

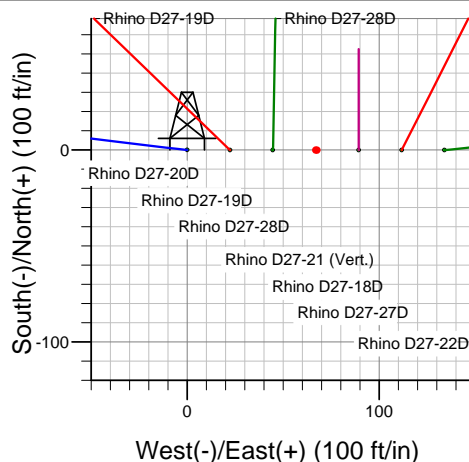
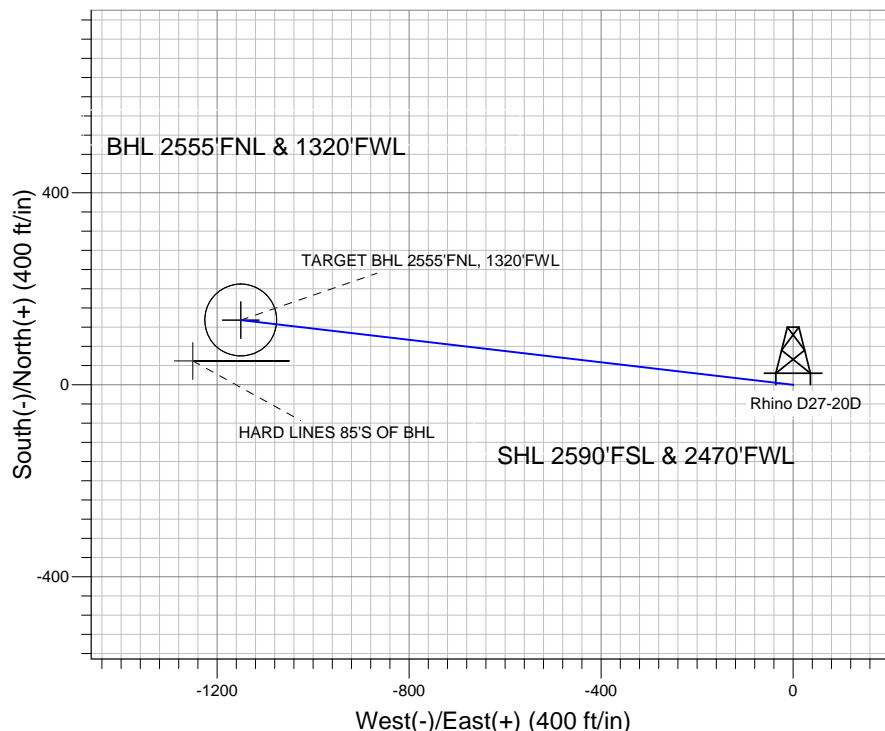
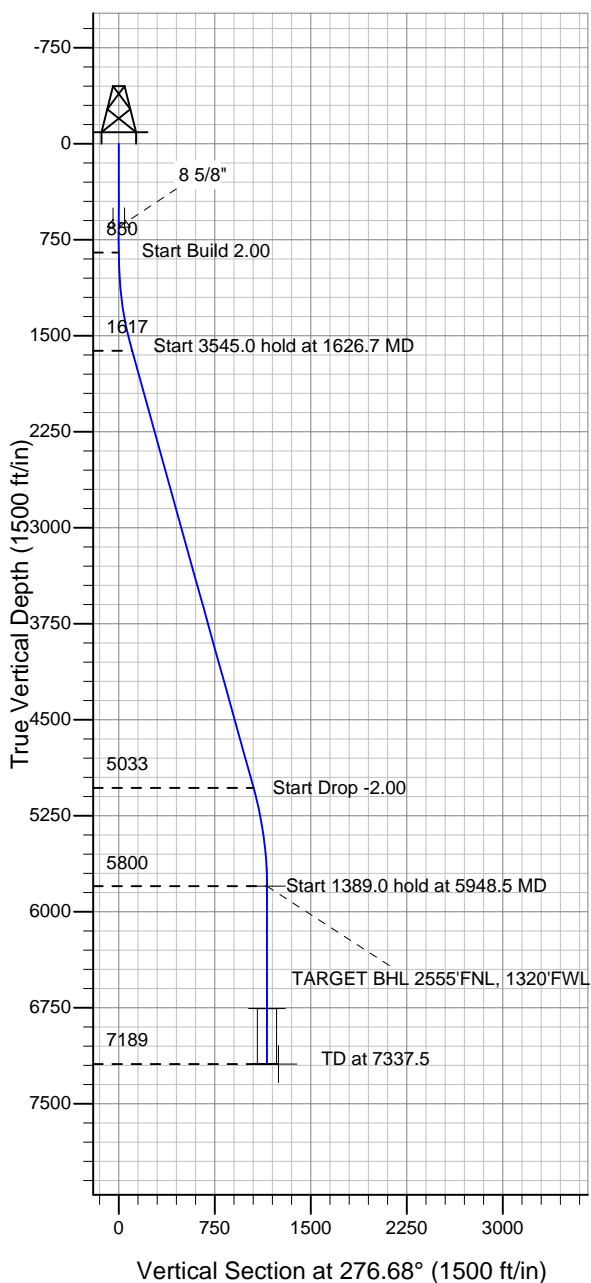
ENSIGN

