

ENSIGN

Directional

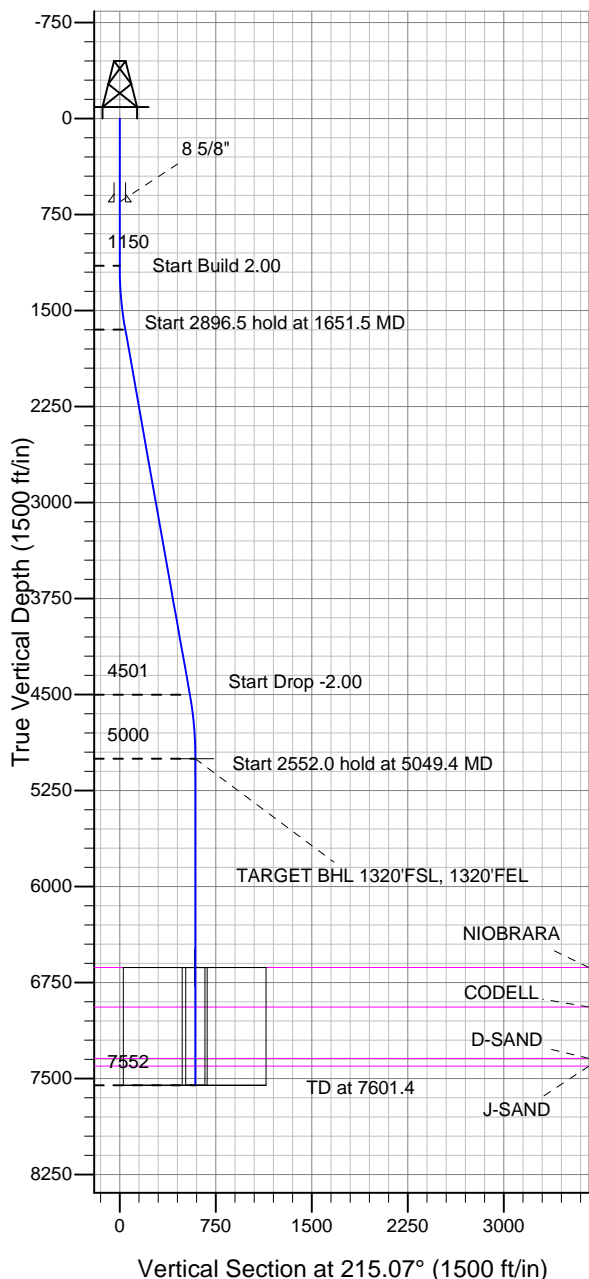
Well Name: Burman C05-23D

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

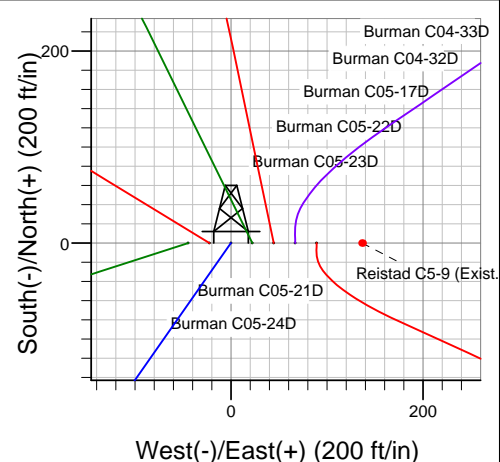
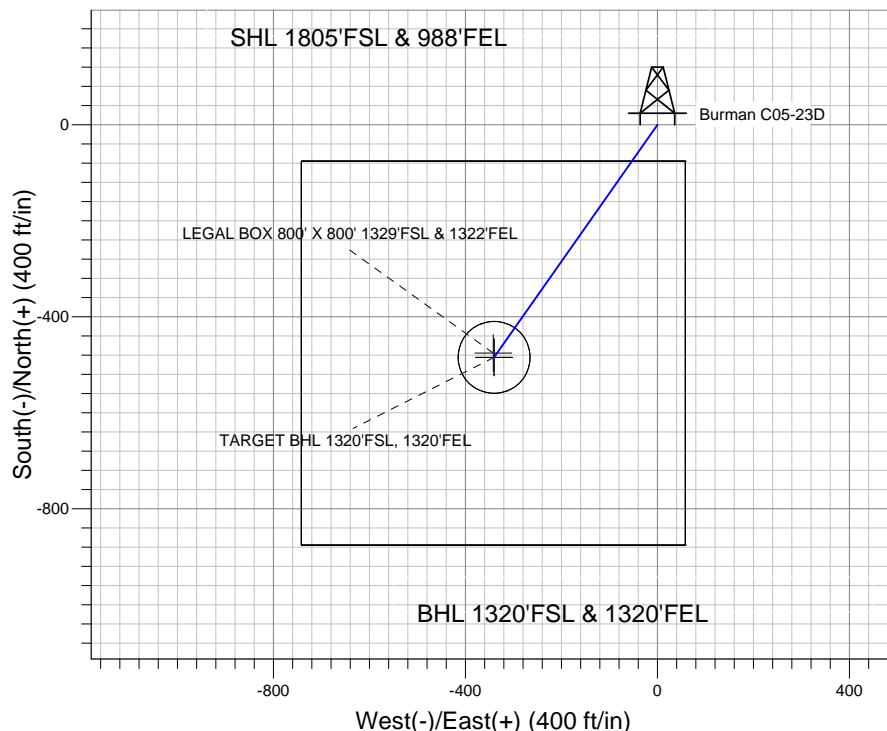
Ground Elevation: 4749.0

