

ENSIGN

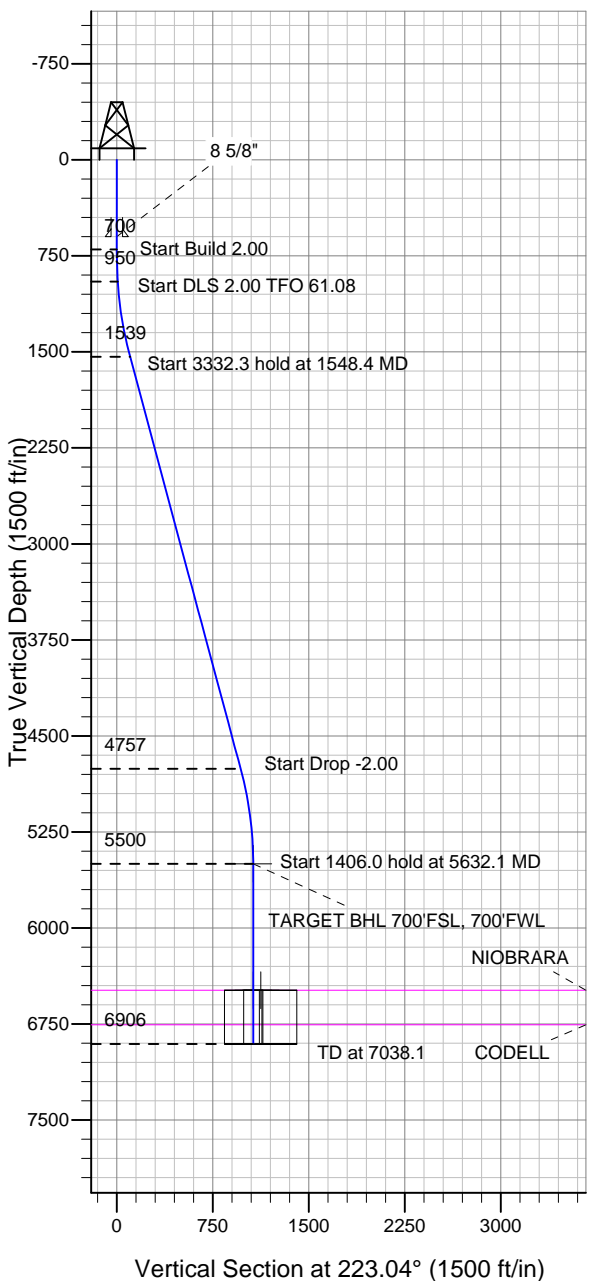
Directional

Well Name: Burough C14-13D

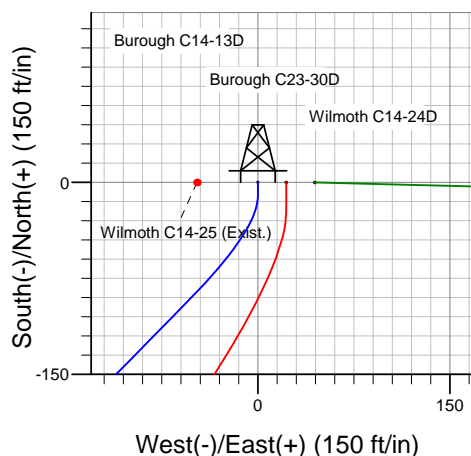
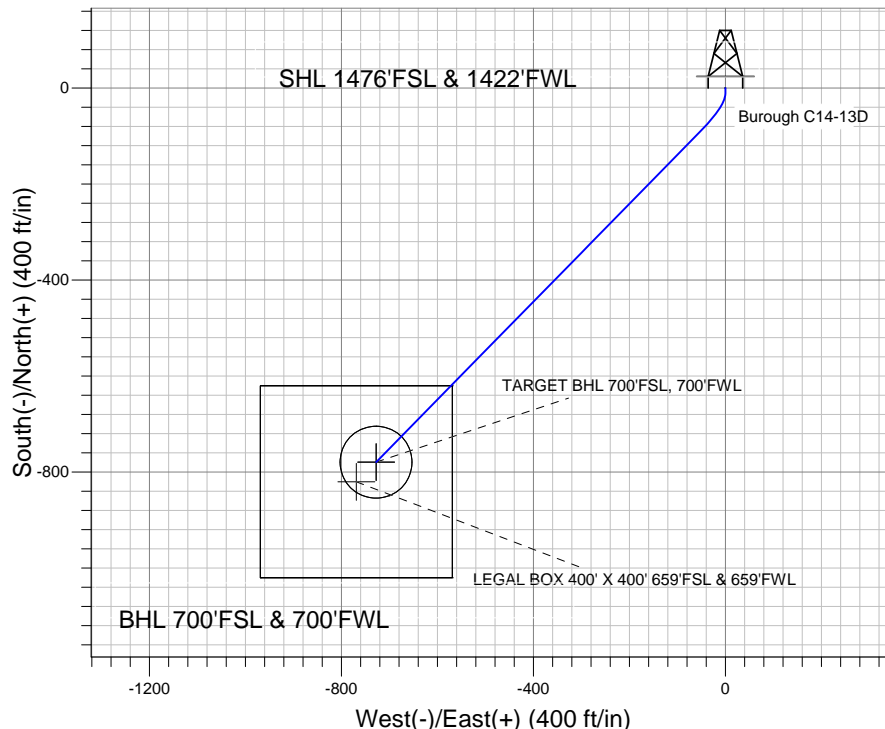
Surface Location: Burough C14-13D Pad Sec.14-T4N-R64W
North American Datum 1983 US State Plane 1983 Colorado Northern Zone

