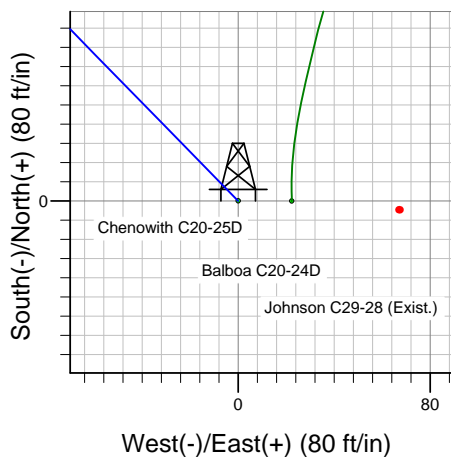
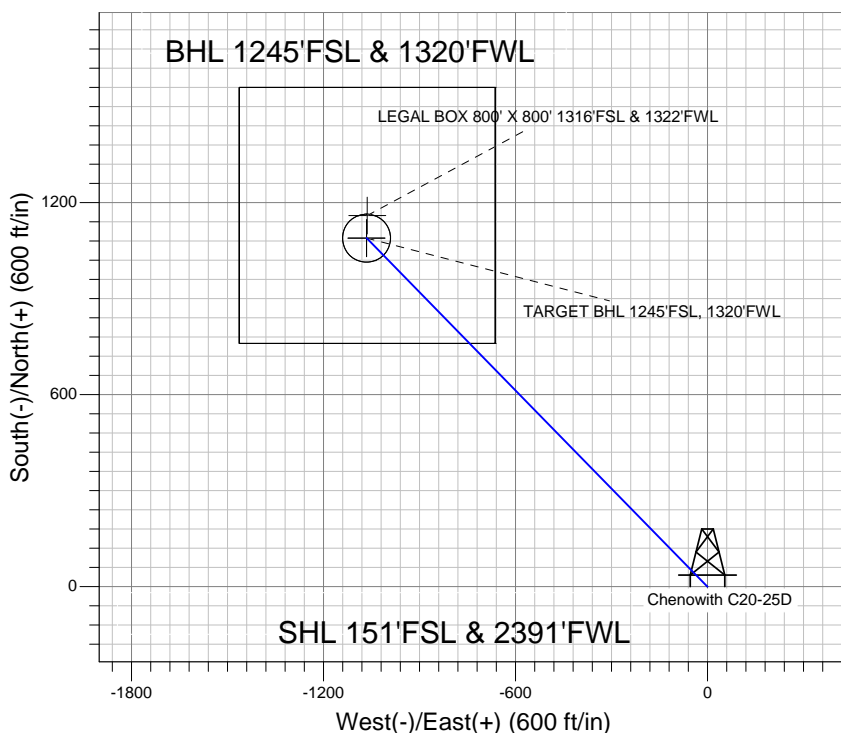
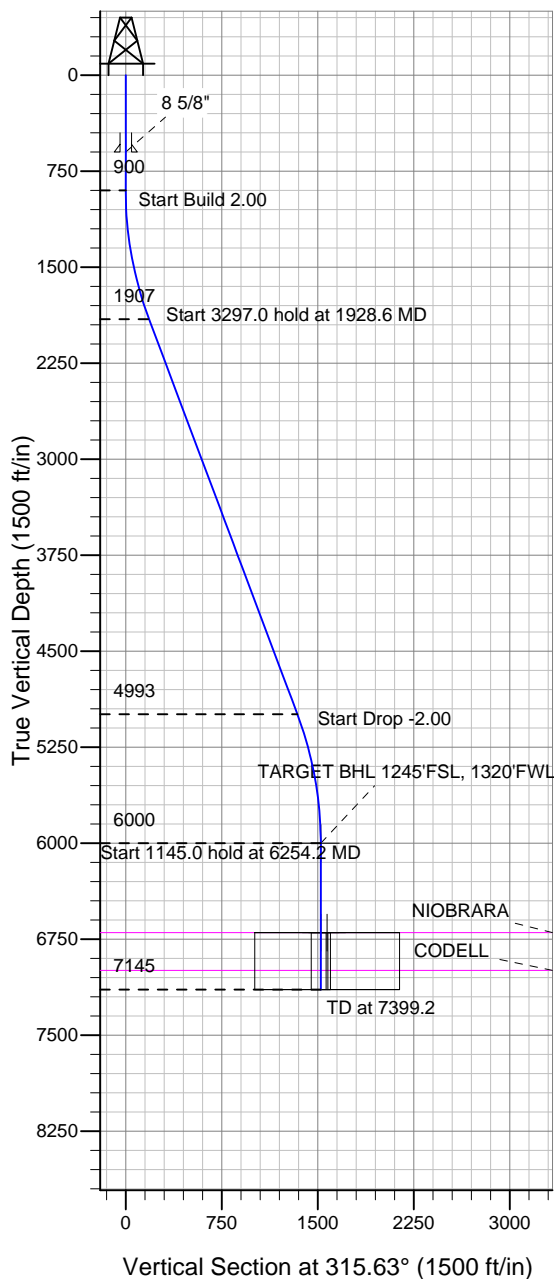


