

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	1627.4	14.55	316.48	1619.6	66.6	-63.2	2.00	316.48	91.8	
4	4376.3	14.55	316.48	4280.4	567.3	-538.7	0.00	0.00	782.3	
5	5103.7	0.00	0.00	5000.0	633.9	-602.0	2.00	180.00	874.2	Target BHL 1320'FNL & 75'FWL
6	7313.7	0.00	0.00	7210.0	633.9	-602.0	0.00	0.00	874.2	



Directional

**NOBLE ENERGY INC WELD
COUNTY CO**

SEC.36-T5N-R65W

Ehrlich State PC F36-31D Pad Sec.36-T5N-R65W

Ehrlich State PC F36-31D

Wellbore #1

Plan: Noble Ehrlich State PC F36-31D Plan #1 (8-10-10)

Standard Planning Report

12 August, 2010

Database: Landmark
Company: NOBLE ENERGY INC WELD COUNTY CO
Project: SEC.36-T5N-R65W
Site: Ehrlich State PC F36-31D Pad
 Sec.36-T5N-R65W
Well: Ehrlich State PC F36-31D
Wellbore: Wellbore #1
Design: Noble Ehrlich State PC F36-31D Plan #1 (8-10)

Local Co-ordinate Reference: Well Ehrlich State PC F36-31D
TVD Reference: WELL @ 4715.0ft (Original Well Elev)
MD Reference: WELL @ 4715.0ft (Original Well Elev)
North Reference: True

Survey Calculation Method: Minimum Curvature

Project	SEC.36-T5N-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	Ehrlich State PC F36-31D Pad Sec.36-T5N-R65W				
Site Position:		Northing:	1,374,342.50 ft	Latitude:	40° 21' 27.432 N
From:	Lat/Long	Easting:	3,245,647.95 ft	Longitude:	104° 37' 6.708 W
Position Uncertainty:	0.0 ft	Slot Radius:	"	Grid Convergence:	0.57 °

Well	Ehrlich State PC F36-31D					
Well Position	+N/-S	0.0 ft	Northing:	1,374,342.49 ft	Latitude:	40° 21' 27.432 N
	+E/-W	0.0 ft	Easting:	3,245,647.95 ft	Longitude:	104° 37' 6.708 W
Position Uncertainty		0.0 ft	Wellhead Elevation:	ft	Ground Level:	4,702.0 ft

Wellbore	Wellbore #1				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF200510	12/31/2009	8.94	67.10	53,299

Design Noble Ehrlich State PC F36-31D Plan #1 (8-10-10)

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	316.48

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	
1,627.4	14.55	316.48	1,619.6	66.6	-63.2	2.00	2.00	0.00	316.48	
4,376.3	14.55	316.48	4,280.4	567.3	-538.7	0.00	0.00	0.00	0.00	
5,103.7	0.00	0.00	5,000.0	633.9	-602.0	2.00	-2.00	0.00	180.00	Target BHL 1320'FI
7,313.7	0.00	0.00	7,210.0	633.9	-602.0	0.00	0.00	0.00	0.00	

Database: Landmark
Company: NOBLE ENERGY INC WELD COUNTY CO
Project: SEC.36-T5N-R65W
Site: Ehrlich State PC F36-31D Pad
 Sec.36-T5N-R65W
Well: Ehrlich State PC F36-31D
Wellbore: Wellbore #1
Design: Noble Ehrlich State PC F36-31D Plan #1 (8-10)

