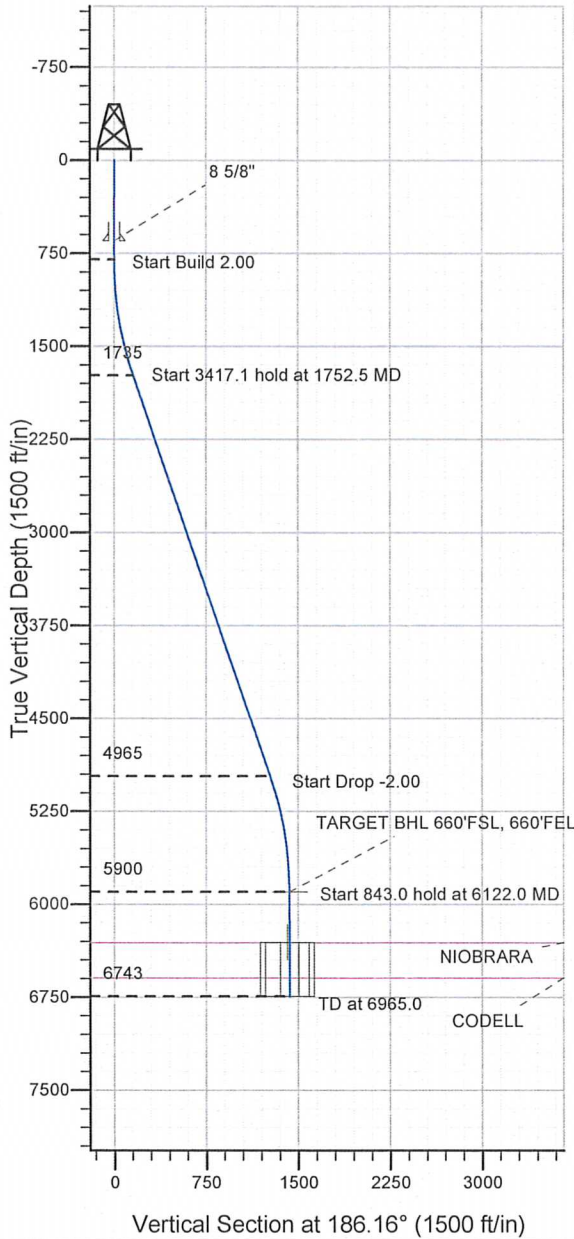


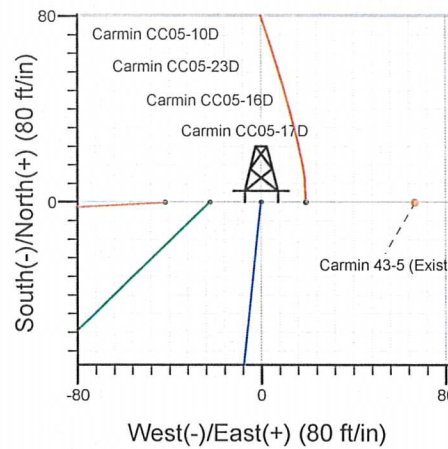
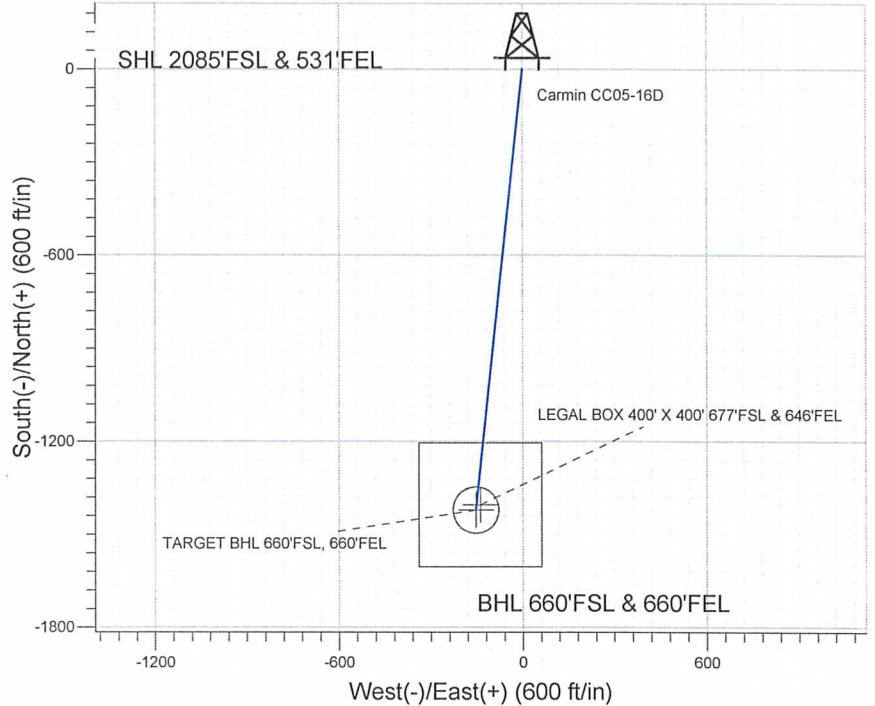
Well Name: Carmin CC05-16D

