



**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: LAMBDA ENERGY RESOURCES, LLC  
Name:  
ClientProj: 2018100142.01  
GTA ProjNo: 121118-12

Site Addr: WEDHOLM MCCAGUE 1-31  
Sampled By: MAX KORNDORFER/GCES  
Date Rec: 12/11/2018  
Time Rec: 5:00 PM

Sample No.	Sample ID	Date Sampled	Time Sampled	Sample Matrix
1	MW-1	12/10/2018	3:11 PM	WATER
2	MW-1 (25')	12/10/2018	3:15 PM	WATER
3	MW-3	12/10/2018	3:37 PM	WATER
4	MW-2	12/10/2018	3:50 PM	WATER
5	MW-2 (18')	12/10/2018	4:00 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: LAMBDA ENERGY RESOURCES, LLC  
 PROJECT NO: 2018100142.01  
 LOCATION: WEDHOLM MCCAGUE 1-31  
 MI  
 SAMPLE MATRIX: WATER  
 SAMPLE ID: MW-1

GTA PROJECT NO: 121118-12  
 GTA SAMPLE NO: 1  
 DATE SAMPLED: 12/10/2018  
 TIME SAMPLED: 3:11 PM  
 DATE RECEIVED: 12/11/2018  
 TIME RECEIVED: 5:00 PM

SAMPLED BY: MAX KORNDORFER/GCES

**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		12/13/2018	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					
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



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COMPANY: LAMBDA ENERGY RESOURCES, LLC  
 PROJECT NO: 2018100142.01  
 LOCATION: WEDHOLM MCCAGUE 1-31  
 MI  
 SAMPLE MATRIX: WATER  
 SAMPLE ID: MW-1 (25')

GTA PROJECT NO: 121118-12  
 GTA SAMPLE NO: 2  
 DATE SAMPLED: 12/10/2018  
 TIME SAMPLED: 3:15 PM  
 DATE RECEIVED: 12/11/2018  
 TIME RECEIVED: 5:00 PM

SAMPLED BY: MAX KORNDORFER/GCES

**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		12/13/2018	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					
Naphthalene	ND	5.0					
2-Methylnaphthalene	ND	5.0					

SOIL/SOLIDS CONCENTRATIONS ARE DETERMINED ON A DRY WEIGHT BASIS.  
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COMPANY: LAMBDA ENERGY RESOURCES, LLC  
 PROJECT NO: 2018100142.01  
 LOCATION: WEDHOLM MCCAGUE 1-31  
 MI  
 SAMPLE MATRIX: WATER  
 SAMPLE ID: MW-3

GTA PROJECT NO: 121118-12  
 GTA SAMPLE NO: 3  
 DATE SAMPLED: 12/10/2018  
 TIME SAMPLED: 3:37 PM  
 DATE RECEIVED: 12/11/2018  
 TIME RECEIVED: 5:00 PM

SAMPLED BY: MAX KORNDORFER/GCES

**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		12/13/2018	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					
Naphthalene	ND	5.0					
2-Methylnaphthalene	ND	5.0					

SOIL/SOLIDS CONCENTRATIONS ARE DETERMINED ON A DRY WEIGHT BASIS.  
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COMPANY: LAMBDA ENERGY RESOURCES, LLC  
 PROJECT NO: 2018100142.01  
 LOCATION: WEDHOLM MCCAGUE 1-31  
 MI  
 SAMPLE MATRIX: WATER  
 SAMPLE ID: MW-2

GTA PROJECT NO: 121118-12  
 GTA SAMPLE NO: 4  
 DATE SAMPLED: 12/10/2018  
 TIME SAMPLED: 3:50 PM  
 DATE RECEIVED: 12/11/2018  
 TIME RECEIVED: 5:00 PM

SAMPLED BY: MAX KORNDORFER/GCES

**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		12/13/2018	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					
Naphthalene	ND	5.0					
2-Methylnaphthalene	ND	5.0					

