

**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: ANNUAL

GTA ProjNo: 093022-8

Site Addr: EPA-UIC ANNUAL SAMPLES

Sampled By: LER

Date Rec: 9/30/2022

Time Rec: 1:56 PM

Sample No.	Sample ID	Date Sampled	Time Sampled	Sample Matrix
1	DAVENPORT 4-5	9/21/2022	8:30 AM	BRINE
2	WHITEWATER 2-32	9/22/2022	10:30 AM	BRINE
3	WHITEWATER 1-36	9/22/2022	11:30 AM	BRINE
4	WHITEWATER 1-32	9/22/2022	10:30 AM	BRINE
5	WHITEWATER 1-35	9/22/2022	11:30 AM	BRINE
6	PARCELLS 2-9	9/27/2022	9:30 AM	BRINE
7	STACK JEWELL 1-29	9/27/2022	10:00 AM	BRINE
8	RAPID RIVER 1-24	9/21/2022	1:00 PM	BRINE
9	NICKERSON 5-1	9/22/2022	9:00 AM	BRINE
10	ST. SPRINGDALE 2-36	9/27/2022	9:00 AM	BRINE
11	ST. KALKASKA 2-12	9/21/2022	11:00 AM	BRINE
12	ST. BLUE LAKE G1-17	9/28/2022	2:30 PM	BRINE
13	WALTON 6-16	9/27/2022	1:30 PM	BRINE
14	ST. PARADISE 1-19	9/27/2022	10:00 AM	BRINE
15	ST. CLEON 1-11	9/27/2022	2:00 PM	BRINE
16	BOWMAN ST MAYFIELD 6-19A	9/27/2022	9:30 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

GTA PROJECT NO: 093022-8

PROJECT NO: ANNUAL

GTA SAMPLE NO: 1

LOCATION: EPA-UIC ANNUAL SAMPLES

DATE SAMPLED: 9/21/2022

TIME SAMPLED: 8:30 AM

DATE RECEIVED: 9/30/2022

TIME RECEIVED: 1:56 PM

SAMPLED BY: MI

SAMPLE MATRIX: BRINE

LER

SAMPLE ID: DAVENPORT 4-5

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	2.3	1.0	mg/L (PPM)	MR	10/13/2022	EPA 3005A
CALCIUM DISS EPA 6020A	4,900	10	mg/L (PPM)	MR	10/13/2022	EPA 3005A
IRON TOTAL EPA 6020A	ND	10	mg/L (PPM)	MR	10/13/2022	EPA 3020A
MAGNESIUM DISS EPA 6020A	640	10	mg/L (PPM)	MR	10/13/2022	EPA 3005A
SODIUM DISS EPA 6020A	1,100	10	mg/L (PPM)	MR	10/13/2022	EPA 3005A

ND = NOT DETECTED, RESULT < LOD

LOD = LIMIT OF DETECTION

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COMPANY: LAMBDA ENERGY RESOURCES, LLC
PROJECT NO: ANNUAL
LOCATION: EPA-UIC ANNUAL SAMPLES
MI
SAMPLED BY: LER
SAMPLE ID: DAVENPORT 4-5

GTA PROJECT NO: 093022-8
GTA SAMPLE NO: 1
DATE RECEIVED: 9/30/2022
TIME RECEIVED: 1:56 PM
DATE SAMPLED: 9/21/2022
TIME SAMPLED: 8:30 AM
SAMPLE MATRIX: BRINE

SAMPLE ANALYSIS

<u>Analysis</u>	<u>Concentration</u>	<u>LOD</u>	<u>Units</u>	<u>Analyst</u>	<u>Date Completed</u>
ALKALINITY SM 4500CO2D (BICARBONATE)	33	10	mg/L (PPM)	TR	10/28/2022
ALKALINITY SM 4500CO2D (CARBONATE)	ND	10	mg/L (PPM)	TR	10/28/2022
CHLORIDE EPA 300.0	15,000	2,000	mg/L (PPM)	KC/TR	10/20/2022
pH EPA 150.1 - LAB	7.2	0.10	s.u.	TR	10/28/2022
RESISTIVITY SM 2510A	110	-	ohms x cm	AS	10/4/2022
SPECIFIC GRAVITY SM 2710F	1.030	-	-	TR	10/28/2022
SULFATE EPA 300.0	ND	50	mg/L (PPM)	KC/TR	10/20/2022
SULFIDE SM 4500S D	ND	1.0	mg/L (PPM)	KC	10/1/2022
TOTAL DISSOLVED SOLIDS EPA 160.1	30,000	5.0	mg/L (PPM)	TR	10/28/2022

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COMPANY: LAMBDA ENERGY RESOURCES, LLC
PROJECT NO: ANNUAL
LOCATION: EPA-UIC ANNUAL SAMPLES
DATE SAMPLED: 9/22/2022
TIME SAMPLED: 10:30 AM
DATE RECEIVED: 9/30/2022
TIME RECEIVED: 1:56 PM
SAMPLE MATRIX: BRINE
SAMPLED BY: MI
LER
SAMPLE ID: WHITEWATER 2-32

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	18,000	100	mg/L (PPM)	MR	10/13/2022	EPA 3005A
MAGNESIUM DISS EPA 6020A	980	10	mg/L (PPM)	MR	10/13/2022	EPA 3005A
SODIUM DISS EPA 6020A	1,600	10	mg/L (PPM)	MR	10/13/2022	EPA 3005A

