

Well Name: Connell C04-31D

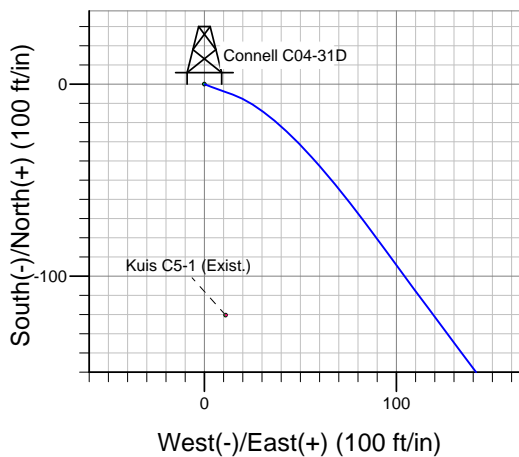
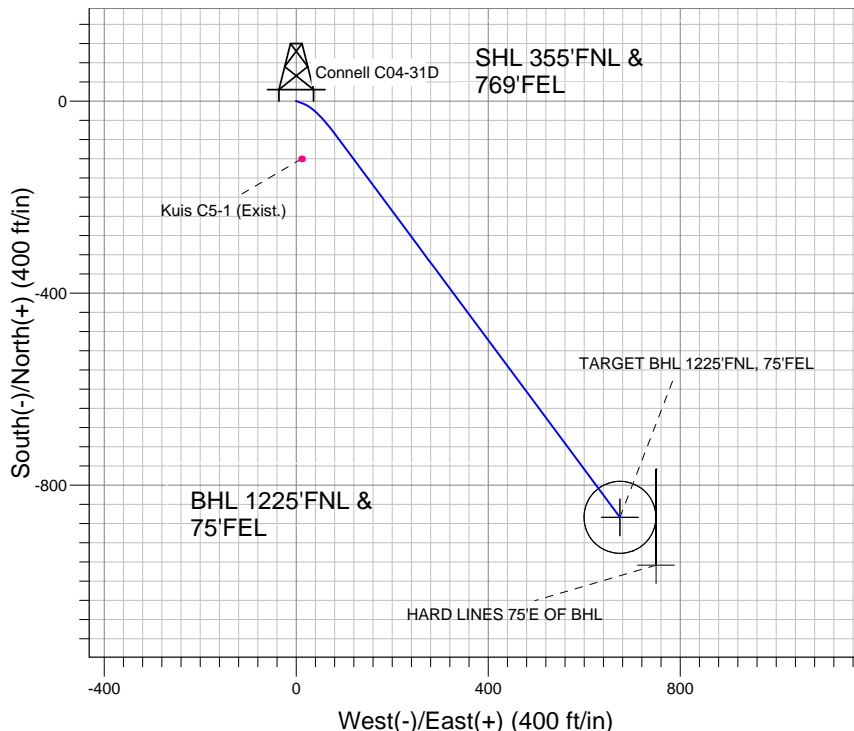
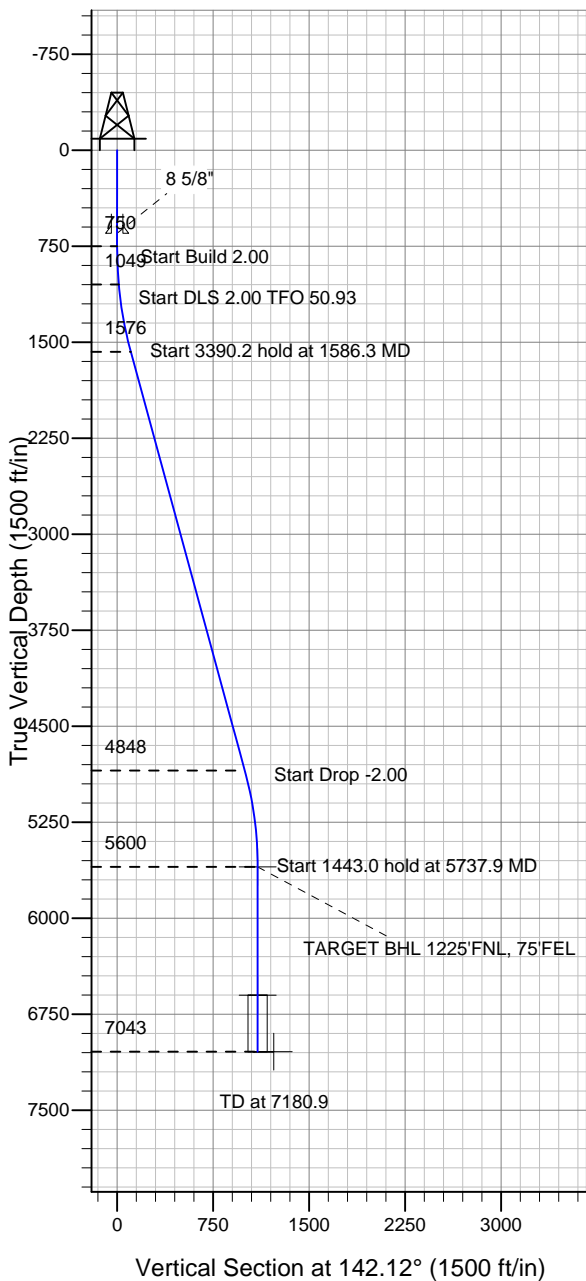
Surface Location: Connell C04-31D Pad Sec.5-T4N-R64W
North American Datum 1983 , US State Plane 1983 , Colorado Northern Zone

