

ENSIGN

Directional

Well Name: Burman C05-24D

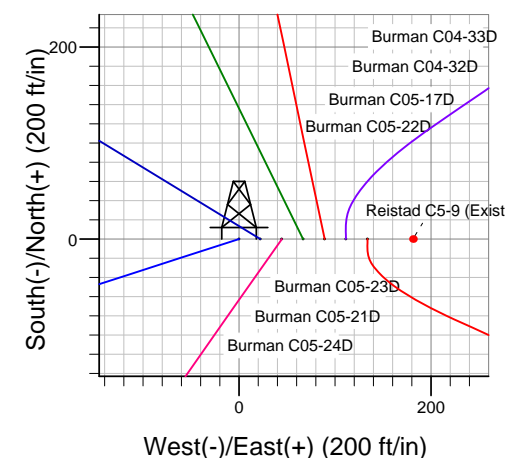
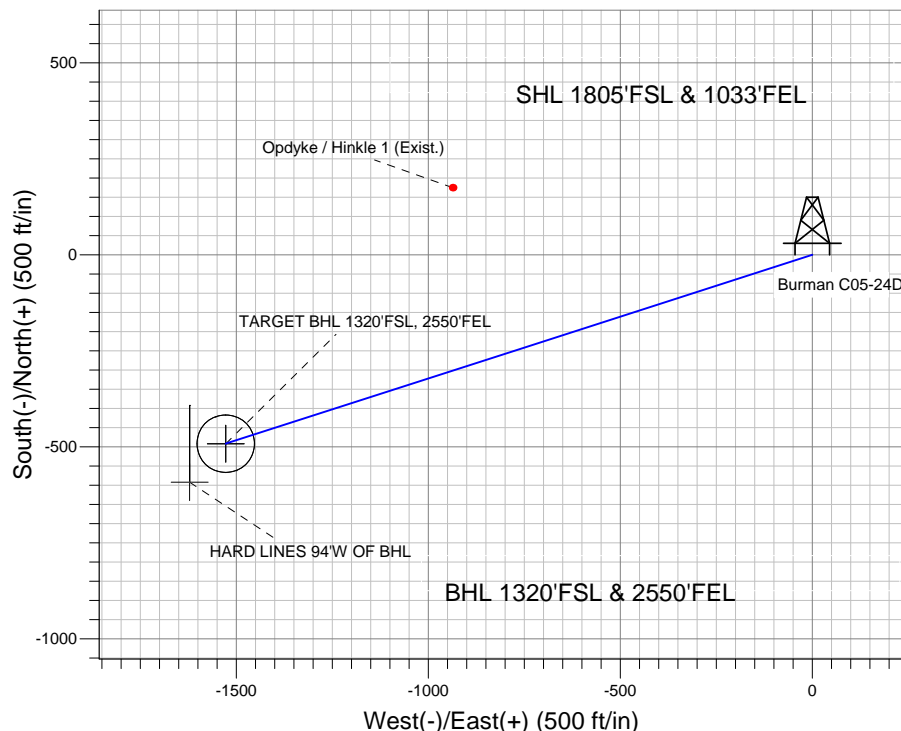
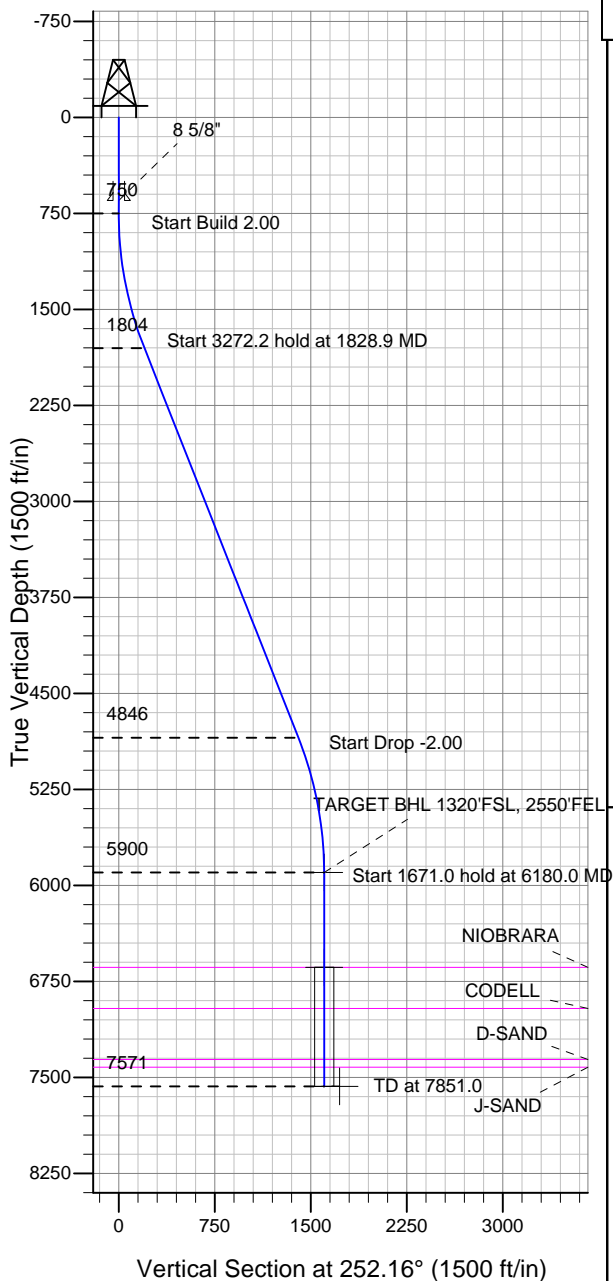
Surface Location: Burman C04-33D Pad Sec.5-T4N-R64W
 North American Datum 1983 US State Plane 1983 Colorado Northern Zone