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COMPANY: LAMBDA ENERGY RESOURCES, LLC GTA PROJECT NO: 093022-8
PROJECT NO: ANNUAL GTA SAMPLE NO: 2
LOCATION: EPA-UIC ANNUAL SAMPLES DATE RECEIVED: 9/30/2022
MI TIME RECEIVED: 1:56 PM
SAMPLED BY: LER DATE SAMPLED: 9/22/2022
TIME SAMPLED: 10:30 AM
SAMPLE ID: WHITEWATER 2-32 SAMPLE MATRIX: BRINE

SAMPLE ANALYSIS

<u>Analysis</u>	<u>Concentration</u>	<u>LOD</u>	<u>Units</u>	<u>Analyst</u>	<u>Date Completed</u>
ALKALINITY SM 4500CO2D (BICARBONATE)	110	10	mg/L (PPM)	TR	10/28/2022
ALKALINITY SM 4500CO2D (CARBONATE)	ND	10	mg/L (PPM)	TR	10/28/2022
CHLORIDE EPA 300.0	21,000	2,000	mg/L (PPM)	KC/TR	10/20/2022
pH EPA 150.1 - LAB	7.0	0.10	s.u.	TR	10/28/2022
SPECIFIC GRAVITY SM 2710F	1.034	-	-	TR	10/28/2022
SULFATE EPA 300.0	ND	50	mg/L (PPM)	KC/TR	10/20/2022
TOTAL DISSOLVED SOLIDS EPA 160.1	44,000	5.0	mg/L (PPM)	TR	10/28/2022

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COMPANY: LAMBDA ENERGY RESOURCES, LLC
PROJECT NO: ANNUAL
LOCATION: EPA-UIC ANNUAL SAMPLES
DATE SAMPLED: 9/22/2022
TIME SAMPLED: 11:30 AM
DATE RECEIVED: 9/30/2022
TIME RECEIVED: 1:56 PM
SAMPLE MATRIX: BRINE
SAMPLED BY: MI
LER
SAMPLE ID: WHITEWATER 1-36

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	31,000	100	mg/L (PPM)	MR	10/13/2022	EPA 3005A
MAGNESIUM DISS EPA 6020A	1,400	10	mg/L (PPM)	MR	10/13/2022	EPA 3005A
SODIUM DISS EPA 6020A	2,300	10	mg/L (PPM)	MR	10/13/2022	EPA 3005A

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COMPANY: LAMBDA ENERGY RESOURCES, LLC
PROJECT NO: ANNUAL
LOCATION: EPA-UIC ANNUAL SAMPLES
MI
SAMPLED BY: LER
SAMPLE ID: WHITEWATER 1-36

GTA PROJECT NO: 093022-8
GTA SAMPLE NO: 3
DATE RECEIVED: 9/30/2022
TIME RECEIVED: 1:56 PM
DATE SAMPLED: 9/22/2022
TIME SAMPLED: 11:30 AM
SAMPLE MATRIX: BRINE

SAMPLE ANALYSIS

<u>Analysis</u>	<u>Concentration</u>	<u>LOD</u>	<u>Units</u>	<u>Analyst</u>	<u>Date Completed</u>
ALKALINITY SM 4500CO2D (BICARBONATE)	140	10	mg/L (PPM)	TR	10/28/2022
ALKALINITY SM 4500CO2D (CARBONATE)	ND	10	mg/L (PPM)	TR	10/28/2022
CHLORIDE EPA 300.0	29,000	2,000	mg/L (PPM)	KC/TR	10/20/2022
pH EPA 150.1 - LAB	7.0	0.10	s.u.	TR	10/28/2022
SPECIFIC GRAVITY SM 2710F	1.042	-	-	TR	10/28/2022
SULFATE EPA 300.0	ND	50	mg/L (PPM)	KC/TR	10/20/2022
TOTAL DISSOLVED SOLIDS EPA 160.1	60,000	5.0	mg/L (PPM)	TR	10/28/2022

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COMPANY: LAMBDA ENERGY RESOURCES, LLC
PROJECT NO: ANNUAL
LOCATION: EPA-UIC ANNUAL SAMPLES
DATE SAMPLED: 9/22/2022
TIME SAMPLED: 10:30 AM
DATE RECEIVED: 9/30/2022
TIME RECEIVED: 1:56 PM
SAMPLE MATRIX: BRINE
SAMPLED BY: MI
LER
SAMPLE ID: WHITEWATER 1-32

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	ND	1.0	mg/L (PPM)	MR	10/13/2022	EPA 3005A
CALCIUM DISS EPA 6020A	20,000	100	mg/L (PPM)	MR	10/13/2022	EPA 3005A
IRON TOTAL EPA 6020A	ND	10	mg/L (PPM)	MR	10/13/2022	EPA 3020A
MAGNESIUM DISS EPA 6020A	1,100	10	mg/L (PPM)	MR	10/13/2022	EPA 3005A
SODIUM DISS EPA 6020A	2,000	10	mg/L (PPM)	MR	10/13/2022	EPA 3005A

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PROJECT NO: ANNUAL
LOCATION: EPA-UIC ANNUAL SAMPLES
MI
SAMPLED BY: LER
SAMPLE ID: WHITEWATER 1-32

GTA PROJECT NO: 093022-8
GTA SAMPLE NO: 4
DATE RECEIVED: 9/30/2022
TIME RECEIVED: 1:56 PM
DATE SAMPLED: 9/22/2022
TIME SAMPLED: 10:30 AM
SAMPLE MATRIX: BRINE

