

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 272345

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

1. Operator Name and Address Catena Resources Operating, LLC 18402 US Hwy 281 N San Antonio, TX 78259		2. OGRID Number 328449
4. Property Code 325483		3. API Number 30-025-46366
5. Property Name ANCHOR 19 35 33 STATE		6. Well No. 002H

7. Surface Location

UL - Lot P	Section 33	Township 19S	Range 35E	Lot Idn P	Feet From 235	N/S Line S	Feet From 995	E/W Line E	County Lea
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8. Proposed Bottom Hole Location

UL - Lot I	Section 28	Township 19S	Range 35E	Lot Idn I	Feet From 2540	N/S Line S	Feet From 990	E/W Line E	County Lea
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9. Pool Information

KLEIN RANCH;WOLFCAMP	96989
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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 3688
16. Multiple N	17. Proposed Depth 18043	18. Formation Wolfcamp	19. Contractor	20. Spud Date 10/1/2019
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	1881	1590	0
Int1	12.25	9.625	40	4103	1130	0
Prod	8.75	5.5	20	18043	2240	3603

Casing/Cement Program: Additional Comments

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22. Proposed Blowout Prevention Program

Type	Working Pressure	Test Pressure	Manufacturer
Annular	3000	3000	Shaffer
Double Ram	5000	5000	Shaffer

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. Signature: _____ Printed Name: Electronically filed by Robert Swann Title: _____ Email Address: rswann@catenares.com Date: 9/17/2019	OIL CONSERVATION DIVISION Approved By: Paul F Kautz Title: Geologist Approved Date: 9/17/2019 Expiration Date: 9/17/2021 Conditions of Approval Attached
Phone: 210-775-6993	

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DISTRICT IV
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Phone: (505) 476-3460 Fax: (505) 476-3462

State of New Mexico
Energy, Minerals & Natural Resources Department

OIL CONSERVATION DIVISION

1220 South St. Francis Dr.
Santa Fe, N.M. 87505

Form C-102

Revised August 1, 2011

Submit one copy to appropriate
District Office

☐ AMENDED REPORT

WELL LOCATION AND ACREAGE DEDICATION PLAT

¹ API Number 30-025- 46366	² Pool Code 96989	³ Pool Name Klein Ranch; Wolfcamp
⁴ Property Code 328449	⁵ Property Name Anchor 19 35 33 State	⁶ Well Number 2H
⁷ OGRID No. 328449	⁸ Operator Name Catena Resources Operating, LLC	⁹ Elevation 3688

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
P	33	19 S	35 E		235	South	995	East	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
I	28	19 S	35 E		2540	South	990	East	Lea

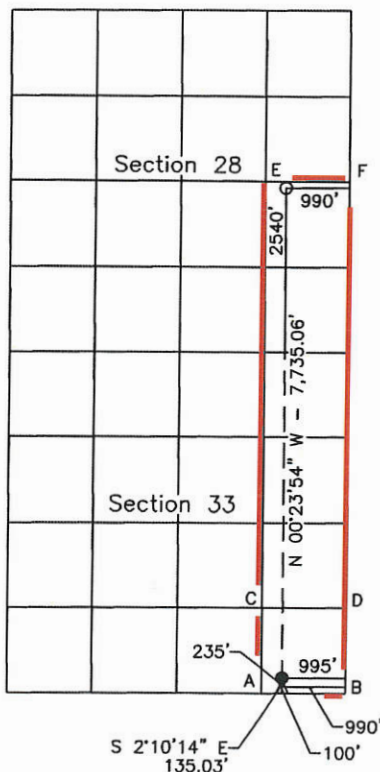
¹² Dedicated Acres 240.00	¹³ Joint or Infill	¹⁴ Consolidation Code C	¹⁵ Order No.
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NO ALLOWABLE WILL BE ASSIGNED TO THIS COMPLETION UNTIL ALL INTERESTS HAVE BEEN CONSOLIDATED
OR A NON-STANDARD UNIT HAS BEEN APPROVED BY THE DIVISION

16

Legend:

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



SCALE: 1"=3000'

SURFACE LOCATION
NAD 83 NME
Y=586845.4 N
X=811200.0 E
LAT.=32.6102318° N
LONG.=103.4569360° W

SURFACE LOCATION
NAD 27 NME
Y=586782.5 N
X=770018.9 E
LAT.=32.6101083° N
LONG.=103.4564481° W

FIRST TAKE POINT
NAD 83 NME
Y=586710.5 N
X=811205.1 E
LAT.=32.6098608° N
LONG.=103.4569230° W

FIRST TAKE POINT
NAD 27 NME
Y=586647.6 N
X=770024.0 E
LAT.=32.6097373° N
LONG.=103.4564351° W

100' FSL, 990' FEL
SEC. 33, T19S, R35E

CORNER COORDINATES TABLE
NAD 27 NME

A - Y= 586545.4 N, X= 769690.7 E
B - Y= 586554.1 N, X= 771014.2 E
C - Y= 587871.1 N, X= 769685.3 E
D - Y= 587880.1 N, X= 771011.0 E
E - Y= 594482.7 N, X= 769640.4 E
F - Y= 594488.3 N, X= 770959.5 E

CORNER COORDINATES TABLE
NAD 83 NME

A - Y= 586608.3 N, X= 810871.7 E
B - Y= 586617.0 N, X= 812195.3 E
C - Y= 587934.1 N, X= 810866.3 E
D - Y= 587943.0 N, X= 812192.0 E
E - Y= 594545.8 N, X= 810821.2 E
F - Y= 594551.4 N, X= 812140.3 E

BOTTOM HOLE LOCATION
NAD 83 NME
Y=594445.4 N
X=811151.3 E
LAT.=32.6311207° N
LONG.=103.4568905° W

BOTTOM HOLE LOCATION
NAD 27 NME
Y=594382.3 N
X=769970.5 E
LAT.=32.6309972° N
LONG.=103.4564017° 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.

Brian Wood

9-13-19

Signature

Date

Brian Wood

Printed Name

brian@permitswest.com

E-mail Address

505 466-8120

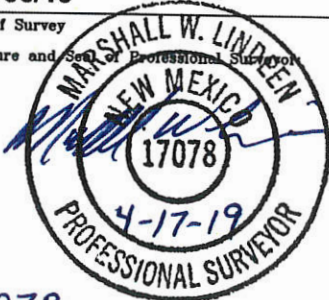
18 SURVEYOR CERTIFICATION

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.

4/06/19

Date of Survey

Signature and Seal of Professional Surveyor



17078
Certificate Number

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GAS CAPTURE PLAN

Date: 9/17/2019

☒ Original

Operator & OGRID No.: [328449] Catena Resources Operating, LLC

☐ Amended - Reason for
Amendment: _____

This Gas Capture Plan outlines actions to be taken by the Operator to reduce well/production facility flaring/venting for new completion (new drill, recomple to new zone, re-frac) activity.

Note: Form C-129 must be submitted and approved prior to exceeding 60 days allowed by Rule (Subsection A of 19.15.18.12 NMAC).

Well(s)/Production Facility – Name of facility

The well(s) that will be located at the production facility are shown in the table below.

Well Name	API	Well Location (ULSTR)	Footages	Expected MCF/D	Flared or Vented	Comments
ANCHOR 19 35 33 STATE #002H	30-025-46366	P-33-19S-35E	0235S 0995E	750	Flared	

Gathering System and Pipeline Notification

Well(s) will be connected to a production facility after flowback operations are complete, if gas transporter system is in place. The gas produced from production facility is dedicated to TARGA MIDSTREAM SERVICES LLC and will be connected to TARGA MIDSTREAM SERVICES LLC Low Pressure gathering system located in Lea County, New Mexico. It will require 5280' of pipeline to connect the facility to Low Pressure gathering system. Catena Resources Operating, LLC provides (periodically) to TARGA MIDSTREAM SERVICES LLC a drilling, completion and estimated first production date for wells that are scheduled to be drilled in the foreseeable future. In addition, Catena Resources Operating, LLC and TARGA MIDSTREAM SERVICES LLC have periodic conference calls to discuss changes to drilling and completion schedules. Gas from these wells will be processed at TARGA MIDSTREAM SERVICES LLC Processing Plant located in Sec. 32, Twn. 19S, Rng. 35E, Lea County, New Mexico. The actual flow of the gas will be based on compression operating parameters and gathering system pressures.

