



**MICHIGAN DEPARTMENT OF ENVIRONMENTAL QUALITY
ENVIRONMENTAL LABORATORY**

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

11 June 2015

Work Order: 1505183

Price: \$784.00

Amy Keranen

MDEQ-RRD-UP

1504 W. Washington St.

Marquette, MI 49855

RE: ABANDONED MINING WASTES-TORCH LAKE NS

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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MDEQ-RRD-UP
1504 W. Washington St.
Marquette MI, 49855

Project: ABANDONED MINING WASTES-TORCH LAKE NS
Site Code: 31000098
Project Manager: Amy Keranen

Reported:
06/11/2015

Analytical Report for Samples

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received	Qualifier
CHTC-GW-13-14'-19'	1505183-01	Water	05/14/2015	05/20/2015	
CHTC-GW-14-8'-13'	1505183-02	Water	05/14/2015	05/20/2015	

Notes and Definitions

X3	Spike recovery is not applicable due to large target analyte concentration in the source sample.
X	Methods 8260 & 624 are used to analyze volatile organics that have boiling points below 200 °C. 2-Methylnaphthalene & naphthalene have boiling points above 200 °C and are better suited to analysis by methods 8270 & 625 as semivolatile organics.
KR	Reporting limit(s) raised due to low sample volume submitted.
I	Dilution required due to matrix interference; reporting limit (RL) raised.
A11	Result is estimated due to high initial verification standard criteria failure.
A09	Result is estimated due to high recovery of batch quality control.
A06	Result is estimated due to high continuing calibration standard criteria failure.
A04	Result is estimated due to high matrix spike recovery.
A03	Result(s) and reporting limit(s) are estimated due to low matrix spike recovery.
A01	Result(s) and reporting limit(s) are estimated due to low surrogate recovery.
ND	Indicates compound analyzed for but not detected
RL	Reporting Limit
NA	Not Applicable



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Client ID: CHTC-GW-13-14'-19'

Lab ID: 1505183-01

CAS #	Analyte	Result	RL	Units	Dilution	Analyzed Date	QC Batch	Method	Qualifier
Organics-Volatiles									
630-20-6	1,1,1,2-Tetrachloroethane	ND	1.0	ug/L	1	05/22/15	B5E2121	8260	
71-55-6	1,1,1-Trichloroethane	ND	1.0	ug/L	1	05/22/15	B5E2121	8260	
79-34-5	1,1,2,2-Tetrachloroethane	ND	1.0	ug/L	1	05/22/15	B5E2121	8260	
79-00-5	1,1,2-Trichloroethane	ND	1.0	ug/L	1	05/22/15	B5E2121	8260	
75-34-3	1,1-Dichloroethane	ND	1.0	ug/L	1	05/22/15	B5E2121	8260	
75-35-4	1,1-Dichloroethylene	ND	1.0	ug/L	1	05/22/15	B5E2121	8260	
87-61-6	1,2,3-Trichlorobenzene	ND	5.0	ug/L	1	05/22/15	B5E2121	8260	
96-18-4	1,2,3-Trichloropropane	ND	1.0	ug/L	1	05/22/15	B5E2121	8260	
526-73-8	1,2,3-Trimethylbenzene	ND	1.0	ug/L	1	05/22/15	B5E2121	8260	
120-82-1	1,2,4-Trichlorobenzene	ND	5.0	ug/L	1	05/22/15	B5E2121	8260	
95-63-6	1,2,4-Trimethylbenzene	ND	1.0	ug/L	1	05/22/15	B5E2121	8260	
96-12-8	1,2-Dibromo-3-chloropropane	ND	5.0	ug/L	1	05/22/15	B5E2121	8260	
106-93-4	1,2-Dibromoethane	ND	1.0	ug/L	1	05/22/15	B5E2121	8260	
95-50-1	1,2-Dichlorobenzene	ND	1.0	ug/L	1	05/22/15	B5E2121	8260	
107-06-2	1,2-Dichloroethane	ND	1.0	ug/L	1	05/22/15	B5E2121	8260	
78-87-5	1,2-Dichloropropane	ND	1.0	ug/L	1	05/22/15	B5E2121	8260	
108-67-8	1,3,5-Trimethylbenzene	ND	1.0	ug/L	1	05/22/15	B5E2121	8260	
541-73-1	1,3-Dichlorobenzene	ND	1.0	ug/L	1	05/22/15	B5E2121	8260	
106-46-7	1,4-Dichlorobenzene	ND	1.0	ug/L	1	05/22/15	B5E2121	8260	
78-93-3	2-Butanone (MEK)	ND	5.0	ug/L	1	05/22/15	B5E2121	8260	
591-78-6	2-Hexanone	ND	5.0	ug/L	1	05/22/15	B5E2121	8260	
91-57-6	2-Methylnaphthalene	ND	5.0	ug/L	1	05/22/15	B5E2121	8260	X
67-64-1	2-Propanone (acetone)	ND	20	ug/L	1	05/22/15	B5E2121	8260	
108-10-1	4-Methyl-2-pentanone (MIBK)	ND	5.0	ug/L	1	05/22/15	B5E2121	8260	
107-13-1	Acrylonitrile	ND	5.0	ug/L	1	05/22/15	B5E2121	8260	
71-43-2	Benzene	ND	1.0	ug/L	1	05/22/15	B5E2121	8260	
108-86-1	Bromobenzene	ND	1.0	ug/L	1	05/22/15	B5E2121	8260	
74-97-5	Bromochloromethane	ND	1.0	ug/L	1	05/22/15	B5E2121	8260	
75-27-4	Bromodichloromethane	ND	1.0	ug/L	1	05/22/15	B5E2121	8260	
75-25-2	Bromoform	ND	1.0	ug/L	1	05/22/15	B5E2121	8260	
74-83-9	Bromomethane	ND	5.0	ug/L	1	05/22/15	B5E2121	8260	
75-15-0	Carbon disulfide	ND	1.0	ug/L	1	05/22/15	B5E2121	8260	
56-23-5	Carbon tetrachloride	ND	1.0	ug/L	1	05/22/15	B5E2121	8260	
108-90-7	Chlorobenzene	ND	1.0	ug/L	1	05/22/15	B5E2121	8260	
75-00-3	Chloroethane	ND	5.0	ug/L	1	05/22/15	B5E2121	8260	
67-66-3	Chloroform	ND	1.0	ug/L	1	05/22/15	B5E2121	8260	
74-87-3	Chloromethane	ND	5.0	ug/L	1	05/22/15	B5E2121	8260	
156-59-2	cis-1,2-Dichloroethylene	ND	1.0	ug/L	1	05/22/15	B5E2121	8260	
10061-01-5	cis-1,3-Dichloropropylene	ND	1.0	ug/L	1	05/22/15	B5E2121	8260	
110-82-7	Cyclohexane	ND	5.0	ug/L	1	05/22/15	B5E2121	8260	
124-48-1	Dibromochloromethane	ND	1.0	ug/L	1	05/22/15	B5E2121	8260	



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Organics-Volatiles									
74-95-3	Dibromomethane	ND	1.0	ug/L	1	05/22/15	B5E2121	8260	
75-71-8	Dichlorodifluoromethane	ND	5.0	ug/L	1	05/22/15	B5E2121	8260	
60-29-7	Diethyl ether	ND	5.0	ug/L	1	05/22/15	B5E2121	8260	
108-20-3	Diisopropyl Ether	ND	5.0	ug/L	1	05/22/15	B5E2121	8260	
100-41-4	Ethylbenzene	ND	1.0	ug/L	1	05/22/15	B5E2121	8260	
637-92-3	Ethyltertiarybutylether	ND	5.0	ug/L	1	05/22/15	B5E2121	8260	
67-72-1	Hexachloroethane	ND	5.0	ug/L	1	05/22/15	B5E2121	8260	
98-82-8	Isopropylbenzene	ND	1.0	ug/L	1	05/22/15	B5E2121	8260	
1330-20-7	m & p - Xylene	ND	2.0	ug/L	1	05/22/15	B5E2121	8260	
74-88-4	Methyl iodide	ND	1.0	ug/L	1	05/22/15	B5E2121	8260	
75-09-2	Methylene chloride	ND	5.0	ug/L	1	05/22/15	B5E2121	8260	
1634-04-4	Methyltertiarybutylether	ND	1.0	ug/L	1	05/22/15	B5E2121	8260	
91-20-3	Naphthalene	ND	5.0	ug/L	1	05/22/15	B5E2121	8260	X
104-51-8	n-Butylbenzene	ND	1.0	ug/L	1	05/22/15	B5E2121	8260	
103-65-1	n-Propylbenzene	ND	1.0	ug/L	1	05/22/15	B5E2121	8260	
95-47-6	o-Xylene	ND	1.0	ug/L	1	05/22/15	B5E2121	8260	
99-87-6	p-Isopropyl toluene	ND	1.0	ug/L	1	05/22/15	B5E2121	8260	
135-98-8	sec-Butylbenzene	ND	1.0	ug/L	1	05/22/15	B5E2121	8260	
100-42-5	Styrene	ND	1.0	ug/L	1	05/22/15	B5E2121	8260	
98-06-6	tert-Butylbenzene	ND	1.0	ug/L	1	05/22/15	B5E2121	8260	
75-65-0	tertiary Butyl Alcohol	ND	50	ug/L	1	05/22/15	B5E2121	8260	
994-05-8	tertiaryAmylmethylether	ND	5.0	ug/L	1	05/22/15	B5E2121	8260	
127-18-4	Tetrachloroethylene	ND	1.0	ug/L	1	05/22/15	B5E2121	8260	
109-99-9	Tetrahydrofuran	ND	5.0	ug/L	1	05/22/15	B5E2121	8260	
108-88-3	Toluene	ND	1.0	ug/L	1	05/22/15	B5E2121	8260	
156-60-5	trans-1,2-Dichloroethylene	ND	1.0	ug/L	1	05/22/15	B5E2121	8260	
10061-02-6	trans-1,3-Dichloropropylene	ND	1.0	ug/L	1	05/22/15	B5E2121	8260	
110-57-6	trans-1,4-Dichloro-2-butene	ND	5.0	ug/L	1	05/22/15	B5E2121	8260	
79-01-6	Trichloroethylene	ND	1.0	ug/L	1	05/22/15	B5E2121	8260	
75-69-4	Trichlorofluoromethane	ND	1.0	ug/L	1	05/22/15	B5E2121	8260	
75-01-4	Vinyl chloride	ND	1.0	ug/L	1	05/22/15	B5E2121	8260	
Surrogate: Bromofluorobenzene			100 %	85-115		05/22/15	B5E2121	8260	
Surrogate: Dibromofluoromethane			101 %	82.7-115		05/22/15	B5E2121	8260	
Surrogate: Toluene-d8			98.7 %	85-115		05/22/15	B5E2121	8260	



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CAS #	Analyte	Result	RL	Units	Dilution	Analyzed Date	QC Batch	Method	Qualifier
Organics-Semivolatiles									
91-57-6	2-Methylnaphthalene	ND	5.0	ug/L	1	05/22/15	B5E2003	8270	
83-32-9	Acenaphthene	ND	1.0	ug/L	1	05/22/15	B5E2003	8270	
208-96-8	Acenaphthylene	ND	1.0	ug/L	1	05/22/15	B5E2003	8270	
120-12-7	Anthracene	ND	1.0	ug/L	1	05/22/15	B5E2003	8270	
56-55-3	Benz[a]anthracene	ND	1.0	ug/L	1	05/22/15	B5E2003	8270	
50-32-8	Benzo[a]pyrene	ND	1.0	ug/L	1	05/22/15	B5E2003	8270	
205-99-2	Benzo[b]fluoranthene	ND	1.0	ug/L	1	05/22/15	B5E2003	8270	
191-24-2	Benzo[g,h,i]perylene	ND	1.0	ug/L	1	05/22/15	B5E2003	8270	
207-08-9	Benzo[k]fluoranthene	ND	1.0	ug/L	1	05/22/15	B5E2003	8270	
218-01-9	Chrysene	ND	1.0	ug/L	1	05/22/15	B5E2003	8270	
53-70-3	Dibenz[a,h]anthracene	ND	2.0	ug/L	1	05/22/15	B5E2003	8270	
206-44-0	Fluoranthene	ND	1.0	ug/L	1	05/22/15	B5E2003	8270	
86-73-7	Fluorene	ND	1.0	ug/L	1	05/22/15	B5E2003	8270	
193-39-5	Indeno(1,2,3-c,d)pyrene	ND	2.0	ug/L	1	05/22/15	B5E2003	8270	
91-20-3	Naphthalene	ND	1.0	ug/L	1	05/22/15	B5E2003	8270	
85-01-8	Phenanthrene	ND	1.0	ug/L	1	05/22/15	B5E2003	8270	
129-00-0	Pyrene	ND	1.0	ug/L	1	05/22/15	B5E2003	8270	
<i>Surrogate: 2-Fluorobiphenyl</i>			45.7 %		24.1-115	05/22/15	B5E2003	8270	
<i>Surrogate: Nitrobenzene-d5</i>			45.4 %		17.8-115	05/22/15	B5E2003	8270	
<i>Surrogate: p-Terphenyl-d14</i>			63.0 %		41.8-115	05/22/15	B5E2003	8270	
Organics-PCBs as Aroclors									
12674-11-2	Aroclor 1016	ND	0.10	ug/L	1	06/03/15	B5E2804	8081/8082	
11104-28-2	Aroclor 1221	ND	0.10	ug/L	1	06/03/15	B5E2804	8081/8082	
11141-16-5	Aroclor 1232	ND	0.10	ug/L	1	06/03/15	B5E2804	8081/8082	
53469-21-9	Aroclor 1242	ND	0.10	ug/L	1	06/03/15	B5E2804	8081/8082	
12672-29-6	Aroclor 1248	ND	0.10	ug/L	1	06/03/15	B5E2804	8081/8082	
11097-69-1	Aroclor 1254	ND	0.10	ug/L	1	06/03/15	B5E2804	8081/8082	
11096-82-5	Aroclor 1260	ND	0.10	ug/L	1	06/03/15	B5E2804	8081/8082	
37324-23-5	Aroclor 1262	ND	0.10	ug/L	1	06/03/15	B5E2804	8081/8082	
11100-14-4	Aroclor 1268	ND	0.10	ug/L	1	06/03/15	B5E2804	8081/8082	
<i>Surrogate: Decachlorobiphenyl</i>			56.3 %		30-150	06/03/15	B5E2804	8081/8082	
<i>Surrogate: Tetrachloro-m-xylene</i>			41.0 %		30-150	06/03/15	B5E2804	8081/8082	



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Lab ID: 1505183-01

CAS #	Analyte	Result	RL	Units	Dilution	Analyzed Date	QC Batch	Method	Qualifier
Inorganics-General Chemistry									
16887-00-6	Chloride	6.2	1.0	mg/L	1	05/21/15	B5E2106	325.2	
18785-72-3	Sulfate	9	2	mg/L	1	05/29/15	B5E2914	375.2	



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Client ID: CHTC-GW-14-8'-13'

Lab ID: 1505183-02

CAS #	Analyte	Result	RL	Units	Dilution	Analyzed Date	QC Batch	Method	Qualifier
Organics-Volatiles									
630-20-6	1,1,1,2-Tetrachloroethane	ND	1.0	ug/L	1	05/22/15	B5E2121	8260	
71-55-6	1,1,1-Trichloroethane	ND	1.0	ug/L	1	05/22/15	B5E2121	8260	
79-34-5	1,1,2,2-Tetrachloroethane	ND	1.0	ug/L	1	05/22/15	B5E2121	8260	
79-00-5	1,1,2-Trichloroethane	ND	1.0	ug/L	1	05/22/15	B5E2121	8260	
75-34-3	1,1-Dichloroethane	ND	1.0	ug/L	1	05/22/15	B5E2121	8260	
75-35-4	1,1-Dichloroethylene	ND	1.0	ug/L	1	05/22/15	B5E2121	8260	
87-61-6	1,2,3-Trichlorobenzene	ND	5.0	ug/L	1	05/22/15	B5E2121	8260	
96-18-4	1,2,3-Trichloropropane	ND	1.0	ug/L	1	05/22/15	B5E2121	8260	
526-73-8	1,2,3-Trimethylbenzene	ND	1.0	ug/L	1	05/22/15	B5E2121	8260	
120-82-1	1,2,4-Trichlorobenzene	ND	5.0	ug/L	1	05/22/15	B5E2121	8260	
95-63-6	1,2,4-Trimethylbenzene	ND	1.0	ug/L	1	05/22/15	B5E2121	8260	
96-12-8	1,2-Dibromo-3-chloropropane	ND	5.0	ug/L	1	05/22/15	B5E2121	8260	
106-93-4	1,2-Dibromoethane	ND	1.0	ug/L	1	05/22/15	B5E2121	8260	
95-50-1	1,2-Dichlorobenzene	ND	1.0	ug/L	1	05/22/15	B5E2121	8260	
107-06-2	1,2-Dichloroethane	ND	1.0	ug/L	1	05/22/15	B5E2121	8260	
78-87-5	1,2-Dichloropropane	ND	1.0	ug/L	1	05/22/15	B5E2121	8260	
108-67-8	1,3,5-Trimethylbenzene	ND	1.0	ug/L	1	05/22/15	B5E2121	8260	
541-73-1	1,3-Dichlorobenzene	ND	1.0	ug/L	1	05/22/15	B5E2121	8260	
106-46-7	1,4-Dichlorobenzene	ND	1.0	ug/L	1	05/22/15	B5E2121	8260	
78-93-3	2-Butanone (MEK)	ND	5.0	ug/L	1	05/22/15	B5E2121	8260	
591-78-6	2-Hexanone	ND	5.0	ug/L	1	05/22/15	B5E2121	8260	
91-57-6	2-Methylnaphthalene	ND	5.0	ug/L	1	05/22/15	B5E2121	8260	X
67-64-1	2-Propanone (acetone)	ND	20	ug/L	1	05/22/15	B5E2121	8260	
108-10-1	4-Methyl-2-pentanone (MIBK)	ND	5.0	ug/L	1	05/22/15	B5E2121	8260	
107-13-1	Acrylonitrile	ND	5.0	ug/L	1	05/22/15	B5E2121	8260	
71-43-2	Benzene	ND	1.0	ug/L	1	05/22/15	B5E2121	8260	
108-86-1	Bromobenzene	ND	1.0	ug/L	1	05/22/15	B5E2121	8260	
74-97-5	Bromochloromethane	ND	1.0	ug/L	1	05/22/15	B5E2121	8260	
75-27-4	Bromodichloromethane	ND	1.0	ug/L	1	05/22/15	B5E2121	8260	
75-25-2	Bromoform	ND	1.0	ug/L	1	05/22/15	B5E2121	8260	
74-83-9	Bromomethane	ND	5.0	ug/L	1	05/22/15	B5E2121	8260	
75-15-0	Carbon disulfide	ND	1.0	ug/L	1	05/22/15	B5E2121	8260	
56-23-5	Carbon tetrachloride	ND	1.0	ug/L	1	05/22/15	B5E2121	8260	
108-90-7	Chlorobenzene	ND	1.0	ug/L	1	05/22/15	B5E2121	8260	
75-00-3	Chloroethane	ND	5.0	ug/L	1	05/22/15	B5E2121	8260	
67-66-3	Chloroform	ND	1.0	ug/L	1	05/22/15	B5E2121	8260	
74-87-3	Chloromethane	ND	5.0	ug/L	1	05/22/15	B5E2121	8260	
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10061-01-5	cis-1,3-Dichloropropylene	ND	1.0	ug/L	1	05/22/15	B5E2121	8260	
110-82-7	Cyclohexane	ND	5.0	ug/L	1	05/22/15	B5E2121	8260	
124-48-1	Dibromochloromethane	ND	1.0	ug/L	1	05/22/15	B5E2121	8260	



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75-71-8	Dichlorodifluoromethane	ND	5.0	ug/L	1	05/22/15	B5E2121	8260	
60-29-7	Diethyl ether	ND	5.0	ug/L	1	05/22/15	B5E2121	8260	
108-20-3	Diisopropyl Ether	ND	5.0	ug/L	1	05/22/15	B5E2121	8260	
100-41-4	Ethylbenzene	ND	1.0	ug/L	1	05/22/15	B5E2121	8260	
637-92-3	Ethyltertiarybutylether	ND	5.0	ug/L	1	05/22/15	B5E2121	8260	
67-72-1	Hexachloroethane	ND	5.0	ug/L	1	05/22/15	B5E2121	8260	
98-82-8	Isopropylbenzene	ND	1.0	ug/L	1	05/22/15	B5E2121	8260	
1330-20-7	m & p - Xylene	ND	2.0	ug/L	1	05/22/15	B5E2121	8260	
74-88-4	Methyl iodide	ND	1.0	ug/L	1	05/22/15	B5E2121	8260	
75-09-2	Methylene chloride	ND	5.0	ug/L	1	05/22/15	B5E2121	8260	
1634-04-4	Methyltertiarybutylether	ND	1.0	ug/L	1	05/22/15	B5E2121	8260	
91-20-3	Naphthalene	ND	5.0	ug/L	1	05/22/15	B5E2121	8260	X
104-51-8	n-Butylbenzene	ND	1.0	ug/L	1	05/22/15	B5E2121	8260	
103-65-1	n-Propylbenzene	ND	1.0	ug/L	1	05/22/15	B5E2121	8260	
95-47-6	o-Xylene	ND	1.0	ug/L	1	05/22/15	B5E2121	8260	
99-87-6	p-Isopropyl toluene	ND	1.0	ug/L	1	05/22/15	B5E2121	8260	
135-98-8	sec-Butylbenzene	ND	1.0	ug/L	1	05/22/15	B5E2121	8260	
100-42-5	Styrene	ND	1.0	ug/L	1	05/22/15	B5E2121	8260	
98-06-6	tert-Butylbenzene	ND	1.0	ug/L	1	05/22/15	B5E2121	8260	
75-65-0	tertiary Butyl Alcohol	ND	50	ug/L	1	05/22/15	B5E2121	8260	
994-05-8	tertiaryAmylmethylether	ND	5.0	ug/L	1	05/22/15	B5E2121	8260	
127-18-4	Tetrachloroethylene	ND	1.0	ug/L	1	05/22/15	B5E2121	8260	
109-99-9	Tetrahydrofuran	ND	5.0	ug/L	1	05/22/15	B5E2121	8260	
108-88-3	Toluene	ND	1.0	ug/L	1	05/22/15	B5E2121	8260	
156-60-5	trans-1,2-Dichloroethylene	ND	1.0	ug/L	1	05/22/15	B5E2121	8260	
10061-02-6	trans-1,3-Dichloropropylene	ND	1.0	ug/L	1	05/22/15	B5E2121	8260	
110-57-6	trans-1,4-Dichloro-2-butene	ND	5.0	ug/L	1	05/22/15	B5E2121	8260	
79-01-6	Trichloroethylene	ND	1.0	ug/L	1	05/22/15	B5E2121	8260	
75-69-4	Trichlorofluoromethane	ND	1.0	ug/L	1	05/22/15	B5E2121	8260	
75-01-4	Vinyl chloride	ND	1.0	ug/L	1	05/22/15	B5E2121	8260	
Surrogate: Bromofluorobenzene			102 %	85-115		05/22/15	B5E2121	8260	
Surrogate: Dibromofluoromethane			101 %	82.7-115		05/22/15	B5E2121	8260	
Surrogate: Toluene-d8			99.6 %	85-115		05/22/15	B5E2121	8260	



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P.O. Box 30270
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TEL: (517) 335-9800
FAX: (517) 335-9600

Client ID: CHTC-GW-14-8'-13'

Lab ID: 1505183-02

CAS #	Analyte	Result	RL	Units	Dilution	Analyzed Date	QC Batch	Method	Qualifier
Organics-Semivolatiles									See note A01
91-57-6	2-Methylnaphthalene	ND	5.0	ug/L	1	05/22/15	B5E2003	8270	
83-32-9	Acenaphthene	ND	1.0	ug/L	1	05/22/15	B5E2003	8270	
208-96-8	Acenaphthylene	ND	1.0	ug/L	1	05/22/15	B5E2003	8270	
120-12-7	Anthracene	ND	1.0	ug/L	1	05/22/15	B5E2003	8270	
56-55-3	Benz[a]anthracene	ND	1.0	ug/L	1	05/22/15	B5E2003	8270	
50-32-8	Benzo[a]pyrene	ND	1.0	ug/L	1	05/22/15	B5E2003	8270	
205-99-2	Benzo[b]fluoranthene	ND	1.0	ug/L	1	05/22/15	B5E2003	8270	
191-24-2	Benzo[g,h,i]perylene	ND	1.0	ug/L	1	05/22/15	B5E2003	8270	
207-08-9	Benzo[k]fluoranthene	ND	1.0	ug/L	1	05/22/15	B5E2003	8270	
218-01-9	Chrysene	ND	1.0	ug/L	1	05/22/15	B5E2003	8270	
53-70-3	Dibenz[a,h]anthracene	ND	2.0	ug/L	1	05/22/15	B5E2003	8270	
206-44-0	Fluoranthene	ND	1.0	ug/L	1	05/22/15	B5E2003	8270	
86-73-7	Fluorene	ND	1.0	ug/L	1	05/22/15	B5E2003	8270	
193-39-5	Indeno(1,2,3-c,d)pyrene	ND	2.0	ug/L	1	05/22/15	B5E2003	8270	
91-20-3	Naphthalene	ND	1.0	ug/L	1	05/22/15	B5E2003	8270	
85-01-8	Phenanthrene	ND	1.0	ug/L	1	05/22/15	B5E2003	8270	
129-00-0	Pyrene	ND	1.0	ug/L	1	05/22/15	B5E2003	8270	
<i>Surrogate: 2-Fluorobiphenyl</i>			43.8 %	24.1-115	05/22/15	B5E2003	8270		
<i>Surrogate: Nitrobenzene-d5</i>			38.7 %	17.8-115	05/22/15	B5E2003	8270		
<i>Surrogate: p-Terphenyl-d14</i>			32.7 %	41.8-115	05/22/15	B5E2003	8270		
Organics-PCBs as Aroclors									See note A01
12674-11-2	Aroclor 1016	ND	0.10	ug/L	1	06/03/15	B5E2804	8081/8082	
11104-28-2	Aroclor 1221	ND	0.10	ug/L	1	06/03/15	B5E2804	8081/8082	
11141-16-5	Aroclor 1232	ND	0.10	ug/L	1	06/03/15	B5E2804	8081/8082	
53469-21-9	Aroclor 1242	ND	0.10	ug/L	1	06/03/15	B5E2804	8081/8082	
12672-29-6	Aroclor 1248	ND	0.10	ug/L	1	06/03/15	B5E2804	8081/8082	
11097-69-1	Aroclor 1254	ND	0.10	ug/L	1	06/03/15	B5E2804	8081/8082	
11096-82-5	Aroclor 1260	ND	0.10	ug/L	1	06/03/15	B5E2804	8081/8082	
37324-23-5	Aroclor 1262	ND	0.10	ug/L	1	06/03/15	B5E2804	8081/8082	
11100-14-4	Aroclor 1268	ND	0.10	ug/L	1	06/03/15	B5E2804	8081/8082	
<i>Surrogate: Decachlorobiphenyl</i>			22.3 %	30-150	06/03/15	B5E2804	8081/8082		
<i>Surrogate: Tetrachloro-m-xylene</i>			41.3 %	30-150	06/03/15	B5E2804	8081/8082		



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Client ID: CHTC-GW-14-8'-13'

Lab ID: 1505183-02

CAS #	Analyte	Result	RL	Units	Dilution	Analyzed Date	QC Batch	Method	Qualifier
Inorganics-General Chemistry									
16887-00-6	Chloride	ND	10	mg/L	10	05/21/15	B5E2106	325.2	I
18785-72-3	Sulfate	7	2	mg/L	1	05/29/15	B5E2914	375.2	



Analysis Request Sheet

Lab Work Order Number

Project Name

Matrix

1505183

Abandoned Mining Wastes - Torch Lake PCB C&H Tamarack City Ops

ground WATER

Site Code/Project Number

AY

CC Email 1

Project #AI Days

Sample Collector

31000098

13

l.blinkley@westonsolutions.com

AK/JP/AB-DEQ-RRD

Dept/Division-District

Index

CC Email 2

Project Due Date

Sample Collector Phone

DEQ-RRD-UP District

44251

daniel.lebau@westonsolutions.com

906-337-0389

State Project Manager

PCA

CC Email 3

Accept Analysis
hold time codes

Contract Firm

Amy Keranen

30872

pincumbel@michigan.gov

no

Weston Solutions

State Project Manager Email

Project

Overflow Lab Choice 1

Contract Firm Primary Contact

keranena@michigan.gov

456990

Jeff Blinkley

State Project Manager Phone

Phase

Overflow Lab Choice 2

Primary Contact Phone

906-337-0389

00

906-523-5457

Lab Use Only	Field Sample Identification	Collection Date	Collection Time	Container Count	Comments
1	CHTC-GW- 13-14'-19'	5/14/15	1210	31L 1-500ML	
2	CHTC-GW- 14-8'-13'	↓	1440	31L 3-400ML 1-500ML	
3	CHTC-GW-				
4	CHTC-GW-				
5	CHTC-GW-				
6	CHTC-GW-				
7	CHTC-GW-				
8	CHTC-GW-				
9	CHTC-GW-				
10	CHTC-GW-				

ORGANIC CHEMISTRY										MAD - DISSOLVED METALS										MA - TOTAL METALS										GENERAL CHEMISTRY									
VOA - Volatile Organic Acidic										Diss - Silver - Ag										Silver - Ag										GB Total Cyanide - CN									
Volatiles - Full List										Diss - Aluminum - Al										Aluminum - Al										GB Amenable Cyanide - CN									
BTEX/MTBE/TMB only										Diss - Arsenic - As										Arsenic - As										GCN Available Cyanide - CN									
Chlorinated only										Diss - Boron - B										Boron - B										CA Chlorophyll									
GRO										Diss - Barium - Ba										Barium - Ba										GN Ortho Phosphate - OP									
1,4 Dioxane										Diss - Beryllium - Be										Beryllium - Be										GN Nitrite - NO ₂									
METH - Methane, Ethane, Ethene										Diss - Cadmium - Cd										Cadmium - Cd										GN Nitrate - NO ₃ (Calc.)									
Methane, Ethane, Ethene										Diss - Cobalt - Co										Cobalt - Co										GN Suspended Solids - SS									
ON - Pesticides, PCBs										Diss - Chromium - Cr										Chromium - Cr										GN Dissolved Solids - TDS									
Pesticides & PCBs										Diss - Copper - Cu										Copper - Cu										MN Diss Solids - TDS (Calc.)									
Pesticides only										Diss - Iron - Fe										Iron - Fe										GN Turbidity									
PCBs only										Diss - Mercury - Hg										Mercury - Hg										MN Total Alkalinity									
Toxaphene										Diss - Lithium - Li										Lithium - Li										MN Bicarb/Carb Alkalinity									
Chlordane										Diss - Manganese - Mn										Manganese - Mn										(Includes Total Alkalinity)									
BNA - Base Neutral Acids										Diss - Molybdenum - Mo										Molybdenum - Mo										MN Chloride - Cl									
BNAs										Diss - Nickel - Ni										Nickel - Ni										MN Fluoride - F									
Benzidines										Diss - Lead - Pb										Lead - Pb										MN Sulfate - SO ₄									
PNAs only										Diss - Antimony - Sb										Antimony - Sb										MN Chromium 6 - Cr+6									
BNs only										Diss - Selenium - Se										Selenium - Se										MN Conductivity									
Acids only										Diss - Strontium - Sr										Strontium - Sr										MN pH									
Organic Specialty Requests										Diss - Titanium - Ti										Titanium - Ti										GA Chem Oxyg Dem - COD									
Library search - Volatiles										Diss - Thallium - Tl										Thallium - Tl										GA Diss Org Carbon - DOC (FF)									
Library search - SemiVols										Diss - Uranium - U										Uranium - U										(Field - Filtered & Preserved)									
Finger Print										Diss - Vanadium - V										Vanadium - V										GN Diss Org Carbon - DOC (LF)									
DRO / GRO										Diss - Zinc - Zn										Zinc - Zn										(Lab - Filtered & Preserved)									
METALS CHEMISTRY PACKAGES										Diss - Calcium - Ca										Calcium - Ca										GA Total Org Carbon - TOC									
OpMemo2 - Total										Diss - Potassium - K										Potassium - K										GA Ammonia - NH ₃									
OpMemo2 - Dissolved										Diss - Magnesium - Mg										Magnesium - Mg										GA Nitrate+Nitrite - NO ₃ +NO ₂									
(Sb,Ar,Ba,Be,Cd,Cr,Cu,Co,Fe,Pb,Mn,Hg,Mo,Ni,Se,Ag,Ti,V,Zn)										Diss - Sodium - Na										Sodium - Na										GA Kjeldahl Nitrogen - KN									
Michigan10 - Total										Diss - Hardness - Ca, Mg										Hardness - Ca, Mg										GA Total Phosphorus - TP									
Michigan10 - Dissolved										MD - Metals Dissolved										LHG - Low Level Mercury																			
(As,Ba,Cd,Cr,Cu,Pb,Hg,Se,Ag,Zn)										Lab Filtration										Mercury Low Level - Hg																			



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P.O. Box 30270
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TEL: (517) 335-9800
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11 June 2015

Work Order: 1505184

Price: \$2,572.00

Amy Keranen

MDEQ-RRD-UP

1504 W. Washington St.

Marquette, MI 49855

RE: ABANDONED MINING WASTES-TORCH LAKE NS

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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MDEQ-RRD-UP
1504 W. Washington St.
Marquette MI, 49855

Project: ABANDONED MINING WASTES-TORCH LAKE NS
Site Code: 31000098
Project Manager: Amy Keranen

Reported:
06/11/2015

Analytical Report for Samples

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received	Qualifier
CHTC-SB-16-0-6"	1505184-01	Soil/Sediment	05/14/2015	05/20/2015	
CHTC-SB-16-6"-13'	1505184-02	Soil/Sediment	05/14/2015	05/20/2015	
CHTC-SB-17-0-6"	1505184-03	Soil/Sediment	05/14/2015	05/20/2015	
CHTC-SB-17-6"-8'	1505184-04	Soil/Sediment	05/14/2015	05/20/2015	
CHTC-SB-18-0-6"	1505184-05	Soil/Sediment	05/14/2015	05/20/2015	
CHTC-SB-18-6"-6"	1505184-06	Soil/Sediment	05/14/2015	05/20/2015	
CHTC-SB-19-0-6"	1505184-07	Soil/Sediment	05/14/2015	05/20/2015	
CHTC-SB-19-6"-7'	1505184-08	Soil/Sediment	05/14/2015	05/20/2015	
CHTC-SB-20-0-6"	1505184-09	Soil/Sediment	05/14/2015	05/20/2015	
CHTC-SB-20-6"-9'	1505184-10	Soil/Sediment	05/14/2015	05/20/2015	

Notes and Definitions

Y20	Reporting Limits (RL) raised due to matrix.
Y17	Probable petroleum product(s) present.
X	Methods 8260 & 624 are used to analyze volatile organics that have boiling points below 200 °C. 2-Methylnaphthalene & naphthalene have boiling points above 200 °C and are better suited to analysis by methods 8270 & 625 as semivolatile organics.
100	PCBs not spiked.
ND	Indicates compound analyzed for but not detected
RL	Reporting Limit
NA	Not Applicable
dry	Sample results reported on a dry weight basis



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TEL: (517) 335-9800
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Client ID: CHTC-SB-16-0-6"

Lab ID: 1505184-01

CAS #	Analyte	Result	RL	Units	Dilution	Analyzed Date	QC Batch	Method	Qualifier
Organics-PCBs as Aroclors									See note Y20
12674-11-2	Aroclor 1016	ND	220	ug/kg dry	1	05/28/15	B5E2113	8081/8082	
11104-28-2	Aroclor 1221	ND	220	ug/kg dry	1	05/28/15	B5E2113	8081/8082	
11141-16-5	Aroclor 1232	ND	220	ug/kg dry	1	05/28/15	B5E2113	8081/8082	
53469-21-9	Aroclor 1242	ND	220	ug/kg dry	1	05/28/15	B5E2113	8081/8082	
12672-29-6	Aroclor 1248	ND	220	ug/kg dry	1	05/28/15	B5E2113	8081/8082	
11097-69-1	Aroclor 1254	ND	220	ug/kg dry	1	05/28/15	B5E2113	8081/8082	
11096-82-5	Aroclor 1260	ND	220	ug/kg dry	1	05/28/15	B5E2113	8081/8082	
37324-23-5	Aroclor 1262	ND	220	ug/kg dry	1	05/28/15	B5E2113	8081/8082	
11100-14-4	Aroclor 1268	ND	220	ug/kg dry	1	05/28/15	B5E2113	8081/8082	
Surrogate: Decachlorobiphenyl			62.0 %	30-150		05/28/15	B5E2113	8081/8082	
Surrogate: Tetrachloro-m-xylene			68.8 %	30-150		05/28/15	B5E2113	8081/8082	
Inorganics-General Chemistry									
TS	% Total Solids	90.8	0.1	%	1	05/20/15	B5E2011	2540 B	



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TEL: (517) 335-9800
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Client ID: CHTC-SB-16-6"-13'

Lab ID: 1505184-02

CAS #	Analyte	Result	RL	Units	Dilution	Analyzed Date	QC Batch	Method	Qualifier
Organics-Volatiles									
630-20-6	1,1,1,2-Tetrachloroethane	ND	61	ug/kg dry	50	05/27/15	B5E2708	8260	
71-55-6	1,1,1-Trichloroethane	ND	61	ug/kg dry	50	05/27/15	B5E2708	8260	
79-34-5	1,1,2,2-Tetrachloroethane	ND	61	ug/kg dry	50	05/27/15	B5E2708	8260	
79-00-5	1,1,2-Trichloroethane	ND	61	ug/kg dry	50	05/27/15	B5E2708	8260	
75-34-3	1,1-Dichloroethane	ND	61	ug/kg dry	50	05/27/15	B5E2708	8260	
75-35-4	1,1-Dichloroethylene	ND	61	ug/kg dry	50	05/27/15	B5E2708	8260	
87-61-6	1,2,3-Trichlorobenzene	ND	310	ug/kg dry	50	05/27/15	B5E2708	8260	
96-18-4	1,2,3-Trichloropropane	ND	61	ug/kg dry	50	05/27/15	B5E2708	8260	
526-73-8	1,2,3-Trimethylbenzene	ND	61	ug/kg dry	50	05/27/15	B5E2708	8260	
120-82-1	1,2,4-Trichlorobenzene	ND	310	ug/kg dry	50	05/27/15	B5E2708	8260	
95-63-6	1,2,4-Trimethylbenzene	ND	61	ug/kg dry	50	05/27/15	B5E2708	8260	
96-12-8	1,2-Dibromo-3-chloropropane	ND	310	ug/kg dry	50	05/27/15	B5E2708	8260	
106-93-4	1,2-Dibromoethane	ND	61	ug/kg dry	50	05/27/15	B5E2708	8260	
95-50-1	1,2-Dichlorobenzene	ND	61	ug/kg dry	50	05/27/15	B5E2708	8260	
107-06-2	1,2-Dichloroethane	ND	61	ug/kg dry	50	05/27/15	B5E2708	8260	
78-87-5	1,2-Dichloropropane	ND	61	ug/kg dry	50	05/27/15	B5E2708	8260	
108-67-8	1,3,5-Trimethylbenzene	ND	61	ug/kg dry	50	05/27/15	B5E2708	8260	
541-73-1	1,3-Dichlorobenzene	ND	61	ug/kg dry	50	05/27/15	B5E2708	8260	
106-46-7	1,4-Dichlorobenzene	ND	61	ug/kg dry	50	05/27/15	B5E2708	8260	
78-93-3	2-Butanone (MEK)	ND	310	ug/kg dry	50	05/27/15	B5E2708	8260	
591-78-6	2-Hexanone	ND	310	ug/kg dry	50	05/27/15	B5E2708	8260	
91-57-6	2-Methylnaphthalene	ND	310	ug/kg dry	50	05/27/15	B5E2708	8260	X
67-64-1	2-Propanone (acetone)	ND	1200	ug/kg dry	50	05/27/15	B5E2708	8260	
108-10-1	4-Methyl-2-pentanone (MIBK)	ND	310	ug/kg dry	50	05/27/15	B5E2708	8260	
107-13-1	Acrylonitrile	ND	310	ug/kg dry	50	05/27/15	B5E2708	8260	
71-43-2	Benzene	ND	61	ug/kg dry	50	05/27/15	B5E2708	8260	
108-86-1	Bromobenzene	ND	61	ug/kg dry	50	05/27/15	B5E2708	8260	
74-97-5	Bromochloromethane	ND	61	ug/kg dry	50	05/27/15	B5E2708	8260	
75-27-4	Bromodichloromethane	ND	61	ug/kg dry	50	05/27/15	B5E2708	8260	
75-25-2	Bromoform	ND	61	ug/kg dry	50	05/27/15	B5E2708	8260	
74-83-9	Bromomethane	ND	310	ug/kg dry	50	05/27/15	B5E2708	8260	
75-15-0	Carbon disulfide	ND	61	ug/kg dry	50	05/27/15	B5E2708	8260	
56-23-5	Carbon tetrachloride	ND	61	ug/kg dry	50	05/27/15	B5E2708	8260	
108-90-7	Chlorobenzene	ND	61	ug/kg dry	50	05/27/15	B5E2708	8260	
75-00-3	Chloroethane	ND	310	ug/kg dry	50	05/27/15	B5E2708	8260	
67-66-3	Chloroform	ND	61	ug/kg dry	50	05/27/15	B5E2708	8260	
74-87-3	Chloromethane	ND	310	ug/kg dry	50	05/27/15	B5E2708	8260	
156-59-2	cis-1,2-Dichloroethylene	ND	61	ug/kg dry	50	05/27/15	B5E2708	8260	
10061-01-5	cis-1,3-Dichloropropylene	ND	61	ug/kg dry	50	05/27/15	B5E2708	8260	
110-82-7	Cyclohexane	ND	310	ug/kg dry	50	05/27/15	B5E2708	8260	
124-48-1	Dibromochloromethane	ND	61	ug/kg dry	50	05/27/15	B5E2708	8260	



**MICHIGAN DEPARTMENT OF ENVIRONMENTAL QUALITY
ENVIRONMENTAL LABORATORY**

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

Client ID: CHTC-SB-16-6"-13'

Lab ID: 1505184-02

CAS #	Analyte	Result	RL	Units	Dilution	Analyzed Date	QC Batch	Method	Qualifier
Organics-Volatiles									
74-95-3	Dibromomethane	ND	61	ug/kg dry	50	05/27/15	B5E2708	8260	
75-71-8	Dichlorodifluoromethane	ND	310	ug/kg dry	50	05/27/15	B5E2708	8260	
60-29-7	Diethyl ether	ND	310	ug/kg dry	50	05/27/15	B5E2708	8260	
108-20-3	Diisopropyl Ether	ND	310	ug/kg dry	50	05/27/15	B5E2708	8260	
100-41-4	Ethylbenzene	ND	61	ug/kg dry	50	05/27/15	B5E2708	8260	
637-92-3	Ethyltertiarybutylether	ND	310	ug/kg dry	50	05/27/15	B5E2708	8260	
67-72-1	Hexachloroethane	ND	310	ug/kg dry	50	05/27/15	B5E2708	8260	
98-82-8	Isopropylbenzene	ND	61	ug/kg dry	50	05/27/15	B5E2708	8260	
1330-20-7	m & p - Xylene	ND	120	ug/kg dry	50	05/27/15	B5E2708	8260	
74-88-4	Methyl iodide	ND	61	ug/kg dry	50	05/27/15	B5E2708	8260	
75-09-2	Methylene chloride	ND	310	ug/kg dry	50	05/27/15	B5E2708	8260	
1634-04-4	Methyltertiarybutylether	ND	61	ug/kg dry	50	05/27/15	B5E2708	8260	
91-20-3	Naphthalene	ND	310	ug/kg dry	50	05/27/15	B5E2708	8260	X
104-51-8	n-Butylbenzene	ND	61	ug/kg dry	50	05/27/15	B5E2708	8260	
103-65-1	n-Propylbenzene	ND	61	ug/kg dry	50	05/27/15	B5E2708	8260	
95-47-6	o-Xylene	ND	61	ug/kg dry	50	05/27/15	B5E2708	8260	
99-87-6	p-Isopropyl toluene	ND	61	ug/kg dry	50	05/27/15	B5E2708	8260	
135-98-8	sec-Butylbenzene	ND	61	ug/kg dry	50	05/27/15	B5E2708	8260	
100-42-5	Styrene	ND	61	ug/kg dry	50	05/27/15	B5E2708	8260	
98-06-6	tert-Butylbenzene	ND	61	ug/kg dry	50	05/27/15	B5E2708	8260	
75-65-0	tertiary Butyl Alcohol	ND	3100	ug/kg dry	50	05/27/15	B5E2708	8260	
994-05-8	tertiaryAmylmethylether	ND	310	ug/kg dry	50	05/27/15	B5E2708	8260	
127-18-4	Tetrachloroethylene	ND	61	ug/kg dry	50	05/27/15	B5E2708	8260	
109-99-9	Tetrahydrofuran	ND	310	ug/kg dry	50	05/27/15	B5E2708	8260	
108-88-3	Toluene	ND	61	ug/kg dry	50	05/27/15	B5E2708	8260	
156-60-5	trans-1,2-Dichloroethylene	ND	61	ug/kg dry	50	05/27/15	B5E2708	8260	
10061-02-6	trans-1,3-Dichloropropylene	ND	61	ug/kg dry	50	05/27/15	B5E2708	8260	
110-57-6	trans-1,4-Dichloro-2-butene	ND	310	ug/kg dry	50	05/27/15	B5E2708	8260	
79-01-6	Trichloroethylene	ND	61	ug/kg dry	50	05/27/15	B5E2708	8260	
75-69-4	Trichlorofluoromethane	ND	61	ug/kg dry	50	05/27/15	B5E2708	8260	
75-01-4	Vinyl chloride	ND	61	ug/kg dry	50	05/27/15	B5E2708	8260	
<i>Surrogate: Bromofluorobenzene</i>			<i>130 %</i>	<i>40.3-194</i>		<i>05/27/15</i>	<i>B5E2708</i>	<i>8260</i>	
<i>Surrogate: Dibromofluoromethane</i>			<i>124 %</i>	<i>52.1-217</i>		<i>05/27/15</i>	<i>B5E2708</i>	<i>8260</i>	
<i>Surrogate: Toluene-d8</i>			<i>128 %</i>	<i>55.4-196</i>		<i>05/27/15</i>	<i>B5E2708</i>	<i>8260</i>	



**MICHIGAN DEPARTMENT OF ENVIRONMENTAL QUALITY
ENVIRONMENTAL LABORATORY**

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

Client ID: CHTC-SB-16-6"-13'

Lab ID: 1505184-02

CAS #	Analyte	Result	RL	Units	Dilution	Analyzed Date	QC Batch	Method	Qualifier
Organics-Semivolatiles									See note Y20
91-57-6	2-Methylnaphthalene	ND	560	ug/kg dry	1	06/01/15	B5E2017	8270	
83-32-9	Acenaphthene	ND	220	ug/kg dry	1	06/01/15	B5E2017	8270	
208-96-8	Acenaphthylene	ND	220	ug/kg dry	1	06/01/15	B5E2017	8270	
120-12-7	Anthracene	ND	220	ug/kg dry	1	06/01/15	B5E2017	8270	
56-55-3	Benz[a]anthracene	ND	220	ug/kg dry	1	06/01/15	B5E2017	8270	
50-32-8	Benzo[a]pyrene	ND	440	ug/kg dry	1	06/01/15	B5E2017	8270	
205-99-2	Benzo[b]fluoranthene	ND	440	ug/kg dry	1	06/01/15	B5E2017	8270	
191-24-2	Benzo[g,h,i]perylene	ND	440	ug/kg dry	1	06/01/15	B5E2017	8270	
207-08-9	Benzo[k]fluoranthene	ND	440	ug/kg dry	1	06/01/15	B5E2017	8270	
218-01-9	Chrysene	ND	220	ug/kg dry	1	06/01/15	B5E2017	8270	
53-70-3	Dibenz[a,h]anthracene	ND	440	ug/kg dry	1	06/01/15	B5E2017	8270	
206-44-0	Fluoranthene	ND	220	ug/kg dry	1	06/01/15	B5E2017	8270	
86-73-7	Fluorene	ND	220	ug/kg dry	1	06/01/15	B5E2017	8270	
193-39-5	Indeno(1,2,3-c,d)pyrene	ND	440	ug/kg dry	1	06/01/15	B5E2017	8270	
91-20-3	Naphthalene	ND	220	ug/kg dry	1	06/01/15	B5E2017	8270	
85-01-8	Phenanthrene	ND	220	ug/kg dry	1	06/01/15	B5E2017	8270	
129-00-0	Pyrene	ND	220	ug/kg dry	1	06/01/15	B5E2017	8270	
<i>Surrogate: 2-Fluorobiphenyl</i>			71.3 %	32.9-115		06/01/15	B5E2017	8270	
<i>Surrogate: Nitrobenzene-d5</i>			64.5 %	31.8-115		06/01/15	B5E2017	8270	
<i>Surrogate: p-Terphenyl-d14</i>			71.4 %	38.5-115		06/01/15	B5E2017	8270	
Organics-PCBs as Aroclors									
12674-11-2	Aroclor 1016	ND	110	ug/kg dry	1	05/28/15	B5E2113	8081/8082	
11104-28-2	Aroclor 1221	ND	110	ug/kg dry	1	05/28/15	B5E2113	8081/8082	
11141-16-5	Aroclor 1232	ND	110	ug/kg dry	1	05/28/15	B5E2113	8081/8082	
53469-21-9	Aroclor 1242	ND	110	ug/kg dry	1	05/28/15	B5E2113	8081/8082	
12672-29-6	Aroclor 1248	ND	110	ug/kg dry	1	05/28/15	B5E2113	8081/8082	
11097-69-1	Aroclor 1254	ND	110	ug/kg dry	1	05/28/15	B5E2113	8081/8082	
11096-82-5	Aroclor 1260	ND	110	ug/kg dry	1	05/28/15	B5E2113	8081/8082	
37324-23-5	Aroclor 1262	ND	110	ug/kg dry	1	05/28/15	B5E2113	8081/8082	
11100-14-4	Aroclor 1268	ND	110	ug/kg dry	1	05/28/15	B5E2113	8081/8082	
<i>Surrogate: Decachlorobiphenyl</i>			72.3 %	30-150		05/28/15	B5E2113	8081/8082	
<i>Surrogate: Tetrachloro-m-xylene</i>			69.1 %	30-150		05/28/15	B5E2113	8081/8082	



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Lansing, MI 48909
TEL: (517) 335-9800
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Client ID: CHTC-SB-16-6''-13'

Lab ID: 1505184-02

CAS #	Analyte	Result	RL	Units	Dilution	Analyzed Date	QC Batch	Method	Qualifier
Inorganics-General Chemistry									
TS	% Total Solids	90.1	0.1	%	1	05/20/15	B5E2011	2540 B	



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

Client ID: CHTC-SB-17-0-6"

Lab ID: 1505184-03

CAS #	Analyte	Result	RL	Units	Dilution	Analyzed Date	QC Batch	Method	Qualifier
Organics-PCBs as Aroclors									
12674-11-2	Aroclor 1016	ND	120	ug/kg dry	1	05/28/15	B5E2113	8081/8082	
11104-28-2	Aroclor 1221	ND	120	ug/kg dry	1	05/28/15	B5E2113	8081/8082	
11141-16-5	Aroclor 1232	ND	120	ug/kg dry	1	05/28/15	B5E2113	8081/8082	
53469-21-9	Aroclor 1242	ND	120	ug/kg dry	1	05/28/15	B5E2113	8081/8082	
12672-29-6	Aroclor 1248	ND	120	ug/kg dry	1	05/28/15	B5E2113	8081/8082	
11097-69-1	Aroclor 1254	ND	120	ug/kg dry	1	05/28/15	B5E2113	8081/8082	
11096-82-5	Aroclor 1260	ND	120	ug/kg dry	1	05/28/15	B5E2113	8081/8082	
37324-23-5	Aroclor 1262	ND	120	ug/kg dry	1	05/28/15	B5E2113	8081/8082	
11100-14-4	Aroclor 1268	ND	120	ug/kg dry	1	05/28/15	B5E2113	8081/8082	
Surrogate: Decachlorobiphenyl		55.9 %		30-150		05/28/15	B5E2113	8081/8082	
Surrogate: Tetrachloro-m-xylene		69.1 %		30-150		05/28/15	B5E2113	8081/8082	
Inorganics-General Chemistry									
TS	% Total Solids	85.8	0.1	%	1	05/20/15	B5E2011	2540 B	



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TEL: (517) 335-9800
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Client ID: CHTC-SB-17-6"-8'

Lab ID: 1505184-04

CAS #	Analyte	Result	RL	Units	Dilution	Analyzed Date	QC Batch	Method	Qualifier
Organics-Volatiles									
630-20-6	1,1,1,2-Tetrachloroethane	ND	67	ug/kg dry	50	05/27/15	B5E2708	8260	
71-55-6	1,1,1-Trichloroethane	ND	67	ug/kg dry	50	05/27/15	B5E2708	8260	
79-34-5	1,1,2,2-Tetrachloroethane	ND	67	ug/kg dry	50	05/27/15	B5E2708	8260	
79-00-5	1,1,2-Trichloroethane	ND	67	ug/kg dry	50	05/27/15	B5E2708	8260	
75-34-3	1,1-Dichloroethane	ND	67	ug/kg dry	50	05/27/15	B5E2708	8260	
75-35-4	1,1-Dichloroethylene	ND	67	ug/kg dry	50	05/27/15	B5E2708	8260	
87-61-6	1,2,3-Trichlorobenzene	ND	330	ug/kg dry	50	05/27/15	B5E2708	8260	
96-18-4	1,2,3-Trichloropropane	ND	67	ug/kg dry	50	05/27/15	B5E2708	8260	
526-73-8	1,2,3-Trimethylbenzene	ND	67	ug/kg dry	50	05/27/15	B5E2708	8260	
120-82-1	1,2,4-Trichlorobenzene	ND	330	ug/kg dry	50	05/27/15	B5E2708	8260	
95-63-6	1,2,4-Trimethylbenzene	ND	67	ug/kg dry	50	05/27/15	B5E2708	8260	
96-12-8	1,2-Dibromo-3-chloropropane	ND	330	ug/kg dry	50	05/27/15	B5E2708	8260	
106-93-4	1,2-Dibromoethane	ND	67	ug/kg dry	50	05/27/15	B5E2708	8260	
95-50-1	1,2-Dichlorobenzene	ND	67	ug/kg dry	50	05/27/15	B5E2708	8260	
107-06-2	1,2-Dichloroethane	ND	67	ug/kg dry	50	05/27/15	B5E2708	8260	
78-87-5	1,2-Dichloropropane	ND	67	ug/kg dry	50	05/27/15	B5E2708	8260	
108-67-8	1,3,5-Trimethylbenzene	ND	67	ug/kg dry	50	05/27/15	B5E2708	8260	
541-73-1	1,3-Dichlorobenzene	ND	67	ug/kg dry	50	05/27/15	B5E2708	8260	
106-46-7	1,4-Dichlorobenzene	ND	67	ug/kg dry	50	05/27/15	B5E2708	8260	
78-93-3	2-Butanone (MEK)	ND	330	ug/kg dry	50	05/27/15	B5E2708	8260	
591-78-6	2-Hexanone	ND	330	ug/kg dry	50	05/27/15	B5E2708	8260	
91-57-6	2-Methylnaphthalene	ND	330	ug/kg dry	50	05/27/15	B5E2708	8260	X
67-64-1	2-Propanone (acetone)	ND	1300	ug/kg dry	50	05/27/15	B5E2708	8260	
108-10-1	4-Methyl-2-pentanone (MIBK)	ND	330	ug/kg dry	50	05/27/15	B5E2708	8260	
107-13-1	Acrylonitrile	ND	330	ug/kg dry	50	05/27/15	B5E2708	8260	
71-43-2	Benzene	ND	67	ug/kg dry	50	05/27/15	B5E2708	8260	
108-86-1	Bromobenzene	ND	67	ug/kg dry	50	05/27/15	B5E2708	8260	
74-97-5	Bromochloromethane	ND	67	ug/kg dry	50	05/27/15	B5E2708	8260	
75-27-4	Bromodichloromethane	ND	67	ug/kg dry	50	05/27/15	B5E2708	8260	
75-25-2	Bromoform	ND	67	ug/kg dry	50	05/27/15	B5E2708	8260	
74-83-9	Bromomethane	ND	330	ug/kg dry	50	05/27/15	B5E2708	8260	
75-15-0	Carbon disulfide	ND	67	ug/kg dry	50	05/27/15	B5E2708	8260	
56-23-5	Carbon tetrachloride	ND	67	ug/kg dry	50	05/27/15	B5E2708	8260	
108-90-7	Chlorobenzene	ND	67	ug/kg dry	50	05/27/15	B5E2708	8260	
75-00-3	Chloroethane	ND	330	ug/kg dry	50	05/27/15	B5E2708	8260	
67-66-3	Chloroform	ND	67	ug/kg dry	50	05/27/15	B5E2708	8260	
74-87-3	Chloromethane	ND	330	ug/kg dry	50	05/27/15	B5E2708	8260	
156-59-2	cis-1,2-Dichloroethylene	ND	67	ug/kg dry	50	05/27/15	B5E2708	8260	
10061-01-5	cis-1,3-Dichloropropylene	ND	67	ug/kg dry	50	05/27/15	B5E2708	8260	
110-82-7	Cyclohexane	ND	330	ug/kg dry	50	05/27/15	B5E2708	8260	
124-48-1	Dibromochloromethane	ND	67	ug/kg dry	50	05/27/15	B5E2708	8260	



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Client ID: CHTC-SB-17-6"-8'

Lab ID: 1505184-04

CAS #	Analyte	Result	RL	Units	Dilution	Analyzed Date	QC Batch	Method	Qualifier
Organics-Volatiles									
74-95-3	Dibromomethane	ND	67	ug/kg dry	50	05/27/15	B5E2708	8260	
75-71-8	Dichlorodifluoromethane	ND	330	ug/kg dry	50	05/27/15	B5E2708	8260	
60-29-7	Diethyl ether	ND	330	ug/kg dry	50	05/27/15	B5E2708	8260	
108-20-3	Diisopropyl Ether	ND	330	ug/kg dry	50	05/27/15	B5E2708	8260	
100-41-4	Ethylbenzene	ND	67	ug/kg dry	50	05/27/15	B5E2708	8260	
637-92-3	Ethyltertiarybutylether	ND	330	ug/kg dry	50	05/27/15	B5E2708	8260	
67-72-1	Hexachloroethane	ND	330	ug/kg dry	50	05/27/15	B5E2708	8260	
98-82-8	Isopropylbenzene	ND	67	ug/kg dry	50	05/27/15	B5E2708	8260	
1330-20-7	m & p - Xylene	ND	130	ug/kg dry	50	05/27/15	B5E2708	8260	
74-88-4	Methyl iodide	ND	67	ug/kg dry	50	05/27/15	B5E2708	8260	
75-09-2	Methylene chloride	ND	330	ug/kg dry	50	05/27/15	B5E2708	8260	
1634-04-4	Methyltertiarybutylether	ND	67	ug/kg dry	50	05/27/15	B5E2708	8260	
91-20-3	Naphthalene	ND	330	ug/kg dry	50	05/27/15	B5E2708	8260	X
104-51-8	n-Butylbenzene	ND	67	ug/kg dry	50	05/27/15	B5E2708	8260	
103-65-1	n-Propylbenzene	ND	67	ug/kg dry	50	05/27/15	B5E2708	8260	
95-47-6	o-Xylene	ND	67	ug/kg dry	50	05/27/15	B5E2708	8260	
99-87-6	p-Isopropyl toluene	ND	67	ug/kg dry	50	05/27/15	B5E2708	8260	
135-98-8	sec-Butylbenzene	ND	67	ug/kg dry	50	05/27/15	B5E2708	8260	
100-42-5	Styrene	ND	67	ug/kg dry	50	05/27/15	B5E2708	8260	
98-06-6	tert-Butylbenzene	ND	67	ug/kg dry	50	05/27/15	B5E2708	8260	
75-65-0	tertiary Butyl Alcohol	ND	3300	ug/kg dry	50	05/27/15	B5E2708	8260	
994-05-8	tertiaryAmylmethylether	ND	330	ug/kg dry	50	05/27/15	B5E2708	8260	
127-18-4	Tetrachloroethylene	ND	67	ug/kg dry	50	05/27/15	B5E2708	8260	
109-99-9	Tetrahydrofuran	ND	330	ug/kg dry	50	05/27/15	B5E2708	8260	
108-88-3	Toluene	ND	67	ug/kg dry	50	05/27/15	B5E2708	8260	
156-60-5	trans-1,2-Dichloroethylene	ND	67	ug/kg dry	50	05/27/15	B5E2708	8260	
10061-02-6	trans-1,3-Dichloropropylene	ND	67	ug/kg dry	50	05/27/15	B5E2708	8260	
110-57-6	trans-1,4-Dichloro-2-butene	ND	330	ug/kg dry	50	05/27/15	B5E2708	8260	
79-01-6	Trichloroethylene	ND	67	ug/kg dry	50	05/27/15	B5E2708	8260	
75-69-4	Trichlorofluoromethane	ND	67	ug/kg dry	50	05/27/15	B5E2708	8260	
75-01-4	Vinyl chloride	ND	67	ug/kg dry	50	05/27/15	B5E2708	8260	
Surrogate: Bromofluorobenzene			142 %	40.3-194		05/27/15	B5E2708	8260	
Surrogate: Dibromofluoromethane			138 %	52.1-217		05/27/15	B5E2708	8260	
Surrogate: Toluene-d8			144 %	55.4-196		05/27/15	B5E2708	8260	



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Client ID: CHTC-SB-17-6"-8'

Lab ID: 1505184-04

CAS #	Analyte	Result	RL	Units	Dilution	Analyzed Date	QC Batch	Method	Qualifier
Organics-Semivolatiles									See note Y20
91-57-6	2-Methylnaphthalene	ND	590	ug/kg dry	1	06/01/15	B5E2017	8270	
83-32-9	Acenaphthene	ND	230	ug/kg dry	1	06/01/15	B5E2017	8270	
208-96-8	Acenaphthylene	ND	230	ug/kg dry	1	06/01/15	B5E2017	8270	
120-12-7	Anthracene	ND	230	ug/kg dry	1	06/01/15	B5E2017	8270	
56-55-3	Benz[a]anthracene	ND	230	ug/kg dry	1	06/01/15	B5E2017	8270	
50-32-8	Benzo[a]pyrene	ND	470	ug/kg dry	1	06/01/15	B5E2017	8270	
205-99-2	Benzo[b]fluoranthene	ND	470	ug/kg dry	1	06/01/15	B5E2017	8270	
191-24-2	Benzo[g,h,i]perylene	ND	470	ug/kg dry	1	06/01/15	B5E2017	8270	
207-08-9	Benzo[k]fluoranthene	ND	470	ug/kg dry	1	06/01/15	B5E2017	8270	
218-01-9	Chrysene	ND	230	ug/kg dry	1	06/01/15	B5E2017	8270	
53-70-3	Dibenz[a,h]anthracene	ND	470	ug/kg dry	1	06/01/15	B5E2017	8270	
206-44-0	Fluoranthene	ND	230	ug/kg dry	1	06/01/15	B5E2017	8270	
86-73-7	Fluorene	ND	230	ug/kg dry	1	06/01/15	B5E2017	8270	
193-39-5	Indeno(1,2,3-c,d)pyrene	ND	470	ug/kg dry	1	06/01/15	B5E2017	8270	
91-20-3	Naphthalene	ND	230	ug/kg dry	1	06/01/15	B5E2017	8270	
85-01-8	Phenanthrene	ND	230	ug/kg dry	1	06/01/15	B5E2017	8270	
129-00-0	Pyrene	ND	230	ug/kg dry	1	06/01/15	B5E2017	8270	
<i>Surrogate: 2-Fluorobiphenyl</i>			71.7 %	32.9-115		06/01/15	B5E2017	8270	
<i>Surrogate: Nitrobenzene-d5</i>			63.6 %	31.8-115		06/01/15	B5E2017	8270	
<i>Surrogate: p-Terphenyl-d14</i>			76.0 %	38.5-115		06/01/15	B5E2017	8270	
Organics-PCBs as Aroclors									
12674-11-2	Aroclor 1016	ND	120	ug/kg dry	1	05/28/15	B5E2113	8081/8082	
11104-28-2	Aroclor 1221	ND	120	ug/kg dry	1	05/28/15	B5E2113	8081/8082	
11141-16-5	Aroclor 1232	ND	120	ug/kg dry	1	05/28/15	B5E2113	8081/8082	
53469-21-9	Aroclor 1242	ND	120	ug/kg dry	1	05/28/15	B5E2113	8081/8082	
12672-29-6	Aroclor 1248	ND	120	ug/kg dry	1	05/28/15	B5E2113	8081/8082	
11097-69-1	Aroclor 1254	ND	120	ug/kg dry	1	05/28/15	B5E2113	8081/8082	
11096-82-5	Aroclor 1260	ND	120	ug/kg dry	1	05/28/15	B5E2113	8081/8082	
37324-23-5	Aroclor 1262	ND	120	ug/kg dry	1	05/28/15	B5E2113	8081/8082	
11100-14-4	Aroclor 1268	ND	120	ug/kg dry	1	05/28/15	B5E2113	8081/8082	
<i>Surrogate: Decachlorobiphenyl</i>			66.6 %	30-150		05/28/15	B5E2113	8081/8082	
<i>Surrogate: Tetrachloro-m-xylene</i>			71.3 %	30-150		05/28/15	B5E2113	8081/8082	