+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Slot
0.0	0.0	1367738.96	3259688.55	40.339100	-104.568400	

Original Well Elev WELL @ 4762.0ft (Original Well Elev)



NOBLE ENERGY INC WELD COUNTY CO



Burman C04-33D Pad Sec.5-T4N-R64W
 Burman C05-23D
 Noble Burman C05-23D Plan #1 (6-15-11)
 14:37, June 22 2011



Azimuths to True North
 Magnetic North: 8.75°

Magnetic Field
 Strength: 53119.3snT
 Dip Angle: 67.03°
 Date: 6/22/2011
 Model: IGRF2010

WELLBORE TARGET DETAILS (LAT/LONG)

Name	TVD	+N/-S	+E/-W	Latitude	Longitude	Shape
TARGET BHL 1320'FSL, 1320'FEL	5000.0	-484.5	-340.1	40.337770	-104.569620	Point
LEGAL BOX 800' X 800' 1329'FSL & 1322'FEL	6632.0	-475.5	-342.1	40.337795	-104.569627	Rectangle (Sides: L800.0 W800.0)
TARGET CIRCLE 1320'FSL & 1320'FEL	6632.0	-484.5	-340.1	40.337770	-104.569620	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	1150.0	0.00	0.00	1150.0	0.0	0.0	0.00	0.00	0.0	
3	1651.5	10.03	215.07	1648.9	-35.8	-25.2	2.00	215.07	43.8	
4	4547.9	10.03	215.07	4501.1	-448.7	-315.0	0.00	0.00	548.2	
5	5049.4	0.00	0.00	5000.0	-484.5	-340.1	2.00	180.00	592.0	TARGET BHL 1320'FSL, 1320'FEL
6	7601.4	0.00	0.00	7552.0	-484.5	-340.1	0.00	0.00	592.0	



Directional

NOBLE ENERGY INC WELD COUNTY CO

SEC.5-T4N-R64W

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

Burman C05-23D

Wellbore #1

Plan: Noble Burman C05-23D Plan #1 (6-15-11)

Standard Planning Report

22 June, 2011



Database:	Landmark	Local Co-ordinate Reference:	Well Burman C05-23D
Company:	NOBLE ENERGY INC WELD COUNTY CO	TVD Reference:	WELL @ 4762.0ft (Original Well Elev)
Project:	SEC.5-T4N-R64W	MD Reference:	WELL @ 4762.0ft (Original Well Elev)
Site:	Burman C04-33D Pad Sec.5-T4N-R64W	North Reference:	True
Well:	Burman C05-23D	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Noble Burman C05-23D 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 C05-23D					
Well Position	+N/-S	0.0 ft	Northing:	1,367,738.96 ft	Latitude:	40.339100
	+E/-W	-89.2 ft	Easting:	3,259,688.55 ft	Longitude:	-104.568400
Position Uncertainty		0.0 ft	Wellhead Elevation:	ft	Ground Level:	4,749.0 ft

