

30-025-44942

AMEREDEV

HOBBS OCD
JUN 27 2018
RECEIVED

Ameredev Operating, LLC

Lea County, NM (NAD83 NME)
(Amen Corner) Sec-27_T-26-S_R-36-E
Amen Corner State Com 26-36-27 #121H

OWB

Plan: Plan #1

Standard Planning Report

20 June, 2018

INTREPID

Database:	EDM5000	Local Co-ordinate Reference:	Well Amen Corner State Com 26-36-27 #121H
Company:	Ameredeve Operating, LLC	TVD Reference:	KB @ 2938.0usft (Rig)
Project:	Lea County, NM (NAD83 NME)	MD Reference:	KB @ 2938.0usft (Rig)
Site:	(Amen Corner) Sec-27_T-26-S_R-36-E	North Reference:	Grid
Well:	Amen Corner State Com 26-36-27 #121H	Survey Calculation Method:	Minimum Curvature
Wellbore:	OWB		
Design:	Plan #1		

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

Site	(Amen Corner) Sec-27_T-26-S_R-36-E		
Site Position:		Northing:	373,046.00 usft
From:	Map	Easting:	876,483.00 usft
Position Uncertainty:	0.0 usft	Slot Radius:	13-3/16 "
		Latitude:	32.0209732
		Longitude:	-103.2519593
		Grid Convergence:	0.57 °

Well	Amen Corner State Com 26-36-27 #121H		
Well Position	+N/-S 406.0 usft	Northing:	373,452.00 usft
	+E/-W -2,744.0 usft	Easting:	873,739.00 usft
Position Uncertainty	0.0 usft	Wellhead Elevation:	Ground Level: 2,911.0 usft

Wellbore	OWB				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2015	2018/06/14	6.69	59.91	47,752.23168969

Design	Plan #1			
Audit Notes:				
Version:	Phase:	PLAN	Tie On Depth:	0.0
Vertical Section:	Depth From (TVD) (usft)	+N/-S (usft)	+E/-W (usft)	Direction (°)
	0.0	0.0	0.0	178.31

Plan Survey Tool Program	Date	2018/06/20		
Depth From (usft)	Depth To (usft)	Survey (Wellbore)	Tool Name	Remarks
1	0.0	19,580.2 Plan #1 (OWB)	MWD	
			MWD - Standard	

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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
0.0	0.00	0.00	0.0	0.0	0.0	0.00	0.00	0.00	0.00	
2,000.0	0.00	0.00	2,000.0	0.0	0.0	0.00	0.00	0.00	0.00	
2,125.0	2.50	220.00	2,125.0	-2.1	-1.8	2.00	2.00	0.00	220.00	
5,002.8	2.50	220.00	5,000.0	-98.2	-82.4	0.00	0.00	0.00	0.00	
5,127.8	0.00	0.00	5,125.0	-100.3	-84.2	2.00	-2.00	112.00	180.00	
11,548.9	0.00	0.00	11,546.1	-100.3	-84.2	0.00	0.00	0.00	0.00	
12,148.9	60.00	149.70	12,042.3	-347.7	60.3	10.00	10.00	0.00	149.70	
12,561.1	90.00	179.41	12,150.0	-724.2	156.7	10.00	7.28	7.21	48.77	
19,450.2	90.00	179.41	12,150.0	-7,613.0	228.0	0.00	0.00	0.00	0.00	LTP (Amen Corner)
19,580.2	90.00	179.41	12,150.0	-7,743.0	229.3	0.00	0.00	0.00	0.00	PBHL (Amen Corner)

