

30-025 44470



Wellbore Schematic

Red Bud State Com 25-36-32 105H

Well: Red Bud State Com 25-36-32 105H
 SHL: 25S-36E Section 32 200' FSL & 2270' FEL
 County, State: Lea County, NM
 BHL: 25S-36E Section 29 330' FNL & 2318' FEL
 E-Mail: Wellsite1@amererev.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
 FEB 13 2018
 RECEIVED

Co. Well ID: 40820
 AFE No.: 2017-043
 API No.: xxxxxxxxxxxx
 GL - Elevation: 3003'
 Field: Delaware_WCX
 Objective: Wolfcamp XY
 TVD/MD: 11,760' // 21,793'
 Cementing:
 Mud:
 Directional:
 OH Logs:
 Rig: H&P 616

Hole Size	Formation Tops	Logs	Cement	Mud Weight
17.5"	Rustler 1,230' 13.375" 54.5# J-55 BTC @ 1300'		825 sks 100% Excess TOC 0'	8.4 - 8.6 ppg WBM
12.25"	Salado 1,662' Tansill 3,353' 10.75" 40.5# J-55 BTC @ 5100'		580 sks 25% Excess TOC 0'	10.2 ppg Brine
9.875"	Bell Canyon 5134' Brushy Canyon 6,945' Bone Spring Lime 8,106' First Bone Spring 9,559' Second Bone Spring 10,082' Upper Third Bone Spring 10,734' 7.625" 29.7# HCP-110 TMK-UP Ultra FJ @ 11,174'		640 sks 25% Excess TOC 4600'	9.3 ppg Cut Brine
6.75"	Third Bone Spring 11,323' Wolfcamp 11,579'			
10" BUR KOP @ 11,189'	Target: Wolfcamp XY 11,760' TVD // 21,793' MD		945 sks 25% Excess TOC 10,450'	11.5 ppg OBM
	5.5" 20# HCP-110 SFJ @ 21,793'			

30-025-44470

AMEREDEV

HOBBS OCD
FEB 13 2018
RECEIVED

Ameredev Operating, LLC

Lea County, NM (NAD83 NME)
(Redbud State) Sec32_T-25-S_R-26-E
Red Bud State Com 25-36-32 #105H

OWB

Plan: Plan #2

Standard Planning Report

13 February, 2018

INTREPID

Database: EDM 5000.1 Single User Db
 Company: Ameredev Operating, LLC
 Project: Lea County, NM (NAD83 NME)
 Site: (Redbud State) Sec32_T-25-S_R-26-E
 Well: Red Bud State Com 25-36-32 #105H
 Wellbore: OWB
 Design: Plan #2

Local Co-ordinate Reference: Well Red Bud State Com 25-36-32 #105H
 TVD Reference: KB @ 3030.0usft (H&P 616)
 MD Reference: KB @ 3030.0usft (H&P 616)
 North Reference: Grid
 Survey Calculation Method: Minimum Curvature

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° 4' 48.465 N
 From: Map Easting: 865,740.00 usft Longitude: 103° 17' 9.409 W
 Position Uncertainty: 0.0 usft Slot Radius: 13-3/16 " Grid Convergence: 0.56 °

Well Red Bud State Com 25-36-32 #105H

Well Position +N/-S 0.0 usft Northing: 394,463.00 usft Latitude: 32° 4' 48.465 N
 +E/-W 0.0 usft Easting: 865,740.00 usft Longitude: 103° 17' 9.409 W
 Position Uncertainty 0.0 usft Wellhead Elevation: 0.0 usft Ground Level: 3,003.0 usft

Wellbore OWB

Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2015	02/06/18	6.74	59.97	47,820

Design Plan #2

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	359.18

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	
2,206.9	2.07	155.56	2,206.8	-3.4	1.5	1.00	1.00	0.00	155.56	
5,398.7	2.07	155.56	5,396.6	-108.3	49.2	0.00	0.00	0.00	0.00	
5,502.1	0.00	0.00	5,500.0	-110.0	50.0	2.00	-2.00	0.00	180.00	
11,189.1	0.00	0.00	11,187.0	-110.0	50.0	0.00	0.00	0.00	0.00	
12,089.1	90.00	352.05	11,760.0	457.5	-29.2	10.00	10.00	0.00	352.05	
12,459.2	90.00	359.45	11,760.0	826.3	-56.6	2.00	0.00	2.00	90.00	
21,793.4	90.00	359.45	11,760.0	10,160.0	-146.0	0.00	0.00	0.00	0.00	PBHL v2 (Red Bud)