Flowback Strategy

After the fracture treatment/completion operations, well(s) will be produced to temporary production tanks and gas will be flared or vented. During flowback, the fluids and sand content will be monitored. When the produced fluids contain minimal sand, the wells will be turned to production facilities. Gas sales should start as soon as the wells start flowing through the production facilities, unless there are operational issues on TARGA MIDSTREAM SERVICES LLC system at that time. Based on current information, it is Catena Resources Operating, LLC's belief the system can take this gas upon completion of the well(s).

Safety requirements during cleanout operations from the use of underbalanced air cleanout systems may necessitate that sand and non-pipeline quality gas be vented and/or flared rather than sold on a temporary basis.

Alternatives to Reduce Flaring

Below are alternatives considered from a conceptual standpoint to reduce the amount of gas flared.

- Power Generation – On lease
 - Only a portion of gas is consumed operating the generator, remainder of gas will be flared
- Compressed Natural Gas – On lease
 - Gas flared would be minimal, but might be uneconomical to operate when gas volume declines
- NGL Removal – On lease
 - Plants are expensive, residue gas is still flared, and uneconomical to operate when gas volume declines

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Form APD Comments

Permit 272345

PERMIT COMMENTS

Operator Name and Address: Catena Resources Operating, LLC [328449] 18402 US Hwy 281 N San Antonio, TX 78259		API Number: 30-025-46366
		Well: ANCHOR 19 35 33 STATE #002H
Created By	Comment	Comment Date

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Form APD Conditions

Permit 272345

PERMIT CONDITIONS OF APPROVAL

Operator Name and Address: Catena Resources Operating, LLC [328449] 18402 US Hwy 281 N San Antonio, TX 78259	API Number: 30-025-46366
	Well: ANCHOR 19 35 33 STATE #002H

OCD Reviewer	Condition
pkautz	Will require a directional survey with the C-104
pkautz	1) SURFACE & INTERMEDIATE CASING - Cement must circulate to surface -- 2) PRODUCTION CASING - Cement must tie back into intermediate casing --
pkautz	If cement does not circulate to surface, must run temperature survey or other log to determine top of cement
pkautz	Surface casing must be set 25' below top of Rustler Anhydrite in order to seal off protectable water
pkautz	1)- The Operator is to notify NMOCD by sundry (Form C-103) within ten (10) days of the well being spud 2)- Drilling Sundries Form C-103 (Casing and Cement test are to be submitted within 10 days 3)- Completion Reports & Logs are to be submitted within 45 days 4)- Deviation / Directional Drill Survey are to be filed with or prior to C-104
pkautz	It is the operator's responsibility to monitor cancellation dates of approved APDs. APD's are good for 2 years and may be extended for one year. Only one 1 year extension will be granted if submitted by C-103 before expiration date. After expiration date or after a 1 year extension must submit new APD. If an APD expires and if site construction has occurred, site remediation is required.
pkautz	Stage Tool 1) Must notify OCD Hobbs Office prior to running Stage Tool at 5753703186 2) If using Stage Tool on Surface casing, Stage Tool must be set greater than 350' from surface and a minimum of 200 feet above surface shoe. 3) When using a Stage Tool on Intermediate or Production Casing Stage must be a minimum of 50 feet below previous casing shoe.

CATENA RESOURCES OPERATING, LLC

Project: Lea County, NM (NAD27) NMEZ Grid
Site: Anchor 19 35 33 2H
Well: 19 35 33 2H
Wellbore: 2H Lateral
Design: Plan #1

3688+25 @ 3713.00usft (Planning)
NAD 1927 (NADCON CONUS)



Azimuths to Grid North
True North: -0.47°
Magnetic North: 6.21°

Magnetic Field
Strength: 47947.9nT
Dip Angle: 60.40°
Date: 09/04/2019
Model: IGRF2015