Ground Elevation: 4703.0

+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Slot
0.0	0.0	1370816.48	3259946.11	40.347540	-104.567360	

Original Well Elev WELL @ 4716.0ft (Original Well Elev)

NOBLE ENERGY INC WELD COUNTY CO



Connell C04-31D Pad Sec.5-T4N-R64W
Connell C04-31D
Noble Connell C04-31D Plan #1 (3-07-11)
17:13, March 09 2011



Azimuths to True North
Magnetic North: 8.79°

Magnetic Field
Strength: 53155.2snT
Dip Angle: 67.05°
Date: 3/7/2011
Model: IGRF2010

WELLBORE TARGET DETAILS (LAT/LONG)

Name	TVD	+N/-S	+E/-W	Latitude	Longitude	Shape
TARGET BHL 1225'FNL, 75'FEL	5600.0	-867.0	674.6	40.345160	-104.564940	Point
TARGET CIRCLE 1225'FNL & 75'FEL	6602.0	-867.0	674.6	40.345160	-104.564940	Circle (Radius: 75.0)
HARD LINES 75'E OF BHL	7043.0	-967.0	749.6	40.344886	-104.564671	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	750.0	0.00	0.00	750.0	0.0	0.0	0.00	0.00	0.0	
3	1050.0	6.00	110.00	1049.5	-5.4	14.7	2.00	110.00	13.3	
4	1586.3	15.23	143.37	1576.4	-71.7	83.3	2.00	50.93	107.7	
5	4976.5	15.23	143.37	4847.5	-786.3	614.6	0.00	0.00	998.0	
6	5737.9	0.00	0.00	5600.0	-867.0	674.6	2.00	180.00	1098.5	TARGET BHL 1225'FNL, 75'FEL
7	7180.9	0.00	0.00	7043.0	-867.0	674.6	0.00	0.00	1098.5	



Directional

NOBLE ENERGY INC WELD COUNTY CO

SEC.5-T4N-R64W

Connell C04-31D Pad Sec.5-T4N-R64W

Connell C04-31D

Wellbore #1

Plan: Noble Connell C04-31D Plan #1 (3-07-11)

Standard Planning Report

09 March, 2011



Database:	Landmark	Local Co-ordinate Reference:	Well Connell C04-31D
Company:	NOBLE ENERGY INC WELD COUNTY CO	TVD Reference:	WELL @ 4716.0ft (Original Well Elev)
Project:	SEC.5-T4N-R64W	MD Reference:	WELL @ 4716.0ft (Original Well Elev)
Site:	Connell C04-31D Pad Sec.5-T4N-R64W	North Reference:	True
Well:	Connell C04-31D	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Noble Connell C04-31D Plan #1 (3-07-11)		

