

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



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

May 24, 2022

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

RE: Trace Project 22E0298  
Client Project Annual NPDES Sampling

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 [jmink@trace-labs.com](mailto:jmink@trace-labs.com).

Sincerely,

A handwritten signature in black ink, appearing to read "Jon Mink".

Jon Mink  
Senior Project Manager  
Enclosures



NJDEP Accreditation No. MI008

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### SAMPLE SUMMARY

Trace Project ID: 22E0298  
Client Project ID: Annual NPDES Sampling

Trace ID	Sample ID	Matrix	Collected By	Date Collected	Date Received
22E0298-01	21-125-CMBC	Solid	KWRP	05/05/22 22:00	05/06/22 12:00

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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**

Trace ID: 22E0298-01

***Analysis: EPA 8270E***

Note 407 : The reporting limit was raised due to a post extraction dilution required based on matrix interference present in the sample.

Trace ID: T122885-BLK1

***Analysis: EPA 8270E***

**2,4,6-Tribromophenol** 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.

**Terphenyl-d14** Note 802 : One of the base/neutral surrogate recoveries was outside the control limits. Since the other two base/neutral surrogates were within the control limits, no data require qualification.

Trace ID: T122885-BS1

***Analysis: EPA 8270E***

**2,4,6-Tribromophenol** Note 305.5 : The surrogate recovery was out of control when compared to the control limits. Because all spike recoveries required no qualification, no data require qualification.

**2-Fluorophenol** Note 305.5 : The surrogate recovery was out of control when compared to the control limits. Because all spike recoveries required no qualification, no data require qualification.

**Nitrobenzene-d5** Note 305.5 : The surrogate recovery was out of control when compared to the control limits. Because all spike recoveries required no qualification, no data require qualification.

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**Terphenyl-d14**

Note 305.5 : The surrogate recovery was out of control when compared to the control limits. Because all spike recoveries required no qualification, no data require qualification.

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Trace ID: T122885-MS1

**Analysis: EPA 8270E**

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**2-Fluorobiphenyl**

Note 318 : The surrogate was out of control low when compared to the control limits. The results for the base/neutral compounds must be considered estimated.

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**Terphenyl-d14**

Note 318 : The surrogate was out of control low when compared to the control limits. The results for the base/neutral compounds must be considered estimated.

---

Trace ID: T122885-MSD1

**Analysis: EPA 8270E**

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**1,2,4-Trichlorobenzene**

Note 205 : The MS and MSD recoveries were out of control low. The result and reporting limit for this analyte, in the non-spiked version of the sample, must be considered estimated.

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**1,4-Dichlorobenzene**

Note 209 : The MSD recovery was out of control. Because the MS recovery and the RPD between the MS and the MSD were in control, no data require qualification.

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**2-Chlorophenol**

Note 209 : The MSD recovery was out of control. Because the MS recovery and the RPD between the MS and the MSD were in control, no data require qualification.

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**2-Fluorobiphenyl**

Note 318 : The surrogate was out of control low when compared to the control limits. The results for the base/neutral compounds must be considered estimated.

---

**Acenaphthene**

Note 205 : The MS and MSD recoveries were out of control low. The result and reporting limit for this analyte, in the non-spiked version of the sample, must be considered estimated.

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**N-Nitrosodi-n-propylamine**

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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**Pentachlorophenol**

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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**Phenol**

Note 209 : The MSD recovery was out of control. Because the MS recovery and the RPD between the MS and the MSD were in control, no data require qualification.

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**Pyrene**

Note 205 : The MS and MSD recoveries were out of control low. The result and reporting limit for this analyte, in the non-spiked version of the sample, must be considered estimated.

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**Terphenyl-d14**

Note 318 : The surrogate was out of control low when compared to the control limits. The results for the base/neutral compounds must be considered estimated.

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Trace ID: T123209-MS1

**Analysis: EPA 1671**

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**Diethylamine**

Note 230 : The MS and MSD were out of control high. Because there was no positive result in the non-spiked version of the sample, no data require qualification.

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Trace ID: T123209-MSD1

**Analysis: EPA 1671**

---

**Diethylamine**

Note 230 : The MS and MSD were out of control high. Because there was no positive result in the non-spiked version of the sample, no data require qualification.

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**Triethylamine**

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: 22E0298  
 Client Project ID: Annual NPDES Sampling

Trace ID: 22E0298-01 Matrix: Solid Date Collected: 05/05/22 22:00  
 Sample ID: 21-125-CMBC Date Received: 05/06/22 12:00

PARAMETERS	RESULTS UNITS	RDL	DILUTION	PREPARED	BY	ANALYZED	BY	NOTES	MCL
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**METALS, TOTAL**

Analysis Method: EPA 7471B

Batch: T122723

Mercury	<0.17 mg/kg dry	0.17	1	05/10/22	dc	05/12/22	dc		
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**METALS, TOTAL**

Analysis Method: EPA 6010D

Batch: T122717

Boron	30 mg/kg dry	8.0	1	05/10/22	dc	05/20/22	mrh		
Calcium	15000 mg/kg dry	100	10	05/10/22	dc	05/20/22	mrh		
Lithium	1.9 mg/kg dry	0.94	1	05/10/22	dc	05/18/22	acs	N	

Analysis Method: EPA 6020B

Batch: T122717

Antimony	<1.0 mg/kg dry	1.0	5	05/10/22	dc	05/19/22	ckd		
Arsenic	6.2 mg/kg dry	2.0	5	05/10/22	dc	05/19/22	ckd		
Barium	240 mg/kg dry	4.7	5	05/10/22	dc	05/19/22	ckd		
Beryllium	<0.50 mg/kg dry	0.50	5	05/10/22	dc	05/19/22	ckd		
Cadmium	0.30 mg/kg dry	0.20	5	05/10/22	dc	05/19/22	ckd		
Chromium	20 mg/kg dry	2.0	5	05/10/22	dc	05/19/22	ckd		
Copper	250 mg/kg dry	1.0	5	05/10/22	dc	05/19/22	ckd		
Lead	<10 mg/kg dry	10	5	05/10/22	dc	05/19/22	ckd		
Molybdenum	14 mg/kg dry	1.4	5	05/10/22	dc	05/19/22	ckd	N	
Nickel	30 mg/kg dry	1.0	5	05/10/22	dc	05/19/22	ckd		
Selenium	1.6 mg/kg dry	0.28	5	05/10/22	dc	05/19/22	ckd		
Silver	0.71 mg/kg dry	0.23	5	05/10/22	dc	05/19/22	ckd		
Thallium	<0.50 mg/kg dry	0.50	5	05/10/22	dc	05/19/22	ckd		
Zinc	330 mg/kg dry	2.3	5	05/10/22	dc	05/19/22	ckd		

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### ANALYTICAL RESULTS

Trace Project ID: 22E0298  
 Client Project ID: Annual NPDES Sampling

Trace ID: 22E0298-01 Matrix: Solid Date Collected: 05/05/22 22:00  
 Sample ID: 21-125-CMBC Date Received: 05/06/22 12:00

