

November 30, 2021

MEMORANDUM

To: Karen Hays, Air Branch Chief *KH*

Through: James Boylan, Assistant Branch Chief

From: DeAnna Oser, Ambient Monitoring Program Manager

RE: South DeKalb and NR-285 May 16-June 5, 2021 Sampling Results for Ethylene Oxide

Samples (passive samplers) of Ethylene Oxide (EtO) were taken at our South DeKalb monitoring station during the period of May 16 - June 5, 2021. Samples were also collected on a pressurized system at our South DeKalb for comparison purposes. Additionally, samples were collected at a nearby ambient monitoring station close to the interstate (NR-285) to see the impacts of mobile traffic on the ethylene oxide measurements. This comparison is part of the Community Scales Air Toxics Monitoring Grant awarded to Georgia EPD by EPA for evaluating new technologies for ethylene oxide measurement. These samples were also sent to Eastern Research Group for analysis. Each of the samples were sent to Eastern Research Group (ERG) for analysis. The Qualifier code of "2" was given to samples to indicate that the collection deviated from established procedures, but the integrity of the sample was not compromised. The Qualifier codes of "1" and "6" were added to data because the pressurized system samplers used for collection had not been verified against an ethylene oxide standard prior to sampling. Please note that ERG is now providing values for levels below the detection limit.

Location	Date	Qualifier	EtO Concentration (ug/m ³)
South DeKalb passive	05/16/2021		0.55
South DeKalb passive	05/22/2021	2	0.17
South DeKalb passive	05/28/2021	2	0.48
South DeKalb passive	06/03/2021		0.21
South DeKalb passive QA	06/03/2021	2	0.09
South DeKalb ATEC	05/16/2021	1, 6	0.13
South DeKalb ATEC	05/22/2021	1, 6	0.26
South DeKalb ATEC	05/28/2021	1, 6, 2	0.16
South DeKalb ATEC	06/05/2021	1, 6	0.15
South DeKalb ATEC QA	06/05/2021	1, 6	0.18
NR-285 Xontech	05/16/2021	2	0.54

If you have any questions, please let me know.



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

August 03, 2021

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

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 05/20/21 11:32 through 06/10/21 11:48.

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

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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 #: 4022.00

REPORTED: 08/03/21 10:45

SUBMITTED: 05/20/21 to 06/10/21

AQS SITE CODE:

SITE CODE: GA EtO

ANALYTICAL REPORT FOR SAMPLES

<u>SampleName</u>	<u>LabNumber</u>	<u>Matrix</u>	<u>Sampled</u>	<u>Received</u>
South Dekalb-Atec	1052014-01	Air	05/16/21 23:59	05/20/21 11:32
South Dekalb	1052113-01	Air	05/16/21 23:59	05/21/21 11:23
NR285	1060326-01	Air	05/16/21 23:59	06/03/21 13:48
South Dekalb	1060326-02	Air	05/22/21 23:59	06/03/21 13:48
South Dekalb-Atec	1060326-03	Air	05/22/21 23:59	06/03/21 13:48
South Dekalb	1060416-01	Air	05/28/21 23:59	06/04/21 12:15
South Dekalb-Atec	1060416-02	Air	05/28/21 23:59	06/04/21 12:15
GA EtO Round Robin	1060748-01	Air	06/06/21 00:00	06/07/21 13:34
GA EtO Round Robin	1060748-02	Air	06/06/21 00:00	06/07/21 13:34
South Dekalb	1060835-01	Air	06/03/21 23:59	06/08/21 12:24
South Dekalb QA	1060835-02	Air	06/03/21 23:59	06/08/21 12:24
South Dekalb-Atec QA	1061035-01	Air	06/05/21 00:00	06/10/21 11:48
South Dekalb-Atec	1061035-02	Air	06/05/21 23:59	06/10/21 11:48



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SUBMITTED: 05/20/21 to 06/10/21

AQS SITE CODE:

SITE CODE: GA EtO

Description: South Dekalb-Atec

Lab ID: 1052014-01

Sampled: 05/16/21 23:59

Pressure @ Receipt: 10.0 psi

Canister #: 19648

Received: 05/20/21 11:32

Comments:

Analyzed: 06/14/21 18:01

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	0.0710	0.13		0.0261



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REPORTED: 08/03/21 10:45

SUBMITTED: 05/20/21 to 06/10/21

AQS SITE CODE:

SITE CODE: GA EtO

Description: South Dekalb

Lab ID: 1052113-01

Sampled: 05/16/21 23:59

Pressure @ Receipt: 6.50" Hg

Canister #: 19656

Received: 05/21/21 11:23

Comments:

Analyzed: 06/14/21 16:00

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/m³</u>		<u>ppbv</u>
Ethylene oxide	0.304	0.55		0.0261