Project	SEC.5-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						Connell C04-31D Pad Sec.5-T4N-R64W											
Site Position:						Northing:			1,370,816.49ft			Latitude:			40.347540		
From:			Lat/Long			Easting:			3,259,946.11 ft			Longitude:			-104.567360		
Position Uncertainty:			0.0 ft			Slot Radius:			"			Grid Convergence:			0.60 °		

Well	Connell C04-31D					
Well Position	+N/-S	0.0 ft	Northing:	1,370,816.48 ft	Latitude:	40.347540
	+E/-W	0.0 ft	Easting:	3,259,946.11 ft	Longitude:	-104.567360
Position Uncertainty		0.0 ft	Wellhead Elevation:	ft	Ground Level:	4,703.0 ft

Wellbore	Wellbore #1				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2010	3/7/2011	8.79	67.05	53,155

Design	Noble Connell C04-31D Plan #1 (3-07-11)			
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	142.12

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	
750.0	0.00	0.00	750.0	0.0	0.0	0.00	0.00	0.00	0.00	
1,050.0	6.00	110.00	1,049.5	-5.4	14.7	2.00	2.00	0.00	110.00	
1,586.3	15.23	143.37	1,576.4	-71.7	83.3	2.00	1.72	6.22	50.93	
4,976.5	15.23	143.37	4,847.5	-786.3	614.6	0.00	0.00	0.00	0.00	
5,737.9	0.00	0.00	5,600.0	-867.0	674.6	2.00	-2.00	0.00	180.00	TARGET BHL 1225
7,180.9	0.00	0.00	7,043.0	-867.0	674.6	0.00	0.00	0.00	0.00	

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Project:	SEC.5-T4N-R64W	MD Reference:	WELL @ 4716.0ft (Original Well Elev)
Site:	Connell C04-31D Pad Sec.5-T4N-R64W	North Reference:	True
Well:	Connell C04-31D	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Noble Connell C04-31D Plan #1 (3-07-11)		

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
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
750.0	0.00	0.00	750.0	0.0	0.0	0.0	0.00	0.00	0.00
760.0	0.20	110.00	760.0	0.0	0.0	0.0	2.00	2.00	0.00
800.0	1.00	110.00	800.0	-0.1	0.4	0.4	2.00	2.00	0.00
840.0	1.80	110.00	840.0	-0.5	1.3	1.2	2.00	2.00	0.00
880.0	2.60	110.00	880.0	-1.0	2.8	2.5	2.00	2.00	0.00
920.0	3.40	110.00	919.9	-1.7	4.7	4.3	2.00	2.00	0.00
960.0	4.20	110.00	959.8	-2.6	7.2	6.5	2.00	2.00	0.00
1,000.0	5.00	110.00	999.7	-3.7	10.2	9.2	2.00	2.00	0.00
1,040.0	5.80	110.00	1,039.5	-5.0	13.8	12.4	2.00	2.00	0.00
1,050.0	6.00	110.00	1,049.5	-5.4	14.7	13.3	2.00	2.00	0.00
1,080.0	6.40	114.19	1,079.3	-6.6	17.7	16.1	2.00	1.32	13.95
1,120.0	6.97	119.00	1,119.0	-8.7	21.9	20.3	2.00	1.43	12.03
1,160.0	7.58	123.06	1,158.7	-11.3	26.2	25.0	2.00	1.53	10.15
1,200.0	8.23	126.50	1,198.3	-14.4	30.7	30.3	2.00	1.61	8.60
1,240.0	8.90	129.43	1,237.9	-18.1	35.4	36.0	2.00	1.68	7.34
1,280.0	9.59	131.96	1,277.3	-22.3	40.3	42.3	2.00	1.73	6.30
1,320.0	10.29	134.14	1,316.7	-27.0	45.3	49.2	2.00	1.76	5.46
1,360.0	11.01	136.04	1,356.0	-32.2	50.6	56.5	2.00	1.80	4.76
1,400.0	11.74	137.71	1,395.3	-38.0	55.9	64.4	2.00	1.82	4.18
1,440.0	12.48	139.19	1,434.4	-44.3	61.5	72.7	2.00	1.84	3.69
1,480.0	13.22	140.50	1,473.4	-51.1	67.2	81.6	2.00	1.86	3.28
1,520.0	13.97	141.68	1,512.2	-58.4	73.1	91.0	2.00	1.88	2.94
1,560.0	14.73	142.73	1,551.0	-66.2	79.2	100.9	2.00	1.89	2.64
1,586.3	15.23	143.37	1,576.4	-71.7	83.3	107.7	2.00	1.90	2.43
1,600.0	15.23	143.37	1,589.6	-74.6	85.5	111.3	0.00	0.00	0.00
1,640.0	15.23	143.37	1,628.2	-83.0	91.7	121.8	0.00	0.00	0.00
1,680.0	15.23	143.37	1,666.8	-91.4	98.0	132.3	0.00	0.00	0.00
1,720.0	15.23	143.37	1,705.4	-99.9	104.3	142.8	0.00	0.00	0.00
1,760.0	15.23	143.37	1,744.0	-108.3	110.5	153.3	0.00	0.00	0.00
1,800.0	15.23	143.37	1,782.6	-116.7	116.8	163.8	0.00	0.00	0.00
1,840.0	15.23	143.37	1,821.2	-125.2	123.1	174.3	0.00	0.00	0.00
1,880.0	15.23	143.37	1,859.8	-133.6	129.3	184.9	0.00	0.00	0.00
1,920.0	15.23	143.37	1,898.4	-142.0	135.6	195.4	0.00	0.00	0.00

