Rev 04 or 060-06-11	AAS	2	0	1.6	J	0	1.7	D	0.0094	1.4	0.0034	1.5	0	---	---	2.94	0.02		
PFOS	UG/L	LC-0012	QES-DEN	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	<0.020	0.1	
PFOS	UG/L	MLA-040 Rev 04 or 060-06-11	AAS	0.019	0.01	0.015	0.01	<0.019	D	0.019	0.017	0.0078	0.019	0.01	---	---	0.0512	U	0.05	---	
Perfluorobutane Sulfonic Acid	UG/L	MLA-040 Rev 04 or 060-06-11	AAS	0.082	0.01	0.017	0.01	0.053	D	0.019	0.15	0.0067	0.11	0.01	---	---	0.0516	U	0.05	---	
Perfluorobutanoic Acid	UG/L	MLA-040 Rev 04 or 060-06-11	AAS	0.53	0.03	0.44	0.02	0.58	D	0.04	0.54	0.0076	0.52	0.01	---	---	0.776	0.03	---	---	
Perfluorodecanoic Acid	UG/L	MLA-040 Rev 04 or 060-06-11	AAS	0.092	0	0.072	0	0.072	D	0.0094	0.06	0.0034	0.057	0	---	---	0.029	0.03	---	---	
Perfluorododecanoic Acid	UG/L	MLA-040 Rev 04 or 060-06-11	AAS	0.0032	U	0	0.0034	U	0	<0.0094	D	0.0094	<0.0034	U	0	---	---	0.0227	U	0.02	
Perfluoroheptanoic Acid	UG/L	MLA-040 Rev 04 or 060-06-11	AAS	1.4	J	0.01	0.65	J	0.02	1.3	D	0.0094	1.3	0.0034	0.91	0	---	---	1.2	0.02	
Perfluorohexane Sulfonic Acid	UG/L	MLA-040 Rev 04 or 060-06-11	AAS	0.0098	U	0.01	0.0067	U	0.01	<0.019	D	0.019	0.0095	0.0067	0.0065	U	0.01	---	---	0.0512	U
Perfluorohexanoic Acid	UG/L	MLA-040 Rev 04 or 060-06-11	AAS	2	J	0.01	1.3	0.02	1.6	D	0.0094	1.4	0.0034	1.2	0	---	---	2.54	0.03	---	
Perfluorononanoic Acid	UG/L	MLA-040 Rev 04 or 060-06-11	AAS	0.25	0	0.17	0.12	0.21	D	0.013	0.18	0.0077	0.18	0.01	---	---	0.233	0.02	---	---	
Perfluorooctane Sulfonamide	UG/L	MLA-040 Rev 04 or 060-06-11	AAS	0.0032	U	0	0.0034	U	0	<0.0094	D	0.0094	<0.0034	U	0.0034	0.0033	U	0	---	---	
Perfluoropentanoic Acid	UG/L	MLA-040 Rev 04 or 060-06-11	AAS	0.87	J	0.01	0.89	J	0.02	1.8	D	0.0094	1.4	0.0041	1.2	0.01	---	---	1.56	0.02	
Perfluoroundecanoic Acid	UG/L	MLA-040 Rev 04 or 060-06-11	AAS	0.004	0	0.0034	U	0	<0.0094	D	0.0094	<0.0034	U	0.0034	0.0033	U	0	---	---	0.0296	U

Notes:
 J - Estimated Value
 U - Not Detected at stated quantification limit

UJ - Detection limit estimated
 R - Rejected value

Table A-1 Summary of On-Site Groundwater Results Conceptual Site Model for PFAS Chemours Chambers Works Deepwater, New Jersey

Table with 28 columns: Parameter Name, Units, Analytical Method, Location Sample Date, Dilution Factor, Lab ID, and 15 sampling events (L09-M01D) with FS and MDL values.

Table with 28 columns: Parameter Name, Units, Analytical Method, Location Sample Date, Dilution Factor, Lab ID, and 15 sampling events (L09-M01D, N08-M01B) with FS and MDL values.

Table with 28 columns: Parameter Name, Units, Analytical Method, Location Sample Date, Dilution Factor, Lab ID, and 15 sampling events (N08-M01B) with FS and MDL values.

Notes: J - Estimated Value U - Not Detected at stated quantification limit

UJ - Detection limit estimated R - Rejected value

**Table A-1
Summary of On-Site Groundwater Results
Conceptual Site Model for PFAS
Chemours Chambers Works
Deepwater, New Jersey**

Parameter Name	Units	Analytical Method	Location Sample Date Sample Purpose Dilution Factor Lab ID	N08-M01C 01/23/2017		N08-M01D 08/08/2006		N08-M01D 08/08/2006		N08-M01D 01/25/2007		N08-M01D 07/24/2007		N08-M01D 07/24/2007		N08-M01D 01/14/2008		N08-M01D 01/14/2008	
				FS	MDL	FS	MDL	Duplicate	MDL	FS	MDL	FS	MDL	FS	MDL	FS	MDL	FS	MDL
APFO	UG/L	01M-008-046	MPI	---	---	1.9	0.13	1.8	0.13	---	---	---	---	---	---	---	---	---	---
PFOA	UG/L	01M-008-046	MPI	---	---	1.8	0.13	1.7	0.13	---	---	---	---	---	---	---	---	---	---
PFOA	UG/L	LC-0012	QES-DEN	---	---	---	---	---	---	---	---	---	---	1.7	0.09	1.3	0.11	---	---
PFOA	UG/L	MLA-040 Rev 04 or 060-06-11	AAS	4.1	0.0054	---	---	---	---	1.71	0.0039	1.62	0.0122	---	---	---	---	1.7	0.01
PFOS	UG/L	LC-0012	QES-DEN	---	---	---	---	---	---	---	---	---	---	0.01	0.01	0.019	0.003	---	---
PFOS	UG/L	MLA-040 Rev 04 or 060-06-11	AAS	0.059	0.011	---	---	---	---	<0.00894 U	0.0089	<0.00913 U	0.0091	---	---	---	---	<0.0064 U	0.006
Perfluorobutane Sulfonic Acid	UG/L	MLA-040 Rev 04 or 060-06-11	AAS	0.1	0.011	---	---	---	---	<0.00884 U	0.0088	<0.00913 U	0.0091	---	---	---	---	<0.0064 U	0.006
Perfluorobutanoic Acid	UG/L	MLA-040 Rev 04 or 060-06-11	AAS	8.9	1.2	---	---	---	---	0.298	0.0046	0.336	0.0046	---	---	---	---	0.48	0.003
Perfluorodecanoic Acid	UG/L	MLA-040 Rev 04 or 060-06-11	AAS	0.28	0.0054	---	---	---	---	0.047	0.0044	0.0429	0.0046	---	---	---	---	0.075	0.003
Perfluorododecanoic Acid	UG/L	MLA-040 Rev 04 or 060-06-11	AAS	<0.0054 U	0.0054	---	---	---	---	<0.00396 U	0.004	<0.00457 U	0.0046	---	---	---	---	<0.0032 U	0.003
Perfluoroheptanoic Acid	UG/L	MLA-040 Rev 04 or 060-06-11	AAS	3.3	0.0078	---	---	---	---	0.726	0.0042	0.626	0.0046	---	---	---	---	0.71	0.003
Perfluorohexane Sulfonic Acid	UG/L	MLA-040 Rev 04 or 060-06-11	AAS	0.024	0.011	---	---	---	---	<0.00894 U	0.0089	<0.00913 U	0.0091	---	---	---	---	0.0088	J 0.006
Perfluorohexanoic Acid	UG/L	MLA-040 Rev 04 or 060-06-11	AAS	3.5	0.0054	---	---	---	---	0.97	0.0042	1.08	0.0049	---	---	---	---	0.96	0.011
Perfluorononanoic Acid	UG/L	MLA-040 Rev 04 or 060-06-11	AAS	2.8	0.0076	---	---	---	---	0.391	0.0046	0.322	0.0046	---	---	---	---	0.55	0.003
Perfluorooctane Sulfonamide	UG/L	MLA-040 Rev 04 or 060-06-11	AAS	<0.0054 U	0.0054	---	---	---	---	<0.00361 U	0.0036	<0.00457 U	0.0046	---	---	---	---	<0.0032 U	0.003
Perfluoropentanoic Acid	UG/L	MLA-040 Rev 04 or 060-06-11	AAS	4.7	0.015	---	---	---	---	0.71	0.0041	0.944	0.0179	---	---	---	---	0.71	0.056
Perfluoroundecanoic Acid	UG/L	MLA-040 Rev 04 or 060-06-11	AAS	0.1	0.0054	---	---	---	---	<0.00517 U	0.0052	<0.00457 U	0.0046	---	---	---	---	0.0037	0.003

Notes:
 J - Estimated Value
 U - Not Detected at stated quantification limit

UJ - Detection limit estimated
 R - Rejected value

Table A-1
Summary of On-Site Groundwater Results
Conceptual Site Model for PFAS
Chemours Chambers Works
Deepwater, New Jersey

