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Cape Fear River PFAS Mass Loading Assessment - Second Quarter 2022 Report

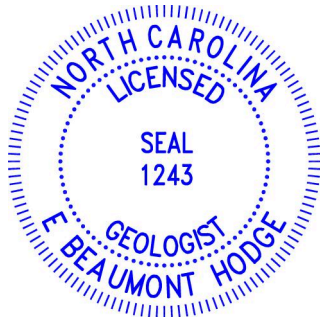
Chemours Fayetteville Works

Prepared for

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LIST OF ABBREVIATIONS

cfs	cubic feet per second
CO	Consent Order
CO Addendum	Addendum to Consent Order Paragraph 12
DVM	Data Verification Module
FTC	flow through cell
HDPE	high-density polyethylene
HFPO-DA	hexafluoropropylene oxide-dimer acid
kg	kilograms
LDPE	low-density polyethylene
mg/s	milligrams per second
m ³	cubic meters
ng/L	nanograms per liter
NCDEQ	North Carolina Department of Environmental Quality
PFAS	per- and polyfluoroalkyl substances
PFHpA	perfluoroheptanoic acid
Q1	first quarter
Q2	second quarter
Q3	third quarter
Q4	fourth quarter
SOP	standard operating procedure
SWTS	stormwater treatment system
USEPA	United States Environmental Protection Agency

1 INTRODUCTION

Geosyntec Consultants of NC, P.C. (Geosyntec) has prepared this *Cape Fear River PFAS Mass Loading Assessment - Second Quarter 2022 Report* for The Chemours Company, FC, LLC (Chemours). 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 February 25, 2019) between the North Carolina Department of Environmental Quality (NCDEQ), Cape Fear River Watch, and Chemours. The CO Addendum requires sampling the Cape Fear River and mass loading transport pathways for the per- and polyfluoroalkyl substances (PFAS) compounds listed in Attachment C of the CO (Geosyntec 2020a). This is the tenth report prepared since the first quarter (Q1) 2020.

1.1 Site Remedies

Chemours operates the Fayetteville Works facility in Bladen County, North Carolina (the Site) (Figure 1). The Site is within a 2,177-acre property at 22828 NC Highway 87, approximately 20 miles southeast of the city of Fayetteville.

From October 2020 through June 2021,¹ Chemours installed remedies to capture PFAS at the Site and to prevent PFAS from reaching the Cape Fear River. Thus far, these remedies include two treatment systems and four on-site seeps interim flow-through cells (FTC). The start date of operation of each remedy are as follows:

- Old Outfall 002 treatment system (October 1, 2020)
- Seep C FTC (December 16, 2020)
- Seep A FTC (April 28, 2021)
- Seep B FTC (June 8, 2021)
- Seep D FTC (June 24, 2021)
- Outfall 002 stormwater treatment system (SWTS) (implemented on June 30, 2021)²

One year of monthly sampling of the mass loading model pathways per CO Paragraph 1(b) was completed in December 2021. Starting in January 2022 (Q1 2022), quarterly sampling of the mass loading model pathways was initiated and will continue for a period of 4 years (through Q4 2026),

¹ There have been numerous other interim and permanent actions taken to limit PFAS reaching the Cape Fear River prior to Q2 2022, 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 reflected in the captured mass load calculations but should be considered in the overall assessment of PFAS reductions.

² Diversion sumps in the conveyance network surrounding the Monomers/IXM area capture stormwater flows that would otherwise flow to Outfall 002 and transfers the stormwater to the SWTS for treatment. The diversion sumps and SWTS are designed to convey and then treat stormwater from storm events up to 1-inch over 24-hours. Further details on the SWTS are provided in the Stormwater Treatment System Capture and Removal Efficiency Report (Geosyntec, 2021a).

as outlined in the *Cape Fear River Mass Loading Calculation Protocol Version 2* (Geosyntec 2020a).

1.2 Monitoring and Report Objectives

This report presents data collected and analytical results for the second quarter (April through June) 2022 (Q2 2022) PFAS mass-loading assessment of the Cape Fear River. The primary objectives of the quarterly monitoring are as follows:

1. Assess the PFAS mass loads reaching the river primarily using the analytical results of the composite samples collected in the Cape Fear River at Tar Heel Ferry Road Bridge (Tar Heel), which is approximately 7 miles downstream of the Site (Figure 2).
2. Assess the PFAS mass loads that are being prevented from reaching the Cape Fear River by the remedies that have been implemented.

Along with presenting the results of the composite sampling conducted at Tar Heel, this report also presents the results of the grab samples collected at three downstream locations along the Cape Fear River: Bladen Bluffs, Tar Heel, and Kings Bluff Intake Canal (Kings Bluff) (Figure 3). The Tar Heel and Bladen Bluffs locations are within 2 miles of each other. The Kings Bluff location is farther away from the Site (48 miles downstream from Tar Heel).

This report also summarizes the surface water and groundwater sampling (Figures 4 and 5) that was conducted to estimate the relative PFAS loadings from the different PFAS transport pathways to the Cape Fear River, as identified in the conceptual site model (Figure 6) (Geosyntec 2019). The estimated relative PFAS loadings were modeled for this current reporting period using the Q2 2022 data and the mass loading model. A summary of the mass loading model is presented in this report, and the scope and analysis are in Appendix A.

The results are presented as three PFAS groupings and presented in Table 1: Total Table 3+ (17 compounds), Total Table 3+ (20 compounds), and Total Attachment C (Geosyntec 2020b). Although the report tables include results for Total Attachment C and Total Table 3+ (20 compounds), the text, tables, and figures of this report focus on the Total Table 3+ (17 compounds) PFAS grouping.

1.3 Report Organization

The remainder of this report is organized as follows:

- Section 2 presents details of the field work conducted (e.g., samples collected, measurements taken) and the laboratory analyses completed.
- Section 3 presents the sampling results.
- Section 4 presents the mass load and mass discharge calculations.
- Section 5 provides a summary and conclusions of the Q2 2022 mass load assessment.

2 SAMPLING ACTIVITIES AND LABORATORY ANALYSIS

The field work associated with collecting data for this Q2 2022 mass load assessment was completed by Parsons of NC (Parsons) and Geosyntec from April 1 through June 30, 2022. The scope of sampling and analysis conducted are presented below. Details of the sampling methods and flow measurement methods can be found in *Cape Fear River Mass Loading Calculation Protocol Version 2* (Geosyntec 2020a). Details on the sampling scope for the mass loading model are in Appendix A and are not presented in this section.

2.1 Sampling Activities

In Q2 2022, composite samples were collected from Tar Heel (sample location CFR-TARHEEL), which is approximately 7 miles downstream of the Site (Figure 2). In addition, grab samples were collected at the three downstream locations along the Cape Fear River. The flow measurements were collected at W.O. Huske Dam (Station #2105500) and Cape Fear Lock and Dam #1 (Station #2105769) and are summarized in Appendix B. Field forms are provided in Appendix C.

The composite samples were collected using an autosampler and were generally composited over 24 hours with aliquots collected at 1-hour intervals and at two samples per week. A total of 26 primary composite samples and 3 field duplicate composite samples were collected from this location from April 1 through June 30, 2022. The duplicate samples were collected on April 11, May 9, and June 6, 2022. There were no interruptions to the composite sampling from events such as vandalism, equipment malfunction, or a high river stage.

The grab samples were collected using a peristaltic pump and new dedicated high-density polyethylene (HDPE) or low-density polyethylene (LDPE) tubing and dedicated silicone tubing for the pump head. A total of three grab samples were collected: one from Tar Heel (CFR-TARHEEL) and one from Bladen Bluffs (sample location CFR-BLADEN) on April 19, 2022, and one from Kings Bluff (sample location CFR-KINGS) on April 21, 2022. The grab sample from Kings Bluff was collected 2 days after sampling conducted at Tar Heel and Bladen Bluffs to account for travel time between these locations.

For the remedies installed at Old Outfall 002; Seeps A, B, C, and D; and Outfall 002, samples were collected at the influent and effluent stilling basins and measured flows at the Old Outfall 002 treatment system. The sampling methods for the remedies are not part of the scope of the mass loading assessment but are provided in *Interim Seep Remediation O&M Reports 8 and 9* (Geosyntec 2022a, 2022b).

2.2 Laboratory Analyses

All samples were sent to Eurofins Scientific (West Sacramento, California). The composite samples from Tar Heel were analyzed for PFAS by Table 3+ Laboratory standard operating

procedure (SOP). The grab samples from the Bladen Bluffs, Tar Heel, and Kings Bluff were analyzed for Table 3+ Laboratory SOP and 13 additional perfluoroalkyl carboxylic acid (PFCAs).

3 PFAS ANALYTICAL RESULTS

Table 3+ analytical results from samples collected at Bladen Bluffs, Tar Heel, and Kings Bluff in Q2 2022 are presented in Tables 2 and 3. The laboratory reports and Data Verification Module (DVM) reports are provided in Appendix D. The analytical data have been reviewed and validated. The duplicate samples have also been compared to the primary samples.

3.1 Data Validation

The laboratory data were reviewed using the DVM within the Locus™ Environmental Information Management (EIM) system, a commercial software program used to manage data. Following the DVM process, a secondary review of the data was conducted. The DVM and secondary review results were combined in a data review narrative report for each set of sample results, which were consistent with Stage 2b of the United States Environmental Protection Agency (USEPA) *Guidance for Labeling Externally Validated Laboratory Analytical Data for Superfund Use* (USEPA 2009).

Additional details of the data validation are provided in Appendix A. The data collected are believed to be complete, representative, and comparable, with the exception of R-PSDA, Hydrolyzed PSDA, and R-EVE.

3.2 Equipment Blanks, Quality Assurance/Quality Control, and Duplicate Samples

No equipment blank samples were collected during this period because there were no maintenance activities conducted on the composite samplers. There were no other quality assurance/quality control samples collected for this reporting period.

PFAS results for the primary and duplicate samples had relative percent differences less than 30% for the reported compounds.

3.3 Analytical Results

The Q2 2022 analytical results from the composite samples collected at Tar Heel are presented in Table 2. The Total Table 3+ (17 compounds) concentrations ranged from undetectable above the associated reporting limits to 66 nanograms per liter (ng/L). This range in concentrations is within the observed range in previous quarterly sampling events that occurred after the remedies were in operation.

The Q2 2022 analytical results from the grab samples collected at Bladen Bluffs, Tar Heel, and Kings Bluff are presented in Table 3 (Table 3+) and PFCA data is presented in Appendix B, Table B2 (PFCAs). The analytical results for these downstream locations are discussed in Section 4.3.

4 CAPE FEAR RIVER MASS LOAD AND MASS DISCHARGE CALCULATIONS

The analytical results from the sampling and the flows reported from W.O. Huske Dam (Station #2105500) and Cape Fear Lock and Dam #1 (Station #2105769) (Appendix B) were used to estimate the Total Table 3+ (17 compounds) mass loads and mass discharge in the Cape Fear River. Specifically, the mass load is generally calculated as the product of the concentration of PFAS and the total volume of water that flowed passed the sampling point within the sampling time interval (milligrams [mg] or kilograms [kg]); and the mass discharge is generally calculated as the product of the concentration of PFAS and the volumetric flow rate (milligrams per second [mg/s]).

The Total Table 3+ (17 compounds) mass load measured in the Cape Fear River and prevented from entering the Cape Fear River due to the remedies are summarized in Table 4. The mass load estimation intervals are presented in Tables 5A to 5G.

4.1 PFAS Estimations in the Cape Fear River

Analytical results from Tar Heel and flows reported at W.O. Huske Dam (Station #2105500) were used to estimate the Total Table 3+ (17 compounds) mass loads and PFAS mass discharge in the Cape Fear River.

In Q2 2022, the in-river Total Table 3+ (17 compounds) mass load measured at Tar Heel was 15.2 kg and is based on the 55 mass-loading estimation intervals (Table 3A). The Total Table 3+ (17 compounds) mass discharge among samples with detected Total Table 3+ (17 compounds) concentrations ranged from 0.58 mg/s to 13 mg/s (Table 6), with the median mass discharge being 1.8 mg/s.

The flow measured in Cape Fear River, the Total Table 3+ concentrations, and mass discharge over time have been plotted from the start of the mass loading program (from March 28, 2020, to June 30, 2022; Figure 7) and within the last 12 months (from July 1, 2021, to June 30, 2022; Figure 8). The mass discharge began to decrease in the end of June 2021, which also corresponds to the time when all the remedies were installed and were operating.

4.2 PFAS Prevented by Remedies

Analytical results measured from samples collected the influent and effluent of the remedies and their respective flows were used to estimate the Total Table 3+ (17 compounds) mass loads and PFAS mass discharge prevented from discharging to the Cape Fear River. During the Q2 2022 reporting period, the remedies prevented 45.7 kg of Total Table 3+ mass load.

- For the Old Outfall 002 treatment system, a total of 14 kg of PFAS was captured and prevented from reaching the Cape Fear River with a total treated flow of 270,000 cubic meters (m³) (Table 5B).

- For the Seep A FTC, a total of 8.1 kg was captured and prevented from reaching the Cape Fear River with a total measured flow of about 42,539 m³ (Table 5C).
- For the Seep B FTC, a total of 15 kg was captured and prevented from reaching the Cape Fear River with a total measured flow of about 65,729 m³ (Table 5D).
- For the Seep C FTC, a total of 3.1 kg was captured and prevented from reaching the Cape Fear River with a total measured flow about 33,664 m³ (Table 5E).
- For the Seep D FTC, a total of 5.0 kg was captured and prevented from reaching the Cape Fear River with a total measured flow of about 49,056 m³ (Table 5F).
- The SWTS captures PFAS originating from stormwater in the Monomers/IXM area that would otherwise flow to Outfall 002 during storm events. When stormwater is being treated at the SWTS, HFPO-DA, PFMOAA, and PMPA concentrations are measured in the SWTS influent and effluent flows. The captured total mass of HFPO-DA, PFMOAA, and PMPA during storm events between April 5, 2022, and June 21, 2022, was 0.85 kg. This estimate was based on mass loading estimates for 15 days when flow was recorded at the SWTS between April 5, 2022, and June 26, 2022, with a total treated flow of about 9,989 m³ (Table 5G). This captured total mass likely underestimates the mass of PFAS captured by the SWTS during Q2 2022 because the samples collected are analyzed for the three indicator compounds HFPO-DA, PFMOAA, and PMPA and not the full Table 3+ analyte list.

4.3 PFAS at the Downstream River Locations

The Total Table 3+ (17 compounds) concentrations and mass discharge values from the Q2 2022 event are shown in the table below. Total Table 3+ (17 compounds) concentrations at the three downstream river locations ranged from 13 nanograms per liter (ng/L) (CFR-KINGS) to 32 ng/L (CFR-TARHEEL). The Tar Heel and Bladen Bluffs sampling locations are located within 2 miles of each other and consequently often have similar sample results. Meanwhile, the Kings Bluff location is located further away (i.e., 48 miles from Tar Heel). As per the *Cape Fear River Mass Loading Calculation Protocol Version 2* (Geosyntec, 2020a), CFR-KINGS was sampled two days after CFR-TARHEEL and CFR-BLADEN to account for travel time between these two locations and CFR-KINGS.