PARAMETERS	RESULTS UNITS	RDL	DILUTION	PREPARED	BY	ANALYZED	BY	NOTES	MCL
<b>WET CHEMISTRY</b>									
<b>Analysis Method: EPA 1664A</b>									
<i>Batch: [CALC]</i>									
Fats, Oil & Grease (Non-Polar)	<420 mg/kg dry	420	1	05/10/22		05/11/22	kbc	N	
<b>Fats, Oil &amp; Grease (Polar)</b>	<b>580 mg/kg dry</b>	<b>420</b>	<b>1</b>	<b>05/10/22</b>		<b>05/11/22</b>	<b>kbc</b>	<b>N</b>	
<b>Analysis Method: EPA 9071B</b>									
<i>Batch: T122776</i>									
<b>Oil &amp; Grease (HEM)</b>	<b>2600 mg/kg dry</b>	<b>1900</b>	<b>0.997009</b>	<b>05/10/22</b>	<b>kbc</b>	<b>05/11/22</b>	<b>kbc</b>	<b>N</b>	
Total Petroleum Hydrocarbons (SGT-HEM)	<1900 mg/kg dry	1900	0.997009	05/10/22	kbc	05/11/22	kbc	N	
<b>SEMI-VOLATILE ORGANIC COMPOUNDS BY GC-MS</b>									407
<b>Analysis Method: EPA 8270E</b>									
<i>Batch: T122885</i>									
Bis(2-chloroethyl)ether	<730 ug/kg dry	730	5	05/12/22	kbc	05/16/22	avl		
2-Chlorophenol	<1800 ug/kg dry	1800	5	05/12/22	kbc	05/16/22	avl		
<b>Phenol</b>	<b>2400 ug/kg dry</b>	<b>1800</b>	<b>5</b>	<b>05/12/22</b>	<b>kbc</b>	<b>05/16/22</b>	<b>avl</b>		
1,3-Dichlorobenzene	<1800 ug/kg dry	1800	5	05/12/22	kbc	05/16/22	avl		
1,4-Dichlorobenzene	<1800 ug/kg dry	1800	5	05/12/22	kbc	05/16/22	avl		
1,2-Dichlorobenzene	<1800 ug/kg dry	1800	5	05/12/22	kbc	05/16/22	avl		
Benzyl alcohol	<15000 ug/kg dry	15000	5	05/12/22	kbc	05/16/22	avl		
Bis(2-chloroisopropyl)ether	<1800 ug/kg dry	1800	5	05/12/22	kbc	05/16/22	avl		
2-Methylphenol (o-Cresol)	<1800 ug/kg dry	1800	5	05/12/22	kbc	05/16/22	avl		
<b>3,4-Methylphenol (m,p Cresol)</b>	<b>13000 ug/kg dry</b>	<b>1800</b>	<b>5</b>	<b>05/12/22</b>	<b>kbc</b>	<b>05/16/22</b>	<b>avl</b>		
N-Nitrosodi-n-propylamine	<1800 ug/kg dry	1800	5	05/12/22	kbc	05/16/22	avl		
Hexachloroethane	<1800 ug/kg dry	1800	5	05/12/22	kbc	05/16/22	avl		
Nitrobenzene	<950 ug/kg dry	950	5	05/12/22	kbc	05/16/22	avl		
Isophorone	<1800 ug/kg dry	1800	5	05/12/22	kbc	05/16/22	avl		
2-Nitrophenol	<1800 ug/kg dry	1800	5	05/12/22	kbc	05/16/22	avl		
2,4-Dimethylphenol	<1800 ug/kg dry	1800	5	05/12/22	kbc	05/16/22	avl		
Bis(2-chloroethoxy)methane	<1800 ug/kg dry	1800	5	05/12/22	kbc	05/16/22	avl		
Benzoic acid	<26000 ug/kg dry	26000	5	05/12/22	kbc	05/16/22	avl		
1,2,4-Trichlorobenzene	<1800 ug/kg dry	1800	5	05/12/22	kbc	05/16/22	avl		
2,4-Dichlorophenol	<1800 ug/kg dry	1800	5	05/12/22	kbc	05/16/22	avl		
Naphthalene	<1800 ug/kg dry	1800	5	05/12/22	kbc	05/16/22	avl		

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### ANALYTICAL RESULTS

Trace Project ID: 22E0298  
 Client Project ID: Annual NPDES Sampling

Trace ID: 22E0298-01 Matrix: Solid Date Collected: 05/05/22 22:00  
 Sample ID: 21-125-CMBC Date Received: 05/06/22 12:00

PARAMETERS	RESULTS UNITS	RDL	DILUTION	PREPARED	BY	ANALYZED	BY	NOTES	MCL
<b>SEMI-VOLATILE ORGANIC COMPOUNDS BY GC-MS</b>								407	
4-Chloroaniline	<4600 ug/kg dry	4600	5	05/12/22	kbc	05/16/22	avl		
Hexachlorobutadiene	<840 ug/kg dry	840	5	05/12/22	kbc	05/16/22	avl		
4-Chloro-3-methylphenol	<1800 ug/kg dry	1800	5	05/12/22	kbc	05/16/22	avl		
2-Methylnaphthalene	<4600 ug/kg dry	4600	5	05/12/22	kbc	05/16/22	avl		
Hexachlorocyclopentadiene	<3800 ug/kg dry	3800	5	05/12/22	kbc	05/16/22	avl		
2,4,6-Trichlorophenol	<1500 ug/kg dry	1500	5	05/12/22	kbc	05/16/22	avl		
2,4,5-Trichlorophenol	<1800 ug/kg dry	1800	5	05/12/22	kbc	05/16/22	avl		
2-Chloronaphthalene	<1800 ug/kg dry	1800	5	05/12/22	kbc	05/16/22	avl		
2-Nitroaniline	<5000 ug/kg dry	5000	5	05/12/22	kbc	05/16/22	avl		
Dimethyl phthalate	<1800 ug/kg dry	1800	5	05/12/22	kbc	05/16/22	avl		
Acenaphthylene	<1800 ug/kg dry	1800	5	05/12/22	kbc	05/16/22	avl		
2,6-Dinitrotoluene	<1800 ug/kg dry	1800	5	05/12/22	kbc	05/16/22	avl		
3-Nitroaniline	<4600 ug/kg dry	4600	5	05/12/22	kbc	05/16/22	avl		
Acenaphthene	<1800 ug/kg dry	1800	5	05/12/22	kbc	05/16/22	avl		
Dibenzofuran	<1800 ug/kg dry	1800	5	05/12/22	kbc	05/16/22	avl		
2,4-Dinitrotoluene	<1800 ug/kg dry	1800	5	05/12/22	kbc	05/16/22	avl		
4-Nitrophenol	<15000 ug/kg dry	15000	5	05/12/22	kbc	05/16/22	avl		
2,4-Dinitrophenol	<15000 ug/kg dry	15000	5	05/12/22	kbc	05/16/22	avl		
Diethyl phthalate	<1800 ug/kg dry	1800	5	05/12/22	kbc	05/16/22	avl		
Fluorene	<1800 ug/kg dry	1800	5	05/12/22	kbc	05/16/22	avl		
4-Chlorophenyl phenyl ether	<1800 ug/kg dry	1800	5	05/12/22	kbc	05/16/22	avl		
4-Nitroaniline	<5100 ug/kg dry	5100	5	05/12/22	kbc	05/16/22	avl		
4,6-Dinitro-2-methylphenol	<6000 ug/kg dry	6000	5	05/12/22	kbc	05/16/22	avl		
N-Nitrosodiphenylamine	<1800 ug/kg dry	1800	5	05/12/22	kbc	05/16/22	avl		
4-Bromophenyl phenyl ether	<1800 ug/kg dry	1800	5	05/12/22	kbc	05/16/22	avl		
Hexachlorobenzene	<1800 ug/kg dry	1800	5	05/12/22	kbc	05/16/22	avl		
Pentachlorophenol	<7900 ug/kg dry	7900	5	05/12/22	kbc	05/16/22	avl		
Phenanthrene	<730 ug/kg dry	730	5	05/12/22	kbc	05/16/22	avl		
Anthracene	<1800 ug/kg dry	1800	5	05/12/22	kbc	05/16/22	avl		
Carbazole	<1800 ug/kg dry	1800	5	05/12/22	kbc	05/16/22	avl		
Di-n-butyl phthalate	<1800 ug/kg dry	1800	5	05/12/22	kbc	05/16/22	avl		
Fluoranthene	<730 ug/kg dry	730	5	05/12/22	kbc	05/16/22	avl		
Pyrene	<1800 ug/kg dry	1800	5	05/12/22	kbc	05/16/22	avl		

