

District I

1625 N. French Dr., Hobbs, NM 88240
Phone:(575) 393-6161 Fax:(575) 393-0720

District II

811 S. First St., Artesia, NM 88210
Phone:(575) 748-1283 Fax:(575) 748-9720

District III

1000 Rio Brazos Rd., Aztec, NM 87410
Phone:(505) 334-6178 Fax:(505) 334-6170

District IV

1220 S. St Francis Dr., Santa Fe, NM 87505
Phone:(505) 476-3470 Fax:(505) 476-3462

State of New Mexico
Energy, Minerals and Natural Resources
Oil Conservation Division
1220 S. St Francis Dr.
Santa Fe, NM 87505

Form C-101
August 1, 2011

Permit 324496

APPLICATION FOR PERMIT TO DRILL, RE-ENTER, DEEPEN, PLUGBACK, OR ADD A ZONE

1. Operator Name and Address Catena Resources Operating, LLC 1001 Fannin Street Houston, TX 77002		2. OGRID Number 328449
		3. API Number 30-025-50759
4. Property Code 333491	5. Property Name CREED E2W2 32 29 W1 STATE COM	6. Well No. 001H

7. Surface Location

UL - Lot N	Section 32	Township 18S	Range 35E	Lot Idn N	Feet From 300	N/S Line S	Feet From 1670	E/W Line W	County Lea
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8. Proposed Bottom Hole Location

UL - Lot C	Section 29	Township 18S	Range 35E	Lot Idn C	Feet From 100	N/S Line N	Feet From 2260	E/W Line W	County Lea
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9. Pool Information

SCHARB;WOLFCAMP	55640
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Additional Well Information

11. Work Type New Well	12. Well Type OIL	13. Cable/Rotary	14. Lease Type State	15. Ground Level Elevation 3860
16. Multiple N	17. Proposed Depth 21540	18. Formation Wolfcamp	19. Contractor	20. Spud Date 11/1/2022
Depth to Ground water		Distance from nearest fresh water well		Distance to nearest surface water

☒ We will be using a closed-loop system in lieu of lined pits

21. Proposed Casing and Cement Program

Type	Hole Size	Casing Size	Casing Weight/ft	Setting Depth	Sacks of Cement	Estimated TOC
Surf	17.5	13.375	54.5	1850	1610	0
Int1	12.75	9.625	45.5	3950	1250	0
Prod	8.75	5.5	20	21540	3000	5000

Casing/Cement Program: Additional Comments

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22. Proposed Blowout Prevention Program

Type	Working Pressure	Test Pressure	Manufacturer
Annular	10000	10000	Cameron
Double Ram	10000	10000	Cameron

23. I hereby certify that the information given above is true and complete to the best of my knowledge and belief. I further certify I have complied with 19.15.14.9 (A) NMAC ☒ and/or 19.15.14.9 (B) NMAC ☒ if applicable.	OIL CONSERVATION DIVISION	
Signature:		
Printed Name: Electronically filed by Cato Clark	Approved By: Paul F Kautz	
Title:	Title: Geologist	
Email Address: clark@catenares.com	Approved Date: 10/27/2022	Expiration Date: 10/27/2024
Date: 10/25/2022	Phone: 346-200-7894	Conditions of Approval Attached

DISTRICT I1625 N. French Dr., Hobbs, N.M. 88240
Phone: (575) 393-6161 Fax: (575) 393-0720**DISTRICT II**811 S. First St., Artesia, N.M. 88210
Phone: (575) 748-1283 Fax: (575) 748-9720**DISTRICT III**1000 Rio Brazos Rd., Aztec, N.M. 87410
Phone: (505) 334-6178 Fax: (505) 334-6170**DISTRICT IV**1220 S. St. Francis Dr., Santa Fe, N.M. 87505
Phone: (505) 476-3460 Fax: (505) 476-3462State of New Mexico
Energy, Minerals & Natural Resources Department

Form C-102

Revised August 1, 2011

Submit one copy to appropriate
District Office**OIL CONSERVATION DIVISION**1220 South St. Francis Dr.
Santa Fe, N.M. 87505☐ AMENDED REPORT**WELL LOCATION AND ACREAGE DEDICATION PLAT**

¹ API Number	² Pool Code 55640	³ Pool Name Scharb; Wolfcamp
⁴ Property Code 332884	⁵ Property Name Creed E2W2 32 29 W1 State Com	⁶ Well Number 1H
⁷ OGRID No. 328449	⁸ Operator Name Catena Resources Operating, LLC	⁹ Elevation 3901

¹⁰ Surface Location

UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
N	32	18 S	35 E		300	South	1670	West	Lea

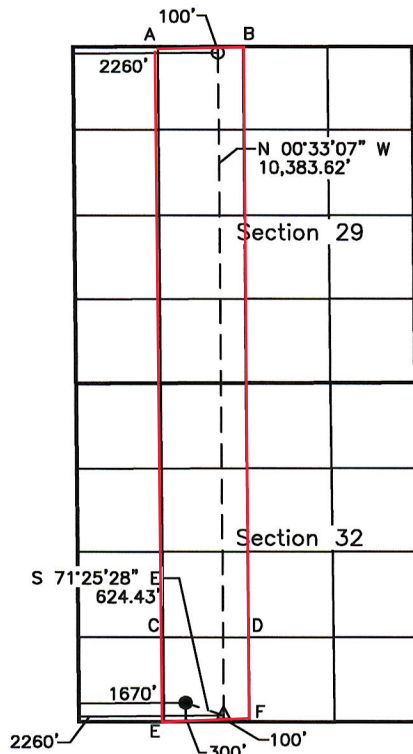
¹¹ Bottom Hole Location If Different From Surface

UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
C	29	18 S	35 E		100	North	2260	West	Lea

¹² Dedicated Acres 320	¹³ Joint or Infill	¹⁴ Consolidation Code C	¹⁵ Order No.
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NO ALLOWABLE WILL BE ASSIGNED TO THIS COMPLETION UNTIL ALL INTERESTS HAVE BEEN CONSOLIDATED
OR A NON-STANDARD UNIT HAS BEEN APPROVED BY THE DIVISION

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**Legend:**

- = Surface Location
- = Bottom Hole Location
- △ = First Take Point (FTP)

SCALE: 1"=3000'

SURFACE LOCATION
NAD 83 NME
Y=618610.26 N
X=802994.91 E
LAT.=32.6977178° N
LONG.=103.4827536° W

FIRST TAKE POINT
100' FSL, 2260' FWL
SEC. 32, T18S, R35E
NAD 83 NME
Y=618411.34 N
X=803586.81 E
LAT.=32.6971580° N
LONG.=103.4808349° W