FORMATION TOP DETAILS

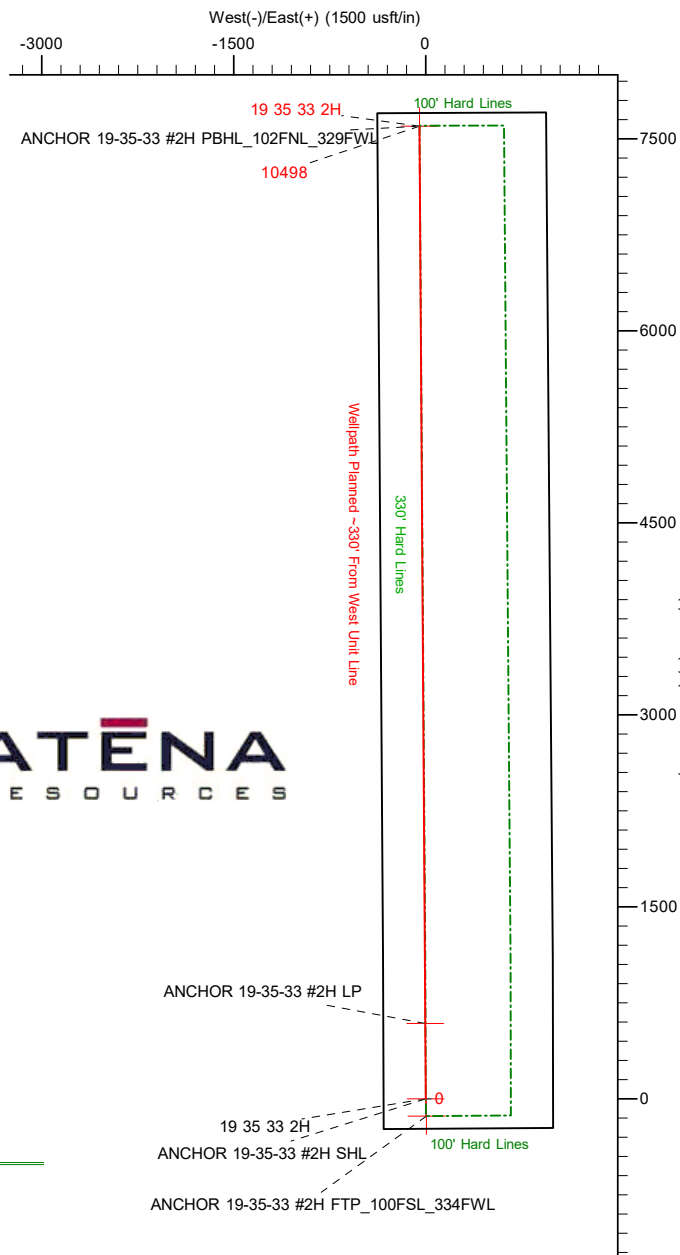
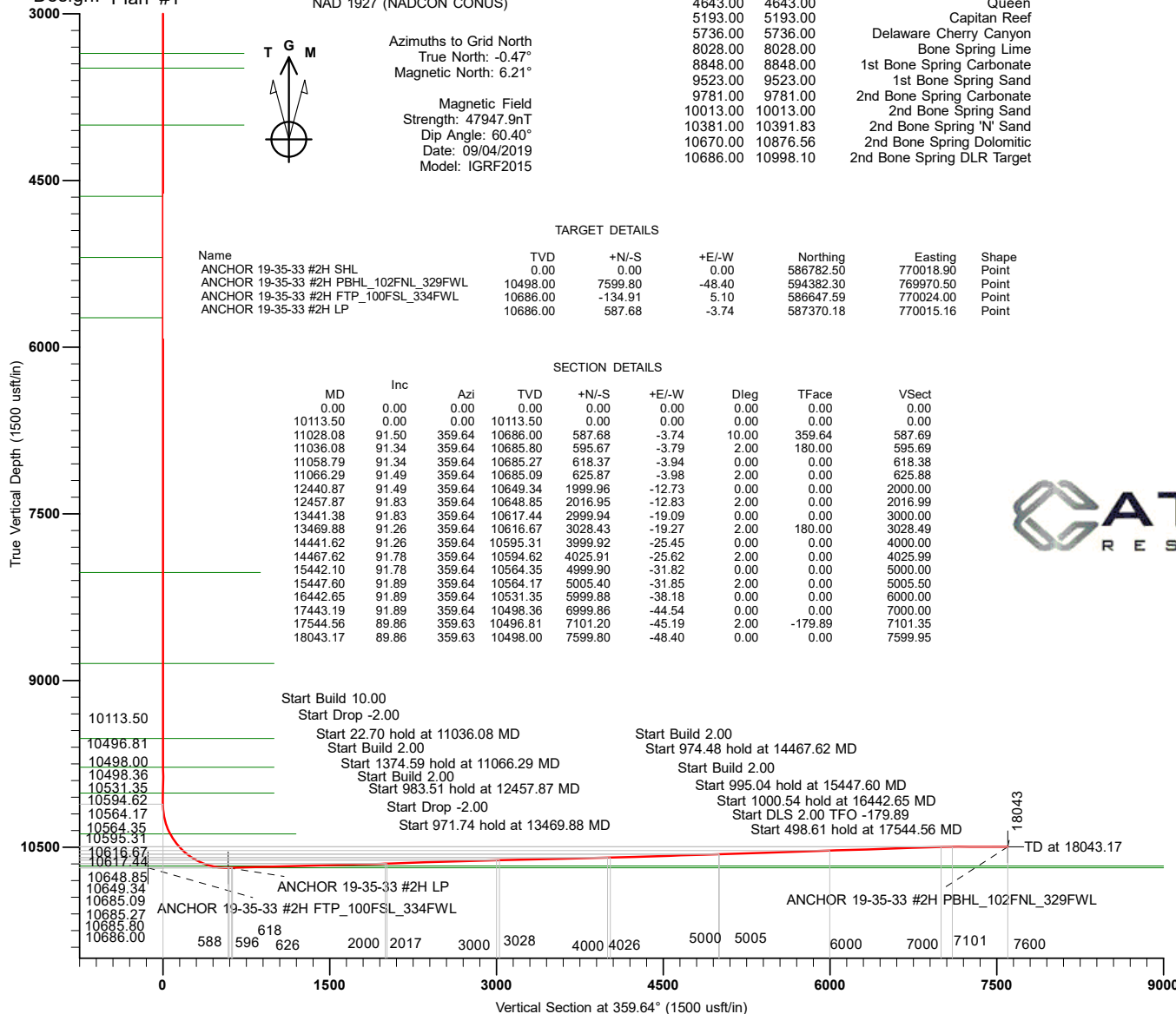
TVDPth	MDPth	Formation
1831.00	1831.00	Rustler
1953.00	1953.00	Salt
3358.00	3358.00	Base of Salt
3490.00	3490.00	Yates
4003.00	4003.00	Seven Rivers
4643.00	4643.00	Queen
5193.00	5193.00	Capitan Reef
5736.00	5736.00	Delaware Cherry Canyon
8028.00	8028.00	Bone Spring Lime
8848.00	8848.00	1st Bone Spring Carbonate
9523.00	9523.00	1st Bone Spring Sand
9781.00	9781.00	2nd Bone Spring Carbonate
10013.00	10013.00	2nd Bone Spring Sand
10381.00	10391.83	2nd Bone Spring 'N' Sand
10670.00	10876.56	2nd Bone Spring Dolomitic
10686.00	10998.10	2nd Bone Spring DLR Target

TARGET DETAILS

Name	TVD	+N/-S	+E/-W	Northing	Easting	Shape
ANCHOR 19-35-33 #2H SHL	0.00	0.00	0.00	586782.50	770018.90	Point
ANCHOR 19-35-33 #2H PBHL_102FNL_329FWL	10498.00	7599.80	-48.40	594382.30	769970.50	Point
ANCHOR 19-35-33 #2H FTP_100FSL_334FWL	10686.00	-134.91	5.10	586647.59	770024.00	Point
ANCHOR 19-35-33 #2H LP	10686.00	587.68	-3.74	587370.18	770015.16	Point

SECTION DETAILS

MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	Vsect
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
10113.50	0.00	0.00	10113.50	0.00	0.00	0.00	0.00	0.00
11028.08	91.50	359.64	10686.00	587.68	-3.74	10.00	359.64	587.69
11036.08	91.34	359.64	10685.80	595.67	-3.79	2.00	180.00	595.69
11058.79	91.34	359.64	10685.27	618.37	-3.94	0.00	0.00	618.38
11066.29	91.49	359.64	10685.09	625.87	-3.98	2.00	0.00	625.88
12440.87	91.49	359.64	10649.34	1999.96	-12.73	0.00	0.00	2000.00
12457.87	91.83	359.64	10648.85	2016.95	-12.83	2.00	0.00	2016.99
13441.38	91.83	359.64	10617.44	2999.94	-19.09	0.00	0.00	3000.00
13469.88	91.26	359.64	10616.67	3028.43	-19.27	2.00	180.00	3028.49
14441.62	91.26	359.64	10595.31	3999.92	-25.45	0.00	0.00	4000.00
14467.62	91.78	359.64	10594.62	4025.91	-25.62	2.00	0.00	4025.99
15442.10	91.78	359.64	10564.35	4999.90	-31.82	0.00	0.00	5000.00
15447.60	91.89	359.64	10564.17	5005.40	-31.85	2.00	0.00	5005.50
16442.65	91.89	359.64	10531.35	5999.88	-38.18	0.00	0.00	6000.00
17443.19	91.89	359.64	10498.36	6999.86	-44.54	0.00	0.00	7000.00
17544.56	89.86	359.63	10496.81	7101.20	-45.19	2.00	-179.89	7101.35
18043.17	89.86	359.63	10498.00	7599.80	-48.40	0.00	0.00	7599.95



To convert a Magnetic Direction to a Grid Direction, Add 6.21°
Magnetic North is 6.21° East of Grid North (Magnetic Convergence)
Magnetic North is 6.69° East of True North (Magnetic Declination)