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### ANALYTICAL RESULTS

Trace Project ID: 22E0298  
 Client Project ID: Annual NPDES Sampling

Trace ID: 22E0298-01 Matrix: Solid Date Collected: 05/05/22 22:00  
 Sample ID: 21-125-CMBC Date Received: 05/06/22 12:00

PARAMETERS	RESULTS UNITS	RDL	DILUTION	PREPARED	BY	ANALYZED	BY	NOTES	MCL
<b>SEMI-VOLATILE ORGANIC COMPOUNDS BY GC-MS</b>								407	
Butyl benzyl phthalate	<1800 ug/kg dry	1800	5	05/12/22	kbc	05/16/22	avl		
Benzo (a) anthracene	<730 ug/kg dry	730	5	05/12/22	kbc	05/16/22	avl		
Chrysene	<730 ug/kg dry	730	5	05/12/22	kbc	05/16/22	avl		
3,3'-Dichlorobenzidine	<6600 ug/kg dry	6600	5	05/12/22	kbc	05/16/22	avl		
Bis(2-ethylhexyl)phthalate	<4400 ug/kg dry	4400	5	05/12/22	kbc	05/16/22	avl		
Di-n-octyl phthalate	<1800 ug/kg dry	1800	5	05/12/22	kbc	05/16/22	avl		
Benzo (b) fluoranthene	<730 ug/kg dry	730	5	05/12/22	kbc	05/16/22	avl		
Benzo (k) fluoranthene	<730 ug/kg dry	730	5	05/12/22	kbc	05/16/22	avl		
Benzo (a) pyrene	<730 ug/kg dry	730	5	05/12/22	kbc	05/16/22	avl		
Indeno (1,2,3-cd) pyrene	<730 ug/kg dry	730	5	05/12/22	kbc	05/16/22	avl		
Dibenz (a,h) anthracene	<730 ug/kg dry	730	5	05/12/22	kbc	05/16/22	avl		
Benzo (g,h,i) perylene	<730 ug/kg dry	730	5	05/12/22	kbc	05/16/22	avl		
1,2-Diphenylhydrazine	<3800 ug/kg dry	3800	5	05/12/22	kbc	05/16/22	avl		
Benzidine	0.0 ug/kg dry		5	05/12/22	kbc	05/16/22	avl	N	
N-Nitrosodimethylamine	<6100 ug/kg dry	6100	5	05/12/22	kbc	05/16/22	avl		
<b>Surrogates:</b>									
2-Fluorophenol	71 %	38-81	5	05/12/22	kbc	05/16/22	avl		
Phenol-d5	65 %	32-102	5	05/12/22	kbc	05/16/22	avl		
Nitrobenzene-d5	82 %	36-98	5	05/12/22	kbc	05/16/22	avl		
2-Fluorobiphenyl	54 %	44-105	5	05/12/22	kbc	05/16/22	avl		
2,4,6-Tribromophenol	87 %	38-101	5	05/12/22	kbc	05/16/22	avl		
Terphenyl-d14	53 %	46-109	5	05/12/22	kbc	05/16/22	avl		

### SEMI-VOLATILE COMPOUNDS BY GC

Analysis Method: EPA 1671

Batch: T123209

Diethylamine	<22 mg/kg dry	22	1	05/19/22	nw	05/19/22	nw	N
Triethylamine	<22 mg/kg dry	22	1	05/19/22	nw	05/19/22	nw	N

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Trace Project ID: 22E0298  
 Client Project ID: Annual NPDES Sampling

Trace ID: 22E0298-01 Matrix: Solid Date Collected: 05/05/22 22:00  
 Sample ID: 21-125-CMBC Date Received: 05/06/22 12:00

PARAMETERS	RESULTS UNITS	RDL	DILUTION	PREPARED	BY	ANALYZED	BY	NOTES	MCL
<b>PESTICIDES/PCBS</b>									
<b>Analysis Method: EPA 8082A</b>									
<i>Batch: T122778</i>									
Aroclor-1016	<400 ug/kg dry	400	1	05/10/22	kbc	05/10/22	av		
Aroclor-1221	<1100 ug/kg dry	1100	1	05/10/22	kbc	05/10/22	av		
Aroclor-1232	<330 ug/kg dry	330	1	05/10/22	kbc	05/10/22	av		
Aroclor-1242	<330 ug/kg dry	330	1	05/10/22	kbc	05/10/22	av		
Aroclor-1248	<330 ug/kg dry	330	1	05/10/22	kbc	05/10/22	av		
Aroclor-1254	<330 ug/kg dry	330	1	05/10/22	kbc	05/10/22	av		
Aroclor-1260	<540 ug/kg dry	540	1	05/10/22	kbc	05/10/22	av		
Aroclor-1262	<330 ug/kg dry	330	1	05/10/22	kbc	05/10/22	av	N	
Aroclor-1268	<330 ug/kg dry	330	1	05/10/22	kbc	05/10/22	av	N	
<b>Surrogates:</b>									
Tetrachloro-m-xylene	55 %	40-113	1	05/10/22	kbc	05/10/22	av		
Decachlorobiphenyl	34 %	32-111	1	05/10/22	kbc	05/10/22	av		

### VOLATILE ORGANIC COMPOUNDS BY GC-MS

**Analysis Method: EPA 624.1**  
*Batch: T122922*

<b>Acetone</b>	<b>40000 ug/kg dry</b>	<b>3300</b>	<b>50</b>	<b>05/12/22</b>	<b>nw</b>	<b>05/12/22</b>	<b>nw</b>	<b>N</b>	
Hexane	<3300 ug/kg dry	3300	50	05/12/22	nw	05/12/22	nw	N	
Methylene chloride	<1600 ug/kg dry	1600	50	05/12/22	nw	05/12/22	nw	N	
Tetrahydrofuran	<6600 ug/kg dry	6600	50	05/12/22	nw	05/12/22	nw	N	
Chloroform	<330 ug/kg dry	330	50	05/12/22	nw	05/12/22	nw	N	
Benzene	<330 ug/kg dry	330	50	05/12/22	nw	05/12/22	nw	N	
1,2-Dichloroethane	<330 ug/kg dry	330	50	05/12/22	nw	05/12/22	nw	N	
<b>n-Heptane</b>	<b>2400 ug/kg dry</b>	<b>1600</b>	<b>50</b>	<b>05/12/22</b>	<b>nw</b>	<b>05/12/22</b>	<b>nw</b>	<b>N</b>	
4-Methyl-2-pentanone	<1600 ug/kg dry	1600	50	05/12/22	nw	05/12/22	nw	N	
<b>Toluene</b>	<b>510 ug/kg dry</b>	<b>330</b>	<b>50</b>	<b>05/12/22</b>	<b>nw</b>	<b>05/12/22</b>	<b>nw</b>	<b>N</b>	
Chlorobenzene	<330 ug/kg dry	330	50	05/12/22	nw	05/12/22	nw	N	
m,p-Xylene	<660 ug/kg dry	660	50	05/12/22	nw	05/12/22	nw	N	
o-Xylene	<330 ug/kg dry	330	50	05/12/22	nw	05/12/22	nw	N	
Xylenes, total	<990 ug/kg dry	990	50	05/12/22	nw	05/12/22	nw	N	
1,2-Dichlorobenzene	<330 ug/kg dry	330	50	05/12/22	nw	05/12/22	nw	N	