BOTTOM HOLE LOCATION
NAD 83 NME
Y=628794.48 N
X=803486.79 E
LAT.=32.7256972° N
LONG.=103.4808886° W

CORNER COORDINATES TABLE
NAD 83 NME

A - Y= 628890.38 N, X= 802549.43 E
B - Y= 628896.17 N, X= 803873.01 E
C - Y= 619632.84 N, X= 802644.26 E
D - Y= 619636.03 N, X= 803973.36 E
E - Y= 618309.62 N, X= 802658.88 E
F - Y= 618312.09 N, X= 803990.07 E

CORNER COORDINATES TABLE
NAD 83 NME

A - LAT.=32.7259814° N, LONG.=103.4839339° W
B - LAT.=32.7259681° N, LONG.=103.4796302° W
C - LAT.=32.7005360° N, LONG.=103.4838667° W
D - LAT.=32.7005154° N, LONG.=103.4795464° W
E - LAT.=32.6968989° N, LONG.=103.4838537° W
F - LAT.=32.6968763° N, LONG.=103.4795267° W

17 OPERATOR CERTIFICATION

I hereby certify that the information contained herein is true and complete to the best of my knowledge and belief, and that this organization either owns a working interest or unleased mineral interest in the land including the proposed bottom hole location or has a right to drill this well at this location pursuant to a contract with an owner of such a mineral or working interest, or to a voluntary pooling agreement or a compulsory pooling order heretofore entered by the division.

Byron Barnes 8/31/2022

Signature Date

Byron Barnes

Printed Name

barnes@catenares.com

E-mail Address

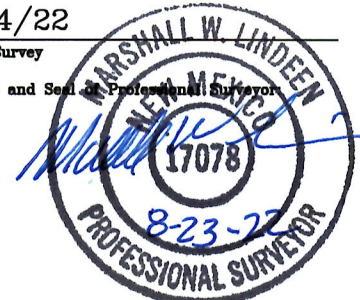
18 SURVEYOR CERTIFICATION

I hereby certify that the well location shown on this plat was plotted from field notes of actual surveys made by me or under my supervision, and that the same is true and correct to the best of my belief.

6/24/22

Date of Survey

Signature and Seal of Professional Surveyor



17078

Certificate Number

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Form APD Conditions

Permit 324496

PERMIT CONDITIONS OF APPROVAL

Operator Name and Address: Catena Resources Operating, LLC [328449] 1001 Fannin Street Houston, TX 77002	API Number: 30-025-50759
	Well: CREED E2W2 32 29 W1 STATE COM #001H

OCD Reviewer	Condition
pkautz	Notify OCD 24 hours prior to casing & cement
pkautz	Will require a File As Drilled C-102 and a Directional Survey with the C-104
pkautz	Once the well is spud, to prevent ground water contamination through whole or partial conduits from the surface, the operator shall drill without interruption through the fresh water zone or zones and shall immediately set in cement the water protection string
pkautz	Oil base muds are not to be used until fresh water zones are cased and cemented providing isolation from the oil or diesel. This includes synthetic oils. Oil based mud, drilling fluids and solids must be contained in a steel closed loop system
pkautz	Cement is required to circulate on both surface and intermediate1 strings of casing
pkautz	The Operator is to notify NMOCD by sundry (Form C-103) within ten (10) days of the well being spud



Catena Resources Operating, LLC

Lea Co, NM (NAD83 NME)

Sec 32-T18S-R35E

Creed E2W2 32 29 W1 State Com 1H

Wellbore #1

Plan: Plan #1

Standard Planning Report

26 August, 2022





Planning Report



Database:	EDM 5000.1 Single User Db	Local Co-ordinate Reference:	Well Creed E2W2 32 29 W1 State Com 1H
Company:	Catena Resources Operating, LLC	TVD Reference:	GL +25' RKB @ 3926.00usft
Project:	Lea Co, NM (NAD83 NME)	MD Reference:	GL +25' RKB @ 3926.00usft
Site:	Sec 32-T18S-R35E	North Reference:	Grid
Well:	Creed E2W2 32 29 W1 State Com 1H	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Plan #1		

Project	Lea Co, NM (NAD83 NME)		
Map System:	US State Plane 1983	System Datum:	Mean Sea Level
Geo Datum:	North American Datum 1983		
Map Zone:	New Mexico Eastern Zone		

Site		Sec 32-T18S-R35E			
Site Position:		Northing:	619,002.47 usft	Latitude:	32.6987305
From:	Lat/Long	Easting:	805,938.61 usft	Longitude:	-103.4731750
Position Uncertainty:	0.00 usft	Slot Radius:	13-3/16 "	Grid Convergence:	0.46 °

Well	Creed E2W2 32 29 W1 State Com 1H					
Well Position	+N/-S	-392.21 usft	Northing:	618,610.26 usft	Latitude:	32.6977178
	+E/-W	-2,943.70 usft	Easting:	802,994.91 usft	Longitude:	-103.4827536
Position Uncertainty		0.00 usft	Wellhead Elevation:	0.00 usft	Ground Level:	3,901.00 usft

Wellbore	Wellbore #1				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2020	8/25/2022	6.40	60.30	47,654

Design	Plan #1				
Audit Notes:					
Version:	Phase:	PLAN	Tie On Depth:	0.00	
Vertical Section:	Depth From (TVD) (usft)	+N/-S (usft)	+E/-W (usft)	Direction (°)	
	10,096.00	0.00	0.00	2.77	

Plan Sections										
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)	TFO (°)	Target
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
2,100.00	0.00	0.00	2,100.00	0.00	0.00	0.00	0.00	0.00	0.00	
2,591.28	9.83	108.67	2,588.88	-13.45	39.81	2.00	2.00	0.00	108.67	
5,760.01	9.83	108.67	5,711.12	-186.55	552.10	0.00	0.00	0.00	0.00	
6,251.29	0.00	0.00	6,200.00	-200.00	591.91	2.00	-2.00	0.00	180.00	
9,910.25	0.00	0.00	9,858.96	-200.00	591.91	0.00	0.00	0.00	0.00	
10,310.25	40.00	359.45	10,227.25	-65.96	590.62	10.00	10.00	0.00	359.45	
10,410.25	40.00	359.45	10,303.85	-1.68	590.00	0.00	0.00	0.00	0.00	
10,934.51	92.43	359.45	10,508.01	461.46	585.54	10.00	10.00	0.00	0.00	
20,666.45	92.43	359.45	10,096.00	10,184.22	491.88	0.00	0.00	0.00	0.00	PBHL - Creed



Planning Report



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Well:	Creed E2W2 32 29 W1 State Com 1H	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Plan #1		

