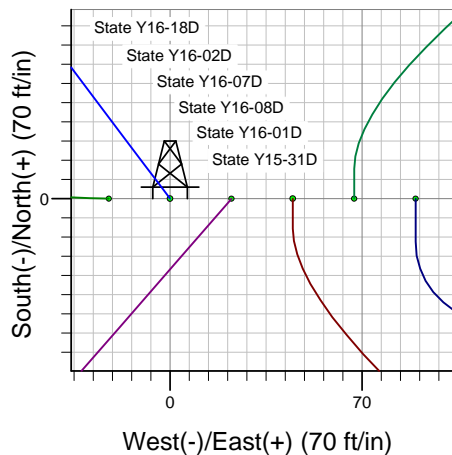
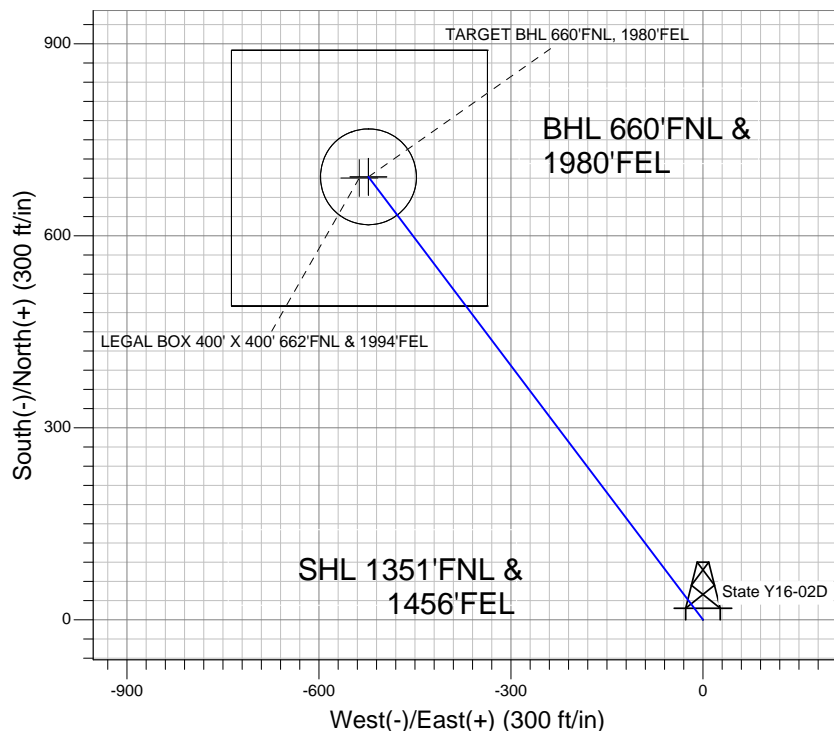
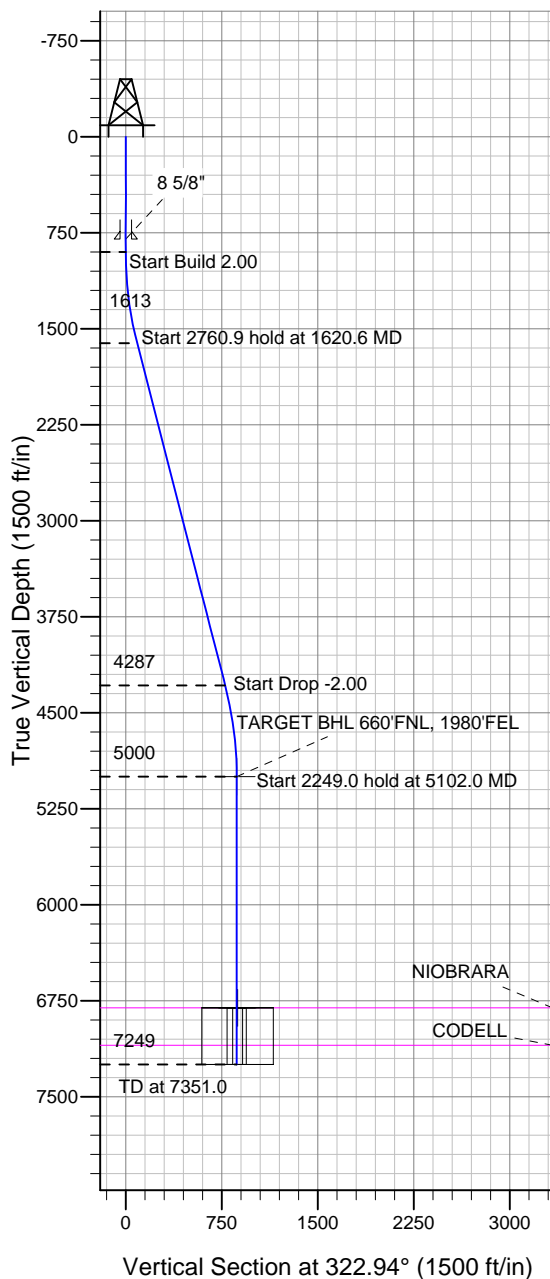


