MICHIGAN DEPARTMENT OF ENVIRONMENT, GREAT LAKES, AND ENERGY

Detroit Assembly Complex Stellantis On-Site Sampling Report Mack Avenue, Detroit, Michigan

Introduction:

On October 4, 2022, outdoor air sampling was conducted on the FCA (Stellantis) US LLC Detroit Assembly Complex - Mack ("DACM") property, located at 4000 St. Jean, Detroit, Wayne County, Michigan. The purpose of the sampling was to determine whether community odor complaints were linked to specific air pollutants exiting the building at points other than the stacks, including doorways, vents, openings, or storage piles. These types of releases are called "fugitive emissions." All samples were taken on the DACM property and are not considered ambient air.

The facility consists of an automobile and light-duty truck manufacturing plant, which currently manufactures the Grand Cherokee. Main operations at the facility are the body shop, paint shop, and a general assembly plant. In the paint shop, coating is applied to vehicle bodies via an electrodeposition ("Ecoat") dip tank process. Once Ecoated, a spray application of liquid primer ("Primer") basecoat and clearcoat ("Topcoat") is applied. The Ecoat, Primer, and Topcoat application processes are each followed by drying ovens. The paint shop uses control devices called a concentrator and a Regenerative Thermal Oxidizer (RTO) to reduce air pollutant emissions from the paint booth spray zones and flash zones. Ovens that cure paint send air emissions directly to the RTO. The paint booth observation zones are currently ducted to ambient air.

Objective:

The objective of the outdoor sampling was to identify which possible chemical compounds could be the source of community concerns and odor complaints EGLE is receiving based on odor thresholds and chemical process fingerprints. The sampling was also conducted to identify possible chemicals for future evaluations.

Compounds of Interest and Sample Locations:

The compounds of interest included volatile organic compounds (VOCs), esters, naphthas, glycol ethers, alcohols, and aldehydes. VOC sampling is typically performed by U.S. Environmental Protection Agency (USEPA) method TO-15A with evacuated Summa or equivalent canisters. However, this method cannot detect all the chemicals of interest at DACM; therefore, alternate methods were used to try to detect other chemicals of interest. Table 1 describes the sampling methods for each class of compounds.

Sampling sites 1–5 were selected to capture potential emissions on all sides of the paint shop. Site 6 was the upwind location and was sited in the northeast corner of the property near Warren Avenue where DACM houses a continuous particulate sampler

and nitrogen dioxide sampler. All compound classes were sampled at all 6 sampling sites, which are shown in Figure 1. For quality assurance, a duplicate sample was collected at Site 6 for the TO-15A method. The laboratory data from EGLE's samples are included in Appendix A of this report. DACM used a contractor to collect duplicate samples at all 6 locations utilizing the same methods listed in Table 1. The data collected by DACM are included in Appendix B of this report.

Table 1: Parameters and Methods

Parameter	Method	Equipment
VOCs	USEPA Method TO-15A	Summa Canisters equipped with 24-hr. flow controller
VOCs	USEPA Method TO-17	Supelco Carbotrap 300 tube, personal air sampling pump 6-hrs
Esters	NIOSH 1450	Charcoal tube, personal air sampling pump 6-hrs.
Naphthas	NIOSH 1550	Charcoal tube, personal air sampling pump 6-hrs.
Glycol ethers	NIOSH 2554	Charcoal tube, personal air sampling pump 4-hrs
Alcohols	NIOSH 1403	Charcoal tube, personal air sampling pump 6-hrs.
Aldehydes	TO-11A	DNPH tube, personal air sampling pump 6-hrs.

Figure 1: Sampling Locations

Discussions of Results:

This sampling was initially performed in June 2022 using the same sampling methods and site locations. EGLE's contractor, who performed the tube sampling, inadvertently sent the samples to the wrong contract laboratory location, which caused the samples to be voided. DACM performed duplicate sampling with EGLE and their results from the June 2022 event are included in Appendix B of this report.

On October 4, 2022, the winds were light and variable, less than 5 miles per hour with daytime temperatures in the 60s. Figure 2 shows a wind rose illustrating variations in wind direction and wind speed during the study.

The laboratory results for the compounds in Tables 2-4 are expressed in units of parts per billion (ppb). Tables 2-4 list the chemicals with results above the laboratory detection limit. If a chemical was not above the detection limit at a specific site, 'ND' is listed. The VOC results from the TO-15A method with 24-hour sampling in Table 4 are similar in the number of chemicals detected to those collected at the long-term ambient air monitoring sites in Dearborn and southwest Detroit.

Some VOCs were detected by both TO-17 and TO-15A methods but yielded different results. This could be due to the different sample collection methods (tubes verses canisters), different laboratories, and/or sampling durations (6 versus 24 hours).

Chemicals with results above the odor threshold, meaning they could be the cause of odors, are highlighted in **red**. The odor threshold values for comparison were obtained from the American Industrial Hygiene Association (AIHA) and the USEPA Reference Guide to odor thresholds. Chemicals in Table 2 and Table 4 with results above the typical ambient air concentrations measured at the Dearborn regulatory monitoring site are highlighted in **blue**. Data from the Dearborn site were used to evaluate whether the levels measured on the DACM property were similar to, lower, or higher than concentrations in urban ambient air. Concentrations above the typical ambient air level do not indicate a violation or health concern. The highlighted chemicals, or the combination of them, may indicate that further investigation is warranted.

Aldehydes are chemicals measured at EGLE's Air Quality Division (AQD) regulatory air monitoring sites in Dearborn, SW Detroit, and River Rouge. While the duration of sampling at DACM was less than the typical 24 hours, the methodology used to collect and measure the aldehyde chemicals in Table 2 was the same analytical technique AQD uses at its regulatory monitoring sites.

Note: the sorbent tube Method TO-17 for VOCs in Table 3 is not used at the AQD regulatory monitoring sites, which utilize the canister method TO-15A over 24 hours. Moreover, isopropyl alcohol is not measured at regulatory monitoring sites. Nevertheless, it is flagged in Table 3 as it is the compound with the highest measured concentration (190 ppb at Site 1) and may indicate solvent emissions. Dipropylene Glycol Methyl Ether (DPGME) was flagged in Table 2 for similar reasons.

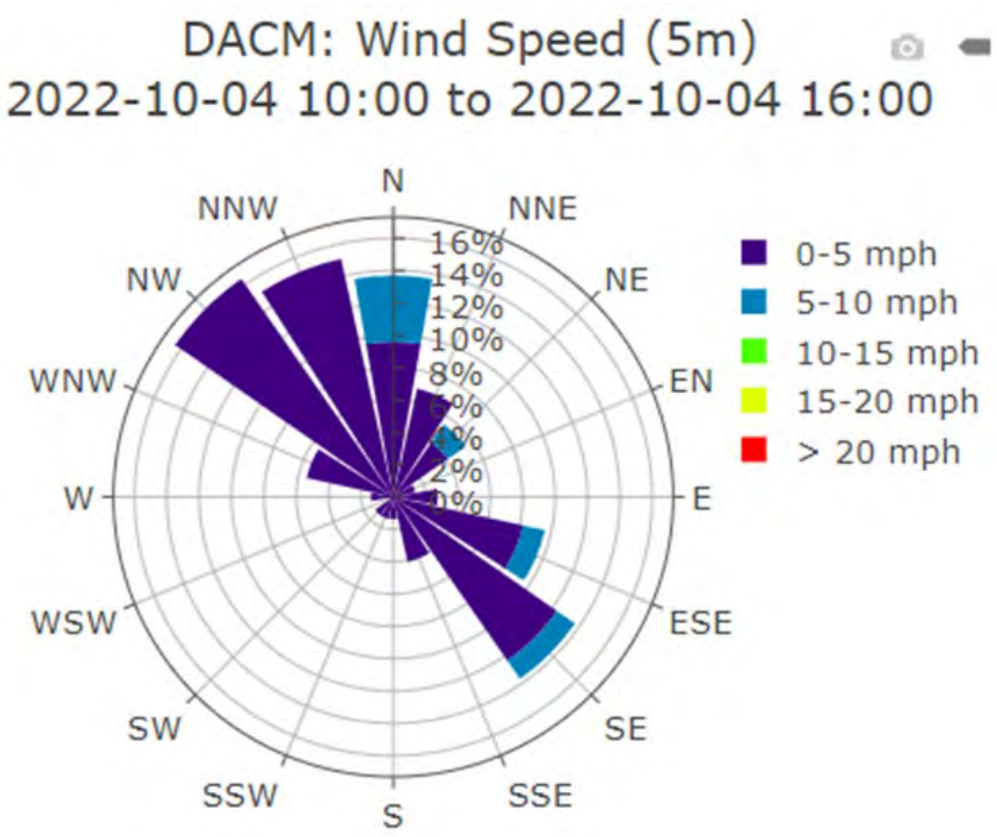

Figure 2: Wind Rose for October 4, 2022

Table 2: Results for NIOSH and TO-11A Methods (ppb) by sampling site

Site	1	2	3	4	5	6
Acetaldehyde	**3.9**	**3.1**	**5.9**	**4.3**	**3.7**	**3.4**
Acetone	**28**	ND	4.2	14	5.2	2.7
Benzaldehyde	1.2	1	**1.7**	ND	ND	1.2
Butyraldehyde	2.8	1.5	1.8	2.8	1.4	1.5
Dipropylene Glycol Methyl Ether (DPGME) (paint ingredient)	ND	ND	ND	**69**	ND	ND
Formaldehyde	**14**	**6.7**	**8.6**	**14**	**9.1**	**6.0**
Hexanal	ND	1.3	1	1.1	ND	1.5

Red: Chemicals with results above the odor threshold, meaning they could be the cause of odor. Benzaldehyde Reference: *American Industrial Hygiene Association (AIHA). 2013. Odor Thresholds for Chemicals with Established Occupational Health Standards, Second Edition. Eds.: Murnana, S.S., Lehocky, A.H., and Owens, P.D., AHIA, Fall Church, Virginia*

Blue: Chemicals with results above the typical ambient air concentrations measured at the Dearborn site as referenced in the 2021 Air Quality Annual Report, Appendix B-1.

Table 3: Results for TO-17 Method (ppb) by sampling site

Site	1	2	3	4	5	6
1,2,4-Trimethylbenzene	**16**	ND	7.4	**64**	6.8	ND
1,3,5-Trimethylbenzene	4.9	ND	2.4	**20**	2.3	ND
4-Ethyl toluene	5.6	ND	2.6	21	2.4	ND
4-Methyl-2-pentanone	4.3	ND	ND	14	3.5	ND
Acetone	**91**	ND	7.1	**52**	11	4.4
Ethanol	7.6	ND	3.9	11	ND	ND
Ethylbenzene	**6.5**	ND	3.1	**24**	3.3	ND
Isopropyl alcohol	**190**	ND	5.4	**25**	16	ND
m,p-Xylene	25	1.8	12	**87**	12	ND
o-Xylene	6.4	ND	3.1	**24**	3.1	ND
Propene	18	ND	ND	5	ND	ND
Toluene	12	2	ND	4	ND	ND

Red: Chemicals with results above the odor threshold, meaning they could be the cause of odor.
Ethylbenzene Reference: *American Industrial Hygiene Association (AIHA). 2013. Odor Thresholds for Chemicals with Established Occupational Health Standards, Second Edition. Eds.: Murnana, S.S., Lehocky, A.H., and Owens, P.D., AHIA, Fall Church, Virginia*.
M,P-Xylene Reference: *United States Environmental Protection Agency (U.S. EPA). 1992. Reference Guide to Odor Thresholds for Hazardous Air Pollutants Listed in the Clean Air Act Amendments of 1990. Available: https://cfpub.epa.gov/ncea/risk/hhra/recordisplay.cfm?deid=40610*
Blue: Chemicals with results above the typical ambient air concentrations measured at the Dearborn site as referenced in the 2021 Air Quality Annual Report, Appendix B-1..

Table 4: Results for TO-15A Method (ppb) by sampling site

Site	1	2	3	4	5	6	6 (DUP)
1,1,1-Trichloroethane	0.0063	0.0056	0.0051	0.0056	0.0056	0.007	0.0071
1,1-Dichloroethane	0.0014	ND	0.0015	0.0012	ND	ND	ND
1,2,4-Trichlorobenzene	0.0015	0.0024	0.002	0.0021	0.0028	0.0054	0.0026
1,2,4-Trimethylbenzene	**7.97**	0.422	**7.02**	**30**	**14.8**	0.364	0.376
1,2-Dichloroethane	0.0227	0.017	0.0168	0.023	0.0269	0.0124	0.0131
1,3,5-Trimethylbenzene	2.21	0.113	2.95	**9.61**	**5.18**	0.102	0.113
1,3-Butadiene	0.118	0.156	0.161	0.164	0.145	0.147	0.169
Acetonitrile	ND	1.04	ND	ND	ND	0.521	0.541
Acetylene	3.54	3.8	3.27	3.69	2.91	2.76	2.91
Acrolein	0.357	0.244	0.205	0.337	0.246	0.195	0.218
Benzene	0.725	0.899	0.763	0.698	0.609	0.716	0.729
Bromochloromethane	ND	0.0015	0.0008	0.0005	0.0004	ND	ND
Bromodichloromethane	0.0063	0.0081	0.0061	0.0062	0.0051	0.0033	0.0036
Bromoform	0.0042	0.0026	0.0028	0.0035	0.0032	0.002	0.002
Bromomethane	0.0085	0.0096	0.0078	0.0082	0.0077	0.0071	0.0071
Carbon Disulfide	0.0139	0.0167	0.0134	0.0183	0.0173	0.0157	0.0122
Carbon Tetrachloride	0.0827	0.0815	0.0798	0.0801	0.0809	0.0796	0.0815
Chlorobenzene	0.0034	0.0035	ND	ND	ND	ND	ND
Chloroethane	0.0196	0.0315	0.0187	0.0153	0.016	0.0149	0.0154
Chloroform	0.0522	0.0694	0.0527	0.05	0.0478	0.047	0.0477

Site	1	2	3	4	5	6	6 (DUP)
Chloromethane	0.506	0.523	0.491	0.503	0.492	0.37	0.385
Dibromochloromethane	0.002	0.002	0.0019	0.0019	0.0017	0.0012	0.0012
Dichlorodifluoromethane	0.592	0.564	0.566	0.569	0.543	0.504	0.519
Dichloromethane	0.263	0.274	0.257	0.245	0.264	0.231	0.237
Dichlorotetrafluoroethane	0.0189	0.0185	0.0185	0.0172	0.0179	0.0159	0.0166
Ethyl tert-Butyl Ether	ND	ND	ND	0.0009	0.0007	ND	ND
Ethylbenzene	**3.85**	0.35	**3.71**	**11.8**	**6.01**	0.274	0.281
Ethylene oxide	0.41	0.42	0.424	0.341	0.398	0.181	0.214
Hexachloro-1,3-butadiene	0.0016	0.0018	0.0021	0.0021	0.0022	0.0003	0.0002
m,p-Xylene	14.1	1.2	12.5	**49.9**	25.4	0.963	1.02
m-Dichlorobenzene	0.0019	0.0021	0.0025	0.003	0.0024	0.0017	0.001
Methyl Isobutyl Ketone	**4.02**	0.164	**1.87**	**7.54**	**7.45**	0.0854	0.0904
n-Octane	ND	ND	ND	ND	ND	0.166	0.175
o-Dichlorobenzene	0.0017	0.0017	0.0021	0.0021	0.0022	0.0013	0.0007
o-Xylene	3.67	0.412	3.69	**11.2**	5.62	0.346	0.36
p-Dichlorobenzene	0.0348	0.0402	0.0321	0.027	0.0209	0.0306	0.0311
Propylene	2.99	3.07	2.86	3.02	2.64	2.78	2.93
tert-Amyl Methyl Ether	0.0321	ND	0.0089	0.0436	0.0626	ND	ND
Tetrachloroethylene	0.0967	0.0828	0.0831	0.0822	0.0901	0.143	0.143
Toluene	5.57	2.35	2.49	3.19	2.73	2.17	2.24
trans-1,2-Dichloroethylene	0.0118	0.0088	0.0091	0.0107	0.0122	0.0098	0.0098
Trichloroethylene	0.0158	0.0131	0.0144	0.0148	0.0151	0.0189	0.0196
Trichlorofluoromethane	0.281	0.272	0.272	0.27	0.268	0.25	0.256
Trichloro trifluoroethane	0.0806	0.0779	0.0776	0.0793	0.0802	0.0663	0.0676
Vinyl chloride	ND	0.003	ND	ND	ND	0.0029	ND

Red: Chemicals with results above the odor threshold, meaning they could be the cause of odor.
Ethylbenzene Reference: *American Industrial Hygiene Association (AIHA). 2013. Odor Thresholds for Chemicals with Established Occupational Health Standards, Second Edition. Eds.: Murnana, S.S., Lehocky, A.H., and Owens, P.D., AHIA, Fall Church, Virginia*.
M,P-Xylene Reference: *United States Environmental Protection Agency (U.S. EPA). 1992. Reference Guide to Odor Thresholds for Hazardous Air Pollutants Listed in the Clean Air Act Amendments of 1990. Available: https://cfpub.epa.gov/ncea/risk/hhra/recordisplay.cfm?deid=40610*
Blue: Chemicals with results above the typical ambient air concentrations measured at the Dearborn site as referenced in the 2021 Air Quality Annual Report, Appendix B-1..

Conclusions:

Although this sampling event was limited to sites on the DACM property, several conclusions can be made, including:

- Several chemicals detected could be coming from the painting process at the facility but are also commonly found in urban ambient air.
- While most of the VOC compounds were measured at concentrations like those at the Dearborn ambient air monitoring site, there were some exceptions. VOCs with results above a typical ambient air level include trimethylbenzenes, ethylbenzene, xylenes (m/p and o), and methyl isobutyl ketone.
- VOCs appeared to be the highest at site 4 with a few elevated measurements of compounds detected at site 1.
- The levels of some aldehydes, most notably formaldehyde and acetaldehyde, were above typical ambient levels at all 6 sampling locations.
- The chemical DPGME, a constituent in paint, was only detected at site 4 and was below the odor threshold.
- The chemicals with results above the odor thresholds were benzaldehyde, ethylbenzene, and m/p-xylene.
- While not above the odor threshold, the detection of acetone was expected because it is commonly used to clean paint sprayers and is a common laboratory solvent. Likewise, isopropyl alcohol, a common cleaning product, was detected.
- Sampling conducted immediately outside of built structures inside the facility fence line has limitations and does not represent the ambient air beyond the facility boundaries to which the public may be exposed.

The results of this sampling are being shared with DACM to assist in identifying potential sources of odors and help pinpoint possible points of fugitive emissions. Additional next steps are in the process of being identified based on the results of this sampling event and future changes within the facility. The AQD will continue to be responsive to community concerns and will consider further sampling in the future, if warranted.

More information about air monitoring data collected through the AQD's air monitoring network may be obtained from an annual report available on EGLE's monitoring website.

Appendix A
Laboratory Data from AQD Sampling

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

November 18, 2022

Ms. Amy Robinson
Michigan Department of Environment
PO Box 30260
Lansing, MI 48909
Project Name: MI VOCs

Dear Ms. Amy Robinson,

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

Values below the MDL for QC results in this report are recorded as ND, however the actual values are reported in the accompanying Excel report with a "U" flag (Under the detection limit). The actual values are reported in AQS.

This test is accredited under the 2016 TNI Standard for Environmental Laboratories (FL DOH Certification # E87673). All analyses were performed as described in the US EPA-approved QAPP, under the contract for UATMP, NATTS, CSATAM, PAMS and NMOC support (US EPA Contract No. EP-D-14-030). This cover page is an integral part of this report, and any exceptions or comments are noted on the last page.

Release of the data contained in this data package and in the data submitted in the electronic data deliverable, has been authorized by the Program Manager, or the Program Manager's designee as verified by the following signature.

The issuance of the final Certificate of Analysis takes precedence over any previous Report. If you have any questions, please contact me at 919-468-7924.

Sincerely,

Julie Swift
Program Manager
julie.swift@erg.com

CERTIFICATE OF ANALYSIS

U.S. Environmental Protection Agency, Region 5
PO Box 30260
Lansing, MI 48909
ATTN: Ms. Amy Robinson
PHONE: (517) 241-2198 **FAX:** (312) 886-5824

FILE #: [none]
REPORTED: 11/18/22 13:06
SUBMITTED: 10/11/22
AQS SITE CODE:
SITE CODE: MI VOCs

ANALYTICAL REPORT FOR SAMPLES

SampleName	LabNumber	Matrix	Sampled	Received
Stellantis - Site #1N	2101115-01	Air	10/05/22 07:22	10/11/22 11:29
Stellantis - Site #2W	2101115-02	Air	10/05/22 07:36	10/11/22 11:29
Stellantis - Site #3S	2101115-03	Air	10/05/22 07:50	10/11/22 11:29
Stellantis - Site #4SE	2101115-04	Air	10/05/22 07:59	10/11/22 11:29
Stellantis - Site #5E	2101115-05	Air	10/05/22 08:08	10/11/22 11:29
Stellantis - Site #6AMS	2101115-06	Air	10/05/22 08:20	10/11/22 11:29
Stellantis - Site #7AMS	2101115-07	Air	10/05/22 08:25	10/11/22 11:29

CERTIFICATE OF ANALYSIS

U.S. Environmental Protection Agency, Region 5
PO Box 30260
Lansing, MI 48909
ATTN: Ms. Amy Robinson
PHONE: (517) 241-2198 **FAX:** (312) 886-5824

FILE #: [none]
REPORTED: 11/18/22 13:06
SUBMITTED: 10/11/22
AQS SITE CODE:
SITE CODE: MI VOCs

Description: Stellantis - Site #1N
Pressure @ Receipt: 9.50 "Hg
Comments:

Lab ID: 2101115-01
Canister #: 35108

Sampled: 10/05/22 07:22
Received: 10/11/22 11:29
Analyzed: 10/18/22 00:37

Air Toxics by EPA Compendium Method TO-15

	Results			MDL
Analyte	**ppbv**	**ug/m³**	**Flag**	**ppbv**
Acetylene	**3.54**	**3.78**		**0.110**
Propylene	**2.99**	**5.16**		**0.0345**
Dichlorodifluoromethane	**0.592**	**2.93**		**0.0136**
Chloromethane	**0.506**	**1.05**		**0.0285**
Dichlorotetrafluoroethane	**0.0189**	**0.13**		**0.00827**
Vinyl chloride	ND	ND	U	0.00787
1,3-Butadiene	**0.118**	**0.26**		**0.0207**
Ethylene oxide	**0.410**	**0.74**	LK	**0.0480**
Bromomethane	0.00850	0.03	U	0.0205
Chloroethane	**0.0196**	**0.05**		**0.0164**
Acetonitrile	ND	ND	U	0.138
Acrolein	**0.357**	**0.82**		**0.177**
Trichlorofluoromethane	**0.281**	**1.58**		**0.0235**
Acrylonitrile	ND	ND	CE, U	0.0168
1,1-Dichloroethene	ND	ND	U	0.0115
Dichloromethane	**0.263**	**0.92**		**0.198**
Carbon Disulfide	0.0139	0.04	U	0.0142
Trichlorotrifluoroethane	**0.0806**	**0.62**		**0.00910**
trans-1,2-Dichloroethylene	**0.0118**	**0.05**		**0.00866**
1,1-Dichloroethane	0.00140	0.01	U	0.00784
Methyl tert-Butyl Ether	ND	ND	U	0.00671
Chloroprene	ND	ND	U	0.0213
cis-1,2-Dichloroethylene	ND	ND	U	0.0228
Bromochloromethane	ND	ND	U	0.00757
Chloroform	**0.0522**	**0.26**		**0.00761**
Ethyl tert-Butyl Ether	ND	ND	U	0.00679
1,2-Dichloroethane	**0.0227**	**0.09**		**0.00711**
1,1,1-Trichloroethane	0.00630	0.03	U	0.0119
Benzene	**0.725**	**2.32**		**0.0103**
Carbon Tetrachloride	**0.0827**	**0.52**		**0.0112**
tert-Amyl Methyl Ether	**0.0321**	**0.13**		**0.00835**
1,2-Dichloropropane	ND	ND	U	0.00906
Ethyl Acrylate	ND	ND	U	0.0132
Bromodichloromethane	0.00630	0.04	U	0.0254
Trichloroethylene	**0.0158**	**0.09**		**0.0123**
Methyl Methacrylate	ND	ND	U	0.0667
cis-1,3-Dichloropropene	ND	ND	U	0.00699
Methyl Isobutyl Ketone	**4.02**	**16.50**		**0.0308**
trans-1,3-Dichloropropene	ND	ND	U	0.00985
1,1,2-Trichloroethane	ND	ND	U	0.00943
Toluene	**5.57**	**21.00**	D	**0.0786**

CERTIFICATE OF ANALYSIS

U.S. Environmental Protection Agency, Region 5
PO Box 30260
Lansing, MI 48909
ATTN: Ms. Amy Robinson
PHONE: (517) 241-2198 **FAX:** (312) 886-5824

FILE #: [none]
REPORTED: 11/18/22 13:06
SUBMITTED: 10/11/22
AQS SITE CODE:
SITE CODE: MI VOCs

Description: Stellantis - Site #1N
Lab ID: 2101115-01
Sampled: 10/05/22 07:22
Pressure @ Receipt: 9.50 "Hg
Canister #: 35108
Received: 10/11/22 11:29
Comments:
Analyzed: 10/18/22 00:37

Air Toxics by EPA Compendium Method TO-15

	Results			MDL
Analyte	**ppbv**	**ug/m³**	**Flag**	**ppbv**
Dibromochloromethane	0.00200	0.02	U	0.00873
1,2-Dibromoethane	ND	ND	U	0.0110
n-Octane	ND	ND	U	0.0144
Tetrachloroethylene	**0.0967**	**0.66**		**0.0287**
Chlorobenzene	0.00340	0.02	U	0.0104
Ethylbenzene	**3.85**	**16.80**		**0.0112**
m,p-Xylene	**14.1**	**61.40**	D	**0.0640**
Bromoform	0.00420	0.04	U	0.0109
Styrene	ND	ND	CE, U	0.0118
1,1,2,2-Tetrachloroethane	ND	ND	U	0.00946
o-Xylene	**3.67**	**16.00**		**0.0154**
1,3,5-Trimethylbenzene	**2.21**	**10.90**		**0.0148**
1,2,4-Trimethylbenzene	**7.97**	**39.30**	D	**0.0228**
m-Dichlorobenzene	0.00190	0.01	U	0.0162
p-Dichlorobenzene	**0.0348**	**0.21**		**0.0169**
o-Dichlorobenzene	0.00170	0.01	U	0.0187
1,2,4-Trichlorobenzene	0.00150	0.01	QX, U	0.0623
Hexachloro-1,3-butadiene	0.00160	0.02	U	0.0736

