



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: 20.064
GTA ProjNo: 030421-2

Site Addr: CASE 33 CPF
Sampled By: KWB/HURON
Date Rec: 3/4/2021
Time Rec: 10:20 AM

Sample No.	Sample ID	Date Sampled	Time Sampled	Sample Matrix
1	MW-1 (30-40')	3/2/2021	3:50 PM	WATER
2	MW-3D (115-120')	3/2/2021	2:55 PM	WATER
3	MW-4 (36-41')	3/2/2021	3:45 PM	WATER
4	MW-6 (64-74')	3/2/2021	2:10 PM	WATER
5	MW-7D (122-127')	3/2/2021	2:05 PM	WATER
6	MW-8D (123-128')	3/2/2021	1:26 PM	WATER
7	MW-9M (115-120')	3/2/2021	12:43 PM	WATER
8	MW-10 (114-119')	3/2/2021	1:34 PM	WATER
9	MW-11D (133-138')	3/2/2021	3:10 PM	WATER
10	MW-12D (152-157')	3/2/2021	3:35 PM	WATER
11	MW-13D (121-126')	3/2/2021	9:35 AM	WATER
12	MW-14D (176-181')	3/2/2021	10:36 AM	WATER
13	MW-15D (172-177')	3/2/2021	11:56 AM	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
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: 20.064
LOCATION: CASE 33 CPF

GTA PROJECT NO: 030421-2
GTA SAMPLE NO: 1

DATE SAMPLED: 3/2/2021
TIME SAMPLED: 3:50 PM
DATE RECEIVED: 3/4/2021
TIME RECEIVED: 10:20 AM

MI
SAMPLED BY: KWB/HURON

SAMPLE ANALYSIS

<u>No:</u>	<u>Analysis</u>	<u>Concentration</u>	<u>LOD</u>	<u>Units</u>	<u>Analyst</u>	<u>Date Completed</u>	<u>Sample</u>
	SAMPLE ID: MW-1 (30-40') CHLORIDE EPA 300.0	46	10	mg/L (PPM)	LV	3/5/2021	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: 20.064
LOCATION: CASE 33 CPF

GTA PROJECT NO: 030421-2
GTA SAMPLE NO: 2

DATE SAMPLED: 3/2/2021
TIME SAMPLED: 2:55 PM
DATE RECEIVED: 3/4/2021
TIME RECEIVED: 10:20 AM

MI
SAMPLED BY: KWB/HURON

SAMPLE ANALYSIS

<u>No:</u>	<u>Analysis</u>	<u>Concentration</u>	<u>LOD</u>	<u>Units</u>	<u>Analyst</u>	<u>Date Completed</u>	<u>Sample</u>
	SAMPLE ID: MW-3D (115-120') CHLORIDE EPA 300.0	2,100	100	mg/L (PPM)	LV	3/5/2021	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: 20.064
 LOCATION: CASE 33 CPF

GTA PROJECT NO: 030421-2
 GTA SAMPLE NO: 3

DATE SAMPLED: 3/2/2021
 TIME SAMPLED: 3:45 PM
 DATE RECEIVED: 3/4/2021
 TIME RECEIVED: 10:20 AM

MI
 SAMPLED BY: KWB/HURON

SAMPLE ANALYSIS

<u>No:</u>	<u>Analysis</u>	<u>Concentration</u>	<u>LOD</u>	<u>Units</u>	<u>Analyst</u>	<u>Date Completed</u>	<u>Sample</u>
	SAMPLE ID: MW-4 (36-41') CHLORIDE EPA 300.0	130	10	mg/L (PPM)	LV	3/5/2021	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: 20.064
 LOCATION: CASE 33 CPF