Planned Survey									
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
100.00	0.00	0.00	100.00	0.00	0.00	0.00	0.00	0.00	0.00
200.00	0.00	0.00	200.00	0.00	0.00	0.00	0.00	0.00	0.00
300.00	0.00	0.00	300.00	0.00	0.00	0.00	0.00	0.00	0.00
400.00	0.00	0.00	400.00	0.00	0.00	0.00	0.00	0.00	0.00
500.00	0.00	0.00	500.00	0.00	0.00	0.00	0.00	0.00	0.00
600.00	0.00	0.00	600.00	0.00	0.00	0.00	0.00	0.00	0.00
700.00	0.00	0.00	700.00	0.00	0.00	0.00	0.00	0.00	0.00
800.00	0.00	0.00	800.00	0.00	0.00	0.00	0.00	0.00	0.00
900.00	0.00	0.00	900.00	0.00	0.00	0.00	0.00	0.00	0.00
1,000.00	0.00	0.00	1,000.00	0.00	0.00	0.00	0.00	0.00	0.00
1,100.00	0.00	0.00	1,100.00	0.00	0.00	0.00	0.00	0.00	0.00
1,200.00	0.00	0.00	1,200.00	0.00	0.00	0.00	0.00	0.00	0.00
1,300.00	0.00	0.00	1,300.00	0.00	0.00	0.00	0.00	0.00	0.00
1,400.00	0.00	0.00	1,400.00	0.00	0.00	0.00	0.00	0.00	0.00
1,500.00	0.00	0.00	1,500.00	0.00	0.00	0.00	0.00	0.00	0.00
1,600.00	0.00	0.00	1,600.00	0.00	0.00	0.00	0.00	0.00	0.00
1,700.00	0.00	0.00	1,700.00	0.00	0.00	0.00	0.00	0.00	0.00
1,800.00	0.00	0.00	1,800.00	0.00	0.00	0.00	0.00	0.00	0.00
1,900.00	0.00	0.00	1,900.00	0.00	0.00	0.00	0.00	0.00	0.00
2,000.00	0.00	0.00	2,000.00	0.00	0.00	0.00	0.00	0.00	0.00
2,100.00	0.00	0.00	2,100.00	0.00	0.00	0.00	0.00	0.00	0.00
Start Build 2.00									
2,200.00	2.00	108.67	2,199.98	-0.56	1.65	-0.48	2.00	2.00	0.00
2,300.00	4.00	108.67	2,299.84	-2.23	6.61	-1.91	2.00	2.00	0.00
2,400.00	6.00	108.67	2,399.45	-5.02	14.87	-4.30	2.00	2.00	0.00
2,500.00	8.00	108.67	2,498.70	-8.92	26.41	-7.64	2.00	2.00	0.00
2,591.28	9.83	108.67	2,588.88	-13.45	39.81	-11.52	2.00	2.00	0.00
Start 3168.73 hold at 2591.28 MD									
2,600.00	9.83	108.67	2,597.47	-13.93	41.22	-11.92	0.00	0.00	0.00
2,700.00	9.83	108.67	2,696.00	-19.39	57.39	-16.60	0.00	0.00	0.00
2,800.00	9.83	108.67	2,794.53	-24.85	73.55	-21.28	0.00	0.00	0.00
2,900.00	9.83	108.67	2,893.07	-30.32	89.72	-25.95	0.00	0.00	0.00
3,000.00	9.83	108.67	2,991.60	-35.78	105.89	-30.63	0.00	0.00	0.00
3,100.00	9.83	108.67	3,090.13	-41.24	122.06	-35.30	0.00	0.00	0.00
3,200.00	9.83	108.67	3,188.67	-46.70	138.22	-39.98	0.00	0.00	0.00
3,300.00	9.83	108.67	3,287.20	-52.17	154.39	-44.66	0.00	0.00	0.00
3,400.00	9.83	108.67	3,385.73	-57.63	170.56	-49.33	0.00	0.00	0.00
3,500.00	9.83	108.67	3,484.27	-63.09	186.72	-54.01	0.00	0.00	0.00
3,600.00	9.83	108.67	3,582.80	-68.55	202.89	-58.69	0.00	0.00	0.00
3,700.00	9.83	108.67	3,681.33	-74.02	219.06	-63.36	0.00	0.00	0.00
3,800.00	9.83	108.67	3,779.87	-79.48	235.22	-68.04	0.00	0.00	0.00
3,900.00	9.83	108.67	3,878.40	-84.94	251.39	-72.72	0.00	0.00	0.00
4,000.00	9.83	108.67	3,976.93	-90.41	267.56	-77.39	0.00	0.00	0.00
4,100.00	9.83	108.67	4,075.47	-95.87	283.73	-82.07	0.00	0.00	0.00
4,200.00	9.83	108.67	4,174.00	-101.33	299.89	-86.75	0.00	0.00	0.00
4,300.00	9.83	108.67	4,272.53	-106.79	316.06	-91.42	0.00	0.00	0.00
4,400.00	9.83	108.67	4,371.06	-112.26	332.23	-96.10	0.00	0.00	0.00
4,500.00	9.83	108.67	4,469.60	-117.72	348.39	-100.77	0.00	0.00	0.00
4,600.00	9.83	108.67	4,568.13	-123.18	364.56	-105.45	0.00	0.00	0.00
4,700.00	9.83	108.67	4,666.66	-128.64	380.73	-110.13	0.00	0.00	0.00
4,800.00	9.83	108.67	4,765.20	-134.11	396.89	-114.80	0.00	0.00	0.00
4,900.00	9.83	108.67	4,863.73	-139.57	413.06	-119.48	0.00	0.00	0.00
5,000.00	9.83	108.67	4,962.26	-145.03	429.23	-124.16	0.00	0.00	0.00



Planning Report



Database:	EDM 5000.1 Single User Db	Local Co-ordinate Reference:	Well Creed E2W2 32 29 W1 State Com 1H
Company:	Catena Resources Operating, LLC	TVD Reference:	GL +25' RKB @ 3926.00usft
Project:	Lea Co, NM (NAD83 NME)	MD Reference:	GL +25' RKB @ 3926.00usft
Site:	Sec 32-T18S-R35E	North Reference:	Grid
Well:	Creed E2W2 32 29 W1 State Com 1H	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Plan #1		