**MICHIGAN DEPARTMENT OF ENVIRONMENTAL QUALITY
ENVIRONMENTAL LABORATORY**

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

Client ID: CHTC-SB-17-6''-8'

Lab ID: 1505184-04

CAS #	Analyte	Result	RL	Units	Dilution	Analyzed Date	QC Batch	Method	Qualifier
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Inorganics-General Chemistry

TS	% Total Solids	85.1	0.1	%	1	05/20/15	B5E2011	2540 B	
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MICHIGAN DEPARTMENT OF ENVIRONMENTAL QUALITY
ENVIRONMENTAL LABORATORY

P.O. Box 30270
Lansing, MI 48909
TEL: (517) 335-9800
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Client ID: CHTC-SB-18-0-6"

Lab ID: 1505184-05

CAS #	Analyte	Result	RL	Units	Dilution	Analyzed Date	QC Batch	Method	Qualifier
Organics-PCBs as Aroclors									
12674-11-2	Aroclor 1016	ND	110	ug/kg dry	1	06/03/15	B5E2816	8081/8082	
11104-28-2	Aroclor 1221	ND	110	ug/kg dry	1	06/03/15	B5E2816	8081/8082	
11141-16-5	Aroclor 1232	ND	110	ug/kg dry	1	06/03/15	B5E2816	8081/8082	
53469-21-9	Aroclor 1242	ND	110	ug/kg dry	1	06/03/15	B5E2816	8081/8082	
12672-29-6	Aroclor 1248	ND	110	ug/kg dry	1	06/03/15	B5E2816	8081/8082	
11097-69-1	Aroclor 1254	ND	110	ug/kg dry	1	06/03/15	B5E2816	8081/8082	
11096-82-5	Aroclor 1260	ND	110	ug/kg dry	1	06/03/15	B5E2816	8081/8082	
37324-23-5	Aroclor 1262	ND	110	ug/kg dry	1	06/03/15	B5E2816	8081/8082	
11100-14-4	Aroclor 1268	ND	110	ug/kg dry	1	06/03/15	B5E2816	8081/8082	
Surrogate: Decachlorobiphenyl		63.7 %		30-150		06/03/15	B5E2816	8081/8082	
Surrogate: Tetrachloro-m-xylene		63.7 %		30-150		06/03/15	B5E2816	8081/8082	
Inorganics-General Chemistry									
TS	% Total Solids	88.4	0.1	%	1	05/20/15	B5E2011	2540 B	



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ENVIRONMENTAL LABORATORY**

P.O. Box 30270
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TEL: (517) 335-9800
FAX: (517) 335-9600

Client ID: CHTC-SB-18-6"-6

Lab ID: 1505184-06

CAS #	Analyte	Result	RL	Units	Dilution	Analyzed Date	QC Batch	Method	Qualifier
Organics-Volatiles									
630-20-6	1,1,1,2-Tetrachloroethane	ND	62	ug/kg dry	50	05/27/15	B5E2708	8260	
71-55-6	1,1,1-Trichloroethane	ND	62	ug/kg dry	50	05/27/15	B5E2708	8260	
79-34-5	1,1,2,2-Tetrachloroethane	ND	62	ug/kg dry	50	05/27/15	B5E2708	8260	
79-00-5	1,1,2-Trichloroethane	ND	62	ug/kg dry	50	05/27/15	B5E2708	8260	
75-34-3	1,1-Dichloroethane	ND	62	ug/kg dry	50	05/27/15	B5E2708	8260	
75-35-4	1,1-Dichloroethylene	ND	62	ug/kg dry	50	05/27/15	B5E2708	8260	
87-61-6	1,2,3-Trichlorobenzene	ND	310	ug/kg dry	50	05/27/15	B5E2708	8260	
96-18-4	1,2,3-Trichloropropane	ND	62	ug/kg dry	50	05/27/15	B5E2708	8260	
526-73-8	1,2,3-Trimethylbenzene	ND	62	ug/kg dry	50	05/27/15	B5E2708	8260	
120-82-1	1,2,4-Trichlorobenzene	ND	310	ug/kg dry	50	05/27/15	B5E2708	8260	
95-63-6	1,2,4-Trimethylbenzene	ND	62	ug/kg dry	50	05/27/15	B5E2708	8260	
96-12-8	1,2-Dibromo-3-chloropropane	ND	310	ug/kg dry	50	05/27/15	B5E2708	8260	
106-93-4	1,2-Dibromoethane	ND	62	ug/kg dry	50	05/27/15	B5E2708	8260	
95-50-1	1,2-Dichlorobenzene	ND	62	ug/kg dry	50	05/27/15	B5E2708	8260	
107-06-2	1,2-Dichloroethane	ND	62	ug/kg dry	50	05/27/15	B5E2708	8260	
78-87-5	1,2-Dichloropropane	ND	62	ug/kg dry	50	05/27/15	B5E2708	8260	
108-67-8	1,3,5-Trimethylbenzene	ND	62	ug/kg dry	50	05/27/15	B5E2708	8260	
541-73-1	1,3-Dichlorobenzene	ND	62	ug/kg dry	50	05/27/15	B5E2708	8260	
106-46-7	1,4-Dichlorobenzene	ND	62	ug/kg dry	50	05/27/15	B5E2708	8260	
78-93-3	2-Butanone (MEK)	ND	310	ug/kg dry	50	05/27/15	B5E2708	8260	
591-78-6	2-Hexanone	ND	310	ug/kg dry	50	05/27/15	B5E2708	8260	
91-57-6	2-Methylnaphthalene	ND	310	ug/kg dry	50	05/27/15	B5E2708	8260	X
67-64-1	2-Propanone (acetone)	ND	1200	ug/kg dry	50	05/27/15	B5E2708	8260	
108-10-1	4-Methyl-2-pentanone (MIBK)	ND	310	ug/kg dry	50	05/27/15	B5E2708	8260	
107-13-1	Acrylonitrile	ND	310	ug/kg dry	50	05/27/15	B5E2708	8260	
71-43-2	Benzene	ND	62	ug/kg dry	50	05/27/15	B5E2708	8260	
108-86-1	Bromobenzene	ND	62	ug/kg dry	50	05/27/15	B5E2708	8260	
74-97-5	Bromochloromethane	ND	62	ug/kg dry	50	05/27/15	B5E2708	8260	
75-27-4	Bromodichloromethane	ND	62	ug/kg dry	50	05/27/15	B5E2708	8260	
75-25-2	Bromoform	ND	62	ug/kg dry	50	05/27/15	B5E2708	8260	
74-83-9	Bromomethane	ND	310	ug/kg dry	50	05/27/15	B5E2708	8260	
75-15-0	Carbon disulfide	ND	62	ug/kg dry	50	05/27/15	B5E2708	8260	
56-23-5	Carbon tetrachloride	ND	62	ug/kg dry	50	05/27/15	B5E2708	8260	
108-90-7	Chlorobenzene	ND	62	ug/kg dry	50	05/27/15	B5E2708	8260	
75-00-3	Chloroethane	ND	310	ug/kg dry	50	05/27/15	B5E2708	8260	
67-66-3	Chloroform	ND	62	ug/kg dry	50	05/27/15	B5E2708	8260	
74-87-3	Chloromethane	ND	310	ug/kg dry	50	05/27/15	B5E2708	8260	
156-59-2	cis-1,2-Dichloroethylene	ND	62	ug/kg dry	50	05/27/15	B5E2708	8260	
10061-01-5	cis-1,3-Dichloropropylene	ND	62	ug/kg dry	50	05/27/15	B5E2708	8260	
110-82-7	Cyclohexane	ND	310	ug/kg dry	50	05/27/15	B5E2708	8260	
124-48-1	Dibromochloromethane	ND	62	ug/kg dry	50	05/27/15	B5E2708	8260	



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ENVIRONMENTAL LABORATORY**

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TEL: (517) 335-9800
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Client ID: CHTC-SB-18-6"-6

Lab ID: 1505184-06

CAS #	Analyte	Result	RL	Units	Dilution	Analyzed Date	QC Batch	Method	Qualifier
Organics-Volatiles									
74-95-3	Dibromomethane	ND	62	ug/kg dry	50	05/27/15	B5E2708	8260	
75-71-8	Dichlorodifluoromethane	ND	310	ug/kg dry	50	05/27/15	B5E2708	8260	
60-29-7	Diethyl ether	ND	310	ug/kg dry	50	05/27/15	B5E2708	8260	
108-20-3	Diisopropyl Ether	ND	310	ug/kg dry	50	05/27/15	B5E2708	8260	
100-41-4	Ethylbenzene	ND	62	ug/kg dry	50	05/27/15	B5E2708	8260	
637-92-3	Ethyltertiarybutylether	ND	310	ug/kg dry	50	05/27/15	B5E2708	8260	
67-72-1	Hexachloroethane	ND	310	ug/kg dry	50	05/27/15	B5E2708	8260	
98-82-8	Isopropylbenzene	ND	62	ug/kg dry	50	05/27/15	B5E2708	8260	
1330-20-7	m & p - Xylene	ND	120	ug/kg dry	50	05/27/15	B5E2708	8260	
74-88-4	Methyl iodide	ND	62	ug/kg dry	50	05/27/15	B5E2708	8260	
75-09-2	Methylene chloride	ND	310	ug/kg dry	50	05/27/15	B5E2708	8260	
1634-04-4	Methyltertiarybutylether	ND	62	ug/kg dry	50	05/27/15	B5E2708	8260	
91-20-3	Naphthalene	ND	310	ug/kg dry	50	05/27/15	B5E2708	8260	X
104-51-8	n-Butylbenzene	ND	62	ug/kg dry	50	05/27/15	B5E2708	8260	
103-65-1	n-Propylbenzene	ND	62	ug/kg dry	50	05/27/15	B5E2708	8260	
95-47-6	o-Xylene	ND	62	ug/kg dry	50	05/27/15	B5E2708	8260	
99-87-6	p-Isopropyl toluene	ND	62	ug/kg dry	50	05/27/15	B5E2708	8260	
135-98-8	sec-Butylbenzene	ND	62	ug/kg dry	50	05/27/15	B5E2708	8260	
100-42-5	Styrene	ND	62	ug/kg dry	50	05/27/15	B5E2708	8260	
98-06-6	tert-Butylbenzene	ND	62	ug/kg dry	50	05/27/15	B5E2708	8260	
75-65-0	tertiary Butyl Alcohol	ND	3100	ug/kg dry	50	05/27/15	B5E2708	8260	
994-05-8	tertiaryAmylmethylether	ND	310	ug/kg dry	50	05/27/15	B5E2708	8260	
127-18-4	Tetrachloroethylene	ND	62	ug/kg dry	50	05/27/15	B5E2708	8260	
109-99-9	Tetrahydrofuran	ND	310	ug/kg dry	50	05/27/15	B5E2708	8260	
108-88-3	Toluene	ND	62	ug/kg dry	50	05/27/15	B5E2708	8260	
156-60-5	trans-1,2-Dichloroethylene	ND	62	ug/kg dry	50	05/27/15	B5E2708	8260	
10061-02-6	trans-1,3-Dichloropropylene	ND	62	ug/kg dry	50	05/27/15	B5E2708	8260	
110-57-6	trans-1,4-Dichloro-2-butene	ND	310	ug/kg dry	50	05/27/15	B5E2708	8260	
79-01-6	Trichloroethylene	ND	62	ug/kg dry	50	05/27/15	B5E2708	8260	
75-69-4	Trichlorofluoromethane	ND	62	ug/kg dry	50	05/27/15	B5E2708	8260	
75-01-4	Vinyl chloride	ND	62	ug/kg dry	50	05/27/15	B5E2708	8260	
Surrogate: Bromofluorobenzene			127 %	40.3-194		05/27/15	B5E2708	8260	
Surrogate: Dibromofluoromethane			125 %	52.1-217		05/27/15	B5E2708	8260	
Surrogate: Toluene-d8			129 %	55.4-196		05/27/15	B5E2708	8260	



**MICHIGAN DEPARTMENT OF ENVIRONMENTAL QUALITY
ENVIRONMENTAL LABORATORY**

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

Client ID: CHTC-SB-18-6"-6

Lab ID: 1505184-06

CAS #	Analyte	Result	RL	Units	Dilution	Analyzed Date	QC Batch	Method	Qualifier
Organics-Semivolatiles									See note Y17, Y20
91-57-6	2-Methylnaphthalene	ND	560	ug/kg dry	1	06/01/15	B5E2017	8270	
83-32-9	Acenaphthene	ND	220	ug/kg dry	1	06/01/15	B5E2017	8270	
208-96-8	Acenaphthylene	ND	220	ug/kg dry	1	06/01/15	B5E2017	8270	
120-12-7	Anthracene	ND	220	ug/kg dry	1	06/01/15	B5E2017	8270	
56-55-3	Benz[a]anthracene	ND	220	ug/kg dry	1	06/01/15	B5E2017	8270	
50-32-8	Benzo[a]pyrene	ND	450	ug/kg dry	1	06/01/15	B5E2017	8270	
205-99-2	Benzo[b]fluoranthene	ND	450	ug/kg dry	1	06/01/15	B5E2017	8270	
191-24-2	Benzo[g,h,i]perylene	ND	450	ug/kg dry	1	06/01/15	B5E2017	8270	
207-08-9	Benzo[k]fluoranthene	ND	450	ug/kg dry	1	06/01/15	B5E2017	8270	
218-01-9	Chrysene	ND	220	ug/kg dry	1	06/01/15	B5E2017	8270	
53-70-3	Dibenz[a,h]anthracene	ND	450	ug/kg dry	1	06/01/15	B5E2017	8270	
206-44-0	Fluoranthene	ND	220	ug/kg dry	1	06/01/15	B5E2017	8270	
86-73-7	Fluorene	ND	220	ug/kg dry	1	06/01/15	B5E2017	8270	
193-39-5	Indeno(1,2,3-c,d)pyrene	ND	450	ug/kg dry	1	06/01/15	B5E2017	8270	
91-20-3	Naphthalene	ND	220	ug/kg dry	1	06/01/15	B5E2017	8270	
85-01-8	Phenanthrene	ND	220	ug/kg dry	1	06/01/15	B5E2017	8270	
129-00-0	Pyrene	ND	220	ug/kg dry	1	06/01/15	B5E2017	8270	
<i>Surrogate: 2-Fluorobiphenyl</i>			72.6 %	32.9-115		06/01/15	B5E2017	8270	
<i>Surrogate: Nitrobenzene-d5</i>			59.2 %	31.8-115		06/01/15	B5E2017	8270	
<i>Surrogate: p-Terphenyl-d14</i>			64.4 %	38.5-115		06/01/15	B5E2017	8270	
Organics-PCBs as Aroclors									
12674-11-2	Aroclor 1016	ND	110	ug/kg dry	1	06/02/15	B5E2816	8081/8082	
11104-28-2	Aroclor 1221	ND	110	ug/kg dry	1	06/02/15	B5E2816	8081/8082	
11141-16-5	Aroclor 1232	ND	110	ug/kg dry	1	06/02/15	B5E2816	8081/8082	
53469-21-9	Aroclor 1242	ND	110	ug/kg dry	1	06/02/15	B5E2816	8081/8082	
12672-29-6	Aroclor 1248	ND	110	ug/kg dry	1	06/02/15	B5E2816	8081/8082	
11097-69-1	Aroclor 1254	ND	110	ug/kg dry	1	06/02/15	B5E2816	8081/8082	
11096-82-5	Aroclor 1260	ND	110	ug/kg dry	1	06/02/15	B5E2816	8081/8082	
37324-23-5	Aroclor 1262	ND	110	ug/kg dry	1	06/02/15	B5E2816	8081/8082	
11100-14-4	Aroclor 1268	ND	110	ug/kg dry	1	06/02/15	B5E2816	8081/8082	
<i>Surrogate: Decachlorobiphenyl</i>			48.9 %	30-150		06/02/15	B5E2816	8081/8082	
<i>Surrogate: Tetrachloro-m-xylene</i>			50.2 %	30-150		06/02/15	B5E2816	8081/8082	



MICHIGAN DEPARTMENT OF ENVIRONMENTAL QUALITY
ENVIRONMENTAL LABORATORY

P.O. Box 30270
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TEL: (517) 335-9800
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Client ID: CHTC-SB-18-6"-6

Lab ID: 1505184-06

CAS #	Analyte	Result	RL	Units	Dilution	Analyzed Date	QC Batch	Method	Qualifier
Inorganics-General Chemistry									
TS	% Total Solids	89.1	0.1	%	1	05/20/15	B5E2011	2540 B	



MICHIGAN DEPARTMENT OF ENVIRONMENTAL QUALITY
ENVIRONMENTAL LABORATORY

P.O. Box 30270
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TEL: (517) 335-9800
FAX: (517) 335-9600

Client ID: CHTC-SB-19-0-6"

Lab ID: 1505184-07

CAS #	Analyte	Result	RL	Units	Dilution	Analyzed Date	QC Batch	Method	Qualifier
Organics-PCBs as Aroclors									
12674-11-2	Aroclor 1016	ND	120	ug/kg dry	1	06/03/15	B5E2816	8081/8082	
11104-28-2	Aroclor 1221	ND	120	ug/kg dry	1	06/03/15	B5E2816	8081/8082	
11141-16-5	Aroclor 1232	ND	120	ug/kg dry	1	06/03/15	B5E2816	8081/8082	
53469-21-9	Aroclor 1242	ND	120	ug/kg dry	1	06/03/15	B5E2816	8081/8082	
12672-29-6	Aroclor 1248	ND	120	ug/kg dry	1	06/03/15	B5E2816	8081/8082	
11097-69-1	Aroclor 1254	ND	120	ug/kg dry	1	06/03/15	B5E2816	8081/8082	
11096-82-5	Aroclor 1260	ND	120	ug/kg dry	1	06/03/15	B5E2816	8081/8082	
37324-23-5	Aroclor 1262	ND	120	ug/kg dry	1	06/03/15	B5E2816	8081/8082	
11100-14-4	Aroclor 1268	ND	120	ug/kg dry	1	06/03/15	B5E2816	8081/8082	
Surrogate: Decachlorobiphenyl		74.0 %	30-150			06/03/15	B5E2816	8081/8082	
Surrogate: Tetrachloro-m-xylene		71.8 %	30-150			06/03/15	B5E2816	8081/8082	
Inorganics-General Chemistry									
TS	% Total Solids	84.8	0.1	%	1	05/20/15	B5E2011	2540 B	



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ENVIRONMENTAL LABORATORY**

P.O. Box 30270
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TEL: (517) 335-9800
FAX: (517) 335-9600

Client ID: CHTC-SB-19-6''-7'

Lab ID: 1505184-08

CAS #	Analyte	Result	RL	Units	Dilution	Analyzed Date	QC Batch	Method	Qualifier
Organics-Volatiles									
630-20-6	1,1,1,2-Tetrachloroethane	ND	64	ug/kg dry	50	05/27/15	B5E2708	8260	
71-55-6	1,1,1-Trichloroethane	ND	64	ug/kg dry	50	05/27/15	B5E2708	8260	
79-34-5	1,1,2,2-Tetrachloroethane	ND	64	ug/kg dry	50	05/27/15	B5E2708	8260	
79-00-5	1,1,2-Trichloroethane	ND	64	ug/kg dry	50	05/27/15	B5E2708	8260	
75-34-3	1,1-Dichloroethane	ND	64	ug/kg dry	50	05/27/15	B5E2708	8260	
75-35-4	1,1-Dichloroethylene	ND	64	ug/kg dry	50	05/27/15	B5E2708	8260	
87-61-6	1,2,3-Trichlorobenzene	ND	320	ug/kg dry	50	05/27/15	B5E2708	8260	
96-18-4	1,2,3-Trichloropropane	ND	64	ug/kg dry	50	05/27/15	B5E2708	8260	
526-73-8	1,2,3-Trimethylbenzene	ND	64	ug/kg dry	50	05/27/15	B5E2708	8260	
120-82-1	1,2,4-Trichlorobenzene	ND	320	ug/kg dry	50	05/27/15	B5E2708	8260	
95-63-6	1,2,4-Trimethylbenzene	ND	64	ug/kg dry	50	05/27/15	B5E2708	8260	
96-12-8	1,2-Dibromo-3-chloropropane	ND	320	ug/kg dry	50	05/27/15	B5E2708	8260	
106-93-4	1,2-Dibromoethane	ND	64	ug/kg dry	50	05/27/15	B5E2708	8260	
95-50-1	1,2-Dichlorobenzene	ND	64	ug/kg dry	50	05/27/15	B5E2708	8260	
107-06-2	1,2-Dichloroethane	ND	64	ug/kg dry	50	05/27/15	B5E2708	8260	
78-87-5	1,2-Dichloropropane	ND	64	ug/kg dry	50	05/27/15	B5E2708	8260	
108-67-8	1,3,5-Trimethylbenzene	ND	64	ug/kg dry	50	05/27/15	B5E2708	8260	
541-73-1	1,3-Dichlorobenzene	ND	64	ug/kg dry	50	05/27/15	B5E2708	8260	
106-46-7	1,4-Dichlorobenzene	ND	64	ug/kg dry	50	05/27/15	B5E2708	8260	
78-93-3	2-Butanone (MEK)	ND	320	ug/kg dry	50	05/27/15	B5E2708	8260	
591-78-6	2-Hexanone	ND	320	ug/kg dry	50	05/27/15	B5E2708	8260	
91-57-6	2-Methylnaphthalene	ND	320	ug/kg dry	50	05/27/15	B5E2708	8260	X
67-64-1	2-Propanone (acetone)	ND	1300	ug/kg dry	50	05/27/15	B5E2708	8260	
108-10-1	4-Methyl-2-pentanone (MIBK)	ND	320	ug/kg dry	50	05/27/15	B5E2708	8260	
107-13-1	Acrylonitrile	ND	320	ug/kg dry	50	05/27/15	B5E2708	8260	
71-43-2	Benzene	ND	64	ug/kg dry	50	05/27/15	B5E2708	8260	
108-86-1	Bromobenzene	ND	64	ug/kg dry	50	05/27/15	B5E2708	8260	
74-97-5	Bromochloromethane	ND	64	ug/kg dry	50	05/27/15	B5E2708	8260	
75-27-4	Bromodichloromethane	ND	64	ug/kg dry	50	05/27/15	B5E2708	8260	
75-25-2	Bromoform	ND	64	ug/kg dry	50	05/27/15	B5E2708	8260	
74-83-9	Bromomethane	ND	320	ug/kg dry	50	05/27/15	B5E2708	8260	
75-15-0	Carbon disulfide	ND	64	ug/kg dry	50	05/27/15	B5E2708	8260	
56-23-5	Carbon tetrachloride	ND	64	ug/kg dry	50	05/27/15	B5E2708	8260	
108-90-7	Chlorobenzene	ND	64	ug/kg dry	50	05/27/15	B5E2708	8260	
75-00-3	Chloroethane	ND	320	ug/kg dry	50	05/27/15	B5E2708	8260	
67-66-3	Chloroform	ND	64	ug/kg dry	50	05/27/15	B5E2708	8260	
74-87-3	Chloromethane	ND	320	ug/kg dry	50	05/27/15	B5E2708	8260	
156-59-2	cis-1,2-Dichloroethylene	ND	64	ug/kg dry	50	05/27/15	B5E2708	8260	
10061-01-5	cis-1,3-Dichloropropylene	ND	64	ug/kg dry	50	05/27/15	B5E2708	8260	
110-82-7	Cyclohexane	ND	320	ug/kg dry	50	05/27/15	B5E2708	8260	
124-48-1	Dibromochloromethane	ND	64	ug/kg dry	50	05/27/15	B5E2708	8260	



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Client ID: CHTC-SB-19-6''-7'

Lab ID: 1505184-08

CAS #	Analyte	Result	RL	Units	Dilution	Analyzed Date	QC Batch	Method	Qualifier
Organics-Volatiles									
74-95-3	Dibromomethane	ND	64	ug/kg dry	50	05/27/15	B5E2708	8260	
75-71-8	Dichlorodifluoromethane	ND	320	ug/kg dry	50	05/27/15	B5E2708	8260	
60-29-7	Diethyl ether	ND	320	ug/kg dry	50	05/27/15	B5E2708	8260	
108-20-3	Diisopropyl Ether	ND	320	ug/kg dry	50	05/27/15	B5E2708	8260	
100-41-4	Ethylbenzene	ND	64	ug/kg dry	50	05/27/15	B5E2708	8260	
637-92-3	Ethyltertiarybutylether	ND	320	ug/kg dry	50	05/27/15	B5E2708	8260	
67-72-1	Hexachloroethane	ND	320	ug/kg dry	50	05/27/15	B5E2708	8260	
98-82-8	Isopropylbenzene	ND	64	ug/kg dry	50	05/27/15	B5E2708	8260	
1330-20-7	m & p - Xylene	ND	130	ug/kg dry	50	05/27/15	B5E2708	8260	
74-88-4	Methyl iodide	ND	64	ug/kg dry	50	05/27/15	B5E2708	8260	
75-09-2	Methylene chloride	ND	320	ug/kg dry	50	05/27/15	B5E2708	8260	
1634-04-4	Methyltertiarybutylether	ND	64	ug/kg dry	50	05/27/15	B5E2708	8260	
91-20-3	Naphthalene	ND	320	ug/kg dry	50	05/27/15	B5E2708	8260	X
104-51-8	n-Butylbenzene	ND	64	ug/kg dry	50	05/27/15	B5E2708	8260	
103-65-1	n-Propylbenzene	ND	64	ug/kg dry	50	05/27/15	B5E2708	8260	
95-47-6	o-Xylene	ND	64	ug/kg dry	50	05/27/15	B5E2708	8260	
99-87-6	p-Isopropyl toluene	ND	64	ug/kg dry	50	05/27/15	B5E2708	8260	
135-98-8	sec-Butylbenzene	ND	64	ug/kg dry	50	05/27/15	B5E2708	8260	
100-42-5	Styrene	ND	64	ug/kg dry	50	05/27/15	B5E2708	8260	
98-06-6	tert-Butylbenzene	ND	64	ug/kg dry	50	05/27/15	B5E2708	8260	
75-65-0	tertiary Butyl Alcohol	ND	3200	ug/kg dry	50	05/27/15	B5E2708	8260	
994-05-8	tertiaryAmylmethylether	ND	320	ug/kg dry	50	05/27/15	B5E2708	8260	
127-18-4	Tetrachloroethylene	ND	64	ug/kg dry	50	05/27/15	B5E2708	8260	
109-99-9	Tetrahydrofuran	ND	320	ug/kg dry	50	05/27/15	B5E2708	8260	
108-88-3	Toluene	ND	64	ug/kg dry	50	05/27/15	B5E2708	8260	
156-60-5	trans-1,2-Dichloroethylene	ND	64	ug/kg dry	50	05/27/15	B5E2708	8260	
10061-02-6	trans-1,3-Dichloropropylene	ND	64	ug/kg dry	50	05/27/15	B5E2708	8260	
110-57-6	trans-1,4-Dichloro-2-butene	ND	320	ug/kg dry	50	05/27/15	B5E2708	8260	
79-01-6	Trichloroethylene	ND	64	ug/kg dry	50	05/27/15	B5E2708	8260	
75-69-4	Trichlorofluoromethane	ND	64	ug/kg dry	50	05/27/15	B5E2708	8260	
75-01-4	Vinyl chloride	ND	64	ug/kg dry	50	05/27/15	B5E2708	8260	
<i>Surrogate: Bromofluorobenzene</i>			<i>130 %</i>	<i>40.3-194</i>		<i>05/27/15</i>	<i>B5E2708</i>	<i>8260</i>	
<i>Surrogate: Dibromofluoromethane</i>			<i>124 %</i>	<i>52.1-217</i>		<i>05/27/15</i>	<i>B5E2708</i>	<i>8260</i>	
<i>Surrogate: Toluene-d8</i>			<i>129 %</i>	<i>55.4-196</i>		<i>05/27/15</i>	<i>B5E2708</i>	<i>8260</i>	



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ENVIRONMENTAL LABORATORY

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TEL: (517) 335-9800
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Client ID: CHTC-SB-19-6"-7'

Lab ID: 1505184-08

CAS #	Analyte	Result	RL	Units	Dilution	Analyzed Date	QC Batch	Method	Qualifier
Organics-Semivolatiles									See note Y20
91-57-6	2-Methylnaphthalene	ND	560	ug/kg dry	1	06/01/15	B5E2017	8270	
83-32-9	Acenaphthene	ND	230	ug/kg dry	1	06/01/15	B5E2017	8270	
208-96-8	Acenaphthylene	ND	230	ug/kg dry	1	06/01/15	B5E2017	8270	
120-12-7	Anthracene	ND	230	ug/kg dry	1	06/01/15	B5E2017	8270	
56-55-3	Benz[a]anthracene	ND	230	ug/kg dry	1	06/01/15	B5E2017	8270	
50-32-8	Benzo[a]pyrene	ND	450	ug/kg dry	1	06/01/15	B5E2017	8270	
205-99-2	Benzo[b]fluoranthene	ND	450	ug/kg dry	1	06/01/15	B5E2017	8270	
191-24-2	Benzo[g,h,i]perylene	ND	450	ug/kg dry	1	06/01/15	B5E2017	8270	
207-08-9	Benzo[k]fluoranthene	ND	450	ug/kg dry	1	06/01/15	B5E2017	8270	
218-01-9	Chrysene	ND	230	ug/kg dry	1	06/01/15	B5E2017	8270	
53-70-3	Dibenz[a,h]anthracene	ND	450	ug/kg dry	1	06/01/15	B5E2017	8270	
206-44-0	Fluoranthene	ND	230	ug/kg dry	1	06/01/15	B5E2017	8270	
86-73-7	Fluorene	ND	230	ug/kg dry	1	06/01/15	B5E2017	8270	
193-39-5	Indeno(1,2,3-c,d)pyrene	ND	450	ug/kg dry	1	06/01/15	B5E2017	8270	
91-20-3	Naphthalene	ND	230	ug/kg dry	1	06/01/15	B5E2017	8270	
85-01-8	Phenanthrene	ND	230	ug/kg dry	1	06/01/15	B5E2017	8270	
129-00-0	Pyrene	ND	230	ug/kg dry	1	06/01/15	B5E2017	8270	
Surrogate: 2-Fluorobiphenyl			67.3 %	32.9-115		06/01/15	B5E2017	8270	
Surrogate: Nitrobenzene-d5			59.4 %	31.8-115		06/01/15	B5E2017	8270	
Surrogate: p-Terphenyl-d14			68.4 %	38.5-115		06/01/15	B5E2017	8270	
Organics-PCBs as Aroclors									
12674-11-2	Aroclor 1016	ND	110	ug/kg dry	1	06/02/15	B5E2816	8081/8082	
11104-28-2	Aroclor 1221	ND	110	ug/kg dry	1	06/02/15	B5E2816	8081/8082	
11141-16-5	Aroclor 1232	ND	110	ug/kg dry	1	06/02/15	B5E2816	8081/8082	
53469-21-9	Aroclor 1242	ND	110	ug/kg dry	1	06/02/15	B5E2816	8081/8082	
12672-29-6	Aroclor 1248	ND	110	ug/kg dry	1	06/02/15	B5E2816	8081/8082	
11097-69-1	Aroclor 1254	ND	110	ug/kg dry	1	06/02/15	B5E2816	8081/8082	
11096-82-5	Aroclor 1260	ND	110	ug/kg dry	1	06/02/15	B5E2816	8081/8082	
37324-23-5	Aroclor 1262	ND	110	ug/kg dry	1	06/02/15	B5E2816	8081/8082	
11100-14-4	Aroclor 1268	ND	110	ug/kg dry	1	06/02/15	B5E2816	8081/8082	
Surrogate: Decachlorobiphenyl			69.2 %	30-150		06/02/15	B5E2816	8081/8082	
Surrogate: Tetrachloro-m-xylene			63.5 %	30-150		06/02/15	B5E2816	8081/8082	



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TEL: (517) 335-9800
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Client ID: CHTC-SB-19-6''-7'

Lab ID: 1505184-08

CAS #	Analyte	Result	RL	Units	Dilution	Analyzed Date	QC Batch	Method	Qualifier
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Inorganics-General Chemistry

TS	% Total Solids	88.6	0.1	%	1	05/20/15	B5E2011	2540 B	
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Lansing, MI 48909
TEL: (517) 335-9800
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Client ID: CHTC-SB-20-0-6"

Lab ID: 1505184-09

CAS #	Analyte	Result	RL	Units	Dilution	Analyzed Date	QC Batch	Method	Qualifier
Organics-PCBs as Aroclors									
12674-11-2	Aroclor 1016	ND	110	ug/kg dry	1	06/03/15	B5E2816	8081/8082	
11104-28-2	Aroclor 1221	ND	110	ug/kg dry	1	06/03/15	B5E2816	8081/8082	
11141-16-5	Aroclor 1232	ND	110	ug/kg dry	1	06/03/15	B5E2816	8081/8082	
53469-21-9	Aroclor 1242	ND	110	ug/kg dry	1	06/03/15	B5E2816	8081/8082	
12672-29-6	Aroclor 1248	ND	110	ug/kg dry	1	06/03/15	B5E2816	8081/8082	
11097-69-1	Aroclor 1254	ND	110	ug/kg dry	1	06/03/15	B5E2816	8081/8082	
11096-82-5	Aroclor 1260	ND	110	ug/kg dry	1	06/03/15	B5E2816	8081/8082	
37324-23-5	Aroclor 1262	ND	110	ug/kg dry	1	06/03/15	B5E2816	8081/8082	
11100-14-4	Aroclor 1268	ND	110	ug/kg dry	1	06/03/15	B5E2816	8081/8082	
<i>Surrogate: Decachlorobiphenyl</i>			75.8 %	30-150		06/03/15	B5E2816	8081/8082	
<i>Surrogate: Tetrachloro-m-xylene</i>			65.8 %	30-150		06/03/15	B5E2816	8081/8082	
Inorganics-General Chemistry									
TS	% Total Solids	91.2	0.1	%	1	05/20/15	B5E2011	2540 B	



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Client ID: CHTC-SB-20-6''-9'

Lab ID: 1505184-10

CAS #	Analyte	Result	RL	Units	Dilution	Analyzed Date	QC Batch	Method	Qualifier
Organics-PCBs as Aroclors									
12674-11-2	Aroclor 1016	ND	110	ug/kg dry	1	06/03/15	B5E2816	8081/8082	
11104-28-2	Aroclor 1221	ND	110	ug/kg dry	1	06/03/15	B5E2816	8081/8082	
11141-16-5	Aroclor 1232	ND	110	ug/kg dry	1	06/03/15	B5E2816	8081/8082	
53469-21-9	Aroclor 1242	ND	110	ug/kg dry	1	06/03/15	B5E2816	8081/8082	
12672-29-6	Aroclor 1248	ND	110	ug/kg dry	1	06/03/15	B5E2816	8081/8082	
11097-69-1	Aroclor 1254	ND	110	ug/kg dry	1	06/03/15	B5E2816	8081/8082	
11096-82-5	Aroclor 1260	ND	110	ug/kg dry	1	06/03/15	B5E2816	8081/8082	
37324-23-5	Aroclor 1262	ND	110	ug/kg dry	1	06/03/15	B5E2816	8081/8082	
11100-14-4	Aroclor 1268	ND	110	ug/kg dry	1	06/03/15	B5E2816	8081/8082	
Surrogate: Decachlorobiphenyl		68.6 %		30-150		06/03/15	B5E2816	8081/8082	
Surrogate: Tetrachloro-m-xylene		66.3 %		30-150		06/03/15	B5E2816	8081/8082	
Inorganics-General Chemistry									
TS	% Total Solids	90.6	0.1	%	1	05/20/15	B5E2011	2540 B	



Analysis Request Sheet

Lab Work Order Number

Project Name

Matrix

1505184

Abandoned Mining Wastes - Torch Lake PCB C&H Tamarack City Ops

SOIL

Site Code/Project Number

AY

CC Email 1

Project IAT Days

Sample Collector

31000098

13

j.binkley@westonsolutions.com

AK/JP/AB-DEQ-RRD

Dept-Division-District

Index

CC Email 2

Project Due Date

Sample Collector Phone

DEQ-RRD-UP District

44251

daniel.liebau@westonsolutions.com

906-337-0389

State Project Manager

PCA

CC Email 3

Accept Analysis

Contract Firm

Amy Keranen

30872

pincumbel@michigan.gov

hold time codes

Weston Solutions

State Project Manager Email

Project

Overflow Lab Choice 1

no

Contract Firm Primary Contact

keranena@michigan.gov

456990

Test America

Jeff Binkley

State Project Manager Phone

Phase

Overflow Lab Choice 2

Primary Contact Phone

906-337-0389

00

906-523-5457

Lab Use Only	Field Sample Identification	Collection Date	Collection Time	Container Count	Comments
1	01 CHTC-SB-16-0-6"	5/14/15	1100	1-802	
2	02 CHTC-SB-16-6"-13'		1110	3-802 140ML	OIL & GREASE
3	03 CHTC-SB-17-0-6"		1155	1-802	
4	04 CHTC-SB-17-6"-8'		1200	3-802 1-40ML	OIL AND GREASE
5	05 CHTC-SB-18-0-6"		1400	1-802	
6	06 CHTC-SB-18-6"-6'		1405	3-802 1-40ML	OIL & GREASE
7	07 CHTC-SB-19-0-6"		1527	1-802	
8	08 CHTC-SB-19-6"-7'		1533	3-802 1-40ML	OIL & GREASE
9	09 CHTC-SB-20-0-6"		1643	1-802	
10	10 CHTC-SB-20-6"-9'		1647	2-802	OIL & GREASE

ORGANIC CHEMISTRY	METALS CHEMISTRY PACKAGES	MS - TOTAL METALS	GENERAL 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 Chlorinated only 1 2 3 4 5 6 7 8 9 10 GRO 1 2 3 4 5 6 7 8 9 10 1,4 Dioxane 1 2 3 4 5 6 7 8 9 10	OpMemo2 - Total 1 2 3 4 5 6 7 8 9 10 (Sb,As,Ba,Bi,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 (As,Ba,Cd,Cr,Cu,Pb,Hg,Se,Ag,Zn)	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 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 Uranium - U 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	GS - General Chemistry Total Cyanide - CN 1 2 3 4 5 6 7 8 9 10 Available Cyanide - CN 1 2 3 4 5 6 7 8 9 10 Chem Oxyg Dem - COD 1 2 3 4 5 6 7 8 9 10 Total Org Carbon - TOC 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

BNA - Base Neutral Acids BNAs 1 2 3 4 5 6 7 8 9 10 PNAs only 1 2 3 4 5 6 7 8 9 10 BNs only 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 - SemVol 1 2 3 4 5 6 7 8 9 10 Finger Print 1 2 3 4 5 6 7 8 9 10 DRO / ORO 1 2 3 4 5 6 7 8 9 10
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OIL & GREASE (246860)

Chain of Custody	Relinquished by	Received By	Date / Time
Print Name & Org.	JEFF Pincumbel MDEQ	Melissa Smith	5/20/15 9:01
Signature:	<i>[Signature]</i>	<i>[Signature]</i>	
Print Name & Org.			
Signature:			
Print Name & Org.			
Signature:			



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11 June 2015

Work Order: 1505185

Price: \$1,116.00

Amy Keranen

MDEQ-RRD-UP

1504 W. Washington St.

Marquette, MI 49855

RE: ABANDONED MINING WASTES-TORCH LAKE NS

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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FAX: (517) 335-9600

MDEQ-RRD-UP
1504 W. Washington St.
Marquette MI, 49855

Project: ABANDONED MINING WASTES-TORCH LAKE NS
Site Code: 31000098
Project Manager: Amy Keranen

Reported:
06/11/2015

Analytical Report for Samples

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received	Qualifier
CHTC-GW-17-16'-21'	1505185-01	Water	05/15/2015	05/20/2015	
CHTC-GW-20-8'-13'	1505185-02	Water	05/15/2015	05/20/2015	
CHTC-GW-20-8'-13'-DUP	1505185-03	Water	05/15/2015	05/20/2015	

Notes and Definitions

X	Methods 8260 & 624 are used to analyze volatile organics that have boiling points below 200 °C. 2-Methylnaphthalene & naphthalene have boiling points above 200 °C and are better suited to analysis by methods 8270 & 625 as semivolatile organics.
KR	Reporting limit(s) raised due to low sample volume submitted.
A11	Result is estimated due to high initial verification standard criteria failure.
A09	Result is estimated due to high recovery of batch quality control.
A06	Result is estimated due to high continuing calibration standard criteria failure.
A04	Result is estimated due to high matrix spike recovery.
A03	Result(s) and reporting limit(s) are estimated due to low matrix spike recovery.
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: CHTC-GW-17-16'-21'

Lab ID: 1505185-01

CAS #	Analyte	Result	RL	Units	Dilution	Analyzed Date	QC Batch	Method	Qualifier
Organics-Volatiles									
630-20-6	1,1,1,2-Tetrachloroethane	ND	1.0	ug/L	1	05/22/15	B5E2121	8260	
71-55-6	1,1,1-Trichloroethane	ND	1.0	ug/L	1	05/22/15	B5E2121	8260	
79-34-5	1,1,2,2-Tetrachloroethane	ND	1.0	ug/L	1	05/22/15	B5E2121	8260	
79-00-5	1,1,2-Trichloroethane	ND	1.0	ug/L	1	05/22/15	B5E2121	8260	
75-34-3	1,1-Dichloroethane	ND	1.0	ug/L	1	05/22/15	B5E2121	8260	
75-35-4	1,1-Dichloroethylene	ND	1.0	ug/L	1	05/22/15	B5E2121	8260	
87-61-6	1,2,3-Trichlorobenzene	ND	5.0	ug/L	1	05/22/15	B5E2121	8260	
96-18-4	1,2,3-Trichloropropane	ND	1.0	ug/L	1	05/22/15	B5E2121	8260	
526-73-8	1,2,3-Trimethylbenzene	ND	1.0	ug/L	1	05/22/15	B5E2121	8260	
120-82-1	1,2,4-Trichlorobenzene	ND	5.0	ug/L	1	05/22/15	B5E2121	8260	
95-63-6	1,2,4-Trimethylbenzene	ND	1.0	ug/L	1	05/22/15	B5E2121	8260	
96-12-8	1,2-Dibromo-3-chloropropane	ND	5.0	ug/L	1	05/22/15	B5E2121	8260	
106-93-4	1,2-Dibromoethane	ND	1.0	ug/L	1	05/22/15	B5E2121	8260	
95-50-1	1,2-Dichlorobenzene	ND	1.0	ug/L	1	05/22/15	B5E2121	8260	
107-06-2	1,2-Dichloroethane	ND	1.0	ug/L	1	05/22/15	B5E2121	8260	
78-87-5	1,2-Dichloropropane	ND	1.0	ug/L	1	05/22/15	B5E2121	8260	
108-67-8	1,3,5-Trimethylbenzene	ND	1.0	ug/L	1	05/22/15	B5E2121	8260	
541-73-1	1,3-Dichlorobenzene	ND	1.0	ug/L	1	05/22/15	B5E2121	8260	
106-46-7	1,4-Dichlorobenzene	ND	1.0	ug/L	1	05/22/15	B5E2121	8260	
78-93-3	2-Butanone (MEK)	ND	5.0	ug/L	1	05/22/15	B5E2121	8260	
591-78-6	2-Hexanone	ND	5.0	ug/L	1	05/22/15	B5E2121	8260	
91-57-6	2-Methylnaphthalene	ND	5.0	ug/L	1	05/22/15	B5E2121	8260	X
67-64-1	2-Propanone (acetone)	ND	20	ug/L	1	05/22/15	B5E2121	8260	
108-10-1	4-Methyl-2-pentanone (MIBK)	ND	5.0	ug/L	1	05/22/15	B5E2121	8260	
107-13-1	Acrylonitrile	ND	5.0	ug/L	1	05/22/15	B5E2121	8260	
71-43-2	Benzene	ND	1.0	ug/L	1	05/22/15	B5E2121	8260	
108-86-1	Bromobenzene	ND	1.0	ug/L	1	05/22/15	B5E2121	8260	
74-97-5	Bromochloromethane	ND	1.0	ug/L	1	05/22/15	B5E2121	8260	
75-27-4	Bromodichloromethane	ND	1.0	ug/L	1	05/22/15	B5E2121	8260	
75-25-2	Bromoform	ND	1.0	ug/L	1	05/22/15	B5E2121	8260	
74-83-9	Bromomethane	ND	5.0	ug/L	1	05/22/15	B5E2121	8260	
75-15-0	Carbon disulfide	ND	1.0	ug/L	1	05/22/15	B5E2121	8260	
56-23-5	Carbon tetrachloride	ND	1.0	ug/L	1	05/22/15	B5E2121	8260	
108-90-7	Chlorobenzene	ND	1.0	ug/L	1	05/22/15	B5E2121	8260	
75-00-3	Chloroethane	ND	5.0	ug/L	1	05/22/15	B5E2121	8260	
67-66-3	Chloroform	ND	1.0	ug/L	1	05/22/15	B5E2121	8260	
74-87-3	Chloromethane	ND	5.0	ug/L	1	05/22/15	B5E2121	8260	
156-59-2	cis-1,2-Dichloroethylene	ND	1.0	ug/L	1	05/22/15	B5E2121	8260	
10061-01-5	cis-1,3-Dichloropropylene	ND	1.0	ug/L	1	05/22/15	B5E2121	8260	
110-82-7	Cyclohexane	ND	5.0	ug/L	1	05/22/15	B5E2121	8260	
124-48-1	Dibromochloromethane	ND	1.0	ug/L	1	05/22/15	B5E2121	8260	



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Client ID: CHTC-GW-17-16'-21'

Lab ID: 1505185-01

CAS #	Analyte	Result	RL	Units	Dilution	Analyzed Date	QC Batch	Method	Qualifier
Organics-Volatiles									
74-95-3	Dibromomethane	ND	1.0	ug/L	1	05/22/15	B5E2121	8260	
75-71-8	Dichlorodifluoromethane	ND	5.0	ug/L	1	05/22/15	B5E2121	8260	
60-29-7	Diethyl ether	ND	5.0	ug/L	1	05/22/15	B5E2121	8260	
108-20-3	Diisopropyl Ether	ND	5.0	ug/L	1	05/22/15	B5E2121	8260	
100-41-4	Ethylbenzene	ND	1.0	ug/L	1	05/22/15	B5E2121	8260	
637-92-3	Ethyltertiarybutylether	ND	5.0	ug/L	1	05/22/15	B5E2121	8260	
67-72-1	Hexachloroethane	ND	5.0	ug/L	1	05/22/15	B5E2121	8260	
98-82-8	Isopropylbenzene	ND	1.0	ug/L	1	05/22/15	B5E2121	8260	
1330-20-7	m & p - Xylene	ND	2.0	ug/L	1	05/22/15	B5E2121	8260	
74-88-4	Methyl iodide	ND	1.0	ug/L	1	05/22/15	B5E2121	8260	
75-09-2	Methylene chloride	ND	5.0	ug/L	1	05/22/15	B5E2121	8260	
1634-04-4	Methyltertiarybutylether	ND	1.0	ug/L	1	05/22/15	B5E2121	8260	
91-20-3	Naphthalene	ND	5.0	ug/L	1	05/22/15	B5E2121	8260	X
104-51-8	n-Butylbenzene	ND	1.0	ug/L	1	05/22/15	B5E2121	8260	
103-65-1	n-Propylbenzene	ND	1.0	ug/L	1	05/22/15	B5E2121	8260	
95-47-6	o-Xylene	ND	1.0	ug/L	1	05/22/15	B5E2121	8260	
99-87-6	p-Isopropyl toluene	ND	1.0	ug/L	1	05/22/15	B5E2121	8260	
135-98-8	sec-Butylbenzene	ND	1.0	ug/L	1	05/22/15	B5E2121	8260	
100-42-5	Styrene	ND	1.0	ug/L	1	05/22/15	B5E2121	8260	
98-06-6	tert-Butylbenzene	ND	1.0	ug/L	1	05/22/15	B5E2121	8260	
75-65-0	tertiary Butyl Alcohol	ND	50	ug/L	1	05/22/15	B5E2121	8260	
994-05-8	tertiaryAmylmethylether	ND	5.0	ug/L	1	05/22/15	B5E2121	8260	
127-18-4	Tetrachloroethylene	ND	1.0	ug/L	1	05/22/15	B5E2121	8260	
109-99-9	Tetrahydrofuran	ND	5.0	ug/L	1	05/22/15	B5E2121	8260	
108-88-3	Toluene	ND	1.0	ug/L	1	05/22/15	B5E2121	8260	
156-60-5	trans-1,2-Dichloroethylene	ND	1.0	ug/L	1	05/22/15	B5E2121	8260	
10061-02-6	trans-1,3-Dichloropropylene	ND	1.0	ug/L	1	05/22/15	B5E2121	8260	
110-57-6	trans-1,4-Dichloro-2-butene	ND	5.0	ug/L	1	05/22/15	B5E2121	8260	
79-01-6	Trichloroethylene	ND	1.0	ug/L	1	05/22/15	B5E2121	8260	
75-69-4	Trichlorofluoromethane	ND	1.0	ug/L	1	05/22/15	B5E2121	8260	
75-01-4	Vinyl chloride	ND	1.0	ug/L	1	05/22/15	B5E2121	8260	
Surrogate: Bromofluorobenzene			101 %	85-115		05/22/15	B5E2121	8260	
Surrogate: Dibromofluoromethane			98.9 %	82.7-115		05/22/15	B5E2121	8260	
Surrogate: Toluene-d8			100 %	85-115		05/22/15	B5E2121	8260	



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Lab ID: 1505185-01

CAS #	Analyte	Result	RL	Units	Dilution	Analyzed Date	QC Batch	Method	Qualifier
Organics-Semivolatiles									
91-57-6	2-Methylnaphthalene	ND	5.0	ug/L	1	05/22/15	B5E2003	8270	
83-32-9	Acenaphthene	ND	1.0	ug/L	1	05/22/15	B5E2003	8270	
208-96-8	Acenaphthylene	ND	1.0	ug/L	1	05/22/15	B5E2003	8270	
120-12-7	Anthracene	ND	1.0	ug/L	1	05/22/15	B5E2003	8270	
56-55-3	Benz[a]anthracene	ND	1.0	ug/L	1	05/22/15	B5E2003	8270	
50-32-8	Benzo[a]pyrene	ND	1.0	ug/L	1	05/22/15	B5E2003	8270	
205-99-2	Benzo[b]fluoranthene	ND	1.0	ug/L	1	05/22/15	B5E2003	8270	
191-24-2	Benzo[g,h,i]perylene	ND	1.0	ug/L	1	05/22/15	B5E2003	8270	
207-08-9	Benzo[k]fluoranthene	ND	1.0	ug/L	1	05/22/15	B5E2003	8270	
218-01-9	Chrysene	ND	1.0	ug/L	1	05/22/15	B5E2003	8270	
53-70-3	Dibenz[a,h]anthracene	ND	2.0	ug/L	1	05/22/15	B5E2003	8270	
206-44-0	Fluoranthene	ND	1.0	ug/L	1	05/22/15	B5E2003	8270	
86-73-7	Fluorene	ND	1.0	ug/L	1	05/22/15	B5E2003	8270	
193-39-5	Indeno(1,2,3-c,d)pyrene	ND	2.0	ug/L	1	05/22/15	B5E2003	8270	
91-20-3	Naphthalene	ND	1.0	ug/L	1	05/22/15	B5E2003	8270	
85-01-8	Phenanthrene	ND	1.0	ug/L	1	05/22/15	B5E2003	8270	
129-00-0	Pyrene	ND	1.0	ug/L	1	05/22/15	B5E2003	8270	
<i>Surrogate: 2-Fluorobiphenyl</i>			55.2 %		24.1-115	05/22/15	B5E2003	8270	
<i>Surrogate: Nitrobenzene-d5</i>			44.9 %		17.8-115	05/22/15	B5E2003	8270	
<i>Surrogate: p-Terphenyl-d14</i>			72.6 %		41.8-115	05/22/15	B5E2003	8270	
Organics-PCBs as Aroclors									
12674-11-2	Aroclor 1016	ND	0.10	ug/L	1	05/30/15	B5E2804	8081/8082	
11104-28-2	Aroclor 1221	ND	0.10	ug/L	1	05/30/15	B5E2804	8081/8082	
11141-16-5	Aroclor 1232	ND	0.10	ug/L	1	05/30/15	B5E2804	8081/8082	
53469-21-9	Aroclor 1242	ND	0.10	ug/L	1	05/30/15	B5E2804	8081/8082	
12672-29-6	Aroclor 1248	ND	0.10	ug/L	1	05/30/15	B5E2804	8081/8082	
11097-69-1	Aroclor 1254	ND	0.10	ug/L	1	05/30/15	B5E2804	8081/8082	
11096-82-5	Aroclor 1260	ND	0.10	ug/L	1	05/30/15	B5E2804	8081/8082	
37324-23-5	Aroclor 1262	ND	0.10	ug/L	1	05/30/15	B5E2804	8081/8082	
11100-14-4	Aroclor 1268	ND	0.10	ug/L	1	05/30/15	B5E2804	8081/8082	
<i>Surrogate: Decachlorobiphenyl</i>			50.8 %		30-150	05/30/15	B5E2804	8081/8082	
<i>Surrogate: Tetrachloro-m-xylene</i>			39.3 %		30-150	05/30/15	B5E2804	8081/8082	



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Client ID: CHTC-GW-20-8'-13'

Lab ID: 1505185-02

CAS #	Analyte	Result	RL	Units	Dilution	Analyzed Date	QC Batch	Method	Qualifier
Organics-Volatiles									
630-20-6	1,1,1,2-Tetrachloroethane	ND	1.0	ug/L	1	05/22/15	B5E2121	8260	
71-55-6	1,1,1-Trichloroethane	ND	1.0	ug/L	1	05/22/15	B5E2121	8260	
79-34-5	1,1,2,2-Tetrachloroethane	ND	1.0	ug/L	1	05/22/15	B5E2121	8260	
79-00-5	1,1,2-Trichloroethane	ND	1.0	ug/L	1	05/22/15	B5E2121	8260	
75-34-3	1,1-Dichloroethane	ND	1.0	ug/L	1	05/22/15	B5E2121	8260	
75-35-4	1,1-Dichloroethylene	ND	1.0	ug/L	1	05/22/15	B5E2121	8260	
87-61-6	1,2,3-Trichlorobenzene	ND	5.0	ug/L	1	05/22/15	B5E2121	8260	
96-18-4	1,2,3-Trichloropropane	ND	1.0	ug/L	1	05/22/15	B5E2121	8260	
526-73-8	1,2,3-Trimethylbenzene	ND	1.0	ug/L	1	05/22/15	B5E2121	8260	
120-82-1	1,2,4-Trichlorobenzene	ND	5.0	ug/L	1	05/22/15	B5E2121	8260	
95-63-6	1,2,4-Trimethylbenzene	ND	1.0	ug/L	1	05/22/15	B5E2121	8260	
96-12-8	1,2-Dibromo-3-chloropropane	ND	5.0	ug/L	1	05/22/15	B5E2121	8260	
106-93-4	1,2-Dibromoethane	ND	1.0	ug/L	1	05/22/15	B5E2121	8260	
95-50-1	1,2-Dichlorobenzene	ND	1.0	ug/L	1	05/22/15	B5E2121	8260	
107-06-2	1,2-Dichloroethane	ND	1.0	ug/L	1	05/22/15	B5E2121	8260	
78-87-5	1,2-Dichloropropane	ND	1.0	ug/L	1	05/22/15	B5E2121	8260	
108-67-8	1,3,5-Trimethylbenzene	ND	1.0	ug/L	1	05/22/15	B5E2121	8260	
541-73-1	1,3-Dichlorobenzene	ND	1.0	ug/L	1	05/22/15	B5E2121	8260	
106-46-7	1,4-Dichlorobenzene	ND	1.0	ug/L	1	05/22/15	B5E2121	8260	
78-93-3	2-Butanone (MEK)	ND	5.0	ug/L	1	05/22/15	B5E2121	8260	
591-78-6	2-Hexanone	ND	5.0	ug/L	1	05/22/15	B5E2121	8260	
91-57-6	2-Methylnaphthalene	ND	5.0	ug/L	1	05/22/15	B5E2121	8260	A03, X
67-64-1	2-Propanone (acetone)	ND	20	ug/L	1	05/22/15	B5E2121	8260	
108-10-1	4-Methyl-2-pentanone (MIBK)	ND	5.0	ug/L	1	05/22/15	B5E2121	8260	
107-13-1	Acrylonitrile	ND	5.0	ug/L	1	05/22/15	B5E2121	8260	
71-43-2	Benzene	ND	1.0	ug/L	1	05/22/15	B5E2121	8260	
108-86-1	Bromobenzene	ND	1.0	ug/L	1	05/22/15	B5E2121	8260	
74-97-5	Bromochloromethane	ND	1.0	ug/L	1	05/22/15	B5E2121	8260	
75-27-4	Bromodichloromethane	ND	1.0	ug/L	1	05/22/15	B5E2121	8260	
75-25-2	Bromoform	ND	1.0	ug/L	1	05/22/15	B5E2121	8260	
74-83-9	Bromomethane	ND	5.0	ug/L	1	05/22/15	B5E2121	8260	
75-15-0	Carbon disulfide	ND	1.0	ug/L	1	05/22/15	B5E2121	8260	
56-23-5	Carbon tetrachloride	ND	1.0	ug/L	1	05/22/15	B5E2121	8260	
108-90-7	Chlorobenzene	ND	1.0	ug/L	1	05/22/15	B5E2121	8260	
75-00-3	Chloroethane	ND	5.0	ug/L	1	05/22/15	B5E2121	8260	
67-66-3	Chloroform	ND	1.0	ug/L	1	05/22/15	B5E2121	8260	
74-87-3	Chloromethane	ND	5.0	ug/L	1	05/22/15	B5E2121	8260	
156-59-2	cis-1,2-Dichloroethylene	ND	1.0	ug/L	1	05/22/15	B5E2121	8260	
10061-01-5	cis-1,3-Dichloropropylene	ND	1.0	ug/L	1	05/22/15	B5E2121	8260	
110-82-7	Cyclohexane	ND	5.0	ug/L	1	05/22/15	B5E2121	8260	
124-48-1	Dibromochloromethane	ND	1.0	ug/L	1	05/22/15	B5E2121	8260	



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Lab ID: 1505185-02

CAS #	Analyte	Result	RL	Units	Dilution	Analyzed Date	QC Batch	Method	Qualifier
Organics-Volatiles									
74-95-3	Dibromomethane	ND	1.0	ug/L	1	05/22/15	B5E2121	8260	
75-71-8	Dichlorodifluoromethane	ND	5.0	ug/L	1	05/22/15	B5E2121	8260	
60-29-7	Diethyl ether	ND	5.0	ug/L	1	05/22/15	B5E2121	8260	
108-20-3	Diisopropyl Ether	ND	5.0	ug/L	1	05/22/15	B5E2121	8260	
100-41-4	Ethylbenzene	ND	1.0	ug/L	1	05/22/15	B5E2121	8260	
637-92-3	Ethyltertiarybutylether	ND	5.0	ug/L	1	05/22/15	B5E2121	8260	
67-72-1	Hexachloroethane	ND	5.0	ug/L	1	05/22/15	B5E2121	8260	
98-82-8	Isopropylbenzene	ND	1.0	ug/L	1	05/22/15	B5E2121	8260	
1330-20-7	m & p - Xylene	ND	2.0	ug/L	1	05/22/15	B5E2121	8260	
74-88-4	Methyl iodide	ND	1.0	ug/L	1	05/22/15	B5E2121	8260	
75-09-2	Methylene chloride	ND	5.0	ug/L	1	05/22/15	B5E2121	8260	
1634-04-4	Methyltertiarybutylether	ND	1.0	ug/L	1	05/22/15	B5E2121	8260	
91-20-3	Naphthalene	ND	5.0	ug/L	1	05/22/15	B5E2121	8260	X
104-51-8	n-Butylbenzene	ND	1.0	ug/L	1	05/22/15	B5E2121	8260	
103-65-1	n-Propylbenzene	ND	1.0	ug/L	1	05/22/15	B5E2121	8260	
95-47-6	o-Xylene	ND	1.0	ug/L	1	05/22/15	B5E2121	8260	
99-87-6	p-Isopropyl toluene	ND	1.0	ug/L	1	05/22/15	B5E2121	8260	
135-98-8	sec-Butylbenzene	ND	1.0	ug/L	1	05/22/15	B5E2121	8260	
100-42-5	Styrene	ND	1.0	ug/L	1	05/22/15	B5E2121	8260	
98-06-6	tert-Butylbenzene	ND	1.0	ug/L	1	05/22/15	B5E2121	8260	
75-65-0	tertiary Butyl Alcohol	ND	50	ug/L	1	05/22/15	B5E2121	8260	
994-05-8	tertiaryAmylmethylether	ND	5.0	ug/L	1	05/22/15	B5E2121	8260	
127-18-4	Tetrachloroethylene	ND	1.0	ug/L	1	05/22/15	B5E2121	8260	
109-99-9	Tetrahydrofuran	ND	5.0	ug/L	1	05/22/15	B5E2121	8260	
108-88-3	Toluene	ND	1.0	ug/L	1	05/22/15	B5E2121	8260	
156-60-5	trans-1,2-Dichloroethylene	ND	1.0	ug/L	1	05/22/15	B5E2121	8260	
10061-02-6	trans-1,3-Dichloropropylene	ND	1.0	ug/L	1	05/22/15	B5E2121	8260	
110-57-6	trans-1,4-Dichloro-2-butene	ND	5.0	ug/L	1	05/22/15	B5E2121	8260	
79-01-6	Trichloroethylene	ND	1.0	ug/L	1	05/22/15	B5E2121	8260	
75-69-4	Trichlorofluoromethane	ND	1.0	ug/L	1	05/22/15	B5E2121	8260	
75-01-4	Vinyl chloride	ND	1.0	ug/L	1	05/22/15	B5E2121	8260	
Surrogate: Bromofluorobenzene			101 %	85-115		05/22/15	B5E2121	8260	
Surrogate: Dibromofluoromethane			96.1 %	82.7-115		05/22/15	B5E2121	8260	
Surrogate: Toluene-d8			100 %	85-115		05/22/15	B5E2121	8260	



**MICHIGAN DEPARTMENT OF ENVIRONMENTAL QUALITY
ENVIRONMENTAL LABORATORY**

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

Client ID: CHTC-GW-20-8'-13'

Lab ID: 1505185-02

CAS #	Analyte	Result	RL	Units	Dilution	Analyzed Date	QC Batch	Method	Qualifier
Organics-Semivolatiles									
91-57-6	2-Methylnaphthalene	ND	5.0	ug/L	1	05/22/15	B5E2003	8270	
83-32-9	Acenaphthene	ND	1.0	ug/L	1	05/22/15	B5E2003	8270	
208-96-8	Acenaphthylene	ND	1.0	ug/L	1	05/22/15	B5E2003	8270	
120-12-7	Anthracene	ND	1.0	ug/L	1	05/22/15	B5E2003	8270	
56-55-3	Benz[a]anthracene	ND	1.0	ug/L	1	05/22/15	B5E2003	8270	
50-32-8	Benzo[a]pyrene	ND	1.0	ug/L	1	05/22/15	B5E2003	8270	
205-99-2	Benzo[b]fluoranthene	ND	1.0	ug/L	1	05/22/15	B5E2003	8270	
191-24-2	Benzo[g,h,i]perylene	ND	1.0	ug/L	1	05/22/15	B5E2003	8270	
207-08-9	Benzo[k]fluoranthene	ND	1.0	ug/L	1	05/22/15	B5E2003	8270	
218-01-9	Chrysene	ND	1.0	ug/L	1	05/22/15	B5E2003	8270	
53-70-3	Dibenz[a,h]anthracene	ND	2.0	ug/L	1	05/22/15	B5E2003	8270	
206-44-0	Fluoranthene	ND	1.0	ug/L	1	05/22/15	B5E2003	8270	
86-73-7	Fluorene	ND	1.0	ug/L	1	05/22/15	B5E2003	8270	
193-39-5	Indeno(1,2,3-c,d)pyrene	ND	2.0	ug/L	1	05/22/15	B5E2003	8270	
91-20-3	Naphthalene	ND	1.0	ug/L	1	05/22/15	B5E2003	8270	
85-01-8	Phenanthrene	ND	1.0	ug/L	1	05/22/15	B5E2003	8270	
129-00-0	Pyrene	ND	1.0	ug/L	1	05/22/15	B5E2003	8270	
<i>Surrogate: 2-Fluorobiphenyl</i>			64.1 %		24.1-115	05/22/15	B5E2003	8270	
<i>Surrogate: Nitrobenzene-d5</i>			52.7 %		17.8-115	05/22/15	B5E2003	8270	
<i>Surrogate: p-Terphenyl-d14</i>			69.6 %		41.8-115	05/22/15	B5E2003	8270	
Organics-PCBs as Aroclors									
12674-11-2	Aroclor 1016	ND	0.10	ug/L	1	06/03/15	B5E2804	8081/8082	
11104-28-2	Aroclor 1221	ND	0.10	ug/L	1	06/03/15	B5E2804	8081/8082	
11141-16-5	Aroclor 1232	ND	0.10	ug/L	1	06/03/15	B5E2804	8081/8082	
53469-21-9	Aroclor 1242	ND	0.10	ug/L	1	06/03/15	B5E2804	8081/8082	
12672-29-6	Aroclor 1248	ND	0.10	ug/L	1	06/03/15	B5E2804	8081/8082	
11097-69-1	Aroclor 1254	ND	0.10	ug/L	1	06/03/15	B5E2804	8081/8082	
11096-82-5	Aroclor 1260	ND	0.10	ug/L	1	06/03/15	B5E2804	8081/8082	
37324-23-5	Aroclor 1262	ND	0.10	ug/L	1	06/03/15	B5E2804	8081/8082	
11100-14-4	Aroclor 1268	ND	0.10	ug/L	1	06/03/15	B5E2804	8081/8082	
<i>Surrogate: Decachlorobiphenyl</i>			62.7 %		30-150	06/03/15	B5E2804	8081/8082	
<i>Surrogate: Tetrachloro-m-xylene</i>			43.2 %		30-150	06/03/15	B5E2804	8081/8082	



