

ENSIGN

Directional

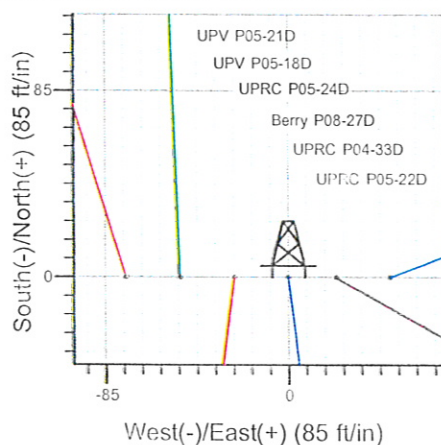
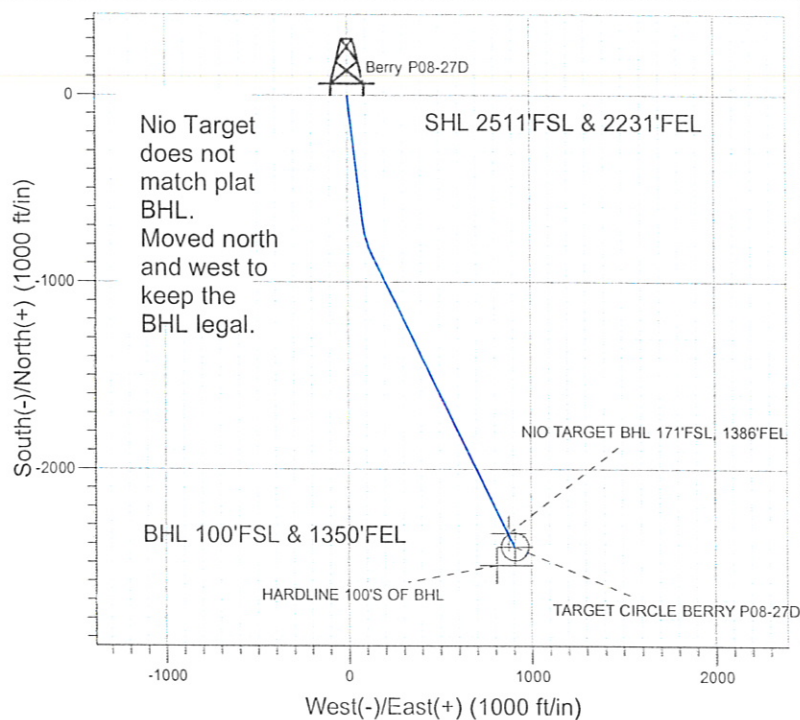
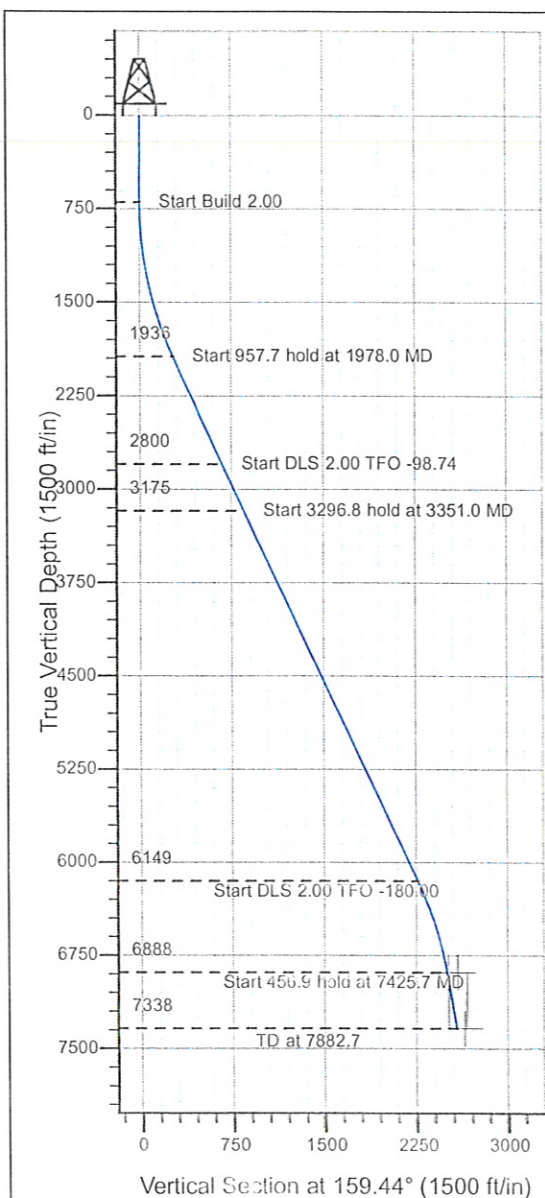
Well Name: Berry P08-27D

Surface Location: UPV P05-21D Pad Sec.5-T3N-R67W
North American Datum 1983 , US State Plane 1983 , Colorado Northern Zone