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Site:	Connell C04-31D Pad Sec.5-T4N-R64W	North Reference:	True
Well:	Connell C04-31D	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Noble Connell C04-31D Plan #1 (3-07-11)		

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)
1,960.0	15.23	143.37	1,937.0	-150.4	141.9	205.9	0.00	0.00	0.00
2,000.0	15.23	143.37	1,975.6	-158.9	148.1	216.4	0.00	0.00	0.00
2,040.0	15.23	143.37	2,014.2	-167.3	154.4	226.9	0.00	0.00	0.00
2,080.0	15.23	143.37	2,052.8	-175.7	160.7	237.4	0.00	0.00	0.00
2,120.0	15.23	143.37	2,091.4	-184.2	166.9	247.9	0.00	0.00	0.00
2,160.0	15.23	143.37	2,130.0	-192.6	173.2	258.4	0.00	0.00	0.00
2,200.0	15.23	143.37	2,168.6	-201.0	179.5	268.9	0.00	0.00	0.00
2,240.0	15.23	143.37	2,207.2	-209.5	185.7	279.4	0.00	0.00	0.00
2,280.0	15.23	143.37	2,245.7	-217.9	192.0	289.9	0.00	0.00	0.00
2,320.0	15.23	143.37	2,284.3	-226.3	198.3	300.4	0.00	0.00	0.00
2,360.0	15.23	143.37	2,322.9	-234.8	204.5	310.9	0.00	0.00	0.00
2,400.0	15.23	143.37	2,361.5	-243.2	210.8	321.4	0.00	0.00	0.00
2,440.0	15.23	143.37	2,400.1	-251.6	217.1	331.9	0.00	0.00	0.00
2,480.0	15.23	143.37	2,438.7	-260.1	223.4	342.4	0.00	0.00	0.00
2,520.0	15.23	143.37	2,477.3	-268.5	229.6	352.9	0.00	0.00	0.00
2,560.0	15.23	143.37	2,515.9	-276.9	235.9	363.4	0.00	0.00	0.00
2,600.0	15.23	143.37	2,554.5	-285.4	242.2	373.9	0.00	0.00	0.00
2,640.0	15.23	143.37	2,593.1	-293.8	248.4	384.4	0.00	0.00	0.00
2,680.0	15.23	143.37	2,631.7	-302.2	254.7	394.9	0.00	0.00	0.00
2,720.0	15.23	143.37	2,670.3	-310.7	261.0	405.4	0.00	0.00	0.00
2,760.0	15.23	143.37	2,708.9	-319.1	267.2	415.9	0.00	0.00	0.00
2,800.0	15.23	143.37	2,747.5	-327.5	273.5	426.4	0.00	0.00	0.00
2,840.0	15.23	143.37	2,786.1	-335.9	279.8	436.9	0.00	0.00	0.00
2,880.0	15.23	143.37	2,824.7	-344.4	286.0	447.4	0.00	0.00	0.00
2,920.0	15.23	143.37	2,863.3	-352.8	292.3	458.0	0.00	0.00	0.00