As per the *Cape Fear River Mass Loading Calculation Protocol Version 2* (Geosyntec, 2020a), flows reported at W.O. Huske Dam (Station #2105500) are adjusted for travel time and used in the calculation of mass discharge for Bladen Bluffs and Tar Heel. Flows reported at Cape Fear Lock and Dam #1 (Station #2105769) are used in the calculation of mass discharge for Kings Bluff.

The Total Table 3+ (17 compounds) mass discharge ranged from 2.1 mg/s (CFR-BLADEN) to 4.4 mg/s (CFR-KINGS). In Q2 2022, there is inherent variability associated with river sample collection due to changing flow rates, precipitation near the Site and along the course of the river,

sample collection location, and grab sampling methods, which often leads to variability in the PFAS mass discharge at these three locations. In Q1 2022, the mass discharge across the three downstream river locations was relatively consistent with previous quarters. The higher mass discharge measured at Kings Bluff is correlated with increased flow measured at the Cape Fear River on April 21, 2022. After the samples at Bladen Bluffs and Tar Heel were collected, the Cape Fear River flow increased to 16,900 cfs on April 20, 2022 (measured from W.O. Huske Dam) and was 11,900 cfs when the sample at Kings Bluff was collected. This increase in flow is attributed to stormwater runoff from a rain event on April 18, 2022 where the total precipitation was measured to be 0.8 inches.

The mass discharge at the downstream river locations was also consistently lower in Q2 2022, Q1 2022, and Q4 2021 than in previous assessments, which may reflect the reduced mass discharge from the Site due to implemented remedies described in Section 4.2.

Sample Location	Sample Collection Month	Sample Collection Date	Flow Rate (cfs)	Total Table 3+ (17 Compounds)	
				Concentration (ng/L)	Mass Discharge (mg/s)
CFR-BLADEN	April 2022	4/19/2022	2,660	28	2.1
CFR-TARHEEL		4/19/2022	2,540	32	2.3
CFR-KINGS		4/21/2022	11,900	13	4.4

4.4 Mass Loading Model Assessment

Where Section 3 presented the Total Table 3+ PFAS mass load in the Cape Fear River, this section presents the estimation of mass discharge from the identified PFAS transport pathways using the mass loading model and an assessment of the relative contributions by pathway. The results of the mass loading model assessment for Q2 2022 are briefly described below. Complete details on the mass loading model results and calculations are provided in Appendix A.

The reduction in mass discharge is estimated as the difference between the mass discharge calculated upgradient of the remedies (“before” remedies) and downgradient of the remedies (“after” remedies). In Q2 2022 (April 2022), the total reduction in Total Table 3+ mass discharges due to the operations of the remedies was 4.95 mg/s. Specifically, the reduction of mass discharge was 0.87 mg/s at Old Outfall 002, 1.84 mg/s at Seep A, 1.34 mg/s at Seep B, 0.30 mg/s at Seep C, and 0.60 mg/s at Seep D.

In terms of relative contributions, the largest contributing pathways upgradient of the remedies (i.e., before the water passes through the remedies) continue to be the seeps (approximately 43% to 45%) and on-site groundwater (31% to 35%), and, to a lesser extent, Old Outfall 002 (9.4% and 9.9%) which is consistent with previous events (Geosyntec 2020c, 2020d, 2020e, 2021b, 2021c, 2021d, 2021e, 2022c, 2022d).

In Q2 2022, the Old Outfall 002 upgradient of the remedies contributed between 9.4% and 9.9% of the Total Table 3+ (17 compounds) mass load that potentially could reach the Cape Fear River. Implementation of the Old Outfall 002 treatment system has reduced this potential loading to less

than 1% of the Total Table 3+ (17 compounds) mass load reaching the Cape Fear River. The seeps upgradient of the remedies contributed approximately 43% to 45% of the Total Table 3+ (17 compounds) mass load that potentially could reach the Cape Fear River. Remedy implementation at Seeps A, B, C, and D has reduced this potential loading to approximately 1% of the Total Table 3+ (17 compounds) mass load reaching the Cape Fear River.

The largest contributing pathway downgradient of the remedies (i.e., after the water passes through the remedies) is onsite groundwater. The onsite groundwater reaching the Cape Fear River will be addressed in the future by the groundwater barrier wall remedy which includes groundwater extraction and treatment systems.

5 SUMMARY AND CONCLUSIONS

This Q2 2022 Cape Fear River PFAS assessment at Tar Heel estimated the Total Table 3+ (17 compounds) that was measured at the Cape Fear River over the load assessment period of April 1, 2022, through June 30, 2022. Over this period, the in-river Total Table 3+ (17 compounds) mass load measured at Tar Heel was 15.2 kg. The remedies that have been installed at Old Outfall 002; Seeps A, B, C, and D; and Outfall 002 prevented a load of 45.7 kg of Total Table 3+ (17 compounds).

The PFAS mass discharge sampling at Bladen Bluffs, Tar Heel, and Kings Bluff consisted of three grab samples collected at the three downstream locations along Cape Fear River. There is inherent variability associated with river sample collection due to changing flow rates, precipitation near the Site and along the river, sample collection location, and grab sampling methods, which can lead to variability in the PFAS mass discharge at these three locations. The higher mass discharge measured at Kings Bluff is correlated with increased flow measured at the Cape Fear River, after the Bladen Bluffs and Tar Heel samples were collected, attributed to stormwater runoff from a rain event on April 18, 2022 (0.8 inches of precipitation). Overall, the mass discharges measured at the downstream river locations have been consistently lower since August 2021, which might in part reflect the reduced mass discharge from the Site due to implemented remedies.

In April 2022, samples were collected from the PFAS transport pathways (seeps, creeks, Old Outfall, Outfall 002, groundwater) and were used to estimate the mass discharge and the relative contribution per transport pathway to the Cape Fear River. The implementation of remedies at the Old Outfall 002 and Seeps A, B, C, and D resulted in reductions of model-estimated mass discharges of about 4.95 mg/s. These reductions represent the estimated reductions for this single mass loading event and are similar to model-estimated reductions reported in Q1 2022 of 5.8 mg/s (Geosyntec, 2022b).

In terms of relative contributions, the pathways with the largest PFAS mass discharges continue to be the seeps (transport pathway 6) and onsite groundwater (transport pathway 5). Previous assessments indicated that the Seeps and Old Outfall 002 (transport pathways 6 and 7) were also contributors, but the implementation of the Old Outfall 002 treatment system and the seep FTC remedies have reduced the relative contribution of the Total Table 3+ (17 compounds) mass discharge from those two pathways to the Cape Fear River. Specifically, based on the results of the Q2 2022 mass loading model assessment, the relative contribution of Old Outfall 002 was reduced from 9.4%-9.9% to less than 1% and the relative contribution of the Seeps was reduced from 43%-45% to approximately 1%. Accounting for implemented remedies, the remaining largest contributing pathway is onsite groundwater. Onsite groundwater reaching the Cape Fear River will be addressed in the future by the groundwater barrier wall remedy which includes groundwater extraction and treatment systems.

Quarterly sample collection was initiated in January 2022 and will continue for a period of 4 years (through Q4 2026), as 1 year of monthly sampling of the mass loading model pathways per CO Paragraph 1(b) was completed in December 2021. Assessment of PFAS mass loads will continue in future sampling events, including evaluation of reductions in mass loads from the model pathways due to the implemented remedies and calculations of measured mass loads at Tar Heel.

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Tables

TABLE 1
PFAS ANALYTE LIST
Chemours Fayetteville Works, North Carolina

Common Name ¹	PFAS Grouping ²			Chemical Name	CASN	Chemical Formula
	Attachment C	Table 3+ (17 compounds)	Table 3+ (20 compounds)			
HFPO-DA ³	✓	✓	✓	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-[(1,2,2,2-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-trifluoroethenyl)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	801209-99-4	C4H2F8O4S
PES	--	✓	✓	Perfluoro-2-ethoxyethanesulfonic acid	113507-82-7	C4HF9O4S
PS Acid	✓	✓	✓	Ethanesulfonic acid, 2-[1-[difluoro[(1,2,2-trifluoroethenyl)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 ³	✓	--	--	Perfluoroheptanoic acid	375-85-9	C7HF13O2

Notes:

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

2 - 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 have been calculated and presented as: (i) the summation of 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) the summation of 20 of the Table 3+ compounds "Total Table 3+ (20 compounds)".

3 - 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
CAPE FEAR RIVER TAR HEEL ANALYTICAL RESULTS - Q2 2022
 Chemours Fayetteville Works, North Carolina

Sampling Event	Q2 2022	Q2 2022	Q2 2022	Q2 2022	Q2 2022	Q2 2022
Location ID	CFR-TARHEEL	CFR-TARHEEL	CFR-TARHEEL	CFR-TARHEEL	CFR-TARHEEL	CFR-TARHEEL
Field Sample ID	CFR-TARHEEL-24-040422	CFR-TARHEEL-24-040722	CFR-TARHEEL-24-041122	CFR-TARHEEL-24-041122-D	CFR-TARHEEL-24-041522	CFR-TARHEEL-24-042122
Sample Date	04/04/22	04/07/22	04/11/22	04/11/22	04/15/22	04/21/22
Sample Type	Composite	Composite	Composite	Composite	Composite	Composite
Sample Start Date and Time	04/03/22 5:33 PM	04/06/22 5:33 PM	04/11/22 5:33 PM	04/11/22 5:33 PM	04/14/22 5:33 PM	04/20/22 5:33 PM
Sample Stop Date and Time	04/04/22 4:33 PM	04/07/22 4:33 PM	04/12/22 4:33 PM	04/12/22 4:33 PM	04/15/22 4:33 PM	04/21/22 4:33 PM
Composite Duration (hours)	24	24	24	24	24	24
QA/QC				Field Duplicate		
Sample Delivery Group (SDG)	320-86723-1	320-86723-1	320-86723-1	320-86723-1	320-87320-1	320-87320-1
Lab Sample ID	320-86723-1	320-86723-2	320-86723-3	320-86723-4	320-87320-1	320-87320-2
<i>Table 3+ SOP (ng/L)</i>						
HFPO-DA	2.5	3.9	4.9	4.4	5.3	<2.0
PFMOAA	<2.0	8.5	10	11	<2.0	<2.0
PFO2HxA	3.4	5.4	5.7	6.0	6.4	<2.0
PFO3OA	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
PFO4DA	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
PFO5DA	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
PMPA	<10	<10	11	10	<10	<10
PEPA	<20	<20	<20	<20	<20	<20
PS Acid	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
Hydro-PS Acid	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
R-PSDA	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
Hydrolyzed PSDA	<2.0	11 J	4.3 J	5.2 J	<2.0	<2.0
R-PSDCA	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
NVHOS	<2.0	<2.0	2.1	2.2	2.7	<2.0
EVE Acid	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
Hydro-EVE Acid	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
R-EVE	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
PES	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
PFECA B	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
PFECA-G	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
Perfluoroheptanoic Acid	2.8	3.6	2.3	2.1	2.4	3.3
Total Attachment C^{1,2}	5.9	18	32	31	12	0.0
Total Table 3+ (17 compounds)^{2,3}	5.9	18	34	34	14	0.0
Total Table 3+ (20 compounds)²	5.9	29	38	39	14	0.0

TABLE 2
CAPE FEAR RIVER TAR HEEL ANALYTICAL RESULTS - Q2 2022
 Chemours Fayetteville Works, North Carolina

Sampling Event	Q2 2022	Q2 2022	Q2 2022	Q2 2022	Q2 2022	Q2 2022
Location ID	CFR-TARHEEL	CFR-TARHEEL	CFR-TARHEEL	CFR-TARHEEL	CFR-TARHEEL	CFR-TARHEEL
Field Sample ID	CFR-TARHEEL-24-042222	CFR-TARHEEL-24-042522	CFR-TARHEEL-24-042822	CFR-TARHEEL-24-050222	CFR-TARHEEL-24-050522	CFR-TARHEEL-24-050922
Sample Date	04/22/22	04/25/22	04/28/22	05/02/22	05/05/22	05/09/22
Sample Type	Composite	Composite	Composite	Composite	Composite	Composite
Sample Start Date and Time	04/21/22 5:33 PM	04/24/22 5:33 PM	04/27/22 5:33 PM	05/01/22 5:33 PM	05/04/22 5:33 PM	05/08/22 5:33 PM
Sample Stop Date and Time	04/22/22 4:33 PM	04/25/22 4:33 PM	04/28/22 4:33 PM	05/02/22 4:33 PM	05/05/22 4:33 PM	05/09/22 4:33 PM
Composite Duration (hours)	24	24	24	24	24	24
QA/QC						
Sample Delivery Group (SDG)	320-87320-1	320-87533-1	320-87533-1	320-87533-1	320-87738-1	320-87738-1
Lab Sample ID	320-87320-3	320-87533-1	320-87533-2	320-87533-3	320-87738-1	320-87738-2
<i>Table 3+ SOP (ng/L)</i>						
HFPO-DA	<2.0	5.3	4.6	7.3	8.1	6.3
PFMOAA	<2.0	<2.0	14	20	15	15
PFO2HxA	2.1	6.5	5.8	8.1	11	10
PFO3OA	<2.0	<2.0	<2.0	2.2	2.5	2.5
PFO4DA	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
PFO5DA	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
PMPA	<10	11	<10	11	<10	<10
PEPA	<20	<20	<20	<20	<20	<20
PS Acid	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
Hydro-PS Acid	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
R-PSDA	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
Hydrolyzed PSDA	<2.0	<2.0	2.8 J	4.6 J	6.6 J	7.5 J
R-PSDCA	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
NVHOS	<2.0	4.3	4.4	6.0	8.1	8.0
EVE Acid	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
Hydro-EVE Acid	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
R-EVE	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
PES	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
PFECA B	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
PFECA-G	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
Perfluoroheptanoic Acid	4.9	4.5	3.1	3.8	3.8	3.8
Total Attachment C^{1,2}	2.1	23	24	49	37	34
Total Table 3+ (17 compounds)^{2,3}	2.1	27	29	55	45	42
Total Table 3+ (20 compounds)²	2.1	27	32	59	51	49

TABLE 2
CAPE FEAR RIVER TAR HEEL ANALYTICAL RESULTS - Q2 2022
 Chemours Fayetteville Works, North Carolina

