

ENSIGN

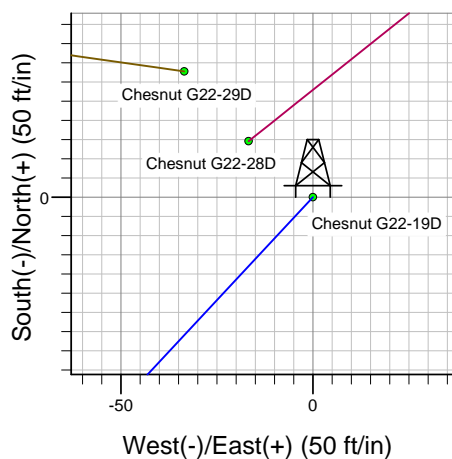
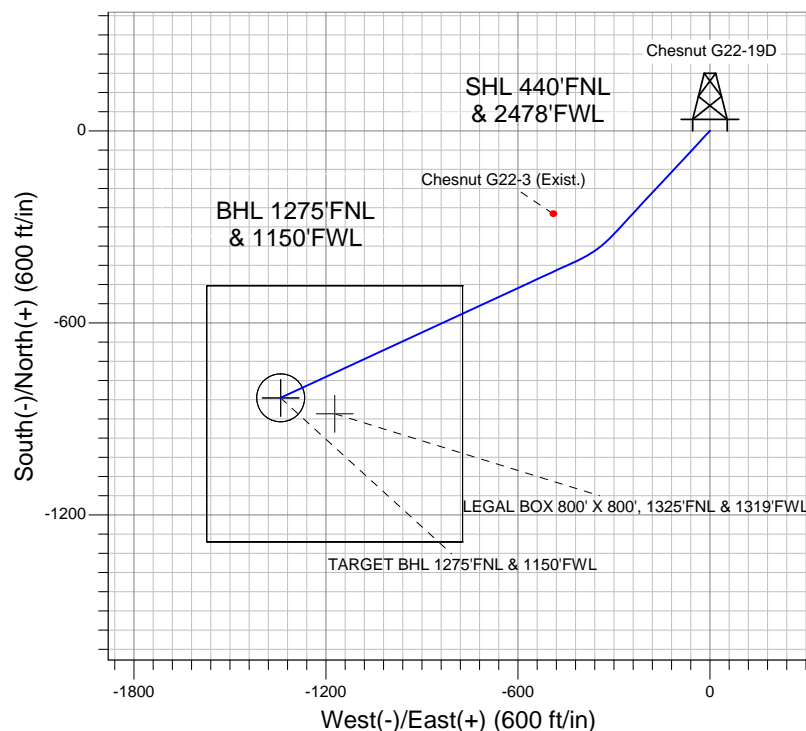
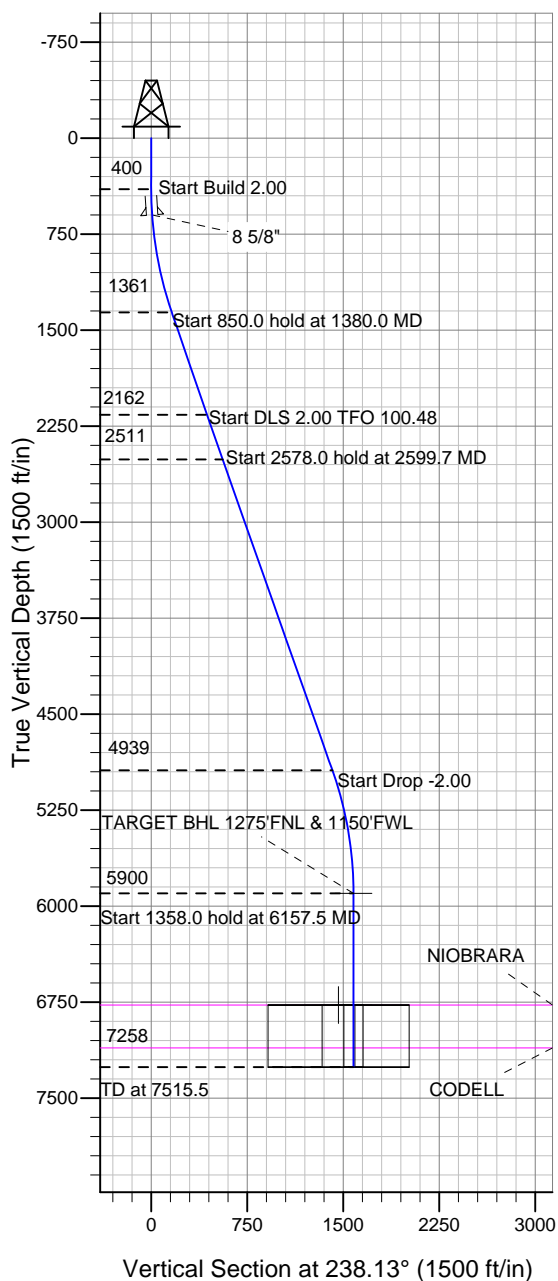
Directional

