

ENSIGN

Directional

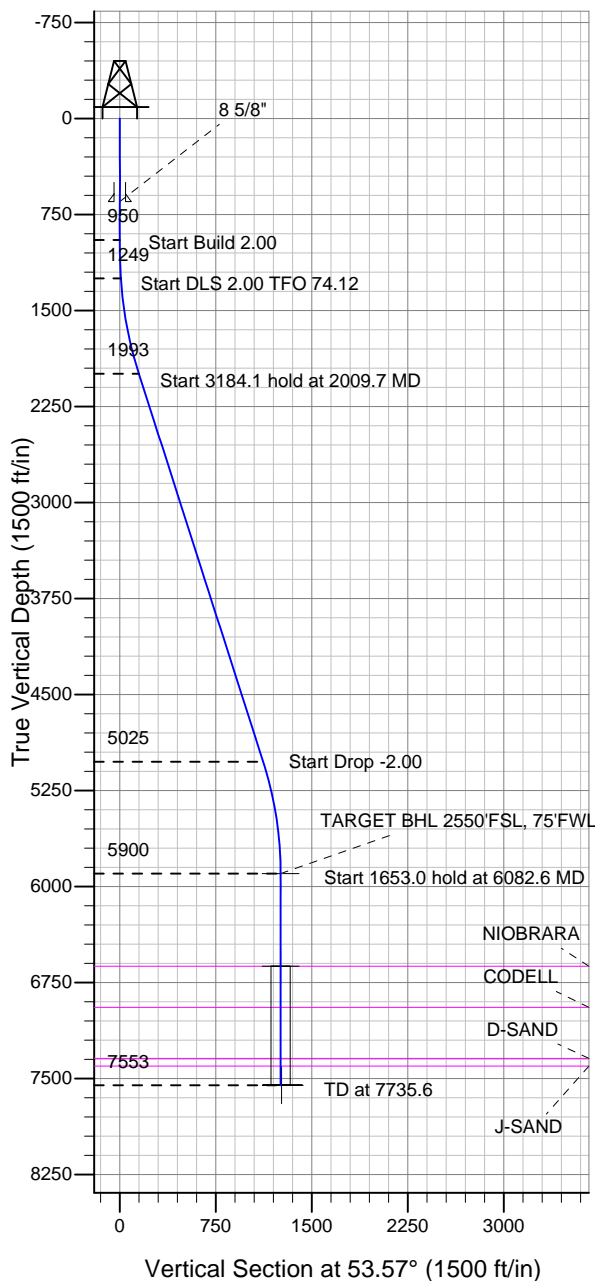
Well Name: Burman C04-32D

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

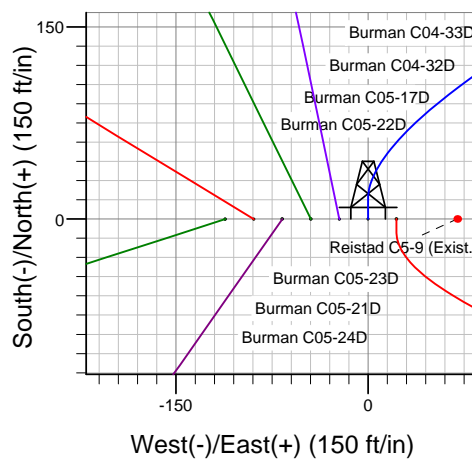
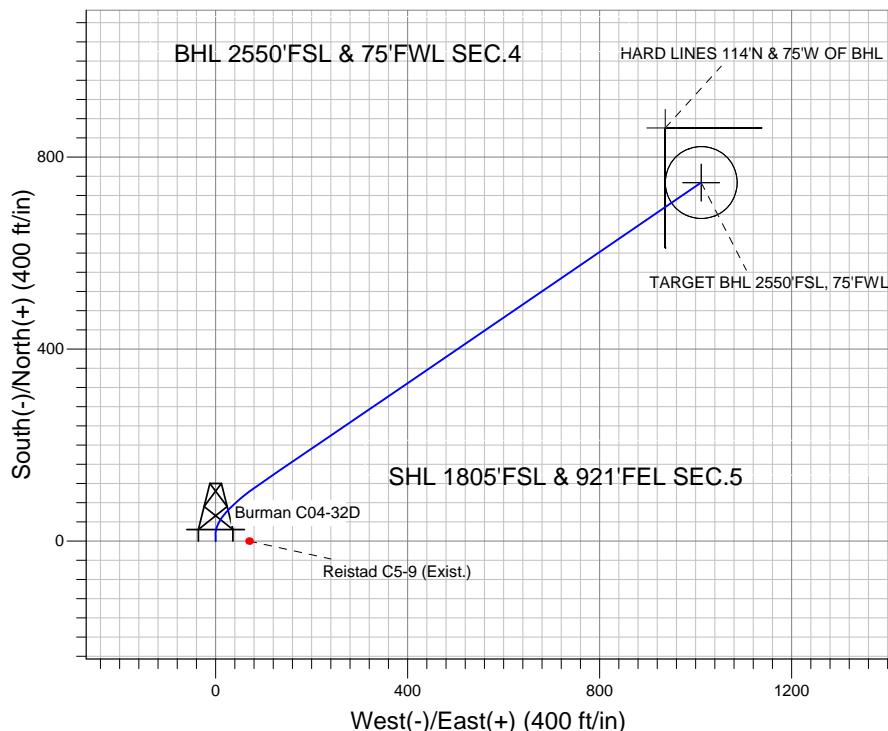
Ground Elevation: 4750.0