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### ANALYTICAL RESULTS

Trace Project ID: 22E0298  
 Client Project ID: Annual NPDES Sampling

Trace ID: 22E0298-01 Matrix: Solid Date Collected: 05/05/22 22:00  
 Sample ID: 21-125-CMBC Date Received: 05/06/22 12:00

PARAMETERS	RESULTS UNITS	RDL	DILUTION	PREPARED	BY	ANALYZED	BY	NOTES	MCL
<b>VOLATILE ORGANIC COMPOUNDS BY GC-MS</b>									
n-Butyl Acetate	<1600 ug/kg dry	1600	50	05/12/22	nw	05/12/22	nw	N	
Ethyl acetate	<1600 ug/kg dry	1600	50	05/12/22	nw	05/12/22	nw	N	
Isobutyraldehyde	<1600 ug/kg dry	1600	50	05/12/22	nw	05/12/22	nw	N	
Isopropyl Acetate	<1600 ug/kg dry	1600	50	05/12/22	nw	05/12/22	nw	N	
Isopropyl Ether	<1600 ug/kg dry	1600	50	05/12/22	nw	05/12/22	nw	N	
Methyl Formate	<33000 ug/kg dry	33000	50	05/12/22	nw	05/12/22	nw	N	
n-Amyl Acetate	<1600 ug/kg dry	1600	50	05/12/22	nw	05/12/22	nw	N	
<b>Surrogates:</b>									
1,2-Dichloroethane-d4	87 %	68-133	50	05/12/22	nw	05/12/22	nw	N	
Toluene-d8	107 %	75-120	50	05/12/22	nw	05/12/22	nw	N	
4-Bromofluorobenzene	99 %	69-119	50	05/12/22	nw	05/12/22	nw	N	
1,2-Dichlorobenzene-d4	105 %	72-127	50	05/12/22	nw	05/12/22	nw	N	
<b>Analysis Method: EPA 8260D</b>									
<i>Batch: T122921</i>									
Acrolein	<1100 ug/kg dry	1100	50	05/12/22	nw	05/12/22	nw		
Acrylonitrile	<440 ug/kg dry	440	50	05/12/22	nw	05/12/22	nw		
Benzene	<220 ug/kg dry	220	50	05/12/22	nw	05/12/22	nw		
Bromodichloromethane	<220 ug/kg dry	220	50	05/12/22	nw	05/12/22	nw		
Bromoform	<220 ug/kg dry	220	50	05/12/22	nw	05/12/22	nw		
Bromomethane	<1100 ug/kg dry	1100	50	05/12/22	nw	05/12/22	nw		
Carbon tetrachloride	<220 ug/kg dry	220	50	05/12/22	nw	05/12/22	nw		
Chlorobenzene	<220 ug/kg dry	220	50	05/12/22	nw	05/12/22	nw		
Chloroethane	<440 ug/kg dry	440	50	05/12/22	nw	05/12/22	nw		
2-Chloroethylvinyl ether	<5000 ug/kg dry	5000	50	05/12/22	nw	05/12/22	nw		
Chloroform	<220 ug/kg dry	220	50	05/12/22	nw	05/12/22	nw		
<b>Acetone</b>	<b>27000 ug/kg dry</b>	<b>3300</b>	<b>50</b>	<b>05/12/22</b>	<b>nw</b>	<b>05/12/22</b>	<b>nw</b>	<b>N</b>	
Chloromethane	<250 ug/kg dry	250	50	05/12/22	nw	05/12/22	nw		
Dibromochloromethane	<220 ug/kg dry	220	50	05/12/22	nw	05/12/22	nw		
1,1-Dichloroethane	<220 ug/kg dry	220	50	05/12/22	nw	05/12/22	nw		
1,2-Dichloroethane	<220 ug/kg dry	220	50	05/12/22	nw	05/12/22	nw		
1,1-Dichloroethene	<220 ug/kg dry	220	50	05/12/22	nw	05/12/22	nw		
trans-1,2-Dichloroethene	<220 ug/kg dry	220	50	05/12/22	nw	05/12/22	nw		
1,2-Dichloropropane	<220 ug/kg dry	220	50	05/12/22	nw	05/12/22	nw		

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### ANALYTICAL RESULTS

Trace Project ID: 22E0298  
 Client Project ID: Annual NPDES Sampling

Trace ID: 22E0298-01 Matrix: Solid Date Collected: 05/05/22 22:00  
 Sample ID: 21-125-CMBC Date Received: 05/06/22 12:00

PARAMETERS	RESULTS UNITS	RDL	DILUTION	PREPARED	BY	ANALYZED	BY	NOTES	MCL
<b>VOLATILE ORGANIC COMPOUNDS BY GC-MS</b>									
Ethylbenzene	<220 ug/kg dry	220	50	05/12/22	nw	05/12/22	nw		
Methylene chloride	<440 ug/kg dry	440	50	05/12/22	nw	05/12/22	nw		
1,1,2,2-Tetrachloroethane	<220 ug/kg dry	220	50	05/12/22	nw	05/12/22	nw		
Tetrachloroethene	<220 ug/kg dry	220	50	05/12/22	nw	05/12/22	nw		
<b>Toluene</b>	<b>340 ug/kg dry</b>	<b>220</b>	<b>50</b>	<b>05/12/22</b>	<b>nw</b>	<b>05/12/22</b>	<b>nw</b>		
1,1,1-Trichloroethane	<220 ug/kg dry	220	50	05/12/22	nw	05/12/22	nw		
1,1,2-Trichloroethane	<220 ug/kg dry	220	50	05/12/22	nw	05/12/22	nw		
Trichloroethene	<220 ug/kg dry	220	50	05/12/22	nw	05/12/22	nw		
Vinyl chloride	<180 ug/kg dry	180	50	05/12/22	nw	05/12/22	nw		
Xylenes, total	<660 ug/kg dry	660	50	05/12/22	nw	05/12/22	nw		
1,3-Dichloropropylene	<440 ug/kg dry	440	50	05/12/22	nw	05/12/22	nw	N	
<b>Surrogates:</b>									
1,2-Dichloroethane-d4	87 %	70-133	50	05/12/22	nw	05/12/22	nw		
Toluene-d8	107 %	76-125	50	05/12/22	nw	05/12/22	nw		
4-Bromofluorobenzene	99 %	72-123	50	05/12/22	nw	05/12/22	nw		
1,2-Dichlorobenzene-d4	105 %	71-123	50	05/12/22	nw	05/12/22	nw		

