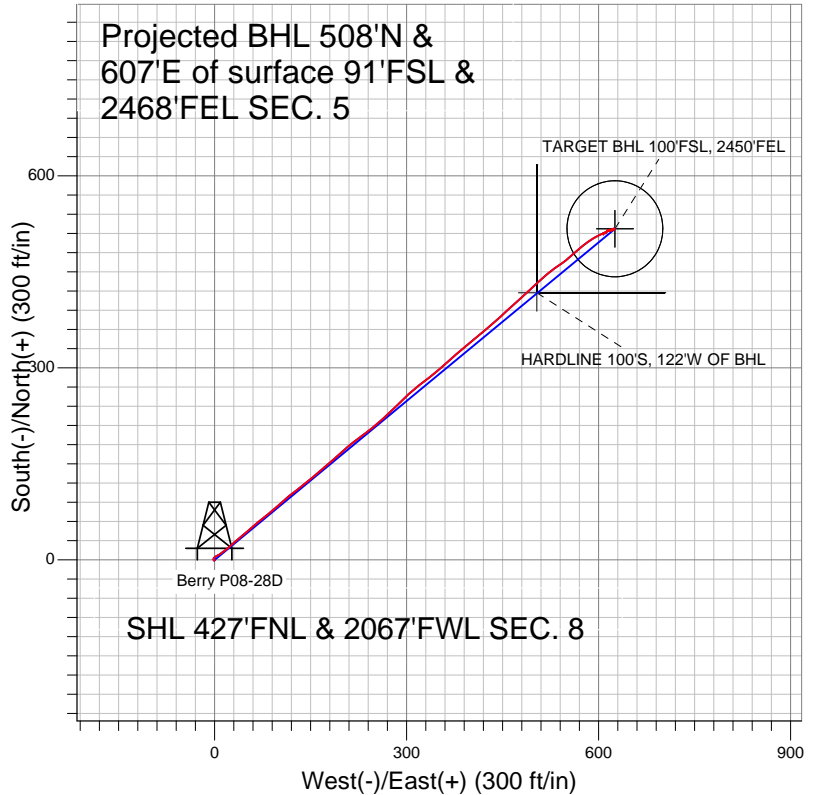


NOBLE ENERGY INC WELD COUNTY CO



LEGEND

- ✕ Berry P08-28D, Wellbore #1, Noble Berry P08-28D Plan #2 (9-6-11) V0
- Wellbore #1
- Survey #1

Final Survey Plot

Projected Final Survey -
 7859'MD & 7766'TVD @ 792' VS
 0.5 deg Inc 179.8 deg AZ

Project: SEC.8-T3N-R67W
 Site: Berry P08-18D Pad Sec.8-T3N-R67W
 Well: Berry P08-28D
 Plan: Wellbore #1



Directional

NOBLE ENERGY INC WELD COUNTY CO

SEC.8-T3N-R67W

Berry P08-18D Pad Sec.8-T3N-R67W

Berry P08-28D

Wellbore #1

Survey: Survey #1

Standard Survey Report

30 September, 2011



Company:	NOBLE ENERGY INC WELD COUNTY CO	Local Co-ordinate Reference:	Well Berry P08-28D
Project:	SEC.8-T3N-R67W	TVD Reference:	WELL @ 4832.0ft (Original Well Elev)
Site:	Berry P08-18D Pad Sec.8-T3N-R67W	MD Reference:	WELL @ 4832.0ft (Original Well Elev)
Well:	Berry P08-28D	North Reference:	True
Wellbore:	Wellbore #1	Survey Calculation Method:	Minimum Curvature
Design:	Wellbore #1	Database:	Landmark

Project	SEC.8-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	Berry P08-18D Pad Sec.8-T3N-R67W		
Site Position:		Northing:	1,333,149.59 ft
From:	Lat/Long	Easting:	3,163,053.62 ft
Position Uncertainty:	0.0 ft	Slot Radius:	"
		Latitude:	40.246420
		Longitude:	-104.915870
		Grid Convergence:	0.38 °