Parameter Name	Units	Analytical Method	Location Sample Date Sample Purpose Dilution Factor Lab ID	P06-M01D 07/19/2016		P06-M01D 01/25/2017		P06-M01E 08/07/2006		P06-M01E 01/23/2007		P06-M01E 01/23/2007		P06-M01E 07/23/2007		P06-M01E 07/23/2007		P06-M01E 01/16/2008		P06-M01E 01/16/2008		P06-M01E 07/21/2008		P06-M01E 01/20/2009		
				FS	MDL	FS	MDL	FS	MDL	FS	MDL	Duplicate	MDL	FS	MDL	FS	MDL	FS	MDL	FS	MDL	FS	MDL	FS	MDL	FS
APFO	UG/L	01M-008-046	MPI	---	---	---	---	0.028	0.013	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
PFOA	UG/L	01M-008-046	MPI	---	---	---	---	0.027	0.013	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
PFOA	UG/L	LC-0012	QES-DEN	---	---	---	---	---	---	---	---	---	---	---	0.017	0.009	---	---	---	---	---	---	---	---	---	---
PFOA	UG/L	MLA-040 Rev 04 or 060-06-11	AAS	0.2	0.001	0.0057	0.001	---	---	0.0142	0.0009	0.0112	0.0009	0.0192	0.001	---	---	---	---	0.012	0.001	0.013	0.001	0.0085	0.001	
PFOS	UG/L	01M-008-046	MPI	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
PFOS	UG/L	LC-0012	QES-DEN	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
PFOS	UG/L	MLA-040 Rev 04 or 060-06-11	AAS	0.0026	0.002	<0.0020 U	0.002	---	---	<0.00215 U	0.0022	<0.00219 U	0.0022	<0.00197 U	0.002	---	---	---	---	<0.0020 U	0.002	<0.0020 U	0.002	<0.0020 U	0.002	
Perfluorobutane Sulfonic Acid	UG/L	MLA-040 Rev 04 or 060-06-11	AAS	<0.0020 U	0.002	<0.0020 U	0.002	---	---	<0.00213 U	0.0021	<0.00217 U	0.0022	<0.00197 U	0.002	---	---	---	---	<0.0021 U	0.0021	<0.0020 U	0.002	<0.0020 U	0.002	
Perfluorobutanoic Acid	UG/L	MLA-040 Rev 04 or 060-06-11	AAS	0.055 J	0.013	0.0087 J	0.001	---	---	0.00689	0.0011	0.00618	0.0011	0.0174	0.001	---	---	---	---	0.0098	0.001	0.011	0.001	0.024	0.001	
Perfluorodecanoic Acid	UG/L	MLA-040 Rev 04 or 060-06-11	AAS	0.061	0.001	0.0015	0.001	---	---	0.00259	0.0011	0.00266	0.0011	0.00878	0.001	---	---	---	---	<0.0010 U	0.001	<0.0010 U	0.001	<0.0010 U	0.001	
Perfluorododecanoic Acid	UG/L	MLA-040 Rev 04 or 060-06-11	AAS	0.012	0.001	<0.00099 U	0.001	---	---	<0.000951 U	0.001	<0.000971 U	0.001	0.00101	0.001	---	---	---	---	<0.0010 U	0.001	<0.0010 U	0.001	<0.0010 U	0.001	
Perfluoroheptanoic Acid	UG/L	MLA-040 Rev 04 or 060-06-11	AAS	0.13	0.001	0.0066	0.001	---	---	0.0112	0.0018	0.00997	0.0015	0.0136	0.001	---	---	---	---	0.0076	0.001	0.01	0.001	0.013	0.001	
Perfluorohexane Sulfonic Acid	UG/L	MLA-040 Rev 04 or 060-06-11	AAS	<0.0020 U	0.002	<0.0020 U	0.002	---	---	<0.00218 U	0.0022	<0.00219 U	0.0022	<0.00197 U	0.002	---	---	---	---	<0.0020 U	0.002	<0.0020 U	0.002	<0.0020 U	0.002	
Perfluorohexanoic Acid	UG/L	MLA-040 Rev 04 or 060-06-11	AAS	0.23	0.001	0.013	0.001	---	---	0.0224	0.001	0.0193	0.0012	0.0358	0.001	---	---	---	---	0.023	0.0014	0.039	0.001	0.035	0.001	
Perfluorononanoic Acid	UG/L	MLA-040 Rev 04 or 060-06-11	AAS	0.037	0.001	<0.00099 U	0.001	---	---	0.00223	0.0011	0.00198	0.0011	0.00264	0.001	---	---	---	---	<0.0010 U	0.001	<0.0010 U	0.001	<0.0010 U	0.001	
Perfluorooctane Sulfonamide	UG/L	MLA-040 Rev 04 or 060-06-11	AAS	<0.0010 U	0.001	<0.00099 U	0.001	---	---	<0.000867 U	0.0009	<0.000885 U	0.0009	<0.00114 U	0.0011	---	---	---	---	<0.0010 U	0.001	<0.0010 U	0.001	<0.0010 U	0.001	
Perfluoropentanoic Acid	UG/L	MLA-040 Rev 04 or 060-06-11	AAS	0.13	0.001	0.014	0.001	---	---	0.0111	0.001	0.0107	0.001	0.0179	0.001	---	---	---	---	0.01	0.0029	0.012	0.0017	0.021	0.001	
Perfluoroundecanoic Acid	UG/L	MLA-040 Rev 04 or 060-06-11	AAS	0.017	0.001	<0.00099 U	0.001	---	---	<0.00124 U	0.0012	<0.00127 U	0.0013	0.00117	0.001	---	---	---	---	<0.0010 U	0.001	<0.0010 U	0.001	<0.0010 U	0.001	

Parameter Name	Units	Analytical Method	Location Sample Date Sample Purpose Dilution Factor Lab ID	P06-M01E 07/24/2009		P06-M01E 02/03/2010		P06-M01E 07/22/2010	
				FS	MDL	FS	MDL	FS	MDL
APFO	UG/L	01M-008-046	MPI	---	---	---	---	---	---
PFOA	UG/L	01M-008-046	MPI	---	---	---	---	---	---
PFOA	UG/L	LC-0012	QES-DEN	---	---	---	---	---	---
PFOA	UG/L	MLA-040 Rev 04 or 060-06-11	AAS	0.0089	0.001	0.024	0.001	0.061	0.001
PFOS	UG/L	01M-008-046	MPI	---	---	---	---	---	---
PFOS	UG/L	LC-0012	QES-DEN	---	---	---	---	---	---
PFOS	UG/L	MLA-040 Rev 04 or 060-06-11	AAS	<0.0020 U	0.002	<0.0020 U	0.002	<0.0020 U	0.002
Perfluorobutane Sulfonic Acid	UG/L	MLA-040 Rev 04 or 060-06-11	AAS	<0.0020 U	0.002	<0.0020 U	0.002	<0.0020 U	0.002
Perfluorobutanoic Acid	UG/L	MLA-040 Rev 04 or 060-06-11	AAS	0.024	0.0012	0.049	0.001	0.077	0.0043
Perfluorodecanoic Acid	UG/L	MLA-040 Rev 04 or 060-06-11	AAS	<0.0010 U	0.001	<0.0010 U	0.001	<0.0010 U	0.001
Perfluorododecanoic Acid	UG/L	MLA-040 Rev 04 or 060-06-11	AAS	<0.0010 U	0.001	<0.0010 U	0.001	<0.0010 U	0.001
Perfluoroheptanoic Acid	UG/L	MLA-040 Rev 04 or 060-06-11	AAS	0.014	0.001	0.028	0.001	0.075	0.001
Perfluorohexane Sulfonic Acid	UG/L	MLA-040 Rev 04 or 060-06-11	AAS	<0.0020 U	0.002	<0.0020 U	0.002	<0.0020 U	0.002
Perfluorohexanoic Acid	UG/L	MLA-040 Rev 04 or 060-06-11	AAS	0.033	0.001	0.075	0.001	0.18	0.001
Perfluorononanoic Acid	UG/L	MLA-040 Rev 04 or 060-06-11	AAS	<0.0010 U	0.001	<0.0010 U	0.001	0.0022	0.001
Perfluorooctane Sulfonamide	UG/L	MLA-040 Rev 04 or 060-06-11	AAS	<0.0025 U	0.0025	<0.0010 U	0.001	<0.0010 U	0.001
Perfluoropentanoic Acid	UG/L	MLA-040 Rev 04 or 060-06-11	AAS	0.02	0.001	0.048	0.001	0.098	0.001
Perfluoroundecanoic Acid	UG/L	MLA-040 Rev 04 or 060-06-11	AAS	<0.0010 U	0.001	<0.0010 U	0.001	<0.0010 U	0.001

Notes:
J - Estimated Value
U - Not Detected at stated quantification limit

UJ - Detection limit estimated
R - Rejected value

Table A-1
Summary of On-Site Groundwater Results
Conceptual Site Model for PFAS
Chemours Chambers Works
Deepwater, New Jersey

Table with 24 columns: Parameter Name, Units, Analytical Method, Location Sample Date Sample Purpose Dilution Factor Lab ID, and sampling dates/MDL for P21-M01B (01/14/2014, 07/03/2014, 01/14/2015, 07/08/2015, 01/13/2016, 07/07/2016, 01/10/2017), R09-M02B (08/09/2006, 01/22/2007, 07/25/2007).

Table with 24 columns: Parameter Name, Units, Analytical Method, Location Sample Date Sample Purpose Dilution Factor Lab ID, and sampling dates/MDL for R09-M02B (07/25/2007, 01/14/2008, 01/14/2008, 07/23/2008, 01/22/2009, 07/27/2009, 02/04/2010, 07/29/2010, 01/28/2011).

Table with 24 columns: Parameter Name, Units, Analytical Method, Location Sample Date Sample Purpose Dilution Factor Lab ID, and sampling dates/MDL for R09-M02B (08/02/2011, 08/02/2011, 01/20/2012, 01/20/2012, 07/27/2012, 07/27/2012, 01/23/2013, 01/23/2013, 08/02/2013, 01/25/2014).