2,960.0	15.23	143.37	2,901.9	-361.2	298.6	468.5	0.00	0.00	0.00
3,000.0	15.23	143.37	2,940.5	-369.7	304.8	479.0	0.00	0.00	0.00
3,040.0	15.23	143.37	2,979.1	-378.1	311.1	489.5	0.00	0.00	0.00
3,080.0	15.23	143.37	3,017.7	-386.5	317.4	500.0	0.00	0.00	0.00
3,120.0	15.23	143.37	3,056.3	-395.0	323.6	510.5	0.00	0.00	0.00
3,160.0	15.23	143.37	3,094.9	-403.4	329.9	521.0	0.00	0.00	0.00
3,200.0	15.23	143.37	3,133.4	-411.8	336.2	531.5	0.00	0.00	0.00
3,240.0	15.23	143.37	3,172.0	-420.3	342.4	542.0	0.00	0.00	0.00
3,280.0	15.23	143.37	3,210.6	-428.7	348.7	552.5	0.00	0.00	0.00
3,320.0	15.23	143.37	3,249.2	-437.1	355.0	563.0	0.00	0.00	0.00
3,360.0	15.23	143.37	3,287.8	-445.6	361.3	573.5	0.00	0.00	0.00
3,400.0	15.23	143.37	3,326.4	-454.0	367.5	584.0	0.00	0.00	0.00
3,440.0	15.23	143.37	3,365.0	-462.4	373.8	594.5	0.00	0.00	0.00
3,480.0	15.23	143.37	3,403.6	-470.9	380.1	605.0	0.00	0.00	0.00
3,520.0	15.23	143.37	3,442.2	-479.3	386.3	615.5	0.00	0.00	0.00
3,560.0	15.23	143.37	3,480.8	-487.7	392.6	626.0	0.00	0.00	0.00
3,600.0	15.23	143.37	3,519.4	-496.2	398.9	636.5	0.00	0.00	0.00
3,640.0	15.23	143.37	3,558.0	-504.6	405.1	647.0	0.00	0.00	0.00
3,680.0	15.23	143.37	3,596.6	-513.0	411.4	657.5	0.00	0.00	0.00
3,720.0	15.23	143.37	3,635.2	-521.4	417.7	668.0	0.00	0.00	0.00
3,760.0	15.23	143.37	3,673.8	-529.9	423.9	678.5	0.00	0.00	0.00
3,800.0	15.23	143.37	3,712.4	-538.3	430.2	689.0	0.00	0.00	0.00
3,840.0	15.23	143.37	3,751.0	-546.7	436.5	699.5	0.00	0.00	0.00
3,880.0	15.23	143.37	3,789.6	-555.2	442.7	710.0	0.00	0.00	0.00
3,920.0	15.23	143.37	3,828.2	-563.6	449.0	720.6	0.00	0.00	0.00
3,960.0	15.23	143.37	3,866.8	-572.0	455.3	731.1	0.00	0.00	0.00
4,000.0	15.23	143.37	3,905.4	-580.5	461.5	741.6	0.00	0.00	0.00
4,040.0	15.23	143.37	3,944.0	-588.9	467.8	752.1	0.00	0.00	0.00
4,080.0	15.23	143.37	3,982.5	-597.3	474.1	762.6	0.00	0.00	0.00

