

**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:

Site Addr: EPA-UIC ANNUAL SAMPLES

GTA ProjNo: 102720-12

Sampled By: LER

Date Rec: 10/27/2020

Time Rec: 12:58 PM

Sample No.	Sample ID	Date Sampled	Time Sampled	Sample Matrix
1	SALLING HANSON 4-4	9/22/2020	10:00 AM	BRINE
2	STATE CHARLTON 1-19	9/22/2020	9:00 AM	BRINE
3	STATE CHARLTON 1-7	9/22/2020	9:00 AM	BRINE
4	LAKE HORICON CORP. 2-12	9/24/2020	8:19 AM	BRINE
5	NMLO 1-22	9/24/2020	10:20 AM	BRINE

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: GTA PROJECT NO: 102720-12
LOCATION: EPA-UIC ANNUAL SAMPLES
DATE SAMPLED: 9/22/2020
TIME SAMPLED: 10:00 AM
DATE RECEIVED: 10/27/2020
TIME RECEIVED: 12:58 PM
SAMPLED BY: MI
LER
SAMPLE MATRIX: BRINE
SAMPLE ID: SALLING HANSON 4-4

METALS

<u>Analysis</u>	<u>Concentration</u>	<u>LOD</u>	<u>Units</u>	<u>Analyst</u>	<u>Date Completed</u>	<u>Digestion Method</u>
CALCIUM DISS EPA 6020A	49,000	100	mg/L (PPM)	MR/TR	11/11/2020	EPA 3005A
MAGNESIUM DISS EPA 6020A	8,400	100	mg/L (PPM)	MR/TR	11/11/2020	EPA 3005A
SODIUM DISS EPA 6020A	14,000	100	mg/L (PPM)	MR/TR	11/11/2020	EPA 3005A

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PROJECT NO:
LOCATION: EPA-UIC ANNUAL SAMPLES
MI
SAMPLED BY: LER
SAMPLE ID: SALLING HANSON 4-4

GTA PROJECT NO: 102720-12
GTA SAMPLE NO: 1
DATE RECEIVED: 10/27/2020
TIME RECEIVED: 12:58 PM
DATE SAMPLED: 9/22/2020
TIME SAMPLED: 10:00 AM
SAMPLE MATRIX: BRINE

SAMPLE RESULTS

<u>Analysis</u>	<u>Concentration</u>	<u>LOD</u>	<u>Units</u>	<u>Analyst</u>	<u>Date Completed</u>
ALKALINITY SM 4500CO2D (BICARBONATE)	180	10	mg/L (PPM)	TR	11/2/2020
ALKALINITY SM 4500CO2D (CARBONATE)	ND	10	mg/L (PPM)	TR	11/2/2020
CHLORIDE EPA 300.0	170,000	2,000	mg/L (PPM)	LV	11/3/2020
pH EPA 150.1 - LAB	6.1	0.10	mg/L (PPM)	TR	11/2/2020
SPECIFIC GRAVITY SM 2710F	1.134	-	-	LV	11/6/2020
SULFATE EPA 300.0	ND	50	mg/L (PPM)	LV	11/3/2020
TOTAL DISSOLVED SOLIDS EPA 160.1	210,000	5.0	mg/L (PPM)	TR	11/2/2020

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COMPANY: LAMBDA ENERGY RESOURCES, LLC
PROJECT NO: GTA PROJECT NO: 102720-12
LOCATION: EPA-UIC ANNUAL SAMPLES
DATE SAMPLED: 9/22/2020
TIME SAMPLED: 9:00 AM
DATE RECEIVED: 10/27/2020
TIME RECEIVED: 12:58 PM
SAMPLED BY: MI
LER
SAMPLE MATRIX: BRINE
SAMPLE ID: STATE CHARLTON 1-19

