



**MICHIGAN DEPARTMENT OF ENVIRONMENTAL QUALITY
ENVIRONMENTAL LABORATORY**

P.O. Box 302700
Lansing, MI 48909
TEL: (517) 335-9800
FAX: (517) 335-9600

12 September 2014

Work Order: 1408231

Price: \$2,665.00

Jeff Pincumbe

MDEQ-RRD-LANSING

525 W. Allegan Street

Lansing, MI 48909

RE: ABANDONED MINING WASTE-TORCH LAKE PCBO

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-LANSINGb
525 W. Allegan Streetb
Lansing MI, 48909b

Project:bABANDONED MINING WASTE-TORCH LAKE PCBb
Site Code:b31000098
Project Manager:bJeff Pincumbb

Reported:p
09/12/2014

Analytical Report for Samplesp

Sample IDp	Laboratory IDp	Matrixp	Date Sampledp	Date Receivedp	Qualifierp
CHLL-SB83-0-6"b	1408231-01b	Soil/Sedimentb	08/20/2014b	08/22/2014b	
CHLL-SB84-0-6"b	1408231-02b	Soil/Sedimentb	08/20/2014b	08/22/2014b	
CHLL-SB84-0-6"-DUPb	1408231-03b	Soil/Sedimentb	08/20/2014b	08/22/2014b	
CHLL-SB85-0-6"b	1408231-04b	Soil/Sedimentb	08/20/2014b	08/22/2014b	
CHLL-SB86-0-6"b	1408231-05b	Soil/Sedimentb	08/20/2014b	08/22/2014b	
CHLL-SB87-0-6"b	1408231-06b	Soil/Sedimentb	08/20/2014b	08/22/2014b	
CHLL-SB87-0-6"-DUPb	1408231-07b	Soil/Sedimentb	08/20/2014b	08/22/2014b	
CHLL-SB88-0-6"b	1408231-08	Soil/Sedimentb	08/20/2014b	08/22/2014b	
CHLL-SB89-0-6"b	1408231-09b	Soil/Sedimentb	08/20/2014b	08/22/2014b	
CHLL-SB90-0-6"b	1408231-10b	Soil/Sedimentb	08/20/2014b	08/22/2014b	
CHLL-SB91-0-6"b	1408231-11b	Soil/Sedimentb	08/20/2014b	08/22/2014b	
CHLL-SB92-0-6"b	1408231-12b	Soil/Sedimentb	08/20/2014b	08/22/2014b	
CHLL-SB93-0-6"b	1408231-13b	Soil/Sedimentb	08/20/2014b	08/22/2014b	
CHLL-SB95-0-6"b	1408231-14b	Soil/Sedimentb	08/20/2014b	08/22/2014b	
CHLL-SB96-0-6"b	1408231-15b	Soil/Sedimentb	08/20/2014b	08/22/2014b	
CHLL-SB97-0-6"b	1408231-16b	Soil/Sedimentb	08/20/2014b	08/22/2014b	
CHLL-SB97-0-6"-DUPb	1408231-17b	Soil/Sedimentb	08/20/2014b	08/22/2014b	
CHLL-SB98-0-6"b	1408231-18	Soil/Sedimentb	08/20/2014b	08/22/2014b	
CHLL-SB99-0-6"b	1408231-19b	Soil/Sedimentb	08/20/2014b	08/22/2014b	

Notes and Definitions p

Y21b Reporting Limits (RL) raised due to matrix interference.b
JAb Result is estimated due to multiple Aroclors present.b
NDb Indicates compound analyzed for but not detectedb
RLb Reporting Limitb
NAb Not Applicableb
dry Sample results reported on a dry weight basisb



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Client ID: CHLL-SB83-0-6"p

Lab ID: 1408231-01p

CAS #b	Analyteb	Resultb	RLb	Unitsb	Dilutionb	Analyzed b Dateb	QC Batchb	Methodb	Qualifier b
Organics-PCBs as Aroclorsp									
12674-11-2b	Aroclor 1016b	NDb	110b	ug/kg dryb	1b	08/26/14b	B4H2220b	8081/8082b	
11104-28-2b	Aroclor 1221b	NDb	110b	ug/kg dryb	1b	08/26/14b	B4H2220b	8081/8082b	
11141-16-5b	Aroclor 1232b	NDb	110b	ug/kg dryb	1b	08/26/14b	B4H2220b	8081/8082b	
53469-21-9b	Aroclor 1242b	NDb	110b	ug/kg dryb	1b	08/26/14b	B4H2220b	8081/8082b	
12672-29-6b	Aroclor 1248	NDb	110b	ug/kg dryb	1b	08/26/14b	B4H2220b	8081/8082b	
11097-69-1b	Aroclor 1254b	NDb	110b	ug/kg dryb	1b	08/26/14b	B4H2220b	8081/8082b	
11096-82-5b	Aroclor 1260b	NDb	110b	ug/kg dryb	1b	08/26/14b	B4H2220b	8081/8082b	
37324-23-5b	Aroclor 1262b	NDb	110b	ug/kg dryb	1b	08/26/14b	B4H2220b	8081/8082b	
11100-14-4b	Aroclor 1268	NDb	110b	ug/kg dryb	1b	08/26/14b	B4H2220b	8081/8082b	
<i>Surrogate: Decachlorobiphenyl-</i>			55.5 %-	30-150-		08/26/14-	B4H2220b	8081/8082-	
<i>Surrogate: Tetrachloro-m-xylene</i>			53.7 %-	30-150-		08/26/14-	B4H2220b	8081/8082-	
Inorganics-General Chemistry									
TSb	% Total Solidsp	92.3p	0.1b	%b	1b	08/25/14b	B4H2509b	2540 Bb	



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Client ID: CHLL-SB84-0-6"p

Lab ID: 1408231-02p

CAS #b	Analyteb	Resultb	RLb	Unitsb	Dilutionb	Analyzed b Dateb	QC Batchb	Methodb	Qualifier b
Organics-PCBs as Aroclorsp									
12674-11-2b	Aroclor 1016b	NDb	120b	ug/kg dryb	1b	08/27/14b	B4H2220b	8081/8082b	
11104-28-2b	Aroclor 1221b	NDb	120b	ug/kg dryb	1b	08/27/14b	B4H2220b	8081/8082b	
11141-16-5b	Aroclor 1232b	NDb	120b	ug/kg dryb	1b	08/27/14b	B4H2220b	8081/8082b	
53469-21-9b	Aroclor 1242b	NDb	120b	ug/kg dryb	1b	08/27/14b	B4H2220b	8081/8082b	
12672-29-6b	Aroclor 1248	NDb	120b	ug/kg dryb	1b	08/27/14b	B4H2220b	8081/8082b	
11097-69-1b	Aroclor 1254b	NDb	120b	ug/kg dryb	1b	08/27/14b	B4H2220b	8081/8082b	
11096-82-5b	Aroclor 1260b	NDb	120b	ug/kg dryb	1b	08/27/14b	B4H2220b	8081/8082b	
37324-23-5b	Aroclor 1262b	NDb	120b	ug/kg dryb	1b	08/27/14b	B4H2220b	8081/8082b	
11100-14-4b	Aroclor 1268	NDb	120b	ug/kg dryb	1b	08/27/14b	B4H2220b	8081/8082b	
Surrogate: Decachlorobiphenyl-			60.3 %-	30-150-		08/27/14-	B4H2220b	8081/8082-	
Surrogate: Tetrachloro-m-xylene			70.9 %-	30-150-		08/27/14-	B4H2220b	8081/8082-	
Inorganics-General Chemistry									
TSb	% Total Solidsp	83.6p	0.1b	%b	1b	08/25/14b	B4H2509b	2540 Bb	



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Client ID: CHLL-SB84-0-6"-DUPp

Lab ID: 1408231-03p

CAS #b	Analyteb	Resultb	RLb	Unitsb	Dilutionb	Analyzed b Dateb	QC Batchb	Methodb	Qualifier b
Organics-PCBs as Aroclorsp									
12674-11-2b	Aroclor 1016b	NDb	120b	ug/kg dryb	1b	08/27/14b	B4H2220b	8081/8082b	
11104-28-2b	Aroclor 1221b	NDb	120b	ug/kg dryb	1b	08/27/14b	B4H2220b	8081/8082b	
11141-16-5b	Aroclor 1232b	NDb	120b	ug/kg dryb	1b	08/27/14b	B4H2220b	8081/8082b	
53469-21-9b	Aroclor 1242b	NDb	120b	ug/kg dryb	1b	08/27/14b	B4H2220b	8081/8082b	
12672-29-6b	Aroclor 1248	NDb	120b	ug/kg dryb	1b	08/27/14b	B4H2220b	8081/8082b	
11097-69-1b	Aroclor 1254b	NDb	120b	ug/kg dryb	1b	08/27/14b	B4H2220b	8081/8082b	
11096-82-5b	Aroclor 1260b	NDb	120b	ug/kg dryb	1b	08/27/14b	B4H2220b	8081/8082b	
37324-23-5b	Aroclor 1262b	NDb	120b	ug/kg dryb	1b	08/27/14b	B4H2220b	8081/8082b	
11100-14-4b	Aroclor 1268	NDb	120b	ug/kg dryb	1b	08/27/14b	B4H2220b	8081/8082b	
<i>Surrogate: Decachlorobiphenyl-</i>			57.8 %-	30-150-		08/27/14-	B4H2220b	8081/8082-	
<i>Surrogate: Tetrachloro-m-xylene</i>			64.0 %-	30-150-		08/27/14-	B4H2220b	8081/8082-	
Inorganics-General Chemistry									
TSb	% Total Solidsp	83.9p	0.1b	%b	1b	08/25/14b	B4H2509b	2540 Bb	



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Client ID: CHLL-SB85-0-6"p

Lab ID: 1408231-04p

CAS #b	Analyteb	Resultb	RLb	Unitsb	Dilutionb	Analyzedb Dateb	QC Batchb	Methodb	Qualifiert
Organics-PCBs as Aroclorsp									See note Y21p
12674-11-2b	Aroclor 1016b	NDb	580b	ug/kg dryb	5b	08/27/14b	B4H2220b	8081/8082b	
11104-28-2b	Aroclor 1221b	NDb	580b	ug/kg dryb	5b	08/27/14b	B4H2220b	8081/8082b	
11141-16-5b	Aroclor 1232b	NDb	580b	ug/kg dryb	5b	08/27/14b	B4H2220b	8081/8082b	
53469-21-9b	Aroclor 1242b	NDb	580b	ug/kg dryb	5b	08/27/14b	B4H2220b	8081/8082b	
12672-29-6b	Aroclor 1248	NDb	580b	ug/kg dryb	5b	08/27/14b	B4H2220b	8081/8082b	
11097-69-1b	Aroclor 1254b	NDb	660b	ug/kg dryb	5b	08/27/14b	B4H2220b	8081/8082b	
11096-82-5b	Aroclor 1260b	NDb	2500b	ug/kg dryb	5b	08/27/14b	B4H2220b	8081/8082b	
37324-23-5b	Aroclor 1262p	2500p	580b	ug/kg dryb	5b	08/27/14b	B4H2220b	8081/8082b	JAb
11100-14-4b	Aroclor 1268p	800p	580b	ug/kg dryb	5b	08/27/14b	B4H2220b	8081/8082b	JAb
<i>Surrogate: Decachlorobiphenyl-</i>			77.6 %-	30-150-		08/27/14-	B4H2220b	8081/8082-	
<i>Surrogate: Tetrachloro-m-xylene</i>			74.9 %-	30-150-		08/27/14-	B4H2220b	8081/8082-	
Inorganics-General Chemistryp									
TSb	% Total Solidsp	86.6p	0.1b	%b	1b	08/25/14b	B4H2509b	2540 Bb	



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Client ID: CHLL-SB86-0-6"p

Lab ID: 1408231-05p

CAS #b	Analyteb	Resultb	RLb	Unitsb	Dilutionb	Analyzedb Dateb	QC Batchb	Methodb	Qualifiert
Organics-PCBs as Aroclorsp									See note Y21p
12674-11-2b	Aroclor 1016b	NDb	700b	ug/kg dryb	5b	08/27/14b	B4H2220b	8081/8082b	
11104-28-2b	Aroclor 1221b	NDb	700b	ug/kg dryb	5b	08/27/14b	B4H2220b	8081/8082b	
11141-16-5b	Aroclor 1232b	NDb	700b	ug/kg dryb	5b	08/27/14b	B4H2220b	8081/8082b	
53469-21-9b	Aroclor 1242b	NDb	700b	ug/kg dryb	5b	08/27/14b	B4H2220b	8081/8082b	
12672-29-6b	Aroclor 1248	NDb	700b	ug/kg dryb	5b	08/27/14b	B4H2220b	8081/8082b	
11097-69-1b	Aroclor 1254p	3200p	700b	ug/kg dryb	5b	08/27/14b	B4H2220b	8081/8082b	JAb
11096-82-5b	Aroclor 1260b	NDb	2200b	ug/kg dryb	5b	08/27/14b	B4H2220b	8081/8082b	
37324-23-5b	Aroclor 1262p	2100p	700b	ug/kg dryb	5b	08/27/14b	B4H2220b	8081/8082b	JAb
11100-14-4b	Aroclor 1268p	1200p	700b	ug/kg dryb	5b	08/27/14b	B4H2220b	8081/8082b	JAb
<i>Surrogate: Decachlorobiphenyl-</i>			93.7 %-	30-150-		08/27/14-	B4H2220b	8081/8082-	
<i>Surrogate: Tetrachloro-m-xylene</i>			73.8 %-	30-150-		08/27/14-	B4H2220b	8081/8082-	
Inorganics-General Chemistryp									
TSb	% Total Solidsp	71.6p	0.1b	%b	1b	08/25/14b	B4H2509b	2540 Bb	



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Client ID: CHLL-SB87-0-6"p

Lab ID: 1408231-06p

CAS #b	Analyteb	Resultb	RLb	Unitsb	Dilutionb	Analyzed b Dateb	QC Batchb	Methodb	Qualifier b
Organics-PCBs as Aroclorsp									
12674-11-2b	Aroclor 1016b	NDb	120b	ug/kg dryb	1b	08/26/14b	B4H2220b	8081/8082b	
11104-28-2b	Aroclor 1221b	NDb	120b	ug/kg dryb	1b	08/26/14b	B4H2220b	8081/8082b	
11141-16-5b	Aroclor 1232b	NDb	120b	ug/kg dryb	1b	08/26/14b	B4H2220b	8081/8082b	
53469-21-9b	Aroclor 1242b	NDb	120b	ug/kg dryb	1b	08/26/14b	B4H2220b	8081/8082b	
12672-29-6b	Aroclor 1248	NDb	120b	ug/kg dryb	1b	08/26/14b	B4H2220b	8081/8082b	
11097-69-1b	Aroclor 1254b	NDb	120b	ug/kg dryb	1b	08/26/14b	B4H2220b	8081/8082b	
11096-82-5b	Aroclor 1260b	NDb	120b	ug/kg dryb	1b	08/26/14b	B4H2220b	8081/8082b	
37324-23-5b	Aroclor 1262b	NDb	120b	ug/kg dryb	1b	08/26/14b	B4H2220b	8081/8082b	
11100-14-4b	Aroclor 1268	NDb	120b	ug/kg dryb	1b	08/26/14b	B4H2220b	8081/8082b	
<i>Surrogate: Decachlorobiphenyl-</i>			75.4 %-	30-150-		08/26/14-	B4H2220b	8081/8082-	
<i>Surrogate: Tetrachloro-m-xylene</i>			76.3 %-	30-150-		08/26/14-	B4H2220b	8081/8082-	
Inorganics-General Chemistry									
TSb	% Total Solidsp	81.8p	0.1b	%b	1b	08/25/14b	B4H2509b	2540 Bb	



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Client ID: CHLL-SB87-0-6"-DUPp

Lab ID: 1408231-07p

CAS #b	Analyteb	Resultb	RLb	Unitsb	Dilutionb	Analyzed b Dateb	QC Batchb	Methodb	Qualifier b
Organics-PCBs as Aroclorsp									
12674-11-2b	Aroclor 1016b	NDb	130b	ug/kg dryb	1b	08/26/14b	B4H2220b	8081/8082b	
11104-28-2b	Aroclor 1221b	NDb	130b	ug/kg dryb	1b	08/26/14b	B4H2220b	8081/8082b	
11141-16-5b	Aroclor 1232b	NDb	130b	ug/kg dryb	1b	08/26/14b	B4H2220b	8081/8082b	
53469-21-9b	Aroclor 1242b	NDb	130b	ug/kg dryb	1b	08/26/14b	B4H2220b	8081/8082b	
12672-29-6b	Aroclor 1248	NDb	130b	ug/kg dryb	1b	08/26/14b	B4H2220b	8081/8082b	
11097-69-1b	Aroclor 1254b	NDb	130b	ug/kg dryb	1b	08/26/14b	B4H2220b	8081/8082b	
11096-82-5b	Aroclor 1260b	NDb	130b	ug/kg dryb	1b	08/26/14b	B4H2220b	8081/8082b	
37324-23-5b	Aroclor 1262b	NDb	130b	ug/kg dryb	1b	08/26/14b	B4H2220b	8081/8082b	
11100-14-4b	Aroclor 1268	NDb	130b	ug/kg dryb	1b	08/26/14b	B4H2220b	8081/8082b	
<i>Surrogate: Decachlorobiphenyl-</i>			74.1 %-	30-150-		08/26/14-	B4H2220b	8081/8082-	
<i>Surrogate: Tetrachloro-m-xylene</i>			74.8 %-	30-150-		08/26/14-	B4H2220b	8081/8082-	
Inorganics-General Chemistry									
TSb	% Total Solidsp	80.0p	0.1b	%b	1b	08/25/14b	B4H2509b	2540 Bb	



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Client ID: CHLL-SB88-0-6"p

Lab ID: 1408231-08p

CAS #b	Analyteb	Resultb	RLb	Unitsb	Dilutionb	Analyzedb Dateb	QC Batchb	Methodb	Qualifiert
Organics-PCBs as Aroclorsp									See note Y21p
12674-11-2b	Aroclor 1016b	NDb	1300b	ug/kg dryb	10b	08/27/14b	B4H2220b	8081/8082b	
11104-28-2b	Aroclor 1221b	NDb	1300b	ug/kg dryb	10b	08/27/14b	B4H2220b	8081/8082b	
11141-16-5b	Aroclor 1232b	NDb	1300b	ug/kg dryb	10b	08/27/14b	B4H2220b	8081/8082b	
53469-21-9b	Aroclor 1242b	NDb	1300b	ug/kg dryb	10b	08/27/14b	B4H2220b	8081/8082b	
12672-29-6b	Aroclor 1248	NDb	1300b	ug/kg dryb	10b	08/27/14b	B4H2220b	8081/8082b	
11097-69-1b	Aroclor 1254p	7900p	1300b	ug/kg dryb	10b	08/27/14b	B4H2220b	8081/8082b	JAb
11096-82-5b	Aroclor 1260b	NDb	2000b	ug/kg dryb	10b	08/27/14b	B4H2220b	8081/8082b	
37324-23-5b	Aroclor 1262p	2000p	1300b	ug/kg dryb	10b	08/27/14b	B4H2220b	8081/8082b	JAb
11100-14-4b	Aroclor 1268	NDb	1800b	ug/kg dryb	10b	08/27/14b	B4H2220b	8081/8082b	
<i>Surrogate: Decachlorobiphenyl-</i>			60.6 %-	30-150-		08/27/14-	B4H2220b	8081/8082-	
<i>Surrogate: Tetrachloro-m-xylene</i>			73.9 %-	30-150-		08/27/14-	B4H2220b	8081/8082-	
Inorganics-General Chemistry									
TSb	% Total Solidsp	78.3p	0.1b	%b	1b	08/25/14b	B4H2509b	2540 Bb	



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Client ID: CHLL-SB89-0-6"p

Lab ID: 1408231-09p

CAS #b	Analyteb	Resultb	RLb	Unitsb	Dilutionb	Analyzed b Dateb	QC Batchb	Methodb	Qualifierb
Organics-PCBs as Aroclorsp									
12674-11-2b	Aroclor 1016b	NDb	110b	ug/kg dryb	1b	09/04/14b	B4H2220b	8081/8082b	
11104-28-2b	Aroclor 1221b	NDb	110b	ug/kg dryb	1b	09/04/14b	B4H2220b	8081/8082b	
11141-16-5b	Aroclor 1232b	NDb	110b	ug/kg dryb	1b	09/04/14b	B4H2220b	8081/8082b	
53469-21-9b	Aroclor 1242b	NDb	110b	ug/kg dryb	1b	09/04/14b	B4H2220b	8081/8082b	
12672-29-6b	Aroclor 1248	NDb	160b	ug/kg dryb	1b	09/04/14b	B4H2220b	8081/8082b	Y21b
11097-69-1b	Aroclor 1254p	430p	110b	ug/kg dryb	1b	09/04/14b	B4H2220b	8081/8082b	JAb
11096-82-5b	Aroclor 1260b	NDb	530b	ug/kg dryb	1b	09/04/14b	B4H2220b	8081/8082b	Y21b
37324-23-5b	Aroclor 1262p	520p	110b	ug/kg dryb	1b	09/04/14b	B4H2220b	8081/8082b	JAb
11100-14-4b	Aroclor 1268	NDb	110b	ug/kg dryb	1b	09/04/14b	B4H2220b	8081/8082b	
<i>Surrogate: Decachlorobiphenyl-</i>			64.7 %-	30-150-		09/04/14-	B4H2220b	8081/8082-	
<i>Surrogate: Tetrachloro-m-xylene</i>			65.4 %-	30-150-		09/04/14-	B4H2220b	8081/8082-	
Inorganics-General Chemistry									
TSb	% Total Solidsp	88.8p	0.1b	%b	1b	08/25/14b	B4H2510b	2540 Bb	



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Client ID: CHLL-SB90-0-6"p

Lab ID: 1408231-10p

CAS #b	Analyteb	Resultb	RLb	Unitsb	Dilutionb	Analyzedb Dateb	QC Batchb	Methodb	Qualifiert
Organics-PCBs as Aroclorsp									See note Y21p
12674-11-2b	Aroclor 1016b	NDb	1300b	ug/kg dryb	10b	08/27/14b	B4H2220b	8081/8082b	
11104-28-2b	Aroclor 1221b	NDb	1300b	ug/kg dryb	10b	08/27/14b	B4H2220b	8081/8082b	
11141-16-5b	Aroclor 1232b	NDb	1300b	ug/kg dryb	10b	08/27/14b	B4H2220b	8081/8082b	
53469-21-9b	Aroclor 1242b	NDb	1300b	ug/kg dryb	10b	08/27/14b	B4H2220b	8081/8082b	
12672-29-6b	Aroclor 1248	NDb	1300b	ug/kg dryb	10b	08/27/14b	B4H2220b	8081/8082b	
11097-69-1b	Aroclor 1254p	2500p	1300b	ug/kg dryb	10b	08/27/14b	B4H2220b	8081/8082b	JAb
11096-82-5b	Aroclor 1260b	NDb	4100b	ug/kg dryb	10b	08/27/14b	B4H2220b	8081/8082b	
37324-23-5b	Aroclor 1262p	4100p	1300b	ug/kg dryb	10b	08/27/14b	B4H2220b	8081/8082b	JAb
11100-14-4b	Aroclor 1268p	2100p	1300b	ug/kg dryb	10b	08/27/14b	B4H2220b	8081/8082b	JAb
<i>Surrogate: Decachlorobiphenyl-</i>			120 %-	30-150-		08/27/14-	B4H2220b	8081/8082-	
<i>Surrogate: Tetrachloro-m-xylene</i>			73.3 %-	30-150-		08/27/14-	B4H2220b	8081/8082-	
Inorganics-General Chemistry									
TSb	% Total Solids	77.4p	0.1b	%b	1b	08/25/14b	B4H2510b	2540 Bb	



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Client ID: CHLL-SB91-0-6"p

Lab ID: 1408231-11p

CAS #b	Analyteb	Resultb	RLb	Unitsb	Dilutionb	Analyzed b Dateb	QC Batchb	Methodb	Qualifier b
Organics-PCBs as Aroclorsp									
12674-11-2b	Aroclor 1016b	NDb	110b	ug/kg dryb	1b	09/04/14b	B4H2220b	8081/8082b	
11104-28-2b	Aroclor 1221b	NDb	110b	ug/kg dryb	1b	09/04/14b	B4H2220b	8081/8082b	
11141-16-5b	Aroclor 1232b	NDb	110b	ug/kg dryb	1b	09/04/14b	B4H2220b	8081/8082b	
53469-21-9b	Aroclor 1242b	NDb	110b	ug/kg dryb	1b	09/04/14b	B4H2220b	8081/8082b	
12672-29-6b	Aroclor 1248	NDb	110b	ug/kg dryb	1b	09/04/14b	B4H2220b	8081/8082b	
11097-69-1b	Aroclor 1254b	NDb	110b	ug/kg dryb	1b	09/04/14b	B4H2220b	8081/8082b	
11096-82-5b	Aroclor 1260b	NDb	110b	ug/kg dryb	1b	09/04/14b	B4H2220b	8081/8082b	
37324-23-5b	Aroclor 1262b	NDb	110b	ug/kg dryb	1b	09/04/14b	B4H2220b	8081/8082b	
11100-14-4b	Aroclor 1268	NDb	110b	ug/kg dryb	1b	09/04/14b	B4H2220b	8081/8082b	
Surrogate: Decachlorobiphenyl-			56.4 %-	30-150-		09/04/14-	B4H2220b	8081/8082-	
Surrogate: Tetrachloro-m-xylene			56.8 %-	30-150-		09/04/14-	B4H2220b	8081/8082-	
Inorganics-General Chemistry									
TSb	% Total Solidsp	90.9p	0.1b	%b	1b	08/25/14b	B4H2510b	2540 Bb	



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Client ID: CHLL-SB92-0-6"p

Lab ID: 1408231-12p

CAS #b	Analyteb	Resultb	RLb	Unitsb	Dilutionb	Analyzedb Dateb	QC Batchb	Methodb	Qualifiert
Organics-PCBs as Aroclorsp									See note Y21p
12674-11-2b	Aroclor 1016b	NDb	710b	ug/kg dryb	5b	08/27/14b	B4H2220b	8081/8082b	
11104-28-2b	Aroclor 1221b	NDb	710b	ug/kg dryb	5b	08/27/14b	B4H2220b	8081/8082b	
11141-16-5b	Aroclor 1232b	NDb	710b	ug/kg dryb	5b	08/27/14b	B4H2220b	8081/8082b	
53469-21-9b	Aroclor 1242b	NDb	710b	ug/kg dryb	5b	08/27/14b	B4H2220b	8081/8082b	
12672-29-6b	Aroclor 1248	NDb	710b	ug/kg dryb	5b	08/27/14b	B4H2220b	8081/8082b	
11097-69-1b	Aroclor 1254p	1800p	710b	ug/kg dryb	5b	08/27/14b	B4H2220b	8081/8082b	JAb
11096-82-5b	Aroclor 1260b	NDb	4300b	ug/kg dryb	5b	08/27/14b	B4H2220b	8081/8082b	
37324-23-5b	Aroclor 1262p	4200p	710b	ug/kg dryb	5b	08/27/14b	B4H2220b	8081/8082b	JAb
11100-14-4b	Aroclor 1268p	1500p	710b	ug/kg dryb	5b	08/27/14b	B4H2220b	8081/8082b	JAb
<i>Surrogate: Decachlorobiphenyl-</i>			95.0 %-	30-150-		08/27/14-	B4H2220b	8081/8082-	
<i>Surrogate: Tetrachloro-m-xylene</i>			74.0 %-	30-150-		08/27/14-	B4H2220b	8081/8082-	
Inorganics-General Chemistry									
TSb	% Total Solidsp	70.1p	0.1b	%b	1b	08/25/14b	B4H2510b	2540 Bb	



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Client ID: CHLL-SB93-0-6"p

Lab ID: 1408231-13p

CAS #b	Analyteb	Resultb	RLb	Unitsb	Dilutionb	Analyzed b Dateb	QC Batchb	Methodb	Qualifier b
Organics-PCBs as Aroclorsp									
12674-11-2b	Aroclor 1016	NDb	120b	ug/kg dryb	1b	08/27/14b	B4H2220b	8081/8082b	
11104-28-2b	Aroclor 1221	NDb	120b	ug/kg dryb	1b	08/27/14b	B4H2220b	8081/8082b	
11141-16-5b	Aroclor 1232	NDb	120b	ug/kg dryb	1b	08/27/14b	B4H2220b	8081/8082b	
53469-21-9b	Aroclor 1242	NDb	120b	ug/kg dryb	1b	08/27/14b	B4H2220b	8081/8082b	
12672-29-6b	Aroclor 1248	NDb	120b	ug/kg dryb	1b	08/27/14b	B4H2220b	8081/8082b	
11097-69-1b	Aroclor 1254p	850p	120b	ug/kg dryb	1b	08/27/14b	B4H2220b	8081/8082b	JAb
11096-82-5b	Aroclor 1260p	460p	120b	ug/kg dryb	1b	08/27/14b	B4H2220b	8081/8082b	JAb
37324-23-5b	Aroclor 1262	NDb	460b	ug/kg dryb	1b	08/27/14b	B4H2220b	8081/8082b	Y21b
11100-14-4b	Aroclor 1268	NDb	120b	ug/kg dryb	1b	08/27/14b	B4H2220b	8081/8082b	
<i>Surrogate: Decachlorobiphenyl-</i>			51.0 %-	30-150-		08/27/14-	B4H2220b	8081/8082-	
<i>Surrogate: Tetrachloro-m-xylene</i>			62.6 %-	30-150-		08/27/14-	B4H2220b	8081/8082-	
Inorganics-General Chemistry									
TSb	% Total Solidsp	81.8p	0.1b	%b	1b	08/25/14b	B4H2510b	2540 Bb	



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Client ID: CHLL-SB95-0-6"p

Lab ID: 1408231-14p

CAS #b	Analyteb	Resultb	RLb	Unitsb	Dilutionb	Analyzed b Dateb	QC Batchb	Methodb	Qualifier b
Organics-PCBs as Aroclorsp									
12674-11-2b	Aroclor 1016b	NDb	130b	ug/kg dryb	1b	09/04/14b	B4H2220b	8081/8082b	
11104-28-2b	Aroclor 1221b	NDb	130b	ug/kg dryb	1b	09/04/14b	B4H2220b	8081/8082b	
11141-16-5b	Aroclor 1232b	NDb	130b	ug/kg dryb	1b	09/04/14b	B4H2220b	8081/8082b	
53469-21-9b	Aroclor 1242b	NDb	130b	ug/kg dryb	1b	09/04/14b	B4H2220b	8081/8082b	
12672-29-6b	Aroclor 1248	NDb	130b	ug/kg dryb	1b	09/04/14b	B4H2220b	8081/8082b	
11097-69-1b	Aroclor 1254b	NDb	130b	ug/kg dryb	1b	09/04/14b	B4H2220b	8081/8082b	
11096-82-5b	Aroclor 1260b	NDb	130b	ug/kg dryb	1b	09/04/14b	B4H2220b	8081/8082b	
37324-23-5b	Aroclor 1262b	NDb	130b	ug/kg dryb	1b	09/04/14b	B4H2220b	8081/8082b	
11100-14-4b	Aroclor 1268	NDb	130b	ug/kg dryb	1b	09/04/14b	B4H2220b	8081/8082b	
<i>Surrogate: Decachlorobiphenyl-</i>			58.4 %-	30-150-		09/04/14-	B4H2220b	8081/8082-	
<i>Surrogate: Tetrachloro-m-xylene</i>			58.6 %-	30-150-		09/04/14-	B4H2220b	8081/8082-	
Inorganics-General Chemistry									
TSb	% Total Solidsp	79.7p	0.1b	%b	1b	08/25/14b	B4H2510b	2540 Bb	



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Client ID: CHLL-SB96-0-6"p

Lab ID: 1408231-15p

CAS #b	Analyteb	Resultb	RLb	Unitsb	Dilutionb	Analyzed b Dateb	QC Batchb	Methodb	Qualifier b
Organics-PCBs as Aroclorsp									
12674-11-2b	Aroclor 1016b	NDb	110b	ug/kg dryb	1b	09/04/14b	B4H2220b	8081/8082b	
11104-28-2b	Aroclor 1221b	NDb	110b	ug/kg dryb	1b	09/04/14b	B4H2220b	8081/8082b	
11141-16-5b	Aroclor 1232b	NDb	110b	ug/kg dryb	1b	09/04/14b	B4H2220b	8081/8082b	
53469-21-9b	Aroclor 1242b	NDb	110b	ug/kg dryb	1b	09/04/14b	B4H2220b	8081/8082b	
12672-29-6b	Aroclor 1248	NDb	110b	ug/kg dryb	1b	09/04/14b	B4H2220b	8081/8082b	
11097-69-1b	Aroclor 1254b	NDb	110b	ug/kg dryb	1b	09/04/14b	B4H2220b	8081/8082b	
11096-82-5b	Aroclor 1260b	NDb	110b	ug/kg dryb	1b	09/04/14b	B4H2220b	8081/8082b	
37324-23-5b	Aroclor 1262b	NDb	110b	ug/kg dryb	1b	09/04/14b	B4H2220b	8081/8082b	
11100-14-4b	Aroclor 1268	NDb	110b	ug/kg dryb	1b	09/04/14b	B4H2220b	8081/8082b	
Surrogate: Decachlorobiphenyl-			49.2 %-	30-150-		09/04/14-	B4H2220b	8081/8082-	
Surrogate: Tetrachloro-m-xylene			54.7 %-	30-150-		09/04/14-	B4H2220b	8081/8082-	
Inorganics-General Chemistry									
TSb	% Total Solidsp	93.1p	0.1b	%b	1b	08/25/14b	B4H2510b	2540 Bb	



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Client ID: CHLL-SB97-0-6"p

Lab ID: 1408231-16p

CAS #b	Analyteb	Resultb	RLb	Unitsb	Dilutionb	Analyzed b Dateb	QC Batchb	Methodb	Qualifier b
Organics-PCBs as Aroclorsp									
12674-11-2b	Aroclor 1016b	NDb	120b	ug/kg dryb	1b	09/04/14b	B4H2220b	8081/8082b	
11104-28-2b	Aroclor 1221b	NDb	120b	ug/kg dryb	1b	09/04/14b	B4H2220b	8081/8082b	
11141-16-5b	Aroclor 1232b	NDb	120b	ug/kg dryb	1b	09/04/14b	B4H2220b	8081/8082b	
53469-21-9b	Aroclor 1242b	NDb	120b	ug/kg dryb	1b	09/04/14b	B4H2220b	8081/8082b	
12672-29-6b	Aroclor 1248	NDb	120b	ug/kg dryb	1b	09/04/14b	B4H2220b	8081/8082b	
11097-69-1b	Aroclor 1254b	NDb	120b	ug/kg dryb	1b	09/04/14b	B4H2220b	8081/8082b	
11096-82-5b	Aroclor 1260b	NDb	120b	ug/kg dryb	1b	09/04/14b	B4H2220b	8081/8082b	
37324-23-5b	Aroclor 1262b	NDb	120b	ug/kg dryb	1b	09/04/14b	B4H2220b	8081/8082b	
11100-14-4b	Aroclor 1268	NDb	120b	ug/kg dryb	1b	09/04/14b	B4H2220b	8081/8082b	
<i>Surrogate: Decachlorobiphenyl-</i>			41.1 %-	30-150-		09/04/14-	B4H2220b	8081/8082-	
<i>Surrogate: Tetrachloro-m-xylene</i>			48.2 %-	30-150-		09/04/14-	B4H2220b	8081/8082-	
Inorganics-General Chemistry									
TSb	% Total Solidsp	85.7p	0.1b	%b	1b	08/25/14b	B4H2510b	2540 Bb	



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Client ID: CHLL-SB97-0-6"-DUPp

Lab ID: 1408231-17p

CAS #b	Analyteb	Resultb	RLb	Unitsb	Dilutionb	Analyzed b Dateb	QC Batchb	Methodb	Qualifier b
Organics-PCBs as Aroclorsp									
12674-11-2b	Aroclor 1016b	NDb	120b	ug/kg dryb	1b	08/27/14b	B4H2220b	8081/8082b	
11104-28-2b	Aroclor 1221b	NDb	120b	ug/kg dryb	1b	08/27/14b	B4H2220b	8081/8082b	
11141-16-5b	Aroclor 1232b	NDb	120b	ug/kg dryb	1b	08/27/14b	B4H2220b	8081/8082b	
53469-21-9b	Aroclor 1242b	NDb	120b	ug/kg dryb	1b	08/27/14b	B4H2220b	8081/8082b	
12672-29-6b	Aroclor 1248	NDb	120b	ug/kg dryb	1b	08/27/14b	B4H2220b	8081/8082b	
11097-69-1b	Aroclor 1254b	NDb	120b	ug/kg dryb	1b	08/27/14b	B4H2220b	8081/8082b	
11096-82-5b	Aroclor 1260b	NDb	120b	ug/kg dryb	1b	08/27/14b	B4H2220b	8081/8082b	
37324-23-5b	Aroclor 1262b	NDb	120b	ug/kg dryb	1b	08/27/14b	B4H2220b	8081/8082b	
11100-14-4b	Aroclor 1268	NDb	120b	ug/kg dryb	1b	08/27/14b	B4H2220b	8081/8082b	
<i>Surrogate: Decachlorobiphenyl-</i>			47.1 %-	30-150-		08/27/14-	B4H2220b	8081/8082-	
<i>Surrogate: Tetrachloro-m-xylene</i>			57.8 %-	30-150-		08/27/14-	B4H2220b	8081/8082-	
Inorganics-General Chemistry									
TSb	% Total Solidsp	80.9p	0.1b	%b	1b	08/25/14b	B4H2510b	2540 Bb	



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Client ID: CHLL-SB98-0-6"p

Lab ID: 1408231-18p

CAS #b	Analyteb	Resultb	RLb	Unitsb	Dilutionb	Analyzed b Dateb	QC Batchb	Methodb	Qualifier b
Organics-PCBs as Aroclorsp									
12674-11-2b	Aroclor 1016b	NDb	110b	ug/kg dryb	1b	08/27/14b	B4H2220b	8081/8082b	
11104-28-2b	Aroclor 1221b	NDb	110b	ug/kg dryb	1b	08/27/14b	B4H2220b	8081/8082b	
11141-16-5b	Aroclor 1232b	NDb	110b	ug/kg dryb	1b	08/27/14b	B4H2220b	8081/8082b	
53469-21-9b	Aroclor 1242b	NDb	110b	ug/kg dryb	1b	08/27/14b	B4H2220b	8081/8082b	
12672-29-6b	Aroclor 1248	NDb	110b	ug/kg dryb	1b	08/27/14b	B4H2220b	8081/8082b	
11097-69-1b	Aroclor 1254b	NDb	110b	ug/kg dryb	1b	08/27/14b	B4H2220b	8081/8082b	
11096-82-5b	Aroclor 1260b	NDb	110b	ug/kg dryb	1b	08/27/14b	B4H2220b	8081/8082b	
37324-23-5b	Aroclor 1262b	NDb	110b	ug/kg dryb	1b	08/27/14b	B4H2220b	8081/8082b	
11100-14-4b	Aroclor 1268	NDb	110b	ug/kg dryb	1b	08/27/14b	B4H2220b	8081/8082b	
<i>Surrogate: Decachlorobiphenyl-</i>			54.0 %-	30-150-		08/27/14-	B4H2220b	8081/8082-	
<i>Surrogate: Tetrachloro-m-xylene</i>			61.5 %-	30-150-		08/27/14-	B4H2220b	8081/8082-	
Inorganics-General Chemistry									
TSb	% Total Solidsp	90.4p	0.1b	%b	1b	08/25/14b	B4H2510b	2540 Bb	



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Client ID: CHLL-SB99-0-6"p

Lab ID: 1408231-19p

CAS #b	Analyteb	Resultb	RLb	Unitsb	Dilutionb	Analyzed b Dateb	QC Batchb	Methodb	Qualifier b
Organics-PCBs as Aroclorsp									
12674-11-2b	Aroclor 1016	NDb	130b	ug/kg dryb	1b	08/27/14b	B4H2220b	8081/8082b	
11104-28-2b	Aroclor 1221	NDb	130b	ug/kg dryb	1b	08/27/14b	B4H2220b	8081/8082b	
11141-16-5b	Aroclor 1232	NDb	130b	ug/kg dryb	1b	08/27/14b	B4H2220b	8081/8082b	
53469-21-9b	Aroclor 1242	NDb	130b	ug/kg dryb	1b	08/27/14b	B4H2220b	8081/8082b	
12672-29-6b	Aroclor 1248	NDb	130b	ug/kg dryb	1b	08/27/14b	B4H2220b	8081/8082b	
11097-69-1b	Aroclor 1254p	210p	130b	ug/kg dryb	1b	08/27/14b	B4H2220b	8081/8082b	
11096-82-5b	Aroclor 1260	NDb	230b	ug/kg dryb	1b	08/27/14b	B4H2220b	8081/8082b	Y21b
37324-23-5b	Aroclor 1262	NDb	230b	ug/kg dryb	1b	08/27/14b	B4H2220b	8081/8082b	Y21b
11100-14-4b	Aroclor 1268	NDb	130b	ug/kg dryb	1b	08/27/14b	B4H2220b	8081/8082b	
Surrogate: Decachlorobiphenyl-			47.9 %-	30-150-		08/27/14-	B4H2220b	8081/8082-	
Surrogate: Tetrachloro-m-xylene			64.3 %-	30-150-		08/27/14-	B4H2220b	8081/8082-	
Inorganics-General Chemistry									
TSb	% Total Solidsp	74.8p	0.1b	%b	1b	08/25/14b	B4H2510b	2540 Bb	

MICHIGAN DEPARTMENT OF ENVIRONMENTAL QUALITY

Page 1 of 2

ENVIRONMENTAL LABORATORY - ANALYSIS REQUEST SHEET

Lab Work Order Number

Project Name

Matrix

1408231

Abandoned Mining Waste- Torch Lake PCB

SOIL/SEDIMENT

Site Code/Project Number

AY

CC Email 1 to send additional reports to

Project TAT Days

Sample Collector

31000098

14

shireyb

Dept-Division-District

Index

CC Email 2 to send additional reports to

Project Due Date

Sample Collector Phone

RRD-PSS-GSU

44251

j.binkley@westonsolutions.com

State Project Manager

PCA

CC Email 3 to send additional reports to

Contract Firm

Jeff Pincumbe

38708

Keranena@michigan.gov

Weston Solutions

State Project Manager Email

Project

Overflow Lab Choice 1

Accept Analysis
hold time codes: Yes/No

Contract Firm Primary Contact

pincumbej

100081

Overflow Lab Choice 2

No

Jeff Binkley

State Project Manager Phone

Phase

Primary Contact Phone

517-335-6418

14

906-583-5457

Lab Use Only	Field Sample Identification	Collection Date	Collection Time	Container Count	Comments
1	01 CHLL- SB83-0-6"	8/20/14	1140	1	
2	02 CHLL- SB84-0-6"		1207	1	
3	03 CHLL- SB84-0-6"-DUP		1207	1	
4	04 CHLL- SB85-0-6"		1004	1	
5	05 CHLL- SB86-0-6"		1011	1	
6	06 CHLL- SB87-0-6"		1136	1	
7	07 CHLL- SB87-0-6"-DUP		1136	1	
8	08 CHLL- SB88-0-6"		1110	1	
9	09 CHLL- SB89-0-6"		1105	1	
10	10 CHLL- SB90-0-6"		0940	1	

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 8TEX/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,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 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 - NH 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. <i>Amy Keranena</i>	<i>JEFF PINCUMBE</i>	<i>8/21/14 11K</i>
	Signature: <i>[Signature]</i>	<i>[Signature]</i>	
	Print Name & Org. <i>JEFF PINCUMBE</i>	<i>Melissa Smith</i>	<i>8/22/14 0945</i>
	Signature: <i>[Signature]</i>	<i>[Signature]</i>	
Chain of Custody	Print Name & Org.		
	Signature:		

MICHIGAN DEPARTMENT OF ENVIRONMENTAL QUALITY

ENVIRONMENTAL LABORATORY - ANALYSIS REQUEST SHEET

Lab Work Order Number

Project Name

Matrix

1408231

Abandoned Mining Waste- Torch Lake PCB

SOIL/SEDIMENT

Site Code/Project Number

AY

CC Email 1 to send additional reports to

Project TAT Days

Sample Collector

31000098

14

shireyb

Dept./Division/District

Index

CC Email 2 to send additional reports to

Project Due Date

Sample Collector Phone

RRD-PSS-GSU

44251

j.binkley@westonsolutions.com

State Project Manager

PCA

CC Email 3 to send additional reports to

com

Contract Firm

Jeff Pincumbe

30708

Keranena@michigan.gov

Weston Solutions

State Project Manager Email

Project

Overflow Lab Choice 1

Accept Analysis hold time codes: Yes/No

Contract Firm Primary Contact

pincumbej

100081

Overflow Lab Choice 2

No

Jeff Binkley

State Project Manager Phone

Phase

Overflow Lab Choice 2

Primary Contact Phone

517-335-6418

dy

906-523-5457

Lab Use Only	Field Sample Identification	Collection Date	Collection Time	Container Count	Comments
1	11 CHLL- SB91-0-6"	8/20/14	1130	1	
2	12 CHLL- SB92-0-6"		1050	1	
3	13 CHLL- SB93-0-6"		1057	1	
4	14 CHLL- SB94-0-6"				
5	15 CHLL- SB95-0-6"		1125	1	
6	16 CHLL- SB96-0-6"		1043	1	
7	17 CHLL- SB97-0-6"		1045	1	
8	18 CHLL- SB97-0-6"-DP		1045	1	
9	19 CHLL- SB98-0-6"		925	1	
10	19 CHLL- SB99-0-6"		0905	1	

ORGANIC CHEMISTRY

METALS CHEMISTRY PACKAGES

MS - TOTAL METALS

GENERAL CHEMISTRY

VOA - Volatile Organic Acids

Volatiles - Full List

BTEX/MTBE/TMB only

Chlorinated only

GRO

1,4 Dioxane

OS - Pesticides, PCBs

Pesticides & PCBs

Pesticides only

PCBs only

Toxaphene

BNA - Base Neutral Acids

BNAs

PNAs only

BNs only

Organic Specialty Requests

Library search - Volatiles

Library Search - SemiVols

Finger Print

DRO / GRO

OpMemo2 - Total

(Sb,As,Ba,Be,Cd,Cr,Cu,Cu,Fe,Pb,Mn,Hg,Mo,Ni,Se,Ag,Ti,V,Zn)

Michigan10 - Total

(As,Ba,Cd,Cr,Cu,Cu,Pb,Hg,Se,Ag,Zn)

Silver - Ag

Aluminum - Al

Arsenic - As

Barium - Ba

Beryllium - Be

Cadmium - Cd

Cobalt - Co

Chromium - Cr

Copper - Cu

Iron - Fe

Mercury - Hg

Lithium - Li

Manganese - Mn

Molybdenum - Mo

Nickel - Ni

Lead - Pb

Antimony - Sb

Selenium - Se

Strontium - Sr

Titanium - Ti

Thallium - Tl

Vanadium - V

Zinc - Zn

Calcium - Ca

Potassium - K

Magnesium - Mg

Sodium - Na

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Chain of Custody

Relinquished by

Print Name

& Org.

Signature:

Print Name

& Org.

Signature:

Print Name

& Org.

