

September 19, 2022

MEMORANDUM

To: Karen Hays, Air Branch Chief *KH*

Through: James Boylan, Assistant Branch Chief

From: DeAnna Oser, Ambient Monitoring Program Manager

RE: Fulton July 09, 2021 – August 14, 2021 Sampling Results for Ethylene Oxide

Samples of Ethylene Oxide (EtO) were collected during the period of July 09, 2021 – August 14, 2021, in the south Fulton area to characterize the EtO concentrations. The samples were sent to Eastern Research Group (ERG) for analysis. The Qualifier code of “2” is applied to samples to indicate that the collection deviated from established procedures, but the integrity of the sample was not compromised. The Qualifier code of “LK” was given by ERG to indicate that the sample may be biased high. The samples listed as “AF” indicate that the sample was scheduled but not collected. Samples listed as “SC” indicate the sample seems to be contaminated as the results are significantly high and incomparable to the spatial site. “D-F” is a lab applied flag indicating Duplicate exceeds DQO criteria. The Qualifier code of “FB” indicates that the monthly field blank associated with those samples was above acceptable limits. Please note that ERG is now providing values for levels below the detection limit. As of June 1, 2021, sampling frequency was reduced to once every 12 days. Sampling was discontinued at F4 on July 1, 2021. Sampling was discontinued at site F1 on July 31, 2021.

Location	Date	Qualifier	EtO Concentration (ug/m ³)
F1	07/09/2021		AF
F1	07/15/2021	2, FB	0.57
F1	07/21/2021		AF
F1	07/27/2021		SC
F2	07/09/2021		AF
F2	07/15/2021	2, D-F, FB	0.48
F2	07/21/2021		AF
F2	07/27/2021	2, FB	0.39
F2	08/02/2021	2, LK	1.12
F2	08/14/2021	D-F	0.36
F2 QA	07/15/2021	D-F, FB	0.36
F2 QA	08/14/2021	2, D-F	0.55

If you have any questions, please let me know.



Eastern Research Group
601 Keystone Park Drive
Suite 700
Morrisville, NC 27560

October 04, 2021

Ms. Jaime Gore
GA Ambient Monitoring Program
4244 International Pkwy, Suite 120
Atlanta, GA 30354
Project Name: Fulton

Dear Ms. Jaime Gore,

This report contains the analytical results for the sample(s) received under chain(s) of custody by Eastern Research Group on 07/29/21 10:53 through 09/01/21 12:25.

Values below the MDL for QC results in this report are recorded as ND, however the actual values are reported in the accompanying Excel report with a "U" flag (Under the detection limit). The actual values are reported in AQS.

This test is accredited under the 2016 TNI Standard for Environmental Laboratories (FL DOH Certification # E87673). All analyses were performed as described in the US EPA-approved QAPP, under the contract for UATMP, NATTS, CSATAM, PAMS and NMOC support (US EPA Contract No. EP-D-14-030). This cover page is an integral part of this report, and any exceptions or comments are noted on the last page.

Release of the data contained in this data package and in the data submitted in the electronic data deliverable, has been authorized by the Program Manager, or the Program Manager's designee as verified by the following signature.

The issuance of the final Certificate of Analysis takes precedence over any previous Report. If you have any questions, please contact me at 919-468-7924.

Sincerely,

Julie Swift
Program Manager
julie.swift@erg.com

The information contained in this report and its attachment(s) are intended only for the use of the individual to whom it is addressed and may contain information that is privileged, confidential, or exempt from disclosure. If the reader of this message is not the intended recipient, you are hereby notified that any dissemination, distribution, or copying of this report is strictly prohibited. If you have received this report in error, please notify julie.swift@erg.com and delete the report without retaining any copies.



CERTIFICATE OF ANALYSIS

U.S. Environmental Protection Agency, Region 4
4244 International Pkwy, Suite 120
Atlanta, GA 30354
ATTN: Ms. Jaime Gore
PHONE: (404) 362-4912 **FAX:** (919) 541-0516

FILE #: 4222.00
REPORTED: 10/04/21 13:56
SUBMITTED: 07/29/21 to 09/01/21
AQS SITE CODE:
SITE CODE: Fulton

ANALYTICAL REPORT FOR SAMPLES

<u>SampleName</u>	<u>LabNumber</u>	<u>Matrix</u>	<u>Sampled</u>	<u>Received</u>
F1	1072937-01	Air	07/15/21 23:59	07/29/21 10:53
F2	1072937-02	Air	07/15/21 23:59	07/29/21 10:53
F2-QA	1072937-03	Air	07/15/21 23:59	07/29/21 10:53
Fulton FB	1072937-04	Air	07/26/21 23:59	07/29/21 10:53
F1	1080603-01	Air	07/27/21 23:59	08/06/21 11:02
F2	1080603-02	Air	07/27/21 23:59	08/06/21 11:02
F2	1081307-01	Air	08/02/21 23:59	08/13/21 10:40
Fulton FB	1090130-01	Air	08/24/21 23:59	09/01/21 12:25
F2	1090130-02	Air	08/14/21 23:59	09/01/21 12:25
F2 QA	1090130-03	Air	08/14/21 23:59	09/01/21 12:25



CERTIFICATE OF ANALYSIS

U.S. Environmental Protection Agency, Region 4

4244 International Pkwy, Suite 120

Atlanta, GA 30354

ATTN: Ms. Jaime Gore

PHONE: (404) 362-4912 FAX: (919) 541-0516

FILE #: 4222.00

REPORTED: 10/04/21 13:56

SUBMITTED: 07/29/21 to 09/01/21

AQS SITE CODE:

SITE CODE: Fulton

Description: F1	Lab ID: 1072937-01 ✓	Sampled: 07/15/21 23:59 ✓
Pressure @ Receipt: 9.50" Hg	Canister #: 19640 ✓	Received: 07/29/21 10:53
Comments:		Analyzed: 08/12/21 20:11 ✓

Air Toxics by EPA Compendium Method TO-15

<u>Analyte</u>	<u>Results</u>		<u>Flag</u>	<u>MDL</u>
	<u>ppbv</u>	<u>ug/m³</u>		<u>ppbv</u>
Ethylene oxide	0.314	0.57	✓	0.0261



CERTIFICATE OF ANALYSIS

U.S. Environmental Protection Agency, Region 4

4244 International Pkwy, Suite 120

Atlanta, GA 30354

ATTN: Ms. Jaime Gore

PHONE: (404) 362-4912 FAX: (919) 541-0516

FILE #: 4222.00

REPORTED: 10/04/21 13:56

SUBMITTED: 07/29/21 to 09/01/21

AQS SITE CODE:

SITE CODE: Fulton

Description: F2	Lab ID: 1072937-02 ✓	Sampled: 07/15/21 23:59 ✓
Pressure @ Receipt: 8.50" Hg ✓	Canister #: 111219 ✓	Received: 07/29/21 10:53
Comments: ✓		Analyzed: 08/12/21 21:12 ✓

Air Toxics by EPA Compendium Method TO-15

<u>Analyte</u>	<u>Results</u>		<u>Flag</u>	<u>MDL</u>
	<u>ppbv</u>	<u>ug/m³</u>		<u>ppbv</u>
Ethylene oxide	0.263	0.48 ✓	D-F	0.0261



CERTIFICATE OF ANALYSIS

U.S. Environmental Protection Agency, Region 4

4244 International Pkwy, Suite 120

Atlanta, GA 30354

ATTN: Ms. Jaime Gore

PHONE: (404) 362-4912 FAX: (919) 541-0516

FILE #: 4222.00

REPORTED: 10/04/21 13:56

SUBMITTED: 07/29/21 to 09/01/21

AQS SITE CODE:

SITE CODE: Fulton

Description: F2-QA

Lab ID: 1072937-03 ✓

Sampled: 07/15/21 23:59 ✓

Pressure @ Receipt: 4.0 "Hg ✓

Canister #: 110257 ✓

Received: 07/29/21 10:53

Comments:

Analyzed: 08/12/21 23:14

Air Toxics by EPA Compendium Method TO-15

<u>Analyte</u>	<u>Results</u>		<u>Flag</u>	<u>MDL</u>
	<u>ppbv</u>	<u>ug/m³</u>		<u>ppbv</u>
Ethylene oxide	0.200	0.36 ✓	D-F	0.0261



CERTIFICATE OF ANALYSIS

U.S. Environmental Protection Agency, Region 4

4244 International Pkwy, Suite 120

Atlanta, GA 30354

ATTN: Ms. Jaime Gore

PHONE: (404) 362-4912 FAX: (919) 541-0516

FILE #: 4222.00

REPORTED: 10/04/21 13:56

SUBMITTED: 07/29/21 to 09/01/21

AQS SITE CODE:

SITE CODE: Fulton

Description: Fulton FB

Lab ID: 1072937-04

Sampled: 07/26/21 23:59

Pressure @ Receipt: 30 " Hg

Canister #: 35108

Received: 07/29/21 10:53

Comments: Field Blank

Analyzed: 08/16/21 18:45

Air Toxics by EPA Compendium Method TO-15

<u>Analyte</u>	<u>Results</u>		<u>Flag</u>	<u>MDL</u>
	<u>ppbv</u>	<u>ug/m³</u>		<u>ppbv</u>
Ethylene oxide	0.0644	0.12		0.0261

added LK flag; FB to indicate that monthly field blank was above acceptable limits for all July samples in this report.

9/16/2022 *dgo*



CERTIFICATE OF ANALYSIS

U.S. Environmental Protection Agency, Region 4

4244 International Pkwy, Suite 120

Atlanta, GA 30354

ATTN: Ms. Jaime Gore

PHONE: (404) 362-4912 FAX: (919) 541-0516

FILE #: 4222.00

REPORTED: 10/04/21 13:56

SUBMITTED: 07/29/21 to 09/01/21

AQS SITE CODE:

SITE CODE: Fulton

Description: F1	Lab ID: 1080603-01 ✓	Sampled: 07/27/21 23:59 ✓
Pressure @ Receipt: 9.50" Hg ✓	Canister #: 35122 ✓	Received: 08/06/21 11:02
Comments:		Analyzed: 08/17/21 07:52

Air Toxics by EPA Compendium Method TO-15

Analyte	Results		Flag	MDL
	ppbv	ug/m ³		ppbv
Ethylene oxide	7.82	14.10 ✓		0.0261

Sample coded as SC - F1 and F2 are spatial samples. Based on wind direction for this day, the two sites should have had similar concentrations -the wind was coming from various directions throughout the day. F1 was a can in the 35000 series and therefore could be impacted by high bias in the canister

9/16/2022 DGO



CERTIFICATE OF ANALYSIS

U.S. Environmental Protection Agency, Region 4

4244 International Pkwy, Suite 120

Atlanta, GA 30354

ATTN: Ms. Jaime Gore

PHONE: (404) 362-4912 FAX: (919) 541-0516

FILE #: 4222.00

REPORTED: 10/04/21 13:56

SUBMITTED: 07/29/21 to 09/01/21

AQS SITE CODE:

SITE CODE: Fulton

Description: F2	Lab ID: 1080603-02 ✓	Sampled: 07/27/21 23:59 ✓
Pressure @ Receipt: 7.50" Hg ✓	Canister #: A21108 ✓	Received: 08/06/21 11:02
Comments:		Analyzed: 08/19/21 20:52 ✓

Air Toxics by EPA Compendium Method TO-15

<u>Analyte</u>	<u>Results</u>		<u>Flag</u>	<u>MDL</u>
	<u>ppbv</u>	<u>ug/m³</u>		<u>ppbv</u>
Ethylene oxide	0.217	0.39 ✓		0.0261



CERTIFICATE OF ANALYSIS

U.S. Environmental Protection Agency, Region 4

4244 International Pkwy, Suite 120

Atlanta, GA 30354

ATTN: Ms. Jaime Gore

PHONE: (404) 362-4912 FAX: (919) 541-0516

FILE #: 4222.00

REPORTED: 10/04/21 13:56

SUBMITTED: 07/29/21 to 09/01/21

AQS SITE CODE:

SITE CODE: Fulton

Description: F2	Lab ID: 1081307-01 ✓	Sampled: 08/02/21 23:59 ✓
Pressure @ Receipt: 7.00" Hg ✓	Canister #: A21095 ✓	Received: 08/13/21 10:40
Comments:		Analyzed: 08/20/21 07:58 ✓

Air Toxics by EPA Compendium Method TO-15

<u>Analyte</u>	<u>Results</u>		<u>Flag</u>	<u>MDL</u>
	<u>ppbv</u>	<u>ug/m³</u>		<u>ppbv</u>
Ethylene oxide	0.621	1.12 ✓	LK	0.0261