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 Well: Red Bud State Com 25-36-32 #105H
 Wellbore: OWB
 Design: Plan #2

Local Co-ordinate Reference: Well Red Bud State Com 25-36-32 #105H
 TVD Reference: KB @ 3030.0usft (H&P 616)
 MD Reference: KB @ 3030.0usft (H&P 616)
 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
1,200.0	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
1,400.0	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
NUDGE - Build 1.00									
2,100.0	1.00	155.56	2,100.0	-0.8	0.4	-0.8	1.00	1.00	0.00
2,206.9	2.07	155.56	2,206.8	-3.4	1.5	-3.4	1.00	1.00	0.00
HOLD - 3191.8 at 2206.9 MD									
2,300.0	2.07	155.56	2,299.9	-6.5	2.9	-6.5	0.00	0.00	0.00
2,400.0	2.07	155.56	2,399.8	-9.7	4.4	-9.8	0.00	0.00	0.00
2,500.0	2.07	155.56	2,499.8	-13.0	5.9	-13.1	0.00	0.00	0.00
2,600.0	2.07	155.56	2,599.7	-16.3	7.4	-16.4	0.00	0.00	0.00
2,700.0	2.07	155.56	2,699.6	-19.6	8.9	-19.7	0.00	0.00	0.00
2,800.0	2.07	155.56	2,799.6	-22.9	10.4	-23.0	0.00	0.00	0.00
2,900.0	2.07	155.56	2,899.5	-26.2	11.9	-26.3	0.00	0.00	0.00
3,000.0	2.07	155.56	2,999.4	-29.5	13.4	-29.7	0.00	0.00	0.00
3,100.0	2.07	155.56	3,099.4	-32.8	14.9	-33.0	0.00	0.00	0.00
3,200.0	2.07	155.56	3,199.3	-36.0	16.4	-36.3	0.00	0.00	0.00
3,300.0	2.07	155.56	3,299.2	-39.3	17.9	-39.6	0.00	0.00	0.00
3,400.0	2.07	155.56	3,399.2	-42.6	19.4	-42.9	0.00	0.00	0.00
3,500.0	2.07	155.56	3,499.1	-45.9	20.9	-46.2	0.00	0.00	0.00
3,600.0	2.07	155.56	3,599.0	-49.2	22.4	-49.5	0.00	0.00	0.00
3,700.0	2.07	155.56	3,699.0	-52.5	23.9	-52.8	0.00	0.00	0.00
3,800.0	2.07	155.56	3,798.9	-55.8	25.3	-56.1	0.00	0.00	0.00
3,900.0	2.07	155.56	3,898.9	-59.0	26.8	-59.4	0.00	0.00	0.00
4,000.0	2.07	155.56	3,998.8	-62.3	28.3	-62.7	0.00	0.00	0.00
4,100.0	2.07	155.56	4,098.7	-65.6	29.8	-66.0	0.00	0.00	0.00
4,200.0	2.07	155.56	4,198.7	-68.9	31.3	-69.3	0.00	0.00	0.00
4,300.0	2.07	155.56	4,298.6	-72.2	32.8	-72.7	0.00	0.00	0.00
4,400.0	2.07	155.56	4,398.5	-75.5	34.3	-76.0	0.00	0.00	0.00
4,500.0	2.07	155.56	4,498.5	-78.8	35.8	-79.3	0.00	0.00	0.00
4,600.0	2.07	155.56	4,598.4	-82.1	37.3	-82.6	0.00	0.00	0.00
4,700.0	2.07	155.56	4,698.3	-85.3	38.8	-85.9	0.00	0.00	0.00
4,800.0	2.07	155.56	4,798.3	-88.6	40.3	-89.2	0.00	0.00	0.00
4,900.0	2.07	155.56	4,898.2	-91.9	41.8	-92.5	0.00	0.00	0.00
5,000.0	2.07	155.56	4,998.1	-95.2	43.3	-95.8	0.00	0.00	0.00
5,100.0	2.07	155.56	5,098.1	-98.5	44.8	-99.1	0.00	0.00	0.00

