



MICHIGAN DEPARTMENT OF ENVIRONMENTAL QUALITY
ENVIRONMENTAL LABORATORY

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

05 August 2015

Work Order: 15071720

Price: \$3,241.00

Amy Keranen
MDEQ-RRD-UPO
1504 W. Washington St.
Marquette, MI 49855

RE: ABANDONED MINING WASTES-LAKE LINDEN Op:

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-UPb
1504 W. Washington St.b
Marquette MI, 49855b

Project:bABANDONED MINING WASTES-LAKE LINDEN Opsb
Site Code:b31000098b
Project Manager:bAmy Keranemb

Reported:p
08/05/2015b

Analytical Report for Samplesp

Sample IDp	Laboratory IDp	Matrixp	Date Sampledp	Date Receivedp	Qualifierp
CHLL-SD-95-0-6"b	1507172-01b	Soil/Sedimentb	07/11/2015b	07/15/2015b	
CHLL-SD-95-1-3'b	1507172-02b	Soil/Sedimentb	07/11/2015b	07/15/2015b	
CHLL-SD-95-1-3' dupb	1507172-03b	Soil/Sedimentb	07/11/2015b	07/15/2015b	
CHLL-SD-95-3-5'b	1507172-04b	Soil/Sedimentb	07/11/2015b	07/15/2015b	
CHLL-SD-102-0-6"b	1507172-05b	Soil/Sedimentb	07/12/2015b	07/15/2015b	
CHLL-SD-102-1-3'b	1507172-06b	Soil/Sedimentb	07/12/2015b	07/15/2015b	
CHLL-SD-102-3-5'b	1507172-07	Soil/Sedimentb	07/12/2015b	07/15/2015b	
CHLL-SD-101-0-6"b	1507172-08b	Soil/Sedimentb	07/12/2015b	07/15/2015b	
CHLL-SD-101-1-3'b	1507172-09b	Soil/Sedimentb	07/12/2015b	07/15/2015b	
CHLL-SD-101-3-4.75'b	1507172-10b	Soil/Sedimentb	07/12/2015b	07/15/2015b	

Notes and Definitions p

- Y30b ORO results may also include non-oil organic compounds.b
- Y29b DRO results may also include non-diesel organic compounds. b
- Y21b Reporting Limits (RL) raised due to matrix interference. b
- Y20b Reporting Limits (RL) raised due to matrix. b
- X3b Spike recovery is not applicable due to large target analyte concentration in the source sample. b
- A09b Result is estimated due to high recovery of batch quality control. b
- A07 Result(s) and reporting limit(s) are estimated due to poor precision. b
- NDb Indicates compound analyzed for but not detected b
- RLb Reporting Limit b
- NAb Not Applicable b
- dry Sample results reported on a dry weight basis b



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Client ID: CHLL-SD-95-0-6''p

Lab ID: 1507172-01p

CAS #b	Analyteb	Resultb	RLb	Unitsb	Dilutionb	Analyzedb Dateb	QC Batchb	Methodb	Qualifierb
Organics-Semivolatiles									
See note Y20p									
91-57-6b	2-Methylnaphthalene	NDb	6900b	ug/kg dryb	1b	07/23/15b	B5G1736b	8270b	
83-32-9b	Acenaphthene	NDb	2800b	ug/kg dryb	1b	07/23/15b	B5G1736b	8270b	
208-96-8b	Acenaphthylene	NDb	2800b	ug/kg dryb	1b	07/23/15b	B5G1736b	8270b	
120-12-7	Anthracene	NDb	2800b	ug/kg dryb	1b	07/23/15b	B5G1736b	8270b	
56-55-3b	Benz[a]anthracene	NDb	2800b	ug/kg dryb	1b	07/23/15b	B5G1736b	8270b	
50-32-8b	Benzo[a]pyrene	NDb	5500b	ug/kg dryb	1b	07/23/15b	B5G1736b	8270b	
205-99-2b	Benzo[b]fluoranthene	NDb	5500b	ug/kg dryb	1b	07/23/15b	B5G1736b	8270b	
191-24-2b	Benzo[g,h,i]perylene	NDb	5500b	ug/kg dryb	1b	07/23/15b	B5G1736b	8270b	
207-08-9b	Benzo[k]fluoranthene	NDb	5500b	ug/kg dryb	1b	07/23/15b	B5G1736b	8270b	
218-01-9b	Chrysene	NDb	2800b	ug/kg dryb	1b	07/23/15b	B5G1736b	8270b	
53-70-3b	Dibenz[a,h]anthracene	NDb	5500b	ug/kg dryb	1b	07/23/15b	B5G1736b	8270b	
206-44-0b	Fluoranthene	NDb	2800b	ug/kg dryb	1b	07/23/15b	B5G1736b	8270b	
86-73-7	Fluorene	NDb	2800b	ug/kg dryb	1b	07/23/15b	B5G1736b	8270b	
193-39-5b	Indeno(1,2,3-c,d)pyrene	NDb	5500b	ug/kg dryb	1b	07/23/15b	B5G1736b	8270b	
91-20-3b	Naphthalene	NDb	2800b	ug/kg dryb	1b	07/23/15b	B5G1736b	8270b	
85-01-8b	Phenanthrene	NDb	2800b	ug/kg dryb	1b	07/23/15b	B5G1736b	8270b	
129-00-0b	Pyrene	NDb	2800b	ug/kg dryb	1b	07/23/15b	B5G1736b	8270b	
<i>Surrogate: 2-Fluorobiphenyl.</i>			64.5 %	32.9-115.		07/23/15.	B5G1736b	8270.	
<i>Surrogate: Nitrobenzene-d5.</i>			62.3 %	31.8-115.		07/23/15.	B5G1736b	8270.	
<i>Surrogate: p-Terphenyl-d14.</i>			75.9 %	38.5-115.		07/23/15.	B5G1736b	8270.	