Notes:
J - Estimated Value
U - Not Detected at stated quantification limit

UJ - Detection limit estimated
R - Rejected value

Table A-1
Summary of On-Site Groundwater Results
Conceptual Site Model for PFAS
Chemours Chambers Works
Deepwater, New Jersey

Parameter Name	Units	Analytical Method	Location Sample Date Sample Purpose Dilution Factor Lab ID	Z28-M01B 01/27/2017		Z28-M01B 01/27/2017	
				FS 1	MDL	Duplicate 1	MDL
PFOA	UG/L	MLA-060 Rev 11	AAS	0.31	0.0012	0.3	0.0012
PFOS	UG/L	MLA-060 Rev 11	AAS	0.018	0.0025	0.022	0.0025
Perfluorobutane Sulfonic Acid	UG/L	MLA-060 Rev 11	AAS	0.01	0.0025	0.011	0.0025
Perfluorobutanoic Acid	UG/L	MLA-060 Rev 11	AAS	0.07	0.0042	0.086	0.0012
Perfluorodecanoic Acid	UG/L	MLA-060 Rev 11	AAS	0.0062	0.0012	0.0058	0.0012
Perfluorododecanoic Acid	UG/L	MLA-060 Rev 11	AAS	<0.0012 U	0.0012	<0.0012 U	0.0012
Perfluoroheptanoic Acid	UG/L	MLA-060 Rev 11	AAS	0.12	0.0012	0.12	0.0012
Perfluorohexane Sulfonic Acid	UG/L	MLA-060 Rev 11	AAS	0.0062	0.0025	0.0086	0.0025
Perfluorohexanoic Acid	UG/L	MLA-060 Rev 11	AAS	0.26	0.0012	0.27	0.0012
Perfluorononanoic Acid	UG/L	MLA-060 Rev 11	AAS	0.028	0.0012	0.027	0.0012
Perfluorooctane Sulfonamide	UG/L	MLA-060 Rev 11	AAS	<0.0012 U	0.0012	<0.0012 U	0.0012
Perfluoropentanoic Acid	UG/L	MLA-060 Rev 11	AAS	0.16	0.0012	0.16	0.0012
Perfluoroundecanoic Acid	UG/L	MLA-060 Rev 11	AAS	<0.0012 U	0.0012	<0.0012 U	0.0012

Appendix B

Posting Maps for PFAS

User: mat.layton, Date: 5/23/2017, Path: V:\Projects\Dupont\Chambers_Works_GIS\Projects\0517181_CSM_PFBASB-1_Ste_Wells_RFI_Report.mxd

Table with 5 columns: Analytes, Units, Screening Criteria, Sample Date, Result. Data for E14-M01D well.

Table with 5 columns: Analytes, Units, Screening Criteria, Sample Date, Result. Data for I15-M01D well.

Table with 5 columns: Analytes, Units, Screening Criteria, Sample Date, Result. Data for I15-M01C well.

Table with 5 columns: Analytes, Units, Screening Criteria, Sample Date, Result. Data for K17-M01C well.

Table with 5 columns: Analytes, Units, Screening Criteria, Sample Date, Result. Data for O16-P01B well.

Table with 5 columns: Analytes, Units, Screening Criteria, Sample Date, Result. Data for E14-M01C well.

Table with 5 columns: Analytes, Units, Screening Criteria, Sample Date, Result. Data for G12-M01C well.

Table with 5 columns: Analytes, Units, Screening Criteria, Sample Date, Result. Data for K11-M01C well.

Table with 5 columns: Analytes, Units, Screening Criteria, Sample Date, Result. Data for P15-M01C well.

Table with 5 columns: Analytes, Units, Screening Criteria, Sample Date, Result. Data for G12-M01D well.

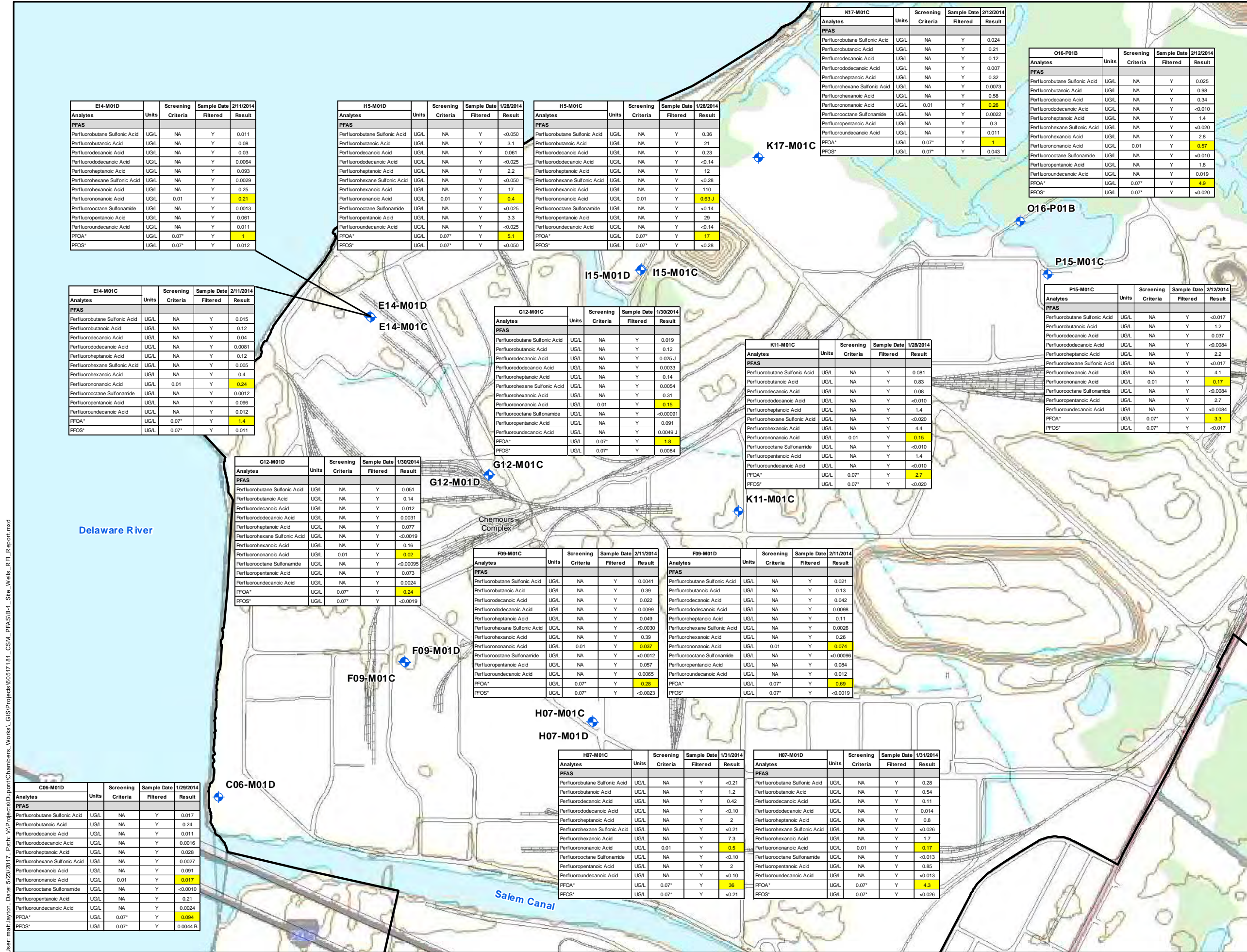
Table with 5 columns: Analytes, Units, Screening Criteria, Sample Date, Result. Data for F09-M01C well.

Table with 5 columns: Analytes, Units, Screening Criteria, Sample Date, Result. Data for F09-M01D well.

Table with 5 columns: Analytes, Units, Screening Criteria, Sample Date, Result. Data for H07-M01C well.

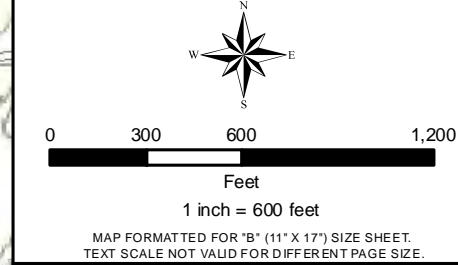
Table with 5 columns: Analytes, Units, Screening Criteria, Sample Date, Result. Data for H07-M01D well.

Table with 5 columns: Analytes, Units, Screening Criteria, Sample Date, Result. Data for C06-M01D well.



LEGEND: WELL LOCATION SAMPLED FOR PFAS, PROPERTY BOUNDARY. Notes: PFOA = Perfluorooctanoic Acid, PFOS = Perfluorooctanesulfonic Acid, PFNA = Perfluorononanoic Acid. B = Comparable detection in lab or field blank, J = Estimated Value, < = Not detected at stated reporting limit, UG/L = microgram/liter, * Provisional Health Advisory for PFOA/ PFOS, EPA 2016, = Exceedance of Screening Criteria.

Map Projection: NAD83 NJ State Plane feet. Source: USGS TNM - National Structures Dataset, USGS TNM - National Transportation Dataset, Tele Atlas Commercial Roads, USGS TNM - Governmental Units Dataset, U.S. Census Bureau - TIGER/Line, USGS TNM - Geographic Names Information Systems (GNIS), USGS TNM - National Hydrography Dataset (NHD).

