



# GEORGIA

DEPARTMENT OF NATURAL RESOURCES

## ENVIRONMENTAL PROTECTION DIVISION

**Richard E. Dunn, Director**

**EPD Director's Office**

2 Martin Luther King, Jr. Drive  
Suite 1456, East Tower  
Atlanta, Georgia 30334  
404-656-4713

March 30, 2021

**MEMORANDUM**

To: Karen Hays, Air Branch Chief *KH*

Through: Dika Kuoh, Assistant Branch Chief

From: DeAnna Oser, Ambient Monitoring Program Manager

RE: Fulton November 29 - December 17, 2020 Sampling Results for Ethylene Oxide

Samples of Ethylene Oxide (EtO) were collected during the period of November 29 - December 17, 2020 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. Qualifier code "LK" was given by ERG to indicate that the reported value for identified analyte may be biased high. Please note that ERG is now providing values for levels below the detection limit.

Location	Date	Qualifier	EtO Concentration (ug/m <sup>3</sup> )
F1	11/29/2020	LK	0.39
F1	12/05/2020	2	0.38
F1	12/11/2020	LK, 2	0.36
F1	12/17/2020	2	0.37
F2	11/29/2020	LK	1.14
F2	12/05/2020	LK	1.03
F2	12/11/2020		1.61
F2	12/17/2020		0.74
F2 QA	12/17/2020	2	0.89

If you have any questions, please let me know.

DGO/do



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

February 03, 2021

Ms. Jaime Gore  
U.S. Environmental Protection Agency, Region 4  
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 12/04/20 11:24 through 12/24/20 11:10.

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](mailto: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](mailto: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: 02/03/21 08:57

SUBMITTED: 12/04/20 to 12/24/20

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	0120412-02	Air	11/29/20 23:59	12/04/20 11:24
F2	0120412-04	Air	11/29/20 23:59	12/04/20 11:24
Fulton FB	0120412-05	Air	11/24/20 00:00	12/04/20 11:24
F1	0121642-01	Air	12/05/20 23:59	12/16/20 13:12
F2	0121642-02	Air	12/05/20 23:59	12/16/20 13:12
F1	0122327-01	Air	12/11/20 23:59	12/23/20 14:31
F2	0122327-02	Air	12/11/20 23:59	12/23/20 14:31
F1	0122407-01	Air	12/17/20 23:59	12/24/20 11:10
F2	0122407-02	Air	12/17/20 23:59	12/24/20 11:10
F2 QA	0122407-03	Air	12/17/20 23:59	12/24/20 11:10



# 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: 02/03/21 08:57

SUBMITTED: 12/04/20 to 12/24/20

AQS SITE CODE:

SITE CODE: Fulton

<b>Description:</b> F1	<b>Lab ID:</b> 0120412-02 ✓	<b>Sampled:</b> 11/29/20 23:59 ✓
<b>Pressure @ Receipt:</b> 0.00" Hg ✓	<b>Canister #:</b> 5009 ✓	<b>Received:</b> 12/04/20 11:24
<b>Comments:</b> Received at ambient pressure		<b>Analyzed:</b> 12/16/20 23:11

## 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/m<sup>3</sup></u>		<u>ppbv</u>
Ethylene oxide	0.213	0.39 ✓	LK	0.0285



# 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: 02/03/21 08:57

SUBMITTED: 12/04/20 to 12/24/20

AQS SITE CODE:

SITE CODE: Fulton

<b>Description:</b> F2	<b>Lab ID:</b> 0120412-04 ✓	<b>Sampled:</b> 11/29/20 23:59 ✓
<b>Pressure @ Receipt:</b> 4.00" Hg ✓	<b>Canister #:</b> SAT112 ✓	<b>Received:</b> 12/04/20 11:24
<b>Comments:</b>		<b>Analyzed:</b> 12/17/20 01:02

### 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/m<sup>3</sup></u>		<u>ppbv</u>
Ethylene oxide	0.634	1.14 ✓	LK	0.0285



