

Trace Analytical Laboratories, Inc.  
2241 Black Creek Road  
Muskegon, MI 49444-2673



231-773-5998 Phone  
888-979-4469 Fax  
www.trace-labs.com

October 30, 2021

Ms. Shannan Deater  
Kalamazoo, City of  
1415 N. Harrison St.  
Kalamazoo, MI 49007

RE: Trace Project 21J0658  
Client Project TCLP - Annual Sample

Dear Ms. Deater:

Enclosed are your analytical results. The results of this report relate only to the samples listed in the body of this report.

All reports were examined through Trace's validation process to ensure that requirements for quality and completeness were satisfied. All reported analytical results were obtained in accordance with the methods referenced on the reports. Every practical effort was made to meet the reporting limit specifications for this work, however, some results may have raised reporting limits to correct for percent solids.

For clients that require NELAP Accreditation, Trace certifies that these test results meet all requirements of the NELAP Standard, except for those analytes with a "N" notation. These analytes have not been evaluated by NELAP at Trace's discretion and will not be reported unless requested by client.

If you have questions concerning this report, please contact me at 231.773.5998 or by email at [tbrewer@trace-labs.com](mailto:tbrewer@trace-labs.com).

Sincerely,

A handwritten signature in black ink that reads "Timothy W. Brewer".

Tim Brewer  
Project Manager  
Enclosures



NJDEP Accreditation No. MI008

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### SAMPLE SUMMARY

Trace Project ID: 21J0658  
Client Project ID: TCLP - Annual Sample

Trace ID	Sample ID	Matrix	Collected By	Date Collected	Date Received
21J0658-01	10-14-21-Plant	Solid	sh	10/13/21	10/15/21 13:40
21J0658-02	10-14-21-Vactor Sand	Solid	sh	10/13/21	10/15/21 13:40
21J0658-03	10-14-21-Cake	Solid	sh	10/13/21	10/15/21 13:40

### CERTIFICATE OF ANALYSIS

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**AN EXPLANATION OF TERMS AND SYMBOLS WHICH MAY OCCUR IN THIS REPORT**

**DEFINITIONS**

LCS	Laboratory Control Sample
LCSD	Laboratory Control Sample Duplicate
MS	Matrix Spike
MSD	Matrix Spike Duplicate
RPD	Relative Percent Difference
DUP	Matrix Duplicate
RDL	Reporting Detection Limit
MCL	Maximum Contamination Limit
TIC	Tentatively Identified Compound
<, ND or U	Indicates the compound was analyzed for but not detected
*	Indicates a result that exceeds its associated MCL or Surrogate control limits
N	Indicates that the laboratory is not accredited by NELAP for this compound
NA	Indicates that the compound is not available.

NOTE: Samples for volatiles that have been extracted with a water miscible solvent were corrected for the total volume of the solvent/water mixture.  
Solid matrices Method Blanks are at 100% solids as such results are the same wet or dry.

**DATA QUALIFIERS**

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Trace ID: 21J0658-01

**Analysis: EPA 8270D**

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<b>2-Fluorophenol</b>	Note 301 : A dilution of 1:5 or greater was required on this sample. Consequently, surrogate recoveries are not available.
<b>Phenol-d5</b>	Note 301 : A dilution of 1:5 or greater was required on this sample. Consequently, surrogate recoveries are not available.

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Trace ID: 21J0658-02

**Analysis: EPA 8270D**

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<b>2-Fluorophenol</b>	Note 301 : A dilution of 1:5 or greater was required on this sample. Consequently, surrogate recoveries are not available.
<b>Phenol-d5</b>	Note 301 : A dilution of 1:5 or greater was required on this sample. Consequently, surrogate recoveries are not available.

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Trace ID: 21J0658-03

**Analysis: EPA 8270D**

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<b>2-Fluorophenol</b>	Note 301 : A dilution of 1:5 or greater was required on this sample. Consequently, surrogate recoveries are not available.
<b>Phenol-d5</b>	Note 301 : A dilution of 1:5 or greater was required on this sample. Consequently, surrogate recoveries are not available.

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Trace ID: T115843-BLK1

**Analysis: EPA 8270D**

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**Phenol-d5**

Note 801 : One of the acid surrogate recoveries was outside the control limits. Since the other two acid surrogates were within the control limits, no data require qualification.

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Trace ID: T115844-BLK2

***Analysis: EPA 8081B***

**Decachlorobiphenyl**

Note 304 : The primary surrogate (decachlorobiphenyl) recovery for this sample fell outside the laboratory established control limits. The secondary surrogate (tetrachloro-m-xylene) recovery was in control. No data require qualification.

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Trace ID: T115939-MSD1

***Analysis: EPA 8260C***

**Benzene**

Note 207 : The RPD between the MS and the MSD was out of control. Because both spike recoveries were in control, no data require qualification.

**Carbon tetrachloride**

Note 207 : The RPD between the MS and the MSD was out of control. Because both spike recoveries were in control, no data require qualification.

**Tetrachloroethene**

Note 207 : The RPD between the MS and the MSD was out of control. Because both spike recoveries were in control, no data require qualification.

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### ANALYTICAL RESULTS

Trace Project ID: 21J0658  
 Client Project ID: TCLP - Annual Sample

Trace ID: 21J0658-01 Matrix: Solid Date Collected: 10/13/21  
 Sample ID: 10-14-21-Plant Date Received: 10/15/21 13:40

PARAMETERS	RESULTS UNITS	RDL	DILUTION	PREPARED	BY	ANALYZED	BY	NOTES	MCL
<b>METALS, TCLP</b>									
<b>Analysis Method: EPA 6010D</b>									
<i>Batch: T115721</i>									
Arsenic	<0.30 mg/L	0.30	1	10/19/21	dc	10/19/21	mrh		5.0
Barium	<1.0 mg/L	1.0	1	10/19/21	dc	10/19/21	mrh		100
Cadmium	<0.10 mg/L	0.10	1	10/19/21	dc	10/19/21	mrh		1.0
Chromium	<0.50 mg/L	0.50	1	10/19/21	dc	10/19/21	mrh		5.0
Lead	<0.50 mg/L	0.50	1	10/19/21	dc	10/19/21	mrh		5.0
Selenium	<0.60 mg/L	0.60	1	10/19/21	dc	10/19/21	mrh		1.0
Silver	<0.10 mg/L	0.10	1	10/19/21	dc	10/19/21	mrh		5.0
<b>Analysis Method: EPA 7470A</b>									
<i>Batch: T115733</i>									
Mercury	<0.010 mg/L	0.010	1	10/19/21	mrh	10/19/21	dc		0.20
<b>SEMI-VOLATILE ORGANIC COMPOUNDS, TCLP</b>									
<b>Analysis Method: EPA 8270D</b>									
<i>Batch: T115843</i>									
Pyridine	<0.20 mg/L	0.20	5	10/21/21	kbc	10/21/21	avl		5.0
2-Methylphenol (o-Cresol)	<0.025 mg/L	0.025	5	10/21/21	kbc	10/21/21	avl		200
3,4-Methylphenol (m,p Cresol)	<0.025 mg/L	0.025	5	10/21/21	kbc	10/21/21	avl		200
Hexachloroethane	<0.025 mg/L	0.025	5	10/21/21	kbc	10/21/21	avl		3.0
Nitrobenzene	<0.010 mg/L	0.010	5	10/21/21	kbc	10/21/21	avl		2.0
Hexachlorobutadiene	<0.025 mg/L	0.025	5	10/21/21	kbc	10/21/21	avl		0.50
2,4,6-Trichlorophenol	<0.010 mg/L	0.010	5	10/21/21	kbc	10/21/21	avl		2.0
2,4,5-Trichlorophenol	<0.025 mg/L	0.025	5	10/21/21	kbc	10/21/21	avl		400
2,4-Dinitrotoluene	<0.025 mg/L	0.025	5	10/21/21	kbc	10/21/21	avl		0.13
Hexachlorobenzene	<0.025 mg/L	0.025	5	10/21/21	kbc	10/21/21	avl		0.13
Pentachlorophenol	<0.050 mg/L	0.050	5	10/21/21	kbc	10/21/21	avl		100
<b>Surrogates:</b>									
2-Fluorophenol	* %	20-53	5	10/21/21	kbc	10/21/21	avl	301	
Phenol-d5	* %	11-40	5	10/21/21	kbc	10/21/21	avl	301	
Nitrobenzene-d5	56 %	36-103	5	10/21/21	kbc	10/21/21	avl		
2-Fluorobiphenyl	65 %	36-119	5	10/21/21	kbc	10/21/21	avl		
2,4,6-Tribromophenol	65 %	30-105	5	10/21/21	kbc	10/21/21	avl		

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### ANALYTICAL RESULTS

Trace Project ID: 21J0658  
 Client Project ID: TCLP - Annual Sample

Trace ID: 21J0658-01 Matrix: Solid Date Collected: 10/13/21  
 Sample ID: 10-14-21-Plant Date Received: 10/15/21 13:40

PARAMETERS	RESULTS UNITS	RDL	DILUTION	PREPARED	BY	ANALYZED	BY	NOTES	MCL
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#### SEMI-VOLATILE ORGANIC COMPOUNDS, TCLP

Terphenyl-d14	76 %	37-109	5	10/21/21	kbc	10/21/21	avl		
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#### PESTICIDES/PCBS, TCLP

