

Wellbore Schematic

Well: Red Bud State Com 25-36-32 127H
 SHL: Sec. 32 25S-36E 200' FSL & 972' FEL
 BHL: Sec. 29 25S-36E 200' FNL & 1026' FEL
 Lea, NM

Co. Well ID: 40822
 AFE No.: 2018-030
 API No.: xxxxxxxxxxxx
 GL: 3,003'
 Field: Delaware_WCB
 Objective: Wolfcamp B
 TVD: 12,047'
 MD: 22,142'
 Rig: TBD
 E-Mail: Wellsite2@ameredev.com

Wellhead: A - 13-5/8" 5M x 13-5/8" SOW
 B - 13-5/8" 5M x 13-5/8" 10M
 C - 13-5/8" 10M x 13-5/8" 10M
 Tubing Spool - 5-1/8" 15M x 13-3/8" 10M
 Xmas Tree: 2-9/16" 10M
 Tubing: 2-7/8" L-80 6.5# 8rd EUE

HOBBS OCD

AUG 07 2018

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Hole Size	Formation Tops	Logs	Cement	Mud Weight
17.5"	Rustler 1,196' TVD 13.375" 54.5# J-55 BTC 1,321' MD/TVD	1045 Sacks TOC 0'	100% Excess	8.6 - 10 ppg WBM
12.25"	Salado 1,804' TVD Tansill 3,352' TVD Lamar 5,085' TVD Bell Canyon 5,114' TVD 9.625" 40# L-80HC BTC 5,135' MD/TVD	1385 Sacks TOC 0'	50% Excess	10 - 11.5 ppg Brine
8.75"	Brushy Canyon 6,975' TVD Bone Spring Lime 8,013' TVD First Bone Spring 9,500' TVD Second Bone Spring 10,015' TVD Third Bone Spring Upper 10,700' TVD Third Bone Spring 11,321' TVD Wolfcamp 11,515' TVD 7.625" 29.7# P-110HC FJM 11,478' MD	Triple Combo 358 Sacks TOC 4635'	25% Excess	8.9 - 10.5 Cut Brine
10° Build KOP 11,478' MD // 11,474' TVD	Wolfcamp B 11,847' TVD 5.5" 20# P-110CYHP TMK UP SF TORQ 22,142' MD Target Wolfcamp B 12047' TVD // 22142' MD	Triple Combo 950 Sacks TOC 10978'	25% Excess	11.5 - 12.5 ppg OBM
6.75" □				

AMEREDEV

Ameredev Operating, LLC

**Lea County, NM (NAD83 NME)
(Redbud State) Sec32_T-25-S_R-26-E
Redbud State Com 25-36-32 #127H**

OWB

Plan: Plan #1

**HOBBS CCD
AUG 07 2018
RECEIVED**

Standard Planning Report

11 July, 2018

INTREPID

Database:	EDM5000	Local Co-ordinate Reference:	Well Redbud State Com 25-36-32 #127H
Company:	Ameredev Operating, LLC	TVD Reference:	KB @ 3030.0usft (Rig)
Project:	Lea County, NM (NAD83 NME)	MD Reference:	KB @ 3030.0usft (Rig)
Site:	(Redbud State) Sec32_T-25-S_R-26-E	North Reference:	Grid
Well:	Redbud State Com 25-36-32 #127H	Survey Calculation Method:	Minimum Curvature
Wellbore:	OWB		
Design:	Plan #1		

Project	Lea County, 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	(Redbud State) Sec32_T-25-S_R-26-E			
Site Position:		Northing:	394,463.00 usft	Latitude: 32.0801291
From:	Map	Easting:	865,740.00 usft	Longitude: -103.2859471
Position Uncertainty:	0.0 usft	Slot Radius:	13-3/16 "	Grid Convergence: 0.56 °

Well	Redbud State Com 25-36-32 #127H			
Well Position	+N/-S	12.0 usft	Northing:	394,475.00 usft
	+E/-W	1,297.0 usft	Easting:	867,037.00 usft
Position Uncertainty	0.0 usft	Wellhead Elevation:		Ground Level: 3,003.0 usft

Wellbore	OWB				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2015	07/09/18	6.69	59.96	47,776.80445655

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	359.15

Plan Survey Tool Program	Date 07/10/18			
Depth From (usft)	Depth To (usft)	Survey (Wellbore)	Tool Name	Remarks
1	0.0	22,141.6	Plan #1 (OWB)	MWD
			MWD - Standard	

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Site:	(Redbud State) Sec32_T-25-S_R-26-E	North Reference:	Grid
Well:	Redbud State Com 25-36-32 #127H	Survey Calculation Method:	Minimum Curvature
Wellbore:	OWB		
Design:	Plan #1		