Ground Elevation: 4748.0

+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Slot
0.0	0.0	1367738.48	3259643.95	40.339100	-104.568560	

Original Well Elev WELL @ 4761.0ft (Original Well Elev)

NOBLE ENERGY INC WELD COUNTY CO



Burman C04-33D Pad Sec.5-T4N-R64W
 Burman C05-24D
 Noble Burman C05-24D Plan #1 (6-15-11)
 8:45, June 23 2011



Azimuths to True North
 Magnetic North: 8.75°

Magnetic Field
 Strength: 53119.0nT
 Dip Angle: 67.03°
 Date: 6/23/2011
 Model: IGRF2010

WELLBORE TARGET DETAILS (LAT/LONG)

Name	TVD	+N/-S	+E/-W	Latitude	Longitude	Shape
TARGET BHL 1320'FSL, 2550'FEL	5900.0	-491.7	-1527.7	40.337750	-104.574040	Point
TARGET CIRCLE 1320'FSL & 2550'FEL	6641.0	-491.7	-1527.7	40.337750	-104.574040	Circle (Radius: 75.0)
HARD LINES 94°W OF BHL	7571.0	-591.7	-1621.7	40.337476	-104.574377	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	750.0	0.00	0.00	750.0	0.0	0.0	0.00	0.00	0.0	
3	1828.9	21.58	252.16	1803.5	-61.5	-191.1	2.00	252.16	200.8	
4	5101.1	21.58	252.16	4846.5	-430.2	-1336.6	0.00	0.00	1404.1	
5	6180.0	0.00	0.00	5900.0	-491.7	-1527.7	2.00	180.00	1604.9	TARGET BHL 1320'FSL, 2550'FEL
6	7851.0	0.00	0.00	7571.0	-491.7	-1527.7	0.00	0.00	1604.9	



Directional

NOBLE ENERGY INC WELD COUNTY CO

SEC.5-T4N-R64W

Burman C04-33D Pad Sec.5-T4N-R64W

Burman C05-24D

Wellbore #1

Plan: Noble Burman C05-24D Plan #1 (6-15-11)

Standard Planning Report

23 June, 2011



Database:	Landmark	Local Co-ordinate Reference:	Well Burman C05-24D
Company:	NOBLE ENERGY INC WELD COUNTY CO	TVD Reference:	WELL @ 4761.0ft (Original Well Elev)
Project:	SEC.5-T4N-R64W	MD Reference:	WELL @ 4761.0ft (Original Well Elev)
Site:	Burman C04-33D Pad Sec.5-T4N-R64W	North Reference:	True
Well:	Burman C05-24D	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Noble Burman C05-24D Plan #1 (6-15-11)		

Project	SEC.5-T4N-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						Burman C04-33D Pad Sec.5-T4N-R64W											
Site Position:						Northing:			1,367,739.92 ft			Latitude:			40.339100		
From:			Lat/Long			Easting:			3,259,777.75 ft			Longitude:			-104.568080		
Position Uncertainty:			0.0 ft			Slot Radius:			"			Grid Convergence:			0.60 °		

Well	Burman C05-24D					
Well Position	+N/-S	0.0 ft	Northing:	1,367,738.48 ft	Latitude:	40.339100
	+E/-W	-133.8 ft	Easting:	3,259,643.95 ft	Longitude:	-104.568560
Position Uncertainty		0.0 ft	Wellhead Elevation:	ft	Ground Level:	4,748.0 ft