Well	Berry P08-28D		
Well Position	+N/-S	0.0 ft	Northing:
	+E/-W	0.0 ft	Easting:
Position Uncertainty	0.0 ft		Wellhead Elevation:
			Latitude:
			Longitude:
			Ground Level:

Wellbore	Wellbore #1				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF200510	9/7/2011	8.86	66.90	53,034

Design	Wellbore #1			
Audit Notes:				
Version:	1.0	Phase:	ACTUAL	Tie On Depth:
Vertical Section:	Depth From (TVD) (ft)	+N/-S (ft)	+E/-W (ft)	Direction (°)
	0.0	0.0	0.0	50.08

Survey Program	Date	9/30/2011		
From (ft)	To (ft)	Survey (Wellbore)	Tool Name	Description
82.0	7,859.0	Survey #1 (Wellbore #1)	MWD	MWD - Standard

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
82.0	0.20	191.20	82.0	-0.1	0.0	-0.1	0.24	0.24	0.00
172.0	0.60	223.80	172.0	-0.6	-0.4	-0.7	0.49	0.44	36.22
262.0	0.20	224.50	262.0	-1.1	-0.8	-1.3	0.44	-0.44	0.78
350.0	0.20	252.80	350.0	-1.2	-1.1	-1.6	0.11	0.00	32.16
436.0	0.20	315.80	436.0	-1.2	-1.3	-1.8	0.24	0.00	73.26
498.0	0.20	352.10	498.0	-1.0	-1.4	-1.7	0.20	0.00	58.55
604.0	0.60	336.00	604.0	-0.3	-1.7	-1.5	0.39	0.38	-15.19
690.0	0.80	6.60	690.0	0.7	-1.8	-0.9	0.48	0.23	35.58
775.0	1.20	16.40	775.0	2.1	-1.5	0.3	0.51	0.47	11.53
861.0	1.30	46.20	861.0	3.7	-0.5	2.0	0.76	0.12	34.65
946.0	2.10	59.10	945.9	5.2	1.5	4.5	1.04	0.94	15.18
1,032.0	3.60	61.80	1,031.8	7.2	5.3	8.7	1.75	1.74	3.14

Company:	NOBLE ENERGY INC WELD COUNTY CO	Local Co-ordinate Reference:	Well Berry P08-28D
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Site:	Berry P08-18D Pad Sec.8-T3N-R67W	MD Reference:	WELL @ 4832.0ft (Original Well Elev)
Well:	Berry P08-28D	North Reference:	True
Wellbore:	Wellbore #1	Survey Calculation Method:	Minimum Curvature
Design:	Wellbore #1	Database:	Landmark