Ground Elevation: 4648.0

+N/-S +E/-W Northing Easting Latitude Longitude Slot
0.0 0.0 1357015.07 3272680.74 40.309280 -104.522220
Original Well Elev WELL @ 4661.0ft (Original Well Elev)



NOBLE ENERGY INC WELD COUNTY CO



Burrough C14-13D Pad Sec.14-T4N-R64W
Burrough C14-13D
Noble Burrough C14-13D Plan #1 (6-14-11)
12:54, June 21 2011



Azimuths to True North
Magnetic North: 8.72°

Magnetic Field
Strength: 53109.7snT
Dip Angle: 67.02°
Date: 6/21/2011
Model: IGRF2010

WELLBORE TARGET DETAILS (LAT/LONG)

Name	TVD	+N/-S	+E/-W	Latitude	Longitude	Shape
TARGET BHL 700'FSL, 700'FWL	5500.0	-779.6	-727.9	40.307140	-104.524830	Point
LEGAL BOX 400' X 400' 659'FSL & 659'FWL	6486.0	-820.6	-768.9	40.307027	-104.524977	Rectangle (Sides: L400.0 W400.0)
TARGET CIRCLE 700'FSL & 700'FWL	6486.0	-779.6	-727.9	40.307140	-104.524830	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	700.0	0.00	0.00	700.0	0.0	0.0	0.00	0.00	0.0	
3	950.0	5.00	180.00	949.7	-10.9	0.0	2.00	180.00	8.0	
4	1548.4	15.03	224.43	1538.9	-92.7	-54.5	2.00	61.08	104.9	
5	4880.7	15.03	224.43	4757.2	-709.6	-659.4	0.00	0.00	968.7	
6	5632.1	0.00	0.00	5500.0	-779.6	-727.9	2.00	180.00	1066.6	TARGET BHL 700'FSL, 700'FWL
7	7038.1	0.00	0.00	6906.0	-779.6	-727.9	0.00	0.00	1066.6	



Directional

NOBLE ENERGY INC WELD COUNTY CO

SEC.14-T4N-R64W

Borough C14-13D Pad Sec.14-T4N-R64W

Borough C14-13D

Wellbore #1

Plan: Noble Borough C14-13D Plan #1 (6-14-11)

Standard Planning Report

21 June, 2011



Database:	Landmark	Local Co-ordinate Reference:	Well Burough C14-13D
Company:	NOBLE ENERGY INC WELD COUNTY CO	TVD Reference:	WELL @ 4661.0ft (Original Well Elev)
Project:	SEC.14-T4N-R64W	MD Reference:	WELL @ 4661.0ft (Original Well Elev)
Site:	Burrough C14-13D Pad Sec.14-T4N-R64W	North Reference:	True
Well:	Burrough C14-13D	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Noble Burrough C14-13D Plan #1 (6-14-11)		

