

MICHIGAN DEPARTMENT OF ENVIRONMENT, GREAT LAKES, AND ENERGY

INTEROFFICE COMMUNICATION

TO: File

FROM: Susan Kilmer, Air Monitoring Unit Supervisor

DATE: November 26, 2019

SUBJECT: AQD's Ambient Air Sampling for TCE in Howell, MI

Overview

The Diamond Chrome Plating (DCP) facility in Howell, Michigan has been identified as a likely source of trichloroethylene (TCE). TCE is a carcinogen and has a low risk screening level of 2.0 micrograms per cubic meter (ug/m3). On November 4, 2019, EGLE's Remediation and Redevelopment Division (RRD) collected 9 outdoor air grab samples using bottle vacs north of the Diamond Chrome Plating facility while investigating a different source. The samples were analyzed by the EGLE Environmental Laboratory and showed that some of the samples were above the 2.0 ug/m3 risk screening level. DCP operates a degreaser unit that utilizes TCE. The facility cleans metal parts in the degreaser before the chrome plating process. On Monday November 18, 2019, the Livingston County Health Department issued an order to DCP to stop emitting TCE from the facility. The degreaser was placed in chill mode to prevent TCE from emitting from the facility.

Sampling Details

The Air Quality Division (AQD) and the US Environmental Protection Agency (EPA) worked collaboratively with the Livingston County Health Department, the Michigan Department of Health and Human Services (MDHHS), and RRD to identify sampling locations in the city of Howell. On Tuesday November 19, 2019 a total of 21 summa canisters were deployed to 19 locations (2 collocated canisters) in order to characterize the air quality near the facility and to have locations in both upwind and downwind directions. Ambient air monitoring for TCE was accomplished using the EPA TO-15 Summa canister method. Both AQD and EPA used 6- liter evacuated summa canisters which were sampled for 24 hours using fixed orifice regulators. The samples were secured to stop signs or street signs in the city right of way. On Wednesday November 20, 2019 the samples were retrieved and submitted to the laboratory for analysis. AQD's five canisters and five canisters from EPA were sent to the EGLE Environmental Laboratory in Lansing, MI. EPA's remaining 11 canisters were sent to Fibertec Laboratory in Holt, MI. The wind speed during the sampling period was mostly calm with slight winds from the west and southwest. While the exact time that the degreaser was placed in chill mode is unconfirmed, staff believe this occurred early on Tuesday November 19, 2019.

Results

On Thursday November 21, 2019, the analytical results were received for the 21 canisters that sampled for 24-hours on Tuesday November 19 through Wednesday November 20, 2019. Thirteen (13) canisters were non-detect for TCE. Eight (8) canisters close to the facility and in the east and northeast direction from the facility detected TCE at levels less than 2.0 ug/m³.

EPA has continued with some additional sampling and the agencies of EGLE, MDHHS, Livingston Co. Health Department, and other state and local agencies are continuing to work with DCP to resolve any issues.



Ambient Air Testing at Diamond Chrome

Combined Results

Date 11/19-11/20
 Time 11:00 am-11:00 am
 Weather WD: calm W, SW

Site Number	Address	Result ug/m3	Agency	Laboratory	Note
1	Mason & Isabell	ND/ND	EPA and collocated	EGLE	
2	Isabell at the Armory	ND	EPA	EGLE	
3	Bennett Field	ND	EPA	Fibertec	
4	Walnut & Maple	ND	EPA	EGLE	
5	Walnut & Crane	0.17	EPA	Fibertec	
6	Michigan & Crane	0.2	EPA	Fibertec	
7	Michigan & Brooks	0.3	EPA	Fibertec	
8	Michigan & Livingston	0.88	EPA	Fibertec	
9	Michigan due east	0.52	EPA	Fibertec	
10	Brooks btwn MI and Fleming	0.27	EPA	Fibertec	
11	Washington btwn MI and Fleming	0.17	EPA	Fibertec	
12	Crane & Fleming	ND	EPA	Fibertec	
13	Livingston & Fleming	0.32	EPA	Fibertec	difference in MDL collocated with EPA
13	Livingston & Fleming	ND	EGLE-AQD	EGLE	
14	Sibley & Center	ND	EPA	EGLE	
15	Sibly & Lincoln	ND	EPA	EGLE	
16	Washington & Fowler	ND	EGLE-AQD	EGLE	
17	Brooks & Fowler	ND	EGLE-AQD	EGLE	
18	Livingston & Dearborn	ND	EGLE-AQD	EGLE	
19	Marion at DPW	ND	EGLE-AQD	EGLE	

Method Detection

Limit (MDL)*:

EGLE 1.6 ug/m³

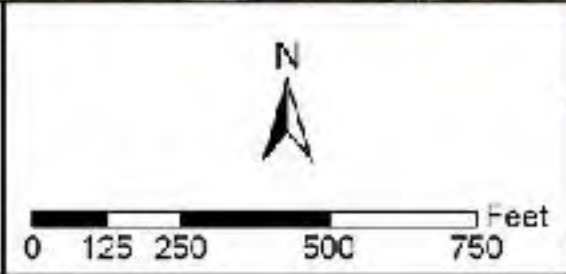
Fibertec 0.16 ug/m³

*MDL is the lowest concentration a lab may detect the chemical



SUMMA Can Sample Locations (11/19/2019 - 11/20/2019)

- Detected at Less Than 2.0 $\mu\text{g}/\text{m}^3$
- Not Detected
- Facility Location
- Roads
- Railroad



Diamond Chrome Plating Facility
Howell, Livingston County, Michigan

TCE Sample Results
(updated 11/22/2019)



MICHIGAN DEPARTMENT OF
ENVIRONMENT, GREAT LAKES, AND ENERGY
ENVIRONMENTAL LABORATORY

P.O. Box 30270
Lansing, MI 48909
TEL: (517) 335-9800
FAX: (517) 335-9600

21 November 2019

Work Order: 1911260

Price: \$3,280.00

LORI KOZEL

TETRA TECH

3350 N MLK BLVD

LANSING, MI 48909

RE: DIAMOND CHROME PLATING

This is the official environmental laboratory report for testing conducted by the Michigan Department of Environment, Great Lakes, and Energy. Analyses performed by the laboratory were conducted using methods published by the U.S. Environmental Protection Agency, Standard Methods for the Examination of Water and Wastewater, ASTM, or other published or approved reference methods.

Kirby Shane
Laboratory Director



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TETRA TECH
3350 N MLK BLVD
LANSING MI, 48909

Project: DIAMOND CHROME PLATING
Site Code: LB042074
Project Manager: LORI KOZEL

Reported:
11/21/2019

Analytical Report for Samples

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received	Qualifier
TT-DCP-14-111919	1911260-01	Air	11/19/2019	11/20/2019	
TT-DCP-15-111919	1911260-02	Air	11/19/2019	11/20/2019	
TT-DCP-01-111919	1911260-03	Air	11/19/2019	11/20/2019	
TT-DCP-02-111919	1911260-04	Air	11/19/2019	11/20/2019	

Notes and Definitions

- Y11 Unidentified peaks present in sample.
- X1 Method TO-15 is used for the analysis of volatile organic compounds in air. Naphthalene and 2-Methylnaphthalene are semi volatile compounds and results should be considered estimated.
- T Reported value is less than the reporting limit (RL). Result is estimated.
- ND Indicates compound analyzed for but not detected at or above the reporting limit (RL).
- RL Reporting Limit
- NA Not Applicable

Case Narrative

Priority Samples



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Client ID: TT-DCP-14-111919

Lab ID: 1911260-01

CAS #	Analyte	Result	RL	Units	Dilution	Analyzed Date	QC Batch	Method	Qualifier
Organics-Volatiles									
156-59-2	cis-1,2-Dichloroethylene	ND	1.2	ug/m3	1	11/20/19	B9K2105	TO-15	
127-18-4	Tetrachloroethylene	ND	2.1	ug/m3	1	11/20/19	B9K2105	TO-15	
156-60-5	trans-1,2-Dichloroethylene	ND	1.2	ug/m3	1	11/20/19	B9K2105	TO-15	
79-01-6	Trichloroethylene	ND	1.6	ug/m3	1	11/20/19	B9K2105	TO-15	
75-01-4	Vinyl chloride	ND	0.77	ug/m3	1	11/20/19	B9K2105	TO-15	
<i>Surrogate: Bromofluorobenzene</i>			<i>109 %</i>	<i>70-130</i>		<i>11/20/19</i>	<i>B9K2105</i>	<i>TO-15</i>	



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Client ID: TT-DCP-15-111919

Lab ID: 1911260-02

CAS #	Analyte	Result	RL	Units	Dilution	Analyzed Date	QC Batch	Method	Qualifier
Organics-Volatiles									
156-59-2	cis-1,2-Dichloroethylene	ND	1.2	ug/m3	1	11/20/19	B9K2105	TO-15	
127-18-4	Tetrachloroethylene	ND	2.1	ug/m3	1	11/20/19	B9K2105	TO-15	
156-60-5	trans-1,2-Dichloroethylene	ND	1.2	ug/m3	1	11/20/19	B9K2105	TO-15	
79-01-6	Trichloroethylene	ND	1.6	ug/m3	1	11/20/19	B9K2105	TO-15	
75-01-4	Vinyl chloride	ND	0.77	ug/m3	1	11/20/19	B9K2105	TO-15	
<i>Surrogate: Bromofluorobenzene</i>			<i>109 %</i>	<i>70-130</i>		<i>11/20/19</i>	<i>B9K2105</i>	<i>TO-15</i>	



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Client ID: TT-DCP-01-111919

Lab ID: 1911260-03

CAS #	Analyte	Result	RL	Units	Dilution	Analyzed Date	QC Batch	Method	Qualifier
Organics-Volatiles									
156-59-2	cis-1,2-Dichloroethylene	ND	1.2	ug/m3	1	11/20/19	B9K2105	TO-15	
127-18-4	Tetrachloroethylene	ND	2.1	ug/m3	1	11/20/19	B9K2105	TO-15	
156-60-5	trans-1,2-Dichloroethylene	ND	1.2	ug/m3	1	11/20/19	B9K2105	TO-15	
79-01-6	Trichloroethylene	ND	1.6	ug/m3	1	11/20/19	B9K2105	TO-15	
75-01-4	Vinyl chloride	ND	0.77	ug/m3	1	11/20/19	B9K2105	TO-15	
<i>Surrogate: Bromofluorobenzene</i>			<i>109 %</i>	<i>70-130</i>		<i>11/20/19</i>	<i>B9K2105</i>	<i>TO-15</i>	