Well Name: Chenowith C20-25D

Surface Location: Balboa C20-24D Pad Sec.20-T4N-R64W
 North American Datum 1983, US State Plane 1983 Colorado Northern Zone
 Ground Elevation: 4766.0
 +N/-S 0.0 +E/-W 0.0 Northing 1350229.29 Easting 3257861.11 Latitude 40.291090 Longitude -104.575610 Slot
 Original Well EleWELL @ 4779.0ft (Original Well Elev)

NOBLE ENERGY INC WELD COUNTY CO



Balboa C20-24D Pad Sec.20-T4N-R64W

17:08, August 15 2011
 Chenowith C20-25D
 Noble Chenowith C20-25D Plan #4 (8-15-11)



Azimuths to True North
 Magnetic North: 8.70°

Magnetic Field
 Strength: 53106.8snT
 Dip Angle: 67.00°
 Date: 7/21/2011
 Model: IGRF200510

WELLBORE TARGET DETAILS (LAT/LONG)

Name	TVD	+N/-S	+E/-W	Latitude	Longitude	Shape
TARGET BHL 1245'FSL, 1320'FWL	6000.0	1089.3	-1065.6	40.294080	-104.579430	Point
LEGAL BOX 800' X 800' 1316'FSL & 1322'FWL	6699.0	1160.3	-1063.6	40.294275	-104.579423	Rectangle (Sides: L800.0 W800.0)
TARGET CIRCLE 1245'FSL & 1320'FWL	6699.0	1089.3	-1065.6	40.294080	-104.579430	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	900.0	0.00	0.00	900.0	0.0	0.0	0.00	0.00	0.0	
3	1928.6	20.57	315.63	1906.6	130.6	-127.7	2.00	315.63	182.7	
4	5225.6	20.57	315.63	4993.4	958.7	-937.9	0.00	0.00	1341.2	
5	6254.2	0.00	0.00	6000.0	1089.3	-1065.6	2.00	180.00	1523.9	TARGET BHL 1245'FSL, 1320'FWL
6	7399.2	0.00	0.00	7145.0	1089.3	-1065.6	0.00	0.00	1523.9	



Directional

NOBLE ENERGY INC WELD COUNTY CO

SEC.20-T4N-R64W

Balboa C20-24D Pad Sec.20-T4N-R64W

Chenowith C20-25D

Wellbore #1

Plan: Noble Chenowith C20-25D Plan #4 (8-15-11)

Standard Planning Report

15 August, 2011



Database:	Landmark	Local Co-ordinate Reference:	Well Chenowith C20-25D
Company:	NOBLE ENERGY INC WELD COUNTY CO	TVD Reference:	WELL @ 4779.0ft (Original Well Elev)
Project:	SEC.20-T4N-R64W	MD Reference:	WELL @ 4779.0ft (Original Well Elev)
Site:	Balboa C20-24D Pad Sec.20-T4N-R64W	North Reference:	True
Well:	Chenowith C20-25D	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Noble Chenowith C20-25D Plan #4 (8-15-11)		

Project	SEC.20-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						Balboa C20-24D Pad Sec.20-T4N-R64W											
Site Position:						Northing:			1,350,229.55 ft			Latitude:			40.291090		
From:			Lat/Long			Easting:			3,257,883.43 ft			Longitude:			-104.575530		
Position Uncertainty:			0.0 ft			Slot Radius:			"			Grid Convergence:			0.60 °		