Ground Elevation: 4875.0

+N/-S+E/-W Northing Easting Latitude Longitude Slot
0.0 0.0 1336120.34 3163871.39 40° 15' 16.416 N 104° 54' 46.332 W
Original Well Elev WELL @ 4888.0ft (Original Well Elev)

NOBLE ENERGY INC WELD COUNTY CO



UPV P05-21D Pad Sec.5-T3N-R67W
Berry P08-27D
Noble Berry P08-27D Plan #3 (11-16-09)
17:57, November 16 2009



Azimuths to True North
Magnetic North: 9.12°

Magnetic Field
Strength: 53231.9snT
Dip Angle: 66.97°
Date: 10/19/2009
Model: IGRF200510

WELLBORE TARGET DETAILS (LAT/LONG)

Name	TVD	+N/-S	+E/-W	Latitude	Longitude	Shape
NIO TARGET BHL 171'FSL, 1386'FEL	6888.0	-2345.0	871.1	40° 14' 53.243 N	104° 54' 35.098 W	Point
TARGET CIRCLE BERRY P08-27D	6888.0	-2416.1	906.3	40° 14' 52.540 N	104° 54' 34.644 W	Circle (Radius: 75.0)
HARDLINE 100'S OF BHL	7338.0	-2516.1	806.3	40° 14' 51.552 N	104° 54' 35.934 W	Polygon

SECTION DETAILS

Sec	MD	Inc	Azi	TVD	+N/-S	+E/-W	DLeg	TFace	VSec	Target
1	0.0	0.00	0.00	0.0	0.0	0.0	0.00	0.00	0.0	
2	700.0	0.00	0.00	700.0	0.0	0.0	0.00	0.00	0.0	
3	1978.0	25.56	173.00	1936.0	-278.3	34.2	2.00	173.00	272.5	
4	2935.7	25.56	173.00	2900.0	-688.4	84.5	0.00	0.00	674.2	
5	3351.0	25.56	153.67	3175.3	-857.9	135.3	2.00	-98.74	850.8	
6	6947.5	25.56	153.67	6149.5	-2132.7	766.1	0.00	0.00	2265.9	
7	7425.7	10.00	153.67	6888.0	-2345.0	871.1	2.00	-180.00	2501.6	NIO TARGET BHL 171'FSL, 1386'FEL
8	7882.7	10.00	153.67	7338.0	-2416.1	906.3	0.00	0.00	2580.5	



Directional

NOBLE ENERGY INC WELD COUNTY CO

SEC.5-T3N-R67W

UPV P05-21D Pad Sec.5-T3N-R67W

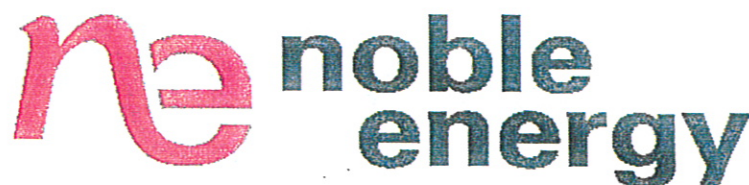
Berry P08-27D

Wellbore #1

Plan: Noble Berry P08-27D Plan #3 (11-16-09)

Standard Planning Report

16 November, 2009



Database: EDM den0-adp01 Server Data
 Company: NOBLE ENERGY INC WELD COUNTY CO
 Project: SEC.5-T3N-R67W
 Site: UPV P05-21D Pad Sec.5-T3N-R67W
 Well: Berry P08-27D
 Wellbore: Wellbore #1
 Design: Noble Berry P08-27D Plan #3 (11-16-09)

Local Co-ordinate Reference: Well Berry P08-27D
 TVD Reference: WELL @ 4888.0ft (Original Well Elev)
 MD Reference: WELL @ 4888.0ft (Original Well Elev)
 North Reference: True
 Survey Calculation Method: Minimum Curvature

Project	SEC.5-T3N-R67W, Weld County, Colorado		
Map System:	US State Plane 1983	System Datum:	Mean Sea Level
Geo Datum:	North American Datum 1983		
Map Zone:	Colorado Northern Zone		Using geodetic scale factor

Site	UPV P05-21D Pad Sec.5-T3N-R67W				
Site Position:		Northing:	1,336,119.85 ft	Latitude:	40° 15' 16.416 N
From:	Lat/Long	Easting:	3,163,796.04 ft	Longitude:	104° 54' 47.304 W
Position Uncertainty:	0.0 ft	Slot Radius:	"	Grid Convergence:	0.38 °

Well	Berry P08-27D					
Well Position	+N/-S	0.0 ft	Northing:	1,336,120.34 ft	Latitude:	40° 15' 16.416 N
	+E/-W	75.4 ft	Easting:	3,163,871.39 ft	Longitude:	104° 54' 46.332 W
Position Uncertainty	0.0 ft	Wellhead Elevation:	ft	Ground Level:	4,875.0 ft	

Wellbore	Wellbore #1				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF200510	10/19/2009	9.12	66.97	53,232