Well Name: Chesnut G22-19D

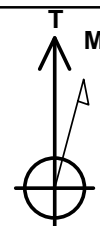
Surface Location: Chesnut G22-29D Pad Sec.22-T4N-R65W
North American Datum 1983, US State Plane 1983 Colorado Northern Zone
Ground Elevation: 4735.0

+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Slot
0.0	0.0	1354710.46	3237126.90	40.303960	-104.649780	
		Original Well Elev	WELL @ 4748.0ft (Original Well Elev)			

NOBLE ENERGY INC WELD COUNTY CO



Chesnut G22-29D Pad Sec.22-T4N-R65W
Chesnut G22-19D
Noble Chesnut G22-19D Plan #1 (2-7-12)
12:32, February 08 2012



Azimuths to True North
Magnetic North: 8.71°
Magnetic Field
Strength: 53025.7snT
Dip Angle: 66.97°
Date: 2/7/2012
Model: IGRF2010

WELLBORE TARGET DETAILS (LAT/LONG)

Name	TVD	+N/-S	+E/-W	Latitude	Longitude	Shape
TARGET BHL 1275'FNL & 1150'FWL	5900.0	-834.2	-1341.6	40.301670	-104.654590	Point
LEGAL BOX 800' X 800', 1325'FNL & 1319'FWL	6773.0	-884.2	-1172.6	40.301533	-104.653984	Rectangle (Sides: L800.0 W800.0)
TARGET CIRCLE 1275'FNL & 1150'FWL	6773.0	-834.2	-1341.6	40.301670	-104.654590	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	400.0	0.00	0.00	400.0	0.0	0.0	0.00	0.00	0.0	
3	1380.0	19.60	223.00	1361.0	-121.4	-113.2	2.00	223.00	160.2	
4	2230.0	19.60	223.00	2161.7	-329.9	-307.7	0.00	0.00	435.5	
5	2599.7	19.60	245.17	2510.5	-401.4	-406.4	2.00	100.48	557.1	
6	5177.7	19.60	245.17	4939.2	-764.5	-1191.0	0.00	0.00	1415.2	
7	6157.5	0.00	0.00	5900.0	-834.2	-1341.6	2.00	180.00	1579.8	TARGET BHL 1275'FNL & 1150'FWL
8	7515.5	0.00	0.00	7258.0	-834.2	-1341.6	0.00	0.00	1579.8	



NOBLE ENERGY INC WELD COUNTY CO

SEC.22-T4N-R65W

Chesnut G22-29D Pad Sec.22-T4N-R65W

Chesnut G22-19D

Wellbore #1

Plan: Noble Chesnut G22-19D Plan #1 (2-7-12)

Standard Planning Report

08 February, 2012



Database:	Landmark	Local Co-ordinate Reference:	Well Chesnut G22-19D
Company:	NOBLE ENERGY INC WELD COUNTY CO	TVD Reference:	WELL @ 4748.0ft (Original Well Elev)
Project:	SEC.22-T4N-R65W	MD Reference:	WELL @ 4748.0ft (Original Well Elev)
Site:	Chesnut G22-29D Pad Sec.22-T4N-R65W	North Reference:	True
Well:	Chesnut G22-19D	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Noble Chesnut G22-19D Plan #1 (2-7-12)		

Project	SEC.22-T4N-R65W, 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						Chesnut G22-29D Pad Sec.22-T4N-R65W											
Site Position:						Northing:			1,354,728.53ft			Latitude:			40.304010		
From:			Lat/Long			Easting:			3,237,109.99ft			Longitude:			-104.649840		
Position Uncertainty:			0.0 ft			Slot Radius:			"			Grid Convergence:			0.55 °		

Well	Chesnut G22-19D					
Well Position	+N/-S	-18.2 ft	Northing:	1,354,710.46 ft	Latitude:	40.303960
	+E/-W	16.7 ft	Easting:	3,237,126.90 ft	Longitude:	-104.649780
Position Uncertainty		0.0 ft	Wellhead Elevation:	ft	Ground Level:	4,735.0 ft