Signature:

Received By

Date / Time

Ang Kuran

JEFF PINCUMBE

8/21/14 11a

JEFF PINCUMBE

Jeff Pinc

8/22/14 0945

Jeff Pinc

Melissa Smith



**MICHIGAN DEPARTMENT OF ENVIRONMENTAL QUALITY
ENVIRONMENTAL LABORATORY**

P.O. Box 302700
Lansing, MI 489090
TEL: (517) 335-9800
FAX: (517) 335-9600

15 September 2014

Work Order: 1408230

Price: \$1,404.00

Jeff Pincumbe

MDEQ-RRD-LANSING

525 W. Allegan Street

Lansing, MI 48909

RE: ABANDONED MINING WASTE-TORCH LAKE PCBO

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 302700
Lansing, MI 48909
TEL: (517) 335-98000
FAX: (517) 335-96000

MDEQ-RRD-LANSINGb
525 W. Allegan Streetb
Lansing MI, 48909b

Project:bABANDONED MINING WASTE-TORCH LAKE PCBb
Site Code:b31000098
Project Manager:bJeff Pincumbb

Reported:p
09/15/2014

Analytical Report for Samplesp

Sample IDp	Laboratory IDp	Matrixp	Date Sampledp	Date Receivedp	Qualifierp
CHLL-PCI-MW-104A-4.5-14.5b	1408230-01b	Waterb	08/19/2014b	08/22/2014b	
CHLL-PCI-MW-104A-4.5-14.5-DUPb	1408230-02b	Waterb	08/19/2014b	08/22/2014b	
CHLL-PCI-MW-104B-24-29b	1408230-03b	Waterb	08/19/2014b	08/22/2014b	
CHLL-PCI-MW-103A-3-13b	1408230-04b	Waterb	08/19/2014b	08/22/2014b	
CHLL-PCI-MW-103B-24-29b	1408230-05b	Waterb	08/19/2014b	08/22/2014b	
CHLL-PCI-MW-103C-49-54b	1408230-06b	Waterb	08/19/2014b	08/22/2014b	
CHLL-PCI-MW-102A-4.8-14.8	1408230-07b	Waterb	08/19/2014b	08/22/2014b	
CHLL-PCI-MW-102B-25-30b	1408230-08	Waterb	08/19/2014b	08/22/2014b	
CHLL-PCI-MW-112A-5.5-15.5b	1408230-09b	Waterb	08/19/2014b	08/22/2014b	
CHLL-PCI-MW-112B-24-29b	1408230-10b	Waterb	08/19/2014b	08/22/2014b	
CHLL-PCI-MW-105A-3.7-8.7b	1408230-11b	Waterb	08/21/2014b	08/22/2014b	
CHLL-PCI-MW-105B-24.5-29.5b	1408230-12b	Waterb	08/21/2014b	08/22/2014b	

Notes and Definitions p

Tb Reported value is less than the reporting limit (RL). Result is estimated.b
A01b Result(s) and reporting limit(s) are estimated due to low surrogate recovery.b
NDb Indicates compound analyzed for but not detectedb
RLb Reporting Limitb
NAb Not Applicableb



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ENVIRONMENTAL LABORATORY**

P.O. Box 302700
Lansing, MI 48909
TEL: (517) 335-98000
FAX: (517) 335-96000

Client ID: CHLL-PCI-MW-104A-4.5-14.5p

Lab ID: 1408230-01p

CAS #b	Analyteb	Resultb	RLb	Unitsb	Dilutionb	Analyzed b Dateb	QC Batchb	Methodb	Qualifier b
Organics-PCBs as Aroclorsp									
12674-11-2b	Aroclor 1016b	NDb	0.10b	ug/Lb	1b	08/28/14b	B4H2713b	8081/8082b	
11104-28-2b	Aroclor 1221b	NDb	0.10b	ug/Lb	1b	08/28/14b	B4H2713b	8081/8082b	
11141-16-5b	Aroclor 1232b	NDb	0.10b	ug/Lb	1b	08/28/14b	B4H2713b	8081/8082b	
53469-21-9b	Aroclor 1242b	NDb	0.10b	ug/Lb	1b	08/28/14b	B4H2713b	8081/8082b	
12672-29-6b	Aroclor 1248	NDb	0.10b	ug/Lb	1b	08/28/14b	B4H2713b	8081/8082b	
11097-69-1b	Aroclor 1254b	NDb	0.10b	ug/Lb	1b	08/28/14b	B4H2713b	8081/8082b	
11096-82-5b	Aroclor 1260b	NDb	0.10b	ug/Lb	1b	08/28/14b	B4H2713b	8081/8082b	
37324-23-5b	Aroclor 1262b	NDb	0.10b	ug/Lb	1b	08/28/14b	B4H2713b	8081/8082b	
11100-14-4b	Aroclor 1268	NDb	0.10b	ug/Lb	1b	08/28/14b	B4H2713b	8081/8082b	
<i>Surrogate: Decachlorobiphenyl-</i>			<i>54.0 %-</i>	<i>30-150-</i>		<i>08/28/14-</i>	B4H2713b	<i>8081/8082-</i>	
<i>Surrogate: Tetrachloro-m-xylene-</i>			<i>49.0 %-</i>	<i>30-150-</i>		<i>08/28/14-</i>	B4H2713b	<i>8081/8082-</i>	



MICHIGAN DEPARTMENT OF ENVIRONMENTAL QUALITY
ENVIRONMENTAL LABORATORY

P.O. Box 302700
Lansing, MI 48909
TEL: (517) 335-98000
FAX: (517) 335-96000

Client ID: CHLL-PCI-MW-104A-4.5-14.5-DUPp

Lab ID: 1408230-02p

CAS #b	Analyteb	Resultb	RLb	Unitsb	Dilutionb	Analyzed b Dateb	QC Batchb	Methodb	Qualifier b
Organics-PCBs as Aroclorsp									
12674-11-2b	Aroclor 1016b	NDb	0.10b	ug/Lb	1b	08/28/14b	B4H2713b	8081/8082b	
11104-28-2b	Aroclor 1221b	NDb	0.10b	ug/Lb	1b	08/28/14b	B4H2713b	8081/8082b	
11141-16-5b	Aroclor 1232b	NDb	0.10b	ug/Lb	1b	08/28/14b	B4H2713b	8081/8082b	
53469-21-9b	Aroclor 1242b	NDb	0.10b	ug/Lb	1b	08/28/14b	B4H2713b	8081/8082b	
12672-29-6b	Aroclor 1248	NDb	0.10b	ug/Lb	1b	08/28/14b	B4H2713b	8081/8082b	
11097-69-1b	Aroclor 1254b	NDb	0.10b	ug/Lb	1b	08/28/14b	B4H2713b	8081/8082b	
11096-82-5b	Aroclor 1260b	NDb	0.10b	ug/Lb	1b	08/28/14b	B4H2713b	8081/8082b	
37324-23-5b	Aroclor 1262b	NDb	0.10b	ug/Lb	1b	08/28/14b	B4H2713b	8081/8082b	
11100-14-4b	Aroclor 1268	NDb	0.10b	ug/Lb	1b	08/28/14b	B4H2713b	8081/8082b	
Surrogate: Decachlorobiphenyl-			50.8 %-	30-150-		08/28/14-	B4H2713b	8081/8082-	
Surrogate: Tetrachloro-m-xylene-			44.6 %-	30-150-		08/28/14-	B4H2713b	8081/8082-	



MICHIGAN DEPARTMENT OF ENVIRONMENTAL QUALITY
ENVIRONMENTAL LABORATORY

P.O. Box 302700
Lansing, MI 48909
TEL: (517) 335-98000
FAX: (517) 335-96000

Client ID: CHLL-PCI-MW-104B-24-29p

Lab ID: 1408230-03p

CAS #b	Analyteb	Resultb	RLb	Unitsb	Dilutionb	Analyzed b Dateb	QC Batchb	Methodb	Qualifierb
Organics-PCBs as Aroclorsp									
12674-11-2b	Aroclor 1016b	NDb	0.10b	ug/Lb	1b	08/28/14b	B4H2713b	8081/8082b	
11104-28-2b	Aroclor 1221b	NDb	0.10b	ug/Lb	1b	08/28/14b	B4H2713b	8081/8082b	
11141-16-5b	Aroclor 1232b	NDb	0.10b	ug/Lb	1b	08/28/14b	B4H2713b	8081/8082b	
53469-21-9b	Aroclor 1242b	NDb	0.10b	ug/Lb	1b	08/28/14b	B4H2713b	8081/8082b	
12672-29-6b	Aroclor 1248	NDb	0.10b	ug/Lb	1b	08/28/14b	B4H2713b	8081/8082b	
11097-69-1b	Aroclor 1254b	NDb	0.10b	ug/Lb	1b	08/28/14b	B4H2713b	8081/8082b	
11096-82-5b	Aroclor 1260b	NDb	0.10b	ug/Lb	1b	08/28/14b	B4H2713b	8081/8082b	
37324-23-5b	Aroclor 1262b	NDb	0.10b	ug/Lb	1b	08/28/14b	B4H2713b	8081/8082b	
11100-14-4b	Aroclor 1268	NDb	0.10b	ug/Lb	1b	08/28/14b	B4H2713b	8081/8082b	
Surrogate: Decachlorobiphenyl-			59.5 %-	30-150-		08/28/14-	B4H2713b	8081/8082-	
Surrogate: Tetrachloro-m-xylene-			43.7 %-	30-150-		08/28/14-	B4H2713b	8081/8082-	



MICHIGAN DEPARTMENT OF ENVIRONMENTAL QUALITY
ENVIRONMENTAL LABORATORY

P.O. Box 302700
Lansing, MI 48909
TEL: (517) 335-98000
FAX: (517) 335-96000

Client ID: CHLL-PCI-MW-103A-3-13p

Lab ID: 1408230-04p

CAS #b	Analyteb	Resultb	RLb	Unitsb	Dilutionb	Analyzed b Dateb	QC Batchb	Methodb	Qualifier b
Organics-PCBs as Aroclorsp									
12674-11-2b	Aroclor 1016b	NDb	0.10b	ug/Lb	1b	08/28/14b	B4H2713b	8081/8082b	
11104-28-2b	Aroclor 1221b	NDb	0.10b	ug/Lb	1b	08/28/14b	B4H2713b	8081/8082b	
11141-16-5b	Aroclor 1232b	NDb	0.10b	ug/Lb	1b	08/28/14b	B4H2713b	8081/8082b	
53469-21-9b	Aroclor 1242b	NDb	0.10b	ug/Lb	1b	08/28/14b	B4H2713b	8081/8082b	
12672-29-6b	Aroclor 1248	NDb	0.10b	ug/Lb	1b	08/28/14b	B4H2713b	8081/8082b	
11097-69-1b	Aroclor 1254b	NDb	0.10b	ug/Lb	1b	08/28/14b	B4H2713b	8081/8082b	
11096-82-5b	Aroclor 1260b	NDb	0.10b	ug/Lb	1b	08/28/14b	B4H2713b	8081/8082b	
37324-23-5b	Aroclor 1262b	NDb	0.10b	ug/Lb	1b	08/28/14b	B4H2713b	8081/8082b	
11100-14-4b	Aroclor 1268	NDb	0.10b	ug/Lb	1b	08/28/14b	B4H2713b	8081/8082b	
Surrogate: Decachlorobiphenyl-			48.4 %-	30-150-		08/28/14-	B4H2713b	8081/8082-	
Surrogate: Tetrachloro-m-xylene-			32.7 %-	30-150-		08/28/14-	B4H2713b	8081/8082-	



MICHIGAN DEPARTMENT OF ENVIRONMENTAL QUALITY
ENVIRONMENTAL LABORATORY

P.O. Box 302700
Lansing, MI 48909
TEL: (517) 335-98000
FAX: (517) 335-96000

Client ID: CHLL-PCI-MW-103B-24-29p

Lab ID: 1408230-05p

CAS #b	Analyteb	Resultb	RLb	Unitsb	Dilutionb	Analyzed b Dateb	QC Batchb	Methodb	Qualifierb
Organics-PCBs as Aroclorsp									
12674-11-2b	Aroclor 1016	NDb	0.10b	ug/Lb	1b	08/28/14b	B4H2713b	8081/8082b	
11104-28-2b	Aroclor 1221	NDb	0.10b	ug/Lb	1b	08/28/14b	B4H2713b	8081/8082b	
11141-16-5b	Aroclor 1232	NDb	0.10b	ug/Lb	1b	08/28/14b	B4H2713b	8081/8082b	
53469-21-9b	Aroclor 1242	NDb	0.10b	ug/Lb	1b	08/28/14b	B4H2713b	8081/8082b	
12672-29-6b	Aroclor 1248	NDb	0.10b	ug/Lb	1b	08/28/14b	B4H2713b	8081/8082b	
11097-69-1b	Aroclor 1254	NDb	0.10b	ug/Lb	1b	08/28/14b	B4H2713b	8081/8082b	
11096-82-5b	Aroclor 1260	NDb	0.10b	ug/Lb	1b	08/28/14b	B4H2713b	8081/8082b	
37324-23-5b	Aroclor 1262	0.073p	0.10b	ug/Lb	1b	08/28/14b	B4H2713b	8081/8082b	Tb
11100-14-4b	Aroclor 1268	NDb	0.10b	ug/Lb	1b	08/28/14b	B4H2713b	8081/8082b	
Surrogate: Decachlorobiphenyl-			46.6 %-	30-150-		08/28/14-	B4H2713b	8081/8082-	
Surrogate: Tetrachloro-m-xylene-			47.2 %-	30-150-		08/28/14-	B4H2713b	8081/8082-	



MICHIGAN DEPARTMENT OF ENVIRONMENTAL QUALITY
ENVIRONMENTAL LABORATORY

P.O. Box 302700
Lansing, MI 48909
TEL: (517) 335-98000
FAX: (517) 335-96000

Client ID: CHLL-PCI-MW-103C-49-54p

Lab ID: 1408230-06p

CAS #b	Analyteb	Resultb	RLb	Unitsb	Dilutionb	Analyzed b Dateb	QC Batchb	Methodb	Qualifier b
Organics-PCBs as Aroclorsp									
12674-11-2b	Aroclor 1016b	NDb	0.10b	ug/Lb	1b	08/30/14b	B4H2902b	8081/8082b	
11104-28-2b	Aroclor 1221b	NDb	0.10b	ug/Lb	1b	08/30/14b	B4H2902b	8081/8082b	
11141-16-5b	Aroclor 1232b	NDb	0.10b	ug/Lb	1b	08/30/14b	B4H2902b	8081/8082b	
53469-21-9b	Aroclor 1242b	NDb	0.10b	ug/Lb	1b	08/30/14b	B4H2902b	8081/8082b	
12672-29-6b	Aroclor 1248	NDb	0.10b	ug/Lb	1b	08/30/14b	B4H2902b	8081/8082b	
11097-69-1b	Aroclor 1254b	NDb	0.10b	ug/Lb	1b	08/30/14b	B4H2902b	8081/8082b	
11096-82-5b	Aroclor 1260b	NDb	0.10b	ug/Lb	1b	08/30/14b	B4H2902b	8081/8082b	
37324-23-5b	Aroclor 1262b	NDb	0.10b	ug/Lb	1b	08/30/14b	B4H2902b	8081/8082b	
11100-14-4b	Aroclor 1268	NDb	0.10b	ug/Lb	1b	08/30/14b	B4H2902b	8081/8082b	
Surrogate: Decachlorobiphenyl-			66.3 %-	30-150-		08/30/14-	B4H2902b	8081/8082-	
Surrogate: Tetrachloro-m-xylene-			52.2 %-	30-150-		08/30/14-	B4H2902b	8081/8082-	



**MICHIGAN DEPARTMENT OF ENVIRONMENTAL QUALITY
ENVIRONMENTAL LABORATORY**

P.O. Box 302700
Lansing, MI 48909
TEL: (517) 335-98000
FAX: (517) 335-96000

Client ID: CHLL-PCI-MW-102A-4.8-14.8p

Lab ID: 1408230-07p

CAS #b	Analyteb	Resultb	RLb	Unitsb	Dilutionb	Analyzed b Dateb	QC Batchb	Methodb	Qualifierb
Organics-PCBs as Aroclorsp									
12674-11-2b	Aroclor 1016b	NDb	0.10b	ug/Lb	1b	08/30/14b	B4H2902b	8081/8082b	
11104-28-2b	Aroclor 1221b	NDb	0.10b	ug/Lb	1b	08/30/14b	B4H2902b	8081/8082b	
11141-16-5b	Aroclor 1232b	NDb	0.10b	ug/Lb	1b	08/30/14b	B4H2902b	8081/8082b	
53469-21-9b	Aroclor 1242b	NDb	0.10b	ug/Lb	1b	08/30/14b	B4H2902b	8081/8082b	
12672-29-6b	Aroclor 1248	NDb	0.10b	ug/Lb	1b	08/30/14b	B4H2902b	8081/8082b	
11097-69-1b	Aroclor 1254b	NDb	0.10b	ug/Lb	1b	08/30/14b	B4H2902b	8081/8082b	
11096-82-5b	Aroclor 1260b	NDb	0.10b	ug/Lb	1b	08/30/14b	B4H2902b	8081/8082b	
37324-23-5b	Aroclor 1262b	NDb	0.10b	ug/Lb	1b	08/30/14b	B4H2902b	8081/8082b	
11100-14-4b	Aroclor 1268	NDb	0.10b	ug/Lb	1b	08/30/14b	B4H2902b	8081/8082b	
<i>Surrogate: Decachlorobiphenyl-</i>			47.2 %-	30-150-		08/30/14-	B4H2902b	8081/8082-	
<i>Surrogate: Tetrachloro-m-xylene-</i>			32.3 %-	30-150-		08/30/14-	B4H2902b	8081/8082-	



MICHIGAN DEPARTMENT OF ENVIRONMENTAL QUALITY
ENVIRONMENTAL LABORATORY

P.O. Box 302700
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TEL: (517) 335-98000
FAX: (517) 335-96000

Client ID: CHLL-PCI-MW-102B-25-30p

Lab ID: 1408230-08p

CAS #b	Analyteb	Resultb	RLb	Unitsb	Dilutionb	Analyzed b Dateb	QC Batchb	Methodb	Qualifier b
Organics-PCBs as Aroclorsp									
12674-11-2b	Aroclor 1016b	NDb	0.10b	ug/Lb	1b	08/30/14b	B4H2902b	8081/8082b	
11104-28-2b	Aroclor 1221b	NDb	0.10b	ug/Lb	1b	08/30/14b	B4H2902b	8081/8082b	
11141-16-5b	Aroclor 1232b	NDb	0.10b	ug/Lb	1b	08/30/14b	B4H2902b	8081/8082b	
53469-21-9b	Aroclor 1242b	NDb	0.10b	ug/Lb	1b	08/30/14b	B4H2902b	8081/8082b	
12672-29-6b	Aroclor 1248	NDb	0.10b	ug/Lb	1b	08/30/14b	B4H2902b	8081/8082b	
11097-69-1b	Aroclor 1254b	NDb	0.10b	ug/Lb	1b	08/30/14b	B4H2902b	8081/8082b	
11096-82-5b	Aroclor 1260b	NDb	0.10b	ug/Lb	1b	08/30/14b	B4H2902b	8081/8082b	
37324-23-5b	Aroclor 1262b	NDb	0.10b	ug/Lb	1b	08/30/14b	B4H2902b	8081/8082b	
11100-14-4b	Aroclor 1268	NDb	0.10b	ug/Lb	1b	08/30/14b	B4H2902b	8081/8082b	
Surrogate: Decachlorobiphenyl-			60.6 %-	30-150-		08/30/14-	B4H2902b	8081/8082-	
Surrogate: Tetrachloro-m-xylene-			54.0 %-	30-150-		08/30/14-	B4H2902b	8081/8082-	



MICHIGAN DEPARTMENT OF ENVIRONMENTAL QUALITY
ENVIRONMENTAL LABORATORY

P.O. Box 302700
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TEL: (517) 335-98000
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Client ID: CHLL-PCI-MW-112A-5.5-15.5p

Lab ID: 1408230-09p

CAS #b	Analyteb	Resultb	RLb	Unitsb	Dilutionb	Analyzed b Dateb	QC Batchb	Methodb	Qualifierb
Organics-PCBs as Aroclorsp									
12674-11-2b	Aroclor 1016b	NDb	0.10b	ug/Lb	1b	08/30/14b	B4H2902b	8081/8082b	
11104-28-2b	Aroclor 1221b	NDb	0.10b	ug/Lb	1b	08/30/14b	B4H2902b	8081/8082b	
11141-16-5b	Aroclor 1232b	NDb	0.10b	ug/Lb	1b	08/30/14b	B4H2902b	8081/8082b	
53469-21-9b	Aroclor 1242b	NDb	0.10b	ug/Lb	1b	08/30/14b	B4H2902b	8081/8082b	
12672-29-6b	Aroclor 1248	NDb	0.10b	ug/Lb	1b	08/30/14b	B4H2902b	8081/8082b	
11097-69-1b	Aroclor 1254b	NDb	0.10b	ug/Lb	1b	08/30/14b	B4H2902b	8081/8082b	
11096-82-5b	Aroclor 1260b	NDb	0.10b	ug/Lb	1b	08/30/14b	B4H2902b	8081/8082b	
37324-23-5b	Aroclor 1262b	NDb	0.10b	ug/Lb	1b	08/30/14b	B4H2902b	8081/8082b	
11100-14-4b	Aroclor 1268	NDb	0.10b	ug/Lb	1b	08/30/14b	B4H2902b	8081/8082b	
Surrogate: Decachlorobiphenyl-			60.2 %-	30-150-		08/30/14-	B4H2902b	8081/8082-	
Surrogate: Tetrachloro-m-xylene-			49.7 %-	30-150-		08/30/14-	B4H2902b	8081/8082-	



MICHIGAN DEPARTMENT OF ENVIRONMENTAL QUALITY
ENVIRONMENTAL LABORATORY

P.O. Box 302700
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TEL: (517) 335-98000
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Client ID: CHLL-PCI-MW-112B-24-29p

Lab ID: 1408230-10p

CAS #b	Analyteb	Resultb	RLb	Unitsb	Dilutionb	Analyzed b Dateb	QC Batchb	Methodb	Qualifier b
Organics-PCBs as Aroclorsp									
12674-11-2b	Aroclor 1016b	NDb	0.10b	ug/Lb	1b	08/30/14b	B4H2902b	8081/8082b	
11104-28-2b	Aroclor 1221b	NDb	0.10b	ug/Lb	1b	08/30/14b	B4H2902b	8081/8082b	
11141-16-5b	Aroclor 1232b	NDb	0.10b	ug/Lb	1b	08/30/14b	B4H2902b	8081/8082b	
53469-21-9b	Aroclor 1242b	NDb	0.10b	ug/Lb	1b	08/30/14b	B4H2902b	8081/8082b	
12672-29-6b	Aroclor 1248	NDb	0.10b	ug/Lb	1b	08/30/14b	B4H2902b	8081/8082b	
11097-69-1b	Aroclor 1254b	NDb	0.10b	ug/Lb	1b	08/30/14b	B4H2902b	8081/8082b	
11096-82-5b	Aroclor 1260b	NDb	0.10b	ug/Lb	1b	08/30/14b	B4H2902b	8081/8082b	
37324-23-5b	Aroclor 1262b	NDb	0.10b	ug/Lb	1b	08/30/14b	B4H2902b	8081/8082b	
11100-14-4b	Aroclor 1268	NDb	0.10b	ug/Lb	1b	08/30/14b	B4H2902b	8081/8082b	
Surrogate: Decachlorobiphenyl-			68.8 %-	30-150-		08/30/14-	B4H2902b	8081/8082-	
Surrogate: Tetrachloro-m-xylene-			53.4 %-	30-150-		08/30/14-	B4H2902b	8081/8082-	



MICHIGAN DEPARTMENT OF ENVIRONMENTAL QUALITY
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P.O. Box 302700
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Client ID: CHLL-PCI-MW-105A-3.7-8.7p

Lab ID: 1408230-11p

CAS #b	Analyteb	Resultb	RLb	Unitsb	Dilutionb	Analyzed b Dateb	QC Batchb	Methodb	Qualifierb
Organics-PCBs as Aroclorsp									
12674-11-2b	Aroclor 1016b	NDb	0.10b	ug/Lb	1b	08/30/14b	B4H2902b	8081/8082b	
11104-28-2b	Aroclor 1221b	NDb	0.10b	ug/Lb	1b	08/30/14b	B4H2902b	8081/8082b	
11141-16-5b	Aroclor 1232b	NDb	0.10b	ug/Lb	1b	08/30/14b	B4H2902b	8081/8082b	
53469-21-9b	Aroclor 1242b	NDb	0.10b	ug/Lb	1b	08/30/14b	B4H2902b	8081/8082b	
12672-29-6b	Aroclor 1248	NDb	0.10b	ug/Lb	1b	08/30/14b	B4H2902b	8081/8082b	
11097-69-1b	Aroclor 1254b	NDb	0.10b	ug/Lb	1b	08/30/14b	B4H2902b	8081/8082b	
11096-82-5b	Aroclor 1260b	NDb	0.10b	ug/Lb	1b	08/30/14b	B4H2902b	8081/8082b	
37324-23-5b	Aroclor 1262b	NDb	0.10b	ug/Lb	1b	08/30/14b	B4H2902b	8081/8082b	
11100-14-4b	Aroclor 1268	NDb	0.10b	ug/Lb	1b	08/30/14b	B4H2902b	8081/8082b	
Surrogate: Decachlorobiphenyl-			49.9 %-	30-150-		08/30/14-	B4H2902b	8081/8082-	
Surrogate: Tetrachloro-m-xylene-			56.2 %-	30-150-		08/30/14-	B4H2902b	8081/8082-	



MICHIGAN DEPARTMENT OF ENVIRONMENTAL QUALITY
ENVIRONMENTAL LABORATORY

P.O. Box 302700
Lansing, MI 48909
TEL: (517) 335-98000
FAX: (517) 335-96000

Client ID: CHLL-PCI-MW-105B-24.5-29.5p

Lab ID: 1408230-12p

CAS #b	Analyteb	Resultb	RLb	Unitsb	Dilutionb	Analyzed b Dateb	QC Batchb	Methodb	Qualifier b
Organics-PCBs as Aroclorsp									
12674-11-2b	Aroclor 1016b	NDb	0.10b	ug/Lb	1b	08/30/14b	B4H2902b	8081/8082b	
11104-28-2b	Aroclor 1221b	NDb	0.10b	ug/Lb	1b	08/30/14b	B4H2902b	8081/8082b	
11141-16-5b	Aroclor 1232b	NDb	0.10b	ug/Lb	1b	08/30/14b	B4H2902b	8081/8082b	
53469-21-9b	Aroclor 1242b	NDb	0.10b	ug/Lb	1b	08/30/14b	B4H2902b	8081/8082b	
12672-29-6b	Aroclor 1248	NDb	0.10b	ug/Lb	1b	08/30/14b	B4H2902b	8081/8082b	
11097-69-1b	Aroclor 1254b	NDb	0.10b	ug/Lb	1b	08/30/14b	B4H2902b	8081/8082b	
11096-82-5b	Aroclor 1260b	NDb	0.10b	ug/Lb	1b	08/30/14b	B4H2902b	8081/8082b	
37324-23-5b	Aroclor 1262b	NDb	0.10b	ug/Lb	1b	08/30/14b	B4H2902b	8081/8082b	
11100-14-4b	Aroclor 1268	NDb	0.10b	ug/Lb	1b	08/30/14b	B4H2902b	8081/8082b	
Surrogate: Decachlorobiphenyl-			60.1 %-	30-150-		08/30/14-	B4H2902b	8081/8082-	
Surrogate: Tetrachloro-m-xylene-			49.6 %-	30-150-		08/30/14-	B4H2902b	8081/8082-	

Page of

Lab Work Order Number

Project Name

Matrice

WATER

Site Code/Project Number

AY

CC Email 1 to send additional reports to

Project TAT Days

Sample Collector

31000098

14

shirevb

Jeff Pincumbe

Dept-Division-District

[Index](#)

CC Email 2 to send additional reports to

Project Due Date

Sample Collector Phone

RRD-PSS-GSU

44031

j.binkley@westonsolutions.com

517-335-6418

State Project Manager

20740

Keranena@michigan.gov

Contract Firm

State Project Manager Email

Project

Overflow Lab Choice 1

Accept Analysis
hold time codes: Yes/No

Contract Firm Primary Contact

State Project Manager Phone

Phase

Overflow Lab Choice 2

Primary Contact Phone

517-335-6418

0

9065235457

Chain of Custody	Relinquished by		Received By		Date / Time
	Print Name & Org.	Jeff Pincumbe - MDEQ	WARREN ROGERS	JEFF PINCUMBE	
	Signature:	<i>Warren Rogers</i>	<i>Jeff Pincumbe</i>		
	Print Name & Org.	JEFF PINCUMBE	Melissa Smith		
	Signature:	<i>Jeff Pincumbe</i>	<i>Melissa Smith</i>		8/22/14 0920
	Print Name & Org.				
	Signature:				



Analysis Request Sheet

Lab Work Order Number

Project Name

Matrix

1408230

Abandoned Mining Wastes-Torch Lake

WATER

Site Code/Project Number

AY

CC Email 1

Project TAT Days

Sample Collector

31000098

14

j.binkley@westonsolutions.com

Amy Keranen

Dept-Division-District

Index

CC Email 2

Project Due Date

Sample Collector Phone

DEQ-RRD-UP District

44251

keranena@michigan.gov

9063370389

State Project Manager

PCA

CC Email 3

Accept Analysis
hold time codes

Contract Firm

Jeff Pincumbe

30708

no

Weston Solutions

State Project Manager Email

Project

Overflow Lab Choice 1

Contract Firm Primary Contact

pincumbej@michigan.gov

100081

Jeff Binkley

State Project Manager Phone

Phase

Overflow Lab Choice 2

Primary Contact Phone

517-335-6418

14

906-523-5457

Lab Use Only	Field Sample Identification	Collection Date	Collection Time	Container Count	Comments
1	11 CHLL-PC1-MW-105A-3.7-8.7	08/21/14		2	
2	12 CHLL-PC1-MW-105B-24.5-29.5	08/21/14		2	
3					
4					
5					
6					
7					
8					
9					
10					

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 BTX/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 - 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 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 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) (Field - Filtered & Preserved) 1 2 3 4 5 6 7 8 9 10 GN Diss Org Carbon - DOC (LF) (Lab - Filtered & Preserved) 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 GA Ammonia - NH ₃ 1 2 3 4 5 6 7 8 9 10 GA Nitrate+Nitrite - ND3+NO2 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. Signature: Amy Keranen	JEFF PINCUMBE	8/21/14 11a
	Print Name & Org. Signature: Jeff Pincumbe	Melissa Smith	8/22/14 620
	Print Name & Org. Signature:		



**MICHIGAN DEPARTMENT OF ENVIRONMENTAL QUALITY
ENVIRONMENTAL LABORATORY**

P.O. Box 302700
Lansing, MI 48909
TEL: (517) 335-9800
FAX: (517) 335-9600

15 September 2014

Work Order: 1408234

Price: \$4,542.00

Jeff Pincumbe

MDEQ-RRD-LANSING

525 W. Allegan Street

Lansing, MI 48909

RE: ABANDONED MINING WASTE-TORCH LAKE PCBO

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
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MDEQ-RRD-LANSINGb
525 W. Allegan Streetb
Lansing MI, 48909b

Project:bABANDONED MINING WASTE-TORCH LAKE PCBb
Site Code:b31000098
Project Manager:bJeff Pincumbb

Reported:p
09/15/2014

Analytical Report for Samplesp

Sample IDp	Laboratory IDp	Matrixp	Date Sampledp	Date Receivedp	Qualifierp
CHLL-GW-57 11-16'b	1408234-01b	Waterb	08/19/2014b	08/22/2014b	
CHLL-GW-58 11-16'b	1408234-02b	Waterb	08/19/2014b	08/22/2014b	
CHLL-GW-59 6'-11'b	1408234-03b	Waterb	08/19/2014b	08/22/2014b	
CHLL-GW-60 6'-11'b	1408234-04b	Waterb	08/19/2014b	08/22/2014b	
CHLL-GW-61 6'-11'b	1408234-05b	Waterb	08/19/2014b	08/22/2014b	
CHLL-GW-62 6'-11'b	1408234-06b	Waterb	08/19/2014b	08/22/2014b	
CHLL-GW-63 6'-11'b	1408234-07b	Waterb	08/19/2014b	08/22/2014b	
CHLL-GW-41 8-13'b	1408234-08	Waterb	08/19/2014b	08/22/2014b	
CHLL-GW-41 8-13' DUPb	1408234-09b	Waterb	08/19/2014b	08/22/2014b	
CHLL-GW-40 10-15b	1408234-10b	Waterb	08/19/2014b	08/22/2014b	
CHLL-GW-54 10-15b	1408234-11b	Waterb	08/20/2014b	08/22/2014b	
CHLL-GW-55 9-14b	1408234-12b	Waterb	08/20/2014b	08/22/2014b	
CHLL-GW-56 9-14b	1408234-13b	Waterb	08/20/2014b	08/22/2014b	
CHLL-GW-53 8-13b	1408234-14b	Waterb	08/20/2014b	08/22/2014b	
CHLL-GW-52 9-14b	1408234-15b	Waterb	08/20/2014b	08/22/2014b	
CHLL-GW-51 8-13b	1408234-16b	Waterb	08/20/2014b	08/22/2014b	
CHLL-GW-48 8-13b	1408234-17b	Waterb	08/20/2014b	08/22/2014b	
CHLL-GW-45 9-14'b	1408234-18	Waterb	08/20/2014b	08/22/2014b	
CHLL-GW-46 10-15b	1408234-19b	Waterb	08/20/2014b	08/22/2014b	
CHLL-GW-44 7-12b	1408234-20b	Waterb	08/20/2014b	08/22/2014b	
CHLL-GW-44 7-12 DUPb	1408234-21b	Waterb	08/20/2014b	08/22/2014b	
CHLL-GW-43 8-13b	1408234-22b	Waterb	08/20/2014b	08/22/2014b	
CHLL-GW-42 7-12'b	1408234-23b	Waterb	08/20/2014b	08/22/2014b	
CHLL-GW-50 8-13'b	1408234-24b	Waterb	08/21/2014b	08/22/2014b	
CHLL-GW-49 8-13'b	1408234-25b	Waterb	08/21/2014b	08/22/2014b	
CHLL-GW-47 6-11'b	1408234-26b	Waterb	08/20/2014b	08/22/2014b	

Notes and Definitions p

Y24b Sample decanted due to sediment layer. Data is estimated.b
KRb Reporting limit(s) raised due to low sample volume submitted.b
A01b Result(s) and reporting limit(s) are estimated due to low surrogate recovery.b
NDb Indicates compound analyzed for but not detectedb
RLb Reporting Limitb
NAb Not Applicableb



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P.O. Box 302700
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TEL: (517) 335-98000
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Client ID: CHLL-GW-57 11-16'p

Lab ID: 1408234-01p

CAS #b	Analyteb	Resultb	RLb	Unitsb	Dilutionb	Analyzed b Dateb	QC Batchb	Methodb	Qualifier b
Organics-PCBs as Aroclorsp									
12674-11-2b	Aroclor 1016b	NDb	0.10b	ug/Lb	1b	08/30/14b	B4H2902b	8081/8082b	
11104-28-2b	Aroclor 1221b	NDb	0.10b	ug/Lb	1b	08/30/14b	B4H2902b	8081/8082b	
11141-16-5b	Aroclor 1232b	NDb	0.10b	ug/Lb	1b	08/30/14b	B4H2902b	8081/8082b	
53469-21-9b	Aroclor 1242b	NDb	0.10b	ug/Lb	1b	08/30/14b	B4H2902b	8081/8082b	
12672-29-6b	Aroclor 1248	NDb	0.10b	ug/Lb	1b	08/30/14b	B4H2902b	8081/8082b	
11097-69-1b	Aroclor 1254b	NDb	0.10b	ug/Lb	1b	08/30/14b	B4H2902b	8081/8082b	
11096-82-5b	Aroclor 1260b	NDb	0.10b	ug/Lb	1b	08/30/14b	B4H2902b	8081/8082b	
37324-23-5b	Aroclor 1262b	NDb	0.10b	ug/Lb	1b	08/30/14b	B4H2902b	8081/8082b	
11100-14-4b	Aroclor 1268	NDb	0.10b	ug/Lb	1b	08/30/14b	B4H2902b	8081/8082b	
Surrogate: Decachlorobiphenyl-			69.7 %-	30-150-		08/30/14-	B4H2902b	8081/8082-	
Surrogate: Tetrachloro-m-xylene-			53.4 %-	30-150-		08/30/14-	B4H2902b	8081/8082-	
Inorganics-General Chemistry									
57-12-5b	Available Cyanideb	NDb	0.002b	mg/Lb	1b	08/25/14b	B4H2516b	OIA-1677b	



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P.O. Box 302700
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TEL: (517) 335-98000
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Client ID: CHLL-GW-58 11-16'p

Lab ID: 1408234-02p

CAS #b	Analyteb	Resultb	RLb	Unitsb	Dilutionb	Analyzed b Dateb	QC Batchb	Methodb	Qualifier b
Organics-PCBs as Aroclorsp									
12674-11-2b	Aroclor 1016b	NDb	0.10b	ug/Lb	1b	08/30/14b	B4H2902b	8081/8082b	
11104-28-2b	Aroclor 1221b	NDb	0.10b	ug/Lb	1b	08/30/14b	B4H2902b	8081/8082b	
11141-16-5b	Aroclor 1232b	NDb	0.10b	ug/Lb	1b	08/30/14b	B4H2902b	8081/8082b	
53469-21-9b	Aroclor 1242b	NDb	0.10b	ug/Lb	1b	08/30/14b	B4H2902b	8081/8082b	
12672-29-6b	Aroclor 1248	NDb	0.10b	ug/Lb	1b	08/30/14b	B4H2902b	8081/8082b	
11097-69-1b	Aroclor 1254b	NDb	0.10b	ug/Lb	1b	08/30/14b	B4H2902b	8081/8082b	
11096-82-5b	Aroclor 1260b	NDb	0.10b	ug/Lb	1b	08/30/14b	B4H2902b	8081/8082b	
37324-23-5b	Aroclor 1262b	NDb	0.10b	ug/Lb	1b	08/30/14b	B4H2902b	8081/8082b	
11100-14-4b	Aroclor 1268	NDb	0.10b	ug/Lb	1b	08/30/14b	B4H2902b	8081/8082b	
Surrogate: Decachlorobiphenyl-			64.8 %-	30-150-		08/30/14-	B4H2902b	8081/8082-	
Surrogate: Tetrachloro-m-xylene-			46.6 %-	30-150-		08/30/14-	B4H2902b	8081/8082-	
Inorganics-General Chemistry									
57-12-5b	Available Cyanideb	NDb	0.002b	mg/Lb	1b	08/25/14b	B4H2516b	OIA-1677b	



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Client ID: CHLL-GW-59 6'-11'p

Lab ID: 1408234-03p

CAS #b	Analyteb	Resultb	RLb	Unitsb	Dilutionb	Analyzed b Dateb	QC Batchb	Methodb	Qualifierb
Organics-PCBs as Aroclorsp									
12674-11-2b	Aroclor 1016b	NDb	0.10b	ug/Lb	1b	08/30/14b	B4H2902b	8081/8082b	
11104-28-2b	Aroclor 1221b	NDb	0.10b	ug/Lb	1b	08/30/14b	B4H2902b	8081/8082b	
11141-16-5b	Aroclor 1232b	NDb	0.10b	ug/Lb	1b	08/30/14b	B4H2902b	8081/8082b	
53469-21-9b	Aroclor 1242b	NDb	0.10b	ug/Lb	1b	08/30/14b	B4H2902b	8081/8082b	
12672-29-6b	Aroclor 1248	NDb	0.10b	ug/Lb	1b	08/30/14b	B4H2902b	8081/8082b	
11097-69-1b	Aroclor 1254b	NDb	0.10b	ug/Lb	1b	08/30/14b	B4H2902b	8081/8082b	
11096-82-5b	Aroclor 1260b	NDb	0.10b	ug/Lb	1b	08/30/14b	B4H2902b	8081/8082b	
37324-23-5b	Aroclor 1262b	NDb	0.10b	ug/Lb	1b	08/30/14b	B4H2902b	8081/8082b	
11100-14-4b	Aroclor 1268	NDb	0.10b	ug/Lb	1b	08/30/14b	B4H2902b	8081/8082b	
Surrogate: Decachlorobiphenyl-			50.5 %-	30-150-		08/30/14-	B4H2902b	8081/8082-	
Surrogate: Tetrachloro-m-xylene-			43.9 %-	30-150-		08/30/14-	B4H2902b	8081/8082-	



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Client ID: CHLL-GW-60 6'-11'p

Lab ID: 1408234-04p

CAS #b	Analyteb	Resultb	RLb	Unitsb	Dilutionb	Analyzed b Dateb	QC Batchb	Methodb	Qualifier b
Organics-PCBs as Aroclorsp									
12674-11-2b	Aroclor 1016b	NDb	0.10b	ug/Lb	1b	08/30/14b	B4H2902b	8081/8082b	
11104-28-2b	Aroclor 1221b	NDb	0.10b	ug/Lb	1b	08/30/14b	B4H2902b	8081/8082b	
11141-16-5b	Aroclor 1232b	NDb	0.10b	ug/Lb	1b	08/30/14b	B4H2902b	8081/8082b	
53469-21-9b	Aroclor 1242b	NDb	0.10b	ug/Lb	1b	08/30/14b	B4H2902b	8081/8082b	
12672-29-6b	Aroclor 1248	NDb	0.10b	ug/Lb	1b	08/30/14b	B4H2902b	8081/8082b	
11097-69-1b	Aroclor 1254b	NDb	0.10b	ug/Lb	1b	08/30/14b	B4H2902b	8081/8082b	
11096-82-5b	Aroclor 1260b	NDb	0.10b	ug/Lb	1b	08/30/14b	B4H2902b	8081/8082b	
37324-23-5b	Aroclor 1262b	NDb	0.10b	ug/Lb	1b	08/30/14b	B4H2902b	8081/8082b	
11100-14-4b	Aroclor 1268	NDb	0.10b	ug/Lb	1b	08/30/14b	B4H2902b	8081/8082b	
Surrogate: Decachlorobiphenyl-			47.4 %-	30-150-		08/30/14-	B4H2902b	8081/8082-	
Surrogate: Tetrachloro-m-xylene-			51.0 %-	30-150-		08/30/14-	B4H2902b	8081/8082-	



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Client ID: CHLL-GW-61 6'-11'p

Lab ID: 1408234-05p

CAS #b	Analyteb	Resultb	RLb	Unitsb	Dilutionb	Analyzed b Dateb	QC Batchb	Methodb	Qualifierb
Organics-PCBs as Aroclorsp									
12674-11-2b	Aroclor 1016b	NDb	0.10b	ug/Lb	1b	08/30/14b	B4H2902b	8081/8082b	
11104-28-2b	Aroclor 1221b	NDb	0.10b	ug/Lb	1b	08/30/14b	B4H2902b	8081/8082b	
11141-16-5b	Aroclor 1232b	NDb	0.10b	ug/Lb	1b	08/30/14b	B4H2902b	8081/8082b	
53469-21-9b	Aroclor 1242b	NDb	0.10b	ug/Lb	1b	08/30/14b	B4H2902b	8081/8082b	
12672-29-6b	Aroclor 1248	NDb	0.10b	ug/Lb	1b	08/30/14b	B4H2902b	8081/8082b	
11097-69-1b	Aroclor 1254b	NDb	0.10b	ug/Lb	1b	08/30/14b	B4H2902b	8081/8082b	
11096-82-5b	Aroclor 1260b	NDb	0.10b	ug/Lb	1b	08/30/14b	B4H2902b	8081/8082b	
37324-23-5b	Aroclor 1262b	NDb	0.10b	ug/Lb	1b	08/30/14b	B4H2902b	8081/8082b	
11100-14-4b	Aroclor 1268	NDb	0.10b	ug/Lb	1b	08/30/14b	B4H2902b	8081/8082b	
<i>Surrogate: Decachlorobiphenyl-</i>			50.0 %-	30-150-		08/30/14-	B4H2902b	8081/8082-	
<i>Surrogate: Tetrachloro-m-xylene-</i>			52.4 %-	30-150-		08/30/14-	B4H2902b	8081/8082-	



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P.O. Box 302700
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Client ID: CHLL-GW-62 6'-11'p

Lab ID: 1408234-06p

CAS #b	Analyteb	Resultb	RLb	Unitsb	Dilutionb	Analyzed b Dateb	QC Batchb	Methodb	Qualifier b
Organics-PCBs as Aroclorsp									
12674-11-2b	Aroclor 1016b	NDb	0.10b	ug/Lb	1b	08/30/14b	B4H2902b	8081/8082b	
11104-28-2b	Aroclor 1221b	NDb	0.10b	ug/Lb	1b	08/30/14b	B4H2902b	8081/8082b	
11141-16-5b	Aroclor 1232b	NDb	0.10b	ug/Lb	1b	08/30/14b	B4H2902b	8081/8082b	
53469-21-9b	Aroclor 1242b	NDb	0.10b	ug/Lb	1b	08/30/14b	B4H2902b	8081/8082b	
12672-29-6b	Aroclor 1248	NDb	0.10b	ug/Lb	1b	08/30/14b	B4H2902b	8081/8082b	
11097-69-1b	Aroclor 1254b	NDb	0.10b	ug/Lb	1b	08/30/14b	B4H2902b	8081/8082b	
11096-82-5b	Aroclor 1260b	NDb	0.10b	ug/Lb	1b	08/30/14b	B4H2902b	8081/8082b	
37324-23-5b	Aroclor 1262b	NDb	0.10b	ug/Lb	1b	08/30/14b	B4H2902b	8081/8082b	
11100-14-4b	Aroclor 1268	NDb	0.10b	ug/Lb	1b	08/30/14b	B4H2902b	8081/8082b	
Surrogate: Decachlorobiphenyl-			49.6 %-	30-150-		08/30/14-	B4H2902b	8081/8082-	
Surrogate: Tetrachloro-m-xylene-			55.9 %-	30-150-		08/30/14-	B4H2902b	8081/8082-	



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Client ID: CHLL-GW-63 6'-11'p

Lab ID: 1408234-07p

CAS #b	Analyteb	Resultb	RLb	Unitsb	Dilutionb	Analyzed b Dateb	QC Batchb	Methodb	Qualifierb
Organics-PCBs as Aroclorsp									
12674-11-2b	Aroclor 1016b	NDb	0.10b	ug/Lb	1b	08/30/14b	B4H2902b	8081/8082b	
11104-28-2b	Aroclor 1221b	NDb	0.10b	ug/Lb	1b	08/30/14b	B4H2902b	8081/8082b	
11141-16-5b	Aroclor 1232b	NDb	0.10b	ug/Lb	1b	08/30/14b	B4H2902b	8081/8082b	
53469-21-9b	Aroclor 1242b	NDb	0.10b	ug/Lb	1b	08/30/14b	B4H2902b	8081/8082b	
12672-29-6b	Aroclor 1248	NDb	0.10b	ug/Lb	1b	08/30/14b	B4H2902b	8081/8082b	
11097-69-1b	Aroclor 1254b	NDb	0.10b	ug/Lb	1b	08/30/14b	B4H2902b	8081/8082b	
11096-82-5b	Aroclor 1260b	NDb	0.10b	ug/Lb	1b	08/30/14b	B4H2902b	8081/8082b	
37324-23-5b	Aroclor 1262b	NDb	0.10b	ug/Lb	1b	08/30/14b	B4H2902b	8081/8082b	
11100-14-4b	Aroclor 1268	NDb	0.10b	ug/Lb	1b	08/30/14b	B4H2902b	8081/8082b	
Surrogate: Decachlorobiphenyl-			42.4 %-	30-150-		08/30/14-	B4H2902b	8081/8082-	
Surrogate: Tetrachloro-m-xylene-			45.3 %-	30-150-		08/30/14-	B4H2902b	8081/8082-	



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P.O. Box 302700
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TEL: (517) 335-98000
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Client ID: CHLL-GW-41 8-13'p

Lab ID: 1408234-08p

CAS #b	Analyteb	Resultb	RLb	Unitsb	Dilutionb	Analyzed b Dateb	QC Batchb	Methodb	Qualifier b
Organics-PCBs as Aroclorsp									
12674-11-2b	Aroclor 1016b	NDb	0.10b	ug/Lb	1b	08/30/14b	B4H2902b	8081/8082b	
11104-28-2b	Aroclor 1221b	NDb	0.10b	ug/Lb	1b	08/30/14b	B4H2902b	8081/8082b	
11141-16-5b	Aroclor 1232b	NDb	0.10b	ug/Lb	1b	08/30/14b	B4H2902b	8081/8082b	
53469-21-9b	Aroclor 1242b	NDb	0.10b	ug/Lb	1b	08/30/14b	B4H2902b	8081/8082b	
12672-29-6b	Aroclor 1248	NDb	0.10b	ug/Lb	1b	08/30/14b	B4H2902b	8081/8082b	
11097-69-1b	Aroclor 1254b	NDb	0.10b	ug/Lb	1b	08/30/14b	B4H2902b	8081/8082b	
11096-82-5b	Aroclor 1260b	NDb	0.10b	ug/Lb	1b	08/30/14b	B4H2902b	8081/8082b	
37324-23-5b	Aroclor 1262b	NDb	0.10b	ug/Lb	1b	08/30/14b	B4H2902b	8081/8082b	
11100-14-4b	Aroclor 1268	NDb	0.10b	ug/Lb	1b	08/30/14b	B4H2902b	8081/8082b	
Surrogate: Decachlorobiphenyl-			44.0 %-	30-150-		08/30/14-	B4H2902b	8081/8082-	
Surrogate: Tetrachloro-m-xylene-			48.3 %-	30-150-		08/30/14-	B4H2902b	8081/8082-	



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ENVIRONMENTAL LABORATORY

P.O. Box 302700
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TEL: (517) 335-98000
FAX: (517) 335-96000

Client ID: CHLL-GW-41 8-13' DUPp

Lab ID: 1408234-09p

CAS #b	Analyteb	Resultb	RLb	Unitsb	Dilutionb	Analyzed b Dateb	QC Batchb	Methodb	Qualifierb
Organics-PCBs as Aroclorsp									
12674-11-2b	Aroclor 1016b	NDb	0.10b	ug/Lb	1b	08/30/14b	B4H2902b	8081/8082b	
11104-28-2b	Aroclor 1221b	NDb	0.10b	ug/Lb	1b	08/30/14b	B4H2902b	8081/8082b	
11141-16-5b	Aroclor 1232b	NDb	0.10b	ug/Lb	1b	08/30/14b	B4H2902b	8081/8082b	
53469-21-9b	Aroclor 1242b	NDb	0.10b	ug/Lb	1b	08/30/14b	B4H2902b	8081/8082b	
12672-29-6b	Aroclor 1248	NDb	0.10b	ug/Lb	1b	08/30/14b	B4H2902b	8081/8082b	
11097-69-1b	Aroclor 1254b	NDb	0.10b	ug/Lb	1b	08/30/14b	B4H2902b	8081/8082b	
11096-82-5b	Aroclor 1260b	NDb	0.10b	ug/Lb	1b	08/30/14b	B4H2902b	8081/8082b	
37324-23-5b	Aroclor 1262b	NDb	0.10b	ug/Lb	1b	08/30/14b	B4H2902b	8081/8082b	
11100-14-4b	Aroclor 1268	NDb	0.10b	ug/Lb	1b	08/30/14b	B4H2902b	8081/8082b	
Surrogate: Decachlorobiphenyl-			43.2 %-	30-150-		08/30/14-	B4H2902b	8081/8082-	
Surrogate: Tetrachloro-m-xylene-			45.9 %-	30-150-		08/30/14-	B4H2902b	8081/8082-	



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Client ID: CHLL-GW-40 10-15p

Lab ID: 1408234-10p

CAS #b	Analyteb	Resultb	RLb	Unitsb	Dilutionb	Analyzed b Dateb	QC Batchb	Methodb	Qualifier b
Organics-PCBs as Aroclorsp									
12674-11-2b	Aroclor 1016b	NDb	0.10b	ug/Lb	1b	08/30/14b	B4H2902b	8081/8082b	
11104-28-2b	Aroclor 1221b	NDb	0.10b	ug/Lb	1b	08/30/14b	B4H2902b	8081/8082b	
11141-16-5b	Aroclor 1232b	NDb	0.10b	ug/Lb	1b	08/30/14b	B4H2902b	8081/8082b	
53469-21-9b	Aroclor 1242b	NDb	0.10b	ug/Lb	1b	08/30/14b	B4H2902b	8081/8082b	
12672-29-6b	Aroclor 1248	NDb	0.10b	ug/Lb	1b	08/30/14b	B4H2902b	8081/8082b	
11097-69-1b	Aroclor 1254b	NDb	0.10b	ug/Lb	1b	08/30/14b	B4H2902b	8081/8082b	
11096-82-5b	Aroclor 1260b	NDb	0.10b	ug/Lb	1b	08/30/14b	B4H2902b	8081/8082b	
37324-23-5b	Aroclor 1262b	NDb	0.10b	ug/Lb	1b	08/30/14b	B4H2902b	8081/8082b	
11100-14-4b	Aroclor 1268	NDb	0.10b	ug/Lb	1b	08/30/14b	B4H2902b	8081/8082b	
Surrogate: Decachlorobiphenyl-			33.5 %-	30-150-		08/30/14-	B4H2902b	8081/8082-	
Surrogate: Tetrachloro-m-xylene-			42.9 %-	30-150-		08/30/14-	B4H2902b	8081/8082-	



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Client ID: CHLL-GW-54 10-15p

Lab ID: 1408234-11p

CAS #b	Analyteb	Resultb	RLb	Unitsb	Dilutionb	Analyzed b Dateb	QC Batchb	Methodb	Qualifierb
Organics-Semivolatiles									
91-57-6b	2-Methylnaphthaleneb	NDb	5.0b	ug/Lb	1b	08/29/14b	B4H2507b	8270b	
83-32-9b	Acenaphtheneb	NDb	1.0b	ug/Lb	1b	08/29/14b	B4H2507b	8270b	
208-96-8	Acenaphthyleneb	NDb	1.0b	ug/Lb	1b	08/29/14b	B4H2507b	8270b	
120-12-7b	Anthraceneb	NDb	1.0b	ug/Lb	1b	08/29/14b	B4H2507b	8270b	
56-55-3b	Benz[a]anthraceneb	NDb	1.0b	ug/Lb	1b	08/29/14b	B4H2507b	8270b	
50-32-8	Benzo[a]pyreneb	NDb	1.0b	ug/Lb	1b	08/29/14b	B4H2507b	8270b	
205-99-2b	Benzo[b]fluorantheneb	NDb	1.0b	ug/Lb	1b	08/29/14b	B4H2507b	8270b	
191-24-2b	Benzo[g,h,i]peryleneb	NDb	1.0b	ug/Lb	1b	08/29/14b	B4H2507b	8270b	
207-08-9b	Benzo[k]fluorantheneb	NDb	1.0b	ug/Lb	1b	08/29/14b	B4H2507b	8270b	
218-01-9b	Chryseneb	NDb	1.0b	ug/Lb	1b	08/29/14b	B4H2507b	8270b	
53-70-3b	Dibenz[a,h]anthraceneb	NDb	2.0b	ug/Lb	1b	08/29/14b	B4H2507b	8270b	
206-44-0b	Fluorantheneb	NDb	1.0b	ug/Lb	1b	08/29/14b	B4H2507b	8270b	
86-73-7b	Fluoreneb	NDb	1.0b	ug/Lb	1b	08/29/14b	B4H2507b	8270b	
193-39-5b	Indeno[1,2,3-c,d]pyreneb	NDb	2.0b	ug/Lb	1b	08/29/14b	B4H2507b	8270b	
91-20-3b	Naphthaleneb	NDb	1.0b	ug/Lb	1b	08/29/14b	B4H2507b	8270b	
85-01-8	Phenanthreneb	NDb	1.0b	ug/Lb	1b	08/29/14b	B4H2507b	8270b	
129-00-0b	Pyreneb	NDb	1.0b	ug/Lb	1b	08/29/14b	B4H2507b	8270b	
Surrogate: 2-Fluorobiphenyl-			43.9 %-	24.1-115-		08/29/14-	B4H2507b	8270-	
Surrogate: Nitrobenzene-d5-			47.7 %-	17.8-115-		08/29/14-	B4H2507b	8270-	
Surrogate: p-Terphenyl-d14-			55.9 %-	41.8-115-		08/29/14-	B4H2507b	8270-	

Organics-PCBs as Aroclors

12674-11-2b	Aroclor 1016b	NDb	0.10b	ug/Lb	1b	08/30/14b	B4H2902b	8081/8082b	
11104-28-2b	Aroclor 1221b	NDb	0.10b	ug/Lb	1b	08/30/14b	B4H2902b	8081/8082b	
11141-16-5b	Aroclor 1232b	NDb	0.10b	ug/Lb	1b	08/30/14b	B4H2902b	8081/8082b	
53469-21-9b	Aroclor 1242b	NDb	0.10b	ug/Lb	1b	08/30/14b	B4H2902b	8081/8082b	
12672-29-6b	Aroclor 1248	NDb	0.10b	ug/Lb	1b	08/30/14b	B4H2902b	8081/8082b	
11097-69-1b	Aroclor 1254b	NDb	0.10b	ug/Lb	1b	08/30/14b	B4H2902b	8081/8082b	
11096-82-5b	Aroclor 1260b	NDb	0.10b	ug/Lb	1b	08/30/14b	B4H2902b	8081/8082b	
37324-23-5b	Aroclor 1262b	NDb	0.10b	ug/Lb	1b	08/30/14b	B4H2902b	8081/8082b	
11100-14-4b	Aroclor 1268	NDb	0.10b	ug/Lb	1b	08/30/14b	B4H2902b	8081/8082b	
Surrogate: Decachlorobiphenyl-			66.5 %-	30-150-		08/30/14-	B4H2902b	8081/8082-	
Surrogate: Tetrachloro-m-xylene-			55.4 %-	30-150-		08/30/14-	B4H2902b	8081/8082-	



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Client ID: CHLL-GW-54 10-15p

Lab ID: 1408234-11p

Analyzed b									
CAS #b	Analyteb	Resultb	RLb	Unitsb	Dilutionb	Dateb	QC Batchb	Methodb	Qualifier b
Inorganics-General Chemistry									
57-12-5b	Available Cyanideb	NDb	0.002b	mg/Lb	1b	08/25/14b	B4H2516b	OIA-1677b	



