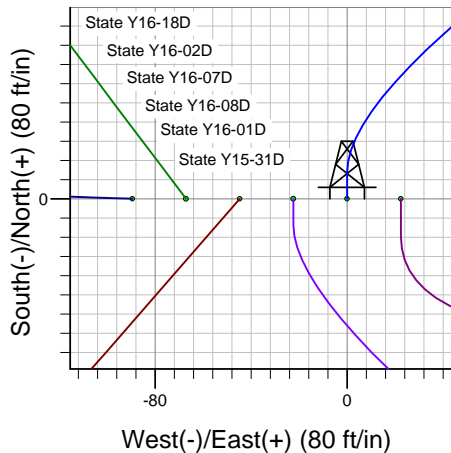
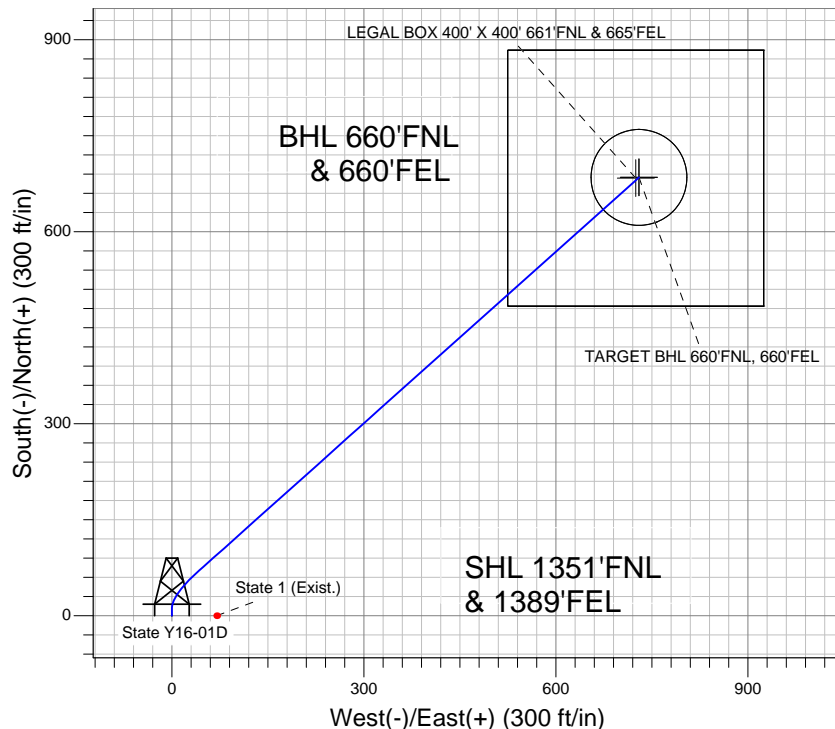
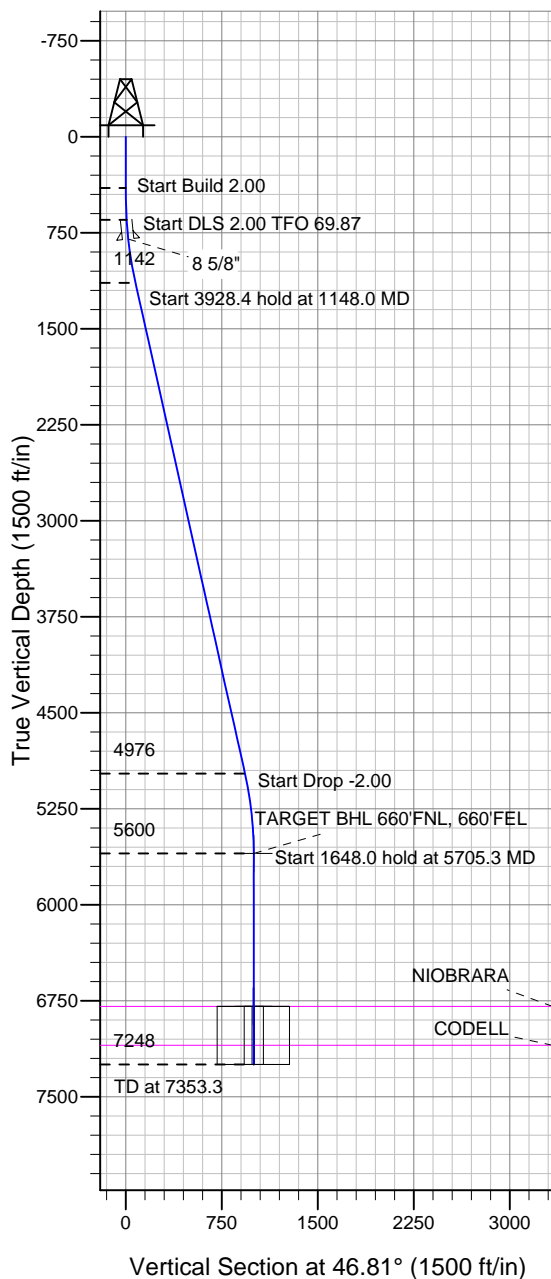