+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Slot
0.0	0.0	1367739.66	3259755.45	40.339100	-104.568160	

Original Well Elev WELL @ 4763.0ft (Original Well Elev)



NOBLE ENERGY INC WELD COUNTY CO



Burman C04-33D Pad Sec.5-T4N-R64W
Burman C04-32D
Noble Burman C04-32D Plan #1 (6-15-11)
13:43, 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 2550'FSL, 75'FWL	5900.0	746.9	1011.9	40.341150	-104.564530	Point
TARGET CIRCLE 2550'FSL & 75'FWL	6623.0	746.9	1011.9	40.341150	-104.564530	Circle (Radius: 75.0)
HARD LINES 114°N & 75°W OF BHL	7553.0	860.9	936.9	40.341463	-104.564799	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	950.0	0.00	0.00	950.0	0.0	0.0	0.00	0.00	0.0	
3	1250.0	6.00	0.00	1249.5	15.7	0.0	2.00	0.00	9.3	
4	2009.7	17.78	55.66	1993.3	121.4	96.3	2.00	74.12	149.6	
5	5193.8	17.78	55.66	5025.4	669.7	899.0	0.00	0.00	1121.0	
6	6082.6	0.00	0.00	5900.0	746.9	1011.9	2.00	180.00	1257.7	TARGET BHL 2550'FSL, 75'FWL
7	7735.6	0.00	0.00	7553.0	746.9	1011.9	0.00	0.00	1257.7	



Directional

NOBLE ENERGY INC WELD COUNTY CO

SEC.5-T4N-R64W

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

Burman C04-32D

Wellbore #1

Plan: Noble Burman C04-32D Plan #1 (6-15-11)

Standard Planning Report

22 June, 2011



Database:	Landmark	Local Co-ordinate Reference:	Well Burman C04-32D
Company:	NOBLE ENERGY INC WELD COUNTY CO	TVD Reference:	WELL @ 4763.0ft (Original Well Elev)
Project:	SEC.5-T4N-R64W	MD Reference:	WELL @ 4763.0ft (Original Well Elev)
Site:	Burman C04-33D Pad Sec.5-T4N-R64W	North Reference:	True
Well:	Burman C04-32D	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Noble Burman C04-32D 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 C04-32D					
Well Position	+N/-S	0.0 ft	Northing:	1,367,739.66 ft	Latitude:	40.339100
	+E/-W	-22.3 ft	Easting:	3,259,755.45 ft	Longitude:	-104.568160
Position Uncertainty		0.0 ft	Wellhead Elevation:	ft	Ground Level:	4,750.0 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 C04-32D 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	53.57