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Client ID: CHLL-GW-55 9-14p

Lab ID: 1408234-12p

CAS #b	Analyteb	Resultb	RLb	Unitsb	Dilutionb	Analyzed b Dateb	QC Batchb	Methodb	Qualifierb
Organics-Semivolatiles									
91-57-6b	2-Methylnaphthaleneb	NDb	5.0b	ug/Lb	1b	08/29/14b	B4H2507b	8270b	
83-32-9b	Acenaphtheneb	NDb	1.0b	ug/Lb	1b	08/29/14b	B4H2507b	8270b	
208-96-8	Acenaphthyleneb	NDb	1.0b	ug/Lb	1b	08/29/14b	B4H2507b	8270b	
120-12-7b	Anthraceneb	NDb	1.0b	ug/Lb	1b	08/29/14b	B4H2507b	8270b	
56-55-3b	Benz[a]anthraceneb	NDb	1.0b	ug/Lb	1b	08/29/14b	B4H2507b	8270b	
50-32-8	Benzo[a]pyreneb	NDb	1.0b	ug/Lb	1b	08/29/14b	B4H2507b	8270b	
205-99-2b	Benzo[b]fluorantheneb	NDb	1.0b	ug/Lb	1b	08/29/14b	B4H2507b	8270b	
191-24-2b	Benzo[g,h,i]peryleneb	NDb	1.0b	ug/Lb	1b	08/29/14b	B4H2507b	8270b	
207-08-9b	Benzo[k]fluorantheneb	NDb	1.0b	ug/Lb	1b	08/29/14b	B4H2507b	8270b	
218-01-9b	Chryseneb	NDb	1.0b	ug/Lb	1b	08/29/14b	B4H2507b	8270b	
53-70-3b	Dibenz[a,h]anthraceneb	NDb	2.0b	ug/Lb	1b	08/29/14b	B4H2507b	8270b	
206-44-0b	Fluorantheneb	NDb	1.0b	ug/Lb	1b	08/29/14b	B4H2507b	8270b	
86-73-7b	Fluoreneb	NDb	1.0b	ug/Lb	1b	08/29/14b	B4H2507b	8270b	
193-39-5b	Indeno[1,2,3-c,d]pyreneb	NDb	2.0b	ug/Lb	1b	08/29/14b	B4H2507b	8270b	
91-20-3b	Naphthaleneb	NDb	1.0b	ug/Lb	1b	08/29/14b	B4H2507b	8270b	
85-01-8	Phenanthreneb	NDb	1.0b	ug/Lb	1b	08/29/14b	B4H2507b	8270b	
129-00-0b	Pyreneb	NDb	1.0b	ug/Lb	1b	08/29/14b	B4H2507b	8270b	
Surrogate: 2-Fluorobiphenyl-			51.2 %-	24.1-115-		08/29/14-	B4H2507b	8270-	
Surrogate: Nitrobenzene-d5-			52.7 %-	17.8-115-		08/29/14-	B4H2507b	8270-	
Surrogate: p-Terphenyl-d14-			54.6 %-	41.8-115-		08/29/14-	B4H2507b	8270-	

Organics-PCBs as Aroclors

12674-11-2b	Aroclor 1016b	NDb	0.10b	ug/Lb	1b	08/30/14b	B4H2902b	8081/8082b	
11104-28-2b	Aroclor 1221b	NDb	0.10b	ug/Lb	1b	08/30/14b	B4H2902b	8081/8082b	
11141-16-5b	Aroclor 1232b	NDb	0.10b	ug/Lb	1b	08/30/14b	B4H2902b	8081/8082b	
53469-21-9b	Aroclor 1242b	NDb	0.10b	ug/Lb	1b	08/30/14b	B4H2902b	8081/8082b	
12672-29-6b	Aroclor 1248	NDb	0.10b	ug/Lb	1b	08/30/14b	B4H2902b	8081/8082b	
11097-69-1b	Aroclor 1254b	NDb	0.10b	ug/Lb	1b	08/30/14b	B4H2902b	8081/8082b	
11096-82-5b	Aroclor 1260b	NDb	0.10b	ug/Lb	1b	08/30/14b	B4H2902b	8081/8082b	
37324-23-5b	Aroclor 1262b	NDb	0.10b	ug/Lb	1b	08/30/14b	B4H2902b	8081/8082b	
11100-14-4b	Aroclor 1268	NDb	0.10b	ug/Lb	1b	08/30/14b	B4H2902b	8081/8082b	
Surrogate: Decachlorobiphenyl-			31.2 %-	30-150-		08/30/14-	B4H2902b	8081/8082-	
Surrogate: Tetrachloro-m-xylene-			48.3 %-	30-150-		08/30/14-	B4H2902b	8081/8082-	



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Client ID: CHLL-GW-55 9-14p

Lab ID: 1408234-12p

Analyzed b									
CAS #b	Analyteb	Resultb	RLb	Unitsb	Dilutionb	Dateb	QC Batchb	Methodb	Qualifier b
Inorganics-General Chemistry									
57-12-5b	Available Cyanideb	NDb	0.002b	mg/Lb	1b	08/25/14b	B4H2516b	OIA-1677b	



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Client ID: CHLL-GW-56 9-14p

Lab ID: 1408234-13p

CAS #b	Analyteb	Resultb	RLb	Unitsb	Dilutionb	Analyzed b Dateb	QC Batchb	Methodb	Qualifierb
Organics-Semivolatiles									
91-57-6b	2-Methylnaphthaleneb	NDb	5.0b	ug/Lb	1b	08/29/14b	B4H2507b	8270b	
83-32-9b	Acenaphtheneb	NDb	1.0b	ug/Lb	1b	08/29/14b	B4H2507b	8270b	
208-96-8	Acenaphthyleneb	NDb	1.0b	ug/Lb	1b	08/29/14b	B4H2507b	8270b	
120-12-7b	Anthraceneb	NDb	1.0b	ug/Lb	1b	08/29/14b	B4H2507b	8270b	
56-55-3b	Benz[a]anthraceneb	NDb	1.0b	ug/Lb	1b	08/29/14b	B4H2507b	8270b	
50-32-8	Benzo[a]pyreneb	NDb	1.0b	ug/Lb	1b	08/29/14b	B4H2507b	8270b	
205-99-2b	Benzo[b]fluorantheneb	NDb	1.0b	ug/Lb	1b	08/29/14b	B4H2507b	8270b	
191-24-2b	Benzo[g,h,i]peryleneb	NDb	1.0b	ug/Lb	1b	08/29/14b	B4H2507b	8270b	
207-08-9b	Benzo[k]fluorantheneb	NDb	1.0b	ug/Lb	1b	08/29/14b	B4H2507b	8270b	
218-01-9b	Chryseneb	NDb	1.0b	ug/Lb	1b	08/29/14b	B4H2507b	8270b	
53-70-3b	Dibenz[a,h]anthraceneb	NDb	2.0b	ug/Lb	1b	08/29/14b	B4H2507b	8270b	
206-44-0b	Fluorantheneb	NDb	1.0b	ug/Lb	1b	08/29/14b	B4H2507b	8270b	
86-73-7b	Fluoreneb	NDb	1.0b	ug/Lb	1b	08/29/14b	B4H2507b	8270b	
193-39-5b	Indeno[1,2,3-c,d]pyreneb	NDb	2.0b	ug/Lb	1b	08/29/14b	B4H2507b	8270b	
91-20-3b	Naphthaleneb	NDb	1.0b	ug/Lb	1b	08/29/14b	B4H2507b	8270b	
85-01-8	Phenanthreneb	NDb	1.0b	ug/Lb	1b	08/29/14b	B4H2507b	8270b	
129-00-0b	Pyreneb	NDb	1.0b	ug/Lb	1b	08/29/14b	B4H2507b	8270b	
Surrogate: 2-Fluorobiphenyl-			51.1 %-	24.1-115-		08/29/14-	B4H2507b	8270-	
Surrogate: Nitrobenzene-d5-			49.0 %-	17.8-115-		08/29/14-	B4H2507b	8270-	
Surrogate: p-Terphenyl-d14-			70.8 %-	41.8-115-		08/29/14-	B4H2507b	8270-	

Organics-PCBs as Aroclors

12674-11-2b	Aroclor 1016b	NDb	0.10b	ug/Lb	1b	08/30/14b	B4H2902b	8081/8082b	
11104-28-2b	Aroclor 1221b	NDb	0.10b	ug/Lb	1b	08/30/14b	B4H2902b	8081/8082b	
11141-16-5b	Aroclor 1232b	NDb	0.10b	ug/Lb	1b	08/30/14b	B4H2902b	8081/8082b	
53469-21-9b	Aroclor 1242b	NDb	0.10b	ug/Lb	1b	08/30/14b	B4H2902b	8081/8082b	
12672-29-6b	Aroclor 1248	NDb	0.10b	ug/Lb	1b	08/30/14b	B4H2902b	8081/8082b	
11097-69-1b	Aroclor 1254b	NDb	0.10b	ug/Lb	1b	08/30/14b	B4H2902b	8081/8082b	
11096-82-5b	Aroclor 1260b	NDb	0.10b	ug/Lb	1b	08/30/14b	B4H2902b	8081/8082b	
37324-23-5b	Aroclor 1262b	NDb	0.10b	ug/Lb	1b	08/30/14b	B4H2902b	8081/8082b	
11100-14-4b	Aroclor 1268	NDb	0.10b	ug/Lb	1b	08/30/14b	B4H2902b	8081/8082b	
Surrogate: Decachlorobiphenyl-			35.6 %-	30-150-		08/30/14-	B4H2902b	8081/8082-	
Surrogate: Tetrachloro-m-xylene-			51.6 %-	30-150-		08/30/14-	B4H2902b	8081/8082-	



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Client ID: CHLL-GW-56 9-14p

Lab ID: 1408234-13p

Analyzed b									
CAS #b	Analyteb	Resultb	RLb	Unitsb	Dilutionb	Dateb	QC Batchb	Methodb	Qualifier b
Inorganics-General Chemistry									
57-12-5b	Available Cyanideb	NDb	0.002b	mg/Lb	1b	08/25/14b	B4H2516b	OIA-1677b	



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Client ID: CHLL-GW-53 8-13p

Lab ID: 1408234-14p

CAS #b	Analyteb	Resultb	RLb	Unitsb	Dilutionb	Analyzed b Dateb	QC Batchb	Methodb	Qualifier b
Organics-PCBs as Aroclorsp									
12674-11-2b	Aroclor 1016b	NDb	0.10b	ug/Lb	1b	09/06/14b	B4I0413b	8081/8082b	
11104-28-2b	Aroclor 1221b	NDb	0.10b	ug/Lb	1b	09/06/14b	B4I0413b	8081/8082b	
11141-16-5b	Aroclor 1232b	NDb	0.10b	ug/Lb	1b	09/06/14b	B4I0413b	8081/8082b	
53469-21-9b	Aroclor 1242b	NDb	0.10b	ug/Lb	1b	09/06/14b	B4I0413b	8081/8082b	
12672-29-6b	Aroclor 1248	NDb	0.10b	ug/Lb	1b	09/06/14b	B4I0413b	8081/8082b	
11097-69-1b	Aroclor 1254b	NDb	0.10b	ug/Lb	1b	09/06/14b	B4I0413b	8081/8082b	
11096-82-5b	Aroclor 1260b	NDb	0.10b	ug/Lb	1b	09/06/14b	B4I0413b	8081/8082b	
37324-23-5b	Aroclor 1262b	NDb	0.10b	ug/Lb	1b	09/06/14b	B4I0413b	8081/8082b	
11100-14-4b	Aroclor 1268	NDb	0.10b	ug/Lb	1b	09/06/14b	B4I0413b	8081/8082b	
Surrogate: Decachlorobiphenyl-			32.9 %-	30-150-		09/06/14-	B4I0413b	8081/8082-	
Surrogate: Tetrachloro-m-xylene-			51.7 %-	30-150-		09/06/14-	B4I0413b	8081/8082-	
Inorganics-General Chemistry									
57-12-5b	Available Cyanideb	NDb	0.002b	mg/Lb	1b	08/25/14b	B4H2516b	OIA-1677b	



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Client ID: CHLL-GW-52 9-14p

Lab ID: 1408234-15p

CAS #b	Analyteb	Resultb	RLb	Unitsb	Dilutionb	Analyzed b Dateb	QC Batchb	Methodb	Qualifier b
Organics-PCBs as Aroclorsp									
12674-11-2b	Aroclor 1016b	NDb	0.10b	ug/Lb	1b	09/06/14b	B4I0413b	8081/8082b	
11104-28-2b	Aroclor 1221b	NDb	0.10b	ug/Lb	1b	09/06/14b	B4I0413b	8081/8082b	
11141-16-5b	Aroclor 1232b	NDb	0.10b	ug/Lb	1b	09/06/14b	B4I0413b	8081/8082b	
53469-21-9b	Aroclor 1242b	NDb	0.10b	ug/Lb	1b	09/06/14b	B4I0413b	8081/8082b	
12672-29-6b	Aroclor 1248	NDb	0.10b	ug/Lb	1b	09/06/14b	B4I0413b	8081/8082b	
11097-69-1b	Aroclor 1254b	NDb	0.10b	ug/Lb	1b	09/06/14b	B4I0413b	8081/8082b	
11096-82-5b	Aroclor 1260b	NDb	0.10b	ug/Lb	1b	09/06/14b	B4I0413b	8081/8082b	
37324-23-5b	Aroclor 1262b	NDb	0.10b	ug/Lb	1b	09/06/14b	B4I0413b	8081/8082b	
11100-14-4b	Aroclor 1268	NDb	0.10b	ug/Lb	1b	09/06/14b	B4I0413b	8081/8082b	
<i>Surrogate: Decachlorobiphenyl-</i>			36.1 %-	30-150-		09/06/14-	B4I0413b	8081/8082-	
<i>Surrogate: Tetrachloro-m-xylene-</i>			48.0 %-	30-150-		09/06/14-	B4I0413b	8081/8082-	
Inorganics-General Chemistry									
57-12-5b	Available Cyanideb	NDb	0.002b	mg/Lb	1b	08/25/14b	B4H2516b	OIA-1677b	



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Client ID: CHLL-GW-51 8-13p

Lab ID: 1408234-16p

CAS #b	Analyteb	Resultb	RLb	Unitsb	Dilutionb	Analyzedb Dateb	QC Batchb	Methodb	Qualifiert
Organics-PCBs as Aroclorsp									See note A01p
12674-11-2b	Aroclor 1016	NDb	0.10b	ug/Lb	1b	09/06/14b	B4I0413b	8081/8082b	
11104-28-2b	Aroclor 1221	NDb	0.10b	ug/Lb	1b	09/06/14b	B4I0413b	8081/8082b	
11141-16-5b	Aroclor 1232	NDb	0.10b	ug/Lb	1b	09/06/14b	B4I0413b	8081/8082b	
53469-21-9b	Aroclor 1242	NDb	0.10b	ug/Lb	1b	09/06/14b	B4I0413b	8081/8082b	
12672-29-6b	Aroclor 1248	NDb	0.10b	ug/Lb	1b	09/06/14b	B4I0413b	8081/8082b	
11097-69-1b	Aroclor 1254	NDb	0.10b	ug/Lb	1b	09/06/14b	B4I0413b	8081/8082b	
11096-82-5b	Aroclor 1260	NDb	0.10b	ug/Lb	1b	09/06/14b	B4I0413b	8081/8082b	
37324-23-5b	Aroclor 1262	NDb	0.10b	ug/Lb	1b	09/06/14b	B4I0413b	8081/8082b	
11100-14-4b	Aroclor 1268	NDb	0.10b	ug/Lb	1b	09/06/14b	B4I0413b	8081/8082b	
<i>Surrogate: Decachlorobiphenyl-</i>			29.5 %-	30-150-		09/06/14-	B4I0413b	8081/8082-	
<i>Surrogate: Tetrachloro-m-xylene-</i>			41.9 %-	30-150-		09/06/14-	B4I0413b	8081/8082-	
Inorganics-General Chemistry									
57-12-5b	Available Cyanide	NDb	0.002b	mg/Lb	1b	08/25/14b	B4H2516b	OIA-1677b	



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Client ID: CHLL-GW-48 8-13p

Lab ID: 1408234-17p

CAS #b	Analyteb	Resultb	RLb	Unitsb	Dilutionb	Analyzedb Dateb	QC Batchb	Methodb	Qualifiert
Organics-PCBs as Aroclorsp									See note Y24p
12674-11-2b	Aroclor 1016	NDb	0.12b	ug/Lb	1b	09/06/14b	B4I0413b	8081/8082b	
11104-28-2b	Aroclor 1221	NDb	0.12b	ug/Lb	1b	09/06/14b	B4I0413b	8081/8082b	
11141-16-5b	Aroclor 1232	NDb	0.12b	ug/Lb	1b	09/06/14b	B4I0413b	8081/8082b	
53469-21-9b	Aroclor 1242	NDb	0.12b	ug/Lb	1b	09/06/14b	B4I0413b	8081/8082b	
12672-29-6b	Aroclor 1248	NDb	0.12b	ug/Lb	1b	09/06/14b	B4I0413b	8081/8082b	
11097-69-1b	Aroclor 1254	NDb	0.12b	ug/Lb	1b	09/06/14b	B4I0413b	8081/8082b	
11096-82-5b	Aroclor 1260	NDb	0.12b	ug/Lb	1b	09/06/14b	B4I0413b	8081/8082b	
37324-23-5b	Aroclor 1262	NDb	0.12b	ug/Lb	1b	09/06/14b	B4I0413b	8081/8082b	
11100-14-4b	Aroclor 1268	NDb	0.12b	ug/Lb	1b	09/06/14b	B4I0413b	8081/8082b	
Surrogate: Decachlorobiphenyl-			44.4 %-	30-150-		09/06/14-	B4I0413b	8081/8082-	
Surrogate: Tetrachloro-m-xylene-			47.9 %-	30-150-		09/06/14-	B4I0413b	8081/8082-	
Inorganics-General Chemistry									
57-12-5b	Available Cyanide	NDb	0.002b	mg/Lb	1b	08/25/14b	B4H2516b	OIA-1677b	



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Client ID: CHLL-GW-45 9-14'p

Lab ID: 1408234-18p

CAS #b	Analyteb	Resultb	RLb	Unitsb	Dilutionb	Analyzed b Dateb	QC Batchb	Methodb	Qualifier b
Organics-PCBs as Aroclorsp									
12674-11-2b	Aroclor 1016b	NDb	0.10b	ug/Lb	1b	09/06/14b	B4I0413b	8081/8082b	
11104-28-2b	Aroclor 1221b	NDb	0.10b	ug/Lb	1b	09/06/14b	B4I0413b	8081/8082b	
11141-16-5b	Aroclor 1232b	NDb	0.10b	ug/Lb	1b	09/06/14b	B4I0413b	8081/8082b	
53469-21-9b	Aroclor 1242b	NDb	0.10b	ug/Lb	1b	09/06/14b	B4I0413b	8081/8082b	
12672-29-6b	Aroclor 1248	NDb	0.10b	ug/Lb	1b	09/06/14b	B4I0413b	8081/8082b	
11097-69-1b	Aroclor 1254b	NDb	0.10b	ug/Lb	1b	09/06/14b	B4I0413b	8081/8082b	
11096-82-5b	Aroclor 1260b	NDb	0.10b	ug/Lb	1b	09/06/14b	B4I0413b	8081/8082b	
37324-23-5b	Aroclor 1262b	NDb	0.10b	ug/Lb	1b	09/06/14b	B4I0413b	8081/8082b	
11100-14-4b	Aroclor 1268	NDb	0.10b	ug/Lb	1b	09/06/14b	B4I0413b	8081/8082b	
<i>Surrogate: Decachlorobiphenyl-</i>			39.2 %-	30-150-		09/06/14-	B4I0413b	8081/8082-	
<i>Surrogate: Tetrachloro-m-xylene-</i>			39.7 %-	30-150-		09/06/14-	B4I0413b	8081/8082-	
Inorganics-General Chemistry									
57-12-5b	Available Cyanideb	NDb	0.002b	mg/Lb	1b	08/25/14b	B4H2516b	OIA-1677b	



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Client ID: CHLL-GW-46 10-15p

Lab ID: 1408234-19p

CAS #b	Analyteb	Resultb	RLb	Unitsb	Dilutionb	Analyzed b Dateb	QC Batchb	Methodb	Qualifier b
Organics-PCBs as Aroclorsp									
12674-11-2b	Aroclor 1016b	NDb	0.10b	ug/Lb	1b	09/06/14b	B4I0413b	8081/8082b	
11104-28-2b	Aroclor 1221b	NDb	0.10b	ug/Lb	1b	09/06/14b	B4I0413b	8081/8082b	
11141-16-5b	Aroclor 1232b	NDb	0.10b	ug/Lb	1b	09/06/14b	B4I0413b	8081/8082b	
53469-21-9b	Aroclor 1242b	NDb	0.10b	ug/Lb	1b	09/06/14b	B4I0413b	8081/8082b	
12672-29-6b	Aroclor 1248	NDb	0.10b	ug/Lb	1b	09/06/14b	B4I0413b	8081/8082b	
11097-69-1b	Aroclor 1254b	NDb	0.10b	ug/Lb	1b	09/06/14b	B4I0413b	8081/8082b	
11096-82-5b	Aroclor 1260b	NDb	0.10b	ug/Lb	1b	09/06/14b	B4I0413b	8081/8082b	
37324-23-5b	Aroclor 1262b	NDb	0.10b	ug/Lb	1b	09/06/14b	B4I0413b	8081/8082b	
11100-14-4b	Aroclor 1268	NDb	0.10b	ug/Lb	1b	09/06/14b	B4I0413b	8081/8082b	
Surrogate: Decachlorobiphenyl-			43.1 %-	30-150-		09/06/14-	B4I0413b	8081/8082-	
Surrogate: Tetrachloro-m-xylene-			46.7 %-	30-150-		09/06/14-	B4I0413b	8081/8082-	
Inorganics-General Chemistry									
57-12-5b	Available Cyanideb	NDb	0.002b	mg/Lb	1b	08/25/14b	B4H2516b	OIA-1677b	



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Client ID: CHLL-GW-44 7-12p

Lab ID: 1408234-20p

CAS #b	Analyteb	Resultb	RLb	Unitsb	Dilutionb	Analyzedb Dateb	QC Batchb	Methodb	Qualifiert
Organics-PCBs as Aroclorsp									See note A01p
12674-11-2b	Aroclor 1016	NDb	0.10b	ug/Lb	1b	09/06/14b	B4I0413b	8081/8082b	
11104-28-2b	Aroclor 1221	NDb	0.10b	ug/Lb	1b	09/06/14b	B4I0413b	8081/8082b	
11141-16-5b	Aroclor 1232	NDb	0.10b	ug/Lb	1b	09/06/14b	B4I0413b	8081/8082b	
53469-21-9b	Aroclor 1242	NDb	0.10b	ug/Lb	1b	09/06/14b	B4I0413b	8081/8082b	
12672-29-6b	Aroclor 1248	NDb	0.10b	ug/Lb	1b	09/06/14b	B4I0413b	8081/8082b	
11097-69-1b	Aroclor 1254	NDb	0.10b	ug/Lb	1b	09/06/14b	B4I0413b	8081/8082b	
11096-82-5b	Aroclor 1260	NDb	0.10b	ug/Lb	1b	09/06/14b	B4I0413b	8081/8082b	
37324-23-5b	Aroclor 1262	NDb	0.10b	ug/Lb	1b	09/06/14b	B4I0413b	8081/8082b	
11100-14-4b	Aroclor 1268	NDb	0.10b	ug/Lb	1b	09/06/14b	B4I0413b	8081/8082b	
<i>Surrogate: Decachlorobiphenyl-</i>			23.7 %-	30-150-		09/06/14-	B4I0413b	8081/8082-	
<i>Surrogate: Tetrachloro-m-xylene-</i>			45.5 %-	30-150-		09/06/14-	B4I0413b	8081/8082-	
Inorganics-General Chemistry									
57-12-5b	Available Cyanide	NDb	0.002b	mg/Lb	1b	08/25/14b	B4H2516b	OIA-1677b	



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Client ID: CHLL-GW-44 7-12 DUPp

Lab ID: 1408234-21p

CAS #b	Analyteb	Resultb	RLb	Unitsb	Dilutionb	Analyzedb Dateb	QC Batchb	Methodb	Qualifiert
Organics-PCBs as Aroclorsp									See note A01p
12674-11-2b	Aroclor 1016	NDb	0.10b	ug/Lb	1b	09/06/14b	B4I0413b	8081/8082b	
11104-28-2b	Aroclor 1221	NDb	0.10b	ug/Lb	1b	09/06/14b	B4I0413b	8081/8082b	
11141-16-5b	Aroclor 1232	NDb	0.10b	ug/Lb	1b	09/06/14b	B4I0413b	8081/8082b	
53469-21-9b	Aroclor 1242	NDb	0.10b	ug/Lb	1b	09/06/14b	B4I0413b	8081/8082b	
12672-29-6b	Aroclor 1248	NDb	0.10b	ug/Lb	1b	09/06/14b	B4I0413b	8081/8082b	
11097-69-1b	Aroclor 1254	NDb	0.10b	ug/Lb	1b	09/06/14b	B4I0413b	8081/8082b	
11096-82-5b	Aroclor 1260	NDb	0.10b	ug/Lb	1b	09/06/14b	B4I0413b	8081/8082b	
37324-23-5b	Aroclor 1262	NDb	0.10b	ug/Lb	1b	09/06/14b	B4I0413b	8081/8082b	
11100-14-4b	Aroclor 1268	NDb	0.10b	ug/Lb	1b	09/06/14b	B4I0413b	8081/8082b	
Surrogate: Decachlorobiphenyl-			20.3 %-	30-150-		09/06/14-	B4I0413b	8081/8082-	
Surrogate: Tetrachloro-m-xylene-			34.5 %-	30-150-		09/06/14-	B4I0413b	8081/8082-	
Inorganics-General Chemistry									
57-12-5b	Available Cyanide	NDb	0.002b	mg/Lb	1b	08/25/14b	B4H2516b	OIA-1677b	



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Client ID: CHLL-GW-43 8-13p

Lab ID: 1408234-22p

CAS #b	Analyteb	Resultb	RLb	Unitsb	Dilutionb	Analyzed b Dateb	QC Batchb	Methodb	Qualifier b
Organics-PCBs as Aroclorsp									
12674-11-2b	Aroclor 1016b	NDb	0.10b	ug/Lb	1b	09/06/14b	B4I0413b	8081/8082b	
11104-28-2b	Aroclor 1221b	NDb	0.10b	ug/Lb	1b	09/06/14b	B4I0413b	8081/8082b	
11141-16-5b	Aroclor 1232b	NDb	0.10b	ug/Lb	1b	09/06/14b	B4I0413b	8081/8082b	
53469-21-9b	Aroclor 1242b	NDb	0.10b	ug/Lb	1b	09/06/14b	B4I0413b	8081/8082b	
12672-29-6b	Aroclor 1248	NDb	0.10b	ug/Lb	1b	09/06/14b	B4I0413b	8081/8082b	
11097-69-1b	Aroclor 1254b	NDb	0.10b	ug/Lb	1b	09/06/14b	B4I0413b	8081/8082b	
11096-82-5b	Aroclor 1260b	NDb	0.10b	ug/Lb	1b	09/06/14b	B4I0413b	8081/8082b	
37324-23-5b	Aroclor 1262b	NDb	0.10b	ug/Lb	1b	09/06/14b	B4I0413b	8081/8082b	
11100-14-4b	Aroclor 1268	NDb	0.10b	ug/Lb	1b	09/06/14b	B4I0413b	8081/8082b	
<i>Surrogate: Decachlorobiphenyl-</i>			34.3 %-	30-150-		09/06/14-	B4I0413b	8081/8082-	
<i>Surrogate: Tetrachloro-m-xylene-</i>			42.4 %-	30-150-		09/06/14-	B4I0413b	8081/8082-	
Inorganics-General Chemistry									
57-12-5b	Available Cyanideb	NDb	0.002b	mg/Lb	1b	08/25/14b	B4H2516b	OIA-1677b	



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Client ID: CHLL-GW-42 7-12'p

Lab ID: 1408234-23p

CAS #b	Analyteb	Resultb	RLb	Unitsb	Dilutionb	Analyzed b Dateb	QC Batchb	Methodb	Qualifier b
Organics-PCBs as Aroclorsp									
12674-11-2b	Aroclor 1016b	NDb	0.10b	ug/Lb	1b	09/06/14b	B4I0413b	8081/8082b	
11104-28-2b	Aroclor 1221b	NDb	0.10b	ug/Lb	1b	09/06/14b	B4I0413b	8081/8082b	
11141-16-5b	Aroclor 1232b	NDb	0.10b	ug/Lb	1b	09/06/14b	B4I0413b	8081/8082b	
53469-21-9b	Aroclor 1242b	NDb	0.10b	ug/Lb	1b	09/06/14b	B4I0413b	8081/8082b	
12672-29-6b	Aroclor 1248	NDb	0.10b	ug/Lb	1b	09/06/14b	B4I0413b	8081/8082b	
11097-69-1b	Aroclor 1254b	NDb	0.10b	ug/Lb	1b	09/06/14b	B4I0413b	8081/8082b	
11096-82-5b	Aroclor 1260b	NDb	0.10b	ug/Lb	1b	09/06/14b	B4I0413b	8081/8082b	
37324-23-5b	Aroclor 1262b	NDb	0.10b	ug/Lb	1b	09/06/14b	B4I0413b	8081/8082b	
11100-14-4b	Aroclor 1268	NDb	0.10b	ug/Lb	1b	09/06/14b	B4I0413b	8081/8082b	
Surrogate: Decachlorobiphenyl-			35.6 %-	30-150-		09/06/14-	B4I0413b	8081/8082-	
Surrogate: Tetrachloro-m-xylene-			43.4 %-	30-150-		09/06/14-	B4I0413b	8081/8082-	
Inorganics-General Chemistry									
57-12-5b	Available Cyanideb	NDb	0.002b	mg/Lb	1b	08/25/14b	B4H2516b	OIA-1677b	



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Client ID: CHLL-GW-50 8-13'p

Lab ID: 1408234-24p

CAS #b	Analyteb	Resultb	RLb	Unitsb	Dilutionb	Analyzed b Dateb	QC Batchb	Methodb	Qualifier b
Organics-PCBs as Aroclorsp									
12674-11-2b	Aroclor 1016b	NDb	0.10b	ug/Lb	1b	09/06/14b	B4I0413b	8081/8082b	
11104-28-2b	Aroclor 1221b	NDb	0.10b	ug/Lb	1b	09/06/14b	B4I0413b	8081/8082b	
11141-16-5b	Aroclor 1232b	NDb	0.10b	ug/Lb	1b	09/06/14b	B4I0413b	8081/8082b	
53469-21-9b	Aroclor 1242b	NDb	0.10b	ug/Lb	1b	09/06/14b	B4I0413b	8081/8082b	
12672-29-6b	Aroclor 1248	NDb	0.10b	ug/Lb	1b	09/06/14b	B4I0413b	8081/8082b	
11097-69-1b	Aroclor 1254b	NDb	0.10b	ug/Lb	1b	09/06/14b	B4I0413b	8081/8082b	
11096-82-5b	Aroclor 1260b	NDb	0.10b	ug/Lb	1b	09/06/14b	B4I0413b	8081/8082b	
37324-23-5b	Aroclor 1262b	NDb	0.10b	ug/Lb	1b	09/06/14b	B4I0413b	8081/8082b	
11100-14-4b	Aroclor 1268	NDb	0.10b	ug/Lb	1b	09/06/14b	B4I0413b	8081/8082b	
Surrogate: Decachlorobiphenyl-			40.7 %-	30-150-		09/06/14-	B4I0413b	8081/8082-	
Surrogate: Tetrachloro-m-xylene-			55.5 %-	30-150-		09/06/14-	B4I0413b	8081/8082-	
Inorganics-General Chemistry									
57-12-5b	Available Cyanideb	NDb	0.002b	mg/Lb	1b	08/25/14b	B4H2516b	OIA-1677b	



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Client ID: CHLL-GW-49 8-13'p

Lab ID: 1408234-25p

CAS #b	Analyteb	Resultb	RLb	Unitsb	Dilutionb	Analyzed b Dateb	QC Batchb	Methodb	Qualifier b
Organics-PCBs as Aroclorsp									
12674-11-2b	Aroclor 1016b	NDb	0.10b	ug/Lb	1b	09/06/14b	B4I0413b	8081/8082b	
11104-28-2b	Aroclor 1221b	NDb	0.10b	ug/Lb	1b	09/06/14b	B4I0413b	8081/8082b	
11141-16-5b	Aroclor 1232b	NDb	0.10b	ug/Lb	1b	09/06/14b	B4I0413b	8081/8082b	
53469-21-9b	Aroclor 1242b	NDb	0.10b	ug/Lb	1b	09/06/14b	B4I0413b	8081/8082b	
12672-29-6b	Aroclor 1248	NDb	0.10b	ug/Lb	1b	09/06/14b	B4I0413b	8081/8082b	
11097-69-1b	Aroclor 1254b	NDb	0.10b	ug/Lb	1b	09/06/14b	B4I0413b	8081/8082b	
11096-82-5b	Aroclor 1260b	NDb	0.10b	ug/Lb	1b	09/06/14b	B4I0413b	8081/8082b	
37324-23-5b	Aroclor 1262b	NDb	0.10b	ug/Lb	1b	09/06/14b	B4I0413b	8081/8082b	
11100-14-4b	Aroclor 1268	NDb	0.10b	ug/Lb	1b	09/06/14b	B4I0413b	8081/8082b	
<i>Surrogate: Decachlorobiphenyl-</i>			47.8 %-	30-150-		09/06/14-	B4I0413b	8081/8082-	
<i>Surrogate: Tetrachloro-m-xylene-</i>			61.1 %-	30-150-		09/06/14-	B4I0413b	8081/8082-	
Inorganics-General Chemistry									
57-12-5b	Available Cyanideb	NDb	0.002b	mg/Lb	1b	08/25/14b	B4H2516b	OIA-1677b	



**MICHIGAN DEPARTMENT OF ENVIRONMENTAL QUALITY
ENVIRONMENTAL LABORATORY**

P.O. Box 302700
Lansing, MI 48909
TEL: (517) 335-98000
FAX: (517) 335-96000

Client ID: CHLL-GW-47 6-11'p

Lab ID: 1408234-26p

CAS #b	Analyteb	Resultb	RLb	Unitsb	Dilutionb	Analyzed b Dateb	QC Batchb	Methodb	Qualifier b
Organics-PCBs as Aroclorsp									
12674-11-2b	Aroclor 1016b	NDb	0.10b	ug/Lb	1b	09/06/14b	B4I0413b	8081/8082b	
11104-28-2b	Aroclor 1221b	NDb	0.10b	ug/Lb	1b	09/06/14b	B4I0413b	8081/8082b	
11141-16-5b	Aroclor 1232b	NDb	0.10b	ug/Lb	1b	09/06/14b	B4I0413b	8081/8082b	
53469-21-9b	Aroclor 1242b	NDb	0.10b	ug/Lb	1b	09/06/14b	B4I0413b	8081/8082b	
12672-29-6b	Aroclor 1248	NDb	0.10b	ug/Lb	1b	09/06/14b	B4I0413b	8081/8082b	
11097-69-1b	Aroclor 1254b	NDb	0.10b	ug/Lb	1b	09/06/14b	B4I0413b	8081/8082b	
11096-82-5b	Aroclor 1260b	NDb	0.10b	ug/Lb	1b	09/06/14b	B4I0413b	8081/8082b	
37324-23-5b	Aroclor 1262b	NDb	0.10b	ug/Lb	1b	09/06/14b	B4I0413b	8081/8082b	
11100-14-4b	Aroclor 1268	NDb	0.10b	ug/Lb	1b	09/06/14b	B4I0413b	8081/8082b	
<i>Surrogate: Decachlorobiphenyl-</i>			30.0 %-	30-150-		09/06/14-	B4I0413b	8081/8082-	
<i>Surrogate: Tetrachloro-m-xylene-</i>			47.2 %-	30-150-		09/06/14-	B4I0413b	8081/8082-	
Inorganics-General Chemistry									
57-12-5b	Available Cyanideb	NDb	0.002b	mg/Lb	1b	08/25/14b	B4H2516b	OIA-1677b	

MICHIGAN DEPARTMENT OF ENVIRONMENTAL QUALITY

Page 1 of 3

ENVIRONMENTAL LABORATORY - ANALYSIS REQUEST SHEET

Lab Work Order Number

Project Name

Matrix

1408234

Abandoned Mining Waste- Torch Lake PCB

WATER

Site Code/Project Number

AY

CC Email 1 to send additional reports to

Project TAT Days

Sample Collector

31000098

14

shireyb

Dept-Division-District

Index

CC Email 2 to send additional reports to

Project Due Date

Sample Collector Phone

RRD-PSS-GSU

44251

J. Binkley@westonsolutions.com

State Project Manager

PCA

CC Email 3 to send additional reports to

Accept Analysis hold time codes: Yes/No

Contract Firm

Jeff Pincumbe

30708

Keranena@Michigan.gov

No

Weston Solutions

State Project Manager Email

Project

Overflow Lab Choice 1

Contract Firm Primary Contact

Jeff Binkley

pincumbej

100081

Overflow Lab Choice 2

Primary Contact Phone

906-523-5452

State Project Manager Phone

Phase

Overflow Lab Choice 2

517-335-6418

94

Lab Use Only	Field Sample Identification	Collection Date	Collection Time	Container Count	Comments
1	CHLL- GW-58 11-16'	8-19-14	9:30		
2	CHLL- GW-58 11-16'	8	10:00		
3	CHLL- GW-59 6-11'	8/19	11:15		
4	CHLL- GW-60 6-11'	8	11:40		
5	CHLL- GW-61 6-11'		11:50		
6	CHLL- GW-62 6-11'		12:15		
7	CHLL- GW-63 6-11'		12:35		
8	CHLL- GW-41 8-13'		1540		
9	CHLL- GW-41 8-13 DUN		1540		
10	CHLL- GW-40 10-15				

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 - General Basic
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	Total 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	Amenable 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	GCN - General Cyanide
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	Available Cyanide - CN 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	CA - Chlorophyll
METH - Methane, Ethane, Ethene	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	Chlorophyll 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 - General Chemistry Neutral
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	Ortho Phosphate - OP 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	Nitrite - NO ₂ 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	Nitrate - NO ₃ (Calc.) 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	Suspended Solids - SS 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	Dissolved Solids - TDS 1 2 3 4 5 6 7 8 9 10
Specialty Pesticides 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	Turbidity 1 2 3 4 5 6 7 8 9 10
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 - Inorganic Matrix Neutral
BHAs 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	Total Alkalinity 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	Bicarb/Carb Alkalinity 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	(Includes Total Alkalinity)
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	Chloride - Cl 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	Sulfate - SO ₄ 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	Chromium 6 - Cr ⁶⁺ 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	Conductivity 1 2 3 4 5 6 7 8 9 10
Library Search-SemiVols 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	pH 1 2 3 4 5 6 7 8 9 10
Finger Print 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	GA - General Chemistry Addic
DRO/ORO 1 2 3 4 5 6 7 8 9 10	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	Chem Oxyg Dem - COD 1 2 3 4 5 6 7 8 9 10
METALS CHEMISTRY PACKAGES	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	Diss Org Carbon - DOC 1 2 3 4 5 6 7 8 9 10
OpMemo2 - Total 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	Total Org Carbon - TOC 1 2 3 4 5 6 7 8 9 10
OpMemo2 - Dissolved 1 2 3 4 5 6 7 8 9 10	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	Ammonia - NH ₃ 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 - 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	Nitrate+Nitrite - NO ₃ +NO ₂ 1 2 3 4 5 6 7 8 9 10
Michigan10 - Total 1 2 3 4 5 6 7 8 9 10	MD - Metals Dissolved	LHG - Low Level Mercury	Kjeldahl Nitrogen - KN 1 2 3 4 5 6 7 8 9 10
Michigan10 - Dissolved 1 2 3 4 5 6 7 8 9 10	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	Total Phosphorus - TP 1 2 3 4 5 6 7 8 9 10
(As,Ba,Cd,Cr,Cu,Pb,Hg,Se,Ag,Zn)			

Chain of Custody	Relinquished by	Received By	Date / Time
Print Name & Org.	JEFF Pincumbe MDEQ	Melissa Smith	8/22/14 0951
Signature:	<i>Jeff Pincumbe</i>	<i>Melissa Smith</i>	
Print Name & Org.			
Signature:			
Print Name & Org.			
Signature:			

ENVIRONMENTAL LABORATORY - ANALYSIS REQUEST SHEET

Lab Work Order Number 1408234	Project Name Abandoned Mining Waste- Torch Lake PCB	Matrix WATER
Site Code/Project Number 31000098	AY 14	CC Email 1 to send additional reports to shireyb
Dept./Division-District RRD-PSS-GSU	Index 44031	CC Email 2 to send additional reports to j.brinkley@westonsolutions.com
State Project Manager Jeff Pincumbe	PCA 30740	CC Email 3 to send additional reports to Keraneha@michigan.gov
State Project Manager Email pincumbej	Project 456990	Overflow Lab Choice 1
State Project Manager Phone 517-335-6418	Phase 0	Overflow Lab Choice 2
		Accept Analysis hold time codes: Yes/No
		Contract Firm
		Contract Firm Primary Contact
		Primary Contact Phone

Lab Use Only	Field Sample Identification	Collection Date	Collection Time	Container Count	Comments
1	21 CHLL- Gw-44 7-12 DWT	8-20-14			
2	22 CHLL- Gw-43 8-13	8-20-14			
3	23 CHLL- Gw-42 7-12	8-20-14			
4	24 CHLL- Gw-50 8-13	8-21-14			
5	25 CHLL- Gw-49 8-13	8-21-14			
6	26 CHLL- Gw-47 6-11	8-20-14			
7	CHLL-				
8	CHLL-				
9	CHLL-				
10	CHLL-				

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 Specialty Pesticides 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 - 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 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 - General Basic Total Cyanide - CN 1 2 3 4 5 6 7 8 9 10 Amenable Cyanide - CN 1 2 3 4 5 6 7 8 9 10 GCN - General Cyanide Available Cyanide - CN 1 2 3 4 5 6 7 8 9 10 CA - Chlorophyll Chlorophyll 1 2 3 4 5 6 7 8 9 10 GN - General Chemistry Neutral Ortho Phosphate - OP 1 2 3 4 5 6 7 8 9 10 Nitrite - NO ₂ 1 2 3 4 5 6 7 8 9 10 Nitrate - NO ₃ (Calc.) 1 2 3 4 5 6 7 8 9 10 Suspended Solids - SS 1 2 3 4 5 6 7 8 9 10 Dissolved Solids - TDS 1 2 3 4 5 6 7 8 9 10 Turbidity 1 2 3 4 5 6 7 8 9 10 MN - Inorganic Matrix Neutral Total Alkalinity 1 2 3 4 5 6 7 8 9 10 Bicarb/Carb Alkalinity 1 2 3 4 5 6 7 8 9 10 (Includes Total Alkalinity) Chloride - Cl 1 2 3 4 5 6 7 8 9 10 Sulfate - SO ₄ 1 2 3 4 5 6 7 8 9 10 Chromium 6 - Cr ⁶⁺ 1 2 3 4 5 6 7 8 9 10 Conductivity 1 2 3 4 5 6 7 8 9 10 pH 1 2 3 4 5 6 7 8 9 10 GA - General Chemistry Acidic Chem Oxyg Dem - COD 1 2 3 4 5 6 7 8 9 10 Diss Org Carbon - DOC 1 2 3 4 5 6 7 8 9 10 Total Org Carbon - TOC 1 2 3 4 5 6 7 8 9 10 Ammonia - NH ₃ 1 2 3 4 5 6 7 8 9 10 Nitrate+Nitrite - NO ₃ +NO ₂ 1 2 3 4 5 6 7 8 9 10 Kjeldahl Nitrogen - KN 1 2 3 4 5 6 7 8 9 10 Total Phosphorus - TP 1 2 3 4 5 6 7 8 9 10

Chain of Custody	Relinquished by	Received By	Date / Time
	Print Name & Org. JEFF PINCUMBE MDEQ	Melissa Smith	8/22/14 951
	Signature: Jeff Pincumbe	LOSC	to
	Print Name & Org. 		
	Signature: 		
	Print Name & Org. 		
	Signature: 		

MICHIGAN DEPARTMENT OF ENVIRONMENTAL QUALITY

Page 2 of 3

ENVIRONMENTAL LABORATORY - ANALYSIS REQUEST SHEET

Lab Work Order Number 1408234	Project Name Abandoned Mining Waste- Torch Lake PCB	Matrix WATER
Site Code/Project Number 31000098	AY 14	CC Email 1 to send additional reports to shlreyb
Dept-Division-District RRD-PSS-GSU	Index 44251	CC Email 2 to send additional reports to j.binkley@weston-solutions.com
State Project Manager Jeff Pincumbe	PCA 30708	CC Email 3 to send additional reports to keranena@michigan.gov
State Project Manager Email pincumbej	Project 100081	Overflow Lab Choice 1 NO
State Project Manager Phone 517-335-6418	Phase 04	Overflow Lab Choice 2 NO
		Accept Analysis hold time codes: Yes/No 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	11 CHLL- Gw 567 9-14 10-15	8-20-14			
2	12 CHLL- Gw- 55 9-14				
3	13 CHLL- Gw- 52 9-14				
4	14 CHLL- Gw 53 8-13				
5	15 CHLL- Gw- 52 9-14				
6	16 CHLL- Gw- 51 8-13				
7	17 CHLL- Gw- 48 8-13				
8	18 CHLL- Gw- 45 9-14				
9	19 CHLL- Gw- 46 10-15				
10	20 CHLL- Gw- 44 7-12				

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 CBs only 1 2 3 4 5 6 7 8 9 10 Toxaphene 1 2 3 4 5 6 7 8 9 10 Specialty Pesticides 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 NAs 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-SemVolts 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 - 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 MO - 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 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 - General Basic Total Cyanide - CN 1 2 3 4 5 6 7 8 9 10 Amenable Cyanide - CN 1 2 3 4 5 6 7 8 9 10 GCN - General Cyanide Available Cyanide - CN 1 2 3 4 5 6 7 8 9 10 CA - Chlorophyll Chlorophyll 1 2 3 4 5 6 7 8 9 10 GN - General Chemistry Neutral Ortho Phosphate - OP 1 2 3 4 5 6 7 8 9 10 Nitrite - NO ₂ 1 2 3 4 5 6 7 8 9 10 Nitrate - NO ₃ (Calc.) 1 2 3 4 5 6 7 8 9 10 Suspended Solids - SS 1 2 3 4 5 6 7 8 9 10 Dissolved Solids - TDS 1 2 3 4 5 6 7 8 9 10 Turbidity 1 2 3 4 5 6 7 8 9 10 MN - Inorganic Matrix Neutral Total Alkalinity 1 2 3 4 5 6 7 8 9 10 Bicarb/Carb Alkalinity 1 2 3 4 5 6 7 8 9 10 (includes Total Alkalinity) Chloride - Cl 1 2 3 4 5 6 7 8 9 10 Sulfate - SO ₄ 1 2 3 4 5 6 7 8 9 10 Chromium 6 - Cr ⁶⁺ 1 2 3 4 5 6 7 8 9 10 Conductivity 1 2 3 4 5 6 7 8 9 10 pH 1 2 3 4 5 6 7 8 9 10 GA - General Chemistry Acidic Chem Oxyg Dem - COD 1 2 3 4 5 6 7 8 9 10 Diss Org Carbon - DOC 1 2 3 4 5 6 7 8 9 10 Total Org Carbon - TOC 1 2 3 4 5 6 7 8 9 10 Ammonia - NH ₃ 1 2 3 4 5 6 7 8 9 10 Nitrate+Nitrite - NO ₃ +NO ₂ 1 2 3 4 5 6 7 8 9 10 Kjeldahl Nitrogen - KN 1 2 3 4 5 6 7 8 9 10 Total Phosphorus - TP 1 2 3 4 5 6 7 8 9 10

Chain of Custody	Relinquished by	Received By	Date / Time
	Print Name & Org. JEFF PINCUMBE MDEQ	Melissa Smith	8/22/14 0957
	Signature: Jeff Pincumbe	WJSC	
	Print Name & Org.		
	Signature:		
	Print Name & Org.		
	Signature:		



**MICHIGAN DEPARTMENT OF ENVIRONMENTAL QUALITY
ENVIRONMENTAL LABORATORY**

P.O. Box 302700
Lansing, MI 489090
TEL: (517) 335-9800
FAX: (517) 335-9600

16 September 2014

Work Order: 14082320

Price: \$3,854.00

Jeff Pincumbe

MDEQ-RRD-LANSING

525 W. Allegan Street

Lansing, MI 48909

RE: ABANDONED MINING WASTE-TORCH LAKE PCBO

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-LANSINGb
525 W. Allegan Streetb
Lansing MI, 48909b

Project:bABANDONED MINING WASTE-TORCH LAKE PCBb
Site Code:b31000098
Project Manager:bJeff Pincumbb

Reported:p
09/16/2014b

Analytical Report for Samplesp

Sample IDp	Laboratory IDp	Matrixp	Date Sampledp	Date Receivedp	Qualifierp
CHLL-SB74-0-6"b	1408232-01b	Soil/Sedimentb	08/20/2014b	08/22/2014b	
CHLL-SB75-0-6"b	1408232-02b	Soil/Sedimentb	08/20/2014b	08/22/2014b	
CHLL-SB75-0-6"-DUPb	1408232-03b	Soil/Sedimentb	08/20/2014b	08/22/2014b	
CHLL-SB76-0-6"b	1408232-04b	Soil/Sedimentb	08/20/2014b	08/22/2014b	
CHLL-SB77-0-6"b	1408232-05b	Soil/Sedimentb	08/20/2014b	08/22/2014b	
CHLL-SB78-6"-12"b	1408232-06b	Soil/Sedimentb	08/20/2014b	08/22/2014b	
CHLL-SB79-0-6"b	1408232-07b	Soil/Sedimentb	08/20/2014b	08/22/2014b	
CHLL-SB80-0-6"b	1408232-08	Soil/Sedimentb	08/20/2014b	08/22/2014b	
CHLL-SB80-0-6"-DUPb	1408232-09b	Soil/Sedimentb	08/20/2014b	08/22/2014b	
CHLL-SB81-0-6"b	1408232-10b	Soil/Sedimentb	08/20/2014b	08/22/2014b	
CHLL-SB58-3"-9"b	1408232-11b	Soil/Sedimentb	08/19/2014b	08/22/2014b	
CHLL-SB59-3"-9"b	1408232-12b	Soil/Sedimentb	08/19/2014b	08/22/2014b	
CHLL-SB61-3"-9"b	1408232-13b	Soil/Sedimentb	08/19/2014b	08/22/2014b	
CHLL-SB62-3"-9"b	1408232-14b	Soil/Sedimentb	08/19/2014b	08/22/2014b	
CHLL-SB63-6"-12"b	1408232-15b	Soil/Sedimentb	08/19/2014b	08/22/2014b	
CHLL-SB60-6"-12"b	1408232-16b	Soil/Sedimentb	08/19/2014b	08/22/2014b	
CHLL-SB66-6"-12"b	1408232-17b	Soil/Sedimentb	08/19/2014b	08/22/2014b	
CHLL-SB64-3"-9"b	1408232-18	Soil/Sedimentb	08/19/2014b	08/22/2014b	
CHLL-SB67-3"-9"b	1408232-19b	Soil/Sedimentb	08/19/2014b	08/22/2014b	
CHLL-SB68-3"-9"b	1408232-20b	Soil/Sedimentb	08/19/2014b	08/22/2014b	

Notes and Definitions p

Y21b Reporting Limits (RL) raised due to matrix interference.b
Y20b Reporting Limits (RL) raised due to matrix.b
Y17b Probable petroleum product(s) present.b
X3b Spike recovery is not applicable due to large target analyte concentration in the source sample.b
Tb Reported value is less than the reporting limit (RL). Result is estimated.b
JAb Result is estimated due to multiple Aroclors present.b
A06b Result is estimated due to high continuing calibration standard criteria failure.b
100b Aroclor 1260 results not available due to Aroclor 1262 present in sample.b
NDb Indicates compound analyzed for but not detectedb
RLb Reporting Limitb
NAb Not Applicableb
dry Sample results reported on a dry weight basisb



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Client ID: CHLL-SB74-0-6"p

Lab ID: 1408232-01p

CAS #b	Analyte	Resultb	RLb	Unitsb	Dilution	Analyzedb Dateb	QC Batchb	Methodb	Qualifierb
Organics-Semivolatiles									See note Y20p
91-57-6b	2-Methylnaphthalene	NDb	1500b	ug/kg dryb	1b	09/08/14b	B4H2718	8270b	
83-32-9b	Acenaphthene	NDb	580b	ug/kg dryb	1b	09/08/14b	B4H2718	8270b	
208-96-8	Acenaphthylene	NDb	580b	ug/kg dryb	1b	09/08/14b	B4H2718	8270b	
120-12-7b	Anthracene	NDb	580b	ug/kg dryb	1b	09/08/14b	B4H2718	8270b	
56-55-3b	Benz[a]anthracene	NDb	580b	ug/kg dryb	1b	09/08/14b	B4H2718	8270b	
50-32-8	Benzo[a]pyrene	NDb	1200b	ug/kg dryb	1b	09/08/14b	B4H2718	8270b	
205-99-2b	Benzo[b]fluoranthene	NDb	1200b	ug/kg dryb	1b	09/08/14b	B4H2718	8270b	
191-24-2b	Benzo[g,h,i]perylene	NDb	1200b	ug/kg dryb	1b	09/08/14b	B4H2718	8270b	
207-08-9b	Benzo[k]fluoranthene	NDb	1200b	ug/kg dryb	1b	09/08/14b	B4H2718	8270b	
218-01-9b	Chrysene	NDb	580b	ug/kg dryb	1b	09/08/14b	B4H2718	8270b	
53-70-3b	Dibenz[a,h]anthracene	NDb	1200b	ug/kg dryb	1b	09/08/14b	B4H2718	8270b	
206-44-0b	Fluoranthene	NDb	580b	ug/kg dryb	1b	09/08/14b	B4H2718	8270b	
86-73-7b	Fluorene	NDb	580b	ug/kg dryb	1b	09/08/14b	B4H2718	8270b	
193-39-5b	Indeno(1,2,3-c,d)pyrene	NDb	1200b	ug/kg dryb	1b	09/08/14b	B4H2718	8270b	
91-20-3b	Naphthalene	NDb	580b	ug/kg dryb	1b	09/08/14b	B4H2718	8270b	
85-01-8	Phenanthrene	NDb	580b	ug/kg dryb	1b	09/08/14b	B4H2718	8270b	
129-00-0b	Pyrene	NDb	580b	ug/kg dryb	1b	09/08/14b	B4H2718	8270b	
<i>Surrogate: 2-Fluorobiphenyl.</i>			45.9 %.	32.9-115.		09/08/14.	B4H2718	8270.	
<i>Surrogate: Nitrobenzene-d5.</i>			40.2 %.	31.8-115.		09/08/14.	B4H2718	8270.	
<i>Surrogate: p-Terphenyl-d14.</i>			53.2 %.	38.5-115.		09/08/14.	B4H2718	8270.	
Organics-PCBs as Aroclors									
12674-11-2b	Aroclor 1016b	NDb	120b	ug/kg dryb	1b	08/29/14b	B4H2518	8081/8082b	
11104-28-2b	Aroclor 1221b	NDb	120b	ug/kg dryb	1b	08/29/14b	B4H2518	8081/8082b	
11141-16-5b	Aroclor 1232b	NDb	120b	ug/kg dryb	1b	08/29/14b	B4H2518	8081/8082b	
53469-21-9b	Aroclor 1242b	NDb	120b	ug/kg dryb	1b	08/29/14b	B4H2518	8081/8082b	
12672-29-6b	Aroclor 1248	NDb	120b	ug/kg dryb	1b	08/29/14b	B4H2518	8081/8082b	
11097-69-1b	Aroclor 1254b	NDb	120b	ug/kg dryb	1b	08/29/14b	B4H2518	8081/8082b	
11096-82-5b	Aroclor 1260b	NDb	120b	ug/kg dryb	1b	08/29/14b	B4H2518	8081/8082b	
37324-23-5b	Aroclor 1262b	NDb	120b	ug/kg dryb	1b	08/29/14b	B4H2518	8081/8082b	
11100-14-4b	Aroclor 1268	NDb	120b	ug/kg dryb	1b	08/29/14b	B4H2518	8081/8082b	
<i>Surrogate: Decachlorobiphenyl.</i>			64.6 %.	30-150.		08/29/14.	B4H2518	8081/8082.	
<i>Surrogate: Tetrachloro-m-xylene.</i>			60.6 %.	30-150.		08/29/14.	B4H2518	8081/8082.	



