

**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: 2019100101.03

GTA ProjNo: 081419-3

Site Addr: KALKASKA 11

Sampled By: E. VINCKE/GCES

Date Rec: 8/14/2019

Time Rec: 1:20 PM

Sample No.	Sample ID	Date Sampled	Time Sampled	Sample Matrix
1	VAP-16-85'	8/14/2019	10:36 AM	WATER
2	VAP-16-75'	8/14/2019	10:49 AM	WATER
3	VAP-16-65'	8/14/2019	11:02 AM	WATER
4	VAP-16-55'	8/14/2019	11:13 AM	WATER
5	VAP-16-45'	8/14/2019	11:25 AM	WATER
6	VAP-16-35'	8/14/2019	11:39 AM	WATER
7	VAP-16-25'	8/14/2019	11:49 AM	WATER
8	VAP-16-15'	8/14/2019	12:03 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 L Chase

Kirk L. Chase/Chemist
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**INDEPENDENT TESTING LAB**

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COMPANY: LAMBDA ENERGY RESOURCES, LLC
PROJECT NO: 2019100101.03
LOCATION: KALKASKA 11
MI
SAMPLE MATRIX: WATER
SAMPLE ID: VAP-16-85'

GTA PROJECT NO: 081419-3
GTA SAMPLE NO: 1
DATE SAMPLED: 8/14/2019
TIME SAMPLED: 10:36 AM
DATE RECEIVED: 8/14/2019
TIME RECEIVED: 1:20 PM
SAMPLED BY: E. VINCKE/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		8/15/2019	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					
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:	LAMBDA ENERGY RESOURCES, LLC	GTA PROJECT NO:	081419-3
PROJECT NO:	2019100101.03	GTA SAMPLE NO:	2
LOCATION:	KALKASKA 11	DATE SAMPLED:	8/14/2019
		TIME SAMPLED:	10:49 AM
		DATE RECEIVED:	8/14/2019
	MI	TIME RECEIVED:	1:20 PM
SAMPLE MATRIX:	WATER		
SAMPLE ID:	VAP-16-75'	SAMPLED BY:	E. VINCKE/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		8/15/2019	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					
Naphthalene	ND	5.0					
2-Methylnaphthalene	ND	5.0					

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

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LOD = LIMIT OF DETECTION

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COMPANY: LAMBDA ENERGY RESOURCES, LLC
PROJECT NO: 2019100101.03
LOCATION: KALKASKA 11
MI
SAMPLE MATRIX: WATER
SAMPLE ID: VAP-16-65'

GTA PROJECT NO: 081419-3
GTA SAMPLE NO: 3
DATE SAMPLED: 8/14/2019
TIME SAMPLED: 11:02 AM
DATE RECEIVED: 8/14/2019
TIME RECEIVED: 1:20 PM
SAMPLED BY: E. VINCKE/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		8/16/2019	EPA 5030B
Toluene	1.2	1.0					
Ethylbenzene	1.5	1.0					
Xylene(Total)	8.1	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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LOD = LIMIT OF DETECTION

COMPANY:	LAMBDA ENERGY RESOURCES, LLC	GTA PROJECT NO:	081419-3
PROJECT NO:	2019100101.03	GTA SAMPLE NO:	4
LOCATION:	KALKASKA 11	DATE SAMPLED:	8/14/2019
		TIME SAMPLED:	11:13 AM
		DATE RECEIVED:	8/14/2019
	MI	TIME RECEIVED:	1:20 PM
SAMPLE MATRIX:	WATER		
SAMPLE ID:	VAP-16-55'	SAMPLED BY:	E. VINCKE/GCES

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		8/15/2019	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					
Naphthalene	ND	5.0					
2-Methylnaphthalene	ND	5.0					