Wellbore	Wellbore #1				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2010	2/7/2012	8.71	66.97	53,026

Design	Noble Chesnut G22-19D Plan #1 (2-7-12)			
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	238.13

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	
400.0	0.00	0.00	400.0	0.0	0.0	0.00	0.00	0.00	0.00	
1,380.0	19.60	223.00	1,361.0	-121.4	-113.2	2.00	2.00	0.00	223.00	
2,230.0	19.60	223.00	2,161.7	-329.9	-307.7	0.00	0.00	0.00	0.00	
2,599.7	19.60	245.17	2,510.5	-401.4	-406.4	2.00	0.00	6.00	100.48	
5,177.7	19.60	245.17	4,939.2	-764.5	-1,191.0	0.00	0.00	0.00	0.00	
6,157.5	0.00	0.00	5,900.0	-834.2	-1,341.6	2.00	-2.00	0.00	180.00	TARGET BHL 1275
7,515.5	0.00	0.00	7,258.0	-834.2	-1,341.6	0.00	0.00	0.00	0.00	

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Site:	Chesnut G22-29D Pad Sec.22-T4N-R65W	North Reference:	True
Well:	Chesnut G22-19D	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Noble Chesnut G22-19D Plan #1 (2-7-12)		

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	0.80	223.00	440.0	-0.2	-0.2	0.3	2.00	2.00	0.00
480.0	1.60	223.00	480.0	-0.8	-0.8	1.1	2.00	2.00	0.00
520.0	2.40	223.00	520.0	-1.8	-1.7	2.4	2.00	2.00	0.00
560.0	3.20	223.00	559.9	-3.3	-3.0	4.3	2.00	2.00	0.00
600.0	4.00	223.00	599.8	-5.1	-4.8	6.7	2.00	2.00	0.00
600.2	4.00	223.00	600.0	-5.1	-4.8	6.7	0.00	0.00	0.00
8 5/8"									
640.0	4.80	223.00	639.7	-7.3	-6.9	9.7	2.01	2.01	0.00
680.0	5.60	223.00	679.6	-10.0	-9.3	13.2	2.00	2.00	0.00
720.0	6.40	223.00	719.3	-13.1	-12.2	17.2	2.00	2.00	0.00
760.0	7.20	223.00	759.1	-16.5	-15.4	21.8	2.00	2.00	0.00
800.0	8.00	223.00	798.7	-20.4	-19.0	26.9	2.00	2.00	0.00
840.0	8.80	223.00	838.3	-24.7	-23.0	32.6	2.00	2.00	0.00
880.0	9.60	223.00	877.8	-29.3	-27.4	38.7	2.00	2.00	0.00
920.0	10.40	223.00	917.1	-34.4	-32.1	45.4	2.00	2.00	0.00
960.0	11.20	223.00	956.4	-39.9	-37.2	52.7	2.00	2.00	0.00
1,000.0	12.00	223.00	995.6	-45.8	-42.7	60.4	2.00	2.00	0.00
1,040.0	12.80	223.00	1,034.7	-52.1	-48.6	68.7	2.00	2.00	0.00
1,080.0	13.60	223.00	1,073.6	-58.7	-54.8	77.5	2.00	2.00	0.00
1,120.0	14.40	223.00	1,112.4	-65.8	-61.4	86.9	2.00	2.00	0.00
1,160.0	15.20	223.00	1,151.1	-73.3	-68.3	96.7	2.00	2.00	0.00
1,200.0	16.00	223.00	1,189.6	-81.2	-75.7	107.1	2.00	2.00	0.00
1,240.0	16.80	223.00	1,228.0	-89.4	-83.4	118.0	2.00	2.00	0.00
1,280.0	17.60	223.00	1,266.2	-98.1	-91.5	129.5	2.00	2.00	0.00
1,320.0	18.40	223.00	1,304.3	-107.1	-99.9	141.4	2.00	2.00	0.00
1,360.0	19.20	223.00	1,342.1	-116.5	-108.7	153.8	2.00	2.00	0.00
1,380.0	19.60	223.00	1,361.0	-121.4	-113.2	160.2	2.00	2.00	0.00
1,400.0	19.60	223.00	1,379.8	-126.3	-117.8	166.7	0.00	0.00	0.00
1,440.0	19.60	223.00	1,417.5	-136.1	-126.9	179.7	0.00	0.00	0.00
1,480.0	19.60	223.00	1,455.2	-145.9	-136.1	192.6	0.00	0.00	0.00
1,520.0	19.60	223.00	1,492.9	-155.7	-145.2	205.6	0.00	0.00	0.00
1,560.0	19.60	223.00	1,530.6	-165.6	-154.4	218.5	0.00	0.00	0.00
1,600.0	19.60	223.00	1,568.3	-175.4	-163.5	231.5	0.00	0.00	0.00
1,640.0	19.60	223.00	1,605.9	-185.2	-172.7	244.4	0.00	0.00	0.00
1,680.0	19.60	223.00	1,643.6	-195.0	-181.8	257.4	0.00	0.00	0.00
1,720.0	19.60	223.00	1,681.3	-204.8	-191.0	270.3	0.00	0.00	0.00
1,760.0	19.60	223.00	1,719.0	-214.6	-200.1	283.3	0.00	0.00	0.00
1,800.0	19.60	223.00	1,756.7	-224.4	-209.3	296.2	0.00	0.00	0.00
1,840.0	19.60	223.00	1,794.3	-234.3	-218.4	309.2	0.00	0.00	0.00
1,880.0	19.60	223.00	1,832.0	-244.1	-227.6	322.2	0.00	0.00	0.00
1,920.0	19.60	223.00	1,869.7	-253.9	-236.7	335.1	0.00	0.00	0.00
1,960.0	19.60	223.00	1,907.4	-263.7	-245.9	348.1	0.00	0.00	0.00
2,000.0	19.60	223.00	1,945.1	-273.5	-255.0	361.0	0.00	0.00	0.00

