



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

October 18, 2019

MEMORANDUM

To: Karen Hays, Air Branch Chief *KH*

Through: Dika Kuoh, Assistant Branch Chief

From: DeAnna Oser, Ambient Monitoring Program Manager

RE: Smyrna September Sampling Results for Ethylene Oxide

Samples of Ethylene Oxide (EtO) were collected in September by the Ambient Monitoring Program in the Smyrna area to characterize the EtO concentration. Each of the samples were sent to Eastern Research Group (ERG) for analysis. Samples listed in the table below as ND were reported below the method detection limit of $0.0452 \mu\text{g}/\text{m}^3$. The samples listed as CE (co-eluding) indicate that while the compound was detected, it was overlapping with another compound and the EtO concentration could not be quantified. The samples listed as X indicate that the sample collection was not collected properly.

Location	Date	EtO Concentration ($\mu\text{g}/\text{m}^3$)
S1	9/24/2019	X
S1	9/26/2019	X
S1	9/30/2019	0.28
S2	9/24/2019	ND
S2	9/26/2019	0.29
S2	9/30/2019	ND
S3	9/24/2019	0.68
S3	9/26/2019	ND
S3	9/30/2019	ND
S4	9/24/2019	0.47
S4	9/26/2019	CE
S4	9/30/2019	CE
S5	9/24/2019	1.75

If you have any questions, please let me know.

DGO/do



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

October 10, 2019

Ms. Jaime Gore
U.S. Environmental Protection Agency, Region 4
4244 International Pkwy, Suite 120
Atlanta, GA 30354
Project Name: Smyrna

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 09/27/19 12:07 through 10/03/19 11:41.

The test results in this report are in compliance with NELAC accreditation requirements for the certified parameters. 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 #: 4222.00

REPORTED: 10/10/19 12:20


SUBMITTED: 09/27/19 to 10/03/19

AQS SITE CODE:

SITE CODE: Smyrna

ANALYTICAL REPORT FOR SAMPLES

<u>SampleName</u>	<u>LabNumber</u>	<u>Matrix</u>	<u>Sampled</u>	<u>Received</u>
S5	9092730-01	Air	09/24/19 23:59	09/27/19 12:07
S2	9092733-02	Air	* 09/23/19 23:59	09/27/19 12:13
S3	9092733-03	Air	* 09/23/19 23:59	09/27/19 12:13
S4	9092733-04	Air	* 09/23/19 23:59	09/27/19 12:13
S1	9100318-01	Air	09/30/19 23:59	10/03/19 11:41
S2	9100318-02	Air	09/26/19 23:59	10/03/19 11:41
S2	9100318-03	Air	09/30/19 23:59	10/03/19 11:41
S3	9100318-04	Air	09/26/19 23:59	10/03/19 11:41
S3	9100318-05	Air	09/30/19 23:59	10/03/19 11:41
S4	9100318-06	Air	09/26/19 23:59	10/03/19 11:41
S4	9100318-07	Air	09/30/19 23:59	10/03/19 11:41

* Test (sample) date is 9/24/19 not
9/23/19.  10/18/19



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FILE #: 4222.00

REPORTED: 10/10/19 12:20

SUBMITTED: 09/27/19 to 10/03/19

AQS SITE CODE:

SITE CODE: Smyrna

Description: S5

Lab ID: 9092730-01

Sampled: 09/24/19 23:59

Pressure @ Receipt: 0.00 psig

Canister #: 19300

Received: 09/27/19 12:07


Comments:

Analyzed: 10/03/19 21:57

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	0.972	1.75		0.0250 *

* Per ERG, 0.0250 ppbv \approx 0.0452 ug/m³


10/18/19 confirmed



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FILE #: 4222.00

REPORTED: 10/10/19 12:20

SUBMITTED: 09/27/19 to 10/03/19

AQS SITE CODE:

SITE CODE: Smyrna

Description: S2

Lab ID: 9092733-02

Sampled: 09/23/19 23:59

Pressure @ Receipt: 8.5" Hg

Canister #: SAT023

Received: 09/27/19 12:13

Comments:

Analyzed: 10/03/19 19:32

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	0.0250



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REPORTED: 10/10/19 12:20

SUBMITTED: 09/27/19 to 10/03/19

AQS SITE CODE:

SITE CODE: Smyrna

Description: S3

Lab ID: 9092733-03

Sampled: 09/23/19 23:59

Pressure @ Receipt: 3.50" Hg

Canister #: 18834

Received: 09/27/19 12:13

Comments:

Analyzed: 10/03/19 20:20

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	0.375	0.68		0.0250



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FILE #: 4222.00

REPORTED: 10/10/19 12:20

SUBMITTED: 09/27/19 to 10/03/19

AQS SITE CODE:

SITE CODE: Smyrna

Description: S4

Lab ID: 9092733-04

Sampled: 09/23/19 23:59

Pressure @ Receipt: 11.0" Hg

Canister #: 5117

Received: 09/27/19 12:13

Comments:

Analyzed: 10/03/19 21:09

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	0.260	0.47		0.0250



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REPORTED: 10/10/19 12:20

SUBMITTED: 09/27/19 to 10/03/19

AQS SITE CODE:

