



WELL DETAILS: Anchor 19-35 33 1H

Northing	Easting	Latitude	Longitude	Slot
586785.00	807334.40	32.61015265	-103.46949002	Anchor 1H

Catena Resources Operating, LLC
Project: Lea County NM N83-NM-EZ
Site: A02 Anchor
Well: Anchor 19-35 33 1H
Wellbore: 1H
Plan: Plan #1

Section Details

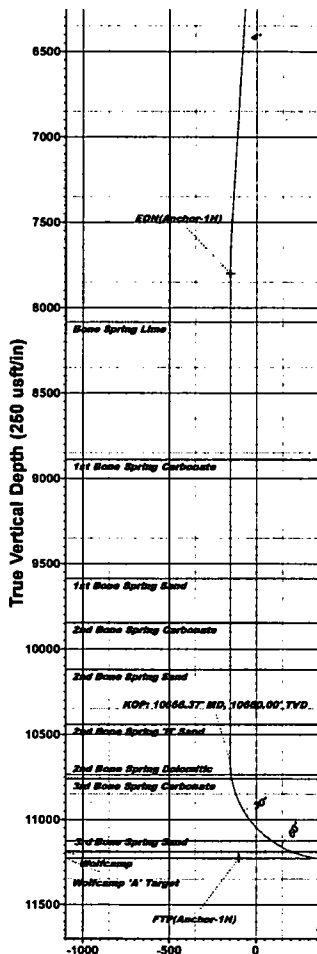
Sec	MD	Inc	Azi	TVD	+N-S	+E-W	Dleg	TFace	Vsect
1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2	5000.00	0.00	0.00	5000.00	0.00	0.00	0.00	0.00	0.00
3	5276.08	4.14	214.62	5275.84	-8.21	-5.67	1.50	214.62	-8.18
4	7530.29	4.14	214.62	7524.16	-142.17	-98.14	0.00	0.00	-141.62
5	7806.37	0.00	0.00	7800.00	-150.38	-103.81	1.50	180.00	-149.80
6	10666.37	0.00	0.00	10660.00	-150.38	-103.81	0.00	0.00	-149.80
7	11581.04	91.47	359.68	11232.77	437.26	-107.05	10.00	359.68	437.84
8	16139.66	91.47	359.68	11116.00	4994.30	-132.20	0.00	0.00	4994.96

DESIGN TARGET DETAILS

Name	+N-S	+E-W	Northing	Easting
EDN(Anchor-1H)	-150.38	-103.81	586834.62	807230.59
PBNL(Anchor-1H)	4994.30	-132.20	591775.30	807202.20
T6(A-1H)-4994.3VS	4994.30	-132.20	591775.30	807202.20
T5(A-1H)-4000VS	3995.35	-126.71	590784.35	807207.69
T4(A-1H)-3000VS	2995.37	-121.19	589784.37	807213.21
T3(A-1H)-2000VS	1999.39	-115.67	588784.39	807218.73
T2(A-1H)-1000VS	999.40	-110.15	587784.40	807224.25
FTP(Anchor-1H)	-100.60	-104.10	586844.40	807230.30
T1(A-1H)-0573VS	572.40	-107.80	587357.40	807226.60

FORMATION TOP DETAILS

TVDPath	MDPath	Formation
1856.00	1856.00	Rustler
1953.00	1953.00	Salt
3388.00	3388.00	Base of Salt
3582.00	3582.00	Yates
4016.00	4016.00	Seven Rivers
4646.00	4646.00	Queen
5166.00	5166.05	Capitan Reef
5893.00	5894.86	Delaware Cherry Canyon
6083.00	6089.37	Bone Spring Line
6895.00	6895.37	1st Bone Spring Carbonate
9587.00	9593.37	1st Bone Spring Sand
9845.00	9851.37	2nd Bone Spring Carbonate
10121.00	10127.37	2nd Bone Spring Sand
10442.00	10448.37	2nd Bone Spring "W" Sand
10737.00	10743.60	2nd Bone Spring Dolomitic
10761.00	10767.90	3rd Bone Spring Carbonate
11126.00	11210.59	3rd Bone Spring Sand
11189.00	11340.47	Wolfcamp
11226.00	11490.94	Wolfcamp 'A' Target



Vertical Section at 359.68° (250 usf/in)