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Wellbore:	OWB		
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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)
0.0	0.00	0.00	0.0	0.0	0.0	0.0	0.00	0.00	0.00
100.0	0.00	0.00	100.0	0.0	0.0	0.0	0.00	0.00	0.00
200.0	0.00	0.00	200.0	0.0	0.0	0.0	0.00	0.00	0.00
300.0	0.00	0.00	300.0	0.0	0.0	0.0	0.00	0.00	0.00
400.0	0.00	0.00	400.0	0.0	0.0	0.0	0.00	0.00	0.00
500.0	0.00	0.00	500.0	0.0	0.0	0.0	0.00	0.00	0.00
600.0	0.00	0.00	600.0	0.0	0.0	0.0	0.00	0.00	0.00
700.0	0.00	0.00	700.0	0.0	0.0	0.0	0.00	0.00	0.00
800.0	0.00	0.00	800.0	0.0	0.0	0.0	0.00	0.00	0.00
900.0	0.00	0.00	900.0	0.0	0.0	0.0	0.00	0.00	0.00
1,000.0	0.00	0.00	1,000.0	0.0	0.0	0.0	0.00	0.00	0.00
1,100.0	0.00	0.00	1,100.0	0.0	0.0	0.0	0.00	0.00	0.00
1,200.0	0.00	0.00	1,200.0	0.0	0.0	0.0	0.00	0.00	0.00
1,300.0	0.00	0.00	1,300.0	0.0	0.0	0.0	0.00	0.00	0.00
1,350.0	0.00	0.00	1,350.0	0.0	0.0	0.0	0.00	0.00	0.00
13 3/8"									
1,400.0	0.00	0.00	1,400.0	0.0	0.0	0.0	0.00	0.00	0.00
1,500.0	0.00	0.00	1,500.0	0.0	0.0	0.0	0.00	0.00	0.00
1,600.0	0.00	0.00	1,600.0	0.0	0.0	0.0	0.00	0.00	0.00
1,700.0	0.00	0.00	1,700.0	0.0	0.0	0.0	0.00	0.00	0.00
1,800.0	0.00	0.00	1,800.0	0.0	0.0	0.0	0.00	0.00	0.00
1,900.0	0.00	0.00	1,900.0	0.0	0.0	0.0	0.00	0.00	0.00
2,000.0	0.00	0.00	2,000.0	0.0	0.0	0.0	0.00	0.00	0.00
BUILD - 2.00									
2,100.0	2.00	220.00	2,100.0	-1.3	-1.1	1.3	2.00	2.00	0.00
2,125.0	2.50	220.00	2,125.0	-2.1	-1.8	2.0	2.00	2.00	0.00
HOLD - 2877.8 at 2125.0 MD									
2,194.1	2.50	220.00	2,194.0	-4.4	-3.7	4.3	0.00	0.00	0.00
Rustler									
2,200.0	2.50	220.00	2,199.9	-4.6	-3.9	4.5	0.00	0.00	0.00
2,300.0	2.50	220.00	2,299.8	-7.9	-6.7	7.7	0.00	0.00	0.00
2,400.0	2.50	220.00	2,399.7	-11.3	-9.5	11.0	0.00	0.00	0.00
2,500.0	2.50	220.00	2,499.6	-14.6	-12.3	14.3	0.00	0.00	0.00
2,513.4	2.50	220.00	2,513.0	-15.1	-12.6	14.7	0.00	0.00	0.00
Salado									
2,600.0	2.50	220.00	2,599.5	-18.0	-15.1	17.5	0.00	0.00	0.00
2,700.0	2.50	220.00	2,699.4	-21.3	-17.9	20.8	0.00	0.00	0.00
2,800.0	2.50	220.00	2,799.3	-24.6	-20.7	24.0	0.00	0.00	0.00
2,900.0	2.50	220.00	2,899.2	-28.0	-23.5	27.3	0.00	0.00	0.00
3,000.0	2.50	220.00	2,999.1	-31.3	-26.3	30.5	0.00	0.00	0.00
3,100.0	2.50	220.00	3,099.0	-34.7	-29.1	33.8	0.00	0.00	0.00
3,200.0	2.50	220.00	3,198.9	-38.0	-31.9	37.0	0.00	0.00	0.00
3,225.1	2.50	220.00	3,224.0	-38.8	-32.6	37.9	0.00	0.00	0.00
Tansill									
3,300.0	2.50	220.00	3,298.8	-41.4	-34.7	40.3	0.00	0.00	0.00
3,400.0	2.50	220.00	3,398.7	-44.7	-37.5	43.6	0.00	0.00	0.00
3,500.0	2.50	220.00	3,498.7	-48.0	-40.3	46.8	0.00	0.00	0.00
3,600.0	2.50	220.00	3,598.6	-51.4	-43.1	50.1	0.00	0.00	0.00
3,700.0	2.50	220.00	3,698.5	-54.7	-45.9	53.3	0.00	0.00	0.00
3,800.0	2.50	220.00	3,798.4	-58.1	-48.7	56.6	0.00	0.00	0.00
3,900.0	2.50	220.00	3,898.3	-61.4	-51.5	59.8	0.00	0.00	0.00
4,000.0	2.50	220.00	3,998.2	-64.7	-54.3	63.1	0.00	0.00	0.00