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	
2,150.1	3.00	185.87	2,150.0	-3.9	-0.4	2.00	2.00	0.00	185.87	
5,359.5	3.00	185.87	5,355.0	-171.1	-17.6	0.00	0.00	0.00	0.00	
5,509.5	0.00	0.00	5,505.0	-175.0	-18.0	2.00	-2.00	0.00	180.00	
11,478.5	0.00	0.00	11,474.0	-175.0	-18.0	0.00	0.00	0.00	0.00	
12,378.5	90.00	356.50	12,047.0	396.9	-53.0	10.00	10.00	0.00	356.50	
12,525.8	90.00	359.45	12,047.0	544.1	-58.2	2.00	0.00	2.00	90.00	
22,012.2	90.00	359.45	12,047.0	10,030.0	-150.0	0.00	0.00	0.00	0.00	LTP (Redbud State)
22,142.2	90.00	359.45	12,047.0	10,160.0	-151.3	0.00	0.00	0.00	0.00	PBHL (Redbud Stal)

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 Project: Lea County, NM (NAD83 NME)
 Site: (Redbud State) Sec32_T-25-S_R-26-E
 Well: Redbud State Com 25-36-32 #127H
 Wellbore: OWB
 Design: Plan #1

Local Co-ordinate Reference: Well Redbud State Com 25-36-32 #127H
 TVD Reference: KB @ 3030.0usft (Rig)
 MD Reference: KB @ 3030.0usft (Rig)
 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)
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
1,196.0	0.00	0.00	1,196.0	0.0	0.0	0.0	0.00	0.00	0.00
Rustler									
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
1,321.0	0.00	0.00	1,321.0	0.0	0.0	0.0	0.00	0.00	0.00
13.375"									
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
1,804.0	0.00	0.00	1,804.0	0.0	0.0	0.0	0.00	0.00	0.00
Salado									
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	185.87	2,100.0	-1.7	-0.2	-1.7	2.00	2.00	0.00
2,150.1	3.00	185.87	2,150.0	-3.9	-0.4	-3.9	2.00	2.00	0.00
HOLD - 3209.4 at 2150.1 MD									
2,200.0	3.00	185.87	2,199.9	-6.5	-0.7	-6.5	0.00	0.00	0.00
2,300.0	3.00	185.87	2,299.7	-11.7	-1.2	-11.7	0.00	0.00	0.00
2,400.0	3.00	185.87	2,399.6	-16.9	-1.7	-16.9	0.00	0.00	0.00
2,500.0	3.00	185.87	2,499.5	-22.1	-2.3	-22.1	0.00	0.00	0.00
2,600.0	3.00	185.87	2,599.3	-27.3	-2.8	-27.3	0.00	0.00	0.00
2,700.0	3.00	185.87	2,699.2	-32.6	-3.3	-32.5	0.00	0.00	0.00
2,800.0	3.00	185.87	2,799.0	-37.8	-3.9	-37.7	0.00	0.00	0.00
2,900.0	3.00	185.87	2,898.9	-43.0	-4.4	-42.9	0.00	0.00	0.00
3,000.0	3.00	185.87	2,998.8	-48.2	-5.0	-48.1	0.00	0.00	0.00
3,100.0	3.00	185.87	3,098.6	-53.4	-5.5	-53.3	0.00	0.00	0.00
3,200.0	3.00	185.87	3,198.5	-58.6	-6.0	-58.5	0.00	0.00	0.00
3,300.0	3.00	185.87	3,298.4	-63.8	-6.6	-63.7	0.00	0.00	0.00
3,353.7	3.00	185.87	3,352.0	-66.6	-6.9	-66.5	0.00	0.00	0.00
Tansill									
3,400.0	3.00	185.87	3,398.2	-69.0	-7.1	-68.9	0.00	0.00	0.00
3,500.0	3.00	185.87	3,498.1	-74.2	-7.6	-74.1	0.00	0.00	0.00
3,600.0	3.00	185.87	3,597.9	-79.4	-8.2	-79.3	0.00	0.00	0.00
3,700.0	3.00	185.87	3,697.8	-84.6	-8.7	-84.5	0.00	0.00	0.00
3,800.0	3.00	185.87	3,797.7	-89.9	-9.2	-89.7	0.00	0.00	0.00
3,900.0	3.00	185.87	3,897.5	-95.1	-9.8	-94.9	0.00	0.00	0.00
4,000.0	3.00	185.87	3,997.4	-100.3	-10.3	-100.1	0.00	0.00	0.00
4,100.0	3.00	185.87	4,097.3	-105.5	-10.8	-105.3	0.00	0.00	0.00