CERTIFICATE OF ANALYSIS

U.S. Environmental Protection Agency, Region 5
PO Box 30260
Lansing, MI 48909
ATTN: Ms. Amy Robinson
PHONE: (517) 241-2198 **FAX:** (312) 886-5824

FILE #: [none]
REPORTED: 11/18/22 13:06
SUBMITTED: 10/11/22
AQS SITE CODE:
SITE CODE: MI VOCs

Description: Stellantis - Site #2W
Pressure @ Receipt: 10.50 "Hg
Comments:

Lab ID: 2101115-02
Canister #: 33314

Sampled: 10/05/22 07:36
Received: 10/11/22 11:29
Analyzed: 10/18/22 01:45

Air Toxics by EPA Compendium Method TO-15

	Results			MDL
Analyte	**ppbv**	**ug/m³**	**Flag**	**ppbv**
Acetylene	**3.80**	**4.06**		**0.110**
Propylene	**3.07**	**5.29**		**0.0345**
Dichlorodifluoromethane	**0.564**	**2.80**		**0.0136**
Chloromethane	**0.523**	**1.08**		**0.0285**
Dichlorotetrafluoroethane	**0.0185**	**0.13**		**0.00827**
Vinyl chloride	0.00300	0.01	U	0.00787
1,3-Butadiene	**0.156**	**0.35**		**0.0207**
Ethylene oxide	**0.420**	**0.76**	LK	**0.0480**
Bromomethane	0.00960	0.04	U	0.0205
Chloroethane	**0.0315**	**0.08**		**0.0164**
Acetonitrile	**1.04**	**1.75**		**0.138**
Acrolein	**0.244**	**0.56**		**0.177**
Trichlorofluoromethane	**0.272**	**1.53**		**0.0235**
Acrylonitrile	ND	ND	CE, U	0.0168
1,1-Dichloroethene	ND	ND	U	0.0115
Dichloromethane	**0.274**	**0.95**		**0.198**
Carbon Disulfide	**0.0167**	**0.05**		**0.0142**
Trichlorotrifluoroethane	**0.0779**	**0.60**		**0.00910**
trans-1,2-Dichloroethylene	**0.00880**	**0.04**		**0.00866**
1,1-Dichloroethane	ND	ND	U	0.00784
Methyl tert-Butyl Ether	ND	ND	U	0.00671
Chloroprene	ND	ND	U	0.0213
cis-1,2-Dichloroethylene	ND	ND	U	0.0228
Bromochloromethane	0.00150	0.01	U	0.00757
Chloroform	**0.0694**	**0.34**		**0.00761**
Ethyl tert-Butyl Ether	ND	ND	U	0.00679
1,2-Dichloroethane	**0.0170**	**0.07**		**0.00711**
1,1,1-Trichloroethane	0.00560	0.03	U	0.0119
Benzene	**0.899**	**2.88**		**0.0103**
Carbon Tetrachloride	**0.0815**	**0.51**		**0.0112**
tert-Amyl Methyl Ether	ND	ND	U	0.00835
1,2-Dichloropropane	ND	ND	U	0.00906
Ethyl Acrylate	ND	ND	U	0.0132
Bromodichloromethane	0.00810	0.05	U	0.0254
Trichloroethylene	**0.0131**	**0.07**		**0.0123**
Methyl Methacrylate	ND	ND	U	0.0667
cis-1,3-Dichloropropene	ND	ND	U	0.00699
Methyl Isobutyl Ketone	**0.164**	**0.67**		**0.0308**
trans-1,3-Dichloropropene	ND	ND	U	0.00985
1,1,2-Trichloroethane	ND	ND	U	0.00943
Toluene	**2.35**	**8.87**		**0.0393**

CERTIFICATE OF ANALYSIS

U.S. Environmental Protection Agency, Region 5
PO Box 30260
Lansing, MI 48909
ATTN: Ms. Amy Robinson
PHONE: (517) 241-2198 **FAX:** (312) 886-5824

FILE #: [none]
REPORTED: 11/18/22 13:06
SUBMITTED: 10/11/22
AQS SITE CODE:
SITE CODE: MI VOCs

Description: Stellantis - Site #2W
Lab ID: 2101115-02
Sampled: 10/05/22 07:36
Pressure @ Receipt: 10.50 "Hg
Canister #: 33314
Received: 10/11/22 11:29
Comments:
Analyzed: 10/18/22 01:45

Air Toxics by EPA Compendium Method TO-15

	Results			MDL
Analyte	**ppbv**	**ug/m³**	**Flag**	**ppbv**
Dibromochloromethane	0.00200	0.02	U	0.00873
1,2-Dibromoethane	ND	ND	U	0.0110
n-Octane	ND	ND	CE, U	0.0144
Tetrachloroethylene	**0.0828**	**0.56**		**0.0287**
Chlorobenzene	0.00350	0.02	U	0.0104
Ethylbenzene	**0.350**	**1.52**		**0.0112**
m,p-Xylene	**1.20**	**5.22**		**0.0320**
Bromoform	0.00260	0.03	U	0.0109
Styrene	ND	ND	CE, U	0.0118
1,1,2,2-Tetrachloroethane	ND	ND	U	0.00946
o-Xylene	**0.412**	**1.79**		**0.0154**
1,3,5-Trimethylbenzene	**0.113**	**0.56**		**0.0148**
1,2,4-Trimethylbenzene	**0.422**	**2.08**		**0.0114**
m-Dichlorobenzene	0.00210	0.01	U	0.0162
p-Dichlorobenzene	**0.0402**	**0.24**		**0.0169**
o-Dichlorobenzene	0.00170	0.01	U	0.0187
1,2,4-Trichlorobenzene	0.00240	0.02	QX, U	0.0623
Hexachloro-1,3-butadiene	0.00180	0.02	U	0.0736

CERTIFICATE OF ANALYSIS

U.S. Environmental Protection Agency, Region 5
PO Box 30260
Lansing, MI 48909
ATTN: Ms. Amy Robinson
PHONE: (517) 241-2198 **FAX:** (312) 886-5824

FILE #: [none]
REPORTED: 11/18/22 13:06
SUBMITTED: 10/11/22
AQS SITE CODE:
SITE CODE: MI VOCs

Description: Stellantis - Site #3S
Pressure @ Receipt: 10.50 "Hg
Comments:

Lab ID: 2101115-03
Canister #: 19665

Sampled: 10/05/22 07:50
Received: 10/11/22 11:29
Analyzed: 10/18/22 02:53

Air Toxics by EPA Compendium Method TO-15

	Results			MDL
Analyte	**ppbv**	**ug/m³**	**Flag**	**ppbv**
Acetylene	**3.27**	**3.49**		**0.110**
Propylene	**2.86**	**4.93**		**0.0345**
Dichlorodifluoromethane	**0.566**	**2.80**		**0.0136**
Chloromethane	**0.491**	**1.02**		**0.0285**
Dichlorotetrafluoroethane	**0.0185**	**0.13**		**0.00827**
Vinyl chloride	ND	ND	U	0.00787
1,3-Butadiene	**0.161**	**0.36**		**0.0207**
Ethylene oxide	**0.424**	**0.77**	LK	**0.0480**
Bromomethane	0.00780	0.03	U	0.0205
Chloroethane	**0.0187**	**0.05**		**0.0164**
Acetonitrile	ND	ND	U	0.138
Acrolein	**0.205**	**0.47**		**0.177**
Trichlorofluoromethane	**0.272**	**1.53**		**0.0235**
Acrylonitrile	ND	ND	CE, U	0.0168
1,1-Dichloroethene	ND	ND	U	0.0115
Dichloromethane	**0.257**	**0.90**		**0.198**
Carbon Disulfide	0.0134	0.04	U	0.0142
Trichlorotrifluoroethane	**0.0776**	**0.60**		**0.00910**
trans-1,2-Dichloroethylene	**0.00910**	**0.04**		**0.00866**
1,1-Dichloroethane	0.00150	0.01	U	0.00784
Methyl tert-Butyl Ether	ND	ND	U	0.00671
Chloroprene	ND	ND	U	0.0213
cis-1,2-Dichloroethylene	ND	ND	U	0.0228
Bromochloromethane	8.00E-4	0.00	U	0.00757
Chloroform	**0.0527**	**0.26**		**0.00761**
Ethyl tert-Butyl Ether	ND	ND	U	0.00679
1,2-Dichloroethane	**0.0168**	**0.07**		**0.00711**
1,1,1-Trichloroethane	0.00510	0.03	U	0.0119
Benzene	**0.763**	**2.44**		**0.0103**
Carbon Tetrachloride	**0.0798**	**0.50**		**0.0112**
tert-Amyl Methyl Ether	**0.00890**	**0.04**		**0.00835**
1,2-Dichloropropane	ND	ND	U	0.00906
Ethyl Acrylate	ND	ND	U	0.0132
Bromodichloromethane	0.00610	0.04	U	0.0254
Trichloroethylene	**0.0144**	**0.08**		**0.0123**
Methyl Methacrylate	ND	ND	CE, U	0.0667
cis-1,3-Dichloropropene	ND	ND	U	0.00699
Methyl Isobutyl Ketone	**1.87**	**7.68**		**0.0308**
trans-1,3-Dichloropropene	ND	ND	U	0.00985
1,1,2-Trichloroethane	ND	ND	U	0.00943
Toluene	**2.49**	**9.40**		**0.0393**

CERTIFICATE OF ANALYSIS

U.S. Environmental Protection Agency, Region 5
PO Box 30260
Lansing, MI 48909
ATTN: Ms. Amy Robinson
PHONE: (517) 241-2198 **FAX:** (312) 886-5824

FILE #: [none]
REPORTED: 11/18/22 13:06
SUBMITTED: 10/11/22
AQS SITE CODE:
SITE CODE: MI VOCs

Description: Stellantis - Site #3S
Lab ID: 2101115-03
Sampled: 10/05/22 07:50
Pressure @ Receipt: 10.50 "Hg
Canister #: 19665
Received: 10/11/22 11:29
Comments:
Analyzed: 10/18/22 02:53

Air Toxics by EPA Compendium Method TO-15

	Results			MDL
Analyte	**ppbv**	**ug/m³**	**Flag**	**ppbv**
Dibromochloromethane	0.00190	0.02	U	0.00873
1,2-Dibromoethane	ND	ND	U	0.0110
n-Octane	ND	ND	CE, U	0.0144
Tetrachloroethylene	**0.0831**	**0.57**		**0.0287**
Chlorobenzene	ND	ND	U	0.0104
Ethylbenzene	**3.71**	**16.10**		**0.0112**
m,p-Xylene	**12.5**	**54.40**	D	**0.160**
Bromoform	0.00280	0.03	U	0.0109
Styrene	ND	ND	CE, U	0.0118
1,1,2,2-Tetrachloroethane	ND	ND	U	0.00946
o-Xylene	**3.69**	**16.10**		**0.0154**
1,3,5-Trimethylbenzene	**2.95**	**14.50**		**0.0148**
1,2,4-Trimethylbenzene	**7.02**	**34.60**	D	**0.0570**
m-Dichlorobenzene	0.00250	0.02	U	0.0162
p-Dichlorobenzene	**0.0321**	**0.19**		**0.0169**
o-Dichlorobenzene	0.00210	0.01	U	0.0187
1,2,4-Trichlorobenzene	0.00200	0.01	QX, U	0.0623
Hexachloro-1,3-butadiene	0.00210	0.02	U	0.0736

CERTIFICATE OF ANALYSIS

U.S. Environmental Protection Agency, Region 5
PO Box 30260
Lansing, MI 48909
ATTN: Ms. Amy Robinson
PHONE: (517) 241-2198 **FAX:** (312) 886-5824

FILE #: [none]
REPORTED: 11/18/22 13:06
SUBMITTED: 10/11/22
AQS SITE CODE:
SITE CODE: MI VOCs

Description: Stellantis - Site #4SE
Pressure @ Receipt: 11.50 "Hg
Comments:

Lab ID: 2101115-04
Canister #: 18836

Sampled: 10/05/22 07:59
Received: 10/11/22 11:29
Analyzed: 10/18/22 04:01

Air Toxics by EPA Compendium Method TO-15

	Results			MDL
Analyte	**ppbv**	**ug/m³**	**Flag**	**ppbv**
Acetylene	**3.69**	**3.94**		**0.110**
Propylene	**3.02**	**5.21**		**0.0345**
Dichlorodifluoromethane	**0.569**	**2.82**		**0.0136**
Chloromethane	**0.503**	**1.04**		**0.0285**
Dichlorotetrafluoroethane	**0.0172**	**0.12**		**0.00827**
Vinyl chloride	ND	ND	U	0.00787
1,3-Butadiene	**0.164**	**0.36**		**0.0207**
Ethylene oxide	**0.341**	**0.62**	LK	**0.0480**
Bromomethane	0.00820	0.03	U	0.0205
Chloroethane	0.0153	0.04	U	0.0164
Acetonitrile	ND	ND	U	0.138
Acrolein	**0.337**	**0.77**		**0.177**
Trichlorofluoromethane	**0.270**	**1.52**		**0.0235**
Acrylonitrile	ND	ND	CE, U	0.0168
1,1-Dichloroethene	ND	ND	U	0.0115
Dichloromethane	**0.245**	**0.85**		**0.198**
Carbon Disulfide	**0.0183**	**0.06**		**0.0142**
Trichlorotrifluoroethane	**0.0793**	**0.61**		**0.00910**
trans-1,2-Dichloroethylene	**0.0107**	**0.04**		**0.00866**
1,1-Dichloroethane	0.00120	0.00	U	0.00784
Methyl tert-Butyl Ether	ND	ND	U	0.00671
Chloroprene	ND	ND	U	0.0213
cis-1,2-Dichloroethylene	ND	ND	U	0.0228
Bromochloromethane	5.00E-4	0.00	U	0.00757
Chloroform	**0.0500**	**0.25**		**0.00761**
Ethyl tert-Butyl Ether	9.00E-4	0.00	U	0.00679
1,2-Dichloroethane	**0.0230**	**0.09**		**0.00711**
1,1,1-Trichloroethane	0.00560	0.03	U	0.0119
Benzene	**0.698**	**2.23**		**0.0103**
Carbon Tetrachloride	**0.0801**	**0.51**		**0.0112**
tert-Amyl Methyl Ether	**0.0436**	**0.18**		**0.00835**
1,2-Dichloropropane	ND	ND	U	0.00906
Ethyl Acrylate	ND	ND	U	0.0132
Bromodichloromethane	0.00620	0.04	U	0.0254
Trichloroethylene	**0.0148**	**0.08**		**0.0123**
Methyl Methacrylate	ND	ND	CE, U	0.0667
cis-1,3-Dichloropropene	ND	ND	U	0.00699
Methyl Isobutyl Ketone	**7.54**	**31.00**	D	**0.154**
trans-1,3-Dichloropropene	ND	ND	U	0.00985
1,1,2-Trichloroethane	ND	ND	U	0.00943
Toluene	**3.19**	**12.00**		**0.0393**

CERTIFICATE OF ANALYSIS

U.S. Environmental Protection Agency, Region 5
PO Box 30260
Lansing, MI 48909
ATTN: Ms. Amy Robinson
PHONE: (517) 241-2198 **FAX:** (312) 886-5824

FILE #: [none]
REPORTED: 11/18/22 13:06
SUBMITTED: 10/11/22
AQS SITE CODE:
SITE CODE: MI VOCs

Description: Stellantis - Site #4SE
Lab ID: 2101115-04
Sampled: 10/05/22 07:59
Pressure @ Receipt: 11.50 "Hg
Canister #: 18836
Received: 10/11/22 11:29
Comments:
Analyzed: 10/18/22 04:01

Air Toxics by EPA Compendium Method TO-15

	Results			MDL
Analyte	**ppbv**	**ug/m³**	**Flag**	**ppbv**
Dibromochloromethane	0.00190	0.02	U	0.00873
1,2-Dibromoethane	ND	ND	U	0.0110
n-Octane	ND	ND	U	0.0144
Tetrachloroethylene	**0.0822**	**0.56**		**0.0287**
Chlorobenzene	ND	ND	U	0.0104
Ethylbenzene	**11.8**	**51.30**	D	**0.0560**
m,p-Xylene	**49.9**	**217.00**	D	**0.160**
Bromoform	0.00350	0.04	U	0.0109
Styrene	ND	ND	CE, U	0.0118
1,1,2,2-Tetrachloroethane	ND	ND	U	0.00946
o-Xylene	**11.2**	**48.70**	D	**0.0770**
1,3,5-Trimethylbenzene	**9.61**	**47.30**	D	**0.0740**
1,2,4-Trimethylbenzene	**30.0**	**148.00**	D	**0.120**
m-Dichlorobenzene	0.00300	0.02	U	0.0162
p-Dichlorobenzene	**0.0270**	**0.16**		**0.0169**
o-Dichlorobenzene	0.00210	0.01	U	0.0187
1,2,4-Trichlorobenzene	0.00210	0.02	QX, U	0.0623
Hexachloro-1,3-butadiene	0.00210	0.02	U	0.0736

CERTIFICATE OF ANALYSIS

U.S. Environmental Protection Agency, Region 5
PO Box 30260
Lansing, MI 48909
ATTN: Ms. Amy Robinson
PHONE: (517) 241-2198 **FAX:** (312) 886-5824

FILE #: [none]
REPORTED: 11/18/22 13:06
SUBMITTED: 10/11/22
AQS SITE CODE:
SITE CODE: MI VOCs

Description: Stellantis - Site #5E
Pressure @ Receipt: 11.50 "Hg
Comments:

Lab ID: 2101115-05
Canister #: 19664

Sampled: 10/05/22 08:08
Received: 10/11/22 11:29
Analyzed: 10/18/22 05:09

Air Toxics by EPA Compendium Method TO-15

	Results			MDL
Analyte	**ppbv**	**ug/m³**	**Flag**	**ppbv**
Acetylene	**2.91**	**3.11**		**0.110**
Propylene	**2.64**	**4.55**		**0.0345**
Dichlorodifluoromethane	**0.543**	**2.69**		**0.0136**
Chloromethane	**0.492**	**1.02**		**0.0285**
Dichlorotetrafluoroethane	**0.0179**	**0.13**		**0.00827**
Vinyl chloride	ND	ND	U	0.00787
1,3-Butadiene	**0.145**	**0.32**		**0.0207**
Ethylene oxide	**0.398**	**0.72**	LK	**0.0480**
Bromomethane	0.00770	0.03	U	0.0205
Chloroethane	0.0160	0.04	U	0.0164
Acetonitrile	ND	ND	U	0.138
Acrolein	**0.246**	**0.57**		**0.177**
Trichlorofluoromethane	**0.268**	**1.51**		**0.0235**
Acrylonitrile	ND	ND	CE, U	0.0168
1,1-Dichloroethene	ND	ND	U	0.0115
Dichloromethane	**0.264**	**0.92**		**0.198**
Carbon Disulfide	**0.0173**	**0.05**		**0.0142**
Trichlorotrifluoroethane	**0.0802**	**0.62**		**0.00910**
trans-1,2-Dichloroethylene	**0.0122**	**0.05**		**0.00866**
1,1-Dichloroethane	ND	ND	U	0.00784
Methyl tert-Butyl Ether	ND	ND	U	0.00671
Chloroprene	ND	ND	U	0.0213
cis-1,2-Dichloroethylene	ND	ND	U	0.0228
Bromochloromethane	4.00E-4	0.00	U	0.00757
Chloroform	**0.0478**	**0.23**		**0.00761**
Ethyl tert-Butyl Ether	7.00E-4	0.00	U	0.00679
1,2-Dichloroethane	**0.0269**	**0.11**		**0.00711**
1,1,1-Trichloroethane	0.00560	0.03	U	0.0119
Benzene	**0.609**	**1.95**		**0.0103**
Carbon Tetrachloride	**0.0809**	**0.51**		**0.0112**
tert-Amyl Methyl Ether	**0.0626**	**0.26**		**0.00835**
1,2-Dichloropropane	ND	ND	U	0.00906
Ethyl Acrylate	ND	ND	U	0.0132
Bromodichloromethane	0.00510	0.03	U	0.0254
Trichloroethylene	**0.0151**	**0.08**		**0.0123**
Methyl Methacrylate	ND	ND	CE, U	0.0667
cis-1,3-Dichloropropene	ND	ND	U	0.00699
Methyl Isobutyl Ketone	**7.45**	**30.60**	D	**0.154**
trans-1,3-Dichloropropene	ND	ND	U	0.00985
1,1,2-Trichloroethane	ND	ND	U	0.00943
Toluene	**2.73**	**10.30**		**0.0393**

CERTIFICATE OF ANALYSIS

U.S. Environmental Protection Agency, Region 5
PO Box 30260
Lansing, MI 48909
ATTN: Ms. Amy Robinson
PHONE: (517) 241-2198 **FAX:** (312) 886-5824

FILE #: [none]
REPORTED: 11/18/22 13:06
SUBMITTED: 10/11/22
AQS SITE CODE:
SITE CODE: MI VOCs

Description: Stellantis - Site #5E
Pressure @ Receipt: 11.50 "Hg
Comments:

Lab ID: 2101115-05
Canister #: 19664

Sampled: 10/05/22 08:08
Received: 10/11/22 11:29
Analyzed: 10/18/22 05:09

Air Toxics by EPA Compendium Method TO-15

	Results			MDL
Analyte	**ppbv**	**ug/m³**	**Flag**	**ppbv**
Dibromochloromethane	0.00170	0.01	U	0.00873
1,2-Dibromoethane	ND	ND	U	0.0110
n-Octane	ND	ND	U	0.0144
Tetrachloroethylene	**0.0901**	**0.61**		**0.0287**
Chlorobenzene	ND	ND	U	0.0104
Ethylbenzene	**6.01**	**26.20**	D	**0.0560**
m,p-Xylene	**25.4**	**111.00**	D	**0.160**
Bromoform	0.00320	0.03	U	0.0109
Styrene	ND	ND	CE, U	0.0118
1,1,2,2-Tetrachloroethane	ND	ND	U	0.00946
o-Xylene	**5.62**	**24.50**	D	**0.0770**
1,3,5-Trimethylbenzene	**5.18**	**25.50**		**0.0148**
1,2,4-Trimethylbenzene	**14.8**	**72.90**	D	**0.0570**
m-Dichlorobenzene	0.00240	0.01	U	0.0162
p-Dichlorobenzene	**0.0209**	**0.13**		**0.0169**
o-Dichlorobenzene	0.00220	0.01	U	0.0187
1,2,4-Trichlorobenzene	0.00280	0.02	QX, U	0.0623
Hexachloro-1,3-butadiene	0.00220	0.02	U	0.0736

CERTIFICATE OF ANALYSIS

U.S. Environmental Protection Agency, Region 5
PO Box 30260
Lansing, MI 48909
ATTN: Ms. Amy Robinson
PHONE: (517) 241-2198 **FAX:** (312) 886-5824

FILE #: [none]
REPORTED: 11/18/22 13:06
SUBMITTED: 10/11/22
AQS SITE CODE:
SITE CODE: MI VOCs

Description: Stellantis - Site #6AMS **Lab ID:** 2101115-06 **Sampled:** 10/05/22 08:20
Pressure @ Receipt: 12.00 "Hg **Canister #:** 19652 **Received:** 10/11/22 11:29
Comments: **Analyzed:** 10/17/22 13:44

Air Toxics by EPA Compendium Method TO-15

	Results			MDL
Analyte	**ppbv**	**ug/m³**	**Flag**	**ppbv**
Acetylene	**2.76**	**2.95**		**0.110**
Propylene	**2.78**	**4.79**		**0.0345**
Dichlorodifluoromethane	**0.504**	**2.50**		**0.0136**
Chloromethane	**0.370**	**0.77**		**0.0285**
Dichlorotetrafluoroethane	**0.0159**	**0.11**		**0.00827**
Vinyl chloride	0.00290	0.01	U	0.00787
1,3-Butadiene	**0.147**	**0.33**		**0.0207**
Ethylene oxide	**0.181**	**0.33**	LK	**0.0480**
Bromomethane	0.00710	0.03	U	0.0205
Chloroethane	0.0149	0.04	U	0.0164
Acetonitrile	**0.521**	**0.88**		**0.138**
Acrolein	**0.195**	**0.45**		**0.177**
Trichlorofluoromethane	**0.250**	**1.41**		**0.0235**
Acrylonitrile	ND	ND	U	0.0168
1,1-Dichloroethene	ND	ND	U	0.0115
Dichloromethane	**0.231**	**0.80**		**0.198**
Carbon Disulfide	**0.0157**	**0.05**		**0.0142**
Trichlorotrifluoroethane	**0.0663**	**0.51**		**0.00910**
trans-1,2-Dichloroethylene	**0.00980**	**0.04**		**0.00866**
1,1-Dichloroethane	ND	ND	U	0.00784
Methyl tert-Butyl Ether	ND	ND	U	0.00671
Chloroprene	ND	ND	U	0.0213
cis-1,2-Dichloroethylene	ND	ND	U	0.0228
Bromochloromethane	ND	ND	U	0.00757
Chloroform	**0.0470**	**0.23**		**0.00761**
Ethyl tert-Butyl Ether	ND	ND	U	0.00679
1,2-Dichloroethane	**0.0124**	**0.05**		**0.00711**
1,1,1-Trichloroethane	0.00700	0.04	U	0.0119
Benzene	**0.716**	**2.29**		**0.0103**
Carbon Tetrachloride	**0.0796**	**0.50**		**0.0112**
tert-Amyl Methyl Ether	ND	ND	U	0.00835
1,2-Dichloropropane	ND	ND	U	0.00906
Ethyl Acrylate	ND	ND	U	0.0132
Bromodichloromethane	0.00330	0.02	U	0.0254
Trichloroethylene	**0.0189**	**0.10**		**0.0123**
Methyl Methacrylate	ND	ND	U	0.0667
cis-1,3-Dichloropropene	ND	ND	U	0.00699
Methyl Isobutyl Ketone	**0.0854**	**0.35**		**0.0308**
trans-1,3-Dichloropropene	ND	ND	U	0.00985
1,1,2-Trichloroethane	ND	ND	U	0.00943
Toluene	**2.17**	**8.19**		**0.0393**