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Client ID: CHLL-SB74-0-6"p

Lab ID: 1408232-01p

CAS #b	Analyteb	Resultb	RLb	Unitsb	Dilutionb	Analyzed b Dateb	QC Batchb	Methodb	Qualifier b
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Inorganics-General Chemistry

TSb	% Total Solidsb	85.8p	0.1b	%b	1b	08/25/14b	B4H2510b	2540 Bb	
57-12-5b	Total Cyanideb	NDb	0.12b	mg/kg dryb	1b	08/27/14b	B4H2517b	ASTM D 7511-09b	

Inorganics-Metals

7440-38-2b	Arsenicb	68p	5.0b	mg/kg dryb	100b	09/05/14b	B4H2701b	6020/200.8	
7440-39-3b	Bariumb	60p	10b	mg/kg dryb	100b	09/05/14b	B4H2701b	6020/200.8	
7440-50-8	Cop erpb	370000p	10000b	mg/kg dryb	100000b	09/08/14b	B4H2701b	6020/200.8	
7439-92-1b	Leadb	540p	10b	mg/kg dryb	100b	09/05/14b	B4H2701b	6020/200.8	
7439-96-5b	Manganeseb	130p	10b	mg/kg dryb	100b	09/05/14b	B4H2701b	6020/200.8	



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Client ID: CHLL-SB75-0-6"p

Lab ID: 1408232-02p

CAS #b	Analyteb	Resultb	RLb	Unitsb	Dilutionb	Analyzed b Dateb	QC Batchb	Methodb	Qualifier b
Organics-PCBs as Aroclorsp									
12674-11-2b	Aroclor 1016	NDb	110b	ug/kg dryb	1b	08/29/14b	B4H2518	8081/8082b	
11104-28-2b	Aroclor 1221	NDb	110b	ug/kg dryb	1b	08/29/14b	B4H2518	8081/8082b	
11141-16-5b	Aroclor 1232	NDb	110b	ug/kg dryb	1b	08/29/14b	B4H2518	8081/8082b	
53469-21-9b	Aroclor 1242	NDb	110b	ug/kg dryb	1b	08/29/14b	B4H2518	8081/8082b	
12672-29-6b	Aroclor 1248	NDb	110b	ug/kg dryb	1b	08/29/14b	B4H2518	8081/8082b	
11097-69-1b	Aroclor 1254	NDb	110b	ug/kg dryb	1b	08/29/14b	B4H2518	8081/8082b	
11096-82-5b	Aroclor 1260	NDb	150b	ug/kg dryb	1b	08/29/14b	B4H2518	8081/8082b	Y21b
37324-23-5b	Aroclor 1262	140p	110b	ug/kg dryb	1b	08/29/14b	B4H2518	8081/8082b	
11100-14-4b	Aroclor 1268	NDb	110b	ug/kg dryb	1b	08/29/14b	B4H2518	8081/8082b	
<i>Surrogate: Decachlorobiphenyl.</i>			50.6 %.	30-150.		08/29/14.	B4H2518	8081/8082.	
<i>Surrogate: Tetrachloro-m-xylene.</i>			63.3 %.	30-150.		08/29/14.	B4H2518	8081/8082.	
Inorganics-General Chemistry									
TSb	% Total Solids	88.9p	0.1b	%b	1b	08/25/14b	B4H2510b	2540 Bb	



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Client ID: CHLL-SB75-0-6"-DUPp

Lab ID: 1408232-03p

CAS #b	Analyteb	Resultb	RLb	Unitsb	Dilutionb	Analyzed b Dateb	QC Batchb	Methodb	Qualifier b
Organics-PCBs as Aroclorsp									
12674-11-2b	Aroclor 1016	NDb	110b	ug/kg dryb	1b	08/29/14b	B4H2518	8081/8082b	
11104-28-2b	Aroclor 1221	NDb	110b	ug/kg dryb	1b	08/29/14b	B4H2518	8081/8082b	
11141-16-5b	Aroclor 1232	NDb	110b	ug/kg dryb	1b	08/29/14b	B4H2518	8081/8082b	
53469-21-9b	Aroclor 1242	NDb	110b	ug/kg dryb	1b	08/29/14b	B4H2518	8081/8082b	
12672-29-6b	Aroclor 1248	NDb	110b	ug/kg dryb	1b	08/29/14b	B4H2518	8081/8082b	
11097-69-1b	Aroclor 1254	NDb	110b	ug/kg dryb	1b	08/29/14b	B4H2518	8081/8082b	
11096-82-5b	Aroclor 1260	NDb	200b	ug/kg dryb	1b	08/29/14b	B4H2518	8081/8082b	Y21b
37324-23-5b	Aroclor 1262	190p	110b	ug/kg dryb	1b	08/29/14b	B4H2518	8081/8082b	
11100-14-4b	Aroclor 1268	NDb	110b	ug/kg dryb	1b	08/29/14b	B4H2518	8081/8082b	
<i>Surrogate: Decachlorobiphenyl.</i>			51.7 %.	30-150.		08/29/14.	B4H2518	8081/8082.	
<i>Surrogate: Tetrachloro-m-xylene.</i>			60.5 %.	30-150.		08/29/14.	B4H2518	8081/8082.	
Inorganics-General Chemistry									
TSb	% Total Solids	89.6p	0.1b	%b	1b	08/25/14b	B4H2510b	2540 Bb	



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Client ID: CHLL-SB76-0-6"p

Lab ID: 1408232-04p

CAS #b	Analyteb	Resultb	RLb	Unitsb	Dilutionb	Analyzed b Dateb	QC Batchb	Methodb	Qualifier b
Organics-PCBs as Aroclorsp									
12674-11-2b	Aroclor 1016b	NDb	120b	ug/kg dryb	1b	08/29/14b	B4H2518	8081/8082b	
11104-28-2b	Aroclor 1221b	NDb	120b	ug/kg dryb	1b	08/29/14b	B4H2518	8081/8082b	
11141-16-5b	Aroclor 1232b	NDb	120b	ug/kg dryb	1b	08/29/14b	B4H2518	8081/8082b	
53469-21-9b	Aroclor 1242b	NDb	120b	ug/kg dryb	1b	08/29/14b	B4H2518	8081/8082b	
12672-29-6b	Aroclor 1248	NDb	120b	ug/kg dryb	1b	08/29/14b	B4H2518	8081/8082b	
11097-69-1b	Aroclor 1254b	NDb	120b	ug/kg dryb	1b	08/29/14b	B4H2518	8081/8082b	
11096-82-5b	Aroclor 1260b	NDb	120b	ug/kg dryb	1b	08/29/14b	B4H2518	8081/8082b	
37324-23-5b	Aroclor 1262b	NDb	120b	ug/kg dryb	1b	08/29/14b	B4H2518	8081/8082b	
11100-14-4b	Aroclor 1268	NDb	120b	ug/kg dryb	1b	08/29/14b	B4H2518	8081/8082b	
<i>Surrogate: Decachlorobiphenyl.</i>			53.1 %.	30-150.		08/29/14.	B4H2518	8081/8082.	
<i>Surrogate: Tetrachloro-m-xylene.</i>			62.2 %.	30-150.		08/29/14.	B4H2518	8081/8082.	
Inorganics-General Chemistry									
TSb	% Total Solidsp	86.6p	0.1b	%b	1b	08/25/14b	B4H2510b	2540 Bb	



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Client ID: CHLL-SB77-0-6"p

Lab ID: 1408232-05p

CAS #b	Analyteb	Resultb	RLb	Unitsb	Dilutionb	Analyzed b Dateb	QC Batchb	Methodb	Qualifier b
Organics-PCBs as Aroclorsp									
12674-11-2b	Aroclor 1016b	NDb	110b	ug/kg dryb	1b	08/29/14b	B4H2518	8081/8082b	
11104-28-2b	Aroclor 1221b	NDb	110b	ug/kg dryb	1b	08/29/14b	B4H2518	8081/8082b	
11141-16-5b	Aroclor 1232b	NDb	110b	ug/kg dryb	1b	08/29/14b	B4H2518	8081/8082b	
53469-21-9b	Aroclor 1242b	NDb	110b	ug/kg dryb	1b	08/29/14b	B4H2518	8081/8082b	
12672-29-6b	Aroclor 1248	NDb	110b	ug/kg dryb	1b	08/29/14b	B4H2518	8081/8082b	
11097-69-1b	Aroclor 1254b	NDb	110b	ug/kg dryb	1b	08/29/14b	B4H2518	8081/8082b	
11096-82-5b	Aroclor 1260b	NDb	110b	ug/kg dryb	1b	08/29/14b	B4H2518	8081/8082b	
37324-23-5b	Aroclor 1262b	NDb	110b	ug/kg dryb	1b	08/29/14b	B4H2518	8081/8082b	
11100-14-4b	Aroclor 1268	NDb	110b	ug/kg dryb	1b	08/29/14b	B4H2518	8081/8082b	
<i>Surrogate: Decachlorobiphenyl.</i>			55.1 %.	30-150.		08/29/14.	B4H2518	8081/8082.	
<i>Surrogate: Tetrachloro-m-xylene.</i>			64.1 %.	30-150.		08/29/14.	B4H2518	8081/8082.	
Inorganics-General Chemistry									
TSb	% Total Solids ^p	89.5 ^p	0.1b	%b	1b	08/25/14b	B4H2510b	2540 Bb	



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P.O. Box 302700
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Client ID: CHLL-SB78-6"-12"p

Lab ID: 1408232-06p

CAS #b	Analyteb	Resultb	RLb	Unitsb	Dilutionb	Analyzed b Dateb	QC Batchb	Methodb	Qualifier b
Organics-PCBs as Aroclorsp									
12674-11-2b	Aroclor 1016	NDb	110b	ug/kg dryb	1b	08/29/14b	B4H2518	8081/8082b	
11104-28-2b	Aroclor 1221	NDb	110b	ug/kg dryb	1b	08/29/14b	B4H2518	8081/8082b	
11141-16-5b	Aroclor 1232	NDb	110b	ug/kg dryb	1b	08/29/14b	B4H2518	8081/8082b	
53469-21-9b	Aroclor 1242	NDb	110b	ug/kg dryb	1b	08/29/14b	B4H2518	8081/8082b	
12672-29-6b	Aroclor 1248	NDb	110b	ug/kg dryb	1b	08/29/14b	B4H2518	8081/8082b	
11097-69-1b	Aroclor 1254	190p	110b	ug/kg dryb	1b	08/29/14b	B4H2518	8081/8082b	JAb
11096-82-5b	Aroclor 1260	NDb	270b	ug/kg dryb	1b	08/29/14b	B4H2518	8081/8082b	Y21b
37324-23-5b	Aroclor 1262	270p	110b	ug/kg dryb	1b	08/29/14b	B4H2518	8081/8082b	JAb
11100-14-4b	Aroclor 1268	NDb	110b	ug/kg dryb	1b	08/29/14b	B4H2518	8081/8082b	
<i>Surrogate: Decachlorobiphenyl.</i>			56.2 %.	30-150.		08/29/14.	B4H2518	8081/8082.	
<i>Surrogate: Tetrachloro-m-xylene.</i>			63.5 %.	30-150.		08/29/14.	B4H2518	8081/8082.	
Inorganics-General Chemistry									
TSb	% Total Solids	88.8p	0.1b	%b	1b	08/25/14b	B4H2510b	2540 Bb	



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Client ID: CHLL-SB79-0-6"p

Lab ID: 1408232-07p

CAS #b	Analyteb	Resultb	RLb	Unitsb	Dilutionb	Analyzed b Dateb	QC Batchb	Methodb	Qualifier b
Organics-PCBs as Aroclorsp									
12674-11-2b	Aroclor 1016	NDb	110b	ug/kg dryb	1b	08/29/14b	B4H2518	8081/8082b	
11104-28-2b	Aroclor 1221	NDb	110b	ug/kg dryb	1b	08/29/14b	B4H2518	8081/8082b	
11141-16-5b	Aroclor 1232	NDb	110b	ug/kg dryb	1b	08/29/14b	B4H2518	8081/8082b	
53469-21-9b	Aroclor 1242	NDb	110b	ug/kg dryb	1b	08/29/14b	B4H2518	8081/8082b	
12672-29-6b	Aroclor 1248	NDb	110b	ug/kg dryb	1b	08/29/14b	B4H2518	8081/8082b	
11097-69-1b	Aroclor 1254	120p	110b	ug/kg dryb	1b	08/29/14b	B4H2518	8081/8082b	
11096-82-5b	Aroclor 1260	NDb	120b	ug/kg dryb	1b	08/29/14b	B4H2518	8081/8082b	Y21b
37324-23-5b	Aroclor 1262	NDb	110b	ug/kg dryb	1b	08/29/14b	B4H2518	8081/8082b	
11100-14-4b	Aroclor 1268	NDb	110b	ug/kg dryb	1b	08/29/14b	B4H2518	8081/8082b	
<i>Surrogate: Decachlorobiphenyl.</i>			60.1 %.	30-150.		08/29/14.	B4H2518	8081/8082.	
<i>Surrogate: Tetrachloro-m-xylene.</i>			56.9 %.	30-150.		08/29/14.	B4H2518	8081/8082.	
Inorganics-General Chemistry									
TSb	% Total Solids	92.0p	0.1b	%b	1b	08/25/14b	B4H2510b	2540 Bb	



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TEL: (517) 335-98000
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Client ID: CHLL-SB80-0-6"p

Lab ID: 1408232-08p

CAS #b	Analyte	Resultb	RLb	Unitsb	Dilution	Analyzedb Dateb	QC Batchb	Methodb	Qualifiert
Organics-Semivolatiles									See note Y20p
91-57-6b	2-Methylnaphthalene	NDb	660b	ug/kg dryb	1b	09/09/14b	B4H2718	8270b	
83-32-9b	Acenaphthene	NDb	260b	ug/kg dryb	1b	09/09/14b	B4H2718	8270b	
208-96-8	Acenaphthylene	NDb	260b	ug/kg dryb	1b	09/09/14b	B4H2718	8270b	
120-12-7b	Anthracene	NDb	260b	ug/kg dryb	1b	09/09/14b	B4H2718	8270b	
56-55-3b	Benz[a]anthracene	NDb	260b	ug/kg dryb	1b	09/09/14b	B4H2718	8270b	
50-32-8	Benzo[a]pyrene	NDb	530b	ug/kg dryb	1b	09/09/14b	B4H2718	8270b	
205-99-2b	Benzo[b]fluoranthene	NDb	530b	ug/kg dryb	1b	09/09/14b	B4H2718	8270b	
191-24-2b	Benzo[g,h,i]perylene	NDb	530b	ug/kg dryb	1b	09/09/14b	B4H2718	8270b	
207-08-9b	Benzo[k]fluoranthene	NDb	530b	ug/kg dryb	1b	09/09/14b	B4H2718	8270b	
218-01-9b	Chrysene	NDb	260b	ug/kg dryb	1b	09/09/14b	B4H2718	8270b	
53-70-3b	Dibenz[a,h]anthracene	NDb	530b	ug/kg dryb	1b	09/09/14b	B4H2718	8270b	
206-44-0b	Fluoranthene	NDb	260b	ug/kg dryb	1b	09/09/14b	B4H2718	8270b	
86-73-7b	Fluorene	NDb	260b	ug/kg dryb	1b	09/09/14b	B4H2718	8270b	
193-39-5b	Indeno[1,2,3-c,d]pyrene	NDb	530b	ug/kg dryb	1b	09/09/14b	B4H2718	8270b	
91-20-3b	Naphthalene	NDb	260b	ug/kg dryb	1b	09/09/14b	B4H2718	8270b	
85-01-8	Phenanthrene	260p	260b	ug/kg dryb	1b	09/09/14b	B4H2718	8270b	
129-00-0b	Pyrene	NDb	260b	ug/kg dryb	1b	09/09/14b	B4H2718	8270b	
<i>Surrogate: 2-Fluorobiphenyl.</i>			65.8 %.	32.9-115.		09/09/14.	B4H2718	8270.	
<i>Surrogate: Nitrobenzene-d5.</i>			53.7 %.	31.8-115.		09/09/14.	B4H2718	8270.	
<i>Surrogate: p-Terphenyl-d14.</i>			75.7 %.	38.5-115.		09/09/14.	B4H2718	8270.	

Organics-PCBs as Aroclors

12674-11-2b	Aroclor 1016b	NDb	130b	ug/kg dryb	1b	08/29/14b	B4H2518	8081/8082b	
11104-28-2b	Aroclor 1221b	NDb	130b	ug/kg dryb	1b	08/29/14b	B4H2518	8081/8082b	
11141-16-5b	Aroclor 1232b	NDb	130b	ug/kg dryb	1b	08/29/14b	B4H2518	8081/8082b	
53469-21-9b	Aroclor 1242b	NDb	130b	ug/kg dryb	1b	08/29/14b	B4H2518	8081/8082b	
12672-29-6b	Aroclor 1248	NDb	130b	ug/kg dryb	1b	08/29/14b	B4H2518	8081/8082b	
11097-69-1b	Aroclor 1254b	NDb	130b	ug/kg dryb	1b	08/29/14b	B4H2518	8081/8082b	
11096-82-5b	Aroclor 1260b	NDb	130b	ug/kg dryb	1b	08/29/14b	B4H2518	8081/8082b	
37324-23-5b	Aroclor 1262b	NDb	130b	ug/kg dryb	1b	08/29/14b	B4H2518	8081/8082b	
11100-14-4b	Aroclor 1268	NDb	130b	ug/kg dryb	1b	08/29/14b	B4H2518	8081/8082b	
<i>Surrogate: Decachlorobiphenyl.</i>			64.6 %.	30-150.		08/29/14.	B4H2518	8081/8082.	
<i>Surrogate: Tetrachloro-m-xylene.</i>			70.6 %.	30-150.		08/29/14.	B4H2518	8081/8082.	



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Client ID: CHLL-SB80-0-6"p

Lab ID: 1408232-08p

CAS #b	Analyteb	Resultb	RLb	Unitsb	Dilutionb	Analyzed b Dateb	QC Batchb	Methodb	Qualifier b
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Inorganics-General Chemistry

TSb	% Total Solids	76.1p	0.1b	%b	1b	08/25/14b	B4H2510b	2540 Bb	
57-12-5b	Total Cyanideb	NDb	0.13b	mg/kg dryb	1b	08/27/14b	B4H2517b	ASTM D 7511-09b	

Inorganics-Metals

7440-38-2b	Arsenic	45p	0.5b	mg/kg dryb	10b	09/05/14b	B4H2701b	6020/200.8	
7440-39-3b	Barium	130p	1.0b	mg/kg dryb	10b	09/05/14b	B4H2701b	6020/200.8	
7440-43-9b	Cadmium	0.9p	0.2b	mg/kg dryb	10b	09/05/14b	B4H2701b	6020/200.8	
7440-47-3b	Chromium	33p	2.0b	mg/kg dryb	10b	09/05/14b	B4H2701b	6020/200.8	
7440-50-8	Cop er	17000p	1000b	mg/kg dryb	10000b	09/08/14b	B4H2701b	6020/200.8	
7439-92-1b	Lead	330p	1.0b	mg/kg dryb	10b	09/05/14b	B4H2701b	6020/200.8	
7439-96-5b	Manganese	310p	1.0b	mg/kg dryb	10b	09/05/14b	B4H2701b	6020/200.8	
7439-97-6b	Mercury	0.1p	0.07b	mg/kg dryb	1b	08/28/14b	B4H2614b	7471/245.5b	
7782-49-2b	Selenium	0.4p	0.2b	mg/kg dryb	10b	09/05/14b	B4H2701b	6020/200.8	
7440-22-4b	Silver	5.7p	0.1b	mg/kg dryb	10b	09/05/14b	B4H2701b	6020/200.8	
7440-66-6b	Zinc	310p	1.0b	mg/kg dryb	10b	09/05/14b	B4H2701b	6020/200.8	



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Client ID: CHLL-SB80-0-6"-DUPp

Lab ID: 1408232-09p

CAS #b	Analyteb	Resultb	RLb	Unitsb	Dilutionb	Analyzedb Dateb	QC Batchb	Methodb	Qualifiert
Organics-Semivolatiles									See note Y20p
91-57-6b	2-Methylnaphthaleneb	NDb	600b	ug/kg dryb	1b	09/09/14b	B4H2718	8270b	
83-32-9b	Acenaphtheneb	NDb	240b	ug/kg dryb	1b	09/09/14b	B4H2718	8270b	
208-96-8	Acenaphthyleneb	NDb	240b	ug/kg dryb	1b	09/09/14b	B4H2718	8270b	
120-12-7b	Anthraceneb	NDb	240b	ug/kg dryb	1b	09/09/14b	B4H2718	8270b	
56-55-3b	Benz[a]anthraceneb	NDb	240b	ug/kg dryb	1b	09/09/14b	B4H2718	8270b	
50-32-8	Benzo[a]pyreneb	NDb	480b	ug/kg dryb	1b	09/09/14b	B4H2718	8270b	
205-99-2b	Benzo[b]fluorantheneb	NDb	480b	ug/kg dryb	1b	09/09/14b	B4H2718	8270b	
191-24-2b	Benzo[g,h,i]peryleneb	NDb	480b	ug/kg dryb	1b	09/09/14b	B4H2718	8270b	
207-08-9b	Benzo[k]fluorantheneb	NDb	480b	ug/kg dryb	1b	09/09/14b	B4H2718	8270b	
218-01-9b	Chryseneb	NDb	240b	ug/kg dryb	1b	09/09/14b	B4H2718	8270b	
53-70-3b	Dibenz[a,h]anthraceneb	NDb	480b	ug/kg dryb	1b	09/09/14b	B4H2718	8270b	
206-44-0b	Fluorantheneb	NDb	240b	ug/kg dryb	1b	09/09/14b	B4H2718	8270b	
86-73-7b	Fluoreneb	NDb	240b	ug/kg dryb	1b	09/09/14b	B4H2718	8270b	
193-39-5b	Indeno[1,2,3-c,d]pyreneb	NDb	480b	ug/kg dryb	1b	09/09/14b	B4H2718	8270b	
91-20-3b	Naphthaleneb	NDb	240b	ug/kg dryb	1b	09/09/14b	B4H2718	8270b	
85-01-8	Phenanthrene	220p	240b	ug/kg dryb	1b	09/09/14b	B4H2718	8270b	Tb
129-00-0b	Pyreneb	NDb	240b	ug/kg dryb	1b	09/09/14b	B4H2718	8270b	
<i>Surrogate: 2-Fluorobiphenyl.</i>			72.3 %.	32.9-115.		09/09/14.	B4H2718	8270.	
<i>Surrogate: Nitrobenzene-d5.</i>			64.9 %.	31.8-115.		09/09/14.	B4H2718	8270.	
<i>Surrogate: p-Terphenyl-d14.</i>			75.9 %.	38.5-115.		09/09/14.	B4H2718	8270.	
Organics-PCBs as Aroclors									
12674-11-2b	Aroclor 1016b	NDb	120b	ug/kg dryb	1b	08/29/14b	B4H2518	8081/8082b	
11104-28-2b	Aroclor 1221b	NDb	120b	ug/kg dryb	1b	08/29/14b	B4H2518	8081/8082b	
11141-16-5b	Aroclor 1232b	NDb	120b	ug/kg dryb	1b	08/29/14b	B4H2518	8081/8082b	
53469-21-9b	Aroclor 1242b	NDb	120b	ug/kg dryb	1b	08/29/14b	B4H2518	8081/8082b	
12672-29-6b	Aroclor 1248	NDb	120b	ug/kg dryb	1b	08/29/14b	B4H2518	8081/8082b	
11097-69-1b	Aroclor 1254b	NDb	120b	ug/kg dryb	1b	08/29/14b	B4H2518	8081/8082b	
11096-82-5b	Aroclor 1260b	NDb	120b	ug/kg dryb	1b	08/29/14b	B4H2518	8081/8082b	
37324-23-5b	Aroclor 1262b	NDb	120b	ug/kg dryb	1b	08/29/14b	B4H2518	8081/8082b	
11100-14-4b	Aroclor 1268	NDb	120b	ug/kg dryb	1b	08/29/14b	B4H2518	8081/8082b	
<i>Surrogate: Decachlorobiphenyl.</i>			63.0 %.	30-150.		08/29/14.	B4H2518	8081/8082.	
<i>Surrogate: Tetrachloro-m-xylene.</i>			73.8 %.	30-150.		08/29/14.	B4H2518	8081/8082.	



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Client ID: CHLL-SB80-0-6"-DUPp

Lab ID: 1408232-09p

CAS #b	Analyteb	Resultb	RLb	Unitsb	Dilutionb	Analyzed b Dateb	QC Batchb	Methodb	Qualifier b
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Inorganics-General Chemistry

TSb	% Total Solids	82.7p	0.1b	%b	1b	08/25/14b	B4H2510b	2540 Bb	
57-12-5b	Total Cyanideb	NDb	0.12b	mg/kg dryb	1b	08/27/14b	B4H2517b	ASTM D 7511-09b	

Inorganics-Metals

7440-38-2b	Arsenic	37p	0.5b	mg/kg dryb	10b	09/05/14b	B4H2701b	6020/200.8	
7440-39-3b	Barium	83p	1.0b	mg/kg dryb	10b	09/05/14b	B4H2701b	6020/200.8	
7440-43-9b	Cadmium	1.1p	0.2b	mg/kg dryb	10b	09/05/14b	B4H2701b	6020/200.8	
7440-47-3b	Chromium	28p	2.0b	mg/kg dryb	10b	09/05/14b	B4H2701b	6020/200.8	
7440-50-8	Cop er	11000p	100b	mg/kg dryb	1000b	09/08/14b	B4H2701b	6020/200.8	
7439-92-1b	Lead	230p	100b	mg/kg dryb	1000b	09/08/14b	B4H2701b	6020/200.8	
7439-96-5b	Manganese	240p	1.0b	mg/kg dryb	10b	09/05/14b	B4H2701b	6020/200.8	
7439-97-6b	Mercury	0.1p	0.06b	mg/kg dryb	1b	08/28/14b	B4H2614b	7471/245.5b	
7782-49-2b	Seleniumb	NDb	0.2b	mg/kg dryb	10b	09/05/14b	B4H2701b	6020/200.8	
7440-22-4b	Silver	2.9p	0.1b	mg/kg dryb	10b	09/05/14b	B4H2701b	6020/200.8	
7440-66-6b	Zinc	270p	1.0b	mg/kg dryb	10b	09/05/14b	B4H2701b	6020/200.8	



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Client ID: CHLL-SB81-0-6"p

Lab ID: 1408232-10p

CAS #b	Analyteb	Resultb	RLb	Unitsb	Dilutionb	Analyzedb Dateb	QC Batchb	Methodb	Qualifiert
Organics-PCBs as Aroclorsp									See note Y21p
12674-11-2b	Aroclor 1016	NDb	230b	ug/kg dryb	1b	09/04/14b	B4H2518	8081/8082b	
11104-28-2b	Aroclor 1221	NDb	230b	ug/kg dryb	1b	09/04/14b	B4H2518	8081/8082b	
11141-16-5b	Aroclor 1232	NDb	230b	ug/kg dryb	1b	09/04/14b	B4H2518	8081/8082b	
53469-21-9b	Aroclor 1242	NDb	230b	ug/kg dryb	1b	09/04/14b	B4H2518	8081/8082b	
12672-29-6b	Aroclor 1248	NDb	230b	ug/kg dryb	1b	09/04/14b	B4H2518	8081/8082b	
11097-69-1b	Aroclor 1254	NDb	230b	ug/kg dryb	1b	09/04/14b	B4H2518	8081/8082b	
11096-82-5b	Aroclor 1260	NDb	250b	ug/kg dryb	1b	09/04/14b	B4H2518	8081/8082b	
37324-23-5b	Aroclor 1262	230p	230b	ug/kg dryb	1b	09/04/14b	B4H2518	8081/8082b	
11100-14-4b	Aroclor 1268	NDb	230b	ug/kg dryb	1b	09/04/14b	B4H2518	8081/8082b	
<i>Surrogate: Decachlorobiphenyl.</i>			59.0 %.	30-150.		09/04/14.	B4H2518	8081/8082.	
<i>Surrogate: Tetrachloro-m-xylene.</i>			71.0 %.	30-150.		09/04/14.	B4H2518	8081/8082.	
Inorganics-General Chemistry									
TSb	% Total Solids	86.7p	0.1b	%b	1b	08/25/14b	B4H2511b	2540 Bb	



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TEL: (517) 335-98000
FAX: (517) 335-96000

Client ID: CHLL-SB58-3"-9"p

Lab ID: 1408232-11p

CAS #b	Analyteb	Resultb	RLb	Unitsb	Dilutionb	Analyzed b Dateb	QC Batchb	Methodb	Qualifier b
Organics-PCBs as Aroclorsp									
12674-11-2b	Aroclor 1016	NDb	110b	ug/kg dryb	1b	08/29/14b	B4H2518	8081/8082b	
11104-28-2b	Aroclor 1221	NDb	110b	ug/kg dryb	1b	08/29/14b	B4H2518	8081/8082b	
11141-16-5b	Aroclor 1232	NDb	110b	ug/kg dryb	1b	08/29/14b	B4H2518	8081/8082b	
53469-21-9b	Aroclor 1242	NDb	110b	ug/kg dryb	1b	08/29/14b	B4H2518	8081/8082b	
12672-29-6b	Aroclor 1248	NDb	120b	ug/kg dryb	1b	08/29/14b	B4H2518	8081/8082b	Y21b
11097-69-1b	Aroclor 1254	140p	110b	ug/kg dryb	1b	08/29/14b	B4H2518	8081/8082b	
11096-82-5b	Aroclor 1260	NDb	110b	ug/kg dryb	1b	08/29/14b	B4H2518	8081/8082b	
37324-23-5b	Aroclor 1262	NDb	110b	ug/kg dryb	1b	08/29/14b	B4H2518	8081/8082b	
11100-14-4b	Aroclor 1268	NDb	110b	ug/kg dryb	1b	08/29/14b	B4H2518	8081/8082b	
<i>Surrogate: Decachlorobiphenyl.</i>			<i>41.0 %.</i>	<i>30-150.</i>		<i>08/29/14.</i>	B4H2518	<i>8081/8082.</i>	
<i>Surrogate: Tetrachloro-m-xylene.</i>			<i>61.0 %.</i>	<i>30-150.</i>		<i>08/29/14.</i>	B4H2518	<i>8081/8082.</i>	
Inorganics-General Chemistry									
TSb	% Total Solids	94.2p	0.1b	%b	1b	08/25/14b	B4H2511b	2540 Bb	



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Client ID: CHLL-SB59-3"-9"p

Lab ID: 1408232-12p

CAS #b	Analyteb	Resultb	RLb	Unitsb	Dilutionb	Analyzed b Dateb	QC Batchb	Methodb	Qualifier b
Organics-PCBs as Aroclorsp									
12674-11-2b	Aroclor 1016b	NDb	110b	ug/kg dryb	1b	08/29/14b	B4H2518	8081/8082b	
11104-28-2b	Aroclor 1221b	NDb	110b	ug/kg dryb	1b	08/29/14b	B4H2518	8081/8082b	
11141-16-5b	Aroclor 1232b	NDb	110b	ug/kg dryb	1b	08/29/14b	B4H2518	8081/8082b	
53469-21-9b	Aroclor 1242b	NDb	110b	ug/kg dryb	1b	08/29/14b	B4H2518	8081/8082b	
12672-29-6b	Aroclor 1248	NDb	110b	ug/kg dryb	1b	08/29/14b	B4H2518	8081/8082b	
11097-69-1b	Aroclor 1254p	430p	110b	ug/kg dryb	1b	08/29/14b	B4H2518	8081/8082b	
11096-82-5b	Aroclor 1260b	NDb	110b	ug/kg dryb	1b	08/29/14b	B4H2518	8081/8082b	
37324-23-5b	Aroclor 1262b	NDb	110b	ug/kg dryb	1b	08/29/14b	B4H2518	8081/8082b	
11100-14-4b	Aroclor 1268	NDb	110b	ug/kg dryb	1b	08/29/14b	B4H2518	8081/8082b	
<i>Surrogate: Decachlorobiphenyl.</i>			64.8 %.	30-150.		08/29/14.	B4H2518	8081/8082.	
<i>Surrogate: Tetrachloro-m-xylene.</i>			71.3 %.	30-150.		08/29/14.	B4H2518	8081/8082.	
Inorganics-General Chemistry									
TSb	% Total Solids ^p	93.6 ^p	0.1b	%b	1b	08/25/14b	B4H2511b	2540 Bb	



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Client ID: CHLL-SB61-3"-9"p

Lab ID: 1408232-13p

CAS #b	Analyteb	Resultb	RLb	Unitsb	Dilutionb	Analyzed b Dateb	QC Batchb	Methodb	Qualifier b
Organics-PCBs as Aroclorsp									
12674-11-2b	Aroclor 1016b	NDb	110b	ug/kg dryb	1b	08/29/14b	B4H2518	8081/8082b	
11104-28-2b	Aroclor 1221b	NDb	110b	ug/kg dryb	1b	08/29/14b	B4H2518	8081/8082b	
11141-16-5b	Aroclor 1232b	NDb	110b	ug/kg dryb	1b	08/29/14b	B4H2518	8081/8082b	
53469-21-9b	Aroclor 1242b	NDb	110b	ug/kg dryb	1b	08/29/14b	B4H2518	8081/8082b	
12672-29-6b	Aroclor 1248	NDb	110b	ug/kg dryb	1b	08/29/14b	B4H2518	8081/8082b	
11097-69-1b	Aroclor 1254b	NDb	110b	ug/kg dryb	1b	08/29/14b	B4H2518	8081/8082b	
11096-82-5b	Aroclor 1260b	NDb	110b	ug/kg dryb	1b	08/29/14b	B4H2518	8081/8082b	
37324-23-5b	Aroclor 1262b	NDb	110b	ug/kg dryb	1b	08/29/14b	B4H2518	8081/8082b	
11100-14-4b	Aroclor 1268	NDb	110b	ug/kg dryb	1b	08/29/14b	B4H2518	8081/8082b	
<i>Surrogate: Decachlorobiphenyl.</i>			62.5 %.	30-150.		08/29/14.	B4H2518	8081/8082.	
<i>Surrogate: Tetrachloro-m-xylene.</i>			70.9 %.	30-150.		08/29/14.	B4H2518	8081/8082.	
Inorganics-General Chemistry									
TSb	% Total Solids ^p	91.0 ^p	0.1b	%b	1b	08/25/14b	B4H2511b	2540 Bb	



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Client ID: CHLL-SB62-3"-9"p

Lab ID: 1408232-14p

CAS #b	Analyteb	Resultb	RLb	Unitsb	Dilutionb	Analyzed b Dateb	QC Batchb	Methodb	Qualifier b
Organics-PCBs as Aroclorsp									
12674-11-2b	Aroclor 1016b	NDb	110b	ug/kg dryb	1b	08/29/14b	B4H2518	8081/8082b	
11104-28-2b	Aroclor 1221b	NDb	110b	ug/kg dryb	1b	08/29/14b	B4H2518	8081/8082b	
11141-16-5b	Aroclor 1232b	NDb	110b	ug/kg dryb	1b	08/29/14b	B4H2518	8081/8082b	
53469-21-9b	Aroclor 1242b	NDb	110b	ug/kg dryb	1b	08/29/14b	B4H2518	8081/8082b	
12672-29-6b	Aroclor 1248	NDb	180b	ug/kg dryb	1b	08/29/14b	B4H2518	8081/8082b	Y21b
11097-69-1b	Aroclor 1254p	360p	110b	ug/kg dryb	1b	08/29/14b	B4H2518	8081/8082b	JAb
11096-82-5b	Aroclor 1260b	NDb	180b	ug/kg dryb	1b	08/29/14b	B4H2518	8081/8082b	Y21b
37324-23-5b	Aroclor 1262p	170p	110b	ug/kg dryb	1b	08/29/14b	B4H2518	8081/8082b	JAb
11100-14-4b	Aroclor 1268	NDb	110b	ug/kg dryb	1b	08/29/14b	B4H2518	8081/8082b	
<i>Surrogate: Decachlorobiphenyl.</i>			59.6 %.	30-150.		08/29/14.	B4H2518	8081/8082.	
<i>Surrogate: Tetrachloro-m-xylene.</i>			75.1 %.	30-150.		08/29/14.	B4H2518	8081/8082.	
Inorganics-General Chemistry									
TSb	% Total Solidsp	93.8p	0.1b	%b	1b	08/25/14b	B4H2511b	2540 Bb	



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Client ID: CHLL-SB63-6"-12"p

Lab ID: 1408232-15p

CAS #b	Analyteb	Resultb	RLb	Unitsb	Dilutionb	Analyzed b Dateb	QC Batchb	Methodb	Qualifier b
Organics-PCBs as Aroclorsp									
12674-11-2b	Aroclor 1016b	NDb	110b	ug/kg dryb	1b	08/29/14b	B4H2518	8081/8082b	
11104-28-2b	Aroclor 1221b	NDb	110b	ug/kg dryb	1b	08/29/14b	B4H2518	8081/8082b	
11141-16-5b	Aroclor 1232b	NDb	110b	ug/kg dryb	1b	08/29/14b	B4H2518	8081/8082b	
53469-21-9b	Aroclor 1242b	NDb	110b	ug/kg dryb	1b	08/29/14b	B4H2518	8081/8082b	
12672-29-6b	Aroclor 1248	NDb	180b	ug/kg dryb	1b	08/29/14b	B4H2518	8081/8082b	Y21b
11097-69-1b	Aroclor 1254p	460p	110b	ug/kg dryb	1b	08/29/14b	B4H2518	8081/8082b	JAb
11096-82-5b	Aroclor 1260b	NDb	550b	ug/kg dryb	1b	08/29/14b	B4H2518	8081/8082b	Y21b
37324-23-5b	Aroclor 1262p	540p	110b	ug/kg dryb	1b	08/29/14b	B4H2518	8081/8082b	JAb
11100-14-4b	Aroclor 1268	NDb	110b	ug/kg dryb	1b	08/29/14b	B4H2518	8081/8082b	
<i>Surrogate: Decachlorobiphenyl.</i>			56.5 %.	30-150.		08/29/14.	B4H2518	8081/8082.	
<i>Surrogate: Tetrachloro-m-xylene.</i>			70.3 %.	30-150.		08/29/14.	B4H2518	8081/8082.	
Inorganics-General Chemistry									
TSb	% Total Solidsp	88.5p	0.1b	%b	1b	08/25/14b	B4H2511b	2540 Bb	



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Client ID: CHLL-SB60-6"-12"p

Lab ID: 1408232-16p

CAS #b	Analyteb	Resultb	RLb	Unitsb	Dilutionb	Analyzed b Dateb	QC Batchb	Methodb	Qualifier b
Organics-PCBs as Aroclorsp									
12674-11-2b	Aroclor 1016b	NDb	130b	ug/kg dryb	1b	08/29/14b	B4H2518	8081/8082b	
11104-28-2b	Aroclor 1221b	NDb	130b	ug/kg dryb	1b	08/29/14b	B4H2518	8081/8082b	
11141-16-5b	Aroclor 1232b	NDb	130b	ug/kg dryb	1b	08/29/14b	B4H2518	8081/8082b	
53469-21-9b	Aroclor 1242b	NDb	130b	ug/kg dryb	1b	08/29/14b	B4H2518	8081/8082b	
12672-29-6b	Aroclor 1248	NDb	130b	ug/kg dryb	1b	08/29/14b	B4H2518	8081/8082b	
11097-69-1b	Aroclor 1254p	150p	130b	ug/kg dryb	1b	08/29/14b	B4H2518	8081/8082b	
11096-82-5b	Aroclor 1260b	NDb	130b	ug/kg dryb	1b	08/29/14b	B4H2518	8081/8082b	
37324-23-5b	Aroclor 1262b	NDb	130b	ug/kg dryb	1b	08/29/14b	B4H2518	8081/8082b	
11100-14-4b	Aroclor 1268	NDb	130b	ug/kg dryb	1b	08/29/14b	B4H2518	8081/8082b	
<i>Surrogate: Decachlorobiphenyl.</i>			63.3 %.	30-150.		08/29/14.	B4H2518	8081/8082.	
<i>Surrogate: Tetrachloro-m-xylene.</i>			64.1 %.	30-150.		08/29/14.	B4H2518	8081/8082.	
Inorganics-General Chemistry									
TSb	% Total Solids	78.8p	0.1b	%b	1b	08/25/14b	B4H2511b	2540 Bb	



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Client ID: CHLL-SB66-6"-12"p

Lab ID: 1408232-17p

CAS #b	Analyteb	Resultb	RLb	Unitsb	Dilutionb	Analyzed b Dateb	QC Batchb	Methodb	Qualifier b
Organics-PCBs as Aroclorsp									
12674-11-2b	Aroclor 1016	NDb	110b	ug/kg dryb	1b	08/29/14b	B4H2518	8081/8082b	
11104-28-2b	Aroclor 1221	NDb	110b	ug/kg dryb	1b	08/29/14b	B4H2518	8081/8082b	
11141-16-5b	Aroclor 1232	NDb	110b	ug/kg dryb	1b	08/29/14b	B4H2518	8081/8082b	
53469-21-9b	Aroclor 1242	NDb	110b	ug/kg dryb	1b	08/29/14b	B4H2518	8081/8082b	
12672-29-6b	Aroclor 1248	NDb	110b	ug/kg dryb	1b	08/29/14b	B4H2518	8081/8082b	
11097-69-1b	Aroclor 1254	280p	110b	ug/kg dryb	1b	08/29/14b	B4H2518	8081/8082b	JAb
11096-82-5b	Aroclor 1260	NDb	230b	ug/kg dryb	1b	08/29/14b	B4H2518	8081/8082b	Y21b
37324-23-5b	Aroclor 1262	220p	110b	ug/kg dryb	1b	08/29/14b	B4H2518	8081/8082b	JAb
11100-14-4b	Aroclor 1268	NDb	110b	ug/kg dryb	1b	08/29/14b	B4H2518	8081/8082b	
<i>Surrogate: Decachlorobiphenyl.</i>			64.5 %.	30-150.		08/29/14.	B4H2518	8081/8082.	
<i>Surrogate: Tetrachloro-m-xylene.</i>			72.9 %.	30-150.		08/29/14.	B4H2518	8081/8082.	
Inorganics-General Chemistry									
TSb	% Total Solids	87.6p	0.1b	%b	1b	08/25/14b	B4H2511b	2540 Bb	



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Client ID: CHLL-SB64-3"-9"p

Lab ID: 1408232-18p

CAS #b	Analyteb	Resultb	RLb	Unitsb	Dilutionb	Analyzed b Dateb	QC Batchb	Methodb	Qualifier b
Organics-PCBs as Aroclorsp									
12674-11-2b	Aroclor 1016b	NDb	2100b	ug/kg dryb	10b	09/03/14b	B4H2518	8081/8082b	Y21b
11104-28-2b	Aroclor 1221b	NDb	2100b	ug/kg dryb	10b	09/03/14b	B4H2518	8081/8082b	Y21b
11141-16-5b	Aroclor 1232b	NDb	2100b	ug/kg dryb	10b	09/03/14b	B4H2518	8081/8082b	Y21b
53469-21-9b	Aroclor 1242b	NDb	2100b	ug/kg dryb	10b	09/03/14b	B4H2518	8081/8082b	Y21b
12672-29-6b	Aroclor 1248	NDb	2100b	ug/kg dryb	10b	09/03/14b	B4H2518	8081/8082b	Y21b
11097-69-1b	Aroclor 1254p	9900p	1100b	ug/kg dryb	10b	09/03/14b	B4H2518	8081/8082b	JAb
11096-82-5b	Aroclor 1260p	1500p	1100b	ug/kg dryb	10b	09/03/14b	B4H2518	8081/8082b	JAb
37324-23-5b	Aroclor 1262b	NDb	1600b	ug/kg dryb	10b	09/03/14b	B4H2518	8081/8082b	Y21b
11100-14-4b	Aroclor 1268	NDb	1100b	ug/kg dryb	10b	09/03/14b	B4H2518	8081/8082b	
<i>Surrogate: Decachlorobiphenyl.</i>			74.2 %.	30-150.		09/03/14.	B4H2518	8081/8082.	
<i>Surrogate: Tetrachloro-m-xylene.</i>			69.7 %.	30-150.		09/03/14.	B4H2518	8081/8082.	
Inorganics-General Chemistry									
TSb	% Total Solids ^p	94.8p	0.1b	%b	1b	08/25/14b	B4H2511b	2540 Bb	



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Client ID: CHLL-SB67-3"-9"p

Lab ID: 1408232-19p

CAS #b	Analyteb	Resultb	RLb	Unitsb	Dilutionb	Analyzed b Dateb	QC Batchb	Methodb	Qualifier b
Organics-PCBs as Aroclorsp									
12674-11-2b	Aroclor 1016b	NDb	110b	ug/kg dryb	1b	08/29/14b	B4H2518	8081/8082b	
11104-28-2b	Aroclor 1221b	NDb	110b	ug/kg dryb	1b	08/29/14b	B4H2518	8081/8082b	
11141-16-5b	Aroclor 1232b	NDb	110b	ug/kg dryb	1b	08/29/14b	B4H2518	8081/8082b	
53469-21-9b	Aroclor 1242b	NDb	110b	ug/kg dryb	1b	08/29/14b	B4H2518	8081/8082b	
12672-29-6b	Aroclor 1248	NDb	110b	ug/kg dryb	1b	08/29/14b	B4H2518	8081/8082b	
11097-69-1b	Aroclor 1254b	NDb	110b	ug/kg dryb	1b	08/29/14b	B4H2518	8081/8082b	
11096-82-5b	Aroclor 1260b	NDb	110b	ug/kg dryb	1b	08/29/14b	B4H2518	8081/8082b	
37324-23-5b	Aroclor 1262b	NDb	110b	ug/kg dryb	1b	08/29/14b	B4H2518	8081/8082b	
11100-14-4b	Aroclor 1268	NDb	110b	ug/kg dryb	1b	08/29/14b	B4H2518	8081/8082b	
<i>Surrogate: Decachlorobiphenyl.</i>			51.4 %.	30-150.		08/29/14.	B4H2518	8081/8082.	
<i>Surrogate: Tetrachloro-m-xylene.</i>			77.5 %.	30-150.		08/29/14.	B4H2518	8081/8082.	
Inorganics-General Chemistry									
TSb	% Total Solidsp	89.3p	0.1b	%b	1b	08/25/14b	B4H2511b	2540 Bb	



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Client ID: CHLL-SB68-3"-9"p

Lab ID: 1408232-20p

CAS #b	Analyteb	Resultb	RLb	Unitsb	Dilutionb	Analyzed b Dateb	QC Batchb	Methodb	Qualifier b
Organics-PCBs as Aroclorsp									
12674-11-2b	Aroclor 1016	NDb	110b	ug/kg dryb	1b	09/03/14b	B4H2807b	8081/8082b	
11104-28-2b	Aroclor 1221	NDb	110b	ug/kg dryb	1b	09/03/14b	B4H2807b	8081/8082b	
11141-16-5b	Aroclor 1232	NDb	110b	ug/kg dryb	1b	09/03/14b	B4H2807b	8081/8082b	
53469-21-9b	Aroclor 1242	NDb	110b	ug/kg dryb	1b	09/03/14b	B4H2807b	8081/8082b	
12672-29-6b	Aroclor 1248	NDb	110b	ug/kg dryb	1b	09/03/14b	B4H2807b	8081/8082b	
11097-69-1b	Aroclor 1254	100p	110b	ug/kg dryb	1b	09/03/14b	B4H2807b	8081/8082b	JA, Tb
11096-82-5b	Aroclor 1260	NDb	110b	ug/kg dryb	1b	09/03/14b	B4H2807b	8081/8082b	
37324-23-5b	Aroclor 1262	81p	110b	ug/kg dryb	1b	09/03/14b	B4H2807b	8081/8082b	JA, Tb
11100-14-4b	Aroclor 1268	NDb	110b	ug/kg dryb	1b	09/03/14b	B4H2807b	8081/8082b	
<i>Surrogate: Decachlorobiphenyl.</i>			51.8 %.	30-150.		09/03/14.	B4H2807b	8081/8082.	
<i>Surrogate: Tetrachloro-m-xylene.</i>			56.6 %.	30-150.		09/03/14.	B4H2807b	8081/8082.	
Inorganics-General Chemistry									
TSb	% Total Solids	92.4p	0.1b	%b	1b	08/25/14b	B4H2511b	2540 Bb	

MICHIGAN DEPARTMENT OF ENVIRONMENTAL QUALITY

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ENVIRONMENTAL LABORATORY - ANALYSIS REQUEST SHEET

Lab Work Order Number

Project Name

Matrix

1408232

Abandoned Mining Waste- Torch Lake PCB

SOIL/SEDIMENT

Site Code/Project Number

AY

CC Email 1 to send additional reports to

Project TAT Days

Sample Collector

31000098

14

shireyb

Dept-Division-District

Index

CC Email 2 to send additional reports to

Project Due Date

Sample Collector Phone

RRD-PSS-GSU

44251

j.binkley@weston.solutions.com

State Project Manager

PCA

CC Email 3 to send additional reports to

Accept Analysis

Contract Firm

Jeff Pincumbe

30708

Kerunena@michigan.gov

hold time codes: Yes/No

Contract Firm Primary Contact

State Project Manager Email

Project

Overflow Lab Choice 1

NO

Weston Solutions

State Project Manager Phone

Phase

Overflow Lab Choice 2

Primary Contact Phone

517-335-6418

14

Jeff Binkley

906-523-5457

Lab Use Only	Field Sample Identification	Collection Date	Collection Time	Container Count	Comments
1	01 CHLL-SB74-0-6"	8/20/14	1042	1	
2	02 CHLL-SB75-0-6"		1153	1	
3	03 CHLL-SB75-0-6"-DUP		1153	1	
4	04 CHLL-SB76-0-6"		1121	1	
5	05 CHLL-SB77-0-6"		1055	1	
6	06 CHLL-SB78-6"-12"		1021	1	
7	07 CHLL-SB79-0-6"		1127	1	
8	08 CHLL-SB80-0-6"		1144	1	
9	09 CHLL-SB80-0-6"-DUP		1144	1	
10	10 CHLL-SB81-0-6"		1108	1	

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,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
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:	

ENVIRONMENTAL LABORATORY - ANALYSIS REQUEST SHEET

Lab Work Order Number

Project Name

Matrix

1408232

Abandoned Mining Waste- Torch Lake PCB

SOIL/SEDIMENT

Site Code/Project Number

AY

CC Email 1 to send additional reports to

Project TAT Days

Sample Collector

31000098

14

shireyb

Dept./Division-District

Index

CC Email 2 to send additional reports to

Project Due Date

Sample Collector Phone

RRD-PSS-GSU

44251

j.binkley@westonsolutions.com

900-337-0389

State Project Manager

PCA

CC Email 3 to send additional reports to

Contract Firm

Jeff Pincumbe

30708

Keranen@Michigan.gov

Weston Solution

State Project Manager Email

Project

Overflow Lab Choice 1

Accept Analysis hold time codes: Yes/No

Contract Firm Primary Contact

pincumbej

150001

NO

Jeff Binkley

State Project Manager Phone

Phase

Overflow Lab Choice 2

Primary Contact Phone

517-335-6418

14

900-523-5457

Lab Use Only	Field Sample Identification	Collection Date	Collection Time	Container Count	Comments
1	11 CHLL-SB58-3"-9"	8/19/14	1330	1	
2	12 CHLL-SB59-3"-9"		1320	1	
3	13 CHLL-SB61-3"-9"		1345	1	
4	14 CHLL-SB62-3"-9"		1350	1	
5	15 CHLL-SB63-6"-12"		1400	1	
6	16 CHLL-SB60-6"-12"		1355	1	
7	17 CHLL-SB66-6"-12"		1410	1	
8	18 CHLL-SB64-3"-9"		1440	1	
9	19 CHLL-SB67-3"-9"		1450	1	
10	20 CHLL-SB68-3"-9"	8/19/14	1500	1	