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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)	
4,200.0	3.00	185.87	4,197.1	-110.7	-11.4	-110.5	0.00	0.00	0.00	
4,300.0	3.00	185.87	4,297.0	-115.9	-11.9	-115.7	0.00	0.00	0.00	
4,400.0	3.00	185.87	4,396.8	-121.1	-12.5	-120.9	0.00	0.00	0.00	
4,500.0	3.00	185.87	4,496.7	-126.3	-13.0	-126.1	0.00	0.00	0.00	
4,600.0	3.00	185.87	4,596.6	-131.5	-13.5	-131.3	0.00	0.00	0.00	
4,700.0	3.00	185.87	4,696.4	-136.7	-14.1	-136.5	0.00	0.00	0.00	
4,800.0	3.00	185.87	4,796.3	-141.9	-14.6	-141.7	0.00	0.00	0.00	
4,900.0	3.00	185.87	4,896.2	-147.2	-15.1	-146.9	0.00	0.00	0.00	
5,000.0	3.00	185.87	4,996.0	-152.4	-15.7	-152.1	0.00	0.00	0.00	
5,089.1	3.00	185.87	5,085.0	-157.0	-16.1	-156.7	0.00	0.00	0.00	
Lamar										
5,100.0	3.00	185.87	5,095.9	-157.6	-16.2	-157.3	0.00	0.00	0.00	
5,118.1	3.00	185.87	5,114.0	-158.5	-16.3	-158.3	0.00	0.00	0.00	
Bell Canyon										
5,139.2	3.00	185.87	5,135.0	-159.6	-16.4	-159.4	0.00	0.00	0.00	
9.625"										
5,200.0	3.00	185.87	5,195.7	-162.8	-16.7	-162.5	0.00	0.00	0.00	
5,300.0	3.00	185.87	5,295.6	-168.0	-17.3	-167.7	0.00	0.00	0.00	
5,359.5	3.00	185.87	5,355.0	-171.1	-17.6	-170.8	0.00	0.00	0.00	
DROP -2.00										
5,400.0	2.19	185.87	5,395.5	-172.9	-17.8	-172.6	2.00	-2.00	0.00	
5,509.5	0.00	0.00	5,505.0	-175.0	-18.0	-174.7	2.00	-2.00	0.00	
HOLD - 5969.0 at 5509.5 MD										
5,600.0	0.00	0.00	5,595.5	-175.0	-18.0	-174.7	0.00	0.00	0.00	
5,700.0	0.00	0.00	5,695.5	-175.0	-18.0	-174.7	0.00	0.00	0.00	
5,800.0	0.00	0.00	5,795.5	-175.0	-18.0	-174.7	0.00	0.00	0.00	
5,900.0	0.00	0.00	5,895.5	-175.0	-18.0	-174.7	0.00	0.00	0.00	
6,000.0	0.00	0.00	5,995.5	-175.0	-18.0	-174.7	0.00	0.00	0.00	
6,100.0	0.00	0.00	6,095.5	-175.0	-18.0	-174.7	0.00	0.00	0.00	
6,200.0	0.00	0.00	6,195.5	-175.0	-18.0	-174.7	0.00	0.00	0.00	
6,300.0	0.00	0.00	6,295.5	-175.0	-18.0	-174.7	0.00	0.00	0.00	
6,400.0	0.00	0.00	6,395.5	-175.0	-18.0	-174.7	0.00	0.00	0.00	
6,500.0	0.00	0.00	6,495.5	-175.0	-18.0	-174.7	0.00	0.00	0.00	
6,600.0	0.00	0.00	6,595.5	-175.0	-18.0	-174.7	0.00	0.00	0.00	
6,700.0	0.00	0.00	6,695.5	-175.0	-18.0	-174.7	0.00	0.00	0.00	
6,800.0	0.00	0.00	6,795.5	-175.0	-18.0	-174.7	0.00	0.00	0.00	
6,900.0	0.00	0.00	6,895.5	-175.0	-18.0	-174.7	0.00	0.00	0.00	
6,979.5	0.00	0.00	6,975.0	-175.0	-18.0	-174.7	0.00	0.00	0.00	
Brushy Canyon										
7,000.0	0.00	0.00	6,995.5	-175.0	-18.0	-174.7	0.00	0.00	0.00	
7,100.0	0.00	0.00	7,095.5	-175.0	-18.0	-174.7	0.00	0.00	0.00	
7,200.0	0.00	0.00	7,195.5	-175.0	-18.0	-174.7	0.00	0.00	0.00	
7,300.0	0.00	0.00	7,295.5	-175.0	-18.0	-174.7	0.00	0.00	0.00	
7,400.0	0.00	0.00	7,395.5	-175.0	-18.0	-174.7	0.00	0.00	0.00	
7,500.0	0.00	0.00	7,495.5	-175.0	-18.0	-174.7	0.00	0.00	0.00	
7,600.0	0.00	0.00	7,595.5	-175.0	-18.0	-174.7	0.00	0.00	0.00	
7,700.0	0.00	0.00	7,695.5	-175.0	-18.0	-174.7	0.00	0.00	0.00	
7,800.0	0.00	0.00	7,795.5	-175.0	-18.0	-174.7	0.00	0.00	0.00	
7,900.0	0.00	0.00	7,895.5	-175.0	-18.0	-174.7	0.00	0.00	0.00	
8,000.0	0.00	0.00	7,995.5	-175.0	-18.0	-174.7	0.00	0.00	0.00	
8,017.5	0.00	0.00	8,013.0	-175.0	-18.0	-174.7	0.00	0.00	0.00	
Bone Spring Lime										
8,100.0	0.00	0.00	8,095.5	-175.0	-18.0	-174.7	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)