CATENA RESOURCES OPERATING, L

Project: Lea County, NM (NAD27) NMEZ Grid

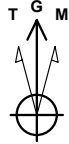
Site: Anchor 19 35 33 2H

Well: 19 35 33 2H

Wellbore: 2H Lateral

Design: Plan #1

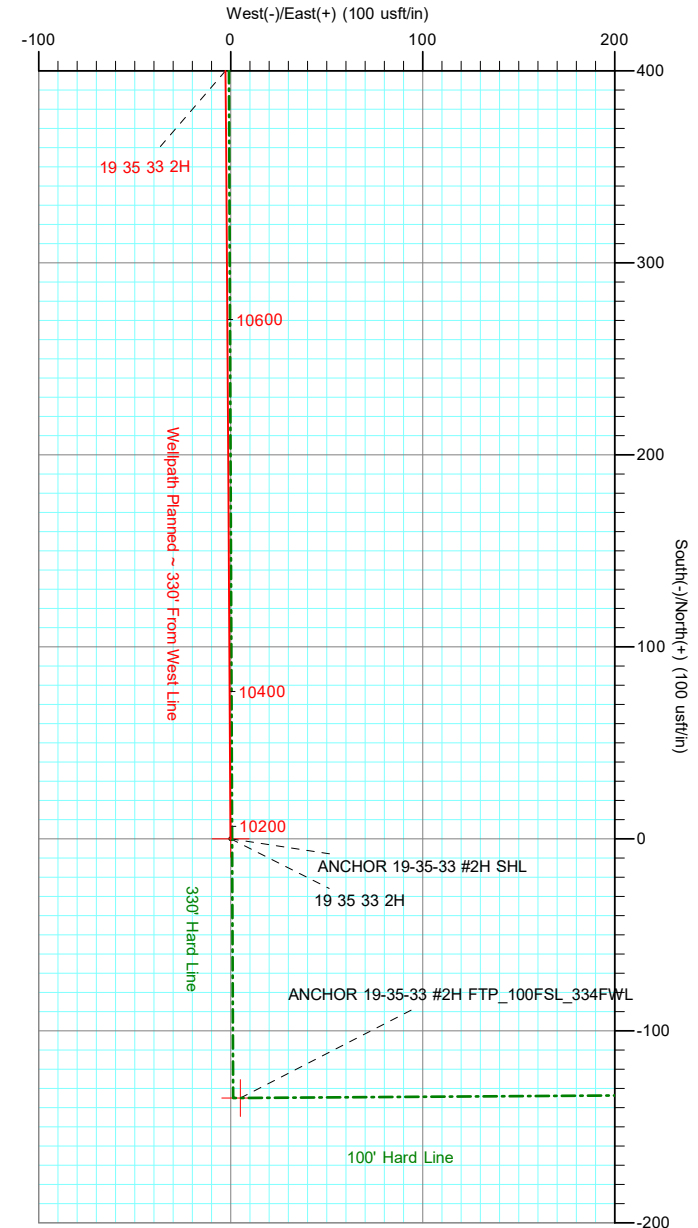
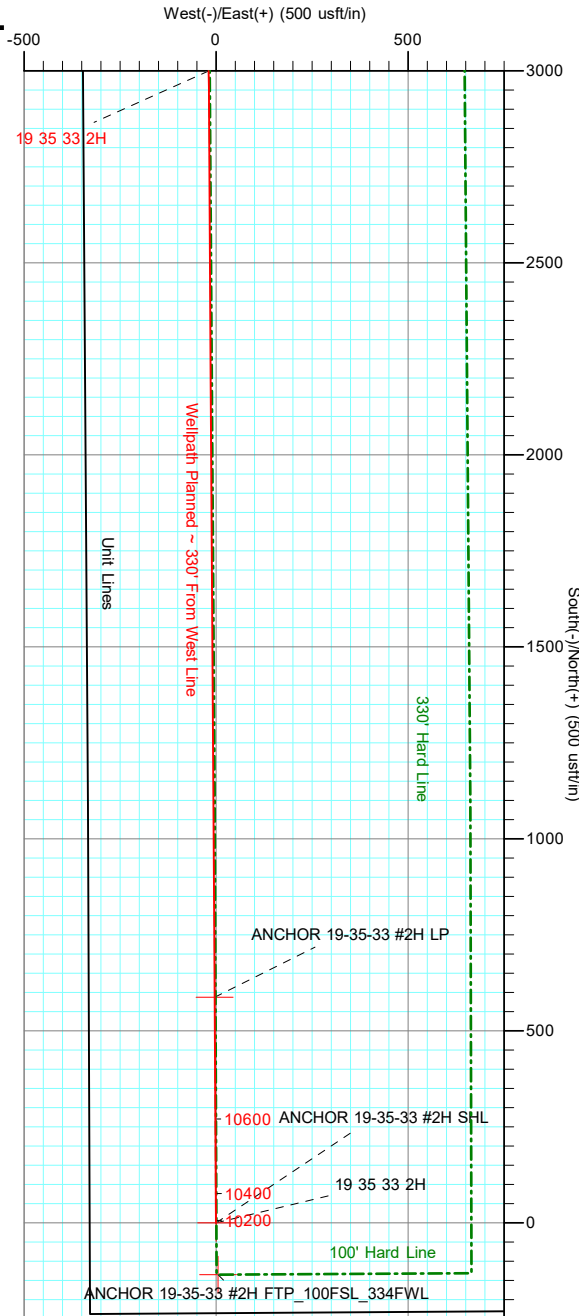
3688+25 @ 3713.00usft (Planning)
NAD 1927 (NADCON CONUS)



Azimuths to Grid North
True North: -0.47°
Magnetic North: 6.21°

Magnetic Field
Strength: 47947.9nT
Dip Angle: 60.40°
Date: 09/04/2019
Model: IGRF2015

To convert a Magnetic Direction to a Grid Direction, Add 6.21°
Magnetic North is 6.21° East of Grid North (Magnetic Convergence)
Magnetic North is 6.69° East of True North (Magnetic Declination)



Planning Report

Database:	STRYKER_EDM	Local Co-ordinate Reference:	Well 19 35 33 2H - Slot 19 35 33 2H
Company:	CATENA RESOURCES OPERATING, LLC	TVD Reference:	3688+25 @ 3713.00usft (Planning)
Project:	Lea County, NM (NAD27) NMEZ Grid	MD Reference:	3688+25 @ 3713.00usft (Planning)
Site:	Anchor 19 35 33 2H	North Reference:	Grid
Well:	19 35 33 2H	Survey Calculation Method:	Minimum Curvature
Wellbore:	2H Lateral		
Design:	Plan #1		

Project	Lea County, NM (NAD27) NMEZ Grid		
Map System:	US State Plane 1927 (Exact solution)	System Datum:	Mean Sea Level
Geo Datum:	NAD 1927 (NADCON CONUS)		
Map Zone:	New Mexico East 3001		

Site		Anchor 19 35 33 2H			
Site Position:		Northing:	586,782.50 usft	Latitude:	32° 36' 36.390 N
From:	Map	Easting:	770,018.90 usft	Longitude:	103° 27' 23.213 W
Position Uncertainty:	0.00 usft	Slot Radius:	13.20 in	Grid Convergence:	0.47 °

Well	19 35 33 2H - Slot 19 35 33 2H					
Well Position	+N/-S	0.00 usft	Northing:	586,782.50 usft	Latitude:	32° 36' 36.390 N
	+E/-W	0.00 usft	Easting:	770,018.90 usft	Longitude:	103° 27' 23.213 W
Position Uncertainty		0.00 usft	Wellhead Elevation:		Ground Level:	3,688.00 usft

Wellbore	2H Lateral				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2015	09/04/19	6.69	60.40	47,947.88326481

Design	Plan #1				
Audit Notes:					
Version:		Phase:	PROTOTYPE	Tie On Depth:	0.00
Vertical Section:	Depth From (TVD) (usft)	+N/-S (usft)	+E/-W (usft)	Direction (°)	
	0.00	0.00	0.00	359.64	

Plan Survey Tool Program	Date	09/04/19			
Depth From (usft)	Depth To (usft)	Survey (Wellbore)	Tool Name	Remarks	
1	0.00	18,043.14	Plan #1 (2H Lateral)	MWD	
				OWSG MWD - Standard	

Planning Report

Database:	STRYKER_EDM	Local Co-ordinate Reference:	Well 19 35 33 2H - Slot 19 35 33 2H
Company:	CATENA RESOURCES OPERATING, LLC	TVD Reference:	3688+25 @ 3713.00usft (Planning)
Project:	Lea County, NM (NAD27) NMEZ Grid	MD Reference:	3688+25 @ 3713.00usft (Planning)
Site:	Anchor 19 35 33 2H	North Reference:	Grid
Well:	19 35 33 2H	Survey Calculation Method:	Minimum Curvature
Wellbore:	2H Lateral		
Design:	Plan #1		