Surface Location: Carmin CC05-23D Pad Sec.5-T4N-R63W
 North American Datum 1983 US State Plane 1983 Colorado Northern Zone

Ground Elevation: 4654.0
 +N/-S +E/-W Northing Easting Latitude Longitude Slot
 0.0 0.0 1368246.34 3291471.83 40.339520 -104.454370
 Original Well Elev WELL @ 4667.0ft (Original Well Elev)



NOBLE ENERGY INC WELD COUNTY CO



Carmin CC05-23D Pad Sec.5-T4N-R63W
 Carmin CC05-16D
 Noble Carmin CC05-16D Plan #1 (3-29-11)
 16:04, March 30 2011



Azimuths to True North
 Magnetic North: 8.72°

Magnetic Field
 Strength: 53157.1snT
 Dip Angle: 67.06°
 Date: 3/29/2011
 Model: IGRF2010

WELLBORE TARGET DETAILS (LAT/LONG)

Name	TVD	+N/-S	+E/-W	Latitude	Longitude	Shape
TARGET BHL 660'FSL, 660'FEL	5900.0	-1420.8	-153.3	40.335620	-104.454920	Point
LEGAL BOX 400' X 400' 677'FSL & 646'FEL	6307.0	-1403.8	-139.3	40.335667	-104.454870	Rectangle (Sides: L400.0 W400.0)
TARGET CIRCLE 660'FSL & 660'FEL	6307.0	-1420.8	-153.3	40.335620	-104.454920	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	800.0	0.00	0.00	800.0	0.0	0.0	0.00	0.00	0.0	
3	1752.5	19.05	186.16	1735.0	-156.0	-16.8	2.00	186.16	156.9	
4	5169.6	19.05	186.16	4965.0	-1264.8	-136.5	0.00	0.00	1272.2	
5	6122.0	0.00	0.00	5900.0	-1420.8	-153.3	2.00	180.00	1429.0	TARGET BHL 660'FSL, 660'FEL
6	6965.0	0.00	0.00	6743.0	-1420.8	-153.3	0.00	0.00	1429.0	



Directional

**NOBLE ENERGY INC WELD
COUNTY CO**

SEC.5-T4N-R63W

Carmin CC05-23D Pad Sec.5-T4N-R63W

Carmin CC05-16D

Wellbore #1

Plan: Noble Carmin CC05-16D Plan #1 (3-29-11)

Standard Planning Report

30 March, 2011



Database: Landmark
 Company: NOBLE ENERGY INC WELD COUNTY CO
 Project: SEC.5-T4N-R63W
 Site: Carmin CC05-23D Pad Sec.5-T4N-R63W
 Well: Carmin CC05-16D
 Wellbore: Wellbore #1
 Design: Noble Carmin CC05-16D Plan #1 (3-29-11)

Local Co-ordinate Reference: Well Carmin CC05-16D
 TVD Reference: WELL @ 4667.0ft (Original Well Elev)
 MD Reference: WELL @ 4667.0ft (Original Well Elev)
 North Reference: True
 Survey Calculation Method: Minimum Curvature