SITE CODE: Smyrna

Description: S1

Lab ID: 9100318-01

Sampled: 09/30/19 23:59

Pressure @ Receipt: 6.00" Hg

Canister #: 18831

Received: 10/03/19 11:41

Comments:

Analyzed: 10/04/19 17:54

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	0.156	0.28		0.0250



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FILE #: 4222.00

REPORTED: 10/10/19 12:20

SUBMITTED: 09/27/19 to 10/03/19

AQS SITE CODE:

SITE CODE: Smyrna

Description: S2

Lab ID: 9100318-02

Sampled: 09/26/19 23:59

Pressure @ Receipt: 8.00" Hg

Canister #: A21104

Received: 10/03/19 11:41

Comments:

Analyzed: 10/04/19 18:42

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	0.159	0.29		0.0250



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FILE #: 4222.00

REPORTED: 10/10/19 12:20

SUBMITTED: 09/27/19 to 10/03/19

AQS SITE CODE:

SITE CODE: Smyrna

Description: S2

Lab ID: 9100318-03

Sampled: 09/30/19 23:59

Pressure @ Receipt: 2.00" Hg

Canister #: SAT155

Received: 10/03/19 11:41

Comments: Ambient at field site recovery

Analyzed: 10/04/19 19:30

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	ND	ND	U	0.0250



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REPORTED: 10/10/19 12:20

SUBMITTED: 09/27/19 to 10/03/19

AQS SITE CODE:

SITE CODE: Smyrna

Description: S3

Lab ID: 9100318-04

Sampled: 09/26/19 23:59

Pressure @ Receipt: 9.00" Hg

Canister #: 18879

Received: 10/03/19 11:41

Comments:

Analyzed: 10/04/19 20:18

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	0.0250



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FILE #: 4222.00

REPORTED: 10/10/19 12:20

SUBMITTED: 09/27/19 to 10/03/19

AQS SITE CODE:

SITE CODE: Smyrna

Description: S3

Lab ID: 9100318-05

Sampled: 09/30/19 23:59

Pressure @ Receipt: 9.50" Hg

Canister #: 19650

Received: 10/03/19 11:41

Comments:

Analyzed: 10/04/19 21:07

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	ND	ND	U	0.0250



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FILE #: 4222.00

REPORTED: 10/10/19 12:20

SUBMITTED: 09/27/19 to 10/03/19

AQS SITE CODE:

SITE CODE: Smyrna

Description: S4

Lab ID: 9100318-06

Sampled: 09/26/19 23:59

Pressure @ Receipt: 10.50" Hg

Canister #: 5026

Received: 10/03/19 11:41

Comments:

Analyzed: 10/04/19 21:56

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, U	0.0250



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FILE #: 4222.00

REPORTED: 10/10/19 12:20

SUBMITTED: 09/27/19 to 10/03/19

AQS SITE CODE:

SITE CODE: Smyrna

Description: S4

Lab ID: 9100318-07

Sampled: 09/30/19 23:59

Pressure @ Receipt: 5.00" Hg

Canister #: SAT081

Received: 10/03/19 11:41

Comments:

Analyzed: 10/04/19 22:44

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	ND	ND	CE, U	0.0250



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FILE #: 4222.00

REPORTED: 10/10/19 12:20

SUBMITTED: 09/27/19 to 10/03/19

AQS SITE CODE:

SITE CODE: Smyrna

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

Batch B9J0305 - Summa Canister Prep

Blank (B9J0305-BLK1)

Prepared: 09/26/19 Analyzed: 10/03/19

Ethylene oxide	ND	ppbv				U
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Batch B9J0404 - Summa Canister Prep

Blank (B9J0404-BLK1)

Prepared & Analyzed: 10/04/19

Ethylene oxide	ND	ppbv				U
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FILE #: 4222.00

REPORTED: 10/10/19 12:20

SUBMITTED: 09/27/19 to 10/03/19

AQS SITE CODE:

SITE CODE: Smyrna

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

Sequence 1910010

Calibration Check (1910010-CCV1)

Prepared & Analyzed: 10/03/19

Ethylene oxide	2.06	ppbv	-17.5	30.00
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Eastern Research Group

The results in this report apply only to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.



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FILE #: 4222.00

REPORTED: 10/10/19 12:20

SUBMITTED: 09/27/19 to 10/03/19

AQS SITE CODE:

SITE CODE: Smyrna

Notes and Definitions

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

Note: The test results meet all requirements of NELAC; however the following analytes are not accredited: 1,2,4-trimethylbenzene, 1,2-dibromoethane, 1,2-dichloropropane, 1,3,5-trimethylbenzene, 1,3-butadiene, acetylene, acrolein, bromochloromethane, bromodichloromethane, bromoform, carbon disulfide, dibromochloromethane, dichlorodifluoromethane, dichlorotetrafluoroethane, ethyl acrylate, ethyl tert butyl ether, ethylene oxide, hexachloro-1,3-butadiene, n-octane, propylene, tert amyl methyl ether, tetrachloroethylene, trans-1,2-dichloroethylene, trichlorofluoromethane, and trichlorotrifluoroethane.