Project	SEC.14-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						Burrough C14-13D Pad Sec.14-T4N-R64W							
Site Position: From: Position Uncertainty:			Lat/Long 0.0 ft			Northing:		1,357,015.08 ft		Latitude:		40.309280	
						Easting:		3,272,680.74 ft		Longitude:		-104.522220	
						Slot Radius:		"		Grid Convergence:		0.63 °	

Well	Burough C14-13D					
Well Position	+N-S	0.0 ft	Northing:	1,357,015.07 ft	Latitude:	40.309280
	+E-W	0.0 ft	Easting:	3,272,680.74 ft	Longitude:	-104.522220
Position Uncertainty		0.0 ft	Wellhead Elevation:	ft	Ground Level:	4,648.0 ft

Wellbore	Wellbore #1				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2010	6/21/2011	8.72	67.02	53,110

Design	Noble Burrough C14-13D Plan #1 (6-14-11)			
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	223.04

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	
700.0	0.00	0.00	700.0	0.0	0.0	0.00	0.00	0.00	0.00	
950.0	5.00	180.00	949.7	-10.9	0.0	2.00	2.00	0.00	180.00	
1,548.4	15.03	224.43	1,538.9	-92.7	-54.5	2.00	1.68	7.43	61.08	
4,880.7	15.03	224.43	4,757.2	-709.6	-659.4	0.00	0.00	0.00	0.00	
5,632.1	0.00	0.00	5,500.0	-779.6	-727.9	2.00	-2.00	0.00	180.00	TARGET BHL 700'I
7,038.1	0.00	0.00	6,906.0	-779.6	-727.9	0.00	0.00	0.00	0.00	

Database:	Landmark	Local Co-ordinate Reference:	Well Borough C14-13D
Company:	NOBLE ENERGY INC WELD COUNTY CO	TVD Reference:	WELL @ 4661.0ft (Original Well Elev)
Project:	SEC.14-T4N-R64W	MD Reference:	WELL @ 4661.0ft (Original Well Elev)
Site:	Borough C14-13D Pad Sec.14-T4N-R64W	North Reference:	True
Well:	Borough C14-13D	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Noble Borough C14-13D Plan #1 (6-14-11)		