Organics-PCBs as Aroclorsp									
See note Y20p									
12674-11-2b	Aroclor 1016b	NDb	1100b	ug/kg dryb	1b	07/30/15b	B5G2223b	8081/8082b	
11104-28-2b	Aroclor 1221b	NDb	1100b	ug/kg dryb	1b	07/30/15b	B5G2223b	8081/8082b	
11141-16-5b	Aroclor 1232b	NDb	1100b	ug/kg dryb	1b	07/30/15b	B5G2223b	8081/8082b	
53469-21-9b	Aroclor 1242b	NDb	1100b	ug/kg dryb	1b	07/30/15b	B5G2223b	8081/8082b	
12672-29-6b	Aroclor 1248b	NDb	1100b	ug/kg dryb	1b	07/30/15b	B5G2223b	8081/8082b	
11097-69-1b	Aroclor 1254b	NDb	1100b	ug/kg dryb	1b	07/30/15b	B5G2223b	8081/8082b	
11096-82-5b	Aroclor 1260b	NDb	1100b	ug/kg dryb	1b	07/30/15b	B5G2223b	8081/8082b	
37324-23-5b	Aroclor 1262b	NDb	1100b	ug/kg dryb	1b	07/30/15b	B5G2223b	8081/8082b	
11100-14-4b	Aroclor 1268b	NDb	1100b	ug/kg dryb	1b	07/30/15b	B5G2223b	8081/8082b	
<i>Surrogate: Decachlorobiphenyl.</i>			75.4 %	30-150.		07/30/15.	B5G2223b	8081/8082.	
<i>Surrogate: Tetrachloro-m-xylene.</i>			66.6 %	30-150.		07/30/15.	B5G2223b	8081/8082.	



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Client ID: CHLL-SD-95-0-6''p
Lab ID: 1507172-01p

CAS #b	Analyteb	Resultb	RLb	Unitsb	Dilutionb	Analyzed b Dateb	QC Batchb	Methodb	Qualifierb
Inorganics-General Chemistry									
TSb	% Total Solids ^p	18.2p	0.1b	%b	1b	07/17/15b	B5G1709b	2540 Bb	
57-12-5b	Total Cyanide ^p	0.63p	0.55b	mg/kg dryb	1b	07/27/15b	B5G2216b	ASTM D7284b	
Inorganics-Metals									
7429-90-5b	Aluminium ^p	27000p	100b	mg/kg dryb	1000b	07/29/15b	B5G2401b	6020/200.8b	
7440-36-0b	Antimony ^p	1.9p	0.3b	mg/kg dryb	10b	07/23/15b	B5G2111b	6020/200.8b	
7440-38-2b	Arsenic ^p	49p	0.5b	mg/kg dryb	10b	07/29/15b	B5G2401b	6020/200.8b	
7440-39-3b	Barium ^p	220p	100b	mg/kg dryb	1000b	07/29/15b	B5G2401b	6020/200.8b	
7440-41-7	Beryllium ^p	1.7p	0.2b	mg/kg dryb	10b	07/29/15b	B5G2401b	6020/200.8b	
7440-43-9b	Cadmium ^p	1.5p	0.2b	mg/kg dryb	10b	07/28/15b	B5G2401b	6020/200.8b	
7440-47-3b	Chromium ^p	94p	2.0b	mg/kg dryb	10b	07/29/15b	B5G2401b	6020/200.8b	
7440-48-4b	Cobalt ^p	44p	0.5b	mg/kg dryb	10b	07/29/15b	B5G2401b	6020/200.8b	
7440-50-8b	Cop er ^p	3100p	100b	mg/kg dryb	1000b	07/29/15b	B5G2401b	6020/200.8b	
7439-89-6b	Iron ^p	47000p	5.0b	mg/kg dryb	10b	07/28/15b	B5G2401b	6010/200.7	
7439-92-1b	Lead ^p	250p	1.0b	mg/kg dryb	10b	07/29/15b	B5G2401b	6020/200.8b	
7439-93-2b	Lithium ^p	15p	0.2b	mg/kg dryb	1b	07/28/15b	B5G2401b	6010/200.7	
7439-95-4b	Magnesium ^p	22000p	50b	mg/kg dryb	10b	07/28/15b	B5G2401b	6010/200.7	
7439-96-5b	Manganese ^p	2000p	100b	mg/kg dryb	1000b	07/29/15b	B5G2401b	6020/200.8b	
7439-97-6b	Mercury ^p	0.5p	0.3b	mg/kg dryb	1b	07/30/15b	B5G2905b	7471/245.5b	
7440-02-0b	Nickel ^p	99p	1.0b	mg/kg dryb	10b	07/29/15b	B5G2401b	6020/200.8b	
7782-49-2b	Selenium ^b	ND ^b	0.2b	mg/kg dryb	10b	07/29/15b	B5G2401b	6020/200.8b	
7440-22-4b	Silver ^p	4.9p	0.1b	mg/kg dryb	10b	07/28/15b	B5G2401b	6020/200.8b	
7440-28-0b	Thallium ^b	ND ^b	0.5b	mg/kg dryb	10b	07/29/15b	B5G2401b	6020/200.8b	
7440-66-6b	Zinc ^p	350p	1.0b	mg/kg dryb	10b	07/29/15b	B5G2401b	6020/200.8b	