8,200.0	0.00	0.00	8,195.5	-175.0	-18.0	-174.7	0.00	0.00	0.00
8,300.0	0.00	0.00	8,295.5	-175.0	-18.0	-174.7	0.00	0.00	0.00
8,400.0	0.00	0.00	8,395.5	-175.0	-18.0	-174.7	0.00	0.00	0.00
8,500.0	0.00	0.00	8,495.5	-175.0	-18.0	-174.7	0.00	0.00	0.00
8,600.0	0.00	0.00	8,595.5	-175.0	-18.0	-174.7	0.00	0.00	0.00
8,700.0	0.00	0.00	8,695.5	-175.0	-18.0	-174.7	0.00	0.00	0.00
8,800.0	0.00	0.00	8,795.5	-175.0	-18.0	-174.7	0.00	0.00	0.00
8,900.0	0.00	0.00	8,895.5	-175.0	-18.0	-174.7	0.00	0.00	0.00
9,000.0	0.00	0.00	8,995.5	-175.0	-18.0	-174.7	0.00	0.00	0.00
9,100.0	0.00	0.00	9,095.5	-175.0	-18.0	-174.7	0.00	0.00	0.00
9,200.0	0.00	0.00	9,195.5	-175.0	-18.0	-174.7	0.00	0.00	0.00
9,300.0	0.00	0.00	9,295.5	-175.0	-18.0	-174.7	0.00	0.00	0.00
9,400.0	0.00	0.00	9,395.5	-175.0	-18.0	-174.7	0.00	0.00	0.00
9,500.0	0.00	0.00	9,495.5	-175.0	-18.0	-174.7	0.00	0.00	0.00
9,504.5	0.00	0.00	9,500.0	-175.0	-18.0	-174.7	0.00	0.00	0.00
First Bone Spring									
9,600.0	0.00	0.00	9,595.5	-175.0	-18.0	-174.7	0.00	0.00	0.00
9,700.0	0.00	0.00	9,695.5	-175.0	-18.0	-174.7	0.00	0.00	0.00
9,800.0	0.00	0.00	9,795.5	-175.0	-18.0	-174.7	0.00	0.00	0.00
9,900.0	0.00	0.00	9,895.5	-175.0	-18.0	-174.7	0.00	0.00	0.00
10,000.0	0.00	0.00	9,995.5	-175.0	-18.0	-174.7	0.00	0.00	0.00
10,019.5	0.00	0.00	10,015.0	-175.0	-18.0	-174.7	0.00	0.00	0.00
Second Bone Spring									
10,100.0	0.00	0.00	10,095.5	-175.0	-18.0	-174.7	0.00	0.00	0.00
10,200.0	0.00	0.00	10,195.5	-175.0	-18.0	-174.7	0.00	0.00	0.00
10,300.0	0.00	0.00	10,295.5	-175.0	-18.0	-174.7	0.00	0.00	0.00
10,400.0	0.00	0.00	10,395.5	-175.0	-18.0	-174.7	0.00	0.00	0.00
10,500.0	0.00	0.00	10,495.5	-175.0	-18.0	-174.7	0.00	0.00	0.00
10,600.0	0.00	0.00	10,595.5	-175.0	-18.0	-174.7	0.00	0.00	0.00
10,700.0	0.00	0.00	10,695.5	-175.0	-18.0	-174.7	0.00	0.00	0.00
10,704.5	0.00	0.00	10,700.0	-175.0	-18.0	-174.7	0.00	0.00	0.00
Third Bone Spring Upper									
10,800.0	0.00	0.00	10,795.5	-175.0	-18.0	-174.7	0.00	0.00	0.00
10,900.0	0.00	0.00	10,895.5	-175.0	-18.0	-174.7	0.00	0.00	0.00
11,000.0	0.00	0.00	10,995.5	-175.0	-18.0	-174.7	0.00	0.00	0.00
11,100.0	0.00	0.00	11,095.5	-175.0	-18.0	-174.7	0.00	0.00	0.00
11,200.0	0.00	0.00	11,195.5	-175.0	-18.0	-174.7	0.00	0.00	0.00
11,300.0	0.00	0.00	11,295.5	-175.0	-18.0	-174.7	0.00	0.00	0.00
11,325.5	0.00	0.00	11,321.0	-175.0	-18.0	-174.7	0.00	0.00	0.00
Third Bone Spring									
11,400.0	0.00	0.00	11,395.5	-175.0	-18.0	-174.7	0.00	0.00	0.00
11,478.5	0.00	0.00	11,474.0	-175.0	-18.0	-174.7	0.00	0.00	0.00
KOP - Build 10.00 - 7.625"									
11,500.0	2.15	356.50	11,495.5	-174.6	-18.0	-174.3	10.00	10.00	0.00
11,519.6	4.10	356.50	11,515.0	-173.5	-18.1	-173.2	10.00	10.00	0.00
Wolfcamp									
11,550.0	7.15	356.50	11,545.3	-170.6	-18.3	-170.3	10.00	10.00	0.00
11,600.0	12.15	356.50	11,594.6	-162.2	-18.8	-161.9	10.00	10.00	0.00
11,650.0	17.15	356.50	11,642.9	-149.6	-19.6	-149.3	10.00	10.00	0.00
11,700.0	22.15	356.50	11,690.0	-132.8	-20.6	-132.5	10.00	10.00	0.00
11,750.0	27.15	356.50	11,735.4	-112.0	-21.9	-111.7	10.00	10.00	0.00
11,800.0	32.15	356.50	11,778.9	-87.3	-23.4	-87.0	10.00	10.00	0.00
11,850.0	37.15	356.50	11,820.0	-59.0	-25.1	-58.6	10.00	10.00	0.00