# 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: 02/03/21 08:57

SUBMITTED: 12/04/20 to 12/24/20

AQS SITE CODE:

SITE CODE: Fulton

Description: Fulton FB

Lab ID: 0120412-05

Sampled: 11/24/20 00:00

Pressure @ Receipt: 30.00" Hg

Canister #: SAT037

Received: 12/04/20 11:24

Comments: Field Blank

Analyzed: 12/16/20 22:16

## 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/m<sup>3</sup></u>		<u>ppbv</u>
Ethylene oxide	0.00820	0.01	LK	0.0285



# 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: 02/03/21 08:57

SUBMITTED: 12/04/20 to 12/24/20

AQS SITE CODE:

SITE CODE: Fulton

<b>Description:</b> F1	<b>Lab ID:</b> 0121642-01 ✓	<b>Sampled:</b> 12/05/20 23:59 ✓
<b>Pressure @ Receipt:</b> 0.00" Hg ✓	<b>Canister #:</b> 19299 ✓	<b>Received:</b> 12/16/20 13:12
<b>Comments:</b> Received at ambient pressure		<b>Analyzed:</b> 12/19/20 01:00

### 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/m<sup>3</sup></u>		<u>ppbv</u>
Ethylene oxide	0.208	0.38 ✓		0.0285



# 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: 02/03/21 08:57

SUBMITTED: 12/04/20 to 12/24/20

AQS SITE CODE:

SITE CODE: Fulton

<b>Description:</b> F2	<b>Lab ID:</b> 0121642-02 ✓	<b>Sampled:</b> 12/05/20 23:59 ✓
<b>Pressure @ Receipt:</b> 4.00" Hg ✓	<b>Canister #:</b> 5022 ✓	<b>Received:</b> 12/16/20 13:12
<b>Comments:</b>		<b>Analyzed:</b> 12/19/20 01:55

### 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/m<sup>3</sup></u>		<u>ppbv</u>
Ethylene oxide	0.570	1.03 ✓	LK	0.0285





# 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: 02/03/21 08:57

SUBMITTED: 12/04/20 to 12/24/20

AQS SITE CODE:

SITE CODE: Fulton

<b>Description:</b> F1	<b>Lab ID:</b> 0122327-01 ✓	<b>Sampled:</b> 12/11/20 23:59 ✓
<b>Pressure @ Receipt:</b> 0.00" Hg ✓	<b>Canister #:</b> 5042 ✓	<b>Received:</b> 12/23/20 14:31
<b>Comments:</b> Received at ambient pressure		<b>Analyzed:</b> 12/30/20 23:21

### 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/m<sup>3</sup></u>		<u>ppbv</u>
Ethylene oxide	0.200	0.36 ✓	LK	0.0285



# 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: 02/03/21 08:57  
 SUBMITTED: 12/04/20 to 12/24/20  
 AQS SITE CODE:  
 SITE CODE: Fulton

<b>Description:</b> F2	<b>Lab ID:</b> 0122327-02 ✓	<b>Sampled:</b> 12/11/20 23:59 ✓
<b>Pressure @ Receipt:</b> 3.50" Hg	<b>Canister #:</b> 19653 ✓	<b>Received:</b> 12/23/20 14:31
<b>Comments:</b>		<b>Analyzed:</b> 12/31/20 00:17

### 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/m<sup>3</sup></u>		<u>ppbv</u>
Ethylene oxide	0.894	1.61	✓	0.0285



# 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: 02/03/21 08:57

SUBMITTED: 12/04/20 to 12/24/20

AQS SITE CODE:

SITE CODE: Fulton

Description: F1

Lab ID: 0122407-01 ✓

Sampled: 12/17/20 23:59 ✓

Pressure @ Receipt: 0.75 psig

Canister #: A21037 ✓

Received: 12/24/20 11:10

Comments:

Analyzed: 12/31/20 06:43

## 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/m<sup>3</sup></u>		<u>ppbv</u>
Ethylene oxide	0.206	0.37 ✓		0.0285