Sampling Event	Q2 2022	Q2 2022	Q2 2022	Q2 2022	Q2 2022	Q2 2022
Location ID	CFR-TARHEEL	CFR-TARHEEL	CFR-TARHEEL	CFR-TARHEEL	CFR-TARHEEL	CFR-TARHEEL
Field Sample ID	CFR-TARHEEL-24-050922-D	CFR-TARHEEL-24-051322	CFR-TARHEEL-24-051622	CFR-TARHEEL-24-051922	CFR-TARHEEL-24-052322	CFR-TARHEEL-24-052622
Sample Date	05/09/22	05/13/22	05/16/22	05/19/22	05/23/22	05/26/22
Sample Type	Composite	Composite	Composite	Composite	Composite	Composite
Sample Start Date and Time	05/08/22 5:33 PM	05/12/22 5:33 PM	05/15/22 5:33 PM	05/18/22 5:33 PM	05/22/22 5:33 PM	05/25/22 5:33 PM
Sample Stop Date and Time	05/09/22 4:33 PM	05/13/22 4:33 PM	05/16/22 4:33 PM	05/19/22 4:33 PM	05/23/22 4:33 PM	05/26/22 4:33 PM
Composite Duration (hours)	24	24	24	24	24	24
QA/QC	Field Duplicate					
Sample Delivery Group (SDG)	320-87738-1	320-88168-1	320-88168-1	320-88168-1	320-88586-1	320-88586-1
Lab Sample ID	320-87738-3	320-88168-1	320-88168-2	320-88168-3	320-88586-1	320-88586-2
<i>Table 3+ SOP (ng/L)</i>						
HFPO-DA	5.5	5.7	6.6	5.7	8.9	3.0
PFMOAA	14	14	14	15	22	8.6
PFO2HxA	8.3	7.5	7.1	6.7	10	3.9
PFO3OA	2.0	2.1	<2.0	<2.0	2.7	<2.0
PFO4DA	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
PFO5DA	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
PMPA	<10	<10	<10	<10	<10	<10
PEPA	<20	<20	<20	<20	<20	<20
PS Acid	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
Hydro-PS Acid	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
R-PSDA	<2.0	<2.0	3.8 J	6.9 J	4.2 J	<2.0
Hydrolyzed PSDA	6.9 J	4.7 J	4.9 J	5.0 J	6.0 J	3.7 J
R-PSDCA	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
NVHOS	7.6	2.6	4.1	5.3	4.0	6.6
EVE Acid	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
Hydro-EVE Acid	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
R-EVE	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
PES	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
PFECA B	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
PFECA-G	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
Perfluoroheptanoic Acid	3.4	3.0	3.6	5.3	5.1	5.6
Total Attachment C^{1,2}	30	29	28	27	44	16
Total Table 3+ (17 compounds)^{2,3}	37	32	32	33	48	22
Total Table 3+ (20 compounds)²	44	37	41	45	58	26

TABLE 2
CAPE FEAR RIVER TAR HEEL ANALYTICAL RESULTS - Q2 2022
 Chemours Fayetteville Works, North Carolina

Sampling Event	Q2 2022	Q2 2022	Q2 2022	Q2 2022	Q2 2022	Q2 2022
Location ID	CFR-TARHEEL	CFR-TARHEEL	CFR-TARHEEL	CFR-TARHEEL	CFR-TARHEEL	CFR-TARHEEL
Field Sample ID	CFR-TARHEEL-24-053022	CFR-TARHEEL-24-060222	CFR-TARHEEL-24-060622	CFR-TARHEEL-24-060622-D	CFR-TARHEEL-24-060922	CFR-TARHEEL-24-061322
Sample Date	05/30/22	06/02/22	06/06/22	06/06/22	06/09/22	06/13/22
Sample Type	Composite	Composite	Composite	Composite	Composite	Composite
Sample Start Date and Time	05/29/22 5:33 PM	06/01/22 5:33 PM	06/05/22 5:33 PM	06/05/22 5:33 PM	06/08/22 5:33 PM	06/12/22 5:33 PM
Sample Stop Date and Time	05/30/22 4:33 PM	06/02/22 4:33 PM	06/06/22 4:33 PM	06/06/22 4:33 PM	06/09/22 4:33 PM	06/13/22 4:33 PM
Composite Duration (hours)	24	24	24	24	24	24
QA/QC				Field Duplicate		
Sample Delivery Group (SDG)	320-88586-1	320-88768-1	320-88768-1	320-88768-1	320-89254-1	320-89254-1
Lab Sample ID	320-88586-3	320-88768-1	320-88768-2	320-88768-3	320-89254-1	320-89254-2
<i>Table 3+ SOP (ng/L)</i>						
HFPO-DA	<2.0	3.7	9.1	12	11	8.5
PFMOAA	<2.0	8.5	20	24	22	20
PFO2HxA	<2.0	3.8	10	13	12	10
PFO3OA	<2.0	<2.0	2.5	3.3	3.2	2.6
PFO4DA	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
PFO5DA	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
PMPA	<10	<10	<10	10	<10	<10
PEPA	<20	<20	<20	<20	<20	<20
PS Acid	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
Hydro-PS Acid	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
R-PSDA	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
Hydrolyzed PSDA	<2.0	<2.0	7.2 J	8.3 J	4.7 J	6.5 J
R-PSDCA	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
NVHOS	<2.0	3.3	3.6	3.7	2.7	7.3
EVE Acid	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
Hydro-EVE Acid	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
R-EVE	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
PES	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
PFECA B	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
PFECA-G	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
Perfluoroheptanoic Acid	4.5	4.6	4.3	5.2	4.7	3.5
Total Attachment C^{1,2}	0.0	16	42	62	48	41
Total Table 3+ (17 compounds)^{2,3}	0.0	19	45	66	51	48
Total Table 3+ (20 compounds)²	0.0	19	52	74	56	55

TABLE 2
CAPE FEAR RIVER TAR HEEL ANALYTICAL RESULTS - Q2 2022
Chemours Fayetteville Works, North Carolina

Sampling Event	Q2 2022	Q2 2022	Q2 2022	Q2 2022
Location ID	CFR-TARHEEL	CFR-TARHEEL	CFR-TARHEEL	CFR-TARHEEL
Field Sample ID	CFR-TARHEEL-24-061622	CFR-TARHEEL-24-062022	CFR-TARHEEL-24-062322	CFR-TARHEEL-24-062722
Sample Date	06/16/22	06/20/22	06/23/22	06/27/22
Sample Type	Composite	Composite	Composite	Composite
Sample Start Date and Time	06/15/22 5:33 PM	06/19/22 5:33 PM	06/22/22 5:33 PM	06/26/22 5:33 PM
Sample Stop Date and Time	06/16/22 4:33 PM	06/20/22 4:33 PM	06/23/22 4:33 PM	06/27/22 4:33 PM
Composite Duration (hours)	24	24	24	24
QA/QC				
Sample Delivery Group (SDG)	320-89254-1	320-89531-1	320-89531-1	320-89798-1
Lab Sample ID	320-89254-3	320-89531-1	320-89531-2	320-89798-1
<i>Table 3+ SOP (ng/L)</i>				
HFPO-DA	8.0	9.7 J	9.1	11
PFMOAA	22	21 J	18	23
PFO2HxA	10	13 J	11	13
PFO3OA	2.6	3.2 J	2.9	3.0
PFO4DA	<2.0	<2.0 UJ	<2.0	<2.0
PFO5DA	<2.0	<2.0 UJ	<2.0	<2.0
PMPA	<10	<10 UJ	<10	<10
PEPA	<20	<20 UJ	<20	<20
PS Acid	<2.0	<2.0 UJ	<2.0	<2.0
Hydro-PS Acid	<2.0	<2.0 UJ	<2.0	<2.0
R-PSDA	<2.0	<2.0 UJ	<2.0	<2.0
Hydrolyzed PSDA	6.8 J	<2.0 UJ	<2.0	7.9 J
R-PSDCA	<2.0	<2.0 UJ	<2.0	<2.0
NVHOS	8.2	<2.0 UJ	<2.0	11
EVE Acid	<2.0	<2.0 UJ	<2.0	<2.0
Hydro-EVE Acid	<2.0	<2.0 UJ	<2.0	<2.0
R-EVE	2.0 J	<2.0 UJ	<2.0	<2.0
PES	<2.0	<2.0 UJ	<2.0	<2.0
PFECA B	<2.0	<2.0 UJ	<2.0	<2.0
PFECA-G	<2.0	<2.0 UJ	<2.0	<2.0
Perfluoroheptanoic Acid	4.0	3.9 J	4.1	3.8
Total Attachment C^{1,2}	43	47	41	50
Total Table 3+ (17 compounds)^{2,3}	51	47	41	61
Total Table 3+ (20 compounds)²	60	47	41	69

TABLE 2
CAPE FEAR RIVER TAR HEEL ANALYTICAL RESULTS - Q2 2022
Chemours Fayetteville Works, North Carolina

Sampling Event	Q2 2022
Location ID	CFR-TARHEEL
Field Sample ID	CFR-TARHEEL-24-063022
Sample Date	06/30/22
Sample Type	Composite
Sample Start Date and Time	06/29/22 5:33 PM
Sample Stop Date and Time	06/30/22 4:33 PM
Composite Duration (hours)	24
QA/QC	
Sample Delivery Group (SDG)	320-89798-1
Lab Sample ID	320-89798-2
Table 3+ SOP (ng/L)	
HFPO-DA	11
PFMOAA	24
PFO2HxA	13
PFO3OA	3.5
PFO4DA	<2.0
PFO5DA	<2.0
PMPA	<10
PEPA	<20
PS Acid	<2.0
Hydro-PS Acid	<2.0
R-PSDA	<2.0
Hydrolyzed PSDA	9.0 J
R-PSDCA	<2.0
NVHOS	8.6
EVE Acid	<2.0
Hydro-EVE Acid	<2.0
R-EVE	<2.0
PES	<2.0
PFECA B	<2.0
PFECA-G	<2.0
Perfluoroheptanoic Acid	3.9
Total Attachment C^{1,2}	52
Total Table 3+ (17 compounds)^{2,3}	60
Total Table 3+ (20 compounds)²	69

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).

2 - Total Table 3+ and Total Attachment C were calculated including J qualified data but not non-detect data. The sum is rounded to two significant figures.

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

TABLE 3
SURFACE WATER ANALYTICAL RESULTS AT DOWNSTREAM LOCATIONS
Chemours Fayetteville Works, North Carolina

Location ID	CFR-BLADEN	CFR-KINGS	CFR-TARHEEL	CFR-TARHEEL
Field Sample ID	CAP2Q22-CFR-BLADEN-041922	CAP2Q22-CFR-KINGS-042122	CAP2Q22-CFR-TARHEEL-041922	CAP2Q22-CFR-TARHEEL-24-042022
Sample Date	04/19/22	04/21/22	04/19/22	04/20/22
QA/QC				
Sample Delivery Group (SDG)	320-87040-1	320-87069-1	320-87040-1	320-87069-1
Lab Sample ID	320-87040-3	320-87069-1	320-87040-4	320-87069-2
Table 3+ SOP (ng/L)				
HFPO-DA	7.4	3.3	8.5	4.1 J
PFMOAA	9.2	<2.0	8.1	19 J
PFO2HxA	6.2	4.0	7.7	9.3 J
PFO3OA	2.6	<2.0	2.6	2.8 J
PFO4DA	<2.0	<2.0	<2.0	<2.0
PFO5DA	<2.0	<2.0	<2.0	<2.0
PMPA	<10	<10	<10	<10
PEPA	<20	<20	<20	<20
PS Acid	<2.0	<2.0	<2.0	<2.0
Hydro-PS Acid	<2.0	<2.0	<2.0	<2.0
R-PSDA	3.4 J	3.8 J	3.9 J	24 J
Hydrolyzed PSDA	2.5 J	<2.0	2.2 J	10 J
R-PSDCA	<2.0	<2.0	<2.0	<2.0
NVHOS	2.7	5.5	4.9	11 J
EVE Acid	<2.0	<2.0	<2.0	<2.0
Hydro-EVE Acid	<2.0	<2.0	<2.0	<2.0
R-EVE	<2.0	<2.0	<2.0	5.0 J
PES	<2.0	<2.0	<2.0	<2.0
PFECA B	<2.0	<2.0	<2.0	<2.0
PFECA-G	<2.0	<2.0	<2.0	<2.0
Perfluoroheptanoic Acid	3.2	3.0	3.4	3.3
Total Attachment C^{1,2}	25	7.3	27	35
Total Table 3+ (17 compounds)^{2,3}	28	13	32	46
Total Table 3+ (20 compounds)²	34	17	38	85

TABLE 3
SURFACE WATER ANALYTICAL RESULTS AT DOWNSTREAM LOCATIONS
Chemours Fayetteville Works, North Carolina

Location ID	EB	EB	FBLK
Field Sample ID	CAP2Q22-EQBLK-PP-041922	CAP2Q22-EQBLK-IS-042022	CAP2Q22-FBLK-042022
Sample Date	04/19/22	04/20/22	04/20/22
QA/QC	Equipment Blank	Equipment Blank	Field Blank
Sample Delivery Group (SDG)	320-87040-1	320-87042-1	320-87042-1
Lab Sample ID	320-87040-6	320-87042-6	320-87042-7
Table 3+ SOP (ng/L)			
HFPO-DA	<2.0	<2.0	<2.0
PFMOAA	<2.0	<2.0	<2.0
PFO2HxA	<2.0	<2.0	<2.0
PFO3OA	<2.0	<2.0	<2.0
PFO4DA	<2.0	<2.0	<2.0
PFO5DA	<2.0	<2.0	<2.0
PMPA	<10	<10	<10
PEPA	<20	<20	<20
PS Acid	<2.0	<2.0	<2.0
Hydro-PS Acid	<2.0	<2.0	<2.0
R-PSDA	<2.0	<2.0	<2.0
Hydrolyzed PSDA	<2.0	<2.0	<2.0
R-PSDCA	<2.0	<2.0	<2.0
NVHOS	<2.0	<2.0	<2.0
EVE Acid	<2.0	<2.0	<2.0
Hydro-EVE Acid	<2.0	<2.0	<2.0
R-EVE	<2.0	<2.0	<2.0
PES	<2.0	<2.0	<2.0
PFECA B	<2.0	<2.0	<2.0
PFECA-G	<2.0	<2.0	<2.0
Perfluoroheptanoic Acid	<2.0	<2.0	<2.0
Total Attachment C^{1,2}	ND	ND	ND
Total Table 3+ (17 compounds)^{2,3}	ND	ND	ND
Total Table 3+ (20 compounds)²	ND	ND	ND

Notes:

B - analyte detected in an associated blank

Bold - Analyte detected above associated reporting limit

EPA - Environmental Protection Agency

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

ND - no 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

< - Analyte not detected above associated reporting limit.

-- - Data not available

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

2 - Total Table 3+ and Total Attachment C were calculated including J qualified data but not non-detect data. The sum is rounded to two significant figures.

