

One Energy Partners

WELL DETAILS: Lobo Rojo B2 State Com No. 1H

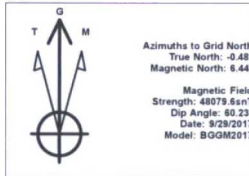
GL 3580+25ft @ 3605.0usft (KB (+25ft))
Ground Level: 3580.0

0.0 0.0 510370.90 778927.60 32° 23' 59.581 N 103° 25' 46.644 W

SECTION DETAILS Plan 1

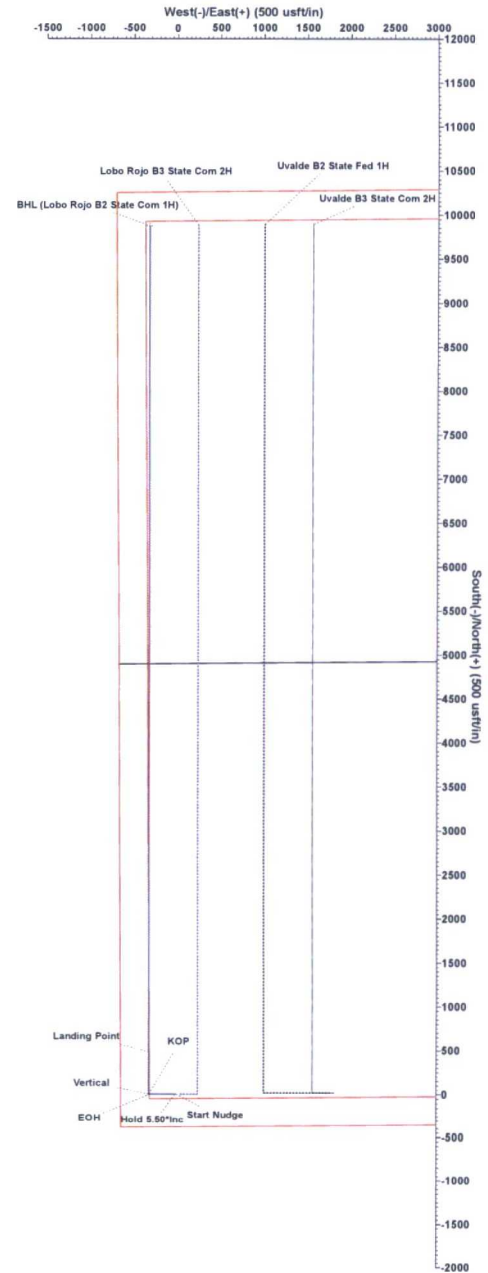
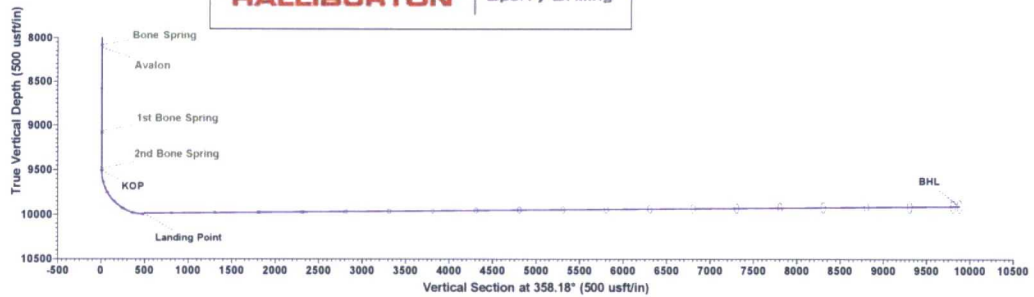
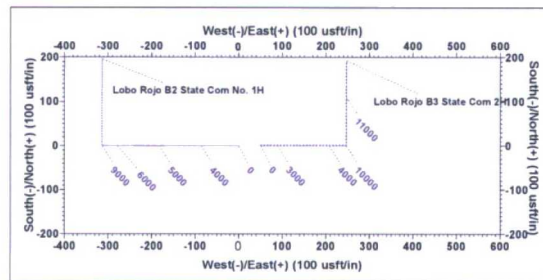
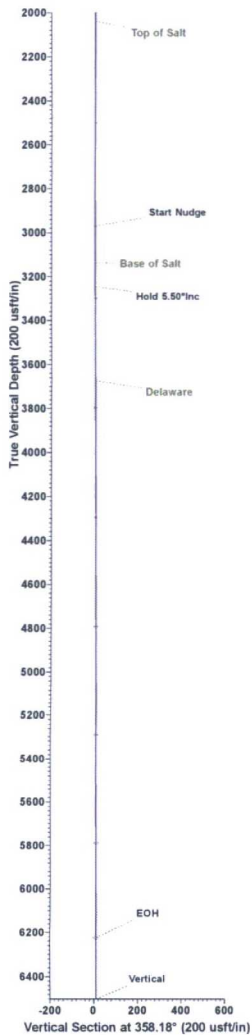
Sec	MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	VSect	Annotation
1	0.0	0.00	0.00	0.0	0.0	0.0	0.00	0.0	
2	2970.0	0.00	0.00	2970.0	0.0	0.0	0.00	0.0	Start Nudge
3	3244.8	5.50	270.00	3244.4	0.0	-13.2	2.00	0.4	Hold 5.50°Inc
4	6239.8	5.50	270.00	6225.6	0.0	-300.0	0.00	9.5	EOH
5	6514.6	0.00	0.00	6500.0	0.0	-313.2	2.00	9.9	Vertical
6	9526.2	0.00	0.00	9511.5	0.0	-313.2	0.00	9.9	KOP
7	10280.3	90.50	0.00	9989.0	481.6	-313.2	12.00	491.3	Landing Point
8	19675.7	90.50	0.00	9907.0	9876.7	-313.2	0.00	9881.7	BHL

Lea County, NM (NAD 27)
Lobo Rojo B
Lobo Rojo B2 State Com No. 1H
380' FSL & 635' FWL of sec. 12
Wellbore #1
Plan 1
KB (+25ft)
TL 9989°KBTVD @ 90.50°Inc



CASING DETAILS

TVD	MD	Name
900.0	900.0	13 3/8"



KB (+25ft)

One Energy Partners

Lea County, NM (NAD 27) Lobo Rojo B

API#

Lobo Rojo B2 State Com No. 1H

380' FSL & 635' FWL of sec. 12

Wellbore #1

Plan: Plan 1

Please review plan for Magnetic Toolface Switchover.