CERTIFICATE OF ANALYSIS

U.S. Environmental Protection Agency, Region 4

4244 International Pkwy, Suite 120

Atlanta, GA 30354

ATTN: Ms. Jaime Gore

PHONE: (404) 362-4912 FAX: (919) 541-0516

FILE #: 4222.00

REPORTED: 10/04/21 13:56

SUBMITTED: 07/29/21 to 09/01/21

AQS SITE CODE:

SITE CODE: Fulton

Description: Fulton FB

Lab ID: 1090130-01

Sampled: 08/24/21 23:59

Pressure @ Receipt: 29.50" Hg

Canister #: 35139

Received: 09/01/21 12:25

Comments: Field Blank

Analyzed: 09/15/21 19:51

Air Toxics by EPA Compendium Method TO-15

<u>Analyte</u>	<u>Results</u>		<u>Flag</u>	<u>MDL</u>
	<u>ppbv</u>	<u>ug/m³</u>		<u>ppbv</u>
Ethylene oxide	ND	ND	U	0.0261



CERTIFICATE OF ANALYSIS

U.S. Environmental Protection Agency, Region 4

4244 International Pkwy, Suite 120

Atlanta, GA 30354

ATTN: Ms. Jaime Gore

PHONE: (404) 362-4912 FAX: (919) 541-0516

FILE #: 4222.00

REPORTED: 10/04/21 13:56

SUBMITTED: 07/29/21 to 09/01/21

AQS SITE CODE:

SITE CODE: Fulton

Description: F2

Lab ID: 1090130-02

Sampled: 08/14/21 23:59

Pressure @ Receipt: 5.50" Hg

Canister #: 111217

Received: 09/01/21 12:25

Comments:

Analyzed: 09/02/21 20:37

Air Toxics by EPA Compendium Method TO-15

<u>Analyte</u>	<u>Results</u>		<u>Flag</u>	<u>MDL</u>
	<u>ppbv</u>	<u>ug/m³</u>		<u>ppbv</u>
Ethylene oxide	0.200	0.36	D-F	0.0261



CERTIFICATE OF ANALYSIS

U.S. Environmental Protection Agency, Region 4

4244 International Pkwy, Suite 120

Atlanta, GA 30354

ATTN: Ms. Jaime Gore

PHONE: (404) 362-4912 FAX: (919) 541-0516

FILE #: 4222.00

REPORTED: 10/04/21 13:56

SUBMITTED: 07/29/21 to 09/01/21

AQS SITE CODE:

SITE CODE: Fulton

Description: F2 QA

Lab ID: 1090130-03 ✓

Sampled: 08/14/21 23:59 ✓

Pressure @ Receipt: 7.50" Hg ✓

Canister #: 110306 ✓

Received: 09/01/21 12:25

Comments:

Analyzed: 09/02/21 22:39 ✓

Air Toxics by EPA Compendium Method TO-15

<u>Analyte</u>	<u>Results</u>		<u>Flag</u>	<u>MDL</u>
	<u>ppbv</u>	<u>ug/m³</u>		<u>ppbv</u>
Ethylene oxide	0.306	0.55 ✓	D-F	0.0261



CERTIFICATE OF ANALYSIS

U.S. Environmental Protection Agency, Region 4
4244 International Pkwy, Suite 120
Atlanta, GA 30354
ATTN: Ms. Jaime Gore
PHONE: (404) 362-4912 **FAX:** (919) 541-0516

FILE #: 4222.00
REPORTED: 10/04/21 13:56
SUBMITTED: 07/29/21 to 09/01/21
AQS SITE CODE:
SITE CODE: Fulton

Analyte	Result	Units	Source Result	RPD	RPD Limit	Notes
---------	--------	-------	---------------	-----	-----------	-------

Air Toxics by EPA Compendium Method TO-15 - Quality Control

Batch B1H1105 - Summa Canister Prep

Blank (B1H1105-BLK1)

Prepared: 08/11/21 Analyzed: 08/12/21

Ethylene oxide	ND	ppbv				U
----------------	----	------	--	--	--	---

Duplicate (B1H1105-DUP3)

Source: 1072937-02

Prepared: 07/15/21 Analyzed: 08/12/21

Ethylene oxide	0.258	ppbv	0.26	1.88	25	
----------------	-------	------	------	------	----	--

Duplicate (B1H1105-DUP4)

Source: 1072937-03

Prepared: 07/15/21 Analyzed: 08/13/21

Ethylene oxide	0.198	ppbv	0.20	0.954	25	
----------------	-------	------	------	-------	----	--

Batch B1H1609 - Summa Canister Prep

Blank (B1H1609-BLK1)

Prepared & Analyzed: 08/16/21

Ethylene oxide	ND	ppbv				U
----------------	----	------	--	--	--	---

Batch B1H1907 - Summa Canister Prep

Blank (B1H1907-BLK1)

Prepared & Analyzed: 08/19/21

Ethylene oxide	ND	ppbv				U
----------------	----	------	--	--	--	---

Batch B1I0203 - Summa Canister Prep

Blank (B1I0203-BLK1)

Prepared & Analyzed: 09/02/21

Ethylene oxide	ND	ppbv				U
----------------	----	------	--	--	--	---

Duplicate (B1I0203-DUP2)

Source: 1090130-02

Prepared: 08/14/21 Analyzed: 09/02/21

Ethylene oxide	0.192	ppbv	0.20	3.93	25	
----------------	-------	------	------	------	----	--

Duplicate (B1I0203-DUP3)

Source: 1090130-03

Prepared: 08/14/21 Analyzed: 09/02/21

Ethylene oxide	0.317	ppbv	0.31	3.60	25	
----------------	-------	------	------	------	----	--



CERTIFICATE OF ANALYSIS

U.S. Environmental Protection Agency, Region 4
4244 International Pkwy, Suite 120
Atlanta, GA 30354
ATTN: Ms. Jaime Gore
PHONE: (404) 362-4912 **FAX:** (919) 541-0516

FILE #: 4222.00
REPORTED: 10/04/21 13:56
SUBMITTED: 07/29/21 to 09/01/21
AQS SITE CODE:
SITE CODE: Fulton

Analyte	Result	Units	% Difference	Limit (%)	Notes
---------	--------	-------	--------------	-----------	-------

Air Toxics by EPA Compendium Method TO-15 - Quality Control

Sequence 2108032

Calibration Check (2108032-CCV1)

Prepared & Analyzed: 08/12/21

Ethylene oxide	2.86	ppbv	14.2	30.00
----------------	------	------	------	-------