Well	Chenowith C20-25D					
Well Position	+N/-S	0.0 ft	Northing:	1,350,229.29 ft	Latitude:	40.291090
	+E/-W	-22.3 ft	Easting:	3,257,861.11 ft	Longitude:	-104.575610
Position Uncertainty		0.0 ft	Wellhead Elevation:	ft	Ground Level:	4,766.0 ft

Wellbore	Wellbore #1				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF200510	7/21/2011	8.70	67.00	53,107

Design	Noble Chenowith C20-25D Plan #4 (8-15-11)			
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	315.63

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	
900.0	0.00	0.00	900.0	0.0	0.0	0.00	0.00	0.00	0.00	
1,928.6	20.57	315.63	1,906.6	130.6	-127.7	2.00	2.00	0.00	315.63	
5,225.6	20.57	315.63	4,993.4	958.7	-937.9	0.00	0.00	0.00	0.00	
6,254.2	0.00	0.00	6,000.0	1,089.3	-1,065.6	2.00	-2.00	0.00	180.00	TARGET BHL 1245
7,399.2	0.00	0.00	7,145.0	1,089.3	-1,065.6	0.00	0.00	0.00	0.00	

Database:	Landmark	Local Co-ordinate Reference:	Well Chenowith C20-25D
Company:	NOBLE ENERGY INC WELD COUNTY CO	TVD Reference:	WELL @ 4779.0ft (Original Well Elev)
Project:	SEC.20-T4N-R64W	MD Reference:	WELL @ 4779.0ft (Original Well Elev)
Site:	Balboa C20-24D Pad Sec.20-T4N-R64W	North Reference:	True
Well:	Chenowith C20-25D	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Noble Chenowith C20-25D Plan #4 (8-15-11)		

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
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
900.0	0.00	0.00	900.0	0.0	0.0	0.0	0.00	0.00	0.00
920.0	0.40	315.63	920.0	0.0	0.0	0.1	2.00	2.00	0.00
960.0	1.20	315.63	960.0	0.4	-0.4	0.6	2.00	2.00	0.00
1,000.0	2.00	315.63	1,000.0	1.2	-1.2	1.7	2.00	2.00	0.00
1,040.0	2.80	315.63	1,039.9	2.4	-2.4	3.4	2.00	2.00	0.00
1,080.0	3.60	315.63	1,079.9	4.0	-4.0	5.7	2.00	2.00	0.00
1,120.0	4.40	315.63	1,119.8	6.0	-5.9	8.4	2.00	2.00	0.00
1,160.0	5.20	315.63	1,159.6	8.4	-8.2	11.8	2.00	2.00	0.00
1,200.0	6.00	315.63	1,199.5	11.2	-11.0	15.7	2.00	2.00	0.00
1,240.0	6.80	315.63	1,239.2	14.4	-14.1	20.2	2.00	2.00	0.00
1,280.0	7.60	315.63	1,278.9	18.0	-17.6	25.2	2.00	2.00	0.00
1,320.0	8.40	315.63	1,318.5	22.0	-21.5	30.7	2.00	2.00	0.00
1,360.0	9.20	315.63	1,358.0	26.3	-25.8	36.9	2.00	2.00	0.00
1,400.0	10.00	315.63	1,397.5	31.1	-30.4	43.5	2.00	2.00	0.00
1,440.0	10.80	315.63	1,436.8	36.3	-35.5	50.7	2.00	2.00	0.00
1,480.0	11.60	315.63	1,476.0	41.8	-40.9	58.5	2.00	2.00	0.00
1,520.0	12.40	315.63	1,515.2	47.8	-46.7	66.8	2.00	2.00	0.00
1,560.0	13.20	315.63	1,554.2	54.1	-52.9	75.7	2.00	2.00	0.00
1,600.0	14.00	315.63	1,593.1	60.8	-59.5	85.1	2.00	2.00	0.00
1,640.0	14.80	315.63	1,631.8	67.9	-66.5	95.0	2.00	2.00	0.00
1,680.0	15.60	315.63	1,670.4	75.4	-73.8	105.5	2.00	2.00	0.00
1,720.0	16.40	315.63	1,708.8	83.3	-81.5	116.6	2.00	2.00	0.00
1,760.0	17.20	315.63	1,747.1	91.6	-89.6	128.1	2.00	2.00	0.00
1,800.0	18.00	315.63	1,785.3	100.2	-98.0	140.2	2.00	2.00	0.00
1,840.0	18.80	315.63	1,823.2	109.3	-106.9	152.8	2.00	2.00	0.00
1,880.0	19.60	315.63	1,861.0	118.7	-116.1	166.0	2.00	2.00	0.00
1,920.0	20.40	315.63	1,898.6	128.4	-125.6	179.7	2.00	2.00	0.00
1,928.6	20.57	315.63	1,906.6	130.6	-127.7	182.7	2.00	2.00	0.00
1,960.0	20.57	315.63	1,936.0	138.5	-135.5	193.7	0.00	0.00	0.00
2,000.0	20.57	315.63	1,973.5	148.5	-145.3	207.8	0.00	0.00	0.00

