8976 Wellington Road
Manassas, VA 20109

May 10, 2024

Emily Barry, P.G.
New York State Department of Environmental Conservation
Division of Environmental Remediation, Region 3
21 South Putt Corners Road
New Paltz, New York 12561

Re: B316 Indoor Air Quality Data Summary Report
Former IBM East Fishkill Facility
Hopewell Junction, New York
NYSDEC Site No. 314054

Dear Ms. Barry:

The enclosed report presents the results of the indoor air quality (IAQ) testing that was conducted in Building 316 (B316) of the Former IBM East Fishkill Facility in Hopewell Junction, New York. B316 is owned by Semiconductor Components Industries, LLC (onsemi). IAQ testing was conducted in accordance with IBM's "Resource Conservation and Recovery Act (RCRA) Facility Investigation (RFI) Work Plan" dated June 15, 2009, and IBM's "Work Plan for Indoor Air Quality Sampling" dated December 20, 2023.

If you have any questions, please contact me at (720) 397-5670.

Sincerely,
International Business Machines Corporation

Linda Daubert
Program Manager
Corporate Environmental Affairs

Enclosure: Work Plan

Cc:

Julia Kenney	NYSDOH
Randall Duggan	onsemi
Carl Monheit	iPark
Divesh Patel	Frito Lay
David Shea	Sanborn Head
Sean Murphy	Sanborn Head

SANBORN HEAD

Indoor Air Quality Data Summary Report
Building 316

FORMER IBM EAST FISHKILL FACILITY
Hopewell Junction, New York

Prepared for IBM Corporation
File No. 2999.21
May 10, 2024

SANBORN HEAD

6 Bedford Farms Drive, Suite 201
Bedford, NH 03110

Linda Daubert, P.E.
IBM Corporate Environmental Affairs
8976 Wellington Road
Manassas, VA 20109

May 10, 2024
File No. 2999.21

Re: B316 Indoor Air Quality Data Summary Report
Former IBM East Fishkill Facility
Hopewell Junction, New York
EPA ID No. NYD000707901, NYSDEC Site No. 314054

Dear Ms. Daubert:

The enclosed report presents the results of indoor air quality (IAQ) testing that was conducted in a portion of Building 316 at the former IBM East Fishkill Facility. Please contact us if you have any questions.

Very truly yours,
SANBORN, HEAD ENGINEERING, P.C.

Sean W. Murphy
Project Director

David Shea, P.E.
Principal Engineer

SWM/DS: gwb/ck

Encl. B316 Indoor Air Quality Data Summary Report

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SANBORN HEAD

INDOOR AIR QUALITY DATA SUMMARY REPORT
BUILDING 316

Former IBM East Fishkill Facility
Hopewell Junction, New York

Prepared for
IBM Corporation

Corporate Environmental Affairs

Prepared by
Sanborn, Head Engineering, P.C.

File 2999.21
May 2024

TABLE OF CONTENTS

TABLES

FIGURES

APPENDICES

ACRONYM AND ABBREVIATION LIST

ASP	Analytical Services Protocol
CFC-11	Trichlorofluoromethane
CFC-12	Dichlorodifluoromethane
DUSR	Data usability summary report
EC	Engineering control
ES	Environmental Standards, Inc.
Eurofins	Eurofins Air Toxics, LLC
GF	Global Foundries
HVAC	Heating, ventilation, and air conditioning
HVU	Heating and ventilation unit
IAQ	Indoor air quality
iPark	iPark East Fishkill, LLC (and related entities)
NYSDEC	New York State Department of Environmental Conservation
NYSDOH	New York State Department of Health
onsemi	Semiconductor Industries, LLC
PCE	Tetrachloroethene
PMP	Performance Monitoring Plan
QA/QC	Quality assurance/quality control
RCRA	Resource Conservation and Recovery Act
RFI	RCRA Facility Investigation
Sanborn Head	Sanborn, Head Engineering, P.C.
SIM	Selective ion monitoring
SMP	Site Management Plan
TCE	Trichloroethene
USEPA	United States Environmental Protection Agency
VI	Vapor intrusion
VOC	Volatile organic compounds
VU	Ventilation unit

1.0 INTRODUCTION

This report presents the results of indoor air quality (IAQ) testing that was conducted in a portion of Building 316 (B316) in February 2024 at the former IBM East Fishkill Facility (the Site). B316 is currently owned by Semiconductor Industries, LLC (onsemi). The work described herein was conducted on behalf of IBM by Sanborn, Head Engineering, P.C. (Sanborn Head), in general accordance with: 1) IBM's Resource Conservation and Recovery Act (RCRA) Facility Investigation (RFI) Work Plan (Sanborn Head, 2009), which was approved by the New York State Department of Environmental Conservation (NYSDEC) and the Department of Health (NYSDOH) (collectively, the Departments); 2) the May 2021 Vapor Intrusion Engineering Controls Performance Monitoring Plan (VI EC PMP [Sanborn Head, 2021]), which was included as an appendix to the Site Management Plan (SMP) that is currently under review by the Departments; and 3) the December 20, 2023 "Work Plan for Indoor Air Quality Sampling" (December 2023 Work Plan [Sanborn Head, 2023]), which was approved by the Departments in a February 21, 2024 letter to IBM.

As background, IBM sold its former East Fishkill facility to Global Foundries (GF) in July 2015. GF subsequently subdivided the property into eight lots and sold six lots to iPark[1] in September 2017. Since that time, certain parcels owned by iPark have been transferred to other iPark entities. In December 2021, Lots 2 and 3 were subdivided to form a new lot (Lot 9) on the northern portion of the Site, which iPark sold to Frito Lay. On January 1, 2023, GF transferred ownership of its parcels and Site operations to onsemi. B316 is located on Lot 5, which is owned by onsemi. A Site location plan is provided as Figure 1, and the lot lines are shown on Figure 2.

In the VI EC PMP, B316 was classified as having a "Potential Occupational VOC Presence," indicating that while it is a building with presumed presence of volatile organic compounds (VOCs) in underlying groundwater, it may also be subject to occupational VOC presence in indoor air due to the treatment of VOC-containing groundwater by granular activated carbon in the Central Carbon Treatment area. The carbon vessels and associated piping were removed in December 2022. According to Table 1 of the VI EC PMP, indoor air sampling is required following removal of the carbon vessels because it is presumed that there is no longer the potential for an occupational-related VOC presence in indoor air.

The services conducted and this report are subject to the standard limitations for this type of work, as described in Appendix A.

2.0 INDOOR AIR QUALITY ASSESSMENT AND FINDINGS

The following sections provide a summary of the status of B316 use and HVAC operations, followed by the results of February 2024 IAQ sampling.

2.1 Building Use, Occupancy, and HVAC Status

B316 currently houses the central utility plant for the Site, which produces deionized water for onsemi and houses boiler and chiller units that serve the Site. A portion of B316 is used for offices, laboratories, control rooms, and storage space. Indoor air has been sampled in the past,

[1] 'iPark' refers to several different iPark entities that own various portions of the Site, as shown on Figure 2.

with the most recent sampling event conducted on July 8, 2009. B316 also housed the Central Carbon Treatment area for VOC-containing groundwater until December 2022 when GF (now onsemi) decommissioned the system and removed the six carbon treatment vessels from the building.

Only the office and laboratory spaces inside B316 are regularly occupied and subject to this IAQ assessment. The first-floor regularly occupied space has one heating, ventilation, and air conditioning (HVAC) zone that is served by unit HVAC-2, and the Former Central Carbon Treatment area in the northwest corner of the building is served by the heating and ventilation unit (HVU) HVU-2. The remaining portion of the building's first floor is a mechanical equipment area that is not regularly occupied and is served by several HVUs and ventilation units (VUs). This area houses boilers, chillers, and deionized water treatment systems.

Appendix B presents the HVAC settings for the air handling unit systems within the sampled areas during February 2024 IAQ sampling.

2.2 Summary of Indoor Air Quality Testing

In accordance with the December 2024 Work Plan, IAQ samples were collected on February 28, 2024 using 6-liter, pre-evacuated, stainless-steel Summa® canisters equipped with flow controllers to obtain approximately 8-hour time-averaged samples. Four indoor air samples (plus one duplicate sample at location IA0600) were collected from the first-floor office and control room areas on the west side of B316, and one indoor air sample was collected from the Former Central Carbon Treatment area in the northwest corner of B316. Indoor air samples were collected at a height of around three feet above the floor at locations shown on Figure 3.

One outdoor, ambient air sample was collected at the intake to HVAC-2 to assess for the presence of background conditions that could impact IAQ. In addition, one field blank was collected for quality assurance/quality control (QA/QC) purposes by transferring laboratory-supplied nitrogen from one Summa® canister into another.

A photographic log of sampling locations is provided in Appendix C, and a summary of field sampling information is provided in Table 1. The indoor air sample questionnaire is included in Appendix D.

The samples were submitted to Eurofins Air Toxics, LLC (Eurofins) for analysis of 22 VOCs listed in the RFI Work Plan by modified United States Environmental Protection Agency (USEPA) Method TO-15 using a combination of full scan and selective ion monitoring (SIM) modes.

2.3 Summary of Results

PCE and TCE were not detected in the indoor air samples (including the field duplicate) or the outdoor air sample. VOCs were not detected at concentrations greater than reporting limits in the field blank.

A summary of select results is shown in Exhibit 1, below. The laboratory analytical results are presented in Table 2, and the tetrachloroethene (PCE) and trichloroethene (TCE) results are shown on Figure 3. The analytical laboratory report is included in Appendix E.

Sample Name	Ambient Guideline Concentration	AA0601	IA0600	IA0601	IA0602	IA0603	IA0604
Sample Location		HVAC-2 Intake (Roof)	Control Room	Conference Room	Break room	Office Area	Former GW Treatment Area
Analyte		Result	Result	Result	Result	Result	Result
PCE	3.8	<0.17	<0.18	<0.17	<1.7	<1.8	<1.9
TCE	0.21	<0.13	<0.14	<0.14	<1.4	<1.4	<1.5
Acetone	30,000	7.1	19	8.2	<60	<61	<67
Benzene	0.13	0.36	0.38	0.35	<2.0	<2.1	<2.3
Carbon tetrachloride	0.17	0.45	0.47	0.48	<1.6	<1.6	<1.8
CFC-12	12,000	3.6 J+	22 J+	23 J+	26 J+	24 J+	41 J+
Ethylbenzene	1,000	<0.11	0.21	0.21	<1.1	<1.1	<1.2
Toluene	5,000	<0.47	0.59	0.65	<4.7	<4.9	<5.4
CFC-11	5,000	1.2	6.8	7.4	8.5	8.0	15
Xylene (m,p-)	100	<0.22	0.71	0.73	<2.2	<2.2	<2.5
Xylene (o-)	100	<0.11	0.46	0.48	<1.1	<1.1	<1.2

Exhibit 1 – VOC concentrations (in µg/m^3) in air samples collected in February 2024 as compared to AGCs. See Section 3 for discussion of data qualifiers.

The outdoor air sample at the HVAC-2 intake (AA0601) had detections of acetone, benzene, and carbon tetrachloride at concentrations similar to the indoor air sample concentrations. Additionally, low levels of trichlorofluoromethane (CFC-11) and dichlorodifluoromethane (CFC-12) were detected in the outdoor air sample as well as one or more of the indoor air samples. The detected concentrations of these compounds in indoor air may be attributable to the presence of these analytes in ambient outdoor air.

Additional compounds detected in one or more of the indoor air samples and not in the outdoor air sample included very low levels of ethylbenzene, toluene, and xylenes.

For reference, reported concentrations of the compounds listed above were generally less than the NYSDEC DAR-1 ambient guideline concentrations[2] (AGCs). Slight exceedances of the AGCs for benzene and carbon tetrachloride in indoor air are reflective of the outdoor air quality and are not indicative of vapor intrusion.

3.0 QUALITY ASSURANCE/QUALITY CONTROL

The analytical data for the air samples were provided to Environmental Standards, Inc. (ES) of Valley Forge, PA who provided a Data Usability Summary Report (DUSR) summarizing whether

[2] As defined within NYSDEC Program Policy: "Guidelines for the Evaluation and Control of Ambient Air Contaminants under 6NYCRR Part 212," dated February 12, 2021.

the data met NYSDEC Analytical Services Protocol (ASP) and USEPA method QC acceptance, and the QC criteria presented in the RFI Work Plan. The DUSR is provided in Appendix F.

ES found that results were considered usable for project objectives/decisions, with the following qualification of the CFC-12 results: The original reported CFC-12 concentrations (excluding the field blank) were qualified with a "J+", indicating that the results are estimated quantities and should be considered biased high. This does not have a meaningful effect on the overall results because CFC-12 was not reported at concentrations greater than the DAR-1 AGC in the samples where it was detected.

4.0 CONCLUSIONS

Seven air quality samples were collected at six locations in B316 over a period of approximately 8 hours on February 28, 2024. PCE and TCE were not detected in the indoor air samples, and no other VOCs were detected at concentrations suggestive of soil vapor intrusion.

In the VI EC PMP, B316 was classified as having "Potential Occupational VOC Presence," indicating that the building may be subject to occupational VOC presence in indoor air due to the former treatment of VOC-containing groundwater in the Central Carbon Treatment area. GF removed the six carbon vessels and related groundwater treatment infrastructure in December 2022. In accordance with the VI EC PMP, indoor air sampling is called for under a change of building use, such as when potential occupational VOC presence is no longer applicable, which occurred when the groundwater treatment infrastructure was removed.

Based on IAQ sampling in the first-floor office space and former Central Carbon Treatment area after the removal of the carbon treatment vessels, the results suggest that B316 has acceptable IAQ under existing HVAC operations and building use. As such, IBM intends to re-designate B316 to Category 4 (i.e., alteration of HVAC system not necessary but presumed to be serving as EC for VI mitigation). In accordance with the VI EC PMP and the Departments' conditional approval of the December 2023 Work Plan, if the mechanical areas of B316 become occupied, IAQ sampling will be conducted following the Departments' approval of a work plan.

Consistent with the requirements in the RFI Work Plan, IBM understands that onsemi will communicate the results of the 8-hour Summa® sample analysis in B316 to building occupants within 45 days of IBM's receipt of validated data.

5.0 REFERENCES

Sanborn Head, 2009, *RCRA Facility Investigation Work Plan, VOC Source Assessment, IBM East Fishkill Facility, Hopewell Junction, New York*. June 15, 2009.

Sanborn Head, 2021, *Performance Monitoring Plan for Vapor Intrusion Engineering Controls, Former IBM East Fishkill Facility, Hopewell Junction, New York*. May 2021.

Sanborn Head, 2023, *Work Plan for Indoor Air Quality Sampling, Building 316, Former IBM East Fishkill Facility, Hopewell Junction, New York, NYSDEC Site No. 314054*. December 20, 2023

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Tables

Table 1
Summary of Sample Information - B316
Former IBM East Fishkill Facility
Hopewell Junction, NY

Sample Location	Building Floor	Sample Matrix	Canister Number	Sample Height (ft above floor)	Start Time (hours)	Start Pressure (mm Hg)	Stop Time (hours)	Stop Pressure (mm Hg)	Temperature (°F)	Location Description	Chemicals Observed Near Sample Location
Collection Date: April 19, 2023											
AA0601	Roof	Ambient Air	6L4177	0	8:44	-30	15:08	-4.0	55	HVAC-2 intake	See IA Questionaire
Field Blank	Roof	Nitrogen	6L1942	0	--	-26	8:36	-2.0	55	HVAC-2 intake	See IA Questionaire
IA0600	Ground	Indoor Air	6L3281	2.5	7:45	-28	14:23	-4.0	77	Control Room	See IA Questionaire
FD-01 (IA0600)	Ground	Indoor Air	6L2580	2.5	7:45	-27.5	14:23	-5.5	77	Control Room	See IA Questionaire
IA0601	Ground	Indoor Air	6L2713	3.3	7:50	-29.5	14:45	-3.5	71	Conference Room	See IA Questionaire
IA0602	Ground	Indoor Air	6L3169	3.2	7:52	-28	14:31	-3.5	74	Break Room	See IA Questionaire
IA0603	Ground	Indoor Air	6L3764	3.2	7:58	-30	14:47	-3.5	72	Cubicle/Office Area	See IA Questionaire
IA0604	Ground	Indoor Air	6L1018	2.5	8:00	-27.5	13:45	-4.0	71	Former Central Carbon Treatment Area	See IA Questionaire

Notes:

1. Samples were collected by Sanborn, Head Engineering, PC on February 28, 2024.

2. Samples were collected into 6-liter, stainless steel, pre-evacuated SUMMA® canisters using 8-hour metering regulators. Each canister and regulator was laboratory-certified clean (100% certification). The samples were analyzed by Eurofins Air Toxics of Folsom, California for the project-specific list of volatile organic compounds (VOCs) by United States Environmental Protection Agency (USEPA) Method TO-15 using a combination of full scan and selective ion monitoring (SIM) mode.

Table 2
Summary of 8-Hour Indoor Air Analytical Results - B316
Former IBM East Fishkill Facility
Hopewell Junction, New York

Analyte	Sample Location	AA0601			IA0600			IA0600 Dup.			IA0601			IA0602			IA0603			IA0604			Field Blank		
	Collection Date	2/28/2024			2/28/2024			2/28/2024			2/28/2024			2/28/2024			2/28/2024			2/28/2024			2/28/2024		
	Units	Result	Qual.	Bias	Result	Qual.	Bias	Result	Qual.	Bias	Result	Qual.	Bias	Result	Qual.	Bias	Result	Qual.	Bias	Result	Qual.	Bias	Result	Qual.	Bias
Acetone	µg/m^3	7.1			19			<67	U		8.2			<60	U		<61	U		<67	U		<6.7	U	
Benzene	µg/m^3	0.36			0.38			<2.3	U		0.35			<2.0	U		<2.1	U		<2.3	U		<0.23	U	
Carbon tetrachloride	µg/m^3	0.45			0.47			<1.8	U		0.48			<1.6	U		<1.6	U		<1.8	U		<0.18	U	
CFC113 (Ethane, 1,1,2-trichloro-1,2,2-trifluoro-)	µg/m^3	<0.95	U		<1.0	U		<11	U		<0.96	U		<9.6	U		<9.9	U		<11	U			U	
Chlorobenzene (Monochlorobenzene)	µg/m^3	<0.57	U		<0.60	U		<6.5	U		<0.58	U		<5.8	U		<5.9	U		<6.5	U		<0.65	U	
Dichlorobenzene (1,2-)	µg/m^3	<0.74	U		<0.79	U		<8.5	U		<0.76	U		<7.6	U		<7.8	U		<8.5	U		<0.85	U	
Dichlorobenzene (1,3-)	µg/m^3	<0.74	U		<0.79	U		<8.5	U		<0.76	U		<7.6	U		<7.8	U		<8.5	U		<0.85	U	
Dichlorobenzene (1,4-)	µg/m^3	<0.74	U		<0.79	U		<8.5	U		<0.76	U		<7.6	U		<7.8	U		<8.5	U		<0.85	U	
Dichlorodifluoromethane (CFC12)	µg/m^3	3.6	J+	H	22	J+	H	23	J+	H	23	J+	H	26	J+	H	24	J+	H	41	J+	H	<0.35	U	
Dichloroethene (1,1-)	µg/m^3	<0.049	U		<0.052	U		<0.56	U		<0.050	U		<0.50	U		<0.51	U		<0.56	U		<0.056	U	
Dichloroethene (cis-1,2-)	µg/m^3	<0.098	U		<0.10	U		<1.1	U		<0.10	U		<1.0	U		<1.0	U		<1.1	U		<0.11	U	
Ethylbenzene	µg/m^3	<0.11	U		0.21			<1.2	U		0.21			<1.1	U		<1.1	U		<1.2	U		<0.12	U	
Methylene Chloride (Dichloromethane)	µg/m^3	<0.86	U		<0.91	U		<9.9	U		<0.88	U		<8.8	U		<9.0	U		<9.9	U		<0.99	U	
Tetrachloroethene (PCE)	µg/m^3	<0.17	U		<0.18	U		<1.9	U		<0.17	U		<1.7	U		<1.8	U		<1.9	U		<0.19	U	
Toluene	µg/m^3	<0.47	U		0.59			<5.4	U		0.65			<4.7	U		<4.9	U		<5.4	U		<0.54	U	
Trichlorobenzene (1,2,4-)	µg/m^3	<4.6	U		<4.9	U		<53	U		<4.7	U		<47	U		<48	U		<53	U		<5.3	U	
Trichloroethane (1,1,1-)	µg/m^3	<0.68	U		<0.71	U		<7.7	U		<0.69	U		<6.9	U		<7.0	U		<7.7	U		<0.77	U	
Trichloroethene (TCE)	µg/m^3	<0.13	U		<0.14	U		<1.5	U		<0.14	U		<1.4	U		<1.4	U		<1.5	U		<0.15	U	
Trichlorofluoromethane (CFC11)	µg/m^3	1.2			6.8			<8.0	U		7.4			8.5			8.0			15			<0.80	U	
Vinyl chloride	µg/m^3	<0.032	U		<0.033	U		<0.36	U		<0.032	U		<0.32	U		<0.33	U		<0.36	U		<0.036	U	
Xylene (m,p-)	µg/m^3	<0.22	U		0.71			<2.5	U		0.73			<2.2	U		<2.2	U		<2.5	U		<0.25	U	
Xylene (o-)	µg/m^3	<0.11	U		0.46			<1.2	U		0.48			<1.1	U		<1.1	U		<1.2	U		<0.12	U	

Notes:

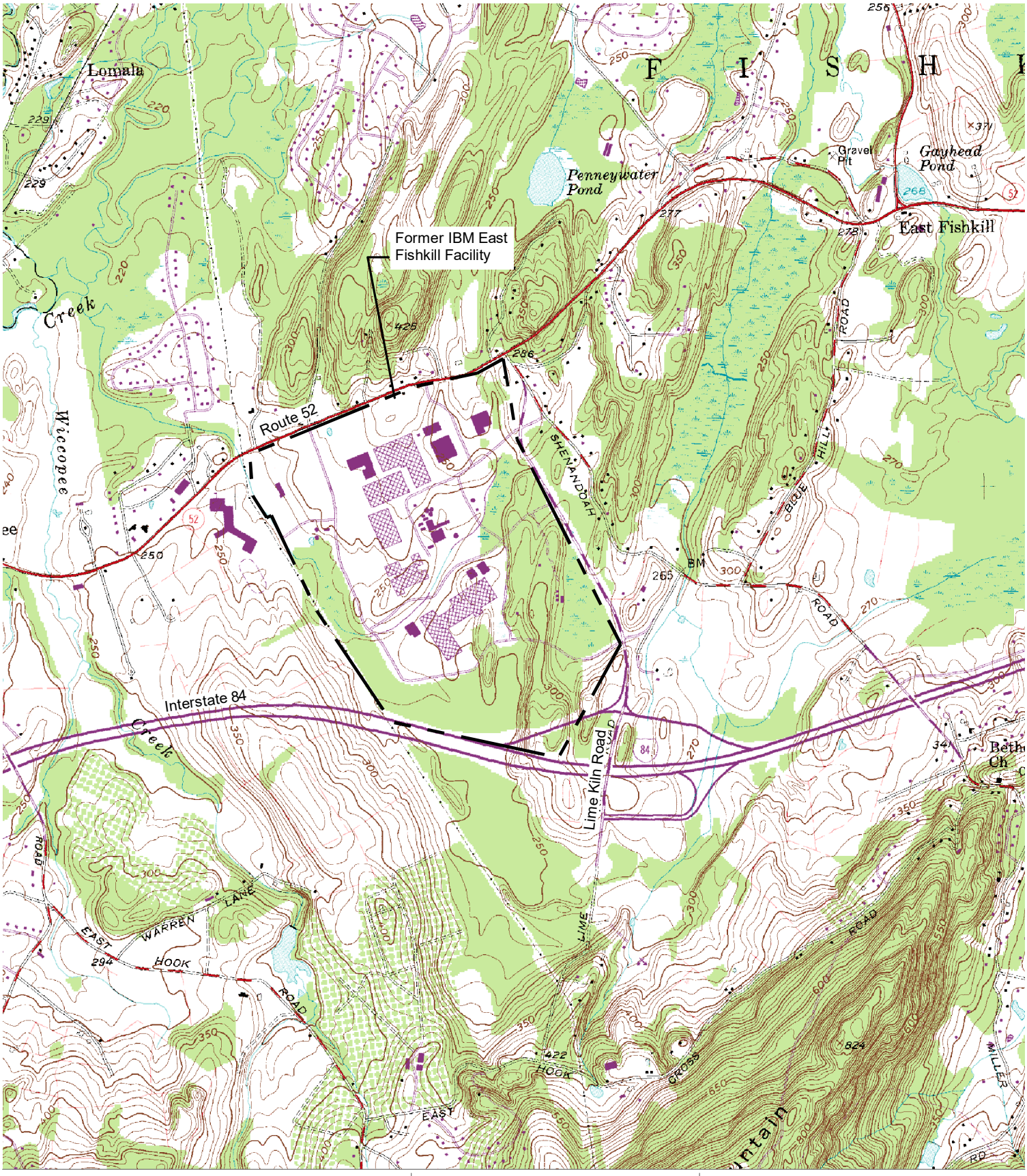
1. Samples were collected by Sanborn, Head Engineering P.C. on behalf of IBM Corporation on the dates indicated over an approximately 8-hour sampling interval using 6-liter, stainless steel, pre-evacuated SUMMA® canisters. The samples were analyzed by Eurofins Air Toxics of Folsom for the project-specific list of volatile organic compounds (VOCs) by United States Environmental Protection Agency (USEPA) Method TO-15 using a combination of full scan and selective ion monitoring (SIM) mode.

2. The "AA" designation indicates that the sample consists of ambient air collected from outside the building. "Field Blank" represents a field blank sample, where laboratory-supplied nitrogen was transferred from one SUMMA® canister into another.

3. Results are displayed with two significant figures.

4. A data usability summary report (DUSR) was produced for the data by Environmental Standards Inc. (ES). ES considered the results acceptable, with the understanding of the potential uncertainty (bias) in the qualified results. In some cases, ES assigned the following qualifiers and biases to the data. Refer to the DUSR report for further details.
"U" indicates the analyte was not detected above the associated reporting limit.
"J+" indicates the result is an estimated quantity and should be considered biased high.
"H" indicates a high bias.

Figures



N
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S

Notes:
Base map taken from 7.5 minute USGS Quadrangle Maps: Hopewell Junction, New York, Dated 1957, Photorevised in 1981.

Drawn By: E. Wright
Designed By: G. Bush
Reviewed By: S. Murphy
Project No: 2999.21
Date: May 2024

1,000' 0 2,000' Feet

SANBORN HEAD

SANBORN, HEAD ENGINEERING, P.C.

Figure 1

Site Location Plan

Building 316 IAQ Summary Report

Former IBM East Fishkill Facility
Hopewell Junction, New York

Figure 2

Building Location Plan

Building 316 IAQ Summary Report

Former IBM East Fishkill Facility
Hopewell Junction, New York

Drawn By: E. Wright
Designed By: G. Bush
Reviewed By: S. Murphy
Project No: 2999.21
Date: May 2024

Figure Narrative

This figure shows the buildings at the former IBM East Fishkill facility. Subdivision lot lines are from an AutoCAD figure prepared by Chazen A LaBella Company of Poughkeepsie, NY (Chazen) and provided to Sanborn Head by Groundwater Sciences on April 17, 2018.

Hopewell condominium lines are from two AutoCAD drawings prepared by Chazen on behalf of National Resources, dated May 18, 2017.

The Commercial Use Area boundary is from an AutoCAD drawing prepared by Chazen on behalf of National Resources.

Boundary lines for lots 2A, 3A, and 9 are from an AutoCAD drawing prepared by Chazen on behalf of National Resources, dated April 22, 2022.

Legend

- Property Line
- Unlabeled features include wastewater treatment tanks, pump houses, trailers, and other structures and features not intended for human occupancy
- B310 (220) — Indicates building number; Indicates iPark building designation
- 6 — Lot number
- Indicates location of Building 316
- - Subdivision (Rolling Frito-Lay Sales, LP)
- - Subdivision (Semiconductor Components Industries, LLC (onSemi))
- - Subdivision (i.Park)
- - Hopewell Condominium I and II Unit Lines
- iPark — Lot Owner

iPark Ownership Abbreviations

iPark I = iPark East Fishkill I, LLC
iPark II = iPark East Fishkill II, LLC
iPark III = iPark East Fishkill II, LLC
iPark 84 = iPark East Fishkill 84 LLC
iPark = iPark East Fishkill, LLC
iPark B338 = iPark East Fishkill B338, LLC

200' 100' 0 200' 400' Feet

SANBORN HEAD

SANBORN, HEAD ENGINEERING, P.C.

File:P:\2900s\2999.00\Graphics Files\CAD\B316\B316_LocationPlan.dwg Plot Date: 4-16-24

Last Edited By: ewright

Path: P:\2900s\2999.00\Graphics Files\GIS\Figures\B316\B316_IA_Quality_Rpt.mxd

Figure 3

Summary of 8-Hour Indoor Air Sampling Results

Building 316 IAQ Summary Report

Former IBM East Fishkill Facility

Hopewell Junction, New York

Drawn By:	E. Wright
Designed By:	C. Kilbourne
Reviewed By:	S. Murphy
Project No:	2999.21
Date:	May 2024

Figure Narrative

This figure shows the tetrachloroethene (PCE) and trichloroethene (TCE) results for indoor air samples collected on February 28, 2024.

The samples were collected as 8-hour time weighted average samples using 6-L SUMMA canisters. Results are shown in micrograms per cubic meter (µg/m³).

Legend

- Ambient air location and designation
- Indoor air location and designation
- Solid Waste Management Unit
- HVAC Zone
- IA0745 / PCE= <1.4 / TCE= <0.11 — Location designation; PCE concentration µg/m³; TCE concentration µg/m³
- ( ) Indicates field duplicate sample result
- < Indicates compound was not detected above posted laboratory reporting limit

20 10 0 20 40 Feet

SANBORN HEAD

SANBORN, HEAD ENGINEERING, P.C.

Appendix A

Limitations

APPENDIX A
SHPC LIMITATIONS

1. The findings and conclusions described in this report are based in part on the data obtained from a finite number of samples from widely spaced locations. The figures are intended to depict inferred conditions during a given period of time, consistent with available information. The actual conditions will vary from that shown, both spatially and temporally. Other interpretations are possible. The nature and extent of variations between sampling locations may not become evident until further investigation is initiated. If variations or other latent conditions then appear evident, it may be necessary to re-evaluate the conclusions of this report.
2. It must be noted that additional compounds not searched for during the current study may be present in indoor air at the site. Moreover, it should be noted that variations in the types and concentrations of contaminants and variations in their distribution within the indoor air may occur due to the passage of time, seasonal fluctuations, and other factors.
3. This report has been prepared for the exclusive use of the IBM Corporation for specific application to the former IBM East Fishkill facility in accordance with generally accepted hydrogeologic and engineering practices. No warranty, expressed or implied, is made. The contents of this report should not be relied on by any other party without the express written consent of SHPC.
4. In preparing this report, SHPC has endeavored to conform to generally accepted practices of other consultants undertaking similar studies at the same time and in the same geographical area. SHPC has attempted to observe a degree of care and skill generally exercised by the technical community under similar circumstances and conditions.

P:\2900s\2999.21\Source Files\B316\202404 IAQ Report\Appendix A - Limitations\Limitations_.docx

Appendix B

HVAC Conditions

Building 320B
HVAC Monitoring Logsheet
Former IBM East Fishkill Facility

Date: 2/28/2024
Person Performing Check: GWB

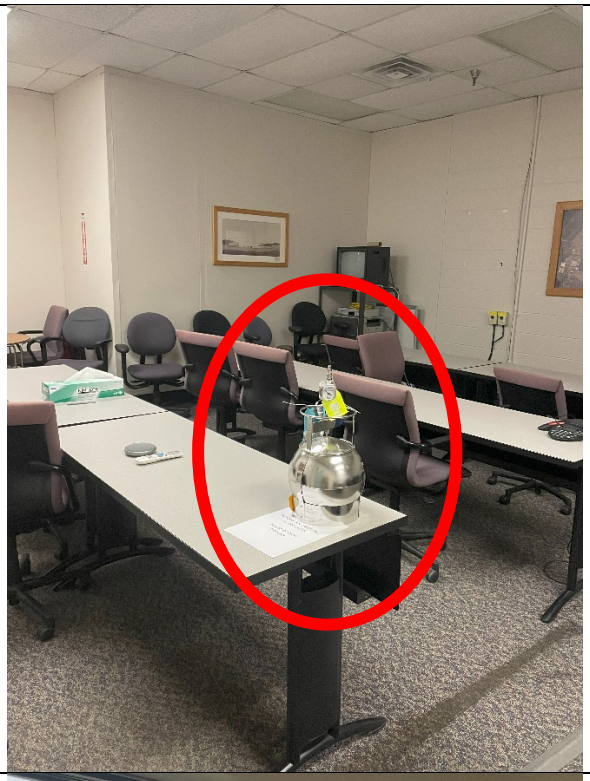
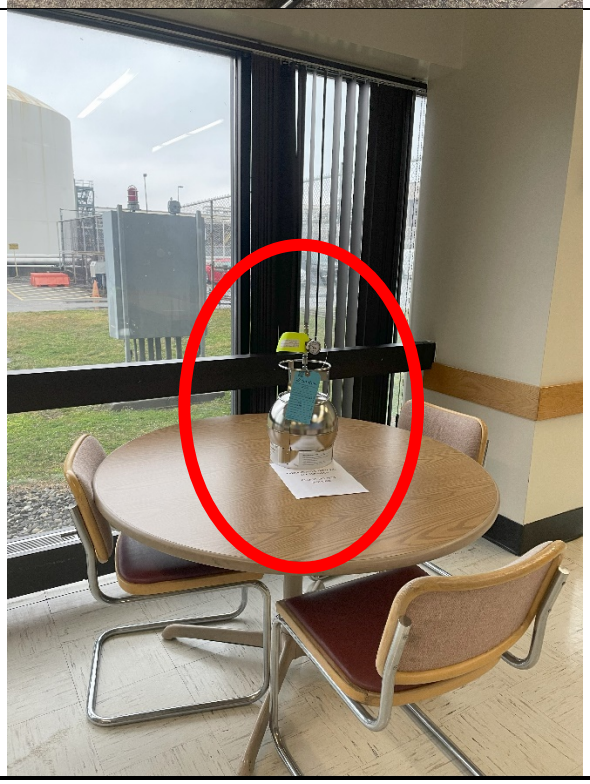
HVAC or Heating/Ventilation Unit	Operating Schedule	Operating Schedule Check	Unit On/Off	Notes
HVAC-2	24/7	24/7	X On ☐ Off	Serves first floor office area and control room
HVU-2	24/7	24/7	X On ☐ Off	Serves "Former Central Carbon Treatment Area"

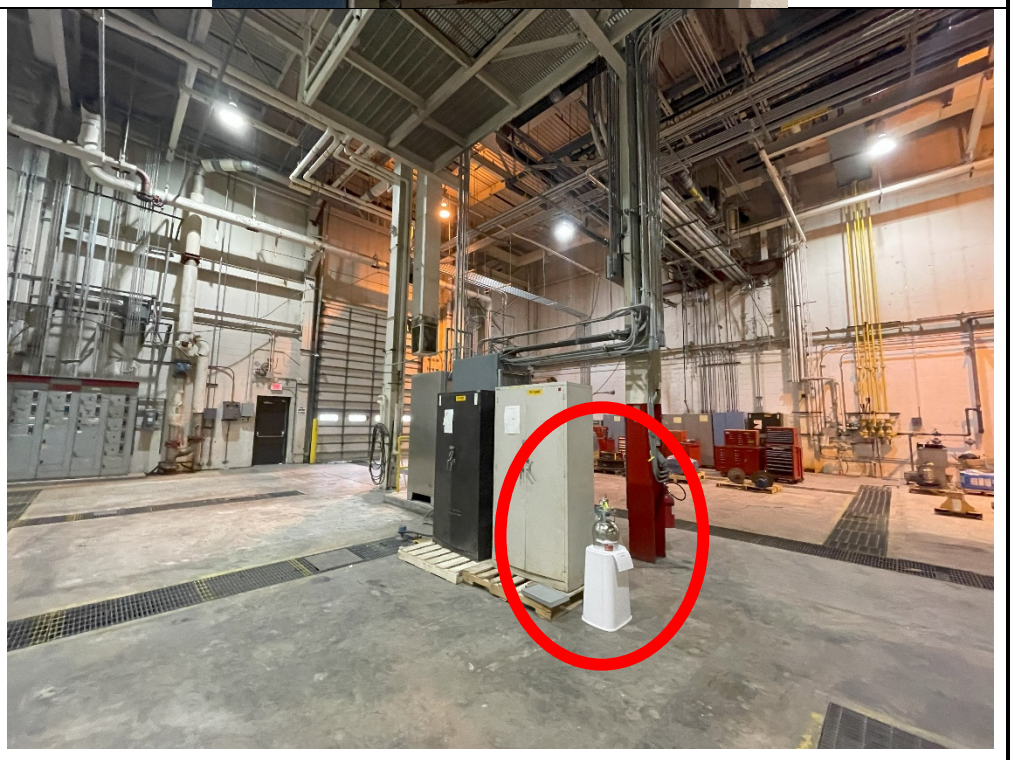
Appendix C

Photograph Log

Appendix C
Photo Log

Job Name: B316 IAQ Sampling **Location**: Building 316 **Date:** 2/28/24 **Sheet Number:** 1 of 3	**Project Number:** 2999.21 **Project Manager:** S. Murphy **Weather:** Rainy, 55°F **Sanborn Head Representative:** GWB
DESCRIPTION	**PHOTO**
Location: Building 316 HVAC-2 Intake **Sample:** AA0601 and FB-1 – Ambient Air Sample and Field Blank	
Location: Building 316 Control Room **Sample:** IA0600 and Field Duplicate	

Job Name: B316 IAQ Sampling **Location**: Building 316 **Date:** 2/28/24 **Sheet Number**: 2 of 3	**Project Number:** 2999.21 **Project Manager:** S. Murphy **Weather:** Rainy, 55°F **Sanborn Head Representative:** GWB
DESCRIPTION	**PHOTO**
Location: Building 316 Conference/Training Room **Sample:** IA0601	
Location: Building 316 Break Room **Sample:** IA0602	

Job Name: B316 IAQ Sampling **Location**: Building 316 **Date:** 2/28/24 **Sheet Number**: 2 of 3	**Project Number:** 2999.21 **Project Manager:** S. Murphy **Weather:** Rainy, 55°F **Sanborn Head Representative:** GWB
DESCRIPTION	**PHOTO**
Location: Building 316 Cubicle/Office Area **Sample:** IA0603	
Location: Building 316 Former Central Carbon Control Area **Sample:** IA0604	

Appendix D

Indoor Air Sample Questionnaire

East Fishkill Facility Questionnaire
Sample Location Checklist

Date: 2/28/2024
Sanborn Head Rep.: GWB

1. Sample Location/Building

Building: 316
Sample ID No: AA-0601-20240228
Canister No: 6L 4177 Flow Controller ID: 26717
Start Time: 08:44 Start Pressure: Temperature: 55°F
> -30 in Hg
End Time: 15:08 End Pressure: -4.0
Height of canister: 0ft Height of ceiling: N/A
IBM location description: HVAC-2 intake
Nearest column ID: N/A
Comments: Ambient air sample, collected at HVAC-2 outside air intake.