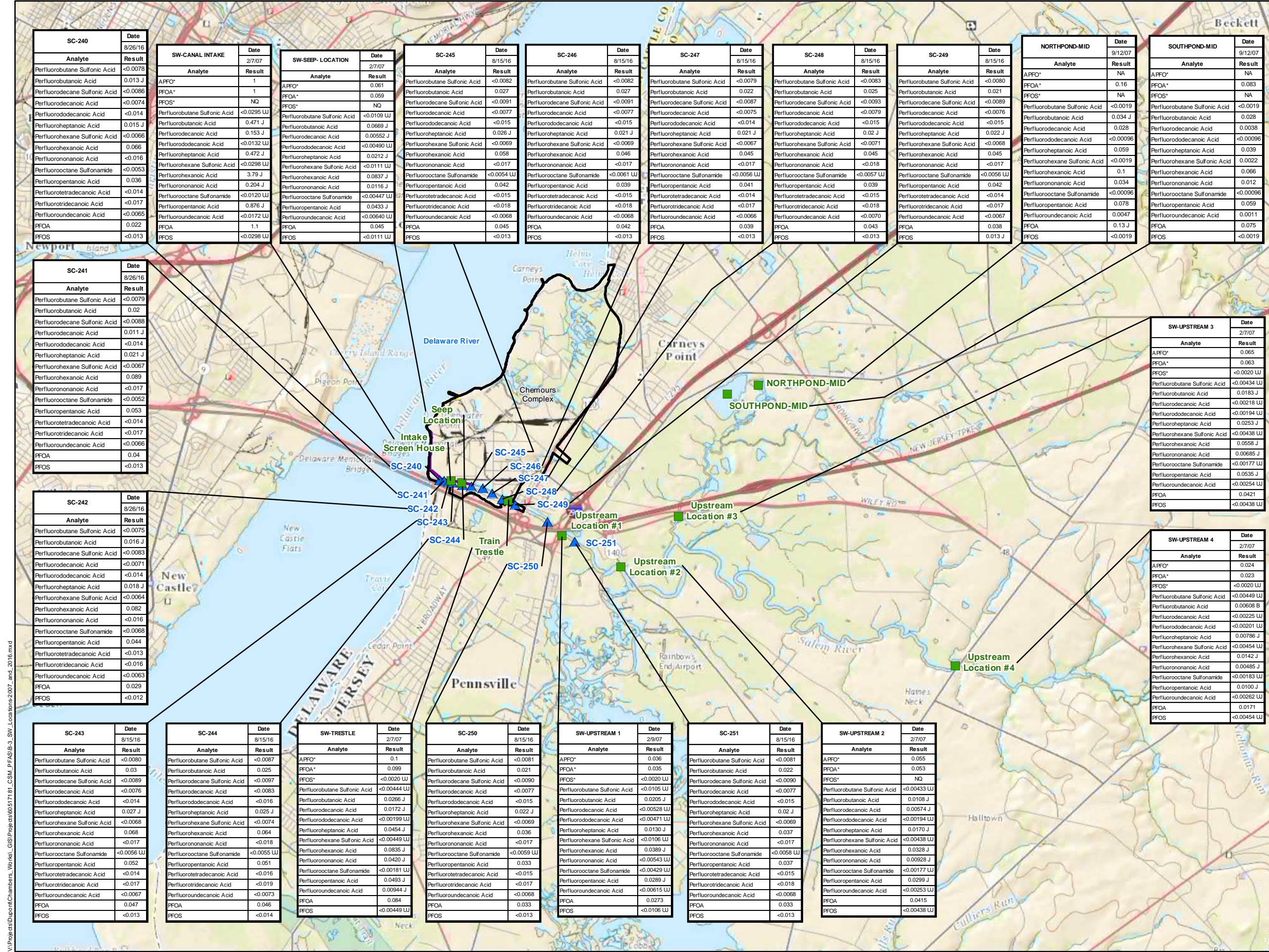


AECOM Sabre Building, Suite 300 4051 Ogletown Road Newark, DE 19713

SITE WELLS SAMPLED FOR RFI REPORT

CONCEPTUAL SITE MODEL FOR PFAS CHEMOURS CHAMBERS WORKS COMPLEX DEEPWATER, NEW JERSEY

Table with 2 columns: Field Name, Value. Includes TASK NUMBER (16003), PROJECT NUMBER (60517181), DESIGNED BY (T.MCGEE), DATE (5/19/2017), DRAWN BY (M.LAYTON), FIGURE NUMBER (APPENDIX B-1), DATA QUALITY CHECK BY (K.WEST).



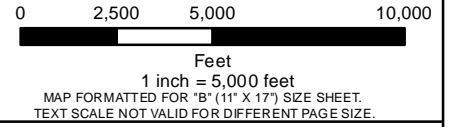
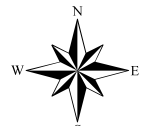
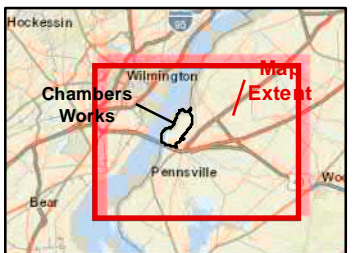
LEGEND

- 2007 SURFACE WATER SAMPLE LOCATION
- 2016 SURFACE WATER SAMPLE LOCATION
- SHEET PILE BARRIER
- PROPERTY BOUNDARY

Notes:

- * - Analytical data provided by TA-Denver Laboratory 2007 Analytical Method = NJ CLASSIIA 11/09 2016 Analytical Method = DV-LC-0012
- Units = UG/L
- "-" = Results below Laboratory Method Detection Limit
- "J" = Estimated concentration
- UJ = Not detected. Reporting limit may not be accurate or precise.
- NA = Not Analyzed
- < = Not detected at stated reporting limit

Map Projection: NAD83 NJ State Plane feet
 Source: Copyright© 2014 Esri, USGS The National Map, National Boundaries Dataset, National Elevation Dataset, Geographic Names Information System, National Hydrography Dataset, National Land Cover Database, National Structures Dataset, and National Transportation Dataset; U.S. Census Bureau - TIGER/Line; HERE Road Data



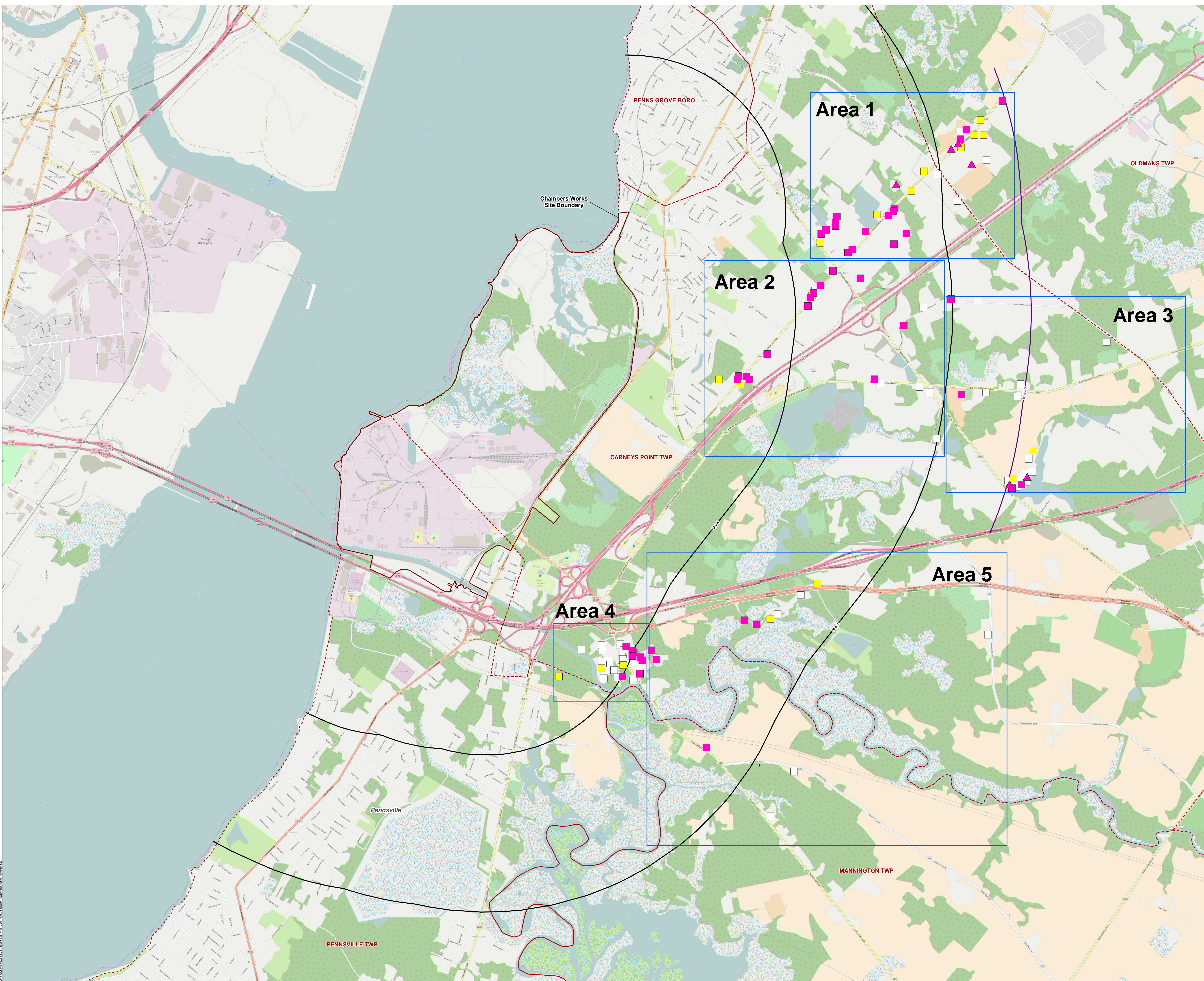
AECOM
 Sabre Building, Suite 300
 4051 Ogletown Road
 Newark, DE 19713

SURFACE WATER SAMPLE LOCATION MAP

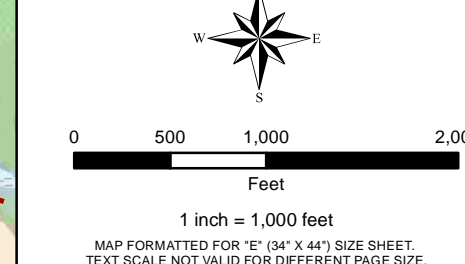
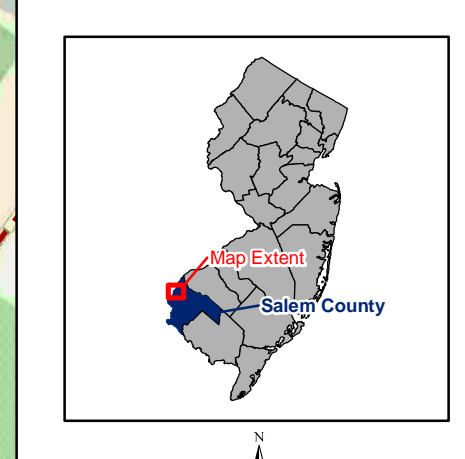
CONCEPTUAL SITE MODEL FOR PFAS CHEMOURS CHAMBERS WORKS COMPLEX DEEPWATER, NEW JERSEY

TASK NUMBER:	16003	PROJECT NUMBER:	60517181
DESIGNED BY:	T.MCGEE	DATE:	5/26/2017
DRAWN BY:	M.LAYTON	FIGURE NUMBER:	APPENDIX B-3
DATA QUALITY CHECK BY:	K.WEST		