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5,200.0	2.07	155.56	5,198.0	-101.8	46.3	-102.4	0.00	0.00	0.00
5,300.0	2.07	155.56	5,297.9	-105.1	47.8	-105.7	0.00	0.00	0.00
5,398.7	2.07	155.56	5,396.6	-108.3	49.2	-109.0	0.00	0.00	0.00
DROP - -2.00									
5,400.0	2.04	155.56	5,397.9	-108.3	49.2	-109.0	2.00	-2.00	0.00
5,502.1	0.00	0.00	5,500.0	-110.0	50.0	-110.7	2.00	-2.00	0.00
HOLD - 5687.0 at 5502.1 MD									
5,600.0	0.00	0.00	5,597.9	-110.0	50.0	-110.7	0.00	0.00	0.00
5,700.0	0.00	0.00	5,697.9	-110.0	50.0	-110.7	0.00	0.00	0.00
5,800.0	0.00	0.00	5,797.9	-110.0	50.0	-110.7	0.00	0.00	0.00
5,900.0	0.00	0.00	5,897.9	-110.0	50.0	-110.7	0.00	0.00	0.00
6,000.0	0.00	0.00	5,997.9	-110.0	50.0	-110.7	0.00	0.00	0.00
6,100.0	0.00	0.00	6,097.9	-110.0	50.0	-110.7	0.00	0.00	0.00
6,200.0	0.00	0.00	6,197.9	-110.0	50.0	-110.7	0.00	0.00	0.00
6,300.0	0.00	0.00	6,297.9	-110.0	50.0	-110.7	0.00	0.00	0.00
6,400.0	0.00	0.00	6,397.9	-110.0	50.0	-110.7	0.00	0.00	0.00
6,500.0	0.00	0.00	6,497.9	-110.0	50.0	-110.7	0.00	0.00	0.00
6,600.0	0.00	0.00	6,597.9	-110.0	50.0	-110.7	0.00	0.00	0.00
6,700.0	0.00	0.00	6,697.9	-110.0	50.0	-110.7	0.00	0.00	0.00
6,800.0	0.00	0.00	6,797.9	-110.0	50.0	-110.7	0.00	0.00	0.00
6,900.0	0.00	0.00	6,897.9	-110.0	50.0	-110.7	0.00	0.00	0.00
7,000.0	0.00	0.00	6,997.9	-110.0	50.0	-110.7	0.00	0.00	0.00
7,100.0	0.00	0.00	7,097.9	-110.0	50.0	-110.7	0.00	0.00	0.00
7,200.0	0.00	0.00	7,197.9	-110.0	50.0	-110.7	0.00	0.00	0.00
7,300.0	0.00	0.00	7,297.9	-110.0	50.0	-110.7	0.00	0.00	0.00
7,400.0	0.00	0.00	7,397.9	-110.0	50.0	-110.7	0.00	0.00	0.00
7,500.0	0.00	0.00	7,497.9	-110.0	50.0	-110.7	0.00	0.00	0.00
7,600.0	0.00	0.00	7,597.9	-110.0	50.0	-110.7	0.00	0.00	0.00
7,700.0	0.00	0.00	7,697.9	-110.0	50.0	-110.7	0.00	0.00	0.00
7,800.0	0.00	0.00	7,797.9	-110.0	50.0	-110.7	0.00	0.00	0.00
7,900.0	0.00	0.00	7,897.9	-110.0	50.0	-110.7	0.00	0.00	0.00
8,000.0	0.00	0.00	7,997.9	-110.0	50.0	-110.7	0.00	0.00	0.00
8,100.0	0.00	0.00	8,097.9	-110.0	50.0	-110.7	0.00	0.00	0.00
8,200.0	0.00	0.00	8,197.9	-110.0	50.0	-110.7	0.00	0.00	0.00
8,300.0	0.00	0.00	8,297.9	-110.0	50.0	-110.7	0.00	0.00	0.00
8,400.0	0.00	0.00	8,397.9	-110.0	50.0	-110.7	0.00	0.00	0.00
8,500.0	0.00	0.00	8,497.9	-110.0	50.0	-110.7	0.00	0.00	0.00
8,600.0	0.00	0.00	8,597.9	-110.0	50.0	-110.7	0.00	0.00	0.00
8,700.0	0.00	0.00	8,697.9	-110.0	50.0	-110.7	0.00	0.00	0.00
8,800.0	0.00	0.00	8,797.9	-110.0	50.0	-110.7	0.00	0.00	0.00
8,900.0	0.00	0.00	8,897.9	-110.0	50.0	-110.7	0.00	0.00	0.00
9,000.0	0.00	0.00	8,997.9	-110.0	50.0	-110.7	0.00	0.00	0.00
9,100.0	0.00	0.00	9,097.9	-110.0	50.0	-110.7	0.00	0.00	0.00
9,200.0	0.00	0.00	9,197.9	-110.0	50.0	-110.7	0.00	0.00	0.00
9,300.0	0.00	0.00	9,297.9	-110.0	50.0	-110.7	0.00	0.00	0.00
9,400.0	0.00	0.00	9,397.9	-110.0	50.0	-110.7	0.00	0.00	0.00
9,500.0	0.00	0.00	9,497.9	-110.0	50.0	-110.7	0.00	0.00	0.00
9,600.0	0.00	0.00	9,597.9	-110.0	50.0	-110.7	0.00	0.00	0.00
9,700.0	0.00	0.00	9,697.9	-110.0	50.0	-110.7	0.00	0.00	0.00
9,800.0	0.00	0.00	9,797.9	-110.0	50.0	-110.7	0.00	0.00	0.00
9,900.0	0.00	0.00	9,897.9	-110.0	50.0	-110.7	0.00	0.00	0.00
10,000.0	0.00	0.00	9,997.9	-110.0	50.0	-110.7	0.00	0.00	0.00
10,100.0	0.00	0.00	10,097.9	-110.0	50.0	-110.7	0.00	0.00	0.00
10,200.0	0.00	0.00	10,197.9	-110.0	50.0	-110.7	0.00	0.00	0.00