Wellbore	Wellbore #1				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2010	6/22/2011	8.75	67.03	53,119

Design	Noble Burman C05-23D 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	215.07

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	
1,150.0	0.00	0.00	1,150.0	0.0	0.0	0.00	0.00	0.00	0.00	
1,651.5	10.03	215.07	1,648.9	-35.8	-25.2	2.00	2.00	0.00	215.07	
4,547.9	10.03	215.07	4,501.1	-448.7	-315.0	0.00	0.00	0.00	0.00	
5,049.4	0.00	0.00	5,000.0	-484.5	-340.1	2.00	-2.00	0.00	180.00	TARGET BHL 132C
7,601.4	0.00	0.00	7,552.0	-484.5	-340.1	0.00	0.00	0.00	0.00	

Database:	Landmark	Local Co-ordinate Reference:	Well Burman C05-23D
Company:	NOBLE ENERGY INC WELD COUNTY CO	TVD Reference:	WELL @ 4762.0ft (Original Well Elev)
Project:	SEC.5-T4N-R64W	MD Reference:	WELL @ 4762.0ft (Original Well Elev)
Site:	Burman C04-33D Pad Sec.5-T4N-R64W	North Reference:	True
Well:	Burman C05-23D	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Noble Burman C05-23D 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
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
880.0	0.00	0.00	880.0	0.0	0.0	0.0	0.00	0.00	0.00
920.0	0.00	0.00	920.0	0.0	0.0	0.0	0.00	0.00	0.00
960.0	0.00	0.00	960.0	0.0	0.0	0.0	0.00	0.00	0.00
1,000.0	0.00	0.00	1,000.0	0.0	0.0	0.0	0.00	0.00	0.00
1,040.0	0.00	0.00	1,040.0	0.0	0.0	0.0	0.00	0.00	0.00
1,080.0	0.00	0.00	1,080.0	0.0	0.0	0.0	0.00	0.00	0.00
1,120.0	0.00	0.00	1,120.0	0.0	0.0	0.0	0.00	0.00	0.00
1,150.0	0.00	0.00	1,150.0	0.0	0.0	0.0	0.00	0.00	0.00
1,160.0	0.20	215.07	1,160.0	0.0	0.0	0.0	2.00	2.00	0.00
1,200.0	1.00	215.07	1,200.0	-0.4	-0.3	0.4	2.00	2.00	0.00
1,240.0	1.80	215.07	1,240.0	-1.2	-0.8	1.4	2.00	2.00	0.00
1,280.0	2.60	215.07	1,280.0	-2.4	-1.7	2.9	2.00	2.00	0.00
1,320.0	3.40	215.07	1,319.9	-4.1	-2.9	5.0	2.00	2.00	0.00
1,360.0	4.20	215.07	1,359.8	-6.3	-4.4	7.7	2.00	2.00	0.00
1,400.0	5.00	215.07	1,399.7	-8.9	-6.3	10.9	2.00	2.00	0.00
1,440.0	5.80	215.07	1,439.5	-12.0	-8.4	14.7	2.00	2.00	0.00
1,480.0	6.60	215.07	1,479.3	-15.5	-10.9	19.0	2.00	2.00	0.00
1,520.0	7.40	215.07	1,519.0	-19.5	-13.7	23.9	2.00	2.00	0.00
1,560.0	8.20	215.07	1,558.6	-24.0	-16.8	29.3	2.00	2.00	0.00
1,600.0	9.00	215.07	1,598.2	-28.9	-20.3	35.3	2.00	2.00	0.00
1,640.0	9.80	215.07	1,637.6	-34.2	-24.0	41.8	2.00	2.00	0.00
1,651.5	10.03	215.07	1,648.9	-35.8	-25.2	43.8	2.00	2.00	0.00
1,680.0	10.03	215.07	1,677.0	-39.9	-28.0	48.7	0.00	0.00	0.00
1,720.0	10.03	215.07	1,716.4	-45.6	-32.0	55.7	0.00	0.00	0.00
1,760.0	10.03	215.07	1,755.8	-51.3	-36.0	62.7	0.00	0.00	0.00
1,800.0	10.03	215.07	1,795.2	-57.0	-40.0	69.6	0.00	0.00	0.00
1,840.0	10.03	215.07	1,834.6	-62.7	-44.0	76.6	0.00	0.00	0.00
1,880.0	10.03	215.07	1,874.0	-68.4	-48.0	83.6	0.00	0.00	0.00
1,920.0	10.03	215.07	1,913.3	-74.1	-52.0	90.5	0.00	0.00	0.00
1,960.0	10.03	215.07	1,952.7	-79.8	-56.0	97.5	0.00	0.00	0.00