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/TM8 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 - Semivol 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 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. Amy Keranen	JEFF PINCUMBE	8/21/14 11a
	Signature: [Signature]	[Signature]	
	Print Name & Org. JEFF PINCUMBE	Melissa Smith	8/22/14 946
	Signature: [Signature]	[Signature]	
	Print Name & Org. [Signature]		
	Signature: [Signature]		



**MICHIGAN DEPARTMENT OF ENVIRONMENTAL QUALITY
ENVIRONMENTAL LABORATORY**

P.O. Box 302700
Lansing, MI 489090
TEL: (517) 335-98000
FAX: (517) 335-96000

17 September 2014

Work Order: 14082330

Price: \$4,694.00

Jeff Pincumbe

MDEQ-RRD-LANSING

525 W. Allegan Street

Lansing, MI 489090

RE: ABANDONED MINING WASTE-TORCH LAKE PCBO

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 302700
Lansing, MI 48909
TEL: (517) 335-98000
FAX: (517) 335-96000

MDEQ-RRD-LANSINGb
525 W. Allegan Streetb
Lansing MI, 48909b

Project:bABANDONED MINING WASTE-TORCH LAKE PCBb
Site Code:b31000098
Project Manager:bJeff Pincumbb

Reported:p
09/17/2014b

Analytical Report for Samplesp

Sample IDp	Laboratory IDp	Matrixp	Date Sampledp	Date Receivedp	Qualifiersp
CHLL-SB65-3"-9"b	1408233-01b	Soil/Sedimentb	08/19/2014b	08/22/2014b	
CHLL-SB71 6-12"b	1408233-02b	Soil/Sedimentb	08/19/2014b	08/22/2014b	
CHLL-SB72 3-9"b	1408233-03b	Soil/Sedimentb	08/19/2014b	08/22/2014b	
CHLL-SB73 3-9"b	1408233-04b	Soil/Sedimentb	08/19/2014b	08/22/2014b	
CHLL-SB135 0-6"b	1408233-05b	Soil/Sedimentb	08/19/2014b	08/22/2014b	
CHLL-SB136 0-6"b	1408233-06b	Soil/Sedimentb	08/19/2014b	08/22/2014b	
CHLL-SB129 0-6"b	1408233-07b	Soil/Sedimentb	08/19/2014b	08/22/2014b	
CHLL-SB128 0-6"b	1408233-08	Soil/Sedimentb	08/19/2014b	08/22/2014b	
CHLL-DM01b	1408233-09b	Soil/Sedimentb	08/20/2014b	08/22/2014b	
CHLL-DM02b	1408233-10b	Soil/Sedimentb	08/20/2014b	08/22/2014b	
CHLL-SB140-0-6"b	1408233-11b	Soil/Sedimentb	08/20/2014b	08/22/2014b	
CHLL-SB141-0-6"b	1408233-12b	Soil/Sedimentb	08/20/2014b	08/22/2014b	
CHLL-SB110-0-6"b	1408233-13b	Soil/Sedimentb	08/20/2014b	08/22/2014b	
CHLL-SB109-0-6"b	1408233-14b	Soil/Sedimentb	08/20/2014b	08/22/2014b	
CHLL-SB69-0-6"b	1408233-15b	Soil/Sedimentb	08/21/2014b	08/22/2014b	
CHLL-SB74R-0-6"b	1408233-16b	Soil/Sedimentb	08/21/2014b	08/22/2014b	
CHLL-SB100-0-6"b	1408233-17b	Soil/Sedimentb	08/20/2014b	08/22/2014b	
CHLL-SB101-0-6"b	1408233-18	Soil/Sedimentb	08/20/2014b	08/22/2014b	
CHLL-SB102-0-6"b	1408233-19b	Soil/Sedimentb	08/20/2014b	08/22/2014b	
CHLL-SB103-0-6"b	1408233-20b	Soil/Sedimentb	08/20/2014b	08/22/2014b	
CHLL-SB104-0-6"b	1408233-21b	Soil/Sedimentb	08/20/2014b	08/22/2014b	
CHLL-SB105-0-6"b	1408233-22b	Soil/Sedimentb	08/20/2014b	08/22/2014b	
CHLL-SB106-0-6"b	1408233-23b	Soil/Sedimentb	08/20/2014b	08/22/2014b	
CHLL-SB137-0-6"b	1408233-24b	Soil/Sedimentb	08/20/2014b	08/22/2014b	
CHLL-SB138-0-6"b	1408233-25b	Soil/Sedimentb	08/20/2014b	08/22/2014b	
CHLL-SB139-0-6"b	1408233-26b	Soil/Sedimentb	08/20/2014b	08/22/2014b	



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Notes and Definitions p

Y21b	Reporting Limits (RL) raised due to matrix interference.b
Y20b	Reporting Limits (RL) raised due to matrix.b
Y17b	Probable petroleum product(s) present.b
X3b	Spike recovery is not applicable due to large target analyte concentration in the source sample.b
Tb	Reported value is less than the reporting limit (RL). Result is estimated.b
JAb	Result is estimated due to multiple Aroclors present.b
A12b	Result is estimated due to inter-replicate sample analysis RSD > 10%.b
A06b	Result is estimated due to high continuing calibration standard criteria failure.b
A03b	Result(s) and reporting limit(s) are estimated due to low matrix spike recovery.b
NDb	Indicates compound analyzed for but not detectedb
RLb	Reporting Limitb
NAb	Not Applicableb
dry	Sample results reported on a dry weight basisb



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Client ID: CHLL-SB65-3"-9"p

Lab ID: 1408233-01p

CAS #b	Analyteb	Resultb	RLb	Unitsb	Dilutionb	Analyzed b Dateb	QC Batchb	Methodb	Qualifier b
Organics-PCBs as Aroclorsp									
12674-11-2b	Aroclor 1016	NDb	110b	ug/kg dryb	1b	09/03/14b	B4H2807b	8081/8082b	
11104-28-2b	Aroclor 1221	NDb	110b	ug/kg dryb	1b	09/03/14b	B4H2807b	8081/8082b	
11141-16-5b	Aroclor 1232	NDb	110b	ug/kg dryb	1b	09/03/14b	B4H2807b	8081/8082b	
53469-21-9b	Aroclor 1242	NDb	110b	ug/kg dryb	1b	09/03/14b	B4H2807b	8081/8082b	
12672-29-6b	Aroclor 1248	NDb	110b	ug/kg dryb	1b	09/03/14b	B4H2807b	8081/8082b	
11097-69-1b	Aroclor 1254	67p	110b	ug/kg dryb	1b	09/03/14b	B4H2807b	8081/8082b	Tb
11096-82-5b	Aroclor 1260	NDb	110b	ug/kg dryb	1b	09/03/14b	B4H2807b	8081/8082b	
37324-23-5b	Aroclor 1262	NDb	110b	ug/kg dryb	1b	09/03/14b	B4H2807b	8081/8082b	
11100-14-4b	Aroclor 1268	NDb	110b	ug/kg dryb	1b	09/03/14b	B4H2807b	8081/8082b	
<i>Surrogate: Decachlorobiphenyl-</i>			54.0 %-	30-150-		09/03/14-	B4H2807b	8081/8082-	
<i>Surrogate: Tetrachloro-m-xylene-</i>			55.1 %-	30-150-		09/03/14-	B4H2807b	8081/8082-	
Inorganics-General Chemistry									
TSb	% Total Solids ^p	94.3p	0.1b	%b	1b	08/25/14b	B4H2511b	2540 Bb	



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TEL: (517) 335-98000
FAX: (517) 335-96000

Client ID: CHLL-SB71 6-12"p

Lab ID: 1408233-02p

CAS #b	Analyteb	Resultb	RLb	Unitsb	Dilutionb	Analyzed b Dateb	QC Batchb	Methodb	Qualifier b
Organics-PCBs as Aroclorsp									
12674-11-2b	Aroclor 1016b	NDb	110b	ug/kg dryb	1b	09/03/14b	B4H2807b	8081/8082b	
11104-28-2b	Aroclor 1221b	NDb	110b	ug/kg dryb	1b	09/03/14b	B4H2807b	8081/8082b	
11141-16-5b	Aroclor 1232b	NDb	110b	ug/kg dryb	1b	09/03/14b	B4H2807b	8081/8082b	
53469-21-9b	Aroclor 1242b	NDb	110b	ug/kg dryb	1b	09/03/14b	B4H2807b	8081/8082b	
12672-29-6b	Aroclor 1248	NDb	110b	ug/kg dryb	1b	09/03/14b	B4H2807b	8081/8082b	
11097-69-1b	Aroclor 1254b	NDb	110b	ug/kg dryb	1b	09/03/14b	B4H2807b	8081/8082b	
11096-82-5b	Aroclor 1260b	NDb	110b	ug/kg dryb	1b	09/03/14b	B4H2807b	8081/8082b	
37324-23-5b	Aroclor 1262b	NDb	110b	ug/kg dryb	1b	09/03/14b	B4H2807b	8081/8082b	
11100-14-4b	Aroclor 1268	NDb	110b	ug/kg dryb	1b	09/03/14b	B4H2807b	8081/8082b	
<i>Surrogate: Decachlorobiphenyl-</i>			53.5 %-	30-150-		09/03/14-	B4H2807b	8081/8082-	
<i>Surrogate: Tetrachloro-m-xylene-</i>			62.9 %-	30-150-		09/03/14-	B4H2807b	8081/8082-	
Inorganics-General Chemistry									
TSb	% Total Solids ^p	88.5 ^p	0.1b	%b	1b	08/25/14b	B4H2511b	2540 Bb	



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ENVIRONMENTAL LABORATORY

P.O. Box 302700
Lansing, MI 48909
TEL: (517) 335-98000
FAX: (517) 335-96000

Client ID: CHLL-SB72 3-9"p

Lab ID: 1408233-03p

CAS #b	Analyteb	Resultb	RLb	Unitsb	Dilutionb	Analyzed b Dateb	QC Batchb	Methodb	Qualifier b
Organics-PCBs as Aroclorsp									
12674-11-2b	Aroclor 1016	NDb	110b	ug/kg dryb	1b	09/03/14b	B4H2807b	8081/8082b	
11104-28-2b	Aroclor 1221	NDb	110b	ug/kg dryb	1b	09/03/14b	B4H2807b	8081/8082b	
11141-16-5b	Aroclor 1232	NDb	110b	ug/kg dryb	1b	09/03/14b	B4H2807b	8081/8082b	
53469-21-9b	Aroclor 1242	NDb	110b	ug/kg dryb	1b	09/03/14b	B4H2807b	8081/8082b	
12672-29-6b	Aroclor 1248	NDb	110b	ug/kg dryb	1b	09/03/14b	B4H2807b	8081/8082b	
11097-69-1b	Aroclor 1254	93p	110b	ug/kg dryb	1b	09/03/14b	B4H2807b	8081/8082b	JA, Tb
11096-82-5b	Aroclor 1260	NDb	110b	ug/kg dryb	1b	09/03/14b	B4H2807b	8081/8082b	
37324-23-5b	Aroclor 1262	69p	110b	ug/kg dryb	1b	09/03/14b	B4H2807b	8081/8082b	JA, Tb
11100-14-4b	Aroclor 1268	NDb	110b	ug/kg dryb	1b	09/03/14b	B4H2807b	8081/8082b	
<i>Surrogate: Decachlorobiphenyl-</i>			54.6 %-	30-150-		09/03/14-	B4H2807b	8081/8082-	
<i>Surrogate: Tetrachloro-m-xylene-</i>			61.3 %-	30-150-		09/03/14-	B4H2807b	8081/8082-	
Inorganics-General Chemistry									
TSb	% Total Solids	90.2p	0.1b	%b	1b	08/25/14b	B4H2511b	2540 Bb	



MICHIGAN DEPARTMENT OF ENVIRONMENTAL QUALITY
ENVIRONMENTAL LABORATORY

P.O. Box 302700
Lansing, MI 48909
TEL: (517) 335-98000
FAX: (517) 335-96000

Client ID: CHLL-SB73 3-9"p

Lab ID: 1408233-04p

CAS #b	Analyteb	Resultb	RLb	Unitsb	Dilutionb	Analyzed b Dateb	QC Batchb	Methodb	Qualifier b
Organics-PCBs as Aroclorsp									
12674-11-2b	Aroclor 1016b	NDb	110b	ug/kg dryb	1b	09/04/14b	B4H2807b	8081/8082b	
11104-28-2b	Aroclor 1221b	NDb	110b	ug/kg dryb	1b	09/04/14b	B4H2807b	8081/8082b	
11141-16-5b	Aroclor 1232b	NDb	110b	ug/kg dryb	1b	09/04/14b	B4H2807b	8081/8082b	
53469-21-9b	Aroclor 1242b	NDb	110b	ug/kg dryb	1b	09/04/14b	B4H2807b	8081/8082b	
12672-29-6b	Aroclor 1248	NDb	110b	ug/kg dryb	1b	09/04/14b	B4H2807b	8081/8082b	
11097-69-1b	Aroclor 1254b	NDb	110b	ug/kg dryb	1b	09/04/14b	B4H2807b	8081/8082b	
11096-82-5b	Aroclor 1260b	NDb	110b	ug/kg dryb	1b	09/04/14b	B4H2807b	8081/8082b	
37324-23-5b	Aroclor 1262b	NDb	110b	ug/kg dryb	1b	09/04/14b	B4H2807b	8081/8082b	
11100-14-4b	Aroclor 1268	NDb	110b	ug/kg dryb	1b	09/04/14b	B4H2807b	8081/8082b	
Surrogate: Decachlorobiphenyl-			47.2 %-	30-150-		09/04/14-	B4H2807b	8081/8082-	
Surrogate: Tetrachloro-m-xylene-			66.0 %-	30-150-		09/04/14-	B4H2807b	8081/8082-	
Inorganics-General Chemistry									
TSb	% Total Solidsp	93.7p	0.1b	%b	1b	08/25/14b	B4H2511b	2540 Bb	



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Client ID: CHLL-SB135 0-6''p

Lab ID: 1408233-05p

CAS #b	Analyteb	Resultb	RLb	Unitsb	Dilutionb	Analyzed b Dateb	QC Batchb	Methodb	Qualifierb
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Inorganics-General Chemistry

TSb	% Total Solids	82.5p	0.1b	%b	1b	08/25/14b	B4H2511b	2540 Bb	
57-12-5b	Total Cyanide	0.62p	0.12b	mg/kg dryb	1b	08/27/14b	B4H2517b	ASTM D 7511-09b	

Inorganics-Metals

7440-38-2b	Arsenic	7.7p	0.5b	mg/kg dryb	10b	09/05/14b	B4H2701b	6020/200.8	
7440-39-3b	Barium	64p	1.0b	mg/kg dryb	10b	09/05/14b	B4H2701b	6020/200.8	
7440-50-8	Cop erp	3700p	100b	mg/kg dryb	1000b	09/05/14b	B4H2701b	6020/200.8	
7439-92-1b	Lead	22p	1.0b	mg/kg dryb	10b	09/08/14b	B4H2701b	6020/200.8	
7439-96-5b	Manganese	260p	1.0b	mg/kg dryb	10b	09/05/14b	B4H2701b	6020/200.8	



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Client ID: CHLL-SB136 0-6''p

Lab ID: 1408233-06p

CAS #b	Analyteb	Resultb	RLb	Unitsb	Dilutionb	Analyzed b Dateb	QC Batchb	Methodb	Qualifierb
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Inorganics-General Chemistry

TSb	% Total Solidsb	74.2p	0.1b	%b	1b	08/25/14b	B4H2511b	2540 Bb	
57-12-5b	Total Cyanideb	0.20p	0.13b	mg/kg dryb	1b	08/27/14b	B4H2517b	ASTM D 7511-09b	

Inorganics-Metals

7440-38-2b	Arsenicb	4.1p	0.5b	mg/kg dryb	10b	09/05/14b	B4H2701b	6020/200.8	
7440-39-3b	Bariumb	49p	1.0b	mg/kg dryb	10b	09/05/14b	B4H2701b	6020/200.8	
7440-50-8	Cop erpb	560p	10b	mg/kg dryb	100b	09/08/14b	B4H2701b	6020/200.8	
7439-92-1b	Leadb	60p	10b	mg/kg dryb	100b	09/08/14b	B4H2701b	6020/200.8	
7439-96-5b	Manganeseb	230p	1.0b	mg/kg dryb	10b	09/05/14b	B4H2701b	6020/200.8	



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Client ID: CHLL-SB129 0-6''p

Lab ID: 1408233-07p

CAS #b	Analyteb	Resultb	RLb	Unitsb	Dilutionb	Analyzed b Dateb	QC Batchb	Methodb	Qualifierb
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Inorganics-General Chemistry

TSb	% Total Solidsb	90.9p	0.1b	%b	1b	08/25/14b	B4H2511b	2540 Bb	
57-12-5b	Total Cyanideb	NDb	0.11b	mg/kg dryb	1b	08/27/14b	B4H2517b	ASTM D 7511-09b	

Inorganics-Metals

7440-38-2b	Arsenicb	1.2p	0.5b	mg/kg dryb	10b	09/05/14b	B4H2701b	6020/200.8	
7440-39-3b	Bariumb	29p	1.0b	mg/kg dryb	10b	09/05/14b	B4H2701b	6020/200.8	
7440-50-8	Cop erpb	110p	1.0b	mg/kg dryb	10b	09/08/14b	B4H2701b	6020/200.8	
7439-92-1b	Leadb	12p	1.0b	mg/kg dryb	10b	09/08/14b	B4H2701b	6020/200.8	
7439-96-5b	Manganeseb	140p	1.0b	mg/kg dryb	10b	09/05/14b	B4H2701b	6020/200.8	



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Client ID: CHLL-SB128 0-6''p

Lab ID: 1408233-08p

CAS #b	Analyteb	Resultb	RLb	Unitsb	Dilutionb	Analyzed b Dateb	QC Batchb	Methodb	Qualifier b
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Inorganics-General Chemistry

TSb	% Total Solidsb	90.2p	0.1b	%b	1b	08/25/14b	B4H2511b	2540 Bb	
57-12-5b	Total Cyanideb	NDb	0.11b	mg/kg dryb	1b	08/27/14b	B4H2517b	ASTM D 7511-09b	

Inorganics-Metals

7440-38-2b	Arsenicb	1.4p	0.5b	mg/kg dryb	10b	09/05/14b	B4H2701b	6020/200.8	
7440-39-3b	Bariumb	24p	1.0b	mg/kg dryb	10b	09/05/14b	B4H2701b	6020/200.8	
7440-50-8	Cop erpb	170p	1.0b	mg/kg dryb	10b	09/08/14b	B4H2701b	6020/200.8	
7439-92-1b	Leadb	11p	1.0b	mg/kg dryb	10b	09/08/14b	B4H2701b	6020/200.8	
7439-96-5b	Manganeseb	150p	1.0b	mg/kg dryb	10b	09/05/14b	B4H2701b	6020/200.8	



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Client ID: CHLL-DM01p

Lab ID: 1408233-09p

CAS #b	Analyteb	Resultb	RLb	Unitsb	Dilutionb	Analyzedb Dateb	QC Batchb	Methodb	Qualifyb
Organics-Semivolatiles									See note Y17, Y20p
91-57-6b	2-Methylnaphthaleneb	NDb	600b	ug/kg dryb	1b	09/09/14b	B4H2718	8270b	
83-32-9b	Acenaphtheneb	NDb	240b	ug/kg dryb	1b	09/09/14b	B4H2718	8270b	
208-96-8	Acenaphthyleneb	NDb	240b	ug/kg dryb	1b	09/09/14b	B4H2718	8270b	
120-12-7b	Anthraceneb	NDb	240b	ug/kg dryb	1b	09/09/14b	B4H2718	8270b	
56-55-3b	Benz[a]anthraceneb	NDb	240b	ug/kg dryb	1b	09/09/14b	B4H2718	8270b	
50-32-8	Benzo[a]pyreneb	NDb	480b	ug/kg dryb	1b	09/09/14b	B4H2718	8270b	
205-99-2b	Benzo[b]fluorantheneb	NDb	480b	ug/kg dryb	1b	09/09/14b	B4H2718	8270b	
191-24-2b	Benzo[g,h,i]peryleneb	NDb	480b	ug/kg dryb	1b	09/09/14b	B4H2718	8270b	
207-08-9b	Benzo[k]fluorantheneb	NDb	480b	ug/kg dryb	1b	09/09/14b	B4H2718	8270b	
218-01-9b	Chryseneb	NDb	240b	ug/kg dryb	1b	09/09/14b	B4H2718	8270b	
53-70-3b	Dibenz[a,h]anthraceneb	NDb	480b	ug/kg dryb	1b	09/09/14b	B4H2718	8270b	
206-44-0b	Fluorantheneb	NDb	240b	ug/kg dryb	1b	09/09/14b	B4H2718	8270b	
86-73-7b	Fluoreneb	NDb	240b	ug/kg dryb	1b	09/09/14b	B4H2718	8270b	
193-39-5b	Indeno[1,2,3-c,d]pyreneb	NDb	480b	ug/kg dryb	1b	09/09/14b	B4H2718	8270b	
91-20-3b	Naphthaleneb	NDb	240b	ug/kg dryb	1b	09/09/14b	B4H2718	8270b	
85-01-8	Phenanthreneb	NDb	240b	ug/kg dryb	1b	09/09/14b	B4H2718	8270b	
129-00-0b	Pyreneb	NDb	240b	ug/kg dryb	1b	09/09/14b	B4H2718	8270b	
Surrogate: 2-Fluorobiphenyl-			63.2 %-	32.9-115-		09/09/14-	B4H2718	8270-	
Surrogate: Nitrobenzene-d5-			59.9 %-	31.8-115-		09/09/14-	B4H2718	8270-	
Surrogate: p-Terphenyl-d14-			74.7 %-	38.5-115-		09/09/14-	B4H2718	8270-	
Organics-PCBs as Aroclors									
12674-11-2b	Aroclor 1016b	NDb	120b	ug/kg dryb	1b	09/03/14b	B4H2807b	8081/8082b	
11104-28-2b	Aroclor 1221b	NDb	120b	ug/kg dryb	1b	09/03/14b	B4H2807b	8081/8082b	
11141-16-5b	Aroclor 1232b	NDb	120b	ug/kg dryb	1b	09/03/14b	B4H2807b	8081/8082b	
53469-21-9b	Aroclor 1242b	NDb	120b	ug/kg dryb	1b	09/03/14b	B4H2807b	8081/8082b	
12672-29-6b	Aroclor 1248	NDb	120b	ug/kg dryb	1b	09/03/14b	B4H2807b	8081/8082b	
11097-69-1b	Aroclor 1254p	470p	120b	ug/kg dryb	1b	09/03/14b	B4H2807b	8081/8082b	JAb
11096-82-5b	Aroclor 1260p	170p	120b	ug/kg dryb	1b	09/03/14b	B4H2807b	8081/8082b	JAb
37324-23-5b	Aroclor 1262b	NDb	180b	ug/kg dryb	1b	09/03/14b	B4H2807b	8081/8082b	Y21b
11100-14-4b	Aroclor 1268	NDb	120b	ug/kg dryb	1b	09/03/14b	B4H2807b	8081/8082b	
Surrogate: Decachlorobiphenyl-			47.6 %-	30-150-		09/03/14-	B4H2807b	8081/8082-	
Surrogate: Tetrachloro-m-xylene-			72.3 %-	30-150-		09/03/14-	B4H2807b	8081/8082-	



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Client ID: CHLL-DM01p

Lab ID: 1408233-09p

CAS #b	Analyteb	Resultb	RLb	Unitsb	Dilutionb	Analyzed b Dateb	QC Batchb	Methodb	Qualifier b
Inorganics-General Chemistry									
TSb	% Total Solidsb	83.9p	0.1b	%b	1b	08/25/14b	B4H2511b	2540 Bb	
57-12-5b	Total Cyanideb	NDb	0.12b	mg/kg dryb	1b	08/27/14b	B4H2517b	ASTM D 7511-09b	
Inorganics-Metals									
7429-90-5b	Aluminiump	460p	10b	mg/kg dryb	100b	09/05/14b	B4H2701b	6020/200.8	
7440-36-0b	Antimonyp	1900p	30b	mg/kg dryb	1000b	09/09/14b	B4I0202b	6020/200.8	
7440-38-2b	Arsenicp	51p	0.5b	mg/kg dryb	10b	09/05/14b	B4H2701b	6020/200.8	
7440-39-3b	Bariump	10000p	1000b	mg/kg dryb	10000b	09/08/14b	B4H2701b	6020/200.8	
7440-43-9b	Cadmiump	50p	20b	mg/kg dryb	1000b	09/08/14b	B4H2701b	6020/200.8	A12b
7440-47-3b	Chromiump	32p	2.0b	mg/kg dryb	10b	09/05/14b	B4H2701b	6020/200.8	
7440-48-4b	Cobalt p	11p	0.5b	mg/kg dryb	10b	09/05/14b	B4H2701b	6020/200.8	
7440-50-8	Cop erp	10000p	100b	mg/kg dryb	1000b	09/08/14b	B4H2701b	6020/200.8	
7439-89-6b	Ironp	160000p	50b	mg/kg dryb	100b	09/10/14b	B4H2701b	6010/200.7b	
7439-92-1b	Leadp	230000p	1000b	mg/kg dryb	10000b	09/08/14b	B4H2701b	6020/200.8	
7439-96-5b	Manganesep	500p	1.0b	mg/kg dryb	10b	09/05/14b	B4H2701b	6020/200.8	
7439-97-6b	Mercuryp	1.1p	0.06b	mg/kg dryb	1b	08/28/14b	B4H2614b	7471/245.5b	
7440-02-0b	Nickelp	140p	1.0b	mg/kg dryb	10b	09/05/14b	B4H2701b	6020/200.8	
7782-49-2b	Seleniump	8.1p	0.2b	mg/kg dryb	10b	09/05/14b	B4H2701b	6020/200.8	
7440-22-4b	Silverp	370p	10b	mg/kg dryb	100b	09/12/14b	B4I1102b	6020/200.8	
7440-66-6b	Zincp	2200p	100b	mg/kg dryb	1000b	09/08/14b	B4H2701b	6020/200.8	



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Client ID: CHLL-DM02p

Lab ID: 1408233-10p

CAS #b	Analyteb	Resultb	RLb	Unitsb	Dilutionb	Analyzedb Dateb	QC Batchb	Methodb	Qualifiert
Organics-Semivolatiles									See note Y17, Y20p
91-57-6b	2-Methylnaphthaleneb	NDb	570b	ug/kg dryb	1b	09/09/14b	B4H2718	8270b	
83-32-9b	Acenaphtheneb	NDb	230b	ug/kg dryb	1b	09/09/14b	B4H2718	8270b	
208-96-8	Acenaphthyleneb	NDb	230b	ug/kg dryb	1b	09/09/14b	B4H2718	8270b	
120-12-7b	Anthraceneb	NDb	230b	ug/kg dryb	1b	09/09/14b	B4H2718	8270b	
56-55-3b	Benz[a]anthracenep	350p	230b	ug/kg dryb	1b	09/09/14b	B4H2718	8270b	
50-32-8	Benzo[a]pyreneb	NDb	450b	ug/kg dryb	1b	09/09/14b	B4H2718	8270b	
205-99-2b	Benzo[b]fluoranthenep	560p	450b	ug/kg dryb	1b	09/09/14b	B4H2718	8270b	
191-24-2b	Benzo[g,h,i]peryleneb	NDb	450b	ug/kg dryb	1b	09/09/14b	B4H2718	8270b	
207-08-9b	Benzo[k]fluorantheneb	NDb	450b	ug/kg dryb	1b	09/09/14b	B4H2718	8270b	
218-01-9b	Chrysenep	460p	230b	ug/kg dryb	1b	09/09/14b	B4H2718	8270b	
53-70-3b	Dibenz[a,h]anthraceneb	NDb	450b	ug/kg dryb	1b	09/09/14b	B4H2718	8270b	
206-44-0b	Fluoranthenep	810p	230b	ug/kg dryb	1b	09/09/14b	B4H2718	8270b	
86-73-7b	Fluoreneb	NDb	230b	ug/kg dryb	1b	09/09/14b	B4H2718	8270b	
193-39-5b	Indeno(1,2,3-c,d)pyreneb	NDb	450b	ug/kg dryb	1b	09/09/14b	B4H2718	8270b	
91-20-3b	Naphthaleneb	NDb	230b	ug/kg dryb	1b	09/09/14b	B4H2718	8270b	
85-01-8	Phenanthrenep	570p	230b	ug/kg dryb	1b	09/09/14b	B4H2718	8270b	
129-00-0b	Pyrenep	670p	230b	ug/kg dryb	1b	09/09/14b	B4H2718	8270b	
Surrogate: 2-Fluorobiphenyl-			65.3 %-	32.9-115-		09/09/14-	B4H2718	8270-	
Surrogate: Nitrobenzene-d5-			60.4 %-	31.8-115-		09/09/14-	B4H2718	8270-	
Surrogate: p-Terphenyl-d14-			74.6 %-	38.5-115-		09/09/14-	B4H2718	8270-	
Organics-PCBs as Aroclorsp									
12674-11-2b	Aroclor 1016b	NDb	110b	ug/kg dryb	1b	09/03/14b	B4H2807b	8081/8082b	
11104-28-2b	Aroclor 1221b	NDb	110b	ug/kg dryb	1b	09/03/14b	B4H2807b	8081/8082b	
11141-16-5b	Aroclor 1232b	NDb	110b	ug/kg dryb	1b	09/03/14b	B4H2807b	8081/8082b	
53469-21-9b	Aroclor 1242b	NDb	110b	ug/kg dryb	1b	09/03/14b	B4H2807b	8081/8082b	
12672-29-6b	Aroclor 1248	NDb	200b	ug/kg dryb	1b	09/03/14b	B4H2807b	8081/8082b	Y21b
11097-69-1b	Aroclor 1254p	400p	110b	ug/kg dryb	1b	09/03/14b	B4H2807b	8081/8082b	JAb
11096-82-5b	Aroclor 1260b	NDb	530b	ug/kg dryb	1b	09/03/14b	B4H2807b	8081/8082b	Y21b
37324-23-5b	Aroclor 1262p	520p	110b	ug/kg dryb	1b	09/03/14b	B4H2807b	8081/8082b	JAb
11100-14-4b	Aroclor 1268	NDb	110b	ug/kg dryb	1b	09/03/14b	B4H2807b	8081/8082b	
Surrogate: Decachlorobiphenyl-			57.9 %-	30-150-		09/03/14-	B4H2807b	8081/8082-	
Surrogate: Tetrachloro-m-xylene-			72.5 %-	30-150-		09/03/14-	B4H2807b	8081/8082-	



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Client ID: CHLL-DM02p

Lab ID: 1408233-10p

CAS #b	Analyteb	Resultb	RLb	Unitsb	Dilutionb	Analyzed b Dateb	QC Batchb	Methodb	Qualifierb
Inorganics-General Chemistry									
TSb	% Total Solids	88.1p	0.1b	%b	1b	08/25/14b	B4H2512b	2540 Bb	
57-12-5b	Total Cyanideb	NDb	0.11b	mg/kg dryb	1b	08/27/14b	B4H2517b	ASTM D 7511-09b	
Inorganics-Metals									
7429-90-5b	Aluminiump	5500p	10b	mg/kg dryb	100b	09/05/14b	B4H2701b	6020/200.8	
7440-36-0b	Antimonyp	590p	30b	mg/kg dryb	1000b	09/09/14b	B4I0202b	6020/200.8	
7440-38-2b	Arsenicp	65p	0.5b	mg/kg dryb	10b	09/05/14b	B4H2701b	6020/200.8	
7440-39-3b	Bariump	3800p	1000b	mg/kg dryb	10000b	09/08/14b	B4H2701b	6020/200.8	
7440-43-9b	Cadmiump	14p	2.0b	mg/kg dryb	100b	09/05/14b	B4H2701b	6020/200.8	
7440-47-3b	Chromiump	47p	2.0b	mg/kg dryb	10b	09/05/14b	B4H2701b	6020/200.8	
7440-48-4b	Cobalt p	9.9p	0.5b	mg/kg dryb	10b	09/05/14b	B4H2701b	6020/200.8	
7440-50-8	Cop erp	23000p	100b	mg/kg dryb	1000b	09/08/14b	B4H2701b	6020/200.8	
7439-89-6b	Ironp	67000p	50b	mg/kg dryb	100b	09/10/14b	B4H2701b	6010/200.7b	
7439-92-1b	Leadp	110000p	1000b	mg/kg dryb	10000b	09/08/14b	B4H2701b	6020/200.8	
7439-96-5b	Manganese p	350p	1.0b	mg/kg dryb	10b	09/05/14b	B4H2701b	6020/200.8	
7439-97-6b	Mercuryp	0.6p	0.06b	mg/kg dryb	1b	08/28/14b	B4H2615b	7471/245.5b	
7440-02-0b	Nickelp	91p	1.0b	mg/kg dryb	10b	09/05/14b	B4H2701b	6020/200.8	
7782-49-2b	Seleniump	5.4p	0.2b	mg/kg dryb	10b	09/05/14b	B4H2701b	6020/200.8	
7440-22-4b	Silverp	34p	1.0b	mg/kg dryb	100b	09/05/14b	B4H2701b	6020/200.8	
7440-66-6b	Zincp	3000p	100b	mg/kg dryb	1000b	09/08/14b	B4H2701b	6020/200.8	



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Client ID: CHLL-SB140-0-6''p

Lab ID: 1408233-11p

CAS #b	Analyteb	Resultb	RLb	Unitsb	Dilutionb	Analyzed b Dateb	QC Batchb	Methodb	Qualifier b
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Inorganics-General Chemistry

TSb	% Total Solidsb	66.0p	0.1b	%b	1b	08/25/14b	B4H2512b	2540 Bb	
57-12-5b	Total Cyanideb	NDb	0.15b	mg/kg dryb	1b	08/27/14b	B4H2517b	ASTM D 7511-09b	

Inorganics-Metals

7440-38-2b	Arsenicb	5.8p	0.5b	mg/kg dryb	10b	09/05/14b	B4H2701b	6020/200.8	
7440-39-3b	Bariumb	79p	1.0b	mg/kg dryb	10b	09/05/14b	B4H2701b	6020/200.8	
7440-50-8	Cop erb	1200p	10b	mg/kg dryb	100b	09/08/14b	B4H2701b	6020/200.8	
7439-92-1b	Leadb	230p	10b	mg/kg dryb	100b	09/08/14b	B4H2701b	6020/200.8	
7439-96-5b	Manganeseb	190p	1.0b	mg/kg dryb	10b	09/05/14b	B4H2701b	6020/200.8	



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Client ID: CHLL-SB141-0-6''p

Lab ID: 1408233-12p

CAS #b	Analyteb	Resultb	RLb	Unitsb	Dilutionb	Analyzed b Dateb	QC Batchb	Methodb	Qualifier b
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Inorganics-General Chemistry

TSb	% Total Solidsb	59.1p	0.1b	%b	1b	08/25/14b	B4H2512b	2540 Bb	
57-12-5b	Total Cyanideb	NDb	0.17b	mg/kg dryb	1b	08/27/14b	B4H2517b	ASTM D 7511-09b	

Inorganics-Metals

7440-38-2b	Arsenicb	10p	0.5b	mg/kg dryb	10b	09/05/14b	B4H2701b	6020/200.8	
7440-39-3b	Bariumb	200p	10b	mg/kg dryb	100b	09/08/14b	B4H2701b	6020/200.8	
7440-50-8	Cop erpb	2300p	10b	mg/kg dryb	100b	09/08/14b	B4H2701b	6020/200.8	
7439-92-1b	Leadb	90p	10b	mg/kg dryb	100b	09/08/14b	B4H2701b	6020/200.8	
7439-96-5b	Manganeseb	400p	1.0b	mg/kg dryb	10b	09/05/14b	B4H2701b	6020/200.8	



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Client ID: CHLL-SB110-0-6''p

Lab ID: 1408233-13p

CAS #b	Analyteb	Resultb	RLb	Unitsb	Dilutionb	Analyzed b Dateb	QC Batchb	Methodb	Qualifierb
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Inorganics-General Chemistry

TSb	% Total Solidsb	90.8p	0.1b	%b	1b	08/25/14b	B4H2512b	2540 Bb	
57-12-5b	Total Cyanideb	NDb	0.11b	mg/kg dryb	1b	08/27/14b	B4H2517b	ASTM D 7511-09b	

Inorganics-Metals

7440-38-2b	Arsenicb	0.8p	0.5b	mg/kg dryb	10b	09/09/14b	B4I0201b	6020/200.8	
7440-39-3b	Bariumb	17p	1.0b	mg/kg dryb	10b	09/09/14b	B4I0201b	6020/200.8	
7440-50-8	Cop erb	65p	1.0b	mg/kg dryb	10b	09/09/14b	B4I0201b	6020/200.8	
7439-92-1b	Leadb	3.3p	1.0b	mg/kg dryb	10b	09/09/14b	B4I0201b	6020/200.8	
7439-96-5b	Manganeseb	98p	1.0b	mg/kg dryb	10b	09/09/14b	B4I0201b	6020/200.8	



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Client ID: CHLL-SB109-0-6''p

Lab ID: 1408233-14p

CAS #b	Analyteb	Resultb	RLb	Unitsb	Dilutionb	Analyzed b Dateb	QC Batchb	Methodb	Qualifier b
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Inorganics-General Chemistry

TSb	% Total Solidsb	91.5p	0.1b	%b	1b	08/25/14b	B4H2512b	2540 Bb	
57-12-5b	Total Cyanideb	NDb	0.11b	mg/kg dryb	1b	08/27/14b	B4H2517b	ASTM D 7511-09b	

Inorganics-Metals

7440-38-2b	Arsenicb	9.2p	0.5b	mg/kg dryb	10b	09/09/14b	B4I0201b	6020/200.8	
7440-39-3b	Bariumb	43p	1.0b	mg/kg dryb	10b	09/09/14b	B4I0201b	6020/200.8	
7440-50-8	Cop erpb	3600p	100b	mg/kg dryb	1000b	09/10/14b	B4I0201b	6020/200.8	
7439-92-1b	Leadb	170p	1.0b	mg/kg dryb	10b	09/09/14b	B4I0201b	6020/200.8	
7439-96-5b	Manganeseb	380p	1.0b	mg/kg dryb	10b	09/09/14b	B4I0201b	6020/200.8	



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Client ID: CHLL-SB69-0-6"p

Lab ID: 1408233-15p

CAS #b	Analyteb	Resultb	RLb	Unitsb	Dilutionb	Analyzed b Dateb	QC Batchb	Methodb	Qualifierb
Organics-PCBs as Aroclorsp									
12674-11-2b	Aroclor 1016b	NDb	120b	ug/kg dryb	1b	09/04/14b	B4H2807b	8081/8082b	
11104-28-2b	Aroclor 1221b	NDb	120b	ug/kg dryb	1b	09/04/14b	B4H2807b	8081/8082b	
11141-16-5b	Aroclor 1232b	NDb	120b	ug/kg dryb	1b	09/04/14b	B4H2807b	8081/8082b	
53469-21-9b	Aroclor 1242b	NDb	120b	ug/kg dryb	1b	09/04/14b	B4H2807b	8081/8082b	
12672-29-6b	Aroclor 1248	NDb	150b	ug/kg dryb	1b	09/04/14b	B4H2807b	8081/8082b	Y21b
11097-69-1b	Aroclor 1254p	360p	120b	ug/kg dryb	1b	09/04/14b	B4H2807b	8081/8082b	JAb
11096-82-5b	Aroclor 1260b	NDb	240b	ug/kg dryb	1b	09/04/14b	B4H2807b	8081/8082b	Y21b
37324-23-5b	Aroclor 1262p	240p	120b	ug/kg dryb	1b	09/04/14b	B4H2807b	8081/8082b	JAb
11100-14-4b	Aroclor 1268	NDb	120b	ug/kg dryb	1b	09/04/14b	B4H2807b	8081/8082b	
<i>Surrogate: Decachlorobiphenyl-</i>			68.6 %-	30-150-		09/04/14-	B4H2807b	8081/8082-	
<i>Surrogate: Tetrachloro-m-xylene-</i>			72.4 %-	30-150-		09/04/14-	B4H2807b	8081/8082-	
Inorganics-General Chemistry									
TSb	% Total Solids	86.8p	0.1b	%b	1b	08/25/14b	B4H2512b	2540 Bb	



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Client ID: CHLL-SB74R-0-6''p

Lab ID: 1408233-16p

CAS #b	Analyteb	Resultb	RLb	Unitsb	Dilutionb	Analyzed b Dateb	QC Batchb	Methodb	Qualifier b
Organics-PCBs as Aroclorsp									
12674-11-2b	Aroclor 1016b	NDb	130b	ug/kg dryb	1b	09/04/14b	B4H2807b	8081/8082b	
11104-28-2b	Aroclor 1221b	NDb	130b	ug/kg dryb	1b	09/04/14b	B4H2807b	8081/8082b	
11141-16-5b	Aroclor 1232b	NDb	130b	ug/kg dryb	1b	09/04/14b	B4H2807b	8081/8082b	
53469-21-9b	Aroclor 1242b	NDb	130b	ug/kg dryb	1b	09/04/14b	B4H2807b	8081/8082b	
12672-29-6b	Aroclor 1248	NDb	280b	ug/kg dryb	1b	09/04/14b	B4H2807b	8081/8082b	Y21b
11097-69-1b	Aroclor 1254p	510p	130b	ug/kg dryb	1b	09/04/14b	B4H2807b	8081/8082b	JAb
11096-82-5b	Aroclor 1260b	NDb	320b	ug/kg dryb	1b	09/04/14b	B4H2807b	8081/8082b	Y21b
37324-23-5b	Aroclor 1262p	310p	130b	ug/kg dryb	1b	09/04/14b	B4H2807b	8081/8082b	JAb
11100-14-4b	Aroclor 1268	NDb	130b	ug/kg dryb	1b	09/04/14b	B4H2807b	8081/8082b	
Surrogate: Decachlorobiphenyl-			57.1 %-	30-150-		09/04/14-	B4H2807b	8081/8082-	
Surrogate: Tetrachloro-m-xylene-			65.3 %-	30-150-		09/04/14-	B4H2807b	8081/8082-	
Inorganics-General Chemistry									
TSb	% Total Solidsp	78.8p	0.1b	%b	1b	08/25/14b	B4H2512b	2540 Bb	



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Client ID: CHLL-SB100-0-6"p

Lab ID: 1408233-17p

CAS #b	Analyteb	Resultb	RLb	Unitsb	Dilutionb	Analyzed b Dateb	QC Batchb	Methodb	Qualifier b
Organics-PCBs as Aroclorsp									
12674-11-2b	Aroclor 1016	NDb	110b	ug/kg dryb	1b	09/11/14b	B4H2807b	8081/8082b	
11104-28-2b	Aroclor 1221	NDb	110b	ug/kg dryb	1b	09/11/14b	B4H2807b	8081/8082b	
11141-16-5b	Aroclor 1232	NDb	110b	ug/kg dryb	1b	09/11/14b	B4H2807b	8081/8082b	
53469-21-9b	Aroclor 1242	NDb	110b	ug/kg dryb	1b	09/11/14b	B4H2807b	8081/8082b	
12672-29-6b	Aroclor 1248	NDb	110b	ug/kg dryb	1b	09/11/14b	B4H2807b	8081/8082b	
11097-69-1b	Aroclor 1254	NDb	110b	ug/kg dryb	1b	09/11/14b	B4H2807b	8081/8082b	
11096-82-5b	Aroclor 1260	NDb	110b	ug/kg dryb	1b	09/11/14b	B4H2807b	8081/8082b	
37324-23-5b	Aroclor 1262	44p	110b	ug/kg dryb	1b	09/11/14b	B4H2807b	8081/8082b	Tb
11100-14-4b	Aroclor 1268	NDb	110b	ug/kg dryb	1b	09/11/14b	B4H2807b	8081/8082b	
Surrogate: Decachlorobiphenyl-			56.6 %-	30-150-		09/11/14-	B4H2807b	8081/8082-	
Surrogate: Tetrachloro-m-xylene-			64.8 %-	30-150-		09/11/14-	B4H2807b	8081/8082-	
Inorganics-General Chemistry									
TSb	% Total Solids	87.4p	0.1b	%b	1b	08/25/14b	B4H2512b	2540 Bb	



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Client ID: CHLL-SB101-0-6"p

Lab ID: 1408233-18p

CAS #b	Analyteb	Resultb	RLb	Unitsb	Dilutionb	Analyzed b Dateb	QC Batchb	Methodb	Qualifier b
Organics-PCBs as Aroclorsp									
12674-11-2b	Aroclor 1016b	NDb	130b	ug/kg dryb	1b	09/11/14b	B4H2807b	8081/8082b	
11104-28-2b	Aroclor 1221b	NDb	130b	ug/kg dryb	1b	09/11/14b	B4H2807b	8081/8082b	
11141-16-5b	Aroclor 1232b	NDb	130b	ug/kg dryb	1b	09/11/14b	B4H2807b	8081/8082b	
53469-21-9b	Aroclor 1242b	NDb	130b	ug/kg dryb	1b	09/11/14b	B4H2807b	8081/8082b	
12672-29-6b	Aroclor 1248	NDb	130b	ug/kg dryb	1b	09/11/14b	B4H2807b	8081/8082b	
11097-69-1b	Aroclor 1254b	NDb	130b	ug/kg dryb	1b	09/11/14b	B4H2807b	8081/8082b	
11096-82-5b	Aroclor 1260b	NDb	130b	ug/kg dryb	1b	09/11/14b	B4H2807b	8081/8082b	
37324-23-5b	Aroclor 1262b	NDb	130b	ug/kg dryb	1b	09/11/14b	B4H2807b	8081/8082b	
11100-14-4b	Aroclor 1268	NDb	130b	ug/kg dryb	1b	09/11/14b	B4H2807b	8081/8082b	
<i>Surrogate: Decachlorobiphenyl-</i>			51.0 %-	30-150-		09/11/14-	B4H2807b	8081/8082-	
<i>Surrogate: Tetrachloro-m-xylene-</i>			60.0 %-	30-150-		09/11/14-	B4H2807b	8081/8082-	
Inorganics-General Chemistry									
TSb	% Total Solids ^p	74.5 ^p	0.1b	%b	1b	08/25/14b	B4H2512b	2540 Bb	



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Client ID: CHLL-SB102-0-6"p

Lab ID: 1408233-19p

CAS #b	Analyteb	Resultb	RLb	Unitsb	Dilutionb	Analyzed b Dateb	QC Batchb	Methodb	Qualifier b
Organics-PCBs as Aroclorsp									
12674-11-2b	Aroclor 1016b	NDb	120b	ug/kg dryb	1b	09/11/14b	B4H2807b	8081/8082b	
11104-28-2b	Aroclor 1221b	NDb	120b	ug/kg dryb	1b	09/11/14b	B4H2807b	8081/8082b	
11141-16-5b	Aroclor 1232b	NDb	120b	ug/kg dryb	1b	09/11/14b	B4H2807b	8081/8082b	
53469-21-9b	Aroclor 1242b	NDb	120b	ug/kg dryb	1b	09/11/14b	B4H2807b	8081/8082b	
12672-29-6b	Aroclor 1248	NDb	120b	ug/kg dryb	1b	09/11/14b	B4H2807b	8081/8082b	
11097-69-1b	Aroclor 1254b	NDb	120b	ug/kg dryb	1b	09/11/14b	B4H2807b	8081/8082b	
11096-82-5b	Aroclor 1260b	NDb	120b	ug/kg dryb	1b	09/11/14b	B4H2807b	8081/8082b	
37324-23-5b	Aroclor 1262b	NDb	120b	ug/kg dryb	1b	09/11/14b	B4H2807b	8081/8082b	
11100-14-4b	Aroclor 1268	NDb	120b	ug/kg dryb	1b	09/11/14b	B4H2807b	8081/8082b	
<i>Surrogate: Decachlorobiphenyl-</i>			60.2 %-	30-150-		09/11/14-	B4H2807b	8081/8082-	
<i>Surrogate: Tetrachloro-m-xylene-</i>			64.5 %-	30-150-		09/11/14-	B4H2807b	8081/8082-	
Inorganics-General Chemistry									
TSb	% Total Solids ^p	83.6 ^p	0.1b	%b	1b	08/25/14b	B4H2512b	2540 Bb	



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Client ID: CHLL-SB103-0-6"p

Lab ID: 1408233-20p

CAS #b	Analyteb	Resultb	RLb	Unitsb	Dilutionb	Analyzed b Dateb	QC Batchb	Methodb	Qualifier b
Organics-PCBs as Aroclorsp									
12674-11-2b	Aroclor 1016b	NDb	120b	ug/kg dryb	1b	09/04/14b	B4H2807b	8081/8082b	
11104-28-2b	Aroclor 1221b	NDb	120b	ug/kg dryb	1b	09/04/14b	B4H2807b	8081/8082b	
11141-16-5b	Aroclor 1232b	NDb	120b	ug/kg dryb	1b	09/04/14b	B4H2807b	8081/8082b	
53469-21-9b	Aroclor 1242b	NDb	120b	ug/kg dryb	1b	09/04/14b	B4H2807b	8081/8082b	
12672-29-6b	Aroclor 1248	NDb	120b	ug/kg dryb	1b	09/04/14b	B4H2807b	8081/8082b	
11097-69-1b	Aroclor 1254b	NDb	120b	ug/kg dryb	1b	09/04/14b	B4H2807b	8081/8082b	
11096-82-5b	Aroclor 1260b	NDb	120b	ug/kg dryb	1b	09/04/14b	B4H2807b	8081/8082b	
37324-23-5b	Aroclor 1262b	NDb	120b	ug/kg dryb	1b	09/04/14b	B4H2807b	8081/8082b	
11100-14-4b	Aroclor 1268	NDb	120b	ug/kg dryb	1b	09/04/14b	B4H2807b	8081/8082b	
<i>Surrogate: Decachlorobiphenyl-</i>			68.6 %-	30-150-		09/04/14-	B4H2807b	8081/8082-	
<i>Surrogate: Tetrachloro-m-xylene-</i>			78.5 %-	30-150-		09/04/14-	B4H2807b	8081/8082-	
Inorganics-General Chemistry									
TSb	% Total Solids ^p	80.3 ^p	0.1b	%b	1b	08/25/14b	B4H2512b	2540 Bb	



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Client ID: CHLL-SB104-0-6"p

Lab ID: 1408233-21p

CAS #b	Analyteb	Resultb	RLb	Unitsb	Dilutionb	Analyzed b Dateb	QC Batchb	Methodb	Qualifier b
Organics-PCBs as Aroclorsp									
12674-11-2b	Aroclor 1016	NDb	170b	ug/kg dryb	1b	09/11/14b	B4H2807b	8081/8082b	
11104-28-2b	Aroclor 1221	NDb	170b	ug/kg dryb	1b	09/11/14b	B4H2807b	8081/8082b	
11141-16-5b	Aroclor 1232	NDb	170b	ug/kg dryb	1b	09/11/14b	B4H2807b	8081/8082b	
53469-21-9b	Aroclor 1242	NDb	170b	ug/kg dryb	1b	09/11/14b	B4H2807b	8081/8082b	
12672-29-6b	Aroclor 1248	NDb	170b	ug/kg dryb	1b	09/11/14b	B4H2807b	8081/8082b	
11097-69-1b	Aroclor 1254	NDb	170b	ug/kg dryb	1b	09/11/14b	B4H2807b	8081/8082b	
11096-82-5b	Aroclor 1260	NDb	170b	ug/kg dryb	1b	09/11/14b	B4H2807b	8081/8082b	
37324-23-5b	Aroclor 1262	94p	170b	ug/kg dryb	1b	09/11/14b	B4H2807b	8081/8082b	Tb
11100-14-4b	Aroclor 1268	NDb	170b	ug/kg dryb	1b	09/11/14b	B4H2807b	8081/8082b	
Surrogate: Decachlorobiphenyl-			52.5 %-	30-150-		09/11/14-	B4H2807b	8081/8082-	
Surrogate: Tetrachloro-m-xylene-			59.4 %-	30-150-		09/11/14-	B4H2807b	8081/8082-	
Inorganics-General Chemistry									
TSb	% Total Solids	60.6p	0.1b	%b	1b	08/25/14b	B4H2512b	2540 Bb	