CERTIFICATE OF ANALYSIS

U.S. Environmental Protection Agency, Region 5
PO Box 30260
Lansing, MI 48909
ATTN: Ms. Amy Robinson
PHONE: (517) 241-2198 **FAX:** (312) 886-5824

FILE #: [none]
REPORTED: 11/18/22 13:06
SUBMITTED: 10/11/22
AQS SITE CODE:
SITE CODE: MI VOCs

Description: Stellantis - Site #6AMS **Lab ID:** 2101115-06 **Sampled:** 10/05/22 08:20
Pressure @ Receipt: 12.00 "Hg **Canister #:** 19652 **Received:** 10/11/22 11:29
Comments: **Analyzed:** 10/17/22 13:44

Air Toxics by EPA Compendium Method TO-15

	Results			MDL
Analyte	**ppbv**	**ug/m³**	**Flag**	**ppbv**
Dibromochloromethane	0.00120	0.01	U	0.00873
1,2-Dibromoethane	ND	ND	U	0.0110
n-Octane	**0.166**	**0.78**		**0.0144**
Tetrachloroethylene	**0.143**	**0.97**		**0.0287**
Chlorobenzene	ND	ND	U	0.0104
Ethylbenzene	**0.274**	**1.19**		**0.0112**
m,p-Xylene	**0.963**	**4.19**		**0.0320**
Bromoform	0.00200	0.02	U	0.0109
Styrene	ND	ND	CE, U	0.0118
1,1,2,2-Tetrachloroethane	ND	ND	U	0.00946
o-Xylene	**0.346**	**1.51**		**0.0154**
1,3,5-Trimethylbenzene	**0.102**	**0.50**		**0.0148**
1,2,4-Trimethylbenzene	**0.364**	**1.79**		**0.0114**
m-Dichlorobenzene	0.00170	0.01	U	0.0162
p-Dichlorobenzene	**0.0306**	**0.18**		**0.0169**
o-Dichlorobenzene	0.00130	0.01	U	0.0187
1,2,4-Trichlorobenzene	0.00540	0.04	U	0.0623
Hexachloro-1,3-butadiene	3.00E-4	0.00	U	0.0736

CERTIFICATE OF ANALYSIS

U.S. Environmental Protection Agency, Region 5
PO Box 30260
Lansing, MI 48909
ATTN: Ms. Amy Robinson
PHONE: (517) 241-2198 **FAX:** (312) 886-5824

FILE #: [none]
REPORTED: 11/18/22 13:06
SUBMITTED: 10/11/22
AQS SITE CODE:
SITE CODE: MI VOCs

Description: Stellantis - Site #7AMS **Lab ID:** 2101115-07 **Sampled:** 10/05/22 08:25
Pressure @ Receipt: 10.50 "Hg **Canister #:** 19290 **Received:** 10/11/22 11:29
Comments: **Analyzed:** 10/17/22 15:47

Air Toxics by EPA Compendium Method TO-15

	Results			MDL
Analyte	**ppbv**	**ug/m³**	**Flag**	**ppbv**
Acetylene	**2.91**	**3.11**		**0.110**
Propylene	**2.93**	**5.05**		**0.0345**
Dichlorodifluoromethane	**0.519**	**2.57**		**0.0136**
Chloromethane	**0.385**	**0.80**		**0.0285**
Dichlorotetrafluoroethane	**0.0166**	**0.12**		**0.00827**
Vinyl chloride	ND	ND	U	0.00787
1,3-Butadiene	**0.169**	**0.38**		**0.0207**
Ethylene oxide	**0.214**	**0.39**	LK	**0.0480**
Bromomethane	0.00710	0.03	U	0.0205
Chloroethane	0.0154	0.04	U	0.0164
Acetonitrile	**0.541**	**0.91**		**0.138**
Acrolein	**0.218**	**0.50**		**0.177**
Trichlorofluoromethane	**0.256**	**1.44**		**0.0235**
Acrylonitrile	ND	ND	U	0.0168
1,1-Dichloroethene	ND	ND	U	0.0115
Dichloromethane	**0.237**	**0.83**		**0.198**
Carbon Disulfide	0.0122	0.04	U	0.0142
Trichlorotrifluoroethane	**0.0676**	**0.52**		**0.00910**
trans-1,2-Dichloroethylene	**0.00980**	**0.04**		**0.00866**
1,1-Dichloroethane	ND	ND	U	0.00784
Methyl tert-Butyl Ether	ND	ND	U	0.00671
Chloroprene	ND	ND	U	0.0213
cis-1,2-Dichloroethylene	ND	ND	U	0.0228
Bromochloromethane	ND	ND	U	0.00757
Chloroform	**0.0477**	**0.23**		**0.00761**
Ethyl tert-Butyl Ether	ND	ND	U	0.00679
1,2-Dichloroethane	**0.0131**	**0.05**		**0.00711**
1,1,1-Trichloroethane	0.00710	0.04	U	0.0119
Benzene	**0.729**	**2.33**		**0.0103**
Carbon Tetrachloride	**0.0815**	**0.51**		**0.0112**
tert-Amyl Methyl Ether	ND	ND	U	0.00835
1,2-Dichloropropane	ND	ND	U	0.00906
Ethyl Acrylate	ND	ND	U	0.0132
Bromodichloromethane	0.00360	0.02	U	0.0254
Trichloroethylene	**0.0196**	**0.11**		**0.0123**
Methyl Methacrylate	ND	ND	U	0.0667
cis-1,3-Dichloropropene	ND	ND	U	0.00699
Methyl Isobutyl Ketone	**0.0904**	**0.37**		**0.0308**
trans-1,3-Dichloropropene	ND	ND	U	0.00985
1,1,2-Trichloroethane	ND	ND	U	0.00943
Toluene	**2.24**	**8.46**		**0.0393**

CERTIFICATE OF ANALYSIS

U.S. Environmental Protection Agency, Region 5
PO Box 30260
Lansing, MI 48909
ATTN: Ms. Amy Robinson
PHONE: (517) 241-2198 **FAX:** (312) 886-5824

FILE #: [none]
REPORTED: 11/18/22 13:06
SUBMITTED: 10/11/22
AQS SITE CODE:
SITE CODE: MI VOCs

Description: Stellantis - Site #7AMS **Lab ID:** 2101115-07 **Sampled:** 10/05/22 08:25
Pressure @ Receipt: 10.50 "Hg **Canister #:** 19290 **Received:** 10/11/22 11:29
Comments: **Analyzed:** 10/17/22 15:47

Air Toxics by EPA Compendium Method TO-15

	Results			MDL
Analyte	**ppbv**	**ug/m³**	**Flag**	**ppbv**
Dibromochloromethane	0.00120	0.01	U	0.00873
1,2-Dibromoethane	ND	ND	U	0.0110
n-Octane	**0.175**	**0.82**		**0.0144**
Tetrachloroethylene	**0.143**	**0.97**		**0.0287**
Chlorobenzene	ND	ND	U	0.0104
Ethylbenzene	**0.281**	**1.22**		**0.0112**
m,p-Xylene	**1.02**	**4.44**		**0.0320**
Bromoform	0.00200	0.02	U	0.0109
Styrene	ND	ND	CE, U	0.0118
1,1,2,2-Tetrachloroethane	ND	ND	U	0.00946
o-Xylene	**0.360**	**1.57**		**0.0154**
1,3,5-Trimethylbenzene	**0.113**	**0.56**		**0.0148**
1,2,4-Trimethylbenzene	**0.376**	**1.85**		**0.0114**
m-Dichlorobenzene	0.00100	0.01	U	0.0162
p-Dichlorobenzene	**0.0311**	**0.19**		**0.0169**
o-Dichlorobenzene	7.00E-4	0.00	U	0.0187
1,2,4-Trichlorobenzene	0.00260	0.02	U	0.0623
Hexachloro-1,3-butadiene	2.00E-4	0.00	U	0.0736

U.S. Environmental Protection Agency, Region 5
PO Box 30260
Lansing, MI 48909
ATTN: Ms. Amy Robinson
PHONE: (517) 241-2198 **FAX:** (312) 886-5824

FILE #: [none]
REPORTED: 11/18/22 13:06
SUBMITTED: 10/11/22
AQS SITE CODE:
SITE CODE: MI VOCs

Analyte	Result	Units	Source Result	RPD	RPD Limit	Notes

Air Toxics by EPA Compendium Method TO-15 - Quality Control

Batch B2J1704 - Summa Canister Prep

Blank (B2J1704-BLK1) Prepared: 09/27/22 Analyzed: 10/17/22

Acetylene	ND	ppbv				U
Propylene	ND	ppbv				U
Dichlorodifluoromethane	ND	ppbv				U
Chloromethane	ND	ppbv				U
Dichlorotetrafluoroethane	ND	ppbv				U
Vinyl chloride	ND	ppbv				U
1,3-Butadiene	ND	ppbv				U
Ethylene oxide	ND	ppbv				U
Bromomethane	ND	ppbv				U
Chloroethane	ND	ppbv				U
Acetonitrile	ND	ppbv				U
Acrolein	ND	ppbv				U
Trichlorofluoromethane	ND	ppbv				U
Acrylonitrile	ND	ppbv				U
1,1-Dichloroethene	ND	ppbv				U
Dichloromethane	ND	ppbv				U
Carbon Disulfide	ND	ppbv				U
Trichlorotrifluoroethane	ND	ppbv				U
trans-1,2-Dichloroethylene	ND	ppbv				U
1,1-Dichloroethane	ND	ppbv				U
Methyl tert-Butyl Ether	ND	ppbv				U
Chloroprene	ND	ppbv				U
cis-1,2-Dichloroethylene	ND	ppbv				U
Bromochloromethane	ND	ppbv				U
Chloroform	ND	ppbv				U
Ethyl tert-Butyl Ether	ND	ppbv				U
1,2-Dichloroethane	ND	ppbv				U
1,1,1-Trichloroethane	ND	ppbv				U
Benzene	ND	ppbv				U
Carbon Tetrachloride	ND	ppbv				U
tert-Amyl Methyl Ether	ND	ppbv				U
1,2-Dichloropropane	ND	ppbv				U
Ethyl Acrylate	ND	ppbv				U
Bromodichloromethane	ND	ppbv				U
Trichloroethylene	ND	ppbv				U
Methyl Methacrylate	ND	ppbv				U
cis-1,3-Dichloropropene	ND	ppbv				U

U.S. Environmental Protection Agency, Region 5
PO Box 30260
Lansing, MI 48909
ATTN: Ms. Amy Robinson
PHONE: (517) 241-2198 **FAX:** (312) 886-5824

FILE #: [none]
REPORTED: 11/18/22 13:06
SUBMITTED: 10/11/22
AQS SITE CODE:
SITE CODE: MI VOCs

Analyte	Result	Units	Source Result	RPD	RPD Limit	Notes

Air Toxics by EPA Compendium Method TO-15 - Quality Control

Batch B2J1704 - Summa Canister Prep

Blank (B2J1704-BLK1) Continued Prepared: 09/27/22 Analyzed: 10/17/22

Methyl Isobutyl Ketone	ND	ppbv				U
trans-1,3-Dichloropropene	ND	ppbv				U
1,1,2-Trichloroethane	ND	ppbv				U
Toluene	ND	ppbv				U
Dibromochloromethane	ND	ppbv				U
1,2-Dibromoethane	ND	ppbv				U
n-Octane	ND	ppbv				U
Tetrachloroethylene	ND	ppbv				U
Chlorobenzene	ND	ppbv				U
Ethylbenzene	ND	ppbv				U
m,p-Xylene	ND	ppbv				U
Bromoform	ND	ppbv				U
Styrene	ND	ppbv				U
1,1,2,2-Tetrachloroethane	ND	ppbv				U
o-Xylene	ND	ppbv				U
1,3,5-Trimethylbenzene	ND	ppbv				U
1,2,4-Trimethylbenzene	ND	ppbv				U
m-Dichlorobenzene	ND	ppbv				U
p-Dichlorobenzene	ND	ppbv				U
o-Dichlorobenzene	ND	ppbv				U
1,2,4-Trichlorobenzene	ND	ppbv				QX, U
Hexachloro-1,3-butadiene	ND	ppbv				U

Batch B2J1705 - Summa Canister Prep

Blank (B2J1705-BLK1) Prepared: 10/03/22 Analyzed: 10/17/22

Acetylene	ND	ppbv				U
Propylene	ND	ppbv				U
Dichlorodifluoromethane	ND	ppbv				U
Chloromethane	ND	ppbv				U
Dichlorotetrafluoroethane	ND	ppbv				U
Vinyl chloride	ND	ppbv				U
1,3-Butadiene	ND	ppbv				U
Ethylene oxide	ND	ppbv				U
Bromomethane	ND	ppbv				U
Chloroethane	ND	ppbv				U
Acetonitrile	ND	ppbv				U
Acrolein	ND	ppbv				U
Trichlorofluoromethane	ND	ppbv				U

U.S. Environmental Protection Agency, Region 5
PO Box 30260
Lansing, MI 48909
ATTN: Ms. Amy Robinson
PHONE: (517) 241-2198 **FAX:** (312) 886-5824

FILE #: [none]
REPORTED: 11/18/22 13:06
SUBMITTED: 10/11/22
AQS SITE CODE:
SITE CODE: MI VOCs

Analyte	Result	Units	Source Result	RPD	RPD Limit	Notes

Air Toxics by EPA Compendium Method TO-15 - Quality Control

Batch B2J1705 - Summa Canister Prep

Blank (B2J1705-BLK1) Continued Prepared: 10/03/22 Analyzed: 10/17/22

Acrylonitrile	ND	ppbv				U
1,1-Dichloroethene	ND	ppbv				U
Dichloromethane	ND	ppbv				U
Carbon Disulfide	ND	ppbv				U
Trichlorotrifluoroethane	ND	ppbv				U
trans-1,2-Dichloroethylene	ND	ppbv				U
1,1-Dichloroethane	ND	ppbv				U
Methyl tert-Butyl Ether	ND	ppbv				U
Chloroprene	ND	ppbv				U
cis-1,2-Dichloroethylene	ND	ppbv				U
Bromochloromethane	ND	ppbv				U
Chloroform	ND	ppbv				U
Ethyl tert-Butyl Ether	ND	ppbv				U
1,2-Dichloroethane	ND	ppbv				U
1,1,1-Trichloroethane	ND	ppbv				U
Benzene	ND	ppbv				U
Carbon Tetrachloride	ND	ppbv				U
tert-Amyl Methyl Ether	ND	ppbv				U
1,2-Dichloropropane	ND	ppbv				U
Ethyl Acrylate	ND	ppbv				U
Bromodichloromethane	ND	ppbv				U
Trichloroethylene	ND	ppbv				U
Methyl Methacrylate	ND	ppbv				U
cis-1,3-Dichloropropene	ND	ppbv				U
Methyl Isobutyl Ketone	ND	ppbv				U
trans-1,3-Dichloropropene	ND	ppbv				U
1,1,2-Trichloroethane	ND	ppbv				U
Toluene	ND	ppbv				U
Dibromochloromethane	ND	ppbv				U
1,2-Dibromoethane	ND	ppbv				U
n-Octane	ND	ppbv				U
Tetrachloroethylene	ND	ppbv				U
Chlorobenzene	ND	ppbv				U
Ethylbenzene	ND	ppbv				U
m,p-Xylene	ND	ppbv				U
Bromoform	ND	ppbv				U
Styrene	ND	ppbv				U

U.S. Environmental Protection Agency, Region 5
PO Box 30260
Lansing, MI 48909
ATTN: Ms. Amy Robinson
PHONE: (517) 241-2198 **FAX:** (312) 886-5824

FILE #: [none]
REPORTED: 11/18/22 13:06
SUBMITTED: 10/11/22
AQS SITE CODE:
SITE CODE: MI VOCs

Analyte	Result	Units	Source Result	RPD	RPD Limit	Notes
Air Toxics by EPA Compendium Method TO-15 - Quality Control						
Batch B2J1705 - Summa Canister Prep						
Blank (B2J1705-BLK1) Continued			Prepared: 10/03/22 Analyzed: 10/17/22			
1,1,2,2-Tetrachloroethane	ND	ppbv				U
o-Xylene	ND	ppbv				U
1,3,5-Trimethylbenzene	ND	ppbv				U
1,2,4-Trimethylbenzene	ND	ppbv				U
m-Dichlorobenzene	0.0204	ppbv				
p-Dichlorobenzene	0.0221	ppbv				
o-Dichlorobenzene	0.0198	ppbv				
1,2,4-Trichlorobenzene	ND	ppbv				U
Hexachloro-1,3-butadiene	ND	ppbv				U
Duplicate (B2J1705-DUP1)		**Source: 2101115-06**	Prepared: 10/05/22 Analyzed: 10/17/22			
Acetylene	2.92	ppbv	2.76	5.73	25	
Propylene	2.90	ppbv	2.78	4.21	25	
Dichlorodifluoromethane	0.522	ppbv	0.50	3.47	25	
Chloromethane	0.387	ppbv	0.37	4.57	25	
Dichlorotetrafluoroethane	0.0170	ppbv	0.02	6.69	25	
Vinyl chloride	ND	ppbv	ND		25	U
1,3-Butadiene	0.155	ppbv	0.15	5.70	25	
Ethylene oxide	0.201	ppbv	0.18	10.7	25	LK
Bromomethane	ND	ppbv	ND		25	U
Chloroethane	ND	ppbv	ND		25	U
Acetonitrile	0.540	ppbv	0.52	3.58	25	
Acrolein	0.203	ppbv	0.20	3.67	25	
Trichlorofluoromethane	0.257	ppbv	0.25	2.56	25	
Acrylonitrile	ND	ppbv	ND		25	U
1,1-Dichloroethene	ND	ppbv	ND		25	U
Dichloromethane	0.237	ppbv	0.23	2.69	25	
Carbon Disulfide	0.0165	ppbv	0.02	4.97	25	
Trichlorotrifluoroethane	0.0681	ppbv	0.07	2.68	25	
trans-1,2-Dichloroethylene	0.00940	ppbv	0.01	4.17	25	
1,1-Dichloroethane	ND	ppbv	ND		25	U
Methyl tert-Butyl Ether	ND	ppbv	ND		25	U
Chloroprene	ND	ppbv	ND		25	U
cis-1,2-Dichloroethylene	ND	ppbv	ND		25	U
Bromochloromethane	ND	ppbv	ND		25	U
Chloroform	0.0480	ppbv	0.05	2.11	25	
Ethyl tert-Butyl Ether	ND	ppbv	ND		25	U
1,2-Dichloroethane	0.0130	ppbv	0.01	4.72	25	

U.S. Environmental Protection Agency, Region 5
PO Box 30260
Lansing, MI 48909
ATTN: Ms. Amy Robinson
PHONE: (517) 241-2198 **FAX:** (312) 886-5824

FILE #: [none]
REPORTED: 11/18/22 13:06
SUBMITTED: 10/11/22
AQS SITE CODE:
SITE CODE: MI VOCs

Analyte	Result	Units	Source Result	RPD	RPD Limit	Notes
Air Toxics by EPA Compendium Method TO-15 - Quality Control						
Batch B2J1705 - Summa Canister Prep						
Duplicate (B2J1705-DUP1) Continued	**Source: 2101115-06**		Prepared: 10/05/22 Analyzed: 10/17/22			
1,1,1-Trichloroethane	ND	ppbv	ND		25	U
Benzene	0.780	ppbv	0.72	8.44	25	
Carbon Tetrachloride	0.0814	ppbv	0.08	2.24	25	
tert-Amyl Methyl Ether	ND	ppbv	ND		25	U
1,2-Dichloropropane	ND	ppbv	ND		25	U
Ethyl Acrylate	ND	ppbv	ND		25	U
Bromodichloromethane	ND	ppbv	ND		25	U
Trichloroethylene	0.0190	ppbv	0.02	0.528	25	
Methyl Methacrylate	ND	ppbv	ND		25	U
cis-1,3-Dichloropropene	ND	ppbv	ND		25	U
Methyl Isobutyl Ketone	0.0890	ppbv	0.09	4.13	25	
trans-1,3-Dichloropropene	ND	ppbv	ND		25	U
1,1,2-Trichloroethane	ND	ppbv	ND		25	U
Toluene	2.20	ppbv	2.17	1.38	25	
Dibromochloromethane	ND	ppbv	ND		25	U
1,2-Dibromoethane	ND	ppbv	ND		25	U
n-Octane	0.169	ppbv	0.17	1.61	25	
Tetrachloroethylene	0.144	ppbv	0.14	0.764	25	
Chlorobenzene	ND	ppbv	ND		25	U
Ethylbenzene	0.278	ppbv	0.27	1.48	25	
m,p-Xylene	0.983	ppbv	0.96	2.01	25	
Bromoform	ND	ppbv	ND		25	U
Styrene	ND	ppbv	ND		25	CE, U
1,1,2,2-Tetrachloroethane	ND	ppbv	ND		25	U
o-Xylene	0.352	ppbv	0.35	1.72	25	
1,3,5-Trimethylbenzene	0.104	ppbv	0.10	1.74	25	
1,2,4-Trimethylbenzene	0.389	ppbv	0.36	6.69	25	
m-Dichlorobenzene	ND	ppbv	ND		25	U
p-Dichlorobenzene	0.0311	ppbv	0.03	1.62	25	
o-Dichlorobenzene	ND	ppbv	ND		25	U
1,2,4-Trichlorobenzene	ND	ppbv	ND		25	U
Hexachloro-1,3-butadiene	ND	ppbv	ND		25	U

CERTIFICATE OF ANALYSIS

U.S. Environmental Protection Agency, Region 5
PO Box 30260
Lansing, MI 48909
ATTN: Ms. Amy Robinson
PHONE: (517) 241-2198 **FAX:** (312) 886-5824

FILE #: [none]
REPORTED: 11/18/22 13:06
SUBMITTED: 10/11/22
AQS SITE CODE:
SITE CODE: MI VOCs

Air Toxics by EPA Compendium Method TO-15 - Quality Control

Sequence 2210043

Calibration Check (2210043-CCV1) Prepared & Analyzed: 10/17/22

Analyte	Result	Units	% Difference	Limit (%)	Notes
Acetylene	2.61	ppbv	0.02	30.00	
Propylene	2.49	ppbv	-3.8	30.00	
Dichlorodifluoromethane	2.52	ppbv	-2.4	30.00	
Chloromethane	2.63	ppbv	1.5	30.00	
Dichlorotetrafluoroethane	2.50	ppbv	-5.4	30.00	
Vinyl chloride	2.54	ppbv	-2.0	30.00	
1,3-Butadiene	2.51	ppbv	-3.3	30.00	
Ethylene oxide	2.84	ppbv	17.8	30.00	
Bromomethane	2.46	ppbv	-5.3	30.00	
Chloroethane	2.63	ppbv	0.5	30.00	
Acetonitrile	2.67	ppbv	3.6	30.00	
Acrolein	2.52	ppbv	-3.0	30.00	
Trichlorofluoromethane	2.57	ppbv	-1.1	30.00	
Acrylonitrile	2.81	ppbv	4.3	30.00	
1,1-Dichloroethene	2.56	ppbv	-2.4	30.00	
Dichloromethane	2.71	ppbv	3.2	30.00	
Carbon Disulfide	2.66	ppbv	-3.7	30.00	
Trichlorotrifluoroethane	2.50	ppbv	-5.5	30.00	
trans-1,2-Dichloroethylene	2.45	ppbv	-6.3	30.00	
1,1-Dichloroethane	2.62	ppbv	0.4	30.00	
Methyl tert-Butyl Ether	2.76	ppbv	5.7	30.00	
Chloroprene	2.56	ppbv	-2.6	30.00	
cis-1,2-Dichloroethylene	2.61	ppbv	0.9	30.00	
Bromochloromethane	2.40	ppbv	-7.4	30.00	
Chloroform	2.57	ppbv	-2.9	30.00	
Ethyl tert-Butyl Ether	2.85	ppbv	9.7	30.00	
1,2-Dichloroethane	2.58	ppbv	-0.6	30.00	
1,1,1-Trichloroethane	2.57	ppbv	-1.7	30.00	
Benzene	2.47	ppbv	-5.4	30.00	
Carbon Tetrachloride	2.47	ppbv	-5.0	30.00	
tert-Amyl Methyl Ether	2.93	ppbv	12.8	30.00	
1,2-Dichloropropane	2.76	ppbv	6.5	30.00	
Ethyl Acrylate	2.90	ppbv	11.2	30.00	
Bromodichloromethane	2.70	ppbv	3.8	30.00	

CERTIFICATE OF ANALYSIS

U.S. Environmental Protection Agency, Region 5
PO Box 30260
Lansing, MI 48909
ATTN: Ms. Amy Robinson
PHONE: (517) 241-2198 **FAX:** (312) 886-5824

FILE #: [none]
REPORTED: 11/18/22 13:06
SUBMITTED: 10/11/22
AQS SITE CODE:
SITE CODE: MI VOCs

Air Toxics by EPA Compendium Method TO-15 - Quality Control

Sequence 2210043

Analyte	Result	Units	% Difference	Limit (%)	Notes
Calibration Check (2210043-CCV1) Continued			Prepared & Analyzed: 10/17/22		
Trichloroethylene	2.45	ppbv	-6.1	30.00	
Methyl Methacrylate	2.91	ppbv	12.7	30.00	
cis-1,3-Dichloropropene	2.74	ppbv	5.3	30.00	
Methyl Isobutyl Ketone	3.16	ppbv	22.2	30.00	
trans-1,3-Dichloropropene	2.91	ppbv	11.8	30.00	
1,1,2-Trichloroethane	2.61	ppbv	-0.5	30.00	
Toluene	2.70	ppbv	3.8	30.00	
Dibromochloromethane	2.65	ppbv	2.4	30.00	
1,2-Dibromoethane	2.65	ppbv	1.3	30.00	
n-Octane	3.23	ppbv	24.2	30.00	
Tetrachloroethylene	2.55	ppbv	-3.1	30.00	
Chlorobenzene	2.50	ppbv	-4.5	30.00	
Ethylbenzene	2.73	ppbv	4.8	30.00	
m,p-Xylene	5.75	ppbv	11.1	30.00	
Bromoform	2.74	ppbv	5.4	30.00	
Styrene	2.99	ppbv	14.9	30.00	
1,1,2,2-Tetrachloroethane	2.73	ppbv	4.6	30.00	
o-Xylene	2.86	ppbv	9.4	30.00	
1,3,5-Trimethylbenzene	2.78	ppbv	6.3	30.00	
1,2,4-Trimethylbenzene	3.00	ppbv	14.4	30.00	
m-Dichlorobenzene	2.71	ppbv	4.0	30.00	
p-Dichlorobenzene	2.73	ppbv	5.1	30.00	
o-Dichlorobenzene	2.73	ppbv	4.3	30.00	
1,2,4-Trichlorobenzene	3.48	ppbv	28.1	30.00	QX
Hexachloro-1,3-butadiene	2.95	ppbv	8.6	30.00	

