STATE OF MICHIGAN
DEPARTMENT OF ENVIRONMENTAL QUALITY

MICHIGAN DEPARTMENT OF ENVIRONMENTAL QUALITY
ENVIRONMENTAL LABORATORY

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

21 July 2016

Work Order: 1606266

Price: $195.00

Jennifer Rogers
MDEQ-WRD-LANSING
525 W. Allegan, P.O. Box 30242
Lansing, MI 48909-7742

RE: LWEC-FAF

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

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525 W. Allegan, P.O. Box 30242
Lansing MI, 48909-7742

Project: LWEC-FAF
Site Code: MI0020133
Project Manager: Jennifer Rogers

Reported:
07/21/2016

Analytical Report for Samples

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received	Qualifier
007	1606266-01	Waste Water	06/21/2016	06/24/2016	

Notes and Definitions

Y18	Sample was extracted/analyzed past USEPA maximum allowable holding time due to laboratory error. Data is estimated.
A09	Result is estimated due to high recovery of batch quality control.
A08	Result(s) and reporting limits(s) are estimated due to low recovery of batch QC.
ND	Indicates compound analyzed for but not detected
RL	Reporting Limit
NA	Not Applicable

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TEL: (517) 335-9800
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Client ID: 007

Lab ID: 1606266-01

CAS #	Analyte	Result	RL	Units	Dilution	Analyzed Date	QC Batch	Method	Qualifier
Organics-Semivolatiles									**See note Y18**
120-82-1	1,2,4-Trichlorobenzene	ND	2.5	ug/L	1	07/05/16	B6F2815	625	
95-95-4	2,4,5-Trichlorophenol	ND	13	ug/L	1	07/05/16	B6F2815	625	
88-06-2	2,4,6-Trichlorophenol	ND	13	ug/L	1	07/05/16	B6F2815	625	
120-83-2	2,4-Dichlorophenol	ND	13	ug/L	1	07/05/16	B6F2815	625	
105-67-9	2,4-Dimethylphenol	ND	13	ug/L	1	07/05/16	B6F2815	625	
51-28-5	2,4-Dinitrophenol	ND	63	ug/L	1	07/05/16	B6F2815	625	
121-14-2	2,4-Dinitrotoluene	ND	6.3	ug/L	1	07/05/16	B6F2815	625	
606-20-2	2,6-Dinitrotoluene	ND	6.3	ug/L	1	07/05/16	B6F2815	625	
91-58-7	2-Chloronaphthalene	ND	2.5	ug/L	1	07/05/16	B6F2815	625	A08