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Wellbore:	Wellbore #1		
Design:	Noble Connell C04-31D Plan #1 (3-07-11)		

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)
4,120.0	15.23	143.37	4,021.1	-605.8	480.3	773.1	0.00	0.00	0.00
4,160.0	15.23	143.37	4,059.7	-614.2	486.6	783.6	0.00	0.00	0.00
4,200.0	15.23	143.37	4,098.3	-622.6	492.9	794.1	0.00	0.00	0.00
4,240.0	15.23	143.37	4,136.9	-631.1	499.2	804.6	0.00	0.00	0.00
4,280.0	15.23	143.37	4,175.5	-639.5	505.4	815.1	0.00	0.00	0.00
4,320.0	15.23	143.37	4,214.1	-647.9	511.7	825.6	0.00	0.00	0.00
4,360.0	15.23	143.37	4,252.7	-656.4	518.0	836.1	0.00	0.00	0.00
4,400.0	15.23	143.37	4,291.3	-664.8	524.2	846.6	0.00	0.00	0.00
4,440.0	15.23	143.37	4,329.9	-673.2	530.5	857.1	0.00	0.00	0.00
4,480.0	15.23	143.37	4,368.5	-681.7	536.8	867.6	0.00	0.00	0.00
4,520.0	15.23	143.37	4,407.1	-690.1	543.0	878.1	0.00	0.00	0.00
4,560.0	15.23	143.37	4,445.7	-698.5	549.3	888.6	0.00	0.00	0.00
4,600.0	15.23	143.37	4,484.3	-706.9	555.6	899.1	0.00	0.00	0.00
4,640.0	15.23	143.37	4,522.9	-715.4	561.8	909.6	0.00	0.00	0.00
4,680.0	15.23	143.37	4,561.5	-723.8	568.1	920.1	0.00	0.00	0.00
4,720.0	15.23	143.37	4,600.1	-732.2	574.4	930.6	0.00	0.00	0.00
4,760.0	15.23	143.37	4,638.7	-740.7	580.6	941.1	0.00	0.00	0.00
4,800.0	15.23	143.37	4,677.3	-749.1	586.9	951.6	0.00	0.00	0.00
4,840.0	15.23	143.37	4,715.9	-757.5	593.2	962.1	0.00	0.00	0.00
4,880.0	15.23	143.37	4,754.5	-766.0	599.4	972.6	0.00	0.00	0.00
4,920.0	15.23	143.37	4,793.1	-774.4	605.7	983.1	0.00	0.00	0.00
4,960.0	15.23	143.37	4,831.7	-782.8	612.0	993.7	0.00	0.00	0.00
4,976.5	15.23	143.37	4,847.5	-786.3	614.6	998.0	0.00	0.00	0.00
5,000.0	14.76	143.37	4,870.3	-791.2	618.2	1,004.1	2.00	-2.00	0.00
5,040.0	13.96	143.37	4,909.0	-799.2	624.1	1,014.0	2.00	-2.00	0.00