Analysis Method: EPA 8081B

Batch: T115844

Chlordane	<0.00050 mg/L	0.00050	1	10/21/21	kbc	10/25/21	av		0.030
Endrin	<0.00010 mg/L	0.00010	1	10/21/21	kbc	10/25/21	av		0.020
gamma-BHC (Lindane)	<0.00010 mg/L	0.00010	1	10/21/21	kbc	10/25/21	av		0.40
Heptachlor	<0.00010 mg/L	0.00010	1	10/21/21	kbc	10/25/21	av		0.0080
Heptachlor epoxide	<0.00010 mg/L	0.00010	1	10/21/21	kbc	10/25/21	av		0.0080
Methoxychlor	<0.00010 mg/L	0.00010	1	10/21/21	kbc	10/25/21	av		10
Toxaphene	<0.0050 mg/L	0.0050	1	10/21/21	kbc	10/25/21	av		0.50

#### Surrogates:

Tetrachloro-m-xylene	51 %	38-94	1	10/21/21	kbc	10/25/21	av	N	
Decachlorobiphenyl	41 %	40-93	1	10/21/21	kbc	10/25/21	av	N	

#### HERBICIDES, TCLP

Analysis Method: EPA 8151A

Batch: T115845

2,4-D	<0.50 mg/L	0.50	1	10/21/21	kbc	10/22/21	tml		10
2,4,5-TP (Silvex)	<0.25 mg/L	0.25	1	10/21/21	kbc	10/22/21	tml		1.0

#### Surrogates:

2,4-Dichlorophenylacetic acid	102 %	39-125	1	10/21/21	kbc	10/22/21	tml	N	
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#### VOLATILE ORGANIC COMPOUNDS, TCLP

Analysis Method: EPA 8260C

Batch: T115939

Vinyl chloride	<0.10 mg/L	0.10	100	10/23/21	nw	10/23/21	nw		0.20
1,1-Dichloroethene	<0.10 mg/L	0.10	100	10/23/21	nw	10/23/21	nw		0.70
2-Butanone	<0.50 mg/L	0.50	100	10/23/21	nw	10/23/21	nw		200
Chloroform	<0.10 mg/L	0.10	100	10/23/21	nw	10/23/21	nw		6.0
Carbon tetrachloride	<0.10 mg/L	0.10	100	10/23/21	nw	10/23/21	nw		0.50

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### ANALYTICAL RESULTS

Trace Project ID: 21J0658  
 Client Project ID: TCLP - Annual Sample

Trace ID: 21J0658-01 Matrix: Solid Date Collected: 10/13/21  
 Sample ID: 10-14-21-Plant Date Received: 10/15/21 13:40

PARAMETERS	RESULTS UNITS	RDL	DILUTION	PREPARED	BY	ANALYZED	BY	NOTES	MCL
<b>VOLATILE ORGANIC COMPOUNDS, TCLP</b>									
Benzene	<0.10 mg/L	0.10	100	10/23/21	nw	10/23/21	nw		0.50
1,2-Dichloroethane	<0.10 mg/L	0.10	100	10/23/21	nw	10/23/21	nw		0.50
Trichloroethene	<0.10 mg/L	0.10	100	10/23/21	nw	10/23/21	nw		0.50
Tetrachloroethene	<0.10 mg/L	0.10	100	10/23/21	nw	10/23/21	nw		0.70
Chlorobenzene	<0.10 mg/L	0.10	100	10/23/21	nw	10/23/21	nw		100
1,4-Dichlorobenzene	<0.10 mg/L	0.10	100	10/23/21	nw	10/23/21	nw		7.5
<b>Surrogates:</b>									
1,2-Dichloroethane-d4	98 %	68-133	100	10/23/21	nw	10/23/21	nw		
Toluene-d8	103 %	75-120	100	10/23/21	nw	10/23/21	nw		
4-Bromofluorobenzene	106 %	69-119	100	10/23/21	nw	10/23/21	nw		
1,2-Dichlorobenzene-d4	106 %	72-127	100	10/23/21	nw	10/23/21	nw		
<b>WET CHEMISTRY</b>									
<b>Analysis Method: ASTM D2974-07a</b>									
<i>Batch: T115810</i>									
% Solids	29 % by Wt.	0.10	1	10/20/21	mr	10/20/21	mr	N	
<b>Analysis Method: EPA 1010B</b>									
<i>Batch: T116109</i>									
Flashpoint	> 200 °F	1.00	1	10/27/21	jma	10/27/21	jma		
<b>Analysis Method: EPA 9045D</b>									
<i>Batch: T115674</i>									
Corrosivity-pH	6.45		1	10/18/21	mr	10/18/21	mr		
pH measured at temperature (°C)	20.6		1	10/18/21	mr	10/18/21	mr	N	
<b>Analysis Method: EPA Chapter 7.3</b>									
<i>Batch: T115848</i>									
Cyanide, Reactive	<0.50 mg/kg dry	0.50	1	10/21/21	jma	10/22/21	jma		
Sulfide, Reactive	18 mg/kg dry	6.4	1	10/21/21	jma	10/22/21	jma	N	

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### ANALYTICAL RESULTS

Trace Project ID: 21J0658  
 Client Project ID: TCLP - Annual Sample

Trace ID: 21J0658-02 Matrix: Solid Date Collected: 10/13/21  
 Sample ID: 10-14-21-Vector Sand Date Received: 10/15/21 13:40

PARAMETERS	RESULTS UNITS	RDL	DILUTION	PREPARED	BY	ANALYZED	BY	NOTES	MCL
<b>METALS, TCLP</b>									
<b>Analysis Method: EPA 6010D</b>									
<i>Batch: T115721</i>									
Arsenic	<0.30 mg/L	0.30	1	10/19/21	dc	10/19/21	mrh		5.0
Barium	<1.0 mg/L	1.0	1	10/19/21	dc	10/19/21	mrh		100
Cadmium	<0.10 mg/L	0.10	1	10/19/21	dc	10/19/21	mrh		1.0
Chromium	<0.50 mg/L	0.50	1	10/19/21	dc	10/19/21	mrh		5.0
Lead	<0.50 mg/L	0.50	1	10/19/21	dc	10/19/21	mrh		5.0
Selenium	<0.60 mg/L	0.60	1	10/19/21	dc	10/19/21	mrh		1.0
Silver	<0.10 mg/L	0.10	1	10/19/21	dc	10/19/21	mrh		5.0
<b>Analysis Method: EPA 7470A</b>									
<i>Batch: T115733</i>									
Mercury	<0.010 mg/L	0.010	1	10/19/21	mrh	10/19/21	dc		0.20
<b>SEMI-VOLATILE ORGANIC COMPOUNDS, TCLP</b>									
<b>Analysis Method: EPA 8270D</b>									
<i>Batch: T115843</i>									
Pyridine	<0.20 mg/L	0.20	5	10/21/21	kbc	10/22/21	avl		5.0
2-Methylphenol (o-Cresol)	<0.025 mg/L	0.025	5	10/21/21	kbc	10/22/21	avl		200
3,4-Methylphenol (m,p Cresol)	<0.025 mg/L	0.025	5	10/21/21	kbc	10/22/21	avl		200
Hexachloroethane	<0.025 mg/L	0.025	5	10/21/21	kbc	10/22/21	avl		3.0
Nitrobenzene	<0.010 mg/L	0.010	5	10/21/21	kbc	10/22/21	avl		2.0
Hexachlorobutadiene	<0.025 mg/L	0.025	5	10/21/21	kbc	10/22/21	avl		0.50
2,4,6-Trichlorophenol	<0.010 mg/L	0.010	5	10/21/21	kbc	10/22/21	avl		2.0
2,4,5-Trichlorophenol	<0.025 mg/L	0.025	5	10/21/21	kbc	10/22/21	avl		400
2,4-Dinitrotoluene	<0.025 mg/L	0.025	5	10/21/21	kbc	10/22/21	avl		0.13
Hexachlorobenzene	<0.025 mg/L	0.025	5	10/21/21	kbc	10/22/21	avl		0.13
Pentachlorophenol	<0.050 mg/L	0.050	5	10/21/21	kbc	10/22/21	avl		100
<b>Surrogates:</b>									
2-Fluorophenol	* %	20-53	5	10/21/21	kbc	10/22/21	avl	301	
Phenol-d5	* %	11-40	5	10/21/21	kbc	10/22/21	avl	301	
Nitrobenzene-d5	47 %	36-103	5	10/21/21	kbc	10/22/21	avl		
2-Fluorobiphenyl	55 %	36-119	5	10/21/21	kbc	10/22/21	avl		
2,4,6-Tribromophenol	56 %	30-105	5	10/21/21	kbc	10/22/21	avl		

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**ANALYTICAL RESULTS**

Trace Project ID: 21J0658  
 Client Project ID: TCLP - Annual Sample

Trace ID: 21J0658-02 Matrix: Solid Date Collected: 10/13/21  
 Sample ID: 10-14-21-Vector Sand Date Received: 10/15/21 13:40

PARAMETERS	RESULTS UNITS	RDL	DILUTION	PREPARED	BY	ANALYZED	BY	NOTES	MCL
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**SEMI-VOLATILE ORGANIC COMPOUNDS, TCLP**

Terphenyl-d14	73 %	37-109	5	10/21/21	kbc	10/22/21	avl		
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**PESTICIDES/PCBS, TCLP**

