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CAPE FEAR RIVER PFAS MASS LOADING ASSESSMENT - FOURTH QUARTER 2020 REPORT

Chemours Fayetteville Works

Prepared for

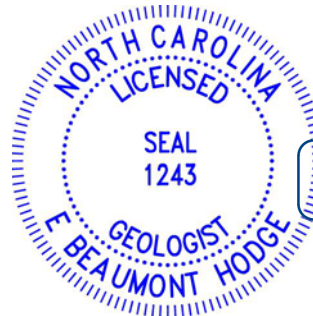
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LIST OF ABBREVIATIONS

CAP	Corrective Action Plan
cfs	cubic feet per second
CFR-TARHEEL	Cape Fear River at Tar Heel Ferry Road Bridge
CO	Consent Order
CO Addendum	Addendum to Consent Order Paragraph 12
DQO	Data Quality Objectives
DVM	Data Verification Module
EIM	Environmental Information Management
gpm	gallons per minute
HFPO-DA	hexafluoropropylene oxide dimer acid
kg	kilograms
L/s	liters per second
L^3T^{-1}	volume per time
m^3	million cubic meters
mg/s	milligrams per second
ML^{-3}	mass per unit volume
MT^{-1}	mass per unit time
ng/L	nanograms per liter
NCDEQ	North Carolina Department of Environmental Quality
PFAS	per- and polyfluoroalkyl substances
PFHpA	perfluoroheptanoic acid
PFMOAA	perfluoro-2-methoxyacetic acid
PMPA	perfluoromethoxypropyl carboxylic acid
QA/QC	quality assurance/quality control
Q1 2020	first quarter 2020
Q2 2020	second quarter 2020
Q3 2020	third quarter 2020
Q4 2020	fourth quarter 2020
RPD	relative percent difference
SOP	standard operating procedure
USGS	United States Geological Survey

1 INTRODUCTION AND OBJECTIVES

Geosyntec Consultants of NC, P.C. (Geosyntec) has prepared this Cape Fear River PFAS Mass Loading Assessment report for The Chemours Company, FC, LLC (Chemours). Chemours operates the Fayetteville Works facility in Bladen County, North Carolina (the Site). This report provides monitoring and assessment results pursuant to the requirements of Paragraphs 1(a) and 1(b) of the Addendum to Consent Order Paragraph 12 (CO Addendum) and Paragraph 16 of the executed Consent Order (CO) dated 25 February 2019 among the North Carolina Department of Environmental Quality (NCDEQ), Cape Fear River Watch, and Chemours.

The purpose of this report is to describe the fourth quarter 2020 (Q4 2020) PFAS Mass Loading Assessment of the Cape Fear River based on the findings of surface water, river water, and groundwater samples collected at and surrounding the Site. Data collected were used to assess mass loading of total per- and polyfluoroalkyl substances (PFAS) to the Cape Fear River. Total PFAS is a term used to refer to PFAS detected in the environment for those PFAS compounds listed in Table 1 and analyzed by the Table 3+ standard operating procedure (SOP) analytical method.

There are two primary objectives for this report:

1. To assess Cape Fear River PFAS mass loads. Specifically:
 - a. Mass loads measured in the Cape Fear River;
 - b. Mass loads prevented from reaching the Cape Fear River by implemented remedies; and
 - c. The total mass load that was heading to the Cape Fear River, i.e., the sum of the two quantities above.
2. To assess the relative PFAS loadings from the different PFAS transport pathways to the Cape Fear River during the reporting period¹ using the Mass Loading Model.

The CO Addendum requires sampling the Cape Fear River for PFAS compounds listed in Attachment C of the CO (Cape Fear River Mass Loading Calculation Protocol Version 2, Geosyntec 2020d). Accordingly, this report contains data through December 2020, and

¹ Starting in December 2020, Chemours commenced monthly sampling of the mass loading model pathways as per CO Paragraph 1(b) and the associated protocol document Cape Fear River Mass Loading Calculation Protocol Version 2 (Geosyntec 2020d). Monthly sampling of these pathways will be conducted for one year and thereafter on a quarterly basis for the next four years.

mass loading calculations and reporting are done on the set of PFAS compounds listed in Table 1, i.e., both “Table 3+” and “Attachment C”.

The remainder of this report is organized as follows:

- **Scope** – This section describes the sampling programs performed in Q4 2020;
- **Sampling Results** – This section describes the results of the sampling activities;
- **PFAS Mass Load to Cape Fear River** – This section describes the assessments of Cape Fear River PFAS Mass Loads;
- **Cape Fear River PFAS Mass Loading Model** – This section describes the assessment of the relative mass loading from the various PFAS transport pathways;
- **Summary** – This section summarizes the findings of this report.

2 SCOPE

The Q4 2020 sampling was completed by Geosyntec and Parsons of NC (Parsons) from October to December 2020. The scope of the sampling programs is summarized below, and complete descriptions of the field methods can be found in Appendix A.

2.1 Sampling Activities in Q4 2020

Q4 2020 sampling activities included:

1. The Cape Fear River PFAS Mass Load Sampling Program consisted of collecting twice weekly composite samples at Cape Fear River at Tar Heel Ferry Road Bridge (CFR-TARHEEL) (October 2020 to December 2020); and
2. The Cape Fear River PFAS Mass Loading Model Sampling Program event which consisted of the following:
 - a. Collecting a synoptic round of groundwater elevations from select on and offsite monitoring wells (December 2020);
 - b. Collecting water samples for PFAS from 19 onsite and offsite monitoring wells (December 2020)²;
 - c. Collecting seep, surface water, and river water samples for PFAS (December 2020); and

² Bladen-1D (damaged) and PW-11 (being pumped as part of the Pre-design Investigation activities) could not be sampled in December 2020.

- d. Measuring flow rates at specified seep and surface water locations (December 2020).

Each program is described in further detail below.

2.2 Cape Fear River PFAS Mass Load Sampling Program

The Cape Fear River PFAS Mass Load program consists of collecting twice weekly composite samples from the sampling location at CFR-TARHEEL, approximately 7 miles downstream of the Site (Figure 2). This location is far enough downstream of the Site such that water from the seeps, onsite groundwater, Old Outfall 002 and Georgia Branch Creek are well mixed in the river.

Composite samples were collected using an autosampler and were generally composited over 24 hours with aliquots collected at one-hour intervals yielding seven samples per week. Two samples per week were selected based on sample completeness and sent for analysis. Collected samples were evaluated for the PFAS compounds listed in Table 1. Details on sample collection methods are described in Appendix A.

Interruptions to the sampling program may occur due to events such as vandalism, equipment malfunction or a high river stage, which will flood the platform and necessitates sampler removal. During interruptions, field protocol is to collect a grab sample from the river twice per week at the CFR-TARHEEL location to continue establishing a record of river concentrations over time. During the reporting period between October 1, 2020 and December 31, 2020, two interruptions occurred in the scheduled sampling program:

- November 13, 2020 to November 20, 2020 – High river stage was experienced at the sampling location between these dates necessitating the removal of the autosampler to prevent damage. Instead, three grab sampling events were conducted on November 13, 18, and 20, 2020.
- December 14, 2020 to December 30, 2020 – High river stage was experienced at the sampling location between these dates necessitating the removal of the autosampler to prevent damage. Instead, seven grab sampling events were conducted on December 15, 17, 21, 23, 24, 28 and 30, 2020.

The data collected from the PFAS Mass Load Sampling Program were used to estimate PFAS mass load in the Cape Fear River using concentrations from the CFR-TARHEEL location and flows as reported by the United States Geological Survey (USGS) river gauging station at the W.O. Huske Dam (Figure 2). Details of the calculation methods were reported in the *Cape Fear River PFAS Mass Loading Calculation Protocol Version*

2 (Geosyntec, 2020d) and are provided in Appendix B. Results of these sampling activities are described below in Sections 3 and Section 4.

2.3 Cape Fear River PFAS Mass Loading Model Sampling Program

The quarterly Mass Loading Model Sampling Program consisted of collecting concentration and flow data from the various PFAS transport pathways in December 2020. Environmental media sampled include surface water (seeps, creeks, Old Outfall, Outfall 002, and Cape Fear River) and groundwater. Surface and river water sampling and flow gauging locations for the Q4 2020 Event are shown on Figures 4 and 5 and listed in Table 2. Groundwater sampling locations for the Q4 2020 Event are listed in Table 3 and shown on Figure 6. Collected samples were evaluated for the PFAS compounds listed in Table 1. Details on sample collection and flow gauging methods are described in Appendix A.

The data collected from these Q4 2020 field activities were then incorporated into the Mass Loading Model to estimate PFAS mass discharge from the nine potential transport pathways to the Cape Fear River (Figure 3), as identified in the Conceptual Site Model (Geosyntec, 2019b) and discussed in more detail in Section 5. These Mass Loading Model estimates were compared to mass loading observed downstream at CFR-TARHEEL.

Grab samples were also collected from the Cape Fear River adjacent to the Bladen Bluffs and Kings Bluff Intakes at CFR-BLADEN and CFR-KINGS, respectively (Figure 2). Samples were analyzed for PFAS listed in Table 1. To calculate the mass discharge at these sample locations, flows as reported by the USGS river gauging station at the W.O. Huske Dam and Cape Fear River Lock & Dam #1 were used to determine river flow volumes corresponding to samples collected at CFR-BLADEN and CFR-KINGS, respectively. PFAS concentrations and mass discharge calculations are reported in Section 4.3.

2.4 Laboratory Analyses

Samples were analyzed for PFAS by Table 3+ Laboratory SOP and some samples were analyzed for Method EPA 537 Modified. The focus of this report is on the set of PFAS originating from manufacturing activities at the Site; therefore, results of sampling activities and assessments of mass loading were performed and presented with respect to the PFAS groupings presented in Table 1: (i) Attachment C, (ii) Table 3+ (17 compounds), and (iii) Table 3+ (20 compounds). Analytical results of other PFAS, i.e., those analyzed under Method EPA 537 Modified, with the exception of hexafluoropropylene oxide dimer acid (HFPO-DA), are provided in Appendix C.

2.5 Total Attachment C PFAS

In this report, the calculations for Total Attachment C PFAS concentrations include all fluoroether PFAS on the Attachment C list, i.e. the Table 3+ PFAS component of Attachment C. Fluoroether monomers and polymers are the primary product manufactured at the facility. The compound perfluoroheptanoic acid (PFHpA) which is present in industrial uses such as stain resistant coatings and food packaging (PubChem, 2020), is not a fluoroether and is not included in Attachment C sums.

Geosyntec conducted an assessment to evaluate the inclusion of PFHpA in the summation of Total Attachment C PFAS concentrations used in Mass Loading Assessments of the Cape Fear River (presented in Cape Fear River PFAS Mass Loading Assessment – Third Quarter 2020 Report; Geosyntec, 2020e). Based on the results of the assessment, it was concluded that PFHpA should be excluded from the Total Attachment C concentrations for Mass Loading Assessments of the Cape Fear River because of the following:

- PFHpA is widespread beyond the extent of the Site from non-Chemours sources;
- The presence of PFHpA upstream and offsite are unrelated to the Site; and
- The downstream PFHpA concentrations mirror upstream concentrations indicating the Site does not measurably influence the downstream values.

This represents a modification to the *Cape Fear River PFAS Mass Loading Calculation Protocol Version 2* submitted to NCDEQ on November 18, 2020 (Geosyntec, 2020d).

3 SAMPLING RESULTS

This section presents sampling results from Q4 2020 sampling activities described in Section 2. Specifically, this section describes data quality presented in this report and then describes the results from the Cape Fear River PFAS Mass Load sampling program and the Cape Fear River PFAS Mass Loading Model sampling programs.

3.1 Data Quality

All analytical data were reviewed using the Data Verification Module (DVM) within the Locus™ Environmental Information Management (EIM) system, a commercial software program used to manage data. Following the DVM process, a manual review of the data was conducted. The DVM and the manual review results were combined in a data review narrative report for each set of sample results, which were consistent with Stage 2b of the USEPA Guidance for Labeling Externally Validated Laboratory Analytical Data for Superfund Use (USEPA-540-R-08-005, 2009). The narrative report summarizes which

samples were qualified (if any), the specific reasons for the qualification, and any potential bias in reported results. The data usability, in view of the project's data quality objectives (DQOs), was assessed, and the data were entered into the EIM system.

The data were evaluated by the DVM against the following data usability checks:

- Hold time criteria;
- Field and laboratory blank contamination;
- Completeness of quality assurance/quality control samples;
- Matrix spike/matrix spike duplicate recoveries and the relative percent differences (RPDs) between these spikes;
- Laboratory control sample/control sample duplicate recoveries and the RPD between these spikes;
- Surrogate spike recoveries for organic analyses; and
- RPD between field duplicate sample pairs.

A manual review of the data was also conducted and includes instrument-related quality control results for calibration standards, blanks, and recoveries. The data review process (DVM plus manual review) applied the following data evaluation qualifiers to the analytical results as required:

- J Analyte present, reported value may not be accurate or precise;
- UJ Analyte not present above the reporting limit, reporting limit may not be accurate or precise; and
- B Analyte present in a blank sample, reported value may have a high bias.

The data review process described above was performed for all laboratory chemical analytical data generated for the sampling event. The DQOs were met for the analytical results for accuracy and precision. The data collected are believed to be complete, representative and comparable, with the exception of R-PSDA, Hydrolyzed PSDA, and R-EVE.

3.1.1 Table 3+ 17 Compounds

For clarity, the text and figures of this report describe the Total Table 3+ (17 compounds) while Total Table 3+ (20 compounds) are included in the tables.

As reported in the *Matrix Interference During Analysis of Table 3+ Compounds* memorandum (Geosyntec, 2020a), matrix interference studies conducted by the analytical laboratory (TestAmerica, Sacramento) have shown that the quantitation of

three compounds (R-PSDA, Hydrolyzed PSDA, and R-EVE) is inaccurate due to interferences by the sample matrix in both groundwater and surface water. Given the matrix interference issues, Total Table 3+ PFAS concentrations are calculated and presented two ways in this report: (i) summing over 17 of the 20 Table 3+ compounds “Total Table 3+ (17 compounds)”, i.e., excluding results of R-PSDA, Hydrolyzed PSDA, and R-EVE, and (ii) summing over 20 of the Table 3+ compounds “Total Table 3+ (20 compounds)”. Expressing these data as a range represents possible values of what these results might be without matrix interferences. In other words, the sum of all 17 compounds is an underestimate of the actual value while the sum of the 20 compounds is likely an overestimate of the actual value.

3.2 Cape Fear River PFAS Mass Load Sampling Results

For this Q4 2020 report, the Cape Fear River Mass Load reporting period was from October 1 to December 31, 2020. During this period, twenty-two (22) primary composite samples and eleven (11) grab samples were collected at location CFR-TARHEEL, with the last sample being collected on December 30, 2020.

3.2.1 Cape Fear River Mass Load QA/QC Samples

There were no quality assurance/quality control (QA/QC) samples collected at CFR-TARHEEL during Q4 2020.

3.2.2 Cape Fear River Mass Load PFAS Analytical Results

Analytical sample results used to estimate Cape Fear River mass loads are reported in Table 7. In Q4 2020, Total Table 3+ concentrations ranged from 5.5 nanograms per liter (ng/L) (CFR-TARHEEL-122820) to 240 ng/L (CFR-TARHEEL-20-111220). This range in concentrations is within the observed range in previous quarterly sampling events.

The concentrations over time for these samples are plotted on Figure 8 and corresponding calculated mass loads are reported in Tables 11 and 12 and plotted in Figure 9. Both figures are described in Section 4.

3.3 PFAS Mass Loading Model Sampling Seep and Surface Water Results

For this Q4 2020 report, sampling of seep, surface water and Cape Fear River locations occurred between December 15 and 16, 2020. During this period, eight (8) composite samples, seven (7) grab samples, and one duplicate sample were collected.

USGS rain gauge 02105500 indicated 1 inch of precipitation during the week of surface water sample collection (December 14 to 16, 2020). The December 2020 surface water sampling event is, therefore, considered to be a wet weather event.

3.3.1 Seep and Surface Water QA/QC Samples

PFAS concentrations for surface water QA/QC samples are reported in Table 8. Four equipment blanks (December 15 to 16, 2020) and two field blank (December 15 to 16, 2020) were collected and none of the PFAS were detected above the associated reporting limits. One field duplicate was collected at the Intake River Water at Facility location on December 16, 2020. PFAS results for the parent (RIVER-WATER-INTAKE-24-121620) and the duplicate sample (RIVER-WATER-INTAKE-24-121620-D) had relative percent differences less than 30% for the reported compounds; except Hydrolyzed-PSDA, NVHOS and R-EVE, which were J-qualified.

3.3.2 Seeps and Surface Flow Gauging

A summary of flow rates measured for the December 2020 seep and surface water event is presented in Table 9. Details on estimated flow measurements along with measurement methods at each flow gauging location are included in Appendix D.

Measured flow rates for Willis Creek and Georgia Branch Creek in December 2020 were 10,600 and 6,200 gallons per minute (gpm). Measured flow rates at the seeps were 93, 134, 27, 124, and 16 gpm for Seeps A through D and Lock and Dam Seep, respectively. The flow rate at Outfall 002 was 12,000 gpm while Old Outfall 002 had a flow rate of 431 gpm. The USGS reported flow at W.O. Huske Dam (USGS 02105500) of 2,750,000 gpm and 4,000,000 on December 15 and 16, 2020, respectively. The USGS reported flow at Kings Bluff (USGS 02105769) was 3,435,000 gpm on December 16, 2020.

3.3.3 Seeps and Surface Water Field Parameters

Field parameters recorded for surface water samples collected during the Q4 2020 event are presented in Table 5 and the field forms are provided in Appendix E. Recorded field parameter data are generally consistent with expectations.

3.3.4 Seep and Surface Water PFAS Analytical Results

Analytical results for the seep, surface, and river water samples are summarized in Table 8. Figures 10 and 11 show the Total Table 3+ concentrations reported for samples collected in December 2020 and Figure 12 presents the HFPO-DA concentrations for Cape Fear River samples, respectively. Laboratory and DVM reports are included in Appendix F.

In general, Total Table 3+ concentrations were lowest at Intake at the Facility, Outfall 002 and in the upstream and downstream river samples and the highest at the seeps (Figures 10 and 11; Table 8). Among the river samples, Total Table 3+ concentrations ranged from 6.3 ng/L (CFR-MILE-76; before site) to 79 ng/L (downstream sample at

CFR-KINGS). Among the creeks, Total Table 3+ concentrations were higher at Georgia Branch Creek (1,500 ng/L) than at Willis Creek (1,300 ng/L). Among the seeps and Old Outfall 002, Old Outfall 002 had the lowest Total Table 3+ concentrations (2,200 ng/L), which was an order of magnitude lower than previous event, while Seep C had the highest Total Table 3+ concentrations (420,000 ng/L).

Figure 12 shows the HFPO-DA concentrations in the four river samples. HFPO-DA concentrations were well below 140 ng/L ranging from <2 ng/L (upstream at CFR-MILE-76) to 11 ng/L (downstream sample at CFR-TARHEEL on December 16, 2020).

3.4 PFAS Mass Loading Model Sampling Groundwater Results

A synoptic water level survey of the onsite groundwater monitoring well network was completed on December 7, 2020, with the exception of two offsite groundwater wells (BLADEN-3S and BLAD-3D), which were measured on December 8, 2020. Field parameters and groundwater samples were collected from 18 of the 20 CO Paragraph 16 wells between December 8, 2020 and December 22, 2020. This list of groundwater wells is derived from the Corrective Action Plan (CAP) (Geosyntec, 2019c) with the exception of wells INSITU-02 and BLADEN-1S, which were removed as these wells are perennially dry. The two wells that could not be sampled in December 2020 were Bladen-1D which was damaged and PW-11 which was being pumped as part of the Pre-design Investigation activities.

3.4.1 Groundwater QA/QC Samples

PFAS concentrations for groundwater QA/QC samples are reported in Table 10. The following observations were noted for the QA/QC samples:

- Six equipment blank samples were collected over the 5 sampling days. No PFAS were detected above the associated reporting limits in all of the equipment blank samples.
- Five field blank samples were collected over the 5 sampling days where these groundwater wells were sampled. No PFAS were detected above the associated reporting limits in all of the field blank samples.
- One field duplicate sample was collected at PIW-7S. PFAS results for the parent (CAP1220-PIW-7S-120820) and duplicate sample (CAP1220-PIW-7S-120820-D) had relative percent differences less than 30% for the reported compounds.

3.4.2 Water Levels

Groundwater elevations were calculated for onsite and offsite wells screened in the Perched Zone, Surficial Aquifer and Black Creek Aquifer from a single synoptic water level measurement survey performed on December 7 and 8, 2020 (Table 4). Groundwater elevations from these synoptic water levels were used to develop potentiometric maps for the Perched Zone, Surficial Aquifer and Black Creek Aquifer (Figures 7A, 7B, and 7C).

Similar to Perched Zone groundwater elevations discussed in previous assessments (Geosyntec, 2019b; Geosyntec, 2020b; Geosyntec, 2020c; Geosyntec, 2020e), groundwater elevations were highest in the central portion of the Perched Zone near the Power and Monomers IXM area of the Site (Figure 7A). Perched Zone groundwater elevations appear to be controlled by topography and the lateral extent of the clay lens.

Groundwater elevations in Surficial Aquifer wells (Figure 7B) indicate groundwater flow in the northern portion of the Site is likely to be east-northeast towards both Willis Creek and Cape Fear River, and at the southern end of the Site towards Old Outfall 002, consistent with the flow observed in previous assessments (Geosyntec, 2019b; Geosyntec, 2020b; Geosyntec, 2020c; Geosyntec, 2020e). In the southern portion of the Site the Surficial Aquifer groundwater discharges to the Old Outfall 002 and to Seep B.

Groundwater in the Black Creek Aquifer flows in a predominantly easterly direction to the Cape Fear River (Figure 7C) similar to groundwater elevations discussed in previous assessments (Geosyntec, 2019b; Geosyntec, 2020b; Geosyntec, 2020c; Geosyntec, 2020e). A portion of Black Creek Aquifer groundwater flow is interpreted to also flow to the northeast, towards Willis Creek (near SMW-12) and southeast, towards Old Outfall (east of PW-11 or Glengerry Road). The contours drawn from the groundwater elevations were used to estimate hydraulic gradients in the Black Creek Aquifer. The hydraulic gradients were used as an input into the Mass Loading Model to estimate the contribution of onsite groundwater in the Black Creek Aquifer to the PFAS mass loading to the Cape Fear River. The details of the calculations can be found in Appendix G.

3.4.3 Groundwater Field Parameters

Field parameters recorded for groundwater samples collected during the Q4 2020 event are presented in Table 6 and the field forms are provided in Appendix E. Recorded field parameter data are generally in line with expectations for the sample locations.

3.4.4 Groundwater PFAS Analytical Results

PFAS and Total PFAS concentrations for the groundwater samples collected in December 2020 are summarized in Table 10 and Figure 13. Laboratory and DVM reports are included in Appendix F. Total Table 3+ concentrations ranged from non-detect (PW-09)

to 250,000 ng/L (LTW-03) with the highest concentrations observed in the LTW wells near the mouths of the seeps adjacent to the river (Figures 13).

In general, the largest proportion of Total Table 3+ concentrations are comprised of HFPO-DA, PFMOAA, and perfluoromethoxypropyl carboxylic acid (PMPA) (Table 10). On an aquifer basis, lower individual and Total Table 3+ concentrations are observed in wells screened in the Surficial Aquifer. Concentrations of Total Table 3+ in Floodplain Deposits and Black Creek Aquifer groundwater (Figures 13) were similar to the seep concentrations (Figures 10). Overall, results from the Q4 2020 monitoring are consistent with trends observed at these wells in previous monitoring events (Geosyntec, 2019b; Geosyntec, 2020b; Geosyntec, 2020c; Geosyntec, 2020e), with the exception of LTW-04, PIW-7S, and PIW-7D, which had lower than normal concentrations. These low concentrations may be associated with the high river levels that occurred between November 13 to November 30, 2020. On November 16, 2020, the Cape Fear River elevation reached 53 feet above mean sea level (NAVD88), while the ground surface elevation of LTW-04, PIW-7S and PIW-7D are 49.34, 46.07 and 45.70 feet above mean sea level (NAVD88), respectively, and the top of casing of these wells were 51.86, 48.93, and 47.97 feet above mean sea level (NAVD88), respectively. Therefore, at these times, the gradient will result in river water transporting inland, which may lead to fluctuating PFAS concentrations at these wells.

The results from the Q4 2020 groundwater monitoring event were used to calculate the contribution of onsite groundwater in the Black Creek Aquifer to the PFAS mass discharge to the Cape Fear River. The details of the calculations can be found in Appendix G.

4 PFAS MASS LOAD TO CAPE FEAR RIVER

This section presents results of the Cape Fear River PFAS mass loads for the present reporting period of October 1, 2020 to December 31, 2020. Specifically, this section discusses three types of mass loads:

1. The total measured in-river PFAS mass load based on time-weighted concentration measurements of PFAS primarily from composite samples of Cape Fear River water and measured Cape Fear River flow volumes at the W.O. Huske Dam that are adjusted for travel times to the downstream monitoring location at the CFR-TARHEEL;
2. The total measured and estimated PFAS mass load captured by remedies implemented by Chemours; this is the load fraction that was prevented from reaching the Cape Fear River; and

3. The total measured PFAS mass load to the Cape Fear River is defined as the sum of the measured in-river loads and the remedy prevented loads. This total mass load is calculated following Equation 1 below:

Equation 1: Total PFAS Mass Load

$$M_{CFR} = m_{CFR} + m_{Remedies}$$

where,

M_{CFR} = is the Mass Load of PFAS compounds in the Cape Fear River, including the mass load prevented from reaching the Cape Fear River by implemented remedies, measured in kilograms (kg);

m_{CFR} = is the In-River Mass Load estimated using PFAS concentrations in samples taken in the Cape Fear River downstream of the Site where the river is well mixed and using measured river flow volumes; and

$m_{Remedies}$ = is the Captured Mass Load prevented from reaching the Cape Fear River by remedies implemented by Chemours;

Remedies that have been implemented by Chemours in Q4 2020 include the Old Outfall 002 treatment system (October 1, 2020) and the Seep C flow through cell (December 16, 2020). Both remedies prevent PFAS mass loads from reaching the Cape Fear River and were quantified in the $m_{Remedies}$ term of Equation 1. The specific methodology for estimating the prevented mass per remedy was developed on a per remedy basis and details of these calculations are provided in Appendix B and described further in the *Cape Fear River PFAS Mass Loading Calculation Protocol Version 2* (Geosyntec, 2020d). The goal of such calculations was to estimate, for a given time period, the PFAS mass diverted from reaching the Cape Fear River by the remedy that would have otherwise reached the Cape Fear River.

There have been numerous other interim and permanent actions taken to limit PFAS reaching the Cape Fear River prior to this baseline period, i.e., air abatement measures (installation of the thermal oxidizer and carbon beds, etc.), grouting of the terracotta pipe, sediment removal from onsite channels, among others, and these may not be captured in this captured mass load calculation but should be considered in the overall assessment of PFAS reductions.

4.1 Total PFAS Mass Load

During the Q4 reporting period, the Total PFAS mass load in the Cape Fear River, including the mass load prevented from reaching the Cape Fear River by implemented remedies, was 102.5 kg (Tables 11, 12A, 12B, and 12C). The total in-river mass load

was 76.7 kg, which was estimated based on the 51 mass loading estimation intervals presented in Table 12A. These estimates were distributed over 2.1 billion cubic meters (m³) or 74 billion cubic feet³ of river water that passed by the CFR-TARHEEL sampling location.

The total measured and estimated PFAS mass load captured by remedies implemented by Chemours was 25.8 kg, which was estimated based on the concentrations in samples collected at the influent and effluent (as reported in Appendix B) and measured flows at the Old Outfall 002 treatment system and the Seep C flow through cell (Tables 12B and 12C). For the Old Outfall 002 treatment system, a total of 24.8 kg was captured and prevented from reaching the Cape Fear River. This estimate was based on three mass loading estimation intervals between October 1, 2020 and December 31, 2020 (Table 12B). For the Seep C flow through cell, a total of 1.0 kg was captured and prevented from reaching the Cape Fear River. This estimate was based on 2 mass loading estimation intervals between December 16, 2020 and December 31, 2020 (Table 12C).

Start Date	End Date	Days	Total Table 3+ Load in Cape Fear River (kg)	Total Table 3+ Remedy Reduction Load (kg)	Total Table 3+ Total Load to Cape Fear River (kg)
03/28/2020	05/09/2020	43	45.8	0	45.8
05/09/2020	06/29/2020	51	79.7	0	79.7
06/29/2020	9/30/2020	93	78.5	0	78.5
10/01/2020	12/30/2020	90	76.7	25.8	102.5
Total		277	280.7	25.8	306.5

The Total in-river PFAS mass discharges are provided in Table 13, which includes results from previous quarters in 2020. For Q4 2020, the Total Table 3+ mass discharge ranged from 0.97 milligrams per second (mg/s) (CFR-TARHEEL-122820) to 51 mg/s (CFR-TARHEEL-20-111220). This wider range of mass discharges are likely attributed to the significant rain events that occurred in November and December 2020.

The plots of Total Table 3+ concentrations over time in Figure 8 indicate that, generally, concentrations in the Cape Fear River are inversely correlated to river flow rate. That is, concentrations were higher when flow rates were lowest, while concentrations were lower when river flow rates were higher. This trend is likely related to the degree of dilution

³ The volume of river water was provided in cubic meters (USGS, 2019) and was converted to cubic feet for reference.

occurring in the river. Higher river flows lead to a greater volume of water that the mass loads are distributed over leading to a lower concentration value.

The plots of Total Table 3+ mass discharge over time in Figure 9 show that the mass discharge since March 28, 2020 are typically between 5 and 20 mg/s with approximately 76% of the data falling within this range. The minimum and maximum mass discharge were 0.97 mg/s (CFR-TARHEEL-122820) to 51 mg/s (CFR-TARHEEL-20-111220), respectively, which correspond to samples collected during Q4 2020.

4.2 Mass Discharge at Bladen Bluffs, Tar Heel Ferry Road Bridge and Kings Bluff Intake Canal

The Total Table 3+ concentrations and mass discharge values from the program are shown in the table below. Total Table 3+ concentrations at the three downstream river locations ranged from 55 ng/L (CFR-TARHEEL) to 79 ng/L (CFR-KINGS). The Total Table 3+ mass discharge ranged from 9.5 mg/s (CFR-TARHEEL) to 17.1 mg/s (CFR-KINGS). In previous assessments, CFR-KINGS is sampled approximately three days after CFR-TARHEEL and CFR-BLADEN to account for travel time between these two locations and CFR-KINGS. In Q4 2020, CFR-KINGS was sampled sooner than three days due to rising river levels, which may explain the difference in mass discharges between CFR-KINGS and the other two locations.

Sample Location	Sample Collection Date	Flow Rate (cfs)	Total Table 3+	
			Concentration (ng/L)	Mass Discharge (mg/s)
CFR-BLADEN	12/15/2020	6,420	60	11
CFR-TARHEEL	12/15/2020	6,130	55	9.5
CFR-KINGS	12/16/2020	7,650	79	17.1

5 CAPE FEAR RIVER PFAS MASS LOADING MODEL

While Section 4 presented the mass load in the Cape Fear River, this section presents an analysis evaluating the relative loadings from the identified PFAS transport pathways to the observed in-river PFAS mass discharge. This evaluation helps to confirm that the pathways, where mitigative measures are planned, will result in reductions of PFAS loading to the Cape Fear River. This evaluation was performed using the Mass Loading Model. The following subsections describe the transport pathways, model design, and the results of the Mass Loading Model assessment, including the sensitivity and the limitations of the Mass Loading Model.

5.1 PFAS Mass Loading Model Pathways

The nine potential pathways representing compartments to the PFAS Mass Loading Model are briefly described below and described in more detail in the *Cape Fear River PFAS Mass Loading Calculation Protocol Version 2* (Geosyntec, 2020d). The following pathways were identified as potential contributors of PFAS to the river PFAS concentrations:

- **Transport Pathway 1:** Upstream Cape Fear River and Groundwater – This pathway is comprised of contributions from non-Chemours related PFAS sources on the Cape Fear River and tributaries upstream of the Site, and upstream offsite groundwater with PFAS present from aerial deposition;
- **Transport Pathway 2:** Willis Creek – Groundwater and stormwater discharge and aerial deposition to Willis Creek and then to the Cape Fear River;
- **Transport Pathway 3:** Direct aerial deposition of PFAS on the Cape Fear River (see Appendix H for further details);
- **Transport Pathway 4:** Outfall 002 – Comprised of (i) water drawn from the Cape Fear River and used as non-contact cooling water, (ii) treated non-Chemours process water, (iii) Site stormwater, (iv) steam condensate, and (v) power neutralization discharge, which are then discharged through Outfall 002;
- **Transport Pathway 5:** Onsite Groundwater – Direct upwelling of onsite groundwater to the Cape Fear River from the Black Creek Aquifer (see Appendix G for further details);
- **Transport Pathway 6:** Seeps – Onsite groundwater seeps A, B, C and D and offsite Lock and Dam Seep above the Cape Fear River water level on the bluff face from the facility that discharge into the Cape Fear River;
- **Transport Pathway 7:** Old Outfall 002 – Groundwater discharge to Old Outfall 002 and stormwater runoff that flows into the Cape Fear River;
- **Transport Pathway 8:** Adjacent and Downstream Offsite Groundwater – Offsite groundwater adjacent and downstream of the Site upwelling to the Cape Fear River (see Appendix I for further details); and,
- **Transport Pathway 9:** Georgia Branch Creek – Groundwater, stormwater discharge and aerial deposition to Georgia Branch Creek and then to the Cape Fear River.

5.2 Model Design

The Mass Loading Model estimates the mass discharge of PFAS from the transport pathways to the Cape Fear River. The Total PFAS mass discharge entering the Cape Fear River is defined in this model as the combined mass per unit time (MT^{-1}) or mass discharge (e.g., mg/s) from potential pathways identified in Section 5.1. Total PFAS mass load entering the Cape Fear River is calculated as:

Equation 2: Cape Fear River Estimated Mass Discharge from Mass Loading Model

$$MD_{CFR} = \sum_{p=1}^9 \sum_{i=1}^I MD_{p,i} = \sum_{p=1}^9 \sum_{i=1}^I (C_{n,i} \times Q_n)$$

where,

MD_{CFR} = Total PFAS estimated mass discharge entering the Cape Fear River, measured in MT^{-1} , typically mg/s;

p = represents each of the 9 potential PFAS transport pathways listed in Section 5.1. To facilitate model construction, the Seeps (Transport Pathway 6) were further discretized as Seep A (Transport Pathway 6A), Seep B (Transport Pathway 6B), Seep C (Transport Pathway 6C) and Seep D (Transport Pathway 6D);

i = represents each of the PFAS constituents being evaluated;

I = represents total number of PFAS constituents included in the summation of Total PFAS concentrations;

$MD_{p,i}$ = mass load of each PFAS constituent i from each potential pathway p with measured units in MT^{-1} , typically mg/s;

$C_{p,i}$ = concentration of each PFAS constituent i from each potential pathway p with measured units in mass per unit volume [ML^{-3}], typically ng/L; and

Q_n = volumetric flow rate from each potential pathway n with measured units in volume per time [L^3T^{-1}], typically liters per second (L/s).

For the Q4 2020 Mass Loading Model assessment, data sources used as model inputs for each potential pathway are described in Table 14. These data sources included flow measurements, water levels and analytical results from the Q4 2020 sampling events (as discussed in Section 3) and supplemental data provided in Appendices D, G, H, and I.

5.2.1 Adjustments to Mass Loading Model Calculations

In Q4 2020, the Mass Loading Model assessment also includes mass discharge estimates for each pathway before and after remedies have been implemented. More specifically, the “Before Remedies” Total PFAS mass discharge are estimated using the model assuming a remedy had not been implemented. For Q4, the only remedy that had been implemented before the Mass Loading Model sampling event was the Old Outfall 002 Treatment system. Therefore, this “Before Remedies” Total PFAS mass discharge was estimated using the concentrations from the influent at the Old Outfall Treatment System. As additional remedies are implemented, similar “Before Remedy” estimates will be calculated for the other pathways. The “After Remedies” Total PFAS mass discharge are estimated using the model as was done in previous assessments with the concentrations measured from the specified sampling location for each pathway (Figure 4).

Another adjustment to the model made in Q4 2020 was the derivation of the lower and upper bounds on the model estimated mass discharge. In the previous three quarterly assessments, the hydraulic conductivity in the Black Creek Aquifer, one of the most sensitive input parameters into the model, was varied to better understand the potential range of PFAS mass discharge from onsite groundwater (Transport Pathway 5) discharging to the Cape Fear River. Therefore, the lower and upper bounds for the model-estimated mass discharge was derived using the minimum and geometric mean hydraulic conductivity values, respectively, for the onsite groundwater term. In Q4 2020, as part of the groundwater pre-design investigation in November and December 2020, the hydraulic conductivity was estimated using the results of constant rate tests performed at five extraction wells installed in the Black Creek Aquifer upstream of the river frontage (Appendix G). These hydraulic conductivity estimates were considered to have less uncertainty than previous estimates. Instead, the lower and upper bounds for the mass discharge were constructed using a range of hydraulic gradients calculated using two different contour elevation differences in the vicinity of the river frontage: a ten-foot elevation difference (between the 40 and 50 ft contours) and a twenty-foot elevation difference (between the 40 and 60 ft contours). Using two contour elevation differences captures the variation in hydraulic gradient estimates over a range of spatial scales (see Appendix G for more details). This adjustment to the onsite groundwater mass discharge calculation still provides a lower and upper bound to the mass discharge estimate, but the range in mass discharge estimates are narrower.

5.3 Mass Loading Model Results

USGS rain gauge 02105500 indicated 1 inch of precipitation during the week of sample collection (December 14 to 16, 2020), therefore, the Q4 2020 event was considered to be a wet weather event.

The pathway-specific PFAS mass discharges estimated from the Mass Loading Model and measured at CFR-TARHEEL are summarized in Tables 15A and 15B. A summary of the Total PFAS mass discharge estimates per pathway and a comparison to the measured mass discharge at CFR-TARHEEL is provided in Table 16A, Table 16B and shown in Figure 14. A comparison of relative contributions per pathway among the three quarterly events conducted in 2020 is provided in Table 17.

The model-estimated Before Remedies Total Table 3+ mass discharge estimates ranged from 12.7 mg/s (lower bound) to 13.3 mg/s (upper bound), while the After Remedies Total Table 3+ mass discharge estimates ranged from 10.6 mg/s to 11.2 mg/s (Tables 16A and 16B). For this one snapshot in time, this means that the operation of the Old Outfall 002 treatment system was effective at reducing the Total Table 3+ mass discharge by 2.1 mg/s.

The model-estimated After Remedies Total Table 3+ mass discharge estimates were used to compare to the measured mass discharge estimates at CFR-TARHEEL. As mentioned above, the model-estimated After Remedies Total Table 3+ mass discharge ranged from 10.6 mg/s (lower bound) to 11.2 mg/s (upper bound), while the measured mass discharge at CFR-TARHEEL was 16.1 mg/s (Table 16B and Figure 14). While the ranges in the lower and upper bounds for the modeled mass discharge estimates are not wide (within 0.6 mg/s), the measured mass discharge at CFR-TARHEEL is higher than the modeled estimates. Several hypotheses are being explored to understand the differences between modeled and measured mass discharge and are described in Section 5.5.

In terms of relative contributions, the most significant pathways are the Seeps (Transport Pathway 6) and Onsite Groundwater (Transport Pathway 5). Previous assessments showed that Old Outfall 002 (Pathway 7) was also a significant contributor; however, remedy implementation has reduced the contribution from this pathway to <1% (Figure 14). Further reductions are anticipated in 2021 from the Seeps, i.e., due to installation of the flow through cell remedies.

5.3.1 Before Remedies Relative Contributions by Pathway

The Mass Loading Model estimates that the seeps (Transport Pathway 6) had the highest contribution of Total Table 3+ mass discharge in December 2020. The seeps contributed from 41% to 43% of the total mass discharge, which is consistent with the prior assessments (Table 17). Reductions from this pathway (i.e., due to installation of the flow through cells) are anticipated in future assessments, particularly at Seep C where the flow through cell became operational on December 16, 2020.

Old Outfall 002 (Transport Pathways 7) would have been the next highest contributor with a relative contribution of Total Table 3+ mass discharge ranging from 16% to 17%.

However, the After Remedies model-estimated mass discharge from Old Outfall 002 was significantly lower (0.06 mg/s) and was <1% of the After Remedies Total Table 3+ mass discharge than that of the Before Remedies Total Table 3+ mass discharge. This significant decrease in contribution is attributed to installation of the Outfall 003 treatment system which began discharging treated water since October 1, 2020 (i.e., beginning of Q4 2020). As such, contributions from Old Outfall 002 are expected to remain minimal in future assessments.

Onsite groundwater (Transport Pathway 5) is the next highest mass discharge pathway to the Cape Fear River, contributing from 13% to 18% of the model estimated Total Table 3+ mass discharge (Table 17 and Figure 14), which is within the range of previous assessments; however, the range is slightly narrower than previous assessments. This potentially can be explained by two factors. Firstly, in Q4 2020, Table 3+ concentrations at PIW-7D (one of the wells along the river frontage used to calculate the onsite mass discharge) was lower than previous events. Secondly, as mentioned in Section 5.2.1, as part of the groundwater pre-design investigation in November and December 2020, the hydraulic conductivity was estimated using the results of constant rate tests performed at five extraction wells installed in the Black Creek Aquifer upstream of the river frontage (Appendix G). These hydraulic conductivity estimates were considered to have less uncertainty than previous estimates.

The Upstream River Water and Groundwater and Adjacent and Downstream Offsite Groundwater (Transport Pathways 1 and 8, respectively) were estimated to have a combined contribution of Total Table 3+ mass discharge of approximately 13% (Table 17). The upstream river and groundwater pathway contributed approximately 9%, while the Adjacent and Downstream Offsite Groundwater pathway contributed approximately 4%. The total flow volume recorded in Q4 2020 (4,100 MG) was much higher than that recorded in previous events, likely due to the precipitation that occurred during sample collection in Q4 2020. Accordingly, at such low concentrations, the mass discharge estimates are sensitive to changes in flow which resulted in a slightly higher relative contribution for these pathways in Q4 2020 compared to past assessments.

Willis Creek and Georgia Branch Creek (Transport Pathways 2 and 9, respectively) were estimated to contribute approximately 11% of the Total Table 3+ mass discharge to the Cape Fear River in December 2020. These contributions are consistent with estimated contributions reported in previous assessments.

Outfall 002 (Transport Pathways 4) contributed 3% of the Total Table 3+ mass discharge, which is consistent with previous assessments. The aerial Deposition (Pathway 3) remained the same with a relative contribution of <1%.

Pathway	Total Table 3+							
	Q1 2020 (April 2020)		Q2 2020 (May 2020)		Q3 2020 (July 2020)		Before Remedies Q4 2020 (December 2020)	
	Lower	Upper	Lower	Upper	Lower	Upper	Lower	Upper
[1] Upstream River Water and GW	0%	0%	9%	8%	1%	1%	9%	9%
[2] Willis Creek	4%	3%	3%	3%	5%	4%	7%	7%
[3] Aerial Deposition	<1%	<1%	<1%	<1%	<1%	<1%	<1%	<1%
[4] Outfall 002	1%	<1%	1%	1%	1%	<1%	3%	3%
[5] Onsite GW	5%	43%	2%	19%	3%	26%	13%	18%
[6] Seeps	56%	34%	49%	41%	53%	41%	43%	41%
[7] Old Outfall 002	30%	23%	28%	23%	34%	26%	17%	16%
[8] Offsite Adj. and Downstream GW	0%	0%	4%	3%	<1%	<1%	3%	3%
[9] Georgia Branch Creek	4%	2%	4%	3%	2%	2%	6%	5%

5.4 Mass Loading Model Sensitivity and Limitations

The Mass Loading Model assessments provide PFAS mass discharge estimates and relative proportions of loadings for a ‘snapshot’ in time. While controlling for temporal variability, the model-based mass discharge estimates contain some level of uncertainty due to the inherent variability and measurement error in the input parameters, e.g., flow, concentrations, etc. To better understand the sensitivity of the model to the various pathway-specific input parameters, the uncertainties associated with the input parameters were used to conduct a sensitivity analysis. For each pathway, the input parameters, the assumed associated uncertainties, and the resulting level of model sensitivity were presented in first quarter 2020 (Q1 2020) report (Geosyntec, 2020b).

5.4.1 Upper and Lower Bounds

In Q4 2020, as part of the groundwater pre-design investigation in November and December 2020, the hydraulic conductivity was estimated using the results of constant rate tests performed at five extraction wells installed in the Black Creek Aquifer upstream of the river frontage (Appendix G). These hydraulic conductivity estimates were considered to have less uncertainty than previous estimates, where the lower and upper bounds were derived using the minimum and geometric mean hydraulic conductivities, respectively, from slug tests. In this Q4 2020 assessment, the lower and upper bounds for the mass discharge were constructed using a range of hydraulic gradients, which

resulted in a narrower range in mass discharge estimates for the onsite groundwater pathway. Ongoing groundwater and seep remedy pre-design investigations and remedy installations will help refine the understanding of relationships between the pathways and their relative contributions, particularly for onsite groundwater.

5.4.2 River Flows and Precipitation

Additional sensitivities observed in this Q4 assessment were those associated with higher river flows due to the higher level of precipitation that occurred during sample collection. This Q4 assessment was the first wet event in 2020 and the total flow volume recorded in Q4 2020 (4,100 MG) was much higher than that recorded in previous events. As such, the mass discharge estimates could potentially be more sensitive to this increase in flow, particularly at the wells along the frontage of the Cape Fear River (affecting the onsite groundwater pathway) and the river samples (e.g., CFR-MILE-76 affecting the upstream river pathway). These sensitivities will be studied further in future assessments, especially the Q1 2021 assessment, where higher precipitation and river flows have also been observed.

5.5 Modeled Versus Measured Mass Discharges

As described in previous Cape Fear River PFAS Mass Loading Assessment reports (Geosyntec, 2020b; Geosyntec, 2020c; Geosyntec, 2020e), the Mass Loading Model is a suitable tool to evaluate which PFAS transport pathways are significant contributors of mass to the Cape Fear River, but the results of the model either under or overestimate the mass discharge observed in the Cape Fear River. These discrepancies are being evaluated via a series of hypotheses as outlined in the second quarter 2020 (Q2 2020) report (Geosyntec, 2020c). Chemours is presently assessing these hypotheses with the data being collected in third quarter 2020 (Q3 2020), Q4 2020 and Q1 2021 to test these hypotheses. For example, once the seep flow through cells are installed, the flow rates at the seeps will be evaluated for accuracy.

Additionally, based on the observations in this Q4 2020 wet event, additional factors, such as the effect of higher levels of precipitation and river flows on flow measurement, sample collection methods, and analytical results will be evaluated to further elucidate the discrepancies between modeled and measured mass discharges for wet events. The Q1 2021 report will provide an update on the evaluation of these hypotheses and factors.

6 SUMMARY

Two sampling events were conducted in Q4 2020:

- The PFAS Mass Load Sampling program consisting of 22 composite samples and 11 grab samples collected at the Tar Heel Ferry Road Bridge. The analytical results of these samples were used to calculate the in-river PFAS mass loads in the Cape Fear River during the reporting period; and
- The Q4 2020 PFAS Mass Loading Model Sampling program consisting of samples collected from PFAS transport pathways (seeps, creeks, Old Outfall, Outfall 002, groundwater and Cape Fear River) and paired water flow measurements and estimates. These data were used to assess the relative loadings per transport pathway to the Cape Fear River using the PFAS Mass Loading Model.

The Cape Fear River PFAS Mass Load assessment estimated the Total PFAS that was either discharged or prevented from being discharged to the Cape Fear River over the load assessment period of October 1, 2020 to December 31, 2020. Over this period, the Total PFAS mass load in the Cape Fear River, including the mass load prevented from reaching the Cape Fear River by implemented remedies, was 102.5 kg, where 76.7 kg was the in-river mass load measured at CFR-TARHEEL and 25.8 kg was the mass load prevented from reaching the Cape Fear River due to the installation of remedies at Old Outfall 002 (24.8 kg due to the Outfall 003 treatment system) and at Seep C (1.0 kg due to the flow-through cell). This equates to a total 25% reduction in mass loading with almost all of this reduction resulting from the Outfall 003 treatment system. This is because the Seep C flow through cell became operation at the end of Q4 2020 (on December 16, 2020). Hence, further reductions from the Seep C flow through cell are anticipated in future quarterly assessments. Overall, the mass being prevented from reaching the Cape Fear River will continue to increase as more remedies are being implemented by Chemours.

The Cape Fear River Mass Loading Model assessments showed that the model-estimated After Remedies Total Table 3+ mass discharge was 2.1 mg/s lower than the model-estimated Before Remedies. This means that the operation of the Old Outfall 002 treatment system reduced the Total Table 3+ mass discharge by 2.1 mg/s in Q4 2020. While the ranges in the Total Table 3+ lower and upper bounds were small (range of 0.6 mg/s), the measured mass discharge at CFR-TARHEEL (16.1 mg/s) was higher than the After Remedies modeled estimates (10.6 mg/s to 11.2 mg/s). The same trends persisted for the modeled and measured mass discharge estimates when using Total Attachment C or Total Table 3+ (20 compounds) concentrations. The most significant pathways are the Seeps (Transport Pathway 6) and Onsite Groundwater (Transport Pathway 5). Previous assessments showed that Old Outfall 002 (Pathway 7) was also a significant contributor; however, remedy implementation has reduced the contribution from this pathway to <1%.