METALS

<u>Analysis</u>	<u>Concentration</u>	<u>LOD</u>	<u>Units</u>	<u>Analyst</u>	<u>Date Completed</u>	<u>Digestion Method</u>
CALCIUM DISS EPA 6020A	28,000	100	mg/L (PPM)	MR/TR	11/11/2020	EPA 3005A
MAGNESIUM DISS EPA 6020A	5,200	100	mg/L (PPM)	MR/TR	11/11/2020	EPA 3005A
SODIUM DISS EPA 6020A	26,000	100	mg/L (PPM)	MR/TR	11/11/2020	EPA 3005A

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PROJECT NO:
LOCATION: EPA-UIC ANNUAL SAMPLES
MI
SAMPLED BY: LER
SAMPLE ID: STATE CHARLTON 1-19

GTA PROJECT NO: 102720-12
GTA SAMPLE NO: 2
DATE RECEIVED: 10/27/2020
TIME RECEIVED: 12:58 PM
DATE SAMPLED: 9/22/2020
TIME SAMPLED: 9:00 AM
SAMPLE MATRIX: BRINE

SAMPLE RESULTS

<u>Analysis</u>	<u>Concentration</u>	<u>LOD</u>	<u>Units</u>	<u>Analyst</u>	<u>Date Completed</u>
ALKALINITY SM 4500CO2D (BICARBONATE)	240	10	mg/L (PPM)	TR	11/2/2020
ALKALINITY SM 4500CO2D (CARBONATE)	ND	10	mg/L (PPM)	TR	11/2/2020
CHLORIDE EPA 300.0	160,000	2,000	mg/L (PPM)	LV	11/3/2020
pH EPA 150.1 - LAB	6.2	0.10	mg/L (PPM)	TR	11/2/2020
SPECIFIC GRAVITY SM 2710F	1.104	-	-	LV	11/6/2020
SULFATE EPA 300.0	ND	50	mg/L (PPM)	LV	11/3/2020
TOTAL DISSOLVED SOLIDS EPA 160.1	140,000	5.0	mg/L (PPM)	TR	11/2/2020

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COMPANY: LAMBDA ENERGY RESOURCES, LLC
PROJECT NO: GTA PROJECT NO: 102720-12
LOCATION: EPA-UIC ANNUAL SAMPLES
DATE SAMPLED: 9/22/2020
TIME SAMPLED: 9:00 AM
DATE RECEIVED: 10/27/2020
TIME RECEIVED: 12:58 PM
SAMPLED BY: MI
LER
SAMPLE MATRIX: BRINE
SAMPLE ID: STATE CHARLTON 1-7

METALS

<u>Analysis</u>	<u>Concentration</u>	<u>LOD</u>	<u>Units</u>	<u>Analyst</u>	<u>Date Completed</u>	<u>Digestion Method</u>
CALCIUM DISS EPA 6020A	110	0.50	mg/L (PPM)	MR/TR	11/11/2020	EPA 3005A
MAGNESIUM DISS EPA 6020A	23	0.50	mg/L (PPM)	MR/TR	11/11/2020	EPA 3005A
SODIUM DISS EPA 6020A	150	0.50	mg/L (PPM)	MR/TR	11/11/2020	EPA 3005A

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COMPANY: LAMBDA ENERGY RESOURCES, LLC
PROJECT NO:
LOCATION: EPA-UIC ANNUAL SAMPLES
MI
SAMPLED BY: LER
SAMPLE ID: STATE CHARLTON 1-7

GTA PROJECT NO: 102720-12
GTA SAMPLE NO: 3
DATE RECEIVED: 10/27/2020
TIME RECEIVED: 12:58 PM
DATE SAMPLED: 9/22/2020
TIME SAMPLED: 9:00 AM
SAMPLE MATRIX: BRINE