2. Room Construction

Building HVAC Zone: HVAC-2

Nearest HVAC intake/discharge to sample location: Collected at intake.

Nearby air return at building column: N/A ☐yes ☐no
HVAC operating under "conservative conditions" during sample collection: N/A

☐yes ☐no

Room connected to other rooms or hallway: N/A ☐yes ☐no
More than one HVAC system for room: N/A ☐yes ☐no

Floor features: ☐ Drains ☐Sump ☐Crack ☐Joint ☐Utility penetration ☐Elevated Floor

☐Trenches ☐ Other Describe and denote on site sketch:

Evidence of subgrade solvent lines present: ☐yes ☒no
Nearby (within 30 ft) external windows/doors: ☐yes ☒no
If yes, near smoking area: ☐yes ☐no

Near elevator: ☐yes ☒no

3. Room Observations

Room occupied during sampling: ☐yes ☒no Number of occupants:

Key chemicals used: ☐Solvents

_____

☐Fuels

_____

☐Oils

_____

☐Grease

_____

☐Cleaning Fluids

_____

☐Other:

Describe/Denote on sketch:

Noticeable odors: ☐yes ☒no if yes, describe:_____

Noticeable stains/spills: ☐yes ☒no (if yes, describe)_____

Room use: ☐Office ☐Manufacturing ☐Laboratories (clean room) ☒Other: Rooftop

Current/recent work: N/A ☐Cleaning ☐Painting ☐Construction ☐Demolition
☐Remodeling ☐Carpeting ☐Drapes/Textiles ☐Tile flooring

Other Observations/Comments:

East Fishkill Facility Questionnaire
Sample Location Checklist

Date: 2/28/2024
Sanborn Head Rep.: GWB

1. Sample Location/Building

Building: 316
Sample ID No: FB-01-20240224
Canister No: 6L 1942 Flow Controller ID: 26717
Start Time: Start Pressure: Temperature: 55°F
-26 in Hg
End Time: 8:36 End Pressure: -2 in Hg
Height of canister: 0 ft Height of ceiling:
IBM location description: HVAC-2 outside air intake with ambient air sample
Nearest column ID: N/A
Comments: Field blank.

2. Room Construction

Building HVAC Zone: N/A

Nearest HVAC intake/discharge to sample location: Collected at intake.

Nearby air return at building column: N/A ☐yes ☐no
HVAC operating under "conservative conditions" during sample collection: N/A

☐yes ☐no

Room connected to other rooms or hallway: N/A ☐yes ☐no
More than one HVAC system for room: N/A ☐yes ☐no

Floor features: ☐ Drains ☐Sump ☐Crack ☐Joint ☐Utility penetration ☐Elevated Floor

☐Trenches ☐ Other Describe and denote on site sketch:

Evidence of subgrade solvent lines present: N/A ☐yes ☐no
Nearby (within 30 ft) external windows/doors: N/A ☐yes ☐no
If yes, near smoking area: ☐yes ☐no

Near elevator: ☐yes ☐no

3. Room Observations

Room occupied during sampling: ☐yes ☒no Number of occupants:

Key chemicals used: ☐Solvents

_____

☐Fuels

_____

☐Oils

_____

☐Grease

_____

☐Cleaning Fluids

_____

☐Other:

Describe/Denote on sketch:

Noticeable odors: N/A ☐yes ☐no if yes, describe:_____

Noticeable stains/spills: N/A ☐yes ☐no (if yes, describe)_____

Room use: ☐Office ☐Manufacturing ☐Laboratories (clean room) ☐Other:

Current/recent work: N/A ☐Cleaning ☐Painting ☐Construction ☐Demolition ☐Remodeling ☐Carpeting ☐Drapes/Textiles ☐Tile flooring

Other Observations/Comments:

East Fishkill Facility Questionnaire
Sample Location Checklist

Date: 2/28/2024
Sanborn Head Rep.: GWB

1. Sample Location/Building

Building: 316
Sample ID No: FD-01-20240228
Canister No: 6L 2580 Flow Controller ID: 27369
Start Time: 07:45 Start Pressure: Temperature: 77°F
-27.5 in Hg
End Time: 14:23 End Pressure: -5.5
Height of canister: 2.5 ft Height of ceiling: 8 ft
IBM location description: Control Room
Nearest column ID: M-7
Comments: Located with IA-600

2. Room Construction

Building HVAC Zone: HVAC-2

Nearest HVAC intake/discharge to sample location: Supply between M-7 and M-6A. 10' from M-6A.

Nearby air return at building column: ☐yes ☒no
HVAC operating under "conservative conditions" during sample collection: ☐yes ☒no

Room connected to other rooms or hallway: ☒yes ☐no
More than one HVAC system for room: ☐yes ☒no

Floor features: ☐ Drains ☐Sump ☐Crack ☐Joint ☐Utility penetration ☒Elevated Floor

☐Trenches ☐ Other Describe and denote on site sketch:

Elevated Floor with wiring underneath.

Evidence of subgrade solvent lines present: ☐yes ☒no
Nearby (within 30 ft) external windows/doors: ☒yes ☐no
If yes, near smoking area: ☐yes ☒no

Near elevator: ☐yes ☒no

3. Room Observations

Room occupied during sampling: ☒yes ☐no Number of occupants: 2-5 construction/maintenance workers

Key chemicals used: ☐Solvents

_____

☐Fuels

_____

☐Oils

_____

☐Grease

_____

☐Cleaning Fluids

_____

☐Other

Describe/Denote on sketch:

Noticeable odors: ☐yes ☒no if yes, describe:_____

Noticeable stains/spills: ☐yes ☒no (if yes, describe)_____

Room use: ☐Office ☐Manufacturing ☐Laboratories (clean room) ☒Other: Control Room

Current/recent work: N/A ☐Cleaning ☐Painting ☐Construction ☐Demolition ☐Remodeling ☐Carpeting ☐Drapes/Textiles ☐Tile flooring

Other Observations/Comments:

New construction area

East Fishkill Facility Questionnaire
Sample Location Checklist

Date: 2/28/2024
Sanborn Head Rep.: GWB

1. Sample Location/Building

Building: 316
Sample ID No: IA-0600-20240228
Canister No: 6L 3281 Flow Controller ID: 26784
Start Time: 07:45 Start Pressure: Temperature: 77°F
-28 in Hg
End Time: 14:23 End Pressure: -4.0
Height of canister: 2.5 ft Height of ceiling: 8 ft
IBM location description: Control Room
Nearest column ID: M-7
Comments:

2. Room Construction

Building HVAC Zone: HVAC-2

Nearest HVAC intake/discharge to sample location: Supply between M-7 and M-6A. 10' from M-6A.

Nearby air return at building column: ☐yes ☒no
HVAC operating under "conservative conditions" during sample collection: ☐yes ☒no

Room connected to other rooms or hallway: ☒yes ☐no
More than one HVAC system for room: ☐yes ☒no

Floor features: ☐ Drains ☐Sump ☐Crack ☐Joint ☐Utility penetration ☒Elevated Floor

☐Trenches ☐ Other Describe and denote on site sketch:

Elevated Floor with wiring underneath.

Evidence of subgrade solvent lines present: ☐yes ☒no
Nearby (within 30 ft) external windows/doors: ☒yes ☐no
If yes, near smoking area: ☐yes ☒no

Near elevator: ☐yes ☒no

3. Room Observations

Room occupied during sampling: ☒yes ☐no Number of occupants: 2-5

Key chemicals used: ☐Solvents

_____

☐Fuels

_____

☐Oils

_____

☐Grease

_____

☐Cleaning Fluids

_____

☐Other

Describe/Denote on sketch:

Noticeable odors: ☐yes ☒no if yes, describe:_____

Noticeable stains/spills: ☐yes ☒no (if yes, describe)_____

Room use: ☐Office ☐Manufacturing ☐Laboratories (clean room) ☒Other: Control Room

Current/recent work: N/A ☐Cleaning ☐Painting ☐Construction ☐Demolition ☐Remodeling ☐Carpeting ☐Drapes/Textiles ☐Tile flooring

Other Observations/Comments:

New construction area

East Fishkill Facility Questionnaire
Sample Location Checklist

Date: 2/28/2024
Sanborn Head Rep.: GWB

1. Sample Location/Building

Building: 316
Sample ID No: IA-0601-20240228
Canister No: 6L 2713 Flow Controller ID: 25806
Start Time: 07:50 Start Pressure: Temperature: 71°F
-29.5 in Hg
End Time: 14:45 End Pressure: -3.5
Height of canister: 3.3 ft Height of ceiling: 10 ft
IBM location description: Conference / Training Room
Nearest column ID: P-6
Comments:

2. Room Construction

Building HVAC Zone: HVAC-2

Nearest HVAC intake/discharge to sample location: Supply between P-6 and N-6. 10.2' from P-6.

Nearby air return at building column: ☐yes ☒no
HVAC operating under "conservative conditions" during sample collection: ☐yes ☒no

Room connected to other rooms or hallway: ☒yes ☐no
More than one HVAC system for room: ☐yes ☒no

Floor features: ☐ Drains ☐Sump ☐Crack ☐Joint ☐Utility penetration ☐Elevated Floor

☐Trenches ☐ Other Describe and denote on site sketch:

Evidence of subgrade solvent lines present: ☐yes ☒no
Nearby (within 30 ft) external windows/doors: ☐yes ☒no
If yes, near smoking area: ☐yes ☒no

Near elevator: ☐yes ☒no

3. Room Observations

Room occupied during sampling: ☐yes ☒no Number of occupants: Key chemicals used: ☐ Solvents

☐Fuels

☐Oils

☐Grease

☐Cleaning Fluids

☐Other

Describe/Denote on sketch:

Noticeable odors: ☐yes ☒no if yes, describe:_____

Noticeable stains/spills: ☐yes ☒no (if yes, describe)_____

Room use: ☒Office ☐Manufacturing ☐Laboratories (clean room) ☒Other: Conference Room

Current/recent work: N/A ☐Cleaning ☐Painting ☐Construction ☐Demolition ☐Remodeling ☐Carpeting ☐Drapes/Textiles ☐Tile flooring

Other Observations/Comments:

New construction area

East Fishkill Facility Questionnaire
Sample Location Checklist

Date: 2/28/2024
Sanborn Head Rep.: GWB

1. Sample Location/Building

Building: 316
Sample ID No: IA-0602-20240228
Canister No: 6L 3169 Flow Controller ID: 21449
Start Time: 07:52 Start Pressure: Temperature: 74°F
-28 in Hg
End Time: 14:31 End Pressure: -3.5
Height of canister: 3.2 ft Height of ceiling: 10 ft
IBM location description: Break Room
Nearest column ID: Q-5
Comments:

2. Room Construction

Building HVAC Zone: HVAC-2

Nearest HVAC intake/discharge to sample location: Unknown/NA, nonvisible

Nearby air return at building column: ☐ yes ☐ no Unknown/NA
HVAC operating under "conservative conditions" during sample collection: ☐ yes ☒ no

Room connected to other rooms or hallway: ☒ yes ☐ no
More than one HVAC system for room: ☐ yes ☒ no

Floor features: ☐ Drains ☐ Sump ☐ Crack ☐ Joint ☒ Utility penetration ☒ Elevated Floor

☐ Trenches ☐ Other Describe and denote on site sketch: Utility penetrations: Baseboards heaters, Floor manholes (closed).

Elevated Floor with wiring underneath.

Evidence of subgrade solvent lines present: ☐ yes ☒ no
Nearby (within 30 ft) external windows/doors: ☒ yes ☐ no
If yes, near smoking area: ☐ yes ☒ no

Near elevator: ☐ yes ☒ no

3. Room Observations

Room occupied during sampling: ☐yes ☒no Number of occupants: construction/maintenance workers

Key chemicals used: ☐Solvents

_____

☐Fuels

_____

☐Oils

_____

☐Grease

_____

☐Cleaning Fluids

_____

☐Other

Describe/Denote on sketch:

Noticeable odors: ☒yes ☐no if yes, describe:_____

Noticeable stains/spills: ☐yes ☒no (if yes, describe)_____

Room use: ☒Office ☐Manufacturing ☐Laboratories (clean room) ☒Other: Break Room

Current/recent work: N/A ☐Cleaning ☐Painting ☐Construction ☐Demolition ☐Remodeling ☐Carpeting ☐Drapes/Textiles ☐Tile flooring

Other Observations/Comments:

East Fishkill Facility Questionnaire
Sample Location Checklist

Date: 2/28/2024
Sanborn Head Rep.: GWB

1. Sample Location/Building

Building: 316
Sample ID No: IA-0603-20240228
Canister No: 6L 3764 Flow Controller ID: 26068
Start Time: 07:58 Start Pressure: Temperature: 72°F
>-30 in Hg
End Time: 14:47 End Pressure: -3.5
Height of canister: ft Height of ceiling: 9.2 ft
IBM location description: Cubicle / Office area
Nearest column ID: N-4
Comments:

2. Room Construction

Building HVAC Zone: HVAC-2

Nearest HVAC intake/discharge to sample location: Supply 8' from N-4

Nearby air return at building column: ☐yes ☒no
HVAC operating under "conservative conditions" during sample collection: ☐yes ☒no

Room connected to other rooms or hallway: ☒yes ☐no
More than one HVAC system for room: ☐yes ☒no

Floor features: ☐ Drains ☐Sump ☐Crack ☐Joint ☐Utility penetration ☐Elevated Floor

☒Trenches ☐ Other Describe and denote on site sketch: Utility trench along western wall.

Evidence of subgrade solvent lines present: ☐yes ☒no
Nearby (within 30 ft) external windows/doors: ☐yes ☒no
If yes, near smoking area: ☐yes ☒no

Near elevator: ☐yes ☒no

3. Room Observations

Room occupied during sampling: ☒yes ☐no Number of occupants: 1

Key chemicals used: ☐Solvents

_____

☐Fuels

_____

☐Oils

_____

☐Grease

_____

☐Cleaning Fluids

_____

☐Other

Describe/Denote on sketch:

Noticeable odors: ☐yes ☒no if yes, describe:_____

Noticeable stains/spills: ☐yes ☒no (if yes, describe)_____

Room use: ☒Office ☐Manufacturing ☐Laboratories (clean room) ☐Other:
Cubicle / Office space

Current/recent work: N/A ☐Cleaning ☐Painting ☐Construction ☐Demolition
☐Remodeling ☐Carpeting ☐Drapes/Textiles ☐Tile flooring

Other Observations/Comments:

East Fishkill Facility Questionnaire
Sample Location Checklist

Date: 2/28/2024
Sanborn Head Rep.: GWB

1. Sample Location/Building

Building: 316
Sample ID No: IA-0604-20240228
Canister No: 6L 1018 Flow Controller ID: 25828
Start Time: 08:00 Start Pressure: Temperature: 71°F
-27.5 in Hg
End Time: 13:45 End Pressure: -4.0
Height of canister: 2.5ft Height of ceiling: 38ft
IBM location description: Former Central Carbon Treatment Area
Nearest column ID: N-2
Comments:

2. Room Construction

Building HVAC Zone: HVAC-2

Nearest HVAC intake/discharge to sample location: Supply at M-2 and P-2

Nearby air return at building column: ☒yes ☐no
HVAC operating under "conservative conditions" during sample collection: ☐yes ☒no

Room connected to other rooms or hallway: ☒yes ☐no
More than one HVAC system for room: ☐yes ☒no

Floor features: ☒ Drains ☐Sump ☐Crack ☒Joint ☒Utility penetration ☐Elevated Floor

☒Trenches ☒ Other Describe and denote on site sketch: Trenches throughout room, and

17' * 41' pit on east side of room, open with grates. See photo log and sketch below for details.

Evidence of subgrade solvent lines present: ☐yes ☐no
Nearby (within 30 ft) external windows/doors: ☐yes ☒no
If yes, near smoking area: ☐yes ☐no

Near elevator: ☐yes ☒no

3. Room Observations

Room occupied during sampling: ☐yes ☒no Number of occupants:

Key chemicals used: ☐Solvents

☐Fuels

☒Oils Engine oil

☐Grease

☐Cleaning Fluids

☒Other: Sodium hypochlorite, Antifreeze, process water

Describe/Denote on sketch:

Noticeable odors: ☐yes ☒no if yes, describe:_____

Noticeable stains/spills: ☐yes ☒no (if yes, describe)_____

Room use: ☐Office ☐Manufacturing ☐Laboratories (clean room) ☐Other:

Current/recent work: N/A ☐Cleaning ☐Painting ☐Construction ☐Demolition ☐Remodeling ☐Carpeting ☐Drapes/Textiles ☐Tile flooring

Other Observations/Comments:

Appendix E

Analytical Laboratory Report

eurofins | Air Toxics

3/15/2024
Ms. Jennifer Sanborn
Sanborn, Head & Associates
6 Bedford Farms Drive
Ste 201
Bedford NH 03110

Project Name: EFK B316
Project #: 2999.21
Workorder #: 2403039

Dear Ms. Jennifer Sanborn

The following report includes the data for the above referenced project for sample(s) received on 3/1/2024 at Eurofins Air Toxics LLC.

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 LLC. 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: Jade White at 916-985-1000 if you have any questions regarding the data in this report.

Regards,

Jade White

Project Manager

eurofins | Air Toxics

WORK ORDER #: 2403039

Work Order Summary

CLIENT:	Ms. Jennifer Sanborn Sanborn, Head & Associates 6 Bedford Farms Drive Ste 201 Bedford, NH 03110	**BILL TO:**	Accounts Payable Sanborn, Head & Associates 6 Bedford Farms Drive Ste 201 Bedford, NH 03110
PHONE:	603-229-1900	**P.O. #**	
FAX:	603-229-1919	**PROJECT #**	2999.21 EFK B316
DATE RECEIVED:	03/01/2024	**CONTACT:**	Jade White
DATE COMPLETED:	03/14/2024		

FRACTION #	NAME	TEST	RECEIPT VAC./PRES.	FINAL PRESSURE
01A	IA0600_20240228	Modified TO-15	4.0 "Hg	2 psi
01B	IA0600_20240228	Modified TO-15	4.0 "Hg	2 psi
02A	IA0601_20240228	Modified TO-15	3.0 "Hg	2 psi
02B	IA0601_20240228	Modified TO-15	3.0 "Hg	2 psi
03A	IA0602_20240228	Modified TO-15	3.0 "Hg	2 psi
03B	IA0602_20240228	Modified TO-15	3.0 "Hg	2 psi
04A	IA0603_20240228	Modified TO-15	3.5 "Hg	2 psi
04B	IA0603_20240228	Modified TO-15	3.5 "Hg	2 psi
05A	IA0604_20240228	Modified TO-15	6.0 "Hg	2 psi
05B	IA0604_20240228	Modified TO-15	6.0 "Hg	2 psi
06A	FD-01_20240228	Modified TO-15	6.0 "Hg	2 psi
06B	FD-01_20240228	Modified TO-15	6.0 "Hg	2 psi
07A	AA0601_20240228	Modified TO-15	2.5 "Hg	2 psi
07B	AA0601_20240228	Modified TO-15	2.5 "Hg	2 psi
08A	FB-01_20240228	Modified TO-15	6.0 "Hg	2 psi
08B	FB-01_20240228	Modified TO-15	6.0 "Hg	2 psi
09A	Lab Blank	Modified TO-15	NA	NA
09B	Lab Blank	Modified TO-15	NA	NA
10A	CCV	Modified TO-15	NA	NA
10B	CCV	Modified TO-15	NA	NA
11A	LCS	Modified TO-15	NA	NA
11AA	LCSD	Modified TO-15	NA	NA
11B	LCS	Modified TO-15	NA	NA

Continued on next page

eurofins | Air Toxics

WORK ORDER #: 2403039

Work Order Summary

CLIENT:	Ms. Jennifer Sanborn Sanborn, Head & Associates 6 Bedford Farms Drive Ste 201 Bedford, NH 03110	**BILL TO:**	Accounts Payable Sanborn, Head & Associates 6 Bedford Farms Drive Ste 201 Bedford, NH 03110
PHONE:	603-229-1900	**P.O. #**	
FAX:	603-229-1919	**PROJECT #**	2999.21 EFK B316
DATE RECEIVED:	03/01/2024	**CONTACT:**	Jade White
DATE COMPLETED:	03/14/2024		

FRACTION #	NAME	TEST	RECEIPT VAC./PRES.	FINAL PRESSURE
11BB	LCSD	Modified TO-15	NA	NA

CERTIFIED BY: Heidi Hayes DATE: 03/15/24

Technical Director

Certification numbers: AZ Licensure AZ0775, FL NELAP – E87680, LA NELAP – 02089, NH NELAP – 209222, NJ NELAP - CA016, NY NELAP - 11291, TX NELAP – T104704434-22-18, UT NELAP – CA009332022-14, VA NELAP - 12240, WA ELAP - C935
Name of Accreditation Body: NELAP/ORELAP (Oregon Environmental Laboratory Accreditation Program) CA300005-017
Eurofins Environment Testing Northern California, LLC certifies that the test results contained in this report meet all requirements of the 2016 TNI Standard.

LABORATORY NARRATIVE
Modified TO-15 Full Scan/SIM
Sanborn, Head & Associates
Workorder# 2403039

Eight 6 Liter Summa Canister (100% SIM Ambient) samples were received on March 01, 2024. The laboratory performed analysis via modified EPA Method TO-15 using GC/MS in the Full Scan and SIM acquisition modes. The method involves concentrating up to 1.0 liters of air. The concentrated aliquot is then flash vaporized and swept through a water management system to remove water vapor. Following dehumidification, the sample passes directly into the GC/MS for analysis.

Method modifications taken to run these samples are summarized in the table below. Specific project requirements may over-ride the EATL modifications.

Requirement	***TO-15***	***ATL Modifications***
ICAL %RSD acceptance criteria	</=30% RSD with 2 compounds allowed out to < 40% RSD	For Full Scan: 30% RSD with 4 compounds allowed out to < 40% RSD For SIM: Project specific; default criteria is </=30% RSD with 10% of compounds allowed out to < 40% RSD
Daily Calibration	+- 30% Difference	For Full Scan: </= 30% Difference with four allowed out up to </=40%.; flag and narrate outliers For SIM: Project specific; default criteria is </= 30% Difference with 10% of compounds allowed out up to </=40%.; flag and narrate outliers
Blank and standards	Zero air	Nitrogen
Method Detection Limit	Follow 40CFR Pt.136 App. B	The MDL met all relevant requirements in Method TO-15 (statistical MDL less than the LOQ). The concentration of the spiked replicate may have exceeded 10X the calculated MDL in some cases

Receiving Notes

There were no receiving discrepancies.

Analytical Notes

The results for each sample in this report were acquired from two separate data files originating from the same analytical run. The two data files have the same base file name and are differentiated with a "sim" extension on the SIM data file.

Dilution was performed on samples IA0602_20240228, IA0603_20240228, IA0604_20240228 and FD-01_20240228 due to the presence of high level non-target species.

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.
E - Exceeds instrument calibration range.
S - Saturated peak.
Q - Exceeds quality control limits.
U - Compound analyzed for but not detected above the reporting limit.
UJ- Non-detected compound associated with low bias in the CCV
N - The identification is based on presumptive evidence.
CN - See case narrative explanation

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

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Summary of Detected Compounds
MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

Client Sample ID: IA0600_20240228

Lab ID#: 2403039-01A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 11	0.13	1.2	0.74	6.8
Acetone	2.6	8.1	6.2	19

Client Sample ID: IA0600_20240228

Lab ID#: 2403039-01B

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Carbon Tetrachloride	0.026	0.075	0.16	0.47
Freon 12	0.066	4.5	0.32	22
Benzene	0.066	0.12	0.21	0.38
Toluene	0.13	0.16	0.49	0.59
Ethyl Benzene	0.026	0.048	0.11	0.21
m,p-Xylene	0.052	0.16	0.23	0.71
o-Xylene	0.026	0.11	0.11	0.46

Client Sample ID: IA0601_20240228

Lab ID#: 2403039-02A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 11	0.13	1.3	0.71	7.4
Acetone	2.5	3.4	6.0	8.2

Client Sample ID: IA0601_20240228

Lab ID#: 2403039-02B

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Carbon Tetrachloride	0.025	0.077	0.16	0.48
Freon 12	0.063	4.6	0.31	23
Benzene	0.063	0.11	0.20	0.35
Toluene	0.13	0.17	0.47	0.65
Ethyl Benzene	0.025	0.048	0.11	0.21
m,p-Xylene	0.050	0.17	0.22	0.73

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Summary of Detected Compounds
MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

Client Sample ID: IA0601_20240228

Lab ID#: 2403039-02B

o-Xylene	0.025	0.11	0.11	0.48

Client Sample ID: IA0602_20240228

Lab ID#: 2403039-03A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 11	1.3	1.5	7.1	8.5

Client Sample ID: IA0602_20240228

Lab ID#: 2403039-03B

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	0.63	5.2	3.1	26

Client Sample ID: IA0603_20240228

Lab ID#: 2403039-04A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 11	1.3	1.4	7.2	8.0

Client Sample ID: IA0603_20240228

Lab ID#: 2403039-04B

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	0.64	4.9	3.2	24

Client Sample ID: IA0604_20240228

Lab ID#: 2403039-05A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 11	1.4	2.6	8.0	15

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Summary of Detected Compounds
MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

Client Sample ID: IA0604_20240228

Lab ID#: 2403039-05B

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	0.71	8.3	3.5	41

Client Sample ID: FD-01_20240228

Lab ID#: 2403039-06A

No Detections Were Found.

Client Sample ID: FD-01_20240228

Lab ID#: 2403039-06B

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	0.71	4.6	3.5	23

Client Sample ID: AA0601_20240228

Lab ID#: 2403039-07A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 11	0.12	0.22	0.70	1.2
Acetone	2.5	3.0	5.9	7.1

Client Sample ID: AA0601_20240228

Lab ID#: 2403039-07B

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Carbon Tetrachloride	0.025	0.071	0.16	0.45
Freon 12	0.062	0.72	0.31	3.6
Benzene	0.062	0.11	0.20	0.36

Client Sample ID: FB-01_20240228

Lab ID#: 2403039-08A

No Detections Were Found.

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Summary of Detected Compounds
MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

Client Sample ID: FB-01_20240228

Lab ID#: 2403039-08B

No Detections Were Found.

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Client Sample ID: IA0600_20240228

Lab ID#: 2403039-01A

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**22031309**	**Date of Collection:**	**2/28/24 2:23:00 PM**
Dil. Factor:	**1.31**	**Date of Analysis:**	**3/13/24 02:06 PM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 11	0.13	1.2	0.74	6.8
Freon 113	0.13	Not Detected	1.0	Not Detected
Acetone	2.6	8.1	6.2	19
Methylene Chloride	0.26	Not Detected	0.91	Not Detected
Chlorobenzene	0.13	Not Detected	0.60	Not Detected
1,3-Dichlorobenzene	0.13	Not Detected	0.79	Not Detected
1,4-Dichlorobenzene	0.13	Not Detected	0.79	Not Detected
1,2-Dichlorobenzene	0.13	Not Detected	0.79	Not Detected
1,2,4-Trichlorobenzene	0.66	Not Detected	4.9	Not Detected

Container Type: 6 Liter Summa Canister (100% SIM Ambient)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	117	70-130
Toluene-d8	106	70-130
4-Bromofluorobenzene	108	70-130

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Client Sample ID: IA0600_20240228

Lab ID#: 2403039-01B

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**22031309sim**	**Date of Collection: 2/28/24 2:23:00 PM**	
Dil. Factor:	**1.31**	**Date of Analysis: 3/13/24 02:06 PM**	

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	0.013	Not Detected	0.033	Not Detected
1,1-Dichloroethene	0.013	Not Detected	0.052	Not Detected
cis-1,2-Dichloroethene	0.026	Not Detected	0.10	Not Detected
Carbon Tetrachloride	0.026	0.075	0.16	0.47
Trichloroethene	0.026	Not Detected	0.14	Not Detected
Freon 12	0.066	4.5	0.32	22
1,1,1-Trichloroethane	0.13	Not Detected	0.71	Not Detected
Benzene	0.066	0.12	0.21	0.38
Toluene	0.13	0.16	0.49	0.59
Tetrachloroethene	0.026	Not Detected	0.18	Not Detected
Ethyl Benzene	0.026	0.048	0.11	0.21
m,p-Xylene	0.052	0.16	0.23	0.71
o-Xylene	0.026	0.11	0.11	0.46

Container Type: 6 Liter Summa Canister (100% SIM Ambient)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	113	70-130
Toluene-d8	105	70-130
4-Bromofluorobenzene	107	70-130

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Client Sample ID: IA0601_20240228

Lab ID#: 2403039-02A

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**22031310**	**Date of Collection: 2/28/24 2:45:00 PM**	
Dil. Factor:	**1.26**	**Date of Analysis: 3/13/24 02:45 PM**	

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 11	0.13	1.3	0.71	7.4
Freon 113	0.13	Not Detected	0.96	Not Detected
Acetone	2.5	3.4	6.0	8.2
Methylene Chloride	0.25	Not Detected	0.88	Not Detected
Chlorobenzene	0.13	Not Detected	0.58	Not Detected
1,3-Dichlorobenzene	0.13	Not Detected	0.76	Not Detected
1,4-Dichlorobenzene	0.13	Not Detected	0.76	Not Detected
1,2-Dichlorobenzene	0.13	Not Detected	0.76	Not Detected
1,2,4-Trichlorobenzene	0.63	Not Detected	4.7	Not Detected

Container Type: 6 Liter Summa Canister (100% SIM Ambient)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	119	70-130
Toluene-d8	108	70-130
4-Bromofluorobenzene	101	70-130

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Client Sample ID: IA0601_20240228

Lab ID#: 2403039-02B

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**22031310sim**	**Date of Collection: 2/28/24 2:45:00 PM**	
Dil. Factor:	**1.26**	**Date of Analysis: 3/13/24 02:45 PM**	

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	0.013	Not Detected	0.032	Not Detected
1,1-Dichloroethene	0.013	Not Detected	0.050	Not Detected
cis-1,2-Dichloroethene	0.025	Not Detected	0.10	Not Detected
Carbon Tetrachloride	0.025	0.077	0.16	0.48
Trichloroethene	0.025	Not Detected	0.14	Not Detected
Freon 12	0.063	4.6	0.31	23
1,1,1-Trichloroethane	0.13	Not Detected	0.69	Not Detected
Benzene	0.063	0.11	0.20	0.35
Toluene	0.13	0.17	0.47	0.65
Tetrachloroethene	0.025	Not Detected	0.17	Not Detected
Ethyl Benzene	0.025	0.048	0.11	0.21
m,p-Xylene	0.050	0.17	0.22	0.73
o-Xylene	0.025	0.11	0.11	0.48

Container Type: 6 Liter Summa Canister (100% SIM Ambient)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	115	70-130
Toluene-d8	106	70-130
4-Bromofluorobenzene	100	70-130

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Client Sample ID: IA0602_20240228

Lab ID#: 2403039-03A

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**22031311**	**Date of Collection: 2/28/24 2:31:00 PM**	
Dil. Factor:	**12.6**	**Date of Analysis: 3/13/24 03:23 PM**	

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 11	1.3	1.5	7.1	8.5
Freon 113	1.3	Not Detected	9.6	Not Detected
Acetone	25	Not Detected	60	Not Detected
Methylene Chloride	2.5	Not Detected	8.8	Not Detected
Chlorobenzene	1.3	Not Detected	5.8	Not Detected
1,3-Dichlorobenzene	1.3	Not Detected	7.6	Not Detected
1,4-Dichlorobenzene	1.3	Not Detected	7.6	Not Detected
1,2-Dichlorobenzene	1.3	Not Detected	7.6	Not Detected
1,2,4-Trichlorobenzene	6.3	Not Detected	47	Not Detected

Container Type: 6 Liter Summa Canister (100% SIM Ambient)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	114	70-130
Toluene-d8	108	70-130
4-Bromofluorobenzene	106	70-130

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Client Sample ID: IA0602_20240228

Lab ID#: 2403039-03B

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**22031311sim**	**Date of Collection: 2/28/24 2:31:00 PM**	
Dil. Factor:	**12.6**	**Date of Analysis: 3/13/24 03:23 PM**	

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	0.13	Not Detected	0.32	Not Detected
1,1-Dichloroethene	0.13	Not Detected	0.50	Not Detected
cis-1,2-Dichloroethene	0.25	Not Detected	1.0	Not Detected
Carbon Tetrachloride	0.25	Not Detected	1.6	Not Detected
Trichloroethene	0.25	Not Detected	1.4	Not Detected
Freon 12	0.63	5.2	3.1	26
1,1,1-Trichloroethane	1.3	Not Detected	6.9	Not Detected
Benzene	0.63	Not Detected	2.0	Not Detected
Toluene	1.3	Not Detected	4.7	Not Detected
Tetrachloroethene	0.25	Not Detected	1.7	Not Detected
Ethyl Benzene	0.25	Not Detected	1.1	Not Detected
m,p-Xylene	0.50	Not Detected	2.2	Not Detected
o-Xylene	0.25	Not Detected	1.1	Not Detected

Container Type: 6 Liter Summa Canister (100% SIM Ambient)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	109	70-130
Toluene-d8	105	70-130
4-Bromofluorobenzene	105	70-130

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Client Sample ID: IA0603_20240228

Lab ID#: 2403039-04A

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**22031312**	**Date of Collection: 2/28/24 2:47:00 PM**	
Dil. Factor:	**12.9**	**Date of Analysis: 3/13/24 04:00 PM**	

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 11	1.3	1.4	7.2	8.0
Freon 113	1.3	Not Detected	9.9	Not Detected
Acetone	26	Not Detected	61	Not Detected
Methylene Chloride	2.6	Not Detected	9.0	Not Detected
Chlorobenzene	1.3	Not Detected	5.9	Not Detected
1,3-Dichlorobenzene	1.3	Not Detected	7.8	Not Detected
1,4-Dichlorobenzene	1.3	Not Detected	7.8	Not Detected
1,2-Dichlorobenzene	1.3	Not Detected	7.8	Not Detected
1,2,4-Trichlorobenzene	6.4	Not Detected	48	Not Detected

Container Type: 6 Liter Summa Canister (100% SIM Ambient)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	115	70-130
Toluene-d8	110	70-130
4-Bromofluorobenzene	106	70-130

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Client Sample ID: IA0603_20240228

Lab ID#: 2403039-04B

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**22031312sim**	**Date of Collection: 2/28/24 2:47:00 PM**	
Dil. Factor:	**12.9**	**Date of Analysis: 3/13/24 04:00 PM**	

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	0.13	Not Detected	0.33	Not Detected
1,1-Dichloroethene	0.13	Not Detected	0.51	Not Detected
cis-1,2-Dichloroethene	0.26	Not Detected	1.0	Not Detected
Carbon Tetrachloride	0.26	Not Detected	1.6	Not Detected
Trichloroethene	0.26	Not Detected	1.4	Not Detected
Freon 12	0.64	4.9	3.2	24
1,1,1-Trichloroethane	1.3	Not Detected	7.0	Not Detected
Benzene	0.64	Not Detected	2.1	Not Detected
Toluene	1.3	Not Detected	4.9	Not Detected
Tetrachloroethene	0.26	Not Detected	1.8	Not Detected
Ethyl Benzene	0.26	Not Detected	1.1	Not Detected
m,p-Xylene	0.52	Not Detected	2.2	Not Detected
o-Xylene	0.26	Not Detected	1.1	Not Detected