# 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: 02/03/21 08:57

SUBMITTED: 12/04/20 to 12/24/20

AQS SITE CODE:

SITE CODE: Fulton

<b>Description:</b> F2	<b>Lab ID:</b> 0122407-02 ✓	<b>Sampled:</b> 12/17/20 23:59 ✓
<b>Pressure @ Receipt:</b> 0.00" Hg ✓	<b>Canister #:</b> 18865 ✓	<b>Received:</b> 12/24/20 11:10
<b>Comments:</b> Received at ambient pressure		<b>Analyzed:</b> 12/31/20 15:22

### 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/m<sup>3</sup></u>		<u>ppbv</u>
Ethylene oxide	0.412	0.74 ✓		0.0285



# 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: 02/03/21 08:57

SUBMITTED: 12/04/20 to 12/24/20

AQS SITE CODE:

SITE CODE: Fulton

<b>Description:</b> F2 QA	<b>Lab ID:</b> 0122407-03 ✓	<b>Sampled:</b> 12/17/20 23:59 ✓
<b>Pressure @ Receipt:</b> 0.00" Hg ✓	<b>Canister #:</b> 35131 ✓	<b>Received:</b> 12/24/20 11:10
<b>Comments:</b> Received at ambient pressure		<b>Analyzed:</b> 12/31/20 17:12

### 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/m<sup>3</sup></u>		<u>ppbv</u>
Ethylene oxide	0.492	0.89 ✓		0.0285



# 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: 02/03/21 08:57  
 SUBMITTED: 12/04/20 to 12/24/20  
 AQS SITE CODE:  
 SITE CODE: Fulton

Analyte	Result	Units	Source Result	RPD	RPD Limit	Notes
<b>Air Toxics by EPA Compendium Method TO-15 - Quality Control</b>						
<i>Batch BOL1603 - Summa Canister Prep</i>						
<b>Blank (BOL1603-BLK1)</b>			Prepared & Analyzed: 12/16/20			
Ethylene oxide	ND	ppbv				U
<i>Batch BOL1805 - Summa Canister Prep</i>						
<b>Blank (BOL1805-BLK1)</b>			Prepared & Analyzed: 12/18/20			
Ethylene oxide	ND	ppbv				U
<i>Batch BOL3006 - Summa Canister Prep</i>						
<b>Blank (BOL3006-BLK1)</b>			Prepared & Analyzed: 12/30/20			
Ethylene oxide	ND	ppbv				U
<i>Batch BOL3104 - Summa Canister Prep</i>						
<b>Blank (BOL3104-BLK1)</b>			Prepared & Analyzed: 12/31/20			
Ethylene oxide	ND	ppbv				U
<b>Duplicate (BOL3104-DUP1)</b>			<b>Source: 0122407-02</b> Prepared: 12/17/20 Analyzed: 12/31/20			
Ethylene oxide	0.412	ppbv	0.41	0.0243	25	
<b>Duplicate (BOL3104-DUP2)</b>			<b>Source: 0122407-03</b> Prepared: 12/17/20 Analyzed: 12/31/20			
Ethylene oxide	0.497	ppbv	0.49	1.13	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:** 02/03/21 08:57  
**SUBMITTED:** 12/04/20 to 12/24/20  
**AQS SITE CODE:**  
**SITE CODE:** Fulton

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

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

### Sequence 2012029

**Calibration Check (2012029-CCV1)**

Prepared &amp; Analyzed: 12/16/20

Ethylene oxide	2.48	ppbv	2.5	30.00
----------------	------	------	-----	-------

### Sequence 2012038

**Calibration Check (2012038-CCV1)**

Prepared &amp; Analyzed: 12/18/20

Ethylene oxide	2.44	ppbv	-2.5	30.00
----------------	------	------	------	-------