GTA PROJECT NO: 030421-2
 GTA SAMPLE NO: 4

DATE SAMPLED: 3/2/2021
 TIME SAMPLED: 2:10 PM
 DATE RECEIVED: 3/4/2021
 TIME RECEIVED: 10:20 AM

MI
 SAMPLED BY: KWB/HURON

SAMPLE ANALYSIS

<u>No:</u>	<u>Analysis</u>	<u>Concentration</u>	<u>LOD</u>	<u>Units</u>	<u>Analyst</u>	<u>Date Completed</u>	<u>Sample</u>
	SAMPLE ID: MW-6 (64-74') CHLORIDE EPA 300.0	410	10	mg/L (PPM)	LV	3/5/2021	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: 20.064
 LOCATION: CASE 33 CPF

GTA PROJECT NO: 030421-2
 GTA SAMPLE NO: 6

DATE SAMPLED: 3/2/2021
 TIME SAMPLED: 1:26 PM
 DATE RECEIVED: 3/4/2021
 TIME RECEIVED: 10:20 AM

MI
 SAMPLED BY: KWB/HURON

SAMPLE ANALYSIS

<u>No:</u>	<u>Analysis</u>	<u>Concentration</u>	<u>LOD</u>	<u>Units</u>	<u>Analyst</u>	<u>Date Completed</u>	<u>Sample</u>
	SAMPLE ID: MW-8D (123-128') CHLORIDE EPA 300.0	ND	10	mg/L (PPM)	LV	3/5/2021	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: 20.064
 LOCATION: CASE 33 CPF

GTA PROJECT NO: 030421-2
 GTA SAMPLE NO: 7

DATE SAMPLED: 3/2/2021
 TIME SAMPLED: 12:43 PM
 DATE RECEIVED: 3/4/2021
 TIME RECEIVED: 10:20 AM

MI
 SAMPLED BY: KWB/HURON

SAMPLE ANALYSIS

<u>No:</u>	<u>Analysis</u>	<u>Concentration</u>	<u>LOD</u>	<u>Units</u>	<u>Analyst</u>	<u>Date Completed</u>	<u>Sample</u>
	SAMPLE ID: MW-9M (115-120') CHLORIDE EPA 300.0	ND	10	mg/L (PPM)	LV	3/5/2021	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: 20.064
 LOCATION: CASE 33 CPF

GTA PROJECT NO: 030421-2
 GTA SAMPLE NO: 8

DATE SAMPLED: 3/2/2021
 TIME SAMPLED: 1:34 PM
 DATE RECEIVED: 3/4/2021
 TIME RECEIVED: 10:20 AM

MI
 SAMPLED BY: KWB/HURON

SAMPLE ANALYSIS

<u>No:</u>	<u>Analysis</u>	<u>Concentration</u>	<u>LOD</u>	<u>Units</u>	<u>Analyst</u>	<u>Date Completed</u>	<u>Sample</u>
	SAMPLE ID: MW-10 (114-119') CHLORIDE EPA 300.0	ND	10	mg/L (PPM)	LV	3/5/2021	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: 20.064
 LOCATION: CASE 33 CPF

GTA PROJECT NO: 030421-2
 GTA SAMPLE NO: 9

DATE SAMPLED: 3/2/2021
 TIME SAMPLED: 3:10 PM
 DATE RECEIVED: 3/4/2021
 TIME RECEIVED: 10:20 AM

MI
 SAMPLED BY: KWB/HURON

SAMPLE ANALYSIS

<u>No:</u>	<u>Analysis</u>	<u>Concentration</u>	<u>LOD</u>	<u>Units</u>	<u>Analyst</u>	<u>Date Completed</u>	<u>Sample</u>
	SAMPLE ID: MW-11D (133-138') CHLORIDE EPA 300.0	3,400	500	mg/L (PPM)	LV	3/5/2021	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: 20.064
LOCATION: CASE 33 CPF