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ENVIRONMENTAL LABORATORY**

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

Client ID: CHTC-GW-20-8'-13'-DUP

Lab ID: 1505185-03

CAS #	Analyte	Result	RL	Units	Dilution	Analyzed Date	QC Batch	Method	Qualifier
Organics-Volatiles									
630-20-6	1,1,1,2-Tetrachloroethane	ND	1.0	ug/L	1	05/26/15	B5E2605	8260	
71-55-6	1,1,1-Trichloroethane	ND	1.0	ug/L	1	05/26/15	B5E2605	8260	
79-34-5	1,1,2,2-Tetrachloroethane	ND	1.0	ug/L	1	05/26/15	B5E2605	8260	
79-00-5	1,1,2-Trichloroethane	ND	1.0	ug/L	1	05/26/15	B5E2605	8260	
75-34-3	1,1-Dichloroethane	ND	1.0	ug/L	1	05/26/15	B5E2605	8260	
75-35-4	1,1-Dichloroethylene	ND	1.0	ug/L	1	05/26/15	B5E2605	8260	
87-61-6	1,2,3-Trichlorobenzene	ND	5.0	ug/L	1	05/26/15	B5E2605	8260	
96-18-4	1,2,3-Trichloropropane	ND	1.0	ug/L	1	05/26/15	B5E2605	8260	
526-73-8	1,2,3-Trimethylbenzene	ND	1.0	ug/L	1	05/26/15	B5E2605	8260	
120-82-1	1,2,4-Trichlorobenzene	ND	5.0	ug/L	1	05/26/15	B5E2605	8260	
95-63-6	1,2,4-Trimethylbenzene	ND	1.0	ug/L	1	05/26/15	B5E2605	8260	
96-12-8	1,2-Dibromo-3-chloropropane	ND	5.0	ug/L	1	05/26/15	B5E2605	8260	
106-93-4	1,2-Dibromoethane	ND	1.0	ug/L	1	05/26/15	B5E2605	8260	
95-50-1	1,2-Dichlorobenzene	ND	1.0	ug/L	1	05/26/15	B5E2605	8260	
107-06-2	1,2-Dichloroethane	ND	1.0	ug/L	1	05/26/15	B5E2605	8260	
78-87-5	1,2-Dichloropropane	ND	1.0	ug/L	1	05/26/15	B5E2605	8260	
108-67-8	1,3,5-Trimethylbenzene	ND	1.0	ug/L	1	05/26/15	B5E2605	8260	
541-73-1	1,3-Dichlorobenzene	ND	1.0	ug/L	1	05/26/15	B5E2605	8260	
106-46-7	1,4-Dichlorobenzene	ND	1.0	ug/L	1	05/26/15	B5E2605	8260	
78-93-3	2-Butanone (MEK)	ND	5.0	ug/L	1	05/26/15	B5E2605	8260	
591-78-6	2-Hexanone	ND	5.0	ug/L	1	05/26/15	B5E2605	8260	
91-57-6	2-Methylnaphthalene	ND	5.0	ug/L	1	05/26/15	B5E2605	8260	X
67-64-1	2-Propanone (acetone)	ND	20	ug/L	1	05/26/15	B5E2605	8260	
108-10-1	4-Methyl-2-pentanone (MIBK)	ND	5.0	ug/L	1	05/26/15	B5E2605	8260	
107-13-1	Acrylonitrile	ND	5.0	ug/L	1	05/26/15	B5E2605	8260	
71-43-2	Benzene	ND	1.0	ug/L	1	05/26/15	B5E2605	8260	
108-86-1	Bromobenzene	ND	1.0	ug/L	1	05/26/15	B5E2605	8260	
74-97-5	Bromochloromethane	ND	1.0	ug/L	1	05/26/15	B5E2605	8260	
75-27-4	Bromodichloromethane	ND	1.0	ug/L	1	05/26/15	B5E2605	8260	
75-25-2	Bromoform	ND	1.0	ug/L	1	05/26/15	B5E2605	8260	
74-83-9	Bromomethane	ND	5.0	ug/L	1	05/26/15	B5E2605	8260	
75-15-0	Carbon disulfide	ND	1.0	ug/L	1	05/26/15	B5E2605	8260	
56-23-5	Carbon tetrachloride	ND	1.0	ug/L	1	05/26/15	B5E2605	8260	
108-90-7	Chlorobenzene	ND	1.0	ug/L	1	05/26/15	B5E2605	8260	
75-00-3	Chloroethane	ND	5.0	ug/L	1	05/26/15	B5E2605	8260	
67-66-3	Chloroform	ND	1.0	ug/L	1	05/26/15	B5E2605	8260	
74-87-3	Chloromethane	ND	5.0	ug/L	1	05/26/15	B5E2605	8260	
156-59-2	cis-1,2-Dichloroethylene	ND	1.0	ug/L	1	05/26/15	B5E2605	8260	
10061-01-5	cis-1,3-Dichloropropylene	ND	1.0	ug/L	1	05/26/15	B5E2605	8260	
110-82-7	Cyclohexane	ND	5.0	ug/L	1	05/26/15	B5E2605	8260	
124-48-1	Dibromochloromethane	ND	1.0	ug/L	1	05/26/15	B5E2605	8260	



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Client ID: CHTC-GW-20-8'-13'-DUP

Lab ID: 1505185-03

CAS #	Analyte	Result	RL	Units	Dilution	Analyzed Date	QC Batch	Method	Qualifier
Organics-Volatiles									
74-95-3	Dibromomethane	ND	1.0	ug/L	1	05/26/15	B5E2605	8260	
75-71-8	Dichlorodifluoromethane	ND	5.0	ug/L	1	05/26/15	B5E2605	8260	
60-29-7	Diethyl ether	ND	5.0	ug/L	1	05/26/15	B5E2605	8260	
108-20-3	Diisopropyl Ether	ND	5.0	ug/L	1	05/26/15	B5E2605	8260	
100-41-4	Ethylbenzene	ND	1.0	ug/L	1	05/26/15	B5E2605	8260	
637-92-3	Ethyltertiarybutylether	ND	5.0	ug/L	1	05/26/15	B5E2605	8260	
67-72-1	Hexachloroethane	ND	5.0	ug/L	1	05/26/15	B5E2605	8260	
98-82-8	Isopropylbenzene	ND	1.0	ug/L	1	05/26/15	B5E2605	8260	
1330-20-7	m & p - Xylene	ND	2.0	ug/L	1	05/26/15	B5E2605	8260	
74-88-4	Methyl iodide	ND	1.0	ug/L	1	05/26/15	B5E2605	8260	
75-09-2	Methylene chloride	ND	5.0	ug/L	1	05/26/15	B5E2605	8260	
1634-04-4	Methyltertiarybutylether	ND	1.0	ug/L	1	05/26/15	B5E2605	8260	
91-20-3	Naphthalene	ND	5.0	ug/L	1	05/26/15	B5E2605	8260	X
104-51-8	n-Butylbenzene	ND	1.0	ug/L	1	05/26/15	B5E2605	8260	
103-65-1	n-Propylbenzene	ND	1.0	ug/L	1	05/26/15	B5E2605	8260	
95-47-6	o-Xylene	ND	1.0	ug/L	1	05/26/15	B5E2605	8260	
99-87-6	p-Isopropyl toluene	ND	1.0	ug/L	1	05/26/15	B5E2605	8260	
135-98-8	sec-Butylbenzene	ND	1.0	ug/L	1	05/26/15	B5E2605	8260	
100-42-5	Styrene	ND	1.0	ug/L	1	05/26/15	B5E2605	8260	
98-06-6	tert-Butylbenzene	ND	1.0	ug/L	1	05/26/15	B5E2605	8260	
75-65-0	tertiary Butyl Alcohol	ND	50	ug/L	1	05/26/15	B5E2605	8260	
994-05-8	tertiaryAmylmethylether	ND	5.0	ug/L	1	05/26/15	B5E2605	8260	
127-18-4	Tetrachloroethylene	ND	1.0	ug/L	1	05/26/15	B5E2605	8260	
109-99-9	Tetrahydrofuran	ND	5.0	ug/L	1	05/26/15	B5E2605	8260	
108-88-3	Toluene	ND	1.0	ug/L	1	05/26/15	B5E2605	8260	
156-60-5	trans-1,2-Dichloroethylene	ND	1.0	ug/L	1	05/26/15	B5E2605	8260	
10061-02-6	trans-1,3-Dichloropropylene	ND	1.0	ug/L	1	05/26/15	B5E2605	8260	
110-57-6	trans-1,4-Dichloro-2-butene	ND	5.0	ug/L	1	05/26/15	B5E2605	8260	
79-01-6	Trichloroethylene	ND	1.0	ug/L	1	05/26/15	B5E2605	8260	
75-69-4	Trichlorofluoromethane	ND	1.0	ug/L	1	05/26/15	B5E2605	8260	
75-01-4	Vinyl chloride	ND	1.0	ug/L	1	05/26/15	B5E2605	8260	
Surrogate: Bromofluorobenzene			102 %	85-115		05/26/15	B5E2605	8260	
Surrogate: Dibromofluoromethane			105 %	82.7-115		05/26/15	B5E2605	8260	
Surrogate: Toluene-d8			100 %	85-115		05/26/15	B5E2605	8260	



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Client ID: CHTC-GW-20-8'-13'-DUP

Lab ID: 1505185-03

CAS #	Analyte	Result	RL	Units	Dilution	Analyzed Date	QC Batch	Method	Qualifier
Organics-Semivolatiles									
91-57-6	2-Methylnaphthalene	ND	5.0	ug/L	1	05/22/15	B5E2003	8270	
83-32-9	Acenaphthene	ND	1.0	ug/L	1	05/22/15	B5E2003	8270	
208-96-8	Acenaphthylene	ND	1.0	ug/L	1	05/22/15	B5E2003	8270	
120-12-7	Anthracene	ND	1.0	ug/L	1	05/22/15	B5E2003	8270	
56-55-3	Benz[a]anthracene	ND	1.0	ug/L	1	05/22/15	B5E2003	8270	
50-32-8	Benzo[a]pyrene	ND	1.0	ug/L	1	05/22/15	B5E2003	8270	
205-99-2	Benzo[b]fluoranthene	ND	1.0	ug/L	1	05/22/15	B5E2003	8270	
191-24-2	Benzo[g,h,i]perylene	ND	1.0	ug/L	1	05/22/15	B5E2003	8270	
207-08-9	Benzo[k]fluoranthene	ND	1.0	ug/L	1	05/22/15	B5E2003	8270	
218-01-9	Chrysene	ND	1.0	ug/L	1	05/22/15	B5E2003	8270	
53-70-3	Dibenz[a,h]anthracene	ND	2.0	ug/L	1	05/22/15	B5E2003	8270	
206-44-0	Fluoranthene	ND	1.0	ug/L	1	05/22/15	B5E2003	8270	
86-73-7	Fluorene	ND	1.0	ug/L	1	05/22/15	B5E2003	8270	
193-39-5	Indeno(1,2,3-c,d)pyrene	ND	2.0	ug/L	1	05/22/15	B5E2003	8270	
91-20-3	Naphthalene	ND	1.0	ug/L	1	05/22/15	B5E2003	8270	
85-01-8	Phenanthrene	ND	1.0	ug/L	1	05/22/15	B5E2003	8270	
129-00-0	Pyrene	ND	1.0	ug/L	1	05/22/15	B5E2003	8270	
<i>Surrogate: 2-Fluorobiphenyl</i>			57.6 %		24.1-115	05/22/15	B5E2003	8270	
<i>Surrogate: Nitrobenzene-d5</i>			46.7 %		17.8-115	05/22/15	B5E2003	8270	
<i>Surrogate: p-Terphenyl-d14</i>			87.8 %		41.8-115	05/22/15	B5E2003	8270	
Organics-PCBs as Aroclors									
12674-11-2	Aroclor 1016	ND	0.10	ug/L	1	06/03/15	B5E2804	8081/8082	
11104-28-2	Aroclor 1221	ND	0.10	ug/L	1	06/03/15	B5E2804	8081/8082	
11141-16-5	Aroclor 1232	ND	0.10	ug/L	1	06/03/15	B5E2804	8081/8082	
53469-21-9	Aroclor 1242	ND	0.10	ug/L	1	06/03/15	B5E2804	8081/8082	
12672-29-6	Aroclor 1248	ND	0.10	ug/L	1	06/03/15	B5E2804	8081/8082	
11097-69-1	Aroclor 1254	ND	0.10	ug/L	1	06/03/15	B5E2804	8081/8082	
11096-82-5	Aroclor 1260	ND	0.10	ug/L	1	06/03/15	B5E2804	8081/8082	
37324-23-5	Aroclor 1262	ND	0.10	ug/L	1	06/03/15	B5E2804	8081/8082	
11100-14-4	Aroclor 1268	ND	0.10	ug/L	1	06/03/15	B5E2804	8081/8082	
<i>Surrogate: Decachlorobiphenyl</i>			70.3 %		30-150	06/03/15	B5E2804	8081/8082	
<i>Surrogate: Tetrachloro-m-xylene</i>			47.3 %		30-150	06/03/15	B5E2804	8081/8082	



Analysis Request Sheet

Lab Work Order Number

Project Name

Matrix

1505185

Abandoned Mining Wastes - Torch Lake PCB C&H Tamarack City Ops

ground WATER

Site Code/Project Number

AY

CC Email 1

Project IAI Days

Sample Collector

31000098

13

lbinkley@westonsolutions.com

AK/JP/AB-DEQ-RRD

Dept-Division-District

Index

CC Email 2

Project Due Date

Sample Collector Phone

DEQ-RRD-UP District

44251

daniel.ilebau@westonsolutions.com

906-337-0389

State Project Manager

PLA

CC Email 3

Accept Analysis
hold time codes

Contract Firm

Amy Keranen

30872

plncumbel@michigan.gov

no

Weston Solutions

State Project Manager Email

Project

Overflow Lab Choice 1

Contract Firm Primary Contact

keranena@michigan.gov

456990

Jeff Binkley

State Project Manager Phone

Phase

Overflow Lab Choice 2

Primary Contact Phone

906-337-0389

00

906-523-5457

Lab Use Only	Field Sample Identification	Collection Date	Collection Time	Container Count	Comments
1	01 CHTC-GW-17-16'-21'	5/15/15	1100	2 comb 200L	
2	02 CHTC-GW-20-8'-13'	5/15/15	1420	3 IL 340mL	
3	03 CHTC-GW-20-8'-13'-DUP	5/15/15	1420	3 IL 340mL	
4	CHTC-GW-				
5	CHTC-GW-				
6	CHTC-GW-				
7	CHTC-GW-				
8	CHTC-GW-				
9	CHTC-GW-				
10	CHTC-GW-				

ORGANIC CHEMISTRY	MAD - DISSOLVED METALS	MA - TOTAL METALS	GENERAL 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 Chlorinated only 1 2 3 4 5 6 7 8 9 10 GRO 1 2 3 4 5 6 7 8 9 10 1,4 Dioxane 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 ON - Pesticides, PCBs Pesticides & PCBs 1 2 3 4 5 6 7 8 9 10 Pesticides only 1 2 3 4 5 6 7 8 9 10 PCBs only 1 2 3 4 5 6 7 8 9 10 Toxaphene 1 2 3 4 5 6 7 8 9 10 Chlordane 1 2 3 4 5 6 7 8 9 10 BNA - Base Neutral Acids BHAs 1 2 3 4 5 6 7 8 9 10 Benzidines 1 2 3 4 5 6 7 8 9 10 PNAs only 1 2 3 4 5 6 7 8 9 10 BNs only 1 2 3 4 5 6 7 8 9 10 Acids only 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 DRO / ORO 1 2 3 4 5 6 7 8 9 10	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 - Uranium - U 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	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 Uranium - U 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	GB Total Cyanide - CN 1 2 3 4 5 6 7 8 9 10 GB Amenable Cyanide - CN 1 2 3 4 5 6 7 8 9 10 GCN Available Cyanide - CN 1 2 3 4 5 6 7 8 9 10 CA Chlorophyll 1 2 3 4 5 6 7 8 9 10 GN Ortho Phosphate - OP 1 2 3 4 5 6 7 8 9 10 GN Nitrite - NO ₂ 1 2 3 4 5 6 7 8 9 10 GN Nitrate - NO ₃ (Calc.) 1 2 3 4 5 6 7 8 9 10 GN Suspended Solids - SS 1 2 3 4 5 6 7 8 9 10 GN Dissolved Solids - TDS 1 2 3 4 5 6 7 8 9 10 MN Diss Solids - TDS (Calc.) 1 2 3 4 5 6 7 8 9 10 GN Turbidity 1 2 3 4 5 6 7 8 9 10 MN Total Alkalinity 1 2 3 4 5 6 7 8 9 10 MN Bicarb/Carb Alkalinity (Includes Total Alkalinity) 1 2 3 4 5 6 7 8 9 10 MN Chloride - Cl 1 2 3 4 5 6 7 8 9 10 MN Fluoride - F 1 2 3 4 5 6 7 8 9 10 MN Sulfate - SO ₄ 1 2 3 4 5 6 7 8 9 10 MN Chromium 6 - Cr+6 1 2 3 4 5 6 7 8 9 10 MN Conductivity 1 2 3 4 5 6 7 8 9 10 MN pH 1 2 3 4 5 6 7 8 9 10 GA Chem Oxyg Dem - COD 1 2 3 4 5 6 7 8 9 10 GA Diss Org Carbon - DOC (FF) 1 2 3 4 5 6 7 8 9 10 (Field - Filtered & Preserved) GN Diss Org Carbon - DOC (LF) 1 2 3 4 5 6 7 8 9 10 (Lab - Filtered & Preserved) GA Total Org Carbon - TOC 1 2 3 4 5 6 7 8 9 10 GA Ammonia - NH ₃ 1 2 3 4 5 6 7 8 9 10 GA Nitrate/Nitrite - NO ₃ +NO ₂ 1 2 3 4 5 6 7 8 9 10 GA Kjeldahl Nitrogen - KN 1 2 3 4 5 6 7 8 9 10 GA 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. JEFF PINCUMB MD&E	Melissa Smith	5/10/15 9:05
	Signature: <i>[Signature]</i>	<i>[Signature]</i>	
	Print Name & Org.		
	Signature:		
	Print Name & Org.		
	Signature:		



**MICHIGAN DEPARTMENT OF ENVIRONMENTAL QUALITY
ENVIRONMENTAL LABORATORY**

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

11 June 2015

Work Order: 1505186

Price: \$2,530.00

Amy Keranen

MDEQ-RRD-UP

1504 W. Washington St.

Marquette, MI 49855

RE: ABANDONED MINING WASTES-TORCH LAKE NS

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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MDEQ-RRD-UP
1504 W. Washington St.
Marquette MI, 49855

Project: ABANDONED MINING WASTES-TORCH LAKE NS
Site Code: 31000098
Project Manager: Amy Keranen

Reported:
06/11/2015

Analytical Report for Samples

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received	Qualifier
CHTC-SB-21-0"-6"	1505186-01	Soil/Sediment	05/15/2015	05/20/2015	
CHTC-SB-21-6"-12'	1505186-02	Soil/Sediment	05/15/2015	05/20/2015	
CHTC-SB-21-6"-12' dup	1505186-03	Soil/Sediment	05/15/2015	05/20/2015	
CHTC-SB-22-0-6"	1505186-04	Soil/Sediment	05/15/2015	05/20/2015	
CHTC-SB-22-6"-12'	1505186-05	Soil/Sediment	05/15/2015	05/20/2015	
CHTC-SB-23-0-6"	1505186-06	Soil/Sediment	05/15/2015	05/20/2015	
CHTC-SB-23-6"-6'	1505186-07	Soil/Sediment	05/15/2015	05/20/2015	
CHTC-SB-24-0-6"	1505186-08	Soil/Sediment	05/15/2015	05/20/2015	
CHTC-SB-24-6"-8'	1505186-09	Soil/Sediment	05/15/2015	05/20/2015	
CHTC-SB-25-0-6"	1505186-10	Soil/Sediment	05/15/2015	05/20/2015	
CHTC-SB-25-6"-8'	1505186-11	Soil/Sediment	05/15/2015	05/20/2015	
CHTC-SB-26-0-6"	1505186-12	Soil/Sediment	05/15/2015	05/20/2015	
CHTC-SB-26-6"-11'	1505186-13	Soil/Sediment	05/15/2015	05/20/2015	
CHTC-SB-26-6"-11'-DUP	1505186-14	Soil/Sediment	05/15/2015	05/20/2015	
CHTC-SB-27-0-6"	1505186-15	Soil/Sediment	05/15/2015	05/20/2015	
CHTC-SB-27-6"-8'	1505186-16	Soil/Sediment	05/15/2015	05/20/2015	

Notes and Definitions

Y21 Reporting Limits (RL) raised due to matrix interference.
Y20 Reporting Limits (RL) raised due to matrix.
ND Indicates compound analyzed for but not detected
RL Reporting Limit
NA Not Applicable
dry Sample results reported on a dry weight basis



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TEL: (517) 335-9800
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Client ID: CHTC-SB-21-0"-6"

Lab ID: 1505186-01

CAS #	Analyte	Result	RL	Units	Dilution	Analyzed Date	QC Batch	Method	Qualifier
Organics-PCBs as Aroclors									
12674-11-2	Aroclor 1016	ND	110	ug/kg dry	1	06/03/15	B5E2816	8081/8082	
11104-28-2	Aroclor 1221	ND	110	ug/kg dry	1	06/03/15	B5E2816	8081/8082	
11141-16-5	Aroclor 1232	ND	110	ug/kg dry	1	06/03/15	B5E2816	8081/8082	
53469-21-9	Aroclor 1242	ND	110	ug/kg dry	1	06/03/15	B5E2816	8081/8082	
12672-29-6	Aroclor 1248	ND	110	ug/kg dry	1	06/03/15	B5E2816	8081/8082	
11097-69-1	Aroclor 1254	ND	110	ug/kg dry	1	06/03/15	B5E2816	8081/8082	
11096-82-5	Aroclor 1260	ND	110	ug/kg dry	1	06/03/15	B5E2816	8081/8082	
37324-23-5	Aroclor 1262	ND	110	ug/kg dry	1	06/03/15	B5E2816	8081/8082	
11100-14-4	Aroclor 1268	ND	110	ug/kg dry	1	06/03/15	B5E2816	8081/8082	
Surrogate: Decachlorobiphenyl		80.6 %		30-150		06/03/15	B5E2816	8081/8082	
Surrogate: Tetrachloro-m-xylene		70.2 %		30-150		06/03/15	B5E2816	8081/8082	
Inorganics-General Chemistry									
TS	% Total Solids	90.2	0.1	%	1	05/20/15	B5E2012	2540 B	



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Client ID: CHTC-SB-21-6"-12'

Lab ID: 1505186-02

CAS #	Analyte	Result	RL	Units	Dilution	Analyzed Date	QC Batch	Method	Qualifier
Organics-PCBs as Aroclors									
12674-11-2	Aroclor 1016	ND	110	ug/kg dry	1	06/03/15	B5E2816	8081/8082	
11104-28-2	Aroclor 1221	ND	110	ug/kg dry	1	06/03/15	B5E2816	8081/8082	
11141-16-5	Aroclor 1232	ND	110	ug/kg dry	1	06/03/15	B5E2816	8081/8082	
53469-21-9	Aroclor 1242	ND	110	ug/kg dry	1	06/03/15	B5E2816	8081/8082	
12672-29-6	Aroclor 1248	ND	110	ug/kg dry	1	06/03/15	B5E2816	8081/8082	
11097-69-1	Aroclor 1254	ND	110	ug/kg dry	1	06/03/15	B5E2816	8081/8082	
11096-82-5	Aroclor 1260	ND	110	ug/kg dry	1	06/03/15	B5E2816	8081/8082	
37324-23-5	Aroclor 1262	ND	110	ug/kg dry	1	06/03/15	B5E2816	8081/8082	
11100-14-4	Aroclor 1268	ND	110	ug/kg dry	1	06/03/15	B5E2816	8081/8082	
Surrogate: Decachlorobiphenyl		72.0 %		30-150		06/03/15	B5E2816	8081/8082	
Surrogate: Tetrachloro-m-xylene		66.6 %		30-150		06/03/15	B5E2816	8081/8082	
Inorganics-General Chemistry									
TS	% Total Solids	94.0	0.1	%	1	05/20/15	B5E2012	2540 B	



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Client ID: CHTC-SB-21-6"-12' dup

Lab ID: 1505186-03

CAS #	Analyte	Result	RL	Units	Dilution	Analyzed Date	QC Batch	Method	Qualifier
Organics-PCBs as Aroclors									
12674-11-2	Aroclor 1016	ND	110	ug/kg dry	1	06/03/15	B5E2816	8081/8082	
11104-28-2	Aroclor 1221	ND	110	ug/kg dry	1	06/03/15	B5E2816	8081/8082	
11141-16-5	Aroclor 1232	ND	110	ug/kg dry	1	06/03/15	B5E2816	8081/8082	
53469-21-9	Aroclor 1242	ND	110	ug/kg dry	1	06/03/15	B5E2816	8081/8082	
12672-29-6	Aroclor 1248	ND	110	ug/kg dry	1	06/03/15	B5E2816	8081/8082	
11097-69-1	Aroclor 1254	ND	110	ug/kg dry	1	06/03/15	B5E2816	8081/8082	
11096-82-5	Aroclor 1260	ND	110	ug/kg dry	1	06/03/15	B5E2816	8081/8082	
37324-23-5	Aroclor 1262	ND	110	ug/kg dry	1	06/03/15	B5E2816	8081/8082	
11100-14-4	Aroclor 1268	ND	110	ug/kg dry	1	06/03/15	B5E2816	8081/8082	
Surrogate: Decachlorobiphenyl			71.1 %	30-150		06/03/15	B5E2816	8081/8082	
Surrogate: Tetrachloro-m-xylene			66.2 %	30-150		06/03/15	B5E2816	8081/8082	
Inorganics-General Chemistry									
TS	% Total Solids	93.8	0.1	%	1	05/20/15	B5E2012	2540 B	



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TEL: (517) 335-9800
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Client ID: CHTC-SB-22-0-6"

Lab ID: 1505186-04

CAS #	Analyte	Result	RL	Units	Dilution	Analyzed Date	QC Batch	Method	Qualifier
Organics-PCBs as Aroclors									
12674-11-2	Aroclor 1016	ND	110	ug/kg dry	1	06/03/15	B5E2816	8081/8082	
11104-28-2	Aroclor 1221	ND	110	ug/kg dry	1	06/03/15	B5E2816	8081/8082	
11141-16-5	Aroclor 1232	ND	110	ug/kg dry	1	06/03/15	B5E2816	8081/8082	
53469-21-9	Aroclor 1242	ND	110	ug/kg dry	1	06/03/15	B5E2816	8081/8082	
12672-29-6	Aroclor 1248	ND	110	ug/kg dry	1	06/03/15	B5E2816	8081/8082	
11097-69-1	Aroclor 1254	ND	110	ug/kg dry	1	06/03/15	B5E2816	8081/8082	
11096-82-5	Aroclor 1260	ND	110	ug/kg dry	1	06/03/15	B5E2816	8081/8082	
37324-23-5	Aroclor 1262	ND	110	ug/kg dry	1	06/03/15	B5E2816	8081/8082	
11100-14-4	Aroclor 1268	ND	110	ug/kg dry	1	06/03/15	B5E2816	8081/8082	
Surrogate: Decachlorobiphenyl		75.5 %		30-150		06/03/15	B5E2816	8081/8082	
Surrogate: Tetrachloro-m-xylene		67.5 %		30-150		06/03/15	B5E2816	8081/8082	
Inorganics-General Chemistry									
TS	% Total Solids	88.3	0.1	%	1	05/20/15	B5E2012	2540 B	



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Client ID: CHTC-SB-22-6''-12'

Lab ID: 1505186-05

CAS #	Analyte	Result	RL	Units	Dilution	Analyzed Date	QC Batch	Method	Qualifier
Organics-PCBs as Aroclors									
12674-11-2	Aroclor 1016	ND	110	ug/kg dry	1	06/03/15	B5E2816	8081/8082	
11104-28-2	Aroclor 1221	ND	110	ug/kg dry	1	06/03/15	B5E2816	8081/8082	
11141-16-5	Aroclor 1232	ND	110	ug/kg dry	1	06/03/15	B5E2816	8081/8082	
53469-21-9	Aroclor 1242	ND	110	ug/kg dry	1	06/03/15	B5E2816	8081/8082	
12672-29-6	Aroclor 1248	ND	110	ug/kg dry	1	06/03/15	B5E2816	8081/8082	
11097-69-1	Aroclor 1254	ND	110	ug/kg dry	1	06/03/15	B5E2816	8081/8082	
11096-82-5	Aroclor 1260	ND	110	ug/kg dry	1	06/03/15	B5E2816	8081/8082	
37324-23-5	Aroclor 1262	ND	110	ug/kg dry	1	06/03/15	B5E2816	8081/8082	
11100-14-4	Aroclor 1268	ND	110	ug/kg dry	1	06/03/15	B5E2816	8081/8082	
Surrogate: Decachlorobiphenyl		64.7 %		30-150		06/03/15	B5E2816	8081/8082	
Surrogate: Tetrachloro-m-xylene		57.8 %		30-150		06/03/15	B5E2816	8081/8082	
Inorganics-General Chemistry									
TS	% Total Solids	89.6	0.1	%	1	05/20/15	B5E2012	2540 B	



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Client ID: CHTC-SB-23-0-6"

Lab ID: 1505186-06

CAS #	Analyte	Result	RL	Units	Dilution	Analyzed Date	QC Batch	Method	Qualifier
Organics-PCBs as Aroclors									
12674-11-2	Aroclor 1016	ND	110	ug/kg dry	1	06/03/15	B5E2816	8081/8082	
11104-28-2	Aroclor 1221	ND	110	ug/kg dry	1	06/03/15	B5E2816	8081/8082	
11141-16-5	Aroclor 1232	ND	110	ug/kg dry	1	06/03/15	B5E2816	8081/8082	
53469-21-9	Aroclor 1242	ND	110	ug/kg dry	1	06/03/15	B5E2816	8081/8082	
12672-29-6	Aroclor 1248	ND	110	ug/kg dry	1	06/03/15	B5E2816	8081/8082	
11097-69-1	Aroclor 1254	ND	110	ug/kg dry	1	06/03/15	B5E2816	8081/8082	
11096-82-5	Aroclor 1260	ND	110	ug/kg dry	1	06/03/15	B5E2816	8081/8082	
37324-23-5	Aroclor 1262	ND	110	ug/kg dry	1	06/03/15	B5E2816	8081/8082	
11100-14-4	Aroclor 1268	ND	110	ug/kg dry	1	06/03/15	B5E2816	8081/8082	
Surrogate: Decachlorobiphenyl		69.5 %		30-150		06/03/15	B5E2816	8081/8082	
Surrogate: Tetrachloro-m-xylene		71.7 %		30-150		06/03/15	B5E2816	8081/8082	
Inorganics-General Chemistry									
TS	% Total Solids	87.1	0.1	%	1	05/20/15	B5E2012	2540 B	



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Client ID: CHTC-SB-23-6"-6'

Lab ID: 1505186-07

CAS #	Analyte	Result	RL	Units	Dilution	Analyzed Date	QC Batch	Method	Qualifier
Organics-Semivolatiles									See note Y20
91-57-6	2-Methylnaphthalene	ND	560	ug/kg dry	1	06/01/15	B5E2017	8270	
83-32-9	Acenaphthene	ND	230	ug/kg dry	1	06/01/15	B5E2017	8270	
208-96-8	Acenaphthylene	ND	230	ug/kg dry	1	06/01/15	B5E2017	8270	
120-12-7	Anthracene	ND	230	ug/kg dry	1	06/01/15	B5E2017	8270	
56-55-3	Benz[a]anthracene	ND	230	ug/kg dry	1	06/01/15	B5E2017	8270	
50-32-8	Benzo[a]pyrene	ND	450	ug/kg dry	1	06/01/15	B5E2017	8270	
205-99-2	Benzo[b]fluoranthene	ND	450	ug/kg dry	1	06/01/15	B5E2017	8270	
191-24-2	Benzo[g,h,i]perylene	ND	450	ug/kg dry	1	06/01/15	B5E2017	8270	
207-08-9	Benzo[k]fluoranthene	ND	450	ug/kg dry	1	06/01/15	B5E2017	8270	
218-01-9	Chrysene	ND	230	ug/kg dry	1	06/01/15	B5E2017	8270	
53-70-3	Dibenz[a,h]anthracene	ND	450	ug/kg dry	1	06/01/15	B5E2017	8270	
206-44-0	Fluoranthene	ND	230	ug/kg dry	1	06/01/15	B5E2017	8270	
86-73-7	Fluorene	ND	230	ug/kg dry	1	06/01/15	B5E2017	8270	
193-39-5	Indeno(1,2,3-c,d)pyrene	ND	450	ug/kg dry	1	06/01/15	B5E2017	8270	
91-20-3	Naphthalene	ND	230	ug/kg dry	1	06/01/15	B5E2017	8270	
85-01-8	Phenanthrene	ND	230	ug/kg dry	1	06/01/15	B5E2017	8270	
129-00-0	Pyrene	ND	230	ug/kg dry	1	06/01/15	B5E2017	8270	
<i>Surrogate: 2-Fluorobiphenyl</i>			71.6 %	32.9-115		06/01/15	B5E2017	8270	
<i>Surrogate: Nitrobenzene-d5</i>			63.8 %	31.8-115		06/01/15	B5E2017	8270	
<i>Surrogate: p-Terphenyl-d14</i>			76.5 %	38.5-115		06/01/15	B5E2017	8270	
Organics-PCBs as Aroclors									
12674-11-2	Aroclor 1016	ND	110	ug/kg dry	1	06/03/15	B5E2816	8081/8082	
11104-28-2	Aroclor 1221	ND	110	ug/kg dry	1	06/03/15	B5E2816	8081/8082	
11141-16-5	Aroclor 1232	ND	110	ug/kg dry	1	06/03/15	B5E2816	8081/8082	
53469-21-9	Aroclor 1242	ND	110	ug/kg dry	1	06/03/15	B5E2816	8081/8082	
12672-29-6	Aroclor 1248	ND	110	ug/kg dry	1	06/03/15	B5E2816	8081/8082	
11097-69-1	Aroclor 1254	ND	110	ug/kg dry	1	06/03/15	B5E2816	8081/8082	
11096-82-5	Aroclor 1260	ND	110	ug/kg dry	1	06/03/15	B5E2816	8081/8082	
37324-23-5	Aroclor 1262	ND	110	ug/kg dry	1	06/03/15	B5E2816	8081/8082	
11100-14-4	Aroclor 1268	ND	110	ug/kg dry	1	06/03/15	B5E2816	8081/8082	
<i>Surrogate: Decachlorobiphenyl</i>			81.3 %	30-150		06/03/15	B5E2816	8081/8082	
<i>Surrogate: Tetrachloro-m-xylene</i>			67.1 %	30-150		06/03/15	B5E2816	8081/8082	



**MICHIGAN DEPARTMENT OF ENVIRONMENTAL QUALITY
ENVIRONMENTAL LABORATORY**

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

Client ID: CHTC-SB-23-6''-6'

Lab ID: 1505186-07

CAS #	Analyte	Result	RL	Units	Dilution	Analyzed Date	QC Batch	Method	Qualifier
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Inorganics-General Chemistry

TS	% Total Solids	88.5	0.1	%	1	05/20/15	B5E2012	2540 B	
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MICHIGAN DEPARTMENT OF ENVIRONMENTAL QUALITY
ENVIRONMENTAL LABORATORY

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

Client ID: CHTC-SB-24-0-6"

Lab ID: 1505186-08

CAS #	Analyte	Result	RL	Units	Dilution	Analyzed Date	QC Batch	Method	Qualifier
Organics-PCBs as Aroclors									
12674-11-2	Aroclor 1016	ND	110	ug/kg dry	1	06/03/15	B5E2816	8081/8082	
11104-28-2	Aroclor 1221	ND	110	ug/kg dry	1	06/03/15	B5E2816	8081/8082	
11141-16-5	Aroclor 1232	ND	110	ug/kg dry	1	06/03/15	B5E2816	8081/8082	
53469-21-9	Aroclor 1242	ND	110	ug/kg dry	1	06/03/15	B5E2816	8081/8082	
12672-29-6	Aroclor 1248	ND	110	ug/kg dry	1	06/03/15	B5E2816	8081/8082	
11097-69-1	Aroclor 1254	ND	110	ug/kg dry	1	06/03/15	B5E2816	8081/8082	
11096-82-5	Aroclor 1260	ND	110	ug/kg dry	1	06/03/15	B5E2816	8081/8082	
37324-23-5	Aroclor 1262	ND	110	ug/kg dry	1	06/03/15	B5E2816	8081/8082	
11100-14-4	Aroclor 1268	ND	110	ug/kg dry	1	06/03/15	B5E2816	8081/8082	
Surrogate: Decachlorobiphenyl		64.9 %		30-150		06/03/15	B5E2816	8081/8082	
Surrogate: Tetrachloro-m-xylene		66.9 %		30-150		06/03/15	B5E2816	8081/8082	
Inorganics-General Chemistry									
TS	% Total Solids	88.5	0.1	%	1	05/20/15	B5E2012	2540 B	



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ENVIRONMENTAL LABORATORY**

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

Client ID: CHTC-SB-24-6"-8'

Lab ID: 1505186-09

CAS #	Analyte	Result	RL	Units	Dilution	Analyzed Date	QC Batch	Method	Qualifier
Organics-PCBs as Aroclors									
12674-11-2	Aroclor 1016	ND	110	ug/kg dry	1	06/03/15	B5E2816	8081/8082	
11104-28-2	Aroclor 1221	ND	110	ug/kg dry	1	06/03/15	B5E2816	8081/8082	
11141-16-5	Aroclor 1232	ND	110	ug/kg dry	1	06/03/15	B5E2816	8081/8082	
53469-21-9	Aroclor 1242	ND	110	ug/kg dry	1	06/03/15	B5E2816	8081/8082	
12672-29-6	Aroclor 1248	ND	110	ug/kg dry	1	06/03/15	B5E2816	8081/8082	
11097-69-1	Aroclor 1254	ND	110	ug/kg dry	1	06/03/15	B5E2816	8081/8082	
11096-82-5	Aroclor 1260	ND	110	ug/kg dry	1	06/03/15	B5E2816	8081/8082	
37324-23-5	Aroclor 1262	ND	110	ug/kg dry	1	06/03/15	B5E2816	8081/8082	
11100-14-4	Aroclor 1268	ND	110	ug/kg dry	1	06/03/15	B5E2816	8081/8082	
<i>Surrogate: Decachlorobiphenyl</i>			71.4 %	30-150		06/03/15	B5E2816	8081/8082	
<i>Surrogate: Tetrachloro-m-xylene</i>			68.4 %	30-150		06/03/15	B5E2816	8081/8082	
Inorganics-General Chemistry									
TS	% Total Solids	90.5	0.1	%	1	05/20/15	B5E2012	2540 B	



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ENVIRONMENTAL LABORATORY

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

Client ID: CHTC-SB-25-0-6"

Lab ID: 1505186-10

CAS #	Analyte	Result	RL	Units	Dilution	Analyzed Date	QC Batch	Method	Qualifier
Organics-PCBs as Aroclors									
12674-11-2	Aroclor 1016	ND	110	ug/kg dry	1	06/03/15	B5E2816	8081/8082	
11104-28-2	Aroclor 1221	ND	110	ug/kg dry	1	06/03/15	B5E2816	8081/8082	
11141-16-5	Aroclor 1232	ND	110	ug/kg dry	1	06/03/15	B5E2816	8081/8082	
53469-21-9	Aroclor 1242	ND	110	ug/kg dry	1	06/03/15	B5E2816	8081/8082	
12672-29-6	Aroclor 1248	ND	110	ug/kg dry	1	06/03/15	B5E2816	8081/8082	
11097-69-1	Aroclor 1254	ND	110	ug/kg dry	1	06/03/15	B5E2816	8081/8082	
11096-82-5	Aroclor 1260	ND	110	ug/kg dry	1	06/03/15	B5E2816	8081/8082	
37324-23-5	Aroclor 1262	ND	110	ug/kg dry	1	06/03/15	B5E2816	8081/8082	
11100-14-4	Aroclor 1268	ND	110	ug/kg dry	1	06/03/15	B5E2816	8081/8082	
Surrogate: Decachlorobiphenyl			78.0 %	30-150		06/03/15	B5E2816	8081/8082	
Surrogate: Tetrachloro-m-xylene			67.3 %	30-150		06/03/15	B5E2816	8081/8082	
Inorganics-General Chemistry									
TS	% Total Solids	91.0	0.1	%	1	05/20/15	B5E2012	2540 B	



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ENVIRONMENTAL LABORATORY**

P.O. Box 30270
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TEL: (517) 335-9800
FAX: (517) 335-9600

Client ID: CHTC-SB-25-6"-8'

Lab ID: 1505186-11

CAS #	Analyte	Result	RL	Units	Dilution	Analyzed Date	QC Batch	Method	Qualifier
Organics-Semivolatiles									See note Y20
91-57-6	2-Methylnaphthalene	ND	580	ug/kg dry	1	06/01/15	B5E2017	8270	
83-32-9	Acenaphthene	ND	230	ug/kg dry	1	06/01/15	B5E2017	8270	
208-96-8	Acenaphthylene	ND	230	ug/kg dry	1	06/01/15	B5E2017	8270	
120-12-7	Anthracene	ND	230	ug/kg dry	1	06/01/15	B5E2017	8270	
56-55-3	Benz[a]anthracene	ND	230	ug/kg dry	1	06/01/15	B5E2017	8270	
50-32-8	Benzo[a]pyrene	ND	470	ug/kg dry	1	06/01/15	B5E2017	8270	
205-99-2	Benzo[b]fluoranthene	ND	470	ug/kg dry	1	06/01/15	B5E2017	8270	
191-24-2	Benzo[g,h,i]perylene	ND	470	ug/kg dry	1	06/01/15	B5E2017	8270	
207-08-9	Benzo[k]fluoranthene	ND	470	ug/kg dry	1	06/01/15	B5E2017	8270	
218-01-9	Chrysene	ND	230	ug/kg dry	1	06/01/15	B5E2017	8270	
53-70-3	Dibenz[a,h]anthracene	ND	470	ug/kg dry	1	06/01/15	B5E2017	8270	
206-44-0	Fluoranthene	ND	230	ug/kg dry	1	06/01/15	B5E2017	8270	
86-73-7	Fluorene	ND	230	ug/kg dry	1	06/01/15	B5E2017	8270	
193-39-5	Indeno(1,2,3-c,d)pyrene	ND	470	ug/kg dry	1	06/01/15	B5E2017	8270	
91-20-3	Naphthalene	ND	230	ug/kg dry	1	06/01/15	B5E2017	8270	
85-01-8	Phenanthrene	ND	230	ug/kg dry	1	06/01/15	B5E2017	8270	
129-00-0	Pyrene	ND	230	ug/kg dry	1	06/01/15	B5E2017	8270	
<i>Surrogate: 2-Fluorobiphenyl</i>			75.4 %	32.9-115		06/01/15	B5E2017	8270	
<i>Surrogate: Nitrobenzene-d5</i>			68.1 %	31.8-115		06/01/15	B5E2017	8270	
<i>Surrogate: p-Terphenyl-d14</i>			82.9 %	38.5-115		06/01/15	B5E2017	8270	
Organics-PCBs as Aroclors									
12674-11-2	Aroclor 1016	ND	120	ug/kg dry	1	06/04/15	B5E2920	8081/8082	
11104-28-2	Aroclor 1221	ND	120	ug/kg dry	1	06/04/15	B5E2920	8081/8082	
11141-16-5	Aroclor 1232	ND	120	ug/kg dry	1	06/04/15	B5E2920	8081/8082	
53469-21-9	Aroclor 1242	ND	120	ug/kg dry	1	06/04/15	B5E2920	8081/8082	
12672-29-6	Aroclor 1248	ND	120	ug/kg dry	1	06/04/15	B5E2920	8081/8082	
11097-69-1	Aroclor 1254	ND	120	ug/kg dry	1	06/04/15	B5E2920	8081/8082	
11096-82-5	Aroclor 1260	ND	120	ug/kg dry	1	06/04/15	B5E2920	8081/8082	
37324-23-5	Aroclor 1262	ND	120	ug/kg dry	1	06/04/15	B5E2920	8081/8082	
11100-14-4	Aroclor 1268	ND	120	ug/kg dry	1	06/04/15	B5E2920	8081/8082	
<i>Surrogate: Decachlorobiphenyl</i>			73.6 %	30-150		06/04/15	B5E2920	8081/8082	
<i>Surrogate: Tetrachloro-m-xylene</i>			61.8 %	30-150		06/04/15	B5E2920	8081/8082	



**MICHIGAN DEPARTMENT OF ENVIRONMENTAL QUALITY
ENVIRONMENTAL LABORATORY**

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

Client ID: CHTC-SB-25-6''-8'

Lab ID: 1505186-11

CAS #	Analyte	Result	RL	Units	Dilution	Analyzed Date	QC Batch	Method	Qualifier
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Inorganics-General Chemistry

TS	% Total Solids	86.0	0.1	%	1	05/20/15	B5E2012	2540 B	
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**MICHIGAN DEPARTMENT OF ENVIRONMENTAL QUALITY
ENVIRONMENTAL LABORATORY**

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

Client ID: CHTC-SB-26-0-6"

Lab ID: 1505186-12

CAS #	Analyte	Result	RL	Units	Dilution	Analyzed Date	QC Batch	Method	Qualifier
Organics-PCBs as Aroclors									
12674-11-2	Aroclor 1016	ND	110	ug/kg dry	1	06/04/15	B5E2920	8081/8082	
11104-28-2	Aroclor 1221	ND	110	ug/kg dry	1	06/04/15	B5E2920	8081/8082	
11141-16-5	Aroclor 1232	ND	110	ug/kg dry	1	06/04/15	B5E2920	8081/8082	
53469-21-9	Aroclor 1242	ND	110	ug/kg dry	1	06/04/15	B5E2920	8081/8082	
12672-29-6	Aroclor 1248	ND	110	ug/kg dry	1	06/04/15	B5E2920	8081/8082	
11097-69-1	Aroclor 1254	ND	110	ug/kg dry	1	06/04/15	B5E2920	8081/8082	
11096-82-5	Aroclor 1260	ND	110	ug/kg dry	1	06/04/15	B5E2920	8081/8082	
37324-23-5	Aroclor 1262	ND	110	ug/kg dry	1	06/04/15	B5E2920	8081/8082	
11100-14-4	Aroclor 1268	ND	110	ug/kg dry	1	06/04/15	B5E2920	8081/8082	
<i>Surrogate: Decachlorobiphenyl</i>			85.6 %	30-150		06/04/15	B5E2920	8081/8082	
<i>Surrogate: Tetrachloro-m-xylene</i>			64.5 %	30-150		06/04/15	B5E2920	8081/8082	
Inorganics-General Chemistry									
TS	% Total Solids	87.6	0.1	%	1	05/20/15	B5E2012	2540 B	



**MICHIGAN DEPARTMENT OF ENVIRONMENTAL QUALITY
ENVIRONMENTAL LABORATORY**

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

Client ID: CHTC-SB-26-6"-11'

Lab ID: 1505186-13

CAS #	Analyte	Result	RL	Units	Dilution	Analyzed Date	QC Batch	Method	Qualifier
Organics-PCBs as Aroclors									
12674-11-2	Aroclor 1016	ND	110	ug/kg dry	1	06/04/15	B5E2920	8081/8082	
11104-28-2	Aroclor 1221	ND	110	ug/kg dry	1	06/04/15	B5E2920	8081/8082	
11141-16-5	Aroclor 1232	ND	110	ug/kg dry	1	06/04/15	B5E2920	8081/8082	
53469-21-9	Aroclor 1242	ND	110	ug/kg dry	1	06/04/15	B5E2920	8081/8082	
12672-29-6	Aroclor 1248	ND	110	ug/kg dry	1	06/04/15	B5E2920	8081/8082	
11097-69-1	Aroclor 1254	ND	110	ug/kg dry	1	06/04/15	B5E2920	8081/8082	
11096-82-5	Aroclor 1260	ND	110	ug/kg dry	1	06/04/15	B5E2920	8081/8082	
37324-23-5	Aroclor 1262	ND	110	ug/kg dry	1	06/04/15	B5E2920	8081/8082	
11100-14-4	Aroclor 1268	ND	110	ug/kg dry	1	06/04/15	B5E2920	8081/8082	
<i>Surrogate: Decachlorobiphenyl</i>			69.4 %	30-150		06/04/15	B5E2920	8081/8082	
<i>Surrogate: Tetrachloro-m-xylene</i>			53.2 %	30-150		06/04/15	B5E2920	8081/8082	
Inorganics-General Chemistry									
TS	% Total Solids	89.6	0.1	%	1	05/20/15	B5E2012	2540 B	



**MICHIGAN DEPARTMENT OF ENVIRONMENTAL QUALITY
ENVIRONMENTAL LABORATORY**

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

Client ID: CHTC-SB-26-6''-11'-DUP

Lab ID: 1505186-14

CAS #	Analyte	Result	RL	Units	Dilution	Analyzed Date	QC Batch	Method	Qualifier
Organics-PCBs as Aroclors									
12674-11-2	Aroclor 1016	ND	110	ug/kg dry	1	06/04/15	B5E2920	8081/8082	
11104-28-2	Aroclor 1221	ND	110	ug/kg dry	1	06/04/15	B5E2920	8081/8082	
11141-16-5	Aroclor 1232	ND	110	ug/kg dry	1	06/04/15	B5E2920	8081/8082	
53469-21-9	Aroclor 1242	ND	110	ug/kg dry	1	06/04/15	B5E2920	8081/8082	
12672-29-6	Aroclor 1248	ND	110	ug/kg dry	1	06/04/15	B5E2920	8081/8082	
11097-69-1	Aroclor 1254	ND	110	ug/kg dry	1	06/04/15	B5E2920	8081/8082	
11096-82-5	Aroclor 1260	ND	110	ug/kg dry	1	06/04/15	B5E2920	8081/8082	
37324-23-5	Aroclor 1262	ND	110	ug/kg dry	1	06/04/15	B5E2920	8081/8082	
11100-14-4	Aroclor 1268	ND	110	ug/kg dry	1	06/04/15	B5E2920	8081/8082	
<i>Surrogate: Decachlorobiphenyl</i>			74.0 %	30-150		06/04/15	B5E2920	8081/8082	
<i>Surrogate: Tetrachloro-m-xylene</i>			61.8 %	30-150		06/04/15	B5E2920	8081/8082	
Inorganics-General Chemistry									
TS	% Total Solids	88.3	0.1	%	1	05/20/15	B5E2012	2540 B	



**MICHIGAN DEPARTMENT OF ENVIRONMENTAL QUALITY
ENVIRONMENTAL LABORATORY**

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

Client ID: CHTC-SB-27-0-6"

Lab ID: 1505186-15

CAS #	Analyte	Result	RL	Units	Dilution	Analyzed Date	QC Batch	Method	Qualifier
Organics-PCBs as Aroclors									See note Y21
12674-11-2	Aroclor 1016	ND	680	ug/kg dry	5	06/08/15	B5E2920	8081/8082	
11104-28-2	Aroclor 1221	ND	680	ug/kg dry	5	06/08/15	B5E2920	8081/8082	
11141-16-5	Aroclor 1232	ND	680	ug/kg dry	5	06/08/15	B5E2920	8081/8082	
53469-21-9	Aroclor 1242	ND	680	ug/kg dry	5	06/08/15	B5E2920	8081/8082	
12672-29-6	Aroclor 1248	ND	680	ug/kg dry	5	06/08/15	B5E2920	8081/8082	
11097-69-1	Aroclor 1254	ND	680	ug/kg dry	5	06/08/15	B5E2920	8081/8082	
11096-82-5	Aroclor 1260	ND	680	ug/kg dry	5	06/08/15	B5E2920	8081/8082	
37324-23-5	Aroclor 1262	ND	680	ug/kg dry	5	06/08/15	B5E2920	8081/8082	
11100-14-4	Aroclor 1268	ND	680	ug/kg dry	5	06/08/15	B5E2920	8081/8082	
<i>Surrogate: Decachlorobiphenyl</i>			105 %	30-150		06/08/15	B5E2920	8081/8082	
<i>Surrogate: Tetrachloro-m-xylene</i>			80.5 %	30-150		06/08/15	B5E2920	8081/8082	
Inorganics-General Chemistry									
TS	% Total Solids	73.3	0.1	%	1	05/20/15	B5E2012	2540 B	



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ENVIRONMENTAL LABORATORY**

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TEL: (517) 335-9800
FAX: (517) 335-9600

Client ID: CHTC-SB-27-6''-8'

Lab ID: 1505186-16

CAS #	Analyte	Result	RL	Units	Dilution	Analyzed Date	QC Batch	Method	Qualifier
Organics-PCBs as Aroclors									
12674-11-2	Aroclor 1016	ND	120	ug/kg dry	1	06/04/15	B5E2920	8081/8082	
11104-28-2	Aroclor 1221	ND	120	ug/kg dry	1	06/04/15	B5E2920	8081/8082	
11141-16-5	Aroclor 1232	ND	120	ug/kg dry	1	06/04/15	B5E2920	8081/8082	
53469-21-9	Aroclor 1242	ND	120	ug/kg dry	1	06/04/15	B5E2920	8081/8082	
12672-29-6	Aroclor 1248	ND	120	ug/kg dry	1	06/04/15	B5E2920	8081/8082	
11097-69-1	Aroclor 1254	ND	120	ug/kg dry	1	06/04/15	B5E2920	8081/8082	
11096-82-5	Aroclor 1260	ND	120	ug/kg dry	1	06/04/15	B5E2920	8081/8082	
37324-23-5	Aroclor 1262	ND	120	ug/kg dry	1	06/04/15	B5E2920	8081/8082	
11100-14-4	Aroclor 1268	ND	120	ug/kg dry	1	06/04/15	B5E2920	8081/8082	
<i>Surrogate: Decachlorobiphenyl</i>			83.4 %	30-150		06/04/15	B5E2920	8081/8082	
<i>Surrogate: Tetrachloro-m-xylene</i>			62.9 %	30-150		06/04/15	B5E2920	8081/8082	
Inorganics-General Chemistry									
TS	% Total Solids	80.7	0.1	%	1	05/20/15	B5E2012	2540 B	



Analysis Request Sheet

Lab Work Order Number

Project Name

Matrix

1505186

Abandoned Mining Wastes - Torch Lake PCB C&H Tamarack City Ops

SOIL

Site Code/Project Number

AY

CC Email 1

Project 1st Days

Sample Collector

31000098

13

j.binkley@westonsolutions.com

AK/JP/AB-DEQ-RRD

Dept-Division-District

Index

CC Email 2

Project Due Date

Sample Collector Phone

DEQ-RRD-UP District

44251

daniel.llebau@westonsolutions.com

906-337-0389

State Project Manager

PCA

CC Email 3

Accept Analysis

Contract Firm

Amy Keranen

30872

plncumbaj@michigan.gov

hold time codes

Weston Solutions

State Project Manager Email

Project

Overflow Lab Choice 1

no

Contract Firm Primary Contact

keranena@michigan.gov

456990

Overflow Lab Choice 2

Jeff Binkley

State Project Manager Phone

Phase

Overflow Lab Choice 2

Primary Contact Phone

906-337-0389

00

906-523-5457

Lab Use Only	Field Sample Identification	Collection Date	Collection Time	Container Count	Comments
1	01 CHTC-SB- 21-0'-6"	5/15/15	0900	1801	
2	02 CHTC-SB- 21-6"-12'	5/15/15	0905	1802	
3	03 CHTC-SB- 21-6"-12' dup	5/15/15	0905	1802	
4	04 CHTC-SB- 22-0'-6"	5/15/15	0933	1802	
5	05 CHTC-SB- 22-6"-12'	5/15/15	0940	1802	
6	06 CHTC-SB- 23-0'-6"	5/15/15	1005	1802	
7	07 CHTC-SB- 23-6"-6'	5/15/15	1010	1802	
8	08 CHTC-SB- 24-0'-6"	5/15/15	1305	1802	
9	09 CHTC-SB- 24-6"-8'	5/15/15	1325	1802	
10	10 CHTC-SB- 25-0'-6"	5/15/15	1400	1802	

ORGANIC CHEMISTRY	METALS CHEMISTRY PACKAGES	MS - TOTAL METALS	GENERAL CHEMISTRY
VOA - Volatile Organic Acids 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 Chlorinated only 1 2 3 4 5 6 7 8 9 10 GRO 1 2 3 4 5 6 7 8 9 10 1,4 Dioxane 1 2 3 4 5 6 7 8 9 10 OS - Pesticides, PCBs Pesticides & PCBs 1 2 3 4 5 6 7 8 9 10 Pesticides only 1 2 3 4 5 6 7 8 9 10 PCBs only 1 2 3 4 5 6 7 8 9 10 Toxaphene 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 PNAs only 1 2 3 4 5 6 7 8 9 10 BNs only 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 DRO / ORO 1 2 3 4 5 6 7 8 9 10	OpMemo2 - Total 1 2 3 4 5 6 7 8 9 10 (Sb,As,Ba,Bc,Cd,Cr,Cu,Co,Fe,Pb,Mn,Hg,Mo,Ni,Se,Ag,Ti,V,Zn) Michigan10 - Total 1 2 3 4 5 6 7 8 9 10 (As,Ba,Cd,Cr,Cu,Pb,Hg,Se,Ag,Zn)	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 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 Uranium - U 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	GS - General Chemistry Total Cyanide - CN 1 2 3 4 5 6 7 8 9 10 Available Cyanide - CN 1 2 3 4 5 6 7 8 9 10 Chem Oxyg Dem - COD 1 2 3 4 5 6 7 8 9 10 Total Org Carbon - TOC 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.	JEFF PINCUBE MD64	Melissa Smith	5/20/15 9:06
Signature:	<i>Jeff Pincube</i>	<i>Melissa Smith</i>	
Print Name & Org.			
Signature:			
Print Name & Org.			
Signature:			



Analysis Request Sheet

Lab Work Order Number

Project Name

Matrix

1505186

Abandoned Mining Wastes - Torch Lake PCB C&H Tamarack City Ops

SOIL

Site Code/Project Number

AT

CC Email 1

Project 1st Uays

Sample Collector

31000098

13

j.binkley@westonsolutions.com

Project Due Date

AK/JP/AB-DEQ-RRD

Dept-Division-District

Index

CC Email 2

Project Due Date

Sample Collector Phone

DEQ-RRD-UP District

44251

daniel.liebau@westonsolutions.com

Project Due Date

906-337-0389

State Project Manager

PCA

CC Email 3

Project Due Date

Contract Firm

Amy Keranen

30872

plncumbel@michigan.gov

Project Due Date

Weston Solutions

State Project Manager Email

Project

Overflow Lab Choice 1

Accept Analysis
hold time codes

Contract Firm Primary Contact

keranena@michigan.gov

456990

Overflow Lab Choice 2

no

Jeff Binkley

State Project Manager Phone

Phase

Overflow Lab Choice 2

no

Primary Contact Phone

906-337-0389

00

Overflow Lab Choice 2

no

906-523-5457

Lab Use Only	Field Sample Identification	Collection Date	Collection Time	Container Count	Comments
1	CHTC-SB- 25 - 6" - 8'	5/15/15	1405	2-802	
2	CHTC-SB- 26 - 0 - 6"		1535	1-802	
3	CHTC-SB- 26 - 6" - 11'		1540		
4	CHTC-SB- 26 - 6" - 11' - DUP		1540		
5	CHTC-SB- 27 - 0 - 6"		1712		
6	CHTC-SB- 27 - 6" - 8'		1715		
7	CHTC-SB-				
8	CHTC-SB-				
9	CHTC-SB-				
10	CHTC-SB-				

ORGANIC CHEMISTRY	METALS CHEMISTRY PACKAGES	MS - TOTAL METALS	GENERAL CHEMISTRY
VOA - Volatile Organic Acids 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 Chlorinated only 1 2 3 4 5 6 7 8 9 10 GRO 1 2 3 4 5 6 7 8 9 10 1,4 Dioxane 1 2 3 4 5 6 7 8 9 10	OpMemo2 - Total 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,Ti,V,Zn) Michigan10 - Total 1 2 3 4 5 6 7 8 9 10 (As,Ba,Cd,Cr,Cu,Pb,Hg,Se,Ag,Zn)	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 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 Uranium - U 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	GS - General Chemistry Total Cyanide - CN 1 2 3 4 5 6 7 8 9 10 Available Cyanide - CN 1 2 3 4 5 6 7 8 9 10 Chem Oxyg Dem - COD 1 2 3 4 5 6 7 8 9 10 Total Org Carbon - TOC 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

OS - Pesticides, PCBs	BNA - Base Neutral Acids	Organic Specialty Requests
Pesticides & PCBs 1 2 3 4 5 6 7 8 9 10 Pesticides only 1 2 3 4 5 6 7 8 9 10 PCBs only 1 2 3 4 5 6 7 8 9 10 Toxaphene 1 2 3 4 5 6 7 8 9 10	BNAs 1 2 3 4 5 6 7 8 9 10 PNAs only 1 2 3 4 5 6 7 8 9 10 BNs only 1 2 3 4 5 6 7 8 9 10	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 DRO / ORO 1 2 3 4 5 6 7 8 9 10

Chain of Custody	Relinquished by	Received By	Date / Time
Print Name & Org.	JEFF PINLARE MDEQ	Melissa Smith	5/20/15 906
Signature:	[Signature]	[Signature]	
Print Name & Org.			
Signature:			
Print Name & Org.			
Signature:			



**MICHIGAN DEPARTMENT OF ENVIRONMENTAL QUALITY
ENVIRONMENTAL LABORATORY**

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

11 June 2015

Work Order: 1505187

Price: \$861.00

Amy Keranen

MDEQ-RRD-UP

1504 W. Washington St.

Marquette, MI 49855

RE: ABANDONED MINING WASTES-TORCH LAKE NS

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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MDEQ-RRD-UP
1504 W. Washington St.
Marquette MI, 49855

Project: ABANDONED MINING WASTES-TORCH LAKE NS
Site Code: 31000098
Project Manager: Amy Keranen

Reported:
06/11/2015

Analytical Report for Samples

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received	Qualifier
CHTC-GW-25-22'-27'	1505187-01	Water	05/16/2015	05/20/2015	
CHTC-GW-23-16'-21'	1505187-02	Water	05/16/2015	05/20/2015	
CHTC-GW-01-15'-20'	1505187-03	Water	05/16/2015	05/20/2015	

Notes and Definitions

X	Methods 8260 & 624 are used to analyze volatile organics that have boiling points below 200 °C. 2-Methylnaphthalene & naphthalene have boiling points above 200 °C and are better suited to analysis by methods 8270 & 625 as semivolatile organics.
KR	Reporting limit(s) raised due to low sample volume submitted.
A01	Result(s) and reporting limit(s) are estimated due to low surrogate recovery.
ND	Indicates compound analyzed for but not detected
RL	Reporting Limit
NA	Not Applicable



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P.O. Box 30270
Lansing, MI 48909
TEL: (517) 335-9800
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Client ID: CHTC-GW-25-22'-27'

Lab ID: 1505187-01

CAS #	Analyte	Result	RL	Units	Dilution	Analyzed Date	QC Batch	Method	Qualifier
Organics-PCBs as Aroclors									
12674-11-2	Aroclor 1016	ND	0.11	ug/L	1	06/03/15	B5E2804	8081/8082	
11104-28-2	Aroclor 1221	ND	0.11	ug/L	1	06/03/15	B5E2804	8081/8082	
11141-16-5	Aroclor 1232	ND	0.11	ug/L	1	06/03/15	B5E2804	8081/8082	
53469-21-9	Aroclor 1242	ND	0.11	ug/L	1	06/03/15	B5E2804	8081/8082	
12672-29-6	Aroclor 1248	ND	0.11	ug/L	1	06/03/15	B5E2804	8081/8082	
11097-69-1	Aroclor 1254	ND	0.11	ug/L	1	06/03/15	B5E2804	8081/8082	
11096-82-5	Aroclor 1260	ND	0.11	ug/L	1	06/03/15	B5E2804	8081/8082	
37324-23-5	Aroclor 1262	ND	0.11	ug/L	1	06/03/15	B5E2804	8081/8082	
11100-14-4	Aroclor 1268	ND	0.11	ug/L	1	06/03/15	B5E2804	8081/8082	
Surrogate: Decachlorobiphenyl			56.4 %		30-150	06/03/15	B5E2804	8081/8082	
Surrogate: Tetrachloro-m-xylene			42.5 %		30-150	06/03/15	B5E2804	8081/8082	



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TEL: (517) 335-9800
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Client ID: CHTC-GW-23-16'-21'