Analysis Method: EPA 8081B

Batch: T115844

Chlordane	<0.00050 mg/L	0.00050	1	10/21/21	kbc	10/25/21	av		0.030
Endrin	<0.00010 mg/L	0.00010	1	10/21/21	kbc	10/25/21	av		0.020
gamma-BHC (Lindane)	<0.00010 mg/L	0.00010	1	10/21/21	kbc	10/25/21	av		0.40
Heptachlor	<0.00010 mg/L	0.00010	1	10/21/21	kbc	10/25/21	av		0.0080
Heptachlor epoxide	<0.00010 mg/L	0.00010	1	10/21/21	kbc	10/25/21	av		0.0080
Methoxychlor	<0.00010 mg/L	0.00010	1	10/21/21	kbc	10/25/21	av		10
Toxaphene	<0.0050 mg/L	0.0050	1	10/21/21	kbc	10/25/21	av		0.50

**Surrogates:**

Tetrachloro-m-xylene	65 %	38-94	1	10/21/21	kbc	10/25/21	av	N	
Decachlorobiphenyl	48 %	40-93	1	10/21/21	kbc	10/25/21	av	N	

**HERBICIDES, TCLP**

Analysis Method: EPA 8151A

Batch: T115845

2,4-D	<0.50 mg/L	0.50	1	10/21/21	kbc	10/22/21	tml		10
2,4,5-TP (Silvex)	<0.25 mg/L	0.25	1	10/21/21	kbc	10/22/21	tml		1.0

**Surrogates:**

2,4-Dichlorophenylacetic acid	103 %	39-125	1	10/21/21	kbc	10/22/21	tml	N	
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**VOLATILE ORGANIC COMPOUNDS, TCLP**

Analysis Method: EPA 8260C

Batch: T115939

Vinyl chloride	<0.10 mg/L	0.10	100	10/23/21	nw	10/23/21	nw		0.20
1,1-Dichloroethene	<0.10 mg/L	0.10	100	10/23/21	nw	10/23/21	nw		0.70
2-Butanone	<0.50 mg/L	0.50	100	10/23/21	nw	10/23/21	nw		200
Chloroform	<0.10 mg/L	0.10	100	10/23/21	nw	10/23/21	nw		6.0
Carbon tetrachloride	<0.10 mg/L	0.10	100	10/23/21	nw	10/23/21	nw		0.50

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**ANALYTICAL RESULTS**

Trace Project ID: 21J0658  
 Client Project ID: TCLP - Annual Sample

Trace ID: 21J0658-02 Matrix: Solid Date Collected: 10/13/21  
 Sample ID: 10-14-21-Vector Sand Date Received: 10/15/21 13:40

PARAMETERS	RESULTS UNITS	RDL	DILUTION	PREPARED	BY	ANALYZED	BY	NOTES	MCL
<b>VOLATILE ORGANIC COMPOUNDS, TCLP</b>									
Benzene	<0.10 mg/L	0.10	100	10/23/21	nw	10/23/21	nw		0.50
1,2-Dichloroethane	<0.10 mg/L	0.10	100	10/23/21	nw	10/23/21	nw		0.50
Trichloroethene	<0.10 mg/L	0.10	100	10/23/21	nw	10/23/21	nw		0.50
Tetrachloroethene	<0.10 mg/L	0.10	100	10/23/21	nw	10/23/21	nw		0.70
Chlorobenzene	<0.10 mg/L	0.10	100	10/23/21	nw	10/23/21	nw		100
1,4-Dichlorobenzene	<0.10 mg/L	0.10	100	10/23/21	nw	10/23/21	nw		7.5
<b>Surrogates:</b>									
1,2-Dichloroethane-d4	97 %	68-133	100	10/23/21	nw	10/23/21	nw		
Toluene-d8	102 %	75-120	100	10/23/21	nw	10/23/21	nw		
4-Bromofluorobenzene	106 %	69-119	100	10/23/21	nw	10/23/21	nw		
1,2-Dichlorobenzene-d4	107 %	72-127	100	10/23/21	nw	10/23/21	nw		
<b>WET CHEMISTRY</b>									
<b>Analysis Method: ASTM D2974-07a</b>									
<i>Batch: T115810</i>									
% Solids	91 % by Wt.	0.10	1	10/20/21	mr	10/20/21	mr	N	
<b>Analysis Method: EPA 1010B</b>									
<i>Batch: T116109</i>									
Flashpoint	> 200 °F	1.00	1	10/27/21	jma	10/27/21	jma		
<b>Analysis Method: EPA 9045D</b>									
<i>Batch: T115674</i>									
Corrosivity-pH	8.26		1	10/18/21	mr	10/18/21	mr		
pH measured at temperature (°C)	20.7		1	10/18/21	mr	10/18/21	mr	N	
<b>Analysis Method: EPA Chapter 7.3</b>									
<i>Batch: T115848</i>									
Cyanide, Reactive	<0.50 mg/kg dry	0.50	1	10/21/21	jma	10/22/21	jma		
Sulfide, Reactive	<5.0 mg/kg dry	5.0	1	10/21/21	jma	10/22/21	jma	N	

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### ANALYTICAL RESULTS

Trace Project ID: 21J0658  
 Client Project ID: TCLP - Annual Sample

Trace ID: 21J0658-03 Matrix: Solid Date Collected: 10/13/21  
 Sample ID: 10-14-21-Cake Date Received: 10/15/21 13:40

PARAMETERS	RESULTS UNITS	RDL	DILUTION	PREPARED	BY	ANALYZED	BY	NOTES	MCL
<b>METALS, TCLP</b>									
<b>Analysis Method: EPA 6010D</b>									
<i>Batch: T115721</i>									
Arsenic	<0.30 mg/L	0.30	1	10/19/21	dc	10/19/21	mrh		5.0
Barium	<1.0 mg/L	1.0	1	10/19/21	dc	10/19/21	mrh		100
Cadmium	<0.10 mg/L	0.10	1	10/19/21	dc	10/19/21	mrh		1.0
Chromium	<0.50 mg/L	0.50	1	10/19/21	dc	10/19/21	mrh		5.0
Lead	<0.50 mg/L	0.50	1	10/19/21	dc	10/19/21	mrh		5.0
Selenium	<0.60 mg/L	0.60	1	10/19/21	dc	10/19/21	mrh		1.0
Silver	<0.10 mg/L	0.10	1	10/19/21	dc	10/19/21	mrh		5.0
<b>Analysis Method: EPA 7470A</b>									
<i>Batch: T115733</i>									
Mercury	<0.010 mg/L	0.010	1	10/19/21	mrh	10/19/21	dc		0.20
<b>SEMI-VOLATILE ORGANIC COMPOUNDS, TCLP</b>									
<b>Analysis Method: EPA 8270D</b>									
<i>Batch: T115843</i>									
Pyridine	<0.20 mg/L	0.20	5	10/21/21	kbc	10/22/21	avl		5.0
2-Methylphenol (o-Cresol)	<0.025 mg/L	0.025	5	10/21/21	kbc	10/22/21	avl		200
<b>3,4-Methylphenol (m,p Cresol)</b>	<b>0.032 mg/L</b>	<b>0.025</b>	<b>5</b>	<b>10/21/21</b>	<b>kbc</b>	<b>10/22/21</b>	<b>avl</b>		<b>200</b>
Hexachloroethane	<0.025 mg/L	0.025	5	10/21/21	kbc	10/22/21	avl		3.0
Nitrobenzene	<0.010 mg/L	0.010	5	10/21/21	kbc	10/22/21	avl		2.0
Hexachlorobutadiene	<0.025 mg/L	0.025	5	10/21/21	kbc	10/22/21	avl		0.50
2,4,6-Trichlorophenol	<0.010 mg/L	0.010	5	10/21/21	kbc	10/22/21	avl		2.0
2,4,5-Trichlorophenol	<0.025 mg/L	0.025	5	10/21/21	kbc	10/22/21	avl		400
2,4-Dinitrotoluene	<0.025 mg/L	0.025	5	10/21/21	kbc	10/22/21	avl		0.13
Hexachlorobenzene	<0.025 mg/L	0.025	5	10/21/21	kbc	10/22/21	avl		0.13
Pentachlorophenol	<0.050 mg/L	0.050	5	10/21/21	kbc	10/22/21	avl		100
<b>Surrogates:</b>									
2-Fluorophenol	* %	20-53	5	10/21/21	kbc	10/22/21	avl	301	
Phenol-d5	* %	11-40	5	10/21/21	kbc	10/22/21	avl	301	
Nitrobenzene-d5	55 %	36-103	5	10/21/21	kbc	10/22/21	avl		
2-Fluorobiphenyl	63 %	36-119	5	10/21/21	kbc	10/22/21	avl		
2,4,6-Tribromophenol	58 %	30-105	5	10/21/21	kbc	10/22/21	avl		

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### ANALYTICAL RESULTS

Trace Project ID: 21J0658  
 Client Project ID: TCLP - Annual Sample

Trace ID: 21J0658-03 Matrix: Solid Date Collected: 10/13/21  
 Sample ID: 10-14-21-Cake Date Received: 10/15/21 13:40

PARAMETERS	RESULTS UNITS	RDL	DILUTION	PREPARED	BY	ANALYZED	BY	NOTES	MCL
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#### SEMI-VOLATILE ORGANIC COMPOUNDS, TCLP

Terphenyl-d14	68 %	37-109	5	10/21/21	kbc	10/22/21	avl		
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#### PESTICIDES/PCBS, TCLP