Design	Noble Berry P08-27D Plan #3 (11-16-09)			
Audit Notes:				
Version:	Phase:	PROTOTYPE	Tie On Depth:	0.0
Vertical Section:	Depth From (TVD) (ft)	+N/-S (ft)	+E/-W (ft)	Direction (°)
	0.0	0.0	0.0	159.44

Plan Sections										
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)	TFO (°)	Target
0.0	0.00	0.00	0.0	0.0	0.0	0.00	0.00	0.00	0.00	
700.0	0.00	0.00	700.0	0.0	0.0	0.00	0.00	0.00	0.00	
1,978.0	25.56	173.00	1,936.0	-278.3	34.2	2.00	2.00	0.00	173.00	
2,935.7	25.56	173.00	2,800.0	-688.4	84.5	0.00	0.00	0.00	0.00	
3,351.0	25.56	153.67	3,175.3	-557.9	135.3	2.00	0.00	-4.65	-98.74	
6,647.8	25.56	153.67	6,149.5	-2,132.7	736.1	0.00	0.00	0.00	0.00	
7,425.7	10.00	153.67	6,888.0	-2,345.0	871.1	2.00	-2.00	0.00	-180.00	NIO TARGET B IL
7,882.7	10.00	153.67	7,338.0	-2,416.1	906.3	0.00	0.00	0.00	0.00	

Database: EDM den0-adp01 Server Data
 Company: NOBLE ENERGY INC WELD COUNTY CO
 Project: SEC.5-T3N-R67W
 Site: UPV P05-21D Pad Sec.5-T3N-R67W
 Well: Berry P08-27D
 Wellbore: Wellbore #1
 Design: Noble Berry P08-27D Plan #3 (11-16-09)

Local Co-ordinate Reference: Well Berry P08-27D
 TVD Reference: WELL @ 4888.0ft (Original Well Elev)
 MD Reference: WELL @ 4888.0ft (Original Well Elev)
 North Reference: True
 Survey Calculation Method: Minimum Curvature

Planned Survey

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
0.0	0.00	0.00	0.0	0.0	0.0	0.0	0.00	0.00	0.00
40.0	0.00	0.00	40.0	0.0	0.0	0.0	0.00	0.00	0.00
80.0	0.00	0.00	80.0	0.0	0.0	0.0	0.00	0.00	0.00
120.0	0.00	0.00	120.0	0.0	0.0	0.0	0.00	0.00	0.00
160.0	0.00	0.00	160.0	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
240.0	0.00	0.00	240.0	0.0	0.0	0.0	0.00	0.00	0.00
280.0	0.00	0.00	280.0	0.0	0.0	0.0	0.00	0.00	0.00
320.0	0.00	0.00	320.0	0.0	0.0	0.0	0.00	0.00	0.00
360.0	0.00	0.00	360.0	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
440.0	0.00	0.00	440.0	0.0	0.0	0.0	0.00	0.00	0.00
480.0	0.00	0.00	480.0	0.0	0.0	0.0	0.00	0.00	0.00
520.0	0.00	0.00	520.0	0.0	0.0	0.0	0.00	0.00	0.00
560.0	0.00	0.00	560.0	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
640.0	0.00	0.00	640.0	0.0	0.0	0.0	0.00	0.00	0.00
680.0	0.00	0.00	680.0	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
720.0	0.40	173.00	720.0	-0.1	0.0	0.1	2.00	2.00	0.00
760.0	1.20	173.00	760.0	-0.6	0.1	0.6	2.00	2.00	0.00
800.0	2.00	173.00	800.0	-1.7	0.2	1.7	2.00	2.00	0.00
840.0	2.80	173.00	839.9	-3.4	0.4	3.3	2.00	2.00	0.00
880.0	3.60	173.00	879.9	-5.6	0.7	5.5	2.00	2.00	0.00
920.0	4.40	173.00	919.8	-8.4	1.0	8.2	2.00	2.00	0.00
960.0	5.20	173.00	959.6	-11.7	1.4	11.5	2.00	2.00	0.00
1,000.0	6.00	173.00	999.5	-15.6	1.9	15.3	2.00	2.00	0.00
1,040.0	6.80	173.00	1,039.2	-20.0	2.5	19.6	2.00	2.00	0.00
1,080.0	7.60	173.00	1,078.9	-25.0	3.1	24.5	2.00	2.00	0.00
1,120.0	8.40	173.00	1,118.5	-30.5	3.7	29.9	2.00	2.00	0.00
1,160.0	9.20	173.00	1,158.0	-36.6	4.5	35.8	2.00	2.00	0.00
1,200.0	10.00	173.00	1,197.5	-43.2	5.3	42.3	2.00	2.00	0.00
1,240.0	10.80	173.00	1,236.8	-50.4	6.2	49.3	2.00	2.00	0.00
1,280.0	11.60	173.00	1,276.0	-58.1	7.1	56.9	2.00	2.00	0.00
1,320.0	12.40	173.00	1,315.2	-66.3	8.1	65.0	2.00	2.00	0.00
1,360.0	13.20	173.00	1,354.2	-75.1	9.2	73.6	2.00	2.00	0.00
1,400.0	14.00	173.00	1,393.1	-84.5	10.4	82.7	2.00	2.00	0.00
1,440.0	14.80	173.00	1,431.8	-94.3	11.6	92.4	2.00	2.00	0.00
1,480.0	15.60	173.00	1,470.4	-104.7	12.9	102.6	2.00	2.00	0.00
1,520.0	16.40	173.00	1,508.8	-115.7	14.2	113.3	2.00	2.00	0.00
1,560.0	17.20	173.00	1,547.1	-127.2	15.6	124.5	2.00	2.00	0.00
1,600.0	18.00	173.00	1,585.3	-139.2	17.1	136.3	2.00	2.00	0.00
1,640.0	18.80	173.00	1,623.2	-151.7	18.6	148.6	2.00	2.00	0.00
1,680.0	19.60	173.00	1,661.0	-164.8	20.2	161.4	2.00	2.00	0.00
1,720.0	20.40	173.00	1,698.6	-178.3	21.9	174.7	2.00	2.00	0.00
1,760.0	21.20	173.00	1,736.0	-192.4	23.6	188.5	2.00	2.00	0.00
1,800.0	22.00	173.00	1,773.2	-207.0	25.4	202.8	2.00	2.00	0.00
1,840.0	22.80	173.00	1,810.2	-222.2	27.3	217.6	2.00	2.00	0.00
1,880.0	23.60	173.00	1,846.9	-237.8	29.2	232.9	2.00	2.00	0.00
1,920.0	24.40	173.00	1,883.5	-254.0	31.2	248.7	2.00	2.00	0.00
1,960.0	25.20	173.00	1,919.8	-270.6	33.2	265.0	2.00	2.00	0.00
1,978.0	25.56	173.00	1,936.0	-276.3	34.2	272.5	2.00	2.00	0.00
2,000.0	25.56	173.00	1,955.9	-287.7	35.3	281.8	0.00	0.00	0.00
2,040.0	25.56	173.00	1,992.0	-304.8	37.4	298.6	0.00	0.00	0.00