Sequence 2210044

Calibration Check (2210044-CCV1)			Prepared & Analyzed: 10/17/22		
Acetylene	2.04	ppbv	-17.0	30.00	
Propylene	1.96	ppbv	-19.2	30.00	
Dichlorodifluoromethane	2.30	ppbv	-3.5	30.00	
Chloromethane	2.18	ppbv	-13.2	30.00	
Dichlorotetrafluoroethane	2.48	ppbv	-1.5	30.00	
Vinyl chloride	2.21	ppbv	-10.2	30.00	
1,3-Butadiene	2.00	ppbv	-19.3	30.00	

U.S. Environmental Protection Agency, Region 5
PO Box 30260
Lansing, MI 48909
ATTN: Ms. Amy Robinson
PHONE: (517) 241-2198 **FAX:** (312) 886-5824

FILE #: [none]
REPORTED: 11/18/22 13:06
SUBMITTED: 10/11/22
AQS SITE CODE:
SITE CODE: MI VOCs

Air Toxics by EPA Compendium Method TO-15 - Quality Control

Sequence 2210044

Calibration Check (2210044-CCV1) Continued Prepared & Analyzed: 10/17/22

Analyte	Result	Units	% Difference	Limit (%)	Notes
Ethylene oxide	2.16	ppbv	-13.6	30.00	
Bromomethane	2.41	ppbv	-2.1	30.00	
Chloroethane	2.41	ppbv	-1.8	30.00	
Acetonitrile	2.00	ppbv	-21.4	30.00	
Acrolein	2.45	ppbv	2.2	30.00	
Trichlorofluoromethane	2.48	ppbv	-1.5	30.00	
Acrylonitrile	2.41	ppbv	-2.1	30.00	
1,1-Dichloroethene	2.23	ppbv	-9.5	30.00	
Dichloromethane	1.89	ppbv	-22.0	30.00	
Carbon Disulfide	2.29	ppbv	-6.7	30.00	
Trichlorotrifluoroethane	2.23	ppbv	-10.9	30.00	
trans-1,2-Dichloroethylene	2.53	ppbv	1.4	30.00	
1,1-Dichloroethane	2.40	ppbv	-1.9	30.00	
Methyl tert-Butyl Ether	2.84	ppbv	11.4	30.00	
Chloroprene	2.10	ppbv	-15.2	30.00	
cis-1,2-Dichloroethylene	2.28	ppbv	-6.9	30.00	
Bromochloromethane	2.51	ppbv	1.3	30.00	
Chloroform	2.47	ppbv	-1.8	30.00	
Ethyl tert-Butyl Ether	2.67	ppbv	3.8	30.00	
1,2-Dichloroethane	2.30	ppbv	-7.2	30.00	
1,1,1-Trichloroethane	2.54	ppbv	2.1	30.00	
Benzene	2.38	ppbv	-4.3	30.00	
Carbon Tetrachloride	2.53	ppbv	1.5	30.00	
tert-Amyl Methyl Ether	2.70	ppbv	3.9	30.00	
1,2-Dichloropropane	2.43	ppbv	-2.6	30.00	
Ethyl Acrylate	2.36	ppbv	-7.4	30.00	
Bromodichloromethane	2.39	ppbv	-4.3	30.00	
Trichloroethylene	2.50	ppbv	-1.2	30.00	
Methyl Methacrylate	2.22	ppbv	-12.8	30.00	
cis-1,3-Dichloropropene	2.47	ppbv	-3.2	30.00	
Methyl Isobutyl Ketone	2.67	ppbv	5.2	30.00	
trans-1,3-Dichloropropene	2.57	ppbv	5.7	30.00	
1,1,2-Trichloroethane	2.39	ppbv	-4.7	30.00	
Toluene	2.62	ppbv	7.1	30.00	

U.S. Environmental Protection Agency, Region 5
PO Box 30260
Lansing, MI 48909
ATTN: Ms. Amy Robinson
PHONE: (517) 241-2198 **FAX:** (312) 886-5824

FILE #: [none]
REPORTED: 11/18/22 13:06
SUBMITTED: 10/11/22
AQS SITE CODE:
SITE CODE: MI VOCs

Air Toxics by EPA Compendium Method TO-15 - Quality Control

Sequence 2210044

Calibration Check (2210044-CCV1) Continued Prepared & Analyzed: 10/17/22

Analyte	Result	Units	% Difference	Limit (%)	Notes
Dibromochloromethane	2.51	ppbv	-1.8	30.00	
1,2-Dibromoethane	2.45	ppbv	-2.6	30.00	
n-Octane	2.67	ppbv	5.3	30.00	
Tetrachloroethylene	2.77	ppbv	11.3	30.00	
Chlorobenzene	2.36	ppbv	-4.4	30.00	
Ethylbenzene	2.59	ppbv	3.2	30.00	
m,p-Xylene	5.46	ppbv	9.9	30.00	
Bromoform	2.74	ppbv	9.7	30.00	
Styrene	2.67	ppbv	10.6	30.00	
1,1,2,2-Tetrachloroethane	2.37	ppbv	-6.0	30.00	
o-Xylene	2.70	ppbv	8.7	30.00	
1,3,5-Trimethylbenzene	2.42	ppbv	-2.9	30.00	
1,2,4-Trimethylbenzene	2.53	ppbv	7.1	30.00	
m-Dichlorobenzene	2.45	ppbv	2.8	30.00	
p-Dichlorobenzene	2.73	ppbv	5.3	30.00	
o-Dichlorobenzene	2.57	ppbv	3.5	30.00	
1,2,4-Trichlorobenzene	2.72	ppbv	9.7	30.00	
Hexachloro-1,3-butadiene	2.75	ppbv	9.2	30.00	

CERTIFICATE OF ANALYSIS

U.S. Environmental Protection Agency, Region 5
PO Box 30260
Lansing, MI 48909
ATTN: Ms. Amy Robinson
PHONE: (517) 241-2198 **FAX:** (312) 886-5824

FILE #: [none]
REPORTED: 11/18/22 13:06
SUBMITTED: 10/11/22
AQS SITE CODE:
SITE CODE: MI VOCs

Notes and Definitions

U	Under Detection Limit
QX	Compound does not meet QC criteria. Results should be considered an estimate.
LK	Analyte identified; Reported value may be biased high.
D	This result obtained by dilution.
CE	Not reportable due to a co-eluting compound.
ND	Analyte NOT DETECTED
NR	Not Reported
MDL	Method Detection Limit
RPD	Relative Percent Difference

Note: This test is accredited under the 2016 TNI Standard; however the following analytes are not accredited: acetylene, bromodichloroethane, dichlorotetrafluoromethane, ethyl tert butyl ether, n-octane, tert amyl methyl ether, trichlorofluoroethane, and bromochloromethane.

ANALYTICAL REPORT

Report Date: October 13, 2022

Nancy Posavatz
Mannik Smith Group
2365 Haggerty Road South
Suite 100
Canton, MI 48188

Phone: (231) 929-7330 x 6909

E-mail: NPosavatz@manniksmithgroup.com

Workorder: **34-2227929**
Project ID: LOC4-C01089
Purchase Order: DHHS0009
Project Manager Bevan Meade

Client Sample ID	Lab ID	Collect Date	Receive Date	Sampling Site
LOC4-C01089	2227929001	NA	10/06/22	
LOC1-C01055	2227929002	NA	10/06/22	
LOC5-B38853	2227929003	NA	10/06/22	
FB-C01028	2227929004	NA	10/06/22	
LOC6-B50428	2227929005	NA	10/06/22	
LOC3-C01097	2227929006	NA	10/06/22	
LOC2-B40016	2227929007	NA	10/06/22	

ANALYTICAL REPORT

Workorder: 34-2227929
Client: Mannik Smith Group
Project Manager: Bevan Meade

Analytical Results

Sample ID: **LOC4-C01089**
Lab ID: 2227929001
Matrix: Air

Sampling Site: NA
Media: Carbo Trap 300
Sampling Parameter: Air Volume 3.555 L

Received: 10/06/2022

Analysis Method - EPA TO-17 Mod.

Preparation: Not Applicable

Analysis: EPA TO-17, Air
Batch: IVOA/5935 (HBN: 299167)
Analyzed: 10/10/2022 15:40

Instrument ID: 5975-X

Analyte	Result (ng/sample)	Result (ug/m³)	Result (ppb)	RL (ng/sample)	Dilution	Qual
Propene	**31**	**8.6**	**5.0**	25	1	
Dichlorodifluoromethane	ND	<7.0	<1.4	25	1	
Chloromethane	ND	<7.0	<3.4	25	1	
Freon 114	ND	<7.0	<1.0	25	1	
Vinyl chloride	ND	<7.0	<2.8	25	1	
1,3-Butadiene	ND	<7.0	<3.2	25	1	
Bromomethane	ND	<7.0	<1.8	25	1	
Chloroethane	ND	<7.0	<2.7	25	1	
Ethanol	**71**	**20**	**11**	25	1	
Isopropyl alcohol	**220**	**61**	**25**	25	1	
Freon 11	ND	<7.0	<1.3	25	1	
Freon 113	ND	<7.0	<0.92	25	1	
Acetone	**440**	**120**	**52**	25	1	
Carbon disulfide	ND	<7.0	<2.3	25	1	
1,1-Dichloroethene	ND	<7.0	<1.8	25	1	
Methylene chloride	ND	<7.0	<2.0	25	1	
trans-1,2-Dichloroethene	ND	<7.0	<1.8	25	1	
1,1-Dichloroethane	ND	<7.0	<1.7	25	1	
Methyl t-butyl ether	ND	<7.0	<2.0	25	1	
Vinyl acetate	ND	<7.0	<2.0	25	1	
2-Butanone	ND	<7.0	<2.4	25	1	
cis-1,2-Dichloroethene	ND	<7.0	<1.8	25	1	
Ethyl acetate	ND	<7.0	<2.0	25	1	
Hexane	ND	<7.0	<2.0	25	1	
Chloroform	ND	<7.0	<1.4	25	1	
Tetrahydrofuran	ND	<7.0	<2.4	25	1	
1,2-Dichloroethane	ND	<7.0	<1.7	25	1	
1,1,1-Trichloroethane	ND	<7.0	<1.3	25	1	
Benzene	ND	<7.0	<2.2	25	1	
Carbon tetrachloride	ND	<7.0	<1.1	25	1	
1,2-Dichloropropane	ND	<7.0	<1.4	25	1	
Bromodichloromethane	ND	<7.0	<1.0	25	1	
Cyclohexane	ND	<7.0	<2.0	25	1	
Trichloroethene	ND	<7.0	<1.3	25	1	
Heptane	ND	<7.0	<1.7	25	1	

Results Continued on Next Page

ANALYTICAL REPORT

Workorder: 34-2227929
Client: Mannik Smith Group
Project Manager: Bevan Meade

Analytical Results

Sample ID: **LOC4-C01089**
Lab ID: 2227929001
Matrix: Air

Sampling Site: NA
Media: Carbo Trap 300
Sampling Parameter: Air Volume 3.555 L

Received: 10/06/2022

Analysis Method - EPA TO-17 Mod.

Preparation: Not Applicable

Analysis: EPA TO-17, Air
Batch: IVOA/5935 (HBN: 299167)
Analyzed: 10/10/2022 15:40
Instrument ID: 5975-X

Analyte	Result (ng/sample)	Result (ug/m³)	Result (ppb)	RL (ng/sample)	Dilution	Qual
cis-1,3-Dichloropropene	ND	<7.0	<1.5	25	1	
4-Methyl-2-pentanone	**200**	**56**	**14**	25	1	
trans-1,3-Dichloropropene	ND	<7.0	<1.5	25	1	
1,1,2-Trichloroethane	ND	<7.0	<1.3	25	1	
Toluene	**53**	**15**	**4.0**	25	1	
2-Hexanone	ND	<7.0	<1.7	25	1	
Dibromochloromethane	ND	<7.0	<0.83	25	1	
Tetrachloroethene	ND	<7.0	<1.0	25	1	
1,2-Dibromoethane	ND	<7.0	<0.92	25	1	
Chlorobenzene	ND	<7.0	<1.5	25	1	
Ethylbenzene	**370**	**100**	**24**	25	1	
m,p-Xylene	**1300**	**380**	**87**	25	1	
Bromoform	ND	<7.0	<0.68	25	1	
Styrene	ND	<7.0	<1.7	25	1	
1,1,2,2-Tetrachloroethane	ND	<7.0	<1.0	25	1	
o-Xylene	**370**	**100**	**24**	25	1	
4-Ethyl toluene	**370**	**100**	**21**	25	1	
1,3,5-Trimethylbenzene	**360**	**100**	**20**	25	1	
1,2,4-Trimethylbenzene	**1100**	**310**	**64**	25	1	
1,3-Dichlorobenzene	ND	<7.0	<1.2	25	1	
1,4-Dichlorobenzene	ND	<7.0	<1.2	25	1	
Benzyl chloride	ND	<7.0	<1.4	25	1	
1,2-Dichlorobenzene	ND	<7.0	<1.2	25	1	
1,2,4-Trichlorobenzene	ND	<7.0	<0.95	25	1	
Hexachlorobutadiene	ND	<7.0	<0.66	25	1	
Total Volatile Organics	5600	1600	380	NA	1	J

Analysis Method - EPA TO-17 Mod.

Preparation: Not Applicable

Analysis: EPA TO-17, Air
Batch: IVOA/5935 (HBN: 299167)
Analyzed: 10/10/2022 15:40
Instrument ID: 5975-X

Tentatively Identified Compound	Result (ng/sample)	Retention Time	Dilution	Qual
Octafluoro-2-butene	340	3.03	1	J
1-Propanol, 2-methyl-	83	4.92	1	J
1-Butanol	110	5.32	1	J
Isobutyl acetate	140	6.80	1	J

Results Continued on Next Page

ANALYTICAL REPORT

Workorder: 34-2227929
Client: Mannik Smith Group
Project Manager: Bevan Meade

Analytical Results

Sample ID: **LOC4-C01089**
Lab ID: 2227929001
Matrix: Air
Sampling Site: NA
Media: Carbo Trap 300
Sampling Parameter: Air Volume 3.555 L
Received: 10/06/2022

Analysis Method - EPA TO-17 Mod.

Preparation: Not Applicable
Analysis: EPA TO-17, Air
Batch: IVOA/5935 (HBN: 299167)
Analyzed: 10/10/2022 15:40
Instrument ID: 5975-X

Tentatively Identified Compound	Result (ng/sample)	Retention Time	Dilution	Qual
Acetic acid, butyl ester	600	7.38	1	J
2-Propanol, 1-butoxy-	83	9.41	1	J
Benzene, propyl-	160	9.80	1	J
Propanoic acid, 3-ethoxy-, ethyl ester	63	9.85	1	J
Benzene, 1-ethyl-3-methyl-	560	9.90	1	J
Benzene, 1-ethyl-2-methyl-	190	10.18	1	J
Propanoic acid, propyl ester	240	10.26	1	J
Benzene, 1,2,3-trimethyl-	120	10.85	1	J
C11 Hydrocarbon	40	10.92	1	J
Indane	47	11.07	1	J
C11 Hydrocarbon	110	11.18	1	J
Benzene, 1,2-diethyl-	44	11.27	1	J
C11 Hydrocarbon	42	11.43	1	J
C11 Hydrocarbon	46	11.46	1	J
C11 Hydrocarbon	44	11.66	1	J

Sample ID: **LOC1-C01055**
Lab ID: 2227929002
Matrix: Air
Sampling Site: NA
Media: Carbo Trap 300
Sampling Parameter: Air Volume 3.579 L
Received: 10/06/2022

Analysis Method - EPA TO-17 Mod.

Preparation: Not Applicable
Analysis: EPA TO-17, Air
Batch: IVOA/5935 (HBN: 299167)
Analyzed: 10/10/2022 16:02
Instrument ID: 5975-X

Analyte	Result (ng/sample)	Result (ug/m³)	Result (ppb)	RL (ng/sample)	Dilution	Qual
Propene	**110**	**30**	**18**	25	1	
Dichlorodifluoromethane	ND	<7.0	<1.4	25	1	
Chloromethane	ND	<7.0	<3.4	25	1	
Freon 114	ND	<7.0	<1.0	25	1	
Vinyl chloride	ND	<7.0	<2.7	25	1	
1,3-Butadiene	ND	<7.0	<3.2	25	1	
Bromomethane	ND	<7.0	<1.8	25	1	
Chloroethane	ND	<7.0	<2.6	25	1	
Ethanol	**51**	**14**	**7.6**	25	1	
Isopropyl alcohol	**1700**	**470**	**190**	25	1	

Results Continued on Next Page

ANALYTICAL REPORT

Workorder: 34-2227929
Client: Mannik Smith Group
Project Manager: Bevan Meade

Analytical Results

Sample ID: **LOC1-C01055**
Lab ID: 2227929002
Matrix: Air

Sampling Site: NA
Media: Carbo Trap 300
Sampling Parameter: Air Volume 3.579 L

Received: 10/06/2022

Analysis Method - EPA TO-17 Mod.

Preparation: Not Applicable

Analysis: EPA TO-17, Air
Batch: IVOA/5935 (HBN: 299167)
Analyzed: 10/10/2022 16:02

Instrument ID: 5975-X

Analyte	Result (ng/sample)	Result (ug/m³)	Result (ppb)	RL (ng/sample)	Dilution	Qual
Freon 11	ND	<7.0	<1.2	25	1	
Freon 113	ND	<7.0	<0.91	25	1	
Acetone	**770**	**220**	**91**	25	1	
Carbon disulfide	ND	<7.0	<2.2	25	1	
1,1-Dichloroethene	ND	<7.0	<1.8	25	1	
Methylene chloride	ND	<7.0	<2.0	25	1	
trans-1,2-Dichloroethene	ND	<7.0	<1.8	25	1	
1,1-Dichloroethane	ND	<7.0	<1.7	25	1	
Methyl t-butyl ether	ND	<7.0	<1.9	25	1	
Vinyl acetate	ND	<7.0	<2.0	25	1	
2-Butanone	ND	<7.0	<2.4	25	1	
cis-1,2-Dichloroethene	ND	<7.0	<1.8	25	1	
Ethyl acetate	ND	<7.0	<1.9	25	1	
Hexane	ND	<7.0	<2.0	25	1	
Chloroform	ND	<7.0	<1.4	25	1	
Tetrahydrofuran	ND	<7.0	<2.4	25	1	
1,2-Dichloroethane	ND	<7.0	<1.7	25	1	
1,1,1-Trichloroethane	ND	<7.0	<1.3	25	1	
Benzene	ND	<7.0	<2.2	25	1	
Carbon tetrachloride	ND	<7.0	<1.1	25	1	
1,2-Dichloropropane	ND	<7.0	<1.4	25	1	
Bromodichloromethane	ND	<7.0	<1.0	25	1	
Cyclohexane	ND	<7.0	<2.0	25	1	
Trichloroethene	ND	<7.0	<1.3	25	1	
Heptane	ND	<7.0	<1.7	25	1	
cis-1,3-Dichloropropene	ND	<7.0	<1.5	25	1	
4-Methyl-2-pentanone	**62**	**17**	**4.3**	25	1	
trans-1,3-Dichloropropene	ND	<7.0	<1.5	25	1	
1,1,2-Trichloroethane	ND	<7.0	<1.3	25	1	
Toluene	**160**	**45**	**12**	25	1	
2-Hexanone	ND	<7.0	<1.7	25	1	
Dibromochloromethane	ND	<7.0	<0.82	25	1	
Tetrachloroethene	ND	<7.0	<1.0	25	1	
1,2-Dibromoethane	ND	<7.0	<0.91	25	1	
Chlorobenzene	ND	<7.0	<1.5	25	1	

Results Continued on Next Page

ANALYTICAL REPORT

Workorder: 34-2227929
Client: Mannik Smith Group
Project Manager: Bevan Meade

Analytical Results

Sample ID: **LOC1-C01055**
Lab ID: 2227929002
Matrix: Air

Sampling Site: NA
Media: Carbo Trap 300
Sampling Parameter: Air Volume 3.579 L

Received: 10/06/2022

Analysis Method - EPA TO-17 Mod.

Preparation: Not Applicable

Analysis: EPA TO-17, Air
Batch: IVOA/5935 (HBN: 299167)
Analyzed: 10/10/2022 16:02
Instrument ID: 5975-X

Analyte	Result (ng/sample)	Result (ug/m³)	Result (ppb)	RL (ng/sample)	Dilution	Qual
Ethylbenzene	**100**	**28**	**6.5**	25	1	
m,p-Xylene	**380**	**110**	**25**	25	1	
Bromoform	ND	<7.0	<0.68	25	1	
Styrene	ND	<7.0	<1.6	25	1	
1,1,2,2-Tetrachloroethane	ND	<7.0	<1.0	25	1	
o-Xylene	**99**	**28**	**6.4**	25	1	
4-Ethyl toluene	**98**	**28**	**5.6**	25	1	
1,3,5-Trimethylbenzene	**87**	**24**	**4.9**	25	1	
1,2,4-Trimethylbenzene	**280**	**78**	**16**	25	1	
1,3-Dichlorobenzene	ND	<7.0	<1.2	25	1	
1,4-Dichlorobenzene	ND	<7.0	<1.2	25	1	
Benzyl chloride	ND	<7.0	<1.3	25	1	
1,2-Dichlorobenzene	ND	<7.0	<1.2	25	1	
1,2,4-Trichlorobenzene	ND	<7.0	<0.94	25	1	
Hexachlorobutadiene	ND	<7.0	<0.65	25	1	
Total Volatile Organics	3600	1000	250	NA	1	J

Analysis Method - EPA TO-17 Mod.

Preparation: Not Applicable

Analysis: EPA TO-17, Air
Batch: IVOA/5935 (HBN: 299167)
Analyzed: 10/10/2022 16:02
Instrument ID: 5975-X

Tentatively Identified Compound	Result (ng/sample)	Retention Time	Dilution	Qual
2-Propanone, 1,1,1,3,3,3-hexafluoro-	67	2.98	1	J
Octafluoro-2-butene	610	3.04	1	J
Unknown Fluorocarbon	78	3.30	1	J
Butane	57	3.41	1	J
Pentane	55	3.93	1	J
Isopropyl acetate	59	5.31	1	J
Isobutyl acetate	37	6.80	1	J
Acetic acid, butyl ester	160	7.38	1	J
Benzene, propyl-	39	9.80	1	J
Benzene, 1-ethyl-3-methyl-	150	9.89	1	J
Benzene, 1-ethyl-2-methyl-	53	10.19	1	J
Propanoic acid, propyl ester	110	10.26	1	J
Benzene, 1,2,3-trimethyl-	38	10.85	1	J
C11 Hydrocarbon	47	10.92	1	J

Results Continued on Next Page

ANALYTICAL REPORT

Workorder: 34-2227929
Client: Mannik Smith Group
Project Manager: Bevan Meade

Analytical Results

Sample ID: **LOC1-C01055** | Sampling Site: NA | Received: 10/06/2022
Lab ID: 2227929002 | Media: Carbo Trap 300
Matrix: Air | Sampling Parameter: Air Volume 3.579 L

Analysis Method - EPA TO-17 Mod.

Preparation: Not Applicable | **Analysis:** EPA TO-17, Air | **Instrument ID:** 5975-X
Batch: IVOA/5935 (HBN: 299167)
Analyzed: 10/10/2022 16:02

Tentatively Identified Compound	Result (ng/sample)	Retention Time	Dilution	Qual
C11 Hydrocarbon	28	11.06	1	J
C11 Hydrocarbon	80	11.18	1	J
C11 Hydrocarbon	40	11.43	1	J
C11 Hydrocarbon	46	11.46	1	J
C11 Hydrocarbon	42	11.66	1	J

Sample ID: **LOC5-B38853** | Sampling Site: NA | Received: 10/06/2022
Lab ID: 2227929003 | Media: Carbo Trap 300
Matrix: Air | Sampling Parameter: Air Volume 3.221 L

Analysis Method - EPA TO-17 Mod.

Preparation: Not Applicable | **Analysis:** EPA TO-17, Air | **Instrument ID:** 5975-X
Batch: IVOA/5935 (HBN: 299167)
Analyzed: 10/10/2022 16:23

Analyte	Result (ng/sample)	Result (ug/m³)	Result (ppb)	RL (ng/sample)	Dilution	Qual
Propene	ND	<7.8	<4.5	25	1	
Dichlorodifluoromethane	ND	<7.8	<1.6	25	1	
Chloromethane	ND	<7.8	<3.8	25	1	
Freon 114	ND	<7.8	<1.1	25	1	
Vinyl chloride	ND	<7.8	<3.0	25	1	
1,3-Butadiene	ND	<7.8	<3.5	25	1	
Bromomethane	ND	<7.8	<2.0	25	1	
Chloroethane	ND	<7.8	<2.9	25	1	
Ethanol	ND	<7.8	<4.1	25	1	
Isopropyl alcohol	**130**	**39**	**16**	25	1	
Freon 11	ND	<7.8	<1.4	25	1	
Freon 113	ND	<7.8	<1.0	25	1	
Acetone	**87**	**27**	**11**	25	1	
Carbon disulfide	ND	<7.8	<2.5	25	1	
1,1-Dichloroethene	ND	<7.8	<2.0	25	1	
Methylene chloride	ND	<7.8	<2.2	25	1	
trans-1,2-Dichloroethene	ND	<7.8	<2.0	25	1	
1,1-Dichloroethane	ND	<7.8	<1.9	25	1	
Methyl t-butyl ether	ND	<7.8	<2.2	25	1	
Vinyl acetate	ND	<7.8	<2.2	25	1	

Results Continued on Next Page

ANALYTICAL REPORT

Workorder: 34-2227929
Client: Mannik Smith Group
Project Manager: Bevan Meade

Analytical Results

Sample ID: **LOC5-B38853**
Lab ID: 2227929003
Matrix: Air

Sampling Site: NA
Media: Carbo Trap 300
Sampling Parameter: Air Volume 3.221 L

Received: 10/06/2022

Analysis Method - EPA TO-17 Mod.