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Client ID: TT-DCP-02-111919

Lab ID: 1911260-04

CAS #	Analyte	Result	RL	Units	Dilution	Analyzed Date	QC Batch	Method	Qualifier
Organics-Volatiles									
156-59-2	cis-1,2-Dichloroethylene	ND	1.2	ug/m3	1	11/20/19	B9K2105	TO-15	
127-18-4	Tetrachloroethylene	ND	2.1	ug/m3	1	11/20/19	B9K2105	TO-15	
156-60-5	trans-1,2-Dichloroethylene	ND	1.2	ug/m3	1	11/20/19	B9K2105	TO-15	
79-01-6	Trichloroethylene	ND	1.6	ug/m3	1	11/20/19	B9K2105	TO-15	
75-01-4	Vinyl chloride	ND	0.77	ug/m3	1	11/20/19	B9K2105	TO-15	
<i>Surrogate: Bromofluorobenzene</i>			<i>109 %</i>	<i>70-130</i>		<i>11/20/19</i>	<i>B9K2105</i>	<i>TO-15</i>	

Analysis Request Sheet

PRIORITY

Lab Work Order Number 1911260		Project Name Diamond Chrome Plating			Matrix AIR
Location ID	Program	CC Email 1	Project TAT Days	Sample Collector	
Dept-Division-District	Activity	CC Email 2	Project Due Date	Sample Collector Phone	
State Project Manager	Funding Source	CC Email 3		Contract Firm	
State Project Manager Email	Location Code	Overflow Lab Choice 1	Accept Analysis hold time codes	Contract Firm Primary Contact	
State Project Manager Phone	SUD Location Code	Overflow Lab Choice 2		Primary Contact Phone	

Lab Use Only	Field Sample Identification	Collection Date	Collection Time	Bottle Count	Comments	Regulator ID	Canister/Bottle Vac Number
1 01	TT-DCP-14-111919	111919	1055	1	* See below	118	215
2 02	TT-DCP-15-111919	111919	1102	1	* "	117	231
3 03	TT-DCP-01-111919	111919	1112	1	* "	109	222
4 04	TT-DCP-02-111919	111919	1118	1	* "	103	147
5							
6							
7							
8							
9							
10							

*changed to correct analysis
CS 11-20-19*

ORGANIC CHEMISTRY

VOA - Volatile Organic Analysis

Bottlevac 1 2 3 4 5 6 7 8 9 10

Canister - AQP 1 2 3 4 5 6 7 8 9 10

Canister - RRD 1 2 3 4 5 6 7 8 9 10

Tedlar - Volatiles 1 2 3 4 5 6 7 8 9 10

METH - Methane, Ethane, Ethene

Methane, Ethane, Ethene 1 2 3 4 5 6 7 8 9 10

* Report only

TCE

PCE

Vinyl Chloride

Cis 1,2-dichloroethene

trans 1,2-dichloroethene

Chain of Custody	Relinquished by		Received By		Date / Time
	Print Name & Org.	Signature	Print Name & Org.	Signature	
	Print Name & Org.	Signature	Print Name & Org.	Signature	
	Print Name		Print Name		



Thursday, November 21, 2019

Fibertec Project Number: 93793 Preliminary
Project Identification: DCP-TBD /
Submittal Date: 11/20/2019

Ms. Lori Kozel
Tetra Tech - Madison Heights
25213 DeQuindre Road
Madison Heights, MI 48071

Dear Ms. Kozel,

Thank you for selecting Fibertec Environmental Services as your analytical laboratory. The samples you submitted have been analyzed in accordance with NELAC standards and the results compiled in the attached report. Any exceptions to NELAC compliance are noted in the report. These results apply only to those samples submitted. Please note TO-15 samples will be disposed of 7 calendar days after the reporting date. All other samples will be disposed of 30 days after the reporting date.

The data reported for samples -007 thru -012 are preliminary due to running without a batch duplicate, an EPA Method requirement.

If you have any questions regarding these results or if we may be of further assistance to you, please contact me at (517) 699-0345.

Sincerely,

A handwritten signature in black ink that reads "Stacy Kotecki".

By Stacy Kotecki at 2:28 PM, Nov 21, 2019

For Daryl P. Strandbergh
Laboratory Director

Enclosures

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Cadillac, MI 49601

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Analytical Laboratory Report
Laboratory Project Number: 93793
Laboratory Sample Number: 93793-001

Order: 93793
 Page: 2 of 14
 Date: 11/21/19

Client Identification: Tetra Tech - Madison Heights	Sample Description: TT-DCP-11-111919	Chain of Custody: N/A
Client Project Name: DCP-TBD	Sample No: 2215	Collect Date: 11/19/19
Client Project No: NA	Sample Matrix: Air	Collect Time: 12:29

Sample Comments:

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

TO-15 (Summa)

Aliquot ID: **93793-001** Matrix: **Air**

Method: EPA TO-15

Description: **TT-DCP-11-111919**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
1. cis-1,2-Dichloroethene	U		µg/m3	5.9	1.0	11/20/19	VK19K20B	11/20/19	VK19K20B	KAK
2. trans-1,2-Dichloroethene	U		µg/m3	5.9	1.0	11/20/19	VK19K20B	11/20/19	VK19K20B	KAK
3. Tetrachloroethene	U		µg/m3	6.1	1.0	11/20/19	VK19K20B	11/20/19	VK19K20B	KAK
4. Trichloroethene	0.17		µg/m3	0.16	1.0	11/20/19	VK19K20B	11/20/19	VK19K20B	KAK
5. Vinyl Chloride	U		µg/m3	0.77	1.0	11/20/19	VK19K20B	11/20/19	VK19K20B	KAK

Surrogate Summary

4-Bromofluorobenzene(S)	97	%	<u>Control Limits</u>	80-120	<u>Batch</u>	VK19K20B
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 F: (231) 775-8584



Analytical Laboratory Report
Laboratory Project Number: 93793
Laboratory Sample Number: 93793-002

Order: 93793
 Page: 3 of 14
 Date: 11/21/19

Client Identification: Tetra Tech - Madison Heights	Sample Description: TT-DCP-12-111919	Chain of Custody: N/A
Client Project Name: DCP-TBD	Sample No: 2954	Collect Date: 11/19/19
Client Project No: NA	Sample Matrix: Air	Collect Time: 12:35

Sample Comments:

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable †: Parameter not included in NELAC Scope of Analysis.

TO-15 (Summa)

Aliquot ID: **93793-002** Matrix: **Air**

Method: EPA TO-15

Description: **TT-DCP-12-111919**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
1. cis-1,2-Dichloroethene	U		µg/m3	5.9	1.0	11/20/19	VK19K20B	11/21/19	VK19K20B	KAK
2. trans-1,2-Dichloroethene	U		µg/m3	5.9	1.0	11/20/19	VK19K20B	11/21/19	VK19K20B	KAK
3. Tetrachloroethene	U		µg/m3	6.1	1.0	11/20/19	VK19K20B	11/21/19	VK19K20B	KAK
4. Trichloroethene	U		µg/m3	0.16	1.0	11/20/19	VK19K20B	11/21/19	VK19K20B	KAK
5. Vinyl Chloride	U		µg/m3	0.77	1.0	11/20/19	VK19K20B	11/21/19	VK19K20B	KAK

Surrogate Summary

4-Bromofluorobenzene(S)	96	%	<u>Control Limits</u>	<u>Batch</u>
			80-120	VK19K20B

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Analytical Laboratory Report
Laboratory Project Number: 93793
Laboratory Sample Number: 93793-003

Order: 93793
 Page: 4 of 14
 Date: 11/21/19

Client Identification: Tetra Tech - Madison Heights	Sample Description: TT-DCP-03-111919	Chain of Custody: N/A
Client Project Name: DCP-TBD	Sample No: 625	Collect Date: 11/19/19
Client Project No: NA	Sample Matrix: Air	Collect Time: 11:28

Sample Comments:

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

TO-15 (Summa)

Aliquot ID: **93793-003** Matrix: **Air**

Method: EPA TO-15

Description: **TT-DCP-03-111919**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
1. cis-1,2-Dichloroethene	U		µg/m3	5.9	1.0	11/20/19	VK19K20B	11/21/19	VK19K20B	KAK
2. trans-1,2-Dichloroethene	U		µg/m3	5.9	1.0	11/20/19	VK19K20B	11/21/19	VK19K20B	KAK
3. Tetrachloroethene	U		µg/m3	6.1	1.0	11/20/19	VK19K20B	11/21/19	VK19K20B	KAK
4. Trichloroethene	U		µg/m3	0.16	1.0	11/20/19	VK19K20B	11/21/19	VK19K20B	KAK
5. Vinyl Chloride	U		µg/m3	0.77	1.0	11/20/19	VK19K20B	11/21/19	VK19K20B	KAK

Surrogate Summary

4-Bromofluorobenzene(S)	97	%	<u>Control Limits</u> 80-120	<u>Batch</u> VK19K20B
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Analytical Laboratory Report
Laboratory Project Number: 93793
Laboratory Sample Number: 93793-004

Order: 93793
 Page: 5 of 14
 Date: 11/21/19

Client Identification: Tetra Tech - Madison Heights	Sample Description: TT-DCP-04-111919	Chain of Custody: N/A
Client Project Name: DCP-TBD	Sample No: 2114	Collect Date: 11/19/19
Client Project No: NA	Sample Matrix: Air	Collect Time: 11:37

Sample Comments:

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

TO-15 (Summa)

Aliquot ID: **93793-004** Matrix: **Air**

Method: EPA TO-15

Description: **TT-DCP-04-111919**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
1. cis-1,2-Dichloroethene	U		µg/m3	5.9	1.0	11/20/19	VK19K20B	11/21/19	VK19K20B	KAK
2. trans-1,2-Dichloroethene	U		µg/m3	5.9	1.0	11/20/19	VK19K20B	11/21/19	VK19K20B	KAK
3. Tetrachloroethene	U		µg/m3	6.1	1.0	11/20/19	VK19K20B	11/21/19	VK19K20B	KAK
4. Trichloroethene	U		µg/m3	0.16	1.0	11/20/19	VK19K20B	11/21/19	VK19K20B	KAK
5. Vinyl Chloride	U		µg/m3	0.77	1.0	11/20/19	VK19K20B	11/21/19	VK19K20B	KAK