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
8 5/8"									
640.0	0.00	0.00	640.0	0.0	0.0	0.0	0.00	0.00	0.00
680.0	0.00	0.00	680.0	0.0	0.0	0.0	0.00	0.00	0.00
700.0	0.00	0.00	700.0	0.0	0.0	0.0	0.00	0.00	0.00
720.0	0.40	180.00	720.0	-0.1	0.0	0.1	2.00	2.00	0.00
760.0	1.20	180.00	760.0	-0.6	0.0	0.5	2.00	2.00	0.00
800.0	2.00	180.00	800.0	-1.7	0.0	1.3	2.00	2.00	0.00
840.0	2.80	180.00	839.9	-3.4	0.0	2.5	2.00	2.00	0.00
880.0	3.60	180.00	879.9	-5.7	0.0	4.1	2.00	2.00	0.00
920.0	4.40	180.00	919.8	-8.4	0.0	6.2	2.00	2.00	0.00
950.0	5.00	180.00	949.7	-10.9	0.0	8.0	2.00	2.00	0.00
960.0	5.10	181.97	959.6	-11.8	0.0	8.6	2.00	1.00	19.70
1,000.0	5.55	189.08	999.5	-15.5	-0.4	11.6	2.00	1.13	17.78
1,040.0	6.08	195.05	1,039.3	-19.4	-1.2	15.0	2.00	1.31	14.92
1,080.0	6.66	200.03	1,079.0	-23.6	-2.6	19.0	2.00	1.45	12.45
1,120.0	7.28	204.19	1,118.7	-28.1	-4.4	23.6	2.00	1.55	10.40
1,160.0	7.93	207.68	1,158.4	-32.9	-6.7	28.6	2.00	1.63	8.73
1,200.0	8.61	210.64	1,198.0	-37.9	-9.5	34.2	2.00	1.69	7.39
1,240.0	9.31	213.16	1,237.5	-43.2	-12.8	40.3	2.00	1.74	6.30
1,280.0	10.02	215.33	1,276.9	-48.7	-16.6	47.0	2.00	1.78	5.42
1,320.0	10.74	217.21	1,316.2	-54.6	-20.9	54.1	2.00	1.81	4.71
1,360.0	11.48	218.86	1,355.5	-60.6	-25.6	61.8	2.00	1.84	4.11
1,400.0	12.22	220.30	1,394.6	-66.9	-30.9	70.0	2.00	1.86	3.62
1,440.0	12.97	221.59	1,433.7	-73.5	-36.6	78.7	2.00	1.87	3.21
1,480.0	13.73	222.74	1,472.6	-80.4	-42.8	88.0	2.00	1.89	2.87
1,520.0	14.49	223.76	1,511.4	-87.5	-49.5	97.7	2.00	1.90	2.57
1,548.4	15.03	224.43	1,538.9	-92.7	-54.5	104.9	2.00	1.91	2.35
1,560.0	15.03	224.43	1,550.1	-94.8	-56.6	107.9	0.00	0.00	0.00
1,600.0	15.03	224.43	1,588.7	-102.2	-63.9	118.3	0.00	0.00	0.00
1,640.0	15.03	224.43	1,627.3	-109.6	-71.1	128.7	0.00	0.00	0.00
1,680.0	15.03	224.43	1,666.0	-117.0	-78.4	139.0	0.00	0.00	0.00
1,720.0	15.03	224.43	1,704.6	-124.4	-85.7	149.4	0.00	0.00	0.00
1,760.0	15.03	224.43	1,743.2	-131.8	-92.9	159.8	0.00	0.00	0.00
1,800.0	15.03	224.43	1,781.9	-139.3	-100.2	170.1	0.00	0.00	0.00
1,840.0	15.03	224.43	1,820.5	-146.7	-107.4	180.5	0.00	0.00	0.00
1,880.0	15.03	224.43	1,859.1	-154.1	-114.7	190.9	0.00	0.00	0.00
1,920.0	15.03	224.43	1,897.7	-161.5	-122.0	201.3	0.00	0.00	0.00
1,960.0	15.03	224.43	1,936.4	-168.9	-129.2	211.6	0.00	0.00	0.00

Database:	Landmark	Local Co-ordinate Reference:	Well Borough C14-13D
Company:	NOBLE ENERGY INC WELD COUNTY CO	TVD Reference:	WELL @ 4661.0ft (Original Well Elev)
Project:	SEC.14-T4N-R64W	MD Reference:	WELL @ 4661.0ft (Original Well Elev)
Site:	Borough C14-13D Pad Sec.14-T4N-R64W	North Reference:	True
Well:	Borough C14-13D	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Noble Borough C14-13D Plan #1 (6-14-11)		