Database:	Landmark	Local Co-ordinate Reference:	Well Burman C05-23D
Company:	NOBLE ENERGY INC WELD COUNTY CO	TVD Reference:	WELL @ 4762.0ft (Original Well Elev)
Project:	SEC.5-T4N-R64W	MD Reference:	WELL @ 4762.0ft (Original Well Elev)
Site:	Burman C04-33D Pad Sec.5-T4N-R64W	North Reference:	True
Well:	Burman C05-23D	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Noble Burman C05-23D 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	10.03	215.07	1,992.1	-85.5	-60.0	104.5	0.00	0.00	0.00
2,040.0	10.03	215.07	2,031.5	-91.2	-64.0	111.4	0.00	0.00	0.00
2,080.0	10.03	215.07	2,070.9	-96.9	-68.0	118.4	0.00	0.00	0.00
2,120.0	10.03	215.07	2,110.3	-102.6	-72.0	125.4	0.00	0.00	0.00
2,160.0	10.03	215.07	2,149.7	-108.3	-76.0	132.3	0.00	0.00	0.00
2,200.0	10.03	215.07	2,189.1	-114.0	-80.0	139.3	0.00	0.00	0.00
2,240.0	10.03	215.07	2,228.5	-119.7	-84.0	146.3	0.00	0.00	0.00
2,280.0	10.03	215.07	2,267.8	-125.4	-88.0	153.2	0.00	0.00	0.00
2,320.0	10.03	215.07	2,307.2	-131.1	-92.0	160.2	0.00	0.00	0.00
2,360.0	10.03	215.07	2,346.6	-136.8	-96.0	167.2	0.00	0.00	0.00
2,400.0	10.03	215.07	2,386.0	-142.5	-100.0	174.1	0.00	0.00	0.00
2,440.0	10.03	215.07	2,425.4	-148.2	-104.0	181.1	0.00	0.00	0.00
2,480.0	10.03	215.07	2,464.8	-153.9	-108.1	188.1	0.00	0.00	0.00
2,520.0	10.03	215.07	2,504.2	-159.6	-112.1	195.0	0.00	0.00	0.00
2,560.0	10.03	215.07	2,543.6	-165.3	-116.1	202.0	0.00	0.00	0.00
2,600.0	10.03	215.07	2,582.9	-171.0	-120.1	209.0	0.00	0.00	0.00
2,640.0	10.03	215.07	2,622.3	-176.7	-124.1	215.9	0.00	0.00	0.00
2,680.0	10.03	215.07	2,661.7	-182.4	-128.1	222.9	0.00	0.00	0.00
2,720.0	10.03	215.07	2,701.1	-188.1	-132.1	229.9	0.00	0.00	0.00
2,760.0	10.03	215.07	2,740.5	-193.8	-136.1	236.8	0.00	0.00	0.00
2,800.0	10.03	215.07	2,779.9	-199.5	-140.1	243.8	0.00	0.00	0.00
2,840.0	10.03	215.07	2,819.3	-205.2	-144.1	250.8	0.00	0.00	0.00
2,880.0	10.03	215.07	2,858.7	-210.9	-148.1	257.7	0.00	0.00	0.00
2,920.0	10.03	215.07	2,898.1	-216.6	-152.1	264.7	0.00	0.00	0.00