SAMPLE ANALYSIS

<u>Analysis</u>	<u>Concentration</u>	<u>LOD</u>	<u>Units</u>	<u>Analyst</u>	<u>Date Completed</u>
ALKALINITY SM 4500CO2D (BICARBONATE)	110	10	mg/L (PPM)	TR	10/28/2022
ALKALINITY SM 4500CO2D (CARBONATE)	ND	10	mg/L (PPM)	TR	10/28/2022
CHLORIDE EPA 300.0	31,000	2,000	mg/L (PPM)	KC/TR	10/20/2022
pH EPA 150.1 - LAB	7.3	0.10	s.u.	TR	10/28/2022
RESISTIVITY SM 2510A	61	-	ohms x cm	AS	10/4/2022
SPECIFIC GRAVITY SM 2710F	1.038	-	-	TR	10/28/2022
SULFATE EPA 300.0	ND	50	mg/L (PPM)	KC/TR	10/20/2022
SULFIDE SM 4500S D	ND	1.0	mg/L (PPM)	KC	10/1/2022
TOTAL DISSOLVED SOLIDS EPA 160.1	51,000	5.0	mg/L (PPM)	TR	10/28/2022

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COMPANY: LAMBDA ENERGY RESOURCES, LLC
PROJECT NO: ANNUAL
LOCATION: EPA-UIC ANNUAL SAMPLES
DATE SAMPLED: 9/22/2022
TIME SAMPLED: 11:30 AM
DATE RECEIVED: 9/30/2022
TIME RECEIVED: 1:56 PM
SAMPLE MATRIX: BRINE
SAMPLED BY: MI
LER
SAMPLE ID: WHITEWATER 1-35

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	22,000	100	mg/L (PPM)	MR	10/13/2022	EPA 3005A
MAGNESIUM DISS EPA 6020A	1,500	10	mg/L (PPM)	MR	10/13/2022	EPA 3005A
SODIUM DISS EPA 6020A	2,200	10	mg/L (PPM)	MR	10/13/2022	EPA 3005A

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COMPANY: LAMBDA ENERGY RESOURCES, LLC
PROJECT NO: ANNUAL
LOCATION: EPA-UIC ANNUAL SAMPLES
MI
SAMPLED BY: LER
SAMPLE ID: WHITEWATER 1-35

GTA PROJECT NO: 093022-8
GTA SAMPLE NO: 5
DATE RECEIVED: 9/30/2022
TIME RECEIVED: 1:56 PM
DATE SAMPLED: 9/22/2022
TIME SAMPLED: 11:30 AM
SAMPLE MATRIX: BRINE

SAMPLE ANALYSIS

<u>Analysis</u>	<u>Concentration</u>	<u>LOD</u>	<u>Units</u>	<u>Analyst</u>	<u>Date Completed</u>
ALKALINITY SM 4500CO2D (BICARBONATE)	110	10	mg/L (PPM)	TR	10/28/2022
ALKALINITY SM 4500CO2D (CARBONATE)	ND	10	mg/L (PPM)	TR	10/28/2022
CHLORIDE EPA 300.0	39,000	2,000	mg/L (PPM)	KC/TR	10/20/2022
pH EPA 150.1 - LAB	7.0	0.10	s.u.	TR	10/28/2022
SPECIFIC GRAVITY SM 2710F	1.048	-	-	TR	10/28/2022
SULFATE EPA 300.0	ND	50	mg/L (PPM)	KC/TR	10/20/2022
TOTAL DISSOLVED SOLIDS EPA 160.1	72,000	5.0	mg/L (PPM)	TR	10/28/2022

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COMPANY: LAMBDA ENERGY RESOURCES, LLC
PROJECT NO: ANNUAL
LOCATION: EPA-UIC ANNUAL SAMPLES
MI
SAMPLED BY: LER
SAMPLE ID: PARCELS 2-9

GTA PROJECT NO: 093022-8
GTA SAMPLE NO: 6
DATE SAMPLED: 9/27/2022
TIME SAMPLED: 9:30 AM
DATE RECEIVED: 9/30/2022
TIME RECEIVED: 1:56 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	ND	1.0	mg/L (PPM)	MR	10/13/2022	EPA 3005A
CALCIUM DISS EPA 6020A	140,000	100	mg/L (PPM)	MR	10/13/2022	EPA 3005A
IRON TOTAL EPA 6020A	15	10	mg/L (PPM)	MR	10/13/2022	EPA 3020A
MAGNESIUM DISS EPA 6020A	18,000	100	mg/L (PPM)	MR	10/13/2022	EPA 3005A
SODIUM DISS EPA 6020A	31,000	100	mg/L (PPM)	MR	10/13/2022	EPA 3005A

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COMPANY: LAMBDA ENERGY RESOURCES, LLC
PROJECT NO: ANNUAL
LOCATION: EPA-UIC ANNUAL SAMPLES
MI
SAMPLED BY: LER
SAMPLE ID: PARCELS 2-9

GTA PROJECT NO: 093022-8
GTA SAMPLE NO: 6
DATE RECEIVED: 9/30/2022
TIME RECEIVED: 1:56 PM
DATE SAMPLED: 9/27/2022
TIME SAMPLED: 9:30 AM
SAMPLE MATRIX: BRINE

