

**INDEPENDENT TESTING LAB**

830 ROBINWOOD COURT, TRAVERSE CITY, MI 49686

PH: 231-929-0905

FAX: 231-929-0894

www.gtanalytical.com

Company: LAMBDA ENERGY RESOURCES, LLC

Name:

ClientProj: 2018100136.02

GTA ProjNo: 061319-6

Site Addr: HAYES 22 CPF

Sampled By: JOSHUA GERRIE/GCES

Date Rec: 6/13/2019

Time Rec: 3:40 PM

Sample No.	Sample ID	Date Sampled	Time Sampled	Sample Matrix
1	RW-101 BLDG	6/13/2019		WATER
2	RW-102 BLDG	6/13/2019		WATER
3	RW-103 BLDG	6/13/2019		WATER
4	RW-104 BLDG	6/13/2019		WATER
5	RW-105 BLDG	6/13/2019		WATER
6	TOWER EFF.	6/13/2019		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 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

**INDEPENDENT TESTING LAB**

830 ROBINWOOD COURT, TRAVERSE CITY, MI 49686

PH: 231-929-0905

FAX: 231-929-0894

www.gtanalytical.com

COMPANY: LAMBDA ENERGY RESOURCES, LLC
PROJECT NO: 2018100136.02
LOCATION: HAYES 22 CPF
MI
SAMPLE MATRIX: WATER
SAMPLE ID: RW-101 BLDG

GTA PROJECT NO: 061319-6
GTA SAMPLE NO: 1
DATE SAMPLED: 6/13/2019
TIME SAMPLED:
DATE RECEIVED: 6/13/2019
TIME RECEIVED: 3:40 PM
SAMPLED BY: JOSHUA GERRIE/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		6/14/2019	EPA 5030B
Toluene	ND	1.0					
Ethylbenzene	ND	1.0					
Xylene(Total)	ND	3.0					

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: LAMBDA ENERGY RESOURCES, LLC
PROJECT NO: 2018100136.02
LOCATION: HAYES 22 CPF
MI
SAMPLE MATRIX: WATER
SAMPLE ID: RW-102 BLDG
GTA PROJECT NO: 061319-6
GTA SAMPLE NO: 2
DATE SAMPLED: 6/13/2019
TIME SAMPLED:
DATE RECEIVED: 6/13/2019
TIME RECEIVED: 3:40 PM
SAMPLED BY: JOSHUA GERRIE/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		6/14/2019	EPA 5030B
Toluene	ND	1.0					
Ethylbenzene	ND	1.0					
Xylene(Total)	4.7	3.0					

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: LAMBDA ENERGY RESOURCES, LLC
PROJECT NO: 2018100136.02
LOCATION: HAYES 22 CPF
MI
SAMPLE MATRIX: WATER
SAMPLE ID: RW-103 BLDG

GTA PROJECT NO: 061319-6
GTA SAMPLE NO: 3
DATE SAMPLED: 6/13/2019
TIME SAMPLED:
DATE RECEIVED: 6/13/2019
TIME RECEIVED: 3:40 PM
SAMPLED BY: JOSHUA GERRIE/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	21	1.0	ug/L (PPB)	MR		6/14/2019	EPA 5030B
Toluene	ND	1.0					
Ethylbenzene	44	1.0					
Xylene(Total)	45	3.0					

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: LAMBDA ENERGY RESOURCES, LLC
PROJECT NO: 2018100136.02
LOCATION: HAYES 22 CPF
MI
SAMPLE MATRIX: WATER
SAMPLE ID: RW-104 BLDG

GTA PROJECT NO: 061319-6
GTA SAMPLE NO: 4
DATE SAMPLED: 6/13/2019
TIME SAMPLED:
DATE RECEIVED: 6/13/2019
TIME RECEIVED: 3:40 PM
SAMPLED BY: JOSHUA GERRIE/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	14	1.0	ug/L (PPB)	MR		6/14/2019	EPA 5030B
Toluene	ND	1.0					
Ethylbenzene	130	1.0					
Xylene(Total)	150	3.0					

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: LAMBDA ENERGY RESOURCES, LLC
PROJECT NO: 2018100136.02
LOCATION: HAYES 22 CPF
MI
SAMPLE MATRIX: WATER
SAMPLE ID: RW-105 BLDG