Wellbore	Wellbore #1				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2010	6/23/2011	8.75	67.03	53,119

Design	Noble Burman C05-24D Plan #1 (6-15-11)			
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	252.16

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	
750.0	0.00	0.00	750.0	0.0	0.0	0.00	0.00	0.00	0.00	
1,828.9	21.58	252.16	1,803.5	-61.5	-191.1	2.00	2.00	0.00	252.16	
5,101.1	21.58	252.16	4,846.5	-430.2	-1,336.6	0.00	0.00	0.00	0.00	
6,180.0	0.00	0.00	5,900.0	-491.7	-1,527.7	2.00	-2.00	0.00	180.00	TARGET BHL 132C
7,851.0	0.00	0.00	7,571.0	-491.7	-1,527.7	0.00	0.00	0.00	0.00	

Database:	Landmark	Local Co-ordinate Reference:	Well Burman C05-24D
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Project:	SEC.5-T4N-R64W	MD Reference:	WELL @ 4761.0ft (Original Well Elev)
Site:	Burman C04-33D Pad Sec.5-T4N-R64W	North Reference:	True
Well:	Burman C05-24D	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Noble Burman C05-24D Plan #1 (6-15-11)		

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
750.0	0.00	0.00	750.0	0.0	0.0	0.0	0.00	0.00	0.00
760.0	0.20	252.16	760.0	0.0	0.0	0.0	2.00	2.00	0.00
800.0	1.00	252.16	800.0	-0.1	-0.4	0.4	2.00	2.00	0.00
840.0	1.80	252.16	840.0	-0.4	-1.3	1.4	2.00	2.00	0.00
880.0	2.60	252.16	880.0	-0.9	-2.8	2.9	2.00	2.00	0.00
920.0	3.40	252.16	919.9	-1.5	-4.8	5.0	2.00	2.00	0.00
960.0	4.20	252.16	959.8	-2.4	-7.3	7.7	2.00	2.00	0.00
1,000.0	5.00	252.16	999.7	-3.3	-10.4	10.9	2.00	2.00	0.00
1,040.0	5.80	252.16	1,039.5	-4.5	-14.0	14.7	2.00	2.00	0.00
1,080.0	6.60	252.16	1,079.3	-5.8	-18.1	19.0	2.00	2.00	0.00
1,120.0	7.40	252.16	1,119.0	-7.3	-22.7	23.9	2.00	2.00	0.00
1,160.0	8.20	252.16	1,158.6	-9.0	-27.9	29.3	2.00	2.00	0.00
1,200.0	9.00	252.16	1,198.2	-10.8	-33.6	35.3	2.00	2.00	0.00
1,240.0	9.80	252.16	1,237.6	-12.8	-39.8	41.8	2.00	2.00	0.00
1,280.0	10.60	252.16	1,277.0	-15.0	-46.5	48.9	2.00	2.00	0.00
1,320.0	11.40	252.16	1,316.2	-17.3	-53.8	56.5	2.00	2.00	0.00
1,360.0	12.20	252.16	1,355.4	-19.8	-61.6	64.7	2.00	2.00	0.00
1,400.0	13.00	252.16	1,394.4	-22.5	-69.9	73.4	2.00	2.00	0.00
1,440.0	13.80	252.16	1,433.3	-25.3	-78.7	82.7	2.00	2.00	0.00
1,480.0	14.60	252.16	1,472.1	-28.3	-88.1	92.5	2.00	2.00	0.00
1,520.0	15.40	252.16	1,510.8	-31.5	-97.9	102.9	2.00	2.00	0.00
1,560.0	16.20	252.16	1,549.3	-34.9	-108.3	113.7	2.00	2.00	0.00
1,600.0	17.00	252.16	1,587.6	-38.4	-119.2	125.2	2.00	2.00	0.00
1,640.0	17.80	252.16	1,625.8	-42.0	-130.5	137.1	2.00	2.00	0.00
1,680.0	18.60	252.16	1,663.8	-45.8	-142.4	149.6	2.00	2.00	0.00
1,720.0	19.40	252.16	1,701.6	-49.8	-154.8	162.7	2.00	2.00	0.00
1,760.0	20.20	252.16	1,739.2	-54.0	-167.7	176.2	2.00	2.00	0.00
1,800.0	21.00	252.16	1,776.6	-58.3	-181.1	190.3	2.00	2.00	0.00
1,828.9	21.58	252.16	1,803.5	-61.5	-191.1	200.8	2.00	2.00	0.00
1,840.0	21.58	252.16	1,813.9	-62.8	-195.0	204.9	0.00	0.00	0.00
1,880.0	21.58	252.16	1,851.1	-67.3	-209.0	219.6	0.00	0.00	0.00
1,920.0	21.58	252.16	1,888.3	-71.8	-223.0	234.3	0.00	0.00	0.00
1,960.0	21.58	252.16	1,925.5	-76.3	-237.0	249.0	0.00	0.00	0.00

