



**INDEPENDENT TESTING LAB**

830 ROBINWOOD COURT, TRAVERSE CITY, MI 49686

PH: 231-929-0905

FAX: 231-929-0894

[www.gtanalytical.com](http://www.gtanalytical.com)

Company: MACKINAC ENVIRONMENTAL  
Name:  
ClientProj: M20-3266  
GTA ProjNo: 080520-3

Site Addr: MALCOLM SCHOOL

Sampled By: PJK/MET  
Date Rec: 8/5/2020  
Time Rec: 12:50 PM

Sample No.	Sample ID	Date Sampled	Time Sampled	Sample Matrix
1	SB-1	7/31/2020		SOIL
2	SB-2	7/31/2020		SOIL
3	SB-3	7/31/2020		SOIL

ELECTRONIC SIGNATURE REPORT. This is a final report for the following pages of data for the samples specified above. All analysis was performed by the methods stated and all quality control measures required were completed. All quality control information is available upon request.

*Kirk Chase*

Kirk L. Chase/Chemist  
Grand Traverse Analytical  
830 Robinwood Court  
Traverse City, MI 49686  
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COMPANY: MACKINAC ENVIRONMENTAL  
 PROJECT NO: M20-3266  
 LOCATION: MALCOLM SCHOOL

GTA PROJECT NO: 080520-3  
 GTA SAMPLE NO: 1

DATE SAMPLED: 7/31/2020  
 TIME SAMPLED:

SAMPLED BY: MI  
 PJK/MET

DATE RECEIVED: 8/5/2020  
 TIME RECEIVED: 12:50 PM

SAMPLE MATRIX: SOIL  
 SAMPLE ID: SB-1

**PNA EPA 8270D (SIM)**

<u>Analysis</u>	<u>Concentration</u>	<u>LOD</u>	<u>Units</u>	<u>Analyst</u>	<u>Date Extracted</u>	<u>Date Complete</u>	<u>Prep Method</u>
Acenaphthene	ND	330	ug/Kg (PPB)	KC/TR	8/8/2020	8/16/2020	EPA 3550B
Acenaphthylene	ND	330					
Anthracene	ND	330					
Benzo(a)anthracene	ND	330					
Benzo(b)fluoranthene	ND	330					
Benzo(k)fluoranthene	ND	330					
Benzo(a)pyrene	ND	330					
Benzo(ghi)perylene	ND	330					
2-Chloronaphthalene	ND	330					
Chrysene	ND	330					
Dibenz(ah)anthracene	ND	330					
Fluoranthene	ND	330					
Fluorene	ND	330					
Indeno(123-cd)pyrene	ND	330					
2-Methylnaphthalene	ND	330					
Naphthalene	ND	330					
Phenanthrene	ND	330					
Pyrene	ND	330					

SOIL/SOLIDS CONCENTRATIONS ARE DETERMINED ON A DRY WEIGHT BASIS.  
 ND = NOT DETECTED  
 LOD = LIMIT OF DETECTION



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COMPANY: MACKINAC ENVIRONMENTAL  
 PROJECT NO: M20-3266  
 LOCATION: MALCOLM SCHOOL

GTA PROJECT NO: 080520-3  
 GTA SAMPLE NO: 2

DATE SAMPLED: 7/31/2020  
 TIME SAMPLED:

SAMPLED BY: MI  
 PJK/MET

DATE RECEIVED: 8/5/2020  
 TIME RECEIVED: 12:50 PM

SAMPLE MATRIX: SOIL  
 SAMPLE ID: SB-2

**PNA EPA 8270D (SIM)**

<u>Analysis</u>	<u>Concentration</u>	<u>LOD</u>	<u>Units</u>	<u>Analyst</u>	<u>Date Extracted</u>	<u>Date Complete</u>	<u>Prep Method</u>
Acenaphthene	ND	330	ug/Kg (PPB)	KC/TR	8/8/2020	8/16/2020	EPA 3550B
Acenaphthylene	ND	330					
Anthracene	ND	330					
Benzo(a)anthracene	ND	330					
Benzo(b)fluoranthene	ND	330					
Benzo(k)fluoranthene	ND	330					
Benzo(a)pyrene	ND	330					
Benzo(ghi)perylene	ND	330					
2-Chloronaphthalene	ND	330					
Chrysene	ND	330					
Dibenz(ah)anthracene	ND	330					
Fluoranthene	ND	330					
Fluorene	ND	330					
Indeno(123-cd)pyrene	ND	330					
2-Methylnaphthalene	ND	330					
Naphthalene	ND	330					
Phenanthrene	ND	330					
Pyrene	ND	330					