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

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LOD = LIMIT OF DETECTION

COMPANY:	LAMBDA ENERGY RESOURCES, LLC	GTA PROJECT NO:	081419-3
PROJECT NO:	2019100101.03	GTA SAMPLE NO:	5
LOCATION:	KALKASKA 11	DATE SAMPLED:	8/14/2019
		TIME SAMPLED:	11:25 AM
		DATE RECEIVED:	8/14/2019
	MI	TIME RECEIVED:	1:20 PM
SAMPLE MATRIX:	WATER		
SAMPLE ID:	VAP-16-45'	SAMPLED BY:	E. VINCKE/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		8/15/2019	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					
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:	LAMBDA ENERGY RESOURCES, LLC	GTA PROJECT NO:	081419-3
PROJECT NO:	2019100101.03	GTA SAMPLE NO:	6
LOCATION:	KALKASKA 11	DATE SAMPLED:	8/14/2019
		TIME SAMPLED:	11:39 AM
		DATE RECEIVED:	8/14/2019
	MI	TIME RECEIVED:	1:20 PM
SAMPLE MATRIX:	WATER		
SAMPLE ID:	VAP-16-35'	SAMPLED BY:	E. VINCKE/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		8/16/2019	EPA 5030B
Toluene	ND	1.0					
Ethylbenzene	1.9	1.0					
Xylene(Total)	9.3	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

COMPANY:	LAMBDA ENERGY RESOURCES, LLC	GTA PROJECT NO:	081419-3
PROJECT NO:	2019100101.03	GTA SAMPLE NO:	7
LOCATION:	KALKASKA 11	DATE SAMPLED:	8/14/2019
		TIME SAMPLED:	11:49 AM
		DATE RECEIVED:	8/14/2019
	MI	TIME RECEIVED:	1:20 PM
SAMPLE MATRIX:	WATER		
SAMPLE ID:	VAP-16-25'	SAMPLED BY:	E. VINCKE/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		8/15/2019	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					
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:	LAMBDA ENERGY RESOURCES, LLC	GTA PROJECT NO:	081419-3
PROJECT NO:	2019100101.03	GTA SAMPLE NO:	8
LOCATION:	KALKASKA 11	DATE SAMPLED:	8/14/2019
		TIME SAMPLED:	12:03 PM
		DATE RECEIVED:	8/14/2019
	MI	TIME RECEIVED:	1:20 PM
SAMPLE MATRIX:	WATER		
SAMPLE ID:	VAP-16-15'	SAMPLED BY:	E. VINCKE/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		8/16/2019	EPA 5030B
Toluene	ND	1.0					
Ethylbenzene	2.2	1.0					
Xylene(Total)	7.7	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

GTA PROJECT NO: 081419-3

PROJECT NO: 2019100101.03

GTA SAMPLE NO: 1

LOCATION: KALKASKA 11

DATE SAMPLED: 8/14/2019

TIME SAMPLED: 10:36 AM

DATE RECEIVED: 8/14/2019

TIME RECEIVED: 1:20 PM

MI

SAMPLED BY: E. VINCKE/GCES

SAMPLE ANALYSIS**No: Analysis**

SAMPLE ID: VAP-16-85'

CHLORIDE EPA 300.0

Concentration

ND

LOD

10

Units

mg/L (PPM)

Analyst

LV

Date

8/15/2019

Sample

WATER

ND = NOT DETECTED, RESULT < LOD

LOD = LIMIT OF DETECTION

s.u. = STANDARD pH UNITS REPORTED AT 25 C

COMPANY: LAMBDA ENERGY RESOURCES, LLC

GTA PROJECT NO: 081419-3

PROJECT NO: 2019100101.03

GTA SAMPLE NO: 2

LOCATION: KALKASKA 11

DATE SAMPLED: 8/14/2019

TIME SAMPLED: 10:49 AM

DATE RECEIVED: 8/14/2019

TIME RECEIVED: 1:20 PM

MI

SAMPLED BY: E. VINCKE/GCES

SAMPLE ANALYSIS

No: Analysis

SAMPLE ID: VAP-16-75'

CHLORIDE EPA 300.0

Concentration

LOD

Units

Analyst

Date

Sample

ND

10

mg/L (PPM)