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

TABLE 4
SUMMARY OF CALCULATED TOTAL MASS LOAD IN THE CAPE FEAR RIVER
Chemours Fayetteville Works, North Carolina

Reporting Period ^{1,2,3}	River volume (m ³)	Total Attachment C ⁴			Total Table 3+ (17 Compounds) ⁵			Total Table 3+ (20 Compounds)		
		Projected Load (kg) ⁶	Measured Load in Cape Fear River (kg) ⁷	Remedy Reduction Load (kg) ⁸	Projected Load (kg) ⁶	Measured Load in Cape Fear River (kg) ⁷	Remedy Reduction Load (kg) ⁸	Projected Load (kg) ⁶	Measured Load in Cape Fear River (kg) ⁷	Remedy Reduction Load (kg) ⁸
2020 Q2	1,734,001,289	119	119	--	121	121	--	155	155	--
2020 Q3	1,027,925,544	77	77	--	78	78	--	99	99	--
2020 Q4	2,192,048,740	128	102	26	104	78	26	127	100	27
2021 Q1	3,085,926,339	147	119	28	122	93	29	146	117	29
2021 Q2	700,546,631	118	75	43	121	77	44	152	106	47
2021 Q3	590,536,121	97	39	58	99	41	59	112	49	64
2021 Q4	278,609,600	61	17	44	64	19	45	72	22	50
2022 Q1	1,439,412,208	68	31	37	71	33	38	82	40	42
2022 Q2	664,235,177	58	13	44.84	61	15	46	68	19	50
<i>Last Four Quarters</i>	<i>2,972,793,105</i>	<i>284</i>	<i>100</i>	<i>184</i>	<i>295</i>	<i>108</i>	<i>187</i>	<i>335</i>	<i>129</i>	<i>205</i>

Notes:

- 1 - Prior to Q2 2022, the reporting periods were based on the start and end time and date intervals of the sample. The reporting period has been adjusted to the date range of the reporting period.
- 2 - Calculated total mass loads by compound and time interval are provided in Tables 5A through 5G for Q2 2022 and in Appendix B for previous reporting periods.
- 3 - The remedies at Old Outfall 002, Seeps A, B, C, and D, and at Outfall 002 were operational since Q3 2021.
- 4 - Total Attachment C does not include Perfluoroheptanoic acid (PFHpA).
- 5 - Total Table 3+ (17 compounds) does not include Perfluoroheptanoic acid (PFHpA), R-PSDA, Hydrolyzed PSDA, and R-EVE.
- 6 - Projected load is calculated as the total of the measured load in the Cape Fear River and the calculated remedy reduction load.
- 7 - Measured load in Cape Fear River represent loads measured in the Cape Fear River at the CFR-TARHEEL sampling location downstream of the Site.
- 8 - Calculated remedy reduction loads represent the total load that was prevented from reaching the Cape Fear River. This is calculated as the total load from Old Outfall 002, Seeps A to D and the Stormwater Treatment System.

kg - kilograms
m³ - cubic meters

**TABLE 5A
CAPE FEAR RIVER PFAS MASS LOAD BY COMPOUND AND TIME INTERVAL - Q2 2022
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	PF2HxA	PF3OA	PF4DA	PF5DA	PMPA	PEPA	PS Acid	Hydro-PS Acid	R-PSDA	Hydrolyzed PSDA	R-PSDCA	NVHOS	EVE Acid	Hydro-EVE Acid	R-EVE	PES	PFCEA B	PFCEA-G				PFHpA	
2022_1_Q2	3/31/22 23:01	4/4/22 0:01	54,661,595	0.15	0.10	0.19	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.17	0.4	0.4	0.4
2022_2_Q2	4/4/22 0:01	4/4/22 23:01	15,899,173	0.040	0	0.05	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.045	0.1	0.1	0.1
2022_3_Q2	4/4/22 23:01	4/7/22 0:01	26,113,881	0.084	0.11	0.11	0	0	0	0	0	0	0	0	0.14	0	0	0	0	0	0	0	0	0	0.084	0.3	0.3	0.5
2022_4_Q2	4/7/22 0:01	4/7/22 23:01	15,992,194	0.06	0.14	0.086	0	0	0	0	0	0	0	0	0.18	0	0	0	0	0	0	0	0	0	0.058	0.3	0.3	0.5
2022_5_Q2	4/7/22 23:01	4/11/22 0:01	44,026,891	0.19	0.41	0.24	0	0	0	0.24	0	0	0	0	0.34	0	0.046	0	0	0	0	0	0	0	0.13	1.1	1.1	1.5
2022_6_Q2	4/11/22 0:01	4/11/22 23:01	7,753,096	0.036	0.081	0.045	0	0	0	0.081	0	0	0	0	0.037	0	0.017	0	0	0	0	0	0	0	0.017	0.2	0.3	0.3
2022_7_Q2	4/11/22 23:01	4/15/22 0:01	22,813,807	0.12	0.11	0.14	0	0	0	0.13	0	0	0	0	0.049	0	0.055	0	0	0	0	0	0	0	0.054	0.5	0.5	0.6
2022_8_Q2	4/15/22 0:01	4/15/22 23:01	4,711,952	0.025	0	0.03	0	0	0	0	0	0	0	0	0	0	0.013	0	0	0	0	0	0	0	0.011	0.1	0.1	0.1
2022_9_Q2	4/15/22 23:01	4/19/22 17:05	16,481,509	0.11	0.067	0.12	0.021	0	0	0	0	0	0	0.032	0.018	0	0.063	0	0	0	0	0	0	0	0.048	0.3	0.4	0.4
2022_10_Q2	4/19/22 17:05	4/19/22 17:33	131,503	0.001	0.001	0.001	0.0003	0	0	0	0	0	0	0.0006	0.0003	0	0.0007	0	0	0	0	0	0	0.0004	0.004	0.004	0.005	
2022_11_Q2	4/19/22 17:33	4/20/22 16:33	23,706,807	0.10	0.45	0.22	0.066	0	0	0	0	0	0	0.57	0.24	0	0.26	0	0	0.12	0	0	0	0.078	0.8	1.1	2.0	
2022_12_Q2	4/20/22 16:33	4/21/22 0:01	12,666,125	0.026	0.12	0.059	0.018	0	0	0	0	0	0	0.15	0.063	0	0.070	0	0	0.032	0	0	0	0.042	0.2	0.3	0.5	
2022_13_Q2	4/21/22 0:01	4/21/22 23:01	34,746,470	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.11	0	0	0	
2022_14_Q2	4/21/22 23:01	4/22/22 0:01	1,378,747	0	0	0.0014	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0057	0.001	0.001	0.001	
2022_15_Q2	4/22/22 0:01	4/22/22 23:01	22,915,238	0	0	0.048	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.11	0.05	0.05	0.05	
2022_16_Q2	4/22/22 23:01	4/25/22 0:01	17,344,946	0.046	0	0.075	0	0	0	0.095	0	0	0	0	0	0	0.037	0	0	0	0	0	0	0.082	0.2	0.3	0.3	
2022_17_Q2	4/25/22 0:01	4/25/22 23:01	5,297,855	0.028	0	0.034	0	0	0	0.058	0	0	0	0	0	0	0.023	0	0	0	0	0	0	0.024	0.1	0.1	0.1	
2022_18_Q2	4/25/22 23:01	4/28/22 0:01	12,402,864	0.061	0.087	0.076	0	0	0	0.068	0	0	0	0	0.017	0	0.054	0	0	0	0	0	0	0.047	0.3	0.3	0.4	
2022_19_Q2	4/28/22 0:01	4/28/22 23:01	6,236,474	0.029	0.087	0.036	0	0	0	0	0	0	0	0	0.017	0	0.027	0	0	0	0	0	0	0.019	0.2	0.2	0.2	
2022_20_Q2	4/28/22 23:01	5/2/22 0:01	12,666,380	0.075	0.22	0.088	0.014	0	0	0.070	0	0	0	0	0.047	0	0.066	0	0	0	0	0	0	0.044	0.5	0.5	0.6	
2022_21_Q2	5/2/22 0:01	5/2/22 23:01	3,566,394	0.026	0.071	0.029	0.0078	0	0	0.039	0	0	0	0	0.016	0	0.021	0	0	0	0	0	0	0.014	0.2	0.2	0.2	
2022_22_Q2	5/2/22 23:01	5/5/22 0:01	8,605,575	0.066	0.15	0.082	0.020	0	0	0.047	0	0	0	0	0.048	0	0.061	0	0	0	0	0	0	0.033	0.4	0.4	0.5	
2022_23_Q2	5/5/22 0:01	5/5/22 23:01	3,891,839	0.032	0.058	0.043	0.010	0	0	0	0	0	0	0	0.026	0	0.032	0	0	0	0	0	0	0.015	0.1	0.2	0.2	
2022_24_Q2	5/5/22 23:01	5/9/22 0:01	12,039,445	0.087	0.18	0.13	0.030	0	0	0	0	0	0	0	0.085	0	0.097	0	0	0	0	0	0	0.046	0.4	0.5	0.6	
2022_25_Q2	5/9/22 0:01	5/9/22 23:01	5,303,972	0.031	0.077	0.049	0.012	0	0	0	0	0	0	0	0.038	0	0.041	0	0	0	0	0	0	0.019	0.2	0.2	0.2	
2022_26_Q2	5/9/22 23:01	5/13/22 0:01	19,443,904	0.12	0.28	0.17	0.045	0	0	0	0	0	0	0	0.12	0	0.103	0	0	0	0	0	0	0.066	0.6	0.7	0.8	
2022_27_Q2	5/13/22 0:01	5/13/22 23:01	4,416,833	0.025	0.062	0.033	0.0093	0	0	0	0	0	0	0	0.021	0	0.011	0	0	0	0	0	0	0.013	0.1	0.1	0.2	
2022_28_Q2	5/13/22 23:01	5/16/22 0:01	9,041,626	0.056	0.13	0.066	0.0095	0	0	0	0	0	0	0.017	0.043	0	0.030	0	0	0	0	0	0	0.030	0.3	0.3	0.3	
2022_29_Q2	5/16/22 0:01	5/16/22 23:01	4,886,780	0.032	0.068	0.035	0	0	0	0	0	0	0	0.019	0.024	0	0.020	0	0	0	0	0	0	0.018	0.1	0.2	0.2	
2022_30_Q2	5/16/22 23:01	5/19/22 0:01	8,779,383	0.054	0.13	0.061	0	0	0	0	0	0	0	0.047	0.043	0	0.041	0	0	0	0	0	0	0.039	0.2	0.3	0.4	
2022_31_Q2	5/19/22 0:01	5/19/22 23:01	3,594,937	0.020	0.054	0.024	0	0	0	0	0	0	0	0.025	0.018	0	0.019	0	0	0	0	0	0	0.019	0.1	0.1	0.2	
2022_32_Q2	5/19/22 23:01	5/23/22 0:01	8,895,596	0.065	0.16	0.074	0.012	0	0	0	0	0	0	0.049	0.049	0	0.041	0	0	0	0	0	0	0.046	0.3	0.4	0.5	
2022_33_Q2	5/23/22 0:01	5/23/22 23:01	2,544,693	0.023	0.056	0.025	0.0069	0	0	0	0	0	0	0.011	0.015	0	0.010	0	0	0	0	0	0	0.013	0.1	0.1	0.1	
2022_34_Q2	5/23/22 23:01	5/26/22 0:01	9,485,832	0.056	0.15	0.066	0.013	0	0	0	0	0	0	0.020	0.046	0	0.050	0	0	0	0	0	0	0.051	0.3	0.3	0.4	
2022_35_Q2	5/26/22 0:01	5/26/22 23:01	7,610,634	0.023	0.065	0.030	0	0	0	0	0	0	0	0	0.028	0	0.050	0	0	0	0	0	0	0.043	0.1	0.2	0.2	
2022_36_Q2	5/26/22 23:01	5/30/22 0:01	65,272,087	0.10	0.28	0.13	0	0	0	0	0	0	0	0	0.12	0	0.22	0	0	0	0	0	0	0.33	0.5	0.7	0.8	

**TABLE 5A
CAPE FEAR RIVER PFAS MASS LOAD BY COMPOUND AND TIME INTERVAL - Q2 2022
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	PF2HxA	PF3OA	PF4DA	PF5DA	PMPPA	PEPA	PS Acid	Hydro-PS Acid	R-PSDA	Hydrolyzed PSDA	R-PSDCA	NVHOS	EVE Acid	Hydro-EVE Acid	R-EVE	PES	PFCEA B	PFCEA-G				PFHpA	
2022_37_Q2	5/30/22 0:01	5/30/22 23:01	21,136,119	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.095	0	0	0
2022_38_Q2	5/30/22 23:01	6/2/22 0:01	32,553,217	0.060	0.14	0.062	0	0	0	0	0	0	0	0	0	0	0.054	0	0	0	0	0	0	0	0.15	0.3	0.3	0.3
2022_39_Q2	6/2/22 0:01	6/2/22 23:01	4,337,065	0.016	0.037	0.016	0	0	0	0	0	0	0	0	0	0	0.014	0	0	0	0	0	0	0	0.020	0.1	0.1	0.1
2022_40_Q2	6/2/22 23:01	6/6/22 0:01	8,446,751	0.054	0.12	0.058	0.011	0	0	0	0	0	0	0	0.030	0	0.029	0	0	0	0	0	0	0	0.038	0.2	0.3	0.3
2022_41_Q2	6/6/22 0:01	6/6/22 23:01	2,254,519	0.024	0.050	0.026	0.0065	0	0	0.011	0	0	0	0	0.017	0	0.0082	0	0	0	0	0	0	0	0.011	0.1	0.1	0.1
2022_42_Q2	6/6/22 23:01	6/9/22 0:01	4,585,265	0.046	0.10	0.050	0.013	0	0	0	0	0	0	0	0.027	0	0.014	0	0	0	0	0	0	0	0.021	0.2	0.2	0.2
2022_43_Q2	6/9/22 0:01	6/9/22 23:01	2,373,866	0.026	0.052	0.028	0.0076	0	0	0	0	0	0	0	0.011	0	0.0064	0	0	0	0	0	0	0	0.011	0.1	0.1	0.1
2022_44_Q2	6/9/22 23:01	6/13/22 0:01	9,656,277	0.094	0.20	0.11	0.028	0	0	0	0	0	0	0	0.054	0	0.048	0	0	0	0	0	0	0	0.040	0.4	0.5	0.5
2022_45_Q2	6/13/22 0:01	6/13/22 23:01	3,004,446	0.026	0.060	0.030	0.0078	0	0	0	0	0	0	0	0.020	0	0.022	0	0	0	0	0	0	0	0.011	0.1	0.1	0.2
2022_46_Q2	6/13/22 23:01	6/16/22 0:01	6,218,125	0.051	0.13	0.062	0.016	0	0	0	0	0	0	0	0.041	0	0.048	0	0	0.0062	0	0	0	0	0.023	0.3	0.3	0.4
2022_47_Q2	6/16/22 0:01	6/16/22 23:01	2,469,767	0.020	0.054	0.025	0.0064	0	0	0	0	0	0	0	0.017	0	0.020	0	0	0.0049	0	0	0	0	0.0099	0.1	0.1	0.1
2022_48_Q2	6/16/22 23:01	6/20/22 0:01	7,629,034	0.068	0.16	0.088	0.022	0	0	0	0	0	0	0	0.026	0	0.031	0	0	0.0076	0	0	0	0	0.030	0.3	0.4	0.4
2022_49_Q2	6/20/22 0:01	6/20/22 23:01	2,367,877	0.023	0.050	0.031	0.0076	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0092	0.1	0.1	0.1
2022_50_Q2	6/20/22 23:01	6/23/22 0:01	5,095,350	0.048	0.10	0.061	0.016	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.020	0.2	0.2	0.2
2022_51_Q2	6/23/22 0:01	6/23/22 23:01	2,160,403	0.020	0.039	0.024	0.0063	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0089	0.1	0.1	0.1
2022_52_Q2	6/23/22 23:01	6/27/22 0:01	6,296,797	0.063	0.13	0.076	0.019	0	0	0	0	0	0	0	0.025	0	0.035	0	0	0	0	0	0	0	0.025	0.3	0.3	0.3
2022_53_Q2	6/27/22 0:01	6/27/22 23:01	1,982,057	0.022	0.046	0.026	0.0059	0	0	0	0	0	0	0	0.016	0	0.022	0	0	0	0	0	0	0	0.0075	0.1	0.1	0.1
2022_54_Q2	6/27/22 23:01	6/30/22 0:01	4,601,728	0.051	0.11	0.060	0.015	0	0	0	0	0	0	0	0.039	0	0.045	0	0	0	0	0	0	0	0.018	0.2	0.3	0.3
2022_55_Q2	6/30/22 0:01	6/30/22 23:01	2,475,782	0.027	0.059	0.032	0.0087	0	0	0	0	0	0	0	0.022	0	0.021	0	0	0	0	0	0	0	0.0097	0.1	0.1	0.2
Total			664,971,486	2.7	5.6	3.6	0.5	0	0	0.8	0	0	0	0.9	2.2	0	2.0	0	0	0.2	0	0	0	2.5	13	15	19	

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. Refer to the Cape Fear River PFAS Mass Loading Calculation Protocol Version 2 (Geosyntec, 2020a) for more details.
 3 - Total Attachment C does not include Perfluorheptanoic acid (PFHpA).
 4 - Total Table 3+ (17 compounds) does not include PFHpA, R-PSDA, Hydrolyzed PSDA, and R-EVE.
 Where mass loads are equal to 0 kg, the compound was not detected above the reporting limit.
 kg - kilogram
 m³ - cubic meter
 NA - Compound not analyzed

**TABLE 5B
 OLD OUTFALL 002 CAPTURED MASS LOAD BY COMPOUND AND TIME INTERVAL - Q2 2022
 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	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)
OF003_2022_1_Q2	4/1/22 0:00	4/30/22 23:59	720	70,000	0.58	1.4	0.57	0.15	0.065	0.018	0.30	0.11	0.026	0.020	0.018	0.06	0	0	0	0	0.009	0	0	0	3.3	3.3	3.4
OF003_2022_2_Q2	5/1/22 0:00	5/31/22 23:59	744	70,000	0.44	1.5	0.59	0.17	0.068	0.039	0.32	0.13	0.033	0.024	0.032	0.11	0	0	0	0	0.014	0	0	0	3.3	3.4	3.5
OF003_2022_3_Q2	6/1/22 0:00	6/30/22 23:59	720	130,000	0.90	3.1	1.34	0.36	0.160	0.051	0.67	0.25	0.001	0.043	0.052	0.17	0	0	0	0	0.020	0	0	0	6.8	6.9	7.2
Total				270,000	1.9	6.0	2.5	0.68	0.29	0.11	1.3	0.49	0.06	0.087	0.103	0.34	0.0013	0.105	0.0028	0.052	0.043	0	0	0	13	14	14

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.