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Project:	SEC.5-T4N-R64W	MD Reference:	WELL @ 4761.0ft (Original Well Elev)
Site:	Burman C04-33D Pad Sec.5-T4N-R64W	North Reference:	True
Well:	Burman C05-24D	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Noble Burman C05-24D Plan #1 (6-15-11)		

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	21.58	252.16	1,962.7	-80.8	-251.0	263.7	0.00	0.00	0.00
2,040.0	21.58	252.16	1,999.9	-85.3	-265.0	278.4	0.00	0.00	0.00
2,080.0	21.58	252.16	2,037.1	-89.8	-279.0	293.1	0.00	0.00	0.00
2,120.0	21.58	252.16	2,074.3	-94.3	-293.0	307.8	0.00	0.00	0.00
2,160.0	21.58	252.16	2,111.5	-98.8	-307.0	322.5	0.00	0.00	0.00
2,200.0	21.58	252.16	2,148.7	-103.3	-321.0	337.2	0.00	0.00	0.00
2,240.0	21.58	252.16	2,185.9	-107.8	-335.0	352.0	0.00	0.00	0.00
2,280.0	21.58	252.16	2,223.1	-112.3	-349.0	366.7	0.00	0.00	0.00
2,320.0	21.58	252.16	2,260.3	-116.9	-363.0	381.4	0.00	0.00	0.00
2,360.0	21.58	252.16	2,297.5	-121.4	-377.0	396.1	0.00	0.00	0.00
2,400.0	21.58	252.16	2,334.7	-125.9	-391.0	410.8	0.00	0.00	0.00
2,440.0	21.58	252.16	2,371.9	-130.4	-405.0	425.5	0.00	0.00	0.00
2,480.0	21.58	252.16	2,409.0	-134.9	-419.0	440.2	0.00	0.00	0.00
2,520.0	21.58	252.16	2,446.2	-139.4	-433.0	454.9	0.00	0.00	0.00
2,560.0	21.58	252.16	2,483.4	-143.9	-447.0	469.6	0.00	0.00	0.00
2,600.0	21.58	252.16	2,520.6	-148.4	-461.1	484.3	0.00	0.00	0.00
2,640.0	21.58	252.16	2,557.8	-152.9	-475.1	499.1	0.00	0.00	0.00
2,680.0	21.58	252.16	2,595.0	-157.4	-489.1	513.8	0.00	0.00	0.00
2,720.0	21.58	252.16	2,632.2	-161.9	-503.1	528.5	0.00	0.00	0.00
2,760.0	21.58	252.16	2,669.4	-166.4	-517.1	543.2	0.00	0.00	0.00
2,800.0	21.58	252.16	2,706.6	-170.9	-531.1	557.9	0.00	0.00	0.00
2,840.0	21.58	252.16	2,743.8	-175.4	-545.1	572.6	0.00	0.00	0.00
2,880.0	21.58	252.16	2,781.0	-180.0	-559.1	587.3	0.00	0.00	0.00
2,920.0	21.58	252.16	2,818.2	-184.5	-573.1	602.0	0.00	0.00	0.00
2,960.0	21.58	252.16	2,855.4	-189.0	-587.1	616.7	0.00	0.00	0.00
3,000.0	21.58	252.16	2,892.6	-193.5	-601.1	631.4	0.00	0.00	0.00
3,040.0	21.58	252.16	2,929.8	-198.0	-615.1	646.2	0.00	0.00	0.00
3,080.0	21.58	252.16	2,967.0	-202.5	-629.1	660.9	0.00	0.00	0.00
3,120.0	21.58	252.16	3,004.2	-207.0	-643.1	675.6	0.00	0.00	0.00
3,160.0	21.58	252.16	3,041.4	-211.5	-657.1	690.3	0.00	0.00	0.00
3,200.0	21.58	252.16	3,078.6	-216.0	-671.1	705.0	0.00	0.00	0.00
3,240.0	21.58	252.16	3,115.8	-220.5	-685.1	719.7	0.00	0.00	0.00
3,280.0	21.58	252.16	3,153.0	-225.0	-699.1	734.4	0.00	0.00	0.00
3,320.0	21.58	252.16	3,190.2	-229.5	-713.1	749.1	0.00	0.00	0.00
3,360.0	21.58	252.16	3,227.4	-234.0	-727.1	763.8	0.00	0.00	0.00
3,400.0	21.58	252.16	3,264.6	-238.5	-741.1	778.6	0.00	0.00	0.00
3,440.0	21.58	252.16	3,301.8	-243.1	-755.1	793.3	0.00	0.00	0.00
3,480.0	21.58	252.16	3,339.0	-247.6	-769.1	808.0	0.00	0.00	0.00
3,520.0	21.58	252.16	3,376.2	-252.1	-783.1	822.7	0.00	0.00	0.00
3,560.0	21.58	252.16	3,413.4	-256.6	-797.1	837.4	0.00	0.00	0.00
3,600.0	21.58	252.16	3,450.6	-261.1	-811.1	852.1	0.00	0.00	0.00
3,640.0	21.58	252.16	3,487.8	-265.6	-825.1	866.8	0.00	0.00	0.00
3,680.0	21.58	252.16	3,525.0	-270.1	-839.1	881.5	0.00	0.00	0.00
3,720.0	21.58	252.16	3,562.2	-274.6	-853.1	896.2	0.00	0.00	0.00
3,760.0	21.58	252.16	3,599.3	-279.1	-867.1	910.9	0.00	0.00	0.00
3,800.0	21.58	252.16	3,636.5	-283.6	-881.1	925.7	0.00	0.00	0.00
3,840.0	21.58	252.16	3,673.7	-288.1	-895.1	940.4	0.00	0.00	0.00
3,880.0	21.58	252.16	3,710.9	-292.6	-909.1	955.1	0.00	0.00	0.00
3,920.0	21.58	252.16	3,748.1	-297.1	-923.1	969.8	0.00	0.00	0.00
3,960.0	21.58	252.16	3,785.3	-301.6	-937.1	984.5	0.00	0.00	0.00
4,000.0	21.58	252.16	3,822.5	-306.2	-951.1	999.2	0.00	0.00	0.00
4,040.0	21.58	252.16	3,859.7	-310.7	-965.2	1,013.9	0.00	0.00	0.00
4,080.0	21.58	252.16	3,896.9	-315.2	-979.2	1,028.6	0.00	0.00	0.00
4,120.0	21.58	252.16	3,934.1	-319.7	-993.2	1,043.3	0.00	0.00	0.00