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Client ID: CHLL-SB105-0-6"p

Lab ID: 1408233-22p

CAS #b	Analyteb	Resultb	RLb	Unitsb	Dilutionb	Analyzed b Dateb	QC Batchb	Methodb	Qualifier b
Organics-PCBs as Aroclorsp									
12674-11-2b	Aroclor 1016b	NDb	120b	ug/kg dryb	1b	09/11/14b	B4H2807b	8081/8082b	
11104-28-2b	Aroclor 1221b	NDb	120b	ug/kg dryb	1b	09/11/14b	B4H2807b	8081/8082b	
11141-16-5b	Aroclor 1232b	NDb	120b	ug/kg dryb	1b	09/11/14b	B4H2807b	8081/8082b	
53469-21-9b	Aroclor 1242b	NDb	120b	ug/kg dryb	1b	09/11/14b	B4H2807b	8081/8082b	
12672-29-6b	Aroclor 1248	NDb	120b	ug/kg dryb	1b	09/11/14b	B4H2807b	8081/8082b	
11097-69-1b	Aroclor 1254b	NDb	120b	ug/kg dryb	1b	09/11/14b	B4H2807b	8081/8082b	
11096-82-5b	Aroclor 1260b	NDb	120b	ug/kg dryb	1b	09/11/14b	B4H2807b	8081/8082b	
37324-23-5b	Aroclor 1262b	NDb	120b	ug/kg dryb	1b	09/11/14b	B4H2807b	8081/8082b	
11100-14-4b	Aroclor 1268	NDb	120b	ug/kg dryb	1b	09/11/14b	B4H2807b	8081/8082b	
<i>Surrogate: Decachlorobiphenyl-</i>			63.6 %-	30-150-		09/11/14-	B4H2807b	8081/8082-	
<i>Surrogate: Tetrachloro-m-xylene-</i>			67.4 %-	30-150-		09/11/14-	B4H2807b	8081/8082-	
Inorganics-General Chemistry									
TSb	% Total Solidsp	82.2p	0.1b	%b	1b	08/25/14b	B4H2512b	2540 Bb	



**MICHIGAN DEPARTMENT OF ENVIRONMENTAL QUALITY
ENVIRONMENTAL LABORATORY**

P.O. Box 302700
Lansing, MI 48909
TEL: (517) 335-98000
FAX: (517) 335-96000

Client ID: CHLL-SB106-0-6"p

Lab ID: 1408233-23p

CAS #b	Analyteb	Resultb	RLb	Unitsb	Dilutionb	Analyzed b Dateb	QC Batchb	Methodb	Qualifier b
Organics-PCBs as Aroclorsp									
12674-11-2b	Aroclor 1016b	NDb	110b	ug/kg dryb	1b	09/03/14b	B4H2807b	8081/8082b	
11104-28-2b	Aroclor 1221b	NDb	110b	ug/kg dryb	1b	09/03/14b	B4H2807b	8081/8082b	
11141-16-5b	Aroclor 1232b	NDb	110b	ug/kg dryb	1b	09/03/14b	B4H2807b	8081/8082b	
53469-21-9b	Aroclor 1242b	NDb	110b	ug/kg dryb	1b	09/03/14b	B4H2807b	8081/8082b	
12672-29-6b	Aroclor 1248	NDb	110b	ug/kg dryb	1b	09/03/14b	B4H2807b	8081/8082b	
11097-69-1b	Aroclor 1254b	NDb	110b	ug/kg dryb	1b	09/03/14b	B4H2807b	8081/8082b	
11096-82-5b	Aroclor 1260b	NDb	110b	ug/kg dryb	1b	09/03/14b	B4H2807b	8081/8082b	
37324-23-5b	Aroclor 1262b	NDb	110b	ug/kg dryb	1b	09/03/14b	B4H2807b	8081/8082b	
11100-14-4b	Aroclor 1268	NDb	110b	ug/kg dryb	1b	09/03/14b	B4H2807b	8081/8082b	
<i>Surrogate: Decachlorobiphenyl-</i>			59.3 %-	30-150-		09/03/14-	B4H2807b	8081/8082-	
<i>Surrogate: Tetrachloro-m-xylene-</i>			61.9 %-	30-150-		09/03/14-	B4H2807b	8081/8082-	
Inorganics-General Chemistry									
TSb	% Total Solids ^p	88.8 ^p	0.1b	%b	1b	08/25/14b	B4H2512b	2540 Bb	



**MICHIGAN DEPARTMENT OF ENVIRONMENTAL QUALITY
ENVIRONMENTAL LABORATORY**

P.O. Box 302700
Lansing, MI 48909
TEL: (517) 335-98000
FAX: (517) 335-96000

Client ID: CHLL-SB137-0-6''p

Lab ID: 1408233-24p

CAS #b	Analyteb	Resultb	RLb	Unitsb	Dilutionb	Analyzed b Dateb	QC Batchb	Methodb	Qualifier b
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Inorganics-General Chemistry

TSb	% Total Solids	75.1p	0.1b	%b	1b	08/25/14b	B4H2512b	2540 Bb	
57-12-5b	Total Cyanideb	NDb	0.13b	mg/kg dryb	1b	08/27/14b	B4H2517b	ASTM D 7511-09b	

Inorganics-Metals

7440-38-2b	Arsenic	18p	5.0b	mg/kg dryb	100b	09/04/14b	B4I0208	6020/200.8	
7440-39-3b	Barium	48p	10b	mg/kg dryb	100b	09/04/14b	B4I0208	6020/200.8	
7440-50-8	Cop er	330p	10b	mg/kg dryb	100b	09/04/14b	B4I0208	6020/200.8	
7439-92-1b	Lead	42p	10b	mg/kg dryb	100b	09/04/14b	B4I0208	6020/200.8	
7439-96-5b	Manganese	150p	10b	mg/kg dryb	100b	09/04/14b	B4I0208	6020/200.8	



**MICHIGAN DEPARTMENT OF ENVIRONMENTAL QUALITY
ENVIRONMENTAL LABORATORY**

P.O. Box 302700
Lansing, MI 48909
TEL: (517) 335-98000
FAX: (517) 335-96000

Client ID: CHLL-SB138-0-6''p

Lab ID: 1408233-25p

CAS #b	Analyteb	Resultb	RLb	Unitsb	Dilutionb	Analyzed b Dateb	QC Batchb	Methodb	Qualifierb
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Inorganics-General Chemistry

TSb	% Total Solids	83.5p	0.1b	%b	1b	08/25/14b	B4H2512b	2540 Bb	
57-12-5b	Total Cyanideb	NDb	0.12b	mg/kg dryb	1b	08/27/14b	B4H2517b	ASTM D 7511-09b	

Inorganics-Metals

7440-38-2b	Arsenic	92p	5.0b	mg/kg dryb	100b	09/04/14b	B4I0208	6020/200.8	
7440-39-3b	Barium	160p	10b	mg/kg dryb	100b	09/04/14b	B4I0208	6020/200.8	
7440-50-8	Cop er	570p	10b	mg/kg dryb	100b	09/04/14b	B4I0208	6020/200.8	
7439-92-1b	Lead	39p	10b	mg/kg dryb	100b	09/04/14b	B4I0208	6020/200.8	
7439-96-5b	Manganese	40p	10b	mg/kg dryb	100b	09/04/14b	B4I0208	6020/200.8	



**MICHIGAN DEPARTMENT OF ENVIRONMENTAL QUALITY
ENVIRONMENTAL LABORATORY**

P.O. Box 302700
Lansing, MI 48909
TEL: (517) 335-98000
FAX: (517) 335-96000

Client ID: CHLL-SB139-0-6''p

Lab ID: 1408233-26p

CAS #b	Analyteb	Resultb	RLb	Unitsb	Dilutionb	Analyzed b Dateb	QC Batchb	Methodb	Qualifier b
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Inorganics-General Chemistry

TSb	% Total Solidsb	84.2p	0.1b	%b	1b	08/25/14b	B4H2512b	2540 Bb	
57-12-5b	Total Cyanideb	NDb	0.12b	mg/kg dryb	1b	08/27/14b	B4H2517b	ASTM D 7511-09b	

Inorganics-Metals

7440-38-2b	Arsenicb	9.3p	5.0b	mg/kg dryb	100b	09/04/14b	B4I0208	6020/200.8	
7440-39-3b	Bariumb	77p	10b	mg/kg dryb	100b	09/04/14b	B4I0208	6020/200.8	
7440-50-8	Cop erpb	1200p	10b	mg/kg dryb	100b	09/04/14b	B4I0208	6020/200.8	
7439-92-1b	Leadb	85p	10b	mg/kg dryb	100b	09/04/14b	B4I0208	6020/200.8	
7439-96-5b	Manganeseb	110p	10b	mg/kg dryb	100b	09/04/14b	B4I0208	6020/200.8	

ENVIRONMENTAL LABORATORY - ANALYSIS REQUEST SHEET

Lab Work Order Number

Project Name

Matrix

1408233

Abandoned Mining Waste- Torch Lake PCB

SOIL/SEDIMENT

Site Code/Project Number

AY

CC Email 1 to send additional reports to

Project TAT Days

Sample Collector

31000098

14

shireyb

Keranon & Liebau

Dept-Division-District

Index

CC Email 2 to send additional reports to

Project Due Date

Sample Collector Phone

RRD-PSS-GSU

94251

j.binkley@westonsolutions.com

906 337-0359

State Project Manager

PCA

CC Email 3 to send additional reports to

Contract Firm

Weston Solutions

Jeff Pincumbe

30708

Keranon & Michigan.gov

Accept Analysis

Contract Firm Primary Contact

State Project Manager Email

Project

Overflow Lab Choice 1

hold time codes: Yes/No

Jeff Binkley

pincumbej

1000000

No

Primary Contact Phone

State Project Manager Phone

Phase

Overflow Lab Choice 2

517-335-6418

04

906 523 5457

Lab Use Only	Field Sample Identification	Collection Date	Collection Time	Container Count	Comments
1	01 CHLL- SB 65 3'-9"	8/19/14	1430	1	
2	02 CHLL- SB 71 6-12"		1535	1	
3	03 CHLL- SB 72 3-9"		1520	1	
4	04 CHLL- SB 73 3-9"		1510	1	
5	05 CHLL- SB 135 0-6"		1700	1	
6	06 CHLL- SB 136 0-6"		1710	1	
7	07 CHLL- SB 129 0-6"		1720	1	
8	08 CHLL- SB 128 0-6"		1730	1	
9	09 CHLL- DM01	8/20/14	0955	1	
10	10 CHLL- DM02	8/20/14	1000	1	

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,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 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. Amy Keranon DEQ	JEFF PINCUMBE	8/21/14 11a
	Signature: [Signature]	[Signature]	
	Print Name & Org. JEFF PINCUMBE	Melissa Smith	8/22/14 0950
	Signature: [Signature]	[Signature]	
	Print Name & Org. [Signature]		
	Signature: [Signature]		

MICHIGAN DEPARTMENT OF ENVIRONMENTAL QUALITY

Page 2 of 3

ENVIRONMENTAL LABORATORY - ANALYSIS REQUEST SHEET

Lab Work Order Number

Project Name

Matrix

1408233

Abandoned Mining Waste- Torch Lake PCB

SOIL/SEDIMENT

Site Code/Project Number

AY

CC Email 1 to send additional reports to

Project TAT Days

Sample Collector

31000098

14

shireyb

Dept-Division-District

Inst

CC Email 2 to send additional reports to

Project Due Date

Sample Collector Phone

RRD-PSS-GSU

44251

j.binkley@westonsolutions.com

State Project Manager

PCA

CC Email 3 to send additional reports to

Contract Firm

Jeff Pincumbe

30708

Keranena@michigan.gov

Weston Solutions

State Project Manager Email

Project

Overflow Lab Choice 1

Accept Analysis hold time codes: Yes/No

Contract Firm Primary Contact

pincumbej

100081

NO

Jeff Binkley

State Project Manager Phone

Phase

Overflow Lab Choice 2

Primary Contact Phone

517-335-6418

14

906-523-5457

Lab Use Only	Field Sample Identification	Collection Date	Collection Time	Container Count	Comments
1	CHLL- SB140-0-6"	8/20/14	1418	1	
2	CHLL- SB141-0-6"	8/20/14	1455	1	
3	CHLL- SB110-0-6"	8/20/14	1530	1	
4	CHLL- SB109-0-6"	8/20/14	1535	1	
5	CHLL- SB69-0-6"	8/21/14		1	
6	CHLL- SB74R-0-6"	8/21/14		1	
7	CHLL-				
8	CHLL-				
9	CHLL-				
10	CHLL-				

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,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 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. Amy Keran	JEFF PINCUMBE	8/21/14 11a
	Signature: [Signature]	[Signature]	
	Print Name & Org. JEFF PINCUMBE	Jeff Pincumbe	8/22/14 0950
	Signature: [Signature]	[Signature]	
	Print Name & Org. [Signature]		
	Signature: [Signature]		

MICHIGAN DEPARTMENT OF ENVIRONMENTAL QUALITY

Page 3 of 3

ENVIRONMENTAL LABORATORY - ANALYSIS REQUEST SHEET

Lab Work Order Number 1408233	Project Name Abandoned Mining Waste- Torch Lake PCB	Matrix SOIL/SEDIMENT
Site Code/Project Number 31000098	AY 14	CC Email 1 to send additional reports to shireyb
Dept./Division-District RRD-PSS-GSU	Index 44251	CC Email 2 to send additional reports to G. Binkley @ westonsolutions.com
State Project Manager Jeff Pincumbe	PCA 3070 B	CC Email 3 to send additional reports to Kieranena @ michigan.gov
State Project Manager Email pincumbej	Project 100081	Overflow Lab Choice 1 No
State Project Manager Phone 517-335-6418	Phase 14	Overflow Lab Choice 2 No
		Accept Analysis hold time codes: Yes/No No
		Contract Firm Western 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	CHLL- SB100-0-6"	8/20/14	1035	1	
2	CHLL- SB101-0-6"		1040	1	
3	CHLL- SB102-0-6"		0930	1	
4	CHLL- SB103-0-6"		0855	1	
5	CHLL- SB104-0-6"		1015	1	
6	CHLL- SB105-0-6"		1005	1	
7	CHLL- SB106-0-6"		0950	1	
8	CHLL- SB137-0-6"		1430	1	
9	CHLL- SB138-0-6"		1422	1	
10	CHLL- SB139-0-6"		1400	1	

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 - SemVols 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,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 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. Amy Kerana	JEFF PINCUMBE	8/21/14
	Signature: <i>[Signature]</i>	<i>[Signature]</i>	
	Print Name & Org. JEFF PINCUMBE	Michelle Smith	8/22/14 0950
	Signature: <i>[Signature]</i>	<i>[Signature]</i>	
	Print Name & Org.		
	Signature:		



**MICHIGAN DEPARTMENT OF ENVIRONMENTAL QUALITY
ENVIRONMENTAL LABORATORY**

P.O. Box 302700
Lansing, MI 489090
TEL: (517) 335-9800
FAX: (517) 335-9600

17 September 2014

Work Order: 1408239

Price: \$2,955.00

Jeff Pincumbe

MDEQ-RRD-LANSING

525 W. Allegan Street

Lansing, MI 48909

RE: ABANDONED MINING WASTE-TORCH LAKE PCBO

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 302700
Lansing, MI 48909
TEL: (517) 335-98000
FAX: (517) 335-96000

MDEQ-RRD-LANSINGb
525 W. Allegan Streetb
Lansing MI, 48909b

Project:bABANDONED MINING WASTE-TORCH LAKE PCBb
Site Code:b31000098
Project Manager:bJeff Pincumbb

Reported:p
09/17/2014b

Analytical Report for Samplesp

Sample IDp	Laboratory IDp	Matrixp	Date Sampledp	Date Receivedp	Qualifierp
CHLL-SB 94 0-6"b	1408239-01b	Soil/Sedimentb	08/19/2014b	08/22/2014b	
CHLL-SB 94 6"-4"b	1408239-02b	Soil/Sedimentb	08/19/2014b	08/22/2014b	
CHLL-SB 82 0-6"b	1408239-03b	Soil/Sedimentb	08/19/2014b	08/22/2014b	
CHLL-SB 82 6"-5"b	1408239-04b	Soil/Sedimentb	08/19/2014b	08/22/2014b	
CHLL-SB 108 0-6"b	1408239-05b	Soil/Sedimentb	08/19/2014b	08/22/2014b	
CHLL-SB 108 6"-3"b	1408239-06b	Soil/Sedimentb	08/19/2014b	08/22/2014b	
CHLL-SB 107 0-6"b	1408239-07b	Soil/Sedimentb	08/19/2014b	08/22/2014b	
CHLL-SB 107 6"-3"b	1408239-08	Soil/Sedimentb	08/19/2014b	08/22/2014b	
CHLL-SB 123 0-6"b	1408239-09b	Soil/Sedimentb	08/20/2014b	08/22/2014b	
CHLL-SB 123 6"-4"b	1408239-10b	Soil/Sedimentb	08/20/2014b	08/22/2014b	
CHLL-SB 111 6"-12"b	1408239-11b	Soil/Sedimentb	08/20/2014b	08/22/2014b	
CHLL-SB 111 12"-3"b	1408239-12b	Soil/Sedimentb	08/20/2014b	08/22/2014b	
CHLL-SB 119 6"-12"b	1408239-13b	Soil/Sedimentb	08/21/2014b	08/22/2014b	
CHLL-SB 119 12"-3"b	1408239-14b	Soil/Sedimentb	08/21/2014b	08/22/2014b	
CHLL-SB 118 6"-12"b	1408239-15b	Soil/Sedimentb	08/21/2014b	08/22/2014b	
CHLL-SB 118 12"-3"b	1408239-16b	Soil/Sedimentb	08/21/2014b	08/22/2014b	
CHLL-SB 112 6"-12"b	1408239-17b	Soil/Sedimentb	08/20/2014b	08/22/2014b	
CHLL-SB 112 12"-3"b	1408239-18	Soil/Sedimentb	08/20/2014b	08/22/2014b	
CHLL-SB 116 6"-12"b	1408239-19b	Soil/Sedimentb	08/20/2014b	08/22/2014b	

Notes and Definitions p

Y21b Reporting Limits (RL) raised due to matrix interference.b
Y20b Reporting Limits (RL) raised due to matrix.b
Y17b Probable petroleum product(s) present.b
Tb Reported value is less than the reporting limit (RL). Result is estimated.b
JDb Due to severe degradation, specific Aroclor identification is difficult and quantitation is estimated.b
JAb Result is estimated due to multiple Aroclors present.b
A06b Result is estimated due to high continuing calibration standard criteria failure.b
NDb Indicates compound analyzed for but not detectedb
RLb Reporting Limitb
NAb Not Applicableb
dry Sample results reported on a dry weight basisb



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ENVIRONMENTAL LABORATORY**

P.O. Box 302700
Lansing, MI 48909
TEL: (517) 335-98000
FAX: (517) 335-96000

Client ID: CHLL-SB 94 0-6''p

Lab ID: 1408239-01p

CAS #b	Analyteb	Resultb	RLb	Unitsb	Dilutionb	Analyzed b Dateb	QC Batchb	Methodb	Qualifier b
Organics-PCBs as Aroclorsp									
12674-11-2b	Aroclor 1016b	NDb	110b	ug/kg dryb	1b	09/11/14b	B4H2907b	8081/8082b	
11104-28-2b	Aroclor 1221b	NDb	110b	ug/kg dryb	1b	09/11/14b	B4H2907b	8081/8082b	
11141-16-5b	Aroclor 1232b	NDb	110b	ug/kg dryb	1b	09/11/14b	B4H2907b	8081/8082b	
53469-21-9b	Aroclor 1242b	NDb	110b	ug/kg dryb	1b	09/11/14b	B4H2907b	8081/8082b	
12672-29-6b	Aroclor 1248	NDb	110b	ug/kg dryb	1b	09/11/14b	B4H2907b	8081/8082b	
11097-69-1b	Aroclor 1254p	180p	110b	ug/kg dryb	1b	09/11/14b	B4H2907b	8081/8082b	JAb
11096-82-5b	Aroclor 1260b	NDb	370b	ug/kg dryb	1b	09/11/14b	B4H2907b	8081/8082b	Y21b
37324-23-5b	Aroclor 1262p	360p	110b	ug/kg dryb	1b	09/11/14b	B4H2907b	8081/8082b	JA, JDb
11100-14-4b	Aroclor 1268p	230p	110b	ug/kg dryb	1b	09/11/14b	B4H2907b	8081/8082b	JAb
<i>Surrogate: Decachlorobiphenyl-</i>			63.5 %-	30-150-		09/11/14-	B4H2907b	8081/8082-	
<i>Surrogate: Tetrachloro-m-xylene-</i>			66.2 %-	30-150-		09/11/14-	B4H2907b	8081/8082-	
Inorganics-General Chemistry									
TSb	% Total Solidsp	89.1p	0.1b	%b	1b	08/25/14b	B4H2513b	2540 Bb	



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Client ID: CHLL-SB 94 6"-4"p

Lab ID: 1408239-02p

CAS #b	Analyteb	Resultb	RLb	Unitsb	Dilutionb	Analyzed b Dateb	QC Batchb	Methodb	Qualifier b
Organics-PCBs as Aroclorsp									
12674-11-2b	Aroclor 1016	NDb	120b	ug/kg dryb	1b	09/05/14b	B4H2907b	8081/8082b	
11104-28-2b	Aroclor 1221	NDb	120b	ug/kg dryb	1b	09/05/14b	B4H2907b	8081/8082b	
11141-16-5b	Aroclor 1232	NDb	120b	ug/kg dryb	1b	09/05/14b	B4H2907b	8081/8082b	
53469-21-9b	Aroclor 1242	NDb	120b	ug/kg dryb	1b	09/05/14b	B4H2907b	8081/8082b	
12672-29-6b	Aroclor 1248	NDb	120b	ug/kg dryb	1b	09/05/14b	B4H2907b	8081/8082b	
11097-69-1b	Aroclor 1254	95p	120b	ug/kg dryb	1b	09/05/14b	B4H2907b	8081/8082b	Tb
11096-82-5b	Aroclor 1260	NDb	120b	ug/kg dryb	1b	09/05/14b	B4H2907b	8081/8082b	
37324-23-5b	Aroclor 1262	NDb	120b	ug/kg dryb	1b	09/05/14b	B4H2907b	8081/8082b	
11100-14-4b	Aroclor 1268	NDb	120b	ug/kg dryb	1b	09/05/14b	B4H2907b	8081/8082b	
Surrogate: Decachlorobiphenyl-			52.3 %-	30-150-		09/05/14-	B4H2907b	8081/8082-	
Surrogate: Tetrachloro-m-xylene-			58.3 %-	30-150-		09/05/14-	B4H2907b	8081/8082-	
Inorganics-General Chemistry									
TSb	% Total Solids	82.0p	0.1b	%b	1b	08/25/14b	B4H2513b	2540 Bb	



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Client ID: CHLL-SB 82 0-6''p

Lab ID: 1408239-03p

CAS #b	Analyteb	Resultb	RLb	Unitsb	Dilutionb	Analyzed b Dateb	QC Batchb	Methodb	Qualifier b
Organics-PCBs as Aroclorsp									
12674-11-2b	Aroclor 1016b	NDb	110b	ug/kg dryb	1b	09/09/14b	B4I0304b	8081/8082b	
11104-28-2b	Aroclor 1221b	NDb	110b	ug/kg dryb	1b	09/09/14b	B4I0304b	8081/8082b	
11141-16-5b	Aroclor 1232b	NDb	110b	ug/kg dryb	1b	09/09/14b	B4I0304b	8081/8082b	
53469-21-9b	Aroclor 1242b	NDb	110b	ug/kg dryb	1b	09/09/14b	B4I0304b	8081/8082b	
12672-29-6b	Aroclor 1248	NDb	110b	ug/kg dryb	1b	09/09/14b	B4I0304b	8081/8082b	
11097-69-1b	Aroclor 1254b	NDb	110b	ug/kg dryb	1b	09/09/14b	B4I0304b	8081/8082b	
11096-82-5b	Aroclor 1260b	NDb	110b	ug/kg dryb	1b	09/09/14b	B4I0304b	8081/8082b	
37324-23-5b	Aroclor 1262b	NDb	110b	ug/kg dryb	1b	09/09/14b	B4I0304b	8081/8082b	
11100-14-4b	Aroclor 1268	NDb	110b	ug/kg dryb	1b	09/09/14b	B4I0304b	8081/8082b	
Surrogate: Decachlorobiphenyl-			67.8 %-	30-150-		09/09/14-	B4I0304b	8081/8082-	
Surrogate: Tetrachloro-m-xylene-			63.3 %-	30-150-		09/09/14-	B4I0304b	8081/8082-	
Inorganics-General Chemistry									
TSb	% Total Solidsp	88.4p	0.1b	%b	1b	08/25/14b	B4H2513b	2540 Bb	



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Client ID: CHLL-SB 82 6"-5"p

Lab ID: 1408239-04p

CAS #b	Analyteb	Resultb	RLb	Unitsb	Dilutionb	Analyzed b Dateb	QC Batchb	Methodb	Qualifierb
Organics-PCBs as Aroclorsp									
12674-11-2b	Aroclor 1016b	NDb	110b	ug/kg dryb	1b	09/09/14b	B4I0304b	8081/8082b	
11104-28-2b	Aroclor 1221b	NDb	110b	ug/kg dryb	1b	09/09/14b	B4I0304b	8081/8082b	
11141-16-5b	Aroclor 1232b	NDb	110b	ug/kg dryb	1b	09/09/14b	B4I0304b	8081/8082b	
53469-21-9b	Aroclor 1242b	NDb	110b	ug/kg dryb	1b	09/09/14b	B4I0304b	8081/8082b	
12672-29-6b	Aroclor 1248	NDb	110b	ug/kg dryb	1b	09/09/14b	B4I0304b	8081/8082b	
11097-69-1b	Aroclor 1254p	220p	110b	ug/kg dryb	1b	09/09/14b	B4I0304b	8081/8082b	JAb
11096-82-5b	Aroclor 1260b	NDb	260b	ug/kg dryb	1b	09/09/14b	B4I0304b	8081/8082b	Y21b
37324-23-5b	Aroclor 1262p	260p	110b	ug/kg dryb	1b	09/09/14b	B4I0304b	8081/8082b	JAb
11100-14-4b	Aroclor 1268	NDb	180b	ug/kg dryb	1b	09/09/14b	B4I0304b	8081/8082b	Y21b
Surrogate: Decachlorobiphenyl-			66.8 %-	30-150-		09/09/14-	B4I0304b	8081/8082-	
Surrogate: Tetrachloro-m-xylene-			68.0 %-	30-150-		09/09/14-	B4I0304b	8081/8082-	
Inorganics-General Chemistry									
TSb	% Total Solidsp	92.0p	0.1b	%b	1b	08/25/14b	B4H2514b	2540 Bb	



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Client ID: CHLL-SB 108 0-6''p

Lab ID: 1408239-05p

CAS #b	Analyteb	Resultb	RLb	Unitsb	Dilutionb	Analyzed b Dateb	QC Batchb	Methodb	Qualifier b
Organics-PCBs as Aroclorsp									
12674-11-2b	Aroclor 1016b	NDb	110b	ug/kg dryb	1b	09/09/14b	B4I0304b	8081/8082b	
11104-28-2b	Aroclor 1221b	NDb	110b	ug/kg dryb	1b	09/09/14b	B4I0304b	8081/8082b	
11141-16-5b	Aroclor 1232b	NDb	110b	ug/kg dryb	1b	09/09/14b	B4I0304b	8081/8082b	
53469-21-9b	Aroclor 1242b	NDb	110b	ug/kg dryb	1b	09/09/14b	B4I0304b	8081/8082b	
12672-29-6b	Aroclor 1248	NDb	110b	ug/kg dryb	1b	09/09/14b	B4I0304b	8081/8082b	
11097-69-1b	Aroclor 1254b	NDb	110b	ug/kg dryb	1b	09/09/14b	B4I0304b	8081/8082b	
11096-82-5b	Aroclor 1260b	NDb	110b	ug/kg dryb	1b	09/09/14b	B4I0304b	8081/8082b	
37324-23-5b	Aroclor 1262b	NDb	110b	ug/kg dryb	1b	09/09/14b	B4I0304b	8081/8082b	
11100-14-4b	Aroclor 1268	NDb	110b	ug/kg dryb	1b	09/09/14b	B4I0304b	8081/8082b	
<i>Surrogate: Decachlorobiphenyl-</i>			61.0 %-	30-150-		09/09/14-	B4I0304b	8081/8082-	
<i>Surrogate: Tetrachloro-m-xylene-</i>			67.3 %-	30-150-		09/09/14-	B4I0304b	8081/8082-	
Inorganics-General Chemistry									
TSb	% Total Solids ^p	87.5 ^p	0.1b	%b	1b	08/25/14b	B4H2514b	2540 Bb	



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Client ID: CHLL-SB 108 6"-3'p

Lab ID: 1408239-06p

CAS #b	Analyteb	Resultb	RLb	Unitsb	Dilutionb	Analyzed b Dateb	QC Batchb	Methodb	Qualifier b
Organics-PCBs as Aroclorsp									
12674-11-2b	Aroclor 1016b	NDb	110b	ug/kg dryb	1b	09/09/14b	B4I0304b	8081/8082b	
11104-28-2b	Aroclor 1221b	NDb	110b	ug/kg dryb	1b	09/09/14b	B4I0304b	8081/8082b	
11141-16-5b	Aroclor 1232b	NDb	110b	ug/kg dryb	1b	09/09/14b	B4I0304b	8081/8082b	
53469-21-9b	Aroclor 1242b	NDb	110b	ug/kg dryb	1b	09/09/14b	B4I0304b	8081/8082b	
12672-29-6b	Aroclor 1248	NDb	110b	ug/kg dryb	1b	09/09/14b	B4I0304b	8081/8082b	
11097-69-1b	Aroclor 1254b	NDb	110b	ug/kg dryb	1b	09/09/14b	B4I0304b	8081/8082b	
11096-82-5b	Aroclor 1260b	NDb	110b	ug/kg dryb	1b	09/09/14b	B4I0304b	8081/8082b	
37324-23-5b	Aroclor 1262b	NDb	110b	ug/kg dryb	1b	09/09/14b	B4I0304b	8081/8082b	
11100-14-4b	Aroclor 1268	NDb	110b	ug/kg dryb	1b	09/09/14b	B4I0304b	8081/8082b	
<i>Surrogate: Decachlorobiphenyl-</i>			54.5 %-	30-150-		09/09/14-	B4I0304b	8081/8082-	
<i>Surrogate: Tetrachloro-m-xylene-</i>			65.9 %-	30-150-		09/09/14-	B4I0304b	8081/8082-	
Inorganics-General Chemistry									
TSb	% Total Solids ^p	87.4 ^p	0.1b	%b	1b	08/25/14b	B4H2514b	2540 Bb	



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Client ID: CHLL-SB 107 0-6''p

Lab ID: 1408239-07p

CAS #b	Analyteb	Resultb	RLb	Unitsb	Dilutionb	Analyzedb Dateb	QC Batchb	Methodb	Qualifiert
Organics-PCBs as Aroclorsp									See note Y21p
12674-11-2b	Aroclor 1016	NDb	240b	ug/kg dryb	1b	09/10/14b	B4I0304b	8081/8082b	
11104-28-2b	Aroclor 1221	NDb	240b	ug/kg dryb	1b	09/10/14b	B4I0304b	8081/8082b	
11141-16-5b	Aroclor 1232	NDb	240b	ug/kg dryb	1b	09/10/14b	B4I0304b	8081/8082b	
53469-21-9b	Aroclor 1242	NDb	240b	ug/kg dryb	1b	09/10/14b	B4I0304b	8081/8082b	
12672-29-6b	Aroclor 1248	NDb	240b	ug/kg dryb	1b	09/10/14b	B4I0304b	8081/8082b	
11097-69-1b	Aroclor 1254	NDb	240b	ug/kg dryb	1b	09/10/14b	B4I0304b	8081/8082b	
11096-82-5b	Aroclor 1260	NDb	410b	ug/kg dryb	1b	09/10/14b	B4I0304b	8081/8082b	
37324-23-5b	Aroclor 1262	NDb	410b	ug/kg dryb	1b	09/10/14b	B4I0304b	8081/8082b	
11100-14-4b	Aroclor 1268	NDb	240b	ug/kg dryb	1b	09/10/14b	B4I0304b	8081/8082b	
<i>Surrogate: Decachlorobiphenyl-</i>			46.0 %-	30-150-		09/10/14-	B4I0304b	8081/8082-	
<i>Surrogate: Tetrachloro-m-xylene-</i>			67.2 %-	30-150-		09/10/14-	B4I0304b	8081/8082-	
Inorganics-General Chemistryp									
TSb	% Total Solids	83.9p	0.1b	%b	1b	08/25/14b	B4H2514b	2540 Bb	



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Client ID: CHLL-SB 107 6"-3'p

Lab ID: 1408239-08p

CAS #b	Analyteb	Resultb	RLb	Unitsb	Dilutionb	Analyzed b Dateb	QC Batchb	Methodb	Qualifier b
Organics-PCBs as Aroclorsp									
12674-11-2b	Aroclor 1016b	NDb	110b	ug/kg dryb	1b	09/09/14b	B4I0304b	8081/8082b	
11104-28-2b	Aroclor 1221b	NDb	110b	ug/kg dryb	1b	09/09/14b	B4I0304b	8081/8082b	
11141-16-5b	Aroclor 1232b	NDb	110b	ug/kg dryb	1b	09/09/14b	B4I0304b	8081/8082b	
53469-21-9b	Aroclor 1242b	NDb	110b	ug/kg dryb	1b	09/09/14b	B4I0304b	8081/8082b	
12672-29-6b	Aroclor 1248	NDb	110b	ug/kg dryb	1b	09/09/14b	B4I0304b	8081/8082b	
11097-69-1b	Aroclor 1254b	NDb	110b	ug/kg dryb	1b	09/09/14b	B4I0304b	8081/8082b	
11096-82-5b	Aroclor 1260b	NDb	110b	ug/kg dryb	1b	09/09/14b	B4I0304b	8081/8082b	
37324-23-5b	Aroclor 1262b	NDb	110b	ug/kg dryb	1b	09/09/14b	B4I0304b	8081/8082b	
11100-14-4b	Aroclor 1268	NDb	110b	ug/kg dryb	1b	09/09/14b	B4I0304b	8081/8082b	
Surrogate: Decachlorobiphenyl-			59.8 %-	30-150-		09/09/14-	B4I0304b	8081/8082-	
Surrogate: Tetrachloro-m-xylene-			54.3 %-	30-150-		09/09/14-	B4I0304b	8081/8082-	
Inorganics-General Chemistry									
TSb	% Total Solidsp	87.8p	0.1b	%b	1b	08/25/14b	B4H2514b	2540 Bb	



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Client ID: CHLL-SB 123 0-6''p

Lab ID: 1408239-09p

CAS #b	Analyteb	Resultb	RLb	Unitsb	Dilutionb	Analyzedb Dateb	QC Batchb	Methodb	Qualifiert
Organics-Semivolatiles									See note Y20p
91-57-6b	2-Methylnaphthalene	NDb	550b	ug/kg dryb	1b	09/09/14b	B4H2718	8270b	
83-32-9b	Acenaphthene	NDb	220b	ug/kg dryb	1b	09/09/14b	B4H2718	8270b	
208-96-8	Acenaphthylene	NDb	220b	ug/kg dryb	1b	09/09/14b	B4H2718	8270b	
120-12-7b	Anthracene	NDb	220b	ug/kg dryb	1b	09/09/14b	B4H2718	8270b	
56-55-3b	Benz[a]anthracene	320p	220b	ug/kg dryb	1b	09/09/14b	B4H2718	8270b	
50-32-8	Benzo[a]pyrene	NDb	440b	ug/kg dryb	1b	09/09/14b	B4H2718	8270b	
205-99-2b	Benzo[b]fluoranthene	490p	440b	ug/kg dryb	1b	09/09/14b	B4H2718	8270b	
191-24-2b	Benzo[g,h,i]perylene	NDb	440b	ug/kg dryb	1b	09/09/14b	B4H2718	8270b	
207-08-9b	Benzo[k]fluoranthene	NDb	440b	ug/kg dryb	1b	09/09/14b	B4H2718	8270b	
218-01-9b	Chrysene	360p	220b	ug/kg dryb	1b	09/09/14b	B4H2718	8270b	
53-70-3b	Dibenz[a,h]anthracene	NDb	440b	ug/kg dryb	1b	09/09/14b	B4H2718	8270b	
206-44-0b	Fluoranthene	650p	220b	ug/kg dryb	1b	09/09/14b	B4H2718	8270b	
86-73-7b	Fluorene	NDb	220b	ug/kg dryb	1b	09/09/14b	B4H2718	8270b	
193-39-5b	Indeno(1,2,3-c,d)pyrene	NDb	440b	ug/kg dryb	1b	09/09/14b	B4H2718	8270b	
91-20-3b	Naphthalene	NDb	220b	ug/kg dryb	1b	09/09/14b	B4H2718	8270b	
85-01-8	Phenanthrene	NDb	220b	ug/kg dryb	1b	09/09/14b	B4H2718	8270b	
129-00-0b	Pyrene	690p	220b	ug/kg dryb	1b	09/09/14b	B4H2718	8270b	
Surrogate: 2-Fluorobiphenyl-			58.9 %-	32.9-115-		09/09/14-	B4H2718	8270-	
Surrogate: Nitrobenzene-d5-			57.5 %-	31.8-115-		09/09/14-	B4H2718	8270-	
Surrogate: p-Terphenyl-d14-			74.0 %-	38.5-115-		09/09/14-	B4H2718	8270-	

Organics-PCBs as Aroclorsp

12674-11-2b	Aroclor 1016	NDb	110b	ug/kg dryb	1b	09/10/14b	B4I0304b	8081/8082b	
11104-28-2b	Aroclor 1221	NDb	110b	ug/kg dryb	1b	09/10/14b	B4I0304b	8081/8082b	
11141-16-5b	Aroclor 1232	NDb	110b	ug/kg dryb	1b	09/10/14b	B4I0304b	8081/8082b	
53469-21-9b	Aroclor 1242	NDb	110b	ug/kg dryb	1b	09/10/14b	B4I0304b	8081/8082b	
12672-29-6b	Aroclor 1248	NDb	110b	ug/kg dryb	1b	09/10/14b	B4I0304b	8081/8082b	
11097-69-1b	Aroclor 1254	NDb	110b	ug/kg dryb	1b	09/10/14b	B4I0304b	8081/8082b	
11096-82-5b	Aroclor 1260	NDb	110b	ug/kg dryb	1b	09/10/14b	B4I0304b	8081/8082b	
37324-23-5b	Aroclor 1262	NDb	110b	ug/kg dryb	1b	09/10/14b	B4I0304b	8081/8082b	
11100-14-4b	Aroclor 1268	NDb	110b	ug/kg dryb	1b	09/10/14b	B4I0304b	8081/8082b	
Surrogate: Decachlorobiphenyl-			67.8 %-	30-150-		09/10/14-	B4I0304b	8081/8082-	
Surrogate: Tetrachloro-m-xylene-			72.9 %-	30-150-		09/10/14-	B4I0304b	8081/8082-	



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Client ID: CHLL-SB 123 0-6''p

Lab ID: 1408239-09p

CAS #b		Analyteb		Resultb	RLb	Unitsb	Dilutionb	Analyzed b		QC Batchb	Methodb	Qualifier b
								Dateb				

Inorganics-General Chemistry

TSb	% Total Solids			90.5p	0.1b	%b	1b	08/25/14b	B4H2514b	2540 Bb		
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TEL: (517) 335-98000
FAX: (517) 335-96000

Client ID: CHLL-SB 123 6"-4'p

Lab ID: 1408239-10p

CAS #b	Analyte	Resultb	RLb	Unitsb	Dilution	Analyzedb Dateb	QC Batchb	Methodb	Qualifiert
Organics-Semivolatiles									See note Y20p
91-57-6b	2-Methylnaphthalene	NDb	550b	ug/kg dryb	1b	09/09/14b	B4H2718	8270b	
83-32-9b	Acenaphthene	NDb	220b	ug/kg dryb	1b	09/09/14b	B4H2718	8270b	
208-96-8	Acenaphthylene	NDb	220b	ug/kg dryb	1b	09/09/14b	B4H2718	8270b	
120-12-7b	Anthracene	NDb	220b	ug/kg dryb	1b	09/09/14b	B4H2718	8270b	
56-55-3b	Benz[a]anthracene	840p	220b	ug/kg dryb	1b	09/09/14b	B4H2718	8270b	
50-32-8	Benzo[a]pyrene	920p	440b	ug/kg dryb	1b	09/09/14b	B4H2718	8270b	
205-99-2b	Benzo[b]fluoranthene	1200p	440b	ug/kg dryb	1b	09/09/14b	B4H2718	8270b	
191-24-2b	Benzo[g,h,i]perylene	640p	440b	ug/kg dryb	1b	09/09/14b	B4H2718	8270b	
207-08-9b	Benzo[k]fluoranthene	450p	440b	ug/kg dryb	1b	09/09/14b	B4H2718	8270b	
218-01-9b	Chrysene	910p	220b	ug/kg dryb	1b	09/09/14b	B4H2718	8270b	
53-70-3b	Dibenz[a,h]anthracene	NDb	440b	ug/kg dryb	1b	09/09/14b	B4H2718	8270b	
206-44-0b	Fluoranthene	1900p	220b	ug/kg dryb	1b	09/09/14b	B4H2718	8270b	
86-73-7b	Fluorene	NDb	220b	ug/kg dryb	1b	09/09/14b	B4H2718	8270b	
193-39-5b	Indeno(1,2,3-c,d)pyrene	740p	440b	ug/kg dryb	1b	09/09/14b	B4H2718	8270b	
91-20-3b	Naphthalene	NDb	220b	ug/kg dryb	1b	09/09/14b	B4H2718	8270b	
85-01-8	Phenanthrene	890p	220b	ug/kg dryb	1b	09/09/14b	B4H2718	8270b	
129-00-0b	Pyrene	2000p	220b	ug/kg dryb	1b	09/09/14b	B4H2718	8270b	
Surrogate: 2-Fluorobiphenyl-			59.2 %-	32.9-115-		09/09/14-	B4H2718	8270-	
Surrogate: Nitrobenzene-d5-			57.7 %-	31.8-115-		09/09/14-	B4H2718	8270-	
Surrogate: p-Terphenyl-d14-			77.3 %-	38.5-115-		09/09/14-	B4H2718	8270-	
Organics-PCBs as Aroclors									
12674-11-2b	Aroclor 1016b	NDb	110b	ug/kg dryb	1b	09/10/14b	B4I0304b	8081/8082b	
11104-28-2b	Aroclor 1221b	NDb	110b	ug/kg dryb	1b	09/10/14b	B4I0304b	8081/8082b	
11141-16-5b	Aroclor 1232b	NDb	110b	ug/kg dryb	1b	09/10/14b	B4I0304b	8081/8082b	
53469-21-9b	Aroclor 1242b	NDb	110b	ug/kg dryb	1b	09/10/14b	B4I0304b	8081/8082b	
12672-29-6b	Aroclor 1248	NDb	110b	ug/kg dryb	1b	09/10/14b	B4I0304b	8081/8082b	
11097-69-1b	Aroclor 1254b	NDb	110b	ug/kg dryb	1b	09/10/14b	B4I0304b	8081/8082b	
11096-82-5b	Aroclor 1260b	NDb	110b	ug/kg dryb	1b	09/10/14b	B4I0304b	8081/8082b	
37324-23-5b	Aroclor 1262b	NDb	110b	ug/kg dryb	1b	09/10/14b	B4I0304b	8081/8082b	
11100-14-4b	Aroclor 1268	NDb	110b	ug/kg dryb	1b	09/10/14b	B4I0304b	8081/8082b	
Surrogate: Decachlorobiphenyl-			44.7 %-	30-150-		09/10/14-	B4I0304b	8081/8082-	
Surrogate: Tetrachloro-m-xylene-			58.6 %-	30-150-		09/10/14-	B4I0304b	8081/8082-	



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Client ID: CHLL-SB 123 6"-4'p

Lab ID: 1408239-10p

CAS #b	Analyteb	Resultb	RLb	Unitsb	Dilutionb	Analyzed b Dateb	QC Batchb	Methodb	Qualifier b
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Inorganics-General Chemistry

TSb	% Total Solids	91.1p	0.1b	%b	1b	08/25/14b	B4H2514b	2540 Bb	
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TEL: (517) 335-98000
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Client ID: CHLL-SB 111 6"-12"p

Lab ID: 1408239-11p

CAS #b	Analyteb	Resultb	RLb	Unitsb	Dilutionb	Analyzed b Dateb	QC Batchb	Methodb	Qualifier b
Organics-PCBs as Aroclorsp									
12674-11-2b	Aroclor 1016b	NDb	120b	ug/kg dryb	1b	09/10/14b	B4I0304b	8081/8082b	
11104-28-2b	Aroclor 1221b	NDb	120b	ug/kg dryb	1b	09/10/14b	B4I0304b	8081/8082b	
11141-16-5b	Aroclor 1232b	NDb	120b	ug/kg dryb	1b	09/10/14b	B4I0304b	8081/8082b	
53469-21-9b	Aroclor 1242b	NDb	120b	ug/kg dryb	1b	09/10/14b	B4I0304b	8081/8082b	
12672-29-6b	Aroclor 1248	NDb	120b	ug/kg dryb	1b	09/10/14b	B4I0304b	8081/8082b	
11097-69-1b	Aroclor 1254b	NDb	120b	ug/kg dryb	1b	09/10/14b	B4I0304b	8081/8082b	
11096-82-5b	Aroclor 1260b	NDb	120b	ug/kg dryb	1b	09/10/14b	B4I0304b	8081/8082b	
37324-23-5b	Aroclor 1262b	NDb	120b	ug/kg dryb	1b	09/10/14b	B4I0304b	8081/8082b	
11100-14-4b	Aroclor 1268	NDb	120b	ug/kg dryb	1b	09/10/14b	B4I0304b	8081/8082b	
Surrogate: Decachlorobiphenyl-			79.9 %-	30-150-		09/10/14-	B4I0304b	8081/8082-	
Surrogate: Tetrachloro-m-xylene-			75.9 %-	30-150-		09/10/14-	B4I0304b	8081/8082-	
Inorganics-General Chemistry									
TSb	% Total Solidsp	83.8p	0.1b	%b	1b	08/25/14b	B4H2514b	2540 Bb	



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Client ID: CHLL-SB 111 12"-3'p

Lab ID: 1408239-12p

CAS #b	Analyteb	Resultb	RLb	Unitsb	Dilutionb	Analyzed b Dateb	QC Batchb	Methodb	Qualifier b
Organics-PCBs as Aroclorsp									
12674-11-2b	Aroclor 1016b	NDb	110b	ug/kg dryb	1b	09/09/14b	B4I0304b	8081/8082b	
11104-28-2b	Aroclor 1221b	NDb	110b	ug/kg dryb	1b	09/09/14b	B4I0304b	8081/8082b	
11141-16-5b	Aroclor 1232b	NDb	110b	ug/kg dryb	1b	09/09/14b	B4I0304b	8081/8082b	
53469-21-9b	Aroclor 1242b	NDb	110b	ug/kg dryb	1b	09/09/14b	B4I0304b	8081/8082b	
12672-29-6b	Aroclor 1248	NDb	110b	ug/kg dryb	1b	09/09/14b	B4I0304b	8081/8082b	
11097-69-1b	Aroclor 1254b	NDb	110b	ug/kg dryb	1b	09/09/14b	B4I0304b	8081/8082b	
11096-82-5b	Aroclor 1260b	NDb	110b	ug/kg dryb	1b	09/09/14b	B4I0304b	8081/8082b	
37324-23-5b	Aroclor 1262b	NDb	110b	ug/kg dryb	1b	09/09/14b	B4I0304b	8081/8082b	
11100-14-4b	Aroclor 1268	NDb	110b	ug/kg dryb	1b	09/09/14b	B4I0304b	8081/8082b	
<i>Surrogate: Decachlorobiphenyl-</i>			69.1 %-	30-150-		09/09/14-	B4I0304b	8081/8082-	
<i>Surrogate: Tetrachloro-m-xylene-</i>			63.7 %-	30-150-		09/09/14-	B4I0304b	8081/8082-	
Inorganics-General Chemistry									
TSb	% Total Solids ^p	88.4 ^p	0.1b	%b	1b	08/25/14b	B4H2514b	2540 Bb	



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Client ID: CHLL-SB 119 6"-12"p

Lab ID: 1408239-13p

CAS #b	Analyteb	Resultb	RLb	Unitsb	Dilutionb	Analyzed b Dateb	QC Batchb	Methodb	Qualifier b
Organics-PCBs as Aroclorsp									
12674-11-2b	Aroclor 1016b	NDb	110b	ug/kg dryb	1b	09/10/14b	B4I0304b	8081/8082b	
11104-28-2b	Aroclor 1221b	NDb	110b	ug/kg dryb	1b	09/10/14b	B4I0304b	8081/8082b	
11141-16-5b	Aroclor 1232b	NDb	110b	ug/kg dryb	1b	09/10/14b	B4I0304b	8081/8082b	
53469-21-9b	Aroclor 1242b	NDb	110b	ug/kg dryb	1b	09/10/14b	B4I0304b	8081/8082b	
12672-29-6b	Aroclor 1248	NDb	110b	ug/kg dryb	1b	09/10/14b	B4I0304b	8081/8082b	
11097-69-1b	Aroclor 1254b	NDb	110b	ug/kg dryb	1b	09/10/14b	B4I0304b	8081/8082b	
11096-82-5b	Aroclor 1260b	NDb	110b	ug/kg dryb	1b	09/10/14b	B4I0304b	8081/8082b	
37324-23-5b	Aroclor 1262b	NDb	110b	ug/kg dryb	1b	09/10/14b	B4I0304b	8081/8082b	
11100-14-4b	Aroclor 1268	NDb	110b	ug/kg dryb	1b	09/10/14b	B4I0304b	8081/8082b	
<i>Surrogate: Decachlorobiphenyl-</i>			76.8 %-	30-150-		09/10/14-	B4I0304b	8081/8082-	
<i>Surrogate: Tetrachloro-m-xylene-</i>			70.9 %-	30-150-		09/10/14-	B4I0304b	8081/8082-	
Inorganics-General Chemistry									
TSb	% Total Solids ^p	92.1 ^p	0.1b	%b	1b	08/25/14b	B4H2514b	2540 Bb	



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Client ID: CHLL-SB 119 12"-3'p

Lab ID: 1408239-14p

CAS #b	Analyteb	Resultb	RLb	Unitsb	Dilutionb	Analyzed b Dateb	QC Batchb	Methodb	Qualifier b
Organics-PCBs as Aroclorsp									
12674-11-2b	Aroclor 1016	NDb	120b	ug/kg dryb	1b	09/10/14b	B4I0304b	8081/8082b	
11104-28-2b	Aroclor 1221	NDb	120b	ug/kg dryb	1b	09/10/14b	B4I0304b	8081/8082b	
11141-16-5b	Aroclor 1232	NDb	120b	ug/kg dryb	1b	09/10/14b	B4I0304b	8081/8082b	
53469-21-9b	Aroclor 1242	NDb	120b	ug/kg dryb	1b	09/10/14b	B4I0304b	8081/8082b	
12672-29-6b	Aroclor 1248	NDb	120b	ug/kg dryb	1b	09/10/14b	B4I0304b	8081/8082b	
11097-69-1b	Aroclor 1254	NDb	120b	ug/kg dryb	1b	09/10/14b	B4I0304b	8081/8082b	
11096-82-5b	Aroclor 1260	NDb	120b	ug/kg dryb	1b	09/10/14b	B4I0304b	8081/8082b	
37324-23-5b	Aroclor 1262	57p	120b	ug/kg dryb	1b	09/10/14b	B4I0304b	8081/8082b	Tb
11100-14-4b	Aroclor 1268	NDb	120b	ug/kg dryb	1b	09/10/14b	B4I0304b	8081/8082b	
Surrogate: Decachlorobiphenyl-			74.5 %-	30-150-		09/10/14-	B4I0304b	8081/8082-	
Surrogate: Tetrachloro-m-xylene-			64.9 %-	30-150-		09/10/14-	B4I0304b	8081/8082-	
Inorganics-General Chemistry									
TSb	% Total Solids	86.1p	0.1b	%b	1b	08/25/14b	B4H2514b	2540 Bb	



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Client ID: CHLL-SB 118 6"-12"p

Lab ID: 1408239-15p

CAS #b	Analyteb	Resultb	RLb	Unitsb	Dilutionb	Analyzed b Dateb	QC Batchb	Methodb	Qualifier b
Organics-PCBs as Aroclorsp									
12674-11-2b	Aroclor 1016b	NDb	110b	ug/kg dryb	1b	09/10/14b	B4I0304b	8081/8082b	
11104-28-2b	Aroclor 1221b	NDb	110b	ug/kg dryb	1b	09/10/14b	B4I0304b	8081/8082b	
11141-16-5b	Aroclor 1232b	NDb	110b	ug/kg dryb	1b	09/10/14b	B4I0304b	8081/8082b	
53469-21-9b	Aroclor 1242b	NDb	110b	ug/kg dryb	1b	09/10/14b	B4I0304b	8081/8082b	
12672-29-6b	Aroclor 1248	NDb	110b	ug/kg dryb	1b	09/10/14b	B4I0304b	8081/8082b	
11097-69-1b	Aroclor 1254b	NDb	110b	ug/kg dryb	1b	09/10/14b	B4I0304b	8081/8082b	
11096-82-5b	Aroclor 1260b	NDb	110b	ug/kg dryb	1b	09/10/14b	B4I0304b	8081/8082b	
37324-23-5b	Aroclor 1262b	NDb	110b	ug/kg dryb	1b	09/10/14b	B4I0304b	8081/8082b	
11100-14-4b	Aroclor 1268	NDb	110b	ug/kg dryb	1b	09/10/14b	B4I0304b	8081/8082b	
<i>Surrogate: Decachlorobiphenyl-</i>			62.5 %-	30-150-		09/10/14-	B4I0304b	8081/8082-	
<i>Surrogate: Tetrachloro-m-xylene-</i>			61.0 %-	30-150-		09/10/14-	B4I0304b	8081/8082-	
Inorganics-General Chemistry									
TSb	% Total Solids ^p	92.7 ^p	0.1b	%b	1b	08/25/14b	B4H2514b	2540 Bb	