95-57-8	2-Chlorophenol	ND	13	ug/L	1	07/05/16	B6F2815	625	
534-52-1	2-Methyl-4,6-dinitrophenol	ND	63	ug/L	1	07/05/16	B6F2815	625	
91-57-6	2-Methylnaphthalene	ND	6.3	ug/L	1	07/05/16	B6F2815	625	
95-48-7	2-Methylphenol (o-Cresol)	ND	13	ug/L	1	07/05/16	B6F2815	625	
88-74-4	2-Nitroaniline	ND	25	ug/L	1	07/05/16	B6F2815	625	
88-75-5	2-Nitrophenol	ND	13	ug/L	1	07/05/16	B6F2815	625	
108394,106445	3 & 4-Methylphenol	ND	25	ug/L	1	07/05/16	B6F2815	625	
99-09-2	3-Nitroaniline	ND	25	ug/L	1	07/05/16	B6F2815	625	
101-55-3	4-Bromophenyl phenyl ether	ND	2.5	ug/L	1	07/05/16	B6F2815	625	
59-50-7	4-Chloro-3-methyl-phenol	ND	13	ug/L	1	07/05/16	B6F2815	625	
7005-72-3	4-Chlorodiphenylether	ND	1.3	ug/L	1	07/05/16	B6F2815	625	
100-01-6	4-Nitroaniline	ND	25	ug/L	1	07/05/16	B6F2815	625	
100-02-7	4-Nitrophenol	ND	63	ug/L	1	07/05/16	B6F2815	625	
83-32-9	Acenaphthene	ND	1.3	ug/L	1	07/05/16	B6F2815	625	
208-96-8	Acenaphthylene	ND	1.3	ug/L	1	07/05/16	B6F2815	625	
120-12-7	Anthracene	ND	1.3	ug/L	1	07/05/16	B6F2815	625	
103-33-3	Azobenzene	ND	2.5	ug/L	1	07/05/16	B6F2815	625	
56-55-3	Benz[a]anthracene	ND	1.3	ug/L	1	07/05/16	B6F2815	625	
50-32-8	Benzo[a]pyrene	ND	2.5	ug/L	1	07/05/16	B6F2815	625	
205-99-2	Benzo[b]fluoranthene	ND	2.5	ug/L	1	07/05/16	B6F2815	625	
191-24-2	Benzo[g,h,i]perylene	ND	2.5	ug/L	1	07/05/16	B6F2815	625	
207-08-9	Benzo[k]fluoranthene	ND	2.5	ug/L	1	07/05/16	B6F2815	625	
111-91-1	Bis(2-chloroethoxy)methane	ND	2.5	ug/L	1	07/05/16	B6F2815	625	
111-44-4	Bis(2-chloroethyl)ether	ND	1.3	ug/L	1	07/05/16	B6F2815	625	
108-60-1	Bis(2-chloroisopropyl)ether	ND	1.3	ug/L	1	07/05/16	B6F2815	625	
117-81-7	Bis(2-ethylhexyl)phthalate	ND	6.3	ug/L	1	07/05/16	B6F2815	625	
85-68-7	Butyl benzyl phthalate	ND	6.3	ug/L	1	07/05/16	B6F2815	625	
86-74-8	Carbazole	ND	13	ug/L	1	07/05/16	B6F2815	625	
218-01-9	Chrysene	ND	1.3	ug/L	1	07/05/16	B6F2815	625	
53-70-3	Dibenz[a,h]anthracene	ND	2.5	ug/L	1	07/05/16	B6F2815	625	
132-64-9	Dibenzofuran	ND	6.3	ug/L	1	07/05/16	B6F2815	625	
84-66-2	Diethylphthalate	ND	6.3	ug/L	1	07/05/16	B6F2815	625	