Sequence 2108043

Calibration Check (2108043-CCV1)

Prepared & Analyzed: 08/16/21

Ethylene oxide	2.65	ppbv	6.1	30.00
----------------	------	------	-----	-------

Sequence 2108059

Calibration Check (2108059-CCV1)

Prepared & Analyzed: 08/19/21

Ethylene oxide	2.40	ppbv	-0.6	30.00
----------------	------	------	------	-------

Sequence 2109010

Calibration Check (2109010-CCV1)

Prepared & Analyzed: 09/02/21

Ethylene oxide	2.68	ppbv	6.8	30.00
----------------	------	------	-----	-------



CERTIFICATE OF ANALYSIS

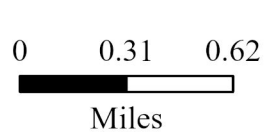
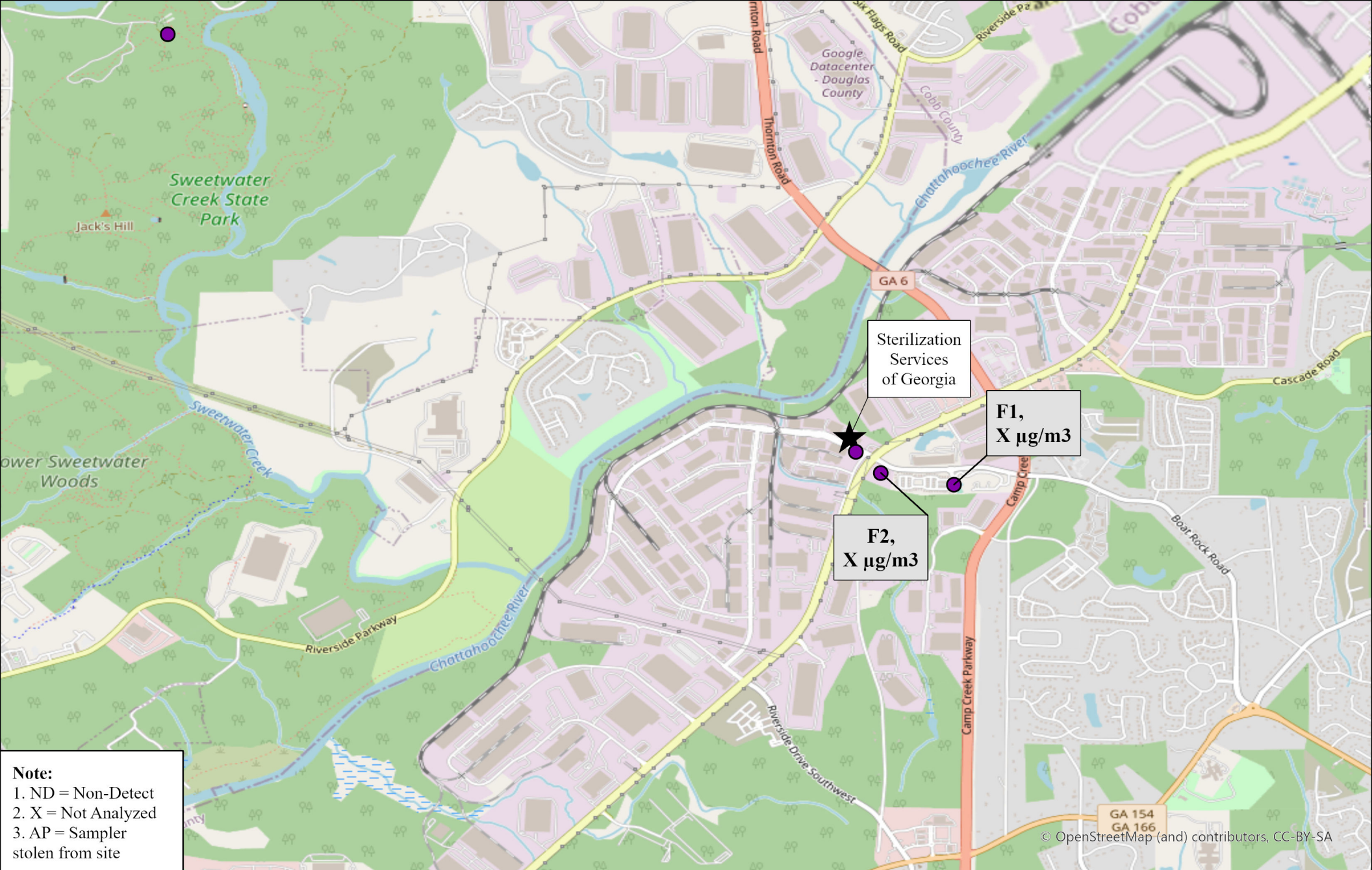
U.S. Environmental Protection Agency, Region 4
4244 International Pkwy, Suite 120
Atlanta, GA 30354
ATTN: Ms. Jaime Gore
PHONE: (404) 362-4912 **FAX:** (919) 541-0516

FILE #: 4222.00
REPORTED: 10/04/21 13:56
SUBMITTED: 07/29/21 to 09/01/21
AQS SITE CODE:
SITE CODE: Fulton

Notes and Definitions

U	Under Detection Limit
D-F	Duplicate exceeds DQO criteria.
ND	Analyte NOT DETECTED
NR	Not Reported
MDL	Method Detection Limit
RPD	Relative Percent Difference
LK	Analyte identified; Reported value may be biased high

Note: This test is accredited under the 2016 TNI Standard; however the following analytes are not accredited: acetylene, bromodichloroethane, dichlorotetrafluoromethane, ethyl tert butyl ether, n-octane, tert amyl methyl ether, trichlorofluoroethane, and bromochloromethane.