### Well Name: State Y16-02D

Surface Location: State Y16-18D Pad Sec.16-T2N-R64W  
 North American Datum 1983, US State Plane 1983 Colorado Northern Zone  
 Ground Elevation: 4928.0  
 +N/-S 0.0 +E/-W 0.0 Northing 1296004.77 Easting 3264971.49 Latitude 40.142040 Longitude -104.552200 Slot  
 Original Well Elev @ 4941.0ft (Original Well Elev)

### NOBLE ENERGY INC WELD COUNTY CO



State Y16-18D Pad Sec.16-T2N-R64W  
 State Y16-02D  
 Noble State Y16-02D Plan #1 (9-28-11)  
 11:05, September 30 2011



Azimuths to True North  
 Magnetic North: 8.69°  
 Magnetic Field  
 Strength: 52987.5snT  
 Dip Angle: 66.87°  
 Date: 9/28/2011  
 Model: IGRF2010

#### WELLBORE TARGET DETAILS (LAT/LONG)

Name	TVD	+N/-S	+E/-W	Latitude	Longitude	Shape
TARGET BHL 660'FNL, 1980'FEL	5000.0	692.2	-522.8	40.143940	-104.554070	Point
LEGAL BOX 400' X 400' 662'FNL & 1994'FEL	6806.0	690.2	-536.8	40.143935	-104.554120	Rectangle (Sides: L400.0 W400.0)
TARGET CIRCLE 660'FNL & 1980'FEL	6806.0	692.2	-522.8	40.143940	-104.554070	Circle (Radius: 75.0)

#### 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	900.0	0.00	0.00	900.0	0.0	0.0	0.00	0.00	0.0	
3	1620.6	14.41	322.94	1613.0	71.9	-54.3	2.00	322.94	90.1	
4	4381.4	14.41	322.94	4287.0	620.3	-468.5	0.00	0.00	777.3	
5	5102.0	0.00	0.00	5000.0	692.2	-522.8	2.00	180.00	867.4	TARGET BHL 660'FNL, 1980'FEL
6	7351.0	0.00	0.00	7249.0	692.2	-522.8	0.00	0.00	867.4	



**Directional**

# **NOBLE ENERGY INC WELD COUNTY CO**

**SEC.16-T2N-R64W**

**State Y16-18D Pad Sec.16-T2N-R64W**

**State Y16-02D**

**Wellbore #1**

**Plan: Noble State Y16-02D Plan #1 (9-28-11)**

## **Standard Planning Report**

**30 September, 2011**



<b>Database:</b>	Landmark	<b>Local Co-ordinate Reference:</b>	Well State Y16-02D
<b>Company:</b>	NOBLE ENERGY INC WELD COUNTY CO	<b>TVD Reference:</b>	WELL @ 4941.0ft (Original Well Elev)
<b>Project:</b>	SEC.16-T2N-R64W	<b>MD Reference:</b>	WELL @ 4941.0ft (Original Well Elev)
<b>Site:</b>	State Y16-18D Pad Sec.16-T2N-R64W	<b>North Reference:</b>	True
<b>Well:</b>	State Y16-02D	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Wellbore #1		
<b>Design:</b>	Noble State Y16-02D Plan #1 (9-28-11)		

<b>Project</b>	SEC.16-T2N-R64W, Weld County, Colorado		
<b>Map System:</b>	US State Plane 1983	<b>System Datum:</b>	Mean Sea Level
<b>Geo Datum:</b>	North American Datum 1983		Using Well Reference Point
<b>Map Zone:</b>	Colorado Northern Zone		Using geodetic scale factor