Lab ID: 1505187-02

CAS #	Analyte	Result	RL	Units	Dilution	Analyzed Date	QC Batch	Method	Qualifier
Organics-Volatiles									
630-20-6	1,1,1,2-Tetrachloroethane	ND	1.0	ug/L	1	05/22/15	B5E2126	8260	
71-55-6	1,1,1-Trichloroethane	ND	1.0	ug/L	1	05/22/15	B5E2126	8260	
79-34-5	1,1,2,2-Tetrachloroethane	ND	1.0	ug/L	1	05/22/15	B5E2126	8260	
79-00-5	1,1,2-Trichloroethane	ND	1.0	ug/L	1	05/22/15	B5E2126	8260	
75-34-3	1,1-Dichloroethane	ND	1.0	ug/L	1	05/22/15	B5E2126	8260	
75-35-4	1,1-Dichloroethylene	ND	1.0	ug/L	1	05/22/15	B5E2126	8260	
87-61-6	1,2,3-Trichlorobenzene	ND	5.0	ug/L	1	05/22/15	B5E2126	8260	
96-18-4	1,2,3-Trichloropropane	ND	1.0	ug/L	1	05/22/15	B5E2126	8260	
526-73-8	1,2,3-Trimethylbenzene	ND	1.0	ug/L	1	05/22/15	B5E2126	8260	
120-82-1	1,2,4-Trichlorobenzene	ND	5.0	ug/L	1	05/22/15	B5E2126	8260	
95-63-6	1,2,4-Trimethylbenzene	ND	1.0	ug/L	1	05/22/15	B5E2126	8260	
96-12-8	1,2-Dibromo-3-chloropropane	ND	5.0	ug/L	1	05/22/15	B5E2126	8260	
106-93-4	1,2-Dibromoethane	ND	1.0	ug/L	1	05/22/15	B5E2126	8260	
95-50-1	1,2-Dichlorobenzene	ND	1.0	ug/L	1	05/22/15	B5E2126	8260	
107-06-2	1,2-Dichloroethane	ND	1.0	ug/L	1	05/22/15	B5E2126	8260	
78-87-5	1,2-Dichloropropane	ND	1.0	ug/L	1	05/22/15	B5E2126	8260	
108-67-8	1,3,5-Trimethylbenzene	ND	1.0	ug/L	1	05/22/15	B5E2126	8260	
541-73-1	1,3-Dichlorobenzene	ND	1.0	ug/L	1	05/22/15	B5E2126	8260	
106-46-7	1,4-Dichlorobenzene	ND	1.0	ug/L	1	05/22/15	B5E2126	8260	
78-93-3	2-Butanone (MEK)	ND	5.0	ug/L	1	05/22/15	B5E2126	8260	
591-78-6	2-Hexanone	ND	5.0	ug/L	1	05/22/15	B5E2126	8260	
91-57-6	2-Methylnaphthalene	ND	5.0	ug/L	1	05/22/15	B5E2126	8260	X
67-64-1	2-Propanone (acetone)	ND	20	ug/L	1	05/22/15	B5E2126	8260	
108-10-1	4-Methyl-2-pentanone (MIBK)	ND	5.0	ug/L	1	05/22/15	B5E2126	8260	
107-13-1	Acrylonitrile	ND	5.0	ug/L	1	05/22/15	B5E2126	8260	
71-43-2	Benzene	ND	1.0	ug/L	1	05/22/15	B5E2126	8260	
108-86-1	Bromobenzene	ND	1.0	ug/L	1	05/22/15	B5E2126	8260	
74-97-5	Bromochloromethane	ND	1.0	ug/L	1	05/22/15	B5E2126	8260	
75-27-4	Bromodichloromethane	ND	1.0	ug/L	1	05/22/15	B5E2126	8260	
75-25-2	Bromoform	ND	1.0	ug/L	1	05/22/15	B5E2126	8260	
74-83-9	Bromomethane	ND	5.0	ug/L	1	05/22/15	B5E2126	8260	
75-15-0	Carbon disulfide	ND	1.0	ug/L	1	05/22/15	B5E2126	8260	
56-23-5	Carbon tetrachloride	ND	1.0	ug/L	1	05/22/15	B5E2126	8260	
108-90-7	Chlorobenzene	ND	1.0	ug/L	1	05/22/15	B5E2126	8260	
75-00-3	Chloroethane	ND	5.0	ug/L	1	05/22/15	B5E2126	8260	
67-66-3	Chloroform	ND	1.0	ug/L	1	05/22/15	B5E2126	8260	
74-87-3	Chloromethane	ND	5.0	ug/L	1	05/22/15	B5E2126	8260	
156-59-2	cis-1,2-Dichloroethylene	ND	1.0	ug/L	1	05/22/15	B5E2126	8260	
10061-01-5	cis-1,3-Dichloropropylene	ND	1.0	ug/L	1	05/22/15	B5E2126	8260	
110-82-7	Cyclohexane	ND	5.0	ug/L	1	05/22/15	B5E2126	8260	
124-48-1	Dibromochloromethane	ND	1.0	ug/L	1	05/22/15	B5E2126	8260	



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TEL: (517) 335-9800
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Client ID: CHTC-GW-23-16'-21'

Lab ID: 1505187-02

CAS #	Analyte	Result	RL	Units	Dilution	Analyzed Date	QC Batch	Method	Qualifier
Organics-Volatiles									
74-95-3	Dibromomethane	ND	1.0	ug/L	1	05/22/15	B5E2126	8260	
75-71-8	Dichlorodifluoromethane	ND	5.0	ug/L	1	05/22/15	B5E2126	8260	
60-29-7	Diethyl ether	ND	5.0	ug/L	1	05/22/15	B5E2126	8260	
108-20-3	Diisopropyl Ether	ND	5.0	ug/L	1	05/22/15	B5E2126	8260	
100-41-4	Ethylbenzene	ND	1.0	ug/L	1	05/22/15	B5E2126	8260	
637-92-3	Ethyltertiarybutylether	ND	5.0	ug/L	1	05/22/15	B5E2126	8260	
67-72-1	Hexachloroethane	ND	5.0	ug/L	1	05/22/15	B5E2126	8260	
98-82-8	Isopropylbenzene	ND	1.0	ug/L	1	05/22/15	B5E2126	8260	
1330-20-7	m & p - Xylene	ND	2.0	ug/L	1	05/22/15	B5E2126	8260	
74-88-4	Methyl iodide	ND	1.0	ug/L	1	05/22/15	B5E2126	8260	
75-09-2	Methylene chloride	ND	5.0	ug/L	1	05/22/15	B5E2126	8260	
1634-04-4	Methyltertiarybutylether	ND	1.0	ug/L	1	05/22/15	B5E2126	8260	
91-20-3	Naphthalene	ND	5.0	ug/L	1	05/22/15	B5E2126	8260	X
104-51-8	n-Butylbenzene	ND	1.0	ug/L	1	05/22/15	B5E2126	8260	
103-65-1	n-Propylbenzene	ND	1.0	ug/L	1	05/22/15	B5E2126	8260	
95-47-6	o-Xylene	ND	1.0	ug/L	1	05/22/15	B5E2126	8260	
99-87-6	p-Isopropyl toluene	15	1.0	ug/L	1	05/22/15	B5E2126	8260	
135-98-8	sec-Butylbenzene	ND	1.0	ug/L	1	05/22/15	B5E2126	8260	
100-42-5	Styrene	ND	1.0	ug/L	1	05/22/15	B5E2126	8260	
98-06-6	tert-Butylbenzene	ND	1.0	ug/L	1	05/22/15	B5E2126	8260	
75-65-0	tertiary Butyl Alcohol	ND	50	ug/L	1	05/22/15	B5E2126	8260	
994-05-8	tertiaryAmylmethylether	ND	5.0	ug/L	1	05/22/15	B5E2126	8260	
127-18-4	Tetrachloroethylene	ND	1.0	ug/L	1	05/22/15	B5E2126	8260	
109-99-9	Tetrahydrofuran	ND	5.0	ug/L	1	05/22/15	B5E2126	8260	
108-88-3	Toluene	ND	1.0	ug/L	1	05/22/15	B5E2126	8260	
156-60-5	trans-1,2-Dichloroethylene	ND	1.0	ug/L	1	05/22/15	B5E2126	8260	
10061-02-6	trans-1,3-Dichloropropylene	ND	1.0	ug/L	1	05/22/15	B5E2126	8260	
110-57-6	trans-1,4-Dichloro-2-butene	ND	5.0	ug/L	1	05/22/15	B5E2126	8260	
79-01-6	Trichloroethylene	ND	1.0	ug/L	1	05/22/15	B5E2126	8260	
75-69-4	Trichlorofluoromethane	ND	1.0	ug/L	1	05/22/15	B5E2126	8260	
75-01-4	Vinyl chloride	ND	1.0	ug/L	1	05/22/15	B5E2126	8260	
Surrogate: Bromofluorobenzene			102 %	85-115		05/22/15	B5E2126	8260	
Surrogate: Dibromofluoromethane			104 %	82.7-115		05/22/15	B5E2126	8260	
Surrogate: Toluene-d8			102 %	85-115		05/22/15	B5E2126	8260	



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Client ID: CHTC-GW-23-16'-21'

Lab ID: 1505187-02

CAS #	Analyte	Result	RL	Units	Dilution	Analyzed Date	QC Batch	Method	Qualifier
Organics-Semivolatiles									
91-57-6	2-Methylnaphthalene	ND	5.0	ug/L	1	05/26/15	B5E2003	8270	
83-32-9	Acenaphthene	ND	1.0	ug/L	1	05/26/15	B5E2003	8270	
208-96-8	Acenaphthylene	ND	1.0	ug/L	1	05/26/15	B5E2003	8270	
120-12-7	Anthracene	ND	1.0	ug/L	1	05/26/15	B5E2003	8270	
56-55-3	Benz[a]anthracene	1.2	1.0	ug/L	1	05/26/15	B5E2003	8270	
50-32-8	Benzo[a]pyrene	ND	1.0	ug/L	1	05/26/15	B5E2003	8270	
205-99-2	Benzo[b]fluoranthene	ND	1.0	ug/L	1	05/26/15	B5E2003	8270	
191-24-2	Benzo[g,h,i]perylene	ND	1.0	ug/L	1	05/26/15	B5E2003	8270	
207-08-9	Benzo[k]fluoranthene	ND	1.0	ug/L	1	05/26/15	B5E2003	8270	
218-01-9	Chrysene	1.3	1.0	ug/L	1	05/26/15	B5E2003	8270	
53-70-3	Dibenz[a,h]anthracene	ND	2.0	ug/L	1	05/26/15	B5E2003	8270	
206-44-0	Fluoranthene	ND	1.0	ug/L	1	05/26/15	B5E2003	8270	
86-73-7	Fluorene	ND	1.0	ug/L	1	05/26/15	B5E2003	8270	
193-39-5	Indeno(1,2,3-c,d)pyrene	ND	2.0	ug/L	1	05/26/15	B5E2003	8270	
91-20-3	Naphthalene	ND	1.0	ug/L	1	05/26/15	B5E2003	8270	
85-01-8	Phenanthrene	ND	1.0	ug/L	1	05/26/15	B5E2003	8270	
129-00-0	Pyrene	ND	1.0	ug/L	1	05/26/15	B5E2003	8270	
<i>Surrogate: 2-Fluorobiphenyl</i>			46.5 %	24.1-115		05/26/15	B5E2003	8270	
<i>Surrogate: Nitrobenzene-d5</i>			44.4 %	17.8-115		05/26/15	B5E2003	8270	
<i>Surrogate: p-Terphenyl-d14</i>			47.6 %	41.8-115		05/26/15	B5E2003	8270	

Organics-PCBs as Aroclors									See note A01
12674-11-2	Aroclor 1016	ND	0.10	ug/L	1	06/03/15	B5E2804	8081/8082	
11104-28-2	Aroclor 1221	ND	0.10	ug/L	1	06/03/15	B5E2804	8081/8082	
11141-16-5	Aroclor 1232	ND	0.10	ug/L	1	06/03/15	B5E2804	8081/8082	
53469-21-9	Aroclor 1242	ND	0.10	ug/L	1	06/03/15	B5E2804	8081/8082	
12672-29-6	Aroclor 1248	ND	0.10	ug/L	1	06/03/15	B5E2804	8081/8082	
11097-69-1	Aroclor 1254	ND	0.10	ug/L	1	06/03/15	B5E2804	8081/8082	
11096-82-5	Aroclor 1260	ND	0.10	ug/L	1	06/03/15	B5E2804	8081/8082	
37324-23-5	Aroclor 1262	ND	0.10	ug/L	1	06/03/15	B5E2804	8081/8082	
11100-14-4	Aroclor 1268	ND	0.10	ug/L	1	06/03/15	B5E2804	8081/8082	
<i>Surrogate: Decachlorobiphenyl</i>			25.4 %	30-150		06/03/15	B5E2804	8081/8082	
<i>Surrogate: Tetrachloro-m-xylene</i>			29.4 %	30-150		06/03/15	B5E2804	8081/8082	



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TEL: (517) 335-9800
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Client ID: CHTC-GW-01-15'-20'

Lab ID: 1505187-03

CAS #	Analyte	Result	RL	Units	Dilution	Analyzed Date	QC Batch	Method	Qualifier
Organics-Volatiles									
630-20-6	1,1,1,2-Tetrachloroethane	ND	1.0	ug/L	1	05/22/15	B5E2126	8260	
71-55-6	1,1,1-Trichloroethane	ND	1.0	ug/L	1	05/22/15	B5E2126	8260	
79-34-5	1,1,2,2-Tetrachloroethane	ND	1.0	ug/L	1	05/22/15	B5E2126	8260	
79-00-5	1,1,2-Trichloroethane	ND	1.0	ug/L	1	05/22/15	B5E2126	8260	
75-34-3	1,1-Dichloroethane	ND	1.0	ug/L	1	05/22/15	B5E2126	8260	
75-35-4	1,1-Dichloroethylene	ND	1.0	ug/L	1	05/22/15	B5E2126	8260	
87-61-6	1,2,3-Trichlorobenzene	ND	5.0	ug/L	1	05/22/15	B5E2126	8260	
96-18-4	1,2,3-Trichloropropane	ND	1.0	ug/L	1	05/22/15	B5E2126	8260	
526-73-8	1,2,3-Trimethylbenzene	ND	1.0	ug/L	1	05/22/15	B5E2126	8260	
120-82-1	1,2,4-Trichlorobenzene	ND	5.0	ug/L	1	05/22/15	B5E2126	8260	
95-63-6	1,2,4-Trimethylbenzene	ND	1.0	ug/L	1	05/22/15	B5E2126	8260	
96-12-8	1,2-Dibromo-3-chloropropane	ND	5.0	ug/L	1	05/22/15	B5E2126	8260	
106-93-4	1,2-Dibromoethane	ND	1.0	ug/L	1	05/22/15	B5E2126	8260	
95-50-1	1,2-Dichlorobenzene	ND	1.0	ug/L	1	05/22/15	B5E2126	8260	
107-06-2	1,2-Dichloroethane	ND	1.0	ug/L	1	05/22/15	B5E2126	8260	
78-87-5	1,2-Dichloropropane	ND	1.0	ug/L	1	05/22/15	B5E2126	8260	
108-67-8	1,3,5-Trimethylbenzene	ND	1.0	ug/L	1	05/22/15	B5E2126	8260	
541-73-1	1,3-Dichlorobenzene	ND	1.0	ug/L	1	05/22/15	B5E2126	8260	
106-46-7	1,4-Dichlorobenzene	ND	1.0	ug/L	1	05/22/15	B5E2126	8260	
78-93-3	2-Butanone (MEK)	ND	5.0	ug/L	1	05/22/15	B5E2126	8260	
591-78-6	2-Hexanone	ND	5.0	ug/L	1	05/22/15	B5E2126	8260	
91-57-6	2-Methylnaphthalene	ND	5.0	ug/L	1	05/22/15	B5E2126	8260	X
67-64-1	2-Propanone (acetone)	ND	20	ug/L	1	05/22/15	B5E2126	8260	
108-10-1	4-Methyl-2-pentanone (MIBK)	ND	5.0	ug/L	1	05/22/15	B5E2126	8260	
107-13-1	Acrylonitrile	ND	5.0	ug/L	1	05/22/15	B5E2126	8260	
71-43-2	Benzene	ND	1.0	ug/L	1	05/22/15	B5E2126	8260	
108-86-1	Bromobenzene	ND	1.0	ug/L	1	05/22/15	B5E2126	8260	
74-97-5	Bromochloromethane	ND	1.0	ug/L	1	05/22/15	B5E2126	8260	
75-27-4	Bromodichloromethane	ND	1.0	ug/L	1	05/22/15	B5E2126	8260	
75-25-2	Bromoform	ND	1.0	ug/L	1	05/22/15	B5E2126	8260	
74-83-9	Bromomethane	ND	5.0	ug/L	1	05/22/15	B5E2126	8260	
75-15-0	Carbon disulfide	ND	1.0	ug/L	1	05/22/15	B5E2126	8260	
56-23-5	Carbon tetrachloride	ND	1.0	ug/L	1	05/22/15	B5E2126	8260	
108-90-7	Chlorobenzene	ND	1.0	ug/L	1	05/22/15	B5E2126	8260	
75-00-3	Chloroethane	ND	5.0	ug/L	1	05/22/15	B5E2126	8260	
67-66-3	Chloroform	ND	1.0	ug/L	1	05/22/15	B5E2126	8260	
74-87-3	Chloromethane	ND	5.0	ug/L	1	05/22/15	B5E2126	8260	
156-59-2	cis-1,2-Dichloroethylene	ND	1.0	ug/L	1	05/22/15	B5E2126	8260	
10061-01-5	cis-1,3-Dichloropropylene	ND	1.0	ug/L	1	05/22/15	B5E2126	8260	
110-82-7	Cyclohexane	ND	5.0	ug/L	1	05/22/15	B5E2126	8260	
124-48-1	Dibromochloromethane	ND	1.0	ug/L	1	05/22/15	B5E2126	8260	



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Client ID: CHTC-GW-01-15'-20'

Lab ID: 1505187-03

CAS #	Analyte	Result	RL	Units	Dilution	Analyzed Date	QC Batch	Method	Qualifier
Organics-Volatiles									
74-95-3	Dibromomethane	ND	1.0	ug/L	1	05/22/15	B5E2126	8260	
75-71-8	Dichlorodifluoromethane	ND	5.0	ug/L	1	05/22/15	B5E2126	8260	
60-29-7	Diethyl ether	ND	5.0	ug/L	1	05/22/15	B5E2126	8260	
108-20-3	Diisopropyl Ether	ND	5.0	ug/L	1	05/22/15	B5E2126	8260	
100-41-4	Ethylbenzene	ND	1.0	ug/L	1	05/22/15	B5E2126	8260	
637-92-3	Ethyltertiarybutylether	ND	5.0	ug/L	1	05/22/15	B5E2126	8260	
67-72-1	Hexachloroethane	ND	5.0	ug/L	1	05/22/15	B5E2126	8260	
98-82-8	Isopropylbenzene	ND	1.0	ug/L	1	05/22/15	B5E2126	8260	
1330-20-7	m & p - Xylene	ND	2.0	ug/L	1	05/22/15	B5E2126	8260	
74-88-4	Methyl iodide	ND	1.0	ug/L	1	05/22/15	B5E2126	8260	
75-09-2	Methylene chloride	ND	5.0	ug/L	1	05/22/15	B5E2126	8260	
1634-04-4	Methyltertiarybutylether	ND	1.0	ug/L	1	05/22/15	B5E2126	8260	
91-20-3	Naphthalene	ND	5.0	ug/L	1	05/22/15	B5E2126	8260	X
104-51-8	n-Butylbenzene	ND	1.0	ug/L	1	05/22/15	B5E2126	8260	
103-65-1	n-Propylbenzene	ND	1.0	ug/L	1	05/22/15	B5E2126	8260	
95-47-6	o-Xylene	ND	1.0	ug/L	1	05/22/15	B5E2126	8260	
99-87-6	p-Isopropyl toluene	ND	1.0	ug/L	1	05/22/15	B5E2126	8260	
135-98-8	sec-Butylbenzene	ND	1.0	ug/L	1	05/22/15	B5E2126	8260	
100-42-5	Styrene	ND	1.0	ug/L	1	05/22/15	B5E2126	8260	
98-06-6	tert-Butylbenzene	ND	1.0	ug/L	1	05/22/15	B5E2126	8260	
75-65-0	tertiary Butyl Alcohol	ND	50	ug/L	1	05/22/15	B5E2126	8260	
994-05-8	tertiaryAmylmethylether	ND	5.0	ug/L	1	05/22/15	B5E2126	8260	
127-18-4	Tetrachloroethylene	ND	1.0	ug/L	1	05/22/15	B5E2126	8260	
109-99-9	Tetrahydrofuran	ND	5.0	ug/L	1	05/22/15	B5E2126	8260	
108-88-3	Toluene	ND	1.0	ug/L	1	05/22/15	B5E2126	8260	
156-60-5	trans-1,2-Dichloroethylene	ND	1.0	ug/L	1	05/22/15	B5E2126	8260	
10061-02-6	trans-1,3-Dichloropropylene	ND	1.0	ug/L	1	05/22/15	B5E2126	8260	
110-57-6	trans-1,4-Dichloro-2-butene	ND	5.0	ug/L	1	05/22/15	B5E2126	8260	
79-01-6	Trichloroethylene	ND	1.0	ug/L	1	05/22/15	B5E2126	8260	
75-69-4	Trichlorofluoromethane	ND	1.0	ug/L	1	05/22/15	B5E2126	8260	
75-01-4	Vinyl chloride	ND	1.0	ug/L	1	05/22/15	B5E2126	8260	
Surrogate: Bromofluorobenzene			99.6 %	85-115		05/22/15	B5E2126	8260	
Surrogate: Dibromofluoromethane			103 %	82.7-115		05/22/15	B5E2126	8260	
Surrogate: Toluene-d8			101 %	85-115		05/22/15	B5E2126	8260	



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Client ID: CHTC-GW-01-15'-20'

Lab ID: 1505187-03

CAS #	Analyte	Result	RL	Units	Dilution	Analyzed Date	QC Batch	Method	Qualifier
Organics-Semivolatiles									
91-57-6	2-Methylnaphthalene	ND	5.2	ug/L	1	05/26/15	B5E2003	8270	
83-32-9	Acenaphthene	ND	1.0	ug/L	1	05/26/15	B5E2003	8270	
208-96-8	Acenaphthylene	ND	1.0	ug/L	1	05/26/15	B5E2003	8270	
120-12-7	Anthracene	ND	1.0	ug/L	1	05/26/15	B5E2003	8270	
56-55-3	Benz[a]anthracene	ND	1.0	ug/L	1	05/26/15	B5E2003	8270	
50-32-8	Benzo[a]pyrene	ND	1.0	ug/L	1	05/26/15	B5E2003	8270	
205-99-2	Benzo[b]fluoranthene	ND	1.0	ug/L	1	05/26/15	B5E2003	8270	
191-24-2	Benzo[g,h,i]perylene	ND	1.0	ug/L	1	05/26/15	B5E2003	8270	
207-08-9	Benzo[k]fluoranthene	ND	1.0	ug/L	1	05/26/15	B5E2003	8270	
218-01-9	Chrysene	ND	1.0	ug/L	1	05/26/15	B5E2003	8270	
53-70-3	Dibenz[a,h]anthracene	ND	2.1	ug/L	1	05/26/15	B5E2003	8270	
206-44-0	Fluoranthene	ND	1.0	ug/L	1	05/26/15	B5E2003	8270	
86-73-7	Fluorene	ND	1.0	ug/L	1	05/26/15	B5E2003	8270	
193-39-5	Indeno(1,2,3-c,d)pyrene	ND	2.1	ug/L	1	05/26/15	B5E2003	8270	
91-20-3	Naphthalene	ND	1.0	ug/L	1	05/26/15	B5E2003	8270	
85-01-8	Phenanthrene	ND	1.0	ug/L	1	05/26/15	B5E2003	8270	
129-00-0	Pyrene	ND	1.0	ug/L	1	05/26/15	B5E2003	8270	
<i>Surrogate: 2-Fluorobiphenyl</i>			50.0 %	24.1-115		05/26/15	B5E2003	8270	
<i>Surrogate: Nitrobenzene-d5</i>			48.7 %	17.8-115		05/26/15	B5E2003	8270	
<i>Surrogate: p-Terphenyl-d14</i>			69.3 %	41.8-115		05/26/15	B5E2003	8270	
Organics-PCBs as Aroclors									
12674-11-2	Aroclor 1016	ND	0.10	ug/L	1	06/03/15	B5E2804	8081/8082	
11104-28-2	Aroclor 1221	ND	0.10	ug/L	1	06/03/15	B5E2804	8081/8082	
11141-16-5	Aroclor 1232	ND	0.10	ug/L	1	06/03/15	B5E2804	8081/8082	
53469-21-9	Aroclor 1242	ND	0.10	ug/L	1	06/03/15	B5E2804	8081/8082	
12672-29-6	Aroclor 1248	ND	0.10	ug/L	1	06/03/15	B5E2804	8081/8082	
11097-69-1	Aroclor 1254	ND	0.10	ug/L	1	06/03/15	B5E2804	8081/8082	
11096-82-5	Aroclor 1260	ND	0.10	ug/L	1	06/03/15	B5E2804	8081/8082	
37324-23-5	Aroclor 1262	ND	0.10	ug/L	1	06/03/15	B5E2804	8081/8082	
11100-14-4	Aroclor 1268	ND	0.10	ug/L	1	06/03/15	B5E2804	8081/8082	
<i>Surrogate: Decachlorobiphenyl</i>			59.2 %	30-150		06/03/15	B5E2804	8081/8082	
<i>Surrogate: Tetrachloro-m-xylene</i>			39.8 %	30-150		06/03/15	B5E2804	8081/8082	



Analysis Request Sheet

Lab Work Order Number

Project Name

Matrix

1505187	Abandoned Mining Wastes - Torch Lake PCB C&H Tamarack City Ops		ground WATER
Site Code/Project Number 31000098	AY 13	CC Email 1 l.binkley@westonsolutions.com	Project 1A1 Days
Dept-Division-District DEQ-RRD-UP District	Index 44251	CC Email 2 daniel.lebau@westonsolutions.com	Project Due Date
State Project Manager Amy Keranen	PCA 30872	CC Email 3 plncumbel@michigan.gov	Sample Collector AK/JP/AB-DEQ-RRD
State Project Manager Email keranena@michigan.gov	Project 456990	Overflow Lab Choice 1	Sample Collector Phone 906-337-0389
State Project Manager Phone 906-337-0389	Phase 00	Overflow Lab Choice 2	Contract Firm Weston Solutions
		Accept Analysis hold time codes no	Contract Firm Primary Contact Jeff Binkley
			Primary Contact Phone 906-523-5457

Lab Use Only	Field Sample Identification	Collection Date	Collection Time	Container Count	Comments
1	CHTC-GW-25-22'-27'	5/16/15	1110	1 amb	
2	CHTC-GW-23-16'-21'	5/16/15	1055	2 amb 3 300A	
3	CHTC-GW-01-15'-20'	5/16/15	1010	3 amb 300A	
4	CHTC-GW-				
5	CHTC-GW-				
6	CHTC-GW-				
7	CHTC-GW-				
8	CHTC-GW-				
9	CHTC-GW-				
10	CHTC-GW-				

ORGANIC CHEMISTRY		MAD - DISSOLVED METALS		MA - TOTAL METALS		GENERAL CHEMISTRY	
VOA - Volatile Organic Acidic		Diss - Silver - Ag	1 2 3 4 5 6 7 8 9 10	Silver - Ag	1 2 3 4 5 6 7 8 9 10	GB Total Cyanide - CN	1 2 3 4 5 6 7 8 9 10
Volatiles - Full List	1 2 3 4 5 6 7 8 9 10	Diss - Aluminum - Al	1 2 3 4 5 6 7 8 9 10	Aluminum - Al	1 2 3 4 5 6 7 8 9 10	GB Amenable Cyanide - CN	1 2 3 4 5 6 7 8 9 10
BTEX/MTBE/TMB only	1 2 3 4 5 6 7 8 9 10	Diss - Arsenic - As	1 2 3 4 5 6 7 8 9 10	Arsenic - As	1 2 3 4 5 6 7 8 9 10	GCN Available Cyanide - CN	1 2 3 4 5 6 7 8 9 10
Chlorinated only	1 2 3 4 5 6 7 8 9 10	Diss - Boron - B	1 2 3 4 5 6 7 8 9 10	Boron - B	1 2 3 4 5 6 7 8 9 10	CA Chlorophyll	1 2 3 4 5 6 7 8 9 10
GRO	1 2 3 4 5 6 7 8 9 10	Diss - Barium - Ba	1 2 3 4 5 6 7 8 9 10	Barium - Ba	1 2 3 4 5 6 7 8 9 10	GN Ortho Phosphate - OP	1 2 3 4 5 6 7 8 9 10
1,4 Dioxane	1 2 3 4 5 6 7 8 9 10	Diss - Beryllium - Be	1 2 3 4 5 6 7 8 9 10	Beryllium - Be	1 2 3 4 5 6 7 8 9 10	GN Nitrate - NO ₃	1 2 3 4 5 6 7 8 9 10
METH - Methane, Ethane, Ethene	1 2 3 4 5 6 7 8 9 10	Diss - Cadmium - Cd	1 2 3 4 5 6 7 8 9 10	Cadmium - Cd	1 2 3 4 5 6 7 8 9 10	GN Nitrate - NO ₃ (Calc.)	1 2 3 4 5 6 7 8 9 10
Methane, Ethane, Ethene	1 2 3 4 5 6 7 8 9 10	Diss - Cobalt - Co	1 2 3 4 5 6 7 8 9 10	Cobalt - Co	1 2 3 4 5 6 7 8 9 10	GN Suspended Solids - SS	1 2 3 4 5 6 7 8 9 10
ON - Pesticides, PCBs		Diss - Chromium - Cr	1 2 3 4 5 6 7 8 9 10	Chromium - Cr	1 2 3 4 5 6 7 8 9 10	GN Dissolved Solids - TDS	1 2 3 4 5 6 7 8 9 10
Pesticides & PCBs	1 2 3 4 5 6 7 8 9 10	Diss - Copper - Cu	1 2 3 4 5 6 7 8 9 10	Copper - Cu	1 2 3 4 5 6 7 8 9 10	MN Diss Solids - TDS (Calc.)	1 2 3 4 5 6 7 8 9 10
Pesticides only	1 2 3 4 5 6 7 8 9 10	Diss - Iron - Fe	1 2 3 4 5 6 7 8 9 10	Iron - Fe	1 2 3 4 5 6 7 8 9 10	GN Turbidity	1 2 3 4 5 6 7 8 9 10
PCBs only	1 2 3 4 5 6 7 8 9 10	Diss - Mercury - Hg	1 2 3 4 5 6 7 8 9 10	Mercury - Hg	1 2 3 4 5 6 7 8 9 10	MN Total Alkalinity	1 2 3 4 5 6 7 8 9 10
Toxaphene	1 2 3 4 5 6 7 8 9 10	Diss - Lithium - Li	1 2 3 4 5 6 7 8 9 10	Lithium - Li	1 2 3 4 5 6 7 8 9 10	MN Bicarb/Carb Alkalinity	1 2 3 4 5 6 7 8 9 10
Chlordane	1 2 3 4 5 6 7 8 9 10	Diss - Manganese - Mn	1 2 3 4 5 6 7 8 9 10	Manganese - Mn	1 2 3 4 5 6 7 8 9 10	(Includes Total Alkalinity)	
BNA - Base Neutral Acids		Diss - Molybdenum - Mo	1 2 3 4 5 6 7 8 9 10	Molybdenum - Mo	1 2 3 4 5 6 7 8 9 10	MN Chloride - Cl	1 2 3 4 5 6 7 8 9 10
BNAs	1 2 3 4 5 6 7 8 9 10	Diss - Nickel - Ni	1 2 3 4 5 6 7 8 9 10	Nickel - Ni	1 2 3 4 5 6 7 8 9 10	MN Fluoride - F	1 2 3 4 5 6 7 8 9 10
Benzidines	1 2 3 4 5 6 7 8 9 10	Diss - Lead - Pb	1 2 3 4 5 6 7 8 9 10	Lead - Pb	1 2 3 4 5 6 7 8 9 10	MN Sulfate - SO ₄	1 2 3 4 5 6 7 8 9 10
PHAs only	1 2 3 4 5 6 7 8 9 10	Diss - Antimony - Sb	1 2 3 4 5 6 7 8 9 10	Antimony - Sb	1 2 3 4 5 6 7 8 9 10	MN Chromium 6+ - Cr+6	1 2 3 4 5 6 7 8 9 10
BNs only	1 2 3 4 5 6 7 8 9 10	Diss - Selenium - Se	1 2 3 4 5 6 7 8 9 10	Selenium - Se	1 2 3 4 5 6 7 8 9 10	MN Conductivity	1 2 3 4 5 6 7 8 9 10
Acids only	1 2 3 4 5 6 7 8 9 10	Diss - Strontium - Sr	1 2 3 4 5 6 7 8 9 10	Strontium - Sr	1 2 3 4 5 6 7 8 9 10	MN pH	1 2 3 4 5 6 7 8 9 10
Organic Specialty Requests		Diss - Titanium - Ti	1 2 3 4 5 6 7 8 9 10	Titanium - Ti	1 2 3 4 5 6 7 8 9 10	GA Chem Oxyg Dem - COD	1 2 3 4 5 6 7 8 9 10
Library search - Volatiles	1 2 3 4 5 6 7 8 9 10	Diss - Thallium - Tl	1 2 3 4 5 6 7 8 9 10	Thallium - Tl	1 2 3 4 5 6 7 8 9 10	GA Diss Org Carbon - DOC (FF)	1 2 3 4 5 6 7 8 9 10
Library search - SemiVol	1 2 3 4 5 6 7 8 9 10	Diss - Uranium - U	1 2 3 4 5 6 7 8 9 10	Uranium - U	1 2 3 4 5 6 7 8 9 10	(Field - Filtered & Preserved)	
Finger Print	1 2 3 4 5 6 7 8 9 10	Diss - Vanadium - V	1 2 3 4 5 6 7 8 9 10	Vanadium - V	1 2 3 4 5 6 7 8 9 10	GN Diss Org Carbon - DOC (LF)	1 2 3 4 5 6 7 8 9 10
DRO / ORD	1 2 3 4 5 6 7 8 9 10	Diss - Zinc - Zn	1 2 3 4 5 6 7 8 9 10	Zinc - Zn	1 2 3 4 5 6 7 8 9 10	(Lab - Filtered & Preserved)	
METALS CHEMISTRY PACKAGES		Diss - Calcium - Ca	1 2 3 4 5 6 7 8 9 10	Calcium - Ca	1 2 3 4 5 6 7 8 9 10	GA Total Org Carbon - TOC	1 2 3 4 5 6 7 8 9 10
OpMemo2 - Total	1 2 3 4 5 6 7 8 9 10	Diss - Potassium - K	1 2 3 4 5 6 7 8 9 10	Potassium - K	1 2 3 4 5 6 7 8 9 10	GA Ammonia - NH ₃	1 2 3 4 5 6 7 8 9 10
OpMemo2 - Dissolved	1 2 3 4 5 6 7 8 9 10	Diss - Magnesium - Mg	1 2 3 4 5 6 7 8 9 10	Magnesium - Mg	1 2 3 4 5 6 7 8 9 10	GA Nitrate+Nitrite - NO ₃ +NO ₂	1 2 3 4 5 6 7 8 9 10
(Sb,As,Ba,Bc,Cd,Cr,Cu,Co,Fe,Pb,Mn,Hg,Mo,Ni,Se,Ag,Tl,V,Zn)		Diss - Sodium - Na	1 2 3 4 5 6 7 8 9 10	Sodium - Na	1 2 3 4 5 6 7 8 9 10	GA Kjeldahl Nitrogen - KN	1 2 3 4 5 6 7 8 9 10
Michigan10 - Total	1 2 3 4 5 6 7 8 9 10	Diss - Hardness - Ca, Mg	1 2 3 4 5 6 7 8 9 10	Hardness - Ca, Mg	1 2 3 4 5 6 7 8 9 10	GA Total Phosphorus - TP	1 2 3 4 5 6 7 8 9 10
Michigan10 - Dissolved	1 2 3 4 5 6 7 8 9 10	MD - Metals Dissolved		LHG - Low Level Mercury			
(As,Ba,Cd,Cr,Cu,Pb,Hg,Se,Ag,Zn)		Lab Filtration	1 2 3 4 5 6 7 8 9 10	Mercury Low Level - Hg	1 2 3 4 5 6 7 8 9 10		

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 & Org. Signature:	Print Name & Org. Signature:	



**MICHIGAN DEPARTMENT OF ENVIRONMENTAL QUALITY
ENVIRONMENTAL LABORATORY**

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

11 June 2015

Work Order: 1505188

Price: \$2,800.50

Amy Keranen

MDEQ-RRD-UP

1504 W. Washington St.

Marquette, MI 49855

RE: ABANDONED MINING WASTES-TORCH LAKE NS

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-RRD-UP
1504 W. Washington St.
Marquette MI, 49855

Project: ABANDONED MINING WASTES-TORCH LAKE NS
Site Code: 31000098
Project Manager: Amy Keranen

Reported:
06/11/2015

Analytical Report for Samples

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received	Qualifier
CHTC-SB-30-0-6"	1505188-01	Soil/Sediment	05/16/2015	05/20/2015	
CHTC-SB-30-6"-17'	1505188-02	Soil/Sediment	05/16/2015	05/20/2015	
CHTC-SB-28-0-6"	1505188-03	Soil/Sediment	05/16/2015	05/20/2015	
CHTC-SB-28-6"-12'	1505188-04	Soil/Sediment	05/16/2015	05/20/2015	
CHTC-SB-32-0-6"	1505188-05	Soil/Sediment	05/16/2015	05/20/2015	
CHTC-SB-32-6"-3'	1505188-06	Soil/Sediment	05/16/2015	05/20/2015	
CHTC-SB-31-0"-6"	1505188-07	Soil/Sediment	05/16/2015	05/20/2015	
CHTC-SB-31-6"-6'	1505188-08	Soil/Sediment	05/16/2015	05/20/2015	
CHTC-SB-31-6"-6' DUP	1505188-09	Soil/Sediment	05/16/2015	05/20/2015	
CHTC-SB-01-0-6"	1505188-10	Soil/Sediment	05/16/2015	05/20/2015	
CHTC-SB-01-6"-7'	1505188-11	Soil/Sediment	05/16/2015	05/20/2015	
CHTC-SB-02-0-6"	1505188-12	Soil/Sediment	05/16/2015	05/20/2015	
CHTC-SB-02-6"-10'	1505188-13	Soil/Sediment	05/16/2015	05/20/2015	

Notes and Definitions

Y20	Reporting Limits (RL) raised due to matrix.
X	Methods 8260 & 624 are used to analyze volatile organics that have boiling points below 200 °C. 2-Methylnaphthalene & naphthalene have boiling points above 200 °C and are better suited to analysis by methods 8270 & 625 as semivolatile organics.
T	Reported value is less than the reporting limit (RL). Result is estimated.
ND	Indicates compound analyzed for but not detected
RL	Reporting Limit
NA	Not Applicable
dry	Sample results reported on a dry weight basis



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TEL: (517) 335-9800
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Client ID: CHTC-SB-30-0-6"

Lab ID: 1505188-01

CAS #	Analyte	Result	RL	Units	Dilution	Analyzed Date	QC Batch	Method	Qualifier
Organics-PCBs as Aroclors									
12674-11-2	Aroclor 1016	ND	110	ug/kg dry	1	06/04/15	B5E2920	8081/8082	
11104-28-2	Aroclor 1221	ND	110	ug/kg dry	1	06/04/15	B5E2920	8081/8082	
11141-16-5	Aroclor 1232	ND	110	ug/kg dry	1	06/04/15	B5E2920	8081/8082	
53469-21-9	Aroclor 1242	ND	110	ug/kg dry	1	06/04/15	B5E2920	8081/8082	
12672-29-6	Aroclor 1248	ND	110	ug/kg dry	1	06/04/15	B5E2920	8081/8082	
11097-69-1	Aroclor 1254	ND	110	ug/kg dry	1	06/04/15	B5E2920	8081/8082	
11096-82-5	Aroclor 1260	ND	110	ug/kg dry	1	06/04/15	B5E2920	8081/8082	
37324-23-5	Aroclor 1262	ND	110	ug/kg dry	1	06/04/15	B5E2920	8081/8082	
11100-14-4	Aroclor 1268	ND	110	ug/kg dry	1	06/04/15	B5E2920	8081/8082	
<i>Surrogate: Decachlorobiphenyl</i>			90.5 %	30-150		06/04/15	B5E2920	8081/8082	
<i>Surrogate: Tetrachloro-m-xylene</i>			63.5 %	30-150		06/04/15	B5E2920	8081/8082	
Inorganics-General Chemistry									
TS	% Total Solids	87.3	0.1	%	1	05/20/15	B5E2012	2540 B	



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ENVIRONMENTAL LABORATORY**

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TEL: (517) 335-9800
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Client ID: CHTC-SB-30-6''-17'

Lab ID: 1505188-02

CAS #	Analyte	Result	RL	Units	Dilution	Analyzed Date	QC Batch	Method	Qualifier
Organics-Semivolatiles									See note Y20
91-57-6	2-Methylnaphthalene	ND	540	ug/kg dry	1	06/01/15	B5E2017	8270	
83-32-9	Acenaphthene	ND	210	ug/kg dry	1	06/01/15	B5E2017	8270	
208-96-8	Acenaphthylene	ND	210	ug/kg dry	1	06/01/15	B5E2017	8270	
120-12-7	Anthracene	ND	210	ug/kg dry	1	06/01/15	B5E2017	8270	
56-55-3	Benz[a]anthracene	ND	210	ug/kg dry	1	06/01/15	B5E2017	8270	
50-32-8	Benzo[a]pyrene	ND	430	ug/kg dry	1	06/01/15	B5E2017	8270	
205-99-2	Benzo[b]fluoranthene	ND	430	ug/kg dry	1	06/01/15	B5E2017	8270	
191-24-2	Benzo[g,h,i]perylene	ND	430	ug/kg dry	1	06/01/15	B5E2017	8270	
207-08-9	Benzo[k]fluoranthene	ND	430	ug/kg dry	1	06/01/15	B5E2017	8270	
218-01-9	Chrysene	ND	210	ug/kg dry	1	06/01/15	B5E2017	8270	
53-70-3	Dibenz[a,h]anthracene	ND	430	ug/kg dry	1	06/01/15	B5E2017	8270	
206-44-0	Fluoranthene	ND	210	ug/kg dry	1	06/01/15	B5E2017	8270	
86-73-7	Fluorene	ND	210	ug/kg dry	1	06/01/15	B5E2017	8270	
193-39-5	Indeno(1,2,3-c,d)pyrene	ND	430	ug/kg dry	1	06/01/15	B5E2017	8270	
91-20-3	Naphthalene	ND	210	ug/kg dry	1	06/01/15	B5E2017	8270	
85-01-8	Phenanthrene	ND	210	ug/kg dry	1	06/01/15	B5E2017	8270	
129-00-0	Pyrene	ND	210	ug/kg dry	1	06/01/15	B5E2017	8270	
<i>Surrogate: 2-Fluorobiphenyl</i>			68.1 %	32.9-115		06/01/15	B5E2017	8270	
<i>Surrogate: Nitrobenzene-d5</i>			61.4 %	31.8-115		06/01/15	B5E2017	8270	
<i>Surrogate: p-Terphenyl-d14</i>			83.9 %	38.5-115		06/01/15	B5E2017	8270	
Organics-PCBs as Aroclors									
12674-11-2	Aroclor 1016	ND	110	ug/kg dry	1	06/04/15	B5E2920	8081/8082	
11104-28-2	Aroclor 1221	ND	110	ug/kg dry	1	06/04/15	B5E2920	8081/8082	
11141-16-5	Aroclor 1232	ND	110	ug/kg dry	1	06/04/15	B5E2920	8081/8082	
53469-21-9	Aroclor 1242	ND	110	ug/kg dry	1	06/04/15	B5E2920	8081/8082	
12672-29-6	Aroclor 1248	ND	110	ug/kg dry	1	06/04/15	B5E2920	8081/8082	
11097-69-1	Aroclor 1254	ND	110	ug/kg dry	1	06/04/15	B5E2920	8081/8082	
11096-82-5	Aroclor 1260	ND	110	ug/kg dry	1	06/04/15	B5E2920	8081/8082	
37324-23-5	Aroclor 1262	ND	110	ug/kg dry	1	06/04/15	B5E2920	8081/8082	
11100-14-4	Aroclor 1268	ND	110	ug/kg dry	1	06/04/15	B5E2920	8081/8082	
<i>Surrogate: Decachlorobiphenyl</i>			90.9 %	30-150		06/04/15	B5E2920	8081/8082	
<i>Surrogate: Tetrachloro-m-xylene</i>			67.4 %	30-150		06/04/15	B5E2920	8081/8082	



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ENVIRONMENTAL LABORATORY**

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

Client ID: CHTC-SB-30-6''-17'

Lab ID: 1505188-02

CAS #	Analyte	Result	RL	Units	Dilution	Analyzed Date	QC Batch	Method	Qualifier
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Inorganics-General Chemistry

TS	% Total Solids	93.4	0.1	%	1	05/20/15	B5E2012	2540 B	
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**MICHIGAN DEPARTMENT OF ENVIRONMENTAL QUALITY
ENVIRONMENTAL LABORATORY**

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

Client ID: CHTC-SB-28-0-6"

Lab ID: 1505188-03

CAS #	Analyte	Result	RL	Units	Dilution	Analyzed Date	QC Batch	Method	Qualifier
Organics-PCBs as Aroclors									
12674-11-2	Aroclor 1016	ND	110	ug/kg dry	1	06/04/15	B5E2920	8081/8082	
11104-28-2	Aroclor 1221	ND	110	ug/kg dry	1	06/04/15	B5E2920	8081/8082	
11141-16-5	Aroclor 1232	ND	110	ug/kg dry	1	06/04/15	B5E2920	8081/8082	
53469-21-9	Aroclor 1242	ND	110	ug/kg dry	1	06/04/15	B5E2920	8081/8082	
12672-29-6	Aroclor 1248	ND	110	ug/kg dry	1	06/04/15	B5E2920	8081/8082	
11097-69-1	Aroclor 1254	ND	110	ug/kg dry	1	06/04/15	B5E2920	8081/8082	
11096-82-5	Aroclor 1260	ND	110	ug/kg dry	1	06/04/15	B5E2920	8081/8082	
37324-23-5	Aroclor 1262	ND	110	ug/kg dry	1	06/04/15	B5E2920	8081/8082	
11100-14-4	Aroclor 1268	ND	110	ug/kg dry	1	06/04/15	B5E2920	8081/8082	
<i>Surrogate: Decachlorobiphenyl</i>			85.0 %	30-150		06/04/15	B5E2920	8081/8082	
<i>Surrogate: Tetrachloro-m-xylene</i>			66.2 %	30-150		06/04/15	B5E2920	8081/8082	
Inorganics-General Chemistry									
TS	% Total Solids	91.5	0.1	%	1	05/20/15	B5E2012	2540 B	



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ENVIRONMENTAL LABORATORY**

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

Client ID: CHTC-SB-28-6"-12'

Lab ID: 1505188-04

CAS #	Analyte	Result	RL	Units	Dilution	Analyzed Date	QC Batch	Method	Qualifier
Organics-Semivolatiles									See note Y20
91-57-6	2-Methylnaphthalene	ND	530	ug/kg dry	1	05/27/15	B5E2017	8270	
83-32-9	Acenaphthene	ND	210	ug/kg dry	1	05/27/15	B5E2017	8270	
208-96-8	Acenaphthylene	ND	210	ug/kg dry	1	05/27/15	B5E2017	8270	
120-12-7	Anthracene	ND	210	ug/kg dry	1	05/27/15	B5E2017	8270	
56-55-3	Benz[a]anthracene	ND	210	ug/kg dry	1	05/27/15	B5E2017	8270	
50-32-8	Benzo[a]pyrene	ND	430	ug/kg dry	1	05/27/15	B5E2017	8270	
205-99-2	Benzo[b]fluoranthene	ND	430	ug/kg dry	1	05/27/15	B5E2017	8270	
191-24-2	Benzo[g,h,i]perylene	ND	430	ug/kg dry	1	05/27/15	B5E2017	8270	
207-08-9	Benzo[k]fluoranthene	ND	430	ug/kg dry	1	05/27/15	B5E2017	8270	
218-01-9	Chrysene	ND	210	ug/kg dry	1	05/27/15	B5E2017	8270	
53-70-3	Dibenz[a,h]anthracene	ND	430	ug/kg dry	1	05/27/15	B5E2017	8270	
206-44-0	Fluoranthene	ND	210	ug/kg dry	1	05/27/15	B5E2017	8270	
86-73-7	Fluorene	ND	210	ug/kg dry	1	05/27/15	B5E2017	8270	
193-39-5	Indeno(1,2,3-c,d)pyrene	ND	430	ug/kg dry	1	05/27/15	B5E2017	8270	
91-20-3	Naphthalene	ND	210	ug/kg dry	1	05/27/15	B5E2017	8270	
85-01-8	Phenanthrene	ND	210	ug/kg dry	1	05/27/15	B5E2017	8270	
129-00-0	Pyrene	ND	210	ug/kg dry	1	05/27/15	B5E2017	8270	
<i>Surrogate: 2-Fluorobiphenyl</i>			64.2 %	32.9-115		05/27/15	B5E2017	8270	
<i>Surrogate: Nitrobenzene-d5</i>			60.8 %	31.8-115		05/27/15	B5E2017	8270	
<i>Surrogate: p-Terphenyl-d14</i>			71.6 %	38.5-115		05/27/15	B5E2017	8270	
Organics-PCBs as Aroclors									
12674-11-2	Aroclor 1016	ND	110	ug/kg dry	1	06/04/15	B5E2920	8081/8082	
11104-28-2	Aroclor 1221	ND	110	ug/kg dry	1	06/04/15	B5E2920	8081/8082	
11141-16-5	Aroclor 1232	ND	110	ug/kg dry	1	06/04/15	B5E2920	8081/8082	
53469-21-9	Aroclor 1242	ND	110	ug/kg dry	1	06/04/15	B5E2920	8081/8082	
12672-29-6	Aroclor 1248	ND	110	ug/kg dry	1	06/04/15	B5E2920	8081/8082	
11097-69-1	Aroclor 1254	ND	110	ug/kg dry	1	06/04/15	B5E2920	8081/8082	
11096-82-5	Aroclor 1260	ND	110	ug/kg dry	1	06/04/15	B5E2920	8081/8082	
37324-23-5	Aroclor 1262	ND	110	ug/kg dry	1	06/04/15	B5E2920	8081/8082	
11100-14-4	Aroclor 1268	ND	110	ug/kg dry	1	06/04/15	B5E2920	8081/8082	
<i>Surrogate: Decachlorobiphenyl</i>			86.8 %	30-150		06/04/15	B5E2920	8081/8082	
<i>Surrogate: Tetrachloro-m-xylene</i>			66.9 %	30-150		06/04/15	B5E2920	8081/8082	



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P.O. Box 30270
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TEL: (517) 335-9800
FAX: (517) 335-9600

Client ID: CHTC-SB-28-6''-12'

Lab ID: 1505188-04

CAS #	Analyte	Result	RL	Units	Dilution	Analyzed Date	QC Batch	Method	Qualifier
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Inorganics-General Chemistry

TS	% Total Solids	93.9	0.1	%	1	05/20/15	B5E2012	2540 B	
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P.O. Box 30270
Lansing, MI 48909
TEL: (517) 335-9800
FAX: (517) 335-9600

Client ID: CHTC-SB-32-0-6"

Lab ID: 1505188-05

CAS #	Analyte	Result	RL	Units	Dilution	Analyzed Date	QC Batch	Method	Qualifier
Organics-PCBs as Aroclors									
12674-11-2	Aroclor 1016	ND	110	ug/kg dry	1	06/04/15	B5E2920	8081/8082	
11104-28-2	Aroclor 1221	ND	110	ug/kg dry	1	06/04/15	B5E2920	8081/8082	
11141-16-5	Aroclor 1232	ND	110	ug/kg dry	1	06/04/15	B5E2920	8081/8082	
53469-21-9	Aroclor 1242	ND	110	ug/kg dry	1	06/04/15	B5E2920	8081/8082	
12672-29-6	Aroclor 1248	ND	110	ug/kg dry	1	06/04/15	B5E2920	8081/8082	
11097-69-1	Aroclor 1254	ND	110	ug/kg dry	1	06/04/15	B5E2920	8081/8082	
11096-82-5	Aroclor 1260	ND	110	ug/kg dry	1	06/04/15	B5E2920	8081/8082	
37324-23-5	Aroclor 1262	ND	110	ug/kg dry	1	06/04/15	B5E2920	8081/8082	
11100-14-4	Aroclor 1268	ND	110	ug/kg dry	1	06/04/15	B5E2920	8081/8082	
<i>Surrogate: Decachlorobiphenyl</i>			90.4 %	30-150		06/04/15	B5E2920	8081/8082	
<i>Surrogate: Tetrachloro-m-xylene</i>			71.6 %	30-150		06/04/15	B5E2920	8081/8082	
Inorganics-General Chemistry									
TS	% Total Solids	93.7	0.1	%	1	05/20/15	B5E2019	2540 B	



MICHIGAN DEPARTMENT OF ENVIRONMENTAL QUALITY
ENVIRONMENTAL LABORATORY

P.O. Box 30270
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TEL: (517) 335-9800
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Client ID: CHTC-SB-32-6"-3'

Lab ID: 1505188-06

CAS #	Analyte	Result	RL	Units	Dilution	Analyzed Date	QC Batch	Method	Qualifier
Organics-PCBs as Aroclors									
12674-11-2	Aroclor 1016	ND	110	ug/kg dry	1	06/04/15	B5E2920	8081/8082	
11104-28-2	Aroclor 1221	ND	110	ug/kg dry	1	06/04/15	B5E2920	8081/8082	
11141-16-5	Aroclor 1232	ND	110	ug/kg dry	1	06/04/15	B5E2920	8081/8082	
53469-21-9	Aroclor 1242	ND	110	ug/kg dry	1	06/04/15	B5E2920	8081/8082	
12672-29-6	Aroclor 1248	ND	110	ug/kg dry	1	06/04/15	B5E2920	8081/8082	
11097-69-1	Aroclor 1254	ND	110	ug/kg dry	1	06/04/15	B5E2920	8081/8082	
11096-82-5	Aroclor 1260	ND	110	ug/kg dry	1	06/04/15	B5E2920	8081/8082	
37324-23-5	Aroclor 1262	ND	110	ug/kg dry	1	06/04/15	B5E2920	8081/8082	
11100-14-4	Aroclor 1268	ND	110	ug/kg dry	1	06/04/15	B5E2920	8081/8082	
Surrogate: Decachlorobiphenyl		66.4 %		30-150		06/04/15	B5E2920	8081/8082	
Surrogate: Tetrachloro-m-xylene		58.9 %		30-150		06/04/15	B5E2920	8081/8082	
Inorganics-General Chemistry									
TS	% Total Solids	89.2	0.1	%	1	05/20/15	B5E2019	2540 B	



MICHIGAN DEPARTMENT OF ENVIRONMENTAL QUALITY
ENVIRONMENTAL LABORATORY

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

Client ID: CHTC-SB-31-0"-6"

Lab ID: 1505188-07

CAS #	Analyte	Result	RL	Units	Dilution	Analyzed Date	QC Batch	Method	Qualifier
Organics-PCBs as Aroclors									
12674-11-2	Aroclor 1016	ND	110	ug/kg dry	1	06/04/15	B5E2920	8081/8082	
11104-28-2	Aroclor 1221	ND	110	ug/kg dry	1	06/04/15	B5E2920	8081/8082	
11141-16-5	Aroclor 1232	ND	110	ug/kg dry	1	06/04/15	B5E2920	8081/8082	
53469-21-9	Aroclor 1242	ND	110	ug/kg dry	1	06/04/15	B5E2920	8081/8082	
12672-29-6	Aroclor 1248	ND	110	ug/kg dry	1	06/04/15	B5E2920	8081/8082	
11097-69-1	Aroclor 1254	ND	110	ug/kg dry	1	06/04/15	B5E2920	8081/8082	
11096-82-5	Aroclor 1260	ND	110	ug/kg dry	1	06/04/15	B5E2920	8081/8082	
37324-23-5	Aroclor 1262	ND	110	ug/kg dry	1	06/04/15	B5E2920	8081/8082	
11100-14-4	Aroclor 1268	ND	110	ug/kg dry	1	06/04/15	B5E2920	8081/8082	
Surrogate: Decachlorobiphenyl		83.2 %		30-150		06/04/15	B5E2920	8081/8082	
Surrogate: Tetrachloro-m-xylene		66.3 %		30-150		06/04/15	B5E2920	8081/8082	
Inorganics-General Chemistry									
TS	% Total Solids	90.1	0.1	%	1	05/20/15	B5E2019	2540 B	



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ENVIRONMENTAL LABORATORY**

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

Client ID: CHTC-SB-31-6"-6'

Lab ID: 1505188-08

CAS #	Analyte	Result	RL	Units	Dilution	Analyzed Date	QC Batch	Method	Qualifier
Organics-Semivolatiles									See note Y20
91-57-6	2-Methylnaphthalene	ND	580	ug/kg dry	1	05/27/15	B5E2017	8270	
83-32-9	Acenaphthene	ND	230	ug/kg dry	1	05/27/15	B5E2017	8270	
208-96-8	Acenaphthylene	ND	230	ug/kg dry	1	05/27/15	B5E2017	8270	
120-12-7	Anthracene	ND	230	ug/kg dry	1	05/27/15	B5E2017	8270	
56-55-3	Benz[a]anthracene	ND	230	ug/kg dry	1	05/27/15	B5E2017	8270	
50-32-8	Benzo[a]pyrene	ND	470	ug/kg dry	1	05/27/15	B5E2017	8270	
205-99-2	Benzo[b]fluoranthene	ND	470	ug/kg dry	1	05/27/15	B5E2017	8270	
191-24-2	Benzo[g,h,i]perylene	ND	470	ug/kg dry	1	05/27/15	B5E2017	8270	
207-08-9	Benzo[k]fluoranthene	ND	470	ug/kg dry	1	05/27/15	B5E2017	8270	
218-01-9	Chrysene	ND	230	ug/kg dry	1	05/27/15	B5E2017	8270	
53-70-3	Dibenz[a,h]anthracene	ND	470	ug/kg dry	1	05/27/15	B5E2017	8270	
206-44-0	Fluoranthene	340	230	ug/kg dry	1	05/27/15	B5E2017	8270	
86-73-7	Fluorene	ND	230	ug/kg dry	1	05/27/15	B5E2017	8270	
193-39-5	Indeno(1,2,3-c,d)pyrene	ND	470	ug/kg dry	1	05/27/15	B5E2017	8270	
91-20-3	Naphthalene	ND	230	ug/kg dry	1	05/27/15	B5E2017	8270	
85-01-8	Phenanthrene	240	230	ug/kg dry	1	05/27/15	B5E2017	8270	
129-00-0	Pyrene	270	230	ug/kg dry	1	05/27/15	B5E2017	8270	
<i>Surrogate: 2-Fluorobiphenyl</i>			68.8 %	32.9-115		05/27/15	B5E2017	8270	
<i>Surrogate: Nitrobenzene-d5</i>			60.8 %	31.8-115		05/27/15	B5E2017	8270	
<i>Surrogate: p-Terphenyl-d14</i>			68.5 %	38.5-115		05/27/15	B5E2017	8270	
Organics-PCBs as Aroclors									
12674-11-2	Aroclor 1016	ND	120	ug/kg dry	1	06/04/15	B5E2920	8081/8082	
11104-28-2	Aroclor 1221	ND	120	ug/kg dry	1	06/04/15	B5E2920	8081/8082	
11141-16-5	Aroclor 1232	ND	120	ug/kg dry	1	06/04/15	B5E2920	8081/8082	
53469-21-9	Aroclor 1242	ND	120	ug/kg dry	1	06/04/15	B5E2920	8081/8082	
12672-29-6	Aroclor 1248	ND	120	ug/kg dry	1	06/04/15	B5E2920	8081/8082	
11097-69-1	Aroclor 1254	ND	120	ug/kg dry	1	06/04/15	B5E2920	8081/8082	
11096-82-5	Aroclor 1260	ND	120	ug/kg dry	1	06/04/15	B5E2920	8081/8082	
37324-23-5	Aroclor 1262	ND	120	ug/kg dry	1	06/04/15	B5E2920	8081/8082	
11100-14-4	Aroclor 1268	ND	120	ug/kg dry	1	06/04/15	B5E2920	8081/8082	
<i>Surrogate: Decachlorobiphenyl</i>			75.4 %	30-150		06/04/15	B5E2920	8081/8082	
<i>Surrogate: Tetrachloro-m-xylene</i>			64.1 %	30-150		06/04/15	B5E2920	8081/8082	



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ENVIRONMENTAL LABORATORY**

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

Client ID: CHTC-SB-31-6''-6'

Lab ID: 1505188-08

CAS #	Analyte	Result	RL	Units	Dilution	Analyzed Date	QC Batch	Method	Qualifier
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Inorganics-General Chemistry

TS	% Total Solids	85.9	0.1	%	1	05/20/15	B5E2019	2540 B	
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ENVIRONMENTAL LABORATORY**

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

Client ID: CHTC-SB-31-6"-6' DUP

Lab ID: 1505188-09

CAS #	Analyte	Result	RL	Units	Dilution	Analyzed Date	QC Batch	Method	Qualifier
Organics-Semivolatiles									See note Y20
91-57-6	2-Methylnaphthalene	ND	600	ug/kg dry	1	05/27/15	B5E2017	8270	
83-32-9	Acenaphthene	ND	240	ug/kg dry	1	05/27/15	B5E2017	8270	
208-96-8	Acenaphthylene	ND	240	ug/kg dry	1	05/27/15	B5E2017	8270	
120-12-7	Anthracene	ND	240	ug/kg dry	1	05/27/15	B5E2017	8270	
56-55-3	Benz[a]anthracene	ND	240	ug/kg dry	1	05/27/15	B5E2017	8270	
50-32-8	Benzo[a]pyrene	ND	480	ug/kg dry	1	05/27/15	B5E2017	8270	
205-99-2	Benzo[b]fluoranthene	ND	480	ug/kg dry	1	05/27/15	B5E2017	8270	
191-24-2	Benzo[g,h,i]perylene	ND	480	ug/kg dry	1	05/27/15	B5E2017	8270	
207-08-9	Benzo[k]fluoranthene	ND	480	ug/kg dry	1	05/27/15	B5E2017	8270	
218-01-9	Chrysene	ND	240	ug/kg dry	1	05/27/15	B5E2017	8270	
53-70-3	Dibenz[a,h]anthracene	ND	480	ug/kg dry	1	05/27/15	B5E2017	8270	
206-44-0	Fluoranthene	190	240	ug/kg dry	1	05/27/15	B5E2017	8270	T
86-73-7	Fluorene	ND	240	ug/kg dry	1	05/27/15	B5E2017	8270	
193-39-5	Indeno(1,2,3-c,d)pyrene	ND	480	ug/kg dry	1	05/27/15	B5E2017	8270	
91-20-3	Naphthalene	ND	240	ug/kg dry	1	05/27/15	B5E2017	8270	
85-01-8	Phenanthrene	210	240	ug/kg dry	1	05/27/15	B5E2017	8270	T
129-00-0	Pyrene	ND	240	ug/kg dry	1	05/27/15	B5E2017	8270	
<i>Surrogate: 2-Fluorobiphenyl</i>			69.8 %	32.9-115		05/27/15	B5E2017	8270	
<i>Surrogate: Nitrobenzene-d5</i>			63.2 %	31.8-115		05/27/15	B5E2017	8270	
<i>Surrogate: p-Terphenyl-d14</i>			69.1 %	38.5-115		05/27/15	B5E2017	8270	
Organics-PCBs as Aroclors									
12674-11-2	Aroclor 1016	ND	120	ug/kg dry	1	06/04/15	B5E2920	8081/8082	
11104-28-2	Aroclor 1221	ND	120	ug/kg dry	1	06/04/15	B5E2920	8081/8082	
11141-16-5	Aroclor 1232	ND	120	ug/kg dry	1	06/04/15	B5E2920	8081/8082	
53469-21-9	Aroclor 1242	ND	120	ug/kg dry	1	06/04/15	B5E2920	8081/8082	
12672-29-6	Aroclor 1248	ND	120	ug/kg dry	1	06/04/15	B5E2920	8081/8082	
11097-69-1	Aroclor 1254	ND	120	ug/kg dry	1	06/04/15	B5E2920	8081/8082	
11096-82-5	Aroclor 1260	ND	120	ug/kg dry	1	06/04/15	B5E2920	8081/8082	
37324-23-5	Aroclor 1262	ND	120	ug/kg dry	1	06/04/15	B5E2920	8081/8082	
11100-14-4	Aroclor 1268	ND	120	ug/kg dry	1	06/04/15	B5E2920	8081/8082	
<i>Surrogate: Decachlorobiphenyl</i>			78.3 %	30-150		06/04/15	B5E2920	8081/8082	
<i>Surrogate: Tetrachloro-m-xylene</i>			61.8 %	30-150		06/04/15	B5E2920	8081/8082	



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P.O. Box 30270
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TEL: (517) 335-9800
FAX: (517) 335-9600

Client ID: CHTC-SB-31-6''-6' DUP

Lab ID: 1505188-09

CAS #	Analyte	Result	RL	Units	Dilution	Analyzed Date	QC Batch	Method	Qualifier
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Inorganics-General Chemistry

TS	% Total Solids	83.3	0.1	%	1	05/20/15	B5E2019	2540 B	
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ENVIRONMENTAL LABORATORY**

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

Client ID: CHTC-SB-01-0-6"