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Further reductions are anticipated in 2021 from the Seeps, i.e., due to installation of the flow through cell remedies.

Sample collection will continue as outlined in the *Cape Fear River Mass Loading Calculation Protocol Version 2* (Geosyntec 2020d). Capture and treatment of water from the Old Outfall 002 and Seep C has begun and future sampling events will continue to evaluate PFAS mass loads and associated remedy facilitated reductions at CFR-TARHEEL.

7 REFERENCES

- Geosyntec, 2019a. Cape Fear River PFAS Loading Reduction Plan – Supplemental Geosyntec, 2019a. Seeps and Creeks Investigation Report. Chemours Fayetteville Works. August 26, 2019.
- Geosyntec, 2019b. On and Offsite Assessment. Chemours Fayetteville Works. September 30, 2019.
- Geosyntec, 2019c. Corrective Action Plan. Chemours Fayetteville Works. December 31, 2019.
- Geosyntec, 2020a. Matrix Interference During Analysis of Table 3+ Compounds. Chemours Fayetteville Works. June 30, 2020.
- Geosyntec, 2020b. Cape Fear River Table 3+ PFAS Mass Loading Assessment – First Quarter 2020 Report, Chemours Fayetteville Works. July 31, 2020.
- Geosyntec, 2020c. Cape Fear River PFAS Mass Loading Assessment – Second Quarter 2020 Report, Chemours Fayetteville Works. September 30, 2020.
- Geosyntec, 2020d. Cape Fear River Mass Loading Calculation Protocol Version 2, Chemours Fayetteville Works. November 18, 2020.
- Geosyntec, 2020e. Cape Fear River PFAS Mass Loading Assessment – Third Quarter 2020 Report, Chemours Fayetteville Works. December 23, 2020.
- PubChem, 2020. *Compound Summary: Perfluoroheptanoic acid; 8. Use and Manufacturing.* Viewed March 10, 2020. <
<https://pubchem.ncbi.nlm.nih.gov/compound/Perfluoroheptanoic-acid#section=General-Manufacturing-Information>>



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TABLES

TABLE 1
PFAS ANALYTE LIST
Chemours Fayetteville Works, North Carolina

Common Name ¹	PFAS Grouping			Chemical Name	CASN	Chemical Formula
	Attachment C	Table 3+ (17 compounds)	Table 3+ (20 compounds)			
HFPO-DA ²	✓	✓	✓	Hexafluoropropylene oxide dimer acid	13252-13-6	C6HF11O3
PEPA	✓	✓	✓	Perfluoro-2-ethoxypropionic acid	267239-61-2	C5HF9O3
PFECA-G	✓	✓	✓	Perfluoro-4-isopropoxybutanoic acid	801212-59-9	C12H9F9O3S
PFMOAA	✓	✓	✓	Perfluoro-2-methoxyacetic acid	674-13-5	C3HF5O3
PFO2HxA	✓	✓	✓	Perfluoro-3,5-dioxahexanoic acid	39492-88-1	C4HF7O4
PFO3OA	✓	✓	✓	Perfluoro-3,5,7-trioxaoctanoic acid	39492-89-2	C5HF9O5
PFO4DA	✓	✓	✓	Perfluoro-3,5,7,9-tetraoxadecanoic acid	39492-90-5	C6HF11O6
PMPA	✓	✓	✓	Perfluoro-2-methoxypropionic acid	13140-29-9	C4HF7O3
Hydro-EVE Acid	--	✓	✓	2,2,3,3-tetrafluoro-3-({1,1,1,2,3,3-hexafluoro-3-[(1,2,2-tetrafluoroethyl)oxy]propan-2-yl}oxy)propionic acid	773804-62-9	C8H2F14O4
EVE Acid	--	✓	✓	2,2,3,3-tetrafluoro-3-({1,1,1,2,3,3-hexafluoro-3-[(1,2,2-trifluoroethyl)oxy]propan-2-yl}oxy)propionic acid	69087-46-3	C8HF13O4
PFECA B	--	✓	✓	Perfluoro-3,6-dioxaheptanoic acid	151772-58-6	C5HF9O4
R-EVE	--	--	✓	Pentanoic acid, 4-(2-carboxy-1,1,2,2-tetrafluoroethoxy)-2,2,3,3,4,5,5,5-octafluoro-	2416366-22-6	C8H2F12O5
PFO5DA	✓	✓	✓	Perfluoro-3,5,7,9,11-pentaoxadodecanoic acid	39492-91-6	C7HF13O7
R-PSDA	--	--	✓	Pentanoic acid, 2,2,3,3,4,5,5,5-octafluoro-4-(1,1,2,2-tetrafluoro-2-sulfoethoxy)-	2416366-18-0	C7H2F12O6S
R-PSDCA	--	✓	✓	Ethanesulfonic acid, 1,1,2,2-tetrafluoro-2-[1,2,2,3,3-pentafluoro-1-(trifluoromethyl)propoxy]-	2416366-21-5	C6H2F12O4S
Hydrolyzed PSDA	--	--	✓	Acetic acid, 2-fluoro-2-[1,1,2,3,3,3-hexafluoro-2-(1,1,2,2-tetrafluoro-2-sulfoethoxy)propoxy]-	2416366-19-1	C7H3F11O7S
NVHOS	--	✓	✓	1,1,2,2,4,5,5,5-heptafluoro-3-oxapentanesulfonic acid; or 2-(1,2,2,2-ethoxy)tetrafluoroethanesulfonic acid; or 1-(1,1,2,2-tetrafluoro-2-sulfoethoxy)-1,2,2,2-tetrafluoroethane	1132933-86-8	C4H2F8O4S
PES	--	✓	✓	Perfluoro-2-ethoxyethanesulfonic acid	113507-82-7	C4HF9O4S
PS Acid	✓	✓	✓	Ethanesulfonic acid, 2-[1-[difluoro[(1,2,2-trifluoroethyl)oxy]methyl]-1,2,2,2-tetrafluoroethoxy]-1,1,2,2-tetrafluoro-	29311-67-9	C7HF13O5S
Hydro-PS Acid	✓	✓	✓	Ethanesulfonic acid, 2-[1-[difluoro(1,2,2,2-tetrafluoroethoxy)methyl]-1,2,2,2-tetrafluoroethoxy]-1,1,2,2-tetrafluoro-	749836-20-2	C7H2F14O5S
PFHpA ²	✓	--	--	Perfluoroheptanoic acid	375-85-9	C7HF13O2

Notes:

1 - Analyzed under analytical method Table 3+ Lab SOP.

2 - HFPO-DA and PFHpA can be analyzed under methods Table 3+ SOP and EPA Method 537 Mod.

EPA - Environmental Protection Agency

PFAS - Per- and Polyfluoroalkyl substances

SOP - Standard Operating Procedure

TABLE 2
SURFACE WATER SAMPLE COLLECTION AND FLOW MEASUREMENT SUMMARY
Chemours Fayetteville Works, North Carolina

Location ID	Location Description	Sample Collection Method¹	Flow Measurement Method²
OLDOF-1	Mouth of Old Outfall 002	Grab	Velocity Probe
SEEP-A-1	Mouth of Seep A	24-hour composite	Velocity Probe
SEEP-B-1	Mouth of Seep B	24-hour composite	Velocity Probe
SEEP-C-1	Mouth of Seep C	24-hour composite	Velocity Probe
SEEP-D-1	Mouth of Seep D	24-hour composite	Flume
LOCK-DAM SEEP	Mouth of the Lock and Dam Seep	Grab	Velocity Probe
WC-1	Mouth of Willis Creek	24-hour composite	Velocity Probe
GBC-1	Mouth of Georgia Branch Creek	Grab	Velocity Probe
CFR-MILE-76	Cape Fear River Mile 76	Grab	USGS Data
CFR-BLADEN	Cape Fear River at Bladen Bluffs	Grab	USGS Data
CFR-KINGS	Cape Fear River at Kings Bluff Raw Water	Grab	USGS Data
CFR-TARHEEL	Cape Fear River at Tar Heel Ferry Road Bridge	Grab	USGS Data
W.O. Huske Dam	USGS Gauge Site No. 02105500	--	USGS Data
Intake River Water at Facility	Water Drawn Through the Intake Sampled at the Power Area at the Site	24-hour composite	Facility DMRs
Outfall 002	Outfall 002 in open channel	24-hour composite	Facility DMRs

Notes:

1 - Samples analyzed for PFAS by EPA Method 537 Mod and Table 3+ Lab SOP.

2 - Results of estimated flow at these locations are provided in Table 9 and supplemental flow measurement data are included in Appendix D.

-- - not sampled or not measured

DMRs - Discharge Monitoring Reports

EPA - Environmental Protection Agency

PFAS - per- and polyfluoroalkyl substances

USGS - USGS - United States Geological Survey

TABLE 3
GROUNDWATER MONITORING WELL SAMPLE COLLECTION AND WATER LEVEL MEASUREMENT SUMMARY
Chemours Fayetteville Works, North Carolina

Geosyntec Consultants of NC, PC

Area	Water Bearing Unit ¹	Well ID	Adjacent Surface Water Feature	Sample Collection Date	Synoptic Water Level Date
Onsite	Black Creek	PIW-3D	Cape Fear River	12/11/2020	12/7/2020
Onsite	Floodplain	PIW-7S	Cape Fear River	12/8/2020	12/7/2020
Onsite	Black Creek	PIW-7D	Cape Fear River	12/8/2020	12/7/2020
Onsite	Floodplain	LTW-01	Cape Fear River	12/10/2020	12/7/2020
Onsite	Black Creek	LTW-02	Cape Fear River	12/10/2020	12/7/2020
Onsite	Floodplain	LTW-03	Cape Fear River	12/22/2020	12/7/2020
Onsite	Floodplain	LTW-04	Cape Fear River	12/8/2020	12/7/2020
Onsite	Black Creek	LTW-05	Cape Fear River	12/9/2020	12/7/2020
Onsite	Black Creek	PZ-22	Cape Fear River	12/9/2020	12/7/2020
Onsite	Surficial	PW-06	Georgia Branch Creek	12/8/2020	12/7/2020
Onsite	Surficial	PW-07	Georgia Branch Creek	12/9/2020	12/7/2020
Onsite	Surficial	PW-04	Old Outfall	12/8/2020	12/7/2020
Onsite	Black Creek	PW-11 ²	Old Outfall	--	12/7/2020
Onsite	Black Creek	PW-09	Willis Creek	12/8/2020	12/7/2020
Onsite	Surficial	SMW-11	Willis Creek	12/8/2020	12/7/2020
Onsite	Surficial	SMW-10	Willis Creek	12/9/2020	12/7/2020
Onsite	Black Creek	SMW-12	Willis Creek	12/9/2020	12/7/2020
Onsite	Floodplain	PIW-1S	Cape Fear River / Willis Creek	12/10/2020	12/7/2020
Onsite	Surficial	PIW-1D	Cape Fear River / Willis Creek	12/10/2020	12/7/2020
Offsite	Black Creek	Bladen-1D ²	Georgia Branch Creek	--	12/7/2020

Notes:

1 - Water Bearing Unit - refers to primary aquifer unit well screen is estimated to be screened within.

2 - Bladen-1D (damaged) and PW-11 (being pumped as part of the Pre-design Investigation activities) could not be sampled in December 2020.

-- - not applicable

TABLE 4
GROUNDWATER ELEVATIONS - DECEMBER 2020
Chemours Fayetteville Works, North Carolina

Area ¹	Water Bearing Unit ²	Well ID	Gauging Date	Northing (ft, SPCS NAD83) ³	Easting (ft, SPCS NAD83) ³	Screened Interval (ft)	TOC Elevation (NAVD 88) ⁴	Depth to Water (from TOC)	Water Level (ft NAVD88)
Onsite	Black Creek Aquifer	BCA-01	07-Dec-20	399780.058	2050662.219	91 - 101	146.3	61.87	84.43
Onsite	Black Creek Aquifer	BCA-02	07-Dec-20	396242.322	2051062.209	92 - 102	148.42	73.35	75.07
Onsite	Black Creek Aquifer	BCA-03R	07-Dec-20	398582.23	2049522.22	88 - 98	150.82	49.53	101.29
Onsite	Black Creek Aquifer	BCA-04	07-Dec-20	395877.665	2047823.111	94 - 104	150.24	27.86	122.38
Onsite	Black Creek Aquifer	EW-1	07-Dec-20	399934.646	2051297.513	40-60	91.328	31.18	60.15
Onsite	Black Creek Aquifer	EW-2	07-Dec-20	396164.476	2052232.61	40-65	77.245	33.9	43.35
Onsite	Black Creek Aquifer	EW-3	07-Dec-20	395059.777	2052214.657	37-67	76.48	14.93	61.55
Onsite	Black Creek Aquifer	EW-4	07-Dec-20	398581.514	2051805.577	53-73	80.643	30.07	50.57
Onsite	Black Creek Aquifer	EW-5	07-Dec-20	397200.161	2052052.653	37-67	78.502	33.12	45.38
Onsite	Perched Zone	FTA-01	07-Dec-20	397907.5036	2049373.609	12.0 - 22.0	150.63	16.49	134.14
Onsite	Perched Zone	FTA-02	07-Dec-20	397786.4293	2049206.271	11.5 - 21.5	150.28	17.4	132.88
Onsite	Perched Zone	FTA-03	07-Dec-20	397767.0874	2049313.856	12.0 - 22.0	151.08	17.4	133.68
Onsite	Surficial Aquifer	INSITU-01	07-Dec-20	401658.2	2046077.31	7.0 - 17.0	118.2	5.74	112.46
Onsite	Surficial Aquifer	INSITU-02	07-Dec-20	401863.46	2049136.62	7.0 - 17.0	113.12	DRY	--
Onsite	Floodplain Deposits	LTW-01	07-Dec-20	399566.17	2052149.95	11.0 - 26.0	53.83	14.95	38.88
Onsite	Black Creek Aquifer	LTW-02	07-Dec-20	398848.36	2052354.37	28.0 - 38.0	52.48	9.28	43.2
Onsite	Floodplain Deposits	LTW-03	07-Dec-20	398115.15	2052557.52	15.0 - 30.0	52.91	11.67	41.24
Onsite	Floodplain Deposits	LTW-04	07-Dec-20	397280.2401	2052583.6	12.0 - 27.0	51.86	7.67	44.19
Onsite	Black Creek Aquifer	LTW-05	07-Dec-20	396430.68	2052738.06	29.0 - 44.0	52.01	9.23	42.78
Onsite	Perched Zone	MW-11	07-Dec-20	396544.4	2049051.06	11.5 - 21.5	148.53	23.38	125.15
Onsite	Perched Zone	MW-12S	07-Dec-20	397253.6045	2049273.891	17.5 - 22.5	152.06	19.5	132.56
Onsite	Surficial Aquifer	MW-13D	07-Dec-20	397119.015	2049821.123	57 - 67	148.65	43.9	104.75
Onsite	Surficial Aquifer	MW-14D	07-Dec-20	396974.485	2049074.561	62 - 72	149.73	39.44	110.29
Onsite	Surficial Aquifer	MW-15DRR	07-Dec-20	398580.71	2049511.75	52.5 - 62.5	150.92	47.71	103.21
Onsite	Surficial Aquifer	MW-16D	07-Dec-20	398493.703	2048402.838	72 - 82	148.41	35.52	112.89
Onsite	Surficial Aquifer	MW-17D	07-Dec-20	398401.741	2047366.496	57 - 67	146.117	28.38	117.74
Onsite	Surficial Aquifer	MW-18D	07-Dec-20	400947.378	2046574.719	50 - 60	107.57	18.78	88.79
Onsite	Surficial Aquifer	MW-19D	07-Dec-20	401151.328	2048272.989	46 - 56	139.55	49.52	90.03
Onsite	Perched Zone	MW-1S	07-Dec-20	397080.3135	2049120.726	21.0-24.0	149.93	18.59	131.34
Onsite	Surficial Aquifer	MW-20D	07-Dec-20	400791.284	2048733.906	65 - 75	137.18	46.3	90.88
Onsite	Surficial Aquifer	MW-21D	07-Dec-20	399501.7	2047074.955	72 - 82	151.384	44.61	106.77
Onsite	Surficial Aquifer	MW-22D	07-Dec-20	398518.177	2048362.681	52 - 72	149.06	35.42	113.64
Onsite	Perched Zone	MW-23	07-Dec-20	396237.61	2051063.25	9.5 - 14.5	148.34	14.01	134.33
Onsite	Perched Zone	MW-24	07-Dec-20	397303.94	2048767.69	18.8 - 23.8	150.31	21.39	128.92
Onsite	Perched Zone	MW-25	07-Dec-20	396753.37	2050989.82	12 - 17	147.59	13.48	134.11
Onsite	Perched Zone	MW-26	07-Dec-20	396265.18	2051484.67	5 - 10	147.7	11.2	136.5
Onsite	Perched Zone	MW-27	07-Dec-20	396010.33	2051472	10 - 15	146.83	14.39	132.44
Onsite	Perched Zone	MW-28	07-Dec-20	395719.79	2051165.93	9 - 14	144.7	13.41	131.29
Onsite	Perched Zone	MW-2S	07-Dec-20	396934.7481	2049321.849	19.0 - 23.0	149.91	NM	--
Onsite	Perched Zone	MW-30	07-Dec-20	397340.79	2050776.09	10 - 15	147.67	12.57	135.1
Onsite	Perched Zone	MW-31	07-Dec-20	396390.502	2049622.884	17-22	147.699	15.88	131.82
Onsite	Perched Zone	MW-32	07-Dec-20	396359.577	2049651.789	13-18.5	147.106	14.87	132.24

TABLE 4
GROUNDWATER ELEVATIONS - DECEMBER 2020
Chemours Fayetteville Works, North Carolina

Area ¹	Water Bearing Unit ²	Well ID	Gauging Date ³	Northing (ft, SPCS NAD83) ⁴	Easting (ft, SPCS NAD83) ⁴	Screened Interval (ft)	TOC Elevation (NAVD 88) ⁵	Depth to Water (from TOC)	Water Level (ft NAVD88)
Onsite	Perched Zone	MW-33	07-Dec-20	396337.507	2049678.558	12-17	146.82	14.35	132.47
Onsite	Perched Zone	MW-34	07-Dec-20	396352.902	2049619.086	17-22	147.972	15.84	132.13
Onsite	Perched Zone	MW-35	07-Dec-20	396332.943	2049631.155	14-19	147.541	15.33	132.21
Onsite	Perched Zone	MW-36	07-Dec-20	396320.088	2049651.174	12-17	147.889	15.6	132.29
Onsite	Perched Zone	MW-7S	07-Dec-20	397444.5245	2049809.731	NM	147.47	9.98	137.49
Onsite	Perched Zone	MW-8S	07-Dec-20	397096.4767	2049867.768	NM	146.48	4.54	141.94
Onsite	Perched Zone	MW-9S	07-Dec-20	396760.1617	2049734.296	17.5-22.5	154.39	21	133.39
Onsite	Perched Zone	NAF-01	07-Dec-20	398349.7685	2050338.812	5.0-15.0	149.66	8.71	140.95
Onsite	Perched Zone	NAF-02	07-Dec-20	398662.7963	2050640.863	5.0-15.0	150.31	9.26	141.05
Onsite	Perched Zone	NAF-03	07-Dec-20	398580.6546	2050755.433	5.0-15.0	150.44	9.52	140.92
Onsite	Perched Zone	NAF-04	07-Dec-20	398446.998	2050718.95	5.0-15.0	148.1	NM	--
Onsite	Perched Zone	NAF-06	07-Dec-20	398809.6599	2050911.91	2.75 - 12.75	146.43	11.56	134.87
Onsite	Perched Zone	NAF-07	07-Dec-20	398899.33	2050616.5	5.5 - 15.5	149.69	9.09	140.6
Onsite	Perched Zone	NAF-08A	07-Dec-20	398097.99	2050886.62	5.0 - 15.0	148.82	8.09	140.73
Onsite	Surficial Aquifer	NAF-08B	07-Dec-20	398095.64	2050879.94	43.5 - 53.5	148.86	53.42	95.44
Onsite	Perched Zone	NAF-09	07-Dec-20	397711.0932	2050806.518	7.0 - 17.0	149.29	11.36	137.93
Onsite	Perched Zone	NAF-10	07-Dec-20	397612.5699	2050423.15	8.25 - 18.25	150	11.46	138.54
Onsite	Perched Zone	NAF-11A	07-Dec-20	398909.29	2050999.92	2.5 - 7.5	140.59	3.77	136.82
Onsite	Surficial Aquifer	NAF-11B	07-Dec-20	398911.13	2050995.88	33.5 - 43.5	140.74	46.61	94.13
Onsite	Perched Zone	NAF-12	07-Dec-20	398270.555	2050777.49	18 - 23	145.932	5.78	140.01
Onsite	Black Creek Aquifer	OW-1	07-Dec-20	399930.529	2051287.873	40-50	95.012	35.23	59.78
Onsite	Black Creek Aquifer	OW-10	07-Dec-20	399948.17	2051291.21	57-67	94.386	34.57	59.82
Onsite	Black Creek Aquifer	OW-2	07-Dec-20	398572.28	2051801.622	63-73	84.366	34.03	50.34
Onsite	Black Creek Aquifer	OW-3	07-Dec-20	398601.078	2051812.319	63-73	84.644	34.5	50.14
Onsite	Black Creek Aquifer	OW-4	07-Dec-20	395049.163	2052210.811	47-57	80.847	19.28	61.57
Onsite	Black Creek Aquifer	OW-5	07-Dec-20	395070.028	2052196.97	54-64	81.61	19.83	61.78
Onsite	Black Creek Aquifer	OW-6	07-Dec-20	396168.409	2052223.536	50-60	80.528	37.73	42.8
Onsite	Black Creek Aquifer	OW-7	07-Dec-20	397180.061	2052052.688	54-64	81.446	36.1	45.35
Onsite	Black Creek Aquifer	OW-8	07-Dec-20	397202.33	2052041.982	57-67	82.302	37.7	44.6
Onsite	Black Creek Aquifer	OW-9	07-Dec-20	395075.135	2052211.065	57-67	79.776	18.07	61.71
Onsite	Black Creek Aquifer	PIW-10DR	07-Dec-20	395093.99	2052297.3	53 - 58	75.91	14.75	61.16
Onsite	Surficial Aquifer	PIW-10S	07-Dec-20	395104.674	2052297.041	7 - 17	76.451	18.52	57.93
Onsite	Black Creek Aquifer	PIW-11	07-Dec-20	401911.034	2050416.292	47-57	67.015	21.91	45.1
Onsite	Black Creek Aquifer	PIW-12	07-Dec-20	401703.1	2051025.774	64-74	83.775	48.25	35.53
Onsite	Black Creek Aquifer	PIW-13	07-Dec-20	401464.287	2051122.604	54-64	83.18	46.98	36.2
Onsite	Black Creek Aquifer	PIW-14	07-Dec-20	401163.98	2051186.57	56-66	87.428	50.42	37.01
Onsite	Black Creek Aquifer	PIW-15	07-Dec-20	400706.507	2051532.802	34-44	67.845	32.27	35.57
Onsite	Black Creek Aquifer	PIW-16D	07-Dec-20	396267.835	2046586.094	90-100	149.737	18.95	130.79
Onsite	Black Creek Aquifer	PIW-16S	07-Dec-20	396257.961	2046587.074	35-45	150.056	14.95	135.11
Onsite	Black Creek Aquifer	PIW-1D	07-Dec-20	400547.772	2051801.42	24.5 - 29.5	52.33	15.96	36.37
Onsite	Floodplain Deposits	PIW-1S	07-Dec-20	400540.611	2051792.586	7.8 - 17.8	54.198	18.85	35.35
Onsite	Black Creek Aquifer	PIW-2D	07-Dec-20	399925.459	2051316.312	40 - 50	96.13	36.45	59.68

TABLE 4
GROUNDWATER ELEVATIONS - DECEMBER 2020
Chemours Fayetteville Works, North Carolina

Area ¹	Water Bearing Unit ²	Well ID	Gauging Date ³	Northing (ft, SPCS NAD83) ⁴	Easting (ft, SPCS NAD83) ⁴	Screened Interval (ft)	TOC Elevation (NAVD 88) ⁵	Depth to Water (from TOC)	Water Level (ft NAVD88)
Onsite	Black Creek Aquifer	PIW-3D	07-Dec-20	399711.752	2052088.802	19 - 24	53.315	15.76	37.56
Onsite	Black Creek Aquifer	PIW-4D	07-Dec-20	398817.363	2052102.819	32.3 - 37.3	53.041	10.37	42.67
Onsite	Surficial Aquifer	PIW-5S	07-Dec-20	398520.381	2051951.26	9.8 - 19.8	75.188	14.02	61.17
Onsite	Floodplain Deposits	PIW-6S	07-Dec-20	398118.144	2052540.567	18 - 28	53.359	13.17	40.19
Onsite	Black Creek Aquifer	PIW-7D	07-Dec-20	396787.693	2052595.368	29 - 34	48.597	5.25	43.35
Onsite	Floodplain Deposits	PIW-7S	07-Dec-20	396786.995	2052589.486	7 - 17	48.392	4.97	43.42
Onsite	Black Creek Aquifer	PIW-8D	07-Dec-20	396403.378	2052682.019	35.5 - 45.5	48.518	6.97	41.55
Onsite	Black Creek Aquifer	PIW-9D	07-Dec-20	396155.974	2052250.911	40 - 45	79.529	37.04	42.49
Onsite	Surficial Aquifer	PIW-9S	07-Dec-20	396148.111	2052251.101	24.8 - 29.8	79.532	28.72	50.81
Onsite	Perched Zone	PW-01	07-Dec-20	399064.799	2049654.303	11 - 21	149.547	13.83	135.72
Onsite	Surficial Aquifer	PW-02	07-Dec-20	399779.064	2050649.466	50 - 60	146.431	56.44	89.99
Onsite	Surficial Aquifer	PW-03	07-Dec-20	397339.809	2050765.319	35 - 45	147.967	41.77	106.2
Onsite	Surficial Aquifer	PW-04	07-Dec-20	394659.549	2050940.657	17 - 27	97.751	22.94	74.81
Onsite	Surficial Aquifer	PW-05	07-Dec-20	395873.1	2047812.929	65 - 75	150.336	26.77	123.57
Onsite	Surficial Aquifer	PW-06	07-Dec-20	392868	2045288.765	19 - 29	147.691	19.52	128.17
Onsite	Surficial Aquifer	PW-07	07-Dec-20	390847.706	2049258.256	28 - 38	148.16	29.56	118.6
Onsite	Black Creek Aquifer	PW-09	07-Dec-20	402000.079	2048979.111	44 - 54	72.925	24.45	48.47
Onsite	Black Creek Aquifer	PW-10R	07-Dec-20	398516.115	2051936.585	57 - 67	75.9	28.72	47.18
Onsite	Black Creek Aquifer	PW-11	07-Dec-20	394354.363	2052226.721	53 - 63	73.263	34.6	38.66
Onsite	Black Creek Aquifer	PW-12	07-Dec-20	399500.447	2047063.51	109 - 119	150.61	56.84	93.77
Onsite	Black Creek Aquifer	PW-13	07-Dec-20	397584.263	2048029.184	120 - 130	149.36	32.14	117.22
Onsite	Black Creek Aquifer	PW-14	07-Dec-20	397325.648	2050766.359	136 - 146	147.97	61.48	86.49
Onsite	Black Creek Aquifer	PW-15R	07-Dec-20	398900.875	2051011.753	110 - 120	136.14	69.09	67.05
Onsite	Perched Zone	PZ-11	07-Dec-20	398646.2549	2049820.937	15 - 20	151.03	9.46	141.57
Onsite	Perched Zone	PZ-13	07-Dec-20	397708.0665	2050991.731	7.1 - 12.1	149.2	10.7	138.5
Onsite	Perched Zone	PZ-14	07-Dec-20	397589.9185	2050618.271	9.0 - 14.0	148.38	12.02	136.36
Onsite	Black Creek Aquifer	PZ-22	07-Dec-20	397272.8	2052584.04	36.0 - 46.0	51.81	7.11	44.7
Onsite	Perched Zone	PZ-24	07-Dec-20	396117.94	2050744.07	11 - 16	147.53	13.38	134.15
Onsite	Perched Zone	PZ-26	07-Dec-20	396059.78	2050382.35	11 - 16	147.7	10.73	136.97
Onsite	Perched Zone	PZ-27	07-Dec-20	395922.11	2050376.76	12 - 17	147.17	14.01	133.16
Onsite	Perched Zone	PZ-28	07-Dec-20	396304.55	2049933.79	13 - 18	148.64	13.17	135.47
Onsite	Perched Zone	PZ-29	07-Dec-20	396371.49	2049768.94	13 - 18	147.74	14.56	133.18
Onsite	Perched Zone	PZ-31	07-Dec-20	396428.73	2049594.355	14 - 19	147.999	17.84	130.16
Onsite	Perched Zone	PZ-32	07-Dec-20	396418.471	2049713.787	13 - 18	148.471	15.55	132.92
Onsite	Perched Zone	PZ-33	07-Dec-20	396308.915	2049707.661	12.5 - 17.5	146.715	14.05	132.66
Onsite	Perched Zone	PZ-34	07-Dec-20	396292.05	2049595.039	13.5 - 18.5	147.695	15.81	131.88
Onsite	Perched Zone	PZ-36	07-Dec-20	396086.17	2051331.44	5 - 8.5	135.2	2.56	132.64
Onsite	Perched Zone	PZ-37	07-Dec-20	396042.4	2051050.05	5 - 8	135.56	2.76	132.8
Onsite	Perched Zone	PZ-38	07-Dec-20	395970.01	2050569.66	5 - 9	137.34	6.33	131.01
Onsite	Perched Zone	PZ-39	07-Dec-20	395921.87	2050238.18	5 - 10	137.93	3.67	134.26
Onsite	Perched Zone	PZ-40	07-Dec-20	395943.02	2050031.9	5 - 9	138.51	4.01	134.5
Onsite	Perched Zone	PZ-41	07-Dec-20	395979.29	2050048.97	5 - 8.5	138.13	3.27	134.86

TABLE 4
GROUNDWATER ELEVATIONS - DECEMBER 2020
Chemours Fayetteville Works, North Carolina

Area ¹	Water Bearing Unit ²	Well ID	Gauging Date ³	Northing (ft, SPCS NAD83) ⁴	Easting (ft, SPCS NAD83) ⁴	Screened Interval (ft)	TOC Elevation (NAVD 88) ⁵	Depth to Water (from TOC)	Water Level (ft NAVD88)
Onsite	Perched Zone	PZ-42	07-Dec-20	395961.73	2050230.23	3 - 7	138.17	3.4	134.77
Onsite	Perched Zone	PZ-43	07-Dec-20	396011.61	2050567.89	5 - 9	137.06	4.33	132.73
Onsite	Perched Zone	PZ-44	07-Dec-20	396082.75	2051045.25	5 - 7	136.26	2.99	133.27
Onsite	Perched Zone	PZ-45	07-Dec-20	396124.41	2051323.03	2 - 4	135.69	2.5	133.19
Onsite	Surficial Aquifer	PZ-L	07-Dec-20	396745.804	2048684.008	13-28	147.86	30.04	117.82
Onsite	Surficial Aquifer	SMW-01	07-Dec-20	395295.7504	2043679.192	5.0 - 15.0	136.81	11.91	124.9
Onsite	Perched Zone	SMW-02	07-Dec-20	399983.7529	2050654.772	5.0 - 20.0	147.93	11.38	136.55
Onsite	Surficial Aquifer	SMW-02B	07-Dec-20	399983.478	2050660.475	43.0 - 53.0	145.211	56.01	89.2
Onsite	Perched Zone	SMW-03	07-Dec-20	399778.25	2049445.96	10.0 - 20.0	151.094	NM	--
Onsite	Black Creek Aquifer	SMW-03B	07-Dec-20	399785.752	2049421.539	72 - 82	150.43	56.59	93.84
Onsite	Perched Zone	SMW-04A	07-Dec-20	399668.71	2048387.57	19.5 - 34.5	148.09	NM	--
Onsite	Surficial Aquifer	SMW-04B	07-Dec-20	399667.1219	2048390.301	43.0 - 53.0	148.372	45.11	103.26
Onsite	Perched Zone	SMW-05	07-Dec-20	399334.0651	2048557.335	10.0 - 20.0	148.099	22.9	125.2
Onsite	Surficial Aquifer	SMW-05P	07-Dec-20	399338.61	2048559.26	45.0 - 60.0	149.32	43.82	105.5
Onsite	Perched Zone	SMW-06	07-Dec-20	399172.346	2048759.478	12.0 - 22.0	150.97	NM	--
Onsite	Surficial Aquifer	SMW-06B	07-Dec-20	399144.744	2048764.939	58 - 68	150.32	47.1	103.22
Onsite	Perched Zone	SMW-07	07-Dec-20	398932.907	2048611.163	13.0 - 23.0	147.64	19.49	128.15
Onsite	Perched Zone	SMW-08	07-Dec-20	399064.972	2048468.783	21.0 - 31.0	151.017	NM	--
Onsite	Surficial Aquifer	SMW-08B	07-Dec-20	399058.325	2048478.84	58 - 68	148.81	40.55	108.26
Onsite	Surficial Aquifer	SMW-09	07-Dec-20	401076.889	2050017.409	52 - 62	141.43	55.52	85.91
Onsite	Black Creek Aquifer	SMW-10	07-Dec-20	402307.305	2047923.84	39 - 49	76.26	28.89	47.37
Onsite	Surficial Aquifer	SMW-11	07-Dec-20	401996.154	2048975.382	13 - 23	71.95	12.37	59.58
Onsite	Black Creek Aquifer	SMW-12	07-Dec-20	401314.202	2051007.222	88 - 98	118.22	82.21	36.01
Onsite	Perched Zone	PZ-12	08-Dec-20	399094.958	2048981.781	15.1 - 20.1	150.91	18.91	132
Onsite	Perched Zone	PZ-15	08-Dec-20	396805.0927	2050112.022	10.2 - 15.2	148.79	12.94	135.85
Onsite	Perched Zone	PZ-17	08-Dec-20	396614.815	2048872.689	21.1 - 26.1	150.08	28.23	121.85
Onsite	Perched Zone	PZ-19R	08-Dec-20	397998.663	2049919.516	16 - 21	150.046	12.91	137.14
Onsite	Perched Zone	PZ-20R	08-Dec-20	398185.809	2049784.598	15 - 20	151.29	14.22	137.07
Onsite	Perched Zone	PZ-21R	08-Dec-20	398445.157	2049883.125	17 - 22	150.674	12.05	138.62
Onsite	Perched Zone	PZ-35	08-Dec-20	398232.643	2050020.494	13 - 18	150.43	12.36	138.07
Offsite	Black Creek Aquifer	BLADEN-1D	07-Dec-20	387522.245	2050247.399	37 - 47	76.96	19.28	57.68
Offsite	Surficial Aquifer	BLADEN-1S	07-Dec-20	387518.967	2050233.347	5 - 10	76.74	9.55	67.19
Offsite	Black Creek Aquifer	BLADEN-2D	07-Dec-20	368827.094	2042878.344	70 - 75	138.27	16.72	121.55
Offsite	Surficial Aquifer	BLADEN-2S	07-Dec-20	368821.463	2042882.917	10 - 20	138.04	3.55	134.49
Offsite	Black Creek Aquifer	BLADEN-4D	07-Dec-20	363255.115	2087636.869	46.75 - 51.75	59.66	0.4	59.26
Offsite	Surficial Aquifer	BLADEN-4S	07-Dec-20	363263.191	2087637.461	4.75 - 14.75	59.68	4.97	54.71
Offsite	Black Creek Aquifer	CUMBERLAND-1D	07-Dec-20	431459.947	2011071.39	40 - 50	174.6	2.9	171.7
Offsite	Surficial Aquifer	CUMBERLAND-1S	07-Dec-20	431459.947	2011071.39	15 - 25	174.73	2.77	171.96
Offsite	Black Creek Aquifer	CUMBERLAND-2D	07-Dec-20	449987.54	2074019.139	47 - 57	129.23	3.07	126.16
Offsite	Surficial Aquifer	CUMBERLAND-2S	07-Dec-20	449979.1	2074020.858	7 - 17	129.06	3	126.06
Offsite	Black Creek Aquifer	CUMBERLAND-3D	07-Dec-20	423248.115	2060409.157	22 - 27	78.79	6.22	72.57
Offsite	Surficial Aquifer	CUMBERLAND-3S	07-Dec-20	423254.641	2060413.302	9 - 14	79.063	6.54	72.52

TABLE 4
GROUNDWATER ELEVATIONS - DECEMBER 2020
Chemours Fayetteville Works, North Carolina

Offsite	Black Creek Aquifer	CUMBERLAND-4D	07-Dec-20	413095.774	2078249.953	57 - 67	119.22	11.15	108.07
Area ¹	Water Bearing Unit ²	Well ID	Gauging Date ³	Northing (ft, SPCS NAD83) ⁴	Easting (ft, SPCS NAD83) ⁴	Screened Interval (ft)	TOC Elevation (NAVD 88) ⁵	Depth to Water (from TOC)	Water Level (ft NAVD88)
Offsite	Surficial Aquifer	CUMBERLAND-4S	07-Dec-20	413086.626	2078255.528	10 - 20	119.362	6	113.36
Offsite	Black Creek Aquifer	CUMBERLAND-5D	07-Dec-20	405673.8152	2138069.537	52 - 57	NM	7.51	99.16
Offsite	Surficial Aquifer	CUMBERLAND-5S	07-Dec-20	405673.8152	2138069.537	14 - 24	NM	2.65	104
Offsite	Black Creek Aquifer	ROBESON-1D	07-Dec-20	381416.282	2020158.933	42.75 - 52.75	156.36	8.8	147.56
Offsite	Surficial Aquifer	ROBESON-1S	07-Dec-20	381408.19	2020156.855	17 - 27	156.66	5.81	150.85
Offsite	Black Creek Aquifer	BLADEN-3D	08-Dec-20	396856.978	2059006.562	33.75 - 43.75	75.52	8.92	66.6
Offsite	Surficial Aquifer	BLADEN-3S	08-Dec-20	396862.307	2059012.932	5 - 15	74.27	7.09	67.18

Notes:

1 - Area - refers to location of well within site property boundary ("Onsite") and outside property boundary ("Offsite").

2 - Water Bearing Unit - refers to primary aquifer unit well screen is estimated to be screened within.

3 - Northing and Easting provided in North Carolina State Plane System (zone 3200), North American Datum 1983.

4 - Vertical datum is North American Vertical Datum of 1988.

-- - not calculated because the well was either not measured or dry

NM - not measured

ft - feet

NAVD88 - North American Vertical Datum of 1988

SPCS NAD83 - State Plane Coordinate System North American Datum 1983

TOC - top of casing

TABLE 5
SEEP AND SURFACE WATER FIELD PARAMETERS
Chemours Fayetteville Works, North Carolina

Geosyntec Consultants of NC P.C.

Location	Date	pH (S.U.)	Dissolved Oxygen (mg/L)	Oxidation Reduction Potential (mV)	Turbidity (NTU)	Specific Conductivity (μS/cm)	Temperature ($^{\circ}$C)
SEEP A	12/16/2020	6.1	6.6	154	22	286	8.4
SEEP B	12/16/2020	5.0	11	82	5	110	8.4
SEEP C	12/16/2020	8.5	7.2	104	49	217	10.5
SEEP D	12/16/2020	3.9	8.7	246	0	150	12.6
CFR-BLADEN	12/15/2020	7.3	10	138	20	116	10.6
CFR-KINGS	12/16/2020	7.7	9.7	6.9	16	432	10.0
CFR-RM-76	12/15/2020	7.9	10	-11	22	318	9.1
CFR-TARHEEL	12/15/2020	7.6	10	98	22	127	10.5
CFR-TARHEEL	12/16/2020	8.0	7.7	1	25	146	11.5
GBC-1	12/15/2020	6.3	9.0	191	5	231	11.3
INTAKE AT FACILITY	12/16/2020	7.5	10	346	25	100	11.4
LOCK-DAM-SEEP	12/15/2020	6.4	8.9	88	37	167	9.5
LOCK-DAM-SEEP-NORTH	12/15/2020	NS	NS	NS	NS	NS	NS
OLDOF-1	12/15/2020	5.5	10	158	53	239	12.5
OUTFALL 002	12/16/2020	6.7	10	271	15	171	14.2
WC-1	12/16/2020	6.9	11	82	3	116	7.1

Abbreviations:

°C - degrees Celsius

mg/L - milligrams per liter

 μ S/cm - microsiemens per centimeter

mV- millivolts

NTU - Nephelometric Turbidity Units

S.U. - Standard Units

NS - not sampled

TABLE 6
GROUNDWATER FIELD PARAMETERS
Chemours Fayetteville Works, North Carolina

Location	Date	pH (S.U.)	Dissolved Oxygen (mg/L)	Oxidation Reduction Potential (mV)	Turbidity (NTU)	Specific Conductance (µS/cm)	Temperature (°C)
Bladen-1D	NS	NS	NS	NS	NS	NS	NS
LTW-01	12/10/2020	3.9	0.2	189	0	122	18.5
LTW-02	12/10/2020	4.9	0.1	-15.9	0	73	17.7
LTW-03	12/22/2020	4.5	0.3	159	3	79	17.7
LTW-04	12/8/2020	4.6	0.3	116	0	75	11.8
LTW-05	12/9/2020	4.3	0.1	45.3	7	105	16.3
PIW-1D	12/10/2020	3.6	0.1	212	7	165	17.1
PIW-1S	12/10/2020	4.1	1.4	275	2	240	16.8
PIW-3D	12/11/2020	4.6	0.1	-76	1	93	16.9
PIW-7D	12/8/2020	4.4	0.1	-37	5	72	15.1
PIW-7S	12/8/2020	5.4	0.1	-82	4	100	15.9
PW-04	12/8/2020	3.3	0.1	398	5	358	16.8
PW-06	12/8/2020	4.6	2.6	64	0	49	16.5
PW-07	12/9/2020	4.9	7.3	258	0	35	19.1
PW-09	12/8/2020	11	2.0	84	2	242	13.3
PW-11	12/22/2020	NS	NS	NS	NS	NS	NS
PZ-22	12/9/2020	4.5	0.1	36.3	3	98	15.3
SMW-10	12/9/2020	5.4	0.1	-70	5	81	16.4
SMW-11	12/8/2020	4.0	4.9	141	0	44	16.6
SMW-12	12/9/2020	3.7	0.9	-19	0	233	16.6

Notes:

NS - not sampled

> - greater than

°C - degrees Celsius

mg/L - milligrams per liter

µS/cm - microsiemens per centimeter

mV- millivolts

NTU - nephelometric Turbidity Unit

S.U. - Standard Units

TABLE 7
CAPE FEAR RIVER MASS LOAD ANALYTICAL RESULTS
Chemours Fayetteville Works, North Carolina

Sampling Event	Q1 2020	Q1 2020	Q1 2020	Q1 2020
Location ID	CFR-TARHEEL	CFR-TARHEEL	CFR-TARHEEL	CFR-TARHEEL
Field Sample ID	CFR-TARHEEL-83-033120	CFR-TARHEEL-83-033120-D	CAP1Q20-CFR-TARHEEL-040220	CFR-TARHEEL-48-040220
Sample Date	3/31/2020	3/31/2020	4/2/2020	4/2/2020
Sample Type	Composite	Composite	Grab	Composite
Sample Start Date and Time	3/28/20 1:00 AM	3/28/20 1:00 AM	-	3/31/20 1:00 PM
Sample Stop Date and Time	3/31/20 12:00 PM	3/31/20 12:00 PM	-	4/2/20 1:00 PM
Composite Duration (hours)	83	83	-	48
QA/QC		Field Duplicate		
Sample Delivery Group (SDG)	320-60098-1	320-60098-1	320-60029-1	320-60098-1
Lab Sample ID	320-60098-1	320-60098-2	320-60029-3	320-60098-3
<i>Table 3+ SOP (ng/L)</i>				
Hfpo Dimer Acid	<15	6.3	11	10
PFMOAA	26	29	35	42
PFO2HxA	9.3	8.9	15	14
PFO3OA	2.1	<2	3.9	3.3
PFO4DA	<2	<2	<2	<2
PFO5DA	<2	<2	<2	<2
PMPA	15	12	24	17
PEPA	<20	<20	<20	<20
PS Acid	<2	<2	<2	<2
Hydro-PS Acid	<2	<2	<2	<2
R-PSDA	<2	<2	8.5	7.9
Hydrolyzed PSDA	8.2 J	8.4 J	26	14 J
R-PSDCA	<2	<2	<2	<2
NVHOS	<2	<2	2.3	<2
EVE Acid	<2	<2	<2	<2
Hydro-EVE Acid	<2	<2	<2	<2
R-EVE	2.1 J	<2	6.6	<2
PES	<2	<2	<2	<2
PFECA B	<2	<2	<2	<2
PFECA-G	<2	<2	<2	<2
Perfluoroheptanoic Acid	16 J	13 J	12	12
Total Attachment C¹	52	56	89	86
Total Table 3+ (17 compounds)²	52	56	91	86
Total Table 3+ (20 compounds)	63	65	130	110

TABLE 7
CAPE FEAR RIVER MASS LOAD ANALYTICAL RESULTS
Chemours Fayetteville Works, North Carolina

Sampling Event	Q1 2020	Q1 2020	Q1 2020	Q1 2020
Location ID	CFR-TARHEEL	CFR-TARHEEL	CFR-TARHEEL	CFR-TARHEEL
Field Sample ID	CAPIQ20-CFR-TARHEEL-24-040320	CFR-TARHEEL-83-040620	CFR-TARHEEL-79-040920	CFR-TARHEEL-83-041920
Sample Date	4/3/2020	4/6/2020	4/9/2020	4/19/2020
Sample Type	Composite	Composite	Composite	Composite
Sample Start Date and Time	4/2/20 3:00 PM	4/2/20 1:30 PM	4/5/20 11:32 PM	4/15/20 2:30 PM
Sample Stop Date and Time	4/3/20 3:00 PM	4/6/20 12:30 AM	4/9/20 6:30 AM	4/19/20 1:30 AM
Composite Duration (hours)	24	83	79	83
QA/QC				
Sample Delivery Group (SDG)	320-60032-1	320-60098-1	320-60195-1	320-60435-1
Lab Sample ID	320-60032-2	320-60098-4	320-60195-1	320-60435-1
<i>Table 3+ SOP (ng/L)</i>				
Hfpo Dimer Acid	18	17	20	5.5
PFMOAA	47	56	94	28
PFO2HxA	21	22	33	11
PFO3OA	4.8	5.5	8.1	2.6
PFO4DA	<2	<2	2.8	<2
PFO5DA	<2	<2	4.9	6.9
PMPA	31	24	31	17
PEPA	<20	<20	<20	<20
PS Acid	<2	<2	<2	<2
Hydro-PS Acid	<2	<2	<2	<2
R-PSDA	14 J	11	13	<2
Hydrolyzed PSDA	17 B	20 J	31	9.6
R-PSDCA	<2	<2	<2	<2
NVHOS	<2	2.1	5	<2
EVE Acid	<2	<2	<2	<2
Hydro-EVE Acid	<2	<2	<2	<2
R-EVE	2.8 J	<2	3.4	<2
PES	<2	<2	<2	<2
PFECA B	<2	<2	<2	<2
PFECA-G	<2	<2	<2	<2
Perfluoroheptanoic Acid	11	8.5	--	--
Total Attachment C¹	120	120	190	71
Total Table 3+ (17 compounds)²	120	130	200	71
Total Table 3+ (20 compounds)	160	160	250	81

TABLE 7
CAPE FEAR RIVER MASS LOAD ANALYTICAL RESULTS
Chemours Fayetteville Works, North Carolina

Sampling Event	Q1 2020	Q1 2020	Q1 2020	Q1 2020
Location ID	CFR-TARHEEL	CFR-TARHEEL	CFR-TARHEEL	CFR-TARHEEL
Field Sample ID	CFR-TARHEEL-83-042220	CFR-TARHEEL-83-042620	CFR-TARHEEL-83-042920	CFR-TARHEEL-62-050220
Sample Date	4/22/2020	4/26/2020	4/29/2020	5/2/2020
Sample Type	Composite	Composite	Composite	Composite
Sample Start Date and Time	4/19/20 2:30 AM	4/22/20 1:49 PM	4/26/20 12:49 AM	4/30/20 9:49 AM
Sample Stop Date and Time	4/22/20 1:30 PM	4/26/20 12:49 AM	4/29/20 11:49 AM	5/2/20 11:49 PM
Composite Duration (hours)	83	83	83	62
QA/QC				
Sample Delivery Group (SDG)	320-60435-1	320-60619-1	320-60619-1	320-60763-1
Lab Sample ID	320-60435-2	320-60619-1	320-60619-2	320-60763-1
<i>Table 3+ SOP (ng/L)</i>				
Hfpo Dimer Acid	12	11	13	12
PFMOAA	51	53	59	27
PFO2HxA	19	19	24	16
PFO3OA	5.1	4.8	5.8	3.5
PFO4DA	<2	<2	<2	<2
PFO5DA	5.5	<2	<2	<2
PMPA	25	21	23	24
PEPA	<20	<20	<20	<20
PS Acid	<2	<2	<2	<2
Hydro-PS Acid	<2	<2	<2	<2
R-PSDA	<2	7.5	13	20
Hydrolyzed PSDA	17	23	27	18
R-PSDCA	<2	<2	<2	<2
NVHOS	<2	2.8	3.9	3.3
EVE Acid	<2	<2	<2	<2
Hydro-EVE Acid	<2	<2	<2	<2
R-EVE	<2	<2	2.4	6
PES	<2	<2	<2	<2
PFECA B	<2	<2	<2	<2
PFECA-G	<2	<2	<2	<2
Perfluoroheptanoic Acid	--	--	--	--
Total Attachment C¹	120	110	120	83
Total Table 3+ (17 compounds)²	120	110	130	86
Total Table 3+ (20 compounds)	130	140	170	130