GTA PROJECT NO: 061319-6
GTA SAMPLE NO: 5
DATE SAMPLED: 6/13/2019
TIME SAMPLED:
DATE RECEIVED: 6/13/2019
TIME RECEIVED: 3:40 PM
SAMPLED BY: JOSHUA GERRIE/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	13	1.0	ug/L (PPB)	MR		6/14/2019	EPA 5030B
Toluene	4.3	1.0					
Ethylbenzene	120	1.0					
Xylene(Total)	170	3.0					

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: LAMBDA ENERGY RESOURCES, LLC
PROJECT NO: 2018100136.02
LOCATION: HAYES 22 CPF
MI
SAMPLE MATRIX: WATER
SAMPLE ID: TOWER EFF.
GTA PROJECT NO: 061319-6
GTA SAMPLE NO: 6
DATE SAMPLED: 6/13/2019
TIME SAMPLED:
DATE RECEIVED: 6/13/2019
TIME RECEIVED: 3:40 PM
SAMPLED BY: JOSHUA GERRIE/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		6/14/2019	EPA 5030B
Toluene	ND	1.0					
Ethylbenzene	ND	1.0					
Xylene(Total)	ND	3.0					

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: LAMBDA ENERGY RESOURCES, LLC
PROJECT NO: 2018100136.02
LOCATION: HAYES 22 CPF
MI
SAMPLED BY: JOSHUA GERRIE/GCES
SAMPLE ID: RW-101 BLDG

GTA PROJECT NO: 061319-6
GTA SAMPLE NO: 1
DATE SAMPLED: 6/13/2019
TIME SAMPLED:
DATE RECEIVED: 6/13/2019
TIME RECEIVED: 3:40 PM
SAMPLE MATRIX: WATER

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 200.8	ND	0.0020	mg/L (PPM)	MR	6/17/2019	EPA 3005A
IRON DISS EPA 200.8	ND	0.010	mg/L (PPM)	MR	6/17/2019	EPA 3005A
MANGANESE DISS EPA 200.8	0.15	0.0010	mg/L (PPM)	MR	6/17/2019	EPA 3005A

ND = NOT DETECTED, RESULT < LOD
LOD = LIMIT OF DETECTION

DISS = DISSOLVED

**INDEPENDENT TESTING LAB**

830 ROBINWOOD COURT, TRAVERSE CITY, MI 49686

PH: 231-929-0905

FAX: 231-929-0894

www.gtanalytical.com

COMPANY: LAMBDA ENERGY RESOURCES, LLC
PROJECT NO: 2018100136.02
LOCATION: HAYES 22 CPF
DATE SAMPLED: 6/13/2019
TIME SAMPLED:
DATE RECEIVED: 6/13/2019
TIME RECEIVED: 3:40 PM
SAMPLE MATRIX: WATER
SAMPLED BY: MI
JOSHUA GERRIE/GCES
SAMPLE ID: RW-102 BLDG

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 200.8	0.0034	0.0020	mg/L (PPM)	MR	6/17/2019	EPA 3005A
IRON DISS EPA 200.8	0.71	0.010	mg/L (PPM)	MR	6/17/2019	EPA 3005A
MANGANESE DISS EPA 200.8	0.12	0.0010	mg/L (PPM)	MR	6/17/2019	EPA 3005A

ND = NOT DETECTED, RESULT < LOD
LOD = LIMIT OF DETECTION

DISS = DISSOLVED

**INDEPENDENT TESTING LAB**

830 ROBINWOOD COURT, TRAVERSE CITY, MI 49686

PH: 231-929-0905

FAX: 231-929-0894

www.gtanalytical.com

COMPANY: LAMBDA ENERGY RESOURCES, LLC
PROJECT NO: 2018100136.02
LOCATION: HAYES 22 CPF
MI
SAMPLED BY: JOSHUA GERRIE/GCES
SAMPLE ID: RW-103 BLDG

GTA PROJECT NO: 061319-6
GTA SAMPLE NO: 3
DATE SAMPLED: 6/13/2019
TIME SAMPLED:
DATE RECEIVED: 6/13/2019
TIME RECEIVED: 3:40 PM
SAMPLE MATRIX: WATER

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 200.8	0.0046	0.0020	mg/L (PPM)	MR	6/17/2019	EPA 3005A
IRON DISS EPA 200.8	1.9	0.010	mg/L (PPM)	MR	6/17/2019	EPA 3005A
MANGANESE DISS EPA 200.8	0.10	0.0010	mg/L (PPM)	MR	6/17/2019	EPA 3005A

