

# TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

## ANALYTICAL REPORT

TestAmerica Laboratories, Inc.

TestAmerica Canton  
4101 Shuffel Street NW  
North Canton, OH 44720  
Tel: (330)497-9396

TestAmerica Job ID: 240-51108-1

Client Project/Site: Abandoned Mining Wastes-Torch Lake

For:

Michigan Dept of Environmental Quality  
Constitution Hall  
525 W. Allegan Street  
3rd Floor  
Lansing, Michigan 48909

Attn: Amy Keranen



Authorized for release by:  
5/29/2015 3:39:04 PM

Kris Brooks, Project Manager II  
(330)966-9790  
[kris.brooks@testamericainc.com](mailto:kris.brooks@testamericainc.com)

### LINKS

Review your project  
results through  
**TotalAccess**

Have a Question?



Visit us at:  
[www.testamericainc.com](http://www.testamericainc.com)

*This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.*

*Results relate only to the items tested and the sample(s) as received by the laboratory.*

- 1
- 2
- 3
- 4
- 5
- 6
- 7
- 8
- 9
- 10
- 11
- 12
- 13
- 14



# Table of Contents

Cover Page . . . . .	1
Table of Contents . . . . .	2
Definitions/Glossary . . . . .	3
Case Narrative . . . . .	4
Method Summary . . . . .	5
Sample Summary . . . . .	6
Detection Summary . . . . .	7
Client Sample Results . . . . .	8
QC Sample Results . . . . .	13
QC Association Summary . . . . .	14
Lab Chronicle . . . . .	15
Certification Summary . . . . .	16
Chain of Custody . . . . .	18
Receipt Checklists . . . . .	23

## Definitions/Glossary

Client: Michigan Dept of Environmental Quality  
Project/Site: Abandoned Mining Wastes-Torch Lake

TestAmerica Job ID: 240-51108-1

### Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
α	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CNF	Contains no Free Liquid
DER	Duplicate error ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision level concentration
MDA	Minimum detectable activity
EDL	Estimated Detection Limit
MDC	Minimum detectable concentration
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
NC	Not Calculated
ND	Not detected at the reporting limit (or MDL or EDL if shown)
PQL	Practical Quantitation Limit
QC	Quality Control
RER	Relative error ratio
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)

# Case Narrative

Client: Michigan Dept of Environmental Quality  
Project/Site: Abandoned Mining Wastes-Torch Lake

TestAmerica Job ID: 240-51108-1

**Job ID: 240-51108-1**

**Laboratory: TestAmerica Canton**

**Narrative**

## CASE NARRATIVE

**Client: Michigan Dept of Environmental Quality**

**Project: Abandoned Mining Wastes-Torch Lake**

**Report Number: 240-51108-1**

With the exceptions noted as flags or footnotes, standard analytical protocols were followed in the analysis of the samples and no problems were encountered or anomalies observed. In addition all laboratory quality control samples were within established control limits, with any exceptions noted below. Each sample was analyzed to achieve the lowest possible reporting limit within the constraints of the method. In some cases, due to interference or analytes present at high concentrations, samples were diluted. For diluted samples, the reporting limits are adjusted relative to the dilution required.

The 9071B Oil and Grease and 160.3 Percent Solids analyses were performed at the TestAmerica Nashville Laboratory.

TestAmerica Canton attests to the validity of the laboratory data generated by TestAmerica facilities reported herein. All analyses performed by TestAmerica facilities were done using established laboratory SOPs that incorporate QA/QC procedures described in the application methods. TestAmerica's operations groups have reviewed the data for compliance with the laboratory QA/QC plan, and data have been found to be compliant with laboratory protocols unless otherwise noted below.

The test results in this report meet all NELAP requirements for parameters for which accreditation is required or available. Any exceptions to NELAP requirements are noted in this report. Pursuant to NELAP, this report may not be reproduced, except in full, without the written approval of the laboratory.

Calculations are performed before rounding to avoid round-off errors in calculated results.

All holding times were met and proper preservation noted for the methods performed on these samples, unless otherwise detailed in the individual sections below.

All solid sample results are reported on an "as received" basis unless otherwise indicated by the presence of a % solids value in the method header.

This laboratory report is confidential and is intended for the sole use of TestAmerica and its client.

### **RECEIPT**

The samples were received on 5/22/2015 9:30 AM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperature of the cooler at receipt was 0.4° C.