V:\Projects\Department\Chambers Works\GIS\Projects\60517181_CSM_PFAIS\B-3_SW_Locations2007_and_2016.mxd



- LEGEND**
- Map Area Boundary
 - ▲ 2016 Sampling Location with an Exceedance of the NJDEP Preliminary Health-Based Criterion for PFOA
 - 2016 Sampling Location with an Exceedance of the EPA 2016 HA or the NJDEP IGQ for PFNA
 - 2016 Sampling Location with a Detected Below the EPA 2016 HA and the NJDEP IGQ for PFOA, PFOS and PFNA
 - 2016 Sampling Location with a ND or NQ at the Concentrations Posted
 - 1-Mile and 2-Mile Radius Interval
 - 2.5-Mile Radius Interval
 - Property Boundary
 - Municipal Boundary



AECOM
 AECOM
 4055 Ogden Road
 Newark, NJ 07102

RESIDENTIAL DRINKING WATER WELL LOCATIONS INDEX MAP

CONCEPTUAL SITE MODEL FOR PFAS CHEMOURS CHAMBERS WORKS COMPLEX DEERPARKE, NEW JERSEY

PROJECT NUMBER:	16003	PROJECT NUMBER:	60517181
DESIGNED BY:	K. DAVIS	DATE:	5/24/2017
DRAWN BY:	C. DUFFY	SCALE:	
APPROVED BY:	T. MCGEE	FIGURE NUMBER:	B-4.0

Appendix C

Summary by Media of Samples Collected and Extent PFAS Parameters

Table C1
Soil Samples and Associated PFAS Parameter List
Conceptual Site Model for PFAS
Chemours Chambers Works
Deepwater, New Jersey

Sample ID	Location ID	Date Sampled	Media	Depth	PFOA	PFOS	PFCs-12 Analyte List	PFCs-15 Analyte List	PFCs (DV-LC-0012-PFCs [16 Analyte List])
BLDG 1205-1	Bldg 1205/1050	6/2/2006	Concrete	1-1.5	X	---	---	---	---
BLDG 1205-2	PC West	6/1/2006	Asphalt	1.5-2.5	X	---	---	---	---
BLDG 1050-1	PC West	6/1/2006	Asphalt	1-2.0	X	---	---	---	---
BLDG 81-1	Jackson Lab	6/2/2006	Asphalt	0.5-1.5	X	---	---	---	---
BLDG 94-1	Bldg 94	6/2/2006	Asphalt	0.5-1.0	X	---	---	---	---
BLDG115-1	BLDG115	5/31/2006	Asphalt	2.0-3.0	X	---	---	---	---
BLDG115-2	BLDG115	5/31/2006	Concrete	1.5-2.0	X	---	---	---	---
BLDG115-3	BLDG115	6/1/2006	Soil/Gravel	1.5-2.0	X	---	---	---	---
BLDG745-1	BLDG 745	6/6/2006	Asphalt	1.0-1.5	X	---	---	---	---
BLDG745-2	BLDG 745	6/6/2006	Soil/Gravel	0.5-1.0	X	---	---	---	---
BLDG745-3	BLDG 745	6/6/2006	Soil/Gravel	1.0-2.0	X	---	---	---	---
BLDG745-4	BLDG 745	6/6/2006	Asphalt	2.0-2.5	X	---	---	---	---
BLDG-185-1	PC - BLDG 185	5/30/2006	Soil/Gravel	1.0-2.0	X	---	---	---	---
BLDG 1156-1	ZI/DMA BLDG 1156	6/6/2006	Asphalt	0.5-1.0	X	---	---	---	---
BLDG 1156-2	ZI/DMA BLDG 1156	6/7/2006	Asphalt	1.0-2.0	X	---	---	---	---
BLDG 1156-3	ZI/DMA BLDG 1156	6/6/2006	Asphalt	2.0-2.5	X	---	---	---	---
BLDG 1156-4	ZI/DMA BLDG 1156	6/7/2006	Asphalt	1.0-2.0	X	---	---	---	---
BLDG 888-1	PC BLDG 888	6/5/2006	Asphalt	1.0-1.5	X	---	---	---	---
BLDG 1163-1	DPE FMDL BLDG 1163	6/5/2006	Soil/Gravel	4.5-5.0	X	---	---	---	---
BLDG 1163-2	DPE FMDL BLDG 1163	6/5/2006	Soil/Gravel	4.0-5.0	X	---	---	---	---
BLDG 1163-3	DPE FMDL BLDG 1163	6/5/2006	Soil/Gravel	3.0-3.5	X	---	---	---	---

Table C2
Groundwater Samples and Associated PFAS Parameter List
Conceptual Site Model for PFAS
Chemours Chambers Works
Deepwater, New Jersey

Sample ID	Location ID	Date Sampled	Media	What Location Sampled/How Sampled	Well Depth	Screen Interval	PFOA	PFOS	PFCs-12 Analyte List	PFCs - 15 Analyte List	PFCs (DV-LC-0012-PFCs [16 Analyte List])
Hydropunch/Temporary Well Samples											
BLDG 1205-1	Bldg 1205/1050	6/28/2006	GW	Temp Hydropunch	8	5	X	---	---	---	---
BLDG 1205-2	PC West	6/28/2006	GW	Temp Hydropunch	8		X	---	---	---	---
BLDG 1050-1	PC West	6/2/2006	GW	Temp Hydropunch	8	5	X	---	---	---	---
BLDG 81-1	Jackson Lab	6/3/2006	GW	Temp Hydropunch	7	5	X	---	---	---	---
BLDG 94-1	Bldg 94	6/3/2006	GW	Temp Hydropunch	7	5	X	---	---	---	---
BLDG115-1	BLDG115	6/1/2006	GW	Temp Hydropunch	13	10	X	---	---	---	---
BLDG115-2	BLDG115-EO	6/1/2006	GW	Temp Hydropunch	9	5	X	---	---	---	---
BLDG115-3	BLDG115	6/2/2006	GW	Temp Hydropunch	9	5	X	---	---	---	---
BLDG745-1	BLDG 745	6/7/2006	GW	Temp Hydropunch	10	5	X	---	---	---	---
BLDG745-2	BLDG 745	6/7/2006	GW	Temp Hydropunch	7	5	X	---	---	---	---
BLDG745-3	BLDG 745	6/7/2006	GW	Temp Hydropunch	10	5	X	---	---	---	---
BLDG745-4	BLDG 745	6/7/2006	GW	Temp Hydropunch	9	5	X	---	---	---	---
BLDG-185-1	PC - BLDG 185	6/1/2006	GW	Temp Hydropunch	9	5	X	---	---	---	---
BLDG 1156-1	ZI/DMA BLDG 1156	6/7/2006	GW	Temp Hydropunch	10	5	X	---	---	---	---
BLDG 1156-2	ZI/DMA BLDG 1156	6/8/2006	GW	Temp Hydropunch	8	5	X	---	---	---	---
BLDG 1156-3	ZI/DMA BLDG 1156	6/7/2006	GW	Temp Hydropunch	9	5	X	---	---	---	---
BLDG 1156-4	ZI/DMA BLDG 1156	6/8/2006	GW	Temp Hydropunch	8	5	X	---	---	---	---
BLDG 888-1	PC BLDG 888		---	Refusal	0	0	---	---	---	---	---
BLDG 1163-1	DPE FMDL BLDG 1163	6/6/2006	GW	Temp Hydropunch	10	5	X	---	---	---	---
BLDG 1163-2	DPE FMDL BLDG 1163	6/6/2006	GW	Temp Hydropunch	10	5	X	---	---	---	---
BLDG 1163-3	DPE FMDL BLDG 1163	6/7/2006	GW	Temp Hydropunch	10	5	X	---	---	---	---
Off-Site Groundwater Wells - Courses Landing Wells											
CL1		7/19/2007	GW	Well			X	---	---	---	---
CL2		7/19/2007	GW	Well			X	---	---	---	---
CL3		7/19/2007	GW	Well			X	---	---	---	---
CL7		7/19/2007	GW	Well			X	---	---	---	---
On-Site Groundwater Wells (most recent data collection date presented)											
A Zone											
F08-M01A	F08-M01A	7/21/2016	GW	Well			---	---	X	---	---
G09-M01A	G09-M01A	7/21/2016	GW	Well			---	---	X	---	---
K12-M01A	K12-M01A	7/21/2016	GW	Well			---	---	X	---	---

**Table C2
Groundwater Samples and Associated PFAS Parameter List
Conceptual Site Model for PFAS
Chemours Chambers Works
Deepwater, New Jersey**