Project	SEC.5-T4N-R63W, 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	Carmin CC05-23D Pad Sec.5-T4N-R63W				
Site Position:		Northing:	1,368,246.09ft	Latitude:	40.339520
From:	Lat/Long	Easting:	3,291,449.53ft	Longitude:	-104.454450
Position Uncertainty:	0.0 ft	Slot Radius:	"	Grid Convergence:	0.68 °

Well	Carmin CC05-16D					
Well Position	+N/-S	0.0 ft	Northing:	1,368,246.34 ft	Latitude:	40.339520
	+E/-W	22.3 ft	Easting:	3,291,471.83 ft	Longitude:	-104.454370
Position Uncertainty		0.0 ft	Wellhead Elevation:	ft	Ground Level:	4,654.0 ft

Wellbore	Wellbore #1				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2010	3/29/2011	8.72	67.06	53,157

Design	Noble Carmin CC05-16D Plan #1 (3-29-11)			
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	186.16

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	
800.0	0.00	0.00	800.0	0.0	0.0	0.00	0.00	0.00	0.00	
1,752.5	19.05	186.16	1,735.0	-156.0	-16.8	2.00	2.00	0.00	186.16	
5,169.6	19.05	186.16	4,965.0	-1,264.8	-136.5	0.00	0.00	0.00	0.00	
6,122.0	0.00	0.00	5,900.0	-1,420.8	-153.3	2.00	-2.00	0.00	180.00	TARGET BHL 660'I
6,965.0	0.00	0.00	6,743.0	-1,420.8	-153.3	0.00	0.00	0.00	0.00	

Database: Landmark
 Company: NOBLE ENERGY INC WELD COUNTY CO
 Project: SEC.5-T4N-R63W
 Site: Carmin CC05-23D Pad Sec.5-T4N-R63W
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 Wellbore: Wellbore #1
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Local Co-ordinate Reference: Well Carmin CC05-16D
 TVD Reference: WELL @ 4667.0ft (Original Well Elev)
 MD Reference: WELL @ 4667.0ft (Original Well Elev)
 North Reference: True
 Survey Calculation Method: Minimum Curvature

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	0.80	186.16	840.0	-0.3	0.0	0.3	2.00	2.00	0.00
880.0	1.60	186.16	880.0	-1.1	-0.1	1.1	2.00	2.00	0.00
920.0	2.40	186.16	920.0	-2.5	-0.3	2.5	2.00	2.00	0.00
960.0	3.20	186.16	959.9	-4.4	-0.5	4.5	2.00	2.00	0.00
1,000.0	4.00	186.16	999.8	-6.9	-0.7	7.0	2.00	2.00	0.00
1,040.0	4.80	186.16	1,039.7	-10.0	-1.1	10.0	2.00	2.00	0.00
1,080.0	5.60	186.16	1,079.6	-13.6	-1.5	13.7	2.00	2.00	0.00
1,120.0	6.40	186.16	1,119.3	-17.8	-1.9	17.9	2.00	2.00	0.00
1,160.0	7.20	186.16	1,159.1	-22.5	-2.4	22.6	2.00	2.00	0.00
1,200.0	8.00	186.16	1,198.7	-27.7	-3.0	27.9	2.00	2.00	0.00
1,240.0	8.80	186.16	1,238.3	-33.5	-3.6	33.7	2.00	2.00	0.00
1,280.0	9.60	186.16	1,277.8	-39.9	-4.3	40.1	2.00	2.00	0.00
1,320.0	10.40	186.16	1,317.1	-46.8	-5.0	47.1	2.00	2.00	0.00
1,360.0	11.20	186.16	1,356.4	-54.2	-5.9	54.6	2.00	2.00	0.00
1,400.0	12.00	186.16	1,395.6	-62.2	-6.7	62.6	2.00	2.00	0.00
1,440.0	12.80	186.16	1,434.7	-70.8	-7.6	71.2	2.00	2.00	0.00
1,480.0	13.60	186.16	1,473.6	-79.9	-8.6	80.3	2.00	2.00	0.00
1,520.0	14.40	186.16	1,512.4	-89.5	-9.7	90.0	2.00	2.00	0.00
1,560.0	15.20	186.16	1,551.1	-99.6	-10.8	100.2	2.00	2.00	0.00
1,600.0	16.00	186.16	1,589.6	-110.3	-11.9	111.0	2.00	2.00	0.00
1,640.0	16.80	186.16	1,628.0	-121.6	-13.1	122.3	2.00	2.00	0.00
1,680.0	17.60	186.16	1,666.2	-133.3	-14.4	134.1	2.00	2.00	0.00
1,720.0	18.40	186.16	1,704.3	-145.6	-15.7	146.5	2.00	2.00	0.00
1,752.5	19.05	186.16	1,735.0	-156.0	-16.8	156.9	2.00	2.00	0.00
1,760.0	19.05	186.16	1,742.1	-158.4	-17.1	159.3	0.00	0.00	0.00
1,800.0	19.05	186.16	1,779.9	-171.4	-18.5	172.4	0.00	0.00	0.00
1,840.0	19.05	186.16	1,817.8	-184.4	-19.9	185.5	0.00	0.00	0.00
1,880.0	19.05	186.16	1,855.6	-197.4	-21.3	198.5	0.00	0.00	0.00
1,920.0	19.05	186.16	1,893.4	-210.3	-22.7	211.6	0.00	0.00	0.00
1,960.0	19.05	186.16	1,931.2	-223.3	-24.1	224.6	0.00	0.00	0.00
2,000.0	19.05	186.16	1,969.0	-236.3	-25.5	237.7	0.00	0.00	0.00