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)
1,117.0	4.80	55.40	1,116.6	10.5	10.5	14.8	1.51	1.41	-7.53
1,203.0	5.70	51.10	1,202.2	15.2	16.8	22.7	1.14	1.05	-5.00
1,288.0	6.90	48.20	1,286.7	21.3	23.9	32.0	1.46	1.41	-3.41
1,374.0	8.00	49.40	1,372.0	28.6	32.3	43.2	1.29	1.28	1.40
1,459.0	10.30	49.90	1,455.9	37.4	42.6	56.7	2.71	2.71	0.59
1,545.0	11.60	49.20	1,540.3	48.0	55.0	73.0	1.52	1.51	-0.81
1,630.0	12.70	50.70	1,623.4	59.5	68.7	90.9	1.35	1.29	1.76
1,716.0	14.10	50.30	1,707.1	72.2	84.1	110.8	1.63	1.63	-0.47
1,801.0	14.30	48.70	1,789.5	85.7	100.0	131.7	0.52	0.24	-1.88
1,887.0	15.10	50.30	1,872.7	99.9	116.6	153.5	1.04	0.93	1.86
1,972.0	15.20	52.30	1,954.7	113.8	133.9	175.7	0.63	0.12	2.35
2,058.0	14.80	51.50	2,037.8	127.5	151.4	197.9	0.52	-0.47	-0.93
2,143.0	14.20	49.60	2,120.1	141.0	167.9	219.2	0.90	-0.71	-2.24
2,229.0	14.40	47.30	2,203.4	155.1	183.8	240.5	0.70	0.23	-2.67
2,314.0	14.80	47.70	2,285.7	169.6	199.6	261.9	0.49	0.47	0.47
2,400.0	15.80	53.40	2,368.6	183.9	217.1	284.5	2.10	1.16	6.63
2,486.0	16.50	51.80	2,451.2	198.5	236.1	308.4	0.96	0.81	-1.86
2,571.0	15.70	50.30	2,532.9	213.3	254.4	332.0	1.06	-0.94	-1.76
2,657.0	15.10	47.20	2,615.8	228.3	271.6	354.8	1.18	-0.70	-3.60
2,742.0	14.90	44.50	2,697.9	243.7	287.4	376.7	0.86	-0.24	-3.18
2,828.0	14.20	47.50	2,781.1	258.7	302.9	398.3	1.20	-0.81	3.49
2,913.0	14.70	52.10	2,863.5	272.3	319.1	419.5	1.47	0.59	5.41
2,999.0	14.20	52.30	2,946.7	285.5	336.0	440.9	0.58	-0.58	0.23
3,084.0	13.70	48.10	3,029.2	298.6	351.8	461.4	1.33	-0.59	-4.94
3,170.0	13.20	48.70	3,112.9	311.9	366.7	481.4	0.60	-0.58	0.70
3,255.0	12.80	50.10	3,195.7	324.3	381.3	500.5	0.60	-0.47	1.65
3,341.0	13.10	48.90	3,279.5	336.8	395.9	519.8	0.47	0.35	-1.40
3,426.0	13.70	51.10	3,362.2	349.5	411.0	539.5	0.93	0.71	2.59
3,512.0	13.40	50.30	3,445.8	362.2	426.6	559.6	0.41	-0.35	-0.93
3,597.0	13.20	47.30	3,528.5	375.1	441.3	579.2	0.85	-0.24	-3.53
3,683.0	15.30	47.60	3,611.9	389.4	456.9	600.3	2.44	2.44	0.35
3,768.0	16.00	48.00	3,693.7	404.8	473.9	623.2	0.83	0.82	0.47
3,854.0	16.40	47.40	3,776.3	421.0	491.6	647.2	0.50	0.47	-0.70
3,939.0	14.60	46.60	3,858.2	436.5	508.3	669.9	2.13	-2.12	-0.94
4,025.0	12.10	51.80	3,941.9	449.5	523.2	689.7	3.22	-2.91	6.05
4,110.0	10.50	56.20	4,025.2	459.3	536.7	706.3	2.14	-1.88	5.18
4,196.0	9.80	52.00	4,109.9	468.2	548.9	721.4	1.18	-0.81	-4.88
4,281.0	9.90	47.50	4,193.6	477.6	560.0	736.0	0.91	0.12	-5.29
4,367.0	10.50	49.90	4,278.3	487.6	571.5	751.2	0.85	0.70	2.79
4,452.0	10.10	54.70	4,361.9	496.9	583.5	766.4	1.11	-0.47	5.65
4,538.0	8.70	61.20	4,446.8	504.4	595.3	780.3	2.04	-1.63	7.56
4,624.0	6.60	66.20	4,532.0	509.5	605.5	791.4	2.56	-2.44	5.81
4,709.0	5.20	59.40	4,616.5	513.4	613.3	799.9	1.84	-1.65	-8.00
4,795.0	3.60	70.30	4,702.3	516.3	619.2	806.3	2.09	-1.86	12.67
4,880.0	2.20	83.00	4,787.2	517.4	623.4	810.1	1.80	-1.65	14.94
4,966.0	0.40	176.30	4,873.1	517.3	625.0	811.3	2.63	-2.09	108.49
5,051.0	0.30	191.30	4,958.1	516.8	625.0	811.0	0.16	-0.12	17.65
5,092.8	0.35	195.54	5,000.0	516.6	624.9	810.8	0.13	0.11	10.14
TARGET BHL 100'FSL, 2450'FEL									
5,137.0	0.40	198.90	5,044.1	516.3	624.9	810.6	0.13	0.12	7.60
5,222.0	0.40	240.10	5,129.1	515.9	624.5	810.0	0.33	0.00	48.47
5,308.0	0.50	258.60	5,215.1	515.7	623.9	809.4	0.20	0.12	21.51
5,393.0	0.70	253.10	5,300.1	515.4	623.0	808.6	0.24	0.24	-6.47
5,479.0	1.20	250.90	5,386.1	515.0	621.7	807.3	0.58	0.58	-2.56