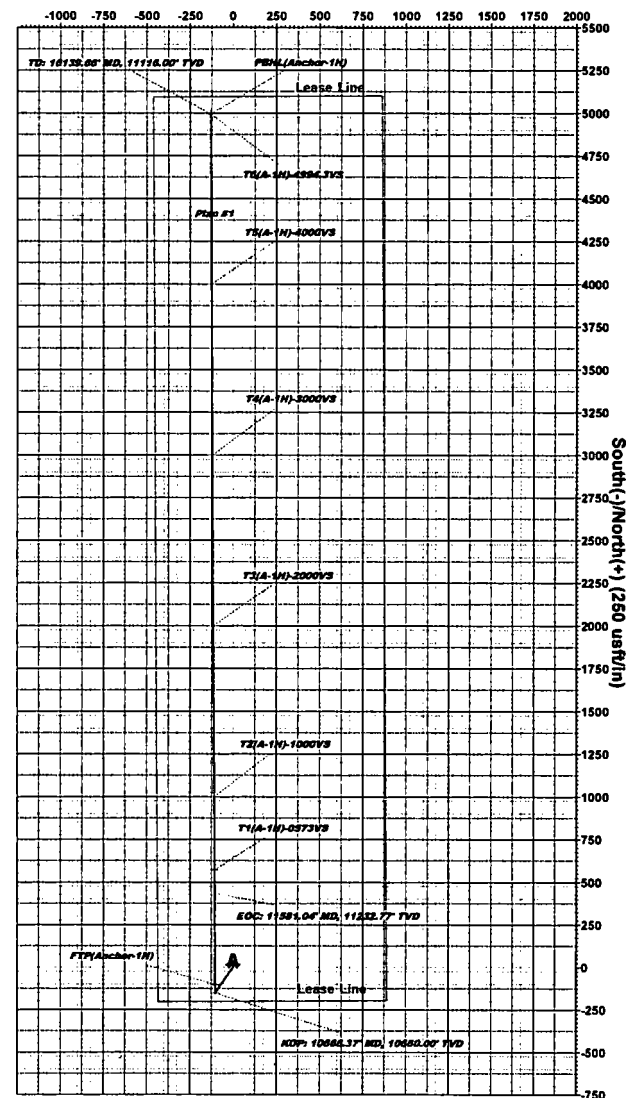


Azimuths to Grid North
True North: -0.47°
Magnetic North: 6.26°

Magnetic Field
Strength: 47982.6snT
Dip Angle: 60.41°
Date: 4/30/2019
Model: IGRF2015

PROJECT DETAILS: Lea County NM N83-NM-EZ
Geodetic System: US State Plane 1983
Datum: North American Datum 1983
Ellipsoid: GRS 1980
Zone: New Mexico Eastern Zone
System Datum: Mean Sea Level
Local North: Grid
Grid Convergence: 0.47° West
KB Elevation: 3691+25 @ 3716.00usft (KB=25)
Elevation: 3691.00

West(-)/East(+) (250 usf/in)





Catena Resources Operating, LLC

Lea County NM N83-NM-EZ

A02 Anchor

Anchor 19-35 33 1H - Slot Anchor 1H

1H

Plan: Plan #1

Standard Planning Report

30 April, 2019



Planning Report

Database:	EDM 5000.14 Single User Db	Local Co-ordinate Reference:	Well Anchor 19-35 33 1H (Anchor 1H) - Slot Anchor 1H
Company:	Catena Resources Operating, LLC	TVD Reference:	3691+25 @ 3716.00usft (KB=25)
Project:	Lea County NM N83-NM-EZ	MD Reference:	3691+25 @ 3716.00usft (KB=25)
Site:	A02 Anchor	North Reference:	Grid
Well:	Anchor 19-35 33 1H	Survey Calculation Method:	Minimum Curvature
Wellbore:	1H		
Design:	Plan #1		

Project	Lea County NM N83-NM-EZ		
Map System:	US State Plane 1983	System Datum:	Mean Sea Level
Geo Datum:	North American Datum 1983		
Map Zone:	New Mexico Eastern Zone		

Site	A02 Anchor				
Site Position:		Northing:	597,583.49 usft	Latitude:	32.63983375
From:	Map	Easting:	807,229.10 usft	Longitude:	-103.46954692
Position Uncertainty:	0.00 usft	Slot Radius:	13-3/16 "	Grid Convergence:	0.47 °

Well	Anchor 19-35 33 1H - Slot Anchor 1H					
Well Position	+N/-S	-10,798.48 usft	Northing:	586,785.00 usft	Latitude:	32.61015265
	+E/-W	105.30 usft	Easting:	807,334.40 usft	Longitude:	-103.46949002
Position Uncertainty	0.00 usft		Wellhead Elevation:		Ground Level:	3,691.00 usft

Wellbore	1H				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2015	4/30/2019	6.73	60.41	47,982.55878786

