AMBIENT AIR MONITORING REPORT

ETHYLENE OXIDE BACKGROUND CONCENTRATIONS IN CHICAGO METRO AREA

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RAMBOLL

CONTENTS

EXECUTIVE SUMMARY		**3**
1.	**INTRODUCTION**	**4**
2.	**MONITORING LOCATIONS AND STUDY DESIGN**	**5**
2.1	Sample Types	5
2.2	Sampling Locations	5
2.3	Study Design Factors	6
3.	**SAMPLE COLLECTION AND ANALYSIS**	**7**
3.1	Twelve-Hour Average Samples	7
3.2	Grab Samples	8
3.3	Analytical Information	8
4.	**RESULTS**	**10**
5.	**CONCLUSIONS**	**12**

TABLES

Table 1: Sample Locations – Date and Time Details

Table 2: Background Monitoring Results – 12-Hour Average Samples

Table 3: Background Monitoring Results – Grab Samples

FIGURES

Figure 1: Ethylene Oxide Background Monitoring – 12-Hour Sample Locations

Figure 2: Ethylene Oxide Background Monitoring – Grab Sample Locations

Figure 3: Ethylene Oxide Background Results and Wind Characteristics – 12-Hour Sample Locations

Figure 4: Ethylene Oxide Background Results and Wind Characteristics – Grab Sample Locations

APPENDICES

Appendix A: Sample Collection Records

Appendix B: Sample Collection Photos

Appendix C: Method Validation and Laboratory Quality Control Reporting

Appendix D: Analytical Results

EXECUTIVE SUMMARY

Ramboll US Corporation ("Ramboll") performed monitoring of ethylene oxide in ambient outdoor air from locations around Chicago, IL on behalf of Sterigenics U.S. LLC (Sterigenics). The purpose of this evaluation was to identify and quantify routine background levels of ethylene oxide (that is, levels that are not attributable to any particular source) throughout the Chicago metropolitan area.

Samples were collected from locations selected by Ramboll to provide a scientifically based representation of routine ambient air conditions across the metropolitan area. The sample locations spanned from Golden Gate Park in the south to Highland Park in the north and from Lake Michigan in the east to Naperville in the west. Sample locations were selected to avoid any potential influence of the Sterigenics sterilization facility in Willowbrook, IL.

Two different types of samples were collected under the supervision of Certified Industrial Hygienists. Twelve-hour average samples were collected in residential backyards where access could be controlled and the canisters could be monitored throughout the collection period. This type of sample was included in order to provide results that reflect average conditions over a half-day period and to ensure that results were not influenced by tobacco smoke, a recognized localized source of ethylene oxide that would not be reflective of general ambient air background. Grab samples (5-minute collection period) were also collected because this allowed for easier sampling of a variety of location types such as parks, parking lots and downtown in the Loop. All samples of both types were collected using 6-liter Summa canisters.

Twelve-hour average samples were collected from 14 different locations, including both daytime and nighttime sampling periods. Grab samples were collected at 35 different locations at various times of day and evening. Thirty-nine samples were collected between 12-23 October and another 37 samples were collected between 12-20 November, for a total of 76 samples.

Samples were analyzed for ethylene oxide using EPA Method TO-15 refined to eliminate potential interference from trans-2-butene, a compound identified by the U.S. Environmental Protection Agency (USEPA) as potentially interfering with ethylene oxide quantification. Samples were also analyzed for 2,5-dimethylfuran, a marker compound in tobacco smoke, to verify that the samples were not impacted by ethylene oxide from nearby tobacco combustion.

Ethylene oxide was detectable in 75 out of 76 samples, ranging from less than 0.074 $\mu g/m^3$ to 1.1 $\mu g/m^3$. The average level measured was 0.28 $\mu g/m^3$ in the October samples and 0.21 $\mu g/m^3$ in the November samples. Statistical testing demonstrated that there was no significant difference between the averages from the 12-hour average samples (0.28 $\mu g/m^3$) and the grab samples (0.22 $\mu g/m^3$), so the overall results were pooled, yielding an average background level of 0.24 $\mu g/m^3$ found across the Chicago metropolitan area.

Confounding factors such as analytical interference described by USEPA for previously used methods and the potential for localized artifact from tobacco smoke were successfully avoided. The results presented here represent background levels of ethylene oxide from general and routine ambient air conditions in urban and suburban areas around Chicago.

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1. INTRODUCTION

Ethylene oxide is a gas produced through both biogenic (biological processes) and anthropogenic (human-related) activity. Accordingly, it is expected to be present in ambient air at some concentration that corresponds to generalized background levels of exposure. There is limited information available on background ethylene oxide levels and we did not find previously published or released results from monitoring in the Chicago, Illinois area.

Among the anthropogenic sources of ethylene oxide are its use for sterilization of materials used in medical settings and in manufacturing processes and its production as a byproduct of combustion of carbon-based materials, such as hydrocarbon fuels. Sterilization and manufacturing uses typically correspond to specific points of release to the environment (point sources) while ethylene oxide from consumer products, biological processes and widespread combustion sources results in generalized, non-point source release and transport in the environment -- background.

USEPA has initiated an evaluation of ethylene oxide associated with one particular point source, a Sterigenics facility sterilizing medical equipment and materials in Willowbrook, IL, a suburban village in the Chicago metropolitan area. However, USEPA has not provided information on the expected routine background levels for the overall area and is not currently conducting monitoring beyond Willowbrook. Without this information, there is limited basis to provide context on routine background exposures to ethylene oxide in comparison to contributions from specific point sources in a local area, such as Willowbrook.

The purpose of the ethylene oxide monitoring described in this report was to establish a contemporary characterization of background ambient air concentrations throughout the Chicago metropolitan area. The association between ethylene oxide and human-related activities, such as combustion and consumer product use, suggests that population density and land use could be factors affecting regional background. Therefore, the concentration of background ethylene oxide and pattern of varying levels could be expected to be specific for the Chicago metropolitan area, reflecting the geography, transportation and industrial characteristics of the area. For this reason, the optimal information for describing background is current sampling from the Chicago area.

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2. MONITORING LOCATIONS AND STUDY DESIGN

The background monitoring program for Chicago was designed to provide information from a broad geographic area reflecting urban and suburban use characteristics from various portions of the metropolitan area. In addition, the sampling design included two different types of samples that could be readily collected at locations with differing characteristics and sample collection at different times of day to account for potential differences in atmospheric reactions of ethylene oxide and atmospheric transport factors that could change from day to night. Finally, to evaluate variability over time and under different weather conditions, samples were collected during two separate periods about a month apart.

2.1 Sample Types

Two different types of samples were collected in order to allow for evaluation of different types of locations. Short-term sample collection (grab samples) could be readily accomplished in various locations such as parks, parking lots and on downtown sidewalks. This allowed samples to be collected from locations with varied local uses and surroundings. Twelve-hour average samples were also collected in locations where access to the sampling devices could be controlled and conditions could be monitored throughout the sampling period. However, this imposed a practical constraint of selecting locations in residential areas where it was feasible to have sampling devices monitored day and night.

Grab samples can be effectively used for characterizing background when collected at multiple locations. While this type of sampling results in a short-term "snapshot" of conditions at a given location and time, when combined with results from multiple samples, the individual measurements can inform both the range and expected typical (e.g., average) conditions across the overall set of locations.

Twelve-hour air sample collection provides an approach for monitoring average exposure concentrations over a longer (but still limited) time at a location. In the context of background sampling, this both reduces the potential for missing ethylene oxide due to local fluctuations or wind pattern changes and for capturing an episodic peak that overrepresents typical conditions at that particular location.

Combining grab samples and 12-hour average samples allowed the monitoring program design to capitalize on the advantages of each types of samples and provided a way to directly compare results from the two sets of samples.

2.2 Sampling Locations

Twelve-hour sampling locations were identified at residences in various neighborhoods surrounding Chicago (**Figure 1**). The selection criteria included identifying locations that represented varying levels of population density and local land/transportation uses. This included urban locations and suburban locations, detached homes and multi-family residence buildings, and locations along divided highway commuting/commerce routes and locations surrounded by smaller secondary road systems. The 14 identified locations cover a representative set of residential areas spanning a geographic area extending approximately 20 miles north and south and 30 miles west from the city center, from Deerfield in the north to the community around Golden Gate Park in the south and west to Naperville. Chicago is bordered by Lake Michigan to the east.

Locations around Willowbrook were intentionally excluded because the USEPA evaluation is considering the possible impacts of a local point source, the Sterigenics facility, in that area. The goal of the background monitoring was to document ethylene oxide levels in portions of the metro area beyond the potential impacts from this point source. All 12-hour sampling locations were at least 4

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miles from Willowbrook. The Village of Willowbrook and the Village of Burr Ridge have conducted local sampling, including background considerations via upwind monitoring, to supplement the USEPA evaluation.

To allow comparison with conditions beyond residential areas, grab sample locations were focused on other types of local land uses such as parks, commercial/retail areas and transportation/commuting corridors. The goal was to collect samples in various types of areas routinely used by substantial populations and to have a geographical distribution similar to the area covered by the 12-hour average sampling (**Figure 2**). Candidate locations were selected using aerial imagery to identify parks, convenient parking areas and dense commercial/retail areas. Final locations were determined in the field based on accessibility to the public and ease of parking a vehicle nearby.

Grab samples were collected at a total of 35 locations spread from Highland Park in the north to Golden Gate Park in the south and west to Naperville (**Figure 2**). Again, this covers an area approximately 20 miles north and south and 30 miles west from the city center. All grab sample locations were more than 3 miles from Willowbrook.

2.3 Study Design Factors

Samples were collected over two separate time periods, 12-23 October 2018 and 12-20 November 2018. This allowed for the monitoring of some locations at differing times and under different weather conditions. Samples from 6 of the 12-hour average locations and 7 of the grab sample locations were collected in both October and November.

Specific sampling days were selected to avoid periods of expected precipitation and expected sustained winds in excess of 15 mph. Sampling times were selected to cover both daylight and nighttime conditions. Both grab samples and 12-hour average samples were collected at varying times (**Table 1**). For grab sampling, in additional to daytime collections, some locations were monitored early in the morning, before sunrise, and some were monitored in the evening, after sunset. For 12-hour average samples, the sampling windows were set to roughly correspond to night and day. At 7 of these locations, samples were collected during both day and night time periods

To evaluate the repeatability of results from a giving location and time, duplicate sampling was conducted at 2 of the 14 12-hour average locations and at 4 of the 35 grab sample locations. The locations for duplicate sample collection were selected randomly using a computerized random number generator.

A primary factor identified as a localized ethylene oxide source that could impact interpretation of results as reflective of general background conditions was the potential for samples to be impacted by tobacco smoke. According the World Health Organization, ethylene oxide release in mainstream tobacco smoke amounts to 7 µg/cigarette (*IARC Monographs on the Evaluation of Carcinogenic Risks to Humans*, vol. 83 Tobacco Smoke and Involuntary Smoking, 2004, p. 82, Table 1.14, https://monographs.iarc.fr/wp-content/uploads/2018/06/mono83.pdf). Such an amount would be expected to be sufficient to be detected during ambient air monitoring in proximity to a smoker.

To ensure that background monitoring results were not attributable to a localized source from tobacco smoking, three study design elements were included: 1) grab samples were not collected where there was an observable odor of tobacco smoke or a smoker could be seen; 2) residents confirmed that there was not a nearby outdoor "smoking area" used by neighbors during the location selection stage and were informed not to smoke or allow visitors to smoke in the area while the 12-hr sample collection was underway; and 3) samples were analyzed by the laboratory for a distinct marker of tobacco smoke, 2,5-dimethylfuran, as a confirmation check.

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3. SAMPLE COLLECTION AND ANALYSIS

Ambient air samples were collected under the supervision of a Certified Industrial Hygienist using laboratory-supplied, 6-liter stainless steel Summa canister sampling devices. Canisters were individually tested and certified by the laboratory, Eurofins Air Toxics Inc., Folsom, California (Eurofins) to be free from ethylene oxide prior to shipment. Regulator valves for 12-hour collection (for the 12-hour average samples) and for 5-minute collection (for the grab samples) were supplied by the laboratory.

3.1 Twelve-Hour Average Samples

At 12-hour sample locations, Summa canisters were placed within enclosed yards, courtyards, or patios where access was limited to residents and readily monitored. Potential sampling periods were identified based on weather forecasts when no substantial precipitation or sustained winds above 15 mph were expected. Sampling was delayed until at least 18 hours after the end of a period of substantial precipitation.

12-hour average samples were collected between 17-23 October and between 12-19 November. Weather conditions at each specific sampling were recorded at the beginning and end of the sample collection period. Temperature, relative humidity and wind speed were recorded using a handheld weather gauge and cloud cover/precipitation were noted. Sample collection records from the field events are included in **Appendix A** and photos of the sampling are included in **Appendix B**.

Summa canisters were placed on patio tables, railings or similar surfaces at approximate breathing zone height and GPS coordinates for the specific sample location were noted. Where a duplicate sample was collected, the Summa canisters were placed side by side. No tubing was used in order to avoid potential interference from compounds released by the tubing.

Regulators were checked and installed by an experienced Industrial Hygienist and initial vacuum readings from the cylinders were recorded at the beginning of the sample collection. A technician or resident remained on-site throughout the sample period and monitored access to the canisters. The canisters were checked during the sampling period to ensure sample collection was proceeding as expected. After approximately 10 hours, regulator readings were checked to ensure that sufficient vacuum remained. Sample collection was stopped while vacuum readings remained at least approximately 5 in. of Hg or at approximately 12 hours. Sampling dates and times are included in **Table 1**.

Both day and night samples were collected at the following locations:

- 12hr-4
- 12hr-7
- 12hr-8
- 12hr-9
- 12hr-11
- 12hr-12
- 12hr-14

Twelve-hour average samples were collected in both October and November at the following locations:

- 12hr-1
- 12hr-2
- 12hr-3
- 12hr-6
- 12hr-7
- 12hr-10

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A duplicate 12-hour average sample was collected at location 12hr-4 and duplicate analyses were performed by the laboratory for the sample from location 12hr-13.

3.2 Grab Samples

At grab sample locations, Summa canisters were held by an Industrial Hygienist at approximate breathing zone height during the 5-minute collection period. No tubing was used. When duplicate samples were collected, the Summa canisters were held side by side. General candidate locations were predetermined using aerial imagery and upon arrival the sample collection team identified the specific sampling location based on logistical factors such as proximity to a place to park, accessibility and the required absence of any odor or observable smokers. GPS coordinates for the specific location of sample collection were recorded.

Potential sampling periods were identified based on weather forecasts when no substantial precipitation or sustained winds above 15 mph were expected. Sampling was delayed until at least 18 hours after the end of a period of substantial precipitation.

Grab samples were collected between 12-23 October and between 12-20 November. Weather conditions at each specific sampling were recorded at the time of sample collection. Temperature, relative humidity and wind speed were recorded using a handheld weather gauge and cloud cover/precipitation were noted. Sample collection records from the field events are included in **Appendix A** and photos of the sampling are included in **Appendix B**.

Regulators were checked and installed by an experienced Industrial Hygienist and initial vacuum readings from the cylinders were recorded at the beginning of the sample collection. The regulator readings were monitored to ensure that sufficient vacuum remained and sample collection was stopped after approximately 5 minutes, with at least approximately 5 in. of Hg of vacuum remaining in the cylinders. Sampling dates and times are included in **Table 1**.

Grab samples were collected in both October and November at the following locations:

- Grb-1
- Grb-9
- Grb-13
- Grb-16
- Grb-17
- Grb-18
- Grb-19

Duplicate grab samples were collected at the following locations:

- Grb-1
- Grb-11
- Grb-21
- Grb-24

3.3 Analytical Information

All Summa canisters were shipped to Eurofins, Folsom, California, a laboratory that is certified under the National Environmental Laboratory Accreditation Program (NELAP) for EPA Method TO-15. Samples were analyzed for ethylene oxide and 2,5-dimethyfuran using a Gas Chromatography/Mass Spectrometry (GC/MS) and a modified EPA Method TO-15.

The modified EPA Method TO-15 was developed by Eurofins for specific analysis of ethylene oxide in ambient air allowing for sub-part per billion (ppb) detection limits and precluding interference from

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trans-2-butene in ethylene oxide quantification. The potential for this compound to interfere with measurements using the typical TO-15 method specifications was identified by USEPA.

The modified method was effective for fully resolving ethylene oxide in the presence of acetaldehyde and other potential interferences, including trans-2-butene. The modified mass spectrometry method used mass ion 44 as the primary quantitation ion and mass ions 43 and 29 as secondary ions for qualitative identification. Acetaldehyde was easily resolved chromatographically with a retention time that differs by about 2 minutes on the non-polar phase column with the temperature programming applied for this analysis. Trans-2-butene eluted within about 0.1 minutes of ethylene oxide and was resolved in Selected Ion Monitoring (SIM) mode using mass ion 44 as the primary quantitation ion. With mass ions 29 and 43 selected as qualifying ions, potential interference from trans-2-butene was insignificant.

The analytical performance of the method was validated against Method TO-15 requirements and the method was documented to be effective for eliminating interference from trans-2-butene in quantifying ethylene oxide. Validation, calibration and quality control information prepared by Eurofins for the modified method is included as **Appendix C**.

The GC/MS instrument was operated in synchronous SIM/Scan mode to allow for easy identification of any suspected interferences in air samples from a Summa canister. This also allowed 2,5-dimethylfuran, which is not a typical analyte for EPA Method TO-15, to be identified and reported as a Tentatively Identified Compound if detected.

A linear calibration curve was established with an $R^2 = 0.9997$ using ethylene oxide standards run at 0.05, 0.1, 0.5, 1.0, 5.0 and 10.0 ppbv. The relative standard deviation (RSD) for the six relative response factors was 25.8% - within the TO-15 requirement of ≤ 30% RSD. The lowest concentration of 0.05 ppbv was used to establish a Method Detection Limit of 0.027 ppbv (0.049 $\mu g/m^3$) following 40 CFR Part 136, Appendix B protocols with the primary quantitation ion (44) exceeding a signal-to-noise ratio of 3. Per the EPA protocol the method MDL was determined by the greater of the spiked MDL and the blank MDL evaluations (0.023 ppbv and 0.027 ppbv, respectively).

The Limit of Quantitation (LOQ) was established at the lowest calibration standard of 0.05 ppbv. As required by NELAP, an Initial Demonstration of Capability (IDOC) study was also conducted to measure accuracy and precision at 1 to 4 times the reporting limit. Four replicates of an independent source were analyzed at a concentration of 0.2 ppbv. Average recovery met the method requirement of 70-130% and precision met the method required <30% RSD. In addition, duplicate analysis of a Laboratory Control Sample resulted in a 116% recovery of ethylene oxide with a 0.3% relative percent difference (RPD).

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4. RESULTS

Measurements of background ethylene oxide levels were reported for a total of 76 ambient air samples from the Chicago area monitoring stations. This included results from 39 samples collected between 12-23 October 2018 and an additional 37 samples collected between 12-20 November 2018. There were a total of 29 12-hour average samples and 47 grab samples.

The results from the 12-hour average sample locations are shown in **Table 2** and on **Figure 3.**

The results from the grab sample locations are shown in **Table 3** and on **Figure 4**.

Ethylene oxide was identified above the sample-specific detection limit in 75 of 76 samples. The single non-detect (<0.074 µg/m^3) was for a grab sample from a parking lot at the University of Illinois-Chicago (Grb-10). The highest background levels were measured in a suburban backyard in Worth (12hr-11), near the southern extent of the monitoring area, with a daytime average of 1.1 µg/m^3 and a nighttime average of 0.65 µg/m^3. The next highest result was from a grab sample location along a roadway through a commercial/retail area of Highland Park (Grb-1), at the northernmost extent of the monitoring area. The result was 0.57 µg/m^3 at this location in October.

The average (mean) ethylene oxide concentration reported for the 12-hour average sample locations is 0.28 µg/m^3, with a standard deviation of 0.20 µg/m^3. Standard deviation is a widely used statistical parameter that characterizes the variability within the reported values.

The average (mean) ethylene oxide concentration reported for the grab sample locations is 0.22 µg/m^3, with a standard deviation of 0.11 µg/m^3

The results from the 12-hour average and grab sample locations were compared using Student's t-test and the difference between the types of samples is not statistically significant ($p = 0.09$). Therefore, the results can be pooled to provide an overall characterization of background conditions. Student's t-test is a robust, widely used statistical test to determine whether two sets of values, in this case the 12-hour average sample results and the grab sample results are likely to represent separate populations (groups) of results. Since the means of the two groups are not statistically different, it is appropriate to pool them.

For the overall pooled set of monitoring results, the mean background level is 0.24 µg/m^3, with a standard deviation of 0.15 µg/m^3. The range of values is <0.074 to 1.1 µg/m^3. Additional distribution metrics that may be useful in understanding the characteristics of the background results include:

25th percentile	**50th percentile**	**Median**	**75th percentile**	**95th percentile**
0.15 µg/m^3	0.19 µg/m^3	0.19 µg/m^3	0.28 µg/m^3	0.48 µg/m^3

The pooled data were also analyzed using USEPA's ProUCL 5.1 program to identify potential background threshold values. The 95% Upper Predictive Limit (UPL) using nonparametric statistics is 0.50 µg/m^3 and the 95% UPL treating the distribution as lognormal is 0.49 µg/m^3. The similarity of these two outcomes treating the distribution in different ways per USEPA recommendations and the overall 95th percentile of the distribution reinforces that either of these values is a suitable characterization of the upper end of the background range.

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The results were also similar between the two different sampling periods, with an average of 0.28 $\mu g/m^3$ for the October samples, standard deviation 0.19 $\mu g/m^3$, and an average of 0.21 $\mu g/m^3$ for the November samples, standard deviation 0.10 $\mu g/m^3$.

2,5-dimethylfuran, the distinctive marker for tobacco smoke, was not detected in any sample, confirming that the ethylene oxide results were not impacted by this potentially localized source.

Analytical reports for ethylene oxide and 1,5-dimethylfuran analyses are included in **Appendix D**.

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5. CONCLUSIONS

The ethylene oxide monitoring program for metropolitan Chicago provides a current set of regional background information for this compound suitable for setting context in comparison to point source evaluations in the area. The results demonstrated the detectable presence of ethylene oxide throughout the Chicago metropolitan area using a sensitive analytical method specifically developed to avoid interference in measuring ethylene oxide identified by USEPA. The monitoring results ranged from less than 0.074 $\mu g/m^3$ to 1.1 $\mu g/m^3$, with an overall average of 0.24 $\mu g/m^3$.

Ethylene oxide was detected at relatively similar levels in two different sampling periods separated by approximately a month, using 12-hour average or grab samples and whether collected during the day or at night. This pattern of results supports the conclusion that the ethylene oxide we measured was related to generalized background conditions in the region.

We accounted for and excluded key factors that could present uncertainty for characterizing the results as reflective of generalized background. The analytical method used was validated both for detecting the low levels of ethylene oxide relevant to background evaluation and for preventing the measurement interference identified by USEPA in conjunction with other analytical methods. And, we used three separate study design controls to ensure that the results obtained were not impacted by localized artifacts from ethylene oxide released in tobacco smoke.

We conclude that the results presented in this report represent background levels of ethylene oxide from general and routine ambient air conditions in urban and suburban areas around Chicago.

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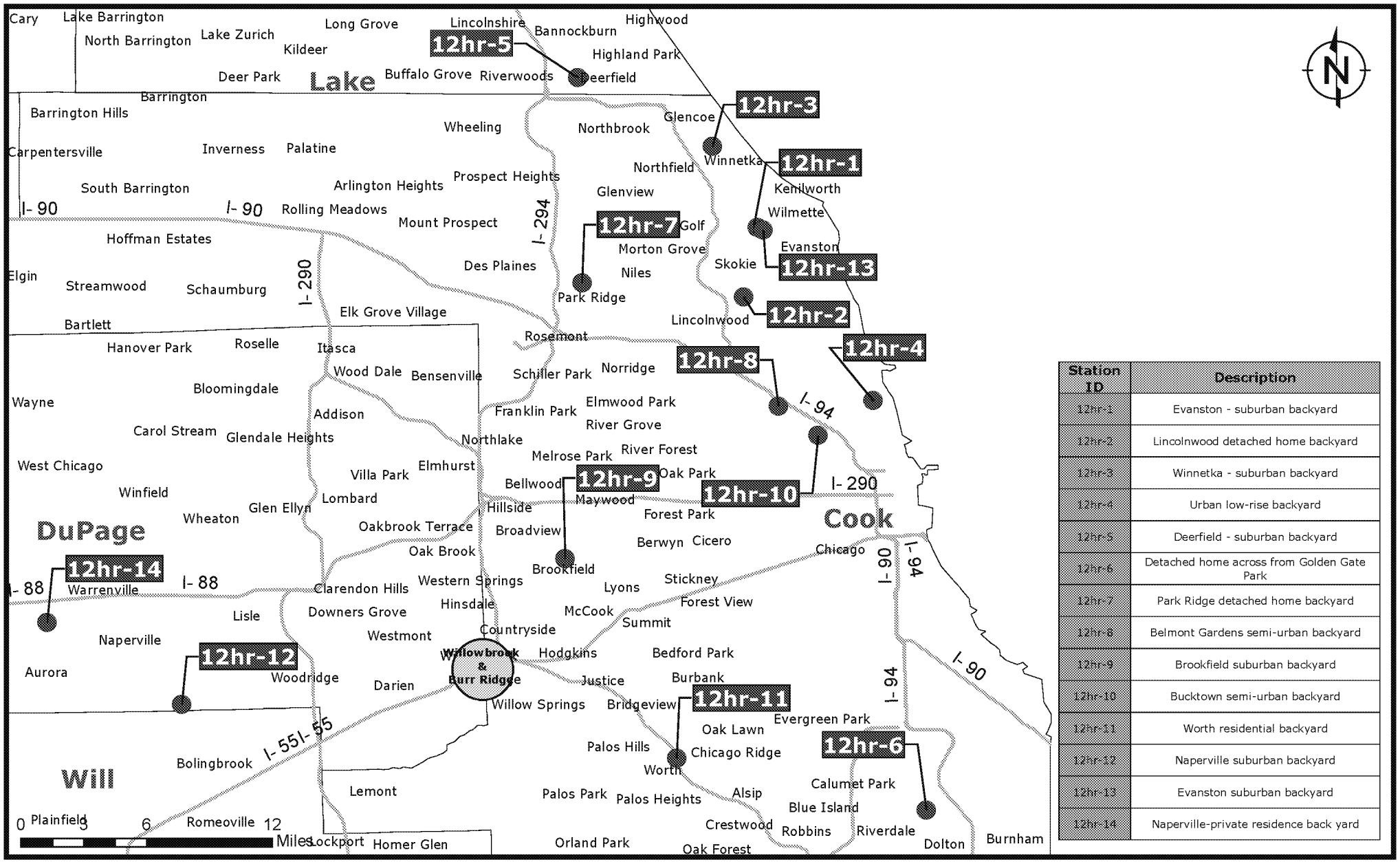
FIGURES



Station ID	Description
12hr-1	Evanston - suburban backyard
12hr-2	Lincolnwood detached home backyard
12hr-3	Winnetka - suburban backyard
12hr-4	Urban low-rise backyard
12hr-5	Deerfield - suburban backyard
12hr-6	Detached home across from Golden Gate Park
12hr-7	Park Ridge detached home backyard
12hr-8	Belmont Gardens semi-urban backyard
12hr-9	Brookfield suburban backyard
12hr-10	Bucktown semi-urban backyard
12hr-11	Worth residential backyard
12hr-12	Naperville suburban backyard
12hr-13	Evanston suburban backyard
12hr-14	Naperville-private residence back yard

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DATE: 1/9/2019

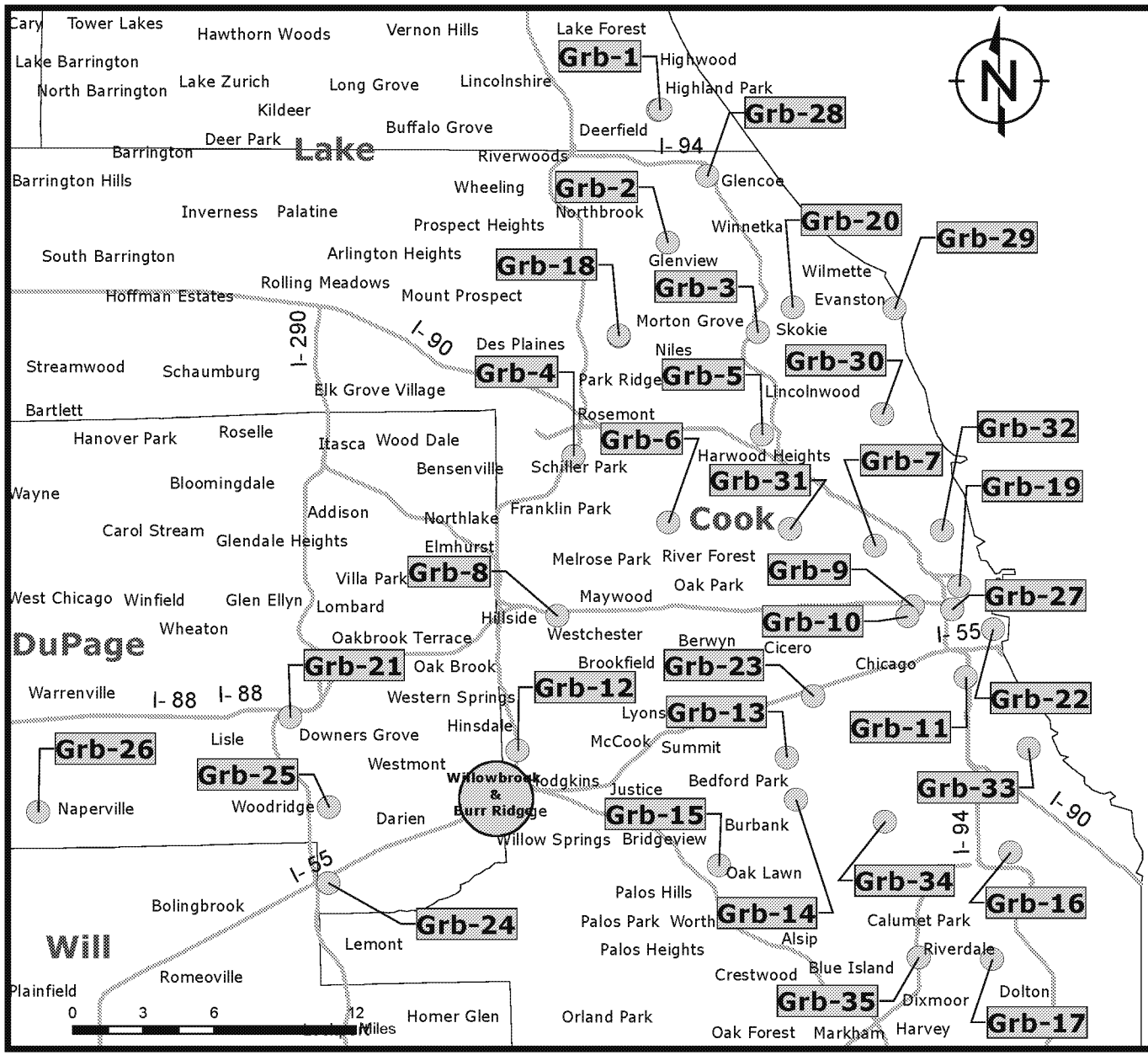
ETHYLENE OXIDE BACKGROUND MONITORING 12-HOUR SAMPLING LOCATIONS

GREATER CHICAGO ILLINOIS AREA

FIGURE

1

PROJECT:



Station ID	Description
Grb-1	Highland Park shopping plaza parking lot
Grb-2	Gallery Park
Grb-3	Morton Grove shopping plaza parking lot
Grb-4	Elk Grove Village parking lot
Grb-5	Forest Glen commercial parking lot
Grb-6	Elmwood Park Metra Station
Grb-7	Wicker Park commercial parking lot
Grb-8	Eisenhower Expwy & Mannheim Rd
Grb-9	Rush University Medical Center park
Grb-10	UIC campus park
Grb-11	Guaranteed Rate Field - parking lot
Grb-12	Hindsdale Oasis - Tri-State Toll Rd.
Grb-13	Midway Airport
Grb-14	S. Cicero & 75th - parking lot
Grb-15	Chicago Ridge parking lot
Grb-16	Chicago State University park
Grb-17	Golden Gate Park
Grb-18	Advocate Lutheran General Hospital
Grb-19	Loop commercial area sidewalk
Grb-20	Skokie Hospital
Grb-21	Ogden & Warrenville, Downers Grove
Grb-22	Soldier Field park area
Grb-23	S. Pulaski & W 40th
Grb-24	Woodward Ave & I-55
Grb-25	Woodward Ave & 75th, Woodbridge
Grb-26	W 75th & 59, Naperville
Grb-27	Union Station
Grb-28	Skokie & Dundee, Northbrook
Grb-29	Northwestern University parking area
Grb-30	W. Peterson and N. Western
Grb-31	W. Fullerton & N. Killbourn
Grb-32	N. Halstead & Burling
Grb-33	Midway Plaisance Park
Grb-34	Dan Ryan Woods
Grb-35	S. Ashland & Vermont

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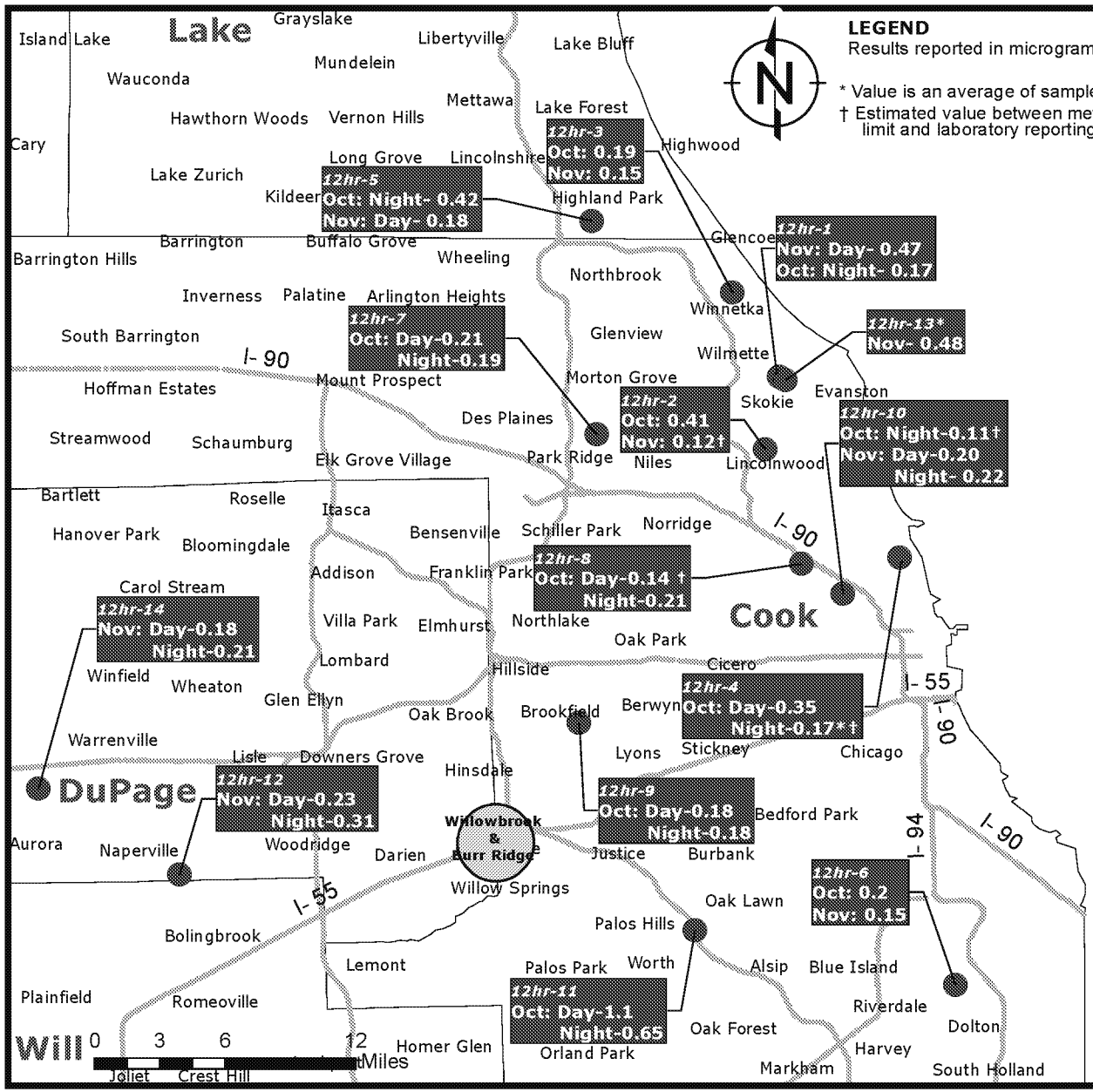
ETHYLENE OXIDE BACKGROUND MONITORING GRAB SAMPLE LOCATIONS

GREATER CHICAGO ILLINOIS AREA

FIGURE

2

PROJECT:



Station ID	Sample Date	Wind Speed, Direction (mph) begin / end
12hr-1	17-Oct	calm / calm
	13-Nov	calm / calm
12hr-2	18-Oct	calm / 2, W
	16-Nov	2, SW / calm
12hr-3	17-Oct	2, W / calm
	16-Nov	1-5, W / calm
12hr-4	17-Oct	calm / 0-1, N
	17-Oct	9, WNW / 3, WSW
	17-Oct	9, WNW / 3, WSW
12hr-5	17-Oct	calm / 2, SW
	16-Nov	2, W / 0.5, SW
12hr-6	18-Oct	0-1, NW / calm
	16-Nov	3, W / 8, W
12hr-7	18-Oct	calm / calm
	17-Oct	calm / calm
12hr-8	18-Oct	calm / calm
	18-Oct	calm / 10, S
12hr-9	18-Oct	calm / 3-5, W
	17-Oct	calm / calm
12hr-10	17-Oct	calm / calm
	12-Nov	0-3, NNW / 0-6, NW
	12-Nov	0-6, NNW / 0-3 NNW
12hr-11	23-Oct	0-3, NW / calm
	23-Oct	calm / calm
12hr- 12	12-Nov	5, NW / 8, N
	12-Nov	7, N / 3, NW
12hr-13	13-Nov	calm / calm
	13-Nov	calm / calm
12hr-14	16-Nov	10, WSW / 8, S
	19-Nov	6, W / 8, NW

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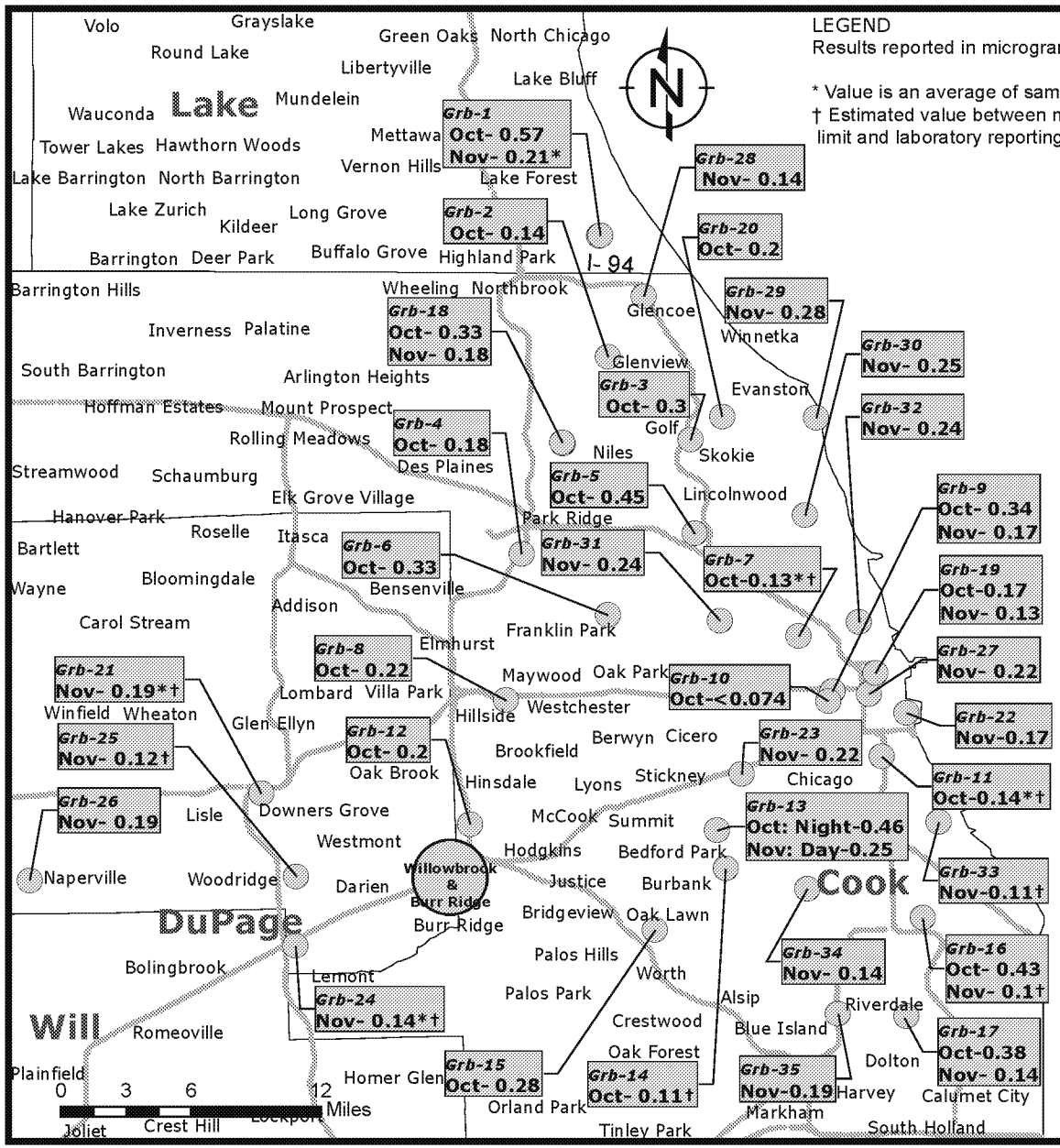
ETHYLENE OXIDE BACKGROUND RESULTS AND WIND CHARACTERISTICS - 12-HOUR SAMPLE LOCATIONS

GREATER CHICAGO ILLINOIS AREA

FIGURE 3

PROJECT:



Station ID	Sample Date	Wind Speed / Direction (mph)
Grb-1	17-Oct 14-Nov 14-Nov	calm 2, NE 2, NE
Grb-2	17-Oct	3-5, NW
Grb-3	18-Oct	2, SSW
Grb-4	17-Oct	1, NNW
Grb-5	18-Oct	1, WSW
Grb-6	17-Oct	6, NW
Grb-7	17-Oct 17-Oct	calm calm
Grb-8	17-Oct	0-3, NW
Grb-9	12-Oct 12-Nov	0-2, NW 8, N
Grb-10	23-Oct	0-6, NW
Grb-11	23-Oct 23-Oct	0-8, NNW 0-8, NNW
Grb-12	18-Oct	2-4, SSW
Grb-13	12-Oct 12-Nov	0-3, NNW 9, N
Grb-14	23-Oct	4-6, NW
Grb-15	18-Oct	4-8, W
Grb-16	12-Oct 19-Nov	0-3, W 6, SW
Grb-17	18-Oct 19-Nov	0-3, W 6, SW
Grb-18	18-Oct 15-Nov	0-3, SW calm
Grb-19	12-Oct 12-Nov	0-8, W 0-6, NNW
Grb-20	17-Oct	2-7, NNW
Grb-21	13-Nov 13-Nov 13-Nov	10, NW 10, NW 10, NW
Grb-22	12-Nov	8, N
Grb-23	12-Nov	9, N
Grb-24	19-Nov 19-Nov	9, WSW 9, WSW
Grb-25	19-Nov	9, WSW
Grb-26	19-Nov	9, WSW
Grb-27	20-Nov	9, W
Grb-28	15-Nov	1.6, SE
Grb-29	15-Nov	0-2.8, NW
Grb-30	16-Nov	2-6, SW
Grb-31	15-Nov	0-4, SE
Grb-32	15-Nov	1.4-2, W
Grb-33	19-Nov	7, SW
Grb-34	19-Nov	9, WSW
Grb-35	19-Nov	6, SW

RAMBOLL

DRAFTED BY:

DATE: 1/9/2019

ETHYLENE OXIDE BACKGROUND RESULTS AND WIND CHARACTERISTICS - GRAB SAMPLING LOCATIONS

GREATER CHICAGO ILLINOIS AREA

FIGURE 4

PROJECT:

TABLES

Table 1
Sample Locations Date and Time Details

Station ID	Description	Date	Start Time / End Time
12hr-1	Evanston - suburban backyard	17-Oct 13-Nov	7:43 PM / 6:25 AM 9:19 AM / 9:19 PM
12hr-2	Lincolnwood - detached home backyard	18-Oct 16-Nov	7:40 AM / 5:37 PM 8:25 AM / 8:23 PM
12hr-3	Winnetka - suburban backyard	17-Oct 16-Nov	10:26 AM / 8:40 PM 9:05 AM / 6:55 PM
12hr-4	Chicago - Urban low-rise backyard	17-Oct 17-Oct 17-Oct	6:25 AM / 6:25 PM 6:16 PM / 6:19 AM 6:16 PM / 6:19 AM
12hr-5	Deerfield - suburban backyard	17-Oct 16-Nov	10:20 AM / 10:26 PM 7:16 AM / 7:00 PM
12hr-6	Chicago - Detached home across from Golden Gate Park	18-Oct 16-Nov	9:07 AM / 8:43 PM 7:58 AM / 8:01 PM
12hr-7	Park Ridge - detached home backyard	18-Oct 17-Oct	7:55 AM / 7:55 PM 7:55 PM / 7:55 AM
12hr-8	Belmont Gardens - semi-urban backyard	18-Oct 18-Oct	7:54 AM / 6:36 PM 7:07 PM / 5:11 AM
12hr-9	Brookfield - suburban backyard	18-Oct 17-Oct	5:38 AM / 5:20 PM 6:28 PM / 5:20 AM
12hr-10	Bucktown - semi-urban backyard	17-Oct 12-Nov 12-Nov	8:20 PM / 6:50 AM 7:12 PM / 7:05 AM 7:12 AM / 7:05 PM
12hr-11	Worth - residential backyard	23-Oct 23-Oct	9:08 AM / 6:13 PM 10:00 PM / 10:00 AM
12hr- 12	Naperville - suburban backyard	12-Nov 12-Nov	7:36 AM / 7:36 PM 8:00 PM / 8:00 AM
12hr-13	Evanston - suburban backyard	13-Nov 13-Nov	9:19 AM / 9:12 PM 9:19 AM / 9:12 PM
12hr-14	Naperville-private residence back yard	16-Nov 19-Nov	5:40 AM / 5:40 PM 8:00 PM / 8:00 AM
Grb-1	Highland Park shopping plaza parking lot	17-Oct 14-Nov 14-Nov	6:46 AM 5:40 PM 5:52 PM
Grb-2	Gallery Park	17-Oct	7:48 AM
Grb-3	Morton Grove shopping plaza parking lot	18-Oct	9:10 AM
Grb-4	Elk Grove Village parking lot	17-Oct	6:53 PM
Grb-5	Forest Glen commercial parking lot	18-Oct	6:40 AM
Grb-6	Elmwood Park Metra Station	17-Oct	4:10 PM
Grb-7	Wicker Park commercial parking lot	17-Oct 17-Oct	7:43 PM 7:43 PM
Grb-8	Eisenhower Expwy & Mannheim Rd	17-Oct	5:57 PM
Grb-9	Rush University Medical Center park	12-Oct 12-Nov	8:14 AM 10:49 AM

Table 1 Continued

Sample Locations Date and Time Details

Grb-10	UIC campus park	23-Oct	6:34 AM
Grb-11	Guaranteed Rate Field - parking lot	23-Oct 23-Oct	7:10 AM 7:10 AM
Grb-12	Hindsdale Oasis - Tri-State Toll Rd.	18-Oct	7:01 PM
Grb-13	Midway Airport	12-Oct 12-Nov	6:46 AM 1:54 PM
Grb-14	S. Cicero & 75th - parking lot	23-Oct	8:05 AM
Grb-15	Chicago Ridge parking lot	18-Oct	10:52 AM
Grb-16	Chicago State University park	12-Oct 19-Nov	10:08 AM 9:03 AM
Grb-17	Golden Gate Park	18-Oct 19-Nov	9:30 AM 7:43 AM
Grb-18	Advocate Lutheran General Hospital	18-Oct 15-Nov	6:05 AM 1:30 PM
Grb-19	Loop commercial area sidewalk	12-Oct 12-Nov	9:06 AM 7:54 AM
Grb-20	Skokie Hospital	17-Oct	9:38 AM
Grb-21	Ogden & Warrenville, Downers Grove	13-Nov 13-Nov 13-Nov	8:50 AM 8:50 AM 8:50 AM
Grb-22	Soldier Field park area	12-Nov	9:50 AM
Grb-23	S. Pulaski & W 40th	12-Nov	1:09 PM
Grb-24	Woodward Ave & I-55	19-Nov 19-Nov	2:51 PM 2:51 PM
Grb-25	Woodward Ave & 75th, Woodbridge	19-Nov	2:27 PM
Grb-26	W 75th & 59, Naperville	19-Nov	1:34 PM
Grb-27	Union Station	20-Nov	7:48 AM
Grb-28	Skokie & Dundee, Northbrook	15-Nov	9:25 AM
Grb-29	Northwestern University parking area	15-Nov	8:13 AM
Grb-30	W. Peterson and N. Western	16-Nov	10:07 AM
Grb-31	W. Fullerton & N. Killbourn	15-Nov	2:45 PM
Grb-32	N. Halstead & Burling	15-Nov	4:02 PM
Grb-33	Midway Plaisance Park	19-Nov	9:49 AM
Grb-34	Dan Ryan Woods	19-Nov	10:39 AM
Grb-35	S. Ashland & Vermont	19-Nov	8:16 AM

Footnotes:

†: Estimated value between detection limit and sample reporting limit

ND: Ethylene Oxide was below the method detection limit of 0.074 $\mu g/m^3$

Table 2. Background Monitoring Results – 12-Hour Average Samples

Station ID	Descriptor	Sample ID	Date Sampled	Day/ Night	Result ($\mu g/m^3$)
12hr-1	Evanston - suburban backyard	A01-N-181017	17-Oct-18	Night	0.17
		A1-D-181113	13-Nov-18	Day	0.47
12hr-2	Lincolnwood detached home backyard	A03-D-181018	18-Oct-18	Day	0.41
		A3-D-181116	16-Nov-18	Day	0.12 J
12hr-3	Winnetka - suburban backyard	A04-D-181017	17-Oct-18	Day	0.19
		A4-D-181116	16-Nov-18	Day	0.15
12hr-4	Urban low-rise backyard	A06-D-181017	17-Oct-18	Day	0.35
		A06-N-181017	17-Oct-18	Night	0.17* (0.16, 0.17J)
		A17-N-181017	17-Oct-18	Night (duplicate)	
12hr-5	Deerfield - suburban backyard	A08-N-181017	17-Oct-18	Night	0.42
		A8-D-181116	16-Nov-18	Day	0.18
12hr-6	Detached home across from Golden Gate Park	A9-D-181018	18-Oct-18	Day	0.20
		A9-D-181116	16-Nov-18	Day	0.15
12hr-7	Park Ridge detached home backyard	A11-D 181018	18-Oct-18	Day	0.21
		A11-N-181017	17-Oct-18	Night	0.19
12hr-8	Belmont Gardens semi-urban backyard	A12-D-181018	18-Oct-18	Day	0.14 J
		A12-N-181018	18-Oct-18	Night	0.21
12hr-9	Brookfield suburban backyard	A13-D-181018	18-Oct-18	Day	0.18
		A13-N-181017	17-Oct-18	Night	0.18
12hr-10	Bucktown semi-urban backyard	A15-N-181017	17-Oct-18	Night	0.11 J
		A15-N-181112	12-Nov-18	Night	0.22
		A15-D-181112	12-Nov-18	Day	0.20
12hr-11	Chicago Ridge detached home backyard	A-16-D-181023	23-Oct-18	Day	1.1
		A-16-N-181023	23-Oct-18	Night	0.65
12hr- 12	Naperville-Backyard, suburban, no fence	A18-D-181112	12-Nov-18	Day	0.23
		A18-N-181112	12-Nov-18	Night	0.31
12hr-13	Evanston-Backyard, suburban, fenced	A19-D-181113	13-Nov-18	Day	0.48* (0.47, 0.49)
		A19-D-181113	13-Nov-18	Day (duplicate)	
12hr-14	Naperville-private residence back yard	A20-D-181116	16-Nov-18	Day	0.18
		A20-N-181119	19-Nov-18	Night	0.21

* - value is average of duplicate results for this location, individual results in parentheses

J - Laboratory qualifier indicating value between detection limit and sample reporting limit

Table 3. Background Monitoring Results – Grab Samples

Station ID	Descriptor	Sample ID	Date Sampled	Day/ Night	Result (µg/m³)
Grb-1	Highland Park shopping plaza parking lot	GA-D-181017	17-Oct-18	Day	0.57
		GA-D-181114	14-Nov-18	Day	0.21* (0.27, 0.14)
		GAN-D-181114	14-Nov-18	duplicate	
Grb-2	Gallery Park	GC-D-181017	17-Oct-18	Day	0.14
Grb-3	Morton Grove shopping plaza parking lot	GE-D-181018	18-Oct-18	Day	0.3
Grb-4	Elk Grove Village parking lot	GG-D-181017	17-Oct-18	Day	0.18
Grb-5	Forest Glen commercial parking lot	GH-D-181018	18-Oct-18	Day	0.45
Grb-6	Elmwood Park Metra Station	GJ-D-181017	17-Oct-18	Day	0.33
Grb-7	Wicker Park commercial parking lot	GL-N-181017	17-Oct-18	Night	0.13* (0.15, 0.11J)
		GAH-N-181017	17-Oct-18	duplicate	
Grb-8	Eisenhower Expwy & Mannheim Rd	GN-D-181017	17-Oct-18	Day	0.22
Grb-9	Rush University Medical Center park	GP-D-181012	12-Oct-18	Day	0.34
		GP-D-181112	12-Nov-18	Day	0.17
Grb-10	UIC campus park	GQ-N-181023	23-Oct-18	Night	ND (0.074)
Grb-11	Guaranteed Rate Field - parking lot	GT-D-181023	23-Oct-18	Day	0.14* (0.19, 0.09J)
		GAI-D-181023	23-Oct-18	duplicate	
Grb-12	Hindsdale Oasis - Tri-State Toll Rd.	GU-N-181018	18-Oct-18	Night	0.2
Grb-13	Midway Airport	GV-N-181012	12-Oct-18	Night	0.46
		GV-D-181112	12-Nov-18	Day	0.25
Grb-14	S. Cicero & 75th - parking lot	GY-D-181023	23-Oct-18	Day	0.11 J
Grb-15	Chicago Ridge parking lot	GAA-D-181018	18-Oct-18	Day	0.28
Grb-16	Chicago State University park	GAB-D-181012	12-Oct-18	Day	0.43
		GAB-D-181119	19-Nov-18	Day	0.10 J
Grb-17	Golden Gate Park	GAD-D-181018	18-Oct-18	Day	0.38
		GAD-D-181119	19-Nov-18	Day	0.14
Grb-18	Advocate Lutheran General Hospital	GAE-D-181018	18-Oct-18	Day	0.33
		GAE-D-181115	15-Nov-18	Day	0.18
Grb-19	Loop commercial area sidewalk	GAF-D-181012	12-Oct-18	Day	0.17
		GAF-D-181112	12-Nov-18	Day	0.13
Grb-20	Skokie Hospital	GAG-D-181017	17-Oct-18	Day	0.20

Table 3. Background Monitoring Results – Grab Samples

Station ID	Descriptor	Sample ID	Date Sampled	Day/ Night	Result (µg/m³)
Grb-21	Ogden & Warrenville Downers Grove	GAJ-D-181113 GAO-D-181113 GAO-D-181113 DUP	13-Nov-18 13-Nov-18 13-Nov-18	Day duplicate lab duplicate	0.19* (0.098J, 0.21, 0.26)
Grb-22	Soldier Field park area	GR-D-181112	12-Nov-18	Day	0.17
Grb-23	S. Pulaski & W 40th	GS-D-181112	12-Nov-18	Day	0.22
Grb-24	Woodward Ave & I-55	GAK-D-181119 GAK-D-181119 DUP	19-Nov-18 19-Nov-18	Day lab duplicate	0.14* (0.12J, 0.15)
Grb-25	Woodward Ave & 75th Woodbridge	GAL-D-181119	19-Nov-18	Day	0.12 J
Grb-26	W 75th & 59 Naperville	GAM-D-181119	19-Nov-18	Day	0.19
Grb-27	Union Station	GAP-D-181120	20-Nov-18	Day	0.22
Grb-28	Skokie & Dundee, Northbrook	GB-D-181115	15-Nov-18	Day	0.14
Grb-29	Northwestern University parking area	GF-D-181115	15-Nov-18	Day	0.28
Grb-30	W. Peterson and N. Western	GI-D-181116	16-Nov-18	Day	0.25
Grb-31	W. Fullerton & N. Killbourn	GK-D-181115	15-Nov-18	Day	0.24
Grb-32	N. Halstead & Burling	GM-D-181115	15-Nov-18	Day	0.24
Grb-33	Midway Plaisance Park	GX-D-181119	19-Nov-18	Day	0.11 J
Grb-34	Dan Ryan Woods	GZ-D-181119	19-Nov-18	Day	0.14
Grb-35	S. Ashland & Vermont	GAC-D-181119	19-Nov-18	Day	0.19

APPENDIX A
SAMPLE COLLECTION RECORDS

RAMBOLL

Air Monitoring Data Form

Project	SAL Study
Sample Address	[redacted], Evanston IL
Start Date:	10/17/18
End Date:	10/18/18
Sampler Names:	C Bonakiewicz / M. Russell / S Storaquist
Sample Location ID	1 Station ID: 12hr-1
GPS Coordinates:	42° 3' 32" N 87° 43' 24" W
Sample Number:	A01-N-181017

					Summa Canister		Regulator			Weather				
	Date	Start Time	Stop Time	Sample Type	Number	Size	Number	Initial Reading	Final Reading	Wind Speed (mph)	Wind Direction	Temp (°F)	Relative Humidity	Cloud Cover
start	10/17/18	1943	...	ambient	6L1038	6L	23257	30+	...	calm		40.5	93%	clear
stop	10/19/18	...	625	ambient		6L		...	10	calm		27	92%	clear
start			...	ambient		6L			...					
stop		...		ambient		6L		...						