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Client ID: CHLL-SD-95-1-3'p

Lab ID: 1507172-02p

CAS #b	Analyteb	Resultb	RLb	Unitsb	Dilutionb	Analyzedb Dateb	QC Batchb	Methodb	Qualifiert
Organics-Semivolatiles									See note Y20p
91-57-6b	2-Methylnaphthalene	NDb	2500b	ug/kg dryb	1b	07/23/15b	B5G1736b	8270b	
83-32-9b	Acenaphthene	NDb	990b	ug/kg dryb	1b	07/23/15b	B5G1736b	8270b	
208-96-8b	Acenaphthylene	NDb	990b	ug/kg dryb	1b	07/23/15b	B5G1736b	8270b	
120-12-7	Anthracene	NDb	990b	ug/kg dryb	1b	07/23/15b	B5G1736b	8270b	
56-55-3b	Benz[a]anthracene	NDb	990b	ug/kg dryb	1b	07/23/15b	B5G1736b	8270b	
50-32-8b	Benzo[a]pyrene	NDb	2000b	ug/kg dryb	1b	07/23/15b	B5G1736b	8270b	
205-99-2b	Benzo[b]fluoranthene	NDb	2000b	ug/kg dryb	1b	07/23/15b	B5G1736b	8270b	
191-24-2b	Benzo[g,h,i]perylene	NDb	2000b	ug/kg dryb	1b	07/23/15b	B5G1736b	8270b	
207-08-9b	Benzo[k]fluoranthene	NDb	2000b	ug/kg dryb	1b	07/23/15b	B5G1736b	8270b	
218-01-9b	Chrysene	NDb	990b	ug/kg dryb	1b	07/23/15b	B5G1736b	8270b	
53-70-3b	Dibenz[a,h]anthracene	NDb	2000b	ug/kg dryb	1b	07/23/15b	B5G1736b	8270b	
206-44-0b	Fluoranthene	NDb	990b	ug/kg dryb	1b	07/23/15b	B5G1736b	8270b	
86-73-7	Fluorene	NDb	990b	ug/kg dryb	1b	07/23/15b	B5G1736b	8270b	
193-39-5b	Indeno(1,2,3-c,d)pyrene	NDb	2000b	ug/kg dryb	1b	07/23/15b	B5G1736b	8270b	
91-20-3b	Naphthalene	NDb	990b	ug/kg dryb	1b	07/23/15b	B5G1736b	8270b	
85-01-8b	Phenanthrene	NDb	990b	ug/kg dryb	1b	07/23/15b	B5G1736b	8270b	
129-00-0b	Pyrene	NDb	990b	ug/kg dryb	1b	07/23/15b	B5G1736b	8270b	
<i>Surrogate: 2-Fluorobiphenyl.</i>			61.1 %	32.9-115.		07/23/15.	B5G1736b	8270.	
<i>Surrogate: Nitrobenzene-d5.</i>			57.3 %	31.8-115.		07/23/15.	B5G1736b	8270.	
<i>Surrogate: p-Terphenyl-d14.</i>			84.0 %	38.5-115.		07/23/15.	B5G1736b	8270.	
Organics-PCBs as Aroclorsp									See note Y20p
12674-11-2b	Aroclor 1016b	NDb	390b	ug/kg dryb	1b	07/31/15b	B5G2427	8081/8082b	
11104-28-2b	Aroclor 1221b	NDb	390b	ug/kg dryb	1b	07/31/15b	B5G2427	8081/8082b	
11141-16-5b	Aroclor 1232b	NDb	390b	ug/kg dryb	1b	07/31/15b	B5G2427	8081/8082b	
53469-21-9b	Aroclor 1242b	NDb	390b	ug/kg dryb	1b	07/31/15b	B5G2427	8081/8082b	
12672-29-6b	Aroclor 1248b	NDb	390b	ug/kg dryb	1b	07/31/15b	B5G2427	8081/8082b	
11097-69-1b	Aroclor 1254b	NDb	390b	ug/kg dryb	1b	07/31/15b	B5G2427	8081/8082b	
11096-82-5b	Aroclor 1260b	NDb	390b	ug/kg dryb	1b	07/31/15b	B5G2427	8081/8082b	
37324-23-5b	Aroclor 1262b	NDb	390b	ug/kg dryb	1b	07/31/15b	B5G2427	8081/8082b	
11100-14-4b	Aroclor 1268b	NDb	390b	ug/kg dryb	1b	07/31/15b	B5G2427	8081/8082b	
<i>Surrogate: Decachlorobiphenyl.</i>			69.5 %	30-150.		07/31/15.	B5G2427	8081/8082.	
<i>Surrogate: Tetrachloro-m-xylene.</i>			62.5 %	30-150.		07/31/15.	B5G2427	8081/8082.	



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 Lab ID: 1507172-02p

CAS #b	Analyteb	Resultb	RLb	Unitsb	Dilutionb	Analyzed b Dateb	QC Batchb	Methodb	Qualifierb
Inorganics-General Chemistry									
TSb	% Total Solids	50.7p	0.1b	%b	1b	07/17/15b	B5G1709b	2540 Bb	
57-12-5b	Total Cyanideb	NDb	0.20b	mg/kg dryb	1b	07/27/15b	B5G2216b	ASTM D7284b	
Inorganics-Metals									
7429-90-5b	Aluminium	31000p	100b	mg/kg dryb	1000b	07/29/15b	B5G2401b	6020/200.8b	
7440-36-0b	Antimonyb	NDb	0.3b	mg/kg dryb	10b	07/23/15b	B5G2111b	6020/200.8b	
7440-38-2b	Arsenic	19p	0.5b	mg/kg dryb	10b	07/29/15b	B5G2401b	6020/200.8b	
7440-39-3b	Barium	75p	20b	mg/kg dryb	1000b	07/29/15b	B5G2401b	6020/200.8b	
7440-41-7	Beryllium	1.3p	0.2b	mg/kg dryb	10b	07/29/15b	B5G2401b	6020/200.8b	
7440-43-9b	Cadmiumb	NDb	0.2b	mg/kg dryb	10b	07/28/15b	B5G2401b	6020/200.8b	
7440-47-3b	Chromium	110p	2.0b	mg/kg dryb	10b	07/29/15b	B5G2401b	6020/200.8b	
7440-48-4b	Cobalt	65p	0.5b	mg/kg dryb	10b	07/29/15b	B5G2401b	6020/200.8b	
7440-50-8b	Copper	1800p	1.0b	mg/kg dryb	10b	07/29/15b	B5G2401b	6020/200.8b	
7439-89-6b	Iron	52000p	50b	mg/kg dryb	100b	07/28/15b	B5G2401b	6010/200.7	
7439-92-1b	Lead	19p	1.0b	mg/kg dryb	10b	07/29/15b	B5G2401b	6020/200.8b	
7439-93-2b	Lithium	14p	0.2b	mg/kg dryb	1b	07/28/15b	B5G2401b	6010/200.7	
7439-95-4b	Magnesium	36000p	500b	mg/kg dryb	100b	07/28/15b	B5G2401b	6010/200.7	
7439-96-5b	Manganese	930p	100b	mg/kg dryb	1000b	07/29/15b	B5G2401b	6020/200.8b	
7439-97-6b	Mercury	0.3p	0.1b	mg/kg dryb	1b	07/30/15b	B5G2905b	7471/245.5b	
7440-02-0b	Nickel	140p	1.0b	mg/kg dryb	10b	07/29/15b	B5G2401b	6020/200.8b	
7782-49-2b	Seleniumb	NDb	0.2b	mg/kg dryb	10b	07/29/15b	B5G2401b	6020/200.8b	
7440-22-4b	Silver	6.5p	0.1b	mg/kg dryb	10b	07/28/15b	B5G2401b	6020/200.8b	
7440-28-0b	Thalliumb	NDb	0.5b	mg/kg dryb	10b	07/29/15b	B5G2401b	6020/200.8b	
7440-66-6b	Zinc	310p	1.0b	mg/kg dryb	10b	07/29/15b	B5G2401b	6020/200.8b	