2,960.0	10.03	215.07	2,937.4	-222.3	-156.1	271.7	0.00	0.00	0.00
3,000.0	10.03	215.07	2,976.8	-228.0	-160.1	278.6	0.00	0.00	0.00
3,040.0	10.03	215.07	3,016.2	-233.7	-164.1	285.6	0.00	0.00	0.00
3,080.0	10.03	215.07	3,055.6	-239.4	-168.1	292.6	0.00	0.00	0.00
3,120.0	10.03	215.07	3,095.0	-245.1	-172.1	299.5	0.00	0.00	0.00
3,160.0	10.03	215.07	3,134.4	-250.8	-176.1	306.5	0.00	0.00	0.00
3,200.0	10.03	215.07	3,173.8	-256.5	-180.1	313.4	0.00	0.00	0.00
3,240.0	10.03	215.07	3,213.2	-262.3	-184.1	320.4	0.00	0.00	0.00
3,280.0	10.03	215.07	3,252.6	-268.0	-188.1	327.4	0.00	0.00	0.00
3,320.0	10.03	215.07	3,291.9	-273.7	-192.1	334.3	0.00	0.00	0.00
3,360.0	10.03	215.07	3,331.3	-279.4	-196.1	341.3	0.00	0.00	0.00
3,400.0	10.03	215.07	3,370.7	-285.1	-200.1	348.3	0.00	0.00	0.00
3,440.0	10.03	215.07	3,410.1	-290.8	-204.1	355.2	0.00	0.00	0.00
3,480.0	10.03	215.07	3,449.5	-296.5	-208.1	362.2	0.00	0.00	0.00
3,520.0	10.03	215.07	3,488.9	-302.2	-212.1	369.2	0.00	0.00	0.00
3,560.0	10.03	215.07	3,528.3	-307.9	-216.1	376.1	0.00	0.00	0.00
3,600.0	10.03	215.07	3,567.7	-313.6	-220.1	383.1	0.00	0.00	0.00
3,640.0	10.03	215.07	3,607.1	-319.3	-224.1	390.1	0.00	0.00	0.00
3,680.0	10.03	215.07	3,646.4	-325.0	-228.1	397.0	0.00	0.00	0.00
3,720.0	10.03	215.07	3,685.8	-330.7	-232.1	404.0	0.00	0.00	0.00
3,760.0	10.03	215.07	3,725.2	-336.4	-236.1	411.0	0.00	0.00	0.00
3,800.0	10.03	215.07	3,764.6	-342.1	-240.1	417.9	0.00	0.00	0.00
3,840.0	10.03	215.07	3,804.0	-347.8	-244.1	424.9	0.00	0.00	0.00
3,880.0	10.03	215.07	3,843.4	-353.5	-248.1	431.9	0.00	0.00	0.00
3,920.0	10.03	215.07	3,882.8	-359.2	-252.1	438.8	0.00	0.00	0.00
3,960.0	10.03	215.07	3,922.2	-364.9	-256.1	445.8	0.00	0.00	0.00
4,000.0	10.03	215.07	3,961.6	-370.6	-260.1	452.8	0.00	0.00	0.00
4,040.0	10.03	215.07	4,000.9	-376.3	-264.1	459.7	0.00	0.00	0.00
4,080.0	10.03	215.07	4,040.3	-382.0	-268.1	466.7	0.00	0.00	0.00
4,120.0	10.03	215.07	4,079.7	-387.7	-272.1	473.7	0.00	0.00	0.00

