

ENSIGN

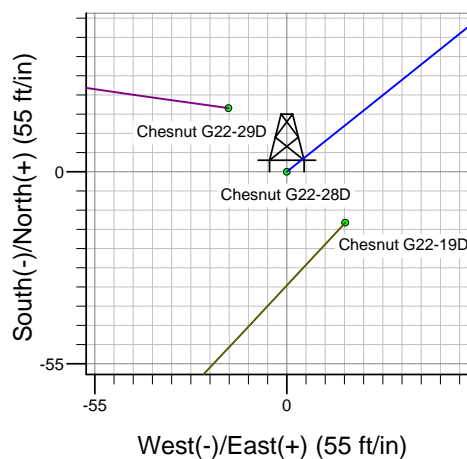
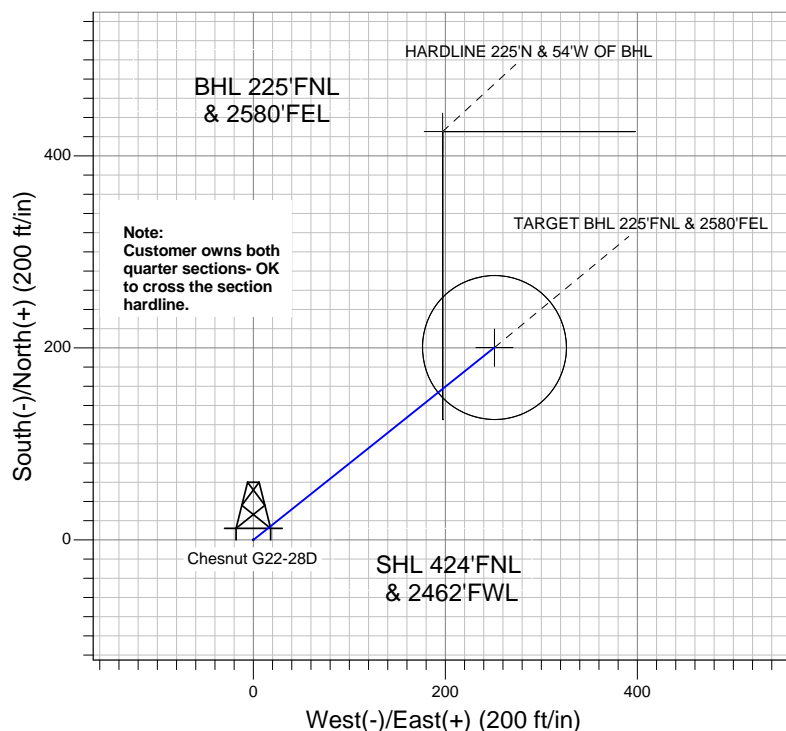
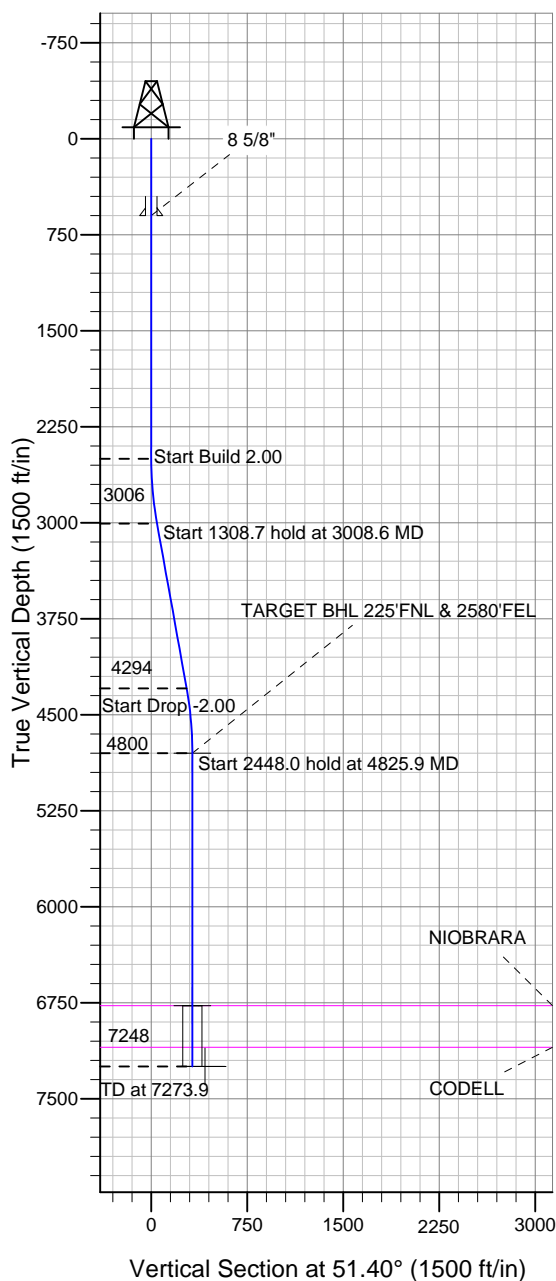
Directional