Highlighted inclination-tangent sections are between 4 and 6°.

Sperry Drilling Services

Combo Report

11 August, 2017

Well Coordinates: 32° 23' 59.58" N
103° 25' 46.64" W

NAD 1927 (NADCON CONUS)
New Mexico East 3001
510,370.90 N
778,927.60 E

Ground Level: 3,580.00 usft

Local Coordinate Origin:

Centered on Well Lobo Rojo B2 State Com No. 1H

Viewing Datum:

GL: 3580+25ft @ 3605.0usft (KB (+25ft))

TVDs to System:

N

North Reference:

Grid

Unit System:

API - US Survey Feet

Version: 5000.1 Build: 81D

Report Version: Midcon Combo v1.11

HALLIBURTON

Plan Report for Lobo Rojo B2 State Com No. 1H - Plan 1

Measured Depth (usft)	Inclination (°)	Grid Azimuth (°)	TVD below System (usft)	Vertical Depth (usft)	Local Coordinates		Map Coordinates		Dogleg Rate (°/100usft)	Vertical Section (usft)	Comments
					Northing (usft)	Easting (usft)	Northing (usft)	Easting (usft)			
0.0	0.00	0.00	-3,605.0	0.0	0.00 N	0.00 E	510,370.90	778,927.60	0.00	0.0	
100.0	0.00	0.00	-3,505.0	100.0	0.00 N	0.00 E	510,370.90	778,927.60	0.00	0.0	
200.0	0.00	0.00	-3,405.0	200.0	0.00 N	0.00 E	510,370.90	778,927.60	0.00	0.0	
300.0	0.00	0.00	-3,305.0	300.0	0.00 N	0.00 E	510,370.90	778,927.60	0.00	0.0	
400.0	0.00	0.00	-3,205.0	400.0	0.00 N	0.00 E	510,370.90	778,927.60	0.00	0.0	
500.0	0.00	0.00	-3,105.0	500.0	0.00 N	0.00 E	510,370.90	778,927.60	0.00	0.0	
600.0	0.00	0.00	-3,005.0	600.0	0.00 N	0.00 E	510,370.90	778,927.60	0.00	0.0	
700.0	0.00	0.00	-2,905.0	700.0	0.00 N	0.00 E	510,370.90	778,927.60	0.00	0.0	
800.0	0.00	0.00	-2,805.0	800.0	0.00 N	0.00 E	510,370.90	778,927.60	0.00	0.0	
900.0	0.00	0.00	-2,705.0	900.0	0.00 N	0.00 E	510,370.90	778,927.60	0.00	0.0	
1,000.0	0.00	0.00	-2,605.0	1,000.0	0.00 N	0.00 E	510,370.90	778,927.60	0.00	0.0	
1,100.0	0.00	0.00	-2,505.0	1,100.0	0.00 N	0.00 E	510,370.90	778,927.60	0.00	0.0	
1,200.0	0.00	0.00	-2,405.0	1,200.0	0.00 N	0.00 E	510,370.90	778,927.60	0.00	0.0	
1,300.0	0.00	0.00	-2,305.0	1,300.0	0.00 N	0.00 E	510,370.90	778,927.60	0.00	0.0	
1,400.0	0.00	0.00	-2,205.0	1,400.0	0.00 N	0.00 E	510,370.90	778,927.60	0.00	0.0	
1,500.0	0.00	0.00	-2,105.0	1,500.0	0.00 N	0.00 E	510,370.90	778,927.60	0.00	0.0	
1,600.0	0.00	0.00	-2,005.0	1,600.0	0.00 N	0.00 E	510,370.90	778,927.60	0.00	0.0	
1,674.0	0.00	0.00	-1,931.0	1,674.0	0.00 N	0.00 E	510,370.90	778,927.60	0.00	0.0	Rustler
1,700.0	0.00	0.00	-1,905.0	1,700.0	0.00 N	0.00 E	510,370.90	778,927.60	0.00	0.0	
1,800.0	0.00	0.00	-1,805.0	1,800.0	0.00 N	0.00 E	510,370.90	778,927.60	0.00	0.0	
1,900.0	0.00	0.00	-1,705.0	1,900.0	0.00 N	0.00 E	510,370.90	778,927.60	0.00	0.0	
2,000.0	0.00	0.00	-1,605.0	2,000.0	0.00 N	0.00 E	510,370.90	778,927.60	0.00	0.0	
2,038.0	0.00	0.00	-1,567.0	2,038.0	0.00 N	0.00 E	510,370.90	778,927.60	0.00	0.0	Top of Salt
2,100.0	0.00	0.00	-1,505.0	2,100.0	0.00 N	0.00 E	510,370.90	778,927.60	0.00	0.0	
2,200.0	0.00	0.00	-1,405.0	2,200.0	0.00 N	0.00 E	510,370.90	778,927.60	0.00	0.0	
2,300.0	0.00	0.00	-1,305.0	2,300.0	0.00 N	0.00 E	510,370.90	778,927.60	0.00	0.0	
2,400.0	0.00	0.00	-1,205.0	2,400.0	0.00 N	0.00 E	510,370.90	778,927.60	0.00	0.0	
2,500.0	0.00	0.00	-1,105.0	2,500.0	0.00 N	0.00 E	510,370.90	778,927.60	0.00	0.0	
2,600.0	0.00	0.00	-1,005.0	2,600.0	0.00 N	0.00 E	510,370.90	778,927.60	0.00	0.0	
2,700.0	0.00	0.00	-905.0	2,700.0	0.00 N	0.00 E	510,370.90	778,927.60	0.00	0.0	
2,800.0	0.00	0.00	-805.0	2,800.0	0.00 N	0.00 E	510,370.90	778,927.60	0.00	0.0	
2,900.0	0.00	0.00	-705.0	2,900.0	0.00 N	0.00 E	510,370.90	778,927.60	0.00	0.0	
2,970.0	0.00	0.00	-635.0	2,970.0	0.00 N	0.00 E	510,370.90	778,927.60	0.00	0.0	Start Nudge
3,000.0	0.60	270.00	-605.0	3,000.0	0.00 S	0.16 W	510,370.90	778,927.44	2.00	0.0	
3,100.0	2.60	270.00	-505.0	3,100.0	0.00 S	2.95 W	510,370.90	778,924.65	2.00	0.1	
3,136.1	3.32	270.00	-469.0	3,136.0	0.00 S	4.81 W	510,370.90	778,922.79	2.00	0.2	Base of Salt
3,200.0	4.60	270.00	-405.2	3,199.8	0.00 S	9.23 W	510,370.90	778,918.37	2.00	0.3	
3,244.8	5.50	270.00	-360.6	3,244.4	0.00 N	13.17 W	510,370.90	778,914.43	2.00	0.4	Hold 5.50° Inc
3,300.0	5.50	270.00	-305.7	3,299.3	0.00 S	18.46 W	510,370.90	778,909.14	0.00	0.6	
3,400.0	5.50	270.00	-206.1	3,398.9	0.00 S	28.03 W	510,370.90	778,899.57	0.00	0.9	
3,500.0	5.50	270.00	-106.6	3,498.4	0.00 S	37.61 W	510,370.90	778,889.99	0.00	1.2	