Directional

Well Name: Rhino D27-20D

Surface Location: Rhino D27-20D Pad Sec.27-T3N-R64W
 North American Datum 1983 US State Plane 1983 Colorado Northern Zone
 Ground Elevation: 4866.0
 +N/-S +E/-W Northing Easting Latitude Longitude Slot
 0.0 0.0 1315786.35 3268687.89 40.196230 -104.538140
 Original Well Elev WELL @ 4879.0ft (Original Well Elev)

NOBLE ENERGY INC WELD COUNTY CO



Rhino D27-20D Pad Sec.27-T3N-R64W
 Rhino D27-20D
 Noble Rhino D27-20D Plan #1 (4-20-11)
 10:05, April 25 2011



Azimuths to True North
 Magnetic North: 8.74°

Magnetic Field
 Strength: 53064.7snT
 Dip Angle: 66.93°
 Date: 4/20/2011
 Model: IGRF2010

WELLBORE TARGET DETAILS (LAT/LONG)

Name	TVD	+N/-S	+E/-W	Latitude	Longitude	Shape
TARGET BHL 2555'FNL, 1320'FWL	5800.0	134.8	-1150.8	40.196600	-104.542260	Point
TARGET CIRCLE 2555'FNL, 1320'FWL	6755.0	134.8	-1150.8	40.196600	-104.542259	Circle (Radius: 75.0)
HARD LINES 85'S OF BHL	7189.0	49.8	-1250.8	40.196367	-104.542617	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	850.0	0.00	0.00	850.0	0.0	0.0	0.00	0.00	0.0	
3	1626.7	15.53	276.68	1617.2	12.2	-103.9	2.00	276.68	104.6	
4	5171.8	15.53	276.68	5032.8	122.7	-1046.9	0.00	0.00	1054.1	
5	5948.5	0.00	0.00	5800.0	134.8	-1150.8	2.00	180.00	1158.7	TARGET BHL 2555'FNL, 1320'FWL
6	7337.5	0.00	0.00	7189.0	134.8	-1150.8	0.00	0.00	1158.7	



Directional

NOBLE ENERGY INC WELD COUNTY CO

SEC.27-T3N-R64W

Rhino D27-20D Pad Sec.27-T3N-R64W

Rhino D27-20D

Wellbore #1

Plan: Noble Rhino D27-20D Plan #1 (4-20-11)

Standard Planning Report

25 April, 2011



Database:	Landmark	Local Co-ordinate Reference:	Well Rhino D27-20D
Company:	NOBLE ENERGY INC WELD COUNTY CO	TVD Reference:	WELL @ 4879.0ft (Original Well Elev)
Project:	SEC.27-T3N-R64W	MD Reference:	WELL @ 4879.0ft (Original Well Elev)
Site:	Rhino D27-20D Pad Sec.27-T3N-R64W	North Reference:	True
Well:	Rhino D27-20D	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Noble Rhino D27-20D Plan #1 (4-20-11)		

Project	SEC.27-T3N-R64W, Weld County, Colorado		
Map System:	US State Plane 1983	System Datum:	Mean Sea Level
Geo Datum:	North American Datum 1983		Using Well Reference Point
Map Zone:	Colorado Northern Zone		Using geodetic scale factor

