



**MICHIGAN DEPARTMENT OF ENVIRONMENTAL QUALITY
ENVIRONMENTAL LABORATORY**

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

10 February 2016

Work Order: 1602055

Price: \$1,160.00

Diane Kavanaugh Vetort
MDEQ-AQD-JACKSON
301 E. Louis Glick Highway
Jackson, MI 49201-1556
RE: ARBOR HILLS LF

I certify that the analyses performed by the MDEQ Environmental Laboratory were conducted by methods approved by the U.S. Environmental Protection Agency and other appropriate regulatory agencies .

Sincerely,

George Krisztian
Laboratory Director



MICHIGAN DEPARTMENT OF ENVIRONMENTAL QUALITY
ENVIRONMENTAL LABORATORY

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

MDEQ-AQD-JACKSON
301 E. Louis Glick Highway
Jackson MI, 49201-1556

Project: ARBOR HILLS LF
Site Code: LB041660
Project Manager: Diane Kavanaugh Vetort

Reported:
02/10/2016

Analytical Report for Samples

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received	Qualifier
Nature Area SC	1602055-01	Air	02/06/2016	02/08/2016	
AHLF 6 Mile	1602055-02	Air	02/06/2016	02/08/2016	

Notes and Definitions

- Y11 Unidentified peaks present in sample.
- T Reported value is less than the reporting limit (RL). Result is estimated.
- A05 Result and reporting limit are estimated due to low continuing calibration standard criteria failure.
- ND Indicates compound analyzed for but not detected
- RL Reporting Limit
- NA Not Applicable



MICHIGAN DEPARTMENT OF ENVIRONMENTAL QUALITY
 ENVIRONMENTAL LABORATORY

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

Client ID: Nature Area SC

Lab ID: 1602055-01

CAS #	Analyte	Result	RL	Units	Dilution	Analyzed Date	QC Batch	Method	Qualifier
Organics-Volatiles									
See note Y11									
71-55-6	1,1,1-Trichloroethane	ND	1.6	ug/m3	1	02/09/16	B6B0912	TO-15	
79-34-5	1,1,2,2-Tetrachloroethane	ND	2.0	ug/m3	1	02/09/16	B6B0912	TO-15	
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	ND	2.2	ug/m3	1	02/09/16	B6B0912	TO-15	
79-00-5	1,1,2-Trichloroethane	ND	1.6	ug/m3	1	02/09/16	B6B0912	TO-15	
75-34-3	1,1-Dichloroethane	ND	1.2	ug/m3	1	02/09/16	B6B0912	TO-15	
75-35-4	1,1-Dichloroethylene	ND	1.2	ug/m3	1	02/09/16	B6B0912	TO-15	
120-82-1	1,2,4-Trichlorobenzene	ND	2.2	ug/m3	1	02/09/16	B6B0912	TO-15	
95-63-6	1,2,4-Trimethylbenzene	ND	1.4	ug/m3	1	02/09/16	B6B0912	TO-15	
106-93-4	1,2-Dibromoethane	ND	2.2	ug/m3	1	02/09/16	B6B0912	TO-15	
76-14-2	1,2-Dichloro-1,1,2,2-Tetrafluoroethane	ND	2.0	ug/m3	1	02/09/16	B6B0912	TO-15	
95-50-1	1,2-Dichlorobenzene	ND	1.8	ug/m3	1	02/09/16	B6B0912	TO-15	
107-06-2	1,2-Dichloroethane	ND	1.2	ug/m3	1	02/09/16	B6B0912	TO-15	
78-87-5	1,2-Dichloropropane	ND	1.3	ug/m3	1	02/09/16	B6B0912	TO-15	
108-67-8	1,3,5-Trimethylbenzene	ND	1.4	ug/m3	1	02/09/16	B6B0912	TO-15	
106-99-0	1,3-Butadiene	ND	0.64	ug/m3	1	02/09/16	B6B0912	TO-15	
541-73-1	1,3-Dichlorobenzene	ND	1.8	ug/m3	1	02/09/16	B6B0912	TO-15	
106-46-7	1,4-Dichlorobenzene	ND	1.8	ug/m3	1	02/09/16	B6B0912	TO-15	
540-84-1	2,2,4-Trimethylpentane	0.71	1.4	ug/m3	1	02/09/16	B6B0912	TO-15	T
78-93-3	2-Butanone (MEK)	22	14	ug/m3	1	02/09/16	B6B0912	TO-15	
126-99-8	2-Chloro-1,3-butadiene	ND	1.1	ug/m3	1	02/09/16	B6B0912	TO-15	
108-10-1	4-Methyl-2-pentanone (MIBK)	2.1	4.0	ug/m3	1	02/09/16	B6B0912	TO-15	T
75-05-8	Acetonitrile	ND	1.6	ug/m3	1	02/09/16	B6B0912	TO-15	
107-13-1	Acrylonitrile	ND	1.1	ug/m3	1	02/09/16	B6B0912	TO-15	
71-43-2	Benzene	1.3	0.93	ug/m3	1	02/09/16	B6B0912	TO-15	
75-27-4	Bromodichloromethane	ND	2.0	ug/m3	1	02/09/16	B6B0912	TO-15	
75-25-2	Bromoform	ND	3.0	ug/m3	1	02/09/16	B6B0912	TO-15	
74-83-9	Bromomethane	ND	1.1	ug/m3	1	02/09/16	B6B0912	TO-15	
56-23-5	Carbon tetrachloride	ND	1.8	ug/m3	1	02/09/16	B6B0912	TO-15	
108-90-7	Chlorobenzene	ND	1.3	ug/m3	1	02/09/16	B6B0912	TO-15	
75-00-3	Chloroethane	ND	0.77	ug/m3	1	02/09/16	B6B0912	TO-15	
67-66-3	Chloroform	ND	1.4	ug/m3	1	02/09/16	B6B0912	TO-15	
74-87-3	Chloromethane	1.2	0.60	ug/m3	1	02/09/16	B6B0912	TO-15	
156-59-2	cis-1,2-Dichloroethylene	ND	1.2	ug/m3	1	02/09/16	B6B0912	TO-15	
10061-01-5	cis-1,3-Dichloropropylene	ND	1.3	ug/m3	1	02/09/16	B6B0912	TO-15	
124-48-1	Dibromochloromethane	ND	2.5	ug/m3	1	02/09/16	B6B0912	TO-15	
75-71-8	Dichlorodifluoromethane	2.0	1.4	ug/m3	1	02/09/16	B6B0912	TO-15	
100-41-4	Ethylbenzene	ND	1.3	ug/m3	1	02/09/16	B6B0912	TO-15	
87-68-3	Hexachlorobutadiene	ND	3.1	ug/m3	1	02/09/16	B6B0912	TO-15	
110-54-3	Hexane	0.87	3.4	ug/m3	1	02/09/16	B6B0912	TO-15	T
1330-20-7	m & p - Xylene	ND	1.3	ug/m3	1	02/09/16	B6B0912	TO-15	