SAMPLE ANALYSIS

<u>Analysis</u>	<u>Concentration</u>	<u>LOD</u>	<u>Units</u>	<u>Analyst</u>	<u>Date Completed</u>
ALKALINITY SM 4500CO2D (BICARBONATE)	280	10	mg/L (PPM)	TR	10/28/2022
ALKALINITY SM 4500CO2D (CARBONATE)	ND	10	mg/L (PPM)	TR	10/28/2022
CHLORIDE EPA 300.0	270,000	2,000	mg/L (PPM)	KC/TR	10/20/2022
pH EPA 150.1 - LAB	5.3	0.10	s.u.	TR	10/28/2022
RESISTIVITY SM 2510A	1.6	-	ohms x cm	AS	10/4/2022
SPECIFIC GRAVITY SM 2710F	1.241	-	-	TR	10/28/2022
SULFATE EPA 300.0	58	50	mg/L (PPM)	KC/TR	10/20/2022
SULFIDE SM 4500S D	ND	1.0	mg/L (PPM)	KC	10/1/2022
TOTAL DISSOLVED SOLIDS EPA 160.1	380,000	5.0	mg/L (PPM)	TR	10/28/2022

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COMPANY: LAMBDA ENERGY RESOURCES, LLC
PROJECT NO: ANNUAL
LOCATION: EPA-UIC ANNUAL SAMPLES
DATE SAMPLED: 9/27/2022
TIME SAMPLED: 10:00 AM
DATE RECEIVED: 9/30/2022
TIME RECEIVED: 1:56 PM
SAMPLED BY: MI
LER
SAMPLE MATRIX: BRINE
SAMPLE ID: STACK JEWELL 1-29

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	130,000	100	mg/L (PPM)	MR	10/13/2022	EPA 3005A
MAGNESIUM DISS EPA 6020A	16,000	100	mg/L (PPM)	MR	10/13/2022	EPA 3005A
SODIUM DISS EPA 6020A	30,000	100	mg/L (PPM)	MR	10/13/2022	EPA 3005A

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COMPANY: LAMBDA ENERGY RESOURCES, LLC
PROJECT NO: ANNUAL
LOCATION: EPA-UIC ANNUAL SAMPLES
MI
SAMPLED BY: LER
SAMPLE ID: STACK JEWELL 1-29

GTA PROJECT NO: 093022-8
GTA SAMPLE NO: 7
DATE RECEIVED: 9/30/2022
TIME RECEIVED: 1:56 PM
DATE SAMPLED: 9/27/2022
TIME SAMPLED: 10:00 AM
SAMPLE MATRIX: BRINE

SAMPLE ANALYSIS

<u>Analysis</u>	<u>Concentration</u>	<u>LOD</u>	<u>Units</u>	<u>Analyst</u>	<u>Date Completed</u>
ALKALINITY SM 4500CO2D (BICARBONATE)	290	10	mg/L (PPM)	TR	10/28/2022
ALKALINITY SM 4500CO2D (CARBONATE)	ND	10	mg/L (PPM)	TR	10/28/2022
CHLORIDE EPA 300.0	270,000	2,000	mg/L (PPM)	KC/TR	10/20/2022
pH EPA 150.1 - LAB	5.4	0.10	s.u.	TR	10/28/2022
SPECIFIC GRAVITY SM 2710F	1.232	-	-	TR	10/28/2022
SULFATE EPA 300.0	58	50	mg/L (PPM)	KC/TR	10/20/2022
TOTAL DISSOLVED SOLIDS EPA 160.1	380,000	5.0	mg/L (PPM)	TR	10/28/2022

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COMPANY: LAMBDA ENERGY RESOURCES, LLC
PROJECT NO: ANNUAL
LOCATION: EPA-UIC ANNUAL SAMPLES
DATE SAMPLED: 9/21/2022
TIME SAMPLED: 1:00 PM
DATE RECEIVED: 9/30/2022
TIME RECEIVED: 1:56 PM
SAMPLE MATRIX: BRINE
SAMPLED BY: MI
LER
SAMPLE ID: RAPID RIVER 1-24

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	120,000	100	mg/L (PPM)	MR	10/13/2022	EPA 3005A
MAGNESIUM DISS EPA 6020A	15,000	100	mg/L (PPM)	MR	10/13/2022	EPA 3005A
SODIUM DISS EPA 6020A	29,000	100	mg/L (PPM)	MR	10/13/2022	EPA 3005A

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

DISS = DISSOLVED

**INDEPENDENT TESTING LAB**

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FAX: 231-929-0894

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COMPANY: LAMBDA ENERGY RESOURCES, LLC
PROJECT NO: ANNUAL
LOCATION: EPA-UIC ANNUAL SAMPLES
MI
SAMPLED BY: LER
SAMPLE ID: RAPID RIVER 1-24

GTA PROJECT NO: 093022-8
GTA SAMPLE NO: 8
DATE RECEIVED: 9/30/2022
TIME RECEIVED: 1:56 PM
DATE SAMPLED: 9/21/2022
TIME SAMPLED: 1:00 PM
SAMPLE MATRIX: BRINE

SAMPLE ANALYSIS

<u>Analysis</u>	<u>Concentration</u>	<u>LOD</u>	<u>Units</u>	<u>Analyst</u>	<u>Date Completed</u>
ALKALINITY SM 4500CO2D (BICARBONATE)	280	10	mg/L (PPM)	TR	10/28/2022
ALKALINITY SM 4500CO2D (CARBONATE)	ND	10	mg/L (PPM)	TR	10/28/2022
CHLORIDE EPA 300.0	260,000	2,000	mg/L (PPM)	KC/TR	10/20/2022
pH EPA 150.1 - LAB	5.3	0.10	s.u.	TR	10/28/2022
SPECIFIC GRAVITY SM 2710F	1.227	-	-	TR	10/28/2022
SULFATE EPA 300.0	ND	50	mg/L (PPM)	KC/TR	10/20/2022
TOTAL DISSOLVED SOLIDS EPA 160.1	370,000	5.0	mg/L (PPM)	TR	10/28/2022