Site						State Y16-18D Pad Sec.16-T2N-R64W							
Site Position: From: Position Uncertainty:			Lat/Long  0.0 ft			Northing:		1,296,004.55 ft		Latitude:		40.142040	
						Easting:		3,264,949.12 ft		Longitude:		-104.552280	
						Slot Radius:		"		Grid Convergence:		0.61 °	

Well	State Y16-02D					
Well Position	+N/-S	0.0 ft	Northing:	1,296,004.77 ft	Latitude:	40.142040
	+E/-W	22.4 ft	Easting:	3,264,971.49 ft	Longitude:	-104.552200
Position Uncertainty		0.0 ft	Wellhead Elevation:	ft	Ground Level:	4,928.0 ft

<b>Wellbore</b>	Wellbore #1				
<b>Magnetics</b>	<b>Model Name</b>	<b>Sample Date</b>	<b>Declination (°)</b>	<b>Dip Angle (°)</b>	<b>Field Strength (nT)</b>
	IGRF2010	9/28/2011	8.69	66.87	52,987

<b>Design</b>	Noble State Y16-02D Plan #1 (9-28-11)			
<b>Audit Notes:</b>				
<b>Version:</b>	<b>Phase:</b>	PROTOTYPE	<b>Tie On Depth:</b>	0.0
<b>Vertical Section:</b>	<b>Depth From (TVD) (ft)</b>	<b>+N/-S (ft)</b>	<b>+E/-W (ft)</b>	<b>Direction (°)</b>
	0.0	0.0	0.0	322.94

<b>Plan Sections</b>										
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	
900.0	0.00	0.00	900.0	0.0	0.0	0.00	0.00	0.00	0.00	
1,620.6	14.41	322.94	1,613.0	71.9	-54.3	2.00	2.00	0.00	322.94	
4,381.4	14.41	322.94	4,287.0	620.3	-468.5	0.00	0.00	0.00	0.00	
5,102.0	0.00	0.00	5,000.0	692.2	-522.8	2.00	-2.00	0.00	180.00	TARGET BHL 660'I
7,351.0	0.00	0.00	7,249.0	692.2	-522.8	0.00	0.00	0.00	0.00	

<b>Database:</b>	Landmark	<b>Local Co-ordinate Reference:</b>	Well State Y16-02D
<b>Company:</b>	NOBLE ENERGY INC WELD COUNTY CO	<b>TVD Reference:</b>	WELL @ 4941.0ft (Original Well Elev)
<b>Project:</b>	SEC.16-T2N-R64W	<b>MD Reference:</b>	WELL @ 4941.0ft (Original Well Elev)
<b>Site:</b>	State Y16-18D Pad Sec.16-T2N-R64W	<b>North Reference:</b>	True
<b>Well:</b>	State Y16-02D	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Wellbore #1		
<b>Design:</b>	Noble State Y16-02D Plan #1 (9-28-11)		