Well Name: Chesnut G22-28D

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	1354724.87	3237110.02	40.304000	-104.649840	
		Original Well Elev	WELL @ 4748.0ft (Original Well Elev)			

NOBLE ENERGY INC WELD COUNTY CO



Chesnut G22-29D Pad Sec.22-T4N-R65W
Chesnut G22-28D
Noble Chesnut G22-28D Plan #2 (2-16-12)
13:13, February 16 2012



Azimuths to True North
Magnetic North: 8.66°
Magnetic Field
Strength: 53046.6snT
Dip Angle: 66.98°
Date: 2/16/2012
Model: IGRF200510

WELLBORE TARGET DETAILS (LAT/LONG)

Name	TVD	+N/-S	+E/-W	Latitude	Longitude	Shape
TARGET BHL 225'FNL & 2580'FEL	4800.0	200.4	251.0	40.304550	-104.648940	Point
TARGET CIRCLE 225'FNL & 2580'FEL	6773.0	200.4	251.0	40.304550	-104.648940	Circle (Radius: 75.0)
HARDLINE 225'N & 54'W OF BHL	7248.0	425.4	197.0	40.305168	-104.649134	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	2500.0	0.00	0.00	2500.0	0.0	0.0	0.00	0.00	0.0	
3	3008.6	10.17	51.40	3006.0	28.1	35.2	2.00	51.40	45.0	
4	4317.3	10.17	51.40	4294.0	172.3	215.8	0.00	0.00	276.2	
5	4825.9	0.00	0.00	4800.0	200.4	251.0	2.00	180.00	321.2	TARGET BHL 225'FNL & 2580'FEL
6	7273.9	0.00	0.00	7248.0	200.4	251.0	0.00	0.00	321.2	



NOBLE ENERGY INC WELD COUNTY CO

SEC.22-T4N-R65W

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

Chesnut G22-28D

Wellbore #1

Plan: Noble Chesnut G22-28D Plan #2 (2-16-12)

Standard Planning Report

16 February, 2012



Database:	Landmark	Local Co-ordinate Reference:	Well Chesnut G22-28D
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 G22-28D	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Noble Chesnut G22-28D Plan #2 (2-16-12)		

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 G22-28D					
Well Position	+N/-S	-3.7 ft	Northing:	1,354,724.87 ft	Latitude:	40.304000
	+E/-W	0.0 ft	Easting:	3,237,110.02 ft	Longitude:	-104.649840
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)
	IGRF200510	2/16/2012	8.66	66.98	53,047

Design	Noble Chesnut G22-28D Plan #2 (2-16-12)			
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	51.40

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	
2,500.0	0.00	0.00	2,500.0	0.0	0.0	0.00	0.00	0.00	0.00	
3,008.6	10.17	51.40	3,006.0	28.1	35.2	2.00	2.00	0.00	51.40	
4,317.3	10.17	51.40	4,294.0	172.3	215.8	0.00	0.00	0.00	0.00	
4,825.9	0.00	0.00	4,800.0	200.4	251.0	2.00	-2.00	0.00	180.00	TARGET BHL 225'I
7,273.9	0.00	0.00	7,248.0	200.4	251.0	0.00	0.00	0.00	0.00	