Plan Report for Lobo Rojo B2 State Com No. 1H - Plan 1

Measured Depth (usft)	Inclination (°)	Grid Azimuth (°)	TVD below System (usft)	Vertical Depth (usft)	Local Coordinates		Map Coordinates		Dogleg Rate (°/100usft)	Vertical Section (usft)	Comments
					Northing (usft)	Easting (usft)	Northing (usft)	Easting (usft)			
3,600.0	5.50	270.00	-7.1	3,597.9	0.00 S	47.19 W	510,370.90	778,880.41	0.00	1.5	Delaware
3,676.4	5.50	270.00	69.0	3,674.0	0.00 S	54.51 W	510,370.90	778,873.09	0.00	1.7	
3,700.0	5.50	270.00	92.5	3,697.5	0.00 S	56.77 W	510,370.90	778,870.83	0.00	1.8	
3,800.0	5.50	270.00	192.0	3,797.0	0.00 S	66.35 W	510,370.90	778,861.25	0.00	2.1	
3,900.0	5.50	270.00	291.6	3,896.6	0.00 S	75.92 W	510,370.90	778,851.68	0.00	2.4	
4,000.0	5.50	270.00	391.1	3,996.1	0.00 S	85.50 W	510,370.90	778,842.10	0.00	2.7	
4,100.0	5.50	270.00	490.6	4,095.6	0.00 S	95.08 W	510,370.90	778,832.52	0.00	3.0	
4,200.0	5.50	270.00	590.2	4,195.2	0.00 S	104.66 W	510,370.90	778,822.94	0.00	3.3	
4,300.0	5.50	270.00	689.7	4,294.7	0.00 S	114.24 W	510,370.90	778,813.36	0.00	3.6	
4,400.0	5.50	270.00	789.3	4,394.3	0.00 S	123.81 W	510,370.90	778,803.79	0.00	3.9	
4,500.0	5.50	270.00	888.8	4,493.8	0.00 S	133.39 W	510,370.90	778,794.21	0.00	4.2	
4,600.0	5.50	270.00	988.3	4,593.3	0.00 S	142.97 W	510,370.90	778,784.63	0.00	4.5	
4,700.0	5.50	270.00	1,087.9	4,692.9	0.00 S	152.55 W	510,370.90	778,775.05	0.00	4.8	
4,800.0	5.50	270.00	1,187.4	4,792.4	0.00 S	162.13 W	510,370.90	778,765.47	0.00	5.1	
4,900.0	5.50	270.00	1,287.0	4,892.0	0.00 S	171.70 W	510,370.90	778,755.90	0.00	5.4	
5,000.0	5.50	270.00	1,386.5	4,991.5	0.00 S	181.28 W	510,370.90	778,746.32	0.00	5.7	
5,100.0	5.50	270.00	1,486.0	5,091.0	0.00 S	190.86 W	510,370.90	778,736.74	0.00	6.0	EOH
5,200.0	5.50	270.00	1,585.6	5,190.6	0.00 S	200.44 W	510,370.90	778,727.16	0.00	6.4	
5,300.0	5.50	270.00	1,685.1	5,290.1	0.00 S	210.02 W	510,370.90	778,717.58	0.00	6.7	
5,400.0	5.50	270.00	1,784.7	5,389.7	0.00 S	219.59 W	510,370.90	778,708.01	0.00	7.0	
5,500.0	5.50	270.00	1,884.2	5,489.2	0.00 S	229.17 W	510,370.90	778,698.43	0.00	7.3	
5,600.0	5.50	270.00	1,983.8	5,588.8	0.00 S	238.75 W	510,370.90	778,688.85	0.00	7.6	
5,700.0	5.50	270.00	2,083.3	5,688.3	0.00 S	248.33 W	510,370.90	778,679.27	0.00	7.9	
5,800.0	5.50	270.00	2,182.8	5,787.8	0.00 S	257.91 W	510,370.90	778,669.69	0.00	8.2	
5,900.0	5.50	270.00	2,282.4	5,887.4	0.00 S	267.48 W	510,370.90	778,660.12	0.00	8.5	
6,000.0	5.50	270.00	2,381.9	5,986.9	0.00 S	277.06 W	510,370.90	778,650.54	0.00	8.8	
6,100.0	5.50	270.00	2,481.5	6,086.5	0.00 S	286.64 W	510,370.90	778,640.96	0.00	9.1	
6,200.0	5.50	270.00	2,581.0	6,186.0	0.00 S	296.22 W	510,370.90	778,631.38	0.00	9.4	
6,239.8	5.50	270.00	2,620.6	6,225.6	0.00 N	300.03 W	510,370.90	778,627.57	0.00	9.5	
6,300.0	4.29	270.00	2,680.6	6,285.6	0.00 S	305.17 W	510,370.90	778,622.43	2.00	9.7	Vertical
6,400.0	2.29	270.00	2,780.4	6,385.4	0.00 S	310.91 W	510,370.90	778,616.69	2.00	9.9	
6,500.0	0.29	270.00	2,880.4	6,485.4	0.00 S	313.16 W	510,370.90	778,614.44	2.00	9.9	
6,514.6	0.00	0.00	2,895.0	6,500.0	0.00 N	313.20 W	510,370.90	778,614.40	2.00	9.9	
6,600.0	0.00	0.00	2,980.4	6,585.4	0.00 N	313.20 W	510,370.90	778,614.40	0.00	9.9	
6,700.0	0.00	0.00	3,080.4	6,685.4	0.00 N	313.20 W	510,370.90	778,614.40	0.00	9.9	
6,800.0	0.00	0.00	3,180.4	6,785.4	0.00 N	313.20 W	510,370.90	778,614.40	0.00	9.9	
6,900.0	0.00	0.00	3,280.4	6,885.4	0.00 N	313.20 W	510,370.90	778,614.40	0.00	9.9	
7,000.0	0.00	0.00	3,380.4	6,985.4	0.00 N	313.20 W	510,370.90	778,614.40	0.00	9.9	
7,100.0	0.00	0.00	3,480.4	7,085.4	0.00 N	313.20 W	510,370.90	778,614.40	0.00	9.9	
7,200.0	0.00	0.00	3,580.4	7,185.4	0.00 N	313.20 W	510,370.90	778,614.40	0.00	9.9	
7,300.0	0.00	0.00	3,680.4	7,285.4	0.00 N	313.20 W	510,370.90	778,614.40	0.00	9.9	