GTA PROJECT NO: 030421-2
GTA SAMPLE NO: 10

DATE SAMPLED: 3/2/2021
TIME SAMPLED: 3:35 PM

DATE RECEIVED: 3/4/2021
TIME RECEIVED: 10:20 AM

MI
SAMPLED BY: KWB/HURON

SAMPLE ANALYSIS

<u>No:</u>	<u>Analysis</u>	<u>Concentration</u>	<u>LOD</u>	<u>Units</u>	<u>Analyst</u>	<u>Date Completed</u>	<u>Sample Matrix</u>
	SAMPLE ID: MW-12D (152-157')						
	CHLORIDE EPA 300.0	7,800	1,000	mg/L (PPM)	LV	3/5/2021	WATER
	CONDUCTIVITY SM2510-B	22,000	1.0	uS/cm@25C	LV	3/5/2021	WATER

ND = NOT DETECTED, RESULT < LOD
LOD = LIMIT OF DETECTION
s.u. = STANDARD pH UNITS REPORTED AT 25 C
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: 20.064
LOCATION: CASE 33 CPF
MI
SAMPLE MATRIX: WATER
SAMPLE ID: MW-13D (121-126')
GTA PROJECT NO: 030421-2
GTA SAMPLE NO: 11
DATE SAMPLED: 3/2/2021
TIME SAMPLED: 9:35 AM
DATE RECEIVED: 3/4/2021
TIME RECEIVED: 10:20 AM
SAMPLED BY: KWB/HURON

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		3/6/2021	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: 20.064
LOCATION: CASE 33 CPF
MI
SAMPLE MATRIX: WATER
SAMPLE ID: MW-14D (176-181')
GTA PROJECT NO: 030421-2
GTA SAMPLE NO: 12
DATE SAMPLED: 3/2/2021
TIME SAMPLED: 10:36 AM
DATE RECEIVED: 3/4/2021
TIME RECEIVED: 10:20 AM
SAMPLED BY: KWB/HURON

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		3/6/2021	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: 20.064
LOCATION: CASE 33 CPF
MI
SAMPLE MATRIX: WATER
SAMPLE ID: MW-15D (172-177')
GTA PROJECT NO: 030421-2
GTA SAMPLE NO: 13
DATE SAMPLED: 3/2/2021
TIME SAMPLED: 11:56 AM
DATE RECEIVED: 3/4/2021
TIME RECEIVED: 10:20 AM
SAMPLED BY: KWB/HURON

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		3/6/2021	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	GTA PROJECT NO:	030421-2
PROJECT NO:	20.064	GTA SAMPLE NO:	11
LOCATION:	CASE 33 CPF	DATE RECEIVED:	3/4/2021
	MI	TIME RECEIVED:	10:20 AM
SAMPLED BY:	KWB/HURON	DATE SAMPLED:	3/2/2021
		TIME SAMPLED:	9:35 AM
SAMPLE ID:	MW-13D (121-126')	SAMPLE MATRIX:	WATER

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)	330	10	mg/L (PPM)	TR	3/8/2021
ALKALINITY SM 4500CO2D (CARBONATE)	ND	10	mg/L (PPM)	TR	3/8/2021
CHLORIDE EPA 300.0	ND	10	mg/L (PPM)	LV	3/5/2021
CONDUCTIVITY SM2510-B	550	1.0	uS/cm@25C	LV	3/5/2021
SULFATE EPA 300.0	7.4	1.0	mg/L (PPM)	LV	3/12/2021

ND = NOT DETECTED, RESULT < LOD
 LOD = LIMIT OF DETECTION
 s.u. = STANDARD pH UNITS REPORTED AT 25 C
 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	GTA PROJECT NO:	030421-2
PROJECT NO:	20.064	GTA SAMPLE NO:	12
LOCATION:	CASE 33 CPF	DATE SAMPLED:	3/2/2021
		TIME SAMPLED:	10:36 AM
		DATE RECEIVED:	3/4/2021
	MI	TIME RECEIVED:	10:20 AM
SAMPLED BY:	KWB/HURON	SAMPLE MATRIX:	WATER
SAMPLE ID:	MW-14D (176-181')		