Analysis Method: EPA 8081B

Batch: T115844

Chlordane	<0.00050 mg/L	0.00050	1	10/21/21	kbc	10/25/21	av		0.030
Endrin	<0.00010 mg/L	0.00010	1	10/21/21	kbc	10/25/21	av		0.020
gamma-BHC (Lindane)	<0.00010 mg/L	0.00010	1	10/21/21	kbc	10/25/21	av		0.40
Heptachlor	<0.00010 mg/L	0.00010	1	10/21/21	kbc	10/25/21	av		0.0080
Heptachlor epoxide	<0.00010 mg/L	0.00010	1	10/21/21	kbc	10/25/21	av		0.0080
Methoxychlor	<0.00010 mg/L	0.00010	1	10/21/21	kbc	10/25/21	av		10
Toxaphene	<0.0050 mg/L	0.0050	1	10/21/21	kbc	10/25/21	av		0.50

#### Surrogates:

Tetrachloro-m-xylene	50 %	38-94	1	10/21/21	kbc	10/25/21	av	N	
Decachlorobiphenyl	42 %	40-93	1	10/21/21	kbc	10/25/21	av	N	

#### HERBICIDES, TCLP

Analysis Method: EPA 8151A

Batch: T115845

2,4-D	<0.50 mg/L	0.50	1	10/21/21	kbc	10/22/21	tml		10
2,4,5-TP (Silvex)	<0.25 mg/L	0.25	1	10/21/21	kbc	10/22/21	tml		1.0

#### Surrogates:

2,4-Dichlorophenylacetic acid	97 %	39-125	1	10/21/21	kbc	10/22/21	tml	N	
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#### VOLATILE ORGANIC COMPOUNDS, TCLP

Analysis Method: EPA 8260C

Batch: T115939

Vinyl chloride	<0.10 mg/L	0.10	100	10/23/21	nw	10/23/21	nw		0.20
1,1-Dichloroethene	<0.10 mg/L	0.10	100	10/23/21	nw	10/23/21	nw		0.70
2-Butanone	<0.50 mg/L	0.50	100	10/23/21	nw	10/23/21	nw		200
Chloroform	<0.10 mg/L	0.10	100	10/23/21	nw	10/23/21	nw		6.0
Carbon tetrachloride	<0.10 mg/L	0.10	100	10/23/21	nw	10/23/21	nw		0.50

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### ANALYTICAL RESULTS

Trace Project ID: 21J0658  
 Client Project ID: TCLP - Annual Sample

Trace ID: 21J0658-03 Matrix: Solid Date Collected: 10/13/21  
 Sample ID: 10-14-21-Cake Date Received: 10/15/21 13:40

PARAMETERS	RESULTS UNITS	RDL	DILUTION	PREPARED	BY	ANALYZED	BY	NOTES	MCL
<b>VOLATILE ORGANIC COMPOUNDS, TCLP</b>									
Benzene	<0.10 mg/L	0.10	100	10/23/21	nw	10/23/21	nw		0.50
1,2-Dichloroethane	<0.10 mg/L	0.10	100	10/23/21	nw	10/23/21	nw		0.50
Trichloroethene	<0.10 mg/L	0.10	100	10/23/21	nw	10/23/21	nw		0.50
Tetrachloroethene	<0.10 mg/L	0.10	100	10/23/21	nw	10/23/21	nw		0.70
Chlorobenzene	<0.10 mg/L	0.10	100	10/23/21	nw	10/23/21	nw		100
1,4-Dichlorobenzene	<0.10 mg/L	0.10	100	10/23/21	nw	10/23/21	nw		7.5
<b>Surrogates:</b>									
1,2-Dichloroethane-d4	97 %	68-133	100	10/23/21	nw	10/23/21	nw		
Toluene-d8	103 %	75-120	100	10/23/21	nw	10/23/21	nw		
4-Bromofluorobenzene	107 %	69-119	100	10/23/21	nw	10/23/21	nw		
1,2-Dichlorobenzene-d4	107 %	72-127	100	10/23/21	nw	10/23/21	nw		
<b>WET CHEMISTRY</b>									
<b>Analysis Method: ASTM D2974-07a</b>									
<i>Batch: T115810</i>									
% Solids	19 % by Wt.	0.10	1	10/20/21	mr	10/20/21	mr	N	
<b>Analysis Method: EPA 1010B</b>									
<i>Batch: T116109</i>									
Flashpoint	> 200 °F	1.00	1	10/27/21	jma	10/27/21	jma		
<b>Analysis Method: EPA 9045D</b>									
<i>Batch: T115674</i>									
Corrosivity-pH	6.21		1	10/18/21	mr	10/18/21	mr		
pH measured at temperature (°C)	20.6		1	10/18/21	mr	10/18/21	mr	N	
<b>Analysis Method: EPA Chapter 7.3</b>									
<i>Batch: T115848</i>									
Cyanide, Reactive	<0.52 mg/kg dry	0.52	1	10/21/21	jma	10/22/21	jma		
Sulfide, Reactive	54 mg/kg dry	10	1	10/21/21	jma	10/22/21	jma	N	

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**QUALITY CONTROL RESULTS**

Trace Project ID: 21J0658  
 Client Project ID: TCLP - Annual Sample

QC Batch: T115841	Analysis Description: TCLP Extraction, SVOC
QC Batch Method: Leaching procedures	Analysis Method: EPA 1311

Trace Project ID: 21J0658  
 Client Project ID: TCLP - Annual Sample

QC Batch: T115721	Analysis Description: Chromium, TCLP
QC Batch Method: EPA 3015 Microwave Assisted Digestions for Liquids	Analysis Method: EPA 6010D

**METHOD BLANK: T115721-BLK1**

Parameter	Units	Blank Result	Reporting Limit	Notes
Silver	mg/L	<0.10	0.10	
Arsenic	mg/L	<0.30	0.30	
Barium	mg/L	<1.0	1.0	
Cadmium	mg/L	<0.10	0.10	
Chromium	mg/L	<0.50	0.50	
Lead	mg/L	<0.50	0.50	
Selenium	mg/L	<0.60	0.60	

**METHOD BLANK: T115721-BLK2**

Parameter	Units	Blank Result	Reporting Limit	Notes
Silver	mg/L	<0.10	0.10	
Arsenic	mg/L	<0.30	0.30	
Barium	mg/L	<1.0	1.0	
Cadmium	mg/L	<0.10	0.10	
Chromium	mg/L	<0.50	0.50	
Lead	mg/L	<0.50	0.50	
Selenium	mg/L	<0.60	0.60	

**LABORATORY CONTROL SAMPLE: T115721-BS1**

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limit	Notes
Silver	mg/L	0.0278	<0.10	94	80-120	
Arsenic	mg/L	0.0556	<0.30	104	80-120	
Barium	mg/L	0.889	<1.0	102	80-120	
Cadmium	mg/L	0.0278	<0.10	100	80-120	
Chromium	mg/L	0.0278	<0.50	101	80-120	
Lead	mg/L	0.0556	<0.50	96	80-120	

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**LABORATORY CONTROL SAMPLE: T115721-BS1**

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limit	Notes
Selenium	mg/L	0.0556	<0.60	84	80-120	

Trace Project ID: 21J0658  
 Client Project ID: TCLP - Annual Sample

QC Batch: T115733	Analysis Description: Mercury, TCLP
QC Batch Method: EPA 7470A Prep	Analysis Method: EPA 7470A

**METHOD BLANK: T115733-BLK1**

Parameter	Units	Blank Result	Reporting Limit	Notes
Mercury	mg/L	<0.010	0.010	

**METHOD BLANK: T115733-BLK2**

Parameter	Units	Blank Result	Reporting Limit	Notes
Mercury	mg/L	<0.010	0.010	

**LABORATORY CONTROL SAMPLE: T115733-BS1**

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limit	Notes
Mercury	mg/L	0.00200	<0.010	91	80-120	

Trace Project ID: 21J0658  
 Client Project ID: TCLP - Annual Sample

QC Batch: T115712	Analysis Description: TCLP Extraction, Metals
QC Batch Method: Leaching procedures	Analysis Method: EPA 1311

Trace Project ID: 21J0658  
 Client Project ID: TCLP - Annual Sample

QC Batch: T115842	Analysis Description: TCLP ZHE, Volatiles
QC Batch Method: Leaching procedures	Analysis Method: EPA 1311

Trace Project ID: 21J0658  
 Client Project ID: TCLP - Annual Sample

QC Batch: T115844	Analysis Description: TCLP Pesticides
QC Batch Method: EPA 3510C Separatory Funnel Liquid-Liquid Extr.	Analysis Method: EPA 8081B

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**METHOD BLANK: T115844-BLK1**

Parameter	Units	Blank Result	Reporting Limit	Notes
Chlordane	mg/L	<0.000050	0.000050	
Endrin	mg/L	<0.000010	0.000010	
gamma-BHC (Lindane)	mg/L	<0.000010	0.000010	
Heptachlor	mg/L	<0.000010	0.000010	
Heptachlor epoxide	mg/L	<0.000010	0.000010	
Methoxychlor	mg/L	<0.000010	0.000010	
Toxaphene	mg/L	<0.000050	0.000050	
Tetrachloro-m-xylene (S)	%	54	38-94	
Decachlorobiphenyl (S)	%	51	40-93	