Site Rhino D27-20D Pad Sec.27-T3N-R64W					
Site Position:		Northing:	1,315,786.36ft	Latitude:	40.196230
From:	Lat/Long	Easting:	3,268,687.89ft	Longitude:	-104.538140
Position Uncertainty:	0.0 ft	Slot Radius:	"	Grid Convergence:	0.62 °

Well	Rhino D27-20D					
Well Position	+N-S	0.0 ft	Northing:	1,315,786.35 ft	Latitude:	40.196230
	+E-W	0.0 ft	Easting:	3,268,687.89 ft	Longitude:	-104.538140
Position Uncertainty		0.0 ft	Wellhead Elevation:	ft	Ground Level:	4,866.0 ft

Wellbore	Wellbore #1				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2010	4/20/2011	8.75	66.93	53,065

Design	Noble Rhino D27-20D Plan #1 (4-20-11)			
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	276.68

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	
850.0	0.00	0.00	850.0	0.0	0.0	0.00	0.00	0.00	0.00	
1,626.7	15.53	276.68	1,617.2	12.2	-103.9	2.00	2.00	0.00	276.68	
5,171.8	15.53	276.68	5,032.8	122.7	-1,046.9	0.00	0.00	0.00	0.00	
5,948.5	0.00	0.00	5,800.0	134.8	-1,150.8	2.00	-2.00	0.00	180.00	TARGET BHL 2555
7,337.5	0.00	0.00	7,189.0	134.8	-1,150.8	0.00	0.00	0.00	0.00	

Database:	Landmark	Local Co-ordinate Reference:	Well Rhino D27-20D
Company:	NOBLE ENERGY INC WELD COUNTY CO	TVD Reference:	WELL @ 4879.0ft (Original Well Elev)
Project:	SEC.27-T3N-R64W	MD Reference:	WELL @ 4879.0ft (Original Well Elev)
Site:	Rhino D27-20D Pad Sec.27-T3N-R64W	North Reference:	True
Well:	Rhino D27-20D	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Noble Rhino D27-20D Plan #1 (4-20-11)		

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
650.0	0.00	0.00	650.0	0.0	0.0	0.0	0.00	0.00	0.00
8 5/8"									
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
840.0	0.00	0.00	840.0	0.0	0.0	0.0	0.00	0.00	0.00
850.0	0.00	0.00	850.0	0.0	0.0	0.0	0.00	0.00	0.00
880.0	0.60	276.68	880.0	0.0	-0.2	0.2	2.00	2.00	0.00
920.0	1.40	276.68	920.0	0.1	-0.8	0.9	2.00	2.00	0.00
960.0	2.20	276.68	960.0	0.2	-2.1	2.1	2.00	2.00	0.00
1,000.0	3.00	276.68	999.9	0.5	-3.9	3.9	2.00	2.00	0.00
1,040.0	3.80	276.68	1,039.9	0.7	-6.3	6.3	2.00	2.00	0.00
1,080.0	4.60	276.68	1,079.8	1.1	-9.2	9.2	2.00	2.00	0.00
1,120.0	5.40	276.68	1,119.6	1.5	-12.6	12.7	2.00	2.00	0.00
1,160.0	6.20	276.68	1,159.4	1.9	-16.6	16.8	2.00	2.00	0.00
1,200.0	7.00	276.68	1,199.1	2.5	-21.2	21.4	2.00	2.00	0.00
1,240.0	7.80	276.68	1,238.8	3.1	-26.3	26.5	2.00	2.00	0.00
1,280.0	8.60	276.68	1,278.4	3.7	-32.0	32.2	2.00	2.00	0.00
1,320.0	9.40	276.68	1,317.9	4.5	-38.2	38.5	2.00	2.00	0.00
1,360.0	10.20	276.68	1,357.3	5.3	-45.0	45.3	2.00	2.00	0.00
1,400.0	11.00	276.68	1,396.6	6.1	-52.3	52.6	2.00	2.00	0.00
1,440.0	11.80	276.68	1,435.8	7.0	-60.1	60.5	2.00	2.00	0.00
1,480.0	12.60	276.68	1,474.9	8.0	-68.5	69.0	2.00	2.00	0.00
1,520.0	13.40	276.68	1,513.9	9.1	-77.5	78.0	2.00	2.00	0.00
1,560.0	14.20	276.68	1,552.8	10.2	-86.9	87.5	2.00	2.00	0.00
1,600.0	15.00	276.68	1,591.5	11.4	-97.0	97.6	2.00	2.00	0.00
1,626.7	15.53	276.68	1,617.2	12.2	-103.9	104.6	2.00	2.00	0.00
1,640.0	15.53	276.68	1,630.0	12.6	-107.5	108.2	0.00	0.00	0.00
1,680.0	15.53	276.68	1,668.6	13.8	-118.1	118.9	0.00	0.00	0.00
1,720.0	15.53	276.68	1,707.1	15.1	-128.8	129.6	0.00	0.00	0.00
1,760.0	15.53	276.68	1,745.7	16.3	-139.4	140.3	0.00	0.00	0.00
1,800.0	15.53	276.68	1,784.2	17.6	-150.0	151.1	0.00	0.00	0.00
1,840.0	15.53	276.68	1,822.7	18.8	-160.7	161.8	0.00	0.00	0.00
1,880.0	15.53	276.68	1,861.3	20.1	-171.3	172.5	0.00	0.00	0.00
1,920.0	15.53	276.68	1,899.8	21.3	-182.0	183.2	0.00	0.00	0.00
1,960.0	15.53	276.68	1,938.3	22.6	-192.6	193.9	0.00	0.00	0.00