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	15.03	224.43	1,975.0	-176.3	-136.5	222.0	0.00	0.00	0.00
2,040.0	15.03	224.43	2,013.6	-183.7	-143.7	232.4	0.00	0.00	0.00
2,080.0	15.03	224.43	2,052.3	-191.1	-151.0	242.7	0.00	0.00	0.00
2,120.0	15.03	224.43	2,090.9	-198.5	-158.3	253.1	0.00	0.00	0.00
2,160.0	15.03	224.43	2,129.5	-205.9	-165.5	263.5	0.00	0.00	0.00
2,200.0	15.03	224.43	2,168.2	-213.3	-172.8	273.8	0.00	0.00	0.00
2,240.0	15.03	224.43	2,206.8	-220.7	-180.0	284.2	0.00	0.00	0.00
2,280.0	15.03	224.43	2,245.4	-228.1	-187.3	294.6	0.00	0.00	0.00
2,320.0	15.03	224.43	2,284.1	-235.5	-194.6	304.9	0.00	0.00	0.00
2,360.0	15.03	224.43	2,322.7	-242.9	-201.8	315.3	0.00	0.00	0.00
2,400.0	15.03	224.43	2,361.3	-250.3	-209.1	325.7	0.00	0.00	0.00
2,440.0	15.03	224.43	2,400.0	-257.7	-216.3	336.0	0.00	0.00	0.00
2,480.0	15.03	224.43	2,438.6	-265.2	-223.6	346.4	0.00	0.00	0.00
2,520.0	15.03	224.43	2,477.2	-272.6	-230.9	356.8	0.00	0.00	0.00
2,560.0	15.03	224.43	2,515.9	-280.0	-238.1	367.1	0.00	0.00	0.00
2,600.0	15.03	224.43	2,554.5	-287.4	-245.4	377.5	0.00	0.00	0.00
2,640.0	15.03	224.43	2,593.1	-294.8	-252.6	387.9	0.00	0.00	0.00
2,680.0	15.03	224.43	2,631.8	-302.2	-259.9	398.2	0.00	0.00	0.00
2,720.0	15.03	224.43	2,670.4	-309.6	-267.2	408.6	0.00	0.00	0.00
2,760.0	15.03	224.43	2,709.0	-317.0	-274.4	419.0	0.00	0.00	0.00
2,800.0	15.03	224.43	2,747.7	-324.4	-281.7	429.4	0.00	0.00	0.00
2,840.0	15.03	224.43	2,786.3	-331.8	-288.9	439.7	0.00	0.00	0.00
2,880.0	15.03	224.43	2,824.9	-339.2	-296.2	450.1	0.00	0.00	0.00
2,920.0	15.03	224.43	2,863.6	-346.6	-303.5	460.5	0.00	0.00	0.00
2,960.0	15.03	224.43	2,902.2	-354.0	-310.7	470.8	0.00	0.00	0.00
3,000.0	15.03	224.43	2,940.8	-361.4	-318.0	481.2	0.00	0.00	0.00
3,040.0	15.03	224.43	2,979.4	-368.8	-325.2	491.6	0.00	0.00	0.00
3,080.0	15.03	224.43	3,018.1	-376.2	-332.5	501.9	0.00	0.00	0.00
3,120.0	15.03	224.43	3,056.7	-383.6	-339.8	512.3	0.00	0.00	0.00
3,160.0	15.03	224.43	3,095.3	-391.1	-347.0	522.7	0.00	0.00	0.00
3,200.0	15.03	224.43	3,134.0	-398.5	-354.3	533.0	0.00	0.00	0.00
3,240.0	15.03	224.43	3,172.6	-405.9	-361.5	543.4	0.00	0.00	0.00
3,280.0	15.03	224.43	3,211.2	-413.3	-368.8	553.8	0.00	0.00	0.00
3,320.0	15.03	224.43	3,249.9	-420.7	-376.1	564.1	0.00	0.00	0.00
3,360.0	15.03	224.43	3,288.5	-428.1	-383.3	574.5	0.00	0.00	0.00
3,400.0	15.03	224.43	3,327.1	-435.5	-390.6	584.9	0.00	0.00	0.00
3,440.0	15.03	224.43	3,365.8	-442.9	-397.9	595.2	0.00	0.00	0.00
3,480.0	15.03	224.43	3,404.4	-450.3	-405.1	605.6	0.00	0.00	0.00
3,520.0	15.03	224.43	3,443.0	-457.7	-412.4	616.0	0.00	0.00	0.00
3,560.0	15.03	224.43	3,481.7	-465.1	-419.6	626.3	0.00	0.00	0.00
3,600.0	15.03	224.43	3,520.3	-472.5	-426.9	636.7	0.00	0.00	0.00
3,640.0	15.03	224.43	3,558.9	-479.9	-434.2	647.1	0.00	0.00	0.00
3,680.0	15.03	224.43	3,597.6	-487.3	-441.4	657.4	0.00	0.00	0.00
3,720.0	15.03	224.43	3,636.2	-494.7	-448.7	667.8	0.00	0.00	0.00
3,760.0	15.03	224.43	3,674.8	-502.1	-455.9	678.2	0.00	0.00	0.00
3,800.0	15.03	224.43	3,713.5	-509.5	-463.2	688.6	0.00	0.00	0.00
3,840.0	15.03	224.43	3,752.1	-517.0	-470.5	698.9	0.00	0.00	0.00
3,880.0	15.03	224.43	3,790.7	-524.4	-477.7	709.3	0.00	0.00	0.00
3,920.0	15.03	224.43	3,829.4	-531.8	-485.0	719.7	0.00	0.00	0.00
3,960.0	15.03	224.43	3,868.0	-539.2	-492.2	730.0	0.00	0.00	0.00
4,000.0	15.03	224.43	3,906.6	-546.6	-499.5	740.4	0.00	0.00	0.00
4,040.0	15.03	224.43	3,945.3	-554.0	-506.8	750.8	0.00	0.00	0.00
4,080.0	15.03	224.43	3,983.9	-561.4	-514.0	761.1	0.00	0.00	0.00
4,120.0	15.03	224.43	4,022.5	-568.8	-521.3	771.5	0.00	0.00	0.00