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LOD = LIMIT OF DETECTION

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

DISS = DISSOLVED

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COMPANY: LAMBDA ENERGY RESOURCES, LLC
PROJECT NO: ANNUAL
LOCATION: EPA-UIC ANNUAL SAMPLES
DATE SAMPLED: 9/22/2022
TIME SAMPLED: 9:00 AM
DATE RECEIVED: 9/30/2022
TIME RECEIVED: 1:56 PM
SAMPLE MATRIX: BRINE
SAMPLED BY: MI
LER
SAMPLE ID: NICKERSON 5-1

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	68,000	100	mg/L (PPM)	MR	10/13/2022	EPA 3005A
MAGNESIUM DISS EPA 6020A	8,600	100	mg/L (PPM)	MR	10/13/2022	EPA 3005A
SODIUM DISS EPA 6020A	21,000	100	mg/L (PPM)	MR	10/13/2022	EPA 3005A

ND = NOT DETECTED, RESULT < LOD

LOD = LIMIT OF DETECTION

DISS = DISSOLVED

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COMPANY: LAMBDA ENERGY RESOURCES, LLC
PROJECT NO: ANNUAL
LOCATION: EPA-UIC ANNUAL SAMPLES
MI
SAMPLED BY: LER
SAMPLE ID: NICKERSON 5-1

GTA PROJECT NO: 093022-8
GTA SAMPLE NO: 9
DATE RECEIVED: 9/30/2022
TIME RECEIVED: 1:56 PM
DATE SAMPLED: 9/22/2022
TIME SAMPLED: 9:00 AM
SAMPLE MATRIX: BRINE

SAMPLE ANALYSIS

<u>Analysis</u>	<u>Concentration</u>	<u>LOD</u>	<u>Units</u>	<u>Analyst</u>	<u>Date Completed</u>
ALKALINITY SM 4500CO2D (BICARBONATE)	220	10	mg/L (PPM)	TR	10/28/2022
ALKALINITY SM 4500CO2D (CARBONATE)	ND	10	mg/L (PPM)	TR	10/28/2022
CHLORIDE EPA 300.0	200,000	2,000	mg/L (PPM)	KC/TR	10/20/2022
pH EPA 150.1 - LAB	5.9	0.10	s.u.	TR	10/28/2022
SPECIFIC GRAVITY SM 2710F	1.187	-	-	TR	10/28/2022
SULFATE EPA 300.0	ND	50	mg/L (PPM)	KC/TR	10/20/2022
TOTAL DISSOLVED SOLIDS EPA 160.1	280,000	5.0	mg/L (PPM)	TR	10/28/2022

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

DISS = DISSOLVED

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COMPANY: LAMBDA ENERGY RESOURCES, LLC
PROJECT NO: ANNUAL
LOCATION: EPA-UIC ANNUAL SAMPLES
DATE SAMPLED: 9/27/2022
TIME SAMPLED: 9:00 AM
DATE RECEIVED: 9/30/2022
TIME RECEIVED: 1:56 PM
SAMPLE MATRIX: BRINE
SAMPLED BY: MI
LER
SAMPLE ID: ST. SPRINGDALE 2-36

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	82,000	100	mg/L (PPM)	MR	10/13/2022	EPA 3005A
MAGNESIUM DISS EPA 6020A	12,000	100	mg/L (PPM)	MR	10/13/2022	EPA 3005A
SODIUM DISS EPA 6020A	20,000	100	mg/L (PPM)	MR	10/13/2022	EPA 3005A

ND = NOT DETECTED, RESULT < LOD

LOD = LIMIT OF DETECTION

DISS = DISSOLVED

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COMPANY: LAMBDA ENERGY RESOURCES, LLC
PROJECT NO: ANNUAL
LOCATION: EPA-UIC ANNUAL SAMPLES
MI
SAMPLED BY: LER
SAMPLE ID: ST. SPRINGDALE 2-36

GTA PROJECT NO: 093022-8
GTA SAMPLE NO: 10
DATE RECEIVED: 9/30/2022
TIME RECEIVED: 1:56 PM
DATE SAMPLED: 9/27/2022
TIME SAMPLED: 9:00 AM
SAMPLE MATRIX: BRINE

SAMPLE ANALYSIS

<u>Analysis</u>	<u>Concentration</u>	<u>LOD</u>	<u>Units</u>	<u>Analyst</u>	<u>Date Completed</u>
ALKALINITY SM 4500CO2D (BICARBONATE)	990	10	mg/L (PPM)	TR	10/28/2022
ALKALINITY SM 4500CO2D (CARBONATE)	ND	10	mg/L (PPM)	TR	10/28/2022
CHLORIDE EPA 300.0	300,000	2,000	mg/L (PPM)	KC/TR	10/20/2022
pH EPA 150.1 - LAB	5.8	0.10	s.u.	TR	10/28/2022
SPECIFIC GRAVITY SM 2710F	1.243	-	-	TR	10/28/2022
SULFATE EPA 300.0	ND	50	mg/L (PPM)	KC/TR	10/20/2022
TOTAL DISSOLVED SOLIDS EPA 160.1	440,000	5.0	mg/L (PPM)	TR	10/28/2022

ND = NOT DETECTED, RESULT < LOD

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

DISS = DISSOLVED

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COMPANY: LAMBDA ENERGY RESOURCES, LLC GTA PROJECT NO: 093022-8
PROJECT NO: ANNUAL GTA SAMPLE NO: 11
LOCATION: EPA-UIC ANNUAL SAMPLES DATE SAMPLED: 9/21/2022
TIME SAMPLED: 11:00 AM
DATE RECEIVED: 9/30/2022
TIME RECEIVED: 1:56 PM
SAMPLED BY: MI SAMPLE MATRIX: BRINE
LER
SAMPLE ID: ST. KALKASKA 2-12