Lab ID: 1505188-10

CAS #	Analyte	Result	RL	Units	Dilution	Analyzed Date	QC Batch	Method	Qualifier
Organics-PCBs as Aroclors									
12674-11-2	Aroclor 1016	ND	120	ug/kg dry	1	06/04/15	B5E2920	8081/8082	
11104-28-2	Aroclor 1221	ND	120	ug/kg dry	1	06/04/15	B5E2920	8081/8082	
11141-16-5	Aroclor 1232	ND	120	ug/kg dry	1	06/04/15	B5E2920	8081/8082	
53469-21-9	Aroclor 1242	ND	120	ug/kg dry	1	06/04/15	B5E2920	8081/8082	
12672-29-6	Aroclor 1248	ND	120	ug/kg dry	1	06/04/15	B5E2920	8081/8082	
11097-69-1	Aroclor 1254	ND	120	ug/kg dry	1	06/04/15	B5E2920	8081/8082	
11096-82-5	Aroclor 1260	ND	120	ug/kg dry	1	06/04/15	B5E2920	8081/8082	
37324-23-5	Aroclor 1262	ND	120	ug/kg dry	1	06/04/15	B5E2920	8081/8082	
11100-14-4	Aroclor 1268	ND	120	ug/kg dry	1	06/04/15	B5E2920	8081/8082	
<i>Surrogate: Decachlorobiphenyl</i>			87.0 %	30-150		06/04/15	B5E2920	8081/8082	
<i>Surrogate: Tetrachloro-m-xylene</i>			73.2 %	30-150		06/04/15	B5E2920	8081/8082	
Inorganics-General Chemistry									
TS	% Total Solids	83.6	0.1	%	1	05/20/15	B5E2019	2540 B	



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ENVIRONMENTAL LABORATORY

P.O. Box 30270
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TEL: (517) 335-9800
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Client ID: CHTC-SB-01-6"-7'

Lab ID: 1505188-11

CAS #	Analyte	Result	RL	Units	Dilution	Analyzed Date	QC Batch	Method	Qualifier
Organics-PCBs as Aroclors									
12674-11-2	Aroclor 1016	ND	120	ug/kg dry	1	06/09/15	B5F0210	8081/8082	
11104-28-2	Aroclor 1221	ND	120	ug/kg dry	1	06/09/15	B5F0210	8081/8082	
11141-16-5	Aroclor 1232	ND	120	ug/kg dry	1	06/09/15	B5F0210	8081/8082	
53469-21-9	Aroclor 1242	ND	120	ug/kg dry	1	06/09/15	B5F0210	8081/8082	
12672-29-6	Aroclor 1248	ND	120	ug/kg dry	1	06/09/15	B5F0210	8081/8082	
11097-69-1	Aroclor 1254	ND	120	ug/kg dry	1	06/09/15	B5F0210	8081/8082	
11096-82-5	Aroclor 1260	ND	120	ug/kg dry	1	06/09/15	B5F0210	8081/8082	
37324-23-5	Aroclor 1262	ND	120	ug/kg dry	1	06/09/15	B5F0210	8081/8082	
11100-14-4	Aroclor 1268	ND	120	ug/kg dry	1	06/09/15	B5F0210	8081/8082	
Surrogate: Decachlorobiphenyl			91.7 %	30-150		06/09/15	B5F0210	8081/8082	
Surrogate: Tetrachloro-m-xylene			79.5 %	30-150		06/09/15	B5F0210	8081/8082	
Inorganics-General Chemistry									
TS	% Total Solids	85.8	0.1	%	1	05/20/15	B5E2019	2540 B	



MICHIGAN DEPARTMENT OF ENVIRONMENTAL QUALITY
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P.O. Box 30270
Lansing, MI 48909
TEL: (517) 335-9800
FAX: (517) 335-9600

Client ID: CHTC-SB-02-0-6"

Lab ID: 1505188-12

CAS #	Analyte	Result	RL	Units	Dilution	Analyzed Date	QC Batch	Method	Qualifier
Organics-PCBs as Aroclors									
12674-11-2	Aroclor 1016	ND	120	ug/kg dry	1	06/09/15	B5F0210	8081/8082	
11104-28-2	Aroclor 1221	ND	120	ug/kg dry	1	06/09/15	B5F0210	8081/8082	
11141-16-5	Aroclor 1232	ND	120	ug/kg dry	1	06/09/15	B5F0210	8081/8082	
53469-21-9	Aroclor 1242	ND	120	ug/kg dry	1	06/09/15	B5F0210	8081/8082	
12672-29-6	Aroclor 1248	ND	120	ug/kg dry	1	06/09/15	B5F0210	8081/8082	
11097-69-1	Aroclor 1254	ND	120	ug/kg dry	1	06/09/15	B5F0210	8081/8082	
11096-82-5	Aroclor 1260	ND	120	ug/kg dry	1	06/09/15	B5F0210	8081/8082	
37324-23-5	Aroclor 1262	ND	120	ug/kg dry	1	06/09/15	B5F0210	8081/8082	
11100-14-4	Aroclor 1268	ND	120	ug/kg dry	1	06/09/15	B5F0210	8081/8082	
Surrogate: Decachlorobiphenyl		92.8 %	30-150			06/09/15	B5F0210	8081/8082	
Surrogate: Tetrachloro-m-xylene		85.6 %	30-150			06/09/15	B5F0210	8081/8082	
Inorganics-General Chemistry									
TS	% Total Solids	84.3	0.1	%	1	05/20/15	B5E2019	2540 B	



**MICHIGAN DEPARTMENT OF ENVIRONMENTAL QUALITY
ENVIRONMENTAL LABORATORY**

P.O. Box 30270
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TEL: (517) 335-9800
FAX: (517) 335-9600

Client ID: CHTC-SB-02-6''-10'

Lab ID: 1505188-13

CAS #	Analyte	Result	RL	Units	Dilution	Analyzed Date	QC Batch	Method	Qualifier
Organics-Volatiles									
630-20-6	1,1,1,2-Tetrachloroethane	ND	73	ug/kg dry	50	05/27/15	B5E2708	8260	
71-55-6	1,1,1-Trichloroethane	ND	73	ug/kg dry	50	05/27/15	B5E2708	8260	
79-34-5	1,1,2,2-Tetrachloroethane	ND	73	ug/kg dry	50	05/27/15	B5E2708	8260	
79-00-5	1,1,2-Trichloroethane	ND	73	ug/kg dry	50	05/27/15	B5E2708	8260	
75-34-3	1,1-Dichloroethane	ND	73	ug/kg dry	50	05/27/15	B5E2708	8260	
75-35-4	1,1-Dichloroethylene	ND	73	ug/kg dry	50	05/27/15	B5E2708	8260	
87-61-6	1,2,3-Trichlorobenzene	ND	360	ug/kg dry	50	05/27/15	B5E2708	8260	
96-18-4	1,2,3-Trichloropropane	ND	73	ug/kg dry	50	05/27/15	B5E2708	8260	
526-73-8	1,2,3-Trimethylbenzene	ND	73	ug/kg dry	50	05/27/15	B5E2708	8260	
120-82-1	1,2,4-Trichlorobenzene	ND	360	ug/kg dry	50	05/27/15	B5E2708	8260	
95-63-6	1,2,4-Trimethylbenzene	ND	73	ug/kg dry	50	05/27/15	B5E2708	8260	
96-12-8	1,2-Dibromo-3-chloropropane	ND	360	ug/kg dry	50	05/27/15	B5E2708	8260	
106-93-4	1,2-Dibromoethane	ND	73	ug/kg dry	50	05/27/15	B5E2708	8260	
95-50-1	1,2-Dichlorobenzene	ND	73	ug/kg dry	50	05/27/15	B5E2708	8260	
107-06-2	1,2-Dichloroethane	ND	73	ug/kg dry	50	05/27/15	B5E2708	8260	
78-87-5	1,2-Dichloropropane	ND	73	ug/kg dry	50	05/27/15	B5E2708	8260	
108-67-8	1,3,5-Trimethylbenzene	ND	73	ug/kg dry	50	05/27/15	B5E2708	8260	
541-73-1	1,3-Dichlorobenzene	ND	73	ug/kg dry	50	05/27/15	B5E2708	8260	
106-46-7	1,4-Dichlorobenzene	ND	73	ug/kg dry	50	05/27/15	B5E2708	8260	
78-93-3	2-Butanone (MEK)	ND	360	ug/kg dry	50	05/27/15	B5E2708	8260	
591-78-6	2-Hexanone	ND	360	ug/kg dry	50	05/27/15	B5E2708	8260	
91-57-6	2-Methylnaphthalene	ND	360	ug/kg dry	50	05/27/15	B5E2708	8260	X
67-64-1	2-Propanone (acetone)	ND	1500	ug/kg dry	50	05/27/15	B5E2708	8260	
108-10-1	4-Methyl-2-pentanone (MIBK)	ND	360	ug/kg dry	50	05/27/15	B5E2708	8260	
107-13-1	Acrylonitrile	ND	360	ug/kg dry	50	05/27/15	B5E2708	8260	
71-43-2	Benzene	ND	73	ug/kg dry	50	05/27/15	B5E2708	8260	
108-86-1	Bromobenzene	ND	73	ug/kg dry	50	05/27/15	B5E2708	8260	
74-97-5	Bromochloromethane	ND	73	ug/kg dry	50	05/27/15	B5E2708	8260	
75-27-4	Bromodichloromethane	ND	73	ug/kg dry	50	05/27/15	B5E2708	8260	
75-25-2	Bromoform	ND	73	ug/kg dry	50	05/27/15	B5E2708	8260	
74-83-9	Bromomethane	ND	360	ug/kg dry	50	05/27/15	B5E2708	8260	
75-15-0	Carbon disulfide	ND	73	ug/kg dry	50	05/27/15	B5E2708	8260	
56-23-5	Carbon tetrachloride	ND	73	ug/kg dry	50	05/27/15	B5E2708	8260	
108-90-7	Chlorobenzene	ND	73	ug/kg dry	50	05/27/15	B5E2708	8260	
75-00-3	Chloroethane	ND	360	ug/kg dry	50	05/27/15	B5E2708	8260	
67-66-3	Chloroform	ND	73	ug/kg dry	50	05/27/15	B5E2708	8260	
74-87-3	Chloromethane	ND	360	ug/kg dry	50	05/27/15	B5E2708	8260	
156-59-2	cis-1,2-Dichloroethylene	ND	73	ug/kg dry	50	05/27/15	B5E2708	8260	
10061-01-5	cis-1,3-Dichloropropylene	ND	73	ug/kg dry	50	05/27/15	B5E2708	8260	
110-82-7	Cyclohexane	ND	360	ug/kg dry	50	05/27/15	B5E2708	8260	
124-48-1	Dibromochloromethane	ND	73	ug/kg dry	50	05/27/15	B5E2708	8260	



**MICHIGAN DEPARTMENT OF ENVIRONMENTAL QUALITY
ENVIRONMENTAL LABORATORY**

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

Client ID: CHTC-SB-02-6''-10'

Lab ID: 1505188-13

CAS #	Analyte	Result	RL	Units	Dilution	Analyzed Date	QC Batch	Method	Qualifier
Organics-Volatiles									
74-95-3	Dibromomethane	ND	73	ug/kg dry	50	05/27/15	B5E2708	8260	
75-71-8	Dichlorodifluoromethane	ND	360	ug/kg dry	50	05/27/15	B5E2708	8260	
60-29-7	Diethyl ether	ND	360	ug/kg dry	50	05/27/15	B5E2708	8260	
108-20-3	Diisopropyl Ether	ND	360	ug/kg dry	50	05/27/15	B5E2708	8260	
100-41-4	Ethylbenzene	ND	73	ug/kg dry	50	05/27/15	B5E2708	8260	
637-92-3	Ethyltertiarybutylether	ND	360	ug/kg dry	50	05/27/15	B5E2708	8260	
67-72-1	Hexachloroethane	ND	360	ug/kg dry	50	05/27/15	B5E2708	8260	
98-82-8	Isopropylbenzene	ND	73	ug/kg dry	50	05/27/15	B5E2708	8260	
1330-20-7	m & p - Xylene	ND	150	ug/kg dry	50	05/27/15	B5E2708	8260	
74-88-4	Methyl iodide	ND	73	ug/kg dry	50	05/27/15	B5E2708	8260	
75-09-2	Methylene chloride	ND	360	ug/kg dry	50	05/27/15	B5E2708	8260	
1634-04-4	Methyltertiarybutylether	ND	73	ug/kg dry	50	05/27/15	B5E2708	8260	
91-20-3	Naphthalene	ND	360	ug/kg dry	50	05/27/15	B5E2708	8260	X
104-51-8	n-Butylbenzene	ND	73	ug/kg dry	50	05/27/15	B5E2708	8260	
103-65-1	n-Propylbenzene	ND	73	ug/kg dry	50	05/27/15	B5E2708	8260	
95-47-6	o-Xylene	ND	73	ug/kg dry	50	05/27/15	B5E2708	8260	
99-87-6	p-Isopropyl toluene	ND	73	ug/kg dry	50	05/27/15	B5E2708	8260	
135-98-8	sec-Butylbenzene	ND	73	ug/kg dry	50	05/27/15	B5E2708	8260	
100-42-5	Styrene	ND	73	ug/kg dry	50	05/27/15	B5E2708	8260	
98-06-6	tert-Butylbenzene	ND	73	ug/kg dry	50	05/27/15	B5E2708	8260	
75-65-0	tertiary Butyl Alcohol	ND	3600	ug/kg dry	50	05/27/15	B5E2708	8260	
994-05-8	tertiaryAmylmethylether	ND	360	ug/kg dry	50	05/27/15	B5E2708	8260	
127-18-4	Tetrachloroethylene	ND	73	ug/kg dry	50	05/27/15	B5E2708	8260	
109-99-9	Tetrahydrofuran	ND	360	ug/kg dry	50	05/27/15	B5E2708	8260	
108-88-3	Toluene	ND	73	ug/kg dry	50	05/27/15	B5E2708	8260	
156-60-5	trans-1,2-Dichloroethylene	ND	73	ug/kg dry	50	05/27/15	B5E2708	8260	
10061-02-6	trans-1,3-Dichloropropylene	ND	73	ug/kg dry	50	05/27/15	B5E2708	8260	
110-57-6	trans-1,4-Dichloro-2-butene	ND	360	ug/kg dry	50	05/27/15	B5E2708	8260	
79-01-6	Trichloroethylene	ND	73	ug/kg dry	50	05/27/15	B5E2708	8260	
75-69-4	Trichlorofluoromethane	ND	73	ug/kg dry	50	05/27/15	B5E2708	8260	
75-01-4	Vinyl chloride	ND	73	ug/kg dry	50	05/27/15	B5E2708	8260	
Surrogate: Bromofluorobenzene			136 %	40.3-194		05/27/15	B5E2708	8260	
Surrogate: Dibromofluoromethane			130 %	52.1-217		05/27/15	B5E2708	8260	
Surrogate: Toluene-d8			138 %	55.4-196		05/27/15	B5E2708	8260	



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TEL: (517) 335-9800
FAX: (517) 335-9600

Client ID: CHTC-SB-02-6''-10'

Lab ID: 1505188-13

CAS #	Analyte	Result	RL	Units	Dilution	Analyzed Date	QC Batch	Method	Qualifier
Organics-Semivolatiles									See note Y20
91-57-6	2-Methylnaphthalene	ND	600	ug/kg dry	1	05/27/15	B5E2017	8270	
83-32-9	Acenaphthene	ND	240	ug/kg dry	1	05/27/15	B5E2017	8270	
208-96-8	Acenaphthylene	ND	240	ug/kg dry	1	05/27/15	B5E2017	8270	
120-12-7	Anthracene	ND	240	ug/kg dry	1	05/27/15	B5E2017	8270	
56-55-3	Benz[a]anthracene	ND	240	ug/kg dry	1	05/27/15	B5E2017	8270	
50-32-8	Benzo[a]pyrene	ND	480	ug/kg dry	1	05/27/15	B5E2017	8270	
205-99-2	Benzo[b]fluoranthene	ND	480	ug/kg dry	1	05/27/15	B5E2017	8270	
191-24-2	Benzo[g,h,i]perylene	ND	480	ug/kg dry	1	05/27/15	B5E2017	8270	
207-08-9	Benzo[k]fluoranthene	ND	480	ug/kg dry	1	05/27/15	B5E2017	8270	
218-01-9	Chrysene	ND	240	ug/kg dry	1	05/27/15	B5E2017	8270	
53-70-3	Dibenz[a,h]anthracene	ND	480	ug/kg dry	1	05/27/15	B5E2017	8270	
206-44-0	Fluoranthene	ND	240	ug/kg dry	1	05/27/15	B5E2017	8270	
86-73-7	Fluorene	ND	240	ug/kg dry	1	05/27/15	B5E2017	8270	
193-39-5	Indeno(1,2,3-c,d)pyrene	ND	480	ug/kg dry	1	05/27/15	B5E2017	8270	
91-20-3	Naphthalene	ND	240	ug/kg dry	1	05/27/15	B5E2017	8270	
85-01-8	Phenanthrene	ND	240	ug/kg dry	1	05/27/15	B5E2017	8270	
129-00-0	Pyrene	ND	240	ug/kg dry	1	05/27/15	B5E2017	8270	
<i>Surrogate: 2-Fluorobiphenyl</i>			71.9 %	32.9-115		05/27/15	B5E2017	8270	
<i>Surrogate: Nitrobenzene-d5</i>			65.8 %	31.8-115		05/27/15	B5E2017	8270	
<i>Surrogate: p-Terphenyl-d14</i>			76.0 %	38.5-115		05/27/15	B5E2017	8270	
Organics-PCBs as Aroclors									
12674-11-2	Aroclor 1016	ND	120	ug/kg dry	1	06/09/15	B5F0210	8081/8082	
11104-28-2	Aroclor 1221	ND	120	ug/kg dry	1	06/09/15	B5F0210	8081/8082	
11141-16-5	Aroclor 1232	ND	120	ug/kg dry	1	06/09/15	B5F0210	8081/8082	
53469-21-9	Aroclor 1242	ND	120	ug/kg dry	1	06/09/15	B5F0210	8081/8082	
12672-29-6	Aroclor 1248	ND	120	ug/kg dry	1	06/09/15	B5F0210	8081/8082	
11097-69-1	Aroclor 1254	ND	120	ug/kg dry	1	06/09/15	B5F0210	8081/8082	
11096-82-5	Aroclor 1260	ND	120	ug/kg dry	1	06/09/15	B5F0210	8081/8082	
37324-23-5	Aroclor 1262	ND	120	ug/kg dry	1	06/09/15	B5F0210	8081/8082	
11100-14-4	Aroclor 1268	ND	120	ug/kg dry	1	06/09/15	B5F0210	8081/8082	
<i>Surrogate: Decachlorobiphenyl</i>			99.0 %	30-150		06/09/15	B5F0210	8081/8082	
<i>Surrogate: Tetrachloro-m-xylene</i>			84.4 %	30-150		06/09/15	B5F0210	8081/8082	



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Client ID: CHTC-SB-02-6''-10'

Lab ID: 1505188-13

CAS #	Analyte	Result	RL	Units	Dilution	Analyzed Date	QC Batch	Method	Qualifier
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Inorganics-General Chemistry

TS	% Total Solids	83.7	0.1	%	1	05/20/15	B5E2019	2540 B	
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Analysis Request Sheet

Lab Work Order Number

Project Name

Matrix

1505188		Abandoned Mining Wastes - Torch Lake PCB C&H Tamarack City Ops		SOIL	
Site Code/Project Number 31000098		AY 13		CC Email 1 lbinkley@westonsolutions.com	
Dept./Division/District DEQ-RRD-UP District		Index 44251		CC Email 2 daniel.fiebau@westonsolutions.com	
State Project Manager Amy Keranen		PCA 30872		CC Email 3 pincumbel@michigan.gov	
State Project Manager Email keranena@michigan.gov		Project 456990		Overflow Lab Choice 1	
State Project Manager Phone 906-337-0389		Phase 00		Overflow Lab Choice 2	
				Project IAI Days	
				Project Due Date	
				Sample Collector AK/JP/AB-DEQ-RRD	
				Sample Collector Phone 906-337-0389	
				Contract Firm Weston Solutions	
				Contract Firm Primary Contact Jeff Binkley	
				Primary Contact Phone 906-523-5457	
				Accept Analysis hold time codes no	

Lab Use Only	Field Sample Identification	Collection Date	Collection Time	Container Count	Comments
1	01 CHTC-SB- 30-0-6"	5/16/15	0930	1 802	
2	02 CHTC-SB- 30-6"-17'	5/16/15	0935	1 802	
3	03 CHTC-SB- 28-0-6"	5/16/15	1025	1 802	
4	04 CHTC-SB- 28-6"-12'	5/16/15	1030	1 802	
5	05 CHTC-SB- 32-0-6"	5/16/15	1320	1 802	
6	06 CHTC-SB- 32-6"-3'	5/16/15	1323	1 802	
7	07 CHTC-SB- 31-0"-6"	5/16/15	1400	1 802	
8	08 CHTC-SB- 31-6"-6'	5/16/15	1405	1 802	
9	09 CHTC-SB- 31-6"-6' DUP	5/16/15	1406	1 802	
10	10 CHTC-SB- 01-0-6"	5/16/15	1530	1 802	

ORGANIC CHEMISTRY	METALS CHEMISTRY PACKAGES	MS - TOTAL METALS	GENERAL 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 Chlorinated only 1 2 3 4 5 6 7 8 9 10 GRO 1 2 3 4 5 6 7 8 9 10 1,4 Dioxane 1 2 3 4 5 6 7 8 9 10 OS - Pesticides, PCBs Pesticides & PCBs 1 2 3 4 5 6 7 8 9 10 Pesticides only 1 2 3 4 5 6 7 8 9 10 PCBs only 1 2 3 4 5 6 7 8 9 10 Toxaphene 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 PNAs only 1 2 3 4 5 6 7 8 9 10 BNs only 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 DRO / ORD 1 2 3 4 5 6 7 8 9 10	OpMemo2 - Total 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 (As,Ba,Cd,Cr,Cu,Pb,Hg,Se,Ag,Zn)	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 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 Uranium - U 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	GS - General Chemistry Total Cyanide - CN 1 2 3 4 5 6 7 8 9 10 Available Cyanide - CN 1 2 3 4 5 6 7 8 9 10 Chem Oxyg Dem - COD 1 2 3 4 5 6 7 8 9 10 Total Org Carbon - TOC 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. Signature: JEFF PINCUMBE MDEQ	Print Name & Org. Signature: Melissa Smith	5/20/15 PB
	Print Name & Org. Signature:	Print Name & Org. Signature:	
	Print Name & Org. Signature:	Print Name & Org. Signature:	



Analysis Request Sheet

Lab Work Order Number

Project Name

Matrix

1505188		Abandoned Mining Wastes - Torch Lake PCB C&H Tamarack City Ops		SOIL	
Site Code/Project Number	AT	CC Email 1	Project 1st Days	Sample Collector	
31000098	13	j.binkley@westonsolutions.com		AK/JP/AB-DEQ-RRD	
Dept-Division-District	Index	CC Email 2	Project Due Date	Sample Collector Phone	
DEQ-RRD-UP District	44251	daniel.liebau@westonsolutions.com		906-337-0389	
State Project Manager	PLA	CC Email 3	Accept Analysis hold time codes	Contract Firm	
Amy Keranen	30872	pincumbel@michigan.gov	no	Weston Solutions	
State Project Manager Email	Project	Overflow Lab Choice 1		Contract Firm Primary Contact	
keranena@michigan.gov	456990			Jeff Binkley	
State Project Manager Phone	Phase	Overflow Lab Choice 2		Primary Contact Phone	
906-337-0389	00			906-523-5457	

Lab Use Only	Field Sample Identification	Collection Date	Collection Time	Container Count	Comments
1	CHTC-SB-01-6"-7'	5/16/15	1532	802	
2	CHTC-SB-02-0-6"	5/14/15	1550	802	
3	CHTC-SB-02-6"-10'	5/16/15	1555	802 300	
4	CHTC-SB-				
5	CHTC-SB-				
6	CHTC-SB-				
7	CHTC-SB-				
8	CHTC-SB-				
9	CHTC-SB-				
10	CHTC-SB-				

ORGANIC CHEMISTRY	METALS CHEMISTRY PACKAGES	MS - TOTAL METALS	GENERAL 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 Chlorinated only 1 2 3 4 5 6 7 8 9 10 GRO 1 2 3 4 5 6 7 8 9 10 1,4 Dioxane 1 2 3 4 5 6 7 8 9 10 OS - Pesticides, PCBs Pesticides & PCBs 1 2 3 4 5 6 7 8 9 10 Pesticides only 1 2 3 4 5 6 7 8 9 10 PCBs only 1 2 3 4 5 6 7 8 9 10 Toxaphene 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 PNAs only 1 2 3 4 5 6 7 8 9 10 BNs only 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 DRO / ORO 1 2 3 4 5 6 7 8 9 10	OpMemo2 - Total 1 2 3 4 5 6 7 8 9 10 (Sb,As,Ba,Bc,Cd,Cr,Cu,Co,Fe,Pb,Mn,Hg,Mo,Ni,Se,Ag,Ti,V,Zn) Michigan10 - Total 1 2 3 4 5 6 7 8 9 10 (As,Ba,Cd,Cr,Cu,Pb,Hg,Se,Ag,Zn)	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 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 Uranium - U 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	GS - General Chemistry Total Cyanide - CN 1 2 3 4 5 6 7 8 9 10 Available Cyanide - CN 1 2 3 4 5 6 7 8 9 10 Chem Oxyg Dem - COD 1 2 3 4 5 6 7 8 9 10 Total Org Carbon - TOC 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. JEFF P INCUMBE MDEQ	Melissa Smith	5/20/15 9:18
	Signature: <i>[Signature]</i>	<i>[Signature]</i>	
	Print Name & Org.		
Signature:			
Print Name & Org.			
Signature:			



**MICHIGAN DEPARTMENT OF ENVIRONMENTAL QUALITY
ENVIRONMENTAL LABORATORY**

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

11 June 2015

Work Order: 1505189

Price: \$1,719.00

Amy Keranen

MDEQ-RRD-UP

1504 W. Washington St.

Marquette, MI 49855

RE: ABANDONED MINING WASTES-TORCH LAKE NS

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-RRD-UP
1504 W. Washington St.
Marquette MI, 49855

Project: ABANDONED MINING WASTES-TORCH LAKE NS
Site Code: 31000098
Project Manager: Amy Keranen

Reported:
06/11/2015

Analytical Report for Samples

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received	Qualifier
CHTC-GW-07-12-17'	1505189-01	Water	05/17/2015	05/20/2015	
CHTC-GW-08-15-20'	1505189-02	Water	05/17/2015	05/20/2015	
CHTC-GW-39-6'-11'	1505189-03	Water	05/17/2015	05/20/2015	
CHTC-GW-39-6'-11' DUP	1505189-04	Water	05/17/2015	05/20/2015	

Notes and Definitions

X	Methods 8260 & 624 are used to analyze volatile organics that have boiling points below 200 °C. 2-Methylnaphthalene & naphthalene have boiling points above 200 °C and are better suited to analysis by methods 8270 & 625 as semivolatile organics.
KR	Reporting limit(s) raised due to low sample volume submitted.
A09	Result is estimated due to high recovery of batch quality control.
A06	Result is estimated due to high continuing calibration standard criteria failure.
ND	Indicates compound analyzed for but not detected
RL	Reporting Limit
NA	Not Applicable



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TEL: (517) 335-9800
FAX: (517) 335-9600

Client ID: CHTC-GW-07-12-17'

Lab ID: 1505189-01

CAS #	Analyte	Result	RL	Units	Dilution	Analyzed Date	QC Batch	Method	Qualifier
Organics-Volatiles									
630-20-6	1,1,1,2-Tetrachloroethane	ND	1.0	ug/L	1	05/22/15	B5E2126	8260	
71-55-6	1,1,1-Trichloroethane	ND	1.0	ug/L	1	05/22/15	B5E2126	8260	
79-34-5	1,1,2,2-Tetrachloroethane	ND	1.0	ug/L	1	05/22/15	B5E2126	8260	
79-00-5	1,1,2-Trichloroethane	ND	1.0	ug/L	1	05/22/15	B5E2126	8260	
75-34-3	1,1-Dichloroethane	ND	1.0	ug/L	1	05/22/15	B5E2126	8260	
75-35-4	1,1-Dichloroethylene	ND	1.0	ug/L	1	05/22/15	B5E2126	8260	
87-61-6	1,2,3-Trichlorobenzene	ND	5.0	ug/L	1	05/22/15	B5E2126	8260	
96-18-4	1,2,3-Trichloropropane	ND	1.0	ug/L	1	05/22/15	B5E2126	8260	
526-73-8	1,2,3-Trimethylbenzene	ND	1.0	ug/L	1	05/22/15	B5E2126	8260	
120-82-1	1,2,4-Trichlorobenzene	ND	5.0	ug/L	1	05/22/15	B5E2126	8260	
95-63-6	1,2,4-Trimethylbenzene	ND	1.0	ug/L	1	05/22/15	B5E2126	8260	
96-12-8	1,2-Dibromo-3-chloropropane	ND	5.0	ug/L	1	05/22/15	B5E2126	8260	
106-93-4	1,2-Dibromoethane	ND	1.0	ug/L	1	05/22/15	B5E2126	8260	
95-50-1	1,2-Dichlorobenzene	ND	1.0	ug/L	1	05/22/15	B5E2126	8260	
107-06-2	1,2-Dichloroethane	ND	1.0	ug/L	1	05/22/15	B5E2126	8260	
78-87-5	1,2-Dichloropropane	ND	1.0	ug/L	1	05/22/15	B5E2126	8260	
108-67-8	1,3,5-Trimethylbenzene	ND	1.0	ug/L	1	05/22/15	B5E2126	8260	
541-73-1	1,3-Dichlorobenzene	ND	1.0	ug/L	1	05/22/15	B5E2126	8260	
106-46-7	1,4-Dichlorobenzene	ND	1.0	ug/L	1	05/22/15	B5E2126	8260	
78-93-3	2-Butanone (MEK)	ND	5.0	ug/L	1	05/22/15	B5E2126	8260	
591-78-6	2-Hexanone	ND	5.0	ug/L	1	05/22/15	B5E2126	8260	
91-57-6	2-Methylnaphthalene	ND	5.0	ug/L	1	05/22/15	B5E2126	8260	X
67-64-1	2-Propanone (acetone)	ND	20	ug/L	1	05/22/15	B5E2126	8260	
108-10-1	4-Methyl-2-pentanone (MIBK)	ND	5.0	ug/L	1	05/22/15	B5E2126	8260	
107-13-1	Acrylonitrile	ND	5.0	ug/L	1	05/22/15	B5E2126	8260	
71-43-2	Benzene	ND	1.0	ug/L	1	05/22/15	B5E2126	8260	
108-86-1	Bromobenzene	ND	1.0	ug/L	1	05/22/15	B5E2126	8260	
74-97-5	Bromochloromethane	ND	1.0	ug/L	1	05/22/15	B5E2126	8260	
75-27-4	Bromodichloromethane	ND	1.0	ug/L	1	05/22/15	B5E2126	8260	
75-25-2	Bromoform	ND	1.0	ug/L	1	05/22/15	B5E2126	8260	
74-83-9	Bromomethane	ND	5.0	ug/L	1	05/22/15	B5E2126	8260	
75-15-0	Carbon disulfide	ND	1.0	ug/L	1	05/22/15	B5E2126	8260	
56-23-5	Carbon tetrachloride	ND	1.0	ug/L	1	05/22/15	B5E2126	8260	
108-90-7	Chlorobenzene	ND	1.0	ug/L	1	05/22/15	B5E2126	8260	
75-00-3	Chloroethane	ND	5.0	ug/L	1	05/22/15	B5E2126	8260	
67-66-3	Chloroform	ND	1.0	ug/L	1	05/22/15	B5E2126	8260	
74-87-3	Chloromethane	ND	5.0	ug/L	1	05/22/15	B5E2126	8260	
156-59-2	cis-1,2-Dichloroethylene	ND	1.0	ug/L	1	05/22/15	B5E2126	8260	
10061-01-5	cis-1,3-Dichloropropylene	ND	1.0	ug/L	1	05/22/15	B5E2126	8260	
110-82-7	Cyclohexane	ND	5.0	ug/L	1	05/22/15	B5E2126	8260	
124-48-1	Dibromochloromethane	ND	1.0	ug/L	1	05/22/15	B5E2126	8260	



**MICHIGAN DEPARTMENT OF ENVIRONMENTAL QUALITY
ENVIRONMENTAL LABORATORY**

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

Client ID: CHTC-GW-07-12-17'

Lab ID: 1505189-01

CAS #	Analyte	Result	RL	Units	Dilution	Analyzed Date	QC Batch	Method	Qualifier
Organics-Volatiles									
74-95-3	Dibromomethane	ND	1.0	ug/L	1	05/22/15	B5E2126	8260	
75-71-8	Dichlorodifluoromethane	ND	5.0	ug/L	1	05/22/15	B5E2126	8260	
60-29-7	Diethyl ether	ND	5.0	ug/L	1	05/22/15	B5E2126	8260	
108-20-3	Diisopropyl Ether	ND	5.0	ug/L	1	05/22/15	B5E2126	8260	
100-41-4	Ethylbenzene	ND	1.0	ug/L	1	05/22/15	B5E2126	8260	
637-92-3	Ethyltertiarybutylether	ND	5.0	ug/L	1	05/22/15	B5E2126	8260	
67-72-1	Hexachloroethane	ND	5.0	ug/L	1	05/22/15	B5E2126	8260	
98-82-8	Isopropylbenzene	ND	1.0	ug/L	1	05/22/15	B5E2126	8260	
1330-20-7	m & p - Xylene	ND	2.0	ug/L	1	05/22/15	B5E2126	8260	
74-88-4	Methyl iodide	ND	1.0	ug/L	1	05/22/15	B5E2126	8260	
75-09-2	Methylene chloride	ND	5.0	ug/L	1	05/22/15	B5E2126	8260	
1634-04-4	Methyltertiarybutylether	ND	1.0	ug/L	1	05/22/15	B5E2126	8260	
91-20-3	Naphthalene	ND	5.0	ug/L	1	05/22/15	B5E2126	8260	X
104-51-8	n-Butylbenzene	ND	1.0	ug/L	1	05/22/15	B5E2126	8260	
103-65-1	n-Propylbenzene	ND	1.0	ug/L	1	05/22/15	B5E2126	8260	
95-47-6	o-Xylene	ND	1.0	ug/L	1	05/22/15	B5E2126	8260	
99-87-6	p-Isopropyl toluene	ND	1.0	ug/L	1	05/22/15	B5E2126	8260	
135-98-8	sec-Butylbenzene	ND	1.0	ug/L	1	05/22/15	B5E2126	8260	
100-42-5	Styrene	ND	1.0	ug/L	1	05/22/15	B5E2126	8260	
98-06-6	tert-Butylbenzene	ND	1.0	ug/L	1	05/22/15	B5E2126	8260	
75-65-0	tertiary Butyl Alcohol	ND	50	ug/L	1	05/22/15	B5E2126	8260	
994-05-8	tertiaryAmylmethylether	ND	5.0	ug/L	1	05/22/15	B5E2126	8260	
127-18-4	Tetrachloroethylene	ND	1.0	ug/L	1	05/22/15	B5E2126	8260	
109-99-9	Tetrahydrofuran	ND	5.0	ug/L	1	05/22/15	B5E2126	8260	
108-88-3	Toluene	ND	1.0	ug/L	1	05/22/15	B5E2126	8260	
156-60-5	trans-1,2-Dichloroethylene	ND	1.0	ug/L	1	05/22/15	B5E2126	8260	
10061-02-6	trans-1,3-Dichloropropylene	ND	1.0	ug/L	1	05/22/15	B5E2126	8260	
110-57-6	trans-1,4-Dichloro-2-butene	ND	5.0	ug/L	1	05/22/15	B5E2126	8260	
79-01-6	Trichloroethylene	ND	1.0	ug/L	1	05/22/15	B5E2126	8260	
75-69-4	Trichlorofluoromethane	ND	1.0	ug/L	1	05/22/15	B5E2126	8260	
75-01-4	Vinyl chloride	ND	1.0	ug/L	1	05/22/15	B5E2126	8260	
Surrogate: Bromofluorobenzene			100 %	85-115		05/22/15	B5E2126	8260	
Surrogate: Dibromofluoromethane			103 %	82.7-115		05/22/15	B5E2126	8260	
Surrogate: Toluene-d8			101 %	85-115		05/22/15	B5E2126	8260	



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Client ID: CHTC-GW-07-12-17'

Lab ID: 1505189-01

CAS #	Analyte	Result	RL	Units	Dilution	Analyzed Date	QC Batch	Method	Qualifier
Organics-Semivolatiles									
91-57-6	2-Methylnaphthalene	ND	5.0	ug/L	1	05/26/15	B5E2003	8270	
83-32-9	Acenaphthene	ND	1.0	ug/L	1	05/26/15	B5E2003	8270	
208-96-8	Acenaphthylene	ND	1.0	ug/L	1	05/26/15	B5E2003	8270	
120-12-7	Anthracene	ND	1.0	ug/L	1	05/26/15	B5E2003	8270	
56-55-3	Benz[a]anthracene	ND	1.0	ug/L	1	05/26/15	B5E2003	8270	
50-32-8	Benzo[a]pyrene	ND	1.0	ug/L	1	05/26/15	B5E2003	8270	
205-99-2	Benzo[b]fluoranthene	ND	1.0	ug/L	1	05/26/15	B5E2003	8270	
191-24-2	Benzo[g,h,i]perylene	ND	1.0	ug/L	1	05/26/15	B5E2003	8270	
207-08-9	Benzo[k]fluoranthene	ND	1.0	ug/L	1	05/26/15	B5E2003	8270	
218-01-9	Chrysene	ND	1.0	ug/L	1	05/26/15	B5E2003	8270	
53-70-3	Dibenz[a,h]anthracene	ND	2.0	ug/L	1	05/26/15	B5E2003	8270	
206-44-0	Fluoranthene	ND	1.0	ug/L	1	05/26/15	B5E2003	8270	
86-73-7	Fluorene	ND	1.0	ug/L	1	05/26/15	B5E2003	8270	
193-39-5	Indeno(1,2,3-c,d)pyrene	ND	2.0	ug/L	1	05/26/15	B5E2003	8270	
91-20-3	Naphthalene	ND	1.0	ug/L	1	05/26/15	B5E2003	8270	
85-01-8	Phenanthrene	ND	1.0	ug/L	1	05/26/15	B5E2003	8270	
129-00-0	Pyrene	ND	1.0	ug/L	1	05/26/15	B5E2003	8270	
<i>Surrogate: 2-Fluorobiphenyl</i>			55.4 %		24.1-115	05/26/15	B5E2003	8270	
<i>Surrogate: Nitrobenzene-d5</i>			51.6 %		17.8-115	05/26/15	B5E2003	8270	
<i>Surrogate: p-Terphenyl-d14</i>			67.7 %		41.8-115	05/26/15	B5E2003	8270	
Organics-PCBs as Aroclors									
12674-11-2	Aroclor 1016	ND	0.10	ug/L	1	06/03/15	B5E2804	8081/8082	
11104-28-2	Aroclor 1221	ND	0.10	ug/L	1	06/03/15	B5E2804	8081/8082	
11141-16-5	Aroclor 1232	ND	0.10	ug/L	1	06/03/15	B5E2804	8081/8082	
53469-21-9	Aroclor 1242	ND	0.10	ug/L	1	06/03/15	B5E2804	8081/8082	
12672-29-6	Aroclor 1248	ND	0.10	ug/L	1	06/03/15	B5E2804	8081/8082	
11097-69-1	Aroclor 1254	ND	0.10	ug/L	1	06/03/15	B5E2804	8081/8082	
11096-82-5	Aroclor 1260	ND	0.10	ug/L	1	06/03/15	B5E2804	8081/8082	
37324-23-5	Aroclor 1262	ND	0.10	ug/L	1	06/03/15	B5E2804	8081/8082	
11100-14-4	Aroclor 1268	ND	0.10	ug/L	1	06/03/15	B5E2804	8081/8082	
<i>Surrogate: Decachlorobiphenyl</i>			54.1 %		30-150	06/03/15	B5E2804	8081/8082	
<i>Surrogate: Tetrachloro-m-xylene</i>			57.3 %		30-150	06/03/15	B5E2804	8081/8082	



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Client ID: CHTC-GW-08-15-20'

Lab ID: 1505189-02

CAS #	Analyte	Result	RL	Units	Dilution	Analyzed Date	QC Batch	Method	Qualifier
Organics-Volatiles									
630-20-6	1,1,1,2-Tetrachloroethane	ND	1.0	ug/L	1	05/22/15	B5E2127	8260	
71-55-6	1,1,1-Trichloroethane	ND	1.0	ug/L	1	05/22/15	B5E2127	8260	
79-34-5	1,1,2,2-Tetrachloroethane	ND	1.0	ug/L	1	05/22/15	B5E2127	8260	
79-00-5	1,1,2-Trichloroethane	ND	1.0	ug/L	1	05/22/15	B5E2127	8260	
75-34-3	1,1-Dichloroethane	ND	1.0	ug/L	1	05/22/15	B5E2127	8260	
75-35-4	1,1-Dichloroethylene	ND	1.0	ug/L	1	05/22/15	B5E2127	8260	
87-61-6	1,2,3-Trichlorobenzene	ND	5.0	ug/L	1	05/22/15	B5E2127	8260	
96-18-4	1,2,3-Trichloropropane	ND	1.0	ug/L	1	05/22/15	B5E2127	8260	
526-73-8	1,2,3-Trimethylbenzene	ND	1.0	ug/L	1	05/22/15	B5E2127	8260	
120-82-1	1,2,4-Trichlorobenzene	ND	5.0	ug/L	1	05/22/15	B5E2127	8260	
95-63-6	1,2,4-Trimethylbenzene	ND	1.0	ug/L	1	05/22/15	B5E2127	8260	
96-12-8	1,2-Dibromo-3-chloropropane	ND	5.0	ug/L	1	05/22/15	B5E2127	8260	
106-93-4	1,2-Dibromoethane	ND	1.0	ug/L	1	05/22/15	B5E2127	8260	
95-50-1	1,2-Dichlorobenzene	ND	1.0	ug/L	1	05/22/15	B5E2127	8260	
107-06-2	1,2-Dichloroethane	ND	1.0	ug/L	1	05/22/15	B5E2127	8260	
78-87-5	1,2-Dichloropropane	ND	1.0	ug/L	1	05/22/15	B5E2127	8260	
108-67-8	1,3,5-Trimethylbenzene	ND	1.0	ug/L	1	05/22/15	B5E2127	8260	
541-73-1	1,3-Dichlorobenzene	ND	1.0	ug/L	1	05/22/15	B5E2127	8260	
106-46-7	1,4-Dichlorobenzene	ND	1.0	ug/L	1	05/22/15	B5E2127	8260	
78-93-3	2-Butanone (MEK)	ND	5.0	ug/L	1	05/22/15	B5E2127	8260	
591-78-6	2-Hexanone	ND	5.0	ug/L	1	05/22/15	B5E2127	8260	
91-57-6	2-Methylnaphthalene	ND	5.0	ug/L	1	05/22/15	B5E2127	8260	X
67-64-1	2-Propanone (acetone)	ND	20	ug/L	1	05/22/15	B5E2127	8260	
108-10-1	4-Methyl-2-pentanone (MIBK)	ND	5.0	ug/L	1	05/22/15	B5E2127	8260	
107-13-1	Acrylonitrile	ND	5.0	ug/L	1	05/22/15	B5E2127	8260	
71-43-2	Benzene	ND	1.0	ug/L	1	05/22/15	B5E2127	8260	
108-86-1	Bromobenzene	ND	1.0	ug/L	1	05/22/15	B5E2127	8260	
74-97-5	Bromochloromethane	ND	1.0	ug/L	1	05/22/15	B5E2127	8260	
75-27-4	Bromodichloromethane	ND	1.0	ug/L	1	05/22/15	B5E2127	8260	
75-25-2	Bromoform	ND	1.0	ug/L	1	05/22/15	B5E2127	8260	
74-83-9	Bromomethane	ND	5.0	ug/L	1	05/22/15	B5E2127	8260	
75-15-0	Carbon disulfide	ND	1.0	ug/L	1	05/22/15	B5E2127	8260	
56-23-5	Carbon tetrachloride	ND	1.0	ug/L	1	05/22/15	B5E2127	8260	
108-90-7	Chlorobenzene	ND	1.0	ug/L	1	05/22/15	B5E2127	8260	
75-00-3	Chloroethane	ND	5.0	ug/L	1	05/22/15	B5E2127	8260	
67-66-3	Chloroform	ND	1.0	ug/L	1	05/22/15	B5E2127	8260	
74-87-3	Chloromethane	ND	5.0	ug/L	1	05/22/15	B5E2127	8260	
156-59-2	cis-1,2-Dichloroethylene	ND	1.0	ug/L	1	05/22/15	B5E2127	8260	
10061-01-5	cis-1,3-Dichloropropylene	ND	1.0	ug/L	1	05/22/15	B5E2127	8260	
110-82-7	Cyclohexane	ND	5.0	ug/L	1	05/22/15	B5E2127	8260	
124-48-1	Dibromochloromethane	ND	1.0	ug/L	1	05/22/15	B5E2127	8260	



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Client ID: CHTC-GW-08-15-20'

Lab ID: 1505189-02

CAS #	Analyte	Result	RL	Units	Dilution	Analyzed Date	QC Batch	Method	Qualifier
Organics-Volatiles									
74-95-3	Dibromomethane	ND	1.0	ug/L	1	05/22/15	B5E2127	8260	
75-71-8	Dichlorodifluoromethane	ND	5.0	ug/L	1	05/22/15	B5E2127	8260	
60-29-7	Diethyl ether	ND	5.0	ug/L	1	05/22/15	B5E2127	8260	
108-20-3	Diisopropyl Ether	ND	5.0	ug/L	1	05/22/15	B5E2127	8260	
100-41-4	Ethylbenzene	ND	1.0	ug/L	1	05/22/15	B5E2127	8260	
637-92-3	Ethyltertiarybutylether	ND	5.0	ug/L	1	05/22/15	B5E2127	8260	
67-72-1	Hexachloroethane	ND	5.0	ug/L	1	05/22/15	B5E2127	8260	
98-82-8	Isopropylbenzene	ND	1.0	ug/L	1	05/22/15	B5E2127	8260	
1330-20-7	m & p - Xylene	ND	2.0	ug/L	1	05/22/15	B5E2127	8260	
74-88-4	Methyl iodide	ND	1.0	ug/L	1	05/22/15	B5E2127	8260	
75-09-2	Methylene chloride	ND	5.0	ug/L	1	05/22/15	B5E2127	8260	
1634-04-4	Methyltertiarybutylether	ND	1.0	ug/L	1	05/22/15	B5E2127	8260	
91-20-3	Naphthalene	ND	5.0	ug/L	1	05/22/15	B5E2127	8260	X
104-51-8	n-Butylbenzene	ND	1.0	ug/L	1	05/22/15	B5E2127	8260	
103-65-1	n-Propylbenzene	ND	1.0	ug/L	1	05/22/15	B5E2127	8260	
95-47-6	o-Xylene	ND	1.0	ug/L	1	05/22/15	B5E2127	8260	
99-87-6	p-Isopropyl toluene	ND	1.0	ug/L	1	05/22/15	B5E2127	8260	
135-98-8	sec-Butylbenzene	ND	1.0	ug/L	1	05/22/15	B5E2127	8260	
100-42-5	Styrene	ND	1.0	ug/L	1	05/22/15	B5E2127	8260	
98-06-6	tert-Butylbenzene	ND	1.0	ug/L	1	05/22/15	B5E2127	8260	
75-65-0	tertiary Butyl Alcohol	ND	50	ug/L	1	05/22/15	B5E2127	8260	
994-05-8	tertiaryAmylmethylether	ND	5.0	ug/L	1	05/22/15	B5E2127	8260	
127-18-4	Tetrachloroethylene	ND	1.0	ug/L	1	05/22/15	B5E2127	8260	
109-99-9	Tetrahydrofuran	ND	5.0	ug/L	1	05/22/15	B5E2127	8260	
108-88-3	Toluene	ND	1.0	ug/L	1	05/22/15	B5E2127	8260	
156-60-5	trans-1,2-Dichloroethylene	ND	1.0	ug/L	1	05/22/15	B5E2127	8260	
10061-02-6	trans-1,3-Dichloropropylene	ND	1.0	ug/L	1	05/22/15	B5E2127	8260	
110-57-6	trans-1,4-Dichloro-2-butene	ND	5.0	ug/L	1	05/22/15	B5E2127	8260	
79-01-6	Trichloroethylene	ND	1.0	ug/L	1	05/22/15	B5E2127	8260	
75-69-4	Trichlorofluoromethane	ND	1.0	ug/L	1	05/22/15	B5E2127	8260	
75-01-4	Vinyl chloride	ND	1.0	ug/L	1	05/22/15	B5E2127	8260	
Surrogate: Bromofluorobenzene			103 %	85-115		05/22/15	B5E2127	8260	
Surrogate: Dibromofluoromethane			103 %	82.7-115		05/22/15	B5E2127	8260	
Surrogate: Toluene-d8			102 %	85-115		05/22/15	B5E2127	8260	



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Client ID: CHTC-GW-08-15-20'

Lab ID: 1505189-02

CAS #	Analyte	Result	RL	Units	Dilution	Analyzed Date	QC Batch	Method	Qualifier
Organics-Semivolatiles									
91-57-6	2-Methylnaphthalene	ND	5.0	ug/L	1	05/26/15	B5E2003	8270	
83-32-9	Acenaphthene	ND	1.0	ug/L	1	05/26/15	B5E2003	8270	
208-96-8	Acenaphthylene	ND	1.0	ug/L	1	05/26/15	B5E2003	8270	
120-12-7	Anthracene	ND	1.0	ug/L	1	05/26/15	B5E2003	8270	
56-55-3	Benz[a]anthracene	ND	1.0	ug/L	1	05/26/15	B5E2003	8270	
50-32-8	Benzo[a]pyrene	ND	1.0	ug/L	1	05/26/15	B5E2003	8270	
205-99-2	Benzo[b]fluoranthene	ND	1.0	ug/L	1	05/26/15	B5E2003	8270	
191-24-2	Benzo[g,h,i]perylene	ND	1.0	ug/L	1	05/26/15	B5E2003	8270	
207-08-9	Benzo[k]fluoranthene	ND	1.0	ug/L	1	05/26/15	B5E2003	8270	
218-01-9	Chrysene	ND	1.0	ug/L	1	05/26/15	B5E2003	8270	
53-70-3	Dibenz[a,h]anthracene	ND	2.0	ug/L	1	05/26/15	B5E2003	8270	
206-44-0	Fluoranthene	ND	1.0	ug/L	1	05/26/15	B5E2003	8270	
86-73-7	Fluorene	ND	1.0	ug/L	1	05/26/15	B5E2003	8270	
193-39-5	Indeno(1,2,3-c,d)pyrene	ND	2.0	ug/L	1	05/26/15	B5E2003	8270	
91-20-3	Naphthalene	ND	1.0	ug/L	1	05/26/15	B5E2003	8270	
85-01-8	Phenanthrene	ND	1.0	ug/L	1	05/26/15	B5E2003	8270	
129-00-0	Pyrene	ND	1.0	ug/L	1	05/26/15	B5E2003	8270	
<i>Surrogate: 2-Fluorobiphenyl</i>			42.6 %		24.1-115	05/26/15	B5E2003	8270	
<i>Surrogate: Nitrobenzene-d5</i>			39.6 %		17.8-115	05/26/15	B5E2003	8270	
<i>Surrogate: p-Terphenyl-d14</i>			72.0 %		41.8-115	05/26/15	B5E2003	8270	
Organics-PCBs as Aroclors									
12674-11-2	Aroclor 1016	ND	0.16	ug/L	1	06/03/15	B5E2804	8081/8082	
11104-28-2	Aroclor 1221	ND	0.16	ug/L	1	06/03/15	B5E2804	8081/8082	
11141-16-5	Aroclor 1232	ND	0.16	ug/L	1	06/03/15	B5E2804	8081/8082	
53469-21-9	Aroclor 1242	ND	0.16	ug/L	1	06/03/15	B5E2804	8081/8082	
12672-29-6	Aroclor 1248	ND	0.16	ug/L	1	06/03/15	B5E2804	8081/8082	
11097-69-1	Aroclor 1254	ND	0.16	ug/L	1	06/03/15	B5E2804	8081/8082	
11096-82-5	Aroclor 1260	ND	0.16	ug/L	1	06/03/15	B5E2804	8081/8082	
37324-23-5	Aroclor 1262	ND	0.16	ug/L	1	06/03/15	B5E2804	8081/8082	
11100-14-4	Aroclor 1268	ND	0.16	ug/L	1	06/03/15	B5E2804	8081/8082	
<i>Surrogate: Decachlorobiphenyl</i>			59.1 %		30-150	06/03/15	B5E2804	8081/8082	
<i>Surrogate: Tetrachloro-m-xylene</i>			45.4 %		30-150	06/03/15	B5E2804	8081/8082	



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

Client ID: CHTC-GW-39-6'-11'

Lab ID: 1505189-03

CAS #	Analyte	Result	RL	Units	Dilution	Analyzed Date	QC Batch	Method	Qualifier
Organics-Volatiles									
630-20-6	1,1,1,2-Tetrachloroethane	ND	1.0	ug/L	1	05/22/15	B5E2127	8260	
71-55-6	1,1,1-Trichloroethane	ND	1.0	ug/L	1	05/22/15	B5E2127	8260	
79-34-5	1,1,2,2-Tetrachloroethane	ND	1.0	ug/L	1	05/22/15	B5E2127	8260	
79-00-5	1,1,2-Trichloroethane	ND	1.0	ug/L	1	05/22/15	B5E2127	8260	
75-34-3	1,1-Dichloroethane	ND	1.0	ug/L	1	05/22/15	B5E2127	8260	
75-35-4	1,1-Dichloroethylene	ND	1.0	ug/L	1	05/22/15	B5E2127	8260	
87-61-6	1,2,3-Trichlorobenzene	ND	5.0	ug/L	1	05/22/15	B5E2127	8260	
96-18-4	1,2,3-Trichloropropane	ND	1.0	ug/L	1	05/22/15	B5E2127	8260	
526-73-8	1,2,3-Trimethylbenzene	ND	1.0	ug/L	1	05/22/15	B5E2127	8260	
120-82-1	1,2,4-Trichlorobenzene	ND	5.0	ug/L	1	05/22/15	B5E2127	8260	
95-63-6	1,2,4-Trimethylbenzene	ND	1.0	ug/L	1	05/22/15	B5E2127	8260	
96-12-8	1,2-Dibromo-3-chloropropane	ND	5.0	ug/L	1	05/22/15	B5E2127	8260	
106-93-4	1,2-Dibromoethane	ND	1.0	ug/L	1	05/22/15	B5E2127	8260	
95-50-1	1,2-Dichlorobenzene	ND	1.0	ug/L	1	05/22/15	B5E2127	8260	
107-06-2	1,2-Dichloroethane	ND	1.0	ug/L	1	05/22/15	B5E2127	8260	
78-87-5	1,2-Dichloropropane	ND	1.0	ug/L	1	05/22/15	B5E2127	8260	
108-67-8	1,3,5-Trimethylbenzene	ND	1.0	ug/L	1	05/22/15	B5E2127	8260	
541-73-1	1,3-Dichlorobenzene	ND	1.0	ug/L	1	05/22/15	B5E2127	8260	
106-46-7	1,4-Dichlorobenzene	ND	1.0	ug/L	1	05/22/15	B5E2127	8260	
78-93-3	2-Butanone (MEK)	ND	5.0	ug/L	1	05/22/15	B5E2127	8260	
591-78-6	2-Hexanone	ND	5.0	ug/L	1	05/22/15	B5E2127	8260	
91-57-6	2-Methylnaphthalene	ND	5.0	ug/L	1	05/22/15	B5E2127	8260	X
67-64-1	2-Propanone (acetone)	ND	20	ug/L	1	05/22/15	B5E2127	8260	
108-10-1	4-Methyl-2-pentanone (MIBK)	ND	5.0	ug/L	1	05/22/15	B5E2127	8260	
107-13-1	Acrylonitrile	ND	5.0	ug/L	1	05/22/15	B5E2127	8260	
71-43-2	Benzene	ND	1.0	ug/L	1	05/22/15	B5E2127	8260	
108-86-1	Bromobenzene	ND	1.0	ug/L	1	05/22/15	B5E2127	8260	
74-97-5	Bromochloromethane	ND	1.0	ug/L	1	05/22/15	B5E2127	8260	
75-27-4	Bromodichloromethane	ND	1.0	ug/L	1	05/22/15	B5E2127	8260	
75-25-2	Bromoform	ND	1.0	ug/L	1	05/22/15	B5E2127	8260	
74-83-9	Bromomethane	ND	5.0	ug/L	1	05/22/15	B5E2127	8260	
75-15-0	Carbon disulfide	ND	1.0	ug/L	1	05/22/15	B5E2127	8260	
56-23-5	Carbon tetrachloride	ND	1.0	ug/L	1	05/22/15	B5E2127	8260	
108-90-7	Chlorobenzene	ND	1.0	ug/L	1	05/22/15	B5E2127	8260	
75-00-3	Chloroethane	ND	5.0	ug/L	1	05/22/15	B5E2127	8260	
67-66-3	Chloroform	ND	1.0	ug/L	1	05/22/15	B5E2127	8260	
74-87-3	Chloromethane	ND	5.0	ug/L	1	05/22/15	B5E2127	8260	
156-59-2	cis-1,2-Dichloroethylene	ND	1.0	ug/L	1	05/22/15	B5E2127	8260	
10061-01-5	cis-1,3-Dichloropropylene	ND	1.0	ug/L	1	05/22/15	B5E2127	8260	
110-82-7	Cyclohexane	ND	5.0	ug/L	1	05/22/15	B5E2127	8260	
124-48-1	Dibromochloromethane	ND	1.0	ug/L	1	05/22/15	B5E2127	8260	



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Client ID: CHTC-GW-39-6'-11'

Lab ID: 1505189-03

CAS #	Analyte	Result	RL	Units	Dilution	Analyzed Date	QC Batch	Method	Qualifier
Organics-Volatiles									
74-95-3	Dibromomethane	ND	1.0	ug/L	1	05/22/15	B5E2127	8260	
75-71-8	Dichlorodifluoromethane	ND	5.0	ug/L	1	05/22/15	B5E2127	8260	
60-29-7	Diethyl ether	ND	5.0	ug/L	1	05/22/15	B5E2127	8260	
108-20-3	Diisopropyl Ether	ND	5.0	ug/L	1	05/22/15	B5E2127	8260	
100-41-4	Ethylbenzene	ND	1.0	ug/L	1	05/22/15	B5E2127	8260	
637-92-3	Ethyltertiarybutylether	ND	5.0	ug/L	1	05/22/15	B5E2127	8260	
67-72-1	Hexachloroethane	ND	5.0	ug/L	1	05/22/15	B5E2127	8260	
98-82-8	Isopropylbenzene	ND	1.0	ug/L	1	05/22/15	B5E2127	8260	
1330-20-7	m & p - Xylene	ND	2.0	ug/L	1	05/22/15	B5E2127	8260	
74-88-4	Methyl iodide	ND	1.0	ug/L	1	05/22/15	B5E2127	8260	
75-09-2	Methylene chloride	ND	5.0	ug/L	1	05/22/15	B5E2127	8260	
1634-04-4	Methyltertiarybutylether	ND	1.0	ug/L	1	05/22/15	B5E2127	8260	
91-20-3	Naphthalene	ND	5.0	ug/L	1	05/22/15	B5E2127	8260	X
104-51-8	n-Butylbenzene	ND	1.0	ug/L	1	05/22/15	B5E2127	8260	
103-65-1	n-Propylbenzene	ND	1.0	ug/L	1	05/22/15	B5E2127	8260	
95-47-6	o-Xylene	ND	1.0	ug/L	1	05/22/15	B5E2127	8260	
99-87-6	p-Isopropyl toluene	ND	1.0	ug/L	1	05/22/15	B5E2127	8260	
135-98-8	sec-Butylbenzene	ND	1.0	ug/L	1	05/22/15	B5E2127	8260	
100-42-5	Styrene	ND	1.0	ug/L	1	05/22/15	B5E2127	8260	
98-06-6	tert-Butylbenzene	ND	1.0	ug/L	1	05/22/15	B5E2127	8260	
75-65-0	tertiary Butyl Alcohol	ND	50	ug/L	1	05/22/15	B5E2127	8260	
994-05-8	tertiaryAmylmethylether	ND	5.0	ug/L	1	05/22/15	B5E2127	8260	
127-18-4	Tetrachloroethylene	ND	1.0	ug/L	1	05/22/15	B5E2127	8260	
109-99-9	Tetrahydrofuran	ND	5.0	ug/L	1	05/22/15	B5E2127	8260	
108-88-3	Toluene	ND	1.0	ug/L	1	05/22/15	B5E2127	8260	
156-60-5	trans-1,2-Dichloroethylene	ND	1.0	ug/L	1	05/22/15	B5E2127	8260	
10061-02-6	trans-1,3-Dichloropropylene	ND	1.0	ug/L	1	05/22/15	B5E2127	8260	
110-57-6	trans-1,4-Dichloro-2-butene	ND	5.0	ug/L	1	05/22/15	B5E2127	8260	
79-01-6	Trichloroethylene	ND	1.0	ug/L	1	05/22/15	B5E2127	8260	
75-69-4	Trichlorofluoromethane	ND	1.0	ug/L	1	05/22/15	B5E2127	8260	
75-01-4	Vinyl chloride	ND	1.0	ug/L	1	05/22/15	B5E2127	8260	
Surrogate: Bromofluorobenzene			101 %	85-115		05/22/15	B5E2127	8260	
Surrogate: Dibromofluoromethane			102 %	82.7-115		05/22/15	B5E2127	8260	
Surrogate: Toluene-d8			100 %	85-115		05/22/15	B5E2127	8260	



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Client ID: CHTC-GW-39-6'-11'

Lab ID: 1505189-03

CAS #	Analyte	Result	RL	Units	Dilution	Analyzed Date	QC Batch	Method	Qualifier
Organics-Semivolatiles									
91-57-6	2-Methylnaphthalene	ND	5.0	ug/L	1	05/26/15	B5E2003	8270	
83-32-9	Acenaphthene	ND	1.0	ug/L	1	05/26/15	B5E2003	8270	
208-96-8	Acenaphthylene	ND	1.0	ug/L	1	05/26/15	B5E2003	8270	
120-12-7	Anthracene	ND	1.0	ug/L	1	05/26/15	B5E2003	8270	
56-55-3	Benz[a]anthracene	ND	1.0	ug/L	1	05/26/15	B5E2003	8270	
50-32-8	Benzo[a]pyrene	ND	1.0	ug/L	1	05/26/15	B5E2003	8270	
205-99-2	Benzo[b]fluoranthene	ND	1.0	ug/L	1	05/26/15	B5E2003	8270	
191-24-2	Benzo[g,h,i]perylene	ND	1.0	ug/L	1	05/26/15	B5E2003	8270	
207-08-9	Benzo[k]fluoranthene	ND	1.0	ug/L	1	05/26/15	B5E2003	8270	
218-01-9	Chrysene	ND	1.0	ug/L	1	05/26/15	B5E2003	8270	
53-70-3	Dibenz[a,h]anthracene	ND	2.0	ug/L	1	05/26/15	B5E2003	8270	
206-44-0	Fluoranthene	ND	1.0	ug/L	1	05/26/15	B5E2003	8270	
86-73-7	Fluorene	ND	1.0	ug/L	1	05/26/15	B5E2003	8270	
193-39-5	Indeno(1,2,3-c,d)pyrene	ND	2.0	ug/L	1	05/26/15	B5E2003	8270	
91-20-3	Naphthalene	ND	1.0	ug/L	1	05/26/15	B5E2003	8270	
85-01-8	Phenanthrene	ND	1.0	ug/L	1	05/26/15	B5E2003	8270	
129-00-0	Pyrene	ND	1.0	ug/L	1	05/26/15	B5E2003	8270	
<i>Surrogate: 2-Fluorobiphenyl</i>			43.6 %		24.1-115	05/26/15	B5E2003	8270	
<i>Surrogate: Nitrobenzene-d5</i>			41.6 %		17.8-115	05/26/15	B5E2003	8270	
<i>Surrogate: p-Terphenyl-d14</i>			74.2 %		41.8-115	05/26/15	B5E2003	8270	
Organics-PCBs as Aroclors									
12674-11-2	Aroclor 1016	ND	0.10	ug/L	1	05/30/15	B5E2804	8081/8082	
11104-28-2	Aroclor 1221	ND	0.10	ug/L	1	05/30/15	B5E2804	8081/8082	
11141-16-5	Aroclor 1232	ND	0.10	ug/L	1	05/30/15	B5E2804	8081/8082	
53469-21-9	Aroclor 1242	ND	0.10	ug/L	1	05/30/15	B5E2804	8081/8082	
12672-29-6	Aroclor 1248	ND	0.10	ug/L	1	05/30/15	B5E2804	8081/8082	
11097-69-1	Aroclor 1254	ND	0.10	ug/L	1	05/30/15	B5E2804	8081/8082	
11096-82-5	Aroclor 1260	ND	0.10	ug/L	1	05/30/15	B5E2804	8081/8082	
37324-23-5	Aroclor 1262	ND	0.10	ug/L	1	05/30/15	B5E2804	8081/8082	
11100-14-4	Aroclor 1268	ND	0.10	ug/L	1	05/30/15	B5E2804	8081/8082	
<i>Surrogate: Decachlorobiphenyl</i>			48.1 %		30-150	05/30/15	B5E2804	8081/8082	
<i>Surrogate: Tetrachloro-m-xylene</i>			43.7 %		30-150	05/30/15	B5E2804	8081/8082	



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Client ID: CHTC-GW-39-6'-11'