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 (°)
	0.00	0.00	0.00	359.68

Plan Survey Tool Program	Date	4/30/2019		
Depth From (usft)	Depth To (usft)	Survey (Wellbore)	Tool Name	Remarks
1	0.00	16,139.66 Plan #1 (1H)	MWD	
			MWD - Standard	

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	
5,000.00	0.00	0.00	5,000.00	0.00	0.00	0.00	0.00	0.00	0.00	
5,276.08	4.14	214.62	5,275.84	-8.21	-5.67	1.50	1.50	0.00	214.62	
7,530.29	4.14	214.62	7,524.16	-142.17	-98.14	0.00	0.00	0.00	0.00	
7,806.37	0.00	0.00	7,800.00	-150.38	-103.81	1.50	-1.50	0.00	180.00	EON(Anchor-1H)
10,666.37	0.00	0.00	10,660.00	-150.38	-103.81	0.00	0.00	0.00	0.00	
11,581.04	91.47	359.68	11,232.77	437.25	-107.05	10.00	10.00	-0.03	359.68	
16,139.66	91.47	359.68	11,116.00	4,994.30	-132.20	0.00	0.00	0.00	0.00	PBHL(Anchor-1H)



Planning Report

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Local Co-ordinate Reference:

Well Anchor 19-35 33 1H (Anchor 1H) - Slot
Anchor 1H

Company: Catena Resources Operating, LLC

TVD Reference:

3691+25 @ 3716.00usft (KB=25)

Project: Lea County NM N83-NM-EZ

MD Reference:

3691+25 @ 3716.00usft (KB=25)

Site: A02 Anchor

North Reference:

Grid

Well: Anchor 19-35 33 1H

Survey Calculation Method:

Minimum Curvature

Wellbore: 1H

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)	Builde 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
1,856.00	0.00	0.00	1,856.00	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
3,388.00	0.00	0.00	3,388.00	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
3,500.00	0.00	0.00	3,500.00	0.00	0.00	0.00	0.00	0.00	0.00
3,582.00	0.00	0.00	3,582.00	0.00	0.00	0.00	0.00	0.00	0.00
Yates									
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
4,016.00	0.00	0.00	4,016.00	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

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Well Anchor 19-35 33 1H (Anchor 1H) - Slot Anchor 1H

Company: Catena Resources Operating, LLC

TVD Reference:

3691+25 @ 3716.00usft (KB=25)

Project: Lea County NM N83-NM-EZ

MD Reference:

3691+25 @ 3716.00usft (KB=25)

Site: A02 Anchor

North Reference:

Grid

Well: Anchor 19-35 33 1H

Survey Calculation Method:

Minimum Curvature

Wellbore: 1H

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)
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
4,646.00	0.00	0.00	4,646.00	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	1.50	214.62	5,099.99	-1.08	-0.74	-1.07	1.50	1.50	0.00
5,166.05	2.49	214.62	5,166.00	-2.97	-2.05	-2.96	1.50	1.50	0.00
Capitan Reef									
5,200.00	3.00	214.62	5,199.91	-4.31	-2.97	-4.29	1.50	1.50	0.00
5,276.08	4.14	214.62	5,275.84	-8.21	-5.67	-8.18	1.50	1.50	0.00
5,300.00	4.14	214.62	5,299.70	-9.63	-6.65	-9.59	0.00	0.00	0.00
5,400.00	4.14	214.62	5,399.44	-15.57	-10.75	-15.51	0.00	0.00	0.00
5,500.00	4.14	214.62	5,499.18	-21.51	-14.85	-21.43	0.00	0.00	0.00
5,600.00	4.14	214.62	5,598.91	-27.46	-18.95	-27.35	0.00	0.00	0.00
5,700.00	4.14	214.62	5,698.65	-33.40	-23.06	-33.27	0.00	0.00	0.00
5,800.00	4.14	214.62	5,798.39	-39.34	-27.16	-39.19	0.00	0.00	0.00
5,894.86	4.14	214.62	5,893.00	-44.98	-31.05	-44.81	0.00	0.00	0.00
Delaware Cherry Canyon									
5,900.00	4.14	214.62	5,898.13	-45.29	-31.26	-45.11	0.00	0.00	0.00
6,000.00	4.14	214.62	5,997.87	-51.23	-35.36	-51.03	0.00	0.00	0.00
6,100.00	4.14	214.62	6,097.61	-57.17	-39.47	-56.95	0.00	0.00	0.00
6,200.00	4.14	214.62	6,197.35	-63.12	-43.57	-62.87	0.00	0.00	0.00
6,300.00	4.14	214.62	6,297.09	-69.06	-47.67	-68.79	0.00	0.00	0.00
6,400.00	4.14	214.62	6,396.83	-75.00	-51.77	-74.71	0.00	0.00	0.00
6,500.00	4.14	214.62	6,496.56	-80.94	-55.88	-80.63	0.00	0.00	0.00
6,600.00	4.14	214.62	6,596.30	-86.89	-59.98	-86.55	0.00	0.00	0.00
6,700.00	4.14	214.62	6,696.04	-92.83	-64.08	-92.47	0.00	0.00	0.00
6,800.00	4.14	214.62	6,795.78	-98.77	-68.18	-98.39	0.00	0.00	0.00
6,900.00	4.14	214.62	6,895.52	-104.72	-72.29	-104.31	0.00	0.00	0.00
7,000.00	4.14	214.62	6,995.26	-110.66	-76.39	-110.23	0.00	0.00	0.00
7,100.00	4.14	214.62	7,095.00	-116.60	-80.49	-116.15	0.00	0.00	0.00
7,200.00	4.14	214.62	7,194.74	-122.54	-84.59	-122.07	0.00	0.00	0.00
7,300.00	4.14	214.62	7,294.48	-128.49	-88.70	-127.99	0.00	0.00	0.00
7,400.00	4.14	214.62	7,394.21	-134.43	-92.80	-133.91	0.00	0.00	0.00
7,500.00	4.14	214.62	7,493.95	-140.37	-96.90	-139.83	0.00	0.00	0.00
7,530.29	4.14	214.62	7,524.16	-142.17	-98.14	-141.62	0.00	0.00	0.00
7,600.00	3.10	214.62	7,593.73	-145.79	-100.64	-145.23	1.50	-1.50	0.00
7,700.00	1.60	214.62	7,693.65	-149.16	-102.97	-148.58	1.50	-1.50	0.00
7,806.37	0.00	0.00	7,800.00	-150.38	-103.81	-149.80	1.50	-1.50	0.00
EON(Anchor-1H)									
7,900.00	0.00	0.00	7,893.63	-150.38	-103.81	-149.80	0.00	0.00	0.00
8,000.00	0.00	0.00	7,993.63	-150.38	-103.81	-149.80	0.00	0.00	0.00
8,089.37	0.00	0.00	8,083.00	-150.38	-103.81	-149.80	0.00	0.00	0.00
Bone Spring Lime									
8,100.00	0.00	0.00	8,093.63	-150.38	-103.81	-149.80	0.00	0.00	0.00
8,200.00	0.00	0.00	8,193.63	-150.38	-103.81	-149.80	0.00	0.00	0.00



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 MD Reference: 3691+25 @ 3716.00usft (KB=25)
 North Reference: Grid
 Survey Calculation Method: Minimum Curvature