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
720.0	0.00	0.00	720.0	0.0	0.0	0.0	0.00	0.00	0.00
760.0	0.00	0.00	760.0	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
8 5/8"									
840.0	0.00	0.00	840.0	0.0	0.0	0.0	0.00	0.00	0.00
880.0	0.00	0.00	880.0	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
920.0	0.40	322.94	920.0	0.1	0.0	0.1	2.00	2.00	0.00
960.0	1.20	322.94	960.0	0.5	-0.4	0.6	2.00	2.00	0.00
1,000.0	2.00	322.94	1,000.0	1.4	-1.1	1.7	2.00	2.00	0.00
1,040.0	2.80	322.94	1,039.9	2.7	-2.1	3.4	2.00	2.00	0.00
1,080.0	3.60	322.94	1,079.9	4.5	-3.4	5.7	2.00	2.00	0.00
1,120.0	4.40	322.94	1,119.8	6.7	-5.1	8.4	2.00	2.00	0.00
1,160.0	5.20	322.94	1,159.6	9.4	-7.1	11.8	2.00	2.00	0.00
1,200.0	6.00	322.94	1,199.5	12.5	-9.5	15.7	2.00	2.00	0.00
1,240.0	6.80	322.94	1,239.2	16.1	-12.1	20.2	2.00	2.00	0.00
1,280.0	7.60	322.94	1,278.9	20.1	-15.2	25.2	2.00	2.00	0.00
1,320.0	8.40	322.94	1,318.5	24.5	-18.5	30.7	2.00	2.00	0.00
1,360.0	9.20	322.94	1,358.0	29.4	-22.2	36.9	2.00	2.00	0.00
1,400.0	10.00	322.94	1,397.5	34.7	-26.2	43.5	2.00	2.00	0.00
1,440.0	10.80	322.94	1,436.8	40.5	-30.6	50.7	2.00	2.00	0.00
1,480.0	11.60	322.94	1,476.0	46.7	-35.3	58.5	2.00	2.00	0.00
1,520.0	12.40	322.94	1,515.2	53.3	-40.3	66.8	2.00	2.00	0.00
1,560.0	13.20	322.94	1,554.2	60.4	-45.6	75.7	2.00	2.00	0.00
1,600.0	14.00	322.94	1,593.1	67.9	-51.3	85.1	2.00	2.00	0.00
1,620.6	14.41	322.94	1,613.0	71.9	-54.3	90.1	2.00	2.00	0.00
1,640.0	14.41	322.94	1,631.8	75.8	-57.2	95.0	0.00	0.00	0.00
1,680.0	14.41	322.94	1,670.6	83.7	-63.2	104.9	0.00	0.00	0.00
1,720.0	14.41	322.94	1,709.3	91.7	-69.2	114.9	0.00	0.00	0.00
1,760.0	14.41	322.94	1,748.0	99.6	-75.2	124.8	0.00	0.00	0.00
1,800.0	14.41	322.94	1,786.8	107.6	-81.2	134.8	0.00	0.00	0.00
1,840.0	14.41	322.94	1,825.5	115.5	-87.2	144.8	0.00	0.00	0.00
1,880.0	14.41	322.94	1,864.3	123.5	-93.2	154.7	0.00	0.00	0.00
1,920.0	14.41	322.94	1,903.0	131.4	-99.2	164.7	0.00	0.00	0.00
1,960.0	14.41	322.94	1,941.7	139.3	-105.2	174.6	0.00	0.00	0.00
2,000.0	14.41	322.94	1,980.5	147.3	-111.2	184.6	0.00	0.00	0.00

<b>Database:</b>	Landmark	<b>Local Co-ordinate Reference:</b>	Well State Y16-02D
<b>Company:</b>	NOBLE ENERGY INC WELD COUNTY CO	<b>TVD Reference:</b>	WELL @ 4941.0ft (Original Well Elev)
<b>Project:</b>	SEC.16-T2N-R64W	<b>MD Reference:</b>	WELL @ 4941.0ft (Original Well Elev)
<b>Site:</b>	State Y16-18D Pad Sec.16-T2N-R64W	<b>North Reference:</b>	True
<b>Well:</b>	State Y16-02D	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Wellbore #1		
<b>Design:</b>	Noble State Y16-02D Plan #1 (9-28-11)		