### **OIL AND GREASE (HEM)**

Samples CHTC-SB-16-6"-13' (240-51108-1), CHTC-SB-17-6"-8' (240-51108-2), CHTC-SB-18-6"-6' (240-51108-3), CHTC-SB-19-6"-7' (240-51108-4) and CHTC-SB-20-6"-9' (240-51108-5) were analyzed for oil and grease (HEM) in accordance with EPA SW-846 Method 9071B. The samples were prepared and analyzed on 05/25/2015.

No analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

### **PERCENT SOLIDS**

Samples CHTC-SB-16-6"-13' (240-51108-1), CHTC-SB-17-6"-8' (240-51108-2), CHTC-SB-18-6"-6' (240-51108-3), CHTC-SB-19-6"-7' (240-51108-4) and CHTC-SB-20-6"-9' (240-51108-5) were analyzed for percent solids in accordance with EPA Method 160.3 MOD. The samples were analyzed on 05/23/2015.

No analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

# Method Summary

Client: Michigan Dept of Environmental Quality  
Project/Site: Abandoned Mining Wastes-Torch Lake

TestAmerica Job ID: 240-51108-1

Method	Method Description	Protocol	Laboratory
9071B	HEM and SGT-HEM	SW846	TAL NSH
Moisture	Percent Moisture	EPA	TAL NSH

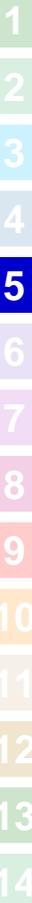
**Protocol References:**

EPA = US Environmental Protection Agency

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

**Laboratory References:**

TAL NSH = TestAmerica Nashville, 2960 Foster Creighton Drive, Nashville, TN 37204, TEL (615)726-0177



# Sample Summary

Client: Michigan Dept of Environmental Quality  
Project/Site: Abandoned Mining Wastes-Torch Lake

TestAmerica Job ID: 240-51108-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
240-51108-1	CHTC-SB-16-6"-13'	Solid	05/14/15 11:10	05/22/15 09:30
240-51108-2	CHTC-SB-17-6"-8'	Solid	05/14/15 12:00	05/22/15 09:30
240-51108-3	CHTC-SB-18-6"-6'	Solid	05/14/15 14:05	05/22/15 09:30
240-51108-4	CHTC-SB-19-6"-7'	Solid	05/14/15 15:33	05/22/15 09:30
240-51108-5	CHTC-SB-20-6"-9'	Solid	05/14/15 16:47	05/22/15 09:30

- 1
- 2
- 3
- 4
- 5
- 6
- 7
- 8
- 9
- 10
- 11
- 12
- 13
- 14

# Detection Summary

Client: Michigan Dept of Environmental Quality  
Project/Site: Abandoned Mining Wastes-Torch Lake

TestAmerica Job ID: 240-51108-1

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

**Lab Sample ID: 240-51108-1**

No Detections.

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

**Lab Sample ID: 240-51108-2**

No Detections.

**Client Sample ID: CHTC-SB-18-6"-6'**

**Lab Sample ID: 240-51108-3**

Analyte	Result	Qualifier	RL	MDL	Unit	Dil	Fac	D	Method	Prep Type
HEM	1800		110	63	mg/Kg	1		*	9071B	Total/NA

**Client Sample ID: CHTC-SB-19-6"-7'**

**Lab Sample ID: 240-51108-4**

No Detections.

**Client Sample ID: CHTC-SB-20-6"-9'**

**Lab Sample ID: 240-51108-5**

No Detections.

This Detection Summary does not include radiochemical test results.

TestAmerica Canton

# Client Sample Results

Client: Michigan Dept of Environmental Quality  
 Project/Site: Abandoned Mining Wastes-Torch Lake

TestAmerica Job ID: 240-51108-1

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

**Lab Sample ID: 240-51108-1**

**Date Collected: 05/14/15 11:10**

**Matrix: Solid**

**Date Received: 05/22/15 09:30**

**Percent Solids: 89.8**

## General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
HEM	ND		100	58	mg/Kg	☼	05/25/15 06:58	05/25/15 06:58	1
<b>Percent Moisture</b>	<b>10</b>		0.10	0.10	%			05/23/15 10:01	1
<b>Percent Solids</b>	<b>90</b>		0.10	0.10	%			05/23/15 10:01	1

- 1
- 2
- 3
- 4
- 5
- 6
- 7
- 8
- 9
- 10
- 11
- 12
- 13
- 14

# Client Sample Results

Client: Michigan Dept of Environmental Quality  
Project/Site: Abandoned Mining Wastes-Torch Lake