Plan Sections										
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)	TFO (°)	Target
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
10,113.50	0.00	0.00	10,113.50	0.00	0.00	0.00	0.00	0.00	0.00	
11,028.08	91.50	359.64	10,686.00	587.68	-3.74	10.00	10.00	0.00	359.64	
11,036.08	91.34	359.64	10,685.80	595.67	-3.79	2.00	-2.00	0.00	180.00	
11,058.79	91.34	359.64	10,685.27	618.37	-3.94	0.00	0.00	0.00	0.00	
11,066.29	91.49	359.64	10,685.09	625.87	-3.98	2.00	2.00	0.00	0.00	
12,440.87	91.49	359.64	10,649.34	1,999.96	-12.73	0.00	0.00	0.00	0.00	
12,457.87	91.83	359.64	10,648.85	2,016.95	-12.83	2.00	2.00	0.00	0.00	
13,441.38	91.83	359.64	10,617.44	2,999.94	-19.09	0.00	0.00	0.00	0.00	
13,469.88	91.26	359.64	10,616.67	3,028.43	-19.27	2.00	-2.00	0.00	180.00	
14,441.62	91.26	359.64	10,595.31	3,999.92	-25.45	0.00	0.00	0.00	0.00	
14,467.62	91.78	359.64	10,594.62	4,025.91	-25.62	2.00	2.00	0.00	0.00	
15,442.10	91.78	359.64	10,564.35	4,999.90	-31.82	0.00	0.00	0.00	0.00	
15,447.60	91.89	359.64	10,564.17	5,005.40	-31.85	2.00	2.00	0.00	0.00	
16,442.65	91.89	359.64	10,531.35	5,999.88	-38.18	0.00	0.00	0.00	0.00	
17,443.19	91.89	359.64	10,498.36	6,999.86	-44.54	0.00	0.00	0.00	0.00	
17,544.56	89.86	359.63	10,496.81	7,101.20	-45.19	2.00	-2.00	0.00	-179.89	
18,043.17	89.86	359.63	10,498.00	7,599.80	-48.40	0.00	0.00	0.00	0.00	ANCHOR 19-35-33 #:

Planning Report

Database:	STRYKER_EDM	Local Co-ordinate Reference:	Well 19 35 33 2H - Slot 19 35 33 2H
Company:	CATENA RESOURCES OPERATING, LLC	TVD Reference:	3688+25 @ 3713.00usft (Planning)
Project:	Lea County, NM (NAD27) NMEZ Grid	MD Reference:	3688+25 @ 3713.00usft (Planning)
Site:	Anchor 19 35 33 2H	North Reference:	Grid
Well:	19 35 33 2H	Survey Calculation Method:	Minimum Curvature
Wellbore:	2H Lateral		
Design:	Plan #1		

Planned Survey									
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
ANCHOR 19-35-33 #2H SHL									
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
1,831.00	0.00	0.00	1,831.00	0.00	0.00	0.00	0.00	0.00	0.00
Rustler									
1,900.00	0.00	0.00	1,900.00	0.00	0.00	0.00	0.00	0.00	0.00
1,953.00	0.00	0.00	1,953.00	0.00	0.00	0.00	0.00	0.00	0.00
Salt									
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
2,200.00	0.00	0.00	2,200.00	0.00	0.00	0.00	0.00	0.00	0.00
2,300.00	0.00	0.00	2,300.00	0.00	0.00	0.00	0.00	0.00	0.00
2,400.00	0.00	0.00	2,400.00	0.00	0.00	0.00	0.00	0.00	0.00
2,500.00	0.00	0.00	2,500.00	0.00	0.00	0.00	0.00	0.00	0.00
2,600.00	0.00	0.00	2,600.00	0.00	0.00	0.00	0.00	0.00	0.00
2,700.00	0.00	0.00	2,700.00	0.00	0.00	0.00	0.00	0.00	0.00
2,800.00	0.00	0.00	2,800.00	0.00	0.00	0.00	0.00	0.00	0.00
2,900.00	0.00	0.00	2,900.00	0.00	0.00	0.00	0.00	0.00	0.00
3,000.00	0.00	0.00	3,000.00	0.00	0.00	0.00	0.00	0.00	0.00
3,100.00	0.00	0.00	3,100.00	0.00	0.00	0.00	0.00	0.00	0.00
3,200.00	0.00	0.00	3,200.00	0.00	0.00	0.00	0.00	0.00	0.00
3,300.00	0.00	0.00	3,300.00	0.00	0.00	0.00	0.00	0.00	0.00
3,358.00	0.00	0.00	3,358.00	0.00	0.00	0.00	0.00	0.00	0.00
Base of Salt									
3,400.00	0.00	0.00	3,400.00	0.00	0.00	0.00	0.00	0.00	0.00
3,490.00	0.00	0.00	3,490.00	0.00	0.00	0.00	0.00	0.00	0.00
Yates									
3,500.00	0.00	0.00	3,500.00	0.00	0.00	0.00	0.00	0.00	0.00
3,600.00	0.00	0.00	3,600.00	0.00	0.00	0.00	0.00	0.00	0.00
3,700.00	0.00	0.00	3,700.00	0.00	0.00	0.00	0.00	0.00	0.00
3,800.00	0.00	0.00	3,800.00	0.00	0.00	0.00	0.00	0.00	0.00
3,900.00	0.00	0.00	3,900.00	0.00	0.00	0.00	0.00	0.00	0.00
4,000.00	0.00	0.00	4,000.00	0.00	0.00	0.00	0.00	0.00	0.00
4,003.00	0.00	0.00	4,003.00	0.00	0.00	0.00	0.00	0.00	0.00
Seven Rivers									
4,100.00	0.00	0.00	4,100.00	0.00	0.00	0.00	0.00	0.00	0.00

Planning Report

Database:	STRYKER_EDM	Local Co-ordinate Reference:	Well 19 35 33 2H - Slot 19 35 33 2H
Company:	CATENA RESOURCES OPERATING, LLC	TVD Reference:	3688+25 @ 3713.00usft (Planning)
Project:	Lea County, NM (NAD27) NMEZ Grid	MD Reference:	3688+25 @ 3713.00usft (Planning)
Site:	Anchor 19 35 33 2H	North Reference:	Grid
Well:	19 35 33 2H	Survey Calculation Method:	Minimum Curvature
Wellbore:	2H Lateral		
Design:	Plan #1		