Lab ID: 1505189-03

CAS #	Analyte	Result	RL	Units	Dilution	Analyzed Date	QC Batch	Method	Qualifier
Inorganics-Metals									
7429-90-5	Aluminium	20	5.0	ug/L	1	05/22/15	B5E2102	6020/200.8	
7440-36-0	Antimony	ND	1.0	ug/L	1	05/22/15	B5E2102	6020/200.8	
7440-38-2	Arsenic	1.1	1.0	ug/L	1	05/22/15	B5E2102	6020/200.8	
7440-39-3	Barium	440	5.0	ug/L	1	05/22/15	B5E2102	6020/200.8	
7440-41-7	Beryllium	ND	1.0	ug/L	1	05/22/15	B5E2102	6020/200.8	
7440-43-9	Cadmium	ND	0.2	ug/L	1	05/22/15	B5E2102	6020/200.8	
7440-47-3	Chromium	ND	1.0	ug/L	1	05/22/15	B5E2102	6020/200.8	
7440-48-4	Cobalt	ND	5.0	ug/L	1	05/22/15	B5E2102	6020/200.8	
7440-50-8	Copper	15	1.0	ug/L	1	06/01/15	B5E2102	6020/200.8	
7439-89-6	Iron	1400	20	ug/L	1	06/02/15	B5E2102	6010/200.7	
7439-92-1	Lead	ND	1.0	ug/L	1	05/22/15	B5E2102	6020/200.8	
7439-93-2	Lithium	ND	10	ug/L	1	06/02/15	B5E2102	6010/200.7	
7439-95-4	Magnesium	5.8	0.5	mg/L	1	06/02/15	B5E2102	6010/200.7	
7439-96-5	Manganese	510	5.0	ug/L	1	05/22/15	B5E2102	6020/200.8	
7439-97-6	Mercury	ND	0.2	ug/L	1	05/29/15	B5E2606	7470/245.1	
7440-02-0	Nickel	8.0	2.0	ug/L	1	05/22/15	B5E2102	6020/200.8	
7782-49-2	Selenium	ND	1.0	ug/L	1	05/22/15	B5E2102	6020/200.8	
7440-22-4	Silver	ND	0.2	ug/L	1	05/22/15	B5E2102	6020/200.8	
7440-28-0	Thallium	ND	2.0	ug/L	1	05/22/15	B5E2102	6020/200.8	
7440-66-6	Zinc	ND	5.0	ug/L	1	05/22/15	B5E2102	6020/200.8	



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Client ID: CHTC-GW-39-6'-11' DUP

Lab ID: 1505189-04

CAS #	Analyte	Result	RL	Units	Dilution	Analyzed Date	QC Batch	Method	Qualifier
Organics-Volatiles									
630-20-6	1,1,1,2-Tetrachloroethane	ND	1.0	ug/L	1	05/22/15	B5E2127	8260	
71-55-6	1,1,1-Trichloroethane	ND	1.0	ug/L	1	05/22/15	B5E2127	8260	
79-34-5	1,1,2,2-Tetrachloroethane	ND	1.0	ug/L	1	05/22/15	B5E2127	8260	
79-00-5	1,1,2-Trichloroethane	ND	1.0	ug/L	1	05/22/15	B5E2127	8260	
75-34-3	1,1-Dichloroethane	ND	1.0	ug/L	1	05/22/15	B5E2127	8260	
75-35-4	1,1-Dichloroethylene	ND	1.0	ug/L	1	05/22/15	B5E2127	8260	
87-61-6	1,2,3-Trichlorobenzene	ND	5.0	ug/L	1	05/22/15	B5E2127	8260	
96-18-4	1,2,3-Trichloropropane	ND	1.0	ug/L	1	05/22/15	B5E2127	8260	
526-73-8	1,2,3-Trimethylbenzene	ND	1.0	ug/L	1	05/22/15	B5E2127	8260	
120-82-1	1,2,4-Trichlorobenzene	ND	5.0	ug/L	1	05/22/15	B5E2127	8260	
95-63-6	1,2,4-Trimethylbenzene	ND	1.0	ug/L	1	05/22/15	B5E2127	8260	
96-12-8	1,2-Dibromo-3-chloropropane	ND	5.0	ug/L	1	05/22/15	B5E2127	8260	
106-93-4	1,2-Dibromoethane	ND	1.0	ug/L	1	05/22/15	B5E2127	8260	
95-50-1	1,2-Dichlorobenzene	ND	1.0	ug/L	1	05/22/15	B5E2127	8260	
107-06-2	1,2-Dichloroethane	ND	1.0	ug/L	1	05/22/15	B5E2127	8260	
78-87-5	1,2-Dichloropropane	ND	1.0	ug/L	1	05/22/15	B5E2127	8260	
108-67-8	1,3,5-Trimethylbenzene	ND	1.0	ug/L	1	05/22/15	B5E2127	8260	
541-73-1	1,3-Dichlorobenzene	ND	1.0	ug/L	1	05/22/15	B5E2127	8260	
106-46-7	1,4-Dichlorobenzene	ND	1.0	ug/L	1	05/22/15	B5E2127	8260	
78-93-3	2-Butanone (MEK)	ND	5.0	ug/L	1	05/22/15	B5E2127	8260	
591-78-6	2-Hexanone	ND	5.0	ug/L	1	05/22/15	B5E2127	8260	
91-57-6	2-Methylnaphthalene	ND	5.0	ug/L	1	05/22/15	B5E2127	8260	X
67-64-1	2-Propanone (acetone)	ND	20	ug/L	1	05/22/15	B5E2127	8260	
108-10-1	4-Methyl-2-pentanone (MIBK)	ND	5.0	ug/L	1	05/22/15	B5E2127	8260	
107-13-1	Acrylonitrile	ND	5.0	ug/L	1	05/22/15	B5E2127	8260	
71-43-2	Benzene	ND	1.0	ug/L	1	05/22/15	B5E2127	8260	
108-86-1	Bromobenzene	ND	1.0	ug/L	1	05/22/15	B5E2127	8260	
74-97-5	Bromochloromethane	ND	1.0	ug/L	1	05/22/15	B5E2127	8260	
75-27-4	Bromodichloromethane	ND	1.0	ug/L	1	05/22/15	B5E2127	8260	
75-25-2	Bromoform	ND	1.0	ug/L	1	05/22/15	B5E2127	8260	
74-83-9	Bromomethane	ND	5.0	ug/L	1	05/22/15	B5E2127	8260	
75-15-0	Carbon disulfide	ND	1.0	ug/L	1	05/22/15	B5E2127	8260	
56-23-5	Carbon tetrachloride	ND	1.0	ug/L	1	05/22/15	B5E2127	8260	
108-90-7	Chlorobenzene	ND	1.0	ug/L	1	05/22/15	B5E2127	8260	
75-00-3	Chloroethane	ND	5.0	ug/L	1	05/22/15	B5E2127	8260	
67-66-3	Chloroform	ND	1.0	ug/L	1	05/22/15	B5E2127	8260	
74-87-3	Chloromethane	ND	5.0	ug/L	1	05/22/15	B5E2127	8260	
156-59-2	cis-1,2-Dichloroethylene	ND	1.0	ug/L	1	05/22/15	B5E2127	8260	
10061-01-5	cis-1,3-Dichloropropylene	ND	1.0	ug/L	1	05/22/15	B5E2127	8260	
110-82-7	Cyclohexane	ND	5.0	ug/L	1	05/22/15	B5E2127	8260	
124-48-1	Dibromochloromethane	ND	1.0	ug/L	1	05/22/15	B5E2127	8260	



**MICHIGAN DEPARTMENT OF ENVIRONMENTAL QUALITY
ENVIRONMENTAL LABORATORY**

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

Client ID: CHTC-GW-39-6'-11' DUP

Lab ID: 1505189-04

CAS #	Analyte	Result	RL	Units	Dilution	Analyzed Date	QC Batch	Method	Qualifier
Organics-Volatiles									
74-95-3	Dibromomethane	ND	1.0	ug/L	1	05/22/15	B5E2127	8260	
75-71-8	Dichlorodifluoromethane	ND	5.0	ug/L	1	05/22/15	B5E2127	8260	
60-29-7	Diethyl ether	ND	5.0	ug/L	1	05/22/15	B5E2127	8260	
108-20-3	Diisopropyl Ether	ND	5.0	ug/L	1	05/22/15	B5E2127	8260	
100-41-4	Ethylbenzene	ND	1.0	ug/L	1	05/22/15	B5E2127	8260	
637-92-3	Ethyltertiarybutylether	ND	5.0	ug/L	1	05/22/15	B5E2127	8260	
67-72-1	Hexachloroethane	ND	5.0	ug/L	1	05/22/15	B5E2127	8260	
98-82-8	Isopropylbenzene	ND	1.0	ug/L	1	05/22/15	B5E2127	8260	
1330-20-7	m & p - Xylene	ND	2.0	ug/L	1	05/22/15	B5E2127	8260	
74-88-4	Methyl iodide	ND	1.0	ug/L	1	05/22/15	B5E2127	8260	
75-09-2	Methylene chloride	ND	5.0	ug/L	1	05/22/15	B5E2127	8260	
1634-04-4	Methyltertiarybutylether	ND	1.0	ug/L	1	05/22/15	B5E2127	8260	
91-20-3	Naphthalene	ND	5.0	ug/L	1	05/22/15	B5E2127	8260	X
104-51-8	n-Butylbenzene	ND	1.0	ug/L	1	05/22/15	B5E2127	8260	
103-65-1	n-Propylbenzene	ND	1.0	ug/L	1	05/22/15	B5E2127	8260	
95-47-6	o-Xylene	ND	1.0	ug/L	1	05/22/15	B5E2127	8260	
99-87-6	p-Isopropyl toluene	ND	1.0	ug/L	1	05/22/15	B5E2127	8260	
135-98-8	sec-Butylbenzene	ND	1.0	ug/L	1	05/22/15	B5E2127	8260	
100-42-5	Styrene	ND	1.0	ug/L	1	05/22/15	B5E2127	8260	
98-06-6	tert-Butylbenzene	ND	1.0	ug/L	1	05/22/15	B5E2127	8260	
75-65-0	tertiary Butyl Alcohol	ND	50	ug/L	1	05/22/15	B5E2127	8260	
994-05-8	tertiaryAmylmethylether	ND	5.0	ug/L	1	05/22/15	B5E2127	8260	
127-18-4	Tetrachloroethylene	ND	1.0	ug/L	1	05/22/15	B5E2127	8260	
109-99-9	Tetrahydrofuran	ND	5.0	ug/L	1	05/22/15	B5E2127	8260	
108-88-3	Toluene	ND	1.0	ug/L	1	05/22/15	B5E2127	8260	
156-60-5	trans-1,2-Dichloroethylene	ND	1.0	ug/L	1	05/22/15	B5E2127	8260	
10061-02-6	trans-1,3-Dichloropropylene	ND	1.0	ug/L	1	05/22/15	B5E2127	8260	
110-57-6	trans-1,4-Dichloro-2-butene	ND	5.0	ug/L	1	05/22/15	B5E2127	8260	
79-01-6	Trichloroethylene	ND	1.0	ug/L	1	05/22/15	B5E2127	8260	
75-69-4	Trichlorofluoromethane	ND	1.0	ug/L	1	05/22/15	B5E2127	8260	
75-01-4	Vinyl chloride	ND	1.0	ug/L	1	05/22/15	B5E2127	8260	
Surrogate: Bromofluorobenzene			104 %	85-115		05/22/15	B5E2127	8260	
Surrogate: Dibromofluoromethane			105 %	82.7-115		05/22/15	B5E2127	8260	
Surrogate: Toluene-d8			103 %	85-115		05/22/15	B5E2127	8260	



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Client ID: CHTC-GW-39-6'-11' DUP

Lab ID: 1505189-04

CAS #	Analyte	Result	RL	Units	Dilution	Analyzed Date	QC Batch	Method	Qualifier
Organics-Semivolatiles									
91-57-6	2-Methylnaphthalene	ND	5.0	ug/L	1	05/26/15	B5E2003	8270	
83-32-9	Acenaphthene	ND	1.0	ug/L	1	05/26/15	B5E2003	8270	
208-96-8	Acenaphthylene	ND	1.0	ug/L	1	05/26/15	B5E2003	8270	
120-12-7	Anthracene	ND	1.0	ug/L	1	05/26/15	B5E2003	8270	
56-55-3	Benz[a]anthracene	ND	1.0	ug/L	1	05/26/15	B5E2003	8270	
50-32-8	Benzo[a]pyrene	ND	1.0	ug/L	1	05/26/15	B5E2003	8270	
205-99-2	Benzo[b]fluoranthene	ND	1.0	ug/L	1	05/26/15	B5E2003	8270	
191-24-2	Benzo[g,h,i]perylene	ND	1.0	ug/L	1	05/26/15	B5E2003	8270	
207-08-9	Benzo[k]fluoranthene	ND	1.0	ug/L	1	05/26/15	B5E2003	8270	
218-01-9	Chrysene	ND	1.0	ug/L	1	05/26/15	B5E2003	8270	
53-70-3	Dibenz[a,h]anthracene	ND	2.0	ug/L	1	05/26/15	B5E2003	8270	
206-44-0	Fluoranthene	ND	1.0	ug/L	1	05/26/15	B5E2003	8270	
86-73-7	Fluorene	ND	1.0	ug/L	1	05/26/15	B5E2003	8270	
193-39-5	Indeno(1,2,3-c,d)pyrene	ND	2.0	ug/L	1	05/26/15	B5E2003	8270	
91-20-3	Naphthalene	ND	1.0	ug/L	1	05/26/15	B5E2003	8270	
85-01-8	Phenanthrene	ND	1.0	ug/L	1	05/26/15	B5E2003	8270	
129-00-0	Pyrene	ND	1.0	ug/L	1	05/26/15	B5E2003	8270	
<i>Surrogate: 2-Fluorobiphenyl</i>			37.9 %		24.1-115	05/26/15	B5E2003	8270	
<i>Surrogate: Nitrobenzene-d5</i>			37.1 %		17.8-115	05/26/15	B5E2003	8270	
<i>Surrogate: p-Terphenyl-d14</i>			69.3 %		41.8-115	05/26/15	B5E2003	8270	
Organics-PCBs as Aroclors									
12674-11-2	Aroclor 1016	ND	0.10	ug/L	1	06/03/15	B5E2804	8081/8082	
11104-28-2	Aroclor 1221	ND	0.10	ug/L	1	06/03/15	B5E2804	8081/8082	
11141-16-5	Aroclor 1232	ND	0.10	ug/L	1	06/03/15	B5E2804	8081/8082	
53469-21-9	Aroclor 1242	ND	0.10	ug/L	1	06/03/15	B5E2804	8081/8082	
12672-29-6	Aroclor 1248	ND	0.10	ug/L	1	06/03/15	B5E2804	8081/8082	
11097-69-1	Aroclor 1254	ND	0.10	ug/L	1	06/03/15	B5E2804	8081/8082	
11096-82-5	Aroclor 1260	ND	0.10	ug/L	1	06/03/15	B5E2804	8081/8082	
37324-23-5	Aroclor 1262	ND	0.10	ug/L	1	06/03/15	B5E2804	8081/8082	
11100-14-4	Aroclor 1268	ND	0.10	ug/L	1	06/03/15	B5E2804	8081/8082	
<i>Surrogate: Decachlorobiphenyl</i>			65.3 %		30-150	06/03/15	B5E2804	8081/8082	
<i>Surrogate: Tetrachloro-m-xylene</i>			44.6 %		30-150	06/03/15	B5E2804	8081/8082	



Analysis Request Sheet

Lab Work Order Number

Project Name

Matrix

1505189	Abandoned Mining Wastes - Torch Lake PCB C&H Tamarack City Ops		ground WATER
Site Code/Project Number 31000098	AY 13	CC Email 1 j.binkley@westonsolutions.com	Project IAT Days
Dept/Division/District DEQ-RRD-UP District	Index 44251	CC Email 2 daniel.llebau@westonsolutions.com	Sample Collector AK/JP/AB-DEQ-RRD
State Project Manager Amy Keranen	PLA 30872	CC Email 3 pincumbel@michigan.gov	Sample Collector Phone 906-337-0389
State Project Manager Email keranena@michigan.gov	Project 456990	Overflow Lab Choice 1	Contract Firm Weston Solutions
State Project Manager Phone 906-337-0389	Phase 00	Overflow Lab Choice 2	Contract Firm Primary Contact Jeff Binkley
		Accept Analysis hold time codes no	Primary Contact Phone 906-523-5457

Lab Use Only	Field Sample Identification	Collection Date	Collection Time	Container Count	Comments
1	CHTC-GW- 07 12-17'	5-17-15	0940	2 1/4 3 40 mL	
2	CHTC-GW- 08 14-19' 15-20'	5-17-15	1230	2 comb 3 WA	1 Full A7BBA 1 1/2 Full A7BBA
3	CHTC-GW- 39 - 6' - 11'	5-17-15	1340	3 comb 3 WA	3 WA 1 splash
4	CHTC-GW- 39 - 6' - 11 DWP	5/17/15	1340	3 comb 3 WA	
5	CHTC-GW-				
6	CHTC-GW-				
7	CHTC-GW-				
8	CHTC-GW-				
9	CHTC-GW-				
10	CHTC-GW-				

ORGANIC CHEMISTRY		MAD - DISSOLVED METALS		MA - TOTAL METALS		GENERAL CHEMISTRY	
VOA - Volatile Organic Acidic	1 2 3 4 5 6 7 8 9 10	Diss - Silver - Ag	1 2 3 4 5 6 7 8 9 10	Silver - Ag	1 2 3 4 5 6 7 8 9 10	GB Total Cyanide - CN	1 2 3 4 5 6 7 8 9 10
Volatiles - Full List	1 2 3 4 5 6 7 8 9 10	Diss - Aluminum - Al	1 2 3 4 5 6 7 8 9 10	Aluminum - Al	1 2 3 4 5 6 7 8 9 10	GB Amenable Cyanide - CN	1 2 3 4 5 6 7 8 9 10
BTEX/MTBE/TMB only	1 2 3 4 5 6 7 8 9 10	Diss - Arsenic - As	1 2 3 4 5 6 7 8 9 10	Arsenic - As	1 2 3 4 5 6 7 8 9 10	GCN Available Cyanide - CN	1 2 3 4 5 6 7 8 9 10
Chlorinated only	1 2 3 4 5 6 7 8 9 10	Diss - Boron - B	1 2 3 4 5 6 7 8 9 10	Boron - B	1 2 3 4 5 6 7 8 9 10	CA Chlorophyll	1 2 3 4 5 6 7 8 9 10
GRO	1 2 3 4 5 6 7 8 9 10	Diss - Barium - Ba	1 2 3 4 5 6 7 8 9 10	Barium - Ba	1 2 3 4 5 6 7 8 9 10	GN Ortho Phosphate - OP	1 2 3 4 5 6 7 8 9 10
1,4 Dioxane	1 2 3 4 5 6 7 8 9 10	Diss - Beryllium - Be	1 2 3 4 5 6 7 8 9 10	Beryllium - Be	1 2 3 4 5 6 7 8 9 10	GN Nitrite - NO ₂	1 2 3 4 5 6 7 8 9 10
METH - Methane, Ethane, Ethene	1 2 3 4 5 6 7 8 9 10	Diss - Cadmium - Cd	1 2 3 4 5 6 7 8 9 10	Cadmium - Cd	1 2 3 4 5 6 7 8 9 10	GN Nitrate - NO ₃ (Calc.)	1 2 3 4 5 6 7 8 9 10
Methane, Ethane, Ethene	1 2 3 4 5 6 7 8 9 10	Diss - Cobalt - Co	1 2 3 4 5 6 7 8 9 10	Cobalt - Co	1 2 3 4 5 6 7 8 9 10	GN Suspended Solids - SS	1 2 3 4 5 6 7 8 9 10
ON - Pesticides, PCBs	1 2 3 4 5 6 7 8 9 10	Diss - Chromium - Cr	1 2 3 4 5 6 7 8 9 10	Chromium - Cr	1 2 3 4 5 6 7 8 9 10	GN Dissolved Solids - TDS	1 2 3 4 5 6 7 8 9 10
Pesticides & PCBs	1 2 3 4 5 6 7 8 9 10	Diss - Copper - Cu	1 2 3 4 5 6 7 8 9 10	Copper - Cu	1 2 3 4 5 6 7 8 9 10	MN Diss Solids - TDS (Calc.)	1 2 3 4 5 6 7 8 9 10
Pesticides only	1 2 3 4 5 6 7 8 9 10	Diss - Iron - Fe	1 2 3 4 5 6 7 8 9 10	Iron - Fe	1 2 3 4 5 6 7 8 9 10	GN Turbidity	1 2 3 4 5 6 7 8 9 10
PCBs only	1 2 3 4 5 6 7 8 9 10	Diss - Mercury - Hg	1 2 3 4 5 6 7 8 9 10	Mercury - Hg	1 2 3 4 5 6 7 8 9 10	MN Total Alkalinity	1 2 3 4 5 6 7 8 9 10
Toxaphene	1 2 3 4 5 6 7 8 9 10	Diss - Lithium - Li	1 2 3 4 5 6 7 8 9 10	Lithium - Li	1 2 3 4 5 6 7 8 9 10	MN Bicarb/Carb Alkalinity	1 2 3 4 5 6 7 8 9 10
Chlordane	1 2 3 4 5 6 7 8 9 10	Diss - Manganese - Mn	1 2 3 4 5 6 7 8 9 10	Manganese - Mn	1 2 3 4 5 6 7 8 9 10	(Includes Total Alkalinity)	
BNA - Base Neutral Acids	1 2 3 4 5 6 7 8 9 10	Diss - Molybdenum - Mo	1 2 3 4 5 6 7 8 9 10	Molybdenum - Mo	1 2 3 4 5 6 7 8 9 10	MN Chloride - Cl	1 2 3 4 5 6 7 8 9 10
BNAs	1 2 3 4 5 6 7 8 9 10	Diss - Nickel - Ni	1 2 3 4 5 6 7 8 9 10	Nickel - Ni	1 2 3 4 5 6 7 8 9 10	MN Fluoride - F	1 2 3 4 5 6 7 8 9 10
Benzidines	1 2 3 4 5 6 7 8 9 10	Diss - Lead - Pb	1 2 3 4 5 6 7 8 9 10	Lead - Pb	1 2 3 4 5 6 7 8 9 10	MN Sulfate - SO ₄	1 2 3 4 5 6 7 8 9 10
PNAs only	1 2 3 4 5 6 7 8 9 10	Diss - Antimony - Sb	1 2 3 4 5 6 7 8 9 10	Antimony - Sb	1 2 3 4 5 6 7 8 9 10	MN Chromium 6 - Cr+6	1 2 3 4 5 6 7 8 9 10
BNs only	1 2 3 4 5 6 7 8 9 10	Diss - Selenium - Se	1 2 3 4 5 6 7 8 9 10	Selenium - Se	1 2 3 4 5 6 7 8 9 10	MN Conductivity	1 2 3 4 5 6 7 8 9 10
Acids only	1 2 3 4 5 6 7 8 9 10	Diss - Strontium - Sr	1 2 3 4 5 6 7 8 9 10	Strontium - Sr	1 2 3 4 5 6 7 8 9 10	MN pH	1 2 3 4 5 6 7 8 9 10
Organic Specialty Requests		Diss - Titanium - Ti	1 2 3 4 5 6 7 8 9 10	Titanium - Ti	1 2 3 4 5 6 7 8 9 10	GA Chem Oxyg Dem - COD	1 2 3 4 5 6 7 8 9 10
Library search - Volatiles	1 2 3 4 5 6 7 8 9 10	Diss - Thallium - Tl	1 2 3 4 5 6 7 8 9 10	Thallium - Tl	1 2 3 4 5 6 7 8 9 10	GA Diss Org Carbon - DOC (FF)	1 2 3 4 5 6 7 8 9 10
Library search - SemiVols	1 2 3 4 5 6 7 8 9 10	Diss - Uranium - U	1 2 3 4 5 6 7 8 9 10	Uranium - U	1 2 3 4 5 6 7 8 9 10	(Field - Filtered & Preserved)	
Finger Print	1 2 3 4 5 6 7 8 9 10	Diss - Vanadium - V	1 2 3 4 5 6 7 8 9 10	Vanadium - V	1 2 3 4 5 6 7 8 9 10	GN Diss Org Carbon - DOC (LF)	1 2 3 4 5 6 7 8 9 10
DRO / GRO	1 2 3 4 5 6 7 8 9 10	Diss - Zinc - Zn	1 2 3 4 5 6 7 8 9 10	Zinc - Zn	1 2 3 4 5 6 7 8 9 10	(Lab - Filtered & Preserved)	
METALS CHEMISTRY PACKAGES		Diss - Calcium - Ca	1 2 3 4 5 6 7 8 9 10	Calcium - Ca	1 2 3 4 5 6 7 8 9 10	GA Total Org Carbon - TOC	1 2 3 4 5 6 7 8 9 10
OpMemo2 - Total	1 2 3 4 5 6 7 8 9 10	Diss - Potassium - K	1 2 3 4 5 6 7 8 9 10	Potassium - K	1 2 3 4 5 6 7 8 9 10	GA Ammonia - NH ₃	1 2 3 4 5 6 7 8 9 10
OpMemo2 - Dissolved	1 2 3 4 5 6 7 8 9 10	Diss - Magnesium - Mg	1 2 3 4 5 6 7 8 9 10	Magnesium - Mg	1 2 3 4 5 6 7 8 9 10	GA Nitrate/Nitrite - NO ₃ /NO ₂	1 2 3 4 5 6 7 8 9 10
(Sb,As,Ba,Bi,Cd,Cr,Cu,Co,Fe,Pb,Mn,Hg,Mo,Ni,Se,Ag,Tl,V,Zn)		Diss - Sodium - Na	1 2 3 4 5 6 7 8 9 10	Sodium - Na	1 2 3 4 5 6 7 8 9 10	GA Kjeldahl Nitrogen - KN	1 2 3 4 5 6 7 8 9 10
Michigan10 - Total	1 2 3 4 5 6 7 8 9 10	Diss - Hardness - Ca, Mg	1 2 3 4 5 6 7 8 9 10	Hardness - Ca, Mg	1 2 3 4 5 6 7 8 9 10	GA Total Phosphorus - TP	1 2 3 4 5 6 7 8 9 10
Michigan10 - Dissolved	1 2 3 4 5 6 7 8 9 10	MD - Metals Dissolved		LHG - Low Level Mercury			
(As,Ba,Cd,Cr,Cu,Pb,Hg,Se,Ag,Zn)		Lab Filtration	1 2 3 4 5 6 7 8 9 10	Mercury Low Level - Hg	1 2 3 4 5 6 7 8 9 10		

Chain of Custody	Relinquished by	Received By	Date / Time
	Print Name & Org. Signature: JEFF PINCUMBE MDEQ	Print Name & Org. Signature: Melissa Smith	5/20/15 9:20
	Print Name & Org. Signature:	Print Name & Org. Signature:	
	Print Name & Org. Signature:	Print Name & Org. Signature:	

1505189-03

Smith, Carol (DEQ)

From: Liebau, Daniel <Daniel.Liebau@WestonSolutions.com>
Sent: Thursday, May 28, 2015 11:25 AM
To: Smith, Carol (DEQ)
Cc: Binkley, Jeffrey S.; Keranen, Amy (DEQ)
Subject: Abandoned Mining Wastes - Sample Analysis Request - Add Copper
Attachments: COCCopy.pdf

Hi Carol,

While preparing a chain of custody yesterday, it was noted that copper was omitted from one of the samples previously submitted for the Abandoned Mining Wastes Project.

Would it be possible to add copper analysis to the groundwater sample CHTC-GW39-6'-11' collected on 5/17/15. Please see the attached chain of custody for reference.

Thank you and please let me know if you have any question or need any additional information.

-Dan

Dan Liebau

Weston Solutions of Michigan, Inc.
P.O. Box 577
Houghton, MI 49931
906-523-5569 (Office) / 906-370-0524(Mobile)
www.westonsolutions.com

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**MICHIGAN DEPARTMENT OF ENVIRONMENTAL QUALITY
ENVIRONMENTAL LABORATORY**

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

11 June 2015

Work Order: 1505190

Price: \$3,247.00

Amy Keranen

MDEQ-RRD-UP

1504 W. Washington St.

Marquette, MI 49855

RE: ABANDONED MINING WASTES-TORCH LAKE NS

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**

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Lansing, MI 48909
TEL: (517) 335-9800
FAX: (517) 335-9600

MDEQ-RRD-UP
1504 W. Washington St.
Marquette MI, 49855

Project: ABANDONED MINING WASTES-TORCH LAKE NS
Site Code: 31000098
Project Manager: Amy Keranen

Reported:
06/11/2015

Analytical Report for Samples

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received	Qualifier
CHTC-SB-03-0-6"	1505190-01	Soil/Sediment	05/17/2015	05/20/2015	
CHTC-SB-03-6"-7"	1505190-02	Soil/Sediment	05/17/2015	05/20/2015	
CHTC-SB-11-0-6"	1505190-03	Soil/Sediment	05/17/2015	05/20/2015	
CHTC-SB-11-6"-7"	1505190-04	Soil/Sediment	05/17/2015	05/20/2015	
CHTC-SB-13-0-6"	1505190-05	Soil/Sediment	05/17/2015	05/20/2015	
CHTC-SB-13-6"-9'	1505190-06	Soil/Sediment	05/17/2015	05/20/2015	
CHTC-SB-12-0-6"	1505190-07	Soil/Sediment	05/17/2015	05/20/2015	
CHTC-SB-12-6"-11'	1505190-08	Soil/Sediment	05/17/2015	05/20/2015	
CHTC-SB-05-3-9"	1505190-09	Soil/Sediment	05/17/2015	05/20/2015	
CHTC-SB-05-9"-5'	1505190-10	Soil/Sediment	05/17/2015	05/20/2015	
CHTC-SB-05-9"-5' DUP	1505190-11	Soil/Sediment	05/17/2015	05/20/2015	
CHTC-SB-06-0-6"	1505190-12	Soil/Sediment	05/17/2015	05/20/2015	
CHTC-SB-06-6"-4'	1505190-13	Soil/Sediment	05/17/2015	05/20/2015	
CHTC-SB-44-0-6"	1505190-14	Soil/Sediment	05/17/2015	05/20/2015	
CHTC-SB-44-6"-4'	1505190-15	Soil/Sediment	05/17/2015	05/20/2015	

Notes and Definitions

Y25	Sample extract would not concentrate to the normal volume causing raised reporting limits.
Y21	Reporting Limits (RL) raised due to matrix interference.
Y20	Reporting Limits (RL) raised due to matrix.
X	Methods 8260 & 624 are used to analyze volatile organics that have boiling points below 200 °C. 2-Methylnaphthalene & naphthalene have boiling points above 200 °C and are better suited to analysis by methods 8270 & 625 as semivolatile organics.
T	Reported value is less than the reporting limit (RL). Result is estimated.
A04	Result is estimated due to high matrix spike recovery.
ND	Indicates compound analyzed for but not detected
RL	Reporting Limit
NA	Not Applicable
dry	Sample results reported on a dry weight basis



**MICHIGAN DEPARTMENT OF ENVIRONMENTAL QUALITY
ENVIRONMENTAL LABORATORY**

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

Client ID: CHTC-SB-03-0-6"

Lab ID: 1505190-01

CAS #	Analyte	Result	RL	Units	Dilution	Analyzed Date	QC Batch	Method	Qualifier
Organics-PCBs as Aroclors									
12674-11-2	Aroclor 1016	ND	110	ug/kg dry	1	06/09/15	B5F0210	8081/8082	
11104-28-2	Aroclor 1221	ND	110	ug/kg dry	1	06/09/15	B5F0210	8081/8082	
11141-16-5	Aroclor 1232	ND	110	ug/kg dry	1	06/09/15	B5F0210	8081/8082	
53469-21-9	Aroclor 1242	ND	110	ug/kg dry	1	06/09/15	B5F0210	8081/8082	
12672-29-6	Aroclor 1248	ND	110	ug/kg dry	1	06/09/15	B5F0210	8081/8082	
11097-69-1	Aroclor 1254	ND	110	ug/kg dry	1	06/09/15	B5F0210	8081/8082	
11096-82-5	Aroclor 1260	ND	110	ug/kg dry	1	06/09/15	B5F0210	8081/8082	
37324-23-5	Aroclor 1262	ND	110	ug/kg dry	1	06/09/15	B5F0210	8081/8082	
11100-14-4	Aroclor 1268	ND	110	ug/kg dry	1	06/09/15	B5F0210	8081/8082	
<i>Surrogate: Decachlorobiphenyl</i>			80.2 %	30-150		06/09/15	B5F0210	8081/8082	
<i>Surrogate: Tetrachloro-m-xylene</i>			78.2 %	30-150		06/09/15	B5F0210	8081/8082	
Inorganics-General Chemistry									
TS	% Total Solids	91.4	0.1	%	1	05/20/15	B5E2019	2540 B	



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TEL: (517) 335-9800
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Client ID: CHTC-SB-03-6''-7'

Lab ID: 1505190-02

CAS #	Analyte	Result	RL	Units	Dilution	Analyzed Date	QC Batch	Method	Qualifier
Organics-PCBs as Aroclors									
12674-11-2	Aroclor 1016	ND	150	ug/kg dry	1	06/09/15	B5F0210	8081/8082	
11104-28-2	Aroclor 1221	ND	150	ug/kg dry	1	06/09/15	B5F0210	8081/8082	
11141-16-5	Aroclor 1232	ND	150	ug/kg dry	1	06/09/15	B5F0210	8081/8082	
53469-21-9	Aroclor 1242	ND	150	ug/kg dry	1	06/09/15	B5F0210	8081/8082	
12672-29-6	Aroclor 1248	ND	150	ug/kg dry	1	06/09/15	B5F0210	8081/8082	
11097-69-1	Aroclor 1254	ND	150	ug/kg dry	1	06/09/15	B5F0210	8081/8082	
11096-82-5	Aroclor 1260	ND	150	ug/kg dry	1	06/09/15	B5F0210	8081/8082	
37324-23-5	Aroclor 1262	ND	150	ug/kg dry	1	06/09/15	B5F0210	8081/8082	
11100-14-4	Aroclor 1268	ND	150	ug/kg dry	1	06/09/15	B5F0210	8081/8082	
<i>Surrogate: Decachlorobiphenyl</i>			86.1 %	30-150		06/09/15	B5F0210	8081/8082	
<i>Surrogate: Tetrachloro-m-xylene</i>			79.3 %	30-150		06/09/15	B5F0210	8081/8082	
Inorganics-General Chemistry									
TS	% Total Solids	67.3	0.1	%	1	05/20/15	B5E2019	2540 B	



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Client ID: CHTC-SB-11-0-6"

Lab ID: 1505190-03

CAS #	Analyte	Result	RL	Units	Dilution	Analyzed Date	QC Batch	Method	Qualifier
Organics-PCBs as Aroclors									
12674-11-2	Aroclor 1016	ND	120	ug/kg dry	1	06/09/15	B5F0210	8081/8082	
11104-28-2	Aroclor 1221	ND	120	ug/kg dry	1	06/09/15	B5F0210	8081/8082	
11141-16-5	Aroclor 1232	ND	120	ug/kg dry	1	06/09/15	B5F0210	8081/8082	
53469-21-9	Aroclor 1242	ND	120	ug/kg dry	1	06/09/15	B5F0210	8081/8082	
12672-29-6	Aroclor 1248	ND	120	ug/kg dry	1	06/09/15	B5F0210	8081/8082	
11097-69-1	Aroclor 1254	ND	120	ug/kg dry	1	06/09/15	B5F0210	8081/8082	
11096-82-5	Aroclor 1260	ND	120	ug/kg dry	1	06/09/15	B5F0210	8081/8082	
37324-23-5	Aroclor 1262	ND	120	ug/kg dry	1	06/09/15	B5F0210	8081/8082	
11100-14-4	Aroclor 1268	ND	120	ug/kg dry	1	06/09/15	B5F0210	8081/8082	
Surrogate: Decachlorobiphenyl		67.4 %	30-150			06/09/15	B5F0210	8081/8082	
Surrogate: Tetrachloro-m-xylene		73.7 %	30-150			06/09/15	B5F0210	8081/8082	
Inorganics-General Chemistry									
TS	% Total Solids	86.5	0.1	%	1	05/20/15	B5E2019	2540 B	



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Client ID: CHTC-SB-11-6"-7'

Lab ID: 1505190-04

CAS #	Analyte	Result	RL	Units	Dilution	Analyzed Date	QC Batch	Method	Qualifier
Organics-Volatiles									
630-20-6	1,1,1,2-Tetrachloroethane	ND	67	ug/kg dry	50	05/27/15	B5E2708	8260	
71-55-6	1,1,1-Trichloroethane	ND	67	ug/kg dry	50	05/27/15	B5E2708	8260	
79-34-5	1,1,2,2-Tetrachloroethane	ND	67	ug/kg dry	50	05/27/15	B5E2708	8260	
79-00-5	1,1,2-Trichloroethane	ND	67	ug/kg dry	50	05/27/15	B5E2708	8260	
75-34-3	1,1-Dichloroethane	ND	67	ug/kg dry	50	05/27/15	B5E2708	8260	
75-35-4	1,1-Dichloroethylene	ND	67	ug/kg dry	50	05/27/15	B5E2708	8260	
87-61-6	1,2,3-Trichlorobenzene	ND	340	ug/kg dry	50	05/27/15	B5E2708	8260	
96-18-4	1,2,3-Trichloropropane	ND	67	ug/kg dry	50	05/27/15	B5E2708	8260	
526-73-8	1,2,3-Trimethylbenzene	ND	67	ug/kg dry	50	05/27/15	B5E2708	8260	
120-82-1	1,2,4-Trichlorobenzene	ND	340	ug/kg dry	50	05/27/15	B5E2708	8260	
95-63-6	1,2,4-Trimethylbenzene	ND	67	ug/kg dry	50	05/27/15	B5E2708	8260	
96-12-8	1,2-Dibromo-3-chloropropane	ND	340	ug/kg dry	50	05/27/15	B5E2708	8260	
106-93-4	1,2-Dibromoethane	ND	67	ug/kg dry	50	05/27/15	B5E2708	8260	
95-50-1	1,2-Dichlorobenzene	ND	67	ug/kg dry	50	05/27/15	B5E2708	8260	
107-06-2	1,2-Dichloroethane	ND	67	ug/kg dry	50	05/27/15	B5E2708	8260	
78-87-5	1,2-Dichloropropane	ND	67	ug/kg dry	50	05/27/15	B5E2708	8260	
108-67-8	1,3,5-Trimethylbenzene	ND	67	ug/kg dry	50	05/27/15	B5E2708	8260	
541-73-1	1,3-Dichlorobenzene	ND	67	ug/kg dry	50	05/27/15	B5E2708	8260	
106-46-7	1,4-Dichlorobenzene	ND	67	ug/kg dry	50	05/27/15	B5E2708	8260	
78-93-3	2-Butanone (MEK)	ND	340	ug/kg dry	50	05/27/15	B5E2708	8260	
591-78-6	2-Hexanone	ND	340	ug/kg dry	50	05/27/15	B5E2708	8260	
91-57-6	2-Methylnaphthalene	ND	340	ug/kg dry	50	05/27/15	B5E2708	8260	X
67-64-1	2-Propanone (acetone)	ND	1300	ug/kg dry	50	05/27/15	B5E2708	8260	
108-10-1	4-Methyl-2-pentanone (MIBK)	ND	340	ug/kg dry	50	05/27/15	B5E2708	8260	
107-13-1	Acrylonitrile	ND	340	ug/kg dry	50	05/27/15	B5E2708	8260	
71-43-2	Benzene	ND	67	ug/kg dry	50	05/27/15	B5E2708	8260	
108-86-1	Bromobenzene	ND	67	ug/kg dry	50	05/27/15	B5E2708	8260	
74-97-5	Bromochloromethane	ND	67	ug/kg dry	50	05/27/15	B5E2708	8260	
75-27-4	Bromodichloromethane	ND	67	ug/kg dry	50	05/27/15	B5E2708	8260	
75-25-2	Bromoform	ND	67	ug/kg dry	50	05/27/15	B5E2708	8260	
74-83-9	Bromomethane	ND	340	ug/kg dry	50	05/27/15	B5E2708	8260	
75-15-0	Carbon disulfide	ND	67	ug/kg dry	50	05/27/15	B5E2708	8260	
56-23-5	Carbon tetrachloride	ND	67	ug/kg dry	50	05/27/15	B5E2708	8260	
108-90-7	Chlorobenzene	ND	67	ug/kg dry	50	05/27/15	B5E2708	8260	
75-00-3	Chloroethane	ND	340	ug/kg dry	50	05/27/15	B5E2708	8260	
67-66-3	Chloroform	ND	67	ug/kg dry	50	05/27/15	B5E2708	8260	
74-87-3	Chloromethane	ND	340	ug/kg dry	50	05/27/15	B5E2708	8260	
156-59-2	cis-1,2-Dichloroethylene	ND	67	ug/kg dry	50	05/27/15	B5E2708	8260	
10061-01-5	cis-1,3-Dichloropropylene	ND	67	ug/kg dry	50	05/27/15	B5E2708	8260	
110-82-7	Cyclohexane	ND	340	ug/kg dry	50	05/27/15	B5E2708	8260	
124-48-1	Dibromochloromethane	ND	67	ug/kg dry	50	05/27/15	B5E2708	8260	



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Client ID: CHTC-SB-11-6''-7'

Lab ID: 1505190-04

CAS #	Analyte	Result	RL	Units	Dilution	Analyzed Date	QC Batch	Method	Qualifier
Organics-Volatiles									
74-95-3	Dibromomethane	ND	67	ug/kg dry	50	05/27/15	B5E2708	8260	
75-71-8	Dichlorodifluoromethane	ND	340	ug/kg dry	50	05/27/15	B5E2708	8260	
60-29-7	Diethyl ether	ND	340	ug/kg dry	50	05/27/15	B5E2708	8260	
108-20-3	Diisopropyl Ether	ND	340	ug/kg dry	50	05/27/15	B5E2708	8260	
100-41-4	Ethylbenzene	ND	67	ug/kg dry	50	05/27/15	B5E2708	8260	
637-92-3	Ethyltertiarybutylether	ND	340	ug/kg dry	50	05/27/15	B5E2708	8260	
67-72-1	Hexachloroethane	ND	340	ug/kg dry	50	05/27/15	B5E2708	8260	
98-82-8	Isopropylbenzene	ND	67	ug/kg dry	50	05/27/15	B5E2708	8260	
1330-20-7	m & p - Xylene	ND	130	ug/kg dry	50	05/27/15	B5E2708	8260	
74-88-4	Methyl iodide	ND	67	ug/kg dry	50	05/27/15	B5E2708	8260	
75-09-2	Methylene chloride	ND	340	ug/kg dry	50	05/27/15	B5E2708	8260	
1634-04-4	Methyltertiarybutylether	ND	67	ug/kg dry	50	05/27/15	B5E2708	8260	
91-20-3	Naphthalene	ND	340	ug/kg dry	50	05/27/15	B5E2708	8260	X
104-51-8	n-Butylbenzene	ND	67	ug/kg dry	50	05/27/15	B5E2708	8260	
103-65-1	n-Propylbenzene	ND	67	ug/kg dry	50	05/27/15	B5E2708	8260	
95-47-6	o-Xylene	ND	67	ug/kg dry	50	05/27/15	B5E2708	8260	
99-87-6	p-Isopropyl toluene	ND	67	ug/kg dry	50	05/27/15	B5E2708	8260	
135-98-8	sec-Butylbenzene	ND	67	ug/kg dry	50	05/27/15	B5E2708	8260	
100-42-5	Styrene	ND	67	ug/kg dry	50	05/27/15	B5E2708	8260	
98-06-6	tert-Butylbenzene	ND	67	ug/kg dry	50	05/27/15	B5E2708	8260	
75-65-0	tertiary Butyl Alcohol	ND	3400	ug/kg dry	50	05/27/15	B5E2708	8260	
994-05-8	tertiaryAmylmethylether	ND	340	ug/kg dry	50	05/27/15	B5E2708	8260	
127-18-4	Tetrachloroethylene	ND	67	ug/kg dry	50	05/27/15	B5E2708	8260	
109-99-9	Tetrahydrofuran	ND	340	ug/kg dry	50	05/27/15	B5E2708	8260	
108-88-3	Toluene	ND	67	ug/kg dry	50	05/27/15	B5E2708	8260	
156-60-5	trans-1,2-Dichloroethylene	ND	67	ug/kg dry	50	05/27/15	B5E2708	8260	
10061-02-6	trans-1,3-Dichloropropylene	ND	67	ug/kg dry	50	05/27/15	B5E2708	8260	
110-57-6	trans-1,4-Dichloro-2-butene	ND	340	ug/kg dry	50	05/27/15	B5E2708	8260	
79-01-6	Trichloroethylene	ND	67	ug/kg dry	50	05/27/15	B5E2708	8260	
75-69-4	Trichlorofluoromethane	ND	67	ug/kg dry	50	05/27/15	B5E2708	8260	
75-01-4	Vinyl chloride	ND	67	ug/kg dry	50	05/27/15	B5E2708	8260	
Surrogate: Bromofluorobenzene			230 %	40.3-194		05/27/15	B5E2708	8260	
Surrogate: Dibromofluoromethane			222 %	52.1-217		05/27/15	B5E2708	8260	
Surrogate: Toluene-d8			230 %	55.4-196		05/27/15	B5E2708	8260	



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Client ID: CHTC-SB-11-6"-7'

Lab ID: 1505190-04

CAS #	Analyte	Result	RL	Units	Dilution	Analyzed Date	QC Batch	Method	Qualifier
Organics-Semivolatiles									See note Y20
91-57-6	2-Methylnaphthalene	ND	580	ug/kg dry	1	05/27/15	B5E2017	8270	
83-32-9	Acenaphthene	ND	230	ug/kg dry	1	05/27/15	B5E2017	8270	
208-96-8	Acenaphthylene	ND	230	ug/kg dry	1	05/27/15	B5E2017	8270	
120-12-7	Anthracene	ND	230	ug/kg dry	1	05/27/15	B5E2017	8270	
56-55-3	Benz[a]anthracene	460	230	ug/kg dry	1	05/27/15	B5E2017	8270	
50-32-8	Benzo[a]pyrene	ND	460	ug/kg dry	1	05/27/15	B5E2017	8270	
205-99-2	Benzo[b]fluoranthene	ND	460	ug/kg dry	1	05/27/15	B5E2017	8270	
191-24-2	Benzo[g,h,i]perylene	ND	460	ug/kg dry	1	05/27/15	B5E2017	8270	
207-08-9	Benzo[k]fluoranthene	ND	460	ug/kg dry	1	05/27/15	B5E2017	8270	
218-01-9	Chrysene	490	230	ug/kg dry	1	05/27/15	B5E2017	8270	
53-70-3	Dibenz[a,h]anthracene	ND	460	ug/kg dry	1	05/27/15	B5E2017	8270	
206-44-0	Fluoranthene	770	230	ug/kg dry	1	05/27/15	B5E2017	8270	
86-73-7	Fluorene	ND	230	ug/kg dry	1	05/27/15	B5E2017	8270	
193-39-5	Indeno(1,2,3-c,d)pyrene	ND	460	ug/kg dry	1	05/27/15	B5E2017	8270	
91-20-3	Naphthalene	ND	230	ug/kg dry	1	05/27/15	B5E2017	8270	
85-01-8	Phenanthrene	230	230	ug/kg dry	1	05/27/15	B5E2017	8270	
129-00-0	Pyrene	1200	230	ug/kg dry	1	05/27/15	B5E2017	8270	
<i>Surrogate: 2-Fluorobiphenyl</i>			65.7 %	32.9-115		05/27/15	B5E2017	8270	
<i>Surrogate: Nitrobenzene-d5</i>			59.2 %	31.8-115		05/27/15	B5E2017	8270	
<i>Surrogate: p-Terphenyl-d14</i>			66.8 %	38.5-115		05/27/15	B5E2017	8270	
Organics-PCBs as Aroclors									
12674-11-2	Aroclor 1016	ND	120	ug/kg dry	1	06/09/15	B5F0210	8081/8082	
11104-28-2	Aroclor 1221	ND	120	ug/kg dry	1	06/09/15	B5F0210	8081/8082	
11141-16-5	Aroclor 1232	ND	120	ug/kg dry	1	06/09/15	B5F0210	8081/8082	
53469-21-9	Aroclor 1242	ND	120	ug/kg dry	1	06/09/15	B5F0210	8081/8082	
12672-29-6	Aroclor 1248	ND	120	ug/kg dry	1	06/09/15	B5F0210	8081/8082	
11097-69-1	Aroclor 1254	ND	120	ug/kg dry	1	06/09/15	B5F0210	8081/8082	
11096-82-5	Aroclor 1260	ND	120	ug/kg dry	1	06/09/15	B5F0210	8081/8082	
37324-23-5	Aroclor 1262	ND	120	ug/kg dry	1	06/09/15	B5F0210	8081/8082	
11100-14-4	Aroclor 1268	ND	120	ug/kg dry	1	06/09/15	B5F0210	8081/8082	
<i>Surrogate: Decachlorobiphenyl</i>			74.7 %	30-150		06/09/15	B5F0210	8081/8082	
<i>Surrogate: Tetrachloro-m-xylene</i>			76.3 %	30-150		06/09/15	B5F0210	8081/8082	



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Client ID: CHTC-SB-11-6''-7'

Lab ID: 1505190-04

CAS #	Analyte	Result	RL	Units	Dilution	Analyzed Date	QC Batch	Method	Qualifier
Inorganics-General Chemistry									
TS	% Total Solids	86.9	0.1	%	1	05/20/15	B5E2019	2540 B	



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Client ID: CHTC-SB-13-0-6"

Lab ID: 1505190-05

CAS #	Analyte	Result	RL	Units	Dilution	Analyzed Date	QC Batch	Method	Qualifier
Organics-PCBs as Aroclors									
12674-11-2	Aroclor 1016	ND	110	ug/kg dry	1	06/09/15	B5F0210	8081/8082	
11104-28-2	Aroclor 1221	ND	110	ug/kg dry	1	06/09/15	B5F0210	8081/8082	
11141-16-5	Aroclor 1232	ND	110	ug/kg dry	1	06/09/15	B5F0210	8081/8082	
53469-21-9	Aroclor 1242	ND	110	ug/kg dry	1	06/09/15	B5F0210	8081/8082	
12672-29-6	Aroclor 1248	ND	110	ug/kg dry	1	06/09/15	B5F0210	8081/8082	
11097-69-1	Aroclor 1254	ND	110	ug/kg dry	1	06/09/15	B5F0210	8081/8082	
11096-82-5	Aroclor 1260	ND	110	ug/kg dry	1	06/09/15	B5F0210	8081/8082	
37324-23-5	Aroclor 1262	ND	110	ug/kg dry	1	06/09/15	B5F0210	8081/8082	
11100-14-4	Aroclor 1268	ND	110	ug/kg dry	1	06/09/15	B5F0210	8081/8082	
Surrogate: Decachlorobiphenyl		80.8 %		30-150		06/09/15	B5F0210	8081/8082	
Surrogate: Tetrachloro-m-xylene		69.4 %		30-150		06/09/15	B5F0210	8081/8082	
Inorganics-General Chemistry									
TS	% Total Solids	90.8	0.1	%	1	05/20/15	B5E2019	2540 B	



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ENVIRONMENTAL LABORATORY**

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Client ID: CHTC-SB-13-6"-9'

Lab ID: 1505190-06

CAS #	Analyte	Result	RL	Units	Dilution	Analyzed Date	QC Batch	Method	Qualifier
Organics-Volatiles									
630-20-6	1,1,1,2-Tetrachloroethane	ND	74	ug/kg dry	50	05/27/15	B5E2708	8260	
71-55-6	1,1,1-Trichloroethane	ND	74	ug/kg dry	50	05/27/15	B5E2708	8260	
79-34-5	1,1,2,2-Tetrachloroethane	ND	74	ug/kg dry	50	05/27/15	B5E2708	8260	
79-00-5	1,1,2-Trichloroethane	ND	74	ug/kg dry	50	05/27/15	B5E2708	8260	
75-34-3	1,1-Dichloroethane	ND	74	ug/kg dry	50	05/27/15	B5E2708	8260	
75-35-4	1,1-Dichloroethylene	ND	74	ug/kg dry	50	05/27/15	B5E2708	8260	
87-61-6	1,2,3-Trichlorobenzene	ND	370	ug/kg dry	50	05/27/15	B5E2708	8260	
96-18-4	1,2,3-Trichloropropane	ND	74	ug/kg dry	50	05/27/15	B5E2708	8260	
526-73-8	1,2,3-Trimethylbenzene	ND	74	ug/kg dry	50	05/27/15	B5E2708	8260	
120-82-1	1,2,4-Trichlorobenzene	ND	370	ug/kg dry	50	05/27/15	B5E2708	8260	
95-63-6	1,2,4-Trimethylbenzene	ND	74	ug/kg dry	50	05/27/15	B5E2708	8260	
96-12-8	1,2-Dibromo-3-chloropropane	ND	370	ug/kg dry	50	05/27/15	B5E2708	8260	
106-93-4	1,2-Dibromoethane	ND	74	ug/kg dry	50	05/27/15	B5E2708	8260	
95-50-1	1,2-Dichlorobenzene	ND	74	ug/kg dry	50	05/27/15	B5E2708	8260	
107-06-2	1,2-Dichloroethane	ND	74	ug/kg dry	50	05/27/15	B5E2708	8260	
78-87-5	1,2-Dichloropropane	ND	74	ug/kg dry	50	05/27/15	B5E2708	8260	
108-67-8	1,3,5-Trimethylbenzene	ND	74	ug/kg dry	50	05/27/15	B5E2708	8260	
541-73-1	1,3-Dichlorobenzene	ND	74	ug/kg dry	50	05/27/15	B5E2708	8260	
106-46-7	1,4-Dichlorobenzene	ND	74	ug/kg dry	50	05/27/15	B5E2708	8260	
78-93-3	2-Butanone (MEK)	ND	370	ug/kg dry	50	05/27/15	B5E2708	8260	
591-78-6	2-Hexanone	ND	370	ug/kg dry	50	05/27/15	B5E2708	8260	
91-57-6	2-Methylnaphthalene	ND	370	ug/kg dry	50	05/27/15	B5E2708	8260	X
67-64-1	2-Propanone (acetone)	ND	1500	ug/kg dry	50	05/27/15	B5E2708	8260	
108-10-1	4-Methyl-2-pentanone (MIBK)	ND	370	ug/kg dry	50	05/27/15	B5E2708	8260	
107-13-1	Acrylonitrile	ND	370	ug/kg dry	50	05/27/15	B5E2708	8260	
71-43-2	Benzene	ND	74	ug/kg dry	50	05/27/15	B5E2708	8260	
108-86-1	Bromobenzene	ND	74	ug/kg dry	50	05/27/15	B5E2708	8260	
74-97-5	Bromochloromethane	ND	74	ug/kg dry	50	05/27/15	B5E2708	8260	
75-27-4	Bromodichloromethane	ND	74	ug/kg dry	50	05/27/15	B5E2708	8260	
75-25-2	Bromoform	ND	74	ug/kg dry	50	05/27/15	B5E2708	8260	
74-83-9	Bromomethane	ND	370	ug/kg dry	50	05/27/15	B5E2708	8260	
75-15-0	Carbon disulfide	ND	74	ug/kg dry	50	05/27/15	B5E2708	8260	
56-23-5	Carbon tetrachloride	ND	74	ug/kg dry	50	05/27/15	B5E2708	8260	
108-90-7	Chlorobenzene	ND	74	ug/kg dry	50	05/27/15	B5E2708	8260	
75-00-3	Chloroethane	ND	370	ug/kg dry	50	05/27/15	B5E2708	8260	
67-66-3	Chloroform	ND	74	ug/kg dry	50	05/27/15	B5E2708	8260	
74-87-3	Chloromethane	ND	370	ug/kg dry	50	05/27/15	B5E2708	8260	
156-59-2	cis-1,2-Dichloroethylene	ND	74	ug/kg dry	50	05/27/15	B5E2708	8260	
10061-01-5	cis-1,3-Dichloropropylene	ND	74	ug/kg dry	50	05/27/15	B5E2708	8260	
110-82-7	Cyclohexane	ND	370	ug/kg dry	50	05/27/15	B5E2708	8260	
124-48-1	Dibromochloromethane	ND	74	ug/kg dry	50	05/27/15	B5E2708	8260	



**MICHIGAN DEPARTMENT OF ENVIRONMENTAL QUALITY
ENVIRONMENTAL LABORATORY**

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

Client ID: CHTC-SB-13-6"-9'

Lab ID: 1505190-06

CAS #	Analyte	Result	RL	Units	Dilution	Analyzed Date	QC Batch	Method	Qualifier
Organics-Volatiles									
74-95-3	Dibromomethane	ND	74	ug/kg dry	50	05/27/15	B5E2708	8260	
75-71-8	Dichlorodifluoromethane	ND	370	ug/kg dry	50	05/27/15	B5E2708	8260	
60-29-7	Diethyl ether	ND	370	ug/kg dry	50	05/27/15	B5E2708	8260	
108-20-3	Diisopropyl Ether	ND	370	ug/kg dry	50	05/27/15	B5E2708	8260	
100-41-4	Ethylbenzene	ND	74	ug/kg dry	50	05/27/15	B5E2708	8260	
637-92-3	Ethyltertiarybutylether	ND	370	ug/kg dry	50	05/27/15	B5E2708	8260	
67-72-1	Hexachloroethane	ND	370	ug/kg dry	50	05/27/15	B5E2708	8260	
98-82-8	Isopropylbenzene	ND	74	ug/kg dry	50	05/27/15	B5E2708	8260	
1330-20-7	m & p - Xylene	ND	150	ug/kg dry	50	05/27/15	B5E2708	8260	
74-88-4	Methyl iodide	ND	74	ug/kg dry	50	05/27/15	B5E2708	8260	
75-09-2	Methylene chloride	ND	370	ug/kg dry	50	05/27/15	B5E2708	8260	
1634-04-4	Methyltertiarybutylether	ND	74	ug/kg dry	50	05/27/15	B5E2708	8260	
91-20-3	Naphthalene	ND	370	ug/kg dry	50	05/27/15	B5E2708	8260	X
104-51-8	n-Butylbenzene	ND	74	ug/kg dry	50	05/27/15	B5E2708	8260	
103-65-1	n-Propylbenzene	ND	74	ug/kg dry	50	05/27/15	B5E2708	8260	
95-47-6	o-Xylene	ND	74	ug/kg dry	50	05/27/15	B5E2708	8260	
99-87-6	p-Isopropyl toluene	ND	74	ug/kg dry	50	05/27/15	B5E2708	8260	
135-98-8	sec-Butylbenzene	ND	74	ug/kg dry	50	05/27/15	B5E2708	8260	
100-42-5	Styrene	ND	74	ug/kg dry	50	05/27/15	B5E2708	8260	
98-06-6	tert-Butylbenzene	ND	74	ug/kg dry	50	05/27/15	B5E2708	8260	
75-65-0	tertiary Butyl Alcohol	ND	3700	ug/kg dry	50	05/27/15	B5E2708	8260	
994-05-8	tertiaryAmylmethylether	ND	370	ug/kg dry	50	05/27/15	B5E2708	8260	
127-18-4	Tetrachloroethylene	ND	74	ug/kg dry	50	05/27/15	B5E2708	8260	
109-99-9	Tetrahydrofuran	ND	370	ug/kg dry	50	05/27/15	B5E2708	8260	
108-88-3	Toluene	ND	74	ug/kg dry	50	05/27/15	B5E2708	8260	
156-60-5	trans-1,2-Dichloroethylene	ND	74	ug/kg dry	50	05/27/15	B5E2708	8260	
10061-02-6	trans-1,3-Dichloropropylene	ND	74	ug/kg dry	50	05/27/15	B5E2708	8260	
110-57-6	trans-1,4-Dichloro-2-butene	ND	370	ug/kg dry	50	05/27/15	B5E2708	8260	
79-01-6	Trichloroethylene	ND	74	ug/kg dry	50	05/27/15	B5E2708	8260	
75-69-4	Trichlorofluoromethane	ND	74	ug/kg dry	50	05/27/15	B5E2708	8260	
75-01-4	Vinyl chloride	ND	74	ug/kg dry	50	05/27/15	B5E2708	8260	
<i>Surrogate: Bromofluorobenzene</i>			<i>125 %</i>	<i>40.3-194</i>		<i>05/27/15</i>	<i>B5E2708</i>	<i>8260</i>	
<i>Surrogate: Dibromofluoromethane</i>			<i>122 %</i>	<i>52.1-217</i>		<i>05/27/15</i>	<i>B5E2708</i>	<i>8260</i>	
<i>Surrogate: Toluene-d8</i>			<i>127 %</i>	<i>55.4-196</i>		<i>05/27/15</i>	<i>B5E2708</i>	<i>8260</i>	



**MICHIGAN DEPARTMENT OF ENVIRONMENTAL QUALITY
ENVIRONMENTAL LABORATORY**

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

Client ID: CHTC-SB-13-6"-9'

Lab ID: 1505190-06

CAS #	Analyte	Result	RL	Units	Dilution	Analyzed Date	QC Batch	Method	Qualifier
Organics-Semivolatiles									See note Y20
91-57-6	2-Methylnaphthalene	ND	610	ug/kg dry	1	06/01/15	B5E2617	8270	
83-32-9	Acenaphthene	ND	250	ug/kg dry	1	06/01/15	B5E2617	8270	
208-96-8	Acenaphthylene	ND	250	ug/kg dry	1	06/01/15	B5E2617	8270	
120-12-7	Anthracene	ND	250	ug/kg dry	1	06/01/15	B5E2617	8270	
56-55-3	Benz[a]anthracene	ND	250	ug/kg dry	1	06/01/15	B5E2617	8270	
50-32-8	Benzo[a]pyrene	ND	490	ug/kg dry	1	06/01/15	B5E2617	8270	
205-99-2	Benzo[b]fluoranthene	ND	490	ug/kg dry	1	06/01/15	B5E2617	8270	
191-24-2	Benzo[g,h,i]perylene	ND	490	ug/kg dry	1	06/01/15	B5E2617	8270	
207-08-9	Benzo[k]fluoranthene	ND	490	ug/kg dry	1	06/01/15	B5E2617	8270	
218-01-9	Chrysene	ND	250	ug/kg dry	1	06/01/15	B5E2617	8270	
53-70-3	Dibenz[a,h]anthracene	ND	490	ug/kg dry	1	06/01/15	B5E2617	8270	
206-44-0	Fluoranthene	ND	250	ug/kg dry	1	06/01/15	B5E2617	8270	
86-73-7	Fluorene	ND	250	ug/kg dry	1	06/01/15	B5E2617	8270	
193-39-5	Indeno(1,2,3-c,d)pyrene	ND	490	ug/kg dry	1	06/01/15	B5E2617	8270	
91-20-3	Naphthalene	ND	250	ug/kg dry	1	06/01/15	B5E2617	8270	
85-01-8	Phenanthrene	ND	250	ug/kg dry	1	06/01/15	B5E2617	8270	
129-00-0	Pyrene	ND	250	ug/kg dry	1	06/01/15	B5E2617	8270	
<i>Surrogate: 2-Fluorobiphenyl</i>			78.8 %	32.9-115		06/01/15	B5E2617	8270	
<i>Surrogate: Nitrobenzene-d5</i>			60.2 %	31.8-115		06/01/15	B5E2617	8270	
<i>Surrogate: p-Terphenyl-d14</i>			84.0 %	38.5-115		06/01/15	B5E2617	8270	
Organics-PCBs as Aroclors									
12674-11-2	Aroclor 1016	ND	120	ug/kg dry	1	06/10/15	B5F0210	8081/8082	
11104-28-2	Aroclor 1221	ND	120	ug/kg dry	1	06/10/15	B5F0210	8081/8082	
11141-16-5	Aroclor 1232	ND	120	ug/kg dry	1	06/10/15	B5F0210	8081/8082	
53469-21-9	Aroclor 1242	ND	120	ug/kg dry	1	06/10/15	B5F0210	8081/8082	
12672-29-6	Aroclor 1248	ND	120	ug/kg dry	1	06/10/15	B5F0210	8081/8082	
11097-69-1	Aroclor 1254	ND	120	ug/kg dry	1	06/10/15	B5F0210	8081/8082	
11096-82-5	Aroclor 1260	ND	140	ug/kg dry	1	06/10/15	B5F0210	8081/8082	Y21
37324-23-5	Aroclor 1262	ND	140	ug/kg dry	1	06/10/15	B5F0210	8081/8082	Y21
11100-14-4	Aroclor 1268	ND	120	ug/kg dry	1	06/10/15	B5F0210	8081/8082	
<i>Surrogate: Decachlorobiphenyl</i>			97.8 %	30-150		06/10/15	B5F0210	8081/8082	
<i>Surrogate: Tetrachloro-m-xylene</i>			85.9 %	30-150		06/10/15	B5F0210	8081/8082	



**MICHIGAN DEPARTMENT OF ENVIRONMENTAL QUALITY
ENVIRONMENTAL LABORATORY**

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

Client ID: CHTC-SB-13-6''-9'

Lab ID: 1505190-06

CAS #	Analyte	Result	RL	Units	Dilution	Analyzed Date	QC Batch	Method	Qualifier
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Inorganics-General Chemistry

TS	% Total Solids	81.3	0.1	%	1	05/20/15	B5E2019	2540 B	
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MICHIGAN DEPARTMENT OF ENVIRONMENTAL QUALITY
ENVIRONMENTAL LABORATORY

P.O. Box 30270
Lansing, MI 48909
TEL: (517) 335-9800
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Client ID: CHTC-SB-12-0-6"