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Site:	Chesnut G22-29D Pad Sec.22-T4N-R65W	North Reference:	True
Well:	Chesnut G22-19D	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Noble Chesnut G22-19D Plan #1 (2-7-12)		

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)
2,040.0	19.60	223.00	1,982.8	-283.3	-264.2	374.0	0.00	0.00	0.00
2,080.0	19.60	223.00	2,020.4	-293.1	-273.4	386.9	0.00	0.00	0.00
2,120.0	19.60	223.00	2,058.1	-302.9	-282.5	399.9	0.00	0.00	0.00
2,160.0	19.60	223.00	2,095.8	-312.8	-291.7	412.8	0.00	0.00	0.00
2,200.0	19.60	223.00	2,133.5	-322.6	-300.8	425.8	0.00	0.00	0.00
2,230.0	19.60	223.00	2,161.7	-329.9	-307.7	435.5	0.00	0.00	0.00
2,240.0	19.56	223.59	2,171.2	-332.4	-310.0	438.7	2.00	-0.35	5.87
2,280.0	19.44	225.96	2,208.9	-341.9	-319.4	451.7	2.00	-0.31	5.92
2,320.0	19.35	228.35	2,246.6	-350.9	-329.1	464.8	2.00	-0.23	5.98
2,360.0	19.29	230.76	2,284.4	-359.5	-339.2	477.8	2.00	-0.15	6.03
2,400.0	19.26	233.18	2,322.1	-367.6	-349.6	491.0	2.00	-0.07	6.05
2,440.0	19.27	235.61	2,359.9	-375.3	-360.3	504.1	2.00	0.01	6.06
2,480.0	19.30	238.03	2,397.6	-382.5	-371.4	517.3	2.00	0.09	6.05
2,520.0	19.37	240.43	2,435.4	-389.3	-382.7	530.6	2.00	0.17	6.02
2,560.0	19.47	242.82	2,473.1	-395.6	-394.4	543.9	2.00	0.25	5.97
2,599.7	19.60	245.17	2,510.5	-401.4	-406.4	557.1	2.00	0.32	5.90
2,600.0	19.60	245.17	2,510.8	-401.5	-406.4	557.2	0.00	0.00	0.00
2,640.0	19.60	245.17	2,548.5	-407.1	-418.6	570.5	0.00	0.00	0.00
2,680.0	19.60	245.17	2,586.2	-412.7	-430.8	583.8	0.00	0.00	0.00
2,720.0	19.60	245.17	2,623.8	-418.4	-443.0	597.1	0.00	0.00	0.00
2,760.0	19.60	245.17	2,661.5	-424.0	-455.2	610.4	0.00	0.00	0.00
2,800.0	19.60	245.17	2,699.2	-429.6	-467.3	623.7	0.00	0.00	0.00
2,840.0	19.60	245.17	2,736.9	-435.3	-479.5	637.0	0.00	0.00	0.00
2,880.0	19.60	245.17	2,774.6	-440.9	-491.7	650.4	0.00	0.00	0.00
2,920.0	19.60	245.17	2,812.3	-446.5	-503.9	663.7	0.00	0.00	0.00
2,960.0	19.60	245.17	2,849.9	-452.2	-516.0	677.0	0.00	0.00	0.00
3,000.0	19.60	245.17	2,887.6	-457.8	-528.2	690.3	0.00	0.00	0.00
3,040.0	19.60	245.17	2,925.3	-463.4	-540.4	703.6	0.00	0.00	0.00
3,080.0	19.60	245.17	2,963.0	-469.1	-552.6	716.9	0.00	0.00	0.00
3,120.0	19.60	245.17	3,000.7	-474.7	-564.7	730.2	0.00	0.00	0.00
3,160.0	19.60	245.17	3,038.4	-480.3	-576.9	743.6	0.00	0.00	0.00
3,200.0	19.60	245.17	3,076.0	-486.0	-589.1	756.9	0.00	0.00	0.00
3,240.0	19.60	245.17	3,113.7	-491.6	-601.3	770.2	0.00	0.00	0.00
3,280.0	19.60	245.17	3,151.4	-497.2	-613.4	783.5	0.00	0.00	0.00
3,320.0	19.60	245.17	3,189.1	-502.9	-625.6	796.8	0.00	0.00	0.00
3,360.0	19.60	245.17	3,226.8	-508.5	-637.8	810.1	0.00	0.00	0.00
3,400.0	19.60	245.17	3,264.5	-514.1	-650.0	823.4	0.00	0.00	0.00
3,440.0	19.60	245.17	3,302.1	-519.8	-662.1	836.8	0.00	0.00	0.00
3,480.0	19.60	245.17	3,339.8	-525.4	-674.3	850.1	0.00	0.00	0.00
3,520.0	19.60	245.17	3,377.5	-531.0	-686.5	863.4	0.00	0.00	0.00
3,560.0	19.60	245.17	3,415.2	-536.7	-698.7	876.7	0.00	0.00	0.00
3,600.0	19.60	245.17	3,452.9	-542.3	-710.8	890.0	0.00	0.00	0.00
3,640.0	19.60	245.17	3,490.6	-547.9	-723.0	903.3	0.00	0.00	0.00
3,680.0	19.60	245.17	3,528.2	-553.6	-735.2	916.6	0.00	0.00	0.00
3,720.0	19.60	245.17	3,565.9	-559.2	-747.4	930.0	0.00	0.00	0.00
3,760.0	19.60	245.17	3,603.6	-564.8	-759.5	943.3	0.00	0.00	0.00
3,800.0	19.60	245.17	3,641.3	-570.5	-771.7	956.6	0.00	0.00	0.00
3,840.0	19.60	245.17	3,679.0	-576.1	-783.9	969.9	0.00	0.00	0.00
3,880.0	19.60	245.17	3,716.7	-581.8	-796.1	983.2	0.00	0.00	0.00
3,920.0	19.60	245.17	3,754.3	-587.4	-808.2	996.5	0.00	0.00	0.00
3,960.0	19.60	245.17	3,792.0	-593.0	-820.4	1,009.8	0.00	0.00	0.00
4,000.0	19.60	245.17	3,829.7	-598.7	-832.6	1,023.2	0.00	0.00	0.00
4,040.0	19.60	245.17	3,867.4	-604.3	-844.8	1,036.5	0.00	0.00	0.00
4,080.0	19.60	245.17	3,905.1	-609.9	-856.9	1,049.8	0.00	0.00	0.00

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Site:	Chesnut G22-29D Pad Sec.22-T4N-R65W	North Reference:	True
Well:	Chesnut G22-19D	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Noble Chesnut G22-19D Plan #1 (2-7-12)		