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FILE #: 4022.00

REPORTED: 08/03/21 10:45

SUBMITTED: 05/20/21 to 06/10/21

AQS SITE CODE:

SITE CODE: GA EtO

Description: NR285

Lab ID: 1060326-01

Sampled: 05/16/21 23:59

Pressure @ Receipt: 17.50 psig

Canister #: A21012

Received: 06/03/21 13:48

Comments:

Analyzed: 06/15/21 00:07

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	0.300	0.54		0.0261



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REPORTED: 08/03/21 10:45

SUBMITTED: 05/20/21 to 06/10/21

AQS SITE CODE:

SITE CODE: GA EtO

Description: South Dekalb

Lab ID: 1060326-02

Sampled: 05/22/21 23:59

Pressure @ Receipt: 6.50" Hg

Canister #: 19288

Received: 06/03/21 13:48

Comments:

Analyzed: 06/18/21 10:16

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/m³</u>		<u>ppbv</u>
Ethylene oxide	0.0930	0.17		0.0261



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FILE #: 4022.00

REPORTED: 08/03/21 10:45

SUBMITTED: 05/20/21 to 06/10/21

AQS SITE CODE:

SITE CODE: GA EtO

Description: South Dekalb-Atec

Lab ID: 1060326-03

Sampled: 05/22/21 23:59

Pressure @ Receipt: 10.25 psig

Canister #: 18873

Received: 06/03/21 13:48

Comments:

Analyzed: 06/16/21 23:55

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/m³</u>		<u>ppbv</u>
Ethylene oxide	0.146	0.26		0.0261



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FILE #: 4022.00

REPORTED: 08/03/21 10:45

SUBMITTED: 05/20/21 to 06/10/21

AQS SITE CODE:

SITE CODE: GA EtO

Description: South Dekalb

Lab ID: 1060416-01

Sampled: 05/28/21 23:59

Pressure @ Receipt: 7.00" Hg

Canister #: 33507

Received: 06/04/21 12:15

Comments:

Analyzed: 06/17/21 23:06

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	0.267	0.48		0.0261



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REPORTED: 08/03/21 10:45

SUBMITTED: 05/20/21 to 06/10/21

AQS SITE CODE:

SITE CODE: GA EtO

Description: South Dekalb-Atec

Lab ID: 1060416-02

Sampled: 05/28/21 23:59

Pressure @ Receipt: 9.75 psig

Canister #: 114366

Received: 06/04/21 12:15

Comments:

Analyzed: 06/18/21 00:07

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	0.0865	0.16		0.0261



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FILE #: 4022.00

REPORTED: 08/03/21 10:45

SUBMITTED: 05/20/21 to 06/10/21

AQS SITE CODE:

SITE CODE: GA EtO

Description: GA EtO Round Robin	Lab ID: 1060748-01	Sampled: 06/06/21 00:00
Pressure @ Receipt: 17.75 psi	Canister #: 35465	Received: 06/07/21 13:34
Comments: 1 ppbv standard		Analyzed: 06/21/21 16:30

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	1.13	2.04		0.0261



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 4244 International Pkwy, Suite 120
 Atlanta, GA 30354
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FILE #: 4022.00
 REPORTED: 08/03/21 10:45
 SUBMITTED: 05/20/21 to 06/10/21
 AQS SITE CODE:
 SITE CODE: GA EtO

Description: GA EtO Round Robin **Lab ID:** 1060748-02 **Sampled:** 06/06/21 00:00
Pressure @ Receipt: 19.00 psi **Canister #:** 35720 **Received:** 06/07/21 13:34
Comments: **Analyzed:** 06/21/21 17:31

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	0.108	0.20		0.0261



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FILE #: 4022.00

REPORTED: 08/03/21 10:45

SUBMITTED: 05/20/21 to 06/10/21

AQS SITE CODE:

SITE CODE: GA EtO

Description: South Dekalb

Lab ID: 1060835-01

Sampled: 06/03/21 23:59

Pressure @ Receipt: 6.50" Hg

Canister #: 110306

Received: 06/08/21 12:24

Comments:

Analyzed: 06/18/21 01:08

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	0.116	0.21		0.0261



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FILE #: 4022.00

REPORTED: 08/03/21 10:45

SUBMITTED: 05/20/21 to 06/10/21

AQS SITE CODE:

SITE CODE: GA EtO

Description: South Dekalb QA

Lab ID: 1060835-02

Sampled: 06/03/21 23:59

Pressure @ Receipt: 7.00" Hg

Canister #: 19299

Received: 06/08/21 12:24

Comments:

Analyzed: 06/18/21 03:10

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	0.0481	0.09		0.0261



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FILE #: 4022.00

REPORTED: 08/03/21 10:45

SUBMITTED: 05/20/21 to 06/10/21

AQS SITE CODE:

SITE CODE: GA EtO

Description: South Dekalb-Atec QA	Lab ID: 1061035-01	Sampled: 06/05/21 00:00
Pressure @ Receipt: 10.0 psi	Canister #: 110308	Received: 06/10/21 11:48
Comments: **SEND CAN TO R4 FOR ANALYSIS**		Analyzed: 06/22/21 03:40

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	0.100	0.18		0.0261



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FILE #: 4022.00
 REPORTED: 08/03/21 10:45
 SUBMITTED: 05/20/21 to 06/10/21
 AQS SITE CODE:
 SITE CODE: GA EtO

Description: South Dekalb-Atec **Lab ID:** 1061035-02 **Sampled:** 06/05/21 23:59
Pressure @ Receipt: 13.5 psig **Canister #:** 19649 **Received:** 06/10/21 11:48
Comments: **Analyzed:** 06/22/21 05:51

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	0.0818	0.15		0.0261



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FILE #: 4022.00
 REPORTED: 08/03/21 10:45
 SUBMITTED: 05/20/21 to 06/10/21
 AQS SITE CODE:
 SITE CODE: GA EtO

Analyte	Result	Units	Source Result	RPD	RPD Limit	Notes
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Air Toxics by EPA Compendium Method TO-15 - Quality Control

Batch B1F1007 - Summa Canister Prep

Blank (B1F1007-BLK1)			Prepared: 06/10/21 Analyzed: 06/14/21			
Ethylene oxide	ND	ppbv				U
Duplicate (B1F1007-DUP1)			Source: 1052113-01 Prepared: 05/16/21 Analyzed: 06/14/21			
Ethylene oxide	0.293	ppbv	0.30	3.75	25	
Duplicate (B1F1007-DUP2)			Source: 1052014-01 Prepared: 05/16/21 Analyzed: 06/14/21			
Ethylene oxide	0.0714	ppbv	0.07	0.562	25	

Batch B1F1507 - Summa Canister Prep

Blank (B1F1507-BLK1)			Prepared: 06/15/21 Analyzed: 06/16/21			
Ethylene oxide	ND	ppbv				U

Batch B1F1706 - Summa Canister Prep

Blank (B1F1706-BLK1)			Prepared & Analyzed: 06/17/21			
Ethylene oxide	ND	ppbv				U
Duplicate (B1F1706-DUP3)			Source: 1060416-01 Prepared: 05/28/21 Analyzed: 06/18/21			
Ethylene oxide	0.107	ppbv	0.27	85.7	25	
Duplicate (B1F1706-DUP4)			Source: 1060416-02 Prepared: 05/28/21 Analyzed: 06/18/21			
Ethylene oxide	0.0477	ppbv	0.09	57.8	25	

Batch B1F2107 - Summa Canister Prep

Blank (B1F2107-BLK1)			Prepared & Analyzed: 06/21/21			
Ethylene oxide	ND	ppbv				U
Duplicate (B1F2107-DUP1)			Source: 1061035-01 Prepared: 06/05/21 Analyzed: 06/22/21			
Ethylene oxide	0.110	ppbv	0.10	9.43	25	
Duplicate (B1F2107-DUP2)			Source: 1061035-02 Prepared: 06/05/21 Analyzed: 06/22/21			
Ethylene oxide	0.0924	ppbv	0.08	12.2	25	



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FILE #: 4022.00
 REPORTED: 08/03/21 10:45
 SUBMITTED: 05/20/21 to 06/10/21
 AQS SITE CODE:
 SITE CODE: GA EtO

Analyte	Result	Units	% Difference	Limit (%)	Notes
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Air Toxics by EPA Compendium Method TO-15 - Quality Control

Sequence 2106035

Calibration Check (2106035-CCV1)

Prepared: 06/10/21 Analyzed: 06/14/21

Ethylene oxide	2.42	ppbv	-3.1	30.00
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Sequence 2106048

Calibration Check (2106048-CCV1)

Prepared: 06/15/21 Analyzed: 06/16/21

Ethylene oxide	2.49	ppbv	-0.3	30.00
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Sequence 2106053

Calibration Check (2106053-CCV1)

Prepared & Analyzed: 06/17/21

Ethylene oxide	2.49	ppbv	-0.4	30.00
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Sequence 2106066

Calibration Check (2106066-CCV1)

Prepared & Analyzed: 06/21/21

Ethylene oxide	2.62	ppbv	4.9	30.00
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FILE #: 4022.00
REPORTED: 08/03/21 10:45
SUBMITTED: 05/20/21 to 06/10/21
AQS SITE CODE:
SITE CODE: GA EtO

Notes and Definitions

U Under Detection Limit
ND Analyte NOT DETECTED
NR Not Reported
MDL Method Detection Limit
RPD Relative Percent Difference

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.