Site ID, Concentration (µg/m3)

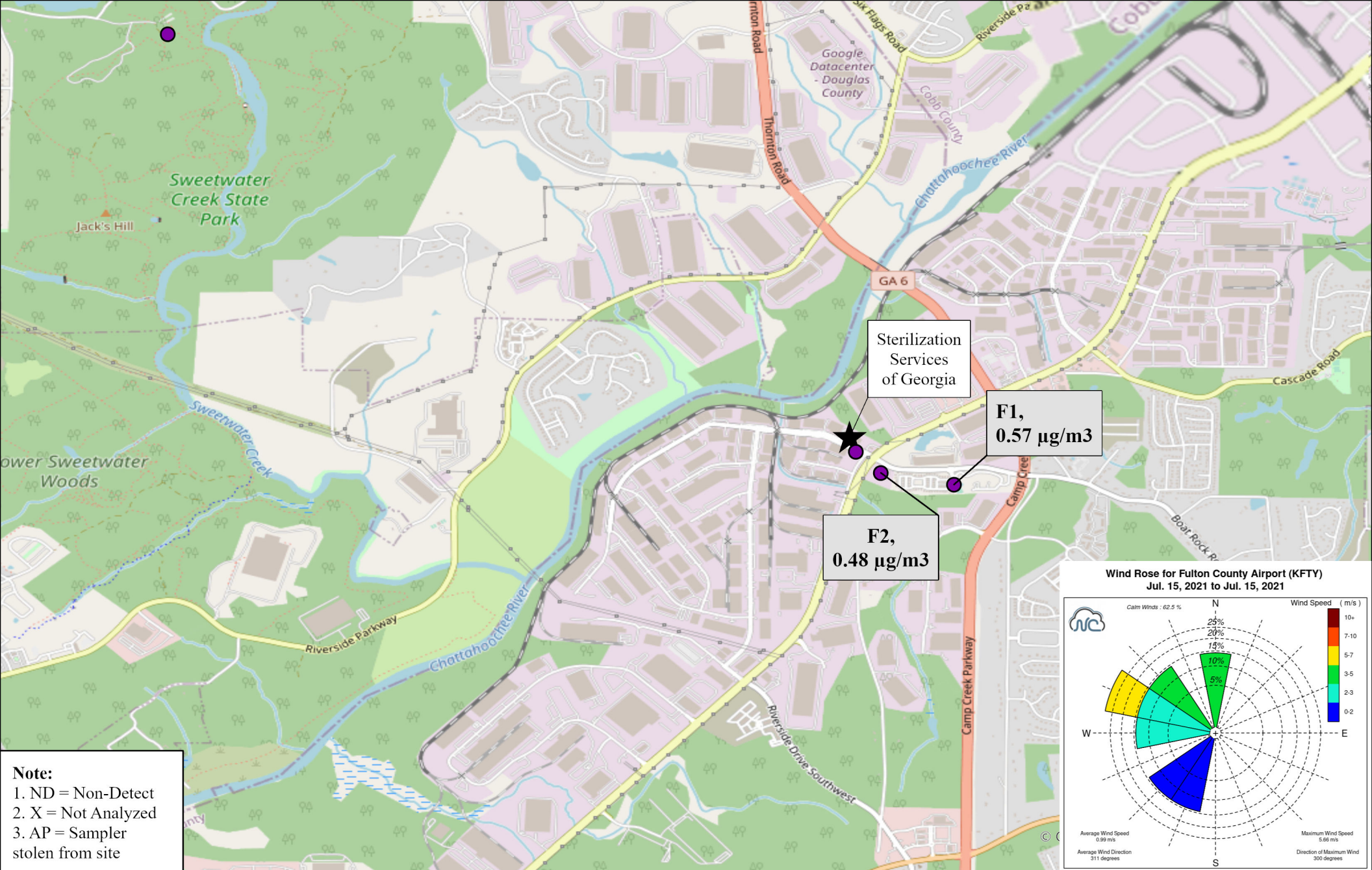
Ethylene Oxide Sampling
Fulton County, GA

July 9, 2021
Sampled By: Georgia Environmental Protection Division
Analyzed By: Eastern Research Group



GEORGIA
DEPARTMENT OF NATURAL RESOURCES

ENVIRONMENTAL PROTECTION DIVISION



0 0.31 0.62
 Miles



Site ID, Concentration ($\mu\text{g}/\text{m}^3$)

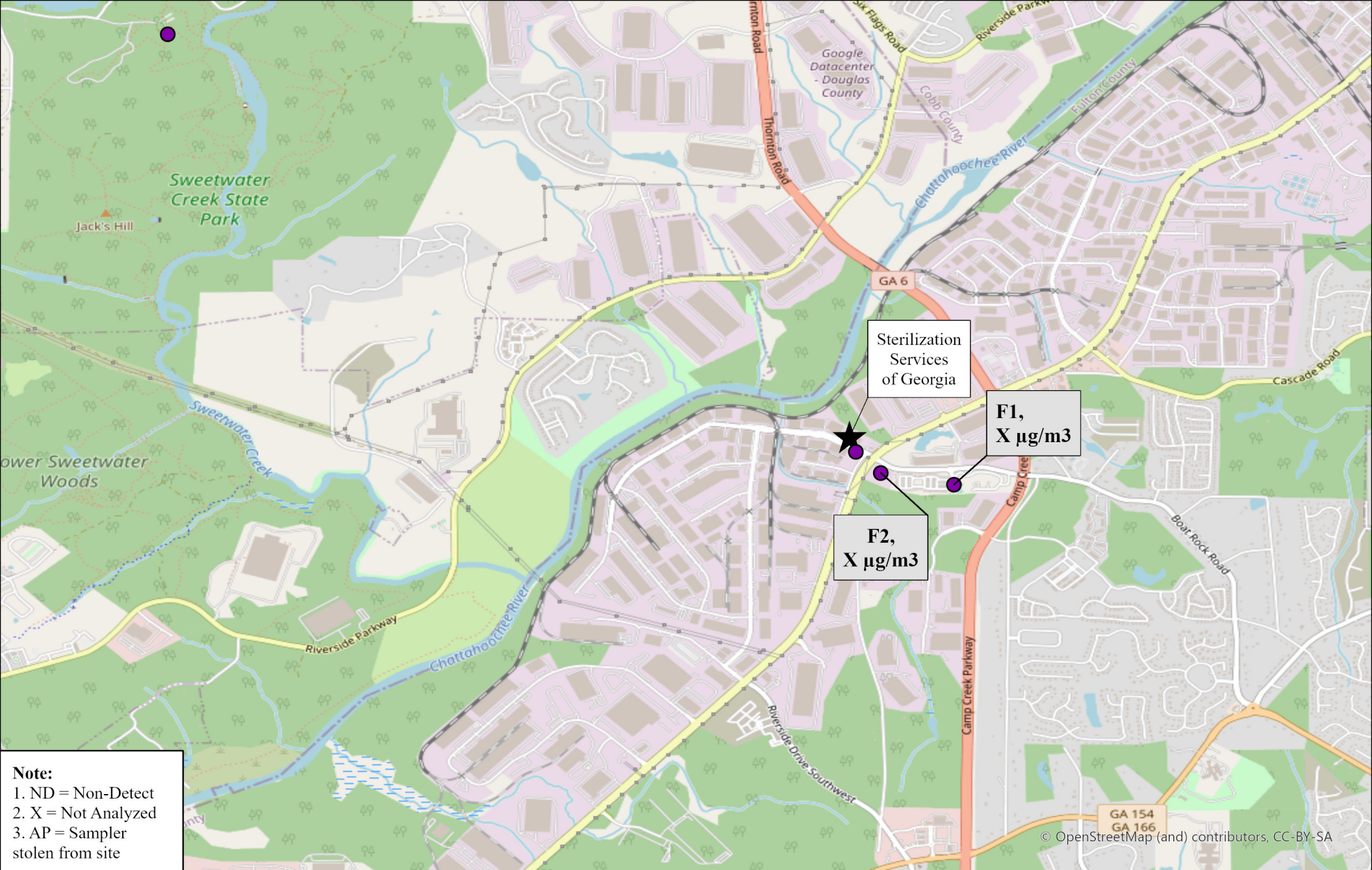
Ethylene Oxide Sampling
 Fulton County, GA