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Wellbore:	OWB		
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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)
4,100.0	2.50	220.00	4,098.1	-68.1	-57.1	66.4	0.00	0.00	0.00
4,200.0	2.50	220.00	4,198.0	-71.4	-59.9	69.6	0.00	0.00	0.00
4,300.0	2.50	220.00	4,297.9	-74.8	-62.7	72.9	0.00	0.00	0.00
4,400.0	2.50	220.00	4,397.8	-78.1	-65.5	76.1	0.00	0.00	0.00
4,500.0	2.50	220.00	4,497.7	-81.4	-68.3	79.4	0.00	0.00	0.00
4,600.0	2.50	220.00	4,597.6	-84.8	-71.1	82.6	0.00	0.00	0.00
4,700.0	2.50	220.00	4,697.5	-88.1	-74.0	85.9	0.00	0.00	0.00
4,800.0	2.50	220.00	4,797.4	-91.5	-76.8	89.2	0.00	0.00	0.00
4,900.0	2.50	220.00	4,897.3	-94.8	-79.6	92.4	0.00	0.00	0.00
5,002.8	2.50	220.00	5,000.0	-98.2	-82.4	95.8	0.00	0.00	0.00
DROP - DLS 2.00 TFO 180.00									
5,100.0	0.56	220.00	5,097.2	-100.2	-84.1	97.7	2.00	-2.00	0.00
5,102.8	0.50	220.00	5,100.0	-100.3	-84.1	97.7	2.00	-2.00	0.00
10 3/4"									
5,127.8	0.00	0.00	5,125.0	-100.3	-84.2	97.8	2.00	-2.00	560.88
HOLD - 6421.1 at 5127.8 MD									
5,200.0	0.00	0.00	5,197.2	-100.3	-84.2	97.8	0.00	0.00	0.00
5,222.8	0.00	0.00	5,220.0	-100.3	-84.2	97.8	0.00	0.00	0.00
Bell Canyon									
5,300.0	0.00	0.00	5,297.2	-100.3	-84.2	97.8	0.00	0.00	0.00
5,400.0	0.00	0.00	5,397.2	-100.3	-84.2	97.8	0.00	0.00	0.00
5,500.0	0.00	0.00	5,497.2	-100.3	-84.2	97.8	0.00	0.00	0.00
5,600.0	0.00	0.00	5,597.2	-100.3	-84.2	97.8	0.00	0.00	0.00
5,700.0	0.00	0.00	5,697.2	-100.3	-84.2	97.8	0.00	0.00	0.00
5,800.0	0.00	0.00	5,797.2	-100.3	-84.2	97.8	0.00	0.00	0.00
5,900.0	0.00	0.00	5,897.2	-100.3	-84.2	97.8	0.00	0.00	0.00
6,000.0	0.00	0.00	5,997.2	-100.3	-84.2	97.8	0.00	0.00	0.00
6,100.0	0.00	0.00	6,097.2	-100.3	-84.2	97.8	0.00	0.00	0.00
6,200.0	0.00	0.00	6,197.2	-100.3	-84.2	97.8	0.00	0.00	0.00
6,300.0	0.00	0.00	6,297.2	-100.3	-84.2	97.8	0.00	0.00	0.00
6,400.0	0.00	0.00	6,397.2	-100.3	-84.2	97.8	0.00	0.00	0.00
6,500.0	0.00	0.00	6,497.2	-100.3	-84.2	97.8	0.00	0.00	0.00
6,600.0	0.00	0.00	6,597.2	-100.3	-84.2	97.8	0.00	0.00	0.00
6,700.0	0.00	0.00	6,697.2	-100.3	-84.2	97.8	0.00	0.00	0.00
6,800.0	0.00	0.00	6,797.2	-100.3	-84.2	97.8	0.00	0.00	0.00
6,809.8	0.00	0.00	6,807.0	-100.3	-84.2	97.8	0.00	0.00	0.00
Brushy Canyon									
6,900.0	0.00	0.00	6,897.2	-100.3	-84.2	97.8	0.00	0.00	0.00
7,000.0	0.00	0.00	6,997.2	-100.3	-84.2	97.8	0.00	0.00	0.00
7,100.0	0.00	0.00	7,097.2	-100.3	-84.2	97.8	0.00	0.00	0.00
7,200.0	0.00	0.00	7,197.2	-100.3	-84.2	97.8	0.00	0.00	0.00
7,300.0	0.00	0.00	7,297.2	-100.3	-84.2	97.8	0.00	0.00	0.00
7,400.0	0.00	0.00	7,397.2	-100.3	-84.2	97.8	0.00	0.00	0.00
7,500.0	0.00	0.00	7,497.2	-100.3	-84.2	97.8	0.00	0.00	0.00
7,600.0	0.00	0.00	7,597.2	-100.3	-84.2	97.8	0.00	0.00	0.00
7,700.0	0.00	0.00	7,697.2	-100.3	-84.2	97.8	0.00	0.00	0.00
7,800.0	0.00	0.00	7,797.2	-100.3	-84.2	97.8	0.00	0.00	0.00
7,820.8	0.00	0.00	7,818.0	-100.3	-84.2	97.8	0.00	0.00	0.00
Bone Spring (Lime)									
7,900.0	0.00	0.00	7,897.2	-100.3	-84.2	97.8	0.00	0.00	0.00
8,000.0	0.00	0.00	7,997.2	-100.3	-84.2	97.8	0.00	0.00	0.00
8,100.0	0.00	0.00	8,097.2	-100.3	-84.2	97.8	0.00	0.00	0.00