Lab ID: 1505190-07

CAS #	Analyte	Result	RL	Units	Dilution	Analyzed Date	QC Batch	Method	Qualifier
Organics-PCBs as Aroclors									
12674-11-2	Aroclor 1016	ND	110	ug/kg dry	1	06/10/15	B5F0210	8081/8082	
11104-28-2	Aroclor 1221	ND	110	ug/kg dry	1	06/10/15	B5F0210	8081/8082	
11141-16-5	Aroclor 1232	ND	110	ug/kg dry	1	06/10/15	B5F0210	8081/8082	
53469-21-9	Aroclor 1242	ND	110	ug/kg dry	1	06/10/15	B5F0210	8081/8082	
12672-29-6	Aroclor 1248	ND	110	ug/kg dry	1	06/10/15	B5F0210	8081/8082	
11097-69-1	Aroclor 1254	ND	110	ug/kg dry	1	06/10/15	B5F0210	8081/8082	
11096-82-5	Aroclor 1260	ND	110	ug/kg dry	1	06/10/15	B5F0210	8081/8082	
37324-23-5	Aroclor 1262	ND	110	ug/kg dry	1	06/10/15	B5F0210	8081/8082	
11100-14-4	Aroclor 1268	ND	110	ug/kg dry	1	06/10/15	B5F0210	8081/8082	
Surrogate: Decachlorobiphenyl		76.5 %		30-150		06/10/15	B5F0210	8081/8082	
Surrogate: Tetrachloro-m-xylene		78.0 %		30-150		06/10/15	B5F0210	8081/8082	
Inorganics-General Chemistry									
TS	% Total Solids	90.7	0.1	%	1	05/20/15	B5E2019	2540 B	



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ENVIRONMENTAL LABORATORY**

P.O. Box 30270
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TEL: (517) 335-9800
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Client ID: CHTC-SB-12-6"-11'

Lab ID: 1505190-08

CAS #	Analyte	Result	RL	Units	Dilution	Analyzed Date	QC Batch	Method	Qualifier
Organics-Volatiles									
630-20-6	1,1,1,2-Tetrachloroethane	ND	99	ug/kg dry	50	05/27/15	B5E2708	8260	
71-55-6	1,1,1-Trichloroethane	ND	99	ug/kg dry	50	05/27/15	B5E2708	8260	
79-34-5	1,1,2,2-Tetrachloroethane	ND	99	ug/kg dry	50	05/27/15	B5E2708	8260	
79-00-5	1,1,2-Trichloroethane	ND	99	ug/kg dry	50	05/27/15	B5E2708	8260	
75-34-3	1,1-Dichloroethane	ND	99	ug/kg dry	50	05/27/15	B5E2708	8260	
75-35-4	1,1-Dichloroethylene	ND	99	ug/kg dry	50	05/27/15	B5E2708	8260	
87-61-6	1,2,3-Trichlorobenzene	ND	500	ug/kg dry	50	05/27/15	B5E2708	8260	
96-18-4	1,2,3-Trichloropropane	ND	99	ug/kg dry	50	05/27/15	B5E2708	8260	
526-73-8	1,2,3-Trimethylbenzene	ND	99	ug/kg dry	50	05/27/15	B5E2708	8260	
120-82-1	1,2,4-Trichlorobenzene	ND	500	ug/kg dry	50	05/27/15	B5E2708	8260	
95-63-6	1,2,4-Trimethylbenzene	ND	99	ug/kg dry	50	05/27/15	B5E2708	8260	
96-12-8	1,2-Dibromo-3-chloropropane	ND	500	ug/kg dry	50	05/27/15	B5E2708	8260	
106-93-4	1,2-Dibromoethane	ND	99	ug/kg dry	50	05/27/15	B5E2708	8260	
95-50-1	1,2-Dichlorobenzene	ND	99	ug/kg dry	50	05/27/15	B5E2708	8260	
107-06-2	1,2-Dichloroethane	ND	99	ug/kg dry	50	05/27/15	B5E2708	8260	
78-87-5	1,2-Dichloropropane	ND	99	ug/kg dry	50	05/27/15	B5E2708	8260	
108-67-8	1,3,5-Trimethylbenzene	ND	99	ug/kg dry	50	05/27/15	B5E2708	8260	
541-73-1	1,3-Dichlorobenzene	ND	99	ug/kg dry	50	05/27/15	B5E2708	8260	
106-46-7	1,4-Dichlorobenzene	ND	99	ug/kg dry	50	05/27/15	B5E2708	8260	
78-93-3	2-Butanone (MEK)	ND	500	ug/kg dry	50	05/27/15	B5E2708	8260	
591-78-6	2-Hexanone	ND	500	ug/kg dry	50	05/27/15	B5E2708	8260	
91-57-6	2-Methylnaphthalene	ND	500	ug/kg dry	50	05/27/15	B5E2708	8260	X
67-64-1	2-Propanone (acetone)	ND	2000	ug/kg dry	50	05/27/15	B5E2708	8260	
108-10-1	4-Methyl-2-pentanone (MIBK)	ND	500	ug/kg dry	50	05/27/15	B5E2708	8260	
107-13-1	Acrylonitrile	ND	500	ug/kg dry	50	05/27/15	B5E2708	8260	
71-43-2	Benzene	ND	99	ug/kg dry	50	05/27/15	B5E2708	8260	
108-86-1	Bromobenzene	ND	99	ug/kg dry	50	05/27/15	B5E2708	8260	
74-97-5	Bromochloromethane	ND	99	ug/kg dry	50	05/27/15	B5E2708	8260	
75-27-4	Bromodichloromethane	ND	99	ug/kg dry	50	05/27/15	B5E2708	8260	
75-25-2	Bromoform	ND	99	ug/kg dry	50	05/27/15	B5E2708	8260	
74-83-9	Bromomethane	ND	500	ug/kg dry	50	05/27/15	B5E2708	8260	
75-15-0	Carbon disulfide	ND	99	ug/kg dry	50	05/27/15	B5E2708	8260	
56-23-5	Carbon tetrachloride	ND	99	ug/kg dry	50	05/27/15	B5E2708	8260	
108-90-7	Chlorobenzene	ND	99	ug/kg dry	50	05/27/15	B5E2708	8260	
75-00-3	Chloroethane	ND	500	ug/kg dry	50	05/27/15	B5E2708	8260	
67-66-3	Chloroform	ND	99	ug/kg dry	50	05/27/15	B5E2708	8260	
74-87-3	Chloromethane	ND	500	ug/kg dry	50	05/27/15	B5E2708	8260	
156-59-2	cis-1,2-Dichloroethylene	ND	99	ug/kg dry	50	05/27/15	B5E2708	8260	
10061-01-5	cis-1,3-Dichloropropylene	ND	99	ug/kg dry	50	05/27/15	B5E2708	8260	
110-82-7	Cyclohexane	ND	500	ug/kg dry	50	05/27/15	B5E2708	8260	
124-48-1	Dibromochloromethane	ND	99	ug/kg dry	50	05/27/15	B5E2708	8260	



**MICHIGAN DEPARTMENT OF ENVIRONMENTAL QUALITY
ENVIRONMENTAL LABORATORY**

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

Client ID: CHTC-SB-12-6"-11'

Lab ID: 1505190-08

CAS #	Analyte	Result	RL	Units	Dilution	Analyzed Date	QC Batch	Method	Qualifier
Organics-Volatiles									
74-95-3	Dibromomethane	ND	99	ug/kg dry	50	05/27/15	B5E2708	8260	
75-71-8	Dichlorodifluoromethane	ND	500	ug/kg dry	50	05/27/15	B5E2708	8260	
60-29-7	Diethyl ether	ND	500	ug/kg dry	50	05/27/15	B5E2708	8260	
108-20-3	Diisopropyl Ether	ND	500	ug/kg dry	50	05/27/15	B5E2708	8260	
100-41-4	Ethylbenzene	ND	99	ug/kg dry	50	05/27/15	B5E2708	8260	
637-92-3	Ethyltertiarybutylether	ND	500	ug/kg dry	50	05/27/15	B5E2708	8260	
67-72-1	Hexachloroethane	ND	500	ug/kg dry	50	05/27/15	B5E2708	8260	
98-82-8	Isopropylbenzene	ND	99	ug/kg dry	50	05/27/15	B5E2708	8260	
1330-20-7	m & p - Xylene	ND	200	ug/kg dry	50	05/27/15	B5E2708	8260	
74-88-4	Methyl iodide	ND	99	ug/kg dry	50	05/27/15	B5E2708	8260	
75-09-2	Methylene chloride	ND	500	ug/kg dry	50	05/27/15	B5E2708	8260	
1634-04-4	Methyltertiarybutylether	ND	99	ug/kg dry	50	05/27/15	B5E2708	8260	
91-20-3	Naphthalene	ND	500	ug/kg dry	50	05/27/15	B5E2708	8260	X
104-51-8	n-Butylbenzene	ND	99	ug/kg dry	50	05/27/15	B5E2708	8260	
103-65-1	n-Propylbenzene	ND	99	ug/kg dry	50	05/27/15	B5E2708	8260	
95-47-6	o-Xylene	ND	99	ug/kg dry	50	05/27/15	B5E2708	8260	
99-87-6	p-Isopropyl toluene	ND	99	ug/kg dry	50	05/27/15	B5E2708	8260	
135-98-8	sec-Butylbenzene	ND	99	ug/kg dry	50	05/27/15	B5E2708	8260	
100-42-5	Styrene	ND	99	ug/kg dry	50	05/27/15	B5E2708	8260	
98-06-6	tert-Butylbenzene	ND	99	ug/kg dry	50	05/27/15	B5E2708	8260	
75-65-0	tertiary Butyl Alcohol	ND	5000	ug/kg dry	50	05/27/15	B5E2708	8260	
994-05-8	tertiaryAmylmethylether	ND	500	ug/kg dry	50	05/27/15	B5E2708	8260	
127-18-4	Tetrachloroethylene	ND	99	ug/kg dry	50	05/27/15	B5E2708	8260	
109-99-9	Tetrahydrofuran	ND	500	ug/kg dry	50	05/27/15	B5E2708	8260	
108-88-3	Toluene	ND	99	ug/kg dry	50	05/27/15	B5E2708	8260	
156-60-5	trans-1,2-Dichloroethylene	ND	99	ug/kg dry	50	05/27/15	B5E2708	8260	
10061-02-6	trans-1,3-Dichloropropylene	ND	99	ug/kg dry	50	05/27/15	B5E2708	8260	
110-57-6	trans-1,4-Dichloro-2-butene	ND	500	ug/kg dry	50	05/27/15	B5E2708	8260	
79-01-6	Trichloroethylene	ND	99	ug/kg dry	50	05/27/15	B5E2708	8260	
75-69-4	Trichlorofluoromethane	ND	99	ug/kg dry	50	05/27/15	B5E2708	8260	
75-01-4	Vinyl chloride	ND	99	ug/kg dry	50	05/27/15	B5E2708	8260	
Surrogate: Bromofluorobenzene			144 %	40.3-194		05/27/15	B5E2708	8260	
Surrogate: Dibromofluoromethane			139 %	52.1-217		05/27/15	B5E2708	8260	
Surrogate: Toluene-d8			145 %	55.4-196		05/27/15	B5E2708	8260	



**MICHIGAN DEPARTMENT OF ENVIRONMENTAL QUALITY
ENVIRONMENTAL LABORATORY**

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

Client ID: CHTC-SB-12-6"-11'

Lab ID: 1505190-08

CAS #	Analyte	Result	RL	Units	Dilution	Analyzed Date	QC Batch	Method	Qualifier
Organics-Semivolatiles									See note Y20
91-57-6	2-Methylnaphthalene	ND	710	ug/kg dry	1	06/01/15	B5E2617	8270	
83-32-9	Acenaphthene	ND	280	ug/kg dry	1	06/01/15	B5E2617	8270	
208-96-8	Acenaphthylene	ND	280	ug/kg dry	1	06/01/15	B5E2617	8270	
120-12-7	Anthracene	ND	280	ug/kg dry	1	06/01/15	B5E2617	8270	
56-55-3	Benz[a]anthracene	ND	280	ug/kg dry	1	06/01/15	B5E2617	8270	
50-32-8	Benzo[a]pyrene	ND	570	ug/kg dry	1	06/01/15	B5E2617	8270	
205-99-2	Benzo[b]fluoranthene	ND	570	ug/kg dry	1	06/01/15	B5E2617	8270	
191-24-2	Benzo[g,h,i]perylene	ND	570	ug/kg dry	1	06/01/15	B5E2617	8270	
207-08-9	Benzo[k]fluoranthene	ND	570	ug/kg dry	1	06/01/15	B5E2617	8270	
218-01-9	Chrysene	ND	280	ug/kg dry	1	06/01/15	B5E2617	8270	
53-70-3	Dibenz[a,h]anthracene	ND	570	ug/kg dry	1	06/01/15	B5E2617	8270	
206-44-0	Fluoranthene	ND	280	ug/kg dry	1	06/01/15	B5E2617	8270	
86-73-7	Fluorene	ND	280	ug/kg dry	1	06/01/15	B5E2617	8270	
193-39-5	Indeno(1,2,3-c,d)pyrene	ND	570	ug/kg dry	1	06/01/15	B5E2617	8270	
91-20-3	Naphthalene	ND	280	ug/kg dry	1	06/01/15	B5E2617	8270	
85-01-8	Phenanthrene	ND	280	ug/kg dry	1	06/01/15	B5E2617	8270	
129-00-0	Pyrene	ND	280	ug/kg dry	1	06/01/15	B5E2617	8270	
<i>Surrogate: 2-Fluorobiphenyl</i>			81.8 %	32.9-115		06/01/15	B5E2617	8270	
<i>Surrogate: Nitrobenzene-d5</i>			62.6 %	31.8-115		06/01/15	B5E2617	8270	
<i>Surrogate: p-Terphenyl-d14</i>			78.5 %	38.5-115		06/01/15	B5E2617	8270	
Organics-PCBs as Aroclors									
12674-11-2	Aroclor 1016	ND	140	ug/kg dry	1	06/10/15	B5F0210	8081/8082	
11104-28-2	Aroclor 1221	ND	140	ug/kg dry	1	06/10/15	B5F0210	8081/8082	
11141-16-5	Aroclor 1232	ND	140	ug/kg dry	1	06/10/15	B5F0210	8081/8082	
53469-21-9	Aroclor 1242	ND	140	ug/kg dry	1	06/10/15	B5F0210	8081/8082	
12672-29-6	Aroclor 1248	ND	140	ug/kg dry	1	06/10/15	B5F0210	8081/8082	
11097-69-1	Aroclor 1254	ND	140	ug/kg dry	1	06/10/15	B5F0210	8081/8082	
11096-82-5	Aroclor 1260	ND	140	ug/kg dry	1	06/10/15	B5F0210	8081/8082	
37324-23-5	Aroclor 1262	ND	140	ug/kg dry	1	06/10/15	B5F0210	8081/8082	
11100-14-4	Aroclor 1268	ND	140	ug/kg dry	1	06/10/15	B5F0210	8081/8082	
<i>Surrogate: Decachlorobiphenyl</i>			90.0 %	30-150		06/10/15	B5F0210	8081/8082	
<i>Surrogate: Tetrachloro-m-xylene</i>			80.7 %	30-150		06/10/15	B5F0210	8081/8082	



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Client ID: CHTC-SB-12-6"-11'

Lab ID: 1505190-08

CAS #	Analyte	Result	RL	Units	Dilution	Analyzed Date	QC Batch	Method	Qualifier
Inorganics-General Chemistry									
TS	% Total Solids	70.6	0.1	%	1	05/20/15	B5E2019	2540 B	



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TEL: (517) 335-9800
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Client ID: CHTC-SB-05-3-9"

Lab ID: 1505190-09

CAS #	Analyte	Result	RL	Units	Dilution	Analyzed Date	QC Batch	Method	Qualifier
Organics-PCBs as Aroclors									
12674-11-2	Aroclor 1016	ND	110	ug/kg dry	1	06/09/15	B5F0210	8081/8082	
11104-28-2	Aroclor 1221	ND	110	ug/kg dry	1	06/09/15	B5F0210	8081/8082	
11141-16-5	Aroclor 1232	ND	110	ug/kg dry	1	06/09/15	B5F0210	8081/8082	
53469-21-9	Aroclor 1242	ND	110	ug/kg dry	1	06/09/15	B5F0210	8081/8082	
12672-29-6	Aroclor 1248	ND	110	ug/kg dry	1	06/09/15	B5F0210	8081/8082	
11097-69-1	Aroclor 1254	ND	110	ug/kg dry	1	06/09/15	B5F0210	8081/8082	
11096-82-5	Aroclor 1260	ND	110	ug/kg dry	1	06/09/15	B5F0210	8081/8082	
37324-23-5	Aroclor 1262	ND	110	ug/kg dry	1	06/09/15	B5F0210	8081/8082	
11100-14-4	Aroclor 1268	ND	110	ug/kg dry	1	06/09/15	B5F0210	8081/8082	
Surrogate: Decachlorobiphenyl		97.5 %		30-150		06/09/15	B5F0210	8081/8082	
Surrogate: Tetrachloro-m-xylene		74.7 %		30-150		06/09/15	B5F0210	8081/8082	
Inorganics-General Chemistry									
TS	% Total Solids	93.7	0.1	%	1	05/20/15	B5E2019	2540 B	



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TEL: (517) 335-9800
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Client ID: CHTC-SB-05-9"-5'

Lab ID: 1505190-10

CAS #	Analyte	Result	RL	Units	Dilution	Analyzed Date	QC Batch	Method	Qualifier
Organics-PCBs as Aroclors									
12674-11-2	Aroclor 1016	ND	120	ug/kg dry	1	06/09/15	B5F0210	8081/8082	
11104-28-2	Aroclor 1221	ND	120	ug/kg dry	1	06/09/15	B5F0210	8081/8082	
11141-16-5	Aroclor 1232	ND	120	ug/kg dry	1	06/09/15	B5F0210	8081/8082	
53469-21-9	Aroclor 1242	ND	120	ug/kg dry	1	06/09/15	B5F0210	8081/8082	
12672-29-6	Aroclor 1248	ND	120	ug/kg dry	1	06/09/15	B5F0210	8081/8082	
11097-69-1	Aroclor 1254	ND	120	ug/kg dry	1	06/09/15	B5F0210	8081/8082	
11096-82-5	Aroclor 1260	ND	120	ug/kg dry	1	06/09/15	B5F0210	8081/8082	
37324-23-5	Aroclor 1262	ND	120	ug/kg dry	1	06/09/15	B5F0210	8081/8082	
11100-14-4	Aroclor 1268	ND	120	ug/kg dry	1	06/09/15	B5F0210	8081/8082	
Surrogate: Decachlorobiphenyl		96.4 %		30-150		06/09/15	B5F0210	8081/8082	
Surrogate: Tetrachloro-m-xylene		70.7 %		30-150		06/09/15	B5F0210	8081/8082	
Inorganics-General Chemistry									
TS	% Total Solids	86.0	0.1	%	1	05/20/15	B5E2019	2540 B	



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TEL: (517) 335-9800
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Client ID: CHTC-SB-05-9"-5' DUP

Lab ID: 1505190-11

CAS #	Analyte	Result	RL	Units	Dilution	Analyzed Date	QC Batch	Method	Qualifier
Organics-PCBs as Aroclors									
12674-11-2	Aroclor 1016	ND	120	ug/kg dry	1	06/09/15	B5F0210	8081/8082	
11104-28-2	Aroclor 1221	ND	120	ug/kg dry	1	06/09/15	B5F0210	8081/8082	
11141-16-5	Aroclor 1232	ND	120	ug/kg dry	1	06/09/15	B5F0210	8081/8082	
53469-21-9	Aroclor 1242	ND	120	ug/kg dry	1	06/09/15	B5F0210	8081/8082	
12672-29-6	Aroclor 1248	ND	120	ug/kg dry	1	06/09/15	B5F0210	8081/8082	
11097-69-1	Aroclor 1254	ND	120	ug/kg dry	1	06/09/15	B5F0210	8081/8082	
11096-82-5	Aroclor 1260	ND	120	ug/kg dry	1	06/09/15	B5F0210	8081/8082	
37324-23-5	Aroclor 1262	ND	120	ug/kg dry	1	06/09/15	B5F0210	8081/8082	
11100-14-4	Aroclor 1268	ND	120	ug/kg dry	1	06/09/15	B5F0210	8081/8082	
<i>Surrogate: Decachlorobiphenyl</i>			90.6 %	30-150		06/09/15	B5F0210	8081/8082	
<i>Surrogate: Tetrachloro-m-xylene</i>			78.5 %	30-150		06/09/15	B5F0210	8081/8082	
Inorganics-General Chemistry									
TS	% Total Solids	85.6	0.1	%	1	05/20/15	B5E2019	2540 B	



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TEL: (517) 335-9800
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Client ID: CHTC-SB-06-0-6"

Lab ID: 1505190-12

CAS #	Analyte	Result	RL	Units	Dilution	Analyzed Date	QC Batch	Method	Qualifier
Organics-PCBs as Aroclors									
12674-11-2	Aroclor 1016	ND	140	ug/kg dry	1	06/09/15	B5F0210	8081/8082	
11104-28-2	Aroclor 1221	ND	140	ug/kg dry	1	06/09/15	B5F0210	8081/8082	
11141-16-5	Aroclor 1232	ND	140	ug/kg dry	1	06/09/15	B5F0210	8081/8082	
53469-21-9	Aroclor 1242	ND	140	ug/kg dry	1	06/09/15	B5F0210	8081/8082	
12672-29-6	Aroclor 1248	ND	140	ug/kg dry	1	06/09/15	B5F0210	8081/8082	
11097-69-1	Aroclor 1254	ND	140	ug/kg dry	1	06/09/15	B5F0210	8081/8082	
11096-82-5	Aroclor 1260	ND	140	ug/kg dry	1	06/09/15	B5F0210	8081/8082	
37324-23-5	Aroclor 1262	ND	140	ug/kg dry	1	06/09/15	B5F0210	8081/8082	
11100-14-4	Aroclor 1268	ND	140	ug/kg dry	1	06/09/15	B5F0210	8081/8082	
Surrogate: Decachlorobiphenyl		63.5 %		30-150		06/09/15	B5F0210	8081/8082	
Surrogate: Tetrachloro-m-xylene		82.0 %		30-150		06/09/15	B5F0210	8081/8082	
Inorganics-General Chemistry									
TS	% Total Solids	69.9	0.1	%	1	05/20/15	B5E2020	2540 B	



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P.O. Box 30270
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TEL: (517) 335-9800
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Client ID: CHTC-SB-06-6"-4'

Lab ID: 1505190-13

CAS #	Analyte	Result	RL	Units	Dilution	Analyzed Date	QC Batch	Method	Qualifier
Organics-PCBs as Aroclors									
12674-11-2	Aroclor 1016	ND	130	ug/kg dry	1	06/09/15	B5F0210	8081/8082	
11104-28-2	Aroclor 1221	ND	130	ug/kg dry	1	06/09/15	B5F0210	8081/8082	
11141-16-5	Aroclor 1232	ND	130	ug/kg dry	1	06/09/15	B5F0210	8081/8082	
53469-21-9	Aroclor 1242	ND	130	ug/kg dry	1	06/09/15	B5F0210	8081/8082	
12672-29-6	Aroclor 1248	ND	130	ug/kg dry	1	06/09/15	B5F0210	8081/8082	
11097-69-1	Aroclor 1254	ND	130	ug/kg dry	1	06/09/15	B5F0210	8081/8082	
11096-82-5	Aroclor 1260	ND	130	ug/kg dry	1	06/09/15	B5F0210	8081/8082	
37324-23-5	Aroclor 1262	ND	130	ug/kg dry	1	06/09/15	B5F0210	8081/8082	
11100-14-4	Aroclor 1268	ND	130	ug/kg dry	1	06/09/15	B5F0210	8081/8082	
Surrogate: Decachlorobiphenyl		78.4 %		30-150		06/09/15	B5F0210	8081/8082	
Surrogate: Tetrachloro-m-xylene		79.6 %		30-150		06/09/15	B5F0210	8081/8082	
Inorganics-General Chemistry									
TS	% Total Solids	79.6	0.1	%	1	05/20/15	B5E2020	2540 B	



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P.O. Box 30270
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TEL: (517) 335-9800
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Client ID: CHTC-SB-44-0-6"

Lab ID: 1505190-14

CAS #	Analyte	Result	RL	Units	Dilution	Analyzed Date	QC Batch	Method	Qualifier
Organics-PCBs as Aroclors									
12674-11-2	Aroclor 1016	ND	120	ug/kg dry	1	06/09/15	B5F0210	8081/8082	
11104-28-2	Aroclor 1221	ND	120	ug/kg dry	1	06/09/15	B5F0210	8081/8082	
11141-16-5	Aroclor 1232	ND	120	ug/kg dry	1	06/09/15	B5F0210	8081/8082	
53469-21-9	Aroclor 1242	ND	120	ug/kg dry	1	06/09/15	B5F0210	8081/8082	
12672-29-6	Aroclor 1248	ND	120	ug/kg dry	1	06/09/15	B5F0210	8081/8082	
11097-69-1	Aroclor 1254	ND	120	ug/kg dry	1	06/09/15	B5F0210	8081/8082	
11096-82-5	Aroclor 1260	ND	120	ug/kg dry	1	06/09/15	B5F0210	8081/8082	
37324-23-5	Aroclor 1262	ND	120	ug/kg dry	1	06/09/15	B5F0210	8081/8082	
11100-14-4	Aroclor 1268	ND	120	ug/kg dry	1	06/09/15	B5F0210	8081/8082	
Surrogate: Decachlorobiphenyl		86.0 %		30-150		06/09/15	B5F0210	8081/8082	
Surrogate: Tetrachloro-m-xylene		81.7 %		30-150		06/09/15	B5F0210	8081/8082	
Inorganics-General Chemistry									
TS	% Total Solids	82.8	0.1	%	1	05/20/15	B5E2020	2540 B	



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ENVIRONMENTAL LABORATORY**

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Client ID: CHTC-SB-44-6"-4'

Lab ID: 1505190-15

CAS #	Analyte	Result	RL	Units	Dilution	Analyzed Date	QC Batch	Method	Qualifier
Organics-Volatiles									
630-20-6	1,1,1,2-Tetrachloroethane	ND	80	ug/kg dry	50	05/27/15	B5E2708	8260	
71-55-6	1,1,1-Trichloroethane	ND	80	ug/kg dry	50	05/27/15	B5E2708	8260	
79-34-5	1,1,2,2-Tetrachloroethane	ND	80	ug/kg dry	50	05/27/15	B5E2708	8260	
79-00-5	1,1,2-Trichloroethane	ND	80	ug/kg dry	50	05/27/15	B5E2708	8260	
75-34-3	1,1-Dichloroethane	ND	80	ug/kg dry	50	05/27/15	B5E2708	8260	
75-35-4	1,1-Dichloroethylene	ND	80	ug/kg dry	50	05/27/15	B5E2708	8260	
87-61-6	1,2,3-Trichlorobenzene	ND	400	ug/kg dry	50	05/27/15	B5E2708	8260	
96-18-4	1,2,3-Trichloropropane	ND	80	ug/kg dry	50	05/27/15	B5E2708	8260	
526-73-8	1,2,3-Trimethylbenzene	ND	80	ug/kg dry	50	05/27/15	B5E2708	8260	
120-82-1	1,2,4-Trichlorobenzene	ND	400	ug/kg dry	50	05/27/15	B5E2708	8260	
95-63-6	1,2,4-Trimethylbenzene	ND	80	ug/kg dry	50	05/27/15	B5E2708	8260	
96-12-8	1,2-Dibromo-3-chloropropane	ND	400	ug/kg dry	50	05/27/15	B5E2708	8260	
106-93-4	1,2-Dibromoethane	ND	80	ug/kg dry	50	05/27/15	B5E2708	8260	
95-50-1	1,2-Dichlorobenzene	ND	80	ug/kg dry	50	05/27/15	B5E2708	8260	
107-06-2	1,2-Dichloroethane	ND	80	ug/kg dry	50	05/27/15	B5E2708	8260	
78-87-5	1,2-Dichloropropane	ND	80	ug/kg dry	50	05/27/15	B5E2708	8260	
108-67-8	1,3,5-Trimethylbenzene	ND	80	ug/kg dry	50	05/27/15	B5E2708	8260	
541-73-1	1,3-Dichlorobenzene	ND	80	ug/kg dry	50	05/27/15	B5E2708	8260	
106-46-7	1,4-Dichlorobenzene	ND	80	ug/kg dry	50	05/27/15	B5E2708	8260	
78-93-3	2-Butanone (MEK)	ND	400	ug/kg dry	50	05/27/15	B5E2708	8260	
591-78-6	2-Hexanone	ND	400	ug/kg dry	50	05/27/15	B5E2708	8260	
91-57-6	2-Methylnaphthalene	ND	400	ug/kg dry	50	05/27/15	B5E2708	8260	X
67-64-1	2-Propanone (acetone)	ND	1600	ug/kg dry	50	05/27/15	B5E2708	8260	
108-10-1	4-Methyl-2-pentanone (MIBK)	ND	400	ug/kg dry	50	05/27/15	B5E2708	8260	
107-13-1	Acrylonitrile	ND	400	ug/kg dry	50	05/27/15	B5E2708	8260	
71-43-2	Benzene	ND	80	ug/kg dry	50	05/27/15	B5E2708	8260	
108-86-1	Bromobenzene	ND	80	ug/kg dry	50	05/27/15	B5E2708	8260	
74-97-5	Bromochloromethane	ND	80	ug/kg dry	50	05/27/15	B5E2708	8260	
75-27-4	Bromodichloromethane	ND	80	ug/kg dry	50	05/27/15	B5E2708	8260	
75-25-2	Bromoform	ND	80	ug/kg dry	50	05/27/15	B5E2708	8260	
74-83-9	Bromomethane	ND	400	ug/kg dry	50	05/27/15	B5E2708	8260	
75-15-0	Carbon disulfide	ND	80	ug/kg dry	50	05/27/15	B5E2708	8260	
56-23-5	Carbon tetrachloride	ND	80	ug/kg dry	50	05/27/15	B5E2708	8260	
108-90-7	Chlorobenzene	ND	80	ug/kg dry	50	05/27/15	B5E2708	8260	
75-00-3	Chloroethane	ND	400	ug/kg dry	50	05/27/15	B5E2708	8260	
67-66-3	Chloroform	ND	80	ug/kg dry	50	05/27/15	B5E2708	8260	
74-87-3	Chloromethane	ND	400	ug/kg dry	50	05/27/15	B5E2708	8260	
156-59-2	cis-1,2-Dichloroethylene	ND	80	ug/kg dry	50	05/27/15	B5E2708	8260	
10061-01-5	cis-1,3-Dichloropropylene	ND	80	ug/kg dry	50	05/27/15	B5E2708	8260	
110-82-7	Cyclohexane	ND	400	ug/kg dry	50	05/27/15	B5E2708	8260	
124-48-1	Dibromochloromethane	ND	80	ug/kg dry	50	05/27/15	B5E2708	8260	



**MICHIGAN DEPARTMENT OF ENVIRONMENTAL QUALITY
ENVIRONMENTAL LABORATORY**

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

Client ID: CHTC-SB-44-6"-4'

Lab ID: 1505190-15

CAS #	Analyte	Result	RL	Units	Dilution	Analyzed Date	QC Batch	Method	Qualifier
Organics-Volatiles									
74-95-3	Dibromomethane	ND	80	ug/kg dry	50	05/27/15	B5E2708	8260	
75-71-8	Dichlorodifluoromethane	ND	400	ug/kg dry	50	05/27/15	B5E2708	8260	
60-29-7	Diethyl ether	ND	400	ug/kg dry	50	05/27/15	B5E2708	8260	
108-20-3	Diisopropyl Ether	ND	400	ug/kg dry	50	05/27/15	B5E2708	8260	
100-41-4	Ethylbenzene	ND	80	ug/kg dry	50	05/27/15	B5E2708	8260	
637-92-3	Ethyltertiarybutylether	ND	400	ug/kg dry	50	05/27/15	B5E2708	8260	
67-72-1	Hexachloroethane	ND	400	ug/kg dry	50	05/27/15	B5E2708	8260	
98-82-8	Isopropylbenzene	ND	80	ug/kg dry	50	05/27/15	B5E2708	8260	
1330-20-7	m & p - Xylene	ND	160	ug/kg dry	50	05/27/15	B5E2708	8260	
74-88-4	Methyl iodide	ND	80	ug/kg dry	50	05/27/15	B5E2708	8260	
75-09-2	Methylene chloride	ND	400	ug/kg dry	50	05/27/15	B5E2708	8260	
1634-04-4	Methyltertiarybutylether	ND	80	ug/kg dry	50	05/27/15	B5E2708	8260	
91-20-3	Naphthalene	ND	400	ug/kg dry	50	05/27/15	B5E2708	8260	X
104-51-8	n-Butylbenzene	ND	80	ug/kg dry	50	05/27/15	B5E2708	8260	
103-65-1	n-Propylbenzene	ND	80	ug/kg dry	50	05/27/15	B5E2708	8260	
95-47-6	o-Xylene	ND	80	ug/kg dry	50	05/27/15	B5E2708	8260	
99-87-6	p-Isopropyl toluene	ND	80	ug/kg dry	50	05/27/15	B5E2708	8260	
135-98-8	sec-Butylbenzene	ND	80	ug/kg dry	50	05/27/15	B5E2708	8260	
100-42-5	Styrene	ND	80	ug/kg dry	50	05/27/15	B5E2708	8260	
98-06-6	tert-Butylbenzene	ND	80	ug/kg dry	50	05/27/15	B5E2708	8260	
75-65-0	tertiary Butyl Alcohol	ND	4000	ug/kg dry	50	05/27/15	B5E2708	8260	
994-05-8	tertiaryAmylmethylether	ND	400	ug/kg dry	50	05/27/15	B5E2708	8260	
127-18-4	Tetrachloroethylene	ND	80	ug/kg dry	50	05/27/15	B5E2708	8260	
109-99-9	Tetrahydrofuran	ND	400	ug/kg dry	50	05/27/15	B5E2708	8260	
108-88-3	Toluene	ND	80	ug/kg dry	50	05/27/15	B5E2708	8260	
156-60-5	trans-1,2-Dichloroethylene	ND	80	ug/kg dry	50	05/27/15	B5E2708	8260	
10061-02-6	trans-1,3-Dichloropropylene	ND	80	ug/kg dry	50	05/27/15	B5E2708	8260	
110-57-6	trans-1,4-Dichloro-2-butene	ND	400	ug/kg dry	50	05/27/15	B5E2708	8260	
79-01-6	Trichloroethylene	ND	80	ug/kg dry	50	05/27/15	B5E2708	8260	
75-69-4	Trichlorofluoromethane	ND	80	ug/kg dry	50	05/27/15	B5E2708	8260	
75-01-4	Vinyl chloride	ND	80	ug/kg dry	50	05/27/15	B5E2708	8260	
<i>Surrogate: Bromofluorobenzene</i>			<i>112 %</i>	<i>40.3-194</i>		<i>05/27/15</i>	<i>B5E2708</i>	<i>8260</i>	
<i>Surrogate: Dibromofluoromethane</i>			<i>109 %</i>	<i>52.1-217</i>		<i>05/27/15</i>	<i>B5E2708</i>	<i>8260</i>	
<i>Surrogate: Toluene-d8</i>			<i>112 %</i>	<i>55.4-196</i>		<i>05/27/15</i>	<i>B5E2708</i>	<i>8260</i>	



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Lansing, MI 48909
TEL: (517) 335-9800
FAX: (517) 335-9600

Client ID: CHTC-SB-44-6"-4'

Lab ID: 1505190-15

CAS #	Analyte	Result	RL	Units	Dilution	Analyzed Date	QC Batch	Method	Qualifier
Organics-Semivolatiles									See note Y20
91-57-6	2-Methylnaphthalene	ND	660	ug/kg dry	1	06/01/15	B5E2617	8270	
83-32-9	Acenaphthene	ND	260	ug/kg dry	1	06/01/15	B5E2617	8270	
208-96-8	Acenaphthylene	ND	260	ug/kg dry	1	06/01/15	B5E2617	8270	
120-12-7	Anthracene	ND	260	ug/kg dry	1	06/01/15	B5E2617	8270	
56-55-3	Benz[a]anthracene	ND	260	ug/kg dry	1	06/01/15	B5E2617	8270	
50-32-8	Benzo[a]pyrene	ND	530	ug/kg dry	1	06/01/15	B5E2617	8270	
205-99-2	Benzo[b]fluoranthene	ND	530	ug/kg dry	1	06/01/15	B5E2617	8270	
191-24-2	Benzo[g,h,i]perylene	ND	530	ug/kg dry	1	06/01/15	B5E2617	8270	
207-08-9	Benzo[k]fluoranthene	ND	530	ug/kg dry	1	06/01/15	B5E2617	8270	
218-01-9	Chrysene	ND	260	ug/kg dry	1	06/01/15	B5E2617	8270	
53-70-3	Dibenz[a,h]anthracene	ND	530	ug/kg dry	1	06/01/15	B5E2617	8270	
206-44-0	Fluoranthene	ND	260	ug/kg dry	1	06/01/15	B5E2617	8270	
86-73-7	Fluorene	ND	260	ug/kg dry	1	06/01/15	B5E2617	8270	
193-39-5	Indeno(1,2,3-c,d)pyrene	ND	530	ug/kg dry	1	06/01/15	B5E2617	8270	
91-20-3	Naphthalene	ND	260	ug/kg dry	1	06/01/15	B5E2617	8270	
85-01-8	Phenanthrene	ND	260	ug/kg dry	1	06/01/15	B5E2617	8270	
129-00-0	Pyrene	ND	260	ug/kg dry	1	06/01/15	B5E2617	8270	
<i>Surrogate: 2-Fluorobiphenyl</i>			70.1 %	32.9-115		06/01/15	B5E2617	8270	
<i>Surrogate: Nitrobenzene-d5</i>			56.5 %	31.8-115		06/01/15	B5E2617	8270	
<i>Surrogate: p-Terphenyl-d14</i>			63.8 %	38.5-115		06/01/15	B5E2617	8270	
Organics-PCBs as Aroclors									
12674-11-2	Aroclor 1016	ND	130	ug/kg dry	1	06/10/15	B5F0210	8081/8082	
11104-28-2	Aroclor 1221	ND	130	ug/kg dry	1	06/10/15	B5F0210	8081/8082	
11141-16-5	Aroclor 1232	ND	130	ug/kg dry	1	06/10/15	B5F0210	8081/8082	
53469-21-9	Aroclor 1242	ND	130	ug/kg dry	1	06/10/15	B5F0210	8081/8082	
12672-29-6	Aroclor 1248	ND	130	ug/kg dry	1	06/10/15	B5F0210	8081/8082	
11097-69-1	Aroclor 1254	ND	130	ug/kg dry	1	06/10/15	B5F0210	8081/8082	
11096-82-5	Aroclor 1260	ND	130	ug/kg dry	1	06/10/15	B5F0210	8081/8082	
37324-23-5	Aroclor 1262	ND	130	ug/kg dry	1	06/10/15	B5F0210	8081/8082	
11100-14-4	Aroclor 1268	ND	130	ug/kg dry	1	06/10/15	B5F0210	8081/8082	
<i>Surrogate: Decachlorobiphenyl</i>			92.5 %	30-150		06/10/15	B5F0210	8081/8082	
<i>Surrogate: Tetrachloro-m-xylene</i>			84.9 %	30-150		06/10/15	B5F0210	8081/8082	



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TEL: (517) 335-9800
FAX: (517) 335-9600

Client ID: CHTC-SB-44-6''-4'

Lab ID: 1505190-15

CAS #	Analyte	Result	RL	Units	Dilution	Analyzed Date	QC Batch	Method	Qualifier
-------	---------	--------	----	-------	----------	------------------	----------	--------	-----------

Inorganics-General Chemistry

TS	% Total Solids	75.6	0.1	%	1	05/20/15	B5E2020	2540 B	
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Analysis Request Sheet

Lab Work Order Number

Project Name

Matrix

1505190

Abandoned Mining Wastes - Torch Lake PCB C&H Tamarack City Ops

SOIL

Site Code/Project Number

AT

CC Email 1

Project IAI Days

Sample Collector

31000098

13

j.binkley@westonsolutions.com

AK/JP/AB-DEQ-RRD

Dept-Division-District

Index

CC Email 2

Project Due Date

Sample Collector Phone

DEQ-RRD-UP District

44251

daniel.lebau@westonsolutions.com

906-337-0389

State Project Manager

PLA

CC Email 3

Accept Analysis

Contract Firm

Amy Keranen

30872

pincumbst@michigan.gov

hold time codes

Weston Solutions

State Project Manager Email

Project

Overflow Lab Choice 1

no

Contract Firm Primary Contact

keranena@michigan.gov

456990

Jeff Binkley

State Project Manager Phone

Phase

Overflow Lab Choice 2

Primary Contact Phone

906-337-0389

00

906-523-5457

Lab Use Only	Field Sample Identification	Collection Date	Collection Time	Container Count	Comments
1	01 CHTC-SB-03-0-6"	5/17	0855		
2	02 CHTC-SB-03-6"-7"	5/17/15	0855		
3	03 CHTC-SB-11-0-6"	5/17	920		
4	04 CHTC-SB-11- 0 -6"-7"	5/17	920		
5	05 CHTC-SB-13 0'-6"	5-17	1050		
6	06 CHTC-SB-13 6"-9'	5-17	1051		
7	07 CHTC-SB-12-0-6"	5-17	1120	1802	
8	08 CHTC-SB-12 6"-11"	5-17	1125	1802	
9	09 CHTC-SB-05-3-9"	5/17/15	1225	1802	
10	10 CHTC-SB-05- 3 9"-5'	5/17/15	1230	1802	

ORGANIC CHEMISTRY	METALS CHEMISTRY PACKAGES	MS - TOTAL METALS	GENERAL CHEMISTRY
VOA - Volatile Organic Acids 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 Chlorinated only 1 2 3 4 5 6 7 8 9 10 GRO 1 2 3 4 5 6 7 8 9 10 1,4 Dioxane 1 2 3 4 5 6 7 8 9 10	OpMemo2 - Total 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 (As,Ba,Cd,Cr,Cu,Pb,Hg,Se,Ag,Zn)	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 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 Uranium - U 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	GS - General Chemistry Total Cyanide - CN 1 2 3 4 5 6 7 8 9 10 Available Cyanide - CN 1 2 3 4 5 6 7 8 9 10 Chem Oxyg Dem - COD 1 2 3 4 5 6 7 8 9 10 Total Org Carbon - TOC 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

OS - Pesticides, PCBs	BNA - Base Neutral Acids	Organic Specialty Requests
Pesticides & PCBs 1 2 3 4 5 6 7 8 9 10 Pesticides only 1 2 3 4 5 6 7 8 9 10 PCBs only 1 2 3 4 5 6 7 8 9 10 Toxaphene 1 2 3 4 5 6 7 8 9 10	BNAs 1 2 3 4 5 6 7 8 9 10 PNAs only 1 2 3 4 5 6 7 8 9 10 BNs only 1 2 3 4 5 6 7 8 9 10	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 DRO / ORO 1 2 3 4 5 6 7 8 9 10

Chain of Custody	Relinquished by	Received By	Date / Time
Print Name & Org.	JEFF PINCUMBE MDEQ	Melissa Smith	5/20/15 935
Signature:	<i>Jeff Pincumb</i>	<i>Melissa Smith</i>	
Print Name & Org.			
Signature:			
Print Name & Org.			
Signature:			



Analysis Request Sheet

Lab Work Order Number

Project Name

Matrix

1505190

Abandoned Mining Wastes - Torch Lake PCB C&H Tamarack City Ops

SOIL

Site Code/Project Number

AY

CC Email 1

Project Lat Days

Sample Collector

31000098

13

j.binkley@westonsolutions.com

AK/JP/AB-DEQ-RRD

Dept-Division-District

Index

CC Email 2

Project Due Date

Sample Collector Phone

DEQ-RRD-UP District

44251

daniel.lebau@westonsolutions.com

906-337-0389

State Project Manager

PCA

CC Email 3

Accept Analysis
hold time codes

Contract Firm

Amy Keranen

30872

plncumbej@michigan.gov

no

Weston Solutions

State Project Manager Email

Project

Overflow Lab Choice 1

Contract Firm Primary Contact

keranena@michigan.gov

456990

Jeff Binkley

State Project Manager Phone

Phase

Overflow Lab Choice 2

Primary Contact Phone

906-337-0389

00

906-523-5457

Lab Use Only	Field Sample Identification	Collection Date	Collection Time	Container Count	Comments
1	CHTC-SB-05-0"-5' DUP	5/17/15	1230	1 502	
2	CHTC-SB-06-0-6"	5/17/15	1250	1 502	
3	CHTC-SB-06-6"-4'	5/17/15	1255	1 502	
4	CHTC-SB-44-0-6"	5/17/15	1320	1 502	
5	CHTC-SB-44-6"-4'	5/17/15	1322	1 502	
6	CHTC-SB-				
7	CHTC-SB-				
8	CHTC-SB-				
9	CHTC-SB-				
10	CHTC-SB-				

ORGANIC CHEMISTRY	METALS CHEMISTRY PACKAGES	MS - TOTAL METALS	GENERAL 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 Chlorinated only 1 2 3 4 5 6 7 8 9 10 GRO 1 2 3 4 5 6 7 8 9 10 1,4 Dioxane 1 2 3 4 5 6 7 8 9 10 OS - Pesticides, PCBs Pesticides & PCBs 1 2 3 4 5 6 7 8 9 10 Pesticides only 1 2 3 4 5 6 7 8 9 10 PCBs only 1 2 3 4 5 6 7 8 9 10 Toxaphene 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 PHAs only 1 2 3 4 5 6 7 8 9 10 BNs only 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 ORO / ORD 1 2 3 4 5 6 7 8 9 10	OpMemo2 - Total 1 2 3 4 5 6 7 8 9 10 (Sb,As,Ba,Bc,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 (As,Ba,Cd,Cr,Cu,Pb,Hg,Se,Ag,Zn)	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 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 Uranium - U 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	GS - General Chemistry Total Cyanide - CN 1 2 3 4 5 6 7 8 9 10 Available Cyanide - CN 1 2 3 4 5 6 7 8 9 10 Chem Oxyg Dem - COD 1 2 3 4 5 6 7 8 9 10 Total Org Carbon - TOC 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. Signature:	Print Name & Org. Signature:	
	Print Name & Org. Signature:	Print Name & Org. Signature:	
	Print Name & Org. Signature:	Print Name & Org. Signature:	



**MICHIGAN DEPARTMENT OF ENVIRONMENTAL QUALITY
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P.O. Box 30270
Lansing, MI 48909
TEL: (517) 335-9800
FAX: (517) 335-9600

11 June 2015

Work Order: 1505191

Price: \$2,232.00

Amy Keranen

MDEQ-RRD-UP

1504 W. Washington St.

Marquette, MI 49855

RE: ABANDONED MINING WASTES-TORCH LAKE NS

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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Lansing, MI 48909
TEL: (517) 335-9800
FAX: (517) 335-9600

MDEQ-RRD-UP
1504 W. Washington St.
Marquette MI, 49855

Project: ABANDONED MINING WASTES-TORCH LAKE NS
Site Code: 31000098
Project Manager: Amy Keranen

Reported:
06/11/2015

Analytical Report for Samples

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received	Qualifier
CHTC-GW-02 12-17'	1505191-01	Water	05/17/2015	05/20/2015	
CHTC-GW-03-10'-15'	1505191-02	Water	05/18/2015	05/20/2015	
CHTC-GW-06-10'-15'	1505191-03	Water	05/18/2015	05/20/2015	
CHTC-GW-11-10'-15'	1505191-04	Water	05/18/2015	05/20/2015	
CHTC-GW-10-11'-16'	1505191-05	Water	05/18/2015	05/20/2015	
CHTC-GW-29-10'-15'	1505191-06	Water	05/18/2015	05/20/2015	

Notes and Definitions

X	Methods 8260 & 624 are used to analyze volatile organics that have boiling points below 200 °C. 2-Methylnaphthalene & naphthalene have boiling points above 200 °C and are better suited to analysis by methods 8270 & 625 as semivolatile organics.
KR	Reporting limit(s) raised due to low sample volume submitted.
A09	Result is estimated due to high recovery of batch quality control.
A06	Result is estimated due to high continuing calibration standard criteria failure.
A01	Result(s) and reporting limit(s) are estimated due to low surrogate recovery.
ND	Indicates compound analyzed for but not detected
RL	Reporting Limit
NA	Not Applicable



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

Client ID: CHTC-GW-02 12-17'

Lab ID: 1505191-01

CAS #	Analyte	Result	RL	Units	Dilution	Analyzed Date	QC Batch	Method	Qualifier
Organics-Volatiles									
630-20-6	1,1,1,2-Tetrachloroethane	ND	1.0	ug/L	1	05/22/15	B5E2127	8260	
71-55-6	1,1,1-Trichloroethane	ND	1.0	ug/L	1	05/22/15	B5E2127	8260	
79-34-5	1,1,2,2-Tetrachloroethane	ND	1.0	ug/L	1	05/22/15	B5E2127	8260	
79-00-5	1,1,2-Trichloroethane	ND	1.0	ug/L	1	05/22/15	B5E2127	8260	
75-34-3	1,1-Dichloroethane	ND	1.0	ug/L	1	05/22/15	B5E2127	8260	
75-35-4	1,1-Dichloroethylene	ND	1.0	ug/L	1	05/22/15	B5E2127	8260	
87-61-6	1,2,3-Trichlorobenzene	ND	5.0	ug/L	1	05/22/15	B5E2127	8260	
96-18-4	1,2,3-Trichloropropane	ND	1.0	ug/L	1	05/22/15	B5E2127	8260	
526-73-8	1,2,3-Trimethylbenzene	ND	1.0	ug/L	1	05/22/15	B5E2127	8260	
120-82-1	1,2,4-Trichlorobenzene	ND	5.0	ug/L	1	05/22/15	B5E2127	8260	
95-63-6	1,2,4-Trimethylbenzene	ND	1.0	ug/L	1	05/22/15	B5E2127	8260	
96-12-8	1,2-Dibromo-3-chloropropane	ND	5.0	ug/L	1	05/22/15	B5E2127	8260	
106-93-4	1,2-Dibromoethane	ND	1.0	ug/L	1	05/22/15	B5E2127	8260	
95-50-1	1,2-Dichlorobenzene	ND	1.0	ug/L	1	05/22/15	B5E2127	8260	
107-06-2	1,2-Dichloroethane	ND	1.0	ug/L	1	05/22/15	B5E2127	8260	
78-87-5	1,2-Dichloropropane	ND	1.0	ug/L	1	05/22/15	B5E2127	8260	
108-67-8	1,3,5-Trimethylbenzene	ND	1.0	ug/L	1	05/22/15	B5E2127	8260	
541-73-1	1,3-Dichlorobenzene	ND	1.0	ug/L	1	05/22/15	B5E2127	8260	
106-46-7	1,4-Dichlorobenzene	ND	1.0	ug/L	1	05/22/15	B5E2127	8260	
78-93-3	2-Butanone (MEK)	ND	5.0	ug/L	1	05/22/15	B5E2127	8260	
591-78-6	2-Hexanone	ND	5.0	ug/L	1	05/22/15	B5E2127	8260	
91-57-6	2-Methylnaphthalene	ND	5.0	ug/L	1	05/22/15	B5E2127	8260	X
67-64-1	2-Propanone (acetone)	ND	20	ug/L	1	05/22/15	B5E2127	8260	
108-10-1	4-Methyl-2-pentanone (MIBK)	ND	5.0	ug/L	1	05/22/15	B5E2127	8260	
107-13-1	Acrylonitrile	ND	5.0	ug/L	1	05/22/15	B5E2127	8260	
71-43-2	Benzene	ND	1.0	ug/L	1	05/22/15	B5E2127	8260	
108-86-1	Bromobenzene	ND	1.0	ug/L	1	05/22/15	B5E2127	8260	
74-97-5	Bromochloromethane	ND	1.0	ug/L	1	05/22/15	B5E2127	8260	
75-27-4	Bromodichloromethane	ND	1.0	ug/L	1	05/22/15	B5E2127	8260	
75-25-2	Bromoform	ND	1.0	ug/L	1	05/22/15	B5E2127	8260	
74-83-9	Bromomethane	ND	5.0	ug/L	1	05/22/15	B5E2127	8260	
75-15-0	Carbon disulfide	ND	1.0	ug/L	1	05/22/15	B5E2127	8260	
56-23-5	Carbon tetrachloride	ND	1.0	ug/L	1	05/22/15	B5E2127	8260	
108-90-7	Chlorobenzene	ND	1.0	ug/L	1	05/22/15	B5E2127	8260	
75-00-3	Chloroethane	ND	5.0	ug/L	1	05/22/15	B5E2127	8260	
67-66-3	Chloroform	ND	1.0	ug/L	1	05/22/15	B5E2127	8260	
74-87-3	Chloromethane	ND	5.0	ug/L	1	05/22/15	B5E2127	8260	
156-59-2	cis-1,2-Dichloroethylene	ND	1.0	ug/L	1	05/22/15	B5E2127	8260	
10061-01-5	cis-1,3-Dichloropropylene	ND	1.0	ug/L	1	05/22/15	B5E2127	8260	
110-82-7	Cyclohexane	ND	5.0	ug/L	1	05/22/15	B5E2127	8260	
124-48-1	Dibromochloromethane	ND	1.0	ug/L	1	05/22/15	B5E2127	8260	



**MICHIGAN DEPARTMENT OF ENVIRONMENTAL QUALITY
ENVIRONMENTAL LABORATORY**

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

Client ID: CHTC-GW-02 12-17'

Lab ID: 1505191-01

CAS #	Analyte	Result	RL	Units	Dilution	Analyzed Date	QC Batch	Method	Qualifier
Organics-Volatiles									
74-95-3	Dibromomethane	ND	1.0	ug/L	1	05/22/15	B5E2127	8260	
75-71-8	Dichlorodifluoromethane	ND	5.0	ug/L	1	05/22/15	B5E2127	8260	
60-29-7	Diethyl ether	ND	5.0	ug/L	1	05/22/15	B5E2127	8260	
108-20-3	Diisopropyl Ether	ND	5.0	ug/L	1	05/22/15	B5E2127	8260	
100-41-4	Ethylbenzene	ND	1.0	ug/L	1	05/22/15	B5E2127	8260	
637-92-3	Ethyltertiarybutylether	ND	5.0	ug/L	1	05/22/15	B5E2127	8260	
67-72-1	Hexachloroethane	ND	5.0	ug/L	1	05/22/15	B5E2127	8260	
98-82-8	Isopropylbenzene	ND	1.0	ug/L	1	05/22/15	B5E2127	8260	
1330-20-7	m & p - Xylene	ND	2.0	ug/L	1	05/22/15	B5E2127	8260	
74-88-4	Methyl iodide	ND	1.0	ug/L	1	05/22/15	B5E2127	8260	
75-09-2	Methylene chloride	ND	5.0	ug/L	1	05/22/15	B5E2127	8260	
1634-04-4	Methyltertiarybutylether	ND	1.0	ug/L	1	05/22/15	B5E2127	8260	
91-20-3	Naphthalene	ND	5.0	ug/L	1	05/22/15	B5E2127	8260	X
104-51-8	n-Butylbenzene	ND	1.0	ug/L	1	05/22/15	B5E2127	8260	
103-65-1	n-Propylbenzene	ND	1.0	ug/L	1	05/22/15	B5E2127	8260	
95-47-6	o-Xylene	ND	1.0	ug/L	1	05/22/15	B5E2127	8260	
99-87-6	p-Isopropyl toluene	ND	1.0	ug/L	1	05/22/15	B5E2127	8260	
135-98-8	sec-Butylbenzene	ND	1.0	ug/L	1	05/22/15	B5E2127	8260	
100-42-5	Styrene	ND	1.0	ug/L	1	05/22/15	B5E2127	8260	
98-06-6	tert-Butylbenzene	ND	1.0	ug/L	1	05/22/15	B5E2127	8260	
75-65-0	tertiary Butyl Alcohol	ND	50	ug/L	1	05/22/15	B5E2127	8260	
994-05-8	tertiaryAmylmethylether	ND	5.0	ug/L	1	05/22/15	B5E2127	8260	
127-18-4	Tetrachloroethylene	ND	1.0	ug/L	1	05/22/15	B5E2127	8260	
109-99-9	Tetrahydrofuran	ND	5.0	ug/L	1	05/22/15	B5E2127	8260	
108-88-3	Toluene	ND	1.0	ug/L	1	05/22/15	B5E2127	8260	
156-60-5	trans-1,2-Dichloroethylene	ND	1.0	ug/L	1	05/22/15	B5E2127	8260	
10061-02-6	trans-1,3-Dichloropropylene	ND	1.0	ug/L	1	05/22/15	B5E2127	8260	
110-57-6	trans-1,4-Dichloro-2-butene	ND	5.0	ug/L	1	05/22/15	B5E2127	8260	
79-01-6	Trichloroethylene	ND	1.0	ug/L	1	05/22/15	B5E2127	8260	
75-69-4	Trichlorofluoromethane	ND	1.0	ug/L	1	05/22/15	B5E2127	8260	
75-01-4	Vinyl chloride	ND	1.0	ug/L	1	05/22/15	B5E2127	8260	
Surrogate: Bromofluorobenzene			103 %	85-115		05/22/15	B5E2127	8260	
Surrogate: Dibromofluoromethane			105 %	82.7-115		05/22/15	B5E2127	8260	
Surrogate: Toluene-d8			104 %	85-115		05/22/15	B5E2127	8260	



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Client ID: CHTC-GW-02 12-17'

Lab ID: 1505191-01

CAS #	Analyte	Result	RL	Units	Dilution	Analyzed Date	QC Batch	Method	Qualifier
Organics-Semivolatiles									
91-57-6	2-Methylnaphthalene	ND	5.0	ug/L	1	05/26/15	B5E2003	8270	
83-32-9	Acenaphthene	ND	1.0	ug/L	1	05/26/15	B5E2003	8270	
208-96-8	Acenaphthylene	ND	1.0	ug/L	1	05/26/15	B5E2003	8270	
120-12-7	Anthracene	ND	1.0	ug/L	1	05/26/15	B5E2003	8270	
56-55-3	Benz[a]anthracene	ND	1.0	ug/L	1	05/26/15	B5E2003	8270	
50-32-8	Benzo[a]pyrene	ND	1.0	ug/L	1	05/26/15	B5E2003	8270	
205-99-2	Benzo[b]fluoranthene	ND	1.0	ug/L	1	05/26/15	B5E2003	8270	
191-24-2	Benzo[g,h,i]perylene	ND	1.0	ug/L	1	05/26/15	B5E2003	8270	
207-08-9	Benzo[k]fluoranthene	ND	1.0	ug/L	1	05/26/15	B5E2003	8270	
218-01-9	Chrysene	ND	1.0	ug/L	1	05/26/15	B5E2003	8270	
53-70-3	Dibenz[a,h]anthracene	ND	2.0	ug/L	1	05/26/15	B5E2003	8270	
206-44-0	Fluoranthene	ND	1.0	ug/L	1	05/26/15	B5E2003	8270	
86-73-7	Fluorene	ND	1.0	ug/L	1	05/26/15	B5E2003	8270	
193-39-5	Indeno(1,2,3-c,d)pyrene	ND	2.0	ug/L	1	05/26/15	B5E2003	8270	
91-20-3	Naphthalene	ND	1.0	ug/L	1	05/26/15	B5E2003	8270	
85-01-8	Phenanthrene	ND	1.0	ug/L	1	05/26/15	B5E2003	8270	
129-00-0	Pyrene	ND	1.0	ug/L	1	05/26/15	B5E2003	8270	
Surrogate: 2-Fluorobiphenyl			52.8 %	24.1-115		05/26/15	B5E2003	8270	
Surrogate: Nitrobenzene-d5			46.9 %	17.8-115		05/26/15	B5E2003	8270	
Surrogate: p-Terphenyl-d14			68.3 %	41.8-115		05/26/15	B5E2003	8270	
Organics-PCBs as Aroclors									
12674-11-2	Aroclor 1016	ND	0.10	ug/L	1	06/04/15	B5E2804	8081/8082	
11104-28-2	Aroclor 1221	ND	0.10	ug/L	1	06/04/15	B5E2804	8081/8082	
11141-16-5	Aroclor 1232	ND	0.10	ug/L	1	06/04/15	B5E2804	8081/8082	
53469-21-9	Aroclor 1242	ND	0.10	ug/L	1	06/04/15	B5E2804	8081/8082	
12672-29-6	Aroclor 1248	ND	0.10	ug/L	1	06/04/15	B5E2804	8081/8082	
11097-69-1	Aroclor 1254	ND	0.10	ug/L	1	06/04/15	B5E2804	8081/8082	
11096-82-5	Aroclor 1260	ND	0.10	ug/L	1	06/04/15	B5E2804	8081/8082	
37324-23-5	Aroclor 1262	ND	0.10	ug/L	1	06/04/15	B5E2804	8081/8082	
11100-14-4	Aroclor 1268	ND	0.10	ug/L	1	06/04/15	B5E2804	8081/8082	
Surrogate: Decachlorobiphenyl			59.2 %	30-150		06/04/15	B5E2804	8081/8082	
Surrogate: Tetrachloro-m-xylene			40.8 %	30-150		06/04/15	B5E2804	8081/8082	



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

Client ID: CHTC-GW-03-10'-15'

Lab ID: 1505191-02

CAS #	Analyte	Result	RL	Units	Dilution	Analyzed Date	QC Batch	Method	Qualifier
Organics-Volatiles									
630-20-6	1,1,1,2-Tetrachloroethane	ND	1.0	ug/L	1	05/22/15	B5E2127	8260	
71-55-6	1,1,1-Trichloroethane	ND	1.0	ug/L	1	05/22/15	B5E2127	8260	
79-34-5	1,1,2,2-Tetrachloroethane	ND	1.0	ug/L	1	05/22/15	B5E2127	8260	
79-00-5	1,1,2-Trichloroethane	ND	1.0	ug/L	1	05/22/15	B5E2127	8260	
75-34-3	1,1-Dichloroethane	ND	1.0	ug/L	1	05/22/15	B5E2127	8260	
75-35-4	1,1-Dichloroethylene	ND	1.0	ug/L	1	05/22/15	B5E2127	8260	
87-61-6	1,2,3-Trichlorobenzene	ND	5.0	ug/L	1	05/22/15	B5E2127	8260	
96-18-4	1,2,3-Trichloropropane	ND	1.0	ug/L	1	05/22/15	B5E2127	8260	
526-73-8	1,2,3-Trimethylbenzene	ND	1.0	ug/L	1	05/22/15	B5E2127	8260	
120-82-1	1,2,4-Trichlorobenzene	ND	5.0	ug/L	1	05/22/15	B5E2127	8260	
95-63-6	1,2,4-Trimethylbenzene	ND	1.0	ug/L	1	05/22/15	B5E2127	8260	
96-12-8	1,2-Dibromo-3-chloropropane	ND	5.0	ug/L	1	05/22/15	B5E2127	8260	
106-93-4	1,2-Dibromoethane	ND	1.0	ug/L	1	05/22/15	B5E2127	8260	
95-50-1	1,2-Dichlorobenzene	ND	1.0	ug/L	1	05/22/15	B5E2127	8260	
107-06-2	1,2-Dichloroethane	ND	1.0	ug/L	1	05/22/15	B5E2127	8260	
78-87-5	1,2-Dichloropropane	ND	1.0	ug/L	1	05/22/15	B5E2127	8260	
108-67-8	1,3,5-Trimethylbenzene	ND	1.0	ug/L	1	05/22/15	B5E2127	8260	
541-73-1	1,3-Dichlorobenzene	ND	1.0	ug/L	1	05/22/15	B5E2127	8260	
106-46-7	1,4-Dichlorobenzene	ND	1.0	ug/L	1	05/22/15	B5E2127	8260	
78-93-3	2-Butanone (MEK)	ND	5.0	ug/L	1	05/22/15	B5E2127	8260	
591-78-6	2-Hexanone	ND	5.0	ug/L	1	05/22/15	B5E2127	8260	
91-57-6	2-Methylnaphthalene	ND	5.0	ug/L	1	05/22/15	B5E2127	8260	X
67-64-1	2-Propanone (acetone)	ND	20	ug/L	1	05/22/15	B5E2127	8260	
108-10-1	4-Methyl-2-pentanone (MIBK)	ND	5.0	ug/L	1	05/22/15	B5E2127	8260	
107-13-1	Acrylonitrile	ND	5.0	ug/L	1	05/22/15	B5E2127	8260	
71-43-2	Benzene	ND	1.0	ug/L	1	05/22/15	B5E2127	8260	
108-86-1	Bromobenzene	ND	1.0	ug/L	1	05/22/15	B5E2127	8260	
74-97-5	Bromochloromethane	ND	1.0	ug/L	1	05/22/15	B5E2127	8260	
75-27-4	Bromodichloromethane	ND	1.0	ug/L	1	05/22/15	B5E2127	8260	
75-25-2	Bromoform	ND	1.0	ug/L	1	05/22/15	B5E2127	8260	
74-83-9	Bromomethane	ND	5.0	ug/L	1	05/22/15	B5E2127	8260	
75-15-0	Carbon disulfide	ND	1.0	ug/L	1	05/22/15	B5E2127	8260	
56-23-5	Carbon tetrachloride	ND	1.0	ug/L	1	05/22/15	B5E2127	8260	
108-90-7	Chlorobenzene	ND	1.0	ug/L	1	05/22/15	B5E2127	8260	
75-00-3	Chloroethane	ND	5.0	ug/L	1	05/22/15	B5E2127	8260	
67-66-3	Chloroform	ND	1.0	ug/L	1	05/22/15	B5E2127	8260	
74-87-3	Chloromethane	ND	5.0	ug/L	1	05/22/15	B5E2127	8260	
156-59-2	cis-1,2-Dichloroethylene	ND	1.0	ug/L	1	05/22/15	B5E2127	8260	
10061-01-5	cis-1,3-Dichloropropylene	ND	1.0	ug/L	1	05/22/15	B5E2127	8260	
110-82-7	Cyclohexane	ND	5.0	ug/L	1	05/22/15	B5E2127	8260	
124-48-1	Dibromochloromethane	ND	1.0	ug/L	1	05/22/15	B5E2127	8260	



**MICHIGAN DEPARTMENT OF ENVIRONMENTAL QUALITY
ENVIRONMENTAL LABORATORY**

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

Client ID: CHTC-GW-03-10'-15'