Planned Survey									
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
5,100.00	9.83	108.67	5,060.80	-150.49	445.40	-128.83	0.00	0.00	0.00
5,200.00	9.83	108.67	5,159.33	-155.96	461.56	-133.51	0.00	0.00	0.00
5,300.00	9.83	108.67	5,257.86	-161.42	477.73	-138.19	0.00	0.00	0.00
5,400.00	9.83	108.67	5,356.40	-166.88	493.90	-142.86	0.00	0.00	0.00
5,500.00	9.83	108.67	5,454.93	-172.35	510.06	-147.54	0.00	0.00	0.00
5,600.00	9.83	108.67	5,553.46	-177.81	526.23	-152.21	0.00	0.00	0.00
5,700.00	9.83	108.67	5,652.00	-183.27	542.40	-156.89	0.00	0.00	0.00
5,760.01	9.83	108.67	5,711.12	-186.55	552.10	-159.70	0.00	0.00	0.00
Start Drop -2.00									
5,800.00	9.03	108.67	5,750.58	-188.65	558.30	-161.49	2.00	-2.00	0.00
5,900.00	7.03	108.67	5,849.59	-193.11	571.53	-165.32	2.00	-2.00	0.00
6,000.00	5.03	108.67	5,949.03	-196.47	581.48	-168.19	2.00	-2.00	0.00
6,100.00	3.03	108.67	6,048.78	-198.72	588.13	-170.12	2.00	-2.00	0.00
6,200.00	1.03	108.67	6,148.71	-199.85	591.48	-171.09	2.00	-2.00	0.00
6,251.29	0.00	0.00	6,200.00	-200.00	591.91	-171.21	2.00	-2.00	-211.88
Start 3658.96 hold at 6251.29 MD									
6,300.00	0.00	0.00	6,248.71	-200.00	591.91	-171.21	0.00	0.00	0.00
6,400.00	0.00	0.00	6,348.71	-200.00	591.91	-171.21	0.00	0.00	0.00
6,500.00	0.00	0.00	6,448.71	-200.00	591.91	-171.21	0.00	0.00	0.00
6,600.00	0.00	0.00	6,548.71	-200.00	591.91	-171.21	0.00	0.00	0.00
6,700.00	0.00	0.00	6,648.71	-200.00	591.91	-171.21	0.00	0.00	0.00
6,800.00	0.00	0.00	6,748.71	-200.00	591.91	-171.21	0.00	0.00	0.00
6,900.00	0.00	0.00	6,848.71	-200.00	591.91	-171.21	0.00	0.00	0.00
7,000.00	0.00	0.00	6,948.71	-200.00	591.91	-171.21	0.00	0.00	0.00
7,100.00	0.00	0.00	7,048.71	-200.00	591.91	-171.21	0.00	0.00	0.00
7,200.00	0.00	0.00	7,148.71	-200.00	591.91	-171.21	0.00	0.00	0.00
7,300.00	0.00	0.00	7,248.71	-200.00	591.91	-171.21	0.00	0.00	0.00
7,400.00	0.00	0.00	7,348.71	-200.00	591.91	-171.21	0.00	0.00	0.00
7,500.00	0.00	0.00	7,448.71	-200.00	591.91	-171.21	0.00	0.00	0.00
7,600.00	0.00	0.00	7,548.71	-200.00	591.91	-171.21	0.00	0.00	0.00
7,700.00	0.00	0.00	7,648.71	-200.00	591.91	-171.21	0.00	0.00	0.00
7,800.00	0.00	0.00	7,748.71	-200.00	591.91	-171.21	0.00	0.00	0.00
7,900.00	0.00	0.00	7,848.71	-200.00	591.91	-171.21	0.00	0.00	0.00
8,000.00	0.00	0.00	7,948.71	-200.00	591.91	-171.21	0.00	0.00	0.00
8,100.00	0.00	0.00	8,048.71	-200.00	591.91	-171.21	0.00	0.00	0.00
8,200.00	0.00	0.00	8,148.71	-200.00	591.91	-171.21	0.00	0.00	0.00
8,300.00	0.00	0.00	8,248.71	-200.00	591.91	-171.21	0.00	0.00	0.00
8,400.00	0.00	0.00	8,348.71	-200.00	591.91	-171.21	0.00	0.00	0.00
8,500.00	0.00	0.00	8,448.71	-200.00	591.91	-171.21	0.00	0.00	0.00
8,600.00	0.00	0.00	8,548.71	-200.00	591.91	-171.21	0.00	0.00	0.00
8,700.00	0.00	0.00	8,648.71	-200.00	591.91	-171.21	0.00	0.00	0.00
8,800.00	0.00	0.00	8,748.71	-200.00	591.91	-171.21	0.00	0.00	0.00
8,900.00	0.00	0.00	8,848.71	-200.00	591.91	-171.21	0.00	0.00	0.00
9,000.00	0.00	0.00	8,948.71	-200.00	591.91	-171.21	0.00	0.00	0.00
9,100.00	0.00	0.00	9,048.71	-200.00	591.91	-171.21	0.00	0.00	0.00
9,200.00	0.00	0.00	9,148.71	-200.00	591.91	-171.21	0.00	0.00	0.00
9,300.00	0.00	0.00	9,248.71	-200.00	591.91	-171.21	0.00	0.00	0.00
9,400.00	0.00	0.00	9,348.71	-200.00	591.91	-171.21	0.00	0.00	0.00
9,500.00	0.00	0.00	9,448.71	-200.00	591.91	-171.21	0.00	0.00	0.00
9,600.00	0.00	0.00	9,548.71	-200.00	591.91	-171.21	0.00	0.00	0.00
9,700.00	0.00	0.00	9,648.71	-200.00	591.91	-171.21	0.00	0.00	0.00
9,800.00	0.00	0.00	9,748.71	-200.00	591.91	-171.21	0.00	0.00	0.00
9,900.00	0.00	0.00	9,848.71	-200.00	591.91	-171.21	0.00	0.00	0.00
9,910.25	0.00	0.00	9,858.96	-200.00	591.91	-171.21	0.00	0.00	0.00



Planning Report



Database:	EDM 5000.1 Single User Db	Local Co-ordinate Reference:	Well Creed E2W2 32 29 W1 State Com 1H
Company:	Catena Resources Operating, LLC	TVD Reference:	GL +25' RKB @ 3926.00usft
Project:	Lea Co, NM (NAD83 NME)	MD Reference:	GL +25' RKB @ 3926.00usft
Site:	Sec 32-T18S-R35E	North Reference:	Grid
Well:	Creed E2W2 32 29 W1 State Com 1H	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Plan #1		