Database: EDM den0-adp01 Server Data
Company: NOBLE ENERGY INC WELD COUNTY CO
Project: SEC.5-T3N-R67W
Site: UPV P05-21D Pad Sec.5-T3N-R67W
Well: Berry P08-27D
Wellbore: Wellbore #1
Design: Noble Berry P08-27D Plan #3 (11-16-09)

Local Co-ordinate Reference: Well Berry P08-27D
TVD Reference: WELL @ 4888.0ft (Original Well Elev)
MD Reference: WELL @ 4888.0ft (Original Well Elev)
North Reference: True
Survey Calculation Method: Minimum Curvature

Planned Survey

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
2,080.0	25.56	173.00	2,028.0	-322.0	39.5	315.3	0.00	0.00	0.00
2,120.0	25.56	173.00	2,064.1	-339.1	41.6	332.1	0.00	0.00	0.00
2,160.0	25.56	173.00	2,100.2	-356.2	43.7	348.9	0.00	0.00	0.00
2,200.0	25.56	173.00	2,136.3	-373.3	45.8	365.7	0.00	0.00	0.00
2,240.0	25.56	173.00	2,172.4	-390.5	47.9	382.4	0.00	0.00	0.00
2,280.0	25.56	173.00	2,208.5	-407.6	50.0	399.2	0.00	0.00	0.00
2,320.0	25.56	173.00	2,244.6	-424.7	52.2	416.0	0.00	0.00	0.00
2,360.0	25.56	173.00	2,280.6	-441.9	54.3	432.8	0.00	0.00	0.00
2,400.0	25.56	173.00	2,316.7	-459.0	56.4	449.5	0.00	0.00	0.00
2,440.0	25.56	173.00	2,352.8	-476.1	58.5	466.3	0.00	0.00	0.00
2,480.0	25.56	173.00	2,388.9	-493.3	60.6	483.1	0.00	0.00	0.00
2,520.0	25.56	173.00	2,425.0	-510.4	62.7	499.9	0.00	0.00	0.00
2,560.0	25.56	173.00	2,461.1	-527.5	64.8	516.7	0.00	0.00	0.00
2,600.0	25.56	173.00	2,497.2	-544.6	66.9	533.4	0.00	0.00	0.00
2,640.0	25.56	173.00	2,533.2	-561.8	69.0	550.2	0.00	0.00	0.00
2,680.0	25.56	173.00	2,569.3	-578.9	71.1	567.0	0.00	0.00	0.00
2,720.0	25.56	173.00	2,605.4	-596.0	73.2	583.8	0.00	0.00	0.00
2,760.0	25.56	173.00	2,641.5	-613.2	75.3	600.5	0.00	0.00	0.00
2,800.0	25.56	173.00	2,677.6	-630.3	77.4	617.3	0.00	0.00	0.00
2,840.0	25.56	173.00	2,713.7	-647.4	79.5	634.1	0.00	0.00	0.00
2,880.0	25.56	173.00	2,749.8	-664.5	81.6	650.9	0.00	0.00	0.00
2,920.0	25.56	173.00	2,785.8	-681.7	83.7	667.6	0.00	0.00	0.00
2,935.7	25.56	173.00	2,800.0	-688.4	84.5	674.2	0.00	0.00	0.00
2,960.0	25.49	171.88	2,821.9	-698.8	85.9	684.4	2.00	-0.29	-4.59
3,000.0	25.39	170.03	2,858.1	-715.7	88.6	701.3	2.00	-0.24	-4.62
3,040.0	25.32	168.17	2,894.2	-732.6	91.8	718.2	2.00	-0.18	-4.65
3,080.0	25.27	166.31	2,930.4	-749.2	95.6	735.1	2.00	-0.12	-4.67