Container Type: 6 Liter Summa Canister (100% SIM Ambient)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	110	70-130
Toluene-d8	108	70-130
4-Bromofluorobenzene	105	70-130

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Client Sample ID: IA0604_20240228

Lab ID#: 2403039-05A

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**22031314**	**Date of Collection: 2/28/24 1:45:00 PM**	
Dil. Factor:	**14.2**	**Date of Analysis: 3/13/24 05:15 PM**	

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 11	1.4	2.6	8.0	15
Freon 113	1.4	Not Detected	11	Not Detected
Acetone	28	Not Detected	67	Not Detected
Methylene Chloride	2.8	Not Detected	9.9	Not Detected
Chlorobenzene	1.4	Not Detected	6.5	Not Detected
1,3-Dichlorobenzene	1.4	Not Detected	8.5	Not Detected
1,4-Dichlorobenzene	1.4	Not Detected	8.5	Not Detected
1,2-Dichlorobenzene	1.4	Not Detected	8.5	Not Detected
1,2,4-Trichlorobenzene	7.1	Not Detected	53	Not Detected

Container Type: 6 Liter Summa Canister (100% SIM Ambient)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	111	70-130
Toluene-d8	110	70-130
4-Bromofluorobenzene	106	70-130

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Client Sample ID: IA0604_20240228

Lab ID#: 2403039-05B

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**22031314sim**	**Date of Collection: 2/28/24 1:45:00 PM**	
Dil. Factor:	**14.2**	**Date of Analysis: 3/13/24 05:15 PM**	

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	0.14	Not Detected	0.36	Not Detected
1,1-Dichloroethene	0.14	Not Detected	0.56	Not Detected
cis-1,2-Dichloroethene	0.28	Not Detected	1.1	Not Detected
Carbon Tetrachloride	0.28	Not Detected	1.8	Not Detected
Trichloroethene	0.28	Not Detected	1.5	Not Detected
Freon 12	0.71	8.3	3.5	41
1,1,1-Trichloroethane	1.4	Not Detected	7.7	Not Detected
Benzene	0.71	Not Detected	2.3	Not Detected
Toluene	1.4	Not Detected	5.4	Not Detected
Tetrachloroethene	0.28	Not Detected	1.9	Not Detected
Ethyl Benzene	0.28	Not Detected	1.2	Not Detected
m,p-Xylene	0.57	Not Detected	2.5	Not Detected
o-Xylene	0.28	Not Detected	1.2	Not Detected

Container Type: 6 Liter Summa Canister (100% SIM Ambient)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	110	70-130
Toluene-d8	108	70-130
4-Bromofluorobenzene	105	70-130

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Client Sample ID: FD-01_20240228

Lab ID#: 2403039-06A

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**22031313**	**Date of Collection: 2/28/24 2:23:00 PM**	
Dil. Factor:	**14.2**	**Date of Analysis: 3/13/24 04:38 PM**	

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 11	1.4	Not Detected	8.0	Not Detected
Freon 113	1.4	Not Detected	11	Not Detected
Acetone	28	Not Detected	67	Not Detected
Methylene Chloride	2.8	Not Detected	9.9	Not Detected
Chlorobenzene	1.4	Not Detected	6.5	Not Detected
1,3-Dichlorobenzene	1.4	Not Detected	8.5	Not Detected
1,4-Dichlorobenzene	1.4	Not Detected	8.5	Not Detected
1,2-Dichlorobenzene	1.4	Not Detected	8.5	Not Detected
1,2,4-Trichlorobenzene	7.1	Not Detected	53	Not Detected

Container Type: 6 Liter Summa Canister (100% SIM Ambient)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	115	70-130
Toluene-d8	110	70-130
4-Bromofluorobenzene	107	70-130

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Client Sample ID: FD-01_20240228

Lab ID#: 2403039-06B

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**22031313sim**	**Date of Collection:**	**2/28/24 2:23:00 PM**
Dil. Factor:	**14.2**	**Date of Analysis:**	**3/13/24 04:38 PM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	0.14	Not Detected	0.36	Not Detected
1,1-Dichloroethene	0.14	Not Detected	0.56	Not Detected
cis-1,2-Dichloroethene	0.28	Not Detected	1.1	Not Detected
Carbon Tetrachloride	0.28	Not Detected	1.8	Not Detected
Trichloroethene	0.28	Not Detected	1.5	Not Detected
Freon 12	0.71	4.6	3.5	23
1,1,1-Trichloroethane	1.4	Not Detected	7.7	Not Detected
Benzene	0.71	Not Detected	2.3	Not Detected
Toluene	1.4	Not Detected	5.4	Not Detected
Tetrachloroethene	0.28	Not Detected	1.9	Not Detected
Ethyl Benzene	0.28	Not Detected	1.2	Not Detected
m,p-Xylene	0.57	Not Detected	2.5	Not Detected
o-Xylene	0.28	Not Detected	1.2	Not Detected

Container Type: 6 Liter Summa Canister (100% SIM Ambient)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	111	70-130
Toluene-d8	107	70-130
4-Bromofluorobenzene	105	70-130

eurofins | Air Toxics

Client Sample ID: AA0601_20240228

Lab ID#: 2403039-07A

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**22031315**	**Date of Collection: 2/28/24 3:08:00 PM**	
Dil. Factor:	**1.24**	**Date of Analysis: 3/13/24 05:53 PM**	

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 11	0.12	0.22	0.70	1.2
Freon 113	0.12	Not Detected	0.95	Not Detected
Acetone	2.5	3.0	5.9	7.1
Methylene Chloride	0.25	Not Detected	0.86	Not Detected
Chlorobenzene	0.12	Not Detected	0.57	Not Detected
1,3-Dichlorobenzene	0.12	Not Detected	0.74	Not Detected
1,4-Dichlorobenzene	0.12	Not Detected	0.74	Not Detected
1,2-Dichlorobenzene	0.12	Not Detected	0.74	Not Detected
1,2,4-Trichlorobenzene	0.62	Not Detected	4.6	Not Detected

Container Type: 6 Liter Summa Canister (100% SIM Ambient)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	121	70-130
Toluene-d8	109	70-130
4-Bromofluorobenzene	105	70-130

eurofins | Air Toxics

Client Sample ID: AA0601_20240228

Lab ID#: 2403039-07B

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**22031315sim**	**Date of Collection: 2/28/24 3:08:00 PM**	
Dil. Factor:	**1.24**	**Date of Analysis: 3/13/24 05:53 PM**	

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	0.012	Not Detected	0.032	Not Detected
1,1-Dichloroethene	0.012	Not Detected	0.049	Not Detected
cis-1,2-Dichloroethene	0.025	Not Detected	0.098	Not Detected
Carbon Tetrachloride	0.025	0.071	0.16	0.45
Trichloroethene	0.025	Not Detected	0.13	Not Detected
Freon 12	0.062	0.72	0.31	3.6
1,1,1-Trichloroethane	0.12	Not Detected	0.68	Not Detected
Benzene	0.062	0.11	0.20	0.36
Toluene	0.12	Not Detected	0.47	Not Detected
Tetrachloroethene	0.025	Not Detected	0.17	Not Detected
Ethyl Benzene	0.025	Not Detected	0.11	Not Detected
m,p-Xylene	0.050	Not Detected	0.22	Not Detected
o-Xylene	0.025	Not Detected	0.11	Not Detected

Container Type: 6 Liter Summa Canister (100% SIM Ambient)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	115	70-130
Toluene-d8	106	70-130
4-Bromofluorobenzene	106	70-130

eurofins | Air Toxics

Client Sample ID: FB-01_20240228

Lab ID#: 2403039-08A

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**22031316**	**Date of Collection:**	**2/28/24 8:36:00 AM**
Dil. Factor:	**1.42**	**Date of Analysis:**	**3/13/24 06:38 PM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 11	0.14	Not Detected	0.80	Not Detected
Freon 113	0.14	Not Detected	1.1	Not Detected
Acetone	2.8	Not Detected	6.7	Not Detected
Methylene Chloride	0.28	Not Detected	0.99	Not Detected
Chlorobenzene	0.14	Not Detected	0.65	Not Detected
1,3-Dichlorobenzene	0.14	Not Detected	0.85	Not Detected
1,4-Dichlorobenzene	0.14	Not Detected	0.85	Not Detected
1,2-Dichlorobenzene	0.14	Not Detected	0.85	Not Detected
1,2,4-Trichlorobenzene	0.71	Not Detected	5.3	Not Detected

Container Type: 6 Liter Summa Canister (100% SIM Ambient)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	115	70-130
Toluene-d8	108	70-130
4-Bromofluorobenzene	101	70-130

eurofins | Air Toxics

Client Sample ID: FB-01_20240228

Lab ID#: 2403039-08B

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**22031316sim**	**Date of Collection:**	**2/28/24 8:36:00 AM**
Dil. Factor:	**1.42**	**Date of Analysis:**	**3/13/24 06:38 PM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	0.014	Not Detected	0.036	Not Detected
1,1-Dichloroethene	0.014	Not Detected	0.056	Not Detected
cis-1,2-Dichloroethene	0.028	Not Detected	0.11	Not Detected
Carbon Tetrachloride	0.028	Not Detected	0.18	Not Detected
Trichloroethene	0.028	Not Detected	0.15	Not Detected
Freon 12	0.071	Not Detected	0.35	Not Detected
1,1,1-Trichloroethane	0.14	Not Detected	0.77	Not Detected
Benzene	0.071	Not Detected	0.23	Not Detected
Toluene	0.14	Not Detected	0.54	Not Detected
Tetrachloroethene	0.028	Not Detected	0.19	Not Detected
Ethyl Benzene	0.028	Not Detected	0.12	Not Detected
m,p-Xylene	0.057	Not Detected	0.25	Not Detected
o-Xylene	0.028	Not Detected	0.12	Not Detected

Container Type: 6 Liter Summa Canister (100% SIM Ambient)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	111	70-130
Toluene-d8	105	70-130
4-Bromofluorobenzene	102	70-130

eurofins | Air Toxics

Client Sample ID: Lab Blank

Lab ID#: 2403039-09A

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**22031307a**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 3/13/24 12:29 PM**	

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 11	0.10	Not Detected	0.56	Not Detected
Freon 113	0.10	Not Detected	0.77	Not Detected
Acetone	2.0	Not Detected	4.8	Not Detected
Methylene Chloride	0.20	Not Detected	0.69	Not Detected
Chlorobenzene	0.10	Not Detected	0.46	Not Detected
1,3-Dichlorobenzene	0.10	Not Detected	0.60	Not Detected
1,4-Dichlorobenzene	0.10	Not Detected	0.60	Not Detected
1,2-Dichlorobenzene	0.10	Not Detected	0.60	Not Detected
1,2,4-Trichlorobenzene	0.50	Not Detected	3.7	Not Detected

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	119	70-130
Toluene-d8	109	70-130
4-Bromofluorobenzene	104	70-130

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Client Sample ID: Lab Blank

Lab ID#: 2403039-09B

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**22031307sima**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 3/13/24 12:29 PM**	

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	0.010	Not Detected	0.026	Not Detected
1,1-Dichloroethene	0.010	Not Detected	0.040	Not Detected
cis-1,2-Dichloroethene	0.020	Not Detected	0.079	Not Detected
Carbon Tetrachloride	0.020	Not Detected	0.12	Not Detected
Trichloroethene	0.020	Not Detected	0.11	Not Detected
Freon 12	0.050	Not Detected	0.25	Not Detected
1,1,1-Trichloroethane	0.10	Not Detected	0.54	Not Detected
Benzene	0.050	Not Detected	0.16	Not Detected
Toluene	0.10	Not Detected	0.38	Not Detected
Tetrachloroethene	0.020	Not Detected	0.14	Not Detected
Ethyl Benzene	0.020	Not Detected	0.087	Not Detected
m,p-Xylene	0.040	Not Detected	0.17	Not Detected
o-Xylene	0.020	Not Detected	0.087	Not Detected

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	114	70-130
Toluene-d8	106	70-130
4-Bromofluorobenzene	103	70-130

eurofins | Air Toxics

Client Sample ID: CCV

Lab ID#: 2403039-10A

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**22031303**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 3/13/24 09:21 AM**	

Compound	%Recovery
Freon 11	90
Freon 113	91
Acetone	78
Methylene Chloride	88
Chlorobenzene	92
1,3-Dichlorobenzene	94
1,4-Dichlorobenzene	94
1,2-Dichlorobenzene	91
1,2,4-Trichlorobenzene	89

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	110	70-130
Toluene-d8	110	70-130
4-Bromofluorobenzene	115	70-130

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Client Sample ID: CCV

Lab ID#: 2403039-10B

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**22031303sim**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 3/13/24 09:21 AM**	

Compound	%Recovery
Vinyl Chloride	89
1,1-Dichloroethene	80
cis-1,2-Dichloroethene	85
Carbon Tetrachloride	84
Trichloroethene	94
Freon 12	126
1,1,1-Trichloroethane	89
Benzene	99
Toluene	91
Tetrachloroethene	89
Ethyl Benzene	89
m,p-Xylene	81
o-Xylene	82

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	104	70-130
Toluene-d8	108	70-130
4-Bromofluorobenzene	115	70-130

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Client Sample ID: LCS

Lab ID#: 2403039-11A

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**22031304**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 3/13/24 10:08 AM**	

Compound	%Recovery	Method Limits
Freon 11	92	70-130
Freon 113	91	70-130
Acetone	81	70-130
Methylene Chloride	90	70-130
Chlorobenzene	99	70-130
1,3-Dichlorobenzene	98	70-130
1,4-Dichlorobenzene	99	70-130
1,2-Dichlorobenzene	97	70-130
1,2,4-Trichlorobenzene	95	70-130

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	107	70-130
Toluene-d8	109	70-130
4-Bromofluorobenzene	118	70-130

eurofins | Air Toxics

Client Sample ID: LCSD

Lab ID#: 2403039-11AA

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**22031305**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 3/13/24 10:44 AM**	

Compound	%Recovery	Method Limits
Freon 11	92	70-130
Freon 113	90	70-130
Acetone	85	70-130
Methylene Chloride	94	70-130
Chlorobenzene	99	70-130
1,3-Dichlorobenzene	96	70-130
1,4-Dichlorobenzene	96	70-130
1,2-Dichlorobenzene	95	70-130
1,2,4-Trichlorobenzene	94	70-130

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	106	70-130
Toluene-d8	110	70-130
4-Bromofluorobenzene	117	70-130

eurofins | Air Toxics

Client Sample ID: LCS

Lab ID#: 2403039-11B

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**22031304sim**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 3/13/24 10:08 AM**	

Compound	%Recovery	Method Limits
Vinyl Chloride	91	70-130
1,1-Dichloroethene	84	70-130
cis-1,2-Dichloroethene	87	70-130
Carbon Tetrachloride	61	60-140
Trichloroethene	94	70-130
Freon 12	128	70-130
1,1,1-Trichloroethane	90	70-130
Benzene	104	70-130
Toluene	94	70-130
Tetrachloroethene	93	70-130
Ethyl Benzene	95	70-130
m,p-Xylene	85	70-130
o-Xylene	87	70-130

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	102	70-130
Toluene-d8	107	70-130
4-Bromofluorobenzene	116	70-130

eurofins | Air Toxics

Client Sample ID: LCSD

Lab ID#: 2403039-11BB

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**22031305sim**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 3/13/24 10:44 AM**	

Compound	%Recovery	Method Limits
Vinyl Chloride	92	70-130
1,1-Dichloroethene	85	70-130
cis-1,2-Dichloroethene	88	70-130
Carbon Tetrachloride	61	60-140
Trichloroethene	93	70-130
Freon 12	127	70-130
1,1,1-Trichloroethane	90	70-130
Benzene	104	70-130
Toluene	93	70-130
Tetrachloroethene	93	70-130
Ethyl Benzene	94	70-130
m,p-Xylene	84	70-130
o-Xylene	86	70-130

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	101	70-130
Toluene-d8	106	70-130
4-Bromofluorobenzene	116	70-130

Appendix F

Data Usability Summary Report

DATA USABILITY SUMMARY REPORT

FOR THE FORMER IBM EAST FISHKILL BUILDING 316 SAMPLING REVIEW

AIR SAMPLES COLLECTED ON

FEBRUARY 28, 2024

April 11, 2024

Prepared for:

SANBORN, HEAD & ASSOCIATES, INC.
6 Bedford Farms Drive, Suite 201
Bedford, NH 03110

Prepared by:

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Valley Forge, PA 19482-0810

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INTRODUCTION

This DUSR is based upon a rigorous examination of the data generated from the analyses of the 11 air samples and associated QC samples collected on February 28, 2024, at the Former IBM East Fishkill Building 316 (2999.21) site in East Fishkill, New York. These samples were analyzed by Eurofins Air Toxics of Folsom, California, for VOCs by US EPA Method TO-15 and US EPA Method TO-15 Modified with SIM.

This review has been performed with guidance from the "US EPA Contract Laboratory Program National Functional Guidelines for Organic Data Review," US EPA 540/ R-94/097, October 1999, the "Final DER-10, Technical Guidance for Site Investigation and Remediation, Appendix 2B - Guidance for Data Deliverables and the Development of Data Usability Summary Reports," NYS DEC, May 2010, and the above referenced analytical methods. These validation guidance documents specifically address analyses performed in accordance with the CLP analytical methods and are not completely applicable to the type of analyses and analytical protocols performed for the US EPA methods utilized by the laboratory for these samples. Environmental Standards, Inc. (Environmental Standards) used professional judgment to determine the usability of the analytical results and compliance relative to the US EPA methods utilized by the laboratory.

Data were examined to determine the usability of the analytical results relative to the criteria in the Final DER 10 and compliance relative to the requirements specified in the analytical methods. In addition, the deliverables were evaluated for completeness and accuracy. Details of this QA review are presented in Section 1 of this report. The reported analytical results are presented in Section 3; any required data validation qualifications are presented on the qualified data tables in Section 3. Reason codes have been placed next to results to enable the data user to quickly assess the qualitative and/or quantitative reliability of any result based on the criteria evaluated. The data qualifications allow the data end-user to best understand the usability of any result. Data not qualified in this report should be considered valid based on the QC criteria that have been reviewed. The data reviewer has included copies of validation forms, QC summary forms, COC Record, laboratory Case Narrative, and other documentation needed to support the findings in this QA review in the Data Support Documentation sections (Section 4). The cover sheet for these sections is a checklist of the QA procedures required by the protocol and examined in this data review.

The analytical results and associated laboratory QC samples were reviewed to determine the integrity of the reported analytical results and to ensure that the data met the established DQOs. This QA review includes all samples in Eurofins Air Toxics Report Number 2403039.

TABLE 1

SAMPLES THAT HAVE UNDERGONE QUALITY ASSURANCE REVIEW

Sample Identification	Laboratory Sample Identification(s)	Laboratory Report Number	Matrix	Date Sample Collected	Parameter(s) Examined
IA0600_20240228	2403039-01A 2403039-01B	2403039	Air	2/28/2024	VOC, VOC*
IA0601_20240228	2403039-02A 2403039-02B	2403039	Air	2/28/2024	VOC, VOC*
IA0602_20240228	2403039-03A 2403039-03B	2403039	Air	2/28/2024	VOC, VOC*
IA0603_20240228	2403039-04A 2403039-04B	2403039	Air	2/28/2024	VOC, VOC*
IA0604_20240228	2403039-05A 2403039-05B	2403039	Air	2/28/2024	VOC, VOC*
FD-01_20240228 (Field Duplicate of IA0600_20240228)	2403039-06A 2403039-06B	2403039	Air	2/28/2024	VOC, VOC*
AA0601_20240228	2403039-07A 2403039-07B	2403039	Air	2/28/2024	VOC, VOC*
FB-01_20240228 (Field Blank)	2403039-08A 2403039-08B	2403039	Air	2/28/2024	VOC, VOC*

Parameter(s) Examined:

VOC - VOCs (specifically, 1,2,4-trichlorobenzene; 1,2-dichlorobenzene; 1,3-dichlorobenzene; 1,4-dichlorobenzene; acetone; chlorobenzene; freon-11; freon-113; methylene chloride) by US EPA Method TO-15. (8 samples)

VOC* - VOCs (specifically, 1,1,1-trichloroethane; 1,1-dichloroethene; benzene; carbon tetrachloride; *cis*-1,2-dichloroethene; ethyl benzene; freon-12; *m,p*-xylene; *o*-xylene; tetrachloroethene; toluene; trichloroethene; and vinyl chloride) by US EPA Method TO-15 Modified with Selected Ion Monitoring (SIM). (8 samples)

SECTION 1 DATA USABILITY REVIEW

ITEMS REVIEWED

COC Record and Case Narrative	Sample Login
Holding Times	Sample Condition Upon Receipt
Blank Results	LCS/LCSD Recovery and Precision
Field Duplicate Precision	Instrument Performance Checks
Surrogate Recovery	ICV and CCV Results
Instrument Calibration Results	Sample Quantitation
Internal Standard Area Count/Recovery	Data Package Completeness
Analytical Sequence	

Based upon review of the data package provided, the following issues and data qualifiers are offered. Data usability issues represent an interpretation of the QC results obtained for the project samples. Quite often, data qualifications address issues relating to sample matrix problems. Similarly, the data validation guidelines routinely specify areas of the data that require qualification, yet the methods used for analysis may not require corrective action by the laboratory. Accordingly, the following issues should not be construed as an indication of laboratory performance.

DUSR QUESTIONNAIRE

- Is the data package complete as defined under the requirements for the most current NYS DEC ASP Category B or US EPA CLP deliverables?

  No, see below.

- Have all holding times been met?

  Yes.

- Do all the QC data: blanks, instrument tunings, calibration standards, calibration verifications, surrogate recoveries, spike recoveries, replicate analyses, laboratory controls and sample data fall within the protocol required limits and specifications?

  No, see below.

- Have all data been generated using established and agreed upon analytical protocols?

  Yes.

- Does an evaluation of the raw data confirm the results provided in the data summary sheets and quality control verification forms?

  Yes.

- Have the correct data qualifiers been used and are they consistent with the most current NYS DEC ASP?

  Yes.

- Have any QC exceedances been specifically noted in the DUSR and have the corresponding QC summary sheets from the data package been attached to the DUSR?

  Yes.

COMMENTS

1. The laboratory sample IDs were appended with an “A” designation for the US EPA Method TO-15 analysis and a “B” designation for the US EPA Method TO-15 Modified SIM analysis.

2. One field duplicate pair, sample IA0600_20240228 and its duplicate, sample FD-01_20240228, were collected and analyzed for TO-15 and TO-15 Modified SIM with this data set. Acceptable precision and sample representativeness were observed between the field duplicate pair.

3. The canister end pressure on the COC Record did not match the canister receipt pressure on the Sample Receipt Summary form. The data reviewer attributed the slight differences to the different equipment used to measure the pressures.

QUALIFICATION

Based on the items included in this QA review, the following qualifiers are offered.

Analyte(s)	Sample(s)	Validation Qualifier(s)	Reason(s) for Qualification
freon-12	All samples, excluding FB-01_20240228	J+	CCV

SIGNATURES

Validation performed by:

4/11/24

Jessica T. Myers, Quality Assurance Chemist — Date

Validation reviewed by:

4/11/24

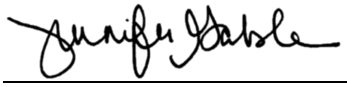
Katelyn Kelly, Quality Assurance Chemist — Date

Report approved by:

4/11/24

Ammie L. Martin, Associate Chemist/ Project Manager — Date

Report approved by:



4/11/24

Jennifer N. Gable, Principal Chemist — Date

SECTION 2

DATA QUALIFIERS, REASON CODES, AND ACRONYMS

DATA QUALIFIERS

U The analyte was not detected above the associated reporting limit.

UB The analyte should be considered “not-detected” because it was observed in an associated laboratory or field blank at a similar level. The analyte was positively identified; the associated numerical value represents the concentration reported by the laboratory but may be impacted by contamination.

UJ The analyte was not detected above the reported sample quantitation limit; however, the reported quantitation limit is approximate and may or may not represent the actual limit of quantitation necessary to accurately and precisely measure the analyte in the sample.

J The result is an estimated quantity. The associated numerical value is the approximate concentration of the analyte in the sample.

J+ The result is an estimated quantity and should be considered biased high.

J- The result is an estimated quantity and should be considered biased low.

R The analyte was reported as detected, but sample results are unreliable due to serious analytical deficiencies. The presence or absence of the analyte cannot be verified.

UR The analyte was reported as not detected, but the determination that the analyte was not present in the sample is unreliable due to serious analytical deficiencies. The presence or absence of the analyte cannot be verified.

REASON CODES AND EXPLANATIONS

Reason Code[1]	Description
[1] For any Reason Code that does not indicate that the potential bias is indeterminate, the "H" or "L" reason code is appended to the qualification reason code in order to indicate a direction of bias. If the direction of bias is indeterminate, the "I" reason code I appended to the qualification reason code.	
H	Bias in sample result likely to be high
L	Bias in sample result likely to be low
I	Bias in sample result is indeterminate
EC	Result exceeds the calibration range.
HT	Holding time requirement was not met
MB	Method blank or preparation blank contamination
LCS	Laboratory control sample evaluation criteria not met
FB	Field blank contamination
RB	Rinsate blank contamination
SQL	The analysis meets all qualitative identification criteria, but the measured concentration is less than the reporting limit.
FD	Field duplicate evaluation criteria not met
TvP	Total to Partial criteria not met
RL	Reporting limit exceeds decision criteria (for non-detects)
ICV	Initial calibration verification evaluation criteria not met
CCV	Continuing calibration verification evaluation criteria not met
CCB	Continuing calibration blank contamination
PB	Preparation Blank
ICS	Interference check sample evaluation criteria not met
D	Laboratory duplicate or spike duplicate precision evaluation criteria not met
MS	Matrix spike recovery outside acceptance range
PDS	Post-digestion spike recovery outside acceptance range
MSA	Method of standard additions correction coefficient _0.995
DL	Serial dilution results did not meet evaluation criteria
TUNE	Instrument performance (tuning) criteria not met
ICAL	Initial calibration evaluation criteria not met
CCAL	Continuing calibration evaluation criteria not met

Reason Code[1]	Description
SUR	Surrogate recovery outside acceptance range
MS/SD	Matrix spike/matrix spike duplicate precision criteria not met
IS	Internal standard evaluation criteria not met
LM	The PFK lock mass SICPs indicate that ion suppression evident
ID	Target compound identification criteria not met
NSR	Not selected for reporting because the result was qualified as unusable
NSDL	Not selected for reporting because diluted resulted was selected for reporting
NSQ	Not selected for reporting because result was lesser quality based on data validation.
NSO	Not selected for reporting because of other reason
ZZ	Other, see report narrative for qualification

ACROMYNS AND ABBREVIATIONS

Acronym/ Abbreviation	Description
BEX	Benzene, Ethylbenzene, and Xylene
BFB	Bromofluorobenzene
BTEX	Benzene, Toluene, Ethylbenzene, and Xylenes
°C	Celsius (degree)
CAS #	Chemical Abstract Service Number(s)
CCV	Continuing Calibration Verification
CEAC	Certified Environmental Analytical Chemist
CF	Calibration Factor
CFR	Code of Federal Regulations
CLP	Contract Laboratory Program
COC	Chain-of-Custody
CoD	Coefficient of Determination
%D	Percent Difference
DF	Dilution Factor
DQO	Data Quality Objective
DUP	Sample Duplicate
DUSR	Data Usability Summary Report
EDD	Electronic Data Deliverable
GC	Gas Chromatography
GC/MS	Gas Chromatography/Mass Spectrometry
GW	Groundwater
HCl	Hydrochloric Acid
ICAL	Initial Calibration
ICV	Initial Calibration Verification
ID	Identification

Acronym/ Abbreviation	Description
LCS	Laboratory Control Sample
LCSD	Laboratory Control Sample Duplicate
LIMS	Laboratory Information Management System
LOD	Limit of Detection
LOQ	Limit of Quantitation
M.S.	Master of Science
MB	Method Blank
MDL	Method Detection Limit
MRL	Method Reporting Limit
MS	Mass Spectrometry/Matrix Spike
MS/MSD	Matrix Spike/Matrix Spike Duplicate
MTBE	Methyl *Tertiary* Butyl Ether
ND	Not Detected (at or above the detection limit) or “Not-Detected”
NYSDEC	New York State Department of Environmental Conservation
PM	Project Manager
PMP	Project Management Professional
PQL	Practical Quantitation Limit
QA	Quality Assurance
QAPP	Quality Assurance Project Plan
QC	Quality Control
RF	Response Factor
RL	Reporting Limit
RPD	Relative Percent Difference
RRF	Relative Response Factor
RRT	Relative Retention Time
RSD	Relative Standard Deviation
RT	Retention Time
S/N	Signal-to-Noise

Acronym/ Abbreviation	Description
SAP	Sampling and Analysis Plan
SDG	Sample Delivery Group
SIM	Selective Ion Monitoring
SOP	Standard Operating Procedure
SOW	Statement of Work
µg/L	Micrograms per Liter
US	United States
US EPA	United States Environmental Protection Agency
VOC	Volatile Organic Compound

SECTION 3

ANALYTICAL RESULTS

Analytical Results

Parent ID	Field Sample ID	Analysis Method	DF	Laboratory Sample ID	CAS #	Analyte	Result	Validator Qualifier	RDL	Unit	Reason Code
	AA0601_20240228	TO-15	1.24	2403039-07A	120-82-1	1,2,4-Trichlorobenzene		U	4.6	UG/M3	
	AA0601_20240228	TO-15	1.24	2403039-07A	95-50-1	1,2-Dichlorobenzene		U	0.74	UG/M3	
	AA0601_20240228	TO-15	1.24	2403039-07A	541-73-1	1,3-Dichlorobenzene		U	0.74	UG/M3	
	AA0601_20240228	TO-15	1.24	2403039-07A	106-46-7	1,4-Dichlorobenzene		U	0.74	UG/M3	
	AA0601_20240228	TO-15	1.24	2403039-07A	67-64-1	Acetone	7.1		5.9	UG/M3	
	AA0601_20240228	TO-15	1.24	2403039-07A	108-90-7	Chlorobenzene		U	0.57	UG/M3	
	AA0601_20240228	TO-15	1.24	2403039-07A	75-69-4	Freon 11	1.2		0.70	UG/M3	
	AA0601_20240228	TO-15	1.24	2403039-07A	76-13-1	Freon 113		U	0.95	UG/M3	
	AA0601_20240228	TO-15	1.24	2403039-07A	75-09-2	Methylene Chloride		U	0.86	UG/M3	
	AA0601_20240228	TO-15 SIM	1.24	2403039-07B	71-55-6	1,1,1-Trichloroethane		U	0.68	UG/M3	
	AA0601_20240228	TO-15 SIM	1.24	2403039-07B	75-35-4	1,1-Dichloroethene		U	0.049	UG/M3	
	AA0601_20240228	TO-15 SIM	1.24	2403039-07B	71-43-2	Benzene	0.36		0.20	UG/M3	
	AA0601_20240228	TO-15 SIM	1.24	2403039-07B	56-23-5	Carbon Tetrachloride	0.45		0.16	UG/M3	
	AA0601_20240228	TO-15 SIM	1.24	2403039-07B	156-59-2	cis-1,2-Dichloroethene		U	0.098	UG/M3	
	AA0601_20240228	TO-15 SIM	1.24	2403039-07B	100-41-4	Ethyl Benzene		U	0.11	UG/M3	
	AA0601_20240228	TO-15 SIM	1.24	2403039-07B	75-71-8	Freon 12	3.6	J+	0.31	UG/M3	CCV
	AA0601_20240228	TO-15 SIM	1.24	2403039-07B	179601-23-1	m,p-Xylene		U	0.22	UG/M3	
	AA0601_20240228	TO-15 SIM	1.24	2403039-07B	95-47-6	o-Xylene		U	0.11	UG/M3	
	AA0601_20240228	TO-15 SIM	1.24	2403039-07B	127-18-4	Tetrachloroethene		U	0.17	UG/M3	
	AA0601_20240228	TO-15 SIM	1.24	2403039-07B	108-88-3	Toluene		U	0.47	UG/M3	
	AA0601_20240228	TO-15 SIM	1.24	2403039-07B	79-01-6	Trichloroethene		U	0.13	UG/M3	
	AA0601_20240228	TO-15 SIM	1.24	2403039-07B	75-01-4	Vinyl Chloride		U	0.032	UG/M3	

Analytical Results

Parent ID	Field Sample ID	Analysis Method	DF	Laboratory Sample ID	CAS #	Analyte	Result	Validator Qualifier	RDL	Unit	Reason Code
	FB-01_20240228	TO-15	1.42	2403039-08A	120-82-1	1,2,4-Trichlorobenzene		U	5.3	UG/M3	
	FB-01_20240228	TO-15	1.42	2403039-08A	95-50-1	1,2-Dichlorobenzene		U	0.85	UG/M3	
	FB-01_20240228	TO-15	1.42	2403039-08A	541-73-1	1,3-Dichlorobenzene		U	0.85	UG/M3	
	FB-01_20240228	TO-15	1.42	2403039-08A	106-46-7	1,4-Dichlorobenzene		U	0.85	UG/M3	
	FB-01_20240228	TO-15	1.42	2403039-08A	67-64-1	Acetone		U	6.7	UG/M3	
	FB-01_20240228	TO-15	1.42	2403039-08A	108-90-7	Chlorobenzene		U	0.65	UG/M3	
	FB-01_20240228	TO-15	1.42	2403039-08A	75-69-4	Freon 11		U	0.80	UG/M3	
	FB-01_20240228	TO-15	1.42	2403039-08A	76-13-1	Freon 113		U	1.1	UG/M3	
	FB-01_20240228	TO-15	1.42	2403039-08A	75-09-2	Methylene Chloride		U	0.99	UG/M3	
	FB-01_20240228	TO-15 SIM	1.42	2403039-08B	71-55-6	1,1,1-Trichloroethane		U	0.77	UG/M3	
	FB-01_20240228	TO-15 SIM	1.42	2403039-08B	75-35-4	1,1-Dichloroethene		U	0.056	UG/M3	
	FB-01_20240228	TO-15 SIM	1.42	2403039-08B	71-43-2	Benzene		U	0.23	UG/M3	
	FB-01_20240228	TO-15 SIM	1.42	2403039-08B	56-23-5	Carbon Tetrachloride		U	0.18	UG/M3	
	FB-01_20240228	TO-15 SIM	1.42	2403039-08B	156-59-2	cis-1,2-Dichloroethene		U	0.11	UG/M3	
	FB-01_20240228	TO-15 SIM	1.42	2403039-08B	100-41-4	Ethyl Benzene		U	0.12	UG/M3	
	FB-01_20240228	TO-15 SIM	1.42	2403039-08B	75-71-8	Freon 12		U	0.35	UG/M3	
	FB-01_20240228	TO-15 SIM	1.42	2403039-08B	179601-23-1	m,p-Xylene		U	0.25	UG/M3	
	FB-01_20240228	TO-15 SIM	1.42	2403039-08B	95-47-6	o-Xylene		U	0.12	UG/M3	
	FB-01_20240228	TO-15 SIM	1.42	2403039-08B	127-18-4	Tetrachloroethene		U	0.19	UG/M3	
	FB-01_20240228	TO-15 SIM	1.42	2403039-08B	108-88-3	Toluene		U	0.54	UG/M3	
	FB-01_20240228	TO-15 SIM	1.42	2403039-08B	79-01-6	Trichloroethene		U	0.15	UG/M3	
	FB-01_20240228	TO-15 SIM	1.42	2403039-08B	75-01-4	Vinyl Chloride		U	0.036	UG/M3	