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8,200.0	0.00	0.00	8,197.2	-100.3	-84.2	97.8	0.00	0.00	0.00
8,300.0	0.00	0.00	8,297.2	-100.3	-84.2	97.8	0.00	0.00	0.00
8,400.0	0.00	0.00	8,397.2	-100.3	-84.2	97.8	0.00	0.00	0.00
8,500.0	0.00	0.00	8,497.2	-100.3	-84.2	97.8	0.00	0.00	0.00
8,600.0	0.00	0.00	8,597.2	-100.3	-84.2	97.8	0.00	0.00	0.00
8,700.0	0.00	0.00	8,697.2	-100.3	-84.2	97.8	0.00	0.00	0.00
8,800.0	0.00	0.00	8,797.2	-100.3	-84.2	97.8	0.00	0.00	0.00
8,900.0	0.00	0.00	8,897.2	-100.3	-84.2	97.8	0.00	0.00	0.00
9,000.0	0.00	0.00	8,997.2	-100.3	-84.2	97.8	0.00	0.00	0.00
9,100.0	0.00	0.00	9,097.2	-100.3	-84.2	97.8	0.00	0.00	0.00
9,200.0	0.00	0.00	9,197.2	-100.3	-84.2	97.8	0.00	0.00	0.00
9,300.0	0.00	0.00	9,297.2	-100.3	-84.2	97.8	0.00	0.00	0.00
9,377.8	0.00	0.00	9,375.0	-100.3	-84.2	97.8	0.00	0.00	0.00
1st Bone Spring									
9,400.0	0.00	0.00	9,397.2	-100.3	-84.2	97.8	0.00	0.00	0.00
9,500.0	0.00	0.00	9,497.2	-100.3	-84.2	97.8	0.00	0.00	0.00
9,600.0	0.00	0.00	9,597.2	-100.3	-84.2	97.8	0.00	0.00	0.00
9,700.0	0.00	0.00	9,697.2	-100.3	-84.2	97.8	0.00	0.00	0.00
9,800.0	0.00	0.00	9,797.2	-100.3	-84.2	97.8	0.00	0.00	0.00
9,896.8	0.00	0.00	9,894.0	-100.3	-84.2	97.8	0.00	0.00	0.00
2nd Bone Spring									
9,900.0	0.00	0.00	9,897.2	-100.3	-84.2	97.8	0.00	0.00	0.00
10,000.0	0.00	0.00	9,997.2	-100.3	-84.2	97.8	0.00	0.00	0.00
10,100.0	0.00	0.00	10,097.2	-100.3	-84.2	97.8	0.00	0.00	0.00
10,200.0	0.00	0.00	10,197.2	-100.3	-84.2	97.8	0.00	0.00	0.00
10,300.0	0.00	0.00	10,297.2	-100.3	-84.2	97.8	0.00	0.00	0.00
10,400.0	0.00	0.00	10,397.2	-100.3	-84.2	97.8	0.00	0.00	0.00
10,500.0	0.00	0.00	10,497.2	-100.3	-84.2	97.8	0.00	0.00	0.00
10,600.0	0.00	0.00	10,597.2	-100.3	-84.2	97.8	0.00	0.00	0.00
10,634.8	0.00	0.00	10,632.0	-100.3	-84.2	97.8	0.00	0.00	0.00
3rd Bone Spring Lime									
10,700.0	0.00	0.00	10,697.2	-100.3	-84.2	97.8	0.00	0.00	0.00
10,800.0	0.00	0.00	10,797.2	-100.3	-84.2	97.8	0.00	0.00	0.00
10,900.0	0.00	0.00	10,897.2	-100.3	-84.2	97.8	0.00	0.00	0.00
10,952.8	0.00	0.00	10,950.0	-100.3	-84.2	97.8	0.00	0.00	0.00
7 5/8"									
11,000.0	0.00	0.00	10,997.2	-100.3	-84.2	97.8	0.00	0.00	0.00
11,100.0	0.00	0.00	11,097.2	-100.3	-84.2	97.8	0.00	0.00	0.00
11,200.0	0.00	0.00	11,197.2	-100.3	-84.2	97.8	0.00	0.00	0.00
11,260.8	0.00	0.00	11,258.0	-100.3	-84.2	97.8	0.00	0.00	0.00
3rd Bone Spring									
11,300.0	0.00	0.00	11,297.2	-100.3	-84.2	97.8	0.00	0.00	0.00
11,400.0	0.00	0.00	11,397.2	-100.3	-84.2	97.8	0.00	0.00	0.00
11,442.8	0.00	0.00	11,440.0	-100.3	-84.2	97.8	0.00	0.00	0.00
Top of Wolfcamp									
11,500.0	0.00	0.00	11,497.2	-100.3	-84.2	97.8	0.00	0.00	0.00
11,548.9	0.00	0.00	11,546.1	-100.3	-84.2	97.8	0.00	0.00	0.00
KOP - Build 10.00									
11,550.0	0.11	149.70	11,547.2	-100.3	-84.2	97.8	10.00	10.00	13,839.68
11,600.0	5.11	149.70	11,597.1	-102.3	-83.0	99.8	10.00	10.00	0.00
11,650.0	10.11	149.70	11,646.7	-108.0	-79.7	105.6	10.00	10.00	0.00
11,700.0	15.11	149.70	11,695.4	-117.4	-74.2	115.2	10.00	10.00	0.00