MICHIGAN DEPARTMENT OF ENVIRONMENTAL QUALITY
 ENVIRONMENTAL LABORATORY

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

Client ID: Nature Area SC

Lab ID: 1602055-01

CAS #	Analyte	Result	RL	Units	Dilution	Analyzed Date	QC Batch	Method	Qualifier
Organics-Volatiles									See note Y11
75-09-2	Methylene chloride	0.74	1.0	ug/m3	1	02/09/16	B6B0912	TO-15	T
1634-04-4	Methyltertiarybutylether	ND	1.8	ug/m3	1	02/09/16	B6B0912	TO-15	A05
95-47-6	o-Xylene	ND	1.3	ug/m3	1	02/09/16	B6B0912	TO-15	
100-42-5	Styrene	ND	1.2	ug/m3	1	02/09/16	B6B0912	TO-15	
127-18-4	Tetrachloroethylene	ND	2.0	ug/m3	1	02/09/16	B6B0912	TO-15	
108-88-3	Toluene	1.6	1.1	ug/m3	1	02/09/16	B6B0912	TO-15	
156-60-5	trans-1,2-Dichloroethylene	ND	1.2	ug/m3	1	02/09/16	B6B0912	TO-15	
10061-02-6	trans-1,3-Dichloropropylene	ND	1.3	ug/m3	1	02/09/16	B6B0912	TO-15	
79-01-6	Trichloroethylene	ND	1.6	ug/m3	1	02/09/16	B6B0912	TO-15	
75-69-4	Trichlorofluoromethane	1.6	1.6	ug/m3	1	02/09/16	B6B0912	TO-15	
75-01-4	Vinyl chloride	ND	0.74	ug/m3	1	02/09/16	B6B0912	TO-15	
Organics-Methane									
74-84-0	Ethane	ND	20	ppmv	1	02/08/16	B6B0907	8015	
74-85-1	Ethylene	ND	20	ppmv	1	02/08/16	B6B0907	8015	
74-82-8	Methane	ND	20	ppmv	1	02/08/16	B6B0907	8015	