Analytical Results

Parent ID	Field Sample ID	Analysis Method	DF	Laboratory Sample ID	CAS #	Analyte	Result	Validator Qualifier	RDL	Unit	Reason Code
IA0600_20240228	FD-01_20240228	TO-15	14.2	2403039-06A	120-82-1	1,2,4-Trichlorobenzene		U	53	UG/M3	
IA0600_20240228	FD-01_20240228	TO-15	14.2	2403039-06A	95-50-1	1,2-Dichlorobenzene		U	8.5	UG/M3	
IA0600_20240228	FD-01_20240228	TO-15	14.2	2403039-06A	541-73-1	1,3-Dichlorobenzene		U	8.5	UG/M3	
IA0600_20240228	FD-01_20240228	TO-15	14.2	2403039-06A	106-46-7	1,4-Dichlorobenzene		U	8.5	UG/M3	
IA0600_20240228	FD-01_20240228	TO-15	14.2	2403039-06A	67-64-1	Acetone		U	67	UG/M3	
IA0600_20240228	FD-01_20240228	TO-15	14.2	2403039-06A	108-90-7	Chlorobenzene		U	6.5	UG/M3	
IA0600_20240228	FD-01_20240228	TO-15	14.2	2403039-06A	75-69-4	Freon 11		U	8.0	UG/M3	
IA0600_20240228	FD-01_20240228	TO-15	14.2	2403039-06A	76-13-1	Freon 113		U	11	UG/M3	
IA0600_20240228	FD-01_20240228	TO-15	14.2	2403039-06A	75-09-2	Methylene Chloride		U	9.9	UG/M3	
IA0600_20240228	FD-01_20240228	TO-15 SIM	14.2	2403039-06B	71-55-6	1,1,1-Trichloroethane		U	7.7	UG/M3	
IA0600_20240228	FD-01_20240228	TO-15 SIM	14.2	2403039-06B	75-35-4	1,1-Dichloroethene		U	0.56	UG/M3	
IA0600_20240228	FD-01_20240228	TO-15 SIM	14.2	2403039-06B	71-43-2	Benzene		U	2.3	UG/M3	
IA0600_20240228	FD-01_20240228	TO-15 SIM	14.2	2403039-06B	56-23-5	Carbon Tetrachloride		U	1.8	UG/M3	
IA0600_20240228	FD-01_20240228	TO-15 SIM	14.2	2403039-06B	156-59-2	cis-1,2-Dichloroethene		U	1.1	UG/M3	
IA0600_20240228	FD-01_20240228	TO-15 SIM	14.2	2403039-06B	100-41-4	Ethyl Benzene		U	1.2	UG/M3	
IA0600_20240228	FD-01_20240228	TO-15 SIM	14.2	2403039-06B	75-71-8	Freon 12	23	J+	3.5	UG/M3	CCV
IA0600_20240228	FD-01_20240228	TO-15 SIM	14.2	2403039-06B	179601-23-1	m,p-Xylene		U	2.5	UG/M3	
IA0600_20240228	FD-01_20240228	TO-15 SIM	14.2	2403039-06B	95-47-6	o-Xylene		U	1.2	UG/M3	
IA0600_20240228	FD-01_20240228	TO-15 SIM	14.2	2403039-06B	127-18-4	Tetrachloroethene		U	1.9	UG/M3	
IA0600_20240228	FD-01_20240228	TO-15 SIM	14.2	2403039-06B	108-88-3	Toluene		U	5.4	UG/M3	
IA0600_20240228	FD-01_20240228	TO-15 SIM	14.2	2403039-06B	79-01-6	Trichloroethene		U	1.5	UG/M3	
IA0600_20240228	FD-01_20240228	TO-15 SIM	14.2	2403039-06B	75-01-4	Vinyl Chloride		U	0.36	UG/M3	

Analytical Results

Parent ID	Field Sample ID	Analysis Method	DF	Laboratory Sample ID	CAS #	Analyte	Result	Validator Qualifier	RDL	Unit	Reason Code
FD-01_20240228	IA0600_20240228	TO-15	1.31	2403039-01A	120-82-1	1,2,4-Trichlorobenzene		U	4.9	UG/M3	
FD-01_20240228	IA0600_20240228	TO-15	1.31	2403039-01A	95-50-1	1,2-Dichlorobenzene		U	0.79	UG/M3	
FD-01_20240228	IA0600_20240228	TO-15	1.31	2403039-01A	541-73-1	1,3-Dichlorobenzene		U	0.79	UG/M3	
FD-01_20240228	IA0600_20240228	TO-15	1.31	2403039-01A	106-46-7	1,4-Dichlorobenzene		U	0.79	UG/M3	
FD-01_20240228	IA0600_20240228	TO-15	1.31	2403039-01A	67-64-1	Acetone	19		6.2	UG/M3	
FD-01_20240228	IA0600_20240228	TO-15	1.31	2403039-01A	108-90-7	Chlorobenzene		U	0.60	UG/M3	
FD-01_20240228	IA0600_20240228	TO-15	1.31	2403039-01A	75-69-4	Freon 11	6.8		0.74	UG/M3	
FD-01_20240228	IA0600_20240228	TO-15	1.31	2403039-01A	76-13-1	Freon 113		U	1.0	UG/M3	
FD-01_20240228	IA0600_20240228	TO-15	1.31	2403039-01A	75-09-2	Methylene Chloride		U	0.91	UG/M3	
FD-01_20240228	IA0600_20240228	TO-15 SIM	1.31	2403039-01B	71-55-6	1,1,1-Trichloroethane		U	0.71	UG/M3	
FD-01_20240228	IA0600_20240228	TO-15 SIM	1.31	2403039-01B	75-35-4	1,1-Dichloroethene		U	0.052	UG/M3	
FD-01_20240228	IA0600_20240228	TO-15 SIM	1.31	2403039-01B	71-43-2	Benzene	0.38		0.21	UG/M3	
FD-01_20240228	IA0600_20240228	TO-15 SIM	1.31	2403039-01B	56-23-5	Carbon Tetrachloride	0.47		0.16	UG/M3	
FD-01_20240228	IA0600_20240228	TO-15 SIM	1.31	2403039-01B	156-59-2	cis-1,2-Dichloroethene		U	0.10	UG/M3	
FD-01_20240228	IA0600_20240228	TO-15 SIM	1.31	2403039-01B	100-41-4	Ethyl Benzene	0.21		0.11	UG/M3	
FD-01_20240228	IA0600_20240228	TO-15 SIM	1.31	2403039-01B	75-71-8	Freon 12	22	J+	0.32	UG/M3	CCV
FD-01_20240228	IA0600_20240228	TO-15 SIM	1.31	2403039-01B	179601-23-1	m,p-Xylene	0.71		0.23	UG/M3	
FD-01_20240228	IA0600_20240228	TO-15 SIM	1.31	2403039-01B	95-47-6	o-Xylene	0.46		0.11	UG/M3	
FD-01_20240228	IA0600_20240228	TO-15 SIM	1.31	2403039-01B	127-18-4	Tetrachloroethene		U	0.18	UG/M3	
FD-01_20240228	IA0600_20240228	TO-15 SIM	1.31	2403039-01B	108-88-3	Toluene	0.59		0.49	UG/M3	
FD-01_20240228	IA0600_20240228	TO-15 SIM	1.31	2403039-01B	79-01-6	Trichloroethene		U	0.14	UG/M3	
FD-01_20240228	IA0600_20240228	TO-15 SIM	1.31	2403039-01B	75-01-4	Vinyl Chloride		U	0.033	UG/M3	

Analytical Results

Parent ID	Field Sample ID	Analysis Method	DF	Laboratory Sample ID	CAS #	Analyte	Result	Validator Qualifier	RDL	Unit	Reason Code
	IA0601_20240228	TO-15	1.26	2403039-02A	120-82-1	1,2,4-Trichlorobenzene		U	4.7	UG/M3	
	IA0601_20240228	TO-15	1.26	2403039-02A	95-50-1	1,2-Dichlorobenzene		U	0.76	UG/M3	
	IA0601_20240228	TO-15	1.26	2403039-02A	541-73-1	1,3-Dichlorobenzene		U	0.76	UG/M3	
	IA0601_20240228	TO-15	1.26	2403039-02A	106-46-7	1,4-Dichlorobenzene		U	0.76	UG/M3	
	IA0601_20240228	TO-15	1.26	2403039-02A	67-64-1	Acetone	8.2		6.0	UG/M3	
	IA0601_20240228	TO-15	1.26	2403039-02A	108-90-7	Chlorobenzene		U	0.58	UG/M3	
	IA0601_20240228	TO-15	1.26	2403039-02A	75-69-4	Freon 11	7.4		0.71	UG/M3	
	IA0601_20240228	TO-15	1.26	2403039-02A	76-13-1	Freon 113		U	0.96	UG/M3	
	IA0601_20240228	TO-15	1.26	2403039-02A	75-09-2	Methylene Chloride		U	0.88	UG/M3	
	IA0601_20240228	TO-15 SIM	1.26	2403039-02B	71-55-6	1,1,1-Trichloroethane		U	0.69	UG/M3	
	IA0601_20240228	TO-15 SIM	1.26	2403039-02B	75-35-4	1,1-Dichloroethene		U	0.050	UG/M3	
	IA0601_20240228	TO-15 SIM	1.26	2403039-02B	71-43-2	Benzene	0.35		0.20	UG/M3	
	IA0601_20240228	TO-15 SIM	1.26	2403039-02B	56-23-5	Carbon Tetrachloride	0.48		0.16	UG/M3	
	IA0601_20240228	TO-15 SIM	1.26	2403039-02B	156-59-2	cis-1,2-Dichloroethene		U	0.10	UG/M3	
	IA0601_20240228	TO-15 SIM	1.26	2403039-02B	100-41-4	Ethyl Benzene	0.21		0.11	UG/M3	
	IA0601_20240228	TO-15 SIM	1.26	2403039-02B	75-71-8	Freon 12	23	J+	0.31	UG/M3	CCV
	IA0601_20240228	TO-15 SIM	1.26	2403039-02B	179601-23-1	m,p-Xylene	0.73		0.22	UG/M3	
	IA0601_20240228	TO-15 SIM	1.26	2403039-02B	95-47-6	o-Xylene	0.48		0.11	UG/M3	
	IA0601_20240228	TO-15 SIM	1.26	2403039-02B	127-18-4	Tetrachloroethene		U	0.17	UG/M3	
	IA0601_20240228	TO-15 SIM	1.26	2403039-02B	108-88-3	Toluene	0.65		0.47	UG/M3	
	IA0601_20240228	TO-15 SIM	1.26	2403039-02B	79-01-6	Trichloroethene		U	0.14	UG/M3	
	IA0601_20240228	TO-15 SIM	1.26	2403039-02B	75-01-4	Vinyl Chloride		U	0.032	UG/M3	

Analytical Results

Parent ID	Field Sample ID	Analysis Method	DF	Laboratory Sample ID	CAS #	Analyte	Result	Validator Qualifier	RDL	Unit	Reason Code
	IA0602_20240228	TO-15	12.6	2403039-03A	120-82-1	1,2,4-Trichlorobenzene		U	47	UG/M3	
	IA0602_20240228	TO-15	12.6	2403039-03A	95-50-1	1,2-Dichlorobenzene		U	7.6	UG/M3	
	IA0602_20240228	TO-15	12.6	2403039-03A	541-73-1	1,3-Dichlorobenzene		U	7.6	UG/M3	
	IA0602_20240228	TO-15	12.6	2403039-03A	106-46-7	1,4-Dichlorobenzene		U	7.6	UG/M3	
	IA0602_20240228	TO-15	12.6	2403039-03A	67-64-1	Acetone		U	60	UG/M3	
	IA0602_20240228	TO-15	12.6	2403039-03A	108-90-7	Chlorobenzene		U	5.8	UG/M3	
	IA0602_20240228	TO-15	12.6	2403039-03A	75-69-4	Freon 11	8.5		7.1	UG/M3	
	IA0602_20240228	TO-15	12.6	2403039-03A	76-13-1	Freon 113		U	9.6	UG/M3	
	IA0602_20240228	TO-15	12.6	2403039-03A	75-09-2	Methylene Chloride		U	8.8	UG/M3	
	IA0602_20240228	TO-15 SIM	12.6	2403039-03B	71-55-6	1,1,1-Trichloroethane		U	6.9	UG/M3	
	IA0602_20240228	TO-15 SIM	12.6	2403039-03B	75-35-4	1,1-Dichloroethene		U	0.50	UG/M3	
	IA0602_20240228	TO-15 SIM	12.6	2403039-03B	71-43-2	Benzene		U	2.0	UG/M3	
	IA0602_20240228	TO-15 SIM	12.6	2403039-03B	56-23-5	Carbon Tetrachloride		U	1.6	UG/M3	
	IA0602_20240228	TO-15 SIM	12.6	2403039-03B	156-59-2	cis-1,2-Dichloroethene		U	1.0	UG/M3	
	IA0602_20240228	TO-15 SIM	12.6	2403039-03B	100-41-4	Ethyl Benzene		U	1.1	UG/M3	
	IA0602_20240228	TO-15 SIM	12.6	2403039-03B	75-71-8	Freon 12	26	J+	3.1	UG/M3	CCV
	IA0602_20240228	TO-15 SIM	12.6	2403039-03B	179601-23-1	m,p-Xylene		U	2.2	UG/M3	
	IA0602_20240228	TO-15 SIM	12.6	2403039-03B	95-47-6	o-Xylene		U	1.1	UG/M3	
	IA0602_20240228	TO-15 SIM	12.6	2403039-03B	127-18-4	Tetrachloroethene		U	1.7	UG/M3	
	IA0602_20240228	TO-15 SIM	12.6	2403039-03B	108-88-3	Toluene		U	4.7	UG/M3	
	IA0602_20240228	TO-15 SIM	12.6	2403039-03B	79-01-6	Trichloroethene		U	1.4	UG/M3	
	IA0602_20240228	TO-15 SIM	12.6	2403039-03B	75-01-4	Vinyl Chloride		U	0.32	UG/M3	

Analytical Results

Parent ID	Field Sample ID	Analysis Method	DF	Laboratory Sample ID	CAS #	Analyte	Result	Validator Qualifier	RDL	Unit	Reason Code
	IA0603_20240228	TO-15	12.9	2403039-04A	120-82-1	1,2,4-Trichlorobenzene		U	48	UG/M3	
	IA0603_20240228	TO-15	12.9	2403039-04A	95-50-1	1,2-Dichlorobenzene		U	7.8	UG/M3	
	IA0603_20240228	TO-15	12.9	2403039-04A	541-73-1	1,3-Dichlorobenzene		U	7.8	UG/M3	
	IA0603_20240228	TO-15	12.9	2403039-04A	106-46-7	1,4-Dichlorobenzene		U	7.8	UG/M3	
	IA0603_20240228	TO-15	12.9	2403039-04A	67-64-1	Acetone		U	61	UG/M3	
	IA0603_20240228	TO-15	12.9	2403039-04A	108-90-7	Chlorobenzene		U	5.9	UG/M3	
	IA0603_20240228	TO-15	12.9	2403039-04A	75-69-4	Freon 11	8.0		7.2	UG/M3	
	IA0603_20240228	TO-15	12.9	2403039-04A	76-13-1	Freon 113		U	9.9	UG/M3	
	IA0603_20240228	TO-15	12.9	2403039-04A	75-09-2	Methylene Chloride		U	9.0	UG/M3	
	IA0603_20240228	TO-15 SIM	12.9	2403039-04B	71-55-6	1,1,1-Trichloroethane		U	7.0	UG/M3	
	IA0603_20240228	TO-15 SIM	12.9	2403039-04B	75-35-4	1,1-Dichloroethene		U	0.51	UG/M3	
	IA0603_20240228	TO-15 SIM	12.9	2403039-04B	71-43-2	Benzene		U	2.1	UG/M3	
	IA0603_20240228	TO-15 SIM	12.9	2403039-04B	56-23-5	Carbon Tetrachloride		U	1.6	UG/M3	
	IA0603_20240228	TO-15 SIM	12.9	2403039-04B	156-59-2	cis-1,2-Dichloroethene		U	1.0	UG/M3	
	IA0603_20240228	TO-15 SIM	12.9	2403039-04B	100-41-4	Ethyl Benzene		U	1.1	UG/M3	
	IA0603_20240228	TO-15 SIM	12.9	2403039-04B	75-71-8	Freon 12	24	J+	3.2	UG/M3	CCV
	IA0603_20240228	TO-15 SIM	12.9	2403039-04B	179601-23-1	m,p-Xylene		U	2.2	UG/M3	
	IA0603_20240228	TO-15 SIM	12.9	2403039-04B	95-47-6	o-Xylene		U	1.1	UG/M3	
	IA0603_20240228	TO-15 SIM	12.9	2403039-04B	127-18-4	Tetrachloroethene		U	1.8	UG/M3	
	IA0603_20240228	TO-15 SIM	12.9	2403039-04B	108-88-3	Toluene		U	4.9	UG/M3	
	IA0603_20240228	TO-15 SIM	12.9	2403039-04B	79-01-6	Trichloroethene		U	1.4	UG/M3	
	IA0603_20240228	TO-15 SIM	12.9	2403039-04B	75-01-4	Vinyl Chloride		U	0.33	UG/M3	

Analytical Results

Parent ID	Field Sample ID	Analysis Method	DF	Laboratory Sample ID	CAS #	Analyte	Result	Validator Qualifier	RDL	Unit	Reason Code
	IA0604_20240228	TO-15	14.2	2403039-05A	120-82-1	1,2,4-Trichlorobenzene		U	53	UG/M3	
	IA0604_20240228	TO-15	14.2	2403039-05A	95-50-1	1,2-Dichlorobenzene		U	8.5	UG/M3	
	IA0604_20240228	TO-15	14.2	2403039-05A	541-73-1	1,3-Dichlorobenzene		U	8.5	UG/M3	
	IA0604_20240228	TO-15	14.2	2403039-05A	106-46-7	1,4-Dichlorobenzene		U	8.5	UG/M3	
	IA0604_20240228	TO-15	14.2	2403039-05A	67-64-1	Acetone		U	67	UG/M3	
	IA0604_20240228	TO-15	14.2	2403039-05A	108-90-7	Chlorobenzene		U	6.5	UG/M3	
	IA0604_20240228	TO-15	14.2	2403039-05A	75-69-4	Freon 11	15		8.0	UG/M3	
	IA0604_20240228	TO-15	14.2	2403039-05A	76-13-1	Freon 113		U	11	UG/M3	
	IA0604_20240228	TO-15	14.2	2403039-05A	75-09-2	Methylene Chloride		U	9.9	UG/M3	
	IA0604_20240228	TO-15 SIM	14.2	2403039-05B	71-55-6	1,1,1-Trichloroethane		U	7.7	UG/M3	
	IA0604_20240228	TO-15 SIM	14.2	2403039-05B	75-35-4	1,1-Dichloroethene		U	0.56	UG/M3	
	IA0604_20240228	TO-15 SIM	14.2	2403039-05B	71-43-2	Benzene		U	2.3	UG/M3	
	IA0604_20240228	TO-15 SIM	14.2	2403039-05B	56-23-5	Carbon Tetrachloride		U	1.8	UG/M3	
	IA0604_20240228	TO-15 SIM	14.2	2403039-05B	156-59-2	cis-1,2-Dichloroethene		U	1.1	UG/M3	
	IA0604_20240228	TO-15 SIM	14.2	2403039-05B	100-41-4	Ethyl Benzene		U	1.2	UG/M3	
	IA0604_20240228	TO-15 SIM	14.2	2403039-05B	75-71-8	Freon 12	41	J+	3.5	UG/M3	CCV
	IA0604_20240228	TO-15 SIM	14.2	2403039-05B	179601-23-1	m,p-Xylene		U	2.5	UG/M3	
	IA0604_20240228	TO-15 SIM	14.2	2403039-05B	95-47-6	o-Xylene		U	1.2	UG/M3	
	IA0604_20240228	TO-15 SIM	14.2	2403039-05B	127-18-4	Tetrachloroethene		U	1.9	UG/M3	
	IA0604_20240228	TO-15 SIM	14.2	2403039-05B	108-88-3	Toluene		U	5.4	UG/M3	
	IA0604_20240228	TO-15 SIM	14.2	2403039-05B	79-01-6	Trichloroethene		U	1.5	UG/M3	
	IA0604_20240228	TO-15 SIM	14.2	2403039-05B	75-01-4	Vinyl Chloride		U	0.36	UG/M3	

SECTION 4

SUPPORT DOCUMENTATION

ENVIRONMENTAL® STANDARDS
Montrose Environmental Group

ORGANIC ANALYSIS SUPPORT DOCUMENTATION

Client Name:	Sanborn, Head & Associates, Inc.	EnvStd Project Manager:	Ammie Martin
Site/Project Name:	Former IBM East FishKill Building 316	Reviewed by:	Jessica Myers
Job Number/Task:	Data Usability Summary Report	Approved by:	Katelyn Kelly
Laboratory/Location:	Eurofins Air Toxics Ltd. / California	Completion Date:	04/2024
SDG:	2403039	Validation Level:	2B
Sample Collection Dates:	2/28/2024		

The following table indicates criteria that were examined, the identified problems, and support documentation attachments.

	Criteria Examined in Detail							**Problems Identified**						
	Note: All items examined have been included in the Support Document unless otherwise noted.													
	Check (√) if Yes or Footnote Letter for Comments Below													
Parameter/ Method	TO-15	TO-15 SIM						TO-15	TO-15 SIM					
Condition upon Receipt	√	√												
Sample Preservation	√	√												
Holding Times	√	√												
Blank Analysis Results	√	√												
Surrogates	√	√												
Laboratory Control Sample	√	√												
Matrix Spike/Matrix Spike Duplicate	√	√												
Laboratory Duplicate	√	√												
Field Duplicate	√	√												
Sample Preparation	√	√												
Detection Limit/Sensitivity	√	√												
Mass Tuning	√	√												
GC Instrument Performance – Resolution Checks and DDT/Endrin Breakdown														
Initial Calibrations	√	√												
Continuing Calibrations	√	√						√						
Internal Standard Performance	√	√												
Retention Time Shifts	√	√												
Quantitation of Results	√	√												
Qualitative Identification: Targets	√	√												
Qualitative Identification: TICs														
Multiple Dilutions/Analyses														
Analytical Sequence	√	√												
GC Column Agreement														
Manual Integration														
Percent Solids														
Extract Cleanup Documentation, Checks, and Calibrations														
Deliverable was Complete	√	√												
Other:														

Comments: Qualitative Identification, Quantitation of Results, and Manual Integrations are not included in the Support Documentation unless a problem was identified.

ENVIRONMENTAL® STANDARDS
Montrose Environmental Group

BLANK ANALYSIS RESULTS

Fraction[1]	Matrix[2]	Blank Type[3]	Blank Sample Number	Contaminant	Concentration	Units[4]	Qualification limit	
							(5×)	(10×)
			All compounds ND in blanks					

1 - M = Metal; G = General Chemistry; V = Volatile; S = Semivolatile; P = Pesticide/PCB; O = Other: PFAS
2 - Aq = Aqueous; S = Solid
3 - MB = Method Blank; TB = Trip Blank; EB = Equipment Blank; FB = Field Blank;
IB = Instrument Blank; CCB = Continuing Calibration Blank; ICB = Initial Calibration Blank
4 - µg/L, mg/L, µg/kg, mg/kg

Notes: ______________________________

Electronic Comprehensive Validation Package (eCVP)

Vera Belitsky Vera Belitsky 03-18-2024

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WORK ORDER #: 2403039

Work Order Summary

CLIENT:	Ms. Jennifer Sanborn Sanborn, Head & Associates 6 Bedford Farms Drive Ste 201 Bedford, NH 03110	**BILL TO:**	Accounts Payable Sanborn, Head & Associates 6 Bedford Farms Drive Ste 201 Bedford, NH 03110
PHONE:	603-229-1900	**P.O. #**	
FAX:	603-229-1919	**PROJECT #**	2999.21 EFK B316
DATE RECEIVED:	03/01/2024	**CONTACT:**	Jade White
DATE COMPLETED:	03/14/2024		

FRACTION #	NAME	TEST	RECEIPT VAC./PRES.	FINAL PRESSURE
01A	IA0600_20240228	Modified TO-15	4.0 "Hg	2 psi
01B	IA0600_20240228	Modified TO-15	4.0 "Hg	2 psi
02A	IA0601_20240228	Modified TO-15	3.0 "Hg	2 psi
02B	IA0601_20240228	Modified TO-15	3.0 "Hg	2 psi
03A	IA0602_20240228	Modified TO-15	3.0 "Hg	2 psi
03B	IA0602_20240228	Modified TO-15	3.0 "Hg	2 psi
04A	IA0603_20240228	Modified TO-15	3.5 "Hg	2 psi
04B	IA0603_20240228	Modified TO-15	3.5 "Hg	2 psi
05A	IA0604_20240228	Modified TO-15	6.0 "Hg	2 psi
05B	IA0604_20240228	Modified TO-15	6.0 "Hg	2 psi
06A	FD-01_20240228	Modified TO-15	6.0 "Hg	2 psi
06B	FD-01_20240228	Modified TO-15	6.0 "Hg	2 psi
07A	AA0601_20240228	Modified TO-15	2.5 "Hg	2 psi
07B	AA0601_20240228	Modified TO-15	2.5 "Hg	2 psi
08A	FB-01_20240228	Modified TO-15	6.0 "Hg	2 psi
08B	FB-01_20240228	Modified TO-15	6.0 "Hg	2 psi
09A	Lab Blank	Modified TO-15	NA	NA
09B	Lab Blank	Modified TO-15	NA	NA
10A	CCV	Modified TO-15	NA	NA
10B	CCV	Modified TO-15	NA	NA
11A	LCS	Modified TO-15	NA	NA
11AA	LCSD	Modified TO-15	NA	NA
11B	LCS	Modified TO-15	NA	NA

Continued on next page

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WORK ORDER #: 2403039

Work Order Summary

CLIENT:	Ms. Jennifer Sanborn Sanborn, Head & Associates 6 Bedford Farms Drive Ste 201 Bedford, NH 03110	**BILL TO:**	Accounts Payable Sanborn, Head & Associates 6 Bedford Farms Drive Ste 201 Bedford, NH 03110
PHONE:	603-229-1900	**P.O. #**	
FAX:	603-229-1919	**PROJECT #**	2999.21 EFK B316
DATE RECEIVED:	03/01/2024	**CONTACT:**	Jade White
DATE COMPLETED:	03/14/2024		

FRACTION #	NAME	TEST	RECEIPT VAC./PRES.	FINAL PRESSURE
11BB	LCSD	Modified TO-15	NA	NA

CERTIFIED BY: Heidi Hayes DATE: 03/15/24

Technical Director

Certification numbers: AZ Licensure AZ0775, FL NELAP – E87680, LA NELAP – 02089, NH NELAP – 209222, NJ NELAP - CA016, NY NELAP - 11291, TX NELAP – T104704434-22-18, UT NELAP – CA009332022-14, VA NELAP - 12240, WA ELAP - C935
Name of Accreditation Body: NELAP/ORELAP (Oregon Environmental Laboratory Accreditation Program) CA300005-017
Eurofins Environment Testing Northern California, LLC certifies that the test results contained in this report meet all requirements of the 2016 TNI Standard.

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

LABORATORY NARRATIVE
Modified TO-15 Full Scan/SIM
Sanborn, Head & Associates
Workorder# 2403039

Eight 6 Liter Summa Canister (100% SIM Ambient) samples were received on March 01, 2024. The laboratory performed analysis via modified EPA Method TO-15 using GC/MS in the Full Scan and SIM acquisition modes. The method involves concentrating up to 1.0 liters of air. The concentrated aliquot is then flash vaporized and swept through a water management system to remove water vapor. Following dehumidification, the sample passes directly into the GC/MS for analysis.

Method modifications taken to run these samples are summarized in the table below. Specific project requirements may over-ride the EATL modifications.

Requirement	***TO-15***	***ATL Modifications***
ICAL %RSD acceptance criteria	</=30% RSD with 2 compounds allowed out to < 40% RSD	For Full Scan: 30% RSD with 4 compounds allowed out to < 40% RSD For SIM: Project specific; default criteria is </=30% RSD with 10% of compounds allowed out to < 40% RSD
Daily Calibration	+- 30% Difference	For Full Scan: </= 30% Difference with four allowed out up to </=40%.; flag and narrate outliers For SIM: Project specific; default criteria is </= 30% Difference with 10% of compounds allowed out up to </=40%.; flag and narrate outliers
Blank and standards	Zero air	Nitrogen
Method Detection Limit	Follow 40CFR Pt.136 App. B	The MDL met all relevant requirements in Method TO-15 (statistical MDL less than the LOQ). The concentration of the spiked replicate may have exceeded 10X the calculated MDL in some cases

Receiving Notes

There were no receiving discrepancies.

Analytical Notes

The results for each sample in this report were acquired from two separate data files originating from the same analytical run. The two data files have the same base file name and are differentiated with a "sim" extension on the SIM data file.

Dilution was performed on samples IA0602_20240228, IA0603_20240228, IA0604_20240228 and FD-01_20240228 due to the presence of high level non-target species.

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.
E - Exceeds instrument calibration range.
S - Saturated peak.
Q - Exceeds quality control limits.
U - Compound analyzed for but not detected above the reporting limit.
UJ- Non-detected compound associated with low bias in the CCV
N - The identification is based on presumptive evidence.
CN - See case narrative explanation

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

Table 1

Client Sample ID	Lab Sample ID	Date Collected	Date Received	Date Extracted	Sample Holding Time (Days)	Date Analyzed	Sample Extract Holding Time (Days)	Sample Condition
IA0600_20240228	2403039-01A	02/28/2024	03/01/2024	NA	14	03/13/2024	NA	GOOD
IA0600_20240228	2403039-01B	02/28/2024	03/01/2024	NA	14	03/13/2024	NA	GOOD
IA0601_20240228	2403039-02A	02/28/2024	03/01/2024	NA	14	03/13/2024	NA	GOOD
IA0601_20240228	2403039-02B	02/28/2024	03/01/2024	NA	14	03/13/2024	NA	GOOD
IA0602_20240228	2403039-03A	02/28/2024	03/01/2024	NA	14	03/13/2024	NA	GOOD
IA0602_20240228	2403039-03B	02/28/2024	03/01/2024	NA	14	03/13/2024	NA	GOOD
IA0603_20240228	2403039-04A	02/28/2024	03/01/2024	NA	14	03/13/2024	NA	GOOD
IA0603_20240228	2403039-04B	02/28/2024	03/01/2024	NA	14	03/13/2024	NA	GOOD
IA0604_20240228	2403039-05A	02/28/2024	03/01/2024	NA	14	03/13/2024	NA	GOOD
IA0604_20240228	2403039-05B	02/28/2024	03/01/2024	NA	14	03/13/2024	NA	GOOD
FD-01_20240228	2403039-06A	02/28/2024	03/01/2024	NA	14	03/13/2024	NA	GOOD
FD-01_20240228	2403039-06B	02/28/2024	03/01/2024	NA	14	03/13/2024	NA	GOOD
AA0601_20240228	2403039-07A	02/28/2024	03/01/2024	NA	14	03/13/2024	NA	GOOD
AA0601_20240228	2403039-07B	02/28/2024	03/01/2024	NA	14	03/13/2024	NA	GOOD
FB-01_20240228	2403039-08A	02/28/2024	03/01/2024	NA	14	03/13/2024	NA	GOOD
FB-01_20240228	2403039-08B	02/28/2024	03/01/2024	NA	14	03/13/2024	NA	GOOD
Lab Blank	2403039-09A	NA	NA	NA	NA	03/13/2024	NA	GOOD
Lab Blank	2403039-09B	NA	NA	NA	NA	03/13/2024	NA	GOOD
CCV	2403039-10A	NA	NA	NA	NA	03/13/2024	NA	GOOD
CCV	2403039-10B	NA	NA	NA	NA	03/13/2024	NA	GOOD
LCS	2403039-11A	NA	NA	NA	NA	03/13/2024	NA	GOOD
LCSD	2403039-11AA	NA	NA	NA	NA	03/13/2024	NA	GOOD
LCS	2403039-11B	NA	NA	NA	NA	03/13/2024	NA	GOOD
LCSD	2403039-11BB	NA	NA	NA	NA	03/13/2024	NA	GOOD

Sample Results and Raw Data

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Summary of Detected Compounds
MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

Client Sample ID: IA0600_20240228

Lab ID#: 2403039-01A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 11	0.13	1.2	0.74	6.8
Acetone	2.6	8.1	6.2	19

Client Sample ID: IA0600_20240228

Lab ID#: 2403039-01B

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Carbon Tetrachloride	0.026	0.075	0.16	0.47
Freon 12	0.066	4.5	0.32	22
Benzene	0.066	0.12	0.21	0.38
Toluene	0.13	0.16	0.49	0.59
Ethyl Benzene	0.026	0.048	0.11	0.21
m,p-Xylene	0.052	0.16	0.23	0.71
o-Xylene	0.026	0.11	0.11	0.46

Client Sample ID: IA0601_20240228

Lab ID#: 2403039-02A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 11	0.13	1.3	0.71	7.4
Acetone	2.5	3.4	6.0	8.2

Client Sample ID: IA0601_20240228

Lab ID#: 2403039-02B

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Carbon Tetrachloride	0.025	0.077	0.16	0.48
Freon 12	0.063	4.6	0.31	23
Benzene	0.063	0.11	0.20	0.35
Toluene	0.13	0.17	0.47	0.65
Ethyl Benzene	0.025	0.048	0.11	0.21
m,p-Xylene	0.050	0.17	0.22	0.73

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Summary of Detected Compounds
MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

Client Sample ID: IA0601_20240228

Lab ID#: 2403039-02B

o-Xylene	0.025	0.11	0.11	0.48

Client Sample ID: IA0602_20240228

Lab ID#: 2403039-03A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 11	1.3	1.5	7.1	8.5

Client Sample ID: IA0602_20240228

Lab ID#: 2403039-03B

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	0.63	5.2	3.1	26

Client Sample ID: IA0603_20240228

Lab ID#: 2403039-04A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 11	1.3	1.4	7.2	8.0

Client Sample ID: IA0603_20240228

Lab ID#: 2403039-04B

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	0.64	4.9	3.2	24

Client Sample ID: IA0604_20240228

Lab ID#: 2403039-05A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 11	1.4	2.6	8.0	15

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Summary of Detected Compounds
MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

Client Sample ID: IA0604_20240228

Lab ID#: 2403039-05B

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	0.71	8.3	3.5	41

Client Sample ID: FD-01_20240228

Lab ID#: 2403039-06A

No Detections Were Found.

Client Sample ID: FD-01_20240228

Lab ID#: 2403039-06B

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	0.71	4.6	3.5	23

Client Sample ID: AA0601_20240228

Lab ID#: 2403039-07A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 11	0.12	0.22	0.70	1.2
Acetone	2.5	3.0	5.9	7.1

Client Sample ID: AA0601_20240228

Lab ID#: 2403039-07B

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Carbon Tetrachloride	0.025	0.071	0.16	0.45
Freon 12	0.062	0.72	0.31	3.6
Benzene	0.062	0.11	0.20	0.36

Client Sample ID: FB-01_20240228

Lab ID#: 2403039-08A

No Detections Were Found.

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Summary of Detected Compounds
MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

Client Sample ID: FB-01_20240228

Lab ID#: 2403039-08B

No Detections Were Found.