Sample ID	Location ID	Date Sampled	Media	What Location Sampled/How Sampled	Well Depth	Screen Interval	PFOA	PFOS	PFCs-12 Analyte List	PFCs - 15 Analyte List	PFCs (DV-LC-0012-PFCs [16 Analyte List])
B Aquifer											
C08-M01B	C08-M01B	7/11/2016	GW	Well			---	---	X	---	---
C11-M03B	C11-M03B	7/12/2016	GW	Well			---	---	X	---	---
D06-M01B	D06-M01B	7/11/2016	GW	Well			---	---	X	---	---
D15-M01B	D15-M01B	7/13/2016	GW	Well			---	---	X	---	---
F07-M01B	F07-M01B	7/22/2016	GW	Well			---	---	X	---	---
F08-M01B	F08-M01B	7/21/2016	GW	Well			---	---	X	---	---
J10-M02B	J10-M02B	7/21/2016	GW	Well			---	---	X	---	---
G05-M02B	G05-M02B	7/11/2016	GW	Well			---	---	X	---	---
K13-M02B	K13-M02B	7/5/2016	GW	Well			---	---	X	---	---
L09-M01B	L09-M01B	7/25/2016	GW	Well			---	---	X	---	---
N08-M01B	N08-M01B	7/21/2016	GW	Well			---	---	X	---	---
P06-M01B	P06-M01B	7/19/2016	GW	Well			---	---	X	---	---
P21-M01B	P21-M01B	7/7/2016	GW	Well			---	---	X	---	---
R09-M02B	R09-M02B	7/22/2016	GW	Well			---	---	X	---	---
C Aquifer											
C11-M01C	C11-M01C	7/12/2016	GW	Well			---	---	X	---	---
G04-M01B	G04-M01B	7/20/2016	GW	Well			---	---	X	---	---
L09-M01C	L09-M01C	7/25/2016	GW	Well			---	---	X	---	---
N08-M01C	N08-M01C	7/21/2016	GW	Well			---	---	X	---	---
AA25-M01B(C)	AA25-M01B	7/25/2016	GW	Well			---	---	X	---	---
P06-M02C	P06-M02C	7/19/2016	GW	Well			---	---	X	---	---
R10-M01C	R10-M01C	7/22/2016	GW	Well			---	---	X	---	---
Z28-M01B(C)	Z28-M01B	7/25/2016	GW	Well			---	---	X	---	---
D Aquifer											
C11-M02D	C11-M02D	7/12/2016	GW	Well			---	---	X	---	---
J05-M01C(D)	J05-M01C	7/8/2016	GW	Well			---	---	X	---	---
L09-M01D	L09-M01D	7/25/2016	GW	Well			---	---	X	---	---
N08-M01D	N08-M01D	7/21/2016	GW	Well			---	---	X	---	---
P06-M01D	P06-M01D	7/19/2016	GW	Well			---	---	X	---	---
AA22-M01B(D)	AA22-M01B	7/25/2016	GW	Well			---	---	X	---	---
AA25-M01C(D)	AA25-M01C	7/25/2016	GW	Well			---	---	X	---	---
E Aquifer											
C11-M01E	C11-M01E	7/12/2016	GW	Well			---	---	X	---	---
G04-M01E	G04-M01E	7/20/2016	GW	Well			---	---	X	---	---
P06-M01E	P06-M01E	7/20/2016	GW	Well			---	---	X	---	---
R10-M01E	R10-M01E	42573	GW	Well			---	---	X	---	---

**Table C3
Permitted Outfall Samples and Associated PFAS Parameter List
Conceptual Site Model for PFAS
Chemours Chambers Works
Deepwater, New Jersey**

Sample ID	Location ID	Date Sampled	Media	What Location Sampled/How Sampled	PFOA	PFNA	PFCs-12 Analyte List	PFCs - 15 Analyte List	PFCs (DV-LC-0012-PFCs [16 analyte list])
662	662	Sampled Daily or Weekly from Jan2005 to Present (April 2017)	Effluent	DSN662 Permitted Outfall	X	---	---	---	---
662	662	Sampled Monthly from July2015 to Jan 2017	Effluent	DSN662 Permitted Outfall	---	X	---	---	---

**Table C4
Stormwater Outfall Sediment Samples with Associated PFAS Parameter List
Conceptual Site Model for PFAS
Chemours Chambers Works
Deepwater, New Jersey**

Sample ID	Location ID	Date Sampled	Media	SW Body	Reach	Depth	Sampling Method	PFOA	PFOS	PFC-12 Analyte List	PFCs-15 Analyte List	PFCs (DV-LC-0012-PFCs [16 analyte list])
Salem Canal (POST- SPB)												
SC-240-SW(082616)	SC-240	8/26/2016	SW	Salem Canal	Tidal	6.3	Kemmerer/Peristaltic Pump	---	---	---	---	X
SC-241-SW(082616)	SC-241	8/26/2016	SW	Salem Canal	Tidal	7.9	Kemmerer/Peristaltic Pump	---	---	---	---	X
SC-242-SW(082616)	SC-242	8/26/2016	SW	Salem Canal	Tidal	10.7	Kemmerer/Peristaltic Pump	---	---	---	---	X
SC-243-SW(081516)	SC-243	8/15/2016	SW	Salem Canal	Reach 2	5.5	Kemmerer/Peristaltic Pump	---	---	---	---	X
SC-244-SW(081516)	SC-244	8/15/2016	SW	Salem Canal	Reach 2	4	Kemmerer/Peristaltic Pump	---	---	---	---	X
SC-245-SW(081516)	SC-245	8/15/2016	SW	Salem Canal	Reach 2	4.2	Kemmerer/Peristaltic Pump	---	---	---	---	X
SC-246-SW(081516)	SC-246	8/15/2016	SW	Salem Canal	Reach 1	5	Kemmerer/Peristaltic Pump	---	---	---	---	X
SC-247-SW(081516)	SC-247	8/15/2016	SW	Salem Canal	Reach 1	5	Kemmerer/Peristaltic Pump	---	---	---	---	X
SC-248-SW(081516)	SC-248	8/15/2016	SW	Salem Canal	Reach 1	5	Kemmerer/Peristaltic Pump	---	---	---	---	X
SC-249-SW(081516)	SC-248	8/15/2016	SW	Salem Canal	Reference	5.5	Kemmerer/Peristaltic Pump	---	---	---	---	X
SC-250-SW(081516)	SC-250	8/15/2016	SW	Salem Canal	Reference	5	Kemmerer/Peristaltic Pump	---	---	---	---	X
SC-251-SW(081516)	SC-251	8/15/2016	SW	Salem Canal	Reference	5	Kemmerer/Peristaltic Pump	---	---	---	---	X
Salem Canal (PRE-WALL)												
SW-CANAL INTAKE		2/7/2007	SW	Salem Canal	Reach 2	Power House Intake	Grab or Composite	X	---	---	---	---
SW-SEEP LOCATION	(+DUP)	2/7/2007	SW	Salem Canal	Seep area of Reach 2			X	---	---	---	---
SW-TRESTLE		2/7/2007	SW	Salem Canal				X	---	---	---	---
SW-UPSTREAM 2		2/7/2007	SW	Salem Canal				X	---	---	---	---
SW-UPSTREAM 3		2/7/2007	SW	Salem Canal				X	---	---	---	---
SW-UPSTREAM 4		2/7/2007	SW	Salem Canal				X	---	---	---	---
CANAL - INTAKE		4/6/2007	SW	Salem Canal	Reach 2	Power House Intake	Grab or Composite	X	---	---	---	---
CANAL - INTAKE		4/13/2007	SW	Salem Canal	Reach 2	Power House Intake	Grab or Composite	X	---	---	---	---
CANAL - INTAKE		4/20/2007	SW	Salem Canal	Reach 2	Power House Intake	Grab or Composite	X	---	---	---	---
CANAL - INTAKE		4/27/2007	SW	Salem Canal	Reach 2	Power House Intake	Grab or Composite	X	---	---	---	---
CANAL - INTAKE		5/11/2007	SW	Salem Canal	Reach 2	Power House Intake	Grab or Composite	X	---	---	---	---
CANAL - INTAKE		5/25/2007	SW	Salem Canal	Reach 2	Power House Intake	Grab or Composite	X	---	---	---	---
CANAL - INTAKE		6/8/2007	SW	Salem Canal	Reach 2	Power House Intake	Grab or Composite	X	---	---	---	---
CANAL - INTAKE		6/20/2007	SW	Salem Canal	Reach 2	Power House Intake	Grab or Composite	X	---	---	---	---
CANAL - INTAKE		7/6/2007	SW	Salem Canal	Reach 2	Power House Intake	Grab or Composite	X	---	---	---	---
CANAL - INTAKE		8/3/2007	SW	Salem Canal	Reach 2	Power House Intake	Grab or Composite	X	---	---	---	---
CANAL - INTAKE		8/31/2007	SW	Salem Canal	Reach 2	Power House Intake	Grab or Composite	X	---	---	---	---
CANAL - INTAKE		9/28/2007	SW	Salem Canal	Reach 2	Power House Intake	Grab or Composite	X	---	---	---	---
CANAL - INTAKE		10/26/2007	SW	Salem Canal	Reach 2	Power House Intake	Grab or Composite	X	---	---	---	---
CANAL - INTAKE		11/30/2007	SW	Salem Canal	Reach 2	Power House Intake	Grab or Composite	X	---	---	---	---
CANAL - INTAKE		12/28/2007	SW	Salem Canal	Reach 2	Power House Intake	Grab or Composite	X	---	---	---	---
DE River - None Collected												
Clemente Pond												
NorthPond-MID		9/12/2007	SW	Clemente Pond	North			X	---	---	---	---
SouthPond - Mid		9/12/2007	SW	Clemente Pond	South			X	---	---	---	---
Outfalls to SW (Stormwater)												
SCOUTFALL04	SCOUTFALL04	4/12/2007	SW	Outfall 04 to Salem Canal			Grab or Composite	X	---	---	---	---
SCOUTFALL05	SCOUTFALL05	4/12/2007	SW	Outfall 05 to Salem Canal			Grab or Composite	X	---	---	---	---
SCOUTFALL06	SCOUTFALL06	4/12/2007	SW	Outfall 06 to Salem Canal			Grab or Composite	X	---	---	---	---
SCOUTFALL07	SCOUTFALL07	4/12/2007	SW	Outfall 07 to Salem Canal			Grab or Composite	X	---	---	---	---
SCOUTFALL08	SCOUTFALL08	4/12/2007	SW	Outfall 08 to Salem Canal			Grab or Composite	X	---	---	---	---
SCOUTFALL09	SCOUTFALL09	4/12/2007	SW	Outfall 09 to Salem Canal			Grab or Composite	X	---	---	---	---
SCOUTFALL10	SCOUTFALL10	4/12/2007	SW	Outfall 10 to Salem Canal			Grab or Composite	X	---	---	---	---
SW002	(+DUP)	4/12/2007	SW	Outfall 002			Grab or Composite	X	---	---	---	---
SW003		4/12/2007	SW	Outfall 003			Grab or Composite	X	---	---	---	---

*Samples were analyzed by Test America – Denver (Arvada, Colorado) using Test America SOP LC-0012 (Analysis of Perfluorooctanoic Acid (PFOA) and other Perfluorinated Hydrocarbons (PFCs) and Perfluorinated Hydrocarbon Sulfonates (PFSs) in Water and Soil by LC/MS/MS).