Database:	Landmark	Local Co-ordinate Reference:	Well Chenowith C20-25D
Company:	NOBLE ENERGY INC WELD COUNTY CO	TVD Reference:	WELL @ 4779.0ft (Original Well Elev)
Project:	SEC.20-T4N-R64W	MD Reference:	WELL @ 4779.0ft (Original Well Elev)
Site:	Balboa C20-24D Pad Sec.20-T4N-R64W	North Reference:	True
Well:	Chenowith C20-25D	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Noble Chenowith C20-25D Plan #4 (8-15-11)		

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)
2,040.0	20.57	315.63	2,010.9	158.6	-155.1	221.8	0.00	0.00	0.00
2,080.0	20.57	315.63	2,048.4	168.6	-165.0	235.9	0.00	0.00	0.00
2,120.0	20.57	315.63	2,085.8	178.7	-174.8	249.9	0.00	0.00	0.00
2,160.0	20.57	315.63	2,123.3	188.7	-184.6	264.0	0.00	0.00	0.00
2,200.0	20.57	315.63	2,160.7	198.8	-194.4	278.0	0.00	0.00	0.00
2,240.0	20.57	315.63	2,198.2	208.8	-204.3	292.1	0.00	0.00	0.00
2,280.0	20.57	315.63	2,235.6	218.9	-214.1	306.2	0.00	0.00	0.00
2,320.0	20.57	315.63	2,273.1	228.9	-223.9	320.2	0.00	0.00	0.00
2,360.0	20.57	315.63	2,310.5	238.9	-233.8	334.3	0.00	0.00	0.00
2,400.0	20.57	315.63	2,348.0	249.0	-243.6	348.3	0.00	0.00	0.00
2,440.0	20.57	315.63	2,385.4	259.0	-253.4	362.4	0.00	0.00	0.00
2,480.0	20.57	315.63	2,422.9	269.1	-263.2	376.4	0.00	0.00	0.00
2,520.0	20.57	315.63	2,460.3	279.1	-273.1	390.5	0.00	0.00	0.00
2,560.0	20.57	315.63	2,497.8	289.2	-282.9	404.5	0.00	0.00	0.00
2,600.0	20.57	315.63	2,535.2	299.2	-292.7	418.6	0.00	0.00	0.00
2,640.0	20.57	315.63	2,572.7	309.3	-302.6	432.7	0.00	0.00	0.00
2,680.0	20.57	315.63	2,610.1	319.3	-312.4	446.7	0.00	0.00	0.00
2,720.0	20.57	315.63	2,647.6	329.4	-322.2	460.8	0.00	0.00	0.00
2,760.0	20.57	315.63	2,685.0	339.4	-332.0	474.8	0.00	0.00	0.00
2,800.0	20.57	315.63	2,722.5	349.5	-341.9	488.9	0.00	0.00	0.00
2,840.0	20.57	315.63	2,759.9	359.5	-351.7	502.9	0.00	0.00	0.00
2,880.0	20.57	315.63	2,797.4	369.6	-361.5	517.0	0.00	0.00	0.00
2,920.0	20.57	315.63	2,834.8	379.6	-371.4	531.0	0.00	0.00	0.00
2,960.0	20.57	315.63	2,872.3	389.7	-381.2	545.1	0.00	0.00	0.00
3,000.0	20.57	315.63	2,909.7	399.7	-391.0	559.2	0.00	0.00	0.00
3,040.0	20.57	315.63	2,947.2	409.8	-400.8	573.2	0.00	0.00	0.00
3,080.0	20.57	315.63	2,984.6	419.8	-410.7	587.3	0.00	0.00	0.00