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	100,000	100	mg/L (PPM)	MR	10/13/2022	EPA 3005A
MAGNESIUM DISS EPA 6020A	13,000	100	mg/L (PPM)	MR	10/13/2022	EPA 3005A
SODIUM DISS EPA 6020A	36,000	100	mg/L (PPM)	MR	10/13/2022	EPA 3005A

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

GTA PROJECT NO: 093022-8
GTA SAMPLE NO: 11
DATE RECEIVED: 9/30/2022
TIME RECEIVED: 1:56 PM
DATE SAMPLED: 9/21/2022
TIME SAMPLED: 11:00 AM
SAMPLE MATRIX: BRINE

SAMPLE ANALYSIS

<u>Analysis</u>	<u>Concentration</u>	<u>LOD</u>	<u>Units</u>	<u>Analyst</u>	<u>Date Completed</u>
ALKALINITY SM 4500CO2D (BICARBONATE)	170	10	mg/L (PPM)	TR	10/28/2022
ALKALINITY SM 4500CO2D (CARBONATE)	ND	10	mg/L (PPM)	TR	10/28/2022
CHLORIDE EPA 300.0	260,000	2,000	mg/L (PPM)	KC/TR	10/20/2022
pH EPA 150.1 - LAB	5.2	0.10	s.u.	TR	10/28/2022
SPECIFIC GRAVITY SM 2710F	1.227	-	-	TR	10/28/2022
SULFATE EPA 300.0	ND	50	mg/L (PPM)	KC/TR	10/20/2022
TOTAL DISSOLVED SOLIDS EPA 160.1	340,000	5.0	mg/L (PPM)	TR	10/28/2022

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COMPANY: LAMBDA ENERGY RESOURCES, LLC GTA PROJECT NO: 093022-8
PROJECT NO: ANNUAL GTA SAMPLE NO: 12
LOCATION: EPA-UIC ANNUAL SAMPLES DATE SAMPLED: 9/28/2022
TIME SAMPLED: 2:30 PM
DATE RECEIVED: 9/30/2022
TIME RECEIVED: 1:56 PM
SAMPLED BY: MI SAMPLE MATRIX: BRINE
LER
SAMPLE ID: ST. BLUE LAKE G1-17

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	110,000	100	mg/L (PPM)	MR	10/13/2022	EPA 3005A
MAGNESIUM DISS EPA 6020A	13,000	100	mg/L (PPM)	MR	10/13/2022	EPA 3005A
SODIUM DISS EPA 6020A	21,000	100	mg/L (PPM)	MR	10/13/2022	EPA 3005A

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COMPANY: LAMBDA ENERGY RESOURCES, LLC
PROJECT NO: ANNUAL
LOCATION: EPA-UIC ANNUAL SAMPLES
MI
SAMPLED BY: LER
SAMPLE ID: ST. BLUE LAKE G1-17

GTA PROJECT NO: 093022-8
GTA SAMPLE NO: 12
DATE RECEIVED: 9/30/2022
TIME RECEIVED: 1:56 PM
DATE SAMPLED: 9/28/2022
TIME SAMPLED: 2:30 PM
SAMPLE MATRIX: BRINE

SAMPLE ANALYSIS

<u>Analysis</u>	<u>Concentration</u>	<u>LOD</u>	<u>Units</u>	<u>Analyst</u>	<u>Date Completed</u>
ALKALINITY SM 4500CO2D (BICARBONATE)	290	10	mg/L (PPM)	TR	10/28/2022
ALKALINITY SM 4500CO2D (CARBONATE)	ND	10	mg/L (PPM)	TR	10/28/2022
CHLORIDE EPA 300.0	180,000	2,000	mg/L (PPM)	KC/TR	10/20/2022
pH EPA 150.1 - LAB	6.3	0.10	s.u.	TR	10/28/2022
SPECIFIC GRAVITY SM 2710F	1.182	-	-	TR	10/28/2022
SULFATE EPA 300.0	ND	50	mg/L (PPM)	KC/TR	10/20/2022
TOTAL DISSOLVED SOLIDS EPA 160.1	240,000	5.0	mg/L (PPM)	TR	10/28/2022

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DISS = DISSOLVED



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COMPANY: LAMBDA ENERGY RESOURCES, LLC
PROJECT NO: ANNUAL
LOCATION: EPA-UIC ANNUAL SAMPLES
DATE SAMPLED: 9/27/2022
TIME SAMPLED: 1:30 PM
DATE RECEIVED: 9/30/2022
TIME RECEIVED: 1:56 PM
SAMPLE MATRIX: BRINE
SAMPLED BY: MI
LER
SAMPLE ID: WALTON 6-16

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	100,000	100	mg/L (PPM)	MR	10/13/2022	EPA 3005A
MAGNESIUM DISS EPA 6020A	12,000	100	mg/L (PPM)	MR	10/13/2022	EPA 3005A
SODIUM DISS EPA 6020A	20,000	100	mg/L (PPM)	MR	10/13/2022	EPA 3005A

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LOD = LIMIT OF DETECTION

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COMPANY: LAMBDA ENERGY RESOURCES, LLC
PROJECT NO: ANNUAL
LOCATION: EPA-UIC ANNUAL SAMPLES
MI
SAMPLED BY: LER
SAMPLE ID: WALTON 6-16