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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)
10,300.0	0.00	0.00	10,297.9	-110.0	50.0	-110.7	0.00	0.00	0.00
10,400.0	0.00	0.00	10,397.9	-110.0	50.0	-110.7	0.00	0.00	0.00
10,500.0	0.00	0.00	10,497.9	-110.0	50.0	-110.7	0.00	0.00	0.00
10,600.0	0.00	0.00	10,597.9	-110.0	50.0	-110.7	0.00	0.00	0.00
10,700.0	0.00	0.00	10,697.9	-110.0	50.0	-110.7	0.00	0.00	0.00
10,800.0	0.00	0.00	10,797.9	-110.0	50.0	-110.7	0.00	0.00	0.00
10,900.0	0.00	0.00	10,897.9	-110.0	50.0	-110.7	0.00	0.00	0.00
11,000.0	0.00	0.00	10,997.9	-110.0	50.0	-110.7	0.00	0.00	0.00
11,100.0	0.00	0.00	11,097.9	-110.0	50.0	-110.7	0.00	0.00	0.00
11,189.1	0.00	0.00	11,187.0	-110.0	50.0	-110.7	0.00	0.00	0.00
KOP - Build 10.00									
11,200.0	1.09	352.05	11,197.9	-109.9	50.0	-110.6	10.00	10.00	0.00
11,250.0	6.09	352.05	11,247.7	-106.8	49.6	-107.5	10.00	10.00	0.00
11,300.0	11.09	352.05	11,297.2	-99.4	48.5	-100.1	10.00	10.00	0.00
11,350.0	16.09	352.05	11,345.7	-87.8	46.9	-88.4	10.00	10.00	0.00
11,400.0	21.09	352.05	11,393.1	-72.0	44.7	-72.6	10.00	10.00	0.00
11,450.0	26.09	352.05	11,438.9	-52.2	41.9	-52.8	10.00	10.00	0.00
11,500.0	31.09	352.05	11,482.8	-28.5	38.6	-29.1	10.00	10.00	0.00
11,550.0	36.09	352.05	11,524.5	-1.1	34.8	-1.6	10.00	10.00	0.00
11,600.0	41.09	352.05	11,563.5	29.7	30.5	29.3	10.00	10.00	0.00
11,650.0	46.09	352.05	11,599.7	63.9	25.7	63.5	10.00	10.00	0.00
11,700.0	51.09	352.05	11,632.8	101.0	20.5	100.7	10.00	10.00	0.00
11,750.0	56.09	352.05	11,662.5	140.8	15.0	140.6	10.00	10.00	0.00
11,800.0	61.09	352.05	11,688.5	183.1	9.1	182.9	10.00	10.00	0.00
11,850.0	66.09	352.05	11,710.8	227.4	2.9	227.4	10.00	10.00	0.00
11,900.0	71.09	352.05	11,729.0	273.5	-3.6	273.5	10.00	10.00	0.00
11,950.0	76.09	352.05	11,743.1	321.0	-10.2	321.1	10.00	10.00	0.00
12,000.0	81.09	352.05	11,753.0	369.5	-17.0	369.7	10.00	10.00	0.00
12,050.0	86.09	352.05	11,758.6	418.7	-23.8	419.0	10.00	10.00	0.00
12,089.1	90.00	352.05	11,760.0	457.5	-29.2	457.8	10.00	10.00	0.00
EOC/TRN - DLS 2.00 TFO 90.00									
12,100.0	90.00	352.27	11,760.0	468.2	-30.7	468.6	2.00	0.00	2.00
12,200.0	90.00	354.27	11,760.0	567.5	-42.4	568.1	2.00	0.00	2.00
12,300.0	90.00	356.27	11,760.0	667.2	-50.7	667.8	2.00	0.00	2.00
12,400.0	90.00	358.27	11,760.0	767.0	-55.5	767.8	2.00	0.00	2.00
12,459.2	90.00	359.45	11,760.0	826.3	-56.6	827.0	2.00	0.00	2.00
Start 9334.2 hold at 12459.2 MD									
12,500.0	90.00	359.45	11,760.0	867.0	-57.0	867.8	0.00	0.00	0.00
12,600.0	90.00	359.45	11,760.0	967.0	-58.0	967.8	0.00	0.00	0.00
12,700.0	90.00	359.45	11,760.0	1,067.0	-59.0	1,067.8	0.00	0.00	0.00
12,800.0	90.00	359.45	11,760.0	1,167.0	-59.9	1,167.8	0.00	0.00	0.00
12,900.0	90.00	359.45	11,760.0	1,267.0	-60.9	1,267.8	0.00	0.00	0.00
13,000.0	90.00	359.45	11,760.0	1,367.0	-61.8	1,367.8	0.00	0.00	0.00
13,100.0	90.00	359.45	11,760.0	1,467.0	-62.8	1,467.8	0.00	0.00	0.00
13,200.0	90.00	359.45	11,760.0	1,567.0	-63.7	1,567.7	0.00	0.00	0.00
13,300.0	90.00	359.45	11,760.0	1,667.0	-64.7	1,667.7	0.00	0.00	0.00
13,400.0	90.00	359.45	11,760.0	1,767.0	-65.7	1,767.7	0.00	0.00	0.00
13,500.0	90.00	359.45	11,760.0	1,867.0	-66.6	1,867.7	0.00	0.00	0.00
13,600.0	90.00	359.45	11,760.0	1,967.0	-67.6	1,967.7	0.00	0.00	0.00
13,700.0	90.00	359.45	11,760.0	2,067.0	-68.5	2,067.7	0.00	0.00	0.00
13,800.0	90.00	359.45	11,760.0	2,167.0	-69.5	2,167.7	0.00	0.00	0.00
13,900.0	90.00	359.45	11,760.0	2,267.0	-70.4	2,267.7	0.00	0.00	0.00
14,000.0	90.00	359.45	11,760.0	2,367.0	-71.4	2,367.7	0.00	0.00	0.00