Planned Survey									
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
Start Build 10.00									
9,950.00	3.98	359.45	9,898.68	-198.62	591.90	-169.84	10.00	10.00	0.00
10,000.00	8.98	359.45	9,948.35	-192.99	591.84	-164.21	10.00	10.00	0.00
10,050.00	13.98	359.45	9,997.33	-183.04	591.75	-154.28	10.00	10.00	0.00
10,100.00	18.98	359.45	10,045.26	-168.87	591.61	-140.13	10.00	10.00	0.00
10,150.00	23.98	359.45	10,091.78	-150.57	591.43	-121.86	10.00	10.00	0.00
10,200.00	28.98	359.45	10,136.52	-128.29	591.22	-99.62	10.00	10.00	0.00
10,250.00	33.98	359.45	10,179.15	-102.19	590.97	-73.56	10.00	10.00	0.00
10,300.00	38.98	359.45	10,219.34	-72.48	590.68	-43.90	10.00	10.00	0.00
10,310.25	40.00	359.45	10,227.25	-65.96	590.62	-37.39	10.00	10.00	0.00
Start 100.00 hold at 10310.25 MD									
10,400.00	40.00	359.45	10,296.00	-8.27	590.06	20.20	0.00	0.00	0.00
10,410.25	40.00	359.45	10,303.85	-1.68	590.00	26.78	0.00	0.00	0.00
Start Build 10.00									
10,450.00	43.98	359.45	10,333.40	24.90	589.74	53.32	10.00	10.00	0.00
10,500.00	48.98	359.45	10,367.82	61.14	589.39	89.51	10.00	10.00	0.00
10,550.00	53.98	359.45	10,398.95	100.25	589.02	128.54	10.00	10.00	0.00
10,600.00	58.98	359.45	10,426.56	141.91	588.62	170.14	10.00	10.00	0.00
10,650.00	63.98	359.45	10,450.43	185.83	588.19	213.99	10.00	10.00	0.00
10,700.00	68.98	359.45	10,470.38	231.65	587.75	259.74	10.00	10.00	0.00
10,750.00	73.98	359.45	10,486.26	279.05	587.30	307.05	10.00	10.00	0.00
10,800.00	78.98	359.45	10,497.95	327.64	586.83	355.57	10.00	10.00	0.00
10,850.00	83.98	359.45	10,505.36	377.07	586.35	404.92	10.00	10.00	0.00
10,900.00	88.98	359.45	10,508.43	426.96	585.87	454.73	10.00	10.00	0.00
10,934.51	92.43	359.45	10,508.01	461.46	585.54	489.17	10.00	10.00	0.00
Start 9731.93 hold at 10934.51 MD									
11,000.00	92.43	359.45	10,505.24	526.89	584.91	554.49	0.00	0.00	0.00
11,100.00	92.43	359.45	10,501.00	626.79	583.95	654.23	0.00	0.00	0.00
11,200.00	92.43	359.45	10,496.77	726.70	582.98	753.98	0.00	0.00	0.00
11,300.00	92.43	359.45	10,492.54	826.61	582.02	853.72	0.00	0.00	0.00
11,400.00	92.43	359.45	10,488.30	926.51	581.06	953.46	0.00	0.00	0.00
11,500.00	92.43	359.45	10,484.07	1,026.42	580.10	1,053.21	0.00	0.00	0.00
11,600.00	92.43	359.45	10,479.83	1,126.32	579.13	1,152.95	0.00	0.00	0.00
11,700.00	92.43	359.45	10,475.60	1,226.23	578.17	1,252.69	0.00	0.00	0.00
11,800.00	92.43	359.45	10,471.37	1,326.13	577.21	1,352.44	0.00	0.00	0.00
11,900.00	92.43	359.45	10,467.13	1,426.04	576.25	1,452.18	0.00	0.00	0.00
12,000.00	92.43	359.45	10,462.90	1,525.95	575.28	1,551.92	0.00	0.00	0.00
12,100.00	92.43	359.45	10,458.67	1,625.85	574.32	1,651.66	0.00	0.00	0.00
12,200.00	92.43	359.45	10,454.43	1,725.76	573.36	1,751.41	0.00	0.00	0.00
12,300.00	92.43	359.45	10,450.20	1,825.66	572.40	1,851.15	0.00	0.00	0.00
12,400.00	92.43	359.45	10,445.97	1,925.57	571.43	1,950.89	0.00	0.00	0.00
12,500.00	92.43	359.45	10,441.73	2,025.47	570.47	2,050.64	0.00	0.00	0.00
12,600.00	92.43	359.45	10,437.50	2,125.38	569.51	2,150.38	0.00	0.00	0.00
12,700.00	92.43	359.45	10,433.27	2,225.29	568.55	2,250.12	0.00	0.00	0.00
12,800.00	92.43	359.45	10,429.03	2,325.19	567.59	2,349.87	0.00	0.00	0.00
12,900.00	92.43	359.45	10,424.80	2,425.10	566.62	2,449.61	0.00	0.00	0.00
13,000.00	92.43	359.45	10,420.56	2,525.00	565.66	2,549.35	0.00	0.00	0.00
13,100.00	92.43	359.45	10,416.33	2,624.91	564.70	2,649.09	0.00	0.00	0.00
13,200.00	92.43	359.45	10,412.10	2,724.81	563.74	2,748.84	0.00	0.00	0.00
13,300.00	92.43	359.45	10,407.86	2,824.72	562.77	2,848.58	0.00	0.00	0.00
13,400.00	92.43	359.45	10,403.63	2,924.63	561.81	2,948.32	0.00	0.00	0.00
13,500.00	92.43	359.45	10,399.40	3,024.53	560.85	3,048.07	0.00	0.00	0.00
13,600.00	92.43	359.45	10,395.16	3,124.44	559.89	3,147.81	0.00	0.00	0.00



Planning Report



Database:	EDM 5000.1 Single User Db	Local Co-ordinate Reference:	Well Creed E2W2 32 29 W1 State Com 1H
Company:	Catena Resources Operating, LLC	TVD Reference:	GL +25' RKB @ 3926.00usft
Project:	Lea Co, NM (NAD83 NME)	MD Reference:	GL +25' RKB @ 3926.00usft
Site:	Sec 32-T18S-R35E	North Reference:	Grid
Well:	Creed E2W2 32 29 W1 State Com 1H	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Plan #1		