### VOLATILE ORGANIC COMPOUNDS BY GC

Analysis Method: EPA 8015B

Batch: T122746

Methanol	<2.0 mg/kg dry	2.0	1	05/09/22	rg	05/09/22	rg	N	
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### WET CHEMISTRY

Analysis Method: ASTM D2974-07a

Batch: T122736

% Solids	23 % by Wt.	0.10	1	05/09/22	mr	05/10/22	mr	N	
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Analysis Method: EPA 9012B

Batch: T123111

Cyanide (Total)	1.9 mg/kg dry	0.83	1	05/18/22	jma	05/18/22	jma	N	
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Analysis Method: EPA 9066

Batch: T123154

Phenolics	<1.0 mg/kg dry	1.0	1	05/17/22	pn	05/17/22	pn	N	
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### ANALYTICAL RESULTS

Trace Project ID: 22E0298  
Client Project ID: Annual NPDES Sampling

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Trace ID: 22E0298-01                      Matrix: Solid                      Date Collected: 05/05/22 22:00  
Sample ID: 21-125-CMBC                      Date Received: 05/06/22 12:00

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PARAMETERS	RESULTS	UNITS	RDL	DILUTION	PREPARED	BY	ANALYZED	BY	NOTES	MCL
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#### WET CHEMISTRY

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**QUALITY CONTROL RESULTS**

Trace Project ID: 22E0298  
 Client Project ID: Annual NPDES Sampling

QC Batch: T122723	Analysis Description: Mercury, Total, EPA 7470/7471
QC Batch Method: EPA 7471B Prep	Analysis Method: EPA 7471B

**METHOD BLANK: T122723-BLK1**

Parameter	Units	Blank Result	Reporting Limit	Notes
Mercury	mg/kg wet	<0.050	0.050	

**LABORATORY CONTROL SAMPLE: T122723-BS1**

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limit	Notes
Mercury	mg/kg wet	0.800	0.716	90	80-120	

Trace Project ID: 22E0298  
 Client Project ID: Annual NPDES Sampling

QC Batch: T122717	Analysis Description: Lithium, Total
QC Batch Method: EPA 3051A Microwave Assisted Digestions for Solids	Analysis Method: EPA 6010D

**METHOD BLANK: T122717-BLK1**

Parameter	Units	Blank Result	Reporting Limit	Notes
Boron	mg/kg dry	<8.0	8.0	
Calcium	mg/kg dry	<100	100	
Lithium	mg/kg dry	<1.0	1.0	

**LABORATORY CONTROL SAMPLE: T122717-BS1**

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limit	Notes
Boron	mg/kg dry	40.0	37.6	94	80-120	
Calcium	mg/kg dry	400	396	99	80-120	
Lithium	mg/kg dry	40.0	37.1	93	80-120	

Trace Project ID: 22E0298  
 Client Project ID: Annual NPDES Sampling

QC Batch: T122717	Analysis Description: Molybdenum, Total
QC Batch Method: EPA 3051A Microwave Assisted Digestions for Solids	Analysis Method: EPA 6020B

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**METHOD BLANK: T122717-BLK1**

Parameter	Units	Blank Result	Reporting Limit	Notes
Silver	mg/kg dry	<0.25	0.25	
Arsenic	mg/kg dry	<2.0	2.0	
Barium	mg/kg dry	<5.0	5.0	
Beryllium	mg/kg dry	<0.50	0.50	
Cadmium	mg/kg dry	<0.20	0.20	
Chromium	mg/kg dry	<2.0	2.0	
Copper	mg/kg dry	<1.0	1.0	
Molybdenum	mg/kg dry	<1.5	1.5	
Nickel	mg/kg dry	<1.0	1.0	
Lead	mg/kg dry	<10	10	
Antimony	mg/kg dry	<1.0	1.0	
Selenium	mg/kg dry	<0.30	0.30	
Thallium	mg/kg dry	<0.50	0.50	
Zinc	mg/kg dry	<2.5	2.5	

**LABORATORY CONTROL SAMPLE: T122717-BS1**

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limit	Notes
Silver	mg/kg dry	5.00	5.43	109	80-120	
Arsenic	mg/kg dry	5.00	4.78	96	80-120	
Barium	mg/kg dry	40.0	43.5	109	80-120	
Beryllium	mg/kg dry	5.00	4.92	98	80-120	
Cadmium	mg/kg dry	40.0	41.9	105	80-120	
Chromium	mg/kg dry	40.0	42.2	105	80-120	
Copper	mg/kg dry	40.0	40.7	102	80-120	
Molybdenum	mg/kg dry	40.0	41.8	105	80-120	
Nickel	mg/kg dry	40.0	41.5	104	80-120	
Lead	mg/kg dry	40.0	41.0	103	80-120	
Antimony	mg/kg dry	5.00	4.89	98	80-120	
Selenium	mg/kg dry	5.00	4.67	93	80-120	
Thallium	mg/kg dry	5.00	5.46	109	80-120	
Zinc	mg/kg dry	40.0	37.7	94	80-120	

Trace Project ID: 22E0298

Client Project ID: Annual NPDES Sampling

QC Batch: [CALC]

Analysis Description: Oil & Grease-Barnes Aero

QC Batch Method:

Analysis Method: EPA 1664A

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Trace Project ID: 22E0298  
 Client Project ID: Annual NPDES Sampling

QC Batch: T122776	Analysis Description: Oil and Grease, Gravimetric
QC Batch Method: EPA 9071B	Analysis Method: EPA 9071B

**METHOD BLANK: T122776-BLK1**

Parameter	Units	Blank Result	Reporting Limit	Notes
Oil & Grease (HEM)	mg/kg wet	<420	420	
Total Petroleum Hydrocarbons (SGT-HEM)	mg/kg wet	<420	420	

**LABORATORY CONTROL SAMPLE: T122776-BS1**

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limit	Notes
Oil & Grease (HEM)	mg/kg wet	10800	10800	100	78-121	
Total Petroleum Hydrocarbons (SGT-HEM)	mg/kg wet	10800	<		0-200	

Trace Project ID: 22E0298  
 Client Project ID: Annual NPDES Sampling

QC Batch: T123209	Analysis Description: Amines
QC Batch Method: EPA 1671	Analysis Method: EPA 1671

**METHOD BLANK: T123209-BLK1**

Parameter	Units	Blank Result	Reporting Limit	Notes
Diethylamine	mg/kg wet	<2.5	2.5	
Triethylamine	mg/kg wet	<2.5	2.5	

**LABORATORY CONTROL SAMPLE: T123209-BS1**

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limit	Notes
Diethylamine	mg/kg wet	50.5	64.9	129	0-200	
Triethylamine	mg/kg wet	50.0	60.1	120	0-200	

**MATRIX SPIKE / MATRIX SPIKE DUPLICATE: T123209-MSD1** Original: 22E0298-01

Parameter	Units	Original Result	Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limit	RPD	Max RPD	Notes
Diethylamine	mg/kg dry	0	441	723	709	164	161	0-200	2	200	230
Triethylamine	mg/kg dry	0	437	531	424	122	97	0-200	22	200	207

Trace Project ID: 22E0298  
 Client Project ID: Annual NPDES Sampling

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QC Batch: T122778	Analysis Description: PCBs
QC Batch Method: EPA 3550C Ultrasonic Extraction	Analysis Method: EPA 8082A