Planned Survey									
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
4,200.00	0.00	0.00	4,200.00	0.00	0.00	0.00	0.00	0.00	0.00
4,300.00	0.00	0.00	4,300.00	0.00	0.00	0.00	0.00	0.00	0.00
4,400.00	0.00	0.00	4,400.00	0.00	0.00	0.00	0.00	0.00	0.00
4,500.00	0.00	0.00	4,500.00	0.00	0.00	0.00	0.00	0.00	0.00
4,600.00	0.00	0.00	4,600.00	0.00	0.00	0.00	0.00	0.00	0.00
4,643.00	0.00	0.00	4,643.00	0.00	0.00	0.00	0.00	0.00	0.00
Queen									
4,700.00	0.00	0.00	4,700.00	0.00	0.00	0.00	0.00	0.00	0.00
4,800.00	0.00	0.00	4,800.00	0.00	0.00	0.00	0.00	0.00	0.00
4,900.00	0.00	0.00	4,900.00	0.00	0.00	0.00	0.00	0.00	0.00
5,000.00	0.00	0.00	5,000.00	0.00	0.00	0.00	0.00	0.00	0.00
5,100.00	0.00	0.00	5,100.00	0.00	0.00	0.00	0.00	0.00	0.00
5,193.00	0.00	0.00	5,193.00	0.00	0.00	0.00	0.00	0.00	0.00
Capitan Reef									
5,200.00	0.00	0.00	5,200.00	0.00	0.00	0.00	0.00	0.00	0.00
5,300.00	0.00	0.00	5,300.00	0.00	0.00	0.00	0.00	0.00	0.00
5,400.00	0.00	0.00	5,400.00	0.00	0.00	0.00	0.00	0.00	0.00
5,500.00	0.00	0.00	5,500.00	0.00	0.00	0.00	0.00	0.00	0.00
5,600.00	0.00	0.00	5,600.00	0.00	0.00	0.00	0.00	0.00	0.00
5,700.00	0.00	0.00	5,700.00	0.00	0.00	0.00	0.00	0.00	0.00
5,736.00	0.00	0.00	5,736.00	0.00	0.00	0.00	0.00	0.00	0.00
Delaware Cherry Canyon									
5,800.00	0.00	0.00	5,800.00	0.00	0.00	0.00	0.00	0.00	0.00
5,900.00	0.00	0.00	5,900.00	0.00	0.00	0.00	0.00	0.00	0.00
6,000.00	0.00	0.00	6,000.00	0.00	0.00	0.00	0.00	0.00	0.00
6,100.00	0.00	0.00	6,100.00	0.00	0.00	0.00	0.00	0.00	0.00
6,200.00	0.00	0.00	6,200.00	0.00	0.00	0.00	0.00	0.00	0.00
6,300.00	0.00	0.00	6,300.00	0.00	0.00	0.00	0.00	0.00	0.00
6,400.00	0.00	0.00	6,400.00	0.00	0.00	0.00	0.00	0.00	0.00
6,500.00	0.00	0.00	6,500.00	0.00	0.00	0.00	0.00	0.00	0.00
6,600.00	0.00	0.00	6,600.00	0.00	0.00	0.00	0.00	0.00	0.00
6,700.00	0.00	0.00	6,700.00	0.00	0.00	0.00	0.00	0.00	0.00
6,800.00	0.00	0.00	6,800.00	0.00	0.00	0.00	0.00	0.00	0.00
6,900.00	0.00	0.00	6,900.00	0.00	0.00	0.00	0.00	0.00	0.00
7,000.00	0.00	0.00	7,000.00	0.00	0.00	0.00	0.00	0.00	0.00
7,100.00	0.00	0.00	7,100.00	0.00	0.00	0.00	0.00	0.00	0.00
7,200.00	0.00	0.00	7,200.00	0.00	0.00	0.00	0.00	0.00	0.00
7,300.00	0.00	0.00	7,300.00	0.00	0.00	0.00	0.00	0.00	0.00
7,400.00	0.00	0.00	7,400.00	0.00	0.00	0.00	0.00	0.00	0.00
7,500.00	0.00	0.00	7,500.00	0.00	0.00	0.00	0.00	0.00	0.00
7,600.00	0.00	0.00	7,600.00	0.00	0.00	0.00	0.00	0.00	0.00
7,700.00	0.00	0.00	7,700.00	0.00	0.00	0.00	0.00	0.00	0.00
7,800.00	0.00	0.00	7,800.00	0.00	0.00	0.00	0.00	0.00	0.00
7,900.00	0.00	0.00	7,900.00	0.00	0.00	0.00	0.00	0.00	0.00
8,000.00	0.00	0.00	8,000.00	0.00	0.00	0.00	0.00	0.00	0.00
8,028.00	0.00	0.00	8,028.00	0.00	0.00	0.00	0.00	0.00	0.00
Bone Spring Lime									
8,100.00	0.00	0.00	8,100.00	0.00	0.00	0.00	0.00	0.00	0.00
8,200.00	0.00	0.00	8,200.00	0.00	0.00	0.00	0.00	0.00	0.00
8,300.00	0.00	0.00	8,300.00	0.00	0.00	0.00	0.00	0.00	0.00
8,400.00	0.00	0.00	8,400.00	0.00	0.00	0.00	0.00	0.00	0.00
8,500.00	0.00	0.00	8,500.00	0.00	0.00	0.00	0.00	0.00	0.00
8,600.00	0.00	0.00	8,600.00	0.00	0.00	0.00	0.00	0.00	0.00

Planning Report

Database:	STRYKER_EDM	Local Co-ordinate Reference:	Well 19 35 33 2H - Slot 19 35 33 2H
Company:	CATENA RESOURCES OPERATING, LLC	TVD Reference:	3688+25 @ 3713.00usft (Planning)
Project:	Lea County, NM (NAD27) NMEZ Grid	MD Reference:	3688+25 @ 3713.00usft (Planning)
Site:	Anchor 19 35 33 2H	North Reference:	Grid
Well:	19 35 33 2H	Survey Calculation Method:	Minimum Curvature
Wellbore:	2H Lateral		
Design:	Plan #1		

Planned Survey									
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
8,700.00	0.00	0.00	8,700.00	0.00	0.00	0.00	0.00	0.00	0.00
8,800.00	0.00	0.00	8,800.00	0.00	0.00	0.00	0.00	0.00	0.00
8,848.00	0.00	0.00	8,848.00	0.00	0.00	0.00	0.00	0.00	0.00
1st Bone Spring Carbonate									
8,900.00	0.00	0.00	8,900.00	0.00	0.00	0.00	0.00	0.00	0.00
9,000.00	0.00	0.00	9,000.00	0.00	0.00	0.00	0.00	0.00	0.00
9,100.00	0.00	0.00	9,100.00	0.00	0.00	0.00	0.00	0.00	0.00
9,200.00	0.00	0.00	9,200.00	0.00	0.00	0.00	0.00	0.00	0.00
9,300.00	0.00	0.00	9,300.00	0.00	0.00	0.00	0.00	0.00	0.00
9,400.00	0.00	0.00	9,400.00	0.00	0.00	0.00	0.00	0.00	0.00
9,500.00	0.00	0.00	9,500.00	0.00	0.00	0.00	0.00	0.00	0.00
9,523.00	0.00	0.00	9,523.00	0.00	0.00	0.00	0.00	0.00	0.00
1st Bone Spring Sand									
9,600.00	0.00	0.00	9,600.00	0.00	0.00	0.00	0.00	0.00	0.00
9,700.00	0.00	0.00	9,700.00	0.00	0.00	0.00	0.00	0.00	0.00
9,781.00	0.00	0.00	9,781.00	0.00	0.00	0.00	0.00	0.00	0.00
2nd Bone Spring Carbonate									
9,800.00	0.00	0.00	9,800.00	0.00	0.00	0.00	0.00	0.00	0.00
9,900.00	0.00	0.00	9,900.00	0.00	0.00	0.00	0.00	0.00	0.00
10,000.00	0.00	0.00	10,000.00	0.00	0.00	0.00	0.00	0.00	0.00
10,013.00	0.00	0.00	10,013.00	0.00	0.00	0.00	0.00	0.00	0.00
2nd Bone Spring Sand									
10,100.00	0.00	0.00	10,100.00	0.00	0.00	0.00	0.00	0.00	0.00
10,113.50	0.00	0.00	10,113.50	0.00	0.00	0.00	0.00	0.00	0.00
10,150.00	3.65	359.64	10,149.98	1.16	-0.01	1.16	10.00	10.00	0.00
10,200.00	8.65	359.64	10,199.67	6.52	-0.04	6.52	10.00	10.00	0.00
10,250.00	13.66	359.64	10,248.71	16.19	-0.10	16.19	10.00	10.00	0.00
10,300.00	18.66	359.64	10,296.72	30.10	-0.19	30.10	10.00	10.00	0.00
10,350.00	23.66	359.64	10,343.34	48.14	-0.31	48.14	10.00	10.00	0.00
10,391.83	27.85	359.64	10,381.00	66.31	-0.42	66.31	10.00	10.00	0.00
2nd Bone Spring 'N' Sand									
10,400.00	28.66	359.64	10,388.20	70.18	-0.45	70.18	10.00	10.00	0.00
10,450.00	33.67	359.64	10,430.97	96.05	-0.61	96.05	10.00	10.00	0.00
10,500.00	38.67	359.64	10,471.32	125.54	-0.80	125.54	10.00	10.00	0.00
ANCHOR 19-35-33 #2H FTP_100FSL_334FWL									
10,550.00	43.67	359.64	10,508.95	158.44	-1.01	158.45	10.00	10.00	0.00
10,600.00	48.67	359.64	10,543.56	194.50	-1.24	194.51	10.00	10.00	0.00
10,650.00	53.67	359.64	10,574.90	233.44	-1.49	233.45	10.00	10.00	0.00
10,700.00	58.68	359.64	10,602.73	274.97	-1.75	274.97	10.00	10.00	0.00
10,750.00	63.68	359.64	10,626.82	318.76	-2.03	318.76	10.00	10.00	0.00
10,800.00	68.68	359.64	10,647.01	364.48	-2.32	364.49	10.00	10.00	0.00
10,850.00	73.68	359.64	10,663.13	411.79	-2.62	411.80	10.00	10.00	0.00
10,876.56	76.34	359.64	10,670.00	437.45	-2.78	437.46	10.00	10.00	0.00
2nd Bone Spring Dolomitic									
10,900.00	78.69	359.64	10,675.07	460.33	-2.93	460.34	10.00	10.00	0.00
10,950.00	83.69	359.64	10,682.72	509.72	-3.24	509.73	10.00	10.00	0.00
10,998.10	88.50	359.64	10,686.00	557.69	-3.55	557.70	10.00	10.00	0.00
2nd Bone Spring DLR Target									
11,000.00	88.69	359.64	10,686.05	559.60	-3.56	559.61	10.00	10.00	0.00
11,028.09	91.50	359.64	10,686.00	587.68	-3.74	587.69	10.00	10.00	0.00
ANCHOR 19-35-33 #2H LP									
11,036.08	91.34	359.64	10,685.80	595.67	-3.79	595.69	2.00	-2.00	0.00
11,058.79	91.34	359.64	10,685.27	618.37	-3.94	618.38	0.00	0.00	0.00