Surrogate Summary

4-Bromofluorobenzene(S)	97	%	<u>Control Limits</u> 80-120	<u>Batch</u> VK19K20B
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 F: (231) 775-8584



Analytical Laboratory Report
Laboratory Project Number: 93793
Laboratory Sample Number: 93793-005

Order: 93793
 Page: 6 of 14
 Date: 11/21/19

Client Identification: Tetra Tech - Madison Heights	Sample Description: TT-DCP-05-111919	Chain of Custody: N/A
Client Project Name: DCP-TBD	Sample No: 664	Collect Date: 11/19/19
Client Project No: NA	Sample Matrix: Air	Collect Time: 11:46

Sample Comments:

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

TO-15 (Summa)

Aliquot ID: **93793-005** Matrix: **Air**

Method: EPA TO-15

Description: **TT-DCP-05-111919**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
1. cis-1,2-Dichloroethene	U		µg/m3	5.9	1.0	11/20/19	VK19K20B	11/21/19	VK19K20B	KAK
2. trans-1,2-Dichloroethene	U		µg/m3	5.9	1.0	11/20/19	VK19K20B	11/21/19	VK19K20B	KAK
3. Tetrachloroethene	U		µg/m3	6.1	1.0	11/20/19	VK19K20B	11/21/19	VK19K20B	KAK
4. Trichloroethene	0.17		µg/m3	0.16	1.0	11/20/19	VK19K20B	11/21/19	VK19K20B	KAK
5. Vinyl Chloride	U		µg/m3	0.77	1.0	11/20/19	VK19K20B	11/21/19	VK19K20B	KAK

Surrogate Summary

4-Bromofluorobenzene(S)	96	%	<u>Control Limits</u>	80-120	<u>Batch</u>	VK19K20B
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Analytical Laboratory Report
Laboratory Project Number: 93793
Laboratory Sample Number: 93793-006

Order: 93793
 Page: 7 of 14
 Date: 11/21/19

Client Identification: Tetra Tech - Madison Heights	Sample Description: TT-DCP-06-111919	Chain of Custody: N/A
Client Project Name: DCP-TBD	Sample No: 3355	Collect Date: 11/19/19
Client Project No: NA	Sample Matrix: Air	Collect Time: 11:52

Sample Comments:

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

TO-15 (Summa)

Aliquot ID: **93793-006** Matrix: **Air**

Method: EPA TO-15

Description: **TT-DCP-06-111919**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
1. cis-1,2-Dichloroethene	U		µg/m3	5.9	1.0	11/20/19	VK19K20B	11/21/19	VK19K20B	KAK
2. trans-1,2-Dichloroethene	U		µg/m3	5.9	1.0	11/20/19	VK19K20B	11/21/19	VK19K20B	KAK
3. Tetrachloroethene	U		µg/m3	6.1	1.0	11/20/19	VK19K20B	11/21/19	VK19K20B	KAK
4. Trichloroethene	0.20		µg/m3	0.16	1.0	11/20/19	VK19K20B	11/21/19	VK19K20B	KAK
5. Vinyl Chloride	U		µg/m3	0.77	1.0	11/20/19	VK19K20B	11/21/19	VK19K20B	KAK
Surrogate Summary				<u>Control Limits</u>		<u>Batch</u>				
4-Bromofluorobenzene(S)	96		%	80-120		VK19K20B				

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Analytical Laboratory Report
Laboratory Project Number: 93793
Laboratory Sample Number: 93793-007

Order: 93793
 Page: 8 of 14
 Date: 11/21/19

Client Identification: Tetra Tech - Madison Heights	Sample Description: TT-DCP-07-111919	Chain of Custody: N/A
Client Project Name: DCP-TBD	Sample No: 2943	Collect Date: 11/19/19
Client Project No: NA	Sample Matrix: Air	Collect Time: 11:59

Sample Comments:

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

TO-15 (Summa)

Aliquot ID: **93793-007** Matrix: **Air**

Method: EPA TO-15

Description: **TT-DCP-07-111919**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
1. cis-1,2-Dichloroethene	U		µg/m3	5.9	1.0	11/20/19	VN19K20A	11/20/19	VN19K20A	KCM
2. trans-1,2-Dichloroethene	U		µg/m3	5.9	1.0	11/20/19	VN19K20A	11/20/19	VN19K20A	KCM
3. Tetrachloroethene	U		µg/m3	6.1	1.0	11/20/19	VN19K20A	11/20/19	VN19K20A	KCM
4. Trichloroethene	0.30		µg/m3	0.16	1.0	11/20/19	VN19K20A	11/20/19	VN19K20A	KCM
5. Vinyl Chloride	U		µg/m3	0.77	1.0	11/20/19	VN19K20A	11/20/19	VN19K20A	KCM

Surrogate Summary

4-Bromofluorobenzene(S)	91	%	<u>Control Limits</u>	80-120	<u>Batch</u>	VN19K20A
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Analytical Laboratory Report
Laboratory Project Number: 93793
Laboratory Sample Number: 93793-008

Order: 93793
 Page: 9 of 14
 Date: 11/21/19

Client Identification: Tetra Tech - Madison Heights	Sample Description: TT-DCP-08-111919	Chain of Custody: N/A
Client Project Name: DCP-TBD	Sample No: 622	Collect Date: 11/19/19
Client Project No: NA	Sample Matrix: Air	Collect Time: 12:06

Sample Comments:

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

TO-15 (Summa)

Aliquot ID: **93793-008** Matrix: **Air**

Method: EPA TO-15

Description: **TT-DCP-08-111919**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
1. cis-1,2-Dichloroethene	U		µg/m3	5.9	1.0	11/20/19	VN19K20A	11/20/19	VN19K20A	KCM
2. trans-1,2-Dichloroethene	U		µg/m3	5.9	1.0	11/20/19	VN19K20A	11/20/19	VN19K20A	KCM
3. Tetrachloroethene	U		µg/m3	6.1	1.0	11/20/19	VN19K20A	11/20/19	VN19K20A	KCM
4. Trichloroethene	0.88		µg/m3	0.16	1.0	11/20/19	VN19K20A	11/20/19	VN19K20A	KCM
5. Vinyl Chloride	U		µg/m3	0.77	1.0	11/20/19	VN19K20A	11/20/19	VN19K20A	KCM

Surrogate Summary

4-Bromofluorobenzene(S)	98	%	<u>Control Limits</u>	80-120	<u>Batch</u>	VN19K20A
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Analytical Laboratory Report
Laboratory Project Number: 93793
Laboratory Sample Number: 93793-009

Order: 93793
 Page: 10 of 14
 Date: 11/21/19

Client Identification: Tetra Tech - Madison Heights	Sample Description: TT-DCP-09-111919	Chain of Custody: N/A
Client Project Name: DCP-TBD	Sample No: 2961	Collect Date: 11/19/19
Client Project No: NA	Sample Matrix: Air	Collect Time: 12:16

Sample Comments:

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

TO-15 (Summa)

Aliquot ID: **93793-009** Matrix: **Air**

Method: EPA TO-15

Description: **TT-DCP-09-111919**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
1. cis-1,2-Dichloroethene	U		µg/m3	5.9	1.0	11/20/19	VN19K20A	11/20/19	VN19K20A	KCM
2. trans-1,2-Dichloroethene	U		µg/m3	5.9	1.0	11/20/19	VN19K20A	11/20/19	VN19K20A	KCM
3. Tetrachloroethene	U		µg/m3	6.1	1.0	11/20/19	VN19K20A	11/20/19	VN19K20A	KCM
4. Trichloroethene	0.52		µg/m3	0.16	1.0	11/20/19	VN19K20A	11/20/19	VN19K20A	KCM
5. Vinyl Chloride	U		µg/m3	0.77	1.0	11/20/19	VN19K20A	11/20/19	VN19K20A	KCM

Surrogate Summary

4-Bromofluorobenzene(S)	89	%	<u>Control Limits</u>	<u>Batch</u>
			80-120	VN19K20A

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Analytical Laboratory Report
Laboratory Project Number: 93793
Laboratory Sample Number: 93793-010

Order: 93793
Page: 11 of 14
Date: 11/21/19

Client Identification: Tetra Tech - Madison Heights	Sample Description: TT-DCP-10-111919	Chain of Custody: N/A
Client Project Name: DCP-TBD	Sample No: 637	Collect Date: 11/19/19
Client Project No: NA	Sample Matrix: Air	Collect Time: 12:26

Sample Comments:

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable †: Parameter not included in NELAC Scope of Analysis.

TO-15 (Summa)

Aliquot ID: **93793-010** Matrix: **Air**

Method: EPA TO-15

Description: **TT-DCP-10-111919**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
1. cis-1,2-Dichloroethene	U		µg/m3	5.9	1.0	11/20/19	VN19K20A	11/20/19	VN19K20A	KCM
2. trans-1,2-Dichloroethene	U		µg/m3	5.9	1.0	11/20/19	VN19K20A	11/20/19	VN19K20A	KCM
3. Tetrachloroethene	U		µg/m3	6.1	1.0	11/20/19	VN19K20A	11/20/19	VN19K20A	KCM
4. Trichloroethene	0.27		µg/m3	0.16	1.0	11/20/19	VN19K20A	11/20/19	VN19K20A	KCM
5. Vinyl Chloride	U		µg/m3	0.77	1.0	11/20/19	VN19K20A	11/20/19	VN19K20A	KCM

Surrogate Summary

4-Bromofluorobenzene(S)	91	%	<u>Control Limits</u>	<u>Batch</u>
			80-120	VN19K20A

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Analytical Laboratory Report
Laboratory Project Number: 93793
Laboratory Sample Number: 93793-011

Order: 93793
Page: 12 of 14
Date: 11/21/19

Client Identification: Tetra Tech - Madison Heights	Sample Description: TT-DCP-13-111919	Chain of Custody: N/A
Client Project Name: DCP-TBD	Sample No: 2937	Collect Date: 11/19/19
Client Project No: NA	Sample Matrix: Air	Collect Time: 12:41

Sample Comments:

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

TO-15 (Summa)

Aliquot ID: **93793-011** Matrix: **Air**

Method: EPA TO-15

Description: **TT-DCP-13-111919**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
1. cis-1,2-Dichloroethene	U		µg/m3	5.9	1.0	11/20/19	VN19K20A	11/20/19	VN19K20A	KCM
2. trans-1,2-Dichloroethene	U		µg/m3	5.9	1.0	11/20/19	VN19K20A	11/20/19	VN19K20A	KCM
3. Tetrachloroethene	U		µg/m3	6.1	1.0	11/20/19	VN19K20A	11/20/19	VN19K20A	KCM
4. Trichloroethene	0.32		µg/m3	0.16	1.0	11/20/19	VN19K20A	11/20/19	VN19K20A	KCM
5. Vinyl Chloride	U		µg/m3	0.77	1.0	11/20/19	VN19K20A	11/20/19	VN19K20A	KCM