**METHOD BLANK: T122778-BLK1**

Parameter	Units	Blank Result	Reporting Limit	Notes
Aroclor-1016	ug/kg wet	<330	330	
Aroclor-1221	ug/kg wet	<330	330	
Aroclor-1232	ug/kg wet	<330	330	
Aroclor-1242	ug/kg wet	<330	330	
Aroclor-1248	ug/kg wet	<330	330	
Aroclor-1254	ug/kg wet	<330	330	
Aroclor-1260	ug/kg wet	<330	330	
Aroclor-1262	ug/kg wet	<330	330	
Aroclor-1268	ug/kg wet	<330	330	
Tetrachloro-m-xylene (S)	%	83	40-113	
Decachlorobiphenyl (S)	%	82	32-111	

**LABORATORY CONTROL SAMPLE: T122778-BS1**

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limit	Notes
Aroclor-1016	ug/kg wet	533	422	79	37-132	
Aroclor-1260	ug/kg wet	533	459	86	48-130	
Tetrachloro-m-xylene (S)	%	33.3	33.1	99	40-113	
Decachlorobiphenyl (S)	%	33.3	31.4	94	32-111	

Trace Project ID: 22E0298  
 Client Project ID: Annual NPDES Sampling

QC Batch: T122885	Analysis Description: Semi-volatiles, TCL list
QC Batch Method: EPA 3550C Ultrasonic Extraction	Analysis Method: EPA 8270E

**METHOD BLANK: T122885-BLK1**

Parameter	Units	Blank Result	Reporting Limit	Notes
Bis(2-chloroethyl)ether	ug/kg wet	<100	100	
2-Chlorophenol	ug/kg wet	<330	330	
Phenol	ug/kg wet	<330	330	
1,3-Dichlorobenzene	ug/kg wet	<330	330	
1,4-Dichlorobenzene	ug/kg wet	<330	330	
1,2-Dichlorobenzene	ug/kg wet	<330	330	
Benzyl alcohol	ug/kg wet	<3300	3300	
Bis(2-chloroisopropyl)ether	ug/kg wet	<330	330	
2-Methylphenol (o-Cresol)	ug/kg wet	<330	330	
3,4-Methylphenol (m,p Cresol)	ug/kg wet	<330	330	

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**METHOD BLANK: T122885-BLK1**

Parameter	Units	Blank Result	Reporting Limit	Notes
N-Nitrosodi-n-propylamine	ug/kg wet	<330	330	
Hexachloroethane	ug/kg wet	<300	300	
Nitrobenzene	ug/kg wet	<330	330	
Isophorone	ug/kg wet	<330	330	
2-Nitrophenol	ug/kg wet	<330	330	
2,4-Dimethylphenol	ug/kg wet	<330	330	
Bis(2-chloroethoxy)methane	ug/kg wet	<330	330	
Benzoic acid	ug/kg wet	<3300	3300	
1,2,4-Trichlorobenzene	ug/kg wet	<330	330	
2,4-Dichlorophenol	ug/kg wet	<330	330	
Naphthalene	ug/kg wet	<330	330	
4-Chloroaniline	ug/kg wet	<330	330	
Hexachlorobutadiene	ug/kg wet	<50	50	
4-Chloro-3-methylphenol	ug/kg wet	<280	280	
2-Methylnaphthalene	ug/kg wet	<330	330	
Hexachlorocyclopentadiene	ug/kg wet	<330	330	
2,4,6-Trichlorophenol	ug/kg wet	<330	330	
2,4,5-Trichlorophenol	ug/kg wet	<330	330	
2-Chloronaphthalene	ug/kg wet	<330	330	
2-Nitroaniline	ug/kg wet	<830	830	
Dimethyl phthalate	ug/kg wet	<330	330	
Acenaphthylene	ug/kg wet	<330	330	
2,6-Dinitrotoluene	ug/kg wet	<330	330	
3-Nitroaniline	ug/kg wet	<830	830	
Acenaphthene	ug/kg wet	<330	330	
Dibenzofuran	ug/kg wet	<330	330	
2,4-Dinitrotoluene	ug/kg wet	<330	330	
4-Nitrophenol	ug/kg wet	<830	830	
2,4-Dinitrophenol	ug/kg wet	<830	830	
Diethyl phthalate	ug/kg wet	<330	330	
Fluorene	ug/kg wet	<330	330	
4-Chlorophenyl phenyl ether	ug/kg wet	<330	330	
4-Nitroaniline	ug/kg wet	<830	830	
4,6-Dinitro-2-methylphenol	ug/kg wet	<830	830	
N-Nitrosodiphenylamine	ug/kg wet	<330	330	
4-Bromophenyl phenyl ether	ug/kg wet	<330	330	
Hexachlorobenzene	ug/kg wet	<330	330	
Pentachlorophenol	ug/kg wet	<800	800	
Phenanthrene	ug/kg wet	<330	330	
Anthracene	ug/kg wet	<330	330	
Carbazole	ug/kg wet	<330	330	
Di-n-butyl phthalate	ug/kg wet	<330	330	
Fluoranthene	ug/kg wet	<330	330	
Pyrene	ug/kg wet	<330	330	

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**METHOD BLANK: T122885-BLK1**

Parameter	Units	Blank Result	Reporting Limit	Notes
Butyl benzyl phthalate	ug/kg wet	<330	330	
Benzo (a) anthracene	ug/kg wet	<330	330	
Chrysene	ug/kg wet	<330	330	
3,3'-Dichlorobenzidine	ug/kg wet	<2000	2000	
Bis(2-ethylhexyl)phthalate	ug/kg wet	<330	330	
Di-n-octyl phthalate	ug/kg wet	<330	330	
Benzo (b) fluoranthene	ug/kg wet	<330	330	
Benzo (k) fluoranthene	ug/kg wet	<330	330	
Benzo (a) pyrene	ug/kg wet	<330	330	
Indeno (1,2,3-cd) pyrene	ug/kg wet	<330	330	
Dibenz (a,h) anthracene	ug/kg wet	<330	330	
Benzo (g,h,i) perylene	ug/kg wet	<330	330	
1,2-Diphenylhydrazine	ug/kg wet	<330	330	
Benzidine	ug/kg wet	0.0		
N-Nitrosodimethylamine	ug/kg wet	<330	330	
2-Fluorophenol (S)	%	76	38-81	
Phenol-d5 (S)	%	76	32-102	
Nitrobenzene-d5 (S)	%	87	36-98	
2-Fluorobiphenyl (S)	%	86	44-105	
<b>2,4,6-Tribromophenol (S)</b>	<b>%</b>	<b>107</b>	<b>38-101</b>	<b>801</b>
<b>Terphenyl-d14 (S)</b>	<b>%</b>	<b>125</b>	<b>46-109</b>	<b>802</b>

