



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: M12-2048
GTA ProjNo: 100620-4

Site Addr: CLOVERLAND

Sampled By: MJR/SLR - MET
Date Rec: 10/6/2020
Time Rec: 12:05 PM

Sample No.	Sample ID	Date Sampled	Time Sampled	Sample Matrix
1	RW-02	10/1/2020	4:05 PM	WATER
2	BW-13	10/1/2020	4:10 PM	WATER
3	BW-09	10/1/2020	4:24 PM	WATER
4	BW-03	10/1/2020	4:29 PM	WATER
5	BW-10	10/1/2020	4:34 PM	WATER
6	BW-02	10/1/2020	4:38 PM	WATER

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: M12-2048
 LOCATION: CLOVERLAND
 MI
 SAMPLE MATRIX: WATER
 SAMPLE ID: RW-02

GTA PROJECT NO: 100620-4
 GTA SAMPLE NO: 1
 DATE SAMPLED: 10/1/2020
 TIME SAMPLED: 4:05 PM
 DATE RECEIVED: 10/6/2020
 TIME RECEIVED: 12:05 PM

SAMPLED BY: MJR/SLR - MET

EPA 8260B VOLATILE ORGANICS

<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>
Benzene	ND	1.0	ug/L (PPB)	MR		10/7/2020	EPA 5030B
Toluene	ND	1.0					
Ethylbenzene	ND	1.0					
Xylene(Total)	4.8	3.0					
1,2,4-Trimethylbenzene	27	1.0					
1,3,5-Trimethylbenzene	12	1.0					
Methyl-t-Butyl Ether	ND	5.0					
Naphthalene	62	5.0					
2-Methylnaphthalene	1,000	25.0					

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



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COMPANY: MACKINAC ENVIRONMENTAL
 PROJECT NO: M12-2048
 LOCATION: CLOVERLAND
 MI
 SAMPLE MATRIX: WATER
 SAMPLE ID: BW-13

GTA PROJECT NO: 100620-4
 GTA SAMPLE NO: 2
 DATE SAMPLED: 10/1/2020
 TIME SAMPLED: 4:10 PM
 DATE RECEIVED: 10/6/2020
 TIME RECEIVED: 12:05 PM

SAMPLED BY: MJR/SLR - MET

EPA 8260B VOLATILE ORGANICS

<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>
Benzene	ND	1.0	ug/L (PPB)	MR		10/7/2020	EPA 5030B
Toluene	ND	1.0					
Ethylbenzene	ND	1.0					
Xylene(Total)	ND	3.0					
1,2,4-Trimethylbenzene	1.2	1.0					
1,3,5-Trimethylbenzene	ND	1.0					
Methyl-t-Butyl Ether	ND	5.0					
Naphthalene	ND	5.0					
2-Methylnaphthalene	9.8	5.0					

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COMPANY: MACKINAC ENVIRONMENTAL
 PROJECT NO: M12-2048
 LOCATION: CLOVERLAND
 MI
 SAMPLE MATRIX: WATER
 SAMPLE ID: BW-09

GTA PROJECT NO: 100620-4
 GTA SAMPLE NO: 3
 DATE SAMPLED: 10/1/2020
 TIME SAMPLED: 4:24 PM
 DATE RECEIVED: 10/6/2020
 TIME RECEIVED: 12:05 PM

SAMPLED BY: MJR/SLR - MET

EPA 8260B VOLATILE ORGANICS

<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>
Benzene	ND	1.0	ug/L (PPB)	MR		10/7/2020	EPA 5030B
Toluene	ND	1.0					
Ethylbenzene	ND	1.0					
Xylene(Total)	ND	3.0					
1,2,4-Trimethylbenzene	ND	1.0					
1,3,5-Trimethylbenzene	ND	1.0					
Methyl-t-Butyl Ether	ND	5.0					
Naphthalene	ND	5.0					
2-Methylnaphthalene	ND	5.0					

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COMPANY: MACKINAC ENVIRONMENTAL
 PROJECT NO: M12-2048
 LOCATION: CLOVERLAND
 MI
 SAMPLE MATRIX: WATER
 SAMPLE ID: BW-03

GTA PROJECT NO: 100620-4
 GTA SAMPLE NO: 4
 DATE SAMPLED: 10/1/2020
 TIME SAMPLED: 4:29 PM
 DATE RECEIVED: 10/6/2020
 TIME RECEIVED: 12:05 PM

SAMPLED BY: MJR/SLR - MET

EPA 8260B VOLATILE ORGANICS

<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>
Benzene	ND	1.0	ug/L (PPB)	MR		10/7/2020	EPA 5030B
Toluene	ND	1.0					
Ethylbenzene	ND	1.0					
Xylene(Total)	ND	3.0					
1,2,4-Trimethylbenzene	ND	1.0					
1,3,5-Trimethylbenzene	ND	1.0					
Methyl-t-Butyl Ether	ND	5.0					
Naphthalene	ND	5.0					
2-Methylnaphthalene	ND	5.0					