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Client ID: CHLL-SD-95-1-3' dup

Lab ID: 1507172-03p

CAS #b	Analyteb	Resultb	RLb	Unitsb	Dilutionb	Analyzedb Dateb	QC Batchb	Methodb	Qualifiert
Organics-Semivolatiles									See note Y20p
91-57-6b	2-Methylnaphthalene	NDb	2400b	ug/kg dryb	1b	07/24/15b	B5G2120b	8270b	
83-32-9b	Acenaphthene	NDb	970b	ug/kg dryb	1b	07/24/15b	B5G2120b	8270b	
208-96-8b	Acenaphthylene	NDb	970b	ug/kg dryb	1b	07/24/15b	B5G2120b	8270b	
120-12-7	Anthracene	NDb	970b	ug/kg dryb	1b	07/24/15b	B5G2120b	8270b	
56-55-3b	Benz[a]anthracene	NDb	970b	ug/kg dryb	1b	07/24/15b	B5G2120b	8270b	
50-32-8b	Benzo[a]pyrene	NDb	1900b	ug/kg dryb	1b	07/24/15b	B5G2120b	8270b	
205-99-2b	Benzo[b]fluoranthene	NDb	1900b	ug/kg dryb	1b	07/24/15b	B5G2120b	8270b	
191-24-2b	Benzo[g,h,i]perylene	NDb	1900b	ug/kg dryb	1b	07/24/15b	B5G2120b	8270b	
207-08-9b	Benzo[k]fluoranthene	NDb	1900b	ug/kg dryb	1b	07/24/15b	B5G2120b	8270b	
218-01-9b	Chrysene	NDb	970b	ug/kg dryb	1b	07/24/15b	B5G2120b	8270b	
53-70-3b	Dibenz[a,h]anthracene	NDb	1900b	ug/kg dryb	1b	07/24/15b	B5G2120b	8270b	
206-44-0b	Fluoranthene	NDb	970b	ug/kg dryb	1b	07/24/15b	B5G2120b	8270b	
86-73-7	Fluorene	NDb	970b	ug/kg dryb	1b	07/24/15b	B5G2120b	8270b	
193-39-5b	Indeno(1,2,3-c,d)pyrene	NDb	1900b	ug/kg dryb	1b	07/24/15b	B5G2120b	8270b	
91-20-3b	Naphthalene	NDb	970b	ug/kg dryb	1b	07/24/15b	B5G2120b	8270b	
85-01-8b	Phenanthrene	NDb	970b	ug/kg dryb	1b	07/24/15b	B5G2120b	8270b	
129-00-0b	Pyrene	NDb	970b	ug/kg dryb	1b	07/24/15b	B5G2120b	8270b	
<i>Surrogate: 2-Fluorobiphenyl.</i>			74.8 %	32.9-115.		07/24/15.	B5G2120b	8270.	
<i>Surrogate: Nitrobenzene-d5.</i>			70.3 %	31.8-115.		07/24/15.	B5G2120b	8270.	
<i>Surrogate: p-Terphenyl-d14.</i>			73.9 %	38.5-115.		07/24/15.	B5G2120b	8270.	
Organics-PCBs as Aroclorsp									See note Y20p
12674-11-2b	Aroclor 1016b	NDb	390b	ug/kg dryb	1b	07/31/15b	B5G2427	8081/8082b	
11104-28-2b	Aroclor 1221b	NDb	390b	ug/kg dryb	1b	07/31/15b	B5G2427	8081/8082b	
11141-16-5b	Aroclor 1232b	NDb	390b	ug/kg dryb	1b	07/31/15b	B5G2427	8081/8082b	
53469-21-9b	Aroclor 1242b	NDb	390b	ug/kg dryb	1b	07/31/15b	B5G2427	8081/8082b	
12672-29-6b	Aroclor 1248b	NDb	390b	ug/kg dryb	1b	07/31/15b	B5G2427	8081/8082b	
11097-69-1b	Aroclor 1254b	NDb	390b	ug/kg dryb	1b	07/31/15b	B5G2427	8081/8082b	
11096-82-5b	Aroclor 1260b	NDb	390b	ug/kg dryb	1b	07/31/15b	B5G2427	8081/8082b	
37324-23-5b	Aroclor 1262b	NDb	390b	ug/kg dryb	1b	07/31/15b	B5G2427	8081/8082b	
11100-14-4b	Aroclor 1268b	NDb	390b	ug/kg dryb	1b	07/31/15b	B5G2427	8081/8082b	
<i>Surrogate: Decachlorobiphenyl.</i>			71.9 %	30-150.		07/31/15.	B5G2427	8081/8082.	
<i>Surrogate: Tetrachloro-m-xylene.</i>			66.2 %	30-150.		07/31/15.	B5G2427	8081/8082.	