Local Co-ordinate Reference: Well Ehrlich State PC F36-31D
TVD Reference: WELL @ 4715.0ft (Original Well Elev)
MD Reference: WELL @ 4715.0ft (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
550.0	0.00	0.00	550.0	0.0	0.0	0.0	0.00	0.00	0.00
8 5/8"									
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
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	316.48	920.0	0.1	0.0	0.1	2.00	2.00	0.00
960.0	1.20	316.48	960.0	0.5	-0.4	0.6	2.00	2.00	0.00
1,000.0	2.00	316.48	1,000.0	1.3	-1.2	1.7	2.00	2.00	0.00
1,040.0	2.80	316.48	1,039.9	2.5	-2.4	3.4	2.00	2.00	0.00
1,080.0	3.60	316.48	1,079.9	4.1	-3.9	5.7	2.00	2.00	0.00
1,120.0	4.40	316.48	1,119.8	6.1	-5.8	8.4	2.00	2.00	0.00
1,160.0	5.20	316.48	1,159.6	8.5	-8.1	11.8	2.00	2.00	0.00
1,200.0	6.00	316.48	1,199.5	11.4	-10.8	15.7	2.00	2.00	0.00
1,240.0	6.80	316.48	1,239.2	14.6	-13.9	20.2	2.00	2.00	0.00
1,280.0	7.60	316.48	1,278.9	18.2	-17.3	25.2	2.00	2.00	0.00
1,320.0	8.40	316.48	1,318.5	22.3	-21.2	30.7	2.00	2.00	0.00
1,360.0	9.20	316.48	1,358.0	26.7	-25.4	36.9	2.00	2.00	0.00
1,400.0	10.00	316.48	1,397.5	31.6	-30.0	43.5	2.00	2.00	0.00
1,440.0	10.80	316.48	1,436.8	36.8	-34.9	50.7	2.00	2.00	0.00
1,480.0	11.60	316.48	1,476.0	42.4	-40.3	58.5	2.00	2.00	0.00
1,520.0	12.40	316.48	1,515.2	48.5	-46.0	66.8	2.00	2.00	0.00
1,560.0	13.20	316.48	1,554.2	54.9	-52.1	75.7	2.00	2.00	0.00
1,600.0	14.00	316.48	1,593.1	61.7	-58.6	85.1	2.00	2.00	0.00
1,627.4	14.55	316.48	1,619.6	66.6	-63.2	91.8	2.00	2.00	0.00
1,640.0	14.55	316.48	1,631.8	68.9	-65.4	95.0	0.00	0.00	0.00
1,680.0	14.55	316.48	1,670.5	76.2	-72.3	105.1	0.00	0.00	0.00
1,720.0	14.55	316.48	1,709.2	83.5	-79.3	115.1	0.00	0.00	0.00
1,760.0	14.55	316.48	1,748.0	90.8	-86.2	125.2	0.00	0.00	0.00
1,800.0	14.55	316.48	1,786.7	98.0	-93.1	135.2	0.00	0.00	0.00
1,840.0	14.55	316.48	1,825.4	105.3	-100.0	145.3	0.00	0.00	0.00
1,880.0	14.55	316.48	1,864.1	112.6	-106.9	155.3	0.00	0.00	0.00
1,920.0	14.55	316.48	1,902.8	119.9	-113.9	165.3	0.00	0.00	0.00

Database: Landmark
Company: NOBLE ENERGY INC WELD COUNTY CO
Project: SEC.36-T5N-R65W
Site: Ehrlich State PC F36-31D Pad
Sec.36-T5N-R65W
Well: Ehrlich State PC F36-31D
Wellbore #: Wellbore #1
Design: Noble Ehrlich State PC F36-31D Plan #1 (8-10)