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Survey										
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5,564.0	1.60	251.80	5,471.1	514.3	619.7	805.3	0.47	0.47	1.06	
5,650.0	1.00	277.10	5,557.1	514.1	617.8	803.7	0.95	-0.70	29.42	
5,735.0	0.70	334.50	5,642.1	514.6	616.8	803.3	1.01	-0.35	67.53	
5,821.0	0.00	249.90	5,728.1	515.1	616.6	803.5	0.81	-0.81	0.00	
5,906.0	0.10	195.00	5,813.1	515.0	616.6	803.4	0.12	0.12	0.00	
6,035.0	0.50	274.20	5,942.1	515.0	616.0	802.9	0.38	0.31	61.40	
6,163.0	0.70	282.20	6,070.1	515.2	614.7	802.0	0.17	0.16	6.25	
6,291.0	0.60	222.30	6,198.0	514.8	613.5	800.9	0.51	-0.08	-46.80	
6,419.0	0.60	206.40	6,326.0	513.7	612.7	799.6	0.13	0.00	-12.42	
6,548.0	0.40	202.20	6,455.0	512.7	612.3	798.6	0.16	-0.16	-3.26	
6,676.0	0.80	194.50	6,583.0	511.4	611.9	797.5	0.32	0.31	-6.02	
6,804.0	0.80	261.40	6,711.0	510.4	610.8	796.0	0.69	0.00	52.27	
6,933.0	0.40	281.60	6,840.0	510.4	609.4	794.9	0.35	-0.31	15.66	
6,954.9	0.45	283.95	6,861.9	510.4	609.3	794.8	0.24	0.23	10.77	
TARGET CIRCLE 100'FSL, 2450' FEL										
7,061.0	0.70	290.50	6,968.0	510.8	608.3	794.3	0.24	0.24	6.17	
7,189.0	0.10	354.80	7,096.0	511.1	607.5	793.9	0.52	-0.47	50.23	
7,317.0	0.20	148.60	7,224.0	511.1	607.6	794.0	0.23	0.08	120.16	
7,446.0	0.10	246.40	7,353.0	510.8	607.6	793.8	0.18	-0.08	75.81	
7,574.0	0.30	190.00	7,481.0	510.4	607.5	793.5	0.20	0.16	-44.06	
7,702.0	0.50	187.50	7,609.0	509.6	607.3	792.8	0.16	0.16	-1.95	
7,815.0	0.50	179.80	7,722.0	508.6	607.3	792.1	0.06	0.00	-6.81	
7,855.8	0.50	179.80	7,762.8	508.2	607.3	791.9	0.00	0.00	0.00	
HARDLINE 100'S, 122'W OF BHL										
7,859.0	0.50	179.80	7,766.0	508.2	607.3	791.9	0.00	0.00	0.00	

Checked By: _____	Approved By: _____	Date: _____
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