**METHOD BLANK: T115844-BLK2**

Parameter	Units	Blank Result	Reporting Limit	Notes
Chlordane	mg/L	<0.00050	0.00050	
Endrin	mg/L	<0.00010	0.00010	
gamma-BHC (Lindane)	mg/L	<0.00010	0.00010	
Heptachlor	mg/L	<0.00010	0.00010	
Heptachlor epoxide	mg/L	<0.00010	0.00010	
Methoxychlor	mg/L	<0.00010	0.00010	
Toxaphene	mg/L	<0.0050	0.0050	
Tetrachloro-m-xylene (S)	%	51	38-94	
<b>Decachlorobiphenyl (S)</b>	%	<b>38</b>	<b>40-93</b>	<b>304</b>

**LABORATORY CONTROL SAMPLE: T115844-BS1**

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limit	Notes
Endrin	mg/L	0.0000500	0.0000318	64	42-145	
gamma-BHC (Lindane)	mg/L	0.0000500	0.0000284	57	43-124	
Heptachlor	mg/L	0.0000500	0.0000261	52	21-142	
Heptachlor epoxide	mg/L	0.0000500	0.0000259	52	40-132	
Methoxychlor	mg/L	0.0000500	0.0000271	54	47-137	
Tetrachloro-m-xylene (S)	%	0.000100	0.0000564	56	38-94	
Decachlorobiphenyl (S)	%	0.000100	0.0000482	48	40-93	

Trace Project ID: 21J0658

Client Project ID: TCLP - Annual Sample

QC Batch: T115845

Analysis Description: TCLP Herbicides

QC Batch Method: EPA 8151

Analysis Method: EPA 8151A

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**METHOD BLANK: T115845-BLK1**

Parameter	Units	Blank Result	Reporting Limit	Notes
2,4-D	mg/L	<0.0020	0.0020	
2,4,5-TP (Silvex)	mg/L	<0.0010	0.0010	
2,4-Dichlorophenylacetic acid (S)	%	96	39-125	

**METHOD BLANK: T115845-BLK2**

Parameter	Units	Blank Result	Reporting Limit	Notes
2,4-D	mg/L	<0.50	0.50	
2,4,5-TP (Silvex)	mg/L	<0.25	0.25	
2,4-Dichlorophenylacetic acid (S)	%	98	39-125	

**LABORATORY CONTROL SAMPLE: T115845-BS1**

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limit	Notes
2,4-D	mg/L	0.0100	0.0101	101	40-129	
2,4,5-TP (Silvex)	mg/L	0.0100	0.0103	103	56-121	
2,4-Dichlorophenylacetic acid (S)	%	0.00800	0.00917	115	39-125	

Trace Project ID: 21J0658

Client Project ID: TCLP - Annual Sample

QC Batch: T115843

Analysis Description: TCLP Semi-Volatiles

QC Batch Method: EPA 3510C Separatory Funnel  
Liquid-Liquid Extr.

Analysis Method: EPA 8270D

**METHOD BLANK: T115843-BLK1**

Parameter	Units	Blank Result	Reporting Limit	Notes
Pyridine	mg/L	<0.0040	0.0040	
2-Methylphenol (o-Cresol)	mg/L	<0.00050	0.00050	
3,4-Methylphenol (m,p Cresol)	mg/L	<0.00050	0.00050	
Hexachloroethane	mg/L	<0.00050	0.00050	
Nitrobenzene	mg/L	<0.00020	0.00020	
Hexachlorobutadiene	mg/L	<0.00050	0.00050	
2,4,6-Trichlorophenol	mg/L	<0.00020	0.00020	
2,4,5-Trichlorophenol	mg/L	<0.00050	0.00050	
2,4-Dinitrotoluene	mg/L	<0.00050	0.00050	
Hexachlorobenzene	mg/L	<0.00050	0.00050	
Pentachlorophenol	mg/L	<0.0010	0.0010	
2-Fluorophenol (S)	%	21	20-53	
<b>Phenol-d5 (S)</b>	%	<b>10</b>	<b>11-40</b>	<b>801</b>
Nitrobenzene-d5 (S)	%	49	36-103	

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**METHOD BLANK: T115843-BLK1**

Parameter	Units	Blank Result	Reporting Limit	Notes
2-Fluorobiphenyl (S)	%	50	36-119	
2,4,6-Tribromophenol (S)	%	58	30-105	
Terphenyl-d14 (S)	%	56	37-109	

**METHOD BLANK: T115843-BLK2**

Parameter	Units	Blank Result	Reporting Limit	Notes
Pyridine	mg/L	<0.040	0.040	
2-Methylphenol (o-Cresol)	mg/L	<0.0050	0.0050	
3,4-Methylphenol (m,p Cresol)	mg/L	<0.0050	0.0050	
Hexachloroethane	mg/L	<0.0050	0.0050	
Nitrobenzene	mg/L	<0.0020	0.0020	
Hexachlorobutadiene	mg/L	<0.0050	0.0050	
2,4,6-Trichlorophenol	mg/L	<0.0020	0.0020	
2,4,5-Trichlorophenol	mg/L	<0.0050	0.0050	
2,4-Dinitrotoluene	mg/L	<0.0050	0.0050	
Hexachlorobenzene	mg/L	<0.0050	0.0050	
Pentachlorophenol	mg/L	<0.010	0.010	
2-Fluorophenol (S)	%	25	20-53	
Phenol-d5 (S)	%	12	11-40	
Nitrobenzene-d5 (S)	%	69	36-103	
2-Fluorobiphenyl (S)	%	73	36-119	
2,4,6-Tribromophenol (S)	%	75	30-105	
Terphenyl-d14 (S)	%	79	37-109	

**LABORATORY CONTROL SAMPLE: T115843-BS1**

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limit	Notes
2,4-Dinitrotoluene	mg/L	0.0505	0.0374	74	39-105	
Pentachlorophenol	mg/L	0.101	0.0575	57	38-102	
2-Fluorophenol (S)	%	0.100	0.0309	31	20-53	
Phenol-d5 (S)	%	0.100	0.0192	19	11-40	
Nitrobenzene-d5 (S)	%	0.100	0.0770	77	36-103	
2-Fluorobiphenyl (S)	%	0.101	0.0698	69	36-119	
2,4,6-Tribromophenol (S)	%	0.100	0.0879	88	30-105	
Terphenyl-d14 (S)	%	0.100	0.0748	75	37-109	

Trace Project ID: 21J0658

Client Project ID: TCLP - Annual Sample

QC Batch: T115939

Analysis Description: TCLP Volatiles

QC Batch Method: EPA 5035A Purge-and-Trap for Solids and Wastes

Analysis Method: EPA 8260C

**CERTIFICATE OF ANALYSIS**

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**METHOD BLANK: T115939-BLK1**

Parameter	Units	Blank Result	Reporting Limit	Notes
Vinyl chloride	mg/L	<0.10	0.10	
1,1-Dichloroethene	mg/L	<0.10	0.10	
2-Butanone	mg/L	<0.50	0.50	
Chloroform	mg/L	<0.10	0.10	
Carbon tetrachloride	mg/L	<0.10	0.10	
Benzene	mg/L	<0.10	0.10	
1,2-Dichloroethane	mg/L	<0.10	0.10	
Trichloroethene	mg/L	<0.10	0.10	
Tetrachloroethene	mg/L	<0.10	0.10	
Chlorobenzene	mg/L	<0.10	0.10	
1,4-Dichlorobenzene	mg/L	<0.10	0.10	
1,2-Dichloroethane-d4 (S)	%	99	68-133	
Toluene-d8 (S)	%	104	75-120	
4-Bromofluorobenzene (S)	%	109	69-119	
1,2-Dichlorobenzene-d4 (S)	%	109	72-127	

**LABORATORY CONTROL SAMPLE: T115939-BS1**

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limit	Notes
Vinyl chloride	mg/L	2.00	2.49	124	47-184	
1,1-Dichloroethene	mg/L	2.00	2.22	111	64-156	
2-Butanone	mg/L	2.00	2.06	103	70-130	
Chloroform	mg/L	2.00	2.20	110	80-120	
Carbon tetrachloride	mg/L	2.00	2.22	111	79-141	
Benzene	mg/L	2.00	2.09	104	80-120	
1,2-Dichloroethane	mg/L	2.00	2.10	105	80-120	
Trichloroethene	mg/L	2.00	2.18	109	69-133	
Tetrachloroethene	mg/L	2.00	2.32	116	70-120	
Chlorobenzene	mg/L	2.00	2.26	113	80-120	
1,4-Dichlorobenzene	mg/L	2.00	2.30	115	80-120	
1,2-Dichloroethane-d4 (S)	%	30.0	29.4	98	68-133	
Toluene-d8 (S)	%	30.0	30.8	103	75-120	
4-Bromofluorobenzene (S)	%	30.0	32.4	108	69-119	
1,2-Dichlorobenzene-d4 (S)	%	30.0	32.4	108	72-127	

**MATRIX SPIKE / MATRIX SPIKE DUPLICATE: T115939-MSD1**

Original: 21J0658-03

Parameter	Units	Original Result	Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limit	RPD	Max RPD	Notes
Vinyl chloride	mg/L	0	2.00	2.31	2.03	115	101	60-153	13	13	
1,1-Dichloroethene	mg/L	0	2.00	2.12	1.84	106	92	60-146	14	15	
2-Butanone	mg/L	0.166	2.00	1.91	1.78	87	80	60-140	8	23	