Lab ID: 1505191-02

CAS #	Analyte	Result	RL	Units	Dilution	Analyzed Date	QC Batch	Method	Qualifier
Organics-Volatiles									
74-95-3	Dibromomethane	ND	1.0	ug/L	1	05/22/15	B5E2127	8260	
75-71-8	Dichlorodifluoromethane	ND	5.0	ug/L	1	05/22/15	B5E2127	8260	
60-29-7	Diethyl ether	ND	5.0	ug/L	1	05/22/15	B5E2127	8260	
108-20-3	Diisopropyl Ether	ND	5.0	ug/L	1	05/22/15	B5E2127	8260	
100-41-4	Ethylbenzene	ND	1.0	ug/L	1	05/22/15	B5E2127	8260	
637-92-3	Ethyltertiarybutylether	ND	5.0	ug/L	1	05/22/15	B5E2127	8260	
67-72-1	Hexachloroethane	ND	5.0	ug/L	1	05/22/15	B5E2127	8260	
98-82-8	Isopropylbenzene	ND	1.0	ug/L	1	05/22/15	B5E2127	8260	
1330-20-7	m & p - Xylene	ND	2.0	ug/L	1	05/22/15	B5E2127	8260	
74-88-4	Methyl iodide	ND	1.0	ug/L	1	05/22/15	B5E2127	8260	
75-09-2	Methylene chloride	ND	5.0	ug/L	1	05/22/15	B5E2127	8260	
1634-04-4	Methyltertiarybutylether	ND	1.0	ug/L	1	05/22/15	B5E2127	8260	
91-20-3	Naphthalene	ND	5.0	ug/L	1	05/22/15	B5E2127	8260	X
104-51-8	n-Butylbenzene	ND	1.0	ug/L	1	05/22/15	B5E2127	8260	
103-65-1	n-Propylbenzene	ND	1.0	ug/L	1	05/22/15	B5E2127	8260	
95-47-6	o-Xylene	ND	1.0	ug/L	1	05/22/15	B5E2127	8260	
99-87-6	p-Isopropyl toluene	ND	1.0	ug/L	1	05/22/15	B5E2127	8260	
135-98-8	sec-Butylbenzene	ND	1.0	ug/L	1	05/22/15	B5E2127	8260	
100-42-5	Styrene	ND	1.0	ug/L	1	05/22/15	B5E2127	8260	
98-06-6	tert-Butylbenzene	ND	1.0	ug/L	1	05/22/15	B5E2127	8260	
75-65-0	tertiary Butyl Alcohol	ND	50	ug/L	1	05/22/15	B5E2127	8260	
994-05-8	tertiaryAmylmethylether	ND	5.0	ug/L	1	05/22/15	B5E2127	8260	
127-18-4	Tetrachloroethylene	ND	1.0	ug/L	1	05/22/15	B5E2127	8260	
109-99-9	Tetrahydrofuran	ND	5.0	ug/L	1	05/22/15	B5E2127	8260	
108-88-3	Toluene	ND	1.0	ug/L	1	05/22/15	B5E2127	8260	
156-60-5	trans-1,2-Dichloroethylene	ND	1.0	ug/L	1	05/22/15	B5E2127	8260	
10061-02-6	trans-1,3-Dichloropropylene	ND	1.0	ug/L	1	05/22/15	B5E2127	8260	
110-57-6	trans-1,4-Dichloro-2-butene	ND	5.0	ug/L	1	05/22/15	B5E2127	8260	
79-01-6	Trichloroethylene	ND	1.0	ug/L	1	05/22/15	B5E2127	8260	
75-69-4	Trichlorofluoromethane	ND	1.0	ug/L	1	05/22/15	B5E2127	8260	
75-01-4	Vinyl chloride	ND	1.0	ug/L	1	05/22/15	B5E2127	8260	
Surrogate: Bromofluorobenzene			103 %	85-115		05/22/15	B5E2127	8260	
Surrogate: Dibromofluoromethane			102 %	82.7-115		05/22/15	B5E2127	8260	
Surrogate: Toluene-d8			103 %	85-115		05/22/15	B5E2127	8260	



**MICHIGAN DEPARTMENT OF ENVIRONMENTAL QUALITY
ENVIRONMENTAL LABORATORY**

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

Client ID: CHTC-GW-03-10'-15'

Lab ID: 1505191-02

CAS #	Analyte	Result	RL	Units	Dilution	Analyzed Date	QC Batch	Method	Qualifier
Organics-Semivolatiles									
91-57-6	2-Methylnaphthalene	ND	5.0	ug/L	1	05/27/15	B5E2110	8270	
83-32-9	Acenaphthene	ND	1.0	ug/L	1	05/27/15	B5E2110	8270	
208-96-8	Acenaphthylene	ND	1.0	ug/L	1	05/27/15	B5E2110	8270	
120-12-7	Anthracene	ND	1.0	ug/L	1	05/27/15	B5E2110	8270	
56-55-3	Benz[a]anthracene	ND	1.0	ug/L	1	05/27/15	B5E2110	8270	
50-32-8	Benzo[a]pyrene	ND	1.0	ug/L	1	05/27/15	B5E2110	8270	
205-99-2	Benzo[b]fluoranthene	ND	1.0	ug/L	1	05/27/15	B5E2110	8270	
191-24-2	Benzo[g,h,i]perylene	ND	1.0	ug/L	1	05/27/15	B5E2110	8270	
207-08-9	Benzo[k]fluoranthene	ND	1.0	ug/L	1	05/27/15	B5E2110	8270	
218-01-9	Chrysene	ND	1.0	ug/L	1	05/27/15	B5E2110	8270	
53-70-3	Dibenz[a,h]anthracene	ND	2.0	ug/L	1	05/27/15	B5E2110	8270	
206-44-0	Fluoranthene	ND	1.0	ug/L	1	05/27/15	B5E2110	8270	
86-73-7	Fluorene	ND	1.0	ug/L	1	05/27/15	B5E2110	8270	
193-39-5	Indeno(1,2,3-c,d)pyrene	ND	2.0	ug/L	1	05/27/15	B5E2110	8270	
91-20-3	Naphthalene	ND	1.0	ug/L	1	05/27/15	B5E2110	8270	
85-01-8	Phenanthrene	ND	1.0	ug/L	1	05/27/15	B5E2110	8270	
129-00-0	Pyrene	ND	1.0	ug/L	1	05/27/15	B5E2110	8270	
<i>Surrogate: 2-Fluorobiphenyl</i>			53.0 %		24.1-115	05/27/15	B5E2110	8270	
<i>Surrogate: Nitrobenzene-d5</i>			50.6 %		17.8-115	05/27/15	B5E2110	8270	
<i>Surrogate: p-Terphenyl-d14</i>			70.8 %		41.8-115	05/27/15	B5E2110	8270	
Organics-PCBs as Aroclors									
12674-11-2	Aroclor 1016	ND	0.10	ug/L	1	06/04/15	B5E2804	8081/8082	
11104-28-2	Aroclor 1221	ND	0.10	ug/L	1	06/04/15	B5E2804	8081/8082	
11141-16-5	Aroclor 1232	ND	0.10	ug/L	1	06/04/15	B5E2804	8081/8082	
53469-21-9	Aroclor 1242	ND	0.10	ug/L	1	06/04/15	B5E2804	8081/8082	
12672-29-6	Aroclor 1248	ND	0.10	ug/L	1	06/04/15	B5E2804	8081/8082	
11097-69-1	Aroclor 1254	ND	0.10	ug/L	1	06/04/15	B5E2804	8081/8082	
11096-82-5	Aroclor 1260	ND	0.10	ug/L	1	06/04/15	B5E2804	8081/8082	
37324-23-5	Aroclor 1262	ND	0.10	ug/L	1	06/04/15	B5E2804	8081/8082	
11100-14-4	Aroclor 1268	ND	0.10	ug/L	1	06/04/15	B5E2804	8081/8082	
<i>Surrogate: Decachlorobiphenyl</i>			51.9 %		30-150	06/04/15	B5E2804	8081/8082	
<i>Surrogate: Tetrachloro-m-xylene</i>			47.9 %		30-150	06/04/15	B5E2804	8081/8082	



**MICHIGAN DEPARTMENT OF ENVIRONMENTAL QUALITY
ENVIRONMENTAL LABORATORY**

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

Client ID: CHTC-GW-06-10'-15'

Lab ID: 1505191-03

CAS #	Analyte	Result	RL	Units	Dilution	Analyzed Date	QC Batch	Method	Qualifier
Organics-Volatiles									
630-20-6	1,1,1,2-Tetrachloroethane	ND	1.0	ug/L	1	05/22/15	B5E2127	8260	
71-55-6	1,1,1-Trichloroethane	ND	1.0	ug/L	1	05/22/15	B5E2127	8260	
79-34-5	1,1,2,2-Tetrachloroethane	ND	1.0	ug/L	1	05/22/15	B5E2127	8260	
79-00-5	1,1,2-Trichloroethane	ND	1.0	ug/L	1	05/22/15	B5E2127	8260	
75-34-3	1,1-Dichloroethane	ND	1.0	ug/L	1	05/22/15	B5E2127	8260	
75-35-4	1,1-Dichloroethylene	ND	1.0	ug/L	1	05/22/15	B5E2127	8260	
87-61-6	1,2,3-Trichlorobenzene	ND	5.0	ug/L	1	05/22/15	B5E2127	8260	
96-18-4	1,2,3-Trichloropropane	ND	1.0	ug/L	1	05/22/15	B5E2127	8260	
526-73-8	1,2,3-Trimethylbenzene	ND	1.0	ug/L	1	05/22/15	B5E2127	8260	
120-82-1	1,2,4-Trichlorobenzene	ND	5.0	ug/L	1	05/22/15	B5E2127	8260	
95-63-6	1,2,4-Trimethylbenzene	ND	1.0	ug/L	1	05/22/15	B5E2127	8260	
96-12-8	1,2-Dibromo-3-chloropropane	ND	5.0	ug/L	1	05/22/15	B5E2127	8260	
106-93-4	1,2-Dibromoethane	ND	1.0	ug/L	1	05/22/15	B5E2127	8260	
95-50-1	1,2-Dichlorobenzene	ND	1.0	ug/L	1	05/22/15	B5E2127	8260	
107-06-2	1,2-Dichloroethane	ND	1.0	ug/L	1	05/22/15	B5E2127	8260	
78-87-5	1,2-Dichloropropane	ND	1.0	ug/L	1	05/22/15	B5E2127	8260	
108-67-8	1,3,5-Trimethylbenzene	ND	1.0	ug/L	1	05/22/15	B5E2127	8260	
541-73-1	1,3-Dichlorobenzene	ND	1.0	ug/L	1	05/22/15	B5E2127	8260	
106-46-7	1,4-Dichlorobenzene	ND	1.0	ug/L	1	05/22/15	B5E2127	8260	
78-93-3	2-Butanone (MEK)	ND	5.0	ug/L	1	05/22/15	B5E2127	8260	
591-78-6	2-Hexanone	ND	5.0	ug/L	1	05/22/15	B5E2127	8260	
91-57-6	2-Methylnaphthalene	ND	5.0	ug/L	1	05/22/15	B5E2127	8260	X
67-64-1	2-Propanone (acetone)	ND	20	ug/L	1	05/22/15	B5E2127	8260	
108-10-1	4-Methyl-2-pentanone (MIBK)	ND	5.0	ug/L	1	05/22/15	B5E2127	8260	
107-13-1	Acrylonitrile	ND	5.0	ug/L	1	05/22/15	B5E2127	8260	
71-43-2	Benzene	ND	1.0	ug/L	1	05/22/15	B5E2127	8260	
108-86-1	Bromobenzene	ND	1.0	ug/L	1	05/22/15	B5E2127	8260	
74-97-5	Bromochloromethane	ND	1.0	ug/L	1	05/22/15	B5E2127	8260	
75-27-4	Bromodichloromethane	ND	1.0	ug/L	1	05/22/15	B5E2127	8260	
75-25-2	Bromoform	ND	1.0	ug/L	1	05/22/15	B5E2127	8260	
74-83-9	Bromomethane	ND	5.0	ug/L	1	05/22/15	B5E2127	8260	
75-15-0	Carbon disulfide	ND	1.0	ug/L	1	05/22/15	B5E2127	8260	
56-23-5	Carbon tetrachloride	ND	1.0	ug/L	1	05/22/15	B5E2127	8260	
108-90-7	Chlorobenzene	ND	1.0	ug/L	1	05/22/15	B5E2127	8260	
75-00-3	Chloroethane	ND	5.0	ug/L	1	05/22/15	B5E2127	8260	
67-66-3	Chloroform	ND	1.0	ug/L	1	05/22/15	B5E2127	8260	
74-87-3	Chloromethane	ND	5.0	ug/L	1	05/22/15	B5E2127	8260	
156-59-2	cis-1,2-Dichloroethylene	ND	1.0	ug/L	1	05/22/15	B5E2127	8260	
10061-01-5	cis-1,3-Dichloropropylene	ND	1.0	ug/L	1	05/22/15	B5E2127	8260	
110-82-7	Cyclohexane	ND	5.0	ug/L	1	05/22/15	B5E2127	8260	
124-48-1	Dibromochloromethane	ND	1.0	ug/L	1	05/22/15	B5E2127	8260	



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Lansing, MI 48909
TEL: (517) 335-9800
FAX: (517) 335-9600

Client ID: CHTC-GW-06-10'-15'

Lab ID: 1505191-03

CAS #	Analyte	Result	RL	Units	Dilution	Analyzed Date	QC Batch	Method	Qualifier
Organics-Volatiles									
74-95-3	Dibromomethane	ND	1.0	ug/L	1	05/22/15	B5E2127	8260	
75-71-8	Dichlorodifluoromethane	ND	5.0	ug/L	1	05/22/15	B5E2127	8260	
60-29-7	Diethyl ether	ND	5.0	ug/L	1	05/22/15	B5E2127	8260	
108-20-3	Diisopropyl Ether	ND	5.0	ug/L	1	05/22/15	B5E2127	8260	
100-41-4	Ethylbenzene	ND	1.0	ug/L	1	05/22/15	B5E2127	8260	
637-92-3	Ethyltertiarybutylether	ND	5.0	ug/L	1	05/22/15	B5E2127	8260	
67-72-1	Hexachloroethane	ND	5.0	ug/L	1	05/22/15	B5E2127	8260	
98-82-8	Isopropylbenzene	ND	1.0	ug/L	1	05/22/15	B5E2127	8260	
1330-20-7	m & p - Xylene	ND	2.0	ug/L	1	05/22/15	B5E2127	8260	
74-88-4	Methyl iodide	ND	1.0	ug/L	1	05/22/15	B5E2127	8260	
75-09-2	Methylene chloride	ND	5.0	ug/L	1	05/22/15	B5E2127	8260	
1634-04-4	Methyltertiarybutylether	ND	1.0	ug/L	1	05/22/15	B5E2127	8260	
91-20-3	Naphthalene	ND	5.0	ug/L	1	05/22/15	B5E2127	8260	X
104-51-8	n-Butylbenzene	ND	1.0	ug/L	1	05/22/15	B5E2127	8260	
103-65-1	n-Propylbenzene	ND	1.0	ug/L	1	05/22/15	B5E2127	8260	
95-47-6	o-Xylene	ND	1.0	ug/L	1	05/22/15	B5E2127	8260	
99-87-6	p-Isopropyl toluene	ND	1.0	ug/L	1	05/22/15	B5E2127	8260	
135-98-8	sec-Butylbenzene	ND	1.0	ug/L	1	05/22/15	B5E2127	8260	
100-42-5	Styrene	ND	1.0	ug/L	1	05/22/15	B5E2127	8260	
98-06-6	tert-Butylbenzene	ND	1.0	ug/L	1	05/22/15	B5E2127	8260	
75-65-0	tertiary Butyl Alcohol	ND	50	ug/L	1	05/22/15	B5E2127	8260	
994-05-8	tertiaryAmylmethylether	ND	5.0	ug/L	1	05/22/15	B5E2127	8260	
127-18-4	Tetrachloroethylene	ND	1.0	ug/L	1	05/22/15	B5E2127	8260	
109-99-9	Tetrahydrofuran	ND	5.0	ug/L	1	05/22/15	B5E2127	8260	
108-88-3	Toluene	ND	1.0	ug/L	1	05/22/15	B5E2127	8260	
156-60-5	trans-1,2-Dichloroethylene	ND	1.0	ug/L	1	05/22/15	B5E2127	8260	
10061-02-6	trans-1,3-Dichloropropylene	ND	1.0	ug/L	1	05/22/15	B5E2127	8260	
110-57-6	trans-1,4-Dichloro-2-butene	ND	5.0	ug/L	1	05/22/15	B5E2127	8260	
79-01-6	Trichloroethylene	ND	1.0	ug/L	1	05/22/15	B5E2127	8260	
75-69-4	Trichlorofluoromethane	ND	1.0	ug/L	1	05/22/15	B5E2127	8260	
75-01-4	Vinyl chloride	ND	1.0	ug/L	1	05/22/15	B5E2127	8260	
Surrogate: Bromofluorobenzene			101 %	85-115		05/22/15	B5E2127	8260	
Surrogate: Dibromofluoromethane			104 %	82.7-115		05/22/15	B5E2127	8260	
Surrogate: Toluene-d8			102 %	85-115		05/22/15	B5E2127	8260	



**MICHIGAN DEPARTMENT OF ENVIRONMENTAL QUALITY
ENVIRONMENTAL LABORATORY**

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

Client ID: CHTC-GW-06-10'-15'

Lab ID: 1505191-03

CAS #	Analyte	Result	RL	Units	Dilution	Analyzed Date	QC Batch	Method	Qualifier
Organics-Semivolatiles									
91-57-6	2-Methylnaphthalene	ND	5.0	ug/L	1	05/27/15	B5E2110	8270	
83-32-9	Acenaphthene	ND	1.0	ug/L	1	05/27/15	B5E2110	8270	
208-96-8	Acenaphthylene	ND	1.0	ug/L	1	05/27/15	B5E2110	8270	
120-12-7	Anthracene	ND	1.0	ug/L	1	05/27/15	B5E2110	8270	
56-55-3	Benz[a]anthracene	ND	1.0	ug/L	1	05/27/15	B5E2110	8270	
50-32-8	Benzo[a]pyrene	ND	1.0	ug/L	1	05/27/15	B5E2110	8270	
205-99-2	Benzo[b]fluoranthene	ND	1.0	ug/L	1	05/27/15	B5E2110	8270	
191-24-2	Benzo[g,h,i]perylene	ND	1.0	ug/L	1	05/27/15	B5E2110	8270	
207-08-9	Benzo[k]fluoranthene	ND	1.0	ug/L	1	05/27/15	B5E2110	8270	
218-01-9	Chrysene	ND	1.0	ug/L	1	05/27/15	B5E2110	8270	
53-70-3	Dibenz[a,h]anthracene	ND	2.0	ug/L	1	05/27/15	B5E2110	8270	
206-44-0	Fluoranthene	ND	1.0	ug/L	1	05/27/15	B5E2110	8270	
86-73-7	Fluorene	ND	1.0	ug/L	1	05/27/15	B5E2110	8270	
193-39-5	Indeno(1,2,3-c,d)pyrene	ND	2.0	ug/L	1	05/27/15	B5E2110	8270	
91-20-3	Naphthalene	ND	1.0	ug/L	1	05/27/15	B5E2110	8270	
85-01-8	Phenanthrene	ND	1.0	ug/L	1	05/27/15	B5E2110	8270	
129-00-0	Pyrene	ND	1.0	ug/L	1	05/27/15	B5E2110	8270	
<i>Surrogate: 2-Fluorobiphenyl</i>			53.1 %		24.1-115	05/27/15	B5E2110	8270	
<i>Surrogate: Nitrobenzene-d5</i>			51.9 %		17.8-115	05/27/15	B5E2110	8270	
<i>Surrogate: p-Terphenyl-d14</i>			71.6 %		41.8-115	05/27/15	B5E2110	8270	
Organics-PCBs as Aroclors									
12674-11-2	Aroclor 1016	ND	0.10	ug/L	1	06/04/15	B5E2804	8081/8082	
11104-28-2	Aroclor 1221	ND	0.10	ug/L	1	06/04/15	B5E2804	8081/8082	
11141-16-5	Aroclor 1232	ND	0.10	ug/L	1	06/04/15	B5E2804	8081/8082	
53469-21-9	Aroclor 1242	ND	0.10	ug/L	1	06/04/15	B5E2804	8081/8082	
12672-29-6	Aroclor 1248	ND	0.10	ug/L	1	06/04/15	B5E2804	8081/8082	
11097-69-1	Aroclor 1254	ND	0.10	ug/L	1	06/04/15	B5E2804	8081/8082	
11096-82-5	Aroclor 1260	ND	0.10	ug/L	1	06/04/15	B5E2804	8081/8082	
37324-23-5	Aroclor 1262	ND	0.10	ug/L	1	06/04/15	B5E2804	8081/8082	
11100-14-4	Aroclor 1268	ND	0.10	ug/L	1	06/04/15	B5E2804	8081/8082	
<i>Surrogate: Decachlorobiphenyl</i>			49.0 %		30-150	06/04/15	B5E2804	8081/8082	
<i>Surrogate: Tetrachloro-m-xylene</i>			43.9 %		30-150	06/04/15	B5E2804	8081/8082	



**MICHIGAN DEPARTMENT OF ENVIRONMENTAL QUALITY
ENVIRONMENTAL LABORATORY**

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

Client ID: CHTC-GW-11-10'-15'

Lab ID: 1505191-04

CAS #	Analyte	Result	RL	Units	Dilution	Analyzed Date	QC Batch	Method	Qualifier
Organics-Volatiles									
630-20-6	1,1,1,2-Tetrachloroethane	ND	1.0	ug/L	1	05/22/15	B5E2127	8260	
71-55-6	1,1,1-Trichloroethane	ND	1.0	ug/L	1	05/22/15	B5E2127	8260	
79-34-5	1,1,2,2-Tetrachloroethane	ND	1.0	ug/L	1	05/22/15	B5E2127	8260	
79-00-5	1,1,2-Trichloroethane	ND	1.0	ug/L	1	05/22/15	B5E2127	8260	
75-34-3	1,1-Dichloroethane	ND	1.0	ug/L	1	05/22/15	B5E2127	8260	
75-35-4	1,1-Dichloroethylene	ND	1.0	ug/L	1	05/22/15	B5E2127	8260	
87-61-6	1,2,3-Trichlorobenzene	ND	5.0	ug/L	1	05/22/15	B5E2127	8260	
96-18-4	1,2,3-Trichloropropane	ND	1.0	ug/L	1	05/22/15	B5E2127	8260	
526-73-8	1,2,3-Trimethylbenzene	ND	1.0	ug/L	1	05/22/15	B5E2127	8260	
120-82-1	1,2,4-Trichlorobenzene	ND	5.0	ug/L	1	05/22/15	B5E2127	8260	
95-63-6	1,2,4-Trimethylbenzene	ND	1.0	ug/L	1	05/22/15	B5E2127	8260	
96-12-8	1,2-Dibromo-3-chloropropane	ND	5.0	ug/L	1	05/22/15	B5E2127	8260	
106-93-4	1,2-Dibromoethane	ND	1.0	ug/L	1	05/22/15	B5E2127	8260	
95-50-1	1,2-Dichlorobenzene	ND	1.0	ug/L	1	05/22/15	B5E2127	8260	
107-06-2	1,2-Dichloroethane	ND	1.0	ug/L	1	05/22/15	B5E2127	8260	
78-87-5	1,2-Dichloropropane	ND	1.0	ug/L	1	05/22/15	B5E2127	8260	
108-67-8	1,3,5-Trimethylbenzene	ND	1.0	ug/L	1	05/22/15	B5E2127	8260	
541-73-1	1,3-Dichlorobenzene	ND	1.0	ug/L	1	05/22/15	B5E2127	8260	
106-46-7	1,4-Dichlorobenzene	ND	1.0	ug/L	1	05/22/15	B5E2127	8260	
78-93-3	2-Butanone (MEK)	ND	5.0	ug/L	1	05/22/15	B5E2127	8260	
591-78-6	2-Hexanone	ND	5.0	ug/L	1	05/22/15	B5E2127	8260	
91-57-6	2-Methylnaphthalene	ND	5.0	ug/L	1	05/22/15	B5E2127	8260	X
67-64-1	2-Propanone (acetone)	ND	20	ug/L	1	05/22/15	B5E2127	8260	
108-10-1	4-Methyl-2-pentanone (MIBK)	ND	5.0	ug/L	1	05/22/15	B5E2127	8260	
107-13-1	Acrylonitrile	ND	5.0	ug/L	1	05/22/15	B5E2127	8260	
71-43-2	Benzene	ND	1.0	ug/L	1	05/22/15	B5E2127	8260	
108-86-1	Bromobenzene	ND	1.0	ug/L	1	05/22/15	B5E2127	8260	
74-97-5	Bromochloromethane	ND	1.0	ug/L	1	05/22/15	B5E2127	8260	
75-27-4	Bromodichloromethane	ND	1.0	ug/L	1	05/22/15	B5E2127	8260	
75-25-2	Bromoform	ND	1.0	ug/L	1	05/22/15	B5E2127	8260	
74-83-9	Bromomethane	ND	5.0	ug/L	1	05/22/15	B5E2127	8260	
75-15-0	Carbon disulfide	ND	1.0	ug/L	1	05/22/15	B5E2127	8260	
56-23-5	Carbon tetrachloride	ND	1.0	ug/L	1	05/22/15	B5E2127	8260	
108-90-7	Chlorobenzene	ND	1.0	ug/L	1	05/22/15	B5E2127	8260	
75-00-3	Chloroethane	ND	5.0	ug/L	1	05/22/15	B5E2127	8260	
67-66-3	Chloroform	ND	1.0	ug/L	1	05/22/15	B5E2127	8260	
74-87-3	Chloromethane	ND	5.0	ug/L	1	05/22/15	B5E2127	8260	
156-59-2	cis-1,2-Dichloroethylene	ND	1.0	ug/L	1	05/22/15	B5E2127	8260	
10061-01-5	cis-1,3-Dichloropropylene	ND	1.0	ug/L	1	05/22/15	B5E2127	8260	
110-82-7	Cyclohexane	ND	5.0	ug/L	1	05/22/15	B5E2127	8260	
124-48-1	Dibromochloromethane	ND	1.0	ug/L	1	05/22/15	B5E2127	8260	



**MICHIGAN DEPARTMENT OF ENVIRONMENTAL QUALITY
ENVIRONMENTAL LABORATORY**

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

Client ID: CHTC-GW-11-10'-15'

Lab ID: 1505191-04

CAS #	Analyte	Result	RL	Units	Dilution	Analyzed Date	QC Batch	Method	Qualifier
Organics-Volatiles									
74-95-3	Dibromomethane	ND	1.0	ug/L	1	05/22/15	B5E2127	8260	
75-71-8	Dichlorodifluoromethane	ND	5.0	ug/L	1	05/22/15	B5E2127	8260	
60-29-7	Diethyl ether	ND	5.0	ug/L	1	05/22/15	B5E2127	8260	
108-20-3	Diisopropyl Ether	ND	5.0	ug/L	1	05/22/15	B5E2127	8260	
100-41-4	Ethylbenzene	ND	1.0	ug/L	1	05/22/15	B5E2127	8260	
637-92-3	Ethyltertiarybutylether	ND	5.0	ug/L	1	05/22/15	B5E2127	8260	
67-72-1	Hexachloroethane	ND	5.0	ug/L	1	05/22/15	B5E2127	8260	
98-82-8	Isopropylbenzene	ND	1.0	ug/L	1	05/22/15	B5E2127	8260	
1330-20-7	m & p - Xylene	ND	2.0	ug/L	1	05/22/15	B5E2127	8260	
74-88-4	Methyl iodide	ND	1.0	ug/L	1	05/22/15	B5E2127	8260	
75-09-2	Methylene chloride	ND	5.0	ug/L	1	05/22/15	B5E2127	8260	
1634-04-4	Methyltertiarybutylether	ND	1.0	ug/L	1	05/22/15	B5E2127	8260	
91-20-3	Naphthalene	ND	5.0	ug/L	1	05/22/15	B5E2127	8260	X
104-51-8	n-Butylbenzene	ND	1.0	ug/L	1	05/22/15	B5E2127	8260	
103-65-1	n-Propylbenzene	ND	1.0	ug/L	1	05/22/15	B5E2127	8260	
95-47-6	o-Xylene	ND	1.0	ug/L	1	05/22/15	B5E2127	8260	
99-87-6	p-Isopropyl toluene	ND	1.0	ug/L	1	05/22/15	B5E2127	8260	
135-98-8	sec-Butylbenzene	ND	1.0	ug/L	1	05/22/15	B5E2127	8260	
100-42-5	Styrene	ND	1.0	ug/L	1	05/22/15	B5E2127	8260	
98-06-6	tert-Butylbenzene	ND	1.0	ug/L	1	05/22/15	B5E2127	8260	
75-65-0	tertiary Butyl Alcohol	ND	50	ug/L	1	05/22/15	B5E2127	8260	
994-05-8	tertiaryAmylmethylether	ND	5.0	ug/L	1	05/22/15	B5E2127	8260	
127-18-4	Tetrachloroethylene	ND	1.0	ug/L	1	05/22/15	B5E2127	8260	
109-99-9	Tetrahydrofuran	ND	5.0	ug/L	1	05/22/15	B5E2127	8260	
108-88-3	Toluene	ND	1.0	ug/L	1	05/22/15	B5E2127	8260	
156-60-5	trans-1,2-Dichloroethylene	ND	1.0	ug/L	1	05/22/15	B5E2127	8260	
10061-02-6	trans-1,3-Dichloropropylene	ND	1.0	ug/L	1	05/22/15	B5E2127	8260	
110-57-6	trans-1,4-Dichloro-2-butene	ND	5.0	ug/L	1	05/22/15	B5E2127	8260	
79-01-6	Trichloroethylene	ND	1.0	ug/L	1	05/22/15	B5E2127	8260	
75-69-4	Trichlorofluoromethane	ND	1.0	ug/L	1	05/22/15	B5E2127	8260	
75-01-4	Vinyl chloride	ND	1.0	ug/L	1	05/22/15	B5E2127	8260	
Surrogate: Bromofluorobenzene			101 %	85-115		05/22/15	B5E2127	8260	
Surrogate: Dibromofluoromethane			106 %	82.7-115		05/22/15	B5E2127	8260	
Surrogate: Toluene-d8			104 %	85-115		05/22/15	B5E2127	8260	



**MICHIGAN DEPARTMENT OF ENVIRONMENTAL QUALITY
ENVIRONMENTAL LABORATORY**

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

Client ID: CHTC-GW-11-10'-15'

Lab ID: 1505191-04

CAS #	Analyte	Result	RL	Units	Dilution	Analyzed Date	QC Batch	Method	Qualifier
Organics-Semivolatiles									See note A01
91-57-6	2-Methylnaphthalene	ND	5.0	ug/L	1	05/27/15	B5E2110	8270	
83-32-9	Acenaphthene	ND	1.0	ug/L	1	05/27/15	B5E2110	8270	
208-96-8	Acenaphthylene	ND	1.0	ug/L	1	05/27/15	B5E2110	8270	
120-12-7	Anthracene	ND	1.0	ug/L	1	05/27/15	B5E2110	8270	
56-55-3	Benz[a]anthracene	ND	1.0	ug/L	1	05/27/15	B5E2110	8270	
50-32-8	Benzo[a]pyrene	ND	1.0	ug/L	1	05/27/15	B5E2110	8270	
205-99-2	Benzo[b]fluoranthene	ND	1.0	ug/L	1	05/27/15	B5E2110	8270	
191-24-2	Benzo[g,h,i]perylene	ND	1.0	ug/L	1	05/27/15	B5E2110	8270	
207-08-9	Benzo[k]fluoranthene	ND	1.0	ug/L	1	05/27/15	B5E2110	8270	
218-01-9	Chrysene	ND	1.0	ug/L	1	05/27/15	B5E2110	8270	
53-70-3	Dibenz[a,h]anthracene	ND	2.0	ug/L	1	05/27/15	B5E2110	8270	
206-44-0	Fluoranthene	ND	1.0	ug/L	1	05/27/15	B5E2110	8270	
86-73-7	Fluorene	ND	1.0	ug/L	1	05/27/15	B5E2110	8270	
193-39-5	Indeno(1,2,3-c,d)pyrene	ND	2.0	ug/L	1	05/27/15	B5E2110	8270	
91-20-3	Naphthalene	ND	1.0	ug/L	1	05/27/15	B5E2110	8270	
85-01-8	Phenanthrene	ND	1.0	ug/L	1	05/27/15	B5E2110	8270	
129-00-0	Pyrene	ND	1.0	ug/L	1	05/27/15	B5E2110	8270	
<i>Surrogate: 2-Fluorobiphenyl</i>			35.8 %	24.1-115	05/27/15	B5E2110	8270		
<i>Surrogate: Nitrobenzene-d5</i>			35.1 %	17.8-115	05/27/15	B5E2110	8270		
<i>Surrogate: p-Terphenyl-d14</i>			37.6 %	41.8-115	05/27/15	B5E2110	8270		
Organics-PCBs as Aroclors									
12674-11-2	Aroclor 1016	ND	0.10	ug/L	1	06/04/15	B5E2804	8081/8082	
11104-28-2	Aroclor 1221	ND	0.10	ug/L	1	06/04/15	B5E2804	8081/8082	
11141-16-5	Aroclor 1232	ND	0.10	ug/L	1	06/04/15	B5E2804	8081/8082	
53469-21-9	Aroclor 1242	ND	0.10	ug/L	1	06/04/15	B5E2804	8081/8082	
12672-29-6	Aroclor 1248	ND	0.10	ug/L	1	06/04/15	B5E2804	8081/8082	
11097-69-1	Aroclor 1254	ND	0.10	ug/L	1	06/04/15	B5E2804	8081/8082	
11096-82-5	Aroclor 1260	ND	0.10	ug/L	1	06/04/15	B5E2804	8081/8082	
37324-23-5	Aroclor 1262	ND	0.10	ug/L	1	06/04/15	B5E2804	8081/8082	
11100-14-4	Aroclor 1268	ND	0.10	ug/L	1	06/04/15	B5E2804	8081/8082	
<i>Surrogate: Decachlorobiphenyl</i>			54.7 %	30-150	06/04/15	B5E2804	8081/8082		
<i>Surrogate: Tetrachloro-m-xylene</i>			45.5 %	30-150	06/04/15	B5E2804	8081/8082		



**MICHIGAN DEPARTMENT OF ENVIRONMENTAL QUALITY
ENVIRONMENTAL LABORATORY**

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

Client ID: CHTC-GW-10-11'-16'

Lab ID: 1505191-05

CAS #	Analyte	Result	RL	Units	Dilution	Analyzed Date	QC Batch	Method	Qualifier
Organics-Volatiles									
630-20-6	1,1,1,2-Tetrachloroethane	ND	1.0	ug/L	1	05/22/15	B5E2127	8260	
71-55-6	1,1,1-Trichloroethane	ND	1.0	ug/L	1	05/22/15	B5E2127	8260	
79-34-5	1,1,2,2-Tetrachloroethane	ND	1.0	ug/L	1	05/22/15	B5E2127	8260	
79-00-5	1,1,2-Trichloroethane	ND	1.0	ug/L	1	05/22/15	B5E2127	8260	
75-34-3	1,1-Dichloroethane	ND	1.0	ug/L	1	05/22/15	B5E2127	8260	
75-35-4	1,1-Dichloroethylene	ND	1.0	ug/L	1	05/22/15	B5E2127	8260	
87-61-6	1,2,3-Trichlorobenzene	ND	5.0	ug/L	1	05/22/15	B5E2127	8260	
96-18-4	1,2,3-Trichloropropane	ND	1.0	ug/L	1	05/22/15	B5E2127	8260	
526-73-8	1,2,3-Trimethylbenzene	ND	1.0	ug/L	1	05/22/15	B5E2127	8260	
120-82-1	1,2,4-Trichlorobenzene	ND	5.0	ug/L	1	05/22/15	B5E2127	8260	
95-63-6	1,2,4-Trimethylbenzene	ND	1.0	ug/L	1	05/22/15	B5E2127	8260	
96-12-8	1,2-Dibromo-3-chloropropane	ND	5.0	ug/L	1	05/22/15	B5E2127	8260	
106-93-4	1,2-Dibromoethane	ND	1.0	ug/L	1	05/22/15	B5E2127	8260	
95-50-1	1,2-Dichlorobenzene	ND	1.0	ug/L	1	05/22/15	B5E2127	8260	
107-06-2	1,2-Dichloroethane	ND	1.0	ug/L	1	05/22/15	B5E2127	8260	
78-87-5	1,2-Dichloropropane	ND	1.0	ug/L	1	05/22/15	B5E2127	8260	
108-67-8	1,3,5-Trimethylbenzene	ND	1.0	ug/L	1	05/22/15	B5E2127	8260	
541-73-1	1,3-Dichlorobenzene	ND	1.0	ug/L	1	05/22/15	B5E2127	8260	
106-46-7	1,4-Dichlorobenzene	ND	1.0	ug/L	1	05/22/15	B5E2127	8260	
78-93-3	2-Butanone (MEK)	ND	5.0	ug/L	1	05/22/15	B5E2127	8260	
591-78-6	2-Hexanone	ND	5.0	ug/L	1	05/22/15	B5E2127	8260	
91-57-6	2-Methylnaphthalene	ND	5.0	ug/L	1	05/22/15	B5E2127	8260	X
67-64-1	2-Propanone (acetone)	ND	20	ug/L	1	05/22/15	B5E2127	8260	
108-10-1	4-Methyl-2-pentanone (MIBK)	ND	5.0	ug/L	1	05/22/15	B5E2127	8260	
107-13-1	Acrylonitrile	ND	5.0	ug/L	1	05/22/15	B5E2127	8260	
71-43-2	Benzene	ND	1.0	ug/L	1	05/22/15	B5E2127	8260	
108-86-1	Bromobenzene	ND	1.0	ug/L	1	05/22/15	B5E2127	8260	
74-97-5	Bromochloromethane	ND	1.0	ug/L	1	05/22/15	B5E2127	8260	
75-27-4	Bromodichloromethane	ND	1.0	ug/L	1	05/22/15	B5E2127	8260	
75-25-2	Bromoform	ND	1.0	ug/L	1	05/22/15	B5E2127	8260	
74-83-9	Bromomethane	ND	5.0	ug/L	1	05/22/15	B5E2127	8260	
75-15-0	Carbon disulfide	ND	1.0	ug/L	1	05/22/15	B5E2127	8260	
56-23-5	Carbon tetrachloride	ND	1.0	ug/L	1	05/22/15	B5E2127	8260	
108-90-7	Chlorobenzene	ND	1.0	ug/L	1	05/22/15	B5E2127	8260	
75-00-3	Chloroethane	ND	5.0	ug/L	1	05/22/15	B5E2127	8260	
67-66-3	Chloroform	ND	1.0	ug/L	1	05/22/15	B5E2127	8260	
74-87-3	Chloromethane	ND	5.0	ug/L	1	05/22/15	B5E2127	8260	
156-59-2	cis-1,2-Dichloroethylene	ND	1.0	ug/L	1	05/22/15	B5E2127	8260	
10061-01-5	cis-1,3-Dichloropropylene	ND	1.0	ug/L	1	05/22/15	B5E2127	8260	
110-82-7	Cyclohexane	ND	5.0	ug/L	1	05/22/15	B5E2127	8260	
124-48-1	Dibromochloromethane	ND	1.0	ug/L	1	05/22/15	B5E2127	8260	



**MICHIGAN DEPARTMENT OF ENVIRONMENTAL QUALITY
ENVIRONMENTAL LABORATORY**

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

Client ID: CHTC-GW-10-11'-16'

Lab ID: 1505191-05

CAS #	Analyte	Result	RL	Units	Dilution	Analyzed Date	QC Batch	Method	Qualifier
Organics-Volatiles									
74-95-3	Dibromomethane	ND	1.0	ug/L	1	05/22/15	B5E2127	8260	
75-71-8	Dichlorodifluoromethane	ND	5.0	ug/L	1	05/22/15	B5E2127	8260	
60-29-7	Diethyl ether	ND	5.0	ug/L	1	05/22/15	B5E2127	8260	
108-20-3	Diisopropyl Ether	ND	5.0	ug/L	1	05/22/15	B5E2127	8260	
100-41-4	Ethylbenzene	ND	1.0	ug/L	1	05/22/15	B5E2127	8260	
637-92-3	Ethyltertiarybutylether	ND	5.0	ug/L	1	05/22/15	B5E2127	8260	
67-72-1	Hexachloroethane	ND	5.0	ug/L	1	05/22/15	B5E2127	8260	
98-82-8	Isopropylbenzene	ND	1.0	ug/L	1	05/22/15	B5E2127	8260	
1330-20-7	m & p - Xylene	ND	2.0	ug/L	1	05/22/15	B5E2127	8260	
74-88-4	Methyl iodide	ND	1.0	ug/L	1	05/22/15	B5E2127	8260	
75-09-2	Methylene chloride	ND	5.0	ug/L	1	05/22/15	B5E2127	8260	
1634-04-4	Methyltertiarybutylether	ND	1.0	ug/L	1	05/22/15	B5E2127	8260	
91-20-3	Naphthalene	ND	5.0	ug/L	1	05/22/15	B5E2127	8260	X
104-51-8	n-Butylbenzene	ND	1.0	ug/L	1	05/22/15	B5E2127	8260	
103-65-1	n-Propylbenzene	ND	1.0	ug/L	1	05/22/15	B5E2127	8260	
95-47-6	o-Xylene	ND	1.0	ug/L	1	05/22/15	B5E2127	8260	
99-87-6	p-Isopropyl toluene	ND	1.0	ug/L	1	05/22/15	B5E2127	8260	
135-98-8	sec-Butylbenzene	ND	1.0	ug/L	1	05/22/15	B5E2127	8260	
100-42-5	Styrene	ND	1.0	ug/L	1	05/22/15	B5E2127	8260	
98-06-6	tert-Butylbenzene	ND	1.0	ug/L	1	05/22/15	B5E2127	8260	
75-65-0	tertiary Butyl Alcohol	ND	50	ug/L	1	05/22/15	B5E2127	8260	
994-05-8	tertiaryAmylmethylether	ND	5.0	ug/L	1	05/22/15	B5E2127	8260	
127-18-4	Tetrachloroethylene	ND	1.0	ug/L	1	05/22/15	B5E2127	8260	
109-99-9	Tetrahydrofuran	ND	5.0	ug/L	1	05/22/15	B5E2127	8260	
108-88-3	Toluene	ND	1.0	ug/L	1	05/22/15	B5E2127	8260	
156-60-5	trans-1,2-Dichloroethylene	ND	1.0	ug/L	1	05/22/15	B5E2127	8260	
10061-02-6	trans-1,3-Dichloropropylene	ND	1.0	ug/L	1	05/22/15	B5E2127	8260	
110-57-6	trans-1,4-Dichloro-2-butene	ND	5.0	ug/L	1	05/22/15	B5E2127	8260	
79-01-6	Trichloroethylene	ND	1.0	ug/L	1	05/22/15	B5E2127	8260	
75-69-4	Trichlorofluoromethane	ND	1.0	ug/L	1	05/22/15	B5E2127	8260	
75-01-4	Vinyl chloride	ND	1.0	ug/L	1	05/22/15	B5E2127	8260	
Surrogate: Bromofluorobenzene			103 %	85-115		05/22/15	B5E2127	8260	
Surrogate: Dibromofluoromethane			102 %	82.7-115		05/22/15	B5E2127	8260	
Surrogate: Toluene-d8			103 %	85-115		05/22/15	B5E2127	8260	



**MICHIGAN DEPARTMENT OF ENVIRONMENTAL QUALITY
ENVIRONMENTAL LABORATORY**

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

Client ID: CHTC-GW-10-11'-16'

Lab ID: 1505191-05

CAS #	Analyte	Result	RL	Units	Dilution	Analyzed Date	QC Batch	Method	Qualifier
Organics-Semivolatiles									See note A01
91-57-6	2-Methylnaphthalene	ND	5.0	ug/L	1	05/27/15	B5E2110	8270	
83-32-9	Acenaphthene	ND	1.0	ug/L	1	05/27/15	B5E2110	8270	
208-96-8	Acenaphthylene	ND	1.0	ug/L	1	05/27/15	B5E2110	8270	
120-12-7	Anthracene	ND	1.0	ug/L	1	05/27/15	B5E2110	8270	
56-55-3	Benz[a]anthracene	ND	1.0	ug/L	1	05/27/15	B5E2110	8270	
50-32-8	Benzo[a]pyrene	ND	1.0	ug/L	1	05/27/15	B5E2110	8270	
205-99-2	Benzo[b]fluoranthene	ND	1.0	ug/L	1	05/27/15	B5E2110	8270	
191-24-2	Benzo[g,h,i]perylene	ND	1.0	ug/L	1	05/27/15	B5E2110	8270	
207-08-9	Benzo[k]fluoranthene	ND	1.0	ug/L	1	05/27/15	B5E2110	8270	
218-01-9	Chrysene	ND	1.0	ug/L	1	05/27/15	B5E2110	8270	
53-70-3	Dibenz[a,h]anthracene	ND	2.0	ug/L	1	05/27/15	B5E2110	8270	
206-44-0	Fluoranthene	ND	1.0	ug/L	1	05/27/15	B5E2110	8270	
86-73-7	Fluorene	ND	1.0	ug/L	1	05/27/15	B5E2110	8270	
193-39-5	Indeno(1,2,3-c,d)pyrene	ND	2.0	ug/L	1	05/27/15	B5E2110	8270	
91-20-3	Naphthalene	ND	1.0	ug/L	1	05/27/15	B5E2110	8270	
85-01-8	Phenanthrene	ND	1.0	ug/L	1	05/27/15	B5E2110	8270	
129-00-0	Pyrene	ND	1.0	ug/L	1	05/27/15	B5E2110	8270	
<i>Surrogate: 2-Fluorobiphenyl</i>			34.4 %	24.1-115	05/27/15	B5E2110	8270		
<i>Surrogate: Nitrobenzene-d5</i>			36.2 %	17.8-115	05/27/15	B5E2110	8270		
<i>Surrogate: p-Terphenyl-d14</i>			38.4 %	41.8-115	05/27/15	B5E2110	8270		
Organics-PCBs as Aroclors									See note KR
12674-11-2	Aroclor 1016	ND	0.27	ug/L	1	06/04/15	B5E2804	8081/8082	
11104-28-2	Aroclor 1221	ND	0.27	ug/L	1	06/04/15	B5E2804	8081/8082	
11141-16-5	Aroclor 1232	ND	0.27	ug/L	1	06/04/15	B5E2804	8081/8082	
53469-21-9	Aroclor 1242	ND	0.27	ug/L	1	06/04/15	B5E2804	8081/8082	
12672-29-6	Aroclor 1248	ND	0.27	ug/L	1	06/04/15	B5E2804	8081/8082	
11097-69-1	Aroclor 1254	ND	0.27	ug/L	1	06/04/15	B5E2804	8081/8082	
11096-82-5	Aroclor 1260	ND	0.27	ug/L	1	06/04/15	B5E2804	8081/8082	
37324-23-5	Aroclor 1262	ND	0.27	ug/L	1	06/04/15	B5E2804	8081/8082	
11100-14-4	Aroclor 1268	ND	0.27	ug/L	1	06/04/15	B5E2804	8081/8082	
<i>Surrogate: Decachlorobiphenyl</i>			58.3 %	30-150	06/04/15	B5E2804	8081/8082		
<i>Surrogate: Tetrachloro-m-xylene</i>			56.8 %	30-150	06/04/15	B5E2804	8081/8082		



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Lansing, MI 48909
TEL: (517) 335-9800
FAX: (517) 335-9600

Client ID: CHTC-GW-29-10'-15'

Lab ID: 1505191-06

CAS #	Analyte	Result	RL	Units	Dilution	Analyzed Date	QC Batch	Method	Qualifier
Organics-Volatiles									
630-20-6	1,1,1,2-Tetrachloroethane	ND	1.0	ug/L	1	05/22/15	B5E2127	8260	
71-55-6	1,1,1-Trichloroethane	ND	1.0	ug/L	1	05/22/15	B5E2127	8260	
79-34-5	1,1,2,2-Tetrachloroethane	ND	1.0	ug/L	1	05/22/15	B5E2127	8260	
79-00-5	1,1,2-Trichloroethane	ND	1.0	ug/L	1	05/22/15	B5E2127	8260	
75-34-3	1,1-Dichloroethane	ND	1.0	ug/L	1	05/22/15	B5E2127	8260	
75-35-4	1,1-Dichloroethylene	ND	1.0	ug/L	1	05/22/15	B5E2127	8260	
87-61-6	1,2,3-Trichlorobenzene	ND	5.0	ug/L	1	05/22/15	B5E2127	8260	
96-18-4	1,2,3-Trichloropropane	ND	1.0	ug/L	1	05/22/15	B5E2127	8260	
526-73-8	1,2,3-Trimethylbenzene	ND	1.0	ug/L	1	05/22/15	B5E2127	8260	
120-82-1	1,2,4-Trichlorobenzene	ND	5.0	ug/L	1	05/22/15	B5E2127	8260	
95-63-6	1,2,4-Trimethylbenzene	ND	1.0	ug/L	1	05/22/15	B5E2127	8260	
96-12-8	1,2-Dibromo-3-chloropropane	ND	5.0	ug/L	1	05/22/15	B5E2127	8260	
106-93-4	1,2-Dibromoethane	ND	1.0	ug/L	1	05/22/15	B5E2127	8260	
95-50-1	1,2-Dichlorobenzene	ND	1.0	ug/L	1	05/22/15	B5E2127	8260	
107-06-2	1,2-Dichloroethane	ND	1.0	ug/L	1	05/22/15	B5E2127	8260	
78-87-5	1,2-Dichloropropane	ND	1.0	ug/L	1	05/22/15	B5E2127	8260	
108-67-8	1,3,5-Trimethylbenzene	ND	1.0	ug/L	1	05/22/15	B5E2127	8260	
541-73-1	1,3-Dichlorobenzene	ND	1.0	ug/L	1	05/22/15	B5E2127	8260	
106-46-7	1,4-Dichlorobenzene	ND	1.0	ug/L	1	05/22/15	B5E2127	8260	
78-93-3	2-Butanone (MEK)	ND	5.0	ug/L	1	05/22/15	B5E2127	8260	
591-78-6	2-Hexanone	ND	5.0	ug/L	1	05/22/15	B5E2127	8260	
91-57-6	2-Methylnaphthalene	ND	5.0	ug/L	1	05/22/15	B5E2127	8260	X
67-64-1	2-Propanone (acetone)	ND	20	ug/L	1	05/22/15	B5E2127	8260	
108-10-1	4-Methyl-2-pentanone (MIBK)	ND	5.0	ug/L	1	05/22/15	B5E2127	8260	
107-13-1	Acrylonitrile	ND	5.0	ug/L	1	05/22/15	B5E2127	8260	
71-43-2	Benzene	ND	1.0	ug/L	1	05/22/15	B5E2127	8260	
108-86-1	Bromobenzene	ND	1.0	ug/L	1	05/22/15	B5E2127	8260	
74-97-5	Bromochloromethane	ND	1.0	ug/L	1	05/22/15	B5E2127	8260	
75-27-4	Bromodichloromethane	ND	1.0	ug/L	1	05/22/15	B5E2127	8260	
75-25-2	Bromoform	ND	1.0	ug/L	1	05/22/15	B5E2127	8260	
74-83-9	Bromomethane	ND	5.0	ug/L	1	05/22/15	B5E2127	8260	
75-15-0	Carbon disulfide	ND	1.0	ug/L	1	05/22/15	B5E2127	8260	
56-23-5	Carbon tetrachloride	ND	1.0	ug/L	1	05/22/15	B5E2127	8260	
108-90-7	Chlorobenzene	ND	1.0	ug/L	1	05/22/15	B5E2127	8260	
75-00-3	Chloroethane	ND	5.0	ug/L	1	05/22/15	B5E2127	8260	
67-66-3	Chloroform	ND	1.0	ug/L	1	05/22/15	B5E2127	8260	
74-87-3	Chloromethane	ND	5.0	ug/L	1	05/22/15	B5E2127	8260	
156-59-2	cis-1,2-Dichloroethylene	ND	1.0	ug/L	1	05/22/15	B5E2127	8260	
10061-01-5	cis-1,3-Dichloropropylene	ND	1.0	ug/L	1	05/22/15	B5E2127	8260	
110-82-7	Cyclohexane	ND	5.0	ug/L	1	05/22/15	B5E2127	8260	
124-48-1	Dibromochloromethane	ND	1.0	ug/L	1	05/22/15	B5E2127	8260	



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Client ID: CHTC-GW-29-10'-15'

Lab ID: 1505191-06

CAS #	Analyte	Result	RL	Units	Dilution	Analyzed Date	QC Batch	Method	Qualifier
Organics-Volatiles									
74-95-3	Dibromomethane	ND	1.0	ug/L	1	05/22/15	B5E2127	8260	
75-71-8	Dichlorodifluoromethane	ND	5.0	ug/L	1	05/22/15	B5E2127	8260	
60-29-7	Diethyl ether	ND	5.0	ug/L	1	05/22/15	B5E2127	8260	
108-20-3	Diisopropyl Ether	ND	5.0	ug/L	1	05/22/15	B5E2127	8260	
100-41-4	Ethylbenzene	ND	1.0	ug/L	1	05/22/15	B5E2127	8260	
637-92-3	Ethyltertiarybutylether	ND	5.0	ug/L	1	05/22/15	B5E2127	8260	
67-72-1	Hexachloroethane	ND	5.0	ug/L	1	05/22/15	B5E2127	8260	
98-82-8	Isopropylbenzene	ND	1.0	ug/L	1	05/22/15	B5E2127	8260	
1330-20-7	m & p - Xylene	ND	2.0	ug/L	1	05/22/15	B5E2127	8260	
74-88-4	Methyl iodide	ND	1.0	ug/L	1	05/22/15	B5E2127	8260	
75-09-2	Methylene chloride	ND	5.0	ug/L	1	05/22/15	B5E2127	8260	
1634-04-4	Methyltertiarybutylether	ND	1.0	ug/L	1	05/22/15	B5E2127	8260	
91-20-3	Naphthalene	ND	5.0	ug/L	1	05/22/15	B5E2127	8260	X
104-51-8	n-Butylbenzene	ND	1.0	ug/L	1	05/22/15	B5E2127	8260	
103-65-1	n-Propylbenzene	ND	1.0	ug/L	1	05/22/15	B5E2127	8260	
95-47-6	o-Xylene	ND	1.0	ug/L	1	05/22/15	B5E2127	8260	
99-87-6	p-Isopropyl toluene	ND	1.0	ug/L	1	05/22/15	B5E2127	8260	
135-98-8	sec-Butylbenzene	ND	1.0	ug/L	1	05/22/15	B5E2127	8260	
100-42-5	Styrene	ND	1.0	ug/L	1	05/22/15	B5E2127	8260	
98-06-6	tert-Butylbenzene	ND	1.0	ug/L	1	05/22/15	B5E2127	8260	
75-65-0	tertiary Butyl Alcohol	ND	50	ug/L	1	05/22/15	B5E2127	8260	
994-05-8	tertiaryAmylmethylether	ND	5.0	ug/L	1	05/22/15	B5E2127	8260	
127-18-4	Tetrachloroethylene	ND	1.0	ug/L	1	05/22/15	B5E2127	8260	
109-99-9	Tetrahydrofuran	ND	5.0	ug/L	1	05/22/15	B5E2127	8260	
108-88-3	Toluene	ND	1.0	ug/L	1	05/22/15	B5E2127	8260	
156-60-5	trans-1,2-Dichloroethylene	ND	1.0	ug/L	1	05/22/15	B5E2127	8260	
10061-02-6	trans-1,3-Dichloropropylene	ND	1.0	ug/L	1	05/22/15	B5E2127	8260	
110-57-6	trans-1,4-Dichloro-2-butene	ND	5.0	ug/L	1	05/22/15	B5E2127	8260	
79-01-6	Trichloroethylene	ND	1.0	ug/L	1	05/22/15	B5E2127	8260	
75-69-4	Trichlorofluoromethane	ND	1.0	ug/L	1	05/22/15	B5E2127	8260	
75-01-4	Vinyl chloride	ND	1.0	ug/L	1	05/22/15	B5E2127	8260	
Surrogate: Bromofluorobenzene			104 %	85-115		05/22/15	B5E2127	8260	
Surrogate: Dibromofluoromethane			105 %	82.7-115		05/22/15	B5E2127	8260	
Surrogate: Toluene-d8			102 %	85-115		05/22/15	B5E2127	8260	



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Client ID: CHTC-GW-29-10'-15'

Lab ID: 1505191-06

CAS #	Analyte	Result	RL	Units	Dilution	Analyzed Date	QC Batch	Method	Qualifier
Organics-Semivolatiles									
91-57-6	2-Methylnaphthalene	ND	5.0	ug/L	1	05/27/15	B5E2110	8270	
83-32-9	Acenaphthene	ND	1.0	ug/L	1	05/27/15	B5E2110	8270	
208-96-8	Acenaphthylene	ND	1.0	ug/L	1	05/27/15	B5E2110	8270	
120-12-7	Anthracene	ND	1.0	ug/L	1	05/27/15	B5E2110	8270	
56-55-3	Benz[a]anthracene	ND	1.0	ug/L	1	05/27/15	B5E2110	8270	
50-32-8	Benzo[a]pyrene	ND	1.0	ug/L	1	05/27/15	B5E2110	8270	
205-99-2	Benzo[b]fluoranthene	ND	1.0	ug/L	1	05/27/15	B5E2110	8270	
191-24-2	Benzo[g,h,i]perylene	ND	1.0	ug/L	1	05/27/15	B5E2110	8270	
207-08-9	Benzo[k]fluoranthene	ND	1.0	ug/L	1	05/27/15	B5E2110	8270	
218-01-9	Chrysene	ND	1.0	ug/L	1	05/27/15	B5E2110	8270	
53-70-3	Dibenz[a,h]anthracene	ND	2.0	ug/L	1	05/27/15	B5E2110	8270	
206-44-0	Fluoranthene	ND	1.0	ug/L	1	05/27/15	B5E2110	8270	
86-73-7	Fluorene	ND	1.0	ug/L	1	05/27/15	B5E2110	8270	
193-39-5	Indeno(1,2,3-c,d)pyrene	ND	2.0	ug/L	1	05/27/15	B5E2110	8270	
91-20-3	Naphthalene	ND	1.0	ug/L	1	05/27/15	B5E2110	8270	
85-01-8	Phenanthrene	ND	1.0	ug/L	1	05/27/15	B5E2110	8270	
129-00-0	Pyrene	ND	1.0	ug/L	1	05/27/15	B5E2110	8270	
<i>Surrogate: 2-Fluorobiphenyl</i>			51.4 %		24.1-115	05/27/15	B5E2110	8270	
<i>Surrogate: Nitrobenzene-d5</i>			53.2 %		17.8-115	05/27/15	B5E2110	8270	
<i>Surrogate: p-Terphenyl-d14</i>			50.0 %		41.8-115	05/27/15	B5E2110	8270	
Organics-PCBs as Aroclors									
12674-11-2	Aroclor 1016	ND	0.10	ug/L	1	06/04/15	B5E2804	8081/8082	
11104-28-2	Aroclor 1221	ND	0.10	ug/L	1	06/04/15	B5E2804	8081/8082	
11141-16-5	Aroclor 1232	ND	0.10	ug/L	1	06/04/15	B5E2804	8081/8082	
53469-21-9	Aroclor 1242	ND	0.10	ug/L	1	06/04/15	B5E2804	8081/8082	
12672-29-6	Aroclor 1248	ND	0.10	ug/L	1	06/04/15	B5E2804	8081/8082	
11097-69-1	Aroclor 1254	ND	0.10	ug/L	1	06/04/15	B5E2804	8081/8082	
11096-82-5	Aroclor 1260	ND	0.10	ug/L	1	06/04/15	B5E2804	8081/8082	
37324-23-5	Aroclor 1262	ND	0.10	ug/L	1	06/04/15	B5E2804	8081/8082	
11100-14-4	Aroclor 1268	ND	0.10	ug/L	1	06/04/15	B5E2804	8081/8082	
<i>Surrogate: Decachlorobiphenyl</i>			37.4 %		30-150	06/04/15	B5E2804	8081/8082	
<i>Surrogate: Tetrachloro-m-xylene</i>			46.3 %		30-150	06/04/15	B5E2804	8081/8082	



C00625 H 7 1/2 H 8

Michigan Department of Environmental Quality
Laboratory Services SectionPlease hold all PCB samples for
possible future congener analysis.

Analysis Request Sheet

Lab Work Order Number 1505191	Project Name Abandoned Mining Wastes - Torch Lake PCB C&H Tamarack City Ops	Matrix ground WATER
Site Code/Project Number 31000098	AY 13	CC Email 1 j.binkley@westonsolutions.com
Dept-Division-District DEQ-RRD-UP District	Index 44251	CC Email 2 daniel.flebau@westonsolutions.com
State Project Manager Amy Keranen	PLA 30872	CC Email 3 plncumbel@michigan.gov
State Project Manager Email keranena@michigan.gov	Project 456990	Overflow Lab Choice 1
State Project Manager Phone 906-337-0389	Phase 00	Overflow Lab Choice 2
		Accept Analysis hold time codes no
		Contract Firm Weston Solutions
		Contract Firm Primary Contact Jeff Binkley
		Primary Contact Phone 906-523-5457

Lab Use Only	Field Sample Identification	Collection Date	Collection Time	Container Count	Comments
1	CHTC-GW-02 12-17'	5-17-15	0830		
2	CHTC-GW-03 10'-15'	5-18-15	0920	3 amb 306	
3	CHTC-GW-06 10'-15'	5-18-15	0955	3 amb 306	
4	CHTC-GW-11 10'-15'	5/18/15	1335	2 IL 340.4	
5	CHTC-GW-10 11'-15'	5/18/15	1345	2 IL 340.4	1 Full A785 1 1/2 Full A785
6	CHTC-GW-29 10'-15'	5/18/15	1440	3 IL 340.4	
7	CHTC-GW-				
8	CHTC-GW-				
9	CHTC-GW-				
10	CHTC-GW-				

ORGANIC CHEMISTRY	MAD - DISSOLVED METALS	MA - TOTAL METALS	GENERAL 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 Chlorinated only 1 2 3 4 5 6 7 8 9 10 GRO 1 2 3 4 5 6 7 8 9 10 1,4 Dioxane 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 ON - Pesticides, PCBs Pesticides & PCBs 1 2 3 4 5 6 7 8 9 10 Pesticides only 1 2 3 4 5 6 7 8 9 10 PCBs only 1 2 3 4 5 6 7 8 9 10 Toxaphene 1 2 3 4 5 6 7 8 9 10 Chlordane 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 Benzidines 1 2 3 4 5 6 7 8 9 10 PNAs only 1 2 3 4 5 6 7 8 9 10 BNs only 1 2 3 4 5 6 7 8 9 10 Acids only 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 DRO / ORO 1 2 3 4 5 6 7 8 9 10	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 - Uranium - U 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	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 Uranium - U 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	GB Total Cyanide - CN 1 2 3 4 5 6 7 8 9 10 GB Amenable Cyanide - CN 1 2 3 4 5 6 7 8 9 10 GCN Available Cyanide - CN 1 2 3 4 5 6 7 8 9 10 CA Chlorophyll 1 2 3 4 5 6 7 8 9 10 GN Ortho Phosphate - OP 1 2 3 4 5 6 7 8 9 10 GN Nitrate - NO ₃ 1 2 3 4 5 6 7 8 9 10 GN Nitrate - NO ₃ (Calc.) 1 2 3 4 5 6 7 8 9 10 GN Suspended Solids - SS 1 2 3 4 5 6 7 8 9 10 GN Dissolved Solids - TDS 1 2 3 4 5 6 7 8 9 10 MN Diss Solids - TDS (Calc.) 1 2 3 4 5 6 7 8 9 10 GN Turbidity 1 2 3 4 5 6 7 8 9 10 MN Total Alkalinity 1 2 3 4 5 6 7 8 9 10 MN Bicar/Carb Alkalinity (Includes Total Alkalinity) 1 2 3 4 5 6 7 8 9 10 MN Chloride - Cl 1 2 3 4 5 6 7 8 9 10 MN Fluoride - F 1 2 3 4 5 6 7 8 9 10 MN Sulfate - SO ₄ 1 2 3 4 5 6 7 8 9 10 MN Chromium 6 - Cr+6 1 2 3 4 5 6 7 8 9 10 MN Conductivity 1 2 3 4 5 6 7 8 9 10 MN pH 1 2 3 4 5 6 7 8 9 10 GA Chem Oxyg Dem - COD 1 2 3 4 5 6 7 8 9 10 GA Diss Org Carbon - DOC (FF) 1 2 3 4 5 6 7 8 9 10 (Field - Filtered & Preserved) GN Diss Org Carbon - DOC (LF) 1 2 3 4 5 6 7 8 9 10 (Lab - Filtered & Preserved) GA Total Org Carbon - TOC 1 2 3 4 5 6 7 8 9 10 GA Ammonia - NH ₃ 1 2 3 4 5 6 7 8 9 10 GA Nitrate+Nitrite - NO ₃ +NO ₂ 1 2 3 4 5 6 7 8 9 10 GA Kjeldahl Nitrogen - KN 1 2 3 4 5 6 7 8 9 10 GA Total Phosphorus - TP 1 2 3 4 5 6 7 8 9 10

Chain of Custody	Relinquished by Print Name & Org. Signature:	Received By Print Name & Org. Signature:	Date / Time
	JEFF P. LUMBER 4064	Melissa Smith	5/20/15 936
	Jeff Binkley	WOSon	
	Print Name & Org. Signature:		
	Print Name & Org. Signature:		