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	19.60	245.17	3,942.8	-615.6	-869.1	1,063.1	0.00	0.00	0.00
4,160.0	19.60	245.17	3,980.4	-621.2	-881.3	1,076.4	0.00	0.00	0.00
4,200.0	19.60	245.17	4,018.1	-626.8	-893.5	1,089.7	0.00	0.00	0.00
4,240.0	19.60	245.17	4,055.8	-632.5	-905.6	1,103.0	0.00	0.00	0.00
4,280.0	19.60	245.17	4,093.5	-638.1	-917.8	1,116.4	0.00	0.00	0.00
4,320.0	19.60	245.17	4,131.2	-643.7	-930.0	1,129.7	0.00	0.00	0.00
4,360.0	19.60	245.17	4,168.9	-649.4	-942.2	1,143.0	0.00	0.00	0.00
4,400.0	19.60	245.17	4,206.5	-655.0	-954.3	1,156.3	0.00	0.00	0.00
4,440.0	19.60	245.17	4,244.2	-660.6	-966.5	1,169.6	0.00	0.00	0.00
4,480.0	19.60	245.17	4,281.9	-666.3	-978.7	1,182.9	0.00	0.00	0.00
4,520.0	19.60	245.17	4,319.6	-671.9	-990.9	1,196.2	0.00	0.00	0.00
4,560.0	19.60	245.17	4,357.3	-677.5	-1,003.0	1,209.6	0.00	0.00	0.00
4,600.0	19.60	245.17	4,395.0	-683.2	-1,015.2	1,222.9	0.00	0.00	0.00
4,640.0	19.60	245.17	4,432.6	-688.8	-1,027.4	1,236.2	0.00	0.00	0.00
4,680.0	19.60	245.17	4,470.3	-694.4	-1,039.6	1,249.5	0.00	0.00	0.00
4,720.0	19.60	245.17	4,508.0	-700.1	-1,051.7	1,262.8	0.00	0.00	0.00
4,760.0	19.60	245.17	4,545.7	-705.7	-1,063.9	1,276.1	0.00	0.00	0.00
4,800.0	19.60	245.17	4,583.4	-711.3	-1,076.1	1,289.4	0.00	0.00	0.00
4,840.0	19.60	245.17	4,621.1	-717.0	-1,088.3	1,302.8	0.00	0.00	0.00
4,880.0	19.60	245.17	4,658.7	-722.6	-1,100.4	1,316.1	0.00	0.00	0.00
4,920.0	19.60	245.17	4,696.4	-728.2	-1,112.6	1,329.4	0.00	0.00	0.00
4,960.0	19.60	245.17	4,734.1	-733.9	-1,124.8	1,342.7	0.00	0.00	0.00
5,000.0	19.60	245.17	4,771.8	-739.5	-1,137.0	1,356.0	0.00	0.00	0.00
5,040.0	19.60	245.17	4,809.5	-745.1	-1,149.1	1,369.3	0.00	0.00	0.00
5,080.0	19.60	245.17	4,847.2	-750.8	-1,161.3	1,382.7	0.00	0.00	0.00
5,120.0	19.60	245.17	4,884.8	-756.4	-1,173.5	1,396.0	0.00	0.00	0.00
5,160.0	19.60	245.17	4,922.5	-762.0	-1,185.7	1,409.3	0.00	0.00	0.00