Local Co-ordinate Reference: Well Ehrlich State PC F36-31D
TVD Reference: WELL @ 4715.0ft (Original Well Elev)
MD Reference: WELL @ 4715.0ft (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)
1,960.0	14.55	316.48	1,941.5	127.2	-120.8	175.4	0.00	0.00	0.00
2,000.0	14.55	316.48	1,980.3	134.5	-127.7	185.4	0.00	0.00	0.00
2,040.0	14.55	316.48	2,019.0	141.8	-134.6	195.5	0.00	0.00	0.00
2,080.0	14.55	316.48	2,057.7	149.0	-141.5	205.5	0.00	0.00	0.00
2,120.0	14.55	316.48	2,096.4	156.3	-148.5	215.6	0.00	0.00	0.00
2,160.0	14.55	316.48	2,135.1	163.6	-155.4	225.6	0.00	0.00	0.00
2,200.0	14.55	316.48	2,173.9	170.9	-162.3	235.7	0.00	0.00	0.00
2,240.0	14.55	316.48	2,212.6	178.2	-169.2	245.7	0.00	0.00	0.00
2,280.0	14.55	316.48	2,251.3	185.5	-176.1	255.8	0.00	0.00	0.00
2,320.0	14.55	316.48	2,290.0	192.8	-183.0	265.8	0.00	0.00	0.00
2,360.0	14.55	316.48	2,328.7	200.0	-190.0	275.9	0.00	0.00	0.00
2,400.0	14.55	316.48	2,367.4	207.3	-196.9	285.9	0.00	0.00	0.00
2,440.0	14.55	316.48	2,406.2	214.6	-203.8	296.0	0.00	0.00	0.00
2,480.0	14.55	316.48	2,444.9	221.9	-210.7	306.0	0.00	0.00	0.00
2,520.0	14.55	316.48	2,483.6	229.2	-217.6	316.1	0.00	0.00	0.00
2,560.0	14.55	316.48	2,522.3	236.5	-224.6	326.1	0.00	0.00	0.00
2,600.0	14.55	316.48	2,561.0	243.8	-231.5	336.2	0.00	0.00	0.00
2,640.0	14.55	316.48	2,599.7	251.0	-238.4	346.2	0.00	0.00	0.00
2,680.0	14.55	316.48	2,638.5	258.3	-245.3	356.3	0.00	0.00	0.00
2,720.0	14.55	316.48	2,677.2	265.6	-252.2	366.3	0.00	0.00	0.00
2,760.0	14.55	316.48	2,715.9	272.9	-259.2	376.3	0.00	0.00	0.00
2,800.0	14.55	316.48	2,754.6	280.2	-266.1	386.4	0.00	0.00	0.00
2,840.0	14.55	316.48	2,793.3	287.5	-273.0	396.4	0.00	0.00	0.00
2,880.0	14.55	316.48	2,832.0	294.8	-279.9	406.5	0.00	0.00	0.00
2,920.0	14.55	316.48	2,870.8	302.0	-286.8	416.5	0.00	0.00	0.00
2,960.0	14.55	316.48	2,909.5	309.3	-293.7	426.6	0.00	0.00	0.00
3,000.0	14.55	316.48	2,948.2	316.6	-300.7	436.6	0.00	0.00	0.00
3,040.0	14.55	316.48	2,986.9	323.9	-307.6	446.7	0.00	0.00	0.00
3,080.0	14.55	316.48	3,025.6	331.2	-314.5	456.7	0.00	0.00	0.00
3,120.0	14.55	316.48	3,064.4	338.5	-321.4	466.8	0.00	0.00	0.00
3,160.0	14.55	316.48	3,103.1	345.8	-328.3	476.8	0.00	0.00	0.00
3,200.0	14.55	316.48	3,141.8	353.0	-335.3	486.9	0.00	0.00	0.00
3,240.0	14.55	316.48	3,180.5	360.3	-342.2	496.9	0.00	0.00	0.00
3,280.0	14.55	316.48	3,219.2	367.6	-349.1	507.0	0.00	0.00	0.00
3,320.0	14.55	316.48	3,257.9	374.9	-356.0	517.0	0.00	0.00	0.00
3,360.0	14.55	316.48	3,296.7	382.2	-362.9	527.1	0.00	0.00	0.00
3,400.0	14.55	316.48	3,335.4	389.5	-369.8	537.1	0.00	0.00	0.00
3,440.0	14.55	316.48	3,374.1	396.8	-376.8	547.2	0.00	0.00	0.00
3,480.0	14.55	316.48	3,412.8	404.0	-383.7	557.2	0.00	0.00	0.00
3,520.0	14.55	316.48	3,451.5	411.3	-390.6	567.2	0.00	0.00	0.00
3,560.0	14.55	316.48	3,490.2	418.6	-397.5	577.3	0.00	0.00	0.00
3,600.0	14.55	316.48	3,529.0	425.9	-404.4	587.3	0.00	0.00	0.00
3,640.0	14.55	316.48	3,567.7	433.2	-411.4	597.4	0.00	0.00	0.00
3,680.0	14.55	316.48	3,606.4	440.5	-418.3	607.4	0.00	0.00	0.00
3,720.0	14.55	316.48	3,645.1	447.8	-425.2	617.5	0.00	0.00	0.00
3,760.0	14.55	316.48	3,683.8	455.0	-432.1	627.5	0.00	0.00	0.00
3,800.0	14.55	316.48	3,722.6	462.3	-439.0	637.6	0.00	0.00	0.00
3,840.0	14.55	316.48	3,761.3	469.6	-446.0	647.6	0.00	0.00	0.00
3,880.0	14.55	316.48	3,800.0	476.9	-452.9	657.7	0.00	0.00	0.00
3,920.0	14.55	316.48	3,838.7	484.2	-459.8	667.7	0.00	0.00	0.00
3,960.0	14.55	316.48	3,877.4	491.5	-466.7	677.8	0.00	0.00	0.00
4,000.0	14.55	316.48	3,916.1	498.8	-473.6	687.8	0.00	0.00	0.00
4,040.0	14.55	316.48	3,954.9	506.0	-480.5	697.9	0.00	0.00	0.00