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)
2,040.0	14.41	322.94	2,019.2	155.2	-117.2	194.5	0.00	0.00	0.00
2,080.0	14.41	322.94	2,058.0	163.2	-123.2	204.5	0.00	0.00	0.00
2,120.0	14.41	322.94	2,096.7	171.1	-129.2	214.4	0.00	0.00	0.00
2,160.0	14.41	322.94	2,135.5	179.1	-135.2	224.4	0.00	0.00	0.00
2,200.0	14.41	322.94	2,174.2	187.0	-141.2	234.4	0.00	0.00	0.00
2,240.0	14.41	322.94	2,212.9	195.0	-147.2	244.3	0.00	0.00	0.00
2,280.0	14.41	322.94	2,251.7	202.9	-153.2	254.3	0.00	0.00	0.00
2,320.0	14.41	322.94	2,290.4	210.8	-159.2	264.2	0.00	0.00	0.00
2,360.0	14.41	322.94	2,329.2	218.8	-165.2	274.2	0.00	0.00	0.00
2,400.0	14.41	322.94	2,367.9	226.7	-171.2	284.1	0.00	0.00	0.00
2,440.0	14.41	322.94	2,406.6	234.7	-177.2	294.1	0.00	0.00	0.00
2,480.0	14.41	322.94	2,445.4	242.6	-183.2	304.0	0.00	0.00	0.00
2,520.0	14.41	322.94	2,484.1	250.6	-189.2	314.0	0.00	0.00	0.00
2,560.0	14.41	322.94	2,522.9	258.5	-195.2	324.0	0.00	0.00	0.00
2,600.0	14.41	322.94	2,561.6	266.5	-201.2	333.9	0.00	0.00	0.00
2,640.0	14.41	322.94	2,600.3	274.4	-207.2	343.9	0.00	0.00	0.00
2,680.0	14.41	322.94	2,639.1	282.3	-213.2	353.8	0.00	0.00	0.00
2,720.0	14.41	322.94	2,677.8	290.3	-219.2	363.8	0.00	0.00	0.00
2,760.0	14.41	322.94	2,716.6	298.2	-225.2	373.7	0.00	0.00	0.00
2,800.0	14.41	322.94	2,755.3	306.2	-231.2	383.7	0.00	0.00	0.00
2,840.0	14.41	322.94	2,794.1	314.1	-237.2	393.6	0.00	0.00	0.00
2,880.0	14.41	322.94	2,832.8	322.1	-243.2	403.6	0.00	0.00	0.00
2,920.0	14.41	322.94	2,871.5	330.0	-249.2	413.6	0.00	0.00	0.00
2,960.0	14.41	322.94	2,910.3	337.9	-255.2	423.5	0.00	0.00	0.00
3,000.0	14.41	322.94	2,949.0	345.9	-261.3	433.5	0.00	0.00	0.00
3,040.0	14.41	322.94	2,987.8	353.8	-267.3	443.4	0.00	0.00	0.00
3,080.0	14.41	322.94	3,026.5	361.8	-273.3	453.4	0.00	0.00	0.00
3,120.0	14.41	322.94	3,065.2	369.7	-279.3	463.3	0.00	0.00	0.00
3,160.0	14.41	322.94	3,104.0	377.7	-285.3	473.3	0.00	0.00	0.00
3,200.0	14.41	322.94	3,142.7	385.6	-291.3	483.2	0.00	0.00	0.00
3,240.0	14.41	322.94	3,181.5	393.6	-297.3	493.2	0.00	0.00	0.00
3,280.0	14.41	322.94	3,220.2	401.5	-303.3	503.2	0.00	0.00	0.00
3,320.0	14.41	322.94	3,258.9	409.4	-309.3	513.1	0.00	0.00	0.00
3,360.0	14.41	322.94	3,297.7	417.4	-315.3	523.1	0.00	0.00	0.00
3,400.0	14.41	322.94	3,336.4	425.3	-321.3	533.0	0.00	0.00	0.00
3,440.0	14.41	322.94	3,375.2	433.3	-327.3	543.0	0.00	0.00	0.00
3,480.0	14.41	322.94	3,413.9	441.2	-333.3	552.9	0.00	0.00	0.00
3,520.0	14.41	322.94	3,452.7	449.2	-339.3	562.9	0.00	0.00	0.00
3,560.0	14.41	322.94	3,491.4	457.1	-345.3	572.8	0.00	0.00	0.00
3,600.0	14.41	322.94	3,530.1	465.1	-351.3	582.8	0.00	0.00	0.00
3,640.0	14.41	322.94	3,568.9	473.0	-357.3	592.8	0.00	0.00	0.00
3,680.0	14.41	322.94	3,607.6	480.9	-363.3	602.7	0.00	0.00	0.00
3,720.0	14.41	322.94	3,646.4	488.9	-369.3	612.7	0.00	0.00	0.00
3,760.0	14.41	322.94	3,685.1	496.8	-375.3	622.6	0.00	0.00	0.00
3,800.0	14.41	322.94	3,723.8	504.8	-381.3	632.6	0.00	0.00	0.00
3,840.0	14.41	322.94	3,762.6	512.7	-387.3	642.5	0.00	0.00	0.00
3,880.0	14.41	322.94	3,801.3	520.7	-393.3	652.5	0.00	0.00	0.00
3,920.0	14.41	322.94	3,840.1	528.6	-399.3	662.4	0.00	0.00	0.00
3,960.0	14.41	322.94	3,878.8	536.6	-405.3	672.4	0.00	0.00	0.00
4,000.0	14.41	322.94	3,917.6	544.5	-411.3	682.4	0.00	0.00	0.00
4,040.0	14.41	322.94	3,956.3	552.4	-417.3	692.3	0.00	0.00	0.00
4,080.0	14.41	322.94	3,995.0	560.4	-423.3	702.3	0.00	0.00	0.00
4,120.0	14.41	322.94	4,033.8	568.3	-429.3	712.2	0.00	0.00	0.00
4,160.0	14.41	322.94	4,072.5	576.3	-435.3	722.2	0.00	0.00	0.00