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)
8,300.00	0.00	0.00	8,293.63	-150.38	-103.81	-149.80	0.00	0.00	0.00
8,400.00	0.00	0.00	8,393.63	-150.38	-103.81	-149.80	0.00	0.00	0.00
8,500.00	0.00	0.00	8,493.63	-150.38	-103.81	-149.80	0.00	0.00	0.00
8,600.00	0.00	0.00	8,593.63	-150.38	-103.81	-149.80	0.00	0.00	0.00
8,700.00	0.00	0.00	8,693.63	-150.38	-103.81	-149.80	0.00	0.00	0.00
8,800.00	0.00	0.00	8,793.63	-150.38	-103.81	-149.80	0.00	0.00	0.00
8,895.37	0.00	0.00	8,889.00	-150.38	-103.81	-149.80	0.00	0.00	0.00
1st Bone Spring Carbonate									
8,900.00	0.00	0.00	8,893.63	-150.38	-103.81	-149.80	0.00	0.00	0.00
9,000.00	0.00	0.00	8,993.63	-150.38	-103.81	-149.80	0.00	0.00	0.00
9,100.00	0.00	0.00	9,093.63	-150.38	-103.81	-149.80	0.00	0.00	0.00
9,200.00	0.00	0.00	9,193.63	-150.38	-103.81	-149.80	0.00	0.00	0.00
9,300.00	0.00	0.00	9,293.63	-150.38	-103.81	-149.80	0.00	0.00	0.00
9,400.00	0.00	0.00	9,393.63	-150.38	-103.81	-149.80	0.00	0.00	0.00
9,500.00	0.00	0.00	9,493.63	-150.38	-103.81	-149.80	0.00	0.00	0.00
9,593.37	0.00	0.00	9,587.00	-150.38	-103.81	-149.80	0.00	0.00	0.00
1st Bone Spring Sand									
9,600.00	0.00	0.00	9,593.63	-150.38	-103.81	-149.80	0.00	0.00	0.00
9,700.00	0.00	0.00	9,693.63	-150.38	-103.81	-149.80	0.00	0.00	0.00
9,800.00	0.00	0.00	9,793.63	-150.38	-103.81	-149.80	0.00	0.00	0.00
9,851.37	0.00	0.00	9,845.00	-150.38	-103.81	-149.80	0.00	0.00	0.00
2nd Bone Spring Carbonate									
9,900.00	0.00	0.00	9,893.63	-150.38	-103.81	-149.80	0.00	0.00	0.00
10,000.00	0.00	0.00	9,993.63	-150.38	-103.81	-149.80	0.00	0.00	0.00
10,100.00	0.00	0.00	10,093.63	-150.38	-103.81	-149.80	0.00	0.00	0.00
10,127.37	0.00	0.00	10,121.00	-150.38	-103.81	-149.80	0.00	0.00	0.00
2nd Bone Spring Sand									
10,200.00	0.00	0.00	10,193.63	-150.38	-103.81	-149.80	0.00	0.00	0.00
10,300.00	0.00	0.00	10,293.63	-150.38	-103.81	-149.80	0.00	0.00	0.00
10,400.00	0.00	0.00	10,393.63	-150.38	-103.81	-149.80	0.00	0.00	0.00
10,448.37	0.00	0.00	10,442.00	-150.38	-103.81	-149.80	0.00	0.00	0.00
2nd Bone Spring 'N' Sand									
10,500.00	0.00	0.00	10,493.63	-150.38	-103.81	-149.80	0.00	0.00	0.00
10,600.00	0.00	0.00	10,593.63	-150.38	-103.81	-149.80	0.00	0.00	0.00
10,666.37	0.00	0.00	10,660.00	-150.38	-103.81	-149.80	0.00	0.00	0.00
KOP: 10666.37' MD, 10660.00' TVD									
10,700.00	3.36	359.68	10,693.61	-149.39	-103.82	-148.81	10.00	10.00	0.00
10,743.60	7.72	359.68	10,737.00	-145.18	-103.84	-144.60	10.00	10.00	0.00
2nd Bone Spring Dolomitic									
10,750.00	8.36	359.68	10,743.34	-144.29	-103.84	-143.70	10.00	10.00	0.00
10,767.90	10.15	359.68	10,761.00	-141.41	-103.86	-140.83	10.00	10.00	0.00
3rd Bone Spring Carbonate									
10,800.00	13.36	359.68	10,792.43	-134.87	-103.90	-134.28	10.00	10.00	0.00
10,850.00	18.36	359.68	10,840.51	-121.20	-103.97	-120.62	10.00	10.00	0.00
10,900.00	23.36	359.68	10,887.21	-103.40	-104.07	-102.82	10.00	10.00	0.00
10,950.00	28.36	359.68	10,932.19	-81.60	-104.19	-81.02	10.00	10.00	0.00
11,000.00	33.36	359.68	10,975.10	-55.96	-104.33	-55.37	10.00	10.00	0.00
11,050.00	38.36	359.68	11,015.60	-26.67	-104.49	-26.09	10.00	10.00	0.00
11,100.00	43.36	359.68	11,053.41	6.03	-104.67	6.61	10.00	10.00	0.00
11,145.07	47.87	359.68	11,084.92	38.23	-104.85	38.81	10.00	10.00	0.00
FTP(Anchor-1H)									
11,150.00	48.36	359.68	11,088.21	41.90	-104.87	42.48	10.00	10.00	0.00



Planning Report

Database: EDM 5000.14 Single User Db

Local Co-ordinate Reference:

Well Anchor 19-35 33 1H (Anchor 1H) - Slot Anchor 1H

Company: Catena Resources Operating, LLC

TVD Reference:

3691+25 @ 3716.00usft (KB=25)

Project: Lea County NM N83-NM-EZ

MD Reference:

3691+25 @ 3716.00usft (KB=25)

Site: A02 Anchor

North Reference:

Grid

Well: Anchor 19-35 33 1H

Survey Calculation Method:

Minimum Curvature

Wellbore: 1H

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)
11,200.00	53.36	359.68	11,119.76	80.67	-105.09	81.25	10.00	10.00	0.00
11,210.59	54.42	359.68	11,126.00	89.22	-105.13	89.81	10.00	10.00	0.00
3rd Bone Spring Sand									
11,250.00	58.36	359.68	11,147.81	122.04	-105.31	122.63	10.00	10.00	0.00
11,300.00	63.36	359.68	11,172.15	165.70	-105.55	166.29	10.00	10.00	0.00
11,340.47	67.41	359.68	11,189.00	202.48	-105.76	203.07	10.00	10.00	0.00
Wolfcamp									
11,350.00	68.36	359.68	11,192.59	211.31	-105.81	211.90	10.00	10.00	0.00
11,400.00	73.36	359.68	11,208.97	258.53	-106.07	259.12	10.00	10.00	0.00
11,450.00	78.36	359.68	11,221.18	307.00	-106.33	307.59	10.00	10.00	0.00
11,490.94	82.46	359.68	11,228.00	347.36	-106.56	347.95	10.00	10.00	0.00
Wolfcamp 'A' Target									
11,500.00	83.36	359.68	11,229.12	356.35	-106.61	356.94	10.00	10.00	0.00
11,550.00	88.36	359.68	11,232.72	406.21	-106.88	406.80	10.00	10.00	0.00
11,581.04	91.47	359.68	11,232.77	437.24	-107.05	437.83	10.00	10.00	0.00
EOC: 11581.04' MD, 11232.77' TVD									
11,600.00	91.47	359.68	11,232.28	456.19	-107.16	456.79	0.00	0.00	0.00
11,700.00	91.47	359.68	11,229.72	556.16	-107.71	556.75	0.00	0.00	0.00
11,716.28	91.47	359.68	11,229.31	572.43	-107.80	573.03	0.00	0.00	0.00
T1(A-1H)-0573VS									
11,800.00	91.47	359.68	11,227.16	656.13	-108.26	656.72	0.00	0.00	0.00
11,900.00	91.47	359.68	11,224.60	756.09	-108.81	756.69	0.00	0.00	0.00
12,000.00	91.47	359.68	11,222.04	856.06	-109.36	856.65	0.00	0.00	0.00
12,100.00	91.47	359.68	11,219.48	956.02	-109.92	956.62	0.00	0.00	0.00
12,143.35	91.47	359.68	11,218.37	999.36	-110.15	999.96	0.00	0.00	0.00
T2(A-1H)-1000VS									
12,200.00	91.47	359.68	11,216.92	1,055.99	-110.47	1,056.59	0.00	0.00	0.00
12,300.00	91.47	359.68	11,214.35	1,155.95	-111.02	1,156.56	0.00	0.00	0.00
12,400.00	91.47	359.68	11,211.79	1,255.92	-111.57	1,256.52	0.00	0.00	0.00
12,500.00	91.47	359.68	11,209.23	1,355.89	-112.12	1,356.49	0.00	0.00	0.00
12,600.00	91.47	359.68	11,206.67	1,455.85	-112.67	1,456.46	0.00	0.00	0.00
12,700.00	91.47	359.68	11,204.11	1,555.82	-113.23	1,556.43	0.00	0.00	0.00
12,800.00	91.47	359.68	11,201.55	1,655.78	-113.78	1,656.39	0.00	0.00	0.00
12,900.00	91.47	359.68	11,198.98	1,755.75	-114.33	1,756.36	0.00	0.00	0.00
13,000.00	91.47	359.68	11,196.42	1,855.71	-114.88	1,856.33	0.00	0.00	0.00
13,100.00	91.47	359.68	11,193.86	1,955.68	-115.43	1,956.29	0.00	0.00	0.00
13,143.64	91.47	359.68	11,192.74	1,999.31	-115.67	1,999.92	0.00	0.00	0.00
T3(A-1H)-2000VS									
13,200.00	91.47	359.68	11,191.30	2,055.65	-115.98	2,056.26	0.00	0.00	0.00
13,300.00	91.47	359.68	11,188.74	2,155.61	-116.54	2,156.23	0.00	0.00	0.00
13,400.00	91.47	359.68	11,186.18	2,255.58	-117.09	2,256.20	0.00	0.00	0.00
13,500.00	91.47	359.68	11,183.62	2,355.54	-117.64	2,356.16	0.00	0.00	0.00
13,600.00	91.47	359.68	11,181.05	2,455.51	-118.19	2,456.13	0.00	0.00	0.00
13,700.00	91.47	359.68	11,178.49	2,555.47	-118.74	2,556.10	0.00	0.00	0.00
13,800.00	91.47	359.68	11,175.93	2,655.44	-119.29	2,656.06	0.00	0.00	0.00
13,900.00	91.47	359.68	11,173.37	2,755.41	-119.85	2,756.03	0.00	0.00	0.00
14,000.00	91.47	359.68	11,170.81	2,855.37	-120.40	2,856.00	0.00	0.00	0.00
14,100.00	91.47	359.68	11,168.25	2,955.34	-120.95	2,955.97	0.00	0.00	0.00
14,144.03	91.47	359.68	11,167.12	2,999.35	-121.19	2,999.98	0.00	0.00	0.00
T4(A-1H)-3000VS									
14,200.00	91.47	359.68	11,165.69	3,055.30	-121.50	3,055.93	0.00	0.00	0.00
14,300.00	91.47	359.68	11,163.12	3,155.27	-122.05	3,155.90	0.00	0.00	0.00