### Well Name: State Y16-01D

Surface Location: State Y16-18D Pad Sec.16-T2N-R64W  
 North American Datum 1983, US State Plane 1983 Colorado Northern Zone  
 Ground Elevation: 4930.0

+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Slot
0.0	0.0	1296005.49	3265038.58	40.142040	-104.551960	
Original Well EleWELL @ 4943.0ft (Original Well Elev)						

## NOBLE ENERGY INC WELD COUNTY CO



State Y16-18D Pad Sec.16-T2N-R64W  
 State Y16-01D  
 Noble State Y16-01D Plan #1 (9-29-11)  
 12:55, September 30 2011



Azimuths to True North  
 Magnetic North: 8.69°  
 Magnetic Field  
 Strength: 52987.2snT  
 Dip Angle: 66.87°  
 Date: 9/29/2011  
 Model: IGRF2010

### WELLBORE TARGET DETAILS (LAT/LONG)

Name	TVD	+N/-S	+E/-W	Latitude	Longitude	Shape
TARGET BHL 660'FNL, 660'FEL	5600.0	684.9	729.7	40.143920	-104.549350	Point
LEGAL BOX 400' X 400' 661'FNL & 665'FEL	6793.0	683.9	724.7	40.143917	-104.549368	Rectangle (Sides: L400.0 W400.0)
TARGET CIRCLE 660'FNL & 660'FEL	6793.0	684.9	729.7	40.143920	-104.549350	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	400.0	0.00	0.00	400.0	0.0	0.0	0.00	0.00	0.0	
3	650.0	5.00	0.00	649.7	10.9	0.0	2.00	0.00	7.5	
4	1148.0	12.58	48.21	1142.0	68.9	40.5	2.00	69.87	76.7	
5	5076.4	12.58	48.21	4976.1	639.1	678.4	0.00	0.00	932.0	
6	5705.3	0.00	0.00	5600.0	684.9	729.7	2.00	180.00	1000.8	TARGET BHL 660'FNL, 660'FEL
7	7353.3	0.00	0.00	7248.0	684.9	729.7	0.00	0.00	1000.8	



**Directional**

# **NOBLE ENERGY INC WELD COUNTY CO**

**SEC.16-T2N-R64W**

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

**State Y16-01D**

**Wellbore #1**

**Plan: Noble State Y16-01D Plan #1 (9-29-11)**

## **Standard Planning Report**

**30 September, 2011**



<b>Database:</b>	Landmark	<b>Local Co-ordinate Reference:</b>	Well State Y16-01D
<b>Company:</b>	NOBLE ENERGY INC WELD COUNTY CO	<b>TVD Reference:</b>	WELL @ 4943.0ft (Original Well Elev)
<b>Project:</b>	SEC.16-T2N-R64W	<b>MD Reference:</b>	WELL @ 4943.0ft (Original Well Elev)
<b>Site:</b>	State Y16-18D Pad Sec.16-T2N-R64W	<b>North Reference:</b>	True
<b>Well:</b>	State Y16-01D	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Wellbore #1		
<b>Design:</b>	Noble State Y16-01D Plan #1 (9-29-11)		

<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:						Northing:			1,296,004.55 ft			Latitude:			40.142040		
From:			Lat/Long			Easting:			3,264,949.12 ft			Longitude:			-104.552280		
Position Uncertainty:			0.0 ft			Slot Radius:			"			Grid Convergence:			0.61 °		

