

June 7, 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 December 23, 2020 – January 16, 2021 Sampling Results for Ethylene Oxide

Samples of Ethylene Oxide (EtO) were taken at our South DeKalb monitoring station in December 2020 and January 2021. Samples were also collected at a nearby ambient monitoring station in January 2021 close to the interstate (NR-285) to see the impacts of mobile traffic on the ethylene oxide measurements. Each of the samples were sent to Eastern Research Group (ERG) for analysis. The sample listed as QA is a sample taken side by side during the same time period to compare the precision of the measurement. The code SC indicates that the sample was invalidated due to sampler contamination. The Qualifier code of "2" was given two samples to indicate that the collection deviated from established procedures, but the integrity of the sample was not compromised.

Location	Date	Qualifier	EtO Concentration (ug/m ³)
South DeKalb	12/23/2020		0.09
South DeKalb	12/29/2020		0.09
South DeKalb	01/04/2021		0.08
South DeKalb QA	01/04/2021		SC
South DeKalb	01/10/2021	2	0.17
South DeKalb	01/16/2021	2	0.13
NR-285	01/04/2021		0.07
NR-285	01/16/2021		0.11

Samples were also collected on a pressurized system at our South DeKalb monitoring station for comparison purposes on the dates listed below. These samples were also sent to Eastern Research Group for analysis. The sample listed as AK was due to a valve malfunction of the can at the laboratory. Samples listed in the table below as ND were reported below the method detection limit of 0.0515 ug/m³. The qualifier code "U" was given by ERG to indicate that the sample is under the detection limit. Please note that ERG is now providing values for levels below the detection limit.

Location		Date		Qualifier		EtO Concentration (ug/m ³)
South DeKalb pressurized		12/23/2020				0.10
South DeKalb pressurized		12/29/2020				AK
South DeKalb pressurized		01/10/2021		U, ND		0
South DeKalb pressurized		01/16/2021		2		0.05

If you have any questions, please let me know.

DGO/do



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

March 04, 2021

Ms. Jaime Gore
U.S. Environmental Protection Agency, Region 4
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 01/06/21 11:45 through 01/27/21 12:23.

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: 03/04/21 16:00
SUBMITTED: 01/06/21 to 01/27/21
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	1010628-01	Air	12/23/20 23:59	01/06/21 11:45
South Dekalb-Atec	1010721-01	Air	12/23/20 23:59	01/07/21 11:51
South Dekalb	1011328-02	Air	12/29/20 23:59	01/13/21 13:42
South Dekalb	1011328-03	Air	01/04/21 23:59	01/13/21 13:42
South Dekalb QA	1011328-04	Air	01/04/21 23:59	01/13/21 13:42
NR285	1011328-05	Air	01/04/21 23:59	01/13/21 13:42
South Dekalb-Atec	1012128-01	Air	01/10/21 23:59	01/21/21 14:45
South Dekalb	1012128-02	Air	01/10/21 23:59	01/21/21 14:45
South Dekalb	1012725-01	Air	01/16/21 23:59	01/27/21 12:23
South Dekalb-Atec	1012725-02	Air	01/16/21 23:59	01/27/21 12:23
NR285	1012725-03	Air	01/16/21 23:59	01/27/21 12:23



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REPORTED: 03/04/21 16:00

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AQS SITE CODE:

SITE CODE: GA EtO

Description: South Dekalb

Lab ID: 1010628-01

Sampled: 12/23/20 23:59

Pressure @ Receipt: 3.00" Hg

Canister #: 114348

Received: 01/06/21 11:45

Comments:

Analyzed: 01/13/21 02:53

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	0.0503	0.09		0.0285



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AQS SITE CODE:

SITE CODE: GA EtO

Description: South Dekalb-Atec

Lab ID: 1010721-01

Sampled: 12/23/20 23:59

Pressure @ Receipt: 9.75" psi

Canister #: 110305

Received: 01/07/21 11:51

Comments:

Analyzed: 01/13/21 04:44

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	0.0571	0.10		0.0285



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AQS SITE CODE:

SITE CODE: GA EtO

Description: South Dekalb

Lab ID: 1011328-02

Sampled: 12/29/20 23:59

Pressure @ Receipt: 3.50" Hg

Canister #: 114329

Received: 01/13/21 13:42

Comments:

Analyzed: 01/15/21 04:35

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	0.0506	0.09		0.0285



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AQS SITE CODE:

SITE CODE: GA EtO

Description: South Dekalb

Lab ID: 1011328-03

Sampled: 01/04/21 23:59

Pressure @ Receipt: 2.00" Hg

Canister #: 35152

Received: 01/13/21 13:42

Comments:

Analyzed: 01/19/21 16:46

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	0.0447	0.08		0.0285



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SUBMITTED: 01/06/21 to 01/27/21

AQS SITE CODE:

SITE CODE: GA EtO

Description: South Dekalb QA

Lab ID: 1011328-04

Sampled: 01/04/21 23:59

Pressure @ Receipt: 0.00" Hg

Canister #: 35124

Received: 01/13/21 13:42

Comments: Canister received at ambient.

Analyzed: 01/19/21 18:37

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	ND	ND	CE	0.0285



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FILE #: 4022.00

REPORTED: 03/04/21 16:00

SUBMITTED: 01/06/21 to 01/27/21

AQS SITE CODE:

SITE CODE: GA EtO

Description: NR285

Lab ID: 1011328-05

Sampled: 01/04/21 23:59

Pressure @ Receipt: 18.75 psi

Canister #: SAT053

Received: 01/13/21 13:42

Comments:

Analyzed: 01/19/21 20:27

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	0.0397	0.07		0.0285



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SUBMITTED: 01/06/21 to 01/27/21

AQS SITE CODE:

SITE CODE: GA EtO

Description: South Dekalb-Atec

Lab ID: 1012128-01

Sampled: 01/10/21 23:59

Pressure @ Receipt: 11.75" psi

Canister #: 33309

Received: 01/21/21 14:45

Comments:

Analyzed: 01/23/21 00:57

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	0.0285



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FILE #: 4022.00

REPORTED: 03/04/21 16:00

SUBMITTED: 01/06/21 to 01/27/21

AQS SITE CODE:

SITE CODE: GA EtO

Description: South Dekalb

Lab ID: 1012128-02

Sampled: 01/10/21 23:59

Pressure @ Receipt: 0" Hg

Canister #: A21001

Received: 01/21/21 14:45

Comments:

Analyzed: 01/23/21 02:48

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	0.0946	0.17		0.0285



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FILE #: 4022.00

REPORTED: 03/04/21 16:00

SUBMITTED: 01/06/21 to 01/27/21

AQS SITE CODE:

SITE CODE: GA EtO

Description: South Dekalb

Lab ID: 1012725-01

Sampled: 01/16/21 23:59

Pressure @ Receipt: 0" Hg

Canister #: A21108

Received: 01/27/21 12:23

Comments: Received at Ambient

Analyzed: 02/02/21 23:07

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	0.0718	0.13		0.0285



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FILE #: 4022.00

REPORTED: 03/04/21 16:00

SUBMITTED: 01/06/21 to 01/27/21

AQS SITE CODE:

SITE CODE: GA EtO

Description: South Dekalb-Atec

Lab ID: 1012725-02

Sampled: 01/16/21 23:59

Pressure @ Receipt: 11.50 psi

Canister #: 33496

Received: 01/27/21 12:23

Comments:

Analyzed: 02/03/21 00:58

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	0.0287	0.05		0.0285



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FILE #: 4022.00

REPORTED: 03/04/21 16:00

SUBMITTED: 01/06/21 to 01/27/21

AQS SITE CODE:

SITE CODE: GA EtO

Description: NR285

Lab ID: 1012725-03

Sampled: 01/16/21 23:59

Pressure @ Receipt: 18.5 psi

Canister #: 35157

Received: 01/27/21 12:23

Comments:

Analyzed: 02/03/21 02:49

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	0.0623	0.11		0.0285



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REPORTED: 03/04/21 16:00
SUBMITTED: 01/06/21 to 01/27/21
AQS SITE CODE:
SITE CODE: GA EtO