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 TOTAL EPA 6020A	85	0.50	mg/L (PPM)	MR	3/15/2021	EPA 3005A
MAGNESIUM TOTAL EPA 6020A	23	0.50	mg/L (PPM)	MR	3/15/2021	EPA 3005A
POTASSIUM TOTAL EPA 6020A	3.1	0.50	mg/L (PPM)	MR	3/15/2021	EPA 3005A
SODIUM TOTAL EPA 6020A	9.2	0.50	mg/L (PPM)	MR	3/15/2021	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 GTA PROJECT NO: 030421-2
PROJECT NO: 20.064 GTA SAMPLE NO: 13
LOCATION: CASE 33 CPF DATE RECEIVED: 3/4/2021
MI TIME RECEIVED: 10:20 AM
SAMPLED BY: KWB/HURON DATE SAMPLED: 3/2/2021
MI TIME SAMPLED: 11:56 AM
SAMPLE ID: MW-15D (172-177') SAMPLE MATRIX: WATER

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)	320	10	mg/L (PPM)	TR	3/8/2021
ALKALINITY SM 4500CO2D (CARBONATE)	ND	10	mg/L (PPM)	TR	3/8/2021
CHLORIDE EPA 300.0	14	10	mg/L (PPM)	LV	3/5/2021
CONDUCTIVITY SM2510-B	580	1.0	uS/cm@25C	LV	3/5/2021
SULFATE EPA 300.0	9.8	1.0	mg/L (PPM)	LV	3/12/2021

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

CHAIN OF CUSTODY

PROJECT NUMBER (Huron) 20.064	SITE NAME/ADDRESS/LOCATION Case 33 CPF	COMPANY/NAME Lambda Energy Resources, LLC
SAMPLED BY Kim Wallis-Burke	COMPANY Huron Engineering & Surveying, Inc.	GTA PROJECT # 030421-2

SAMPLE INFORMATION

#	SAMPLE ID	DATE SAMPLED	TIME	MATRIX	ANALYSIS	FYI Field Cond. mS/cm	
1	MW1 (30-40')	3/2/21	3:50p	GW	Chloride (mg/l) 125 ml Poly	0.60	
2	MW3D (115-120')	3/2/21	2:56p	}	"	6.14	
3	MW4 (36-41')	3/2/21	3:46p		"	0.82	
4	MW6 (64-74')	3/2/21	2:10p		"	1.82	
5	MW7D (122-127')	3/2/21	2:05p		"	1.62	
6	MW8D (123-128')	3/2/21	1:26p		"	0.61	
7	MW9M (115-120')	3/2/21	12:43p		"	0.47	
8	MW10 (114-119')	3/2/21	1:34p		"	0.49	
9	MW11D (133-138')	3/2/21	3:10p		"	8.35	
10	MW12D (152-157')	3/2/21	3:35p		"	Cl- & Spec Cond, 1-125 ml poly	21.9
11	MW13D (121-126')	3/2/21	9:35a		"	Background & BTEX-40 ml glass	0.52
12	MW14D (176-181')	3/2/21	10:36a	"	"	0.58	
13	MW15D (172-177')	3/2/21	11:56a	"	"	0.57	

Background: Cond, Cl-, Ca, Mg, K, Na, Carb & Bicarb, Alkalinity, Sulfate

BILL TO: Lambda Energy Resources, Nick Summerland (nsummerland@lambdaenergyllc.com)
REPORT TO: Huron Engineering & Surveying, Kim Wallis-Burke (kim.wallis-burke@huroncsi.com)

RELEASED BY <i>Kim Wallis-Burke</i>	DATE/TIME	RECEIVED BY UPS Alpena	DATE/TIME 3/2/21 pm
		<i>K. Ch...</i>	3/4/21 10:20am

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