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Project:	SEC.5-T4N-R64W	MD Reference:	WELL @ 4762.0ft (Original Well Elev)
Site:	Burman C04-33D Pad Sec.5-T4N-R64W	North Reference:	True
Well:	Burman C05-23D	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Noble Burman C05-23D 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	10.03	215.07	4,119.1	-393.4	-276.1	480.6	0.00	0.00	0.00
4,200.0	10.03	215.07	4,158.5	-399.1	-280.1	487.6	0.00	0.00	0.00
4,240.0	10.03	215.07	4,197.9	-404.8	-284.1	494.6	0.00	0.00	0.00
4,280.0	10.03	215.07	4,237.3	-410.5	-288.2	501.5	0.00	0.00	0.00
4,320.0	10.03	215.07	4,276.7	-416.2	-292.2	508.5	0.00	0.00	0.00
4,360.0	10.03	215.07	4,316.1	-421.9	-296.2	515.5	0.00	0.00	0.00
4,400.0	10.03	215.07	4,355.4	-427.6	-300.2	522.4	0.00	0.00	0.00
4,440.0	10.03	215.07	4,394.8	-433.3	-304.2	529.4	0.00	0.00	0.00
4,480.0	10.03	215.07	4,434.2	-439.0	-308.2	536.4	0.00	0.00	0.00
4,520.0	10.03	215.07	4,473.6	-444.7	-312.2	543.3	0.00	0.00	0.00
4,547.9	10.03	215.07	4,501.1	-448.7	-315.0	548.2	0.00	0.00	0.00
4,560.0	9.79	215.07	4,513.0	-450.4	-316.2	550.3	2.00	-2.00	0.00
4,600.0	8.99	215.07	4,552.5	-455.7	-319.9	556.8	2.00	-2.00	0.00
4,640.0	8.19	215.07	4,592.0	-460.6	-323.3	562.8	2.00	-2.00	0.00
4,680.0	7.39	215.07	4,631.7	-465.0	-326.4	568.2	2.00	-2.00	0.00
4,720.0	6.59	215.07	4,671.4	-469.0	-329.2	573.0	2.00	-2.00	0.00
4,760.0	5.79	215.07	4,711.1	-472.6	-331.7	577.4	2.00	-2.00	0.00
4,800.0	4.99	215.07	4,750.9	-475.6	-333.9	581.1	2.00	-2.00	0.00
4,840.0	4.19	215.07	4,790.8	-478.2	-335.7	584.3	2.00	-2.00	0.00
4,880.0	3.39	215.07	4,830.7	-480.4	-337.2	587.0	2.00	-2.00	0.00
4,920.0	2.59	215.07	4,870.7	-482.1	-338.4	589.0	2.00	-2.00	0.00
4,960.0	1.79	215.07	4,910.6	-483.4	-339.3	590.6	2.00	-2.00	0.00
5,000.0	0.99	215.07	4,950.6	-484.2	-339.9	591.5	2.00	-2.00	0.00
5,040.0	0.19	215.07	4,990.6	-484.5	-340.1	591.9	2.00	-2.00	0.00
5,049.4	0.00	0.00	5,000.0	-484.5	-340.1	592.0	2.00	-2.00	1,546.38
TARGET BHL 1320'FSL, 1320'FEL									
5,080.0	0.00	0.00	5,030.6	-484.5	-340.1	592.0	0.00	0.00	0.00
5,120.0	0.00	0.00	5,070.6	-484.5	-340.1	592.0	0.00	0.00	0.00
5,160.0	0.00	0.00	5,110.6	-484.5	-340.1	592.0	0.00	0.00	0.00
5,200.0	0.00	0.00	5,150.6	-484.5	-340.1	592.0	0.00	0.00	0.00
5,240.0	0.00	0.00	5,190.6	-484.5	-340.1	592.0	0.00	0.00	0.00
5,280.0	0.00	0.00	5,230.6	-484.5	-340.1	592.0	0.00	0.00	0.00
5,320.0	0.00	0.00	5,270.6	-484.5	-340.1	592.0	0.00	0.00	0.00
5,360.0	0.00	0.00	5,310.6	-484.5	-340.1	592.0	0.00	0.00	0.00
5,400.0	0.00	0.00	5,350.6	-484.5	-340.1	592.0	0.00	0.00	0.00
5,440.0	0.00	0.00	5,390.6	-484.5	-340.1	592.0	0.00	0.00	0.00
5,480.0	0.00	0.00	5,430.6	-484.5	-340.1	592.0	0.00	0.00	0.00
5,520.0	0.00	0.00	5,470.6	-484.5	-340.1	592.0	0.00	0.00	0.00
5,560.0	0.00	0.00	5,510.6	-484.5	-340.1	592.0	0.00	0.00	0.00
5,600.0	0.00	0.00	5,550.6	-484.5	-340.1	592.0	0.00	0.00	0.00
5,640.0	0.00	0.00	5,590.6	-484.5	-340.1	592.0	0.00	0.00	0.00
5,680.0	0.00	0.00	5,630.6	-484.5	-340.1	592.0	0.00	0.00	0.00
5,720.0	0.00	0.00	5,670.6	-484.5	-340.1	592.0	0.00	0.00	0.00
5,760.0	0.00	0.00	5,710.6	-484.5	-340.1	592.0	0.00	0.00	0.00
5,800.0	0.00	0.00	5,750.6	-484.5	-340.1	592.0	0.00	0.00	0.00
5,840.0	0.00	0.00	5,790.6	-484.5	-340.1	592.0	0.00	0.00	0.00
5,880.0	0.00	0.00	5,830.6	-484.5	-340.1	592.0	0.00	0.00	0.00
5,920.0	0.00	0.00	5,870.6	-484.5	-340.1	592.0	0.00	0.00	0.00
5,960.0	0.00	0.00	5,910.6	-484.5	-340.1	592.0	0.00	0.00	0.00
6,000.0	0.00	0.00	5,950.6	-484.5	-340.1	592.0	0.00	0.00	0.00
6,040.0	0.00	0.00	5,990.6	-484.5	-340.1	592.0	0.00	0.00	0.00
6,080.0	0.00	0.00	6,030.6	-484.5	-340.1	592.0	0.00	0.00	0.00
6,120.0	0.00	0.00	6,070.6	-484.5	-340.1	592.0	0.00	0.00	0.00
6,160.0	0.00	0.00	6,110.6	-484.5	-340.1	592.0	0.00	0.00	0.00