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COMPANY: MACKINAC ENVIRONMENTAL
 PROJECT NO: M12-2048
 LOCATION: CLOVERLAND
 MI
 SAMPLE MATRIX: WATER
 SAMPLE ID: BW-10

GTA PROJECT NO: 100620-4
 GTA SAMPLE NO: 5
 DATE SAMPLED: 10/1/2020
 TIME SAMPLED: 4:34 PM
 DATE RECEIVED: 10/6/2020
 TIME RECEIVED: 12:05 PM

SAMPLED BY: MJR/SLR - MET

EPA 8260B VOLATILE ORGANICS

<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>
Benzene	ND	1.0	ug/L (PPB)	MR		10/7/2020	EPA 5030B
Toluene	ND	1.0					
Ethylbenzene	ND	1.0					
Xylene(Total)	ND	3.0					
1,2,4-Trimethylbenzene	15	1.0					
1,3,5-Trimethylbenzene	8.0	1.0					
Methyl-t-Butyl Ether	ND	5.0					
Naphthalene	ND	5.0					
2-Methylnaphthalene	460	12.0					

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COMPANY: MACKINAC ENVIRONMENTAL
 PROJECT NO: M12-2048
 LOCATION: CLOVERLAND
 MI
 SAMPLE MATRIX: WATER
 SAMPLE ID: BW-02

GTA PROJECT NO: 100620-4
 GTA SAMPLE NO: 6
 DATE SAMPLED: 10/1/2020
 TIME SAMPLED: 4:38 PM
 DATE RECEIVED: 10/6/2020
 TIME RECEIVED: 12:05 PM

SAMPLED BY: MJR/SLR - MET

EPA 8260B VOLATILE ORGANICS

<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>
Benzene	ND	1.0	ug/L (PPB)	MR		10/7/2020	EPA 5030B
Toluene	ND	1.0					
Ethylbenzene	ND	1.0					
Xylene(Total)	ND	3.0					
1,2,4-Trimethylbenzene	ND	1.0					
1,3,5-Trimethylbenzene	ND	1.0					
Methyl-t-Butyl Ether	ND	5.0					
Naphthalene	ND	5.0					
2-Methylnaphthalene	ND	5.0					

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 PROJECT NO: M12-2048
 LOCATION: CLOVERLAND

GTA PROJECT NO: 100620-4
 GTA SAMPLE NO: 1

DATE SAMPLED: 10/1/2020
 TIME SAMPLED: 4:05 PM

SAMPLED BY: MI
 MJR/SLR - MET

DATE RECEIVED: 10/6/2020
 TIME RECEIVED: 12:05 PM

SAMPLE MATRIX: WATER
 SAMPLE ID: RW-02

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	5.0	ug/L (PPB)	KC/TR	10/8/2020	10/12/2020	EPA 3511
Acenaphthylene	ND	5.0					
Anthracene	ND	5.0					
Benzo(a)anthracene	ND	1.0					
Benzo(b)fluoranthene	ND	1.0					
Benzo(k)fluoranthene	ND	1.0					
Benzo(a)pyrene	ND	1.0					
Benzo(ghi)perylene	ND	2.0					
2-Chloronaphthalene	ND	5.0					
Chrysene	ND	1.0					
Dibenz(ah)anthracene	ND	2.0					
Fluoranthene	ND	1.0					
Fluorene	ND	5.0					
Indeno(123-cd)pyrene	ND	2.0					
Phenanthrene	5.2	2.0					
Pyrene	ND	5.0					

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 LOCATION: CLOVERLAND
 MI
 SAMPLED BY: MJR/SLR - MET
 WATER
 SAMPLE ID: BW-13

GTA PROJECT NO: 100620-4
 GTA SAMPLE NO: 2
 DATE SAMPLED: 10/1/2020
 TIME SAMPLED: 4:10 PM
 DATE RECEIVED: 10/6/2020
 TIME RECEIVED: 12:05 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	5.0	ug/L (PPB)	KC/TR	10/8/2020	10/12/2020	EPA 3511
Acenaphthylene	ND	5.0					
Anthracene	ND	5.0					
Benzo(a)anthracene	ND	1.0					
Benzo(b)fluoranthene	ND	1.0					
Benzo(k)fluoranthene	ND	1.0					
Benzo(a)pyrene	ND	1.0					
Benzo(ghi)perylene	ND	2.0					
2-Chloronaphthalene	ND	5.0					
Chrysene	ND	1.0					
Dibenz(ah)anthracene	ND	2.0					
Fluoranthene	ND	1.0					
Fluorene	ND	5.0					
Indeno(123-cd)pyrene	ND	2.0					
Phenanthrene	ND	2.0					
Pyrene	ND	5.0					

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 LOCATION: CLOVERLAND
 MI
 SAMPLED BY: MJR/SLR - MET
 SAMPLE MATRIX: WATER
 SAMPLE ID: BW-09