Database: EDM 5000.1 Single User Db
 Company: Ameredev Operating, LLC
 Project: Lea County, NM (NAD83 NME)
 Site: (Redbud State) Sec32_T-25-S_R-26-E
 Well: Red Bud State Com 25-36-32 #105H
 Wellbore: OWB
 Design: Plan #2

Local Co-ordinate Reference: Well Red Bud State Com 25-36-32 #105H
 TVD Reference: KB @ 3030.0usft (H&P 616)
 MD Reference: KB @ 3030.0usft (H&P 616)
 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)
14,100.0	90.00	359.45	11,760.0	2,467.0	-72.4	2,467.7	0.00	0.00	0.00
14,200.0	90.00	359.45	11,760.0	2,566.9	-73.3	2,567.7	0.00	0.00	0.00
14,300.0	90.00	359.45	11,760.0	2,666.9	-74.3	2,667.7	0.00	0.00	0.00
14,400.0	90.00	359.45	11,760.0	2,766.9	-75.2	2,767.7	0.00	0.00	0.00
14,500.0	90.00	359.45	11,760.0	2,866.9	-76.2	2,867.7	0.00	0.00	0.00
14,600.0	90.00	359.45	11,760.0	2,966.9	-77.1	2,967.7	0.00	0.00	0.00
14,700.0	90.00	359.45	11,760.0	3,066.9	-78.1	3,067.7	0.00	0.00	0.00
14,800.0	90.00	359.45	11,760.0	3,166.9	-79.1	3,167.7	0.00	0.00	0.00
14,900.0	90.00	359.45	11,760.0	3,266.9	-80.0	3,267.7	0.00	0.00	0.00
15,000.0	90.00	359.45	11,760.0	3,366.9	-81.0	3,367.7	0.00	0.00	0.00
15,100.0	90.00	359.45	11,760.0	3,466.9	-81.9	3,467.7	0.00	0.00	0.00
15,200.0	90.00	359.45	11,760.0	3,566.9	-82.9	3,567.7	0.00	0.00	0.00
15,300.0	90.00	359.45	11,760.0	3,666.9	-83.8	3,667.7	0.00	0.00	0.00
15,400.0	90.00	359.45	11,760.0	3,766.9	-84.8	3,767.7	0.00	0.00	0.00
15,500.0	90.00	359.45	11,760.0	3,866.9	-85.8	3,867.7	0.00	0.00	0.00
15,600.0	90.00	359.45	11,760.0	3,966.9	-86.7	3,967.7	0.00	0.00	0.00
15,700.0	90.00	359.45	11,760.0	4,066.9	-87.7	4,067.7	0.00	0.00	0.00
15,800.0	90.00	359.45	11,760.0	4,166.9	-88.6	4,167.7	0.00	0.00	0.00
15,900.0	90.00	359.45	11,760.0	4,266.9	-89.6	4,267.7	0.00	0.00	0.00
16,000.0	90.00	359.45	11,760.0	4,366.9	-90.5	4,367.7	0.00	0.00	0.00
16,100.0	90.00	359.45	11,760.0	4,466.9	-91.5	4,467.7	0.00	0.00	0.00
16,200.0	90.00	359.45	11,760.0	4,566.9	-92.5	4,567.7	0.00	0.00	0.00
16,300.0	90.00	359.45	11,760.0	4,666.9	-93.4	4,667.7	0.00	0.00	0.00
16,400.0	90.00	359.45	11,760.0	4,766.8	-94.4	4,767.7	0.00	0.00	0.00
