



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: M19-3117
GTA ProjNo: 112520-4

Site Addr: BMIC - SILVER DOME

Sampled By: ED RADECKI/MET
Date Rec: 11/25/2020
Time Rec: 12:00 PM

Sample No.	Sample ID	Date Sampled	Time Sampled	Sample Matrix
1	VS-1	11/23/2020		SOIL
2	VS-2	11/23/2020		SOIL
3	VS-3	11/23/2020		SOIL
4	VS-4	11/23/2020		SOIL
5	VS-5	11/23/2020		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
Ph: 231-929-0905
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SP: 231-590-0291
kirk@gtanalytical.com

COMPANY: MACKINAC ENVIRONMENTAL

PROJECT NO: M19-3117

LOCATION: BMIC - SILVER DOME

MI

SAMPLE MATRIX: SOIL

SAMPLE ID: VS-1

GTA PROJECT NO: 112520-4

GTA SAMPLE NO: 1

DATE SAMPLED: 11/23/2020

TIME SAMPLED:

DATE RECEIVED: 11/25/2020

TIME RECEIVED: 12:00 PM

SAMPLED BY: ED RADECKI/MET

**THIS SAMPLE WAS RECEIVED MEOH PRESERVED.

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	50	ug/Kg (PPB) MR		11/23/2020	12/1/2020	EPA 5035A
Toluene	ND	50					
Ethylbenzene	ND	50					
Xylene(Total)	ND	150					
1,2,4-Trimethylbenzene	ND	50					
1,3,5-Trimethylbenzene	ND	50					
Methyl-t-Butyl Ether	ND	250					
Naphthalene	ND	250					
2-Methylnaphthalene	ND	250					

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: M19-3117

LOCATION: BMIC - SILVER DOME

MI

SAMPLE MATRIX: SOIL

SAMPLE ID: VS-2

GTA PROJECT NO: 112520-4

GTA SAMPLE NO: 2

DATE SAMPLED: 11/23/2020

TIME SAMPLED:

DATE RECEIVED: 11/25/2020

TIME RECEIVED: 12:00 PM

SAMPLED BY: ED RADECKI/MET

**THIS SAMPLE WAS RECEIVED MEOH PRESERVED.

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	50	ug/Kg (PPB) MR		11/23/2020	12/1/2020	EPA 5035A
Toluene	ND	50					
Ethylbenzene	ND	50					
Xylene(Total)	ND	150					
1,2,4-Trimethylbenzene	ND	50					
1,3,5-Trimethylbenzene	ND	50					
Methyl-t-Butyl Ether	ND	250					
Naphthalene	ND	250					
2-Methylnaphthalene	ND	250					

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COMPANY: MACKINAC ENVIRONMENTAL

PROJECT NO: M19-3117

LOCATION: BMIC - SILVER DOME

MI

SAMPLE MATRIX: SOIL

SAMPLE ID: VS-3

GTA PROJECT NO: 112520-4

GTA SAMPLE NO: 3

DATE SAMPLED: 11/23/2020

TIME SAMPLED:

DATE RECEIVED: 11/25/2020

TIME RECEIVED: 12:00 PM

SAMPLED BY: ED RADECKI/MET

**THIS SAMPLE WAS RECEIVED MEOH PRESERVED.

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	50	ug/Kg (PPB)	MR	11/23/2020	12/1/2020	EPA 5035A
Toluene	ND	50					
Ethylbenzene	ND	50					
Xylene(Total)	ND	150					
1,2,4-Trimethylbenzene	ND	50					
1,3,5-Trimethylbenzene	ND	50					
Methyl-t-Butyl Ether	ND	250					
Naphthalene	ND	250					
2-Methylnaphthalene	ND	250					

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COMPANY: MACKINAC ENVIRONMENTAL

PROJECT NO: M19-3117

LOCATION: BMIC - SILVER DOME

MI

SAMPLE MATRIX: SOIL

SAMPLE ID: VS-4

GTA PROJECT NO: 112520-4

GTA SAMPLE NO: 4

DATE SAMPLED: 11/23/2020

TIME SAMPLED:

DATE RECEIVED: 11/25/2020

TIME RECEIVED: 12:00 PM

SAMPLED BY: ED RADECKI/MET

**THIS SAMPLE WAS RECEIVED MEOH PRESERVED.

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	50	ug/Kg (PPB) MR		11/23/2020	12/1/2020	EPA 5035A
Toluene	ND	50					
Ethylbenzene	ND	50					
Xylene(Total)	ND	150					
1,2,4-Trimethylbenzene	ND	50					
1,3,5-Trimethylbenzene	ND	50					
Methyl-t-Butyl Ether	ND	250					
Naphthalene	ND	250					
2-Methylnaphthalene	ND	250					

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COMPANY: MACKINAC ENVIRONMENTAL

PROJECT NO: M19-3117

LOCATION: BMIC - SILVER DOME

MI

SAMPLE MATRIX: SOIL

SAMPLE ID: VS-5

GTA PROJECT NO: 112520-4

GTA SAMPLE NO: 5

DATE SAMPLED: 11/23/2020

TIME SAMPLED:

DATE RECEIVED: 11/25/2020

TIME RECEIVED: 12:00 PM

SAMPLED BY: ED RADECKI/MET

**THIS SAMPLE WAS RECEIVED MEOH PRESERVED.

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	50	ug/Kg (PPB)	MR	11/23/2020	12/1/2020	EPA 5035A
Toluene	ND	50					
Ethylbenzene	550	50					
Xylene(Total)	5,000	150					
1,2,4-Trimethylbenzene	15,000	50					
1,3,5-Trimethylbenzene	5,200	50					
Methyl-t-Butyl Ether	ND	250					
Naphthalene	5,600	250					
2-Methylnaphthalene	73,000	250					

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COMPANY: MACKINAC ENVIRONMENTAL

PROJECT NO: M19-3117

LOCATION: BMIC - SILVER DOME

GTA PROJECT NO: 112520-4

GTA SAMPLE NO: 1

DATE SAMPLED: 11/23/2020

TIME SAMPLED:

SAMPLED BY: MI
ED RADECKI/MET

DATE RECEIVED: 11/25/2020

TIME RECEIVED: 12:00 PM

SAMPLE MATRIX: SOIL

SAMPLE ID: VS-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	11/28/2020	12/1/2020	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					
Phenanthrene	ND	330					
Pyrene	ND	330					

SOIL/SOLIDS CONCENTRATIONS ARE DETERMINED ON A DRY WEIGHT BASIS.

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COMPANY: MACKINAC ENVIRONMENTAL

PROJECT NO: M19-3117

LOCATION: BMIC - SILVER DOME

GTA PROJECT NO: 112520-4

GTA SAMPLE NO: 2

DATE SAMPLED: 11/23/2020

TIME SAMPLED:

SAMPLED BY: MI
ED RADECKI/MET

DATE RECEIVED: 11/25/2020

TIME RECEIVED: 12:00 PM

SAMPLE MATRIX: SOIL

SAMPLE ID: VS-2

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	11/28/2020	12/1/2020	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					
Phenanthrene	ND	330					
Pyrene	ND	330					

SOIL/SOLIDS CONCENTRATIONS ARE DETERMINED ON A DRY WEIGHT BASIS.

ND = NOT DETECTED, RESULT IS <LOD.

LOD = LIMIT OF DETECTION.

COMPANY: MACKINAC ENVIRONMENTAL

PROJECT NO: M19-3117

LOCATION: BMIC - SILVER DOME

SAMPLED BY: MI
ED RADECKI/MET

SAMPLE MATRIX: SOIL
SAMPLE ID: VS-3

GTA PROJECT NO: 112520-4

GTA SAMPLE NO: 3

DATE SAMPLED: 11/23/2020

TIME SAMPLED:

DATE RECEIVED: 11/25/2020

TIME RECEIVED: 12:00 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	330	ug/Kg (PPB)	KC/TR	11/28/2020	12/1/2020	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					
Phenanthrene	ND	330					
Pyrene	ND	330					

SOIL/SOLIDS CONCENTRATIONS ARE DETERMINED ON A DRY WEIGHT BASIS.

