



INDEPENDENT TESTING LAB

830 ROBINWOOD COURT, TRAVERSE CITY, MI 49686

PH: 231-929-0905

FAX: 231-929-0894

www.gtanalytical.com

Company: MACKINAC ENVIRONMENTAL
Name:
ClientProj: M20-3337A
GTA ProjNo: 121120-1

Site Addr: 2A MDOT RAIL

Sampled By: BRAD JEFFERS/MET
Date Rec: 12/10/2020
Time Rec: 12:35 PM

Sample No.	Sample ID	Date Sampled	Time Sampled	Sample Matrix
1	2A-01 @ 0-1'	12/10/2020		SOIL
2	2A-03 @ 0-1'	12/10/2020		SOIL
3	2A-05 @ 0-1'	12/10/2020		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
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COMPANY: MACKINAC ENVIRONMENTAL
 PROJECT NO: M20-3337A
 LOCATION: 2A MDOT RAIL
 MI
 SAMPLED BY: BRAD JEFFERS/MET
 SAMPLE MATRIX: SOIL
 SAMPLE ID: 2A-01 @ 0-1'

GTA PROJECT NO: 121120-1
 GTA SAMPLE NO: 1
 DATE SAMPLED: 12/10/2020
 TIME SAMPLED:
 DATE RECEIVED: 12/10/2020
 TIME RECEIVED: 12:35 PM

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	12/15/2020	12/17/2020	EPA 3550B
Acenaphthylene	ND	330					
Anthracene	ND	330					
Benzo(a)anthracene	ND	330					
Benzo(b)fluoranthene	540	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	400	330					
Fluorene	ND	330					
Indeno(123-cd)pyrene	ND	330					
2-Methylnaphthalene	ND	330					
Naphthalene	ND	330					
Phenanthrene	ND	330					
Pyrene	400	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: M20-3337A
 LOCATION: 2A MDOT RAIL
 MI
 SAMPLED BY: BRAD JEFFERS/MET
 SOIL
 SAMPLE ID: 2A-03 @ 0-1'

GTA PROJECT NO: 121120-1
 GTA SAMPLE NO: 2
 DATE SAMPLED: 12/10/2020
 TIME SAMPLED:
 DATE RECEIVED: 12/10/2020
 TIME RECEIVED: 12:35 PM

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	12/15/2020	12/17/2020	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: M20-3337A
 LOCATION: 2A MDOT RAIL

GTA PROJECT NO: 121120-1
 GTA SAMPLE NO: 3

DATE SAMPLED: 12/10/2020
 TIME SAMPLED:

SAMPLED BY: MI
 BRAD JEFFERS/MET

DATE RECEIVED: 12/10/2020
 TIME RECEIVED: 12:35 PM

SAMPLE MATRIX: SOIL
 SAMPLE ID: 2A-05 @ 0-1'

PNA EPA 8270D (SIM)

<u>Analysis</u>	<u>Concentration</u>	<u>LOD</u>	<u>Units</u>	<u>Analyst</u>	<u>Date</u> <u>Extracted</u>	<u>Date</u> <u>Complete</u>	<u>Prep Method</u>
Acenaphthene	ND	330	ug/Kg (PPB)	KC/TR	12/15/2020	12/17/2020	EPA 3550B
Acenaphthylene	ND	330					
Anthracene	ND	330					
Benzo(a)anthracene	940	330					
Benzo(b)fluoranthene	2,100	330					
Benzo(k)fluoranthene	740	330					
Benzo(a)pyrene	1,100	330					
Benzo(ghi)perylene	ND	330					
2-Chloronaphthalene	ND	330					
Chrysene	1,100	330					
Dibenz(ah)anthracene	ND	330					
Fluoranthene	1,700	330					
Fluorene	ND	330					
Indeno(123-cd)pyrene	350	330					
2-Methylnaphthalene	ND	330					
Naphthalene	ND	330					
Phenanthrene	950	330					
Pyrene	2,100	330					

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COMPANY:	MACKINAC ENVIRONMENTAL	GTA PROJECT NO:	121120-1
PROJECT NO:	M20-3337A	GTA SAMPLE NO:	1
LOCATION:	2A MDOT RAIL	DATE SAMPLED:	12/10/2020
		TIME SAMPLED:	
		DATE RECEIVED:	12/10/2020
		TIME RECEIVED:	12:35 PM
SAMPLED BY:	MI BRAD JEFFERS/MET	SAMPLE MATRIX:	SOIL
SAMPLE ID:	2A-01 @ 0-1'		

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	4.2	0.68	mg/Kg (PPM)	MR/TR	12/16/2020	EPA 3050B
BARIUM TOTAL EPA 6020A	32	0.68	mg/Kg (PPM)	MR/TR	12/16/2020	EPA 3050B
CADMIUM TOTAL EPA 6020A	ND	0.68	mg/Kg (PPM)	MR/TR	12/16/2020	EPA 3050B
CHROMIUM TOTAL EPA 6020A	5.2	0.68	mg/Kg (PPM)	MR/TR	12/16/2020	EPA 3050B
COPPER TOTAL EPA 6020A	28	0.68	mg/Kg (PPM)	MR/TR	12/16/2020	EPA 3050B
LEAD TOTAL EPA 6020A	91	0.68	mg/Kg (PPM)	MR/TR	12/16/2020	EPA 3050B
MERCURY TOTAL EPA 7471B	0.10	0.019	mg/Kg (PPM)	MR	12/15/2020	EPA 7471
SELENIUM TOTAL EPA 6020A	ND	0.68	mg/Kg (PPM)	MR/TR	12/16/2020	EPA 3050B
SILVER TOTAL EPA 6020A	ND	0.68	mg/Kg (PPM)	MR/TR	12/16/2020	EPA 3050B
ZINC TOTAL EPA 6020A	170	6.8	mg/Kg (PPM)	MR/TR	12/16/2020	EPA 3050B