Database: Landmark
Company: NOBLE ENERGY INC WELD COUNTY CO
Project: SEC.36-T5N-R65W
Site: Ehrlich State PC F36-31D Pad
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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)
4,080.0	14.55	316.48	3,993.6	513.3	-487.5	707.9	0.00	0.00	0.00
4,120.0	14.55	316.48	4,032.3	520.6	-494.4	718.0	0.00	0.00	0.00
4,160.0	14.55	316.48	4,071.0	527.9	-501.3	728.0	0.00	0.00	0.00
4,200.0	14.55	316.48	4,109.7	535.2	-508.2	738.1	0.00	0.00	0.00
4,240.0	14.55	316.48	4,148.4	542.5	-515.1	748.1	0.00	0.00	0.00
4,280.0	14.55	316.48	4,187.2	549.8	-522.1	758.1	0.00	0.00	0.00
4,320.0	14.55	316.48	4,225.9	557.1	-529.0	768.2	0.00	0.00	0.00
4,360.0	14.55	316.48	4,264.6	564.3	-535.9	778.2	0.00	0.00	0.00
4,376.3	14.55	316.48	4,280.4	567.3	-538.7	782.3	0.00	0.00	0.00
4,400.0	14.07	316.48	4,303.3	571.6	-542.8	788.2	2.00	-2.00	0.00
4,440.0	13.27	316.48	4,342.2	578.4	-549.3	797.7	2.00	-2.00	0.00
4,480.0	12.47	316.48	4,381.2	584.9	-555.4	806.6	2.00	-2.00	0.00
4,520.0	11.67	316.48	4,420.3	590.9	-561.2	814.9	2.00	-2.00	0.00
4,560.0	10.87	316.48	4,459.5	596.6	-566.5	822.8	2.00	-2.00	0.00
4,600.0	10.07	316.48	4,498.9	601.9	-571.6	830.0	2.00	-2.00	0.00
4,640.0	9.27	316.48	4,538.3	606.8	-576.2	836.7	2.00	-2.00	0.00
4,680.0	8.47	316.48	4,577.8	611.2	-580.4	842.9	2.00	-2.00	0.00
4,720.0	7.67	316.48	4,617.4	615.3	-584.3	848.5	2.00	-2.00	0.00
4,760.0	6.87	316.48	4,657.1	619.0	-587.8	853.6	2.00	-2.00	0.00
4,800.0	6.07	316.48	4,696.9	622.3	-590.9	858.1	2.00	-2.00	0.00
4,840.0	5.27	316.48	4,736.7	625.1	-593.6	862.1	2.00	-2.00	0.00
4,880.0	4.47	316.48	4,776.5	627.6	-596.0	865.5	2.00	-2.00	0.00
4,920.0	3.67	316.48	4,816.4	629.6	-597.9	868.3	2.00	-2.00	0.00
4,960.0	2.87	316.48	4,856.3	631.3	-599.5	870.6	2.00	-2.00	0.00
5,000.0	2.07	316.48	4,896.3	632.6	-600.7	872.3	2.00	-2.00	0.00
5,040.0	1.27	316.48	4,936.3	633.4	-601.5	873.5	2.00	-2.00	0.00
5,080.0	0.47	316.48	4,976.3	633.8	-601.9	874.1	2.00	-2.00	0.00
5,103.7	0.00	0.00	5,000.0	633.9	-602.0	874.2	2.00	-2.00	0.00
Target BHL 1320'FNL & 75'FWL									
5,120.0	0.00	0.00	5,016.3	633.9	-602.0	874.2	0.00	0.00	0.00
5,160.0	0.00	0.00	5,056.3	633.9	-602.0	874.2	0.00	0.00	0.00
5,200.0	0.00	0.00	5,096.3	633.9	-602.0	874.2	0.00	0.00	0.00
5,240.0	0.00	0.00	5,136.3	633.9	-602.0	874.2	0.00	0.00	0.00
5,280.0	0.00	0.00	5,176.3	633.9	-602.0	874.2	0.00	0.00	0.00
5,320.0	0.00	0.00	5,216.3	633.9	-602.0	874.2	0.00	0.00	0.00
5,360.0	0.00	0.00	5,256.3	633.9	-602.0	874.2	0.00	0.00	0.00
5,400.0	0.00	0.00	5,296.3	633.9	-602.0	874.2	0.00	0.00	0.00
5,440.0	0.00	0.00	5,336.3	633.9	-602.0	874.2	0.00	0.00	0.00
5,480.0	0.00	0.00	5,376.3	633.9	-602.0	874.2	0.00	0.00	0.00
5,520.0	0.00	0.00	5,416.3	633.9	-602.0	874.2	0.00	0.00	0.00
5,560.0	0.00	0.00	5,456.3	633.9	-602.0	874.2	0.00	0.00	0.00
5,600.0	0.00	0.00	5,496.3	633.9	-602.0	874.2	0.00	0.00	0.00
5,640.0	0.00	0.00	5,536.3	633.9	-602.0	874.2	0.00	0.00	0.00
5,680.0	0.00	0.00	5,576.3	633.9	-602.0	874.2	0.00	0.00	0.00
5,720.0	0.00	0.00	5,616.3	633.9	-602.0	874.2	0.00	0.00	0.00
5,760.0	0.00	0.00	5,656.3	633.9	-602.0	874.2	0.00	0.00	0.00
5,800.0	0.00	0.00	5,696.3	633.9	-602.0	874.2	0.00	0.00	0.00
5,840.0	0.00	0.00	5,736.3	633.9	-602.0	874.2	0.00	0.00	0.00
5,880.0	0.00	0.00	5,776.3	633.9	-602.0	874.2	0.00	0.00	0.00
5,920.0	0.00	0.00	5,816.3	633.9	-602.0	874.2	0.00	0.00	0.00
5,960.0	0.00	0.00	5,856.3	633.9	-602.0	874.2	0.00	0.00	0.00
6,000.0	0.00	0.00	5,896.3	633.9	-602.0	874.2	0.00	0.00	0.00
6,040.0	0.00	0.00	5,936.3	633.9	-602.0	874.2	0.00	0.00	0.00