Database: EDM5000
 Company: Ameredev Operating, LLC
 Project: Lea County, NM (NAD83 NME)
 Site: (Redbud State) Sec32_T-25-S_R-26-E
 Well: Redbud State Com 25-36-32 #127H
 Wellbore: OWB
 Design: Plan #1

Local Co-ordinate Reference: Well Redbud State Com 25-36-32 #127H
 TVD Reference: KB @ 3030.0usft (Rig)
 MD Reference: KB @ 3030.0usft (Rig)
 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)
11,884.7	40.62	356.50	11,847.0	-37.2	-26.4	-36.8	10.00	10.00	0.00
Wolfcamp B									
11,900.0	42.15	356.50	11,858.5	-27.1	-27.0	-26.7	10.00	10.00	0.00
11,950.0	47.15	356.50	11,894.0	7.9	-29.2	8.4	10.00	10.00	0.00
12,000.0	52.15	356.50	11,926.4	45.9	-31.5	46.4	10.00	10.00	0.00
12,050.0	57.15	356.50	11,955.3	86.6	-34.0	87.1	10.00	10.00	0.00
12,100.0	62.15	356.50	11,980.6	129.7	-36.6	130.2	10.00	10.00	0.00
12,129.7	65.12	356.50	11,993.8	156.3	-38.3	156.8	10.00	10.00	0.00
FTP (Redbud State Com 25-36-32 #127H)									
12,150.0	67.15	356.50	12,002.0	174.8	-39.4	175.3	10.00	10.00	0.00
12,200.0	72.15	356.50	12,019.4	221.6	-42.3	222.2	10.00	10.00	0.00
12,250.0	77.15	356.50	12,032.6	269.7	-45.2	270.3	10.00	10.00	0.00
12,300.0	82.15	356.50	12,041.6	318.7	-48.2	319.4	10.00	10.00	0.00
12,350.0	87.15	356.50	12,046.2	368.4	-51.2	369.1	10.00	10.00	0.00
12,378.5	90.00	356.50	12,047.0	396.9	-53.0	397.6	10.00	10.00	0.00
EOC/TURN - DLS 2.00 TFO 90.00									
12,400.0	90.00	356.93	12,047.0	418.3	-54.2	419.1	2.00	0.00	2.00
12,500.0	90.00	358.93	12,047.0	518.2	-57.8	519.0	2.00	0.00	2.00
12,525.8	90.00	359.45	12,047.0	544.1	-58.2	544.9	2.00	0.00	2.00
HOLD - 9486.4 at 12525.8 MD									
12,600.0	90.00	359.45	12,047.0	618.2	-58.9	619.0	0.00	0.00	0.00
12,700.0	90.00	359.45	12,047.0	718.2	-59.9	719.0	0.00	0.00	0.00
12,800.0	90.00	359.45	12,047.0	818.2	-60.8	819.0	0.00	0.00	0.00
12,900.0	90.00	359.45	12,047.0	918.2	-61.8	919.0	0.00	0.00	0.00
13,000.0	90.00	359.45	12,047.0	1,018.2	-62.8	1,019.0	0.00	0.00	0.00
13,100.0	90.00	359.45	12,047.0	1,118.2	-63.7	1,119.0	0.00	0.00	0.00
13,200.0	90.00	359.45	12,047.0	1,218.2	-64.7	1,219.0	0.00	0.00	0.00
13,300.0	90.00	359.45	12,047.0	1,318.2	-65.7	1,319.0	0.00	0.00	0.00
13,400.0	90.00	359.45	12,047.0	1,418.2	-66.6	1,419.0	0.00	0.00	0.00
13,500.0	90.00	359.45	12,047.0	1,518.2	-67.6	1,519.0	0.00	0.00	0.00
13,600.0	90.00	359.45	12,047.0	1,618.2	-68.6	1,619.0	0.00	0.00	0.00
13,700.0	90.00	359.45	12,047.0	1,718.2	-69.6	1,719.0	0.00	0.00	0.00
13,800.0	90.00	359.45	12,047.0	1,818.2	-70.5	1,819.0	0.00	0.00	0.00
13,900.0	90.00	359.45	12,047.0	1,918.2	-71.5	1,919.0	0.00	0.00	0.00
14,000.0	90.00	359.45	12,047.0	2,018.2	-72.5	2,019.0	0.00	0.00	0.00
14,100.0	90.00	359.45	12,047.0	2,118.2	-73.4	2,119.0	0.00	0.00	0.00
14,200.0	90.00	359.45	12,047.0	2,218.2	-74.4	2,219.0	0.00	0.00	0.00
14,300.0	90.00	359.45	12,047.0	2,318.2	-75.4	2,319.0	0.00	0.00	0.00
14,400.0	90.00	359.45	12,047.0	2,418.2	-76.3	2,419.0	0.00	0.00	0.00
14,500.0	90.00	359.45	12,047.0	2,518.1	-77.3	2,519.0	0.00	0.00	0.00
14,600.0	90.00	359.45	12,047.0	2,618.1	-78.3	2,619.0	0.00	0.00	0.00
14,700.0	90.00	359.45	12,047.0	2,718.1	-79.2	2,719.0	0.00	0.00	0.00
14,800.0	90.00	359.45	12,047.0	2,818.1	-80.2	2,819.0	0.00	0.00	0.00
14,900.0	90.00	359.45	12,047.0	2,918.1	-81.2	2,919.0	0.00	0.00	0.00
15,000.0	90.00	359.45	12,047.0	3,018.1	-82.1	3,019.0	0.00	0.00	0.00
15,100.0	90.00	359.45	12,047.0	3,118.1	-83.1	3,119.0	0.00	0.00	0.00
15,200.0	90.00	359.45	12,047.0	3,218.1	-84.1	3,219.0	0.00	0.00	0.00
15,300.0	90.00	359.45	12,047.0	3,318.1	-85.0	3,319.0	0.00	0.00	0.00
15,400.0	90.00	359.45	12,047.0	3,418.1	-86.0	3,419.0	0.00	0.00	0.00
15,500.0	90.00	359.45	12,047.0	3,518.1	-87.0	3,519.0	0.00	0.00	0.00
15,600.0	90.00	359.45	12,047.0	3,618.1	-87.9	3,619.0	0.00	0.00	0.00
15,700.0	90.00	359.45	12,047.0	3,718.1	-88.9	3,719.0	0.00	0.00	0.00
15,800.0	90.00	359.45	12,047.0	3,818.1	-89.9	3,819.0	0.00	0.00	0.00
15,900.0	90.00	359.45	12,047.0	3,918.1	-90.8	3,919.0	0.00	0.00	0.00