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Client Sample ID: IA0600_20240228

Lab ID#: 2403039-01A

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**22031309**	**Date of Collection:**	**2/28/24 2:23:00 PM**
Dil. Factor:	**1.31**	**Date of Analysis:**	**3/13/24 02:06 PM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 11	0.13	1.2	0.74	6.8
Freon 113	0.13	Not Detected	1.0	Not Detected
Acetone	2.6	8.1	6.2	19
Methylene Chloride	0.26	Not Detected	0.91	Not Detected
Chlorobenzene	0.13	Not Detected	0.60	Not Detected
1,3-Dichlorobenzene	0.13	Not Detected	0.79	Not Detected
1,4-Dichlorobenzene	0.13	Not Detected	0.79	Not Detected
1,2-Dichlorobenzene	0.13	Not Detected	0.79	Not Detected
1,2,4-Trichlorobenzene	0.66	Not Detected	4.9	Not Detected

Container Type: 6 Liter Summa Canister (100% SIM Ambient)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	117	70-130
Toluene-d8	106	70-130
4-Bromofluorobenzene	108	70-130

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Client Sample ID: IA0600_20240228

Lab ID#: 2403039-01B

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**22031309sim**	**Date of Collection:**	**2/28/24 2:23:00 PM**
Dil. Factor:	**1.31**	**Date of Analysis:**	**3/13/24 02:06 PM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	0.013	Not Detected	0.033	Not Detected
1,1-Dichloroethene	0.013	Not Detected	0.052	Not Detected
cis-1,2-Dichloroethene	0.026	Not Detected	0.10	Not Detected
Carbon Tetrachloride	0.026	0.075	0.16	0.47
Trichloroethene	0.026	Not Detected	0.14	Not Detected
Freon 12	0.066	4.5	0.32	22
1,1,1-Trichloroethane	0.13	Not Detected	0.71	Not Detected
Benzene	0.066	0.12	0.21	0.38
Toluene	0.13	0.16	0.49	0.59
Tetrachloroethene	0.026	Not Detected	0.18	Not Detected
Ethyl Benzene	0.026	0.048	0.11	0.21
m,p-Xylene	0.052	0.16	0.23	0.71
o-Xylene	0.026	0.11	0.11	0.46

Container Type: 6 Liter Summa Canister (100% SIM Ambient)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	113	70-130
Toluene-d8	105	70-130
4-Bromofluorobenzene	107	70-130

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Client Sample ID: IA0601_20240228

Lab ID#: 2403039-02A

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**22031310**	**Date of Collection:**	**2/28/24 2:45:00 PM**
Dil. Factor:	**1.26**	**Date of Analysis:**	**3/13/24 02:45 PM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 11	0.13	1.3	0.71	7.4
Freon 113	0.13	Not Detected	0.96	Not Detected
Acetone	2.5	3.4	6.0	8.2
Methylene Chloride	0.25	Not Detected	0.88	Not Detected
Chlorobenzene	0.13	Not Detected	0.58	Not Detected
1,3-Dichlorobenzene	0.13	Not Detected	0.76	Not Detected
1,4-Dichlorobenzene	0.13	Not Detected	0.76	Not Detected
1,2-Dichlorobenzene	0.13	Not Detected	0.76	Not Detected
1,2,4-Trichlorobenzene	0.63	Not Detected	4.7	Not Detected

Container Type: 6 Liter Summa Canister (100% SIM Ambient)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	119	70-130
Toluene-d8	108	70-130
4-Bromofluorobenzene	101	70-130

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Client Sample ID: IA0601_20240228

Lab ID#: 2403039-02B

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**22031310sim**	**Date of Collection: 2/28/24 2:45:00 PM**	
Dil. Factor:	**1.26**	**Date of Analysis: 3/13/24 02:45 PM**	

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	0.013	Not Detected	0.032	Not Detected
1,1-Dichloroethene	0.013	Not Detected	0.050	Not Detected
cis-1,2-Dichloroethene	0.025	Not Detected	0.10	Not Detected
Carbon Tetrachloride	0.025	0.077	0.16	0.48
Trichloroethene	0.025	Not Detected	0.14	Not Detected
Freon 12	0.063	4.6	0.31	23
1,1,1-Trichloroethane	0.13	Not Detected	0.69	Not Detected
Benzene	0.063	0.11	0.20	0.35
Toluene	0.13	0.17	0.47	0.65
Tetrachloroethene	0.025	Not Detected	0.17	Not Detected
Ethyl Benzene	0.025	0.048	0.11	0.21
m,p-Xylene	0.050	0.17	0.22	0.73
o-Xylene	0.025	0.11	0.11	0.48

Container Type: 6 Liter Summa Canister (100% SIM Ambient)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	115	70-130
Toluene-d8	106	70-130
4-Bromofluorobenzene	100	70-130

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Client Sample ID: IA0602_20240228

Lab ID#: 2403039-03A

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**22031311**	**Date of Collection:**	**2/28/24 2:31:00 PM**
Dil. Factor:	**12.6**	**Date of Analysis:**	**3/13/24 03:23 PM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 11	1.3	1.5	7.1	8.5
Freon 113	1.3	Not Detected	9.6	Not Detected
Acetone	25	Not Detected	60	Not Detected
Methylene Chloride	2.5	Not Detected	8.8	Not Detected
Chlorobenzene	1.3	Not Detected	5.8	Not Detected
1,3-Dichlorobenzene	1.3	Not Detected	7.6	Not Detected
1,4-Dichlorobenzene	1.3	Not Detected	7.6	Not Detected
1,2-Dichlorobenzene	1.3	Not Detected	7.6	Not Detected
1,2,4-Trichlorobenzene	6.3	Not Detected	47	Not Detected

Container Type: 6 Liter Summa Canister (100% SIM Ambient)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	114	70-130
Toluene-d8	108	70-130
4-Bromofluorobenzene	106	70-130

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Client Sample ID: IA0602_20240228

Lab ID#: 2403039-03B

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**22031311sim**	**Date of Collection:**	**2/28/24 2:31:00 PM**
Dil. Factor:	**12.6**	**Date of Analysis:**	**3/13/24 03:23 PM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	0.13	Not Detected	0.32	Not Detected
1,1-Dichloroethene	0.13	Not Detected	0.50	Not Detected
cis-1,2-Dichloroethene	0.25	Not Detected	1.0	Not Detected
Carbon Tetrachloride	0.25	Not Detected	1.6	Not Detected
Trichloroethene	0.25	Not Detected	1.4	Not Detected
Freon 12	0.63	5.2	3.1	26
1,1,1-Trichloroethane	1.3	Not Detected	6.9	Not Detected
Benzene	0.63	Not Detected	2.0	Not Detected
Toluene	1.3	Not Detected	4.7	Not Detected
Tetrachloroethene	0.25	Not Detected	1.7	Not Detected
Ethyl Benzene	0.25	Not Detected	1.1	Not Detected
m,p-Xylene	0.50	Not Detected	2.2	Not Detected
o-Xylene	0.25	Not Detected	1.1	Not Detected

Container Type: 6 Liter Summa Canister (100% SIM Ambient)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	109	70-130
Toluene-d8	105	70-130
4-Bromofluorobenzene	105	70-130

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Client Sample ID: IA0603_20240228

Lab ID#: 2403039-04A

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**22031312**	**Date of Collection:**	**2/28/24 2:47:00 PM**
Dil. Factor:	**12.9**	**Date of Analysis:**	**3/13/24 04:00 PM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 11	1.3	1.4	7.2	8.0
Freon 113	1.3	Not Detected	9.9	Not Detected
Acetone	26	Not Detected	61	Not Detected
Methylene Chloride	2.6	Not Detected	9.0	Not Detected
Chlorobenzene	1.3	Not Detected	5.9	Not Detected
1,3-Dichlorobenzene	1.3	Not Detected	7.8	Not Detected
1,4-Dichlorobenzene	1.3	Not Detected	7.8	Not Detected
1,2-Dichlorobenzene	1.3	Not Detected	7.8	Not Detected
1,2,4-Trichlorobenzene	6.4	Not Detected	48	Not Detected

Container Type: 6 Liter Summa Canister (100% SIM Ambient)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	115	70-130
Toluene-d8	110	70-130
4-Bromofluorobenzene	106	70-130

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Client Sample ID: IA0603_20240228

Lab ID#: 2403039-04B

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**22031312sim**	**Date of Collection: 2/28/24 2:47:00 PM**	
Dil. Factor:	**12.9**	**Date of Analysis: 3/13/24 04:00 PM**	

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	0.13	Not Detected	0.33	Not Detected
1,1-Dichloroethene	0.13	Not Detected	0.51	Not Detected
cis-1,2-Dichloroethene	0.26	Not Detected	1.0	Not Detected
Carbon Tetrachloride	0.26	Not Detected	1.6	Not Detected
Trichloroethene	0.26	Not Detected	1.4	Not Detected
Freon 12	0.64	4.9	3.2	24
1,1,1-Trichloroethane	1.3	Not Detected	7.0	Not Detected
Benzene	0.64	Not Detected	2.1	Not Detected
Toluene	1.3	Not Detected	4.9	Not Detected
Tetrachloroethene	0.26	Not Detected	1.8	Not Detected
Ethyl Benzene	0.26	Not Detected	1.1	Not Detected
m,p-Xylene	0.52	Not Detected	2.2	Not Detected
o-Xylene	0.26	Not Detected	1.1	Not Detected

Container Type: 6 Liter Summa Canister (100% SIM Ambient)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	110	70-130
Toluene-d8	108	70-130
4-Bromofluorobenzene	105	70-130

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Client Sample ID: IA0604_20240228

Lab ID#: 2403039-05A

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**22031314**	**Date of Collection:**	**2/28/24 1:45:00 PM**
Dil. Factor:	**14.2**	**Date of Analysis:**	**3/13/24 05:15 PM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 11	1.4	2.6	8.0	15
Freon 113	1.4	Not Detected	11	Not Detected
Acetone	28	Not Detected	67	Not Detected
Methylene Chloride	2.8	Not Detected	9.9	Not Detected
Chlorobenzene	1.4	Not Detected	6.5	Not Detected
1,3-Dichlorobenzene	1.4	Not Detected	8.5	Not Detected
1,4-Dichlorobenzene	1.4	Not Detected	8.5	Not Detected
1,2-Dichlorobenzene	1.4	Not Detected	8.5	Not Detected
1,2,4-Trichlorobenzene	7.1	Not Detected	53	Not Detected

Container Type: 6 Liter Summa Canister (100% SIM Ambient)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	111	70-130
Toluene-d8	110	70-130
4-Bromofluorobenzene	106	70-130

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Client Sample ID: IA0604_20240228

Lab ID#: 2403039-05B

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**22031314sim**	**Date of Collection:**	**2/28/24 1:45:00 PM**
Dil. Factor:	**14.2**	**Date of Analysis:**	**3/13/24 05:15 PM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	0.14	Not Detected	0.36	Not Detected
1,1-Dichloroethene	0.14	Not Detected	0.56	Not Detected
cis-1,2-Dichloroethene	0.28	Not Detected	1.1	Not Detected
Carbon Tetrachloride	0.28	Not Detected	1.8	Not Detected
Trichloroethene	0.28	Not Detected	1.5	Not Detected
Freon 12	0.71	8.3	3.5	41
1,1,1-Trichloroethane	1.4	Not Detected	7.7	Not Detected
Benzene	0.71	Not Detected	2.3	Not Detected
Toluene	1.4	Not Detected	5.4	Not Detected
Tetrachloroethene	0.28	Not Detected	1.9	Not Detected
Ethyl Benzene	0.28	Not Detected	1.2	Not Detected
m,p-Xylene	0.57	Not Detected	2.5	Not Detected
o-Xylene	0.28	Not Detected	1.2	Not Detected

Container Type: 6 Liter Summa Canister (100% SIM Ambient)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	110	70-130
Toluene-d8	108	70-130
4-Bromofluorobenzene	105	70-130

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Client Sample ID: FD-01_20240228

Lab ID#: 2403039-06A

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**22031313**	**Date of Collection:**	**2/28/24 2:23:00 PM**
Dil. Factor:	**14.2**	**Date of Analysis:**	**3/13/24 04:38 PM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 11	1.4	Not Detected	8.0	Not Detected
Freon 113	1.4	Not Detected	11	Not Detected
Acetone	28	Not Detected	67	Not Detected
Methylene Chloride	2.8	Not Detected	9.9	Not Detected
Chlorobenzene	1.4	Not Detected	6.5	Not Detected
1,3-Dichlorobenzene	1.4	Not Detected	8.5	Not Detected
1,4-Dichlorobenzene	1.4	Not Detected	8.5	Not Detected
1,2-Dichlorobenzene	1.4	Not Detected	8.5	Not Detected
1,2,4-Trichlorobenzene	7.1	Not Detected	53	Not Detected

Container Type: 6 Liter Summa Canister (100% SIM Ambient)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	115	70-130
Toluene-d8	110	70-130
4-Bromofluorobenzene	107	70-130

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Client Sample ID: FD-01_20240228

Lab ID#: 2403039-06B

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**22031313sim**	**Date of Collection:**	**2/28/24 2:23:00 PM**
Dil. Factor:	**14.2**	**Date of Analysis:**	**3/13/24 04:38 PM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	0.14	Not Detected	0.36	Not Detected
1,1-Dichloroethene	0.14	Not Detected	0.56	Not Detected
cis-1,2-Dichloroethene	0.28	Not Detected	1.1	Not Detected
Carbon Tetrachloride	0.28	Not Detected	1.8	Not Detected
Trichloroethene	0.28	Not Detected	1.5	Not Detected
Freon 12	0.71	4.6	3.5	23
1,1,1-Trichloroethane	1.4	Not Detected	7.7	Not Detected
Benzene	0.71	Not Detected	2.3	Not Detected
Toluene	1.4	Not Detected	5.4	Not Detected
Tetrachloroethene	0.28	Not Detected	1.9	Not Detected
Ethyl Benzene	0.28	Not Detected	1.2	Not Detected
m,p-Xylene	0.57	Not Detected	2.5	Not Detected
o-Xylene	0.28	Not Detected	1.2	Not Detected

Container Type: 6 Liter Summa Canister (100% SIM Ambient)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	111	70-130
Toluene-d8	107	70-130
4-Bromofluorobenzene	105	70-130

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Client Sample ID: AA0601_20240228

Lab ID#: 2403039-07A

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**22031315**	**Date of Collection:**	**2/28/24 3:08:00 PM**
Dil. Factor:	**1.24**	**Date of Analysis:**	**3/13/24 05:53 PM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 11	0.12	0.22	0.70	1.2
Freon 113	0.12	Not Detected	0.95	Not Detected
Acetone	2.5	3.0	5.9	7.1
Methylene Chloride	0.25	Not Detected	0.86	Not Detected
Chlorobenzene	0.12	Not Detected	0.57	Not Detected
1,3-Dichlorobenzene	0.12	Not Detected	0.74	Not Detected
1,4-Dichlorobenzene	0.12	Not Detected	0.74	Not Detected
1,2-Dichlorobenzene	0.12	Not Detected	0.74	Not Detected
1,2,4-Trichlorobenzene	0.62	Not Detected	4.6	Not Detected

Container Type: 6 Liter Summa Canister (100% SIM Ambient)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	121	70-130
Toluene-d8	109	70-130
4-Bromofluorobenzene	105	70-130

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Client Sample ID: AA0601_20240228

Lab ID#: 2403039-07B

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**22031315sim**	**Date of Collection:**	**2/28/24 3:08:00 PM**
Dil. Factor:	**1.24**	**Date of Analysis:**	**3/13/24 05:53 PM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	0.012	Not Detected	0.032	Not Detected
1,1-Dichloroethene	0.012	Not Detected	0.049	Not Detected
cis-1,2-Dichloroethene	0.025	Not Detected	0.098	Not Detected
Carbon Tetrachloride	0.025	0.071	0.16	0.45
Trichloroethene	0.025	Not Detected	0.13	Not Detected
Freon 12	0.062	0.72	0.31	3.6
1,1,1-Trichloroethane	0.12	Not Detected	0.68	Not Detected
Benzene	0.062	0.11	0.20	0.36
Toluene	0.12	Not Detected	0.47	Not Detected
Tetrachloroethene	0.025	Not Detected	0.17	Not Detected
Ethyl Benzene	0.025	Not Detected	0.11	Not Detected
m,p-Xylene	0.050	Not Detected	0.22	Not Detected
o-Xylene	0.025	Not Detected	0.11	Not Detected

Container Type: 6 Liter Summa Canister (100% SIM Ambient)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	115	70-130
Toluene-d8	106	70-130
4-Bromofluorobenzene	106	70-130

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Client Sample ID: FB-01_20240228

Lab ID#: 2403039-08A

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**22031316**	**Date of Collection:**	**2/28/24 8:36:00 AM**
Dil. Factor:	**1.42**	**Date of Analysis:**	**3/13/24 06:38 PM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 11	0.14	Not Detected	0.80	Not Detected
Freon 113	0.14	Not Detected	1.1	Not Detected
Acetone	2.8	Not Detected	6.7	Not Detected
Methylene Chloride	0.28	Not Detected	0.99	Not Detected
Chlorobenzene	0.14	Not Detected	0.65	Not Detected
1,3-Dichlorobenzene	0.14	Not Detected	0.85	Not Detected
1,4-Dichlorobenzene	0.14	Not Detected	0.85	Not Detected
1,2-Dichlorobenzene	0.14	Not Detected	0.85	Not Detected
1,2,4-Trichlorobenzene	0.71	Not Detected	5.3	Not Detected

Container Type: 6 Liter Summa Canister (100% SIM Ambient)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	115	70-130
Toluene-d8	108	70-130
4-Bromofluorobenzene	101	70-130

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Client Sample ID: FB-01_20240228

Lab ID#: 2403039-08B

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**22031316sim**	**Date of Collection:**	**2/28/24 8:36:00 AM**
Dil. Factor:	**1.42**	**Date of Analysis:**	**3/13/24 06:38 PM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	0.014	Not Detected	0.036	Not Detected
1,1-Dichloroethene	0.014	Not Detected	0.056	Not Detected
cis-1,2-Dichloroethene	0.028	Not Detected	0.11	Not Detected
Carbon Tetrachloride	0.028	Not Detected	0.18	Not Detected
Trichloroethene	0.028	Not Detected	0.15	Not Detected
Freon 12	0.071	Not Detected	0.35	Not Detected
1,1,1-Trichloroethane	0.14	Not Detected	0.77	Not Detected
Benzene	0.071	Not Detected	0.23	Not Detected
Toluene	0.14	Not Detected	0.54	Not Detected
Tetrachloroethene	0.028	Not Detected	0.19	Not Detected
Ethyl Benzene	0.028	Not Detected	0.12	Not Detected
m,p-Xylene	0.057	Not Detected	0.25	Not Detected
o-Xylene	0.028	Not Detected	0.12	Not Detected

Container Type: 6 Liter Summa Canister (100% SIM Ambient)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	111	70-130
Toluene-d8	105	70-130
4-Bromofluorobenzene	102	70-130

QC Results and Raw Data

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Client Sample ID: Lab Blank

Lab ID#: 2403039-09A

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**22031307a**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 3/13/24 12:29 PM**	

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 11	0.10	Not Detected	0.56	Not Detected
Freon 113	0.10	Not Detected	0.77	Not Detected
Acetone	2.0	Not Detected	4.8	Not Detected
Methylene Chloride	0.20	Not Detected	0.69	Not Detected
Chlorobenzene	0.10	Not Detected	0.46	Not Detected
1,3-Dichlorobenzene	0.10	Not Detected	0.60	Not Detected
1,4-Dichlorobenzene	0.10	Not Detected	0.60	Not Detected
1,2-Dichlorobenzene	0.10	Not Detected	0.60	Not Detected
1,2,4-Trichlorobenzene	0.50	Not Detected	3.7	Not Detected

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	119	70-130
Toluene-d8	109	70-130
4-Bromofluorobenzene	104	70-130

eurofins | Air Toxics

Client Sample ID: Lab Blank

Lab ID#: 2403039-09B

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**22031307sima**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 3/13/24 12:29 PM**	

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	0.010	Not Detected	0.026	Not Detected
1,1-Dichloroethene	0.010	Not Detected	0.040	Not Detected
cis-1,2-Dichloroethene	0.020	Not Detected	0.079	Not Detected
Carbon Tetrachloride	0.020	Not Detected	0.12	Not Detected
Trichloroethene	0.020	Not Detected	0.11	Not Detected
Freon 12	0.050	Not Detected	0.25	Not Detected
1,1,1-Trichloroethane	0.10	Not Detected	0.54	Not Detected
Benzene	0.050	Not Detected	0.16	Not Detected
Toluene	0.10	Not Detected	0.38	Not Detected
Tetrachloroethene	0.020	Not Detected	0.14	Not Detected
Ethyl Benzene	0.020	Not Detected	0.087	Not Detected
m,p-Xylene	0.040	Not Detected	0.17	Not Detected
o-Xylene	0.020	Not Detected	0.087	Not Detected

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	114	70-130
Toluene-d8	106	70-130
4-Bromofluorobenzene	103	70-130

LEVEL-IV VALIDATABLE

MODIFIED EPA METHOD TO-15

SURROGATE RECOVERY FORM

Lab Name : Eurofins Air Toxics _____ SDG No. :2403039

	CLIENT SAMPLE NO.	SURROGATE % RECOVERY						TOTAL OUT
		1,2-Dichloroethane-d4	#	Toluene-d8	#	4-Bromofluorobenzene	#	
1	IA0600_20240228	117		106		108		
2	IA0600_20240228	113		105		107		
3	IA0601_20240228	119		108		101		
4	IA0601_20240228	115		106		100		
5	IA0602_20240228	114		108		106		
6	IA0602_20240228	109		105		105		
7	IA0603_20240228	115		110		106		
8	IA0603_20240228	110		108		105		
9	IA0604_20240228	111		110		106		
10	IA0604_20240228	110		108		105		
11	FD-01_20240228	115		110		107		
12	FD-01_20240228	111		107		105		
13	AA0601_20240228	121		109		105		
14	AA0601_20240228	115		106		106		
15	FB-01_20240228	115		108		101		
16	FB-01_20240228	111		105		102		
17	Lab Blank	119		109		104		
18	Lab Blank	114		106		103		
19	CCV	110		110		115		
20	CCV	104		108		115		
21	LCS	107		109		118		
22	LCSD	106		110		117		
23	LCS	102		107		116		
24	LCSD	101		106		116		

Surrogate Recovery Limits

1,2-Dichloroethane-d4	70 - 130
Toluene-d8	70 - 130
4-Bromofluorobenzene	70 - 130

* Designates Values Outside of QC limits

LEVEL-IV VALIDATABLE

MODIFIED EPA METHOD TO-15

INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name : Eurofins Air Toxics File ID: 22031303.d Date : 2024-03-13 09:21:00 SDG No. : 2403039

		Bromochloromethane		RT		1,4-Difluorobenzene		RT		Chlorobenzene-d5		RT	
	24-HOUR CCV	230049		16.59		927063		17.89		759123		22.95	
	UPPER LIMIT	322068		16.92		1297888		18.22		1062772		23.28	
	LOWER LIMIT	138029		16.26		556237		17.56		455473		22.62	
	CLIENT SAMPLE NO.												
1	IA0600_20240228	217781		16.59		830645		17.89		713323		22.95	
2	IA0601_20240228	208750		16.59		791549		17.89		664422		22.95	
3	IA0602_20240228	215325		16.59		771400		17.89		669482		22.95	
4	IA0603_20240228	213991		16.59		765568		17.89		669730		22.95	
5	IA0604_20240228	215830		16.59		747611		17.89		662207		22.95	
6	FD-01_20240228	211562		16.59		753623		17.89		655988		22.95	
7	AA0601_20240228	199705		16.59		744255		17.89		646276		22.95	
8	FB-01_20240228	200290		16.59		725849		17.89		625773		22.95	
9	Lab Blank	215976		16.59		818477		17.89		708047		22.95	
10	CCV	230049		16.59		927063		17.89		759123		22.95	
11	LCS	240062		16.59		948676		17.89		761800		22.95	
12	LCSD	242106		16.59		942141		17.89		773889		22.95	

Area Upper Limit = +40% of intenral standard area

Area Lower Limit = -40% of intenral standard area

RT Upper Limit = +0.33 minutes of internal standard RT

RT Lower Limit = -0.33 minutes of internal standard RT

* Designates Values Outside of QC limits

LEVEL-IV VALIDATABLE

MODIFIED EPA METHOD TO-15

INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name : Eurofins Air Toxics File ID: 22031303sim.d Date : 2024-03-13 09:21:00 SDG No. : 2403039

		Bromochloromethane	RT	1,4-Difluorobenzene	RT	Chlorobenzene-d5	RT
	24-HOUR CCV	245373	16.60	989427	17.90	803642	22.96
	UPPER LIMIT	343522	16.93	1385197	18.23	1125098	23.29
	LOWER LIMIT	147223	16.27	593656	17.57	482185	22.63
	CLIENT SAMPLE NO.						
1	IA0600_20240228	232254	16.60	888939	17.90	763547	22.96
2	IA0601_20240228	222431	16.60	854502	17.90	714075	22.96
3	IA0602_20240228	230480	16.60	835188	17.90	715710	22.96
4	IA0603_20240228	228534	16.60	826180	17.90	720029	22.96
5	IA0604_20240228	227501	16.60	805795	17.90	705261	22.96
6	FD-01_20240228	226020	16.60	812299	17.90	713874	22.96
7	AA0601_20240228	214497	16.60	807566	17.90	696976	22.96
8	FB-01_20240228	214540	16.60	782400	17.90	671366	22.96
9	Lab Blank	230805	16.60	881410	17.90	753791	22.96
10	CCV	245373	16.60	989427	17.90	803642	22.96
11	LCS	255544	16.58	1009357	17.90	820451	22.96
12	LCSD	255930	16.60	1020947	17.90	823822	22.96

Area Upper Limit = +40% of intenral standard area

Area Lower Limit = -40% of intenral standard area

RT Upper Limit = +0.33 minutes of internal standard RT

RT Lower Limit = -0.33 minutes of internal standard RT

* Designates Values Outside of QC limits

SAMPLE RESULTS/SAMPLE RESULTS DUPLICATE

Lab File ID: 22031304.d & 22031305.d

Lab Sample ID: 11A & 11AA

CAS Number	Compound	Original Amount	Duplicate Amount	< 30% RPD	Result Less Than 5X RL
120-82-1	1,2,4-Trichlorobenzene	95	94	1.1	
95-50-1	1,2-Dichlorobenzene	97	95	2.1	
541-73-1	1,3-Dichlorobenzene	98	96	2.1	
106-46-7	1,4-Dichlorobenzene	99	96	3.1	
67-64-1	Acetone	81	85	4.8	Y
108-90-7	Chlorobenzene	99	99	0	
75-69-4	Freon 11	92	92	0	
76-13-1	Freon 113	91	90	1.1	
75-09-2	Methylene Chloride	90	94	4.3	

SAMPLE RESULTS/SAMPLE RESULTS DUPLICATE

Lab File ID: 22031304sim.d & 22031305sim.d

Lab Sample ID: 11B & 11BB

CAS Number	Compound	Original Amount	Duplicate Amount	RPD	Result Less Than 5X RL
71-55-6	1,1,1-Trichloroethane	90	90	0	
75-35-4	1,1-Dichloroethene	84	85	1.2	
71-43-2	Benzene	104	104	0	
56-23-5	Carbon Tetrachloride	61	61	0	
156-59-2	cis-1,2-Dichloroethene	87	88	1.1	
100-41-4	Ethyl Benzene	95	94	1.1	
75-71-8	Freon 12	128	127	0.78	
108-38-3	m,p-Xylene	85	84	1.2	
95-47-6	o-Xylene	87	86	1.2	
127-18-4	Tetrachloroethene	93	93	0	
108-88-3	Toluene	94	93	1.1	
79-01-6	Trichloroethene	94	93	1.1	
75-01-4	Vinyl Chloride	91	92	1.1	

US32TAR1

INITIAL CALIBRATION DATA

Start Cal Date : 02-FEB-2024 17:24
End Cal Date : 02-FEB-2024 22:19
Quant Method : ISTD
Origin : Disabled
Target Version : 3.60
Integrator : HP RTE
Method file : /chem/msd22.i/02FEB24.b/224l0202a.m
Cal Date : 05-Feb-2024 14:49 kp4d
Curve Type : Average

Calibration File Names:
Level 5: /chem/msd22.i/02FEB24.b/22020212.d
Level 6: /chem/msd22.i/02FEB24.b/22020213.d
Level 7: /chem/msd22.i/02FEB24.b/22020214.d
Level 8: /chem/msd22.i/02FEB24.b/22020215.d
Level 12: /chem/msd22.i/02FEB24.b/22020216.d
Level 13: /chem/msd22.i/02FEB24.b/22020217.d
Level 14: /chem/msd22.i/02FEB24.b/22020218.d
Level 15: /chem/msd22.i/02FEB24.b/22020219.d
Level 16: /chem/msd22.i/02FEB24.b/22020220.d

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
	15.000 Level 14	20.000 Level 15	40.000 Level 16					
1 Acetaldehyde	+++++	+++++	+++++	+++++	+++++	+++++		
	+++++	+++++	+++++				+++++	+++++
2 Vinyl Fluoride	+++++	+++++	+++++	+++++	+++++	+++++		
	+++++	+++++	+++++				+++++	+++++
3 Ethylene Oxide	+++++	+++++	+++++	+++++	+++++	+++++		
	+++++	+++++	+++++				+++++	+++++
4 2-Butene	+++++	+++++	+++++	+++++	+++++	+++++		
	+++++	+++++	+++++				+++++	+++++
5 1-Butene	+++++	+++++	+++++	+++++	+++++	+++++		
	+++++	+++++	+++++				+++++	+++++

US32TAR1

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Curve Type : Average

<30

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
	15.000 Level 14	20.000 Level 15	40.000 Level 16					
6 Methanol	+++++	+++++	+++++	+++++	+++++	+++++		
	+++++	+++++	+++++				+++++	+++++
7 2-Chloropropane	+++++	+++++	+++++	+++++	+++++	+++++		
	+++++	+++++	+++++				+++++	+++++
8 Bromoethane	+++++	+++++	+++++	+++++	+++++	+++++		
	+++++	+++++	+++++				+++++	+++++
9 1-Chloropropane	+++++	+++++	+++++	+++++	+++++	+++++		
	+++++	+++++	+++++				+++++	+++++
10 tert-Butyl chloride	+++++	+++++	+++++	+++++	+++++	+++++		
	+++++	+++++	+++++				+++++	+++++
11 Freon 134a	+++++	+++++	0.41998	0.38502	0.46319	0.42649		
	0.41329	0.42075	0.50978				0.43407	9.335
12 Propylene	+++++	+++++	0.37043	0.34745	0.39074	0.37115		
	0.35403	0.36438	0.43999				0.37688	8.246
13 Methylcyclopentane	+++++	+++++	+++++	+++++	+++++	+++++		
	+++++	+++++	+++++				+++++	+++++
14 1,1-Difluoroethane	+++++	+++++	0.72152	0.69295	0.38718	0.36329		
	0.35148	0.35886	0.43144				0.47239	34.467

non-target analyte, no qual

US32TAR1

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Curve Type : Average

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	15.000 Level 14	20.000 Level 15	40.000 Level 16	___ RRF	% RSD
15 Freon 12	+++++	2.04706	1.79994	1.80936	1.94870	1.78807	1.70689	1.74653	2.05558	1.86276	7.279
16 sec-Butyl chloride	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
17 Freon 143a	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
18 Chlorodifluoromethane	+++++	+++++	1.11486	1.10544	1.19910	1.11194	1.06041	1.08690	1.29636	1.13929	7.140
19 Isobutyl chloride	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
20 Propane	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
21 Methacrylonitrile	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
22 2-Chloropentane	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
23 2-Butanol	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++

US32TAR1

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Curve Type : Average

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
	15.000 Level 14	20.000 Level 15	40.000 Level 16					
24 Chloroacetonitrile	+++++	+++++	+++++	+++++	+++++	+++++		
	+++++	+++++	+++++				+++++	+++++
25 Cyclohexene	+++++	+++++	+++++	+++++	+++++	+++++		
	+++++	+++++	+++++				+++++	+++++
27 Isobutane	+++++	+++++	+++++	1.32846	1.46205	1.34885		
	1.28928	1.32080	1.54785				1.38288	7.247
28 1-Methoxy-2-propanol	+++++	+++++	+++++	+++++	+++++	+++++		
	+++++	+++++	+++++				+++++	+++++
29 1-Heptene	+++++	+++++	+++++	+++++	+++++	+++++		
	+++++	+++++	+++++				+++++	+++++
30 Freon 114	+++++	3.02806	2.68559	2.70275	2.80127	2.47980		
	2.38620	2.47430	3.07131				2.70366	9.417
31 2,3-Dichloro-1-propene	+++++	+++++	+++++	+++++	+++++	+++++		
	+++++	+++++	+++++				+++++	+++++
32 Bromodichloroethene	+++++	+++++	+++++	+++++	+++++	+++++		
	+++++	+++++	+++++				+++++	+++++
33 Chloromethane	+++++	+++++	1.04745	0.92339	0.82483	0.74653		
	0.71264	0.73051	0.91056				0.84227	14.710

US32TAR1

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Cal Date : 05-Feb-2024 14:49 kp4d
Curve Type : Average

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
	15.000 Level 14	20.000 Level 15	40.000 Level 16					
34 Diethyl Ketone	+++++	+++++	+++++	+++++	+++++	+++++		
	+++++	+++++	+++++				+++++	+++++
35 Epichlorohydrin	+++++	+++++	+++++	+++++	+++++	+++++		
	+++++	+++++	+++++				+++++	+++++
36 bis(chloromethyl) Ether	+++++	+++++	+++++	+++++	+++++	+++++		
	+++++	+++++	+++++				+++++	+++++
37 2-Nitropropane	+++++	+++++	+++++	+++++	+++++	+++++		
	+++++	+++++	+++++				+++++	+++++
38 Butane	+++++	+++++	0.16839	0.16370	0.16829	0.15334		
	0.14825	0.14896	0.17680				0.16110	6.851
39 1-Chloro-2-Bromopropane	+++++	+++++	+++++	+++++	+++++	+++++		
	+++++	+++++	+++++				+++++	+++++
40 Vinyl Chloride	+++++	1.09937	0.96453	0.96726	1.06654	0.98252		
	0.94078	0.95749	1.11095				1.01118	6.848
41 Ethyl Methacrylate	+++++	+++++	+++++	+++++	+++++	+++++		
	+++++	+++++	+++++				+++++	+++++
42 1-Nitropropane	+++++	+++++	+++++	+++++	+++++	+++++		
	+++++	+++++	+++++				+++++	+++++

US32TAR1

INITIAL CALIBRATION DATA

Start Cal Date : 02-FEB-2024 17:24
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Origin : Disabled
Target Version : 3.60
Integrator : HP RTE
Method file : /chem/msd22.i/02FEB24.b/224l0202a.m
Cal Date : 05-Feb-2024 14:49 kp4d
Curve Type : Average

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	15.000 Level 14	20.000 Level 15	40.000 Level 16	___ RRF	% RSD
43 Bromodichloroethane	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
44 Freon 142b	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
45 1,3-Butadiene	+++++	0.78107	0.65657	0.66587	0.72791	0.67348	0.64179	0.66304	0.77784	0.69845	8.008
46 Butyl Ether	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
47 Isobutylene	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
48 1,4-Dichloro-2-Butene	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
49 3-Ethyltoluene	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
50 Limonene	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
51 Benzaldehyde	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++

US32TAR1

INITIAL CALIBRATION DATA

Start Cal Date : 02-FEB-2024 17:24
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Origin : Disabled
Target Version : 3.60
Integrator : HP RTE
Method file : /chem/msd22.i/02FEB24.b/224l0202a.m
Cal Date : 05-Feb-2024 14:49 kp4d
Curve Type : Average

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	15.000 Level 14	20.000 Level 15	40.000 Level 16	___ RRF	% RSD
52 Isobutylbenzene	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
53 2-Ethyltoluene	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
54 Bromomethane	+++++	+++++	0.94562	1.11143	0.99929	0.96721	0.95314	1.00141	1.24986	1.03257	10.730
55 1,2,4,5-tetramethylbenzene	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
56 4-Ethyl-1,2-dimethylbenzene	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
57 1,3-Diethylbenzene	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
58 1,4-Diethylbenzene	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
59 Chloroethane	+++++	+++++	0.36079	0.36890	0.41094	0.38498	0.37029	0.38131	0.46884	0.39229	9.541
60 Isopentane	+++++	+++++	0.72703	0.74179	0.79573	0.71937	0.68264	0.68840	0.81406	0.73843	6.799

US32TAR1

INITIAL CALIBRATION DATA

Start Cal Date : 02-FEB-2024 17:24
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Quant Method : ISTD
Origin : Disabled
Target Version : 3.60
Integrator : HP RTE
Method file : /chem/msd22.i/02FEB24.b/224l0202a.m
Cal Date : 05-Feb-2024 14:49 kp4d
Curve Type : Average

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	15.000 Level 14	20.000 Level 15	40.000 Level 16	___ RRF	% RSD
61 Nitrobenzene	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
62 1-Pentene	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
63 Vinyl Bromide	+++++	+++++	1.33185	1.35818	1.52460	1.41044	1.31789	1.32121	1.53463	1.39983	6.721
64 Freon 11	2.79680	3.08261	2.78892	2.77718	3.04185	2.75925	2.56932	2.55340	2.78257	2.79466	6.385
65 Pentane	+++++	+++++	1.42263	1.42336	1.47132	1.36608	1.30226	1.32103	1.49778	1.40064	5.266
66 Dichlorofluoromethane	+++++	+++++	2.09087	2.05619	2.21473	2.02275	1.91053	1.97165	2.25586	2.07465	6.011
67 Freon 123	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
68 1,2-Dichloro-1-fluoroethane	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
69 Freon 123a	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++

US32TAR1

INITIAL CALIBRATION DATA

Start Cal Date : 02-FEB-2024 17:24
End Cal Date : 02-FEB-2024 22:19
Quant Method : ISTD
Origin : Disabled
Target Version : 3.60
Integrator : HP RTE
Method file : /chem/msd22.i/02FEB24.b/224l0202a.m
Cal Date : 05-Feb-2024 14:49 kp4d
Curve Type : Average

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
	15.000 Level 14	20.000 Level 15	40.000 Level 16					
70 Ethyl Ether	+++++	+++++	+++++	+++++	+++++	+++++		
	+++++	+++++	+++++				+++++	+++++
71 Ethanol	+++++	+++++	+++++	0.35955	0.29867	0.28995		
	0.28059	0.28789	0.33952				0.30936	10.433
72 Freon 113	2.43536	2.53198	2.30274	2.35583	2.77925	2.59537		
	2.53084	2.59010	2.97045				2.56577	8.075
73 1,1-Dichloroethene	+++++	1.16067	0.87883	0.80023	0.86268	0.73767		
	0.69169	0.70729	0.79781				0.82961	18.077
74 Acrolein	+++++	+++++	0.30736	0.27778	0.29629	0.27563		
	0.25655	0.25944	0.28818				0.28018	6.641
75 Carbon Disulfide	+++++	+++++	3.04439	2.86728	3.11195	2.95246		
	2.86292	2.87920	3.22246				2.99152	4.663
76 Cyclopentene	+++++	+++++	+++++	+++++	+++++	+++++		
	+++++	+++++	+++++				+++++	+++++
77 Iodomethane	+++++	+++++	+++++	+++++	+++++	+++++		
	+++++	+++++	+++++				+++++	+++++
78 Acetone	+++++	+++++	+++++	0.72597	0.51134	0.46317		
	0.42999	0.44002	0.50810				0.51310	21.364

US32TAR1

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Cal Date : 05-Feb-2024 14:49 kp4d
Curve Type : Average

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
	15.000 Level 14	20.000 Level 15	40.000 Level 16					
79 Methyl Acetate	+++++	+++++	+++++	+++++	+++++	+++++		
	+++++	+++++	+++++				+++++	+++++
80 Cyclopentane	+++++	+++++	+++++	+++++	+++++	+++++		
	+++++	+++++	+++++				+++++	+++++
81 2-Propanol	+++++	+++++	1.40837	1.42589	1.40477	1.32325		
	1.24793	1.26258	1.41222				1.35500	5.607
82 3-Chloropropene	+++++	+++++	0.39334	0.40589	0.44730	0.44101		
	0.43836	0.45591	0.51315				0.44214	8.745
83 1-Hexene	+++++	+++++	+++++	+++++	+++++	+++++		
	+++++	+++++	+++++				+++++	+++++
84 Acetonitrile	+++++	0.78487	0.61360	0.59526	0.67420	0.61826		
	0.58352	0.59944	0.69310				0.64528	10.602
85 Chloroprene	+++++	+++++	+++++	+++++	+++++	+++++		
	+++++	+++++	+++++				+++++	+++++
86 Methylene Chloride	+++++	1.18740	0.97364	0.98465	1.07230	1.03405		
	0.99221	1.00644	1.13940				1.04876	7.469
87 1-Propanol	+++++	+++++	+++++	+++++	+++++	+++++		
	+++++	+++++	+++++				+++++	+++++