Database:	Landmark	Local Co-ordinate Reference:	Well Burman C05-23D
Company:	NOBLE ENERGY INC WELD COUNTY CO	TVD Reference:	WELL @ 4762.0ft (Original Well Elev)
Project:	SEC.5-T4N-R64W	MD Reference:	WELL @ 4762.0ft (Original Well Elev)
Site:	Burman C04-33D Pad Sec.5-T4N-R64W	North Reference:	True
Well:	Burman C05-23D	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Noble Burman C05-23D 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	6,150.6	-484.5	-340.1	592.0	0.00	0.00	0.00
6,240.0	0.00	0.00	6,190.6	-484.5	-340.1	592.0	0.00	0.00	0.00
6,280.0	0.00	0.00	6,230.6	-484.5	-340.1	592.0	0.00	0.00	0.00
6,320.0	0.00	0.00	6,270.6	-484.5	-340.1	592.0	0.00	0.00	0.00
6,360.0	0.00	0.00	6,310.6	-484.5	-340.1	592.0	0.00	0.00	0.00
6,400.0	0.00	0.00	6,350.6	-484.5	-340.1	592.0	0.00	0.00	0.00
6,440.0	0.00	0.00	6,390.6	-484.5	-340.1	592.0	0.00	0.00	0.00
6,480.0	0.00	0.00	6,430.6	-484.5	-340.1	592.0	0.00	0.00	0.00
6,520.0	0.00	0.00	6,470.6	-484.5	-340.1	592.0	0.00	0.00	0.00
6,560.0	0.00	0.00	6,510.6	-484.5	-340.1	592.0	0.00	0.00	0.00
6,600.0	0.00	0.00	6,550.6	-484.5	-340.1	592.0	0.00	0.00	0.00
6,640.0	0.00	0.00	6,590.6	-484.5	-340.1	592.0	0.00	0.00	0.00
6,680.0	0.00	0.00	6,630.6	-484.5	-340.1	592.0	0.00	0.00	0.00
6,681.4	0.00	0.00	6,632.0	-484.5	-340.1	592.0	0.00	0.00	0.00
NOBRARA - LEGAL BOX 800' X 800' 1329'FSL & 1322'FEL - TARGET CIRCLE 1320'FSL & 1320'FEL									
6,720.0	0.00	0.00	6,670.6	-484.5	-340.1	592.0	0.00	0.00	0.00
6,760.0	0.00	0.00	6,710.6	-484.5	-340.1	592.0	0.00	0.00	0.00
6,800.0	0.00	0.00	6,750.6	-484.5	-340.1	592.0	0.00	0.00	0.00
6,840.0	0.00	0.00	6,790.6	-484.5	-340.1	592.0	0.00	0.00	0.00
6,880.0	0.00	0.00	6,830.6	-484.5	-340.1	592.0	0.00	0.00	0.00
6,920.0	0.00	0.00	6,870.6	-484.5	-340.1	592.0	0.00	0.00	0.00
6,960.0	0.00	0.00	6,910.6	-484.5	-340.1	592.0	0.00	0.00	0.00
6,991.4	0.00	0.00	6,942.0	-484.5	-340.1	592.0	0.00	0.00	0.00
CODELL									
7,000.0	0.00	0.00	6,950.6	-484.5	-340.1	592.0	0.00	0.00	0.00
7,040.0	0.00	0.00	6,990.6	-484.5	-340.1	592.0	0.00	0.00	0.00
7,080.0	0.00	0.00	7,030.6	-484.5	-340.1	592.0	0.00	0.00	0.00
7,120.0	0.00	0.00	7,070.6	-484.5	-340.1	592.0	0.00	0.00	0.00
7,160.0	0.00	0.00	7,110.6	-484.5	-340.1	592.0	0.00	0.00	0.00
7,200.0	0.00	0.00	7,150.6	-484.5	-340.1	592.0	0.00	0.00	0.00
7,240.0	0.00	0.00	7,190.6	-484.5	-340.1	592.0	0.00	0.00	0.00
7,280.0	0.00	0.00	7,230.6	-484.5	-340.1	592.0	0.00	0.00	0.00
7,320.0	0.00	0.00	7,270.6	-484.5	-340.1	592.0	0.00	0.00	0.00
7,360.0	0.00	0.00	7,310.6	-484.5	-340.1	592.0	0.00	0.00	0.00
7,391.4	0.00	0.00	7,342.0	-484.5	-340.1	592.0	0.00	0.00	0.00
D-SAND									
7,400.0	0.00	0.00	7,350.6	-484.5	-340.1	592.0	0.00	0.00	0.00
7,440.0	0.00	0.00	7,390.6	-484.5	-340.1	592.0	0.00	0.00	0.00
7,451.4	0.00	0.00	7,402.0	-484.5	-340.1	592.0	0.00	0.00	0.00
J-SAND									
7,480.0	0.00	0.00	7,430.6	-484.5	-340.1	592.0	0.00	0.00	0.00
7,520.0	0.00	0.00	7,470.6	-484.5	-340.1	592.0	0.00	0.00	0.00
7,560.0	0.00	0.00	7,510.6	-484.5	-340.1	592.0	0.00	0.00	0.00
7,600.0	0.00	0.00	7,550.6	-484.5	-340.1	592.0	0.00	0.00	0.00
7,601.4	0.00	0.00	7,552.0	-484.5	-340.1	592.0	0.00	0.00	0.00