Location Sketch - for 12 hr Locations only:
(Indicate North)

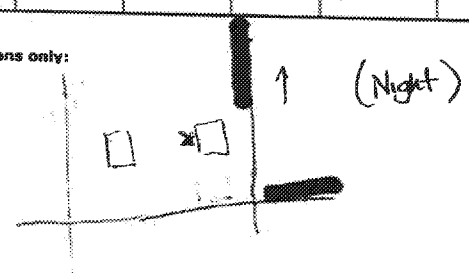


Photo Notes:

1 location
2 canister
3 canister serial number

RAMBOLL

Air Monitoring Data Form

Project	SAL Study
Sample Address	[redacted] Lincolnwood IL
Start Date:	10/18/18
End Date:	10/18/18
Sampler Names:	C Bonnekiewicz / M Russell / K Bell
Sample Location ID	3 / Station ID: 12hr-2
GPS Coordinates:	42° 0' 46" N 87° 44' 12" W
Sample Number:	A03-D-181018

					Summa Canister		Regulator			Weather				
	Date	Start Time	Stop Time	Sample Type	Number	Size	Number	Initial Reading	Final Reading	Wind Speed (mph)	Wind Direction	Temp (°F)	Relative Humidity	Cloud Cover
start	10/18/18	7:40 am	...	ambient	6L1666	6L	23813	30.0	...	0	From west	35°	77%	clear
stop	10/18/18	...	1737	ambient	—	6L		...	7.0	2		51	30%	clear
start			...	ambient		6L			...					
stop		...		ambient		6L		...						

Location Sketch - for 12 hr Locations only:
(Indicate North)

Photo Notes:

1 location
2 canister
3 canister serial number

RAMBOLL

Air Monitoring Data Form

Project	SAL Study
Sample Address	[redacted] Wauwatosa IL
Start Date:	10/17/18
End Date:	10/17/18
Sampler Names:	C. Bonaskiewicz / R. Russell / R. Jones
Sample Location ID	4 / Station ID: 12hr-3
GPS Coordinates:	42°7'1"N / 87°45'30" W
Sample Number:	A04-D-181017

					Summa Canister		Regulator			Weather				
	Date	Start Time	Stop Time	Sample Type	Number	Size	Number	Initial Reading	Final Reading	Wind Speed (mph)	Wind Direction	Temp (°F)	Relative Humidity %	Cloud Cover
start	10/17/18	10:26	...	ambient	6L0454	6L	23397	30	...	2mph	From West	56°	37	Mostly clear
stop		...	2040	ambient		6L		...	7	calm	NA	35	68	clear
start			...	ambient		6L			...					
stop		...		ambient		6L		...						

Location Sketch - for 12 hr Locations only:
(Indicate North)

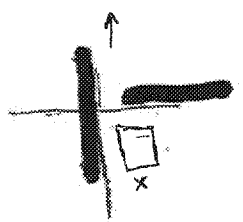


Photo Notes:

1 location
2 canister
3 canister serial number

RAMBOLL

Air Monitoring Data Form

Project	SAL Study
Sample Address	[redacted] Chicago IL
Start Date:	10/17/18
End Date:	10/18/18
Sampler Names:	C Bonchiquez / M Russel / A Rosch
Sample Location ID	6 / Station ID: 12hr-4
GPS Coordinates:	41°56'27"N / 87°38'50"W
Sample Number:	A06-N-181017 / A17-N-181017

					Summa Canister		Regulator			Weather				
	Date	Start Time	Stop Time	Sample Type	Number	Size	Number	Initial Reading	Final Reading	Wind Speed (mph)	Wind Direction	Temp (°F)	Relative Humidity	Cloud Cover
Night A06-N-181017 start	10/17/18	1816	...	ambient	6L0474	6L	23162	30+	...	0	—	60.5°F	33%	clear
stop	10/18/18	...	6:19am	ambient	"	6L	"	...	8	0	—	60	41%	Clear
(Day) A17-N-181017 start	10/17/18	1816	...	ambient	6L0090	6L	23439	29.5	...	0	—	60.5°F	33%	Clear
stop	10/18/18	...	6:19am	ambient	"	6L	"	...	15.5	0	—	60	37%	clear
												↑ See Notes		

Location Sketch - for 12 hr Locations only:
(Indicate North)

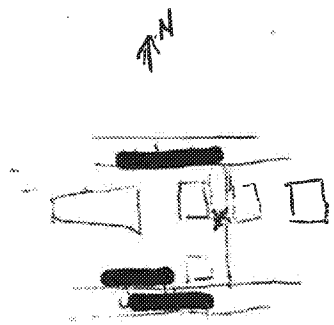


Photo Notes:

1 location
2 canister
3 canister serial number

RAMBOLL

Day

Air Monitoring Data Form

Project	SAL Study
Sample Address	[redacted] Chicago IL
Start Date:	10/18/18
End Date:	10/18/18
Sampler Names:	C Bonczkiewicz / M. Russell / A Rosch
Sample Location ID	6 | Station ID: 12hr-4
GPS Coordinates:	41°56'27" N / 87°38'50" W
Sample Number:	A06-D-181018

					Summa Canister		Regulator			Weather				
	Date	Start Time	Stop Time	Sample Type	Number	Size	Number	Initial Reading	Final Reading	Wind Speed (mph)	Wind Direction	Temp (°F)	Relative Humidity	Cloud Cover
start	10/18/18	6:21am	...	ambient	6L0439	6L	23376	28.5	...	0	/	60	37%	Clear
stop	10/18/18	...	1630	ambient		6L		...	0	0	/	57.8°F	37%	Clear
start			...	ambient		6L			...					
stop		...		ambient		6L		...						

Location Sketch - for 12 hr Locations only:
(Indicate North)

see night form for sketch

Air Sample Not Analyzed due to canister vacuum at 0 at final reading

Photo Notes:

1 location
2 canister
3 canister serial number

RAMBOLL

Air Monitoring Data Form

Project	SAL Study
Sample Address	[redacted] Chicago, IL
Start Date:	10-24-18
End Date:	10-24-18
Sampler Names:	MFm/ A.R.
Sample Location ID	6 Station ID. 12hr-4
GPS Coordinates:	41°56'27"N/87°38'50"W
Sample Number:	A6-D-181024

					Summa Canister		Regulator			Weather				
	Date	Start Time	Stop Time	Sample Type	Number	Size	Number	Initial Reading	Final Reading	Wind Speed (mph)	Wind Direction	Temp (°F)	Relative Humidity	Cloud Cover
start	10-24-18	0625	...	ambient	6L0872	6L		30						
stop		...	1625	ambient		6L		...	1*					
start			...	ambient		6L			...					
stop		...		ambient		6L		...						

Location Sketch - for 12 hr Locations only:
(Indicate North)

*SAMPLE VOIDED DUE TO PRESSURE DROP

Photo Notes:

1 location
2 canister
3 canister serial number

RAMBOLL

Air Monitoring Data Form

Project	SAL Study
Sample Address	[redacted] Chicago on Table in back yard
Start Date:	10.25.18
End Date:	10-25.18
Sampler Names:	RBR/AR
Sample Location ID	6 Station ID: 12hr-4 GPS Coordinates: 41.940812; -87.697242
Sample Number:	A6-D-181025

					Summa Canister		Regulator			Weather				
	Date	Start Time	Stop Time	Sample Type	Number	Size	Number	Initial Reading	Final Reading	Wind Speed (mph)	Wind Direction	Temp (°F)	Relative Humidity	Cloud Cover
start	10.25.18	0625	...	ambient	6L1512	Reg. Gage	23112 1831	29	...	0	—	66	43	Cloudy
stop	10-25-18	...	1825	ambient		6L		...	6	1	N	49	56	Cloudy
start			...	ambient		6L			...					
stop		...		ambient		6L		...						

Location Sketch - for 12 hr Locations only:
(Indicate North)

Photo Notes:

1 location
2 canister
3 canister serial number

RAMBOLL

Air Monitoring Data Form

Project	SAL Study
Sample Address	[redacted] Deerfield IL
Start Date:	10/17/18
End Date:	10/18/18
Sampler Names:	O.Borezkiewicz / M.Russell
Sample Location ID	8 | Station ID: 12hr-5
GPS Coordinates:	42° 9' 52" N / 87° 51' 6" W
Sample Number:	A08-N-181017

					Summa Canister		Regulator			Weather				
	Date	Start Time	Stop Time	Sample Type	Number	Size	Number	Initial Reading	Final Reading	Wind Speed (mph)	Wind Direction	Temp (°F)	Relative Humidity	Cloud Cover
Night														
start	10/17/18	10:20	...	ambient	6L0982	6L	23743	304	...	0 mph	NA	33	66%	clear
stop	10/18/18	...	1026	ambient		6L		...	8" Hg	1.6	From SW	49	31%	clear
start			...	ambient		6L			...					
stop		...		ambient		6L		...						

Location Sketch - for 12 hr Locations only:
(Indicate North)

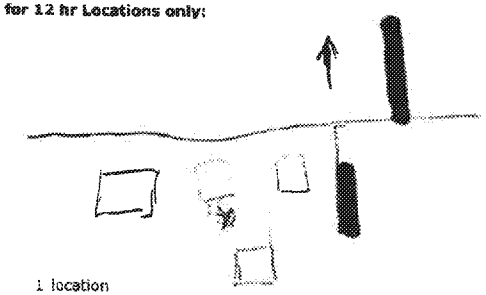


Photo Notes:

1 location
2 canister
3 canister serial number

RAMBOLL

Air Monitoring Data Form

Project	SSL Study
Sample Address	[redacted] - DECK on Stair IN BACK YARD
Start Date:	10-18-18
End Date:	10-18-18
Sampler Names:	RBR
Sample Location ID	9 Station ID: 12hr-6
GPS Coordinates:	41.65747717; -87.6103246
Sample Number:	A9-D-181018

	Date	Start Time	Stop Time	Sample Type	Summa Canister Number	Summa Canister Size	Regulator Number	Regulator Initial Reading	Regulator Final Reading	Weather: Wind Speed (mph)	Weather: Wind Direction	Weather: Temp (°F)	Weather: Relative Humidity	Weather: Cloud Cover
start	10-18-18	0907	...	ambient	6L1506	reg. 6L	24317	30	...	1	NW	56	49	Clear
stop	10-18-18	...	2043	ambient		6L		...	7	-0-	—	49	43	Clear
start			...	ambient		6L			...					
stop		...		ambient		6L		...						

Location Sketch - for 12 hr Locations only:
(Indicate North)

Photo Notes:

1 location
2 canister
3 canister serial number

RAMBOLL

Air Monitoring Data Form

Project:	SAL Study
Sample Address:	[redacted] Park Ridge IL
Start Date:	10/17/18
End Date:	10/17/18
Sampler Names:	C. Bonczkiewicz / M. Russell / E Veder
Sample Location ID	11 Station ID: 12hr-7
Sample Number:	All-N-181017
GPS Coordinates:	42°1'21"N / 87°50'55" W

	Date	Start Time	Stop Time	Sample Type	Summa Canister Number	Summa Canister Size	Regulator Number	Regulator Initial Reading	Regulator Final Reading	Weather: Wind Speed (mph)	Weather: Wind Direction	Weather: Temp (°F)	Weather: Relative Humidity	Weather: Cloud Cover
NIGHT														
All-N-181017														
start	10/17/18	1955	...	ambient	6L1731	6L	23334	30 #	...	0	NA	45	34%	clear
stop	10/18/18	...	7:55am	ambient		6L		...	3.5	0	NA	33	80%	clear
DAY														
All-D-181018														
start	10/18/18	7:55am	...	ambient	6L0973	6L	23681	29	...					
stop	10/18/18	...	1955	ambient		6L		...	6	0	NA	52	44	clear

Location Sketch - for 12 hr Locations only:
(Indicate North)

pressure

Photo Notes:

1 location
2 canister
3 canister serial number

RAMBOLL

Air Monitoring Data Form

Project	SAL Study
Sample Address*	[redacted] - Chicago, IL on Table in Back YARD
Start Date:	10-18-18
End Date:	10-18-18
Sampler Names:	RBR/MFM
Sample Location ID	12 / Station ID: 12hr-8
GPS Coordinates:	41.9368342; -87.7128009
Sample Number:	A12-D-181018

					Summa Canister		Regulator			Weather				
	Date	Start Time	Stop Time	Sample Type	Number	Size	Number	Initial Reading	Final Reading	Wind Speed (mph)	Wind Direction	Temp (°F)	Relative Humidity	Cloud Cover
start	10-18-18	0754	...	ambient	6L0621	Reg. 23415 Gauge 1831		30	...	0	—	42	50	Clear
stop	10-18-18	...	1836	ambient		6L		...	8	0	—	53	43	Clear
start			...	ambient		6L			...					
stop		...		ambient		6L		...						

Location Sketch - for 12 hr Locations only:
(Indicate North)

Photo Notes:

1 location
2 canister
3 canister serial number

RAMBOLL

Air Monitoring Data Form

Project: SAL Study

Sample Address: [redacted] - Chicago on Table in BACK YARD

Start Date: 10-18-18

End Date: 10-19-18

Sampler Names: RBR/KH

Sample Location ID: 12 | Station I.D: 12hr-8

GPS Coordinates: 41.9368342; -87.7128009

Sample Number: A12-H-181018

					Summa Canister		Regulator			Weather				
	Date	Start Time	Stop Time	Sample Type	Number	Size	Number	Initial Reading	Final Reading	Wind Speed (mph)	Wind Direction	Temp (°F)	Relative Humidity	Cloud Cover
start	10-18-18	1907	...	ambient	6L0928	6L	23620	26.5	...	0	—	49	41	Clear
stop	10-19-18	...	0511	ambient		6L		...	7.5	10	S	47	56	Clear
start			...	ambient		6L			...					
stop		...		ambient		6L		...						

Location Sketch - for 12 hr Locations only:
(Indicate North)

Photo Notes:

1 location
2 canister
3 canister serial number

RAMBOLL

Air Monitoring Data Form

Project	SAL Study
Sample Address	[redacted], Brookfield, IL on Table in back Yard
Start Date:	10-18-18
End Date:	10-18-18
Sampler Names:	MFM/ABR
Sample Location ID	13 | Station ID: 12hr-9
GPS Coordinates:	41.831718; -87.8603175
Sample Number:	A13-D-181018

					Summa Canister		Regulator			Weather				
	Date	Start Time	Stop Time	Sample Type	Number	Size	Number	Initial Reading	Final Reading	Wind Speed (mph)	Wind Direction	Temp (°F)	Relative Humidity	Cloud Cover
start	10-18-18	0538	---	ambient	6L0603	Reg 23700 Gauge 1031		30	---	0	-	39	32	Clear
stop	10-18-18	---	1720	ambient		6L		---	7.5	3-5	W	58	38	Clear
start			---	ambient		6L			---					
stop		---		ambient		6L		---						

Location Sketch - for 12 hr Locations only:
(Indicate North)

Photo Notes:

1 location
2 canister
3 canister serial number

RAMBOLL

Air Monitoring Data Form

Project	SAL Study
Sample Address	[redacted] Brookfield IL on Table in Back Yard
Start Date:	10-17-18
End Date:	10-18-18
Sampler Names:	MFM
Sample Location ID	13 | Station ID: 12hr-9
GPS Coordinates:	41.831718; -87.8603175
Sample Number:	A13-N-181017

					Summa Canister		Regulator			Weather				
	Date	Start Time	Stop Time	Sample Type	Number	Size	Number	Initial Reading	Final Reading	Wind Speed (mph)	Wind Direction	Temp (°F)	Relative Humidity	Cloud Cover
start	10-17-18	1828	---	ambient	6L0329	Reg. Gauge	23271 1712	30	---	-0-	—	41	46	clear
stop	10-18-18	---	0520	ambient		6L		---	7	-0-	—	39	32	clear
start			---	ambient		6L			---					
stop		---		ambient		6L		---						

Location Sketch - for 12 hr Locations only:
(Indicate North)

Photo Notes:

1 location
2 canister
3 canister serial number

RAMBOLL

Air Monitoring Data Form

Project: SAL Study

Sample Address: [redacted] Chicago on Table on back Yard Deck

Start Date: 10-17-18

End Date: 10-18-18

Sampler Names: RBR/MFM

Sample Location ID: 15 | Station ID: 12hr-10

GPS Coordinates: 41.9167118; -87.685130

Sample Number: A15-N-181017

	Date	Start Time	Stop Time	Sample Type	Summa Canister Number	Summa Canister Size	Regulator Number	Regulator Initial Reading	Regulator Final Reading	Weather: Wind Speed (mph)	Weather: Wind Direction	Weather: Temp (°F)	Weather: Relative Humidity	Weather: Cloud Cover
start	10-17-18	2020	...	ambient	6L-1211	Reg. Gauge	23422 1831	28	...	-0-	—	53	35	Clear
stop	10-18-18	...	0650	ambient		6L		...	7	-0-	—	41	38	Clear
start			...	ambient		6L			...					
stop		...		ambient		6L		...						

Location Sketch - for 12 hr Locations only:
(Indicate North)

Photo Notes:

1 location
2 canister
3 canister serial number

RAMBOLL

Air Monitoring Data Form

Project	SAL Study
Sample Address	[redacted], WORTH, IL on Table on Back Deck
Start Date:	10-23-18
End Date:	10-23-18
Sampler Names:	RBR/RML
Sample Location ID	16 Station ID: 12hr-11 GPS Coordinates: 41.693659; -87.7831922
Sample Number:	A16-D-181023

	Date	Start Time	Stop Time	Sample Type	Summa Canister Number	Summa Canister Size	Regulator Number	Regulator Initial Reading	Regulator Final Reading	Weather Wind Speed (mph)	Weather Wind Direction	Weather Temp (°F)	Weather Relative Humidity	Weather Cloud Cover
start	10-23-18	0908	...	ambient	6L1529	Reg. Gauge	23754 1812	30	...	3	NW	42	33	Clear
stop	10-23-18	...	1813	ambient		6L		...	5.75	0	—	49	59	Clear
start			...	ambient		6L			...					
stop		...		ambient		6L		...						

Location Sketch - for 12 hr Locations only:
(Indicate North)

Photo Notes:

1 location
2 canister
3 canister serial number

RAMBOLL

Air Monitoring Data Form

Project	SAL Study
Sample Address	[redacted], WORTH, IL on Table on Back Deck
Start Date:	10.23.18
End Date:	10.24.18
Sampler Names:	RML / RBR
Sample Location ID	16 | Station ID: 12hr-11
GPS Coordinates:	41.693659; -87.7831922
Sample Number:	A16-N-181023

					Summa Canister		Regulator			Weather				
	Date	Start Time	Stop Time	Sample Type	Number	Size	Number	Initial Reading	Final Reading	Wind Speed (mph)	Wind Direction	Temp (°F)	Relative Humidity	Cloud Cover
start	10.23.18	2200	...	ambient	6L1703	Reg. Gauge	23414 1802	29	...	0	—	42	73	Clear
stop	10.24.18	...	1000	ambient		6L		...	5.5	0	—	47	58	mostly cloudy
start			...	ambient		6L			...					
stop		...		ambient		6L		...						

Location Sketch - for 12 hr Locations only:
(Indicate North)

Photo Notes:

1 location
2 canister
3 canister serial number

RAMBOLL

Air Monitoring Data Form

Project	SAL Study
Sample Address	1600 Deerfield Rd, Highland Park IL
Start Date:	10/17/18
End Date:	10/17/18
Sampler Names:	C. Borrzkiewicz / M. Russell
Sample Location ID	A / Station ID: Grb-1
GPS Coordinates:	42°10'40" N / 87°49'15" W
Sample Number:	GA-D-181017

					Summa Canister		Regulator			Weather				
	Date	Start Time	Stop Time	Sample Type	Number	Size	Number	Initial Reading	Final Reading	Wind Speed (mph)	Wind Direction	Temp (°F)	Relative Humidity	Cloud Cover
start	10/17/18	6:46	6:47	GRAB ~~ambient~~	6L0947	6L	—	27.0	1.5	0	NA	48°	56%	Mostly Clear
stop	10/17/18	6:48	6:50	GRAB ~~ambient~~	"	6L		15	7.5	—	—	—	—	—
start			...	ambient		6L			...					
stop		...		ambient		6L		...						

Location Sketch - for 12 hr Locations only:
(Indicate North)

Photo Notes:

1 location
2 canister
3 canister serial number

RAMBOLL

Air Monitoring Data Form

Project	SAL Study
Sample Address	2001 Patriot Drive - moved E to train station (2000 block Willow Rd) Glenview
Start Date:	10/17/18
End Date:	10/17/18
Sampler Names:	C Bonczkowski / M Russell
Sample Location ID	Station ID: Grb-2
Sample Number:	BC-D-181017
GPS Coordinates:	42°5'18"N / 87°49'51"W

					Summa Canister		Regulator			Weather				
	Date	Start Time	Stop Time	Sample Type	Number	Size	Number	in Hg Initial Reading	in Hg Final Reading	Wind Speed (mph)	Wind Direction	Temp (°F)	Relative Humidity	Cloud Cover
start	10/17/18	7:48	7:52	GRAB ambient	LL0805	6L	—	27	12.5	3 to 5	From NW	52°	61	clear
stop	10/17/18	7:55	7:57	GRAB ambient		6L		12.5	3.0					
start			...	ambient		6L			...					
stop		...		ambient		6L		...						

Location Sketch - for 12 hr Locations only:
(Indicate North)

2 computer trains 7:41 + 7:45 before sampling

Photo Notes:

1 location
2 canister
3 canister serial number

RAMBOLL

Air Monitoring Data Form

Project	SAL Study
Sample Address	800 Lockwood, Skokie IL 60070
Start Date:	10/18/18
End Date:	10/18/18
Sampler Names:	C Bronkiewicz / M Russell
Sample Location ID	E / Station ID: Grb-3
GPS Coordinates:	42°2'29" N 87°45'36" W
Sample Number:	GE-D-181018

					Summa Canister		Regulator			Weather				
	Date	Start Time	Stop Time	Sample Type	Number	Size	Number	Initial Reading	Final Reading	Wind Speed (mph)	Wind Direction	Temp (°F)	Relative Humidity	Cloud Cover
start	10/18/18	9:10	9:13	GRAB ~~ambient~~	6L 1669	6L	—	26.0	12.5	2 mph	S-SW	40°	67%	clear
stop		9:13	9:15	GRAB ~~ambient~~		6L		12.5	7.0" Hg					
start			...	ambient		6L			...					
stop		...		ambient		6L		...						

Location Sketch - for 12 hr Locations only:
(Indicate North)

Photo Notes:

1 location
2 canister
3 canister serial number

RAMBOLL

Air Monitoring Data Form

Project	SAL Study
Sample Address	9845 Lawrence Ave [redacted] Schiller Park IL 60176
Start Date:	10/17/18
End Date:	10/17/18
Sampler Names:	D. [illegible] / M. Russell
Sample Location ID	G (relocated to lawrence & 394) Station ID: Grab 4 — GPS Coordinates: 41° 57' 56" N / 87° 52' 22" W
Sample Number:	G6 - D - 181017

					Summa Canister		Regulator			Weather				
	Date	Start Time	Stop Time	Sample Type	Number	Size	Number	"Hg Initial Reading	"Hg Final Reading	Wind Speed (mph)	Wind Direction	Temp (°F)	Relative Humidity	Cloud Cover
start	10/17/18	6:53	6:56	SLAB ambient	6L0952	6L	—	26	13	1 mph	from N/NW	62°F	29%	clear
stop	10/17/18	6:56	6:59	SLAB ambient		6L		13	6.5					
start			...	ambient		6L			...					
stop		...		ambient		6L		...						

Location Sketch - for 12 hr Locations only:
(Indicate North)

Photo Notes:

1 location
2 canister
3 canister serial number

RAMBOLL

Air Monitoring Data Form

Project	SAL Study
Sample Address	5353 N Elston - Chicago Il
Start Date:	10/18/18
End Date:	10/18/18
Sampler Names:	C Bonczkiewicz / M Russell
Sample Location ID	H Station ID: GrD-5
GPS Coordinates:	41°58'44" N 87°45'26" W
Sample Number:	GH-D-181018

					Summa Canister		Regulator			Weather				
	Date	Start Time	Stop Time	Sample Type	Number	Size	Number	Initial Reading	Final Reading	Wind Speed (mph)	Wind Direction	Temp (°F)	Relative Humidity	Cloud Cover
Pre Trip														
start	10/18/18	6:40	6:43	GLAS ambient	6L1691	6L	—	26.6	13.5	1mph	From WSW	38.0°F	48 %	clear
stop	10/18/18	6:43	6:45	GLAS ambient		6L		13.5	6.5					
start			...	ambient		6L			...					
stop		...		ambient		6L		...						

Location Sketch - for 12 hr Locations only:
(Indicate North)

Photo Notes:

1 location
2 canister
3 canister serial number

RAMBOLL

Air Monitoring Data Form

Project	SAL Study
Sample Address	7500 W. Marwood Elmwood Park IL
Start Date:	10/17/18
End Date:	10/17/18
Sampler Names:	C. Bo[illegible] / M. Russell
Sample Location ID	J | Station ID: Grb-6
GPS Coordinates:	41°55'29"N / 87°48'23"W
Sample Number:	GJ-D-181017

					Summa Canister		Regulator			Weather				
	Date	Start Time	Stop Time	Sample Type	Number	Size	Number	Initial Reading	Final Reading	Wind Speed (mph)	Wind Direction	Temp (°F)	Relative Humidity	Cloud Cover
start	10/17/18	4:10	4:13	GRAB ~~ambient~~	6L1606	6L	—	30+	8.5	6 mph	from NW	60°F	33%	clear
stop	10/17/18	4:15	4:16	GRAB ~~ambient~~		6L		8.5	6.5	—	—	—	—	—
start			...	ambient		6L			...					
stop		...		ambient		6L		...						

Location Sketch - for 12 hr Locations only:
(Indicate North)

Photo Notes:

1 location
2 canister
3 canister serial number

RAMBOLL

Air Monitoring Data Form

Project	SAL Study
Sample Address	2412 W. North Ave Chicago - [redacted]
Start Date:	10-17-18
End Date:	10-17-18
Sampler Names:	RBR/MFM
Sample Location ID	L Station ID: Grb-7
GPS Coordinates:	41.9105902; -87.6875689
Sample Number:	GL-N-181017

	Date	Start Time	Stop Time	Sample Type	Summa Canister Number	Summa Canister Size	Regulator Number	Regulator Initial Reading	Regulator Final Reading	Weather: Wind Speed (mph)	Weather: Wind Direction	Weather: Temp (°F)	Weather: Relative Humidity	Weather: Cloud Cover
1° start	10-17-18	1943	...	GRAB	6L 1473	6L	1648	27	...	-0-	NA	49	38	Clear
stop	10-17-18	...	1953	ambient		6L		...	6					
start			...	ambient		6L			...					
stop		...		ambient		6L		...						

Location Sketch - for 12 hr Locations only:
(Indicate North)

Photo Notes:

1 location
2 canister
3 canister serial number

RAMBOLL

Air Monitoring Data Form

Project	SAL Study
Sample Address	725 S. Mannheim Road, Westchester IL
Start Date:	10/17/18
End Date:	10/17/18
Sampler Names:	A. Bamczkiewicz / M. Russell
Sample Location ID	N Station ID: Grb-8
Sample Number:	GN-D-181017

GPS Coordinates: 41°52'4" N / 87°52'58" W

	Date	Start Time	Stop Time	Sample Type	Summa Canister Number	Summa Canister Size	Regulator Number	Regulator Initial Reading	Regulator Final Reading	Weather Wind Speed (mph)	Weather Wind Direction	Weather Temp (°F)	Weather Relative Humidity	Weather Cloud Cover
start	10/17/18	1757	1800	ambient	6L0758	6L	—	26.0	11.5	0-3 mph	From NW	61°	27%	clear
stop	10/17/18	1800	1802	ambient		6L		11.5	6.0					
start			...	ambient		6L			...					
stop		...		ambient		6L		...						

Location Sketch - for 12 hr Locations only:
(Indicate North)

Photo Notes:

1 location
2 canister
3 canister serial number

RAMBOLL

Air Monitoring Data Form

Project	SAL Study
Sample Address	1515 W. Harrison - Chicago, IL - [redacted]
Start Date:	10-12-18
End Date:	10-12-18
Sampler Names:	RBR / MEM
Sample Location ID	P / Station ID: Grb-9
GPS Coordinates:	41.873871; -87.6648131
Sample Number:	GP-D-181012

	Date	Start Time	Stop Time	Sample Type	Summa Canister Number	Summa Canister Size	Regulator Number	Regulator Initial Reading	Regulator Final Reading	Weather Wind Speed (mph)	Weather Wind Direction	Weather Temp (°F)	Weather Relative Humidity	Weather Cloud Cover
start	10-12-18	0814	...	GRAB ~~ambient~~	6L1862	6L	1648	27	...	0-2	NW	51	52%	Mostly cloudy
stop	10-12-18	...	0822	~~ambient~~		6L		...	5.5					
start			...	ambient		6L			...					
stop		...		ambient		6L		...						

Location Sketch - for 12 hr Locations only:
(Indicate North)

Photo Notes:

1 location
2 canister
3 canister serial number

RAMBOLL

Air Monitoring Data Form

Project	SAL Study
Sample Address	1640 W. Roosevelt Road - Chicago [redacted]
Start Date:	10-23-18
End Date:	10-23-18
Sampler Names:	RBR/MFM
Sample Location ID	Q | Station ID: GrD-10
GPS Coordinates:	41.867388; -87.668063
Sample Number:	GQ-N-181023

					Summa Canister		Regulator			Weather				
	Date	Start Time	Stop Time	Sample Type	Number	Size	Number	Initial Reading	Final Reading	Wind Speed (mph)	Wind Direction	Temp (°F)	Relative Humidity	Cloud Cover
start	10-23-18	0634	---	Grab ~~ambient~~	6L1451	6L	1831	29	---	6	NW	44	51	Clear
stop		---	0640	ambient		6L		---	5.5					
start			---	ambient		6L			---					
stop		---		ambient		6L		---						

Location Sketch - for 12 hr Locations only:
(Indicate North)

Photo Notes:

1 location
2 canister
3 canister serial number

RAMBOLL

Air Monitoring Data Form

Project	SAL Study
Sample Address	333 W. 35th ST. Chicago [redacted]
Start Date:	10-23-18
End Date:	10-23-18
Sampler Names:	RBR/MFM
Sample Location ID	T 1 Station ID: Grb-11
GPS Coordinates:	41.830264; -87.632177
Sample Number:	GT-D-181023

					Summa Canister		Regulator			Weather				
	Date	Start Time	Stop Time	Sample Type	Number	Size	Number	Initial Reading	Final Reading	Wind Speed (mph)	Wind Direction	Temp (°F)	Relative Humidity	Cloud Cover
start	10-23-18	0710	...	GRAB	6L1574	6L	1831	30	...	8	H/HW	43	47	Clear
stop	10-23-18	...	0717	ambient		6L		...	7					
start			...	ambient		6L			...					
stop		...		ambient		6L		...						

Location Sketch - for 12 hr Locations only:
(Indicate North)

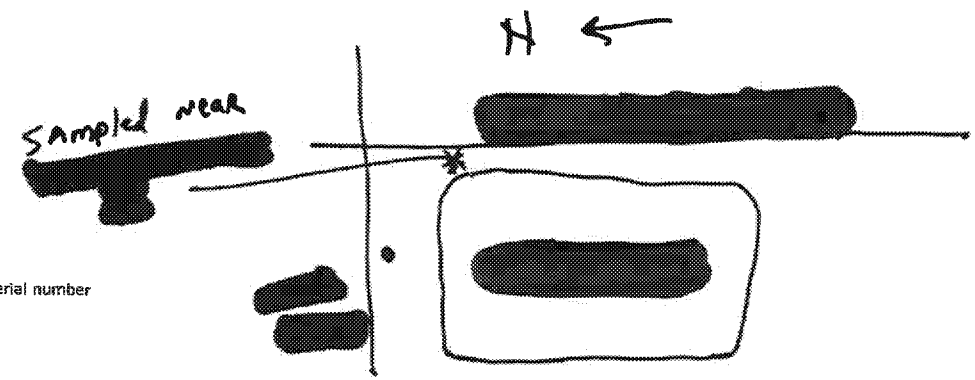


Photo Notes:

1 location
2 canister
3 canister serial number

RAMBOLL

Air Monitoring Data Form

Project	SAL Study
Sample Address	[redacted] - I-294 Northbound
Start Date:	18-Oct-2018
End Date:	18-Oct-2018
Sampler Names:	Mike Russell
Sample Location ID	U | Station ID: Grb-12
GPS Coordinates:	41°47'7"N 87°54'25"W
Sample Number:	GU-N-181018

	Date	Start Time	Stop Time	Sample Type	Summa Canister Number	Summa Canister Size	Regulator Number	Regulator Initial Reading	Regulator Final Reading	Weather Wind Speed (mph)	Weather Wind Direction	Weather Temp (°F)	Weather Relative Humidity	Weather Cloud Cover
start	10-18 2018	19:04	...	ambient	6L0579	6L	1812	26.0	...	4	SSW	51	44	Mostly Clear
stop	10-18 2018	...	19:07	ambient		6L		...	6.0	2	SSW	51	44	Mostly Clear
start			...	ambient		6L			...					
stop		...		ambient		6L		...						

Location Sketch - for 12 hr Locations only:
(Indicate North)

Photo Notes:

1 location
2 canister
3 canister serial number
4.

Close up of can #
sample location
View from South to Northbound I-294
View from NE of sample # [redacted]

RAMBOLL

Air Monitoring Data Form

Project	SAL Study
Sample Address	6145 S. Cicero Ave. [redacted]
Start Date:	10-12-18
End Date:	10-12-18
Sampler Names:	RBR/ MFM
Sample Location ID	Y 1 Station ID: Grb-13
GPS Coordinates:	41.78079211; -87.74209116
Sample Number:	GV-H-181012

	Date	Start Time	Stop Time	Sample Type	Summa Canister Number	Summa Canister Size	Regulator Number	Regulator Initial Reading	Regulator Final Reading	Weather Wind Speed (mph)	Weather Wind Direction	Weather Temp (°F)	Weather Relative Humidity	Weather Cloud Cover
start	10-12-18	0643	...	Grab ~~ambient~~	6L1116	6L	1648	27	...	0-3	N/NW	39	49	Clear
stop	10-12-18	...	0651	~~ambient~~		6L		...	6					
start			...	ambient		6L			...					
stop		...		ambient		6L		...						

Location Sketch - for 12 hr Locations only:
(Indicate North)

Photo Notes:

1 location
2 canister
3 canister serial number

RAMBOLL

Air Monitoring Data Form

Project	SAL Study
Sample Address	7601 S. Cicero Ave. Chicago [redacted]
Start Date:	10-23-18
End Date:	10-23-18
Sampler Names:	RBR/MFM
Sample Location ID	Y1 Station ID: Grb-14
GPS Coordinates:	41.755318; -87.736498
Sample Number:	GY-D-181023

	Date	Start Time	Stop Time	Sample Type	Summa Canister Number	Summa Canister Size	Regulator Number	Regulator Initial Reading	Regulator Final Reading	Weather Wind Speed (mph)	Weather Wind Direction	Weather Temp (°F)	Weather Relative Humidity	Weather Cloud Cover
start	10-23-18	0805	...	ambient	6L0908	6L	1831	30	...	4-6	NW	44	34	Clear
stop	10-23-18	...	0812	ambient		6L		...	5.5					
start			...	ambient		6L			...					
stop		...		ambient		6L		...						

Location Sketch - for 12 hr Locations only:
(Indicate North)

Photo Notes:

1 location
2 canister
3 canister serial number

RAMBOLL

Air Monitoring Data Form

Project	SAL Study
Sample Address	444 Chicago Ridge [redacted]
Start Date:	10-18-18
End Date:	10-18-18
Sampler Names:	RBR/MFM
Sample Location ID	AA 1 Station ID: Grb-15
GPS Coordinates:	41.714602; -87.783510
Sample Number:	GAA-D-181018

					Summa Canister		Regulator			Weather				
	Date	Start Time	Stop Time	Sample Type	Number	Size	Number	Initial Reading	Final Reading	Wind Speed (mph)	Wind Direction	Temp (°F)	Relative Humidity	Cloud Cover
start	10-18-18	1052	---	GRAB	6L1070	6L	1648	27	---	8	W	52	26%	Clear
stop	10-18-18	---	1058	~~ambient~~		6L		---	5					
start			---	ambient		6L			---					
stop		---		ambient		6L		---						

Location Sketch - for 12 hr Locations only:
(Indicate North)

Photo Notes:

1 location
2 canister
3 canister serial number

RAMBOLL

Air Monitoring Data Form

Project	SAL Study
Sample Address	9501 S. King Dr. Chicago - [redacted]
Start Date:	10-12-18
End Date:	10-12-18
Sampler Names:	RBR/MEM
Sample Location ID	AB / Station ID: Grab-16
Sample Number:	GAB-D-181012
GPS Coordinates:	

					Summa Canister		Regulator			Weather				
	Date	**Start Time**	**Stop Time**	**Sample Type**	**Number**	**Size**	**Number**	**Initial Reading**	**Final Reading**	**Wind Speed (mph)**	**Wind Direction**	**Temp (°F)**	**Relative Humidity**	**Cloud Cover**
start	10-12-18	1008	...	Grab ambient	6L-0896	6L	1648	27	...	0-3	W	54	41	Mostly cloudy
stop	10-12-18	...	1014	ambient		6L		...	5.5					
start			...	ambient		6L			...					
stop		...		ambient		6L		...						

Location Sketch - for 12 hr Locations only:
(Indicate North)

Photo Notes:

1 location
2 canister
3 canister serial number

RAMBOLL

Air Monitoring Data Form

Project	SAL Study
Sample Address	13000 S. Eberhart - Chicago IL GOLDEN GATE PARK SE SECTION
Start Date:	10-18-18
End Date:	10-18-18
Sampler Names:	RBR/MFM
Sample Location ID	AD | Station ID: Grb-17
GPS Coordinates:	41.65973682; -87.6107012
Sample Number:	GAD-D-181018

	Date	Start Time	Stop Time	Sample Type	Summa Canister Number	Summa Canister Size	Regulator Number	Regulator Initial Reading	Regulator Final Reading	Weather Wind Speed (mph)	Weather Wind Direction	Weather Temp (°F)	Weather Relative Humidity	Weather Cloud Cover
start	10-18-18	0930	...	GRAB	6L1625	6L	1648	27	...	3	W	56	41	Clear
stop	10-18-18	...	0937	~~ambient~~		6L		...	5					
start			...	ambient		6L			...					
stop		...		ambient		6L		...						

Location Sketch - for 12 hr Locations only:
(Indicate North)

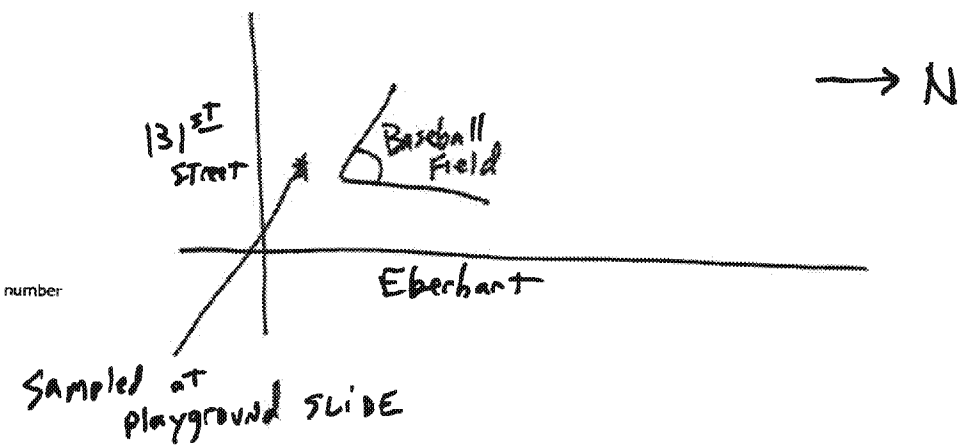


Photo Notes:

1 location
2 canister
3 canister serial number

RAMBOLL

Air Monitoring Data Form

Project	SAL Study
Sample Address	1775 Dempster St. Park Ridge IL
Start Date:	10/18/18
End Date:	10/18/18
Sampler Names:	C. Bonkowicz / M. Russell
Sample Location ID	AE / Station ID: Grb-18
GPS Coordinates:	42°7'22"N / 87°56'43"W
Sample Number:	GAE-D-181018

					Summa Canister		Regulator			Weather				
	Date	Start Time	Stop Time	Sample Type	Number	Size	Number	Initial Reading	Final Reading	Wind Speed (mph)	Wind Direction	Temp (°F)	Relative Humidity	Cloud Cover
Pre Dawn														
start	10/18/18	6:05	6:08 am	GRAB ambient	6L0374	6L		26.0	18.5	0-3	From SW	340	46%	clear
stop	10/18/18	6:08	6:10	GRAB ambient		6L		13.5	5					
start			...	ambient		6L			...					
stop		...		ambient		6L		...						

Location Sketch - for 12 hr Locations only:
(Indicate North)

Photo Notes:

1 location
2 canister
3 canister serial number

RAMBOLL

Air Monitoring Data Form

Project	SAL Study
Sample Address	333 W. Wacker Drive Chicago [redacted]
Start Date:	10-12-18
End Date:	10-12-18
Sampler Names:	RBR/ MFM
Sample Location ID	AF 1 Station ID: Crb-19
GPS Coordinates:	41.886104; -87.6363696
Sample Number:	GAF-D-181012

	Date	Start Time	Stop Time	Sample Type	Summa Canister Number	Summa Canister Size	Regulator Number	Regulator Initial Reading	Regulator Final Reading	Weather Wind Speed (mph)	Weather Wind Direction	Weather Temp (°F)	Weather Relative Humidity	Weather Cloud Cover
start	10-12-18	0903	...	Grab ~~ambient~~	610203	6L	1648	27	...	0-8	W	54	41	Cloudy
stop	10-12-18	...	0910	~~ambient~~		6L		...	5					
start			...	ambient		6L			...					
stop		...		ambient		6L		...						

Location Sketch - for 12 hr Locations only:
(Indicate North)

Photo Notes:

1 location
2 canister
3 canister serial number

RAMBOLL

Air Monitoring Data Form

Project	SAL Study
Sample Address	9600 Gross Point Rd, Skokie
Start Date:	10/17/18
End Date:	10/17/18
Sampler Names:	C Borczkiewicz / M. Russell
Sample Location ID	AG Station ID: Grb-20
GPS Coordinates:	42°3'25" N / 87°44' 19' W
Sample Number:	CAG-D-191017

					Summa Canister		Regulator			Weather				
	Date	Start Time	Stop Time	Sample Type	Number	Size	Number	Initial Reading	Final Reading	Wind Speed (mph)	Wind Direction	Temp (°F)	Relative Humidity	Cloud Cover
start	10/17/18	9:38	940	ambient	6L0648	6L	—	26.0	14	2-7 kts	from N/NW	58	46	partly cloudy
stop	10/17/18	9:40	943	ambient		6L		14.0	7.5					
start			...	ambient		6L			...					
stop		...		ambient		6L		...			~			

Location Sketch - for 12 hr Locations only:
(Indicate North)

Photo Notes:

1 location
2 canister
3 canister serial number

RAMBOLL

Air Monitoring Data Form

Project	SAL Study
Sample Address	2412 N. Western Ave. Chicago, [redacted]
Start Date:	10-17-18
End Date:	10-17-18
Sampler Names:	RBR/MEN
Sample Location ID	AH Station ID: Grb-7 (Dup)
GPS Coordinates:	41.9185902; -87.6875689
Sample Number:	GAH-N-181017

					Summa Canister		Regulator			Weather				
	Date	Start Time	Stop Time	Sample Type	Number	Size	Number	Initial Reading	Final Reading	Wind Speed (mph)	Wind Direction	Temp (°F)	Relative Humidity	Cloud Cover
start	10-17-18	1943	...	GRAB	610475	6L	1648	27	...	-0-	NA	49	38	Clear
stop	10-17-18	...	1953	ambient		6L		...	5					
start			...	ambient		6L			...					
stop		...		ambient		6L		...						

Location Sketch - for 12 hr Locations only:
(Indicate North)

Photo Notes:

1 location
2 canister
3 canister serial number

RAMBOLL

Air Monitoring Data Form

Project: SAL Study

Sample Address: 333 W. 35th St Chicago - [redacted]

Start Date: 10-23-18

End Date: 10-23-18

Sampler Names: RBR/MFM

Sample Location ID: AI 1 Station ID: Grb-11 (Dup)

GPS Coordinates: 41.830264; -87.632177

Sample Number: GAI-D-181023

					Summa Canister		Regulator			Weather				
	Date	Start Time	Stop Time	Sample Type	Number	Size	Number	Initial Reading	Final Reading	Wind Speed (mph)	Wind Direction	Temp (°F)	Relative Humidity	Cloud Cover
start	10-23-18	0710	...	~~Amb~~	640956	6L	1831	30	...	8	N/NW	43	47	Clear
stop	10-23-18	...	0717	~~ambient~~		6L		...	5					
start			...	ambient		6L			...					
stop		...		ambient		6L		...						

Location Sketch - for 12 hr Locations only:
(Indicate North)

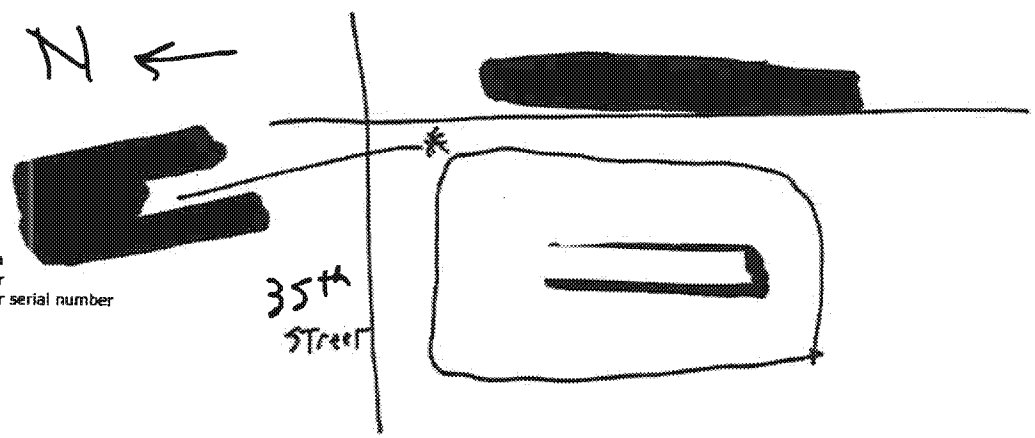


Photo Notes:

1 location
2 canister
3 canister serial number

RAMBOLL

Air Monitoring Data Form

Project: SAL Study

Sample Address: [redacted], EVANSTON, IL on Table in back yard

Start Date: 11-13-18

End Date: 11-13-18

Sampler Names: MFM/SS

Sample Location ID: 2 | Station ID: 12hr-1

GPS Coordinates: 42° 3' 32" N 87° 43' 29" W

Sample Number: A2-D-181113

	Date	Start Time	Stop Time	Sample Type	Summa Canister Number	Summa Canister Size	Regulator Number	Regulator Initial Reading	Regulator Final Reading	Weather: Wind Speed (mph)	Weather: Wind Direction	Weather: Temp (°F)	Weather: Relative Humidity	Weather: Cloud Cover
start	11-13-18	0919	...	ambient	620982	reg. gauge	23379 1812	30	...	<1	—	29	25	Partly cloudy
stop	11-13-18	...	2119	ambient		6L		...	9	<1	—	24	24	Clear
start			...	ambient		6L			...					
stop		...		ambient		6L		...						

Location Sketch - for 12 hr Locations only:
(Indicate North)

Photo Notes:

1 location
2 canister
3 canister serial number

RAMBOLL

Air Monitoring Data Form

Project	SAL Study
Sample Address	[redacted] Lincolnwood IL
Start Date:	11/16/18
End Date:	11/16/18
Sampler Names:	A. Bhardwaj / K. Bell
Sample Location ID	3 | Station ID: 12hr-2
GPS Coordinates:	42°0'46" N 87°44'12" W
Sample Number:	A3-D-181116

					Summa Canister		Regulator			Weather				
	Date	Start Time	Stop Time	Sample Type	Number	Size	Number	Initial Reading	Final Reading	Wind Speed (mph)	Wind Direction	Temp (°F)	Relative Humidity	Cloud Cover
start	11/16/18	0825	...	ambient	6L0805	6L	23202	27.5	...	2	From SW	37°	63%	partly cloudy
stop	11/16/18	...	2023	ambient	6L0805	6L	23202	...	10	calm	—	36°	68%	cloudy
start			...	ambient		6L			...					
stop		...		ambient		6L		...						

Location Sketch - for 12 hr Locations only:
(Indicate North)

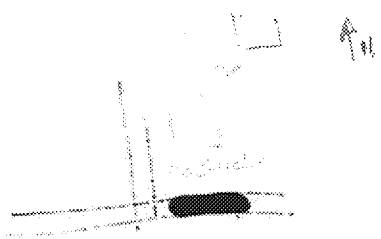


Photo Notes:

1 location
2 canister
3 canister serial number

RAMBOLL

Air Monitoring Data Form

Project	SAL Study
Sample Address	[redacted], Winnetka IL
Start Date:	11/16/18
End Date:	11/5/18
Sampler Names:	C. Bonczkiewicz / R. Jones
Sample Location ID	4 | Station ID: 12hr-3
GPS Coordinates:	42° 7' 1" N 87° 45' 30" W
Sample Number:	A 4 - D - 181116

					Summa Canister		Regulator			Weather				
	Date	Start Time	Stop Time	Sample Type	Number	Size	Number	Initial Reading	Final Reading	Wind Speed (mph)	Wind Direction	Temp (°F)	Relative Humidity	Cloud Cover
start	11/16/18	0905	...	ambient	6L0758	6L	23491	30+	...	1-5	From West	38°	60%	cloudy
stop	11/16/18	...	1855	ambient		6L		...	7	calm	—	36°	46%	partly cloudy
start			...	ambient		6L			...					
stop		...		ambient		6L		...						

Location Sketch - for 12 hr Locations only:
(Indicate North)

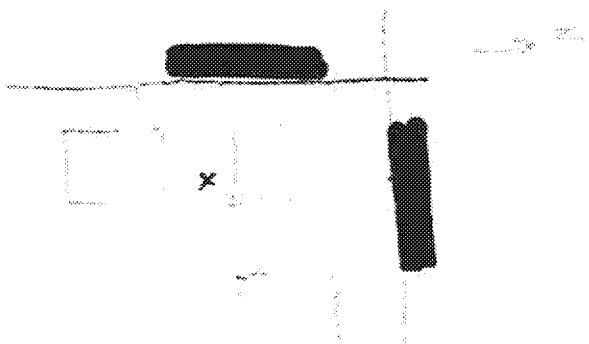


Photo Notes:

1 location
2 canister
3 canister serial number

RAMBOLL

Air Monitoring Data Form

Project	SAL Study
Sample Address	[redacted] Deerfield IL
Start Date:	11/16/18
End Date:	11/16/18
Sampler Names:	C. Barczkowitz
Sample Location ID	8 | Station ID: 12hr-5
GPS Coordinates:	42°9'52" N 87°51'6" W
Sample Number:	A8-D-181116

					Summa Canister		Regulator			Weather				
	Date	Start Time	Stop Time	Sample Type	Number	Size	Number	Initial Reading	Final Reading	Wind Speed (mph)	Wind Direction	Temp (°F)	Relative Humidity	Cloud Cover
start	11/16/18	716	...	ambient	6L1691	6L	23785	29	...	2	From West	32	68%	cloudy
stop	11/16/18	...	1900	ambient		6L		...	5.75	0.5	From SW	36°	74%	Partly cloudy
start			...	ambient		6L			...					
stop		...		ambient		6L		...						

Location Sketch - for 12 hr Locations only:
(Indicate North)

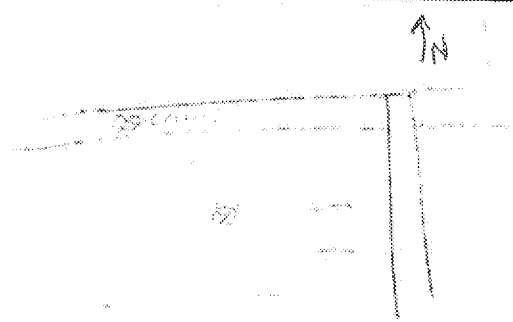


Photo Notes:

1 location
2 canister
3 canister serial number

RAMBOLL

Air Monitoring Data Form

Project	SAI Study
Sample Address	[redacted] Chicago - on stairs to back yard deck
Start Date:	11·16·18
End Date:	11·16·18
Sampler Names:	RBR
Sample Location ID	9 | Station ID: 12hr-6
Sample Number:	A9- D- 181116
GPS Coordinates:	41.65749717, -87.6103246

					Summa Canister		Regulator			Weather				
	Date	Start Time	Stop Time	Sample Type	Number	Size	Number	Initial Reading	Final Reading	Wind Speed (mph)	Wind Direction	Temp (°F)	Relative Humidity	Cloud Cover
start	11·16·18	0758	...	ambient	6L0329	Reg. Gauge	23774 1824	30	...	3	W	37	81	Cloudy
stop	11·16·18	...	2001	ambient		6L		...	8	8	W	36	77	Cloudy
start			...	ambient		6L			...					
stop		...		ambient		6L		...						