Planning Report

Database: EDM 5000.14 Single User Db

Local Co-ordinate Reference:

Well Anchor 19-35 33 1H (Anchor 1H) - Slot Anchor 1H

Company: Catena Resources Operating, LLC

TVD Reference:

3691+25 @ 3716.00usft (KB=25)

Project: Lea County NM N83-NM-EZ

MD Reference:

3691+25 @ 3716.00usft (KB=25)

Site: A02 Anchor

North Reference:

Grid

Well: Anchor 19-35 33 1H

Survey Calculation Method:

Minimum Curvature

Wellbore: 1H

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)
14,400.00	91.47	359.68	11,160.56	3,255.23	-122.60	3,255.87	0.00	0.00	0.00
14,500.00	91.47	359.68	11,158.00	3,355.20	-123.15	3,355.83	0.00	0.00	0.00
14,600.00	91.47	359.68	11,155.44	3,455.16	-123.71	3,455.80	0.00	0.00	0.00
14,700.00	91.47	359.68	11,152.88	3,555.13	-124.26	3,555.77	0.00	0.00	0.00
14,800.00	91.47	359.68	11,150.32	3,655.10	-124.81	3,655.74	0.00	0.00	0.00
14,900.00	91.47	359.68	11,147.75	3,755.06	-125.36	3,755.70	0.00	0.00	0.00
15,000.00	91.47	359.68	11,145.19	3,855.03	-125.91	3,855.67	0.00	0.00	0.00
15,100.00	91.47	359.68	11,142.63	3,954.99	-126.46	3,955.64	0.00	0.00	0.00
15,144.31	91.47	359.68	11,141.50	3,999.29	-126.71	3,999.93	0.00	0.00	0.00
T5(A-1H)-4000VS									
15,200.00	91.47	359.68	11,140.07	4,054.96	-127.02	4,055.60	0.00	0.00	0.00
15,300.00	91.47	359.68	11,137.51	4,154.92	-127.57	4,155.57	0.00	0.00	0.00
15,400.00	91.47	359.68	11,134.95	4,254.89	-128.12	4,255.54	0.00	0.00	0.00
15,500.00	91.47	359.68	11,132.39	4,354.86	-128.67	4,355.51	0.00	0.00	0.00
15,600.00	91.47	359.68	11,129.82	4,454.82	-129.22	4,455.47	0.00	0.00	0.00
15,700.00	91.47	359.68	11,127.26	4,554.79	-129.77	4,555.44	0.00	0.00	0.00
15,800.00	91.47	359.68	11,124.70	4,654.75	-130.33	4,655.41	0.00	0.00	0.00
15,900.00	91.47	359.68	11,122.14	4,754.72	-130.88	4,755.38	0.00	0.00	0.00
16,000.00	91.47	359.68	11,119.58	4,854.68	-131.43	4,855.34	0.00	0.00	0.00
16,100.00	91.47	359.68	11,117.02	4,954.65	-131.98	4,955.31	0.00	0.00	0.00
16,139.64	91.47	359.68	11,116.00	4,994.27	-132.20	4,994.93	0.00	0.00	0.00
T6(A-1H)-4994.3VS									
16,139.66	91.47	359.68	11,116.00	4,994.30	-132.20	4,994.96	0.00	0.00	0.00
TD: 16139.66' MD, 11116.00' TVD - PBHL(Anchor-1H)									



Planning Report

Database: EDM 5000.14 Single User Db
 Company: Catena Resources Operating, LLC
 Project: Lea County NM N83-NM-EZ
 Site: A02 Anchor
 Well: Anchor 19-35 33 1H
 Wellbore: 1H
 Design: Plan #1

Local Co-ordinate Reference: Well Anchor 19-35 33 1H (Anchor 1H) - Slot Anchor 1H
 TVD Reference: 3691+25 @ 3716.00usft (KB=25)
 MD Reference: 3691+25 @ 3716.00usft (KB=25)
 North Reference: Grid
 Survey Calculation Method: Minimum Curvature