ND = NOT DETECTED, RESULT IS <LOD.

LOD = LIMIT OF DETECTION.

COMPANY: MACKINAC ENVIRONMENTAL

PROJECT NO: M19-3117

LOCATION: BMIC - SILVER DOME

SAMPLED BY: MI
ED RADECKI/MET

SAMPLE MATRIX: SOIL
SAMPLE ID: VS-4

GTA PROJECT NO: 112520-4

GTA SAMPLE NO: 4

DATE SAMPLED: 11/23/2020

TIME SAMPLED:

DATE RECEIVED: 11/25/2020

TIME RECEIVED: 12:00 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	330	ug/Kg (PPB)	KC/TR	11/28/2020	12/1/2020	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					
Phenanthrene	ND	330					
Pyrene	ND	330					

SOIL/SOLIDS CONCENTRATIONS ARE DETERMINED ON A DRY WEIGHT BASIS.

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LOD = LIMIT OF DETECTION.

COMPANY: MACKINAC ENVIRONMENTAL

PROJECT NO: M19-3117

LOCATION: BMIC - SILVER DOME

GTA PROJECT NO: 112520-4

GTA SAMPLE NO: 5

DATE SAMPLED: 11/23/2020

TIME SAMPLED:

SAMPLED BY: MI
ED RADECKI/MET

DATE RECEIVED: 11/25/2020

TIME RECEIVED: 12:00 PM

SAMPLE MATRIX: SOIL

SAMPLE ID: VS-5

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	11/28/2020	12/1/2020	EPA 3550B
Acenaphthylene	6,100	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	820	330					
Indeno(123-cd)pyrene	ND	330					
Phenanthrene	12,000	330					
Pyrene	3,800	330					

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COMPANY: MACKINAC ENVIRONMENTAL

GTA PROJECT NO: 112520-

NAME:

SAMPLED BY: ED RADECKI/MET

PROJECT NO: M19-3117

DATE SAMPLED: 11/23/2020

TIME SAMPLED:

LOCATION: BMIC - SILVER DOME

SAMPLE MATRIX: SOIL

DATE RECEIVED: 11/25/2020

TIME RECEIVED: 12:00 PM

MI

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: VS-1	% MOISTURE EPA 3550C	19	0.050	OF SAMPLE	AS	11/25/2020
SAMPLE ID: VS-2	% MOISTURE EPA 3550C	17	0.050	OF SAMPLE	AS	11/25/2020
SAMPLE ID: VS-3	% MOISTURE EPA 3550C	18	0.050	OF SAMPLE	AS	11/25/2020
SAMPLE ID: VS-4	% MOISTURE EPA 3550C	18	0.050	OF SAMPLE	AS	11/25/2020
SAMPLE ID: VS-5	% MOISTURE EPA 3550C	15	0.050	OF SAMPLE	AS	11/25/2020

CHAIN OF CUSTODY

PROJECT NUMBER M19-3117	SITE NAME/ADDRESS Bmic - Silver Dome	COMPANY/NAME
SAMPLED BY Radecki	COMPANY MEF	GTA PROJECT # 112520-4

SAMPLE INFORMATION

#	SAMPLE ID	DATE SAMPLED	TIME	MATRIX	ANALYSIS
	VS-1	11/23/20		Soil	8260 ULC, 8270 DNAS
	VS-2				
	VS-3				
	VS-4				
	VS-5				
					Shipped on Ice

BILL TO: MEF		REPORT TO: MEF	
RELEASED BY E. Radecki	DATE/TIME 11/23/20 17:00	RECEIVED BY [Signature]	DATE/TIME 11/25/20 12:00
REQUESTED TAT ☒ STANDARD		☐ 1 BUSINESS DAY ☐ 2 BUSINESS DAYS ☐ 3 BUSINESS DAYS	