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Lab ID: 1606266-01

CAS #	Analyte	Result	RL	Units	Dilution	Analyzed Date	QC Batch	Method	Qualifier
Organics-Semivolatiles									**See note Y18**
131-11-3	Dimethyl phthalate	ND	6.3	ug/L	1	07/05/16	B6F2815	625	
84-74-2	Di-n-butyl phthalate	ND	6.3	ug/L	1	07/05/16	B6F2815	625	
117-84-0	Di-n-octyl phthalate	ND	6.3	ug/L	1	07/05/16	B6F2815	625	
206-44-0	Fluoranthene	ND	1.3	ug/L	1	07/05/16	B6F2815	625	
86-73-7	Fluorene	ND	1.3	ug/L	1	07/05/16	B6F2815	625	
118-74-1	Hexachlorobenzene	ND	2.5	ug/L	1	07/05/16	B6F2815	625	
87-68-3	Hexachlorobutadiene	ND	2.5	ug/L	1	07/05/16	B6F2815	625	
77-47-4	Hexachlorocyclopentadiene	ND	13	ug/L	1	07/05/16	B6F2815	625	
67-72-1	Hexachloroethane	ND	1.3	ug/L	1	07/05/16	B6F2815	625	A08
193-39-5	Indeno(1,2,3-c,d)pyrene	ND	2.5	ug/L	1	07/05/16	B6F2815	625	
78-59-1	Isophorone	ND	1.3	ug/L	1	07/05/16	B6F2815	625	
91-20-3	Naphthalene	ND	1.3	ug/L	1	07/05/16	B6F2815	625	
98-95-3	Nitrobenzene	ND	2.5	ug/L	1	07/05/16	B6F2815	625	
67-75-9	N-Nitrosodimethylamine	ND	6.3	ug/L	1	07/05/16	B6F2815	625	
621-64-7	N-Nitrosodi-n-propylamine	ND	2.5	ug/L	1	07/05/16	B6F2815	625	
86-30-6	N-Nitrosodiphenylamine	ND	2.5	ug/L	1	07/05/16	B6F2815	625	
87-86-5	Pentachlorophenol	ND	63	ug/L	1	07/05/16	B6F2815	625	
85-01-8	Phenanthrene	ND	1.3	ug/L	1	07/05/16	B6F2815	625	
108-95-2	Phenol	ND	13	ug/L	1	07/05/16	B6F2815	625	
129-00-0	Pyrene	ND	1.3	ug/L	1	07/05/16	B6F2815	625	
Surrogate: 2,4,6-Tribromophenol			*87.6 %*	*33.3-124*		*07/05/16*	B6F2815	*625*	
Surrogate: 2-Fluorobiphenyl			*71.4 %*	*11.3-96.6*		*07/05/16*	B6F2815	*625*	
Surrogate: 2-Fluorophenol			*31.9 %*	*10-46.1*		*07/05/16*	B6F2815	*625*	
Surrogate: Nitrobenzene-d5			*68.2 %*	*17-88.4*		*07/05/16*	B6F2815	*625*	
Surrogate: Phenol-d6			*19.2 %*	*10-33.6*		*07/05/16*	B6F2815	*625*	
Surrogate: p-Terphenyl-d14			*96.0 %*	*32.4-124.5*		*07/05/16*	B6F2815	*625*	

Lab Work Order # 1606266

MICHIGAN DEPARTMENT OF ENVIRONMENTAL QUALITY

ENVIRONMENTAL LABORATORY - ANALYSIS REQUEST SHEET

Lab Work Order Number	Project Name	Matrix
1606266	LWEC - FAF	WASTE WATER

Site Code/Project Number	AY: 16	CC Email 1: conroyr@mi.gov	Project TAT Days	Sample Collector: R Conroy	
Dept-Division-District: DEQ-WRD-UP	Index: 63666	CC Email 2	Project Due Date	Sample Collector Phone	
State Project Manager: Randy Conroy	PCA: 42200	CC Email 3		Contract Firm	
State Project Manager Email	Project: 481060	Overflow Lab Choice 1	Accept Analysis hold time codes	Contract Firm Primary Contact	
State Project Manager Phone: 906-236-1362	Phase: 00	Overflow Lab Choice 2		Primary Contact Phone	

	Lab Use Only	Field Sample Identification	Collection Date	Collection Time	Container Count	Comments
1	01	007	6/21/16		1	field DO 8.78 cond 674 temp 16.6°C creek to Certainteed property
2						
3						
4						
5						
6						
7						
8						
9						
10						

ORGANIC CHEMISTRY

VOA - Volatile Organic Acidic
- Volatiles - Full List 1 2 3 4 5 6 7 8 9 10
- BTEX/MTBE/TMB only 1 2 3 4 5 6 7 8 9 10

ON - Pesticides, PCBs
- Scan 3 1 2 3 4 5 6 7 8 9 10
- PCBs only 1 2 3 4 5 6 7 8 9 10

BNA - Base Neutral Acids
- BNAs 1 2 3 4 5 6 7 8 9 10

Organic Specialty Requests
- Library search - Volatiles 1 2 3 4 5 6 7 8 9 10
- Library Search - SemiVols 1 2 3 4 5 6 7 8 9 10
- Finger Print 1 2 3 4 5 6 7 8 9 10