ND = NOT DETECTED, RESULT < LOD
LOD = LIMIT OF DETECTION

DISS = DISSOLVED

**INDEPENDENT TESTING LAB**

830 ROBINWOOD COURT, TRAVERSE CITY, MI 49686

PH: 231-929-0905

FAX: 231-929-0894

www.gtanalytical.com

COMPANY: LAMBDA ENERGY RESOURCES, LLC
PROJECT NO: 2018100136.02
LOCATION: HAYES 22 CPF
MI
SAMPLED BY: JOSHUA GERRIE/GCES
SAMPLE ID: RW-104 BLDG

GTA PROJECT NO: 061319-6
GTA SAMPLE NO: 4
DATE SAMPLED: 6/13/2019
TIME SAMPLED:
DATE RECEIVED: 6/13/2019
TIME RECEIVED: 3:40 PM
SAMPLE MATRIX: WATER

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 200.8	0.0036	0.0020	mg/L (PPM)	MR	6/17/2019	EPA 3005A
IRON DISS EPA 200.8	2.0	0.010	mg/L (PPM)	MR	6/17/2019	EPA 3005A
MANGANESE DISS EPA 200.8	0.11	0.0010	mg/L (PPM)	MR	6/17/2019	EPA 3005A

ND = NOT DETECTED, RESULT < LOD
LOD = LIMIT OF DETECTION

DISS = DISSOLVED

**INDEPENDENT TESTING LAB**

830 ROBINWOOD COURT, TRAVERSE CITY, MI 49686

PH: 231-929-0905

FAX: 231-929-0894

www.gtanalytical.com

COMPANY: LAMBDA ENERGY RESOURCES, LLC
PROJECT NO: 2018100136.02
LOCATION: HAYES 22 CPF
MI
SAMPLED BY: JOSHUA GERRIE/GCES
SAMPLE ID: RW-105 BLDG

GTA PROJECT NO: 061319-6
GTA SAMPLE NO: 5
DATE SAMPLED: 6/13/2019
TIME SAMPLED:
DATE RECEIVED: 6/13/2019
TIME RECEIVED: 3:40 PM
SAMPLE MATRIX: WATER

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 200.8	0.0032	0.0020	mg/L (PPM)	MR	6/17/2019	EPA 3005A
IRON DISS EPA 200.8	1.4	0.010	mg/L (PPM)	MR	6/17/2019	EPA 3005A
MANGANESE DISS EPA 200.8	0.15	0.0010	mg/L (PPM)	MR	6/17/2019	EPA 3005A

ND = NOT DETECTED, RESULT < LOD
LOD = LIMIT OF DETECTION

DISS = DISSOLVED

**INDEPENDENT TESTING LAB**

830 ROBINWOOD COURT, TRAVERSE CITY, MI 49686

PH: 231-929-0905

FAX: 231-929-0894

www.gtanalytical.com

COMPANY: LAMBDA ENERGY RESOURCES, LLC
PROJECT NO: 2018100136.02
LOCATION: HAYES 22 CPF
MI
SAMPLED BY: JOSHUA GERRIE/GCES
SAMPLE ID: TOWER EFF.

GTA PROJECT NO: 061319-6
GTA SAMPLE NO: 6
DATE SAMPLED: 6/13/2019
TIME SAMPLED:
DATE RECEIVED: 6/13/2019
TIME RECEIVED: 3:40 PM
SAMPLE MATRIX: WATER

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 200.8	ND	0.0020	mg/L (PPM)	MR	6/17/2019	EPA 3005A
IRON DISS EPA 200.8	ND	0.010	mg/L (PPM)	MR	6/17/2019	EPA 3005A
MANGANESE DISS EPA 200.8	ND	0.0010	mg/L (PPM)	MR	6/17/2019	EPA 3005A

ND = NOT DETECTED, RESULT < LOD
LOD = LIMIT OF DETECTION

DISS = DISSOLVED

COMPANY: LAMBDA ENERGY RESOURCES, LLC
PROJECT NO: 2018100136.02
LOCATION: HAYES 22 CPF
MI
SAMPLED BY: JOSHUA GERRIE/GCES

GTA PROJECT NO: 061319-6
GTA SAMPLE NO: 1
DATE SAMPLED: 6/13/2019
TIME SAMPLED:
DATE RECEIVED: 6/13/2019
TIME RECEIVED: 3:40 PM

SAMPLE ANALYSIS

<u>No:</u>	<u>Analysis</u>	<u>Concentration</u>	<u>LOD</u>	<u>Units</u>	<u>Analyst</u>	<u>Date</u>	<u>Sample</u>
	SAMPLE ID: RW-101 BLDG CHLORIDE EPA 300.0	ND	10	mg/L (PPM)	LV	6/18/2019	WATER