5,080.0	13.16	143.37	4,947.9	-806.7	629.7	1,023.4	2.00	-2.00	0.00
5,120.0	12.36	143.37	4,986.9	-813.8	635.0	1,032.2	2.00	-2.00	0.00
5,160.0	11.56	143.37	5,026.1	-820.4	639.9	1,040.5	2.00	-2.00	0.00
5,200.0	10.76	143.37	5,065.3	-826.6	644.5	1,048.2	2.00	-2.00	0.00
5,240.0	9.96	143.37	5,104.6	-832.4	648.8	1,055.4	2.00	-2.00	0.00
5,280.0	9.16	143.37	5,144.1	-837.7	652.8	1,062.0	2.00	-2.00	0.00
5,320.0	8.36	143.37	5,183.6	-842.6	656.4	1,068.1	2.00	-2.00	0.00
5,360.0	7.56	143.37	5,223.2	-847.1	659.7	1,073.7	2.00	-2.00	0.00
5,400.0	6.76	143.37	5,262.9	-851.1	662.7	1,078.6	2.00	-2.00	0.00
5,440.0	5.96	143.37	5,302.7	-854.6	665.3	1,083.1	2.00	-2.00	0.00
5,480.0	5.16	143.37	5,342.5	-857.7	667.7	1,086.9	2.00	-2.00	0.00
5,520.0	4.36	143.37	5,382.4	-860.4	669.6	1,090.3	2.00	-2.00	0.00
5,560.0	3.56	143.37	5,422.3	-862.6	671.3	1,093.0	2.00	-2.00	0.00
5,600.0	2.76	143.37	5,462.2	-864.4	672.6	1,095.2	2.00	-2.00	0.00
5,640.0	1.96	143.37	5,502.2	-865.7	673.6	1,096.9	2.00	-2.00	0.00
5,680.0	1.16	143.37	5,542.1	-866.6	674.2	1,098.0	2.00	-2.00	0.00
5,720.0	0.36	143.37	5,582.1	-867.0	674.5	1,098.5	2.00	-2.00	0.00
5,737.9	0.00	0.00	5,600.0	-867.0	674.6	1,098.5	2.00	-2.00	0.00
TARGET BHL 1225'FNL, 75'FEL									
5,760.0	0.00	0.00	5,622.1	-867.0	674.6	1,098.5	0.00	0.00	0.00
5,800.0	0.00	0.00	5,662.1	-867.0	674.6	1,098.5	0.00	0.00	0.00
5,840.0	0.00	0.00	5,702.1	-867.0	674.6	1,098.5	0.00	0.00	0.00
5,880.0	0.00	0.00	5,742.1	-867.0	674.6	1,098.5	0.00	0.00	0.00
5,920.0	0.00	0.00	5,782.1	-867.0	674.6	1,098.5	0.00	0.00	0.00
5,960.0	0.00	0.00	5,822.1	-867.0	674.6	1,098.5	0.00	0.00	0.00
6,000.0	0.00	0.00	5,862.1	-867.0	674.6	1,098.5	0.00	0.00	0.00
6,040.0	0.00	0.00	5,902.1	-867.0	674.6	1,098.5	0.00	0.00	0.00
6,080.0	0.00	0.00	5,942.1	-867.0	674.6	1,098.5	0.00	0.00	0.00
6,120.0	0.00	0.00	5,982.1	-867.0	674.6	1,098.5	0.00	0.00	0.00