Database:	EDM5000	Local Co-ordinate Reference:	Well Amen Corner State Com 26-36-27 #121H
Company:	Ameredev Operating, LLC	TVD Reference:	KB @ 2938.0usft (Rig)
Project:	Lea County, NM (NAD83 NME)	MD Reference:	KB @ 2938.0usft (Rig)
Site:	(Amen Corner) Sec-27_T-26-S_R-36-E	North Reference:	Grid
Well:	Amen Corner State Com 26-36-27 #121H	Survey Calculation Method:	Minimum Curvature
Wellbore:	OWB		
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)
11,750.0	20.11	149.70	11,743.1	-130.5	-66.6	128.5	10.00	10.00	0.00
11,800.0	25.11	149.70	11,789.2	-147.1	-56.9	145.3	10.00	10.00	0.00
11,842.5	29.36	149.70	11,827.0	-163.9	-47.1	162.4	10.00	10.00	0.00
Wolfcamp B									
11,850.0	30.11	149.70	11,833.5	-167.1	-45.2	165.7	10.00	10.00	0.00
11,900.0	35.11	149.70	11,875.6	-190.3	-31.6	189.3	10.00	10.00	0.00
11,950.0	40.11	149.70	11,915.2	-216.7	-16.2	216.1	10.00	10.00	0.00
12,000.0	45.11	149.70	11,952.0	-245.9	0.9	245.8	10.00	10.00	0.00
12,050.0	50.11	149.70	11,985.7	-277.8	19.5	278.2	10.00	10.00	0.00
12,100.0	55.11	149.70	12,016.1	-312.0	39.5	313.1	10.00	10.00	0.00
12,148.9	60.00	149.70	12,042.3	-347.7	60.3	349.3	10.00	10.00	0.00
TURN & BUILD - DLS 10.00 TFO 48.77									
12,150.0	60.07	149.79	12,042.8	-348.5	60.8	350.1	10.00	6.59	8.68
12,200.0	63.44	153.99	12,066.5	-387.3	81.5	389.6	10.00	6.73	8.40
12,250.0	66.92	157.95	12,087.5	-428.8	100.0	431.5	10.00	6.96	7.91
12,300.0	70.49	161.70	12,105.7	-472.5	116.0	475.7	10.00	7.15	7.51
12,350.0	74.14	165.29	12,120.9	-518.2	129.5	521.8	10.00	7.30	7.18
12,400.0	77.85	168.75	12,133.0	-565.4	140.4	569.3	10.00	7.41	6.92
FTP (Amen Corner State Com #121H)									
12,450.0	81.59	172.12	12,141.9	-613.9	148.6	618.0	10.00	7.49	6.73
12,500.0	85.37	175.42	12,147.6	-663.3	154.0	667.5	10.00	7.55	6.60
12,550.0	89.16	178.68	12,149.9	-713.1	156.5	717.5	10.00	7.58	6.53
12,561.1	90.00	179.41	12,150.0	-724.2	156.7	728.6	10.00	7.59	6.51
HOLD - 6889.1 at 12561.1 MD									