TABLE 7
CAPE FEAR RIVER MASS LOAD ANALYTICAL RESULTS
Chemours Fayetteville Works, North Carolina

Sampling Event	Q1 2020	Q2 2020	Q2 2020	Q2 2020
Location ID	CFR-TARHEEL	CFR-TARHEEL	CFR-TARHEEL	CFR-TARHEEL
Field Sample ID	CFR-TARHEEL-83-050620	CFR-TARHEEL-83-051120	CFR-TARHEEL-83-051320	CAP2Q20-CFR-TARHEEL-051420
Sample Date	5/6/2020	5/11/2020	5/13/2020	5/14/2020
Sample Type	Composite	Composite	Composite	Grab
Sample Start Date and Time	5/3/20 12:49 AM	5/6/20 12:49 PM	5/9/20 11:49 PM	-
Sample Stop Date and Time	5/6/20 11:49 AM	5/9/20 11:49 PM	5/13/20 9:49 AM	-
Composite Duration (hours)	83	83	83	-
QA/QC				
Sample Delivery Group (SDG)	320-60763-1	320-60789-1	410-2522-1	320-60921-1
Lab Sample ID	320-60763-2	320-60789-1	410-2522-1	320-60921-3
<i>Table 3+ SOP (ng/L)</i>				
Hfpo Dimer Acid	6.2	9.4	13 J	24
PFMOAA	18	34	69	75
PFO2HxA	9.8	14	27	34
PFO3OA	2.1	3.8	6.7	8.9
PFO4DA	<2	<2	2 J	2.4
PFO5DA	<2	<2	<2	<2
PMPA	15	18	22	49
PEPA	<20	<20	<20	<20
PS Acid	<2	<2	<2 UJ	<2
Hydro-PS Acid	<2	<2	<2 UJ	<2
R-PSDA	11	13	12 J	33
Hydrolyzed PSDA	12	15	34 J	30
R-PSDCA	<2	<2	<2	<2
NVHOS	<2	2.3	2.9	4.6
EVE Acid	<2	<2	<2	<2
Hydro-EVE Acid	<2	<2	<2	<2
R-EVE	<2	2.7	5.2 J	5.6
PES	<2	<2	<2	<2
PFECA B	<2	<2	<2	<2
PFECA-G	<2	<2	<2	<2
Perfluoroheptanoic Acid	--	--	--	9.8
Total Attachment C¹	51	79	140	190
Total Table 3+ (17 compounds)²	51	82	140	200
Total Table 3+ (20 compounds)	74	110	190	270

TABLE 7
CAPE FEAR RIVER MASS LOAD ANALYTICAL RESULTS
Chemours Fayetteville Works, North Carolina

Sampling Event	Q2 2020	Q2 2020	Q2 2020	Q2 2020
Location ID	CFR-TARHEEL	CFR-TARHEEL	CFR-TARHEEL	CFR-TARHEEL
Field Sample ID	CAP2Q20-TARHEEL-24-051420	CFR-TARHEEL-83-051620	CFR-TARHEEL-83-052020	CFR-TARHEEL-052520
Sample Date	5/14/2020	5/16/2020	5/20/2020	5/25/2020
Sample Type	Composite	Composite	Composite	Grab
Sample Start Date and Time	5/13/20 9:50 PM	5/13/20 9:49 AM	5/16/20 9:49 PM	-
Sample Stop Date and Time	5/14/20 8:50 PM	5/16/20 7:49 PM	5/20/20 8:49 AM	-
Composite Duration (hours)	24	83	83	-
QA/QC				
Sample Delivery Group (SDG)	410-2521-1	410-2522-1	410-2522-1	320-61296-1
Lab Sample ID	410-2521-4	410-2522-2	410-2522-3	320-61296-2
<i>Table 3+ SOP (ng/L)</i>				
Hfpo Dimer Acid	23	19 J	25	2
PFMOAA	88	94	120	<5
PFO2HxA	33	37	45	2.2
PFO3OA	8.6	8.2	10	<2
PFO4DA	2.5 J	2.5 J	3	<2
PFO5DA	<2	<2	<2	<2
PMPA	28	27	32	<10
PEPA	<20	<20	20	<20
PS Acid	<2 UJ	<2 UJ	2.2 J	<2
Hydro-PS Acid	<2 UJ	<2 UJ	<2 UJ	<2
R-PSDA	16 J	15 J	15 J	<2
Hydrolyzed PSDA	46 J	47 J	54 J	3.4
R-PSDCA	<2	<2	<2	<2
NVHOS	4.8	4.4	3.8	<2
EVE Acid	<2	<2	<2	<2
Hydro-EVE Acid	<2	<2	<2	<2
R-EVE	4.9 J	6.3 J	8.1 J	2
PES	<2	<2	<2	<2
PFECA B	<2	<2	<2	<2
PFECA-G	<2	<2	<2	<2
Perfluoroheptanoic Acid	6.7	--	--	--
Total Attachment C¹	180	190	260	4.2
Total Table 3+ (17 compounds)²	190	190	260	4
Total Table 3+ (20 compounds)	250	260	340	9.6

TABLE 7
CAPE FEAR RIVER MASS LOAD ANALYTICAL RESULTS
Chemours Fayetteville Works, North Carolina

Sampling Event	Q2 2020	Q2 2020	Q2 2020	Q2 2020
Location ID	CFR-TARHEEL	CFR-TARHEEL	CFR-TARHEEL	CFR-TARHEEL
Field Sample ID	CFR-TARHEEL-052920	CFR-TARHEEL-060120	CFR-TARHEEL-060120-D	CFR-TARHEEL-060520
Sample Date	5/29/2020	6/1/2020	6/1/2020	6/5/2020
Sample Type	Grab	Grab	Grab	Grab
Sample Start Date and Time	-	-	-	-
Sample Stop Date and Time	-	-	-	-
Composite Duration (hours)	-	-	-	-
QA/QC			Field Duplicate	
Sample Delivery Group (SDG)	320-61296-1	320-61452-1	320-61452-1	320-61570-1
Lab Sample ID	320-61296-1	320-61452-1	320-61452-2	320-61570-1
<i>Table 3+ SOP (ng/L)</i>				
Hfpo Dimer Acid	4.5	<2	2	4.6
PFMOAA	<5	6.1	5.3	9
PFO2HxA	6.5	3.1	3.2	6.5
PFO3OA	<2	<2	<2	<2
PFO4DA	<2	<2	<2	<2
PFO5DA	<2	<2	<2	<2
PMPA	<10	<13	<13	27
PEPA	<20	<2	<2	<2
PS Acid	<2	<2	<2	<2
Hydro-PS Acid	<2	<2	<2	<2
R-PSDA	<2	2.6	<2	<2
Hydrolyzed PSDA	<2	2.9	2.6	5.5
R-PSDCA	<2	<2	<2	<2
NVHOS	<2	<2	<2	<2
EVE Acid	<2	<2	<2	<2
Hydro-EVE Acid	<2	<2	<2	<2
R-EVE	<2	<2	<2	<2
PES	<2	<2	<2	<2
PFECA B	<2	<2	<2	<2
PFECA-G	<2	<2	<2	<2
Perfluoroheptanoic Acid	--	--	--	--
Total Attachment C¹	11	9.2	11	47
Total Table 3+ (17 compounds)²	11	9	11	47
Total Table 3+ (20 compounds)	11	15	13	53

TABLE 7
CAPE FEAR RIVER MASS LOAD ANALYTICAL RESULTS
Chemours Fayetteville Works, North Carolina

Sampling Event	Q2 2020	Q2 2020	Q2 2020	Q2 2020
Location ID	CFR-TARHEEL	CFR-TARHEEL	CFR-TARHEEL	CFR-TARHEEL
Field Sample ID	CFR-TARHEEL-39-060820	CFR-TARHEEL-83-061220	CFR-TARHEEL-83-061520	CFR-TARHEEL-83-061920
Sample Date	6/8/2020	6/12/2020	6/15/2020	6/19/2020
Sample Type	Composite	Composite	Composite	Composite
Sample Start Date and Time	6/5/20 11:06 AM	6/8/20 10:06 PM	6/12/20 9:06 AM	6/15/20 8:06 PM
Sample Stop Date and Time	6/8/20 9:06 PM	6/12/20 8:06 AM	6/15/20 7:06 PM	6/19/20 6:06 AM
Composite Duration (hours)	39	83	83	83
QA/QC				
Sample Delivery Group (SDG)	320-61852-1	320-61852-1	320-62010-1	320-62010-1
Lab Sample ID	320-61852-1	320-61852-2	320-62010-1	320-62010-2
<i>Table 3+ SOP (ng/L)</i>				
Hfpo Dimer Acid	6.5	10	15	16
PFMOAA	9.8	17 J	14	11
PFO2HxA	8.3	13	13	18
PFO3OA	<2	3.4	3	3.8
PFO4DA	<2	<2	<2	<2
PFO5DA	<2	<2	<2	<2
PMPA	17	25	27	36
PEPA	<2	3.2	3.2	5.4
PS Acid	3.4	<2	<2	<2
Hydro-PS Acid	<2	<2	<2	<2
R-PSDA	5.9	8.5 J	4.7	5.1
Hydrolyzed PSDA	7.2	9.1 J	8	7.2
R-PSDCA	<2	<2	<2	<2
NVHOS	<2	<2	<2	<2
EVE Acid	<2	<2	<2	<2
Hydro-EVE Acid	<2	<2	<2	<2
R-EVE	<2	3.8 J	<2	<2
PES	<2	<2	<2	<2
PFECA B	<2	<2	<2	<2
PFECA-G	<2	<2	<2	<2
Perfluoroheptanoic Acid	--	--	--	--
Total Attachment C¹	45	72	75	90
Total Table 3+ (17 compounds)²	45	72	75	90
Total Table 3+ (20 compounds)	58	93	88	100

TABLE 7
CAPE FEAR RIVER MASS LOAD ANALYTICAL RESULTS
Chemours Fayetteville Works, North Carolina

Sampling Event	Q2 2020	Q2 2020	Q2 2020	Q3 2020
Location ID	CFR-TARHEEL	CFR-TARHEEL	CFR-TARHEEL	CFR-TARHEEL
Field Sample ID	CFR-TARHEEL-83-062220	CFR-TARHEEL-83-062620	CFR-TARHEEL-83-062920	CFR-TARHEEL-65-070220
Sample Date	6/22/2020	6/26/2020	6/29/2020	7/2/2020
Sample Type	Composite	Composite	Composite	Composite
Sample Start Date and Time	6/19/20 7:06 AM	6/22/20 6:06 PM	6/26/20 5:06 AM	6/29/20 4:06 PM
Sample Stop Date and Time	6/22/20 5:06 PM	6/26/20 4:06 AM	6/29/20 3:06 PM	7/2/20 8:06 AM
Composite Duration (hours)	83	83	83	65
QA/QC				
Sample Delivery Group (SDG)	320-62127-1	320-62407-1	320-62407-1	320-62407-1
Lab Sample ID	320-62127-1	320-62407-1	320-62407-2	320-62407-3
Table 3+ SOP (ng/L)				
Hfpo Dimer Acid	5.8	9.9	15	19
PFMOAA	4.9	30	49	<2
PFO2HxA	8	13	18	25
PFO3OA	<2	2.8	4	5.5
PFO4DA	<2	<2	<2	2.5 J
PFO5DA	<2	<2	<2	<2
PMPA	21	20	26	27
PEPA	<2	3.2	4.5	5.2
PS Acid	<2	<2	<2	<2
Hydro-PS Acid	<2	<2	<2	<2
R-PSDA	5.6	11	15	4.2
Hydrolyzed PSDA	4.1	12	17	12
R-PSDCA	<2	<2	<2	<2
NVHOS	<2	<2	2.5	3.1
EVE Acid	<2	<2	<2	<2
Hydro-EVE Acid	<2	<2	<2	<2
R-EVE	<2	3.5	4.9	<2
PES	<2	<2	<2	<2
PFECA B	<2	<2	<2	<2
PFECA-G	<2	<2	<2	<2
Perfluoroheptanoic Acid	--	--	--	--
Total Attachment C¹	40	79	120	84
Total Table 3+ (17 compounds)²	40	79	120	87
Total Table 3+ (20 compounds)	49	110	160	100

TABLE 7
CAPE FEAR RIVER MASS LOAD ANALYTICAL RESULTS
Chemours Fayetteville Works, North Carolina

Sampling Event	Q3 2020	Q3 2020	Q3 2020	Q3 2020
Location ID	CFR-TARHEEL	CFR-TARHEEL	CFR-TARHEEL	CFR-TARHEEL
Field Sample ID	CFR-TARHEEL-24-070320	CFR-TARHEEL-24-070720	CFR-TARHEEL-24-071020	CFR-TARHEEL-24-071020-D
Sample Date	7/3/2020	7/7/2020	7/10/2020	7/10/2020
Sample Type	Composite	Composite	Composite	Composite
Sample Start Date and Time	7/2/20 8:29 AM	7/6/20 8:29 AM	7/9/20 12:01 PM	7/9/20 12:01 PM
Sample Stop Date and Time	7/3/20 7:29 AM	7/7/20 7:29 AM	7/10/20 11:01 AM	7/10/20 11:01 AM
Composite Duration (hours)	24	24	24	24
QA/QC				Field Duplicate
Sample Delivery Group (SDG)	320-62486-1	320-62486-1	320-62645-1	320-62645-1
Lab Sample ID	320-62486-2	320-62486-1	320-62645-1	320-62645-2
<i>Table 3+ SOP (ng/L)</i>				
Hfpo Dimer Acid	19	19	15	15
PFMOAA	60	97	77	78
PFO2HxA	26	31	25	28
PFO3OA	5.6	6.7	5.2	5.9
PFO4DA	2	3	<2	<2
PFO5DA	<2	<2	<2	<2
PMPA	39	30	26	27
PEPA	<10	<10	<10	<10
PS Acid	<2	<2	<2	<2
Hydro-PS Acid	<2	<2	<2	<2
R-PSDA	22	23	12	12
Hydrolyzed PSDA	28	34	32	34
R-PSDCA	<2	<2	<2	<2
NVHOS	3.3	4.5	3.4	3
EVE Acid	<2	<2	<2	<2
Hydro-EVE Acid	<2	<2	<2	<2
R-EVE	6.1	5.9	4.3	5.8
PES	<2	<2	<2	<2
PFECA B	<2	<2	<2	<2
PFECA-G	<2	<2	<2	<2
Perfluoroheptanoic Acid	--	--	--	--
Total Attachment C¹	150	190	150	150
Total Table 3+ (17 compounds)²	150	190	150	160
Total Table 3+ (20 compounds)	210	250	200	210

TABLE 7
CAPE FEAR RIVER MASS LOAD ANALYTICAL RESULTS
Chemours Fayetteville Works, North Carolina

Sampling Event	Q3 2020	Q3 2020	Q3 2020	Q3 2020
Location ID	CFR-TARHEEL	CFR-TARHEEL	CFR-TARHEEL	CFR-TARHEEL
Field Sample ID	CFR-TARHEEL-24-071320	CFR-TARHEEL-24-071620	CFR-TARHEEL-24-072020	CFR-TARHEEL-24-072320
Sample Date	7/13/2020	7/16/2020	7/20/2020	7/23/2020
Sample Type	Composite	Composite	Composite	Composite
Sample Start Date and Time	7/13/20 12:01 AM	7/16/20 12:01 AM	7/20/20 12:01 AM	7/23/20 12:01 AM
Sample Stop Date and Time	7/13/20 11:01 PM	7/16/20 11:01 PM	7/20/20 11:01 PM	7/23/20 11:01 PM
Composite Duration (hours)	24	24	24	24
QA/QC				
Sample Delivery Group (SDG)	320-62689-1	320-62879-1	320-63057-1	320-63287-1
Lab Sample ID	320-62689-1	320-62879-1	320-63057-1	320-63287-1
<i>Table 3+ SOP (ng/L)</i>				
Hfpo Dimer Acid	16	20	26	20
PFMOAA	60	76	100	67
PFO2HxA	28	31	29	29
PFO3OA	6.9	6.5	9.4	6.6
PFO4DA	2.8	2.4	4.8	2.6
PFO5DA	<2	<2	2.7	2
PMPA	27	29	<20	24
PEPA	<10	<10	<10	<10
PS Acid	2.3	<2	2.7	<2
Hydro-PS Acid	<2	<2	<2	<2
R-PSDA	22	13	<2	17
Hydrolyzed PSDA	32	24	<2	29
R-PSDCA	<2	<2	<2	<2
NVHOS	3.3	3.5	3.4	4.4
EVE Acid	<2	<2	<2	<2
Hydro-EVE Acid	<2	<2	<2	<2
R-EVE	6	3.9	<2	<2
PES	<2	<2	<2	<2
PFECA B	<2	<2	<2	<2
PFECA-G	<2	<2	<2	<2
Perfluoroheptanoic Acid	--	--	--	--
Total Attachment C¹	140	160	170	150
Total Table 3+ (17 compounds)²	150	170	180	160
Total Table 3+ (20 compounds)	210	210	180	200

TABLE 7
CAPE FEAR RIVER MASS LOAD ANALYTICAL RESULTS
Chemours Fayetteville Works, North Carolina

Sampling Event	Q3 2020	Q3 2020	Q3 2020	Q3 2020
Location ID	CFR-TARHEEL	CFR-TARHEEL	CFR-TARHEEL	CFR-TARHEEL
Field Sample ID	CFR-TARHEEL-12-072720	CAP3Q20-CFR-TARHEEL-072820	CAP3Q20-CFR-TARHEEL-24-072920	CFR-TARHEEL-24-073020
Sample Date	7/27/2020	7/28/2020	7/29/2020	7/30/2020
Sample Type	Composite	Grab	Composite	Composite
Sample Start Date and Time	7/27/20 12:01 AM	-	7/29/20 12:01 AM	7/30/20 12:01 AM
Sample Stop Date and Time	7/27/20 11:01 AM	-	7/29/20 11:01 PM	7/30/20 11:01 PM
Composite Duration (hours)	12	-	24	24
QA/QC				
Sample Delivery Group (SDG)	320-63287-1	320-63225-2	320-63304-2	320-63442-1
Lab Sample ID	320-63287-2	320-63225-1	320-63304-1	320-63442-1
<i>Table 3+ SOP (ng/L)</i>				
Hfpo Dimer Acid	14	14 J	14	11
PFMOAA	41	39	54	41
PFO2HxA	19	19	21	18
PFO3OA	3.9	4.4	5.2	5
PFO4DA	<2	<2	<2	2.7
PFO5DA	<2	<2	<2	<2
PMPA	<20	<20	<20	<20
PEPA	<10	<10	<10	<10
PS Acid	<2	<2	<2	<2
Hydro-PS Acid	<2	<2	<2	<2
R-PSDA	12	<2	<2	<2
Hydrolyzed PSDA	14	<2	20	18
R-PSDCA	<2	<2	<2	<2
NVHOS	3.5	2.9	2.8	3.4
EVE Acid	<2	<2	<2	<2
Hydro-EVE Acid	<2	<2	<2	<2
R-EVE	<2	<2	<2	<2
PES	<2	<2	<2	<2
PFECA B	<2	<2	<2	<2
PFECA-G	<2	<2	<2	<2
Perfluoroheptanoic Acid	--	3.7	3.1	3.2
Total Attachment C¹	78	76	94	78
Total Table 3+ (17 compounds)²	81	79	97	81
Total Table 3+ (20 compounds)	110	79	120	99

TABLE 7
CAPE FEAR RIVER MASS LOAD ANALYTICAL RESULTS
Chemours Fayetteville Works, North Carolina

Sampling Event	Q3 2020	Q3 2020	Q3 2020	Q3 2020
Location ID	CFR-TARHEEL	CFR-TARHEEL	CFR-TARHEEL	CFR-TARHEEL
Field Sample ID	CFR-TARHEEL-080320	CFR-TARHEEL-080420	CFR-TARHEEL-24-080620	CFR-TARHEEL-24-081020
Sample Date	8/3/2020	8/4/2020	8/6/2020	8/10/2020
Sample Type	Grab	Grab	Composite	Composite
Sample Start Date and Time	-	-	8/5/20 11:55 PM	8/9/20 10:38 PM
Sample Stop Date and Time	-	-	8/6/20 10:55 PM	8/10/20 9:56 PM
Composite Duration (hours)	-	-	24	24
QA/QC				
Sample Delivery Group (SDG)	320-63442-1	320-63442-1	320-63737-1	320-63737-1
Lab Sample ID	320-63442-2	320-63442-3	320-63737-1	320-63737-2
<i>Table 3+ SOP (ng/L)</i>				
Hfpo Dimer Acid	15	44	4.8	7.8
PFMOAA	48	47	8.1	<2
PFO2HxA	23	37	8.1	20
PFO3OA	5.4	10	<2	6
PFO4DA	2.3	4.3	<2	2.2
PFO5DA	<2	<2	<2	<2
PMPA	21	45	<20	<20
PEPA	<10	12	<10	<10
PS Acid	<2	4.6	<2	<2
Hydro-PS Acid	<2	2.9	<2	<2
R-PSDA	<2	<2	<2	<2
Hydrolyzed PSDA	21	32	2.5	<2
R-PSDCA	<2	<2	<2	<2
NVHOS	2.7	2.4	<2	<2
EVE Acid	<2	<2	<2	<2
Hydro-EVE Acid	<2	<2	<2	<2
R-EVE	<2	<2	<2	<2
PES	<2	<2	<2	<2
PFECA B	<2	<2	<2	<2
PFECA-G	<2	<2	<2	<2
Perfluoroheptanoic Acid	4.8	4.9	2.6	4.6
Total Attachment C¹	110	210	21	36
Total Table 3+ (17 compounds)²	120	210	21	36
Total Table 3+ (20 compounds)	140	240	24	36

TABLE 7
CAPE FEAR RIVER MASS LOAD ANALYTICAL RESULTS
Chemours Fayetteville Works, North Carolina

Sampling Event	Q3 2020	Q3 2020	Q3 2020	Q3 2020
Location ID	CFR-TARHEEL	CFR-TARHEEL	CFR-TARHEEL	CFR-TARHEEL
Field Sample ID	CFR-TARHEEL-24-081220	CFR-TARHEEL-24-081720	CFR-TARHEEL-24-082020	CFR-TARHEEL-24-082520
Sample Date	8/12/2020	8/17/2020	8/20/2020	8/25/2020
Sample Type	Composite	Composite	Composite	Composite
Sample Start Date and Time	8/12/20 12:01 AM	8/17/20 12:01 AM	8/20/20 12:01 AM	8/25/20 12:01 AM
Sample Stop Date and Time	8/12/20 11:01 PM	8/17/20 11:01 PM	8/20/20 11:01 PM	8/25/20 11:01 PM
Composite Duration (hours)	24	24	24	24
QA/QC				
Sample Delivery Group (SDG)	320-63779-1	320-64174-1	320-64174-1	320-64174-1
Lab Sample ID	320-63779-1	320-64174-5	320-64174-6	320-64174-1
<i>Table 3+ SOP (ng/L)</i>				
Hfpo Dimer Acid	5.8	3.4	6.2	7.1
PFMOAA	27	15	26	33
PFO2HxA	11	6.2	12	15
PFO3OA	2.1	<2	2.3	3
PFO4DA	<2	<2	<2	<2
PFO5DA	<2	<2	<2	<2
PMPA	<20	<20	<20	<20
PEPA	<10	<10	<10	<10
PS Acid	<2	<2	<2	<2
Hydro-PS Acid	<2	<2	<2	<2
R-PSDA	7.4	3.8	6.1	<2
Hydrolyzed PSDA	15	6.4	11	<2
R-PSDCA	<2	<2	<2	<2
NVHOS	<2	<2	<2	<2
EVE Acid	<2	<2	<2	<2
Hydro-EVE Acid	<2	<2	<2	<2
R-EVE	3.9	<2	<2	<2
PES	<2	<2	<2	<2
PFECA B	<2	<2	<2	<2
PFECA-G	<2	<2	<2	<2
Perfluoroheptanoic Acid	3.8	2.5	2.8	3.5
Total Attachment C¹	46	25	47	58
Total Table 3+ (17 compounds)²	46	25	47	58
Total Table 3+ (20 compounds)	72	35	64	58

TABLE 7
CAPE FEAR RIVER MASS LOAD ANALYTICAL RESULTS
Chemours Fayetteville Works, North Carolina

Sampling Event	Q3 2020	Q3 2020	Q3 2020	Q3 2020
Location ID	CFR-TARHEEL	CFR-TARHEEL	CFR-TARHEEL	CFR-TARHEEL
Field Sample ID	CFR-TARHEEL-082720	CFR-TARHEEL-082720-D	CFR-TARHEEL-083120	CFR-TARHEEL-24-090320
Sample Date	8/27/2020	8/27/2020	8/31/2020	9/3/2020
Sample Type	Grab	Grab	Grab	Composite
Sample Start Date and Time	-	-	-	9/3/20 12:01 AM
Sample Stop Date and Time	-	-	-	9/3/20 11:01 PM
Composite Duration (hours)	-	-	-	24
QA/QC		Field Duplicate		
Sample Delivery Group (SDG)	320-64174-1	320-64174-1	320-64174-1	320-64517-1
Lab Sample ID	320-64174-2	320-64174-3	320-64174-4	320-64517-1
<i>Table 3+ SOP (ng/L)</i>				
Hfpo Dimer Acid	12	12	18	7.8
PFMOAA	63	64	100	21
PFO2HxA	24	24	35	12
PFO3OA	5.3	5.6	7.8	3.4
PFO4DA	2	<2	2.8	<2
PFO5DA	<2	<2	<2	<2
PMPA	23	23	31	<20
PEPA	<10	<10	<10	<10
PS Acid	<2	<2	2.7	<2
Hydro-PS Acid	<2	<2	<2	<2
R-PSDA	<2 UJ	8 J	11	3.4
Hydrolyzed PSDA	22	23	38	8.6
R-PSDCA	<2	<2	<2	<2
NVHOS	<2	<2	2.7	<2
EVE Acid	<2	<2	<2	<2
Hydro-EVE Acid	<2	<2	<2	<2
R-EVE	<2	2.9	4.7	<2
PES	<2	<2	<2	<2
PFECA B	<2	<2	<2	<2
PFECA-G	<2	<2	<2	<2
Perfluoroheptanoic Acid	3.7	4	5.6	2.5
Total Attachment C¹	130	130	200	44
Total Table 3+ (17 compounds)²	130	130	200	44
Total Table 3+ (20 compounds)	150	160	250	56

TABLE 7
CAPE FEAR RIVER MASS LOAD ANALYTICAL RESULTS
Chemours Fayetteville Works, North Carolina

Sampling Event	Q3 2020	Q3 2020	Q3 2020	Q3 2020
Location ID	CFR-TARHEEL	CFR-TARHEEL	CFR-TARHEEL	CFR-TARHEEL
Field Sample ID	CFR-TARHEEL-24-090720	CFR-TARHEEL-24-091020	CFR-TARHEEL-24-091420	CFR-TARHEEL-24-091720
Sample Date	9/7/2020	9/10/2020	9/14/2020	9/17/2020
Sample Type	Composite	Composite	Composite	Composite
Sample Start Date and Time	9/7/20 12:01 AM	9/10/20 12:01 AM	9/14/20 12:01 AM	9/17/20 12:01 AM
Sample Stop Date and Time	9/7/20 11:01 PM	9/10/20 11:01 PM	9/14/20 11:01 PM	9/17/20 11:01 PM
Composite Duration (hours)	24	24	24	24
QA/QC				
Sample Delivery Group (SDG)	320-64517-1	320-64776-1	320-64776-1	320-64846-1
Lab Sample ID	320-64517-2	320-64776-1	320-64776-2	320-64846-1
<i>Table 3+ SOP (ng/L)</i>				
Hfpo Dimer Acid	12	26	18	25
PFMOAA	26	55	36	<2
PFO2HxA	17	31	25	32
PFO3OA	4.2	7.3	5.3	7.2
PFO4DA	<2	2.1	<2	2.7
PFO5DA	<2	<2	<2	<2
PMPA	<20	30	<20	33
PEPA	<10	<10	<10	<10
PS Acid	<2	3.7	<2	2
Hydro-PS Acid	<2	<2	<2	2.8
R-PSDA	<2	14	4.2	9.7
Hydrolyzed PSDA	15	41	24	29
R-PSDCA	<2	<2	<2	<2
NVHOS	<2	3	4	5.8
EVE Acid	<2	<2	<2	<2
Hydro-EVE Acid	<2	<2	<2	<2
R-EVE	<2	6.3	<2	3.2
PES	<2	<2	<2	<2
PFECA B	<2	<2	<2	<2
PFECA-G	<2	<2	<2	<2
Perfluoroheptanoic Acid	2.3	5.5	4.8	5
Total Attachment C¹	59	160	84	100
Total Table 3+ (17 compounds)²	59	160	88	110
Total Table 3+ (20 compounds)	74	220	120	150

TABLE 7
CAPE FEAR RIVER MASS LOAD ANALYTICAL RESULTS
Chemours Fayetteville Works, North Carolina

Sampling Event	Q3 2020	Q3 2020	Q3 2020	Q3 2020
Location ID	CFR-TARHEEL	CFR-TARHEEL	CFR-TARHEEL	CFR-TARHEEL
Field Sample ID	CFR-TARHEEL-11-091820	CFR-TARHEEL-24-092120	CFR-TARHEEL-24-092420	CFR-TARHEEL-24-092420-2
Sample Date	9/18/2020	9/21/2020	9/24/2020	9/24/2020
Sample Type	Composite	Composite	Composite	Composite
Sample Start Date and Time	9/18/20 12:01 AM	9/21/20 12:01 AM	9/24/20 12:01 AM	9/24/20 12:01 AM
Sample Stop Date and Time	9/18/20 10:01 AM	9/21/20 11:01 PM	9/24/20 11:01 PM	9/24/20 11:01 PM
Composite Duration (hours)	11	24	24	24
QA/QC				
Sample Delivery Group (SDG)	320-64920-1	320-65132-1	320-65132-1	320-65132-1
Lab Sample ID	320-64920-1	320-65132-1	320-65132-2	320-65132-2
<i>Table 3+ SOP (ng/L)</i>				
Hfpo Dimer Acid	42	7.3	11	11
PFMOAA	<2	7.9	14	14
PFO2HxA	39	8.7	9.8	9.8
PFO3OA	9	<2	2.9	2.9
PFO4DA	4.2	<2	<2	<2
PFO5DA	<2	<2	<2	<2
PMPA	46	34	31	31
PEPA	11	<10	<10	<10
PS Acid	8.3	<2	<2	<2
Hydro-PS Acid	4.3	<2	<2	<2
R-PSDA	52	<2	<2	<2
Hydrolyzed PSDA	47	9.4	11	11
R-PSDCA	<2	<2	<2	<2
NVHOS	5.7	<2	<2	<2
EVE Acid	2.4	<2	<2	<2
Hydro-EVE Acid	<2	<2	<2	<2
R-EVE	7.5	<2	<2	<2
PES	<2	<2	<2	<2
PFECA B	<2	<2	<2	<2
PFECA-G	<2	<2	<2	<2
Perfluoroheptanoic Acid	4.3	4.1 J	5.6 J	5.6 J
Total Attachment C¹	160	58	69	69
Total Table 3+ (17 compounds)²	170	58	69	69
Total Table 3+ (20 compounds)	280	67	80	80

TABLE 7
CAPE FEAR RIVER MASS LOAD ANALYTICAL RESULTS
Chemours Fayetteville Works, North Carolina

Sampling Event	Q3 2020	Q3 2020	Q3 2020	Q3 2020
Location ID	CFR-TARHEEL	CFR-TARHEEL	CFR-TARHEEL	CFR-TARHEEL
Field Sample ID	CFR-TARHEEL-24-092520	CFR-TARHEEL-24-092620	CFR-TARHEEL-24-092820	CFR-TARHEEL-24-092920
Sample Date	9/25/2020	9/26/2020	9/28/2020	9/29/2020
Sample Type	Composite	Composite	Composite	Composite
Sample Start Date and Time	9/25/20 12:01 AM	9/26/20 12:01 AM	9/28/20 12:01 AM	9/29/20 12:01 AM
Sample Stop Date and Time	9/25/20 11:01 PM	9/26/20 11:01 PM	9/28/20 11:01 PM	9/29/20 11:01 PM
Composite Duration (hours)	24	24	24	24
QA/QC				
Sample Delivery Group (SDG)	320-65132-1	320-65132-1	320-65188-1	320-65521-1
Lab Sample ID	320-65132-3	320-65132-4	320-65188-1	320-65521-1
<i>Table 3+ SOP (ng/L)</i>				
Hfpo Dimer Acid	11	12	6.1	5.3
PFMOAA	12	8.8	6.3	4.1
PFO2HxA	12	13	6.2	6.8
PFO3OA	2.9	2.6	<2	<2
PFO4DA	<2	<2	<2	<2
PFO5DA	<2	<2	<2	<2
PMPA	32	34	32	<20
PEPA	<10	<10	<10	<10
PS Acid	<2	<2	<2	<2
Hydro-PS Acid	<2	<2	<2	<2
R-PSDA	<2	<2	<2	<2
Hydrolyzed PSDA	14	13	7.1	5.4
R-PSDCA	<2	<2	<2	<2
NVHOS	<2	<2	<2	<2
EVE Acid	<2	<2	<2	<2
Hydro-EVE Acid	<2	<2	<2	<2
R-EVE	<2	<2	<2	<2
PES	<2	<2	<2	<2
PFECA B	<2	<2	<2	<2
PFECA-G	<2	<2	<2	<2
Perfluoroheptanoic Acid	5.7 J	5.1 J	3.4 J	3.9
Total Attachment C¹	70	70	51	16
Total Table 3+ (17 compounds)²	70	70	51	16
Total Table 3+ (20 compounds)	84	83	58	22

TABLE 7
CAPE FEAR RIVER MASS LOAD ANALYTICAL RESULTS
Chemours Fayetteville Works, North Carolina

Sampling Event	Q3 2020	Q4 2020	Q4 2020	Q4 2020
Location ID	CFR-TARHEEL	CFR-TARHEEL	CFR-TARHEEL	CFR-TARHEEL
Field Sample ID	CFR-TARHEEL-24-093020	CFR-TARHEEL-18-100120	CFR-TARHEEL-9-100620	CFR-TARHEEL-24-100820
Sample Date	9/30/2020	10/1/2020	10/6/2020	10/8/2020
Sample Type	Composite	Composite	Composite	Composite
Sample Start Date and Time	9/30/20 12:01 AM	10/1/2020 0:01	10/6/20 14:30	10/7/2020 17:30
Sample Stop Date and Time	9/30/20 11:01 PM	10/1/2020 17:01	10/6/20 23:30	10/8/2020 16:30
Composite Duration (hours)	24	18	9	24
QA/QC				
Sample Delivery Group (SDG)	320-65283-1	320-65521-1	320-65521-1	320-65521-1
Lab Sample ID	320-65283-1	320-65521-2	320-65521-3	320-65521-4
<i>Table 3+ SOP (ng/L)</i>				
Hfpo Dimer Acid	11	5.3	8.1	13
PFMOAA	23	2.9	3.9	7.4
PFO2HxA	12	6.6	9.9	15
PFO3OA	2.5	<2	2.1	3.6
PFO4DA	<2	<2	<2	<2
PFO5DA	<2	<2	<2	<2
PMPA	25	<20	<20	<20
PEPA	<10	<10	<10	<10
PS Acid	<2	<2	<2	<2
Hydro-PS Acid	<2	<2	<2	<2
R-PSDA	7.4	<2	<2	<2
Hydrolyzed PSDA	12	<2	5.1	7.6
R-PSDCA	<2	<2	<2	<2
NVHOS	<2	<2	<2	<2
EVE Acid	<2	<2	<2	<2
Hydro-EVE Acid	<2	<2	<2	<2
R-EVE	2.9	<2	<2	<2
PES	<2	<2	<2	<2
PFECA B	<2	<2	<2	<2
PFECA-G	<2	<2	<2	<2
Perfluoroheptanoic Acid	4.9	5.5	5.4	5.5
Total Attachment C¹	74	15	24	39
Total Table 3+ (17 compounds)²	74	15	24	39
Total Table 3+ (20 compounds)	96	15	29	47

TABLE 7
CAPE FEAR RIVER MASS LOAD ANALYTICAL RESULTS
Chemours Fayetteville Works, North Carolina

Sampling Event	Q4 2020	Q4 2020	Q4 2020	Q4 2020
Location ID	CFR-TARHEEL	CFR-TARHEEL	CFR-TARHEEL	CFR-TARHEEL
Field Sample ID	CFR-TARHEEL-24-101220	CFR-TARHEEL-24-101520	CFR-TARHEEL-24-101920	CFR-TARHEEL-24-102220
Sample Date	10/12/2020	10/15/2020	10/19/2020	10/22/2020
Sample Type	Composite	Composite	Composite	Composite
Sample Start Date and Time	10/12/2020 0:01	10/15/2020 0:01	10/19/2020 0:01	10/22/2020 0:01
Sample Stop Date and Time	10/12/2020 23:01	10/15/2020 23:01	10/19/2020 23:01	10/22/2020 23:01
Composite Duration (hours)	24	24	24	24
QA/QC				
Sample Delivery Group (SDG)	320-65571-1	320-65803-1	320-65803-1	320-66072-1
Lab Sample ID	320-65571-1	320-65803-1	320-65803-2	320-66072-1
<i>Table 3+ SOP (ng/L)</i>				
Hfpo Dimer Acid	23	4.5	6	7.2
PFMOAA	54	15	18	7
PFO2HxA	30	6.9	7.6	8.3
PFO3OA	13	<2	<2	<2
PFO4DA	7.9	<2	<2	<2
PFO5DA	3.5	<2	<2	<2
PMPA	33	<20	<20	28
PEPA	<10	<10	<10	<10
PS Acid	2.2	<2	<2	<2
Hydro-PS Acid	<2	<2	<2	<2
R-PSDA	20	3.4	4.1	<2
Hydrolyzed PSDA	21	5	6.2	<2
R-PSDCA	<2	<2	<2	<2
NVHOS	3.1	<2	<2	<2
EVE Acid	<2	<2	<2	<2
Hydro-EVE Acid	<2	<2	<2	<2
R-EVE	4.7	<2	<2	<2
PES	<2	<2	<2	<2
PFECA B	<2	<2	<2	<2
PFECA-G	<2	<2	<2	<2
Perfluoroheptanoic Acid	4	3.8	5.5	5.1
Total Attachment C¹	170	26	32	51
Total Table 3+ (17 compounds)²	170	26	32	51
Total Table 3+ (20 compounds)	220	35	42	51

TABLE 7
CAPE FEAR RIVER MASS LOAD ANALYTICAL RESULTS
Chemours Fayetteville Works, North Carolina

Sampling Event	Q4 2020	Q4 2020	Q4 2020	Q4 2020
Location ID	CFR-TARHEEL	CFR-TARHEEL	CFR-TARHEEL	CFR-TARHEEL
Field Sample ID	CFR-TARHEEL-12-103020	CFR-TARHEEL-24-103120	CFR-TARHEEL-24-110220	CFR-TARHEEL-24-110520
Sample Date	10/30/2020	10/31/2020	11/2/2020	11/5/2020
Sample Type	Composite	Composite	Composite	Composite
Sample Start Date and Time	10/30/2020 12:01	10/31/2020 0:01	11/2/2020 0:01	11/5/2020 0:01
Sample Stop Date and Time	10/30/20 23:01	10/31/20 23:01	11/2/2020 23:01	11/5/20 23:01
Composite Duration (hours)	24	24	24	24
QA/QC				
Sample Delivery Group (SDG)	320-66384-1	320-66384-1	320-66384-1	320-66511-1
Lab Sample ID	320-66384-1	320-66384-2	320-66384-3	320-66511-1
<i>Table 3+ SOP (ng/L)</i>				
Hfpo Dimer Acid	11	8.8	7	5.9
PFMOAA	29	27	15	22
PFO2HxA	13	11	8.5	9.3
PFO3OA	3.1	2.5	<2	2.2
PFO4DA	<2	<2	<2	<2
PFO5DA	<2	<2	<2	<2
PMPA	<20	21	20	26
PEPA	<10	<10	<10	<10
PS Acid	<2	<2	<2	<2
Hydro-PS Acid	<2	<2	<2	<2
R-PSDA	11 J	9.1 J	<2	<2
Hydrolyzed PSDA	8.5	6.1	3.9	5.2
R-PSDCA	<2	<2	<2	<2
NVHOS	3.5	3.8	3.3	<2
EVE Acid	<2	<2	<2	<2
Hydro-EVE Acid	<2	<2	<2	<2
R-EVE	2.8 J	2.2 J	<2	<2
PES	<2	<2	<2	<2
PFECA B	<2	<2	<2	<2
PFECA-G	<2	<2	<2	<2
Perfluoroheptanoic Acid	4.5	4.9	6	4.9
Total Attachment C¹	56	70	51	65
Total Table 3+ (17 compounds)²	60	74	54	65
Total Table 3+ (20 compounds)	82	92	58	71

TABLE 7
CAPE FEAR RIVER MASS LOAD ANALYTICAL RESULTS
Chemours Fayetteville Works, North Carolina

Sampling Event	Q4 2020	Q4 2020	Q4 2020	Q4 2020
Location ID	CFR-TARHEEL	CFR-TARHEEL	CFR-TARHEEL	CFR-TARHEEL
Field Sample ID	CFR-TARHEEL-24-110920	CFR-TARHEEL-24-111120	CFR-TARHEEL-20-111220	CFR-TARHEEL-111320
Sample Date	11/9/2020	11/11/2020	11/12/2020	11/13/2020
Sample Type	Composite	Composite	Composite	Grab
Sample Start Date and Time	11/9/2020 0:01	11/11/2020 0:01	11/12/2020 0:01	--
Sample Stop Date and Time	11/9/2020 23:01	11/11/2020 23:01	11/12/2020 19:01	--
Composite Duration (hours)	24	24	20	--
QA/QC				
Sample Delivery Group (SDG)	320-66794-1	320-66794-1	320-66794-1	320-67088-1
Lab Sample ID	320-66794-1	320-66794-2	320-66794-3	320-67088-1
<i>Table 3+ SOP (ng/L)</i>				
Hfpo Dimer Acid	12 J	14	46	2.8
PFMOAA	35 J	38	48	<2
PFO2HxA	17 J	18	45	3.3
PFO3OA	3.9 J	3.6	11	<2
PFO4DA	<2 UJ	<2	7.3	<2
PFO5DA	<2 UJ	<2	5.3	<2
PMPA	22 J	<20	52	<20
PEPA	<10 UJ	<10	16	<10
PS Acid	<2 UJ	<2	2.6	<2
Hydro-PS Acid	<2 UJ	<2	2.9	<2
R-PSDA	16 J	16	39	<2
Hydrolyzed PSDA	14 J	15	21	<2
R-PSDCA	<2 UJ	<2	<2	<2
NVHOS	2.8 J	3.8	3.3	<2
EVE Acid	<2 UJ	<2	2.1	<2
Hydro-EVE Acid	<2 UJ	<2	<2	<2
R-EVE	3.4 J	3.9	11	<2
PES	<2 UJ	<2	<2	<2
PFECA B	<2 UJ	<2	<2	<2
PFECA-G	<2 UJ	<2	<2	<2
Perfluoroheptanoic Acid	4.2 J	3.8	3.6	3.1
Total Attachment C¹	90	74	240	6.1
Total Table 3+ (17 compounds)²	93	77	240	6.1
Total Table 3+ (20 compounds)	130	110	310	6.1

TABLE 7
CAPE FEAR RIVER MASS LOAD ANALYTICAL RESULTS
Chemours Fayetteville Works, North Carolina

Sampling Event	Q4 2020	Q4 2020	Q4 2020	Q4 2020	Q4 2020
Location ID	CFR-TARHEEL	CFR-TARHEEL	CFR-TARHEEL	CFR-TARHEEL ³	CFR-TARHEEL
Field Sample ID	CFR-TARHEEL-111820	CFR-TARHEEL-112020	CFR-TARHEEL-24-112420	CFR-TARHEEL-24-112420	CFR-TARHEEL-24-112620
Sample Date	11/18/2020	11/20/2020	11/24/2020	11/24/2020	11/26/2020
Sample Type	Grab	Grab	Composite	Composite	Composite
Sample Start Date and Time	--	--	11/24/2020 0:01	11/24/2020 0:01	11/26/2020 0:01
Sample Stop Date and Time	--	--	11/24/2020 23:01	11/24/2020 23:01	11/26/2020 23:01
Composite Duration (hours)	--	--	24	24	24
QA/QC					
Sample Delivery Group (SDG)	320-67088-1	320-67088-1	320-67335-1	320-67335-2	320-67335-1
Lab Sample ID	320-67088-2	320-67088-3	320-67335-1	320-67335-1	320-67335-2
<i>Table 3+ SOP (ng/L)</i>					
Hfpo Dimer Acid	6	6.1	<2	7.2 J	100
PFMOAA	8.1	10	<2	18 J	23 J
PFO2HxA	7.7	7.5	2.3	6.1 J	100
PFO3OA	<2	<2	<2	<2 UJ	14
PFO4DA	<2	<2	<2	<2 UJ	13
PFO5DA	<2	<2	<2	<2 UJ	<2
PMPA	<20	<20	<20	<20 UJ	92
PEPA	<10	<10	<10	<10 UJ	27
PS Acid	<2	<2	<2	<2 UJ	<2
Hydro-PS Acid	<2	<2	<2	<2 UJ	8
R-PSDA	6.2	7.1	<2	3.3 J	5.5
Hydrolyzed PSDA	2.5	4.9	<2	3.5 J	<2
R-PSDCA	<2	<2	<2	<2 UJ	<2
NVHOS	<2	<2	<2	<2 UJ	<2
EVE Acid	<2	<2	<2	<2 UJ	<2
Hydro-EVE Acid	<2	<2	<2	<2 UJ	<2
R-EVE	<2	<2	<2	<2 UJ	3
PES	<2	<2	<2	<2 UJ	<2
PFECA B	<2	<2	<2	<2 UJ	<2
PFECA-G	<2	<2	<2	<2 UJ	<2
Perfluoroheptanoic Acid	2.6	3.3	<2	4.5 J	2.9
Total Attachment C¹	22	24	2.3	31	380
Total Table 3+ (17 compounds)²	22	24	2.3	31	380
Total Table 3+ (20 compounds)	31	36	2.3	38	390

TABLE 7
CAPE FEAR RIVER MASS LOAD ANALYTICAL RESULTS
Chemours Fayetteville Works, North Carolina

Sampling Event	Q4 2020	Q4 2020	Q4 2020	Q4 2020	Q4 2020
Location ID	CFR-TARHEEL ³	CFR-TARHEEL	CFR-TARHEEL	CFR-TARHEEL	CFR-TARHEEL
Field Sample ID	CFR-TARHEEL-24-112620	CFR-TARHEEL-24-113020	CFR-TARHEEL-24-120320	CFR-TARHEEL-24-120720	CFR-TARHEEL-24-121020
Sample Date	11/26/2020	11/30/2020	12/3/2020	12/7/2020	12/10/2020
Sample Type	Composite	Composite	Composite	Composite	Composite
Sample Start Date and Time	11/26/2020 0:01	11/30/2020 0:01	12/3/2020 0:01	12/7/2020 0:01	12/10/2020 0:01
Sample Stop Date and Time	11/26/2020 23:01	11/30/2020 23:01	12/3/2020 23:01	12/7/2020 23:01	12/10/2020 23:01
Composite Duration (hours)	24	24	24	24	24
QA/QC					
Sample Delivery Group (SDG)	320-67335-2	320-67618-1	320-67618-1	320-67847-1	320-67870-1
Lab Sample ID	320-67335-2	320-67618-1	320-67618-2	320-67847-1	320-67870-1
<i>Table 3+ SOP (ng/L)</i>					
Hfpo Dimer Acid	7.8 J	18	4.4	5.5	5.7
PFMOAA	21 J	32	9.5	13	18
PFO2HxA	7.4 J	14	4.4	6	5.7
PFO3OA	<2 UJ	3.2	<2	<2	<2
PFO4DA	<2 UJ	<2	<2	<2	<2
PFO5DA	<2 UJ	<2	<2	<2	<2
PMPA	<20 UJ	27	28	<20	<20
PEPA	<10 UJ	<10	<10	<10	<10
PS Acid	<2 UJ	<2	<2	<2	<2
Hydro-PS Acid	<2 UJ	<2	<2	<2	<2
R-PSDA	4.1 J	8.4	3.9	6.3	<2
Hydrolyzed PSDA	4.3 J	9.6	3.1	5.9	<2
R-PSDCA	<2 UJ	<2	<2	<2	<2
NVHOS	<2 UJ	<2	<2	<2	<2
EVE Acid	<2 UJ	<2	<2	<2	<2
Hydro-EVE Acid	<2 UJ	<2	<2	<2	<2
R-EVE	<2 UJ	3.2	<2	2.9	<2
PES	<2 UJ	<2	<2	<2	<2
PFECA B	<2 UJ	<2	<2	<2	<2
PFECA-G	<2 UJ	<2	<2	<2	<2
Perfluoroheptanoic Acid	5.7 J	4.8	4	4.3	3.7
Total Attachment C¹	36	94	46	25	29
Total Table 3+ (17 compounds)²	36	94	46	25	29
Total Table 3+ (20 compounds)	45	120	53	40	29