3,120.0	20.57	315.63	3,022.1	429.8	-420.5	601.3	0.00	0.00	0.00
3,160.0	20.57	315.63	3,059.5	439.9	-430.3	615.4	0.00	0.00	0.00
3,200.0	20.57	315.63	3,097.0	449.9	-440.2	629.4	0.00	0.00	0.00
3,240.0	20.57	315.63	3,134.4	460.0	-450.0	643.5	0.00	0.00	0.00
3,280.0	20.57	315.63	3,171.9	470.0	-459.8	657.5	0.00	0.00	0.00
3,320.0	20.57	315.63	3,209.3	480.1	-469.6	671.6	0.00	0.00	0.00
3,360.0	20.57	315.63	3,246.8	490.1	-479.5	685.7	0.00	0.00	0.00
3,400.0	20.57	315.63	3,284.2	500.2	-489.3	699.7	0.00	0.00	0.00
3,440.0	20.57	315.63	3,321.7	510.2	-499.1	713.8	0.00	0.00	0.00
3,480.0	20.57	315.63	3,359.1	520.3	-509.0	727.8	0.00	0.00	0.00
3,520.0	20.57	315.63	3,396.6	530.3	-518.8	741.9	0.00	0.00	0.00
3,560.0	20.57	315.63	3,434.0	540.4	-528.6	755.9	0.00	0.00	0.00
3,600.0	20.57	315.63	3,471.5	550.4	-538.4	770.0	0.00	0.00	0.00
3,640.0	20.57	315.63	3,508.9	560.5	-548.3	784.0	0.00	0.00	0.00
3,680.0	20.57	315.63	3,546.4	570.5	-558.1	798.1	0.00	0.00	0.00
3,720.0	20.57	315.63	3,583.8	580.6	-567.9	812.2	0.00	0.00	0.00
3,760.0	20.57	315.63	3,621.3	590.6	-577.8	826.2	0.00	0.00	0.00
3,800.0	20.57	315.63	3,658.7	600.7	-587.6	840.3	0.00	0.00	0.00
3,840.0	20.57	315.63	3,696.2	610.7	-597.4	854.3	0.00	0.00	0.00
3,880.0	20.57	315.63	3,733.6	620.7	-607.2	868.4	0.00	0.00	0.00
3,920.0	20.57	315.63	3,771.1	630.8	-617.1	882.4	0.00	0.00	0.00
3,960.0	20.57	315.63	3,808.5	640.8	-626.9	896.5	0.00	0.00	0.00
4,000.0	20.57	315.63	3,846.0	650.9	-636.7	910.5	0.00	0.00	0.00
4,040.0	20.57	315.63	3,883.4	660.9	-646.6	924.6	0.00	0.00	0.00
4,080.0	20.57	315.63	3,920.9	671.0	-656.4	938.6	0.00	0.00	0.00
4,120.0	20.57	315.63	3,958.3	681.0	-666.2	952.7	0.00	0.00	0.00
4,160.0	20.57	315.63	3,995.7	691.1	-676.0	966.8	0.00	0.00	0.00

Database:	Landmark	Local Co-ordinate Reference:	Well Chenowith C20-25D
Company:	NOBLE ENERGY INC WELD COUNTY CO	TVD Reference:	WELL @ 4779.0ft (Original Well Elev)
Project:	SEC.20-T4N-R64W	MD Reference:	WELL @ 4779.0ft (Original Well Elev)
Site:	Balboa C20-24D Pad Sec.20-T4N-R64W	North Reference:	True
Well:	Chenowith C20-25D	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Noble Chenowith C20-25D Plan #4 (8-15-11)		