Preparation: Not Applicable

Analysis: EPA TO-17, Air
Batch: IVOA/5935 (HBN: 299167)
Analyzed: 10/10/2022 16:23

Instrument ID: 5975-X

Analyte	Result (ng/sample)	Result (ug/m³)	Result (ppb)	RL (ng/sample)	Dilution	Qual
2-Butanone	ND	<7.8	<2.6	25	1	
cis-1,2-Dichloroethene	ND	<7.8	<2.0	25	1	
Ethyl acetate	ND	<7.8	<2.2	25	1	
Hexane	ND	<7.8	<2.2	25	1	
Chloroform	ND	<7.8	<1.6	25	1	
Tetrahydrofuran	ND	<7.8	<2.6	25	1	
1,2-Dichloroethane	ND	<7.8	<1.9	25	1	
1,1,1-Trichloroethane	ND	<7.8	<1.4	25	1	
Benzene	ND	<7.8	<2.4	25	1	
Carbon tetrachloride	ND	<7.8	<1.2	25	1	
1,2-Dichloropropane	ND	<7.8	<1.6	25	1	
Bromodichloromethane	ND	<7.8	<1.2	25	1	
Cyclohexane	ND	<7.8	<2.3	25	1	
Trichloroethene	ND	<7.8	<1.4	25	1	
Heptane	ND	<7.8	<1.9	25	1	
cis-1,3-Dichloropropene	ND	<7.8	<1.7	25	1	
4-Methyl-2-pentanone	**47**	**15**	**3.5**	25	1	
trans-1,3-Dichloropropene	ND	<7.8	<1.7	25	1	
1,1,2-Trichloroethane	ND	<7.8	<1.4	25	1	
Toluene	ND	<7.8	<2.1	25	1	
2-Hexanone	ND	<7.8	<1.9	25	1	
Dibromochloromethane	ND	<7.8	<0.91	25	1	
Tetrachloroethene	ND	<7.8	<1.1	25	1	
1,2-Dibromoethane	ND	<7.8	<1.0	25	1	
Chlorobenzene	ND	<7.8	<1.7	25	1	
Ethylbenzene	**46**	**14**	**3.3**	25	1	
m,p-Xylene	**170**	**53**	**12**	25	1	
Bromoform	ND	<7.8	<0.75	25	1	
Styrene	ND	<7.8	<1.8	25	1	
1,1,2,2-Tetrachloroethane	ND	<7.8	<1.1	25	1	
o-Xylene	**44**	**14**	**3.1**	25	1	
4-Ethyl toluene	**38**	**12**	**2.4**	25	1	
1,3,5-Trimethylbenzene	**36**	**11**	**2.3**	25	1	
1,2,4-Trimethylbenzene	**110**	**34**	**6.8**	25	1	
1,3-Dichlorobenzene	ND	<7.8	<1.3	25	1	

Results Continued on Next Page

ANALYTICAL REPORT

Workorder: 34-2227929
Client: Mannik Smith Group
Project Manager: Bevan Meade

Analytical Results

Sample ID: **LOC5-B38853** | Sampling Site: NA | Received: 10/06/2022
Lab ID: 2227929003 | Media: Carbo Trap 300
Matrix: Air | Sampling Parameter: Air Volume 3.221 L

Analysis Method - EPA TO-17 Mod.

Preparation: Not Applicable | **Analysis:** EPA TO-17, Air | **Instrument ID:** 5975-X
Batch: IVOA/5935 (HBN: 299167)
Analyzed: 10/10/2022 16:23

Analyte	Result (ng/sample)	Result (ug/m³)	Result (ppb)	RL (ng/sample)	Dilution	Qual
1,4-Dichlorobenzene	ND	<7.8	<1.3	25	1	
Benzyl chloride	ND	<7.8	<1.5	25	1	
1,2-Dichlorobenzene	ND	<7.8	<1.3	25	1	
1,2,4-Trichlorobenzene	ND	<7.8	<1.0	25	1	
Hexachlorobutadiene	ND	<7.8	<0.73	25	1	
Total Volatile Organics	1600	490	120	NA	1	J

Analysis Method - EPA TO-17 Mod.

Preparation: Not Applicable | **Analysis:** EPA TO-17, Air | **Instrument ID:** 5975-X
Batch: IVOA/5935 (HBN: 299167)
Analyzed: 10/10/2022 16:23

Tentatively Identified Compound	Result (ng/sample)	Retention Time	Dilution	Qual
Octafluoro-2-butene	640	3.03	1	J
Silane, difluorodimethyl-	230	3.19	1	J
Unknown Fluorocarbon	62	3.30	1	J
Unknown Compound	85	4.07	1	J
Acetic acid	79	4.38	1	J
Isopropyl acetate	26	5.32	1	J
Isobutyl acetate	30	6.80	1	J
Acetic acid, butyl ester	110	7.38	1	J
Benzene, 1-ethyl-3-methyl-	58	9.90	1	J
Propanoic acid, propyl ester	62	10.27	1	J

Sample ID: **FB-C01028** | Sampling Site: NA | Received: 10/06/2022
Lab ID: 2227929004 | Media: Carbo Trap 300
Matrix: Air | Sampling Parameter: NA

Analysis Method - EPA TO-17 Mod.

Preparation: Not Applicable | **Analysis:** EPA TO-17, Air | **Instrument ID:** 5975-X
Batch: IVOA/5935 (HBN: 299167)
Analyzed: 10/10/2022 15:19

Analyte	Result (ng/sample)	Result (ug/m³)	Result (ppb)	RL (ng/sample)	Dilution	Qual
Propene	ND	NA	NA	25	1	
Dichlorodifluoromethane	ND	NA	NA	25	1	
Chloromethane	ND	NA	NA	25	1	
Freon 114	ND	NA	NA	25	1	

Results Continued on Next Page

ANALYTICAL REPORT

Workorder: 34-2227929
Client: Mannik Smith Group
Project Manager: Bevan Meade

Analytical Results

Sample ID: **FB-C01028**
Lab ID: 2227929004
Matrix: Air
Sampling Site: NA
Media: Carbo Trap 300
Sampling Parameter: NA
Received: 10/06/2022

Analysis Method - EPA TO-17 Mod.

Preparation: Not Applicable
Analysis: EPA TO-17, Air
Batch: IVOA/5935 (HBN: 299167)
Analyzed: 10/10/2022 15:19
Instrument ID: 5975-X

Analyte	Result (ng/sample)	Result (ug/m³)	Result (ppb)	RL (ng/sample)	Dilution	Qual
Vinyl chloride	ND	NA	NA	25	1	
1,3-Butadiene	ND	NA	NA	25	1	
Bromomethane	ND	NA	NA	25	1	
Chloroethane	ND	NA	NA	25	1	
Ethanol	ND	NA	NA	25	1	
Isopropyl alcohol	ND	NA	NA	25	1	
Freon 11	ND	NA	NA	25	1	
Freon 113	ND	NA	NA	25	1	
Acetone	ND	NA	NA	25	1	
Carbon disulfide	ND	NA	NA	25	1	
1,1-Dichloroethene	ND	NA	NA	25	1	
Methylene chloride	ND	NA	NA	25	1	
trans-1,2-Dichloroethene	ND	NA	NA	25	1	
1,1-Dichloroethane	ND	NA	NA	25	1	
Methyl t-butyl ether	ND	NA	NA	25	1	
Vinyl acetate	ND	NA	NA	25	1	
2-Butanone	ND	NA	NA	25	1	
cis-1,2-Dichloroethene	ND	NA	NA	25	1	
Ethyl acetate	ND	NA	NA	25	1	
Hexane	ND	NA	NA	25	1	
Chloroform	ND	NA	NA	25	1	
Tetrahydrofuran	ND	NA	NA	25	1	
1,2-Dichloroethane	ND	NA	NA	25	1	
1,1,1-Trichloroethane	ND	NA	NA	25	1	
Benzene	ND	NA	NA	25	1	
Carbon tetrachloride	ND	NA	NA	25	1	
1,2-Dichloropropane	ND	NA	NA	25	1	
Bromodichloromethane	ND	NA	NA	25	1	
Cyclohexane	ND	NA	NA	25	1	
Trichloroethene	ND	NA	NA	25	1	
Heptane	ND	NA	NA	25	1	
cis-1,3-Dichloropropene	ND	NA	NA	25	1	
4-Methyl-2-pentanone	ND	NA	NA	25	1	
trans-1,3-Dichloropropene	ND	NA	NA	25	1	
1,1,2-Trichloroethane	ND	NA	NA	25	1	

Results Continued on Next Page

ANALYTICAL REPORT

Workorder: 34-2227929
Client: Mannik Smith Group
Project Manager: Bevan Meade

Analytical Results

Sample ID: **FB-C01028** | Sampling Site: NA | Received: 10/06/2022
Lab ID: 2227929004 | Media: Carbo Trap 300
Matrix: Air | Sampling Parameter: NA

Analysis Method - EPA TO-17 Mod.

Preparation: Not Applicable | **Analysis:** EPA TO-17, Air | **Instrument ID:** 5975-X
Batch: IVOA/5935 (HBN: 299167)
Analyzed: 10/10/2022 15:19

Analyte	Result (ng/sample)	Result (ug/m³)	Result (ppb)	RL (ng/sample)	Dilution	Qual
Toluene	ND	NA	NA	25	1	
2-Hexanone	ND	NA	NA	25	1	
Dibromochloromethane	ND	NA	NA	25	1	
Tetrachloroethene	ND	NA	NA	25	1	
1,2-Dibromoethane	ND	NA	NA	25	1	
Chlorobenzene	ND	NA	NA	25	1	
Ethylbenzene	ND	NA	NA	25	1	
m,p-Xylene	ND	NA	NA	25	1	
Bromoform	ND	NA	NA	25	1	
Styrene	ND	NA	NA	25	1	
1,1,2,2-Tetrachloroethane	ND	NA	NA	25	1	
o-Xylene	ND	NA	NA	25	1	
4-Ethyl toluene	ND	NA	NA	25	1	
1,3,5-Trimethylbenzene	ND	NA	NA	25	1	
1,2,4-Trimethylbenzene	ND	NA	NA	25	1	
1,3-Dichlorobenzene	ND	NA	NA	25	1	
1,4-Dichlorobenzene	ND	NA	NA	25	1	
Benzyl chloride	ND	NA	NA	25	1	
1,2-Dichlorobenzene	ND	NA	NA	25	1	
1,2,4-Trichlorobenzene	ND	NA	NA	25	1	
Hexachlorobutadiene	ND	NA	NA	25	1	
Total Volatile Organics	160	NA	NA	NA	1	J

Sample ID: **LOC6-B50428** | Sampling Site: NA | Received: 10/06/2022
Lab ID: 2227929005 | Media: Carbo Trap 300
Matrix: Air | Sampling Parameter: Air Volume 3.6968 L

Analysis Method - EPA TO-17 Mod.

Preparation: Not Applicable | **Analysis:** EPA TO-17, Air | **Instrument ID:** 5975-X
Batch: IVOA/5935 (HBN: 299167)
Analyzed: 10/10/2022 16:45

Analyte	Result (ng/sample)	Result (ug/m³)	Result (ppb)	RL (ng/sample)	Dilution	Qual
Propene	ND	<6.8	<3.9	25	1	
Dichlorodifluoromethane	ND	<6.8	<1.4	25	1	
Chloromethane	ND	<6.8	<3.3	25	1	

Results Continued on Next Page

ANALYTICAL REPORT

Workorder: 34-2227929
Client: Mannik Smith Group
Project Manager: Bevan Meade

Analytical Results

Sample ID: **LOC6-B50428**
Lab ID: 2227929005
Matrix: Air

Sampling Site: NA
Media: Carbo Trap 300
Sampling Parameter: Air Volume 3.6968 L

Received: 10/06/2022

Analysis Method - EPA TO-17 Mod.

Preparation: Not Applicable

Analysis: EPA TO-17, Air
Batch: IVOA/5935 (HBN: 299167)
Analyzed: 10/10/2022 16:45

Instrument ID: 5975-X

Analyte	Result (ng/sample)	Result (ug/m³)	Result (ppb)	RL (ng/sample)	Dilution	Qual
Freon 114	ND	<6.8	<0.97	25	1	
Vinyl chloride	ND	<6.8	<2.6	25	1	
1,3-Butadiene	ND	<6.8	<3.1	25	1	
Bromomethane	ND	<6.8	<1.7	25	1	
Chloroethane	ND	<6.8	<2.6	25	1	
Ethanol	ND	<6.8	<3.6	25	1	
Isopropyl alcohol	ND	<6.8	<2.8	25	1	
Freon 11	ND	<6.8	<1.2	25	1	
Freon 113	ND	<6.8	<0.88	25	1	
Acetone	**38**	**10**	**4.4**	25	1	
Carbon disulfide	ND	<6.8	<2.2	25	1	
1,1-Dichloroethene	ND	<6.8	<1.7	25	1	
Methylene chloride	ND	<6.8	<1.9	25	1	
trans-1,2-Dichloroethene	ND	<6.8	<1.7	25	1	
1,1-Dichloroethane	ND	<6.8	<1.7	25	1	
Methyl t-butyl ether	ND	<6.8	<1.9	25	1	
Vinyl acetate	ND	<6.8	<1.9	25	1	
2-Butanone	ND	<6.8	<2.3	25	1	
cis-1,2-Dichloroethene	ND	<6.8	<1.7	25	1	
Ethyl acetate	ND	<6.8	<1.9	25	1	
Hexane	ND	<6.8	<1.9	25	1	
Chloroform	ND	<6.8	<1.4	25	1	
Tetrahydrofuran	ND	<6.8	<2.3	25	1	
1,2-Dichloroethane	ND	<6.8	<1.7	25	1	
1,1,1-Trichloroethane	ND	<6.8	<1.2	25	1	
Benzene	ND	<6.8	<2.1	25	1	
Carbon tetrachloride	ND	<6.8	<1.1	25	1	
1,2-Dichloropropane	ND	<6.8	<1.4	25	1	
Bromodichloromethane	ND	<6.8	<1.0	25	1	
Cyclohexane	ND	<6.8	<2.0	25	1	
Trichloroethene	ND	<6.8	<1.3	25	1	
Heptane	ND	<6.8	<1.7	25	1	
cis-1,3-Dichloropropene	ND	<6.8	<1.5	25	1	
4-Methyl-2-pentanone	ND	<6.8	<1.7	25	1	
trans-1,3-Dichloropropene	ND	<6.8	<1.5	25	1	

Results Continued on Next Page

ANALYTICAL REPORT

Workorder: 34-2227929
Client: Mannik Smith Group
Project Manager: Bevan Meade

Analytical Results

Sample ID: **LOC6-B50428**
Lab ID: 2227929005
Matrix: Air

Sampling Site: NA
Media: Carbo Trap 300
Sampling Parameter: Air Volume 3.6968 L

Received: 10/06/2022

Analysis Method - EPA TO-17 Mod.

Preparation: Not Applicable

Analysis: EPA TO-17, Air
Batch: IVOA/5935 (HBN: 299167)
Analyzed: 10/10/2022 16:45

Instrument ID: 5975-X

Analyte	Result (ng/sample)	Result (ug/m³)	Result (ppb)	RL (ng/sample)	Dilution	Qual
1,1,2-Trichloroethane	ND	<6.8	<1.2	25	1	
Toluene	ND	<6.8	<1.8	25	1	
2-Hexanone	ND	<6.8	<1.7	25	1	
Dibromochloromethane	ND	<6.8	<0.79	25	1	
Tetrachloroethene	ND	<6.8	<1.0	25	1	
1,2-Dibromoethane	ND	<6.8	<0.88	25	1	
Chlorobenzene	ND	<6.8	<1.5	25	1	
Ethylbenzene	ND	<6.8	<1.6	25	1	
m,p-Xylene	ND	<6.8	<1.6	25	1	
Bromoform	ND	<6.8	<0.65	25	1	
Styrene	ND	<6.8	<1.6	25	1	
1,1,2,2-Tetrachloroethane	ND	<6.8	<0.99	25	1	
o-Xylene	ND	<6.8	<1.6	25	1	
4-Ethyl toluene	ND	<6.8	<1.4	25	1	
1,3,5-Trimethylbenzene	ND	<6.8	<1.4	25	1	
1,2,4-Trimethylbenzene	ND	<6.8	<1.4	25	1	
1,3-Dichlorobenzene	ND	<6.8	<1.1	25	1	
1,4-Dichlorobenzene	ND	<6.8	<1.1	25	1	
Benzyl chloride	ND	<6.8	<1.3	25	1	
1,2-Dichlorobenzene	ND	<6.8	<1.1	25	1	
1,2,4-Trichlorobenzene	ND	<6.8	<0.91	25	1	
Hexachlorobutadiene	ND	<6.8	<0.63	25	1	
Total Volatile Organics	880	240	58	NA	1	J

Analysis Method - EPA TO-17 Mod.

Preparation: Not Applicable

Analysis: EPA TO-17, Air
Batch: IVOA/5935 (HBN: 299167)
Analyzed: 10/10/2022 16:45

Instrument ID: 5975-X

Tentatively Identified Compound	Result (ng/sample)	Retention Time	Dilution	Qual
Octafluoro-2-butene	140	3.03	1	J
Silane, difluorodimethyl-	200	3.19	1	J
Unknown Compound	62	4.64	1	J
n-Hexadecanoic acid	35	14.13	1	J

ANALYTICAL REPORT

Workorder: 34-2227929
Client: Mannik Smith Group
Project Manager: Bevan Meade

Analytical Results

Sample ID: **LOC3-C01097**
Lab ID: 2227929006
Matrix: Air

Sampling Site: NA
Media: Carbo Trap 300
Sampling Parameter: Air Volume 3.7729 L

Received: 10/06/2022

Analysis Method - EPA TO-17 Mod.

Preparation: Not Applicable

Analysis: EPA TO-17, Air
Batch: IVOA/5935 (HBN: 299167)
Analyzed: 10/10/2022 17:07

Instrument ID: 5975-X

Analyte	Result (ng/sample)	Result (ug/m³)	Result (ppb)	RL (ng/sample)	Dilution	Qual
Propene	ND	<6.6	<3.9	25	1	
Dichlorodifluoromethane	ND	<6.6	<1.3	25	1	
Chloromethane	ND	<6.6	<3.2	25	1	
Freon 114	ND	<6.6	<0.95	25	1	
Vinyl chloride	ND	<6.6	<2.6	25	1	
1,3-Butadiene	ND	<6.6	<3.0	25	1	
Bromomethane	ND	<6.6	<1.7	25	1	
Chloroethane	ND	<6.6	<2.5	25	1	
Ethanol	**28**	**7.4**	**3.9**	25	1	
Isopropyl alcohol	**50**	**13**	**5.4**	25	1	
Freon 11	ND	<6.6	<1.2	25	1	
Freon 113	ND	<6.6	<0.86	25	1	
Acetone	**64**	**17**	**7.1**	25	1	
Carbon disulfide	ND	<6.6	<2.1	25	1	
1,1-Dichloroethene	ND	<6.6	<1.7	25	1	
Methylene chloride	ND	<6.6	<1.9	25	1	
trans-1,2-Dichloroethene	ND	<6.6	<1.7	25	1	
1,1-Dichloroethane	ND	<6.6	<1.6	25	1	
Methyl t-butyl ether	ND	<6.6	<1.8	25	1	
Vinyl acetate	ND	<6.6	<1.9	25	1	
2-Butanone	ND	<6.6	<2.2	25	1	
cis-1,2-Dichloroethene	ND	<6.6	<1.7	25	1	
Ethyl acetate	ND	<6.6	<1.8	25	1	
Hexane	ND	<6.6	<1.9	25	1	
Chloroform	ND	<6.6	<1.4	25	1	
Tetrahydrofuran	ND	<6.6	<2.2	25	1	
1,2-Dichloroethane	ND	<6.6	<1.6	25	1	
1,1,1-Trichloroethane	ND	<6.6	<1.2	25	1	
Benzene	ND	<6.6	<2.1	25	1	
Carbon tetrachloride	ND	<6.6	<1.1	25	1	
1,2-Dichloropropane	ND	<6.6	<1.4	25	1	
Bromodichloromethane	ND	<6.6	<0.99	25	1	
Cyclohexane	ND	<6.6	<1.9	25	1	
Trichloroethene	ND	<6.6	<1.2	25	1	
Heptane	ND	<6.6	<1.6	25	1	

Results Continued on Next Page

ANALYTICAL REPORT

Workorder: 34-2227929
Client: Mannik Smith Group
Project Manager: Bevan Meade

Analytical Results

Sample ID: **LOC3-C01097**
Lab ID: 2227929006
Matrix: Air

Sampling Site: NA
Media: Carbo Trap 300
Sampling Parameter: Air Volume 3.7729 L

Received: 10/06/2022

Analysis Method - EPA TO-17 Mod.

Preparation: Not Applicable

Analysis: EPA TO-17, Air
Batch: IVOA/5935 (HBN: 299167)
Analyzed: 10/10/2022 17:07

Instrument ID: 5975-X

Analyte	Result (ng/sample)	Result (ug/m³)	Result (ppb)	RL (ng/sample)	Dilution	Qual
cis-1,3-Dichloropropene	ND	<6.6	<1.5	25	1	
4-Methyl-2-pentanone	ND	<6.6	<1.6	25	1	
trans-1,3-Dichloropropene	ND	<6.6	<1.5	25	1	
1,1,2-Trichloroethane	ND	<6.6	<1.2	25	1	
Toluene	ND	<6.6	<1.8	25	1	
2-Hexanone	ND	<6.6	<1.6	25	1	
Dibromochloromethane	ND	<6.6	<0.78	25	1	
Tetrachloroethene	ND	<6.6	<0.98	25	1	
1,2-Dibromoethane	ND	<6.6	<0.86	25	1	
Chlorobenzene	ND	<6.6	<1.4	25	1	
Ethylbenzene	**50**	**13**	**3.1**	25	1	
m,p-Xylene	**190**	**50**	**12**	25	1	
Bromoform	ND	<6.6	<0.64	25	1	
Styrene	ND	<6.6	<1.6	25	1	
1,1,2,2-Tetrachloroethane	ND	<6.6	<0.97	25	1	
o-Xylene	**50**	**13**	**3.1**	25	1	
4-Ethyl toluene	**48**	**13**	**2.6**	25	1	
1,3,5-Trimethylbenzene	**44**	**12**	**2.4**	25	1	
1,2,4-Trimethylbenzene	**140**	**36**	**7.4**	25	1	
1,3-Dichlorobenzene	ND	<6.6	<1.1	25	1	
1,4-Dichlorobenzene	ND	<6.6	<1.1	25	1	
Benzyl chloride	ND	<6.6	<1.3	25	1	
1,2-Dichlorobenzene	ND	<6.6	<1.1	25	1	
1,2,4-Trichlorobenzene	ND	<6.6	<0.89	25	1	
Hexachlorobutadiene	ND	<6.6	<0.62	25	1	
Total Volatile Organics	2000	540	130	NA	1	J

Analysis Method - EPA TO-17 Mod.

Preparation: Not Applicable

Analysis: EPA TO-17, Air
Batch: IVOA/5935 (HBN: 299167)
Analyzed: 10/10/2022 17:07

Instrument ID: 5975-X

Tentatively Identified Compound	Result (ng/sample)	Retention Time	Dilution	Qual
Octafluoro-2-butene	330	3.03	1	J
Unknown Fluorocarbon	190	3.06	1	J
Silane, difluorodimethyl-	240	3.20	1	J
Unknown Fluorocarbon	46	3.30	1	J

Results Continued on Next Page

ANALYTICAL REPORT

Workorder: 34-2227929
Client: Mannik Smith Group
Project Manager: Bevan Meade

Analytical Results

Sample ID: **LOC3-C01097**
Lab ID: 2227929006
Matrix: Air
Sampling Site: NA
Media: Carbo Trap 300
Sampling Parameter: Air Volume 3.7729 L
Received: 10/06/2022

Analysis Method - EPA TO-17 Mod.

Preparation: Not Applicable
Analysis: EPA TO-17, Air
Batch: IVOA/5935 (HBN: 299167)
Analyzed: 10/10/2022 17:07
Instrument ID: 5975-X

Tentatively Identified Compound	Result (ng/sample)	Retention Time	Dilution	Qual
Unknown Fluorocarbon	49	3.53	1	J
Acetic acid	510	4.45	1	J
Unknown Compound	76	4.64	1	J
Acetic acid, butyl ester	79	7.38	1	J
Benzene, 1-ethyl-3-methyl-	74	9.90	1	J
Benzene, 1-ethyl-2-methyl-	27	10.18	1	J
D-Limonene	26	11.00	1	J
Nonanal	27	11.66	1	J

Sample ID: **LOC2-B40016**
Lab ID: 2227929007
Matrix: Air
Sampling Site: NA
Media: Carbo Trap 300
Sampling Parameter: Air Volume 3.9335 L
Received: 10/06/2022

Analysis Method - EPA TO-17 Mod.

Preparation: Not Applicable
Analysis: EPA TO-17, Air
Batch: IVOA/5935 (HBN: 299167)
Analyzed: 10/10/2022 17:28
Instrument ID: 5975-X

Analyte	Result (ng/sample)	Result (ug/m³)	Result (ppb)	RL (ng/sample)	Dilution	Qual
Propene	ND	<6.4	<3.7	25	1	
Dichlorodifluoromethane	ND	<6.4	<1.3	25	1	
Chloromethane	ND	<6.4	<3.1	25	1	
Freon 114	ND	<6.4	<0.91	25	1	
Vinyl chloride	ND	<6.4	<2.5	25	1	
1,3-Butadiene	ND	<6.4	<2.9	25	1	
Bromomethane	ND	<6.4	<1.6	25	1	
Chloroethane	ND	<6.4	<2.4	25	1	
Ethanol	ND	<6.4	<3.4	25	1	
Isopropyl alcohol	ND	<6.4	<2.6	25	1	
Freon 11	ND	<6.4	<1.1	25	1	
Freon 113	ND	<6.4	<0.83	25	1	
Acetone	ND	<6.4	<2.7	25	1	
Carbon disulfide	ND	<6.4	<2.0	25	1	
1,1-Dichloroethene	ND	<6.4	<1.6	25	1	
Methylene chloride	ND	<6.4	<1.8	25	1	
trans-1,2-Dichloroethene	ND	<6.4	<1.6	25	1	

Results Continued on Next Page

ANALYTICAL REPORT

Workorder: 34-2227929
Client: Mannik Smith Group
Project Manager: Bevan Meade

Analytical Results

Sample ID: **LOC2-B40016**
Lab ID: 2227929007
Matrix: Air

Sampling Site: NA
Media: Carbo Trap 300
Sampling Parameter: Air Volume 3.9335 L

Received: 10/06/2022

Analysis Method - EPA TO-17 Mod.