TABLE 7
CAPE FEAR RIVER MASS LOAD ANALYTICAL RESULTS
Chemours Fayetteville Works, North Carolina

Sampling Event	Q4 2020	Q4 2020	Q4 2020	Q4 2020
Location ID	CFR-TARHEEL	CFR-TARHEEL	CFR-TARHEEL	CFR-TARHEEL
Field Sample ID	CFR-TARHEEL-24-121320	CFR-TARHEEL-12-121420	CAP1220-CFR-TARHEEL-121520	CAP1220-TARHEEL-121620
Sample Date	12/13/2020	12/14/2020	12/15/2020	12/16/2020
Sample Type	Composite	Composite	Grab	Grab
Sample Start Date and Time	12/13/20 0:01	12/14/2020 0:59	--	--
Sample Stop Date and Time	12/13/20 23:01	12/14/2020 11:59	--	--
Composite Duration (hours)	24	12	--	--
QA/QC				
Sample Delivery Group (SDG)	320-68141-1	320-68141-1	320-68082-1	320-68080-1
Lab Sample ID	320-68141-1	320-68141-2	320-68082-4	320-68080-1
<i>Table 3+ SOP (ng/L)</i>				
Hfpo Dimer Acid	9	9.4	7.6	11
PFMOAA	25	27	14	20
PFO2HxA	9.2	9.9	8.6	9.7
PFO3OA	<2	2.1	<2	2.6
PFO4DA	<2	<2	<2	<2
PFO5DA	<2	<2	<2	<2
PMPA	<20	<20	25	27
PEPA	<10	<10	<10	<10
PS Acid	<2	<2	<2	<2
Hydro-PS Acid	<2	<2	<2	<2
R-PSDA	7.4 J	7.4 J	13	<2
Hydrolyzed PSDA	6.9	7.4	8.6 J	9.2
R-PSDCA	<2	<2	<2	<2
NVHOS	<2	<2	<2	<2
EVE Acid	<2	<2	<2	4.1
Hydro-EVE Acid	<2	<2	<2	<2
R-EVE	2.3	2.4	<2	<2
PES	<2	<2	<2	<2
PFECA B	<2	<2	<2	<2
PFECA-G	<2	<2	<2	<2
Perfluoroheptanoic Acid	5.3	4.1	3.9	4.3
Total Attachment C¹	43	48	55	70
Total Table 3+ (17 compounds)²	43	48	55	74
Total Table 3+ (20 compounds)	60	66	77	84

TABLE 7
CAPE FEAR RIVER MASS LOAD ANALYTICAL RESULTS
Chemours Fayetteville Works, North Carolina

Sampling Event	Q4 2020	Q4 2020	Q4 2020	Q4 2020
Location ID	CFR-TARHEEL	CFR-TARHEEL	CFR-TARHEEL	CFR-TARHEEL
Field Sample ID	CFR-TARHEEL-121720	CFR-TARHEEL-122120	CFR-TARHEEL-122320	CFR-TARHEEL-122420
Sample Date	12/17/2020	12/21/2020	12/23/2020	12/24/2020
Sample Type	Grab	Grab	Grab	Grab
Sample Start Date and Time	--	--	--	--
Sample Stop Date and Time	--	--	--	--
Composite Duration (hours)	--	--	--	--
QA/QC				
Sample Delivery Group (SDG)	320-68141-1	320-68261-1	320-68338-1	320-68338-1
Lab Sample ID	320-68141-3	320-68261-1	320-68338-1	320-68338-2
<i>Table 3+ SOP (ng/L)</i>				
Hfpo Dimer Acid	3.2	3.9	3.5	12
PFMOAA	6.9	9.9	<2	17
PFO2HxA	3.1	3.7	3.6	9
PFO3OA	<2	<2	<2	<2
PFO4DA	<2	<2	<2	<2
PFO5DA	<2	<2	<2	<2
PMPA	<20	<20	<20	<20
PEPA	<10	<10	<10	<10
PS Acid	<2	<2	<2	<2
Hydro-PS Acid	<2	<2	<2	<2
R-PSDA	4.3 J	3.3 J	<2	13 J
Hydrolyzed PSDA	2.2	3.1	3.2 J	11 J
R-PSDCA	<2	<2	<2	<2
NVHOS	<2	<2	<2	<2
EVE Acid	<2	<2	<2	<2
Hydro-EVE Acid	<2	<2	<2	<2
R-EVE	<2	<2	<2	<2
PES	<2	<2	<2	<2
PFECA B	<2	<2	<2	<2
PFECA-G	<2	<2	<2	<2
Perfluoroheptanoic Acid	4.5	3.9	3.4	3.8
Total Attachment C¹	13	18	7.1	38
Total Table 3+ (17 compounds)²	13	18	7.1	38
Total Table 3+ (20 compounds)	20	24	10	62

TABLE 7
CAPE FEAR RIVER MASS LOAD ANALYTICAL RESULTS
Chemours Fayetteville Works, North Carolina

Sampling Event	Q4 2020	Q4 2020	Q1 2020	Q2 2020
Location ID	CFR-TARHEEL	CFR-TARHEEL	EQBLK	EB
Field Sample ID	CFR-TARHEEL-122820	CFR-TARHEEL-123020	CFR-EQBLK-1-040820	CFR-TARHEEL-EB-052520
Sample Date	12/28/2020	12/30/2020	4/8/2020	5/25/2020
Sample Type	Grab	Grab	Grab	Grab
Sample Start Date and Time	--	--	-	-
Sample Stop Date and Time	--	--	-	-
Composite Duration (hours)	--	--	-	-
QA/QC			Equipment Blank	Equipment Blank
Sample Delivery Group (SDG)	320-68338-1	320-68393-1	320-60098-1	320-61296-1
Lab Sample ID	320-68338-3	320-68393-1	320-60098-5	320-61296-4
Table 3+ SOP (ng/L)				
Hfpo Dimer Acid	3	4.4	<4	<2
PFMOAA	<2	12	<5	<5
PFO2HxA	2.5	4.8	<2	<2
PFO3OA	<2	<2	<2	<2
PFO4DA	<2	<2	<2	<2
PFO5DA	<2	<2	<2	<2
PMPA	<20	<20	<10	<10
PEPA	<10	<10	<20	<20
PS Acid	<2	<2	<2	<2
Hydro-PS Acid	<2	<2	<2	<2
R-PSDA	<2	5.6	<2	<2
Hydrolyzed PSDA	2 J	4.3	<2	<2
R-PSDCA	<2	<2	<2	<2
NVHOS	<2	<2	<2	<2
EVE Acid	<2	<2	<2	<2
Hydro-EVE Acid	<2	<2	<2	<2
R-EVE	<2	2.8	<2	<2
PES	<2	<2	<2	<2
PFECA B	<2	<2	<2	<2
PFECA-G	<2	<2	<2	<2
Perfluoroheptanoic Acid	3.4	3.5	<2	--
Total Attachment C¹	5.5	21	ND	ND
Total Table 3+ (17 compounds)²	5.5	21	ND	ND
Total Table 3+ (20 compounds)	7.5	34	ND	ND

TABLE 7
CAPE FEAR RIVER MASS LOAD ANALYTICAL RESULTS
Chemours Fayetteville Works, North Carolina

Sampling Event	Q2 2020	Q2 2020	Q2 2020	Q3 2020
Location ID	EB	FBLK	FBLK	EB
Field Sample ID	CFR-TARHEEL-EB-060120	CFR-TARHEEL-FB-052520	CFR-TARHEEL-FB-060120	CAP3Q20-EQBLK-ISCO-072920
Sample Date	6/1/2020	5/25/2020	6/1/2020	7/29/2020
Sample Type	Grab	Grab	Grab	Grab
Sample Start Date and Time	-	-	-	-
Sample Stop Date and Time	-	-	-	-
Composite Duration (hours)	-	-	-	-
QA/QC	Equipment Blank	Field Blank	Field Blank	Equipment Blank
Sample Delivery Group (SDG)	320-61452-1	320-61296-1	320-61452-1	320-63228-1
Lab Sample ID	320-61452-4	320-61296-3	320-61452-3	320-63228-4
Table 3+ SOP (ng/L)				
Hfpo Dimer Acid	<2	<2	<2	<2
PFMOAA	<2	<5	<2	<2
PFO2HxA	<2	<2	<2	<2
PFO3OA	<2	<2	<2	<2
PFO4DA	4.1	<2	<2	<2
PFO5DA	<2	<2	<2	<2
PMPA	<13	<10	<13	<20
PEPA	<2	<20	<2	<10
PS Acid	<2	<2	<2	<2
Hydro-PS Acid	<2	<2	<2	<2
R-PSDA	<2	<2	<2	<2 UJ
Hydrolyzed PSDA	<2	<2	<2	<2 UJ
R-PSDCA	<2	<2	<2	<2
NVHOS	<2	<2	<2	<2
EVE Acid	<2	<2	<2	<2
Hydro-EVE Acid	<2	<2	<2	<2
R-EVE	<2	<2	<2	<2 UJ
PES	<2	<2	<2	<2
PFECA B	<2	<2	<2	<2
PFECA-G	<2	<2	<2	<2
Perfluoroheptanoic Acid	--	--	<2 UJ	<2
Total Attachment C¹	4.1	ND	ND	ND
Total Table 3+ (17 compounds)²	4	ND	ND	ND
Total Table 3+ (20 compounds)	4.1	ND	ND	ND

Notes:**Bold** - Analyte detected above associated reporting limit.

B - analyte detected in an associated blank.

J - Analyte detected. Reported value may not be accurate or precise.

ND - no Table 3+ analytes were detected above the associated reporting limits.

ng/L - nanograms per liter

QA/QC - Quality assurance/ quality control

SDG - Sample Delivery Group

SOP - standard operating procedure

UJ - Analyte not detected. Reporting limit may not be accurate or precise.

< - Analyte not detected above associated reporting limit.

- - not applicable

1 - Total Attachment C does not include Perfluoroheptanoic acid (PFHpA), see Appendix J for more details.

2 - Total Table 3+ (17 compounds) does not include R-PSDA, Hydrolyzed, PSDA, and R-EVE.

3 - Samples collected on November 24 and 26, 2020 were reanalyzed via method Table 3+ SOP. These reanalysis results are used in mass loading calculations.

TABLE 8
SEEP AND SURFACE WATER ANALYTICAL RESULTS
 Chemours Fayetteville Works, North Carolina

Location ID	CFR-BLADEN	CFR-KINGS	CFR-MILE-76	CFR-MILE-76 ³
Field Sample ID	CAP1220-CFR-BLADEN-121520	CAP1220-CFR-KINGS-121620	CAP1220-CFR-RM-76-121520	CAP1220-CFR-RM-76-121520
Sample Date	12/15/2020	12/16/2020	12/15/2020	12/15/2020
QA/QC				
Sample Matrix	LIQUID	LIQUID	LIQUID	LIQUID
Sample Delivery Group (SDG)	320-68082-1	320-68082-1	320-68082-1	320-68082-3
Lab Sample ID	320-68082-2	320-68082-3	320-68082-1	320-68082-1
Table 3+ SOP (ng/L)				
Hfpo Dimer Acid	7.3	9	<2	<2 UJ
PFMOAA	14	21	<2	<2 UJ
PFO2HxA	7.9	11	<2	<2 UJ
PFO3OA	<2	2	<2	<2 UJ
PFO4DA	<2	<2	<2	<2 UJ
PFO5DA	<2	<2	<2	<2 UJ
PMPA	24	29	23	6.3 J
PEPA	<10	<10	<10	<2 UJ
PS Acid	<2	<2	<2	<2 UJ
Hydro-PS Acid	<2	<2	<2	<2 UJ
R-PSDA	<2	21	<2	<2 UJ
Hydrolyzed PSDA	7.3 J	10 J	<2	<2 UJ
R-PSDCA	<2	<2	<2	<2 UJ
NVHOS	7	6.6	<2	<2 UJ
EVE Acid	<2	<2	<2	<2 UJ
Hydro-EVE Acid	<2	<2	<2	<2 UJ
R-EVE	<2	11	<2	<2 UJ
PES	<2	<2	<2	<2 UJ
PFECA B	<2	<2	<2	<2 UJ
PFECA-G	<2	<2	<2	<2 UJ
Perfluoroheptanoic Acid	4.9	3.9	4.2	4.2
Total Attachment C¹	53	72	23	6.3
Total Table 3+ (17 compounds)²	60	79	23	6.3
Total Table 3+ (20 compounds)	68	120	23	6.3

TABLE 8
SEEP AND SURFACE WATER ANALYTICAL RESULTS
 Chemours Fayetteville Works, North Carolina

Location ID	CFR-TARHEEL	CFR-TARHEEL	GBC-1	Lock-Dam Seep
Field Sample ID	CAP1220-CFR-TARHEEL-121520	CAP1220-TARHEEL-121620	CAP1220-GBC-1-121520	CAP1220-LOCK-DAM-SEEP-121520
Sample Date	12/15/2020	12/16/2020	12/15/2020	12/15/2020
QA/QC				
Sample Matrix	LIQUID	LIQUID	LIQUID	LIQUID
Sample Delivery Group (SDG)	320-68082-1	320-68080-1	320-68084-1	320-68081-1
Lab Sample ID	320-68082-4	320-68080-1	320-68084-4	320-68081-1
Table 3+ SOP (ng/L)				
Hfpo Dimer Acid	7.6	11	380	7,200
PFMOAA	14	20	66	75,000
PFO2HxA	8.6	9.7	250	16,000
PFO3OA	<2	2.6	33	6,200
PFO4DA	<2	<2	11	1,100
PFO5DA	<2	<2	2.1	<78
PMPA	25	27	610	3,800
PEPA	<10	<10	170	1,300
PS Acid	<2	<2	<2	<20
Hydro-PS Acid	<2	<2	24	96
R-PSDA	13	<2	120	510
Hydrolyzed PSDA	8.6 J	9.2	<2	420
R-PSDCA	<2	<2	<2	<17
NVHOS	<2	<2	3.6	820
EVE Acid	<2	4.1	<2	<17
Hydro-EVE Acid	<2	<2	<2	83
R-EVE	<2	<2	33	170
PES	<2	<2	<2	<6.7
PFECA B	<2	<2	<2	<27
PFECA-G	<2	<2	<2	<48
Perfluoroheptanoic Acid	3.9	4.3	3.3	<94
Total Attachment C¹	55	70	1,500	110,000
Total Table 3+ (17 compounds)²	55	74	1,500	110,000
Total Table 3+ (20 compounds)	77	84	1,700	110,000

TABLE 8
SEEP AND SURFACE WATER ANALYTICAL RESULTS
 Chemours Fayetteville Works, North Carolina

Location ID	OLDOF-1	OUTFALL 002	River Water Intake 2
Field Sample ID	CAP1220-OLDOF-1-7-121520	CAP1220-OUTFALL-002-24-121620	RIVER-WATER-INTAKE-24-121620
Sample Date	12/15/2020	12/16/2020	12/16/2020
QA/QC			
Sample Matrix	LIQUID	LIQUID	LIQUID
Sample Delivery Group (SDG)	320-68080-1	320-68081-1	320-68084-1
Lab Sample ID	320-68080-2	320-68081-2	320-68084-2
Table 3+ SOP (ng/L)			
Hfpo Dimer Acid	230	200	14
PfMOAA	1,100	26 J	21
PFO2HxA	390	28 J	13
PFO3OA	120	7.1 J	2.3
PFO4DA	45	5.7	<2
PFO5DA	15	4.9 J	<2
PMPA	180	61 J	41
PEPA	62	13 J	<10
PS Acid	<2	52 J	<2
Hydro-PS Acid	7.3	6.3 J	<2
R-PSDA	16	95	18
Hydrolyzed PSDA	21	120 J	19 J
R-PSDCA	<2	<2	<2
NVHOS	16	3.5 J	5.9 J
EVE Acid	<2	180 J	<2
Hydro-EVE Acid	4.9	7.8 J	<2
R-EVE	6.8	29	6.3 J
PES	<2	<2 UJ	<2
PFECA B	<2	<2 UJ	<2
PFECA-G	<2	<2 UJ	<2
Perfluoroheptanoic Acid	2.9	4.5	3.6
Total Attachment C¹	2,100	400	91
Total Table 3+ (17 compounds)²	2,200	600	97
Total Table 3+ (20 compounds)	2,200	840	140

TABLE 8
SEEP AND SURFACE WATER ANALYTICAL RESULTS
 Chemours Fayetteville Works, North Carolina

Location ID	River Water Intake 2	SEEP-A	SEEP-B	SEEP-C
Field Sample ID	RIVER-WATER-INTAKE-24-121620-D	CAP1220-SEEP-A-24-121620	CAP1220-SEEP-B-21-121620	CAP1220-SEEP-C-24-121620
Sample Date	12/16/2020	12/16/2020	12/16/2020	12/16/2020
QA/QC	Field Duplicate			
Sample Matrix	LIQUID	LIQUID	LIQUID	LIQUID
Sample Delivery Group (SDG)	320-68084-1	320-68083-1	320-68083-1	320-68083-1
Lab Sample ID	320-68084-3	320-68083-2	320-68083-3	320-68083-4
Table 3+ SOP (ng/L)				
Hfpo Dimer Acid	13	24,000	21,000	34,000
PFMOAA	19	96,000	150,000	270,000
PFO2HxA	12	36,000	36,000	70,000
PFO3OA	<2	13,000	7,900	23,000
PFO4DA	<2	7,500	1,400	4,000
PFO5DA	<2	4,300	380	<78
PMPA	41	19,000	29,000	13,000
PEPA	<10	7,000	13,000	3,800
PS Acid	<2	4,800	2,400	<20
Hydro-PS Acid	<2	1,300	690	710
R-PSDA	18	2,500	3,500	2,100
Hydrolyzed PSDA	9 J	21,000 J	22,000 J	3,200 J
R-PSDCA	<2	58	61	48
NVHOS	<2	1,100	2,300	2,100
EVE Acid	<2	1,100	3,600	<17
Hydro-EVE Acid	<2	1,400	1,600	2,600
R-EVE	4.2 J	1,300	2,500	2,500
PES	<2	5.9	7.9	27
PFECA B	<2	<13	<27	<27
PFECA-G	<2	<24	<48	<48
Perfluoroheptanoic Acid	3.9	<47	<94	220
Total Attachment C¹	85	210,000	260,000	420,000
Total Table 3+ (17 compounds)²	85	220,000	270,000	420,000
Total Table 3+ (20 compounds)	120	240,000	300,000	430,000

TABLE 8
SEEP AND SURFACE WATER ANALYTICAL RESULTS
 Chemours Fayetteville Works, North Carolina

Location ID	SEEP-D	WC-1	EB
Field Sample ID	CAP1220-SEEP-D-24-121620	CAP1220-WC-1-22-121620	CAP1220-EQBLK-PP-121520
Sample Date	12/16/2020	12/16/2020	12/15/2020
QA/QC			Equipment Blank
Sample Matrix	LIQUID	LIQUID	LIQUID
Sample Delivery Group (SDG)	320-68084-1	320-68083-1	320-68085-1
Lab Sample ID	320-68084-1	320-68083-1	320-68085-1
Table 3+ SOP (ng/L)			
Hfpo Dimer Acid	14,000	240	<2
PFMOAA	79,000	330	<2
PFO2HxA	21,000	230	<2
PFO3OA	5,900	34	<2
PFO4DA	1,400	8.6	<2
PFO5DA	89	<2	<2
PMPA	6,100	330	<20
PEPA	2,000	80	<10
PS Acid	<9.8	<2	<2
Hydro-PS Acid	240	9.5	<2
R-PSDA	850	88	<2
Hydrolyzed PSDA	1,400 J	130 J	<2
R-PSDCA	14	<2	<2
NVHOS	700	8	<2
EVE Acid	<8.7	<2	<2
Hydro-EVE Acid	880	2.8	<2
R-EVE	860	32	<2
PES	5.9	<2	<2
PFECA B	<13	<2	<2
PFECA-G	<24	<2	<2
Perfluoroheptanoic Acid	<47	2.9	<2
Total Attachment C¹	130,000	1,300	ND
Total Table 3+ (17 compounds)²	130,000	1,300	ND
Total Table 3+ (20 compounds)	130,000	1,500	ND

TABLE 8
SEEP AND SURFACE WATER ANALYTICAL RESULTS
 Chemours Fayetteville Works, North Carolina

Location ID	EB	EB	EB
Field Sample ID	CAP1220-EQBLK-BL-121620	CAP1220-EQBLK-ISCO-121620	CAP1220-EQBLK-PP-121620
Sample Date	12/16/2020	12/16/2020	12/16/2020
QA/QC	Equipment Blank	Equipment Blank	Equipment Blank
Sample Matrix	LIQUID	LIQUID	LIQUID
Sample Delivery Group (SDG)	320-68085-1	320-68085-1	320-68085-1
Lab Sample ID	320-68085-4	320-68085-3	320-68085-2
Table 3+ SOP (ng/L)			
Hfpo Dimer Acid	<2	<2	<2
PFMOAA	<2	<2	<2
PFO2HxA	<2	<2	<2
PFO3OA	<2	<2	<2
PFO4DA	<2	<2	<2
PFO5DA	<2	<2	<2
PMPA	<20	<20	<20
PEPA	<10	<10	<10
PS Acid	<2	<2	<2
Hydro-PS Acid	<2	<2	<2
R-PSDA	<2	<2	<2
Hydrolyzed PSDA	<2	<2	<2
R-PSDCA	<2	<2	<2
NVHOS	<2	<2	<2
EVE Acid	<2	<2	<2
Hydro-EVE Acid	<2	<2	<2
R-EVE	<2	<2	<2
PES	<2	<2	<2
PFECA B	<2	<2	<2
PFECA-G	<2	<2	<2
Perfluoroheptanoic Acid	<2	<2	<2
Total Attachment C¹	ND	ND	ND
Total Table 3+ (17 compounds)²	ND	ND	ND
Total Table 3+ (20 compounds)	ND	ND	ND

TABLE 8
SEEP AND SURFACE WATER ANALYTICAL RESULTS
 Chemours Fayetteville Works, North Carolina

Location ID	FBLK	FBLK
Field Sample ID	CAP1220-FBLK-121520	CAP1220-FBLK-121620
Sample Date	12/15/2020	12/16/2020
QA/QC	Field Blank	Field Blank
Sample Matrix	LIQUID	LIQUID
Sample Delivery Group (SDG)	320-68080-1	320-68080-1
Lab Sample ID	320-68080-3	320-68080-4
Table 3+ SOP (ng/L)		
Hfpo Dimer Acid	<2	<2
PFMOAA	<2	<2
PFO2HxA	<2	<2
PFO3OA	<2	<2
PFO4DA	<2	<2
PFO5DA	<2	<2
PMPA	<20	<20
PEPA	<10	<10
PS Acid	<2	<2
Hydro-PS Acid	<2	<2
R-PSDA	<2	<2
Hydrolyzed PSDA	<2	<2
R-PSDCA	<2	<2
NVHOS	<2	<2
EVE Acid	<2	<2
Hydro-EVE Acid	<2	<2
R-EVE	<2	<2
PES	<2	<2
PFECA B	<2	<2
PFECA-G	<2	<2
Perfluoroheptanoic Acid	<2	<2
Total Attachment C¹	ND	ND
Total Table 3+ (17 compounds)²	ND	ND
Total Table 3+ (20 compounds)	ND	ND

Notes:**Bold** - Analyte detected above associated reporting limit

B - analyte detected in an associated blank

EPA - Environmental Protection Agency

J - Analyte detected. Reported value may not be accurate or precise

ND - no Table 3+ analytes were detected above the associated reporting limits

ng/L - nanograms per liter

QA/QC - Quality assurance/ quality control

SDG - Sample Delivery Group

SOP - standard operating procedure

UJ - Analyte not detected. Reporting limit may not be accurate or precise.

< - Analyte not detected above associated reporting limit.

1 - Total Attachment C does not include Perfluoroheptanoic acid (PFHpA).

2 - Total Table 3+ (17 compounds) does not include R-PSDA, Hydrolyzed, PSDA, and R-EVE.

3 - CFR-MILE-76 was reanalyzed using Methods Table 3+ SOP and Table 6. These reanalysis results are used in mass loading calculations.

TABLE 9
FLOW SUMMARY FOR SEEPS, SURFACE AND RIVER WATER LOCATIONS
Chemours Fayetteville Works, North Carolina

Pathway/ Location	Sample Type	Flow Measurement Date	Instantaneous Flow Rate (ft ³ /s) ^{1,3}	24-Hour Flow Volume (MG) ^{1,2}	Flow Rate (gpm)
Upstream River Water and Groundwater ⁴	Grab	12/15/2020	5,910	--	2,900,000
Willis Creek	24-hour composite	12/16/2020	24	15.3	10,600
Intake River Water at Facility	24-hour composite	12/16/2020	--	17	11,500
Outfall 002	24-hour composite	12/16/2020	--	17	11,800
Seep A	24-hour composite	12/16/2020	0.21	0.13	93
Seep B	24-hour composite	12/16/2020	0.30	0.19	134
Seep C	24-hour composite	12/16/2020	0.06	0.04	27
Seep D	24-hour composite	12/16/2020	--	0.18	124
Lock and Dam Seep	Grab	12/15/2020	0.04	--	16
Old Outfall 002	Grab	12/15/2020	0.96	--	431
Georgia Branch Creek	Grab	12/15/2020	14	--	6,180
W.O'Huske ⁵	Grab	12/16/2020	--	5,710	4,000,000
W.O'Huske ⁶	Grab	12/15/2020	6,130	--	2,750,000
W.O'Huske ⁷	Grab	12/15/2020	6,420	--	2,880,000
Cape Fear River Lock and Dam #1 ⁸	Grab	12/16/2020	7,650	--	3,430,000

Notes

1 - Flow measurement methods are described in Table 2. Detailed flow data and calculations are provided in Appendix D.

2 - Total flow volume for composite samples is based on flow measurements taken over 24-hour sample collection period for all locations except Upstream River Water, Seep A, B and C, Lock and Dam Seep and Willis Creek. At these locations, the total flow volume over 24-hour sample collection was estimated based on the instantaneous flow measurement.

3 - Instantaneous flow rate for grab samples is the recorded flow rate at the time of grab sample collection.

4 - The volumetric flow rate for upstream river water and groundwater was estimated by subtracting inflows from Willis Creek, upwelling groundwater, seeps to the river, and Outfall 002 and by adding the river water intake from Chemours to the flow rate measurement from the W.O. Huske Dam.

5 - Flow rate measured at USGS gauging station #02105500 located at William O Huske Lock & Dam used to estimate flow rate at Tar Heel Ferry Road Bridge during the 24 hr period between the collection of grab samples on December 15 and 16, 2020.

6 - Flow rate measured at USGS gauging station #02105500 located at William O Huske Lock & Dam used to estimate flow rate at Tar Heel Ferry Road Bridge during grab sample collection.

7 - Flow rate measured at USGS gauging station #02105500 located at William O Huske Lock & Dam used to estimate flow rate at Bladen Bluff during sample collection.

8 - Flow rate measured at USGS gauging station #02105769 located at Lock #1 near Kelly used to estimate flow rate at Kings Bluff during sample collection.

MG - millions of gallons

gpm - gallons per minute

ft³/s - cubic feet per second

USGS - United States Geological Survey

TABLE 10
GROUNDWATER ANALYTICAL RESULTS
 Chemours Fayetteville Works, North Carolina

Water Bearing Unit ¹	Floodplain Deposits	Black Creek Aquifer	Floodplain Deposits	Floodplain Deposits
Location ID	LTW-01	LTW-02	LTW-03	LTW-04
Field Sample ID	CAP1220-LTW-01-121020	CAP1220-LTW-02-121020	CAP1220-LTW-03-122220	CAP1220-LTW-04-120820
Sample Date	12/10/2020	12/10/2020	12/22/2020	12/8/2020
QA/QC				
Sample Matrix	LIQUID	LIQUID	LIQUID	LIQUID
Sample Delivery Group (SDG)	320-67869-1	320-67869-1	320-68259-1	320-67766-1
Lab Sample ID	320-67869-3	320-67869-4	320-68259-1	320-67766-1
Table 3+ SOP (ng/L)				
Hfpo Dimer Acid	20,000	8,200	10,000	200
PFMOAA	29,000	27,000	180,000	820
PFO2HxA	26,000	12,000	36,000	270
PFO3OA	5,600	2,400	6,000	52
PFO4DA	1,700	160	160	6.1
PFO5DA	380	<39	<78	<2
PMPA	23,000	4,900	11,000	200
PEPA	8,700	1,600	2,600	74
PS Acid	<20	<9.8	<20	<2
Hydro-PS Acid	410	<3.1	<6.1	<2
R-PSDA	1,100	360	690 J	24
Hydrolyzed PSDA	430	720	3,100	45
R-PSDCA	<17	<8.7	<17	<2
NVHOS	340	280	1,100	15
EVE Acid	<17	<8.7	<17	<2
Hydro-EVE Acid	140	35	46	4.8
R-EVE	730	310	520	26
PES	<6.7	<3.4	<6.7	<2
PFECA B	<27	<13	<27	<2
PFECA-G	<48	<24	<48	<2
Perfluoroheptanoic Acid	<94	<47	<94	<2
Total Attachment C²	110,000	56,000	250,000	1,600
Total Table 3+ (17 compounds)³	120,000	57,000	250,000	1,600
Total Table 3+ (20 compounds)	120,000	58,000	250,000	1,700

TABLE 10
GROUNDWATER ANALYTICAL RESULTS
 Chemours Fayetteville Works, North Carolina

Water Bearing Unit ¹	Black Creek Aquifer	Black Creek Aquifer	Floodplain Deposits	Black Creek Aquifer
Location ID	LTW-05	PIW-1D	PIW-1S	PIW-3D
Field Sample ID	CAP1220-LTW-05-120920	CAP1220-PIW-1D-121020	CAP1220-PIW-1S-121020	CAP1220-PIW-3D-121120
Sample Date	12/9/2020	12/10/2020	12/10/2020	12/11/2020
QA/QC				
Sample Matrix	LIQUID	LIQUID	LIQUID	LIQUID
Sample Delivery Group (SDG)	320-67844-1	320-67869-1	320-67869-1	320-67866-1
Lab Sample ID	320-67844-8	320-67869-2	320-67869-1	320-67866-3
Table 3+ SOP (ng/L)				
Hfpo Dimer Acid	14,000	10,000	7,600	12,000
PFMOAA	160,000	17,000	2,300	5,700
PFO2HxA	36,000	9,300	5,900	8,800
PFO3OA	12,000	1,700	840	1,600
PFO4DA	2,000	340	180	820
PFO5DA	<78	<39	37	160
PMPA	4,000	9,000	7,400	9,800
PEPA	490	2,900	3,000	3,600
PS Acid	<20	<9.8	<3.9	<9.8
Hydro-PS Acid	240	48	120	140
R-PSDA	530	320	390	430
Hydrolyzed PSDA	870	23	<7.6	<19
R-PSDCA	30	<8.7	<3.5	<8.7
NVHOS	1,000	160	38	82
EVE Acid	<17	<8.7	<3.5	<8.7
Hydro-EVE Acid	1,000	29	23	45
R-EVE	700	240	250	290
PES	11	<3.4	<2	<3.4
PFECA B	<27	<13	<5.3	<13
PFECA-G	<48	<24	<9.6	<24
Perfluoroheptanoic Acid	170	<47	<19	<47
Total Attachment C²	230,000	50,000	27,000	43,000
Total Table 3+ (17 compounds)³	230,000	50,000	27,000	43,000
Total Table 3+ (20 compounds)	230,000	51,000	28,000	43,000

TABLE 10
GROUNDWATER ANALYTICAL RESULTS
 Chemours Fayetteville Works, North Carolina

Water Bearing Unit ¹	Black Creek Aquifer	Floodplain Deposits	Floodplain Deposits	Surficial Aquifer
Location ID	PIW-7D	PIW-7S	PIW-7S	PW-04
Field Sample ID	CAP1220-PIW-7D-120820	CAP1220-PIW-7S-120820	CAP1220-PIW-7S-120820-D	CAP1220-PW-04-120820
Sample Date	12/8/2020	12/8/2020	12/8/2020	12/8/2020
QA/QC			Field Duplicate	
Sample Matrix	LIQUID	LIQUID	LIQUID	LIQUID
Sample Delivery Group (SDG)	320-67773-1	320-67775-1	320-67775-1	320-67766-1
Lab Sample ID	320-67773-2	320-67775-1	320-67775-2	320-67766-4
Table 3+ SOP (ng/L)				
Hfpo Dimer Acid	92	150	140	8.8
PFMOAA	1,400	180	180	7.4
PFO2HxA	270	110	110	7.6
PFO3OA	35	38	36	2.3
PFO4DA	7.4	4.2	3.8	<2
PFO5DA	<2	<2	<2	<2
PMPA	34	110	110	<20
PEPA	<10	40	44	<10
PS Acid	<2	<2	<2	<2
Hydro-PS Acid	<2	2.8	2.8	<2
R-PSDA	3.6	12	13	<2
Hydrolyzed PSDA	6.5	<2	<2	<2
R-PSDCA	<2	<2	<2	<2
NVHOS	8.4	7.2	7.2	<2
EVE Acid	<2	<2	<2	<2
Hydro-EVE Acid	2.5	4.3	4.4	<2
R-EVE	5.1	16	16	<2
PES	<2	<2	<2	<2
PFECA B	<2	<2	<2	<2
PFECA-G	<2	<2	<2	<2
Perfluoroheptanoic Acid	<2	<2	<2	<2
Total Attachment C²	1,800	640	630	26
Total Table 3+ (17 compounds)³	1,800	650	640	26
Total Table 3+ (20 compounds)	1,900	670	670	26

TABLE 10
GROUNDWATER ANALYTICAL RESULTS
 Chemours Fayetteville Works, North Carolina

Water Bearing Unit ¹	Surficial Aquifer	Surficial Aquifer	Black Creek Aquifer	Black Creek Aquifer
Location ID	PW-06	PW-07	PW-09	PZ-22
Field Sample ID	CAP1220-PW-06-120820	CAP1220-PW-07-120920	CAP1220-PW-09-120820	CAP1220-PZ-22-120920
Sample Date	12/8/2020	12/9/2020	12/8/2020	12/9/2020
QA/QC				
Sample Matrix	LIQUID	LIQUID	LIQUID	LIQUID
Sample Delivery Group (SDG)	320-67773-1	320-67844-1	320-67766-1	320-67844-1
Lab Sample ID	320-67773-1	320-67844-6	320-67766-2	320-67844-7
Table 3+ SOP (ng/L)				
Hfpo Dimer Acid	13	590	<2	9,800
PFMOAA	2.2	240	<2	160,000
PFO2HxA	6.9	580	<2	35,000
PFO3OA	<2	73	<2	3,500
PFO4DA	<2	36	<2	<59
PFO5DA	<2	<2	<2	84
PMPA	<20	620	<20	4,600
PEPA	<10	160	<10	1,100
PS Acid	<2	<2	<2	50
Hydro-PS Acid	<2	12	<2	180
R-PSDA	<2	97	<2	670
Hydrolyzed PSDA	<2	<2	<2	1,100
R-PSDCA	<2	<2	<2	130
NVHOS	<2	5.2	<2	1,000
EVE Acid	<2	<2	<2	59
Hydro-EVE Acid	<2	5	<2	200
R-EVE	<2	36	<2	760
PES	<2	<2	<2	63
PFECA B	<2	<2	<2	81
PFECA-G	<2	<2	<2	92
Perfluoroheptanoic Acid	<2	6.4	<2	<94
Total Attachment C²	22	2,300	0.0	210,000
Total Table 3+ (17 compounds)³	22	2,300	0.0	220,000
Total Table 3+ (20 compounds)	22	2,500	0.0	220,000

TABLE 10
GROUNDWATER ANALYTICAL RESULTS
 Chemours Fayetteville Works, North Carolina

Water Bearing Unit ¹	Black Creek Aquifer	Surficial Aquifer	Black Creek Aquifer	--
Location ID	SMW-10	SMW-11	SMW-12	EB
Field Sample ID	CAP1220-SMW-10-120920	CAP1220-SMW-11-120820	CAP1220-SMW-12-120920	CAP1220-EQBLK-PP-120820
Sample Date	12/9/2020	12/8/2020	12/9/2020	12/8/2020
QA/QC				Equipment Blank
Sample Matrix	LIQUID	LIQUID	LIQUID	LIQUID
Sample Delivery Group (SDG)	320-67844-1	320-67766-1	320-67844-1	320-67773-1
Lab Sample ID	320-67844-1	320-67766-3	320-67844-2	320-67773-3
Table 3+ SOP (ng/L)				
Hfpo Dimer Acid	<2	29	1,700	<2
PFMOAA	53	25	4,800	<2
PFO2HxA	2.4	24	1,400	<2
PFO3OA	<2	4	85	<2
PFO4DA	<2	2.4	<12	<2
PFO5DA	<2	<2	<16	<2
PMPA	<20	<20	1,600	<20
PEPA	<10	<10	320	<10
PS Acid	<2	<2	<3.9	<2
Hydro-PS Acid	<2	<2	<2	<2
R-PSDA	<2	<2	110	<2
Hydrolyzed PSDA	<2	<2	<7.6	<2
R-PSDCA	<2	<2	<3.5	<2
NVHOS	<2	<2	45	<2
EVE Acid	<2	<2	<3.5	<2
Hydro-EVE Acid	<2	<2	<2.9	<2
R-EVE	<2	<2	100	<2
PES	<2	<2	<2	<2
PFECA B	<2	<2	<5.3	<2
PFECA-G	<2	<2	<9.6	<2
Perfluoroheptanoic Acid	<2	<2	<19	<2
Total Attachment C²	55	84	9,900	ND
Total Table 3+ (17 compounds)³	55	84	10,000	ND
Total Table 3+ (20 compounds)	55	84	10,000	ND

TABLE 10
GROUNDWATER ANALYTICAL RESULTS
 Chemours Fayetteville Works, North Carolina

Water Bearing Unit ¹	--	--	--	--
Location ID	EB	EB	EB	EB
Field Sample ID	CAP1220-EQBLK-DV-120920	CAP1220-EQBLK-PP-120920	CAP1220-EQBLK-PP-121020	CAP1220-EQBLK-PP-121120
Sample Date	12/9/2020	12/9/2020	12/10/2020	12/11/2020
QA/QC	Equipment Blank	Equipment Blank	Equipment Blank	Equipment Blank
Sample Matrix	LIQUID	LIQUID	LIQUID	LIQUID
Sample Delivery Group (SDG)	320-67844-1	320-67844-1	320-67866-1	320-67866-1
Lab Sample ID	320-67844-4	320-67844-3	320-67866-2	320-67866-5
Table 3+ SOP (ng/L)				
Hfpo Dimer Acid	<2	<2	<2	<2
PFMOAA	<2	<2	<2	<2
PFO2HxA	<2	<2	<2	<2
PFO3OA	<2	<2	<2	<2
PFO4DA	<2	<2	<2	<2
PFO5DA	<2	<2	<2	<2
PMPA	<20	<20	<20	<20
PEPA	<10	<10	<10	<10
PS Acid	<2	<2	<2	<2
Hydro-PS Acid	<2	<2	<2	<2
R-PSDA	<2	<2	<2	<2
Hydrolyzed PSDA	<2	<2	<2	<2
R-PSDCA	<2	<2	<2	<2
NVHOS	<2	<2	<2	<2
EVE Acid	<2	<2	<2	<2
Hydro-EVE Acid	<2	<2	<2	<2
R-EVE	<2	<2	<2	<2
PES	<2	<2	<2	<2
PFECA B	<2	<2	<2	<2
PFECA-G	<2	<2	<2	<2
Perfluoroheptanoic Acid	<2	<2	<2	<2
Total Attachment C²	ND	ND	ND	ND
Total Table 3+ (17 compounds)³	ND	ND	ND	ND
Total Table 3+ (20 compounds)	ND	ND	ND	ND

TABLE 10
GROUNDWATER ANALYTICAL RESULTS
 Chemours Fayetteville Works, North Carolina

Water Bearing Unit ¹	--	--	--	--
Location ID	EB	FBLK	FBLK	FBLK
Field Sample ID	CAP1220-EQBLK-PP-122220	CAP1220-FBLK-120820	CAP1220-FBLK-120920	CAP1220-FBLK-121020
Sample Date	12/22/2020	12/8/2020	12/9/2020	12/10/2020
QA/QC	Equipment Blank	Field Blank	Field Blank	Field Blank
Sample Matrix	LIQUID	LIQUID	LIQUID	LIQUID
Sample Delivery Group (SDG)	320-68259-1	320-67773-1	320-67844-1	320-67866-1
Lab Sample ID	320-68259-3	320-67773-4	320-67844-5	320-67866-1
Table 3+ SOP (ng/L)				
Hfpo Dimer Acid	<2	<2	<2	<2
PFMOAA	<2	<2	<2	<2
PFO2HxA	<2	<2	<2	<2
PFO3OA	<2	<2	<2	<2
PFO4DA	<2	<2	<2	<2
PFO5DA	<2	<2	<2	<2
PMPA	<20	<20	<20	<20
PEPA	<10	<10	<10	<10
PS Acid	<2	<2	<2	<2
Hydro-PS Acid	<2	<2	<2	<2
R-PSDA	<2	<2	<2	<2
Hydrolyzed PSDA	<2	<2	<2	<2
R-PSDCA	<2	<2	<2	<2
NVHOS	<2	<2	<2	<2
EVE Acid	<2	<2	<2	<2
Hydro-EVE Acid	<2	<2	<2	<2
R-EVE	<2	<2	<2	<2
PES	<2	<2	<2	<2
PFECA B	<2	<2	<2	<2
PFECA-G	<2	<2	<2	<2
Perfluoroheptanoic Acid	<2	<2	<2	<2
Total Attachment C²	ND	ND	ND	ND
Total Table 3+ (17 compounds)³	ND	ND	ND	ND
Total Table 3+ (20 compounds)	ND	ND	ND	ND

TABLE 10
GROUNDWATER ANALYTICAL RESULTS
 Chemours Fayetteville Works, North Carolina

Water Bearing Unit ¹	--	--
Location ID	FBLK	FBLK
Field Sample ID	CAP1220-FBLK-121120	CAP1220-FBLK-122220
Sample Date	12/11/2020	12/22/2020
QA/QC	Field Blank	Field Blank
Sample Matrix	LIQUID	LIQUID
Sample Delivery Group (SDG)	320-67866-1	320-68259-1
Lab Sample ID	320-67866-4	320-68259-2
Table 3+ SOP (ng/L)		
Hfpo Dimer Acid	<2	<2
PFMOAA	<2	<2
PFO2HxA	<2	<2
PFO3OA	<2	<2
PFO4DA	<2	<2
PFO5DA	<2	<2
PMPA	<20	<20
PEPA	<10	<10
PS Acid	<2	<2
Hydro-PS Acid	<2	<2
R-PSDA	<2	<2
Hydrolyzed PSDA	<2	<2
R-PSDCA	<2	<2
NVHOS	<2	<2
EVE Acid	<2	<2
Hydro-EVE Acid	<2	<2
R-EVE	<2	<2
PES	<2	<2
PFECA B	<2	<2
PFECA-G	<2	<2
Perfluoroheptanoic Acid	<2	<2
Total Attachment C²	ND	ND
Total Table 3+ (17 compounds)³	ND	ND
Total Table 3+ (20 compounds)	ND	ND

Notes:**Bold** - Analyte detected above associated reporting limit

B - analyte detected in an associated blank

EPA - Environmental Protection Agency

J - Analyte detected. Reported value may not be accurate or precise

ND - no Table 3+ analytes were detected above the associated reporting limits

ng/L - nanograms per liter

QA/QC - Quality assurance/ quality control

SDG - Sample Delivery Group

SOP - standard operating procedure

UJ - Analyte not detected. Reporting limit may not be accurate or precise.

< - Analyte not detected above associated reporting limit.

1 - Refers to the primary aquifer unit that the well screen is estimated to be

2 - Total Attachment C does not include Perfluoroheptanoic acid (PFHpA).

3 - Total Table 3+ (17 compounds) does not include R-PSDA, Hydrolyzed, PSDA, and R-EVE.

TABLE 11**SUMMARY OF CALCULATED TOTAL MASS LOAD IN THE CAPE FEAR RIVER****Chemours Fayetteville Works, North Carolina**

Reporting Period	Reporting Period Details				Total Attachment C ¹		
	Start Date	End Date	Days	River volume (m ³)	Load in Cape Fear River (kg) ^{3,6}	Remedy Reduction Loads (kg) ^{4,6}	Total Load to Cape Fear River (kg) ^{5,6}
2020-Q1 Report	03/28/2020 1:00	05/09/2020 23:49	43	514,570,000	45.1	0	45.1
2020-Q2 Report	05/09/2020 23:49	06/29/2020 16:06	51	1,308,600,000	79.1	0	79.1
2020-Q3 Report	06/29/2020 16:06	10/01/2020 0:01	93	1,036,200,000	77.3	0	77.3
2020-Q4 Report	10/01/2020 0:01	12/30/2020 10:56	90	2,118,700,000	75.8	25.5	101.3
Total⁴	03/28/2020 1:00	12/30/2020 10:56	277	4,978,070,000	277.3	25.5	302.8

Notes:

1 - Total Attachment C does not include Perfluoroheptanoic acid (PFHpA).

2 - Total table 3+ (17 compounds) does not include R-PSDA, Hydrolyzed, PSDA, and R-EVE.

3 - Calculated Cape Fear River loads represents loads measured in the Cape Fear River at the CFR-TARHEEL sampling location downstream of the Site.

4 - Calculated remedy reduction loads represents loads from Old Outfall 002 and Seep C that were prevented from reaching the Cape Fear River.

5 - Total load to Cape Fear River represents the sum of the measured in-river load and the remedy reduction load. This value represents the baseline load that would reach the Cape Fear River in the absence of any remedies.

6 - Total values are rounded to two significant digits. Values in calculations supporting totals are not rounded.

kg - kilograms

m³ - cubic meters

TABLE 11

Geosyntec Consultants of NC P.C.

SUMMARY OF CALCULATED TOTAL MASS LOAD IN THE CAPE FEAR RIVER**Chemours Fayetteville Works, North Carolina**

Reporting Period	Reporting Period Details				Total Table 3+ (17 Compounds) ²		
	Start Date	End Date	Days	River volume (m ³)	Load in Cape Fear River (kg) ^{3,6}	Remedy Reduction Loads (kg) ^{4,6}	Total Load to Cape Fear River (kg) ^{5,6}
2020-Q1 Report	03/28/2020 1:00	05/09/2020 23:49	43	514,570,000	45.8	0	45.8
2020-Q2 Report	05/09/2020 23:49	06/29/2020 16:06	51	1,308,600,000	79.7	0	79.7
2020-Q3 Report	06/29/2020 16:06	10/01/2020 0:01	93	1,036,200,000	78.5	0	78.5
2020-Q4 Report	10/01/2020 0:01	12/30/2020 10:56	90	2,118,700,000	76.7	25.8	102.5
Total⁴	03/28/2020 1:00	12/30/2020 10:56	277	4,978,070,000	280.7	25.8	306.5

Notes:

1 - Total Attachment C does not include Perfluorheptanoic acid (PFHpA).

2 - Total table 3+ (17 compounds) does not include R-PSDA, Hydrolyzed, PSDA, and R-EVE.

3 - Calculated Cape Fear River loads represents loads measured in the Cape Fear River at the CFR-TARHEEL sampling location downstream of the Site.

4 - Calculated remedy reduction loads represents loads from Old Outfall 002 and Seep C that were prevented from reaching the Cape Fear River.

5 - Total load to Cape Fear River represents the sum of the measured in-river load and the remedy reduction load. This value represents the baseline load that would reach the Cape Fear River in the absence of any remedies.

6 - Total values are rounded to two significant digits. Values in calculations supporting totals are not rounded.

kg - kilograms

m³ - cubic meters

TABLE 11

Geosyntec Consultants of NC P.C.

SUMMARY OF CALCULATED TOTAL MASS LOAD IN THE CAPE FEAR RIVER**Chemours Fayetteville Works, North Carolina**

Reporting Period	Reporting Period Details				Total Table 3+ (20 Compounds)		
	Start Date	End Date	Days	River volume (m ³)	Load in Cape Fear River (kg) ^{3,6}	Remedy Reduction Loads (kg) ^{4,6}	Total Load to Cape Fear River (kg) ^{5,6}
2020-Q1 Report	03/28/2020 1:00	05/09/2020 23:49	43	514,570,000	58.7	0	58.7
2020-Q2 Report	05/09/2020 23:49	06/29/2020 16:06	51	1,308,600,000	101.6	0	101.6
2020-Q3 Report	06/29/2020 16:06	10/01/2020 0:01	93	1,036,200,000	99.5	0	99.5
2020-Q4 Report	10/01/2020 0:01	12/30/2020 10:56	90	2,118,700,000	98.5	26.5	125.0
Total⁴	03/28/2020 1:00	12/30/2020 10:56	277	4,978,070,000	358.4	26.5	384.9

Notes:

1 - Total Attachment C does not include Perfluoroheptanoic acid (PFHpA).