Surface Water Bodies - Delaware River (brackish), Salem Canal (fresh), Bouttown Creek (on-site), Henby Creek (on-site)

Table C5
Air Emission Samples and Associated PFAS Parameter List
Conceptual Site Model for PFAS
Chemours Chambers Works
Deepwater, New Jersey

Sample ID	Location ID	Date Sampled	Media	What Location Sampled/How Sampled	PFOA	PFOS	PFCs-13 Analyte List	PFCs - 15 Analyte List	PFCs (DV-LC-0012-PFCs [16 analyte list])
DPE Run 1	DPE Bldg 1163	10/1/2007	Air	Building Air Emissions Compliance Point	---	---	X	---	---
DPE Run 2	DPE Bldg 1163	10/1/2007	Air	Building Air Emissions Compliance Point			X		
DPE Run 3	DPE Bldg 1163	10/1/2007	Air	Building Air Emissions Compliance Point			X		
DPE Run 4	DPE Bldg 1163	10/1/2007	Air	Building Air Emissions Compliance Point			X		
DPE1163 Run 1	DPE Bldg 1163	4/26/2007	Air	Building Air Emissions Compliance Point			X		
DPE1163 Run 2	DPE Bldg 1163	4/26/2007	Air	Building Air Emissions Compliance Point			X		
DPE1163 Run 3	DPE Bldg 1163	4/26/2007	Air	Building Air Emissions Compliance Point			X		
DPE1163 Run 4	DPE Bldg 1163	4/26/2007	Air	Building Air Emissions Compliance Point			X		
DPE1163 Run-1	DPE Bldg 1163	7/21/2008	Air	Building Air Emissions Compliance Point			X		
DPE1163 Run-2	DPE Bldg 1163	7/21/2008	Air	Building Air Emissions Compliance Point			X		
DPE1163 Run-3	DPE Bldg 1163	7/21/2008	Air	Building Air Emissions Compliance Point			X		
DPE1163 Run-4	DPE Bldg 1163	7/21/2008	Air	Building Air Emissions Compliance Point			X		
ZI_1156 Run 1	ZI Bldg 1156	6/13/2007	Air	Building Air Emissions Compliance Point			X		
ZI_1156 Run 2	ZI Bldg 1156	6/13/2007	Air	Building Air Emissions Compliance Point			X		
ZI_1156 Run 3	ZI Bldg 1156	6/13/2007	Air	Building Air Emissions Compliance Point			X		
ZI_1156 Run 4	ZI Bldg 1156	6/13/2007	Air	Building Air Emissions Compliance Point			X		

**Table C6
Sediment Samples and Associated PFAS Parameter List
Conceptual Site Model for PFAS
Chemours Chambers Works
Deepwater, New Jersey**

Sample ID	Location ID	Date Sampled	Media	SW Body	Reach	What Location Sampled/ How Sampled	Depth	PFOA	PFOS	PFCs-12 Analyte List	PFCs - 15 Analyte list	PFCs (DV-LC-0012-PFCs [16 analyte list])
Salem Canal - Sediment												
SC-204-OutQ-(0.0-0.5)	SC-204	8/22/2016	Sediment	Salem Canal	Reach 1	Outfall Q	0.0-0.5	---	---	---	---	X
SC-204-OutQ-(0.5-1.0)	SC-204	8/22/2016	Sediment	Salem Canal	Reach 1	Outfall Q	0.5-1.0	---	---	---	---	X
SC-204-OutQ-(1.0-1.2)	SC-204	8/22/2016	Sediment	Salem Canal	Reach 1	Outfall Q	1.0-1.2	---	---	---	---	X
SC-208-OutS-(0.0-0.5)	SC-208	8/22/2016	Sediment	Salem Canal	Reach 1	Outfall S	0.0-0.5	---	---	---	---	X
SC-208-OutS-(0.5-1.0)	SC-208	8/22/2016	Sediment	Salem Canal	Reach 1	Outfall S	0.5-1.0	---	---	---	---	X
SC-208-OutS-(1.0-1.5)	SC-208	8/22/2016	Sediment	Salem Canal	Reach 1	Outfall S	1.0-1.5	---	---	---	---	X
SC-208-OutS-(1.5-1.8)	SC-208	8/22/2016	Sediment	Salem Canal	Reach 1	Outfall S	1.5-1.8	---	---	---	---	X
SC-209-R1SM-(0.0-0.5)	SC-209	8/22/2016	Sediment	Salem Canal	Reach 1	Middle Canal from Outfall S	0.0-0.5	---	---	---	---	X
SC-209-R1SM-(0.5-1.0)	SC-209	8/22/2016	Sediment	Salem Canal	Reach 1	Middle Canal from Outfall S	0.5-1.0	---	---	---	---	X
SC-209-R1SM-(1.0-1.5)	SC-209	8/22/2016	Sediment	Salem Canal	Reach 1	Middle Canal from Outfall S	1.0-1.5	---	---	---	---	X
SC-209-R1SM-(1.5-2.0)	SC-209	8/22/2016	Sediment	Salem Canal	Reach 1	Middle Canal from Outfall S	1.5-2.0	---	---	---	---	X
SC-209-R1SM-(2.0-2.5)	SC-209	8/22/2016	Sediment	Salem Canal	Reach 1	Middle Canal from Outfall S	2.0-2.5	---	---	---	---	X
SC-209-R1SM-(2.5-3.0)	SC-209	8/22/2016	Sediment	Salem Canal	Reach 1	Middle Canal from Outfall S	2.5-3.0	---	---	---	---	X
SC-213-OutV-(0.0-0.5)	SC-213	8/23/2016	Sediment	Salem Canal	Reach 1	Outfall V	0-0.5	---	---	---	---	X
SC-213-OutV-(0.5-1.0)	SC-213	8/23/2016	Sediment	Salem Canal	Reach 1	Outfall V	0.5-1.0	---	---	---	---	X
SC-213-OutV-(1.0-1.5)	SC-213	8/23/2016	Sediment	Salem Canal	Reach 1	Outfall V	1.0-1.5	---	---	---	---	X
SC-213-OutV-(1.5-2.0)	SC-213	8/23/2016	Sediment	Salem Canal	Reach 1	Outfall V	1.5-2.0	---	---	---	---	X
SC-213-OutV-(2.0-2.5)	SC-213	8/23/2016	Sediment	Salem Canal	Reach 1	Outfall V	2.0-2.5	---	---	---	---	X
SC-215-R1VS-(0-0.5)	SC-215	8/23/2016	Sediment	Salem Canal	Reach 1	South Canal from Outfall V	0-0.5	---	---	---	---	X
SC-215-R1VS-(0.5-1.0)	SC-215	8/23/2016	Sediment	Salem Canal	Reach 1	South Canal from Outfall V	0.5-1.0	---	---	---	---	X
SC-215-R1VS-(1.0-1.5)	SC-215	8/23/2016	Sediment	Salem Canal	Reach 1	South Canal from Outfall V	1.0-1.5	---	---	---	---	X
SC-215-R1VS-(1.5-2.0)	SC-215	8/23/2016	Sediment	Salem Canal	Reach 1	South Canal from Outfall V	1.5-2.0	---	---	---	---	X
SC-215-R1VS-(2.0-2.5)	SC-215	8/23/2016	Sediment	Salem Canal	Reach 1	South Canal from Outfall V	2.0-2.5	---	---	---	---	X
SC-215-R1VS-(2.5-3.0)	SC-215	8/23/2016	Sediment	Salem Canal	Reach 1	South Canal from Outfall V	2.5-3.0	---	---	---	---	X
SC-215-R1VS-(3.0-3.5)	SC-215	8/23/2016	Sediment	Salem Canal	Reach 1	South Canal from Outfall V	3.0-3.5	---	---	---	---	X
SC-215-R1VS-(3.5-3.92)	SC-215	8/23/2016	Sediment	Salem Canal	Reach 1	South Canal from Outfall V	3.5-3.92	---	---	---	---	X
SC-182-OutA-(0.0-0.5)	SC-182	8/19/2016	Sediment	Salem Canal	Reach 2	Outfall A	0.0-0.5	---	---	---	---	X
SC-182-OutA-(0.5-1.0)	SC-182	8/19/2016	Sediment	Salem Canal	Reach 2	Outfall A	0.5-1.0	---	---	---	---	X
SC-182-OutA-(1.0-1.5)	SC-182	8/19/2016	Sediment	Salem Canal	Reach 2	Outfall A	1.0-1.5	---	---	---	---	X
SC-182-OutA-(1.5-2.0)	SC-182	8/19/2016	Sediment	Salem Canal	Reach 2	Outfall A	1.5-2.0	---	---	---	---	X
SC-189-OutF-(0.0-0.5)	SC-189	8/19/2016	Sediment	Salem Canal	Reach 2	Outfall F	0.0-0.5	---	---	---	---	X
SC-189-OutF-(0.5-1.0)	SC-189	8/19/2016	Sediment	Salem Canal	Reach 2	Outfall F	0.5-1.0	---	---	---	---	X
SC-189-OutF-(1.0-1.5)	SC-189	8/19/2016	Sediment	Salem Canal	Reach 2	Outfall F	1.0-1.5	---	---	---	---	X
SC-189-OutF-(1.5-2.0)	SC-189	8/19/2016	Sediment	Salem Canal	Reach 2	Outfall F	1.5-2.0	---	---	---	---	X
SC-189-OutF-(2.0-2.5)	SC-189	8/19/2016	Sediment	Salem Canal	Reach 2	Outfall F	2.0-2.5	---	---	---	---	X
SC-189-OutF-(2.5-3.0)	SC-189	8/19/2016	Sediment	Salem Canal	Reach 2	Outfall F	2.5-3.0	---	---	---	---	X
SC-191-R2FS-(0.0-0.5)	SC-191	8/19/2016	Sediment	Salem Canal	Reach 2	South Canal from Outfall F	0.0-0.5	---	---	---	---	X
SC-196-Out K-(0-0.5)	SC-196	8/19/2016	Sediment	Salem Canal	Reach 2	Outfall K	0-0.5	---	---	---	---	X
SC-218 -RefA-(0-0.5)	SC-218	8/24/2016	Reference Sediment	Salem Canal	Reference	Middle Canal at Deepwater Village	0-0.5	---	---	---	---	X
SC-218 -RefA-(0.5-1.0)	SC-218	8/24/2016	Reference Sediment	Salem Canal	Reference	Middle Canal at Deepwater Village	0.5-1.0	---	---	---	---	X
SC-222-RefA-(0-0.5)	SC-222	8/25/2016	Reference Sediment	Salem Canal	Reference	Middle Canal Eastern edge D. Village	0-0.5	---	---	---	---	X
SC-222-RefA-(0.5-1.0)	SC-222	8/25/2016	Reference Sediment	Salem Canal	Reference	Middle Canal Eastern edge D. Village	0.5-1.0	---	---	---	---	X
SC-224-RefA-(0-0.5)	SC-224	8/25/2016	Reference Sediment	Salem Canal	Reference	Middle Canal East 295 South 40	0-0.5	---	---	---	---	X
SC-224-RefA-(0.5-1.0)	SC-224	8/25/2016	Reference Sediment	Salem Canal	Reference	Middle Canal East 295 South 40	0.5-1.0	---	---	---	---	X
SC-226-RefA-(0-0.5)	SC-226	8/16/2016	Reference Sediment	Salem Canal	Reference	Middle Canal Upstream I-295	0-0.5	---	---	---	---	X
SC-226-RefA-(0.5-1.0)	SC-226	8/16/2016	Reference Sediment	Salem Canal	Reference	Middle Canal Upstream I-295	0.5-1.0	---	---	---	---	X
SC-227-TR Out T4 (0-0.5)	SC-227	8/25/2016	Sediment	Salem Canal	Tidal Reach	Outfall T4	0-0.5	---	---	---	---	X