SOIL/SOLIDS CONCENTRATIONS ARE DETERMINED ON A DRY WEIGHT BASIS.  
 ND = NOT DETECTED, RESULT < LOD  
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COMPANY: LAMBDA ENERGY RESOURCES, LLC  
 PROJECT NO: 2018100142.01  
 LOCATION: WEDHOLM MCCAGUE 1-31  
 MI  
 SAMPLE MATRIX: WATER  
 SAMPLE ID: MW-2 (18')

GTA PROJECT NO: 121118-12  
 GTA SAMPLE NO: 5  
 DATE SAMPLED: 12/10/2018  
 TIME SAMPLED: 4:00 PM  
 DATE RECEIVED: 12/11/2018  
 TIME RECEIVED: 5:00 PM

SAMPLED BY: MAX KORNDORFER/GCES

**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		12/13/2018	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					
Naphthalene	ND	5.0					
2-Methylnaphthalene	ND	5.0					

SOIL/SOLIDS CONCENTRATIONS ARE DETERMINED ON A DRY WEIGHT BASIS.  
 ND = NOT DETECTED, RESULT < LOD  
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COMPANY: LAMBDA ENERGY RESOURCES, LLC      GTA PROJECT NO: 121118-12  
PROJECT NO: 2018100142.01      GTA SAMPLE NO: 1  
LOCATION: WEDHOLM MCCAGUE 1-31      DATE RECEIVED: 12/11/2018  
MI      TIME RECEIVED: 5:00 PM  
SAMPLED BY: MAX KORNDORFER/GCES      DATE SAMPLED: 12/10/2018  
MI      TIME SAMPLED: 3:11 PM  
SAMPLE ID: MW-1      SAMPLE MATRIX: WATER

**SAMPLE RESULTS**

<u>Analysis</u>	<u>Concentration</u>	<u>LOD</u>	<u>Units</u>	<u>Analyst</u>	<u>Date Complete</u>
ALKALINITY SM 4500CO2D (BICARBONATE)	160	10	mg/L (PPM)	TR	12/19/2018
CHLORIDE EPA 300.0	14.7	2.5	mg/L (PPM)	LV	12/18/2018
TDS MINUS BICARBONATE	120	5.0	mg/L (PPM)	TR	12/19/2018
TOTAL DISSOLVED SOLIDS EPA 160.1	280	5.0	mg/L (PPM)	TR	12/18/2018

ND = NOT DETECTED, RESULT < LOD  
LOD = LIMIT OF DETECTION  
s.u. = STANDARD pH UNITS REPORTED AT 25 C  
DISS = DISSOLVED



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COMPANY: LAMBDA ENERGY RESOURCES, LLC      GTA PROJECT NO: 121118-12  
PROJECT NO: 2018100142.01      GTA SAMPLE NO: 2  
LOCATION: WEDHOLM MCCAGUE 1-31      DATE RECEIVED: 12/11/2018  
MI      TIME RECEIVED: 5:00 PM  
SAMPLED BY: MAX KORNDORFER/GCES      DATE SAMPLED: 12/10/2018  
MI      TIME SAMPLED: 3:15 PM  
SAMPLE ID: MW-1 (25')      SAMPLE MATRIX: WATER

**SAMPLE RESULTS**

<u>Analysis</u>	<u>Concentration</u>	<u>LOD</u>	<u>Units</u>	<u>Analyst</u>	<u>Date Complete</u>
ALKALINITY SM 4500CO2D (BICARBONATE)	200	10	mg/L (PPM)	TR	12/19/2018
CHLORIDE EPA 300.0	39.7	2.5	mg/L (PPM)	LV	12/18/2018
TDS MINUS BICARBONATE	70	5.0	mg/L (PPM)	TR	12/19/2018
TOTAL DISSOLVED SOLIDS EPA 160.1	270	5.0	mg/L (PPM)	TR	12/18/2018