Database:	Landmark	Local Co-ordinate Reference:	Well Connell C04-31D
Company:	NOBLE ENERGY INC WELD COUNTY CO	TVD Reference:	WELL @ 4716.0ft (Original Well Elev)
Project:	SEC.5-T4N-R64W	MD Reference:	WELL @ 4716.0ft (Original Well Elev)
Site:	Connell C04-31D Pad Sec.5-T4N-R64W	North Reference:	True
Well:	Connell C04-31D	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Noble Connell C04-31D Plan #1 (3-07-11)		

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)
6,160.0	0.00	0.00	6,022.1	-867.0	674.6	1,098.5	0.00	0.00	0.00
6,200.0	0.00	0.00	6,062.1	-867.0	674.6	1,098.5	0.00	0.00	0.00
6,240.0	0.00	0.00	6,102.1	-867.0	674.6	1,098.5	0.00	0.00	0.00
6,280.0	0.00	0.00	6,142.1	-867.0	674.6	1,098.5	0.00	0.00	0.00
6,320.0	0.00	0.00	6,182.1	-867.0	674.6	1,098.5	0.00	0.00	0.00
6,360.0	0.00	0.00	6,222.1	-867.0	674.6	1,098.5	0.00	0.00	0.00
6,400.0	0.00	0.00	6,262.1	-867.0	674.6	1,098.5	0.00	0.00	0.00
6,440.0	0.00	0.00	6,302.1	-867.0	674.6	1,098.5	0.00	0.00	0.00
6,480.0	0.00	0.00	6,342.1	-867.0	674.6	1,098.5	0.00	0.00	0.00
6,520.0	0.00	0.00	6,382.1	-867.0	674.6	1,098.5	0.00	0.00	0.00
6,560.0	0.00	0.00	6,422.1	-867.0	674.6	1,098.5	0.00	0.00	0.00
6,600.0	0.00	0.00	6,462.1	-867.0	674.6	1,098.5	0.00	0.00	0.00
6,640.0	0.00	0.00	6,502.1	-867.0	674.6	1,098.5	0.00	0.00	0.00
6,680.0	0.00	0.00	6,542.1	-867.0	674.6	1,098.5	0.00	0.00	0.00
6,720.0	0.00	0.00	6,582.1	-867.0	674.6	1,098.5	0.00	0.00	0.00
6,739.9	0.00	0.00	6,602.0	-867.0	674.6	1,098.5	0.00	0.00	0.00
NIORARA - TARGET CIRCLE 1225'FNL & 75'FEL									
6,760.0	0.00	0.00	6,622.1	-867.0	674.6	1,098.5	0.00	0.00	0.00
6,800.0	0.00	0.00	6,662.1	-867.0	674.6	1,098.5	0.00	0.00	0.00
6,840.0	0.00	0.00	6,702.1	-867.0	674.6	1,098.5	0.00	0.00	0.00
6,880.0	0.00	0.00	6,742.1	-867.0	674.6	1,098.5	0.00	0.00	0.00
6,920.0	0.00	0.00	6,782.1	-867.0	674.6	1,098.5	0.00	0.00	0.00
6,960.0	0.00	0.00	6,822.1	-867.0	674.6	1,098.5	0.00	0.00	0.00
7,000.0	0.00	0.00	6,862.1	-867.0	674.6	1,098.5	0.00	0.00	0.00
7,030.9	0.00	0.00	6,893.0	-867.0	674.6	1,098.5	0.00	0.00	0.00
CODELL									
7,040.0	0.00	0.00	6,902.1	-867.0	674.6	1,098.5	0.00	0.00	0.00
7,080.0	0.00	0.00	6,942.1	-867.0	674.6	1,098.5	0.00	0.00	0.00
7,120.0	0.00	0.00	6,982.1	-867.0	674.6	1,098.5	0.00	0.00	0.00
7,160.0	0.00	0.00	7,022.1	-867.0	674.6	1,098.5	0.00	0.00	0.00
7,180.9	0.00	0.00	7,043.0	-867.0	674.6	1,098.5	0.00	0.00	0.00
HARD LINES 75'E 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 CIRCLE 1225'FNL	0.00	0.00	6,602.0	-867.0	674.6	1,369,956.63	3,260,629.73	40.345160	-104.564940
- plan hits target center									
- Circle (radius 75.0)									
TARGET BHL 1225'F	0.00	0.00	5,600.0	-867.0	674.6	1,369,956.63	3,260,629.73	40.345160	-104.564940
- plan hits target center									
- Point									
HARD LINES 75'E OF BHL	0.00	0.00	7,043.0	-967.0	749.6	1,369,857.46	3,260,705.80	40.344886	-104.564671
- plan misses target center by 125.0ft at 7180.9ft MD (7043.0 TVD, -867.0 N, 674.6 E)									
- Polygon									
Point 1			7,043.0	0.0	0.0	1,369,857.46	3,260,705.80		
Point 2			7,043.0	200.0	0.0	1,370,057.44	3,260,703.70		

Database:	Landmark	Local Co-ordinate Reference:	Well Connell C04-31D
Company:	NOBLE ENERGY INC WELD COUNTY CO	TVD Reference:	WELL @ 4716.0ft (Original Well Elev)
Project:	SEC.5-T4N-R64W	MD Reference:	WELL @ 4716.0ft (Original Well Elev)
Site:	Connell C04-31D Pad Sec.5-T4N-R64W	North Reference:	True
Well:	Connell C04-31D	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Noble Connell C04-31D Plan #1 (3-07-11)		

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	

Formations						
Measured Depth (ft)	Vertical Depth (ft)	Name	Lithology	Dip (°)	Dip Direction (°)	
6,739.9	6,602.0	NIOBRARA		0.00		
7,030.9	6,893.0	CODELL		0.00		