July 15, 2021
 Sampled By: Georgia Environmental Protection Division
 Analyzed By: Eastern Research Group



GEORGIA
 DEPARTMENT OF NATURAL RESOURCES

ENVIRONMENTAL PROTECTION DIVISION



0 0.31 0.62
Miles



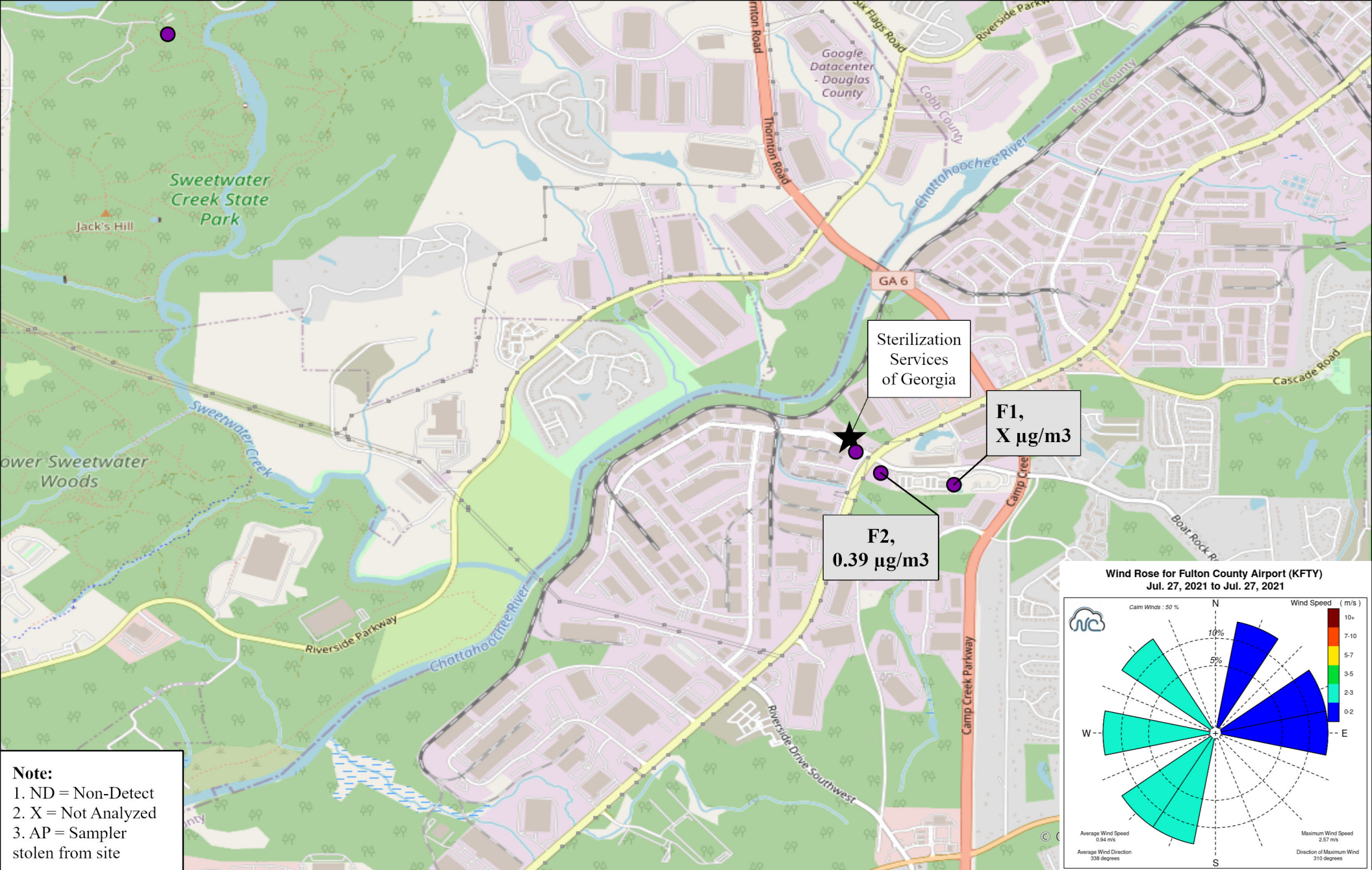
Ethylene Oxide Sampling
Fulton County, GA

July 21, 2021
Sampled By: Georgia Environmental Protection Division
Analyzed By: Eastern Research Group



GEORGIA
DEPARTMENT OF NATURAL RESOURCES

ENVIRONMENTAL PROTECTION DIVISION



0 0.31 0.62
Miles



Site ID, Concentration ($\mu\text{g}/\text{m}^3$)