Well	State Y16-01D					
Well Position	+N/-S	0.0 ft	Northing:	1,296,005.49 ft	Latitude:	40.142040
	+E/-W	89.5 ft	Easting:	3,265,038.58 ft	Longitude:	-104.551960
Position Uncertainty		0.0 ft	Wellhead Elevation:	ft	Ground Level:	4,930.0 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	9/29/2011	8.69	66.87	52,987

<b>Design</b>	Noble State Y16-01D Plan #1 (9-29-11)			
<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	46.81

<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	
400.0	0.00	0.00	400.0	0.0	0.0	0.00	0.00	0.00	0.00	
650.0	5.00	0.00	649.7	10.9	0.0	2.00	2.00	0.00	0.00	
1,148.0	12.58	48.21	1,142.0	68.9	40.5	2.00	1.52	9.68	69.87	
5,076.4	12.58	48.21	4,976.1	639.1	678.4	0.00	0.00	0.00	0.00	
5,705.3	0.00	0.00	5,600.0	684.9	729.7	2.00	-2.00	0.00	180.00	TARGET BHL 660'I
7,353.3	0.00	0.00	7,248.0	684.9	729.7	0.00	0.00	0.00	0.00	

<b>Database:</b>	Landmark	<b>Local Co-ordinate Reference:</b>	Well State Y16-01D
<b>Company:</b>	NOBLE ENERGY INC WELD COUNTY CO	<b>TVD Reference:</b>	WELL @ 4943.0ft (Original Well Elev)
<b>Project:</b>	SEC.16-T2N-R64W	<b>MD Reference:</b>	WELL @ 4943.0ft (Original Well Elev)
<b>Site:</b>	State Y16-18D Pad Sec.16-T2N-R64W	<b>North Reference:</b>	True
<b>Well:</b>	State Y16-01D	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Wellbore #1		
<b>Design:</b>	Noble State Y16-01D Plan #1 (9-29-11)		

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	0.80	0.00	440.0	0.3	0.0	0.2	2.00	2.00	0.00
480.0	1.60	0.00	480.0	1.1	0.0	0.8	2.00	2.00	0.00
520.0	2.40	0.00	520.0	2.5	0.0	1.7	2.00	2.00	0.00
560.0	3.20	0.00	559.9	4.5	0.0	3.1	2.00	2.00	0.00
600.0	4.00	0.00	599.8	7.0	0.0	4.8	2.00	2.00	0.00
640.0	4.80	0.00	639.7	10.0	0.0	6.9	2.00	2.00	0.00
650.0	5.00	0.00	649.7	10.9	0.0	7.5	2.00	2.00	0.00
680.0	5.24	6.18	679.6	13.6	0.1	9.4	2.00	0.79	20.61
720.0	5.64	13.51	719.4	17.3	0.8	12.4	2.00	1.00	18.30
760.0	6.12	19.77	759.2	21.2	2.0	16.0	2.00	1.20	15.67
800.0	6.66	25.08	798.9	25.3	3.7	20.0	2.00	1.35	13.27
801.1	6.67	25.21	800.0	25.4	3.7	20.1	2.00	1.42	12.15
8 5/8"									
840.0	7.24	29.57	838.6	29.6	5.9	24.6	2.00	1.47	11.18
880.0	7.87	33.36	878.3	34.1	8.7	29.6	2.00	1.56	9.48
920.0	8.53	36.59	917.9	38.8	11.9	35.2	2.00	1.64	8.07
960.0	9.20	39.35	957.4	43.6	15.7	41.3	2.00	1.69	6.91
1,000.0	9.90	41.73	996.8	48.7	20.0	47.9	2.00	1.74	5.95
1,040.0	10.61	43.80	1,036.2	53.9	24.9	55.0	2.00	1.78	5.17
1,080.0	11.33	45.61	1,075.5	59.3	30.2	62.6	2.00	1.81	4.52
1,120.0	12.06	47.20	1,114.6	64.9	36.1	70.7	2.00	1.83	3.99
1,148.0	12.58	48.21	1,142.0	68.9	40.5	76.7	2.00	1.85	3.60
1,160.0	12.58	48.21	1,153.7	70.6	42.5	79.3	0.00	0.00	0.00
1,200.0	12.58	48.21	1,192.7	76.4	49.0	88.0	0.00	0.00	0.00
1,240.0	12.58	48.21	1,231.8	82.2	55.5	96.7	0.00	0.00	0.00
1,280.0	12.58	48.21	1,270.8	88.1	62.0	105.4	0.00	0.00	0.00
1,320.0	12.58	48.21	1,309.9	93.9	68.5	114.2	0.00	0.00	0.00
1,360.0	12.58	48.21	1,348.9	99.7	75.0	122.9	0.00	0.00	0.00
1,400.0	12.58	48.21	1,387.9	105.5	81.5	131.6	0.00	0.00	0.00
1,440.0	12.58	48.21	1,427.0	111.3	88.0	140.3	0.00	0.00	0.00
1,480.0	12.58	48.21	1,466.0	117.1	94.4	149.0	0.00	0.00	0.00
1,520.0	12.58	48.21	1,505.1	122.9	100.9	157.7	0.00	0.00	0.00
1,560.0	12.58	48.21	1,544.1	128.7	107.4	166.4	0.00	0.00	0.00
1,600.0	12.58	48.21	1,583.1	134.5	113.9	175.1	0.00	0.00	0.00
1,640.0	12.58	48.21	1,622.2	140.3	120.4	183.8	0.00	0.00	0.00
1,680.0	12.58	48.21	1,661.2	146.1	126.9	192.5	0.00	0.00	0.00
1,720.0	12.58	48.21	1,700.3	151.9	133.4	201.2	0.00	0.00	0.00
1,760.0	12.58	48.21	1,739.3	157.7	139.9	210.0	0.00	0.00	0.00
1,800.0	12.58	48.21	1,778.3	163.5	146.4	218.7	0.00	0.00	0.00
1,840.0	12.58	48.21	1,817.4	169.3	152.9	227.4	0.00	0.00	0.00
1,880.0	12.58	48.21	1,856.4	175.1	159.4	236.1	0.00	0.00	0.00
1,920.0	12.58	48.21	1,895.5	180.9	165.9	244.8	0.00	0.00	0.00
1,960.0	12.58	48.21	1,934.5	186.7	172.4	253.5	0.00	0.00	0.00