Preparation: Not Applicable

Analysis: EPA TO-17, Air
Batch: IVOA/5935 (HBN: 299167)
Analyzed: 10/10/2022 17:28

Instrument ID: 5975-X

Analyte	Result (ng/sample)	Result (ug/m³)	Result (ppb)	RL (ng/sample)	Dilution	Qual
1,1-Dichloroethane	ND	<6.4	<1.6	25	1	
Methyl t-butyl ether	ND	<6.4	<1.8	25	1	
Vinyl acetate	ND	<6.4	<1.8	25	1	
2-Butanone	ND	<6.4	<2.2	25	1	
cis-1,2-Dichloroethene	ND	<6.4	<1.6	25	1	
Ethyl acetate	ND	<6.4	<1.8	25	1	
Hexane	ND	<6.4	<1.8	25	1	
Chloroform	ND	<6.4	<1.3	25	1	
Tetrahydrofuran	ND	<6.4	<2.2	25	1	
1,2-Dichloroethane	ND	<6.4	<1.6	25	1	
1,1,1-Trichloroethane	ND	<6.4	<1.2	25	1	
Benzene	ND	<6.4	<2.0	25	1	
Carbon tetrachloride	ND	<6.4	<1.0	25	1	
1,2-Dichloropropane	ND	<6.4	<1.3	25	1	
Bromodichloromethane	ND	<6.4	<0.95	25	1	
Cyclohexane	ND	<6.4	<1.8	25	1	
Trichloroethene	ND	<6.4	<1.2	25	1	
Heptane	ND	<6.4	<1.6	25	1	
cis-1,3-Dichloropropene	ND	<6.4	<1.4	25	1	
4-Methyl-2-pentanone	ND	<6.4	<1.6	25	1	
trans-1,3-Dichloropropene	ND	<6.4	<1.4	25	1	
1,1,2-Trichloroethane	ND	<6.4	<1.2	25	1	
Toluene	**29**	**7.5**	**2.0**	25	1	
2-Hexanone	ND	<6.4	<1.6	25	1	
Dibromochloromethane	ND	<6.4	<0.75	25	1	
Tetrachloroethene	ND	<6.4	<0.94	25	1	
1,2-Dibromoethane	ND	<6.4	<0.83	25	1	
Chlorobenzene	ND	<6.4	<1.4	25	1	
Ethylbenzene	ND	<6.4	<1.5	25	1	
m,p-Xylene	**31**	**7.9**	**1.8**	25	1	
Bromoform	ND	<6.4	<0.61	25	1	
Styrene	ND	<6.4	<1.5	25	1	
1,1,2,2-Tetrachloroethane	ND	<6.4	<0.93	25	1	
o-Xylene	ND	<6.4	<1.5	25	1	
4-Ethyl toluene	ND	<6.4	<1.3	25	1	

Results Continued on Next Page

ANALYTICAL REPORT

Workorder: 34-2227929
Client: Mannik Smith Group
Project Manager: Bevan Meade

Analytical Results

Sample ID: **LOC2-B40016**
Lab ID: 2227929007
Matrix: Air

Sampling Site: NA
Media: Carbo Trap 300
Sampling Parameter: Air Volume 3.9335 L

Received: 10/06/2022

Analysis Method - EPA TO-17 Mod.

Preparation: Not Applicable

Analysis: EPA TO-17, Air
Batch: IVOA/5935 (HBN: 299167)
Analyzed: 10/10/2022 17:28
Instrument ID: 5975-X

Analyte	Result (ng/sample)	Result (ug/m³)	Result (ppb)	RL (ng/sample)	Dilution	Qual
1,3,5-Trimethylbenzene	ND	<6.4	<1.3	25	1	
1,2,4-Trimethylbenzene	ND	<6.4	<1.3	25	1	
1,3-Dichlorobenzene	ND	<6.4	<1.1	25	1	
1,4-Dichlorobenzene	ND	<6.4	<1.1	25	1	
Benzyl chloride	ND	<6.4	<1.2	25	1	
1,2-Dichlorobenzene	ND	<6.4	<1.1	25	1	
1,2,4-Trichlorobenzene	ND	<6.4	<0.86	25	1	
Hexachlorobutadiene	ND	<6.4	<0.60	25	1	
Total Volatile Organics	1000	260	64	NA	1	J

Analysis Method - EPA TO-17 Mod.

Preparation: Not Applicable

Analysis: EPA TO-17, Air
Batch: IVOA/5935 (HBN: 299167)
Analyzed: 10/10/2022 17:28
Instrument ID: 5975-X

Tentatively Identified Compound	Result (ng/sample)	Retention Time	Dilution	Qual
Unknown Fluorocarbon	440	3.18	1	J
Silane, difluorodimethyl-	190	3.30	1	J
Unknown Fluorocarbon	43	3.41	1	J
Unknown Fluorocarbon	40	3.52	1	J
Unknown Fluorocarbon	29	3.64	1	J
Butane, 2-methyl-	74	3.87	1	J
Pentane	50	4.02	1	J
Unknown Compound	60	4.70	1	J
D-Limonene	25	11.04	1	J

Comments

Quality Control: **EPA TO-17 Mod. - (Batch: 299167)**

The LCS/LSCD did not meet performance limits for all compounds. This is not a method a requirement.

All results are semi-quantitative based on Daily CCV Standard.

Report Authorization (/S/ is an electronic signature that complies with 21 CFR Part 11)

Method	Analyst	Peer Review
EPA TO-17 Mod. (299167)	/S/ Robert Copenhafer 10/12/2022 11:38	/S/ Thomas J. Masoian 10/13/2022 10:27

ANALYTICAL REPORT

Workorder: 34-2227929
Client: Mannik Smith Group
Project Manager: Bevan Meade

Laboratory Contact Information

ALS Environmental
960 W Levoy Drive
Salt Lake City, Utah 84123

Phone: (801) 266-7700
Email: alslt.lab@ALSGlobal.com
Web: www.alsglobal.com/slt

General Lab Comments

The results provided in this report relate only to the items tested.
Samples were received in acceptable condition unless otherwise noted.
The following was provided by the client: Sample ID, Collection Date, Sampling Location, Media Type, Sampling Parameter.
Collection Date, Media Type, and Sampling Parameter can potentially affect the validity of the results.
Samples have not been blank corrected unless otherwise noted.

ALS provides professional analytical services for all samples submitted. ALS is not in a position to interpret the data and assumes no responsibility for the quality of the samples submitted.

All quality control samples processed with the samples in this report yielded acceptable results unless otherwise noted.

ALS is accredited for specific fields of testing (scopes) in the following testing sectors. The quality system implemented at ALS conforms to accreditation requirements and is applied to all analytical testing performed by ALS. The following table lists testing sector, accreditation body, accreditation number and website. Please contact these accrediting bodies or your ALS project manager for the current scope of accreditation that applies to your analytical testing.

Testing Sector	Accreditation Body (Standard)	Certificate Number	Website
Industrial Hygiene	AIHA (ISO 17025 & AIHA IHLAP)	101574	http://www.aihaaccreditedlabs.org
	DOECAP-AP	L22-62	http://www.pjlabs.com
	Washington	C596	https://ecology.wa.gov/Regulations-Permits/Permits-certifications/Laboratory-Accreditation
Dietary Supplements	PJLA (ISO 17025)	L22-61	http://www.pjlabs.com

Result Symbol Definitions

MDL = Method Detection Limit, a statistical estimate of method/media/instrument sensitivity.
RL = Reporting Limit, a verified value of method/media/instrument sensitivity.
CRDL = Contract Required Detection Limit
Reg. Limit = Regulatory Limit.
ND = Not Detected, testing result not detected above the MDL or RL.
< Means this testing result is less than the numerical value.
** No result could be reported, see sample comments for details.

Qualifier Symbol Definitions

U = Qualifier indicates that the analyte was not detected above the MDL.
J = Qualifier Indicates that the analyte value is between the MDL and the RL. It is also used to indicate an estimated value for tentatively identified compounds in mass spectrometry where a 1:1 response is assumed.
B = Qualifier indicates that the analyte was detected in the blank.
E = Qualifier indicates that the analyte result exceeds calibration range.
P = Qualifier indicates that the RPD between the two columns is greater than 40%.
Q = Qualifier indicates that the analyte was outside the limits in a lab QC sample.

ANALYTICAL REPORT

Report Date: October 18, 2022

Nancy Posavatz
Mannik Smith Group
2365 Haggerty Road South
Suite 100
Canton, MI 48188

Phone: (231) 929-7330 x 6909

E-mail: NPosavatz@manniksmithgroup.com

Workorder: **34-2227930**
Client Project ID: Stellantis Mack Assembly Plant
Purchase Order: DHHS0009
Project Manager: Bevan Meade

Analytical Results

Sample ID: **LOC1-9547600800** Collected: 10/04/2022
Lab ID: 2227930001 Sampling Location: Stellantis Mack Asse Received: 10/06/2022

Method: NIOSH 2554 **Media:** SKC 226-81A, Anasorb 747 140/70mg **Instrument:** GCI43
Dilution: 1 **Sampling Parameter:** Air Volume 22.37 L **Analyzed:** 10/17/2022 (299275)

Analyte	Result (mg/sample)	Result (mg/m³)	Result (ppm)	RL (mg/sample)
1-Methoxy-2-propanol	<0.010	<0.45	<0.12	0.010
DPGME	<0.010	<0.45	<0.074	0.010

Sample ID: **LOC1-9652278391** Collected: 10/04/2022
Lab ID: 2227930002 Sampling Location: Stellantis Mack Asse Received: 10/06/2022

Method: NIOSH 1403 **Media:** SKC 226-01, Charcoal Tube 100/50mg **Instrument:** GCI43
Dilution: 1 **Sampling Parameter:** Air Volume 7.313 L **Analyzed:** 10/14/2022 (299274)

Analyte	Result (mg/sample)	Result (mg/m³)	Result (ppm)	RL (mg/sample)
2-Methoxyethanol	<0.010	<1.4	<0.44	0.010
2-Ethoxyethanol	<0.010	<1.4	<0.37	0.010
2-Butoxyethanol	<0.010	<1.4	<0.28	0.010

Sample ID: **LOC1-9665503096** Collected: 10/04/2022
Lab ID: 2227930003 Sampling Location: Stellantis Mack Asse Received: 10/06/2022

Method: EPA TO-11A **Media:** SKC 226-119, Silica Gel (2,4-Dinitrophenylhydrazine) **Instrument:** HPLC12
Dilution: 1 **Sampling Parameter:** Air Volume 36.302 L **Analyzed:** 10/13/2022 (299331)

Analyte	Result (ug/sample)	Result (mg/m³)	Result (ppm)	RL (ug/sample)
Formaldehyde	**0.62**	**0.017**	**0.014**	0.15
Acetaldehyde	**0.26**	**0.0070**	**0.0039**	0.15
Acrolein	<0.15	<0.0041	<0.0018	0.15
Acetone	**2.5**	**0.068**	**0.028**	0.15
Propionaldehyde	<0.15	<0.0041	<0.0017	0.15
Crotonaldehyde	<0.15	<0.0041	<0.0014	0.15
Butyraldehyde	**0.30**	**0.0083**	**0.0028**	0.15

Results Continued on Next Page

ANALYTICAL REPORT

Workorder: **34-2227930**
Client Project ID: Stellantis Mack Assembly Plant
Purchase Order: DHHS0009
Project Manager: Bevan Meade

Analytical Results

Sample ID: **LOC1-9665503096** Collected: 10/04/2022
Lab ID: 2227930003 Sampling Location: Stellantis Mack Asse Received: 10/06/2022

Method: **EPA TO-11A** **Media:** SKC 226-119, Silica Gel (2,4-Dinitrophenylhydrazine) **Instrument:** HPLC12
Dilution: 1 **Sampling Parameter:** Air Volume 36.302 L **Analyzed:** 10/13/2022 (299331)

Analyte	Result (ug/sample)	Result (mg/m³)	Result (ppm)	RL (ug/sample)
Benzaldehyde	**0.18**	**0.0050**	**0.0012**	0.15
Isovaleraldehyde	<0.15	<0.0041	<0.0012	0.15
Valeraldehyde	<0.15	<0.0041	<0.0012	0.15
o-Tolualdehyde	<0.15	<0.0041	<0.00084	0.15
m,p-Tolualdehyde	<0.15	<0.0041	<0.00084	0.15
Hexanal	<0.15	<0.0041	<0.0010	0.15
2,5-Dimethylbenzaldehyde	<0.15	<0.0041	<0.00075	0.15

Sample ID: **LOC1-9652278395** Collected: 10/04/2022
Lab ID: 2227930004 Sampling Location: Stellantis Mack Asse Received: 10/06/2022

Method: **NIOSH 1450** **Media:** SKC 226-01, Charcoal Tube 100/50mg **Instrument:** GCI45
Dilution: 1 **Sampling Parameter:** Air Volume 7.2797 L **Analyzed:** 10/10/2022 (299138)

Analyte	Result (mg/sample)	Result (mg/m³)	Result (ppm)	RL (mg/sample)
n-Butyl acetate	<0.010	<1.4	<0.29	0.010
Isobutyl acetate	<0.010	<1.4	<0.29	0.010

Method: **NIOSH 1550** **Media:** SKC 226-01, Charcoal Tube 100/50mg **Instrument:** GCI45
Dilution: 1 **Sampling Parameter:** Air Volume 7.2797 L **Analyzed:** 10/10/2022 (299138)

Analyte	Result (mg/sample)	Result (mg/m³)	Result (ppm)	RL (mg/sample)
Naphthas	<0.010	<1.4	<0.39	0.010

Sample ID: **LOC2-9547600810** Collected: 10/04/2022
Lab ID: 2227930005 Sampling Location: Stellantis Mack Asse Received: 10/06/2022

Method: **NIOSH 2554** **Media:** SKC 226-81A, Anasorb 747 140/70mg **Instrument:** GCI43
Dilution: 1 **Sampling Parameter:** Air Volume 22.13 L **Analyzed:** 10/17/2022 (299275)

Analyte	Result (mg/sample)	Result (mg/m³)	Result (ppm)	RL (mg/sample)
1-Methoxy-2-propanol	<0.010	<0.45	<0.12	0.010
DPGME	<0.010	<0.45	<0.075	0.010

Sample ID: **LOC2-9652278393** Collected: 10/04/2022
Lab ID: 2227930006 Sampling Location: Stellantis Mack Asse Received: 10/06/2022

Method: **NIOSH 1403** **Media:** SKC 226-01, Charcoal Tube 100/50mg **Instrument:** GCI43
Dilution: 1 **Sampling Parameter:** Air Volume 6.9705 L **Analyzed:** 10/14/2022 (299274)

Analyte	Result (mg/sample)	Result (mg/m³)	Result (ppm)	RL (mg/sample)
2-Methoxyethanol	<0.010	<1.4	<0.46	0.010

Results Continued on Next Page

ANALYTICAL REPORT

Workorder: **34-2227930**
Client Project ID: Stellantis Mack Assembly Plant
Purchase Order: DHHS0009
Project Manager: Bevan Meade

Analytical Results

Sample ID: **LOC2-9652278393** Collected: 10/04/2022
Lab ID: 2227930006 Sampling Location: Stellantis Mack Asse Received: 10/06/2022

Method: NIOSH 1403 **Media:** SKC 226-01, Charcoal Tube 100/50mg **Instrument:** GCI43
Dilution: 1 **Sampling Parameter:** Air Volume 6.9705 L **Analyzed:** 10/14/2022 (299274)

Analyte	Result (mg/sample)	Result (mg/m³)	Result (ppm)	RL (mg/sample)
2-Ethoxyethanol	<0.010	<1.4	<0.39	0.010
2-Butoxyethanol	<0.010	<1.4	<0.30	0.010

Sample ID: **LOC2-9637402693** Collected: 10/04/2022
Lab ID: 2227930007 Sampling Location: Stellantis Mack Asse Received: 10/06/2022

Method: EPA TO-11A **Media:** SKC 226-119, Silica Gel (2,4-Dinitrophenylhydrazine) **Instrument:** HPLC12
Dilution: 1 **Sampling Parameter:** Air Volume 35.963 L **Analyzed:** 10/13/2022 (299331)

Analyte	Result (ug/sample)	Result (mg/m³)	Result (ppm)	RL (ug/sample)
Formaldehyde	**0.29**	**0.0082**	**0.0067**	0.15
Acetaldehyde	**0.20**	**0.0055**	**0.0031**	0.15
Acrolein	<0.15	<0.0042	<0.0018	0.15
Acetone	<0.15	<0.0042	<0.0018	0.15
Propionaldehyde	<0.15	<0.0042	<0.0018	0.15
Crotonaldehyde	<0.15	<0.0042	<0.0015	0.15
Butyraldehyde	**0.16**	**0.0043**	**0.0015**	0.15
Benzaldehyde	**0.16**	**0.0044**	**0.0010**	0.15
Isovaleraldehyde	<0.15	<0.0042	<0.0012	0.15
Valeraldehyde	<0.15	<0.0042	<0.0012	0.15
o-Tolualdehyde	<0.15	<0.0042	<0.00085	0.15
m,p-Tolualdehyde	<0.15	<0.0042	<0.00085	0.15
Hexanal	**0.20**	**0.0054**	**0.0013**	0.15
2,5-Dimethylbenzaldehyde	<0.15	<0.0042	<0.00076	0.15

Sample ID: **LOC2-96552278398** Collected: 10/04/2022
Lab ID: 2227930008 Sampling Location: Stellantis Mack Asse Received: 10/06/2022

Method: NIOSH 1450 **Media:** SKC 226-01, Charcoal Tube 100/50mg **Instrument:** GCI45
Dilution: 1 **Sampling Parameter:** Air Volume 6.8517 L **Analyzed:** 10/10/2022 (299138)

Analyte	Result (mg/sample)	Result (mg/m³)	Result (ppm)	RL (mg/sample)
n-Butyl acetate	<0.010	<1.5	<0.31	0.010
Isobutyl acetate	<0.010	<1.5	<0.31	0.010

Method: NIOSH 1550 **Media:** SKC 226-01, Charcoal Tube 100/50mg **Instrument:** GCI45
Dilution: 1 **Sampling Parameter:** Air Volume 6.8517 L **Analyzed:** 10/10/2022 (299138)

Analyte	Result (mg/sample)	Result (mg/m³)	Result (ppm)	RL (mg/sample)
Naphthas	<0.010	<1.5	<0.41	0.010

ANALYTICAL REPORT

Workorder: **34-2227930**
Client Project ID: Stellantis Mack Assembly Plant
Purchase Order: DHHS0009
Project Manager: Bevan Meade

Analytical Results

Sample ID: **LOC3-9547600815** Collected: 10/04/2022
Lab ID: 2227930009 Sampling Location: Stellantis Mack Asse Received: 10/06/2022

Method: NIOSH 2554 **Media:** SKC 226-81A, Anasorb 747 140/70mg **Instrument:** GCI43
Dilution: 1 **Sampling Parameter:** Air Volume 23.868 L **Analyzed:** 10/17/2022 (299275)

Analyte	Result (mg/sample)	Result (mg/m³)	Result (ppm)	RL (mg/sample)
1-Methoxy-2-propanol	<0.010	<0.42	<0.11	0.010
DPGME	<0.010	<0.42	<0.069	0.010

Sample ID: **LOC3-9652278396** Collected: 10/04/2022
Lab ID: 2227930010 Sampling Location: Stellantis Mack Asse Received: 10/06/2022

Method: NIOSH 1403 **Media:** SKC 226-01, Charcoal Tube 100/50mg **Instrument:** GCI43
Dilution: 1 **Sampling Parameter:** Air Volume 6.981 L **Analyzed:** 10/14/2022 (299274)

Analyte	Result (mg/sample)	Result (mg/m³)	Result (ppm)	RL (mg/sample)
2-Methoxyethanol	<0.010	<1.4	<0.46	0.010
2-Ethoxyethanol	<0.010	<1.4	<0.39	0.010
2-Butoxyethanol	<0.010	<1.4	<0.30	0.010

Sample ID: **LOC3-966550058** Collected: 10/04/2022
Lab ID: 2227930011 Sampling Location: Stellantis Mack Asse Received: 10/06/2022

Method: EPA TO-11A **Media:** SKC 226-119, Silica Gel (2,4-Dinitrophenylhydrazine) **Instrument:** HPLC12
Dilution: 1 **Sampling Parameter:** Air Volume 36 L **Analyzed:** 10/13/2022 (299331)

Analyte	Result (ug/sample)	Result (mg/m³)	Result (ppm)	RL (ug/sample)
Formaldehyde	**0.38**	**0.011**	**0.0086**	0.15
Acetaldehyde	**0.38**	**0.011**	**0.0059**	0.15
Acrolein	<0.15	<0.0042	<0.0018	0.15
Acetone	**0.36**	**0.010**	**0.0042**	0.15
Propionaldehyde	<0.15	<0.0042	<0.0018	0.15
Crotonaldehyde	<0.15	<0.0042	<0.0015	0.15
Butyraldehyde	**0.20**	**0.0054**	**0.0018**	0.15
Benzaldehyde	**0.27**	**0.0074**	**0.0017**	0.15
Isovaleraldehyde	<0.15	<0.0042	<0.0012	0.15
Valeraldehyde	<0.15	<0.0042	<0.0012	0.15
o-Tolualdehyde	<0.15	<0.0042	<0.00085	0.15
m,p-Tolualdehyde	<0.15	<0.0042	<0.00085	0.15
Hexanal	**0.15**	**0.0043**	**0.0010**	0.15
2,5-Dimethylbenzaldehyde	<0.15	<0.0042	<0.00076	0.15

ANALYTICAL REPORT

Workorder: **34-2227930**
Client Project ID: Stellantis Mack Assembly Plant
Purchase Order: DHHS0009
Project Manager: Bevan Meade

Analytical Results

Sample ID: **LOC3-9652278394** Collected: 10/04/2022
Lab ID: 2227930012 Sampling Location: Stellantis Mack Asse Received: 10/06/2022

Method: NIOSH 1450 **Media:** SKC 226-01, Charcoal Tube 100/50mg **Instrument:** GCI45
Dilution: 1 **Sampling Parameter:** Air Volume 7.402 L **Analyzed:** 10/10/2022 (299138)

Analyte	Result (mg/sample)	Result (mg/m³)	Result (ppm)	RL (mg/sample)
n-Butyl acetate	<0.010	<1.4	<0.28	0.010
Isobutyl acetate	<0.010	<1.4	<0.28	0.010

Method: NIOSH 1550 **Media:** SKC 226-01, Charcoal Tube 100/50mg **Instrument:** GCI45
Dilution: 1 **Sampling Parameter:** Air Volume 7.402 L **Analyzed:** 10/10/2022 (299138)

Analyte	Result (mg/sample)	Result (mg/m³)	Result (ppm)	RL (mg/sample)
Naphthas	<0.010	<1.4	<0.38	0.010

Sample ID: **LOC4-9547600809** Collected: 10/04/2022
Lab ID: 2227930013 Sampling Location: Stellantis Mack Asse Received: 10/06/2022

Method: NIOSH 2554 **Media:** SKC 226-81A, Anasorb 747 140/70mg **Instrument:** GCI43
Dilution: 1 **Sampling Parameter:** Air Volume 24.434 L **Analyzed:** 10/17/2022 (299275)

Analyte	Result (mg/sample)	Result (mg/m³)	Result (ppm)	RL (mg/sample)
1-Methoxy-2-propanol	<0.010	<0.41	<0.11	0.010
DPGME	**0.010**	**0.42**	**0.069**	0.010

Sample ID: **LOC4-9652278397** Collected: 10/04/2022
Lab ID: 2227930014 Sampling Location: Stellantis Mack Asse Received: 10/06/2022

Method: NIOSH 1403 **Media:** SKC 226-01, Charcoal Tube 100/50mg **Instrument:** GCI43
Dilution: 1 **Sampling Parameter:** Air Volume 7.5859 L **Analyzed:** 10/14/2022 (299274)

Analyte	Result (mg/sample)	Result (mg/m³)	Result (ppm)	RL (mg/sample)
2-Methoxyethanol	<0.010	<1.3	<0.42	0.010
2-Ethoxyethanol	<0.010	<1.3	<0.36	0.010
2-Butoxyethanol	<0.010	<1.3	<0.27	0.010

Sample ID: **LOC4-9665502920** Collected: 10/04/2022
Lab ID: 2227930015 Sampling Location: Stellantis Mack Asse Received: 10/06/2022

Method: EPA TO-11A **Media:** SKC 226-119, Silica Gel (2,4-Dinitrophenylhydrazine) **Instrument:** HPLC12
Dilution: 1 **Sampling Parameter:** Air Volume 36.842 L **Analyzed:** 10/13/2022 (299331)

Analyte	Result (ug/sample)	Result (mg/m³)	Result (ppm)	RL (ug/sample)
Formaldehyde	**0.62**	**0.017**	**0.014**	0.15
Acetaldehyde	**0.29**	**0.0077**	**0.0043**	0.15
Acrolein	<0.15	<0.0041	<0.0018	0.15
Acetone	**1.2**	**0.034**	**0.014**	0.15
Propionaldehyde	<0.15	<0.0041	<0.0017	0.15

Results Continued on Next Page

ANALYTICAL REPORT

Workorder: **34-2227930**
Client Project ID: Stellantis Mack Assembly Plant
Purchase Order: DHHS0009
Project Manager: Bevan Meade

Analytical Results

Sample ID: **LOC4-9665502920** Collected: 10/04/2022
Lab ID: 2227930015 Sampling Location: Stellantis Mack Asse Received: 10/06/2022

Method: **EPA TO-11A** **Media:** SKC 226-119, Silica Gel (2,4-Dinitrophenylhydrazine) **Instrument:** HPLC12
Dilution: 1 **Sampling Parameter:** Air Volume 36.842 L **Analyzed:** 10/13/2022 (299331)