16,500.0	90.00	359.45	11,760.0	4,866.8	-95.3	4,867.7	0.00	0.00	0.00
16,600.0	90.00	359.45	11,760.0	4,966.8	-96.3	4,967.7	0.00	0.00	0.00
16,700.0	90.00	359.45	11,760.0	5,066.8	-97.2	5,067.7	0.00	0.00	0.00
16,800.0	90.00	359.45	11,760.0	5,166.8	-98.2	5,167.7	0.00	0.00	0.00
16,900.0	90.00	359.45	11,760.0	5,266.8	-99.2	5,267.7	0.00	0.00	0.00
17,000.0	90.00	359.45	11,760.0	5,366.8	-100.1	5,367.7	0.00	0.00	0.00
17,100.0	90.00	359.45	11,760.0	5,466.8	-101.1	5,467.7	0.00	0.00	0.00
17,200.0	90.00	359.45	11,760.0	5,566.8	-102.0	5,567.7	0.00	0.00	0.00
17,300.0	90.00	359.45	11,760.0	5,666.8	-103.0	5,667.7	0.00	0.00	0.00
17,400.0	90.00	359.45	11,760.0	5,766.8	-103.9	5,767.7	0.00	0.00	0.00
17,500.0	90.00	359.45	11,760.0	5,866.8	-104.9	5,867.7	0.00	0.00	0.00
17,600.0	90.00	359.45	11,760.0	5,966.8	-105.9	5,967.7	0.00	0.00	0.00
17,700.0	90.00	359.45	11,760.0	6,066.8	-106.8	6,067.7	0.00	0.00	0.00
17,800.0	90.00	359.45	11,760.0	6,166.8	-107.8	6,167.7	0.00	0.00	0.00
17,900.0	90.00	359.45	11,760.0	6,266.8	-108.7	6,267.7	0.00	0.00	0.00
18,000.0	90.00	359.45	11,760.0	6,366.8	-109.7	6,367.7	0.00	0.00	0.00
18,100.0	90.00	359.45	11,760.0	6,466.8	-110.6	6,467.7	0.00	0.00	0.00
18,200.0	90.00	359.45	11,760.0	6,566.8	-111.6	6,567.7	0.00	0.00	0.00
18,300.0	90.00	359.45	11,760.0	6,666.8	-112.6	6,667.7	0.00	0.00	0.00
18,400.0	90.00	359.45	11,760.0	6,766.8	-113.5	6,767.7	0.00	0.00	0.00
18,500.0	90.00	359.45	11,760.0	6,866.8	-114.5	6,867.7	0.00	0.00	0.00
18,600.0	90.00	359.45	11,760.0	6,966.7	-115.4	6,967.7	0.00	0.00	0.00
18,700.0	90.00	359.45	11,760.0	7,066.7	-116.4	7,067.7	0.00	0.00	0.00
18,800.0	90.00	359.45	11,760.0	7,166.7	-117.3	7,167.7	0.00	0.00	0.00
18,900.0	90.00	359.45	11,760.0	7,266.7	-118.3	7,267.7	0.00	0.00	0.00
19,000.0	90.00	359.45	11,760.0	7,366.7	-119.3	7,367.7	0.00	0.00	0.00
19,100.0	90.00	359.45	11,760.0	7,466.7	-120.2	7,467.7	0.00	0.00	0.00
19,200.0	90.00	359.45	11,760.0	7,566.7	-121.2	7,567.7	0.00	0.00	0.00
19,300.0	90.00	359.45	11,760.0	7,666.7	-122.1	7,667.7	0.00	0.00	0.00
19,400.0	90.00	359.45	11,760.0	7,766.7	-123.1	7,767.7	0.00	0.00	0.00