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Client ID: CHLL-SD-95-1-3' dup

Lab ID: 1507172-03p

CAS #	Analyte	Result	RL	Units	Dilution	Analyzed Date	QC Batch	Method	Qualifier
Inorganics-General Chemistry									
TS	% Total Solids	51.4	0.1	%	1	07/17/15	B5G1709	2540	B



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Client ID: CHLL-SD-95-3-5'p

Lab ID: 1507172-04p

CAS #b	Analyteb	Resultb	RLb	Unitsb	Dilutionb	Analyzedb Dateb	QC Batchb	Methodb	Qualifiert
Organics-Semivolatiles									
See note Y20p									
91-57-6b	2-Methylnaphthalene	NDb	2200b	ug/kg dryb	1b	07/24/15b	B5G2120b	8270b	
83-32-9b	Acenaphthene	NDb	890b	ug/kg dryb	1b	07/24/15b	B5G2120b	8270b	
208-96-8b	Acenaphthylene	NDb	890b	ug/kg dryb	1b	07/24/15b	B5G2120b	8270b	
120-12-7	Anthracene	NDb	890b	ug/kg dryb	1b	07/24/15b	B5G2120b	8270b	
56-55-3b	Benz[a]anthracene	NDb	890b	ug/kg dryb	1b	07/24/15b	B5G2120b	8270b	
50-32-8b	Benzo[a]pyrene	NDb	1800b	ug/kg dryb	1b	07/24/15b	B5G2120b	8270b	
205-99-2b	Benzo[b]fluoranthene	NDb	1800b	ug/kg dryb	1b	07/24/15b	B5G2120b	8270b	
191-24-2b	Benzo[g,h,i]perylene	NDb	1800b	ug/kg dryb	1b	07/24/15b	B5G2120b	8270b	
207-08-9b	Benzo[k]fluoranthene	NDb	1800b	ug/kg dryb	1b	07/24/15b	B5G2120b	8270b	
218-01-9b	Chrysene	NDb	890b	ug/kg dryb	1b	07/24/15b	B5G2120b	8270b	
53-70-3b	Dibenz[a,h]anthracene	NDb	1800b	ug/kg dryb	1b	07/24/15b	B5G2120b	8270b	
206-44-0b	Fluoranthene	NDb	890b	ug/kg dryb	1b	07/24/15b	B5G2120b	8270b	
86-73-7	Fluorene	NDb	890b	ug/kg dryb	1b	07/24/15b	B5G2120b	8270b	
193-39-5b	Indeno(1,2,3-c,d)pyrene	NDb	1800b	ug/kg dryb	1b	07/24/15b	B5G2120b	8270b	
91-20-3b	Naphthalene	NDb	890b	ug/kg dryb	1b	07/24/15b	B5G2120b	8270b	
85-01-8b	Phenanthrene	NDb	890b	ug/kg dryb	1b	07/24/15b	B5G2120b	8270b	
129-00-0b	Pyrene	NDb	890b	ug/kg dryb	1b	07/24/15b	B5G2120b	8270b	
<i>Surrogate: 2-Fluorobiphenyl.</i>			71.0 %	32.9-115.		07/24/15.	B5G2120b	8270.	
<i>Surrogate: Nitrobenzene-d5.</i>			64.8 %	31.8-115.		07/24/15.	B5G2120b	8270.	
<i>Surrogate: p-Terphenyl-d14.</i>			72.3 %	38.5-115.		07/24/15.	B5G2120b	8270.	

Organics-PCBs as Aroclorsp									
See note Y20p									
12674-11-2b	Aroclor 1016b	NDb	360b	ug/kg dryb	1b	07/31/15b	B5G2427	8081/8082b	
11104-28-2b	Aroclor 1221b	NDb	360b	ug/kg dryb	1b	07/31/15b	B5G2427	8081/8082b	
11141-16-5b	Aroclor 1232b	NDb	360b	ug/kg dryb	1b	07/31/15b	B5G2427	8081/8082b	
53469-21-9b	Aroclor 1242b	NDb	360b	ug/kg dryb	1b	07/31/15b	B5G2427	8081/8082b	
12672-29-6b	Aroclor 1248b	NDb	360b	ug/kg dryb	1b	07/31/15b	B5G2427	8081/8082b	
11097-69-1b	Aroclor 1254b	NDb	360b	ug/kg dryb	1b	07/31/15b	B5G2427	8081/8082b	
11096-82-5b	Aroclor 1260b	NDb	360b	ug/kg dryb	1b	07/31/15b	B5G2427	8081/8082b	
37324-23-5b	Aroclor 1262b	NDb	360b	ug/kg dryb	1b	07/31/15b	B5G2427	8081/8082b	
11100-14-4b	Aroclor 1268b	NDb	360b	ug/kg dryb	1b	07/31/15b	B5G2427	8081/8082b	
<i>Surrogate: Decachlorobiphenyl.</i>			71.6 %	30-150.		07/31/15.	B5G2427	8081/8082.	
<i>Surrogate: Tetrachloro-m-xylene.</i>			65.3 %	30-150.		07/31/15.	B5G2427	8081/8082.	



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Client ID: CHLL-SD-95-3-5'p
 Lab ID: 1507172-04p