### Sequence 2012052

**Calibration Check (2012052-CCV1)**

Prepared &amp; Analyzed: 12/30/20

Ethylene oxide	2.69	ppbv	7.8	30.00
----------------	------	------	-----	-------

### Sequence 2012054

**Calibration Check (2012054-CCV1)**

Prepared &amp; Analyzed: 12/31/20

Ethylene oxide	2.60	ppbv	4.2	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

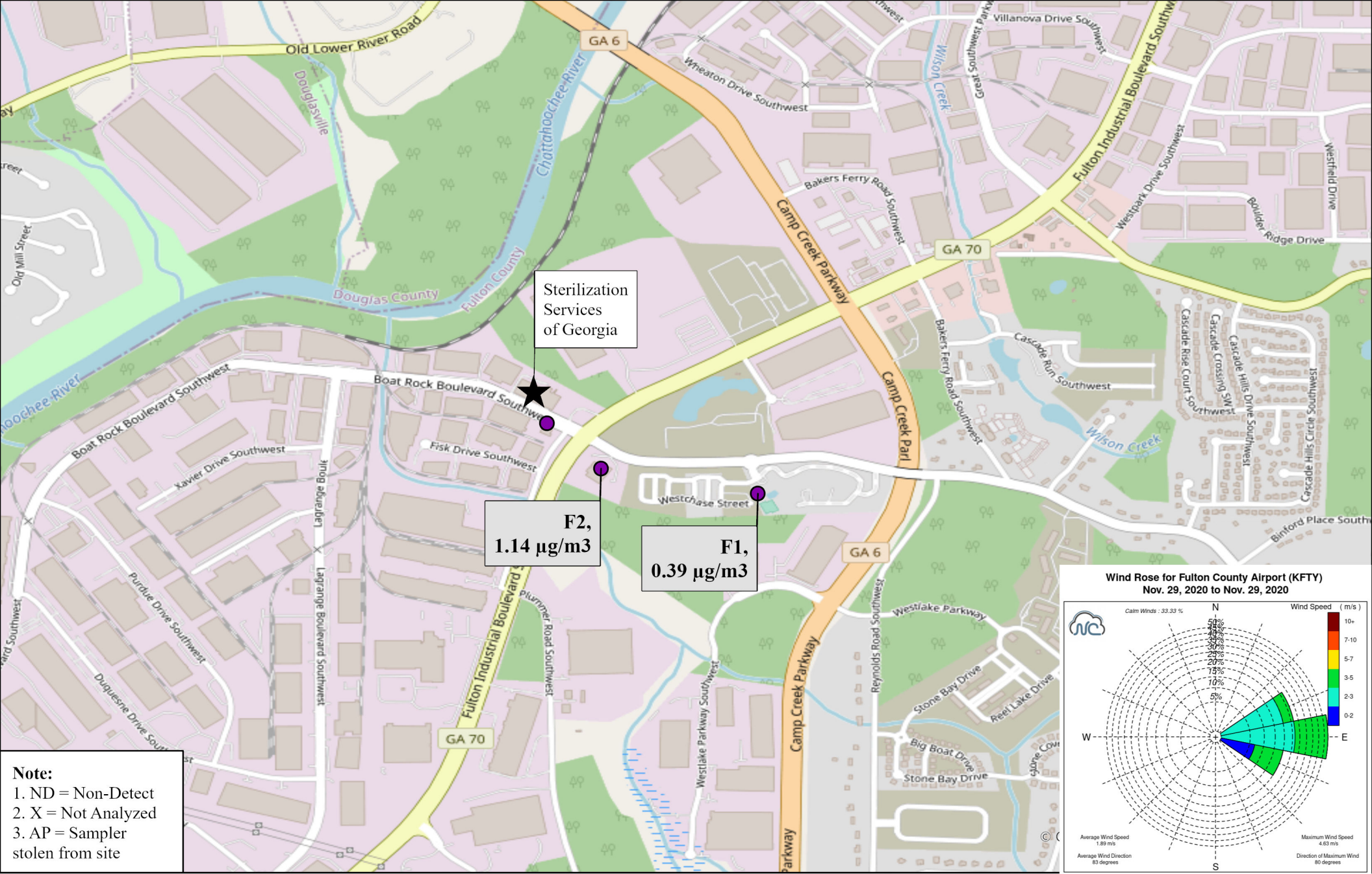
**FILE #:** 4222.00  
**REPORTED:** 02/03/21 08:57  
**SUBMITTED:** 12/04/20 to 12/24/20  
**AQS SITE CODE:**  
**SITE CODE:** Fulton

## Notes and Definitions

U Under Detection Limit  
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.