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Site:	Burman C04-33D Pad Sec.5-T4N-R64W	North Reference:	True
Well:	Burman C05-24D	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Noble Burman C05-24D Plan #1 (6-15-11)		

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	21.58	252.16	3,971.3	-324.2	-1,007.2	1,058.0	0.00	0.00	0.00	
4,200.0	21.58	252.16	4,008.5	-328.7	-1,021.2	1,072.8	0.00	0.00	0.00	
4,240.0	21.58	252.16	4,045.7	-333.2	-1,035.2	1,087.5	0.00	0.00	0.00	
4,280.0	21.58	252.16	4,082.9	-337.7	-1,049.2	1,102.2	0.00	0.00	0.00	
4,320.0	21.58	252.16	4,120.1	-342.2	-1,063.2	1,116.9	0.00	0.00	0.00	
4,360.0	21.58	252.16	4,157.3	-346.7	-1,077.2	1,131.6	0.00	0.00	0.00	
4,400.0	21.58	252.16	4,194.5	-351.2	-1,091.2	1,146.3	0.00	0.00	0.00	
4,440.0	21.58	252.16	4,231.7	-355.7	-1,105.2	1,161.0	0.00	0.00	0.00	
4,480.0	21.58	252.16	4,268.9	-360.2	-1,119.2	1,175.7	0.00	0.00	0.00	
4,520.0	21.58	252.16	4,306.1	-364.7	-1,133.2	1,190.4	0.00	0.00	0.00	
4,560.0	21.58	252.16	4,343.3	-369.3	-1,147.2	1,205.1	0.00	0.00	0.00	
4,600.0	21.58	252.16	4,380.5	-373.8	-1,161.2	1,219.9	0.00	0.00	0.00	
4,640.0	21.58	252.16	4,417.7	-378.3	-1,175.2	1,234.6	0.00	0.00	0.00	
4,680.0	21.58	252.16	4,454.9	-382.8	-1,189.2	1,249.3	0.00	0.00	0.00	
4,720.0	21.58	252.16	4,492.1	-387.3	-1,203.2	1,264.0	0.00	0.00	0.00	
4,760.0	21.58	252.16	4,529.3	-391.8	-1,217.2	1,278.7	0.00	0.00	0.00	
4,800.0	21.58	252.16	4,566.5	-396.3	-1,231.2	1,293.4	0.00	0.00	0.00	
4,840.0	21.58	252.16	4,603.7	-400.8	-1,245.2	1,308.1	0.00	0.00	0.00	
4,880.0	21.58	252.16	4,640.9	-405.3	-1,259.2	1,322.8	0.00	0.00	0.00	
4,920.0	21.58	252.16	4,678.1	-409.8	-1,273.2	1,337.5	0.00	0.00	0.00	
4,960.0	21.58	252.16	4,715.3	-414.3	-1,287.2	1,352.3	0.00	0.00	0.00	
5,000.0	21.58	252.16	4,752.5	-418.8	-1,301.2	1,367.0	0.00	0.00	0.00	
5,040.0	21.58	252.16	4,789.6	-423.3	-1,315.2	1,381.7	0.00	0.00	0.00	
5,080.0	21.58	252.16	4,826.8	-427.8	-1,329.2	1,396.4	0.00	0.00	0.00	
5,101.1	21.58	252.16	4,846.5	-430.2	-1,336.6	1,404.1	0.00	0.00	0.00	