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)
4,200.0	20.57	315.63	4,033.2	701.1	-685.9	980.8	0.00	0.00	0.00
4,240.0	20.57	315.63	4,070.6	711.2	-695.7	994.9	0.00	0.00	0.00
4,280.0	20.57	315.63	4,108.1	721.2	-705.5	1,008.9	0.00	0.00	0.00
4,320.0	20.57	315.63	4,145.5	731.3	-715.4	1,023.0	0.00	0.00	0.00
4,360.0	20.57	315.63	4,183.0	741.3	-725.2	1,037.0	0.00	0.00	0.00
4,400.0	20.57	315.63	4,220.4	751.4	-735.0	1,051.1	0.00	0.00	0.00
4,440.0	20.57	315.63	4,257.9	761.4	-744.8	1,065.1	0.00	0.00	0.00
4,480.0	20.57	315.63	4,295.3	771.5	-754.7	1,079.2	0.00	0.00	0.00
4,520.0	20.57	315.63	4,332.8	781.5	-764.5	1,093.3	0.00	0.00	0.00
4,560.0	20.57	315.63	4,370.2	791.6	-774.3	1,107.3	0.00	0.00	0.00
4,600.0	20.57	315.63	4,407.7	801.6	-784.2	1,121.4	0.00	0.00	0.00
4,640.0	20.57	315.63	4,445.1	811.6	-794.0	1,135.4	0.00	0.00	0.00
4,680.0	20.57	315.63	4,482.6	821.7	-803.8	1,149.5	0.00	0.00	0.00
4,720.0	20.57	315.63	4,520.0	831.7	-813.6	1,163.5	0.00	0.00	0.00
4,760.0	20.57	315.63	4,557.5	841.8	-823.5	1,177.6	0.00	0.00	0.00
4,800.0	20.57	315.63	4,594.9	851.8	-833.3	1,191.6	0.00	0.00	0.00
4,840.0	20.57	315.63	4,632.4	861.9	-843.1	1,205.7	0.00	0.00	0.00
4,880.0	20.57	315.63	4,669.8	871.9	-853.0	1,219.8	0.00	0.00	0.00
4,920.0	20.57	315.63	4,707.3	882.0	-862.8	1,233.8	0.00	0.00	0.00
4,960.0	20.57	315.63	4,744.7	892.0	-872.6	1,247.9	0.00	0.00	0.00
5,000.0	20.57	315.63	4,782.2	902.1	-882.4	1,261.9	0.00	0.00	0.00
5,040.0	20.57	315.63	4,819.6	912.1	-892.3	1,276.0	0.00	0.00	0.00
5,080.0	20.57	315.63	4,857.1	922.2	-902.1	1,290.0	0.00	0.00	0.00
5,120.0	20.57	315.63	4,894.5	932.2	-911.9	1,304.1	0.00	0.00	0.00
5,160.0	20.57	315.63	4,932.0	942.3	-921.8	1,318.1	0.00	0.00	0.00
5,200.0	20.57	315.63	4,969.4	952.3	-931.6	1,332.2	0.00	0.00	0.00
5,225.6	20.57	315.63	4,993.4	958.7	-937.9	1,341.2	0.00	0.00	0.00