Plan Report for Lobo Rojo B2 State Com No. 1H - Plan 1

Measured Depth (usft)	Inclination (°)	Grid Azimuth (°)	TVD below System (usft)	Vertical Depth (usft)	Local Coordinates		Map Coordinates		Dogleg Rate (°/100usft)	Vertical Section (usft)	Comments
					Northing (usft)	Easting (usft)	Northing (usft)	Easting (usft)			
7,400.0	0.00	0.00	3,780.4	7,385.4	0.00 N	313.20 W	510,370.90	778,614.40	0.00	9.9	
7,500.0	0.00	0.00	3,880.4	7,485.4	0.00 N	313.20 W	510,370.90	778,614.40	0.00	9.9	
7,600.0	0.00	0.00	3,980.4	7,585.4	0.00 N	313.20 W	510,370.90	778,614.40	0.00	9.9	
7,700.0	0.00	0.00	4,080.4	7,685.4	0.00 N	313.20 W	510,370.90	778,614.40	0.00	9.9	
7,800.0	0.00	0.00	4,180.4	7,785.4	0.00 N	313.20 W	510,370.90	778,614.40	0.00	9.9	
7,900.0	0.00	0.00	4,280.4	7,885.4	0.00 N	313.20 W	510,370.90	778,614.40	0.00	9.9	
8,000.0	0.00	0.00	4,380.4	7,985.4	0.00 N	313.20 W	510,370.90	778,614.40	0.00	9.9	
8,094.6	0.00	0.00	4,475.0	8,080.0	0.00 N	313.20 W	510,370.90	778,614.40	0.00	9.9	Bone Spring
8,100.0	0.00	0.00	4,480.4	8,085.4	0.00 N	313.20 W	510,370.90	778,614.40	0.00	9.9	
8,123.6	0.00	0.00	4,504.0	8,109.0	0.00 N	313.20 W	510,370.90	778,614.40	0.00	9.9	Avalon
8,200.0	0.00	0.00	4,580.4	8,185.4	0.00 N	313.20 W	510,370.90	778,614.40	0.00	9.9	
8,300.0	0.00	0.00	4,680.4	8,285.4	0.00 N	313.20 W	510,370.90	778,614.40	0.00	9.9	
8,400.0	0.00	0.00	4,780.4	8,385.4	0.00 N	313.20 W	510,370.90	778,614.40	0.00	9.9	
8,500.0	0.00	0.00	4,880.4	8,485.4	0.00 N	313.20 W	510,370.90	778,614.40	0.00	9.9	
8,600.0	0.00	0.00	4,980.4	8,585.4	0.00 N	313.20 W	510,370.90	778,614.40	0.00	9.9	
8,700.0	0.00	0.00	5,080.4	8,685.4	0.00 N	313.20 W	510,370.90	778,614.40	0.00	9.9	
8,800.0	0.00	0.00	5,180.4	8,785.4	0.00 N	313.20 W	510,370.90	778,614.40	0.00	9.9	
8,900.0	0.00	0.00	5,280.4	8,885.4	0.00 N	313.20 W	510,370.90	778,614.40	0.00	9.9	
9,000.0	0.00	0.00	5,380.4	8,985.4	0.00 N	313.20 W	510,370.90	778,614.40	0.00	9.9	
9,077.6	0.00	0.00	5,458.0	9,063.0	0.00 N	313.20 W	510,370.90	778,614.40	0.00	9.9	1st Bone Spring
9,100.0	0.00	0.00	5,480.4	9,085.4	0.00 N	313.20 W	510,370.90	778,614.40	0.00	9.9	
9,200.0	0.00	0.00	5,580.4	9,185.4	0.00 N	313.20 W	510,370.90	778,614.40	0.00	9.9	
9,300.0	0.00	0.00	5,680.4	9,285.4	0.00 N	313.20 W	510,370.90	778,614.40	0.00	9.9	
9,400.0	0.00	0.00	5,780.4	9,385.4	0.00 N	313.20 W	510,370.90	778,614.40	0.00	9.9	
9,500.0	0.00	0.00	5,880.4	9,485.4	0.00 N	313.20 W	510,370.90	778,614.40	0.00	9.9	
9,500.6	0.00	0.00	5,881.0	9,486.0	0.00 N	313.20 W	510,370.90	778,614.40	0.00	9.9	2nd Bone Spring
9,526.2	0.00	0.00	5,906.5	9,511.5	0.00 N	313.20 W	510,370.90	778,614.40	0.00	9.9	KOP
9,550.0	2.86	0.00	5,930.4	9,535.4	0.60 N	313.20 W	510,371.50	778,614.40	12.00	10.5	
9,575.0	5.86	0.00	5,955.3	9,560.3	2.50 N	313.20 W	510,373.40	778,614.40	12.00	12.4	
9,600.0	8.86	0.00	5,980.1	9,585.1	5.70 N	313.20 W	510,376.60	778,614.40	12.00	15.6	
9,625.0	11.86	0.00	6,004.7	9,609.7	10.20 N	313.20 W	510,381.10	778,614.40	12.00	20.1	
9,650.0	14.86	0.00	6,029.0	9,634.0	15.97 N	313.20 W	510,386.87	778,614.40	12.00	25.9	
9,675.0	17.86	0.00	6,053.0	9,658.0	23.01 N	313.20 W	510,393.91	778,614.40	12.00	32.9	
9,700.0	20.86	0.00	6,076.6	9,681.6	31.30 N	313.20 W	510,402.20	778,614.40	12.00	41.2	
9,725.0	23.86	0.00	6,099.7	9,704.7	40.81 N	313.20 W	510,411.71	778,614.40	12.00	50.7	
9,750.0	26.86	0.00	6,122.3	9,727.3	51.52 N	313.20 W	510,422.42	778,614.40	12.00	61.4	
9,775.0	29.86	0.00	6,144.3	9,749.3	63.39 N	313.20 W	510,434.29	778,614.40	12.00	73.3	
9,800.0	32.86	0.00	6,165.6	9,770.6	76.40 N	313.20 W	510,447.30	778,614.40	12.00	86.3	
9,825.0	35.86	0.00	6,186.3	9,791.3	90.51 N	313.20 W	510,461.41	778,614.40	12.00	100.4	
9,850.0	38.86	0.00	6,206.1	9,811.1	105.68 N	313.20 W	510,476.58	778,614.40	12.00	115.6	
9,875.0	41.86	0.00	6,225.2	9,830.2	121.87 N	313.20 W	510,492.77	778,614.40	12.00	131.7	