Database: Landmark
 Company: NOBLE ENERGY INC WELD COUNTY CO
 Project: SEC.5-T4N-R63W
 Site: Carmin CC05-23D Pad Sec.5-T4N-R63W
 Well: Carmin CC05-16D
 Wellbore: Wellbore #1
 Design: Noble Carmin CC05-16D Plan #1 (3-29-11)

Local Co-ordinate Reference: Well Carmin CC05-16D
 TVD Reference: WELL @ 4667.0ft (Original Well Elev)
 MD Reference: WELL @ 4667.0ft (Original Well Elev)
 North Reference: True
 Survey Calculation Method: Minimum Curvature

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	19.05	186.16	2,006.8	-249.3	-26.9	250.7	0.00	0.00	0.00
2,080.0	19.05	186.16	2,044.6	-262.3	-28.3	263.8	0.00	0.00	0.00
2,120.0	19.05	186.16	2,082.4	-275.2	-29.7	276.8	0.00	0.00	0.00
2,160.0	19.05	186.16	2,120.2	-288.2	-31.1	289.9	0.00	0.00	0.00
2,200.0	19.05	186.16	2,158.0	-301.2	-32.5	302.9	0.00	0.00	0.00
2,240.0	19.05	186.16	2,195.9	-314.2	-33.9	316.0	0.00	0.00	0.00
2,280.0	19.05	186.16	2,233.7	-327.2	-35.3	329.1	0.00	0.00	0.00
2,320.0	19.05	186.16	2,271.5	-340.1	-36.7	342.1	0.00	0.00	0.00
2,360.0	19.05	186.16	2,309.3	-353.1	-38.1	355.2	0.00	0.00	0.00
2,400.0	19.05	186.16	2,347.1	-366.1	-39.5	368.2	0.00	0.00	0.00
2,440.0	19.05	186.16	2,384.9	-379.1	-40.9	381.3	0.00	0.00	0.00
2,480.0	19.05	186.16	2,422.7	-392.1	-42.3	394.3	0.00	0.00	0.00
2,520.0	19.05	186.16	2,460.5	-405.0	-43.7	407.4	0.00	0.00	0.00
2,560.0	19.05	186.16	2,498.3	-418.0	-45.1	420.4	0.00	0.00	0.00
2,600.0	19.05	186.16	2,536.1	-431.0	-46.5	433.5	0.00	0.00	0.00
2,640.0	19.05	186.16	2,573.9	-444.0	-47.9	446.6	0.00	0.00	0.00
2,680.0	19.05	186.16	2,611.8	-457.0	-49.3	459.6	0.00	0.00	0.00
2,720.0	19.05	186.16	2,649.6	-469.9	-50.7	472.7	0.00	0.00	0.00
2,760.0	19.05	186.16	2,687.4	-482.9	-52.1	485.7	0.00	0.00	0.00
2,800.0	19.05	186.16	2,725.2	-495.9	-53.5	498.8	0.00	0.00	0.00
2,840.0	19.05	186.16	2,763.0	-508.9	-54.9	511.8	0.00	0.00	0.00
2,880.0	19.05	186.16	2,800.8	-521.9	-56.3	524.9	0.00	0.00	0.00
2,920.0	19.05	186.16	2,838.6	-534.8	-57.7	537.9	0.00	0.00	0.00