Database: EDM 5000.1 Single User Db
 Company: Ameredev Operating, LLC
 Project: Lea County, NM (NAD83 NME)
 Site: (Redbud State) Sec32_T-25-S_R-26-E
 Well: Red Bud State Com 25-36-32 #105H
 Wellbore: OWB
 Design: Plan #2

Local Co-ordinate Reference: Well Red Bud State Com 25-36-32 #105H
 TVD Reference: KB @ 3030.0usft (H&P 616)
 MD Reference: KB @ 3030.0usft (H&P 616)
 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)
19,500.0	90.00	359.45	11,760.0	7,866.7	-124.0	7,867.7	0.00	0.00	0.00
19,600.0	90.00	359.45	11,760.0	7,966.7	-125.0	7,967.7	0.00	0.00	0.00
19,700.0	90.00	359.45	11,760.0	8,066.7	-126.0	8,067.7	0.00	0.00	0.00
19,800.0	90.00	359.45	11,760.0	8,166.7	-126.9	8,167.7	0.00	0.00	0.00
19,900.0	90.00	359.45	11,760.0	8,266.7	-127.9	8,267.7	0.00	0.00	0.00
20,000.0	90.00	359.45	11,760.0	8,366.7	-128.8	8,367.7	0.00	0.00	0.00
20,100.0	90.00	359.45	11,760.0	8,466.7	-129.8	8,467.7	0.00	0.00	0.00
20,200.0	90.00	359.45	11,760.0	8,566.7	-130.7	8,567.7	0.00	0.00	0.00
20,300.0	90.00	359.45	11,760.0	8,666.7	-131.7	8,667.7	0.00	0.00	0.00
20,400.0	90.00	359.45	11,760.0	8,766.7	-132.7	8,767.7	0.00	0.00	0.00
20,500.0	90.00	359.45	11,760.0	8,866.7	-133.6	8,867.7	0.00	0.00	0.00
20,600.0	90.00	359.45	11,760.0	8,966.7	-134.6	8,967.7	0.00	0.00	0.00
20,700.0	90.00	359.45	11,760.0	9,066.7	-135.5	9,067.7	0.00	0.00	0.00
20,800.0	90.00	359.45	11,760.0	9,166.6	-136.5	9,167.7	0.00	0.00	0.00
20,900.0	90.00	359.45	11,760.0	9,266.6	-137.4	9,267.7	0.00	0.00	0.00
21,000.0	90.00	359.45	11,760.0	9,366.6	-138.4	9,367.7	0.00	0.00	0.00
21,100.0	90.00	359.45	11,760.0	9,466.6	-139.4	9,467.7	0.00	0.00	0.00
21,200.0	90.00	359.45	11,760.0	9,566.6	-140.3	9,567.7	0.00	0.00	0.00
21,300.0	90.00	359.45	11,760.0	9,666.6	-141.3	9,667.7	0.00	0.00	0.00
21,400.0	90.00	359.45	11,760.0	9,766.6	-142.2	9,767.7	0.00	0.00	0.00
21,500.0	90.00	359.45	11,760.0	9,866.6	-143.2	9,867.7	0.00	0.00	0.00
21,600.0	90.00	359.45	11,760.0	9,966.6	-144.1	9,967.7	0.00	0.00	0.00
21,700.0	90.00	359.45	11,760.0	10,066.6	-145.1	10,067.7	0.00	0.00	0.00
21,793.4	90.00	359.45	11,760.0	10,160.0	-146.0	10,161.0	0.00	0.00	0.00
TD at 21793.4									