<b>Database:</b>	Landmark	<b>Local Co-ordinate Reference:</b>	Well State Y16-02D
<b>Company:</b>	NOBLE ENERGY INC WELD COUNTY CO	<b>TVD Reference:</b>	WELL @ 4941.0ft (Original Well Elev)
<b>Project:</b>	SEC.16-T2N-R64W	<b>MD Reference:</b>	WELL @ 4941.0ft (Original Well Elev)
<b>Site:</b>	State Y16-18D Pad Sec.16-T2N-R64W	<b>North Reference:</b>	True
<b>Well:</b>	State Y16-02D	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Wellbore #1		
<b>Design:</b>	Noble State Y16-02D Plan #1 (9-28-11)		

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)
4,200.0	14.41	322.94	4,111.3	584.2	-441.3	732.1	0.00	0.00	0.00
4,240.0	14.41	322.94	4,150.0	592.2	-447.3	742.1	0.00	0.00	0.00
4,280.0	14.41	322.94	4,188.7	600.1	-453.3	752.0	0.00	0.00	0.00
4,320.0	14.41	322.94	4,227.5	608.1	-459.3	762.0	0.00	0.00	0.00
4,360.0	14.41	322.94	4,266.2	616.0	-465.3	772.0	0.00	0.00	0.00
4,381.4	14.41	322.94	4,287.0	620.3	-468.5	777.3	0.00	0.00	0.00
4,400.0	14.04	322.94	4,305.0	623.9	-471.2	781.9	2.00	-2.00	0.00
4,440.0	13.24	322.94	4,343.9	631.4	-476.9	791.3	2.00	-2.00	0.00
4,480.0	12.44	322.94	4,382.8	638.5	-482.3	800.2	2.00	-2.00	0.00
4,520.0	11.64	322.94	4,422.0	645.2	-487.3	808.5	2.00	-2.00	0.00
4,560.0	10.84	322.94	4,461.2	651.4	-492.0	816.3	2.00	-2.00	0.00
4,600.0	10.04	322.94	4,500.5	657.2	-496.4	823.6	2.00	-2.00	0.00
4,640.0	9.24	322.94	4,540.0	662.5	-500.4	830.3	2.00	-2.00	0.00
4,680.0	8.44	322.94	4,579.5	667.4	-504.1	836.4	2.00	-2.00	0.00
4,720.0	7.64	322.94	4,619.1	671.9	-507.5	842.0	2.00	-2.00	0.00
4,760.0	6.84	322.94	4,658.8	675.9	-510.5	847.0	2.00	-2.00	0.00
4,800.0	6.04	322.94	4,698.5	679.5	-513.2	851.5	2.00	-2.00	0.00
4,840.0	5.24	322.94	4,738.3	682.6	-515.6	855.5	2.00	-2.00	0.00
4,880.0	4.44	322.94	4,778.2	685.3	-517.6	858.8	2.00	-2.00	0.00
4,920.0	3.64	322.94	4,818.1	687.6	-519.3	861.7	2.00	-2.00	0.00
4,960.0	2.84	322.94	4,858.0	689.4	-520.7	863.9	2.00	-2.00	0.00
5,000.0	2.04	322.94	4,898.0	690.7	-521.7	865.6	2.00	-2.00	0.00