Analyte	Result (ug/sample)	Result (mg/m³)	Result (ppm)	RL (ug/sample)
Crotonaldehyde	<0.15	<0.0041	<0.0014	0.15
Butyraldehyde	**0.31**	**0.0083**	**0.0028**	0.15
Benzaldehyde	<0.15	<0.0041	<0.00094	0.15
Isovaleraldehyde	<0.15	<0.0041	<0.0012	0.15
Valeraldehyde	<0.15	<0.0041	<0.0012	0.15
o-Tolualdehyde	<0.15	<0.0041	<0.00083	0.15
m,p-Tolualdehyde	<0.15	<0.0041	<0.00083	0.15
Hexanal	**0.17**	**0.0046**	**0.0011**	0.15
2,5-Dimethylbenzaldehyde	<0.15	<0.0041	<0.00074	0.15

Sample ID: **LOC4-9652278392** Collected: 10/04/2022
Lab ID: 2227930016 Sampling Location: Stellantis Mack Asse Received: 10/06/2022

Method: **NIOSH 1450** **Media:** SKC 226-01, Charcoal Tube 100/50mg **Instrument:** GCI45
Dilution: 1 **Sampling Parameter:** Air Volume 7.036 L **Analyzed:** 10/10/2022 (299138)

Analyte	Result (mg/sample)	Result (mg/m³)	Result (ppm)	RL (mg/sample)
n-Butyl acetate	<0.010	<1.4	<0.30	0.010
Isobutyl acetate	<0.010	<1.4	<0.30	0.010

Method: **NIOSH 1550** **Media:** SKC 226-01, Charcoal Tube 100/50mg **Instrument:** GCI45
Dilution: 1 **Sampling Parameter:** Air Volume 7.036 L **Analyzed:** 10/10/2022 (299138)

Analyte	Result (mg/sample)	Result (mg/m³)	Result (ppm)	RL (mg/sample)
Naphthas	<0.010	<1.4	<0.40	0.010

Sample ID: **LOC5-9547600812** Collected: 10/04/2022
Lab ID: 2227930017 Sampling Location: Stellantis Mack Asse Received: 10/06/2022

Method: **NIOSH 2554** **Media:** SKC 226-81A, Anasorb 747 140/70mg **Instrument:** GCI43
Dilution: 1 **Sampling Parameter:** Air Volume 24.589 L **Analyzed:** 10/17/2022 (299275)

Analyte	Result (mg/sample)	Result (mg/m³)	Result (ppm)	RL (mg/sample)
1-Methoxy-2-propanol	<0.010	<0.41	<0.11	0.010
DPGME	<0.010	<0.41	<0.067	0.010

ANALYTICAL REPORT

Workorder: **34-2227930**
Client Project ID: Stellantis Mack Assembly Plant
Purchase Order: DHHS0009
Project Manager: Bevan Meade

Analytical Results

Sample ID: **LOC5-9652278389** Collected: 10/04/2022
Lab ID: 2227930018 Sampling Location: Stellantis Mack Asse Received: 10/06/2022

Method: NIOSH 1403 **Media:** SKC 226-01, Charcoal Tube 100/50mg **Instrument:** GCI43
Dilution: 1 **Sampling Parameter:** Air Volume 7.467 L **Analyzed:** 10/14/2022 (299274)

Analyte	Result (mg/sample)	Result (mg/m³)	Result (ppm)	RL (mg/sample)
2-Methoxyethanol	<0.010	<1.3	<0.43	0.010
2-Ethoxyethanol	<0.010	<1.3	<0.36	0.010
2-Butoxyethanol	<0.010	<1.3	<0.28	0.010

Sample ID: **LOC5-9665503065** Collected: 10/04/2022
Lab ID: 2227930019 Sampling Location: Stellantis Mack Asse Received: 10/06/2022

Method: EPA TO-11A **Media:** SKC 226-119, Silica Gel (2,4-Dinitrophenylhydrazine) **Instrument:** HPLC12
Dilution: 1 **Sampling Parameter:** Air Volume 38.114 L **Analyzed:** 10/13/2022 (299331)

Analyte	Result (ug/sample)	Result (mg/m³)	Result (ppm)	RL (ug/sample)
Formaldehyde	**0.43**	**0.011**	**0.0091**	0.15
Acetaldehyde	**0.25**	**0.0067**	**0.0037**	0.15
Acrolein	<0.15	<0.0039	<0.0017	0.15
Acetone	**0.47**	**0.012**	**0.0052**	0.15
Propionaldehyde	<0.15	<0.0039	<0.0017	0.15
Crotonaldehyde	<0.15	<0.0039	<0.0014	0.15
Butyraldehyde	**0.16**	**0.0042**	**0.0014**	0.15
Benzaldehyde	<0.15	<0.0039	<0.00091	0.15
Isovaleraldehyde	<0.15	<0.0039	<0.0011	0.15
Valeraldehyde	<0.15	<0.0039	<0.0011	0.15
o-Tolualdehyde	<0.15	<0.0039	<0.00080	0.15
m,p-Tolualdehyde	<0.15	<0.0039	<0.00080	0.15
Hexanal	<0.15	<0.0039	<0.00096	0.15
2,5-Dimethylbenzaldehyde	<0.15	<0.0039	<0.00072	0.15

Sample ID: **LOC5-9652278390** Collected: 10/04/2022
Lab ID: 2227930020 Sampling Location: Stellantis Mack Asse Received: 10/06/2022

Method: NIOSH 1450 **Media:** SKC 226-01, Charcoal Tube 100/50mg **Instrument:** GCI45
Dilution: 1 **Sampling Parameter:** Air Volume 7.1769 L **Analyzed:** 10/10/2022 (299138)

Analyte	Result (mg/sample)	Result (mg/m³)	Result (ppm)	RL (mg/sample)
n-Butyl acetate	<0.010	<1.4	<0.29	0.010
Isobutyl acetate	<0.010	<1.4	<0.29	0.010

Method: NIOSH 1550 **Media:** SKC 226-01, Charcoal Tube 100/50mg **Instrument:** GCI45
Dilution: 1 **Sampling Parameter:** Air Volume 7.1769 L **Analyzed:** 10/10/2022 (299138)

Analyte	Result (mg/sample)	Result (mg/m³)	Result (ppm)	RL (mg/sample)
Naphthas	<0.010	<1.4	<0.40	0.010

ANALYTICAL REPORT

Workorder: **34-2227930**
Client Project ID: Stellantis Mack Assembly Plant
Purchase Order: DHHS0009
Project Manager: Bevan Meade

Analytical Results

Sample ID: **LOC6-9547600811** Collected: 10/04/2022
Lab ID: 2227930021 Sampling Location: Stellantis Mack Asse Received: 10/06/2022
Method: NIOSH 2554 **Media:** SKC 226-81A, Anasorb 747 140/70mg **Instrument:** GCI43
Dilution: 1 **Sampling Parameter:** Air Volume 18.546 L **Analyzed:** 10/17/2022 (299275)

Analyte	Result (mg/sample)	Result (mg/m³)	Result (ppm)	RL (mg/sample)
1-Methoxy-2-propanol	<0.010	<0.54	<0.15	0.010
DPGME	<0.010	<0.54	<0.089	0.010

Sample ID: **LOC6-9652278475** Collected: 10/04/2022
Lab ID: 2227930022 Sampling Location: Stellantis Mack Asse Received: 10/06/2022
Method: NIOSH 1403 **Media:** SKC 226-01, Charcoal Tube 100/50mg **Instrument:** GCI43
Dilution: 1 **Sampling Parameter:** Air Volume 7.1418 L **Analyzed:** 10/14/2022 (299274)

Analyte	Result (mg/sample)	Result (mg/m³)	Result (ppm)	RL (mg/sample)
2-Methoxyethanol	<0.010	<1.4	<0.45	0.010
2-Ethoxyethanol	<0.010	<1.4	<0.38	0.010
2-Butoxyethanol	<0.010	<1.4	<0.29	0.010

Sample ID: **LOC6-9665503077** Collected: 10/04/2022
Lab ID: 2227930023 Sampling Location: Stellantis Mack Asse Received: 10/06/2022
Method: EPA TO-11A **Media:** SKC 226-119, Silica Gel (2,4-Dinitrophenylhydrazine) **Instrument:** HPLC12
Dilution: 1 **Sampling Parameter:** Air Volume 35.736 L **Analyzed:** 10/13/2022 (299331)

Analyte	Result (ug/sample)	Result (mg/m³)	Result (ppm)	RL (ug/sample)
Formaldehyde	**0.27**	**0.0074**	**0.0060**	0.15
Acetaldehyde	**0.22**	**0.0061**	**0.0034**	0.15
Acrolein	<0.15	<0.0042	<0.0018	0.15
Acetone	**0.23**	**0.0064**	**0.0027**	0.15
Propionaldehyde	<0.15	<0.0042	<0.0018	0.15
Crotonaldehyde	<0.15	<0.0042	<0.0015	0.15
Butyraldehyde	**0.15**	**0.0043**	**0.0015**	0.15
Benzaldehyde	**0.19**	**0.0053**	**0.0012**	0.15
Isovaleraldehyde	<0.15	<0.0042	<0.0012	0.15
Valeraldehyde	<0.15	<0.0042	<0.0012	0.15
o-Tolualdehyde	<0.15	<0.0042	<0.00085	0.15
m,p-Tolualdehyde	<0.15	<0.0042	<0.00085	0.15
Hexanal	**0.22**	**0.0062**	**0.0015**	0.15
2,5-Dimethylbenzaldehyde	<0.15	<0.0042	<0.00076	0.15

ANALYTICAL REPORT

Workorder: **34-2227930**
Client Project ID: Stellantis Mack Assembly Plant
Purchase Order: DHHS0009
Project Manager: Bevan Meade

Analytical Results

Sample ID: **LOC6-9652278477**
Lab ID: 2227930024
Sampling Location: Stellantis Mack Asse
Collected: 10/04/2022
Received: 10/06/2022

Method: NIOSH 1450 | **Media:** SKC 226-01, Charcoal Tube 100/50mg | **Instrument:** GCI45
Dilution: 1 | **Sampling Parameter:** Air Volume 6.8877 L | **Analyzed:** 10/10/2022 (299138)

Analyte	Result (mg/sample)	Result (mg/m³)	Result (ppm)	RL (mg/sample)
n-Butyl acetate	<0.010	<1.5	<0.31	0.010
Isobutyl acetate	<0.010	<1.5	<0.31	0.010

Method: NIOSH 1550 | **Media:** SKC 226-01, Charcoal Tube 100/50mg | **Instrument:** GCI45
Dilution: 1 | **Sampling Parameter:** Air Volume 6.8877 L | **Analyzed:** 10/10/2022 (299138)

Analyte	Result (mg/sample)	Result (mg/m³)	Result (ppm)	RL (mg/sample)
Naphthas	<0.010	<1.5	<0.41	0.010

Sample ID: **FB-9547600808**
Lab ID: 2227930025
Sampling Location: Stellantis Mack Asse
Collected: 10/04/2022
Received: 10/06/2022

Method: NIOSH 2554 | **Media:** SKC 226-81A, Anasorb 747 140/70mg | **Instrument:** GCI43
Dilution: 1 | **Sampling Parameter:** Air Volume Not Applicable | **Analyzed:** 10/17/2022 (299275)

Analyte	Result (mg/sample)	Result (mg/m³)	Result (ppm)	RL (mg/sample)
1-Methoxy-2-propanol	<0.010	NA	NA	0.010
DPGME	<0.010	NA	NA	0.010

Sample ID: **FB-9652278339**
Lab ID: 2227930026
Sampling Location: Stellantis Mack Asse
Collected: 10/04/2022
Received: 10/06/2022

Method: NIOSH 1403 | **Media:** SKC 226-01, Charcoal Tube 100/50mg | **Instrument:** GCI43
Dilution: 1 | **Sampling Parameter:** Air Volume Not Applicable | **Analyzed:** 10/14/2022 (299274)

Analyte	Result (mg/sample)	Result (mg/m³)	Result (ppm)	RL (mg/sample)
2-Methoxyethanol	<0.010	NA	NA	0.010
2-Ethoxyethanol	<0.010	NA	NA	0.010
2-Butoxyethanol	<0.010	NA	NA	0.010

Sample ID: **FB-9665503106**
Lab ID: 2227930027
Sampling Location: Stellantis Mack Asse
Collected: 10/04/2022
Received: 10/06/2022

Method: EPA TO-11A | **Media:** SKC 226-119, Silica Gel (2,4-Dinitrophenylhydrazine) | **Instrument:** HPLC12
Dilution: 1 | **Sampling Parameter:** Air Volume Not Applicable | **Analyzed:** 10/13/2022 (299331)

Analyte	Result (ug/sample)	Result (mg/m³)	Result (ppm)	RL (ug/sample)
Formaldehyde	<0.15	NA	NA	0.15
Acetaldehyde	<0.15	NA	NA	0.15
Acrolein	<0.15	NA	NA	0.15
Acetone	**0.16**	NA	NA	0.15
Propionaldehyde	<0.15	NA	NA	0.15

Results Continued on Next Page

ANALYTICAL REPORT

Workorder: **34-2227930**
Client Project ID: Stellantis Mack Assembly Plant
Purchase Order: DHHS0009
Project Manager: Bevan Meade

Analytical Results

Sample ID: **FB-9665503106** Collected: 10/04/2022
Lab ID: 2227930027 Sampling Location: Stellantis Mack Asse Received: 10/06/2022

Method: **EPA TO-11A** **Media:** SKC 226-119, Silica Gel (2,4-Dinitrophenylhydrazine) **Instrument:** HPLC12
Dilution: 1 **Sampling Parameter:** Air Volume Not Applicable **Analyzed:** 10/13/2022 (299331)

Analyte	Result (ug/sample)	Result (mg/m³)	Result (ppm)	RL (ug/sample)
Crotonaldehyde	<0.15	NA	NA	0.15
Butyraldehyde	<0.15	NA	NA	0.15
Benzaldehyde	<0.15	NA	NA	0.15
Isovaleraldehyde	<0.15	NA	NA	0.15
Valeraldehyde	<0.15	NA	NA	0.15
o-Tolualdehyde	<0.15	NA	NA	0.15
m,p-Tolualdehyde	<0.15	NA	NA	0.15
Hexanal	<0.15	NA	NA	0.15
2,5-Dimethylbenzaldehyde	<0.15	NA	NA	0.15

Sample ID: **FB-9652278342** Collected: 10/04/2022
Lab ID: 2227930028 Sampling Location: Stellantis Mack Asse Received: 10/06/2022

Method: **NIOSH 1450** **Media:** SKC 226-01, Charcoal Tube 100/50mg **Instrument:** GCI45
Dilution: 1 **Sampling Parameter:** Air Volume Not Applicable **Analyzed:** 10/10/2022 (299138)

Analyte	Result (mg/sample)	Result (mg/m³)	Result (ppm)	RL (mg/sample)
n-Butyl acetate	<0.010	NA	NA	0.010
Isobutyl acetate	<0.010	NA	NA	0.010

Method: **NIOSH 1550** **Media:** SKC 226-01, Charcoal Tube 100/50mg **Instrument:** GCI45
Dilution: 1 **Sampling Parameter:** Air Volume Not Applicable **Analyzed:** 10/10/2022 (299138)

Analyte	Result (mg/sample)	Result (mg/m³)	Result (ppm)	RL (mg/sample)
Naphthas	<0.010	NA	NA	0.010

Comments

Workorder: 2227930

Method: NIOSH 1550; "Naphthas" is the sum of all peaks in the chromatogram minus the solvent and requested analyte peaks and was quantitated against n-hexane.

Quality Control: EPA TO-11A - (Batch: 299331)

The LCS/LCSD and field samples were media blank corrected for Acetone only.

Report Authorization (/S/ is an electronic signature that complies with 21 CFR Part 11)

Method (Analysis Batch)	Analyst	Peer Review
EPA TO-11A (299331)	/S/ Christopher R. Hansen 10/14/2022 12:33	/S/ Leslie Lamb 10/14/2022 16:47
NIOSH 1403 (299274)	/S/ Fred Rejali 10/18/2022 02:41	/S/ John M. Reynolds 10/18/2022 03:37

ANALYTICAL REPORT

Workorder: **34-2227930**
Client Project ID: Stellantis Mack Assembly Plant
Purchase Order: DHHS0009
Project Manager: Bevan Meade

Report Authorization (/S/ is an electronic signature that complies with 21 CFR Part 11)

Method (Analysis Batch)	Analyst	Peer Review
NIOSH 1450 (299138)	/S/ Young Hee Yoon 10/11/2022 17:00	/S/ David Teynor 10/13/2022 11:47
NIOSH 1550 (299138)	/S/ Young Hee Yoon 10/11/2022 17:00	/S/ David Teynor 10/13/2022 11:47
NIOSH 2554 (299275)	/S/ Fred Rejali 10/17/2022 23:19	/S/ John M. Reynolds 10/18/2022 02:16

Laboratory Contact Information

ALS Environmental
960 W Levoy Drive
Salt Lake City, Utah 84123

Phone: (801) 266-7700
Email: alslt.lab@ALSGlobal.com
Web: www.alsglobal.com/slt

General Lab Comments

The results provided in this report relate only to the items tested.
Samples were received in acceptable condition unless otherwise noted.
The following was provided by the client: Sample ID, Collection Date, Sampling Location, Media Type, Sampling Parameter.
Collection Date, Media Type, and Sampling Parameter can potentially affect the validity of the results.
Samples have not been blank corrected unless otherwise noted.

ALS provides professional analytical services for all samples submitted. ALS is not in a position to interpret the data and assumes no responsibility for the quality of the samples submitted.

All quality control samples processed with the samples in this report yielded acceptable results unless otherwise noted.

ALS is accredited for specific fields of testing (scopes) in the following testing sectors. The quality system implemented at ALS conforms to accreditation requirements and is applied to all analytical testing performed by ALS. The following table lists testing sector, accreditation body, accreditation number and website. Please contact these accrediting bodies or your ALS project manager for the current scope of accreditation that applies to your analytical testing.

Testing Sector	Accreditation Body (Standard)	Certificate Number	Website
Industrial Hygiene	AIHA (ISO 17025 & AIHA IHLAP)	101574	http://www.aihaaccreditedlabs.org
	DOECAP-AP	L22-62	http://www.pjlabs.com
	Washington	C596	https://ecology.wa.gov/Regulations-Permits/Permits-certifications/Laboratory-Accreditation
Dietary Supplements	PJLA (ISO 17025)	L22-61	http://www.pjlabs.com

Definitions

LOD = Limit of Detection = MDL = Method Detection Limit, A statistical estimate of method/media/instrument sensitivity.
LOQ = Limit of Quantitation = RL = Reporting Limit, A verified value of method/media/instrument sensitivity.
ND = Not Detected, Testing result not detected above the LOD or LOQ.
NA = Not Applicable.
** No result could be reported, see sample comments for details.
< Means this testing result is less than the numerical value.
( ) This testing result is between the LOD and LOQ and has higher analytical uncertainty than values at or above the LOQ.

Appendix B
Laboratory Data from DACM Collocated Sampling

FCA US LLC - DACM

Duplicate EGLE Sampling Results

Sample Date: June 2 to June 3, 2022

		Measured Concentration					
		Location 1	**Location 2**	**Location 3**	**Location 4**	**Location 5**	**Background**
CAS #	**Substance**	**Concentrations (µg/m^3)**					
Esters (NIOSH 1450)							
123-86-4	n-Butyl Acetate	<462	<480	<483	<577	<680	<567
110-19-0	Isobutyl Acetate	<462	<480	<483	<577	<680	<567
Total Hydrocarbons (Naphthas) NIOSH 1550							
N/A	Total Hydrocarbon	<3,699	<3,839	<3,863	<4,617	<5,442	<4,536
Alcohols (NIOSH 1403)							
111-76-2	2-Butoxyethanol	<983	<1,196	<1,065	<1,372	<1,567	<1,352
110-80-5	2-Ethoxyethanol	<983	<1,196	<1,065	<1,372	<1,567	<1,352
109-86-4	2-Methoxyethanol	<179	<217	<194	<250	<285	<246
Glycol Ethers (NIOSH 2554)							
34590-94-8	DPGME	<176	<179	<165	<170	<157	<163
107-98-2	1-Methoxy-2-Propanol	<88	<90	<83	<85	<79	<81
Aldehydes (US EPA TO-11A)							
50-00-0	Formaldehyde	7.81	7.24	7.71	8.65	13.30	6.39
75-07-0	Acetaldehyde	4.82	5.65	7.95	4.86	6.93	6.39
107-02-8	Acrolein	<3.44	<3.39	<3.51	<4.05	<4.16	<4.17
67-64-1	Acetone	29.84	21.03	25.72	21.08	27.71	14.72
123-38-6	Propionaldehyde	<3.44	<3.39	<3.51	<4.05	<4.16	<4.17
4170-30-3	Crotonaldehyde	<3.44	<3.39	<3.51	<4.05	<4.16	<4.17
123-72-8	Butyraldehyde	6.20	3.84	4.91	4.32	5.27	4.17
100-52-7	Benzaldehyde	5.51	5.65	5.61	4.59	4.43	6.94
590-86-3	Isovaleraldehyde	<3.44	<3.39	<3.51	<4.05	<4.16	<4.17
110-62-3	Valeraldehyde	<3.44	<4.75	<3.51	<4.05	<4.16	<4.17
529-20-4	o-Tolualdehyde	<3.44	<3.39	<3.51	<4.05	<4.16	<4.17
620-23-5 / 104-87-0	m,p-Tolualdehyde	<3.44	<3.39	<3.51	<4.05	<4.16	<4.17
66-25-1	Hexanal	8.49	8.37	6.78	4.05	4.16	8.05
5779-94-2	2,5-Dimethylbenzaldehyde	3.44	3.39	3.51	4.05	4.16	4.17

Notes: "<" means that samples results were less than the Method Detection Limit (MDL) from the laboratory

FCA US LLC - DACM

Duplicate EGLE Sampling Results

Sample Date: June 2 to June 3, 2022

		Measured Concentration					
		Location 1	**Location 2**	**Location 3**	**Location 4**	**Location 5**	**Background**
CAS #	**Substance**	**Concentrations (µg/m^3)**					
VOCs (US EPA TO-17)							
71-43-2	Benzene	0.75	1.10	0.77	1.55	0.74	0.94
74-83-9	Bromomethane	<26.92	<20.37	<31.00	<20.62	<29.55	<27.66
56-23-5	Carbon Tetrachloride	<0.54	0.55	<0.62	1.20	<0.59	<0.55
108-90-7	Chlorobenzene	<0.54	<0.41	<0.62	<0.41	<0.59	<0.55
75-00-3	Chloroethane	<1.35	<1.02	<1.55	<1.03	<1.48	<1.38
67-66-3	Chloroform	<0.54	<0.41	<0.62	<0.41	<0.59	<0.55
74-87-3	Chloromethane	<26.92	<20.37	<31.00	<20.62	<29.55	<27.66
106-93-4	1,2-Dibromoethane	<1.35	<1.02	<1.55	<1.03	<1.48	<1.38
95-50-1	1,2-Dichlorobenzene	<1.35	<1.02	<1.55	<1.03	<1.48	<1.38
541-73-1	1,3-Dichlorobenzene	<1.35	1.79	<1.55	<1.03	<1.48	2.13
106-46-7	1,4-Dichlorobenzene	<1.35	<1.02	<1.55	<1.03	<1.48	<1.38
75-71-8	Dichlorodifluoromethane	<5.38	6.50	5.24	13.46	5.11	5.42
75-34-3	1,1-Dichloroethane	<0.54	<0.41	<0.62	<0.41	<0.59	<0.55
107-06-2	1,2-Dichloroethane	<0.54	<0.41	<0.62	<0.41	<0.59	<0.55
75-35-4	1,1-Dichloroethene	<0.54	<0.41	<0.62	<0.41	<0.59	<0.55
156-59-2	cis-1,2-Dichloroethene	<0.54	<0.41	<0.62	<0.41	<0.59	<0.55
156-60-5	trans-1,2-Dichloroethylene	<0.54	<0.41	<0.62	<0.41	<0.59	<0.55
75-09-2	Methylene Chloride	2.05	2.63	<1.55	1.48	<1.48	<1.38
78-87-5	1,2-Dichloropropane	<0.54	<0.41	<0.62	<0.41	<0.59	<0.55
563-58-6	1,1-Dichloropropene	<0.54	<0.41	<0.62	<0.41	<0.59	<0.55
10061-01-5	cis-1,3-Dichloropropene	<2.69	<2.04	<3.10	<2.06	<2.96	<2.77
542-75-6	trans-1,3-Dichloropropene	<2.69	<2.04	<3.10	<2.06	<2.96	<2.77
100-41-4	Ethylbenzene	9.21	1.87	8.96	84.94	12.62	1.72
87-68-3	Hexachloro-1,3-butadiene	<1.35	<1.02	<1.55	<1.03	<1.48	<1.38
91-20-3	Naphtalene	<1.35	<1.02	<1.55	<1.03	<1.48	<1.38
100-42-5	Styrene	<1.78	<0.98	<1.05	<2.68	<1.24	<0.77
79-34-5	1,1,2,2-Tetrachloroethane	<1.35	<1.02	<1.55	<1.03	<1.48	<1.38
127-18-4	Tetrachloroethene	5.95	2.42	1.08	<3.44	<3.93	<5.01
108-88-3	Toluene	42.80	30.35	13.64	28.86	31.32	33.75
120-82-1	1,2,4-Trichlorobenzene	<1.35	<1.02	<1.55	<1.03	<1.48	<1.38
71-55-6	1,1,1-Trichloroethane	<0.54	<0.41	<0.62	<0.41	<0.59	<0.55
79-00-5	1,1,2-Trichloroethane	<0.54	<0.41	<0.62	0.47	<0.59	<0.55
79-01-6	Trichloroethene	<0.54	<0.41	<0.62	<0.41	<0.59	<0.55
75-69-4	Trichlorofluoromethane	<1.35	1.53	<1.55	3.44	<1.48	<1.38
96-18-4	1,2,3-Trichloropropane	<1.35	<1.02	<1.55	<1.03	<1.48	<1.38
95-63-6	1,2,4-Trimethylbenzene	23.04	6.03	21.26	206.17	28.16	2.35
108-67-8	1,3,5-Trimethylbenzene	6.92	1.57	7.38	72.57	9.75	<1.38
75-01-4	Vinyl chloride	<0.54	<0.41	<0.62	<0.41	<0.59	<0.55
95-47-6	o-Xylene	11.28	2.93	10.60	95.46	14.39	2.21
108-38-3 / 106-42-3	m&p-Xylene	36.07	9.21	36.58	307.19	50.83	5.34