Location Sketch - for 12 hr Locations only:
(Indicate North)

Photo Notes:

1 location
2 canister
3 canister serial number

RAMBOLL

Air Monitoring Data Form

Project SAL Study

Sample Address [redacted] – Chicago on Table on back deck

Start Date: 11·12·18

End Date: 11·12·18

Sampler Names: MFm/YS

Sample Location ID 15 | Station ID: 12hr-10 **GPS Coordinates:** 41.91677118; -87.68513307

Sample Number: A15-D-181112

					Summa Canister		Regulator			Weather				
	Date	Start Time	Stop Time	Sample Type	Number	Size	Number	Initial Reading	Final Reading	Wind Speed (mph)	Wind Direction	Temp (°F)	Relative Humidity	Cloud Cover
start	11·12·18	0712	...	ambient	6L0952	Reg Gauge	23113 1824	29.5	...	0-6	NNW	32	44	mostly cloudy
stop	11·12·18	...	1905	ambient		6L		...	8.5	0-3	NNW	29	53	mostly cloudy
start			...	ambient		6L			...					
stop		...		ambient		6L		...						

Location Sketch - for 12 hr Locations only:
(Indicate North)

Photo Notes:

1 location
2 canister
3 canister serial number

RAMBOLL

Air Monitoring Data Form

Project	SAL Study
Sample Address	[redacted] Chicago on Table on back deck
Start Date:	11-12-18
End Date:	11-13-18
Sampler Names:	MEM
Sample Location ID	15 1 Station ID: 12hr-10 GPS Coordinates: 41.9167118; -87.6851307
Sample Number:	A15-N-181112

	Date	Start Time	Stop Time	Sample Type	Summa Canister Number	Summa Canister Size	Regulator Number	Regulator Initial Reading	Regulator Final Reading	Weather: Wind Speed (mph)	Wind Direction	Temp (°F)	Relative Humidity	Cloud Cover
start	11-12-18	1912	...	ambient	6L0374	Reg Gauge	23129 1824	30	...	0-3	NNW	29	53	Cloudy
stop	11-13-18	...	0705	ambient		6L		...	8.5	0-6	NW	22	48	Partly cloudy
start			...	ambient		6L			...					
stop		...		ambient		6L		...						

Location Sketch - for 12 hr Locations only:
(Indicate North)

Photo Notes:

1 location
2 canister
3 canister serial number

RAMBOLL

Air Monitoring Data Form

Project	SAL Study
Sample Address	[redacted] Naperville - on Counter at back Yard Patio
Start Date:	11-12-18
End Date:	11-12-18
Sampler Names:	RBR
Sample Location ID	18 | Station ID: 12hr-12
GPS Coordinates:	41.7307927; -88.1256664
Sample Number:	A18- D- 181112

					Summa Canister		Regulator			Weather				
	Date	Start Time	Stop Time	Sample Type	Number	Size	Number	Initial Reading	Final Reading	Wind Speed (mph)	Wind Direction	Temp (°F)	Relative Humidity	Cloud Cover
start	11-12-18	0736	...	ambient	6L0579	Reg. Gage	29230 1824	27	...	5	NW	28	71	Cloudy
stop	11-12-18	...	1936	ambient		6L		...	7	8	N	29	62	Cloudy
start			...	ambient		6L			...					
stop		...		ambient		6L		...						

Location Sketch - for 12 hr Locations only:
(Indicate North)

Photo Notes:

1 location
2 canister
3 canister serial number

RAMBOLL

Air Monitoring Data Form

Project	SAL Study
Sample Address	[redacted], Naperville – ON COUNTER AT BACK YARD PATIO
Start Date:	11·12·18
End Date:	11·13·18
Sampler Names:	RBR
Sample Location ID	18 Station ID: 12hr-12
Sample Number:	A18-N-181112
GPS Coordinates:	41.7307927; -88.1256642

					Summa Canister		Regulator			Weather				
	Date	Start Time	Stop Time	Sample Type	Number	Size	Number	Initial Reading	Final Reading	Wind Speed (mph)	Wind Direction	Temp (°F)	Relative Humidity	Cloud Cover
start	11·12·18	2000	...	ambient	6L1666	Reg Gauge	24302 1816	29	...	7	N	27	64	Cloudy
stop	11·13·18	...	0800	ambient		6L		...	7	3	NW	18	61	Clear
start			...	ambient		6L			...					
stop		...		ambient		6L		...						

Location Sketch - for 12 hr Locations only:
(Indicate North)

Photo Notes:

1 location
2 canister
3 canister serial number

RAMBOLL

Air Monitoring Data Form

Project	SSL Study: [redacted]
Sample Address:	[redacted], Evanston, IL on table in back yard
Start Date:	11-13-18
End Date:	11-13-18
Sampler Names:	MFM/SS
Sample Location ID	19 1 Station ID: 12hr-13
GPS Coordinates:	42° 3' 32" N 87° 43' 24" W
Sample Number:	A19-D-181113

	Date	Start Time	Stop Time	Sample Type	Summa Canister Number	Summa Canister Size	Regulator Number	Regulator Initial Reading	Regulator Final Reading	Weather: Wind Speed (mph)	Weather: Wind Direction	Weather: Temp (°F)	Weather: Relative Humidity	Weather: Cloud Cover
start	11-13-18	0919	...	ambient	6L1038	Reg. Gauge	23829 1024	28.5	...	<1	N	29	25	partly cloudy
stop	11-13-18	...	2012 2112	ambient		6L		...	6	<1		24	24	clear
start			...	ambient		6L			...					
stop		...		ambient		6L		...						

Location Sketch - for 12 hr Locations only:
(Indicate North)

Photo Notes:

1 location
2 canister
3 canister serial number

RAMBOLL

Air Monitoring Data Form

Project	SAL Study
Sample Address	[redacted] Naperville – on patio ledge in back yard
Start Date:	11-16-18
End Date:	11-16-18
Sampler Names:	MFM/YS
Sample Location ID	20 Station ID: 12hr-14
Sample Number:	A20-D-181116
GPS Coordinates:	41.7875540; -88.2191426

					Summa Canister		Regulator			Weather				
	Date	Start Time	Stop Time	Sample Type	Number	Size	Number	Initial Reading	Final Reading	Wind Speed (mph)	Wind Direction	Temp (°F)	Relative Humidity	Cloud Cover
start	11-16-18	0540	---	ambient	6L1703	Reg Gage	23432 1824	30	---	10	WSW	30	96	Partly Cloudy
stop	11-16-18	---	1740	ambient		6L		---	13	8	5	36	92	Partly cloudy
start			---	ambient		6L			---					
stop		---		ambient		6L		---						

Location Sketch - for 12 hr Locations only:
(Indicate North)

Photo Notes:

1 location
2 canister
3 canister serial number

RAMBOLL

Air Monitoring Data Form

Project: SAL Study

Sample Address: [redacted] Naperville, IL on patio ledge in back yard

Start Date: 11-16-18

End Date: 11-16-18

Sampler Names: MFM/YS

Sample Location ID: 20 (Station ID: 12hr-14)

GPS Coordinates: 41.78755540; -88.2191426

Sample Number: A20-N-181119

	Date	Start Time	Stop Time	Sample Type	Summa Canister Number	Summa Canister Size	Regulator Number	Regulator Initial Reading	Regulator Final Reading	Weather: Wind Speed (mph)	Weather: Wind Direction	Weather: Temp (°F)	Weather: Relative Humidity	Weather: Cloud Cover
start	11-19-18	2000	---	ambient	6L1552	6L ~~Gage~~	23174 1812	29.5	---	6	W	33	81	Cloudy
stop	11-20-18	---	0800	ambient		6L		---	8	8	NW	29	77	Sunny
start			---	ambient		6L			---					
stop		---		ambient		6L		---						

Location Sketch - for 12 hr Locations only:
(Indicate North)

Photo Notes:

1 location
2 canister
3 canister serial number

RAMBOLL

Air Monitoring Data Form

Project	SAL Study
Sample Address	1600 Deerfield Rd Highland Park IL
Start Date:	11/14/18
End Date:	11/14/18
Sampler Names:	C. Bonakiewicz
Sample Location ID	A Station ID: Grb-1
GPS Coordinates:	42° 10' 40" N / 87° 49' 15" W
Sample Number:	GA-D-181114

					Summa Canister		Regulator			Weather				
	Date	Start Time	Stop Time	Sample Type	Number	Size	Number	Initial Reading	Final Reading	Wind Speed (mph)	Wind Direction	Temp (°F)	Relative Humidity	Cloud Cover
start	11/14/18	1740	1743	GRAB ambient	6L 1070	6L	—	30	12	2	NE	32	60%	cloudy
stop		1744	1746	GRAB ambient		6L		...	7					
start			...	ambient		6L			...					
stop		...		ambient		6L		...						

Location Sketch - for 12 hr Locations only:
(Indicate North)

Photo Notes:

1 location
2 canister
3 canister serial number

RAMBOLL

Air Monitoring Data Form

Project	SAL Study
Sample Address	1600 Deerfield Rd Highland Park IL
Start Date:	11/14/18
End Date:	11/14/18
Sampler Names:	C. Borzkewicz
Sample Location ID	A (DUP) Station ID: Grb-1
Sample Number:	G-AN-D-181114
GPS Coordinates:	42°10'40" N / 87°49'15" W

	Date	Start Time	Stop Time	Sample Type	Summa Canister Number	Summa Canister Size	Regulator Number	Regulator Initial Reading	Regulator Final Reading	Weather Wind Speed (mph)	Weather Wind Direction	Weather Temp (°F)	Weather Relative Humidity	Weather Cloud Cover
start	11/14/18	1752	1750	GRAB	6L0956	6L	—	30	11	2	NE	32°	60%	cloudy
stop		1755	1757	GRAB		6L		...	5					
start			...	ambient		6L			...					
stop		...		ambient		6L		...						

Location Sketch - for 12 hr Locations only:
(Indicate North)

Photo Notes:

1 location
2 canister
3 canister serial number

RAMBOLL

Air Monitoring Data Form

Project	SAL Study
Sample Address	1515 W. Harrison Street, Chicago [redacted]
Start Date:	11.12.19
End Date:	11.12.19
Sampler Names:	MFM/YS
Sample Location ID	P 1 Station ID: Grb-9
GPS Coordinates:	41.873871; -87.6648131
Sample Number:	GP-D-181112

	Date	Start Time	Stop Time	Sample Type	Summa Canister Number	Summa Canister Size	Regulator Number	Regulator Initial Reading	Regulator Final Reading	Weather Wind Speed (mph)	Weather Wind Direction	Weather Temp (°F)	Weather Relative Humidity	Weather Cloud Cover
start	11.12.19	1049	...	GRAB	6L0474	6L	1717	30	...	8	N	34	31	Mostly cloudy
stop	11.12.19	...	1057	~~ambient~~		6L		...	5.5					
start			...	ambient		6L			...					
stop		...		ambient		6L		...						

Location Sketch - for 12 hr Locations only:
(Indicate North)

Photo Notes:

1 location
2 canister
3 canister serial number

RAMBOLL

Air Monitoring Data Form

Project	SAL Study
Sample Address	6145 S. Cicero Ave. Chicago - [redacted]
Start Date:	11.12.18
End Date:	11.12.18
Sampler Names:	MFM / YS
Sample Location ID	V Station ID: Grb-13
GPS Coordinates:	41.7807921; -87.7420916
Sample Number:	GV-D-181112

					Summa Canister		Regulator			Weather				
	Date	Start Time	Stop Time	Sample Type	Number	Size	Number	Initial Reading	Final Reading	Wind Speed (mph)	Wind Direction	Temp (°F)	Relative Humidity	Cloud Cover
start	11.12.18	1354	...	GRAB	6L0973	6L	1717	30	...	9	N	36	54	mostly cloudy
stop	11.12.18	...	1400.5	~~ambient~~		6L		...	6					
start			...	ambient		6L			...					
stop		...		ambient		6L		...						

Location Sketch - for 12 hr Locations only:
(Indicate North)

Photo Notes:

1 location
2 canister
3 canister serial number

RAMBOLL

Air Monitoring Data Form

Project	SAL Study
Sample Address	9501 S. King Dr. [redacted]
Start Date:	11-19-18
End Date:	11-19-18
Sampler Names:	MEM/YS
Sample Location ID	AB / Station ID: Grb-16
Sample Number:	GAB-D-181119
GPS Coordinates:	41.720534; -87.609644

					Summa Canister		Regulator			Weather				
	Date	Start Time	Stop Time	Sample Type	Number	Size	Number	Initial Reading	Final Reading	Wind Speed (mph)	Wind Direction	Temp (°F)	Relative Humidity	Cloud Cover
start	11-19-18	0903	...	Grab ambient	6L0962	6L	1717	30	...	6	SW	26	90	cloudy
stop	11-19-18	...	0908	Grab ambient		6L		...	6					
start			...	ambient		6L			...					
stop		...		ambient		6L		...						

Location Sketch - for 12 hr Locations only:
(Indicate North)

Photo Notes:

1 location
2 canister
3 canister serial number

RAMBOLL

Air Monitoring Data Form

Project	SAL Study CHICAGO
Sample Address	13000 S. Eberhart ✓ Golden Gate Park
Start Date:	11-19-18
End Date:	11-19-18
Sampler Names:	MFM/YS
Sample Location ID	AD 1 Station ID: Grb-17
GPS Coordinates:	41.65736822; -87.6107012
Sample Number:	GAD-D-181119

	Date	Start Time	Stop Time	Sample Type	Summa Canister Number	Summa Canister Size	Regulator Number	Regulator Initial Reading	Regulator Final Reading	Weather Wind Speed (mph)	Weather Wind Direction	Weather Temp (°F)	Weather Relative Humidity	Weather Cloud Cover
start	11-19-18	0743	...	ambient	620835	6L	1717	30	...	6	SW	25	89	Cloudy
stop	11-19-18	...	0749	ambient		6L		...	6					
start			...	ambient		6L			...					
stop		...		ambient		6L		...						

Location Sketch - for 12 hr Locations only:
(Indicate North)

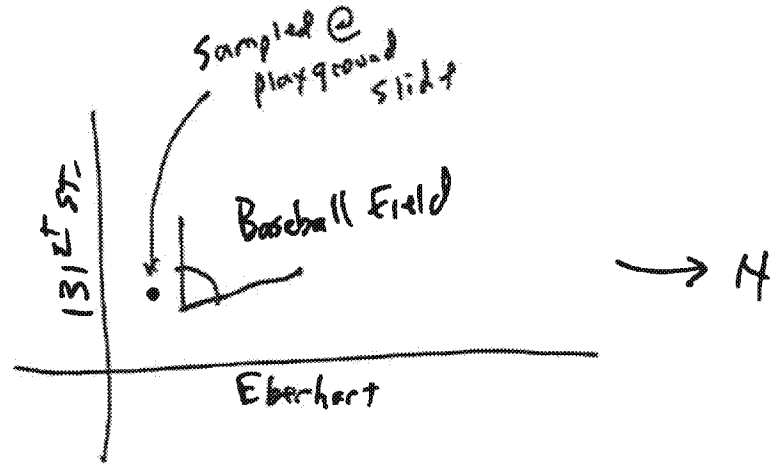


Photo Notes:

1 location
2 canister
3 canister serial number

RAMBOLL

Air Monitoring Data Form

Project	SAL Study
Sample Address	1775 Dempster SP Park Ridge IL
Start Date:	11/15/18
End Date:	11/15/18
Sampler Names:	C Barcelewicz / A. Knowlton
Sample Location ID	AE 1 Station ID: Grb-18
GPS Coordinates:	42.039 N 87.845 W
Sample Number:	GAE-D-181115

					Summa Canister		Regulator			Weather				
	Date	Start Time	Stop Time	Sample Type	Number	Size	Number	Initial Reading	Final Reading	Wind Speed (mph)	Wind Direction	Temp (°F)	Relative Humidity	Cloud Cover
start	11/15/18	1330	1333	GRAB ~~ambient~~	6L 1512	6L	—	29.5	11.5	calm	N/A	36°	64%	cloudy
stop	11/15/18	1334	1336	GRAB ~~ambient~~		6L		...	6					
start			...	ambient		6L			...					
stop		...		ambient		6L		...						

Location Sketch - for 12 hr Locations only:
(Indicate North)

Photo Notes:

1 location
2 canister
3 canister serial number

RAMBOLL

Air Monitoring Data Form

Project	SAL Study
Sample Address	333 W. WACKER DR - Chicago [redacted]
Start Date:	11.12.18
End Date:	11.12.18
Sampler Names:	MFM / YS
Sample Location ID	AF (Station ID: Grb-19
GPS Coordinates:	41.886104, -87.6363646
Sample Number:	GAF-D-181112

	Date	Start Time	Stop Time	Sample Type	Summa Canister Number	Summa Canister Size	Regulator Number	Regulator Initial Reading	Regulator Final Reading	Weather Wind Speed (mph)	Weather Wind Direction	Weather Temp (°F)	Weather Relative Humidity	Weather Cloud Cover
start	11.12.18	0754	---	GRAB	6L1473	6L	1717	30	---	0-6	N/NW	32	29	Partly Cloudy
stop	11.12.18	---	0801	ambient		6L		---	6					
start			---	ambient		6L			---					
stop		---		ambient		6L		---						

Location Sketch - for 12 hr Locations only:
(Indicate North)

Photo Notes:

1 location
2 canister
3 canister serial number

RAMBOLL

Air Monitoring Data Form

Project	SAL Study
Sample Address	2500 Ogden Ave - Downers Grove, IL [redacted]
Start Date:	11·13·18
End Date:	11·13·18
Sampler Names:	RBR/MFM
Sample Location ID	AJ 1 Station ID: Grb-21
Sample Number:	GAJ-D-181113
GPS Coordinates:	41.8053859; -88.0464795

					Summa Canister		Regulator			Weather				
	Date	Start Time	Stop Time	Sample Type	Number	Size	Number	Initial Reading	Final Reading	Wind Speed (mph)	Wind Direction	Temp (°F)	Relative Humidity	Cloud Cover
start	11·13·18	0850	---	GRAB	6L0454	6L	1717	29	---	10	HW	21	55	Sunny
stop	11·13·18	---	0857	~~ambient~~		6L		---	6					
start			---	ambient		6L			---					
stop		---		ambient		6L		---						

Location Sketch - for 12 hr Locations only:
(Indicate North)

Photo Notes:

1 location
2 canister
3 canister serial number

RAMBOLL

Air Monitoring Data Form

Project S&L Study

Sample Address 2500 Ogden Ave Downers Grove, IL - [redacted]

Start Date: 11-13-18

End Date: 11-13-18

Sampler Names: MFM/RBR

Sample Location ID AO 1 Station ID: Grb-21 (Dup)

GPS Coordinates: 41.8053859, -88.0464795

Sample Number: GAO-D-181113

					Summa Canister		Regulator			Weather				
	Date	Start Time	Stop Time	Sample Type	Number	Size	Number	Initial Reading	Final Reading	Wind Speed (mph)	Wind Direction	Temp (°F)	Relative Humidity	Cloud Cover
start	11-13-18	0850	...	GRAB	6L1669	6L	1717	27	...	10	NW	21	55	SUNNY
stop	11-13-18	...	0857	~~ambient~~		6L		...	5					
start			...	ambient		6L			...					
stop		...		ambient		6L		...						

Location Sketch - for 12 hr Locations only:
(Indicate North)

Photo Notes:

1 location
2 canister
3 canister serial number

RAMBOLL

Air Monitoring Data Form

Project	SAL Study
Sample Address	600 E. WALDRON DRIVE - Chicago [redacted]
Start Date:	11-12-18
End Date:	11-12-18
Sampler Names:	MFM/YS
Sample Location ID	R 1 Station ID: Gb-22
GPS Coordinates:	41.8605609, -87.6134499
Sample Number:	GR-D-181112

	Date	Start Time	Stop Time	Sample Type	Summa Canister Number	Summa Canister Size	Regulator Number	Regulator Initial Reading	Regulator Final Reading	Weather: Wind Speed (mph)	Weather: Wind Direction	Weather: Temp (°F)	Weather: Relative Humidity	Weather: Cloud Cover
start	11-12-18	0950	...	GRAB	6L0148	6L	1717	30	...	8	N	34	33	mostly cloudy
stop	11-12-18	...	0957	ambient		6L		...	6.5					
start			...	ambient		6L			...					
stop		...		ambient		6L		...						

Location Sketch - for 12 hr Locations only:
(Indicate North)

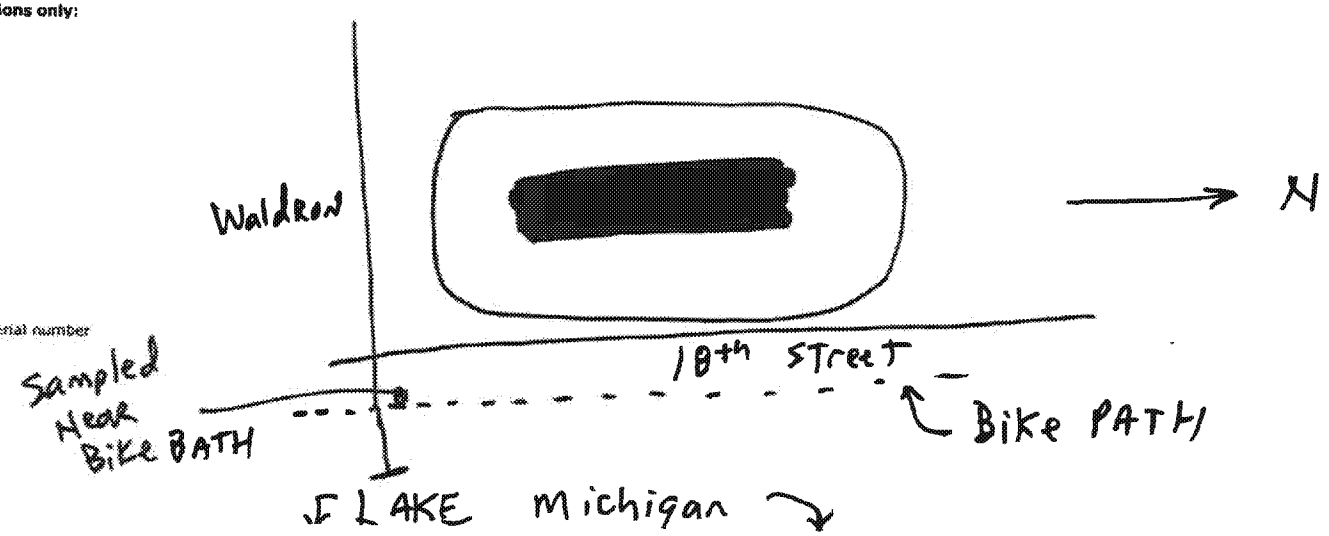


Photo Notes:

1 location
2 canister
3 canister serial number

RAMBOLL

Air Monitoring Data Form

Project	SAL Study
Sample Address	4070 S. Pulaski Chicago - Parking Lot [redacted]
Start Date:	11-12-18
End Date:	11-12-18
Sampler Names:	MEM / YS
Sample Location ID	S Station ID: Grb-23
Sample Number:	GS-D-181112
GPS Coordinates:	41.81850897; -87.7251719

					Summa Canister		Regulator			Weather				
	Date	Start Time	Stop Time	Sample Type	Number	Size	Number	Initial Reading	Final Reading	Wind Speed (mph)	Wind Direction	Temp (°F)	Relative Humidity	Cloud Cover
start	11-12-18	1309	...	GRAB	6L1731	6L	1717	30	...	9	N	36	54	mostly cloudy
stop	11-12-18	...	1315.5	ambient		6L		...	5.75					
start			...	ambient		6L			...					
stop		...		ambient		6L		...						

Location Sketch - for 12 hr Locations only:
(Indicate North)

Photo Notes:

1 location
2 canister
3 canister serial number

RAMBOLL

Air Monitoring Data Form

Project	SAL Study
Sample Address	10000 Woodward Ave, Woodridge, IL [redacted]
Start Date:	11.19.18
End Date:	11.19.18
Sampler Names:	MPM/YS
Sample Location ID	AK 1 Station ID: Grb-24
Sample Number:	GAK-D-181119
GPS Coordinates:	41.7039115; -88.0232911

					Summa Canister		Regulator			Weather				
	Date	Start Time	Stop Time	Sample Type	Number	Size	Number	Initial Reading	Final Reading	Wind Speed (mph)	Wind Direction	Temp (°F)	Relative Humidity	Cloud Cover
start	11.19.18	1451	---	GRAB	6L0738	6L	1717	30	---	W9	WSW	34	78	Sunny
stop	11.19.18	---	1456.45 Sec.	ambient		6L		---	6	9	WSW			
start			---	ambient		6L			---					
stop		---		ambient		6L		---						

Location Sketch - for 12 hr Locations only:
(Indicate North)

Photo Notes:

1 location
2 canister
3 canister serial number

RAMBOLL

Air Monitoring Data Form

Project	SAL Study
Sample Address	1555 75th St. Woodridge, IL [redacted]
Start Date:	11-19-18
End Date:	11-19-18
Sampler Names:	MFM/YS
Sample Location ID	AL 1 Station ID: Grb-25
GPS Coordinates:	41.75039882, -88.02227520
Sample Number:	GAL-D-181119

	Date	Start Time	Stop Time	Sample Type	Summa Canister Number	Summa Canister Size	Regulator Number	Regulator Initial Reading	Regulator Final Reading	Weather: Wind Speed (mph)	Weather: Wind Direction	Weather: Temp (°F)	Weather: Relative Humidity	Weather: Cloud Cover
start	11-19-18	1427	...	~~AGAB~~	6L0068	6L	1717	30	...	9	WSW	35	70	Sunny
stop	11-19-18	...	1432.5	ambient		6L		...	6					
start			...	ambient		6L			...					
stop		...		ambient		6L		...						

Location Sketch - for 12 hr Locations only:
(Indicate North)

Photo Notes:

1 location
2 canister
3 canister serial number

RAMBOLL

Air Monitoring Data Form

Project	SAL Study
Sample Address	2727 W. 75th ST. Naperville, IL [redacted]
Start Date:	11-19-18
End Date:	11-19-18
Sampler Names:	MFM/YS
Sample Location ID	AM 1 Station ID: Grb-26
GPS Coordinates:	41.747738, -88.201000
Sample Number:	GAM-D-181119

					Summa Canister		Regulator			Weather				
	Date	Start Time	Stop Time	Sample Type	Number	Size	Number	Initial Reading	Final Reading	Wind Speed (mph)	Wind Direction	Temp (°F)	Relative Humidity	Cloud Cover
start	11.19.18	1334	...	GRAB	6L1116	6L	1717	30	...	9	WSW	30	83	Sunny
stop	11.19.18	...	1338.50 seconds	ambient		6L		...	6					
start			...	ambient		6L			...					
stop		...		ambient		6L		...						

Location Sketch - for 12 hr Locations only:
(Indicate North)

Photo Notes:

1 location
2 canister
3 canister serial number

RAMBOLL

Air Monitoring Data Form

Project	SAL Study
Sample Address	225 S. CANAL ST. Chicago [redacted]
Start Date:	11-20-18
End Date:	11-20-18
Sampler Names:	RBR
Sample Location ID	AP 1 Station ID: Grb-27
GPS Coordinates:	41.8717625, -87.6403842
Sample Number:	GAP-D-181120

					Summa Canister		Regulator			Weather				
	Date	Start Time	Stop Time	Sample Type	Number	Size	Number	Initial Reading	Final Reading	Wind Speed (mph)	Wind Direction	Temp (°F)	Relative Humidity	Cloud Cover
start	11-20-18	0748	...	~~GRAB~~	6L1606	6L	1831	27	...	* 9	W	30	76	Cloudy*
stop	11-20-18	...	0753	~~ambient~~		6L		...	4					
start			...	ambient		6L			...					
stop		...		ambient		6L		...						

Location Sketch - for 12 hr Locations only:
(Indicate North)

* OUTSIDE [redacted]

Photo Notes:

1 location
2 canister
3 canister serial number

RAMBOLL

Air Monitoring Data Form

Project	SAL Study
Sample Address	801 Skokie Blvd Northbrook, IL
Start Date:	11/15/18
End Date:	11/15/18
Sampler Names:	C. Barczkiewicz
Sample Location ID	B1 Station ID: Gb-28
GPS Coordinates:	42.138 N 87.791 W
Sample Number:	GB-D-181115

					Summa Canister		Regulator			Weather				
	Date	Start Time	Stop Time	Sample Type	Number	Size	Number	Initial Reading	Final Reading	Wind Speed (mph)	Wind Direction	Temp (°F)	Relative Humidity	Cloud Cover
start	11/15/18	925	928	GEAB ambient	6L0475	6L	—	30	12	1.6	from SE	35	59%	cloudy
stop	11/15/18	930	932	GEAB ambient		6L		...	5					sealed [illegible]
start			...	ambient		6L			...					
stop		...		ambient		6L		...						

Location Sketch - for 12 hr Locations only:
(Indicate North)

Photo Notes:

1 location
2 canister
3 canister serial number

RAMBOLL

Air Monitoring Data Form

Project	SAL Study
Sample Address	2133 Sherman Rd Evanston IL
Start Date:	11/15/18
End Date:	11/16/18
Sampler Names:	C. Bordelaire / A. Houston
Sample Location ID	F1 Station ID: Grb-29
GPS Coordinates:	42.056 N 87.676 W
Sample Number:	G-F-D-181115

	Date	Start Time	Stop Time	Sample Type	Summa Canister Number	Summa Canister Size	Regulator Number	Regulator Initial Reading	Regulator Final Reading	Weather: Wind Speed (mph)	Weather: Wind Direction	Weather: Temp (°F)	Weather: Relative Humidity	Weather: Cloud Cover
start	11/15/18	8:13	8:18	GLAS	6L0896	6L	—	29.5	4.8	1-2.8	From NW	34	44%	cloudy
stop	11/15/18	...						...						
start			...						...					
stop		...						...						

Location Sketch - for 12 hr Locations only:
(Indicate North)

Photo Notes:

1 location
2 canister
3 canister serial number

RAMBOLL

Air Monitoring Data Form

Project	SAL Study
Sample Address	2112 W Peterson Ave Chicago IL
Start Date:	11/16/18
End Date:	11/16/18
Sampler Names:	C. [illegible]
Sample Location ID	I | Station ID: Grb-30
GPS Coordinates:	41°59'28.48"N/87°41'0.71"W
Sample Number:	GI-D-181116

					Summa Canister		Regulator			Weather				
	Date	Start Time	Stop Time	Sample Type	Number	Size	Number	Initial Reading	Final Reading	Wind Speed (mph)	Wind Direction	Temp (°F)	Relative Humidity	Cloud Cover
start	11/16/18	1007	1010	GLAB ~~ambient~~	6L 1962	6L	—	29.5	11.5	2-6	From SW	40°	73%	Cloudy
stop	11/16/18	1010	1012	GLAB ~~ambient~~		6L		...	6					
start			...	ambient		6L			...					
stop		...		ambient		6L		...						

Location Sketch - for 12 hr Locations only:
(Indicate North)

Photo Notes:

1 location
2 canister
3 canister serial number

RAMBOLL

Air Monitoring Data Form

Project	SAL Study
Sample Address	2240 Kilbourn Ave Chicago IL Park [illegible]
Start Date:	11/15/18
End Date:	11/15/18
Sampler Names:	[illegible]
Sample Location ID	Station ID: Grb-31
GPS Coordinates:	41.921 N / 87.740 W
Sample Number:	GK-D-181115

	Date	Start Time	Stop Time	Sample Type	Summa Canister Number	Summa Canister Size	Regulator Number	Regulator Initial Reading	Regulator Final Reading	Weather: Wind Speed (mph)	Weather: Wind Direction	Weather: Temp (°F)	Weather: Relative Humidity	Weather: Cloud Cover
start	11/15/18	1445	1448	GLAS Ambient	6L0947	6L	—	30	11.5	0-4	from SE	38°	66%	cloudy
stop	11/15/18	1449	1452	GLAS Ambient		6L		...	6.5					
start			...	ambient		6L			...					
stop		...		ambient		6L		...						

Location Sketch - for 12 hr Locations only:
(Indicate North)

Photo Notes:

1 location
2 canister
3 canister serial number

RAMBOLL

Air Monitoring Data Form

Project	SAL Study
Sample Address	2021 Barling St Chicago IL
Start Date:	11/15/18
End Date:	11/15/18
Sampler Names:	C. Barczykowski / A. Knowlton
Sample Location ID	M1 Station ID: Grb-32
GPS Coordinates:	41.920 N 87.647 W
Sample Number:	GM-D-181115

					Summa Canister		Regulator			Weather				
	Date	Start Time	Stop Time	Sample Type	Number	Size	Number	Initial Reading	Final Reading	Wind Speed (mph)	Wind Direction	Temp (°F)	Relative Humidity	Cloud Cover
start	11/15/18	1602	1605	GRAB ~~ambient~~	6L1529	6L	—	30	11	1.9-2	From West	39°	67%	Mostly Cloudy
stop	11/15/18	1608	1610	GRAB ~~ambient~~		6L		...	5.5					
start			...	ambient		6L			...					
stop		...		ambient		6L		...						

Location Sketch - for 12 hr Locations only:
(Indicate North)

Photo Notes:

1 location
2 canister
3 canister serial number

RAMBOLL

Air Monitoring Data Form

Project	SAL Study
Sample Address	North of 1307 E. 60th St. Chicago – U of Chgo Midway Plaisance Park
Start Date:	11.19.18
End Date:	11.19.18
Sampler Names:	MFM / YS
Sample Location ID	X Station ID: Grb-33
Sample Number:	GX-D-181119
GPS Coordinates:	41.7865865, -87.5939566

	Date	Start Time	Stop Time	Sample Type	Summa Canister Number	Summa Canister Size	Regulator Number	Regulator Initial Reading	Regulator Final Reading	Weather: Wind Speed (mph)	Weather: Wind Direction	Weather: Temp (°F)	Weather: Relative Humidity	Weather: Cloud Cover
start	11.19.18	0949	...	GRAB	6L0203	6L	1717	30	...	7	SW	26	87	Partly cloudy
stop	11.19.18	...	0954.5	ambient		6L		...	6.5					
start			...	ambient		6L			...					
stop		...		ambient		6L		...						

Location Sketch - for 12 hr Locations only:
(Indicate North)

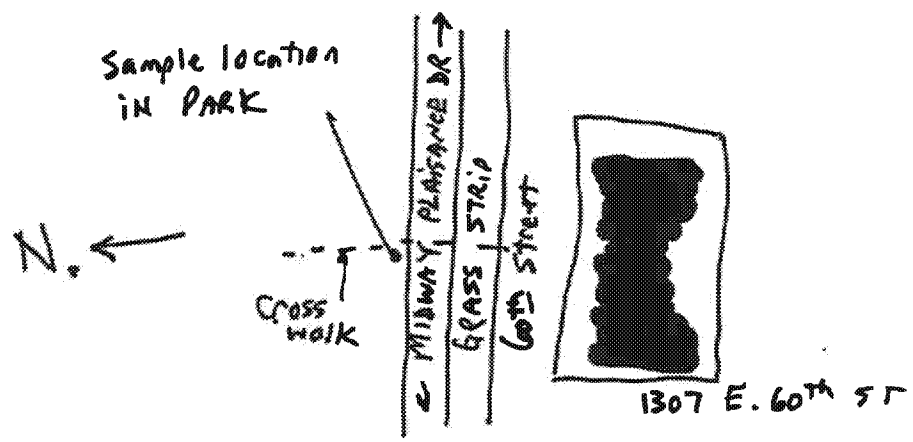


Photo Notes:

1 location
2 canister
3 canister serial number

RAMBOLL

Air Monitoring Data Form

Project	SAL Study
Sample Address	8300 S. Western Ave. Chicago - DAN RYAN WOODS - GROVE 1
Start Date:	11-19-18
End Date:	11-19-18
Sampler Names:	MFM/YS
Sample Location ID	Z 1 Station ID: Grb-34
GPS Coordinates:	41.7416684; -87.6819384
Sample Number:	GZ-D-181119

					Summa Canister		Regulator			Weather				
	Date	Start Time	Stop Time	Sample Type	Number	Size	Number	Initial Reading	Final Reading	Wind Speed (mph)	Wind Direction	Temp (°F)	Relative Humidity	Cloud Cover
start	11-19-18	1039	...	GRAB	6L1574	6L	1717	30	...	9	W/SW	30	78	Partly cloudy
stop	11-19-18	...	1045.5 sec	ambient		6L		...	6.5					
start			...	ambient		6L			...					
stop		...		ambient		6L		...						

Location Sketch - for 12 hr Locations only:
(Indicate North)

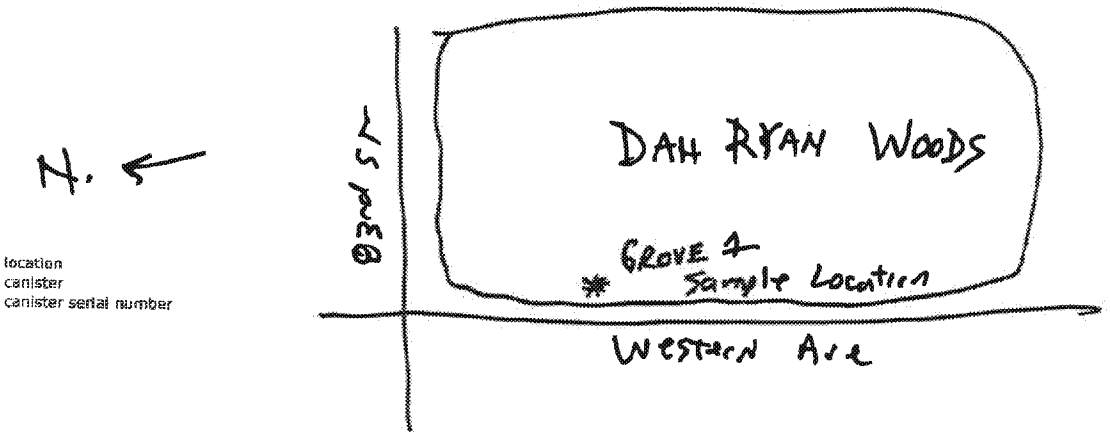


Photo Notes:

1 location
2 canister
3 canister serial number

RAMBOLL

Air Monitoring Data Form

Project	SAL Study
Sample Address	12854 S. Ashland - Chicago [redacted]
Start Date:	11.19.18
End Date:	11.19.18
Sampler Names:	MFM / YS
Sample Location ID	AC / Station ID: Grb-35
GPS Coordinates:	41.6586036; -87.6612391
Sample Number:	GAC.D-181119

					Summa Canister		Regulator			Weather				
	Date	Start Time	Stop Time	Sample Type	Number	Size	Number	Initial Reading	Final Reading	Wind Speed (mph)	Wind Direction	Temp (°F)	Relative Humidity	Cloud Cover
start	11.19.18	0816	...	GRAB	621736	6L	1717	30	...	6	SW	26	85	Cloudy
stop	11.19.18	...	0823	~~ambient~~		6L		...	7					
start			...	ambient		6L			...					
stop		...		ambient		6L		...						

Location Sketch - for 12 hr Locations only:
(Indicate North)

Photo Notes:

1 location
2 canister
3 canister serial number

APPENDIX B
SAMPLE COLLECTION PHOTOS

Photo 1: Station 12hr-1 in Evanston, IL.

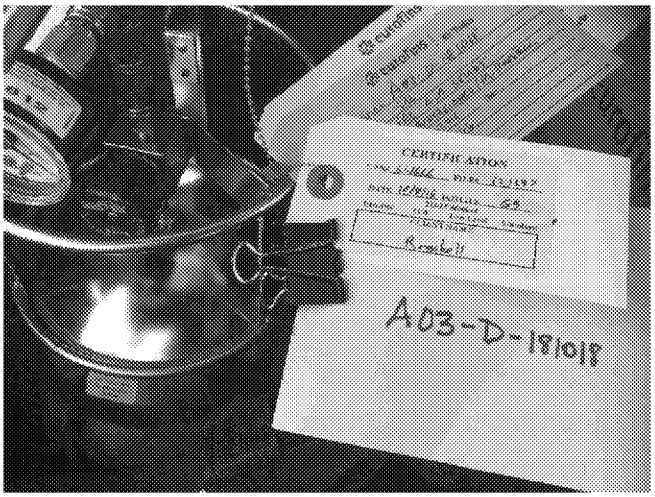


Photo 2: Station 12hr-2 in Lincolnwood, IL.

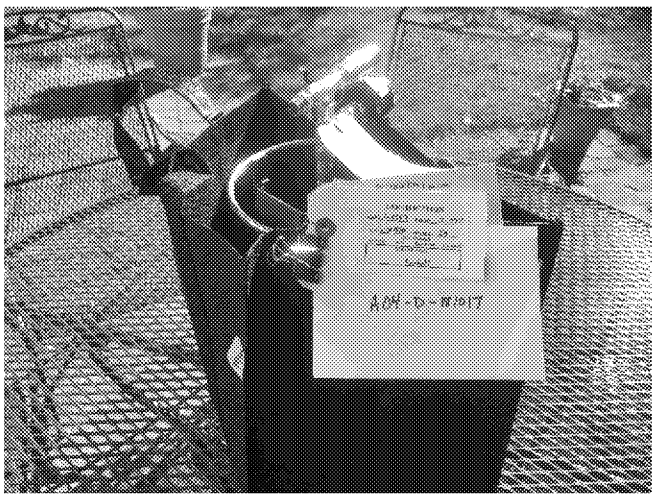


Photo 3: Station 12hr-3 in Winnnetka, IL.

Photo 4: Station 12hr-4 in Chicago, IL.

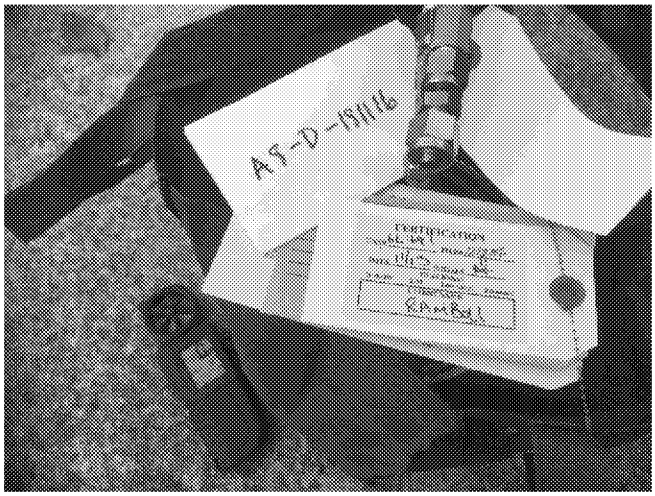


Photo 5: Station 12hr-5 in Deerfield, IL.

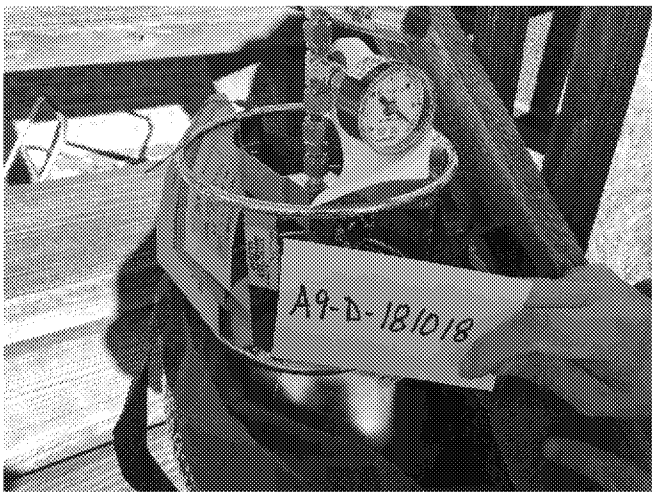


Photo 6: Station 12hr-6 in Chicago, IL.

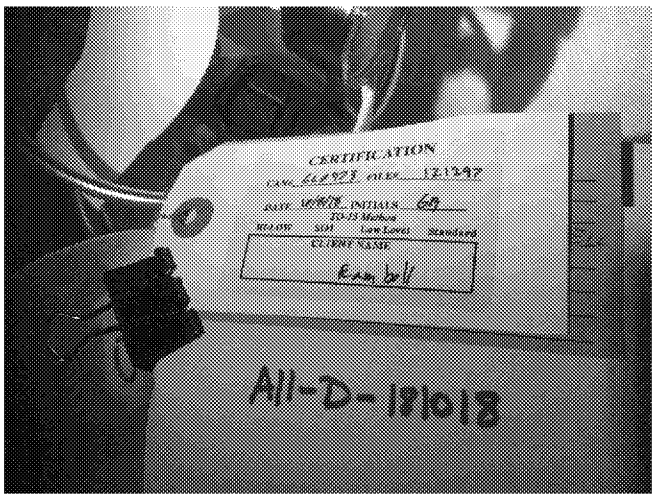


Photo 7: Station 12hr-7 in Park Ridge, IL.

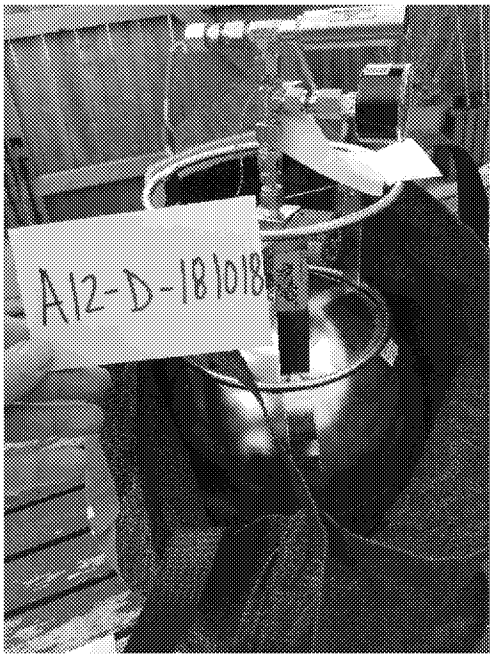


Photo 8: Station 12hr-8 in Chicago, IL.

Photo 9: Station 12hr-9 in Brookfield, IL.

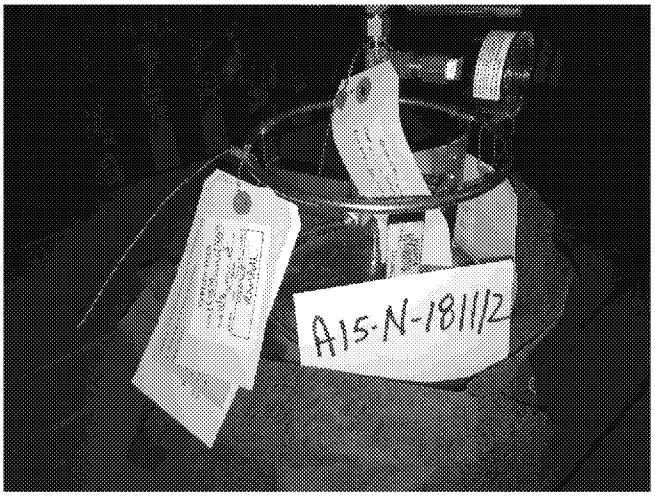


Photo 10: Station 12hr-10 in Chicago, IL.

Photo 11: Station 12hr-11 in Worth, IL.

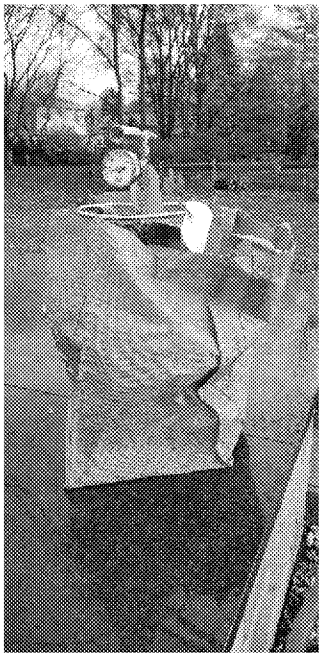


Photo 12: Station 12hr-12 in Naperville, IL. A18-D-181112.

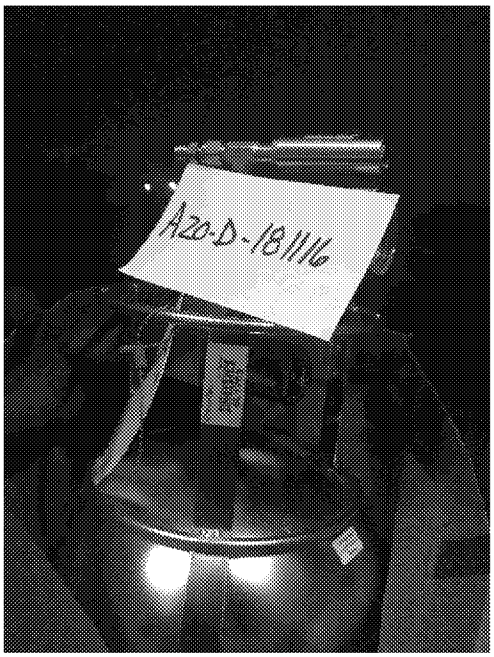


Photo 13: Station 12hr-14 in Naperville, IL.

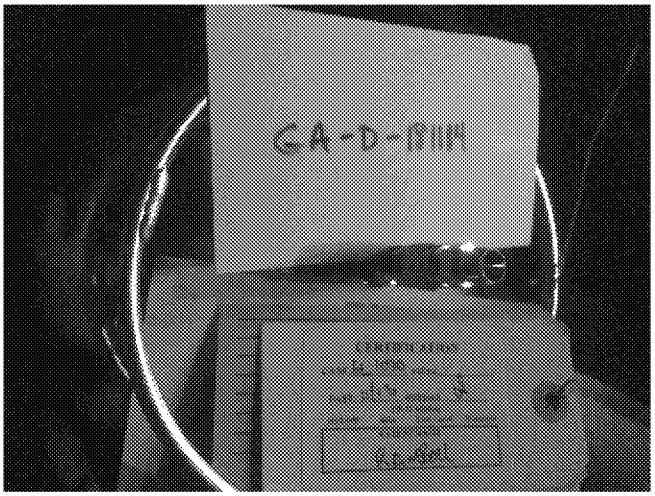


Photo 14: Station Grb-1 in Highland Park, IL.

Photo 15: Station Grb-2 in Glenview, IL.

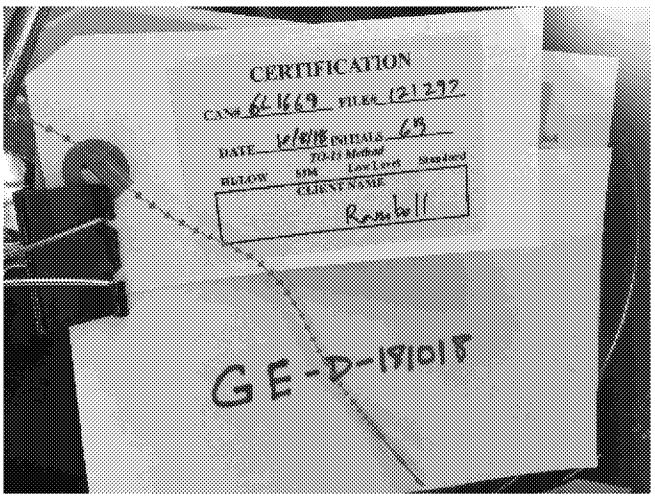


Photo 16: Station Grb-3 in Morton Grove, IL.

Photo 17: Station Grb-4 in Elk Grove Village, IL.

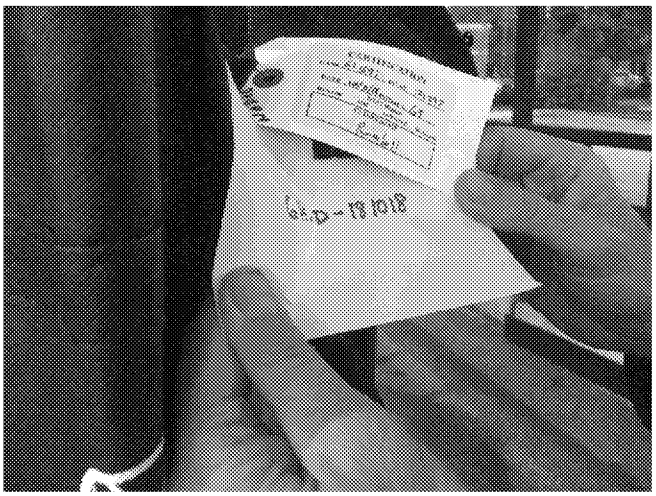


Photo 18: Station Grb-5 in Chicago, IL. GH-D-181018.

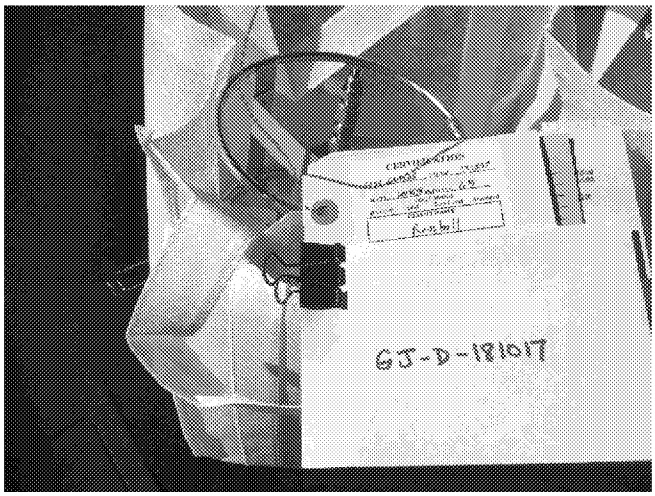


Photo 19: Station Grb-6 in Elmwood Park, IL.

Photo 20: Station Grb-7 in Chicago, IL.

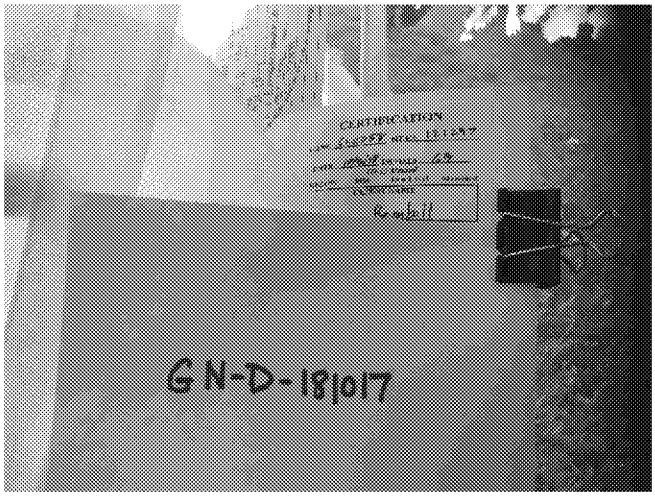


Photo 21: Station Grb-8 in Hillside, IL.