Planned Survey									
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
13,700.00	92.43	359.45	10,390.93	3,224.34	558.92	3,247.55	0.00	0.00	0.00
13,800.00	92.43	359.45	10,386.70	3,324.25	557.96	3,347.29	0.00	0.00	0.00
13,900.00	92.43	359.45	10,382.46	3,424.15	557.00	3,447.04	0.00	0.00	0.00
14,000.00	92.43	359.45	10,378.23	3,524.06	556.04	3,546.78	0.00	0.00	0.00
14,100.00	92.43	359.45	10,373.99	3,623.97	555.07	3,646.52	0.00	0.00	0.00
14,200.00	92.43	359.45	10,369.76	3,723.87	554.11	3,746.27	0.00	0.00	0.00
14,300.00	92.43	359.45	10,365.53	3,823.78	553.15	3,846.01	0.00	0.00	0.00
14,400.00	92.43	359.45	10,361.29	3,923.68	552.19	3,945.75	0.00	0.00	0.00
14,500.00	92.43	359.45	10,357.06	4,023.59	551.23	4,045.50	0.00	0.00	0.00
14,600.00	92.43	359.45	10,352.83	4,123.49	550.26	4,145.24	0.00	0.00	0.00
14,700.00	92.43	359.45	10,348.59	4,223.40	549.30	4,244.98	0.00	0.00	0.00
14,800.00	92.43	359.45	10,344.36	4,323.31	548.34	4,344.72	0.00	0.00	0.00
14,900.00	92.43	359.45	10,340.13	4,423.21	547.38	4,444.47	0.00	0.00	0.00
15,000.00	92.43	359.45	10,335.89	4,523.12	546.41	4,544.21	0.00	0.00	0.00
15,100.00	92.43	359.45	10,331.66	4,623.02	545.45	4,643.95	0.00	0.00	0.00
15,200.00	92.43	359.45	10,327.43	4,722.93	544.49	4,743.70	0.00	0.00	0.00
15,300.00	92.43	359.45	10,323.19	4,822.83	543.53	4,843.44	0.00	0.00	0.00
15,400.00	92.43	359.45	10,318.96	4,922.74	542.56	4,943.18	0.00	0.00	0.00
15,500.00	92.43	359.45	10,314.72	5,022.65	541.60	5,042.93	0.00	0.00	0.00
15,600.00	92.43	359.45	10,310.49	5,122.55	540.64	5,142.67	0.00	0.00	0.00
15,700.00	92.43	359.45	10,306.26	5,222.46	539.68	5,242.41	0.00	0.00	0.00
15,800.00	92.43	359.45	10,302.02	5,322.36	538.71	5,342.15	0.00	0.00	0.00
15,900.00	92.43	359.45	10,297.79	5,422.27	537.75	5,441.90	0.00	0.00	0.00
16,000.00	92.43	359.45	10,293.56	5,522.17	536.79	5,541.64	0.00	0.00	0.00
16,100.00	92.43	359.45	10,289.32	5,622.08	535.83	5,641.38	0.00	0.00	0.00
16,200.00	92.43	359.45	10,285.09	5,721.99	534.86	5,741.13	0.00	0.00	0.00
16,300.00	92.43	359.45	10,280.86	5,821.89	533.90	5,840.87	0.00	0.00	0.00
16,400.00	92.43	359.45	10,276.62	5,921.80	532.94	5,940.61	0.00	0.00	0.00
16,500.00	92.43	359.45	10,272.39	6,021.70	531.98	6,040.35	0.00	0.00	0.00
16,600.00	92.43	359.45	10,268.15	6,121.61	531.02	6,140.10	0.00	0.00	0.00
16,700.00	92.43	359.45	10,263.92	6,221.51	530.05	6,239.84	0.00	0.00	0.00
16,800.00	92.43	359.45	10,259.69	6,321.42	529.09	6,339.58	0.00	0.00	0.00
16,900.00	92.43	359.45	10,255.45	6,421.33	528.13	6,439.33	0.00	0.00	0.00
17,000.00	92.43	359.45	10,251.22	6,521.23	527.17	6,539.07	0.00	0.00	0.00
17,100.00	92.43	359.45	10,246.99	6,621.14	526.20	6,638.81	0.00	0.00	0.00
17,200.00	92.43	359.45	10,242.75	6,721.04	525.24	6,738.56	0.00	0.00	0.00
17,300.00	92.43	359.45	10,238.52	6,820.95	524.28	6,838.30	0.00	0.00	0.00
17,400.00	92.43	359.45	10,234.29	6,920.85	523.32	6,938.04	0.00	0.00	0.00
17,500.00	92.43	359.45	10,230.05	7,020.76	522.35	7,037.78	0.00	0.00	0.00
17,600.00	92.43	359.45	10,225.82	7,120.67	521.39	7,137.53	0.00	0.00	0.00
17,700.00	92.43	359.45	10,221.59	7,220.57	520.43	7,237.27	0.00	0.00	0.00
17,800.00	92.43	359.45	10,217.35	7,320.48	519.47	7,337.01	0.00	0.00	0.00
17,900.00	92.43	359.45	10,213.12	7,420.38	518.50	7,436.76	0.00	0.00	0.00
18,000.00	92.43	359.45	10,208.88	7,520.29	517.54	7,536.50	0.00	0.00	0.00
18,100.00	92.43	359.45	10,204.65	7,620.19	516.58	7,636.24	0.00	0.00	0.00
18,200.00	92.43	359.45	10,200.42	7,720.10	515.62	7,735.99	0.00	0.00	0.00
18,300.00	92.43	359.45	10,196.18	7,820.01	514.66	7,835.73	0.00	0.00	0.00
18,400.00	92.43	359.45	10,191.95	7,919.91	513.69	7,935.47	0.00	0.00	0.00
18,500.00	92.43	359.45	10,187.72	8,019.82	512.73	8,035.21	0.00	0.00	0.00
18,600.00	92.43	359.45	10,183.48	8,119.72	511.77	8,134.96	0.00	0.00	0.00
18,700.00	92.43	359.45	10,179.25	8,219.63	510.81	8,234.70	0.00	0.00	0.00
18,800.00	92.43	359.45	10,175.02	8,319.53	509.84	8,334.44	0.00	0.00	0.00
18,900.00	92.43	359.45	10,170.78	8,419.44	508.88	8,434.19	0.00	0.00	0.00
19,000.00	92.43	359.45	10,166.55	8,519.35	507.92	8,533.93	0.00	0.00	0.00



Planning Report



Database:	EDM 5000.1 Single User Db	Local Co-ordinate Reference:	Well Creed E2W2 32 29 W1 State Com 1H
Company:	Catena Resources Operating, LLC	TVD Reference:	GL +25' RKB @ 3926.00usft
Project:	Lea Co, NM (NAD83 NME)	MD Reference:	GL +25' RKB @ 3926.00usft
Site:	Sec 32-T18S-R35E	North Reference:	Grid
Well:	Creed E2W2 32 29 W1 State Com 1H	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Plan #1		