METALS CHEMISTRY PACKAGES

- OpMemo2 - Total 1 2 3 4 5 6 7 8 9 10
- OpMemo2 - Dissolved 1 2 3 4 5 6 7 8 9 10
  (Sb,As,Ba,Be,Cd,Cr,Cu,Co,Fe,Pb,Mn,Hg,Mo,Ni,Se,Ag,Tl,V,Zn)
- Michigan10 - Total 1 2 3 4 5 6 7 8 9 10
- Michigan10 - Dissolved 1 2 3 4 5 6 7 8 9 10
  (As,Ba,Cd,Cr,Cu,Pb,Hg,Se,Ag,Zn)

MAD - DISSOLVED METALS

- Diss - Silver - Ag 1 2 3 4 5 6 7 8 9 10
- Diss - Aluminum - Al 1 2 3 4 5 6 7 8 9 10
- Diss - Arsenic - As 1 2 3 4 5 6 7 8 9 10
- Diss - Boron - B 1 2 3 4 5 6 7 8 9 10
- Diss - Barium - Ba 1 2 3 4 5 6 7 8 9 10
- Diss - Beryllium - Be 1 2 3 4 5 6 7 8 9 10
- Diss - Cadmium - Cd 1 2 3 4 5 6 7 8 9 10
- Diss - Cobalt - Co 1 2 3 4 5 6 7 8 9 10
- Diss - Chromium - Cr 1 2 3 4 5 6 7 8 9 10
- Diss - Copper - Cu 1 2 3 4 5 6 7 8 9 10
- Diss - Iron - Fe 1 2 3 4 5 6 7 8 9 10
- Diss - Mercury - Hg 1 2 3 4 5 6 7 8 9 10
- Diss - Lithium - Li 1 2 3 4 5 6 7 8 9 10
- Diss - Manganese - Mn 1 2 3 4 5 6 7 8 9 10
- Diss - Molybdenum - Mo 1 2 3 4 5 6 7 8 9 10
- Diss - Nickel - Ni 1 2 3 4 5 6 7 8 9 10
- Diss - Lead - Pb 1 2 3 4 5 6 7 8 9 10
- Diss - Antimony - Sb 1 2 3 4 5 6 7 8 9 10
- Diss - Selenium - Se 1 2 3 4 5 6 7 8 9 10
- Diss - Strontium - Sr 1 2 3 4 5 6 7 8 9 10
- Diss - Titanium - Ti 1 2 3 4 5 6 7 8 9 10
- Diss - Thallium - Tl 1 2 3 4 5 6 7 8 9 10
- Diss - Vanadium - V 1 2 3 4 5 6 7 8 9 10
- Diss - Zinc - Zn 1 2 3 4 5 6 7 8 9 10
- Diss - Calcium - Ca 1 2 3 4 5 6 7 8 9 10
- Diss - Potassium - K 1 2 3 4 5 6 7 8 9 10
- Diss - Magnesium - Mg 1 2 3 4 5 6 7 8 9 10
- Diss - Sodium - Na 1 2 3 4 5 6 7 8 9 10
- Diss - Hardness - Ca, Mg 1 2 3 4 5 6 7 8 9 10