2,960.0	19.05	186.16	2,876.4	-547.8	-59.1	551.0	0.00	0.00	0.00
3,000.0	19.05	186.16	2,914.2	-560.8	-60.5	564.1	0.00	0.00	0.00
3,040.0	19.05	186.16	2,952.0	-573.8	-61.9	577.1	0.00	0.00	0.00
3,080.0	19.05	186.16	2,989.9	-586.8	-63.3	590.2	0.00	0.00	0.00
3,120.0	19.05	186.16	3,027.7	-599.7	-64.7	603.2	0.00	0.00	0.00
3,160.0	19.05	186.16	3,065.5	-612.7	-66.1	616.3	0.00	0.00	0.00
3,200.0	19.05	186.16	3,103.3	-625.7	-67.5	629.3	0.00	0.00	0.00
3,240.0	19.05	186.16	3,141.1	-638.7	-68.9	642.4	0.00	0.00	0.00
3,280.0	19.05	186.16	3,178.9	-651.7	-70.3	655.4	0.00	0.00	0.00
3,320.0	19.05	186.16	3,216.7	-664.6	-71.7	668.5	0.00	0.00	0.00
3,360.0	19.05	186.16	3,254.5	-677.6	-73.1	681.6	0.00	0.00	0.00
3,400.0	19.05	186.16	3,292.3	-690.6	-74.5	694.6	0.00	0.00	0.00
3,440.0	19.05	186.16	3,330.1	-703.6	-75.9	707.7	0.00	0.00	0.00
3,480.0	19.05	186.16	3,367.9	-716.6	-77.3	720.7	0.00	0.00	0.00
3,520.0	19.05	186.16	3,405.8	-729.5	-78.7	733.8	0.00	0.00	0.00
3,560.0	19.05	186.16	3,443.6	-742.5	-80.1	746.8	0.00	0.00	0.00
3,600.0	19.05	186.16	3,481.4	-755.5	-81.5	759.9	0.00	0.00	0.00
3,640.0	19.05	186.16	3,519.2	-768.5	-82.9	772.9	0.00	0.00	0.00
3,680.0	19.05	186.16	3,557.0	-781.5	-84.3	786.0	0.00	0.00	0.00
3,720.0	19.05	186.16	3,594.8	-794.4	-85.7	799.0	0.00	0.00	0.00
3,760.0	19.05	186.16	3,632.6	-807.4	-87.1	812.1	0.00	0.00	0.00
3,800.0	19.05	186.16	3,670.4	-820.4	-88.5	825.2	0.00	0.00	0.00
3,840.0	19.05	186.16	3,708.2	-833.4	-89.9	838.2	0.00	0.00	0.00
3,880.0	19.05	186.16	3,746.0	-846.4	-91.3	851.3	0.00	0.00	0.00
3,920.0	19.05	186.16	3,783.9	-859.3	-92.7	864.3	0.00	0.00	0.00
3,960.0	19.05	186.16	3,821.7	-872.3	-94.1	877.4	0.00	0.00	0.00
4,000.0	19.05	186.16	3,859.5	-885.3	-95.5	890.4	0.00	0.00	0.00
4,040.0	19.05	186.16	3,897.3	-898.3	-96.9	903.5	0.00	0.00	0.00
4,080.0	19.05	186.16	3,935.1	-911.3	-98.3	916.5	0.00	0.00	0.00
4,120.0	19.05	186.16	3,972.9	-924.2	-99.7	929.6	0.00	0.00	0.00
4,160.0	19.05	186.16	4,010.7	-937.2	-101.1	942.7	0.00	0.00	0.00