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Cal Date : 05-Feb-2024 14:49 kp4d
Curve Type : Average

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
	15.000 Level 14	20.000 Level 15	40.000 Level 16					
88 Methyl tert-butyl ether	+++++	2.93862	2.78906	2.81055	2.96799	2.77301		
	2.58808	2.58879	2.89872				2.79435	5.193
89 tert-Butyl alcohol	+++++	1.93988	1.81015	1.74506	1.72474	1.52049		
	1.42334	1.44074	1.50332				1.63846	11.687
90 trans-1,2-Dichloroethene	+++++	1.10817	0.81289	0.84414	0.91020	0.78792		
	0.75551	0.76820	0.89250				0.85994	13.344
91 Acrylonitrile	+++++	+++++	0.66319	0.67173	0.72864	0.66287		
	0.62211	0.63575	0.72394				0.67260	6.029
92 Hexane	+++++	1.59561	1.62549	1.57831	1.54893	1.39395		
	1.32151	1.34460	1.50239				1.48885	8.015
93 Methyl Acrylate	+++++	+++++	+++++	+++++	+++++	+++++		
	+++++	+++++	+++++				+++++	+++++
94 Isopropyl ether	+++++	+++++	2.68644	2.69857	2.79634	2.49924		
	2.30889	2.31832	2.53526				2.54901	7.443
95 2-Chloroethyl Vinyl Ether	+++++	+++++	+++++	+++++	+++++	+++++		
	+++++	+++++	+++++				+++++	+++++
96 1,1-Dichloroethane	+++++	2.00446	1.88119	1.83162	1.81877	1.62726		
	1.52012	1.53151	1.73069				1.74320	9.912

US32TAR1

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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
	15.000 Level 14	20.000 Level 15	40.000 Level 16					
97 Vinyl Acetate	+++++	+++++	0.14377	0.15428	0.16265	0.15952		
	0.16088	0.16672	0.19482				0.16324	9.648
98 Ethyl-tert-butyl ether	+++++	+++++	3.29051	3.32872	3.41212	3.02119		
	2.82324	2.84626	3.11640				3.11978	7.526
99 Isobutanol	+++++	+++++	+++++	+++++	+++++	+++++		
	+++++	+++++	+++++				+++++	+++++
100 2,2-Dichloropropane	+++++	+++++	1.83655	1.79212	1.96070	1.83641		
	1.75861	1.78363	1.96005				1.84687	4.463
101 cis-1,2-Dichloroethene	+++++	0.97818	0.88545	0.87966	0.96878	0.85440		
	0.78268	0.80272	0.93183				0.88546	8.110
102 Ethyl Acetate	+++++	+++++	0.31731	0.31785	0.31317	0.30305		
	0.28891	0.28829	0.31876				0.30676	4.399
103 2-Butanone	+++++	0.59103	0.56566	0.55154	0.55810	0.53398		
	0.50703	0.51195	0.57922				0.54981	5.500
104 Tetrahydrofuran	+++++	+++++	0.98276	0.83587	1.00572	0.92080		
	0.89251	0.90018	1.01983				0.93681	7.227
106 Chloroform	+++++	2.25910	2.15828	2.18131	2.36576	2.20339		
	2.07148	2.07574	2.29817				2.20165	4.690

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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	15.000 Level 14	20.000 Level 15	40.000 Level 16	___ RRF	% RSD
107 Cyclohexane	+++++	+++++	1.42388	1.44812	1.63802	1.54509	1.45760	1.48012	1.71145	1.52918	7.089
108 1,1,1-Trichloroethane	2.29124	2.41865	2.22917	2.30691	2.49442	2.23016	2.06694	2.05962	2.26656	2.26263	6.300
109 Carbon Tetrachloride	1.18157	2.51390	2.33512	2.37330	2.43905	2.15104	2.03239	2.04397	2.30977	2.15335	18.637
110 Ethyl acrylate	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
111 1,1-Dichloropropene	+++++	+++++	0.82600	0.86258	0.86843	0.75561	0.72820	0.74356	0.89389	0.81118	8.350
112 2,2,4-Trimethylpentane	+++++	1.91455	1.52269	1.63412	1.56388	1.39594	1.31473	1.34056	1.54792	1.52930	12.613
113 Benzene	+++++	0.85196	0.76850	0.73583	0.84458	0.77483	0.72365	0.71205	0.79078	0.77527	6.754
114 tert-Amyl methyl ether	+++++	+++++	0.17978	0.17726	0.20529	0.18191	0.17197	0.17120	0.19515	0.18322	6.865
116 Heptane	+++++	0.23528	0.21681	0.21015	0.21486	0.19295	0.18427	0.18217	0.20398	0.20506	8.796

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Curve Type : Average

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	15.000 Level 14	20.000 Level 15	40.000 Level 16	___ RRF	% RSD
117 1,2-Dichloroethane	0.32625	0.31349	0.28341	0.27262	0.29181	0.26113	0.24544	0.24078	0.26009	0.27722	10.580
M 118 1,2-Dichloroethene (Total)	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
120 2-Pentanone	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
121 n-Butanol	+++++	+++++	0.09713	0.09613	0.10238	0.10170	0.09854	0.09982	0.12123	0.10242	8.398
122 Trichloroethene	0.50978	0.53084	0.48247	0.46207	0.45769	0.42917	0.41708	0.42075	0.50313	0.46811	8.812
123 Methylcyclohexane	+++++	+++++	0.48339	0.48110	0.56187	0.51494	0.48407	0.47961	0.54012	0.50644	6.585
M 124 Total Xylene	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
125 1,2-Dichloropropane	+++++	0.35074	0.29671	0.28271	0.29633	0.27349	0.26392	0.25929	0.29096	0.28927	9.882
126 Methyl Methacrylate	+++++	+++++	1.17592	1.13563	1.24995	1.18759	1.13916	1.14598	1.31241	1.19238	5.544

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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	15.000 Level 14	20.000 Level 15	40.000 Level 16	___ RRF	% RSD
127 1,4-Dioxane	+++++	0.22185	0.20899	0.20504	0.22306	0.21712	0.21441	0.21139	0.23610	0.21725	4.503
128 Dibromomethane	+++++	+++++	0.43987	0.43325	0.50621	0.46761	0.46876	0.46709	0.54204	0.47498	7.972
129 Bromodichloromethane	0.65624	0.74850	0.62563	0.62990	0.70602	0.66453	0.64296	0.62379	0.68417	0.66464	6.309
M 130 3 and 4-Ethyltoluene	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
131 1-Bromo-2-Chloroethane	0.59857	0.61564	0.55620	0.53782	0.58209	0.52811	0.49317	0.49045	0.55858	0.55118	7.908
132 cis-1,3-Dichloropropene	+++++	0.52310	0.45199	0.44039	0.48923	0.45178	0.44007	0.43761	0.48554	0.46496	6.657
133 4-Methyl-2-pentanone	+++++	0.51436	0.47187	0.45584	0.48234	0.44496	0.42362	0.41263	0.45705	0.45783	7.090
134 Octane	+++++	+++++	0.23881	0.22341	0.23278	0.21181	0.19807	0.19277	0.21683	0.21636	7.860
135 Butyl Acetate	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++

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137 Toluene	+++++	1.16739	1.03576	0.99047	1.15342	1.05484	0.98140	0.96890	1.09214	1.05554	7.256
138 trans-1,3-Dichloropropene	+++++	0.49738	0.44824	0.44847	0.58239	0.54349	0.47326	0.53002	0.58536	0.51358	10.778
139 1,1,2-Trichloroethane	0.53409	0.57921	0.48601	0.46817	0.54554	0.46710	0.44888	0.44139	0.49091	0.49570	9.507
140 Tetrachloroethene	0.87220	0.83238	0.77041	0.76945	0.88575	0.84963	0.83202	0.83135	0.94724	0.84338	6.580
141 1,3-Dichloropropane	+++++	+++++	0.44158	0.42944	0.49134	0.44629	0.41803	0.41535	0.44332	0.44076	5.774
142 2-Hexanone	+++++	+++++	0.39324	0.37901	0.37110	0.33993	0.33445	0.32854	0.36136	0.35823	6.852
143 Dibromochloromethane	0.93350	1.03062	0.94897	0.92725	0.95459	0.89978	0.88739	0.87918	1.01467	0.94177	5.611
144 1,2-Dibromoethane (EDB)	0.93240	0.87309	0.82431	0.83733	0.92593	0.82135	0.78476	0.76016	0.85138	0.84564	6.855
145 alpha-Pinene	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++

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	15.000 Level 14	20.000 Level 15	40.000 Level 16					
146 2-Heptanone	+++++	+++++	+++++	+++++	+++++	+++++		
	+++++	+++++	+++++				+++++	+++++
147 bis(2-Chloroethyl) Ether	+++++	+++++	+++++	+++++	+++++	+++++		
	+++++	+++++	+++++				+++++	+++++
149 Chlorobenzene	+++++	1.35409	1.20199	1.17734	1.12830	1.07024		
	1.03613	1.02129	1.14971				1.14239	9.416
150 Nonane	+++++	+++++	0.63393	0.61487	0.60398	0.52569		
	0.49328	0.47989	0.50894				0.55151	11.600
151 Ethyl Benzene	+++++	0.71905	0.60631	0.62651	0.58309	0.54467		
	0.51998	0.51061	0.58124				0.58643	11.445
152 1,1,1,2-Tetrachloroethane	+++++	+++++	0.62160	0.59279	0.62374	0.58463		
	0.58221	0.58320	0.67660				0.60925	5.680
153 m,p-Xylene	+++++	0.84568	0.73549	0.75180	0.72642	0.66383		
	0.62082	0.60675	0.68747				0.70478	11.005
154 o-Xylene	+++++	0.86669	0.75895	0.75015	0.71123	0.65073		
	0.60903	0.58906	0.66929				0.70064	12.975
155 Styrene	+++++	1.30857	1.17310	1.16468	1.12450	1.01103		
	0.95476	0.92582	1.03264				1.08689	11.851

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	15.000 Level 14	20.000 Level 15	40.000 Level 16					
156 beta-Pinene	+++++	+++++	+++++	+++++	+++++	+++++		
	+++++	+++++	+++++				+++++	+++++
157 4-Chlorotoluene	+++++	+++++	+++++	+++++	+++++	+++++		
	+++++	+++++	+++++				+++++	+++++
158 D-Limonene	+++++	+++++	+++++	+++++	+++++	+++++		
	+++++	+++++	+++++				+++++	+++++
159 Bromoform	+++++	0.96368	0.92774	0.95979	1.40891	1.38460		
	1.37045	1.36399	1.46338				1.23032	19.021
160 Cumene	+++++	2.34132	2.22174	2.22399	2.20576	1.96791		
	1.79720	1.70900	1.77190				2.02985	12.209
162 1,2,3-Trimethylbenzene	+++++	+++++	+++++	+++++	+++++	+++++		
	+++++	+++++	+++++				+++++	+++++
163 Bromobenzene	+++++	+++++	0.76013	0.79045	0.87413	0.80299		
	0.75259	0.72217	0.76125				0.78053	6.263
164 1,1,2,2-Tetrachloroethane	1.03338	1.05109	0.95235	0.95604	0.94608	0.82941		
	0.77444	0.74227	0.72136				0.88960	14.062
165 Propylbenzene	+++++	0.81177	0.65141	0.59434	0.66265	0.61075		
	0.55999	0.52269	0.50731				0.61511	15.775

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166 Cyclohexanone	+++++	+++++	0.39476	0.39161	0.38430	0.36288	0.35953	0.36143	0.41586	0.38148	5.559
167 Decane	+++++	+++++	0.97821	0.94330	0.88947	0.79367	0.74461	0.71709	0.73560	0.82885	12.901
168 trans-1,4-Dichloro-2-butene	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++
169 1,2,3-Trichloropropane	+++++	+++++	0.30014	0.28923	0.27231	0.25219	0.24404	0.24124	0.26350	0.26609	8.454
170 4-Ethyltoluene	2.53742	2.42252	2.27508	2.28818	2.14519	1.99947	1.82569	1.74993	1.83787	2.12015	13.303
171 2-Chlorotoluene	+++++	+++++	0.62160	0.58556	0.60552	0.57389	0.55284	0.53480	0.57809	0.57890	5.098
172 1,3,5-Trimethylbenzene	2.32331	2.31060	2.11642	2.10606	2.06314	1.82434	1.76804	1.70692	1.63646	1.98392	12.976
173 alpha Methyl Styrene	+++++	+++++	1.08976	1.05420	1.04106	0.99649	0.96738	0.95251	1.02917	1.01865	4.814
174 Diisobutyl Ketone	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++

US32TAR1

INITIAL CALIBRATION DATA

Start Cal Date : 02-FEB-2024 17:24
End Cal Date : 02-FEB-2024 22:19
Quant Method : ISTD
Origin : Disabled
Target Version : 3.60
Integrator : HP RTE
Method file : /chem/msd22.i/02FEB24.b/224l0202a.m
Cal Date : 05-Feb-2024 14:49 kp4d
Curve Type : Average

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
	15.000 Level 14	20.000 Level 15	40.000 Level 16					
175 tert-Butylbenzene	+++++	+++++	2.10584	1.99135	1.90446	1.77784		
	1.66249	1.57726	1.56125				1.79721	11.738
176 1,2,4-Trimethylbenzene	+++++	2.21851	2.11795	2.11509	2.06656	1.87918		
	1.76160	1.69376	1.71024				1.94536	10.723
177 sec-Butylbenzene	+++++	+++++	3.69349	3.52829	3.58117	3.20917		
	2.89359	2.84055	2.75646				3.21467	12.148
178 Pentachloroethane	+++++	+++++	+++++	+++++	+++++	+++++		
	+++++	+++++	+++++				+++++	+++++
179 p-Cymene	+++++	+++++	2.60706	2.51075	2.38292	2.22529		
	2.11151	2.04667	2.03280				2.27386	10.116
180 1,3-Dichlorobenzene	1.55900	1.54226	1.29089	1.24127	1.33728	1.28311		
	1.22917	1.19671	1.26308				1.32697	10.022
181 1,4-Dichlorobenzene	1.58965	1.49510	1.28196	1.21252	1.30899	1.27810		
	1.22204	1.18753	1.26888				1.31609	10.330
182 alpha-Chlorotoluene	+++++	1.46015	1.35021	1.36282	1.42048	1.31262		
	1.21602	1.17081	1.29636				1.32368	7.339
183 Undecane	+++++	+++++	1.09115	1.04952	1.03495	0.94062		
	0.89644	0.86873	0.89176				0.96759	9.228

US32TAR1

INITIAL CALIBRATION DATA

Start Cal Date : 02-FEB-2024 17:24
End Cal Date : 02-FEB-2024 22:19
Quant Method : ISTD
Origin : Disabled
Target Version : 3.60
Integrator : HP RTE
Method file : /chem/msd22.i/02FEB24.b/224l0202a.m
Cal Date : 05-Feb-2024 14:49 kp4d
Curve Type : Average

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
	15.000 Level 14	20.000 Level 15	40.000 Level 16					
184 Butylbenzene	+++++	+++++	0.62215	0.58875	0.67213	0.65015		
	0.63802	0.62771	0.67806				0.63957	4.812
185 1,2-Dichlorobenzene	1.64166	1.44994	1.26289	1.19385	1.28707	1.23273		
	1.19007	1.15931	1.24763				1.29613	11.922
186 Hexachloroethane	+++++	+++++	+++++	+++++	+++++	+++++		
	+++++	+++++	+++++				+++++	+++++
187 1,2-Dibromo-3-chloropropane	0.52341	0.69690	0.64154	0.65803	0.75977	0.74542		
	0.72515	0.72132	0.79488				0.69627	11.576
188 Dodecane	+++++	+++++	0.34313	0.35065	0.36003	0.35566		
	0.34888	0.34520	0.39791				0.35735	5.262
189 1,3,5-Trichlorobenzene	+++++	+++++	+++++	+++++	+++++	+++++		
	+++++	+++++	+++++				+++++	+++++
190 1,2,4-Trichlorobenzene	1.86848	1.43501	1.40073	1.37941	1.39901	1.36766		
	1.33127	1.31165	1.44219				1.43727	11.642
191 Hexachlorobutadiene	+++++	1.38645	1.25884	1.23779	1.23352	1.13793		
	1.10604	1.08210	1.15077				1.19918	8.326
192 Naphthalene	+++++	+++++	2.72574	2.55124	2.49726	2.36705		
	2.27199	2.20666	2.58286				2.45754	7.495

US32TAR1

INITIAL CALIBRATION DATA

Start Cal Date : 02-FEB-2024 17:24
End Cal Date : 02-FEB-2024 22:19
Quant Method : ISTD
Origin : Disabled
Target Version : 3.60
Integrator : HP RTE
Method file : /chem/msd22.i/02FEB24.b/224l0202a.m
Cal Date : 05-Feb-2024 14:49 kp4d
Curve Type : Average

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	15.000 Level 14	20.000 Level 15	40.000 Level 16	___ RRF	% RSD
193 1,2,3-Trichlorobenzene	+++++	1.33612	1.30144	1.29869	1.26304	1.26445	1.25026	1.23466	1.38209	1.29134	3.796
$ 26 Benzene-d6	+++++	+++++	+++++	+++++	+++++	+++++	+++++	+++++		+++++	+++++
$ 115 1,2-Dichloroethane-d4	0.99272	0.97551	0.99313	1.01847	0.92553	0.89951	0.87964	0.86821	0.82077	0.93039	7.315
$ 136 Toluene-d8	1.00591	0.99933	0.99841	0.99203	0.93110	0.91323	0.89494	0.89677	0.86368	0.94393	5.846
$ 161 4-Bromofluorobenzene	0.65778	0.65179	0.66359	0.67019	0.68649	0.70892	0.70043	0.67799	0.64647	0.67374	3.203

US32TAR1

INITIAL CALIBRATION DATA

Start Cal Date : 02-FEB-2024 16:10
End Cal Date : 02-FEB-2024 21:42
Quant Method : ISTD
Origin : Disabled
Target Version : 3.60
Integrator : HP RTE
Method file : /chem/msd22.i/02FEB24.b/224l0202a.m/224s0202a.m
Cal Date : 05-Feb-2024 11:23 kp4d
Curve Type : Average

Calibration File Names:
Level 3: /chem/msd22.i/02FEB24.b/22020210sim.d
Level 4: /chem/msd22.i/02FEB24.b/22020211sim.d
Level 5: /chem/msd22.i/02FEB24.b/22020212sim.d
Level 6: /chem/msd22.i/02FEB24.b/22020213sim.d
Level 7: /chem/msd22.i/02FEB24.b/22020214sim.d
Level 8: /chem/msd22.i/02FEB24.b/22020215sim.d
Level 12: /chem/msd22.i/02FEB24.b/22020216sim.d
Level 13: /chem/msd22.i/02FEB24.b/22020217sim.d
Level 14: /chem/msd22.i/02FEB24.b/22020218sim.d
Level 15: /chem/msd22.i/02FEB24.b/22020219sim.d

Compound	0.01000 Level 3 / 5.000 Level 12	0.02000 Level 4 / 10.000 Level 13	0.05000 Level 5 / 15.000 Level 14	0.10000 Level 6 / 20.000 Level 15	0.50000 Level 7	1.000 Level 8	___ RRF	% RSD
1 1,1-Difluoroethane	+++++ / +++++	+++++ / +++++	+++++ / +++++	+++++ / +++++	+++++	+++++	+++++	+++++
2 Freon 12	+++++ / 1.95325	1.78035 / 1.75508	1.77020 / 1.69355	1.82138 / 1.73203	1.71353	1.79351	1.77921	4.300
3 Freon 114	+++++ / 2.92440	2.81238 / 2.55166	2.79541 / 2.46220	2.95411 / 2.55313	2.75156	2.79813	2.73367	6.321
4 Chloromethane	+++++ / 0.85012	+++++ / 0.75503	+++++ / 0.73243	+++++ / 0.75156	1.05328	0.93302	0.84590	15.014
5 Vinyl Chloride	1.00188 / 1.10011	1.01327 / 0.99699	0.94501 / 0.95711	1.04241 / 0.97387	0.97334	0.98290	0.99869	4.545

US32TAR1

INITIAL CALIBRATION DATA

Start Cal Date : 02-FEB-2024 16:10
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Quant Method : ISTD
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Target Version : 3.60
Integrator : HP RTE
Method file : /chem/msd22.i/02FEB24.b/224l0202a.m/224s0202a.m
Cal Date : 05-Feb-2024 11:23 kp4d
Curve Type : Average

Compound	0.01000 Level 3	0.02000 Level 4	0.05000 Level 5	0.10000 Level 6	0.50000 Level 7	1.000 Level 8	___ RRF	% RSD
	5.000 Level 12	10.000 Level 13	15.000 Level 14	20.000 Level 15				
6 1,3-Butadiene	+++++	+++++	+++++	+++++	+++++	+++++		
	+++++	+++++	+++++	+++++			+++++	+++++
7 Bromomethane	+++++	+++++	+++++	+++++	+++++	+++++		
	+++++	+++++	+++++	+++++			+++++	+++++
8 Chloroethane	+++++	+++++	0.39687	0.38276	0.35941	0.36849		
	0.42091	0.39113	0.38097	0.39232			0.38661	4.839
9 Freon 11	+++++	2.87918	2.86113	3.05169	2.86263	2.87993		
	3.17702	2.79681	2.60067	2.57180			2.85343	6.695
10 Freon 113	+++++	2.42283	2.43816	2.52724	2.38383	2.43833		
	2.87387	2.63913	2.55757	2.60342			2.54271	5.973
11 1,1-Dichloroethene	0.99449	0.90669	0.92614	0.90193	0.82990	0.84984		
	0.87672	0.72366	0.67220	0.67099			0.83525	13.305
12 Acrolein	+++++	+++++	+++++	+++++	+++++	+++++		
	+++++	+++++	+++++	+++++			+++++	+++++
13 Carbon Disulfide	+++++	+++++	+++++	+++++	+++++	+++++		
	+++++	+++++	+++++	+++++			+++++	+++++
14 Acetone	+++++	+++++	+++++	+++++	+++++	+++++		
	+++++	+++++	+++++	+++++			+++++	+++++

US32TAR1

INITIAL CALIBRATION DATA

Start Cal Date : 02-FEB-2024 16:10
End Cal Date : 02-FEB-2024 21:42
Quant Method : ISTD
Origin : Disabled
Target Version : 3.60
Integrator : HP RTE
Method file : /chem/msd22.i/02FEB24.b/224l0202a.m/224s0202a.m
Cal Date : 05-Feb-2024 11:23 kp4d
Curve Type : Average

Compound	0.01000 Level 3	0.02000 Level 4	0.05000 Level 5	0.10000 Level 6	0.50000 Level 7	1.000 Level 8	___ RRF	% RSD
	5.000 Level 12	10.000 Level 13	15.000 Level 14	20.000 Level 15				
15 2-Propanol	+++++	+++++	+++++	+++++	+++++	+++++		
	+++++	+++++	+++++	+++++			+++++	+++++
16 Acetonitrile	+++++	+++++	+++++	+++++	+++++	+++++		
	+++++	+++++	+++++	+++++			+++++	+++++
17 Methylene Chloride	+++++	+++++	+++++	+++++	+++++	+++++		
	+++++	+++++	+++++	+++++			+++++	+++++
18 Methyl tert-butyl ether	+++++	2.73282	2.70326	2.76077	2.63109	2.67692		
	2.82079	2.58111	2.43122	2.41805			2.63956	5.318
19 trans-1,2-Dichloroethene	0.87037	0.93671	0.90161	0.90042	0.85940	0.87890		
	0.95296	0.80797	0.77621	0.79092			0.86755	6.904
20 Acrylonitrile	+++++	+++++	+++++	+++++	+++++	+++++		
	+++++	+++++	+++++	+++++			+++++	+++++
21 Hexane	+++++	+++++	+++++	+++++	+++++	+++++		
	+++++	+++++	+++++	+++++			+++++	+++++
22 1,1-Dichloroethane	1.86043	1.88618	1.92933	1.98119	1.84644	1.84952		
	1.87051	1.64264	1.53323	1.53136			1.79308	9.066
23 Vinyl Acetate	+++++	+++++	+++++	+++++	+++++	+++++		
	+++++	+++++	+++++	+++++			+++++	+++++

US32TAR1

INITIAL CALIBRATION DATA

Start Cal Date : 02-FEB-2024 16:10
End Cal Date : 02-FEB-2024 21:42
Quant Method : ISTD
Origin : Disabled
Target Version : 3.60
Integrator : HP RTE
Method file : /chem/msd22.i/02FEB24.b/224l0202a.m/224s0202a.m
Cal Date : 05-Feb-2024 11:23 kp4d
Curve Type : Average

	0.01000	0.02000	0.05000	0.10000	0.50000	1.000	___	
Compound	Level 3	Level 4	Level 5	Level 6	Level 7	Level 8	RRF	% RSD
	5.000	10.000	15.000	20.000				
	Level 12	Level 13	Level 14	Level 15				
24 cis-1,2-Dichloroethene	0.95164	0.92620	0.93872	0.96552	0.89485	0.91014		
	1.02295	0.87691	0.81914	0.82721			0.91333	6.826
25 2-Butanone	+++++	+++++	+++++	+++++	+++++	+++++		
	+++++	+++++	+++++	+++++			+++++	+++++
26 Tetrahydrofuran	+++++	+++++	+++++	+++++	+++++	+++++		
	+++++	+++++	+++++	+++++			+++++	+++++
28 Chloroform	2.24611	2.22769	2.31394	2.39447	2.23380	2.25588		
	2.43657	2.19706	2.07159	2.04723			2.24243	5.477
29 1,1,1-Trichloroethane	2.31999	2.46036	2.42243	2.49658	2.33511	2.36350		
	2.56245	2.22370	2.04879	2.02575			2.32587	7.736
30 Carbon Tetrachloride	+++++	1.06055	1.19502	2.45338	2.40566	2.45824		
	2.53410	2.17139	2.03093	2.02191			2.03680	26.973
31 Benzene	0.99324	0.86204	0.80816	0.83011	0.75267	0.72158		
	0.81732	0.73926	0.68647	0.66405			0.78749	12.293
33 1,2-Dichloroethane	0.28669	0.30395	0.30186	0.31254	0.28867	0.27735		
	0.29332	0.25925	0.24349	0.23636			0.28035	9.272
35 Trichloroethene	0.55854	0.53217	0.52110	0.54158	0.48483	0.45478		
	0.44502	0.40819	0.39482	0.39090			0.47319	13.392

US32TAR1

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Integrator : HP RTE
Method file : /chem/msd22.i/02FEB24.b/224l0202a.m/224s0202a.m
Cal Date : 05-Feb-2024 11:23 kp4d
Curve Type : Average

Compound	0.01000 Level 3 / 5.000 Level 12	0.02000 Level 4 / 10.000 Level 13	0.05000 Level 5 / 15.000 Level 14	0.10000 Level 6 / 20.000 Level 15	0.50000 Level 7	1.000 Level 8	___ RRF	% RSD
36 1,2-Dichloropropane	+++++ / +++++	+++++ / +++++	+++++ / +++++	+++++ / +++++	+++++	+++++	+++++	+++++
37 1,4-Dioxane	+++++ / +++++	+++++ / +++++	+++++ / +++++	+++++ / +++++	+++++	+++++	+++++	+++++
38 Bromodichloromethane	+++++ / +++++	+++++ / +++++	+++++ / +++++	+++++ / +++++	+++++	+++++	+++++	+++++
39 cis-1,3-Dichloropropene	+++++ / +++++	+++++ / +++++	+++++ / +++++	+++++ / +++++	+++++	+++++	+++++	+++++
41 Toluene	1.43483 / 1.08340	1.23490 / 0.96441	1.14282 / 0.88569	1.11287 / 0.85251	1.01000	0.97190	1.06933	16.295
42 trans-1,3-Dichloropropene	+++++ / 0.52643	0.49924 / 0.48405	0.47186 / 0.47241	0.48008 / 0.47109	0.44919	0.45094	0.47836	4.966
43 1,1,2-Trichloroethane	0.59193 / 0.55727	0.54580 / 0.47243	0.51891 / 0.44346	0.52905 / 0.43146	0.48957	0.49022	0.50701	10.057
44 Tetrachloroethene	1.05652 / 0.86002	0.91787 / 0.81682	0.83768 / 0.79510	0.80546 / 0.79167	0.73645	0.74598	0.83636	11.192
45 Dibromochloromethane	+++++ / +++++	+++++ / +++++	+++++ / +++++	+++++ / +++++	+++++	+++++	+++++	+++++

US32TAR1

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Integrator : HP RTE
Method file : /chem/msd22.i/02FEB24.b/224l0202a.m/224s0202a.m
Cal Date : 05-Feb-2024 11:23 kp4d
Curve Type : Average

Compound	0.01000 Level 3	0.02000 Level 4	0.05000 Level 5	0.10000 Level 6	0.50000 Level 7	1.000 Level 8	___ RRF	% RSD
	5.000 Level 12	10.000 Level 13	15.000 Level 14	20.000 Level 15				
46 1,2-Dibromoethane (EDB)	0.94938	0.96047	0.92246	0.92826	0.85820	0.85894		
	0.93947	0.81206	0.75661	0.73038			0.87162	9.476
48 Chlorobenzene	+++++	1.34835	1.32381	1.31905	1.21664	1.18757		
	1.12806	1.02790	0.97780	0.95296			1.16468	13.089
49 Ethyl Benzene	0.69732	0.69537	0.65747	0.65577	0.59958	0.59755		
	0.57063	0.51989	0.48870	0.47545			0.59577	13.704
50 m,p-Xylene	0.98055	0.92138	0.84973	0.81573	0.73167	0.72867		
	0.70328	0.63618	0.58773	0.56238			0.75173	18.508
51 o-Xylene	0.88526	0.83199	0.80685	0.79878	0.72765	0.72759		
	0.68946	0.62550	0.57858	0.55200			0.72236	15.426
52 Styrene	+++++	+++++	+++++	+++++	+++++	+++++		
	+++++	+++++	+++++	+++++			+++++	+++++
53 Bromoform	+++++	+++++	+++++	+++++	+++++	+++++		
	+++++	+++++	+++++	+++++			+++++	+++++
55 1,1,2,2-Tetrachloroethane	1.13776	1.12410	1.08557	1.09939	0.98792	0.99270		
	0.93570	0.79921	0.72768	0.68479			0.95748	17.465
56 1,2,3-Trichloropropane	+++++	+++++	+++++	+++++	+++++	+++++		
	+++++	+++++	+++++	+++++			+++++	+++++

US32TAR1

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Curve Type : Average

Compound	0.01000 Level 3	0.02000 Level 4	0.05000 Level 5	0.10000 Level 6	0.50000 Level 7	1.000 Level 8	___ RRF	% RSD
	5.000 Level 12	10.000 Level 13	15.000 Level 14	20.000 Level 15				
57 4-Ethyltoluene	+++++	+++++	+++++	+++++	+++++	+++++		
	+++++	+++++	+++++	+++++			+++++	+++++
58 1,3,5-Trimethylbenznene	+++++	+++++	+++++	+++++	+++++	+++++		
	+++++	+++++	+++++	+++++			+++++	+++++
59 1,2,4-Trimethylbenzene	+++++	+++++	+++++	+++++	+++++	+++++		
	+++++	+++++	+++++	+++++			+++++	+++++
60 1,3-Dichlorobenzene	+++++	1.63103	1.60572	1.57432	1.37278	1.29856		
	1.32157	1.21363	1.12353	1.07511			1.35736	15.269
61 1,4-Dichlorobenzene	1.68622	1.63147	1.59854	1.55724	1.34726	1.27327		
	1.31424	1.20561	1.12905	1.07825			1.38211	15.950
62 alpha-Chlorotolune	+++++	+++++	+++++	+++++	+++++	+++++		
	+++++	+++++	+++++	+++++			+++++	+++++
63 1,2-Dichlorobenzene	+++++	1.63037	1.59580	1.52004	1.33541	1.26260		
	1.28588	1.17764	1.10044	1.06093			1.32990	15.769
64 1,2-Dibromo-3-chloropropane	0.47644	0.46234	0.43235	0.71691	0.65830	0.66628		
	0.77449	0.73996	0.70880	0.69701			0.63329	19.973
65 1,2,4-Trichlorobenzene	+++++	+++++	+++++	+++++	+++++	+++++		
	+++++	+++++	+++++	+++++			+++++	+++++

US32TAR1

INITIAL CALIBRATION DATA

Start Cal Date : 02-FEB-2024 16:10
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Cal Date : 05-Feb-2024 11:23 kp4d
Curve Type : Average

	0.01000	0.02000	0.05000	0.10000	0.50000	1.000	___	
Compound	Level 3	Level 4	Level 5	Level 6	Level 7	Level 8	RRF	% RSD
	5.000	10.000	15.000	20.000				
	Level 12	Level 13	Level 14	Level 15				
M 66 Totals 1,2-Dichloroethene	+++++	+++++	+++++	+++++	+++++	+++++		
	+++++	+++++	+++++	+++++			+++++	+++++
67 Hexachlorobutadiene	+++++	+++++	+++++	+++++	+++++	+++++		
	+++++	+++++	+++++	+++++			+++++	+++++
68 Naphthalene	+++++	+++++	3.56600	2.91178	2.61608	2.59207		
	2.53075	2.39212	2.26794	2.20326			2.63500	16.583
M 69 Total Xylene	+++++	+++++	+++++	+++++	+++++	+++++		
	+++++	+++++	+++++	+++++			+++++	+++++
70 1,2,3-Trichlorobenzene	+++++	+++++	+++++	+++++	+++++	+++++		
	+++++	+++++	+++++	+++++			+++++	+++++
$ 32 1,2-Dichloroethane-d4	0.97682	1.00475	1.02848	0.99160	1.00067	1.02835		
	0.93203	0.89057	0.87895	0.88553			0.96178	6.198
$ 40 Toluene-d8	0.88644	0.88393	0.89231	0.89436	0.89137	0.88539		
	0.83176	0.80778	0.79999	0.80207			0.85754	4.847
$ 54 4-Bromofluorobenzene	0.67263	0.67985	0.68001	0.67548	0.67613	0.67960		
	0.70308	0.71302	0.69944	0.67933			0.68586	2.032

US32TAR1

INITIAL CALIBRATION DATA

Start Cal Date : 02-FEB-2024 17:24
End Cal Date : 02-FEB-2024 22:19
Quant Method : ISTD
Origin : Disabled
Target Version : 3.60
Integrator : HP RTE
Method file : /chem/msd22.i/02FEB24.b/22410202a.m
Cal Date : 05-Feb-2024 14:49 kp4d
Curve Type : Average

Calibration File Names:
Level 5: /chem/msd22.i/02FEB24.b/22020212.d
Level 6: /chem/msd22.i/02FEB24.b/22020213.d
Level 7: /chem/msd22.i/02FEB24.b/22020214.d
Level 8: /chem/msd22.i/02FEB24.b/22020215.d
Level 12: /chem/msd22.i/02FEB24.b/22020216.d
Level 13: /chem/msd22.i/02FEB24.b/22020217.d
Level 14: /chem/msd22.i/02FEB24.b/22020218.d
Level 15: /chem/msd22.i/02FEB24.b/22020219.d
Level 16: /chem/msd22.i/02FEB24.b/22020220.d

KP 2/5/24
MJS 2/6/24

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
	15.000 Level 14	20.000 Level 15	40.000 Level 16					
1 Acetaldehyde	+++++	+++++	+++++	+++++	+++++	+++++		
	+++++	+++++	+++++				+++++	+++++
2 Vinyl Fluoride	+++++	+++++	+++++	+++++	+++++	+++++		
	+++++	+++++	+++++				+++++	+++++
3 Ethylene Oxide	+++++	+++++	+++++	+++++	+++++	+++++		
	+++++	+++++	+++++				+++++	+++++
4 2-Butene	+++++	+++++	+++++	+++++	+++++	+++++		
	+++++	+++++	+++++				+++++	+++++
5 1-Butene	+++++	+++++	+++++	+++++	+++++	+++++		
	+++++	+++++	+++++				+++++	+++++

Curve Name: 224L0202A

Initial Calibration Narrative

An initial calibration curve was analyzed on 02/02/24 on MSD-22. The instrument was set up to do Full Scan and Selective Ion Monitoring (SIM) simultaneously.

Tune File: 22020209.
ICAL: Zero (0) out. 1,1-Difluoroethane @ 34.5%.
Naphthalene % RSD: 7.5%.
ICV: Two (2) out; Vinyl Acetate @ 163.7%, n-Butanol @ 163.9%. File 22020223.
DOD: Two (2) out; Vinyl Acetate @ 163.7%, n-Butanol @ 163.9%. File 22020223a.
RCP ICV: One (1) out; Vinyl Acetate @ 163.7%. See file 22020223c.
Naphthalene recovery: 96.2%.

The concentration of the following compounds was adjusted in the ICV: Acrolein (11.4ppbv) and Naphthalene (1.14ppbv).

BTEXS R.L. verification spike: All compounds 50% - 150%. File 22020213x.