Database: Landmark
Company: NOBLE ENERGY INC WELD COUNTY CO
Project: SEC.36-T5N-R65W
Site: Ehrlich State PC F36-31D Pad
Sec.36-T5N-R65W
Well: Ehrlich State PC F36-31D
Wellbore: Wellbore #1
Design: Noble Ehrlich State PC F36-31D Plan #1 (8-10)

Local Co-ordinate Reference: Well Ehrlich State PC F36-31D
TVD Reference: WELL @ 4715.0ft (Original Well Elev)
MD Reference: WELL @ 4715.0ft (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)
6,080.0	0.00	0.00	5,976.3	633.9	-602.0	874.2	0.00	0.00	0.00
6,120.0	0.00	0.00	6,016.3	633.9	-602.0	874.2	0.00	0.00	0.00
6,160.0	0.00	0.00	6,056.3	633.9	-602.0	874.2	0.00	0.00	0.00
6,200.0	0.00	0.00	6,096.3	633.9	-602.0	874.2	0.00	0.00	0.00
6,240.0	0.00	0.00	6,136.3	633.9	-602.0	874.2	0.00	0.00	0.00
6,280.0	0.00	0.00	6,176.3	633.9	-602.0	874.2	0.00	0.00	0.00
6,320.0	0.00	0.00	6,216.3	633.9	-602.0	874.2	0.00	0.00	0.00
6,360.0	0.00	0.00	6,256.3	633.9	-602.0	874.2	0.00	0.00	0.00
6,400.0	0.00	0.00	6,296.3	633.9	-602.0	874.2	0.00	0.00	0.00
6,440.0	0.00	0.00	6,336.3	633.9	-602.0	874.2	0.00	0.00	0.00
6,480.0	0.00	0.00	6,376.3	633.9	-602.0	874.2	0.00	0.00	0.00
6,520.0	0.00	0.00	6,416.3	633.9	-602.0	874.2	0.00	0.00	0.00
6,560.0	0.00	0.00	6,456.3	633.9	-602.0	874.2	0.00	0.00	0.00
6,600.0	0.00	0.00	6,496.3	633.9	-602.0	874.2	0.00	0.00	0.00
6,640.0	0.00	0.00	6,536.3	633.9	-602.0	874.2	0.00	0.00	0.00
6,680.0	0.00	0.00	6,576.3	633.9	-602.0	874.2	0.00	0.00	0.00
6,720.0	0.00	0.00	6,616.3	633.9	-602.0	874.2	0.00	0.00	0.00
6,760.0	0.00	0.00	6,656.3	633.9	-602.0	874.2	0.00	0.00	0.00
6,800.0	0.00	0.00	6,696.3	633.9	-602.0	874.2	0.00	0.00	0.00
6,828.7	0.00	0.00	6,725.0	633.9	-602.0	874.2	0.00	0.00	0.00
NIOBRARA									
6,840.0	0.00	0.00	6,736.3	633.9	-602.0	874.2	0.00	0.00	0.00
6,880.0	0.00	0.00	6,776.3	633.9	-602.0	874.2	0.00	0.00	0.00
6,920.0	0.00	0.00	6,816.3	633.9	-602.0	874.2	0.00	0.00	0.00
6,960.0	0.00	0.00	6,856.3	633.9	-602.0	874.2	0.00	0.00	0.00
7,000.0	0.00	0.00	6,896.3	633.9	-602.0	874.2	0.00	0.00	0.00
7,040.0	0.00	0.00	6,936.3	633.9	-602.0	874.2	0.00	0.00	0.00