TestAmerica Job ID: 240-51108-1

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

**Lab Sample ID: 240-51108-2**

**Date Collected: 05/14/15 12:00**

**Matrix: Solid**

**Date Received: 05/22/15 09:30**

**Percent Solids: 78.2**

## General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
HEM	ND		120	70	mg/Kg	☼	05/25/15 06:58	05/25/15 06:58	1
<b>Percent Moisture</b>	<b>22</b>		0.10	0.10	%			05/23/15 10:01	1
<b>Percent Solids</b>	<b>78</b>		0.10	0.10	%			05/23/15 10:01	1

# Client Sample Results

Client: Michigan Dept of Environmental Quality  
 Project/Site: Abandoned Mining Wastes-Torch Lake

TestAmerica Job ID: 240-51108-1

**Client Sample ID: CHTC-SB-18-6"-6'**

**Lab Sample ID: 240-51108-3**

**Date Collected: 05/14/15 14:05**

**Matrix: Solid**

**Date Received: 05/22/15 09:30**

**Percent Solids: 89.1**

## General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
HEM	1800		110	63	mg/Kg	☼	05/25/15 06:58	05/25/15 06:58	1
Percent Moisture	11		0.10	0.10	%			05/23/15 10:01	1
Percent Solids	89		0.10	0.10	%			05/23/15 10:01	1

- 1
- 2
- 3
- 4
- 5
- 6
- 7
- 8
- 9
- 10
- 11
- 12
- 13
- 14

# Client Sample Results

Client: Michigan Dept of Environmental Quality  
Project/Site: Abandoned Mining Wastes-Torch Lake

TestAmerica Job ID: 240-51108-1

**Client Sample ID: CHTC-SB-19-6"-7'**

**Lab Sample ID: 240-51108-4**

**Date Collected: 05/14/15 15:33**

**Matrix: Solid**

**Date Received: 05/22/15 09:30**

**Percent Solids: 91.0**

## General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
HEM	ND		110	62	mg/Kg	☼	05/25/15 06:59	05/25/15 06:59	1
<b>Percent Moisture</b>	<b>9.0</b>		0.10	0.10	%			05/23/15 10:01	1
<b>Percent Solids</b>	<b>91</b>		0.10	0.10	%			05/23/15 10:01	1

# Client Sample Results

Client: Michigan Dept of Environmental Quality  
 Project/Site: Abandoned Mining Wastes-Torch Lake

TestAmerica Job ID: 240-51108-1

**Client Sample ID: CHTC-SB-20-6"-9'**

**Lab Sample ID: 240-51108-5**

**Date Collected: 05/14/15 16:47**

**Matrix: Solid**

**Date Received: 05/22/15 09:30**

**Percent Solids: 79.0**

## General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
HEM	ND		120	67	mg/Kg	☼	05/25/15 06:59	05/25/15 06:59	1
<b>Percent Moisture</b>	<b>21</b>		0.10	0.10	%			05/23/15 10:01	1
<b>Percent Solids</b>	<b>79</b>		0.10	0.10	%			05/23/15 10:01	1

- 1
- 2
- 3
- 4
- 5
- 6
- 7
- 8
- 9
- 10
- 11
- 12
- 13
- 14

# QC Sample Results

Client: Michigan Dept of Environmental Quality  
 Project/Site: Abandoned Mining Wastes-Torch Lake

TestAmerica Job ID: 240-51108-1

## Method: 9071B - HEM and SGT-HEM

**Lab Sample ID: MB 490-250905/1-A**  
**Matrix: Solid**  
**Analysis Batch: 250927**

**Client Sample ID: Method Blank**  
**Prep Type: Total/NA**  
**Prep Batch: 250905**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
HEM	ND		100	57	mg/Kg		05/25/15 06:58	05/25/15 06:58	1

**Lab Sample ID: LCS 490-250905/2-A**  
**Matrix: Solid**  
**Analysis Batch: 250927**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**  
**Prep Batch: 250905**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	Limits
HEM	4000	3640		mg/Kg		91	75 - 117

- 1
- 2
- 3
- 4
- 5
- 6
- 7
- 8
- 9
- 10
- 11
- 12
- 13
- 14

# QC Association Summary

Client: Michigan Dept of Environmental Quality  
Project/Site: Abandoned Mining Wastes-Torch Lake