Database:	Landmark	Local Co-ordinate Reference:	Well Rhino D27-20D
Company:	NOBLE ENERGY INC WELD COUNTY CO	TVD Reference:	WELL @ 4879.0ft (Original Well Elev)
Project:	SEC.27-T3N-R64W	MD Reference:	WELL @ 4879.0ft (Original Well Elev)
Site:	Rhino D27-20D Pad Sec.27-T3N-R64W	North Reference:	True
Well:	Rhino D27-20D	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Noble Rhino D27-20D Plan #1 (4-20-11)		

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	15.53	276.68	1,976.9	23.8	-203.2	204.6	0.00	0.00	0.00
2,040.0	15.53	276.68	2,015.4	25.1	-213.9	215.3	0.00	0.00	0.00
2,080.0	15.53	276.68	2,054.0	26.3	-224.5	226.0	0.00	0.00	0.00
2,120.0	15.53	276.68	2,092.5	27.5	-235.1	236.8	0.00	0.00	0.00
2,160.0	15.53	276.68	2,131.0	28.8	-245.8	247.5	0.00	0.00	0.00
2,200.0	15.53	276.68	2,169.6	30.0	-256.4	258.2	0.00	0.00	0.00
2,240.0	15.53	276.68	2,208.1	31.3	-267.1	268.9	0.00	0.00	0.00
2,280.0	15.53	276.68	2,246.7	32.5	-277.7	279.6	0.00	0.00	0.00
2,320.0	15.53	276.68	2,285.2	33.8	-288.3	290.3	0.00	0.00	0.00
2,360.0	15.53	276.68	2,323.7	35.0	-299.0	301.0	0.00	0.00	0.00
2,400.0	15.53	276.68	2,362.3	36.3	-309.6	311.7	0.00	0.00	0.00
2,440.0	15.53	276.68	2,400.8	37.5	-320.3	322.5	0.00	0.00	0.00
2,480.0	15.53	276.68	2,439.3	38.8	-330.9	333.2	0.00	0.00	0.00
2,520.0	15.53	276.68	2,477.9	40.0	-341.5	343.9	0.00	0.00	0.00
2,560.0	15.53	276.68	2,516.4	41.3	-352.2	354.6	0.00	0.00	0.00
2,600.0	15.53	276.68	2,555.0	42.5	-362.8	365.3	0.00	0.00	0.00
2,640.0	15.53	276.68	2,593.5	43.8	-373.5	376.0	0.00	0.00	0.00
2,680.0	15.53	276.68	2,632.0	45.0	-384.1	386.7	0.00	0.00	0.00
2,720.0	15.53	276.68	2,670.6	46.2	-394.7	397.4	0.00	0.00	0.00
2,760.0	15.53	276.68	2,709.1	47.5	-405.4	408.2	0.00	0.00	0.00
2,800.0	15.53	276.68	2,747.7	48.7	-416.0	418.9	0.00	0.00	0.00
2,840.0	15.53	276.68	2,786.2	50.0	-426.7	429.6	0.00	0.00	0.00
2,880.0	15.53	276.68	2,824.7	51.2	-437.3	440.3	0.00	0.00	0.00
2,920.0	15.53	276.68	2,863.3	52.5	-447.9	451.0	0.00	0.00	0.00
2,960.0	15.53	276.68	2,901.8	53.7	-458.6	461.7	0.00	0.00	0.00
3,000.0	15.53	276.68	2,940.4	55.0	-469.2	472.4	0.00	0.00	0.00
3,040.0	15.53	276.68	2,978.9	56.2	-479.9	483.1	0.00	0.00	0.00