Database:	Landmark	Local Co-ordinate Reference:	Well Chesnut G22-28D
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 G22-28D	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Noble Chesnut G22-28D Plan #2 (2-16-12)		

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	0.00	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
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
1,160.0	0.00	0.00	1,160.0	0.0	0.0	0.0	0.00	0.00	0.00
1,200.0	0.00	0.00	1,200.0	0.0	0.0	0.0	0.00	0.00	0.00
1,240.0	0.00	0.00	1,240.0	0.0	0.0	0.0	0.00	0.00	0.00
1,280.0	0.00	0.00	1,280.0	0.0	0.0	0.0	0.00	0.00	0.00
1,320.0	0.00	0.00	1,320.0	0.0	0.0	0.0	0.00	0.00	0.00
1,360.0	0.00	0.00	1,360.0	0.0	0.0	0.0	0.00	0.00	0.00
1,400.0	0.00	0.00	1,400.0	0.0	0.0	0.0	0.00	0.00	0.00
1,440.0	0.00	0.00	1,440.0	0.0	0.0	0.0	0.00	0.00	0.00
1,480.0	0.00	0.00	1,480.0	0.0	0.0	0.0	0.00	0.00	0.00
1,520.0	0.00	0.00	1,520.0	0.0	0.0	0.0	0.00	0.00	0.00
1,560.0	0.00	0.00	1,560.0	0.0	0.0	0.0	0.00	0.00	0.00
1,600.0	0.00	0.00	1,600.0	0.0	0.0	0.0	0.00	0.00	0.00
1,640.0	0.00	0.00	1,640.0	0.0	0.0	0.0	0.00	0.00	0.00
1,680.0	0.00	0.00	1,680.0	0.0	0.0	0.0	0.00	0.00	0.00
1,720.0	0.00	0.00	1,720.0	0.0	0.0	0.0	0.00	0.00	0.00
1,760.0	0.00	0.00	1,760.0	0.0	0.0	0.0	0.00	0.00	0.00
1,800.0	0.00	0.00	1,800.0	0.0	0.0	0.0	0.00	0.00	0.00
1,840.0	0.00	0.00	1,840.0	0.0	0.0	0.0	0.00	0.00	0.00
1,880.0	0.00	0.00	1,880.0	0.0	0.0	0.0	0.00	0.00	0.00
1,920.0	0.00	0.00	1,920.0	0.0	0.0	0.0	0.00	0.00	0.00
1,960.0	0.00	0.00	1,960.0	0.0	0.0	0.0	0.00	0.00	0.00
2,000.0	0.00	0.00	2,000.0	0.0	0.0	0.0	0.00	0.00	0.00
2,040.0	0.00	0.00	2,040.0	0.0	0.0	0.0	0.00	0.00	0.00
2,080.0	0.00	0.00	2,080.0	0.0	0.0	0.0	0.00	0.00	0.00

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Site:	Chesnut G22-29D Pad Sec.22-T4N-R65W	North Reference:	True
Well:	Chesnut G22-28D	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Noble Chesnut G22-28D Plan #2 (2-16-12)		