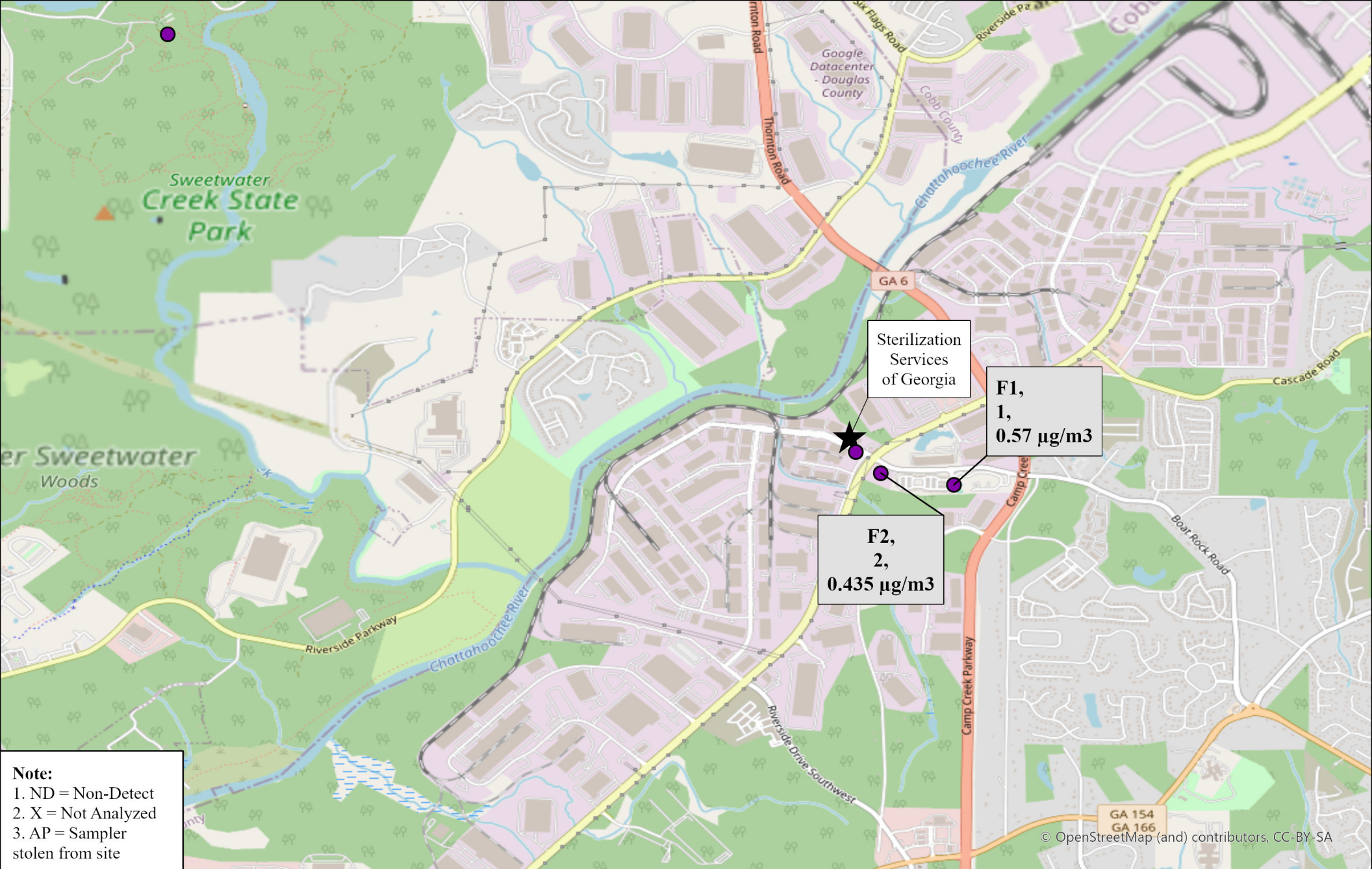
Ethylene Oxide Sampling
Fulton County, GA

July 27, 2021
Sampled By: Georgia Environmental Protection Division
Analyzed By: Eastern Research Group

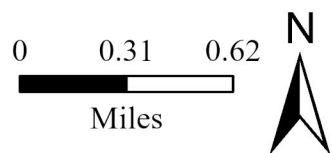


GEORGIA
DEPARTMENT OF NATURAL RESOURCES

ENVIRONMENTAL PROTECTION DIVISION

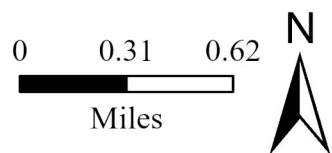
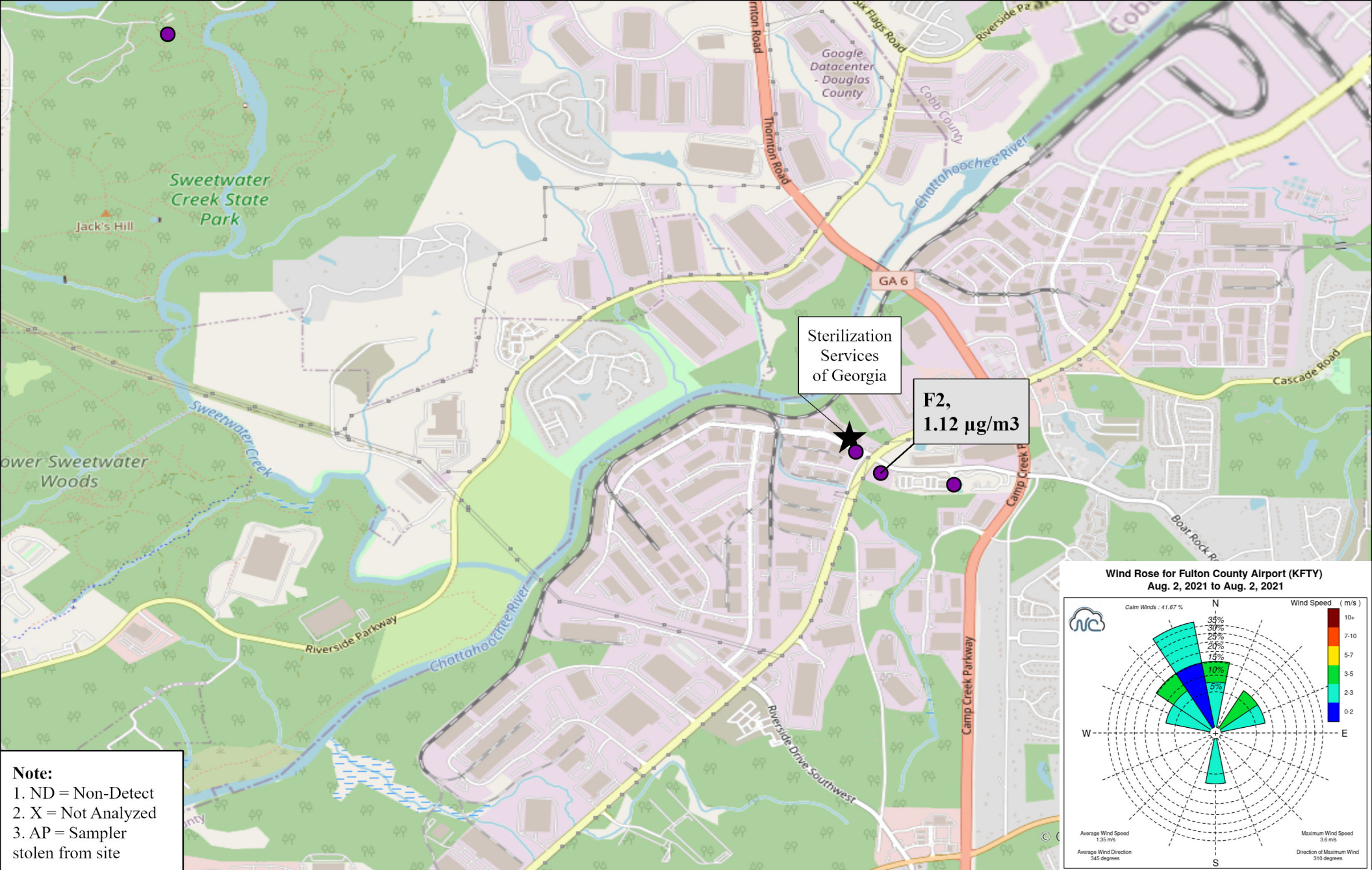