5,177.7	19.60	245.17	4,939.2	-764.5	-1,191.0	1,415.2	0.00	0.00	0.00
5,200.0	19.15	245.17	4,960.2	-767.6	-1,197.8	1,422.5	2.00	-2.00	0.00
5,240.0	18.35	245.17	4,998.1	-773.0	-1,209.4	1,435.3	2.00	-2.00	0.00
5,280.0	17.55	245.17	5,036.2	-778.2	-1,220.6	1,447.5	2.00	-2.00	0.00
5,320.0	16.75	245.17	5,074.4	-783.2	-1,231.3	1,459.2	2.00	-2.00	0.00
5,360.0	15.95	245.17	5,112.8	-787.9	-1,241.5	1,470.4	2.00	-2.00	0.00
5,400.0	15.15	245.17	5,151.3	-792.4	-1,251.3	1,481.0	2.00	-2.00	0.00
5,440.0	14.35	245.17	5,190.0	-796.7	-1,260.5	1,491.1	2.00	-2.00	0.00
5,480.0	13.55	245.17	5,228.8	-800.7	-1,269.3	1,500.7	2.00	-2.00	0.00
5,520.0	12.75	245.17	5,267.8	-804.6	-1,277.5	1,509.7	2.00	-2.00	0.00
5,560.0	11.95	245.17	5,306.8	-808.1	-1,285.3	1,518.2	2.00	-2.00	0.00
5,600.0	11.15	245.17	5,346.0	-811.5	-1,292.6	1,526.2	2.00	-2.00	0.00
5,640.0	10.35	245.17	5,385.3	-814.6	-1,299.3	1,533.6	2.00	-2.00	0.00
5,680.0	9.55	245.17	5,424.7	-817.5	-1,305.6	1,540.4	2.00	-2.00	0.00
5,720.0	8.75	245.17	5,464.2	-820.2	-1,311.4	1,546.8	2.00	-2.00	0.00
5,760.0	7.95	245.17	5,503.8	-822.7	-1,316.7	1,552.5	2.00	-2.00	0.00
5,800.0	7.15	245.17	5,543.4	-824.9	-1,321.4	1,557.7	2.00	-2.00	0.00
5,840.0	6.35	245.17	5,583.2	-826.8	-1,325.7	1,562.4	2.00	-2.00	0.00
5,880.0	5.55	245.17	5,622.9	-828.6	-1,329.5	1,566.5	2.00	-2.00	0.00
5,920.0	4.75	245.17	5,662.8	-830.1	-1,332.7	1,570.1	2.00	-2.00	0.00
5,960.0	3.95	245.17	5,702.7	-831.4	-1,335.5	1,573.1	2.00	-2.00	0.00
6,000.0	3.15	245.17	5,742.6	-832.4	-1,337.7	1,575.5	2.00	-2.00	0.00
6,040.0	2.35	245.17	5,782.5	-833.2	-1,339.5	1,577.5	2.00	-2.00	0.00
6,080.0	1.55	245.17	5,822.5	-833.8	-1,340.7	1,578.8	2.00	-2.00	0.00
6,120.0	0.75	245.17	5,862.5	-834.1	-1,341.4	1,579.6	2.00	-2.00	0.00
6,157.5	0.00	0.00	5,900.0	-834.2	-1,341.6	1,579.8	2.00	-2.00	0.00
TARGET BHL 1275'FNL & 1150'FWL									