CAS #b	Analyteb	Resultb	RLb	Unitsb	Dilutionb	Analyzed b Dateb	QC Batchb	Methodb	Qualifierb
Inorganics-General Chemistry									
TSb	% Total Solids	56.3p	0.1b	%b	1b	07/17/15b	B5G1709b	2540 Bb	
57-12-5b	Total Cyanideb	NDb	0.18b	mg/kg dryb	1b	07/27/15b	B5G2216b	ASTM D7284b	
Inorganics-Metals									
7429-90-5b	Aluminium	26000p	1000b	mg/kg dryb	10000b	07/29/15b	B5G2401b	6020/200.8b	
7440-36-0b	Antimonyb	NDb	0.3b	mg/kg dryb	10b	07/23/15b	B5G2111b	6020/200.8b	
7440-38-2b	Arsenic	6.1p	0.5b	mg/kg dryb	10b	07/28/15b	B5G2401b	6020/200.8b	
7440-39-3b	Barium	83p	10b	mg/kg dryb	100b	07/29/15b	B5G2401b	6020/200.8b	
7440-41-7	Beryllium	1.2p	0.2b	mg/kg dryb	10b	07/28/15b	B5G2401b	6020/200.8b	
7440-43-9b	Cadmiumb	NDb	0.2b	mg/kg dryb	10b	07/28/15b	B5G2401b	6020/200.8b	
7440-47-3b	Chromium	61p	2.0b	mg/kg dryb	10b	07/28/15b	B5G2401b	6020/200.8b	
7440-48-4b	Cobalt	37p	0.5b	mg/kg dryb	10b	07/28/15b	B5G2401b	6020/200.8b	
7440-50-8b	Copper	1600p	1.0b	mg/kg dryb	10b	07/28/15b	B5G2401b	6020/200.8b	
7439-89-6b	Iron	47000p	5.0b	mg/kg dryb	10b	07/28/15b	B5G2401b	6010/200.7	
7439-92-1b	Lead	8.5p	1.0b	mg/kg dryb	10b	07/29/15b	B5G2401b	6020/200.8b	
7439-93-2b	Lithium	13p	0.2b	mg/kg dryb	1b	07/28/15b	B5G2401b	6010/200.7	
7439-95-4b	Magnesium	32000p	500b	mg/kg dryb	100b	07/28/15b	B5G2401b	6010/200.7	
7439-96-5b	Manganese	630p	1.0b	mg/kg dryb	10b	07/28/15b	B5G2401b	6020/200.8b	
7439-97-6b	Mercury	0.6p	0.09b	mg/kg dryb	1b	07/30/15b	B5G2905b	7471/245.5b	
7440-02-0b	Nickel	85p	1.0b	mg/kg dryb	10b	07/28/15b	B5G2401b	6020/200.8b	
7782-49-2b	Seleniumb	NDb	0.2b	mg/kg dryb	10b	07/28/15b	B5G2401b	6020/200.8b	
7440-22-4b	Silver	6.1p	0.1b	mg/kg dryb	10b	07/28/15b	B5G2401b	6020/200.8b	
7440-28-0b	Thalliumb	NDb	0.5b	mg/kg dryb	10b	07/29/15b	B5G2401b	6020/200.8b	
7440-66-6b	Zinc	170p	1.0b	mg/kg dryb	10b	07/28/15b	B5G2401b	6020/200.8b	



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Client ID: CHLL-SD-102-0-6"p
 Lab ID: 1507172-05p

CAS #b	Analyteb	Resultb	RLb	Unitsb	Dilutionb	Analyzed Dateb	QC Batchb	Methodb	Qualifierb
Organics-DRO/OROp									
DROb	Diesel Range Org(C10-C20)p	75000p	45000b	ug/kg dryb	1b	07/23/15b	B5G2121b	8015b	Y29b
OROb	Oil Range Organics (C20-C34)p	420000p	180000b	ug/kg dryb	1b	07/23/15b	B5G2121b	8015b	Y30b
Organics-PCBs as Aroclorsp See note Y20p									
12674-11-2b	Aroclor 1016b	NDb	360b	ug/kg dryb	1b	07/31/15b	B5G2427	8081/8082b	
11104-28-2b	Aroclor 1221b	NDb	360b	ug/kg dryb	1b	07/31/15b	B5G2427	8081/8082b	
11141-16-5b	Aroclor 1232b	NDb	360b	ug/kg dryb	1b	07/31/15b	B5G2427	8081/8082b	
53469-21-9b	Aroclor 1242b	NDb	360b	ug/kg dryb	1b	07/31/15b	B5G2427	8081/8082b	
12672-29-6b	Aroclor 1248b	NDb	360b	ug/kg dryb	1b	07/31/15b	B5G2427	8081/8082b	
11097-69-1b	Aroclor 1254b	NDb	360b	ug/kg dryb	1b	07/31/15b	B5G2427	8081/8082b	
11096-82-5b	Aroclor 1260b	NDb	360b	ug/kg dryb	1b	07/31/15b	B5G2427	8081/8082b	
37324-23-5b	Aroclor 1262b	NDb	360b	ug/kg dryb	1b	07/31/15b	B5G2427	8081/8082b	
11100-14-4b	Aroclor 1268b	NDb	360b	ug/kg dryb	1b	07/31/15b	B5G2427	8081/8082b	
<i>Surrogate: Decachlorobiphenyl.</i>			69.8 %	30-150.		07/31/15.	B5G2427	8081/8082.	
<i>Surrogate: Tetrachloro-m-xylene.</i>			62.9 %	30-150.		07/31/15.	B5G2427	8081/8082.	
Inorganics-General Chemistrysp									
TSb	% Total Solidsp	56.1p	0.1b	%b	1b	07/17/15b	B5G1709b	2540 Bb	
Inorganics-Metalsp									
7439-92-1b	Leadp	160p	10b	mg/kg dryb	100b	07/29/15b	B5G2401b	6020/200.8b	



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Client ID: CHLL-SD-102-1-3'p
Lab ID: 1507172-06p

CAS #b	Analyteb	Resultb	RLb	Unitsb	Dilutionb	Analyzed b Dateb	QC Batchb	Methodb	Qualifierb
Organics-DRO/OROp									
DROb	Diesel Range Org(C10-C20)p	60000p	38000b	ug/kg dryb	1b	07/23/15b	B5G2121b	8015b	Y29b
OROb	Oil Range Organics (C20-C34)p	370000p	150000b	ug/kg dryb	1b	07/23/15b	B5G2121b	8015b	Y30b
Organics-PCBs as Aroclorsp									See note Y20p
12674-11-2b	Aroclor 1016b	NDb	310b	ug/kg dryb	1b	07/31/15b	B5G2427	8081/8082b	
11104-28-2b	Aroclor 1221b	NDb	310b	ug/kg dryb	1b	07/31/15b	B5G2427	8081/8082b	
11141-16-5b	Aroclor 1232b	NDb	310b	ug/kg dryb	1b	07/31/15b	B5G2427	8081/8082b	
53469-21-9b	Aroclor 1242b	NDb	310b	ug/kg dryb	1b	07/31/15b	B5G2427	8081/8082b	
12672-29-6b	Aroclor 1248b	NDb	310b	ug/kg dryb	1b	07/31/15b	B5G2427	8081/8082b	
11097-69-1b	Aroclor 1254b	NDb	310b	ug/kg dryb	1b	07/31/15b	B5G2427	8081/8082b	
11096-82-5b	Aroclor 1260b	NDb	920b	ug/kg dryb	1b	07/31/15b	B5G2427	8081/8082b	Y21b
37324-23-5b	Aroclor 1262p	920p	310b	ug/kg dryb	1b	07/31/15b	B5G2427	8081/8082b	
11100-14-4b	Aroclor 1268b	NDb	310b	ug/kg dryb	1b	07/31/15b	B5G2427	8081/8082b	
<i>Surrogate: Decachlorobiphenyl.</i>			63.8 %	30-150.		07/31/15.	B5G2427	8081/8082.	
<i>Surrogate: Tetrachloro-m-xylene.</i>			63.7 %	30-150.		07/31/15.	B5G2427	8081/8082.	
Inorganics-General Chemistry									
TSb	% Total Solidsp	65.3p	0.1b	%b	1b	07/17/15b	B5G1709b	2540 Bb	