5,240.0	20.28	315.63	5,006.9	962.3	-941.4	1,346.2	2.00	-2.00	0.00
5,280.0	19.48	315.63	5,044.5	972.1	-950.9	1,359.8	2.00	-2.00	0.00
5,320.0	18.68	315.63	5,082.3	981.4	-960.1	1,372.9	2.00	-2.00	0.00
5,360.0	17.88	315.63	5,120.3	990.4	-968.8	1,385.4	2.00	-2.00	0.00
5,400.0	17.08	315.63	5,158.4	999.0	-977.2	1,397.5	2.00	-2.00	0.00
5,440.0	16.28	315.63	5,196.8	1,007.2	-985.3	1,408.9	2.00	-2.00	0.00
5,480.0	15.48	315.63	5,235.2	1,015.0	-992.9	1,419.9	2.00	-2.00	0.00
5,520.0	14.68	315.63	5,273.9	1,022.4	-1,000.2	1,430.3	2.00	-2.00	0.00
5,560.0	13.88	315.63	5,312.6	1,029.5	-1,007.1	1,440.2	2.00	-2.00	0.00
5,600.0	13.08	315.63	5,351.5	1,036.2	-1,013.6	1,449.5	2.00	-2.00	0.00
5,640.0	12.28	315.63	5,390.5	1,042.4	-1,019.8	1,458.3	2.00	-2.00	0.00
5,680.0	11.48	315.63	5,429.7	1,048.3	-1,025.5	1,466.5	2.00	-2.00	0.00
5,720.0	10.68	315.63	5,468.9	1,053.8	-1,030.9	1,474.2	2.00	-2.00	0.00
5,760.0	9.88	315.63	5,508.3	1,058.9	-1,035.9	1,481.3	2.00	-2.00	0.00
5,800.0	9.08	315.63	5,547.7	1,063.6	-1,040.5	1,487.9	2.00	-2.00	0.00
5,840.0	8.28	315.63	5,587.3	1,068.0	-1,044.7	1,494.0	2.00	-2.00	0.00
5,880.0	7.48	315.63	5,626.9	1,071.9	-1,048.6	1,499.5	2.00	-2.00	0.00
5,920.0	6.68	315.63	5,666.6	1,075.4	-1,052.0	1,504.4	2.00	-2.00	0.00
5,960.0	5.88	315.63	5,706.4	1,078.5	-1,055.1	1,508.8	2.00	-2.00	0.00
6,000.0	5.08	315.63	5,746.2	1,081.3	-1,057.7	1,512.6	2.00	-2.00	0.00
6,040.0	4.28	315.63	5,786.0	1,083.6	-1,060.0	1,515.9	2.00	-2.00	0.00
6,080.0	3.48	315.63	5,825.9	1,085.5	-1,061.9	1,518.6	2.00	-2.00	0.00
6,120.0	2.68	315.63	5,865.9	1,087.1	-1,063.4	1,520.7	2.00	-2.00	0.00
6,160.0	1.88	315.63	5,905.9	1,088.2	-1,064.5	1,522.3	2.00	-2.00	0.00
6,200.0	1.08	315.63	5,945.8	1,089.0	-1,065.3	1,523.4	2.00	-2.00	0.00
6,240.0	0.28	315.63	5,985.8	1,089.3	-1,065.6	1,523.8	2.00	-2.00	0.00
6,254.2	0.00	0.00	6,000.0	1,089.3	-1,065.6	1,523.9	2.00	-2.00	313.39