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COMPANY:	LAMBDA ENERGY RESOURCES, LLC	GTA PROJECT NO:	121118-12
PROJECT NO:	2018100142.01	GTA SAMPLE NO:	3
LOCATION:	WEDHOLM MCCAGUE 1-31	DATE RECEIVED:	12/11/2018
	MI	TIME RECEIVED:	5:00 PM
SAMPLED BY:	MAX KORNDORFER/GCES	DATE SAMPLED:	12/10/2018
		TIME SAMPLED:	3:37 PM
SAMPLE ID:	MW-3	SAMPLE MATRIX:	WATER

**SAMPLE RESULTS**

<u>Analysis</u>	<u>Concentration</u>	<u>LOD</u>	<u>Units</u>	<u>Analyst</u>	<u>Date Complete</u>
ALKALINITY SM 4500CO2D (BICARBONATE)	190	10	mg/L (PPM)	TR	12/19/2018
CHLORIDE EPA 300.0	20.8	2.5	mg/L (PPM)	LV	12/18/2018
TDS MINUS BICARBONATE	220	5.0	mg/L (PPM)	TR	12/19/2018
TOTAL DISSOLVED SOLIDS EPA 160.1	410	5.0	mg/L (PPM)	TR	12/18/2018

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COMPANY: LAMBDA ENERGY RESOURCES, LLC      GTA PROJECT NO: 121118-12  
PROJECT NO: 2018100142.01      GTA SAMPLE NO: 4  
LOCATION: WEDHOLM MCCAGUE 1-31      DATE RECEIVED: 12/11/2018  
MI      TIME RECEIVED: 5:00 PM  
SAMPLED BY: MAX KORNDORFER/GCES      DATE SAMPLED: 12/10/2018  
MI      TIME SAMPLED: 3:50 PM  
SAMPLE ID: MW-2      SAMPLE MATRIX: WATER

**SAMPLE RESULTS**

<u>Analysis</u>	<u>Concentration</u>	<u>LOD</u>	<u>Units</u>	<u>Analyst</u>	<u>Date Complete</u>
ALKALINITY SM 4500CO2D (BICARBONATE)	220	10	mg/L (PPM)	TR	12/19/2018
CHLORIDE EPA 300.0	36.8	2.5	mg/L (PPM)	LV	12/18/2018
TDS MINUS BICARBONATE	70	5.0	mg/L (PPM)	TR	12/19/2018
TOTAL DISSOLVED SOLIDS EPA 160.1	290	5.0	mg/L (PPM)	TR	12/18/2018

ND = NOT DETECTED, RESULT < LOD  
LOD = LIMIT OF DETECTION  
s.u. = STANDARD pH UNITS REPORTED AT 25 C  
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COMPANY: LAMBDA ENERGY RESOURCES, LLC      GTA PROJECT NO: 121118-12  
PROJECT NO: 2018100142.01      GTA SAMPLE NO: 5  
LOCATION: WEDHOLM MCCAGUE 1-31      DATE RECEIVED: 12/11/2018  
MI      TIME RECEIVED: 5:00 PM  
SAMPLED BY: MAX KORNDORFER/GCES      DATE SAMPLED: 12/10/2018  
MI      TIME SAMPLED: 4:00 PM  
SAMPLE ID: MW-2 (18')      SAMPLE MATRIX: WATER

**SAMPLE RESULTS**

<u>Analysis</u>	<u>Concentration</u>	<u>LOD</u>	<u>Units</u>	<u>Analyst</u>	<u>Date Complete</u>
ALKALINITY SM 4500CO2D (BICARBONATE)	190	10	mg/L (PPM)	TR	12/19/2018
CHLORIDE EPA 300.0	69.5	2.5	mg/L (PPM)	LV	12/18/2018
TDS MINUS BICARBONATE	120	5.0	mg/L (PPM)	TR	12/19/2018
TOTAL DISSOLVED SOLIDS EPA 160.1	310	5.0	mg/L (PPM)	TR	12/18/2018

ND = NOT DETECTED, RESULT < LOD  
LOD = LIMIT OF DETECTION  
s.u. = STANDARD pH UNITS REPORTED AT 25 C  
DISS = DISSOLVED