5,120.0	21.20	252.16	4,864.1	-432.3	-1,343.2	1,411.0	2.00	-2.00	0.00	
5,160.0	20.40	252.16	4,901.5	-436.7	-1,356.7	1,425.2	2.00	-2.00	0.00	
5,200.0	19.60	252.16	4,939.0	-440.9	-1,369.7	1,438.9	2.00	-2.00	0.00	
5,240.0	18.80	252.16	4,976.8	-444.9	-1,382.2	1,452.1	2.00	-2.00	0.00	
5,280.0	18.00	252.16	5,014.8	-448.8	-1,394.3	1,464.7	2.00	-2.00	0.00	
5,320.0	17.20	252.16	5,052.9	-452.5	-1,405.8	1,476.8	2.00	-2.00	0.00	
5,360.0	16.40	252.16	5,091.2	-456.0	-1,416.8	1,488.4	2.00	-2.00	0.00	
5,400.0	15.60	252.16	5,129.6	-459.4	-1,427.3	1,499.4	2.00	-2.00	0.00	
5,440.0	14.80	252.16	5,168.2	-462.6	-1,437.2	1,509.9	2.00	-2.00	0.00	
5,480.0	14.00	252.16	5,207.0	-465.7	-1,446.7	1,519.8	2.00	-2.00	0.00	
5,520.0	13.20	252.16	5,245.9	-468.5	-1,455.7	1,529.2	2.00	-2.00	0.00	
5,560.0	12.40	252.16	5,284.9	-471.3	-1,464.1	1,538.1	2.00	-2.00	0.00	
5,600.0	11.60	252.16	5,324.0	-473.8	-1,472.0	1,546.4	2.00	-2.00	0.00	
5,640.0	10.80	252.16	5,363.2	-476.2	-1,479.4	1,554.2	2.00	-2.00	0.00	
5,680.0	10.00	252.16	5,402.6	-478.4	-1,486.3	1,561.4	2.00	-2.00	0.00	
5,720.0	9.20	252.16	5,442.0	-480.4	-1,492.6	1,568.1	2.00	-2.00	0.00	
5,760.0	8.40	252.16	5,481.6	-482.3	-1,498.5	1,574.2	2.00	-2.00	0.00	
5,800.0	7.60	252.16	5,521.2	-484.0	-1,503.8	1,579.7	2.00	-2.00	0.00	
5,840.0	6.80	252.16	5,560.8	-485.6	-1,508.5	1,584.7	2.00	-2.00	0.00	
5,880.0	6.00	252.16	5,600.6	-486.9	-1,512.8	1,589.2	2.00	-2.00	0.00	
5,920.0	5.20	252.16	5,640.4	-488.1	-1,516.5	1,593.1	2.00	-2.00	0.00	
5,960.0	4.40	252.16	5,680.3	-489.2	-1,519.7	1,596.5	2.00	-2.00	0.00	
6,000.0	3.60	252.16	5,720.2	-490.0	-1,522.3	1,599.2	2.00	-2.00	0.00	
6,040.0	2.80	252.16	5,760.1	-490.7	-1,524.5	1,601.5	2.00	-2.00	0.00	
6,080.0	2.00	252.16	5,800.1	-491.2	-1,526.0	1,603.2	2.00	-2.00	0.00	
6,120.0	1.20	252.16	5,840.1	-491.5	-1,527.1	1,604.3	2.00	-2.00	0.00	
6,160.0	0.40	252.16	5,880.0	-491.7	-1,527.6	1,604.8	2.00	-2.00	0.00	
6,180.0	0.00	0.00	5,900.0	-491.7	-1,527.7	1,604.9	2.00	-2.00	540.50	
TARGET BHL 1320°FSL, 2550°FEL										