GTA PROJECT NO: 100620-4
 GTA SAMPLE NO: 3
 DATE SAMPLED: 10/1/2020
 TIME SAMPLED: 4:24 PM
 DATE RECEIVED: 10/6/2020
 TIME RECEIVED: 12:05 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	5.0	ug/L (PPB)	KC/TR	10/8/2020	10/12/2020	EPA 3511
Acenaphthylene	ND	5.0					
Anthracene	ND	5.0					
Benzo(a)anthracene	ND	1.0					
Benzo(b)fluoranthene	ND	1.0					
Benzo(k)fluoranthene	ND	1.0					
Benzo(a)pyrene	ND	1.0					
Benzo(ghi)perylene	ND	2.0					
2-Chloronaphthalene	ND	5.0					
Chrysene	ND	1.0					
Dibenz(ah)anthracene	ND	2.0					
Fluoranthene	ND	1.0					
Fluorene	ND	5.0					
Indeno(123-cd)pyrene	ND	2.0					
Phenanthrene	ND	2.0					
Pyrene	ND	5.0					

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COMPANY: MACKINAC ENVIRONMENTAL
 PROJECT NO: M12-2048
 LOCATION: CLOVERLAND

GTA PROJECT NO: 100620-4
 GTA SAMPLE NO: 4

DATE SAMPLED: 10/1/2020
 TIME SAMPLED: 4:29 PM

SAMPLED BY: MI
 MJR/SLR - MET

DATE RECEIVED: 10/6/2020
 TIME RECEIVED: 12:05 PM

SAMPLE MATRIX: WATER
 SAMPLE ID: BW-03

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	5.0	ug/L (PPB)	KC/TR	10/8/2020	10/12/2020	EPA 3511
Acenaphthylene	ND	5.0					
Anthracene	ND	5.0					
Benzo(a)anthracene	ND	1.0					
Benzo(b)fluoranthene	ND	1.0					
Benzo(k)fluoranthene	ND	1.0					
Benzo(a)pyrene	ND	1.0					
Benzo(ghi)perylene	ND	2.0					
2-Chloronaphthalene	ND	5.0					
Chrysene	ND	1.0					
Dibenz(ah)anthracene	ND	2.0					
Fluoranthene	ND	1.0					
Fluorene	ND	5.0					
Indeno(123-cd)pyrene	ND	2.0					
Phenanthrene	ND	2.0					
Pyrene	ND	5.0					

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 ND = NOT DETECTED, RESULT IS <LOD.
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COMPANY: MACKINAC ENVIRONMENTAL
 PROJECT NO: M12-2048
 LOCATION: CLOVERLAND

GTA PROJECT NO: 100620-4
 GTA SAMPLE NO: 5

DATE SAMPLED: 10/1/2020
 TIME SAMPLED: 4:34 PM

SAMPLED BY: MI
 MJR/SLR - MET

DATE RECEIVED: 10/6/2020
 TIME RECEIVED: 12:05 PM

SAMPLE MATRIX: WATER
 SAMPLE ID: BW-10

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	5.0	ug/L (PPB)	KC/TR	10/8/2020	10/12/2020	EPA 3511
Acenaphthylene	ND	5.0					
Anthracene	ND	5.0					
Benzo(a)anthracene	ND	1.0					
Benzo(b)fluoranthene	ND	1.0					
Benzo(k)fluoranthene	ND	1.0					
Benzo(a)pyrene	ND	1.0					
Benzo(ghi)perylene	ND	2.0					
2-Chloronaphthalene	ND	5.0					
Chrysene	ND	1.0					
Dibenz(ah)anthracene	ND	2.0					
Fluoranthene	ND	1.0					
Fluorene	5.0	5.0					
Indeno(123-cd)pyrene	ND	2.0					
Phenanthrene	8.2	2.0					
Pyrene	ND	5.0					

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COMPANY: MACKINAC ENVIRONMENTAL
 PROJECT NO: M12-2048
 LOCATION: CLOVERLAND
 MI
 SAMPLED BY: MJR/SLR - MET
 SAMPLE MATRIX: WATER
 SAMPLE ID: BW-02

GTA PROJECT NO: 100620-4
 GTA SAMPLE NO: 6
 DATE SAMPLED: 10/1/2020
 TIME SAMPLED: 4:38 PM
 DATE RECEIVED: 10/6/2020
 TIME RECEIVED: 12:05 PM

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	5.0	ug/L (PPB)	KC/TR	10/8/2020	10/12/2020	EPA 3511
Acenaphthylene	ND	5.0					
Anthracene	ND	5.0					
Benzo(a)anthracene	ND	1.0					
Benzo(b)fluoranthene	ND	1.0					
Benzo(k)fluoranthene	ND	1.0					
Benzo(a)pyrene	ND	1.0					
Benzo(ghi)perylene	ND	2.0					
2-Chloronaphthalene	ND	5.0					
Chrysene	ND	1.0					
Dibenz(ah)anthracene	ND	2.0					
Fluoranthene	ND	1.0					
Fluorene	ND	5.0					
Indeno(123-cd)pyrene	ND	2.0					
Phenanthrene	ND	2.0					
Pyrene	ND	5.0					

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