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	
950.0	0.00	0.00	950.0	0.0	0.0	0.00	0.00	0.00	0.00	
1,250.0	6.00	0.00	1,249.5	15.7	0.0	2.00	2.00	0.00	0.00	
2,009.7	17.78	55.66	1,993.3	121.4	96.3	2.00	1.55	7.33	74.12	
5,193.8	17.78	55.66	5,025.4	669.7	899.0	0.00	0.00	0.00	0.00	
6,082.6	0.00	0.00	5,900.0	746.9	1,011.9	2.00	-2.00	0.00	180.00	TARGET BHL 255C
7,735.6	0.00	0.00	7,553.0	746.9	1,011.9	0.00	0.00	0.00	0.00	

Database:	Landmark	Local Co-ordinate Reference:	Well Burman C04-32D
Company:	NOBLE ENERGY INC WELD COUNTY CO	TVD Reference:	WELL @ 4763.0ft (Original Well Elev)
Project:	SEC.5-T4N-R64W	MD Reference:	WELL @ 4763.0ft (Original Well Elev)
Site:	Burman C04-33D Pad Sec.5-T4N-R64W	North Reference:	True
Well:	Burman C04-32D	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Noble Burman C04-32D 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
950.0	0.00	0.00	950.0	0.0	0.0	0.0	0.00	0.00	0.00
960.0	0.20	0.00	960.0	0.0	0.0	0.0	2.00	2.00	0.00
1,000.0	1.00	0.00	1,000.0	0.4	0.0	0.3	2.00	2.00	0.00
1,040.0	1.80	0.00	1,040.0	1.4	0.0	0.8	2.00	2.00	0.00
1,080.0	2.60	0.00	1,080.0	2.9	0.0	1.8	2.00	2.00	0.00
1,120.0	3.40	0.00	1,119.9	5.0	0.0	3.0	2.00	2.00	0.00
1,160.0	4.20	0.00	1,159.8	7.7	0.0	4.6	2.00	2.00	0.00
1,200.0	5.00	0.00	1,199.7	10.9	0.0	6.5	2.00	2.00	0.00
1,240.0	5.80	0.00	1,239.5	14.7	0.0	8.7	2.00	2.00	0.00
1,250.0	6.00	0.00	1,249.5	15.7	0.0	9.3	2.00	2.00	0.00
1,280.0	6.19	5.36	1,279.3	18.9	0.2	11.3	2.00	0.64	17.86
1,320.0	6.52	11.94	1,319.0	23.2	0.8	14.5	2.00	0.83	16.45
1,360.0	6.93	17.81	1,358.8	27.8	2.0	18.1	2.00	1.02	14.69
1,400.0	7.40	22.99	1,398.4	32.4	3.8	22.3	2.00	1.18	12.95
1,440.0	7.93	27.52	1,438.1	37.3	6.1	27.0	2.00	1.31	11.32
1,480.0	8.50	31.47	1,477.7	42.2	8.9	32.2	2.00	1.42	9.87
1,520.0	9.10	34.92	1,517.2	47.3	12.2	37.9	2.00	1.51	8.61
1,560.0	9.73	37.93	1,556.7	52.6	16.1	44.2	2.00	1.58	7.53
1,600.0	10.38	40.57	1,596.1	58.0	20.5	51.0	2.00	1.63	6.60
1,640.0	11.06	42.90	1,635.4	63.5	25.5	58.2	2.00	1.68	5.82
1,680.0	11.75	44.96	1,674.6	69.2	31.0	66.0	2.00	1.72	5.15
1,720.0	12.45	46.79	1,713.7	75.1	37.0	74.3	2.00	1.75	4.58
1,760.0	13.16	48.43	1,752.7	81.0	43.5	83.2	2.00	1.78	4.10
1,800.0	13.88	49.90	1,791.6	87.2	50.6	92.5	2.00	1.81	3.68
1,840.0	14.61	51.23	1,830.3	93.4	58.2	102.3	2.00	1.83	3.32
1,880.0	15.35	52.43	1,869.0	99.8	66.4	112.7	2.00	1.84	3.01
1,920.0	16.09	53.53	1,907.5	106.3	75.0	123.5	2.00	1.86	2.74
1,960.0	16.84	54.53	1,945.9	113.0	84.2	134.8	2.00	1.87	2.50