Planned Survey									
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
19,100.00	92.43	359.45	10,162.31	8,619.25	506.96	8,633.67	0.00	0.00	0.00
19,200.00	92.43	359.45	10,158.08	8,719.16	505.99	8,733.41	0.00	0.00	0.00
19,300.00	92.43	359.45	10,153.85	8,819.06	505.03	8,833.16	0.00	0.00	0.00
19,400.00	92.43	359.45	10,149.61	8,918.97	504.07	8,932.90	0.00	0.00	0.00
19,500.00	92.43	359.45	10,145.38	9,018.87	503.11	9,032.64	0.00	0.00	0.00
19,600.00	92.43	359.45	10,141.15	9,118.78	502.14	9,132.39	0.00	0.00	0.00
19,700.00	92.43	359.45	10,136.91	9,218.69	501.18	9,232.13	0.00	0.00	0.00
19,800.00	92.43	359.45	10,132.68	9,318.59	500.22	9,331.87	0.00	0.00	0.00
19,900.00	92.43	359.45	10,128.45	9,418.50	499.26	9,431.62	0.00	0.00	0.00
20,000.00	92.43	359.45	10,124.21	9,518.40	498.29	9,531.36	0.00	0.00	0.00
20,100.00	92.43	359.45	10,119.98	9,618.31	497.33	9,631.10	0.00	0.00	0.00
20,200.00	92.43	359.45	10,115.74	9,718.21	496.37	9,730.84	0.00	0.00	0.00
20,300.00	92.43	359.45	10,111.51	9,818.12	495.41	9,830.59	0.00	0.00	0.00
20,400.00	92.43	359.45	10,107.28	9,918.03	494.45	9,930.33	0.00	0.00	0.00
20,500.00	92.43	359.45	10,103.04	10,017.93	493.48	10,030.07	0.00	0.00	0.00
20,600.00	92.43	359.45	10,098.81	10,117.84	492.52	10,129.82	0.00	0.00	0.00
20,666.45	92.43	359.45	10,096.00	10,184.22	491.88	10,196.09	0.00	0.00	0.00
TD at 20666.45									

Design Targets									
Target Name	Dip Angle (°)	Dip Dir. (°)	TVD (usft)	+N/-S (usft)	+E/-W (usft)	Northing (usft)	Easting (usft)	Latitude	Longitude
PBHL - Creed - hit/miss target - Shape - plan hits target center - Point	0.00	0.00	10,096.00	10,184.22	491.88	628,794.48	803,486.79	32.7256972	-103.4808886
FTP - Creed - plan misses target center by 301.91usft at 10450.00usft MD (10333.40 TVD, 24.90 N, 589.74 E) - Point	0.00	0.00	10,536.00	-198.92	591.90	618,411.34	803,586.81	32.6971581	-103.4808349

Plan Annotations				
Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates		Comment
		+N/-S (usft)	+E/-W (usft)	
2,100.00	2,100.00	0.00	0.00	Start Build 2.00
2,591.28	2,588.88	-13.45	39.81	Start 3168.73 hold at 2591.28 MD
5,760.01	5,711.12	-186.55	552.10	Start Drop -2.00
6,251.29	6,200.00	-200.00	591.91	Start 3658.96 hold at 6251.29 MD
9,910.25	9,858.96	-200.00	591.91	Start Build 10.00
10,310.25	10,227.25	-65.96	590.62	Start 100.00 hold at 10310.25 MD
10,410.25	10,303.85	-1.68	590.00	Start Build 10.00
10,934.51	10,508.01	461.46	585.54	Start 9731.93 hold at 10934.51 MD
20,666.45	10,096.00	10,184.22	491.88	TD at 20666.45

State of New Mexico
Energy, Minerals and Natural Resources Department
Oil Conservation Division
1220 South St. Francis Dr.
Santa Fe, NM 87505

Submit Electronically
Via E-permitting

NATURAL GAS MANAGEMENT PLAN

This Natural Gas Management Plan must be submitted with each Application for Permit to Drill (APD) for a new or recompleted well.

Section 1 – Plan Description Effective May 25, 2021

I. Operator: Catena Resource Operating, LLC **OGRID:** 328449 **Date:** 08 / 02 / 2022

II. Type: ☒ Original ☐ Amendment due to ☐ 19.15.27.9.D(6)(a) NMAC ☐ 19.15.27.9.D(6)(b) NMAC ☐ Other.

If Other, please describe: _____

III. Well(s): Provide the following information for each new or recompleted well or set of wells proposed to be drilled or proposed to be recompleted from a single well pad or connected to a central delivery point.

Well Name	API	ULSTR	Footages	Anticipated Oil BBL/D	Anticipated Gas MCF/D	Anticipated Produced Water BBL/D
Rocky E2W2 05 08 W1	30-025-	N-32-18S-35E	300 FSL 1650 FWL	1100 BBLD	600 MCF/D	3800 BBL/D
Creed E2W2 32 29 W1 State Com 1H	30-025-	N-32-18S-35E	300 FSL 1670 FWL	1100 BBLD	600 MCF/D	3800 BBL/D

IV. Central Delivery Point Name Cable CTB

V. Anticipated Schedule: Provide the following information for each new or recompleted well or set of wells proposed to be drilled or proposed to be recompleted from a single well pad or connected to a central delivery point.

Well Name	API	Spud Date	TD Reached Date	Completion Commencement Date	Initial Flow Back Date	First Production Date
Rocky E2W2 05 08 W1	30-025-	10/01/2022	11/01/2022	12/31/2022	01/07/2002	12/17/2023
Creed E2W2 32 29 W1 State Com 1H	30-025-	11/02/2022	12/02/2022	12/31/2022	01/07/2002	12/17/2023

VI. Separation Equipment: ☒ Attach a complete description of how Operator will size separation equipment to optimize gas capture.

VII. Operational Practices: ☒ Attach a complete description of the actions Operator will take to comply with the requirements of Subsection A through F of 19.15.27.8 NMAC.

VIII. Best Management Practices: ☒ Attach a complete description of Operator's best management practices to minimize venting during active and planned maintenance.

Section 2 – Enhanced Plan

EFFECTIVE APRIL 1, 2022

Beginning April 1, 2022, an operator that is not in compliance with its statewide natural gas capture requirement for the applicable reporting area must complete this section.

☒ Operator certifies that it is not required to complete this section because Operator is in compliance with its statewide natural gas capture requirement for the applicable reporting area.

IX. Anticipated Natural Gas Production:

Well	API	Anticipated Average Natural Gas Rate MCF/D	Anticipated Volume of Natural Gas for the First Year MCF

X. Natural Gas Gathering System (NGGS):

Operator	System	ULSTR of Tie-in	Anticipated Gathering Start Date	Available Maximum Daily Capacity of System Segment Tie-in

XI. Map. ☐ Attach an accurate and legible map depicting the location of the well(s), the anticipated pipeline route(s) connecting the production operations to the existing or planned interconnect of the natural gas gathering system(s), and the maximum daily capacity of the segment or portion of the natural gas gathering system(s) to which the well(s) will be connected.

XII. Line Capacity. The natural gas gathering system ☐ will ☐ will not have capacity to gather 100% of the anticipated natural gas production volume from the well prior to the date of first production.

XIII. Line Pressure. Operator ☐ does ☐ does not anticipate that its existing well(s) connected to the same segment, or portion, of the natural gas gathering system(s) described above will continue to meet anticipated increases in line pressure caused by the new well(s).

☐ Attach Operator's plan to manage production in response to the increased line pressure.

XIV. Confidentiality: ☐ Operator asserts confidentiality pursuant to Section 71-2-8 NMSA 1978 for the information provided in Section 2 as provided in Paragraph (2) of Subsection D of 19.15.27.9 NMAC, and attaches a full description of the specific information for which confidentiality is asserted and the basis for such assertion.