3,080.0	15.53	276.68	3,017.4	57.5	-490.5	493.9	0.00	0.00	0.00
3,120.0	15.53	276.68	3,056.0	58.7	-501.1	504.6	0.00	0.00	0.00
3,160.0	15.53	276.68	3,094.5	60.0	-511.8	515.3	0.00	0.00	0.00
3,200.0	15.53	276.68	3,133.0	61.2	-522.4	526.0	0.00	0.00	0.00
3,240.0	15.53	276.68	3,171.6	62.5	-533.1	536.7	0.00	0.00	0.00
3,280.0	15.53	276.68	3,210.1	63.7	-543.7	547.4	0.00	0.00	0.00
3,320.0	15.53	276.68	3,248.7	64.9	-554.3	558.1	0.00	0.00	0.00
3,360.0	15.53	276.68	3,287.2	66.2	-565.0	568.8	0.00	0.00	0.00
3,400.0	15.53	276.68	3,325.7	67.4	-575.6	579.6	0.00	0.00	0.00
3,440.0	15.53	276.68	3,364.3	68.7	-586.3	590.3	0.00	0.00	0.00
3,480.0	15.53	276.68	3,402.8	69.9	-596.9	601.0	0.00	0.00	0.00
3,520.0	15.53	276.68	3,441.4	71.2	-607.5	611.7	0.00	0.00	0.00
3,560.0	15.53	276.68	3,479.9	72.4	-618.2	622.4	0.00	0.00	0.00
3,600.0	15.53	276.68	3,518.4	73.7	-628.8	633.1	0.00	0.00	0.00
3,640.0	15.53	276.68	3,557.0	74.9	-639.5	643.8	0.00	0.00	0.00
3,680.0	15.53	276.68	3,595.5	76.2	-650.1	654.5	0.00	0.00	0.00
3,720.0	15.53	276.68	3,634.1	77.4	-660.7	665.3	0.00	0.00	0.00
3,760.0	15.53	276.68	3,672.6	78.7	-671.4	676.0	0.00	0.00	0.00
3,800.0	15.53	276.68	3,711.1	79.9	-682.0	686.7	0.00	0.00	0.00
3,840.0	15.53	276.68	3,749.7	81.2	-692.7	697.4	0.00	0.00	0.00
3,880.0	15.53	276.68	3,788.2	82.4	-703.3	708.1	0.00	0.00	0.00
3,920.0	15.53	276.68	3,826.7	83.6	-713.9	718.8	0.00	0.00	0.00
3,960.0	15.53	276.68	3,865.3	84.9	-724.6	729.5	0.00	0.00	0.00
4,000.0	15.53	276.68	3,903.8	86.1	-735.2	740.2	0.00	0.00	0.00
4,040.0	15.53	276.68	3,942.4	87.4	-745.9	751.0	0.00	0.00	0.00
4,080.0	15.53	276.68	3,980.9	88.6	-756.5	761.7	0.00	0.00	0.00
4,120.0	15.53	276.68	4,019.4	89.9	-767.1	772.4	0.00	0.00	0.00

Database:	Landmark	Local Co-ordinate Reference:	Well Rhino D27-20D
Company:	NOBLE ENERGY INC WELD COUNTY CO	TVD Reference:	WELL @ 4879.0ft (Original Well Elev)
Project:	SEC.27-T3N-R64W	MD Reference:	WELL @ 4879.0ft (Original Well Elev)
Site:	Rhino D27-20D Pad Sec.27-T3N-R64W	North Reference:	True
Well:	Rhino D27-20D	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Noble Rhino D27-20D Plan #1 (4-20-11)		