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**MATRIX SPIKE / MATRIX SPIKE DUPLICATE: T115939-MSD1**

Original: **21J0658-03**

Parameter	Units	Original Result	Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limit	RPD	Max RPD	Notes
Chloroform	mg/L	0	2.00	2.03	1.82	102	91	68-124	11	13	
<b>Carbon tetrachloride</b>	<b>mg/L</b>	<b>0</b>	<b>2.00</b>	<b>2.11</b>	<b>1.85</b>	<b>105</b>	<b>93</b>	<b>68-125</b>	<b>13</b>	<b>12</b>	<b>207</b>
<b>Benzene</b>	<b>mg/L</b>	<b>0</b>	<b>2.00</b>	<b>1.98</b>	<b>1.74</b>	<b>99</b>	<b>87</b>	<b>78-114</b>	<b>13</b>	<b>11</b>	<b>207</b>
1,2-Dichloroethane	mg/L	0	2.00	1.94	1.75	97	87	63-132	10	11	
Trichloroethene	mg/L	0	2.00	2.10	1.81	105	91	70-117	14	14	
<b>Tetrachloroethene</b>	<b>mg/L</b>	<b>0</b>	<b>2.00</b>	<b>2.18</b>	<b>1.89</b>	<b>109</b>	<b>95</b>	<b>57-126</b>	<b>14</b>	<b>12</b>	<b>207</b>
Chlorobenzene	mg/L	0	2.00	2.08	1.86	104	93	75-116	11	12	
1,4-Dichlorobenzene	mg/L	0	2.00	1.92	1.77	96	88	69-118	8	18	
1,2-Dichloroethane-d4 (S)	%		30.0	29.3	29.3	98	98	68-133			
Toluene-d8 (S)	%		30.0	30.8	31.0	102	104	75-120			
4-Bromofluorobenzene (S)	%		30.0	32.2	32.2	107	107	69-119			
1,2-Dichlorobenzene-d4 (S)	%		30.0	30.7	30.6	102	102	72-127			

Trace Project ID: 21J0658

Client Project ID: TCLP - Annual Sample

QC Batch: T115810

Analysis Description: Solids, Dry Weight

QC Batch Method: % Solids

Analysis Method: ASTM D2974-07a

Trace Project ID: 21J0658

Client Project ID: TCLP - Annual Sample

QC Batch: T116109

Analysis Description: Flash Point (Ignitability)

QC Batch Method: EPA 1010B

Analysis Method: EPA 1010B

**LABORATORY CONTROL SAMPLE: T116109-BS1**

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limit	Notes
Flashpoint	°F	127	125	99	95-105	

Trace Project ID: 21J0658

Client Project ID: TCLP - Annual Sample

QC Batch: T115674

Analysis Description: Corrosivity (pH for waste), 9040/9045

QC Batch Method: EPA 9045D

Analysis Method: EPA 9045D

Trace Project ID: 21J0658

Client Project ID: TCLP - Annual Sample

QC Batch: T115848

Analysis Description: Reactivity - Sulfide

QC Batch Method: EPA Chapter 7.3

Analysis Method: EPA Chapter 7.3

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**METHOD BLANK: T115848-BLK1**

Parameter	Units	Blank Result	Reporting Limit	Notes
Cyanide, Reactive	mg/kg wet	<0.50	0.50	
Sulfide, Reactive	mg/kg wet	<5.0	5.0	

**LABORATORY CONTROL SAMPLE: T115848-BS1**

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limit	Notes
Cyanide, Reactive	mg/kg wet	5.00	4.54	91	79-116	
Sulfide, Reactive	mg/kg wet	25.0	24.2	97	74-126	

**SAMPLE DUPLICATE: T115848-DUP1** Original: 21J0658-02

Parameter	Units	Original Result	DUP Result	RPD	Max RPD	Notes
Cyanide, Reactive	mg/kg dry	0	<0.50		200	

**MATRIX SPIKE / MATRIX SPIKE DUPLICATE: T115848-MSD1** Original: 21J0658-02

Parameter	Units	Original Result	Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limit	RPD	Max RPD	Notes
Sulfide, Reactive	mg/kg dry	0.842	10.3	10.0	9.85	89	88	52-115	2	27	

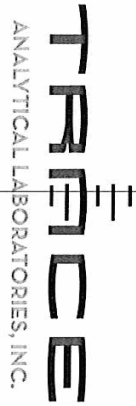
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Page 1 of 1

Trace ID No.  
 2150658

CHAIN-OF-CUSTODY RECORD

Report Results To:

Company Name: City of Kalamazoo  
 Report To: Shannan Deater  
 Mailing Address: 1415 N. Harrison  
 City, State, Zip Code: Kalamazoo, MI, 49004  
 Office Phone: 269-337-8667  
 Cell Phone: 269-377-4753  
 Email Address: deaters@kalamazoocty.org  
 PO #: \_\_\_\_\_  
 Contact Name: \_\_\_\_\_  
 Billing Address (if different): \_\_\_\_\_  
 City, State, Zip Code: \_\_\_\_\_  
 Phone Number: \_\_\_\_\_  
 Billing Email Address: \_\_\_\_\_

Trace Use:

Logged By: *SK*  
 Checked By: *SK*  
 Soil Volatiles Preserved (circle if applicable):  
 MeOH Low Level Lab  
 Sampling Time: \_\_\_\_\_

Turnaround Requirements:

- Standard, 5-10 Days  
 3 Day\*  
 1 Day\*

Matrix Key:

- WI = Wipes  
 S = Soil / Solid  
 LW = Liquid Waste  
 W = Water  
 SL = Sludge  
 A = Air  
 OI = Oil  
 D = Drinking Water

\*Results provided end of business day, requires prior approval.

Project Name: **TCLP-Annual Sample**

Sampled By: **Steve Helmer**

Trace No.	Date Collected	Time Collected	Client Sample ID	Metals Field Filtered (Y / N)	Matrix	Number of Containers	Preservation						Complete TCLP with herbicides and pesticides	Analysis Requested	Remarks	Possible Health Hazards?	
							Cool	HCl	HNO <sub>3</sub>	H <sub>2</sub> SO <sub>4</sub>	NaOH	Other					
1	10/13/2021		10-14-21-Plant	N	S	1											
2	10/13/2021		10-14-21-Vactor Sand	N	S	1											
3	10/13/2021		10-14-21-Cake	N	S	1											1 500 mL (delt press cake)
Please Sign Released By: <i>[Signature]</i> Date: 10/14/21 Time: 12:17PM Received By: <i>[Signature]</i> Date: 10/15/21 Time: 6:42AM Released By: <i>[Signature]</i> Date: 10/15/21 Time: 13:45																	

Check this box if you would not like your samples analyzed if received outside of the conditions outlined in the Trace Sample Acceptance Policy at www.trace-labs.com/downloads.

Form 70-Z-1

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**21J0658**

Kalamazoo, City of  
 Project Manager: Tim Brewer

**Sample Log In Checklist**

Date: 10-15-21	Original Observation	Corrected Temperature	IR-9 (CF: +0.1°C)	IR-10 (CF: +0.1°C)	20812743 (CF: -0.4°C)	Temp Blank	Client Sample
Time: 16:42							
Logged by: DH							
Package Description: Cooler							
Package Temp °C	-0.5	-0.4		✓			
Representative Sample Temp °C	1.3	1.4		✓			✓

**Sample Receipt**

- Yes No
- Received on ice or other coolant
- Ice still present upon receipt
- Custody seals present
- Trace Courier  Client Drop-off
- Yes  No Custody seals intact (if applicable)
- UPS  Fed Ex  US Mail  Other

**Sample Condition**

- Yes No N/A
- All sample containers arrived unbroken and labeled
- Sufficient sample to run requested analyses
- Correct chemical preservative added to samples
- Samples preserved at Trace
- Chemical preservation verified, check EMD pH test strip used (if applicable)
- pH 0-2.5 (Lot: HC029115)  pH 11.0-13.0 (Lot: HC022540)  Other
- Air bubbles absent from VOAs

**Chain of Custody (COC)**

- Yes No
- All bottle labels agree with COC
- COC filled out properly
- COC signed by client

**Notes:**

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December 17, 2021

Ms. Shannan Deater  
Kalamazoo, City of  
1415 N. Harrison St.  
Kalamazoo, MI 49007

RE: Trace Project 21K0777  
Client Project TENORM Sample

Dear Ms. Deater:

Enclosed are your analytical results. The results of this report relate only to the samples listed in the body of this report.

All reports were examined through Trace's validation process to ensure that requirements for quality and completeness were satisfied. All reported analytical results were obtained in accordance with the methods referenced on the reports. Every practical effort was made to meet the reporting limit specifications for this work, however, some results may have raised reporting limits to correct for percent solids.

The results were obtained from .

For clients that require NELAC Accreditation, Trace certifies that these test results meet all requirements of the NELAC Standard, except for those analytes with a "N" notation. These analytes have not been evaluated by NELAC at Trace's discretion and will not be reported unless requested by client.

If you have questions concerning this report, please contact me at 231.773.5998 or by email at [tbrewer@trace-labs.com](mailto:tbrewer@trace-labs.com).

Sincerely,

A handwritten signature in black ink that reads "Timothy W. Brewer".