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)
2,120.0	0.00	0.00	2,120.0	0.0	0.0	0.0	0.00	0.00	0.00
2,160.0	0.00	0.00	2,160.0	0.0	0.0	0.0	0.00	0.00	0.00
2,200.0	0.00	0.00	2,200.0	0.0	0.0	0.0	0.00	0.00	0.00
2,240.0	0.00	0.00	2,240.0	0.0	0.0	0.0	0.00	0.00	0.00
2,280.0	0.00	0.00	2,280.0	0.0	0.0	0.0	0.00	0.00	0.00
2,320.0	0.00	0.00	2,320.0	0.0	0.0	0.0	0.00	0.00	0.00
2,360.0	0.00	0.00	2,360.0	0.0	0.0	0.0	0.00	0.00	0.00
2,400.0	0.00	0.00	2,400.0	0.0	0.0	0.0	0.00	0.00	0.00
2,440.0	0.00	0.00	2,440.0	0.0	0.0	0.0	0.00	0.00	0.00
2,480.0	0.00	0.00	2,480.0	0.0	0.0	0.0	0.00	0.00	0.00
2,500.0	0.00	0.00	2,500.0	0.0	0.0	0.0	0.00	0.00	0.00
2,520.0	0.40	51.40	2,520.0	0.0	0.1	0.1	2.00	2.00	0.00
2,560.0	1.20	51.40	2,560.0	0.4	0.5	0.6	2.00	2.00	0.00
2,600.0	2.00	51.40	2,600.0	1.1	1.4	1.7	2.00	2.00	0.00
2,640.0	2.80	51.40	2,639.9	2.1	2.7	3.4	2.00	2.00	0.00
2,680.0	3.60	51.40	2,679.9	3.5	4.4	5.7	2.00	2.00	0.00
2,720.0	4.40	51.40	2,719.8	5.3	6.6	8.4	2.00	2.00	0.00
2,760.0	5.20	51.40	2,759.6	7.4	9.2	11.8	2.00	2.00	0.00
2,800.0	6.00	51.40	2,799.5	9.8	12.3	15.7	2.00	2.00	0.00
2,840.0	6.80	51.40	2,839.2	12.6	15.7	20.2	2.00	2.00	0.00
2,880.0	7.60	51.40	2,878.9	15.7	19.7	25.2	2.00	2.00	0.00
2,920.0	8.40	51.40	2,918.5	19.2	24.0	30.7	2.00	2.00	0.00
2,960.0	9.20	51.40	2,958.0	23.0	28.8	36.9	2.00	2.00	0.00
3,000.0	10.00	51.40	2,997.5	27.2	34.0	43.5	2.00	2.00	0.00
3,008.6	10.17	51.40	3,006.0	28.1	35.2	45.0	2.00	2.00	0.00
3,040.0	10.17	51.40	3,036.8	31.6	39.5	50.6	0.00	0.00	0.00
3,080.0	10.17	51.40	3,076.2	36.0	45.0	57.6	0.00	0.00	0.00
3,120.0	10.17	51.40	3,115.6	40.4	50.6	64.7	0.00	0.00	0.00
3,160.0	10.17	51.40	3,155.0	44.8	56.1	71.8	0.00	0.00	0.00
3,200.0	10.17	51.40	3,194.3	49.2	61.6	78.8	0.00	0.00	0.00
3,240.0	10.17	51.40	3,233.7	53.6	67.1	85.9	0.00	0.00	0.00
3,280.0	10.17	51.40	3,273.1	58.0	72.7	93.0	0.00	0.00	0.00
3,320.0	10.17	51.40	3,312.4	62.4	78.2	100.0	0.00	0.00	0.00
3,360.0	10.17	51.40	3,351.8	66.8	83.7	107.1	0.00	0.00	0.00
3,400.0	10.17	51.40	3,391.2	71.2	89.2	114.2	0.00	0.00	0.00
3,440.0	10.17	51.40	3,430.6	75.6	94.7	121.2	0.00	0.00	0.00
3,480.0	10.17	51.40	3,469.9	80.0	100.3	128.3	0.00	0.00	0.00
3,520.0	10.17	51.40	3,509.3	84.4	105.8	135.3	0.00	0.00	0.00
3,560.0	10.17	51.40	3,548.7	88.8	111.3	142.4	0.00	0.00	0.00
3,600.0	10.17	51.40	3,588.0	93.3	116.8	149.5	0.00	0.00	0.00
3,640.0	10.17	51.40	3,627.4	97.7	122.3	156.5	0.00	0.00	0.00
3,680.0	10.17	51.40	3,666.8	102.1	127.9	163.6	0.00	0.00	0.00
3,720.0	10.17	51.40	3,706.1	106.5	133.4	170.7	0.00	0.00	0.00
3,760.0	10.17	51.40	3,745.5	110.9	138.9	177.7	0.00	0.00	0.00
3,800.0	10.17	51.40	3,784.9	115.3	144.4	184.8	0.00	0.00	0.00
3,840.0	10.17	51.40	3,824.3	119.7	149.9	191.9	0.00	0.00	0.00
3,880.0	10.17	51.40	3,863.6	124.1	155.5	198.9	0.00	0.00	0.00
3,920.0	10.17	51.40	3,903.0	128.5	161.0	206.0	0.00	0.00	0.00
3,960.0	10.17	51.40	3,942.4	132.9	166.5	213.1	0.00	0.00	0.00
4,000.0	10.17	51.40	3,981.7	137.3	172.0	220.1	0.00	0.00	0.00
4,040.0	10.17	51.40	4,021.1	141.7	177.6	227.2	0.00	0.00	0.00
4,080.0	10.17	51.40	4,060.5	146.1	183.1	234.3	0.00	0.00	0.00
4,120.0	10.17	51.40	4,099.9	150.5	188.6	241.3	0.00	0.00	0.00
4,160.0	10.17	51.40	4,139.2	155.0	194.1	248.4	0.00	0.00	0.00