Database:	Landmark	Local Co-ordinate Reference:	Well Burman C05-24D
Company:	NOBLE ENERGY INC WELD COUNTY CO	TVD Reference:	WELL @ 4761.0ft (Original Well Elev)
Project:	SEC.5-T4N-R64W	MD Reference:	WELL @ 4761.0ft (Original Well Elev)
Site:	Burman C04-33D Pad Sec.5-T4N-R64W	North Reference:	True
Well:	Burman C05-24D	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Noble Burman C05-24D Plan #1 (6-15-11)		

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	5,920.0	-491.7	-1,527.7	1,604.9	0.00	0.00	0.00
6,240.0	0.00	0.00	5,960.0	-491.7	-1,527.7	1,604.9	0.00	0.00	0.00
6,280.0	0.00	0.00	6,000.0	-491.7	-1,527.7	1,604.9	0.00	0.00	0.00
6,320.0	0.00	0.00	6,040.0	-491.7	-1,527.7	1,604.9	0.00	0.00	0.00
6,360.0	0.00	0.00	6,080.0	-491.7	-1,527.7	1,604.9	0.00	0.00	0.00
6,400.0	0.00	0.00	6,120.0	-491.7	-1,527.7	1,604.9	0.00	0.00	0.00
6,440.0	0.00	0.00	6,160.0	-491.7	-1,527.7	1,604.9	0.00	0.00	0.00
6,480.0	0.00	0.00	6,200.0	-491.7	-1,527.7	1,604.9	0.00	0.00	0.00
6,520.0	0.00	0.00	6,240.0	-491.7	-1,527.7	1,604.9	0.00	0.00	0.00
6,560.0	0.00	0.00	6,280.0	-491.7	-1,527.7	1,604.9	0.00	0.00	0.00
6,600.0	0.00	0.00	6,320.0	-491.7	-1,527.7	1,604.9	0.00	0.00	0.00
6,640.0	0.00	0.00	6,360.0	-491.7	-1,527.7	1,604.9	0.00	0.00	0.00
6,680.0	0.00	0.00	6,400.0	-491.7	-1,527.7	1,604.9	0.00	0.00	0.00
6,720.0	0.00	0.00	6,440.0	-491.7	-1,527.7	1,604.9	0.00	0.00	0.00
6,760.0	0.00	0.00	6,480.0	-491.7	-1,527.7	1,604.9	0.00	0.00	0.00
6,800.0	0.00	0.00	6,520.0	-491.7	-1,527.7	1,604.9	0.00	0.00	0.00
6,840.0	0.00	0.00	6,560.0	-491.7	-1,527.7	1,604.9	0.00	0.00	0.00
6,880.0	0.00	0.00	6,600.0	-491.7	-1,527.7	1,604.9	0.00	0.00	0.00
6,920.0	0.00	0.00	6,640.0	-491.7	-1,527.7	1,604.9	0.00	0.00	0.00
6,921.0	0.00	0.00	6,641.0	-491.7	-1,527.7	1,604.9	0.00	0.00	0.00
NOBRARA - TARGET CIRCLE 1320'FSL & 2550'FEL									
6,960.0	0.00	0.00	6,680.0	-491.7	-1,527.7	1,604.9	0.00	0.00	0.00
7,000.0	0.00	0.00	6,720.0	-491.7	-1,527.7	1,604.9	0.00	0.00	0.00
7,040.0	0.00	0.00	6,760.0	-491.7	-1,527.7	1,604.9	0.00	0.00	0.00
7,080.0	0.00	0.00	6,800.0	-491.7	-1,527.7	1,604.9	0.00	0.00	0.00
7,120.0	0.00	0.00	6,840.0	-491.7	-1,527.7	1,604.9	0.00	0.00	0.00
7,160.0	0.00	0.00	6,880.0	-491.7	-1,527.7	1,604.9	0.00	0.00	0.00
7,200.0	0.00	0.00	6,920.0	-491.7	-1,527.7	1,604.9	0.00	0.00	0.00
7,240.0	0.00	0.00	6,960.0	-491.7	-1,527.7	1,604.9	0.00	0.00	0.00
7,241.0	0.00	0.00	6,961.0	-491.7	-1,527.7	1,604.9	0.00	0.00	0.00
CODELL									
7,280.0	0.00	0.00	7,000.0	-491.7	-1,527.7	1,604.9	0.00	0.00	0.00
7,320.0	0.00	0.00	7,040.0	-491.7	-1,527.7	1,604.9	0.00	0.00	0.00
7,360.0	0.00	0.00	7,080.0	-491.7	-1,527.7	1,604.9	0.00	0.00	0.00
7,400.0	0.00	0.00	7,120.0	-491.7	-1,527.7	1,604.9	0.00	0.00	0.00
7,440.0	0.00	0.00	7,160.0	-491.7	-1,527.7	1,604.9	0.00	0.00	0.00
7,480.0	0.00	0.00	7,200.0	-491.7	-1,527.7	1,604.9	0.00	0.00	0.00
7,520.0	0.00	0.00	7,240.0	-491.7	-1,527.7	1,604.9	0.00	0.00	0.00
7,560.0	0.00	0.00	7,280.0	-491.7	-1,527.7	1,604.9	0.00	0.00	0.00
7,600.0	0.00	0.00	7,320.0	-491.7	-1,527.7	1,604.9	0.00	0.00	0.00
7,640.0	0.00	0.00	7,360.0	-491.7	-1,527.7	1,604.9	0.00	0.00	0.00
7,641.0	0.00	0.00	7,361.0	-491.7	-1,527.7	1,604.9	0.00	0.00	0.00
D-SAND									
7,680.0	0.00	0.00	7,400.0	-491.7	-1,527.7	1,604.9	0.00	0.00	0.00
7,701.0	0.00	0.00	7,421.0	-491.7	-1,527.7	1,604.9	0.00	0.00	0.00
J-SAND									
7,720.0	0.00	0.00	7,440.0	-491.7	-1,527.7	1,604.9	0.00	0.00	0.00
7,760.0	0.00	0.00	7,480.0	-491.7	-1,527.7	1,604.9	0.00	0.00	0.00
7,800.0	0.00	0.00	7,520.0	-491.7	-1,527.7	1,604.9	0.00	0.00	0.00
7,840.0	0.00	0.00	7,560.0	-491.7	-1,527.7	1,604.9	0.00	0.00	0.00
7,851.0	0.00	0.00	7,571.0	-491.7	-1,527.7	1,604.9	0.00	0.00	0.00
HARD LINES 94'W OF BHL									