3,120.0	25.25	164.43	2,966.5	-765.8	99.9	752.1	2.00	-0.06	-4.68
3,160.0	25.24	162.56	3,002.7	-782.1	104.8	769.1	2.00	-0.01	-4.69
3,200.0	25.27	160.68	3,038.9	-798.3	110.2	786.1	2.00	0.05	-4.69
3,240.0	25.31	158.81	3,075.1	-814.3	116.1	803.2	2.00	0.11	-4.67
3,280.0	25.38	156.95	3,111.2	-830.2	122.5	820.3	2.00	0.17	-4.66
3,320.0	25.47	155.10	3,147.3	-845.9	129.5	837.5	2.00	0.23	-4.63
3,351.0	25.56	153.67	3,175.3	-857.9	135.3	850.8	2.00	0.28	-4.60
3,360.0	25.56	153.67	3,183.4	-861.4	137.0	854.6	0.00	0.00	0.00
3,400.0	25.56	153.67	3,219.5	-876.9	144.6	871.8	0.00	0.00	0.00
3,440.0	25.56	153.67	3,255.6	-892.3	152.3	889.0	0.00	0.00	0.00
3,480.0	25.56	153.67	3,291.7	-907.8	159.9	906.1	0.00	0.00	0.00
3,520.0	25.56	153.67	3,327.8	-923.3	167.6	923.3	0.00	0.00	0.00
3,560.0	25.56	153.67	3,363.9	-938.7	175.3	940.5	0.00	0.00	0.00
3,600.0	25.56	153.67	3,400.0	-954.2	182.9	957.7	0.00	0.00	0.00
3,640.0	25.56	153.67	3,436.0	-969.7	190.6	974.8	0.00	0.00	0.00
3,680.0	25.56	153.67	3,472.1	-985.1	198.2	992.0	0.00	0.00	0.00
3,720.0	25.56	153.67	3,508.2	-1,000.6	205.9	1,009.2	0.00	0.00	0.00
3,760.0	25.56	153.67	3,544.3	-1,016.1	213.5	1,026.3	0.00	0.00	0.00
3,800.0	25.56	153.67	3,580.4	-1,031.5	221.2	1,043.5	0.00	0.00	0.00
3,840.0	25.56	153.67	3,616.5	-1,047.0	228.8	1,060.7	0.00	0.00	0.00
3,880.0	25.56	153.67	3,652.6	-1,062.5	236.5	1,077.8	0.00	0.00	0.00
3,920.0	25.56	153.67	3,688.6	-1,077.9	244.1	1,095.0	0.00	0.00	0.00
3,960.0	25.56	153.67	3,724.7	-1,093.4	251.8	1,112.2	0.00	0.00	0.00
4,000.0	25.56	153.67	3,760.8	-1,108.9	259.4	1,129.4	0.00	0.00	0.00
4,040.0	25.56	153.67	3,796.9	-1,124.3	267.1	1,146.5	0.00	0.00	0.00
4,080.0	25.56	153.67	3,833.0	-1,139.8	274.8	1,163.7	0.00	0.00	0.00
4,120.0	25.56	153.67	3,869.1	-1,155.3	282.4	1,180.9	0.00	0.00	0.00

Database: EDM den0-adp01 Server Data
Company: NOBLE ENERGY INC WELD COUNTY CO
Project: SEC.5-T3N-R67W
Site: UPV P05-21D Pad Sec.5-T3N-R67W
Well: Berry P08-27D
Wellbore: Wellbore #1
Design: Noble Berry P08-27D Plan #3 (11-16-09)

Local Co-ordinate Reference: Well Berry P08-27D
TVD Reference: WELL @ 4888.0ft (Original Well Elev)
MD Reference: WELL @ 4888.0ft (Original Well Elev)
North Reference: True
Survey Calculation Method: Minimum Curvature