12,600.0	90.00	179.41	12,150.0	-763.1	157.1	767.5	0.00	0.00	0.00
12,700.0	90.00	179.41	12,150.0	-863.1	158.2	867.4	0.00	0.00	0.00
12,800.0	90.00	179.41	12,150.0	-963.1	159.2	967.4	0.00	0.00	0.00
12,900.0	90.00	179.41	12,150.0	-1,063.1	160.2	1,067.4	0.00	0.00	0.00
13,000.0	90.00	179.41	12,150.0	-1,163.1	161.3	1,167.4	0.00	0.00	0.00
13,100.0	90.00	179.41	12,150.0	-1,263.1	162.3	1,267.4	0.00	0.00	0.00
13,200.0	90.00	179.41	12,150.0	-1,363.1	163.3	1,367.3	0.00	0.00	0.00
13,300.0	90.00	179.41	12,150.0	-1,463.1	164.4	1,467.3	0.00	0.00	0.00
13,400.0	90.00	179.41	12,150.0	-1,563.1	165.4	1,567.3	0.00	0.00	0.00
13,500.0	90.00	179.41	12,150.0	-1,663.1	166.4	1,667.3	0.00	0.00	0.00
13,600.0	90.00	179.41	12,150.0	-1,763.1	167.5	1,767.3	0.00	0.00	0.00
13,700.0	90.00	179.41	12,150.0	-1,863.1	168.5	1,867.2	0.00	0.00	0.00
13,800.0	90.00	179.41	12,150.0	-1,963.1	169.5	1,967.2	0.00	0.00	0.00
13,900.0	90.00	179.41	12,150.0	-2,063.1	170.6	2,067.2	0.00	0.00	0.00
14,000.0	90.00	179.41	12,150.0	-2,163.1	171.6	2,167.2	0.00	0.00	0.00
14,100.0	90.00	179.41	12,150.0	-2,263.1	172.6	2,267.2	0.00	0.00	0.00
14,200.0	90.00	179.41	12,150.0	-2,363.1	173.7	2,367.2	0.00	0.00	0.00
14,300.0	90.00	179.41	12,150.0	-2,463.0	174.7	2,467.1	0.00	0.00	0.00
14,400.0	90.00	179.41	12,150.0	-2,563.0	175.7	2,567.1	0.00	0.00	0.00
14,500.0	90.00	179.41	12,150.0	-2,663.0	176.8	2,667.1	0.00	0.00	0.00
14,600.0	90.00	179.41	12,150.0	-2,763.0	177.8	2,767.1	0.00	0.00	0.00
14,700.0	90.00	179.41	12,150.0	-2,863.0	178.8	2,867.1	0.00	0.00	0.00
14,800.0	90.00	179.41	12,150.0	-2,963.0	179.9	2,967.0	0.00	0.00	0.00
14,900.0	90.00	179.41	12,150.0	-3,063.0	180.9	3,067.0	0.00	0.00	0.00
15,000.0	90.00	179.41	12,150.0	-3,163.0	182.0	3,167.0	0.00	0.00	0.00
15,100.0	90.00	179.41	12,150.0	-3,263.0	183.0	3,267.0	0.00	0.00	0.00
15,200.0	90.00	179.41	12,150.0	-3,363.0	184.0	3,367.0	0.00	0.00	0.00
15,300.0	90.00	179.41	12,150.0	-3,463.0	185.1	3,467.0	0.00	0.00	0.00