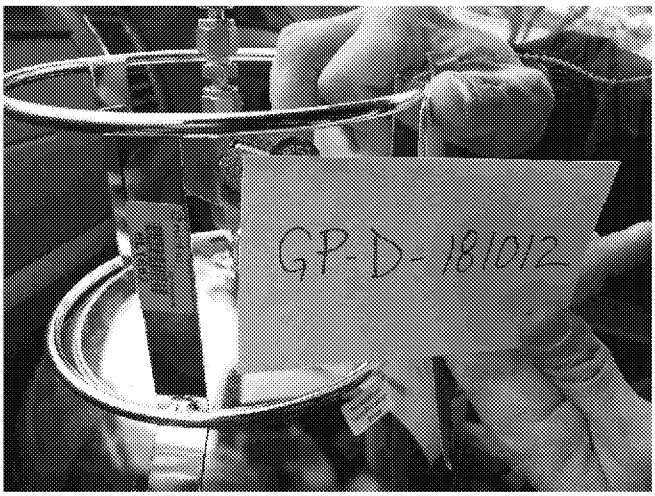


Photo 22: Station Grb-9 in Chicago, IL.

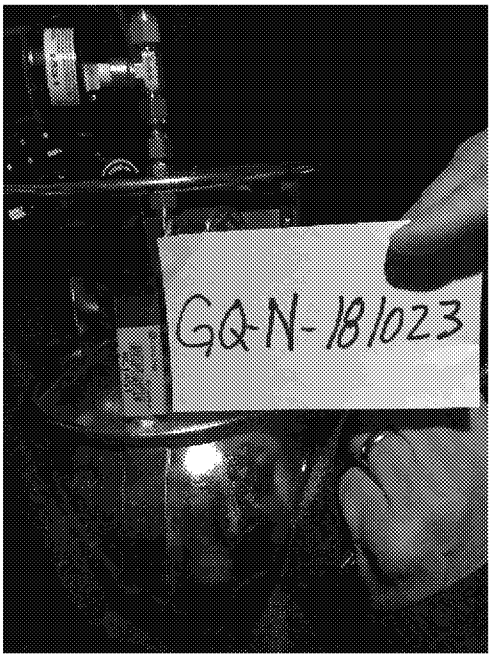


Photo 23: Station Grb-10 in Chicago, IL.

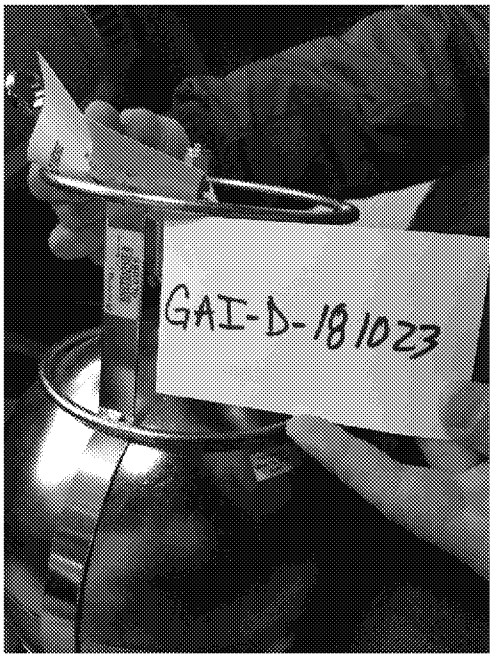


Photo 24: Station Grb-11 in Chicago, IL.

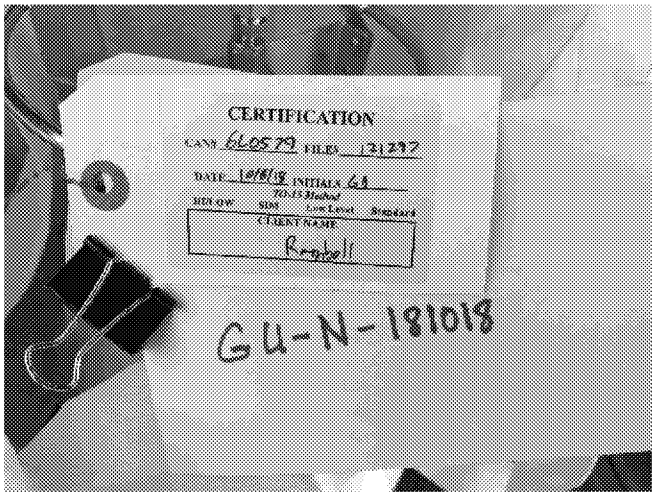


Photo 25: Station Grb-12 in Hinsdale, IL.

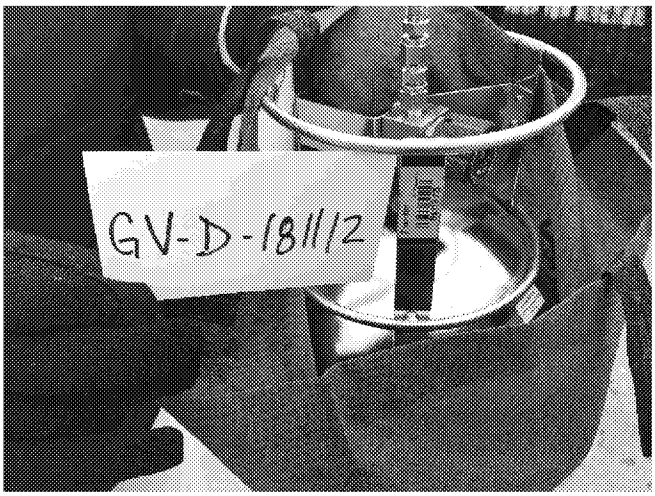


Photo 26: Station Grb-13 in Chicago, IL.

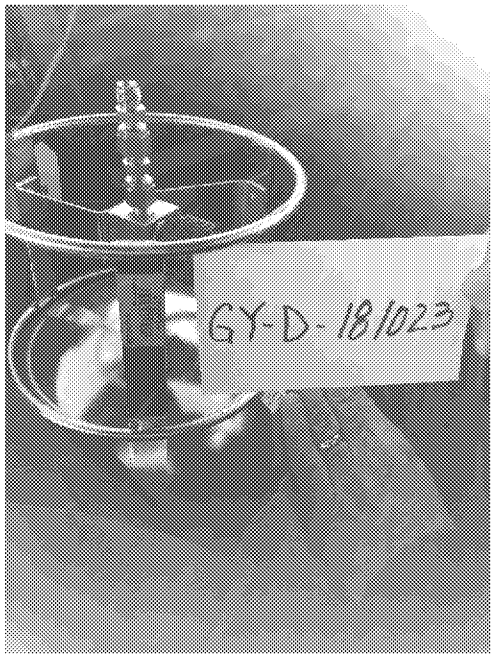


Photo 27: Station Grb-14 in Chicago, IL.

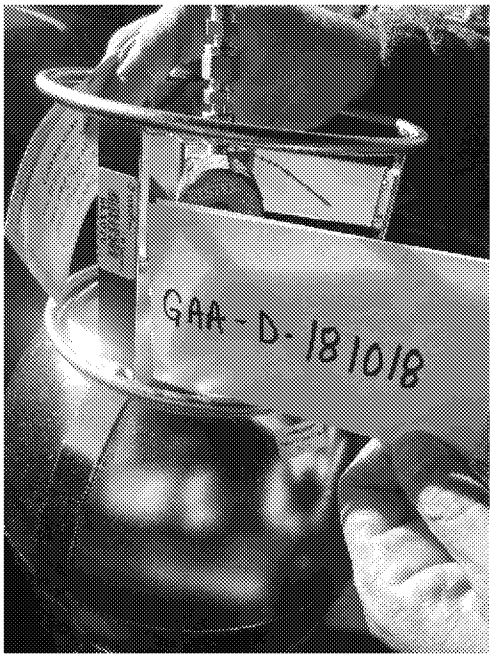


Photo 28: Station Grb-15 in Chicago Ridge, IL.

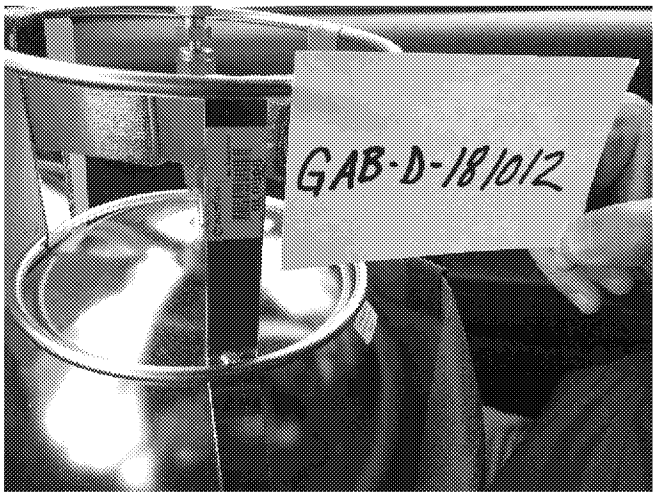


Photo 29: Station Grb-16 in Chicago, IL.

Photo 30: Station Grb-17 in Chicago, IL.

Photo 31: Station Grb-18 in Park Ridge, IL. GAE-D-181115.

Photo 32: Station Grb-19 in Chicago, IL.

Photo 33: Station Grb-20 in Skokie, IL.

Photo 34: Station Grb-21 in Downers Grove, IL.
GAO-D-181113 and GAJ-D-181113.

Photo 35: Grb-22 in Chicago, IL.

Photo 36: Station Grb-23 in Chicago, IL.

Photo 37: Station Grb-24 in Woodridge, IL. GAK-D-181119.

Photo 38: Station Grb-25 in Woodridge, IL.

Photo 39: Station Grb-26 in Naperville, IL.

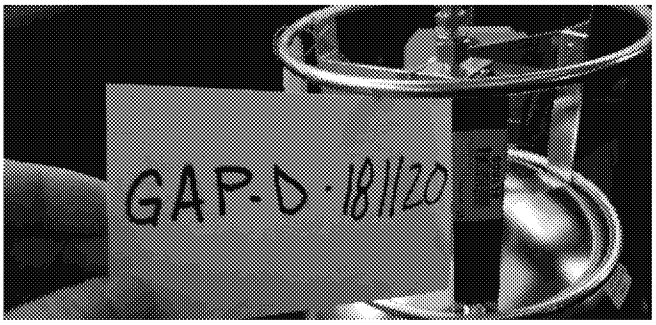


Photo 40: Station Grb-27 in Chicago, IL.

Photo 41: Station Grb-28 in Northbrook, IL.

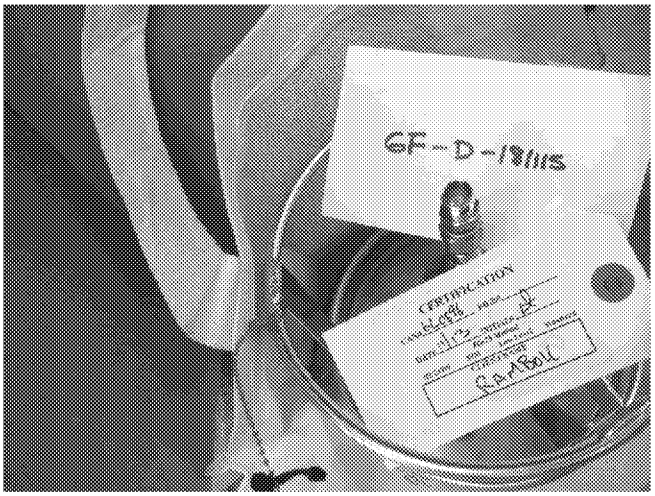


Photo 42: Station Grb-29 in Evanston, IL.

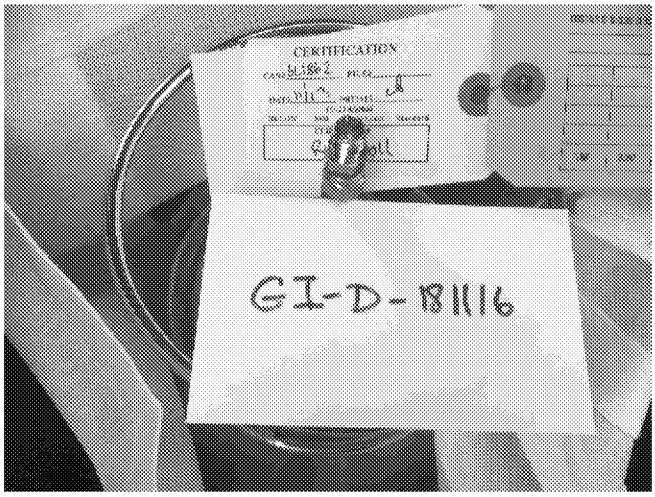


Photo 43: Station Grb-30 in Chicago, IL.

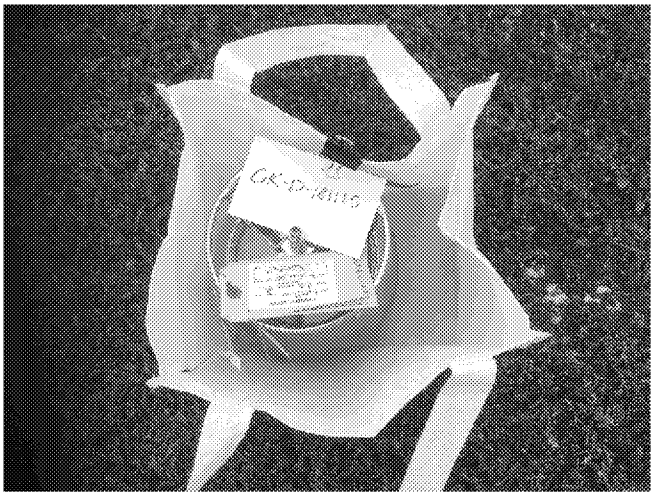


Photo 44: Station Grb-31 in Chicago, IL.

Photo 45: Station Grb-32 in Chicago, IL.

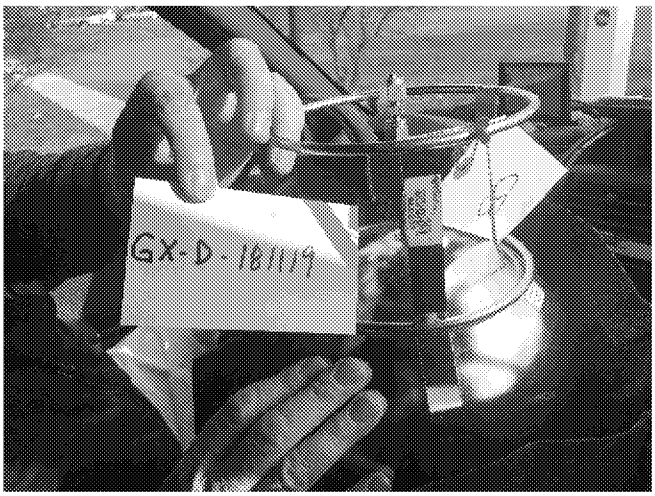


Photo 46: Station Grb-33 in Chicago, IL.

Photo 47: Station Grb-34 in Chicago, IL.

Photo 48: Station Grb-35 in Calumet Park, IL.

APPENDIX C
METHOD VALIDATION AND LABORATORY QUALITY CONTROL REPORTING

New Method Documentation – Prepared for Ramboll Environ

Title of new method: Ethylene Oxide in Ambient Air by EPA Method TO-15

Description of new method and intended application: EPA Method TO-15 was optimized to measure Ethylene Oxide in ambient air at concentrations ≤0.10 ppbv. Analytical parameters were configured to maximize sensitivity and minimize artifacts due to interfering compounds.

Parameter	Description
Targeted compounds	Ethylene Oxide
Sample matrix	Ambient Air
Reference method, if available	TO-15
Sensitivity	<0.1 ppbv
Expected concentration range	0.05 to 5 ppbv
Anticipated interferences	Acetaldehyde, C3-C5 hydrocarbons
Precision and Accuracy requirement	±25%RPD, ±30%
Other	Precision and accuracy evaluation at <0.1 ppbv via Method Detection Limit Study over 3 analytical batches.

Test Plan / Validation Outcomes

- Linearity: Six calibration levels spanning from 0.05 to 10 ppbv were analyzed and evaluated against method acceptance criterion of ≤30%RSD. The lowest concentration used to support the Reporting Limit was evaluated against a minimum signal-to-noise ratio of 3 for the primary ion and qualifying ions.

The intial calibration curve was analyzed on October 15, 2018 on MSD-2 with the MS operating in synchronous SIM/Scan mode. The SIM data files in table below were used for Ethylene Oxide calibration.

Method Name: 218s1015eo.m

Concentration	Data file
0.05 ppbv	2101509sim
0.10 ppbv	2101510sim
0.50 ppbv	2101511sim
1.0 ppbv	2101512sim
5.0 ppbv	2101513sim
10 ppbv	2101514sim

The relative response factor (RRF) for each concentration level is summarized below. The %RSD for the six RRF values was 25.8%, within the TO-15 method requirement of ≤30%RSD.

Compound	0.05000 Level 5	0.10000 Level 6	0.50000 Level 7	1.000 Level 8	5.000 Level 12	10.000 Level 13	___ RRF	% RSD
1 Acetaldehyde	*****	*****	*****	*****	*****	*****	*****	*****
2 Ethylene Oxide	0.21077	0.18446	0.10374	0.13802	0.13593	0.13395	0.15115	25.815

Figure 1 shows the extracted ions for three replicates spiked at a concentration of 0.05 ppbv, analyzed after the initial calibration as part of the Method Detection Limit study. The primary quantitation ion 44 and the monitoring mass ions 43 and 29 met the sensitivity objective, demonstrating a minimum signal to noise ratios of 3.

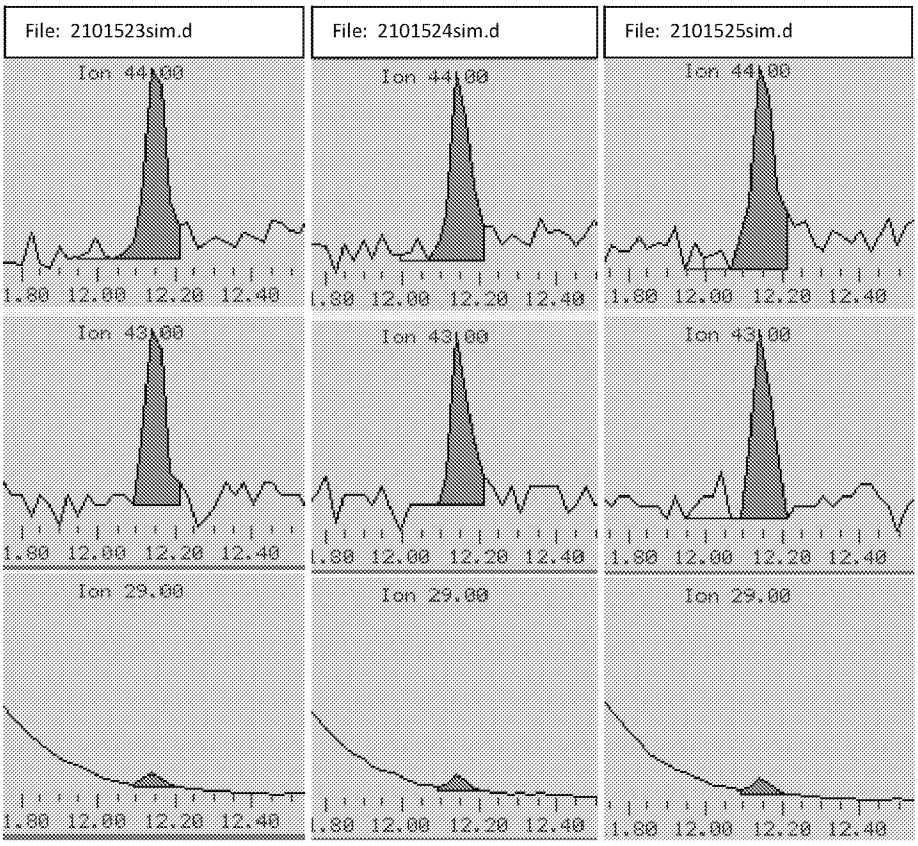


Figure 1. Ethylene Oxide Extracted Mass Ions at reporting limit of 0.05 ppbv

Linearity Outcome Summary: The calibration passes the acceptance criterion of ≤ 30% RSD. The signal to noise at the reporting limit is acceptable.

- Accuracy/Precision: A second source mid-level laboratory control sample (LCS) was prepared and analyzed at 2.5 ppbv. Recovery against the calibration curve was evaluated against 70-130%. Replicate analysis of the second source standard was also evaluated against method precision requirements of ≤25%RPD.

The recoveries and relative percent difference (RPD) are calculated in the following table:

Ethylene Oxide Data File		Measured Amount (ppbv)	Spike Amount (ppbv)	% Recovery	%RPD
LCS-1	2101804sim	2.913	2.5	116.5	0.30
LCS-2	2101805sim	2.904	2.5	116.2	

As required by NELAP, an Initial Demonstration of Capability (IDOC) study was also conducted to measure accuracy and precision at 1 to 4 times the reporting limit. Four replicates of an independent source were analyzed at a concentration of 0.2 ppbv. Average recovery met the method requirement of 70-130% and precision met the method required ≤30% RSD. The IDOC performance is summarized in the following table:

	IDOC-1	IDOC-2	IDOC-3	IDOC-4	Average Conc (ppbv)	Average % Recovery	%RSD
Data File	2101807sim.d	2101808sim.d	2101809sim.d	2101810sim.d			
Measured Amount (ppbv)	0.145	0.146	0.143	0.139	0.143	72	2.22

Accuracy and Precision Outcome Summary: Analysis of replicate Laboratory Control Samples and IDOC study showed that both the method accuracy and precision criteria were met.

- Sensitivity (Method Detection Limit): Following the protocols in 40 CFR Part 136, Appendix B Revision 2, the Method Detection Limit (MDL) study was conducted by over 3 analytical batches and included the evaluation 8 replicate spikes and 8 blanks.

The MDL was performed using a primary standard, with an on-column concentration of 0.05 ppbv. The results of the spiked MDL and the blank MDL are tabulated below with values expressed in units of pptv. The blank MDL yielded 27.44 pptv, the maximum value of the blanks analyzed. The spiked MDL yielded 23.48 pptv. Per the EPA protocol the method MDL is determined by the greater of the two MDL evaluations, resulting in a method MDL for Ethylene Oxide of 27.44 pptv.

ID:	MDL01	MDL02	MDL03	MDL04	MDL05	MDL06	MDL07	MDL08
FILENAME:	2101523sim	2101524sim	2101525sim	2101608sim	2101609sim	2101610sim	2101707sim	2101708sim
INJ.DATE:	16-OCT-2018	16-OCT-2018	16-OCT-2018	16-OCT-2018	16-OCT-2018	16-OCT-2018	17-OCT-2018	17-OCT-2018
INJ.TIME:	01:16	01:52	02:29	14:01	14:39	15:16	13:27	14:04

Compound	MDL01	MDL02	MDL03	MDL04	MDL05	MDL06	MDL07	MDL08	AVG CONC	STD DEV	MDL
1 Acetaldehyde	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****
2 Ethylene Oxide	63.66	67.40	79.02	63.40	68.78	65.11	84.26	76.00	70.95	7.83	23.48

ID:	MDL01	MDL02	MDL03	MDL04	MDL05	MDL06	MDL07	MDL08
FILENAME:	2101520simEPALS	2101521simEPALS	2101522simEPALS	2101605simEPALS	2101606simEPALS	2101607simEPALS	2101705simEPALS	2101706simEPALS
INJ.DATE:	15-OCT-2018	16-OCT-2018	16-OCT-2018	16-OCT-2018	16-OCT-2018	16-OCT-2018	17-OCT-2018	17-OCT-2018
INJ.TIME:	23:25	00:02	00:39	12:09	12:47	13:25	12:12	12:50

Compound	MDL01	MDL02	MDL03	MDL04	MDL05	MDL06	MDL07	MDL08	AVG CONC	STD DEV	SPK AMT	RL	RATIO	MDL
1 Ethylene Oxide	0.000000	0.000000	23.59	13.37	13.22	27.44	20.00	17.19	14.34	10.08	0.000000	20.00	0.475	30.21

Sensitivity Outcome Summary: The mdl is < 0.05 ppbv.

- Evaluation of Ethylene Oxide interferences: A calibration standard containing Acetaldehyde as well as commonly detected C3 to C5 hydrocarbons in ambient air was analyzed to verify resolution of potential interfering common mass ions.

  80 ml of a 20 ppbv TO-15 Extended certified standard was analyzed to give an on-column concentration of 8.0 ppbv. The full scan file for this injection was 2101816a.d and the SIM file was 2101816sim.d. This standard contained Acetaldeyde and a large number of hydrocarbons and VOCs.

  Ethylene Oxide elutes at 12.09 min on the non-polar phase column and GC program developed for this application.

  Acetaldehyde, a potential interfering compound under certain GC parameters eluted at 10.067 min, well before the retention time of Ethylene Oxide.

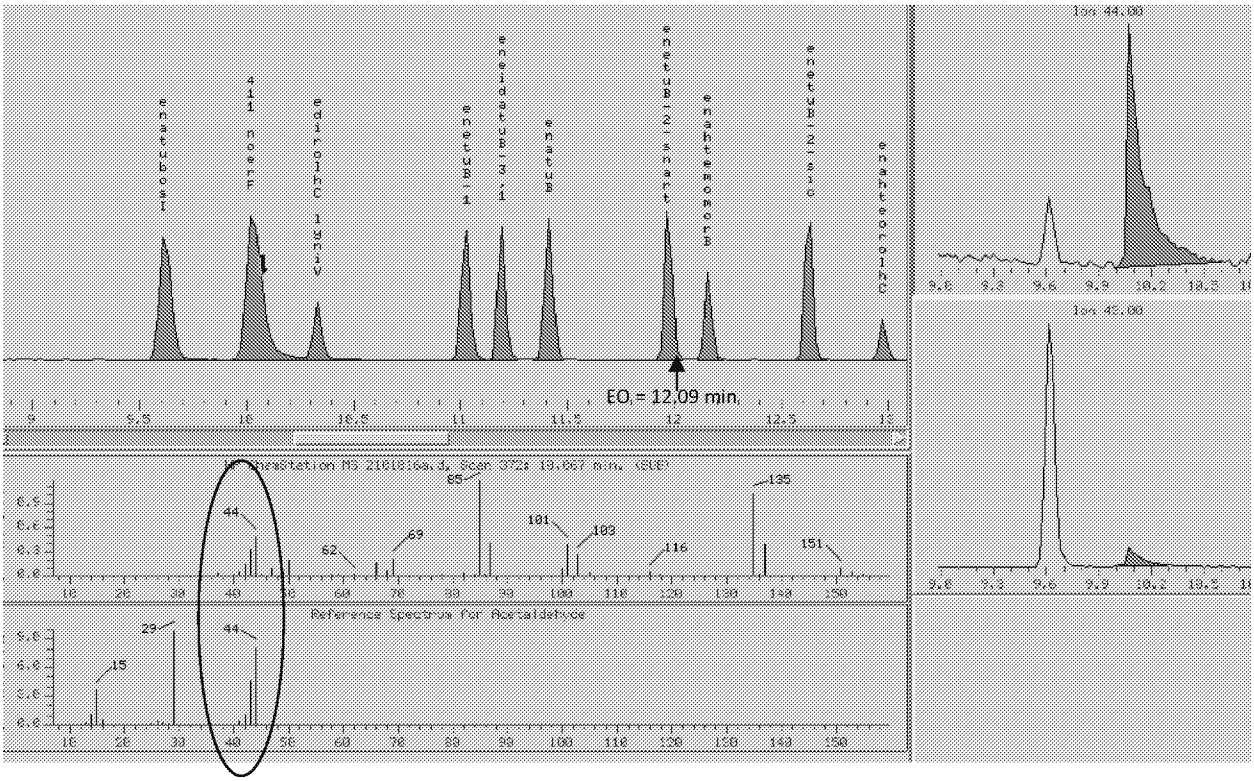


Figure 2. Total Ion Chromatogram, extracted ions and spectrum for Acetaldehyde

Reviewing VOCs eluting near Ethylene Oxide, trans-2-Butene has a retention time of 11.96 min as compared to ethylene oxide's retention time of 12.09 (Δ of 0.13 min). Figure 3 is a screen shot of the labelled full scan Total Ion Chromatogram.

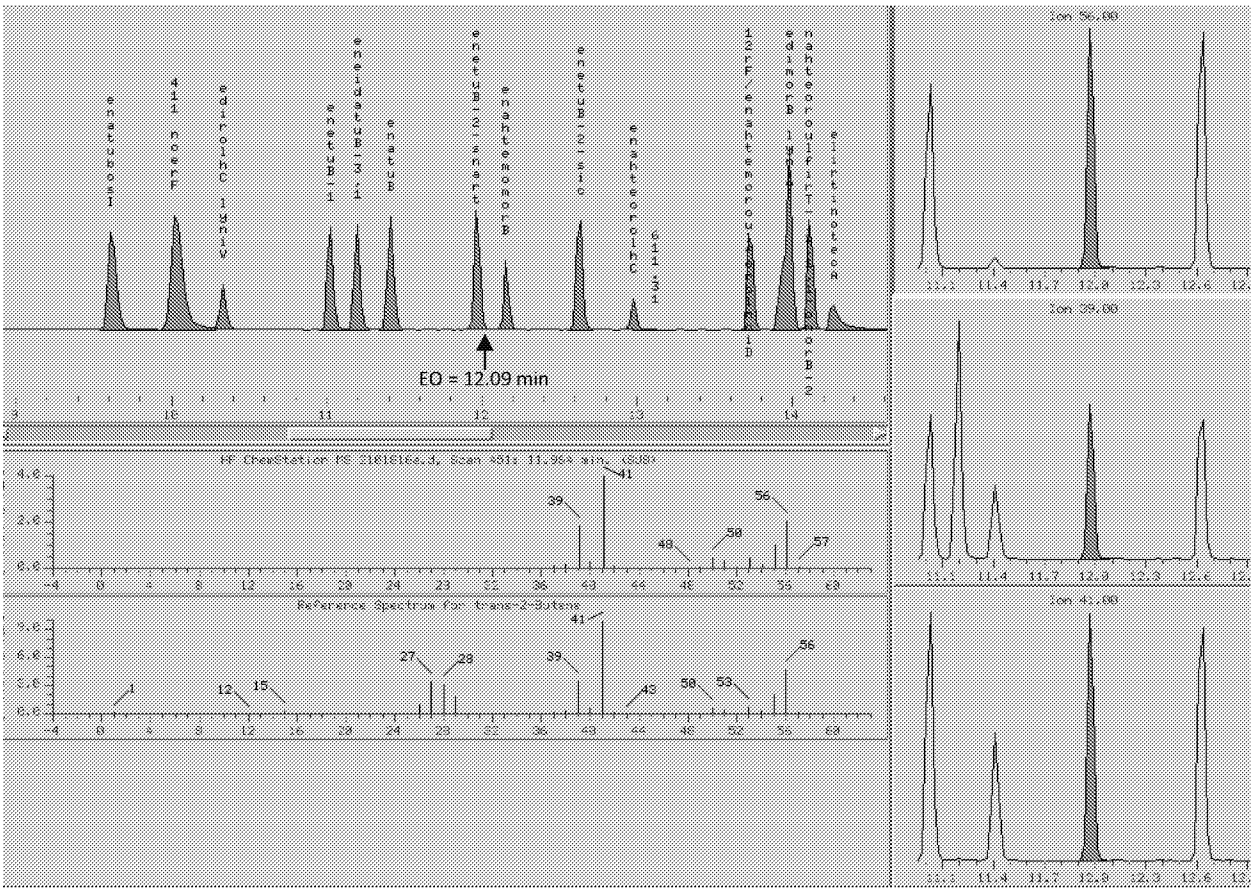
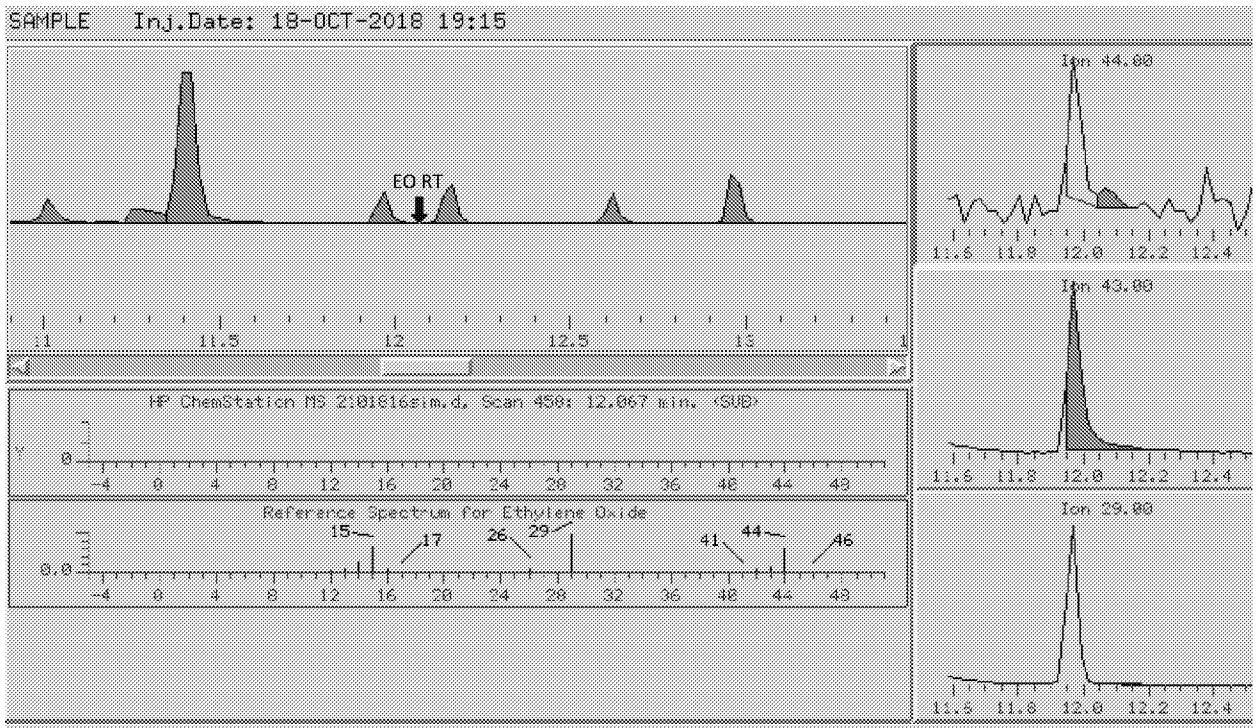


Figure 3. Total Ion Chromatogram, extracted ions and spectra of trans-2-Butene (TO-15 Extended).

To evaluate whether the presence of trans-2-butene could interfere with the quantification and/or identification of Ethylene Oxide, the SIM file from this injection was evaluated. The SIM ion chromatogram, extracted ions and spectrum based on the initial computer integration of the 12.067 min "peak" closest to Ethylene Oxide's expected retention time is shown in Figure 4. The peak integrated in Figure 4 is essentially noise, well below the MDL with qualifying ions 43 and 29 peak areas absent at the same RT.



Hit#	RT(min)	ExpRT	RRT	Response	Amount	Conc	Ratio	Target Ratio	Flags	Rep
1	11.971	12.095	0.781	105	0.02609	0.02609	100	80.00- 120.00		
	11.971	12.095	0.781	1581			1506	0.00- 55.34		
	12.163	12.095	0.793	108			103	65.74- 125.74		
2	12.067	12.095	0.787	18	0.004472	0.004472	100	80.00- 120.00	a	
	11.971	12.095	0.781	1581			8783	0.00- 55.34		
	12.163	12.095	0.793	108			600	65.74- 125.74		

Figure 4. SIM Ethylene Oxide Total Ion Chromatogram, extracted ions and spectra for trans-2-Butene standard – peak closest to Ethylene Oxide's RT

Legend for Figures 4 and 5.

RT = Retention time
ExpRT = Expected retention time based on daily continuing calibration verification
RRT = Relative Retention Time
Response = Area count
Amount = On-column concentration in units of ppbv
Conc = Final Concentration in units of ppbv
Ratio = Ratio of extracted ion areas as compared to the quantitation ion 44. The quantitation ion is set at 100%.
Target Ratio = Expected ion ratio ranges based on the mid-point of the ICAL. The default window for monitoring ions 43 and 29 are +/-30% from the mid-point ICAL ion area ratios.

To further evaluate trans-2-Butene's potential interference with the identification and quantification of Ethylene Oxide, the mass ion 44 peak eluting at 11.97 min and corresponding to trans-2-Butene was manually selected. Manual integration was performed on ion 44, 43, and 29 peak areas eluting at 11.971 minutes to correct baseline for ions 44 and 43 and to integrate 29 peak which was missed by the data processing software. Figure 5 shows the ion area ratios and sample spectrum when the peak associated with trans-2-Butene is selected as Ethylene Oxide. The target ion ratios areas of 44, 43, and 29 are clearly inconsistent with the expected ranges exhibited by Ethylene Oxide, and the sample spectrum does not match Ethylene Oxide's NIST reference spectrum.

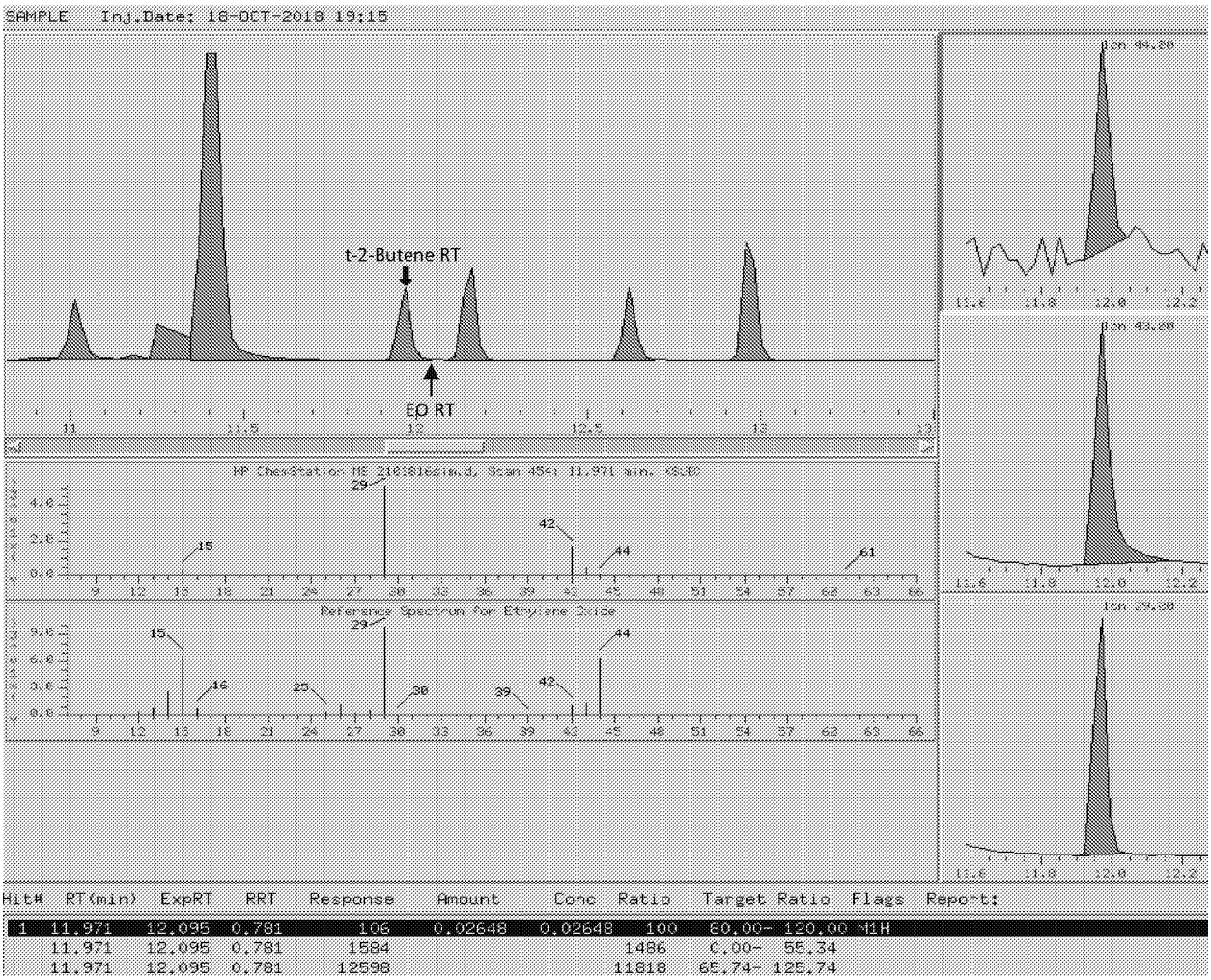


Figure 5. SIM Ethylene Oxide Total Ion Chromatogram, extracted ions and spectra for trans-2-Butene standard – peak eluting at trans-2-Butene's RT

Additionally, the contribution of trans-2-Butene to Ethylene Oxide's primary quantitation ion 44 area is insignificant even when trans-2-butene concentrations are above 5 ppbv, a concentration much higher than expected in ambient air*. As a result, the ion 44 area from trans-2-Butene eluting just prior to Ethylene Oxide is not expected to mask Ethylene Oxide's ion 44 peak area in ambient samples even when Ethylene Oxide is present at or near its reporting limit of 0.05 ppbv, thereby minimizing a false negative scenario.

*Laboratory analyses of ambient samples routinely yield concentrations of trans-2-Butene << 1 ppbv.

As a note, because the Ethylene Oxide method is analyzed using synchronous SIM/Scan, the presence of trans-2-Butene can easily be identified (and quantified with proper calibration) in the full scan file if the ion ratios in the SIM file do not match ethylene oxide's expected ratios.

Interference Outcome Summary: Acetaldyde and common VOCs found in ambient air, including trans-2-Butene are not expected to interfere with ethylene oxide's identification or quantification, thus minimizing the possibility of false positives, high bias, or false negatives.

Limitations to the method: Based on previous studies, the canister hold-time for ethylene oxide has been established at 15 days.[1]

If ambient conditions of <25%RH are expected, humidifying canisters prior to shipment to the field is recommended to improve ethylene oxide recovery from SUMMA canisters.[1]

1. Eklund, B.M, Williams, C.H., Bontempo, L.W., Isbell, M., and Loos, K.R., *Environ. Sci. Technol.* **2004**, 38, 4200-4205

Finalized and approved by: Heidi Hayes
Date: 11-21-18

Technical Director Signature

The signatures certify that the method is fit for the intended application. Exceptions are listed in the "Limitations to the method" section.

SOP#: _134_____

Client Workorder number/project: __Project ID 23004_____

Note: Instrument parameters utilized for this method validation are maintained internally as part of the laboratory's full F1.53 New Method Documentation.

APPENDIX D
ANALYTICAL RESULTS

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12/21/2018
Mr. Robert DeMott
Ramboll Environ
10150 Highland Manor Drive
Suite 440
Tampa FL 33610

Project Name: SAL
Project #: 1690009066
Workorder #: 1810364R1A

Dear Mr. Robert DeMott

The following report includes the data for the above referenced project for sample(s) received on 10/16/2018 at Air Toxics Ltd.

The data and associated QC analyzed by EPA Method TO-15 are compliant with the project requirements or laboratory criteria with the exception of the deviations noted in the attached case narrative.

Thank you for choosing Eurofins Air Toxics Inc. for your air analysis needs. Eurofins Air Toxics Inc. is committed to providing accurate data of the highest quality. Please feel free to contact the Project Manager: Ausha Scott at 916-985-1000 if you have any questions regarding the data in this report.

Regards,

Ausha Scott

Project Manager

eurofins | Air Toxics

WORK ORDER #: 1810364R1A

Work Order Summary

CLIENT:	Mr. Robert DeMott Ramboll Environ 10150 Highland Manor Drive Suite 440 Tampa, FL 33610	**BILL TO:**	Accounts Payable Ramboll Environ 10150 Highland Manor Drive Suite 440 Tampa, FL 33610
PHONE:	813-628-4325	**P.O. #**	1690009066
FAX:	813-628-4983	**PROJECT #**	1690009066 SAL
DATE RECEIVED:	10/16/2018	**CONTACT:**	Ausha Scott
DATE COMPLETED:	10/29/2018		
DATE REISSUED:	12/19/2018		

FRACTION #	NAME	TEST	RECEIPT VAC./PRES.	FINAL PRESSURE
01B	GAF-D-181012	EPA Method TO-15	3.7 "Hg	5.1 psi
02B	GAB-D-181012	EPA Method TO-15	3.7 "Hg	4.9 psi
03B	GP-D-181012	EPA Method TO-15	3.9 "Hg	5 psi
04B	GV-N-181012	EPA Method TO-15	3.7 "Hg	5 psi
05B	Lab Blank	EPA Method TO-15	NA	NA
06A	CCV	EPA Method TO-15	NA	NA
07A	LCS	EPA Method TO-15	NA	NA
07AA	LCSD	EPA Method TO-15	NA	NA

CERTIFIED BY: Heidi Hayes

Technical Director

DATE: 12/19/18

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LABORATORY NARRATIVE
EPA TO-15 Ethylene oxide (SIM)
Ramboll Environ
Workorder# 1810364R1A

Four 6 Liter Summa Canister (100% Certified) samples were received on October 16, 2018. The laboratory performed analysis via EPA Method TO-15 using GC/MS in the SIM acquisition mode for the measurement of Ethylene oxide in ambient air.

This workorder was independently validated prior to submittal using 'USEPA National Functional Guidelines' as generally applied to the analysis of volatile organic compounds in air. A rules-based, logic driven, independent validation engine was employed to assess completeness, evaluate pass/fail of relevant project quality control requirements and verification of all quantified amounts.

Receiving Notes

There were no receiving discrepancies.

Analytical Notes

Ethylene Oxide is not included on the laboratory's NELAP scope of accreditation for TO-15 SIM. However, TO-15 and NELAP quality requirements were met.

Samples were analyzed using the TO-15 GC/MS in synchronous SIM/Scan mode. The SIM file was used to measure the target compound ethylene oxide. The scan file was used to report analyte 2,5-Dimethylfuran as a tentatively identified compound (TIC) determined by searching for its characteristic spectra. If no chromatographic peak displaying the compound specific spectra exists, then the TIC is reported as not detected. Please note that the laboratory has not evaluated the stability of any tentatively identified compound in the vapor phase or for efficiency of recovery through the analytical system.

Per client request, the workorder was re-issued December 19, 2018 to report estimated values for Ethylene Oxide hits that are below the Reporting Limit but greater than the Method Detection Limit (MDL). The report format includes the Method Detection Limit values. The canisters used for this project have been certified to the Reporting Limit for Ethylene Oxide. Concentrations that are below the level at which the canister was certified may be false positives.

Due to the LIMS reporting template limitations for displaying MDL values, Ethylene Oxide results are reported in this workorder 1810364R1A with the 2,5-Dimethylfuran as a TIC reported in associated workorder fraction 1810364R1B.

Definition of Data Qualifying Flags

Nine qualifiers may have been used on the data analysis sheets and indicates as follows:

B - Compound present in laboratory blank greater than reporting limit (background subtraction not performed).

J - Estimated value.

S - Saturated peak.

Q - Exceeds quality control limits.

U - Compound analyzed for but not detected above the reporting limit, LOD, or MDL value. See data page for project specific U-flag definition.

UJ- Non-detected compound associated with low bias in the CCV
N - The identification is based on presumptive evidence.
CN - See Case Narrative

File extensions may have been used on the data analysis sheets and indicates as follows:
a-File was requantified
b-File was quantified by a second column and detector
r1-File was requantified for the purpose of reissue

MODIFIED EPA METHOD TO-15 GC/MS SIM
SAL

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Client ID:	GAF-D-181012		
Lab ID:	1810364R1A-01B	**Date/Time Analyzed:**	10/18/18 04:43 PM
Date/Time Collecte	10/12/18 09:03 AM	**Dilution Factor:**	1.54
Media:	6 Liter Summa Canister (100% Certified)	**Instrument/Filename:**	msd2.i / 2101812sim

Compound	CAS#	MDL (ug/m3)	LOD (ug/m3)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Ethylene Oxide	75-21-8	0.076	D	0.14	0.17

D: Analyte not within the DoD scope of accreditation.

MODIFIED EPA METHOD TO-15 GC/MS SIM
SAL

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Client ID:	GAB-D-181012		
Lab ID:	1810364R1A-02B	**Date/Time Analyzed:**	10/18/18 05:21 PM
Date/Time Collecte	10/12/18 10:08 AM	**Dilution Factor:**	1.52
Media:	6 Liter Summa Canister (100% Certified)	**Instrument/Filename:**	msd2.i / 2101813sim

Compound	CAS#	MDL (ug/m3)	LOD (ug/m3)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Ethylene Oxide	75-21-8	0.075	D	0.14	0.43

D: Analyte not within the DoD scope of accreditation.

MODIFIED EPA METHOD TO-15 GC/MS SIM
SAL

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Client ID:	GP-D-181012		
Lab ID:	1810364R1A-03B	**Date/Time Analyzed:**	10/18/18 05:59 PM
Date/Time Collecte	10/12/18 08:17 AM	**Dilution Factor:**	1.54
Media:	6 Liter Summa Canister (100% Certified)	**Instrument/Filename:**	msd2.i / 2101814sim

Compound	CAS#	MDL (ug/m3)	LOD (ug/m3)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Ethylene Oxide	75-21-8	0.076	D	0.14	0.34

D: Analyte not within the DoD scope of accreditation.

MODIFIED EPA METHOD TO-15 GC/MS SIM
SAL

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Client ID:	GV-N-181012		
Lab ID:	1810364R1A-04B	**Date/Time Analyzed:**	10/18/18 06:38 PM
Date/Time Collecte	10/12/18 06:43 AM	**Dilution Factor:**	1.53
Media:	6 Liter Summa Canister (100% Certified)	**Instrument/Filename:**	msd2.i / 2101815sim

Compound	CAS#	MDL (ug/m3)	LOD (ug/m3)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Ethylene Oxide	75-21-8	0.076	D	0.14	0.46

D: Analyte not within the DoD scope of accreditation.

MODIFIED EPA METHOD TO-15 GC/MS SIM
SAL

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Client ID:	Lab Blank		
Lab ID:	1810364R1A-05B	**Date/Time Analyzed:**	10/18/18 04:05 PM
Date/Time Collecte	NA - Not Applicable	**Dilution Factor:**	1.00
Media:	NA - Not Applicable	**Instrument/Filename:**	msd2.i / 2101811simr1

Compound	CAS#	MDL (ug/m3)	LOD (ug/m3)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Ethylene Oxide	75-21-8	0.049	D	0.090	Not Detected

D: Analyte not within the DoD scope of accreditation.

MODIFIED EPA METHOD TO-15 GC/MS SIM
SAL

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Client ID:	CCV		
Lab ID:	1810364R1A-06A	**Date/Time Analyzed:**	10/18/18 10:03 AM
Date/Time Collecte	NA - Not Applicable	**Dilution Factor:**	1.00
Media:	NA - Not Applicable	**Instrument/Filename:**	msd2.i / 2101803sim

Compound	CAS#	%Recovery
Ethylene Oxide	75-21-8	85

D: Analyte not within the DoD scope of accreditation.

MODIFIED EPA METHOD TO-15 GC/MS SIM
SAL

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Client ID:	LCS		
Lab ID:	1810364R1A-07A	**Date/Time Analyzed:**	10/18/18 10:41 AM
Date/Time Collecte	NA - Not Applicable	**Dilution Factor:**	1.00
Media:	NA - Not Applicable	**Instrument/Filename:**	msd2.i / 2101804sim

Compound	CAS#	%Recovery
Ethylene Oxide	75-21-8	116

D: Analyte not within the DoD scope of accreditation.

* % Recovery is calculated using unrounded analytical results.

MODIFIED EPA METHOD TO-15 GC/MS SIM
SAL

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Client ID:	LCSD		
Lab ID:	1810364R1A-07AA	**Date/Time Analyzed:**	10/18/18 11:18 AM
Date/Time Collecte	NA - Not Applicable	**Dilution Factor:**	1.00
Media:	NA - Not Applicable	**Instrument/Filename:**	msd2.i / 2101805sim

Compound	CAS#	%Recovery
Ethylene Oxide	75-21-8	116

D: Analyte not within the DoD scope of accreditation.

* % Recovery is calculated using unrounded analytical results.

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FOLSOM, CA 95630-4719
(916) 985-1000 FAX (916) 985-1020

Page 1 of 1

Project Manager Robert DeMott
Collected by: (Print and Sign) Rob Rottersman / Matt Meyer MFM
Company RAMBOLL US Corp. Email RDeMott@ramboll.com
Address 10150 Highland Manor Drive City TAMPA State FL Zip 33610
Phone 813-628-4325 Fax

Project Info:
P.O. # 1690009066
Project # 1690009066
Project Name SAL

Turn Around Time:
❑ Normal
❑ Rush
specify

Lab Use Only
Pressurized by:
Date:
Pressurization Gas: N_2 He

Lab I.D.	Field Sample I.D. (Location)	Can #	Date of Collection	Time of Collection	Analyses Requested	Canister Pressure/Vacuum Initial	Final	Receipt	Final (psi)
01A	GAF-D-181012	6L0203	10-12-18	0903	Ethylene Oxide 2,5-Dimethyl Furan	27	5		
02A	GAB-D-181012	6L0896	10-12-18	1008	Ethylene Oxide 2,5 Dimethyl Furan	27	5.5		
03A	GP-D-181012	6L1862	10-12-18	0817	Ethylene Oxide 2,5 Dimethyl Furan	27	5.5		
04A	GY-N-181012	6L1116	10-12-18	0643	Ethylene Oxide 2,5 Dimethyl Furan	27	6		

Relinquished by: (signature)	Date/Time	Received by: (signature)	Date/Time
Matt Meyer	10-15-18 1400	[illegible] FATL	10/16/18 0930
Relinquished by: (signature)	Date/Time	Received by: (signature)	Date/Time
Relinquished by: (signature)	Date/Time	Received by: (signature)	Date/Time

Notes:

Lab Use Only	Shipper Name	Air Bill #	Temp (°C)	Condition	Custody Seals Intact?	Work Order #
	Fed Ex		NA	Good	Yes No (None)	181036 4

Form 1293 rev.11

ED_002475_00000088-00135

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12/21/2018
Mr. Robert DeMott
Ramboll Environ
10150 Highland Manor Drive
Suite 440
Tampa FL 33610

Project Name: SAL
Project #: 169000 9066
Workorder #: 1810443R1A

Dear Mr. Robert DeMott

The following report includes the data for the above referenced project for sample(s) received on 10/19/2018 at Air Toxics Ltd.

The data and associated QC analyzed by Modified TO-15 are compliant with the project requirements or laboratory criteria with the exception of the deviations noted in the attached case narrative.

Thank you for choosing Eurofins Air Toxics Inc. for your air analysis needs. Eurofins Air Toxics Inc. is committed to providing accurate data of the highest quality. Please feel free to contact the Project Manager: Ausha Scott at 916-985-1000 if you have any questions regarding the data in this report.

Regards,

Ausha Scott
Project Manager

eurofins | Air Toxics

WORK ORDER #: 1810443R1A

Work Order Summary

CLIENT:	Mr. Robert DeMott Ramboll Environ 10150 Highland Manor Drive Suite 440 Tampa, FL 33610	**BILL TO:**	Accounts Payable Ramboll Environ 10150 Highland Manor Drive Suite 440 Tampa, FL 33610
PHONE:	813-628-4325	**P.O. #**	169000 9066
FAX:	813-628-4983	**PROJECT #**	169000 9066 SAL
DATE RECEIVED:	10/19/2018	**CONTACT:**	Ausha Scott
DATE COMPLETED:	10/29/2018		
DATE REISSUED:	12/21/2018		

FRACTION #	NAME	TEST	RECEIPT VAC./PRES.	FINAL PRESSURE
01B	All-N-181017	Modified TO-15	1.6 "Hg	5 psi
02B	All-D 181018	Modified TO-15	3.3 "Hg	5 psi
03B	GU-N-181018	Modified TO-15	2.4 "Hg	5 psi
04B	Lab Blank	Modified TO-15	NA	NA
05A	CCV	Modified TO-15	NA	NA
06A	LCS	Modified TO-15	NA	NA
06AA	LCSD	Modified TO-15	NA	NA

CERTIFIED BY: Heidi Hayes

Technical Director

DATE: 12/21/18

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180 BLUE RAVINE ROAD, SUITE B FOLSOM, CA - 95630
(916) 985-1000 . (800) 985-5955 . FAX (916) 985-1020

LABORATORY NARRATIVE
EPA TO-15 Ethylene oxide (SIM)
Ramboll Environ
Workorder# 1810443R1A

Three 6 Liter Summa Canister (100% Certified) samples were received on October 19, 2018. The laboratory performed analysis via modified EPA Method TO-15 using GC/MS in the SIM acquisition mode for the measurement of Ethylene oxide in ambient air.