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COMPANY: MACKINAC ENVIRONMENTAL  
 PROJECT NO: M20-3266  
 LOCATION: MALCOLM SCHOOL

GTA PROJECT NO: 080520-3  
 GTA SAMPLE NO: 3

DATE SAMPLED: 7/31/2020  
 TIME SAMPLED:

SAMPLED BY: MI  
 PJK/MET

DATE RECEIVED: 8/5/2020  
 TIME RECEIVED: 12:50 PM

SAMPLE MATRIX: SOIL  
 SAMPLE ID: SB-3

**PNA EPA 8270D (SIM)**

<u>Analysis</u>	<u>Concentration</u>	<u>LOD</u>	<u>Units</u>	<u>Analyst</u>	<u>Date Extracted</u>	<u>Date Complete</u>	<u>Prep Method</u>
Acenaphthene	ND	330	ug/Kg (PPB)	KC/TR	8/8/2020	8/16/2020	EPA 3550B
Acenaphthylene	ND	330					
Anthracene	ND	330					
Benzo(a)anthracene	ND	330					
Benzo(b)fluoranthene	ND	330					
Benzo(k)fluoranthene	ND	330					
Benzo(a)pyrene	ND	330					
Benzo(ghi)perylene	ND	330					
2-Chloronaphthalene	ND	330					
Chrysene	ND	330					
Dibenz(ah)anthracene	ND	330					
Fluoranthene	ND	330					
Fluorene	ND	330					
Indeno(123-cd)pyrene	ND	330					
2-Methylnaphthalene	ND	330					
Naphthalene	ND	330					
Phenanthrene	ND	330					
Pyrene	ND	330					

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COMPANY: MACKINAC ENVIRONMENTAL  
 PROJECT NO: M20-3266  
 LOCATION: MALCOLM SCHOOL  
 MI  
 SAMPLED BY: PJK/MET  
 SAMPLE ID: SB-1

GTA PROJECT NO: 080520-3  
 GTA SAMPLE NO: 1  
 DATE SAMPLED: 7/31/2020  
 TIME SAMPLED:  
 DATE RECEIVED: 8/5/2020  
 TIME RECEIVED: 12:50 PM  
 SAMPLE MATRIX: SOIL

**METALS**

<u>Analysis</u>	<u>Concentration</u>	<u>LOD</u>	<u>Units</u>	<u>Analyst</u>	<u>Date Completed</u>	<u>Digestion Method</u>
ARSENIC TOTAL EPA 6020A	2.0	0.42	mg/Kg (PPM)	MR/TR	8/12/2020	EPA 3050B
BARIUM TOTAL EPA 6020A	470	0.42	mg/Kg (PPM)	MR/TR	8/12/2020	EPA 3050B
CADMIUM TOTAL EPA 6020A	ND	0.42	mg/Kg (PPM)	MR/TR	8/12/2020	EPA 3050B
CHROMIUM TOTAL EPA 6020A	80	0.42	mg/Kg (PPM)	MR/TR	8/12/2020	EPA 3050B
COPPER TOTAL EPA 6020A	17	0.42	mg/Kg (PPM)	MR/TR	8/12/2020	EPA 3050B
LEAD TOTAL EPA 6020A	190	0.42	mg/Kg (PPM)	MR/TR	8/12/2020	EPA 3050B
MERCURY TOTAL EPA 7471B	0.052	0.019	mg/Kg (PPM)	MR	8/10/2020	EPA 7471
SELENIUM TOTAL EPA 6020A	ND	0.42	mg/Kg (PPM)	MR/TR	8/12/2020	EPA 3050B
SILVER TOTAL EPA 6020A	ND	0.42	mg/Kg (PPM)	MR/TR	8/12/2020	EPA 3050B
ZINC TOTAL EPA 6020A	120	4.2	mg/Kg (PPM)	MR/TR	8/12/2020	EPA 3050B

ND = NOT DETECTED, RESULT < LOD  
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DISS = DISSOLVED



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COMPANY:	MACKINAC ENVIRONMENTAL	GTA PROJECT NO:	080520-3
PROJECT NO:	M20-3266	GTA SAMPLE NO:	2
LOCATION:	MALCOLM SCHOOL	DATE SAMPLED:	7/31/2020
		TIME SAMPLED:	
		DATE RECEIVED:	8/5/2020
		TIME RECEIVED:	12:50 PM
SAMPLED BY:	MI PJK/MET	SAMPLE MATRIX:	SOIL
SAMPLE ID:	SB-2		