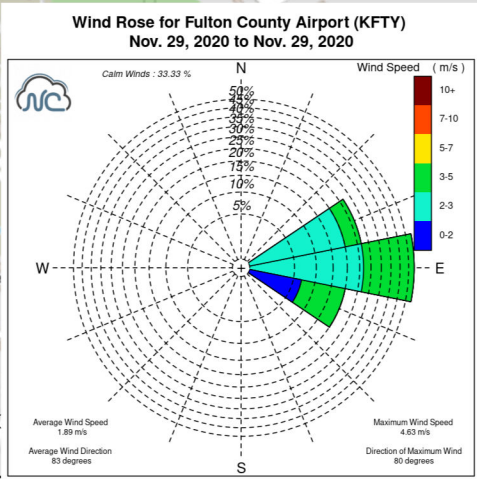




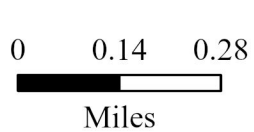
Sterilization Services of Georgia

F2,  
1.14 µg/m<sup>3</sup>

F1,  
0.39 µg/m<sup>3</sup>



**Note:**  
 1. ND = Non-Detect  
 2. X = Not Analyzed  
 3. AP = Sampler stolen from site

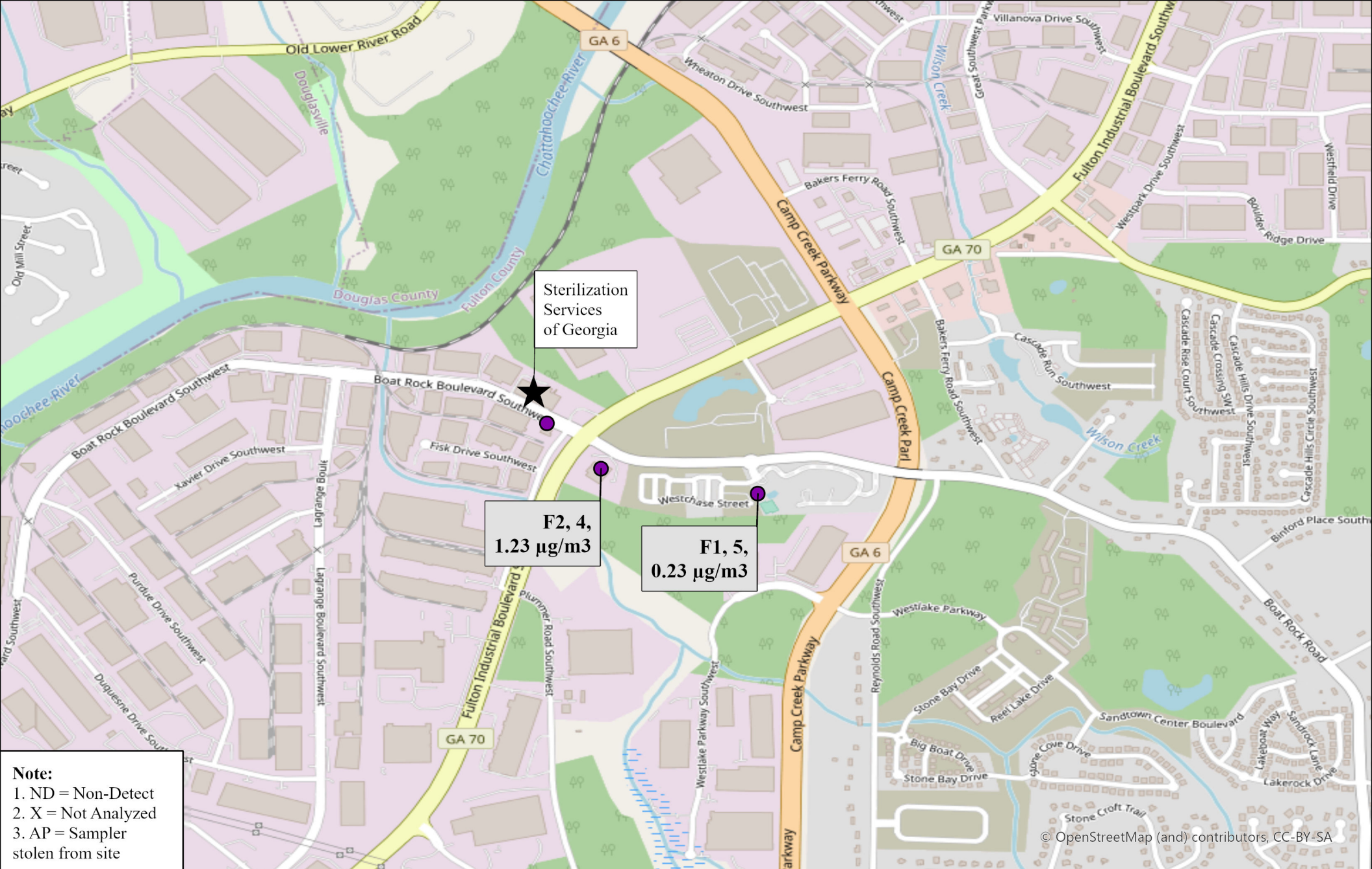


Site ID, Concentration (µg/m<sup>3</sup>)

Ethylene Oxide Sampling  
 Fulton County, GA

11/29/2020  
 Sampled By: Georgia Environmental Protection Division  
 Analyzed By: Eastern Research Group