Database: EDM5000
Company: Ameredev Operating, LLC
Project: Lea County, NM (NAD83 NME)
Site: (Redbud State) Sec32_T-25-S_R-26-E
Well: Redbud State Com 25-36-32 #127H
Wellbore: OWB
Design: Plan #1

Local Co-ordinate Reference:
TVD Reference:
MD Reference:
North Reference:
Survey Calculation Method:

Well Redbud State Com 25-36-32 #127H
 KB @ 3030.0usft (Rig)
 KB @ 3030.0usft (Rig)
 Grid
 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)
16,000.0	90.00	359.45	12,047.0	4,018.1	-91.8	4,019.0	0.00	0.00	0.00
16,100.0	90.00	359.45	12,047.0	4,118.1	-92.8	4,119.0	0.00	0.00	0.00
16,200.0	90.00	359.45	12,047.0	4,218.1	-93.7	4,219.0	0.00	0.00	0.00
16,300.0	90.00	359.45	12,047.0	4,318.1	-94.7	4,319.0	0.00	0.00	0.00
16,400.0	90.00	359.45	12,047.0	4,418.1	-95.7	4,419.0	0.00	0.00	0.00
16,500.0	90.00	359.45	12,047.0	4,518.1	-96.7	4,519.0	0.00	0.00	0.00
16,600.0	90.00	359.45	12,047.0	4,618.0	-97.6	4,619.0	0.00	0.00	0.00
16,700.0	90.00	359.45	12,047.0	4,718.0	-98.6	4,719.0	0.00	0.00	0.00
16,800.0	90.00	359.45	12,047.0	4,818.0	-99.6	4,819.0	0.00	0.00	0.00
16,900.0	90.00	359.45	12,047.0	4,918.0	-100.5	4,919.0	0.00	0.00	0.00
17,000.0	90.00	359.45	12,047.0	5,018.0	-101.5	5,019.0	0.00	0.00	0.00
17,100.0	90.00	359.45	12,047.0	5,118.0	-102.5	5,119.0	0.00	0.00	0.00
17,200.0	90.00	359.45	12,047.0	5,218.0	-103.4	5,219.0	0.00	0.00	0.00
17,300.0	90.00	359.45	12,047.0	5,318.0	-104.4	5,319.0	0.00	0.00	0.00
17,400.0	90.00	359.45	12,047.0	5,418.0	-105.4	5,419.0	0.00	0.00	0.00
17,500.0	90.00	359.45	12,047.0	5,518.0	-106.3	5,519.0	0.00	0.00	0.00
17,600.0	90.00	359.45	12,047.0	5,618.0	-107.3	5,619.0	0.00	0.00	0.00
17,700.0	90.00	359.45	12,047.0	5,718.0	-108.3	5,719.0	0.00	0.00	0.00
17,800.0	90.00	359.45	12,047.0	5,818.0	-109.2	5,819.0	0.00	0.00	0.00
17,900.0	90.00	359.45	12,047.0	5,918.0	-110.2	5,919.0	0.00	0.00	0.00
18,000.0	90.00	359.45	12,047.0	6,018.0	-111.2	6,019.0	0.00	0.00	0.00
18,100.0	90.00	359.45	12,047.0	6,118.0	-112.1	6,119.0	0.00	0.00	0.00
18,200.0	90.00	359.45	12,047.0	6,218.0	-113.1	6,219.0	0.00	0.00	0.00
18,300.0	90.00	359.45	12,047.0	6,318.0	-114.1	6,319.0	0.00	0.00	0.00