The reporting limit for Isobutane is raised to 1.0ppbv due to poor peak quality at the reporting limit.

Ethanol was calibrated from 1.232ppbv to 49.28ppbv.
Acrolein was calibrated from 0.5825ppbv to 46.6ppbv. **(Raised RL due to poor peak quality at the RL)**
Acetonitrile was calibrated from 0.1176ppbv to 47.04ppbv.
tert-Butyl alcohol was calibrated from 0.1152ppbv to 46.08ppbv.
Naphthalene was calibrated from 0.058ppbv to 4.64ppbv.

The following compounds were calibrated down to a special reporting limit of 0.05ppbv:

Freon 11
Freon 113
1,1,1-Trichloroethane
Carbon Tetrachloride
1,2-Dichloroethane
Trichloroethene
Bromodichloromethane
1, Bromo-2-Chloroethane
1,1,2-Trichloroethane
Tetrachloroethene
Dibromochloromethane
1,2-Dibromoethane (EDB)
1,1,2,2-Tetrachloroethane
4-Ethyltoluene
1,3,5-Trimethylbenzene
1,3-Dichlorobenzene
1,4-Dichlorobenzene
1,2-Dichlorobenzene
1,2-Dibromo-3-chloropropane
1,2,4-Trichlorobenzene

MDL expires 8/4/24.

Instrument Run Log

MSD-22

BFB verification of 176/174 ratio: (146624/151488)*100=96.81%					Method TO-15 SIM			
IS/S Std.#:	3169-902	Exp. Date:	4/4/2025		SOP#	38	83	
Bromochloromethane:		306179	SIM:	319482				
1,4-Difluorobenzene:		1356564		1431214	TO-15 Primary#	3018-4243	Exp. Date:	4/5/2024
Chlorobenzene-d5:		1023642		1072116	TO-15 Secondary#	3018-4267	Exp. Date:	4/18/2024
Verified CCV vs. ICAL midpoint (-40%):			TB					

Method: 224L0202A/22450202A

Use	File	Lab ID #	Cart#/Standard ID#	Cart Pos.	Pressure	Amount Loaded	DF	Verify Load By	Loaded By Initials	Date Analyzed	Time Analyzed	Review BY Initials	Comments
√	22020209	BFB tune check	3169-902	N/A	8.9ng	1.0mL	1.00	N/A	TB	02/02/24	1528	TB	Flow Meter #CN2295 Exp. 12/21/24. Nominal=23.4mL/min. Actual=24.0mL/min.
√	22020210	ICAL Level 3	3380-51	N/A	0.01ppbv (0.05ppbv)	50mL	1.00	N/A	TB	02/02/24	1610	TB	Exp. 4/5/24.
√	22020211	ICAL Level 4	3380-51	N/A	0.02ppbv (0.05ppbv)	100mL	1.00	N/A	TB	02/02/24	1647	TB	
√	22020212	ICAL Level 5	3380-51	N/A	0.05ppbv (0.05ppbv)	250mL	1.00	N/A	TB	02/02/24	1724	TB	
√	22020213	ICAL Level 6	3380-52	N/A	0.1ppbv (1.0ppbv)	25mL	1.00	N/A	TB	02/02/24	1801	TB	Exp. 4/5/24.
√	22020214	ICAL Level 7	3380-52	N/A	0.5ppbv (1.0ppbv)	125mL	1.00	N/A	TB	02/02/24	1838	TB	
√	22020215	ICAL Level 8	3380-52	N/A	1.0ppbv (1.0ppbv)	250mL	1.00	N/A	TB	02/02/24	1915	TB	
√	22020216	ICAL Level 12	3018-4243	N/A	5.0ppbv (50ppbv)	25mL	1.00	N/A	TB	02/02/24	1952	TB	Exp. 4/5/24.
√	22020217	ICAL Level 13	3018-4243	N/A	10ppbv (50ppbv)	50mL	1.00	N/A	TB	02/02/24	2028	TB	
√	22020218	ICAL Level 14	3018-4243	N/A	15ppbv (50ppbv)	75mL	1.00	N/A	TB	02/02/24	2105	TB	
√	22020219	ICAL Level 15	3018-4243	N/A	20ppbv (50ppbv)	100mL	1.00	N/A	TB	02/02/24	2142	TB	
√	22020220	ICAL Level 16	3018-4243	N/A	40ppbv (50ppbv)	200mL	1.00	N/A	TB	02/02/24	2219	TB	
×	22020221	System Blank	N1726	N/A	Humid	200mL	1.00	N/A	TB	02/02/24	2257	ef	<12
√	22020222	System Blank	N1726	N/A	Humid	200mL	1.00	N/A	jcw	02/03/24	0723	ef	
√	22020223	ICV	3018-4267	N/A	10ppbv(50ppbv)	50mL	1.00	N/A	jcw	02/04/24	0809	ef	Exp 4/18/24. 2 outs (VA 176.95%, n-butanol 151.81%)

JA 2/2/24

Modified EPA Methods TO-14A/TO-15 Low Level
Internal Standard and Associated Target Compounds and Surrogates

Bromochloromethane
Target Compounds:
Freon 12
Freon 114
Chloromethane
Vinyl Chloride
1,3-Butadiene
Bromomethane
Chloroethane
Freon 11
Ethanol
Freon 113
1,1-Dichloroethene
Acetone
2-Propanol
Carbon Disulfide
3-Chloropropene
Methylene Chloride
Methyl tert-butyl ether
trans-1,2-Dichloroethene
Hexane
1,1-Dichloroethane
2-Butanone (Methyl Ethyl Ketone)
cis-1,2-Dichloroethene
Tetrahydrofuran
Chloroform
1,1,1-Trichloroethane
Cyclohexane
Carbon Tetrachloride
2,2,4-Trimethylpentane
Surrogates:
1,2-Dichloroethane-d4

1,4-Difluorobenzene
Target Compounds:
Benzene
1,2-Dichloroethane
Heptane
Trichloroethene
1,2-Dichloropropane
1,4-Dioxane
Bromodichloromethane
cis-1,3-Dichloropropene
4-Methyl-2-pentanone
Toluene
Surrogates:
Toluene-d8

Chlorobenzene-d5
Target Compounds:
trans-1,3-Dichloropropene
1,1,2-Trichloroethane
Tetrachloroethene
2-Hexanone
Dibromochloromethane
1,2-Dibromoethane (EDB)
Chlorobenzene
Ethyl Benzene
m,p-Xylene
o-Xylene
Styrene
Bromoform
Cumene
1,1,2,2-Tetrachloroethane
Propylbenzene
4-Ethyltoluene
1,3,5-Trimethylbenzene
1,2,4-Trimethylbenzene
1,3-Dichlorobenzene
1,4-Dichlorobenzene
alpha-Chlorotoluene
1,2-Dichlorobenzene
1,2,4-Trichlorobenzene
Hexachlorobutadiene
Surrogates:
Bromofluorobenzene

US32TAR1

INITIAL CALIBRATION DATA

Start Cal Date : 02-FEB-2024 16:10
End Cal Date : 02-FEB-2024 21:42
Quant Method : ISTD
Origin : Disabled
Target Version : 3.60
Integrator : HP RTE
Method file : /chem/msd22.i/02FEB24.b/22410202a.m/224s0202a.m
Cal Date : 05-Feb-2024 11:23 kp4d
Curve Type : Average

MGS 2/6/24

Calibration File Names:
Level 3: /chem/msd22.i/02FEB24.b/22020210sim.d
Level 4: /chem/msd22.i/02FEB24.b/22020211sim.d
Level 5: /chem/msd22.i/02FEB24.b/22020212sim.d
Level 6: /chem/msd22.i/02FEB24.b/22020213sim.d
Level 7: /chem/msd22.i/02FEB24.b/22020214sim.d
Level 8: /chem/msd22.i/02FEB24.b/22020215sim.d
Level 12: /chem/msd22.i/02FEB24.b/22020216sim.d
Level 13: /chem/msd22.i/02FEB24.b/22020217sim.d
Level 14: /chem/msd22.i/02FEB24.b/22020218sim.d
Level 15: /chem/msd22.i/02FEB24.b/22020219sim.d

Compound	0.01000 Level 3	0.02000 Level 4	0.05000 Level 5	0.10000 Level 6	0.50000 Level 7	1.000 Level 8	___ RRF	% RSD
	5.000 Level 12	10.000 Level 13	15.000 Level 14	20.000 Level 15				
1 1,1-Difluoroethane	+++++	+++++	+++++	+++++	+++++	+++++		
	+++++	+++++	+++++	+++++			+++++	+++++
2 Freon 12	+++++	1.78035	1.77020	1.82138	1.71353	1.79351		
	1.95325	1.75508	1.69355	1.73203			1.77921	4.300
3 Freon 114	+++++	2.81238	2.79541	2.95411	2.75156	2.79813		
	2.92440	2.55166	2.46220	2.55313			2.73367	6.321
4 Chloromethane	+++++	+++++	+++++	+++++	1.05328	0.93302		
	0.85012	0.75503	0.73243	0.75156			0.84590	15.014
5 Vinyl Chloride	1.00188	1.01327	0.94501	1.04241	0.97334	0.98290		
	1.10011	0.99699	0.95711	0.97387			0.99869	4.545

Curve Name: 224s0202A

Initial Calibration Narrative

An initial calibration curve was analyzed on 2/2/24 on MSD-22. The instrument was set up to do Full Scan and Selective Ion Monitoring (SIM) simultaneously.

Tune File: 22020209.

ICAL: Zero (0) out.

Carbon Tetrachloride %RSD: 27.0%.

Naphthalene %RSD: 16.6%.

ICV: Zero (0) out; file 22020223sim.

DOD QSM ICV: Zero (0) out; file 22020223sima.

RCP ICV: Zero (0) out. See file 22020223simc.

Carbon Tetrachloride recovery: 87.6%.

Naphthalene recovery: 91.81%.

The concentration of Naphthalene was adjusted in the ICV due to nominal difference in the AT23 standard (1.14ppbv).

Naphthalene was calibrated from 0.0058ppbv to 2.32ppbv.

See ICAL summary pages for special reporting limits.

MDL expires 8/4/24.

MSD-22

BFB verification of 176/174 ratio: (146624/151488)*100=96.81%					Method TO-15 SIM			
IS/S Std.#:	3169-902	Exp. Date:	4/4/2025		SOP#	38	83	
Bromochloromethane:		306179	SIM:	319482				
1,4-Difluorobenzene:		1356564		1431214	TO-15 Primary#	3018-4243	Exp. Date:	4/5/2024
Chlorobenzene-d5:		1023642		1072116	TO-15 Secondary#	3018-4267	Exp. Date:	4/18/2024
Verified CCV vs. ICAL midpoint (-40%):			TB					

Method: 224L0202A/224S0202A

Use	File	Lab ID #	Cann/Standard ID#	Cart Pos.	Pressure	Amount Loaded	DF	Verify Load By	Loaded By Initials	Date Analyzed	Time Analyzed	Review BY Initials	Comments
√	22020209	BFB tune check	3169-902	N/A	8.9ng	1.0mL	1.00	N/A	TB	02/02/24	1528	TB	Flow Meter #CN2295 Exp. 12/21/24. Nominal=23.4mL/min. Actual=24.0mL/min.
√	22020210	ICAL Level 3	3380-51	N/A	0.01ppbv (0.05ppbv)	50mL	1.00	N/A	TB	02/02/24	1610	TB	Exp. 4/5/24.
√	22020211	ICAL Level 4	3380-51	N/A	0.02ppbv (0.05ppbv)	100mL	1.00	N/A	TB	02/02/24	1647	TB	
√	22020212	ICAL Level 5	3380-51	N/A	0.05ppbv (0.05ppbv)	250mL	1.00	N/A	TB	02/02/24	1724	TB	
√	22020213	ICAL Level 6	3380-52	N/A	0.1ppbv (1.0ppbv)	25mL	1.00	N/A	TB	02/02/24	1801	TB	Exp. 4/5/24.
√	22020214	ICAL Level 7	3380-52	N/A	0.5ppbv (1.0ppbv)	125mL	1.00	N/A	TB	02/02/24	1838	TB	
√	22020215	ICAL Level 8	3380-52	N/A	1.0ppbv (1.0ppbv)	250mL	1.00	N/A	TB	02/02/24	1915	TB	
√	22020216	ICAL Level 12	3018-4243	N/A	5.0ppbv (50ppbv)	25mL	1.00	N/A	TB	02/02/24	1952	TB	Exp. 4/5/24.
√	22020217	ICAL Level 13	3018-4243	N/A	10ppbv (50ppbv)	50mL	1.00	N/A	TB	02/02/24	2028	TB	
√	22020218	ICAL Level 14	3018-4243	N/A	15ppbv (50ppbv)	75mL	1.00	N/A	TB	02/02/24	2105	TB	
√	22020219	ICAL Level 15	3018-4243	N/A	20ppbv (50ppbv)	100mL	1.00	N/A	TB	02/02/24	2142	TB	
√	22020220	ICAL Level 16	3018-4243	N/A	40ppbv (50ppbv)	200mL	1.00	N/A	TB	02/02/24	2219	TB	
×	22020221	System Blank	N1726	N/A	Humid	200mL	1.00	N/A	TB	02/02/24	2257	ef	<L2
√	22020222	System Blank	N1726	N/A	Humid	200mL	1.00	N/A	jcw	02/03/24	0723	ef	
√	22020223	ICV	3018-4267	N/A	10ppbv(50ppbv)	50mL	1.00	N/A	jcw	02/04/24	0809	ef	Exp 4/18/24. 2 outs (VA 176.95%, n-butanol 151.81%)

JA 2/2/24

Modified EPA Methods TO-14A/TO-15 SIM
Internal Standard and Associated Target Compounds and Surrogates

Bromochloromethane
Target Compounds:
Dichlorodifluoromethane (Fr12)
Freon 114
Chloromethane
Vinyl Chloride
Bromomethane
Chloroethane
Freon 11
Freon 113
1,1-Dichloroethene
trans-1,2-Dichloroethene
Methyl tert-butyl ether
1,1-Dichloroethane
cis-1,2-Dichloroethene
Chloroform
1,1,1-Trichloroethane
Carbon Tetrachloride
Surrogates:
1,2-Dichloroethane-d4

1,4-Difluorobenzene
Target Compounds:
Benzene
1,2-Dichloroethane
Trichloroethene
1,2-Dichloropropane
1,4-Dioxane
cis-1,3-Dichloropropene
Toluene
Surrogates:
Toluene-d8

Chlorobenzene-d5
Target Compounds:
Bromodichloromethane
trans-1,3-Dichloropropene
1,1,2-Trichloroethane
Tetrachloroethene
Dibromochloromethane
1,2-Dibromoethane
Chlorobenzene
Ethyl Benzene
m,p-Xylene
o-Xylene
Bromoform
1,1,2,2-Tetrachloroethane
1,3-Dichlorobenzene
1,4-Dichlorobenzene
1,2-Dichlorobenzene
1,2,4-Trichlorobenzene
Hexachlorobutadiene
Naphthalene
Surrogates:
Bromofluorobenzene

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Client Sample ID: CCV

Lab ID#: 2403039-10A

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**22031303**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 3/13/24 09:21 AM**	

Compound	%Recovery
Freon 11	90
Freon 113	91
Acetone	78
Methylene Chloride	88
Chlorobenzene	92
1,3-Dichlorobenzene	94
1,4-Dichlorobenzene	94
1,2-Dichlorobenzene	91
1,2,4-Trichlorobenzene	89

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	110	70-130
Toluene-d8	110	70-130
4-Bromofluorobenzene	115	70-130

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Client Sample ID: CCV

Lab ID#: 2403039-10B

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**22031303sim**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 3/13/24 09:21 AM**	

Compound	%Recovery	
Vinyl Chloride	89	
1,1-Dichloroethene	80	
cis-1,2-Dichloroethene	85	
Carbon Tetrachloride	84	
Trichloroethene	94	
Freon 12	126	high CCV recovery
1,1,1-Trichloroethane	89	J+, CCV
Benzene	99	
Toluene	91	
Tetrachloroethene	89	
Ethyl Benzene	89	
m,p-Xylene	81	
o-Xylene	82	

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	104	70-130
Toluene-d8	108	70-130
4-Bromofluorobenzene	115	70-130

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Client Sample ID: LCS

Lab ID#: 2403039-11A

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**22031304**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 3/13/24 10:08 AM**	

Compound	%Recovery	Method Limits
Freon 11	92	70-130
Freon 113	91	70-130
Acetone	81	70-130
Methylene Chloride	90	70-130
Chlorobenzene	99	70-130
1,3-Dichlorobenzene	98	70-130
1,4-Dichlorobenzene	99	70-130
1,2-Dichlorobenzene	97	70-130
1,2,4-Trichlorobenzene	95	70-130

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	107	70-130
Toluene-d8	109	70-130
4-Bromofluorobenzene	118	70-130

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Client Sample ID: LCSD

Lab ID#: 2403039-11AA

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**22031305**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 3/13/24 10:44 AM**	

Compound	%Recovery	Method Limits
Freon 11	92	70-130
Freon 113	90	70-130
Acetone	85	70-130
Methylene Chloride	94	70-130
Chlorobenzene	99	70-130
1,3-Dichlorobenzene	96	70-130
1,4-Dichlorobenzene	96	70-130
1,2-Dichlorobenzene	95	70-130
1,2,4-Trichlorobenzene	94	70-130

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	106	70-130
Toluene-d8	110	70-130
4-Bromofluorobenzene	117	70-130

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Client Sample ID: LCS

Lab ID#: 2403039-11B

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**22031304sim**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 3/13/24 10:08 AM**	

Compound	%Recovery	Method Limits
Vinyl Chloride	91	70-130
1,1-Dichloroethene	84	70-130
cis-1,2-Dichloroethene	87	70-130
Carbon Tetrachloride	61	60-140
Trichloroethene	94	70-130
Freon 12	128	70-130
1,1,1-Trichloroethane	90	70-130
Benzene	104	70-130
Toluene	94	70-130
Tetrachloroethene	93	70-130
Ethyl Benzene	95	70-130
m,p-Xylene	85	70-130
o-Xylene	87	70-130

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	102	70-130
Toluene-d8	107	70-130
4-Bromofluorobenzene	116	70-130

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Client Sample ID: LCSD

Lab ID#: 2403039-11BB

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	**22031305sim**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 3/13/24 10:44 AM**	

Compound	%Recovery	Method Limits
Vinyl Chloride	92	70-130
1,1-Dichloroethene	85	70-130
cis-1,2-Dichloroethene	88	70-130
Carbon Tetrachloride	61	60-140
Trichloroethene	93	70-130
Freon 12	127	70-130
1,1,1-Trichloroethane	90	70-130
Benzene	104	70-130
Toluene	93	70-130
Tetrachloroethene	93	70-130
Ethyl Benzene	94	70-130
m,p-Xylene	84	70-130
o-Xylene	86	70-130

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	101	70-130
Toluene-d8	106	70-130
4-Bromofluorobenzene	116	70-130

MSD-22

BFB verification of 176/174 ratio: (97208/99248)*100= 97.94%				
IS/S Std.#:	3169-902	Exp. Date:		4/4/2025
	Bromochloromethane:	230049	SIM	245373
	1,4-Difluorobenzene:	927063		989427
	Chlorobenzene-d5:	759123		803642

Verified CCV vs. ICAL midpoint (-40%): JA/ef

Method TO-15 SIM			
SOP#	38	83	
TO-15 Primary#	3018-4243A	Exp. Date:	4/5/2024
TO-15 Secondary#	3018-4319	Exp. Date:	5/15/2024

Method: 224L0202A/224S0202A

Use	File	Lab ID #	Can#/Standard ID#	Cart Pos.	Pressure	Amount Loaded	DF	Verify Load By	Loaded By Intials	Date Analyzed	Time Analyzed	Review BY Initials	Comments
√	22031301	BFB tune check	3169-902	N/A	8.9ng	1.0mL	1.00	N/A	JA	3/13/2024	0803	JA/ef	
X	22031302	CCV (50ppbv)	3018-4361	N/A	10ppbv	50mL	1.00	N/A	JA	3/13/2024	0832	JA/ef	exp:6/12/24. Many outs
√	22031303	CCV (25ppbv)	3018-4243A	N/A	10ppbv	100mL	1.00	N/A	JA	3/13/2024	0921	JA/ef	exp:4/5/24. LL 3 out (BrMe<40%). SIM 0 out.
√	22031304	LCS (50ppbv)	3018-4319	N/A	10ppbv	50mL	1.00	N/A	JA	3/13/2024	1008	JA/ef	exp:5/15/24. LL 4 out (C Tet 56%). SIM 0 out.
√	22031305	LCSD (50ppbv)	3018-4319	N/A	10ppbv	50mL	1.00	N/A	JA	3/13/2024	1044	JA/ef	exp:5/15/24. LL 4 out (C Tet 56%). SIM 0 out. RPD ok
X	22031306	System Blank	N1726	N/A	Humid	250mL	1.00	N/A	JA	3/13/2024	1147	JA/ef	TC>RL
√	22031307	Lab Blank	N1726	N/A	Humid	250mL	1.00	N/A	JA	3/13/2024	1229	JA/ef	
√	22031308	2402647A-11A	6L1232	N/A	6.5 Hg->2 psi	250mL	1.45	N/A	JA	3/13/2024	1329	JA/TB	
√	22031309	2403039-01A	N7203	N/A	4.0 Hg->2 psi	250mL	1.31	N/A	JA	3/13/2024	1406	JA/TB	"E" Chlorodifluoromethane NTC
√	22031310	2403039-02A	N5212	N/A	3.0 Hg->2 psi	250mL	1.26	N/A	PY	3/13/2024	1445	JA/TB	"E" Chlorodifluoromethane NTC
√	22031311	2403039-03A	N6758	N/A	3.0 Hg->2 psi	25mL	12.6	N/A	JA	3/13/2024	1523	TB	dil NTC, E CDFM
√	22031312	2403039-04A	N7607	N/A	3.5 Hg->2 psi	25mL	12.9	N/A	JA	3/13/2024	1600	TB	dil NTC, E CDFM
√	22031313	2403039-06A	N5094	N/A	6.0 Hg->2 psi	25mL	14.2	N/A	TB	3/13/2024	1638	TB	dil NTC, E CDFM
√	22031314	2403039-05A	N1895	N/A	6.0 Hg->2 psi	25mL	14.2	N/A	TB	3/13/2024	1715	TB	dil NTC, E CDFM
√	22031315	2403039-07A	N8602	N/A	2.5 Hg->2 psi	250mL	1.24	N/A	TB	3/13/2024	1753	TB	E CDFM
√	22031316	2403039-08A	N4419	N/A	6.0 Hg->2 psi	250mL	1.42	N/A	TB	3/13/2024	1838	TB	

US32TAR1

Data file : /chem/msd22.i/02FEB24.b/22020209.d
Lab Smp Id: Client Smp ID: BFB
Inj Date : 02-FEB-2024 15:28
Operator : TB Inst ID: msd22.i
Smp Info : 1.0mL#3169-902;BFB Tune Check;BFB Tune Check
Misc Info : 8.9ng
Comment :
Method : /chem/msd22.i/02FEB24.b/bfb60vap.m
Meth Date : 29-Sep-2020 09:45 udib Quant Type: ESTD
Cal Date : Cal File:
Als bottle: 1 QC Sample: BFB
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: all.sub
Sample Matrix: WATER
Processing Host: us32tar1

Concentration Formula: Amt * DF * Uf * Vf * Vi * CpndVariable

Name	Value	Description
DF	1.00000	Dilution Factor
Uf	1.00000	ng unit correction factor
Vf	1.00000	Volumetric correction factor
Vi	1.00000	Injection Volume

Cpnd Variable Local Compound Variable

					CONCENTRATIONS ON-COL	CONCENTRATIONS FINAL		
RT	EXP RT	DLT RT	MASS	RESPONSE	(ug/L)	(ug/L)	TARGET RANGE	RATIO
1 bfb						CAS #: 460-00-4		
8.064	8.200	-0.136	95	175639			100.00- 100.00	100.00
8.064	8.200	-0.136	50	17554			8.00- 40.00	9.99
8.064	8.200	-0.136	75	60597			30.00- 66.00	34.50
8.064	8.200	-0.136	96	11520			5.00- 9.00	6.56
8.064	8.200	-0.136	173	1111			0.00- 1.99	0.73
8.064	8.200	-0.136	174	151488			50.00- 120.00	86.25
8.064	8.200	-0.136	175	10843			4.00- 9.00	7.16
8.064	8.200	-0.136	176	146657			93.00- 101.00	96.81
8.064	8.200	-0.136	177	9359			5.00- 9.00	6.38

Data File: /chem/msd22.i/02FEB24.b/22020209.d

Date : 02-FEB-2024 15:28

Client ID: BFB

Instrument: msd22.i

Sample Info: 1.0mL#3169-902;BFB Tune Check;BFB Tune Check

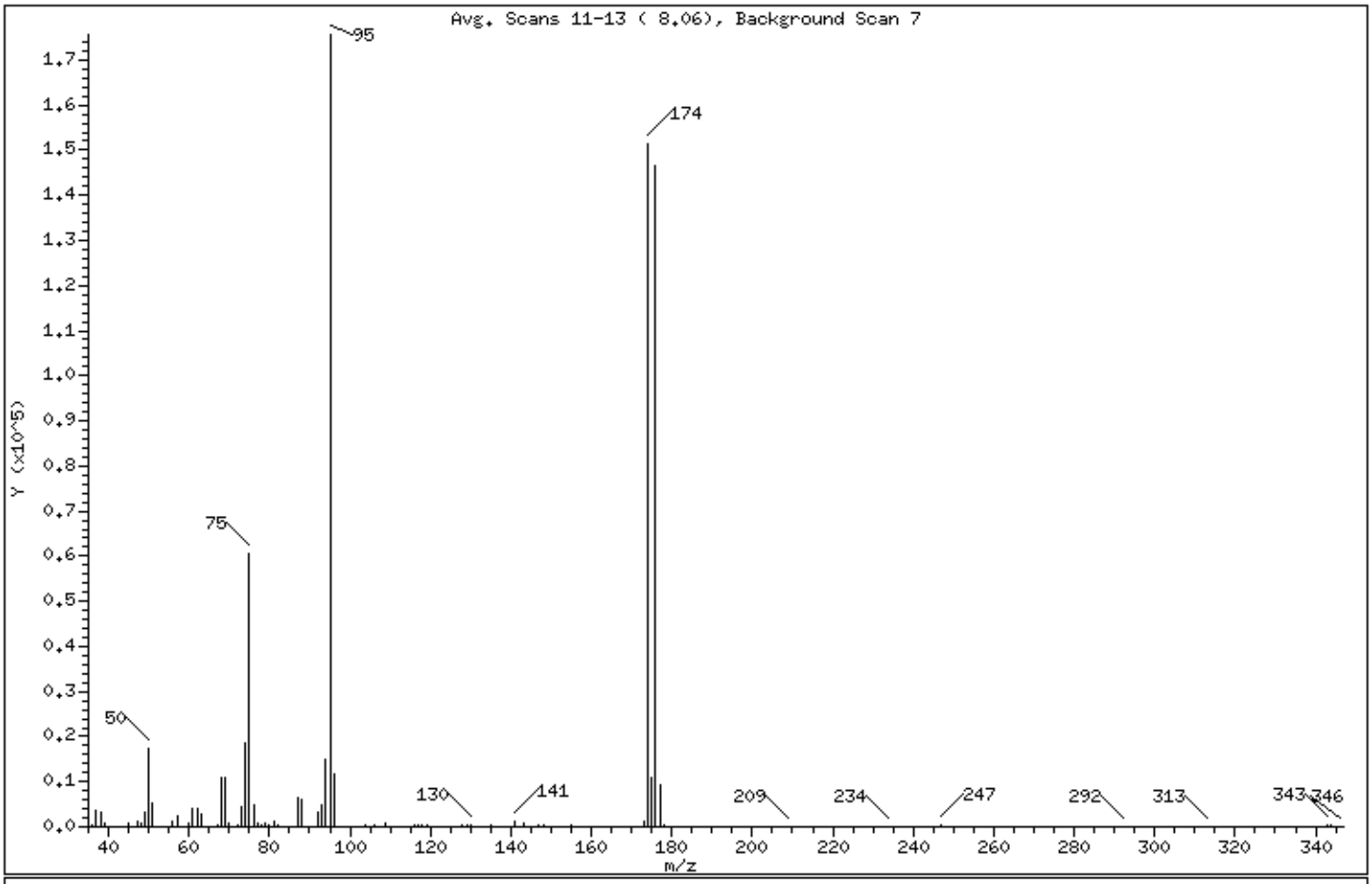
Volume Injected (uL): 1.0

Operator: TB

Column phase:

Column diameter: 2.00

1 bfb



m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
95	Base Peak, 100% relative abundance	100.00
50	8.00 - 40.00% of mass 95	9.99
75	30.00 - 66.00% of mass 95	34.50
96	5.00 - 9.00% of mass 95	6.56
173	Less than 1.99% of mass 174	0.63 (0.73)
174	50.00 - 120.00% of mass 95	86.25
175	4.00 - 9.00% of mass 174	6.17 (7.16)
176	93.00 - 101.00% of mass 174	83.50 (96.81)
177	5.00 - 9.00% of mass 176	5.33 (6.38)

US32TAR1

Data file : /chem/msd22.i/13Mar24.b/22031301.d
Lab Smp Id: Client Smp ID: BFB
Inj Date : 13-MAR-2024 08:03
Operator : JA Inst ID: msd22.i
Smp Info : 1.0mL#3169-902;BFB Tune Check;BFB Tune Check
Misc Info : 8.9ng
Comment :
Method : /chem/msd22.i/13Mar24.b/bfb60vap.m
Meth Date : 29-Sep-2020 09:45 udib Quant Type: ESTD
Cal Date : Cal File:
Als bottle: 1 QC Sample: BFB
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: all.sub
Sample Matrix: WATER
Processing Host: us32tar1

Concentration Formula: Amt * DF * Uf * Vf * Vi * CpndVariable

Name	Value	Description
DF	1.00000	Dilution Factor
Uf	1.00000	ng unit correction factor
Vf	1.00000	Volumetric correction factor
Vi	1.00000	Injection Volume

Cpnd Variable Local Compound Variable

RT	EXP RT	DLT RT	MASS	RESPONSE	CONCENTRATIONS ON-COL (ug/L)	CONCENTRATIONS FINAL (ug/L)	TARGET RANGE	RATIO
1 bfb						CAS #: 460-00-4		✔
8.064	8.200	-0.136	95	133389			100.00- 100.00	100.00
8.064	8.200	-0.136	50	15233			8.00- 40.00	11.42
8.064	8.200	-0.136	75	44411			30.00- 66.00	33.29
8.064	8.200	-0.136	96	9305			5.00- 9.00	6.98
8.064	8.200	-0.136	173	768			0.00- 1.99	0.77
8.064	8.200	-0.136	174	99253			50.00- 120.00	74.41
8.064	8.200	-0.136	175	7177			4.00- 9.00	7.23
8.064	8.200	-0.136	176	97215			93.00- 101.00	97.95
8.064	8.200	-0.136	177	6437			5.00- 9.00	6.62

Data File: /chem/msd22.i/13Mar24.b/22031301.d

Date : 13-MAR-2024 08:03

Client ID: BFB

Instrument: msd22.i

Sample Info: 1.0mL#3169-902;BFB Tune Check;BFB Tune Check

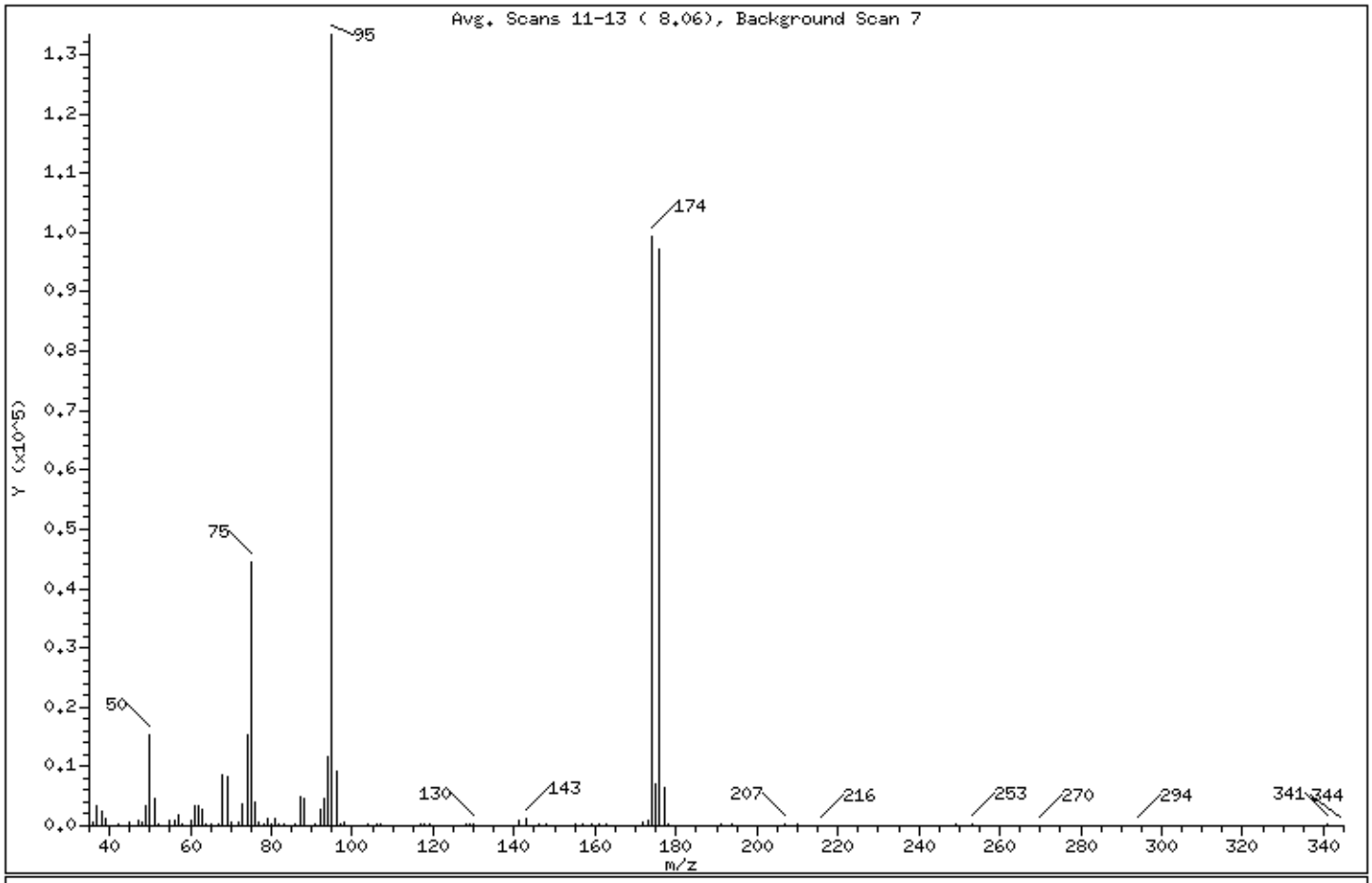
Volume Injected (uL): 1.0

Operator: JA

Column phase:

Column diameter: 2.00

1 bfb



m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
		✔
95	Base Peak, 100% relative abundance	100.00
50	8.00 - 40.00% of mass 95	11.42
75	30.00 - 66.00% of mass 95	33.29
96	5.00 - 9.00% of mass 95	6.98
173	Less than 1.99% of mass 174	0.58 (0.77)
174	50.00 - 120.00% of mass 95	74.41
175	4.00 - 9.00% of mass 174	5.38 (7.23)
176	93.00 - 101.00% of mass 174	72.88 (97.95)
177	5.00 - 9.00% of mass 176	4.83 (6.62)

Shipping/Receiving Documents

eurofins | Air Toxics

Eurofins Air Toxics Sample Receipt Confirmation Cover Page

Thank you for choosing Eurofins Air Toxics (EATL). We have received your samples and have listed any Sample Receipt Descrepancies below.

In order to expedite analysis and reporting, please review the attached information for accuracy.

For corrections call: **Air Toxics, Ltd. at 916-985-1000**

EATL will proceed with the analysis as specified on the Chain of Custody (COC) and Sample Receipt Summary page.

Please note : The Sample Receipt Confirmation, including the total workorder charge, is subject to change upon secondary review. Our aim is to provide a confirmation to you in a timely manner. Sample Receipt Discrepancies, if any, may not include discrepancies regarding sample receipt pressure(s). Additionally, the COC will be provided with the final report.