Plan Report for Lobo Rojo B2 State Com No. 1H - Plan 1

Measured Depth (usft)	Inclination (°)	Grid Azimuth (°)	TVD below System (usft)	Vertical Depth (usft)	Local Coordinates		Map Coordinates		Dogleg Rate (°/100usft)	Vertical Section (usft)	Comments
					Northing (usft)	Easting (usft)	Northing (usft)	Easting (usft)			
9,900.0	44.86	0.00	6,243.3	9,848.3	139.03 N	313.20 W	510,509.93	778,614.40	12.00	148.9	
9,925.0	47.86	0.00	6,260.6	9,865.6	157.12 N	313.20 W	510,528.02	778,614.40	12.00	167.0	
9,950.0	50.86	0.00	6,276.9	9,881.9	176.09 N	313.20 W	510,546.99	778,614.40	12.00	185.9	
9,975.0	53.86	0.00	6,292.1	9,897.1	195.88 N	313.20 W	510,566.78	778,614.40	12.00	205.7	
10,000.0	56.86	0.00	6,306.3	9,911.3	216.45 N	313.20 W	510,587.35	778,614.40	12.00	226.3	
10,025.0	59.86	0.00	6,319.5	9,924.5	237.73 N	313.20 W	510,608.63	778,614.40	12.00	247.5	
10,050.0	62.86	0.00	6,331.4	9,936.4	259.67 N	313.20 W	510,630.57	778,614.40	12.00	269.5	
10,075.0	65.86	0.00	6,342.3	9,947.3	282.21 N	313.20 W	510,653.11	778,614.40	12.00	292.0	
10,100.0	68.86	0.00	6,351.9	9,956.9	305.28 N	313.20 W	510,676.18	778,614.40	12.00	315.1	
10,125.0	71.86	0.00	6,360.3	9,965.3	328.82 N	313.20 W	510,699.72	778,614.40	12.00	338.6	
10,150.0	74.86	0.00	6,367.4	9,972.4	352.77 N	313.20 W	510,723.67	778,614.40	12.00	362.5	
10,175.0	77.86	0.00	6,373.3	9,978.3	377.07 N	313.20 W	510,747.97	778,614.40	12.00	386.8	
10,200.0	80.86	0.00	6,377.9	9,982.9	401.63 N	313.20 W	510,772.53	778,614.40	12.00	411.4	
10,225.0	83.86	0.00	6,381.3	9,986.3	426.41 N	313.20 W	510,797.31	778,614.40	12.00	436.1	
10,250.0	86.86	0.00	6,383.3	9,988.3	451.32 N	313.20 W	510,822.22	778,614.40	12.00	461.0	
10,273.4	89.67	0.00	6,384.0	9,989.0	474.75 N	313.20 W	510,845.65	778,614.40	12.00	484.4	Target (0 KBTVD @ 90.5°)
10,275.0	89.86	0.00	6,384.0	9,989.0	476.31 N	313.20 W	510,847.21	778,614.40	12.00	486.0	
10,280.3	90.50	0.00	6,384.0	9,989.0	481.63 N	313.20 W	510,852.53	778,614.40	12.00	491.3	Landing Point
10,300.0	90.50	0.00	6,383.8	9,988.8	501.31 N	313.20 W	510,872.21	778,614.40	0.00	511.0	
10,400.0	90.50	0.00	6,382.9	9,987.9	601.31 N	313.20 W	510,972.21	778,614.40	0.00	610.9	
10,500.0	90.50	0.00	6,382.1	9,987.1	701.30 N	313.20 W	511,072.20	778,614.40	0.00	710.9	
10,600.0	90.50	0.00	6,381.2	9,986.2	801.30 N	313.20 W	511,172.20	778,614.40	0.00	810.8	
10,700.0	90.50	0.00	6,380.3	9,985.3	901.29 N	313.20 W	511,272.19	778,614.40	0.00	910.8	
10,800.0	90.50	0.00	6,379.5	9,984.5	1,001.29 N	313.20 W	511,372.19	778,614.40	0.00	1,010.7	
10,900.0	90.50	0.00	6,378.6	9,983.6	1,101.29 N	313.20 W	511,472.19	778,614.40	0.00	1,110.7	
11,000.0	90.50	0.00	6,377.7	9,982.7	1,201.28 N	313.20 W	511,572.18	778,614.40	0.00	1,210.6	
11,100.0	90.50	0.00	6,376.8	9,981.8	1,301.28 N	313.20 W	511,672.18	778,614.40	0.00	1,310.6	
11,200.0	90.50	0.00	6,376.0	9,981.0	1,401.28 N	313.20 W	511,772.18	778,614.40	0.00	1,410.5	
11,300.0	90.50	0.00	6,375.1	9,980.1	1,501.27 N	313.20 W	511,872.17	778,614.40	0.00	1,510.4	
11,400.0	90.50	0.00	6,374.2	9,979.2	1,601.27 N	313.20 W	511,972.17	778,614.40	0.00	1,610.4	
11,500.0	90.50	0.00	6,373.3	9,978.3	1,701.26 N	313.20 W	512,072.16	778,614.40	0.00	1,710.3	
11,600.0	90.50	0.00	6,372.5	9,977.5	1,801.26 N	313.20 W	512,172.16	778,614.40	0.00	1,810.3	
11,700.0	90.50	0.00	6,371.6	9,976.6	1,901.26 N	313.20 W	512,272.16	778,614.40	0.00	1,910.2	
11,800.0	90.50	0.00	6,370.7	9,975.7	2,001.25 N	313.20 W	512,372.15	778,614.40	0.00	2,010.2	
11,900.0	90.50	0.00	6,369.9	9,974.9	2,101.25 N	313.20 W	512,472.15	778,614.40	0.00	2,110.1	
12,000.0	90.50	0.00	6,369.0	9,974.0	2,201.24 N	313.20 W	512,572.14	778,614.40	0.00	2,210.1	
12,100.0	90.50	0.00	6,368.1	9,973.1	2,301.24 N	313.20 W	512,672.14	778,614.40	0.00	2,310.0	
12,200.0	90.50	0.00	6,367.2	9,972.2	2,401.24 N	313.20 W	512,772.14	778,614.40	0.00	2,410.0	
12,300.0	90.50	0.00	6,366.4	9,971.4	2,501.23 N	313.20 W	512,872.13	778,614.40	0.00	2,509.9	
12,400.0	90.50	0.00	6,365.5	9,970.5	2,601.23 N	313.20 W	512,972.13	778,614.40	0.00	2,609.8	
12,500.0	90.50	0.00	6,364.6	9,969.6	2,701.23 N	313.20 W	513,072.13	778,614.40	0.00	2,709.8	