SAMPLE RESULTS

<u>Analysis</u>	<u>Concentration</u>	<u>LOD</u>	<u>Units</u>	<u>Analyst</u>	<u>Date Completed</u>
ALKALINITY SM 4500CO2D (BICARBONATE)	230	10	mg/L (PPM)	TR	11/2/2020
ALKALINITY SM 4500CO2D (CARBONATE)	ND	10	mg/L (PPM)	TR	11/2/2020
CHLORIDE EPA 300.0	390	10	mg/L (PPM)	LV	11/3/2020
pH EPA 150.1 - LAB	6.6	0.10	mg/L (PPM)	TR	11/2/2020
SPECIFIC GRAVITY SM 2710F	0.9862	-	-	LV	11/6/2020
SULFATE EPA 300.0	ND	10	mg/L (PPM)	LV	11/3/2020
TOTAL DISSOLVED SOLIDS EPA 160.1	5,500	5.0	mg/L (PPM)	TR	11/2/2020

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COMPANY: LAMBDA ENERGY RESOURCES, LLC
PROJECT NO: EPA-UIC ANNUAL SAMPLES
LOCATION: MI
SAMPLED BY: LER
SAMPLE ID: LAKE HORICON CORP. 2-12

GTA PROJECT NO: 102720-12
GTA SAMPLE NO: 4
DATE SAMPLED: 9/24/2020
TIME SAMPLED: 8:19 AM
DATE RECEIVED: 10/27/2020
TIME RECEIVED: 12:58 PM
SAMPLE MATRIX: BRINE

METALS

<u>Analysis</u>	<u>Concentration</u>	<u>LOD</u>	<u>Units</u>	<u>Analyst</u>	<u>Date Completed</u>	<u>Digestion Method</u>
BARIUM DISS EPA 6020A	3.5	0.050	mg/L (PPM)	MR/TR	11/11/2020	EPA 3005A
CALCIUM DISS EPA 6020A	54,000	100	mg/L (PPM)	MR/TR	11/11/2020	EPA 3005A
IRON TOTAL EPA 6020A	7.5	0.50	mg/L (PPM)	MR/TR	11/11/2020	EPA 3020A
MAGNESIUM DISS EPA 6020A	7,400	100	mg/L (PPM)	MR/TR	11/11/2020	EPA 3005A
SODIUM DISS EPA 6020A	11,000	100	mg/L (PPM)	MR/TR	11/11/2020	EPA 3005A

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COMPANY: LAMBDA ENERGY RESOURCES, LLC

GTA PROJECT NO: 102720-12

PROJECT NO:

GTA SAMPLE NO: 4

LOCATION: EPA-UIC ANNUAL SAMPLES

DATE RECEIVED: 10/27/2020

TIME RECEIVED: 12:58 PM

MI

DATE SAMPLED: 9/24/2020

TIME SAMPLED: 8:19 AM

SAMPLED BY: LER

SAMPLE MATRIX: BRINE

SAMPLE ID: LAKE HORICON CORP. 2-12

SAMPLE RESULTS

<u>Analysis</u>	<u>Concentration</u>	<u>LOD</u>	<u>Units</u>	<u>Analyst</u>	<u>Date Completed</u>
ALKALINITY SM 4500CO2D (BICARBONATE)	190	10	mg/L (PPM)	TR	11/2/2020
ALKALINITY SM 4500CO2D (CARBONATE)	ND	10	mg/L (PPM)	TR	11/2/2020
CHLORIDE EPA 300.0	230,000	2,000	mg/L (PPM)	LV	11/3/2020
pH EPA 150.1 - LAB	5.8	0.10	mg/L (PPM)	TR	11/2/2020
RESISTIVITY SM 2510A	2.8	-	ohms x cm	LV	11/5/2020
SPECIFIC GRAVITY SM 2710F	1.165	-	-	LV	11/6/2020
SULFATE EPA 300.0	ND	50	mg/L (PPM)	LV	11/3/2020
SULFIDE SM 4500S D	ND	1.0	mg/L (PPM)	KC	10/27/2020
TOTAL DISSOLVED SOLIDS EPA 160.1	210,000	5.0	mg/L (PPM)	TR	11/2/2020