Planned Survey

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
4,160.0	25.56	153.67	3,905.2	-1,170.7	290.1	1,198.0	0.00	0.00	0.00
4,200.0	25.56	153.67	3,941.2	-1,186.2	297.7	1,215.2	0.00	0.00	0.00
4,240.0	25.56	153.67	3,977.3	-1,201.7	305.4	1,232.4	0.00	0.00	0.00
4,280.0	25.56	153.67	4,013.4	-1,217.2	313.0	1,249.6	0.00	0.00	0.00
4,320.0	25.56	153.67	4,049.5	-1,232.6	320.7	1,266.7	0.00	0.00	0.00
4,360.0	25.56	153.67	4,085.6	-1,248.1	328.3	1,283.9	0.00	0.00	0.00
4,400.0	25.56	153.67	4,121.7	-1,263.6	336.0	1,301.1	0.00	0.00	0.00
4,440.0	25.56	153.67	4,157.8	-1,279.0	343.6	1,318.2	0.00	0.00	0.00
4,480.0	25.56	153.67	4,193.8	-1,294.5	351.3	1,335.4	0.00	0.00	0.00
4,520.0	25.56	153.67	4,229.9	-1,310.0	358.9	1,352.6	0.00	0.00	0.00
4,560.0	25.56	153.67	4,266.0	-1,325.4	366.6	1,369.7	0.00	0.00	0.00
4,600.0	25.56	153.67	4,302.1	-1,340.9	374.2	1,386.9	0.00	0.00	0.00
4,640.0	25.56	153.67	4,338.2	-1,356.4	381.9	1,404.1	0.00	0.00	0.00
4,680.0	25.56	153.67	4,374.3	-1,371.8	389.6	1,421.3	0.00	0.00	0.00
4,720.0	25.56	153.67	4,410.4	-1,387.3	397.2	1,438.4	0.00	0.00	0.00
4,760.0	25.56	153.67	4,446.4	-1,402.8	404.9	1,455.6	0.00	0.00	0.00
4,800.0	25.56	153.67	4,482.5	-1,418.2	412.5	1,472.8	0.00	0.00	0.00
4,840.0	25.56	153.67	4,518.6	-1,433.7	420.2	1,489.9	0.00	0.00	0.00
4,880.0	25.56	153.67	4,554.7	-1,449.2	427.8	1,507.1	0.00	0.00	0.00
4,920.0	25.56	153.67	4,590.8	-1,464.6	435.5	1,524.3	0.00	0.00	0.00
4,960.0	25.56	153.67	4,626.9	-1,480.1	443.1	1,541.4	0.00	0.00	0.00
5,000.0	25.56	153.67	4,663.0	-1,495.6	450.8	1,558.6	0.00	0.00	0.00
5,040.0	25.56	153.67	4,699.0	-1,511.0	458.4	1,575.8	0.00	0.00	0.00
5,080.0	25.56	153.67	4,735.1	-1,526.5	466.1	1,593.0	0.00	0.00	0.00
5,120.0	25.56	153.67	4,771.2	-1,542.0	473.7	1,610.1	0.00	0.00	0.00
5,160.0	25.56	153.67	4,807.3	-1,557.4	481.4	1,627.3	0.00	0.00	0.00
5,200.0	25.56	153.67	4,843.4	-1,572.9	489.1	1,644.5	0.00	0.00	0.00
5,240.0	25.56	153.67	4,879.5	-1,588.4	496.7	1,661.6	0.00	0.00	0.00
5,280.0	25.56	153.67	4,915.6	-1,603.8	504.4	1,678.8	0.00	0.00	0.00
5,320.0	25.56	153.67	4,951.6	-1,619.3	512.0	1,696.0	0.00	0.00	0.00
5,360.0	25.56	153.67	4,987.7	-1,634.8	519.7	1,713.1	0.00	0.00	0.00
5,400.0	25.56	153.67	5,023.8	-1,650.2	527.3	1,730.3	0.00	0.00	0.00
5,440.0	25.56	153.67	5,059.9	-1,665.7	535.0	1,747.5	0.00	0.00	0.00
5,480.0	25.56	153.67	5,096.0	-1,681.2	542.6	1,764.7	0.00	0.00	0.00
5,520.0	25.56	153.67	5,132.1	-1,696.6	550.3	1,781.8	0.00	0.00	0.00
5,560.0	25.56	153.67	5,168.2	-1,712.1	557.9	1,799.0	0.00	0.00	0.00
5,600.0	25.56	153.67	5,204.2	-1,727.6	565.6	1,816.2	0.00	0.00	0.00
5,640.0	25.56	153.67	5,240.3	-1,743.0	573.2	1,833.3	0.00	0.00	0.00
5,680.0	25.56	153.67	5,276.4	-1,758.5	580.9	1,850.5	0.00	0.00	0.00
5,720.0	25.56	153.67	5,312.5	-1,774.0	588.5	1,867.7	0.00	0.00	0.00
5,760.0	25.56	153.67	5,348.6	-1,789.5	596.2	1,884.8	0.00	0.00	0.00
5,800.0	25.56	153.67	5,384.7	-1,804.9	603.9	1,902.0	0.00	0.00	0.00
5,840.0	25.56	153.67	5,420.8	-1,820.4	611.5	1,919.2	0.00	0.00	0.00
5,880.0	25.56	153.67	5,456.8	-1,835.9	619.2	1,936.4	0.00	0.00	0.00
5,920.0	25.56	153.67	5,492.9	-1,851.3	626.8	1,953.5	0.00	0.00	0.00
5,960.0	25.56	153.67	5,529.0	-1,866.8	634.5	1,970.7	0.00	0.00	0.00
6,000.0	25.56	153.67	5,565.1	-1,882.3	642.1	1,987.9	0.00	0.00	0.00
6,040.0	25.56	153.67	5,601.2	-1,897.7	649.8	2,005.0	0.00	0.00	0.00
6,080.0	25.56	153.67	5,637.3	-1,913.2	657.4	2,022.2	0.00	0.00	0.00
6,120.0	25.56	153.67	5,673.4	-1,928.7	665.1	2,039.4	0.00	0.00	0.00
6,160.0	25.56	153.67	5,709.4	-1,944.1	672.7	2,056.6	0.00	0.00	0.00
6,200.0	25.56	153.67	5,745.5	-1,959.6	680.4	2,073.7	0.00	0.00	0.00
6,240.0	25.56	153.67	5,781.6	-1,975.1	688.0	2,090.9	0.00	0.00	0.00
6,280.0	25.56	153.67	5,817.7	-1,990.5	695.7	2,108.1	0.00	0.00	0.00