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

COMPANY: LAMBDA ENERGY RESOURCES, LLC
PROJECT NO: 2018100136.02
LOCATION: HAYES 22 CPF
MI
SAMPLED BY: JOSHUA GERRIE/GCES

GTA PROJECT NO: 061319-6
GTA SAMPLE NO: 2
DATE SAMPLED: 6/13/2019
TIME SAMPLED:
DATE RECEIVED: 6/13/2019
TIME RECEIVED: 3:40 PM

SAMPLE ANALYSIS

<u>No:</u>	<u>Analysis</u>	<u>Concentration</u>	<u>LOD</u>	<u>Units</u>	<u>Analyst</u>	<u>Date</u>	<u>Sample</u>
	SAMPLE ID: RW-102 BLDG CHLORIDE EPA 300.0	28	10	mg/L (PPM)	LV	6/18/2019	WATER

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

COMPANY: LAMBDA ENERGY RESOURCES, LLC
PROJECT NO: 2018100136.02
LOCATION: HAYES 22 CPF
MI
SAMPLED BY: JOSHUA GERRIE/GCES

GTA PROJECT NO: 061319-6
GTA SAMPLE NO: 3
DATE SAMPLED: 6/13/2019
TIME SAMPLED:
DATE RECEIVED: 6/13/2019
TIME RECEIVED: 3:40 PM

SAMPLE ANALYSIS

<u>No:</u>	<u>Analysis</u>	<u>Concentration</u>	<u>LOD</u>	<u>Units</u>	<u>Analyst</u>	<u>Date</u>	<u>Sample</u>
	SAMPLE ID: RW-103 BLDG CHLORIDE EPA 300.0	18	10	mg/L (PPM)	LV	6/18/2019	WATER

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

**INDEPENDENT TESTING LAB**

830 ROBINWOOD COURT, TRAVERSE CITY, MI 49686

PH: 231-929-0905

FAX: 231-929-0894

www.gtanalytical.com

COMPANY: LAMBDA ENERGY RESOURCES, LLC
PROJECT NO: 2018100136.02
LOCATION: HAYES 22 CPF
MI
SAMPLED BY: JOSHUA GERRIE/GCES

GTA PROJECT NO: 061319-6
GTA SAMPLE NO: 4
DATE SAMPLED: 6/13/2019
TIME SAMPLED:
DATE RECEIVED: 6/13/2019
TIME RECEIVED: 3:40 PM

SAMPLE ANALYSIS

<u>No:</u>	<u>Analysis</u>	<u>Concentration</u>	<u>LOD</u>	<u>Units</u>	<u>Analyst</u>	<u>Date</u>	<u>Sample</u>
	SAMPLE ID: RW-104 BLDG CHLORIDE EPA 300.0	34	10	mg/L (PPM)	LV	6/18/2019	WATER

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

COMPANY: LAMBDA ENERGY RESOURCES, LLC
PROJECT NO: 2018100136.02
LOCATION: HAYES 22 CPF
MI
SAMPLED BY: JOSHUA GERRIE/GCES

GTA PROJECT NO: 061319-6
GTA SAMPLE NO: 5
DATE SAMPLED: 6/13/2019
TIME SAMPLED:
DATE RECEIVED: 6/13/2019
TIME RECEIVED: 3:40 PM

SAMPLE ANALYSIS

<u>No:</u>	<u>Analysis</u>	<u>Concentration</u>	<u>LOD</u>	<u>Units</u>	<u>Analyst</u>	<u>Date</u>	<u>Sample</u>
	SAMPLE ID: RW-105 BLDG CHLORIDE EPA 300.0	20	10	mg/L (PPM)	LV	6/18/2019	WATER

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

COMPANY: LAMBDA ENERGY RESOURCES, LLC
PROJECT NO: 2018100136.02
LOCATION: HAYES 22 CPF
MI
SAMPLED BY: JOSHUA GERRIE/GCES

GTA PROJECT NO: 061319-6
GTA SAMPLE NO: 6
DATE SAMPLED: 6/13/2019
TIME SAMPLED:
DATE RECEIVED: 6/13/2019
TIME RECEIVED: 3:40 PM

SAMPLE ANALYSIS

<u>No:</u>	<u>Analysis</u>	<u>Concentration</u>	<u>LOD</u>	<u>Units</u>	<u>Analyst</u>	<u>Date</u>	<u>Sample</u>
	SAMPLE ID: TOWER EFF. CHLORIDE EPA 300.0	37	10	mg/L (PPM)	LV	6/18/2019	WATER

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