GTA PROJECT NO: 093022-8
GTA SAMPLE NO: 13
DATE RECEIVED: 9/30/2022
TIME RECEIVED: 1:56 PM
DATE SAMPLED: 9/27/2022
TIME SAMPLED: 1:30 PM
SAMPLE MATRIX: BRINE

SAMPLE ANALYSIS

<u>Analysis</u>	<u>Concentration</u>	<u>LOD</u>	<u>Units</u>	<u>Analyst</u>	<u>Date Completed</u>
ALKALINITY SM 4500CO2D (BICARBONATE)	270	10	mg/L (PPM)	TR	10/28/2022
ALKALINITY SM 4500CO2D (CARBONATE)	ND	10	mg/L (PPM)	TR	10/28/2022
CHLORIDE EPA 300.0	290,000	2,000	mg/L (PPM)	KC/TR	10/20/2022
pH EPA 150.1 - LAB	5.4	0.10	s.u.	TR	10/28/2022
SPECIFIC GRAVITY SM 2710F	1.258	-	-	TR	10/28/2022
SULFATE EPA 300.0	86	50	mg/L (PPM)	KC/TR	10/20/2022
TOTAL DISSOLVED SOLIDS EPA 160.1	380,000	5.0	mg/L (PPM)	TR	10/28/2022

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LOD = LIMIT OF DETECTION

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DISS = DISSOLVED

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COMPANY: LAMBDA ENERGY RESOURCES, LLC GTA PROJECT NO: 093022-8
PROJECT NO: ANNUAL GTA SAMPLE NO: 14
LOCATION: EPA-UIC ANNUAL SAMPLES DATE SAMPLED: 9/27/2022
TIME SAMPLED: 10:00 AM
DATE RECEIVED: 9/30/2022
TIME RECEIVED: 1:56 PM
SAMPLED BY: MI SAMPLE MATRIX: BRINE
LER
SAMPLE ID: ST. PARADISE 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	54,000	100	mg/L (PPM)	MR	10/13/2022	EPA 3005A
MAGNESIUM DISS EPA 6020A	7,900	100	mg/L (PPM)	MR	10/13/2022	EPA 3005A
SODIUM DISS EPA 6020A	17,000	100	mg/L (PPM)	MR	10/13/2022	EPA 3005A

ND = NOT DETECTED, RESULT < LOD

LOD = LIMIT OF DETECTION

DISS = DISSOLVED

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COMPANY: LAMBDA ENERGY RESOURCES, LLC GTA PROJECT NO: 093022-8
PROJECT NO: ANNUAL GTA SAMPLE NO: 14
LOCATION: EPA-UIC ANNUAL SAMPLES DATE RECEIVED: 9/30/2022
MI TIME RECEIVED: 1:56 PM
SAMPLED BY: LER DATE SAMPLED: 9/27/2022
TIME SAMPLED: 10:00 AM
SAMPLE ID: ST. PARADISE 1-19 SAMPLE MATRIX: BRINE

SAMPLE ANALYSIS

<u>Analysis</u>	<u>Concentration</u>	<u>LOD</u>	<u>Units</u>	<u>Analyst</u>	<u>Date Completed</u>
ALKALINITY SM 4500CO2D (BICARBONATE)	ND	10	mg/L (PPM)	TR	10/28/2022
ALKALINITY SM 4500CO2D (CARBONATE)	ND	10	mg/L (PPM)	TR	10/28/2022
CHLORIDE EPA 300.0	250,000	2,000	mg/L (PPM)	KC/TR	10/20/2022
pH EPA 150.1 - LAB	2.3	0.10	s.u.	TR	10/28/2022
SPECIFIC GRAVITY SM 2710F	1.222	-	-	TR	10/28/2022
SULFATE EPA 300.0	100	50	mg/L (PPM)	KC/TR	10/20/2022
TOTAL DISSOLVED SOLIDS EPA 160.1	310,000	5.0	mg/L (PPM)	TR	10/28/2022

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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: 093022-8

PROJECT NO: ANNUAL

GTA SAMPLE NO: 15

LOCATION: EPA-UIC ANNUAL SAMPLES

DATE SAMPLED: 9/27/2022

TIME SAMPLED: 2:00 PM

DATE RECEIVED: 9/30/2022

TIME RECEIVED: 1:56 PM

SAMPLED BY: MI
LER

SAMPLE MATRIX: BRINE

SAMPLE ID: ST. CLEON 1-11

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	1.5	1.0	mg/L (PPM)	MR	10/13/2022	EPA 3005A
CALCIUM DISS EPA 6020A	87,000	10	mg/L (PPM)	MR	10/13/2022	EPA 3005A
IRON TOTAL EPA 6020A	19	10	mg/L (PPM)	MR	10/13/2022	EPA 3020A
MAGNESIUM DISS EPA 6020A	13,000	10	mg/L (PPM)	MR	10/13/2022	EPA 3005A
SODIUM DISS EPA 6020A	64,000	10	mg/L (PPM)	MR	10/13/2022	EPA 3005A

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COMPANY: LAMBDA ENERGY RESOURCES, LLC
PROJECT NO: ANNUAL
LOCATION: EPA-UIC ANNUAL SAMPLES
MI
SAMPLED BY: LER
SAMPLE ID: ST. CLEON 1-11

GTA PROJECT NO: 093022-8
GTA SAMPLE NO: 15
DATE RECEIVED: 9/30/2022
TIME RECEIVED: 1:56 PM
DATE SAMPLED: 9/27/2022
TIME SAMPLED: 2:00 PM
SAMPLE MATRIX: BRINE

