

**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: M17-2757
GTA ProjNo: 052119-11

Site Addr: CRAWFORD

Sampled By: MJR/MET

Date Rec: 5/21/2019

Time Rec: 11:50 AM

Sample No.	Sample ID	Date Sampled	Time Sampled	Sample Matrix
1	MW-1	5/16/2019		WATER
2	MW-2R	5/16/2019		WATER
3	MW-3	5/16/2019		WATER
4	MW-4	5/16/2019		WATER
5	MW-5	5/16/2019		WATER
6	CSW	5/16/2019		WATER
7	PW	5/16/2019		WATER
8	TRENCH-1	5/16/2019		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 L Chase

Kirk L. Chase/Chemist
Grand Traverse Analytical
830 Robinwood Court
Traverse City, MI 49686
Ph: 231-929-0905
Fx: 231-929-0894
SP: 231-590-0291
kirk@gtanalytical.com

COMPANY:	MACKINAC ENVIRONMENTAL	GTA PROJECT NO:	052119-11
PROJECT NO:	M17-2757	GTA SAMPLE NO:	1
LOCATION:	CRAWFORD	DATE SAMPLED:	5/16/2019
		TIME SAMPLED:	
	MI	DATE RECEIVED:	5/21/2019
		TIME RECEIVED:	11:50 AM
SAMPLE MATRIX:	WATER		
SAMPLE ID:	MW-1	SAMPLED BY:	MJR/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		5/22/2019	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					

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

ND = NOT DETECTED, RESULT < LOD

LOD = LIMIT OF DETECTION

COMPANY:	MACKINAC ENVIRONMENTAL	GTA PROJECT NO:	052119-11
PROJECT NO:	M17-2757	GTA SAMPLE NO:	2
LOCATION:	CRAWFORD	DATE SAMPLED:	5/16/2019
		TIME SAMPLED:	
	MI	DATE RECEIVED:	5/21/2019
		TIME RECEIVED:	11:50 AM
SAMPLE MATRIX:	WATER		
SAMPLE ID:	MW-2R	SAMPLED BY:	MJR/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		5/22/2019	EPA 5030B
Toluene	ND	1.0					
Ethylbenzene	1.2	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					

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

ND = NOT DETECTED, RESULT < LOD

LOD = LIMIT OF DETECTION

COMPANY:	MACKINAC ENVIRONMENTAL	GTA PROJECT NO:	052119-11
PROJECT NO:	M17-2757	GTA SAMPLE NO:	3
LOCATION:	CRAWFORD	DATE SAMPLED:	5/16/2019
		TIME SAMPLED:	
	MI	DATE RECEIVED:	5/21/2019
		TIME RECEIVED:	11:50 AM
SAMPLE MATRIX:	WATER		
SAMPLE ID:	MW-3	SAMPLED BY:	MJR/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		5/22/2019	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					

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

ND = NOT DETECTED, RESULT < LOD

LOD = LIMIT OF DETECTION

COMPANY:	MACKINAC ENVIRONMENTAL	GTA PROJECT NO:	052119-11
PROJECT NO:	M17-2757	GTA SAMPLE NO:	4
LOCATION:	CRAWFORD	DATE SAMPLED:	5/16/2019
		TIME SAMPLED:	
	MI	DATE RECEIVED:	5/21/2019
		TIME RECEIVED:	11:50 AM
SAMPLE MATRIX:	WATER		
SAMPLE ID:	MW-4	SAMPLED BY:	MJR/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		5/22/2019	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					

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

ND = NOT DETECTED, RESULT < LOD

LOD = LIMIT OF DETECTION

COMPANY:	MACKINAC ENVIRONMENTAL	GTA PROJECT NO:	052119-11
PROJECT NO:	M17-2757	GTA SAMPLE NO:	5
LOCATION:	CRAWFORD	DATE SAMPLED:	5/16/2019
		TIME SAMPLED:	
	MI	DATE RECEIVED:	5/21/2019
		TIME RECEIVED:	11:50 AM
SAMPLE MATRIX:	WATER		
SAMPLE ID:	MW-5	SAMPLED BY:	MJR/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		5/22/2019	EPA 5030B
Toluene	ND	1.0					
Ethylbenzene	14	1.0					
Xylene(Total)	30	3.0					
1,2,4-Trimethylbenzene	83	1.0					
1,3,5-Trimethylbenzene	50	1.0					
Methyl-t-Butyl Ether	ND	5.0					
Naphthalene	12	5.0					
2-Methylnaphthalene	55	5.0					