Plan Report for Lobo Rojo B2 State Com No. 1H - Plan 1

Measured Depth (usft)	Inclination (°)	Grid Azimuth (°)	TVD below System (usft)	Vertical Depth (usft)	Local Coordinates		Map Coordinates		Dogleg Rate (°/100usft)	Vertical Section (usft)	Comments
					Northing (usft)	Easting (usft)	Northing (usft)	Easting (usft)			
12,600.0	90.50	0.00	6,363.7	9,968.7	2,801.22 N	313.20 W	513,172.12	778,614.40	0.00	2,809.7	
12,700.0	90.50	0.00	6,362.9	9,967.9	2,901.22 N	313.20 W	513,272.12	778,614.40	0.00	2,909.7	
12,800.0	90.50	0.00	6,362.0	9,967.0	3,001.21 N	313.20 W	513,372.11	778,614.40	0.00	3,009.6	
12,900.0	90.50	0.00	6,361.1	9,966.1	3,101.21 N	313.20 W	513,472.11	778,614.40	0.00	3,109.6	
13,000.0	90.50	0.00	6,360.3	9,965.3	3,201.21 N	313.20 W	513,572.11	778,614.40	0.00	3,209.5	
13,100.0	90.50	0.00	6,359.4	9,964.4	3,301.20 N	313.20 W	513,672.10	778,614.40	0.00	3,309.5	
13,200.0	90.50	0.00	6,358.5	9,963.5	3,401.20 N	313.20 W	513,772.10	778,614.40	0.00	3,409.4	
13,300.0	90.50	0.00	6,357.6	9,962.6	3,501.20 N	313.20 W	513,872.10	778,614.40	0.00	3,509.4	
13,400.0	90.50	0.00	6,356.8	9,961.8	3,601.19 N	313.20 W	513,972.09	778,614.40	0.00	3,609.3	
13,500.0	90.50	0.00	6,355.9	9,960.9	3,701.19 N	313.20 W	514,072.09	778,614.40	0.00	3,709.3	
13,600.0	90.50	0.00	6,355.0	9,960.0	3,801.18 N	313.20 W	514,172.08	778,614.40	0.00	3,809.2	
13,700.0	90.50	0.00	6,354.1	9,959.1	3,901.18 N	313.20 W	514,272.08	778,614.40	0.00	3,909.1	
13,800.0	90.50	0.00	6,353.3	9,958.3	4,001.18 N	313.20 W	514,372.08	778,614.40	0.00	4,009.1	
13,900.0	90.50	0.00	6,352.4	9,957.4	4,101.17 N	313.20 W	514,472.07	778,614.40	0.00	4,109.0	
14,000.0	90.50	0.00	6,351.5	9,956.5	4,201.17 N	313.20 W	514,572.07	778,614.40	0.00	4,209.0	
14,100.0	90.50	0.00	6,350.7	9,955.7	4,301.16 N	313.20 W	514,672.06	778,614.40	0.00	4,308.9	
14,200.0	90.50	0.00	6,349.8	9,954.8	4,401.16 N	313.20 W	514,772.06	778,614.40	0.00	4,408.9	
14,300.0	90.50	0.00	6,348.9	9,953.9	4,501.16 N	313.20 W	514,872.06	778,614.40	0.00	4,508.8	
14,400.0	90.50	0.00	6,348.0	9,953.0	4,601.15 N	313.20 W	514,972.05	778,614.40	0.00	4,608.8	
14,500.0	90.50	0.00	6,347.2	9,952.2	4,701.15 N	313.20 W	515,072.05	778,614.40	0.00	4,708.7	
14,600.0	90.50	0.00	6,346.3	9,951.3	4,801.15 N	313.20 W	515,172.05	778,614.40	0.00	4,808.7	
14,700.0	90.50	0.00	6,345.4	9,950.4	4,901.14 N	313.20 W	515,272.04	778,614.40	0.00	4,908.6	
14,800.0	90.50	0.00	6,344.5	9,949.5	5,001.14 N	313.20 W	515,372.04	778,614.40	0.00	5,008.6	
14,900.0	90.50	0.00	6,343.7	9,948.7	5,101.13 N	313.20 W	515,472.03	778,614.40	0.00	5,108.5	
15,000.0	90.50	0.00	6,342.8	9,947.8	5,201.13 N	313.20 W	515,572.03	778,614.40	0.00	5,208.4	
15,100.0	90.50	0.00	6,341.9	9,946.9	5,301.13 N	313.20 W	515,672.03	778,614.40	0.00	5,308.4	
15,200.0	90.50	0.00	6,341.1	9,946.1	5,401.12 N	313.20 W	515,772.02	778,614.40	0.00	5,408.3	
15,300.0	90.50	0.00	6,340.2	9,945.2	5,501.12 N	313.20 W	515,872.02	778,614.40	0.00	5,508.3	
15,400.0	90.50	0.00	6,339.3	9,944.3	5,601.12 N	313.20 W	515,972.02	778,614.40	0.00	5,608.2	
15,500.0	90.50	0.00	6,338.4	9,943.4	5,701.11 N	313.20 W	516,072.01	778,614.40	0.00	5,708.2	
15,600.0	90.50	0.00	6,337.6	9,942.6	5,801.11 N	313.20 W	516,172.01	778,614.40	0.00	5,808.1	
15,700.0	90.50	0.00	6,336.7	9,941.7	5,901.10 N	313.20 W	516,272.00	778,614.40	0.00	5,908.1	
15,800.0	90.50	0.00	6,335.8	9,940.8	6,001.10 N	313.20 W	516,372.00	778,614.40	0.00	6,008.0	
15,900.0	90.50	0.00	6,334.9	9,939.9	6,101.10 N	313.20 W	516,472.00	778,614.40	0.00	6,108.0	
16,000.0	90.50	0.00	6,334.1	9,939.1	6,201.09 N	313.20 W	516,571.99	778,614.40	0.00	6,207.9	
16,100.0	90.50	0.00	6,333.2	9,938.2	6,301.09 N	313.20 W	516,671.99	778,614.40	0.00	6,307.8	
16,200.0	90.50	0.00	6,332.3	9,937.3	6,401.08 N	313.20 W	516,771.98	778,614.40	0.00	6,407.8	
16,300.0	90.50	0.00	6,331.5	9,936.5	6,501.08 N	313.20 W	516,871.98	778,614.40	0.00	6,507.7	
16,400.0	90.50	0.00	6,330.6	9,935.6	6,601.08 N	313.20 W	516,971.98	778,614.40	0.00	6,607.7	
16,500.0	90.50	0.00	6,329.7	9,934.7	6,701.07 N	313.20 W	517,071.97	778,614.40	0.00	6,707.6	
16,600.0	90.50	0.00	6,328.8	9,933.8	6,801.07 N	313.20 W	517,171.97	778,614.40	0.00	6,807.6	