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Client ID: CHLL-SB 118 12"-3'p

Lab ID: 1408239-16p

CAS #b	Analyteb	Resultb	RLb	Unitsb	Dilutionb	Analyzed b Dateb	QC Batchb	Methodb	Qualifier b
Organics-PCBs as Aroclorsp									
12674-11-2b	Aroclor 1016b	NDb	130b	ug/kg dryb	1b	09/10/14b	B4I0304b	8081/8082b	
11104-28-2b	Aroclor 1221b	NDb	130b	ug/kg dryb	1b	09/10/14b	B4I0304b	8081/8082b	
11141-16-5b	Aroclor 1232b	NDb	130b	ug/kg dryb	1b	09/10/14b	B4I0304b	8081/8082b	
53469-21-9b	Aroclor 1242b	NDb	130b	ug/kg dryb	1b	09/10/14b	B4I0304b	8081/8082b	
12672-29-6b	Aroclor 1248	NDb	130b	ug/kg dryb	1b	09/10/14b	B4I0304b	8081/8082b	
11097-69-1b	Aroclor 1254b	NDb	130b	ug/kg dryb	1b	09/10/14b	B4I0304b	8081/8082b	
11096-82-5b	Aroclor 1260b	NDb	130b	ug/kg dryb	1b	09/10/14b	B4I0304b	8081/8082b	
37324-23-5b	Aroclor 1262b	NDb	130b	ug/kg dryb	1b	09/10/14b	B4I0304b	8081/8082b	
11100-14-4b	Aroclor 1268	NDb	130b	ug/kg dryb	1b	09/10/14b	B4I0304b	8081/8082b	
<i>Surrogate: Decachlorobiphenyl-</i>			70.1 %-	30-150-		09/10/14-	B4I0304b	8081/8082-	
<i>Surrogate: Tetrachloro-m-xylene-</i>			74.7 %-	30-150-		09/10/14-	B4I0304b	8081/8082-	
Inorganics-General Chemistry									
TSb	% Total Solids ^p	77.3 ^p	0.1b	%b	1b	08/25/14b	B4H2514b	2540 Bb	



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Client ID: CHLL-SB 112 6"-12"p

Lab ID: 1408239-17p

CAS #b	Analyteb	Resultb	RLb	Unitsb	Dilutionb	Analyzed b Dateb	QC Batchb	Methodb	Qualifier b
Organics-PCBs as Aroclorsp									
12674-11-2b	Aroclor 1016b	NDb	110b	ug/kg dryb	1b	09/10/14b	B4I0304b	8081/8082b	
11104-28-2b	Aroclor 1221b	NDb	110b	ug/kg dryb	1b	09/10/14b	B4I0304b	8081/8082b	
11141-16-5b	Aroclor 1232b	NDb	110b	ug/kg dryb	1b	09/10/14b	B4I0304b	8081/8082b	
53469-21-9b	Aroclor 1242b	NDb	110b	ug/kg dryb	1b	09/10/14b	B4I0304b	8081/8082b	
12672-29-6b	Aroclor 1248	NDb	110b	ug/kg dryb	1b	09/10/14b	B4I0304b	8081/8082b	
11097-69-1b	Aroclor 1254b	NDb	110b	ug/kg dryb	1b	09/10/14b	B4I0304b	8081/8082b	
11096-82-5b	Aroclor 1260b	NDb	110b	ug/kg dryb	1b	09/10/14b	B4I0304b	8081/8082b	
37324-23-5b	Aroclor 1262b	NDb	110b	ug/kg dryb	1b	09/10/14b	B4I0304b	8081/8082b	
11100-14-4b	Aroclor 1268	NDb	110b	ug/kg dryb	1b	09/10/14b	B4I0304b	8081/8082b	
<i>Surrogate: Decachlorobiphenyl-</i>			60.1 %-	30-150-		09/10/14-	B4I0304b	8081/8082-	
<i>Surrogate: Tetrachloro-m-xylene-</i>			59.1 %-	30-150-		09/10/14-	B4I0304b	8081/8082-	
Inorganics-General Chemistry									
TSb	% Total Solids ^p	90.9 ^p	0.1b	%b	1b	08/25/14b	B4H2514b	2540 Bb	



MICHIGAN DEPARTMENT OF ENVIRONMENTAL QUALITY
ENVIRONMENTAL LABORATORY

P.O. Box 302700
Lansing, MI 48909
TEL: (517) 335-98000
FAX: (517) 335-96000

Client ID: CHLL-SB 112 12"-3'p

Lab ID: 1408239-18p

CAS #b	Analyteb	Resultb	RLb	Unitsb	Dilutionb	Analyzed b Dateb	QC Batchb	Methodb	Qualifier b
Organics-PCBs as Aroclorsp									
12674-11-2b	Aroclor 1016b	NDb	110b	ug/kg dryb	1b	09/10/14b	B4I0304b	8081/8082b	
11104-28-2b	Aroclor 1221b	NDb	110b	ug/kg dryb	1b	09/10/14b	B4I0304b	8081/8082b	
11141-16-5b	Aroclor 1232b	NDb	110b	ug/kg dryb	1b	09/10/14b	B4I0304b	8081/8082b	
53469-21-9b	Aroclor 1242b	NDb	110b	ug/kg dryb	1b	09/10/14b	B4I0304b	8081/8082b	
12672-29-6b	Aroclor 1248	NDb	110b	ug/kg dryb	1b	09/10/14b	B4I0304b	8081/8082b	
11097-69-1b	Aroclor 1254b	NDb	110b	ug/kg dryb	1b	09/10/14b	B4I0304b	8081/8082b	
11096-82-5b	Aroclor 1260b	NDb	110b	ug/kg dryb	1b	09/10/14b	B4I0304b	8081/8082b	
37324-23-5b	Aroclor 1262b	NDb	110b	ug/kg dryb	1b	09/10/14b	B4I0304b	8081/8082b	
11100-14-4b	Aroclor 1268	NDb	110b	ug/kg dryb	1b	09/10/14b	B4I0304b	8081/8082b	
Surrogate: Decachlorobiphenyl-			69.9 %-	30-150-		09/10/14-	B4I0304b	8081/8082-	
Surrogate: Tetrachloro-m-xylene-			67.8 %-	30-150-		09/10/14-	B4I0304b	8081/8082-	
Inorganics-General Chemistry									
TSb	% Total Solidsp	89.8p	0.1b	%b	1b	08/25/14b	B4H2514b	2540 Bb	



**MICHIGAN DEPARTMENT OF ENVIRONMENTAL QUALITY
ENVIRONMENTAL LABORATORY**

P.O. Box 302700
Lansing, MI 48909
TEL: (517) 335-98000
FAX: (517) 335-96000

Client ID: CHLL-SB 116 6"-12"p

Lab ID: 1408239-19p

CAS #b	Analyteb	Resultb	RLb	Unitsb	Dilutionb	Analyzed b Dateb	QC Batchb	Methodb	Qualifier b
Organics-PCBs as Aroclorsp									
12674-11-2b	Aroclor 1016b	NDb	120b	ug/kg dryb	1b	09/10/14b	B4I0304b	8081/8082b	
11104-28-2b	Aroclor 1221b	NDb	120b	ug/kg dryb	1b	09/10/14b	B4I0304b	8081/8082b	
11141-16-5b	Aroclor 1232b	NDb	120b	ug/kg dryb	1b	09/10/14b	B4I0304b	8081/8082b	
53469-21-9b	Aroclor 1242b	NDb	120b	ug/kg dryb	1b	09/10/14b	B4I0304b	8081/8082b	
12672-29-6b	Aroclor 1248	NDb	120b	ug/kg dryb	1b	09/10/14b	B4I0304b	8081/8082b	
11097-69-1b	Aroclor 1254b	NDb	120b	ug/kg dryb	1b	09/10/14b	B4I0304b	8081/8082b	
11096-82-5b	Aroclor 1260b	NDb	120b	ug/kg dryb	1b	09/10/14b	B4I0304b	8081/8082b	
37324-23-5b	Aroclor 1262b	NDb	120b	ug/kg dryb	1b	09/10/14b	B4I0304b	8081/8082b	
11100-14-4b	Aroclor 1268	NDb	120b	ug/kg dryb	1b	09/10/14b	B4I0304b	8081/8082b	
<i>Surrogate: Decachlorobiphenyl-</i>			65.6 %-	30-150-		09/10/14-	B4I0304b	8081/8082-	
<i>Surrogate: Tetrachloro-m-xylene-</i>			63.8 %-	30-150-		09/10/14-	B4I0304b	8081/8082-	
Inorganics-General Chemistry									
TSb	% Total Solids ^p	86.7 ^p	0.1b	%b	1b	08/25/14b	B4H2514b	2540 Bb	

MICHIGAN DEPARTMENT OF ENVIRONMENTAL QUALITY

Page 1 of 2

ENVIRONMENTAL LABORATORY - ANALYSIS REQUEST SHEET

Lab Work Order Number 1408239	Project Name Abandoned Mining Waste- Torch Lake PCB	Matrix SOIL/SEDIMENT
Site Code/Project Number 31000098	AY 14	CC Email 1 to send additional reports to shireyb
Dept/Division-District RRD-PSS-GSU	Index 44251	CC Email 2 to send additional reports to j.binkley@westonsolutions.com
State Project Manager Jeff Pincumbe	PCA 30708	CC Email 3 to send additional reports to Keranena@michigan.gov
State Project Manager Email pincumbej	Project 100081	Overflow Lab Choice 1 No
State Project Manager Phone 517-335-6418	Phase 04	Overflow Lab Choice 2 No
		Accept Analysis hold time codes: Yes/No No
		Contract Firm Western 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	CHLL- SB-94 0-6"	8-19-14			
2	CHLL- SB-94 6"-4"	8-19-14			
3	CHLL- SB-82 0-6"	8-19-14			
4	CHLL- SB-82 6"-5"	8-19-14			
5	CHLL- SB-108 0-6"	8-19-14			
6	CHLL- SB-108 6"-3"	8-19-14			
7	CHLL- SB-107 0-6"	8-19-14			
8	CHLL- SB-107 6"-3"	8-19-14			
9	CHLL- SB-123 0-6"	8-20-14			
10	CHLL- SB-123 6"-4"	8-20-14			

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 8TEX/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 HNAs 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 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 PINCUMBE R DCO	Melissa Smith	8/22/14 1016
	Signature: <i>Jeff Pincumbe</i>	<i>Melissa Smith</i>	
	Print Name & Org.		
	Signature:		
	Print Name & Org.		
	Signature:		

ENVIRONMENTAL LABORATORY - ANALYSIS REQUEST SHEET

Lab Work Order Number

Project Name

Matrix

1408239

Abandoned Mining Waste- Torch Lake PCB

SOIL/SEDIMENT

Site Code/Project Number

31000098

AY

14

CC Email 1 to send additional reports to

shireyb

Project TAT Days

Sample Collector

Dept-Division-District

RRD-PSS-GSU

Index

44251

CC Email 2 to send additional reports to

j.binkley@westonsolutions.com

Project Due Date

Sample Collector Phone

State Project Manager

Jeff Pincumbe

PCA

30708

CC Email 3 to send additional reports to

Keranena@michigan.gov

Contract Firm

Weston Solutions

State Project Manager Email

pincumbej

Project

100081

Overflow Lab Choice 1

Accept Analysis
hold time codes: Yes/No

NO

Contract Firm Primary Contact

Jeff Binkley

State Project Manager Phone

517-335-6418

Phase

14

Overflow Lab Choice 2

Primary Contact Phone

906-523-5457

Lab Use Only	Field Sample Identification	Collection Date	Collection Time	Container Count	Comments
1	CHLL- SB-111 6"-12"	8-20-14			
2	CHLL- SB-111 12"-3'	8-20-14			
3	CHLL- SB-119 6"-12"	8-21-14			
4	CHLL- SB-119 12"-3'	8-21-14			
5	CHLL- SB-118 6"-12"	8-21-14			
6	CHLL- SB-118 12"-3'	8-21-14			
7	CHLL- SB-112 6"-12"	8-20-14			
8	CHLL- SB-112 12"-3'	8-20-14			
9	CHLL- SB-116 6"-12"	8-20-14			
10	CHLL-				

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/TM8 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,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 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 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			

Chain of Custody	Relinquished by	Received By	Date / Time
	Print Name & Org. JEFF PINCUMBE MDEQ	Melissa Smith	8/22/14 1016
	Signature: [Signature]	[Signature]	
	Print Name & Org.		
	Signature:		
	Print Name & Org.		
	Signature:		



**MICHIGAN DEPARTMENT OF ENVIRONMENTAL QUALITY
ENVIRONMENTAL LABORATORY**

P.O. Box 302700
Lansing, MI 489090
TEL: (517) 335-9800
FAX: (517) 335-9600

17 September 2014

Work Order: 14082400

Price: \$1,370.00

Jeff Pincumbe

MDEQ-RRD-LANSING

525 W. Allegan Street

Lansing, MI 48909

RE: ABANDONED MINING WASTE-TORCH LAKE PCBO

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 302700
Lansing, MI 48909
TEL: (517) 335-98000
FAX: (517) 335-96000

MDEQ-RRD-LANSINGb
525 W. Allegan Streetb
Lansing MI, 48909b

Project:bABANDONED MINING WASTE-TORCH LAKE PCBb
Site Code:b31000098
Project Manager:bJeff Pincumbb

Reported:p
09/17/2014b

Analytical Report for Samplesp

Sample IDp	Laboratory IDp	Matrixp	Date Sampledp	Date Receivedp	Qualifierp
CHLL-SB120 6"-3"b	1408240-01b	Soil/Sedimentb	08/20/2014b	08/22/2014b	
CHLL-SB117 6"-12"b	1408240-02b	Soil/Sedimentb	08/20/2014b	08/22/2014b	
CHLL-SB117 12"-3"b	1408240-03b	Soil/Sedimentb	08/20/2014b	08/22/2014b	
CHLL-SB114 6"-12"b	1408240-04b	Soil/Sedimentb	08/20/2014b	08/22/2014b	
CHLL-SB114 12"-3"b	1408240-05b	Soil/Sedimentb	08/20/2014b	08/22/2014b	
CHLL-SB115 6"-12"b	1408240-06b	Soil/Sedimentb	08/20/2014b	08/22/2014b	
CHLL-SB115 12"-5"b	1408240-07b	Soil/Sedimentb	08/20/2014b	08/22/2014b	
CHLL-SB115 12"-5' DUPb	1408240-08	Soil/Sedimentb	08/20/2014b	08/22/2014b	
CHLL-SB113 6-12"b	1408240-09b	Soil/Sedimentb	08/20/2014b	08/22/2014b	
CHLL-SB113 12"-3"b	1408240-10b	Soil/Sedimentb	08/20/2014b	08/22/2014b	

Notes and Definitions p

NDb Indicates compound analyzed for but not detectedb
RLb Reporting Limitb
NAb Not Applicableb



**MICHIGAN DEPARTMENT OF ENVIRONMENTAL QUALITY
ENVIRONMENTAL LABORATORY**

P.O. Box 302700
Lansing, MI 48909
TEL: (517) 335-98000
FAX: (517) 335-96000

Client ID: CHLL-SB120 6"-3'p

Lab ID: 1408240-01p

CAS #b	Analyteb	Resultb	RLb	Unitsb	Dilutionb	Analyzed b Dateb	QC Batchb	Methodb	Qualifier b
Organics-PCBs as Aroclorsp									
12674-11-2b	Aroclor 1016b	NDb	140b	ug/kg dryb	1b	09/10/14b	B4I0304b	8081/8082b	
11104-28-2b	Aroclor 1221b	NDb	140b	ug/kg dryb	1b	09/10/14b	B4I0304b	8081/8082b	
11141-16-5b	Aroclor 1232b	NDb	140b	ug/kg dryb	1b	09/10/14b	B4I0304b	8081/8082b	
53469-21-9b	Aroclor 1242b	NDb	140b	ug/kg dryb	1b	09/10/14b	B4I0304b	8081/8082b	
12672-29-6b	Aroclor 1248	NDb	140b	ug/kg dryb	1b	09/10/14b	B4I0304b	8081/8082b	
11097-69-1b	Aroclor 1254b	NDb	140b	ug/kg dryb	1b	09/10/14b	B4I0304b	8081/8082b	
11096-82-5b	Aroclor 1260b	NDb	140b	ug/kg dryb	1b	09/10/14b	B4I0304b	8081/8082b	
37324-23-5b	Aroclor 1262b	NDb	140b	ug/kg dryb	1b	09/10/14b	B4I0304b	8081/8082b	
11100-14-4b	Aroclor 1268	NDb	140b	ug/kg dryb	1b	09/10/14b	B4I0304b	8081/8082b	
<i>Surrogate: Decachlorobiphenyl-</i>			82.7 %-	30-150-		09/10/14-	B4I0304b	8081/8082-	
<i>Surrogate: Tetrachloro-m-xylene-</i>			84.7 %-	30-150-		09/10/14-	B4I0304b	8081/8082-	
Inorganics-General Chemistry									
TSb	% Total Solids ^p	71.4 ^p	0.1b	%b	1b	08/25/14b	B4H2514b	2540 Bb	



MICHIGAN DEPARTMENT OF ENVIRONMENTAL QUALITY
ENVIRONMENTAL LABORATORY

P.O. Box 302700
Lansing, MI 48909
TEL: (517) 335-98000
FAX: (517) 335-96000

Client ID: CHLL-SB117 6"-12"p

Lab ID: 1408240-02p

CAS #b	Analyteb	Resultb	RLb	Unitsb	Dilutionb	Analyzed b Dateb	QC Batchb	Methodb	Qualifier b
Organics-PCBs as Aroclorsp									
12674-11-2b	Aroclor 1016b	NDb	110b	ug/kg dryb	1b	09/10/14b	B4I0304b	8081/8082b	
11104-28-2b	Aroclor 1221b	NDb	110b	ug/kg dryb	1b	09/10/14b	B4I0304b	8081/8082b	
11141-16-5b	Aroclor 1232b	NDb	110b	ug/kg dryb	1b	09/10/14b	B4I0304b	8081/8082b	
53469-21-9b	Aroclor 1242b	NDb	110b	ug/kg dryb	1b	09/10/14b	B4I0304b	8081/8082b	
12672-29-6b	Aroclor 1248	NDb	110b	ug/kg dryb	1b	09/10/14b	B4I0304b	8081/8082b	
11097-69-1b	Aroclor 1254b	NDb	110b	ug/kg dryb	1b	09/10/14b	B4I0304b	8081/8082b	
11096-82-5b	Aroclor 1260b	NDb	110b	ug/kg dryb	1b	09/10/14b	B4I0304b	8081/8082b	
37324-23-5b	Aroclor 1262b	NDb	110b	ug/kg dryb	1b	09/10/14b	B4I0304b	8081/8082b	
11100-14-4b	Aroclor 1268	NDb	110b	ug/kg dryb	1b	09/10/14b	B4I0304b	8081/8082b	
Surrogate: Decachlorobiphenyl-			74.5 %-	30-150-		09/10/14-	B4I0304b	8081/8082-	
Surrogate: Tetrachloro-m-xylene-			73.5 %-	30-150-		09/10/14-	B4I0304b	8081/8082-	
Inorganics-General Chemistry									
TSb	% Total Solidsp	88.3p	0.1b	%b	1b	08/25/14b	B4H2514b	2540 Bb	



**MICHIGAN DEPARTMENT OF ENVIRONMENTAL QUALITY
ENVIRONMENTAL LABORATORY**

P.O. Box 302700
Lansing, MI 48909
TEL: (517) 335-98000
FAX: (517) 335-96000

Client ID: CHLL-SB117 12"-3'p

Lab ID: 1408240-03p

CAS #b	Analyteb	Resultb	RLb	Unitsb	Dilutionb	Analyzed b Dateb	QC Batchb	Methodb	Qualifier b
Organics-PCBs as Aroclorsp									
12674-11-2b	Aroclor 1016b	NDb	110b	ug/kg dryb	1b	09/10/14b	B4I0510b	8081/8082b	
11104-28-2b	Aroclor 1221b	NDb	110b	ug/kg dryb	1b	09/10/14b	B4I0510b	8081/8082b	
11141-16-5b	Aroclor 1232b	NDb	110b	ug/kg dryb	1b	09/10/14b	B4I0510b	8081/8082b	
53469-21-9b	Aroclor 1242b	NDb	110b	ug/kg dryb	1b	09/10/14b	B4I0510b	8081/8082b	
12672-29-6b	Aroclor 1248	NDb	110b	ug/kg dryb	1b	09/10/14b	B4I0510b	8081/8082b	
11097-69-1b	Aroclor 1254b	NDb	110b	ug/kg dryb	1b	09/10/14b	B4I0510b	8081/8082b	
11096-82-5b	Aroclor 1260b	NDb	110b	ug/kg dryb	1b	09/10/14b	B4I0510b	8081/8082b	
37324-23-5b	Aroclor 1262b	NDb	110b	ug/kg dryb	1b	09/10/14b	B4I0510b	8081/8082b	
11100-14-4b	Aroclor 1268	NDb	110b	ug/kg dryb	1b	09/10/14b	B4I0510b	8081/8082b	
<i>Surrogate: Decachlorobiphenyl-</i>			66.6 %-	30-150-		09/10/14-	B4I0510b	8081/8082-	
<i>Surrogate: Tetrachloro-m-xylene-</i>			75.1 %-	30-150-		09/10/14-	B4I0510b	8081/8082-	
Inorganics-General Chemistry									
TSb	% Total Solids ^p	88.6 ^p	0.1b	%b	1b	08/25/14b	B4H2514b	2540 Bb	



MICHIGAN DEPARTMENT OF ENVIRONMENTAL QUALITY
ENVIRONMENTAL LABORATORY

P.O. Box 302700
Lansing, MI 48909
TEL: (517) 335-98000
FAX: (517) 335-96000

Client ID: CHLL-SB114 6"-12"p

Lab ID: 1408240-04p

CAS #b	Analyteb	Resultb	RLb	Unitsb	Dilutionb	Analyzed b Dateb	QC Batchb	Methodb	Qualifier b
Organics-PCBs as Aroclorsp									
12674-11-2b	Aroclor 1016b	NDb	110b	ug/kg dryb	1b	09/10/14b	B4I0510b	8081/8082b	
11104-28-2b	Aroclor 1221b	NDb	110b	ug/kg dryb	1b	09/10/14b	B4I0510b	8081/8082b	
11141-16-5b	Aroclor 1232b	NDb	110b	ug/kg dryb	1b	09/10/14b	B4I0510b	8081/8082b	
53469-21-9b	Aroclor 1242b	NDb	110b	ug/kg dryb	1b	09/10/14b	B4I0510b	8081/8082b	
12672-29-6b	Aroclor 1248	NDb	110b	ug/kg dryb	1b	09/10/14b	B4I0510b	8081/8082b	
11097-69-1b	Aroclor 1254b	NDb	110b	ug/kg dryb	1b	09/10/14b	B4I0510b	8081/8082b	
11096-82-5b	Aroclor 1260b	NDb	110b	ug/kg dryb	1b	09/10/14b	B4I0510b	8081/8082b	
37324-23-5b	Aroclor 1262b	NDb	110b	ug/kg dryb	1b	09/10/14b	B4I0510b	8081/8082b	
11100-14-4b	Aroclor 1268	NDb	110b	ug/kg dryb	1b	09/10/14b	B4I0510b	8081/8082b	
Surrogate: Decachlorobiphenyl-			58.5 %-	30-150-		09/10/14-	B4I0510b	8081/8082-	
Surrogate: Tetrachloro-m-xylene-			82.5 %-	30-150-		09/10/14-	B4I0510b	8081/8082-	
Inorganics-General Chemistry									
TSb	% Total Solidsp	89.9p	0.1b	%b	1b	08/25/14b	B4H2514b	2540 Bb	



**MICHIGAN DEPARTMENT OF ENVIRONMENTAL QUALITY
ENVIRONMENTAL LABORATORY**

P.O. Box 302700
Lansing, MI 48909
TEL: (517) 335-98000
FAX: (517) 335-96000

Client ID: CHLL-SB114 12"-3'p

Lab ID: 1408240-05p

CAS #b	Analyteb	Resultb	RLb	Unitsb	Dilutionb	Analyzed b Dateb	QC Batchb	Methodb	Qualifier b
Organics-PCBs as Aroclorsp									
12674-11-2b	Aroclor 1016b	NDb	120b	ug/kg dryb	1b	09/10/14b	B4I0510b	8081/8082b	
11104-28-2b	Aroclor 1221b	NDb	120b	ug/kg dryb	1b	09/10/14b	B4I0510b	8081/8082b	
11141-16-5b	Aroclor 1232b	NDb	120b	ug/kg dryb	1b	09/10/14b	B4I0510b	8081/8082b	
53469-21-9b	Aroclor 1242b	NDb	120b	ug/kg dryb	1b	09/10/14b	B4I0510b	8081/8082b	
12672-29-6b	Aroclor 1248	NDb	120b	ug/kg dryb	1b	09/10/14b	B4I0510b	8081/8082b	
11097-69-1b	Aroclor 1254b	NDb	120b	ug/kg dryb	1b	09/10/14b	B4I0510b	8081/8082b	
11096-82-5b	Aroclor 1260b	NDb	120b	ug/kg dryb	1b	09/10/14b	B4I0510b	8081/8082b	
37324-23-5b	Aroclor 1262b	NDb	120b	ug/kg dryb	1b	09/10/14b	B4I0510b	8081/8082b	
11100-14-4b	Aroclor 1268	NDb	120b	ug/kg dryb	1b	09/10/14b	B4I0510b	8081/8082b	
<i>Surrogate: Decachlorobiphenyl-</i>			68.0 %-	30-150-		09/10/14-	B4I0510b	8081/8082-	
<i>Surrogate: Tetrachloro-m-xylene-</i>			71.4 %-	30-150-		09/10/14-	B4I0510b	8081/8082-	
Inorganics-General Chemistry									
TSb	% Total Solids ^p	82.8 ^p	0.1b	%b	1b	08/27/14b	B4H2708	2540 Bb	



MICHIGAN DEPARTMENT OF ENVIRONMENTAL QUALITY
ENVIRONMENTAL LABORATORY

P.O. Box 302700
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TEL: (517) 335-98000
FAX: (517) 335-96000

Client ID: CHLL-SB115 6"-12"p

Lab ID: 1408240-06p

CAS #b	Analyteb	Resultb	RLb	Unitsb	Dilutionb	Analyzed b Dateb	QC Batchb	Methodb	Qualifier b
Organics-PCBs as Aroclorsp									
12674-11-2b	Aroclor 1016b	NDb	110b	ug/kg dryb	1b	09/11/14b	B4I0510b	8081/8082b	
11104-28-2b	Aroclor 1221b	NDb	110b	ug/kg dryb	1b	09/11/14b	B4I0510b	8081/8082b	
11141-16-5b	Aroclor 1232b	NDb	110b	ug/kg dryb	1b	09/11/14b	B4I0510b	8081/8082b	
53469-21-9b	Aroclor 1242b	NDb	110b	ug/kg dryb	1b	09/11/14b	B4I0510b	8081/8082b	
12672-29-6b	Aroclor 1248	NDb	110b	ug/kg dryb	1b	09/11/14b	B4I0510b	8081/8082b	
11097-69-1b	Aroclor 1254b	NDb	110b	ug/kg dryb	1b	09/11/14b	B4I0510b	8081/8082b	
11096-82-5b	Aroclor 1260b	NDb	110b	ug/kg dryb	1b	09/11/14b	B4I0510b	8081/8082b	
37324-23-5b	Aroclor 1262b	NDb	110b	ug/kg dryb	1b	09/11/14b	B4I0510b	8081/8082b	
11100-14-4b	Aroclor 1268	NDb	110b	ug/kg dryb	1b	09/11/14b	B4I0510b	8081/8082b	
Surrogate: Decachlorobiphenyl-			53.5 %-	30-150-		09/11/14-	B4I0510b	8081/8082-	
Surrogate: Tetrachloro-m-xylene-			76.4 %-	30-150-		09/11/14-	B4I0510b	8081/8082-	
Inorganics-General Chemistry									
TSb	% Total Solids ^p	87.9 ^p	0.1b	%b	1b	08/27/14b	B4H2708	2540 Bb	



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ENVIRONMENTAL LABORATORY**

P.O. Box 302700
Lansing, MI 48909
TEL: (517) 335-98000
FAX: (517) 335-96000

Client ID: CHLL-SB115 12"-5'p

Lab ID: 1408240-07p

CAS #b	Analyteb	Resultb	RLb	Unitsb	Dilutionb	Analyzed b Dateb	QC Batchb	Methodb	Qualifier b
Organics-PCBs as Aroclorsp									
12674-11-2b	Aroclor 1016b	NDb	110b	ug/kg dryb	1b	09/11/14b	B4I0510b	8081/8082b	
11104-28-2b	Aroclor 1221b	NDb	110b	ug/kg dryb	1b	09/11/14b	B4I0510b	8081/8082b	
11141-16-5b	Aroclor 1232b	NDb	110b	ug/kg dryb	1b	09/11/14b	B4I0510b	8081/8082b	
53469-21-9b	Aroclor 1242b	NDb	110b	ug/kg dryb	1b	09/11/14b	B4I0510b	8081/8082b	
12672-29-6b	Aroclor 1248	NDb	110b	ug/kg dryb	1b	09/11/14b	B4I0510b	8081/8082b	
11097-69-1b	Aroclor 1254b	NDb	110b	ug/kg dryb	1b	09/11/14b	B4I0510b	8081/8082b	
11096-82-5b	Aroclor 1260b	NDb	110b	ug/kg dryb	1b	09/11/14b	B4I0510b	8081/8082b	
37324-23-5b	Aroclor 1262b	NDb	110b	ug/kg dryb	1b	09/11/14b	B4I0510b	8081/8082b	
11100-14-4b	Aroclor 1268	NDb	110b	ug/kg dryb	1b	09/11/14b	B4I0510b	8081/8082b	
<i>Surrogate: Decachlorobiphenyl-</i>			60.6 %-	30-150-		09/11/14-	B4I0510b	8081/8082-	
<i>Surrogate: Tetrachloro-m-xylene-</i>			87.2 %-	30-150-		09/11/14-	B4I0510b	8081/8082-	
Inorganics-General Chemistry									
TSb	% Total Solids ^p	87.9 ^p	0.1b	%b	1b	08/27/14b	B4H2708	2540 Bb	



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ENVIRONMENTAL LABORATORY**

P.O. Box 302700
Lansing, MI 48909
TEL: (517) 335-98000
FAX: (517) 335-96000

Client ID: CHLL-SB115 12"-5' DUPp

Lab ID: 1408240-08p

CAS #b	Analyteb	Resultb	RLb	Unitsb	Dilutionb	Analyzed b Dateb	QC Batchb	Methodb	Qualifier b
Organics-PCBs as Aroclorsp									
12674-11-2b	Aroclor 1016b	NDb	120b	ug/kg dryb	1b	09/10/14b	B4I0510b	8081/8082b	
11104-28-2b	Aroclor 1221b	NDb	120b	ug/kg dryb	1b	09/10/14b	B4I0510b	8081/8082b	
11141-16-5b	Aroclor 1232b	NDb	120b	ug/kg dryb	1b	09/10/14b	B4I0510b	8081/8082b	
53469-21-9b	Aroclor 1242b	NDb	120b	ug/kg dryb	1b	09/10/14b	B4I0510b	8081/8082b	
12672-29-6b	Aroclor 1248	NDb	120b	ug/kg dryb	1b	09/10/14b	B4I0510b	8081/8082b	
11097-69-1b	Aroclor 1254b	NDb	120b	ug/kg dryb	1b	09/10/14b	B4I0510b	8081/8082b	
11096-82-5b	Aroclor 1260b	NDb	120b	ug/kg dryb	1b	09/10/14b	B4I0510b	8081/8082b	
37324-23-5b	Aroclor 1262b	NDb	120b	ug/kg dryb	1b	09/10/14b	B4I0510b	8081/8082b	
11100-14-4b	Aroclor 1268	NDb	120b	ug/kg dryb	1b	09/10/14b	B4I0510b	8081/8082b	
<i>Surrogate: Decachlorobiphenyl-</i>			77.6 %-	30-150-		09/10/14-	B4I0510b	8081/8082-	
<i>Surrogate: Tetrachloro-m-xylene-</i>			77.1 %-	30-150-		09/10/14-	B4I0510b	8081/8082-	
Inorganics-General Chemistry									
TSb	% Total Solidsp	85.4p	0.1b	%b	1b	08/27/14b	B4H2708	2540 Bb	



**MICHIGAN DEPARTMENT OF ENVIRONMENTAL QUALITY
ENVIRONMENTAL LABORATORY**

P.O. Box 302700
Lansing, MI 48909
TEL: (517) 335-98000
FAX: (517) 335-96000

Client ID: CHLL-SB113 6-12"p

Lab ID: 1408240-09p

CAS #b	Analyteb	Resultb	RLb	Unitsb	Dilutionb	Analyzed b Dateb	QC Batchb	Methodb	Qualifier b
Organics-PCBs as Aroclorsp									
12674-11-2b	Aroclor 1016b	NDb	110b	ug/kg dryb	1b	09/11/14b	B4I0510b	8081/8082b	
11104-28-2b	Aroclor 1221b	NDb	110b	ug/kg dryb	1b	09/11/14b	B4I0510b	8081/8082b	
11141-16-5b	Aroclor 1232b	NDb	110b	ug/kg dryb	1b	09/11/14b	B4I0510b	8081/8082b	
53469-21-9b	Aroclor 1242b	NDb	110b	ug/kg dryb	1b	09/11/14b	B4I0510b	8081/8082b	
12672-29-6b	Aroclor 1248	NDb	110b	ug/kg dryb	1b	09/11/14b	B4I0510b	8081/8082b	
11097-69-1b	Aroclor 1254b	NDb	110b	ug/kg dryb	1b	09/11/14b	B4I0510b	8081/8082b	
11096-82-5b	Aroclor 1260b	NDb	110b	ug/kg dryb	1b	09/11/14b	B4I0510b	8081/8082b	
37324-23-5b	Aroclor 1262b	NDb	110b	ug/kg dryb	1b	09/11/14b	B4I0510b	8081/8082b	
11100-14-4b	Aroclor 1268	NDb	110b	ug/kg dryb	1b	09/11/14b	B4I0510b	8081/8082b	
<i>Surrogate: Decachlorobiphenyl-</i>			80.3 %-	30-150-		09/11/14-	B4I0510b	8081/8082-	
<i>Surrogate: Tetrachloro-m-xylene-</i>			75.3 %-	30-150-		09/11/14-	B4I0510b	8081/8082-	
Inorganics-General Chemistry									
TSb	% Total Solids ^p	87.5 ^p	0.1b	%b	1b	08/27/14b	B4H2708	2540 Bb	



**MICHIGAN DEPARTMENT OF ENVIRONMENTAL QUALITY
ENVIRONMENTAL LABORATORY**

P.O. Box 302700
Lansing, MI 48909
TEL: (517) 335-98000
FAX: (517) 335-96000

Client ID: CHLL-SB113 12"-3'p

Lab ID: 1408240-10p

CAS #b	Analyteb	Resultb	RLb	Unitsb	Dilutionb	Analyzed b Dateb	QC Batchb	Methodb	Qualifier b
Organics-PCBs as Aroclorsp									
12674-11-2b	Aroclor 1016b	NDb	110b	ug/kg dryb	1b	09/10/14b	B4I0510b	8081/8082b	
11104-28-2b	Aroclor 1221b	NDb	110b	ug/kg dryb	1b	09/10/14b	B4I0510b	8081/8082b	
11141-16-5b	Aroclor 1232b	NDb	110b	ug/kg dryb	1b	09/10/14b	B4I0510b	8081/8082b	
53469-21-9b	Aroclor 1242b	NDb	110b	ug/kg dryb	1b	09/10/14b	B4I0510b	8081/8082b	
12672-29-6b	Aroclor 1248	NDb	110b	ug/kg dryb	1b	09/10/14b	B4I0510b	8081/8082b	
11097-69-1b	Aroclor 1254b	NDb	110b	ug/kg dryb	1b	09/10/14b	B4I0510b	8081/8082b	
11096-82-5b	Aroclor 1260b	NDb	110b	ug/kg dryb	1b	09/10/14b	B4I0510b	8081/8082b	
37324-23-5b	Aroclor 1262b	NDb	110b	ug/kg dryb	1b	09/10/14b	B4I0510b	8081/8082b	
11100-14-4b	Aroclor 1268	NDb	110b	ug/kg dryb	1b	09/10/14b	B4I0510b	8081/8082b	
<i>Surrogate: Decachlorobiphenyl-</i>			52.8 %-	30-150-		09/10/14-	B4I0510b	8081/8082-	
<i>Surrogate: Tetrachloro-m-xylene-</i>			61.2 %-	30-150-		09/10/14-	B4I0510b	8081/8082-	
Inorganics-General Chemistry									
TSb	% Total Solids ^p	88.0 ^p	0.1b	%b	1b	08/27/14b	B4H2708	2540 Bb	

ENVIRONMENTAL LABORATORY - ANALYSIS REQUEST SHEET

Lab Work Order Number

Project Name

Matrix

1408240

Abandoned Mining Waste- Torch Lake PCB

SOIL/SEDIMENT

Site Code/Project Number

31000098

AY

14

CC Email 1 to send additional reports to

shireyb

Project TAT Days

Sample Collector

Dept./Division-District

RRD-PSS-GSU

Index

44251

CC Email 2 to send additional reports to

jbinkley@westonsolutions.com

Project Due Date

Sample Collector Phone

State Project Manager

Jeff Pincumbe

PCA

30708

CC Email 3 to send additional reports to

keranena@michigan.gov

Contract Firm

Western solutions

State Project Manager Email

pincumbej

Project

100081

Overflow Lab Choice 1

Accept Analysis hold time codes: Yes/No

NO

Contract Firm Primary Contact

Jeff Binkley

State Project Manager Phone

517-335-6418

Phase

04

Overflow Lab Choice 2

Primary Contact Phone

906-923-5457

Lab Use Only	Field Sample Identification	Collection Date	Collection Time	Container Count	Comments
1	01 CHLL- SB-120 6"-3'	8-20-14			
2	02 CHLL- SB-117 6"-12"				
3	03 CHLL- SB-117 12"-3'				
4	04 CHLL- SB-114 6"-12"				
5	05 CHLL- SB-114 12"-3'				
6	06 CHLL- SB-115 12"-6"-12"				
7	07 CHLL- SB-115 12"-5'				
8	08 CHLL- SB-115 12"-5' 00"				
9	09 CHLL- SB-113 6"-12"				
10	10 CHLL- SB-113 12"-3'				

ORGANIC CHEMISTRY

VOA - Volatile Organic Acidic

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

METALS CHEMISTRY PACKAGES

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)	

MS - TOTAL METALS

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

GENERAL CHEMISTRY

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 PINCUMBE MPEQ	Melissa Smith	8/22/14 1017
	Signature: <i>Jeff Pincumbe</i>	<i>Melissa Smith</i>	
	Print Name & Org.		
	Signature:		
	Print Name & Org.		
	Signature:		



**MICHIGAN DEPARTMENT OF ENVIRONMENTAL QUALITY
ENVIRONMENTAL LABORATORY**

P.O. Box 302700
Lansing, MI 48909
TEL: (517) 335-9800
FAX: (517) 335-9600

18 September 2014

Work Order: 1408238

Price: \$4,459.00

Jeff Pincumbe

MDEQ-RRD-LANSING

525 W. Allegan Street

Lansing, MI 48909

RE: ABANDONED MINING WASTE-TORCH LAKE PCBO

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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MDEQ-RRD-LANSINGb
525 W. Allegan Streetb
Lansing MI, 48909b

Project:bABANDONED MINING WASTE-TORCH LAKE PCBb
Site Code:b31000098
Project Manager:bJeff Pincumbb

Reported:p
09/18/2014b

Analytical Report for Samplesp

Sample IDp	Laboratory IDp	Matrixp	Date Sampledp	Date Receivedp	Qualifiersp
CHLL-SB-124 0-6"b	1408238-01b	Soil/Sedimentb	08/20/2014b	08/22/2014b	
CHLL-SB-124 6"-4"b	1408238-02b	Soil/Sedimentb	08/20/2014b	08/22/2014b	
CHLL-SB-124 6"-4" DUPb	1408238-03b	Soil/Sedimentb	08/20/2014b	08/22/2014b	
CHLL-SB-125 0-6"b	1408238-04b	Soil/Sedimentb	08/20/2014b	08/22/2014b	
CHLL-SB-125 6"-4"b	1408238-05b	Soil/Sedimentb	08/20/2014b	08/22/2014b	
CHLL-SB-122 0-6"b	1408238-06b	Soil/Sedimentb	08/20/2014b	08/22/2014b	
CHLL-SB-122 6"-3"b	1408238-07b	Soil/Sedimentb	08/20/2014b	08/22/2014b	
CHLL-SB-121 0-6"b	1408238-08	Soil/Sedimentb	08/20/2014b	08/22/2014b	
CHLL-SB-121 6"-4"b	1408238-09b	Soil/Sedimentb	08/20/2014b	08/22/2014b	
CHLL-SB-120 0-6"b	1408238-10b	Soil/Sedimentb	08/20/2014b	08/22/2014b	
CHLL-SB-126 0-6"b	1408238-11b	Soil/Sedimentb	08/19/2014b	08/22/2014b	
CHLL-SB-126 6"-5"b	1408238-12b	Soil/Sedimentb	08/19/2014b	08/22/2014b	
CHLL-SB-127 0-6b	1408238-13b	Soil/Sedimentb	08/19/2014b	08/22/2014b	
CHLL-SB-127 6"-5"b	1408238-14b	Soil/Sedimentb	08/19/2014b	08/22/2014b	
CHLL-SB-130 6"-12"b	1408238-15b	Soil/Sedimentb	08/19/2014b	08/22/2014b	
CHLL-SB-131 6"-12"b	1408238-16b	Soil/Sedimentb	08/19/2014b	08/22/2014b	
CHLL-SB-132 12"-18"b	1408238-17b	Soil/Sedimentb	08/19/2014b	08/22/2014b	
CHLL-SB-133 6"-12"b	1408238-18	Soil/Sedimentb	08/19/2014b	08/22/2014b	
CHLL-SB-133 6"-12" DUPb	1408238-19b	Soil/Sedimentb	08/19/2014b	08/22/2014b	
CHLL-SB-134 18-24"b	1408238-20b	Soil/Sedimentb	08/19/2014b	08/22/2014b	

Notes and Definitions p

Y21b	Reporting Limits (RL) raised due to matrix interference.b
Y20b	Reporting Limits (RL) raised due to matrix.b
Y17b	Probable petroleum product(s) present.b
Tb	Reported value is less than the reporting limit (RL). Result is estimated.b
Ib	Dilution required due to matrix interference; reporting limit (RL) raised.b
A06b	Result is estimated due to high continuing calibration standard criteria failure.b
NDb	Indicates compound analyzed for but not detectedb
RLb	Reporting Limitb
NAb	Not Applicableb
dry	Sample results reported on a dry weight basisb



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P.O. Box 302700
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TEL: (517) 335-98000
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Client ID: CHLL-SB-124 0-6''p

Lab ID: 1408238-01p

CAS #b	Analyte	Resultb	RLb	Unitsb	Dilution	Analyzedb Dateb	QC Batchb	Methodb	Qualifierb
Organics-Semivolatiles									See note Y20p
91-57-6b	2-Methylnaphthalene	NDb	540b	ug/kg dryb	1b	09/09/14b	B4H2718	8270b	
83-32-9b	Acenaphthene	NDb	220b	ug/kg dryb	1b	09/09/14b	B4H2718	8270b	
208-96-8	Acenaphthylene	NDb	220b	ug/kg dryb	1b	09/09/14b	B4H2718	8270b	
120-12-7b	Anthracene	NDb	220b	ug/kg dryb	1b	09/09/14b	B4H2718	8270b	
56-55-3b	Benz[a]anthracene	NDb	220b	ug/kg dryb	1b	09/09/14b	B4H2718	8270b	
50-32-8	Benzo[a]pyrene	NDb	430b	ug/kg dryb	1b	09/09/14b	B4H2718	8270b	
205-99-2b	Benzo[b]fluoranthene	NDb	430b	ug/kg dryb	1b	09/09/14b	B4H2718	8270b	
191-24-2b	Benzo[g,h,i]perylene	NDb	430b	ug/kg dryb	1b	09/09/14b	B4H2718	8270b	
207-08-9b	Benzo[k]fluoranthene	NDb	430b	ug/kg dryb	1b	09/09/14b	B4H2718	8270b	
218-01-9b	Chrysene	NDb	220b	ug/kg dryb	1b	09/09/14b	B4H2718	8270b	
53-70-3b	Dibenz[a,h]anthracene	NDb	430b	ug/kg dryb	1b	09/09/14b	B4H2718	8270b	
206-44-0b	Fluoranthene	NDb	220b	ug/kg dryb	1b	09/09/14b	B4H2718	8270b	
86-73-7b	Fluorene	NDb	220b	ug/kg dryb	1b	09/09/14b	B4H2718	8270b	
193-39-5b	Indeno(1,2,3-c,d)pyrene	NDb	430b	ug/kg dryb	1b	09/09/14b	B4H2718	8270b	
91-20-3b	Naphthalene	NDb	220b	ug/kg dryb	1b	09/09/14b	B4H2718	8270b	
85-01-8	Phenanthrene	NDb	220b	ug/kg dryb	1b	09/09/14b	B4H2718	8270b	
129-00-0b	Pyrene	NDb	220b	ug/kg dryb	1b	09/09/14b	B4H2718	8270b	
Surrogate: 2-Fluorobiphenyl.			65.4 %.	32.9-115.		09/09/14.	B4H2718	8270.	
Surrogate: Nitrobenzene-d5.			60.4 %.	31.8-115.		09/09/14.	B4H2718	8270.	
Surrogate: p-Terphenyl-d14.			78.1 %.	38.5-115.		09/09/14.	B4H2718	8270.	
Organics-PCBs as Aroclors									
12674-11-2b	Aroclor 1016b	NDb	110b	ug/kg dryb	1b	09/03/14b	B4H2807b	8081/8082b	
11104-28-2b	Aroclor 1221b	NDb	110b	ug/kg dryb	1b	09/03/14b	B4H2807b	8081/8082b	
11141-16-5b	Aroclor 1232b	NDb	110b	ug/kg dryb	1b	09/03/14b	B4H2807b	8081/8082b	
53469-21-9b	Aroclor 1242b	NDb	110b	ug/kg dryb	1b	09/03/14b	B4H2807b	8081/8082b	
12672-29-6b	Aroclor 1248	NDb	110b	ug/kg dryb	1b	09/03/14b	B4H2807b	8081/8082b	
11097-69-1b	Aroclor 1254b	NDb	110b	ug/kg dryb	1b	09/03/14b	B4H2807b	8081/8082b	
11096-82-5b	Aroclor 1260b	NDb	110b	ug/kg dryb	1b	09/03/14b	B4H2807b	8081/8082b	
37324-23-5b	Aroclor 1262b	NDb	110b	ug/kg dryb	1b	09/03/14b	B4H2807b	8081/8082b	
11100-14-4b	Aroclor 1268	NDb	110b	ug/kg dryb	1b	09/03/14b	B4H2807b	8081/8082b	
Surrogate: Decachlorobiphenyl.			65.1 %.	30-150.		09/03/14.	B4H2807b	8081/8082.	
Surrogate: Tetrachloro-m-xylene.			71.2 %.	30-150.		09/03/14.	B4H2807b	8081/8082.	



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Client ID: CHLL-SB-124 0-6"p

Lab ID: 1408238-01p

Analyzed b									
CAS #b	Analyteb	Resultb	RLb	Unitsb	Dilutionb	Dateb	QC Batchb	Methodb	Qualifier b
Inorganics-General Chemistry									
TSb	% Total Solids	92.1p	0.1b	%b	1b	08/25/14b	B4H2512b	2540 Bb	



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Client ID: CHLL-SB-124 6"-4'p

Lab ID: 1408238-02p

CAS #b	Analyte	Resultb	RLb	Unitsb	Dilution	Analyzedb Dateb	QC Batchb	Methodb	Qualifiert
Organics-Semivolatiles									See note Y20p
91-57-6b	2-Methylnaphthalene	NDb	600b	ug/kg dryb	1b	09/09/14b	B4H2718	8270b	
83-32-9b	Acenaphthene	NDb	240b	ug/kg dryb	1b	09/09/14b	B4H2718	8270b	
208-96-8	Acenaphthylene	NDb	240b	ug/kg dryb	1b	09/09/14b	B4H2718	8270b	
120-12-7b	Anthracene	NDb	240b	ug/kg dryb	1b	09/09/14b	B4H2718	8270b	
56-55-3b	Benz[a]anthracene	NDb	240b	ug/kg dryb	1b	09/09/14b	B4H2718	8270b	
50-32-8	Benzo[a]pyrene	NDb	480b	ug/kg dryb	1b	09/09/14b	B4H2718	8270b	
205-99-2b	Benzo[b]fluoranthene	NDb	480b	ug/kg dryb	1b	09/09/14b	B4H2718	8270b	
191-24-2b	Benzo[g,h,i]perylene	NDb	480b	ug/kg dryb	1b	09/09/14b	B4H2718	8270b	
207-08-9b	Benzo[k]fluoranthene	NDb	480b	ug/kg dryb	1b	09/09/14b	B4H2718	8270b	
218-01-9b	Chrysene	NDb	240b	ug/kg dryb	1b	09/09/14b	B4H2718	8270b	
53-70-3b	Dibenz[a,h]anthracene	NDb	480b	ug/kg dryb	1b	09/09/14b	B4H2718	8270b	
206-44-0b	Fluoranthene	NDb	240b	ug/kg dryb	1b	09/09/14b	B4H2718	8270b	
86-73-7b	Fluorene	NDb	240b	ug/kg dryb	1b	09/09/14b	B4H2718	8270b	
193-39-5b	Indeno[1,2,3-c,d]pyrene	NDb	480b	ug/kg dryb	1b	09/09/14b	B4H2718	8270b	
91-20-3b	Naphthalene	NDb	240b	ug/kg dryb	1b	09/09/14b	B4H2718	8270b	
85-01-8	Phenanthrene	NDb	240b	ug/kg dryb	1b	09/09/14b	B4H2718	8270b	
129-00-0b	Pyrene	NDb	240b	ug/kg dryb	1b	09/09/14b	B4H2718	8270b	
<i>Surrogate: 2-Fluorobiphenyl.</i>			67.7 %.	32.9-115.		09/09/14.	B4H2718	8270.	
<i>Surrogate: Nitrobenzene-d5.</i>			62.5 %.	31.8-115.		09/09/14.	B4H2718	8270.	
<i>Surrogate: p-Terphenyl-d14.</i>			86.1 %.	38.5-115.		09/09/14.	B4H2718	8270.	
Organics-PCBs as Aroclors									
12674-11-2b	Aroclor 1016b	NDb	120b	ug/kg dryb	1b	09/04/14b	B4H2807b	8081/8082b	
11104-28-2b	Aroclor 1221b	NDb	120b	ug/kg dryb	1b	09/04/14b	B4H2807b	8081/8082b	
11141-16-5b	Aroclor 1232b	NDb	120b	ug/kg dryb	1b	09/04/14b	B4H2807b	8081/8082b	
53469-21-9b	Aroclor 1242b	NDb	120b	ug/kg dryb	1b	09/04/14b	B4H2807b	8081/8082b	
12672-29-6b	Aroclor 1248	NDb	120b	ug/kg dryb	1b	09/04/14b	B4H2807b	8081/8082b	
11097-69-1b	Aroclor 1254b	NDb	120b	ug/kg dryb	1b	09/04/14b	B4H2807b	8081/8082b	
11096-82-5b	Aroclor 1260b	NDb	120b	ug/kg dryb	1b	09/04/14b	B4H2807b	8081/8082b	
37324-23-5b	Aroclor 1262b	NDb	120b	ug/kg dryb	1b	09/04/14b	B4H2807b	8081/8082b	
11100-14-4b	Aroclor 1268	NDb	120b	ug/kg dryb	1b	09/04/14b	B4H2807b	8081/8082b	
<i>Surrogate: Decachlorobiphenyl.</i>			73.7 %.	30-150.		09/04/14.	B4H2807b	8081/8082.	
<i>Surrogate: Tetrachloro-m-xylene.</i>			70.3 %.	30-150.		09/04/14.	B4H2807b	8081/8082.	