**Table C6
Sediment Samples and Associated PFAS Parameter List
Conceptual Site Model for PFAS
Chemours Chambers Works
Deepwater, New Jersey**

Sample ID	Location ID	Date Sampled	Media	SW Body	Reach	What Location Sampled/ How Sampled	Depth	PFOA	PFOS	PFCs-12 Analyte List	PFCs - 15 Analyte list	PFCs (DV-LC-0012-PFCs [16 analyte list])
SC-227-TR Out T4 (0.5-1.0)	SC-227	8/25/2016	Sediment	Salem Canal	Tidal Reach	Outfall T4	0.5-1.0	---	---	---	---	X
SC-227-TR Out T4 (1.0-1.5)	SC-227	8/25/2016	Sediment	Salem Canal	Tidal Reach	Outfall T4	1.0-1.5	---	---	---	---	X
SC-227-TR Out T4 (1.5-2.0)	SC-227	8/25/2016	Sediment	Salem Canal	Tidal Reach	Outfall T4	1.5-2.0	---	---	---	---	X
SC-233-Out DR013C-(0-0.5)	SC-233	8/25/2016	Sediment	Salem Canal	Tidal Reach	Outfall DR013C	0-0.5	---	---	---	---	X
SC-233-Out DR013C-(0-0.5)	SC-233	8/25/2016	Sediment	Salem Canal	Tidal Reach	Outfall DR013C	0.5-1.0	---	---	---	---	X
SC-234-TR T3WM- (0-0.5)	SC-234	8/24/2016	Sediment	Salem Canal	Tidal Reach	Middle Canal from Outfall T3W	0-0.5	---	---	---	---	X
SC-234-TR T3WM- (0.5-1.0)	SC-234	8/24/2016	Sediment	Salem Canal	Tidal Reach	Middle Canal from Outfall T3W	0.5-1.0	---	---	---	---	X
SC-236-Out T2 (0-0.5)	SC-236	8/25/2016	Sediment	Salem Canal	Tidal Reach	Outfall T2	0-0.5	---	---	---	---	X
SC-236-Out T2 (0.5-1.0)	SC-236	8/25/2016	Sediment	Salem Canal	Tidal Reach	Outfall T2	0.5-1.0	---	---	---	---	X
Delaware River Sediment												
D15-BOR-14-(0-0.5)	D15-BOR-14	10/26/2016	Modern Sediment	DE River	Tidal	Grab and Core*	0-0.5	---	---	---	---	X
D15-BOR-14-(0.5-1.0)	D15-BOR-14	10/26/2016	Sand	DE River	Tidal	Grab and Core*	0.5-1.0	---	---	---	---	X
D15-BOR-14-(0.5-1.0)-D	D15-BOR-14	10/26/2016	Duplicate	DE River	Tidal	Grab and Core*	0.5-1.0	---	---	---	---	X
D15-BOR-20(0-0.5)	D15-BOR-20	10/25/2016	Modern Sediment	DE River	Tidal	Grab and Core*	0-0.5	---	---	---	---	X
D15-BOR-20(0.5-1.0)	D15-BOR-20	10/25/2016	Modern Sediment	DE River	Tidal	Grab and Core*	0.5-1.0	---	---	---	---	X
D16-BOR-06(0-0.5)	D16-BOR-06	10/25/2016	Modern Sediment	DE River	Tidal	Grab and Core*	0-0.5	---	---	---	---	X
D16-BOR-06(0.5-1.0)	D16-BOR-06	10/25/2016	Modern Sediment	DE River	Tidal	Grab and Core*	0.5-1.0	---	---	---	---	X
D16-BOR-07(0-0.5)	D16-BOR-07	10/25/2016	Modern Sediment	DE River	Tidal	Grab and Core*	0-0.5	---	---	---	---	X
D16-BOR-07(0-0.5)-D	D16-BOR-07	10/25/2016	Modern Sediment	DE River	Tidal	Grab and Core*	0-0.5	---	---	---	---	X
D16-BOR-07(0.5-1.0)	D16-BOR-07	10/25/2016	Modern Sediment	DE River	Tidal	Grab and Core*	0.5-1.0	---	---	---	---	X
D16-BOR-08(0-0.5)	D16-BOR-08	10/25/2016	Modern Sediment	DE River	Tidal	Grab and Core*	0-0.5	---	---	---	---	X
D16-BOR-08(0.5-1.0)	D16-BOR-08	10/25/2016	Modern Sediment	DE River	Tidal	Grab and Core*	0.5-1.0	---	---	---	---	X
E16-BOR-06(0-0.5)	E16-OR-06	10/26/2016	Modern Sediment	DE River	Tidal	Grab and Core*	0-0.5	---	---	---	---	X
E16-BOR-06(0.5-1.0)	E16-OR-06	10/26/2016	Sand	DE River	Tidal	Grab and Core*	0.5-1.0	---	---	---	---	X
DER1-01	DER1-01	4/22/2010	Sediment	DE River	Tidal	Steel Ponar and Homogenized	0-0.5	X	X	---	---	---
DER1-04	DER1-04	4/22/2010	Sediment	DE River	Tidal	Steel Ponar and Homogenized	0-0.5	X	X	---	---	---
DER1-07	DER1-07	4/22/2010	Sediment	DE River	Tidal	Steel Ponar and Homogenized	0-0.5	X	X	---	---	---
DER1-09	DER1-09	4/22/2010	Sediment	DE River	Tidal	Steel Ponar and Homogenized	0-0.5	X	X	---	---	---
DER1-12	DER1-12	4/20/2010	Sediment	DE River	Tidal	Steel Ponar and Homogenized	0-0.5	X	X	---	---	---
DER1-13	DER1-13	4/20/2010	Sediment	DE River	Tidal	Steel Ponar and Homogenized	0-0.5	X	X	---	---	---
DER1-15	DER1-15	4/22/2010	Sediment	DE River	Tidal	Steel Ponar and Homogenized	0-0.5	X	X	---	---	---
DER1-18	DER1-18	4/22/2010	Sediment	DE River	Tidal	Steel Ponar and Homogenized	0-0.5	X	X	---	---	---
DER1-22	DER1-22	5/4/2010	Sediment	DE River	Tidal	Steel Ponar and Homogenized	0-0.5	X	X	---	---	---
DER1-27	DER1-27	4/22/2010	Sediment	DE River	Tidal	Steel Ponar and Homogenized	0-0.5	X	X	---	---	---
DER1-29	DER1-29	4/21/2010	Sediment	DE River	Tidal	Steel Ponar and Homogenized	0-0.5	X	X	---	---	---
DER2-01	DER2-01	4/21/2010	Sediment	DE River	Tidal	Steel Ponar and Homogenized	0-0.5	X	X	---	---	---
DER2-03	DER2-03	4/22/2010	Sediment	DE River	Tidal	Steel Ponar and Homogenized	0-0.5	X	X	---	---	---
DER2-11	DER2-11	4/20/2010	Sediment	DE River	Tidal	Steel Ponar and Homogenized	0-0.5	X	X	---	---	---
DER2-16	DER2-16	4/20/2010	Sediment	DE River	Tidal	Steel Ponar and Homogenized	0-0.5	X	X	---	---	---
DER2-23	DER2-23	4/22/2010	Sediment	DE River	Tidal	Steel Ponar and Homogenized	0-0.5	X	X	---	---	---
DER2-28	DER2-28	4/22/2010	Sediment	DE River	Tidal	Steel Ponar and Homogenized	0-0.5	X	X	---	---	---
DER2-29	DER2-29	4/21/2010	Sediment	DE River	Tidal	Steel Ponar and Homogenized	0-0.5	X	X	---	---	---
DER2-32	DER2-32	4/28/2010	Reference Sediment	DE River	Reference Tidal	Steel Ponar and Homogenized	0-0.5	X	X	---	---	---
DER2-33	DER2-33	4/28/2010	Reference Sediment	DE River	Reference Tidal	Steel Ponar and Homogenized	0-0.5	X	X	---	---	---
DER2-34	DER2-34	4/28/2010	Reference Sediment	DE River	Reference Tidal	Steel Ponar and Homogenized	0-0.5	X	X	---	---	---
On-Site B-Ditch Sediment												
BLDG 1163-4	BLDG 1163	6/8/2008	Sediment	DB Ditch	Fresh water	B-Ditch North of 1163 and Shed 1474-Ekman dredge	0-0.0	X	---	---	---	---