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Client ID: CHLL-SD-102-3-5'p
Lab ID: 1507172-07p

CAS #b	Analyteb	Resultb	RLb	Unitsb	Dilutionb	Analyzedb Dateb	QC Batchb	Methodb	Qualifiert
Organics-PCBs as Aroclorsp									See note Y20p
12674-11-2b	Aroclor 1016b	NDb	290b	ug/kg dryb	1b	07/31/15b	B5G2427	8081/8082b	
11104-28-2b	Aroclor 1221b	NDb	290b	ug/kg dryb	1b	07/31/15b	B5G2427	8081/8082b	
11141-16-5b	Aroclor 1232b	NDb	290b	ug/kg dryb	1b	07/31/15b	B5G2427	8081/8082b	
53469-21-9b	Aroclor 1242b	NDb	290b	ug/kg dryb	1b	07/31/15b	B5G2427	8081/8082b	
12672-29-6b	Aroclor 1248b	NDb	290b	ug/kg dryb	1b	07/31/15b	B5G2427	8081/8082b	
11097-69-1b	Aroclor 1254b	NDb	290b	ug/kg dryb	1b	07/31/15b	B5G2427	8081/8082b	
11096-82-5b	Aroclor 1260b	NDb	290b	ug/kg dryb	1b	07/31/15b	B5G2427	8081/8082b	
37324-23-5b	Aroclor 1262b	NDb	290b	ug/kg dryb	1b	07/31/15b	B5G2427	8081/8082b	
11100-14-4b	Aroclor 1268b	NDb	290b	ug/kg dryb	1b	07/31/15b	B5G2427	8081/8082b	
<i>Surrogate: Decachlorobiphenyl.</i>			82.8 %.	30-150.		07/31/15.	B5G2427	8081/8082.	
<i>Surrogate: Tetrachloro-m-xylene.</i>			66.3 %.	30-150.		07/31/15.	B5G2427	8081/8082.	
Inorganics-General Chemistry									
TSb	% Total Solidsp	68.6p	0.1b	%b	1b	07/17/15b	B5G1709b	2540 Bb	



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Client ID: CHLL-SD-101-0-6"p
 Lab ID: 1507172-08p

CAS #b	Analyteb	Resultb	RLb	Unitsb	Dilutionb	Analyzedb Dateb	QC Batchb	Methodb	Qualifiert
Organics-PCBs as Aroclorsp									See note Y20p
12674-11-2b	Aroclor 1016b	NDb	490b	ug/kg dryb	1b	07/31/15b	B5G2427	8081/8082b	
11104-28-2b	Aroclor 1221b	NDb	490b	ug/kg dryb	1b	07/31/15b	B5G2427	8081/8082b	
11141-16-5b	Aroclor 1232b	NDb	490b	ug/kg dryb	1b	07/31/15b	B5G2427	8081/8082b	
53469-21-9b	Aroclor 1242b	NDb	490b	ug/kg dryb	1b	07/31/15b	B5G2427	8081/8082b	
12672-29-6b	Aroclor 1248b	NDb	490b	ug/kg dryb	1b	07/31/15b	B5G2427	8081/8082b	
11097-69-1b	Aroclor 1254b	NDb	490b	ug/kg dryb	1b	07/31/15b	B5G2427	8081/8082b	
11096-82-5b	Aroclor 1260b	NDb	490b	ug/kg dryb	1b	07/31/15b	B5G2427	8081/8082b	
37324-23-5b	Aroclor 1262b	NDb	490b	ug/kg dryb	1b	07/31/15b	B5G2427	8081/8082b	
11100-14-4b	Aroclor 1268b	NDb	490b	ug/kg dryb	1b	07/31/15b	B5G2427	8081/8082b	
<i>Surrogate: Decachlorobiphenyl.</i>			71.1 %.	30-150.		07/31/15.	B5G2427	8081/8082.	
<i>Surrogate: Tetrachloro-m-xylene.</i>			74.0 %.	30-150.		07/31/15.	B5G2427	8081/8082.	
Inorganics-General Chemistry									
TSb	% Total Solidsp	40.6p	0.1b	%b	1b	07/17/15b	B5G1709b	2540 Bb	



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Client ID: CHLL-SD-101-1-3'p
 Lab ID: 1507172-09p

CAS #b	Analyteb	Resultb	RLb	Unitsb	Dilutionb	Analyzedb Dateb	QC Batchb	Methodb	Qualifiert
Organics-PCBs as Aroclorsp									See note Y20p
12674-11-2b	Aroclor 1016b	NDb	300b	ug/kg dryb	1b	07/31/15b	B5G2427	8081/8082b	
11104-28-2b	Aroclor 1221b	NDb	300b	ug/kg dryb	1b	07/31/15b	B5G2427	8081/8082b	
11141-16-5b	Aroclor 1232b	NDb	300b	ug/kg dryb	1b	07/31/15b	B5G2427	8081/8082b	
53469-21-9b	Aroclor 1242b	NDb	300b	ug/kg dryb	1b	07/31/15b	B5G2427	8081/8082b	
12672-29-6b	Aroclor 1248b	NDb	300b	ug/kg dryb	1b	07/31/15b	B5G2427	8081/8082b	
11097-69-1b	Aroclor 1254b	NDb	300b	ug/kg dryb	1b	07/31/15b	B5G2427	8081/8082b	
11096-82-5b	Aroclor 1260b	NDb	300b	ug/kg dryb	1b	07/31/15b	B5G2427	8081/8082b	
37324-23-5b	Aroclor 1262b	NDb	300b	ug/kg dryb	1b	07/31/15b	B5G2427	8081/8082b	
11100-14-4b	Aroclor 1268b	NDb	300b	ug/kg dryb	1b	07/31/15b	B5G2427	8081/8082b	
<i>Surrogate: Decachlorobiphenyl.</i>			74.6 %.	30-150.		07/31/15.	B5G2427	8081/8082.	
<i>Surrogate: Tetrachloro-m-xylene.</i>			76.9 %.	30-150.		07/31/15.	B5G2427	8081/8082.	
Inorganics-General Chemistry									
TSb	% Total Solidsp	66.8p	0.1b	%b	1b	07/17/15b	B5G1709b	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-SD-101-3-4.75'p
 Lab ID: 1507172-10p