TestAmerica Job ID: 240-51108-1

## General Chemistry

### Analysis Batch: 250659

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-51108-1	CHTC-SB-16-6"-13'	Total/NA	Solid	Moisture	
240-51108-2	CHTC-SB-17-6"-8'	Total/NA	Solid	Moisture	
240-51108-3	CHTC-SB-18-6"-6'	Total/NA	Solid	Moisture	
240-51108-4	CHTC-SB-19-6"-7'	Total/NA	Solid	Moisture	
240-51108-5	CHTC-SB-20-6"-9'	Total/NA	Solid	Moisture	

### Prep Batch: 250905

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-51108-1	CHTC-SB-16-6"-13'	Total/NA	Solid	9071B	
240-51108-2	CHTC-SB-17-6"-8'	Total/NA	Solid	9071B	
240-51108-3	CHTC-SB-18-6"-6'	Total/NA	Solid	9071B	
240-51108-4	CHTC-SB-19-6"-7'	Total/NA	Solid	9071B	
240-51108-5	CHTC-SB-20-6"-9'	Total/NA	Solid	9071B	
LCS 490-250905/2-A	Lab Control Sample	Total/NA	Solid	9071B	
MB 490-250905/1-A	Method Blank	Total/NA	Solid	9071B	

### Analysis Batch: 250927

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-51108-1	CHTC-SB-16-6"-13'	Total/NA	Solid	9071B	250905
240-51108-2	CHTC-SB-17-6"-8'	Total/NA	Solid	9071B	250905
240-51108-3	CHTC-SB-18-6"-6'	Total/NA	Solid	9071B	250905
240-51108-4	CHTC-SB-19-6"-7'	Total/NA	Solid	9071B	250905
240-51108-5	CHTC-SB-20-6"-9'	Total/NA	Solid	9071B	250905
LCS 490-250905/2-A	Lab Control Sample	Total/NA	Solid	9071B	250905
MB 490-250905/1-A	Method Blank	Total/NA	Solid	9071B	250905

# Lab Chronicle

Client: Michigan Dept of Environmental Quality  
 Project/Site: Abandoned Mining Wastes-Torch Lake

TestAmerica Job ID: 240-51108-1

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

**Date Collected: 05/14/15 11:10**

**Date Received: 05/22/15 09:30**

**Lab Sample ID: 240-51108-1**

**Matrix: Solid**

**Percent Solids: 89.8**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	9071B		1	250927	05/25/15 06:58	LDC	TAL NSH
Total/NA	Prep	9071B			250905	05/25/15 06:58	LDC	TAL NSH
Total/NA	Analysis	Moisture		1	250659	05/23/15 10:01	MAA	TAL NSH

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

**Date Collected: 05/14/15 12:00**

**Date Received: 05/22/15 09:30**

**Lab Sample ID: 240-51108-2**

**Matrix: Solid**

**Percent Solids: 78.2**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	9071B		1	250927	05/25/15 06:58	LDC	TAL NSH
Total/NA	Prep	9071B			250905	05/25/15 06:58	LDC	TAL NSH
Total/NA	Analysis	Moisture		1	250659	05/23/15 10:01	MAA	TAL NSH

**Client Sample ID: CHTC-SB-18-6"-6'**

**Date Collected: 05/14/15 14:05**

**Date Received: 05/22/15 09:30**

**Lab Sample ID: 240-51108-3**

**Matrix: Solid**

**Percent Solids: 89.1**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	9071B		1	250927	05/25/15 06:58	LDC	TAL NSH
Total/NA	Prep	9071B			250905	05/25/15 06:58	LDC	TAL NSH
Total/NA	Analysis	Moisture		1	250659	05/23/15 10:01	MAA	TAL NSH

**Client Sample ID: CHTC-SB-19-6"-7'**

**Date Collected: 05/14/15 15:33**

**Date Received: 05/22/15 09:30**

**Lab Sample ID: 240-51108-4**

**Matrix: Solid**

**Percent Solids: 91.0**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	9071B		1	250927	05/25/15 06:59	LDC	TAL NSH
Total/NA	Prep	9071B			250905	05/25/15 06:59	LDC	TAL NSH
Total/NA	Analysis	Moisture		1	250659	05/23/15 10:01	MAA	TAL NSH

**Client Sample ID: CHTC-SB-20-6"-9'**

**Date Collected: 05/14/15 16:47**

**Date Received: 05/22/15 09:30**

**Lab Sample ID: 240-51108-5**

**Matrix: Solid**

**Percent Solids: 79.0**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	9071B		1	250927	05/25/15 06:59	LDC	TAL NSH
Total/NA	Prep	9071B			250905	05/25/15 06:59	LDC	TAL NSH
Total/NA	Analysis	Moisture		1	250659	05/23/15 10:01	MAA	TAL NSH