Database:	Landmark	Local Co-ordinate Reference:	Well Chenowith C20-25D
Company:	NOBLE ENERGY INC WELD COUNTY CO	TVD Reference:	WELL @ 4779.0ft (Original Well Elev)
Project:	SEC.20-T4N-R64W	MD Reference:	WELL @ 4779.0ft (Original Well Elev)
Site:	Balboa C20-24D Pad Sec.20-T4N-R64W	North Reference:	True
Well:	Chenowith C20-25D	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Noble Chenowith C20-25D Plan #4 (8-15-11)		

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)
TARGET BHL 1245'FSL, 1320'FWL									
6,280.0	0.00	0.00	6,025.8	1,089.3	-1,065.6	1,523.9	0.00	0.00	0.00
6,320.0	0.00	0.00	6,065.8	1,089.3	-1,065.6	1,523.9	0.00	0.00	0.00
6,360.0	0.00	0.00	6,105.8	1,089.3	-1,065.6	1,523.9	0.00	0.00	0.00
6,400.0	0.00	0.00	6,145.8	1,089.3	-1,065.6	1,523.9	0.00	0.00	0.00
6,440.0	0.00	0.00	6,185.8	1,089.3	-1,065.6	1,523.9	0.00	0.00	0.00
6,480.0	0.00	0.00	6,225.8	1,089.3	-1,065.6	1,523.9	0.00	0.00	0.00
6,520.0	0.00	0.00	6,265.8	1,089.3	-1,065.6	1,523.9	0.00	0.00	0.00
6,560.0	0.00	0.00	6,305.8	1,089.3	-1,065.6	1,523.9	0.00	0.00	0.00
6,600.0	0.00	0.00	6,345.8	1,089.3	-1,065.6	1,523.9	0.00	0.00	0.00
6,640.0	0.00	0.00	6,385.8	1,089.3	-1,065.6	1,523.9	0.00	0.00	0.00
6,680.0	0.00	0.00	6,425.8	1,089.3	-1,065.6	1,523.9	0.00	0.00	0.00
6,720.0	0.00	0.00	6,465.8	1,089.3	-1,065.6	1,523.9	0.00	0.00	0.00
6,760.0	0.00	0.00	6,505.8	1,089.3	-1,065.6	1,523.9	0.00	0.00	0.00
6,800.0	0.00	0.00	6,545.8	1,089.3	-1,065.6	1,523.9	0.00	0.00	0.00
6,840.0	0.00	0.00	6,585.8	1,089.3	-1,065.6	1,523.9	0.00	0.00	0.00
6,880.0	0.00	0.00	6,625.8	1,089.3	-1,065.6	1,523.9	0.00	0.00	0.00
6,920.0	0.00	0.00	6,665.8	1,089.3	-1,065.6	1,523.9	0.00	0.00	0.00
6,953.2	0.00	0.00	6,699.0	1,089.3	-1,065.6	1,523.9	0.00	0.00	0.00
NIORARA - TARGET CIRCLE 1245'FSL & 1320'FWL - LEGAL BOX 800' X 800' 1316'FSL & 1322'FWL									
6,960.0	0.00	0.00	6,705.8	1,089.3	-1,065.6	1,523.9	0.00	0.00	0.00
7,000.0	0.00	0.00	6,745.8	1,089.3	-1,065.6	1,523.9	0.00	0.00	0.00
7,040.0	0.00	0.00	6,785.8	1,089.3	-1,065.6	1,523.9	0.00	0.00	0.00
7,080.0	0.00	0.00	6,825.8	1,089.3	-1,065.6	1,523.9	0.00	0.00	0.00
7,120.0	0.00	0.00	6,865.8	1,089.3	-1,065.6	1,523.9	0.00	0.00	0.00
7,160.0	0.00	0.00	6,905.8	1,089.3	-1,065.6	1,523.9	0.00	0.00	0.00
7,200.0	0.00	0.00	6,945.8	1,089.3	-1,065.6	1,523.9	0.00	0.00	0.00
7,240.0	0.00	0.00	6,985.8	1,089.3	-1,065.6	1,523.9	0.00	0.00	0.00
7,249.2	0.00	0.00	6,995.0	1,089.3	-1,065.6	1,523.9	0.00	0.00	0.00
CODELL									
7,280.0	0.00	0.00	7,025.8	1,089.3	-1,065.6	1,523.9	0.00	0.00	0.00
7,320.0	0.00	0.00	7,065.8	1,089.3	-1,065.6	1,523.9	0.00	0.00	0.00
7,360.0	0.00	0.00	7,105.8	1,089.3	-1,065.6	1,523.9	0.00	0.00	0.00
7,399.2	0.00	0.00	7,145.0	1,089.3	-1,065.6	1,523.9	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 1245'FSL	0.00	0.00	6,699.0	1,089.3	-1,065.6	1,351,307.39	3,256,784.24	40.294080	-104.579430
- plan hits target center									
- Circle (radius 75.0)									
TARGET BHL 1245'FSL	0.00	0.00	6,000.0	1,089.3	-1,065.6	1,351,307.39	3,256,784.24	40.294080	-104.579430
- plan hits target center									
- Point									
LEGAL BOX 800' X 800' 1316'FSL & 1322'FWL	0.00	0.00	6,699.0	1,160.3	-1,063.6	1,351,378.39	3,256,785.52	40.294275	-104.579423
- plan misses target center by 71.0ft at 6953.2ft MD (6699.0 TVD, 1089.3 N, -1065.6 E)									
- Rectangle (sides W800.0 H800.0 D446.0)									

Database:	Landmark	Local Co-ordinate Reference:	Well Chenowith C20-25D
Company:	NOBLE ENERGY INC WELD COUNTY CO	TVD Reference:	WELL @ 4779.0ft (Original Well Elev)
Project:	SEC.20-T4N-R64W	MD Reference:	WELL @ 4779.0ft (Original Well Elev)
Site:	Balboa C20-24D Pad Sec.20-T4N-R64W	North Reference:	True
Well:	Chenowith C20-25D	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Noble Chenowith C20-25D Plan #4 (8-15-11)		

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 (°)
6,953.2	6,699.0	NIOBRARA		0.00	
7,249.2	6,995.0	CODELL		0.00	