18,400.0	90.00	359.45	12,047.0	6,418.0	-115.0	6,419.0	0.00	0.00	0.00
18,500.0	90.00	359.45	12,047.0	6,518.0	-116.0	6,519.0	0.00	0.00	0.00
18,600.0	90.00	359.45	12,047.0	6,618.0	-117.0	6,619.0	0.00	0.00	0.00
18,700.0	90.00	359.45	12,047.0	6,718.0	-117.9	6,719.0	0.00	0.00	0.00
18,800.0	90.00	359.45	12,047.0	6,817.9	-118.9	6,819.0	0.00	0.00	0.00
18,900.0	90.00	359.45	12,047.0	6,917.9	-119.9	6,919.0	0.00	0.00	0.00
19,000.0	90.00	359.45	12,047.0	7,017.9	-120.8	7,019.0	0.00	0.00	0.00
19,100.0	90.00	359.45	12,047.0	7,117.9	-121.8	7,119.0	0.00	0.00	0.00
19,200.0	90.00	359.45	12,047.0	7,217.9	-122.8	7,219.0	0.00	0.00	0.00
19,300.0	90.00	359.45	12,047.0	7,317.9	-123.8	7,319.0	0.00	0.00	0.00
19,400.0	90.00	359.45	12,047.0	7,417.9	-124.7	7,419.0	0.00	0.00	0.00
19,500.0	90.00	359.45	12,047.0	7,517.9	-125.7	7,519.0	0.00	0.00	0.00
19,600.0	90.00	359.45	12,047.0	7,617.9	-126.7	7,618.9	0.00	0.00	0.00
19,700.0	90.00	359.45	12,047.0	7,717.9	-127.6	7,718.9	0.00	0.00	0.00
19,800.0	90.00	359.45	12,047.0	7,817.9	-128.6	7,818.9	0.00	0.00	0.00
19,900.0	90.00	359.45	12,047.0	7,917.9	-129.6	7,918.9	0.00	0.00	0.00
20,000.0	90.00	359.45	12,047.0	8,017.9	-130.5	8,018.9	0.00	0.00	0.00
20,100.0	90.00	359.45	12,047.0	8,117.9	-131.5	8,118.9	0.00	0.00	0.00
20,200.0	90.00	359.45	12,047.0	8,217.9	-132.5	8,218.9	0.00	0.00	0.00
20,300.0	90.00	359.45	12,047.0	8,317.9	-133.4	8,318.9	0.00	0.00	0.00
20,400.0	90.00	359.45	12,047.0	8,417.9	-134.4	8,418.9	0.00	0.00	0.00
20,500.0	90.00	359.45	12,047.0	8,517.9	-135.4	8,518.9	0.00	0.00	0.00
20,600.0	90.00	359.45	12,047.0	8,617.9	-136.3	8,618.9	0.00	0.00	0.00
20,700.0	90.00	359.45	12,047.0	8,717.9	-137.3	8,718.9	0.00	0.00	0.00
20,800.0	90.00	359.45	12,047.0	8,817.9	-138.3	8,818.9	0.00	0.00	0.00
20,900.0	90.00	359.45	12,047.0	8,917.8	-139.2	8,918.9	0.00	0.00	0.00
21,000.0	90.00	359.45	12,047.0	9,017.8	-140.2	9,018.9	0.00	0.00	0.00
21,100.0	90.00	359.45	12,047.0	9,117.8	-141.2	9,118.9	0.00	0.00	0.00
21,200.0	90.00	359.45	12,047.0	9,217.8	-142.1	9,218.9	0.00	0.00	0.00
21,300.0	90.00	359.45	12,047.0	9,317.8	-143.1	9,318.9	0.00	0.00	0.00