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COMPANY:	MACKINAC ENVIRONMENTAL	GTA PROJECT NO:	121120-1
PROJECT NO:	M20-3337A	GTA SAMPLE NO:	2
LOCATION:	2A MDOT RAIL	DATE SAMPLED:	12/10/2020
		TIME SAMPLED:	
		DATE RECEIVED:	12/10/2020
		TIME RECEIVED:	12:35 PM
SAMPLED BY:	MI BRAD JEFFERS/MET	SAMPLE MATRIX:	SOIL
SAMPLE ID:	2A-03 @ 0-1'		

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	2.8	0.68	mg/Kg (PPM)	MR/TR	12/16/2020	EPA 3050B
BARIUM TOTAL EPA 6020A	29	0.68	mg/Kg (PPM)	MR/TR	12/16/2020	EPA 3050B
CADMIUM TOTAL EPA 6020A	ND	0.68	mg/Kg (PPM)	MR/TR	12/16/2020	EPA 3050B
CHROMIUM TOTAL EPA 6020A	4.9	0.68	mg/Kg (PPM)	MR/TR	12/16/2020	EPA 3050B
COPPER TOTAL EPA 6020A	19	0.68	mg/Kg (PPM)	MR/TR	12/16/2020	EPA 3050B
LEAD TOTAL EPA 6020A	57	0.68	mg/Kg (PPM)	MR/TR	12/16/2020	EPA 3050B
MERCURY TOTAL EPA 7471B	0.39	0.017	mg/Kg (PPM)	MR	12/15/2020	EPA 7471
SELENIUM TOTAL EPA 6020A	ND	0.68	mg/Kg (PPM)	MR/TR	12/16/2020	EPA 3050B
SILVER TOTAL EPA 6020A	ND	0.68	mg/Kg (PPM)	MR/TR	12/16/2020	EPA 3050B
ZINC TOTAL EPA 6020A	86	6.8	mg/Kg (PPM)	MR/TR	12/16/2020	EPA 3050B

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COMPANY:	MACKINAC ENVIRONMENTAL	GTA PROJECT NO:	121120-1
PROJECT NO:	M20-3337A	GTA SAMPLE NO:	3
LOCATION:	2A MDOT RAIL	DATE SAMPLED:	12/10/2020
		TIME SAMPLED:	
		DATE RECEIVED:	12/10/2020
		TIME RECEIVED:	12:35 PM
SAMPLED BY:	MI BRAD JEFFERS/MET	SAMPLE MATRIX:	SOIL
SAMPLE ID:	2A-05 @ 0-1'		

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	2.6	0.87	mg/Kg (PPM)	MR/TR	12/16/2020	EPA 3050B
BARIUM TOTAL EPA 6020A	31	0.87	mg/Kg (PPM)	MR/TR	12/16/2020	EPA 3050B
CADMIUM TOTAL EPA 6020A	ND	0.87	mg/Kg (PPM)	MR/TR	12/16/2020	EPA 3050B
CHROMIUM TOTAL EPA 6020A	9.0	0.87	mg/Kg (PPM)	MR/TR	12/16/2020	EPA 3050B
COPPER TOTAL EPA 6020A	21	0.87	mg/Kg (PPM)	MR/TR	12/16/2020	EPA 3050B
LEAD TOTAL EPA 6020A	80	0.87	mg/Kg (PPM)	MR/TR	12/16/2020	EPA 3050B
MERCURY TOTAL EPA 7471B	0.10	0.020	mg/Kg (PPM)	MR	12/15/2020	EPA 7471
SELENIUM TOTAL EPA 6020A	ND	0.87	mg/Kg (PPM)	MR/TR	12/16/2020	EPA 3050B
SILVER TOTAL EPA 6020A	ND	0.87	mg/Kg (PPM)	MR/TR	12/16/2020	EPA 3050B
ZINC TOTAL EPA 6020A	120	8.7	mg/Kg (PPM)	MR/TR	12/16/2020	EPA 3050B

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COMPANY: MACKINAC ENVIRONMENTAL

NAME:
PROJECT NO: M20-3337A

LOCATION: 2A MDOT RAIL

MI

GTA PROJECT NO: 121120-
SAMPLED BY: BRAD JEFFERS/MET

DATE SAMPLED: 12/10/2020
TIME SAMPLED:

SAMPLE MATRIX: SOIL

DATE RECEIVED: 12/10/2020
TIME RECEIVED: 12:35 PM

MOISTURE

<u>No:</u>	<u>Analysis</u>	<u>Concentration</u>	<u>LOD</u>	<u>Units</u>	<u>Analyst</u>	<u>Date Completed</u>
SAMPLE ID: 2A-01 @ 0-1'	% MOISTURE EPA 3550C	8.4	0.050	% OF SAMPLE	AS	12/11/2020
SAMPLE ID: 2A-03 @ 0-1'	% MOISTURE EPA 3550C	5.1	0.050	% OF SAMPLE	AS	12/11/2020
SAMPLE ID: 2A-05 @ 0-1'	% MOISTURE EPA 3550C	13	0.050	% OF SAMPLE	AS	12/11/2020