Database: EDM den0-adp01 Server Data
Company: NOBLE ENERGY INC WELD COUNTY CO
Project: SEC.5-T3N-R67W
Site: UPV P05-21D Pad Sec.5-T3N-R67W
Well: Berry P08-27D
Wellbore: Wellbore #1
Design: Noble Berry P08-27D Plan #3 (11-16-09)

Local Co-ordinate Reference: Well Berry P08-27D
TVD Reference: WELL @ 4888.0ft (Original Well Elev)
MD Reference: WELL @ 4888.0ft (Original Well Elev)
North Reference: True
Survey Calculation Method: Minimum Curvature

Planned Survey

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
6,320.0	25.56	153.67	5,853.8	-2,006.0	703.4	2,125.2	0.00	0.00	0.00
6,360.0	25.56	153.67	5,889.9	-2,021.5	711.0	2,142.4	0.00	0.00	0.00
6,400.0	25.56	153.67	5,926.0	-2,036.9	718.7	2,159.6	0.00	0.00	0.00
6,440.0	25.56	153.67	5,962.0	-2,052.4	726.3	2,176.7	0.00	0.00	0.00
6,480.0	25.56	153.67	5,998.1	-2,067.9	734.0	2,193.9	0.00	0.00	0.00
6,520.0	25.56	153.67	6,034.2	-2,083.3	741.6	2,211.1	0.00	0.00	0.00
6,560.0	25.56	153.67	6,070.3	-2,098.8	749.3	2,228.3	0.00	0.00	0.00
6,600.0	25.56	153.67	6,106.4	-2,114.3	756.9	2,245.4	0.00	0.00	0.00
6,640.0	25.56	153.67	6,142.5	-2,129.7	764.6	2,262.6	0.00	0.00	0.00
6,647.8	25.56	153.67	6,149.5	-2,132.7	766.1	2,265.9	0.00	0.00	0.00
6,680.0	24.91	153.67	6,178.6	-2,145.1	772.2	2,279.6	2.00	-2.00	0.00
6,720.0	24.11	153.67	6,215.0	-2,159.9	779.5	2,296.1	2.00	-2.00	0.00
6,760.0	23.31	153.67	6,251.6	-2,174.4	786.7	2,312.1	2.00	-2.00	0.00
6,800.0	22.51	153.67	6,288.5	-2,188.3	793.6	2,327.6	2.00	-2.00	0.00
6,840.0	21.71	153.67	6,325.5	-2,201.8	800.2	2,342.6	2.00	-2.00	0.00
6,880.0	20.91	153.67	6,362.8	-2,214.8	806.7	2,357.1	2.00	-2.00	0.00
6,920.0	20.11	153.67	6,400.3	-2,227.4	812.9	2,371.0	2.00	-2.00	0.00
6,960.0	19.31	153.67	6,437.9	-2,239.5	818.9	2,384.4	2.00	-2.00	0.00
7,000.0	18.51	153.67	6,475.8	-2,251.1	824.6	2,397.3	2.00	-2.00	0.00
7,040.0	17.71	153.67	6,513.8	-2,262.3	830.2	2,409.7	2.00	-2.00	0.00
7,080.0	16.91	153.67	6,552.0	-2,272.9	835.4	2,421.6	2.00	-2.00	0.00
7,120.0	16.11	153.67	6,590.3	-2,283.1	840.5	2,432.9	2.00	-2.00	0.00
7,160.0	15.31	153.67	6,628.8	-2,292.8	845.3	2,443.6	2.00	-2.00	0.00
7,200.0	14.51	153.67	6,667.5	-2,302.1	849.9	2,453.9	2.00	-2.00	0.00
7,240.0	13.71	153.67	6,706.3	-2,310.8	854.2	2,463.6	2.00	-2.00	0.00
7,280.0	12.91	153.67	6,745.2	-2,319.1	858.3	2,472.8	2.00	-2.00	0.00
7,320.0	12.11	153.67	6,784.2	-2,326.8	862.1	2,481.4	2.00	-2.00	0.00
7,360.0	11.31	153.67	6,823.4	-2,334.1	865.7	2,489.5	2.00	-2.00	0.00
7,400.0	10.51	153.67	6,862.7	-2,340.9	869.1	2,497.0	2.00	-2.00	0.00
7,425.7	10.00	153.67	6,888.0	-2,345.0	871.1	2,501.6	2.00	-2.00	0.00
NIOBRARA - NIO TARGET BHL 171°FSL, 1386°FEL									
7,439.5	10.00	153.67	6,901.6	-2,347.1	872.2	2,503.9	0.00	0.00	0.00
TARGET CIRCLE BERRY P08-27D									
7,440.0	10.00	153.67	6,902.1	-2,347.2	872.2	2,504.0	0.00	0.00	0.00
7,480.0	10.00	153.67	6,941.5	-2,353.4	875.3	2,510.9	0.00	0.00	0.00
7,520.0	10.00	153.67	6,980.8	-2,359.7	878.4	2,517.8	0.00	0.00	0.00
7,560.0	10.00	153.67	7,020.2	-2,365.9	881.4	2,524.8	0.00	0.00	0.00
7,600.0	10.00	153.67	7,059.6	-2,372.1	884.5	2,531.7	0.00	0.00	0.00
7,640.0	10.00	153.67	7,099.0	-2,378.3	887.6	2,538.6	0.00	0.00	0.00
7,680.0	10.00	153.67	7,138.4	-2,384.6	890.7	2,545.5	0.00	0.00	0.00
7,720.0	10.00	153.67	7,177.8	-2,390.8	893.8	2,552.4	0.00	0.00	0.00
7,730.4	10.00	153.67	7,188.0	-2,392.4	894.6	2,554.2	0.00	0.00	0.00
CODELL									
7,760.0	10.00	153.67	7,217.2	-2,397.0	896.8	2,559.3	0.00	0.00	0.00
7,800.0	10.00	153.67	7,256.6	-2,403.2	899.9	2,566.2	0.00	0.00	0.00
7,840.0	10.00	153.67	7,296.0	-2,409.5	903.0	2,573.1	0.00	0.00	0.00
7,880.0	10.00	153.67	7,335.4	-2,415.7	906.1	2,580.0	0.00	0.00	0.00
7,862.7	10.00	153.67	7,338.0	-2,416.1	906.3	2,580.5	0.00	0.00	0.00
HARDLINE 100'S OF BHL									