**LABORATORY CONTROL SAMPLE: T122885-BS1**

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limit	Notes
2-Chlorophenol	ug/kg wet	3330	2660	80	49-93	
Phenol	ug/kg wet	3330	2420	73	40-90	
1,4-Dichlorobenzene	ug/kg wet	3330	2640	79	37-106	
N-Nitrosodi-n-propylamine	ug/kg wet	3330	3000	90	51-106	
1,2,4-Trichlorobenzene	ug/kg wet	3330	2680	80	49-100	
4-Chloro-3-methylphenol	ug/kg wet	3330	2850	86	50-96	
Acenaphthene	ug/kg wet	3330	2700	81	52-105	
2,4-Dinitrotoluene	ug/kg wet	3330	3440	103	51-108	
4-Nitrophenol	ug/kg wet	3330	2980	89	22-112	
Pentachlorophenol	ug/kg wet	3330	3120	94	30-111	
Pyrene	ug/kg wet	3330	3110	93	47-114	
<b>2-Fluorophenol (S)</b>	<b>%</b>	<b>3330</b>	<b>2890</b>	<b>87</b>	<b>38-81</b>	<b>305.5</b>
Phenol-d5 (S)	%	3330	3020	91	32-102	
<b>Nitrobenzene-d5 (S)</b>	<b>%</b>	<b>3330</b>	<b>3350</b>	<b>100</b>	<b>36-98</b>	<b>305.5</b>
2-Fluorobiphenyl (S)	%	3370	3140	93	44-105	
<b>2,4,6-Tribromophenol (S)</b>	<b>%</b>	<b>3330</b>	<b>4150</b>	<b>124</b>	<b>38-101</b>	<b>305.5</b>
<b>Terphenyl-d14 (S)</b>	<b>%</b>	<b>3330</b>	<b>4310</b>	<b>129</b>	<b>46-109</b>	<b>305.5</b>

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**MATRIX SPIKE / MATRIX SPIKE DUPLICATE: T122885-MSD1**

Original: 22E0298-01

Parameter	Units	Original Result	Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limit	RPD	Max RPD	Notes
2-Chlorophenol	ug/kg dry	0	14700	7110	6230	48	42	43-93	13	23	209
Phenol	ug/kg dry	2410	14700	7640	6890	35	30	31-91	15	28	209
1,4-Dichlorobenzene	ug/kg dry	0	14700	6640	5350	45	36	43-92	21	33	209
N-Nitrosodi-n-propylamine	ug/kg dry	0	14700	8290	6300	56	43	32-121	27	26	207
1,2,4-Trichlorobenzene	ug/kg dry	0	14700	5740	4860	39	33	43-99	17	33	205
4-Chloro-3-methylphenol	ug/kg dry	0	14700	7430	5920	50	40	36-108	22	25	
Acenaphthene	ug/kg dry	0	14700	5470	4330	37	29	46-111	23	31	205
2,4-Dinitrotoluene	ug/kg dry	0	14700	7830	6360	53	43	18-128	21	28	
4-Nitrophenol	ug/kg dry	0	14700	5590	<15000	38	29	15-125	26	26	
Pentachlorophenol	ug/kg dry	0	14700	4310	<7900	29	21	14-125	33	25	207
Pyrene	ug/kg dry	0	14700	4930	4130	33	28	40-124	17	33	205
2-Fluorophenol (S)	%		14700	6590	5910	45	40	38-81			
Phenol-d5 (S)	%		14700	6430	5280	44	36	32-102			
Nitrobenzene-d5 (S)	%		14700	7280	6250	49	42	36-98			
2-Fluorobiphenyl (S)	%		14900	4530	4020	30	27	44-105			318
2,4,6-Tribromophenol (S)	%		14700	7550	6740	51	46	38-101			
Terphenyl-d14 (S)	%		14700	4450	3810	30	26	46-109			318

Trace Project ID: 22E0298

Client Project ID: Annual NPDES Sampling

QC Batch: T122922

Analysis Description: 624 MACT

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

Analysis Method: EPA 624.1

**METHOD BLANK: T122922-BLK1**

Parameter	Units	Blank Result	Reporting Limit	Notes
Acetone	ug/kg wet	<500	500	
Hexane	ug/kg wet	<500	500	
Methylene chloride	ug/kg wet	<250	250	
Tetrahydrofuran	ug/kg wet	<1000	1000	
Chloroform	ug/kg wet	<50	50	
Benzene	ug/kg wet	<50	50	
1,2-Dichloroethane	ug/kg wet	<50	50	
n-Heptane	ug/kg wet	<250	250	
4-Methyl-2-pentanone	ug/kg wet	<250	250	
Toluene	ug/kg wet	<50	50	
Chlorobenzene	ug/kg wet	<50	50	
m,p-Xylene	ug/kg wet	<100	100	
o-Xylene	ug/kg wet	<50	50	
Xylenes, total	ug/kg wet	<150	150	

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**METHOD BLANK: T122922-BLK1**

Parameter	Units	Blank Result	Reporting Limit	Notes
1,2-Dichlorobenzene	ug/kg wet	<50	50	
n-Butyl Acetate	ug/kg wet	<250	250	
Ethyl acetate	ug/kg wet	<250	250	
Isobutyraldehyde	ug/kg wet	<250	250	
Isopropyl Acetate	ug/kg wet	<250	250	
Isopropyl Ether	ug/kg wet	<250	250	
Methyl Formate	ug/kg wet	<5000	5000	
n-Amyl Acetate	ug/kg wet	<250	250	
1,2-Dichloroethane-d4 (S)	%	87	68-133	
Toluene-d8 (S)	%	108	75-120	
4-Bromofluorobenzene (S)	%	108	69-119	
1,2-Dichlorobenzene-d4 (S)	%	107	72-127	

**LABORATORY CONTROL SAMPLE: T122922-BS1**

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limit	Notes
Benzene	ug/kg wet	2500	2500	100	80-120	
Toluene	ug/kg wet	2500	2540	102	80-120	
Chlorobenzene	ug/kg wet	2500	2430	97	80-120	
1,2-Dichloroethane-d4 (S)	%	30.0	26.3	88	68-133	
Toluene-d8 (S)	%	30.0	32.2	107	75-120	
4-Bromofluorobenzene (S)	%	30.0	29.4	98	69-119	
1,2-Dichlorobenzene-d4 (S)	%	30.0	29.2	97	72-127	

Trace Project ID: 22E0298  
 Client Project ID: Annual NPDES Sampling

QC Batch: T122746	Analysis Description: Alcohols
QC Batch Method: EPA 8015B	Analysis Method: EPA 8015B

**METHOD BLANK: T122746-BLK1**

Parameter	Units	Blank Result	Reporting Limit	Notes
Methanol	mg/kg wet	<1.0	1.0	

**LABORATORY CONTROL SAMPLE: T122746-BS1**

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limit	Notes
Methanol	mg/kg wet	99.4	105	105	70-130	

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 www.trace-labs.com

**MATRIX SPIKE / MATRIX SPIKE DUPLICATE: T122746-MSD1**

Original: **22E0298-01**

Parameter	Units	Original Result	Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limit	RPD	Max RPD	Notes
Methanol	mg/kg dry	0	883	988	1040	112	118	70-130	5	20	