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Wellbore:	Wellbore #1		
Design:	Noble Borough C14-13D Plan #1 (6-14-11)		

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	15.03	224.43	4,061.1	-576.2	-528.5	781.9	0.00	0.00	0.00
4,200.0	15.03	224.43	4,099.8	-583.6	-535.8	792.2	0.00	0.00	0.00
4,240.0	15.03	224.43	4,138.4	-591.0	-543.1	802.6	0.00	0.00	0.00
4,280.0	15.03	224.43	4,177.0	-598.4	-550.3	813.0	0.00	0.00	0.00
4,320.0	15.03	224.43	4,215.7	-605.8	-557.6	823.3	0.00	0.00	0.00
4,360.0	15.03	224.43	4,254.3	-613.2	-564.8	833.7	0.00	0.00	0.00
4,400.0	15.03	224.43	4,292.9	-620.6	-572.1	844.1	0.00	0.00	0.00
4,440.0	15.03	224.43	4,331.6	-628.0	-579.4	854.4	0.00	0.00	0.00
4,480.0	15.03	224.43	4,370.2	-635.4	-586.6	864.8	0.00	0.00	0.00
4,520.0	15.03	224.43	4,408.8	-642.9	-593.9	875.2	0.00	0.00	0.00
4,560.0	15.03	224.43	4,447.5	-650.3	-601.1	885.5	0.00	0.00	0.00
4,600.0	15.03	224.43	4,486.1	-657.7	-608.4	895.9	0.00	0.00	0.00
4,640.0	15.03	224.43	4,524.7	-665.1	-615.7	906.3	0.00	0.00	0.00
4,680.0	15.03	224.43	4,563.4	-672.5	-622.9	916.6	0.00	0.00	0.00
4,720.0	15.03	224.43	4,602.0	-679.9	-630.2	927.0	0.00	0.00	0.00
4,760.0	15.03	224.43	4,640.6	-687.3	-637.4	937.4	0.00	0.00	0.00
4,800.0	15.03	224.43	4,679.3	-694.7	-644.7	947.8	0.00	0.00	0.00
4,840.0	15.03	224.43	4,717.9	-702.1	-652.0	958.1	0.00	0.00	0.00
4,880.0	15.03	224.43	4,756.5	-709.5	-659.2	968.5	0.00	0.00	0.00
4,880.7	15.03	224.43	4,757.2	-709.6	-659.4	968.7	0.00	0.00	0.00
4,920.0	14.24	224.43	4,795.2	-716.7	-666.3	978.6	2.00	-2.00	0.00
4,960.0	13.44	224.43	4,834.1	-723.6	-673.0	988.2	2.00	-2.00	0.00
5,000.0	12.64	224.43	4,873.0	-730.0	-679.3	997.2	2.00	-2.00	0.00
5,040.0	11.84	224.43	4,912.1	-736.1	-685.3	1,005.7	2.00	-2.00	0.00
5,080.0	11.04	224.43	4,951.3	-741.7	-690.8	1,013.6	2.00	-2.00	0.00