This workorder was independently validated prior to submittal using 'USEPA National Functional Guidelines' as generally applied to the analysis of volatile organic compounds in air. A rules-based, logic driven, independent validation engine was employed to assess completeness, evaluate pass/fail of relevant project quality control requirements and verification of all quantified amounts.

Receiving Notes

There were no receiving discrepancies.

Analytical Notes

Ethylene Oxide is not included on the laboratory's NELAP scope of accreditation for TO-15 SIM. However, TO-15 and NELAP quality requirements were met.

Samples were analyzed using the TO-15 GC/MS in synchronous SIM/Scan mode. The SIM file was used to measure the target compound ethylene oxide. The scan file was used to report analyte 2,5-Dimethylfuran as a tentatively identified compound (TIC) determined by searching for its characteristic spectra. If no chromatographic peak displaying the compound specific spectra exists, then the TIC is reported as not detected. Please note that the laboratory has not evaluated the stability of any tentatively identified compound in the vapor phase or for efficiency of recovery through the analytical system.

Per client request the workorder was re-issued December 21, 2018 to report estimated values for Ethylene Oxide hits that are below the Reporting Limit but greater than the Method Detection Limit (MDL). The report format includes the Method Detection Limit values. The canisters used for this project have been certified to the Reporting Limit for Ethylene Oxide. Concentrations that are below the level at which the canister was certified may be false positives.

Due to the LIMS reporting template limitations for displaying MDL values, Ethylene Oxide results are reported in this workorder 1810443R1A with the 2,5-Dimethylfuran as a TIC reported in associated workorder fraction 1810443R1B.

Definition of Data Qualifying Flags

Nine qualifiers may have been used on the data analysis sheets and indicates as follows:

B - Compound present in laboratory blank greater than reporting limit (background subtraction not performed).

J - Estimated value.

S - Saturated peak.

Q - Exceeds quality control limits.

U - Compound analyzed for but not detected above the reporting limit, LOD, or MDL value. See data page for project specific U-flag definition.

UJ- Non-detected compound associated with low bias in the CCV
N - The identification is based on presumptive evidence.
CN - See Case Narrative

File extensions may have been used on the data analysis sheets and indicates as follows:
a-File was requantified
b-File was quantified by a second column and detector
r1-File was requantified for the purpose of reissue

MODIFIED EPA METHOD TO-15 GC/MS SIM
SAL

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Client ID:	All-N-181017		
Lab ID:	1810443R1A-01B	**Date/Time Analyzed:**	10/23/18 11:35 PM
Date/Time Collecte	10/17/18 07:55 AM	**Dilution Factor:**	1.42
Media:	6 Liter Summa Canister (100% Certified)	**Instrument/Filename:**	msd2.i / 2102318sim

Compound	CAS#	MDL (ug/m3)	LOD (ug/m3)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Ethylene Oxide	75-21-8	0.070	D	0.13	0.19

D: Analyte not within the DoD scope of accreditation.

MODIFIED EPA METHOD TO-15 GC/MS SIM
SAL

eurofins | Air Toxics

Client ID:	All-D 181018		
Lab ID:	1810443R1A-02B	**Date/Time Analyzed:**	10/24/18 12:12 AM
Date/Time Collecte	10/18/18 07:55 PM	**Dilution Factor:**	1.50
Media:	6 Liter Summa Canister (100% Certified)	**Instrument/Filename:**	msd2.i / 2102319sim

Compound	CAS#	MDL (ug/m3)	LOD (ug/m3)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Ethylene Oxide	75-21-8	0.074	D	0.14	0.21

D: Analyte not within the DoD scope of accreditation.

MODIFIED EPA METHOD TO-15 GC/MS SIM
SAL

eurofins | Air Toxics

Client ID:	GU-N-181018		
Lab ID:	1810443R1A-03B	**Date/Time Analyzed:**	10/24/18 12:50 AM
Date/Time Collecte	10/18/18 07:07 PM	**Dilution Factor:**	1.46
Media:	6 Liter Summa Canister (100% Certified)	**Instrument/Filename:**	msd2.i / 2102320sim

Compound	CAS#	MDL (ug/m3)	LOD (ug/m3)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Ethylene Oxide	75-21-8	0.072	D	0.13	0.20

D: Analyte not within the DoD scope of accreditation.

MODIFIED EPA METHOD TO-15 GC/MS SIM
SAL

eurofins | Air Toxics

Client ID:	Lab Blank		
Lab ID:	1810443R1A-04B	**Date/Time Analyzed:**	10/23/18 02:37 PM
Date/Time Collecte	NA - Not Applicable	**Dilution Factor:**	1.00
Media:	NA - Not Applicable	**Instrument/Filename:**	msd2.i / 2102306simr1

Compound	CAS#	MDL (ug/m3)	LOD (ug/m3)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Ethylene Oxide	75-21-8	0.049	D	0.090	0.053 J

J = Estimated value.
D: Analyte not within the DoD scope of accreditation.

MODIFIED EPA METHOD TO-15 GC/MS SIM
SAL

eurofins | Air Toxics

Client ID:	CCV		
Lab ID:	1810443R1A-05A	**Date/Time Analyzed:**	10/23/18 12:46 PM
Date/Time Collecte	NA - Not Applicable	**Dilution Factor:**	1.00
Media:	NA - Not Applicable	**Instrument/Filename:**	msd2.i / 2102303sim

Compound	CAS#	%Recovery
Ethylene Oxide	75-21-8	81

D: Analyte not within the DoD scope of accreditation.

MODIFIED EPA METHOD TO-15 GC/MS SIM
SAL

eurofins | Air Toxics

Client ID:	LCS		
Lab ID:	1810443R1A-06A	**Date/Time Analyzed:**	10/23/18 01:23 PM
Date/Time Collecte	NA - Not Applicable	**Dilution Factor:**	1.00
Media:	NA - Not Applicable	**Instrument/Filename:**	msd2.i / 2102304sim

Compound	CAS#	%Recovery
Ethylene Oxide	75-21-8	113

D: Analyte not within the DoD scope of accreditation.

* % Recovery is calculated using unrounded analytical results.

MODIFIED EPA METHOD TO-15 GC/MS SIM
SAL

eurofins | Air Toxics

Client ID:	LCSD		
Lab ID:	1810443R1A-06AA	**Date/Time Analyzed:**	10/23/18 02:00 PM
Date/Time Collecte	NA - Not Applicable	**Dilution Factor:**	1.00
Media:	NA - Not Applicable	**Instrument/Filename:**	msd2.i / 2102305sim

Compound	CAS#	%Recovery
Ethylene Oxide	75-21-8	115

D: Analyte not within the DoD scope of accreditation.

* % Recovery is calculated using unrounded analytical results.

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Sample Transportation Notice
Relinquishing signature on this document indicates that sample is being shipped in compliance with all applicable local, State, Federal, national, and international laws, regulations and ordinances of any kind. Air Toxics Limited assumes no liability with respect to the collection, handling or shipping of these samples. Relinquishing signature also indicates agreement to hold harmless, defend, and indemnify Air Toxics Limited against any claim, demand, or action, of any kind, related to the collection, handling, or shipping of samples. D.O.T. Hotline (800) 467-4922

180 BLUE RAVINE ROAD, SUITE B
FOLSOM, CA 95630-4719
(916) 985-1000 FAX (916) 985-1020

Page 1 of 1

Project Manager Robert De Mott
Collected by: (Print and Sign) Cynthia Bonczkiewicz / Mike Russell / CB
Company Ramboll US Corp Email RDeMott@ramboll.com
Address 10150 Highland Manor City Tampa State FL Zip 33610
Phone 813-628-4325 Fax

Project Info:
P.O. # 169000 9066
Project # 169000 9066
Project Name SAL

Turn Around Time:
☑ Normal
☐ Rush
specify

Lab Use Only
Pressurized by:
Date:
Pressurization Gas: N_2 He

Lab I.D.	Field Sample I.D. (Location)	Can #	Date of Collection	Time of Collection	Analyses Requested	Canister Pressure/Vacuum Initial	Final	Receipt	Final (psi)
01A	All-N-181017	6L1731	17-OCT-18	19:55-07:55	ethylene oxide & 2,5 Dimethyl furan	30+	3.5		
02A	All-D 181018	6L0973	18-OCT-18	07:55-19:55	ethylene oxide & 2,5, Dimethyl furan	29	6		
03A	GU-N-181018	6L0579	18-OCT-18	19:07	ethylene oxide & 2,5, Dimethyl furan	26.0	6.0		

Relinquished by: (signature)	Date/Time	Received by: (signature)	Date/Time
Cynthia Bonczkiewicz	10/18/18	[signature]	18-OCT-2018 13:00
[signature]	18-OCT-2018 20:56	[signature]	EAR 10/19/18 0955

Notes:

Lab Use Only	Shipper Name	Air Bill #	Temp (°C)	Condition	Custody Seals Intact?	Work Order #
	Fed Ex		NA	Good	Yes No None	1810443

Form 1293 rev.11

ED_002475_00000088-00147

eurofins | Air Toxics

12/21/2018
Mr. Robert DeMott
Ramboll Environ
10150 Highland Manor Drive
Suite 440
Tampa FL 33610

Project Name: SAL
Project #: 169000 9066
Workorder #: 1810444R1A

Dear Mr. Robert DeMott

The following report includes the data for the above referenced project for sample(s) received on 10/19/2018 at Air Toxics Ltd.

The data and associated QC analyzed by EPA Method TO-15 are compliant with the project requirements or laboratory criteria with the exception of the deviations noted in the attached case narrative.

Thank you for choosing Eurofins Air Toxics Inc. for your air analysis needs. Eurofins Air Toxics Inc. is committed to providing accurate data of the highest quality. Please feel free to contact the Project Manager: Ausha Scott at 916-985-1000 if you have any questions regarding the data in this report.

Regards,

Ausha Scott
Project Manager

eurofins | Air Toxics

WORK ORDER #: 1810444R1A

Work Order Summary

CLIENT:	Mr. Robert DeMott Ramboll Environ 10150 Highland Manor Drive Suite 440 Tampa, FL 33610	**BILL TO:**	Accounts Payable Ramboll Environ 10150 Highland Manor Drive Suite 440 Tampa, FL 33610
PHONE:	813-628-4325	**P.O. #**	169000 9066
FAX:	813-628-4983	**PROJECT #**	169000 9066 SAL
DATE RECEIVED:	10/19/2018	**CONTACT:**	Ausha Scott
DATE COMPLETED:	10/29/2018		
DATE REISSUED:	12/21/2018		

FRACTION #	NAME	TEST	RECEIPT VAC./PRES.	FINAL PRESSURE
01B	GC-D-181017	EPA Method TO-15	0 psi	5 psi
02B	GAG-D-181017	EPA Method TO-15	4.1 "Hg	5 psi
03B	GJ-D-181017	EPA Method TO-15	4.1 "Hg	5.1 psi
04B	GA-D-181017	EPA Method TO-15	3.5 "Hg	5.1 psi
05B	Lab Blank	EPA Method TO-15	NA	NA
06A	CCV	EPA Method TO-15	NA	NA
07A	LCS	EPA Method TO-15	NA	NA
07AA	LCSD	EPA Method TO-15	NA	NA

CERTIFIED BY: Heidi Hayes

Technical Director

DATE: 12/21/18

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LABORATORY NARRATIVE
EPA TO-15 Ethylene oxide (SIM)
Ramboll Environ
Workorder# 1810444R1A

Four 6 Liter Summa Canister (100% Certified) samples were received on October 19, 2018. The laboratory performed analysis via EPA Method TO-15 using GC/MS in the SIM acquisition mode for the measurement of Ethylene oxide in ambient air.

This workorder was independently validated prior to submittal using 'USEPA National Functional Guidelines' as generally applied to the analysis of volatile organic compounds in air. A rules-based, logic driven, independent validation engine was employed to assess completeness, evaluate pass/fail of relevant project quality control requirements and verification of all quantified amounts.

Receiving Notes

There were no receiving discrepancies.

Analytical Notes

Ethylene Oxide is not included on the laboratory's NELAP scope of accreditation for TO-15 SIM. However, TO-15 and NELAP quality requirements were met.

Samples were analyzed using the TO-15 GC/MS in synchronous SIM/Scan mode. The SIM file was used to measure the target compound ethylene oxide. The scan file was used to report analyte 2,5-Dimethylfuran as a tentatively identified compound (TIC) determined by searching for its characteristic spectra. If no chromatographic peak displaying the compound specific spectra exists, then the TIC is reported as not detected. Please note that the laboratory has not evaluated the stability of any tentatively identified compound in the vapor phase or for efficiency of recovery through the analytical system.

Per client request the workorder was re-issued December 21, 2018 to report estimated values for Ethylene Oxide hits that are below the Reporting Limit but greater than the Method Detection Limit (MDL). The report format includes the Method Detection Limit values. The canisters used for this project have been certified to the Reporting Limit for Ethylene Oxide. Concentrations that are below the level at which the canister was certified may be false positives.

Due to the LIMS reporting template limitations for displaying MDL values, Ethylene Oxide results are reported in this workorder 1810444R1A with the 2,5-Dimethylfuran as a TIC reported in associated workorder fraction 1810444R1B.

Definition of Data Qualifying Flags

Nine qualifiers may have been used on the data analysis sheets and indicates as follows:

B - Compound present in laboratory blank greater than reporting limit (background subtraction not performed).

J - Estimated value.

S - Saturated peak.

Q - Exceeds quality control limits.

U - Compound analyzed for but not detected above the reporting limit, LOD, or MDL value. See data page for project specific U-flag definition.

UJ- Non-detected compound associated with low bias in the CCV
N - The identification is based on presumptive evidence.
CN - See Case Narrative

File extensions may have been used on the data analysis sheets and indicates as follows:
a-File was requantified
b-File was quantified by a second column and detector
r1-File was requantified for the purpose of reissue

MODIFIED EPA METHOD TO-15 GC/MS SIM
SAL

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Client ID:	GC-D-181017		
Lab ID:	1810444R1A-01B	**Date/Time Analyzed:**	10/23/18 04:03 PM
Date/Time Collecte	10/17/18 07:48 AM	**Dilution Factor:**	1.34
Media:	6 Liter Summa Canister (100% Certified)	**Instrument/Filename:**	msd2.i / 2102307sim

Compound	CAS#	MDL (ug/m3)	LOD (ug/m3)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Ethylene Oxide	75-21-8	0.066	D	0.12	0.14

D: Analyte not within the DoD scope of accreditation.

MODIFIED EPA METHOD TO-15 GC/MS SIM
SAL

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Client ID:	GAG-D-181017		
Lab ID:	1810444R1A-02B	**Date/Time Analyzed:**	10/23/18 04:40 PM
Date/Time Collecte	10/17/18 09:40 AM	**Dilution Factor:**	1.55
Media:	6 Liter Summa Canister (100% Certified)	**Instrument/Filename:**	msd2.i / 2102308sim

Compound	CAS#	MDL (ug/m3)	LOD (ug/m3)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Ethylene Oxide	75-21-8	0.077	D	0.14	0.20

D: Analyte not within the DoD scope of accreditation.

MODIFIED EPA METHOD TO-15 GC/MS SIM
SAL

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Client ID:	GJ-D-181017		
Lab ID:	1810444R1A-03B	**Date/Time Analyzed:**	10/23/18 05:17 PM
Date/Time Collecte	10/17/18 04:16 PM	**Dilution Factor:**	1.56
Media:	6 Liter Summa Canister (100% Certified)	**Instrument/Filename:**	msd2.i / 2102309sim

Compound	CAS#	MDL (ug/m3)	LOD (ug/m3)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Ethylene Oxide	75-21-8	0.077	D	0.14	0.33

D: Analyte not within the DoD scope of accreditation.

MODIFIED EPA METHOD TO-15 GC/MS SIM
SAL

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Client ID:	GA-D-181017		
Lab ID:	1810444R1A-04B	**Date/Time Analyzed:**	10/23/18 05:55 PM
Date/Time Collecte	10/17/18 06:50 AM	**Dilution Factor:**	1.52
Media:	6 Liter Summa Canister (100% Certified)	**Instrument/Filename:**	msd2.i / 2102310sim

Compound	CAS#	MDL (ug/m3)	LOD (ug/m3)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Ethylene Oxide	75-21-8	0.075	D	0.14	0.57

D: Analyte not within the DoD scope of accreditation.

MODIFIED EPA METHOD TO-15 GC/MS SIM
SAL

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Client ID:	Lab Blank		
Lab ID:	1810444R1A-05B	**Date/Time Analyzed:**	10/23/18 02:37 PM
Date/Time Collecte	NA - Not Applicable	**Dilution Factor:**	1.00
Media:	NA - Not Applicable	**Instrument/Filename:**	msd2.i / 2102306simr1

Compound	CAS#	MDL (ug/m3)	LOD (ug/m3)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Ethylene Oxide	75-21-8	0.049	D	0.090	0.053 J

J = Estimated value.
D: Analyte not within the DoD scope of accreditation.

MODIFIED EPA METHOD TO-15 GC/MS SIM
SAL

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Client ID:	CCV		
Lab ID:	1810444R1A-06A	**Date/Time Analyzed:**	10/23/18 12:46 PM
Date/Time Collecte	NA - Not Applicable	**Dilution Factor:**	1.00
Media:	NA - Not Applicable	**Instrument/Filename:**	msd2.i / 2102303sim

Compound	CAS#	%Recovery
Ethylene Oxide	75-21-8	81

D: Analyte not within the DoD scope of accreditation.

MODIFIED EPA METHOD TO-15 GC/MS SIM
SAL

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Client ID:	LCS		
Lab ID:	1810444R1A-07A	**Date/Time Analyzed:**	10/23/18 01:23 PM
Date/Time Collecte	NA - Not Applicable	**Dilution Factor:**	1.00
Media:	NA - Not Applicable	**Instrument/Filename:**	msd2.i / 2102304sim

Compound	CAS#	%Recovery
Ethylene Oxide	75-21-8	113

D: Analyte not within the DoD scope of accreditation.

* % Recovery is calculated using unrounded analytical results.

MODIFIED EPA METHOD TO-15 GC/MS SIM
SAL

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Client ID:	LCSD		
Lab ID:	1810444R1A-07AA	**Date/Time Analyzed:**	10/23/18 02:00 PM
Date/Time Collecte	NA - Not Applicable	**Dilution Factor:**	1.00
Media:	NA - Not Applicable	**Instrument/Filename:**	msd2.i / 2102305sim

Compound	CAS#	%Recovery
Ethylene Oxide	75-21-8	115

D: Analyte not within the DoD scope of accreditation.

* % Recovery is calculated using unrounded analytical results.

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FOLSOM, CA 95630-4719
(916) 985-1000 FAX (916) 985-1020

Page ____ of ____

Project Manager: Robert De Mott
Collected by: (Print and Sign) Cynthia Bonezkiewicz / Mike Russell / CB
Company: Ramboll US Corp. Email: RDemott@ramboll-us.com
Address: 10150 Highland Manor City: Tampa State: FL Zip: 33610
Phone: 813-628-4325 Fax: —

Project Info:
P.O. # 1690009066
Project # 1690009066
Project Name: SAL

Turn Around Time:
☒ Normal
☐ Rush
specify

Lab Use Only
Pressurized by:
Date:
Pressurization Gas: N_2 He

Lab I.D.	Field Sample I.D. (Location)	Can #	Date of Collection	Time of Collection	Analyses Requested	Canister Pressure/Vacuum Initial	Final	Receipt	Final (psi)
01A	GC-D-181017	6L0805	10/17/18	7:48 am	ethylene oxide & 2,5-Dimethyl furan	27	3		
02A	GAG-D-181017	6L0648	10/17/18	0940	ethylene oxide & 2,5-Dimethyl furan	26	7.5		
03A	GJ-D-181017	6L1606	10/17/18	1616	ethylene oxide & 2,5, Dimethyl furan	30	6.5		
04A	GA-D-181017	6L0947	10/17/18	0650	ethylene oxide & 2,5-Dimethylfuran	27	7.5		

Relinquished by: (signature)	Date/Time	Received by: (signature)	Date/Time
Cynthia Bonezkiewicz	10/18/18 to Fedex 1400	[illegible] CHIZ	10/19/18 0955
Relinquished by: (signature)	Date/Time	Received by: (signature)	Date/Time
Relinquished by: (signature)	Date/Time	Received by: (signature)	Date/Time

Notes:

Lab Use Only	Shipper Name	Air Bill #	Temp (°C)	Condition	Custody Seals Intact?	Work Order #
	Fed Ex		NA	Good	Yes No None	1810444

Form 1293 rev.11

ED_002475_00000088-00160

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11/2/2018
Mr. Robert DeMott
Ramboll Environ
10150 Highland Manor Drive
Suite 440
Tampa FL 33610

Project Name: SAL
Project #: 169000 9066
Workorder #: 1810445R1A

Dear Mr. Robert DeMott

The following report includes the data for the above referenced project for sample(s) received on 10/19/2018 at Air Toxics Ltd.

The data and associated QC analyzed by EPA Method TO-15 are compliant with the project requirements or laboratory criteria with the exception of the deviations noted in the attached case narrative.

Thank you for choosing Eurofins Air Toxics Inc. for your air analysis needs. Eurofins Air Toxics Inc. is committed to providing accurate data of the highest quality. Please feel free to contact the Project Manager: Ausha Scott at 916-985-1000 if you have any questions regarding the data in this report.

Regards,

Ausha Scott
Project Manager

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WORK ORDER #: 1810445R1A

Work Order Summary

CLIENT:	Mr. Robert DeMott Ramboll Environ 10150 Highland Manor Drive Suite 440 Tampa, FL 33610	**BILL TO:**	Accounts Payable Ramboll Environ 10150 Highland Manor Drive Suite 440 Tampa, FL 33610
PHONE:	813-628-4325	**P.O. #**	169000 9066
FAX:	813-628-4983	**PROJECT #**	169000 9066 SAL
DATE RECEIVED:	10/19/2018	**CONTACT:**	Ausha Scott
DATE COMPLETED:	10/29/2018		
DATE REISSUED:	11/02/2018		

FRACTION #	NAME	TEST	RECEIPT VAC./PRES.	FINAL PRESSURE
01B	A06-N-181017	EPA Method TO-15	4.1 "Hg	5.1 psi
02B	A17-N-181017	EPA Method TO-15	13.5 "Hg	5.1 psi
03B	A03-D-181018	EPA Method TO-15	5.1 "Hg	5.1 psi
04B	Lab Blank	EPA Method TO-15	NA	NA
05A	CCV	EPA Method TO-15	NA	NA
06A	LCS	EPA Method TO-15	NA	NA
06AA	LCSD	EPA Method TO-15	NA	NA

CERTIFIED BY: Heidi Hayes

Technical Director

DATE: 11/02/18

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(916) 985-1000 . (800) 985-5955 . FAX (916) 985-1020

LABORATORY NARRATIVE
EPA TO-15 Ethylene oxide (SIM)
Ramboll Environ
Workorder# 1810445R1A

Three 6 Liter Summa Canister (100% Certified) samples were received on October 19, 2018. The laboratory performed analysis via EPA Method TO-15 using GC/MS in the SIM acquisition mode for the measurement of Ethylene oxide in ambient air.

This workorder was independently validated prior to submittal using 'USEPA National Functional Guidelines' as generally applied to the analysis of volatile organic compounds in air. A rules-based, logic driven, independent validation engine was employed to assess completeness, evaluate pass/fail of relevant project quality control requirements and verification of all quantified amounts.

Receiving Notes

There were no receiving discrepancies.

Analytical Notes

Ethylene Oxide is not included on the laboratory's NELAP scope of accreditation for TO-15 SIM. However, TO-15 and NELAP quality requirements were met.

Samples were analyzed using the TO-15 GC/MS in synchronous SIM/Scan mode. The SIM file was used to measure the target compound ethylene oxide. The scan file was used to report analyte 2,5-Dimethylfuran as a tentatively identified compound (TIC) determined by searching for its characteristic spectra. If no chromatographic peak displaying the compound specific spectra exists, then the TIC is reported as not detected. Please note that the laboratory has not evaluated the stability of any tentatively identified compound in the vapor phase or for efficiency of recovery through the analytical system.

The workorder was re-issued on November 2, 2018 as follows:

Per client request, the workorder was re-issued to report estimated values for Ethylene Oxide hits that are below the Reporting Limit but greater than the Method Detection Limit (MDL). The report format includes the Method Detection Limit values. The canisters used for this project have been certified to the Reporting Limit for Ethylene Oxide. Concentrations that are below the level at which the canister was certified may be false positives.

Due to the LIMS reporting template limitations for displaying MDL values, Ethylene Oxide results are reported in this workorder 1810445R1A with the 2,5-Dimethylfuran as a TIC reported in associated workorder fraction 1810445R1B.

Definition of Data Qualifying Flags

Eight qualifiers may have been used on the data analysis sheets and indicates as follows:

B - Compound present in laboratory blank greater than reporting limit (background subtraction not performed).

J - Estimated value.

S - Saturated peak.

Q - Exceeds quality control limits.

U - Compound analyzed for but not detected above the reporting limit, LOD, or MDL value. See data page for project specific U-flag definition.

UJ- Non-detected compound associated with low bias in the CCV

N - The identification is based on presumptive evidence.

File extensions may have been used on the data analysis sheets and indicates as follows:

a-File was requantified

b-File was quantified by a second column and detector

r1-File was requantified for the purpose of reissue

MODIFIED EPA METHOD TO-15 GC/MS SIM
SAL

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Client ID:	A06-N-181017		
Lab ID:	1810445R1A-01B	**Date/Time Analyzed:**	10/23/18 09:43 PM
Date/Time Collecte	10/17/18 06:19 AM	**Dilution Factor:**	1.56
Media:	6 Liter Summa Canister (100% Certified)	**Instrument/Filename:**	msd2.i / 2102315simr1

Compound	CAS#	MDL (ug/m3)	LOD (ug/m3)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Ethylene Oxide	75-21-8	0.077	D	0.14	0.16

D: Analyte not within the DoD scope of accreditation.

MODIFIED EPA METHOD TO-15 GC/MS SIM
SAL

eurofins | Air Toxics

Client ID:	A17-N-181017		
Lab ID:	1810445R1A-02B	**Date/Time Analyzed:**	10/23/18 10:21 PM
Date/Time Collecte	10/17/18 06:19 AM	**Dilution Factor:**	2.45
Media:	6 Liter Summa Canister (100% Certified)	**Instrument/Filename:**	msd2.i / 2102316simr1

Compound	CAS#	MDL (ug/m3)	LOD (ug/m3)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Ethylene Oxide	75-21-8	0.12	D	0.22	0.17 J

J = Estimated value.
D: Analyte not within the DoD scope of accreditation.

MODIFIED EPA METHOD TO-15 GC/MS SIM
SAL

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Client ID:	A03-D-181018		
Lab ID:	1810445R1A-03B	**Date/Time Analyzed:**	10/23/18 10:58 PM
Date/Time Collecte	10/18/18 05:37 PM	**Dilution Factor:**	1.62
Media:	6 Liter Summa Canister (100% Certified)	**Instrument/Filename:**	msd2.i / 2102317simr1

Compound	CAS#	MDL (ug/m3)	LOD (ug/m3)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Ethylene Oxide	75-21-8	0.080	D	0.14	0.41

D: Analyte not within the DoD scope of accreditation.

MODIFIED EPA METHOD TO-15 GC/MS SIM
SAL

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Client ID:	Lab Blank		
Lab ID:	1810445R1A-04B	**Date/Time Analyzed:**	10/23/18 02:37 PM
Date/Time Collecte	NA - Not Applicable	**Dilution Factor:**	1.00
Media:	NA - Not Applicable	**Instrument/Filename:**	msd2.i / 2102306simr1

Compound	CAS#	MDL (ug/m3)	LOD (ug/m3)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Ethylene Oxide	75-21-8	0.049	D	0.090	0.053 J

J = Estimated value.
D: Analyte not within the DoD scope of accreditation.

MODIFIED EPA METHOD TO-15 GC/MS SIM
SAL

eurofins | Air Toxics

Client ID:	CCV		
Lab ID:	1810445R1A-05A	**Date/Time Analyzed:**	10/23/18 12:46 PM
Date/Time Collecte	NA - Not Applicable	**Dilution Factor:**	1.00
Media:	NA - Not Applicable	**Instrument/Filename:**	msd2.i / 2102303sim

Compound	CAS#	%Recovery
Ethylene Oxide	75-21-8	81

D: Analyte not within the DoD scope of accreditation.

MODIFIED EPA METHOD TO-15 GC/MS SIM
SAL

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Client ID:	LCS		
Lab ID:	1810445R1A-06A	**Date/Time Analyzed:**	10/23/18 01:23 PM
Date/Time Collecte	NA - Not Applicable	**Dilution Factor:**	1.00
Media:	NA - Not Applicable	**Instrument/Filename:**	msd2.i / 2102304sim

Compound	CAS#	%Recovery
Ethylene Oxide	75-21-8	113

D: Analyte not within the DoD scope of accreditation.

* % Recovery is calculated using unrounded analytical results.

MODIFIED EPA METHOD TO-15 GC/MS SIM
SAL

eurofins | Air Toxics

Client ID:	LCSD		
Lab ID:	1810445R1A-06AA	**Date/Time Analyzed:**	10/23/18 02:00 PM
Date/Time Collecte	NA - Not Applicable	**Dilution Factor:**	1.00
Media:	NA - Not Applicable	**Instrument/Filename:**	msd2.i / 2102305sim

Compound	CAS#	%Recovery
Ethylene Oxide	75-21-8	115

D: Analyte not within the DoD scope of accreditation.

* % Recovery is calculated using unrounded analytical results.

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FOLSOM, CA 95630-4719
(916) 985-1000 FAX (916) 985-1020

Page ____ of ____

Project Manager Robert De Mott
Collected by: (Print and Sign) Cynthia Borczkiewicz / Mike Russell / CB
Company Ramboll US Corp Email RDeMott@ramboll.com
Address 1050 Highland Manor City Tampa State FL Zip 33610
Phone 813-628-4325 Fax —

Project Info:
P.O. # 1690009066
Project # 1690009066
Project Name SAL

Turn Around Time:
❑ Normal
❑ Rush
specify

Lab Use Only
Pressurized by:
Date:
Pressurization Gas: N_2 He

Lab I.D.	Field Sample I.D. (Location)	Can #	Date of Collection	Time of Collection	Analyses Requested	Canister Pressure/Vacuum Initial	Final	Receipt	Final (psi)
01A	A06-N-181017	6L0474	10/17/18	0619	ethylene oxide + 2,5 Dimethylfuran	30+	8		
02A	A17-N-181017	6L0090	10/17/18	0619	ethylene oxide + 2,5-Dimethylfuran	29.5	15.5		
	~~A06-D-181018~~ DO NOT ANALYZE	~~6L0439~~	~~10/18/18~~	~~1620~~	~~ethylene oxide + 2,5-Dimethylfuran~~	~~28.5~~	~~0~~	~~Do Not Analyze~~	
03A	A03-D-181018	6L1666	10/18/18	1737	ethylene oxide + 2,5-Dimethylfuran	30	7		

Relinquished by: (signature)	Date/Time	Received by: (signature)	Date/Time
Cynthia Borczkiewicz	10/18/18 1930 to Fedex	[illegible] CAIR	10/19/18 0955
Relinquished by: (signature)	Date/Time	Received by: (signature)	Date/Time
Relinquished by: (signature)	Date/Time	Received by: (signature)	Date/Time

Notes:

Lab Use Only	Shipper Name	Air Bill #	Temp (°C)	Condition	Custody Seals Intact?	Work Order #
	FedEx		NA	Good	Yes No (None)	1810445

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ED_002475_00000088-00172

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11/2/2018
Mr. Robert DeMott
Ramboll Environ
10150 Highland Manor Drive
Suite 440
Tampa FL 33610

Project Name: SAL
Project #: 169000 9066
Workorder #: 1810446R1A

Dear Mr. Robert DeMott

The following report includes the data for the above referenced project for sample(s) received on 10/19/2018 at Air Toxics Ltd.

The data and associated QC analyzed by EPA Method TO-15 are compliant with the project requirements or laboratory criteria with the exception of the deviations noted in the attached case narrative.

Thank you for choosing Eurofins Air Toxics Inc. for your air analysis needs. Eurofins Air Toxics Inc. is committed to providing accurate data of the highest quality. Please feel free to contact the Project Manager: Ausha Scott at 916-985-1000 if you have any questions regarding the data in this report.

Regards,

Ausha Scott
Project Manager

eurofins | Air Toxics

WORK ORDER #: 1810446R1A

Work Order Summary

CLIENT:	Mr. Robert DeMott Ramboll Environ 10150 Highland Manor Drive Suite 440 Tampa, FL 33610	**BILL TO:**	Accounts Payable Ramboll Environ 10150 Highland Manor Drive Suite 440 Tampa, FL 33610
PHONE:	813-628-4325	**P.O. #**	169000 9066
FAX:	813-628-4983	**PROJECT #**	169000 9066 SAL
DATE RECEIVED:	10/19/2018	**CONTACT:**	Ausha Scott
DATE COMPLETED:	10/29/2018		
DATE REISSUED:	11/02/2018		

FRACTION #	NAME	TEST	RECEIPT VAC./PRES.	FINAL PRESSURE
01B	A15-N-181017	EPA Method TO-15	4.1 "Hg	5.1 psi
02B	GAD-D-181018	EPA Method TO-15	2.2 "Hg	5.2 psi
03B	Lab Blank	EPA Method TO-15	NA	NA
04A	CCV	EPA Method TO-15	NA	NA
05A	LCS	EPA Method TO-15	NA	NA
05AA	LCSD	EPA Method TO-15	NA	NA

CERTIFIED BY: Heidi Mayo

Technical Director

DATE: 11/02/18

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(916) 985-1000 . (800) 985-5955 . FAX (916) 985-1020

LABORATORY NARRATIVE
EPA TO-15 Ethylene oxide (SIM)
Ramboll Environ
Workorder# 1810446R1A

Two 6 Liter Summa Canister (100% Certified) samples were received on October 19, 2018. The laboratory performed analysis via EPA Method TO-15 using GC/MS in the SIM acquisition mode for the measurement of Ethylene oxide in ambient air.

This workorder was independently validated prior to submittal using 'USEPA National Functional Guidelines' as generally applied to the analysis of volatile organic compounds in air. A rules-based, logic driven, independent validation engine was employed to assess completeness, evaluate pass/fail of relevant project quality control requirements and verification of all quantified amounts.

Receiving Notes

There were no receiving discrepancies.

Analytical Notes

Ethylene Oxide is not included on the laboratory's NELAP scope of accreditation for TO-15 SIM. However, TO-15 and NELAP quality requirements were met.

Samples were analyzed using the TO-15 GC/MS in synchronous SIM/Scan mode. The SIM file was used to measure the target compound ethylene oxide. The scan file was used to report analyte 2,5-Dimethylfuran as a tentatively identified compound (TIC) determined by searching for its characteristic spectra. If no chromatographic peak displaying the compound specific spectra exists, then the TIC is reported as not detected. Please note that the laboratory has not evaluated the stability of any tentatively identified compound in the vapor phase or for efficiency of recovery through the analytical system.

The work order was reissued on November 2, 2018 for the following:

1) Per client request, the workorder was re-issued to report estimated values for Ethylene Oxide hits that are below the Reporting Limit but greater than the Method Detection Limit (MDL). The report format includes the Method Detection Limit values. The canisters used for this project have been certified to the Reporting Limit for Ethylene Oxide. Concentrations that are below the level at which the canister was certified may be false positives.

Due to the LIMS reporting template limitations for displaying MDL values, Ethylene Oxide results are reported in this workorder 1810446R1A with the 2,5-Dimethylfuran as a TIC reported in associated workorder fraction 1810446R1B.

2) The work order was reissued to correct the identification of sample A15-N-181017 due to laboratory transcription error.

Definition of Data Qualifying Flags

Eight qualifiers may have been used on the data analysis sheets and indicates as follows:

B - Compound present in laboratory blank greater than reporting limit (background subtraction not performed).

J - Estimated value.
S - Saturated peak.
Q - Exceeds quality control limits.
U - Compound analyzed for but not detected above the reporting limit, LOD, or MDL value. See data page for project specific U-flag definition.
UJ- Non-detected compound associated with low bias in the CCV
N - The identification is based on presumptive evidence.

File extensions may have been used on the data analysis sheets and indicates as follows:
a-File was requantified
b-File was quantified by a second column and detector
r1-File was requantified for the purpose of reissue

MODIFIED EPA METHOD TO-15 GC/MS SIM
SAL

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Client ID:	A15-N-181017		
Lab ID:	1810446R1A-01B	**Date/Time Analyzed:**	10/24/18 03:56 AM
Date/Time Collecte	10/17/18 08:20 PM	**Dilution Factor:**	1.56
Media:	6 Liter Summa Canister (100% Certified)	**Instrument/Filename:**	msd2.i / 2102325simr1

Compound	CAS#	MDL (ug/m3)	LOD (ug/m3)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Ethylene Oxide	75-21-8	0.077	D	0.14	0.11 J

J = Estimated value.
D: Analyte not within the DoD scope of accreditation.

MODIFIED EPA METHOD TO-15 GC/MS SIM
SAL

eurofins | Air Toxics

Client ID:	GAD-D-181018		
Lab ID:	1810446R1A-02B	**Date/Time Analyzed:**	10/24/18 04:33 AM
Date/Time Collecte	10/18/18 09:30 AM	**Dilution Factor:**	1.46
Media:	6 Liter Summa Canister (100% Certified)	**Instrument/Filename:**	msd2.i / 2102326simr1

Compound	CAS#	MDL (ug/m3)	LOD (ug/m3)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Ethylene Oxide	75-21-8	0.072	D	0.13	0.38

D: Analyte not within the DoD scope of accreditation.

MODIFIED EPA METHOD TO-15 GC/MS SIM
SAL

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Client ID:	Lab Blank		
Lab ID:	1810446R1A-03B	**Date/Time Analyzed:**	10/23/18 02:37 PM
Date/Time Collecte	NA - Not Applicable	**Dilution Factor:**	1.00
Media:	NA - Not Applicable	**Instrument/Filename:**	msd2.i / 2102306simr1

Compound	CAS#	MDL (ug/m3)	LOD (ug/m3)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Ethylene Oxide	75-21-8	0.049	D	0.090	0.053 J

J = Estimated value.
D: Analyte not within the DoD scope of accreditation.

MODIFIED EPA METHOD TO-15 GC/MS SIM
SAL

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Client ID:	CCV		
Lab ID:	1810446R1A-04A	**Date/Time Analyzed:**	10/23/18 12:46 PM
Date/Time Collecte	NA - Not Applicable	**Dilution Factor:**	1.00
Media:	NA - Not Applicable	**Instrument/Filename:**	msd2.i / 2102303sim

Compound	CAS#	%Recovery
Ethylene Oxide	75-21-8	81

D: Analyte not within the DoD scope of accreditation.

MODIFIED EPA METHOD TO-15 GC/MS SIM
SAL

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Client ID:	LCS		
Lab ID:	1810446R1A-05A	**Date/Time Analyzed:**	10/23/18 01:23 PM
Date/Time Collecte	NA - Not Applicable	**Dilution Factor:**	1.00
Media:	NA - Not Applicable	**Instrument/Filename:**	msd2.i / 2102304sim

Compound	CAS#	%Recovery
Ethylene Oxide	75-21-8	113

D: Analyte not within the DoD scope of accreditation.

* % Recovery is calculated using unrounded analytical results.

MODIFIED EPA METHOD TO-15 GC/MS SIM
SAL

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Client ID:	LCSD		
Lab ID:	1810446R1A-05AA	**Date/Time Analyzed:**	10/23/18 02:00 PM
Date/Time Collecte	NA - Not Applicable	**Dilution Factor:**	1.00
Media:	NA - Not Applicable	**Instrument/Filename:**	msd2.i / 2102305sim

Compound	CAS#	%Recovery
Ethylene Oxide	75-21-8	115

D: Analyte not within the DoD scope of accreditation.

* % Recovery is calculated using unrounded analytical results.

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Sample Transportation Notice

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FOLSOM, CA 95630-4719
(916) 985-1000 FAX (916) 985-1020

Page 1 of 1

Project Manager: Robert DeMott

Collected by: (Print and Sign) Rob Rotterman, Matt Meyer

Company: Ramboll Email: RDemott@Ramboll.com

Address: 10150 Highland Manor Drive City: Tampa State: FL Zip:

Phone: 813-628-4325 Fax:

Project Info:

P.O. #: 169000 9066

Project #: 169000 9066

Project Name: SAL

Turn Around Time: ☐ Normal ☐ Rush _____ specify

Lab Use Only: Pressurized by: Date: Pressurization Gas: N_2 He

Lab I.D.	Field Sample I.D. (Location)	Can #	Date of Collection	Time of Collection	Analyses Requested	Canister Pressure/Vacuum Initial	Final	Receipt	Final (psi)
01A	AIS-N-181017	6L-1211	10-17-18	2020	Ethylene Oxide 2,5 Dimethylfuran	28	7		
02A	GAD-D-181018	6L1625	10-18-18	0930	Ethylene Oxide 2,5 Dimethylfuran	27	5		

Relinquished by: (signature)	Date/Time	Received by: (signature)	Date/Time
M7 Meyer	10-18-18 - 1400	[illegible] CATL	10/19/18 0955
Relinquished by: (signature)	Date/Time	Received by: (signature)	Date/Time
Relinquished by: (signature)	Date/Time	Received by: (signature)	Date/Time

Notes:

Lab Use Only	Shipper Name	Air Bill #	Temp (°C)	Condition	Custody Seals Intact?	Work Order #
	Fed Ex		NA	Good	Yes No None	1810446

Form 1293 rev.11

ED_002475_00000088-00183

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11/2/2018
Mr. Robert DeMott
Ramboll Environ
10150 Highland Manor Drive
Suite 440
Tampa FL 33610

Project Name: SAL
Project #: 169000 9066
Workorder #: 1810447R1A

Dear Mr. Robert DeMott

The following report includes the data for the above referenced project for sample(s) received on 10/19/2018 at Air Toxics Ltd.

The data and associated QC analyzed by EPA Method TO-15 are compliant with the project requirements or laboratory criteria with the exception of the deviations noted in the attached case narrative.

Thank you for choosing Eurofins Air Toxics Inc. for your air analysis needs. Eurofins Air Toxics Inc. is committed to providing accurate data of the highest quality. Please feel free to contact the Project Manager: Ausha Scott at 916-985-1000 if you have any questions regarding the data in this report.

Regards,

Ausha Scott
Project Manager

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WORK ORDER #: 1810447R1A

Work Order Summary

CLIENT:	Mr. Robert DeMott Ramboll Environ 10150 Highland Manor Drive Suite 440 Tampa, FL 33610	**BILL TO:**	Accounts Payable Ramboll Environ 10150 Highland Manor Drive Suite 440 Tampa, FL 33610
PHONE:	813-628-4325	**P.O. #**	169000 9066
FAX:	813-628-4983	**PROJECT #**	169000 9066 SAL
DATE RECEIVED:	10/19/2018	**CONTACT:**	Ausha Scott
DATE COMPLETED:	10/29/2018		
DATE REISSUED:	11/02/2018		

FRACTION #	NAME	TEST	RECEIPT VAC./PRES.	FINAL PRESSURE
01B	GL-N-181017	EPA Method TO-15	3.9 "Hg	5.1 psi
02B	GAH-N-181017	EPA Method TO-15	3.3 "Hg	5 psi
03B	GAA-D-181018	EPA Method TO-15	3.5 "Hg	5 psi
04B	A13-N-181017	EPA Method TO-15	3.9 "Hg	5.2 psi
05B	Lab Blank	EPA Method TO-15	NA	NA
06A	CCV	EPA Method TO-15	NA	NA
07A	LCS	EPA Method TO-15	NA	NA
07AA	LCSD	EPA Method TO-15	NA	NA

CERTIFIED BY: Heidi Hayes

Technical Director

DATE: 11/02/18

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LABORATORY NARRATIVE
EPA TO-15 Ethylene oxide (SIM)
Ramboll Environ
Workorder# 1810447R1A

Four 6 Liter Summa Canister (100% Certified) samples were received on October 19, 2018. The laboratory performed analysis via modified EPA Method TO-15 using GC/MS in the SIM acquisition mode for the measurement of Ethylene oxide in ambient air.

This workorder was independently validated prior to submittal using 'USEPA National Functional Guidelines' as generally applied to the analysis of volatile organic compounds in air. A rules-based, logic driven, independent validation engine was employed to assess completeness, evaluate pass/fail of relevant project quality control requirements and verification of all quantified amounts.

Receiving Notes

There were no receiving discrepancies.

Analytical Notes

Ethylene Oxide is not included on the laboratory's NELAP scope of accreditation for TO-15 SIM. However, TO-15 and NELAP quality requirements were met.

Samples were analyzed using the TO-15 GC/MS in synchronous SIM/Scan mode. The SIM file was used to measure the target compound ethylene oxide. The scan file was used to report analyte 2,5-Dimethylfuran as a tentatively identified compound (TIC) determined by searching for its characteristic spectra. If no chromatographic peak displaying the compound specific spectra exists, then the TIC is reported as not detected. Please note that the laboratory has not evaluated the stability of any tentatively identified compound in the vapor phase or for efficiency of recovery through the analytical system.

The work order was reissued on November 2, 2018 as follows:

Per client request, the workorder was re-issued to report estimated values for Ethylene Oxide hits that are below the Reporting Limit but greater than the Method Detection Limit (MDL). The report format includes the Method Detection Limit values. The canisters used for this project have been certified to the Reporting Limit for Ethylene Oxide. Concentrations that are below the level at which the canister was certified may be false positives.

Due to the LIMS reporting template limitations for displaying MDL values, Ethylene Oxide results are reported in this workorder 1810447R1A with the 2,5-Dimethylfuran as a TIC reported in associated workorder fraction 1810447R1B.

Definition of Data Qualifying Flags

Eight qualifiers may have been used on the data analysis sheets and indicates as follows:

B - Compound present in laboratory blank greater than reporting limit (background subtraction not performed).

J - Estimated value.

S - Saturated peak.

Q - Exceeds quality control limits.

U - Compound analyzed for but not detected above the reporting limit, LOD, or MDL value. See data page for project specific U-flag definition.

UJ- Non-detected compound associated with low bias in the CCV

N - The identification is based on presumptive evidence.

File extensions may have been used on the data analysis sheets and indicates as follows:

a-File was requantified

b-File was quantified by a second column and detector

r1-File was requantified for the purpose of reissue

MODIFIED EPA METHOD TO-15 GC/MS SIM
SAL

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Client ID:	GL-N-181017		
Lab ID:	1810447R1A-01B	**Date/Time Analyzed:**	10/24/18 09:41 AM
Date/Time Collecte	10/17/18 07:43 PM	**Dilution Factor:**	1.55
Media:	6 Liter Summa Canister (100% Certified)	**Instrument/Filename:**	msd2.i / 2102406simr1

Compound	CAS#	MDL (ug/m3)	LOD (ug/m3)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Ethylene Oxide	75-21-8	0.077	D	0.14	0.15

D: Analyte not within the DoD scope of accreditation.

MODIFIED EPA METHOD TO-15 GC/MS SIM
SAL

eurofins | Air Toxics

Client ID:	GAH-N-181017		
Lab ID:	1810447R1A-02B	**Date/Time Analyzed:**	10/24/18 10:19 AM
Date/Time Collecte	10/17/18 07:43 PM	**Dilution Factor:**	1.50
Media:	6 Liter Summa Canister (100% Certified)	**Instrument/Filename:**	msd2.i / 2102407simr1

Compound	CAS#	MDL (ug/m3)	LOD (ug/m3)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Ethylene Oxide	75-21-8	0.074	D	0.14	0.11 J

J = Estimated value.
D: Analyte not within the DoD scope of accreditation.

MODIFIED EPA METHOD TO-15 GC/MS SIM
SAL

eurofins | Air Toxics

Client ID:	GAA-D-181018		
Lab ID:	1810447R1A-03B	**Date/Time Analyzed:**	10/24/18 10:56 AM
Date/Time Collecte	10/18/18 10:52 AM	**Dilution Factor:**	1.52
Media:	6 Liter Summa Canister (100% Certified)	**Instrument/Filename:**	msd2.i / 2102408simr1

Compound	CAS#	MDL (ug/m3)	LOD (ug/m3)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Ethylene Oxide	75-21-8	0.075	D	0.14	0.28

D: Analyte not within the DoD scope of accreditation.

MODIFIED EPA METHOD TO-15 GC/MS SIM
SAL

eurofins | Air Toxics

Client ID:	A13-N-181017		
Lab ID:	1810447R1A-04B	**Date/Time Analyzed:**	10/24/18 11:34 AM
Date/Time Collecte	10/17/18 06:28 PM	**Dilution Factor:**	1.56
Media:	6 Liter Summa Canister (100% Certified)	**Instrument/Filename:**	msd2.i / 2102409simr1

Compound	CAS#	MDL (ug/m3)	LOD (ug/m3)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Ethylene Oxide	75-21-8	0.077	D	0.14	0.18

D: Analyte not within the DoD scope of accreditation.

MODIFIED EPA METHOD TO-15 GC/MS SIM
SAL

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Client ID:	Lab Blank		
Lab ID:	1810447R1A-05B	**Date/Time Analyzed:**	10/24/18 07:40 AM
Date/Time Collecte	NA - Not Applicable	**Dilution Factor:**	1.00
Media:	NA - Not Applicable	**Instrument/Filename:**	msd2.i / 2102405simr1

Compound	CAS#	MDL (ug/m3)	LOD (ug/m3)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Ethylene Oxide	75-21-8	0.049	D	0.090	0.072 J

J = Estimated value.
D: Analyte not within the DoD scope of accreditation.

MODIFIED EPA METHOD TO-15 GC/MS SIM
SAL

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Client ID:	CCV		
Lab ID:	1810447R1A-06A	**Date/Time Analyzed:**	10/24/18 05:49 AM
Date/Time Collecte	NA - Not Applicable	**Dilution Factor:**	1.00
Media:	NA - Not Applicable	**Instrument/Filename:**	msd2.i / 2102402sim

Compound	CAS#	%Recovery
Ethylene Oxide	75-21-8	85

D: Analyte not within the DoD scope of accreditation.

MODIFIED EPA METHOD TO-15 GC/MS SIM
SAL

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Client ID:	LCS		
Lab ID:	1810447R1A-07A	**Date/Time Analyzed:**	10/24/18 06:26 AM
Date/Time Collecte	NA - Not Applicable	**Dilution Factor:**	1.00
Media:	NA - Not Applicable	**Instrument/Filename:**	msd2.i / 2102403sim

Compound	CAS#	%Recovery
Ethylene Oxide	75-21-8	122

D: Analyte not within the DoD scope of accreditation.

* % Recovery is calculated using unrounded analytical results.

MODIFIED EPA METHOD TO-15 GC/MS SIM
SAL

eurofins | Air Toxics

Client ID:	LCSD		
Lab ID:	1810447R1A-07AA	**Date/Time Analyzed:**	10/24/18 07:02 AM
Date/Time Collecte	NA - Not Applicable	**Dilution Factor:**	1.00
Media:	NA - Not Applicable	**Instrument/Filename:**	msd2.i / 2102404sim

Compound	CAS#	%Recovery
Ethylene Oxide	75-21-8	118

D: Analyte not within the DoD scope of accreditation.

* % Recovery is calculated using unrounded analytical results.

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Sample Transportation Notice
Relinquishing signature on this document indicates that sample is being shipped in compliance with all applicable local, State, Federal, national, and international laws, regulations and ordinances of any kind. Air Toxics Limited assumes no liability with respect to the collection, handling or shipping of these samples. Relinquishing signature also indicates agreement to hold harmless, defend, and indemnify Air Toxics Limited against any claim, demand, or action, of any kind, related to the collection, handling, or shipping of samples. D.O.T. Hotline (800) 467-4922

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FOLSOM, CA 95630-4719
(916) 985-1000 FAX (916) 985-1020

Project Manager Robert DeMott
Collected by: (Print and Sign) Rob Rottersman / MATT Meyer MFM
Company Ramboll US Corp. Email Rdemott@Ramboll.com
Address 10150 Highland Manor Drive City TAMPA State FL Zip
Phone 813-628-4325 Fax

Project Info:
P.O. # 169000 9066
Project # 169000 9066
Project Name SAL

Turn Around Time:
☐ Normal
☐ Rush
specify

Lab Use Only
Pressurized by:
Date:
Pressurization Gas: N_2 He

Lab I.D.	Field Sample I.D. (Location)	Can #	Date of Collection	Time of Collection	Analyses Requested	Canister Pressure/Vacuum Initial	Final	Receipt	Final (psi)
01A	GL-N-181017	6L1473	10-17-18	1943	ethylene oxide 2,5 dimethylFuran	27	6		
02A	GAH-N-181017	6L0475	10-17-18	1943	ethylene oxide 2,5 dimethylFuran	27	5		
03A	GAA-D-181018	6L1070	10-18-18	1052	ethylene oxide 2,5 dimethylFuran	27	5		
04A	A13-N-181017	6L0329	10-17-18	1828	ethylene oxide 2,5 dimethylFuran	30	7		

Relinquished by: (signature) Date/Time	Received by: (signature) Date/Time
M T Meyer 10-18-18 1500	Alan EAR 10/19/18 0955
Relinquished by: (signature) Date/Time	Received by: (signature) Date/Time
Relinquished by: (signature) Date/Time	Received by: (signature) Date/Time

Notes:

Lab Use Only	Shipper Name	Air Bill #	Temp (°C)	Condition	Custody Seals Intact?	Work Order #
	Fedex		NA	Good	Yes No None	1810447

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ED_002475_00000088-00196

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11/2/2018
Mr. Robert DeMott
Ramboll Environ
10150 Highland Manor Drive
Suite 440
Tampa FL 33610

Project Name: SAL
Project #: 16900 9066
Workorder #: 1810450R1A

Dear Mr. Robert DeMott

The following report includes the data for the above referenced project for sample(s) received on 10/19/2018 at Air Toxics Ltd.

The data and associated QC analyzed by EPA Method TO-15 are compliant with the project requirements or laboratory criteria with the exception of the deviations noted in the attached case narrative.

Thank you for choosing Eurofins Air Toxics Inc. for your air analysis needs. Eurofins Air Toxics Inc. is committed to providing accurate data of the highest quality. Please feel free to contact the Project Manager: Ausha Scott at 916-985-1000 if you have any questions regarding the data in this report.

Regards,

Ausha Scott
Project Manager

eurofins | Air Toxics

WORK ORDER #: 1810450R1A

Work Order Summary

CLIENT:	Mr. Robert DeMott Ramboll Environ 10150 Highland Manor Drive Suite 440 Tampa, FL 33610	**BILL TO:**	Accounts Payable Ramboll Environ 10150 Highland Manor Drive Suite 440 Tampa, FL 33610
PHONE:	813-628-4325	**P.O. #**	16900 9066
FAX:	813-628-4983	**PROJECT #**	16900 9066 SAL
DATE RECEIVED:	10/19/2018	**CONTACT:**	Ausha Scott
DATE COMPLETED:	11/02/2018		

FRACTION #	NAME	TEST	RECEIPT VAC./PRES.	FINAL PRESSURE
01B	A01-N-181017	EPA Method TO-15	3.3 "Hg	4.9 psi
02B	GE-D-181018	EPA Method TO-15	3.7 "Hg	5 psi
03B	A08-N-181017	EPA Method TO-15	4.5 "Hg	5.2 psi
04B	A04-D-181017	EPA Method TO-15	5.3 "Hg	5 psi
05A	Lab Blank	EPA Method TO-15	NA	NA
06A	CCV	EPA Method TO-15	NA	NA
07A	LCS	EPA Method TO-15	NA	NA
07AA	LCSD	EPA Method TO-15	NA	NA

CERTIFIED BY: Heidi Hayes

Technical Director

DATE: 11/02/18

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LABORATORY NARRATIVE
EPA TO-15 Ethylene oxide (SIM)
Ramboll Environ
Workorder# 1810450R1A

Four 6 Liter Summa Canister (100% Certified) samples were received on October 19, 2018. The laboratory performed analysis via EPA Method TO-15 using GC/MS in the SIM acquisition mode for the measurement of Ethylene oxide in ambient air.