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
EON(Anchor-1H) - plan hits target center - Point	0.00	0.00	7,800.00	-150.38	-103.81	586,634.62	807,230.59	32.60974166	-103.46983108
PBHL(Anchor-1H) - plan hits target center - Point	0.00	0.00	11,116.00	4,994.30	-132.20	591,779.30	807,202.20	32.62388204	-103.46978754
T6(A-1H)-4994.3VS - plan misses target center by 1.00usft at 16139.64usft MD (11116.00 TVD, 4994.27 N, -132.20 E) - Point	0.00	0.00	11,117.00	4,994.30	-132.20	591,779.30	807,202.20	32.62388204	-103.46978754
T5(A-1H)-4000VS - plan misses target center by 2.50usft at 15144.31usft MD (11141.50 TVD, 3999.29 N, -126.71 E) - Point	0.00	0.00	11,144.00	3,999.35	-126.71	590,784.35	807,207.69	32.62114738	-103.46979597
T4(A-1H)-3000VS - plan misses target center by 0.88usft at 14144.03usft MD (11167.12 TVD, 2999.35 N, -121.19 E) - Point	0.00	0.00	11,168.00	2,999.37	-121.19	589,784.37	807,213.21	32.61839889	-103.46980443
T3(A-1H)-2000VS - plan misses target center by 3.26usft at 13143.64usft MD (11192.74 TVD, 1999.31 N, -115.67 E) - Point	0.00	0.00	11,196.00	1,999.39	-115.67	588,784.39	807,218.73	32.61565040	-103.46981289
T2(A-1H)-1000VS - plan misses target center by 1.63usft at 12143.35usft MD (11218.37 TVD, 999.36 N, -110.15 E) - Point	0.00	0.00	11,220.00	999.40	-110.15	587,784.40	807,224.25	32.61290188	-103.46982134
T1(A-1H)-0573VS - plan misses target center by 1.31usft at 11716.28usft MD (11229.31 TVD, 572.43 N, -107.80 E) - Point	0.00	0.00	11,228.00	572.40	-107.80	587,357.40	807,226.60	32.61172825	-103.46982498
FTP(Anchor-1H) - plan misses target center by 199.36usft at 11145.07usft MD (11084.92 TVD, 38.23 N, -104.85 E) - Point	0.00	0.00	11,228.00	-100.60	-104.10	586,684.40	807,230.30	32.60987848	-103.46983071



Planning Report

Database: EDM 5000.14 Single User Db
Company: Catena Resources Operating, LLC
Project: Lea County NM N83-NM-EZ
Site: A02 Anchor
Well: Anchor 19-35 33 1H
Wellbore: 1H
Design: Plan #1

Local Co-ordinate Reference: Well Anchor 19-35 33 1H (Anchor 1H) - Slot Anchor 1H
TVD Reference: 3691+25 @ 3716.00usft (KB=25)
MD Reference: 3691+25 @ 3716.00usft (KB=25)
North Reference: Grid
Survey Calculation Method: Minimum Curvature

Formations

Measured Depth (usft)	Vertical Depth (usft)	Name	Lithology	Dip (°)	Dip Direction (°)
1,856.00	1,856.00	Rustler			
1,953.00	1,953.00	Salt			
3,388.00	3,388.00	Base of Salt			
3,582.00	3,582.00	Yates			
4,016.00	4,016.00	Seven Rivers			
4,646.00	4,646.00	Queen			
5,166.05	5,166.00	Capitan Reef			
5,894.86	5,893.00	Delaware Cherry Canyon			
8,089.37	8,083.00	Bone Spring Lime			
8,895.37	8,889.00	1st Bone Spring Carbonate			
9,593.37	9,587.00	1st Bone Spring Sand			
9,851.37	9,845.00	2nd Bone Spring Carbonate			
10,127.37	10,121.00	2nd Bone Spring Sand			
10,448.37	10,442.00	2nd Bone Spring 'N' Sand			
10,743.60	10,737.00	2nd Bone Spring Dolomitic			
10,767.90	10,761.00	3rd Bone Spring Carbonate			
11,210.59	11,126.00	3rd Bone Spring Sand			
11,340.47	11,189.00	Wolfcamp			
11,490.94	11,228.00	Wolfcamp 'A' Target			

Plan Annotations

Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates		Comment
		+N/-S (usft)	+E/-W (usft)	
10,666.37	10,660.00	0.00	0.00	KOP: 10666.37' MD, 10660.00' TVD
11,581.04	11,232.77	-8.21	-5.67	EOC: 11581.04' MD, 11232.77' TVD
16,139.66	11,116.00	-142.17	-98.14	TD: 16139.66' MD, 11116.00' TVD