MD - Metals Dissolved
- Lab Filtration 1 2 3 4 5 6 7 8 9 10

MA - TOTAL METALS

- Silver - Ag 1 2 3 4 5 6 7 8 9 10
- Aluminum - Al 1 2 3 4 5 6 7 8 9 10
- Arsenic - As 1 2 3 4 5 6 7 8 9 10
- Boron - B 1 2 3 4 5 6 7 8 9 10
- Barium - Ba 1 2 3 4 5 6 7 8 9 10
- Beryllium - Be 1 2 3 4 5 6 7 8 9 10
- Cadmium - Cd 1 2 3 4 5 6 7 8 9 10
- Cobalt - Co 1 2 3 4 5 6 7 8 9 10
- Chromium - Cr 1 2 3 4 5 6 7 8 9 10
- Copper - Cu 1 2 3 4 5 6 7 8 9 10
- Iron - Fe 1 2 3 4 5 6 7 8 9 10
- Mercury - Hg 1 2 3 4 5 6 7 8 9 10
- Lithium - Li 1 2 3 4 5 6 7 8 9 10
- Manganese - Mn 1 2 3 4 5 6 7 8 9 10
- Molybdenum - Mo 1 2 3 4 5 6 7 8 9 10
- Nickel - Ni 1 2 3 4 5 6 7 8 9 10
- Lead - Pb 1 2 3 4 5 6 7 8 9 10
- Antimony - Sb 1 2 3 4 5 6 7 8 9 10
- Selenium - Se 1 2 3 4 5 6 7 8 9 10
- Strontium - Sr 1 2 3 4 5 6 7 8 9 10
- Titanium - Ti 1 2 3 4 5 6 7 8 9 10
- Thallium - Tl 1 2 3 4 5 6 7 8 9 10
- Vanadium - V 1 2 3 4 5 6 7 8 9 10
- Zinc - Zn 1 2 3 4 5 6 7 8 9 10
- Calcium - Ca 1 2 3 4 5 6 7 8 9 10
- Potassium - K 1 2 3 4 5 6 7 8 9 10
- Magnesium - Mg 1 2 3 4 5 6 7 8 9 10
- Sodium - Na 1 2 3 4 5 6 7 8 9 10
- Hardness - Ca, Mg 1 2 3 4 5 6 7 8 9 10

LHG - Low Level Mercury
- Mercury Low Level - Hg 1 2 3 4 5 6 7 8 9 10

GENERAL CHEMISTRY

GB - General Basic
- Total Cyanide - CN 1 2 3 4 5 6 7 8 9 10
- Amenable Cyanide - CN 1 2 3 4 5 6 7 8 9 10

GCN - General Cyanide
- Available Cyanide - CN 1 2 3 4 5 6 7 8 9 10

CA - Chlorophyll
- Chlorophyll 1 2 3 4 5 6 7 8 9 10

GN - General Chemistry Neutral
- Ortho Phosphate - OP 1 2 3 4 5 6 7 8 9 10
- Nitrite - NO_2 1 2 3 4 5 6 7 8 9 10
- Nitrate - NO_3 (Calc.) 1 2 3 4 5 6 7 8 9 10
- Suspended Solids - SS 1 2 3 4 5 6 7 8 9 10
- Dissolved Solids - TDS 1 2 3 4 5 6 7 8 9 10
- Turbidity 1 2 3 4 5 6 7 8 9 10

MN - Inorganic Matrix Neutral
- Total Alkalinity 1 2 3 4 5 6 7 8 9 10
- Bicarb/Carb Alkalinity (Includes Total Alkalinity) 1 2 3 4 5 6 7 8 9 10
- Chloride - Cl 1 2 3 4 5 6 7 8 9 10
- Sulfate - SO_4 1 2 3 4 5 6 7 8 9 10
- Chromium 6 - Cr^{+6} 1 2 3 4 5 6 7 8 9 10
- Conductivity 1 2 3 4 5 6 7 8 9 10
- pH 1 2 3 4 5 6 7 8 9 10

GA - General Chemistry Acidic
- Chem Oxyg Dem - COD 1 2 3 4 5 6 7 8 9 10
- Diss Org Carbon - DOC 1 2 3 4 5 6 7 8 9 10
- Total Org Carbon - TOC 1 2 3 4 5 6 7 8 9 10
- Ammonia - NH_3 1 2 3 4 5 6 7 8 9 10
- Nitrate+Nitrite - NO_3+NO_2 1 2 3 4 5 6 7 8 9 10
- Kjeldahl Nitrogen - KN 1 2 3 4 5 6 7 8 9 10
- Total Phosphorus - TP 1 2 3 4 5 6 7 8 9 10

Chain of Custody

	Relinquished by	Received By	Date / Time
Print Name & Org.	Randy Conroy	Jennifer Rogers	6/22/16 11:50
Signature:	Randy Conroy	Jennifer Rogers	
Print Name & Org.	JENNIFER ROGERS	UPS	
Signature:	Jennifer Rogers		
Print Name & Org.	UPS	Kirby Shane DEQ	6/24/16 1203
Signature:	1Z2333705533		