This workorder was independently validated prior to submittal using 'USEPA National Functional Guidelines' as generally applied to the analysis of volatile organic compounds in air. A rules-based, logic driven, independent validation engine was employed to assess completeness, evaluate pass/fail of relevant project quality control requirements and verification of all quantified amounts.

Receiving Notes

There were no receiving discrepancies.

Analytical Notes

Ethylene Oxide is not included on the laboratory's NELAP scope of accreditation for TO-15 SIM. However, TO-15 and NELAP quality requirements were met.

Samples were analyzed using the TO-15 GC/MS in synchronous SIM/Scan mode. The SIM file was used to measure the target compound ethylene oxide. The scan file was used to report analyte 2,5-Dimethylfuran as a tentatively identified compound (TIC) determined by searching for its characteristic spectra. If no chromatographic peak displaying the compound specific spectra exists, then the TIC is reported as not detected. Please note that the laboratory has not evaluated the stability of any tentatively identified compound in the vapor phase or for efficiency of recovery through the analytical system.

The work order was reissued on November 2, 2018 as follows:

1) Per client request, the workorder was re-issued to report estimated values for Ethylene Oxide hits that are below the Reporting Limit but greater than the Method Detection Limit (MDL). The report format includes the Method Detection Limit values. The canisters used for this project have been certified to the Reporting Limit for Ethylene Oxide. Concentrations that are below the level at which the canister was certified may be false positives.

Due to the LIMS reporting template limitations for displaying MDL values, Ethylene Oxide results are reported in this workorder 1810450R1A with the 2,5-Dimethylfuran as a TIC reported in associated workorder fraction 1810450R1B.

2) The work order was reissued to correct the identification of sample A01-N-181017 due to laboratory transcription error.

Definition of Data Qualifying Flags

Eight qualifiers may have been used on the data analysis sheets and indicates as follows:

B - Compound present in laboratory blank greater than reporting limit (background subtraction not

performed).

J - Estimated value.

S - Saturated peak.

Q - Exceeds quality control limits.

U - Compound analyzed for but not detected above the reporting limit, LOD, or MDL value. See data page for project specific U-flag definition.

UJ- Non-detected compound associated with low bias in the CCV

N - The identification is based on presumptive evidence.

File extensions may have been used on the data analysis sheets and indicates as follows:

a-File was requantified

b-File was quantified by a second column and detector

r1-File was requantified for the purpose of reissue

MODIFIED EPA METHOD TO-15 GC/MS SIM
SAL

eurofins | Air Toxics

Client ID:	A01-N-181017		
Lab ID:	1810450R1A-01B	**Date/Time Analyzed:**	10/24/18 01:27 AM
Date/Time Collecte	10/17/18 06:25 AM	**Dilution Factor:**	1.50
Media:	6 Liter Summa Canister (100% Certified)	**Instrument/Filename:**	msd2.i / 2102321simr1

Compound	CAS#	MDL (ug/m3)	LOD (ug/m3)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Ethylene Oxide	75-21-8	0.074	D	0.14	0.17

D: Analyte not within the DoD scope of accreditation.

MODIFIED EPA METHOD TO-15 GC/MS SIM
SAL

eurofins | Air Toxics

Client ID:	GE-D-181018		
Lab ID:	1810450R1A-02B	**Date/Time Analyzed:**	10/24/18 02:04 AM
Date/Time Collecte	10/18/18 09:15 AM	**Dilution Factor:**	1.53
Media:	6 Liter Summa Canister (100% Certified)	**Instrument/Filename:**	msd2.i / 2102322simr1

Compound	CAS#	MDL (ug/m3)	LOD (ug/m3)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Ethylene Oxide	75-21-8	0.076	D	0.14	0.30

D: Analyte not within the DoD scope of accreditation.

MODIFIED EPA METHOD TO-15 GC/MS SIM
SAL

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Client ID:	A08-N-181017		
Lab ID:	1810450R1A-03B	**Date/Time Analyzed:**	10/24/18 02:41 AM
Date/Time Collecte	10/17/18 10:20 AM	**Dilution Factor:**	1.59
Media:	6 Liter Summa Canister (100% Certified)	**Instrument/Filename:**	msd2.i / 2102323simr1

Compound	CAS#	MDL (ug/m3)	LOD (ug/m3)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Ethylene Oxide	75-21-8	0.079	D	0.14	0.42

D: Analyte not within the DoD scope of accreditation.

MODIFIED EPA METHOD TO-15 GC/MS SIM
SAL

eurofins | Air Toxics

Client ID:	A04-D-181017		
Lab ID:	1810450R1A-04B	**Date/Time Analyzed:**	10/24/18 03:19 AM
Date/Time Collecte	10/17/18 10:40 AM	**Dilution Factor:**	1.63
Media:	6 Liter Summa Canister (100% Certified)	**Instrument/Filename:**	msd2.i / 2102324simr1

Compound	CAS#	MDL (ug/m3)	LOD (ug/m3)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Ethylene Oxide	75-21-8	0.080	D	0.15	0.19

D: Analyte not within the DoD scope of accreditation.

MODIFIED EPA METHOD TO-15 GC/MS SIM
SAL

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Client ID:	Lab Blank		
Lab ID:	1810450R1A-05A	**Date/Time Analyzed:**	10/23/18 02:37 PM
Date/Time Collecte	NA - Not Applicable	**Dilution Factor:**	1.00
Media:	NA - Not Applicable	**Instrument/Filename:**	msd2.i / 2102306simr1

Compound	CAS#	MDL (ug/m3)	LOD (ug/m3)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Ethylene Oxide	75-21-8	0.049	D	0.090	0.053 J

J = Estimated value.
D: Analyte not within the DoD scope of accreditation.

MODIFIED EPA METHOD TO-15 GC/MS SIM
SAL

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Client ID:	CCV		
Lab ID:	1810450R1A-06A	**Date/Time Analyzed:**	10/23/18 12:46 PM
Date/Time Collecte	NA - Not Applicable	**Dilution Factor:**	1.00
Media:	NA - Not Applicable	**Instrument/Filename:**	msd2.i / 2102303sim

Compound	CAS#	%Recovery
Ethylene Oxide	75-21-8	81

D: Analyte not within the DoD scope of accreditation.

MODIFIED EPA METHOD TO-15 GC/MS SIM
SAL

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Client ID:	LCS		
Lab ID:	1810450R1A-07A	**Date/Time Analyzed:**	10/23/18 01:23 PM
Date/Time Collecte	NA - Not Applicable	**Dilution Factor:**	1.00
Media:	NA - Not Applicable	**Instrument/Filename:**	msd2.i / 2102304sim

Compound	CAS#	%Recovery
Ethylene Oxide	75-21-8	113

D: Analyte not within the DoD scope of accreditation.

* % Recovery is calculated using unrounded analytical results.

MODIFIED EPA METHOD TO-15 GC/MS SIM
SAL

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Client ID:	LCSD		
Lab ID:	1810450R1A-07AA	**Date/Time Analyzed:**	10/23/18 02:00 PM
Date/Time Collecte	NA - Not Applicable	**Dilution Factor:**	1.00
Media:	NA - Not Applicable	**Instrument/Filename:**	msd2.i / 2102305sim

Compound	CAS#	%Recovery
Ethylene Oxide	75-21-8	115

D: Analyte not within the DoD scope of accreditation.

* % Recovery is calculated using unrounded analytical results.

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Page ____ of ____

Project Manager Robert DeMott
Collected by: (Print and Sign) Cynthia Bonczkiewicz/Mike Russell CB
Company Ramboll US Corp. Email RDeMott@ramboll.com
Address 10150 Highland Manor City Tampa State FL Zip 33610
Phone 813-628-4325 Fax —

Project Info:
P.O. # 169009066
Project # 1690009066
Project Name SAL

Turn Around Time:
☐ Normal
☐ Rush
specify

Lab Use Only
Pressurized by:
Date:
Pressurization Gas: N_2 He

Lab I.D.	Field Sample I.D. (Location)	Can #	Date of Collection	Time of Collection	Analyses Requested	Canister Pressure/Vacuum Initial	Final	Receipt	Final (psi)
01A	A01-N-181017	6L1038	10/17/18	0625	ethylene oxide & 2,5-Dimethylfuran	30	7.5		
02A	GE-D-181018	6L1669	10/18/18	0915	ethylene oxide & 2,5-Dimethylfuran	26	7		
03A	A08-N-181017	6L0982	10/17/18	1020 am	ethylene oxide & 2,5-Dimethylfuran	30	8		
04A	A04-D-181017	6L0454	10/17/18	1040	ethylene oxide & 2,5-Dimethylfuran	30	7		

Relinquished by: (signature)	Date/Time	Received by: (signature)	Date/Time
Cynthia Bonczkiewicz	to Fedex 10/18/18 ~~1400~~ 1600	[signature] EATL	10/19/18 0955
Relinquished by: (signature)	Date/Time	Received by: (signature)	Date/Time
Relinquished by: (signature)	Date/Time	Received by: (signature)	Date/Time

Notes:

Lab Use Only	Shipper Name	Air Bill #	Temp (°C)	Condition	Custody Seals Intact?	Work Order #
	Fed Ex		NA	Good	Yes No None	1810450

Form 1293 rev.11

ED_002475_00000088-00209

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12/21/2018
Mr. Robert DeMott
Ramboll Environ
10150 Highland Manor Drive
Suite 440
Tampa FL 33610

Project Name: SAL
Project #: 16900 9066
Workorder #: 1810451R1A

Dear Mr. Robert DeMott

The following report includes the data for the above referenced project for sample(s) received on 10/19/2018 at Air Toxics Ltd.

The data and associated QC analyzed by EPA Method TO-15 are compliant with the project requirements or laboratory criteria with the exception of the deviations noted in the attached case narrative.

Thank you for choosing Eurofins Air Toxics Inc. for your air analysis needs. Eurofins Air Toxics Inc. is committed to providing accurate data of the highest quality. Please feel free to contact the Project Manager: Ausha Scott at 916-985-1000 if you have any questions regarding the data in this report.

Regards,

Ausha Scott
Project Manager

eurofins | Air Toxics

WORK ORDER #: 1810451R1A

Work Order Summary

CLIENT:	Mr. Robert DeMott Ramboll Environ 10150 Highland Manor Drive Suite 440 Tampa, FL 33610	**BILL TO:**	Accounts Payable Ramboll Environ 10150 Highland Manor Drive Suite 440 Tampa, FL 33610
PHONE:	813-628-4325	**P.O. #**	16900 9066
FAX:	813-628-4983	**PROJECT #**	16900 9066 SAL
DATE RECEIVED:	10/19/2018	**CONTACT:**	Ausha Scott
DATE COMPLETED:	10/29/2018		
DATE REISSUED:	12/21/2018		

FRACTION #	NAME	TEST	RECEIPT VAC./PRES.	FINAL PRESSURE
01B	GH-D-181018	EPA Method TO-15	3.5 "Hg	5.3 psi
02B	GN-D-181017	EPA Method TO-15	3.5 "Hg	5 psi
03B	GG-D-181017	EPA Method TO-15	4.3 "Hg	5.1 psi
04B	GAE-D-181018	EPA Method TO-15	1.8 "Hg	5 psi
05B	Lab Blank	EPA Method TO-15	NA	NA
06A	CCV	EPA Method TO-15	NA	NA
07A	LCS	EPA Method TO-15	NA	NA
07AA	LCSD	EPA Method TO-15	NA	NA

CERTIFIED BY: Heidi Hayes

Technical Director

DATE: 12/21/18

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LABORATORY NARRATIVE
EPA TO-15 Ethylene oxide (SIM)
Ramboll Environ
Workorder# 1810451R1A

Four 6 Liter Summa Canister (100% Certified) samples were received on October 19, 2018. The laboratory performed analysis via EPA Method TO-15 using GC/MS in the SIM acquisition mode for the measurement of Ethylene oxide in ambient air.

This workorder was independently validated prior to submittal using 'USEPA National Functional Guidelines' as generally applied to the analysis of volatile organic compounds in air. A rules-based, logic driven, independent validation engine was employed to assess completeness, evaluate pass/fail of relevant project quality control requirements and verification of all quantified amounts.

Receiving Notes

There were no receiving discrepancies.

Analytical Notes

Ethylene Oxide is not included on the laboratory's NELAP scope of accreditation for TO-15 SIM. However, TO-15 and NELAP quality requirements were met.

Samples were analyzed using the TO-15 GC/MS in synchronous SIM/Scan mode. The SIM file was used to measure the target compound ethylene oxide. The scan file was used to report analyte 2,5-Dimethylfuran as a tentatively identified compound (TIC) determined by searching for its characteristic spectra. If no chromatographic peak displaying the compound specific spectra exists, then the TIC is reported as not detected. Please note that the laboratory has not evaluated the stability of any tentatively identified compound in the vapor phase or for efficiency of recovery through the analytical system.

Per client request the workorder was re-issued December 21, 2018 to report estimated values for Ethylene Oxide hits that are below the Reporting Limit but greater than the Method Detection Limit (MDL). The report format includes the Method Detection Limit values. The canisters used for this project have been certified to the Reporting Limit for Ethylene Oxide. Concentrations that are below the level at which the canister was certified may be false positives.

Due to the LIMS reporting template limitations for displaying MDL values, Ethylene Oxide results are reported in this workorder 1810451R1A with the 2,5-Dimethylfuran as a TIC reported in associated workorder fraction 1810451R1B.

Definition of Data Qualifying Flags

Nine qualifiers may have been used on the data analysis sheets and indicates as follows:

B - Compound present in laboratory blank greater than reporting limit (background subtraction not performed).

J - Estimated value.

S - Saturated peak.

Q - Exceeds quality control limits.

U - Compound analyzed for but not detected above the reporting limit, LOD, or MDL value. See data page for project specific U-flag definition.

UJ- Non-detected compound associated with low bias in the CCV
N - The identification is based on presumptive evidence.
CN - See Case Narrative

File extensions may have been used on the data analysis sheets and indicates as follows:
a-File was requantified
b-File was quantified by a second column and detector
r1-File was requantified for the purpose of reissue

MODIFIED EPA METHOD TO-15 GC/MS SIM
SAL

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Client ID:	GH-D-181018		
Lab ID:	1810451R1A-01B	**Date/Time Analyzed:**	10/23/18 06:32 PM
Date/Time Collecte	10/18/18 06:45 AM	**Dilution Factor:**	1.54
Media:	6 Liter Summa Canister (100% Certified)	**Instrument/Filename:**	msd2.i / 2102311sim

Compound	CAS#	MDL (ug/m3)	LOD (ug/m3)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Ethylene Oxide	75-21-8	0.076	D	0.14	0.45

D: Analyte not within the DoD scope of accreditation.

MODIFIED EPA METHOD TO-15 GC/MS SIM
SAL

eurofins | Air Toxics

Client ID:	GN-D-181017		
Lab ID:	1810451R1A-02B	**Date/Time Analyzed:**	10/23/18 07:09 PM
Date/Time Collecte	10/17/18 06:02 PM	**Dilution Factor:**	1.52
Media:	6 Liter Summa Canister (100% Certified)	**Instrument/Filename:**	msd2.i / 2102312sim

Compound	CAS#	MDL (ug/m3)	LOD (ug/m3)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Ethylene Oxide	75-21-8	0.075	D	0.14	0.22

D: Analyte not within the DoD scope of accreditation.

MODIFIED EPA METHOD TO-15 GC/MS SIM
SAL

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Client ID:	GG-D-181017		
Lab ID:	1810451R1A-03B	**Date/Time Analyzed:**	10/23/18 07:47 PM
Date/Time Collecte	10/17/18 06:58 PM	**Dilution Factor:**	1.57
Media:	6 Liter Summa Canister (100% Certified)	**Instrument/Filename:**	msd2.i / 2102313sim

Compound	CAS#	MDL (ug/m3)	LOD (ug/m3)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Ethylene Oxide	75-21-8	0.078	D	0.14	0.18

D: Analyte not within the DoD scope of accreditation.

MODIFIED EPA METHOD TO-15 GC/MS SIM
SAL

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Client ID:	GAE-D-181018		
Lab ID:	1810451R1A-04B	**Date/Time Analyzed:**	10/23/18 08:24 PM
Date/Time Collecte	10/18/18 06:10 AM	**Dilution Factor:**	1.42
Media:	6 Liter Summa Canister (100% Certified)	**Instrument/Filename:**	msd2.i / 2102314sim

Compound	CAS#	MDL (ug/m3)	LOD (ug/m3)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Ethylene Oxide	75-21-8	0.070	D	0.13	0.33

D: Analyte not within the DoD scope of accreditation.

MODIFIED EPA METHOD TO-15 GC/MS SIM
SAL

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Client ID:	Lab Blank		
Lab ID:	1810451R1A-05B	**Date/Time Analyzed:**	10/23/18 02:37 PM
Date/Time Collecte	NA - Not Applicable	**Dilution Factor:**	1.00
Media:	NA - Not Applicable	**Instrument/Filename:**	msd2.i / 2102306simr1

Compound	CAS#	MDL (ug/m3)	LOD (ug/m3)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Ethylene Oxide	75-21-8	0.049	D	0.090	0.053 J

J = Estimated value.
D: Analyte not within the DoD scope of accreditation.

MODIFIED EPA METHOD TO-15 GC/MS SIM
SAL

eurofins | Air Toxics

Client ID:	CCV		
Lab ID:	1810451R1A-06A	**Date/Time Analyzed:**	10/23/18 12:46 PM
Date/Time Collecte	NA - Not Applicable	**Dilution Factor:**	1.00
Media:	NA - Not Applicable	**Instrument/Filename:**	msd2.i / 2102303sim

Compound	CAS#	%Recovery
Ethylene Oxide	75-21-8	81

D: Analyte not within the DoD scope of accreditation.

MODIFIED EPA METHOD TO-15 GC/MS SIM
SAL

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Client ID:	LCS		
Lab ID:	1810451R1A-07A	**Date/Time Analyzed:**	10/23/18 01:23 PM
Date/Time Collecte	NA - Not Applicable	**Dilution Factor:**	1.00
Media:	NA - Not Applicable	**Instrument/Filename:**	msd2.i / 2102304sim

Compound	CAS#	%Recovery
Ethylene Oxide	75-21-8	113

D: Analyte not within the DoD scope of accreditation.

* % Recovery is calculated using unrounded analytical results.

MODIFIED EPA METHOD TO-15 GC/MS SIM
SAL

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Client ID:	LCSD		
Lab ID:	1810451R1A-07AA	**Date/Time Analyzed:**	10/23/18 02:00 PM
Date/Time Collecte	NA - Not Applicable	**Dilution Factor:**	1.00
Media:	NA - Not Applicable	**Instrument/Filename:**	msd2.i / 2102305sim

Compound	CAS#	%Recovery
Ethylene Oxide	75-21-8	115

D: Analyte not within the DoD scope of accreditation.

* % Recovery is calculated using unrounded analytical results.

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Page ____ of ____

Project Manager: Robert DeMott
Collected by: (Print and Sign) Cynthia Bonczkiewicz / Mike Russell / CB
Company: Ramboll US Corp. Email: RDeMott@ramboll.com
Address: 10150 Highland Manor City: Tampa State: FL Zip: 33610
Phone: 813-628-4325 Fax:

Project Info:
P.O. #: 1690009066
Project #: 1690009066
Project Name: SAL

Turn Around Time:
☐ Normal
☐ Rush
specify

Lab Use Only
Pressurized by:
Date:
Pressurization Gas: N_2 He

Lab I.D.	Field Sample I.D. (Location)	Can #	Date of Collection	Time of Collection	Analyses Requested	Canister Pressure/Vacuum Initial	Final	Receipt	Final (psi)
01A	GH-D-181018	6L1691	10/18/18	0645	ethylene oxide & 2,5 Dimethyl furan	26	6.5		
02A	GN-D-181017	6L0758	10/17/18	1802	ethylene oxide & 2,5 Dimethyl furan	26	6		
03A	GG-D-181017	6L0952	10/17/18	1858	ethylene oxide & 2,5 Dimethyl furan	26	6.5		
04A	GAE-D-181018	6L0374	10/18/18	0610	ethylene oxide & 2,5 Dimethyl furan	26	5		

Relinquished by: (signature)	Date/Time	Received by: (signature)	Date/Time
Cynthia Bonczkiewicz	10/18/18 1400	[illegible] FAZ	10/19/18 0955
Relinquished by: (signature)	Date/Time	Received by: (signature)	Date/Time
Relinquished by: (signature)	Date/Time	Received by: (signature)	Date/Time

Notes:

Lab Use Only	Shipper Name	Air Bill #	Temp (°C)	Condition	Custody Seals Intact?	Work Order #
	Fed Ex		NA	Good	Yes No None	181045

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ED_002475_00000088-00222

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11/2/2018
Mr. Robert DeMott
Ramboll Environ
10150 Highland Manor Drive
Suite 440
Tampa FL 33610

Project Name: SAC
Project #: 1690009066
Workorder #: 1810497R1A

Dear Mr. Robert DeMott

The following report includes the data for the above referenced project for sample(s) received on 10/23/2018 at Air Toxics Ltd.

The data and associated QC analyzed by EPA Method TO-15 are compliant with the project requirements or laboratory criteria with the exception of the deviations noted in the attached case narrative.

Thank you for choosing Eurofins Air Toxics Inc. for your air analysis needs. Eurofins Air Toxics Inc. is committed to providing accurate data of the highest quality. Please feel free to contact the Project Manager: Ausha Scott at 916-985-1000 if you have any questions regarding the data in this report.

Regards,

Ausha Scott
Project Manager

eurofins | Air Toxics

WORK ORDER #: 1810497R1A

Work Order Summary

CLIENT:	Mr. Robert DeMott Ramboll Environ 10150 Highland Manor Drive Suite 440 Tampa, FL 33610	**BILL TO:**	Accounts Payable Ramboll Environ 10150 Highland Manor Drive Suite 440 Tampa, FL 33610
PHONE:	813-628-4325	**P.O. #**	1690009066
FAX:	813-628-4983	**PROJECT #**	1690009066 SAC
DATE RECEIVED:	10/23/2018	**CONTACT:**	Ausha Scott
DATE COMPLETED:	10/29/2018		
DATE REISSUED:	11/02/2018		

FRACTION #	NAME	TEST	RECEIPT VAC./PRES.	FINAL PRESSURE
01B	A12-D-181018	EPA Method TO-15	5.3 "Hg	5 psi
02B	A9-D-181018	EPA Method TO-15	3.7 "Hg	5.2 psi
03B	A13-D-181018	EPA Method TO-15	4.1 "Hg	5.1 psi
04B	A12-N-181018	EPA Method TO-15	6.3 "Hg	5.4 psi
05B	Lab Blank	EPA Method TO-15	NA	NA
06A	CCV	EPA Method TO-15	NA	NA
07A	LCS	EPA Method TO-15	NA	NA
07AA	LCSD	EPA Method TO-15	NA	NA

CERTIFIED BY: Heidi Hayes

Technical Director

DATE: 11/02/18

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LABORATORY NARRATIVE
EPA TO-15 Ethylene oxide (SIM)
Ramboll Environ
Workorder# 1810497R1A

Four 6 Liter Summa Canister (100% Certified) samples were received on October 23, 2018. The laboratory performed analysis via EPA Method TO-15 using GC/MS in the SIM acquisition mode for the measurement of Ethylene oxide in ambient air.

This workorder was independently validated prior to submittal using 'USEPA National Functional Guidelines' as generally applied to the analysis of volatile organic compounds in air. A rules-based, logic driven, independent validation engine was employed to assess completeness, evaluate pass/fail of relevant project quality control requirements and verification of all quantified amounts.

Receiving Notes

There were no receiving discrepancies.

Analytical Notes

Ethylene Oxide is not included on the laboratory's NELAP scope of accreditation for TO-15 SIM. However, TO-15 and NELAP quality requirements were met.

Samples were analyzed using the TO-15 GC/MS in synchronous SIM/Scan mode. The SIM file was used to measure the target compound ethylene oxide. The scan file was used to report analyte 2,5-Dimethylfuran as a tentatively identified compound (TIC) determined by searching for its characteristic spectra. If no chromatographic peak displaying the compound specific spectra exists, then the TIC is reported as not detected. Please note that the laboratory has not evaluated the stability of any tentatively identified compound in the vapor phase or for efficiency of recovery through the analytical system.

The work order was reissued on November 2, 2018 for the following:

1) Per client request, the workorder was re-issued to report estimated values for Ethylene Oxide hits that are below the Reporting Limit but greater than the Method Detection Limit (MDL). The report format includes the Method Detection Limit values. The canisters used for this project have been certified to the Reporting Limit for Ethylene Oxide. Concentrations that are below the level at which the canister was certified may be false positives.

Due to the LIMS reporting template limitations for displaying MDL values, Ethylene Oxide results are reported in this workorder 1810497R1A with the 2,5-Dimethylfuran as a TIC reported in associated workorder fraction 1810497R1B.

2) The work order was reissued to correct the identification of sample A12-N-181017 due to laboratory transcription error.

Definition of Data Qualifying Flags

Eight qualifiers may have been used on the data analysis sheets and indicates as follows:

B - Compound present in laboratory blank greater than reporting limit (background subtraction not performed).

J - Estimated value.
S - Saturated peak.
Q - Exceeds quality control limits.
U - Compound analyzed for but not detected above the reporting limit, LOD, or MDL value. See data page for project specific U-flag definition.
UJ- Non-detected compound associated with low bias in the CCV
N - The identification is based on presumptive evidence.

File extensions may have been used on the data analysis sheets and indicates as follows:
a-File was requantified
b-File was quantified by a second column and detector
r1-File was requantified for the purpose of reissue

MODIFIED EPA METHOD TO-15 GC/MS SIM
SAC

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Client ID:	A12-D-181018		
Lab ID:	1810497R1A-01B	**Date/Time Analyzed:**	10/24/18 12:11 PM
Date/Time Collecte	10/18/18 07:54 AM	**Dilution Factor:**	1.63
Media:	6 Liter Summa Canister (100% Certified)	**Instrument/Filename:**	msd2.i / 2102410simr1

Compound	CAS#	MDL (ug/m3)	LOD (ug/m3)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Ethylene Oxide	75-21-8	0.080	D	0.15	0.14 J

J = Estimated value.
D: Analyte not within the DoD scope of accreditation.

MODIFIED EPA METHOD TO-15 GC/MS SIM
SAC

eurofins | Air Toxics

Client ID:	A9-D-181018		
Lab ID:	1810497R1A-02B	**Date/Time Analyzed:**	10/24/18 12:48 PM
Date/Time Collecte	10/18/18 09:07 AM	**Dilution Factor:**	1.54
Media:	6 Liter Summa Canister (100% Certified)	**Instrument/Filename:**	msd2.i / 2102411simr1

Compound	CAS#	MDL (ug/m3)	LOD (ug/m3)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Ethylene Oxide	75-21-8	0.076	D	0.14	0.20

D: Analyte not within the DoD scope of accreditation.

MODIFIED EPA METHOD TO-15 GC/MS SIM
SAC

eurofins | Air Toxics

Client ID:	A13-D-181018		
Lab ID:	1810497R1A-03B	**Date/Time Analyzed:**	10/24/18 01:26 PM
Date/Time Collecte	10/18/18 05:38 AM	**Dilution Factor:**	1.56
Media:	6 Liter Summa Canister (100% Certified)	**Instrument/Filename:**	msd2.i / 2102412simr1

Compound	CAS#	MDL (ug/m3)	LOD (ug/m3)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Ethylene Oxide	75-21-8	0.077	D	0.14	0.18

D: Analyte not within the DoD scope of accreditation.

MODIFIED EPA METHOD TO-15 GC/MS SIM
SAC

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Client ID:	A12-N-181018		
Lab ID:	1810497R1A-04B	**Date/Time Analyzed:**	10/24/18 02:03 PM
Date/Time Collecte	10/18/18 07:07 PM	**Dilution Factor:**	1.73
Media:	6 Liter Summa Canister (100% Certified)	**Instrument/Filename:**	msd2.i / 2102413simr1

Compound	CAS#	MDL (ug/m3)	LOD (ug/m3)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Ethylene Oxide	75-21-8	0.086	D	0.16	0.21

D: Analyte not within the DoD scope of accreditation.

MODIFIED EPA METHOD TO-15 GC/MS SIM
SAC

eurofins | Air Toxics

Client ID:	Lab Blank		
Lab ID:	1810497R1A-05B	**Date/Time Analyzed:**	10/24/18 07:40 AM
Date/Time Collecte	NA - Not Applicable	**Dilution Factor:**	1.00
Media:	NA - Not Applicable	**Instrument/Filename:**	msd2.i / 2102405simr1

Compound	CAS#	MDL (ug/m3)	LOD (ug/m3)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Ethylene Oxide	75-21-8	0.049	D	0.090	0.072 J

J = Estimated value.
D: Analyte not within the DoD scope of accreditation.

MODIFIED EPA METHOD TO-15 GC/MS SIM
SAC

eurofins | Air Toxics

Client ID:	CCV		
Lab ID:	1810497R1A-06A	**Date/Time Analyzed:**	10/24/18 05:49 AM
Date/Time Collecte	NA - Not Applicable	**Dilution Factor:**	1.00
Media:	NA - Not Applicable	**Instrument/Filename:**	msd2.i / 2102402sim

Compound	CAS#	%Recovery
Ethylene Oxide	75-21-8	85

D: Analyte not within the DoD scope of accreditation.

MODIFIED EPA METHOD TO-15 GC/MS SIM
SAC

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Client ID:	LCS		
Lab ID:	1810497R1A-07A	**Date/Time Analyzed:**	10/24/18 06:26 AM
Date/Time Collecte	NA - Not Applicable	**Dilution Factor:**	1.00
Media:	NA - Not Applicable	**Instrument/Filename:**	msd2.i / 2102403sim

Compound	CAS#	%Recovery
Ethylene Oxide	75-21-8	122

D: Analyte not within the DoD scope of accreditation.

* % Recovery is calculated using unrounded analytical results.

MODIFIED EPA METHOD TO-15 GC/MS SIM
SAC

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Client ID:	LCSD		
Lab ID:	1810497R1A-07AA	**Date/Time Analyzed:**	10/24/18 07:02 AM
Date/Time Collecte	NA - Not Applicable	**Dilution Factor:**	1.00
Media:	NA - Not Applicable	**Instrument/Filename:**	msd2.i / 2102404sim

Compound	CAS#	%Recovery
Ethylene Oxide	75-21-8	118

D: Analyte not within the DoD scope of accreditation.

* % Recovery is calculated using unrounded analytical results.

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Page 1 of 1

Project Manager Robert DeMott

Collected by: (Print and Sig) Rob Rottersman / Matt Meyer

Company Ramboll US Corp Email rdemott@ramboll.com

Address 10150 Highland Manor City TAMPA State FL Zip 33610

Phone 813 628 4325 Fax

Project Info:

P.O. # 1690009066

Project # 1690009066

Project Name SAL

Turn Around Time: ☐ Normal ☐ Rush _____ specify

Lab Use Only: Pressurized by: Date: Pressurization Gas: N_2 He

Lab I.D.	Field Sample I.D. (Location)	Can #	Date of Collection	Time of Collection	Analyses Requested	Canister Pressure/Vacuum Initial	Final	Receipt	Final (psi)
01A	A12-D-181018	6L0621	10-18-18	0754	~~ethylene oxide~~ 2,5 Dimethyl Furan	30	8		
02A	A9-D-181018	6L1506	10-18-18	0907	~~ethylene oxide~~ 2,5 Dimethyl Furan	30	7		
03A	A13-D-181018	6L0603	10-18-18	0538	~~ethylene oxide~~ 2,5 Dimethyl Furan	30	7.5		
04A	A12-N-181018	6L0928	10-18-18	1907	~~ethylene oxide~~ 2,5 Dimethyl Furan	26.5	7.5		

Relinquished by: (signature) Date/Time	Received by: (signature) Date/Time
Matt Meyer 10-22-18 @1400	FATL 10/23/18 1010
Relinquished by: (signature) Date/Time	Received by: (signature) Date/Time
Relinquished by: (signature) Date/Time	Received by: (signature) Date/Time

Notes:

Lab Use Only	Shipper Name	Air Bill #	Temp (°C)	Condition	Custody Seals Intact?	Work Order #
	FEDEX		NA	GOOD	Yes No None	1810497

Form 1293 rev.11

ED_002475_00000088-00235

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11/2/2018
Mr. Robert DeMott
Ramboll Environ
10150 Highland Manor Drive
Suite 440
Tampa FL 33610

Project Name: SAC
Project #: 1690009066
Workorder #: 1810518R1A

Dear Mr. Robert DeMott

The following report includes the data for the above referenced project for sample(s) received on 10/24/2018 at Air Toxics Ltd.

The data and associated QC analyzed by EPA Method TO-15 are compliant with the project requirements or laboratory criteria with the exception of the deviations noted in the attached case narrative.

Thank you for choosing Eurofins Air Toxics Inc. for your air analysis needs. Eurofins Air Toxics Inc. is committed to providing accurate data of the highest quality. Please feel free to contact the Project Manager: Ausha Scott at 916-985-1000 if you have any questions regarding the data in this report.

Regards,

Ausha Scott

Project Manager

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WORK ORDER #: 1810518R1A

Work Order Summary

CLIENT:	Mr. Robert DeMott Ramboll Environ 10150 Highland Manor Drive Suite 440 Tampa, FL 33610	**BILL TO:**	Accounts Payable Ramboll Environ 10150 Highland Manor Drive Suite 440 Tampa, FL 33610
PHONE:	813-628-4325	**P.O. #**	1690009066
FAX:	813-628-4983	**PROJECT #**	1690009066 SAC
DATE RECEIVED:	10/24/2018	**CONTACT:**	Ausha Scott
DATE COMPLETED:	10/29/2018		
DATE REISSUED:	11/02/2018		

FRACTION #	NAME	TEST	RECEIPT VAC./PRES.	FINAL PRESSURE
01B	GT-D-181023	EPA Method TO-15	4.7 "Hg	5.4 psi
02B	GQ-N-181023	EPA Method TO-15	3.3 "Hg	4.9 psi
03B	GY-D-181023	EPA Method TO-15	3.5 "Hg	5 psi
04B	GAI-D-181023	EPA Method TO-15	3.3 "Hg	5.3 psi
05B	Lab Blank	EPA Method TO-15	NA	NA
06A	CCV	EPA Method TO-15	NA	NA
07A	LCS	EPA Method TO-15	NA	NA
07AA	LCSD	EPA Method TO-15	NA	NA

CERTIFIED BY: Heidi Hayes

Technical Director

DATE: 11/02/18

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LABORATORY NARRATIVE
EPA TO-15 Ethylene oxide (SIM)
Ramboll Environ
Workorder# 1810518R1A

Four 6 Liter Summa Canister (100% Certified) samples were received on October 24, 2018. The laboratory performed analysis via EPA Method TO-15 using GC/MS in the SIM acquisition mode for the measurement of Ethylene oxide in ambient air.

This workorder was independently validated prior to submittal using 'USEPA National Functional Guidelines' as generally applied to the analysis of volatile organic compounds in air. A rules-based, logic driven, independent validation engine was employed to assess completeness, evaluate pass/fail of relevant project quality control requirements and verification of all quantified amounts.

Receiving Notes

There were no receiving discrepancies.

Analytical Notes

Ethylene Oxide is not included on the laboratory's NELAP scope of accreditation for TO-15 SIM. However, TO-15 and NELAP quality requirements were met.

Samples were analyzed using the TO-15 GC/MS in synchronous SIM/Scan mode. The SIM file was used to measure the target compound ethylene oxide. The scan file was used to report analyte 2,5-Dimethylfuran as a tentatively identified compound (TIC) determined by searching for its characteristic spectra. If no chromatographic peak displaying the compound specific spectra exists, then the TIC is reported as not detected. Please note that the laboratory has not evaluated the stability of any tentatively identified compound in the vapor phase or for efficiency of recovery through the analytical system.

The workorder was re-issued on November 2, 2018 as follows:

Per client request, the workorder was re-issued to report estimated values for Ethylene Oxide hits that are below the Reporting Limit but greater than the Method Detection Limit (MDL). The report format includes the Method Detection Limit values. The canisters used for this project have been certified to the Reporting Limit for Ethylene Oxide. Concentrations that are below the level at which the canister was certified may be false positives.

Due to the LIMS reporting template limitations for displaying MDL values, Ethylene Oxide results are reported in this workorder 1810518R1A with the 2,5-Dimethylfuran as a TIC reported in associated workorder fraction 1810518R1B.

Definition of Data Qualifying Flags

Eight qualifiers may have been used on the data analysis sheets and indicates as follows:

B - Compound present in laboratory blank greater than reporting limit (background subtraction not performed).

J - Estimated value.

S - Saturated peak.

Q - Exceeds quality control limits.

U - Compound analyzed for but not detected above the reporting limit, LOD, or MDL value. See data page for project specific U-flag definition.

UJ- Non-detected compound associated with low bias in the CCV

N - The identification is based on presumptive evidence.

File extensions may have been used on the data analysis sheets and indicates as follows:

a-File was requantified

b-File was quantified by a second column and detector

r1-File was requantified for the purpose of reissue

MODIFIED EPA METHOD TO-15 GC/MS SIM
SAC

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Client ID:	GT-D-181023		
Lab ID:	1810518R1A-01B	**Date/Time Analyzed:**	10/24/18 02:40 PM
Date/Time Collecte	10/23/18 07:10 AM	**Dilution Factor:**	1.62
Media:	6 Liter Summa Canister (100% Certified)	**Instrument/Filename:**	msd2.i / 2102414simr1

Compound	CAS#	MDL (ug/m3)	LOD (ug/m3)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Ethylene Oxide	75-21-8	0.080	D	0.14	0.19

D: Analyte not within the DoD scope of accreditation.

MODIFIED EPA METHOD TO-15 GC/MS SIM
SAC

eurofins | Air Toxics

Client ID:	GQ-N-181023		
Lab ID:	1810518R1A-02B	**Date/Time Analyzed:**	10/24/18 03:17 PM
Date/Time Collecte	10/23/18 06:34 AM	**Dilution Factor:**	1.50
Media:	6 Liter Summa Canister (100% Certified)	**Instrument/Filename:**	msd2.i / 2102415simr1

Compound	CAS#	MDL (ug/m3)	LOD (ug/m3)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Ethylene Oxide	75-21-8	0.074	D	0.14	Not Detected

D: Analyte not within the DoD scope of accreditation.

MODIFIED EPA METHOD TO-15 GC/MS SIM
SAC

eurofins | Air Toxics

Client ID:	GY-D-181023		
Lab ID:	1810518R1A-03B	**Date/Time Analyzed:**	10/24/18 03:55 PM
Date/Time Collecte	10/23/18 08:05 AM	**Dilution Factor:**	1.52
Media:	6 Liter Summa Canister (100% Certified)	**Instrument/Filename:**	msd2.i / 2102416simr1

Compound	CAS#	MDL (ug/m3)	LOD (ug/m3)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Ethylene Oxide	75-21-8	0.075	D	0.14	0.11 J

J = Estimated value.
D: Analyte not within the DoD scope of accreditation.

MODIFIED EPA METHOD TO-15 GC/MS SIM
SAC

eurofins | Air Toxics

Client ID:	GAI-D-181023		
Lab ID:	1810518R1A-04B	**Date/Time Analyzed:**	10/24/18 04:32 PM
Date/Time Collecte	10/23/18 07:10 AM	**Dilution Factor:**	1.53
Media:	6 Liter Summa Canister (100% Certified)	**Instrument/Filename:**	msd2.i / 2102417simr1

Compound	CAS#	MDL (ug/m3)	LOD (ug/m3)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Ethylene Oxide	75-21-8	0.076	D	0.14	0.090 J

J = Estimated value.
D: Analyte not within the DoD scope of accreditation.

MODIFIED EPA METHOD TO-15 GC/MS SIM
SAC

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Client ID:	Lab Blank		
Lab ID:	1810518R1A-05B	**Date/Time Analyzed:**	10/24/18 07:40 AM
Date/Time Collecte	NA - Not Applicable	**Dilution Factor:**	1.00
Media:	NA - Not Applicable	**Instrument/Filename:**	msd2.i / 2102405simr1

Compound	CAS#	MDL (ug/m3)	LOD (ug/m3)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Ethylene Oxide	75-21-8	0.049	D	0.090	0.072 J

J = Estimated value.
D: Analyte not within the DoD scope of accreditation.

MODIFIED EPA METHOD TO-15 GC/MS SIM
SAC

eurofins | Air Toxics

Client ID:	CCV		
Lab ID:	1810518R1A-06A	**Date/Time Analyzed:**	10/24/18 05:49 AM
Date/Time Collecte	NA - Not Applicable	**Dilution Factor:**	1.00
Media:	NA - Not Applicable	**Instrument/Filename:**	msd2.i / 2102402sim

Compound	CAS#	%Recovery
Ethylene Oxide	75-21-8	85

D: Analyte not within the DoD scope of accreditation.

MODIFIED EPA METHOD TO-15 GC/MS SIM
SAC

eurofins | Air Toxics

Client ID:	LCS		
Lab ID:	1810518R1A-07A	**Date/Time Analyzed:**	10/24/18 06:26 AM
Date/Time Collecte	NA - Not Applicable	**Dilution Factor:**	1.00
Media:	NA - Not Applicable	**Instrument/Filename:**	msd2.i / 2102403sim

Compound	CAS#	%Recovery
Ethylene Oxide	75-21-8	122

D: Analyte not within the DoD scope of accreditation.

* % Recovery is calculated using unrounded analytical results.

MODIFIED EPA METHOD TO-15 GC/MS SIM
SAC

eurofins | Air Toxics

Client ID:	LCSD		
Lab ID:	1810518R1A-07AA	**Date/Time Analyzed:**	10/24/18 07:02 AM
Date/Time Collecte	NA - Not Applicable	**Dilution Factor:**	1.00
Media:	NA - Not Applicable	**Instrument/Filename:**	msd2.i / 2102404sim

Compound	CAS#	%Recovery
Ethylene Oxide	75-21-8	118

D: Analyte not within the DoD scope of accreditation.

* % Recovery is calculated using unrounded analytical results.

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Page 1 of 1

Project Manager Robert DeMott

Collected by: (Print and Sign) Rob Rottersman / Matt Meyer MFM

Company RAMBOL Email Rdemott@Ramboll.com

Address 10150 Highland Manor City Tampa State FL Zip 33610

Phone 813-628-4325 Fax

Project Info:

P.O. # 1690009066

Project # 1690009066

Project Name SAL

Turn Around Time:

☐ Normal

☐ Rush

specify

Lab Use Only

Pressurized by:

Date:

Pressurization Gas: N_2 He

Lab I.D.	Field Sample I.D. (Location)	Can #	Date of Collection	Time of Collection	Analyses Requested	Canister Pressure/Vacuum Initial	Final	Receipt	Final (psi)
01A	GT-D-181023	6L1574	10-23-18	0710	ethylene oxide 2,5 Dimethyl Furan	30	7		
02A	GQ-N-181023	6L1451	10-23-18	0634	ethylene oxide 2,5 Dimethyl Furan	29	5.5		
03A	GY-D-181023	6L0908	10-23-18	0805	ethylene oxide 2,5 Dimethyl Furan	30	5.5		
04A	GAI-D-181023	6L0956	10-23-18	0710	ethylene oxide 2,5 Dimethyl Furan	30	5		

Relinquished by: (signature) Date/Time	Received by: (signature) Date/Time
M F Meyer 10-23-18 ~1400	[signature] GAIL 10/24/18 0990
Relinquished by: (signature) Date/Time	Received by: (signature) Date/Time
Relinquished by: (signature) Date/Time	Received by: (signature) Date/Time

Notes:

Lab Use Only	Shipper Name	Air Bill #	Temp (°C)	Condition	Custody Seals Intact?	Work Order #
	FedEx		NA	Good	Yes No None	1810518

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ED_002475_00000088-00248

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11/6/2018
Mr. Robert DeMott
Ramboll Environ
10150 Highland Manor Drive
Suite 440
Tampa FL 33610

Project Name:
Project #: 169000 9066
Workorder #: 1810601A

Dear Mr. Robert DeMott

The following report includes the data for the above referenced project for sample(s) received on 10/26/2018 at Air Toxics Ltd.

The data and associated QC analyzed by EPA Method TO-15 are compliant with the project requirements or laboratory criteria with the exception of the deviations noted in the attached case narrative.

Thank you for choosing Eurofins Air Toxics Inc. for your air analysis needs. Eurofins Air Toxics Inc. is committed to providing accurate data of the highest quality. Please feel free to contact the Project Manager: Ausha Scott at 916-985-1000 if you have any questions regarding the data in this report.

Regards,

Ausha Scott
Project Manager

eurofins | Air Toxics

WORK ORDER #: 1810601A

Work Order Summary

CLIENT:	Mr. Robert DeMott Ramboll Environ 10150 Highland Manor Drive Suite 440 Tampa, FL 33610	**BILL TO:**	Accounts Payable Ramboll Environ 10150 Highland Manor Drive Suite 440 Tampa, FL 33610
PHONE:	813-628-4325	**P.O. #**	169000 9066
FAX:	813-628-4983	**PROJECT #**	169000 9066
DATE RECEIVED:	10/26/2018	**CONTACT:**	Ausha Scott
DATE COMPLETED:	11/06/2018		

FRACTION #	NAME	TEST	RECEIPT VAC./PRES.	FINAL PRESSURE
01B	A16-D-181023	EPA Method TO-15	4 "Hg	5 psi
02B	A16-N-181023	EPA Method TO-15	4 "Hg	5 psi
03A	Lab Blank	EPA Method TO-15	NA	NA
04A	CCV	EPA Method TO-15	NA	NA
05A	LCS	EPA Method TO-15	NA	NA
05AA	LCSD	EPA Method TO-15	NA	NA

CERTIFIED BY: Heidi Hayes

Technical Director

DATE: 11/06/18

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LABORATORY NARRATIVE
EPA TO-15 Ethylene oxide (SIM)
Ramboll Environ
Workorder# 1810601A

Two 6 Liter Summa Canister (100% Certified) samples were received on October 26, 2018. The laboratory performed analysis via EPA Method TO-15 using GC/MS in the SIM acquisition mode for the measurement of Ethylene oxide in ambient air.

This workorder was independently validated prior to submittal using 'USEPA National Functional Guidelines' as generally applied to the analysis of volatile organic compounds in air. A rules-based, logic driven, independent validation engine was employed to assess completeness, evaluate pass/fail of relevant project quality control requirements and verification of all quantified amounts.

Receiving Notes

There were no receiving discrepancies.

Analytical Notes

Ethylene Oxide is not included on the laboratory's NELAP scope of accreditation for TO-15 SIM. However, TO-15 and NELAP quality requirements were met.

Samples were analyzed using the TO-15 GC/MS in synchronous SIM/Scan mode. The SIM file was used to measure the target compound ethylene oxide. The scan file was used to report analyte 2,5-Dimethylfuran as a tentatively identified compound (TIC) determined by searching for its characteristic spectra and reported in workorder 1810601B.

As per project specific client request the laboratory has reported estimated values for target compound hits that are below the Reporting Limit but greater than the Method Detection Limit. The canisters used for this project have been certified to the Reporting Limit for Ethylene oxide. Concentrations that are below the level at which the canister was certified may be false positives.

Definition of Data Qualifying Flags

Eight qualifiers may have been used on the data analysis sheets and indicates as follows:

B - Compound present in laboratory blank greater than reporting limit (background subtraction not performed).

J - Estimated value.

S - Saturated peak.

Q - Exceeds quality control limits.

U - Compound analyzed for but not detected above the reporting limit, LOD, or MDL value. See data page for project specific U-flag definition.

UJ- Non-detected compound associated with low bias in the CCV

N - The identification is based on presumptive evidence.

File extensions may have been used on the data analysis sheets and indicates as follows:

a-File was requantified

b-File was quantified by a second column and detector

r1-File was requantified for the purpose of reissue

MODIFIED EPA METHOD TO-15 GC/MS SIM

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Client ID:	A16-D-181023		
Lab ID:	1810601A-01B	**Date/Time Analyzed:**	11/5/18 03:12 PM
Date/Time Collecte	10/23/18 09:08 AM	**Dilution Factor:**	1.55
Media:	6 Liter Summa Canister (100% Certified)	**Instrument/Filename:**	msd2.i / 2110507sim

Compound	CAS#	MDL (ug/m3)	LOD (ug/m3)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Ethylene Oxide	75-21-8	0.077	D	0.14	1.1

D: Analyte not within the DoD scope of accreditation.

MODIFIED EPA METHOD TO-15 GC/MS SIM

eurofins | Air Toxics

Client ID:	A16-N-181023		
Lab ID:	1810601A-02B	**Date/Time Analyzed:**	11/5/18 03:49 PM
Date/Time Collecte	10/23/18 10:00 PM	**Dilution Factor:**	1.55
Media:	6 Liter Summa Canister (100% Certified)	**Instrument/Filename:**	msd2.i / 2110508sim

Compound	CAS#	MDL (ug/m3)	LOD (ug/m3)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Ethylene Oxide	75-21-8	0.077	D	0.14	0.65

D: Analyte not within the DoD scope of accreditation.

MODIFIED EPA METHOD TO-15 GC/MS SIM

eurofins | Air Toxics

Client ID:	Lab Blank		
Lab ID:	1810601A-03A	**Date/Time Analyzed:**	11/5/18 02:35 PM
Date/Time Collecte	NA - Not Applicable	**Dilution Factor:**	1.00
Media:	NA - Not Applicable	**Instrument/Filename:**	msd2.i / 2110506sim

Compound	CAS#	MDL (ug/m3)	LOD (ug/m3)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Ethylene Oxide	75-21-8	0.049	D	0.090	Not Detected

D: Analyte not within the DoD scope of accreditation.

Client ID:	CCV		
Lab ID:	1810601A-04A	**Date/Time Analyzed:**	11/5/18 11:31 AM
Date/Time Collecte	NA - Not Applicable	**Dilution Factor:**	1.00
Media:	NA - Not Applicable	**Instrument/Filename:**	msd2.i / 2110502sim

Compound	CAS#	%Recovery
Ethylene Oxide	75-21-8	102

D: Analyte not within the DoD scope of accreditation.

MODIFIED EPA METHOD TO-15 GC/MS SIM

eurofins | Air Toxics

Client ID:	LCS		
Lab ID:	1810601A-05A	**Date/Time Analyzed:**	11/5/18 12:07 PM
Date/Time Collecte	NA - Not Applicable	**Dilution Factor:**	1.00
Media:	NA - Not Applicable	**Instrument/Filename:**	msd2.i / 2110503sim

Compound	CAS#	%Recovery
Ethylene Oxide	75-21-8	86

D: Analyte not within the DoD scope of accreditation.

* % Recovery is calculated using unrounded analytical results.

MODIFIED EPA METHOD TO-15 GC/MS SIM

eurofins | Air Toxics

Client ID:	LCSD		
Lab ID:	1810601A-05AA	**Date/Time Analyzed:**	11/5/18 12:44 PM
Date/Time Collecte	NA - Not Applicable	**Dilution Factor:**	1.00
Media:	NA - Not Applicable	**Instrument/Filename:**	msd2.i / 2110504sim

Compound	CAS#	%Recovery
Ethylene Oxide	75-21-8	87

D: Analyte not within the DoD scope of accreditation.

* % Recovery is calculated using unrounded analytical results.

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Page 1 of 1

Project Manager Robert DeMott
Collected by: (Print and Sign) Rob Rottersman Matt Meyer MFM
Company RAMBOLL Email rdemott@ramboll.com
Address 10150 Highland Manor City TAMPA State FL Zip 33616
Phone 813 628 4325 Fax

Project Info:
P.O. # 169000 9066
Project # 169000 9066
Project Name

Turn Around Time:
☐ Normal
☐ Rush
specify

Lab Use Only
Pressurized by:
Date:
Pressurization Gas: N_2 He

Lab I.D.	Field Sample I.D. (Location)	Can #	Date of Collection	Time of Collection	Analyses Requested	Canister Pressure/Vacuum Initial	Final	Receipt	Final (psi)
01A	A16-D-181023	6L1529	10-23-18	0908	Ethylene OXIDE 2,5 Dimethylfuran	30	5.75	—	
							25.75	MFM	
02A	A16-N-181023	6L1703	10-23-18	1000pm	Ethylene OXIDE 2,5 Dimethylfuran	29	5.5		

Relinquished by: (signature)	Date/Time	Received by: (signature)	Date/Time
M F Meyer	10-25-18 1700	[signature] FAIL	10/26/18 0955

Notes:

Lab Use Only	Shipper Name	Air Bill #	Temp (°C)	Condition	Custody Seals Intact?	Work Order #
	FEDEX		NA	6000	Yes No None	1810601

Form 1293 rev.11

ED_002475_00000088-00259

eurofins | Air Toxics

11/6/2018
Mr. Robert DeMott
Ramboll Environ
10150 Highland Manor Drive
Suite 440
Tampa FL 33610

Project Name:
Project #: 1690009066
Workorder #: 1810650A

Dear Mr. Robert DeMott

The following report includes the data for the above referenced project for sample(s) received on 10/30/2018 at Air Toxics Ltd.

The data and associated QC analyzed by EPA Method TO-15 are compliant with the project requirements or laboratory criteria with the exception of the deviations noted in the attached case narrative.

Thank you for choosing Eurofins Air Toxics Inc. for your air analysis needs. Eurofins Air Toxics Inc. is committed to providing accurate data of the highest quality. Please feel free to contact the Project Manager: Ausha Scott at 916-985-1000 if you have any questions regarding the data in this report.

Regards,

Ausha Scott
Project Manager

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WORK ORDER #: 1810650A

Work Order Summary

CLIENT:	Mr. Robert DeMott Ramboll Environ 10150 Highland Manor Drive Suite 440 Tampa, FL 33610	**BILL TO:**	Accounts Payable Ramboll Environ 10150 Highland Manor Drive Suite 440 Tampa, FL 33610
PHONE:	813-628-4325	**P.O. #**	1690009066
FAX:	813-628-4983	**PROJECT #**	1690009066
DATE RECEIVED:	10/30/2018	**CONTACT:**	Ausha Scott
DATE COMPLETED:	11/06/2018		

FRACTION #	NAME	TEST	RECEIPT VAC./PRES.	FINAL PRESSURE
01B	A6-D-181025	EPA Method TO-15	4.9 "Hg	5.1 psi
02A	Lab Blank	EPA Method TO-15	NA	NA
03A	CCV	EPA Method TO-15	NA	NA
04A	LCS	EPA Method TO-15	NA	NA
04AA	LCSD	EPA Method TO-15	NA	NA

CERTIFIED BY: Heidi Hayes

Technical Director

DATE: 11/06/18

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180 BLUE RAVINE ROAD, SUITE B FOLSOM, CA - 95630
(916) 985-1000 . (800) 985-5955 . FAX (916) 985-1020

LABORATORY NARRATIVE
EPA TO-15 Ethylene oxide (SIM)
Ramboll Environ
Workorder# 1810650A

One 6 Liter Summa Canister (100% Certified) sample was received on October 30, 2018. The laboratory performed analysis via EPA Method TO-15 using GC/MS in the SIM acquisition mode for the measurement of Ethylene oxide in ambient air.