Database: EDM den0-adp01 Server Data
Company: NOBLE ENERGY INC WELD COUNTY CO
Project: SEC.5-T3N-R67W
Site: UPV P05-21D Pad Sec.5-T3N-R67W
Well: Berry P08-27D
Wellbore: Wellbore #1
Design: Noble Berry P08-27D Plan #3 (11-16-09)

Local Co-ordinate Reference: Well Berry P08-27D
TVD Reference: WELL @ 4888.0ft (Original Well Elev)
MD Reference: WELL @ 4888.0ft (Original Well Elev)
North Reference: True
Survey Calculation Method: Minimum Curvature

Targets

Target Name	Dip Angle (°)	Dip Dir. (°)	TVD (ft)	+N/-S (ft)	+E/-W (ft)	Northing (ft)	Easting (ft)	Latitude	Longitude
- hit/miss target									
- Shape									
HARDLINE 100'S OF	0.00	0.00	7,338.0	-2,516.1	806.3	1,333,609.75	3,164,694.30	40° 14' 51.552 N	104° 54' 35.934 W
- plan misses target center by 141.4ft at 7882.7ft MD (7338.0 TVD, -2416.1 N, 906.3 E)									
- Polygon									
Point 1			7,338.0	0.0	0.0	1,333,609.75	3,164,694.30		
Point 2			7,338.0	0.0	200.0	1,333,611.07	3,164,894.29		
NIO TARGET BHL 17	0.00	0.00	6,888.0	-2,345.0	871.1	1,333,781.27	3,164,757.96	40° 14' 53.243 N	104° 54' 35.098 W
- plan hits target center									
- Point									
TARGET CIRCLE BE	0.00	0.00	6,888.0	-2,416.1	906.3	1,333,710.40	3,164,793.63	40° 14' 52.540 N	104° 54' 34.644 W
- plan misses target center by 78.1ft at 7439.5ft MD (6901.6 TVD, -2347.1 N, 872.2 E)									
- Circle (radius 75.0)									

Formations

Measured Depth (ft)	Vertical Depth (ft)	Name	Lithology	Dip (°)	Dip Direction (°)
7,425.7	6,888.0	NIOBRARA		0.00	
7,730.4	7,188.0	CODELL		0.00	