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

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

Where mass loads are equal to 0 kg, the compound was not detected above the reporting limit.

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

kg - kilogram

m³ - cubic meter

TABLE 5C
SEEP A FLOW THROUGH CELL CAPTURED MASS LOAD BY COMPOUND AND TIME INTERVAL - Q2 2022
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	PFCA B	PFCA-G	Total Attachment C ²	Total Table 3+ (17 compounds) ³	Total Table 3+ (20 compounds)
SeepA_2022_1_Q2	4/1/22 0:00	4/15/22 8:15	344	6,583	0.16	0.44	0.21	0.078	0.051	0.028	0.085	0.031	0.012	0.0085	0.015	0.16	0.0003	0.007	0.0013	0.010	0.006	0	0	0	1.1	1.1	1.3
SeepA_2022_2_Q2	4/15/22 8:16	4/29/22 8:00	336	6,482	0.17	0.65	0.25	0.10	0.056	0.028	0.091	0.034	0.016	0.0091	0.016	0.21	0.0003	0.008	0.0018	0.011	0.007	0	0	0	1.4	1.4	1.7
SeepA_2022_3_Q2	4/29/22 8:01	5/15/22 10:00	386	7,117	0.15	0.44	0.23	0.10	0.050	0.025	0.078	0.033	0.019	0.0092	0.014	0.18	0	0.009	0.0021	0.011	0.008	0	0	0	1.1	1.1	1.3
SeepA_2022_4_Q2	5/15/22 10:01	5/30/22 11:00	361	6,975	0.17	0.52	0.26	0.10	0.061	0.032	0.084	0.033	0.026	0.011	0.020	0.29	0	0.010	0.0030	0.013	0.011	0	0	0	1.3	1.3	1.7
SeepA_2022_5_Q2	5/30/22 11:01	6/15/22 2:00	375	8,011	0.21	0.59	0.33	0.11	0.058	0.033	0.11	0.042	0.021	0.012	0.017	0.21	0	0.010	0.0022	0.014	0.008	0	0	0	1.5	1.5	1.8
SeepA_2022_6_Q2	6/15/22 2:01	6/30/22 23:59	382	7,371	0.17	0.68	0.32	0.14	0.068	0.036	0.11	0.041	0.015	0.012	0.025	0.27	0	0.012	0.0016	0.014	0.010	0	0	0	1.6	1.6	1.9
Total				42,539	1.0	3.3	1.6	0.6	0.35	0.18	0.56	0.21	0.11	0.062	0.11	1.3	0.0006	0.056	0.012	0.072	0.05	0	0	0	8.1	8.1	9.7

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.

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

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

Where mass loads are equal to 0 kg, the compound was not detected above the reporting limit.

kg - kilogram

m³ - cubic meter

**TABLE 5D
SEEP B FLOW THROUGH CELL CAPTURED MASS LOAD BY COMPOUND AND TIME INTERVAL - Q2 2022
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)
SeepB_2022_1_Q2	4/1/22 0:00	4/15/22 8:15	344	14,693	0.36	1.5	0.48	0.12	0.023	0.0025	0.35	0.15	0.0067	0.0096	0.036	0.34	0.0005	0.028	0.0046	0.017	0.026	0	0	0	2.9	3.1	3.4
SeepB_2022_2_Q2	4/15/22 8:16	4/29/22 4:00	332	13,317	0.28	2.0	0.52	0.13	0.021	0.0016	0.29	0.11	0.0041	0.0077	0.041	0.44	0.0004	0.028	0.0035	0.015	0.020	0	0	0	3.3	3.5	3.9
SeepB_2022_3_Q2	4/29/22 4:01	5/15/22 10:00	390	12,386	0.26	1.2	0.45	0.14	0.020	0	0.26	0.12	0.0062	0.0090	0.041	0.32	0	0.026	0.0040	0.015	0.020	0	0	0	2.5	2.5	3.0
SeepB_2022_4_Q2	5/15/22 10:01	5/30/22 5:00	355	9,368	0.14	1.2	0.40	0.10	0.014	0	0.16	0.050	0	0.0046	0.023	0.33	0	0.018	0	0.0078	0.011	0	0	0	2.1	2.2	2.4
SeepB_2022_5_Q2	5/30/22 5:01	6/15/22 2:00	381	9,947	0.16	1.3	0.47	0.12	0.017	0	0.20	0.062	0	0.0045	0.018	0.22	0	0.020	0	0.0081	0.008	0	0	0	2.3	2.4	2.6
SeepB_2022_6_Q2	6/15/22 2:01	6/30/22 23:59	382	6,019	0.08	0.90	0.29	0.078	0.0084	0	0.11	0.036	0.0008	0.0025	0.010	0.17	0	0.014	0	0.0043	0.005	0	0	0	1.5	1.5	1.7
Total				65,729	1.3	8.1	2.6	0.69	0.10	0.0041	1.4	0.52	0.018	0.038	0.17	1.8	0.001	0.13	0.012	0.067	0.090	0	0	0	15	15	17

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.

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

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

Where mass loads are equal to 0 kg, the compound was not detected above the reporting limit.

kg - kilogram

m³ - cubic meter

TABLE 5E
SEEP C FLOW THROUGH CELL CAPTURED MASS LOAD BY COMPOUND AND TIME INTERVAL - Q2 2022
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_2022_1_Q2	4/1/22 0:00	4/15/22 2:00	338	4,721	0.075	0.17	0.07	0.024	0.010	0.0004	0.028	0.0093	0	0.0013	0.0028	0.0031	0	0.0025	0	0.004	0.0028	0	0	0	0.4	0.4	0.4
SeepC_2022_2_Q2	4/15/22 2:01	4/29/22 8:00	342	5,737	0.086	0.27	0.10	0.032	0.011	0	0.034	0.011	0	0.0016	0.0035	0.0046	0	0.0032	0	0.005	0.0034	0	0	0	0.5	0.6	0.6
SeepC_2022_3_Q2	4/29/22 8:01	5/15/22 10:00	386	7,657	0.11	0.24	0.12	0.039	0.015	0.0009	0.044	0.015	0	0.0024	0	0.0057	0	0.0035	0	0.007	0.0042	0	0	0	0.6	0.6	0.6
SeepC_2022_4_Q2	5/15/22 10:01	5/30/22 11:00	361	5,628	0.10	0.26	0.11	0.032	0.012	0.0006	0.043	0.014	0	0.0020	0.0052	0.0062	0	0.0031	0	0.006	0.0045	0	0	0	0.6	0.6	0.6
SeepC_2022_5_Q2	5/30/22 11:01	6/15/22 2:00	375	5,340	0.10	0.22	0.10	0.031	0.012	0.0005	0.031	0.011	0	0.0019	0	0.0069	0	0.0034	0	0.006	0.0041	0	0	0	0.5	0.5	0.5
SeepC_2022_6_Q2	6/15/22 2:01	6/30/22 23:59	382	4,581	0.064	0.17	0.078	0.026	0.0092	0.0004	0.026	0.010	0	0.0012	0.0027	0.0034	0	0.0027	0	0.004	0.0026	0	0	0	0.4	0.4	0.4
Total				33,664	0.53	1.3	0.58	0.18	0.070	0.0029	0.21	0.071	0	0.010	0.014	0.030	0	0.018	0	0.03	0.022	0	0	0	3.0	3.1	3.1

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.
 2 - Total Attachment C does not include Perfluoroheptanoic acid (PFHpA).
 3 - Total Table 3+ (17 compounds) does not include PFHpA, R-PSDA, Hydrolyzed PSDA, and R-EVE.
 Where mass loads are equal to 0 kg, the compound was not detected above the reporting limit.
 kg - kilogram
 m³ - cubic meter

TABLE 5F
SEEP D FLOW THROUGH CELL CAPTURED MASS LOAD BY COMPOUND AND TIME INTERVAL - Q2 2022
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)	
SeepD_2022_1_Q2	4/1/22 0:00	4/15/22 10:00	346	15,697	0.24	0.72	0.28	0.093	0.033	0.0019	0.089	0.030	0	0.0039	0.011	0.022	0	0.010	0	0.015	0.011	0	0	0	0	1.5	1.5	1.6
SeepD_2022_2_Q2	4/15/22 10:01	4/29/22 8:00	334	8,307	0.12	0.49	0.16	0.052	0.017	0.0009	0.047	0.016	0	0.0022	0.0035	0.011	0	0.0053	0	0.0081	0.0040	0	0	0	0	0.9	0.9	0.9
SeepD_2022_3_Q2	4/29/22 8:01	5/15/22 10:00	386	6,317	0.082	0.28	0.13	0.037	0.013	0.0009	0.039	0.014	0	0.0020	0.0049	0.012	0	0.0044	0	0.0069	0.0052	0	0	0	0	0.6	0.6	0.6
SeepD_2022_4_Q2	5/15/22 10:01	5/30/22 11:00	361	7,152	0.11	0.37	0.15	0.041	0.014	0.0010	0.044	0.015	0	0.0022	0	0.017	0	0.0046	0	0.0079	0.0067	0	0	0	0	0.8	0.8	0.8
SeepD_2022_5_Q2	5/30/22 11:01	6/15/22 2:00	375	5,824	0.093	0.27	0.12	0.034	0.013	0.0008	0.031	0.011	0	0.0019	0.0043	0.014	0	0.0041	0	0.0070	0.0051	0	0	0	0	0.6	0.6	0.6
SeepD_2022_6_Q2	6/15/22 2:01	6/30/22 23:59	382	5,759	0.086	0.30	0.12	0.040	0.012	0.0007	0.033	0.012	0	0.0015	0	0.011	0	0.0043	0	0.0063	0.0047	0	0	0	0	0.6	0.6	0.6
Total				49,056	0.73	2.4	0.95	0.30	0.10	0.0062	0.28	0.098	0	0.014	0.024	0.087	0	0.032	0	0.051	0.037	0	0	0	4.9	5.0	5.1	

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.

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

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

Where mass loads are equal to 0 kg, the compound was not detected above the reporting limit.

kg - kilogram

m³ - cubic meter

TABLE 5G
STORMWATER TREATMENT SYSTEM CAPTURED MASS LOAD
BY COMPOUND AND DATE - Q2 2022
Chemours Fayetteville Works, North Carolina

Date ¹	Total Flow (m ³) ²	Calculated Captured Mass Load ^{3,4}			
		HFPO-DA (kg)	PFMOAA (kg)	PMPA (kg)	Total of 3 Compounds (kg) ⁵
4/5/22	94	0.008	5.6E-04	5.6E-04	0.009
4/6/22	440	0.038	2.6E-03	2.6E-03	0.043
4/7/22	688	0.06	4.1E-03	4.1E-03	0.07
4/18/22	572	0.03	4.7E-03	1.6E-03	0.04
4/19/22	294	0.017	2.4E-03	8.2E-04	0.020
4/27/22	179	0.01	9.7E-04	5.4E-04	0.01
5/6/22	4,345	0.295	4.3E-02	9.6E-03	0.348
5/7/22	203	0.014	2.0E-03	4.5E-04	0.02
5/19/22	471	0.046	9.4E-03	1.2E-03	0.06
5/20/22	485	0.05	9.7E-03	1.2E-03	0.06
5/21/22	413	0.040	8.3E-03	1.0E-03	0.049
5/24/22	60	0.006	1.2E-03	1.5E-04	0.007
6/11/22	768	0.040	1.0E-02	2.8E-03	0.053
6/12/22	309	0.02	4.0E-03	1.1E-03	0.02
6/21/22	669	0.035	8.7E-03	2.4E-03	0.046
Total	9,989	0.71	0.11	0.03	0.85

Notes:

1 - Listed dates are days when flow was recorded at the Stormwater Treatment System.

2 - Total daily flows were based on the volume recorded via a totalizer at the Stormwater Treatment System effluent.

3 - The calculated captured mass load is a product of the concentration difference in the influent and the effluent samples and total flow at the effluent for the sampling date.

4 - For days where only flow was recorded, the concentrations from the closest date was used to calculate mass loads.

5 - Only HFPO-DA, PFMOAA and PMPA are recorded at this location. Thus, the total captured mass load presented here is summed over these three compounds only.