5,120.0	10.24	224.43	4,990.6	-747.0	-696.0	1,021.0	2.00	-2.00	0.00
5,160.0	9.44	224.43	5,030.0	-751.9	-700.8	1,027.8	2.00	-2.00	0.00
5,200.0	8.64	224.43	5,069.6	-756.4	-705.2	1,034.1	2.00	-2.00	0.00
5,240.0	7.84	224.43	5,109.1	-760.5	-709.2	1,039.8	2.00	-2.00	0.00
5,280.0	7.04	224.43	5,148.8	-764.2	-712.8	1,045.0	2.00	-2.00	0.00
5,320.0	6.24	224.43	5,188.5	-767.5	-716.1	1,049.6	2.00	-2.00	0.00
5,360.0	5.44	224.43	5,228.3	-770.4	-718.9	1,053.7	2.00	-2.00	0.00
5,400.0	4.64	224.43	5,268.2	-772.9	-721.4	1,057.2	2.00	-2.00	0.00
5,440.0	3.84	224.43	5,308.1	-775.0	-723.4	1,060.2	2.00	-2.00	0.00
5,480.0	3.04	224.43	5,348.0	-776.7	-725.1	1,062.6	2.00	-2.00	0.00
5,520.0	2.24	224.43	5,387.9	-778.0	-726.4	1,064.4	2.00	-2.00	0.00
5,560.0	1.44	224.43	5,427.9	-778.9	-727.3	1,065.7	2.00	-2.00	0.00
5,600.0	0.64	224.43	5,467.9	-779.5	-727.8	1,066.4	2.00	-2.00	0.00
5,632.1	0.00	0.00	5,500.0	-779.6	-727.9	1,066.6	2.00	-2.00	0.00
TARGET BHL 700'FSL, 700'FWL									
5,640.0	0.00	0.00	5,507.9	-779.6	-727.9	1,066.6	0.00	0.00	0.00
5,680.0	0.00	0.00	5,547.9	-779.6	-727.9	1,066.6	0.00	0.00	0.00
5,720.0	0.00	0.00	5,587.9	-779.6	-727.9	1,066.6	0.00	0.00	0.00
5,760.0	0.00	0.00	5,627.9	-779.6	-727.9	1,066.6	0.00	0.00	0.00
5,800.0	0.00	0.00	5,667.9	-779.6	-727.9	1,066.6	0.00	0.00	0.00
5,840.0	0.00	0.00	5,707.9	-779.6	-727.9	1,066.6	0.00	0.00	0.00
5,880.0	0.00	0.00	5,747.9	-779.6	-727.9	1,066.6	0.00	0.00	0.00
5,920.0	0.00	0.00	5,787.9	-779.6	-727.9	1,066.6	0.00	0.00	0.00
5,960.0	0.00	0.00	5,827.9	-779.6	-727.9	1,066.6	0.00	0.00	0.00
6,000.0	0.00	0.00	5,867.9	-779.6	-727.9	1,066.6	0.00	0.00	0.00
6,040.0	0.00	0.00	5,907.9	-779.6	-727.9	1,066.6	0.00	0.00	0.00
6,080.0	0.00	0.00	5,947.9	-779.6	-727.9	1,066.6	0.00	0.00	0.00
6,120.0	0.00	0.00	5,987.9	-779.6	-727.9	1,066.6	0.00	0.00	0.00
6,160.0	0.00	0.00	6,027.9	-779.6	-727.9	1,066.6	0.00	0.00	0.00