<b>Database:</b>	Landmark	<b>Local Co-ordinate Reference:</b>	Well State Y16-01D
<b>Company:</b>	NOBLE ENERGY INC WELD COUNTY CO	<b>TVD Reference:</b>	WELL @ 4943.0ft (Original Well Elev)
<b>Project:</b>	SEC.16-T2N-R64W	<b>MD Reference:</b>	WELL @ 4943.0ft (Original Well Elev)
<b>Site:</b>	State Y16-18D Pad Sec.16-T2N-R64W	<b>North Reference:</b>	True
<b>Well:</b>	State Y16-01D	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Wellbore #1		
<b>Design:</b>	Noble State Y16-01D Plan #1 (9-29-11)		

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)
2,000.0	12.58	48.21	1,973.5	192.6	178.9	262.2	0.00	0.00	0.00
2,040.0	12.58	48.21	2,012.6	198.4	185.4	270.9	0.00	0.00	0.00
2,080.0	12.58	48.21	2,051.6	204.2	191.9	279.6	0.00	0.00	0.00
2,120.0	12.58	48.21	2,090.7	210.0	198.4	288.3	0.00	0.00	0.00
2,160.0	12.58	48.21	2,129.7	215.8	204.9	297.0	0.00	0.00	0.00
2,200.0	12.58	48.21	2,168.7	221.6	211.4	305.8	0.00	0.00	0.00
2,240.0	12.58	48.21	2,207.8	227.4	217.9	314.5	0.00	0.00	0.00
2,280.0	12.58	48.21	2,246.8	233.2	224.3	323.2	0.00	0.00	0.00
2,320.0	12.58	48.21	2,285.9	239.0	230.8	331.9	0.00	0.00	0.00
2,360.0	12.58	48.21	2,324.9	244.8	237.3	340.6	0.00	0.00	0.00
2,400.0	12.58	48.21	2,363.9	250.6	243.8	349.3	0.00	0.00	0.00
2,440.0	12.58	48.21	2,403.0	256.4	250.3	358.0	0.00	0.00	0.00
2,480.0	12.58	48.21	2,442.0	262.2	256.8	366.7	0.00	0.00	0.00
2,520.0	12.58	48.21	2,481.1	268.0	263.3	375.4	0.00	0.00	0.00
2,560.0	12.58	48.21	2,520.1	273.8	269.8	384.1	0.00	0.00	0.00
2,600.0	12.58	48.21	2,559.1	279.6	276.3	392.8	0.00	0.00	0.00
2,640.0	12.58	48.21	2,598.2	285.4	282.8	401.6	0.00	0.00	0.00
2,680.0	12.58	48.21	2,637.2	291.3	289.3	410.3	0.00	0.00	0.00
2,720.0	12.58	48.21	2,676.3	297.1	295.8	419.0	0.00	0.00	0.00
2,760.0	12.58	48.21	2,715.3	302.9	302.3	427.7	0.00	0.00	0.00
2,800.0	12.58	48.21	2,754.3	308.7	308.8	436.4	0.00	0.00	0.00
2,840.0	12.58	48.21	2,793.4	314.5	315.3	445.1	0.00	0.00	0.00