MICHIGAN DEPARTMENT OF ENVIRONMENTAL QUALITY
 ENVIRONMENTAL LABORATORY

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

Client ID: AHLF 6 Mile

Lab ID: 1602055-02

CAS #	Analyte	Result	RL	Units	Dilution	Analyzed Date	QC Batch	Method	Qualifier
Organics-Volatiles									
									See note Y11
71-55-6	1,1,1-Trichloroethane	ND	1.6	ug/m3	1	02/09/16	B6B0912	TO-15	
79-34-5	1,1,2,2-Tetrachloroethane	ND	2.0	ug/m3	1	02/09/16	B6B0912	TO-15	
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	ND	2.2	ug/m3	1	02/09/16	B6B0912	TO-15	
79-00-5	1,1,2-Trichloroethane	ND	1.6	ug/m3	1	02/09/16	B6B0912	TO-15	
75-34-3	1,1-Dichloroethane	ND	1.2	ug/m3	1	02/09/16	B6B0912	TO-15	
75-35-4	1,1-Dichloroethylene	ND	1.2	ug/m3	1	02/09/16	B6B0912	TO-15	
120-82-1	1,2,4-Trichlorobenzene	ND	2.2	ug/m3	1	02/09/16	B6B0912	TO-15	
95-63-6	1,2,4-Trimethylbenzene	ND	1.4	ug/m3	1	02/09/16	B6B0912	TO-15	
106-93-4	1,2-Dibromoethane	ND	2.2	ug/m3	1	02/09/16	B6B0912	TO-15	
76-14-2	1,2-Dichloro-1,1,2,2-Tetrafluoroethane	ND	2.0	ug/m3	1	02/09/16	B6B0912	TO-15	
95-50-1	1,2-Dichlorobenzene	ND	1.8	ug/m3	1	02/09/16	B6B0912	TO-15	
107-06-2	1,2-Dichloroethane	ND	1.2	ug/m3	1	02/09/16	B6B0912	TO-15	
78-87-5	1,2-Dichloropropane	ND	1.3	ug/m3	1	02/09/16	B6B0912	TO-15	
108-67-8	1,3,5-Trimethylbenzene	ND	1.4	ug/m3	1	02/09/16	B6B0912	TO-15	
106-99-0	1,3-Butadiene	ND	0.64	ug/m3	1	02/09/16	B6B0912	TO-15	
541-73-1	1,3-Dichlorobenzene	ND	1.8	ug/m3	1	02/09/16	B6B0912	TO-15	
106-46-7	1,4-Dichlorobenzene	ND	1.8	ug/m3	1	02/09/16	B6B0912	TO-15	
540-84-1	2,2,4-Trimethylpentane	0.47	1.4	ug/m3	1	02/09/16	B6B0912	TO-15	T
78-93-3	2-Butanone (MEK)	5.0	14	ug/m3	1	02/09/16	B6B0912	TO-15	T
126-99-8	2-Chloro-1,3-butadiene	ND	1.1	ug/m3	1	02/09/16	B6B0912	TO-15	
108-10-1	4-Methyl-2-pentanone (MIBK)	ND	4.0	ug/m3	1	02/09/16	B6B0912	TO-15	
75-05-8	Acetonitrile	0.74	1.6	ug/m3	1	02/09/16	B6B0912	TO-15	T
107-13-1	Acrylonitrile	ND	1.1	ug/m3	1	02/09/16	B6B0912	TO-15	
71-43-2	Benzene	0.77	0.93	ug/m3	1	02/09/16	B6B0912	TO-15	T
75-27-4	Bromodichloromethane	ND	2.0	ug/m3	1	02/09/16	B6B0912	TO-15	
75-25-2	Bromoform	ND	3.0	ug/m3	1	02/09/16	B6B0912	TO-15	
74-83-9	Bromomethane	ND	1.1	ug/m3	1	02/09/16	B6B0912	TO-15	
56-23-5	Carbon tetrachloride	ND	1.8	ug/m3	1	02/09/16	B6B0912	TO-15	
108-90-7	Chlorobenzene	ND	1.3	ug/m3	1	02/09/16	B6B0912	TO-15	
75-00-3	Chloroethane	ND	0.77	ug/m3	1	02/09/16	B6B0912	TO-15	
67-66-3	Chloroform	ND	1.4	ug/m3	1	02/09/16	B6B0912	TO-15	
74-87-3	Chloromethane	1.3	0.60	ug/m3	1	02/09/16	B6B0912	TO-15	
156-59-2	cis-1,2-Dichloroethylene	ND	1.2	ug/m3	1	02/09/16	B6B0912	TO-15	
10061-01-5	cis-1,3-Dichloropropylene	ND	1.3	ug/m3	1	02/09/16	B6B0912	TO-15	
124-48-1	Dibromochloromethane	ND	2.5	ug/m3	1	02/09/16	B6B0912	TO-15	
75-71-8	Dichlorodifluoromethane	2.7	1.4	ug/m3	1	02/09/16	B6B0912	TO-15	
100-41-4	Ethylbenzene	ND	1.3	ug/m3	1	02/09/16	B6B0912	TO-15	
87-68-3	Hexachlorobutadiene	ND	3.1	ug/m3	1	02/09/16	B6B0912	TO-15	
110-54-3	Hexane	2.5	3.4	ug/m3	1	02/09/16	B6B0912	TO-15	T
1330-20-7	m & p - Xylene	0.78	1.3	ug/m3	1	02/09/16	B6B0912	TO-15	