LV

8/15/2019

WATER

ND = NOT DETECTED, RESULT < LOD

LOD = LIMIT OF DETECTION

s.u. = STANDARD pH UNITS REPORTED AT 25 C

COMPANY: LAMBDA ENERGY RESOURCES, LLC

GTA PROJECT NO: 081419-3

PROJECT NO: 2019100101.03

GTA SAMPLE NO: 3

LOCATION: KALKASKA 11

DATE SAMPLED: 8/14/2019

TIME SAMPLED: 11:02 AM

DATE RECEIVED: 8/14/2019

TIME RECEIVED: 1:20 PM

MI

SAMPLED BY: E. VINCKE/GCES

SAMPLE ANALYSIS

No: Analysis

SAMPLE ID: VAP-16-65'

CHLORIDE EPA 300.0

Concentration

LOD

Units

Analyst

Date

Sample

ND

10

mg/L (PPM)

LV

8/15/2019

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: 2019100101.03
LOCATION: KALKASKA 11
MI
SAMPLED BY: E. VINCKE/GCES

GTA PROJECT NO: 081419-3
GTA SAMPLE NO: 4
DATE SAMPLED: 8/14/2019
TIME SAMPLED: 11:13 AM
DATE RECEIVED: 8/14/2019
TIME RECEIVED: 1:20 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: VAP-16-55'						
	CHLORIDE EPA 300.0	ND	10	mg/L (PPM)	LV	8/15/2019	WATER

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

COMPANY: LAMBDA ENERGY RESOURCES, LLC

GTA PROJECT NO: 081419-3

PROJECT NO: 2019100101.03

GTA SAMPLE NO: 5

LOCATION: KALKASKA 11

DATE SAMPLED: 8/14/2019

TIME SAMPLED: 11:25 AM

DATE RECEIVED: 8/14/2019

TIME RECEIVED: 1:20 PM

MI

SAMPLED BY: E. VINCKE/GCES

SAMPLE ANALYSIS

No: Analysis

SAMPLE ID: VAP-16-45'

CHLORIDE EPA 300.0

Concentration

LOD

Units

Analyst

Date

Sample

ND

10

mg/L (PPM)

LV

8/15/2019

WATER

ND = NOT DETECTED, RESULT < LOD

LOD = LIMIT OF DETECTION

s.u. = STANDARD pH UNITS REPORTED AT 25 C

COMPANY: LAMBDA ENERGY RESOURCES, LLC

GTA PROJECT NO: 081419-3

PROJECT NO: 2019100101.03

GTA SAMPLE NO: 6

LOCATION: KALKASKA 11

DATE SAMPLED: 8/14/2019

TIME SAMPLED: 11:39 AM

DATE RECEIVED: 8/14/2019

TIME RECEIVED: 1:20 PM

MI

SAMPLED BY: E. VINCKE/GCES

SAMPLE ANALYSIS

No: Analysis

SAMPLE ID: VAP-16-35'

CHLORIDE EPA 300.0

Concentration

LOD

Units

Analyst

Date

Sample

ND

10

mg/L (PPM)

LV

8/15/2019

WATER

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LOD = LIMIT OF DETECTION

s.u. = STANDARD pH UNITS REPORTED AT 25 C

COMPANY: LAMBDA ENERGY RESOURCES, LLC

GTA PROJECT NO: 081419-3

PROJECT NO: 2019100101.03

GTA SAMPLE NO: 7

LOCATION: KALKASKA 11

DATE SAMPLED: 8/14/2019

TIME SAMPLED: 11:49 AM

DATE RECEIVED: 8/14/2019

TIME RECEIVED: 1:20 PM

MI

SAMPLED BY: E. VINCKE/GCES

SAMPLE ANALYSIS

No: Analysis

SAMPLE ID: VAP-16-25'

CHLORIDE EPA 300.0

Concentration

LOD

Units

Analyst

Date

Sample

ND

10

mg/L (PPM)

LV

8/15/2019

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: 2019100101.03
LOCATION: KALKASKA 11
MI
SAMPLED BY: E. VINCKE/GCES

GTA PROJECT NO: 081419-3
GTA SAMPLE NO: 8
DATE SAMPLED: 8/14/2019
TIME SAMPLED: 12:03 PM
DATE RECEIVED: 8/14/2019
TIME RECEIVED: 1:20 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: VAP-16-15'						
	CHLORIDE EPA 300.0	ND	10	mg/L (PPM)	LV	8/15/2019	WATER

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