**METALS**

<u>Analysis</u>	<u>Concentration</u>	<u>LOD</u>	<u>Units</u>	<u>Analyst</u>	<u>Date Completed</u>	<u>Digestion Method</u>
ARSENIC TOTAL EPA 6020A	3.9	0.37	mg/Kg (PPM)	MR/TR	8/12/2020	EPA 3050B
BARIUM TOTAL EPA 6020A	52	0.37	mg/Kg (PPM)	MR/TR	8/12/2020	EPA 3050B
CADMIUM TOTAL EPA 6020A	ND	0.37	mg/Kg (PPM)	MR/TR	8/12/2020	EPA 3050B
CHROMIUM TOTAL EPA 6020A	7.5	0.37	mg/Kg (PPM)	MR/TR	8/12/2020	EPA 3050B
COPPER TOTAL EPA 6020A	19	0.37	mg/Kg (PPM)	MR/TR	8/12/2020	EPA 3050B
LEAD TOTAL EPA 6020A	75	0.37	mg/Kg (PPM)	MR/TR	8/12/2020	EPA 3050B
MERCURY TOTAL EPA 7471B	0.061	0.017	mg/Kg (PPM)	MR	8/10/2020	EPA 7471
SELENIUM TOTAL EPA 6020A	ND	0.37	mg/Kg (PPM)	MR/TR	8/12/2020	EPA 3050B
SILVER TOTAL EPA 6020A	ND	0.37	mg/Kg (PPM)	MR/TR	8/12/2020	EPA 3050B
ZINC TOTAL EPA 6020A	71	3.7	mg/Kg (PPM)	MR/TR	8/12/2020	EPA 3050B

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COMPANY:	MACKINAC ENVIRONMENTAL	GTA PROJECT NO:	080520-3
PROJECT NO:	M20-3266	GTA SAMPLE NO:	3
LOCATION:	MALCOLM SCHOOL	DATE SAMPLED:	7/31/2020
		TIME SAMPLED:	
		DATE RECEIVED:	8/5/2020
		TIME RECEIVED:	12:50 PM
SAMPLED BY:	MI PJK/MET	SAMPLE MATRIX:	SOIL
SAMPLE ID:	SB-3		

**METALS**

<u>Analysis</u>	<u>Concentration</u>	<u>LOD</u>	<u>Units</u>	<u>Analyst</u>	<u>Date Completed</u>	<u>Digestion Method</u>
ARSENIC TOTAL EPA 6020A	2.4	0.32	mg/Kg (PPM)	MR/TR	8/12/2020	EPA 3050B
BARIUM TOTAL EPA 6020A	310	0.32	mg/Kg (PPM)	MR/TR	8/12/2020	EPA 3050B
CADMIUM TOTAL EPA 6020A	ND	0.32	mg/Kg (PPM)	MR/TR	8/12/2020	EPA 3050B
CHROMIUM TOTAL EPA 6020A	23	0.32	mg/Kg (PPM)	MR/TR	8/12/2020	EPA 3050B
COPPER TOTAL EPA 6020A	150	0.32	mg/Kg (PPM)	MR/TR	8/12/2020	EPA 3050B
LEAD TOTAL EPA 6020A	520	0.32	mg/Kg (PPM)	MR/TR	8/12/2020	EPA 3050B
MERCURY TOTAL EPA 7471B	0.062	0.017	mg/Kg (PPM)	MR	8/10/2020	EPA 7471
SELENIUM TOTAL EPA 6020A	ND	0.32	mg/Kg (PPM)	MR/TR	8/12/2020	EPA 3050B
SILVER TOTAL EPA 6020A	ND	0.32	mg/Kg (PPM)	MR/TR	8/12/2020	EPA 3050B
ZINC TOTAL EPA 6020A	130	3.2	mg/Kg (PPM)	MR/TR	8/12/2020	EPA 3050B

ND = NOT DETECTED, RESULT < LOD  
 LOD = LIMIT OF DETECTION

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GTA PROJECT NO: 080520-3

NAME:

SAMPLED BY: PJK/MET

PROJECT NO: M20-3266

DATE SAMPLED: 7/31/2020

TIME SAMPLED:

LOCATION: MALCOLM SCHOOL

SAMPLE MATRIX: SOIL

DATE RECEIVED: 8/5/2020

TIME RECEIVED: 12:50 PM

MI

**MOISTURE**

<u>No:</u>	<u>Analysis</u>	<u>Concentration</u>	<u>LOD</u>	<u>Units</u>	<u>Analyst</u>	<u>Date Complete</u>
SAMPLE ID: SB-1	% MOISTURE EPA 3550C	16	0.050	% OF SAMPLE	AS	8/5/2020
SAMPLE ID: SB-2	% MOISTURE EPA 3550C	13	0.050	% OF SAMPLE	AS	8/5/2020
SAMPLE ID: SB-3	% MOISTURE EPA 3550C	9.9	0.050	% OF SAMPLE	AS	8/5/2020