Database:	Landmark	Local Co-ordinate Reference:	Well Burman C05-23D
Company:	NOBLE ENERGY INC WELD COUNTY CO	TVD Reference:	WELL @ 4762.0ft (Original Well Elev)
Project:	SEC.5-T4N-R64W	MD Reference:	WELL @ 4762.0ft (Original Well Elev)
Site:	Burman C04-33D Pad Sec.5-T4N-R64W	North Reference:	True
Well:	Burman C05-23D	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Noble Burman C05-23D Plan #1 (6-15-11)		

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 1320'F:	0.00	0.00	5,000.0	-484.5	-340.1	1,367,250.93	3,259,353.56	40.337770	-104.569620
- plan hits target center									
- Point									
LEGAL BOX 800' X 800'	0.00	0.00	6,632.0	-475.5	-342.1	1,367,259.92	3,259,351.48	40.337795	-104.569627
- plan misses target center by 9.2ft at 6681.4ft MD (6632.0 TVD, -484.5 N, -340.1 E)									
- Rectangle (sides W800.0 H800.0 D920.0)									
TARGET CIRCLE 1320'	0.00	0.00	6,632.0	-484.5	-340.1	1,367,250.93	3,259,353.56	40.337770	-104.569620
- 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 (°)	
6,681.4	6,632.0	NIOBRARA		0.00		
6,991.4	6,942.0	CODELL		0.00		
7,391.4	7,342.0	D-SAND		0.00		
7,451.4	7,402.0	J-SAND		0.00		