Database:	EDM5000	Local Co-ordinate Reference:	Well Amen Corner State Com 26-36-27 #121H
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Project:	Lea County, NM (NAD83 NME)	MD Reference:	KB @ 2938.0usft (Rig)
Site:	(Amen Corner) Sec-27_T-26-S_R-36-E	North Reference:	Grid
Well:	Amen Corner State Com 26-36-27 #121H	Survey Calculation Method:	Minimum Curvature
Wellbore:	OWB		
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)
15,400.0	90.00	179.41	12,150.0	-3,563.0	186.1	3,566.9	0.00	0.00	0.00
15,500.0	90.00	179.41	12,150.0	-3,663.0	187.1	3,666.9	0.00	0.00	0.00
15,600.0	90.00	179.41	12,150.0	-3,763.0	188.2	3,766.9	0.00	0.00	0.00
15,700.0	90.00	179.41	12,150.0	-3,863.0	189.2	3,866.9	0.00	0.00	0.00
15,800.0	90.00	179.41	12,150.0	-3,963.0	190.2	3,966.9	0.00	0.00	0.00
15,900.0	90.00	179.41	12,150.0	-4,063.0	191.3	4,066.8	0.00	0.00	0.00
16,000.0	90.00	179.41	12,150.0	-4,163.0	192.3	4,166.8	0.00	0.00	0.00
16,100.0	90.00	179.41	12,150.0	-4,263.0	193.3	4,266.8	0.00	0.00	0.00
16,200.0	90.00	179.41	12,150.0	-4,362.9	194.4	4,366.8	0.00	0.00	0.00
16,300.0	90.00	179.41	12,150.0	-4,462.9	195.4	4,466.8	0.00	0.00	0.00
16,400.0	90.00	179.41	12,150.0	-4,562.9	196.4	4,566.7	0.00	0.00	0.00
16,500.0	90.00	179.41	12,150.0	-4,662.9	197.5	4,666.7	0.00	0.00	0.00
16,600.0	90.00	179.41	12,150.0	-4,762.9	198.5	4,766.7	0.00	0.00	0.00
16,700.0	90.00	179.41	12,150.0	-4,862.9	199.5	4,866.7	0.00	0.00	0.00
16,800.0	90.00	179.41	12,150.0	-4,962.9	200.6	4,966.7	0.00	0.00	0.00
16,900.0	90.00	179.41	12,150.0	-5,062.9	201.6	5,066.7	0.00	0.00	0.00
17,000.0	90.00	179.41	12,150.0	-5,162.9	202.6	5,166.6	0.00	0.00	0.00
17,100.0	90.00	179.41	12,150.0	-5,262.9	203.7	5,266.6	0.00	0.00	0.00
17,200.0	90.00	179.41	12,150.0	-5,362.9	204.7	5,366.6	0.00	0.00	0.00
17,300.0	90.00	179.41	12,150.0	-5,462.9	205.8	5,466.6	0.00	0.00	0.00
17,400.0	90.00	179.41	12,150.0	-5,562.9	206.8	5,566.6	0.00	0.00	0.00
17,500.0	90.00	179.41	12,150.0	-5,662.9	207.8	5,666.5	0.00	0.00	0.00
17,600.0	90.00	179.41	12,150.0	-5,762.9	208.9	5,766.5	0.00	0.00	0.00
17,700.0	90.00	179.41	12,150.0	-5,862.9	209.9	5,866.5	0.00	0.00	0.00
17,753.6	90.00	179.41	12,150.0	-5,916.5	210.4	5,920.1	0.00	0.00	0.00
SEC LINE 27 CROSS - 4952' FNL, 4886' FEL									
17,800.0	90.00	179.41	12,150.0	-5,962.9	210.9	5,966.5	0.00	0.00	0.00
17,900.0	90.00	179.41	12,150.0	-6,062.9	212.0	6,066.5	0.00	0.00	0.00
18,000.0	90.00	179.41	12,150.0	-6,162.9	213.0	6,166.5	0.00	0.00	0.00
18,100.0	90.00	179.41	12,150.0	-6,262.8	214.0	6,266.4	0.00	0.00	0.00
18,200.0	90.00	179.41	12,150.0	-6,362.8	215.1	6,366.4	0.00	0.00	0.00
18,300.0	90.00	179.41	12,150.0	-6,462.8	216.1	6,466.4	0.00	0.00	0.00
18,400.0	90.00	179.41	12,150.0	-6,562.8	217.1	6,566.4	0.00	0.00	0.00
18,500.0	90.00	179.41	12,150.0	-6,662.8	218.2	6,666.4	0.00	0.00	0.00
18,600.0	90.00	179.41	12,150.0	-6,762.8	219.2	6,766.3	0.00	0.00	0.00
18,700.0	90.00	179.41	12,150.0	-6,862.8	220.2	6,866.3	0.00	0.00	0.00
18,800.0	90.00	179.41	12,150.0	-6,962.8	221.3	6,966.3	0.00	0.00	0.00
18,900.0	90.00	179.41	12,150.0	-7,062.8	222.3	7,066.3	0.00	0.00	0.00
19,000.0	90.00	179.41	12,150.0	-7,162.8	223.3	7,166.3	0.00	0.00	0.00
19,100.0	90.00	179.41	12,150.0	-7,262.8	224.4	7,266.3	0.00	0.00	0.00
19,200.0	90.00	179.41	12,150.0	-7,362.8	225.4	7,366.2	0.00	0.00	0.00
19,300.0	90.00	179.41	12,150.0	-7,462.8	226.4	7,466.2	0.00	0.00	0.00
19,400.0	90.00	179.41	12,150.0	-7,562.8	227.5	7,566.2	0.00	0.00	0.00
19,450.2	90.00	179.41	12,150.0	-7,613.0	228.0	7,616.4	0.00	0.00	0.00
LTP - 7385' FNL, 4884' FEL - LTP (Amen Corner State Com #121H)									
19,500.0	90.00	179.41	12,150.0	-7,662.8	228.5	7,666.2	0.00	0.00	0.00
19,580.2	90.00	179.41	12,150.0	-7,743.0	229.3	7,746.4	0.00	0.00	0.00
PBHL - 7515' FNL, 4884' FEL - 5 1/2" - PBHL (Amen Corner State Com #121H)									