Database: Landmark
 Company: NOBLE ENERGY INC WELD COUNTY CO
 Project: SEC.5-T4N-R63W
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 MD Reference: WELL @ 4667.0ft (Original Well Elev)
 North Reference: True
 Survey Calculation Method: Minimum Curvature

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	19.05	186.16	4,048.5	-950.2	-102.5	955.7	0.00	0.00	0.00
4,240.0	19.05	186.16	4,086.3	-963.2	-103.9	968.8	0.00	0.00	0.00
4,280.0	19.05	186.16	4,124.1	-976.2	-105.3	981.8	0.00	0.00	0.00
4,320.0	19.05	186.16	4,161.9	-989.1	-106.7	994.9	0.00	0.00	0.00
4,360.0	19.05	186.16	4,199.8	-1,002.1	-108.1	1,007.9	0.00	0.00	0.00
4,400.0	19.05	186.16	4,237.6	-1,015.1	-109.5	1,021.0	0.00	0.00	0.00
4,440.0	19.05	186.16	4,275.4	-1,028.1	-111.0	1,034.0	0.00	0.00	0.00
4,480.0	19.05	186.16	4,313.2	-1,041.1	-112.4	1,047.1	0.00	0.00	0.00
4,520.0	19.05	186.16	4,351.0	-1,054.0	-113.8	1,060.2	0.00	0.00	0.00
4,560.0	19.05	186.16	4,388.8	-1,067.0	-115.2	1,073.2	0.00	0.00	0.00
4,600.0	19.05	186.16	4,426.6	-1,080.0	-116.6	1,086.3	0.00	0.00	0.00
4,640.0	19.05	186.16	4,464.4	-1,093.0	-118.0	1,099.3	0.00	0.00	0.00
4,680.0	19.05	186.16	4,502.2	-1,106.0	-119.4	1,112.4	0.00	0.00	0.00
4,720.0	19.05	186.16	4,540.0	-1,118.9	-120.8	1,125.4	0.00	0.00	0.00
4,760.0	19.05	186.16	4,577.9	-1,131.9	-122.2	1,138.5	0.00	0.00	0.00
4,800.0	19.05	186.16	4,615.7	-1,144.9	-123.6	1,151.5	0.00	0.00	0.00
4,840.0	19.05	186.16	4,653.5	-1,157.9	-125.0	1,164.6	0.00	0.00	0.00
4,880.0	19.05	186.16	4,691.3	-1,170.9	-126.4	1,177.7	0.00	0.00	0.00
4,920.0	19.05	186.16	4,729.1	-1,183.8	-127.8	1,190.7	0.00	0.00	0.00
4,960.0	19.05	186.16	4,766.9	-1,196.8	-129.2	1,203.8	0.00	0.00	0.00
5,000.0	19.05	186.16	4,804.7	-1,209.8	-130.6	1,216.8	0.00	0.00	0.00
5,040.0	19.05	186.16	4,842.5	-1,222.8	-132.0	1,229.9	0.00	0.00	0.00
5,080.0	19.05	186.16	4,880.3	-1,235.8	-133.4	1,242.9	0.00	0.00	0.00
5,120.0	19.05	186.16	4,918.1	-1,248.7	-134.8	1,256.0	0.00	0.00	0.00
5,160.0	19.05	186.16	4,955.9	-1,261.7	-136.2	1,269.0	0.00	0.00	0.00