Planning Report

Database:	STRYKER_EDM	Local Co-ordinate Reference:	Well 19 35 33 2H - Slot 19 35 33 2H
Company:	CATENA RESOURCES OPERATING, LLC	TVD Reference:	3688+25 @ 3713.00usft (Planning)
Project:	Lea County, NM (NAD27) NMEZ Grid	MD Reference:	3688+25 @ 3713.00usft (Planning)
Site:	Anchor 19 35 33 2H	North Reference:	Grid
Well:	19 35 33 2H	Survey Calculation Method:	Minimum Curvature
Wellbore:	2H Lateral		
Design:	Plan #1		

Planned Survey									
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
11,066.29	91.49	359.64	10,685.09	625.87	-3.98	625.88	2.00	2.00	0.00
11,100.00	91.49	359.64	10,684.21	659.57	-4.20	659.58	0.00	0.00	0.00
11,200.00	91.49	359.64	10,681.61	759.53	-4.83	759.55	0.00	0.00	0.00
11,300.00	91.49	359.64	10,679.01	859.50	-5.47	859.52	0.00	0.00	0.00
11,400.00	91.49	359.64	10,676.41	959.46	-6.11	959.48	0.00	0.00	0.00
11,500.00	91.49	359.64	10,673.81	1,059.43	-6.74	1,059.45	0.00	0.00	0.00
11,600.00	91.49	359.64	10,671.21	1,159.39	-7.38	1,159.41	0.00	0.00	0.00
11,700.00	91.49	359.64	10,668.61	1,259.35	-8.01	1,259.38	0.00	0.00	0.00
11,800.00	91.49	359.64	10,666.01	1,359.32	-8.65	1,359.35	0.00	0.00	0.00
11,900.00	91.49	359.64	10,663.41	1,459.28	-9.29	1,459.31	0.00	0.00	0.00
12,000.00	91.49	359.64	10,660.81	1,559.25	-9.92	1,559.28	0.00	0.00	0.00
12,100.00	91.49	359.64	10,658.21	1,659.21	-10.56	1,659.24	0.00	0.00	0.00
12,200.00	91.49	359.64	10,655.61	1,759.18	-11.19	1,759.21	0.00	0.00	0.00
12,300.00	91.49	359.64	10,653.01	1,859.14	-11.83	1,859.18	0.00	0.00	0.00
12,400.00	91.49	359.64	10,650.41	1,959.10	-12.47	1,959.14	0.00	0.00	0.00
12,440.87	91.49	359.64	10,649.34	1,999.96	-12.73	2,000.00	0.00	0.00	0.00
12,457.87	91.83	359.64	10,648.85	2,016.95	-12.83	2,016.99	2.00	2.00	0.00
12,500.00	91.83	359.64	10,647.51	2,059.06	-13.10	2,059.10	0.00	0.00	0.00
12,600.00	91.83	359.64	10,644.31	2,159.01	-13.74	2,159.05	0.00	0.00	0.00
12,700.00	91.83	359.64	10,641.12	2,258.95	-14.37	2,259.00	0.00	0.00	0.00
12,800.00	91.83	359.64	10,637.93	2,358.90	-15.01	2,358.95	0.00	0.00	0.00
12,900.00	91.83	359.64	10,634.73	2,458.85	-15.65	2,458.90	0.00	0.00	0.00
13,000.00	91.83	359.64	10,631.54	2,558.79	-16.28	2,558.85	0.00	0.00	0.00
13,100.00	91.83	359.64	10,628.34	2,658.74	-16.92	2,658.80	0.00	0.00	0.00
13,200.00	91.83	359.64	10,625.15	2,758.69	-17.56	2,758.74	0.00	0.00	0.00
13,300.00	91.83	359.64	10,621.96	2,858.64	-18.19	2,858.69	0.00	0.00	0.00
13,400.00	91.83	359.64	10,618.76	2,958.58	-18.83	2,958.64	0.00	0.00	0.00
13,441.38	91.83	359.64	10,617.44	2,999.94	-19.09	3,000.00	0.00	0.00	0.00
13,469.88	91.26	359.64	10,616.67	3,028.43	-19.27	3,028.49	2.00	-2.00	0.00
13,500.00	91.26	359.64	10,616.01	3,058.54	-19.46	3,058.60	0.00	0.00	0.00
13,600.00	91.26	359.64	10,613.81	3,158.52	-20.10	3,158.58	0.00	0.00	0.00
13,700.00	91.26	359.64	10,611.61	3,258.49	-20.74	3,258.55	0.00	0.00	0.00
13,800.00	91.26	359.64	10,609.42	3,358.46	-21.37	3,358.53	0.00	0.00	0.00
13,900.00	91.26	359.64	10,607.22	3,458.44	-22.01	3,458.51	0.00	0.00	0.00
14,000.00	91.26	359.64	10,605.02	3,558.41	-22.64	3,558.48	0.00	0.00	0.00
14,100.00	91.26	359.64	10,602.82	3,658.38	-23.28	3,658.46	0.00	0.00	0.00
14,200.00	91.26	359.64	10,600.62	3,758.36	-23.92	3,758.43	0.00	0.00	0.00
14,300.00	91.26	359.64	10,598.42	3,858.33	-24.55	3,858.41	0.00	0.00	0.00
14,400.00	91.26	359.64	10,596.22	3,958.31	-25.19	3,958.39	0.00	0.00	0.00
14,441.62	91.26	359.64	10,595.31	3,999.92	-25.45	4,000.00	0.00	0.00	0.00
14,467.62	91.78	359.64	10,594.62	4,025.91	-25.62	4,025.99	2.00	2.00	0.00
14,500.00	91.78	359.64	10,593.61	4,058.27	-25.83	4,058.35	0.00	0.00	0.00
14,600.00	91.78	359.64	10,590.51	4,158.22	-26.46	4,158.30	0.00	0.00	0.00
14,700.00	91.78	359.64	10,587.40	4,258.17	-27.10	4,258.25	0.00	0.00	0.00
14,800.00	91.78	359.64	10,584.29	4,358.12	-27.73	4,358.21	0.00	0.00	0.00
14,900.00	91.78	359.64	10,581.19	4,458.07	-28.37	4,458.16	0.00	0.00	0.00
15,000.00	91.78	359.64	10,578.08	4,558.02	-29.01	4,558.11	0.00	0.00	0.00
15,100.00	91.78	359.64	10,574.97	4,657.97	-29.64	4,658.06	0.00	0.00	0.00
15,200.00	91.78	359.64	10,571.87	4,757.92	-30.28	4,758.01	0.00	0.00	0.00
15,300.00	91.78	359.64	10,568.76	4,857.87	-30.91	4,857.96	0.00	0.00	0.00
15,400.00	91.78	359.64	10,565.66	4,957.82	-31.55	4,957.92	0.00	0.00	0.00
15,442.10	91.78	359.64	10,564.35	4,999.90	-31.82	5,000.00	0.00	0.00	0.00
15,447.60	91.89	359.64	10,564.17	5,005.40	-31.85	5,005.50	2.00	2.00	0.00
15,500.00	91.89	359.64	10,562.44	5,057.76	-32.19	5,057.86	0.00	0.00	0.00