2 - Total table 3+ (17 compounds) does not include R-PSDA, Hydrolyzed, PSDA, and R-EVE.

3 - Calculated Cape Fear River loads represents loads measured in the Cape Fear River at the CFR-TARHEEL sampling location downstream of the Site.

4 - Calculated remedy reduction loads represents loads from Old Outfall 002 and Seep C that were prevented from reaching the Cape Fear River.

5 - Total load to Cape Fear River represents the sum of the measured in-river load and the remedy reduction load. This value represents the baseline load that would reach the Cape Fear River in the absence of any remedies.

6 - Total values are rounded to two significant digits. Values in calculations supporting totals are not rounded.

kg - kilograms

m³ - cubic meters

TABLE 12A
CAPE FEAR RIVER PFAS MASS LOAD BY COMPOUND AND TIME INTERVAL
Chemours Fayetteville Works, North Carolina

Interval Details				Calculated Mass Load ² (kg)																					Total Attachment C ³	Total Table 3+ (17 Compounds) ⁴	Total Table 3+ (20 Compounds)
Interval ID	Start Time ¹	End Time ¹	Total River Flow (m ³)	HFPO-DA	PFMOAA	PFO2HxA	PFO3OA	PFO4DA	PFO5DA	PMPA	PEPA	PS Acid (Formerly PFESA-BP1)	Hydro-PS Acid (Formerly PFESA-BP2)	R-PSDA (Formerly Byproduct 4)	Hydrolyzed PSDA (Formerly Byproduct 5)	R-PSDCA (Formerly Byproduct 6)	NVHOS	EVE Acid	Hydro-EVE Acid	R-EVE	PES	PFECA B	PFECA-G	PFHpA			
2020_1_Q1	3/28/20 1:00	3/31/20 12:30	90,900,221	0.29	2.50	0.83	0.10	0	0.00	1.23	0	0	0	0	0.75	0	0	0	0	0.10	0	0	0	1.32	4.9	4.9	5.8
2020_2_Q1	3/31/20 12:30	4/2/20 13:30	27,756,145	0.28	1.17	0.39	0.09	0	0.00	0.47	0	0	0	0.22	0.39	0	0	0	0	0	0	0	0	0.33	2.4	2.4	3.0
2020_3_Q1	4/2/20 13:30	4/3/20 15:00	9,680,794	0.17	0.48	0.21	0.05	0	0.00	0.28	0	0	0	0.13	0.17	0	0	0	0	0.02	0	0	0	0.10	1.2	1.2	1.5
2020_4_Q1	4/3/20 15:00	4/6/20 0:00	15,145,577	0.28	1.14	0.42	0.10	0.02	0.04	0.42	0	0	0	0.18	0.39	0	0.05	0	0	0.03	0	0	0	0.06	2.4	2.5	3.1
2020_5_Q1	4/6/20 0:00	4/9/20 6:30	16,574,785	0.33	1.56	0.55	0.13	0.05	0.08	0.51	0	0	0	0.22	0.51	0	0.08	0	0	0.06	0	0	0	NA	3.2	3.3	4.1
2020_6_Q1	4/9/20 6:30	4/15/20 14:30	38,570,773	0.49	2.35	0.85	0.21	0.05	0.23	0.93	0	0	0	0.25	0.78	0	0.10	0	0	0.07	0	0	0	NA	5.1	5.2	6.3
2020_7_Q1	4/15/20 14:30	4/19/20 2:00	55,746,498	0.31	1.56	0.61	0.14	0	0.38	0.95	0	0	0	0.00	0.54	0	0	0	0	0.00	0	0	0	NA	4.0	4.0	4.5
2020_8_Q1	4/19/20 2:00	4/22/20 13:30	27,903,959	0.33	1.42	0.53	0.14	0	0.15	0.70	0	0	0	0.00	0.47	0	0	0	0	0.00	0	0	0	NA	3.3	3.3	3.8
2020_9_Q1	4/22/20 13:30	4/26/20 0:49	28,652,713	0.32	1.52	0.54	0.14	0	0.00	0.60	0	0	0	0.21	0.66	0	0.08	0	0	0.00	0	0	0	NA	3.1	3.2	4.1
2020_10_Q1	4/26/20 0:49	4/29/20 11:49	22,888,734	0.30	1.35	0.55	0.13	0	0.00	0.53	0	0	0	0.30	0.62	0	0.09	0	0	0.05	0	0	0	NA	2.9	2.9	3.9
2020_11_Q1	4/29/20 11:49	4/30/20 9:49	7,256,900	0.09	0.30	0.14	0.03	0	0.00	0.17	0	0	0	0.12	0.16	0	0.03	0	0	0.03	0	0	0	NA	0.7	0.8	1.1
2020_12_Q1	4/30/20 9:49	5/3/20 1:00	55,522,229	0.67	1.50	0.89	0.19	0	0.00	1.33	0	0	0	1.11	1.00	0	0.18	0	0	0.33	0	0	0	NA	4.6	4.8	7.2
2020_13_Q1	5/3/20 1:00	5/6/20 12:00	72,975,232	0.45	1.31	0.72	0.15	0	0.00	1.09	0	0	0	0.80	0.88	0	0	0	0.00	0	0	0	NA	3.7	3.7	5.4	
2020_14_Q1	5/6/20 12:00	5/9/20 23:49	44,993,799	0.42	1.53	0.63	0.17	0	0.00	0.81	0	0	0	0.58	0.67	0	0.10	0	0	0.12	0	0	0	NA	3.6	3.7	5.0
2020_1_Q2	5/9/20 23:49	5/13/20 9:49	15,999,330	0.21	1.10	0.43	0.11	0	0.00	0.35	0	0	0	0.19	0.54	0	0.05	0	0	0.08	0	0	0	NA	2.2	2.3	3.1
2020_2_Q2	5/13/20 9:49	5/13/20 20:50	1,909,858	0.04	0.18	0.07	0.02	0	0.00	0.05	0	0	0	0.03	0.09	0	0.01	0	0	0.01	0	0	0	NA	0.4	0.4	0.5
2020_3_Q2	5/13/20 20:50	5/14/20 20:50	3,563,845	0.02	0.08	0.03	0.01	0	0.00	0.02	0	0	0	0.01	0.04	0	0.00	0	0	0.01	0	0	0	NA	0.2	0.2	0.2
2020_4_Q2	5/14/20 20:50	5/16/20 20:50	6,321,849	0.12	0.59	0.23	0.05	0	0.00	0.17	0	0	0	0.09	0.30	0	0.03	0	0	0.04	0	0	0	NA	1.2	1.2	1.6
2020_5_Q2	5/16/20 20:50	5/20/20 8:49	11,021,058	0.28	1.32	0.50	0.11	0	0.00	0.35	0	0	0	0.17	0.60	0	0.04	0	0	0.09	0	0	0	NA	2.8	2.9	3.7
2020_6_Q2	5/20/20 8:49	5/25/20 10:15	216,311,428	2.92	12.98	5.10	1.08	0	0.00	3.46	2	0	0	1.62	6.21	0	0.41	0	0	1.09	0	0	0	NA	28.3	29	38
2020_7_Q2	5/25/20 10:15	5/29/20 9:10	171,453,975	0.56	0.00	0.75	0.00	0	0.00	0.00	0	0	0	0.00	0.29	0	0.00	0	0	0.17	0	0	0	NA	1.3	1.3	1.8
2020_8_Q2	5/29/20 9:10	6/1/20 14:25	171,922,902	0.56	0.49	0.83	0.00	0	0.00	0.00	0	0	0	0.20	0.24	0	0.00	0	0	0.00	0	0	0	NA	1.9	1.9	2.3
2020_9_Q2	6/1/20 14:25	6/5/20 11:06	172,656,875	0.57	1.27	0.83	0.00	0	0.00	2.33	0	0	0	0.20	0.71	0	0.00	0	0	0.00	0	0	0	NA	5.0	5.0	5.9
2020_10_Q2	6/5/20 11:06	6/8/20 22:06	104,412,708	0.68	1.02	0.87	0.00	0	0.00	1.78	0	0	0	0.62	0.75	0	0.00	0	0	0.00	0	0	0	NA	4.7	4.7	6.1
2020_11_Q2	6/8/20 22:06	6/12/20 9:06	58,107,953	0.58	0.99	0.76	0.20	0	0.00	1.45	0	0	0	0.49	0.53	0	0.00	0	0	0.22	0	0	0	NA	4.2	4.2	5.4
2020_12_Q2	6/12/20 9:06	6/15/20 20:06	58,712,971	0.88	0.82	0.76	0.18	0	0.00	1.59	0	0	0	0.28	0.47	0	0.00	0	0	0.00	0	0	0	NA	4.4	4.4	5.2
2020_13_Q2	6/15/20 20:06	6/19/20 7:06	88,876,954	1.42	0.98	1.60	0.34	0	0.00	3.20	0	0	0	0.45	0.64	0	0.00	0	0	0.00	0	0	0	NA	8.0	8.0	9.1
2020_14_Q2	6/19/20 7:06	6/22/20 18:06	120,134,505	0.70	0.59	0.96	0.00	0	0.00	2.52	0	0	0	0.67	0.49	0	0.00	0	0	0.00	0	0	0	NA	4.8	4.8	5.9
2020_15_Q2	6/22/20 18:06	6/26/20 5:06	70,462,140	0.70	2.11	0.92	0.20	0	0.00	1.41	0	0	0	0.78	0.85	0	0.00	0	0	0.25	0	0	0	NA	5.6	5.6	7.4
2020_16_Q2	6/26/20 5:06	6/29/20 16:06	36,712,395	0.55	1.80	0.66	0.15	0	0.00	0.95	0	0	0	0.55	0.62	0	0.09	0	0	0.18	0	0	0	NA	4.3	4.4	5.7
2020_1_Q3	6/29/20 16:06	7/2/20 8:29	16,684,371	0.32	0.00	0.42	0.09	0	0.00	0.45	0	0	0	0.07	0.20	0	0.05	0	0	0.00	0	0	0	NA	1.4	1.5	1.7
2020_2_Q3	7/2/20 8:29	7/3/20 8:29	5,795,071	0.11	0.35	0.15	0.03	0	0.00	0.23	0	0	0	0.13	0.16	0	0.02	0	0	0.04	0	0	0	NA	0.9	0.9	1.2
2020_3_Q3	7/3/20 8:29	7/6/20 8:29	15,030,129	0.29	1.18	0.43	0.09	0	0.00	0.52	0	0	0	0.34	0.47	0	0.06	0	0	0.09	0	0	0	NA	2.5	2.6	3.5
2020_4_Q3	7/6/20 8:29	7/7/20 7:29	4,575,096	0.09	0.44	0.14	0.03	0	0.00	0.14	0	0	0	0.11	0.16	0	0.02	0	0	0.03	0	0	0	NA	0.9	0.9	1.2
2020_5_Q3	7/7/20 7:29	7/9/20 12:01	12,348,326	0.21	1.07	0.35	0.07	0	0.00	0.35	0	0	0	0.22	0.41	0	0.05	0	0	0.06	0	0	0	NA	2.1	2.1	2.8
2020_6_Q3	7/9/20 12:01	7/10/20 11:01	5,842,473	0.09	0.45	0.15	0.03	0	0.00	0.15	0	0	0	0.07	0.19	0	0.02	0	0	0.03	0	0	0	NA	0.9	0.9	1.2
2020_7_Q3	7/10/20 11:01	7/13/20 0:01	14,776,297	0.23	1.01	0.39	0.09	0	0.00	0.39	0	0	0	0.25	0.47	0	0.05	0	0	0.08	0	0	0	NA	2.2	2.2	3.0
2020_8_Q3	7/13/20 0:01	7/13/20 23:01	5,890,640	0.05	0.18	0.08	0.02	0	0.00	0.08	0	0	0	0.06	0.09	0	0.01	0	0	0.02	0	0	0	NA	0.4	0.4	0.6
2020_9_Q3	7/13/20 23:01	7/16/20 0:01	12,180,378	0.22	0.83	0.36	0.08	0	0.00	0.34	0	0	0	0.21	0.34	0	0.04	0	0	0.06	0	0	0	NA	1.9	1.9	2.5
2020_10_Q3	7/16/20 0:01	7/16/20 23:01	4,890,093	0.10	0.37	0.15	0.03	0	0.00	0.14	0	0	0	0.06	0.12	0	0.02	0	0	0.02	0	0	0	NA	0.8	0.8	1.0
2020_11_Q3	7/16/20 23:01	7/20/20 0:01	12,608,784	0.29	1.11	0.38	0.10	0	0.02	0.18	0	0	0	0.08	0.15	0	0.04	0	0	0.02	0	0	0	NA	2.1	2.2	2.4
2020_12_Q3	7/20/20 0:01	7/20/20 23:01	4,441,299	0.12	0.44	0.13	0.04	0	0.01	0.00	0	0	0	0.00	0.00	0	0.02	0	0	0.00	0	0	0	NA	0.8	0.8	0.8
2020_13_Q3	7/20/20 23:01	7/22/20 0:01	5,466,058	0.13	0.27	0.16	0.05	0	0.01	0.08	0	0	0	0.04	0.08	0	0.02	0	0	0.00	0	0	0	NA	0.7	0.8	0.9
2020_14_Q3	7/22/20 0:01	7/22/20 23:01	4,514,442	0.10	0.00	0.14	0.04	0	0.01	0.13	0	0	0	0.06	0.13	0	0.02	0	0	0.00	0	0	0	NA	0.4	0.5	0.7
2020_15_Q3	7/22/20 23:01	7/23/20 23:01	4,066,412	0.08	0.27	0.12	0.03	0	0.01	0.10	0	0	0	0.07	0.12	0	0.02	0	0	0.00	0	0	0	NA	0.6	0.6	0.8
2020_16_Q3	7/23/20 23:01	7/27/20 0:01	20,315,242	0.35	1.10	0.49	0.11	0	0.02	0.24	0	0	0	0.29	0.44	0	0.08	0	0	0.00	0	0	0	NA	2.3	2.4	3.1
2020_17_Q3	7/27/20 0:01	7/27/20 11:01	3,081,921	0.04	0.13	0.06	0.01	0	0.00	0.00	0	0	0	0.04	0.04	0	0.01	0	0	0.00	0	0	0	NA	0.2	0.3	0.3

TABLE 12A
CAPE FEAR RIVER PFAS MASS LOAD BY COMPOUND AND TIME INTERVAL
Chemours Fayetteville Works, North Carolina

Interval Details				Calculated Mass Load ² (kg)																					Total Attachment C ³	Total Table 3+ (17 Compounds) ⁴	Total Table 3+ (20 Compounds)		
Interval ID	Start Time ¹	End Time ¹	Total River Flow (m ³)	HFPO-DA	PFMOAA	PFO2HxA	PFO3OA	PFO4DA	PFO5DA	PMPA	PEPA	PS Acid (Formerly PFESA-BP1)	Hydro-PS Acid (Formerly PFESA-BP2)	R-PSDA (Formerly Byproduct 4)	Hydrolyzed PSDA (Formerly Byproduct 5)	R-PSDCA (Formerly Byproduct 6)	NVHOS	EVE Acid	Hydro-EVE Acid	R-EVE	PES	PFECA B	PFECA-G	PFHpA					
2020_18_Q3	7/27/20 11:01	7/28/20 16:20	8,598,694	0.12	0.34	0.16	0.04	0	0.00	0.00	0	0	0	0.05	0.06	0	0.03	0	0	0.00	0	0	0	0	0	0.01	0.7	0.7	0.8
2020_19_Q3	7/28/20 16:20	7/29/20 0:01	2,165,219	0.03	0.09	0.04	0.01	0	0.00	0.00	0	0	0	0.00	0.01	0	0.01	0	0	0.00	0	0	0	0	0	0.01	0.2	0.2	0.2
2020_20_Q3	7/29/20 0:01	7/29/20 23:01	6,721,966	0.09	0.36	0.14	0.03	0	0.00	0.00	0	0	0	0.00	0.13	0	0.02	0	0	0.00	0	0	0	0	0	0.02	0.6	0.7	0.8
2020_21_Q3	7/29/20 23:01	7/30/20 23:01	9,491,439	0.10	0.39	0.17	0.05	0	0.00	0.00	0	0	0	0.00	0.17	0	0.03	0	0	0.00	0	0	0	0	0	0.03	0.7	0.8	0.9
2020_22_Q3	7/30/20 23:01	8/3/20 14:50	30,789,134	0.40	1.37	0.63	0.16	0	0.00	0.32	0	0	0	0.00	0.60	0	0.09	0	0	0.00	0	0	0	0	0	0.12	3.0	3.1	3.7
2020_23_Q3	8/3/20 14:50	8/4/20 12:30	6,376,388	0.19	0.30	0.19	0.05	0	0.00	0.21	0	0	0	0.00	0.17	0	0.02	0	0	0.00	0	0	0	0	0	0.03	1.0	1.0	1.2
2020_24_Q3	8/4/20 12:30	8/5/20 23:55	30,928,538	0.75	0.85	0.70	0.15	0	0.00	0.70	0	0	0	0.00	0.53	0	0.04	0	0	0.00	0	0	0	0	0	0.12	3.5	3.6	4.1
2020_25_Q3	8/5/20 23:55	8/6/20 22:55	20,578,759	0.10	0.17	0.17	0.00	0	0.00	0.00	0	0	0	0.00	0.05	0	0.00	0	0	0.00	0	0	0	0	0	0.05	0.4	0.4	0.5
2020_26_Q3	8/6/20 22:55	8/9/20 22:38	58,359,492	0.37	0.24	0.82	0.18	0	0.00	0.00	0	0	0	0.00	0.07	0	0.00	0	0	0.00	0	0	0	0	0	0.21	1.7	1.7	1.7
2020_27_Q3	8/9/20 22:38	8/10/20 21:56	13,933,248	0.11	0.00	0.28	0.08	0	0.00	0.00	0	0	0	0.00	0.00	0	0.00	0	0	0.00	0	0	0	0	0	0.06	0.5	0.5	0.5
2020_28_Q3	8/10/20 21:56	8/12/20 0:01	20,465,095	0.14	0.28	0.32	0.08	0	0.00	0.00	0	0	0	0.08	0.15	0	0.00	0	0	0.04	0	0	0	0	0	0.09	0.8	0.8	1.1
2020_29_Q3	8/12/20 0:01	8/12/20 23:01	18,224,184	0.11	0.49	0.20	0.04	0	0.00	0.00	0	0	0	0.13	0.27	0	0.00	0	0	0.07	0	0	0	0	0	0.07	0.8	0.8	1.3
2020_30_Q3	8/12/20 23:01	8/17/20 0:01	68,965,142	0.32	1.45	0.59	0.07	0	0.00	0.00	0	0	0	0.39	0.74	0	0.00	0	0	0.13	0	0	0	0	0	0.22	2.4	2.4	3.7
2020_31_Q3	8/17/20 0:01	8/17/20 23:01	29,873,707	0.10	0.45	0.19	0.00	0	0.00	0.00	0	0	0	0.11	0.19	0	0.00	0	0	0.00	0	0	0	0	0	0.07	0.7	0.7	1.0
2020_32_Q3	8/17/20 23:01	8/20/20 0:01	60,110,322	0.29	1.23	0.55	0.07	0	0.00	0.00	0	0	0	0.30	0.52	0	0.00	0	0	0.00	0	0	0	0	0	0.16	2.1	2.1	3.0
2020_33_Q3	8/20/20 0:01	8/20/20 23:01	20,274,466	0.13	0.53	0.24	0.05	0	0.00	0.00	0	0	0	0.12	0.22	0	0.00	0	0	0.00	0	0	0	0	0	0.06	0.9	0.9	1.3
2020_34_Q3	8/20/20 23:01	8/25/20 0:01	82,304,076	0.55	2.43	1.11	0.22	0	0.00	0.00	0	0	0	0.25	0.45	0	0.00	0	0	0.00	0	0	0	0	0	0.26	4.3	4.3	5.0
2020_35_Q3	8/25/20 0:01	8/25/20 23:01	14,273,984	0.10	0.47	0.21	0.04	0	0.00	0.00	0	0	0	0.00	0.00	0	0.00	0	0	0.00	0	0	0	0	0	0.05	0.8	0.8	0.8
2020_36_Q3	8/25/20 23:01	8/27/20 11:18	13,059,107	0.12	0.63	0.25	0.06	0	0.00	0.15	0	0	0	0.03	0.15	0	0.00	0	0	0.02	0	0	0	0	0	0.05	1.2	1.2	1.4
2020_37_Q3	8/27/20 11:18	8/31/20 13:30	21,797,969	0.33	1.78	0.64	0.14	0	0.00	0.59	0	0	0	0.17	0.66	0	0.03	0	0	0.08	0	0	0	0	0	0.10	3.6	3.6	4.5
2020_38_Q3	8/31/20 13:30	9/3/20 0:01	30,093,899	0.39	1.82	0.71	0.17	0	0.00	0.47	0	0	0	0.22	0.70	0	0.04	0	0	0.07	0	0	0	0	0	0.12	3.6	3.7	4.7
2020_39_Q3	9/3/20 0:01	9/3/20 23:01	13,891,707	0.11	0.29	0.17	0.05	0	0.00	0.00	0	0	0	0.05	0.12	0	0.00	0	0	0.00	0	0	0	0	0	0.03	0.6	0.6	0.8
2020_40_Q3	9/3/20 23:01	9/7/20 0:01	30,452,220	0.30	0.72	0.44	0.12	0	0.00	0.00	0	0	0	0.05	0.36	0	0.00	0	0	0.00	0	0	0	0	0	0.07	1.6	1.6	2.0
2020_41_Q3	9/7/20 0:01	9/7/20 23:01	7,001,539	0.08	0.18	0.12	0.03	0	0.00	0.00	0	0	0	0.00	0.11	0	0.00	0	0	0.00	0	0	0	0	0	0.02	0.4	0.4	0.5
2020_42_Q3	9/7/20 23:01	9/10/20 0:01	11,457,874	0.22	0.46	0.27	0.07	0	0.00	0.17	0	0	0	0.08	0.32	0	0.02	0	0	0.04	0	0	0	0	0	0.04	1.2	1.2	1.7
2020_43_Q3	9/10/20 0:01	9/10/20 23:01	3,946,632	0.10	0.22	0.12	0.03	0	0.00	0.12	0	0	0	0.06	0.16	0	0.01	0	0	0.02	0	0	0	0	0	0.02	0.6	0.6	0.9
2020_44_Q3	9/10/20 23:01	9/14/20 0:01	15,795,194	0.35	0.72	0.44	0.10	0	0.00	0.24	0	0	0	0.14	0.51	0	0.06	0	0	0.05	0	0	0	0	0	0.08	1.9	1.9	2.7
2020_45_Q3	9/14/20 0:01	9/14/20 23:01	4,603,385	0.08	0.17	0.12	0.02	0	0.00	0.00	0	0	0	0.02	0.11	0	0.02	0	0	0.00	0	0	0	0	0	0.02	0.4	0.4	0.5
2020_46_Q3	9/14/20 23:01	9/17/20 0:01	8,296,694	0.18	0.15	0.24	0.05	0	0.00	0.14	0	0	0	0.06	0.22	0	0.04	0	0	0.01	0	0	0	0	0	0.04	0.8	0.8	1.1
2020_47_Q3	9/17/20 0:01	9/17/20 23:01	3,677,254	0.09	0.00	0.12	0.03	0	0.00	0.12	0	0	0	0.04	0.11	0	0.02	0	0	0.01	0	0	0	0	0	0.02	0.4	0.4	0.6
2020_48_Q3	9/17/20 23:01	9/18/20 10:01	3,161,179	0.13	0.00	0.12	0.03	0	0.00	0.15	0	0	0	0.16	0.15	0	0.02	0	0	0.02	0	0	0	0	0	0.01	0.5	0.5	0.9
2020_49_Q3	9/18/20 10:01	9/21/20 0:01	28,670,297	0.71	0.11	0.68	0.13	0	0.00	1.15	0	0	0	0.75	0.81	0	0.08	0	0	0.11	0	0	0	0	0	0.12	3.2	3.3	5.0
2020_50_Q3	9/21/20 0:01	9/21/20 23:01	15,482,746	0.11	0.12	0.13	0.00	0	0.00	0.53	0	0	0	0.00	0.15	0	0.00	0	0	0.00	0	0	0	0	0	0.06	0.9	0.9	1.0
2020_51_Q3	9/21/20 23:01	9/24/20 0:01	26,249,972	0.24	0.29	0.24	0.04	0	0.00	0.85	0	0	0	0.00	0.27	0	0.00	0	0	0.00	0	0	0	0	0	0.13	1.7	1.7	1.9
2020_52_Q3	9/24/20 0:01	9/24/20 23:01	10,370,932	0.11	0.15	0.10	0.03	0	0.00	0.32	0	0	0	0.00	0.11	0	0.00	0	0	0.00	0	0	0	0	0	0.06	0.7	0.7	0.8
2020_53_Q3	9/24/20 23:01	9/25/20 23:01	10,821,255	0.12	0.13	0.13	0.03	0	0.00	0.35	0	0	0	0.00	0.15	0	0.00	0	0	0.00	0	0	0	0	0	0.06	0.8	0.8	0.9
2020_54_Q3	9/25/20 23:01	9/26/20 23:01	19,919,967	0.24	0.18	0.26	0.05	0	0.00	0.68	0	0	0	0.00	0.26	0	0.00	0	0	0.00	0	0	0	0	0	0.10	1.4	1.4	1.7
2020_55_Q3	9/26/20 23:01	9/28/20 0:01	28,474,571	0.26	0.21	0.27	0.04	0	0.00	0.94	0	0	0	0.00	0.29	0	0.00	0	0	0.00	0	0	0	0	0	0.12	1.7	1.7	2.0
2020_56_Q3	9/28/20 0:01	9/28/20 23:01	22,732,255	0.14	0.14	0.14	0.00	0	0.00	0.73	0	0	0	0.00	0.16	0	0.00	0	0	0.00	0	0	0	0	0	0.08	1.2	1.2	1.3
2020_57_Q3	9/28/20 23:01	9/29/20 23:01	22,444,018	0.12	0.09	0.15	0.00	0	0.00	0.00	0	0	0	0.00	0.12	0	0.00	0	0	0.00	0	0	0	0	0	0.09	0.4	0.4	0.5
2020_58_Q3	9/29/20 23:01	10/1/20 0:01	28,869,846	0.32	0.66	0.35	0.07	0	0.00	0.72	0	0	0	0.21	0.35	0	0.00	0	0	0.08	0	0	0	0	0	0.14	2.1	2.1	2.8
2020_1_Q4	10/1/20 0:01	10/1/20 17:01	22,630,824	0.12	0.07	0.15	0.00	0	0.00	0.00	0	0	0	0.00	0.00	0	0.00	0	0	0.00	0	0	0	0	0	0.12	0.3	0.3	0.3
2020_2_Q4	10/1/20 17:01	10/6/20 15:30	94,327,975	0.63	0.32	0.78	0.10	0	0.00	0.00	0	0	0	0.00	0.24	0	0.00	0	0	0.00	0	0	0	0	0	0.51	1.8	1.8	2.1
2020_3_Q4	10/6/20 15:30	10/6/20 23:30	3,102,054	0.03	0.01	0.03	0.01	0	0.00	0.00	0	0	0	0.00	0.02	0	0.00	0	0	0.00	0	0	0	0	0	0.02	0.1	0.1	0.1
2020_4_Q4	10/6/20 23:30	10/7/20 17:30	5,666,371	0.06	0.03	0.07	0.02	0	0.00	0.00	0	0	0	0.															

TABLE 12A
CAPE FEAR RIVER PFAS MASS LOAD BY COMPOUND AND TIME INTERVAL
Chemours Fayetteville Works, North Carolina

Interval Details				Calculated Mass Load ² (kg)																								Total Attachment C ³	Total Table 3+ (17 Compounds) ⁴	Total Table 3+ (20 Compounds)
Interval ID	Start Time ¹	End Time ¹	Total River Flow (m ³)	HFPO-DA	PFMOAA	PFO2HxA	PFO3OA	PFO4DA	PFO5DA	PMPA	PEPA	PS Acid (Formerly PFESA-BP1)	Hydro-PS Acid (Formerly PFESA-BP2)	R-PSDA (Formerly Byproduct 4)	Hydrolyzed PSDA (Formerly Byproduct 5)	R-PSDA (Formerly Byproduct 6)	NVHOS	EVE Acid	Hydro-EVE Acid	R-EVE	PES	PFECA B	PFECA-G	PFHpA						
2020 12 Q4	10/19/20 23:01	10/22/20 0:01	30,272,040	0.20	0.38	0.24	0.00	0	0.00	0.42	0	0	0	0.06	0.09	0	0.00	0	0	0.00	0	0	0	0	0.16	1.2	1.2	1.4		
2020 13 Q4	10/22/20 0:01	10/22/20 23:01	11,426,018	0.08	0.08	0.09	0.00	0	0.00	0.32	0	0	0	0.00	0.00	0	0.00	0	0	0.00	0	0	0	0	0.06	0.6	0.6	0.6		
2020 14 Q4	10/22/20 23:01	10/30/20 0:01	54,393,236	0.49	0.98	0.58	0.08	0	0.00	0.76	0	0	0	0.30	0.23	0	0.10	0	0	0.08	0	0	0	0	0.26	2.9	3.0	3.6		
2020 15 Q4	10/30/20 0:01	10/31/20 0:01	9,159,622	0.10	0.27	0.12	0.03	0	0.00	0.00	0	0	0	0.10	0.08	0	0.03	0	0	0.03	0	0	0	0	0.04	0.5	0.5	0.8		
2020 16 Q4	10/31/20 0:01	10/31/20 23:01	9,568,914	0.08	0.26	0.11	0.02	0	0.00	0.20	0	0	0	0.09	0.06	0	0.04	0	0	0.02	0	0	0	0	0.05	0.7	0.7	0.9		
2020 17 Q4	10/31/20 23:01	11/2/20 0:01	13,443,423	0.11	0.28	0.13	0.02	0	0.00	0.28	0	0	0	0.06	0.07	0	0.05	0	0	0.01	0	0	0	0	0.07	0.8	0.9	1.0		
2020 18 Q4	11/2/20 0:01	11/2/20 23:01	14,928,953	0.10	0.22	0.13	0.00	0	0.00	0.30	0	0	0	0.00	0.06	0	0.05	0	0	0.00	0	0	0	0	0.09	0.8	0.8	0.9		
2020 19 Q4	11/2/20 23:01	11/5/20 0:01	28,761,279	0.19	0.53	0.26	0.03	0	0.00	0.66	0	0	0	0.00	0.13	0	0.05	0	0	0.00	0	0	0	0	0.16	1.7	1.7	1.8		
2020 20 Q4	11/5/20 0:01	11/5/20 23:01	9,736,096	0.06	0.21	0.09	0.02	0	0.00	0.25	0	0	0	0.00	0.05	0	0.00	0	0	0.00	0	0	0	0	0.05	0.6	0.6	0.7		
2020 21 Q4	11/5/20 23:01	11/9/20 0:01	19,869,252	0.18	0.57	0.26	0.06	0	0.00	0.48	0	0	0	0.16	0.19	0	0.03	0	0	0.03	0	0	0	0	0.09	1.5	1.6	2.0		
2020 22 Q4	11/9/20 0:01	11/9/20 23:01	5,385,015	0.06	0.19	0.09	0.02	0	0.00	0.12	0	0	0	0.09	0.08	0	0.02	0	0	0.02	0	0	0	0	0.02	0.5	0.5	0.7		
2020 23 Q4	11/9/20 23:01	11/11/20 0:01	5,694,659	0.07	0.21	0.10	0.02	0	0.00	0.06	0	0	0	0.09	0.08	0	0.02	0	0	0.02	0	0	0	0	0.02	0.5	0.5	0.7		
2020 24 Q4	11/11/20 0:01	11/12/20 0:01	5,548,629	0.08	0.21	0.10	0.02	0	0.00	0.00	0	0	0	0.09	0.08	0	0.02	0	0	0.02	0	0	0	0	0.02	0.4	0.4	0.6		
2020 25 Q4	11/12/20 0:01	11/12/20 19:01	15,004,644	0.69	0.72	0.68	0.17	0	0.08	0.78	0	0	0	0.59	0.32	0	0.05	0	0	0.17	0	0	0	0	0.05	3.5	3.6	4.7		
2020 26 Q4	11/12/20 19:01	11/13/20 14:10	43,872,706	1.07	1.05	1.06	0.24	0	0.12	1.14	0	0	0	0.86	0.46	0	0.07	0	0	0.24	0	0	0	0	0.15	5.3	5.4	7.0		
2020 27 Q4	11/13/20 14:10	11/18/20 12:25	340,079,098	1.50	1.38	1.87	0.00	0	0.00	0.00	0	0	0	1.05	0.43	0	0.00	0	0	0.00	0	0	0	0	0.97	4.7	4.7	6.2		
2020 28 Q4	11/18/20 12:25	11/20/20 11:06	68,070,868	0.41	0.62	0.52	0.00	0	0.00	0.00	0	0	0	0.45	0.25	0	0.00	0	0	0.00	0	0	0	0	0.20	1.5	1.5	2.2		
2020 29 Q4	11/20/20 11:06	11/24/20 0:01	114,667,938	0.76	1.61	0.78	0.00	0	0.00	0.00	0	0	0	0.60	0.48	0	0.00	0	0	0.00	0	0	0	0	0.45	3.1	3.1	4.2		
2020 30 Q4	11/24/20 0:01	11/24/20 23:01	26,346,560	0.19	0.47	0.16	0.00	0	0.00	0.00	0	0	0	0.09	0.09	0	0.00	0	0	0.00	0	0	0	0	0.12	0.8	0.8	1.0		
2020 31 Q4	11/24/20 23:01	11/26/20 0:01	24,616,628	0.18	0.48	0.17	0.00	0	0.00	0.00	0	0	0	0.09	0.10	0	0.00	0	0	0.00	0	0	0	0	0.13	0.8	0.8	1.0		
2020 32 Q4	11/26/20 0:01	11/26/20 23:01	18,652,845	0.15	0.39	0.14	0.00	0	0.00	0.00	0	0	0	0.08	0.08	0	0.00	0	0	0.00	0	0	0	0	0.11	0.7	0.7	0.8		
2020 33 Q4	11/26/20 23:01	11/30/20 0:01	42,065,553	0.54	1.11	0.45	0.07	0	0.00	0.57	0	0	0	0.26	0.29	0	0.00	0	0	0.07	0	0	0	0	0.22	2.7	2.7	3.4		
2020 34 Q4	11/30/20 0:01	11/30/20 23:01	14,786,746	0.27	0.47	0.21	0.05	0	0.00	0.40	0	0	0	0.12	0.14	0	0.00	0	0	0.05	0	0	0	0	0.07	1.4	1.4	1.7		
2020 35 Q4	11/30/20 23:01	12/3/20 0:01	61,797,695	0.69	1.28	0.57	0.10	0	0.00	1.70	0	0	0	0.38	0.39	0	0.00	0	0	0.10	0	0	0	0	0.27	4.3	4.3	5.2		
2020 36 Q4	12/3/20 0:01	12/3/20 23:01	29,417,522	0.13	0.28	0.13	0.00	0	0.00	0.82	0	0	0	0.11	0.09	0	0.00	0	0	0.00	0	0	0	0	0.12	1.4	1.4	1.6		
2020 37 Q4	12/3/20 23:01	12/7/20 0:01	78,024,607	0.39	0.88	0.41	0.00	0	0.00	1.09	0	0	0	0.40	0.35	0	0.00	0	0	0.11	0	0	0	0	0.32	2.8	2.8	3.6		
2020 38 Q4	12/7/20 0:01	12/7/20 23:01	24,457,855	0.13	0.32	0.15	0.00	0	0.00	0.00	0	0	0	0.15	0.14	0	0.00	0	0	0.07	0	0	0	0	0.11	0.6	0.6	1.0		
2020 39 Q4	12/7/20 23:01	12/10/20 0:01	50,972,618	0.29	0.79	0.30	0.00	0	0.00	0.00	0	0	0	0.16	0.15	0	0.00	0	0	0.07	0	0	0	0	0.20	1.4	1.4	1.8		
2020 40 Q4	12/10/20 0:01	12/10/20 23:01	20,430,180	0.12	0.37	0.12	0.00	0	0.00	0.00	0	0	0	0.00	0.00	0	0.00	0	0	0.00	0	0	0	0	0.08	0.6	0.6	0.6		
2020 41 Q4	12/10/20 23:01	12/13/20 0:01	31,261,119	0.23	0.67	0.23	0.00	0	0.00	0.00	0	0	0	0.12	0.11	0	0.00	0	0	0.04	0	0	0	0	0.14	1.1	1.1	1.4		
2020 42 Q4	12/13/20 0:01	12/13/20 23:01	11,706,864	0.11	0.29	0.11	0.00	0	0.00	0.00	0	0	0	0.09	0.08	0	0.00	0	0	0.03	0	0	0	0	0.06	0.5	0.5	0.7		
2020 43 Q4	12/13/20 23:01	12/14/20 0:59	982,198	0.01	0.03	0.01	0.00	0	0.00	0.00	0	0	0	0.01	0.01	0	0.00	0	0	0.00	0	0	0	0	0.00	0.0	0.0	0.1		
2020 44 Q4	12/14/20 0:59	12/14/20 11:59	5,310,853	0.05	0.14	0.05	0.01	0	0.00	0.00	0	0	0	0.04	0.04	0	0.00	0	0	0.01	0	0	0	0	0.02	0.3	0.3	0.3		
2020 45 Q4	12/14/20 11:59	12/15/20 16:11	15,379,021	0.16	0.36	0.15	0.04	0	0.00	0.21	0	0	0	0.06	0.13	0	0.00	0	0	0.02	0	0	0	0	0.06	0.9	0.9	1.1		
2020 46 Q4	12/15/20 16:11	12/17/20 12:29	47,125,887	0.33	0.63	0.30	0.06	0	0.00	0.64	0	0	0	0.10	0.27	0	0.00	0	0	0.00	0	0	0	0	0.21	2.0	2.1	2.4		
2020 47 Q4	12/17/20 12:29	12/21/20 13:52	149,396,568	0.53	1.25	0.51	0.00	0	0.00	0.00	0	0	0	0.57	0.40	0	0.00	0	0	0.00	0	0	0	0	0.63	2.3	2.3	3.3		
2020 48 Q4	12/21/20 13:52	12/23/20 9:30	65,902,080	0.24	0.33	0.24	0.00	0	0.00	0.00	0	0	0	0.11	0.21	0	0.00	0	0	0.00	0	0	0	0	0.24	0.8	0.8	1.1		
2020 49 Q4	12/23/20 9:30	12/24/20 19:20	43,431,813	0.34	0.37	0.27	0.00	0	0.00	0.00	0	0	0	0.28	0.31	0	0.00	0	0	0.00	0	0	0	0	0.16	1.0	1.0	1.6		
2020 50 Q4	12/24/20 19:20	12/28/20 15:00	183,564,524	1.38	1.56	1.06	0.00	0	0.00	0.00	0	0	0	1.19	1.19	0	0.00	0	0	0.00	0	0	0	0	0.66	4.0	4.0	6.4		
2020 51 Q4	12/28/20 15:00	12/30/20 10:56	73,223,967	0.27	0.44	0.27	0.00	0	0.00	0.00	0	0	0	0.21	0.23	0	0.00	0	0	0.10	0	0	0	0	0.25	1.0	1.0	1.5		
Totals			4,978,097,468	43	103	57	10	2	1	55	5	1	0	27	45	0	3	0	0	6	0	0	0	14	277	281	358			

Notes:

- 1 - Start and end times are adjusted based on sampling times ± one hour to account for the total flow of the Cape Fear River.
- 2 - The calculated mass load is a product of weighted concentration and total river flow, see Appendix B for more details.
- 3 - Total Attachment C does not include Perfluorheptanoic acid (PFHpA).
- 4 - Total Table 3+ (17 compounds) does not include R-PSDA, Hydrolyzed, PSDA, and R-EVE.

TABLE 12B
OLD OUTFALL 002 CAPTURED MASS LOAD BY COMPOUND AND TIME INTERVAL
Chemours Fayetteville Works, North Carolina

Interval Details					Calculated Captured Mass Load (kg) ¹																							
Interval ID	Start Time	End Time	Duration (hours)	Total Flow (m ³)	HFPO-DA	PFMOAA	PFO2HXA	PFO3OA	PFO4DA	PFOSDA	PMPA	PEPA	PS Acid	Hydro-PS Acid	R-PSDA	Hydrolyzed PSDA	R-PSDCA	NVHOS	EVE Acid	Hydro-EVE Acid	R-EVE	PES	PFECA B	PFECA-G	Total Attachment C ^{2,4}	Total Table 3+ (17 compounds) ³	Total Table 3+ (20 compounds)	
OF003 2020 1 Q4	10/1/20 0:00	10/31/20 0:00	720	90,000	0.41	4.98	1.24	0.34	0.10	0.06	0.47	0.12	0.02	0.02	0.05	0.13	0.00	0.05	0.00	0.02	0.02	0.00	0.00	0.00	0.00	7.73	7.82	8.00
OF003 2020 2 Q4	11/1/20 0:00	11/30/20 0:00	696	80,000	0.52	4.86	1.00	0.33	0.12	0.06	0.50	0.16	0.08	0.03	0.03	0.15	0.00	0.05	0.00	0.02	0.02	0.00	0.00	0.00	0.00	7.62	7.70	7.87
OF003 2020 3 Q4	12/1/20 0:00	12/31/20 0:00	720	120,000	0.53	5.89	1.42	0.34	0.11	0.07	0.55	0.17	0.10	0.04	0.08	0.24	0.00	0.05	0.01	0.02	0.03	0.00	0.00	0.00	0.00	9.20	9.31	9.67
Total				290,000	1.46	15.73	3.66	1.01	0.32	0.19	1.53	0.45	0.20	0.09	0.16	0.52	0.00	0.15	0.01	0.05	0.06	0.00	0.00	0.00	24.5	24.8	25.5	

Notes:

1 - The calculated captured mass load is a product of the concentration difference in the influent and the effluent samples and total flow at the influent for the sampling interval, see Appendix B for more details.

2 - Total Attachment C does not include Perfluoroheptanoic acid (PFHpA).

3 - Total Table 3+ (17 compounds) does not include R-PSDA, Hydrolyzed, PSDA, and R-EVE.

OF003 - Outfall 003, i.e., Old Outfall 002 treatment system

TABLE 12C
SEEP C FLOW THROUGH CELL CAPTURED MASS LOAD BY COMPOUND AND TIME INTERVAL
Chemours Fayetteville Works, North Carolina

Interval Details					Calculated Captured Mass Load (kg) ¹																						
Interval ID	Start Time	End Time	Duration (hours)	Total Flow (m ³)	Hfpo Dimer Acid	PFMOAA	PFO2HxA	PFO3OA	PFO4DA	PFO5DA	PMPA	PEPA	PS Acid	Hydro-PS Acid	R-PSDA	Hydrolyzed PSDA	R-PSDCA	NVHOS	EVE Acid	Hydro-EVE Acid	R-EVE	PES	PFECA B	PFECA-G	Total Attachment C ²	Total Table 3+ (17 compounds) ³	Total Table 3+ (20 compounds)
SeepC_2020_1_Q4 ⁴	12/17/2020	12/30/2020	291	5513	0.105	0.529	0.149	0.042	0.011	0	0.050	0.017	0	0.002	0.006	0.007	0	0.005	0	0.008	0.005	0	0	0	0.88	0.93	0.93
SeepC_2020_2_Q4	12/30/2020	12/31/2020	24	522	0.010	0.039	0.012	0.004	0.001	0	0.005	0.002	0	0.0002	0.0004	0.001	0	0.0004	0	0.001	0.0005	0	0	0	0.07	0.07	0.07
Total				6035	0.115	0.568	0.161	0.046	0.012	0	0.055	0.018	0	0.002	0.006	0.008	0	0.005	0	0.009	0.006	0	0	0	0.95	1.01	1.01

Notes:

- 1 - The calculated captured mass load is a product of the concentration difference in the influent and the effluent samples and total flow recorded at the influent for the sampling interval, see Appendix B for more details.
- 2 - Total Attachment C does not include Perfluorheptanoic acid (PFHpA).
- 3 - Total Table 3+ (17 compounds) does not include R-PSDA, Hydrolyzed, PSDA, and R-EVE.
- 4 - Seep C was not operation for 47 hours between December 25 and 27, 2020 due to flooding.