This workorder was independently validated prior to submittal using 'USEPA National Functional Guidelines' as generally applied to the analysis of volatile organic compounds in air. A rules-based, logic driven, independent validation engine was employed to assess completeness, evaluate pass/fail of relevant project quality control requirements and verification of all quantified amounts.

Receiving Notes

There were no receiving discrepancies.

Analytical Notes

Ethylene Oxide is not included on the laboratory's NELAP scope of accreditation for TO-15 SIM. However, TO-15 and NELAP quality requirements were met.

Samples were analyzed using the TO-15 GC/MS in synchronous SIM/Scan mode. The SIM file was used to measure the target compound ethylene oxide. The scan file was used to report analyte 2,5-Dimethylfuran as a tentatively identified compound (TIC) determined by searching for its characteristic spectra and reported in workorder 1810650B.

As per project specific client request the laboratory has reported estimated values for target compound hits that are below the Reporting Limit but greater than the Method Detection Limit. The canisters used for this project have been certified to the Reporting Limit for Ethylene oxide. Concentrations that are below the level at which the canister was certified may be false positives.

Definition of Data Qualifying Flags

Eight qualifiers may have been used on the data analysis sheets and indicates as follows:

B - Compound present in laboratory blank greater than reporting limit (background subtraction not performed).

J - Estimated value.

S - Saturated peak.

Q - Exceeds quality control limits.

U - Compound analyzed for but not detected above the reporting limit, LOD, or MDL value. See data page for project specific U-flag definition.

UJ- Non-detected compound associated with low bias in the CCV

N - The identification is based on presumptive evidence.

File extensions may have been used on the data analysis sheets and indicates as follows:

a-File was requantified

b-File was quantified by a second column and detector

r1-File was requantified for the purpose of reissue

MODIFIED EPA METHOD TO-15 GC/MS SIM

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Client ID:	A6-D-181025		
Lab ID:	1810650A-01B	**Date/Time Analyzed:**	11/5/18 04:29 PM
Date/Time Collecte	10/25/18 06:25 AM	**Dilution Factor:**	1.61
Media:	6 Liter Summa Canister (100% Certified)	**Instrument/Filename:**	msd2.i / 2110509sim

Compound	CAS#	MDL (ug/m3)	LOD (ug/m3)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Ethylene Oxide	75-21-8	0.080	D	0.14	0.35

D: Analyte not within the DoD scope of accreditation.

MODIFIED EPA METHOD TO-15 GC/MS SIM

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Client ID:	Lab Blank		
Lab ID:	1810650A-02A	**Date/Time Analyzed:**	11/5/18 02:35 PM
Date/Time Collecte	NA - Not Applicable	**Dilution Factor:**	1.00
Media:	NA - Not Applicable	**Instrument/Filename:**	msd2.i / 2110506sim

Compound	CAS#	MDL (ug/m3)	LOD (ug/m3)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Ethylene Oxide	75-21-8	0.049	D	0.090	Not Detected

D: Analyte not within the DoD scope of accreditation.

MODIFIED EPA METHOD TO-15 GC/MS SIM

eurofins | Air Toxics

Client ID:	CCV		
Lab ID:	1810650A-03A	**Date/Time Analyzed:**	11/5/18 11:31 AM
Date/Time Collecte	NA - Not Applicable	**Dilution Factor:**	1.00
Media:	NA - Not Applicable	**Instrument/Filename:**	msd2.i / 2110502sim

Compound	CAS#	%Recovery
Ethylene Oxide	75-21-8	102

D: Analyte not within the DoD scope of accreditation.

MODIFIED EPA METHOD TO-15 GC/MS SIM

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Client ID:	LCS		
Lab ID:	1810650A-04A	**Date/Time Analyzed:**	11/5/18 12:07 PM
Date/Time Collecte	NA - Not Applicable	**Dilution Factor:**	1.00
Media:	NA - Not Applicable	**Instrument/Filename:**	msd2.i / 2110503sim

Compound	CAS#	%Recovery
Ethylene Oxide	75-21-8	86

D: Analyte not within the DoD scope of accreditation.

* % Recovery is calculated using unrounded analytical results.

MODIFIED EPA METHOD TO-15 GC/MS SIM

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Client ID:	LCSD		
Lab ID:	1810650A-04AA	**Date/Time Analyzed:**	11/5/18 12:44 PM
Date/Time Collecte	NA - Not Applicable	**Dilution Factor:**	1.00
Media:	NA - Not Applicable	**Instrument/Filename:**	msd2.i / 2110504sim

Compound	CAS#	%Recovery
Ethylene Oxide	75-21-8	87

D: Analyte not within the DoD scope of accreditation.

* % Recovery is calculated using unrounded analytical results.

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Sample Transportation Notice

Relinquishing signature on this document indicates that sample is being shipped in compliance with all applicable local, State, Federal, national, and international laws, regulations and ordinances of any kind. Air Toxics Limited assumes no liability with respect to the collection, handling or shipping of these samples. Relinquishing signature also indicates agreement to hold harmless, defend, and indemnify Air Toxics Limited against any claim, demand, or action, of any kind, related to the collection, handling, or shipping of samples. D.O.T. Hotline (800) 467-4922

180 BLUE RAVINE ROAD, SUITE B
FOLSOM, CA 95630-4719
(916) 985-1000 FAX (916) 985-1020

Page 1 of 1

Project Manager: Robert DeMott

Collected by: (Print and Sign) Rob Rottersman / Matt Meyer

Company: RAMBOLL Email:

Address: 101500 Highland Manor City: TAMPA State: FL Zip: 33610

Phone: Fax:

Project Info:

P.O. # 1690009066

Project # 1690009066

Project Name:

Turn Around Time:

☐ Normal

☐ Rush

specify

Lab Use Only

Pressurized by:

Date:

Pressurization Gas: N_2 He

Lab I.D.	Field Sample I.D. (Location)	Can #	Date of Collection	Time of Collection	Analyses Requested	Canister Pressure/Vacuum Initial	Final	Receipt	Final (psi)
01A	A6-D-181025	6L1512	10-25-18	0625	ethylene oxide & 2,5 dimethylfuran	29	6		

Relinquished by: (signature) Date/Time: MtMeyer 10-29-18 1600

Received by: (signature) Date/Time: SATL 10/30/18 1015

Relinquished by: (signature) Date/Time:

Received by: (signature) Date/Time:

Relinquished by: (signature) Date/Time:

Received by: (signature) Date/Time:

Notes:

Lab Use Only	Shipper Name	Air Bill #	Temp (°C)	Condition	Custody Seals Intact?	Work Order #
	FedEx		NA	Good	Yes No None	1810650

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ED_002475_00000088-00269

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11/20/2018
Mr. Robert DeMott
Ramboll Environ
10150 Highland Manor Drive
Suite 440
Tampa FL 33610

Project Name: SAC
Project #: 1690009066
Workorder #: 1811280A

Dear Mr. Robert DeMott

The following report includes the data for the above referenced project for sample(s) received on 11/14/2018 at Air Toxics Ltd.

The data and associated QC analyzed by EPA Method TO-15 are compliant with the project requirements or laboratory criteria with the exception of the deviations noted in the attached case narrative.

Thank you for choosing Eurofins Air Toxics Inc. for your air analysis needs. Eurofins Air Toxics Inc. is committed to providing accurate data of the highest quality. Please feel free to contact the Project Manager: Ausha Scott at 916-985-1000 if you have any questions regarding the data in this report.

Regards,

Ausha Scott
Project Manager

eurofins | Air Toxics

WORK ORDER #: 1811280A

Work Order Summary

CLIENT:	Mr. Robert DeMott Ramboll Environ 10150 Highland Manor Drive Suite 440 Tampa, FL 33610	**BILL TO:**	Accounts Payable Ramboll Environ 10150 Highland Manor Drive Suite 440 Tampa, FL 33610
PHONE:	813-628-4325	**P.O. #**	1690009066
FAX:	813-628-4983	**PROJECT #**	1690009066 SAC
DATE RECEIVED:	11/14/2018	**CONTACT:**	Ausha Scott
DATE COMPLETED:	11/20/2018		

FRACTION #	NAME	TEST	RECEIPT VAC./PRES.	FINAL PRESSURE
01A	GAO-D-181113	EPA Method TO-15	3.0 "Hg	5 psi
01AA	GAO-D-181113 Lab Duplicate	EPA Method TO-15	3.0 "Hg	5 psi
02A	A18-D-181112	EPA Method TO-15	3.0 "Hg	5 psi
03A	A18-N-181112	EPA Method TO-15	4.5 "Hg	5 psi
04A	A15-N-181112	EPA Method TO-15	4.5 "Hg	5 psi
05A	Lab Blank	EPA Method TO-15	NA	NA
06A	CCV	EPA Method TO-15	NA	NA
07A	LCS	EPA Method TO-15	NA	NA
07AA	LCSD	EPA Method TO-15	NA	NA

CERTIFIED BY: Heidi Hayes

Technical Director

DATE: 11/20/18

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180 BLUE RAVINE ROAD, SUITE B FOLSOM, CA - 95630
(916) 985-1000 . (800) 985-5955 . FAX (916) 985-1020

LABORATORY NARRATIVE
EPA TO-15 Ethylene oxide (SIM)
Ramboll Environ
Workorder# 1811280A

Four 6 Liter Summa Canister (100% Certified) samples were received on November 14, 2018. The laboratory performed analysis via EPA Method TO-15 using GC/MS in the SIM acquisition mode for the measurement of Ethylene oxide in ambient air.

This workorder was independently validated prior to submittal using 'USEPA National Functional Guidelines' as generally applied to the analysis of volatile organic compounds in air. A rules-based, logic driven, independent validation engine was employed to assess completeness, evaluate pass/fail of relevant project quality control requirements and verification of all quantified amounts.

Receiving Notes

There were no receiving discrepancies.

Analytical Notes

Ethylene Oxide is not included on the laboratory's NELAP scope of accreditation for TO-15 SIM. However, TO-15 and NELAP quality requirements were met.

Samples were analyzed using the TO-15 GC/MS in synchronous SIM/Scan mode. The SIM file was used to measure the target compound ethylene oxide. The scan file was used to report analyte 2,5-Dimethylfuran as a tentatively identified compound (TIC) determined by searching for its characteristic spectra and reported in workorder 1811280B.

As per project specific client request the laboratory has reported estimated values for target compound hits that are below the Reporting Limit but greater than the Method Detection Limit. The canisters used for this project have been certified to the Reporting Limit for Ethylene oxide. Concentrations that are below the level at which the canister was certified may be false positives.

Definition of Data Qualifying Flags

Eight qualifiers may have been used on the data analysis sheets and indicates as follows:

B - Compound present in laboratory blank greater than reporting limit (background subtraction not performed).

J - Estimated value.

S - Saturated peak.

Q - Exceeds quality control limits.

U - Compound analyzed for but not detected above the reporting limit, LOD, or MDL value. See data page for project specific U-flag definition.

UJ- Non-detected compound associated with low bias in the CCV

N - The identification is based on presumptive evidence.

File extensions may have been used on the data analysis sheets and indicates as follows:

a-File was requantified

b-File was quantified by a second column and detector

r1-File was requantified for the purpose of reissue

MODIFIED EPA METHOD TO-15 GC/MS SIM
SAC

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Client ID:	GAO-D-181113		
Lab ID:	1811280A-01A	**Date/Time Analyzed:**	11/15/18 07:55 PM
Date/Time Collecte	11/13/18 08:50 AM	**Dilution Factor:**	1.49
Media:	6 Liter Summa Canister (100% Certified)	**Instrument/Filename:**	msd2.i / 2111514sim

Compound	CAS#	MDL (ug/m3)	LOD (ug/m3)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Ethylene Oxide	75-21-8	0.074	D	0.13	0.26

D: Analyte not within the DoD scope of accreditation.

MODIFIED EPA METHOD TO-15 GC/MS SIM
SAC

eurofins | Air Toxics

Client ID:	GAO-D-181113 Lab Duplicate		
Lab ID:	1811280A-01AA	**Date/Time Analyzed:**	11/15/18 08:32 PM
Date/Time Collecte	11/13/18 08:50 AM	**Dilution Factor:**	1.49
Media:	6 Liter Summa Canister (100% Certified)	**Instrument/Filename:**	msd2.i / 2111515sim

Compound	CAS#	MDL (ug/m3)	LOD (ug/m3)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Ethylene Oxide	75-21-8	0.074	D	0.13	0.21

D: Analyte not within the DoD scope of accreditation.

MODIFIED EPA METHOD TO-15 GC/MS SIM
SAC

eurofins | Air Toxics

Client ID:	A18-D-181112		
Lab ID:	1811280A-02A	**Date/Time Analyzed:**	11/15/18 09:09 PM
Date/Time Collecte	11/12/18 07:36 AM	**Dilution Factor:**	1.49
Media:	6 Liter Summa Canister (100% Certified)	**Instrument/Filename:**	msd2.i / 2111516sim

Compound	CAS#	MDL (ug/m3)	LOD (ug/m3)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Ethylene Oxide	75-21-8	0.074	D	0.13	0.23

D: Analyte not within the DoD scope of accreditation.

MODIFIED EPA METHOD TO-15 GC/MS SIM
SAC

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Client ID:	A18-N-181112		
Lab ID:	1811280A-03A	**Date/Time Analyzed:**	11/15/18 09:47 PM
Date/Time Collecte	11/12/18 08:00 PM	**Dilution Factor:**	1.58
Media:	6 Liter Summa Canister (100% Certified)	**Instrument/Filename:**	msd2.i / 2111517sim

Compound	CAS#	MDL (ug/m3)	LOD (ug/m3)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Ethylene Oxide	75-21-8	0.078	D	0.14	0.31

D: Analyte not within the DoD scope of accreditation.

MODIFIED EPA METHOD TO-15 GC/MS SIM
SAC

eurofins | Air Toxics

Client ID:	A15-N-181112		
Lab ID:	1811280A-04A	**Date/Time Analyzed:**	11/15/18 10:24 PM
Date/Time Collecte	11/12/18 07:12 PM	**Dilution Factor:**	1.58
Media:	6 Liter Summa Canister (100% Certified)	**Instrument/Filename:**	msd2.i / 2111518sim

Compound	CAS#	MDL (ug/m3)	LOD (ug/m3)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Ethylene Oxide	75-21-8	0.078	D	0.14	0.22

D: Analyte not within the DoD scope of accreditation.

MODIFIED EPA METHOD TO-15 GC/MS SIM
SAC

eurofins | Air Toxics

Client ID:	Lab Blank		
Lab ID:	1811280A-05A	**Date/Time Analyzed:**	11/15/18 07:17 PM
Date/Time Collecte	NA - Not Applicable	**Dilution Factor:**	1.00
Media:	NA - Not Applicable	**Instrument/Filename:**	msd2.i / 2111513sim

Compound	CAS#	MDL (ug/m3)	LOD (ug/m3)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Ethylene Oxide	75-21-8	0.049	D	0.090	Not Detected

D: Analyte not within the DoD scope of accreditation.

MODIFIED EPA METHOD TO-15 GC/MS SIM
SAC

eurofins | Air Toxics

Client ID:	CCV		
Lab ID:	1811280A-06A	**Date/Time Analyzed:**	11/15/18 01:42 PM
Date/Time Collecte	NA - Not Applicable	**Dilution Factor:**	1.00
Media:	NA - Not Applicable	**Instrument/Filename:**	msd2.i / 2111505sima

Compound	CAS#	%Recovery
Ethylene Oxide	75-21-8	84

D: Analyte not within the DoD scope of accreditation.

MODIFIED EPA METHOD TO-15 GC/MS SIM
SAC

eurofins | Air Toxics

Client ID:	LCS		
Lab ID:	1811280A-07A	**Date/Time Analyzed:**	11/15/18 04:46 PM
Date/Time Collecte	NA - Not Applicable	**Dilution Factor:**	1.00
Media:	NA - Not Applicable	**Instrument/Filename:**	msd2.i / 2111510sima

Compound	CAS#	%Recovery
Ethylene Oxide	75-21-8	86

D: Analyte not within the DoD scope of accreditation.

* % Recovery is calculated using unrounded analytical results.

MODIFIED EPA METHOD TO-15 GC/MS SIM
SAC

eurofins | Air Toxics

Client ID:	LCSD		
Lab ID:	1811280A-07AA	**Date/Time Analyzed:**	11/15/18 05:23 PM
Date/Time Collecte	NA - Not Applicable	**Dilution Factor:**	1.00
Media:	NA - Not Applicable	**Instrument/Filename:**	msd2.i / 2111511sim

Compound	CAS#	%Recovery
Ethylene Oxide	75-21-8	84

D: Analyte not within the DoD scope of accreditation.

* % Recovery is calculated using unrounded analytical results.

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Sample Transportation Notice
Relinquishing signature on this document indicates that sample is being shipped in compliance with all applicable local, State, Federal, national, and international laws, regulations and ordinances of any kind. Air Toxics Limited assumes no liability with respect to the collection, handling or shipping of these samples. Relinquishing signature also indicates agreement to hold harmless, defend, and indemnify Air Toxics Limited against any claim, demand, or action, of any kind, related to the collection, handling, or shipping of samples. D.O.T. Hotline (800) 467-4922

180 BLUE RAVINE ROAD, SUITE B
FOLSOM, CA 95630-4719
(916) 985-1000 FAX (916) 985-1020

Project Manager Robert DeMott
Collected by: (Print and Sign) Matt Meyer MZ Meyer
Company RAMBOLL Email
Address 10150 Highland Manor Tampa State FL Zip 33610
Phone 813 628 4325 Fax

Project Info:
P.O. # 1690009066
Project # 1690009066
Project Name SAL

Turn Around Time:
☐ Normal
☒ Rush
specify

Lab Use Only
Pressurized by
Date
Pressurization Gas
N_2 He

Lab I.D.	Field Sample I.D. (Location)	Can #	Date of Collection	Time of Collection	Analyses Requested	Canister Pressure/Vacuum Initial	Final	Receipt	Final (psi)
01A	GAO-D-181113	6L1669	11-13-18	0850	ethylene oxide 2,5 Dimethyl Furan	27	5		
02A	A18-D-181112	6L0579	11-12-18	0736	ethylene oxide 2,5 Dimethyl Furan	27	7		
03A	A18-N-181112	6L1666	11-12-18	2000	ethylene oxide 2,5 Dimethyl Furan	29	7		
04A	A15-N-181112	6L0374	11-12-18	1912	ethylene oxide 2,5 Dimethyl Furan	30	8.5		

Relinquished by: (signature) Date/Time	Received by: (signature) Date/Time
MZ Meyer 11-13-18 @ 1400	[illegible] EAR 11/14/18 1005
Relinquished by: (signature) Date/Time	Received by: (signature) Date/Time
Relinquished by: (signature) Date/Time	Received by: (signature) Date/Time

Notes:

Lab Use Only	Shipper Name	Air Bill #	Temp (°C)	Condition	Custody Seals Intact?	Work Order #
	FedEx		NA	Good	Yes No (None)	1811260

Form 1293 rev.11

ED_002475_00000088-00283

eurofins | Air Toxics

11/20/2018
Mr. Robert DeMott
Ramboll Environ
10150 Highland Manor Drive
Suite 440
Tampa FL 33610

Project Name: SAC
Project #: 1690009066
Workorder #: 1811282A

Dear Mr. Robert DeMott

The following report includes the data for the above referenced project for sample(s) received on 11/14/2018 at Air Toxics Ltd.

The data and associated QC analyzed by EPA Method TO-15 are compliant with the project requirements or laboratory criteria with the exception of the deviations noted in the attached case narrative.

Thank you for choosing Eurofins Air Toxics Inc. for your air analysis needs. Eurofins Air Toxics Inc. is committed to providing accurate data of the highest quality. Please feel free to contact the Project Manager: Ausha Scott at 916-985-1000 if you have any questions regarding the data in this report.

Regards,

Ausha Scott
Project Manager

eurofins | Air Toxics

WORK ORDER #: 1811282A

Work Order Summary

CLIENT:	Mr. Robert DeMott Ramboll Environ 10150 Highland Manor Drive Suite 440 Tampa, FL 33610	**BILL TO:**	Accounts Payable Ramboll Environ 10150 Highland Manor Drive Suite 440 Tampa, FL 33610
PHONE:	813-628-4325	**P.O. #**	1690009066
FAX:	813-628-4983	**PROJECT #**	1690009066 SAC
DATE RECEIVED:	11/14/2018	**CONTACT:**	Ausha Scott
DATE COMPLETED:	11/20/2018		

FRACTION #	NAME	TEST	RECEIPT VAC./PRES.	FINAL PRESSURE
01A	GR-D-181112	EPA Method TO-15	4.5 "Hg	5 psi
02A	GAF-D-181112	EPA Method TO-15	3.0 "Hg	5 psi
03A	GP-D-181112	EPA Method TO-15	3.5 "Hg	5 psi
04A	GV-D-181112	EPA Method TO-15	4.5 "Hg	5 psi
05A	Lab Blank	EPA Method TO-15	NA	NA
06A	CCV	EPA Method TO-15	NA	NA
07A	LCS	EPA Method TO-15	NA	NA
07AA	LCSD	EPA Method TO-15	NA	NA

CERTIFIED BY: Heidi Hayes

Technical Director

DATE: 11/20/18

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180 BLUE RAVINE ROAD, SUITE B FOLSOM, CA - 95630
(916) 985-1000 . (800) 985-5955 . FAX (916) 985-1020

LABORATORY NARRATIVE
EPA TO-15 Ethylene oxide (SIM)
Ramboll Environ
Workorder# 1811282A

Four 6 Liter Summa Canister (100% Certified) samples were received on November 14, 2018. The laboratory performed analysis via EPA Method TO-15 using GC/MS in the SIM acquisition mode for the measurement of Ethylene oxide in ambient air.

This workorder was independently validated prior to submittal using 'USEPA National Functional Guidelines' as generally applied to the analysis of volatile organic compounds in air. A rules-based, logic driven, independent validation engine was employed to assess completeness, evaluate pass/fail of relevant project quality control requirements and verification of all quantified amounts.

Receiving Notes

There were no receiving discrepancies.

Analytical Notes

Ethylene Oxide is not included on the laboratory's NELAP scope of accreditation for TO-15 SIM. However, TO-15 and NELAP quality requirements were met.

Samples were analyzed using the TO-15 GC/MS in synchronous SIM/Scan mode. The SIM file was used to measure the target compound ethylene oxide. The scan file was used to report analyte 2,5-Dimethylfuran as a tentatively identified compound (TIC) determined by searching for its characteristic spectra and reported in workorder 1811282B.

As per project specific client request the laboratory has reported estimated values for target compound hits that are below the Reporting Limit but greater than the Method Detection Limit. The canisters used for this project have been certified to the Reporting Limit for Ethylene oxide. Concentrations that are below the level at which the canister was certified may be false positives.

The per analytical batch duplicate analysis required for this project is associated with work order 1811280A.

Definition of Data Qualifying Flags

Eight qualifiers may have been used on the data analysis sheets and indicates as follows:

B - Compound present in laboratory blank greater than reporting limit (background subtraction not performed).

J - Estimated value.

S - Saturated peak.

Q - Exceeds quality control limits.

U - Compound analyzed for but not detected above the reporting limit, LOD, or MDL value. See data page for project specific U-flag definition.

UJ- Non-detected compound associated with low bias in the CCV

N - The identification is based on presumptive evidence.

File extensions may have been used on the data analysis sheets and indicates as follows:

a-File was requantified
b-File was quantified by a second column and detector
r1-File was requantified for the purpose of reissue

MODIFIED EPA METHOD TO-15 GC/MS SIM
SAC

eurofins | Air Toxics

Client ID:	GR-D-181112		
Lab ID:	1811282A-01A	**Date/Time Analyzed:**	11/16/18 12:54 AM
Date/Time Collecte	11/12/18 09:50 AM	**Dilution Factor:**	1.58
Media:	6 Liter Summa Canister (100% Certified)	**Instrument/Filename:**	msd2.i / 2111522sim

Compound	CAS#	MDL (ug/m3)	LOD (ug/m3)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Ethylene Oxide	75-21-8	0.078	D	0.14	0.17

D: Analyte not within the DoD scope of accreditation.

MODIFIED EPA METHOD TO-15 GC/MS SIM
SAC

eurofins | Air Toxics

Client ID:	GAF-D-181112		
Lab ID:	1811282A-02A	**Date/Time Analyzed:**	11/16/18 01:31 AM
Date/Time Collecte	11/12/18 07:54 AM	**Dilution Factor:**	1.49
Media:	6 Liter Summa Canister (100% Certified)	**Instrument/Filename:**	msd2.i / 2111523sim

Compound	CAS#	MDL (ug/m3)	LOD (ug/m3)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Ethylene Oxide	75-21-8	0.074	D	0.13	0.13

D: Analyte not within the DoD scope of accreditation.

MODIFIED EPA METHOD TO-15 GC/MS SIM
SAC

eurofins | Air Toxics

Client ID:	GP-D-181112		
Lab ID:	1811282A-03A	**Date/Time Analyzed:**	11/16/18 02:08 AM
Date/Time Collecte	11/12/18 10:49 AM	**Dilution Factor:**	1.52
Media:	6 Liter Summa Canister (100% Certified)	**Instrument/Filename:**	msd2.i / 2111524sim

Compound	CAS#	MDL (ug/m3)	LOD (ug/m3)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Ethylene Oxide	75-21-8	0.075	D	0.14	0.17

D: Analyte not within the DoD scope of accreditation.

MODIFIED EPA METHOD TO-15 GC/MS SIM
SAC

eurofins | Air Toxics

Client ID:	GV-D-181112		
Lab ID:	1811282A-04A	**Date/Time Analyzed:**	11/16/18 02:45 AM
Date/Time Collecte	11/12/18 01:54 PM	**Dilution Factor:**	1.58
Media:	6 Liter Summa Canister (100% Certified)	**Instrument/Filename:**	msd2.i / 2111525sim

Compound	CAS#	MDL (ug/m3)	LOD (ug/m3)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Ethylene Oxide	75-21-8	0.078	D	0.14	0.25

D: Analyte not within the DoD scope of accreditation.

MODIFIED EPA METHOD TO-15 GC/MS SIM
SAC

eurofins | Air Toxics

Client ID:	Lab Blank		
Lab ID:	1811282A-05A	**Date/Time Analyzed:**	11/15/18 07:17 PM
Date/Time Collecte	NA - Not Applicable	**Dilution Factor:**	1.00
Media:	NA - Not Applicable	**Instrument/Filename:**	msd2.i / 2111513sim

Compound	CAS#	MDL (ug/m3)	LOD (ug/m3)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Ethylene Oxide	75-21-8	0.049	D	0.090	Not Detected

D: Analyte not within the DoD scope of accreditation.

MODIFIED EPA METHOD TO-15 GC/MS SIM
SAC

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Client ID:	CCV		
Lab ID:	1811282A-06A	**Date/Time Analyzed:**	11/15/18 01:42 PM
Date/Time Collecte	NA - Not Applicable	**Dilution Factor:**	1.00
Media:	NA - Not Applicable	**Instrument/Filename:**	msd2.i / 2111505sima

Compound	CAS#	%Recovery
Ethylene Oxide	75-21-8	84

D: Analyte not within the DoD scope of accreditation.

MODIFIED EPA METHOD TO-15 GC/MS SIM
SAC

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Client ID:	LCS		
Lab ID:	1811282A-07A	**Date/Time Analyzed:**	11/15/18 04:46 PM
Date/Time Collecte	NA - Not Applicable	**Dilution Factor:**	1.00
Media:	NA - Not Applicable	**Instrument/Filename:**	msd2.i / 2111510sima

Compound	CAS#	%Recovery
Ethylene Oxide	75-21-8	86

D: Analyte not within the DoD scope of accreditation.

* % Recovery is calculated using unrounded analytical results.

MODIFIED EPA METHOD TO-15 GC/MS SIM
SAC

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Client ID:	LCSD		
Lab ID:	1811282A-07AA	**Date/Time Analyzed:**	11/15/18 05:23 PM
Date/Time Collecte	NA - Not Applicable	**Dilution Factor:**	1.00
Media:	NA - Not Applicable	**Instrument/Filename:**	msd2.i / 2111511sim

Compound	CAS#	%Recovery
Ethylene Oxide	75-21-8	84

D: Analyte not within the DoD scope of accreditation.

* % Recovery is calculated using unrounded analytical results.

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180 BLUE RAVINE ROAD, SUITE B
FOLSOM, CA 95630-4719
(916) 985-1000 FAX (916) 985-1020

Project Manager: Robert DeMott
Collected by: (Print and Sign) MATT MEYER M Mey
Company: RAMBOLL Email: RDeMott@Ramboll.com
Address: 10150 Highland Manor Drive City: TAMPA State: FL Zip: 33610
Phone: 813-628-4325 Fax:

Project Info:
P.O. # 1690009066
Project # 1690009066
Project Name: SAL

Turn Around Time:
☐ Normal
☒ Rush
specify

Lab Use Only
Pressurized by:
Date:
Pressurization Gas: N_2 He

Lab I.D.	Field Sample I.D. (Location)	Can #	Date of Collection	Time of Collection	Analyses Requested	Canister Pressure/Vacuum Initial	Final	Receipt	Final (psi)
01A	GR-D-181112	6L0648	11-12-18	0950	ethylene oxide 2,5 Dimethylfuran	30	6.5		
02A	GAF-D-181112	6L1473	11-12-18	0754	ethylene oxide 2,5 Dimethylfuran	30	6		
03A	GP-D-181112	6L0474	11-12-18	1049	ethylene oxide 2,5 Dimethylfuran	30	5.5		
04A	GV-D-181112	6L0973	11-12-18	1354	ethylene oxide 2,5 Dimethylfuran	30	6		

Relinquished by: (signature) Date/Time	Received by: (signature) Date/Time
M Meyer 11-13-18 1400	[illegible] FAIR 11/14/18 1005
Relinquished by: (signature) Date/Time	Received by: (signature) Date/Time
Relinquished by: (signature) Date/Time	Received by: (signature) Date/Time

Notes:

Lab Use Only	Shipper Name	Air Bill #	Temp (°C)	Condition	Custody Seals Intact?	Work Order #
	FedEx		NA	Good	Yes No None	1811282

11/14/18

Form 1293 rev.11

ED_002475_00000088-00296

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11/20/2018
Mr. Robert DeMott
Ramboll Environ
10150 Highland Manor Drive
Suite 440
Tampa FL 33610

Project Name: SAC
Project #: 1690009066
Workorder #: 1811283A

Dear Mr. Robert DeMott

The following report includes the data for the above referenced project for sample(s) received on 11/14/2018 at Air Toxics Ltd.

The data and associated QC analyzed by EPA Method TO-15 are compliant with the project requirements or laboratory criteria with the exception of the deviations noted in the attached case narrative.

Thank you for choosing Eurofins Air Toxics Inc. for your air analysis needs. Eurofins Air Toxics Inc. is committed to providing accurate data of the highest quality. Please feel free to contact the Project Manager: Ausha Scott at 916-985-1000 if you have any questions regarding the data in this report.

Regards,

Ausha Scott
Project Manager

eurofins | Air Toxics

WORK ORDER #: 1811283A

Work Order Summary

CLIENT:	Mr. Robert DeMott Ramboll Environ 10150 Highland Manor Drive Suite 440 Tampa, FL 33610	**BILL TO:**	Accounts Payable Ramboll Environ 10150 Highland Manor Drive Suite 440 Tampa, FL 33610
PHONE:	813-628-4325	**P.O. #**	1690009066
FAX:	813-628-4983	**PROJECT #**	1690009066 SAC
DATE RECEIVED:	11/14/2018	**CONTACT:**	Ausha Scott
DATE COMPLETED:	11/20/2018		

FRACTION #	NAME	TEST	RECEIPT VAC./PRES.	FINAL PRESSURE
01A	A15-D-181112	EPA Method TO-15	5.0 "Hg	5 psi
02A	G5-D-181112	EPA Method TO-15	4.0 "Hg	5 psi
03A	GAJ-D-181113	EPA Method TO-15	3.5 "Hg	5 psi
04A	Lab Blank	EPA Method TO-15	NA	NA
05A	CCV	EPA Method TO-15	NA	NA
06A	LCS	EPA Method TO-15	NA	NA
06AA	LCSD	EPA Method TO-15	NA	NA

CERTIFIED BY: Heidi Hayes

Technical Director

DATE: 11/20/18

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180 BLUE RAVINE ROAD, SUITE B FOLSOM, CA - 95630
(916) 985-1000 . (800) 985-5955 . FAX (916) 985-1020

LABORATORY NARRATIVE
EPA TO-15 Ethylene oxide (SIM)
Ramboll Environ
Workorder# 1811283A

Three 6 Liter Summa Canister (100% Certified) samples were received on November 14, 2018. The laboratory performed analysis via EPA Method TO-15 using GC/MS in the SIM acquisition mode for the measurement of Ethylene oxide in ambient air.

This workorder was independently validated prior to submittal using 'USEPA National Functional Guidelines' as generally applied to the analysis of volatile organic compounds in air. A rules-based, logic driven, independent validation engine was employed to assess completeness, evaluate pass/fail of relevant project quality control requirements and verification of all quantified amounts.

Receiving Notes

There were no receiving discrepancies.

Analytical Notes

Ethylene Oxide is not included on the laboratory's NELAP scope of accreditation for TO-15 SIM. However, TO-15 and NELAP quality requirements were met.

Samples were analyzed using the TO-15 GC/MS in synchronous SIM/Scan mode. The SIM file was used to measure the target compound ethylene oxide. The scan file was used to report analyte 2,5-Dimethylfuran as a tentatively identified compound (TIC) determined by searching for its characteristic spectra and reported in workorder 1811283B.

As per project specific client request the laboratory has reported estimated values for target compound hits that are below the Reporting Limit but greater than the Method Detection Limit. The canisters used for this project have been certified to the Reporting Limit for Ethylene oxide. Concentrations that are below the level at which the canister was certified may be false positives.

The per analytical batch duplicate analysis required for this project is associated with work order 1811280A.

Definition of Data Qualifying Flags

Eight qualifiers may have been used on the data analysis sheets and indicates as follows:

B - Compound present in laboratory blank greater than reporting limit (background subtraction not performed).

J - Estimated value.

S - Saturated peak.

Q - Exceeds quality control limits.

U - Compound analyzed for but not detected above the reporting limit, LOD, or MDL value. See data page for project specific U-flag definition.

UJ- Non-detected compound associated with low bias in the CCV

N - The identification is based on presumptive evidence.

File extensions may have been used on the data analysis sheets and indicates as follows:

a-File was requantified
b-File was quantified by a second column and detector
r1-File was requantified for the purpose of reissue

MODIFIED EPA METHOD TO-15 GC/MS SIM
SAC

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Client ID:	A15-D-181112		
Lab ID:	1811283A-01A	**Date/Time Analyzed:**	11/15/18 11:02 PM
Date/Time Collecte	11/12/18 07:12 AM	**Dilution Factor:**	1.61
Media:	6 Liter Summa Canister (100% Certified)	**Instrument/Filename:**	msd2.i / 2111519sim

Compound	CAS#	MDL (ug/m3)	LOD (ug/m3)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Ethylene Oxide	75-21-8	0.080	D	0.14	0.20

D: Analyte not within the DoD scope of accreditation.

MODIFIED EPA METHOD TO-15 GC/MS SIM
SAC

eurofins | Air Toxics

Client ID:	G5-D-181112		
Lab ID:	1811283A-02A	**Date/Time Analyzed:**	11/15/18 11:39 PM
Date/Time Collecte	11/12/18 01:09 PM	**Dilution Factor:**	1.55
Media:	6 Liter Summa Canister (100% Certified)	**Instrument/Filename:**	msd2.i / 2111520sim

Compound	CAS#	MDL (ug/m3)	LOD (ug/m3)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Ethylene Oxide	75-21-8	0.077	D	0.14	0.22

D: Analyte not within the DoD scope of accreditation.

MODIFIED EPA METHOD TO-15 GC/MS SIM
SAC

eurofins | Air Toxics

Client ID:	GAJ-D-181113		
Lab ID:	1811283A-03A	**Date/Time Analyzed:**	11/16/18 12:16 AM
Date/Time Collecte	11/13/18 08:50 AM	**Dilution Factor:**	1.52
Media:	6 Liter Summa Canister (100% Certified)	**Instrument/Filename:**	msd2.i / 2111521sim

Compound	CAS#	MDL (ug/m3)	LOD (ug/m3)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Ethylene Oxide	75-21-8	0.075	D	0.14	0.098 J

J = Estimated value.
D: Analyte not within the DoD scope of accreditation.

MODIFIED EPA METHOD TO-15 GC/MS SIM
SAC

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Client ID:	Lab Blank		
Lab ID:	1811283A-04A	**Date/Time Analyzed:**	11/15/18 07:17 PM
Date/Time Collecte	NA - Not Applicable	**Dilution Factor:**	1.00
Media:	NA - Not Applicable	**Instrument/Filename:**	msd2.i / 2111513sim

Compound	CAS#	MDL (ug/m3)	LOD (ug/m3)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Ethylene Oxide	75-21-8	0.049	D	0.090	Not Detected

D: Analyte not within the DoD scope of accreditation.

MODIFIED EPA METHOD TO-15 GC/MS SIM
SAC

eurofins | Air Toxics

Client ID:	CCV		
Lab ID:	1811283A-05A	**Date/Time Analyzed:**	11/15/18 01:42 PM
Date/Time Collecte	NA - Not Applicable	**Dilution Factor:**	1.00
Media:	NA - Not Applicable	**Instrument/Filename:**	msd2.i / 2111505sima

Compound	CAS#	%Recovery
Ethylene Oxide	75-21-8	84

D: Analyte not within the DoD scope of accreditation.

MODIFIED EPA METHOD TO-15 GC/MS SIM
SAC

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Client ID:	LCS		
Lab ID:	1811283A-06A	**Date/Time Analyzed:**	11/15/18 04:46 PM
Date/Time Collecte	NA - Not Applicable	**Dilution Factor:**	1.00
Media:	NA - Not Applicable	**Instrument/Filename:**	msd2.i / 2111510sima

Compound	CAS#	%Recovery
Ethylene Oxide	75-21-8	86

D: Analyte not within the DoD scope of accreditation.

* % Recovery is calculated using unrounded analytical results.

MODIFIED EPA METHOD TO-15 GC/MS SIM
SAC

eurofins | Air Toxics

Client ID:	LCSD		
Lab ID:	1811283A-06AA	**Date/Time Analyzed:**	11/15/18 05:23 PM
Date/Time Collecte	NA - Not Applicable	**Dilution Factor:**	1.00
Media:	NA - Not Applicable	**Instrument/Filename:**	msd2.i / 2111511sim

Compound	CAS#	%Recovery
Ethylene Oxide	75-21-8	84

D: Analyte not within the DoD scope of accreditation.

* % Recovery is calculated using unrounded analytical results.

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FOLSOM, CA 95630-4719
(916) 985-1000 FAX (916) 985-1020

Page 1 of 1

Project Manager Robert DeMott
Collected by: (Print and Sign) Matt Meyer M7 Mey
Company RAMBOLL Email RDEmott@Ramboll.com
Address 10150 Highland Manor City Tampa State FL Zip 33610
Phone 813 628 4325 Fax

Project Info:
P.O. # 1690009066
Project # 1690009066
Project Name SAC

Turn Around Time:
☐ Normal
☒ Rush
specify

Lab Use Only
Pressurized by:
Date:
Pressurization Gas: N_2 He

Lab I.D.	Field Sample I.D. (Location)	Can #	Date of Collection	Time of Collection	Analyses Requested	Canister Pressure/Vacuum Initial	Final	Receipt	Final (psi)
01A	A15-D-181112	6L0952	11-12-18	0712	ethylene oxide 2,5 Dimethyl Furan	29.5	8.5		
02A	G5-D-181112	6L1731	11-12-18	1309	ethylene oxide 2,5 Dimethyl Furan	30	5.75		
03A	GAJ-D-181113	6L0454	11-13-18	0850	ethylene oxide 2,5 Dimethyl Furan	29	6		

Relinquished by: (signature)	Date/Time	Received by: (signature)	Date/Time
M7 Meyer	11-13-18 @ 1400	[illegible] EAR	11/14/18 1005

Notes:

Lab Use Only	Shipper Name	Air Bill #	Temp (°C)	Condition	Custody Seals Intact?	Work Order #
	FedEx		NA	Good	Yes No None	1811283

Form 1293 rev.11

ED_002475_00000088-00308

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11/27/2018
Mr. Robert DeMott
Ramboll Environ
10150 Highland Manor Drive
Suite 440
Tampa FL 33610

Project Name:
Project #: 1690010629
Workorder #: 1811357A

Dear Mr. Robert DeMott

The following report includes the data for the above referenced project for sample(s) received on 11/16/2018 at Air Toxics Ltd.

The data and associated QC analyzed by EPA Method TO-15 are compliant with the project requirements or laboratory criteria with the exception of the deviations noted in the attached case narrative.

Thank you for choosing Eurofins Air Toxics Inc. for your air analysis needs. Eurofins Air Toxics Inc. is committed to providing accurate data of the highest quality. Please feel free to contact the Project Manager: Ausha Scott at 916-985-1000 if you have any questions regarding the data in this report.

Regards,

Ausha Scott
Project Manager

eurofins | Air Toxics

WORK ORDER #: 1811357A

Work Order Summary

CLIENT:	Mr. Robert DeMott Ramboll Environ 10150 Highland Manor Drive Suite 440 Tampa, FL 33610	**BILL TO:**	Accounts Payable Ramboll Environ 10150 Highland Manor Drive Suite 440 Tampa, FL 33610
PHONE:	813-628-4325	**P.O. #**	
FAX:	813-628-4983	**PROJECT #**	1690010629
DATE RECEIVED:	11/16/2018	**CONTACT:**	Ausha Scott
DATE COMPLETED:	11/27/2018		

FRACTION #	NAME	TEST	RECEIPT VAC./PRES.	FINAL PRESSURE
01A	A19-D-181113	EPA Method TO-15	4.9 "Hg	5.1 psi
01AA	A19-D-181113 Lab Duplicate	EPA Method TO-15	4.9 "Hg	5.1 psi
02A	A1-D-181113	EPA Method TO-15	2.6 "Hg	5.3 psi
03A	Lab Blank	EPA Method TO-15	NA	NA
04A	CCV	EPA Method TO-15	NA	NA
05A	LCS	EPA Method TO-15	NA	NA
05AA	LCSD	EPA Method TO-15	NA	NA

CERTIFIED BY: Heidi Hayes

Technical Director

DATE: 11/27/18

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(916) 985-1000 . (800) 985-5955 . FAX (916) 985-1020

LABORATORY NARRATIVE
EPA TO-15 Ethylene oxide (SIM)
Ramboll Environ
Workorder# 1811357A

Two 6 Liter Summa Canister (100% Certified) samples were received on November 16, 2018. The laboratory performed analysis via EPA Method TO-15 using GC/MS in the SIM acquisition mode for the measurement of Ethylene oxide in ambient air.

This workorder was independently validated prior to submittal using 'USEPA National Functional Guidelines' as generally applied to the analysis of volatile organic compounds in air. A rules-based, logic driven, independent validation engine was employed to assess completeness, evaluate pass/fail of relevant project quality control requirements and verification of all quantified amounts.

Receiving Notes

There was a difference (greater than or equal to 5.0" Hg) between the measured canister receipt vacuum and that which was reported on the Chain of Custody (COC) for sample A1-D-181113. A leak test indicated that the valve was functioning properly.

Analytical Notes

Ethylene Oxide is not included on the laboratory's NELAP scope of accreditation for TO-15 SIM. However, TO-15 and NELAP quality requirements were met.

Samples were analyzed using the TO-15 GC/MS in synchronous SIM/Scan mode. The SIM file was used to measure the target compound ethylene oxide. The scan file for each sample injection was used to estimate 2,5-Dimethylfuran concentration reported in workorder 1811357B.

As per project specific client request the laboratory has reported estimated values for target compound hits that are below the Reporting Limit but greater than the Method Detection Limit. The canisters used for this project have been certified to the Reporting Limit for Ethylene oxide. Concentrations that are below the level at which the canister was certified may be false positives.

Definition of Data Qualifying Flags

Eight qualifiers may have been used on the data analysis sheets and indicates as follows:

B - Compound present in laboratory blank greater than reporting limit (background subtraction not performed).

J - Estimated value.

S - Saturated peak.

Q - Exceeds quality control limits.

U - Compound analyzed for but not detected above the reporting limit, LOD, or MDL value. See data page for project specific U-flag definition.

UJ- Non-detected compound associated with low bias in the CCV

N - The identification is based on presumptive evidence.

File extensions may have been used on the data analysis sheets and indicates as follows:

a-File was requantified

b-File was quantified by a second column and detector
r1-File was requantified for the purpose of reissue

MODIFIED EPA METHOD TO-15 GC/MS SIM

eurofins | Air Toxics

Client ID:	A19-D-181113		
Lab ID:	1811357A-01A	**Date/Time Analyzed:**	11/20/18 06:20 PM
Date/Time Collecte	11/13/18 09:19 AM	**Dilution Factor:**	1.61
Media:	6 Liter Summa Canister (100% Certified)	**Instrument/Filename:**	msd2.i / 2112010sim

Compound	CAS#	MDL (ug/m3)	LOD (ug/m3)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Ethylene Oxide	75-21-8	0.080	D	0.14	0.47

D: Analyte not within the DoD scope of accreditation.

MODIFIED EPA METHOD TO-15 GC/MS SIM

eurofins | Air Toxics

Client ID:	A19-D-181113 Lab Duplicate		
Lab ID:	1811357A-01AA	**Date/Time Analyzed:**	11/20/18 06:59 PM
Date/Time Collecte	11/13/18 09:19 AM	**Dilution Factor:**	1.61
Media:	6 Liter Summa Canister (100% Certified)	**Instrument/Filename:**	msd2.i / 2112011sim

Compound	CAS#	MDL (ug/m3)	LOD (ug/m3)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Ethylene Oxide	75-21-8	0.080	D	0.14	0.49

D: Analyte not within the DoD scope of accreditation.

MODIFIED EPA METHOD TO-15 GC/MS SIM

eurofins | Air Toxics

Client ID:	A1-D-181113		
Lab ID:	1811357A-02A	**Date/Time Analyzed:**	11/20/18 07:38 PM
Date/Time Collecte	11/13/18 09:19 AM	**Dilution Factor:**	1.49
Media:	6 Liter Summa Canister (100% Certified)	**Instrument/Filename:**	msd2.i / 2112012sim

Compound	CAS#	MDL (ug/m3)	LOD (ug/m3)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Ethylene Oxide	75-21-8	0.074	D	0.13	0.47

D: Analyte not within the DoD scope of accreditation.

MODIFIED EPA METHOD TO-15 GC/MS SIM

eurofins | Air Toxics

Client ID:	Lab Blank		
Lab ID:	1811357A-03A	**Date/Time Analyzed:**	11/20/18 05:40 PM
Date/Time Collecte	NA - Not Applicable	**Dilution Factor:**	1.00
Media:	NA - Not Applicable	**Instrument/Filename:**	msd2.i / 2112009sim

Compound	CAS#	MDL (ug/m3)	LOD (ug/m3)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Ethylene Oxide	75-21-8	0.049	D	0.090	Not Detected

D: Analyte not within the DoD scope of accreditation.

Client ID:	CCV		
Lab ID:	1811357A-04A	**Date/Time Analyzed:**	11/20/18 12:32 PM
Date/Time Collecte	NA - Not Applicable	**Dilution Factor:**	1.00
Media:	NA - Not Applicable	**Instrument/Filename:**	msd2.i / 2112002sim

Compound	CAS#	%Recovery
Ethylene Oxide	75-21-8	81

D: Analyte not within the DoD scope of accreditation.

MODIFIED EPA METHOD TO-15 GC/MS SIM

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Client ID:	LCS		
Lab ID:	1811357A-05A	**Date/Time Analyzed:**	11/20/18 01:10 PM
Date/Time Collecte	NA - Not Applicable	**Dilution Factor:**	1.00
Media:	NA - Not Applicable	**Instrument/Filename:**	msd2.i / 2112003sim

Compound	CAS#	%Recovery
Ethylene Oxide	75-21-8	78

D: Analyte not within the DoD scope of accreditation.

* % Recovery is calculated using unrounded analytical results.

MODIFIED EPA METHOD TO-15 GC/MS SIM

eurofins | Air Toxics

Client ID:	LCSD		
Lab ID:	1811357A-05AA	**Date/Time Analyzed:**	11/20/18 01:47 PM
Date/Time Collecte	NA - Not Applicable	**Dilution Factor:**	1.00
Media:	NA - Not Applicable	**Instrument/Filename:**	msd2.i / 2112004sim

Compound	CAS#	%Recovery
Ethylene Oxide	75-21-8	78

D: Analyte not within the DoD scope of accreditation.

* % Recovery is calculated using unrounded analytical results.

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Analysis Request /Canister Chain of Custody

For Laboratory Use Only

PID: _____ Workorder #: 1811357

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Phone (800) 985-5955; Fax (916) 351-8279

page--of —

Client: RAMBOLL
Project Name: SAL
Project Manager: Robert DeMott Project # 1698010629
Sampler: MATT MEYER
Site Name:

Special Instructions/Notes:

Turnaround Time (Rush ~~surcharges may~~ apply)
Standard _____ Rush X (specify)

Lab ID	Field Sample Identification(Location)	Can #	Flow Controller #	Start Sampling Information Date	Start Sampling Information Time	Stop Sampling Information Date	Stop Sampling Information Time	Canister Vacuum/Pressure Initial (in Hg)	Canister Vacuum/Pressure Final (in Hg)	Lab Use Only Receipt	Lab Use Only Final (psig) Gas: N_2 / He	Requested Analyses: Ethylene Oxide	Requested Analyses: 2,5 Dimethylfuran		
01A	A19-D-181113	6L1038	23829	11-13-18	0919	11-13-18	2112	28.5	6			X	X		
02A	A1-D-181113	6L0982	23379	11-13-18	0919	11-13-18	2119	30	9						

Relinquished by: (Signature/Affiliation)	Date	Time	Received by: (Signature/Affiliation)	Date	Time
Matthew T Meyer	11-15-18	1600	ATC	11/16/18	1025
Relinquished by: (Signature/Affiliation)	Date	Time	Received by: (Signature/Affiliation)	Date	Time
Relinquished by: (Signature/Affiliation)	Date	Time	Received by: (Signature/Affiliation)	Date	Time

Lab Use Only

Shipper Name: FedEx | Custody Seals Intact? Yes No None

Sample Transportation Notice: Relinquishing signature on this document indicates that samples are shipped in compliance with all applicable local, State, Federal, and international laws, regulations, and ordinances of any kind. Relinquishing signature also indicates agreement to hold harmless, defend, and indemnify Eurofins Air Toxics against any claim, demand, or action, of any kind, related to the collection, handling, of shipping of samples. D.O.T Hotline (800) 467-4922

ED_002475_00000088-00320

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11/27/2018
Mr. Robert DeMott
Ramboll Environ
10150 Highland Manor Drive
Suite 440
Tampa FL 33610

Project Name: SAL
Project #: 1690010629
Workorder #: 1811375A

Dear Mr. Robert DeMott

The following report includes the data for the above referenced project for sample(s) received on 11/16/2018 at Air Toxics Ltd.

The data and associated QC analyzed by EPA Method TO-15 are compliant with the project requirements or laboratory criteria with the exception of the deviations noted in the attached case narrative.

Thank you for choosing Eurofins Air Toxics Inc. for your air analysis needs. Eurofins Air Toxics Inc. is committed to providing accurate data of the highest quality. Please feel free to contact the Project Manager: Ausha Scott at 916-985-1000 if you have any questions regarding the data in this report.

Regards,

Ausha Scott
Project Manager

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WORK ORDER #: 1811375A

Work Order Summary

CLIENT:	Mr. Robert DeMott Ramboll Environ 10150 Highland Manor Drive Suite 440 Tampa, FL 33610	**BILL TO:**	Accounts Payable Ramboll Environ 10150 Highland Manor Drive Suite 440 Tampa, FL 33610
PHONE:	813-628-4325	**P.O. #**	
FAX:	813-628-4983	**PROJECT #**	1690010629 SAL
DATE RECEIVED:	11/16/2018	**CONTACT:**	Ausha Scott
DATE COMPLETED:	11/27/2018		

FRACTION #	NAME	TEST	RECEIPT VAC./PRES.	FINAL PRESSURE
01A	GA-D-181114	EPA Method TO-15	4.7 "Hg	5.2 psi
02A	GAN-D-181114	EPA Method TO-15	2.4 "Hg	5 psi
03A	GF-D-181115	EPA Method TO-15	2.4 "Hg	5.1 psi
04A	GB-D-181115	EPA Method TO-15	3.7 "Hg	5.1 psi
05A	Lab Blank	EPA Method TO-15	NA	NA
06A	CCV	EPA Method TO-15	NA	NA
07A	LCS	EPA Method TO-15	NA	NA
07AA	LCSD	EPA Method TO-15	NA	NA

CERTIFIED BY: Heidi Hayes

Technical Director

DATE: 11/27/18

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180 BLUE RAVINE ROAD, SUITE B FOLSOM, CA - 95630
(916) 985-1000 . (800) 985-5955 . FAX (916) 985-1020

LABORATORY NARRATIVE
EPA TO-15 Ethylene oxide (SIM)
Ramboll Environ
Workorder# 1811375A

Four 6 Liter Summa Canister (100% Certified) samples were received on November 16, 2018. The laboratory performed analysis via EPA Method TO-15 using GC/MS in the SIM acquisition mode for the measurement of Ethylene oxide in ambient air.

This workorder was independently validated prior to submittal using 'USEPA National Functional Guidelines' as generally applied to the analysis of volatile organic compounds in air. A rules-based, logic driven, independent validation engine was employed to assess completeness, evaluate pass/fail of relevant project quality control requirements and verification of all quantified amounts.

Receiving Notes

There were no receiving discrepancies.

Analytical Notes

Ethylene Oxide is not included on the laboratory's NELAP scope of accreditation for TO-15 SIM. However, TO-15 and NELAP quality requirements were met.

Samples were analyzed using the TO-15 GC/MS in synchronous SIM/Scan mode. The SIM file was used to measure the target compound ethylene oxide. The scan file for each sample injection was used to estimate 2,5-Dimethylfuran concentration reported in workorder 1811375B.

As per project specific client request the laboratory has reported estimated values for target compound hits that are below the Reporting Limit but greater than the Method Detection Limit. The canisters used for this project have been certified to the Reporting Limit for Ethylene oxide. Concentrations that are below the level at which the canister was certified may be false positives.

The per analytical batch duplicate analysis required for this project is associated with work order 1811357A.

Definition of Data Qualifying Flags

Eight qualifiers may have been used on the data analysis sheets and indicates as follows:

B - Compound present in laboratory blank greater than reporting limit (background subtraction not performed).

J - Estimated value.

S - Saturated peak.

Q - Exceeds quality control limits.

U - Compound analyzed for but not detected above the reporting limit, LOD, or MDL value. See data page for project specific U-flag definition.

UJ- Non-detected compound associated with low bias in the CCV

N - The identification is based on presumptive evidence.

File extensions may have been used on the data analysis sheets and indicates as follows:

a-File was requantified
b-File was quantified by a second column and detector
r1-File was requantified for the purpose of reissue

MODIFIED EPA METHOD TO-15 GC/MS SIM
SAL

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Client ID:	GA-D-181114		
Lab ID:	1811375A-01A	**Date/Time Analyzed:**	11/20/18 08:18 PM
Date/Time Collecte	11/14/18 05:46 PM	**Dilution Factor:**	1.60
Media:	6 Liter Summa Canister (100% Certified)	**Instrument/Filename:**	msd2.i / 2112013sim

Compound	CAS#	MDL (ug/m3)	LOD (ug/m3)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Ethylene Oxide	75-21-8	0.079	D	0.14	0.27

D: Analyte not within the DoD scope of accreditation.