TABLE 6
SUMMARY OF TOTAL PFAS MASS DISCHARGE AT TAR HEEL FERRY ROAD BRIDGE - Q2 2022 DATA
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)
2022 Q2	CFR-TARHEEL-24-040422	4/4/22 23:01	24	5.9	5.9	5.9	561,470,000	--	1.1	1.1	1.1
2022 Q2	CFR-TARHEEL-24-040722	4/7/22 23:01	24	18	18	29	564,760,000	--	3.5	3.4	5.6
2022 Q2	CFR-TARHEEL-24-041122	4/11/22 23:01	24	32	34	38	273,800,000	--	3	3.2	3.6
2022 Q2	CFR-TARHEEL-24-041122-D	4/11/22 23:01	24	31	34	39	273,800,000	--	2.9	3.1	3.6
2022 Q2	CFR-TARHEEL-24-041522	4/15/22 23:01	24	12	14	14	166,400,000	--	0.68	0.82	0.82
2022 Q2	CAP2Q22-CFR-TARHEEL-041922	4/19/22 17:05	0	27	32	38	--	2,540	1.9	2.3	2.7
2022 Q2	CAP2Q22-CFR-TARHEEL-24-042022	4/20/22 16:33	24	35	46	85	837,200,000	--	10	13	24
2022 Q2	CFR-TARHEEL-24-042122	4/21/22 23:01	24	0	0	0	1,227,100,000	--	0	0	0
2022 Q2	CFR-TARHEEL-24-042222	4/22/22 23:01	24	2.1	2.1	2.1	809,240,000	--	0.58	0.58	0.58
2022 Q2	CFR-TARHEEL-24-042522	4/25/22 23:01	24	23	27	27	187,090,000	--	1.5	1.7	1.7
2022 Q2	CFR-TARHEEL-24-042822	4/28/22 23:01	24	24	29	32	220,240,000	--	1.8	2.2	2.4
2022 Q2	CFR-TARHEEL-24-050222	5/2/22 23:01	24	49	55	59	125,950,000	--	2.1	2.4	2.5
2022 Q2	CFR-TARHEEL-24-050522	5/5/22 23:01	24	37	45	51	137,440,000	--	1.7	2.1	2.4
2022 Q2	CFR-TARHEEL-24-050922	5/9/22 23:01	24	34	42	49	187,310,000	--	2.2	2.7	3.2
2022 Q2	CFR-TARHEEL-24-050922-D	5/9/22 23:01	24	30	37	44	187,310,000	--	1.9	2.4	2.8
2022 Q2	CFR-TARHEEL-24-051322	5/13/22 23:01	24	29	32	37	155,980,000	--	1.5	1.7	2
2022 Q2	CFR-TARHEEL-24-051622	5/16/22 23:01	24	28	32	41	172,570,000	--	1.7	1.9	2.4
2022 Q2	CFR-TARHEEL-24-051922	5/19/22 23:01	24	27	33	45	126,950,000	--	1.2	1.4	1.9
2022 Q2	CFR-TARHEEL-24-052322	5/23/22 23:01	24	44	48	58	89,865,000	--	1.4	1.5	1.8
2022 Q2	CFR-TARHEEL-24-052622	5/26/22 23:01	24	16	22	26	268,770,000	--	1.5	2	2.4
2022 Q2	CFR-TARHEEL-24-053022	5/30/22 23:01	24	0	0	0	746,410,000	--	0	0	0
2022 Q2	CFR-TARHEEL-24-060222	6/2/22 23:01	24	16	19	19	153,160,000	--	0.84	1	1
2022 Q2	CFR-TARHEEL-24-060622	6/6/22 23:01	24	42	45	52	79,617,000	--	1.1	1.2	1.4
2022 Q2	CFR-TARHEEL-24-060622-D	6/6/22 23:01	24	62	66	74	79,617,000	--	1.7	1.8	2
2022 Q2	CFR-TARHEEL-24-060922	6/9/22 23:01	24	48	51	56	83,832,000	--	1.4	1.5	1.6
2022 Q2	CFR-TARHEEL-24-061322	6/13/22 23:01	24	41	48	55	106,100,000	--	1.5	1.8	2
2022 Q2	CFR-TARHEEL-24-061622	6/16/22 23:01	24	43	51	60	87,219,000	--	1.3	1.5	1.8
2022 Q2	CFR-TARHEEL-24-062022	6/20/22 23:01	24	47	47	47	83,621,000	--	1.3	1.3	1.3
2022 Q2	CFR-TARHEEL-24-062322	6/23/22 23:01	24	41	41	41	76,294,000	--	1.1	1.1	1.1
2022 Q2	CFR-TARHEEL-24-062722	6/27/22 23:01	24	50	61	69	69,996,000	--	1.2	1.5	1.6
2022 Q2	CFR-TARHEEL-24-063022	6/30/22 23:01	24	52	60	69	87,431,000	--	1.6	1.8	2.1

Notes:

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

-- - not applicable

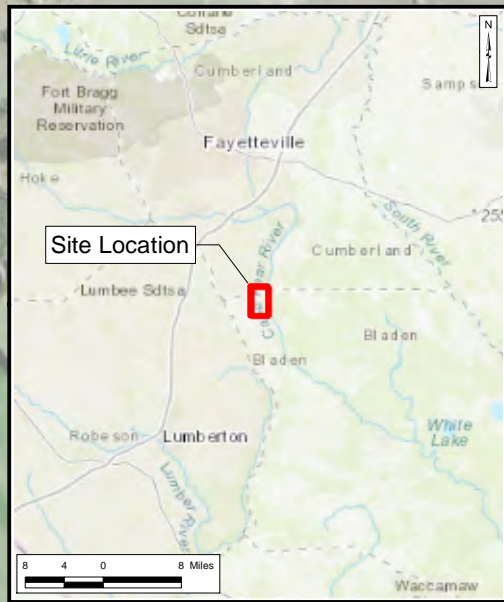
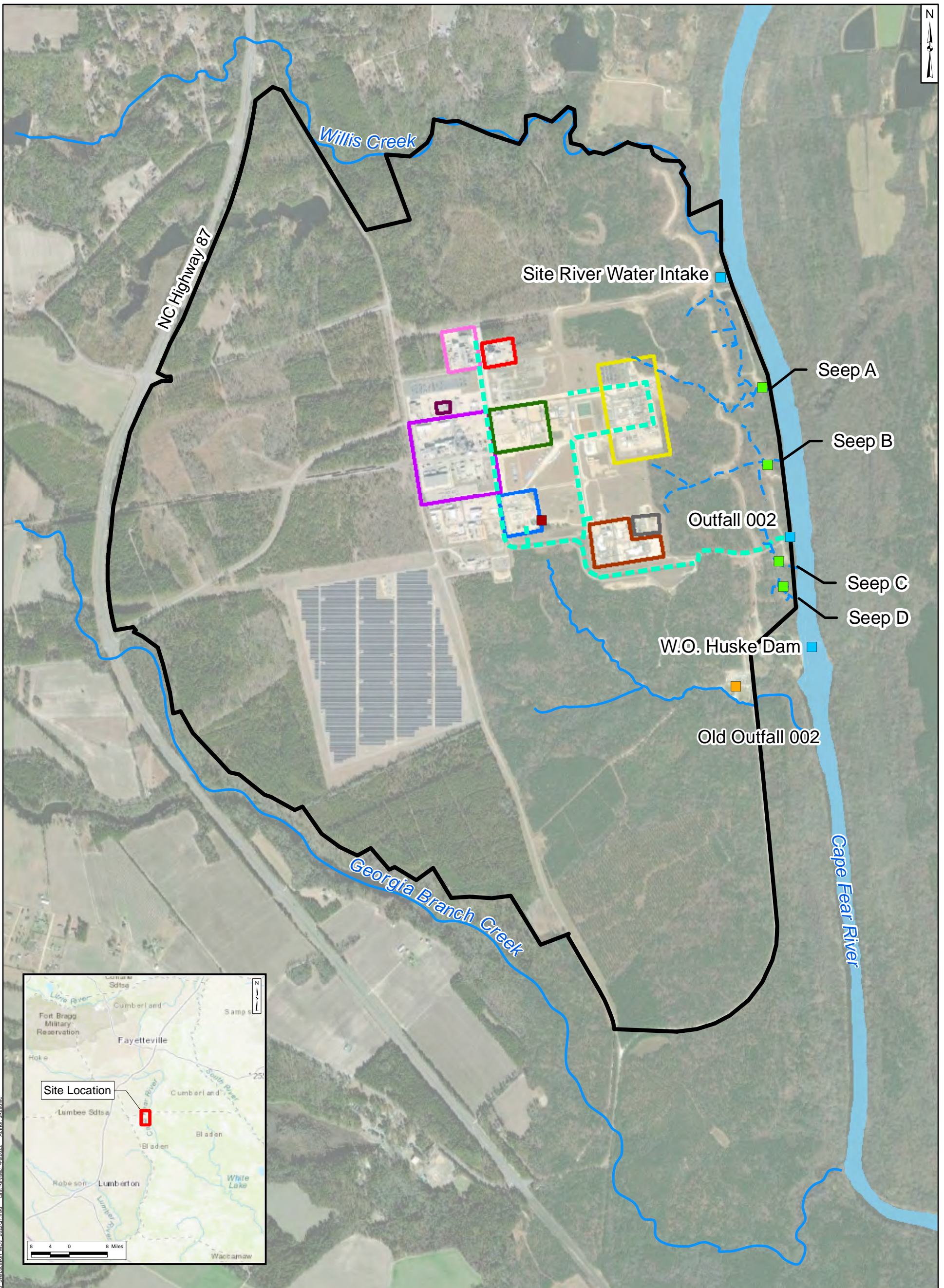
ng/L - nanograms per liter

ft³ - cubic feet

mg/s - milligrams per second

ft³/s - cubic feet per second

Figures



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

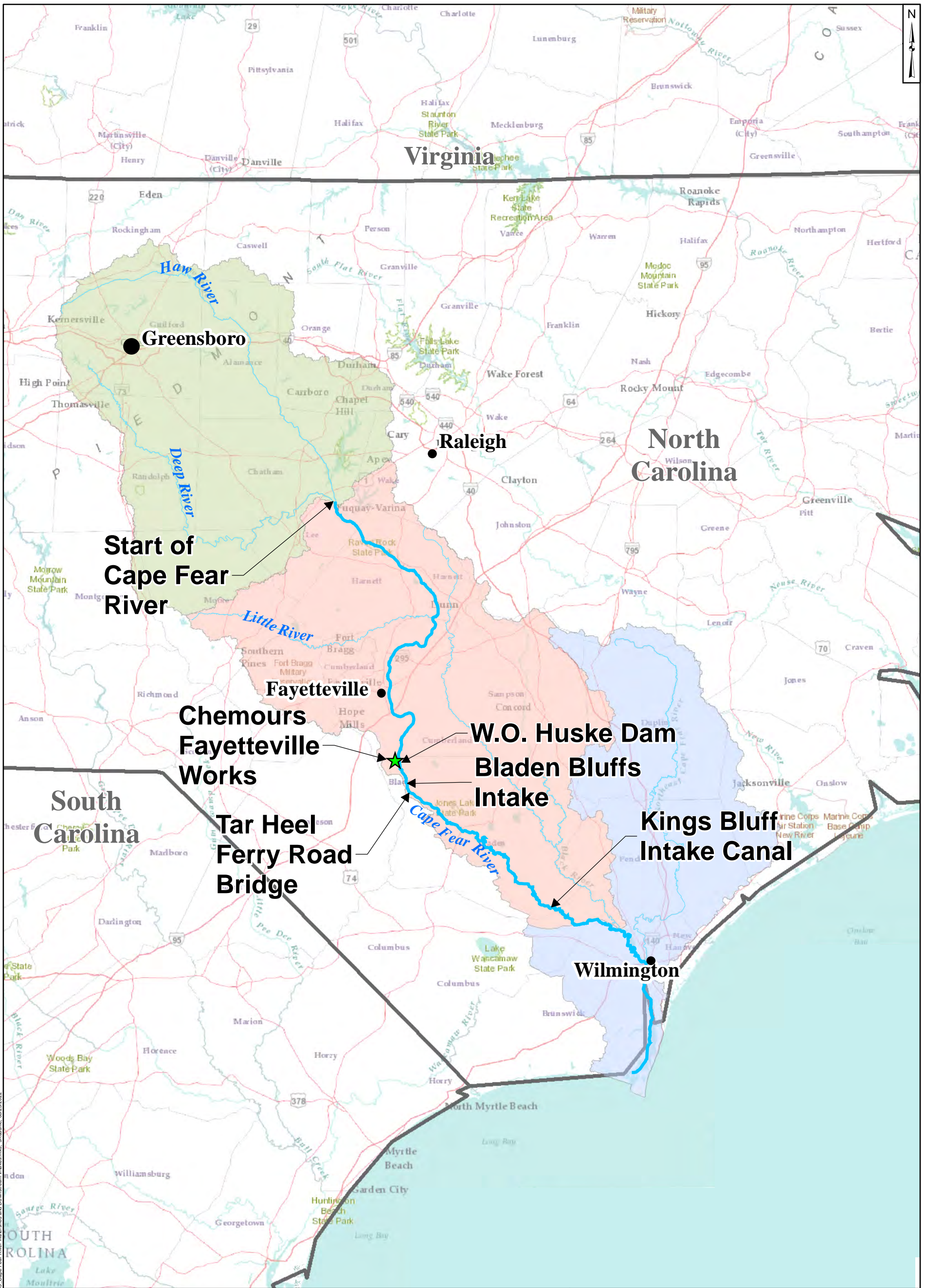
1,000 500 0 1,000 Feet

Site Location Map
 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>Raleigh</p>	<p>September 2022</p>

Figure
1

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



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.

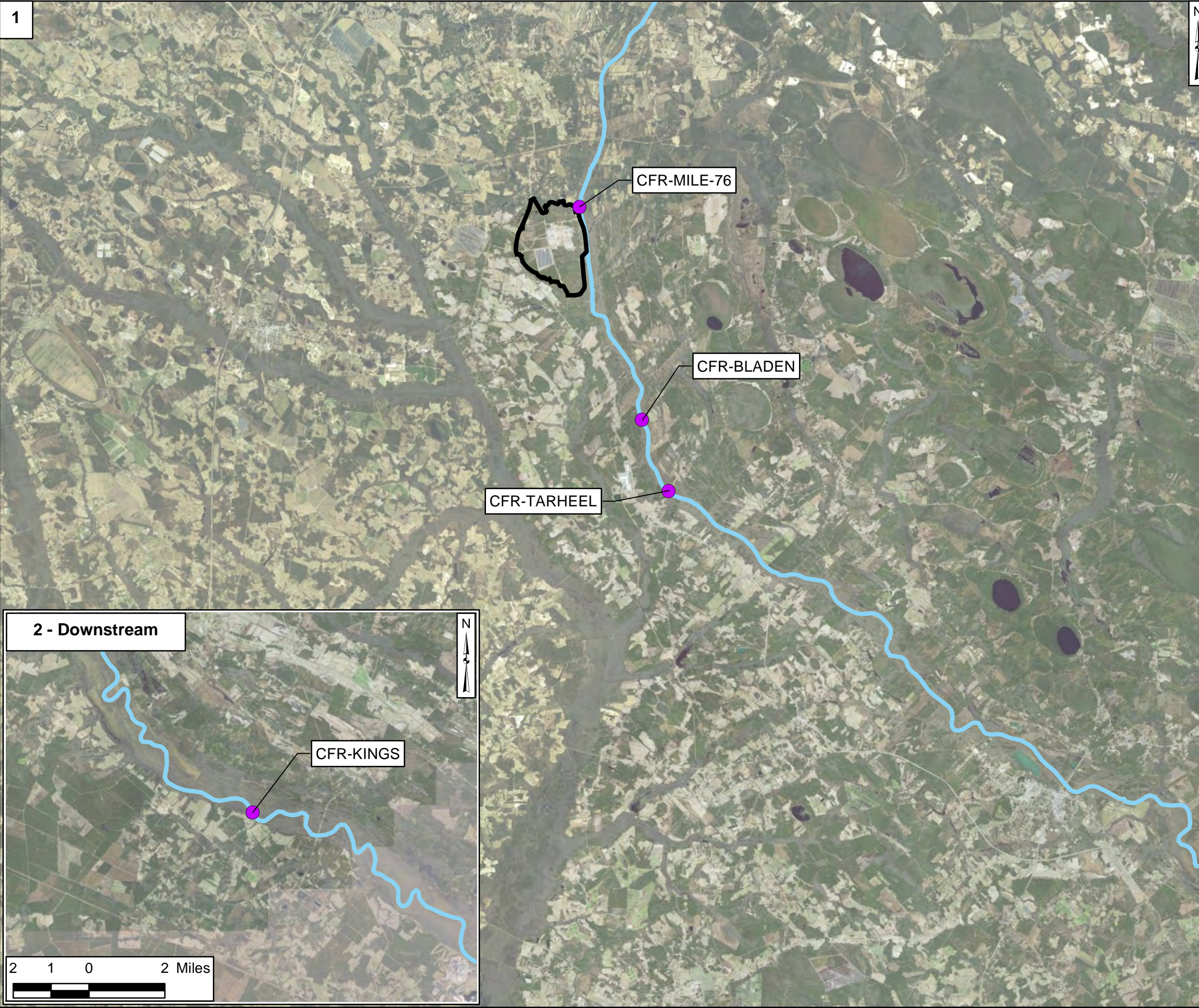
20 10 0 20 Miles

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

<p>Geosyntec consultants</p>	Geosyntec Consultants of NC, P.C. NC License No.: C 3500 and C 295
Raleigh	September 2022