**Laboratory References:**

TAL NSH = TestAmerica Nashville, 2960 Foster Creighton Drive, Nashville, TN 37204, TEL (615)726-0177

TestAmerica Canton

# Certification Summary

Client: Michigan Dept of Environmental Quality  
 Project/Site: Abandoned Mining Wastes-Torch Lake

TestAmerica Job ID: 240-51108-1

## Laboratory: TestAmerica Canton

All certifications held by this laboratory are listed. Not all certifications are applicable to this report.

Authority	Program	EPA Region	Certification ID	Expiration Date
California	NELAP	9	01144CA	06-30-14 *
California	State Program	9	2927	04-30-17
Connecticut	State Program	1	PH-0590	12-31-15
Florida	NELAP	4	E87225	06-30-15 *
Georgia	State Program	4	N/A	06-30-15 *
Illinois	NELAP	5	200004	07-31-15
Kansas	NELAP	7	E-10336	05-31-15 *
Kentucky (UST)	State Program	4	58	06-30-15 *
Kentucky (WW)	State Program	4	98016	12-31-15
L-A-B	DoD ELAP		L2315	07-18-16
Minnesota	NELAP	5	039-999-348	12-31-15
Nevada	State Program	9	OH-000482008A	07-31-15
New Jersey	NELAP	2	OH001	06-30-15 *
New York	NELAP	2	10975	03-31-16 *
Ohio VAP	State Program	5	CL0024	10-31-15
Oregon	NELAP	10	4062	02-23-16
Pennsylvania	NELAP	3	68-00340	08-31-15
Texas	NELAP	6		08-31-15
USDA	Federal		P330-13-00319	11-26-16
Virginia	NELAP	3	460175	09-14-15
Washington	State Program	10	C971	01-12-16
West Virginia DEP	State Program	3	210	12-31-15
Wisconsin	State Program	5	999518190	08-31-15

## Laboratory: TestAmerica Nashville

All certifications held by this laboratory are listed. Not all certifications are applicable to this report.

Authority	Program	EPA Region	Certification ID	Expiration Date
A2LA	A2LA		NA: NELAP & A2LA	12-31-15
A2LA	ISO/IEC 17025		0453.07	12-31-15
Alaska (UST)	State Program	10	UST-087	10-31-15
Arizona	State Program	9	AZ0473	05-05-16
Arkansas DEQ	State Program	6	88-0737	04-25-16
California	State Program	9	2938	10-31-16
Connecticut	State Program	1	PH-0220	12-31-15
Florida	NELAP	4	E87358	06-30-15
Illinois	NELAP	5	200010	12-09-15
Iowa	State Program	7	131	04-01-16
Kansas	NELAP	7	E-10229	05-31-15 *
Kentucky (UST)	State Program	4	19	06-30-15
Kentucky (WW)	State Program	4	90038	12-31-15
Louisiana	NELAP	6	30613	06-30-15
Maryland	State Program	3	316	03-31-16
Massachusetts	State Program	1	M-TN032	06-30-15
Minnesota	NELAP	5	047-999-345	12-31-15
Mississippi	State Program	4	N/A	06-30-15
Montana (UST)	State Program	8	NA	02-24-20
Nevada	State Program	9	TN00032	07-31-15
New Hampshire	NELAP	1	2963	10-09-15
New Jersey	NELAP	2	TN965	06-30-15

\* Certification renewal pending - certification considered valid.

TestAmerica Canton

# Certification Summary

Client: Michigan Dept of Environmental Quality  
Project/Site: Abandoned Mining Wastes-Torch Lake

TestAmerica Job ID: 240-51108-1

## Laboratory: TestAmerica Nashville (Continued)

All certifications held by this laboratory are listed. Not all certifications are applicable to this report.