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

ND = NOT DETECTED, RESULT < LOD

LOD = LIMIT OF DETECTION

COMPANY: MACKINAC ENVIRONMENTAL
PROJECT NO: M17-2757
LOCATION: CRAWFORD
MI
SAMPLE MATRIX: WATER
SAMPLE ID: CSW
GTA PROJECT NO: 052119-11
GTA SAMPLE NO: 6
DATE SAMPLED: 5/16/2019
TIME SAMPLED:
DATE RECEIVED: 5/21/2019
TIME RECEIVED: 11:50 AM
SAMPLED BY: MJR/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		5/22/2019	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					

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

ND = NOT DETECTED, RESULT < LOD

LOD = LIMIT OF DETECTION

COMPANY:	MACKINAC ENVIRONMENTAL	GTA PROJECT NO:	052119-11
PROJECT NO:	M17-2757	GTA SAMPLE NO:	7
LOCATION:	CRAWFORD	DATE SAMPLED:	5/16/2019
		TIME SAMPLED:	
	MI	DATE RECEIVED:	5/21/2019
		TIME RECEIVED:	11:50 AM
SAMPLE MATRIX:	WATER		
SAMPLE ID:	PW	SAMPLED BY:	MJR/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		5/22/2019	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					

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

ND = NOT DETECTED, RESULT < LOD

LOD = LIMIT OF DETECTION

COMPANY: MACKINAC ENVIRONMENTAL

PROJECT NO: M17-2757
LOCATION: CRAWFORD

MI

SAMPLE MATRIX: SOIL
SAMPLE ID: TRENCH-1

GTA PROJECT NO: 052119-11
GTA SAMPLE NO: 8

DATE SAMPLED: 5/16/2019
TIME SAMPLED:
DATE RECEIVED: 5/21/2019
TIME RECEIVED: 11:50 AM

SAMPLED BY: MJR/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	5/16/2019	5/22/2019	EPA 5030B
Toluene	ND	50					
Ethylbenzene	ND	50					
Xylene(Total)	840	150					
1,2,4-Trimethylbenzene	2,500	50					
1,3,5-Trimethylbenzene	1,000	50					
Methyl-t-Butyl Ether	ND	250					
Naphthalene	ND	250					
2-Methylnaphthalene	2,100	250					

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

ND = NOT DETECTED, RESULT < LOD

LOD = LIMIT OF DETECTION

**INDEPENDENT TESTING LAB**

830 ROBINWOOD COURT, TRAVERSE CITY, MI 49686

PH: 231-929-0905

FAX: 231-929-0894

www.gtanalytical.com

COMPANY: MACKINAC ENVIRONMENTAL

PROJECT NO: M17-2757
LOCATION: CRAWFORD

GTA PROJECT NO: 052119-11

GTA SAMPLE NO: 1

DATE SAMPLED: 5/16/2019
TIME SAMPLED:SAMPLED BY: MI
MJR/METDATE RECEIVED: 5/21/2019
TIME RECEIVED: 11:50 AMSAMPLE MATRIX: WATER
SAMPLE ID: MW-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	5.0	ug/L (PPB)	KC/TR	5/22/2019	5/25/2019	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					

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: M17-2757
LOCATION: CRAWFORD

GTA PROJECT NO: 052119-11
GTA SAMPLE NO: 2

DATE SAMPLED: 5/16/2019
TIME SAMPLED:

SAMPLED BY: MI
MJR/MET

DATE RECEIVED: 5/21/2019
TIME RECEIVED: 11:50 AM

SAMPLE MATRIX: WATER
SAMPLE ID: MW-2R

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	5/22/2019	5/25/2019	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					

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: M17-2757
LOCATION: CRAWFORD

GTA PROJECT NO: 052119-11
GTA SAMPLE NO: 3

DATE SAMPLED: 5/16/2019
TIME SAMPLED:

SAMPLED BY: MI
MJR/MET

DATE RECEIVED: 5/21/2019
TIME RECEIVED: 11:50 AM

SAMPLE MATRIX: WATER
SAMPLE ID: MW-3

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	5/22/2019	5/25/2019	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					

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: M17-2757
LOCATION: CRAWFORD

GTA PROJECT NO: 052119-11
GTA SAMPLE NO: 4

DATE SAMPLED: 5/16/2019
TIME SAMPLED:

SAMPLED BY: MI
MJR/MET

DATE RECEIVED: 5/21/2019
TIME RECEIVED: 11:50 AM

SAMPLE MATRIX: WATER
SAMPLE ID: MW-4

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	5/22/2019	5/25/2019	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					

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: M17-2757
LOCATION: CRAWFORD