7,080.0	0.00	0.00	6,976.3	633.9	-602.0	874.2	0.00	0.00	0.00
7,120.0	0.00	0.00	7,016.3	633.9	-602.0	874.2	0.00	0.00	0.00
7,160.0	0.00	0.00	7,056.3	633.9	-602.0	874.2	0.00	0.00	0.00
7,163.7	0.00	0.00	7,060.0	633.9	-602.0	874.2	0.00	0.00	0.00
CODELL									
7,200.0	0.00	0.00	7,096.3	633.9	-602.0	874.2	0.00	0.00	0.00
7,240.0	0.00	0.00	7,136.3	633.9	-602.0	874.2	0.00	0.00	0.00
7,280.0	0.00	0.00	7,176.3	633.9	-602.0	874.2	0.00	0.00	0.00
7,313.7	0.00	0.00	7,210.0	633.9	-602.0	874.2	0.00	0.00	0.00

Target Circle 1320°FNL & 75°FWL - Hard Line 75'W of BHL

Database: Landmark
Company: NOBLE ENERGY INC WELD COUNTY CO
Project: SEC.36-T5N-R65W
Site: Ehrlich State PC F36-31D Pad
 Sec.36-T5N-R65W
Well: Ehrlich State PC F36-31D
Wellbore: Wellbore #1
Design: Noble Ehrlich State PC F36-31D Plan #1 (8-10)

Local Co-ordinate Reference: Well Ehrlich State PC F36-31D
TVD Reference: WELL @ 4715.0ft (Original Well Elev)
MD Reference: WELL @ 4715.0ft (Original Well Elev)
North Reference: True

Survey Calculation Method: Minimum Curvature

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 1320'FNL	0.00	0.00	5,000.0	633.9	-602.0	1,374,970.36	3,245,039.73	40° 21' 33.696 N	104° 37' 14.484 W
- plan hits target									
- Point									
Target Circle 1320'FN	0.00	0.00	7,210.0	633.9	-602.0	1,374,970.36	3,245,039.73	40° 21' 33.696 N	104° 37' 14.484 W
- plan hits target									
- Circle (radius 75.0)									
Hard Line 75'W of BH	0.00	0.00	7,210.0	533.9	-677.0	1,374,869.61	3,244,965.70	40° 21' 32.708 N	104° 37' 15.453 W
- plan misses by 125.0ft at 7313.7ft MD (7210.0 TVD, 633.9 N, -602.0 E)									
- Polygon									
Point 1			7,210.0	0.0	0.0	1,374,869.61	3,244,965.70		
Point 2			7,210.0	200.0	0.0	1,375,069.59	3,244,963.72		

Casing Points

Measured Depth (ft)	Vertical Depth (ft)	Name	Casing Diameter (")	Hole Diameter (")
550.0	550.0	8 5/8"	8-5/8	12-1/4

Formations

Measured Depth (ft)	Vertical Depth (ft)	Name	Lithology	Dip (°)	Dip Direction (°)
6,828.7	6,725.0	NIOBRARA		0.00	
7,163.7	7,060.0	CODELL		0.00	