2,880.0	12.58	48.21	2,832.4	320.3	321.8	453.8	0.00	0.00	0.00
2,920.0	12.58	48.21	2,871.5	326.1	328.3	462.5	0.00	0.00	0.00
2,960.0	12.58	48.21	2,910.5	331.9	334.8	471.2	0.00	0.00	0.00
3,000.0	12.58	48.21	2,949.5	337.7	341.3	479.9	0.00	0.00	0.00
3,040.0	12.58	48.21	2,988.6	343.5	347.8	488.6	0.00	0.00	0.00
3,080.0	12.58	48.21	3,027.6	349.3	354.3	497.4	0.00	0.00	0.00
3,120.0	12.58	48.21	3,066.7	355.1	360.7	506.1	0.00	0.00	0.00
3,160.0	12.58	48.21	3,105.7	360.9	367.2	514.8	0.00	0.00	0.00
3,200.0	12.58	48.21	3,144.7	366.7	373.7	523.5	0.00	0.00	0.00
3,240.0	12.58	48.21	3,183.8	372.5	380.2	532.2	0.00	0.00	0.00
3,280.0	12.58	48.21	3,222.8	378.3	386.7	540.9	0.00	0.00	0.00
3,320.0	12.58	48.21	3,261.9	384.1	393.2	549.6	0.00	0.00	0.00
3,360.0	12.58	48.21	3,300.9	390.0	399.7	558.3	0.00	0.00	0.00
3,400.0	12.58	48.21	3,339.9	395.8	406.2	567.0	0.00	0.00	0.00
3,440.0	12.58	48.21	3,379.0	401.6	412.7	575.7	0.00	0.00	0.00
3,480.0	12.58	48.21	3,418.0	407.4	419.2	584.4	0.00	0.00	0.00
3,520.0	12.58	48.21	3,457.1	413.2	425.7	593.2	0.00	0.00	0.00
3,560.0	12.58	48.21	3,496.1	419.0	432.2	601.9	0.00	0.00	0.00
3,600.0	12.58	48.21	3,535.1	424.8	438.7	610.6	0.00	0.00	0.00
3,640.0	12.58	48.21	3,574.2	430.6	445.2	619.3	0.00	0.00	0.00
3,680.0	12.58	48.21	3,613.2	436.4	451.7	628.0	0.00	0.00	0.00
3,720.0	12.58	48.21	3,652.3	442.2	458.2	636.7	0.00	0.00	0.00
3,760.0	12.58	48.21	3,691.3	448.0	464.7	645.4	0.00	0.00	0.00
3,800.0	12.58	48.21	3,730.3	453.8	471.2	654.1	0.00	0.00	0.00
3,840.0	12.58	48.21	3,769.4	459.6	477.7	662.8	0.00	0.00	0.00
3,880.0	12.58	48.21	3,808.4	465.4	484.2	671.5	0.00	0.00	0.00
3,920.0	12.58	48.21	3,847.5	471.2	490.6	680.2	0.00	0.00	0.00
3,960.0	12.58	48.21	3,886.5	477.0	497.1	689.0	0.00	0.00	0.00
4,000.0	12.58	48.21	3,925.5	482.8	503.6	697.7	0.00	0.00	0.00
4,040.0	12.58	48.21	3,964.6	488.6	510.1	706.4	0.00	0.00	0.00
4,080.0	12.58	48.21	4,003.6	494.5	516.6	715.1	0.00	0.00	0.00
4,120.0	12.58	48.21	4,042.7	500.3	523.1	723.8	0.00	0.00	0.00