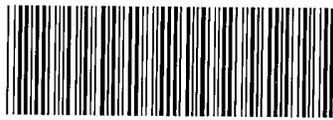
Authority	Program	EPA Region	Certification ID	Expiration Date
New York	NELAP	2	11342	03-31-16
North Carolina (WW/SW)	State Program	4	387	12-31-15
North Dakota	State Program	8	R-146	06-30-15
Ohio VAP	State Program	5	CL0033	10-16-15
Oklahoma	State Program	6	9412	08-31-15
Oregon	NELAP	10	TN200001	04-27-16
Pennsylvania	NELAP	3	68-00585	06-30-15
Rhode Island	State Program	1	LAO00268	12-30-15
South Carolina	State Program	4	84009 (001)	02-28-16
South Carolina (DW)	State Program	4	84009 (002)	12-16-17
Tennessee	State Program	4	2008	02-23-17
Texas	NELAP	6	T104704077	08-31-15
USDA	Federal		S-48469	10-30-16
Utah	NELAP	8	TN00032	07-31-15
Virginia	NELAP	3	460152	06-14-15
Washington	State Program	10	C789	07-19-15
West Virginia DEP	State Program	3	219	02-28-16
Wisconsin	State Program	5	998020430	08-31-15
Wyoming (UST)	A2LA	8	453.07	12-31-15

**TestAmerica**

THE LEADER IN ENVIRONMENTAL TESTING

TestAmerica Laboratories, Inc.

**CHAIN OF CUSTODY  
AND  
RECEIVING DOCUMENTS**



240-51108 Chain of Custody

- 1
- 2
- 3
- 4
- 5
- 6
- 7
- 8
- 9
- 10
- 11
- 12
- 13
- 14



1.6/CO.2

# Analysis Request Sheet

Lab Work Order Number <b>1505184</b>	Project Name <b>Abandoned-Mining-Wastes--Torch-Lake-PCB-C&amp;H-Tamarack-City-Ops</b>	Matrix <b>SOIL</b>
Site Code/Project Number <b>31000098</b>	AY <b>13</b>	CC-Email 1 <b>i.binkley@westonsolutions.com</b>
Dept-Division-District <b>DEQ-RRD-UP District</b>	Index <b>44251</b>	CC-Email 2 <b>daniel.liebau@westonsolutions.com</b>
State Project Manager <b>Amy Keranen</b>	PCA <b>30872</b>	CC-Email 3 <b>pincumbel@michigan.gov</b>
State Project Manager Email <b>keranena@michigan.gov</b>	Project <b>456990</b>	Overflow Lab Choice 1 <b>Test America</b>
State Project Manager Phone <b>906-337-0389</b>	Phase <b>00</b>	Overflow Lab Choice 2
		Project IAI-Days
		Sample Collector <b>AK/JP/AB-DEQ-RRD</b>
		Project Due Date
		Sample Collector Phone <b>906-337-0389</b>
		Contract Firm <b>Weston Solutions</b>
		Contract Firm Primary Contact <b>Jeff Binkley</b>
		Primary Contact Phone <b>906-523-5457</b>
		Accept Analysis hold time codes <b>no</b>

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

ORGANIC CHEMISTRY	METALS CHEMISTRY PACKAGES	MS - TOTAL METALS	GENERAL CHEMISTRY
VOA - Volatile Organic Acidic Volatiles - Full List 1 2 3 4 5 6 7 8 9 10 BTEX/MTBE/TMB only 1 2 3 4 5 6 7 8 9 10 Chlorinated only 1 2 3 4 5 6 7 8 9 10 GRO 1 2 3 4 5 6 7 8 9 10 1,4 Dioxane 1 2 3 4 5 6 7 8 9 10	OpMemo2 - Total 1 2 3 4 5 6 7 8 9 10 (Sb,As,Ba,Be,Cd,Cr,Cu,Co,Fe,Pb,Mn,Hg,Mo,Ni,Se,Ag,Ti,V,Zn) Michigan10 - Total 1 2 3 4 5 6 7 8 9 10 (As,Ba,Cd,Cr,Cu,Pb,Hg,Se,Ag,Zn)	Silver - Ag 1 2 3 4 5 6 7 8 9 10 Aluminum - Al 1 2 3 4 5 6 7 8 9 10 Arsenic - As 1 2 3 4 5 6 7 8 9 10 Barium - Ba 1 2 3 4 5 6 7 8 9 10 Beryllium - Be 1 2 3 4 5 6 7 8 9 10 Cadmium - Cd 1 2 3 4 5 6 7 8 9 10 Cobalt - Co 1 2 3 4 5 6 7 8 9 10 Chromium - Cr 1 2 3 4 5 6 7 8 9 10 Copper - Cu 1 2 3 4 5 6 7 8 9 10 Iron - Fe 1 2 3 4 5 6 7 8 9 10 Mercury - Hg 1 2 3 4 5 6 7 8 9 10 Lithium - Li 1 2 3 4 5 6 7 8 9 10 Manganese - Mn 1 2 3 4 5 6 7 8 9 10 Molybdenum - Mo 1 2 3 4 5 6 7 8 9 10 Nickel - Ni 1 2 3 4 5 6 7 8 9 10 Lead - Pb 1 2 3 4 5 6 7 8 9 10 Antimony - Sb 1 2 3 4 5 6 7 8 9 10 Selenium - Se 1 2 3 4 5 6 7 8 9 10 Strontium - Sr 1 2 3 4 5 6 7 8 9 10 Titanium - Ti 1 2 3 4 5 6 7 8 9 10 Thallium - Tl 1 2 3 4 5 6 7 8 9 10 Uranium - U 1 2 3 4 5 6 7 8 9 10 Vanadium - V 1 2 3 4 5 6 7 8 9 10 Zinc - Zn 1 2 3 4 5 6 7 8 9 10 Calcium - Ca 1 2 3 4 5 6 7 8 9 10 Potassium - K 1 2 3 4 5 6 7 8 9 10 Magnesium - Mg 1 2 3 4 5 6 7 8 9 10 Sodium - Na 1 2 3 4 5 6 7 8 9 10	GS - General Chemistry Total Cyanide - CN 1 2 3 4 5 6 7 8 9 10 Available Cyanide - CN 1 2 3 4 5 6 7 8 9 10 Chem Oxyg Dem - COD 1 2 3 4 5 6 7 8 9 10 Total Org Carbon - TOC 1 2 3 4 5 6 7 8 9 10 Kjeldahl Nitrogen - KN 1 2 3 4 5 6 7 8 9 10 Total Phosphorus - TP 1 2 3 4 5 6 7 8 9 10