Notes: "<" means that samples results were less than the Method Detection Limit (MDL) from the laboratory

FCA US LLC - DACM

Duplicate EGLE Sampling Results

Sample Date: June 2 to June 3, 2022

		Measured Concentration					
		Location 1	**Location 2**	**Location 3**	**Location 4**	**Location 5**	**Background**
CAS #	**Substance**	**Concentrations (µg/m^3)**					
VOCs (US EPA TO-15)							
115-07-1	Propene	50	1.2	3.3	6.6	15	<0.67
67-63-0	2-Propanol (Isopropyl Alcohol)	530	3.8	18	48	100	1.9
75-15-0	Carbon Disulfide	<1.60	<1.70	<1.50	<1.80	<1.70	<1.40
108-05-4	Vinyl Acetate	<7.50	<7.90	<6.80	<8.10	<7.80	<6.50
78-93-3	2-Butanone (MEK)	1.6	<1.60	<1.40	<1.60	1.7	<1.30
141-78-6	Ethyl Acetate	<3.10	<3.30	<2.90	3.8	<3.30	<2.70
110-54-3	Hexane	<0.79	1	<0.72	4.2	0.88	2.5
109-99-9	Tetrahydrofuran (THF)	<1.50	<1.60	<1.40	<1.60	<1.60	<1.30
110-82-7	Cyclohexane	<1.60	<1.70	<1.50	<1.80	<1.70	<1.40
142-82-5	n-Heptane	<0.79	<0.84	<0.72	<0.86	<0.82	<0.68
108-10-1	4-Methyl-2-pentanone	8.9	<1.70	7.7	14	21	<1.40
591-78-6	2-Hexanone	<1.60	<1.70	<1.50	<1.80	<1.70	<1.40
75-25-2	Bromoform	<0.77	<0.82	<0.71	<0.84	<0.81	<0.67
98-82-8	Cumene	<0.77	<0.82	0.84	1.6	1.2	<0.67
622-96-8	4-Ethyltoluene	5.5	<0.84	9.2	16	13	<0.68
100-44-7	Benzyl Chloride	<1.60	<1.70	<1.50	<1.80	<1.70	<1.40
75-71-8	Dichlorodifluoromethane (CFC 12)	1.8	1.8	1.9	1.9	1.9	2.0
74-87-3	Chloromethane	0.18	0.18	0.18	0.20	0.21	0.20
75-01-4	Vinyl Chloride	<0.07	<0.07	<0.06	<0.07	<0.07	<0.06
106-99-0	1,3-Butadiene	<0.07	<0.07	0.063	0.080	0.083	<0.06
74-83-9	Bromomethane	<0.03	<0.03	<0.03	<0.04	<0.04	<0.03
75-00-3	Chloroethane	<0.03	<0.03	<0.03	<0.04	<0.04	<0.03
67-64-1	Acetone	25	7.2	11	25	20	14
75-69-4	Trichlorofluoromethane	0.89	0.87	0.91	0.96	0.97	0.96
75-35-4	1,1-Dichloroethene	<0.03	<0.03	<0.03	<0.04	<0.04	<0.03
75-09-2	Dichloromethane (Methylene Chloride)	0.32	0.33	0.35	0.49	0.40	0.38
76-13-1	1,1,2-Trichlorotrifluoroethane	0.35	0.36	0.37	0.37	0.39	0.39
156-60-5	trans-1,2-Dichloroethene	<0.03	<0.03	<0.03	<0.04	<0.04	<0.03
75-34-3	1,1-Dichloroethane	<0.03	<0.03	<0.03	<0.04	<0.04	<0.03
1634-04-4	Methyl tert-Butyl Ether	<0.03	<0.03	<0.03	<0.04	<0.04	<0.03
156-59-2	cis-1,2-Dichloroethene	<0.03	<0.03	<0.03	<0.04	<0.04	<0.03
67-66-3	Chloroform	<0.14	<0.13	<0.13	<0.15	<0.15	<0.12
107-06-2	1,2-Dichloroethane	0.056	0.044	0.055	0.063	0.095	0.049
71-55-6	1,1,1-Trichloroethane	<0.03	<0.03	<0.03	<0.04	<0.04	<0.03
71-43-2	Benzene	0.42	0.47	0.41	0.45	0.43	0.38
56-23-5	Carbon Tetrachloride	0.33	0.33	0.35	0.35	0.36	0.37
78-87-5	1,2-Dichloropropane	<0.03	<0.03	<0.03	<0.04	<0.04	<0.03
75-27-4	Bromodichloromethane	<0.03	<0.03	<0.03	<0.04	<0.04	<0.03
79-01-6	Trichloroethene	<0.03	<0.03	<0.03	<0.04	<0.04	<0.03
123-91-1	1,4-Dioxane	<0.14	<0.13	<0.13	<0.15	<0.15	<0.12
10061-01-5	cis-1,3-Dichloropropene	<0.07	<0.07	<0.06	<0.07	<0.07	<0.06
10061-02-6	trans-1,3-Dichloropropene	<0.07	<0.07	<0.06	<0.07	<0.07	<0.06
79-00-5	1,1,2-Trichloroethane	<0.14	<0.13	<0.13	<0.15	<0.15	<0.12
108-88-3	Toluene	6.5	1.7	3.0	4.4	4.6	1.5
124-48-1	Dibromochloromethane	<0.03	<0.03	<0.03	<0.04	<0.04	<0.03
106-93-4	1,2-Dibromoethane	<0.03	<0.03	<0.03	<0.04	<0.04	<0.03
127-18-4	Tetrachloroethene	0.066	0.064	0.070	0.087	0.073	0.078
108-90-7	Chlorobenzene	<0.14	<0.13	<0.13	<0.15	<0.15	<0.12
100-41-4	Ethylbenzene	4.3	0.44	7.4	14	12	0.20
179601-23-1	m,p-Xylenes	17	1.6	30	57	48	0.69
100-42-5	Styrene	<0.14	<0.13	<0.13	<0.15	<0.15	<0.12
95-47-6	o-Xylene	4.7	0.51	8.1	16	13	0.25
79-34-5	1,1,2,2-Tetrachloroethane	<0.03	<0.03	<0.03	<0.04	<0.04	<0.03
108-67-8	1,3,5-Trimethylbenzene	3.9	0.29	6.9	13	11	0.12
95-63-6	1,2,4-Trimethylbenzene	12	0.93	20	44	32	0.29
541-73-1	1,3-Dichlorobenzene	<0.03	<0.03	<0.03	<0.04	<0.04	<0.03
106-46-7	1,4-Dichlorobenzene	<0.03	<0.03	<0.03	<0.04	<0.04	<0.03
95-50-1	1,2-Dichlorobenzene	<0.03	<0.03	<0.03	<0.04	<0.04	<0.03
96-12-8	1,2-Dibromo 3-Chloropropane	<0.14	<0.13	<0.13	<0.15	<0.15	<0.12
120-82-1	1,2,4-Trichlorobenzene	<0.07	<0.07	<0.06	<0.07	<0.07	<0.06
91-20-3	Naphthalene	<0.14	<0.13	<0.13	<0.15	<0.15	<0.12
87-68-3	Hexachlorobutadiene	<0.14	<0.13	<0.13	<0.15	<0.15	<0.12

Notes: "<" means that samples results were less than the Method Detection Limit (MDL) from the laboratory

FCA US LLC - DACM

Duplicate EGLE Sampling Results

Sample Date: October 4 the to 5th, 2022

		Measured Concentration					
		Location 1	**Location 2**	**Location 3**	**Location 4**	**Location 5**	**Background**
CAS #	**Substance**	**Concentrations (µg/m^3)**					
Esters (NIOSH 1450)							
123-86-4	n-Butyl Acetate	<780	<589	<617	<733	<689	<654
110-19-0	Isobutyl Acetate	<780	<589	<617	<733	<689	<654
Total Hydrocarbons (Naphthas) NIOSH 1550							
N/A	Total Hydrocarbon	7,877	<1,839	<2,443	<2,777	<2,074	<2,630
Alcohols (NIOSH 1403)							
111-76-2	2-Butoxyethanol	<1,716	<1,296	<1,358	<1,612	<1,515	<1,440
110-80-5	2-Ethoxyethanol	<1,716	<1,296	<1,358	<1,612	<1,515	<1,440
109-86-4	2-Methoxyethanol	<312	<236	<247	<293	<276	<262
Glycol Ethers (NIOSH 2554)							
34590-94-8	DPGME	<150	<167	<155	<155	<162	<155
107-98-2	1-Methoxy-2-Propanol	<150	<167	<155	<155	<162	<155
Aldehydes (US EPA TO-11A)							
50-00-0	Formaldehyde	<4.24	**16.24**	**23.60**	**76.40**	**25.16**	**11.14**
75-07-0	Acetaldehyde	<4.24	**8.39**	**10.75**	**31.46**	**15.39**	**6.37**
107-02-8	Acrolein	<4.24	<4.06	<4.48	<3.37	<4.44	<3.98
67-64-1	Acetone	**11.04**	**19.49**	**56.76**	**139.31**	**47.37**	**21.75**
123-38-6	Propionaldehyde	<4.24	<4.06	<4.48	**7.19**	<4.44	<3.98
4170-30-3	Crotonaldehyde	<4.24	<4.06	<4.48	<3.37	<4.44	<3.98
123-72-8	Butyraldehyde	<4.24	**6.23**	**10.16**	**26.96**	**9.47**	<3.98
100-52-7	Benzaldehyde	<4.24	**7.04**	**7.47**	**12.36**	<4.44	**5.31**
590-86-3	Isovaleraldehyde	<4.24	<4.06	<4.48	<3.37	<4.44	**5.84**
110-62-3	Valeraldehyde	<4.24	**4.33**	**4.78**	<3.37	<4.44	<3.98
529-20-4	o-Tolualdehyde	<4.24	<4.06	<4.48	<3.37	<4.44	<3.98
620-23-5 / 104-87-0	m,p-Tolualdehyde	<4.24	<4.06	<4.48	<3.37	<4.44	<3.98
66-25-1	Hexanal	<4.24	**11.37**	**11.95**	<3.37	<4.44	**9.02**
5779-94-2	2,5-Dimethylbenzaldehyde	<4.24	<4.06	<4.48	<3.37	<4.44	<3.98

Notes: "<" means that samples results were less than the Method Detection Limit (MDL) from the laboratory

FCA US LLC - DACM

Duplicate EGLE Sampling Results

Sample Date: October 4 the to 5th, 2022

		Measured Concentration					
		Location 1	**Location 2**	**Location 3**	**Location 4**	**Location 5**	**Background**
CAS #	**Substance**	**Concentrations (µg/m^3)**					
VOCs (US EPA TO-17)							
71-43-2	Benzene	**0.97**	**2.49**	**2.17**	**1.43**	**1.44**	**1.34**
74-83-9	Bromomethane	<12.81	<12.88	<12.14	<14.16	<13.01	<14.05
56-23-5	Carbon Tetrachloride	<0.77	1.55	<1.34	<1.10	<1.43	<1.35
108-90-7	Chlorobenzene	<0.26	<0.26	<0.24	<0.28	<0.26	<0.28
75-00-3	Chloroethane	<0.64	<0.64	<0.61	<0.71	<0.65	<0.70
67-66-3	Chloroform	<0.26	<0.26	<0.24	<0.28	<0.26	<0.28
74-87-3	Chloromethane	<12.81	<12.88	<12.14	<14.16	<13.01	<14.05
106-93-4	1,2-Dibromoethane	<0.64	<0.64	<0.61	<0.71	<0.65	<0.70
95-50-1	1,2-Dichlorobenzene	<0.64	<0.64	<0.61	<0.71	<0.65	<0.70
541-73-1	1,3-Dichlorobenzene	**48.43**	**98.18**	**70.67**	**86.78**	**71.01**	**43.56**
106-46-7	1,4-Dichlorobenzene	<0.64	<0.64	**0.72**	<0.71	<0.65	<0.70
75-71-8	Dichlorodifluoromethane	**2.43**	**6.13**	**8.68**	**2.89**	**4.46**	**2.33**
75-34-3	1,1-Dichloroethane	<0.3	<0.26	<0.24	<0.28	<0.26	<0.28
107-06-2	1,2-Dichloroethane	<0.3	<0.26	<0.24	<0.28	<0.26	<0.28
75-35-4	1,1-Dichloroethene	<0.3	<0.26	<0.24	<0.28	<0.26	<0.28
156-59-2	cis-1,2-Dichloroethene	<0.3	<0.26	<0.24	<0.28	<0.26	<0.28
156-60-5	trans-1,2-Dichloroethylene	<0.3	<0.26	<0.24	<0.28	<0.26	<0.28
75-09-2	Methylene Chloride	**0.69**	**0.64**	**1.38**	**1.20**	**0.75**	<0.70
78-87-5	1,2-Dichloropropane	<0.5	<0.70	<0.85	<0.28	<0.26	<0.28
563-58-6	1,1-Dichloropropene	<0.3	<0.26	<0.24	<0.28	<0.26	<0.28
10061-01-5	cis-1,3-Dichloropropene	<1.3	<1.29	<1.21	<1.42	<1.30	<1.41
542-75-6	trans-1,3-Dichloropropene	<1.3	<1.29	4.37	<1.42	<1.30	<1.41
100-41-4	Ethylbenzene	**6.92**	**1.70**	**21.37**	**30.86**	**12.91**	**0.89**
87-68-3	Hexachloro-1,3-butadiene	<0.6	<0.64	<0.61	<0.71	<0.65	<0.70
91-20-3	Naphtalene	<0.6	<0.64	0.87	<0.71	<0.65	<0.70
100-42-5	Styrene	<0.4	<0.41	<1.02	<1.10	<0.65	<0.28
79-34-5	1,1,2,2-Tetrachloroethane	<0.6	<0.64	<0.61	<0.71	<0.65	<0.70
127-18-4	Tetrachloroethene	**0.49**	**0.99**	**0.87**	**0.75**	**0.86**	**0.73**
108-88-3	Toluene	**8.97**	**8.12**	**8.50**	**11.61**	**6.89**	**3.93**
120-82-1	1,2,4-Trichlorobenzene	<0.6	<0.64	<0.61	<0.71	<0.65	<0.70
71-55-6	1,1,1-Trichloroethane	<0.3	<0.26	<0.24	<0.28	<0.26	<0.28
79-00-5	1,1,2-Trichloroethane	<0.3	<0.26	0.33	<0.28	<0.26	<0.28
79-01-6	Trichloroethene	<0.3	<0.26	<0.24	<0.28	<0.26	<0.28
75-69-4	Trichlorofluoromethane	<0.6	**1.64**	**2.57**	**0.82**	**1.55**	**0.86**
96-18-4	1,2,3-Trichloropropane	<0.6	<0.64	<0.61	<0.71	<0.65	<0.70
95-63-6	1,2,4-Trimethylbenzene	**11.63**	**5.53**	**49.79**	**40.77**	**18.99**	**2.77**
108-67-8	1,3,5-Trimethylbenzene	**4.50**	**1.82**	**17.00**	**16.28**	**7.30**	**0.86**
75-01-4	Vinyl chloride	<0.3	<0.26	<0.24	<0.28	<0.26	<0.28
95-47-6	o-Xylene	**6.07**	**2.46**	**20.16**	**26.33**	**11.48**	**1.26**
108-38-3 / 106-42-3	m&p-Xylene	**27.03**	**6.84**	**80.87**	**111.27**	**47.99**	**3.40**

Notes: "<" means that samples results were less than the Method Detection Limit (MDL) from the laboratory

FCA US LLC - DACM

Duplicate EGLE Sampling Results

Sample Date: October 4 the to 5th, 2022

		Measured Concentration					
		Location 1	**Location 2**	**Location 3**	**Location 4**	**Location 5**	**Background**
CAS #	**Substance**	**Concentrations (µg/m^3)**					
VOCs (US EPA TO-15)							
115-07-1	Propene	**110.0**	**3.3**	**12.0**	**29.0**	**72**	**3.1**
76-14-2	1,2-Dichloro-1,1,2,2-Tetrafluoroethane (CFC 114)	<0.77	<0.99	<0.85	<0.84	<0.84	<0.82
76-13-1	Trichlorotrifluoroethane (CFC 113)	<0.77	<0.99	<0.85	<0.84	<0.84	<0.82
67-63-0	2-Propanol (Isopropyl Alcohol)	**830.0**	**5.1**	**31.0**	**83.0**	**210**	**4.9**
75-15-0	Carbon Disulfide	<1.60	<2.0	<1.7	<1.7	<1.7	<1.7
78-93-3	2-Butanone (MEK)	**4.3**	<1.8	**1.7**	**3.4**	**3.1**	<1.5
141-78-6	Ethyl Acetate	<3.00	<3.8	<3.3	3.6	3.9	<3.2
110-54-3	Hexane	**4.3**	**2.6**	**3.6**	**4.6**	**3.0**	**21**
109-99-9	Tetrahydrofuran (THF)	<1.40	<1.8	<1.6	<1.6	<1.6	<1.5
110-82-7	Cyclohexane	<1.60	<2.0	<1.7	<1.7	<1.7	<1.7
142-82-5	n-Heptane	**1.6**	**1.1**	**1.1**	**1.8**	**1.6**	**1.2**
108-10-1	4-Methyl-2-pentanone	<0.73	<2.0	**6.0**	**19.0**	**27.0**	<1.7
591-78-6	2-Hexanone	<1.60	<2.0	<1.7	<1.7	<1.7	<1.7
75-25-2	Bromoform	<0.74	<0.95	<0.82	<0.81	<0.81	<0.79
98-82-8	Cumene	**1.5**	<1.0	**1.3**	**4.0**	**2.9**	<0.79
622-96-8	4-Ethyltoluene	**15.0**	<1.0	**15.0**	**45.0**	**31.0**	<0.80
100-44-7	Benzyl Chloride	<1.60	<2.0	<1.7	<1.7	<1.7	<1.7
75-71-8	Dichlorodifluoromethane (CFC 12)	**2.6**	**2.4**	**2.6**	**2.6**	**2.6**	**2.5**
74-87-3	Chloromethane	<0.73	<0.93	<0.80	<0.79	<0.79	<0.77
75-01-4	Vinyl Chloride	-<0.74	<0.95	<0.82	<0.81	<0.81	<0.79
106-99-0	1,3-Butadiene	<0.74	<0.95	<0.82	<0.81	<0.81	<0.79
74-83-9	Bromomethane	<0.73	<0.93	<0.80	<0.79	<0.79	<0.77
75-00-3	Chloroethane	<0.73	<0.93	<0.80	<0.79	<0.79	<0.77
67-64-1	Acetone	**56.0**	**11.0**	**16.0**	**27.0**	**31.0**	**37.0**
75-69-4	Trichlorofluoromethane	**1.2**	**1.2**	**1.2**	**1.2**	**1.2**	**1.2**
75-35-4	1,1-Dichloroethene	<0.77	<0.99	<0.85	<0.84	<0.84	<0.82
75-09-2	Dichloromethane (Methylene Chloride)	<0.75	<0.95	<0.82	<0.81	<0.81	1.10
156-60-5	trans-1,2-Dichloroethene	<0.76	<0.97	<0.83	<0.82	<0.82	<0.80
75-34-3	1,1-Dichloroethane	<0.76	<0.97	<0.83	<0.82	<0.82	<0.80
1634-04-4	Methyl tert-Butyl Ether	<0.76	<0.97	<0.83	<0.82	<0.82	<0.80
156-59-2	cis-1,2-Dichloroethene	<0.74	<0.95	<0.82	<0.81	<0.81	<0.79
67-66-3	Chloroform	<0.77	<0.99	<0.85	<0.84	<0.84	<0.82
107-06-2	1,2-Dichloroethane	<0.76	<0.97	<0.83	<0.82	<0.82	<0.80
71-55-6	1,1,1-Trichloroethane	<0.74	<0.95	<0.82	<0.81	<0.81	<0.79
71-43-2	Benzene	**1.8**	**2.2**	**1.6**	**1.6**	**1.5**	**2.1**
56-23-5	Carbon Tetrachloride	<0.72	<0.92	<0.79	<0.78	<0.78	<0.76
78-87-5	1,2-Dichloropropane	<0.72	<0.92	<0.79	<0.78	<0.78	<0.76
75-27-4	Bromodichloromethane	<0.76	<0.97	<0.83	<0.82	<0.820	<0.80
79-01-6	Trichloroethene	<0.74	<0.95	<0.82	<0.81	<0.81	<0.79
123-91-1	1,4-Dioxane	<0.74	<0.95	<0.82	<0.81	<0.81	<0.79
10061-01-5	cis-1,3-Dichloropropene	<0.72	<0.92	<0.79	<0.78	<0.78	<0.76
10061-02-6	trans-1,3-Dichloropropene	<0.73	<0.93	<0.80	<0.79	<0.79	<0.76
79-00-5	1,1,2-Trichloroethane	<0.74	<0.95	<0.82	<0.81	<0.81	<0.79
108-88-3	Toluene	**28.0**	**7.7**	**7.4**	**11.0**	**11.0**	**8.1**
124-48-1	Dibromochloromethane	<0.76	<0.97	<0.83	<0.82	<0.82	<0.80
106-93-4	1,2-Dibromoethane	<0.74	<0.95	<0.82	<0.81	<0.81	<0.79
127-18-4	Tetrachloroethene	<0.74	<0.95	<0.82	<0.81	<0.81	<0.79
108-90-7	Chlorobenzene	<0.74	<0.95	<0.82	<0.81	<0.81	<0.79
100-41-4	Ethylbenzene	**20**	**1.6**	**17.0**	**55.0**	**38.0**	**1.4**
179601-23-1	m,p-Xylenes	**78**	**5.6**	**66.0**	**240.0**	**160.0**	**4.9**
100-42-5	Styrene	<0.72	<0.92	<0.82	<0.81	<0.78	<0.76
95-47-6	o-Xylene	**20**	**1.9**	**16.0**	**53.0**	**38.0**	**1.8**
79-34-5	1,1,2,2-Tetrachloroethane	<0.74	<0.95	<0.82	<0.81	<0.81	<0.79
108-67-8	1,3,5-Trimethylbenzene	**15**	<1.0	**15.0**	**47.0**	**32.0**	<0.79
95-63-6	1,2,4-Trimethylbenzene	**49**	**2.4**	**45.0**	**160.0**	**110.0**	**1.9**
541-73-1	1,3-Dichlorobenzene	<0.74	<0.95	<0.82	<0.81	<0.81	<0.79
106-46-7	1,4-Dichlorobenzene	<0.74	<0.95	<0.82	<0.81	<0.81	<0.79
95-50-1	1,2-Dichlorobenzene	<0.74	<0.95	<0.82	<0.82	<0.82	<0.80
120-82-1	1,2,4-Trichlorobenzene	<1.60	<2.00	<1.70	<1.70	<1.7	<1.7
91-20-3	Naphthalene	<0.74	<0.95	<0.82	<0.81	<0.81	<0.79
87-68-3	Hexachlorobutadiene	<0.64	<0.95	<0.82	<0.81	<0.81	<0.79

Notes: "<" means that samples results were less than the Method Detection Limit (MDL) from the laboratory

Appendix C
FCA US LLC DACM
On-Site Sampling Plan

MICHIGAN DEPARTMENT OF ENVIRONMENT, GREAT LAKES, AND ENERGY

FCA US LLC Detroit Assembly Complex- Mack On-Site Sampling Plan

BACKGROUND:

FCA US LLC Detroit Assembly Complex - Mack ("DACM") is located at 4000 St. Jean, Detroit, Wayne County, Michigan. The facility consists of an automobile and light-duty truck manufacturing plant, currently manufacturing the Jeep Grand Cherokee. Three main portions of the facility are the body shop, the paint shop, and a general assembly plant. The automobile surface coating process is located in the paint shop. The system applies coating to vehicle bodies via an electrodeposition ("Ecoat") dip tank process, and then spray application of liquid primer ("Primer"), basecoat, and clearcoat ("Topcoat"). The Ecoat, Primer, and Topcoat application processes are each followed by drying ovens. The paint shop uses a concentrator and a Regenerative Thermal Oxidizer (RTO) to control emissions from the paint booth spray zones, ambient flash zones, and heated flash zones. Cure oven emissions are ducted directly to the RTO. The paint booth observation zones are ducted to ambient air. The Air Quality Division (AQD) received many odor complaints from residents of the surrounding neighborhoods.

OBJECTIVE:

The objective of the outdoor sampling is to identify which possible chemical compounds could be the source of community concerns and odor complaints EGLE is receiving based on odor thresholds and chemical process fingerprints. The sampling was also conducted to identify possible chemicals for future evaluations.

PROJECT DESCRIPTION:

The AQD contracted with environmental consultant Mannik and Smith to conduct one day of air sampling for VOCs (EPA Method TO-17), esters, naphthas, glycol ethers, alcohols, and aldehydes. These parameters will be collected for 4 to 6 hours. Samples collected by Mannik and Smith will be analyzed by ALS Laboratory. The AQD's Air Monitoring Section will conduct 24-hour VOC sampling using summa canisters (EPA Method TO-15A). The canister samples will be analyzed by the Eastern Research Group. Table 1 describes the sampling method for each class of compounds. These compounds will be collected at five locations around the paint shop building and one location at DACM's air sampling site in the northeast corner of the property. Figure 1 has the anticipated locations; however, exact locations will be determined on the day of sampling, taking into consideration the ability to secure the samplers and other on-site structures. An AQD inspector will be at the facility on the day of sampling to ensure the facility is operating at normal capacity and to collect throughput information at the paint shop. To assess data quality, one field blank will be collected per parameter for the methods using a sorbent tube, and a duplicate summa canister will be collected at one location. Quality assurance data from the laboratories will also be reviewed with the final results. The AQD recognizes additional sampling and/or investigation may be warranted depending on the results from this initial study. A final report will be generated to share with DACM and other interested parties.

Table 1: Methods and Parameters

Parameter	Method	Equipment
VOCs	USEPA Method TO-15A	Summa Canisters equipped with 25-hr. flow controller.
VOCs	USEPA Method TO-17	Supelco Carbotrap 300 tube, personal air sampling pump
Esters	NIOSH 1450	Charcoal tube, personal air sampling pump
Naphthas	NIOSH 1550	Charcoal tube, personal air sampling pump
Glycol ethers	NIOSH 2554	Charcoal tube, personal air sampling pump
Alcohols	NIOSH 1403	Charcoal tube, personal air sampling pump
Aldehydes	TO-11A	DNPH tube, personal air sampling pump

Figure 1: Sampling Locations