Section 3 - Certifications

Effective May 25, 2021

Operator certifies that, after reasonable inquiry and based on the available information at the time of submittal:

☒ Operator will be able to connect the well(s) to a natural gas gathering system in the general area with sufficient capacity to transport one hundred percent of the anticipated volume of natural gas produced from the well(s) commencing on the date of first production, taking into account the current and anticipated volumes of produced natural gas from other wells connected to the pipeline gathering system; or

☐ Operator will not be able to connect to a natural gas gathering system in the general area with sufficient capacity to transport one hundred percent of the anticipated volume of natural gas produced from the well(s) commencing on the date of first production, taking into account the current and anticipated volumes of produced natural gas from other wells connected to the pipeline gathering system.

If Operator checks this box, Operator will select one of the following:

Well Shut-In. ☐ Operator will shut-in and not produce the well until it submits the certification required by Paragraph (4) of Subsection D of 19.15.27.9 NMAC; or

Venting and Flaring Plan. ☐ Operator has attached a venting and flaring plan that evaluates and selects one or more of the potential alternative beneficial uses for the natural gas until a natural gas gathering system is available, including:

- (a) power generation on lease;
- (b) power generation for grid;
- (c) compression on lease;
- (d) liquids removal on lease;
- (e) reinjection for underground storage;
- (f) reinjection for temporary storage;
- (g) reinjection for enhanced oil recovery;
- (h) fuel cell production; and
- (i) other alternative beneficial uses approved by the division.

Section 4 - Notices

1. If, at any time after Operator submits this Natural Gas Management Plan and before the well is spud:

(a) Operator becomes aware that the natural gas gathering system it planned to connect the well(s) to has become unavailable or will not have capacity to transport one hundred percent of the production from the well(s), no later than 20 days after becoming aware of such information, Operator shall submit for OCD's approval a new or revised venting and flaring plan containing the information specified in Paragraph (5) of Subsection D of 19.15.27.9 NMAC; or

(b) Operator becomes aware that it has, cumulatively for the year, become out of compliance with its baseline natural gas capture rate or natural gas capture requirement, no later than 20 days after becoming aware of such information, Operator shall submit for OCD's approval a new or revised Natural Gas Management Plan for each well it plans to spud during the next 90 days containing the information specified in Paragraph (2) of Subsection D of 19.15.27.9 NMAC, and shall file an update for each Natural Gas Management Plan until Operator is back in compliance with its baseline natural gas capture rate or natural gas capture requirement.

2. OCD may deny or conditionally approve an APD if Operator does not make a certification, fails to submit an adequate venting and flaring plan which includes alternative beneficial uses for the anticipated volume of natural gas produced, or if OCD determines that Operator will not have adequate natural gas takeaway capacity at the time a well will be spud.

I certify that, after reasonable inquiry, the statements in and attached to this Natural Gas Management Plan are true and correct to the best of my knowledge and acknowledge that a false statement may be subject to civil and criminal penalties under the Oil and Gas Act.

Signature: <i>Daniel Pyziak</i>
Printed Name: Daniel Pyziak
Title: Senior Operations Engineer
E-mail Address: pyziak@catenares.com
Date: 8/02/2022
Phone:
OIL CONSERVATION DIVISION (Only applicable when submitted as a standalone form)
Approved By:
Title:
Approval Date:
Conditions of Approval:

Catena Resources Operating, LLC(328449)

Natural Gas Management Plan Descriptions**VI. Separation Equipment:**

Catena utilizes a production forecast from our Reservoir Engineering team to appropriately size each permanent, 3-phase separator and heater treater utilized for production operations. Our goal is to maintain 5 minutes of retention time in the test vessel and 20 minutes in the heater treater at peak production rates. The gas produced is routed from the separator to the gas sales line.

VII. Operational Practices:*Drilling*

During Catena's drilling operations it is uncommon for venting or flaring to occur. If flaring is needed due to safety concerns, gas will be routed to a flare and volumes will be estimated.

Flowback

During completion/recompletion flowback operations, after separation flowback begins and as soon as it is technically feasible, Catena routes gas through a permanent separator and the controlled facility where the gas is either sold or flared through a high-pressure flare if needed.

Production

Per 19.15.27.8.D, Catena's facilities are designed to minimize waste. Our produced gas will only be vented or flared in an emergency or malfunction situation, except as allowed for normal operations noted in 19.15.27.8.0(2) & (4). All gas that is flared is metered. All gas that may be vented will be estimated.

Performance Standards

Catena utilizes a production forecast from our Reservoir Engineering team to appropriately size each permanent, 3-phase separator and heater treater utilized for production operations.

All of Catena's permanent storage tanks associated with production operations which are routed to a flare or control device are equipped with an automatic gauging system.

All of Catena's flare stacks, both currently installed and for future installation, are:

- 1) Appropriately sized and designed to ensure proper combustion efficiency.
- 2) Equipped with an automatic igniter or continuous pilot.
- 3) Anchored and located at least 100 feet from the well and storage tanks.

Catena's field operations and HSE teams have implemented an AVO inspection schedule that adheres to the requirements of 19.15.27.8.E(S).

All of our operations and facilities are designed to minimize waste. We routinely employ the following methods and practices:

- Closed-loop systems
- Enclosed and properly sized tanks

Catena Resources Operating, LLC(328449)

- Vapor recovery units to maximize recovery of low-pressure gas streams and potential unauthorized emissions
- Low-emitting or electric engines whenever practical
- Combustors and flare stacks in the event of a malfunction or emergency
- Routine facility Inspections to identify leaking components, functioning control devices, such as flares and combustors, and repair/ replacement of malfunctioning components where applicable

Measurement or estimation

Catena measures or estimates the volumes of natural gas vented, flared and/or beneficially used for all of our drilling, completing and producing wells. We utilize accepted industry standards and methodology which can be independently verified. Annual GOR testing is completed on our wells and will be submitted as required by the OCD. None of our equipment is designed to allow diversion around metering elements except during inspection, maintenance, and repair operations.

VIII. Best Management Practices:

Catena utilizes the following BMPs to minimize venting during active and planned maintenance activities:

- Use a closed-loop process wherever possible during planned maintenance activities, such as blowdowns, liquid removal, and work over operations.
- Employ low-emitting or electric engines for equipment, such as compressors
- Adhere to a strict preventative maintenance program which includes routine facility inspections, identification of component malfunctions, and repairing or replacing components such as hatches, seals, valves, etc. where applicable
- Utilize vapor recovery units (VRU's) to maximize recovery of volumes of low-pressure gas streams and potential unauthorized emissions
- Route low pressure gas and emissions streams to a combustion device to prevent venting where necessary