Database:	Landmark	Local Co-ordinate Reference:	Well Chesnut G22-19D
Company:	NOBLE ENERGY INC WELD COUNTY CO	TVD Reference:	WELL @ 4748.0ft (Original Well Elev)
Project:	SEC.22-T4N-R65W	MD Reference:	WELL @ 4748.0ft (Original Well Elev)
Site:	Chesnut G22-29D Pad Sec.22-T4N-R65W	North Reference:	True
Well:	Chesnut G22-19D	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Noble Chesnut G22-19D Plan #1 (2-7-12)		

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	5,902.5	-834.2	-1,341.6	1,579.8	0.00	0.00	0.00
6,200.0	0.00	0.00	5,942.5	-834.2	-1,341.6	1,579.8	0.00	0.00	0.00
6,240.0	0.00	0.00	5,982.5	-834.2	-1,341.6	1,579.8	0.00	0.00	0.00
6,280.0	0.00	0.00	6,022.5	-834.2	-1,341.6	1,579.8	0.00	0.00	0.00
6,320.0	0.00	0.00	6,062.5	-834.2	-1,341.6	1,579.8	0.00	0.00	0.00
6,360.0	0.00	0.00	6,102.5	-834.2	-1,341.6	1,579.8	0.00	0.00	0.00
6,400.0	0.00	0.00	6,142.5	-834.2	-1,341.6	1,579.8	0.00	0.00	0.00
6,440.0	0.00	0.00	6,182.5	-834.2	-1,341.6	1,579.8	0.00	0.00	0.00
6,480.0	0.00	0.00	6,222.5	-834.2	-1,341.6	1,579.8	0.00	0.00	0.00
6,520.0	0.00	0.00	6,262.5	-834.2	-1,341.6	1,579.8	0.00	0.00	0.00
6,560.0	0.00	0.00	6,302.5	-834.2	-1,341.6	1,579.8	0.00	0.00	0.00
6,600.0	0.00	0.00	6,342.5	-834.2	-1,341.6	1,579.8	0.00	0.00	0.00
6,640.0	0.00	0.00	6,382.5	-834.2	-1,341.6	1,579.8	0.00	0.00	0.00
6,680.0	0.00	0.00	6,422.5	-834.2	-1,341.6	1,579.8	0.00	0.00	0.00
6,720.0	0.00	0.00	6,462.5	-834.2	-1,341.6	1,579.8	0.00	0.00	0.00
6,760.0	0.00	0.00	6,502.5	-834.2	-1,341.6	1,579.8	0.00	0.00	0.00
6,800.0	0.00	0.00	6,542.5	-834.2	-1,341.6	1,579.8	0.00	0.00	0.00
6,840.0	0.00	0.00	6,582.5	-834.2	-1,341.6	1,579.8	0.00	0.00	0.00
6,880.0	0.00	0.00	6,622.5	-834.2	-1,341.6	1,579.8	0.00	0.00	0.00
6,920.0	0.00	0.00	6,662.5	-834.2	-1,341.6	1,579.8	0.00	0.00	0.00
6,960.0	0.00	0.00	6,702.5	-834.2	-1,341.6	1,579.8	0.00	0.00	0.00
7,000.0	0.00	0.00	6,742.5	-834.2	-1,341.6	1,579.8	0.00	0.00	0.00
7,030.5	0.00	0.00	6,773.0	-834.2	-1,341.6	1,579.8	0.00	0.00	0.00
NIOBRARA - LEGAL BOX 800' X 800', 1325'FNL & 1319'FWL - TARGET CIRCLE 1275'FNL & 1150'FWL									
7,040.0	0.00	0.00	6,782.5	-834.2	-1,341.6	1,579.8	0.00	0.00	0.00
7,080.0	0.00	0.00	6,822.5	-834.2	-1,341.6	1,579.8	0.00	0.00	0.00