Database:	Landmark	Local Co-ordinate Reference:	Well Burman C04-32D
Company:	NOBLE ENERGY INC WELD COUNTY CO	TVD Reference:	WELL @ 4763.0ft (Original Well Elev)
Project:	SEC.5-T4N-R64W	MD Reference:	WELL @ 4763.0ft (Original Well Elev)
Site:	Burman C04-33D Pad Sec.5-T4N-R64W	North Reference:	True
Well:	Burman C04-32D	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Noble Burman C04-32D 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	17.59	55.45	1,984.1	119.8	93.9	146.7	2.00	1.88	2.30
2,009.7	17.78	55.66	1,993.3	121.4	96.3	149.6	2.00	1.89	2.18
2,040.0	17.78	55.66	2,022.2	126.6	104.0	158.9	0.00	0.00	0.00
2,080.0	17.78	55.66	2,060.2	133.5	114.0	171.1	0.00	0.00	0.00
2,120.0	17.78	55.66	2,098.3	140.4	124.1	183.3	0.00	0.00	0.00
2,160.0	17.78	55.66	2,136.4	147.3	134.2	195.5	0.00	0.00	0.00
2,200.0	17.78	55.66	2,174.5	154.2	144.3	207.7	0.00	0.00	0.00
2,240.0	17.78	55.66	2,212.6	161.1	154.4	219.9	0.00	0.00	0.00
2,280.0	17.78	55.66	2,250.7	168.0	164.5	232.1	0.00	0.00	0.00
2,320.0	17.78	55.66	2,288.8	174.9	174.5	244.3	0.00	0.00	0.00
2,360.0	17.78	55.66	2,326.9	181.8	184.6	256.5	0.00	0.00	0.00
2,400.0	17.78	55.66	2,365.0	188.6	194.7	268.7	0.00	0.00	0.00
2,440.0	17.78	55.66	2,403.1	195.5	204.8	280.9	0.00	0.00	0.00
2,480.0	17.78	55.66	2,441.2	202.4	214.9	293.1	0.00	0.00	0.00
2,520.0	17.78	55.66	2,479.2	209.3	225.0	305.3	0.00	0.00	0.00
2,560.0	17.78	55.66	2,517.3	216.2	235.0	317.5	0.00	0.00	0.00
2,600.0	17.78	55.66	2,555.4	223.1	245.1	329.7	0.00	0.00	0.00
2,640.0	17.78	55.66	2,593.5	230.0	255.2	341.9	0.00	0.00	0.00
2,680.0	17.78	55.66	2,631.6	236.9	265.3	354.1	0.00	0.00	0.00
2,720.0	17.78	55.66	2,669.7	243.7	275.4	366.3	0.00	0.00	0.00
2,760.0	17.78	55.66	2,707.8	250.6	285.5	378.5	0.00	0.00	0.00
2,800.0	17.78	55.66	2,745.9	257.5	295.5	390.7	0.00	0.00	0.00
2,840.0	17.78	55.66	2,784.0	264.4	305.6	402.9	0.00	0.00	0.00
2,880.0	17.78	55.66	2,822.1	271.3	315.7	415.1	0.00	0.00	0.00
2,920.0	17.78	55.66	2,860.1	278.2	325.8	427.3	0.00	0.00	0.00
2,960.0	17.78	55.66	2,898.2	285.1	335.9	439.5	0.00	0.00	0.00
3,000.0	17.78	55.66	2,936.3	292.0	346.0	451.7	0.00	0.00	0.00
3,040.0	17.78	55.66	2,974.4	298.8	356.0	463.9	0.00	0.00	0.00
3,080.0	17.78	55.66	3,012.5	305.7	366.1	476.1	0.00	0.00	0.00
3,120.0	17.78	55.66	3,050.6	312.6	376.2	488.3	0.00	0.00	0.00
3,160.0	17.78	55.66	3,088.7	319.5	386.3	500.5	0.00	0.00	0.00
3,200.0	17.78	55.66	3,126.8	326.4	396.4	512.7	0.00	0.00	0.00
3,240.0	17.78	55.66	3,164.9	333.3	406.5	524.9	0.00	0.00	0.00
3,280.0	17.78	55.66	3,203.0	340.2	416.5	537.2	0.00	0.00	0.00
3,320.0	17.78	55.66	3,241.0	347.1	426.6	549.4	0.00	0.00	0.00
3,360.0	17.78	55.66	3,279.1	354.0	436.7	561.6	0.00	0.00	0.00
3,400.0	17.78	55.66	3,317.2	360.8	446.8	573.8	0.00	0.00	0.00
3,440.0	17.78	55.66	3,355.3	367.7	456.9	586.0	0.00	0.00	0.00
3,480.0	17.78	55.66	3,393.4	374.6	467.0	598.2	0.00	0.00	0.00
3,520.0	17.78	55.66	3,431.5	381.5	477.0	610.4	0.00	0.00	0.00
3,560.0	17.78	55.66	3,469.6	388.4	487.1	622.6	0.00	0.00	0.00
3,600.0	17.78	55.66	3,507.7	395.3	497.2	634.8	0.00	0.00	0.00
3,640.0	17.78	55.66	3,545.8	402.2	507.3	647.0	0.00	0.00	0.00
3,680.0	17.78	55.66	3,583.9	409.1	517.4	659.2	0.00	0.00	0.00
3,720.0	17.78	55.66	3,622.0	415.9	527.5	671.4	0.00	0.00	0.00
3,760.0	17.78	55.66	3,660.0	422.8	537.5	683.6	0.00	0.00	0.00
3,800.0	17.78	55.66	3,698.1	429.7	547.6	695.8	0.00	0.00	0.00
3,840.0	17.78	55.66	3,736.2	436.6	557.7	708.0	0.00	0.00	0.00
3,880.0	17.78	55.66	3,774.3	443.5	567.8	720.2	0.00	0.00	0.00
3,920.0	17.78	55.66	3,812.4	450.4	577.9	732.4	0.00	0.00	0.00
3,960.0	17.78	55.66	3,850.5	457.3	588.0	744.6	0.00	0.00	0.00
4,000.0	17.78	55.66	3,888.6	464.2	598.0	756.8	0.00	0.00	0.00
4,040.0	17.78	55.66	3,926.7	471.0	608.1	769.0	0.00	0.00	0.00
4,080.0	17.78	55.66	3,964.8	477.9	618.2	781.2	0.00	0.00	0.00