Plan Report for Lobo Rojo B2 State Com No. 1H - Plan 1

Measured Depth (usft)	Inclination (°)	Grid Azimuth (°)	TVD below System (usft)	Vertical Depth (usft)	Local Coordinates		Map Coordinates		Dogleg Rate (°/100usft)	Vertical Section (usft)	Comments
					Northing (usft)	Easting (usft)	Northing (usft)	Easting (usft)			
16,700.0	90.50	0.00	6,328.0	9,933.0	6,901.07 N	313.20 W	517,271.97	778,614.40	0.00	6,907.5	
16,800.0	90.50	0.00	6,327.1	9,932.1	7,001.06 N	313.20 W	517,371.96	778,614.40	0.00	7,007.5	
16,900.0	90.50	0.00	6,326.2	9,931.2	7,101.06 N	313.20 W	517,471.96	778,614.40	0.00	7,107.4	
17,000.0	90.50	0.00	6,325.4	9,930.4	7,201.05 N	313.20 W	517,571.95	778,614.40	0.00	7,207.4	
17,100.0	90.50	0.00	6,324.5	9,929.5	7,301.05 N	313.20 W	517,671.95	778,614.40	0.00	7,307.3	
17,200.0	90.50	0.00	6,323.6	9,928.6	7,401.05 N	313.20 W	517,771.95	778,614.40	0.00	7,407.3	
17,300.0	90.50	0.00	6,322.7	9,927.7	7,501.04 N	313.20 W	517,871.94	778,614.40	0.00	7,507.2	
17,400.0	90.50	0.00	6,321.9	9,926.9	7,601.04 N	313.20 W	517,971.94	778,614.40	0.00	7,607.1	
17,500.0	90.50	0.00	6,321.0	9,926.0	7,701.04 N	313.20 W	518,071.94	778,614.40	0.00	7,707.1	
17,600.0	90.50	0.00	6,320.1	9,925.1	7,801.03 N	313.20 W	518,171.93	778,614.40	0.00	7,807.0	
17,700.0	90.50	0.00	6,319.2	9,924.2	7,901.03 N	313.20 W	518,271.93	778,614.40	0.00	7,907.0	
17,800.0	90.50	0.00	6,318.4	9,923.4	8,001.02 N	313.20 W	518,371.92	778,614.40	0.00	8,006.9	
17,900.0	90.50	0.00	6,317.5	9,922.5	8,101.02 N	313.20 W	518,471.92	778,614.40	0.00	8,106.9	
18,000.0	90.50	0.00	6,316.6	9,921.6	8,201.02 N	313.20 W	518,571.92	778,614.40	0.00	8,206.8	
18,100.0	90.50	0.00	6,315.8	9,920.8	8,301.01 N	313.20 W	518,671.91	778,614.40	0.00	8,306.8	
18,200.0	90.50	0.00	6,314.9	9,919.9	8,401.01 N	313.20 W	518,771.91	778,614.40	0.00	8,406.7	
18,300.0	90.50	0.00	6,314.0	9,919.0	8,501.00 N	313.20 W	518,871.90	778,614.40	0.00	8,506.7	
18,400.0	90.50	0.00	6,313.1	9,918.1	8,601.00 N	313.20 W	518,971.90	778,614.40	0.00	8,606.6	
18,500.0	90.50	0.00	6,312.3	9,917.3	8,701.00 N	313.20 W	519,071.90	778,614.40	0.00	8,706.6	
18,600.0	90.50	0.00	6,311.4	9,916.4	8,800.99 N	313.20 W	519,171.89	778,614.40	0.00	8,806.5	
18,700.0	90.50	0.00	6,310.5	9,915.5	8,900.99 N	313.20 W	519,271.89	778,614.40	0.00	8,906.4	
18,800.0	90.50	0.00	6,309.6	9,914.6	9,000.99 N	313.20 W	519,371.89	778,614.40	0.00	9,006.4	
18,900.0	90.50	0.00	6,308.8	9,913.8	9,100.98 N	313.20 W	519,471.88	778,614.40	0.00	9,106.3	
19,000.0	90.50	0.00	6,307.9	9,912.9	9,200.98 N	313.20 W	519,571.88	778,614.40	0.00	9,206.3	
19,100.0	90.50	0.00	6,307.0	9,912.0	9,300.97 N	313.20 W	519,671.87	778,614.40	0.00	9,306.2	
19,200.0	90.50	0.00	6,306.2	9,911.2	9,400.97 N	313.20 W	519,771.87	778,614.40	0.00	9,406.2	
19,300.0	90.50	0.00	6,305.3	9,910.3	9,500.97 N	313.20 W	519,871.87	778,614.40	0.00	9,506.1	
19,400.0	90.50	0.00	6,304.4	9,909.4	9,600.96 N	313.20 W	519,971.86	778,614.40	0.00	9,606.1	
19,500.0	90.50	0.00	6,303.5	9,908.5	9,700.96 N	313.20 W	520,071.86	778,614.40	0.00	9,706.0	
19,600.0	90.50	0.00	6,302.7	9,907.7	9,800.96 N	313.20 W	520,171.86	778,614.40	0.00	9,806.0	
19,675.7	90.50	0.00	6,302.0	9,907.0	9,876.70 N	313.20 W	520,247.60	778,614.40	0.00	9,881.7	BHL