TABLE 13
SUMMARY OF TOTAL PFAS MASS DISCHARGE AT TARHEEL FERRY ROAD BRIDGE
Chemours Fayetteville Works, North Carolina

Quarter	Field Sample ID	Collection Date	Hours Composited ¹	Concentrations (ng/L)			Total Volume (ft ³) ⁴	Instantaneous Flow Rate (ft ³ /s) ⁵	Mass Discharge (mg/s)		
				Total Attachment C ²	Total Table 3+ (17 compounds) ³	Total Table 3+ (20 compounds)			Total Attachment C ²	Total Table 3+ (17 compounds) ³	Total Table 3+ (20 compounds)
Q1	CFR-TARHEEL-83-033120	3-31-20 12:00	83	52	52	63	3,197,300,000	--	16	16	19
Q1	CFR-TARHEEL-83-033120-D	3-31-20 12:00	83	56	56	65	3,197,300,000	--	17	17	20
Q1	CFR-TARHEEL-48-040220	4-2-20 13:00	48	86	86	110	958,620,000	--	14	14	17
Q1	CAP1Q20-CFR-TARHEEL-040220	4-2-20 15:45	0	89	91	130	--	4,770	12	12	18
Q1	CAP1Q20-CFR-TARHEEL-24-040320	4-3-20 15:00	24	120	120	160	319,930,000	--	13	13	16
Q1	CFR-TARHEEL-83-040620	4-6-20 0:30	83	120	130	160	880,860,000	--	10	11	13
Q1	CFR-TARHEEL-79-040920	4-9-20 6:30	79	190	200	250	589,470,000	--	11	12	14
Q1	CFR-TARHEEL-83-041920	4-19-20 1:30	83	71	71	81	1,960,700,000	--	13	13	15
Q1	CFR-TARHEEL-83-042220	4-22-20 13:30	83	120	120	130	977,480,000	--	11	11	12
Q1	CFR-TARHEEL-83-042620	4-26-20 0:49	83	110	110	140	1,006,200,000	--	10	11	14
Q1	CFR-TARHEEL-83-042920	4-29-20 11:49	83	120	130	170	808,310,000	--	9.2	9.9	13
Q1	CFR-TARHEEL-62-050220	5-2-20 23:49	62	83	86	130	1,912,800,000	--	20	21	31
Q1	CFR-TARHEEL-83-050620	5-6-20 11:49	83	51	51	74	2,577,100,000	--	12	12	18
Q1	CFR-TARHEEL-83-051120	5-9-20 11:49	83	79	82	110	1,755,700,000	--	13	14	19
Q2	CFR-TARHEEL-83-051320	5-13-20 9:49	83	140	140	190	575,460,000	--	7.6	7.8	11
Q2	CAP2Q20-CFR-TARHEEL-051420	5-14-20 8:55	0	190	200	270	--	1,540	8.3	8.7	12
Q2	CAP2Q20-TARHEEL-24-051820	5-14-20 20:50	24	180	190	250	125,860,000	--	7.4	7.8	11
Q2	CFR-TARHEEL-83-051620	5-16-20 19:49	83	190	190	260	417,990,000	--	7.5	7.6	10
Q2	CFR-TARHEEL-83-052020	5-20-20 8:49	83	260	260	340	384,660,000	--	9.5	9.5	12
Q2	CFR-TARHEEL-052520	5-25-20 10:15	0	4.2	4.2	9.6	--	23,500	2.8	2.8	6.4
Q2	CFR-TARHEEL-052920	5-29-20 9:10	0	11	11	11	--	15,500	4.8	4.8	4.8
Q2	CFR-TARHEEL-060120	6-1-20 14:25	0	9.2	9.2	15	--	23,200	6	6	9.9
Q2	CFR-TARHEEL-060120-D	6-1-20 14:25	0	11	11	13	--	23,200	7.2	7.2	8.5
Q2	CFR-TARHEEL-060520	6-5-20 10:55	0	47	47	53	--	14,700	20	20	22
Q2	CFR-TARHEEL-39-060820	6-8-20 21:06	82	45	45	58	3,650,600,000	--	16	16	20
Q2	CFR-TARHEEL-83-061220	6-12-20 8:06	82	72	72	93	2,027,900,000	--	14	14	18
Q2	CFR-TARHEEL-83-061520	6-15-20 19:06	82	75	75	88	2,054,000,000	--	15	15	17
Q2	CFR-TARHEEL-83-061920	6-19-20 6:06	82	90	90	100	3,096,900,000	--	27	27	30
Q2	CFR-TARHEEL-83-062220	6-22-20 17:06	82	40	40	49	4,194,300,000	--	16	16	20
Q2	CFR-TARHEEL-83-062620	6-26-20 4:06	82	79	79	110	2,464,400,000	--	19	19	25
Q2	CFR-TARHEEL-83-062920	6-29-20 15:06	82	120	120	160	1,286,000,000	--	15	15	19
Q3	CFR-TARHEEL-65-070220	7-2-20 8:06	64	84	87	100	584,870,000	--	6	6.3	7.4
Q3	CFR-TARHEEL-24-070320	7-3-20 7:29	24	150	150	210	204,760,000	--	10	10	14
Q3	CFR-TARHEEL-24-070720	7-7-20 7:29	24	190	190	250	166,590,000	--	10	10	14
Q3	CFR-TARHEEL-24-071020	7-10-20 11:01	24	150	150	200	215,400,000	--	11	11	14
Q3	CFR-TARHEEL-24-071020-D	7-10-20 11:01	24	150	160	210	215,400,000	--	11	11	15
Q3	CFR-TARHEEL-24-071320	7-13-20 23:01	24	140	150	210	216,310,000	--	9.9	10	15
Q3	CFR-TARHEEL-24-071620	7-16-20 23:01	24	160	170	210	180,990,000	--	9.5	10	12
Q3	CFR-TARHEEL-24-072020	7-20-20 23:01	24	170	180	180	163,050,000	--	9.1	9.5	9.5
Q3	CFR-TARHEEL-24-072220	7-22-20 23:01	24	99	100	150	165,240,000	--	5.4	5.6	7.9
Q3	CFR-TARHEEL-24-072320	7-23-20 23:01	24	150	160	200	143,600,000	--	7.1	7.3	9.5
Q3	CFR-TARHEEL-12-072720	7-27-20 11:01	11	78	81	110	108,840,000	--	6.1	6.3	8.4

TABLE 13
SUMMARY OF TOTAL PFAS MASS DISCHARGE AT TARHEEL FERRY ROAD BRIDGE
Chemours Fayetteville Works, North Carolina

Quarter	Field Sample ID	Collection Date	Hours Composited ¹	Concentrations (ng/L)			Total Volume (ft ³) ⁴	Instantaneous Flow Rate (ft ³ /s) ⁵	Mass Discharge (mg/s)		
				Total Attachment C ²	Total Table 3+ (17 compounds) ³	Total Table 3+ (20 compounds)			Total Attachment C ²	Total Table 3+ (17 compounds) ³	Total Table 3+ (20 compounds)
Q3	CAP3Q20-CFR-TARHEEL-072820	7-28-20 16:20	0	75	78	78	--	2,780	5.9	6.1	6.1
Q3	CAP3Q20-CFR-TARHEEL-24-072920	7-29-20 23:01	24	94	97	120	247,120,000	--	7.6	7.9	9.5
Q3	CFR-TARHEEL-24-073020	7-30-20 23:01	24	78	81	99	335,190,000	--	8.6	8.9	11
Q3	CFR-TARHEEL-080320	8-3-20 14:50	0	110	120	140	--	2,450	7.6	8.3	9.7
Q3	CFR-TARHEEL-080420	8-4-20 12:30	0	210	210	240	--	4,250	25	25	29
Q3	CFR-TARHEEL-24-080620	8-6-20 22:55	24	21	21	24	760,600,000	--	5.2	5.2	5.9
Q3	CFR-TARHEEL-24-081020	8-10-20 21:56	24	36	36	36	507,950,000	--	6	6	6
Q3	CFR-TARHEEL-24-081220	8-12-20 23:01	24	46	46	72	672,600,000	--	10	10	16
Q3	CFR-TARHEEL-24-081720	8-17-20 23:01	24	25	25	35	1,107,700,000	--	9.1	8.9	13
Q3	CFR-TARHEEL-24-082020	8-20-20 23:01	24	47	47	64	750,330,000	--	12	11	16
Q3	CFR-TARHEEL-24-082520	8-25-20 23:01	24	58	58	58	529,670,000	--	10	10	10
Q3	CFR-TARHEEL-082720	8-27-20 11:18	0	130	130	150	--	2,850	23	23	27
Q3	CFR-TARHEEL-082720-D	8-27-20 11:18	0	130	130	160	--	2,850	23	23	28
Q3	CFR-TARHEEL-083120	8-31-20 13:30	0	200	200	250	--	1,840	35	35	44
Q3	CFR-TARHEEL-24-090320	9-3-20 23:01	24	44	44	56	515,400,000	--	7.4	7.5	9.5
Q3	CFR-TARHEEL-24-090720	9-7-20 23:01	24	59	59	74	255,760,000	--	4.9	5	6.2
Q3	CFR-TARHEEL-24-091020	9-10-20 23:01	24	160	160	220	146,080,000	--	7.7	7.6	11
Q3	CFR-TARHEEL-24-091420	9-14-20 23:01	24	84	88	120	170,490,000	--	4.7	4.9	6.5
Q3	CFR-TARHEEL-24-091720	9-17-20 23:01	24	100	110	150	135,600,000	--	4.4	4.9	6.8
Q3	CFR-TARHEEL-11-091820	9-18-20 10:01	10	160	170	280	104,290,000	--	13	14	23
Q3	CFR-TARHEEL-24-092120	9-21-20 23:01	24	58	58	67	570,840,000	--	11	11	13
Q3	CFR-TARHEEL-24-092420-2	9-24-20 23:01	24	69	69	80	382,980,000	--	8.7	8.6	10
Q3	CFR-TARHEEL-24-092520	9-25-20 23:01	24	70	70	84	382,150,000	--	8.8	8.8	11
Q3	CFR-TARHEEL-24-092620	9-26-20 23:01	24	70	70	83	703,470,000	--	16	16	19
Q3	CFR-TARHEEL-24-092820	9-28-20 23:01	24	51	51	58	841,660,000	--	14	14	16
Q3	CFR-TARHEEL-24-092920	9-29-20 23:01	24	16	16	22	792,600,000	--	4.2	4.2	5.6
Q3	CFR-TARHEEL-24-093020	9-30-20 23:01	24	74	74	96	971,470,000	--	24	23	31
Q4	CFR-TARHEEL-18-100120	10-1-20 17:01	18	15	15	15	847,260,000	--	5.6	5.5	5.5
Q4	CFR-TARHEEL-9-100620	10-6-20 23:30	9	24	24	29	126,380,000	--	2.7	2.7	3.2
Q4	CFR-TARHEEL-24-100820	10-8-20 16:30	24	39	39	47	231,100,000	--	3	3	3.5
Q4	CFR-TARHEEL-24-101220	10-12-20 23:01	24	170	170	220	352,550,000	--	20	20	25
Q4	CFR-TARHEEL-24-101520	10-15-20 23:01	24	26	26	35	745,010,000	--	6.3	6.4	8.5
Q4	CFR-TARHEEL-24-101920	10-19-20 23:01	24	32	32	42	632,270,000	--	6.6	6.5	8.7
Q4	CFR-TARHEEL-24-102220	10-22-20 23:01	24	51	51	51	423,540,000	--	7.1	7	7
Q4	CFR-TARHEEL-12-103020	10-30-20 23:01	24	56	60	82	325,130,000	--	6	6.4	8.7
Q4	CFR-TARHEEL-24-103120	10-31-20 23:01	24	70	74	92	351,490,000	--	8.1	8.5	11
Q4	CFR-TARHEEL-24-110220	11-2-20 23:01	24	51	54	58	547,950,000	--	9.2	9.7	10
Q4	CFR-TARHEEL-24-110520	11-5-20 23:01	24	65	65	71	362,140,000	--	7.7	7.8	8.4
Q4	CFR-TARHEEL-24-110920	11-9-20 23:01	24	90	93	130	198,700,000	--	5.9	6	8.2
Q4	CFR-TARHEEL-24-111120	11-11-20 23:01	24	74	77	110	193,470,000	--	4.7	4.9	7.1
Q4	CFR-TARHEEL-20-111220	11-12-20 19:01	20	240	240	310	538,380,000	--	51	51	66
Q4	CFR-TARHEEL-111320	11-13-20 14:10	0	6.1	6.1	6.1	--	30,500	1.1	1.1	1.1
Q4	CFR-TARHEEL-111820	11-18-20 12:25	0	22	22	31	--	16,200	3.9	3.9	5.5

TABLE 13
SUMMARY OF TOTAL PFAS MASS DISCHARGE AT TARHEEL FERRY ROAD BRIDGE
Chemours Fayetteville Works, North Carolina

Quarter	Field Sample ID	Collection Date	Hours Composited ¹	Concentrations (ng/L)			Total Volume (ft ³) ⁴	Instantaneous Flow Rate (ft ³ /s) ⁵	Mass Discharge (mg/s)		
				Total Attachment C ²	Total Table 3+ (17 compounds) ³	Total Table 3+ (20 compounds)			Total Attachment C ²	Total Table 3+ (17 compounds) ³	Total Table 3+ (20 compounds)
Q4	CFR-TARHEEL-112020	11-20-20 11:06	0	24	24	36	--	13,000	4.2	4.2	6.4
Q4	CFR-TARHEEL-24-112420	11-24-20 23:01	24	2.3	2.3	2.3	975,960,000	--	0.74	0.74	0.74
Q4	CFR-TARHEEL-24-112620	11-26-20 23:01	24	380	380	390	691,990,000	--	86	86	87
Q4	CFR-TARHEEL-24-113020	11-30-20 23:01	24	94	94	120	541,810,000	--	17	17	20
Q4	CFR-TARHEEL-24-120320	12-3-20 23:01	24	46	46	53	1,088,100,000	--	16	17	19
Q4	CFR-TARHEEL-24-120720	12-7-20 23:01	24	25	25	40	899,500,000	--	7.4	7.2	12
Q4	CFR-TARHEEL-24-121020	12-10-20 23:01	24	29	29	29	756,860,000	--	7.2	7.3	7.3
Q4	CFR-TARHEEL-24-121320	12-13-20 23:01	24	43	43	60	427,890,000	--	6	6.1	8.4
Q4	CFR-TARHEEL-12-121420	12-14-20 11:59	11	48	48	66	187,550,000	--	6.4	6.5	8.8
Q4	CAP1220-TARHEEL-121620	12-15-20 16:11	0	70	74	84	--	6,270	12	13	15
Q4	CFR-TARHEEL-121720	12-17-20 12:29	0	13	13	20	--	14,200	2.3	2.3	3.5
Q4	CFR-TARHEEL-122120	12-21-20 13:52	0	18	18	24	--	14,000	3.2	3.2	4.2
Q4	CFR-TARHEEL-122320	12-23-20 9:30	0	7.1	7.1	10	--	14,400	1.3	1.3	1.8
Q4	CFR-TARHEEL-122420	12-24-20 19:20	0	38	38	62	--	11,100	6.7	6.7	11
Q4	CFR-TARHEEL-122820	12-28-20 15:00	0	5.5	5.5	7.5	--	18,500	0.97	0.97	1.3
Q4	CFR-TARHEEL-123020	12-30-20 10:56	0	21	21	34	--	14,500	3.7	3.7	6

Notes:

- 1 - Samples with a compositing duration of zero (0) hours are grab samples.
- 2 - Total flow volume is determined based on measurements taken over the sample collection period.
- 3 - For samples with a duration of zero (0) hours, i.e., grab samples, the instantaneous flow rate was used to calculate the mass discharge.
- 4 - Total Attachment C does not include Perfluorohexanoic acid (PFHpA).
- 5 - Total Table 3+ (17 compounds) does not include R-PSDA, Hydrolyzed, PSDA, and R-EVE.

-- - not applicable

ng/L - nanograms per liter

ft³ - cubic feet

mg/s - milligrams per second

TABLE 14
PFAS MASS LOADING MODEL POTENTIAL PATHWAYS
Chemours Fayetteville Works, North Carolina

Transport Pathway Number	Potential PFAS Transport Pathway	Analytical Data Source for Mass Loading Model¹	Flow Data Source for Mass Loading Model¹
1	Upstream River and Groundwater	Measured from Cape Fear River Mile 76 sample collected in December 2020 as reported in Table 8.	Measured flow rates from USGS gauging station at W.O. Huske Dam during December 2020 volumetrically adjusted for flow pathways between River Mile 76 and W.O. Huske Dam ² .
2	Willis Creek	Measured from Willis Creek sample collected in December 2020 as reported in Table 8.	Measured flow rates through point velocity method during December 2020 as reported in Appendix D.
3	Aerial Deposition on River	Estimated from air deposition modeling ³ .	Estimated from air deposition modeling ³ .
4	Outfall 002	Measured from Outfall 002 sample collected in December 2020 as reported in Table 8.	Measured daily Outfall 002 flow rates recorded in Facility discharge monitoring reports, summarized in Appendix D.
5	Onsite Groundwater	Measured from monitoring well samples collected in December 2020 as reported in Table 10.	Estimated as the sum of the mass flux from the Black Creek Aquifer calculated from a transect along the Cape Fear River. Further details and supporting calculations provided in Appendix G.
6	Seeps	Measured from Seeps A, B, C, and D samples collected in December 2020 as reported in Table 8.	Measured flow rates through point velocity method and flumes during December 2020 as reported in Appendix D.
7	Old Outfall 002	Measured from Old Outfall 002 sample collected in December 2020 as reported in Table 8.	Measured flow rates through point velocity method during December 2020 as reported in Appendix D.
8	Adjacent and Downstream Groundwater	Estimated using a scaling factor applied to upstream mass discharge. See Section 7.2.6 for details.	Estimated using a scaling factor applied to upstream mass discharge. See Appendix I for details.
9	Georgia Branch Creek	Measured from Georgia Branch Creek sample collected in December 2020 as reported in Table 8.	Measured flow rates through point velocity method during December 2020 as reported in Appendix D.

Notes:

- 1 - Flow and concentration data are multiplied together to estimate the PFAS mass discharge in the Cape Fear River originating from each pathway.
- 2 - Cape Fear River flow rates measured at USGS gauging station #02105500 located at William O Huske Lock & Dam accessed from <https://waterdata.usgs.gov> on 2021-01-15 at 11:00 EDT.
- 3 - ERM, 2018. Modeling Report: HFPO-DA Atmospheric Deposition and Screening Groundwater Effects. 27 April 2018.

TABLE 15A
ESTIMATED 2020 QUARTER 4 EVENT TABLE 3+ PFAS MASS DISCHARGE BY PATHWAY BEFORE REMEDIES
Chemours Fayetteville Works, North Carolina

Pathway Number ¹	1	2	4	5	
Pathway Name	Upstream River Water and	Willis Creek	Outfall 002 ³	Onsite Groundwater - Lower	Onsite Groundwater - Upper
Flow (MG)	4173	15.3	17	--	--
Instantaneous Flow (ft3/sec)	--	--	--	--	--
Program	CAP SW Sampling 4Q20	CAP SW Sampling 4Q20	CAP SW Sampling 4Q20		
Location ID	CFR-MILE-76 ¹⁰	WC-1	OUTFALL 002	--	--
Field Sample ID	CAP1220-CFR-RM-76-121520	CAP1220-WC-1-22-121620	CAP1220-OUTFALL-002-24-121620	--	--
Sample Date ²	12/15/2020	12/16/2020	12/16/2020	--	--
Sample Delivery Group (SDG)	320-68082-1/320-68082-3	320-68083-1	320-68081-1		
Lab Sample ID	320-68082-1	320-68083-1	320-68081-2		
Sample Type	Grab	24-Hour Composite	24-Hour Composite	--	--
Table 3+ Lab SOP Mass Discharge⁶ (mg/s)					
Hfpo Dimer Acid	ND	0.16	0.14	0.14	0.17
PFMOAA	ND	0.22	0.004	1.0	1.4
PFO2HxA	ND	0.15	0.011	0.26	0.35
PFO3OA	ND	0.023	0.004	0.088	0.13
PFO4DA	ND	0.006	0.004	0.049	0.071
PFO5DA	ND	ND	0.004	0.007	0.010
PMPA	1.2	0.22	0.015	0.086	0.102
PEPA	ND	0.054	0.010	0.027	0.032
PS Acid	ND	ND	0.039	0.002	0.003
Hydro-PS Acid	ND	0.006	0.005	0.004	0.006
R-PSDA	ND	0.059	0.057	0.007	0.009
Hydrolyzed PSDA	ND	0.087	0.075	0.010	0.015
R-PSDCA	ND	ND	ND	0.000	0.001
NVHOS	ND	0.005	ND	0.009	0.013
EVE Acid	ND	ND	0.13	0.001	0.001
Hydro-EVE Acid	ND	0.002	0.006	0.003	0.005
R-EVE	ND	0.021	0.017	0.004	0.005
PES	ND	ND	ND	0.000	0.000
PFECA B	ND	ND	ND	0.000	0.000
PFECA-G	ND	ND	ND	0.000	0.000
Total Attachment C Mass Discharge^{7,8}	1.2	0.87	0.23	1.7	2.3
Total Table 3+ Mass Discharge (17 compounds)^{7,9}	1.2	0.87	0.38	1.7	2.3
Total Table 3+ Mass Discharge (20 Compounds)⁷	1.2	1.0	0.52	1.7	2.3

TABLE 15A
ESTIMATED 2020 QUARTER 4 EVENT TABLE 3+ PFAS MASS DISCHARGE BY PATHWAY BEFORE REMEDIES
Chemours Fayetteville Works, North Carolina

Pathway Number ¹	6A	6B	6C	6D	6E
Pathway Name	Seep A	Seep B	Seep C	Seep D	Lock and Dam Seep
Flow (MG)	0.13	0.19	0.04	0.18	0.02
Instantaneous Flow (ft3/sec)	--	--	--	--	--
Program	CAP SW Sampling 4Q20	CAP SW Sampling 4Q20	CAP SW Sampling 4Q20	CAP SW Sampling 4Q20	CAP SW Sampling 4Q20
Location ID	SEEP-A	SEEP-B	SEEP-C	SEEP-D	Lock and Dam Seep
Field Sample ID	CAP1220-SEEP-A-24-121620	CAP1220-SEEP-B-21-121620	CAP1220-SEEP-C-24-121620	CAP1220-SEEP-D-24-121620	CAP1220-LOCK-DAM-SEEP-121520
Sample Date ²	12/16/2020	12/16/2020	12/16/2020	12/16/2020	12/15/2020
Sample Delivery Group (SDG)	320-68083-1	320-68083-1	320-68083-1	320-68084-1	320-68081-1
Lab Sample ID	320-68083-2	320-68083-3	320-68083-4	320-68084-1	320-68081-1
Sample Type	24-Hour Composite	24-Hour Composite	24-Hour Composite	24-Hour Composite	Grab
<i>Table 3+ Lab SOP Mass Discharge⁶ (mg/s)</i>					
Hfpo Dimer Acid	0.14	0.18	0.059	0.11	0.007
PFMOAA	0.56	1.3	0.46	0.62	0.077
PFO2HxA	0.21	0.30	0.12	0.16	0.016
PFO3OA	0.076	0.067	0.040	0.046	0.006
PFO4DA	0.044	0.012	0.007	0.011	0.001
PFO5DA	0.025	0.003	ND	0.001	ND
PMPA	0.11	0.25	0.022	0.048	0.004
PEPA	0.041	0.11	0.007	0.016	0.001
PS Acid	0.028	0.020	ND	ND	ND
Hydro-PS Acid	0.008	0.006	0.001	0.002	0.000
R-PSDA	0.015	0.030	0.004	0.007	0.001
Hydrolyzed PSDA	0.12	0.19	0.006	0.011	0.000
R-PSDCA	0.000	0.001	0.000	0.000	ND
NVHOS	0.006	0.019	0.004	0.005	0.001
EVE Acid	0.006	0.030	ND	ND	ND
Hydro-EVE Acid	0.008	0.014	0.004	0.007	0.000
R-EVE	0.008	0.021	0.004	0.007	0.000
PES	0.000	0.000	0.000	0.000	ND
PFECA B	ND	ND	ND	ND	ND
PFECA-G	ND	ND	ND	ND	ND
Total Attachment C Mass Discharge^{7,8}	1.2	2.2	0.72	1.0	0.11
Total Table 3+ Mass Discharge (17 compounds)^{7,9}	1.3	2.3	0.72	1.0	0.11
Total Table 3+ Mass Discharge (20 Compounds)⁷	1.4	2.5	0.74	1.0	0.11

TABLE 15A
ESTIMATED 2020 QUARTER 4 EVENT TABLE 3+ PFAS MASS DISCHARGE BY PATHWAY BEFORE REMEDIES
Chemours Fayetteville Works, North Carolina

Pathway Number ¹	7	9	Sum of All Pathways - Lower Bound	Sum of All Pathways - Upper Bound
Pathway Name	Old Outfall 002	Georgia Branch Creek		
Flow (MG)	0.62	8.9		
Instantaneous Flow (ft3/sec)	--	--		
Program	Old Outfall 002 Treatment System	CAP SW Sampling 4Q20		
Location ID	Old Outfall 002 Influent	GBC-1		
Field Sample ID	Influent-1220	CAP1220-GBC-1-121520		
Sample Date ²	12/8/2020	12/15/2020		
Sample Delivery Group (SDG)	410-23337-1	320-68084-1		
Lab Sample ID	410-23337-2	320-68084-4		
Sample Type	Grab	Grab		
<i>Table 3+ Lab SOP Mass Discharge³ (mg/s)</i>				
Hfpo Dimer Acid	0.122	0.15	1.2	1.2
PFMOAA	1.36	0.026	5.62	6.0
PFO2HxA	0.326	0.097	1.7	1.8
PFO3OA	0.079	0.013	0.44	0.48
PFO4DA	0.025	0.004	0.16	0.19
PFO5DA	0.016	0.001	0.06	0.06
PMPA	0.128	0.24	2.3	2.3
PEPA	0.038	0.066	0.37	0.37
PS Acid	0.024	ND	0.11	0.11
Hydro-PS Acid	0.008	0.009	0.05	0.05
R-PSDA	0.018	0.047	0.24	0.25
Hydrolyzed PSDA	0.054	ND	0.55	0.56
R-PSDCA	0.000	ND	0.00	0.00
NVHOS	0.012	0.001	0.06	0.07
EVE Acid	0.002	ND	0.17	0.17
Hydro-EVE Acid	0.004	ND	0.05	0.05
R-EVE	0.006	0.013	0.10	0.10
PES	ND	ND	0.00	0.00
PFECA B	ND	ND	0.00	0.00
PFECA-G	ND	ND	0.00	0.00
Total Attachment C Mass Discharge^{7,8}	2.12	0.58	11.9	12.5
Total Table 3+ Mass Discharge (17 compounds)^{7,9}	2.15	0.58	12.2	12.9
Total Table 3+ Mass Discharge (20 Compounds)⁷	2.23	0.66	13.1	13.7

TABLE 15A
ESTIMATED 2020 QUARTER 4 EVENT TABLE 3+ PFAS MASS DISCHARGE BY PATHWAY BEFORE REMEDIES
Chemours Fayetteville Works, North Carolina

Pathway Number ¹	--	--	--
Pathway Name	Tar Heel Ferry Road Bridge ⁵	Tar Heel Ferry Road Bridge ⁵	Tar Heel Ferry Road Bridge
Flow (MG)	--	--	5,710
Instantaneous Flow (ft ³ /sec)	10,300	6,130	--
Program	CAP SW Sampling 4Q20	CAP SW Sampling 4Q20	Tarheel Grab Sample Average
Location ID	TARHEEL	TARHEEL	TARHEEL
Field Sample ID	CAP1220-TARHEEL-121620	CAP1220-CFR-TARHEEL-121520	--
Sample Date ²	12/16/2020	12/15/2020	12/15/2020 & 12/16/2020
Sample Delivery Group (SDG)	320-68080-1	320-68082-1	320-68082-1
Lab Sample ID	320-68080-1	320-68082-4	320-68082-4
Sample Type	Grab	Grab	Grab
<i>Table 3+ Lab SOP Mass Discharge⁶ (mg/s)</i>			
Hfpo Dimer Acid	3.2	1.3	2.3
PFMOAA	5.8	2.4	4.3
PFO2HxA	2.8	1.5	2.3
PFO3OA	0.76	ND	0.65
PFO4DA	ND	ND	ND
PFO5DA	ND	ND	ND
PMPA	7.9	4.3	6.5
PEPA	ND	ND	ND
PS Acid	ND	ND	ND
Hydro-PS Acid	ND	ND	ND
R-PSDA	ND	2.3	3.3
Hydrolyzed PSDA	2.7	1.5	2.2
R-PSDCA	ND	ND	ND
NVHOS	ND	ND	ND
EVE Acid	1.2	ND	1.0
Hydro-EVE Acid	ND	ND	ND
R-EVE	ND	ND	ND
PES	ND	ND	ND
PFECA B	ND	ND	ND
PFECA-G	ND	ND	ND
Total Attachment C Mass Discharge^{7,8}	20.4	9.5	15.6
Total Table 3+ Mass Discharge (17 compounds)^{7,9}	21.6	9.5	16.1
Total Table 3+ Mass Discharge (20 Compounds)⁷	24.5	13.4	20.1

TABLE 15A
ESTIMATED 2020 QUARTER 4 EVENT TABLE 3+ PFAS MASS DISCHARGE BY PATHWAY BEFORE REMEDIES
Chemours Fayetteville Works, North Carolina

Pathway Number ¹	--	--
Pathway Name	Bladen Bluff ⁵	Kings Bluff ⁵
Flow (MG)	--	--
Instantaneous Flow (ft ³ /sec)	6,420	7,650
Program	CAP SW Sampling 4Q20	CAP SW Sampling 4Q20
Location ID	CFR-BLADEN	CFR-KINGS
Field Sample ID	CAP1220-CFR-BLADEN-121520	CAP1220-CFR-KINGS-121620
Sample Date ²	12/15/2020	12/16/2020
Sample Delivery Group (SDG)	320-68082-1	320-68082-1
Lab Sample ID	320-68082-2	320-68082-3
Sample Type	Grab	Grab
Table 3+ Lab SOP Mass Discharge⁶ (mg/s)		
Hfpo Dimer Acid	1.3	1.9
PFMOAA	2.5	4.5
PFO2HxA	1.4	2.4
PFO3OA	ND	0.4
PFO4DA	ND	ND
PFO5DA	ND	ND
PMPA	4.4	6.3
PEPA	ND	ND
PS Acid	ND	ND
Hydro-PS Acid	ND	ND
R-PSDA	ND	4.5
Hydrolyzed PSDA	1.3	2.2
R-PSDCA	ND	ND
NVHOS	1.3	1.4
EVE Acid	ND	ND
Hydro-EVE Acid	ND	ND
R-EVE	ND	2.4
PES	ND	ND
PFECA B	ND	ND
PFECA-G	ND	ND
Total Attachment C Mass Discharge^{7,8}	9.6	15.6
Total Table 3+ Mass Discharge (17 compounds)^{7,9}	10.9	17.1
Total Table 3+ Mass Discharge (20 Compounds)⁷	12.4	26.0

Notes:

1 - Pathway 3 (Aerial Deposition on Water Features) and Pathway 8 (Offsite Adjacent and Downstream Groundwater) are not included in this table. Loading from Pathway 3 was estimated using relative concentration ratios from offsite wells, and loading from Pathway 8 was estimated by scaling to the upstream offsite groundwater loading. Further details are provided in Appendices H and I.

2 - For composite samples, the end of the composite sample time period is listed as the sample date.

3 - Total Table 3+ concentrations at the Intake River Water at the Facility are subtracted from Outfall 002 concentrations to compute the mass discharge at Outfall 002.

4 - Mass discharge for Onsite Groundwater (Pathway 5) is determined using calculations described in Appendix G. The lower and upper bounds on the mass discharge was calculated using the upper and lower hydraulic gradient in the Black Creek Aquifer as described in Appendix G.

5 - Mass discharge values for grab samples collected at Tar Heel Ferry Road Bridge, Bladen Bluff, and Kings Bluff are determined based on instantaneous flow rates.

6 - Mass discharge by analyte is calculated based on Table 3+ concentrations in Tables 8 and 10 and 24-hour flow volumes reported in Table 9.

7 - Total PFAS mass discharge is based on the summed Total PFAS concentrations reported in Table 8 and Table 10, which are rounded to two significant figures.

8 - Total Attachment C does not include Perfluoroheptanoic acid (PFHpA).

9 - Total table 3+ (17 compounds) does not include R-PSDA, Hydrolyzed, PSDA, and R-EVE.

10 - CFR-MILE-76 was reanalyzed using Method Table 6 for PMPA and PEPA.

Bold - Analyte detected above associated reporting limit

SOP - Standard Operating Procedure

mg/s - milligrams per second

TABLE 15B
ESTIMATED 2020 QUARTER 4 EVENT TABLE 3+ PFAS MASS DISCHARGE BY PATHWAY AFTER REMEDIES
Chemours Fayetteville Works, North Carolina

Pathway Number ¹	1	2	4	5	
Pathway Name	Upstream River Water and	Willis Creek	Outfall 002 ³	Onsite Groundwater - Lower	Onsite Groundwater - Upper
Flow (MG)	4173	15.3	17	--	--
Instantaneous Flow (ft3/sec)	--	--	--	--	--
Program	CAP SW Sampling 4Q20	CAP SW Sampling 4Q20	CAP SW Sampling 4Q20		
Location ID	CFR-MILE-76 ¹⁰	WC-1	OUTFALL 002	--	--
Field Sample ID	CAP1220-CFR-RM-76-121520	CAP1220-WC-1-22-121620	CAP1220-OUTFALL-002-24-121620	--	--
Sample Date and Time ²	12/15/2020	12/16/2020	12/16/2020	--	--
Sample Delivery Group (SDG)	320-68082-1/320-68082-3	320-68083-1	320-68081-1		
Lab Sample ID	320-68082-1	320-68083-1	320-68081-2		
Sample Type	Grab	24-Hour Composite	24-Hour Composite	--	--
Table 3+ Lab SOP Mass Discharge⁶ (mg/s)					
Hfpo Dimer Acid	ND	0.16	0.14	0.14	0.17
PFMOAA	ND	0.22	0.004	1.0	1.4
PFO2HxA	ND	0.15	0.011	0.26	0.35
PFO3OA	ND	0.023	0.004	0.088	0.13
PFO4DA	ND	0.006	0.004	0.049	0.071
PFO5DA	ND	ND	0.004	0.007	0.010
PMPA	1.2	0.22	0.015	0.086	0.102
PEPA	ND	0.054	0.010	0.027	0.032
PS Acid	ND	ND	0.039	0.002	0.003
Hydro-PS Acid	ND	0.006	0.005	0.004	0.006
R-PSDA	ND	0.059	0.057	0.007	0.009
Hydrolyzed PSDA	ND	0.087	0.075	0.010	0.015
R-PSDCA	ND	ND	ND	0.000	0.001
NVHOS	ND	0.005	ND	0.009	0.013
EVE Acid	ND	ND	0.13	0.001	0.001
Hydro-EVE Acid	ND	0.002	0.006	0.003	0.005
R-EVE	ND	0.021	0.017	0.004	0.005
PES	ND	ND	ND	0.000	0.000
PFECA B	ND	ND	ND	0.000	0.000
PFECA-G	ND	ND	ND	0.000	0.000
Total Attachment C Mass Discharge^{7,8}	1.2	0.87	0.23	1.7	2.3
Total Table 3+ Mass Discharge (17 compounds)^{7,9}	1.2	0.87	0.38	1.7	2.3
Total Table 3+ Mass Discharge (20 Compounds)⁷	1.2	1.0	0.52	1.7	2.3

TABLE 15B
ESTIMATED 2020 QUARTER 4 EVENT TABLE 3+ PFAS MASS DISCHARGE BY PATHWAY AFTER REMEDIES
Chemours Fayetteville Works, North Carolina

Pathway Number ¹	6A	6B	6C	6D	6E
Pathway Name	Seep A	Seep B	Seep C	Seep D	Lock and Dam Seep
Flow (MG)	0.13	0.19	0.04	0.18	0.02
Instantaneous Flow (ft3/sec)	--	--	--	--	--
Program	CAP SW Sampling 4Q20	CAP SW Sampling 4Q20	CAP SW Sampling 4Q20	CAP SW Sampling 4Q20	CAP SW Sampling 4Q20
Location ID	SEEP-A	SEEP-B	SEEP-C	SEEP-D	Lock and Dam Seep
Field Sample ID	CAP1220-SEEP-A-24-121620	CAP1220-SEEP-B-21-121620	CAP1220-SEEP-C-24-121620	CAP1220-SEEP-D-24-121620	CAP1220-LOCK-DAM-SEEP-121520
Sample Date and Time ²	12/16/2020	12/16/2020	12/16/2020	12/16/2020	12/15/2020
Sample Delivery Group (SDG)	320-68083-1	320-68083-1	320-68083-1	320-68084-1	320-68081-1
Lab Sample ID	320-68083-2	320-68083-3	320-68083-4	320-68084-1	320-68081-1
Sample Type	24-Hour Composite	24-Hour Composite	24-Hour Composite	24-Hour Composite	Grab
<i>Table 3+ Lab SOP Mass Discharge⁶ (mg/s)</i>					
Hfpo Dimer Acid	0.14	0.18	0.059	0.11	0.007
PFMOAA	0.56	1.3	0.46	0.62	0.077
PFO2HxA	0.21	0.30	0.12	0.16	0.016
PFO3OA	0.076	0.067	0.040	0.046	0.006
PFO4DA	0.044	0.012	0.007	0.011	0.001
PFO5DA	0.025	0.003	ND	0.001	ND
PMPA	0.11	0.25	0.022	0.048	0.004
PEPA	0.041	0.11	0.007	0.016	0.001
PS Acid	0.028	0.020	ND	ND	ND
Hydro-PS Acid	0.008	0.006	0.001	0.002	0.000
R-PSDA	0.015	0.030	0.004	0.007	0.001
Hydrolyzed PSDA	0.12	0.19	0.006	0.011	0.000
R-PSDCA	0.000	0.001	0.000	0.000	ND
NVHOS	0.006	0.019	0.004	0.005	0.001
EVE Acid	0.006	0.030	ND	ND	ND
Hydro-EVE Acid	0.008	0.014	0.004	0.007	0.000
R-EVE	0.008	0.021	0.004	0.007	0.000
PES	0.000	0.000	0.000	0.000	ND
PFECA B	ND	ND	ND	ND	ND
PFECA-G	ND	ND	ND	ND	ND
Total Attachment C Mass Discharge^{7,8}	1.2	2.2	0.72	1.0	0.11
Total Table 3+ Mass Discharge (17 compounds)^{7,9}	1.3	2.3	0.72	1.0	0.11
Total Table 3+ Mass Discharge (20 Compounds)⁷	1.4	2.5	0.74	1.0	0.11

TABLE 15B
ESTIMATED 2020 QUARTER 4 EVENT TABLE 3+ PFAS MASS DISCHARGE BY PATHWAY AFTER REMEDIES
Chemours Fayetteville Works, North Carolina

Pathway Number ¹	7	9	Sum of All Pathways - Lower Bound	Sum of All Pathways - Upper Bound
Pathway Name	Old Outfall 002	Georgia Branch Creek		
Flow (MG)	0.62	8.9		
Instantaneous Flow (ft3/sec)	--	--		
Program	CAP SW Sampling 4Q20	CAP SW Sampling 4Q20		
Location ID	OLDOF-1	GBC-1		
Field Sample ID	CAP1220-OLDOF-1-7-121520	CAP1220-GBC-1-121520		
Sample Date and Time ²	12/15/2020	12/15/2020		
Sample Delivery Group (SDG)	320-68080-1	320-68084-1		
Lab Sample ID	320-68080-2	320-68084-4		
Sample Type	Grab	Grab		
<i>Table 3+ Lab SOP Mass Discharge⁷ (mg/s)</i>				
Hfpo Dimer Acid	0.006	0.15	1.1	1.1
PFMOAA	0.03	0.026	4.29	4.7
PFO2HxA	0.011	0.097	1.3	1.4
PFO3OA	0.003	0.013	0.37	0.40
PFO4DA	0.001	0.004	0.14	0.16
PFO5DA	0.000	0.001	0.04	0.04
PMPA	0.005	0.24	2.1	2.2
PEPA	0.002	0.066	0.33	0.34
PS Acid	ND	ND	0.09	0.09
Hydro-PS Acid	0.000	0.009	0.04	0.04
R-PSDA	0.000	0.047	0.23	0.23
Hydrolyzed PSDA	0.001	ND	0.50	0.50
R-PSDCA	ND	ND	0.00	0.00
NVHOS	0.000	0.001	0.05	0.06
EVE Acid	ND	ND	0.17	0.17
Hydro-EVE Acid	0.000	ND	0.04	0.05
R-EVE	0.000	0.013	0.10	0.10
PES	ND	ND	0.00	0.00
PFECA B	ND	ND	0.00	0.00
PFECA-G	ND	ND	0.00	0.00
Total Attachment C Mass Discharge^{7,8}	0.06	0.58	9.8	10.5
Total Table 3+ Mass Discharge (17 compounds)^{7,9}	0.06	0.58	10.2	10.8
Total Table 3+ Mass Discharge (20 Compounds)⁷	0.06	0.66	10.9	11.5

TABLE 15B
ESTIMATED 2020 QUARTER 4 EVENT TABLE 3+ PFAS MASS DISCHARGE BY PATHWAY AFTER REMEDIES
Chemours Fayetteville Works, North Carolina

Pathway Number ¹	--	--	--
Pathway Name	Tar Heel Ferry Road Bridge ⁵	Tar Heel Ferry Road Bridge ⁵	Tar Heel Ferry Road Bridge
Flow (MG)	--	--	5,710
Instantaneous Flow (ft ³ /sec)	10,300	6,130	--
Program	CAP SW Sampling 4Q20	CAP SW Sampling 4Q20	Tarheel Grab Sample Average
Location ID	TARHEEL	TARHEEL	TARHEEL
Field Sample ID	CAP1220-TARHEEL-121620	CAP1220-CFR-TARHEEL-121520	--
Sample Date and Time ²	12/16/2020	12/15/2020	12/15/2020 & 12/16/2020
Sample Delivery Group (SDG)	320-68080-1	320-68082-1	320-68082-1
Lab Sample ID	320-68080-1	320-68082-4	320-68082-4
Sample Type	Grab	Grab	Grab
<i>Table 3+ Lab SOP Mass Discharge⁶ (mg/s)</i>			
Hfpo Dimer Acid	3.2	1.3	2.3
PFMOAA	5.8	2.4	4.3
PFO2HxA	2.8	1.5	2.3
PFO3OA	0.76	ND	0.65
PFO4DA	ND	ND	ND
PFO5DA	ND	ND	ND
PMPA	7.9	4.3	6.5
PEPA	ND	ND	ND
PS Acid	ND	ND	ND
Hydro-PS Acid	ND	ND	ND
R-PSDA	ND	2.3	3.3
Hydrolyzed PSDA	2.7	1.5	2.2
R-PSDCA	ND	ND	ND
NVHOS	ND	ND	ND
EVE Acid	1.2	ND	1.0
Hydro-EVE Acid	ND	ND	ND
R-EVE	ND	ND	ND
PES	ND	ND	ND
PFECA B	ND	ND	ND
PFECA-G	ND	ND	ND
Total Attachment C Mass Discharge^{7,8}	20.4	9.5	15.6
Total Table 3+ Mass Discharge (17 compounds)^{7,9}	21.6	9.5	16.1
Total Table 3+ Mass Discharge (20 Compounds)⁷	24.5	13.4	20.1

TABLE 15B
ESTIMATED 2020 QUARTER 4 EVENT TABLE 3+ PFAS MASS DISCHARGE BY PATHWAY AFTER REMEDIES
Chemours Fayetteville Works, North Carolina

Pathway Number ¹	--	--
Pathway Name	Bladen Bluff ⁵	Kings Bluff ⁵
Flow (MG)	--	--
Instantaneous Flow (ft ³ /sec)	6,420	7,650
Program	CAP SW Sampling 4Q20	CAP SW Sampling 4Q20
Location ID	CFR-BLADEN	CFR-KINGS
Field Sample ID	CAP1220-CFR-BLADEN-121520	CAP1220-CFR-KINGS-121620
Sample Date and Time ²	12/15/2020	12/16/2020
Sample Delivery Group (SDG)	320-68082-1	320-68082-1
Lab Sample ID	320-68082-2	320-68082-3
Sample Type	Grab	Grab
Table 3+ Lab SOP Mass Discharge⁶ (mg/s)		
Hfpo Dimer Acid	1.3	1.9
PFMOAA	2.5	4.5
PFO2HxA	1.4	2.4
PFO3OA	ND	0.4
PFO4DA	ND	ND
PFO5DA	ND	ND
PMPA	4.4	6.3
PEPA	ND	ND
PS Acid	ND	ND
Hydro-PS Acid	ND	ND
R-PSDA	ND	4.5
Hydrolyzed PSDA	1.3	2.2
R-PSDCA	ND	ND
NVHOS	1.3	1.4
EVE Acid	ND	ND
Hydro-EVE Acid	ND	ND
R-EVE	ND	2.4
PES	ND	ND
PFECA B	ND	ND
PFECA-G	ND	ND
Total Attachment C Mass Discharge^{7,8}	9.6	15.6
Total Table 3+ Mass Discharge (17 compounds)^{7,9}	10.9	17.1
Total Table 3+ Mass Discharge (20 Compounds)⁷	12.4	26.0

Notes:

1 - Pathway 3 (Aerial Deposition on Water Features) and Pathway 8 (Offsite Adjacent and Downstream Groundwater) are not included in this table. Loading from Pathway 3 was estimated using relative concentration ratios from offsite wells, and loading from Pathway 8 was estimated by scaling to the upstream offsite groundwater loading. Further details are provided in Appendices H and I.

2 - For composite samples, the end of the composite sample time period is listed as the sample date.

3 - Total Table 3+ concentrations at the Intake River Water at the Facility are subtracted from Outfall 002 concentrations to compute the mass discharge at Outfall 002.

4 - Mass discharge for Onsite Groundwater (Pathway 5) is determined using calculations described in Appendix G. The lower and upper bounds on the mass discharge was calculated using the upper and lower hydraulic gradient in the Black Creek Aquifer as described in Appendix G.

5 - Mass discharge values for grab samples collected at Tar Heel Ferry Road Bridge, Bladen Bluff, and Kings Bluff are determined based on instantaneous flow rates.

6 - Mass discharge by analyte is calculated based on Table 3+ concentrations in Tables 8 and 10 and 24-hour flow volumes reported in Table 9.

7 - Total PFAS mass discharge is based on the summed Total PFAS concentrations reported in Table 8 and Table 10, which are rounded to two significant figures.

8 - Total Attachment C does not include Perfluoroheptanoic acid (PFHpA).

9 - Total table 3+ (17 compounds) does not include R-PSDA, Hydrolyzed, PSDA, and R-EVE.

10 - CFR-MILE-76 was reanalyzed using Method Table 6 for PMPA and PEPA.

Bold - Analyte detected above associated reporting limit

SOP - Standard Operating Procedure

mg/s - milligrams per second

TABLE 16A
SUMMARY OF TOTAL PFAS MASS DISCHARGE BY PATHWAY BEFORE REMEDIES
Chemours Fayetteville Works, North Carolina

Pathway	Pathway Name	Total Flow Volume on Sample Date (MG) ¹	Total Attachment C ⁵		Total Table 3+ (17 compounds) ⁶		Total Table 3+ (20 compounds)	
			Concentration (ng/L)	Mass Loading (mg/s)	Concentration (ng/L)	Mass Loading (mg/s)	Concentration (ng/L)	Mass Loading (mg/s)
1	Upstream River Water and Groundwater ²	4,173	6	1.2	6.3	1.2	6.3	1.2
2	Willis Creek	15.31	1,300	0.87	1,300	0.87	1,500	1.01
3	Aerial Deposition on Water Features	--	--	0.01	--	0.01	--	0.01
4	Outfall 002 ³	17	309	0.23	503	0.38	700	0.52
5	Onsite Groundwater (Lower Bound) ⁴	--	--	1.67	--	1.69	--	1.70
	Onsite Groundwater (Upper Bound) ⁴	--	--	2.3	--	2.3	--	2.3
6A	Seep A	0.13	210,000	1.23	220,000	1.29	240,000	1.40
6B	Seep B	0.19	260,000	2.20	270,000	2.28	300,000	2.53
6C	Seep C	0.04	420,000	0.72	420,000	0.72	430,000	0.74
6D	Seep D	0.18	130,000	1.01	130,000	1.01	130,000	1.01
6E	Lock and Dam Seep	0.02	110,000	0.11	110,000	0.11	110,000	0.11
7	Old Outfall 002 ⁷	0.62	78,000	2.12	79,000	2.15	82,000	2.23
8	Offsite Adjacent and Downstream Groundwater	--	--	0.43	--	0.43	--	0.43
9	Georgia Branch Creek	8.89	1,500	0.58	1,500	0.58	1,700	0.66
Calculated Total Table 3+ Loading (mg/s) at Tar Heel (Lower Bound)				12.3		12.7		13.5
Calculated Total Table 3+ Loading (mg/s) at Tar Heel (Upper Bound)				13.0		13.3		14.1
Measured Total Table 3+ Loading (mg/s) at Tar Heel⁸		5,710	63	15.6	65	16.1	81	20.1

Notes:

1 - Total flow volume is determined based on measurements taken over 24-hour sample collection period for all locations except Seeps A through C, Lock and Dam Seep, Old Outfall 002, Georgia Branch Creek and Willis Creek. At these locations, the total flow volume was estimated based on the instantaneous flow measurement.

2 - The volumetric flow rate for upstream river water and groundwater was estimated by subtracting inflows from Willis Creek, upwelling groundwater, seeps to the river, and Outfall 002 and by adding the river water intake from Chemours to the flow rate measurement from the W.O. Huske Dam. The December 2020 sample collected at CFR-MILE-76 was reanalyzed using Method Table 6 for PMPA and PEPA.

3 - Total PFAS concentrations at the Intake River Water at Facility location are subtracted from Outfall 002 concentrations to compute the mass discharge at Outfall 002.

4 - Mass Discharge for Onsite Groundwater was determined using calculations described in Appendix G. The lower and upper bounds on the mass discharge were calculated using two different contour elevation differences in the vicinity of the river frontage: a ten-foot elevation difference (between the 40 and 50 ft contours) and a twenty-foot elevation difference (between the 40 and 60 ft contours) as described in Appendix G.

5 - Mass discharge calculations for Total Attachment C does not include Perfluorheptanoic acid (PFHpA).

6 - Total table 3+ (17 compounds) does not include R-PSDA, Hydrolyzed, PSDA, and R-EVE.

7 - For Q4 2020, the concentrations from the Old Outfall 002 sample collected downgradient from the treatment system in December 2020 were used to calculate the After Remedy mass discharge for this pathway.

8 - For the Q4 sampling event, a composite sample could not be collected because of the high river stage. Instead two grab samples were collected within a 24 hour period on December 15 and 16, 2020. The average concentrations between these grab samples were used in the calculation of mass discharge.

TABLE 16B
SUMMARY OF TOTAL PFAS MASS DISCHARGE BY PATHWAY AFTER REMEDIES
Chemours Fayetteville Works, North Carolina

Pathway	Pathway Name	Total Flow Volume on Sample Date (MG) ¹	Total Attachment C ⁵		Total Table 3+ (17 compounds) ⁶		Total Table 3+ (20 compounds)	
			Concentration (ng/L)	Mass Loading (mg/s)	Concentration (ng/L)	Mass Loading (mg/s)	Concentration (ng/L)	Mass Loading (mg/s)
1	Upstream River Water and Groundwater ²	4,173	6	1.2	6.3	1.2	6.3	1.2
2	Willis Creek	15.31	1,300	0.87	1,300	0.87	1,500	1.01
3	Aerial Deposition on Water Features	--	--	0.01	--	0.01	--	0.01
4	Outfall 002 ³	17	309	0.23	503	0.38	700	0.52
5	Onsite Groundwater (Lower Bound) ⁴	--	--	1.67	--	1.69	--	1.70
	Onsite Groundwater (Upper Bound) ⁴	--	--	2.3	--	2.3	--	2.3
6A	Seep A	0.13	210,000	1.23	220,000	1.29	240,000	1.40
6B	Seep B	0.19	260,000	2.20	270,000	2.28	300,000	2.53
6C	Seep C	0.04	420,000	0.72	420,000	0.72	430,000	0.74
6D	Seep D	0.18	130,000	1.01	130,000	1.01	130,000	1.01
6E	Lock and Dam Seep	0.02	110,000	0.11	110,000	0.11	110,000	0.11
7	Old Outfall 002 ⁷	0.62	2,100	0.06	2,200	0.06	2,200	0.06
8	Offsite Adjacent and Downstream Groundwater	--	--	0.43	--	0.43	--	0.43
9	Georgia Branch Creek	8.89	1,500	0.58	1,500	0.58	1,700	0.66
Calculated Total Table 3+ Loading (mg/s) at Tar Heel (Lower Bound)				10.3		10.6		11.3
Calculated Total Table 3+ Loading (mg/s) at Tar Heel (Upper Bound)				10.9		11.2		12.0
Measured Total Table 3+ Loading (mg/s) at Tar Heel⁸		5,710	63	15.6	65	16.1	81	20.1

Notes:

1 - Total flow volume is determined based on measurements taken over 24-hour sample collection period for all locations except Seeps A through C, Lock and Dam Seep, Old Outfall 002, Georgia Branch Creek and Willis Creek. At these locations, the total flow volume was estimated based on the instantaneous flow measurement.

2 - The volumetric flow rate for upstream river water and groundwater was estimated by subtracting inflows from Willis Creek, upwelling groundwater, seeps to the river, and Outfall 002 and by adding the river water intake from Chemours to the flow rate measurement from the W.O. Huske Dam. The December 2020 sample collected at CFR-MILE-76 was reanalyzed using Method Table 6 for PMPA and PEPA.

3 - Total PFAS concentrations at the Intake River Water at Facility location are subtracted from Outfall 002 concentrations to compute the mass discharge at Outfall 002.

4 - Mass Discharge for Onsite Groundwater was determined using calculations described in Appendix G. The lower and upper bounds on the mass discharge were calculated using two different contour elevation differences in the vicinity of the river frontage: a ten-foot elevation difference (between the 40 and 50 ft contours) and a twenty-foot elevation difference (between the 40 and 60 ft contours) as described in Appendix G.