CAS #b	Analyteb	Resultb	RLb	Unitsb	Dilutionb	Analyzedb Dateb	QC Batchb	Methodb	Qualifiert
Organics-PCBs as Aroclorsp									See note Y20p
12674-11-2b	Aroclor 1016b	NDb	290b	ug/kg dryb	1b	07/31/15b	B5G2427	8081/8082b	
11104-28-2b	Aroclor 1221b	NDb	290b	ug/kg dryb	1b	07/31/15b	B5G2427	8081/8082b	
11141-16-5b	Aroclor 1232b	NDb	290b	ug/kg dryb	1b	07/31/15b	B5G2427	8081/8082b	
53469-21-9b	Aroclor 1242b	NDb	290b	ug/kg dryb	1b	07/31/15b	B5G2427	8081/8082b	
12672-29-6b	Aroclor 1248b	NDb	290b	ug/kg dryb	1b	07/31/15b	B5G2427	8081/8082b	
11097-69-1b	Aroclor 1254b	NDb	290b	ug/kg dryb	1b	07/31/15b	B5G2427	8081/8082b	
11096-82-5b	Aroclor 1260b	NDb	290b	ug/kg dryb	1b	07/31/15b	B5G2427	8081/8082b	
37324-23-5b	Aroclor 1262b	NDb	290b	ug/kg dryb	1b	07/31/15b	B5G2427	8081/8082b	
11100-14-4b	Aroclor 1268b	NDb	290b	ug/kg dryb	1b	07/31/15b	B5G2427	8081/8082b	
<i>Surrogate: Decachlorobiphenyl.</i>			69.6 %.	30-150.		07/31/15.	B5G2427	8081/8082.	
<i>Surrogate: Tetrachloro-m-xylene.</i>			66.8 %.	30-150.		07/31/15.	B5G2427	8081/8082.	
Inorganics-General Chemistry									
TSb	% Total Solidsp	68.1p	0.1b	%b	1b	07/17/15b	B5G1709b	2540 Bb	



Analysis Request Sheet

Lab Work Order Number 1507172	Project Name Abandoned Mining Wastes - Torch Lake PCB C&H Lake Linden Ops	Matrix SEDIMENT
Site Code/Project Number 3100098	AY 13	CC Email 1 j.binkley@westonsolutions.com
Dept/Division/District DEQ-RRD-UP District	Index 44251	CC Email 2 daniel.liebau@westonsolutions.com
State Project Manager Amy Keranen	PCA 30872	CC Email 3 pincumbel@michigan.com
State Project Manager Email keranenam@michigan.gov	Project 456990	Overflow Lab Choice 1
State Project Manager Phone 906-337-0389	Phase 00	Overflow Lab Choice 2
		Accept Analysis hold time codes
		Sample Collector AK/JP/AB-DEQ-RRD
		Sample Collector Phone 906-337-0389
		Contract Firm Weston Solutions
		Contract Firm Primary Contact Jeff Binkley
		Primary Contact Phone 906-523-5457

Lab Use Only	Field Sample Identification	Collection Date	Collection Time	Container Count	Comments
1	01 CHLL-SD95-0-6"	7/11/15	1420	1	
2	02 CHLL-SD95-1-3'		1425	1	
3	03 CHLL-SD95-1-3' dup		1425	1	
4	04 CHLL-SD95-3-5'		1430	1	
5	05 CHLL-SD102-0-6"	7/12/15	1040	1	
6	06 CHLL-SD102-1-3'		1045	1	
7	07 CHLL-SD102-3-5'		1050	1	
8	08 CHLL-SD101-0-6"		1105	1	
9	09 CHLL-SD101-1-3'		1110	1	
10	10 CHLL-SD101-3-8' 4.75' 10		1115	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/MATBE/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 Uranium - U 1 2 3 4 5 6 7 8 9 10 Vanadium - V 1 2 3 4 5 6 7 8 9 10 Zinc - Zn 1 2 3 4 5 6 7 8 9 10 Calcium - Ca 1 2 3 4 5 6 7 8 9 10 Potassium - K 1 2 3 4 5 6 7 8 9 10 Magnesium - Mg 1 2 3 4 5 6 7 8 9 10 Sodium - Na 1 2 3 4 5 6 7 8 9 10	GS - General Chemistry Total Cyanide - CN 1 2 3 4 5 6 7 8 9 10 Available Cyanide - CN 1 2 3 4 5 6 7 8 9 10 Chem Oxyg Dem - COD 1 2 3 4 5 6 7 8 9 10 Total Org Carbon - TOC 1 2 3 4 5 6 7 8 9 10 Kjeldahl Nitrogen - KN 1 2 3 4 5 6 7 8 9 10 Total Phosphorus - TP 1 2 3 4 5 6 7 8 9 10

Chain of Custody	Relinquished by	Received By	Date / Time
	Print Name & Org.: Dan Peabody	JES CHRISTENSEN, WESTON SOLUTIONS	7/14/15
	Signature: [Signature]	[Signature]	09:15
	Print Name & Org.: JES CHRISTENSEN, WESTON SOLUTIONS	UPS	7/14/15
Signature: [Signature]		12:45	
Print Name & Org.: UPS	Melissa Smith	7/15/15 1104	
Signature: [Signature]	[Signature]		