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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 G22-28D	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Noble Chesnut G22-28D Plan #2 (2-16-12)		

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)
4,200.0	10.17	51.40	4,178.6	159.4	199.6	255.4	0.00	0.00	0.00
4,240.0	10.17	51.40	4,218.0	163.8	205.2	262.5	0.00	0.00	0.00
4,280.0	10.17	51.40	4,257.3	168.2	210.7	269.6	0.00	0.00	0.00
4,317.3	10.17	51.40	4,294.0	172.3	215.8	276.2	0.00	0.00	0.00
4,320.0	10.12	51.40	4,296.7	172.6	216.2	276.6	2.00	-2.00	0.00
4,360.0	9.32	51.40	4,336.1	176.8	221.5	283.4	2.00	-2.00	0.00
4,400.0	8.52	51.40	4,375.7	180.7	226.3	289.6	2.00	-2.00	0.00
4,440.0	7.72	51.40	4,415.3	184.2	230.7	295.2	2.00	-2.00	0.00
4,480.0	6.92	51.40	4,454.9	187.4	234.7	300.3	2.00	-2.00	0.00
4,520.0	6.12	51.40	4,494.7	190.2	238.3	304.9	2.00	-2.00	0.00
4,560.0	5.32	51.40	4,534.5	192.7	241.4	308.9	2.00	-2.00	0.00
4,600.0	4.52	51.40	4,574.3	194.8	244.1	312.3	2.00	-2.00	0.00
4,640.0	3.72	51.40	4,614.2	196.6	246.3	315.2	2.00	-2.00	0.00
4,680.0	2.92	51.40	4,654.2	198.1	248.1	317.5	2.00	-2.00	0.00
4,720.0	2.12	51.40	4,694.1	199.2	249.5	319.2	2.00	-2.00	0.00
4,760.0	1.32	51.40	4,734.1	199.9	250.4	320.4	2.00	-2.00	0.00
4,800.0	0.52	51.40	4,774.1	200.3	250.9	321.1	2.00	-2.00	0.00
4,825.9	0.00	0.00	4,800.0	200.4	251.0	321.2	2.00	-2.00	-198.41
TARGET BHL 225°FNL & 2580°FEL									
4,840.0	0.00	0.00	4,814.1	200.4	251.0	321.2	0.00	0.00	0.00
4,880.0	0.00	0.00	4,854.1	200.4	251.0	321.2	0.00	0.00	0.00
4,920.0	0.00	0.00	4,894.1	200.4	251.0	321.2	0.00	0.00	0.00
4,960.0	0.00	0.00	4,934.1	200.4	251.0	321.2	0.00	0.00	0.00
5,000.0	0.00	0.00	4,974.1	200.4	251.0	321.2	0.00	0.00	0.00
5,040.0	0.00	0.00	5,014.1	200.4	251.0	321.2	0.00	0.00	0.00
5,080.0	0.00	0.00	5,054.1	200.4	251.0	321.2	0.00	0.00	0.00
5,120.0	0.00	0.00	5,094.1	200.4	251.0	321.2	0.00	0.00	0.00