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Client ID: CHLL-SB-124 6''-4'p

Lab ID: 1408238-02p

CAS #b		Analyteb		Resultb	RLb	Unitsb	Dilutionb	Analyzed b		QC Batchb	Methodb	Qualifier b
								Dateb				

Inorganics-General Chemistry

TSb	% Total Solids			83.2p	0.1b	%b	1b	08/25/14b	B4H2512b	2540 Bb		
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Client ID: CHLL-SB-124 6"-4' DUPp

Lab ID: 1408238-03p

CAS #b	Analyte	Resultb	RLb	Unitsb	Dilution	Analyzedb Dateb	QC Batchb	Methodb	Qualifiert
Organics-Semivolatiles									See note Y20p
91-57-6b	2-Methylnaphthalene	NDb	650b	ug/kg dryb	1b	09/09/14b	B4H2718	8270b	
83-32-9b	Acenaphthene	NDb	260b	ug/kg dryb	1b	09/09/14b	B4H2718	8270b	
208-96-8	Acenaphthylene	NDb	260b	ug/kg dryb	1b	09/09/14b	B4H2718	8270b	
120-12-7b	Anthracene	NDb	260b	ug/kg dryb	1b	09/09/14b	B4H2718	8270b	
56-55-3b	Benz[a]anthracene	NDb	260b	ug/kg dryb	1b	09/09/14b	B4H2718	8270b	
50-32-8	Benzo[a]pyrene	NDb	520b	ug/kg dryb	1b	09/09/14b	B4H2718	8270b	
205-99-2b	Benzo[b]fluoranthene	NDb	520b	ug/kg dryb	1b	09/09/14b	B4H2718	8270b	
191-24-2b	Benzo[g,h,i]perylene	NDb	520b	ug/kg dryb	1b	09/09/14b	B4H2718	8270b	
207-08-9b	Benzo[k]fluoranthene	NDb	520b	ug/kg dryb	1b	09/09/14b	B4H2718	8270b	
218-01-9b	Chrysene	NDb	260b	ug/kg dryb	1b	09/09/14b	B4H2718	8270b	
53-70-3b	Dibenz[a,h]anthracene	NDb	520b	ug/kg dryb	1b	09/09/14b	B4H2718	8270b	
206-44-0b	Fluoranthene	NDb	260b	ug/kg dryb	1b	09/09/14b	B4H2718	8270b	
86-73-7b	Fluorene	NDb	260b	ug/kg dryb	1b	09/09/14b	B4H2718	8270b	
193-39-5b	Indeno[1,2,3-c,d]pyrene	NDb	520b	ug/kg dryb	1b	09/09/14b	B4H2718	8270b	
91-20-3b	Naphthalene	NDb	260b	ug/kg dryb	1b	09/09/14b	B4H2718	8270b	
85-01-8	Phenanthrene	NDb	260b	ug/kg dryb	1b	09/09/14b	B4H2718	8270b	
129-00-0b	Pyrene	NDb	260b	ug/kg dryb	1b	09/09/14b	B4H2718	8270b	
<i>Surrogate: 2-Fluorobiphenyl.</i>			61.4 %.	32.9-115.		09/09/14.	B4H2718	8270.	
<i>Surrogate: Nitrobenzene-d5.</i>			58.8 %.	31.8-115.		09/09/14.	B4H2718	8270.	
<i>Surrogate: p-Terphenyl-d14.</i>			80.5 %.	38.5-115.		09/09/14.	B4H2718	8270.	
Organics-PCBs as Aroclors									
12674-11-2b	Aroclor 1016b	NDb	130b	ug/kg dryb	1b	09/04/14b	B4H2807b	8081/8082b	
11104-28-2b	Aroclor 1221b	NDb	130b	ug/kg dryb	1b	09/04/14b	B4H2807b	8081/8082b	
11141-16-5b	Aroclor 1232b	NDb	130b	ug/kg dryb	1b	09/04/14b	B4H2807b	8081/8082b	
53469-21-9b	Aroclor 1242b	NDb	130b	ug/kg dryb	1b	09/04/14b	B4H2807b	8081/8082b	
12672-29-6b	Aroclor 1248	NDb	130b	ug/kg dryb	1b	09/04/14b	B4H2807b	8081/8082b	
11097-69-1b	Aroclor 1254b	NDb	130b	ug/kg dryb	1b	09/04/14b	B4H2807b	8081/8082b	
11096-82-5b	Aroclor 1260b	NDb	130b	ug/kg dryb	1b	09/04/14b	B4H2807b	8081/8082b	
37324-23-5b	Aroclor 1262b	NDb	130b	ug/kg dryb	1b	09/04/14b	B4H2807b	8081/8082b	
11100-14-4b	Aroclor 1268	NDb	130b	ug/kg dryb	1b	09/04/14b	B4H2807b	8081/8082b	
<i>Surrogate: Decachlorobiphenyl.</i>			76.8 %.	30-150.		09/04/14.	B4H2807b	8081/8082.	
<i>Surrogate: Tetrachloro-m-xylene.</i>			80.1 %.	30-150.		09/04/14.	B4H2807b	8081/8082.	



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Client ID: CHLL-SB-124 6"-4' DUP

Lab ID: 1408238-03

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

Inorganics-General Chemistry

TS	% Total Solids	77.1	0.1	%	1	08/25/14	B4H2512	2540 B		
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ENVIRONMENTAL LABORATORY

P.O. Box 302700
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TEL: (517) 335-98000
FAX: (517) 335-96000

Client ID: CHLL-SB-125 0-6''p

Lab ID: 1408238-04p

CAS #b	Analyteb	Resultb	RLb	Unitsb	Dilutionb	Analyzedb Dateb	QC Batchb	Methodb	Qualifiert
Organics-Semivolatiles									See note Y20, Y21p
91-57-6b	2-Methylnaphthaleneb	NDb	2900b	ug/kg dryb	1b	09/09/14b	B4H2718	8270b	
83-32-9b	Acenaphtheneb	NDb	1200b	ug/kg dryb	1b	09/09/14b	B4H2718	8270b	
208-96-8	Acenaphthyleneb	NDb	1200b	ug/kg dryb	1b	09/09/14b	B4H2718	8270b	
120-12-7b	Anthraceneb	NDb	1200b	ug/kg dryb	1b	09/09/14b	B4H2718	8270b	
56-55-3b	Benz[a]anthraceneb	NDb	1200b	ug/kg dryb	1b	09/09/14b	B4H2718	8270b	
50-32-8	Benzo[a]pyreneb	NDb	2300b	ug/kg dryb	1b	09/09/14b	B4H2718	8270b	
205-99-2b	Benzo[b]fluorantheneb	NDb	2300b	ug/kg dryb	1b	09/09/14b	B4H2718	8270b	
191-24-2b	Benzo[g,h,i]peryleneb	NDb	2300b	ug/kg dryb	1b	09/09/14b	B4H2718	8270b	
207-08-9b	Benzo[k]fluorantheneb	NDb	2300b	ug/kg dryb	1b	09/09/14b	B4H2718	8270b	
218-01-9b	Chryseneb	NDb	1200b	ug/kg dryb	1b	09/09/14b	B4H2718	8270b	
53-70-3b	Dibenz[a,h]anthraceneb	NDb	2300b	ug/kg dryb	1b	09/09/14b	B4H2718	8270b	
206-44-0b	Fluorantheneb	NDb	1200b	ug/kg dryb	1b	09/09/14b	B4H2718	8270b	
86-73-7b	Fluoreneb	NDb	1200b	ug/kg dryb	1b	09/09/14b	B4H2718	8270b	
193-39-5b	Indeno[1,2,3-c,d]pyreneb	NDb	2300b	ug/kg dryb	1b	09/09/14b	B4H2718	8270b	
91-20-3b	Naphthaleneb	NDb	1200b	ug/kg dryb	1b	09/09/14b	B4H2718	8270b	
85-01-8	Phenanthreneb	NDb	1200b	ug/kg dryb	1b	09/09/14b	B4H2718	8270b	
129-00-0b	Pyreneb	NDb	1200b	ug/kg dryb	1b	09/09/14b	B4H2718	8270b	
Surrogate: 2-Fluorobiphenyl.			45.0 %.	32.9-115.		09/09/14.	B4H2718	8270.	
Surrogate: Nitrobenzene-d5.			32.2 %.	31.8-115.		09/09/14.	B4H2718	8270.	
Surrogate: p-Terphenyl-d14.			65.2 %.	38.5-115.		09/09/14.	B4H2718	8270.	
Organics-PCBs as Aroclors									
12674-11-2b	Aroclor 1016b	NDb	120b	ug/kg dryb	1b	09/05/14b	B4H2907b	8081/8082b	
11104-28-2b	Aroclor 1221b	NDb	120b	ug/kg dryb	1b	09/05/14b	B4H2907b	8081/8082b	
11141-16-5b	Aroclor 1232b	NDb	120b	ug/kg dryb	1b	09/05/14b	B4H2907b	8081/8082b	
53469-21-9b	Aroclor 1242b	NDb	120b	ug/kg dryb	1b	09/05/14b	B4H2907b	8081/8082b	
12672-29-6b	Aroclor 1248	NDb	120b	ug/kg dryb	1b	09/05/14b	B4H2907b	8081/8082b	
11097-69-1b	Aroclor 1254b	NDb	120b	ug/kg dryb	1b	09/05/14b	B4H2907b	8081/8082b	
11096-82-5b	Aroclor 1260b	NDb	120b	ug/kg dryb	1b	09/05/14b	B4H2907b	8081/8082b	
37324-23-5b	Aroclor 1262b	NDb	120b	ug/kg dryb	1b	09/05/14b	B4H2907b	8081/8082b	
11100-14-4b	Aroclor 1268	NDb	120b	ug/kg dryb	1b	09/05/14b	B4H2907b	8081/8082b	
Surrogate: Decachlorobiphenyl.			60.7 %.	30-150.		09/05/14.	B4H2907b	8081/8082.	
Surrogate: Tetrachloro-m-xylene.			61.3 %.	30-150.		09/05/14.	B4H2907b	8081/8082.	



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P.O. Box 302700
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Client ID: CHLL-SB-125 0-6"p

Lab ID: 1408238-04p

CAS #b		Analyteb	Resultb	RLb	Unitsb	Dilutionb	Analyzed b Dateb	QC Batchb	Methodb	Qualifier b
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Inorganics-General Chemistry

TSb	% Total Solids	85.4p	0.1b	%b	1b	08/25/14b	B4H2513b	2540 Bb		
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TEL: (517) 335-98000
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Client ID: CHLL-SB-125 6"-4'p

Lab ID: 1408238-05p

CAS #b	Analyte	Resultb	RLb	Unitsb	Dilution	Analyzedb Dateb	QC Batchb	Methodb	Qualifiert
Organics-Semivolatiles									See note Y20p
91-57-6b	2-Methylnaphthalene	NDb	590b	ug/kg dryb	1b	09/09/14b	B4H2718	8270b	
83-32-9b	Acenaphthene	NDb	240b	ug/kg dryb	1b	09/09/14b	B4H2718	8270b	
208-96-8	Acenaphthylene	NDb	240b	ug/kg dryb	1b	09/09/14b	B4H2718	8270b	
120-12-7b	Anthracene	NDb	240b	ug/kg dryb	1b	09/09/14b	B4H2718	8270b	
56-55-3b	Benz[a]anthracene	NDb	240b	ug/kg dryb	1b	09/09/14b	B4H2718	8270b	
50-32-8	Benzo[a]pyrene	NDb	470b	ug/kg dryb	1b	09/09/14b	B4H2718	8270b	
205-99-2b	Benzo[b]fluoranthene	NDb	470b	ug/kg dryb	1b	09/09/14b	B4H2718	8270b	
191-24-2b	Benzo[g,h,i]perylene	NDb	470b	ug/kg dryb	1b	09/09/14b	B4H2718	8270b	
207-08-9b	Benzo[k]fluoranthene	NDb	470b	ug/kg dryb	1b	09/09/14b	B4H2718	8270b	
218-01-9b	Chrysene	NDb	240b	ug/kg dryb	1b	09/09/14b	B4H2718	8270b	
53-70-3b	Dibenz[a,h]anthracene	NDb	470b	ug/kg dryb	1b	09/09/14b	B4H2718	8270b	
206-44-0b	Fluoranthene	NDb	240b	ug/kg dryb	1b	09/09/14b	B4H2718	8270b	
86-73-7b	Fluorene	NDb	240b	ug/kg dryb	1b	09/09/14b	B4H2718	8270b	
193-39-5b	Indeno(1,2,3-c,d)pyrene	NDb	470b	ug/kg dryb	1b	09/09/14b	B4H2718	8270b	
91-20-3b	Naphthalene	NDb	240b	ug/kg dryb	1b	09/09/14b	B4H2718	8270b	
85-01-8	Phenanthrene	NDb	240b	ug/kg dryb	1b	09/09/14b	B4H2718	8270b	
129-00-0b	Pyrene	NDb	240b	ug/kg dryb	1b	09/09/14b	B4H2718	8270b	
<i>Surrogate: 2-Fluorobiphenyl.</i>			62.3 %.	32.9-115.		09/09/14.	B4H2718	8270.	
<i>Surrogate: Nitrobenzene-d5.</i>			61.5 %.	31.8-115.		09/09/14.	B4H2718	8270.	
<i>Surrogate: p-Terphenyl-d14.</i>			77.4 %.	38.5-115.		09/09/14.	B4H2718	8270.	
Organics-PCBs as Aroclors									
12674-11-2b	Aroclor 1016b	NDb	120b	ug/kg dryb	1b	09/05/14b	B4H2907b	8081/8082b	
11104-28-2b	Aroclor 1221b	NDb	120b	ug/kg dryb	1b	09/05/14b	B4H2907b	8081/8082b	
11141-16-5b	Aroclor 1232b	NDb	120b	ug/kg dryb	1b	09/05/14b	B4H2907b	8081/8082b	
53469-21-9b	Aroclor 1242b	NDb	120b	ug/kg dryb	1b	09/05/14b	B4H2907b	8081/8082b	
12672-29-6b	Aroclor 1248	NDb	120b	ug/kg dryb	1b	09/05/14b	B4H2907b	8081/8082b	
11097-69-1b	Aroclor 1254b	NDb	120b	ug/kg dryb	1b	09/05/14b	B4H2907b	8081/8082b	
11096-82-5b	Aroclor 1260b	NDb	120b	ug/kg dryb	1b	09/05/14b	B4H2907b	8081/8082b	
37324-23-5b	Aroclor 1262b	NDb	120b	ug/kg dryb	1b	09/05/14b	B4H2907b	8081/8082b	
11100-14-4b	Aroclor 1268	NDb	120b	ug/kg dryb	1b	09/05/14b	B4H2907b	8081/8082b	
<i>Surrogate: Decachlorobiphenyl.</i>			75.3 %.	30-150.		09/05/14.	B4H2907b	8081/8082.	
<i>Surrogate: Tetrachloro-m-xylene.</i>			70.7 %.	30-150.		09/05/14.	B4H2907b	8081/8082.	



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Client ID: CHLL-SB-125 6''-4'p

Lab ID: 1408238-05p

CAS #b		Analyteb		Resultb	RLb	Unitsb	Dilutionb	Analyzed b		QC Batchb	Methodb	Qualifier b
								Dateb				

Inorganics-General Chemistry

TSb	% Total Solidsp			84.8p	0.1b	%b	1b	08/25/14b	B4H2513b	2540 Bb		
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P.O. Box 302700
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TEL: (517) 335-98000
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Client ID: CHLL-SB-122 0-6"p

Lab ID: 1408238-06p

CAS #b	Analyteb	Resultb	RLb	Unitsb	Dilutionb	Analyzed b Dateb	QC Batchb	Methodb	Qualifier b
Organics-PCBs as Aroclorsp									
12674-11-2b	Aroclor 1016b	NDb	120b	ug/kg dryb	1b	09/05/14b	B4H2907b	8081/8082b	
11104-28-2b	Aroclor 1221b	NDb	120b	ug/kg dryb	1b	09/05/14b	B4H2907b	8081/8082b	
11141-16-5b	Aroclor 1232b	NDb	120b	ug/kg dryb	1b	09/05/14b	B4H2907b	8081/8082b	
53469-21-9b	Aroclor 1242b	NDb	120b	ug/kg dryb	1b	09/05/14b	B4H2907b	8081/8082b	
12672-29-6b	Aroclor 1248	NDb	120b	ug/kg dryb	1b	09/05/14b	B4H2907b	8081/8082b	
11097-69-1b	Aroclor 1254b	NDb	120b	ug/kg dryb	1b	09/05/14b	B4H2907b	8081/8082b	
11096-82-5b	Aroclor 1260b	NDb	120b	ug/kg dryb	1b	09/05/14b	B4H2907b	8081/8082b	
37324-23-5b	Aroclor 1262b	NDb	120b	ug/kg dryb	1b	09/05/14b	B4H2907b	8081/8082b	
11100-14-4b	Aroclor 1268	NDb	120b	ug/kg dryb	1b	09/05/14b	B4H2907b	8081/8082b	
<i>Surrogate: Decachlorobiphenyl.</i>			74.2 %.	30-150.		09/05/14.	B4H2907b	8081/8082.	
<i>Surrogate: Tetrachloro-m-xylene.</i>			68.3 %.	30-150.		09/05/14.	B4H2907b	8081/8082.	
Inorganics-General Chemistry									
TSb	% Total Solids ^p	83.8 ^p	0.1b	%b	1b	08/25/14b	B4H2513b	2540 Bb	



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Client ID: CHLL-SB-122 6''-3'p

Lab ID: 1408238-07p

CAS #b	Analyteb	Resultb	RLb	Unitsb	Dilutionb	Analyzed b Dateb	QC Batchb	Methodb	Qualifier b
Organics-PCBs as Aroclorsp									
12674-11-2b	Aroclor 1016b	NDb	120b	ug/kg dryb	1b	09/05/14b	B4H2907b	8081/8082b	
11104-28-2b	Aroclor 1221b	NDb	120b	ug/kg dryb	1b	09/05/14b	B4H2907b	8081/8082b	
11141-16-5b	Aroclor 1232b	NDb	120b	ug/kg dryb	1b	09/05/14b	B4H2907b	8081/8082b	
53469-21-9b	Aroclor 1242b	NDb	120b	ug/kg dryb	1b	09/05/14b	B4H2907b	8081/8082b	
12672-29-6b	Aroclor 1248	NDb	120b	ug/kg dryb	1b	09/05/14b	B4H2907b	8081/8082b	
11097-69-1b	Aroclor 1254b	NDb	120b	ug/kg dryb	1b	09/05/14b	B4H2907b	8081/8082b	
11096-82-5b	Aroclor 1260b	NDb	120b	ug/kg dryb	1b	09/05/14b	B4H2907b	8081/8082b	
37324-23-5b	Aroclor 1262b	NDb	120b	ug/kg dryb	1b	09/05/14b	B4H2907b	8081/8082b	
11100-14-4b	Aroclor 1268	NDb	120b	ug/kg dryb	1b	09/05/14b	B4H2907b	8081/8082b	
<i>Surrogate: Decachlorobiphenyl.</i>			74.6 %.	30-150.		09/05/14.	B4H2907b	8081/8082.	
<i>Surrogate: Tetrachloro-m-xylene.</i>			72.8 %.	30-150.		09/05/14.	B4H2907b	8081/8082.	
Inorganics-General Chemistry									
TSb	% Total Solids ^p	84.2 ^p	0.1b	%b	1b	08/25/14b	B4H2513b	2540 Bb	



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TEL: (517) 335-98000
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Client ID: CHLL-SB-121 0-6"p

Lab ID: 1408238-08p

CAS #b	Analyteb	Resultb	RLb	Unitsb	Dilutionb	Analyzed b Dateb	QC Batchb	Methodb	Qualifier b
Organics-PCBs as Aroclorsp									
12674-11-2b	Aroclor 1016b	NDb	120b	ug/kg dryb	1b	09/05/14b	B4H2907b	8081/8082b	
11104-28-2b	Aroclor 1221b	NDb	120b	ug/kg dryb	1b	09/05/14b	B4H2907b	8081/8082b	
11141-16-5b	Aroclor 1232b	NDb	120b	ug/kg dryb	1b	09/05/14b	B4H2907b	8081/8082b	
53469-21-9b	Aroclor 1242b	NDb	120b	ug/kg dryb	1b	09/05/14b	B4H2907b	8081/8082b	
12672-29-6b	Aroclor 1248	NDb	120b	ug/kg dryb	1b	09/05/14b	B4H2907b	8081/8082b	
11097-69-1b	Aroclor 1254b	NDb	120b	ug/kg dryb	1b	09/05/14b	B4H2907b	8081/8082b	
11096-82-5b	Aroclor 1260b	NDb	120b	ug/kg dryb	1b	09/05/14b	B4H2907b	8081/8082b	
37324-23-5b	Aroclor 1262b	NDb	120b	ug/kg dryb	1b	09/05/14b	B4H2907b	8081/8082b	
11100-14-4b	Aroclor 1268	NDb	120b	ug/kg dryb	1b	09/05/14b	B4H2907b	8081/8082b	
Surrogate: Decachlorobiphenyl.			72.8 %.	30-150.		09/05/14.	B4H2907b	8081/8082.	
Surrogate: Tetrachloro-m-xylene.			68.0 %.	30-150.		09/05/14.	B4H2907b	8081/8082.	
Inorganics-General Chemistry									
TSb	% Total Solids ^p	85.6 ^p	0.1b	%b	1b	08/25/14b	B4H2513b	2540 Bb	



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Client ID: CHLL-SB-121 6''-4'p

Lab ID: 1408238-09p

CAS #b	Analyteb	Resultb	RLb	Unitsb	Dilutionb	Analyzed b Dateb	QC Batchb	Methodb	Qualifier b
Organics-PCBs as Aroclorsp									
12674-11-2b	Aroclor 1016b	NDb	120b	ug/kg dryb	1b	09/05/14b	B4H2907b	8081/8082b	
11104-28-2b	Aroclor 1221b	NDb	120b	ug/kg dryb	1b	09/05/14b	B4H2907b	8081/8082b	
11141-16-5b	Aroclor 1232b	NDb	120b	ug/kg dryb	1b	09/05/14b	B4H2907b	8081/8082b	
53469-21-9b	Aroclor 1242b	NDb	120b	ug/kg dryb	1b	09/05/14b	B4H2907b	8081/8082b	
12672-29-6b	Aroclor 1248	NDb	120b	ug/kg dryb	1b	09/05/14b	B4H2907b	8081/8082b	
11097-69-1b	Aroclor 1254b	NDb	120b	ug/kg dryb	1b	09/05/14b	B4H2907b	8081/8082b	
11096-82-5b	Aroclor 1260b	NDb	120b	ug/kg dryb	1b	09/05/14b	B4H2907b	8081/8082b	
37324-23-5b	Aroclor 1262b	NDb	120b	ug/kg dryb	1b	09/05/14b	B4H2907b	8081/8082b	
11100-14-4b	Aroclor 1268	NDb	120b	ug/kg dryb	1b	09/05/14b	B4H2907b	8081/8082b	
<i>Surrogate: Decachlorobiphenyl.</i>			67.5 %.	30-150.		09/05/14.	B4H2907b	8081/8082.	
<i>Surrogate: Tetrachloro-m-xylene.</i>			62.4 %.	30-150.		09/05/14.	B4H2907b	8081/8082.	
Inorganics-General Chemistry									
TSb	% Total Solids ^p	80.6 ^p	0.1b	%b	1b	08/25/14b	B4H2513b	2540 Bb	



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Client ID: CHLL-SB-120 0-6"p

Lab ID: 1408238-10p

CAS #b	Analyteb	Resultb	RLb	Unitsb	Dilutionb	Analyzed b Dateb	QC Batchb	Methodb	Qualifier b
Organics-PCBs as Aroclorsp									
12674-11-2b	Aroclor 1016b	NDb	120b	ug/kg dryb	1b	09/05/14b	B4H2907b	8081/8082b	
11104-28-2b	Aroclor 1221b	NDb	120b	ug/kg dryb	1b	09/05/14b	B4H2907b	8081/8082b	
11141-16-5b	Aroclor 1232b	NDb	120b	ug/kg dryb	1b	09/05/14b	B4H2907b	8081/8082b	
53469-21-9b	Aroclor 1242b	NDb	120b	ug/kg dryb	1b	09/05/14b	B4H2907b	8081/8082b	
12672-29-6b	Aroclor 1248	NDb	120b	ug/kg dryb	1b	09/05/14b	B4H2907b	8081/8082b	
11097-69-1b	Aroclor 1254b	NDb	120b	ug/kg dryb	1b	09/05/14b	B4H2907b	8081/8082b	
11096-82-5b	Aroclor 1260b	NDb	120b	ug/kg dryb	1b	09/05/14b	B4H2907b	8081/8082b	
37324-23-5b	Aroclor 1262b	NDb	120b	ug/kg dryb	1b	09/05/14b	B4H2907b	8081/8082b	
11100-14-4b	Aroclor 1268	NDb	120b	ug/kg dryb	1b	09/05/14b	B4H2907b	8081/8082b	
<i>Surrogate: Decachlorobiphenyl.</i>			74.3 %.	30-150.		09/05/14.	B4H2907b	8081/8082.	
<i>Surrogate: Tetrachloro-m-xylene.</i>			73.9 %.	30-150.		09/05/14.	B4H2907b	8081/8082.	
Inorganics-General Chemistry									
TSb	% Total Solidsp	80.8p	0.1b	%b	1b	08/25/14b	B4H2513b	2540 Bb	



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Client ID: CHLL-SB-126 0-6"p

Lab ID: 1408238-11p

CAS #b	Analyteb	Resultb	RLb	Unitsb	Dilutionb	Analyzed b Dateb	QC Batchb	Methodb	Qualifier b
Organics-PCBs as Aroclorsp									
12674-11-2b	Aroclor 1016	NDb	110b	ug/kg dryb	1b	09/05/14b	B4H2907b	8081/8082b	
11104-28-2b	Aroclor 1221	NDb	110b	ug/kg dryb	1b	09/05/14b	B4H2907b	8081/8082b	
11141-16-5b	Aroclor 1232	NDb	110b	ug/kg dryb	1b	09/05/14b	B4H2907b	8081/8082b	
53469-21-9b	Aroclor 1242	NDb	110b	ug/kg dryb	1b	09/05/14b	B4H2907b	8081/8082b	
12672-29-6b	Aroclor 1248	NDb	110b	ug/kg dryb	1b	09/05/14b	B4H2907b	8081/8082b	
11097-69-1b	Aroclor 1254	220p	110b	ug/kg dryb	1b	09/05/14b	B4H2907b	8081/8082b	
11096-82-5b	Aroclor 1260	NDb	140b	ug/kg dryb	1b	09/05/14b	B4H2907b	8081/8082b	Y21b
37324-23-5b	Aroclor 1262	NDb	140b	ug/kg dryb	1b	09/05/14b	B4H2907b	8081/8082b	Y21b
11100-14-4b	Aroclor 1268	NDb	110b	ug/kg dryb	1b	09/05/14b	B4H2907b	8081/8082b	
<i>Surrogate: Decachlorobiphenyl.</i>			62.8 %.	30-150.		09/05/14.	B4H2907b	8081/8082.	
<i>Surrogate: Tetrachloro-m-xylene.</i>			71.3 %.	30-150.		09/05/14.	B4H2907b	8081/8082.	
Inorganics-General Chemistryp									
TSb	% Total Solids	87.1p	0.1b	%b	1b	08/25/14b	B4H2513b	2540 Bb	



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Client ID: CHLL-SB-126 6"-5'p

Lab ID: 1408238-12p

CAS #b	Analyteb	Resultb	RLb	Unitsb	Dilutionb	Analyzed b Dateb	QC Batchb	Methodb	Qualifier b
Organics-PCBs as Aroclorsp									
12674-11-2b	Aroclor 1016b	NDb	110b	ug/kg dryb	1b	09/05/14b	B4H2907b	8081/8082b	
11104-28-2b	Aroclor 1221b	NDb	110b	ug/kg dryb	1b	09/05/14b	B4H2907b	8081/8082b	
11141-16-5b	Aroclor 1232b	NDb	110b	ug/kg dryb	1b	09/05/14b	B4H2907b	8081/8082b	
53469-21-9b	Aroclor 1242b	NDb	110b	ug/kg dryb	1b	09/05/14b	B4H2907b	8081/8082b	
12672-29-6b	Aroclor 1248	NDb	110b	ug/kg dryb	1b	09/05/14b	B4H2907b	8081/8082b	
11097-69-1b	Aroclor 1254b	NDb	110b	ug/kg dryb	1b	09/05/14b	B4H2907b	8081/8082b	
11096-82-5b	Aroclor 1260b	NDb	110b	ug/kg dryb	1b	09/05/14b	B4H2907b	8081/8082b	
37324-23-5b	Aroclor 1262b	NDb	110b	ug/kg dryb	1b	09/05/14b	B4H2907b	8081/8082b	
11100-14-4b	Aroclor 1268	NDb	110b	ug/kg dryb	1b	09/05/14b	B4H2907b	8081/8082b	
Surrogate: Decachlorobiphenyl.			55.9 %.	30-150.		09/05/14.	B4H2907b	8081/8082.	
Surrogate: Tetrachloro-m-xylene.			65.7 %.	30-150.		09/05/14.	B4H2907b	8081/8082.	
Inorganics-General Chemistry									
TSb	% Total Solids ^p	89.7 ^p	0.1b	%b	1b	08/25/14b	B4H2513b	2540 Bb	



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Client ID: CHLL-SB-127 0-6p

Lab ID: 1408238-13p

CAS #b	Analyteb	Resultb	RLb	Unitsb	Dilutionb	Analyzed b Dateb	QC Batchb	Methodb	Qualifier b
Organics-PCBs as Aroclorsp									
12674-11-2b	Aroclor 1016	NDb	110b	ug/kg dryb	1b	09/05/14b	B4H2907b	8081/8082b	
11104-28-2b	Aroclor 1221	NDb	110b	ug/kg dryb	1b	09/05/14b	B4H2907b	8081/8082b	
11141-16-5b	Aroclor 1232	NDb	110b	ug/kg dryb	1b	09/05/14b	B4H2907b	8081/8082b	
53469-21-9b	Aroclor 1242	NDb	110b	ug/kg dryb	1b	09/05/14b	B4H2907b	8081/8082b	
12672-29-6b	Aroclor 1248	NDb	110b	ug/kg dryb	1b	09/05/14b	B4H2907b	8081/8082b	
11097-69-1b	Aroclor 1254	84p	110b	ug/kg dryb	1b	09/05/14b	B4H2907b	8081/8082b	Tb
11096-82-5b	Aroclor 1260	NDb	110b	ug/kg dryb	1b	09/05/14b	B4H2907b	8081/8082b	
37324-23-5b	Aroclor 1262	NDb	110b	ug/kg dryb	1b	09/05/14b	B4H2907b	8081/8082b	
11100-14-4b	Aroclor 1268	NDb	110b	ug/kg dryb	1b	09/05/14b	B4H2907b	8081/8082b	
<i>Surrogate: Decachlorobiphenyl.</i>			54.1 %.	30-150.		09/05/14.	B4H2907b	8081/8082.	
<i>Surrogate: Tetrachloro-m-xylene.</i>			60.2 %.	30-150.		09/05/14.	B4H2907b	8081/8082.	
Inorganics-General Chemistry									
TSb	% Total Solids	89.9p	0.1b	%b	1b	08/25/14b	B4H2513b	2540 Bb	



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Client ID: CHLL-SB-127 6''-5'p

Lab ID: 1408238-14p

CAS #b	Analyteb	Resultb	RLb	Unitsb	Dilutionb	Analyzed b Dateb	QC Batchb	Methodb	Qualifier b
Organics-PCBs as Aroclorsp									
12674-11-2b	Aroclor 1016b	NDb	110b	ug/kg dryb	1b	09/05/14b	B4H2907b	8081/8082b	
11104-28-2b	Aroclor 1221b	NDb	110b	ug/kg dryb	1b	09/05/14b	B4H2907b	8081/8082b	
11141-16-5b	Aroclor 1232b	NDb	110b	ug/kg dryb	1b	09/05/14b	B4H2907b	8081/8082b	
53469-21-9b	Aroclor 1242b	NDb	110b	ug/kg dryb	1b	09/05/14b	B4H2907b	8081/8082b	
12672-29-6b	Aroclor 1248	NDb	110b	ug/kg dryb	1b	09/05/14b	B4H2907b	8081/8082b	
11097-69-1b	Aroclor 1254b	NDb	110b	ug/kg dryb	1b	09/05/14b	B4H2907b	8081/8082b	
11096-82-5b	Aroclor 1260b	NDb	110b	ug/kg dryb	1b	09/05/14b	B4H2907b	8081/8082b	
37324-23-5b	Aroclor 1262b	NDb	110b	ug/kg dryb	1b	09/05/14b	B4H2907b	8081/8082b	
11100-14-4b	Aroclor 1268	NDb	110b	ug/kg dryb	1b	09/05/14b	B4H2907b	8081/8082b	
<i>Surrogate: Decachlorobiphenyl.</i>			52.5 %.	30-150.		09/05/14.	B4H2907b	8081/8082.	
<i>Surrogate: Tetrachloro-m-xylene.</i>			61.8 %.	30-150.		09/05/14.	B4H2907b	8081/8082.	
Inorganics-General Chemistry									
TSb	% Total Solidsp	90.8p	0.1b	%b	1b	08/25/14b	B4H2513b	2540 Bb	



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TEL: (517) 335-98000
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Client ID: CHLL-SB-130 6"-12"p

Lab ID: 1408238-15p

CAS #b	Analyteb	Resultb	RLb	Unitsb	Dilutionb	Analyzed b Dateb	QC Batchb	Methodb	Qualifier b
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Organics-PCBs as Aroclorsp

12674-11-2b	Aroclor 1016	NDb	120b	ug/kg dryb	1b	09/05/14b	B4H2907b	8081/8082b	
11104-28-2b	Aroclor 1221	NDb	120b	ug/kg dryb	1b	09/05/14b	B4H2907b	8081/8082b	
11141-16-5b	Aroclor 1232	NDb	120b	ug/kg dryb	1b	09/05/14b	B4H2907b	8081/8082b	
53469-21-9b	Aroclor 1242	NDb	120b	ug/kg dryb	1b	09/05/14b	B4H2907b	8081/8082b	
12672-29-6b	Aroclor 1248	NDb	120b	ug/kg dryb	1b	09/05/14b	B4H2907b	8081/8082b	
11097-69-1b	Aroclor 1254	NDb	120b	ug/kg dryb	1b	09/05/14b	B4H2907b	8081/8082b	
11096-82-5b	Aroclor 1260	NDb	120b	ug/kg dryb	1b	09/05/14b	B4H2907b	8081/8082b	
37324-23-5b	Aroclor 1262	NDb	120b	ug/kg dryb	1b	09/05/14b	B4H2907b	8081/8082b	
11100-14-4b	Aroclor 1268	NDb	120b	ug/kg dryb	1b	09/05/14b	B4H2907b	8081/8082b	

<i>Surrogate: Decachlorobiphenyl.</i>	<i>75.3 %.</i>	<i>30-150.</i>	<i>09/05/14.</i>	<i>B4H2907b</i>	<i>8081/8082.</i>
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<i>Surrogate: Tetrachloro-m-xylene.</i>	<i>72.4 %.</i>	<i>30-150.</i>	<i>09/05/14.</i>	<i>B4H2907b</i>	<i>8081/8082.</i>
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Inorganics-General Chemistryp

TSb	% Total Solids	82.7p	0.1b	%b	1b	08/25/14b	B4H2513b	2540 Bb	
57-12-5b	Total Cyanide	NDb	0.12b	mg/kg dryb	1b	08/27/14b	B4H2517b	ASTM D 7511-09b	

Inorganics-Metalsp

7440-38-2b	Arsenic	0.7p	0.5b	mg/kg dryb	10b	09/09/14b	B4I0201b	6020/200.8	
7440-39-3b	Barium	19p	1.0b	mg/kg dryb	10b	09/09/14b	B4I0201b	6020/200.8	
7440-50-8	Cop er	16p	1.0b	mg/kg dryb	10b	09/09/14b	B4I0201b	6020/200.8	
7439-92-1b	Lead	7.1p	1.0b	mg/kg dryb	10b	09/09/14b	B4I0201b	6020/200.8	
7439-96-5b	Manganese	31p	1.0b	mg/kg dryb	10b	09/09/14b	B4I0201b	6020/200.8	



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Client ID: CHLL-SB-131 6"-12"p

Lab ID: 1408238-16p

CAS #b	Analyteb	Resultb	RLb	Unitsb	Dilutionb	Analyzed b Dateb	QC Batchb	Methodb	Qualifier b
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Organics-PCBs as Aroclorsp

12674-11-2b	Aroclor 1016	NDb	120b	ug/kg dryb	1b	09/05/14b	B4H2907b	8081/8082b	
11104-28-2b	Aroclor 1221	NDb	120b	ug/kg dryb	1b	09/05/14b	B4H2907b	8081/8082b	
11141-16-5b	Aroclor 1232	NDb	120b	ug/kg dryb	1b	09/05/14b	B4H2907b	8081/8082b	
53469-21-9b	Aroclor 1242	NDb	120b	ug/kg dryb	1b	09/05/14b	B4H2907b	8081/8082b	
12672-29-6b	Aroclor 1248	NDb	120b	ug/kg dryb	1b	09/05/14b	B4H2907b	8081/8082b	
11097-69-1b	Aroclor 1254	NDb	120b	ug/kg dryb	1b	09/05/14b	B4H2907b	8081/8082b	
11096-82-5b	Aroclor 1260	NDb	120b	ug/kg dryb	1b	09/05/14b	B4H2907b	8081/8082b	
37324-23-5b	Aroclor 1262	NDb	120b	ug/kg dryb	1b	09/05/14b	B4H2907b	8081/8082b	
11100-14-4b	Aroclor 1268	NDb	120b	ug/kg dryb	1b	09/05/14b	B4H2907b	8081/8082b	

<i>Surrogate: Decachlorobiphenyl.</i>	<i>74.1 %.</i>	<i>30-150.</i>	<i>09/05/14.</i>	<i>B4H2907b</i>	<i>8081/8082.</i>
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<i>Surrogate: Tetrachloro-m-xylene.</i>	<i>73.0 %.</i>	<i>30-150.</i>	<i>09/05/14.</i>	<i>B4H2907b</i>	<i>8081/8082.</i>
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Inorganics-General Chemistry

TSb	% Total Solids	86.0p	0.1b	%b	1b	08/25/14b	B4H2513b	2540 Bb	
57-12-5b	Total Cyanide	NDb	0.12b	mg/kg dryb	1b	08/27/14b	B4H2517b	ASTM D 7511-09b	

Inorganics-Metals

7440-38-2b	Arsenic	1.4p	0.5b	mg/kg dryb	10b	09/09/14b	B4I0201b	6020/200.8	
7440-39-3b	Barium	45p	1.0b	mg/kg dryb	10b	09/09/14b	B4I0201b	6020/200.8	
7440-50-8	Cop er	140p	1.0b	mg/kg dryb	10b	09/09/14b	B4I0201b	6020/200.8	
7439-92-1b	Lead	31p	1.0b	mg/kg dryb	10b	09/09/14b	B4I0201b	6020/200.8	
7439-96-5b	Manganese	59p	1.0b	mg/kg dryb	10b	09/09/14b	B4I0201b	6020/200.8	



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Client ID: CHLL-SB-132 12"-18"p

Lab ID: 1408238-17p

CAS #b	Analyteb	Resultb	RLb	Unitsb	Dilutionb	Analyzed b Dateb	QC Batchb	Methodb	Qualifier b
Organics-PCBs as Aroclorsp									
12674-11-2b	Aroclor 1016	NDb	120b	ug/kg dryb	1b	09/05/14b	B4H2907b	8081/8082b	
11104-28-2b	Aroclor 1221	NDb	120b	ug/kg dryb	1b	09/05/14b	B4H2907b	8081/8082b	
11141-16-5b	Aroclor 1232	NDb	120b	ug/kg dryb	1b	09/05/14b	B4H2907b	8081/8082b	
53469-21-9b	Aroclor 1242	NDb	120b	ug/kg dryb	1b	09/05/14b	B4H2907b	8081/8082b	
12672-29-6b	Aroclor 1248	NDb	120b	ug/kg dryb	1b	09/05/14b	B4H2907b	8081/8082b	
11097-69-1b	Aroclor 1254	NDb	120b	ug/kg dryb	1b	09/05/14b	B4H2907b	8081/8082b	
11096-82-5b	Aroclor 1260	NDb	120b	ug/kg dryb	1b	09/05/14b	B4H2907b	8081/8082b	
37324-23-5b	Aroclor 1262	NDb	120b	ug/kg dryb	1b	09/05/14b	B4H2907b	8081/8082b	
11100-14-4b	Aroclor 1268	NDb	120b	ug/kg dryb	1b	09/05/14b	B4H2907b	8081/8082b	
<i>Surrogate: Decachlorobiphenyl.</i>			78.1 %.	30-150.		09/05/14.	B4H2907b	8081/8082.	
<i>Surrogate: Tetrachloro-m-xylene.</i>			83.3 %.	30-150.		09/05/14.	B4H2907b	8081/8082.	
Inorganics-General Chemistryp									
TSb	% Total Solids	80.0p	0.1b	%b	1b	08/25/14b	B4H2513b	2540 Bb	
57-12-5b	Total Cyanide	1.1p	0.62b	mg/kg dryb	5b	08/27/14b	B4H2517b	ASTM D 7511-09b	1b
Inorganics-Metalsp									
7440-38-2b	Arsenic	5.3p	0.5b	mg/kg dryb	10b	09/09/14b	B4I0201b	6020/200.8	
7440-39-3b	Barium	110p	1.0b	mg/kg dryb	10b	09/09/14b	B4I0201b	6020/200.8	
7440-50-8	Cop er	390p	1.0b	mg/kg dryb	10b	09/09/14b	B4I0201b	6020/200.8	
7439-92-1b	Lead	88p	1.0b	mg/kg dryb	10b	09/09/14b	B4I0201b	6020/200.8	
7439-96-5b	Manganese	120p	1.0b	mg/kg dryb	10b	09/09/14b	B4I0201b	6020/200.8	



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Client ID: CHLL-SB-133 6"-12"p

Lab ID: 1408238-18p

CAS #b	Analyteb	Resultb	RLb	Unitsb	Dilutionb	Analyzed b Dateb	QC Batchb	Methodb	Qualifier b
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Organics-PCBs as Aroclorsp

12674-11-2b	Aroclor 1016	NDb	110b	ug/kg dryb	1b	09/05/14b	B4H2907b	8081/8082b	
11104-28-2b	Aroclor 1221	NDb	110b	ug/kg dryb	1b	09/05/14b	B4H2907b	8081/8082b	
11141-16-5b	Aroclor 1232	NDb	110b	ug/kg dryb	1b	09/05/14b	B4H2907b	8081/8082b	
53469-21-9b	Aroclor 1242	NDb	110b	ug/kg dryb	1b	09/05/14b	B4H2907b	8081/8082b	
12672-29-6b	Aroclor 1248	NDb	110b	ug/kg dryb	1b	09/05/14b	B4H2907b	8081/8082b	
11097-69-1b	Aroclor 1254	NDb	110b	ug/kg dryb	1b	09/05/14b	B4H2907b	8081/8082b	
11096-82-5b	Aroclor 1260	NDb	110b	ug/kg dryb	1b	09/05/14b	B4H2907b	8081/8082b	
37324-23-5b	Aroclor 1262	NDb	110b	ug/kg dryb	1b	09/05/14b	B4H2907b	8081/8082b	
11100-14-4b	Aroclor 1268	NDb	110b	ug/kg dryb	1b	09/05/14b	B4H2907b	8081/8082b	

<i>Surrogate: Decachlorobiphenyl.</i>	<i>72.2 %.</i>	<i>30-150.</i>	<i>09/05/14.</i>	<i>B4H2907b</i>	<i>8081/8082.</i>
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<i>Surrogate: Tetrachloro-m-xylene.</i>	<i>65.9 %.</i>	<i>30-150.</i>	<i>09/05/14.</i>	<i>B4H2907b</i>	<i>8081/8082.</i>
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Inorganics-General Chemistry

TSb	% Total Solids	87.2p	0.1b	%b	1b	08/25/14b	B4H2513b	2540 Bb	
57-12-5b	Total Cyanide	NDb	0.11b	mg/kg dryb	1b	08/27/14b	B4H2517b	ASTM D 7511-09b	

Inorganics-Metals

7440-38-2b	Arsenic	NDb	0.5b	mg/kg dryb	10b	09/09/14b	B4I0201b	6020/200.8	
7440-39-3b	Barium	8.0p	1.0b	mg/kg dryb	10b	09/09/14b	B4I0201b	6020/200.8	
7440-50-8	Cop er	12p	1.0b	mg/kg dryb	10b	09/09/14b	B4I0201b	6020/200.8	
7439-92-1b	Lead	1.3p	1.0b	mg/kg dryb	10b	09/09/14b	B4I0201b	6020/200.8	
7439-96-5b	Manganese	47p	1.0b	mg/kg dryb	10b	09/09/14b	B4I0201b	6020/200.8	



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Client ID: CHLL-SB-133 6"-12" DUPp

Lab ID: 1408238-19p

CAS #b	Analyteb	Resultb	RLb	Unitsb	Dilutionb	Analyzed b Dateb	QC Batchb	Methodb	Qualifier b
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Organics-PCBs as Aroclorsp

12674-11-2b	Aroclor 1016	NDb	110b	ug/kg dryb	1b	09/05/14b	B4H2907b	8081/8082b	
11104-28-2b	Aroclor 1221	NDb	110b	ug/kg dryb	1b	09/05/14b	B4H2907b	8081/8082b	
11141-16-5b	Aroclor 1232	NDb	110b	ug/kg dryb	1b	09/05/14b	B4H2907b	8081/8082b	
53469-21-9b	Aroclor 1242	NDb	110b	ug/kg dryb	1b	09/05/14b	B4H2907b	8081/8082b	
12672-29-6b	Aroclor 1248	NDb	110b	ug/kg dryb	1b	09/05/14b	B4H2907b	8081/8082b	
11097-69-1b	Aroclor 1254	NDb	110b	ug/kg dryb	1b	09/05/14b	B4H2907b	8081/8082b	
11096-82-5b	Aroclor 1260	NDb	110b	ug/kg dryb	1b	09/05/14b	B4H2907b	8081/8082b	
37324-23-5b	Aroclor 1262	NDb	110b	ug/kg dryb	1b	09/05/14b	B4H2907b	8081/8082b	
11100-14-4b	Aroclor 1268	NDb	110b	ug/kg dryb	1b	09/05/14b	B4H2907b	8081/8082b	

<i>Surrogate: Decachlorobiphenyl.</i>	<i>64.6 %.</i>	<i>30-150.</i>	<i>09/05/14.</i>	<i>B4H2907b</i>	<i>8081/8082.</i>
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<i>Surrogate: Tetrachloro-m-xylene.</i>	<i>71.5 %.</i>	<i>30-150.</i>	<i>09/05/14.</i>	<i>B4H2907b</i>	<i>8081/8082.</i>
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Inorganics-General Chemistryp

TSb	% Total Solids	88.0p	0.1b	%b	1b	08/25/14b	B4H2513b	2540 Bb	
57-12-5b	Total Cyanide	NDb	0.11b	mg/kg dryb	1b	08/27/14b	B4H2517b	ASTM D 7511-09b	

Inorganics-Metalsp

7440-38-2b	Arsenic	NDb	0.5b	mg/kg dryb	10b	09/09/14b	B4I0201b	6020/200.8	
7440-39-3b	Barium	7.7p	1.0b	mg/kg dryb	10b	09/09/14b	B4I0201b	6020/200.8	
7440-50-8	Cop er	11p	1.0b	mg/kg dryb	10b	09/09/14b	B4I0201b	6020/200.8	
7439-92-1b	Lead	1.0p	1.0b	mg/kg dryb	10b	09/09/14b	B4I0201b	6020/200.8	
7439-96-5b	Manganese	41p	1.0b	mg/kg dryb	10b	09/09/14b	B4I0201b	6020/200.8	



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Client ID: CHLL-SB-134 18-24"p

Lab ID: 1408238-20p

CAS #b	Analyteb	Resultb	RLb	Unitsb	Dilutionb	Analyzed b Dateb	QC Batchb	Methodb	Qualifier b
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Organics-PCBs as Aroclorsp

12674-11-2b	Aroclor 1016	NDb	120b	ug/kg dryb	1b	09/05/14b	B4H2907b	8081/8082b	
11104-28-2b	Aroclor 1221	NDb	120b	ug/kg dryb	1b	09/05/14b	B4H2907b	8081/8082b	
11141-16-5b	Aroclor 1232	NDb	120b	ug/kg dryb	1b	09/05/14b	B4H2907b	8081/8082b	
53469-21-9b	Aroclor 1242	NDb	120b	ug/kg dryb	1b	09/05/14b	B4H2907b	8081/8082b	
12672-29-6b	Aroclor 1248	NDb	120b	ug/kg dryb	1b	09/05/14b	B4H2907b	8081/8082b	
11097-69-1b	Aroclor 1254	NDb	120b	ug/kg dryb	1b	09/05/14b	B4H2907b	8081/8082b	
11096-82-5b	Aroclor 1260	NDb	120b	ug/kg dryb	1b	09/05/14b	B4H2907b	8081/8082b	
37324-23-5b	Aroclor 1262	NDb	120b	ug/kg dryb	1b	09/05/14b	B4H2907b	8081/8082b	
11100-14-4b	Aroclor 1268	NDb	120b	ug/kg dryb	1b	09/05/14b	B4H2907b	8081/8082b	

<i>Surrogate: Decachlorobiphenyl.</i>	63.9 %.	30-150.	09/05/14.	B4H2907b	8081/8082.
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<i>Surrogate: Tetrachloro-m-xylene.</i>	66.7 %.	30-150.	09/05/14.	B4H2907b	8081/8082.
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Inorganics-General Chemistryp

TSb	% Total Solids	81.7p	0.1b	%b	1b	08/25/14b	B4H2513b	2540 Bb	
57-12-5b	Total Cyanide	NDb	0.12b	mg/kg dryb	1b	08/27/14b	B4H2517b	ASTM D 7511-09b	

Inorganics-Metalsp

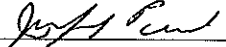
7440-38-2b	Arsenic	2.9p	0.5b	mg/kg dryb	10b	09/09/14b	B4I0201b	6020/200.8	
7440-39-3b	Barium	74p	1.0b	mg/kg dryb	10b	09/09/14b	B4I0201b	6020/200.8	
7440-50-8	Cop er	270p	1.0b	mg/kg dryb	10b	09/09/14b	B4I0201b	6020/200.8	
7439-92-1b	Lead	57p	1.0b	mg/kg dryb	10b	09/09/14b	B4I0201b	6020/200.8	
7439-96-5b	Manganese	150p	1.0b	mg/kg dryb	10b	09/09/14b	B4I0201b	6020/200.8	

ENVIRONMENTAL LABORATORY - ANALYSIS REQUEST SHEET

Lab Work Order Number 1408238		Project Name Abandoned Mining Waste- Torch Lake PCB		Matrix SOIL/SEDIMENT
Site Code/Project Number 31000098	AY 14	CC Email 1 to send additional reports to shireyb	Project TAT Days	Sample Collector
Dept-Division-District RRD-PSS-GSU	Index 44251	CC Email 2 to send additional reports to j.binkley@westonsolutions.com	Project Due Date	Sample Collector Phone
State Project Manager Jeff Pincumbe	PCA 30708	CC Email 3 to send additional reports to Keracena@michigan.gov	Accept Analysis hold time codes: Yes/No No	Contract Firm Weston Solutions
State Project Manager Email pincumbej	Project 100031	Overflow Lab Choice 1	Contract Firm Primary Contact Jeff Binkley	
State Project Manager Phone 517-335-6418	Phase 94	Overflow Lab Choice 2	Primary Contact Phone 906-523-5457	

	Lab Use Only	Field Sample Identification	Collection Date	Collection Time	Container Count	Comments
1	61	CHLL- SB-124 0-6"	8-20-14			
2	62	CHLL- SB-124 6"-4'				
3	63	CHLL- SB-124 6"-4' DU*				
4	64	CHLL- SB-125 0-6"				
5	65	CHLL- SB-125 6"-4'				
6	66	CHLL- SB-122 0-6"				
7	67	CHLL- SB-122 6"-3'				
8	68	CHLL- SB-121 0-6"				
9	69	CHLL- SB-121 6"-4'				
10	70	CHLL- SB-120 0-6"				

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 1000000000 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 00000 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,Bi,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 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 PINCUMBE MDEQ	Melissa Smith	8/22/14 1615
	Signature: 		
	Print Name & Org.		
	Signature:		
	Print Name & Org.		
	Signature:		

MICHIGAN DEPARTMENT OF ENVIRONMENTAL QUALITY

Page 2 of 2

ENVIRONMENTAL LABORATORY - ANALYSIS REQUEST SHEET

Lab Work Order Number 1408238	Project Name Abandoned Mining Waste- Torch Lake PCB	Matrix SOIL/SEDIMENT
Site Code/Project Number 31000098	AY 14	CC Email 1 to send additional reports to shireyb
Dept/Division-District RRD-PSS-GSU	Index 44251	CC Email 2 to send additional reports to j.binkley@westonsolutions.com
State Project Manager Jeff Pincumbe	PCA 30708	CC Email 3 to send additional reports to Kerane@Michigan.gov
State Project Manager Email pincumbej	Project 100081	Overflow Lab Choice 1 NO
State Project Manager Phone 517-335-6418	Phase 94	Overflow Lab Choice 2
		Project TAT Days
		Sample Collector
		Sample Collector Phone
		Contract Firm Western Solutions
		Contract Firm Primary Contact Jeff Binkley
		Primary Contact Phone 906-523-5452

Lab Use Only	Field Sample Identification	Collection Date	Collection Time	Container Count	Comments
1	CHLL- SB-126 0-6"	8-19-14	9:15		
2	CHLL- SB-126 6"-5'	8-19-14	9:15		
3	CHLL- SB-127 0-6"		10:00		
4	CHLL- SB-127 6"-5'		10:00		
5	CHLL- SB-130 6"-12"		11:00		
6	CHLL- SB-131 6"-12"		11:30		
7	CHLL- SB-132 12"-18"		11:50		sample depth 12-15"
8	CHLL- SB-133 6"-12"		12:05		
9	CHLL- SB-133 6"-12" OVI		12:05		
10	CHLL- SB-134 18-24"		12:30		

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 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 PINCUMBE MDEQ	Melissa Smith	8/22/14 1:45
	Signature: [Signature]	[Signature]	
	Print Name & Org.		
	Signature:		
	Print Name & Org.		
	Signature:		