**MICHIGAN DEPARTMENT OF ENVIRONMENTAL QUALITY
ENVIRONMENTAL LABORATORY**

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

**Client ID: AHLF 6 Mile
Lab ID: 1602055-02**

CAS #	Analyte	Result	RL	Units	Dilution	Analyzed Date	QC Batch	Method	Qualifier
Organics-Volatiles									See note Y11
75-09-2	Methylene chloride	1.4	1.0	ug/m3	1	02/09/16	B6B0912	TO-15	
1634-04-4	Methyltertiarybutylether	ND	1.8	ug/m3	1	02/09/16	B6B0912	TO-15	A05
95-47-6	o-Xylene	ND	1.3	ug/m3	1	02/09/16	B6B0912	TO-15	
100-42-5	Styrene	ND	1.2	ug/m3	1	02/09/16	B6B0912	TO-15	
127-18-4	Tetrachloroethylene	ND	2.0	ug/m3	1	02/09/16	B6B0912	TO-15	
108-88-3	Toluene	3.0	1.1	ug/m3	1	02/09/16	B6B0912	TO-15	
156-60-5	trans-1,2-Dichloroethylene	ND	1.2	ug/m3	1	02/09/16	B6B0912	TO-15	
10061-02-6	trans-1,3-Dichloropropylene	ND	1.3	ug/m3	1	02/09/16	B6B0912	TO-15	
79-01-6	Trichloroethylene	ND	1.6	ug/m3	1	02/09/16	B6B0912	TO-15	
75-69-4	Trichlorofluoromethane	3.7	1.6	ug/m3	1	02/09/16	B6B0912	TO-15	
75-01-4	Vinyl chloride	ND	0.74	ug/m3	1	02/09/16	B6B0912	TO-15	
Organics-Methane									
74-84-0	Ethane	ND	20	ppmv	1	02/08/16	B6B0907	8015	
74-85-1	Ethylene	ND	20	ppmv	1	02/08/16	B6B0907	8015	
74-82-8	Methane	19	20	ppmv	1	02/08/16	B6B0907	8015	T



Analysis Request Sheet

Lab Work Order Number 1602055	Project Name ARBOR HILLS LF	Matrix AIR
Site Code/Project Number DEC-1400-Jackson	AY 41110	CC Email 1 kavanaugh.d@michigan.gov
Dept-Division-District DEC-1400-Jackson	Index 41110	CC Email 2 kavanaugh.d@michigan.gov
State Project Manager Diane Kavanaugh-Vetort	PCA 36503	CC Email 3 _____
State Project Manager Email kavanaugh.d@michigan.gov	Project _____	Overflow Lab Choice 1 _____
State Project Manager Phone 517-780-7864	Phase _____	Overflow Lab Choice 2 _____
		Project TAT Days _____
		Project Due Date _____
		Sample Collector D. Kavanaugh Vetort
		Sample Collector Phone 517 780 7864
		Contract Firm _____
		Contract Firm Primary Contact _____
		Primary Contact Phone _____
		Accept Analysis hold time codes _____

Lab Use Only	Field Sample Identification	Collection Date	Collection Time	Container Count	Comments	140-Tag Regulator ID	Canister/Bottle Vac Number
01	Nature Area SC	2-6-16	6:13PM		Grab	312-0081	2999
02	AHLF 6 mile	2-6-16	6:39PM		Grab	312-0082	3005

<p>ORGANIC CHEMISTRY</p> <p>VOA - Volatile Organic Analysis</p> <p>Bottlevac 1 2 3 4 5 6 7 8 9 10</p> <p>Canister - AOD 1 2 3 4 5 6 7 8 9 10</p> <p>Canister - RRD 1 2 3 4 5 6 7 8 9 10</p> <p>Tedlar - Volatiles 1 2 3 4 5 6 7 8 9 10</p> <p>METH - Methane, Ethane, Ethene</p> <p>Methane, Ethane, Ethene 1 2 3 4 5 6 7 8 9 10</p> <p><i>if possible</i></p>	<p>TO-15 List</p>
---	--------------------------

Chain of Custody	Relinquished by	Received By	Date / Time
	Print Name & Org. Diane Kavanaugh Vetort	Alex Whitow	2/8/2016, 12:15pm
	Signature: <i>Diane Kavanaugh Vetort</i>		
	Print Name & Org. Alex Whitow MDEQ	Susan Kilmer	2-8-2016 1:30 pm
	Signature: <i>Alex Whitow</i>	<i>Susan Kilmer</i>	
	Print Name & Org. Susan Kilmer MDEQ	Melissa Smith	2/8/16 1601
Signature: <i>Susan Kilmer</i>	<i>Melissa Smith</i>		