Database:	Landmark	Local Co-ordinate Reference:	Well Burman C04-32D
Company:	NOBLE ENERGY INC WELD COUNTY CO	TVD Reference:	WELL @ 4763.0ft (Original Well Elev)
Project:	SEC.5-T4N-R64W	MD Reference:	WELL @ 4763.0ft (Original Well Elev)
Site:	Burman C04-33D Pad Sec.5-T4N-R64W	North Reference:	True
Well:	Burman C04-32D	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Noble Burman C04-32D 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)
4,120.0	17.78	55.66	4,002.9	484.8	628.3	793.4	0.00	0.00	0.00
4,160.0	17.78	55.66	4,040.9	491.7	638.4	805.6	0.00	0.00	0.00
4,200.0	17.78	55.66	4,079.0	498.6	648.5	817.8	0.00	0.00	0.00
4,240.0	17.78	55.66	4,117.1	505.5	658.5	830.0	0.00	0.00	0.00
4,280.0	17.78	55.66	4,155.2	512.4	668.6	842.2	0.00	0.00	0.00
4,320.0	17.78	55.66	4,193.3	519.3	678.7	854.4	0.00	0.00	0.00
4,360.0	17.78	55.66	4,231.4	526.2	688.8	866.6	0.00	0.00	0.00
4,400.0	17.78	55.66	4,269.5	533.0	698.9	878.8	0.00	0.00	0.00
4,440.0	17.78	55.66	4,307.6	539.9	709.0	891.0	0.00	0.00	0.00
4,480.0	17.78	55.66	4,345.7	546.8	719.0	903.2	0.00	0.00	0.00
4,520.0	17.78	55.66	4,383.8	553.7	729.1	915.5	0.00	0.00	0.00
4,560.0	17.78	55.66	4,421.9	560.6	739.2	927.7	0.00	0.00	0.00
4,600.0	17.78	55.66	4,459.9	567.5	749.3	939.9	0.00	0.00	0.00
4,640.0	17.78	55.66	4,498.0	574.4	759.4	952.1	0.00	0.00	0.00
4,680.0	17.78	55.66	4,536.1	581.3	769.5	964.3	0.00	0.00	0.00
4,720.0	17.78	55.66	4,574.2	588.1	779.5	976.5	0.00	0.00	0.00
4,760.0	17.78	55.66	4,612.3	595.0	789.6	988.7	0.00	0.00	0.00
4,800.0	17.78	55.66	4,650.4	601.9	799.7	1,000.9	0.00	0.00	0.00
4,840.0	17.78	55.66	4,688.5	608.8	809.8	1,013.1	0.00	0.00	0.00
4,880.0	17.78	55.66	4,726.6	615.7	819.9	1,025.3	0.00	0.00	0.00
4,920.0	17.78	55.66	4,764.7	622.6	830.0	1,037.5	0.00	0.00	0.00
4,960.0	17.78	55.66	4,802.8	629.5	840.0	1,049.7	0.00	0.00	0.00
5,000.0	17.78	55.66	4,840.8	636.4	850.1	1,061.9	0.00	0.00	0.00
5,040.0	17.78	55.66	4,878.9	643.2	860.2	1,074.1	0.00	0.00	0.00