5,160.0	0.00	0.00	5,134.1	200.4	251.0	321.2	0.00	0.00	0.00
5,200.0	0.00	0.00	5,174.1	200.4	251.0	321.2	0.00	0.00	0.00
5,240.0	0.00	0.00	5,214.1	200.4	251.0	321.2	0.00	0.00	0.00
5,280.0	0.00	0.00	5,254.1	200.4	251.0	321.2	0.00	0.00	0.00
5,320.0	0.00	0.00	5,294.1	200.4	251.0	321.2	0.00	0.00	0.00
5,360.0	0.00	0.00	5,334.1	200.4	251.0	321.2	0.00	0.00	0.00
5,400.0	0.00	0.00	5,374.1	200.4	251.0	321.2	0.00	0.00	0.00
5,440.0	0.00	0.00	5,414.1	200.4	251.0	321.2	0.00	0.00	0.00
5,480.0	0.00	0.00	5,454.1	200.4	251.0	321.2	0.00	0.00	0.00
5,520.0	0.00	0.00	5,494.1	200.4	251.0	321.2	0.00	0.00	0.00
5,560.0	0.00	0.00	5,534.1	200.4	251.0	321.2	0.00	0.00	0.00
5,600.0	0.00	0.00	5,574.1	200.4	251.0	321.2	0.00	0.00	0.00
5,640.0	0.00	0.00	5,614.1	200.4	251.0	321.2	0.00	0.00	0.00
5,680.0	0.00	0.00	5,654.1	200.4	251.0	321.2	0.00	0.00	0.00
5,720.0	0.00	0.00	5,694.1	200.4	251.0	321.2	0.00	0.00	0.00
5,760.0	0.00	0.00	5,734.1	200.4	251.0	321.2	0.00	0.00	0.00
5,800.0	0.00	0.00	5,774.1	200.4	251.0	321.2	0.00	0.00	0.00
5,840.0	0.00	0.00	5,814.1	200.4	251.0	321.2	0.00	0.00	0.00
5,880.0	0.00	0.00	5,854.1	200.4	251.0	321.2	0.00	0.00	0.00
5,920.0	0.00	0.00	5,894.1	200.4	251.0	321.2	0.00	0.00	0.00
5,960.0	0.00	0.00	5,934.1	200.4	251.0	321.2	0.00	0.00	0.00
6,000.0	0.00	0.00	5,974.1	200.4	251.0	321.2	0.00	0.00	0.00
6,040.0	0.00	0.00	6,014.1	200.4	251.0	321.2	0.00	0.00	0.00
6,080.0	0.00	0.00	6,054.1	200.4	251.0	321.2	0.00	0.00	0.00
6,120.0	0.00	0.00	6,094.1	200.4	251.0	321.2	0.00	0.00	0.00
6,160.0	0.00	0.00	6,134.1	200.4	251.0	321.2	0.00	0.00	0.00
6,200.0	0.00	0.00	6,174.1	200.4	251.0	321.2	0.00	0.00	0.00

Database:	Landmark	Local Co-ordinate Reference:	Well Chesnut G22-28D
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 G22-28D	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Noble Chesnut G22-28D Plan #2 (2-16-12)		