Planning Report

Database:	STRYKER_EDM	Local Co-ordinate Reference:	Well 19 35 33 2H - Slot 19 35 33 2H
Company:	CATENA RESOURCES OPERATING, LLC	TVD Reference:	3688+25 @ 3713.00usft (Planning)
Project:	Lea County, NM (NAD27) NMEZ Grid	MD Reference:	3688+25 @ 3713.00usft (Planning)
Site:	Anchor 19 35 33 2H	North Reference:	Grid
Well:	19 35 33 2H	Survey Calculation Method:	Minimum Curvature
Wellbore:	2H Lateral		
Design:	Plan #1		

Planned Survey										
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)	
15,600.00	91.89	359.64	10,559.15	5,157.71	-32.82	5,157.81	0.00	0.00	0.00	
15,700.00	91.89	359.64	10,555.85	5,257.65	-33.46	5,257.76	0.00	0.00	0.00	
15,800.00	91.89	359.64	10,552.55	5,357.59	-34.09	5,357.70	0.00	0.00	0.00	
15,900.00	91.89	359.64	10,549.25	5,457.54	-34.73	5,457.65	0.00	0.00	0.00	
16,000.00	91.89	359.64	10,545.95	5,557.48	-35.37	5,557.59	0.00	0.00	0.00	
16,100.00	91.89	359.64	10,542.66	5,657.42	-36.00	5,657.54	0.00	0.00	0.00	
16,200.00	91.89	359.64	10,539.36	5,757.37	-36.64	5,757.48	0.00	0.00	0.00	
16,300.00	91.89	359.64	10,536.06	5,857.31	-37.27	5,857.43	0.00	0.00	0.00	
16,400.00	91.89	359.64	10,532.76	5,957.25	-37.91	5,957.38	0.00	0.00	0.00	
16,442.65	91.89	359.64	10,531.35	5,999.88	-38.18	6,000.00	0.00	0.00	0.00	
16,500.00	91.89	359.64	10,529.46	6,057.20	-38.55	6,057.32	0.00	0.00	0.00	
16,600.00	91.89	359.64	10,526.16	6,157.14	-39.18	6,157.27	0.00	0.00	0.00	
16,700.00	91.89	359.64	10,522.87	6,257.09	-39.82	6,257.21	0.00	0.00	0.00	
16,800.00	91.89	359.64	10,519.57	6,357.03	-40.45	6,357.16	0.00	0.00	0.00	
16,900.00	91.89	359.64	10,516.27	6,456.97	-41.09	6,457.10	0.00	0.00	0.00	
17,000.00	91.89	359.64	10,512.97	6,556.92	-41.73	6,557.05	0.00	0.00	0.00	
17,100.00	91.89	359.64	10,509.67	6,656.86	-42.36	6,656.99	0.00	0.00	0.00	
17,200.00	91.89	359.64	10,506.38	6,756.80	-43.00	6,756.94	0.00	0.00	0.00	
17,300.00	91.89	359.64	10,503.08	6,856.75	-43.63	6,856.89	0.00	0.00	0.00	
17,400.00	91.89	359.64	10,499.78	6,956.69	-44.27	6,956.83	0.00	0.00	0.00	
17,443.19	91.89	359.64	10,498.36	6,999.86	-44.54	7,000.00	0.00	0.00	0.00	
17,500.00	90.75	359.63	10,497.05	7,056.65	-44.91	7,056.79	2.00	-2.00	0.00	
17,544.56	89.86	359.63	10,496.81	7,101.20	-45.19	7,101.35	2.00	-2.00	0.00	
17,600.00	89.86	359.63	10,496.94	7,156.65	-45.55	7,156.79	0.00	0.00	0.00	
17,700.00	89.86	359.63	10,497.18	7,256.64	-46.19	7,256.79	0.00	0.00	0.00	
17,800.00	89.86	359.63	10,497.42	7,356.64	-46.84	7,356.79	0.00	0.00	0.00	
17,900.00	89.86	359.63	10,497.66	7,456.64	-47.48	7,456.79	0.00	0.00	0.00	
18,000.00	89.86	359.63	10,497.90	7,556.64	-48.12	7,556.79	0.00	0.00	0.00	
18,043.17	89.86	359.63	10,498.00	7,599.80	-48.40	7,599.95	0.00	0.00	0.00	
ANCHOR 19-35-33 #2H PBHL_102FNL_329FWL										

Design Targets										
Target Name - hit/miss target - Shape	Dip Angle (°)	Dip Dir. (°)	TVD (usft)	+N/-S (usft)	+E/-W (usft)	Northing (usft)	Easting (usft)	Latitude Longitude		
ANCHOR 19-35-33 #2H - plan hits target center - Point	0.00	0.00	0.00	0.00	0.00	586,782.50	770,018.90	32° 36' 36.390 N 103° 27' 23.213 W		
ANCHOR 19-35-33 #2H - plan hits target center - Point	0.00	0.00	10,498.00	7,599.80	-48.40	594,382.30	769,970.50	32° 37' 51.591 N 103° 27' 23.046 W		
ANCHOR 19-35-33 #2H - plan misses target center by 337.57usft at 10500.00usft MD (10471.32 TVD, 125.54 N, -0.80 E) - Point	0.00	0.00	10,686.00	-134.91	5.10	586,647.60	770,024.00	32° 36' 35.055 N 103° 27' 23.167 W		
ANCHOR 19-35-33 #2H - plan hits target center - Point	0.00	0.00	10,686.00	587.68	-3.74	587,370.18	770,015.16	32° 36' 42.205 N 103° 27' 23.200 W		

Planning Report

Database:	STRYKER_EDM	Local Co-ordinate Reference:	Well 19 35 33 2H - Slot 19 35 33 2H
Company:	CATENA RESOURCES OPERATING, LLC	TVD Reference:	3688+25 @ 3713.00usft (Planning)
Project:	Lea County, NM (NAD27) NMEZ Grid	MD Reference:	3688+25 @ 3713.00usft (Planning)
Site:	Anchor 19 35 33 2H	North Reference:	Grid
Well:	19 35 33 2H	Survey Calculation Method:	Minimum Curvature
Wellbore:	2H Lateral		
Design:	Plan #1		

Formations						
	Measured Depth (usft)	Vertical Depth (usft)	Name	Lithology	Dip (°)	Dip Direction (°)
	1,831.00	1,831.00	Rustler			
	1,953.00	1,953.00	Salt			
	3,358.00	3,358.00	Base of Salt			
	3,490.00	3,490.00	Yates			
	4,003.00	4,003.00	Seven Rivers			
	4,643.00	4,643.00	Queen			
	5,193.00	5,193.00	Capitan Reef			
	5,736.00	5,736.00	Delaware Cherry Canyon			
	8,028.00	8,028.00	Bone Spring Lime			
	8,848.00	8,848.00	1st Bone Spring Carbonate			
	9,523.00	9,523.00	1st Bone Spring Sand			
	9,781.00	9,781.00	2nd Bone Spring Carbonate			
	10,013.00	10,013.00	2nd Bone Spring Sand			
	10,391.83	10,381.00	2nd Bone Spring 'N' Sand			
	10,876.56	10,670.00	2nd Bone Spring Dolomitic			
	10,998.10	10,686.00	2nd Bone Spring DLR Target			