Database:	EDM5000	Local Co-ordinate Reference:	Well Redbud State Com 25-36-32 #127H
Company:	Ameredev Operating, LLC	TVD Reference:	KB @ 3030.0usft (Rig)
Project:	Lea County, NM (NAD83 NME)	MD Reference:	KB @ 3030.0usft (Rig)
Site:	(Redbud State) Sec32_T-25-S_R-26-E	North Reference:	Grid
Well:	Redbud State Com 25-36-32 #127H	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)
21,400.0	90.00	359.45	12,047.0	9,417.8	-144.1	9,418.9	0.00	0.00	0.00
21,500.0	90.00	359.45	12,047.0	9,517.8	-145.0	9,518.9	0.00	0.00	0.00
21,600.0	90.00	359.45	12,047.0	9,617.8	-146.0	9,618.9	0.00	0.00	0.00
21,700.0	90.00	359.45	12,047.0	9,717.8	-147.0	9,718.9	0.00	0.00	0.00
21,800.0	90.00	359.45	12,047.0	9,817.8	-147.9	9,818.9	0.00	0.00	0.00
21,900.0	90.00	359.45	12,047.0	9,917.8	-148.9	9,918.9	0.00	0.00	0.00
22,000.0	90.00	359.45	12,047.0	10,017.8	-149.9	10,018.9	0.00	0.00	0.00
22,012.2	90.00	359.45	12,047.0	10,030.0	-150.0	10,031.1	0.00	0.00	0.00
HOLD - 130.0 at 22012.2 MD - LTP (Redbud State Com 25-36-32 #127H)									
22,100.0	90.00	359.45	12,047.0	10,117.8	-150.8	10,118.9	0.00	0.00	0.00
22,142.2	90.00	359.45	12,047.0	10,160.0	-151.3	10,161.1	0.00	0.00	0.00
PBHL - 5.5" - PBHL (Redbud State Com 25-36-32 #127H)									

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
LTP (Redbud State Co - plan hits target center - Point	0.00	0.01	12,047.0	10,030.0	-150.0	404,505.00	866,887.00	32.1076989	-103.2819282
FTP (Redbud State Co - plan misses target center by 61.7usft at 12129.7usft MD (11993.8 TVD, 156.3 N, -38.3 E) - Point	0.00	0.01	12,047.0	130.0	-55.0	394,605.00	866,982.00	32.0804862	-103.2819332
PBHL (Redbud State - plan misses target center by 0.3usft at 22142.2usft MD (12047.0 TVD, 10160.0 N, -151.3 E) - Point	0.00	0.01	12,047.0	10,160.0	-151.0	404,635.00	866,886.00	32.1080562	-103.2819273

Casing Points

Measured Depth (usft)	Vertical Depth (usft)	Name	Casing Diameter (")	Hole Diameter (")
1,321.0	1,321.0	13.375"	13-3/8	17-1/2
5,139.2	5,135.0	9.625"	9-5/8	12-1/4
11,478.5	11,474.0	7.625"	7-5/8	8-3/4
22,142.2	12,047.0	5.5"	5-1/2	6-3/4

Database:	EDM5000	Local Co-ordinate Reference:	Well Redbud State Com 25-36-32 #127H
Company:	Ameredev Operating, LLC	TVD Reference:	KB @ 3030.0usft (Rig)
Project:	Lea County, NM (NAD83 NME)	MD Reference:	KB @ 3030.0usft (Rig)
Site:	(Redbud State) Sec32_T-25-S_R-26-E	North Reference:	Grid
Well:	Redbud State Com 25-36-32 #127H	Survey Calculation Method:	Minimum Curvature
Wellbore:	OWB		
Design:	Plan #1		

Formations

Measured Depth (usft)	Vertical Depth (usft)	Name	Lithology	Dip (°)	Dip Direction (°)
1,196.0	1,196.0	Rustler			
1,804.0	1,804.0	Salado			
3,353.7	3,352.0	Tansill			
5,089.1	5,085.0	Lamar			
5,118.1	5,114.0	Bell Canyon			
6,979.5	6,975.0	Brushy Canyon			
8,017.5	8,013.0	Bone Spring Lime			
9,504.5	9,500.0	First Bone Spring			
10,019.5	10,015.0	Second Bone Spring			
10,704.5	10,700.0	Third Bone Spring Upper			
11,325.5	11,321.0	Third Bone Spring			
11,519.6	11,515.0	Wolfcamp			
11,884.7	11,847.0	Wolfcamp B			

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
2,150.1	2,150.0	-3.9	-0.4	HOLD - 3209.4 at 2150.1 MD
5,359.5	5,355.0	-171.1	-17.6	DROP -2.00
5,509.5	5,505.0	-175.0	-18.0	HOLD - 5969.0 at 5509.5 MD
11,478.5	11,474.0	-175.0	-18.0	KOP - Build 10.00
12,378.5	12,047.0	396.9	-53.0	EOC/TURN - DLS 2.00 TFO 90.00
12,525.8	12,047.0	544.1	-58.2	HOLD - 9486.4 at 12525.8 MD
22,012.2	12,047.0	10,030.0	-150.0	HOLD - 130.0 at 22012.2 MD
22,142.2	12,047.0	10,160.0	-151.3	PBHL