Surrogate Summary

4-Bromofluorobenzene(S)	90	%	<u>Control Limits</u>	80-120	<u>Batch</u>	VN19K20A
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Analytical Laboratory Report
Laboratory Project Number: 93793
Laboratory Sample Number: 93793-012

Order: 93793
 Page: 13 of 14
 Date: 11/21/19

Client Identification: Tetra Tech - Madison Heights	Sample Description: TT-DUP-01	Chain of Custody: N/A
Client Project Name: DCP-TBD	Sample No: 2951	Collect Date: 11/19/19
Client Project No: NA	Sample Matrix: Air	Collect Time: NA

Sample Comments:

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

TO-15 (Summa)

Aliquot ID: **93793-012** Matrix: **Air**

Method: EPA TO-15

Description: **TT-DUP-01**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
1. cis-1,2-Dichloroethene	U		µg/m3	5.9	1.0	11/20/19	VN19K20A	11/21/19	VN19K20A	KCM
2. trans-1,2-Dichloroethene	U		µg/m3	5.9	1.0	11/20/19	VN19K20A	11/21/19	VN19K20A	KCM
3. Tetrachloroethene	U		µg/m3	6.1	1.0	11/20/19	VN19K20A	11/21/19	VN19K20A	KCM
4. Trichloroethene	0.23		µg/m3	0.16	1.0	11/20/19	VN19K20A	11/21/19	VN19K20A	KCM
5. Vinyl Chloride	U		µg/m3	0.77	1.0	11/20/19	VN19K20A	11/21/19	VN19K20A	KCM

Surrogate Summary

4-Bromofluorobenzene(S)	90	%	<u>Control Limits</u>	<u>Batch</u>
			80-120	VN19K20A

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 F: (231) 775-8584

Definitions/ Qualifiers:

- A:** Spike recovery or precision unusable due to dilution.
- B:** The analyte was detected in the associated method blank.
- E:** The analyte was detected at a concentration greater than the calibration range, therefore the result is estimated.
- J:** The concentration is an estimated value.
- M:** Modified Method
- U:** The analyte was not detected at or above the reporting limit.
- X:** Matrix Interference has resulted in a raised reporting limit or distorted result.
- W:** Results reported on a wet-weight basis.
- ***: Value reported is outside QC limits
- D:** The sample or extract was analyzed at a DF greater than 1.

Exception Summary:

Analysis Locations:

All analyses performed in Holt.



Accreditation Number(s):

T104704518-19-8 (TX)

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 email: lab@fibertec.us

Industrial Hygiene Services, Inc.
 1914 Holloway Drive
 Holt, MI 48842
 Phone: 517 699 0345
 Fax: 517 699 0382
 email: asbestos@fiberteclhs.com

Geoprobe
 11766 E. Grand River Rd.
 Brighton, MI 48116
 Phone: 810 220 3300
 Fax: 810 220 3311

Chain of Custody #

PAGE 1 of 2

Client Name: Tetra Tech				MATRIX (SEE RIGHT CORNER FOR CODE)	# OF CONTAINERS	PARAMETERS										Matrix Code				Deliverables			
Contact Person: Lori Kozel 586-524-0613						HOLD SAMPLE	TCE	PCE	Vinyl Chloride	cis-1,2-Dichloroethene	trans-1,2-Dichloroethene									S Soil	GW Ground Water	<input type="checkbox"/>	Level 2
Project Name/ Number: DCP - TBD																				A Air	SW Surface Water	<input type="checkbox"/>	Level 3
Email distribution list: lori.kozel@tetrattech.com; dcapone@manniksmithgroup.com																				O Oil	ww Waste Water	<input type="checkbox"/>	Level 4
Quote#																				P Wipe	X Other: Specify	<input type="checkbox"/>	EDD
Purchase Order#				Remarks: START/STOP Pressure																			
Date	Time	Sample #	Client Sample Descriptor																				
11/19/19	1229		TT-DCP-11-111919	A	1	✓	✓	✓	✓	✓													
11/19/19	1235		TT-DCP-12-111919	A	1	✓	✓	✓	✓	✓													
11/19/19	1128		TT-DCP-03-111919	A	1	✓	✓	✓	✓	✓													
11/19/19	1137		TT-DCP-04-111919	A	1	✓	✓	✓	✓	✓													
11/19/19	1146		TT-DCP-05-111919	A	1	✓	✓	✓	✓	✓													
11/19/19	1152		TT-DCP-06-111919	A	1	✓	✓	✓	✓	✓													
11/19/19	1159		TT-DCP-07-111919	A	1	✓	✓	✓	✓	✓													
11/19/19	1206		TT-DCP-08-111919	A	1	✓	✓	✓	✓	✓													
11/19/19	1216		TT-DCP-09-111919	A	1	✓	✓	✓	✓	✓													
11/19/19	1226		TT-DCP-10-111919	A1	1	✓	✓	✓	✓	✓													
Comments: u37(LK)																							
Sampled/Relinquished By:				Date/ Time: 11/20/19 1308				Received By:															
Relinquished By:				Date/ Time:				Received By:															
Relinquished By:				Date/ Time:				Received By Laboratory:															
Turnaround Time ALL RESULTS WILL BE SENT BY THE END OF THE BUSINESS DAY <input checked="" type="checkbox"/> 1 bus. day <input type="checkbox"/> 2 bus. days <input type="checkbox"/> 3 bus. days <input type="checkbox"/> 4 bus. days <input type="checkbox"/> 5-7 bus. days (standard) Other (specify time/date requirement): _____												LAB USE ONLY Fibertec project number: 93793 Temperature upon receipt at Lab: Room Temp											
Please see back for terms and conditions																							



Analytical Laboratory
 1914 Holloway Drive Holt, MI 48842
 Phone: 517 699 0345 Fax: 517 699 0388
 email: lab@fibertec.us

8660 S. Mackinaw Trail Cadillac, MI 49601
 Phone: 231 775 8368 Fax: 231 775 8584

Industrial Hygiene Services, Inc.
 1914 Holloway Drive Holt, MI 48842
 Phone: 517 699 0345 Fax: 517 699 0382
 email: asbestos@fibertechs.com

Geoprobe
 11766 E. Grand River Rd. Brighton, MI 48116
 Phone: 810 220 3300 Fax: 810 220 3311

Chain of Custody #

PAGE 2 of 2

Client Name: Tetra Tech				MATRIX (SEE RIGHT CORNER FOR CODE)	# OF CONTAINERS	PARAMETERS										Matrix Code			Deliverables						
Contact Person: Lori Kozel 586-524-0613						HOLD SAMPLE	TCE	PCE	Vinyl Chloride	cis-1,2-Dichloroethene	trans-1,2-Dichloroethene									S	Soil	GW	Ground Water		Level 2
Project Name/ Number: DCP - TBD																				A	Air	SW	Surface Water	P	Level 3
Email distribution list: lori.kozel@tetrattech.com; dcapone@mankniksmithgroup.com																				O	Oil	ww	Waste Water		Level 4
Quote#																				P	Wipe	X	Other: Specify		EDD
Purchase Order#																									
Date	Time	Sample #	Client Sample Descriptor	A	1	✓	✓	✓	✓	✓							Can 2937 reg 2985 -28/-5								
11/19/19	1241		TT-DCP-13-111919	A	1	✓	✓	✓	✓	✓							Can 2951 reg 2927 -29/-6								
11/19/19	--		TT-DUP-01																						
<p>Received By Lab</p> <p>NOV 20 2019</p> <p>Initials: <u>IM</u></p>																									
Comments:																									
Sampled/Relinquished By:				Date/Time: 11/20/19 1308				Received By:																	
Relinquished By:				Date/Time:				Received By:																	
Relinquished By:				Date/Time:				Received By Laboratory:																	
<p>Turnaround Time ALL RESULTS WILL BE SENT BY THE END OF THE BUSINESS DAY</p> <p><input checked="" type="checkbox"/> 1 bus. day <input type="checkbox"/> 2 bus. days <input type="checkbox"/> 3 bus. days <input type="checkbox"/> 4 bus. days</p> <p><input type="checkbox"/> 5-7 bus. days (standard) Other (specify time/date requirement): _____</p>												<p>LAB USE ONLY</p> <p>Fibertec project number: 93793</p> <p>Temperature upon receipt at Lab: Room Temp</p>													
Please see back for terms and conditions																									



MICHIGAN DEPARTMENT OF
ENVIRONMENT, GREAT LAKES, AND ENERGY
ENVIRONMENTAL LABORATORY

P.O. Box 30270
Lansing, MI 48909
TEL: (517) 335-9800
FAX: (517) 335-9600

21 November 2019

Work Order: 1911259

Price: \$4,100.00

Amy Robinson
EGLE-AQD-LANSING
525 W. ALLEGAN
LANSING, MI 48909-7760
RE: DIAMOND CHROME

This is the official environmental laboratory report for testing conducted by the Michigan Department of Environment, Great Lakes, and Energy. Analyses performed by the laboratory were conducted using methods published by the U.S. Environmental Protection Agency, Standard Methods for the Examination of Water and Wastewater, ASTM, or other published or approved reference methods.