5,169.6	19.05	186.16	4,965.0	-1,264.8	-136.5	1,272.2	0.00	0.00	0.00
5,200.0	18.44	186.16	4,993.8	-1,274.5	-137.5	1,281.9	2.00	-2.00	0.00
5,240.0	17.64	186.16	5,031.8	-1,286.9	-138.9	1,294.3	2.00	-2.00	0.00
5,280.0	16.84	186.16	5,070.0	-1,298.6	-140.2	1,306.2	2.00	-2.00	0.00
5,320.0	16.04	186.16	5,108.4	-1,309.9	-141.4	1,317.5	2.00	-2.00	0.00
5,360.0	15.24	186.16	5,146.9	-1,320.6	-142.5	1,328.3	2.00	-2.00	0.00
5,400.0	14.44	186.16	5,185.6	-1,330.8	-143.6	1,338.5	2.00	-2.00	0.00
5,440.0	13.64	186.16	5,224.4	-1,340.5	-144.7	1,348.2	2.00	-2.00	0.00
5,480.0	12.84	186.16	5,263.3	-1,349.6	-145.6	1,357.4	2.00	-2.00	0.00
5,520.0	12.04	186.16	5,302.4	-1,358.1	-146.6	1,366.0	2.00	-2.00	0.00
5,560.0	11.24	186.16	5,341.6	-1,366.2	-147.4	1,374.1	2.00	-2.00	0.00
5,600.0	10.44	186.16	5,380.9	-1,373.6	-148.2	1,381.6	2.00	-2.00	0.00
5,640.0	9.64	186.16	5,420.2	-1,380.6	-149.0	1,388.6	2.00	-2.00	0.00
5,680.0	8.84	186.16	5,459.7	-1,387.0	-149.7	1,395.0	2.00	-2.00	0.00
5,720.0	8.04	186.16	5,499.3	-1,392.8	-150.3	1,400.9	2.00	-2.00	0.00
5,760.0	7.24	186.16	5,538.9	-1,398.1	-150.9	1,406.2	2.00	-2.00	0.00
5,800.0	6.44	186.16	5,578.7	-1,402.8	-151.4	1,411.0	2.00	-2.00	0.00
5,840.0	5.64	186.16	5,618.4	-1,407.0	-151.8	1,415.2	2.00	-2.00	0.00
5,880.0	4.84	186.16	5,658.3	-1,410.6	-152.2	1,418.8	2.00	-2.00	0.00
5,920.0	4.04	186.16	5,698.1	-1,413.7	-152.6	1,421.9	2.00	-2.00	0.00
5,960.0	3.24	186.16	5,738.1	-1,416.2	-152.8	1,424.5	2.00	-2.00	0.00
6,000.0	2.44	186.16	5,778.0	-1,418.2	-153.1	1,426.4	2.00	-2.00	0.00
6,040.0	1.64	186.16	5,818.0	-1,419.6	-153.2	1,427.9	2.00	-2.00	0.00
6,080.0	0.84	186.16	5,858.0	-1,420.5	-153.3	1,428.7	2.00	-2.00	0.00
6,120.0	0.04	186.16	5,898.0	-1,420.8	-153.3	1,429.0	2.00	-2.00	0.00
6,122.0	0.00	0.00	5,900.0	-1,420.8	-153.3	1,429.0	2.00	-2.00	0.00
TARGET BHL 660'FSL, 660'FEL									
6,160.0	0.00	0.00	5,938.0	-1,420.8	-153.3	1,429.0	0.00	0.00	0.00
6,200.0	0.00	0.00	5,978.0	-1,420.8	-153.3	1,429.0	0.00	0.00	0.00