<b>Database:</b>	Landmark	<b>Local Co-ordinate Reference:</b>	Well State Y16-01D
<b>Company:</b>	NOBLE ENERGY INC WELD COUNTY CO	<b>TVD Reference:</b>	WELL @ 4943.0ft (Original Well Elev)
<b>Project:</b>	SEC.16-T2N-R64W	<b>MD Reference:</b>	WELL @ 4943.0ft (Original Well Elev)
<b>Site:</b>	State Y16-18D Pad Sec.16-T2N-R64W	<b>North Reference:</b>	True
<b>Well:</b>	State Y16-01D	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Wellbore #1		
<b>Design:</b>	Noble State Y16-01D Plan #1 (9-29-11)		

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)
4,160.0	12.58	48.21	4,081.7	506.1	529.6	732.5	0.00	0.00	0.00
4,200.0	12.58	48.21	4,120.7	511.9	536.1	741.2	0.00	0.00	0.00
4,240.0	12.58	48.21	4,159.8	517.7	542.6	749.9	0.00	0.00	0.00
4,280.0	12.58	48.21	4,198.8	523.5	549.1	758.6	0.00	0.00	0.00
4,320.0	12.58	48.21	4,237.9	529.3	555.6	767.3	0.00	0.00	0.00
4,360.0	12.58	48.21	4,276.9	535.1	562.1	776.0	0.00	0.00	0.00
4,400.0	12.58	48.21	4,315.9	540.9	568.6	784.8	0.00	0.00	0.00
4,440.0	12.58	48.21	4,355.0	546.7	575.1	793.5	0.00	0.00	0.00
4,480.0	12.58	48.21	4,394.0	552.5	581.6	802.2	0.00	0.00	0.00
4,520.0	12.58	48.21	4,433.1	558.3	588.1	810.9	0.00	0.00	0.00
4,560.0	12.58	48.21	4,472.1	564.1	594.6	819.6	0.00	0.00	0.00
4,600.0	12.58	48.21	4,511.1	569.9	601.1	828.3	0.00	0.00	0.00
4,640.0	12.58	48.21	4,550.2	575.7	607.6	837.0	0.00	0.00	0.00
4,680.0	12.58	48.21	4,589.2	581.5	614.1	845.7	0.00	0.00	0.00
4,720.0	12.58	48.21	4,628.3	587.3	620.6	854.4	0.00	0.00	0.00
4,760.0	12.58	48.21	4,667.3	593.2	627.0	863.1	0.00	0.00	0.00
4,800.0	12.58	48.21	4,706.3	599.0	633.5	871.8	0.00	0.00	0.00
4,840.0	12.58	48.21	4,745.4	604.8	640.0	880.6	0.00	0.00	0.00
4,880.0	12.58	48.21	4,784.4	610.6	646.5	889.3	0.00	0.00	0.00
4,920.0	12.58	48.21	4,823.5	616.4	653.0	898.0	0.00	0.00	0.00
4,960.0	12.58	48.21	4,862.5	622.2	659.5	906.7	0.00	0.00	0.00
5,000.0	12.58	48.21	4,901.5	628.0	666.0	915.4	0.00	0.00	0.00