5,040.0	1.24	322.94	4,938.0	691.7	-522.4	866.8	2.00	-2.00	0.00
5,080.0	0.44	322.94	4,978.0	692.1	-522.8	867.4	2.00	-2.00	0.00
5,102.0	0.00	0.00	5,000.0	692.2	-522.8	867.4	2.00	-2.00	0.00
TARGET BHL 660°FNL, 1980°FEL									
5,120.0	0.00	0.00	5,018.0	692.2	-522.8	867.4	0.00	0.00	0.00
5,160.0	0.00	0.00	5,058.0	692.2	-522.8	867.4	0.00	0.00	0.00
5,200.0	0.00	0.00	5,098.0	692.2	-522.8	867.4	0.00	0.00	0.00
5,240.0	0.00	0.00	5,138.0	692.2	-522.8	867.4	0.00	0.00	0.00
5,280.0	0.00	0.00	5,178.0	692.2	-522.8	867.4	0.00	0.00	0.00
5,320.0	0.00	0.00	5,218.0	692.2	-522.8	867.4	0.00	0.00	0.00
5,360.0	0.00	0.00	5,258.0	692.2	-522.8	867.4	0.00	0.00	0.00
5,400.0	0.00	0.00	5,298.0	692.2	-522.8	867.4	0.00	0.00	0.00
5,440.0	0.00	0.00	5,338.0	692.2	-522.8	867.4	0.00	0.00	0.00
5,480.0	0.00	0.00	5,378.0	692.2	-522.8	867.4	0.00	0.00	0.00
5,520.0	0.00	0.00	5,418.0	692.2	-522.8	867.4	0.00	0.00	0.00
5,560.0	0.00	0.00	5,458.0	692.2	-522.8	867.4	0.00	0.00	0.00
5,600.0	0.00	0.00	5,498.0	692.2	-522.8	867.4	0.00	0.00	0.00
5,640.0	0.00	0.00	5,538.0	692.2	-522.8	867.4	0.00	0.00	0.00
5,680.0	0.00	0.00	5,578.0	692.2	-522.8	867.4	0.00	0.00	0.00
5,720.0	0.00	0.00	5,618.0	692.2	-522.8	867.4	0.00	0.00	0.00
5,760.0	0.00	0.00	5,658.0	692.2	-522.8	867.4	0.00	0.00	0.00
5,800.0	0.00	0.00	5,698.0	692.2	-522.8	867.4	0.00	0.00	0.00
5,840.0	0.00	0.00	5,738.0	692.2	-522.8	867.4	0.00	0.00	0.00
5,880.0	0.00	0.00	5,778.0	692.2	-522.8	867.4	0.00	0.00	0.00
5,920.0	0.00	0.00	5,818.0	692.2	-522.8	867.4	0.00	0.00	0.00
5,960.0	0.00	0.00	5,858.0	692.2	-522.8	867.4	0.00	0.00	0.00
6,000.0	0.00	0.00	5,898.0	692.2	-522.8	867.4	0.00	0.00	0.00
6,040.0	0.00	0.00	5,938.0	692.2	-522.8	867.4	0.00	0.00	0.00
6,080.0	0.00	0.00	5,978.0	692.2	-522.8	867.4	0.00	0.00	0.00
6,120.0	0.00	0.00	6,018.0	692.2	-522.8	867.4	0.00	0.00	0.00
6,160.0	0.00	0.00	6,058.0	692.2	-522.8	867.4	0.00	0.00	0.00
6,200.0	0.00	0.00	6,098.0	692.2	-522.8	867.4	0.00	0.00	0.00