SAMPLE ANALYSIS

<u>Analysis</u>	<u>Concentration</u>	<u>LOD</u>	<u>Units</u>	<u>Analyst</u>	<u>Date Completed</u>
ALKALINITY SM 4500CO2D (BICARBONATE)	720	10	mg/L (PPM)	TR	10/28/2022
ALKALINITY SM 4500CO2D (CARBONATE)	ND	10	mg/L (PPM)	TR	10/28/2022
CHLORIDE EPA 300.0	270,000	2,000	mg/L (PPM)	KC/TR	10/20/2022
pH EPA 150.1 - LAB	6.4	0.10	s.u.	TR	10/28/2022
RESISTIVITY SM 2510A	1.7	-	ohms x cm	AS	10/4/2022
SPECIFIC GRAVITY SM 2710F	1.240	-	-	TR	10/28/2022
SULFATE EPA 300.0	200	50	mg/L (PPM)	KC/TR	10/21/2022
SULFIDE SM 4500S D	ND	1.0	mg/L (PPM)	KC	10/1/2022
TOTAL DISSOLVED SOLIDS EPA 160.1	360,000	5.0	mg/L (PPM)	TR	10/28/2022

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: 093022-8
PROJECT NO: ANNUAL GTA SAMPLE NO: 16
LOCATION: EPA-UIC ANNUAL SAMPLES DATE SAMPLED: 9/27/2022
TIME SAMPLED: 9:30 AM
DATE RECEIVED: 9/30/2022
TIME RECEIVED: 1:56 PM
SAMPLED BY: MI SAMPLE MATRIX: BRINE
LER
SAMPLE ID: BOWMAN ST MAYFIELD 6-19A

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	34,000	100	mg/L (PPM)	MR	10/13/2022	EPA 3005A
MAGNESIUM DISS EPA 6020A	5,000	100	mg/L (PPM)	MR	10/13/2022	EPA 3005A
SODIUM DISS EPA 6020A	16,000	100	mg/L (PPM)	MR	10/13/2022	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: ANNUAL
LOCATION: EPA-UIC ANNUAL SAMPLES
MI
SAMPLED BY: LER
SAMPLE ID: BOWMAN ST MAYFIELD 6-19A

GTA PROJECT NO: 093022-8
GTA SAMPLE NO: 16
DATE RECEIVED: 9/30/2022
TIME RECEIVED: 1:56 PM
DATE SAMPLED: 9/27/2022
TIME SAMPLED: 9:30 AM
SAMPLE MATRIX: BRINE

SAMPLE ANALYSIS

<u>Analysis</u>	<u>Concentration</u>	<u>LOD</u>	<u>Units</u>	<u>Analyst</u>	<u>Date Completed</u>
ALKALINITY SM 4500CO2D (BICARBONATE)	100	10	mg/L (PPM)	TR	10/28/2022
ALKALINITY SM 4500CO2D (CARBONATE)	ND	10	mg/L (PPM)	TR	10/28/2022
CHLORIDE EPA 300.0	98,000	50	mg/L (PPM)	KC/TR	10/20/2022
pH EPA 150.1 - LAB	6.8	0.10	s.u.	TR	10/28/2022
SPECIFIC GRAVITY SM 2710F	1.082	-	-	TR	10/28/2022
SULFATE EPA 300.0	ND	50	mg/L (PPM)	KC/TR	10/21/2022
TOTAL DISSOLVED SOLIDS EPA 160.1	110,000	5.0	mg/L (PPM)	TR	10/28/2022

ND = NOT DETECTED, RESULT < LOD

LOD = LIMIT OF DETECTION

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

DISS = DISSOLVED

1 of 2

CHAIN OF CUSTODY

PROJECT NUMBER ANNUALS	SITE NAME/ADDRESS KALKASKA MI	COMPANY/NAME Lambda Energy
SAMPLED BY VARIOUS	COMPANY SAME	GTA PROJECT # 093022-8

SAMPLE INFORMATION

#	SAMPLE ID	DATE SAMPLED	TIME	MATRIX	ANALYSIS
1	Davenport 4-5	9/21/2022	8:30am	Brine	Parameter #2
2	White Water 2-32	9/22/2022	10:30am	Brine	Parameter #1
3	White Water B 1-36	9/22/2022	11:30am	Brine	" " #1
4	White Water 1-32	9/22/2022	10:30am	Brine	" " #2
5	White Water 1-35	9/22/2022	11:30am	Brine	Parameter #1
6	Precells 2-9	9/27/2022	9:30am	Brine	" " #2
7	Stack Jewell 1-29	9/27/2022	10:00am	Brine	Parameter #1
8	Rapid River 1-24	9/21/2022	1:00pm	Brine	" " #1
9	Nickerson 5-1	9/22/2022	9:00am	Brine	" " #1
10	St. Springdale 2-36	9/27/2022	9:00am	Brine	" " #1
11	KALKASKA 2-12	9/21/2022	11:00am	Brine	" " #1
12	St Blue Lake G 1-17	9/28/2022	2:30pm	Brine	" " #1
13	Watson 16-16	9/27/2022	1:30pm	Brine	" " #1
14	St Paradise 1-19	9/27/2022	10:00am	Brine	" " #1
15	St Cleon 1-11	9/27/2022	2:00pm	Brine	Parameter #2

BILL TO:	Temp Rec: ☐ Y ☐ N	On Ice? ☐ ☐	REPORT TO:
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RELEASED BY K. Miller	DATE/TIME 9/30/22 1:55pm	RECEIVED BY K. Miller	DATE/TIME 9/30/22 1:56p

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