5,040.0	12.58	48.21	4,940.6	633.8	672.5	924.1	0.00	0.00	0.00
5,076.4	12.58	48.21	4,976.1	639.1	678.4	932.0	0.00	0.00	0.00
5,080.0	12.51	48.21	4,979.6	639.6	679.0	932.8	2.00	-2.00	0.00
5,120.0	11.71	48.21	5,018.7	645.2	685.3	941.2	2.00	-2.00	0.00
5,160.0	10.91	48.21	5,057.9	650.4	691.1	949.0	2.00	-2.00	0.00
5,200.0	10.11	48.21	5,097.3	655.3	696.5	956.3	2.00	-2.00	0.00
5,240.0	9.31	48.21	5,136.7	659.8	701.6	963.1	2.00	-2.00	0.00
5,280.0	8.51	48.21	5,176.2	663.9	706.2	969.3	2.00	-2.00	0.00
5,320.0	7.71	48.21	5,215.8	667.7	710.4	974.9	2.00	-2.00	0.00
5,360.0	6.91	48.21	5,255.5	671.0	714.2	980.0	2.00	-2.00	0.00
5,400.0	6.11	48.21	5,295.2	674.1	717.6	984.5	2.00	-2.00	0.00
5,440.0	5.31	48.21	5,335.0	676.7	720.5	988.5	2.00	-2.00	0.00
5,480.0	4.51	48.21	5,374.9	679.0	723.1	991.9	2.00	-2.00	0.00
5,520.0	3.71	48.21	5,414.8	680.9	725.2	994.8	2.00	-2.00	0.00
5,560.0	2.91	48.21	5,454.7	682.4	726.9	997.1	2.00	-2.00	0.00
5,600.0	2.11	48.21	5,494.7	683.6	728.2	998.8	2.00	-2.00	0.00
5,640.0	1.31	48.21	5,534.7	684.4	729.1	1,000.0	2.00	-2.00	0.00
5,680.0	0.51	48.21	5,574.7	684.8	729.6	1,000.7	2.00	-2.00	0.00
5,705.3	0.00	0.00	5,600.0	684.9	729.7	1,000.8	2.00	-2.00	0.00
TARGET BHL 660'FNL, 660'FEL									
5,720.0	0.00	0.00	5,614.7	684.9	729.7	1,000.8	0.00	0.00	0.00
5,760.0	0.00	0.00	5,654.7	684.9	729.7	1,000.8	0.00	0.00	0.00
5,800.0	0.00	0.00	5,694.7	684.9	729.7	1,000.8	0.00	0.00	0.00
5,840.0	0.00	0.00	5,734.7	684.9	729.7	1,000.8	0.00	0.00	0.00
5,880.0	0.00	0.00	5,774.7	684.9	729.7	1,000.8	0.00	0.00	0.00
5,920.0	0.00	0.00	5,814.7	684.9	729.7	1,000.8	0.00	0.00	0.00
5,960.0	0.00	0.00	5,854.7	684.9	729.7	1,000.8	0.00	0.00	0.00
6,000.0	0.00	0.00	5,894.7	684.9	729.7	1,000.8	0.00	0.00	0.00
6,040.0	0.00	0.00	5,934.7	684.9	729.7	1,000.8	0.00	0.00	0.00
6,080.0	0.00	0.00	5,974.7	684.9	729.7	1,000.8	0.00	0.00	0.00
6,120.0	0.00	0.00	6,014.7	684.9	729.7	1,000.8	0.00	0.00	0.00
6,160.0	0.00	0.00	6,054.7	684.9	729.7	1,000.8	0.00	0.00	0.00