Database:	Landmark	Local Co-ordinate Reference:	Well Burough C14-13D
Company:	NOBLE ENERGY INC WELD COUNTY CO	TVD Reference:	WELL @ 4661.0ft (Original Well Elev)
Project:	SEC.14-T4N-R64W	MD Reference:	WELL @ 4661.0ft (Original Well Elev)
Site:	Burrough C14-13D Pad Sec.14-T4N-R64W	North Reference:	True
Well:	Burrough C14-13D	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Noble Burrough C14-13D Plan #1 (6-14-11)		

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	6,067.9	-779.6	-727.9	1,066.6	0.00	0.00	0.00
6,240.0	0.00	0.00	6,107.9	-779.6	-727.9	1,066.6	0.00	0.00	0.00
6,280.0	0.00	0.00	6,147.9	-779.6	-727.9	1,066.6	0.00	0.00	0.00
6,320.0	0.00	0.00	6,187.9	-779.6	-727.9	1,066.6	0.00	0.00	0.00
6,360.0	0.00	0.00	6,227.9	-779.6	-727.9	1,066.6	0.00	0.00	0.00
6,400.0	0.00	0.00	6,267.9	-779.6	-727.9	1,066.6	0.00	0.00	0.00
6,440.0	0.00	0.00	6,307.9	-779.6	-727.9	1,066.6	0.00	0.00	0.00
6,480.0	0.00	0.00	6,347.9	-779.6	-727.9	1,066.6	0.00	0.00	0.00
6,520.0	0.00	0.00	6,387.9	-779.6	-727.9	1,066.6	0.00	0.00	0.00
6,560.0	0.00	0.00	6,427.9	-779.6	-727.9	1,066.6	0.00	0.00	0.00
6,600.0	0.00	0.00	6,467.9	-779.6	-727.9	1,066.6	0.00	0.00	0.00
6,618.1	0.00	0.00	6,486.0	-779.6	-727.9	1,066.6	0.00	0.00	0.00
NIORRARA - TARGET CIRCLE 700'FSL & 700'FWL - LEGAL BOX 400' X 400' 659'FSL & 659'FWL									
6,640.0	0.00	0.00	6,507.9	-779.6	-727.9	1,066.6	0.00	0.00	0.00
6,680.0	0.00	0.00	6,547.9	-779.6	-727.9	1,066.6	0.00	0.00	0.00
6,720.0	0.00	0.00	6,587.9	-779.6	-727.9	1,066.6	0.00	0.00	0.00
6,760.0	0.00	0.00	6,627.9	-779.6	-727.9	1,066.6	0.00	0.00	0.00
6,800.0	0.00	0.00	6,667.9	-779.6	-727.9	1,066.6	0.00	0.00	0.00
6,840.0	0.00	0.00	6,707.9	-779.6	-727.9	1,066.6	0.00	0.00	0.00
6,880.0	0.00	0.00	6,747.9	-779.6	-727.9	1,066.6	0.00	0.00	0.00
6,888.1	0.00	0.00	6,756.0	-779.6	-727.9	1,066.6	0.00	0.00	0.00
CODELL									
6,920.0	0.00	0.00	6,787.9	-779.6	-727.9	1,066.6	0.00	0.00	0.00
6,960.0	0.00	0.00	6,827.9	-779.6	-727.9	1,066.6	0.00	0.00	0.00
7,000.0	0.00	0.00	6,867.9	-779.6	-727.9	1,066.6	0.00	0.00	0.00
7,038.1	0.00	0.00	6,906.0	-779.6	-727.9	1,066.6	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 CIRCLE 700'FS	0.00	0.00	6,486.0	-779.6	-727.9	1,356,227.53	3,271,961.48	40.307140	-104.524830
- plan hits target center									
- Circle (radius 75.0)									
TARGET BHL 700'FS	0.00	0.00	5,500.0	-779.6	-727.9	1,356,227.53	3,271,961.48	40.307140	-104.524830
- plan hits target center									
- Point									
LEGAL BOX 400' X 400'	0.00	0.00	6,486.0	-820.6	-768.9	1,356,186.08	3,271,920.97	40.307027	-104.524977
- plan misses target center by 58.0ft at 6618.1ft MD (6486.0 TVD, -779.6 N, -727.9 E)									
- Rectangle (sides W400.0 H400.0 D420.0)									

Casing Points					
Measured Depth (ft)	Vertical Depth (ft)	Name	Casing Diameter (")	Hole Diameter (")	
600.0	600.0	8 5/8"	8-5/8	12-1/4	

Database:	Landmark	Local Co-ordinate Reference:	Well Burough C14-13D
Company:	NOBLE ENERGY INC WELD COUNTY CO	TVD Reference:	WELL @ 4661.0ft (Original Well Elev)
Project:	SEC.14-T4N-R64W	MD Reference:	WELL @ 4661.0ft (Original Well Elev)
Site:	Burough C14-13D Pad Sec.14-T4N-R64W	North Reference:	True
Well:	Burough C14-13D	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Noble Burough C14-13D Plan #1 (6-14-11)		

Formations						
	Measured Depth (ft)	Vertical Depth (ft)	Name	Lithology	Dip (°)	Dip Direction (°)
	6,618.1	6,486.0	NIOBRARA		0.00	
	6,888.1	6,756.0	CODELL		0.00	