Kirby Shane
Laboratory Director



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MICHIGAN DEPARTMENT OF
ENVIRONMENT, GREAT LAKES, AND ENERGY
ENVIRONMENTAL LABORATORY

P.O. Box 30270
Lansing, MI 48909
TEL: (517) 335-9800
FAX: (517) 335-9600

EGLE-AQD-LANSING
525 W. ALLEGAN
LANSING MI, 48909-7760

Project: DIAMOND CHROME
Site Code: LB042073
Project Manager: Amy Robinson

Reported:
11/21/2019

Analytical Report for Samples

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received	Qualifier
13-AQD-DCP-111919	1911259-01	Air	11/19/2019	11/20/2019	
16-AQD-DCP-111919	1911259-02	Air	11/19/2019	11/20/2019	
17-AQD-DCP-111919	1911259-03	Air	11/19/2019	11/20/2019	
18-AQD-DCP-111919	1911259-04	Air	11/19/2019	11/20/2019	
19-AQD-DCP-111919	1911259-05	Air	11/19/2019	11/20/2019	

Notes and Definitions

- Y11 Unidentified peaks present in sample.
- X1 Method TO-15 is used for the analysis of volatile organic compounds in air. Naphthalene and 2-Methylnaphthalene are semi volatile compounds and results should be considered estimated.
- T Reported value is less than the reporting limit (RL). Result is estimated.
- ND Indicates compound analyzed for but not detected at or above the reporting limit (RL).
- RL Reporting Limit
- NA Not Applicable

Case Narrative

Priority Samples



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Client ID: 13-AQD-DCP-111919

Lab ID: 1911259-01

CAS #	Analyte	Result	RL	Units	Dilution	Analyzed Date	QC Batch	Method	Qualifier
Organics-Volatiles									
71-55-6	1,1,1-Trichloroethane	ND	1.7	ug/m3	1	11/20/19	B9K2105	TO-15	
79-34-5	1,1,2,2-Tetrachloroethane	ND	2.1	ug/m3	1	11/20/19	B9K2105	TO-15	
79-00-5	1,1,2-Trichloroethane	ND	1.7	ug/m3	1	11/20/19	B9K2105	TO-15	
75-34-3	1,1-Dichloroethane	ND	1.2	ug/m3	1	11/20/19	B9K2105	TO-15	
75-35-4	1,1-Dichloroethylene	ND	1.2	ug/m3	1	11/20/19	B9K2105	TO-15	
87-61-6	1,2,3-Trichlorobenzene	ND	7.5	ug/m3	1	11/20/19	B9K2105	TO-15	
96-18-4	1,2,3-Trichloropropane	ND	1.8	ug/m3	1	11/20/19	B9K2105	TO-15	
526-73-8	1,2,3-Trimethylbenzene	ND	1.5	ug/m3	1	11/20/19	B9K2105	TO-15	
120-82-1	1,2,4-Trichlorobenzene	ND	3.7	ug/m3	1	11/20/19	B9K2105	TO-15	
95-63-6	1,2,4-Trimethylbenzene	ND	1.5	ug/m3	1	11/20/19	B9K2105	TO-15	
106-93-4	1,2-Dibromoethane	ND	2.3	ug/m3	1	11/20/19	B9K2105	TO-15	
95-50-1	1,2-Dichlorobenzene	ND	1.8	ug/m3	1	11/20/19	B9K2105	TO-15	
107-06-2	1,2-Dichloroethane	ND	1.2	ug/m3	1	11/20/19	B9K2105	TO-15	
78-87-5	1,2-Dichloropropane	ND	1.4	ug/m3	1	11/20/19	B9K2105	TO-15	
108-67-8	1,3,5-Trimethylbenzene	ND	1.5	ug/m3	1	11/20/19	B9K2105	TO-15	
106-99-0	1,3-Butadiene	ND	0.67	ug/m3	1	11/20/19	B9K2105	TO-15	
541-73-1	1,3-Dichlorobenzene	ND	1.8	ug/m3	1	11/20/19	B9K2105	TO-15	
106-46-7	1,4-Dichlorobenzene	ND	1.8	ug/m3	1	11/20/19	B9K2105	TO-15	
540-84-1	2,2,4-Trimethylpentane	ND	1.4	ug/m3	1	11/20/19	B9K2105	TO-15	
78-93-3	2-Butanone (MEK)	ND	15	ug/m3	1	11/20/19	B9K2105	TO-15	
91-57-6	2-Methylnaphthalene	ND	29	ug/m3	1	11/20/19	B9K2105	TO-15	X1
108-10-1	4-Methyl-2-pentanone (MIBK)	ND	4.1	ug/m3	1	11/20/19	B9K2105	TO-15	
75-05-8	Acetonitrile	ND	1.7	ug/m3	1	11/20/19	B9K2105	TO-15	
107-13-1	Acrylonitrile	ND	1.1	ug/m3	1	11/20/19	B9K2105	TO-15	
71-43-2	Benzene	1.6	0.97	ug/m3	1	11/20/19	B9K2105	TO-15	
75-27-4	Bromodichloromethane	ND	2.0	ug/m3	1	11/20/19	B9K2105	TO-15	
75-25-2	Bromoform	ND	3.1	ug/m3	1	11/20/19	B9K2105	TO-15	
74-83-9	Bromomethane	ND	1.2	ug/m3	1	11/20/19	B9K2105	TO-15	
56-23-5	Carbon tetrachloride	ND	1.9	ug/m3	1	11/20/19	B9K2105	TO-15	
108-90-7	Chlorobenzene	ND	1.4	ug/m3	1	11/20/19	B9K2105	TO-15	
75-00-3	Chloroethane	ND	0.80	ug/m3	1	11/20/19	B9K2105	TO-15	
67-66-3	Chloroform	ND	1.5	ug/m3	1	11/20/19	B9K2105	TO-15	
74-87-3	Chloromethane	0.62	0.63	ug/m3	1	11/20/19	B9K2105	TO-15	T
156-59-2	cis-1,2-Dichloroethylene	ND	1.2	ug/m3	1	11/20/19	B9K2105	TO-15	
10061-01-5	cis-1,3-Dichloropropylene	ND	1.4	ug/m3	1	11/20/19	B9K2105	TO-15	
110-82-7	Cyclohexane	ND	1.0	ug/m3	1	11/20/19	B9K2105	TO-15	
124-48-1	Dibromochloromethane	ND	2.6	ug/m3	1	11/20/19	B9K2105	TO-15	
75-71-8	Dichlorodifluoromethane	2.4	1.5	ug/m3	1	11/20/19	B9K2105	TO-15	
100-41-4	Ethylbenzene	ND	1.3	ug/m3	1	11/20/19	B9K2105	TO-15	
110-54-3	Hexane	ND	3.6	ug/m3	1	11/20/19	B9K2105	TO-15	



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Client ID: 13-AQD-DCP-111919

Lab ID: 1911259-01

CAS #	Analyte	Result	RL	Units	Dilution	Analyzed Date	QC Batch	Method	Qualifier
Organics-Volatiles									
98-82-8	Isopropylbenzene	ND	1.5	ug/m3	1	11/20/19	B9K2105	TO-15	
1330-20-7	m & p - Xylene	2.1	1.3	ug/m3	1	11/20/19	B9K2105	TO-15	
75-09-2	Methylene chloride	ND	1.1	ug/m3	1	11/20/19	B9K2105	TO-15	
1634-04-4	Methyltertiarybutylether	ND	1.8	ug/m3	1	11/20/19	B9K2105	TO-15	
91-20-3	Naphthalene	ND	26	ug/m3	1	11/20/19	B9K2105	TO-15	X1
104-51-8	n-Butylbenzene	ND	5.5	ug/m3	1	11/20/19	B9K2105	TO-15	
103-65-1	n-Propylbenzene	ND	1.5	ug/m3	1	11/20/19	B9K2105	TO-15	
95-47-6	o-Xylene	1.1	1.3	ug/m3	1	11/20/19	B9K2105	TO-15	T
135-98-8	sec-Butylbenzene	ND	1.7	ug/m3	1	11/20/19	B9K2105	TO-15	
100-42-5	Styrene	ND	1.3	ug/m3	1	11/20/19	B9K2105	TO-15	
127-18-4	Tetrachloroethylene	ND	2.1	ug/m3	1	11/20/19	B9K2105	TO-15	
108-88-3	Toluene	5.0	1.1	ug/m3	1	11/20/19	B9K2105	TO-15	
156-60-5	trans-1,2-Dichloroethylene	ND	1.2	ug/m3	1	11/20/19	B9K2105	TO-15	
10061-02-6	trans-1,3-Dichloropropylene	ND	1.4	ug/m3	1	11/20/19	B9K2105	TO-15	
79-01-6	Trichloroethylene	ND	1.6	ug/m3	1	11/20/19	B9K2105	TO-15	
75-69-4	Trichlorofluoromethane	ND	1.7	ug/m3	1	11/20/19	B9K2105	TO-15	
75-01-4	Vinyl chloride	ND	0.77	ug/m3	1	11/20/19	B9K2105	TO-15	
<i>Surrogate: Bromofluorobenzene</i>			<i>110 %</i>	<i>70-130</i>		<i>11/20/19</i>	<i>B9K2105</i>	<i>TO-15</i>	



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Client ID: 16-AQD-DCP-111919