Figure
2

Path: P:\IPR\Progress\707\960\Database and GIS\GIS Baseline Monitoring\Workplan\TR095_Cape Fear River Watershed and Downstream Intakes.mxd; JKa/unc: 06/23/2022

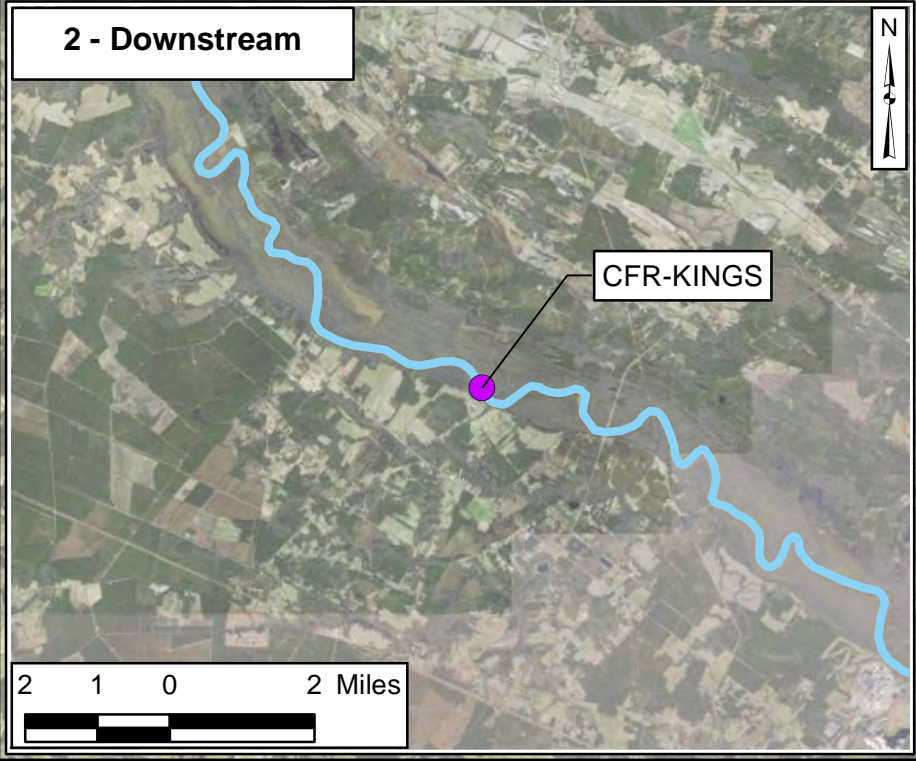
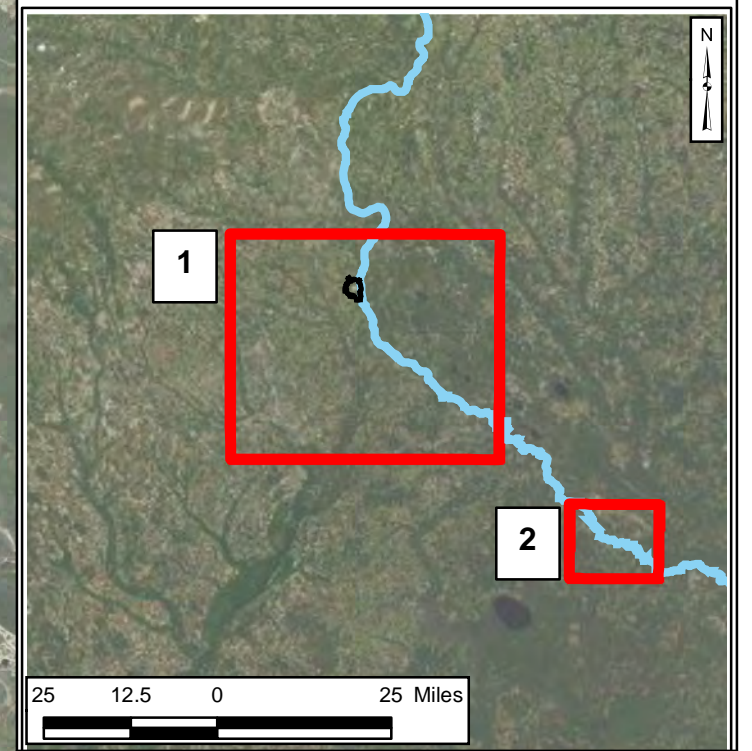


Legend

- 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.

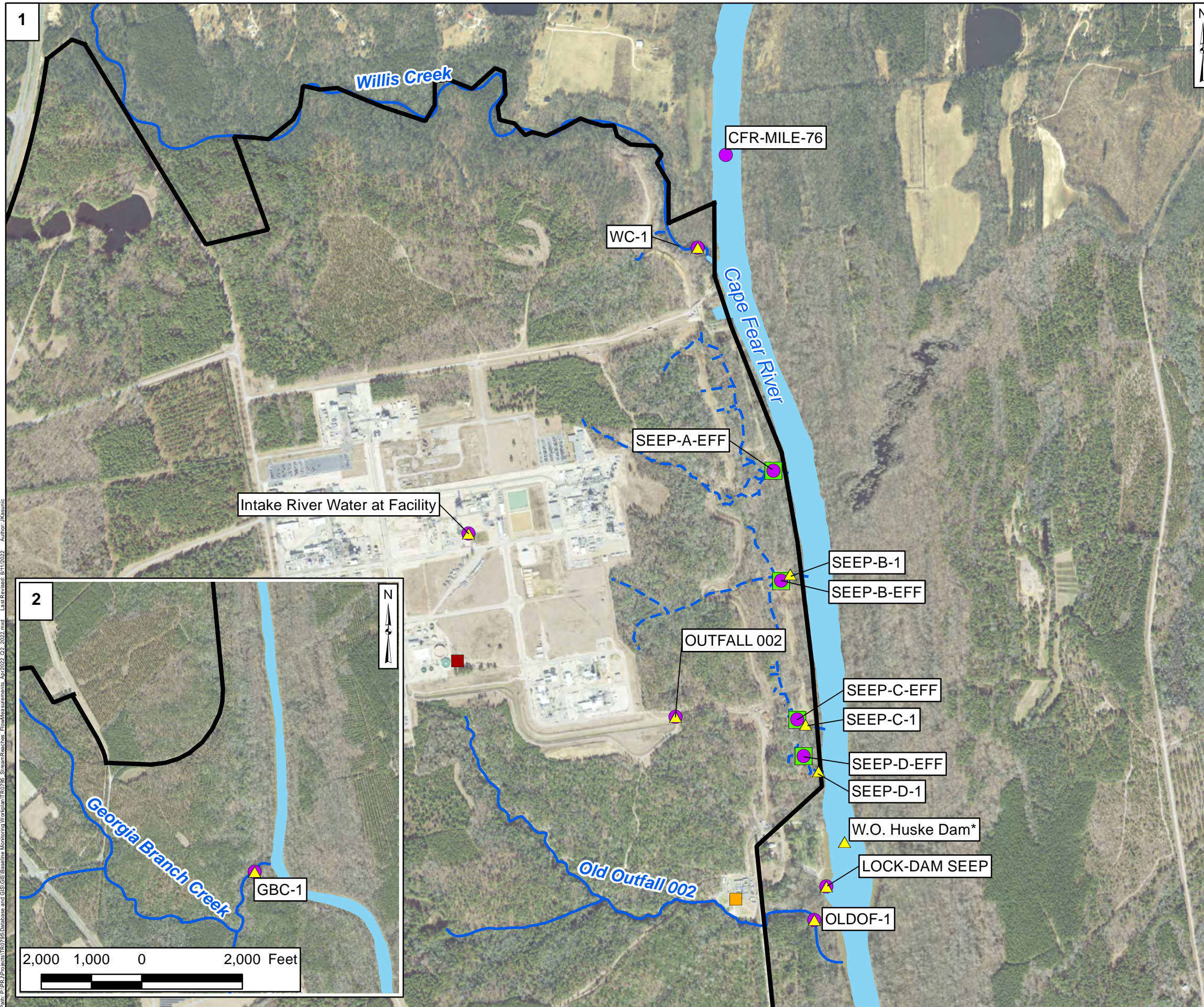


Cape Fear River Sample Locations - Q2 2022

Chemours Fayetteville Works, North Carolina

Geosyntec consultants	Geosyntec Consultants of NC, P.C. NC License No.: C 3500 and C 295	Figure 3
Raleigh	September 2022	

Path: P:\P\Projects\TR0795 Database and GIS\GIS\Baseline Monitoring\Workplan\TR0795_CapeFearRiverSampleLocations_Q22022.mxd
 Last Revised: 6/23/2022 Author: Kkwanic
 Projection: NAD 1983 StatePlane North Carolina FIPS 3200 Feet Units in Foot US

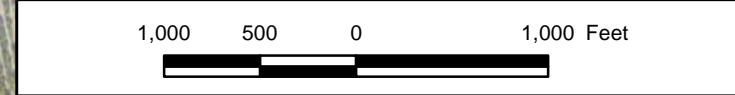
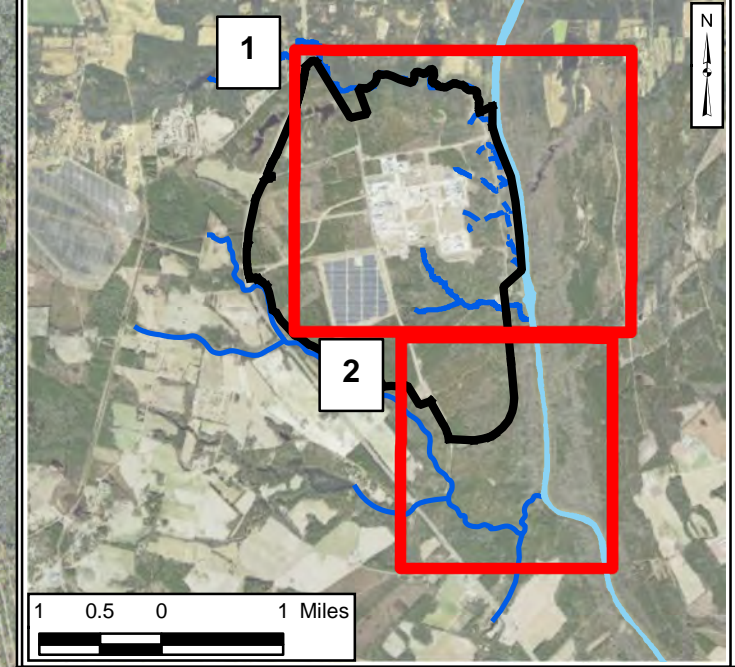


Legend

- ▲ Flow Measurement Location
- Sample Location
- Flow-Through Cell
- Old Outfall 002 Treatment System
- Stormwater Treatment System
- Observed Seep
- Nearby Tributary
- Site Boundary

Notes:

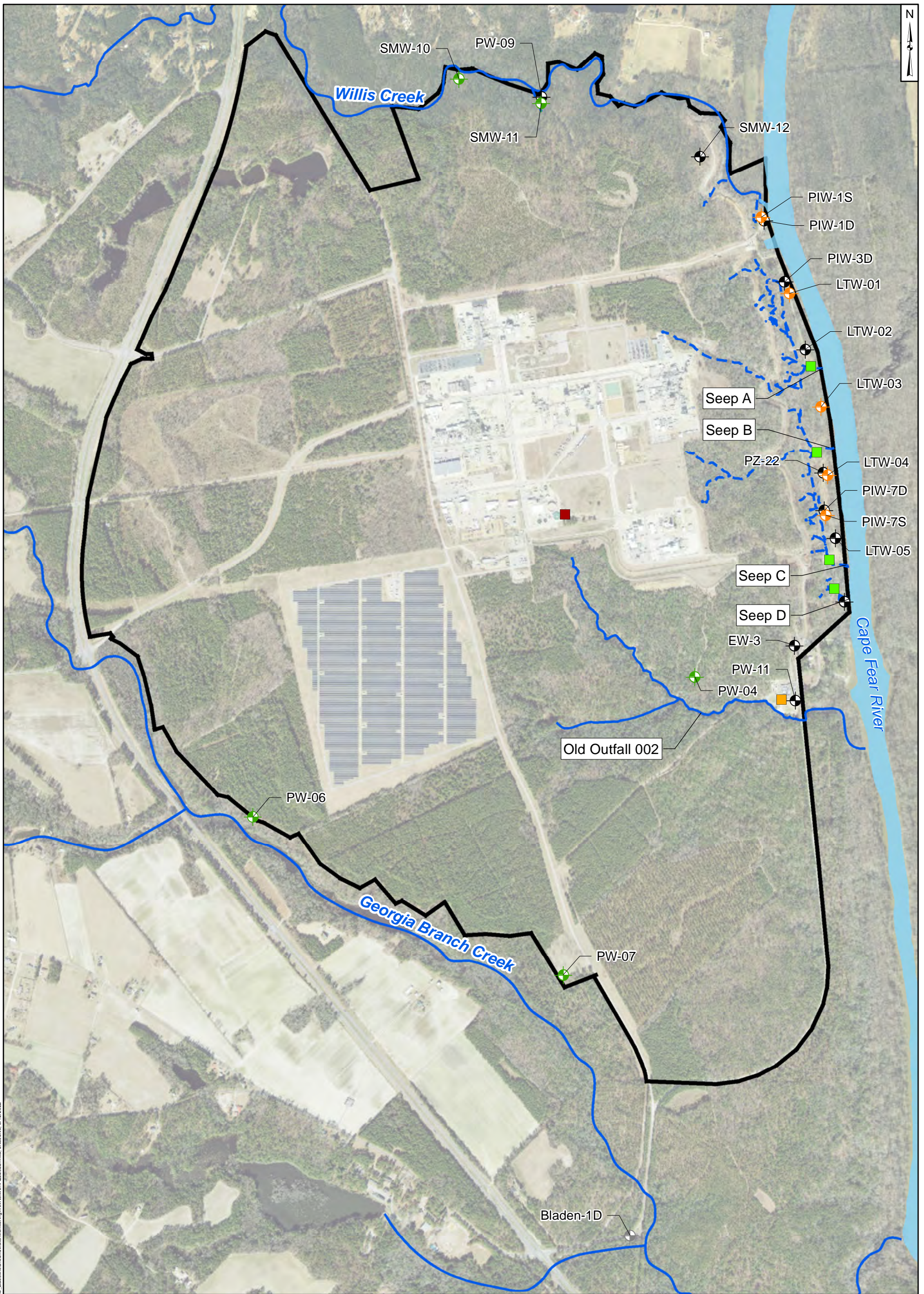
- * - Flow measurement was taken at W.O. Huske Dam - USGS
1. Seeps B and C flume data measured in Q2 2020 were used for Seeps B and C.
2. Flows at Old Outfall 002, Willis Creek, and Georgia Branch Creek were measured using flow velocity method.
3. Flow-Through Cell flow data were used for Seep D.
4. Flow at Lock and Dam Seep was measured using a sample bottle and timer.
5. Flow at Seep A could not be measured during Q2 2022. At this location, flows were estimated using flow data measured at Seep A during Q2 2020.
6. Results of estimated flow at these locations are provided in Table A3.
7. 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.
8. Basemap sources: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community.