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	15.53	276.68	4,058.0	91.1	-777.8	783.1	0.00	0.00	0.00
4,200.0	15.53	276.68	4,096.5	92.4	-788.4	793.8	0.00	0.00	0.00
4,240.0	15.53	276.68	4,135.1	93.6	-799.1	804.5	0.00	0.00	0.00
4,280.0	15.53	276.68	4,173.6	94.9	-809.7	815.2	0.00	0.00	0.00
4,320.0	15.53	276.68	4,212.1	96.1	-820.3	825.9	0.00	0.00	0.00
4,360.0	15.53	276.68	4,250.7	97.4	-831.0	836.7	0.00	0.00	0.00
4,400.0	15.53	276.68	4,289.2	98.6	-841.6	847.4	0.00	0.00	0.00
4,440.0	15.53	276.68	4,327.8	99.8	-852.2	858.1	0.00	0.00	0.00
4,480.0	15.53	276.68	4,366.3	101.1	-862.9	868.8	0.00	0.00	0.00
4,520.0	15.53	276.68	4,404.8	102.3	-873.5	879.5	0.00	0.00	0.00
4,560.0	15.53	276.68	4,443.4	103.6	-884.2	890.2	0.00	0.00	0.00
4,600.0	15.53	276.68	4,481.9	104.8	-894.8	900.9	0.00	0.00	0.00
4,640.0	15.53	276.68	4,520.4	106.1	-905.4	911.6	0.00	0.00	0.00
4,680.0	15.53	276.68	4,559.0	107.3	-916.1	922.4	0.00	0.00	0.00
4,720.0	15.53	276.68	4,597.5	108.6	-926.7	933.1	0.00	0.00	0.00
4,760.0	15.53	276.68	4,636.1	109.8	-937.4	943.8	0.00	0.00	0.00
4,800.0	15.53	276.68	4,674.6	111.1	-948.0	954.5	0.00	0.00	0.00
4,840.0	15.53	276.68	4,713.1	112.3	-958.6	965.2	0.00	0.00	0.00
4,880.0	15.53	276.68	4,751.7	113.6	-969.3	975.9	0.00	0.00	0.00
4,920.0	15.53	276.68	4,790.2	114.8	-979.9	986.6	0.00	0.00	0.00
4,960.0	15.53	276.68	4,828.8	116.1	-990.6	997.3	0.00	0.00	0.00
5,000.0	15.53	276.68	4,867.3	117.3	-1,001.2	1,008.1	0.00	0.00	0.00
5,040.0	15.53	276.68	4,905.8	118.5	-1,011.8	1,018.8	0.00	0.00	0.00
5,080.0	15.53	276.68	4,944.4	119.8	-1,022.5	1,029.5	0.00	0.00	0.00
5,120.0	15.53	276.68	4,982.9	121.0	-1,033.1	1,040.2	0.00	0.00	0.00
5,160.0	15.53	276.68	5,021.5	122.3	-1,043.8	1,050.9	0.00	0.00	0.00
5,171.8	15.53	276.68	5,032.8	122.7	-1,046.9	1,054.1	0.00	0.00	0.00
5,200.0	14.97	276.68	5,060.0	123.5	-1,054.3	1,061.5	2.00	-2.00	0.00
5,240.0	14.17	276.68	5,098.7	124.7	-1,064.3	1,071.5	2.00	-2.00	0.00
5,280.0	13.37	276.68	5,137.6	125.8	-1,073.7	1,081.1	2.00	-2.00	0.00
5,320.0	12.57	276.68	5,176.6	126.8	-1,082.6	1,090.0	2.00	-2.00	0.00
5,360.0	11.77	276.68	5,215.7	127.8	-1,091.0	1,098.5	2.00	-2.00	0.00
5,400.0	10.97	276.68	5,254.9	128.7	-1,098.8	1,106.4	2.00	-2.00	0.00
5,440.0	10.17	276.68	5,294.2	129.6	-1,106.1	1,113.7	2.00	-2.00	0.00
5,480.0	9.37	276.68	5,333.6	130.4	-1,112.9	1,120.5	2.00	-2.00	0.00
5,520.0	8.57	276.68	5,373.1	131.1	-1,119.1	1,126.7	2.00	-2.00	0.00
5,560.0	7.77	276.68	5,412.7	131.8	-1,124.7	1,132.4	2.00	-2.00	0.00
5,600.0	6.97	276.68	5,452.4	132.4	-1,129.8	1,137.5	2.00	-2.00	0.00
5,640.0	6.17	276.68	5,492.1	132.9	-1,134.3	1,142.1	2.00	-2.00	0.00
5,680.0	5.37	276.68	5,531.9	133.4	-1,138.3	1,146.1	2.00	-2.00	0.00
5,720.0	4.57	276.68	5,571.8	133.8	-1,141.8	1,149.6	2.00	-2.00	0.00
5,760.0	3.77	276.68	5,611.7	134.1	-1,144.7	1,152.5	2.00	-2.00	0.00
5,800.0	2.97	276.68	5,651.6	134.4	-1,147.0	1,154.9	2.00	-2.00	0.00
5,840.0	2.17	276.68	5,691.6	134.6	-1,148.8	1,156.6	2.00	-2.00	0.00
5,880.0	1.37	276.68	5,731.5	134.7	-1,150.0	1,157.9	2.00	-2.00	0.00
5,920.0	0.57	276.68	5,771.5	134.8	-1,150.7	1,158.6	2.00	-2.00	0.00
5,948.5	0.00	0.00	5,800.0	134.8	-1,150.8	1,158.7	2.00	-2.00	0.00
TARGET BHL 2555'FNL, 1320'FWL									
5,960.0	0.00	0.00	5,811.5	134.8	-1,150.8	1,158.7	0.00	0.00	0.00
6,000.0	0.00	0.00	5,851.5	134.8	-1,150.8	1,158.7	0.00	0.00	0.00
6,040.0	0.00	0.00	5,891.5	134.8	-1,150.8	1,158.7	0.00	0.00	0.00
6,080.0	0.00	0.00	5,931.5	134.8	-1,150.8	1,158.7	0.00	0.00	0.00
6,120.0	0.00	0.00	5,971.5	134.8	-1,150.8	1,158.7	0.00	0.00	0.00
6,160.0	0.00	0.00	6,011.5	134.8	-1,150.8	1,158.7	0.00	0.00	0.00