Lab ID: 1911259-02

CAS #	Analyte	Result	RL	Units	Dilution	Analyzed Date	QC Batch	Method	Qualifier
Organics-Volatiles									
71-55-6	1,1,1-Trichloroethane	ND	1.7	ug/m3	1	11/20/19	B9K2105	TO-15	
79-34-5	1,1,2,2-Tetrachloroethane	ND	2.1	ug/m3	1	11/20/19	B9K2105	TO-15	
79-00-5	1,1,2-Trichloroethane	ND	1.7	ug/m3	1	11/20/19	B9K2105	TO-15	
75-34-3	1,1-Dichloroethane	ND	1.2	ug/m3	1	11/20/19	B9K2105	TO-15	
75-35-4	1,1-Dichloroethylene	ND	1.2	ug/m3	1	11/20/19	B9K2105	TO-15	
87-61-6	1,2,3-Trichlorobenzene	ND	7.5	ug/m3	1	11/20/19	B9K2105	TO-15	
96-18-4	1,2,3-Trichloropropane	ND	1.8	ug/m3	1	11/20/19	B9K2105	TO-15	
526-73-8	1,2,3-Trimethylbenzene	ND	1.5	ug/m3	1	11/20/19	B9K2105	TO-15	
120-82-1	1,2,4-Trichlorobenzene	ND	3.7	ug/m3	1	11/20/19	B9K2105	TO-15	
95-63-6	1,2,4-Trimethylbenzene	ND	1.5	ug/m3	1	11/20/19	B9K2105	TO-15	
106-93-4	1,2-Dibromoethane	ND	2.3	ug/m3	1	11/20/19	B9K2105	TO-15	
95-50-1	1,2-Dichlorobenzene	ND	1.8	ug/m3	1	11/20/19	B9K2105	TO-15	
107-06-2	1,2-Dichloroethane	ND	1.2	ug/m3	1	11/20/19	B9K2105	TO-15	
78-87-5	1,2-Dichloropropane	ND	1.4	ug/m3	1	11/20/19	B9K2105	TO-15	
108-67-8	1,3,5-Trimethylbenzene	ND	1.5	ug/m3	1	11/20/19	B9K2105	TO-15	
106-99-0	1,3-Butadiene	ND	0.67	ug/m3	1	11/20/19	B9K2105	TO-15	
541-73-1	1,3-Dichlorobenzene	ND	1.8	ug/m3	1	11/20/19	B9K2105	TO-15	
106-46-7	1,4-Dichlorobenzene	ND	1.8	ug/m3	1	11/20/19	B9K2105	TO-15	
540-84-1	2,2,4-Trimethylpentane	ND	1.4	ug/m3	1	11/20/19	B9K2105	TO-15	
78-93-3	2-Butanone (MEK)	ND	15	ug/m3	1	11/20/19	B9K2105	TO-15	
91-57-6	2-Methylnaphthalene	ND	29	ug/m3	1	11/20/19	B9K2105	TO-15	X1
108-10-1	4-Methyl-2-pentanone (MIBK)	ND	4.1	ug/m3	1	11/20/19	B9K2105	TO-15	
75-05-8	Acetonitrile	ND	1.7	ug/m3	1	11/20/19	B9K2105	TO-15	
107-13-1	Acrylonitrile	ND	1.1	ug/m3	1	11/20/19	B9K2105	TO-15	
71-43-2	Benzene	1.5	0.97	ug/m3	1	11/20/19	B9K2105	TO-15	
75-27-4	Bromodichloromethane	ND	2.0	ug/m3	1	11/20/19	B9K2105	TO-15	
75-25-2	Bromoform	ND	3.1	ug/m3	1	11/20/19	B9K2105	TO-15	
74-83-9	Bromomethane	ND	1.2	ug/m3	1	11/20/19	B9K2105	TO-15	
56-23-5	Carbon tetrachloride	ND	1.9	ug/m3	1	11/20/19	B9K2105	TO-15	
108-90-7	Chlorobenzene	ND	1.4	ug/m3	1	11/20/19	B9K2105	TO-15	
75-00-3	Chloroethane	ND	0.80	ug/m3	1	11/20/19	B9K2105	TO-15	
67-66-3	Chloroform	ND	1.5	ug/m3	1	11/20/19	B9K2105	TO-15	
74-87-3	Chloromethane	0.60	0.63	ug/m3	1	11/20/19	B9K2105	TO-15	T
156-59-2	cis-1,2-Dichloroethylene	ND	1.2	ug/m3	1	11/20/19	B9K2105	TO-15	
10061-01-5	cis-1,3-Dichloropropylene	ND	1.4	ug/m3	1	11/20/19	B9K2105	TO-15	
110-82-7	Cyclohexane	ND	1.0	ug/m3	1	11/20/19	B9K2105	TO-15	
124-48-1	Dibromochloromethane	ND	2.6	ug/m3	1	11/20/19	B9K2105	TO-15	
75-71-8	Dichlorodifluoromethane	2.3	1.5	ug/m3	1	11/20/19	B9K2105	TO-15	
100-41-4	Ethylbenzene	ND	1.3	ug/m3	1	11/20/19	B9K2105	TO-15	
110-54-3	Hexane	ND	3.6	ug/m3	1	11/20/19	B9K2105	TO-15	



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Client ID: 16-AQD-DCP-111919

Lab ID: 1911259-02

CAS #	Analyte	Result	RL	Units	Dilution	Analyzed Date	QC Batch	Method	Qualifier
Organics-Volatiles									
98-82-8	Isopropylbenzene	ND	1.5	ug/m3	1	11/20/19	B9K2105	TO-15	
1330-20-7	m & p - Xylene	1.7	1.3	ug/m3	1	11/20/19	B9K2105	TO-15	
75-09-2	Methylene chloride	ND	1.1	ug/m3	1	11/20/19	B9K2105	TO-15	
1634-04-4	Methyltertiarybutylether	ND	1.8	ug/m3	1	11/20/19	B9K2105	TO-15	
91-20-3	Naphthalene	ND	26	ug/m3	1	11/20/19	B9K2105	TO-15	X1
104-51-8	n-Butylbenzene	ND	5.5	ug/m3	1	11/20/19	B9K2105	TO-15	
103-65-1	n-Propylbenzene	ND	1.5	ug/m3	1	11/20/19	B9K2105	TO-15	
95-47-6	o-Xylene	ND	1.3	ug/m3	1	11/20/19	B9K2105	TO-15	
135-98-8	sec-Butylbenzene	ND	1.7	ug/m3	1	11/20/19	B9K2105	TO-15	
100-42-5	Styrene	ND	1.3	ug/m3	1	11/20/19	B9K2105	TO-15	
127-18-4	Tetrachloroethylene	ND	2.1	ug/m3	1	11/20/19	B9K2105	TO-15	
108-88-3	Toluene	2.9	1.1	ug/m3	1	11/20/19	B9K2105	TO-15	
156-60-5	trans-1,2-Dichloroethylene	ND	1.2	ug/m3	1	11/20/19	B9K2105	TO-15	
10061-02-6	trans-1,3-Dichloropropylene	ND	1.4	ug/m3	1	11/20/19	B9K2105	TO-15	
79-01-6	Trichloroethylene	ND	1.6	ug/m3	1	11/20/19	B9K2105	TO-15	
75-69-4	Trichlorofluoromethane	ND	1.7	ug/m3	1	11/20/19	B9K2105	TO-15	
75-01-4	Vinyl chloride	ND	0.77	ug/m3	1	11/20/19	B9K2105	TO-15	
<i>Surrogate: Bromofluorobenzene</i>			<i>109 %</i>	<i>70-130</i>		<i>11/20/19</i>	<i>B9K2105</i>	<i>TO-15</i>	



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Client ID: 17-AQD-DCP-111919

Lab ID: 1911259-03

CAS #	Analyte	Result	RL	Units	Dilution	Analyzed Date	QC Batch	Method	Qualifier
Organics-Volatiles									
71-55-6	1,1,1-Trichloroethane	ND	1.7	ug/m3	1	11/20/19	B9K2105	TO-15	
79-34-5	1,1,2,2-Tetrachloroethane	ND	2.1	ug/m3	1	11/20/19	B9K2105	TO-15	
79-00-5	1,1,2-Trichloroethane	ND	1.7	ug/m3	1	11/20/19	B9K2105	TO-15	
75-34-3	1,1-Dichloroethane	ND	1.2	ug/m3	1	11/20/19	B9K2105	TO-15	
75-35-4	1,1-Dichloroethylene	ND	1.2	ug/m3	1	11/20/19	B9K2105	TO-15	
87-61-6	1,2,3-Trichlorobenzene	ND	7.5	ug/m3	1	11/20/19	B9K2105	TO-15	
96-18-4	1,2,3-Trichloropropane	ND	1.8	ug/m3	1	11/20/19	B9K2105	TO-15	
526-73-8	1,2,3-Trimethylbenzene	ND	1.5	ug/m3	1	11/20/19	B9K2105	TO-15	
120-82-1	1,2,4-Trichlorobenzene	ND	3.7	ug/m3	1	11/20/19	B9K2105	TO-15	
95-63-6	1,2,4-Trimethylbenzene	ND	1.5	ug/m3	1	11/20/19	B9K2105	TO-15	
106-93-4	1,2-Dibromoethane	ND	2.3	ug/m3	1	11/20/19	B9K2105	TO-15	
95-50-1	1,2-Dichlorobenzene	ND	1.8	ug/m3	1	11/20/19	B9K2105	TO-15	
107-06-2	1,2-Dichloroethane	ND	1.2	ug/m3	1	11/20/19	B9K2105	TO-15	
78-87-5	1,2-Dichloropropane	ND	1.4	ug/m3	1	11/20/19	B9K2105	TO-15	
108-67-8	1,3,5-Trimethylbenzene	ND	1.5	ug/m3	1	11/20/19	B9K2105	TO-15	
106-99-0	1,3-Butadiene	ND	0.67	ug/m3	1	11/20/19	B9K2105	TO-15	
541-73-1	1,3-Dichlorobenzene	ND	1.8	ug/m3	1	11/20/19	B9K2105	TO-15	
106-46-7	1,4-Dichlorobenzene	ND	1.8	ug/m3	1	11/20/19	B9K2105	TO-15	
540-84-1	2,2,4-Trimethylpentane	1.6	1.4	ug/m3	1	11/20/19	B9K2105	TO-15	
78-93-3	2-Butanone (MEK)	ND	15	ug/m3	1	11/20/19	B9K2105	TO-15	
91-57-6	2-Methylnaphthalene	ND	29	ug/m3	1	11/20/19	B9K2105	TO-15	X1
108-10-1	4-Methyl-2-pentanone (MIBK)	ND	4.1	ug/m3	1	11/20/19	B9K2105	TO-15	
75-05-8	Acetonitrile	ND	1.7	ug/m3	1	11/20/19	B9K2105	TO-15	
107-13-1	Acrylonitrile	ND	1.1	ug/m3	1	11/20/19	B9K2105	TO-15	
71-43-2	Benzene	1.7	0.97	ug/m3	1	11/20/19	B9K2105	TO-15	
75-27-4	Bromodichloromethane	ND	2.0	ug/m3	1	11/20/19	B9K2105	TO-15	
75-25-2	Bromoform	ND	3.1	ug/m3	1	11/20/19	B9K2105	TO-15	
74-83-9	Bromomethane	ND	1.2	ug/m3	1	11/20/19	B9K2105	TO-15	
56-23-5	Carbon tetrachloride	ND	1.9	ug/m3	1	11/20/19	B9K2105	TO-15	
108-90-7	Chlorobenzene	ND	1.4	ug/m3	1	11/20/19	B9K2105	TO-15	
75-00-3	Chloroethane	ND	0.80	ug/m3	1	11/20/19	B9K2105	TO-15	
67-66-3	Chloroform	ND	1.5	ug/m3	1	11/20/19	B9K2105	TO-15	
74-87-3	Chloromethane	0.59	0.63	ug/m3	1	11/20/19	B9K2105	TO-15	T
156-59-2	cis-1,2-Dichloroethylene	ND	1.2	ug/m3	1	11/20/19	B9K2105	TO-15	
10061-01-5	cis-1,3-Dichloropropylene	ND	1.4	ug/m3	1	11/20/19	B9K2105	TO-15	
110-82-7	Cyclohexane	ND	1.0	ug/m3	1	11/20/19	B9K2105	TO-15	
124-48-1	Dibromochloromethane	ND	2.6	ug/m3	1	11/20/19	B9K2105	TO-15	
75-71-8	Dichlorodifluoromethane	2.3	1.5	ug/m3	1	11/20/19	B9K2105	TO-15	
100-41-4	Ethylbenzene	ND	1.3	ug/m3	1	11/20/19	B9K2105	TO-15	
110-54-3	Hexane	ND	3.6	ug/m3	1	11/20/19	B9K2105	TO-15	