Database:	Landmark	Local Co-ordinate Reference:	Well Burman C05-24D
Company:	NOBLE ENERGY INC WELD COUNTY CO	TVD Reference:	WELL @ 4761.0ft (Original Well Elev)
Project:	SEC.5-T4N-R64W	MD Reference:	WELL @ 4761.0ft (Original Well Elev)
Site:	Burman C04-33D Pad Sec.5-T4N-R64W	North Reference:	True
Well:	Burman C05-24D	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Noble Burman C05-24D Plan #1 (6-15-11)		

Targets									
Target Name									
- hit/miss target	Dip Angle	Dip Dir.	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
- Shape	(°)	(°)	(ft)	(ft)	(ft)	(ft)	(ft)		
HARD LINES 94'W O	0.00	0.00	7,571.0	-591.7	-1,621.7	1,367,129.81	3,258,028.62	40.337476	-104.574377
- plan misses target center by 137.2ft at 7851.0ft MD (7571.0 TVD, -491.7 N, -1527.7 E)									
- Polygon									
Point 1			7,571.0	0.0	0.0	1,367,129.81	3,258,028.62		
Point 2			7,571.0	200.0	0.0	1,367,329.79	3,258,026.52		
TARGET BHL 1320'F:	0.00	0.00	5,900.0	-491.7	-1,527.7	1,367,230.75	3,258,121.56	40.337750	-104.574040
- plan hits target center									
- Point									
TARGET CIRCLE 132	0.00	0.00	6,641.0	-491.7	-1,527.7	1,367,230.75	3,258,121.56	40.337750	-104.574040
- plan hits target center									
- Circle (radius 75.0)									

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

Formations					
	Measured Depth	Vertical Depth			
	(ft)	(ft)	Name	Lithology	Dip
					(°)
					Dip Direction
					(°)
	6,921.0	6,641.0	NIOBRARA		0.00
	7,241.0	6,961.0	CODELL		0.00
	7,641.0	7,361.0	D-SAND		0.00
	7,701.0	7,421.0	J-SAND		0.00