Chain of Custody	Relinquished by	Received By	
	Print Name & Org. <b>JEFF PINCUMBE MOEQ</b>	<b>Melissa Smith</b>	5/20/15 906
	Signature: <i>Jeff Pincumb</i>	<i>Melissa Smith</i>	
Print Name & Org. <b>Melissa Smith</b>	<b>Ryan Chase / Test America</b>	5/21/15 1040	
Signature: <i>Melissa Smith</i>	<i>Ryan Chase</i>		
Print Name & Org. <b>Ryan Chase TH</b>		5/21/15 1330	
Signature: <i>Ryan Chase</i>			

Client DEQ Site Name \_\_\_\_\_ Cooler unpacked by: Jessie Boweri  
 Cooler Received on 5/22/15 Opened on 5/22/15  
 FedEx: 1<sup>st</sup>  Grd Exp UPS FAS Stetson Client Drop Off TestAmerica Courier Other \_\_\_\_\_

Receipt After-hours: Drop-off Date/Time \_\_\_\_\_ Storage Location \_\_\_\_\_

TestAmerica Cooler # \_\_\_\_\_ Foam Box  Client Cooler  Box Other \_\_\_\_\_  
 Packing material used:  Bubble Wrap Foam Plastic Bag None Other \_\_\_\_\_  
 COOLANT:  Wet Ice Blue Ice Dry Ice Water None

- Cooler temperature upon receipt
  - IR GUN# A (CF +4.0 °C) Observed Cooler Temp. \_\_\_\_\_ °C Corrected Cooler Temp. \_\_\_\_\_ °C
  - IR GUN# 4 (CF +0.5 °C) Observed Cooler Temp. \_\_\_\_\_ °C Corrected Cooler Temp. \_\_\_\_\_ °C  See Multiple
  - IR GUN# 5 (CF +0.4 °C) Observed Cooler Temp. \_\_\_\_\_ °C Corrected Cooler Temp. \_\_\_\_\_ °C  Cooler Form
  - IR GUN# 8 (CF -1.2 °C) Observed Cooler Temp. 1.0 °C Corrected Cooler Temp. 0.4 °C
- Were custody seals on the outside of the cooler(s)? If Yes Quantity 1  Yes  No
  - Were custody seals on the outside of the cooler(s) signed & dated?  Yes  No  NA
  - Were custody seals on the bottle(s)?  Yes  No
- Shippers' packing slip attached to the cooler(s)?  Yes  No
- Did custody papers accompany the sample(s)?  Yes  No
- Were the custody papers relinquished & signed in the appropriate place?  Yes  No
- Was/were the sampler(s) clearly identified on the COC?  Yes  No
- Did all bottles arrive in good condition (Unbroken)?  Yes  No
- Could all bottle labels be reconciled with the COC?  Yes  No
- Were correct bottle(s) used for the test(s) indicated?  Yes  No
- Sufficient quantity received to perform indicated analyses?  Yes  No
- Were sample(s) at the correct pH upon receipt? Yes  No  NA pH Strip Lot# HC432654
- Were VOAs on the COC? Yes  No  NA
- Were air bubbles >6 mm in any VOA vials? Yes  No  NA
- Was a trip blank present in the cooler(s)? Trip Blank Lot # \_\_\_\_\_ Yes  No  NA