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Site:	(Amen Corner) Sec-27_T-26-S_R-36-E	North Reference:	Grid
Well:	Amen Corner State Com 26-36-27 #121H	Survey Calculation Method:	Minimum Curvature
Wellbore:	OWB		
Design:	Plan #1		

Design Targets									
Target Name									
- hit/miss target	Dip Angle	Dip Dir.	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
- Shape	(°)	(°)	(usft)	(usft)	(usft)	(usft)	(usft)		
LTP (Amen Corner St	0.00	0.00	12,150.0	-7,613.0	228.0	365,839.00	873,967.00	32.0012336	-103.2603070
- plan hits target center									
- Point									
PBHL (Amen Corner S	0.00	0.00	12,150.0	-7,743.0	229.0	365,709.00	873,968.00	32.0008763	-103.2603079
- plan misses target center by 0.3usft at 19580.2usft MD (12150.0 TVD, -7743.0 N, 229.3 E)									
- Point									
FTP (Amen Corner St	0.00	0.00	12,150.0	-558.0	155.0	372,894.00	873,894.00	32.0206264	-103.2603165
- plan misses target center by 23.6usft at 12400.0usft MD (12133.0 TVD, -565.4 N, 140.4 E)									
- Point									

Casing Points					
Measured Depth (usft)	Vertical Depth (usft)	Name	Casing Diameter (")	Hole Diameter (")	
1,350.0	1,350.0	13 3/8"	13-3/8	17-1/2	
5,102.8	5,100.0	10 3/4"	10-3/4	12-1/4	
10,952.8	10,950.0	7 5/8"	7-5/8	9-7/8	
19,580.2	12,150.0	5 1/2"	5-1/2	6-3/4	

Formations						
Measured Depth (usft)	Vertical Depth (usft)	Name	Lithology	Dip (°)	Dip Direction (°)	
2,194.1	2,194.0	Rustler				
2,513.4	2,513.0	Salado				
3,225.1	3,224.0	Tansill				
5,222.8	5,220.0	Bell Canyon				
6,809.8	6,807.0	Brushy Canyon				
7,820.8	7,818.0	Bone Spring (Lime)				
9,377.8	9,375.0	1st Bone Spring				
9,896.8	9,894.0	2nd Bone Spring				
10,634.8	10,632.0	3rd Bone Spring Lime				
11,260.8	11,258.0	3rd Bone Spring				
11,442.8	11,440.0	Top of Wolfcamp				
11,842.5	11,827.0	Wolfcamp B				

Database:	EDM5000	Local Co-ordinate Reference:	Well Amen Corner State Com 26-36-27 #121H
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Site:	(Amen Corner) Sec-27_T-26-S_R-36-E	North Reference:	Grid
Well:	Amen Corner State Com 26-36-27 #121H	Survey Calculation Method:	Minimum Curvature
Wellbore:	OWB		
Design:	Plan #1		

Plan Annotations				
Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates		Comment
		+N/-S (usft)	+E/-W (usft)	
2,000.0	2,000.0	0.0	0.0	BUILD - 2.00
2,125.0	2,125.0	-2.1	-1.8	HOLD - 2877.8 at 2125.0 MD
5,002.8	5,000.0	-98.2	-82.4	DROP - DLS 2.00 TFO 180.00
5,127.8	5,125.0	-100.3	-84.2	HOLD - 6421.1 at 5127.8 MD
11,548.9	11,546.1	-100.3	-84.2	KOP - Build 10.00
12,148.9	12,042.3	-347.7	60.3	TURN & BUILD - DLS 10.00 TFO 48.77
12,561.1	12,150.0	-724.2	156.7	HOLD - 6889.1 at 12561.1 MD
17,753.6	12,150.0	-5,916.5	210.4	SEC LINE 27 CROSS - 4952' FNL, 4886' FEL
19,450.2	12,150.0	-7,613.0	228.0	LTP - 7385' FNL, 4884' FEL
19,580.2	12,150.0	-7,743.0	229.3	PBHL - 7515' FNL, 4884' FEL