



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

June 22, 2022

Ms. Renu Chakrabarty  
WV Department of Environmental Protection  
601 57th Street, SE  
Charleston, WV 25304  
Project Name: WV EtO

Dear Ms. Renu Chakrabarty,

This report contains the analytical results for the sample(s) received under chain(s) of custody by Eastern Research Group on 04/29/22 10:11 through 05/27/22 10:49.

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 3  
 601 57th Street, SE  
 Charleston, WV 25304  
**ATTN:** Ms. Renu Chakrabarty  
**PHONE:** (303) 414-1249 **FAX:**

**FILE #:** 0344.00  
**REPORTED:** 06/22/22 14:19  
**SUBMITTED:** 04/29/22 to 05/27/22  
**AQS SITE CODE:**  
**SITE CODE:** WV EtO

## ANALYTICAL REPORT FOR SAMPLES

<u>SampleName</u>	<u>LabNumber</u>	<u>Matrix</u>	<u>Sampled</u>	<u>Received</u>
#0 South Charleston, WV	2042901-01	Air	04/27/22 14:13	04/29/22 10:11
#3 North Charleston, WV	2042901-02	Air	04/27/22 13:36	04/29/22 10:11
#15 Institute, WV	2042901-03	Air	04/26/22 12:41	04/29/22 10:11
Guthrie Background site	2042901-04	Air	04/26/22 11:58	04/29/22 10:11
#13 Institute, WV	2042901-05	Air	04/26/22 11:20	04/29/22 10:11
#14 Institute, WV	2042901-06	Air	04/26/22 10:59	04/29/22 10:11
#4 North Charleston, WV	2042901-07	Air	04/27/22 13:14	04/29/22 10:11
#10 Institute, WV	2042901-08	Air	04/26/22 12:36	04/29/22 10:11
#16 Buffalo, WV Background	2042901-09	Air	04/26/22 05:18	04/29/22 10:11
#3 North Charleston, WV	2052715-01	Air	05/25/22 07:02	05/27/22 10:49
#15 Institute, WV	2052715-02	Air	05/25/22 06:35	05/27/22 10:49
Guthrie Background site	2052715-03	Air	05/25/22 08:57	05/27/22 10:49
#16 Buffalo, WV Background	2052715-04	Air	05/25/22 05:30	05/27/22 10:49



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REPORTED: 06/22/22 14:19

SUBMITTED: 04/29/22 to 05/27/22

AQS SITE CODE:

SITE CODE: WV EtO

Description: #0 South Charleston, WV

Lab ID: 2042901-01

Sampled: 04/27/22 14:13

Pressure @ Receipt: 3.75 "Hg

Canister #: 41642

Received: 04/29/22 10:11

Comments: PR-73

Analyzed: 05/18/22 23:36

## 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	0.146	0.26		0.0480



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REPORTED: 06/22/22 14:19

SUBMITTED: 04/29/22 to 05/27/22

AQS SITE CODE:

SITE CODE: WV EtO

Description: #3 North Charleston, WV

Lab ID: 2042901-02

Sampled: 04/27/22 13:36

Pressure @ Receipt: 5.50 "Hg

Canister #: 41625

Received: 04/29/22 10:11

Comments: PR-65

Analyzed: 05/19/22 00:36

## 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	0.221	0.40		0.0480



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FILE #: 0344.00

REPORTED: 06/22/22 14:19

SUBMITTED: 04/29/22 to 05/27/22

AQS SITE CODE:

SITE CODE: WV EtO

Description: #15 Institute, WV

Lab ID: 2042901-03

Sampled: 04/26/22 12:41

Pressure @ Receipt: 7.50 "Hg

Canister #: 41610

Received: 04/29/22 10:11

Comments: PR-71

Analyzed: 05/11/22 08:30

## 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/m<sup>3</sup></u>		<u>ppbv</u>
Ethylene oxide	0.183	0.33		0.0480



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FILE #: 0344.00

REPORTED: 06/22/22 14:19

SUBMITTED: 04/29/22 to 05/27/22

AQS SITE CODE:

SITE CODE: WV EtO

Description: Guthrie Background site

Lab ID: 2042901-04

Sampled: 04/26/22 11:58

Pressure @ Receipt: 4.00 "Hg

Canister #: 41673

Received: 04/29/22 10:11

Comments:

Analyzed: 05/11/22 09:33

## 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	0.271	0.49		0.0480



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REPORTED: 06/22/22 14:19

SUBMITTED: 04/29/22 to 05/27/22

AQS SITE CODE:

SITE CODE: WV EtO

Description: #13 Institute, WV

Lab ID: 2042901-05

Sampled: 04/26/22 11:20

Pressure @ Receipt: 3.00 "Hg

Canister #: 41582

Received: 04/29/22 10:11

Comments: PR-75

Analyzed: 05/11/22 10:36

## 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	0.124	0.22		0.0480



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REPORTED: 06/22/22 14:19

SUBMITTED: 04/29/22 to 05/27/22

AQS SITE CODE:

SITE CODE: WV EtO

Description: #14 Institute, WV

Lab ID: 2042901-06

Sampled: 04/26/22 10:59

Pressure @ Receipt: 5.50 "Hg

Canister #: 41651

Received: 04/29/22 10:11

Comments: PR-77

Analyzed: 05/19/22 01:36

## 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	0.514	0.93		0.0480





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FILE #: 0344.00

REPORTED: 06/22/22 14:19

SUBMITTED: 04/29/22 to 05/27/22

AQS SITE CODE:

SITE CODE: WV EtO

Description: #4 North Charleston, WV

Lab ID: 2042901-07

Sampled: 04/27/22 13:14

Pressure @ Receipt: 1.75 "Hg

Canister #: 41670

Received: 04/29/22 10:11

Comments: PR-79

Analyzed: 05/19/22 02:36

## 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	0.277	0.50		0.0480



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FILE #: 0344.00

REPORTED: 06/22/22 14:19

SUBMITTED: 04/29/22 to 05/27/22

AQS SITE CODE:

SITE CODE: WV EtO

Description: #10 Institute, WV

Lab ID: 2042901-08

Sampled: 04/26/22 12:36

Pressure @ Receipt: 0.50 "Hg

Canister #: 41659

Received: 04/29/22 10:11

Comments: PR-91

Analyzed: 05/19/22 03:36

## 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	0.674	1.22		0.0480



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FILE #: 0344.00

REPORTED: 06/22/22 14:19

SUBMITTED: 04/29/22 to 05/27/22

AQS SITE CODE:

SITE CODE: WV EtO

Description: #16 Buffalo, WV Background

Lab ID: 2042901-09

Sampled: 04/26/22 05:18

Pressure @ Receipt: 7.50 "Hg

Canister #: 41607

Received: 04/29/22 10:11

Comments: PR-36

Analyzed: 05/19/22 04:36

## 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	0.365	0.66		0.0480



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FILE #: 0344.00

REPORTED: 06/22/22 14:19

SUBMITTED: 04/29/22 to 05/27/22

AQS SITE CODE:

SITE CODE: WV EtO

Description: #3 North Charleston, WV

Lab ID: 2052715-01

Sampled: 05/25/22 07:02

Pressure @ Receipt: 1.30 "Hg

Canister #: 35135

Received: 05/27/22 10:49

Comments: PR-79

Analyzed: 06/04/22 07:49

## 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/m<sup>3</sup></u>		<u>ppbv</u>
Ethylene oxide	0.184	0.33		0.0480



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FILE #: 0344.00

REPORTED: 06/22/22 14:19

SUBMITTED: 04/29/22 to 05/27/22

AQS SITE CODE:

SITE CODE: WV EtO

Description: #15 Institute, WV

Lab ID: 2052715-02

Sampled: 05/25/22 06:35

Pressure @ Receipt: 2.0 "Hg

Canister #: 35122

Received: 05/27/22 10:49

Comments: PR-73

Analyzed: 06/04/22 08:49

## 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/m<sup>3</sup></u>		<u>ppbv</u>
Ethylene oxide	1.23	2.22		0.0480



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FILE #: 0344.00

REPORTED: 06/22/22 14:19

SUBMITTED: 04/29/22 to 05/27/22

AQS SITE CODE:

SITE CODE: WV EtO

Description: Guthrie Background site

Lab ID: 2052715-03

Sampled: 05/25/22 08:57

Pressure @ Receipt: 4.00 "Hg

Canister #: 19641

Received: 05/27/22 10:49

Comments:

Analyzed: 06/04/22 09:49

## 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/m<sup>3</sup></u>		<u>ppbv</u>
Ethylene oxide	0.0733	0.13		0.0480



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FILE #: 0344.00

REPORTED: 06/22/22 14:19

SUBMITTED: 04/29/22 to 05/27/22

AQS SITE CODE:

SITE CODE: WV EtO

Description: #16 Buffalo, WV Background

Lab ID: 2052715-04

Sampled: 05/25/22 05:30

Pressure @ Receipt: 5.50 "Hg

Canister #: 35104

Received: 05/27/22 10:49

Comments: PR-36

Analyzed: 06/07/22 21:47

## 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	0.169	0.31		0.0480



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**AQS SITE CODE:**  
**SITE CODE:** WV 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 B2E1010 - Summa Canister Prep*

**Blank (B2E1010-BLK1)**

Prepared: 05/06/22 Analyzed: 05/10/22

Ethylene oxide	ND	ppbv				U
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*Batch B2E1807 - Summa Canister Prep*

**Blank (B2E1807-BLK1)**

Prepared & Analyzed: 05/18/22

Ethylene oxide	ND	ppbv				U
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*Batch B2F0304 - Summa Canister Prep*

**Blank (B2F0304-BLK1)**

Prepared: 05/19/22 Analyzed: 06/03/22

Ethylene oxide	ND	ppbv				U
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*Batch B2F0712 - Summa Canister Prep*

**Blank (B2F0712-BLK1)**

Prepared: 05/19/22 Analyzed: 06/07/22

Ethylene oxide	ND	ppbv				U
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FILE #: 0344.00

REPORTED: 06/22/22 14:19

SUBMITTED: 04/29/22 to 05/27/22

AQS SITE CODE:

SITE CODE: WV EtO

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

*Sequence 2205026*

**Calibration Check (2205026-CCV1)**

Prepared & Analyzed: 05/10/22

Ethylene oxide	2.38	ppbv	-1.4	30.00
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*Sequence 2205048*

**Calibration Check (2205048-CCV1)**

Prepared & Analyzed: 05/18/22

Ethylene oxide	2.97	ppbv	23.3	30.00
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*Sequence 2206010*

**Calibration Check (2206010-CCV1)**

Prepared & Analyzed: 06/03/22

Ethylene oxide	2.64	ppbv	9.5	30.00
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*Sequence 2206021*

**Calibration Check (2206021-CCV1)**

Prepared & Analyzed: 06/07/22

Ethylene oxide	2.44	ppbv	1.1	30.00
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**FILE #:** 0344.00

**REPORTED:** 06/22/22 14:19

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**AQS SITE CODE:**

**SITE CODE:** WV 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.