Contacted PM \_\_\_\_\_ Date \_\_\_\_\_ by \_\_\_\_\_ via Verbal Voice Mail Other \_\_\_\_\_  
 Concerning \_\_\_\_\_

14. CHAIN OF CUSTODY & SAMPLE DISCREPANCIES

Samples processed by: \_\_\_\_\_

---

---

---

---

---

---

---

---

---

---

15. SAMPLE CONDITION

Sample(s) \_\_\_\_\_ were received after the recommended holding time had expired.

Sample(s) \_\_\_\_\_ were received in a broken container.

Sample(s) \_\_\_\_\_ were received with bubble >6 mm in diameter. (Notify PM)

16. SAMPLE PRESERVATION

Sample(s) \_\_\_\_\_ were further preserved in the laboratory.

Time preserved: \_\_\_\_\_ Preservative(s) added/Lot number(s): \_\_\_\_\_



## COOLER RECEIPT FORM

Cooler Received/Opened On 5/23/2015 @ 0820

1. Tracking # 5374 (last 4 digits, FedEx)

Courier: FedEx IR Gun ID 18290455

2. Temperature of rep. sample or temp blank when opened: 5.1 Degrees Celsius

3. If Item #2 temperature is 0°C or less, was the representative sample or temp blank frozen? YES NO...NA

4. Were custody seals on outside of cooler? YES...NO...NA

If yes, how many and where: \_\_\_\_\_

5. Were the seals intact, signed, and dated correctly? YES...NO...NA

6. Were custody papers inside cooler? YES...NO...NA

I certify that I opened the cooler and answered questions 1-6 (initial) Ch

7. Were custody seals on containers: YES NO and Intact YES...NO...NA

Were these signed and dated correctly? YES...NO...NA

8. Packing mat'l used? Bubblewrap Plastic bag Peanuts Vermiculite Foam Insert Paper Other None

9. Cooling process: Ice Ice-pack Ice (direct contact) Dry ice Other None

10. Did all containers arrive in good condition (unbroken)? YES...NO...NA

11. Were all container labels complete (#, date, signed, pres., etc)? YES...NO...NA

12. Did all container labels and tags agree with custody papers? YES...NO...NA

13a. Were VOA vials received? YES...NO...NA

b. Was there any observable headspace present in any VOA vial? YES...NO...NA

14. Was there a Trip Blank in this cooler? YES...NO...NA If multiple coolers, sequence # \_\_\_\_\_

I certify that I unloaded the cooler and answered questions 7-14 (initial) Ch

15a. On pres'd bottles, did pH test strips suggest preservation reached the correct pH level? YES...NO...NA

b. Did the bottle labels indicate that the correct preservatives were used YES...NO...NA

16. Was residual chlorine present? YES...NO...NA

I certify that I checked for chlorine and pH as per SOP and answered questions 15-16 (initial) Ch

17. Were custody papers properly filled out (ink, signed, etc)? YES...NO...NA

18. Did you sign the custody papers in the appropriate place? YES...NO...NA

19. Were correct containers used for the analysis requested? YES...NO...NA

20. Was sufficient amount of sample sent in each container? YES...NO...NA

I certify that I entered this project into LIMS and answered questions 17-20 (initial) Ch

I certify that I attached a label with the unique LIMS number to each container (initial) Ch

21. Were there Non-Conformance issues at login? YES...NO Was a PIPE generated? YES...NO...# \_\_\_\_\_

## Login Sample Receipt Checklist

Client: Michigan Dept of Environmental Quality

Job Number: 240-51108-1

**Login Number: 51108**  
**List Number: 2**  
**Creator: Huckaba, Jimmy**

**List Source: TestAmerica Nashville**  
**List Creation: 05/23/15 09:43 AM**

Question	Answer	Comment
Radioactivity wasn't checked or is <=/ background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	N/A	
Sample custody seals, if present, are intact.	N/A	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time.	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	N/A	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