7,120.0	0.00	0.00	6,862.5	-834.2	-1,341.6	1,579.8	0.00	0.00	0.00
7,160.0	0.00	0.00	6,902.5	-834.2	-1,341.6	1,579.8	0.00	0.00	0.00
7,200.0	0.00	0.00	6,942.5	-834.2	-1,341.6	1,579.8	0.00	0.00	0.00
7,240.0	0.00	0.00	6,982.5	-834.2	-1,341.6	1,579.8	0.00	0.00	0.00
7,280.0	0.00	0.00	7,022.5	-834.2	-1,341.6	1,579.8	0.00	0.00	0.00
7,320.0	0.00	0.00	7,062.5	-834.2	-1,341.6	1,579.8	0.00	0.00	0.00
7,360.0	0.00	0.00	7,102.5	-834.2	-1,341.6	1,579.8	0.00	0.00	0.00
7,365.5	0.00	0.00	7,108.0	-834.2	-1,341.6	1,579.8	0.00	0.00	0.00
CODELL									
7,400.0	0.00	0.00	7,142.5	-834.2	-1,341.6	1,579.8	0.00	0.00	0.00
7,440.0	0.00	0.00	7,182.5	-834.2	-1,341.6	1,579.8	0.00	0.00	0.00
7,480.0	0.00	0.00	7,222.5	-834.2	-1,341.6	1,579.8	0.00	0.00	0.00
7,515.5	0.00	0.00	7,258.0	-834.2	-1,341.6	1,579.8	0.00	0.00	0.00

Database:	Landmark	Local Co-ordinate Reference:	Well Chesnut G22-19D
Company:	NOBLE ENERGY INC WELD COUNTY CO	TVD Reference:	WELL @ 4748.0ft (Original Well Elev)
Project:	SEC.22-T4N-R65W	MD Reference:	WELL @ 4748.0ft (Original Well Elev)
Site:	Chesnut G22-29D Pad Sec.22-T4N-R65W	North Reference:	True
Well:	Chesnut G22-19D	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Noble Chesnut G22-19D Plan #1 (2-7-12)		

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)		
LEGAL BOX 800' X 800'	0.00	0.00	6,773.0	-884.2	-1,172.6	1,353,815.10	3,235,962.88	40.301533	-104.653984
- plan misses target center by 176.3ft at 7030.5ft MD (6773.0 TVD, -834.2 N, -1341.6 E)									
- Rectangle (sides W800.0 H800.0 D485.0)									
TARGET BHL 1275'F	0.00	0.00	5,900.0	-834.2	-1,341.6	1,353,863.46	3,235,793.38	40.301670	-104.654590
- plan hits target center									
- Point									
TARGET CIRCLE 127'	0.00	0.00	6,773.0	-834.2	-1,341.6	1,353,863.46	3,235,793.38	40.301670	-104.654590
- plan hits target center									
- Circle (radius 75.0)									

Casing Points					
Measured Depth (ft)	Vertical Depth (ft)	Name	Casing Diameter (")	Hole Diameter (")	
600.2	600.0	8 5/8"	8-5/8	12-1/4	

Formations					
Measured Depth (ft)	Vertical Depth (ft)	Name	Lithology	Dip (°)	Dip Direction (°)
7,030.5	6,773.0	NIOBRARA		0.00	
7,365.5	7,108.0	CODELL		0.00	