<b>Database:</b>	Landmark	<b>Local Co-ordinate Reference:</b>	Well State Y16-02D
<b>Company:</b>	NOBLE ENERGY INC WELD COUNTY CO	<b>TVD Reference:</b>	WELL @ 4941.0ft (Original Well Elev)
<b>Project:</b>	SEC.16-T2N-R64W	<b>MD Reference:</b>	WELL @ 4941.0ft (Original Well Elev)
<b>Site:</b>	State Y16-18D Pad Sec.16-T2N-R64W	<b>North Reference:</b>	True
<b>Well:</b>	State Y16-02D	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Wellbore #1		
<b>Design:</b>	Noble State Y16-02D Plan #1 (9-28-11)		

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)
6,240.0	0.00	0.00	6,138.0	692.2	-522.8	867.4	0.00	0.00	0.00
6,280.0	0.00	0.00	6,178.0	692.2	-522.8	867.4	0.00	0.00	0.00
6,320.0	0.00	0.00	6,218.0	692.2	-522.8	867.4	0.00	0.00	0.00
6,360.0	0.00	0.00	6,258.0	692.2	-522.8	867.4	0.00	0.00	0.00
6,400.0	0.00	0.00	6,298.0	692.2	-522.8	867.4	0.00	0.00	0.00
6,440.0	0.00	0.00	6,338.0	692.2	-522.8	867.4	0.00	0.00	0.00
6,480.0	0.00	0.00	6,378.0	692.2	-522.8	867.4	0.00	0.00	0.00
6,520.0	0.00	0.00	6,418.0	692.2	-522.8	867.4	0.00	0.00	0.00
6,560.0	0.00	0.00	6,458.0	692.2	-522.8	867.4	0.00	0.00	0.00
6,600.0	0.00	0.00	6,498.0	692.2	-522.8	867.4	0.00	0.00	0.00
6,640.0	0.00	0.00	6,538.0	692.2	-522.8	867.4	0.00	0.00	0.00
6,680.0	0.00	0.00	6,578.0	692.2	-522.8	867.4	0.00	0.00	0.00
6,720.0	0.00	0.00	6,618.0	692.2	-522.8	867.4	0.00	0.00	0.00
6,760.0	0.00	0.00	6,658.0	692.2	-522.8	867.4	0.00	0.00	0.00
6,800.0	0.00	0.00	6,698.0	692.2	-522.8	867.4	0.00	0.00	0.00
6,840.0	0.00	0.00	6,738.0	692.2	-522.8	867.4	0.00	0.00	0.00
6,880.0	0.00	0.00	6,778.0	692.2	-522.8	867.4	0.00	0.00	0.00
6,908.0	0.00	0.00	6,806.0	692.2	-522.8	867.4	0.00	0.00	0.00
<b>NIOBRARA - LEGAL BOX 400' X 400' 662'FNL &amp; 1994'FEL - TARGET CIRCLE 660'FNL &amp; 1980'FEL</b>									
6,920.0	0.00	0.00	6,818.0	692.2	-522.8	867.4	0.00	0.00	0.00
6,960.0	0.00	0.00	6,858.0	692.2	-522.8	867.4	0.00	0.00	0.00
7,000.0	0.00	0.00	6,898.0	692.2	-522.8	867.4	0.00	0.00	0.00
7,040.0	0.00	0.00	6,938.0	692.2	-522.8	867.4	0.00	0.00	0.00
7,080.0	0.00	0.00	6,978.0	692.2	-522.8	867.4	0.00	0.00	0.00
7,120.0	0.00	0.00	7,018.0	692.2	-522.8	867.4	0.00	0.00	0.00
7,160.0	0.00	0.00	7,058.0	692.2	-522.8	867.4	0.00	0.00	0.00
7,200.0	0.00	0.00	7,098.0	692.2	-522.8	867.4	0.00	0.00	0.00
7,201.0	0.00	0.00	7,099.0	692.2	-522.8	867.4	0.00	0.00	0.00
<b>CODELL</b>									
7,240.0	0.00	0.00	7,138.0	692.2	-522.8	867.4	0.00	0.00	0.00
7,280.0	0.00	0.00	7,178.0	692.2	-522.8	867.4	0.00	0.00	0.00
7,320.0	0.00	0.00	7,218.0	692.2	-522.8	867.4	0.00	0.00	0.00
7,351.0	0.00	0.00	7,249.0	692.2	-522.8	867.4	0.00	0.00	0.00

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									
TARGET BHL 660'FN	0.00	0.00	5,000.0	692.2	-522.8	1,296,691.30	3,264,441.34	40.143940	-104.554070
- plan hits target center									
- Point									
LEGAL BOX 400' X 400'	0.00	0.00	6,806.0	690.2	-536.8	1,296,689.16	3,264,427.36	40.143935	-104.554120
- plan misses target center by 14.1ft at 6908.0ft MD (6806.0 TVD, 692.2 N, -522.8 E)									
- Rectangle (sides W400.0 H400.0 D443.0)									
TARGET CIRCLE 660'FNL	0.00	0.00	6,806.0	692.2	-522.8	1,296,691.30	3,264,441.34	40.143940	-104.554070
- plan hits target center									
- Circle (radius 75.0)									

<b>Database:</b>	Landmark	<b>Local Co-ordinate Reference:</b>	Well State Y16-02D
<b>Company:</b>	NOBLE ENERGY INC WELD COUNTY CO	<b>TVD Reference:</b>	WELL @ 4941.0ft (Original Well Elev)
<b>Project:</b>	SEC.16-T2N-R64W	<b>MD Reference:</b>	WELL @ 4941.0ft (Original Well Elev)
<b>Site:</b>	State Y16-18D Pad Sec.16-T2N-R64W	<b>North Reference:</b>	True
<b>Well:</b>	State Y16-02D	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Wellbore #1		
<b>Design:</b>	Noble State Y16-02D Plan #1 (9-28-11)		

Casing Points					
Measured Depth (ft)	Vertical Depth (ft)	Name	Casing Diameter (")	Hole Diameter (")	
800.0	800.0	8 5/8"	8-5/8	12-1/4	

Formations					
Measured Depth (ft)	Vertical Depth (ft)	Name	Lithology	Dip (°)	Dip Direction (°)
6,908.0	6,806.0	NIOBRARA		0.00	
7,201.0	7,099.0	CODELL		0.00	