Plan Report for Lobo Rojo B2 State Com No. 1H - Plan 1

Plan Annotations

Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates		Comment
		+N/-S (usft)	+E/-W (usft)	
2,970.0	2,970.0	0.0	0.0	Start Nudge
3,244.8	3,244.4	0.0	-13.2	Hold 5.50" Inc
6,239.8	6,225.6	0.0	-300.0	EOH
6,514.6	6,500.0	0.0	-313.2	Vertical
9,526.2	9,511.5	0.0	-313.2	KOP
10,280.3	9,989.0	481.6	-313.2	Landing Point
19,675.7	9,907.0	9,876.7	-313.2	BHL

Vertical Section Information

Angle Type	Target	Azimuth (°)	Origin Type	Origin +N/-S (usft)	Origin +E/-W (usft)	Start TVD (usft)
Target	BHL (Lobo Rojo B2 State Com 1H)	358.18	Slot	0.0	0.0	0.0

Survey tool program

From (usft)	To (usft)	Survey/Plan	Survey Tool
0.0	19,675.7	Plan 1	MWD+SC

Casing Details

Measured Depth (usft)	Vertical Depth (usft)	Name	Casing Diameter (")	Hole Diameter (")
900.0	900.0	13 3/8"	13-3/8	17-1/2

Plan Report for Lobo Rojo B2 State Com No. 1H - Plan 1

Formation Details

Measured Depth (usft)	Vertical Depth (usft)	TVDSS (usft)	Name	Lithology	Dip (°)	Dip Direction (°)
1,674.0	1,674.0	-1,931.00	Rustler		0.00	
2,038.0	2,038.0	-1,567.00	Top of Salt		0.00	
3,136.1	3,136.0	-469.00	Base of Salt		0.00	
3,676.4	3,674.0	69.00	Delaware		0.00	
8,094.6	8,080.0	4,475.00	Bone Spring		0.00	
8,123.6	8,109.0	4,504.00	Avalon		0.00	
9,077.6	9,063.0	5,458.00	1st Bone Spring		0.00	
9,500.6	9,486.0	5,881.00	2nd Bone Spring		0.00	
10,273.4	9,989.0	6,384.00	Target (0 KBTVD @ 90.5°)		0.00	

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
BHL (Lobo Rojo B2 State Com 1H) ()	0.00	0.00	9,907.0	9,876.7	-313.2	520,247.60	778,614.40	32° 25' 37.336 N	103° 25' 49.324 W
- plan hits target center									
- Point									

Directional Difficulty Index

Average Dogleg over Survey:	0.52 °/100usft	Maximum Dogleg over Survey:	12.00 °/100usft at 10,280.3 usft
Net Tortousity applicable to Plans:	0.52 °/100usft	Directional Difficulty Index:	6.589

Audit Info

North Reference Sheet for Lobo Rojo B - Lobo Rojo B2 State Com No. 1H - Wellbore #1

All data is in US Feet unless otherwise stated. Directions and Coordinates are relative to Grid North Reference.

Vertical Depths are relative to GL: 3580+25ft @ 3605.0usft (KB (+25ft)). Northing and Easting are relative to Lobo Rojo B2 State Com No. 1H

Coordinate System is US State Plane 1927 (Exact solution), New Mexico East 3001 using datum NAD 1927 (NADCON CONUS), ellipsoid Clarke 1866

Projection method is Transverse Mercator (Gauss-Kruger)

Central Meridian is 104° 20' 0.000 W°, Longitude Origin:0° 0' 0.000 E°, Latitude Origin:0° 0' 0.000 N°

False Easting: 500,000.00usft, False Northing: 0.00usft, Scale Reduction: 0.99999819

Grid Coordinates of Well: 510,370.90 usft N, 778,927.60 usft E

Geographical Coordinates of Well: 32° 23' 59.58" N, 103° 25' 46.64" W

Grid Convergence at Surface is: 0.48°

Based upon Minimum Curvature type calculations, at a Measured Depth of 19,675.75usft
the Bottom Hole Displacement is 9,881.66usft in the Direction of 358.18° (Grid).

Magnetic Convergence at surface is: -6.44° (29 September 2017, , BGGM2017)