Analyte	Result	Units	Source Result	RPD	RPD Limit	Notes
Air Toxics by EPA Compendium Method TO-15 - Quality Control						
<i>Batch B1A1207 - Summa Canister Prep</i>						
Blank (B1A1207-BLK1)			Prepared: 01/10/21 Analyzed: 01/12/21			
Ethylene oxide	ND	ppbv				U
Duplicate (B1A1207-DUP2)	Source: 1010628-01		Prepared: 12/23/20 Analyzed: 01/13/21			
Ethylene oxide	0.0486	ppbv	0.05	3.44	25	
Duplicate (B1A1207-DUP3)	Source: 1010721-01		Prepared: 12/23/20 Analyzed: 01/13/21			
Ethylene oxide	0.0584	ppbv	0.06	2.25	25	
<i>Batch B1A1407 - Summa Canister Prep</i>						
Blank (B1A1407-BLK1)			Prepared: 01/13/21 Analyzed: 01/14/21			
Ethylene oxide	ND	ppbv				U
Duplicate (B1A1407-DUP2)	Source: 1011328-02		Prepared: 12/29/20 Analyzed: 01/15/21			
Ethylene oxide	0.0481	ppbv	0.05	5.07	25	
<i>Batch B1A1906 - Summa Canister Prep</i>						
Blank (B1A1906-BLK1)			Prepared & Analyzed: 01/19/21			
Ethylene oxide	ND	ppbv				U
Duplicate (B1A1906-DUP1)	Source: 1011328-03		Prepared: 01/04/21 Analyzed: 01/19/21			
Ethylene oxide	0.0500	ppbv	0.04	11.2	25	
Duplicate (B1A1906-DUP2)	Source: 1011328-04		Prepared: 01/04/21 Analyzed: 01/19/21			
Ethylene oxide	0.474	ppbv	0.46	3.48	25	
<i>Batch B1A2204 - Summa Canister Prep</i>						
Blank (B1A2204-BLK1)			Prepared & Analyzed: 01/22/21			
Ethylene oxide	ND	ppbv				U
Duplicate (B1A2204-DUP2)	Source: 1012128-01		Prepared: 01/10/21 Analyzed: 01/23/21			
Ethylene oxide	ND	ppbv	ND		25	U
Duplicate (B1A2204-DUP3)	Source: 1012128-02		Prepared: 01/10/21 Analyzed: 01/23/21			
Ethylene oxide	0.0938	ppbv	0.09	0.849	25	
<i>Batch B1B0208 - Summa Canister Prep</i>						
Blank (B1B0208-BLK1)			Prepared & Analyzed: 02/02/21			
Ethylene oxide	ND	ppbv				U
Duplicate (B1B0208-DUP1)	Source: 1012725-01		Prepared: 01/16/21 Analyzed: 02/03/21			
Ethylene oxide	0.0719	ppbv	0.07	0.139	25	
Duplicate (B1B0208-DUP2)	Source: 1012725-02		Prepared: 01/16/21 Analyzed: 02/03/21			
Ethylene oxide	ND	ppbv	0.03		25	U



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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 2101019

Calibration Check (2101019-CCV1)

Prepared & Analyzed: 01/12/21

Ethylene oxide	2.73	ppbv	9.3	30.00
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Sequence 2101024

Calibration Check (2101024-CCV1)

Prepared & Analyzed: 01/14/21

Ethylene oxide	2.80	ppbv	16.0	30.00
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Sequence 2101033

Calibration Check (2101033-CCV1)

Prepared & Analyzed: 01/19/21

Ethylene oxide	2.86	ppbv	18.5	30.00
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Sequence 2101041

Calibration Check (2101041-CCV1)

Prepared & Analyzed: 01/22/21

Ethylene oxide	2.88	ppbv	19.0	30.00
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Sequence 2102004

Calibration Check (2102004-CCV1)

Prepared & Analyzed: 02/02/21

Ethylene oxide	2.49	ppbv	-0.4	30.00
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AQS SITE CODE:

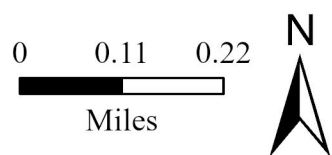
SITE CODE: GA EtO

Notes and Definitions

U	Under Detection Limit Analyte
ND	NOT DETECTED
NR	Not Reported
MDL	Method Detection Limit
RPD	Relative Percent Difference
CE	Not reportable due to a co-eluting compound.

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
DeKalb County, GA

01/16/2021
Sampled By: Georgia Environmental Protection Division
Analyzed By: Eastern Research Group