<b>Database:</b>	Landmark	<b>Local Co-ordinate Reference:</b>	Well State Y16-01D
<b>Company:</b>	NOBLE ENERGY INC WELD COUNTY CO	<b>TVD Reference:</b>	WELL @ 4943.0ft (Original Well Elev)
<b>Project:</b>	SEC.16-T2N-R64W	<b>MD Reference:</b>	WELL @ 4943.0ft (Original Well Elev)
<b>Site:</b>	State Y16-18D Pad Sec.16-T2N-R64W	<b>North Reference:</b>	True
<b>Well:</b>	State Y16-01D	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Wellbore #1		
<b>Design:</b>	Noble State Y16-01D Plan #1 (9-29-11)		

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)
6,200.0	0.00	0.00	6,094.7	684.9	729.7	1,000.8	0.00	0.00	0.00
6,240.0	0.00	0.00	6,134.7	684.9	729.7	1,000.8	0.00	0.00	0.00
6,280.0	0.00	0.00	6,174.7	684.9	729.7	1,000.8	0.00	0.00	0.00
6,320.0	0.00	0.00	6,214.7	684.9	729.7	1,000.8	0.00	0.00	0.00
6,360.0	0.00	0.00	6,254.7	684.9	729.7	1,000.8	0.00	0.00	0.00
6,400.0	0.00	0.00	6,294.7	684.9	729.7	1,000.8	0.00	0.00	0.00
6,440.0	0.00	0.00	6,334.7	684.9	729.7	1,000.8	0.00	0.00	0.00
6,480.0	0.00	0.00	6,374.7	684.9	729.7	1,000.8	0.00	0.00	0.00
6,520.0	0.00	0.00	6,414.7	684.9	729.7	1,000.8	0.00	0.00	0.00
6,560.0	0.00	0.00	6,454.7	684.9	729.7	1,000.8	0.00	0.00	0.00
6,600.0	0.00	0.00	6,494.7	684.9	729.7	1,000.8	0.00	0.00	0.00
6,640.0	0.00	0.00	6,534.7	684.9	729.7	1,000.8	0.00	0.00	0.00
6,680.0	0.00	0.00	6,574.7	684.9	729.7	1,000.8	0.00	0.00	0.00
6,720.0	0.00	0.00	6,614.7	684.9	729.7	1,000.8	0.00	0.00	0.00
6,760.0	0.00	0.00	6,654.7	684.9	729.7	1,000.8	0.00	0.00	0.00
6,800.0	0.00	0.00	6,694.7	684.9	729.7	1,000.8	0.00	0.00	0.00
6,840.0	0.00	0.00	6,734.7	684.9	729.7	1,000.8	0.00	0.00	0.00
6,880.0	0.00	0.00	6,774.7	684.9	729.7	1,000.8	0.00	0.00	0.00
6,898.3	0.00	0.00	6,793.0	684.9	729.7	1,000.8	0.00	0.00	0.00
NIOBRARA - TARGET CIRCLE 660'FNL & 660'FEL - LEGAL BOX 400' X 400' 661'FNL & 665'FEL									
6,920.0	0.00	0.00	6,814.7	684.9	729.7	1,000.8	0.00	0.00	0.00
6,960.0	0.00	0.00	6,854.7	684.9	729.7	1,000.8	0.00	0.00	0.00
7,000.0	0.00	0.00	6,894.7	684.9	729.7	1,000.8	0.00	0.00	0.00
7,040.0	0.00	0.00	6,934.7	684.9	729.7	1,000.8	0.00	0.00	0.00
7,080.0	0.00	0.00	6,974.7	684.9	729.7	1,000.8	0.00	0.00	0.00
7,120.0	0.00	0.00	7,014.7	684.9	729.7	1,000.8	0.00	0.00	0.00
7,160.0	0.00	0.00	7,054.7	684.9	729.7	1,000.8	0.00	0.00	0.00
7,200.0	0.00	0.00	7,094.7	684.9	729.7	1,000.8	0.00	0.00	0.00
7,203.3	0.00	0.00	7,098.0	684.9	729.7	1,000.8	0.00	0.00	0.00
CODELL									
7,240.0	0.00	0.00	7,134.7	684.9	729.7	1,000.8	0.00	0.00	0.00
7,280.0	0.00	0.00	7,174.7	684.9	729.7	1,000.8	0.00	0.00	0.00
7,320.0	0.00	0.00	7,214.7	684.9	729.7	1,000.8	0.00	0.00	0.00
7,353.3	0.00	0.00	7,248.0	684.9	729.7	1,000.8	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	5,600.0	684.9	729.7	1,296,698.12	3,265,760.87	40.143920	-104.549350
- plan hits target center									
- Point									
TARGET CIRCLE 660'FEL	0.00	0.00	6,793.0	684.9	729.7	1,296,698.12	3,265,760.87	40.143920	-104.549350
- plan hits target center									
- Circle (radius 75.0)									
LEGAL BOX 400' X 400'	0.00	0.00	6,793.0	683.9	724.7	1,296,697.07	3,265,755.90	40.143917	-104.549368
- plan misses target center by 5.1ft at 6898.3ft MD (6793.0 TVD, 684.9 N, 729.7 E)									
- Rectangle (sides W400.0 H400.0 D455.0)									



<b>Database:</b>	Landmark	<b>Local Co-ordinate Reference:</b>	Well State Y16-01D
<b>Company:</b>	NOBLE ENERGY INC WELD COUNTY CO	<b>TVD Reference:</b>	WELL @ 4943.0ft (Original Well Elev)
<b>Project:</b>	SEC.16-T2N-R64W	<b>MD Reference:</b>	WELL @ 4943.0ft (Original Well Elev)
<b>Site:</b>	State Y16-18D Pad Sec.16-T2N-R64W	<b>North Reference:</b>	True
<b>Well:</b>	State Y16-01D	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Wellbore #1		
<b>Design:</b>	Noble State Y16-01D Plan #1 (9-29-11)		

Casing Points					
	Measured Depth (ft)	Vertical Depth (ft)	Name	Casing Diameter (")	Hole Diameter (")
	801.1	800.0	8 5/8"	8-5/8	12-1/4

Formations					
	Measured Depth (ft)	Vertical Depth (ft)	Name	Lithology	Dip (°) Dip Direction (°)
	6,898.3	6,793.0	NIOBRARA		0.00
	7,203.3	7,098.0	CODELL		0.00