Tim Brewer  
Project Manager

Enclosures



NJDEP Accreditation No. MI008



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### SAMPLE SUMMARY

Trace Project ID: 21K0777  
Client Project ID: TENORM Sample

Trace ID	Sample ID	Matrix	Collected By	Date Collected	Date Received
21K0777-01	11-17-21-Cake and Vactor Spoils-Blend	Solid	BJ	11/17/21 12:15	11/17/21 13:45

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## AN EXPLANATION OF TERMS AND SYMBOLS WHICH MAY OCCUR IN THIS REPORT

### DEFINITIONS

LCS	Laboratory Control Sample
LCSD	Laboratory Control Sample Duplicate
MS	Matrix Spike
MSD	Matrix Spike Duplicate
RPD	Relative Percent Difference
DUP	Matrix Duplicate
RDL	Reporting Detection Limit
MCL	Maximum Contamination Limit
TIC	Tentatively Identified Compound
<, ND or U	Indicates the compound was analyzed for but not detected
*	Indicates a result that exceeds its associated MCL or Surrogate control limits
N	Indicates that the compound has not been evaluated by NELAC
NA	Indicates that the compound is not available.



Summit Environmental Technologies, Inc.  
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TEL: (330) 253-8211 FAX: (330) 253-4489  
Website: <http://www.settek.com>

December 17, 2021

Jon Mink  
Trace Analytical Laboratories, Inc.  
2241 Black Creek Road  
Muskegon, MI 49444  
TEL: (231) 773-5998  
FAX: (231) 773-6537

RE: 21K0777

Dear Jon Mink:

Order No.: 21111591

Summit Environmental Technologies, Inc. received 2 sample(s) on 11/24/2021 for the analyses presented in the following report.

There were no problems with the analytical events associated with this report unless noted in the Case Narrative.

Quality control data is within laboratory defined or method specified acceptance limits except where noted.

If you have any questions regarding these tests results, please feel free to call the laboratory.

Sincerely,

Holly Florea  
Project Manager  
3310 Win St.  
Cuyahoga Falls, Ohio 44223

Arkansas 88-0735, California 2943, Colorado, Connecticut PH-0108, Florida NELAC E87688, Idaho OH00923, Illinois 200061, Indiana C-OH-13, Kansas E-10347, Kentucky (Underground Storage Tank) 3, Kentucky 90146, Maryland 339, Michigan 9988, Minnesota 1780279, Nevada OH009232020-1, New Hampshire 2996, New Jersey OH006, New York 11777, North Carolina 39705 and 631, North Dakota R-201, Ohio DW, Ohio VAP CL0052, Oklahoma 2019-155, Oregon OH200001, Pennsylvania 011, Rhode Island LA000317, South Carolina 92016001, Texas T104704466-19-16, Utah OH009232020-12, Virginia VELAP 10381, West Virginia 9957C



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## Case Narrative

WO#: 2111591  
Date: 12/17/2021

---

**CLIENT:** Trace Analytical Laboratories, Inc.  
**Project:** 21K0777

---

### WorkOrder Narrative:

This report in its entirety consists of the following documents: Cover Letter, Case Narrative, Analytical Results, QC Summary Report, Applicable Accreditation Information, Chain-of-Custody, Cooler Receipt Form, and other applicable forms as necessary. All documents contain the Summit Environmental Technologies, Inc., Work Order Number assigned to this report.

Summit Environmental Technologies, Inc., holds the accreditations/certifications listed at the bottom of the cover letter that may or may not pertain to this report. Please refer to the "Accreditation Program Analytes Report" for accredited analytes list.

The information contained in this analytical report is the sole property of Summit Environmental Technologies, Inc. and that of the customer. It cannot be reproduced in any form without the consent of Summit Environmental Technologies, Inc. or the customer for which this report was issued. The results contained in this report are only representative of the samples received. Conditions can vary at different times and at different sampling conditions. Summit Environmental Technologies, Inc. is not responsible for use or interpretation of the data included herein.

All results for Solid Samples are reported on an "as received" or "wet weight" basis unless indicated as "dry weight" using the "-dry" designation on the reporting units.

This report is believed to meet all of the requirements of the accrediting agency, where applicable. Any comments or problems with the analytical events associated with this report are noted below.

### WorkOrder Comments:

2111591: State required accreditation not specified; results may not be reported as certified data.

---

Original



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**Workorder**  
**Sample Summary**  
WO#: 21111591  
17-Dec-21

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---

**CLIENT:** Trace Analytical Laboratories, Inc.  
**Project:** 21K0777

---

Lab SampleID	Client Sample ID	Tag No	Date Collected	Date Received	Matrix
21111591-001	21K0777-01 No Incubation		11/17/2021 12:15:00 PM	11/24/2021 9:55:00 AM	Solid
21111591-002	21K0777-01 Full Incubation		11/17/2021 12:15:00 PM	11/24/2021 9:55:00 AM	Solid



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# Analytical Report

(consolidated)

WO#: 21111591

Date Reported: 12/17/2021

**CLIENT:** Trace Analytical Laboratories, Inc.

**Collection Date:** 11/17/2021 12:15:00 PM

**Project:** 21K0777

**Lab ID:** 21111591-001

**Matrix:** SOLID

**Client Sample ID:** 21K0777-01 No Incubation

Analyses	Result	PQL	Qual	Units	Uncertainty	DF	Date Analyzed
<b>GAMMA SPEC (901.1M)</b>				<b>E901.1M</b>		Analyst: <b>CXS</b>	
Lead-210(Pb-210)	3.84	0.779		pCi/g-dry	± 2.06	1	11/26/2021 4:17:00 PM
Radium-226	3.17	0.612		pCi/g-dry	± 1.62	1	11/26/2021 4:17:00 PM
Radium-228	1.17	0.0556		pCi/g-dry	± 0.390	1	11/26/2021 4:17:00 PM

**NOTES:**

Ra-226 analyzed without full incubation per client request.

<b>Qualifiers:</b>	H	Holding times for preparation or analysis exceeded	M	Manual Integration used to determine area response
	ND	Not Detected	PL	Permit Limit
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
	W	Sample container temperature is out of limit as specified at testcode		

Original



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# Analytical Report

(consolidated)  
 WO#: 21111591  
 Date Reported: 12/17/2021

**CLIENT:** Trace Analytical Laboratories, Inc. **Collection Date:** 11/17/2021 12:15:00 PM  
**Project:** 21K0777  
**Lab ID:** 21111591-002 **Matrix:** SOLID  
**Client Sample ID:** 21K0777-01 Full Incubation

Analyses	Result	PQL	Qual	Units	Uncertainty	DF	Date Analyzed
<b>GAMMA SPEC (901.1M)</b>				<b>E901.1M</b>		Analyst: <b>CXS</b>	
Radium-226	0.334	0.0556		pCi/g-dry	± 0.180	1	12/17/2021 10:41:00 A

**Qualifiers:**

H	Holding times for preparation or analysis exceeded	M	Manual Integration used to determine area response
ND	Not Detected	PL	Permit Limit
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
W	Sample container temperature is out of limit as specified at testcode		

Original



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# Analytical Report

(consolidated)  
 WO#: 21111591  
 Date Reported: 12/17/2021

**CLIENT:** Trace Analytical Laboratories, Inc. **Collection Date:** 11/17/2021 12:15:00 PM  
**Project:** 21K0777  
**Lab ID:** 21111591-001 **Matrix:** SOLID  
**Client Sample ID:** 21K0777-01 No Incubation

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
<b>PERCENT MOISTURE BY SM2540MOD</b>					<b>A2540B</b>	Analyst: <b>DHC</b>
Percent Moisture	82.0	0.100		%	1	11/26/2021 2:45:00 PM

**Qualifiers:**

H	Holding times for preparation or analysis exceeded	M	Manual Integration used to determine area response
ND	Not Detected	PL	Permit Limit
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
W	Sample container temperature is out of limit as specified at testcode		

Original





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# Analytical Report

(consolidated)

WO#: 21111591

Date Reported: 12/17/2021

**CLIENT:** Trace Analytical Laboratories, Inc. **Collection Date:** 11/17/2021 12:15:00 PM  
**Project:** 21K0777  
**Lab ID:** 21111591-002 **Matrix:** SOLID  
**Client Sample ID:** 21K0777-01 Full Incubation

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
<b>PERCENT MOISTURE BY SM2540MOD</b>				<b>A2540B</b>		Analyst: <b>DHC</b>
Percent Moisture	82.0	0.100	%	1	11/26/2021 2:45:00 PM	

**Qualifiers:**

H	Holding times for preparation or analysis exceeded	M	Manual Integration used to determine area response
ND	Not Detected	PL	Permit Limit
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
W	Sample container temperature is out of limit as specified at testcode		

Original



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# QC SUMMARY REPORT

WO#: 21111591  
 17-Dec-21

**Client:** Trace Analytical Laboratories, Inc.  
**Project:** 21K0777

**BatchID:** R136912

Sample ID: <b>MB-R136912</b>	SampType: <b>MBLK</b>	TestCode: <b>PctMoist_S(2</b> Units: %	Prep Date:	RunNo: <b>136912</b>							
Client ID: <b>PBS</b>	Batch ID: <b>R136912</b>	TestNo: <b>A2540B</b>	Analysis Date: <b>11/26/2021</b>	SeqNo: <b>3617257</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Percent Moisture	ND	0.100									

<b>Qualifiers:</b>	B Analyte detected in the associated Method Blank	E Value above quantitation range	H Holding times for preparation or analy
	J Analyte detected below quantitation limits	M Manual Integration used to determine area response	MC Value is below Minimum Compound
	ND Not Detected	OG1	P Second column confirmation exceeds
	PL Permit Limit	R RPD outside accepted recovery limits	RL Reporting Detection Limit

Original

These commonly used Qualifiers and Acronyms may or may not be present in this report.