5 - Mass discharge calculations for Total Attachment C does not include Perfluoroheptanoic acid (PFHpA).

6 - Total table 3+ (17 compounds) does not include R-PSDA, Hydrolyzed, PSDA, and R-EVE.

7 - For Q4 2020, the Old Outfall 002 treatment system became operational and the concentrations from the influent sample collected in December 2020 were used to calculate the Before Remedy mass discharge for this pathway.

8 - For the Q4 sampling event, a composite sample could not be collected because of the high river stage. Instead two grab samples were collected within a 24 hour period on December 15 and 16, 2020. The average concentrations between these grab samples were used in the calculation of mass discharge.

TABLE 17
CAPE FEAR RIVER TOTAL PFAS RELATIVE
MASS DISCHARGE PER PATHWAY
Chemours Fayetteville Works, North Carolina

Geosyntec Consultants of NC P.C.

Pathway	Q1 2020 (April 2020) (dry) ¹			
	Total Table 3+ (17 Compounds) ⁶		Total Table 3+ (20 Compounds)	
	Lower	Upper	Lower	Upper
[1] Upstream River Water and Groundwater	0%	0%	0%	0%
[2] Willis Creek	4%	3%	5%	3%
[3] Aerial Deposition on Water Features	<1%	<1%	<1%	<1%
[4] Outfall 002	1%	<1%	1%	1%
[5] Onsite Groundwater	5%	43%	5%	42%
[6] Seeps	56%	34%	57%	35%
[7] Old Outfall 002	30%	23%	28%	17%
[8] Offsite Adjacent and Downstream Groundwater	0%	0%	0%	0%
[9] Georgia Branch Creek	4%	2%	4%	2%

Notes:

Relative contributions per pathway are presented as a range, which represents the upper and lower bound estimates.

1 - Model estimated Total PFAS mass discharge for April 2020 is in Cape Fear River PFAS Mass Loading Assessment - First Quarter 2020 Report (Geosyntec, 2020b).

2 - Model estimated Total PFAS mass discharge for May 2020 is in Cape Fear River PFAS Mass Loading Assessment - Second Quarter 2020 Report (Geosyntec, 2020c).

3 - Model estimated Total PFAS mass discharge for July 2020 is in Cape Fear River PFAS Mass Loading Assessment - Third Quarter 2020 Report (Geosyntec, 2020e).

4 - Model estimated Total PFAS mass discharge for December 2020 is presented in this report.

5 - Mass discharge calculations for Total Attachment C does not include Perfluorooheptanoic acid (PFHpA).

6 - Total table 3+ (17 compounds) does not include R-PSDA, Hydrolyzed, PSDA, and R-EVE.

7 - Mass discharges was estimated before and after remedies have been implemented at the Transport Pathways. For Q4 2020, the Old Outfall 002 treatment system became operational, therefore, the concentrations from the influent and the location downgradient of the treatment system were used to calculate the Before and After Remedies mass discharge, respectively, for this pathway.

TABLE 17
CAPE FEAR RIVER TOTAL PFAS RELATIVE
MASS DISCHARGE PER PATHWAY
Chemours Fayetteville Works, North Carolina

Pathway	Q2 2020 (May 2020) (dry) ²			
	Total Table 3+ (17 Compounds) ⁶		Total Table 3+ (20 Compounds)	
	Lower	Upper	Lower	Upper
[1] Upstream River Water and Groundwater	9%	8%	14%	12%
[2] Willis Creek	3%	3%	3%	3%
[3] Aerial Deposition on Water Features	<1%	<1%	<1%	<1%
[4] Outfall 002	1%	1%	1%	1%
[5] Onsite Groundwater	2%	19%	2%	17%
[6] Seeps	49%	41%	46%	39%
[7] Old Outfall 002	28%	23%	25%	21%
[8] Offsite Adjacent and Downstream Groundwater	4%	3%	5%	4%
[9] Georgia Branch Creek	4%	3%	3%	3%

Notes:

Relative contributions per pathway are presented as a range, which represents the upper and lower bound estimates.

1 - Model estimated Total PFAS mass discharge for April 2020 is in Cape Fear River PFAS Mass Loading Assessment - First Quarter 2020 Report (Geosyntec, 2020b).

2 - Model estimated Total PFAS mass discharge for May 2020 is in Cape Fear River PFAS Mass Loading Assessment - Second Quarter 2020 Report (Geosyntec, 2020c).

3 - Model estimated Total PFAS mass discharge for July 2020 is in Cape Fear River PFAS Mass Loading Assessment - Third Quarter 2020 Report (Geosyntec, 2020e).

4 - Model estimated Total PFAS mass discharge for December 2020 is presented in this report.

5 - Mass discharge calculations for Total Attachment C does not include Perfluoroheptanoic acid (PFHpA).

6 - Total table 3+ (17 compounds) does not include R-PSDA, Hydrolyzed, PSDA, and R-EVE.

7 - Mass discharges was estimated before and after remedies have been implemented at the Transport Pathways. For Q4 2020, the Old Outfall 002 treatment system became operational, therefore, the concentrations from the influent and the location downgradient of the treatment system were used to calculate the Before and After Remedies mass discharge, respectively, for this pathway.

TABLE 17
CAPE FEAR RIVER TOTAL PFAS RELATIVE
MASS DISCHARGE PER PATHWAY
Chemours Fayetteville Works, North Carolina

Pathway	Q3 2020 (July 2020) (dry) ³					
	Total Attachment C ⁵		Total Table 3+ (17 Compounds) ⁶		Total Table 3+ (20 Compounds)	
	Lower	Upper	Lower	Upper	Lower	Upper
[1] Upstream River Water and Groundwater	1%	1%	1%	1%	1%	1%
[2] Willis Creek	5%	4%	5%	4%	5%	4%
[3] Aerial Deposition on Water Features	<1%	<1%	<1%	<1%	<1%	<1%
[4] Outfall 002	1%	1%	1%	<1%	2%	1%
[5] Onsite Groundwater	3%	26%	3%	26%	3%	25%
[6] Seeps	53%	40%	53%	41%	54%	42%
[7] Old Outfall 002	34%	26%	34%	26%	32%	25%
[8] Offsite Adjacent and Downstream Groundwater	<1%	<1%	<1%	<1%	<1%	<1%
[9] Georgia Branch Creek	2%	2%	2%	2%	2%	2%

Notes:

Relative contributions per pathway are presented as a range, which represents the upper and lower bound estimates.

1 - Model estimated Total PFAS mass discharge for April 2020 is in Cape Fear River PFAS Mass Loading Assessment - First Quarter 2020 Report (Geosyntec, 2020b).

2 - Model estimated Total PFAS mass discharge for May 2020 is in Cape Fear River PFAS Mass Loading Assessment - Second Quarter 2020 Report (Geosyntec, 2020c).

3 - Model estimated Total PFAS mass discharge for July 2020 is in Cape Fear River PFAS Mass Loading Assessment - Third Quarter 2020 Report (Geosyntec, 2020e).

4 - Model estimated Total PFAS mass discharge for December 2020 is presented in this report.

5 - Mass discharge calculations for Total Attachment C does not include Perfluorohexanoic acid (PFHpA).

6 - Total table 3+ (17 compounds) does not include R-PSDA, Hydrolyzed, PSDA, and R-EVE.

7 - Mass discharges was estimated before and after remedies have been implemented at the Transport Pathways. For Q4 2020, the Old Outfall 002 treatment system became operational, therefore, the concentrations from the influent and the location downgradient of the treatment system were used to calculate the Before and After Remedies mass discharge, respectively, for this pathway.

TABLE 17
CAPE FEAR RIVER TOTAL PFAS RELATIVE
MASS DISCHARGE PER PATHWAY
Chemours Fayetteville Works, North Carolina

Pathway	Q4 2020 (December 2020) Before Remedies (wet) ^{4,7}					
	Total Attachment C ⁵		Total Table 3+ (17 Compounds) ⁶		Total Table 3+ (20 Compounds)	
	Lower	Upper	Lower	Upper	Lower	Upper
[1] Upstream River Water and Groundwater	9%	9%	9%	9%	9%	8%
[2] Willis Creek	7%	7%	7%	7%	7%	7%
[3] Aerial Deposition on Water Features	<1%	<1%	<1%	<1%	<1%	<1%
[4] Outfall 002	2%	2%	3%	3%	4%	4%
[5] Onsite Groundwater	14%	18%	13%	18%	13%	16%
[6] Seeps	43%	41%	43%	41%	43%	41%
[7] Old Outfall 002	17%	16%	17%	16%	16%	16%
[8] Offsite Adjacent and Downstream Groundwater	4%	3%	3%	3%	3%	3%
[9] Georgia Branch Creek	5%	5%	5%	4%	5%	5%

Notes:

Relative contributions per pathway are presented as a range, which represents the upper and lower bound estimates.

1 - Model estimated Total PFAS mass discharge for April 2020 is in Cape Fear River PFAS Mass Loading Assessment - First Quarter 2020 Report (Geosyntec, 2020b).

2 - Model estimated Total PFAS mass discharge for May 2020 is in Cape Fear River PFAS Mass Loading Assessment - Second Quarter 2020 Report (Geosyntec, 2020c).

3 - Model estimated Total PFAS mass discharge for July 2020 is in Cape Fear River PFAS Mass Loading Assessment - Third Quarter 2020 Report (Geosyntec, 2020e).

4 - Model estimated Total PFAS mass discharge for December 2020 is presented in this report.

5 - Mass discharge calculations for Total Attachment C does not include Perfluorohexanoic acid (PFHpA).

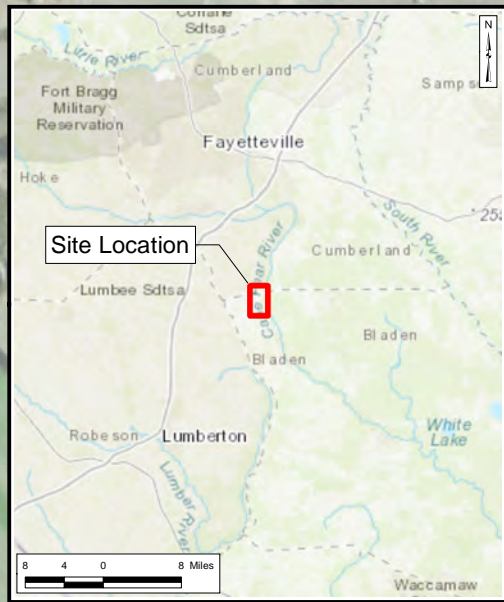
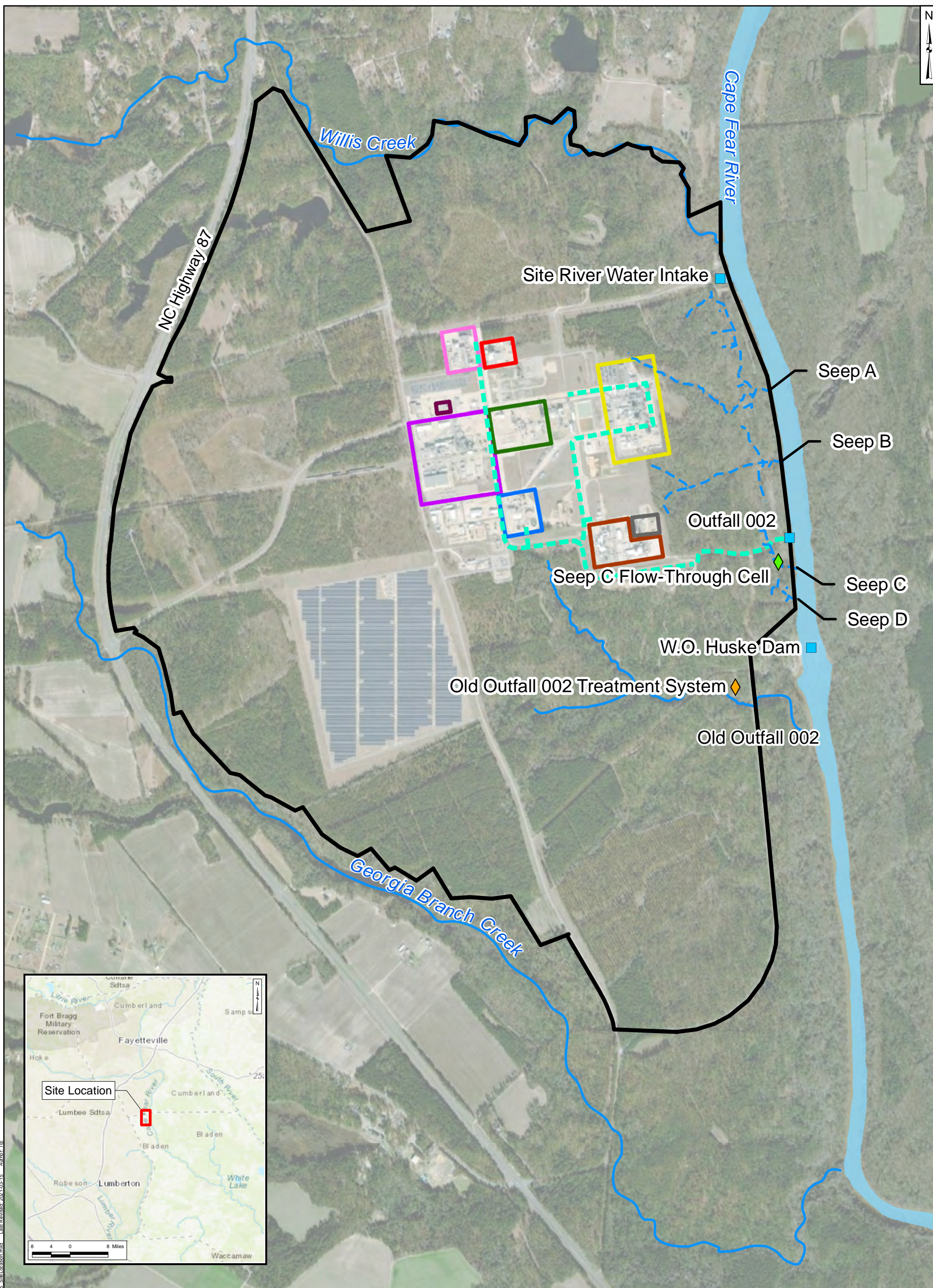
6 - Total table 3+ (17 compounds) does not include R-PSDA, Hydrolyzed, PSDA, and R-EVE.

7 - Mass discharges was estimated before and after remedies have been implemented at the Transport Pathways. For Q4 2020, the Old Outfall 002 treatment system became operational, therefore, the concentrations from the influent and the location downgradient of the treatment system were used to calculate the Before and After Remedies mass discharge, respectively, for this pathway.



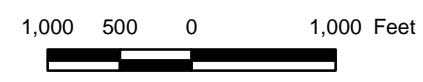
Geosyntec Consultants of NC, P.C.
NC License No.: C-3500 and C-295

FIGURES



Legend		Areas at Site	
	Seep C Flow-Through Cell		Chemours Monomers IXM
	Old Outfall 002 Treatment System		Chemours Polymer Processing Aid Area
	Site Features		DuPont Polyvinyl Fluoride Leased Area
	Site Boundary		Former DuPont PMDF Area
	Nearby Tributary		Kuraray SentryGlas® Leased Area
	Observed Seep (Natural Drainage)		Kuraray Trosifol® Leased Area
	Site Conveyance Network		Wastewater Treatment Plant
			Power - Filtered and Demineralized Water Production
			Kuraray Laboratory

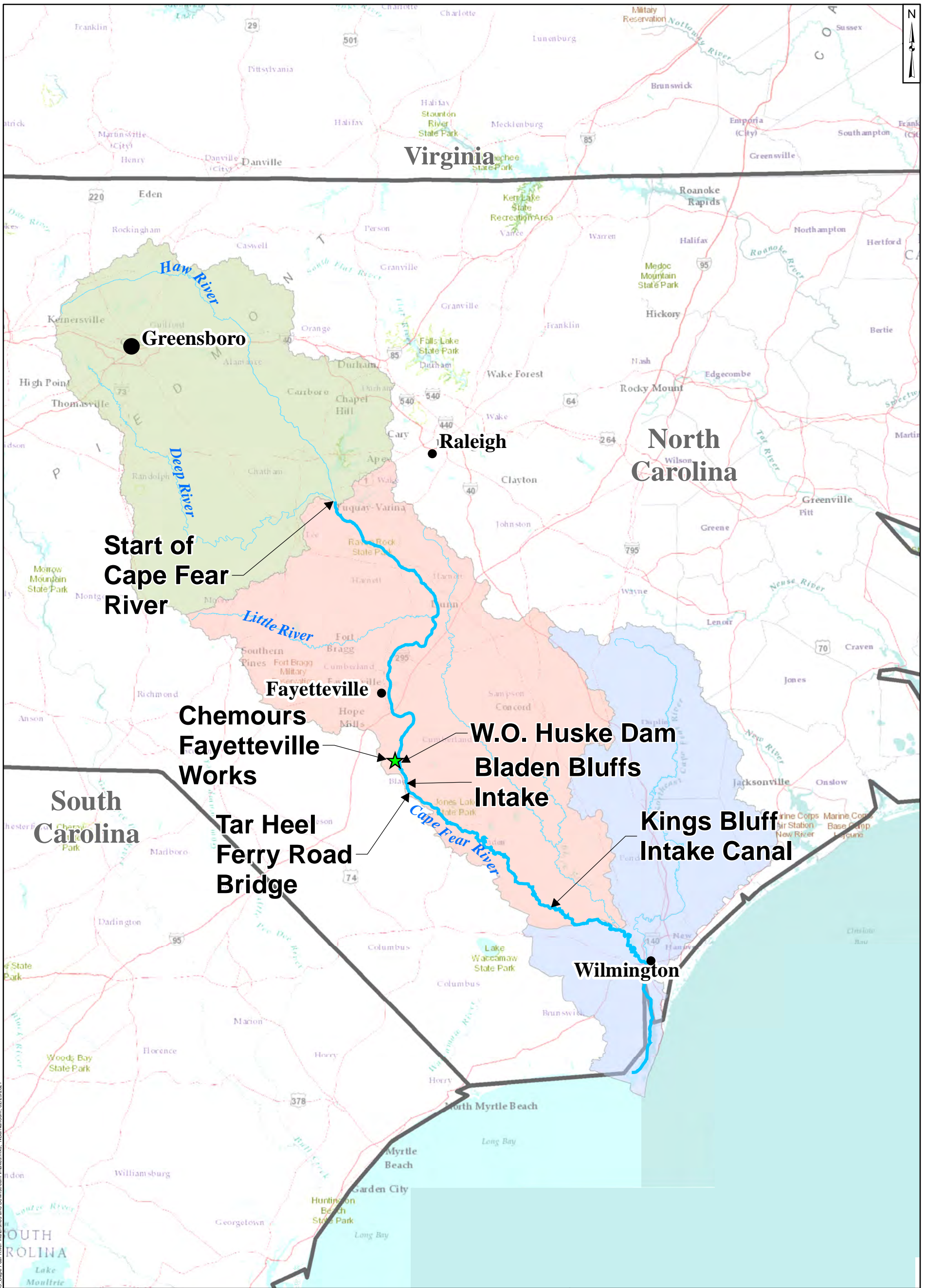
Notes:
 1. The outline of Cape Fear River is approximate and is based on open data from ArcGIS Online and North Carolina Department of Environmental Quality Online GIS (MajorHydro shapefile).
 2. Basemap sources: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community



Site Location Map
 Chemours Fayetteville Works, North Carolina

	Geosyntec Consultants of NC, P.C. NC License No.: C 3500 and C 295	Figure 1
	Raleigh	

Path: P:\Projects\T07\GIS\Baseline Monitoring\070915_Site Location.mxd - Last Revised: 2/27/15 - Author: TJP
 Projection: NAD 1983 StatePlane North Carolina FIPS 3200 Feet; Units in Foot US

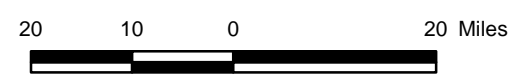


Path: P:\P\Projects\TR07\980 Database and GIS\GIS Baseline Monitoring\Workplan\TR0795 - Cape Fear River Watershed and Downstream Intakes.mxd; N:\N\N\hour\02/23/2021

Legend

- ★ Chemours Fayetteville Works
- Upper Basin
- Middle Basin
- Lower Basin

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



Cape Fear River Watershed and Downstream Drinking Water Intakes
 Chemours Fayetteville Works, North Carolina

Geosyntec
 consultants

Geosyntec Consultants of NC, P.C.
 NC License No.: C 3500 and C 295

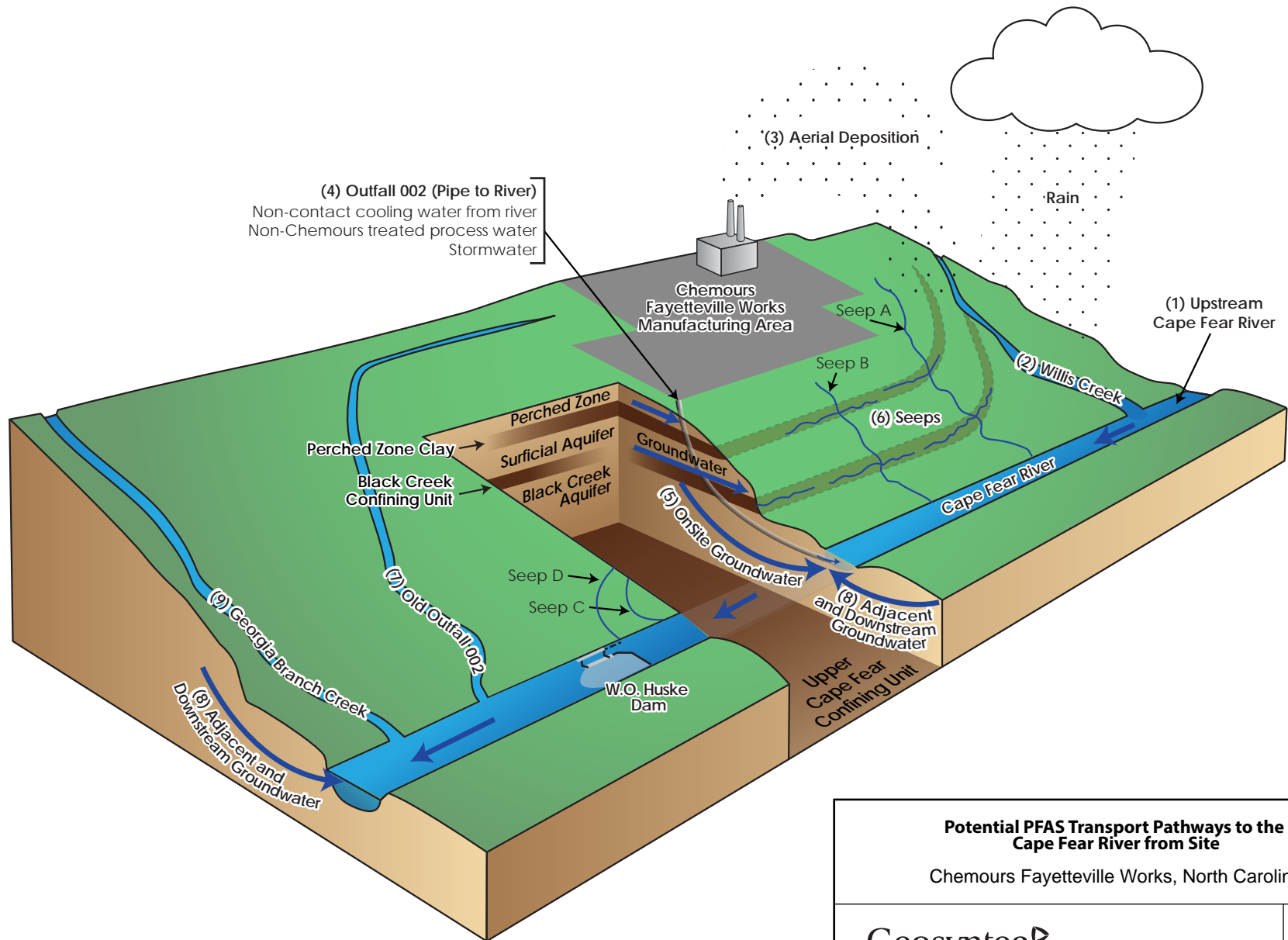
Figure

Raleigh

March 2021

2

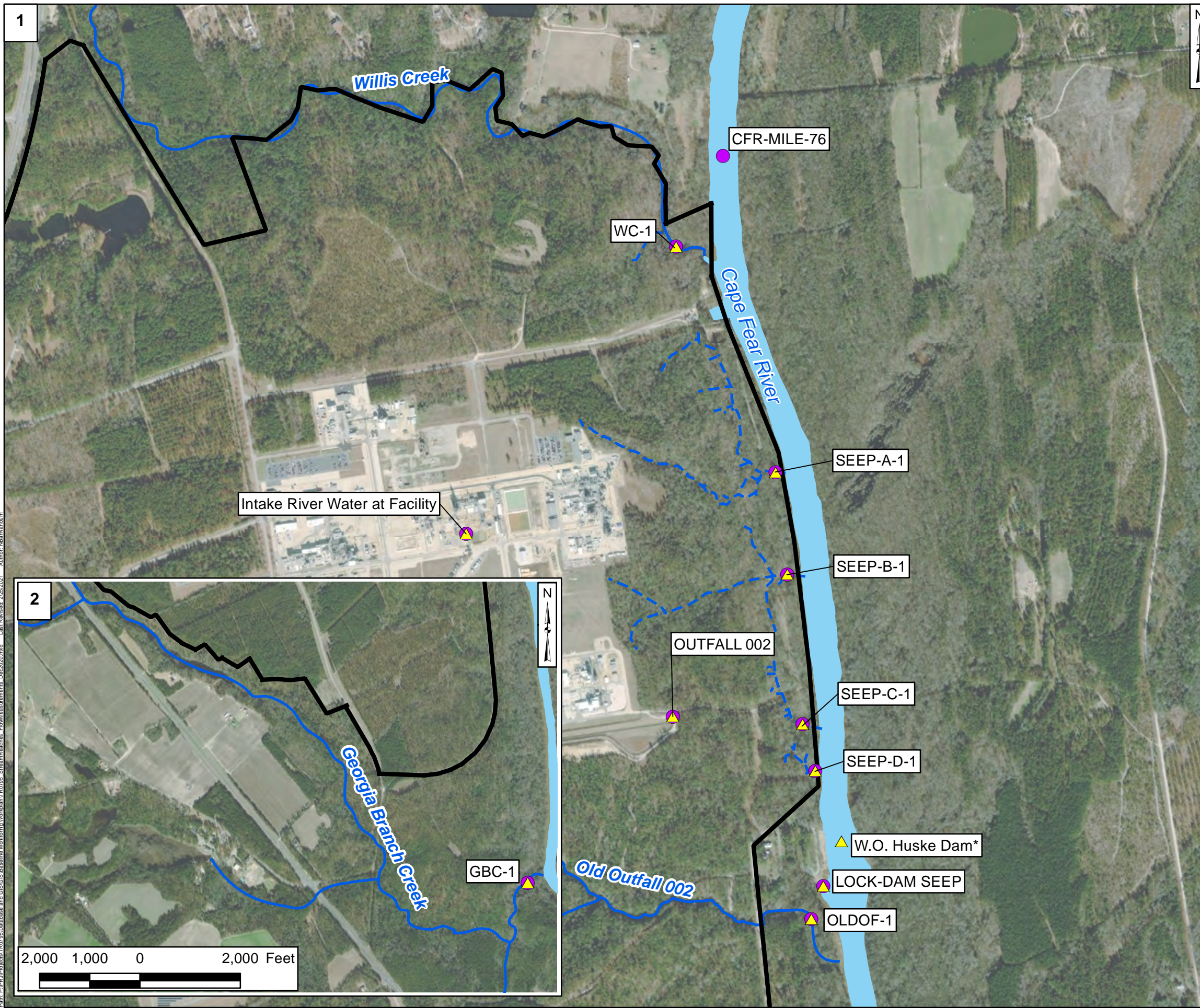
Projection: NAD 1983 StatePlane North Carolina FIPS 3200 Feet; Units in Foot US



Data:PRJ/Projects/TR0795/Database and GIS/Illustrator/3D CSM Illustration/ConceptualSiteModel_Dec2021.ai

Note: Image is conceptual and is not to scale

<p>Potential PFAS Transport Pathways to the Cape Fear River from Site</p> <p>Chemours Fayetteville Works, North Carolina</p>	
<p>Geosyntec consultants</p>	<p>Geosyntec Consultants of NC, P.C. NC License No.: C 3500 and C 295</p>
<p>Raleigh, NC</p>	<p>March 2021</p>
<p>Figure 3</p>	

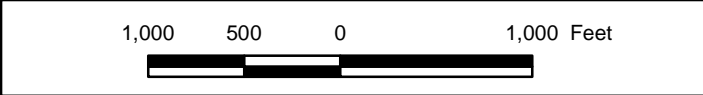
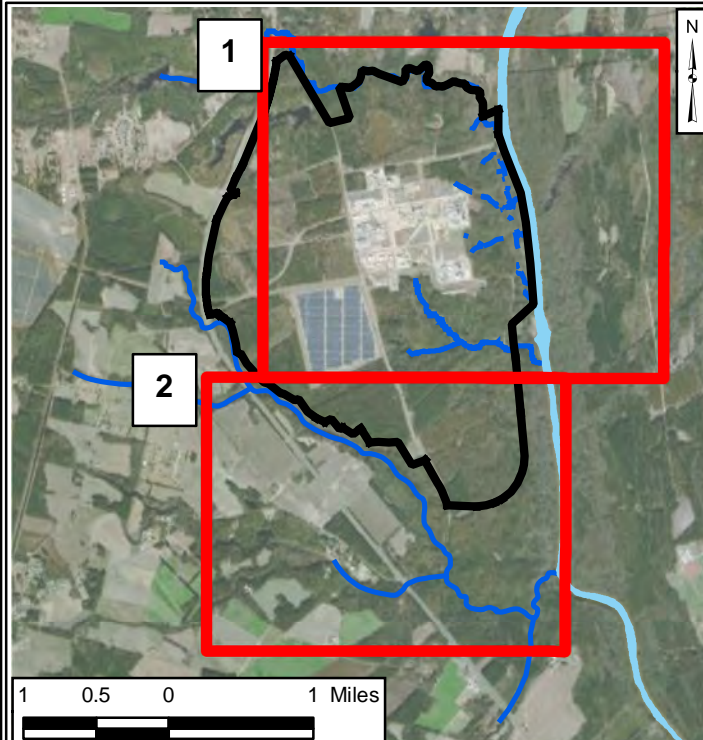


Legend

- ▲ Flow Measurement Location
- Sample Location
- Observed Seep
- Nearby Tributary
- Site Boundary

Notes:

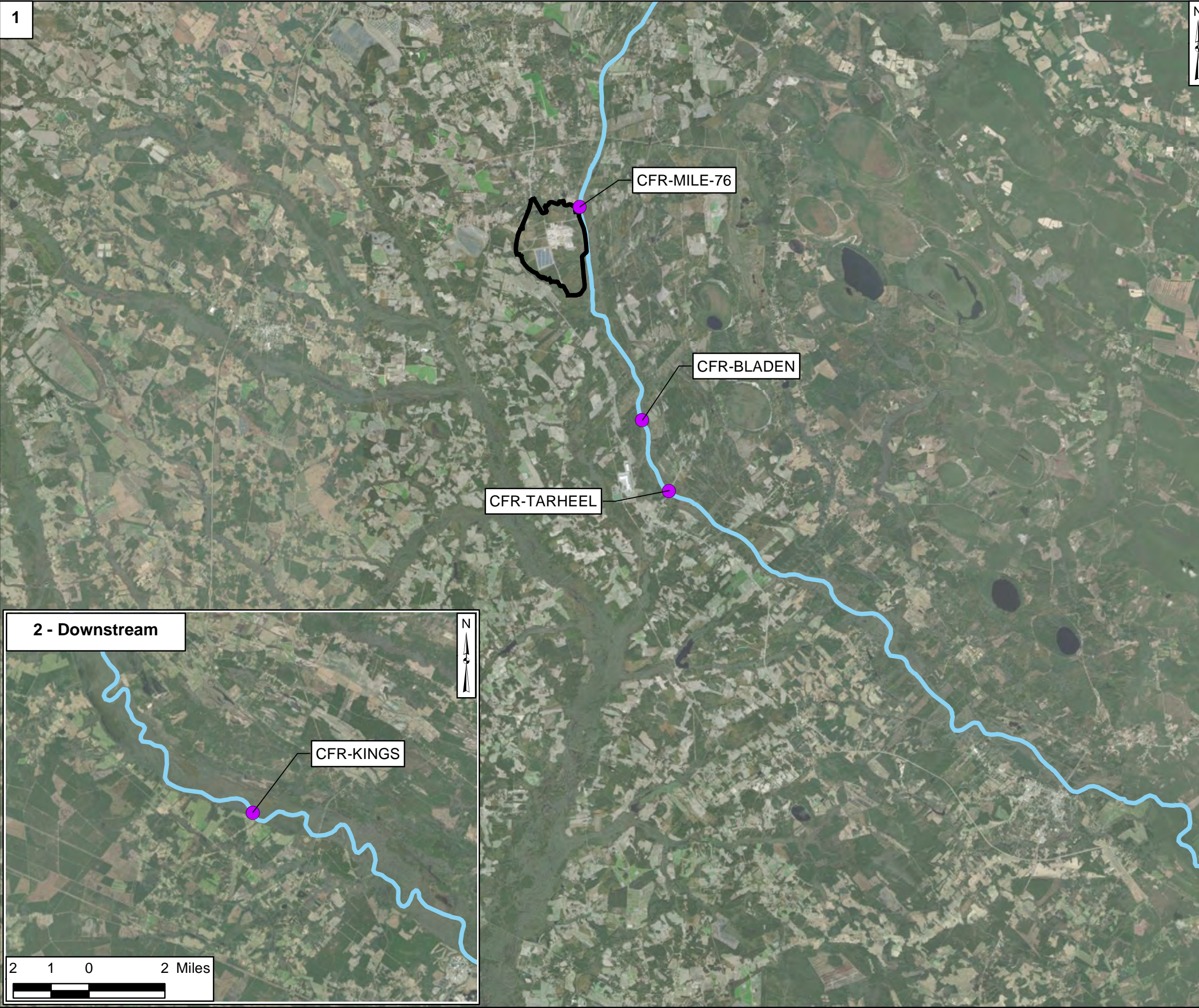
- * - Flow measurement was taken at W.O. Huske Dam - USGS
- 1. Flow at Seep D was measured using a flume.
- 2. Flow at Old Outfall 002, Willis Creek, Georgia Branch Creek, Seep A, Seep B, and Seep C were measured using flow velocity method.
- 3. Results of estimated flow at these locations are provided in Table 9 with supplemental flow measurement data included in Appendix D.
- 4. The outline of Cape Fear River is approximate and is based on open data from ArcGIS Online and North Carolina Department of Environmental Quality Online GIS.
- 5. Basemap sources: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community.



Sample and Flow Measurement Locations - December 2020
Chemours Fayetteville Works, North Carolina

<p>Geosyntec consultants</p>	<p>Geosyntec Consultants of NC, P.C. NC License No.: C 3500 and C 295</p>	<p>Figure 4</p>

Path: P:\P\Projects\TR07\GIS Database and GIS\GIS Baseline Monitor\Workshop\TR07\StreamReaches_FlowMeasurements_Dec2020.mxd Last Revised: 2/25/2021 Author: NBartholom

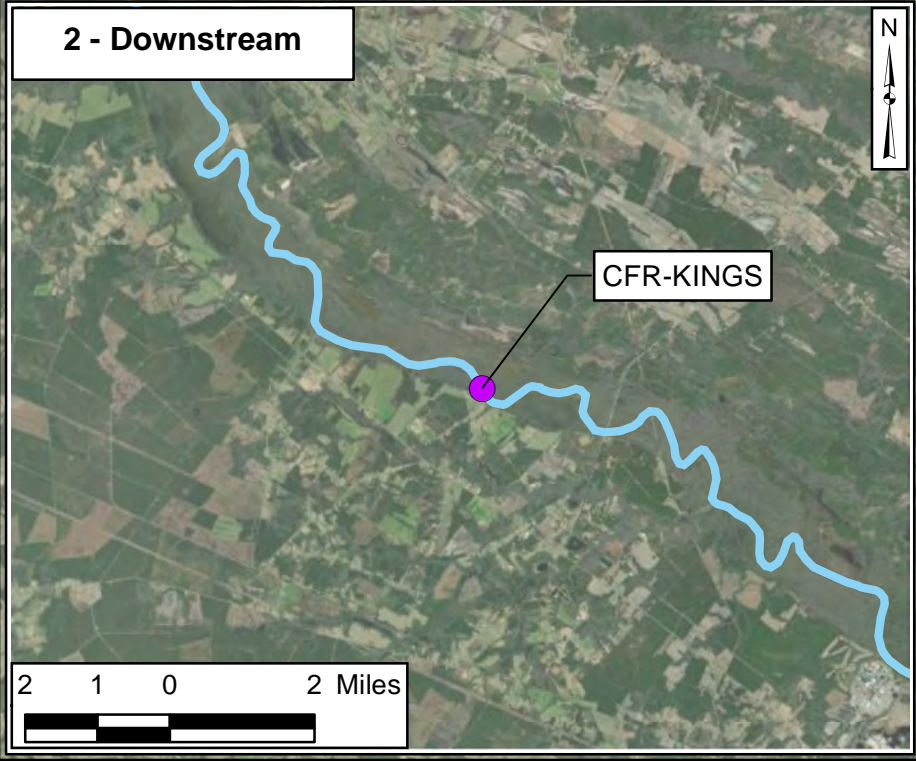
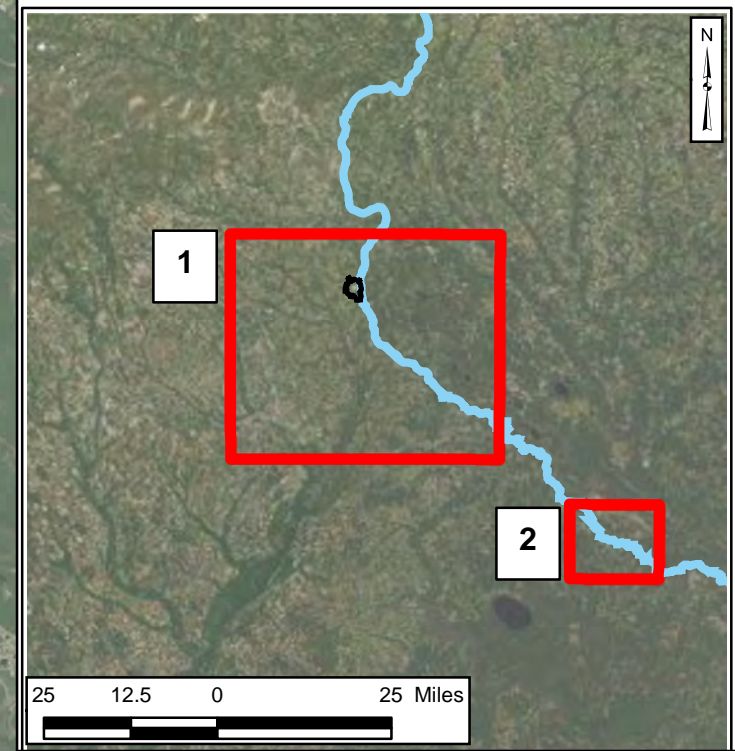


Legend

- Sample Location
- Site Boundary
- Cape Fear River

Notes:

1. The outline of Cape Fear River is approximate and is based on open data from ArcGIS Online and North Carolina Department of Environmental Quality Online GIS.
2. Basemap sources: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community.

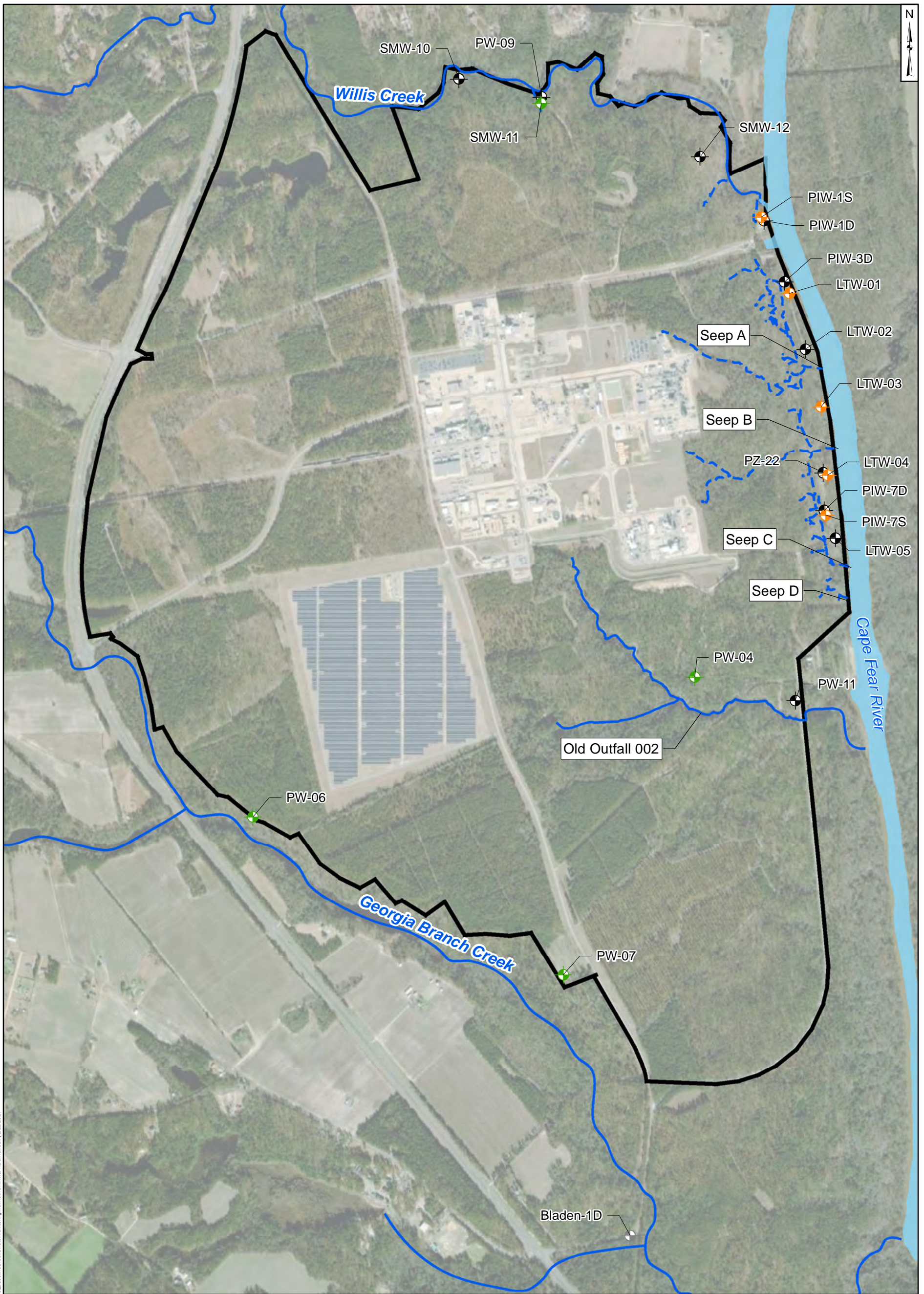


Cape Fear River Sample Locations - December 2020

Chemours Fayetteville Works, North Carolina

	<small>Geosyntec Consultants of NC, P.C. NC License No.: C 3500 and C 295</small>	Figure 5
Raleigh	March 2021	

Path: P:\P\Projects\TR07\GIS\Baseline Monitoring\Workshop\TR07PS_CapeFearRiverSampleLocations_Dec2020.mxd, Last Revised: 2/25/2021, Author: NBarNahum
 Projection: NAD 1983 StatePlane North Carolina FIPS 3200 Feet, Units in Foot US



Legend

- ◆ Surficial Aquifer
- ◆ Floodplain Deposits
- ⊗ Black Creek Aquifer
- ⊗ Damaged
- Observed Seep
- Nearby Tributary
- Site Boundary

Notes:

1. Due to the scale of the map, pairs of wells that are in close proximity have been offset for visibility. Therefore, the placement of these wells on this map do not reflect their true geographic coordinates.
2. The outline of Cape Fear River is approximate and is based on open data from ArcGIS Online and North Carolina Department of Environmental Quality Online GIS.
3. Basemap source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community.

1,000 500 0 1,000 Feet



Groundwater Wells for Mass Loading Assessment

Chemours Fayetteville Works, North Carolina

Geosyntec
consultants

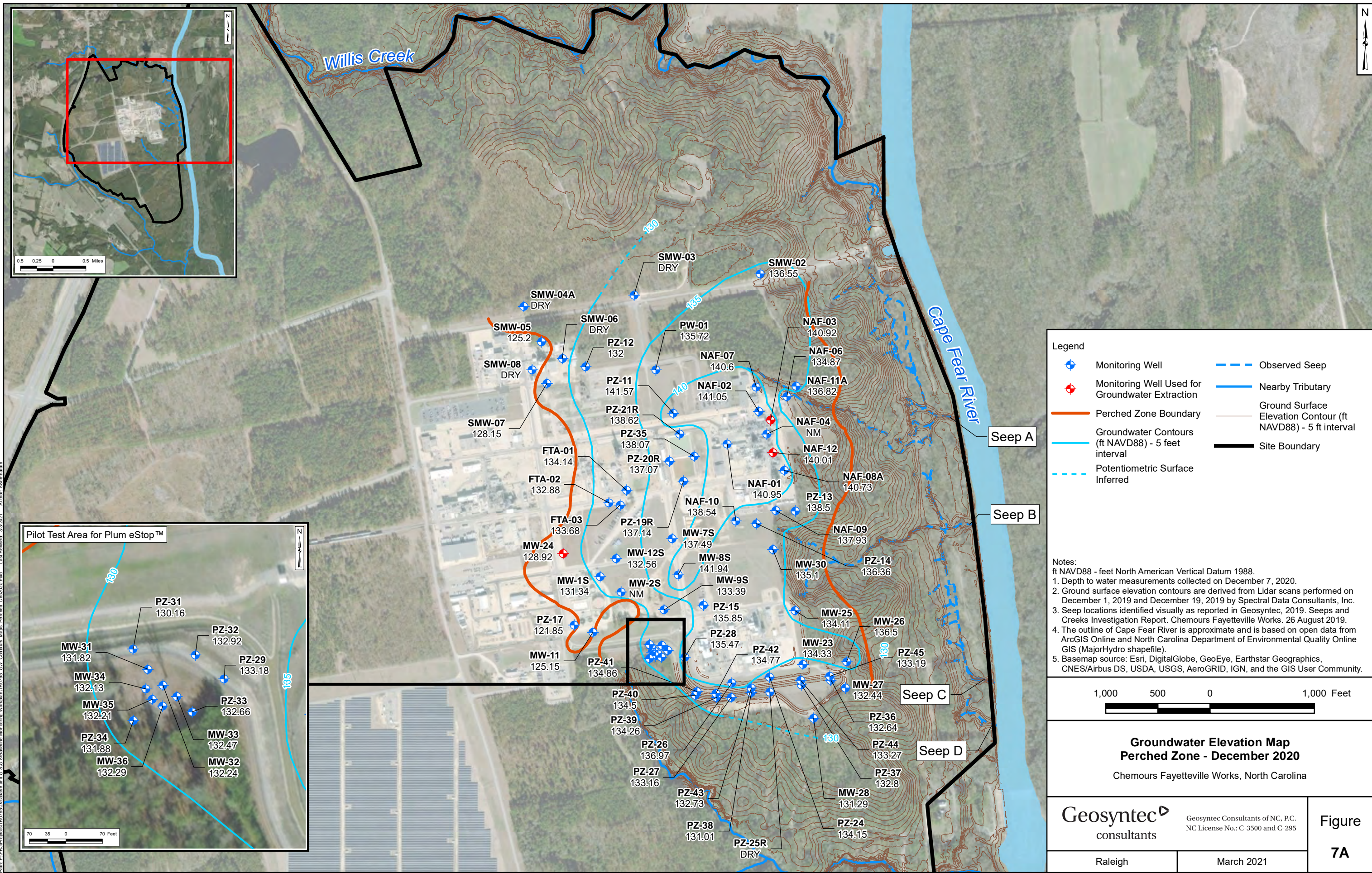
Geosyntec Consultants of NC, P.C.
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Figure

6

Raleigh

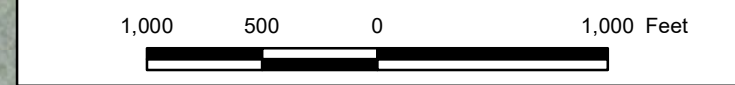
March 2021



Legend

- ◆ Monitoring Well
- ◆ Monitoring Well Used for Groundwater Extraction
- Perched Zone Boundary
- Groundwater Contours (ft NAVD88) - 5 feet interval
- - - Potentiometric Surface Inferred
- - - Observed Seep
- Nearby Tributary
- Ground Surface Elevation Contour (ft NAVD88) - 5 ft interval
- Site Boundary

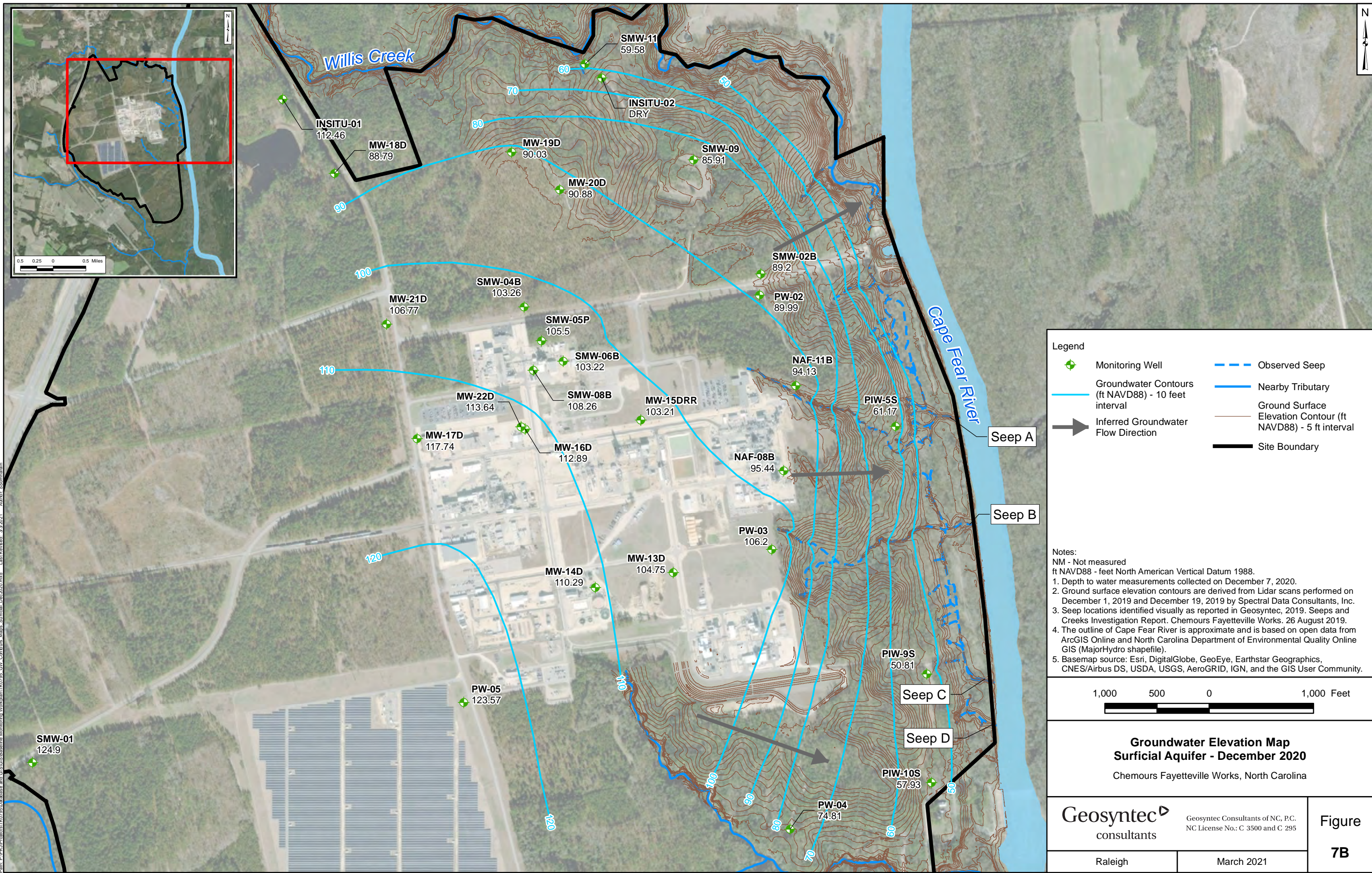
Notes:
 ft NAVD88 - feet North American Vertical Datum 1988.
 1. Depth to water measurements collected on December 7, 2020.
 2. Ground surface elevation contours are derived from Lidar scans performed on December 1, 2019 and December 19, 2019 by Spectral Data Consultants, Inc.
 3. Seep locations identified visually as reported in Geosyntec, 2019. Seeps and Creeks Investigation Report. Chemours Fayetteville Works. 26 August 2019.
 4. The outline of Cape Fear River is approximate and is based on open data from ArcGIS Online and North Carolina Department of Environmental Quality Online GIS (MajorHydro shapefile).
 5. Basemap source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community.