5,080.0	17.78	55.66	4,917.0	650.1	870.3	1,086.3	0.00	0.00	0.00
5,120.0	17.78	55.66	4,955.1	657.0	880.4	1,098.5	0.00	0.00	0.00
5,160.0	17.78	55.66	4,993.2	663.9	890.5	1,110.7	0.00	0.00	0.00
5,193.8	17.78	55.66	5,025.4	669.7	899.0	1,121.0	0.00	0.00	0.00
5,200.0	17.65	55.66	5,031.3	670.8	900.5	1,122.9	2.00	-2.00	0.00
5,240.0	16.85	55.66	5,069.5	677.5	910.3	1,134.8	2.00	-2.00	0.00
5,280.0	16.05	55.66	5,107.9	683.9	919.7	1,146.1	2.00	-2.00	0.00
5,320.0	15.25	55.66	5,146.4	690.0	928.6	1,156.9	2.00	-2.00	0.00
5,360.0	14.45	55.66	5,185.0	695.7	937.1	1,167.1	2.00	-2.00	0.00
5,400.0	13.65	55.66	5,223.8	701.2	945.1	1,176.8	2.00	-2.00	0.00
5,440.0	12.85	55.66	5,262.8	706.4	952.7	1,186.0	2.00	-2.00	0.00
5,480.0	12.05	55.66	5,301.8	711.3	959.8	1,194.6	2.00	-2.00	0.00
5,520.0	11.25	55.66	5,341.0	715.8	966.4	1,202.7	2.00	-2.00	0.00
5,560.0	10.45	55.66	5,380.3	720.1	972.7	1,210.2	2.00	-2.00	0.00
5,600.0	9.65	55.66	5,419.7	724.0	978.4	1,217.2	2.00	-2.00	0.00
5,640.0	8.85	55.66	5,459.2	727.6	983.7	1,223.6	2.00	-2.00	0.00
5,680.0	8.05	55.66	5,498.7	730.9	988.6	1,229.5	2.00	-2.00	0.00
5,720.0	7.25	55.66	5,538.4	734.0	993.0	1,234.8	2.00	-2.00	0.00
5,760.0	6.45	55.66	5,578.1	736.6	996.9	1,239.6	2.00	-2.00	0.00
5,800.0	5.65	55.66	5,617.9	739.0	1,000.4	1,243.8	2.00	-2.00	0.00
5,840.0	4.85	55.66	5,657.7	741.1	1,003.4	1,247.4	2.00	-2.00	0.00
5,880.0	4.05	55.66	5,697.6	742.8	1,006.0	1,250.5	2.00	-2.00	0.00
5,920.0	3.25	55.66	5,737.5	744.3	1,008.1	1,253.1	2.00	-2.00	0.00
5,960.0	2.45	55.66	5,777.4	745.4	1,009.7	1,255.1	2.00	-2.00	0.00
6,000.0	1.65	55.66	5,817.4	746.2	1,010.9	1,256.5	2.00	-2.00	0.00
6,040.0	0.85	55.66	5,857.4	746.7	1,011.7	1,257.4	2.00	-2.00	0.00
6,080.0	0.05	55.66	5,897.4	746.9	1,011.9	1,257.7	2.00	-2.00	0.00
6,082.6	0.00	0.00	5,900.0	746.9	1,011.9	1,257.7	2.00	-2.00	0.00
TARGET BHL 2550'FSL, 75'FWL									
6,120.0	0.00	0.00	5,937.4	746.9	1,011.9	1,257.7	0.00	0.00	0.00