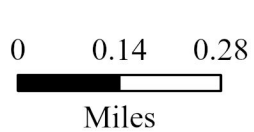
Sterilization Services of Georgia

F2, 4,  
1.23 µg/m<sup>3</sup>

F1, 5,  
0.23 µg/m<sup>3</sup>

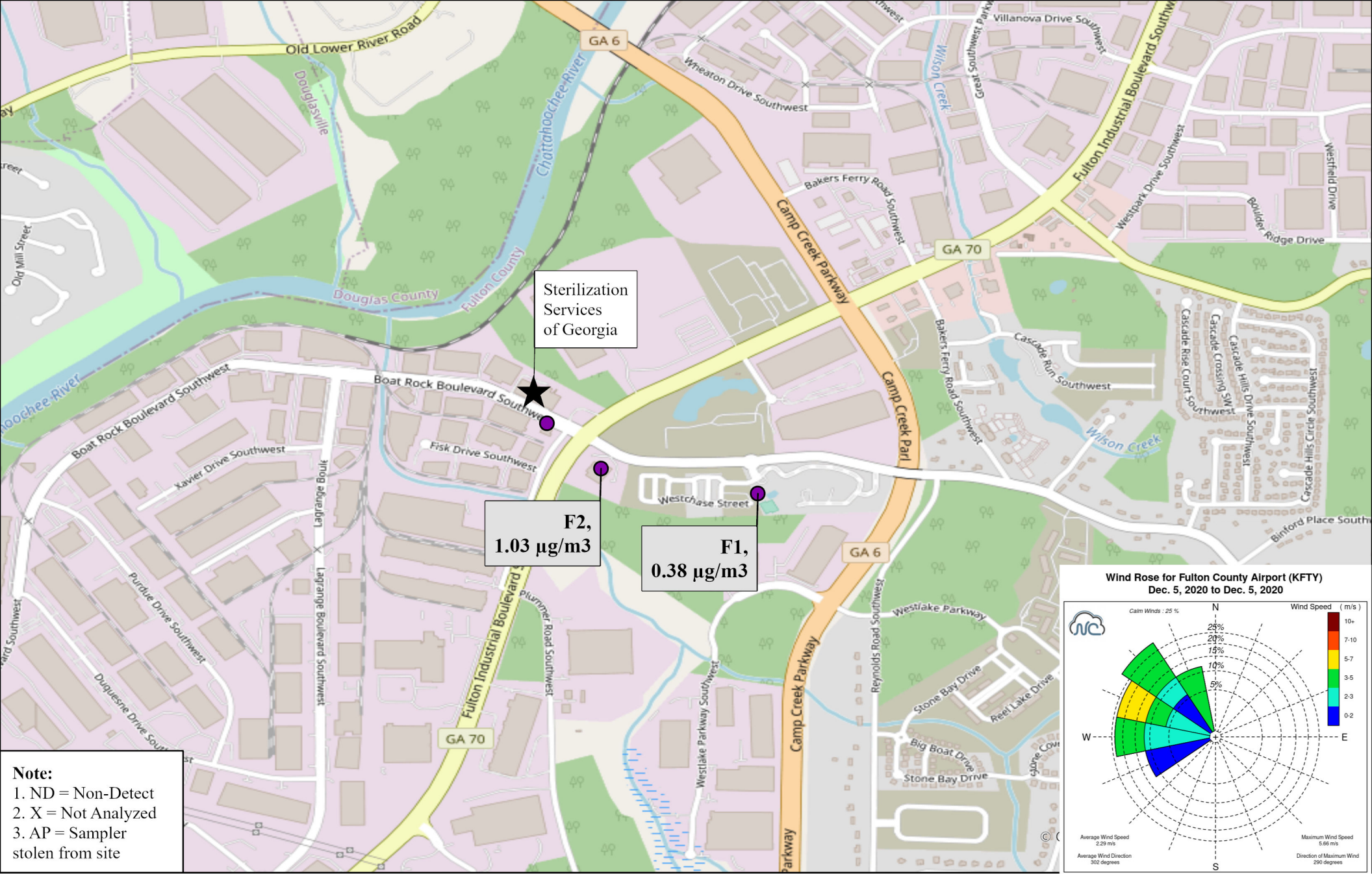
**Note:**  
 1. ND = Non-Detect  
 2. X = Not Analyzed  
 3. AP = Sampler stolen from site

Ethylene Oxide Sampling  
 Fulton County, GA

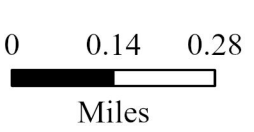


**Site ID, Number of Samples,  
 Concentration (µg/m<sup>3</sup>)**

November 2020 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



**Note:**  
 1. ND = Non-Detect  
 2. X = Not Analyzed  
 3. AP = Sampler stolen from site

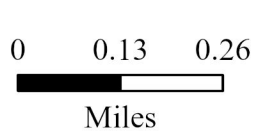


**Site ID, Concentration (µg/m<sup>3</sup>)**

Ethylene Oxide Sampling  
 Fulton County, GA

12/05/2020  
 Sampled By: Georgia Environmental Protection Division  
 Analyzed By: Eastern Research Group