Ethylene Oxide Sampling Fulton County, GA



**Site ID, Number of Samples,
 Concentration (µg/m3)**

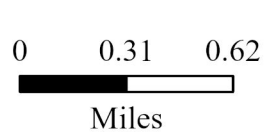
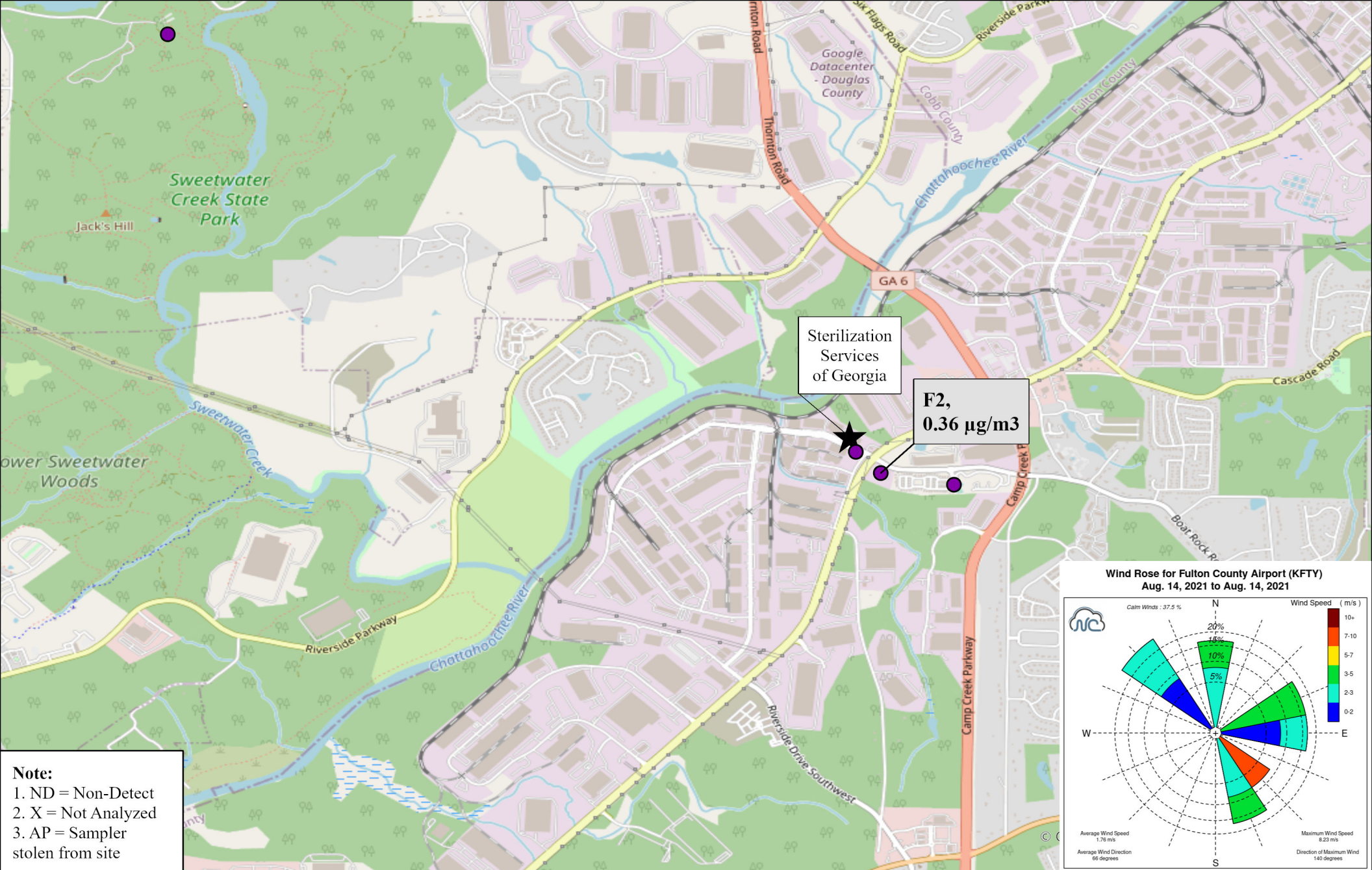
July 2021 Site Average Values
 Note: Not detectable values were included in average calculations as a value of 0.
 Sampled By: Georgia Environmental Protection Division
 Analyzed By: Eastern Research Group



Site ID, Concentration ($\mu\text{g}/\text{m}^3$)

Ethylene Oxide Sampling
 Fulton County, GA

August 2, 2021
 Sampled By: Georgia Environmental Protection Division
 Analyzed By: Eastern Research Group



Site ID, Concentration ($\mu\text{g}/\text{m}^3$)

Ethylene Oxide Sampling
Fulton County, GA

August 14, 2021

Sampled By: Georgia Environmental Protection Division

Analyzed By: Eastern Research Group



GEORGIA
DEPARTMENT OF NATURAL RESOURCES

ENVIRONMENTAL PROTECTION DIVISION