Database: Landmark
 Company: NOBLE ENERGY INC WELD COUNTY CO
 Project: SEC.5-T4N-R63W
 Site: Carmin CC05-23D Pad Sec.5-T4N-R63W
 Well: Carmin CC05-16D
 Wellbore: Wellbore #1
 Design: Noble Carmin CC05-16D Plan #1 (3-29-11)

Local Co-ordinate Reference: Well Carmin CC05-16D
 TVD Reference: WELL @ 4667.0ft (Original Well Elev)
 MD Reference: WELL @ 4667.0ft (Original Well Elev)
 North Reference: True
 Survey Calculation Method: Minimum Curvature

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	6,018.0	-1,420.8	-153.3	1,429.0	0.00	0.00	0.00
6,280.0	0.00	0.00	6,058.0	-1,420.8	-153.3	1,429.0	0.00	0.00	0.00
6,320.0	0.00	0.00	6,098.0	-1,420.8	-153.3	1,429.0	0.00	0.00	0.00
6,360.0	0.00	0.00	6,138.0	-1,420.8	-153.3	1,429.0	0.00	0.00	0.00
6,400.0	0.00	0.00	6,178.0	-1,420.8	-153.3	1,429.0	0.00	0.00	0.00
6,440.0	0.00	0.00	6,218.0	-1,420.8	-153.3	1,429.0	0.00	0.00	0.00
6,480.0	0.00	0.00	6,258.0	-1,420.8	-153.3	1,429.0	0.00	0.00	0.00
6,520.0	0.00	0.00	6,298.0	-1,420.8	-153.3	1,429.0	0.00	0.00	0.00
6,529.0	0.00	0.00	6,307.0	-1,420.8	-153.3	1,429.0	0.00	0.00	0.00
NIOBRARA - TARGET CIRCLE 660'FSL & 660'FEL - LEGAL BOX 400' X 400' 677'FSL & 646'FEL									
6,560.0	0.00	0.00	6,338.0	-1,420.8	-153.3	1,429.0	0.00	0.00	0.00
6,600.0	0.00	0.00	6,378.0	-1,420.8	-153.3	1,429.0	0.00	0.00	0.00
6,640.0	0.00	0.00	6,418.0	-1,420.8	-153.3	1,429.0	0.00	0.00	0.00
6,680.0	0.00	0.00	6,458.0	-1,420.8	-153.3	1,429.0	0.00	0.00	0.00
6,720.0	0.00	0.00	6,498.0	-1,420.8	-153.3	1,429.0	0.00	0.00	0.00
6,760.0	0.00	0.00	6,538.0	-1,420.8	-153.3	1,429.0	0.00	0.00	0.00
6,800.0	0.00	0.00	6,578.0	-1,420.8	-153.3	1,429.0	0.00	0.00	0.00
6,815.0	0.00	0.00	6,593.0	-1,420.8	-153.3	1,429.0	0.00	0.00	0.00
CODELL									
6,840.0	0.00	0.00	6,618.0	-1,420.8	-153.3	1,429.0	0.00	0.00	0.00
6,880.0	0.00	0.00	6,658.0	-1,420.8	-153.3	1,429.0	0.00	0.00	0.00
6,920.0	0.00	0.00	6,698.0	-1,420.8	-153.3	1,429.0	0.00	0.00	0.00
6,960.0	0.00	0.00	6,738.0	-1,420.8	-153.3	1,429.0	0.00	0.00	0.00
6,965.0	0.00	0.00	6,743.0	-1,420.8	-153.3	1,429.0	0.00	0.00	0.00

Targets
Target Name

- hit/miss target	Dip Angle (°)	Dip Dir. (°)	TVD (ft)	+N/-S (ft)	+E/-W (ft)	Northing (ft)	Easting (ft)	Latitude	Longitude
- Shape									
TARGET CIRCLE 660'	0.00	0.00	6,307.0	-1,420.8	-153.3	1,366,823.91	3,291,335.27	40.335620	-104.454920
- plan hits target center									
- Circle (radius 75.0)									
LEGAL BOX 400' X 400'	0.00	0.00	6,307.0	-1,403.8	-139.3	1,366,841.07	3,291,349.10	40.335667	-104.454870
- plan misses target center by 22.0ft at 6529.0ft MD (6307.0 TVD, -1420.8 N, -153.3 E)									
- Rectangle (sides W400.0 H400.0 D436.0)									
TARGET BHL 660'FS	0.00	0.00	5,900.0	-1,420.8	-153.3	1,366,823.91	3,291,335.27	40.335620	-104.454920
- plan hits target center									
- Point									

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

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Local Co-ordinate Reference: Well Carmin CC05-16D
TVD Reference: WELL @ 4667.0ft (Original Well Elev)
MD Reference: WELL @ 4667.0ft (Original Well Elev)
North Reference: True
Survey Calculation Method: Minimum Curvature

Formations

Measured Depth (ft)	Vertical Depth (ft)	Name	Lithology	Dip (°)	Dip Direction (°)
6,529.0	6,307.0	NIOBRARA		0.00	
6,815.0	6,593.0	CODELL		0.00	