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

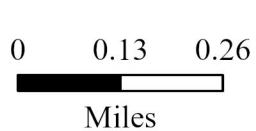
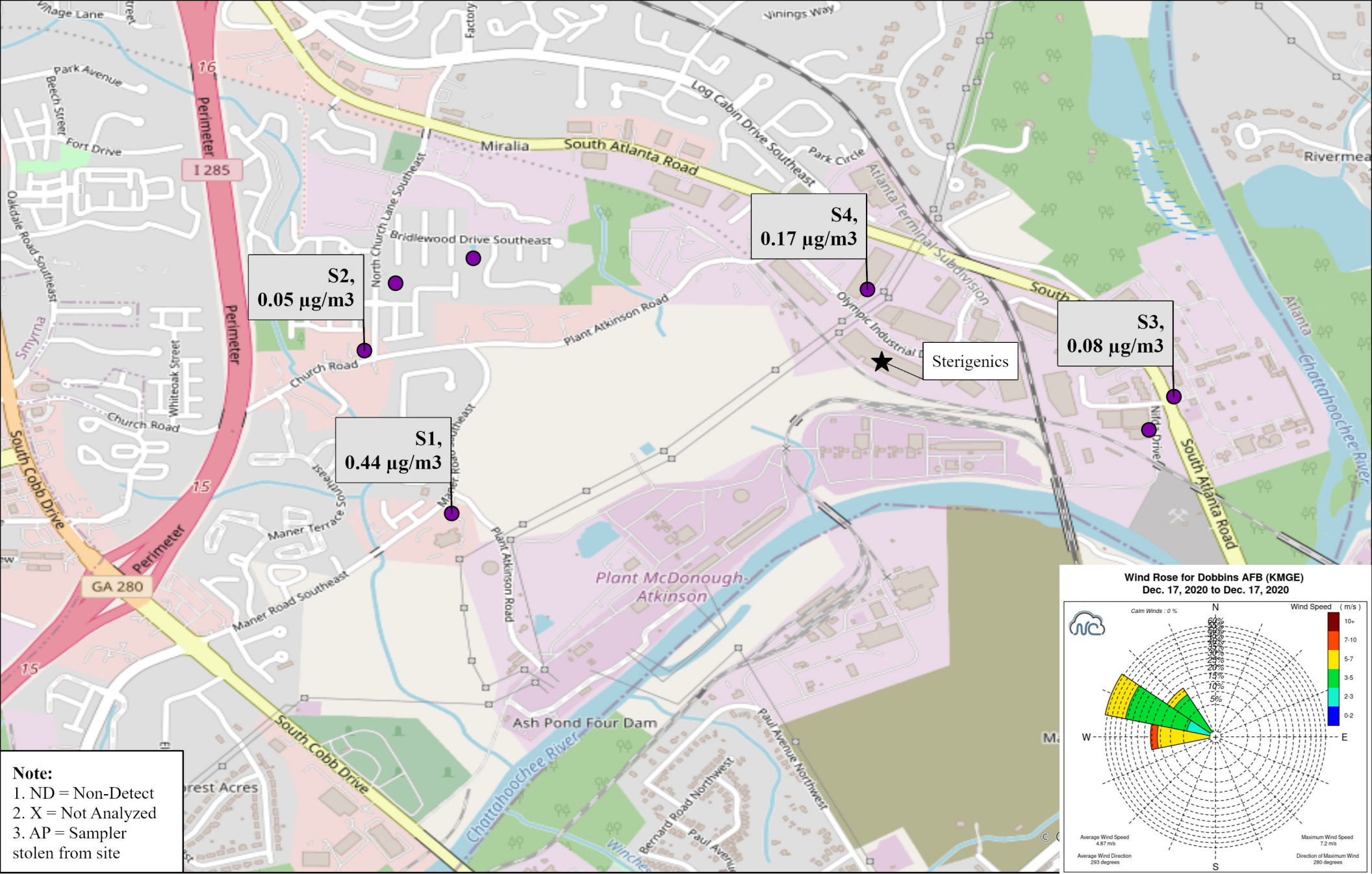
Ethylene Oxide Sampling  
 Cobb County, GA

12/11/2020  
 Sampled By: Georgia Environmental Protection Division  
 Analyzed By: Eastern Research Group



**GEORGIA**  
 DEPARTMENT OF NATURAL RESOURCES

ENVIRONMENTAL PROTECTION DIVISION



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

Ethylene Oxide Sampling  
 Cobb County, GA

12/17/2020

Sampled By: Georgia Environmental Protection Division  
 Analyzed By: Eastern Research Group



**GEORGIA**  
 DEPARTMENT OF NATURAL RESOURCES

ENVIRONMENTAL PROTECTION DIVISION