Sample and Flow Measurement Locations - April 2022
Chemours Fayetteville Works, North Carolina

Path: P:\P\Projects\TR0725 Database and GIS\GIS\Baseline Monitor\Workplan\TR0725_StreamReaches_FlowMeasurements_Apr2022_G2_2022.mxd - Last Revised: 8/11/2022 - Author: JKrause

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



Legend

- | | | | | | |
|--|---------------------|--|----------------------------------|--|------------------|
| | Surficial Aquifer | | Flow-Through Cell | | Observed Seep |
| | Floodplain Deposits | | Old Outfall 002 Treatment System | | Nearby Tributary |
| | Black Creek Aquifer | | Stormwater Treatment System | | Site Boundary |
| | Damaged | | | | |

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

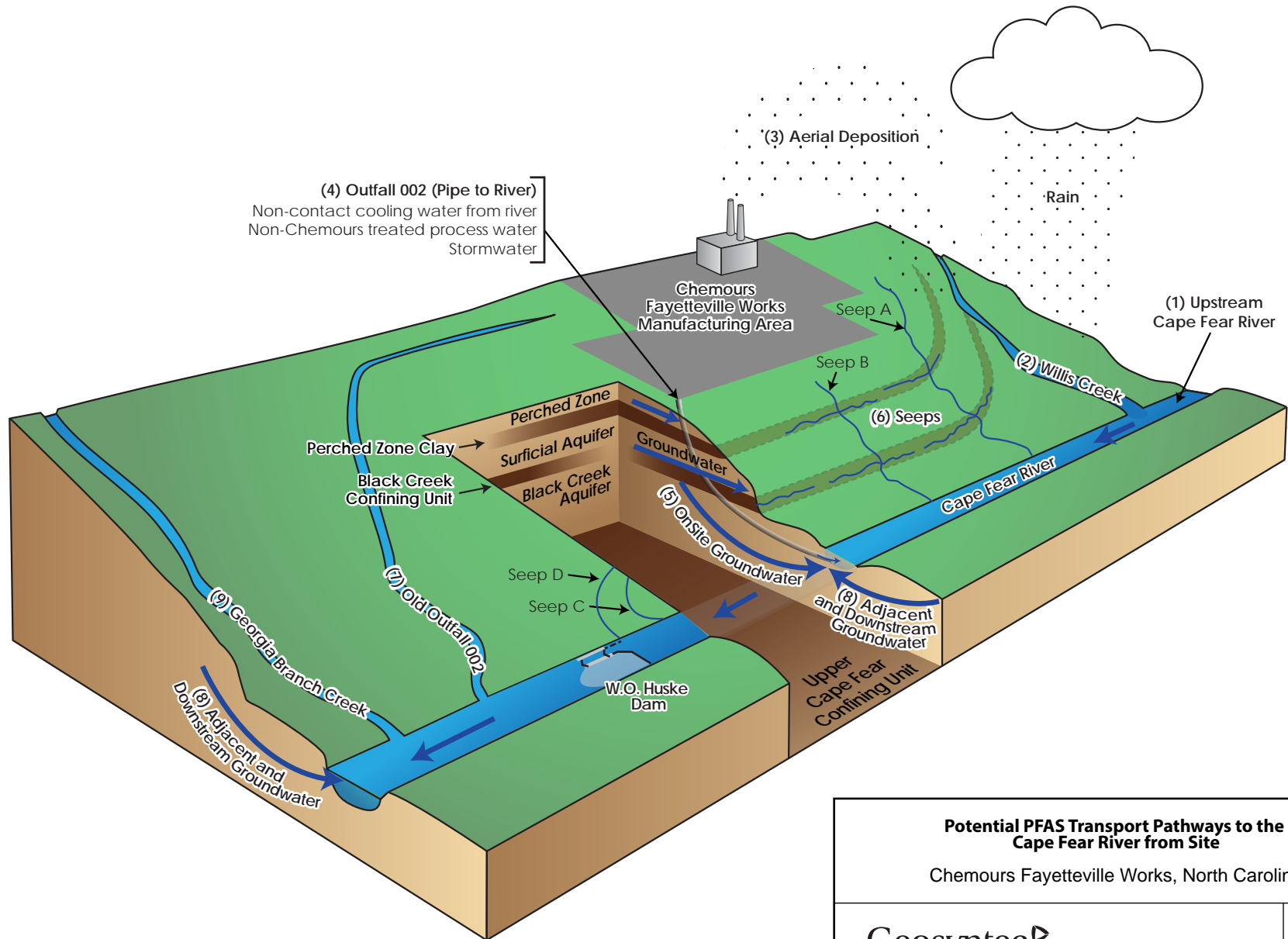
Geosyntec Consultants of NC, P.C.
NC License No.: C 3500 and C 295

Figure

Raleigh

September 2022

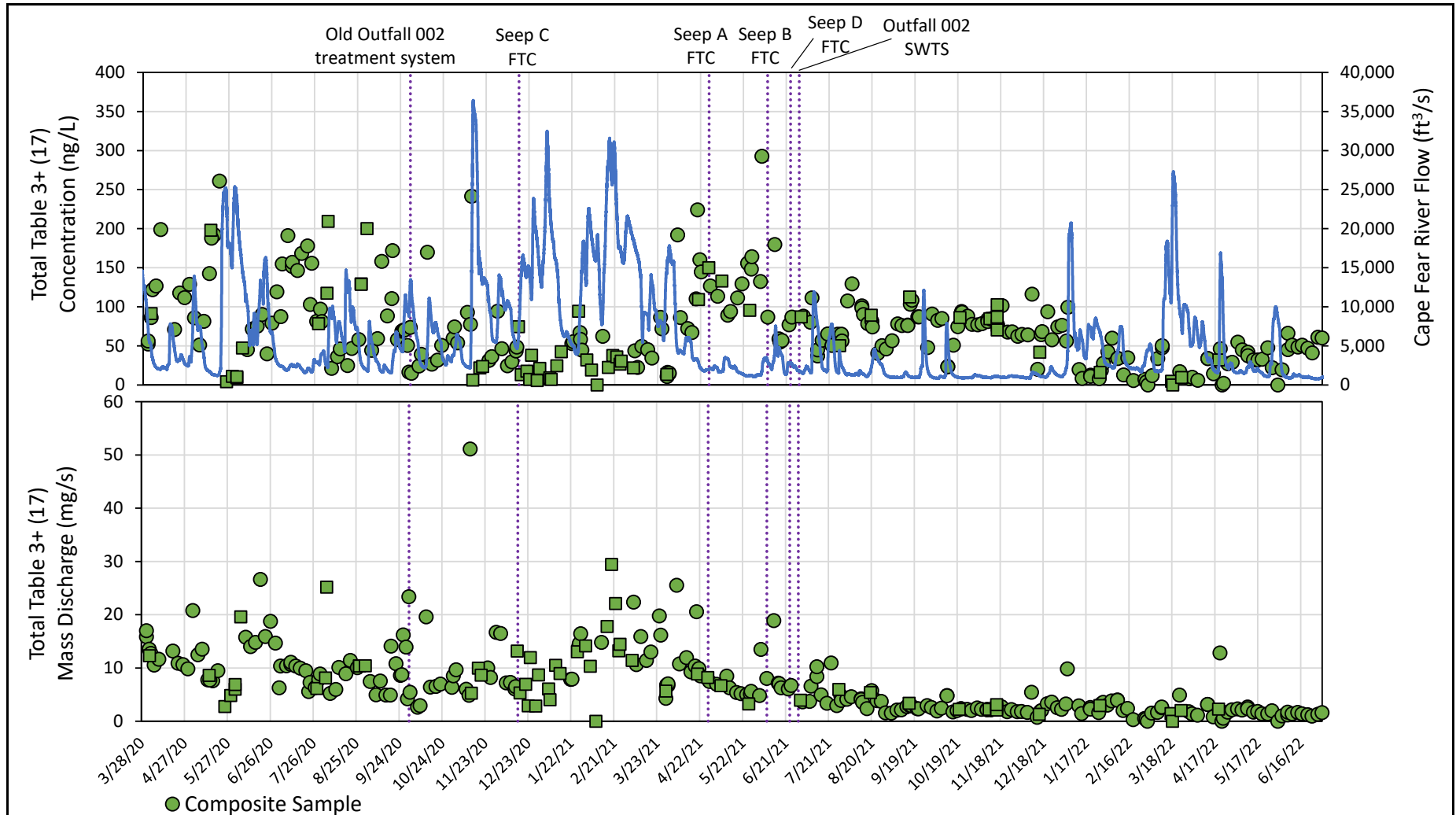
5



Data: PCU/Project/F070795/Database and GIS/Illustrator/3D CSW 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>September 2022</p>
<p>Figure 6</p>	



Notes:

- A mass load of 0 kg indicate that all the compounds were not detected above the reporting limit.
- PFAS concentrations calculated by summing over Attachment C compounds and Table 3+ (20 compounds) are provided in Appendix B.
- Flow data are from the USGS gauging station #02105500 located at the W.O. Huske Dam.

Abbreviations:

ft³/s - cubic feet per second ng/L - nanograms per liter
 FTC - flow through cell

Total Table 3+ (17 Compounds) Concentrations, Mass Discharge and Daily Flow at Tar Heel Ferry Road Bridge
 Chemours Fayetteville Works, North Carolina

Geosyntec consultants

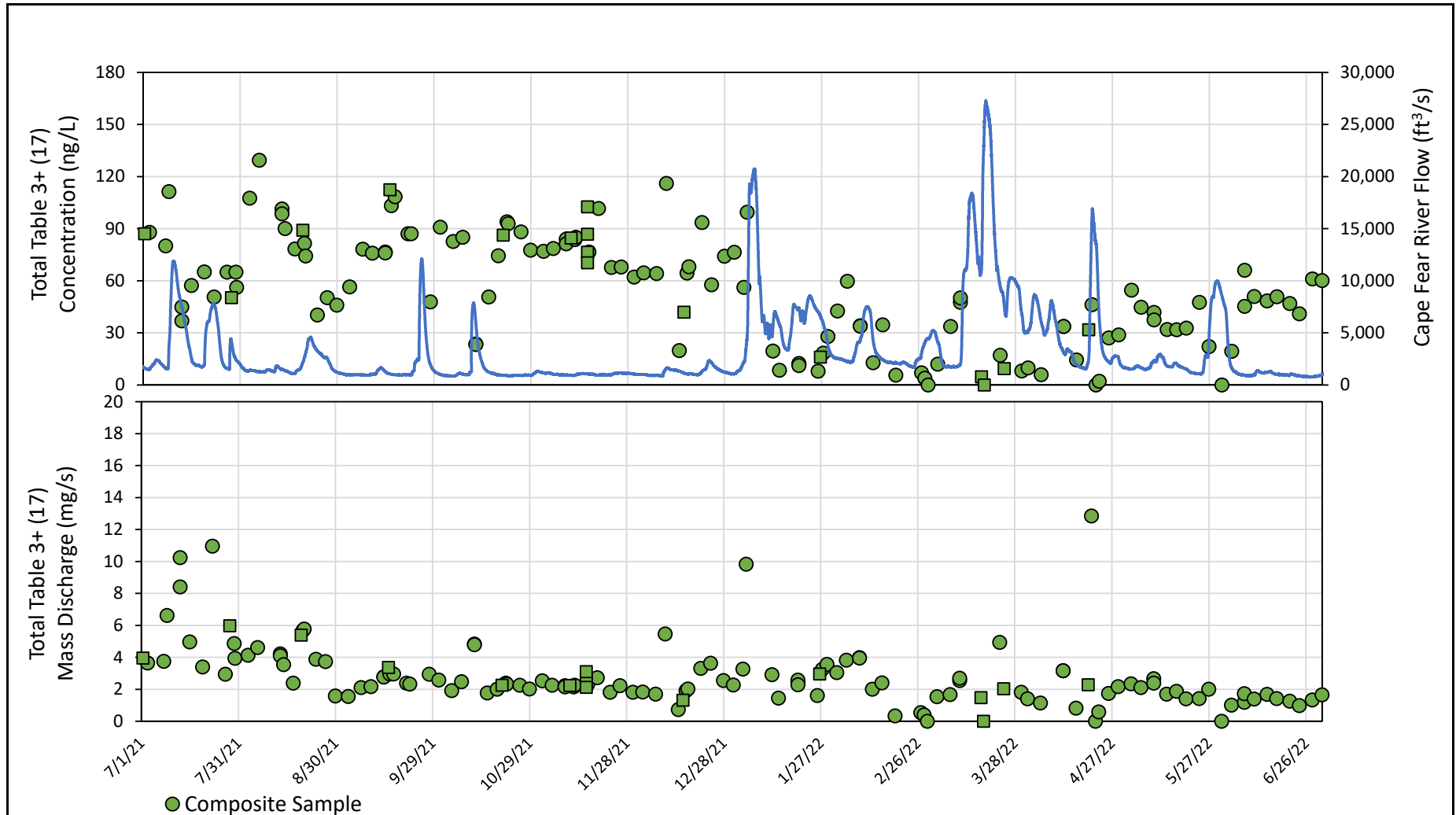
Geosyntec Consultants of NC, P.C.
 NC License No.: C 3500 and C 295

Figure

7

Raleigh

September 2022



Notes:

- A mass load of 0 kg indicate that all the compounds were not detected above the reporting limit.
- PFAS concentrations calculated by summing over Attachment C compounds and Table 3+ (20 compounds) are provided in Appendix B.
- Flow data are from the USGS gauging station #02105500 located at the W.O. Huske Dam.

Abbreviations:

ft³/s - cubic feet per second
 ng/L - nanograms per liter

● Composite Sample
 ■ Grab Sample
 — Cape Fear River Flow

Total Table 3+ (17 Compounds) Concentrations, Mass Discharge and Daily Flow at Tar Heel Ferry Road Bridge (Prior 12 Months)
 Chemours Fayetteville Works, North Carolina

Geosyntec consultants	Geosyntec Consultants of NC, P.C. NC License No.: C 3500 and C 295	Figure 8
	Raleigh	