### Qualifiers

<b>U</b>	The compound was analyzed for but was not detected.
<b>J</b>	The reported value is greater than the Method Detection Limit but less than the Reporting Limit.
<b>H</b>	The hold time for sample preparation and/or analysis was exceeded.
<b>D</b>	The result is reported from a dilution.
<b>E</b>	The result exceeded the linear range of the calibration or is estimated due to interference.
<b>MC</b>	The result is below the Minimum Compound Limit.
<b>*</b>	The result exceeds the Regulatory Limit or Maximum Contamination Limit.
<b>m</b>	Manual integration was used to determine the area response.
<b>d</b>	Manual integration in which peak was deleted
<b>N</b>	The result is presumptive based on a Mass Spectral library search assuming a 1:1 response.
<b>P</b>	The second column confirmation exceeded 25% difference.
<b>C</b>	The result has been confirmed by GC/MS.
<b>X</b>	The result was not confirmed when GC/MS Analysis was performed.
<b>B/MB+</b>	The analyte was detected in the associated blank.
<b>G</b>	The ICB or CCB contained reportable amounts of analyte.
<b>QC-/+</b>	The CCV recovery failed low (-) or high (+).
<b>R/QDR</b>	The RPD was outside of accepted recovery limits.
<b>QL-/+</b>	The LCS or LCSD recovery failed low (-) or high (+).
<b>QLR</b>	The LCS/LCSD RPD was outside of accepted recovery limits.
<b>QM-/+</b>	The MS or MSD recovery failed low (-) or high (+).
<b>QMR</b>	The MS/MSD RPD was outside of accepted recovery limits.
<b>QV-/+</b>	The ICV recovery failed low (-) or high (+).
<b>S</b>	The spike result was outside of accepted recovery limits.
<b>Z</b>	Deviation; A deviation from the method was performed; Please refer to the Case Narrative for additional information

### Acronyms

<b>ND</b>	Not Detected	<b>RL</b>	Reporting Limit
<b>QC</b>	Quality Control	<b>MDL</b>	Method Detection Limit
<b>MB</b>	Method Blank	<b>LOD</b>	Level of Detection
<b>LCS</b>	Laboratory Control Sample	<b>LOQ</b>	Level of Quantitation
<b>LCSD</b>	Laboratory Control Sample Duplicate	<b>PQL</b>	Practical Quantitation Limit
<b>QCS</b>	Quality Control Sample	<b>CRQL</b>	Contract Required Quantitation Limit
<b>DUP</b>	Duplicate	<b>PL</b>	Permit Limit
<b>MS</b>	Matrix Spike	<b>RegLvl</b>	Regulatory Limit
<b>MSD</b>	Matrix Spike Duplicate	<b>MCL</b>	Maximum Contamination Limit
<b>RPD</b>	Relative Percent Different	<b>MinCL</b>	Minimum Compound Limit
<b>ICV</b>	Initial Calibration Verification	<b>RA</b>	Reanalysis
<b>ICB</b>	Initial Calibration Blank	<b>RE</b>	Reextraction
<b>CCV</b>	Continuing Calibration Verification	<b>TIC</b>	Tentatively Identified Compound
<b>CCB</b>	Continuing Calibration Blank	<b>RT</b>	Retention Time
<b>RLC</b>	Reporting Limit Check	<b>CF</b>	Calibration Factor
<b>DF</b>	Dilution Factor	<b>RF</b>	Response Factor

**This list of Qualifiers and Acronyms reflects the most commonly utilized Qualifiers and Acronyms for reporting. Please refer to the Analytical Notes in the Case Narrative for any Qualifiers or Acronyms that do not appear in this list or for additional information regarding the use of these Qualifiers on reported data.**

Trace Analytical Laboratories, Inc.  
2241 Black Creek Road  
Muskegon, MI 49444-2673



231-773-5998 Phone  
888-979-4469 Fax  
www.trace-labs.com

**SUBCONTRACT ORDER**

21K0777

2111591

SENDING LABORATORY:

Trace Analytical Laboratories, Inc.  
2241 Black Creek Road  
Muskegon, MI 49444  
Phone: 231.773.5998

RECEIVING LABORATORY:

Summit Environmental Technologies, Inc.  
3310 Win Street  
Cuyahoga Falls, OH 44223  
Phone : (330) 253-8211

Project Manager: Tim Brewer

Note Our New Email address: TraceSubOut@trace-labs.com

**PO # 21K0777**

Matrix: Solid

Sampled: 11/17/21 12:15

TAT: Standard

Sample ID: 11-17-21-Cake and Vactor Spoils-Blend 21K0777-01

Sampled By: BJ

*Analysis Needed:*

TENORM (Radium 226/228, Pb210)

VPS cooler,  
no ice

14.8 + 0.9 =  
15.7

Released By: Hayley Schultz Date: 11/17/21 Received By: C. Jeay Date: 11/24/21 9:55

Released By \_\_\_\_\_ Date \_\_\_\_\_ Received By \_\_\_\_\_ Date \_\_\_\_\_



Summit Environmental Technologies, Inc.  
 3310 Win St.  
 Cuyahoga Falls, Ohio 44223  
 TEL: (330) 253-8211 FAX: (330) 253-4489  
 Website: <http://www.settek.com>

# Sample Log-In Check List

Client Name: **TRA-MI-49444** Work Order Number: **21111591** RcptNo: **1**

Logged by:	<b>Christina N. Jager</b>	<b>11/24/2021 9:55:00 AM</b>	<i>C. Jager</i>
Completed By:	<b>Christina N. Jager</b>	<b>11/24/2021 12:47:56 PM</b>	<i>C. Jager</i>
Reviewed By:	<b>Holly Florea</b>	<b>11/26/2021 8:47:00 AM</b>	<i>Holly Florea</i>

### Chain of Custody

1. Is Chain of Custody complete? Yes  No  Not Present   
 2. How was the sample delivered? UPS

### Log In

3. Coolers are present? Yes  No  NA   
 4. Shipping container/cooler in good condition? Yes  No   
 Custody seals intact on shipping container/cooler? Yes  No  Not Present   
 No. Seal Date: Signed By:  
 5. Was an attempt made to cool the samples? Yes  No  NA   
 6. Were all samples received at a temperature of >0° C to 6.0°C Yes  No  NA   
Not required  
 7. Sample(s) in proper container(s)? Yes  No   
 8. Sufficient sample volume for indicated test(s)? Yes  No   
 9. Are samples (except VOA and ONG) properly preserved? Yes  No   
 10. Was preservative added to bottles? Yes  No  NA   
 11. Is the headspace in the VOA vials less than 1/4 inch or 6 mm? Yes  No  No VOA Vials   
 12. Were any sample containers received broken? Yes  No   
 13. Does paperwork match bottle labels? Yes  No   
 (Note discrepancies on chain of custody)  
 14. Are matrices correctly identified on Chain of Custody? Yes  No   
 15. Is it clear what analyses were requested? Yes  No   
 16. Were all holding times able to be met? Yes  No   
 (If no, notify customer for authorization.)

### Special Handling (if applicable)

17. Was client notified of all discrepancies with this order? Yes  No  NA

Person Notified:	<input type="text"/>	Date:	<input type="text"/>
By Whom:	<input type="text"/>	Via:	<input type="checkbox"/> eMail <input type="checkbox"/> Phone <input type="checkbox"/> Fax <input type="checkbox"/> In Person
Regarding:	<input type="text"/>		
Client Instructions:	<input type="text"/>		

18. Additional remarks:

### Cooler Information

Cooler No	Temp °C	Condition	Seal Intact	Seal No	Seal Date	Signed By
Box	15.7	Good	Not Present			



**21K0777**  
 Kalamazoo, City of  
 Project Manager: Tim Brewer

**Sample Log In Checklist**

Date: 11-17-21	Original Observation	Corrected Temperature	IR-9 (CF: +0.1°C)	IR-10 (CF: +0.1°C)	20B12743 (CF: -0.4°C)	Temp Blank	Client Sample
Time: 16:09							
Logged by: DH							
Package Description: Cooler							
Package Temp °C	0.5	0.6	✓				
Representative Sample Temp °C	3.7	3.8	✓				✓

**Sample Receipt**

Yes No

- Received on ice or other coolant  
  Ice still present upon receipt  
  Custody seals present  Yes  No Custody seals intact (if applicable)  
 Trace Courier  Client Drop-off  UPS  Fed Ex  US Mail  Other

**Sample Condition**

Yes No N/A

- All sample containers arrived unbroken and labeled  
   Sufficient sample to run requested analyses  
   Correct chemical preservative added to samples  
   Samples preserved at Trace \_\_\_\_\_  
   Chemical preservation verified, check EMD pH test strip used (if applicable)  
 pH 0-2.5 (Lot: HC029115)  pH 11.0-13.0 (Lot: HC022540)  Other  
   Air bubbles absent from VOAs \_\_\_\_\_

**Chain of Custody (COC)**

Yes No

- All bottle labels agree with COC  
  COC filled out properly  
  COC signed by client

**Notes:**

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