Trace Project ID: 22E0298

Client Project ID: Annual NPDES Sampling

QC Batch: T122921

Analysis Description: EPA 8260

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

Analysis Method: EPA 8260D

**METHOD BLANK: T122921-BLK1**

Parameter	Units	Blank Result	Reporting Limit	Notes
Acrolein	ug/kg wet	<250	250	
Acrylonitrile	ug/kg wet	<100	100	
Benzene	ug/kg wet	<50	50	
Bromodichloromethane	ug/kg wet	<100	100	
Bromoform	ug/kg wet	<100	100	
Bromomethane	ug/kg wet	<250	250	
Carbon tetrachloride	ug/kg wet	<50	50	
Chlorobenzene	ug/kg wet	<50	50	
Chloroethane	ug/kg wet	<250	250	
2-Chloroethylvinyl ether	ug/kg wet	<5000	5000	
Chloroform	ug/kg wet	<50	50	
Acetone	ug/kg wet	<750	750	
Chloromethane	ug/kg wet	<250	250	
Dibromochloromethane	ug/kg wet	<100	100	
1,1-Dichloroethane	ug/kg wet	<50	50	
1,2-Dichloroethane	ug/kg wet	<50	50	
1,1-Dichloroethene	ug/kg wet	<50	50	
trans-1,2-Dichloroethene	ug/kg wet	<50	50	
1,2-Dichloropropane	ug/kg wet	<50	50	
Ethylbenzene	ug/kg wet	<50	50	
Methylene chloride	ug/kg wet	<250	250	
1,1,1,2-Tetrachloroethane	ug/kg wet	<50	50	
Tetrachloroethene	ug/kg wet	<50	50	
Toluene	ug/kg wet	<100	100	
1,1,1-Trichloroethane	ug/kg wet	<50	50	
1,1,2-Trichloroethane	ug/kg wet	<50	50	
Trichloroethene	ug/kg wet	<50	50	
Vinyl chloride	ug/kg wet	<40	40	
Xylenes, total	ug/kg wet	<150	150	
1,3-Dichloropropylene	ug/kg wet	<100	100	
1,2-Dichloroethane-d4 (S)	%	87	70-133	
Toluene-d8 (S)	%	108	76-125	
4-Bromofluorobenzene (S)	%	108	72-123	

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**METHOD BLANK: T122921-BLK1**

Parameter	Units	Blank Result	Reporting Limit	Notes
1,2-Dichlorobenzene-d4 (S)	%	107	71-123	

**LABORATORY CONTROL SAMPLE: T122921-BS1**

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limit	Notes
Benzene	ug/kg wet	2500	2530	101	80-120	
Chlorobenzene	ug/kg wet	2500	2430	97	80-120	
Acetone	ug/kg wet	2500	3280	131	39-160	
1,1-Dichloroethene	ug/kg wet	2500	3310	132	64-156	
Toluene	ug/kg wet	2500	2580	103	80-120	
Trichloroethene	ug/kg wet	2500	2360	94	69-133	
1,2-Dichloroethane-d4 (S)	%	30.0	26.2	87	70-133	
Toluene-d8 (S)	%	30.0	32.2	107	76-125	
4-Bromofluorobenzene (S)	%	30.0	28.9	96	72-123	
1,2-Dichlorobenzene-d4 (S)	%	30.0	28.6	95	71-123	

Trace Project ID: 22E0298  
 Client Project ID: Annual NPDES Sampling

QC Batch: T122736	Analysis Description: Solids, Dry Weight
QC Batch Method: % Solids	Analysis Method: ASTM D2974-07a

Trace Project ID: 22E0298  
 Client Project ID: Annual NPDES Sampling

QC Batch: T123111	Analysis Description: Cyanide, Total
QC Batch Method: EPA 9012B	Analysis Method: EPA 9012B

**METHOD BLANK: T123111-BLK1**

Parameter	Units	Blank Result	Reporting Limit	Notes
Cyanide (Total)	mg/kg wet	<0.20	0.20	

**LABORATORY CONTROL SAMPLE: T123111-BS1**

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limit	Notes
Cyanide (Total)	mg/kg wet	1.00	1.05	105	81-111	

**LABORATORY CONTROL SAMPLE: T123111-BS2**

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limit	Notes
Cyanide (Total)	mg/kg wet	4.00	4.25	106	81-111	

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**SAMPLE DUPLICATE: T123111-DUP1** Original: 22E0298-01

Parameter	Units	Original Result	DUP Result	RPD	Max RPD	Notes
Cyanide (Total)	mg/kg dry	1.95	1.83	6	20	

**MATRIX SPIKE / MATRIX SPIKE DUPLICATE: T123111-MSD1** Original: 22E0298-01

Parameter	Units	Original Result	Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limit	RPD	Max RPD	Notes
Cyanide (Total)	mg/kg dry	1.95	4.32	4.67	4.63	63	62	61-126	2	22	

Trace Project ID: 22E0298  
 Client Project ID: Annual NPDES Sampling

QC Batch: T123154	Analysis Description: Phenols, Total
QC Batch Method: EPA 9066	Analysis Method: EPA 9066

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### CHAIN-OF-CUSTODY RECORD



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Muskegon, MI 49444-2673

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Fax 888.979.4469  
www.trace-labs.com

Trace ID No. <b>22 E 0298</b>
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<b>Report Results To:</b>		<b>Bill To:</b>	
Company Name: City of Kalamazoo		PO #:	
Report To: Malissa Drzick		Contact Name:	
Mailing Address: 1415 N. Harrison St.		Billing Address (if different):	
City, State, Zip Code: Kalamazoo, MI 49007		City, State, Zip Code:	
Office Phone: (269) 337-8392	Cell Phone: (269) 370-4444	Phone Number:	
Email Address: drzickm@kalamazoo-city.org		Billing Email Address:	

<b>Trace Use:</b>		
Logged By: <i>[Signature]</i>		
Checked By: <i>[Signature]</i>		
Soil Volatiles Preserved (circle if applicable):		
MeOH	Low Level	Lab
Sampling Time:		

<b>Turnaround Requirements:</b>		<b>Matrix Key:</b>	
<input checked="" type="checkbox"/> Standard	<input type="checkbox"/> 48 Hour*	S = Soil / Solid	WI = Wipes
<input type="checkbox"/> 4 Day*	<input type="checkbox"/> 24 Hour*	W = Water	LW = Liquid Waste
<input type="checkbox"/> 3 Day*		SL = Sludge	A = Air
* Requires Prior Approval		OI = Oil	D = Drinking Water

Trace No.		Date Collected	Time Collected	Client Sample ID	Metals Field Filtered (Y/N)	Matrix	Number of Containers	Preservation						analyze per contracts #21, #22, #23	Remarks	Possible Health Hazards?	
								Cool	HCl	HNO3	H2SO4	NaOH	Other				
		5/5/22	6am, 2pm, 10pm	22-125-CMBC		S	2	X								Belt Press - 1st, 2nd & 3rd shifts	
*co-mingled belt press cakes collected from 1st, 2nd + 3rd shifts on 5/5/22 & composited on 5/6/22																	
				Water System ID: WW-City of Kalamazoo													
				Location ID: CMBC													

  

Please Sign	Released By		Received By		Date	Time	Released By		Received By		Date	Time
	<i>[Signature]</i>		<i>[Signature]</i>		5/6/22	1200	<i>[Signature]</i>		<i>[Signature]</i>		5/6/22	16:57
	1)											
	3)											

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](http://www.trace-labs.com/downloads).

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**22E0298**

Kalamazoo, City of  
 Project Manager: Jon Mink

**Sample Log In Checklist**

Date: 5/10/22	Original Observation	Corrected Temperature	IR-9 (CF: +0.6°C)	IR-10 (CF: +0.4°C)	20812743 (CF: -0.2°C)	Temp Blank	Client Sample
Time: 11:37							
Logged by: KB							
Package Description: Cooler							
Package Temp °C	-1.6	-1.0	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Representative Sample Temp °C	2.0	1.8	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

**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: HC046681)  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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