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PROJECT NO: GTA PROJECT NO: 102720-12
LOCATION: EPA-UIC ANNUAL SAMPLES
DATE SAMPLED: 9/24/2020
TIME SAMPLED: 10:20 AM
DATE RECEIVED: 10/27/2020
TIME RECEIVED: 12:58 PM
SAMPLED BY: MI
LER
SAMPLE MATRIX: BRINE
SAMPLE ID: NMLO 1-22

METALS

<u>Analysis</u>	<u>Concentration</u>	<u>LOD</u>	<u>Units</u>	<u>Analyst</u>	<u>Date Completed</u>	<u>Digestion Method</u>
CALCIUM DISS EPA 6020A	32,000	100	mg/L (PPM)	MR/TR	11/11/2020	EPA 3005A
MAGNESIUM DISS EPA 6020A	4,000	100	mg/L (PPM)	MR/TR	11/11/2020	EPA 3005A
SODIUM DISS EPA 6020A	25,000	100	mg/L (PPM)	MR/TR	11/11/2020	EPA 3005A

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COMPANY: LAMBDA ENERGY RESOURCES, LLC
PROJECT NO:
LOCATION: EPA-UIC ANNUAL SAMPLES
MI
SAMPLED BY: LER
SAMPLE ID: NMLO 1-22

GTA PROJECT NO: 102720-12
GTA SAMPLE NO: 5
DATE RECEIVED: 10/27/2020
TIME RECEIVED: 12:58 PM
DATE SAMPLED: 9/24/2020
TIME SAMPLED: 10:20 AM
SAMPLE MATRIX: BRINE

SAMPLE RESULTS

<u>Analysis</u>	<u>Concentration</u>	<u>LOD</u>	<u>Units</u>	<u>Analyst</u>	<u>Date Completed</u>
ALKALINITY SM 4500CO2D (BICARBONATE)	22	10	mg/L (PPM)	TR	11/2/2020
ALKALINITY SM 4500CO2D (CARBONATE)	ND	10	mg/L (PPM)	TR	11/2/2020
CHLORIDE EPA 300.0	140,000	2,000	mg/L (PPM)	LV	11/3/2020
pH EPA 150.1 - LAB	5.2	0.10	mg/L (PPM)	TR	11/2/2020
SPECIFIC GRAVITY SM 2710F	1.116	-	-	LV	11/6/2020
SULFATE EPA 300.0	420	50	mg/L (PPM)	LV	11/3/2020
TOTAL DISSOLVED SOLIDS EPA 160.1	180,000	5.0	mg/L (PPM)	TR	11/2/2020

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CHAIN OF CUSTODY

PROJECT NUMBER	SITE NAME/ADDRESS	COMPANY/NAME
	various	Lambda Energy Resources LLC
SAMPLED BY	COMPANY	GTA PROJECT #
various	same	102720-12

SAMPLE INFORMATION

#	SAMPLE ID	DATE SAMPLED	TIME	MATRIX	ANALYSIS
1	Salling Hanson 4-4	9/22/2020	10:00AM	Brine	parameter # 1
2	State Chester 1-19	9/22/2020	9:00AM	↓	1
3	State Charlton 1-7	9/22/2020	9:00AM		1
4	LAKE HORIZON Corp. 2-12	9/24/2020	8:19AM		2
5	NMLO 1-22	9/24/2020	10:20AM		1

BILL TO:

same

REPORT TO:

RELEASED BY	DATE/TIME	RECEIVED BY	DATE/TIME
Diana Altman	10/27/20 12:58	[Signature]	10/27/20 12:58p

REQUESTED TAT ☐ STANDARD ☐ 1 BUSINESS DAY ☐ 2 BUSINESS DAYS ☐ 3 BUSINESS DAYS