Database:	Landmark	Local Co-ordinate Reference:	Well Rhino D27-20D
Company:	NOBLE ENERGY INC WELD COUNTY CO	TVD Reference:	WELL @ 4879.0ft (Original Well Elev)
Project:	SEC.27-T3N-R64W	MD Reference:	WELL @ 4879.0ft (Original Well Elev)
Site:	Rhino D27-20D Pad Sec.27-T3N-R64W	North Reference:	True
Well:	Rhino D27-20D	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Noble Rhino D27-20D Plan #1 (4-20-11)		

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	6,051.5	134.8	-1,150.8	1,158.7	0.00	0.00	0.00
6,240.0	0.00	0.00	6,091.5	134.8	-1,150.8	1,158.7	0.00	0.00	0.00
6,280.0	0.00	0.00	6,131.5	134.8	-1,150.8	1,158.7	0.00	0.00	0.00
6,320.0	0.00	0.00	6,171.5	134.8	-1,150.8	1,158.7	0.00	0.00	0.00
6,360.0	0.00	0.00	6,211.5	134.8	-1,150.8	1,158.7	0.00	0.00	0.00
6,400.0	0.00	0.00	6,251.5	134.8	-1,150.8	1,158.7	0.00	0.00	0.00
6,440.0	0.00	0.00	6,291.5	134.8	-1,150.8	1,158.7	0.00	0.00	0.00
6,480.0	0.00	0.00	6,331.5	134.8	-1,150.8	1,158.7	0.00	0.00	0.00
6,520.0	0.00	0.00	6,371.5	134.8	-1,150.8	1,158.7	0.00	0.00	0.00
6,560.0	0.00	0.00	6,411.5	134.8	-1,150.8	1,158.7	0.00	0.00	0.00
6,600.0	0.00	0.00	6,451.5	134.8	-1,150.8	1,158.7	0.00	0.00	0.00
6,640.0	0.00	0.00	6,491.5	134.8	-1,150.8	1,158.7	0.00	0.00	0.00
6,680.0	0.00	0.00	6,531.5	134.8	-1,150.8	1,158.7	0.00	0.00	0.00
6,720.0	0.00	0.00	6,571.5	134.8	-1,150.8	1,158.7	0.00	0.00	0.00
6,760.0	0.00	0.00	6,611.5	134.8	-1,150.8	1,158.7	0.00	0.00	0.00
6,800.0	0.00	0.00	6,651.5	134.8	-1,150.8	1,158.7	0.00	0.00	0.00
6,840.0	0.00	0.00	6,691.5	134.8	-1,150.8	1,158.7	0.00	0.00	0.00
6,880.0	0.00	0.00	6,731.5	134.8	-1,150.8	1,158.7	0.00	0.00	0.00
6,903.5	0.00	0.00	6,755.0	134.8	-1,150.8	1,158.7	0.00	0.00	0.00
NIOBRARA - TARGET CIRCLE 2555'FNL, 1320'FWL									
6,920.0	0.00	0.00	6,771.5	134.8	-1,150.8	1,158.7	0.00	0.00	0.00
6,960.0	0.00	0.00	6,811.5	134.8	-1,150.8	1,158.7	0.00	0.00	0.00
7,000.0	0.00	0.00	6,851.5	134.8	-1,150.8	1,158.7	0.00	0.00	0.00
7,040.0	0.00	0.00	6,891.5	134.8	-1,150.8	1,158.7	0.00	0.00	0.00