MICHIGAN DEPARTMENT OF
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ENVIRONMENTAL LABORATORY

P.O. Box 30270
Lansing, MI 48909
TEL: (517) 335-9800
FAX: (517) 335-9600

Client ID: 17-AQD-DCP-111919

Lab ID: 1911259-03

CAS #	Analyte	Result	RL	Units	Dilution	Analyzed Date	QC Batch	Method	Qualifier
Organics-Volatiles									
98-82-8	Isopropylbenzene	ND	1.5	ug/m3	1	11/20/19	B9K2105	TO-15	
1330-20-7	m & p - Xylene	2.1	1.3	ug/m3	1	11/20/19	B9K2105	TO-15	
75-09-2	Methylene chloride	ND	1.1	ug/m3	1	11/20/19	B9K2105	TO-15	
1634-04-4	Methyltertiarybutylether	ND	1.8	ug/m3	1	11/20/19	B9K2105	TO-15	
91-20-3	Naphthalene	ND	26	ug/m3	1	11/20/19	B9K2105	TO-15	X1
104-51-8	n-Butylbenzene	ND	5.5	ug/m3	1	11/20/19	B9K2105	TO-15	
103-65-1	n-Propylbenzene	ND	1.5	ug/m3	1	11/20/19	B9K2105	TO-15	
95-47-6	o-Xylene	1.2	1.3	ug/m3	1	11/20/19	B9K2105	TO-15	T
135-98-8	sec-Butylbenzene	ND	1.7	ug/m3	1	11/20/19	B9K2105	TO-15	
100-42-5	Styrene	ND	1.3	ug/m3	1	11/20/19	B9K2105	TO-15	
127-18-4	Tetrachloroethylene	ND	2.1	ug/m3	1	11/20/19	B9K2105	TO-15	
108-88-3	Toluene	3.3	1.1	ug/m3	1	11/20/19	B9K2105	TO-15	
156-60-5	trans-1,2-Dichloroethylene	ND	1.2	ug/m3	1	11/20/19	B9K2105	TO-15	
10061-02-6	trans-1,3-Dichloropropylene	ND	1.4	ug/m3	1	11/20/19	B9K2105	TO-15	
79-01-6	Trichloroethylene	ND	1.6	ug/m3	1	11/20/19	B9K2105	TO-15	
75-69-4	Trichlorofluoromethane	ND	1.7	ug/m3	1	11/20/19	B9K2105	TO-15	
75-01-4	Vinyl chloride	ND	0.77	ug/m3	1	11/20/19	B9K2105	TO-15	
<i>Surrogate: Bromofluorobenzene</i>			<i>109 %</i>	<i>70-130</i>		<i>11/20/19</i>	<i>B9K2105</i>	<i>TO-15</i>	



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P.O. Box 30270
Lansing, MI 48909
TEL: (517) 335-9800
FAX: (517) 335-9600

Client ID: 18-AQD-DCP-111919

Lab ID: 1911259-04

CAS #	Analyte	Result	RL	Units	Dilution	Analyzed Date	QC Batch	Method	Qualifier
Organics-Volatiles									
71-55-6	1,1,1-Trichloroethane	ND	1.7	ug/m3	1	11/20/19	B9K2105	TO-15	
79-34-5	1,1,2,2-Tetrachloroethane	ND	2.1	ug/m3	1	11/20/19	B9K2105	TO-15	
79-00-5	1,1,2-Trichloroethane	ND	1.7	ug/m3	1	11/20/19	B9K2105	TO-15	
75-34-3	1,1-Dichloroethane	ND	1.2	ug/m3	1	11/20/19	B9K2105	TO-15	
75-35-4	1,1-Dichloroethylene	ND	1.2	ug/m3	1	11/20/19	B9K2105	TO-15	
87-61-6	1,2,3-Trichlorobenzene	ND	7.5	ug/m3	1	11/20/19	B9K2105	TO-15	
96-18-4	1,2,3-Trichloropropane	ND	1.8	ug/m3	1	11/20/19	B9K2105	TO-15	
526-73-8	1,2,3-Trimethylbenzene	ND	1.5	ug/m3	1	11/20/19	B9K2105	TO-15	
120-82-1	1,2,4-Trichlorobenzene	ND	3.7	ug/m3	1	11/20/19	B9K2105	TO-15	
95-63-6	1,2,4-Trimethylbenzene	ND	1.5	ug/m3	1	11/20/19	B9K2105	TO-15	
106-93-4	1,2-Dibromoethane	ND	2.3	ug/m3	1	11/20/19	B9K2105	TO-15	
95-50-1	1,2-Dichlorobenzene	ND	1.8	ug/m3	1	11/20/19	B9K2105	TO-15	
107-06-2	1,2-Dichloroethane	ND	1.2	ug/m3	1	11/20/19	B9K2105	TO-15	
78-87-5	1,2-Dichloropropane	ND	1.4	ug/m3	1	11/20/19	B9K2105	TO-15	
108-67-8	1,3,5-Trimethylbenzene	ND	1.5	ug/m3	1	11/20/19	B9K2105	TO-15	
106-99-0	1,3-Butadiene	ND	0.67	ug/m3	1	11/20/19	B9K2105	TO-15	
541-73-1	1,3-Dichlorobenzene	ND	1.8	ug/m3	1	11/20/19	B9K2105	TO-15	
106-46-7	1,4-Dichlorobenzene	ND	1.8	ug/m3	1	11/20/19	B9K2105	TO-15	
540-84-1	2,2,4-Trimethylpentane	ND	1.4	ug/m3	1	11/20/19	B9K2105	TO-15	
78-93-3	2-Butanone (MEK)	ND	15	ug/m3	1	11/20/19	B9K2105	TO-15	
91-57-6	2-Methylnaphthalene	ND	29	ug/m3	1	11/20/19	B9K2105	TO-15	X1
108-10-1	4-Methyl-2-pentanone (MIBK)	ND	4.1	ug/m3	1	11/20/19	B9K2105	TO-15	
75-05-8	Acetonitrile	ND	1.7	ug/m3	1	11/20/19	B9K2105	TO-15	
107-13-1	Acrylonitrile	ND	1.1	ug/m3	1	11/20/19	B9K2105	TO-15	
71-43-2	Benzene	1.6	0.97	ug/m3	1	11/20/19	B9K2105	TO-15	
75-27-4	Bromodichloromethane	ND	2.0	ug/m3	1	11/20/19	B9K2105	TO-15	
75-25-2	Bromoform	ND	3.1	ug/m3	1	11/20/19	B9K2105	TO-15	
74-83-9	Bromomethane	ND	1.2	ug/m3	1	11/20/19	B9K2105	TO-15	
56-23-5	Carbon tetrachloride	ND	1.9	ug/m3	1	11/20/19	B9K2105	TO-15	
108-90-7	Chlorobenzene	ND	1.4	ug/m3	1	11/20/19	B9K2105	TO-15	
75-00-3	Chloroethane	ND	0.80	ug/m3	1	11/20/19	B9K2105	TO-15	
67-66-3	Chloroform	ND	1.5	ug/m3	1	11/20/19	B9K2105	TO-15	
74-87-3	Chloromethane	0.60	0.63	ug/m3	1	11/20/19	B9K2105	TO-15	T
156-59-2	cis-1,2-Dichloroethylene	ND	1.2	ug/m3	1	11/20/19	B9K2105	TO-15	
10061-01-5	cis-1,3-Dichloropropylene	ND	1.4	ug/m3	1	11/20/19	B9K2105	TO-15	
110-82-7	Cyclohexane	ND	1.0	ug/m3	1	11/20/19	B9K2105	TO-15	
124-48-1	Dibromochloromethane	ND	2.6	ug/m3	1	11/20/19	B9K2105	TO-15	
75-71-8	Dichlorodifluoromethane	2.4	1.5	ug/m3	1	11/20/19	B9K2105	TO-15	
100-41-4	Ethylbenzene	ND	1.3	ug/m3	1	11/20/19	B9K2105	TO-15	
110-54-3	Hexane	ND	3.6	ug/m3	1	11/20/19	B9K2105	TO-15	



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Lansing, MI 48909
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Client ID: 18-AQD-DCP-111919

Lab ID: 1911259-04

CAS #	Analyte	Result	RL	Units	Dilution	Analyzed Date	QC Batch	Method	Qualifier
Organics-Volatiles									
98-82-8	Isopropylbenzene	ND	1.5	ug/m3	1	11/20/19	B9K2105	TO-15	
1330-20-7	m & p - Xylene	2.3	1.3	ug/m3	1	11/20/19	B9K2105	TO-15	
75-09-2	Methylene chloride	ND	1.1	ug/m3	1	11/20/19	B9K2105	TO-15	
1634-04-4	Methyltertiarybutylether	ND	1.8	ug/m3	1	11/20/19	B9K2105	TO-15	
91-20-3	Naphthalene	ND	26	ug/m3	1	11/20/19	B9K2105	TO-15	X1
104-51-8	n-Butylbenzene	ND	5.5	ug/m3	1	11/20/19	B9K2105	TO-15	
103-65-1	n-Propylbenzene	ND	1.5	ug/m3	1	11/20/19	B9K2105	TO-15	
95-47-6	o-Xylene	1.2	1.3	ug/m3	1	11/20/19	B9K2105	TO-15	T
135-98-8	sec-Butylbenzene	ND	1.7	ug/m3	1	11/20/19	B9K2105	TO-15	
100-42-5	Styrene	ND	1.3	ug/m3	1	11/20/19	B9K2105	TO-15	
127-18-4	Tetrachloroethylene	ND	2.1	ug/m3	1	11/20/19	B9K2105	TO-15	
108-88-3	Toluene	3.9	1.1	ug/m3	1	11/20/19	B9K2105	TO-15	
156-60-5	trans-1,2-Dichloroethylene	ND	1.2	ug/m3	1	11/20/19	B9K2105	TO-15	
10061-02-6	trans-1,3-Dichloropropylene	ND	1.4	ug/m3	1	11/20/19	B9K2105	TO-15	
79-01-6	Trichloroethylene	ND	1.6	ug/m3	1	11/20/19	B9K2105	TO-15	
75-69-4	Trichlorofluoromethane	ND	1.7	ug/m3	1	11/20/19	B9K2105	TO-15	
75-01-4	Vinyl chloride	ND	0.77	ug/m3	1	11/20/19	B9K2105	TO-15	
<i>Surrogate: Bromofluorobenzene</i>			<i>110 %</i>	<i>70-130</i>		<i>11/20/19</i>	<i>B9K2105</i>	<i>TO-15</i>	