180 BLUE RAVINE ROAD, SUITE B FOLSOM, CA - 95630

(916) 985-1000 .FAX (916) 985-1020
Hours 6:30 A.M to 5:30 P.M. PST

2403039

Chain-of-Custody

SANBORN HEAD
6 Bedford Farms Drive, Suite 201
Bedford, NH, 03110
P (603) 229-1900
F (603) 267-0759

To:
Air Toxics Ltd.
180 Blue Ravine Road, Ste. B
Folsom, CA 95630
P (916) 985-1000
F (916) 985-1020

Relinquished By:	Date / Time	Received By:	Date / Time
[signature]	2/29/24 0845	[signature] EAT	3/1/24 0946

Project Information

Name: EFK B316
Number: 2999.21
Location East Fishkill, NY
Manager: Sean Murphy

Deliverable Information

TAT: Standard
Delivery Method: Email
Email To: smurphy@sanbornhead.com
dsaltmarsh@sanbornhead.com
EDD Type: EQuIS EFWEDD
Report Level: Level IV

Analyte List:
See attached analyte list
Analytes to be run by SIM where possible

Lab ID (Lab Use Only)	Sample Name	Collection			Start Pressure (in Hg)	End Pressure (in Hg)	Sample Device ID	Flow Controller ID	TO-15 SIM/Standard					Remarks:
		Date	Start Time	End Time										
01A	IA0600_20240228	2/28/24	07:45	14:23	-28	-4.0	6L 3281	26784	X					
02A	IA0601_20240228		07:50	14:45	-29.5	-3.5	2713	25806	X					
03A	IA0602_20240228		07:52	14:31	-28	-3.5	3169	21449	X					
04A	IA0603_20240228		07:58	14:47	-30	-3.5	3764	26068	X					
05A	IA0604_20240228		08:00	13:45	-27.5	-4.0	1018	25828	X					
06A	FD-01_20240228		07:45	14:23	-27.5	-5.5	2580	27369	X					
07A	AA0601_20240228		08:44	15:08	-30	-4.0	4177	26717	X					
08A	FB-01_20240228	↓	Grab	08:36	-26	-2.0	1943	—	X					

Custody Seal Intact?
Yes No None Temp °C N/A
Carrier: FED EX

EFK - B316 Compound List

Analyte
Tetrachloroethene (PCE)
Trichloroethene (TCE)
cis-1,2-Dichloroethene (cDCE)
1,1-Dichloroethene (DCE)
Vinyl chloride (VC)
1,1,1-Trichloroethane (TCA)
Carbon tetrachloride
Methylene chloride (MeCl)
Chlorobenzene
1,2,4-Trichlorobenzene
1,2-Dichlorobenzene
1,3-Dichlorobenzene
1,4-Dichlorobenzene
Acetone
Benzene
Ethylbenzene
m,p-Xylene
o-Xylene
Toluene
Trichlorofluoromethane (Freon 11)
Dichlorodifluoromethane (Freon 12)
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)

eurofins | Air Toxics

SAMPLE RECEIPT SUMMARY

WORKORDER 2403039

Client

Ms. Jennifer Sanborn
Sanborn, Head & Associates
6 Bedford Farms Drive
Ste 201
Bedford, NH 03110

Phone

603-229-1900

Fax

603-229-1919

Sales Rep: LaJ

Date Promised: 03/14/24
Date Completed:
Date Received: 3/1/24
PO#:
Project#: 2999.21 EFK B316

Total $: $ 2,076.00
Logged By: AD

Fraction	Sample #	Analysis	Collected	Receipt Vac./Pres.	Amount$
01A	IA0600_20240228	Modified TO-15	2/28/2024	4.0 "Hg	$165.00
01B	IA0600_20240228	Modified TO-15	2/28/2024	4.0 "Hg	$0.00
02A	IA0601_20240228	Modified TO-15	2/28/2024	3.0 "Hg	$165.00
02B	IA0601_20240228	Modified TO-15	2/28/2024	3.0 "Hg	$0.00
03A	IA0602_20240228	Modified TO-15	2/28/2024	3.0 "Hg	$165.00
03B	IA0602_20240228	Modified TO-15	2/28/2024	3.0 "Hg	$0.00
04A	IA0603_20240228	Modified TO-15	2/28/2024	3.5 "Hg	$165.00
04B	IA0603_20240228	Modified TO-15	2/28/2024	3.5 "Hg	$0.00
05A	IA0604_20240228	Modified TO-15	2/28/2024	6.0 "Hg	$165.00
05B	IA0604_20240228	Modified TO-15	2/28/2024	6.0 "Hg	$0.00
06A	FD-01_20240228	Modified TO-15	2/28/2024	6.0 "Hg	$165.00
06B	FD-01_20240228	Modified TO-15	2/28/2024	6.0 "Hg	$0.00
07A	AA0601_20240228	Modified TO-15	2/28/2024	2.5 "Hg	$165.00
07B	AA0601_20240228	Modified TO-15	2/28/2024	2.5 "Hg	$0.00
08A	FB-01_20240228	Modified TO-15	2/28/2024	6.0 "Hg	$165.00
08B	FB-01_20240228	Modified TO-15	2/28/2024	6.0 "Hg	$0.00

Misc. Charges	6 Liter Summa Canister (100% SIM Ambient) (8) @ $55.00 each., Ship	receipt pressure does not match COC	$440.00
	Flow Controller-8 hr (SIM Certified) (7) @ $40.00 each., Shipment 150		$280.00
	eCVP (8) @ $3.50 each.		$28.00

Note: Samples received after 3 P.M. PST are considered to be received on the following work day.
Atlas Project Name/Profile#: IBM - East Fishkill Facility/12642

BILL TO: Accounts Payable
Sanborn, Head & Associates
6 Bedford Farms Drive
Ste 201
Bedford, NH 03110

Analysis Code: pptv

REMARKS: IBM BAFO rates have been applied

TERMS:

Reporting Method: Modified TO-15 Hi/Lo (Sh)/SpRL-SHA (IBM Fishkill)v3

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SAMPLE RECEIPT SUMMARY Continued

Client

Ms. Jennifer Sanborn
Sanborn, Head & Associates
6 Bedford Farms Drive
Ste 201
Bedford, NH 03110

Sales Rep:

Phone

603-229-1900

Fax

603-229-1919

Date Promised:
Date Completed:
Date Received: 3/1/24
PO#:
Project#: 2999.21 EFK B316

Total $: $ 2,076.00
Logged By: AD

Fraction	Sample #	Analysis	Collected	Receipt Vac./Pres.	Amount$
	Fitting w/ Pink Ferrule (1) @ $4.00 each.				$4.00
	Tubing-Teflon (1) @ $4.00 each.				$4.00

Note: Samples received after 3 P.M. PST are considered to be received on the following work day.
Atlas Project Name/Profile#: IBM - East Fishkill Facility/12642

BILL TO: Accounts Payable
Sanborn, Head & Associates
6 Bedford Farms Drive
Ste 201
Bedford, NH 03110

Analysis Code: pptv

REMARKS: IBM BAFO rates have been applied

TERMS:

Reporting Method: Modified TO-15 Hi/Lo (Sh)/SpRL-SHA (IBM Fishkill)v3

Other Records

Dilution Factor = $\frac{\text{Final Pressure}}{\text{Initial Vacuum}} = \frac{\text{14.7psi + Final Pressure (psi)}}{\text{14.7psi –[Init. Pressure (“Hg))*(14.7psi/30”Hg)]}}$

Dilution Factor = $\frac{\text{Final Pressure}}{\text{Initial Pressure}} = \frac{\text{14.7psi + Final Pressure (psi)}}{\text{14.7psi +Initial Pressure (psi)}}$

Initial Vacuum (" of Hg)	2 psi	5 psi	10 psi	15 psi
0.0	**1.14**	1.34	**1.68**	2.02
0.2	**1.14**	1.35	**1.69**	2.03
0.4	**1.15**	1.36	**1.70**	2.05
0.5	**1.16**	1.36	**1.71**	2.05
0.6	**1.16**	1.37	**1.71**	2.06
0.8	**1.17**	1.38	**1.73**	2.08
1.0	**1.18**	1.39	**1.74**	2.09
1.2	**1.18**	1.40	**1.75**	2.10
1.4	**1.19**	1.40	**1.76**	2.12
1.5	**1.20**	1.41	**1.77**	2.13
1.6	**1.20**	1.42	**1.77**	2.13
1.8	**1.21**	1.42	**1.79**	2.15
2.0	**1.22**	1.44	**1.80**	2.16
2.2	**1.23**	1.45	**1.81**	2.18
2.4	**1.23**	1.46	**1.83**	2.20
2.5	**1.24**	1.46	**1.83**	2.20
2.6	**1.24**	1.47	**1.84**	2.21
2.8	**1.25**	1.48	**1.85**	2.23
3.0	**1.26**	1.49	**1.87**	2.24
3.2	**1.27**	1.50	**1.88**	2.26
3.4	**1.28**	1.51	**1.90**	2.28
3.5	**1.29**	1.52	**1.90**	2.29
3.6	**1.29**	1.52	**1.91**	2.30
3.8	**1.30**	1.53	**1.92**	2.31
4.0	**1.31**	1.55	**1.94**	2.33
4.2	**1.32**	1.56	**1.95**	2.35
4.4	**1.33**	1.57	**1.97**	2.37
4.5	**1.34**	1.58	**1.98**	2.38
4.6	**1.34**	1.58	**1.98**	2.39
4.8	**1.35**	1.60	**2.00**	2.40
5.0	**1.36**	1.61	**2.02**	2.42
5.2	**1.37**	1.62	**2.03**	2.44
5.4	**1.39**	1.63	**2.05**	2.46
5.5	**1.39**	1.64	**2.06**	2.47
5.6	**1.40**	1.65	**2.07**	2.48
5.8	**1.41**	1.66	**2.08**	2.50
6.0	**1.42**	1.68	**2.10**	2.52
6.2	**1.43**	1.69	**2.12**	2.55
6.4	**1.44**	1.70	**2.14**	2.57
6.5	**1.45**	1.71	**2.15**	2.58
6.6	**1.46**	1.72	**2.15**	2.59
6.8	**1.47**	1.73	**2.17**	2.61
7.0	**1.48**	1.75	**2.19**	2.64
7.2	**1.49**	1.76	**2.21**	2.66
7.4	**1.51**	1.78	**2.23**	2.68
7.5	**1.51**	1.79	**2.24**	2.69
7.6	**1.52**	1.79	**2.25**	2.70

Initial Vacuum (" of Hg)	2 psi	5 psi	10 psi	15 psi
7.7	**1.53**	1.80	**2.26**	2.72
7.8	**1.54**	1.81	**2.27**	2.73
8.0	**1.55**	1.83	**2.29**	2.76
8.2	**1.56**	1.84	**2.31**	2.78
8.4	**1.58**	1.86	**2.33**	2.81
8.5	**1.59**	1.87	**2.34**	2.82
8.6	**1.59**	1.88	**2.36**	2.83
8.8	**1.61**	1.90	**2.38**	2.86
9.0	**1.62**	1.91	**2.40**	2.89
9.2	**1.64**	1.93	**2.42**	2.91
9.4	**1.65**	1.95	**2.45**	2.94
9.5	**1.66**	1.96	**2.46**	2.96
9.6	**1.67**	1.97	**2.47**	2.97
9.8	**1.69**	1.99	**2.50**	3.00
10.0	**1.70**	2.01	**2.52**	3.03
10.2	**1.72**	2.03	**2.55**	3.06
10.4	**1.74**	2.05	**2.57**	3.09
10.5	**1.75**	2.06	**2.59**	3.11
10.6	**1.76**	2.07	**2.60**	3.12
10.8	**1.78**	2.09	**2.63**	3.16
11.0	**1.79**	2.12	**2.65**	3.19
11.2	**1.81**	2.14	**2.68**	3.22
11.4	**1.83**	2.16	**2.71**	3.26
11.5	**1.84**	2.17	**2.72**	3.28
11.6	**1.85**	2.18	**2.74**	3.29
11.8	**1.87**	2.21	**2.77**	3.33
12.0	**1.89**	2.23	**2.80**	3.37
12.2	**1.91**	2.26	**2.83**	3.40
12.4	**1.94**	2.28	**2.86**	3.44
12.5	**1.95**	2.30	**2.88**	3.46
12.6	**1.96**	2.31	**2.90**	3.48
12.8	**1.98**	2.34	**2.93**	3.52
13.0	**2.00**	2.36	**2.97**	3.56
13.2	**2.03**	2.39	**3.00**	3.61
13.4	**2.05**	2.42	**3.04**	3.65
13.5	**2.07**	2.44	**3.06**	3.67
13.6	**2.08**	2.45	**3.07**	3.70
13.8	**2.10**	2.48	**3.11**	3.74
14.0	**2.13**	2.51	**3.15**	3.79
14.2	**2.16**	2.54	**3.19**	3.84
14.4	**2.18**	2.58	**3.23**	3.88
14.5	**2.20**	2.59	**3.25**	3.91
14.6	**2.21**	2.61	**3.27**	3.94
14.8	**2.24**	2.64	**3.32**	3.99
15.0	**2.27**	2.68	**3.36**	4.04
15.2	**2.30**	2.72	**3.41**	4.10
15.4	**2.33**	2.75	**3.45**	4.15

Initial Vacuum (" of Hg)	2 psi	5 psi	10 psi	15 psi
15.5	**2.35**	2.77	**3.48**	4.18
15.6	**2.37**	2.79	**3.50**	4.21
15.8	**2.40**	2.83	**3.55**	4.27
16.0	**2.43**	2.87	**3.60**	4.33
16.2	**2.47**	2.91	**3.65**	4.39
16.4	**2.51**	2.96	**3.71**	4.46
16.5	**2.52**	2.98	**3.73**	4.49
16.6	**2.54**	3.00	**3.76**	4.52
16.8	**2.58**	3.05	**3.82**	4.59
17.0	**2.62**	3.09	**3.88**	4.66
17.2	**2.66**	3.14	**3.94**	4.74
17.4	**2.70**	3.19	**4.00**	4.81
17.5	**2.73**	3.22	**4.03**	4.85
17.6	**2.75**	3.24	**4.07**	4.89
17.8	**2.79**	3.30	**4.13**	4.97
18.0	**2.84**	3.35	**4.20**	5.05
18.2	**2.89**	3.41	**4.27**	5.14
18.4	**2.94**	3.47	**4.35**	5.22
18.5	**2.96**	3.50	**4.38**	5.27
18.6	**2.99**	3.53	**4.42**	5.32
18.8	**3.04**	3.59	**4.50**	5.41
19.0	**3.10**	3.65	**4.58**	5.51
19.2	**3.16**	3.72	**4.67**	5.61
19.4	**3.22**	3.79	**4.76**	5.72
19.5	**3.25**	3.83	**4.80**	5.77
19.6	**3.28**	3.87	**4.85**	5.83
19.8	**3.34**	3.94	**4.94**	5.94
20.0	**3.41**	4.02	**5.04**	6.06
20.2	**3.48**	4.10	**5.14**	6.18
20.4	**3.55**	4.19	**5.25**	6.31
20.5	**3.59**	4.23	**5.31**	6.38
20.6	**3.63**	4.28	**5.36**	6.45
20.8	**3.70**	4.37	**5.48**	6.59
21.0	**3.79**	4.47	**5.60**	6.73
21.2	**3.87**	4.57	**5.73**	6.89
21.4	**3.96**	4.67	**5.86**	7.05
21.5	**4.01**	4.73	**5.93**	7.13
21.6	**4.06**	4.79	**6.00**	7.22
21.8	**4.16**	4.90	**6.15**	7.39
22.0	**4.26**	5.03	**6.30**	7.58
22.4	**4.48**	5.29	**6.63**	7.98

Initial Vacuum (" of Hg)	2 psi	5 psi	10 psi	15 psi
22.5	**4.54**	5.36	**6.72**	8.08
22.6	**4.61**	5.43	**6.81**	8.19
22.8	**4.73**	5.58	**7.00**	8.42
23.0	**4.87**	5.74	**7.20**	8.66
23.2	**5.01**	5.91	**7.41**	8.91
23.4	**5.16**	6.09	**7.64**	9.18
23.5	**5.24**	6.19	**7.76**	9.32
23.6	**5.33**	6.28	**7.88**	9.47
23.8	**5.50**	6.48	**8.13**	9.78
24.0	**5.68**	6.70	**8.40**	10.10
24.2	**5.88**	6.93	**8.69**	10.45
24.4	**6.09**	7.18	**9.00**	10.82
24.5	**6.20**	7.31	**9.17**	11.02
24.6	**6.31**	7.45	**9.33**	11.22
24.8	**6.55**	7.73	**9.69**	11.66
25.0	**6.82**	8.04	**10.08**	12.12
25.2	**7.10**	8.38	**10.50**	12.63
25.4	**7.41**	8.74	**10.96**	13.18
25.5	**7.57**	8.93	**11.20**	13.47
25.6	**7.75**	9.14	**11.46**	13.78
25.8	**8.11**	9.57	**12.00**	14.43
26.0	**8.52**	10.05	**12.60**	15.15
26.2	**8.97**	10.58	**13.27**	15.95
26.4	**9.47**	11.17	**14.00**	16.84
26.5	**9.74**	11.49	**14.40**	17.32
26.6	**10.02**	11.82	**14.83**	17.83
26.8	**10.65**	12.56	**15.75**	18.94
27.0	**11.36**	13.40	**16.80**	20.20
27.2	**12.17**	14.36	**18.00**	21.65
27.4	**13.11**	15.46	**19.39**	23.31
27.5	**13.63**	16.08	**20.16**	24.24
27.6	**14.20**	16.75	**21.00**	25.26
27.8	**15.49**	18.27	**22.91**	27.55
28.0	**17.04**	20.10	**25.20**	30.31
28.2	**18.93**	22.34	**28.00**	33.67
28.4	**21.30**	25.13	**31.51**	37.88
28.5	**22.72**	26.80	**33.61**	40.41
28.6	**24.34**	28.72	**36.01**	43.29
28.8	**28.40**	33.50	**42.01**	50.51
29.0	**34.08**	40.20	**50.41**	60.61

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Method:TO-15 Hi/Lo (Sh)/SpRL-SHA (IBM Fishkill)v3/ 2 Lists

CAS Number	Compound	Rpt. Limit(ppbv)
71-55-6	1,1,1-Trichloroethane	0.1
75-35-4	1,1-Dichloroethene	0.01
120-82-1	1,2,4-Trichlorobenzene	0.5
95-50-1	1,2-Dichlorobenzene	0.1
541-73-1	1,3-Dichlorobenzene	0.1
106-46-7	1,4-Dichlorobenzene	0.1
67-64-1	Acetone	2.0
71-43-2	Benzene	0.05
56-23-5	Carbon Tetrachloride	0.02
108-90-7	Chlorobenzene	0.1
156-59-2	cis-1,2-Dichloroethene	0.02
100-41-4	Ethyl Benzene	0.02
75-69-4	Freon 11	0.1
76-13-1	Freon 113	0.1
75-71-8	Freon 12	0.05
108-38-3	m,p-Xylene	0.04
75-09-2	Methylene Chloride	0.2
95-47-6	o-Xylene	0.02
127-18-4	Tetrachloroethene	0.02
108-88-3	Toluene	0.1
79-01-6	Trichloroethene	0.02
75-01-4	Vinyl Chloride	0.01

	Surrogate	Method Limits
17060-07-0	1,2-Dichloroethane-d4	0-0
460-00-4	4-Bromofluorobenzene	0-0
2037-26-5	Toluene-d8	0-0

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Media Certification Report

Canister Number: 6L1018
Can#: 150048-1895
Date : 02/17/24 16:10
Data File: o021717.d

www.airtoxics.com
1-800-985-5955

Name	CAS	Conc.	Units
1,1,1-Trichloroethane	71-55-6	ND	ppbv
1,1-Dichloroethene	75-35-4	ND	ppbv
1,2,4-Trichlorobenzene	120-82-1	ND	ppbv
1,2-Dichlorobenzene	95-50-1	ND	ppbv
1,3-Dichlorobenzene	541-73-1	ND	ppbv
1,4-Dichlorobenzene	106-46-7	ND	ppbv
Acetone	67-64-1	ND	ppbv
Benzene	71-43-2	ND	ppbv
Carbon Tetrachloride	56-23-5	ND	ppbv
Chlorobenzene	108-90-7	ND	ppbv
cis-1,2-Dichloroethene	156-59-2	ND	ppbv
Ethyl Benzene	100-41-4	ND	ppbv
Freon 11	75-69-4	ND	ppbv
Freon 113	76-13-1	ND	ppbv
Freon 12	75-71-8	ND	ppbv
m,p-Xylene	108-38-3	ND	ppbv
Methylene Chloride	75-09-2	ND	ppbv
o-Xylene	95-47-6	ND	ppbv
Tetrachloroethene	127-18-4	ND	ppbv
Toluene	108-88-3	ND	ppbv
Trichloroethene	79-01-6	ND	ppbv
Vinyl Chloride	75-01-4	ND	ppbv
4-Bromofluorobenzene	460-00-4	102.00	% Recovery

All canisters have been certified according to the project-specific requirements and/or Standard Operating Procedures.

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Media Certification Report

Canister Number: 6L1942
Can#: 150048-4419
Date : 02/17/24 13:11
Data File: o021711.d

www.airtoxics.com
1-800-985-5955

Name	CAS	Conc.	Units
1,1,1-Trichloroethane	71-55-6	ND	ppbv
1,1-Dichloroethene	75-35-4	ND	ppbv
1,2,4-Trichlorobenzene	120-82-1	ND	ppbv
1,2-Dichlorobenzene	95-50-1	ND	ppbv
1,3-Dichlorobenzene	541-73-1	ND	ppbv
1,4-Dichlorobenzene	106-46-7	ND	ppbv
Acetone	67-64-1	ND	ppbv
Benzene	71-43-2	ND	ppbv
Carbon Tetrachloride	56-23-5	ND	ppbv
Chlorobenzene	108-90-7	ND	ppbv
cis-1,2-Dichloroethene	156-59-2	ND	ppbv
Ethyl Benzene	100-41-4	ND	ppbv
Freon 11	75-69-4	ND	ppbv
Freon 113	76-13-1	ND	ppbv
Freon 12	75-71-8	ND	ppbv
m,p-Xylene	108-38-3	ND	ppbv
Methylene Chloride	75-09-2	ND	ppbv
o-Xylene	95-47-6	ND	ppbv
Tetrachloroethene	127-18-4	ND	ppbv
Toluene	108-88-3	ND	ppbv
Trichloroethene	79-01-6	ND	ppbv
Vinyl Chloride	75-01-4	ND	ppbv
4-Bromofluorobenzene	460-00-4	100.00	% Recovery

All canisters have been certified according to the project-specific requirements and/or Standard Operating Procedures.

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Media Certification Report

Canister Number: 6L2580
Can#: 150048-5094
Date : 02/17/24 12:41
Data File: o021710.d

www.airtoxics.com
1-800-985-5955

Name	CAS	Conc.	Units
1,1,1-Trichloroethane	71-55-6	ND	ppbv
1,1-Dichloroethene	75-35-4	ND	ppbv
1,2,4-Trichlorobenzene	120-82-1	ND	ppbv
1,2-Dichlorobenzene	95-50-1	ND	ppbv
1,3-Dichlorobenzene	541-73-1	ND	ppbv
1,4-Dichlorobenzene	106-46-7	ND	ppbv
Acetone	67-64-1	ND	ppbv
Benzene	71-43-2	ND	ppbv
Carbon Tetrachloride	56-23-5	ND	ppbv
Chlorobenzene	108-90-7	ND	ppbv
cis-1,2-Dichloroethene	156-59-2	ND	ppbv
Ethyl Benzene	100-41-4	ND	ppbv
Freon 11	75-69-4	ND	ppbv
Freon 113	76-13-1	ND	ppbv
Freon 12	75-71-8	ND	ppbv
m,p-Xylene	108-38-3	ND	ppbv
Methylene Chloride	75-09-2	ND	ppbv
o-Xylene	95-47-6	ND	ppbv
Tetrachloroethene	127-18-4	ND	ppbv
Toluene	108-88-3	ND	ppbv
Trichloroethene	79-01-6	ND	ppbv
Vinyl Chloride	75-01-4	ND	ppbv
4-Bromofluorobenzene	460-00-4	99.00	% Recovery

**** All canisters have been certified according to the project-specific requirements and/or Standard Operating Procedures.***

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Media Certification Report

Canister Number: 6L2713
Can#: 150048-5212
Date : 02/17/24 15:10
Data File: o021715.d

www.airtoxics.com
1-800-985-5955

Name	CAS	Conc.	Units
1,1,1-Trichloroethane	71-55-6	ND	ppbv
1,1-Dichloroethene	75-35-4	ND	ppbv
1,2,4-Trichlorobenzene	120-82-1	ND	ppbv
1,2-Dichlorobenzene	95-50-1	ND	ppbv
1,3-Dichlorobenzene	541-73-1	ND	ppbv
1,4-Dichlorobenzene	106-46-7	ND	ppbv
Acetone	67-64-1	ND	ppbv
Benzene	71-43-2	ND	ppbv
Carbon Tetrachloride	56-23-5	ND	ppbv
Chlorobenzene	108-90-7	ND	ppbv
cis-1,2-Dichloroethene	156-59-2	ND	ppbv
Ethyl Benzene	100-41-4	ND	ppbv
Freon 11	75-69-4	ND	ppbv
Freon 113	76-13-1	ND	ppbv
Freon 12	75-71-8	ND	ppbv
m,p-Xylene	108-38-3	ND	ppbv
Methylene Chloride	75-09-2	ND	ppbv
o-Xylene	95-47-6	ND	ppbv
Tetrachloroethene	127-18-4	ND	ppbv
Toluene	108-88-3	ND	ppbv
Trichloroethene	79-01-6	ND	ppbv
Vinyl Chloride	75-01-4	ND	ppbv
4-Bromofluorobenzene	460-00-4	101.00	% Recovery

All canisters have been certified according to the project-specific requirements and/or Standard Operating Procedures.

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Media Certification Report

Canister Number: 6L3169
Can#: 150048-6758
Date : 02/17/24 15:40
Data File: o021716.d

www.airtoxics.com
1-800-985-5955

Name	CAS	Conc.	Units
1,1,1-Trichloroethane	71-55-6	ND	ppbv
1,1-Dichloroethene	75-35-4	ND	ppbv
1,2,4-Trichlorobenzene	120-82-1	ND	ppbv
1,2-Dichlorobenzene	95-50-1	ND	ppbv
1,3-Dichlorobenzene	541-73-1	ND	ppbv
1,4-Dichlorobenzene	106-46-7	ND	ppbv
Acetone	67-64-1	ND	ppbv
Benzene	71-43-2	ND	ppbv
Carbon Tetrachloride	56-23-5	ND	ppbv
Chlorobenzene	108-90-7	ND	ppbv
cis-1,2-Dichloroethene	156-59-2	ND	ppbv
Ethyl Benzene	100-41-4	ND	ppbv
Freon 11	75-69-4	ND	ppbv
Freon 113	76-13-1	ND	ppbv
Freon 12	75-71-8	ND	ppbv
m,p-Xylene	108-38-3	ND	ppbv
Methylene Chloride	75-09-2	ND	ppbv
o-Xylene	95-47-6	ND	ppbv
Tetrachloroethene	127-18-4	ND	ppbv
Toluene	108-88-3	ND	ppbv
Trichloroethene	79-01-6	ND	ppbv
Vinyl Chloride	75-01-4	ND	ppbv
4-Bromofluorobenzene	460-00-4	100.00	% Recovery

All canisters have been certified according to the project-specific requirements and/or Standard Operating Procedures.

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Media Certification Report

Canister Number: 6L3281
Can#: 150048-7203
Date : 02/17/24 11:42
Data File: o021708.d

www.airtoxics.com
1-800-985-5955

Name	CAS	Conc.	Units
1,1,1-Trichloroethane	71-55-6	ND	ppbv
1,1-Dichloroethene	75-35-4	ND	ppbv
1,2,4-Trichlorobenzene	120-82-1	ND	ppbv
1,2-Dichlorobenzene	95-50-1	ND	ppbv
1,3-Dichlorobenzene	541-73-1	ND	ppbv
1,4-Dichlorobenzene	106-46-7	ND	ppbv
Acetone	67-64-1	ND	ppbv
Benzene	71-43-2	ND	ppbv
Carbon Tetrachloride	56-23-5	ND	ppbv
Chlorobenzene	108-90-7	ND	ppbv
cis-1,2-Dichloroethene	156-59-2	ND	ppbv
Ethyl Benzene	100-41-4	ND	ppbv
Freon 11	75-69-4	ND	ppbv
Freon 113	76-13-1	ND	ppbv
Freon 12	75-71-8	ND	ppbv
m,p-Xylene	108-38-3	ND	ppbv
Methylene Chloride	75-09-2	ND	ppbv
o-Xylene	95-47-6	ND	ppbv
Tetrachloroethene	127-18-4	ND	ppbv
Toluene	108-88-3	ND	ppbv
Trichloroethene	79-01-6	ND	ppbv
Vinyl Chloride	75-01-4	ND	ppbv
4-Bromofluorobenzene	460-00-4	102.00	% Recovery

**** All canisters have been certified according to the project-specific requirements and/or Standard Operating Procedures.***

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Media Certification Report

Canister Number: 6L3764
Can#: 150048-7607
Date : 02/17/24 11:12
Data File: o021707.d

www.airtoxics.com
1-800-985-5955

Name	CAS	Conc.	Units
1,1,1-Trichloroethane	71-55-6	ND	ppbv
1,1-Dichloroethene	75-35-4	ND	ppbv
1,2,4-Trichlorobenzene	120-82-1	ND	ppbv
1,2-Dichlorobenzene	95-50-1	ND	ppbv
1,3-Dichlorobenzene	541-73-1	ND	ppbv
1,4-Dichlorobenzene	106-46-7	ND	ppbv
Acetone	67-64-1	ND	ppbv
Benzene	71-43-2	ND	ppbv
Carbon Tetrachloride	56-23-5	ND	ppbv
Chlorobenzene	108-90-7	ND	ppbv
cis-1,2-Dichloroethene	156-59-2	ND	ppbv
Ethyl Benzene	100-41-4	ND	ppbv
Freon 11	75-69-4	ND	ppbv
Freon 113	76-13-1	ND	ppbv
Freon 12	75-71-8	ND	ppbv
m,p-Xylene	108-38-3	ND	ppbv
Methylene Chloride	75-09-2	ND	ppbv
o-Xylene	95-47-6	ND	ppbv
Tetrachloroethene	127-18-4	ND	ppbv
Toluene	108-88-3	ND	ppbv
Trichloroethene	79-01-6	ND	ppbv
Vinyl Chloride	75-01-4	ND	ppbv
4-Bromofluorobenzene	460-00-4	101.00	% Recovery

**** All canisters have been certified according to the project-specific requirements and/or Standard Operating Procedures.***

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Media Certification Report

Canister Number: 6L4177
Can#: 150048-8602
Date : 02/17/24 12:11
Data File: o021709.d

www.airtoxics.com
1-800-985-5955

Name	CAS	Conc.	Units
1,1,1-Trichloroethane	71-55-6	ND	ppbv
1,1-Dichloroethene	75-35-4	ND	ppbv
1,2,4-Trichlorobenzene	120-82-1	ND	ppbv
1,2-Dichlorobenzene	95-50-1	ND	ppbv
1,3-Dichlorobenzene	541-73-1	ND	ppbv
1,4-Dichlorobenzene	106-46-7	ND	ppbv
Acetone	67-64-1	ND	ppbv
Benzene	71-43-2	ND	ppbv
Carbon Tetrachloride	56-23-5	ND	ppbv
Chlorobenzene	108-90-7	ND	ppbv
cis-1,2-Dichloroethene	156-59-2	ND	ppbv
Ethyl Benzene	100-41-4	ND	ppbv
Freon 11	75-69-4	ND	ppbv
Freon 113	76-13-1	ND	ppbv
Freon 12	75-71-8	ND	ppbv
m,p-Xylene	108-38-3	ND	ppbv
Methylene Chloride	75-09-2	ND	ppbv
o-Xylene	95-47-6	ND	ppbv
Tetrachloroethene	127-18-4	ND	ppbv
Toluene	108-88-3	ND	ppbv
Trichloroethene	79-01-6	ND	ppbv
Vinyl Chloride	75-01-4	ND	ppbv
4-Bromofluorobenzene	460-00-4	98.00	% Recovery

**** All canisters have been certified according to the project-specific requirements and/or Standard Operating Procedures.***

Eurofins Environment Testing Northern California, LLC **Workorder #** 2403039	Data Review Checklist			
	Form F1.27	Revision #21	Revision Date: 05/01/23	Page 1 of 2

S1	S2	S3	S4	D	***Section 1 – Spec Out***				
					Initials/Instrument/Date	**S1:** MSD-22 JA 3/13/24	**S2:**	**S3:**	**S4:**
✓				■	Project Identification (PID), Project Requirements Table (PRT), Daily QC and ICAL met Criteria				
✓				✓	Method Name: 224L0202A				
✓				■	Lumen QC and ICAL evaluation (ref. SOP/Method) report initialed and in folder				
NA				■	Manual Integrations included and approved				
✓				✓	Chain of Custody verified for special comments/notes and analyses requested (add comments below)				
✓				■	Non-standard Target sublist verified (MDL, LOD, RL, control limits, etc.)				
✓				■	Verified standard expiration dates				

Profile, analyses, reporting, special notes and unusual circumstances: S1: Ø out in QC, LB 07a

A1	A2	A3	A4	D	***Section 2 – Sample Analysis***				
				✓	**Initials/Date**	**A1:** TD 3/13/24	**A2:**	**A3:**	**A4:**
✓				✓	IS/Surr Recoveries, Dilution Factors, Load Volumes, leg(s) of instrument, Initial/Final Pressures, Canister #s Verified and dilution ranges are met per SOP (ex. Over-ranged/overdiluted). Method Transfer Dilutions Verified.				
N				NA	**a)** Tedlar Bag IDs verified against COC **b)** Tedlar Bag ID confirmed with loading sequence/leg(s) of instrument				
N				NA	Manual Integrations/Bag or Can Dilution Forms/Re-pressurization Forms/Bag-Can Transfer Forms present (circle all that apply)				
✓				■	12/24 Hr clock time & Hold Time met for all samples				
N				NA	Re-analysis of sample(s) has been evaluated for comparability and/or sample(s) has/have been checked for trends (Inf/Eff), field dups/trip blanks, samples following bad loads on auto samplers have been verified (system blks, confirmation runs)				
✓				✓	All runs have been evaluated for potential carry-over (TPHg/non-Target/over-range compounds/ etc.)				
✓				✓	All runs have been evaluated using method default parent sublists prior to any client specific sublists.				

Analytical and special notes: A1: 01A, 02A, 07A, 08A FL; 03A-06A d: INTC

D1	D2	D3	D4	T	3T	***Section 3 – Target Data Reduction***	**Technical Review Needed?** **Circle one: Yes/No** (No circled)		**T:**	
						Initials/Instrument/ Date	**D1:** an 3/14/24	**D2:**	**D3:**	**D4:**
NA					■	CAR # *(if applicable)*				
✓					■	Spectra Verified *(documentation of spectral defense included if applicable)*				
✓						Calibration history evaluated. Verify QC files.				
NA					■	TICs resemble reference spectra/ TICs between sample dups. are consistent *(if applicable)*				
✓						Lab Narrative is correct				
NA					■	TPH/NMOC calculations complete and included in folder				

Special notes: Di-OK

A	3T	***Section 4- Atlas Data Entry***	**Lumen verified and included in folder** **Circle one: Yes/No** (Yes circled)
		Initials/Date: an 3/14/24	**3rd Tier:** *(needed only for DOD or per client request)*
NA		Sample Discrepancy Report (SDR) complete and approved *(if applicable)*	
NA		Manually entered results are checked	
✓		At least one result per sample is verified against Target quant sheets	
✓		Appropriate data qualifier flags are applied	
✓		Final Invoice is correct/ Final PDF report, COC and EDD reviewed and correct	

Special Notes:

Note (1) *Please check all the appropriate boxes. Indicate "NA" for any statement that doesn't apply*
Note (2) *3rd Tier Report Reviewer and Write Up Reviewer must be separate individuals for DoD & Client Specific Projects*

Workorder # :				**Reason for Reissue:**
W	**T**	**3T**	**Q**	
				Reissue Request form Present
				Client or QA or Lab contact present with reason for reissue
				Review all affected data
				Report header has correct R1, R2 etc
				The Lab Narrative clearly explains the reissue (Date, Reason and whether client requested)
				Date for Reissue in Report Header matches date in Lab Narrative
				Check Project Profile for correct reporting instructions (multiple clients, # hardcopies, etc)
				Corrective Action issued - #
				The reissued workorder has been approved by a Group Lead, QA Manager or a Technical Director
Additional Comments:				

Write Up (Initials/Date)	**Tech Review** (Initials/Date)	***3rd Tier Review** ** 3rd Tier Report Review is for DoD & Client Specific projects only* (Initials/Date)	**QA Review** (Initials/Date)

Workorder # :				**Reason for Reissue:**
W	**T**	**3T**	**Q**	
				Reissue Request form Present
				Client or QA or Lab contact present with reason for reissue
				Review all affected data
				Report header has correct R1, R2 etc
				The Lab Narrative clearly explains the reissue (Date, Reason and whether client requested)
				Date for Reissue in Report Header matches date in Lab Narrative
				Check Project Profile for correct reporting instructions (multiple clients, # hardcopies, etc)
				Corrective Action issued - #
				The reissued workorder has been approved by a Group Lead, QA Manager or a Technical Director
Additional Comments:				

Write Up (Initials/Date)	**Tech Review** (Initials/Date)	***3rd Tier Review** ** 3rd Tier Report Review is for DoD & Client Specific projects only* (Initials/Date)	**QA Review** (Initials/Date)

Note (1) *Please check all the appropriate boxes. Indicate "NA" for any statement that doesn't apply*
Note (2) 3rd Tier Report Reviewer and Write Up Reviewer must be separate individuals for DoD & Client Specific Projects