GTA PROJECT NO: 052119-11
GTA SAMPLE NO: 5

DATE SAMPLED: 5/16/2019
TIME SAMPLED:

SAMPLED BY: MI
MJR/MET

DATE RECEIVED: 5/21/2019
TIME RECEIVED: 11:50 AM

SAMPLE MATRIX: WATER
SAMPLE ID: MW-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	5.0	ug/L (PPB)	KC/TR	5/22/2019	5/25/2019	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					

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: M17-2757
LOCATION: CRAWFORD

SAMPLED BY: MI
MJR/MET

SAMPLE MATRIX: WATER
SAMPLE ID: CSW

GTA PROJECT NO: 052119-11
GTA SAMPLE NO: 6

DATE SAMPLED: 5/16/2019
TIME SAMPLED:

DATE RECEIVED: 5/21/2019
TIME RECEIVED: 11:50 AM

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	5/22/2019	5/25/2019	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					

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: M17-2757
LOCATION: CRAWFORD

GTA PROJECT NO: 052119-11
GTA SAMPLE NO: 7

DATE SAMPLED: 5/16/2019
TIME SAMPLED:

SAMPLED BY: MI
MJR/MET

DATE RECEIVED: 5/21/2019
TIME RECEIVED: 11:50 AM

SAMPLE MATRIX: WATER
SAMPLE ID: PW

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	5/22/2019	5/25/2019	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					

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

**INDEPENDENT TESTING LAB**

830 ROBINWOOD COURT, TRAVERSE CITY, MI 49686

PH: 231-929-0905

FAX: 231-929-0894

www.gtanalytical.com

COMPANY: MACKINAC ENVIRONMENTAL

PROJECT NO: M17-2757
LOCATION: CRAWFORDGTA PROJECT NO: 052119-11
GTA SAMPLE NO: 8DATE SAMPLED: 5/16/2019
TIME SAMPLED:SAMPLED BY: MI
MJR/METDATE RECEIVED: 5/21/2019
TIME RECEIVED: 11:50 AMSAMPLE MATRIX: SOIL
SAMPLE ID: TRENCH-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	5/24/2019	5/25/2019	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.

**INDEPENDENT TESTING LAB**

830 ROBINWOOD COURT, TRAVERSE CITY, MI 49686

PH: 231-929-0905

FAX: 231-929-0894

www.gtanalytical.com

COMPANY: MACKINAC ENVIRONMENTAL

GTA PROJECT NO: 052119-11

NAME:

GTA SAMPLE NO: 2

PROJECT NO: M17-2757

DATE SAMPLED: 5/16/2019

LOCATION: CRAWFORD

TIME SAMPLED:

DATE RECEIVED: 5/21/2019

TIME RECEIVED: 11:50 AM

SAMPLED BY: MI
MJR/MET**ORGANICS**

<u>No:</u>	<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>
SAMPLE ID:	MW-2R							
SAMPLE MATRIX:	WATER							
DIESEL RANGE ORGANICS C10-C20 EPA 8015M		ND	0.10	mg/L (PPM)	KC/TR	5/22/2019	5/26/2019	EPA 3510C

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

ND = NOT DETECTED, RESULT < LOD

LOD = LIMIT OF DETECTION

**INDEPENDENT TESTING LAB**

830 ROBINWOOD COURT, TRAVERSE CITY, MI 49686

PH: 231-929-0905

FAX: 231-929-0894

www.gtanalytical.com

COMPANY: MACKINAC ENVIRONMENTAL

GTA PROJECT NO: 052119-11

NAME:

GTA SAMPLE NO: 4

PROJECT NO: M17-2757

DATE SAMPLED: 5/16/2019

LOCATION: CRAWFORD

TIME SAMPLED:

DATE RECEIVED: 5/21/2019

TIME RECEIVED: 11:50 AM

SAMPLED BY: MI
MJR/MET**ORGANICS**

<u>No:</u>	<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>
SAMPLE ID:	MW-4							
SAMPLE MATRIX:	WATER							
DIESEL RANGE ORGANICS C10-C20 EPA 8015M		ND	0.10	mg/L (PPM)	KC/TR	5/22/2019	5/26/2019	EPA 3510C

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

ND = NOT DETECTED, RESULT < LOD

LOD = LIMIT OF DETECTION

**INDEPENDENT TESTING LAB**

830 ROBINWOOD COURT, TRAVERSE CITY, MI 49686

PH: 231-929-0905

FAX: 231-929-0894

www.gtanalytical.com

COMPANY: MACKINAC ENVIRONMENTAL

GTA PROJECT NO: 052119-11

NAME:

GTA SAMPLE NO: 5

PROJECT NO: M17-2757

DATE SAMPLED: 5/16/2019

LOCATION: CRAWFORD

TIME SAMPLED:

DATE RECEIVED: 5/21/2019

TIME RECEIVED: 11:50 AM

SAMPLED BY: MI
MJR/MET**ORGANICS**

<u>No:</u>	<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>
SAMPLE ID:	MW-5							
SAMPLE MATRIX:	WATER							
DIESEL RANGE ORGANICS C10-C20 EPA 8015M		1.0	0.10	mg/L (PPM)	KC/TR	5/22/2019	5/26/2019	EPA 3510C

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

ND = NOT DETECTED, RESULT < LOD

LOD = LIMIT OF DETECTION

**INDEPENDENT TESTING LAB**

830 ROBINWOOD COURT, TRAVERSE CITY, MI 49686

PH: 231-929-0905

FAX: 231-929-0894

www.gtanalytical.com

COMPANY: MACKINAC ENVIRONMENTAL

GTA PROJECT NO: 052119-11

GTA SAMPLE NO: 6

NAME:

PROJECT NO: M17-2757

DATE SAMPLED: 5/16/2019

LOCATION: CRAWFORD

TIME SAMPLED:

DATE RECEIVED: 5/21/2019

TIME RECEIVED: 11:50 AM

SAMPLED BY: MI
MJR/MET**ORGANICS**

<u>No:</u>	<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>
SAMPLE ID:	CSW							
SAMPLE MATRIX:	WATER							
DIESEL RANGE ORGANICS C10-C20 EPA 8015M		0.28	0.10	mg/L (PPM)	KC/TR	5/22/2019	5/26/2019	EPA 3510C

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

ND = NOT DETECTED, RESULT < LOD

LOD = LIMIT OF DETECTION

**INDEPENDENT TESTING LAB**

830 ROBINWOOD COURT, TRAVERSE CITY, MI 49686

PH: 231-929-0905

FAX: 231-929-0894

www.gtanalytical.com

COMPANY: MACKINAC ENVIRONMENTAL

GTA PROJECT NO: 052119-11

NAME:

GTA SAMPLE NO: 8

PROJECT NO: M17-2757

DATE SAMPLED: 5/16/2019

LOCATION: CRAWFORD

TIME SAMPLED:

DATE RECEIVED: 5/21/2019

TIME RECEIVED: 11:50 AM

SAMPLED BY: MI
MJR/MET**ORGANICS**

<u>No:</u>	<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>
SAMPLE ID:	TRENCH-1							
SAMPLE MATRIX:	SOIL							
DIESEL RANGE ORGANICS C10-C20 EPA 8015M		1,200	200	mg/Kg (PPM)	KC/TR	5/24/2019	5/25/2019	EPA 3550B

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

ND = NOT DETECTED, RESULT < LOD

LOD = LIMIT OF DETECTION

**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:

PROJECT NO: M17-2757

LOCATION: CRAWFORD

MI

GTA PROJECT NO: 052119-
SAMPLED BY: MJR/METDATE SAMPLED: 5/16/2019
TIME SAMPLED:

SAMPLE MATRIX: SOIL

DATE RECEIVED: 5/21/2019
TIME RECEIVED: 11:50 AM**MOISTURE**No: Analysis

SAMPLE ID: TRENCH-1

% MOISTURE EPA 3550C

ConcentrationLODUnitsAnalystDate
Complete

19

0.050

% OF SAMPLE

AS

5/21/2019

CHAIN OF CUSTODY

PROJECT NUMBER M17-2757	SITE NAME/ADDRESS Crawford	COMPANY/NAME
SAMPLED BY MJR	COMPANY MET	GTA PROJECT # 052119-11

SAMPLE INFORMATION

#	SAMPLE ID	DATE SAMPLED	TIME	MATRIX	ANALYSIS
1	MV-1	5-16-19		H ₂ O	ULG & PNA
2	MV-2R	↓			MJR ULG, PNA, DRO
3	MW-3				ULG, PNA, PNA MR
4	MW-4				MJR ULG, PNA, DRO
5	MW-5				↓
6	CSW				
7	PW	↓		↓	ULG & PNA
8	Trench-1	↓		Soil	ULG, PNA, DRO
					Shipped on ice

BILL TO:

REPORT TO:

RELEASED BY MJR	DATE/TIME 5-16-19 / 1730	RECEIVED BY R. U	DATE/TIME 5/21/19 11:00am
			in 8BC on ice
REQUESTED TAT ☒ STANDARD ☐ 1 BUSINESS DAY ☐ 2 BUSINESS DAYS ☐ 3 BUSINESS DAYS			