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)
6,240.0	0.00	0.00	6,214.1	200.4	251.0	321.2	0.00	0.00	0.00
6,280.0	0.00	0.00	6,254.1	200.4	251.0	321.2	0.00	0.00	0.00
6,320.0	0.00	0.00	6,294.1	200.4	251.0	321.2	0.00	0.00	0.00
6,360.0	0.00	0.00	6,334.1	200.4	251.0	321.2	0.00	0.00	0.00
6,400.0	0.00	0.00	6,374.1	200.4	251.0	321.2	0.00	0.00	0.00
6,440.0	0.00	0.00	6,414.1	200.4	251.0	321.2	0.00	0.00	0.00
6,480.0	0.00	0.00	6,454.1	200.4	251.0	321.2	0.00	0.00	0.00
6,520.0	0.00	0.00	6,494.1	200.4	251.0	321.2	0.00	0.00	0.00
6,560.0	0.00	0.00	6,534.1	200.4	251.0	321.2	0.00	0.00	0.00
6,600.0	0.00	0.00	6,574.1	200.4	251.0	321.2	0.00	0.00	0.00
6,640.0	0.00	0.00	6,614.1	200.4	251.0	321.2	0.00	0.00	0.00
6,680.0	0.00	0.00	6,654.1	200.4	251.0	321.2	0.00	0.00	0.00
6,720.0	0.00	0.00	6,694.1	200.4	251.0	321.2	0.00	0.00	0.00
6,760.0	0.00	0.00	6,734.1	200.4	251.0	321.2	0.00	0.00	0.00
6,798.9	0.00	0.00	6,773.0	200.4	251.0	321.2	0.00	0.00	0.00
NIORARA - TARGET CIRCLE 225'FNL & 2580'FEL									
6,800.0	0.00	0.00	6,774.1	200.4	251.0	321.2	0.00	0.00	0.00
6,840.0	0.00	0.00	6,814.1	200.4	251.0	321.2	0.00	0.00	0.00
6,880.0	0.00	0.00	6,854.1	200.4	251.0	321.2	0.00	0.00	0.00
6,920.0	0.00	0.00	6,894.1	200.4	251.0	321.2	0.00	0.00	0.00
6,960.0	0.00	0.00	6,934.1	200.4	251.0	321.2	0.00	0.00	0.00
7,000.0	0.00	0.00	6,974.1	200.4	251.0	321.2	0.00	0.00	0.00
7,040.0	0.00	0.00	7,014.1	200.4	251.0	321.2	0.00	0.00	0.00
7,080.0	0.00	0.00	7,054.1	200.4	251.0	321.2	0.00	0.00	0.00
7,120.0	0.00	0.00	7,094.1	200.4	251.0	321.2	0.00	0.00	0.00
7,123.9	0.00	0.00	7,098.0	200.4	251.0	321.2	0.00	0.00	0.00
CODELL									
7,160.0	0.00	0.00	7,134.1	200.4	251.0	321.2	0.00	0.00	0.00
7,200.0	0.00	0.00	7,174.1	200.4	251.0	321.2	0.00	0.00	0.00
7,240.0	0.00	0.00	7,214.1	200.4	251.0	321.2	0.00	0.00	0.00
7,273.9	0.00	0.00	7,248.0	200.4	251.0	321.2	0.00	0.00	0.00
HARDLINE 225'N & 54'W OF BHL									

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 225'FN	0.00	0.00	4,800.0	200.4	251.0	1,354,927.64	3,237,359.10	40.304550	-104.648940
- plan hits target center									
- Point									
TARGET CIRCLE 225'	0.00	0.00	6,773.0	200.4	251.0	1,354,927.64	3,237,359.10	40.304550	-104.648940
- plan hits target center									
- Circle (radius 75.0)									
HARDLINE 225'N & 54'W	0.00	0.00	7,248.0	425.4	197.0	1,355,152.12	3,237,302.93	40.305168	-104.649134
- plan misses target center by 231.4ft at 7273.9ft MD (7248.0 TVD, 200.4 N, 251.0 E)									
- Polygon									
Point 1			7,248.0	0.0	0.0	1,355,152.12	3,237,302.93		
Point 2			7,248.0	0.0	200.0	1,355,154.04	3,237,502.91		
Point 3			7,248.0	0.0	0.0	1,355,152.12	3,237,302.93		
Point 4			7,248.0	-300.0	0.0	1,354,852.15	3,237,305.80		

Database:	Landmark	Local Co-ordinate Reference:	Well Chesnut G22-28D
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 G22-28D	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Noble Chesnut G22-28D Plan #2 (2-16-12)		

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	

Formations					
Measured Depth (ft)	Vertical Depth (ft)	Name	Lithology	Dip (°)	Dip Direction (°)
6,798.9	6,773.0	NIOBRARA		0.00	
7,123.9	7,098.0	CODELL		0.00	