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P.O. Box 30270
Lansing, MI 48909
TEL: (517) 335-9800
FAX: (517) 335-9600

Client ID: 19-AQD-DCP-111919

Lab ID: 1911259-05

CAS #	Analyte	Result	RL	Units	Dilution	Analyzed Date	QC Batch	Method	Qualifier
Organics-Volatiles									
71-55-6	1,1,1-Trichloroethane	ND	1.7	ug/m3	1	11/20/19	B9K2105	TO-15	
79-34-5	1,1,2,2-Tetrachloroethane	ND	2.1	ug/m3	1	11/20/19	B9K2105	TO-15	
79-00-5	1,1,2-Trichloroethane	ND	1.7	ug/m3	1	11/20/19	B9K2105	TO-15	
75-34-3	1,1-Dichloroethane	ND	1.2	ug/m3	1	11/20/19	B9K2105	TO-15	
75-35-4	1,1-Dichloroethylene	ND	1.2	ug/m3	1	11/20/19	B9K2105	TO-15	
87-61-6	1,2,3-Trichlorobenzene	ND	7.5	ug/m3	1	11/20/19	B9K2105	TO-15	
96-18-4	1,2,3-Trichloropropane	ND	1.8	ug/m3	1	11/20/19	B9K2105	TO-15	
526-73-8	1,2,3-Trimethylbenzene	ND	1.5	ug/m3	1	11/20/19	B9K2105	TO-15	
120-82-1	1,2,4-Trichlorobenzene	ND	3.7	ug/m3	1	11/20/19	B9K2105	TO-15	
95-63-6	1,2,4-Trimethylbenzene	ND	1.5	ug/m3	1	11/20/19	B9K2105	TO-15	
106-93-4	1,2-Dibromoethane	ND	2.3	ug/m3	1	11/20/19	B9K2105	TO-15	
95-50-1	1,2-Dichlorobenzene	ND	1.8	ug/m3	1	11/20/19	B9K2105	TO-15	
107-06-2	1,2-Dichloroethane	ND	1.2	ug/m3	1	11/20/19	B9K2105	TO-15	
78-87-5	1,2-Dichloropropane	ND	1.4	ug/m3	1	11/20/19	B9K2105	TO-15	
108-67-8	1,3,5-Trimethylbenzene	ND	1.5	ug/m3	1	11/20/19	B9K2105	TO-15	
106-99-0	1,3-Butadiene	ND	0.67	ug/m3	1	11/20/19	B9K2105	TO-15	
541-73-1	1,3-Dichlorobenzene	ND	1.8	ug/m3	1	11/20/19	B9K2105	TO-15	
106-46-7	1,4-Dichlorobenzene	ND	1.8	ug/m3	1	11/20/19	B9K2105	TO-15	
540-84-1	2,2,4-Trimethylpentane	ND	1.4	ug/m3	1	11/20/19	B9K2105	TO-15	
78-93-3	2-Butanone (MEK)	ND	15	ug/m3	1	11/20/19	B9K2105	TO-15	
91-57-6	2-Methylnaphthalene	ND	29	ug/m3	1	11/20/19	B9K2105	TO-15	X1
108-10-1	4-Methyl-2-pentanone (MIBK)	ND	4.1	ug/m3	1	11/20/19	B9K2105	TO-15	
75-05-8	Acetonitrile	ND	1.7	ug/m3	1	11/20/19	B9K2105	TO-15	
107-13-1	Acrylonitrile	ND	1.1	ug/m3	1	11/20/19	B9K2105	TO-15	
71-43-2	Benzene	1.6	0.97	ug/m3	1	11/20/19	B9K2105	TO-15	
75-27-4	Bromodichloromethane	ND	2.0	ug/m3	1	11/20/19	B9K2105	TO-15	
75-25-2	Bromoform	ND	3.1	ug/m3	1	11/20/19	B9K2105	TO-15	
74-83-9	Bromomethane	ND	1.2	ug/m3	1	11/20/19	B9K2105	TO-15	
56-23-5	Carbon tetrachloride	ND	1.9	ug/m3	1	11/20/19	B9K2105	TO-15	
108-90-7	Chlorobenzene	ND	1.4	ug/m3	1	11/20/19	B9K2105	TO-15	
75-00-3	Chloroethane	ND	0.80	ug/m3	1	11/20/19	B9K2105	TO-15	
67-66-3	Chloroform	ND	1.5	ug/m3	1	11/20/19	B9K2105	TO-15	
74-87-3	Chloromethane	0.61	0.63	ug/m3	1	11/20/19	B9K2105	TO-15	T
156-59-2	cis-1,2-Dichloroethylene	ND	1.2	ug/m3	1	11/20/19	B9K2105	TO-15	
10061-01-5	cis-1,3-Dichloropropylene	ND	1.4	ug/m3	1	11/20/19	B9K2105	TO-15	
110-82-7	Cyclohexane	ND	1.0	ug/m3	1	11/20/19	B9K2105	TO-15	
124-48-1	Dibromochloromethane	ND	2.6	ug/m3	1	11/20/19	B9K2105	TO-15	
75-71-8	Dichlorodifluoromethane	2.4	1.5	ug/m3	1	11/20/19	B9K2105	TO-15	
100-41-4	Ethylbenzene	ND	1.3	ug/m3	1	11/20/19	B9K2105	TO-15	
110-54-3	Hexane	ND	3.6	ug/m3	1	11/20/19	B9K2105	TO-15	



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Client ID: 19-AQD-DCP-111919

Lab ID: 1911259-05

CAS #	Analyte	Result	RL	Units	Dilution	Analyzed Date	QC Batch	Method	Qualifier
Organics-Volatiles									
98-82-8	Isopropylbenzene	ND	1.5	ug/m3	1	11/20/19	B9K2105	TO-15	
1330-20-7	m & p - Xylene	2.0	1.3	ug/m3	1	11/20/19	B9K2105	TO-15	
75-09-2	Methylene chloride	ND	1.1	ug/m3	1	11/20/19	B9K2105	TO-15	
1634-04-4	Methyltertiarybutylether	ND	1.8	ug/m3	1	11/20/19	B9K2105	TO-15	
91-20-3	Naphthalene	ND	26	ug/m3	1	11/20/19	B9K2105	TO-15	X1
104-51-8	n-Butylbenzene	ND	5.5	ug/m3	1	11/20/19	B9K2105	TO-15	
103-65-1	n-Propylbenzene	ND	1.5	ug/m3	1	11/20/19	B9K2105	TO-15	
95-47-6	o-Xylene	ND	1.3	ug/m3	1	11/20/19	B9K2105	TO-15	
135-98-8	sec-Butylbenzene	ND	1.7	ug/m3	1	11/20/19	B9K2105	TO-15	
100-42-5	Styrene	ND	1.3	ug/m3	1	11/20/19	B9K2105	TO-15	
127-18-4	Tetrachloroethylene	ND	2.1	ug/m3	1	11/20/19	B9K2105	TO-15	
108-88-3	Toluene	2.3	1.1	ug/m3	1	11/20/19	B9K2105	TO-15	
156-60-5	trans-1,2-Dichloroethylene	ND	1.2	ug/m3	1	11/20/19	B9K2105	TO-15	
10061-02-6	trans-1,3-Dichloropropylene	ND	1.4	ug/m3	1	11/20/19	B9K2105	TO-15	
79-01-6	Trichloroethylene	ND	1.6	ug/m3	1	11/20/19	B9K2105	TO-15	
75-69-4	Trichlorofluoromethane	ND	1.7	ug/m3	1	11/20/19	B9K2105	TO-15	
75-01-4	Vinyl chloride	ND	0.77	ug/m3	1	11/20/19	B9K2105	TO-15	
<i>Surrogate: Bromofluorobenzene</i>			<i>110 %</i>	<i>70-130</i>		<i>11/20/19</i>	<i>B9K2105</i>	<i>TO-15</i>	

Analysis Request Sheet

PRIORITY

Lab Work Order Number: 1911259 Project Name: Diamond Chrome Matrix: AIR

Location ID: _____ Program: _____ CC Email 1: robinsona1@michigan.gov Project TAT Days: 24hr Sample Collector: Amy Robinson
 Dept-Division-District: EGLE-AQD-Amu Activity: _____ CC Email 2: Kilmer.s@michigan.gov Project Due Date: _____ Sample Collector Phone: 517 242 6561
 State Project Manager: Amy Robinson Funding Source: _____ CC Email 3: _____ Contract Firm: _____
 State Project Manager Email: robinsona1@michigan.gov Location Code: _____ Overflow Lab Choice 1: _____ Accept Analysis hold time codes: _____ Contract Firm Primary Contact: _____
 State Project Manager Phone: 517 242 6561 SUB Location Code: _____ Overflow Lab Choice 2: _____ Primary Contact Phone: _____

Lab Use Only	Field Sample Identification	Collection Date	Collection Time	Bottle Count	Comments	Regulator ID	Canister/Bottle Vac Number
01	13-AQD-DCP-111919	11/19/19	12:41			60 29	22584
02	16-AQD-DCP-111919	11/19/19	11:56			39	225
03	17-AQD-DCP-111919	11/19/19	12:04			51	159
04	18-AQD-DCP-111919	11/19/19	12:12			95	1600
05	19-AQD-DCP-111919	11/19/19	12:21			39 79	225 210
6							
7							
8							
9							
10							

ORGANIC CHEMISTRY

VOA - Volatile Organic Analysis
 Bottlevac 1 2 3 4 5 6 7 8 9 10
 Canister - AQD 1 2 3 4 5 6 7 8 9 10
 Canister - RRD 1 2 3 4 5 6 7 8 9 10
 Tedlar - Volatiles 1 2 3 4 5 6 7 8 9 10

METH - Methane, Ethane, Ethene
 Methane, Ethane, Ethene 1 2 3 4 5 6 7 8 9 10

changed - CSS 11/20/19

Chain of Custody	Relinquished by	Received By	Date / Time
	Print Name & Org.: <u>Amy Robinson EGLE</u>	<u>Melissa Smith</u>	<u>11/20/19 1259</u>
	Signature: <u>Amy R. Robinson</u>	<u>[Signature]</u>	
	Print Name & Org.:		
Signature:			