Database:	Landmark	Local Co-ordinate Reference:	Well Burman C04-32D
Company:	NOBLE ENERGY INC WELD COUNTY CO	TVD Reference:	WELL @ 4763.0ft (Original Well Elev)
Project:	SEC.5-T4N-R64W	MD Reference:	WELL @ 4763.0ft (Original Well Elev)
Site:	Burman C04-33D Pad Sec.5-T4N-R64W	North Reference:	True
Well:	Burman C04-32D	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Noble Burman C04-32D 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)
6,160.0	0.00	0.00	5,977.4	746.9	1,011.9	1,257.7	0.00	0.00	0.00
6,200.0	0.00	0.00	6,017.4	746.9	1,011.9	1,257.7	0.00	0.00	0.00
6,240.0	0.00	0.00	6,057.4	746.9	1,011.9	1,257.7	0.00	0.00	0.00
6,280.0	0.00	0.00	6,097.4	746.9	1,011.9	1,257.7	0.00	0.00	0.00
6,320.0	0.00	0.00	6,137.4	746.9	1,011.9	1,257.7	0.00	0.00	0.00
6,360.0	0.00	0.00	6,177.4	746.9	1,011.9	1,257.7	0.00	0.00	0.00
6,400.0	0.00	0.00	6,217.4	746.9	1,011.9	1,257.7	0.00	0.00	0.00
6,440.0	0.00	0.00	6,257.4	746.9	1,011.9	1,257.7	0.00	0.00	0.00
6,480.0	0.00	0.00	6,297.4	746.9	1,011.9	1,257.7	0.00	0.00	0.00
6,520.0	0.00	0.00	6,337.4	746.9	1,011.9	1,257.7	0.00	0.00	0.00
6,560.0	0.00	0.00	6,377.4	746.9	1,011.9	1,257.7	0.00	0.00	0.00
6,600.0	0.00	0.00	6,417.4	746.9	1,011.9	1,257.7	0.00	0.00	0.00
6,640.0	0.00	0.00	6,457.4	746.9	1,011.9	1,257.7	0.00	0.00	0.00
6,680.0	0.00	0.00	6,497.4	746.9	1,011.9	1,257.7	0.00	0.00	0.00
6,720.0	0.00	0.00	6,537.4	746.9	1,011.9	1,257.7	0.00	0.00	0.00
6,760.0	0.00	0.00	6,577.4	746.9	1,011.9	1,257.7	0.00	0.00	0.00
6,800.0	0.00	0.00	6,617.4	746.9	1,011.9	1,257.7	0.00	0.00	0.00
6,805.6	0.00	0.00	6,623.0	746.9	1,011.9	1,257.7	0.00	0.00	0.00
NIORARA - TARGET CIRCLE 2550'FSL & 75'FWL									
6,840.0	0.00	0.00	6,657.4	746.9	1,011.9	1,257.7	0.00	0.00	0.00
6,880.0	0.00	0.00	6,697.4	746.9	1,011.9	1,257.7	0.00	0.00	0.00
6,920.0	0.00	0.00	6,737.4	746.9	1,011.9	1,257.7	0.00	0.00	0.00
6,960.0	0.00	0.00	6,777.4	746.9	1,011.9	1,257.7	0.00	0.00	0.00
7,000.0	0.00	0.00	6,817.4	746.9	1,011.9	1,257.7	0.00	0.00	0.00
7,040.0	0.00	0.00	6,857.4	746.9	1,011.9	1,257.7	0.00	0.00	0.00
7,080.0	0.00	0.00	6,897.4	746.9	1,011.9	1,257.7	0.00	0.00	0.00
7,120.0	0.00	0.00	6,937.4	746.9	1,011.9	1,257.7	0.00	0.00	0.00
7,125.6	0.00	0.00	6,943.0	746.9	1,011.9	1,257.7	0.00	0.00	0.00
CODELL									
7,160.0	0.00	0.00	6,977.4	746.9	1,011.9	1,257.7	0.00	0.00	0.00
7,200.0	0.00	0.00	7,017.4	746.9	1,011.9	1,257.7	0.00	0.00	0.00
7,240.0	0.00	0.00	7,057.4	746.9	1,011.9	1,257.7	0.00	0.00	0.00
7,280.0	0.00	0.00	7,097.4	746.9	1,011.9	1,257.7	0.00	0.00	0.00
7,320.0	0.00	0.00	7,137.4	746.9	1,011.9	1,257.7	0.00	0.00	0.00
7,360.0	0.00	0.00	7,177.4	746.9	1,011.9	1,257.7	0.00	0.00	0.00
7,400.0	0.00	0.00	7,217.4	746.9	1,011.9	1,257.7	0.00	0.00	0.00
7,440.0	0.00	0.00	7,257.4	746.9	1,011.9	1,257.7	0.00	0.00	0.00
7,480.0	0.00	0.00	7,297.4	746.9	1,011.9	1,257.7	0.00	0.00	0.00
7,520.0	0.00	0.00	7,337.4	746.9	1,011.9	1,257.7	0.00	0.00	0.00
7,525.6	0.00	0.00	7,343.0	746.9	1,011.9	1,257.7	0.00	0.00	0.00
D-SAND									
7,560.0	0.00	0.00	7,377.4	746.9	1,011.9	1,257.7	0.00	0.00	0.00
7,585.6	0.00	0.00	7,403.0	746.9	1,011.9	1,257.7	0.00	0.00	0.00
J-SAND									
7,600.0	0.00	0.00	7,417.4	746.9	1,011.9	1,257.7	0.00	0.00	0.00
7,640.0	0.00	0.00	7,457.4	746.9	1,011.9	1,257.7	0.00	0.00	0.00
7,680.0	0.00	0.00	7,497.4	746.9	1,011.9	1,257.7	0.00	0.00	0.00
7,720.0	0.00	0.00	7,537.4	746.9	1,011.9	1,257.7	0.00	0.00	0.00
7,735.6	0.00	0.00	7,553.0	746.9	1,011.9	1,257.7	0.00	0.00	0.00
HARD LINES 114'N & 75'W OF BHL									