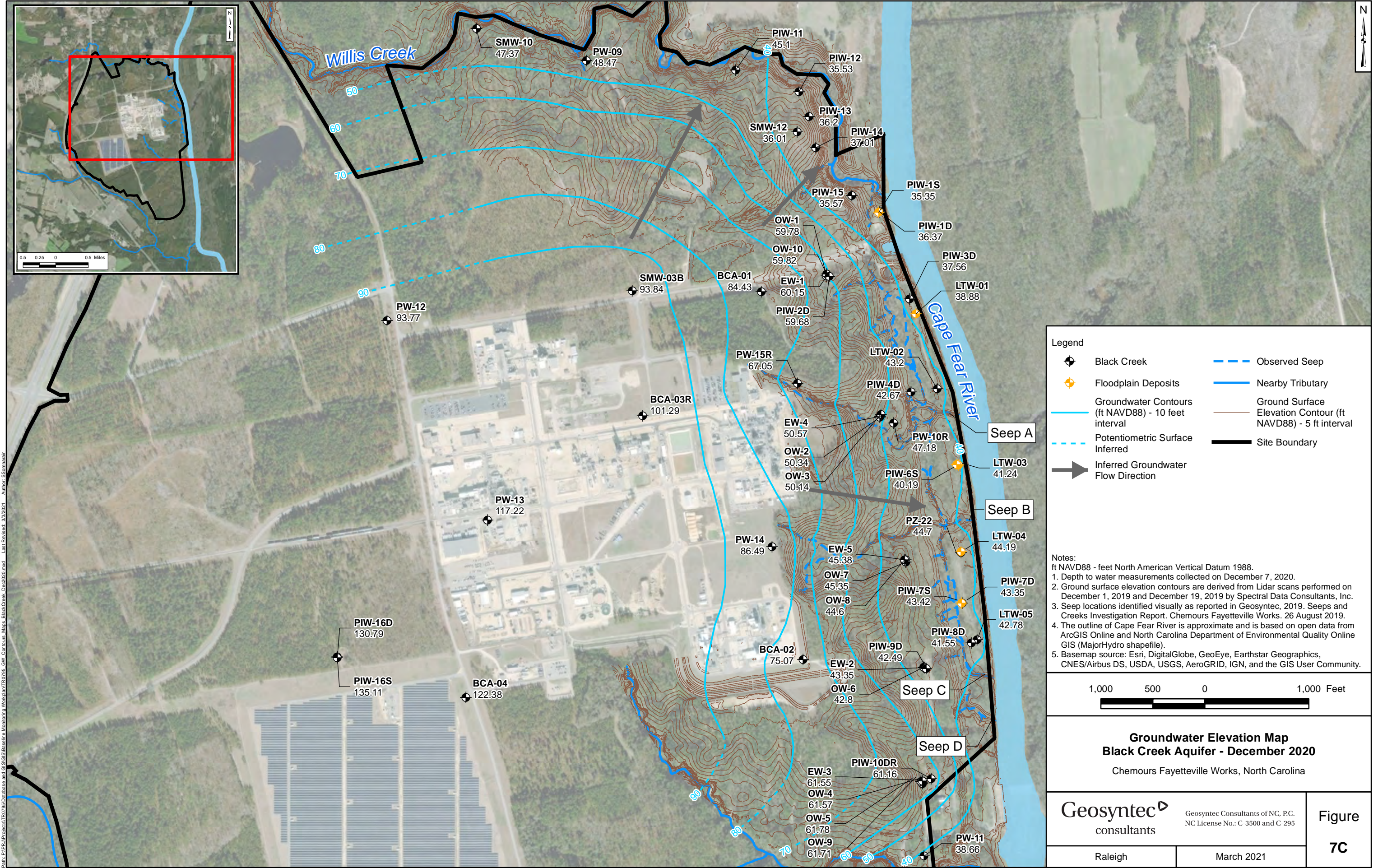
Groundwater Elevation Map
Perched Zone - December 2020
 Chemours Fayetteville Works, North Carolina

	Geosyntec Consultants of NC, P.C. NC License No.: C. 3500 and C. 295	Figure 7A
Raleigh	March 2021	

Path: P:\P\Projects\170725\Baseline Monitor\Work\m\170725_GW_Cenbus_Mapa_Perched_Dec2020.mxd Last Revised: 3/3/2021 Author: S50matman
 Projection: NAD 1983 StatePlane North Carolina FIPS 3200 Feet Units in Foot US



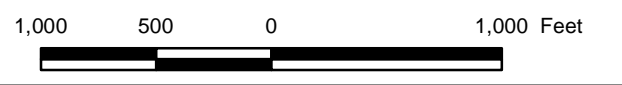
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 Last Revised: 3/3/2021 Author: S.Samanin
 Projection: NAD 1983 StatePlane North Carolina FIPS 3200 Feet Units in Foot US



Legend

- Black Creek
- Floodplain Deposits
- Observed Seep
- Nearby Tributary
- Groundwater Contours (ft NAVD88) - 10 feet interval
- Ground Surface Elevation Contour (ft NAVD88) - 5 ft interval
- Potentiometric Surface Inferred
- Site Boundary
- Inferred Groundwater Flow Direction

Notes:
 ft NAVD88 - feet North American Vertical Datum 1988.
 1. Depth to water measurements collected on December 7, 2020.
 2. Ground surface elevation contours are derived from Lidar scans performed on December 1, 2019 and December 19, 2019 by Spectral Data Consultants, Inc.
 3. Seep locations identified visually as reported in Geosyntec, 2019. Seeps and Creeks Investigation Report. Chemours Fayetteville Works. 26 August 2019.
 4. The outline of Cape Fear River is approximate and is based on open data from ArcGIS Online and North Carolina Department of Environmental Quality Online GIS (MajorHydro shapefile).
 5. Basemap source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community.

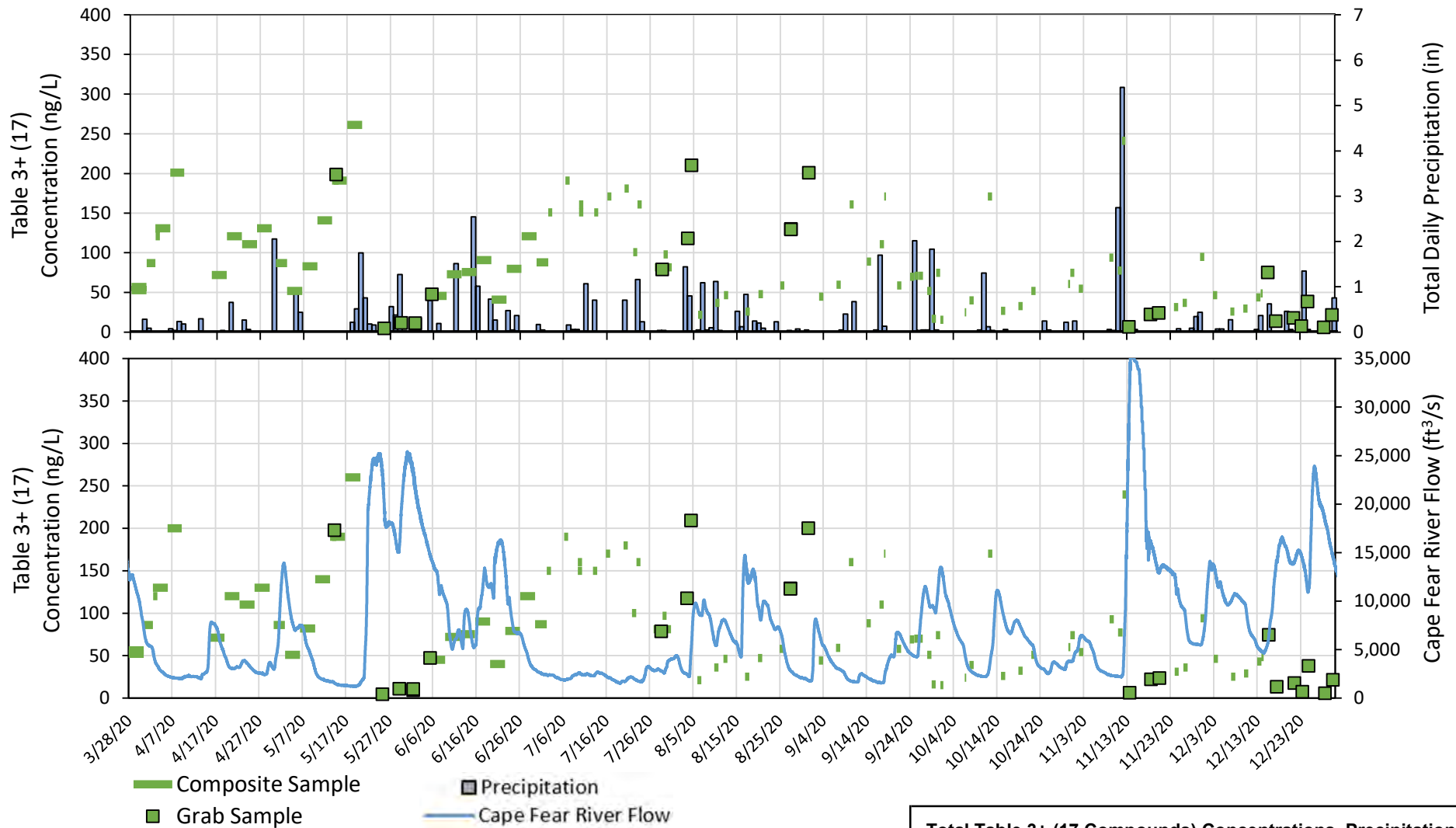


Groundwater Elevation Map
Black Creek Aquifer - December 2020
 Chemours Fayetteville Works, North Carolina

	Geosyntec Consultants of NC, P.C. NC License No.: C 3500 and C 295	Figure 7C
	Raleigh	

Path: P:\P\Projects\TR0725\Database and GIS\GIS\Baseline Monitorion\Work\km\TR0725_GW_Cenbus_Mapa_BlackCreek_Dec2020.mxd Last Revised: 3/2/2021 Author: SSeaman

Projection: NAD 1983 StatePlane North Carolina FIPS 3200 Feet Units in Foot US



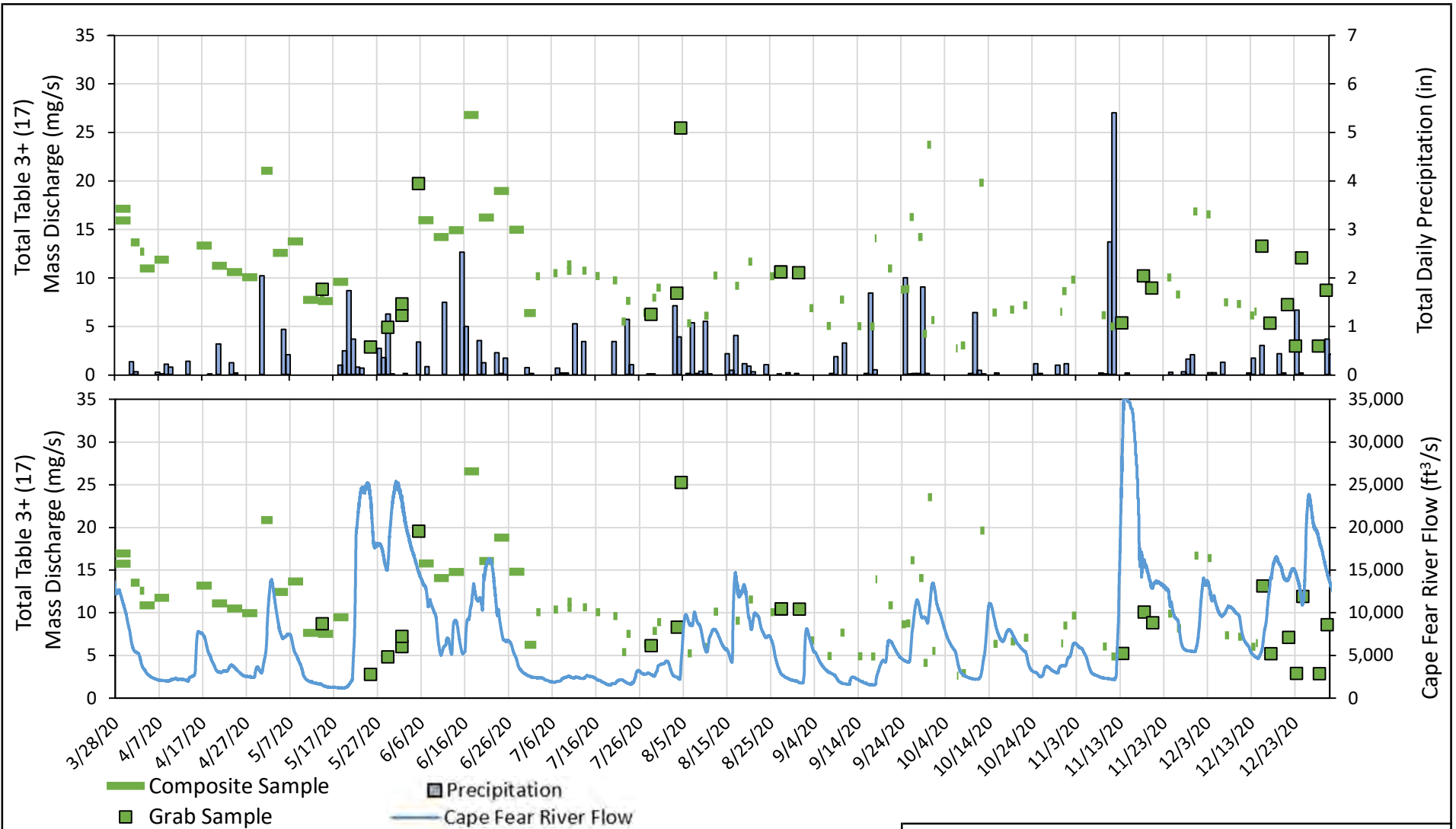
Notes:

- Total Table 3+ concentrations calculated by summing over Attachment C compounds and Table 3+ (20 compounds) are provided in Table 7.
- Precipitation data are from the USGS monitoring site at the W.O. Huske Dam.

Abbreviations:

- in - inches
- ng/L - nanograms per liter
- ft³/s - cubic feet per seconds

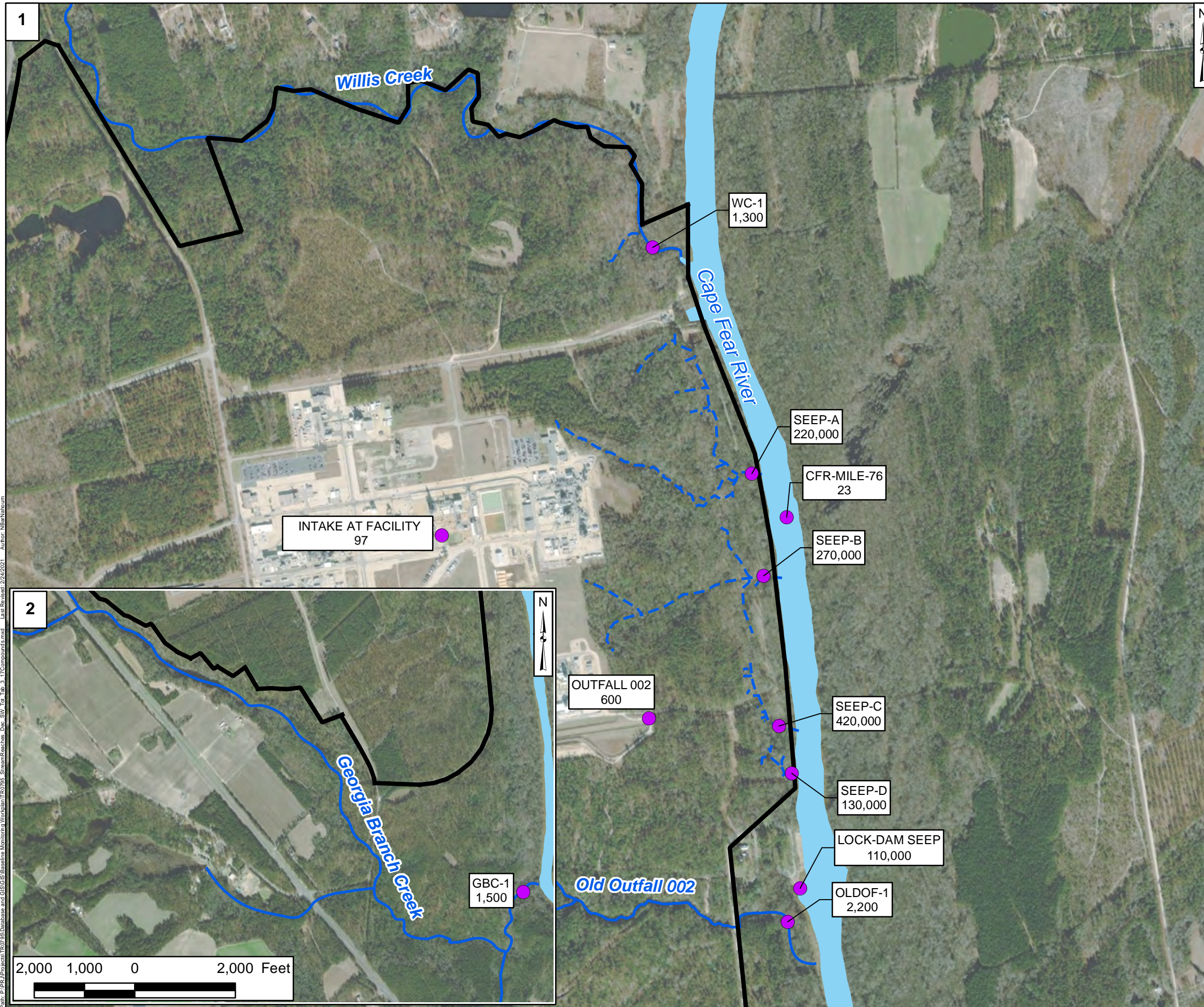
Total Table 3+ (17 Compounds) Concentrations, Precipitation and Daily Flow at Tar Heel Ferry Road Bridge Chemours Fayetteville Works, North Carolina	
Geosyntec consultants	Geosyntec Consultants of NC, P.C. NC License No.: C 3500 and C 295
Raleigh	March 2021
Figure 8	



Notes:
 -Total PFAS mass discharges calculated by summing over Table 3+ compounds (20 compounds) are provided in Table 13.
 -Precipitation data are from the USGS monitoring site at the W.O. Huske Dam.

Abbreviations:
 in - inches
 mg/s - milligram per seconds
 ft³/s - cubic feet per seconds

Total Table 3+ (17 Compounds) Mass Discharge, Precipitation and Daily Flow at Tar Heel Ferry Road Bridge Chemours Fayetteville Works, North Carolina	
Geosyntec consultants	Geosyntec Consultants of NC, P.C. NC License No.: C 3500 and C 295
Raleigh	March 2021
Figure 9	



Legend

- Sample Location
- Site Boundary
- Observed Seep
- Nearby Tributary

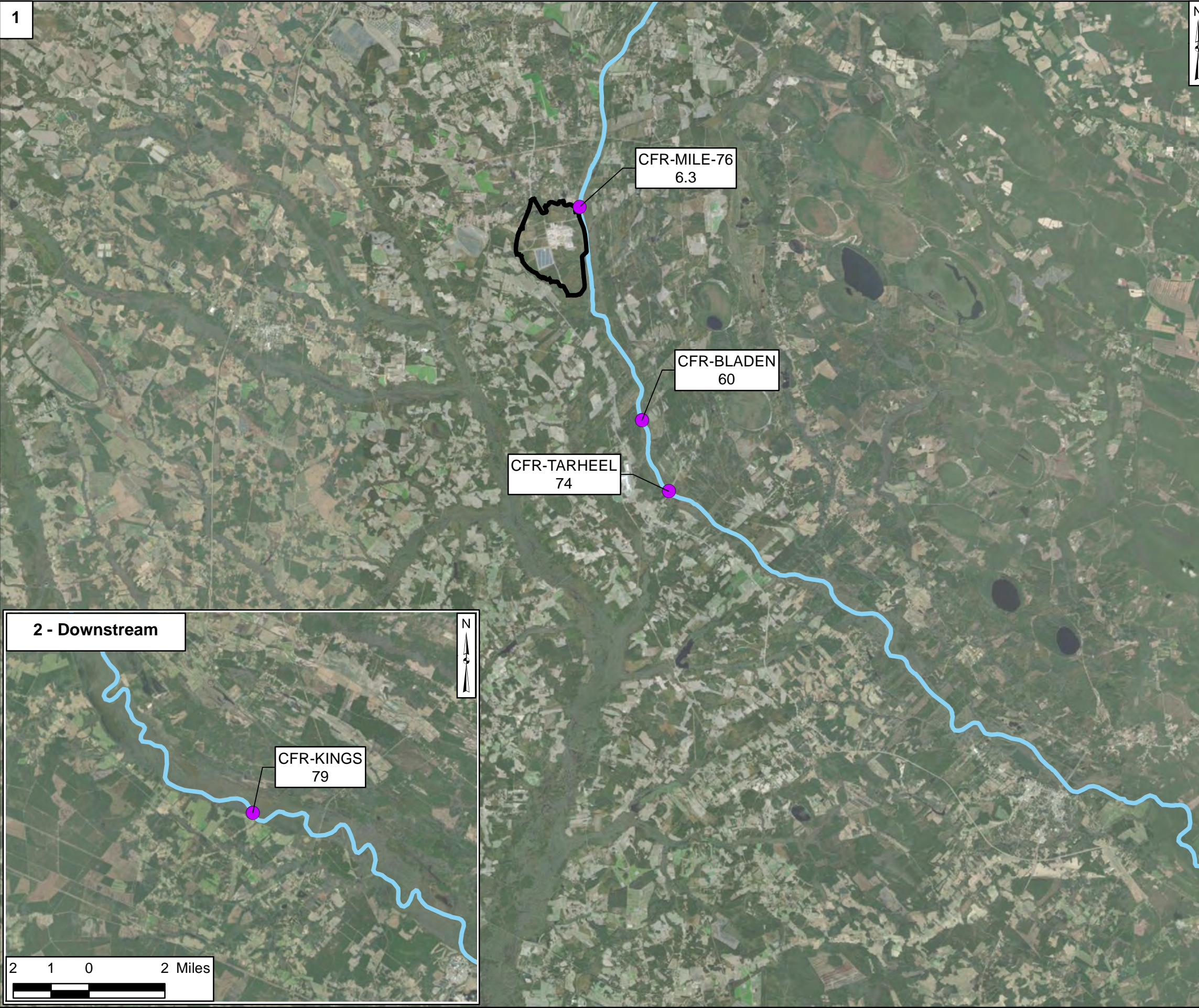
Notes:
 HFPO-DA - hexafluoropropylene oxide dimer acid
 1. All results are in nanograms per liter.
 2. Total table 3+ concentration includes HFPO-DA results evaluated by EPA Method 537 Mod and does not include R-PSDA, Hydrolyzed PSDA, and R-EVE.
 3. Non-detect values were not included in sum of total Table 3+ results.
 4. Total Table 3+ results include J-qualified data.
 5. The outline of Cape Fear River is approximate and is based on open data from ArcGIS Online and North Carolina Department of Environmental Quality Online GIS.
 6. Basemap sources: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community.

**Total Table 3+ Concentrations (17 Compounds)
in Surface Water - December 2020**

Chemours Fayetteville Works, North Carolina

	Geosyntec Consultants of NC, P.C. NC License No.: C 3500 and C 295	Figure 10
Raleigh	March 2021	

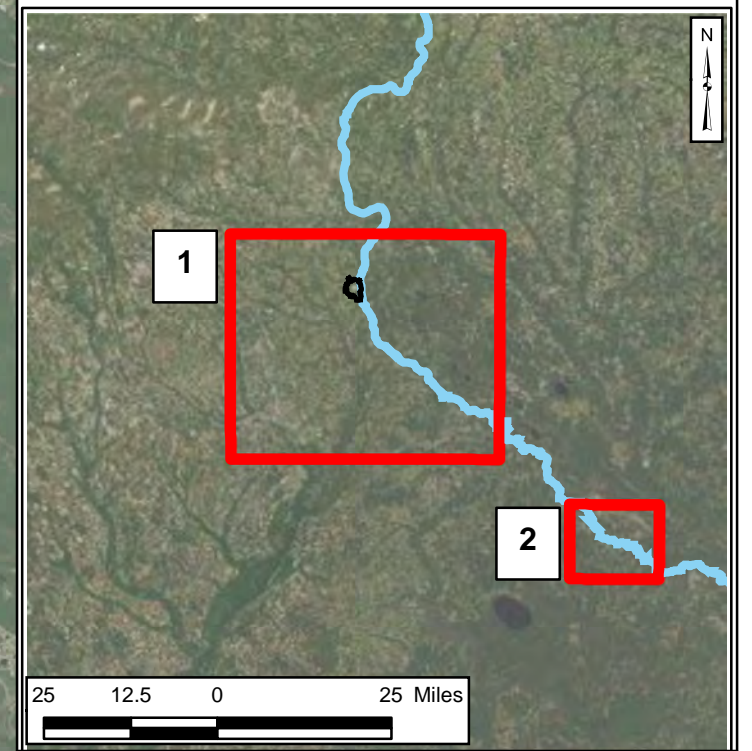
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Legend

- Sample Location
- Site Boundary
- Cape Fear River

Notes:
 HFPO-DA - hexafluoropropylene oxide dimer acid
 1. All results are in nanograms per liter.
 2. Total table 3+ concentration includes HFPO-DA results evaluated by EPA Method 537 Mod and does not include R-PSDA, Hydrolyzed PSDA, and R-EVE.
 3. Non-detect values were not included in sum of total Table 3+ results.
 4. Total Table 3+ results include J-qualified data.
 5. The outline of Cape Fear River is approximate and is based on open data from ArcGIS Online and North Carolina Department of Environmental Quality Online GIS.
 6. Basemap sources: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community.

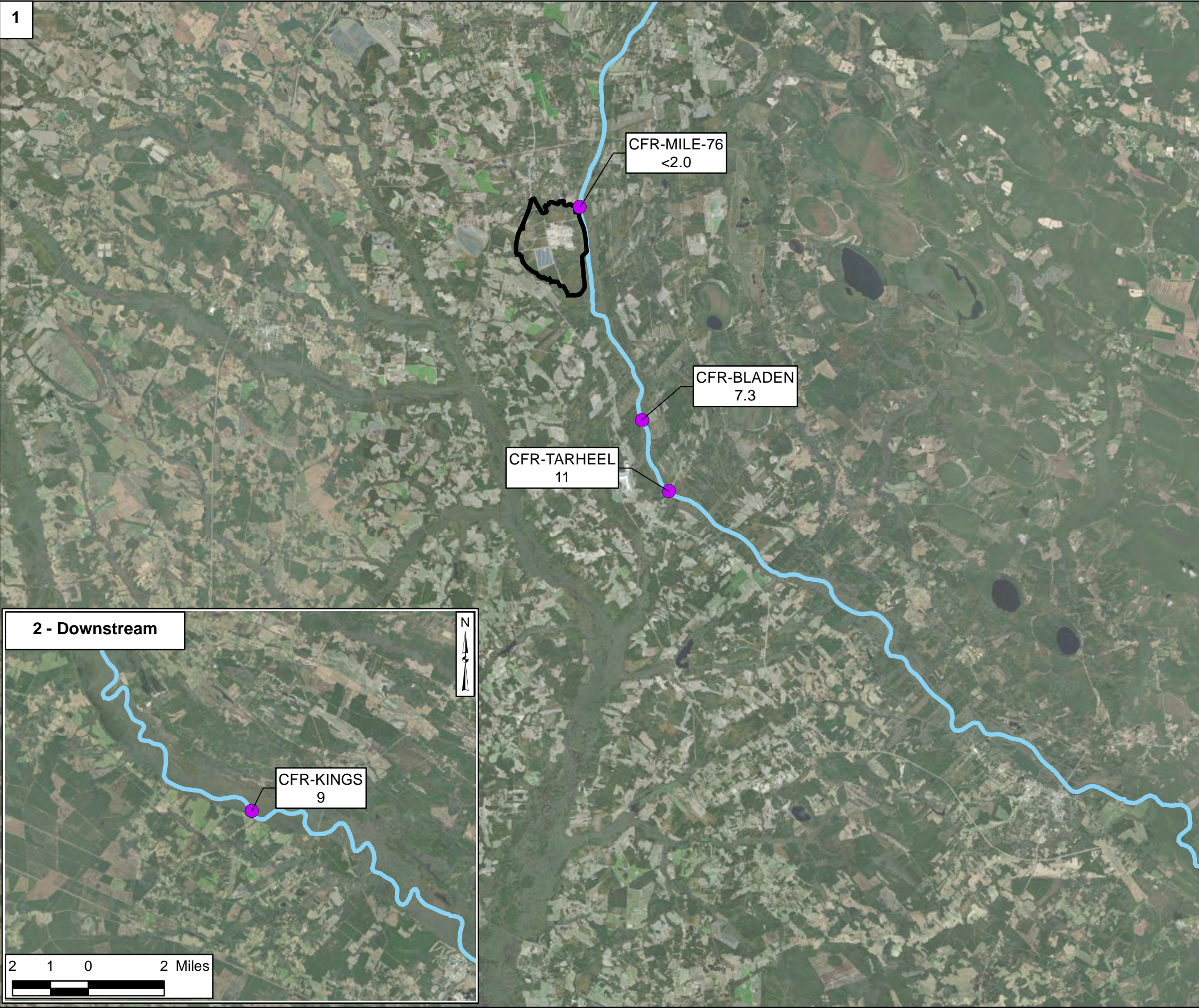


**Cape Fear River Total Table 3+ Concentrations
 (17 Compounds) - December 2020**

Chemours Fayetteville Works, North Carolina

	Geosyntec Consultants of NC, P.C. NC License No.: C 3500 and C 295	Figure 11
Raleigh	March 2021	

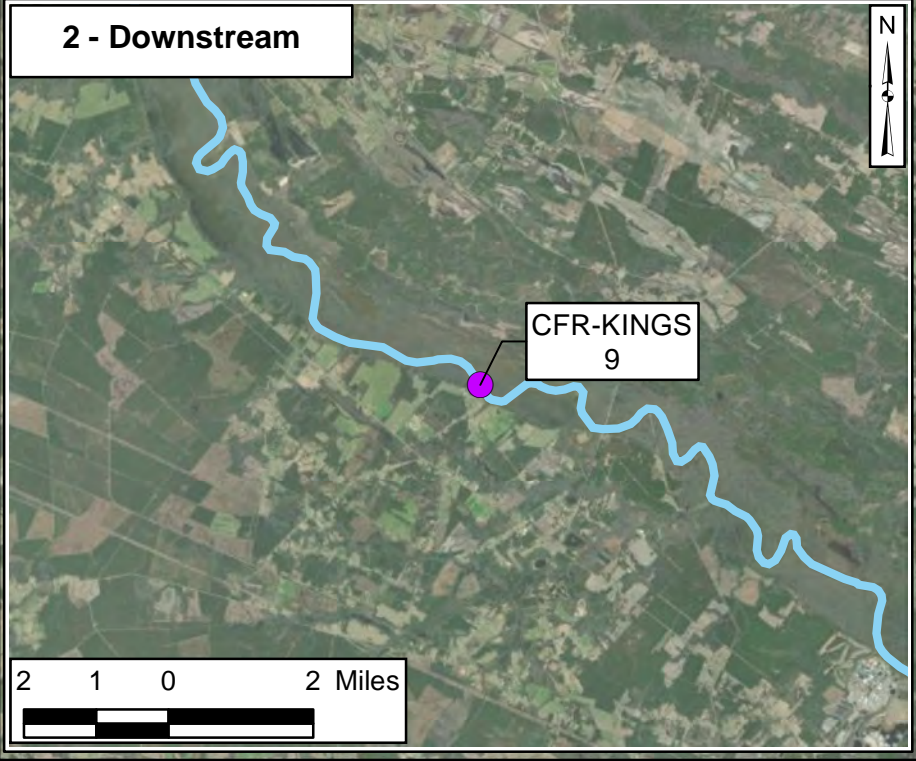
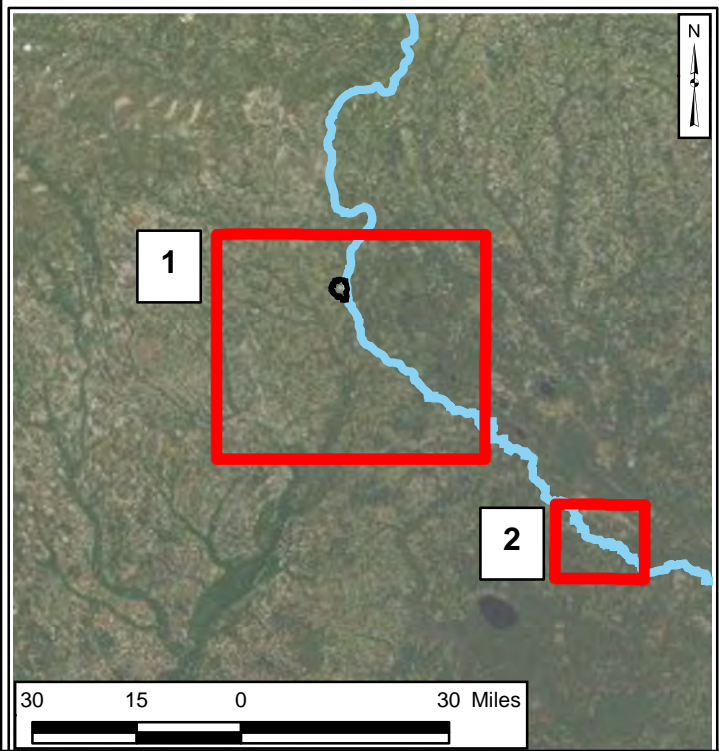
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 Projection: NAD 1983 StatePlane North Carolina FIPS 3200 Feet Units in Foot US



Legend

- Sample Location
- Site Boundary
- Cape Fear River

Notes:
 HFPO-DA - hexafluoropropylene oxide dimer acid
 1. All results are in nanograms per liter.
 2. Basemap sources: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community.

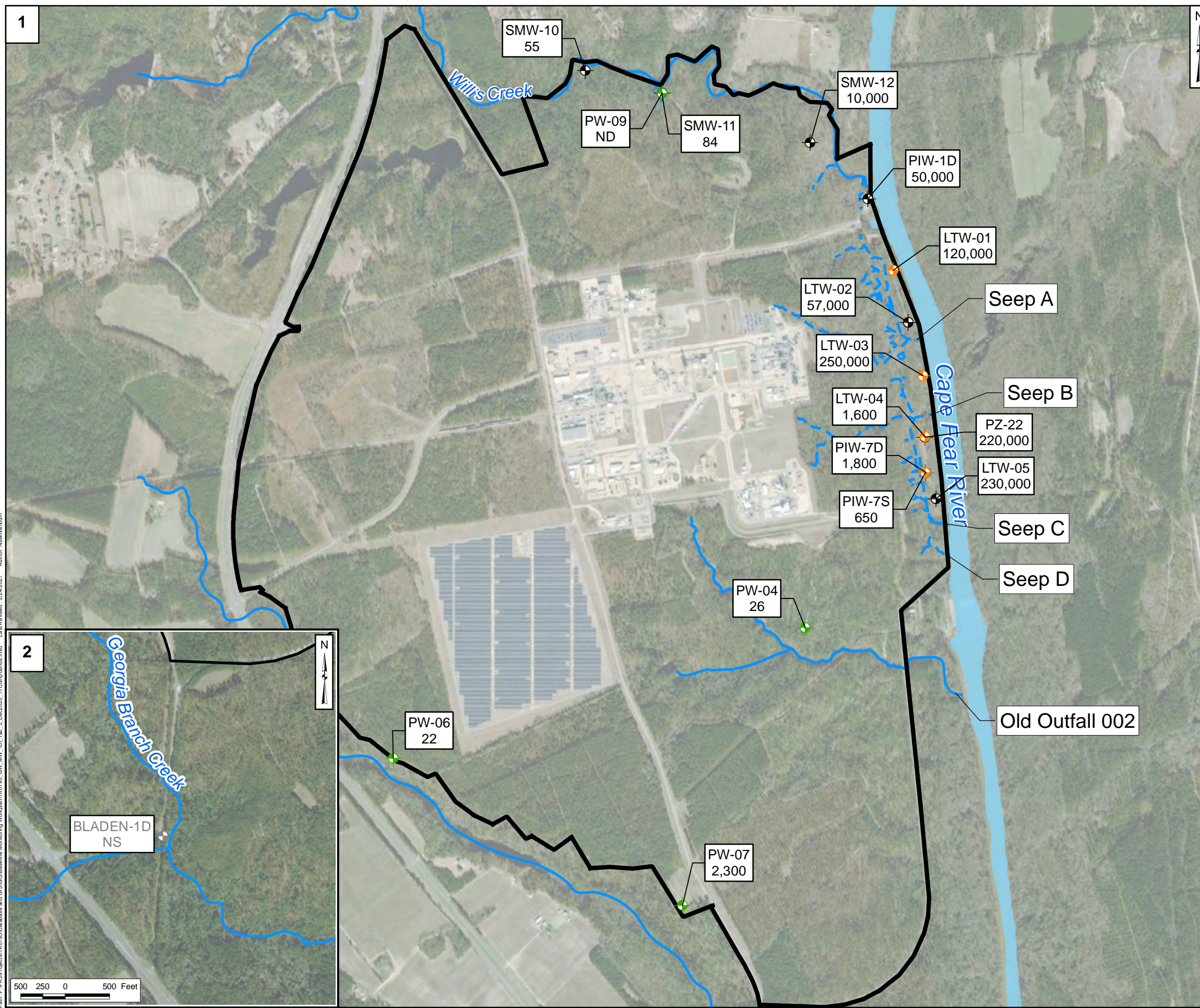


**Cape Fear River HFPO-DA Concentrations
- December 2020**

Chemours Fayetteville Works, North Carolina

	Geosyntec Consultants of NC, P.C. NC License No.: C 3500 and C 295	Figure 12
Raleigh	March 2021	

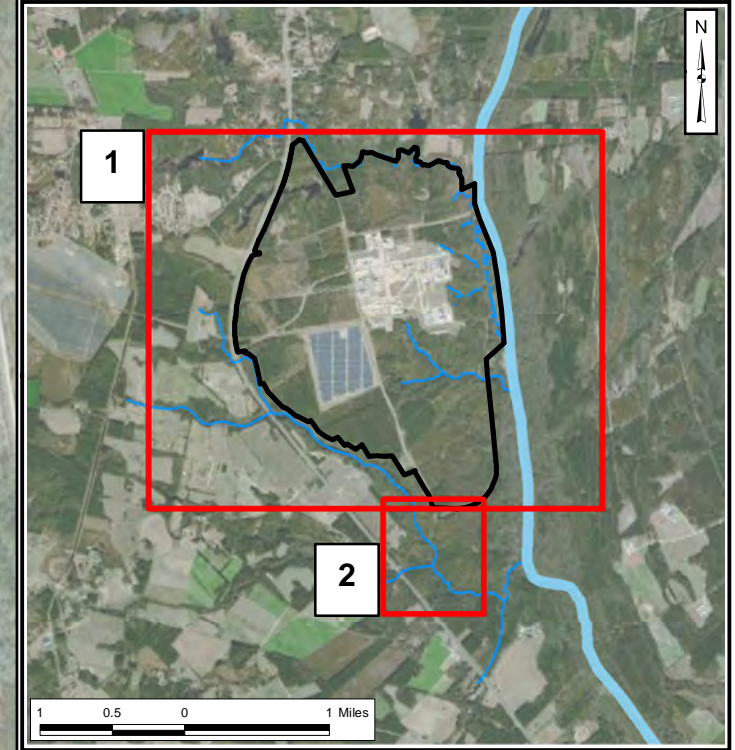
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 Projection: NAD 1983 StatePlane North Carolina FIPS 3200 Feet Units in Foot US



Legend

- Surficial Aquifer
- Floodplain Deposits
- Black Creek Aquifer
- Damaged
- Observed Seep
- Nearby Tributary
- Site Boundary

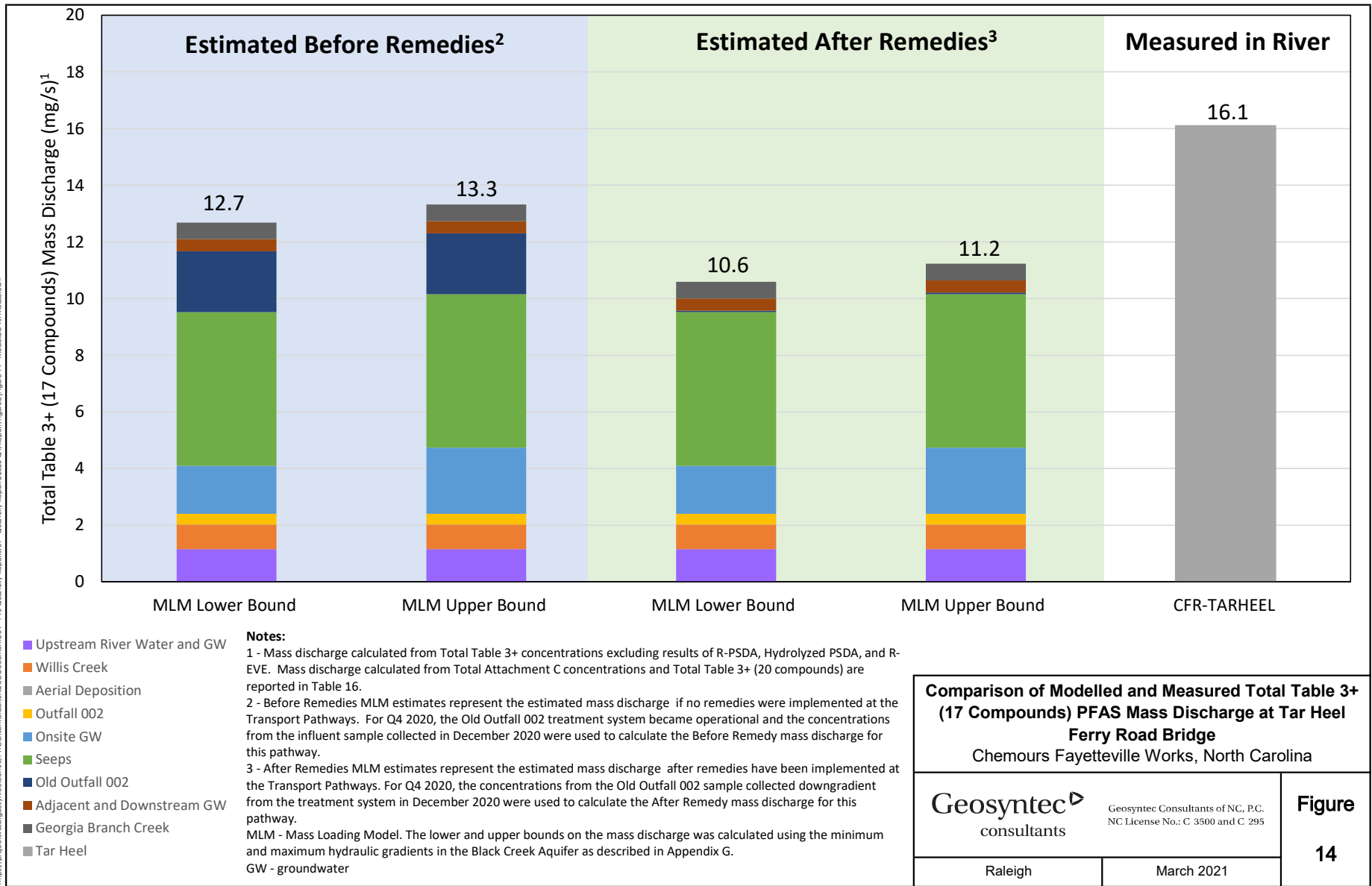
- Notes:**
 HFPO-DA - hexafluoropropylene oxide dimer acid
 NS - not sampled
1. All results are in nanograms per liter.
 2. Total table 3+ concentration includes HFPO-DA results evaluated by EPA Method 537 Mod and does not include R-PSDA, Hydrolyzed PSDA, and R-EVE.
 3. Non-detect values were not included in sum of total Table 3+ results.
 4. Total Table 3+ results include J-qualified data.
 5. The outline of Cape Fear River is approximate and is based on open data from ArcGIS Online and North Carolina Department of Environmental Quality Online GIS.
 6. Basemap sources: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community.



**Total Table 3+ Concentrations (17 Compounds)
 in Groundwater - December 2020**
 Chemours Fayetteville Works, North Carolina

	Geosyntec Consultants of NC, P.C. NC License No.: C. 3500 and C. 295	Figure 13
Raleigh	March 2021	

Path: P:\P\Projects\TR0725\Baseline Monitoring\Workplan\TR0725_GW_MW_Tot_Tab_3_Dec2020_17Compounds.mxd Last Revised: 2/24/2021 Author: NBartholomew
 Projection: NAD 1983 StatePlane North Carolina FIPS 3200 Feet Units in Foot US



<https://projects.ebsi.com/67160/chemours/SharedDocuments/24 - P14 Quarterly Report/01 - Quarterly Report/2020 Q4/Report/Figure/Figure 14 - Modelled vs. Measured>