7,080.0	0.00	0.00	6,931.5	134.8	-1,150.8	1,158.7	0.00	0.00	0.00
7,120.0	0.00	0.00	6,971.5	134.8	-1,150.8	1,158.7	0.00	0.00	0.00
7,160.0	0.00	0.00	7,011.5	134.8	-1,150.8	1,158.7	0.00	0.00	0.00
7,187.5	0.00	0.00	7,039.0	134.8	-1,150.8	1,158.7	0.00	0.00	0.00
CODELL									
7,200.0	0.00	0.00	7,051.5	134.8	-1,150.8	1,158.7	0.00	0.00	0.00
7,240.0	0.00	0.00	7,091.5	134.8	-1,150.8	1,158.7	0.00	0.00	0.00
7,280.0	0.00	0.00	7,131.5	134.8	-1,150.8	1,158.7	0.00	0.00	0.00
7,320.0	0.00	0.00	7,171.5	134.8	-1,150.8	1,158.7	0.00	0.00	0.00
7,337.5	0.00	0.00	7,189.0	134.8	-1,150.8	1,158.7	0.00	0.00	0.00
HARD LINES 85'S OF BHL									

Database:	Landmark	Local Co-ordinate Reference:	Well Rhino D27-20D
Company:	NOBLE ENERGY INC WELD COUNTY CO	TVD Reference:	WELL @ 4879.0ft (Original Well Elev)
Project:	SEC.27-T3N-R64W	MD Reference:	WELL @ 4879.0ft (Original Well Elev)
Site:	Rhino D27-20D Pad Sec.27-T3N-R64W	North Reference:	True
Well:	Rhino D27-20D	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Noble Rhino D27-20D Plan #1 (4-20-11)		

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 2555'F	0.00	0.00	5,800.0	134.8	-1,150.8	1,315,908.68	3,267,535.72	40.196600	-104.542260
- plan hits target center									
- Point									
HARD LINES 85'S OF	0.00	0.00	7,189.0	49.8	-1,250.8	1,315,822.58	3,267,436.68	40.196367	-104.542617
- plan misses target center by 131.2ft at 7337.5ft MD (7189.0 TVD, 134.8 N, -1150.8 E)									
- Polygon									
Point 1			7,189.0	0.0	0.0	1,315,822.58	3,267,436.68		
Point 2			7,189.0	0.0	200.0	1,315,824.75	3,267,636.66		
TARGET CIRCLE 25'	0.00	0.00	6,755.0	134.8	-1,150.8	1,315,908.68	3,267,535.75	40.196600	-104.542259
- plan hits target center									
- Circle (radius 75.0)									

Casing Points					
Measured Depth (ft)	Vertical Depth (ft)	Name	Casing Diameter (")	Hole Diameter (")	
650.0	650.0	8 5/8"	8-5/8	12-1/4	

Formations					
Measured Depth (ft)	Vertical Depth (ft)	Name	Lithology	Dip (°)	Dip Direction (°)
6,903.5	6,755.0	NIOBRARA		0.00	
7,187.5	7,039.0	CODELL		0.00	