MODIFIED EPA METHOD TO-15 GC/MS SIM
SAL

eurofins | Air Toxics

Client ID:	GAN-D-181114		
Lab ID:	1811375A-02A	**Date/Time Analyzed:**	11/20/18 08:57 PM
Date/Time Collecte	11/14/18 05:57 PM	**Dilution Factor:**	1.46
Media:	6 Liter Summa Canister (100% Certified)	**Instrument/Filename:**	msd2.i / 2112014sim

Compound	CAS#	MDL (ug/m3)	LOD (ug/m3)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Ethylene Oxide	75-21-8	0.072	D	0.13	0.14

D: Analyte not within the DoD scope of accreditation.

MODIFIED EPA METHOD TO-15 GC/MS SIM
SAL

eurofins | Air Toxics

Client ID:	GF-D-181115		
Lab ID:	1811375A-03A	**Date/Time Analyzed:**	11/20/18 09:36 PM
Date/Time Collecte	11/15/18 08:18 AM	**Dilution Factor:**	1.47
Media:	6 Liter Summa Canister (100% Certified)	**Instrument/Filename:**	msd2.i / 2112015sim

Compound	CAS#	MDL (ug/m3)	LOD (ug/m3)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Ethylene Oxide	75-21-8	0.073	D	0.13	0.28

D: Analyte not within the DoD scope of accreditation.

MODIFIED EPA METHOD TO-15 GC/MS SIM
SAL

eurofins | Air Toxics

Client ID:	GB-D-181115		
Lab ID:	1811375A-04A	**Date/Time Analyzed:**	11/20/18 10:16 PM
Date/Time Collecte	11/15/18 09:32 AM	**Dilution Factor:**	1.53
Media:	6 Liter Summa Canister (100% Certified)	**Instrument/Filename:**	msd2.i / 2112016sim

Compound	CAS#	MDL (ug/m3)	LOD (ug/m3)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Ethylene Oxide	75-21-8	0.076	D	0.14	0.14

D: Analyte not within the DoD scope of accreditation.

MODIFIED EPA METHOD TO-15 GC/MS SIM
SAL

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Client ID:	Lab Blank		
Lab ID:	1811375A-05A	**Date/Time Analyzed:**	11/20/18 05:40 PM
Date/Time Collecte	NA - Not Applicable	**Dilution Factor:**	1.00
Media:	NA - Not Applicable	**Instrument/Filename:**	msd2.i / 2112009sim

Compound	CAS#	MDL (ug/m3)	LOD (ug/m3)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Ethylene Oxide	75-21-8	0.049	D	0.090	Not Detected

D: Analyte not within the DoD scope of accreditation.

MODIFIED EPA METHOD TO-15 GC/MS SIM
SAL

eurofins | Air Toxics

Client ID:	CCV		
Lab ID:	1811375A-06A	**Date/Time Analyzed:**	11/20/18 12:32 PM
Date/Time Collecte	NA - Not Applicable	**Dilution Factor:**	1.00
Media:	NA - Not Applicable	**Instrument/Filename:**	msd2.i / 2112002sim

Compound	CAS#	%Recovery
Ethylene Oxide	75-21-8	81

D: Analyte not within the DoD scope of accreditation.

MODIFIED EPA METHOD TO-15 GC/MS SIM
SAL

eurofins | Air Toxics

Client ID:	LCS		
Lab ID:	1811375A-07A	**Date/Time Analyzed:**	11/20/18 01:10 PM
Date/Time Collecte	NA - Not Applicable	**Dilution Factor:**	1.00
Media:	NA - Not Applicable	**Instrument/Filename:**	msd2.i / 2112003sim

Compound	CAS#	%Recovery
Ethylene Oxide	75-21-8	78

D: Analyte not within the DoD scope of accreditation.

* % Recovery is calculated using unrounded analytical results.

MODIFIED EPA METHOD TO-15 GC/MS SIM
SAL

eurofins | Air Toxics

Client ID:	LCSD		
Lab ID:	1811375A-07AA	**Date/Time Analyzed:**	11/20/18 01:47 PM
Date/Time Collecte	NA - Not Applicable	**Dilution Factor:**	1.00
Media:	NA - Not Applicable	**Instrument/Filename:**	msd2.i / 2112004sim

Compound	CAS#	%Recovery
Ethylene Oxide	75-21-8	78

D: Analyte not within the DoD scope of accreditation.

* % Recovery is calculated using unrounded analytical results.

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Analysis Request /Canister Chain of Custody

For Laboratory Use Only

PID: _____ Workorder #: 1811375

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Phone (800) 985-5955; Fax (916) 351-8279

page--of ---

Client: Ramboll
Project Name: SAL
Project Manager: Robert DeMott Project # 1690010629
Sampler: Cynthia Bonczkiewicz/Aaron Knowlton
Site Name:

Special Instructions/Notes:

Turnaround Time (Rush surcharges may apply)
Standard _____ Rush X (specify)

Lab ID	Field Sample Identification(Location)	Can #	Flow Controller #	Start Sampling Information Date	Start Sampling Information Time	Stop Sampling Information Date	Stop Sampling Information Time	Canister Vacuum/Pressure Initial (in Hg)	Canister Vacuum/Pressure Final (in Hg)	Lab Use Only Receipt	Lab Use Only Final (psig) Gas: N_2 / He	Requested Analyses Ethylene Oxide	Requested Analyses 2,5, Dimethylfuran		
01A	GA-D-181114	6L1070	—	11-14-18	1740	11-14-18	1746	30	7			X	X		
02A	GAN-D-181114	6L0956	—	11-14-18	1752	11-14-18	1757	30	5			X	X		
03A	GF-D-181115	6L0896	—	11-15-18	0813	11-15-18	0818	29.5	4.8						
04A	GB-D-181115	6L0475	—	11-15-18	0925	11-15-18	0932	30	5						

Relinquished by: (Signature/Affiliation)	Date	Time	Received by: (Signature/Affiliation)	Date	Time
[signature] /Ramboll-Fedex	11-15-18	1000	[signature] GATL	11/16/18	1025

Lab Use Only

Shipper Name: FEDEX | Custody Seals Intact? Yes No None

Sample Transportation Notice Relinquishing signature on this document indicates that samples are shipped in compliance with all applicable local, State, Federal, and international laws, regulations, and ordinances of any kind. Relinquishing signature also indicates agreement to hold harmless, defend, and indemnify Eurofins Air Toxics against any claim, demand, or action, of any kind, related to the collection, handling, of shipping of samples. D.O.T Hotline (800) 467-4922

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11/27/2018
Mr. Robert DeMott
Ramboll Environ
10150 Highland Manor Drive
Suite 440
Tampa FL 33610

Project Name: SAL
Project #:
Workorder #: 1811376A

Dear Mr. Robert DeMott

The following report includes the data for the above referenced project for sample(s) received on 11/16/2018 at Air Toxics Ltd.

The data and associated QC analyzed by EPA Method TO-15 are compliant with the project requirements or laboratory criteria with the exception of the deviations noted in the attached case narrative.

Thank you for choosing Eurofins Air Toxics Inc. for your air analysis needs. Eurofins Air Toxics Inc. is committed to providing accurate data of the highest quality. Please feel free to contact the Project Manager: Ausha Scott at 916-985-1000 if you have any questions regarding the data in this report.

Regards,

Ausha Scott
Project Manager

eurofins | Air Toxics

WORK ORDER #: 1811376A

Work Order Summary

CLIENT:	Mr. Robert DeMott Ramboll Environ 10150 Highland Manor Drive Suite 440 Tampa, FL 33610	**BILL TO:**	Accounts Payable Ramboll Environ 10150 Highland Manor Drive Suite 440 Tampa, FL 33610
PHONE:	813-628-4325	**P.O. #**	
FAX:	813-628-4983	**PROJECT #**	SAL
DATE RECEIVED:	11/16/2018	**CONTACT:**	Ausha Scott
DATE COMPLETED:	11/27/2018		

FRACTION #	NAME	TEST	RECEIPT VAC./PRES.	FINAL PRESSURE
01A	GAE-D-181115	EPA Method TO-15	4.7 "Hg	4.9 psi
02A	GK-D-181115	EPA Method TO-15	4.9 "Hg	5 psi
03A	GM-D-181115	EPA Method TO-15	4.3 "Hg	4.9 psi
04A	Lab Blank	EPA Method TO-15	NA	NA
05A	CCV	EPA Method TO-15	NA	NA
06A	LCS	EPA Method TO-15	NA	NA
06AA	LCSD	EPA Method TO-15	NA	NA

CERTIFIED BY: Heidi Hayes

Technical Director

DATE: 11/27/18

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(916) 985-1000 . (800) 985-5955 . FAX (916) 985-1020

LABORATORY NARRATIVE
EPA TO-15 Ethylene oxide (SIM)
Ramboll Environ
Workorder# 1811376A

Three 6 Liter Summa Canister (100% Certified) samples were received on November 16, 2018. The laboratory performed analysis via EPA Method TO-15 using GC/MS in the SIM acquisition mode for the measurement of Ethylene oxide in ambient air.

This workorder was independently validated prior to submittal using 'USEPA National Functional Guidelines' as generally applied to the analysis of volatile organic compounds in air. A rules-based, logic driven, independent validation engine was employed to assess completeness, evaluate pass/fail of relevant project quality control requirements and verification of all quantified amounts.

Receiving Notes

The Chain of Custody (COC) information for sample GM-D-181115 did not match the information on the canister with regard to canister barcode. The sample labeled 6L1329 on the COC is labeled as 6L1529 on the canister. The client was notified of the discrepancy and the information on the canister was used to process and report the sample.

Analytical Notes

Ethylene Oxide is not included on the laboratory's NELAP scope of accreditation for TO-15 SIM. However, TO-15 and NELAP quality requirements were met.

Samples were analyzed using the TO-15 GC/MS in synchronous SIM/Scan mode. The SIM file was used to measure the target compound ethylene oxide. The scan file for each sample injection was used to estimate 2,5-Dimethylfuran concentrations reported in workorder 1811376B.

As per project specific client request the laboratory has reported estimated values for target compound hits that are below the Reporting Limit but greater than the Method Detection Limit. The canisters used for this project have been certified to the Reporting Limit for Ethylene oxide. Concentrations that are below the level at which the canister was certified may be false positives.

The per analytical batch duplicate analysis required for this project is associated with work order 1811357A.

Definition of Data Qualifying Flags

Eight qualifiers may have been used on the data analysis sheets and indicates as follows:

B - Compound present in laboratory blank greater than reporting limit (background subtraction not performed).

J - Estimated value.

S - Saturated peak.

Q - Exceeds quality control limits.

U - Compound analyzed for but not detected above the reporting limit, LOD, or MDL value. See data page for project specific U-flag definition.

UJ- Non-detected compound associated with low bias in the CCV

N - The identification is based on presumptive evidence.

File extensions may have been used on the data analysis sheets and indicates as follows:

a-File was requantified
b-File was quantified by a second column and detector
r1-File was requantified for the purpose of reissue

MODIFIED EPA METHOD TO-15 GC/MS SIM
SAL

eurofins | Air Toxics

Client ID:	GAE-D-181115		
Lab ID:	1811376A-01A	**Date/Time Analyzed:**	11/20/18 11:18 PM
Date/Time Collecte	11/15/18 01:36 PM	**Dilution Factor:**	1.58
Media:	6 Liter Summa Canister (100% Certified)	**Instrument/Filename:**	msd2.i / 2112017sim

Compound	CAS#	MDL (ug/m3)	LOD (ug/m3)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Ethylene Oxide	75-21-8	0.078	D	0.14	0.18

D: Analyte not within the DoD scope of accreditation.

MODIFIED EPA METHOD TO-15 GC/MS SIM
SAL

eurofins | Air Toxics

Client ID:	GK-D-181115		
Lab ID:	1811376A-02A	**Date/Time Analyzed:**	11/20/18 11:56 PM
Date/Time Collecte	11/15/18 02:52 PM	**Dilution Factor:**	1.60
Media:	6 Liter Summa Canister (100% Certified)	**Instrument/Filename:**	msd2.i / 2112018sim

Compound	CAS#	MDL (ug/m3)	LOD (ug/m3)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Ethylene Oxide	75-21-8	0.079	D	0.14	0.24

D: Analyte not within the DoD scope of accreditation.

MODIFIED EPA METHOD TO-15 GC/MS SIM
SAL

eurofins | Air Toxics

Client ID:	GM-D-181115		
Lab ID:	1811376A-03A	**Date/Time Analyzed:**	11/21/18 12:33 AM
Date/Time Collecte	11/15/18 04:10 PM	**Dilution Factor:**	1.56
Media:	6 Liter Summa Canister (100% Certified)	**Instrument/Filename:**	msd2.i / 2112019sim

Compound	CAS#	MDL (ug/m3)	LOD (ug/m3)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Ethylene Oxide	75-21-8	0.077	D	0.14	0.24

D: Analyte not within the DoD scope of accreditation.

MODIFIED EPA METHOD TO-15 GC/MS SIM
SAL

eurofins | Air Toxics

Client ID:	Lab Blank		
Lab ID:	1811376A-04A	**Date/Time Analyzed:**	11/20/18 05:40 PM
Date/Time Collecte	NA - Not Applicable	**Dilution Factor:**	1.00
Media:	NA - Not Applicable	**Instrument/Filename:**	msd2.i / 2112009sim

Compound	CAS#	MDL (ug/m3)	LOD (ug/m3)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Ethylene Oxide	75-21-8	0.049	D	0.090	Not Detected

D: Analyte not within the DoD scope of accreditation.

MODIFIED EPA METHOD TO-15 GC/MS SIM
SAL

eurofins | Air Toxics

Client ID:	CCV		
Lab ID:	1811376A-05A	**Date/Time Analyzed:**	11/20/18 12:32 PM
Date/Time Collecte	NA - Not Applicable	**Dilution Factor:**	1.00
Media:	NA - Not Applicable	**Instrument/Filename:**	msd2.i / 2112002sim

Compound	CAS#	%Recovery
Ethylene Oxide	75-21-8	81

D: Analyte not within the DoD scope of accreditation.

MODIFIED EPA METHOD TO-15 GC/MS SIM
SAL

eurofins | Air Toxics

Client ID:	LCS		
Lab ID:	1811376A-06A	**Date/Time Analyzed:**	11/20/18 01:10 PM
Date/Time Collecte	NA - Not Applicable	**Dilution Factor:**	1.00
Media:	NA - Not Applicable	**Instrument/Filename:**	msd2.i / 2112003sim

Compound	CAS#	%Recovery
Ethylene Oxide	75-21-8	78

D: Analyte not within the DoD scope of accreditation.

* % Recovery is calculated using unrounded analytical results.

MODIFIED EPA METHOD TO-15 GC/MS SIM
SAL

eurofins | Air Toxics

Client ID:	LCSD		
Lab ID:	1811376A-06AA	**Date/Time Analyzed:**	11/20/18 01:47 PM
Date/Time Collecte	NA - Not Applicable	**Dilution Factor:**	1.00
Media:	NA - Not Applicable	**Instrument/Filename:**	msd2.i / 2112004sim

Compound	CAS#	%Recovery
Ethylene Oxide	75-21-8	78

D: Analyte not within the DoD scope of accreditation.

* % Recovery is calculated using unrounded analytical results.

eurofins | Air Toxics

Analysis Request /Canister Chain of Custody

For Laboratory Use Only

PID: _____ Workorder #: 1811376

180 Blue Ravine Rd. Suite B, Folsom, CA 95630
Phone (800) 985-5955; Fax (916) 351-8279

page--of ---

Client: Ramboll
Project Name: SAL
Project Manager: Bob DeMott Project #
Sampler: C. Barczkiewicz/A. Knowlton
Site Name:

Special Instructions/Notes:

Turnaround Time (Rush surcharges may apply)
Standard _____ Rush X (specify)

Lab ID	Field Sample Identification(Location)	Can #	Flow Controller #	Start Sampling Information Date	Start Sampling Information Time	Stop Sampling Information Date	Stop Sampling Information Time	Canister Vacuum/Pressure Initial (in Hg)	Canister Vacuum/Pressure Final (in Hg)	Lab Use Only Receipt	Lab Use Only Final (psig) Gas: N_2 / He	Requested Analyses: ethylene oxide	Requested Analyses: 2,4 Dimethyl furan		
01A	GAF-D-181115	6L1512	—	11-15-18	1330	11-15-18	1336	29.5	6			X	X		
02A	GK-D-181115	6L0947	—	11-15-18	1445	11-15-18	1452	30	6.5			X	X		
03A	GM-D-181115	6L1329	—	11-15-18	1602	11-15-18	1610	30	5.5			X	X		

Relinquished by: (Signature/Affiliation)	Date	Time	Received by: (Signature/Affiliation)	Date	Time
[signature] / Ramboll To Fedex	11-15-18	1706	[signature] SAFL	11/16/18	1025
Relinquished by: (Signature/Affiliation)	Date	Time	Received by: (Signature/Affiliation)	Date	Time
Relinquished by: (Signature/Affiliation)	Date	Time	Received by: (Signature/Affiliation)	Date	Time

Lab Use Only

Shipper Name: Fedex | Custody Seals Intact? | Yes | No | None

Sample Transportation Notice: Relinquishing signature on this document indicates that samples are shipped in compliance with all applicable local, State, Federal, and international laws, regulations, and ordinances of any kind. Relinquishing signature also indicates agreement to hold harmless, defend, and indemnify Eurofins Air Toxics against any claim, demand, or action, of any kind, related to the collection, handling, of shipping of samples. D.O.T Hotline (800) 467-4922

ED_002475_00000088-00345

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11/28/2018
Mr. Robert DeMott
Ramboll Environ
10150 Highland Manor Drive
Suite 440
Tampa FL 33610

Project Name: SAL
Project #: 1690010629
Workorder #: 1811411A

Dear Mr. Robert DeMott

The following report includes the data for the above referenced project for sample(s) received on 11/20/2018 at Air Toxics Ltd.

The data and associated QC analyzed by EPA Method TO-15 are compliant with the project requirements or laboratory criteria with the exception of the deviations noted in the attached case narrative.

Thank you for choosing Eurofins Air Toxics Inc. for your air analysis needs. Eurofins Air Toxics Inc. is committed to providing accurate data of the highest quality. Please feel free to contact the Project Manager: Ausha Scott at 916-985-1000 if you have any questions regarding the data in this report.

Regards,

Ausha Scott
Project Manager

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WORK ORDER #: 1811411A

Work Order Summary

CLIENT:	Mr. Robert DeMott Ramboll Environ 10150 Highland Manor Drive Suite 440 Tampa, FL 33610	**BILL TO:**	Accounts Payable Ramboll Environ 10150 Highland Manor Drive Suite 440 Tampa, FL 33610
PHONE:	813-628-4325	**P.O. #**	
FAX:	813-628-4983	**PROJECT #**	1690010629 SAL
DATE RECEIVED:	11/20/2018	**CONTACT:**	Ausha Scott
DATE COMPLETED:	11/28/2018		

FRACTION #	NAME	TEST	RECEIPT VAC./PRES.	FINAL PRESSURE
01A	A8-D-181116	EPA Method TO-15	3.9 "Hg	5.1 psi
02A	A3-D-181116	EPA Method TO-15	8.6 "Hg	4.8 psi
03A	A4-D-181116	EPA Method TO-15	5.9 "Hg	5 psi
04A	GI-D-181116	EPA Method TO-15	4.9 "Hg	5.1 psi
05A	Lab Blank	EPA Method TO-15	NA	NA
06A	CCV	EPA Method TO-15	NA	NA
07A	LCS	EPA Method TO-15	NA	NA
07AA	LCSD	EPA Method TO-15	NA	NA

CERTIFIED BY: Heidi Hayes

Technical Director

DATE: 11/28/18

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180 BLUE RAVINE ROAD, SUITE B FOLSOM, CA - 95630
(916) 985-1000 . (800) 985-5955 . FAX (916) 985-1020

LABORATORY NARRATIVE
EPA TO-15 Ethylene oxide (SIM)
Ramboll Environ
Workorder# 1811411A

Four 6 Liter Summa Canister (100% Certified) samples were received on November 20, 2018. The laboratory performed analysis via EPA Method TO-15 using GC/MS in the SIM acquisition mode for the measurement of Ethylene oxide in ambient air.

This workorder was independently validated prior to submittal using 'USEPA National Functional Guidelines' as generally applied to the analysis of volatile organic compounds in air. A rules-based, logic driven, independent validation engine was employed to assess completeness, evaluate pass/fail of relevant project quality control requirements and verification of all quantified amounts.

Receiving Notes

The Chain of Custody (COC) was not relinquished properly. A time was not provided by the field sampler.

Analytical Notes

Ethylene Oxide is not included on the laboratory's NELAP scope of accreditation for TO-15 SIM. However, TO-15 and NELAP quality requirements were met.

Samples were analyzed using the TO-15 GC/MS in synchronous SIM/Scan mode. The SIM file was used to measure the target compound ethylene oxide. The scan file for each sample injection was used to estimate 2,5-Dimethylfuran concentration reported in workorder 1811411B.

As per project specific client request the laboratory has reported estimated values for target compound hits that are below the Reporting Limit but greater than the Method Detection Limit. The canisters used for this project have been certified to the Reporting Limit for Ethylene oxide. Concentrations that are below the level at which the canister was certified may be false positives.

The per analytical batch duplicate analysis required for this project is associated with work order 1811357A.

Definition of Data Qualifying Flags

Eight qualifiers may have been used on the data analysis sheets and indicates as follows:

B - Compound present in laboratory blank greater than reporting limit (background subtraction not performed).

J - Estimated value.

S - Saturated peak.

Q - Exceeds quality control limits.

U - Compound analyzed for but not detected above the reporting limit, LOD, or MDL value. See data page for project specific U-flag definition.

UJ- Non-detected compound associated with low bias in the CCV

N - The identification is based on presumptive evidence.

File extensions may have been used on the data analysis sheets and indicates

as follows:
a-File was requantified
b-File was quantified by a second column and detector
r1-File was requantified for the purpose of reissue

MODIFIED EPA METHOD TO-15 GC/MS SIM
SAL

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Client ID:	A8-D-181116		
Lab ID:	1811411A-01A	**Date/Time Analyzed:**	11/21/18 01:11 AM
Date/Time Collecte	11/16/18 07:00 PM	**Dilution Factor:**	1.55
Media:	6 Liter Summa Canister (100% Certified)	**Instrument/Filename:**	msd2.i / 2112020sim

Compound	CAS#	MDL (ug/m3)	LOD (ug/m3)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Ethylene Oxide	75-21-8	0.077	D	0.14	0.18

D: Analyte not within the DoD scope of accreditation.

MODIFIED EPA METHOD TO-15 GC/MS SIM
SAL

eurofins | Air Toxics

Client ID:	A3-D-181116		
Lab ID:	1811411A-02A	**Date/Time Analyzed:**	11/21/18 01:48 AM
Date/Time Collecte	11/16/18 08:23 PM	**Dilution Factor:**	1.86
Media:	6 Liter Summa Canister (100% Certified)	**Instrument/Filename:**	msd2.i / 2112021sim

Compound	CAS#	MDL (ug/m3)	LOD (ug/m3)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Ethylene Oxide	75-21-8	0.092	D	0.17	0.12 J

J = Estimated value.
D: Analyte not within the DoD scope of accreditation.

MODIFIED EPA METHOD TO-15 GC/MS SIM
SAL

eurofins | Air Toxics

Client ID:	A4-D-181116		
Lab ID:	1811411A-03A	**Date/Time Analyzed:**	11/21/18 02:25 AM
Date/Time Collecte	11/16/18 06:55 PM	**Dilution Factor:**	1.67
Media:	6 Liter Summa Canister (100% Certified)	**Instrument/Filename:**	msd2.i / 2112022sim

Compound	CAS#	MDL (ug/m3)	LOD (ug/m3)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Ethylene Oxide	75-21-8	0.082	D	0.15	0.15

D: Analyte not within the DoD scope of accreditation.

MODIFIED EPA METHOD TO-15 GC/MS SIM
SAL

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Client ID:	GI-D-181116		
Lab ID:	1811411A-04A	**Date/Time Analyzed:**	11/21/18 03:03 AM
Date/Time Collecte	11/16/18 10:12 AM	**Dilution Factor:**	1.61
Media:	6 Liter Summa Canister (100% Certified)	**Instrument/Filename:**	msd2.i / 2112023sim

Compound	CAS#	MDL (ug/m3)	LOD (ug/m3)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Ethylene Oxide	75-21-8	0.080	D	0.14	0.25

D: Analyte not within the DoD scope of accreditation.

MODIFIED EPA METHOD TO-15 GC/MS SIM
SAL

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Client ID:	Lab Blank		
Lab ID:	1811411A-05A	**Date/Time Analyzed:**	11/20/18 05:40 PM
Date/Time Collecte	NA - Not Applicable	**Dilution Factor:**	1.00
Media:	NA - Not Applicable	**Instrument/Filename:**	msd2.i / 2112009sim

Compound	CAS#	MDL (ug/m3)	LOD (ug/m3)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Ethylene Oxide	75-21-8	0.049	D	0.090	Not Detected

D: Analyte not within the DoD scope of accreditation.

MODIFIED EPA METHOD TO-15 GC/MS SIM
SAL

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Client ID:	CCV		
Lab ID:	1811411A-06A	**Date/Time Analyzed:**	11/20/18 12:32 PM
Date/Time Collecte	NA - Not Applicable	**Dilution Factor:**	1.00
Media:	NA - Not Applicable	**Instrument/Filename:**	msd2.i / 2112002sim

Compound	CAS#	%Recovery
Ethylene Oxide	75-21-8	81

D: Analyte not within the DoD scope of accreditation.

MODIFIED EPA METHOD TO-15 GC/MS SIM
SAL

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Client ID:	LCS		
Lab ID:	1811411A-07A	**Date/Time Analyzed:**	11/20/18 01:10 PM
Date/Time Collecte	NA - Not Applicable	**Dilution Factor:**	1.00
Media:	NA - Not Applicable	**Instrument/Filename:**	msd2.i / 2112003sim

Compound	CAS#	%Recovery
Ethylene Oxide	75-21-8	78

D: Analyte not within the DoD scope of accreditation.

* % Recovery is calculated using unrounded analytical results.

MODIFIED EPA METHOD TO-15 GC/MS SIM
SAL

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Client ID:	LCSD		
Lab ID:	1811411A-07AA	**Date/Time Analyzed:**	11/20/18 01:47 PM
Date/Time Collecte	NA - Not Applicable	**Dilution Factor:**	1.00
Media:	NA - Not Applicable	**Instrument/Filename:**	msd2.i / 2112004sim

Compound	CAS#	%Recovery
Ethylene Oxide	75-21-8	78

D: Analyte not within the DoD scope of accreditation.

* % Recovery is calculated using unrounded analytical results.

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Analysis Request /Canister Chain of Custody

For Laboratory Use Only

PID: _____ Workorder #: 1811414

180 Blue Ravine Rd. Suite B, Folsom, CA 95630
Phone (800) 985-5955; Fax (916) 351-8279

Client: Ramboll
Project Name: SAL
Project Manager: Robert DeMott Project # 1690010629
Sampler: C. Borozkiewicz
Site Name:

Special Instructions/Notes:

Turnaround Time (Rush surcharges may apply)
Standard _____ Rush X (specify)

Lab ID	Field Sample Identification(Location)	Can #	Flow Controller #	Start Sampling Information Date	Start Sampling Information Time	Stop Sampling Information Date	Stop Sampling Information Time	Canister Vacuum/Pressure Initial (in Hg)	Canister Vacuum/Pressure Final (in Hg)	Lab Use Only Receipt	Lab Use Only Final (psig) Gas: N_2 / He	Requested Analyses: ethylene oxide	Requested Analyses: 2,5-Dimethylfuran		
01A	A8-D-181116	6L1691	23785	11/16/18	0716	11/16/18	1000	29	5.7			X	X		
02A	A3-D-181116	6L0805	23202	11/16/18	0825	11/16/18	2023	27.5	10			X	X		
03A	A4-D-181116	6L0758	23491	11/16/18	0905	11/16/18	1855	30+	7			X	X		
04A	G1-D-181116	6L1862	—	11/16/18	1007	11/16/18	1012	29.5	6			X	X		

Relinquished by: (Signature/Affiliation)	Date	Time	Received by: (Signature/Affiliation)	Date	Time
Cynthia Boney TO FedEx	11/19/18		FATL	11/20/18	1020
Relinquished by: (Signature/Affiliation)	Date	Time	Received by: (Signature/Affiliation)	Date	Time
Relinquished by: (Signature/Affiliation)	Date	Time	Received by: (Signature/Affiliation)	Date	Time

Lab Use Only

Shipper Name: FEDEX | Custody Seals Intact? Yes No None

Sample Transportation Notice: Relinquishing signature on this document indicates that samples are shipped in compliance with all applicable local, State, Federal, and international laws, regulations, and ordinances of any kind. Relinquishing signature also indicates agreement to hold harmless, defend, and indemnify Eurofins Air Toxics against any claim, demand, or action, of any kind, related to the collection, handling, of shipping of samples. D.O.T Hotline (800) 467-4922

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11/28/2018
Mr. Robert DeMott
Ramboll Environ
10150 Highland Manor Drive
Suite 440
Tampa FL 33610

Project Name: SAL
Project #: 1690010629
Workorder #: 1811414A

Dear Mr. Robert DeMott

The following report includes the data for the above referenced project for sample(s) received on 11/20/2018 at Air Toxics Ltd.

The data and associated QC analyzed by EPA Method TO-15 are compliant with the project requirements or laboratory criteria with the exception of the deviations noted in the attached case narrative.

Thank you for choosing Eurofins Air Toxics Inc. for your air analysis needs. Eurofins Air Toxics Inc. is committed to providing accurate data of the highest quality. Please feel free to contact the Project Manager: Ausha Scott at 916-985-1000 if you have any questions regarding the data in this report.

Regards,

Ausha Scott
Project Manager

eurofins | Air Toxics

WORK ORDER #: 1811414A

Work Order Summary

CLIENT:	Mr. Robert DeMott Ramboll Environ 10150 Highland Manor Drive Suite 440 Tampa, FL 33610	**BILL TO:**	Accounts Payable Ramboll Environ 10150 Highland Manor Drive Suite 440 Tampa, FL 33610
PHONE:	813-628-4325	**P.O. #**	
FAX:	813-628-4983	**PROJECT #**	1690010629 SAL
DATE RECEIVED:	11/20/2018	**CONTACT:**	Ausha Scott
DATE COMPLETED:	11/28/2018		

FRACTION #	NAME	TEST	RECEIPT VAC./PRES.	FINAL PRESSURE
01A	GAK-D-181119	EPA Method TO-15	4.5 "Hg	5 psi
01AA	GAK-D-181119 Lab Duplicate	EPA Method TO-15	4.5 "Hg	5 psi
02A	GAM-D-181119	EPA Method TO-15	4.7 "Hg	5 psi
03A	GAL-D-181119	EPA Method TO-15	4.5 "Hg	5 psi
04A	GX-D-181119	EPA Method TO-15	4.5 "Hg	5 psi
05A	A20-D-181116	EPA Method TO-15	7.0 "Hg	5 psi
06A	A9-D-181116	EPA Method TO-15	5.0 "Hg	5 psi
07A	GZ-D-181119	EPA Method TO-15	4.5 "Hg	5 psi
08A	GAB-D-181119	EPA Method TO-15	3.7 "Hg	5 psi
09A	GAD-D-181119	EPA Method TO-15	3.9 "Hg	5 psi
10A	GAC-D-181119	EPA Method TO-15	4.7 "Hg	5 psi
11A	Lab Blank	EPA Method TO-15	NA	NA
12A	CCV	EPA Method TO-15	NA	NA
13A	LCS	EPA Method TO-15	NA	NA
13AA	LCSD	EPA Method TO-15	NA	NA

CERTIFIED BY: Heidi Hayes

Technical Director

DATE: 11/28/18

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180 BLUE RAVINE ROAD, SUITE B FOLSOM, CA - 95630
(916) 985-1000 . (800) 985-5955 . FAX (916) 985-1020

LABORATORY NARRATIVE
EPA TO-15 Ethylene oxide (SIM)
Ramboll Environ
Workorder# 1811414A

Ten 6 Liter Summa Canister (100% Certified) samples were received on November 20, 2018. The laboratory performed analysis via EPA Method TO-15 using GC/MS in the SIM acquisition mode for the measurement of Ethylene oxide in ambient air.

This workorder was independently validated prior to submittal using 'USEPA National Functional Guidelines' as generally applied to the analysis of volatile organic compounds in air. A rules-based, logic driven, independent validation engine was employed to assess completeness, evaluate pass/fail of relevant project quality control requirements and verification of all quantified amounts.

Receiving Notes

Samples A20-D-181116 and A9-D-181116 were not received at Eurofin Air Toxics, LLC on 11/20/2018 despite notation on the Chain of Custody (COC). The samples were subsequently received on 11/21/2018 and were added to the analytical request.

There was a difference (greater than or equal to 5.0" Hg) between the measured canister receipt vacuum and that which was reported on the Chain of Custody (COC) for sample A20-D-181116. A leak test indicated that the valve was functioning properly.

Analytical Notes

Ethylene Oxide is not included on the laboratory's NELAP scope of accreditation for TO-15 SIM. However, TO-15 and NELAP quality requirements were met.

Samples were analyzed using the TO-15 GC/MS in synchronous SIM/Scan mode. The SIM file was used to measure the target compound ethylene oxide. The scan file for each sample injection was used to estimate 2,5-Dimethylfuran concentration reported in workorder 1811414B.

As per project specific client request the laboratory has reported estimated values for target compound hits that are below the Reporting Limit but greater than the Method Detection Limit. The canisters used for this project have been certified to the Reporting Limit for Ethylene oxide. Concentrations that are below the level at which the canister was certified may be false positives.

Definition of Data Qualifying Flags

Eight qualifiers may have been used on the data analysis sheets and indicates as follows:

B - Compound present in laboratory blank greater than reporting limit (background subtraction not performed).

J - Estimated value.

S - Saturated peak.

Q - Exceeds quality control limits.

U - Compound analyzed for but not detected above the reporting limit, LOD, or MDL value. See data page for project specific U-flag definition.

UJ- Non-detected compound associated with low bias in the CCV

N - The identification is based on presumptive evidence.

File extensions may have been used on the data analysis sheets and indicates as follows:

a-File was requantified
b-File was quantified by a second column and detector
r1-File was requantified for the purpose of reissue

MODIFIED EPA METHOD TO-15 GC/MS SIM
SAL

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Client ID:	GAK-D-181119		
Lab ID:	1811414A-01A	**Date/Time Analyzed:**	11/21/18 05:39 PM
Date/Time Collecte	11/19/20 02:57 PM	**Dilution Factor:**	1.58
Media:	6 Liter Summa Canister (100% Certified)	**Instrument/Filename:**	msd2.i / 2112108sim

Compound	CAS#	MDL (ug/m3)	LOD (ug/m3)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Ethylene Oxide	75-21-8	0.078	D	0.14	0.12 J

J = Estimated value.
D: Analyte not within the DoD scope of accreditation.

MODIFIED EPA METHOD TO-15 GC/MS SIM
SAL

eurofins | Air Toxics

Client ID:	GAK-D-181119 Lab Duplicate		
Lab ID:	1811414A-01AA	**Date/Time Analyzed:**	11/21/18 06:16 PM
Date/Time Collecte	11/19/20 02:57 PM	**Dilution Factor:**	1.58
Media:	6 Liter Summa Canister (100% Certified)	**Instrument/Filename:**	msd2.i / 2112109sim

Compound	CAS#	MDL (ug/m3)	LOD (ug/m3)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Ethylene Oxide	75-21-8	0.078	D	0.14	0.15

D: Analyte not within the DoD scope of accreditation.

MODIFIED EPA METHOD TO-15 GC/MS SIM
SAL

eurofins | Air Toxics

Client ID:	GAM-D-181119		
Lab ID:	1811414A-02A	**Date/Time Analyzed:**	11/21/18 06:54 PM
Date/Time Collecte	11/19/20 01:38 PM	**Dilution Factor:**	1.59
Media:	6 Liter Summa Canister (100% Certified)	**Instrument/Filename:**	msd2.i / 2112110sim

Compound	CAS#	MDL (ug/m3)	LOD (ug/m3)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Ethylene Oxide	75-21-8	0.079	D	0.14	0.19

D: Analyte not within the DoD scope of accreditation.

MODIFIED EPA METHOD TO-15 GC/MS SIM
SAL

eurofins | Air Toxics

Client ID:	GAL-D-181119		
Lab ID:	1811414A-03A	**Date/Time Analyzed:**	11/21/18 07:31 PM
Date/Time Collecte	11/19/20 02:32 PM	**Dilution Factor:**	1.58
Media:	6 Liter Summa Canister (100% Certified)	**Instrument/Filename:**	msd2.i / 2112111sim

Compound	CAS#	MDL (ug/m3)	LOD (ug/m3)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Ethylene Oxide	75-21-8	0.078	D	0.14	0.12 J

J = Estimated value.
D: Analyte not within the DoD scope of accreditation.

MODIFIED EPA METHOD TO-15 GC/MS SIM
SAL

eurofins | Air Toxics

Client ID:	GX-D-181119		
Lab ID:	1811414A-04A	**Date/Time Analyzed:**	11/21/18 08:08 PM
Date/Time Collecte	11/19/20 09:54 AM	**Dilution Factor:**	1.58
Media:	6 Liter Summa Canister (100% Certified)	**Instrument/Filename:**	msd2.i / 2112112sim

Compound	CAS#	MDL (ug/m3)	LOD (ug/m3)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Ethylene Oxide	75-21-8	0.078	D	0.14	0.11 J

J = Estimated value.
D: Analyte not within the DoD scope of accreditation.

MODIFIED EPA METHOD TO-15 GC/MS SIM
SAL

eurofins | Air Toxics

Client ID:	A20-D-181116		
Lab ID:	1811414A-05A	**Date/Time Analyzed:**	11/21/18 08:45 PM
Date/Time Collecte	11/16/18 05:40 PM	**Dilution Factor:**	1.75
Media:	6 Liter Summa Canister (100% Certified)	**Instrument/Filename:**	msd2.i / 2112113sim

Compound	CAS#	MDL (ug/m3)	LOD (ug/m3)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Ethylene Oxide	75-21-8	0.086	D	0.16	0.18

D: Analyte not within the DoD scope of accreditation.

MODIFIED EPA METHOD TO-15 GC/MS SIM
SAL

eurofins | Air Toxics

Client ID:	A9-D-181116		
Lab ID:	1811414A-06A	**Date/Time Analyzed:**	11/21/18 09:22 PM
Date/Time Collecte	11/16/18 08:01 PM	**Dilution Factor:**	1.61
Media:	6 Liter Summa Canister (100% Certified)	**Instrument/Filename:**	msd2.i / 2112114sim

Compound	CAS#	MDL (ug/m3)	LOD (ug/m3)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Ethylene Oxide	75-21-8	0.080	D	0.14	0.15

D: Analyte not within the DoD scope of accreditation.

MODIFIED EPA METHOD TO-15 GC/MS SIM
SAL

eurofins | Air Toxics

Client ID:	GZ-D-181119		
Lab ID:	1811414A-07A	**Date/Time Analyzed:**	11/21/18 09:59 PM
Date/Time Collecte	11/19/20 10:45 AM	**Dilution Factor:**	1.58
Media:	6 Liter Summa Canister (100% Certified)	**Instrument/Filename:**	msd2.i / 2112115sim

Compound	CAS#	MDL (ug/m3)	LOD (ug/m3)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Ethylene Oxide	75-21-8	0.078	D	0.14	0.14

D: Analyte not within the DoD scope of accreditation.

MODIFIED EPA METHOD TO-15 GC/MS SIM
SAL

eurofins | Air Toxics

Client ID:	GAB-D-181119		
Lab ID:	1811414A-08A	**Date/Time Analyzed:**	11/21/18 10:36 PM
Date/Time Collecte	11/19/20 09:08 AM	**Dilution Factor:**	1.53
Media:	6 Liter Summa Canister (100% Certified)	**Instrument/Filename:**	msd2.i / 2112116sim

Compound	CAS#	MDL (ug/m3)	LOD (ug/m3)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Ethylene Oxide	75-21-8	0.076	D	0.14	0.10 J

J = Estimated value.
D: Analyte not within the DoD scope of accreditation.

MODIFIED EPA METHOD TO-15 GC/MS SIM
SAL

eurofins | Air Toxics

Client ID:	GAD-D-181119		
Lab ID:	1811414A-09A	**Date/Time Analyzed:**	11/21/18 11:13 PM
Date/Time Collecte	11/19/20 07:49 AM	**Dilution Factor:**	1.54
Media:	6 Liter Summa Canister (100% Certified)	**Instrument/Filename:**	msd2.i / 2112117sim

Compound	CAS#	MDL (ug/m3)	LOD (ug/m3)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Ethylene Oxide	75-21-8	0.076	D	0.14	0.14

D: Analyte not within the DoD scope of accreditation.

MODIFIED EPA METHOD TO-15 GC/MS SIM
SAL

eurofins | Air Toxics

Client ID:	GAC-D-181119		
Lab ID:	1811414A-10A	**Date/Time Analyzed:**	11/21/18 11:50 PM
Date/Time Collecte	11/19/20 08:23 AM	**Dilution Factor:**	1.59
Media:	6 Liter Summa Canister (100% Certified)	**Instrument/Filename:**	msd2.i / 2112118sim

Compound	CAS#	MDL (ug/m3)	LOD (ug/m3)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Ethylene Oxide	75-21-8	0.079	D	0.14	0.19

D: Analyte not within the DoD scope of accreditation.

MODIFIED EPA METHOD TO-15 GC/MS SIM
SAL

eurofins | Air Toxics

Client ID:	Lab Blank		
Lab ID:	1811414A-11A	**Date/Time Analyzed:**	11/21/18 05:02 PM
Date/Time Collecte	NA - Not Applicable	**Dilution Factor:**	1.00
Media:	NA - Not Applicable	**Instrument/Filename:**	msd2.i / 2112107sim

Compound	CAS#	MDL (ug/m3)	LOD (ug/m3)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Ethylene Oxide	75-21-8	0.049	D	0.090	Not Detected

D: Analyte not within the DoD scope of accreditation.

MODIFIED EPA METHOD TO-15 GC/MS SIM
SAL

eurofins | Air Toxics

Client ID:	CCV		
Lab ID:	1811414A-12A	**Date/Time Analyzed:**	11/21/18 01:57 PM
Date/Time Collecte	NA - Not Applicable	**Dilution Factor:**	1.00
Media:	NA - Not Applicable	**Instrument/Filename:**	msd2.i / 2112102sim

Compound	CAS#	%Recovery
Ethylene Oxide	75-21-8	88

D: Analyte not within the DoD scope of accreditation.

MODIFIED EPA METHOD TO-15 GC/MS SIM
SAL

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Client ID:	LCS		
Lab ID:	1811414A-13A	**Date/Time Analyzed:**	11/21/18 02:34 PM
Date/Time Collecte	NA - Not Applicable	**Dilution Factor:**	1.00
Media:	NA - Not Applicable	**Instrument/Filename:**	msd2.i / 2112103sim

Compound	CAS#	%Recovery
Ethylene Oxide	75-21-8	86

D: Analyte not within the DoD scope of accreditation.

* % Recovery is calculated using unrounded analytical results.

MODIFIED EPA METHOD TO-15 GC/MS SIM
SAL

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Client ID:	LCSD		
Lab ID:	1811414A-13AA	**Date/Time Analyzed:**	11/21/18 03:11 PM
Date/Time Collecte	NA - Not Applicable	**Dilution Factor:**	1.00
Media:	NA - Not Applicable	**Instrument/Filename:**	msd2.i / 2112104sim

Compound	CAS#	%Recovery
Ethylene Oxide	75-21-8	85

D: Analyte not within the DoD scope of accreditation.

* % Recovery is calculated using unrounded analytical results.

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Analysis Request /Canister Chain of Custody

For Laboratory Use Only

PID: _____ Workorder #: 1811414

180 Blue Ravine Rd. Suite B, Folsom, CA 95630
Phone (800) 985-5955; Fax (916) 351-8279

Client: RAMBOLL
Project Name: SAL
Project Manager: Robert DeMott Project # 1690010629
Sampler: M Meyer
Site Name:

Special Instructions/Notes:

Turnaround Time (Rush surcharges may apply): Standard _____ Rush X _____ (specify)

Lab ID	Field Sample Identification(Location)	Can #	Flow Controller #	Start Sampling Information Date	Start Sampling Information Time	Stop Sampling Information Date	Stop Sampling Information Time	Canister Vacuum/Pressure Initial (in Hg)	Canister Vacuum/Pressure Final (in Hg)	Lab Use Only Receipt	Lab Use Only Final (psig) Gas: N_2 / He	Requested Analyses: Ethylene Oxide	Requested Analyses: 2,5 Dimethylfuran		
01A	GAK-D-181119	6L0738	1717	11-19-18	1451	11-19-18	1457	30	6			X	X		
02A	GAM-D-181119	6L1116	1717	11-19-18	1334	11-19-18	1338	30	6			X	X		
03A	GAL-D-181119	6L0068	1717	11-19-18	1427	11-19-18	1432	30	6			X	X		
04A	GX-D-181119	6L0203	1717	11-19-18	0949	11-19-18	0954	30	6.5			X	X		
05A	A20-D-181116	6L1703	23432	11-16-18	0540	11-16-18	1740	30	13			X	X		
06A	A9-D-181116	6L0329	23774	11-16-18	0758	11-16-18	2001	30	8			X	X		
07A	GZ-D-181119	6L1574	1717	11-19-18	1039	11-19-18	1045	30	6.5			X	X		
08A	GAB-D-181119	6L0962	1717	11-19-18	0903	11-19-18	0908	30	6			X	X		
09A	GAD-D-181119	6L0835	1717	11-19-18	0743	11-19-18	0749	30	6			X	X		
10A	GAC-D-181119	6L1736	1717	11-19-18	0816	11-19-18	0823	30	7			X	X		

Relinquished by: (Signature/Affiliation)	Date	Time	Received by: (Signature/Affiliation)	Date	Time
Martin T Meyer	11-19-18	1700	EATL	11/20/18	1020
Relinquished by: (Signature/Affiliation)	Date	Time	Received by: (Signature/Affiliation)	Date	Time
Relinquished by: (Signature/Affiliation)	Date	Time	Received by: (Signature/Affiliation)	Date	Time

Lab Use Only

Shipper Name: FED EX | Custody Seals Intact? Yes No None

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11/28/2018
Mr. Robert DeMott
Ramboll Environ
10150 Highland Manor Drive
Suite 440
Tampa FL 33610

Project Name: SAL
Project #: 1690010629
Workorder #: 1811432A

Dear Mr. Robert DeMott

The following report includes the data for the above referenced project for sample(s) received on 11/21/2018 at Air Toxics Ltd.

The data and associated QC analyzed by EPA Method TO-15 are compliant with the project requirements or laboratory criteria with the exception of the deviations noted in the attached case narrative.

Thank you for choosing Eurofins Air Toxics Inc. for your air analysis needs. Eurofins Air Toxics Inc. is committed to providing accurate data of the highest quality. Please feel free to contact the Project Manager: Ausha Scott at 916-985-1000 if you have any questions regarding the data in this report.

Regards,

Ausha Scott
Project Manager

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WORK ORDER #: 1811432A

Work Order Summary

CLIENT:	Mr. Robert DeMott Ramboll Environ 10150 Highland Manor Drive Suite 440 Tampa, FL 33610	**BILL TO:**	Accounts Payable Ramboll Environ 10150 Highland Manor Drive Suite 440 Tampa, FL 33610
PHONE:	813-628-4325	**P.O. #**	
FAX:	813-628-4983	**PROJECT #**	1690010629 SAL
DATE RECEIVED:	11/21/2018	**CONTACT:**	Ausha Scott
DATE COMPLETED:	11/28/2018		

FRACTION #	NAME	TEST	RECEIPT VAC./PRES.	FINAL PRESSURE
01A	GAP-D-181120	EPA Method TO-15	3.5 "Hg	5.1 psi
02A	A20-N-181119	EPA Method TO-15	5.9 "Hg	5 psi
03A	Lab Blank	EPA Method TO-15	NA	NA
04A	CCV	EPA Method TO-15	NA	NA
05A	LCS	EPA Method TO-15	NA	NA
05AA	LCSD	EPA Method TO-15	NA	NA

CERTIFIED BY: Heidi Hayes

Technical Director

DATE: 11/28/18

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180 BLUE RAVINE ROAD, SUITE B FOLSOM, CA - 95630
(916) 985-1000 . (800) 985-5955 . FAX (916) 985-1020

LABORATORY NARRATIVE
EPA TO-15 Ethylene oxide (SIM)
Ramboll Environ
Workorder# 1811432A

Two 6 Liter Summa Canister (100% Certified) samples were received on November 21, 2018. The laboratory performed analysis via EPA Method TO-15 using GC/MS in the SIM acquisition mode for the measurement of Ethylene oxide in ambient air.

This workorder was independently validated prior to submittal using 'USEPA National Functional Guidelines' as generally applied to the analysis of volatile organic compounds in air. A rules-based, logic driven, independent validation engine was employed to assess completeness, evaluate pass/fail of relevant project quality control requirements and verification of all quantified amounts.

Receiving Notes

There were no receiving discrepancies.

Analytical Notes

Ethylene Oxide is not included on the laboratory's NELAP scope of accreditation for TO-15 SIM. However, TO-15 and NELAP quality requirements were met.

Samples were analyzed using the TO-15 GC/MS in synchronous SIM/Scan mode. The SIM file was used to measure the target compound ethylene oxide. The scan file for each sample injection was used to estimate 2,5-Dimethylfuran concentration reported in workorder 1811414B.

As per project specific client request the laboratory has reported estimated values for target compound hits that are below the Reporting Limit but greater than the Method Detection Limit. The canisters used for this project have been certified to the Reporting Limit for Ethylene oxide. Concentrations that are below the level at which the canister was certified may be false positives.

The per analytical batch duplicate analysis required for this project is associated with work order 1811414A.

Definition of Data Qualifying Flags

Eight qualifiers may have been used on the data analysis sheets and indicates as follows:

B - Compound present in laboratory blank greater than reporting limit (background subtraction not performed).

J - Estimated value.

S - Saturated peak.

Q - Exceeds quality control limits.

U - Compound analyzed for but not detected above the reporting limit, LOD, or MDL value. See data page for project specific U-flag definition.

UJ- Non-detected compound associated with low bias in the CCV

N - The identification is based on presumptive evidence.

File extensions may have been used on the data analysis sheets and indicates as follows:

a-File was requantified
b-File was quantified by a second column and detector
r1-File was requantified for the purpose of reissue

MODIFIED EPA METHOD TO-15 GC/MS SIM
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Client ID:	GAP-D-181120		
Lab ID:	1811432A-01A	**Date/Time Analyzed:**	11/22/18 12:27 AM
Date/Time Collecte	11/20/18 07:53 AM	**Dilution Factor:**	1.52
Media:	6 Liter Summa Canister (100% Certified)	**Instrument/Filename:**	msd2.i / 2112119sim

Compound	CAS#	MDL (ug/m3)	LOD (ug/m3)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Ethylene Oxide	75-21-8	0.075	D	0.14	0.22

D: Analyte not within the DoD scope of accreditation.

MODIFIED EPA METHOD TO-15 GC/MS SIM
SAL

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Client ID:	A20-N-181119		
Lab ID:	1811432A-02A	**Date/Time Analyzed:**	11/22/18 01:04 AM
Date/Time Collecte	11/20/18 08:00 AM	**Dilution Factor:**	1.67
Media:	6 Liter Summa Canister (100% Certified)	**Instrument/Filename:**	msd2.i / 2112120sim

Compound	CAS#	MDL (ug/m3)	LOD (ug/m3)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Ethylene Oxide	75-21-8	0.082	D	0.15	0.21

D: Analyte not within the DoD scope of accreditation.

MODIFIED EPA METHOD TO-15 GC/MS SIM
SAL

eurofins | Air Toxics

Client ID:	Lab Blank		
Lab ID:	1811432A-03A	**Date/Time Analyzed:**	11/21/18 05:02 PM
Date/Time Collecte	NA - Not Applicable	**Dilution Factor:**	1.00
Media:	NA - Not Applicable	**Instrument/Filename:**	msd2.i / 2112107sim

Compound	CAS#	MDL (ug/m3)	LOD (ug/m3)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Ethylene Oxide	75-21-8	0.049	D	0.090	Not Detected

D: Analyte not within the DoD scope of accreditation.

MODIFIED EPA METHOD TO-15 GC/MS SIM
SAL

eurofins | Air Toxics

Client ID:	CCV		
Lab ID:	1811432A-04A	**Date/Time Analyzed:**	11/21/18 01:57 PM
Date/Time Collecte	NA - Not Applicable	**Dilution Factor:**	1.00
Media:	NA - Not Applicable	**Instrument/Filename:**	msd2.i / 2112102sim

Compound	CAS#	%Recovery
Ethylene Oxide	75-21-8	88

D: Analyte not within the DoD scope of accreditation.

MODIFIED EPA METHOD TO-15 GC/MS SIM
SAL

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Client ID:	LCS		
Lab ID:	1811432A-05A	**Date/Time Analyzed:**	11/21/18 02:34 PM
Date/Time Collecte	NA - Not Applicable	**Dilution Factor:**	1.00
Media:	NA - Not Applicable	**Instrument/Filename:**	msd2.i / 2112103sim

Compound	CAS#	%Recovery
Ethylene Oxide	75-21-8	86

D: Analyte not within the DoD scope of accreditation.

* % Recovery is calculated using unrounded analytical results.

MODIFIED EPA METHOD TO-15 GC/MS SIM
SAL

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Client ID:	LCSD		
Lab ID:	1811432A-05AA	**Date/Time Analyzed:**	11/21/18 03:11 PM
Date/Time Collecte	NA - Not Applicable	**Dilution Factor:**	1.00
Media:	NA - Not Applicable	**Instrument/Filename:**	msd2.i / 2112104sim

Compound	CAS#	%Recovery
Ethylene Oxide	75-21-8	85

D: Analyte not within the DoD scope of accreditation.

* % Recovery is calculated using unrounded analytical results.

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Analysis Request /Canister Chain of Custody

For Laboratory Use Only

PID: _____ Workorder #: 1811432

180 Blue Ravine Rd. Suite B, Folsom, CA 95630
Phone (800) 985-5955; Fax (916) 351-8279

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page 1 of 1

Client: RAMBOLL
Project Name: SAL
Project Manager: Robert De Mott Project #90010629
Sampler: MFM
Site Name:

Special Instructions/Notes:

Turnaround Time (Rush surcharges may apply)
Standard _____ Rush X (specify)

Lab ID	Field Sample Identification(Location)	Can #	Flow Controller #	Start Sampling Information Date	Start Sampling Information Time	Stop Sampling Information Date	Stop Sampling Information Time	Canister Vacuum/Pressure Initial (in Hg)	Canister Vacuum/Pressure Final (in Hg)	Lab Use Only Receipt	Lab Use Only Final (psig) Gas: N_2 / He	Requested Analyses Ethylene Oxide	Requested Analyses 2,5 Dimethyl Furan		
01A	GAP-D-181120	6L1606	1831	11-20-18	0748	11-20-18	0753	27	4			X	X		
02A	A20-N-181119	6L1552	23174	11-19-18	2000	11-20-18	0800	29.5	8			X	X		

Relinquished by: (Signature/Affiliation)	Date	Time	Received by: (Signature/Affiliation)	Date	Time
M F Mery	11-20-18	1100	[signature] GAR	11/21/18	1010
Relinquished by: (Signature/Affiliation)	Date	Time	Received by: (Signature/Affiliation)	Date	Time
Relinquished by: (Signature/Affiliation)	Date	Time	Received by: (Signature/Affiliation)	Date	Time

Lab Use Only

Shipper Name: Ged Gx | Custody Seals Intact? Yes No None

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