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
PBHL v2 (Red Bud St - plan hits target center - Point	0.00	179.45	11,760.0	10,160.0	-146.0	404,623.00	865,594.00	32° 6' 29.008 N	103° 17' 9.959 W
LTP (Red Bud State C - plan misses target center by 0.2usft at 21663.4usft MD (11760.0 TVD, 10030.0 N, -144.8 E) - Rectangle (sides W60.0 H9,900.2 D25.0)	0.00	179.45	11,760.0	10,030.0	-145.0	404,493.00	865,595.00	32° 6' 27.722 N	103° 17' 9.962 W
FTP (Red Bud State C - plan misses target center by 107.3usft at 11798.5usft MD (11687.8 TVD, 181.8 N, 9.3 E) - Point	0.00	0.00	11,760.0	129.0	-50.0	394,592.00	865,690.00	32° 4' 49.746 N	103° 17' 9.976 W

Casing Points

Measured Depth (usft)	Vertical Depth (usft)	Name	Casing Diameter (")	Hole Diameter (")
1,300.0	1,300.0	13.375"	13-3/8	17-1/2
5,101.9	5,100.0	10.75"	10-3/4	12-1/4
10,952.1	10,950.0	7.625"	7-5/8	9-7/8
21,793.4	11,760.0	5 1/2"	5-1/2	6-3/4

Database:	EDM 5000.1 Single User Db	Local Co-ordinate Reference:	Well Red Bud State Com 25-36-32 #105H
Company:	Ameredev Operating, LLC	TVD Reference:	KB @ 3030.0usft (H&P 616)
Project:	Lea County, NM (NAD83 NME)	MD Reference:	KB @ 3030.0usft (H&P 616)
Site:	(Redbud State) Sec32_T-25-S_R-26-E	North Reference:	Grid
Well:	Red Bud State Com 25-36-32 #105H	Survey Calculation Method:	Minimum Curvature
Wellbore:	OWB		
Design:	Plan #2		

Formations

Measured Depth (usft)	Vertical Depth (usft)	Name	Lithology	Dip (°)	Dip Direction (°)
1,230.0	1,230.0	Rustler			
1,662.0	1,662.0	Salado			
3,353.8	3,353.0	Tansill			
5,136.0	5,134.0	Bell Canyon			
6,947.1	6,945.0	Brushy Canyon			
8,108.1	8,106.0	Bone Spring Lime			
9,561.1	9,559.0	First Bone Spring			
10,084.1	10,082.0	Second Bone Spring			
10,736.1	10,734.0	Upper Third Bone Spring			
11,326.5	11,323.0	Third Bone Spring			
11,620.9	11,579.0	Wolfcamp			

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	NUDGE - Build 1.00
2,206.9	2,206.8	-3.4	1.5	HOLD - 3191.8 at 2206.9 MD
5,398.7	5,396.6	-108.3	49.2	DROP - -2.00
5,502.1	5,500.0	-110.0	50.0	HOLD - 5687.0 at 5502.1 MD
11,189.1	11,187.0	-110.0	50.0	KOP - Build 10.00
12,089.1	11,760.0	457.5	-29.2	EOC/TRN - DLS 2.00 TFO 90.00
12,459.2	11,760.0	826.3	-56.6	Start 9334.2 hold at 12459.2 MD
21,793.4	11,760.0	10,160.0	-146.0	TD at 21793.4