Database:	Landmark	Local Co-ordinate Reference:	Well Burman C04-32D
Company:	NOBLE ENERGY INC WELD COUNTY CO	TVD Reference:	WELL @ 4763.0ft (Original Well Elev)
Project:	SEC.5-T4N-R64W	MD Reference:	WELL @ 4763.0ft (Original Well Elev)
Site:	Burman C04-33D Pad Sec.5-T4N-R64W	North Reference:	True
Well:	Burman C04-32D	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Noble Burman C04-32D 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)		
TARGET BHL 2550'F:	0.00	0.00	5,900.0	746.9	1,011.9	1,368,497.10	3,260,759.41	40.341150	-104.564530
- plan hits target center									
- Point									
TARGET CIRCLE 2550'F:	0.00	0.00	6,623.0	746.9	1,011.9	1,368,497.10	3,260,759.41	40.341150	-104.564530
- plan hits target center									
- Circle (radius 75.0)									
HARD LINES 114'N & 114'E:	0.00	0.00	7,553.0	860.9	936.9	1,368,610.33	3,260,683.21	40.341463	-104.564799
- plan misses target center by 136.5ft at 7735.6ft MD (7553.0 TVD, 746.9 N, 1011.9 E)									
- Polygon									
Point 1			7,553.0	0.0	0.0	1,368,610.33	3,260,683.21		
Point 2			7,553.0	-250.0	0.0	1,368,360.35	3,260,685.83		
Point 3			7,553.0	0.0	0.0	1,368,610.33	3,260,683.21		
Point 4			7,553.0	0.0	200.0	1,368,612.43	3,260,883.19		

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 (°)	
6,805.6	6,623.0	NIOBRARA		0.00		
7,125.6	6,943.0	CODELL		0.00		
7,525.6	7,343.0	D-SAND		0.00		
7,585.6	7,403.0	J-SAND		0.00		